



Juan de la Figuera Bayón

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Summary of CV

This section describes briefly a summary of your career in science, academic and research; the main scientific and technological achievements and goals in your line of research in the medium -and long- term. It also includes other important aspects or peculiarities.

I started my research career with my PhD under the supervision of Prof. Carmen Ocal, in the Surface Science Group of Prof. Rodolfo Miranda, working mostly on scanning tunneling microscopy in the growth of metal ultrathin films. A first postdoctoral stay at the Universidad Complutense de Madrid with Prof. Juan M. Rojo introduced me to the world of dislocations. From 1997 to 2002 I worked at Sandia National Laboratories in the group of Dr. Robert Q. Hwang, first as a Fulbright fellow, and later as a term researcher, devoting my time to the study of misfit dislocations in metal thin films, their structure, growth and reactivity. After 2002 I returned to Spain, initially with a Ramon y Cajal contract, first in the group of Prof. Rodolfo Miranda and later as a independent researcher at the Centro de Microanálisis de Materiales (UAM). During this time together with other researchers we founded the National Association of Ramon y Cajal Researchers, www.anirc.es. In 2007 I joined as staff researcher (científico titular) the Surface Analysis and Mossbauer Spectroscopy Group (<http://surfmoss.iqfr.csic.es>) at the Instituto de Física Química "Rocasolano". Meanwhile I have also been involved in the Association for the advancement of science and technology in Spain, of which I have been the president for one term. I have been the director of the Instituto de Física Química "Rocasolano" in the period 2013-2017.

The main theme of my work has been to study the behavior and consequences of defects on the surface of a material, with an emphasis on imaging (i.e. real space) techniques, in particular employing dynamic observations. Thus, I have worked on scanning probe microscopies, specifically scanning tunneling microscopy (STM). Work in this area included the design, construction and data acquisition of STM systems. After coming back to Spain, I devoted my time to low-energy electron microscopy (LEEM). Low-energy electron microscopy is a technique that employs a low energy electron beam to form a magnified image of the surface at high speed. I have contributed to extended the technique, and used it to understand from the change in magnetization direction at consecutive atomic layers of cobalt, to observe the metal-insulation transition in magnetite. This work was initiated in collaborations with Dr. Kevin F. McCarty (Sandia National Laboratories, USA) and Dr. Andreas K. Schmid (Berkeley National Laboratory, USA). In the last years, I have become involved in the use of LEEMs as photoelectron microscopes (PEEM) when coupled to a synchrotron x-ray source, or even UV lab sources. I have thus become a frequent user of the Alba synchrotron, where I collaborate with Dra. Lucía Aballe's group (Alba synchrotron, Spain). As a summary, my group is the leading LEEM group in Spain, with over 25 publications in the field, including Science and Phys. Rev. Lett., and a book chapter.

My recent work is devoted to understand transition metal oxides, in particular oxides with the spinel structure. They present a variety of properties, and their detailed surface properties are either the subject of heated debates, or not known in detail. I am dedicating a fair amount of time to their metal-insulator transitions and their magnetic properties, which differ strongly at surface from their bulk ones.



General quality indicators of scientific research

This section describes briefly the main quality indicators of scientific production (periods of research activity, experience in supervising doctoral theses, total citations, articles in journals of the first quartile, H index...). It also includes other important aspects or peculiarities.

- 4 "sexenios de investigación" awarded, the last one corresponding to 2008-2013.
- 4 PhD thesis supervised, two underway.
- over 110 publications, over 2300 total citations in the Web of Science (over 2000 excluding autocitations).
- over 130 cites per year in the last years (Web of Science).
- over 80 publications in the first quartile. Publications in Science, Nature, Phys. Rev. Lett., J. Amer. Chem. Soc., and Adv. Mat. among others. First author in 22 publications, last author in 33.
- over 60 invited lectures, and over 140 contributions at international conferences.

Google Scholar (GS, <http://scholar.google.es/citations?user=GOiP624AAAAJ>)



Juan de la Figuera Bayón

Surname(s): **de la Figuera Bayón**
Name: **Juan**
ORCID: **0000000270144777**
ScopusID: **6701455015**
ResearcherID: **E-7046-2010**
Google Scholar: **<http://scholar.google.com/citations?user=GOiP624AAAAJ>**
Contact province: **Madrid**
Contact address: **Instituto de Química Física "Rocasolano"**
Rest of contact address: **c/Serrano, 119**
Postcode: **28006**
Contact country: **Spain**
Contact aut. region/reg.: **Community of Madrid**
Contact city: **Madrid**
Email: **juan.delafiguera@iqfr.csic.es**
Personal web page: **<http://surfmoss.iqfr.csic.es/juandelafiguera>**

Current professional situation

Employing entity: Consejo Superior de Investigaciones Científicas

Type of entity: State agency

Department: Dto. de Sistemas de Baja Dimensionalidad, Superficies y Materia Condensada, Instituto de Química Física Rocasolano

Professional category: Investigador Científico

Start date: 02/02/2016

Dedication regime: Full time

Primary (UNESCO code): 221100 - Solid state physics

Secondary (UNESCO code): 221000 - Physical chemistry

Tertiary (UNESCO code): 221128 - Surfaces

Performed tasks: Ciencia de Superficies (fundamentalmente experimental). Crecimiento de películas delgadas. Caracterización de defectos en superficies: dislocaciones. Crecimiento de nanoestructuras en superficies. Crecimiento de metales y óxidos en capas ultradelgadas. Técnicas de caracterización de ultra-alto-vacío: Microscopía de efecto túnel, microscopía de electrones lentos (con y sin polarización en espín), espectroscopía de electrones Auger, difracción de rayos-X de superficies, difracción de electrones lentos. Espectroscopía Mössbauer

Identify key words: Surfaces and interphases; Physics - Structure of materials; Física Im -- sistemas de bajas dimensiones y mesoscopicos [eng]

Previous positions and activities

	Employing entity	Professional category	Start date
1	Instituto de Química Física Rocasolano	Director	04/07/2013
2	Consejo Superior de Investigaciones Científicas	Científico Titular	18/06/2007
3	Instituto de Química Física Rocasolano	Vicedirector	03/03/2010

	Employing entity	Professional category	Start date
4	Universidad Autónoma de Madrid	Profesor Contratado Doctor LOU	31/12/2006
5	Universidad Autónoma de Madrid	Investigador Contratado Ramón y Cajal	01/05/2002
6	Sandia National Laboratories	Investigador contratado	21/09/2000
7	Lawrence Berkeley National Laboratory	Postdoctoral Fellow Physicist	01/01/1999
8	Sandia National Laboratories	Fulbright Fellow	01/03/1997
9	Universidad Complutense de Madrid	Profesor asociado a tiempo completo	08/03/1996
10	Universidad Autónoma de Madrid	Profesor asociado a tiempo completo	01/10/1995
11	Universidad Autónoma de Madrid	Profesor Asociado a tiempo completo	01/10/1994
12	Universidad Autónoma de Madrid	Profesor Contratado Ayudante LRU	01/10/1992

- 1** **Employing entity:** Instituto de Química Física Rocasolano **Type of entity:** State agency
Department: Dpto. de Sistemas de Baja Dimensionalidad, Superficies y Materia Condensada
Professional category: Director
Start-End date: 04/07/2013 - 04/07/2017 **Duration:** 4 years
Field of management activity: Public Research Body
- 2** **Employing entity:** Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
Department: Dpto. de Sistemas de Baja Dimensionalidad, Superficies y Materia Condensada, Instituto de Química Física Rocasolano
Professional category: Científico Titular
Start-End date: 18/06/2007 - 01/02/2016
Type of contract: Civil servant
Dedication regime: Full time
Performed tasks: Ciencia de Superficies (fundamentalmente experimental). Crecimiento de películas delgadas. Caracterización de defectos en superficies: dislocaciones. Crecimiento de nanoestructuras en superficies. Crecimiento de metales y óxidos en capas ultradelgadas. Técnicas de caracterización de ultra-alto-vacío: Microscopía de efecto túnel, microscopía de electrones lentos (con y sin polarización en espín), espectroscopía de electrones Auger, difracción de rayos-X de superficies, difracción de electrones lentos. Espectroscopía Mössbauer.
- 3** **Employing entity:** Instituto de Química Física Rocasolano **Type of entity:** State agency
Professional category: Vicedirector
Start-End date: 03/03/2010 - 04/07/2013
- 4** **Employing entity:** Universidad Autónoma de Madrid
Professional category: Profesor Contratado Doctor LOU
Start-End date: 31/12/2006 - 17/06/2007
- 5** **Employing entity:** Universidad Autónoma de Madrid
Professional category: Investigador Contratado Ramón y Cajal
Start-End date: 01/05/2002 - 30/12/2006
- 6** **Employing entity:** Sandia National Laboratories **Type of entity:** State agency
Professional category: Investigador contratado
Start-End date: 21/09/2000 - 30/04/2002



- 7** **Employing entity:** Lawrence Berkeley National Laboratory
Professional category: Postdoctoral Fellow Physicist
Start-End date: 01/01/1999 - 31/08/2000
- 8** **Employing entity:** Sandia National Laboratories **Type of entity:** State agency
Professional category: Fulbright Fellow
Start-End date: 01/03/1997 - 31/12/1998
- 9** **Employing entity:** Universidad Complutense de Madrid **Type of entity:** University
Professional category: Profesor asociado a tiempo completo
Start-End date: 08/03/1996 - 01/03/1997
- 10** **Employing entity:** Universidad Autónoma de Madrid **Type of entity:** University
Professional category: Profesor asociado a tiempo completo
Start-End date: 01/10/1995 - 07/03/1996
- 11** **Employing entity:** Universidad Autónoma de Madrid
Professional category: Profesor Asociado a tiempo completo
Start-End date: 01/10/1994 - 30/09/1995
- 12** **Employing entity:** Universidad Autónoma de Madrid
Professional category: Profesor Contratado Ayudante LRU
Start-End date: 01/10/1992 - 30/09/1995



Education

University education

1st and 2nd cycle studies and pre-Bologna degrees

University degree: Higher degree

Name of qualification: Licenciado en Ciencias Físicas

Degree awarding entity: Universidad Autónoma de Madrid **Type of entity:** University

Date of qualification: 1990

Average mark: Excellent

Doctorates

Doctorate programme: Programa Oficial de Doctorado en Ciencias Físicas

Degree awarding entity: Universidad Autónoma de Madrid **Type of entity:** University

Date of degree: 1995

Thesis title: Crecimiento de Co en Cu(111): morfología, estructura y dinámica en películas delgadas

Thesis director: Carmen Ocal García

Obtained qualification: Apto cum laude por unanimidad

Special doctorate award: Yes

Specialised, lifelong, technical, professional and refresher training (other than formal academic and healthcare studies)

Training title: Curso de Formación Gerencial y Directiva

Awarding entity: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency

End date: 17/03/2015

Duration in hours: 60 hours

Language skills

Language	Listening skills	Reading skills	Spoken interaction	Speaking skills	Writing skills
English		C1	C1	C1	C1



Teaching experience

General teaching experience

- 1** **Name of the course:** Laboratorio de Técnicas Experimentales II
University degree: Licenciatura en Ciencias Físicas
Start date: 2006 **End date:** 2007
Entity: Universidad Autónoma de Madrid **Type of entity:** University
Faculty, institute or centre: Facultad de Ciencias
- 2** **Name of the course:** Laboratorio de Técnicas Experimentales II
University degree: Licenciatura en Ciencias Físicas
Start date: 2005 **End date:** 2006
Entity: Universidad Autónoma de Madrid **Type of entity:** University
Faculty, institute or centre: Facultad de Ciencias
- 3** **Name of the course:** Física Avanzada de Superficies: autoensamblado en superficies en películas metálicas
University degree: Curso de Doctorado
Start date: 2004 **End date:** 2006
Entity: Universidad Autónoma de Madrid **Type of entity:** University
- 4** **Name of the course:** Física avanzada de superficies: autoensamblado en superficies en pelí
University degree: Curso de Doctorado
Start date: 2004 **End date:** 2004
Entity: Universidad Autónoma de Madrid **Type of entity:** University
- 5** **Name of the course:** Física I
University degree: Ingeniería de Informática
Start date: 2002 **End date:** 2004
Entity: Universidad Autónoma de Madrid **Type of entity:** University
Faculty, institute or centre: Escuela Politécnica Superior
- 6** **Name of the course:** Fundamentos de Física I
University degree: Licenciatura en Ciencias Físicas
Start date: 1996 **End date:** 1997
Entity: Universidad Complutense de Madrid **Type of entity:** University
Faculty, institute or centre: Facultad de Ciencias Físicas
- 7** **Name of the course:** Física I
University degree: Ingeniería de Informática
Start date: 1996 **End date:** 1997
Entity: Universidad Autónoma de Madrid **Type of entity:** University
- 8** **Name of the course:** Fundamentos de Física II (1º de CC. Físicas)
University degree: Licenciatura en Ciencias Físicas
Start date: 1995 **End date:** 1996
Entity: Universidad Complutense de Madrid **Type of entity:** University



Faculty, institute or centre: Facultad de Ciencias Físicas

- 9** **Name of the course:** Laboratorios de Técnicas Experimentales (Electricidad)
University degree: Licenciatura en Ciencias Físicas
Start date: 1995 **End date:** 1996
Entity: Universidad Autónoma de Madrid **Type of entity:** University
Faculty, institute or centre: Facultad de Ciencias
- 10** **Name of the course:** Crecimiento de Co en Cu (111)
University degree: Curso de doctorado
Start date: 1995 **End date:** 1995
Entity: UNAM, Méjico **Type of entity:** University
Faculty, institute or centre: Instituto de Investigaciones en Materiales
- 11** **Name of the course:** Laboratorio de Técnicas Experimentales I (Mecánica)
University degree: Licenciatura en Ciencias Físicas
Start date: 1992 **End date:** 1995
Entity: Universidad Autónoma de Madrid **Type of entity:** University
Faculty, institute or centre: Facultad de Ciencias

Experience supervising doctoral thesis and/or final year projects

- 1** **Project title:** Characterization of oxide surfaces and films: real-time growth, interface effects and magnetism
Type of project: Doctoral thesis
Entity: Universidad Complutense de Madrid **Type of entity:** University
Student: Laura Martín García
Obtained qualification: Cum Laude (unanimity)
Date of reading: 13/07/2017
Quality recognition: No
- 2** **Project title:** Micromagnetismo de islas de ferrita de cobalto
Type of project: End of course project
Entity: Universidad Complutense de Madrid **Type of entity:** University
Student: María Gómez Alberto
Date of reading: 06/2016
- 3** **Project title:** Estudio de la evolución con la temperatura de la estructura de dominios magnéticos de la superficie (001) de la magnetita
Type of project: End of course project
Entity: Universidad Complutense de Madrid **Type of entity:** University
Student: Yaiza Montaña González
Obtained qualification: 9.5 (Sobresaliente)
Date of reading: 06/2015
- 4** **Project title:** Ultrathin iron oxide films on Ru(0001)
Type of project: Doctoral thesis
Entity: Universidad Autónoma de Madrid **Type of entity:** University
Student: Matteo Monti
Obtained qualification: Cum Laude
Date of reading: 11/07/2014



Quality recognition: Yes

- 5** **Project title:** Magnetic and structural properties of ultra-thin metallic layers upon hydrogen exposure
Type of project: Doctoral thesis
Entity: Universidad Autónoma de Madrid **Type of entity:** University
Student: Benito Santos Burgos
Obtained qualification: Cum Laude
Date of reading: 2011
- 6** **Project title:** Ultrathin Cobalt Films on Ruthenium (0001): Growth, Structure, and Magnetism
Type of project: Doctoral thesis
Entity: Universidad Autónoma de Madrid **Type of entity:** University
Student: Farid El Gabaly Marquez
Obtained qualification: Cum Laude
Date of reading: 2006

Scientific and technological experience

Scientific or technological activities

R&D projects funded through competitive calls of public or private entities

- 1** **Name of the project:** Transition metal oxide nanostructures for ultrafast and low dissipation signal processing devices
Type of project: Basic research (including archaeological digs, etc) **Geographical area:** National
Degree of contribution: Coordinator of total project, network or consortium
Entity where project took place: Instituto de Química Física "Rocasolano"
Name principal investigator (PI, Co-PI...): Jose F. Marco; Juan de la Figuera
Nº of researchers: 4
Funding entity or bodies: Agencia Estatal de Investigación **Type of entity:** Public Research Body
Type of participation: Principal investigator
Name of the programme: Convocatoria Restos de la Sociedad 2019
Code according to the funding entity: RTI2018-095303-B-C51
Start-End date: 01/01/2019 - 31/12/2021 **Duration:** 3 years
Total amount: 210.000 € **Sub-project amount:** 100.000 €
Dedication regime: Full time
- 2** **Name of the project:** Anisometric permanent hybrid magnets based on inexpensive and non-critical materials
Type of project: Research and development, including transfer
Entity where project took place: Agencia Estatal Consejo Superior de Investigaciones Científicas
City of entity: Madrid,
Name principal investigator (PI, Co-PI...): Adrian Quesada Michelena (coordinator); Juan de la Figuera Bayon (IQFR subproject)
Name of the programme: H2020-NMBP-2016-2017

Code according to the funding entity: 720853
Start-End date: 01/01/2017 - 31/12/2019
Total amount: 4.948.707 €

Duration: 3 years
Sub-project amount: 144.632 €

3 Name of the project: Structural and chemical control at the atomic level of spinel oxide thin films and surfaces MAT2015-64110-C2-1-P

Entity where project took place: Instituto de Química Física Rocasolano

Type of entity: State agency

City of entity: Spain

Name principal investigator (PI, Co-PI....): Juan de la Figuera Bayon

Nº of researchers: 3

Funding entity or bodies:

MINECO

Type of entity: Public Research Body

Start-End date: 01/01/2016 - 31/12/2018

Total amount: 78.000 €

4 Name of the project: Microscopio de electrones de baja energía para dinámica y crecimiento en superficies

Entity where project took place: Instituto de Química Física Rocasolano

Type of entity: State agency

City of entity: Madrid,

Nº of researchers: 10

Code according to the funding entity: CSIC15-EE-3056

Start-End date: 01/01/2016 - 31/12/2017

Total amount: 98.861,02 €

5 Name of the project: Thin films and interfaces for oxide electronics: Real time growth, interfaces and magnetism (subproyecto MAT2012-38045-C04-01)

Entity where project took place: Instituto de Química Física Rocasolano

Type of entity: State agency

City of entity: Madrid, Community of Madrid, Spain

Name principal investigator (PI, Co-PI....): Juan de la Figuera

Nº of researchers: 5

Funding entity or bodies:

Ministerio de Economía y Competitividad

City funding entity: Madrid, Community of Madrid, Spain

Start-End date: 01/01/2013 - 31/12/2015

Total amount: 105.300 €

6 Name of the project: Thin films and interfaces for oxide electronics: Understanding the fundamentals (MAT2012-38045-C04)

Entity where project took place: Instituto de Química Física Rocasolano

Type of entity: State agency

City of entity: Madrid, Community of Madrid, Spain

Name principal investigator (PI, Co-PI....): Juan de la Figuera

Nº of researchers: 14

Funding entity or bodies:

Ministerio de Economía y Competitividad

City funding entity: Madrid, Community of Madrid, Spain

Start-End date: 01/01/2013 - 31/12/2015

Total amount: 392.000 €



- 7** **Name of the project:** Low dimensional effects in oxides: growth, structure and magnetism (subproyecto MAT2009-14578-C03-01)
Entity where project took place: Instituto de Química Física Rocasolano **Type of entity:** State agency
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Juan de la Figuera
N° of researchers: 5
Funding entity or bodies: Ministerio de Ciencia e Innovación **Type of entity:** pública
City funding entity: Madrid, Community of Madrid, Spain
Start-End date: 01/01/2010 - 31/12/2013
Total amount: 195.000 €
- 8** **Name of the project:** Low dimensional effects in oxides (MAT2009-14578-C03)
Entity where project took place: Instituto de Química Física Rocasolano **Type of entity:** State agency
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Juan de la Figuera
N° of researchers: 14
Funding entity or bodies: Ministerio de Ciencia e Innovación **Type of entity:** pública
City funding entity: Madrid, Community of Madrid, Spain
Start-End date: 01/01/2010 - 31/12/2012
Total amount: 515.000 €
- 9** **Name of the project:** Superficies de aleaciones binarias: estructura y dinámica (MAT2006-13149-C02-02)
Entity where project took place: Universidad Autónoma de Madrid **Type of entity:** University
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Juan de la Figuera
N° of researchers: 5
Funding entity or bodies: Ministerio de Ciencia y Tecnología
Start-End date: 2007 - 2009
Total amount: 105.000 €
- 10** **Name of the project:** Estudio de la estructura atómica y magnética de capas ultradelgadas de cromo sobre tungsteno
Entity where project took place: Instituto de Química Física Rocasolano **Type of entity:** State agency
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Juan de la Figuera
N° of researchers: 3
Funding entity or bodies: Comunidad de Madrid y CSIC
Start-End date: 2008 - 2008
Total amount: 22.000 €



- 11 Name of the project:** Estudio de reactividad y magnetismo en películas metálicas epitaxiales (PIE 2007801007)
Entity where project took place: Instituto de Química Física Rocasolano **Type of entity:** State agency
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Juan de la Figuera
Nº of researchers: 1
Funding entity or bodies: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City funding entity: Madrid, Community of Madrid, Spain
Start-End date: 2007 - 2008
Total amount: 30.000 €
- 12 Name of the project:** Grafeno Epitaxial sobre Ru(0001) (CCG06-UAM-MAT-0364)
Entity where project took place: Universidad Autónoma de Madrid **Type of entity:** University
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Juan de la Figuera
Nº of researchers: 3
Funding entity or bodies: Comunidad de Madrid y UAM
City funding entity: Madrid, Community of Madrid, Spain
Start-End date: 2007 - 2007
Total amount: 16.000 €
- 13 Name of the project:** Dislocaciones en superficies y su relación con propiedades físicas y con la reactividad química de materiales metálicos: redes de dislocaciones (MAT2003-08627-C02-02)
Entity where project took place: Universidad Autónoma de Madrid
City of entity: Spain
Nº of researchers: 2
Funding entity or bodies: Ministerio de Ciencia y Tecnología
Start-End date: 2004 - 2006
Total amount: 57.750 €
- 14 Name of the project:** Crecimiento de Nanoestructuras en películas metálicas (Proyecto Ramón y Cajal)
Entity where project took place: Universidad Autónoma de Madrid
City of entity: Spain
Name principal investigator (PI, Co-PI....): Juan de la Figuera
Nº of researchers: 1
Funding entity or bodies: Ministerio de Ciencia y Tecnología
Start-End date: 2002 - 2006
Total amount: 6.000 €
- 15 Name of the project:** Reactividad molecular en superficies: experimentos y teoría GR/MAT/0155/2004
Entity where project took place: Universidad Autónoma de Madrid
City of entity: Spain
Name principal investigator (PI, Co-PI....): Daniel Farías



Nº of researchers: 7

Funding entity or bodies:

Comunidad de Madrid

Type of entity: Body, others

Start-End date: 2005 - 2005

Total amount: 34.500 €

16 Name of the project: Crecimiento de Nanoestructuras en películas metálicas 7N/0041/2002

Entity where project took place: Universidad Autónoma de Madrid

Nº of researchers: 3

Funding entity or bodies:

Comunidad de madrid

City funding entity: Madrid, Community of Madrid, Spain

Start-End date: 2003 - 2004

Total amount: 63.825 €

17 Name of the project: Electrochemically Deposited Alloys with Tailored Nanostructures (LDRD 02-0321)

Entity where project took place: Sandia National Laboratories-DOE

City of entity: Livermore, United States of America

Name principal investigator (PI, Co-PI....): Juan de la Figuera

Nº of researchers: 3

Funding entity or bodies:

Sandia National Laboratories-DOE

Start-End date: 2001 - 2002

Total amount: 330.000 €

18 Name of the project: Caracterización de defectos en superficies (PB96-0652)

Entity where project took place: Universidad **Type of entity:** University

Complutense de Madrid

City of entity: Spain

Name principal investigator (PI, Co-PI....): Juan M. Rojo

Funding entity or bodies:

Dirección de Enseñanza Superior

Start-End date: 1998 - 2000

19 Name of the project: Caracterización estructural de películas delgadas y superredes: Estudio del efecto de surfactantes

Entity where project took place: Universidad **Type of entity:** University

Autónoma de Madrid

Name principal investigator (PI, Co-PI....): Klaus Heinz; Carmen Ocal García

Funding entity or bodies:

MEC (Subdirección de Cooperación Internacional)

Start-End date: 1995 - 1996

20 Name of the project: Estructura, Dinámica y propiedades magnéticas durante el crecimiento: de una monocapa a las superredes (PB93-0271)

Entity where project took place: Universidad **Type of entity:** University

Autónoma de Madrid

City of entity: Spain

Name principal investigator (PI, Co-PI....): Carmen Ocal García

**Funding entity or bodies:**Comisión Interministerial de Ciencia y Tecnología **Type of entity:** publica**City funding entity:** Madrid, Community of Madrid, Spain**Start-End date:** 1994 - 1996

- 21 Name of the project:** Crecimiento epitaxial de siliciuros semiconductores en Si: Aplicación a dispositivos optoelectrónicos compatibles con silicio (MAT-0176-CE)

Entity where project took place: Universidad Autónoma de Madrid **Type of entity:** University**City of entity:** Spain**Name principal investigator (PI, Co-PI....):** Rodolfo Miranda Soriano**Funding entity or bodies:**Comisión Interministerial de Ciencia y Tecnología **Type of entity:** pública**City funding entity:** Madrid, Community of Madrid, Spain**Start-End date:** 1991 - 1993

Results

Industrial and intellectual property

Title registered industrial property: Gas Sensor**Type of industrial property:** Patent of invention**Inventors/authors/obtainers:** Andreas K. Schmid; Arantzazu Mascaraque; Benito Santos; Juan De la Figuera Bayón**Entity holder of rights:** Berkeley National Laboratory**Reference/registry code:** PCT/US2010/032990 **Nº of application:** 13/318,522**Country of inscription:** United States of America**Date of register:** 04/05/2009**Conferral date:** 09/09/2014**Nº of patent:** 8,826,726**EU patent:** No**International non-EU patent:** No**PCT patent:** Yes

Relevant results: A gas sensor is described which incorporates a sensor stack comprising a first film layer of a ferromagnetic material, a spacer layer, and a second film layer of the ferromagnetic material. The first film layer is fabricated so that it exhibits a dependence of its magnetic anisotropy direction on the presence of a gas. That is, the orientation of the easy axis of magnetization will flip from out-of-plane to in-plane when the gas to be detected is present in sufficient concentration. By monitoring the change in resistance of the sensor stack when the orientation of the first layer's magnetization changes, and correlating that change with temperature one can determine both the identity and relative concentration of the detected gas. In one embodiment the stack sensor comprises a top ferromagnetic layer two mono layers thick of cobalt deposited upon a spacer layer of ruthenium, which in turn has a second layer of cobalt disposed on its other side, this second cobalt layer in contact with a programmable heater chip.

Identify key words: Physic chemistry; Fisica Im -- sistemas de bajas dimensiones y mesoscopicos [eng]; Physics - Instrumentation and data analysis



Scientific and technological activities

Scientific production

- 1 **H index:** 28
Date of application: 06/10/2020
Fuente de Índice H: WOS
- 2 **H index:** 31
Date of application: 06/10/2020
Fuente de Índice H: GOOGLE SCHOLAR
- 3 **H index:** 28
Date of application: 06/10/2020
Fuente de Índice H: SCOPUS

Publications, scientific and technical documents

- 1 Juan de la Figuera; Zbynek Novotny; Martin Setvin; Tijiang Liu; Zhiqiang Mao; Gong Chen; Alpha T. N'Diaye; Michael Schmid; Ulrike Diebold; Andreas K. Schmid; Gareth S. Parkinson. Real-space imaging of the Verwey transition at the (100) surface of magnetite. Phys. Rev. B. 88, pp. 161410 - 161410. American Physical Society, 29/10/2013. Available on-line at: <<http://link.aps.org/doi/10.1103/PhysRevB.88.161410>>.

Type of production: Scientific paper	Format: Journal
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Relevant results: This work describes the first observation of the surface of magnetite through the Verwey transition, both at the atomic level by scanning tunneling microscopy, and at a larger field of view by low-energy electron microscopy. The Verwey transition is a structural and electronic transition in which the conductivity changes by two orders of magnitude at ~120K and that has motivated the study of metal-insulator transitions in general. The surface is observed to rumble into a roof-like structure due to the formation of monoclinic twins, while the same surface reconstruction is observed above and below the transition.

Relevant publication: Yes
- 2 Matteo Monti; Benito Santos; Arantzazu Mascaraque; Oscar Rodríguez de la Fuente; Miguel Angel Niño; Tevfik Onur Menten; Andrea Locatelli; Kevin F. McCarty; José F. Marco; Juan de la Figuera. Magnetism in nanometer-thick magnetite. Physical Review B. 85 - 2, pp. 020404 - 020404. 01/2012. Available on-line at: <<http://link.aps.org/doi/10.1103/PhysRevB.85.020404>>.

Type of production: Scientific paper	Format: Journal
Impact source: ISI	Category: Physics
Impact index in year of publication: 3.7	Journal in the top 25%: Yes
Source of citations: WOS	Citations: 6

Relevant results: (Editors selection) Despite being the oldest known magnetic material, magnetite is attracting renewed scientific and technological interest in view of spintronics applications. For the realization of practical devices, it is of outmost importance to control the material's magnetic properties in the case the reduced dimensionality limit is approached, as it occurs in thin films or nanostructures, aiming at obtaining stable anisotropy and magnetization. Although magnetite thin films are widely studied, the minimum thickness at which ferrimagnetic behavior can be observed is still under debate. In fact, most thin film studies are performed by separate growth and characterization experiments, which are typically carried out using laterally averaging techniques. To solve this fundamental problem we have exploited the current capabilities of photoelectron spectromicroscopy, and characterized the structural, chemical and magnetic properties of selected magnetite nanocrystals. Through the



combined use of low energy electron microscopy, X-ray photoemission microscopy, and X-ray circular dichroism photoemission electron microscopy we successfully monitored the growth of a single magnetite nanocrystal in real time while characterizing its crystal structure, surface stoichiometry and magnetic behavior. In this way, we have been able to find out that magnetite is ferromagnetic at room temperature at a thickness of only one nanometer, in what may be the thinnest lodestone ever.

Relevant publication: Yes

- 3** T Herranz; KF McCarty; B Santos; M Monti; J de la Figuera. Real Space Observations of Magnesium Hydride Formation and Decomposition. *Chemistry of Materials*. 22 - 4, pp. 1291 - 1293. 02/2010. Available on-line at: <<http://pubs.acs.org/doi/abs/10.1021/cm903755t>>. ISSN 0897-4756

Type of production: Scientific paper

Format: Journal

Impact source: ISI

Category: Chemistry

Impact index in year of publication: 5.0

Journal in the top 25%: Yes

Source of citations: WOS

Citations: 1

Relevant results: We have followed in real space and real time the growth and thermal desorption (TP) of Mg hydride on Ru(0001) by means of simultaneous low-energy electron microscopy. Among the potential hydrides for H storage, 1 magnesium hydride (MgH₂) has been singled out due to magnesium's low cost, availability and lack of toxicity. Furthermore, large amounts of H, up to 7.6 Wt%, can be stored as MgH₂. Well-known limitations are the thermodynamics requirements (up to 300°C for H release) and slow kinetics. In this work, we study the growth and decomposition of thin layers of Mg and magnesium hydride on Ru(0001) using an in-situ technique that provides real-space, real-time observations of the formation of hydride islands. The disappearance of the hydride coincides with a spike in the m/e=2 signal in the TD. The temperature of H₂ evolution in our system is similar to the one reported in previous works dealing with nanoparticles and thin films and lower than the one reported for bulk MgH₂. We have studied the effect of H dose and Mg film thickness on the growth kinetics and on the thermal desorption of the hydride. An increase in the decomposition temperature is observed with thicker original Mg films. This is attributed to the more 3D character of the hydride grown and explains why Mg nanoparticles dehydride at lower temperatures than bulk Mg. This real-space nanometric study therefore provides a way to explore the kinetic limitations on MgH₂ formation and decomposition.

Relevant publication: Yes

- 4** F El Gabaly; S Gallego; C Muñoz; L Szunyogh; P Weinberger; C Klein; AK Schmid; KF McCarty; J de la Figuera. Imaging spin-reorientation transitions in consecutive atomic Co layers on Ru(0001). *Physical Review Letters*. 96 - 14, pp. 147202 - 147202. 04/2006. Available on-line at: <<http://prl.aps.org/abstract/PRL/v96/i14/e147202>>. ISSN 0031-9007

Type of production: Scientific paper

Format: Journal

Impact source: ISI

Category: Physics

Impact index in year of publication: 7.4

Journal in the top 25%: Yes

Source of citations: WOS

Citations: 24

Relevant results: (Selected for a Focus Physics story, <http://prl.aps.org/story/v17/st13>). Studying a model system for thin-film magnetism, we made the discovery that the easy axis of magnetization oscillates as a function of thickness in cobalt films with one, two, and three atomic monolayers. Our measurements combine atomic-level control of the sample growth process with sophisticated experimental techniques, including spin-polarized low energy electron microscopy, to reveal magnetic properties in atomic detail. We show how this rich phenomenon can be understood in detail using ab-initio calculations. The results we present are extremely interesting from basic physical viewpoint and for their potential technological use. The combination of micromagnetic imaging and ab-initio computation highlights the level at which modern solid-state theory can be compared with experimental observation and thereby provide us with the atomic-level understanding of underlying mechanisms.

Relevant publication: Yes

- 5** F El Gabaly; WLW Ling; KF McCarty; J de la Figuera. The importance of threading dislocations on the motion of domain boundaries in thin films. *Science*. 308 - 5726, pp. 1303 - 1305. 05/2005. Available on-line at: <<http://www.sciencemag.org/cgi/content/full/308/5726/1303>>. ISSN 0036-8075

Type of production: Scientific paper

Format: Journal

Impact source: ISI

Impact index in year of publication: 31.85

Source of citations: WOS

Category: Science

Journal in the top 25%: Yes

Citations: 10

Relevant results: (From the summary published in Science, <http://www.sciencemag.org/content/308/5726/twis.full>), When a metal is deposited onto a substrate that has a different lattice spacing, a domain texture will form, but the mechanism for forming this texture has been much debated. El Gabaly et al. (p. 1303) present a real-time study of the microscopic domain structure of a heteroepitaxial thin film of copper on a ruthenium substrate. By combining bright- and dark-field low-energy electron microscopy images, they could map both the stacking and rotational domains of the film and follow their temporal evolution on the time scale of seconds. The boundaries between stacking domains within a given rotational domain move quickly and smoothly but get stuck at the rotational boundaries. Thus, the mobility of the stacking domains depends on the orientation and boundaries of the rotational domains, where threading dislocations represent an effective barrier for the gliding atomic planes.

Relevant publication: Yes

- 6 O Rodríguez de la Fuente; JA Zimmerman; MA Gonzalez; J de la Figuera; JC Hamilton; WW Pai; JM Rojo. Dislocation emission around nanoindentations on a (001) fcc metal surface studied by scanning tunneling microscopy and atomistic simulations. *Physical Review Letters*. 88 - 3, 01/2002. Available on-line at: <<http://prl.aps.org/abstract/PRL/v88/i3/e036101>>. ISSN 0031-9007

Type of production: Scientific paper

Format: Journal

Impact source: ISI

Category: Physics

Impact index in year of publication: 7.4

Source of citations: WOS

Citations: 97

Relevant results: In this work we present a combined study by scanning tunneling microscopy and atomistic simulations of the emission of dissociated dislocation loops by nanoindentation on a (001) fcc surface. The latter consist of two stacking-fault ribbons bounded by Shockley partials and a stair-rod dislocation. These dissociated loops, which intersect the surface, are shown to originate from loops of interstitial character emitted along the $\langle 110 \rangle$ directions and are usually located at hundreds of angstroms away from the indentation point. Simulations reproduce the nucleation and glide of these dislocation loops.

Relevant publication: Yes

- 7 K Pohl; MC Bartelt; J de la Figuera; NC Bartelt; J Hrbek; RQ Hwang. Identifying the forces responsible for self-organization of nanostructures at crystal surfaces. *Nature*. 397 - 6716, pp. 238 - 241. 01/1999. Available on-line at: <<http://www.nature.com/nature/journal/v397/n6716/full/397238a0.html>>. ISSN 0028-0836

Type of production: Scientific paper

Format: Journal

Impact source: ISI

Category: Science

Impact index in year of publication: 28.7

Journal in the top 25%: Yes

Source of citations: WOS

Citations: 118

Relevant results: The spontaneous formation of organized surface structures at nanometre scales has the potential to augment or surpass standard materials patterning technologies. Many observations of self-organization of nanoscale clusters at surfaces have been reported, but the fundamental mechanisms underlying such behaviour — and in particular, the nature of the forces leading to and stabilizing self-organization — are not well understood. The forces between the many-atom units in these structures, with characteristic dimensions of one to tens of nanometres, must extend far beyond the range of typical interatomic interactions. One commonly accepted source of such mesoscale forces is the stress field in the substrate around each unit. This, however, has not been confirmed, nor have such interactions been measured directly. Here we identify and measure the ordering forces in a nearly perfect triangular lattice of nanometre-sized vacancy islands that forms when a single monolayer of silver on the ruthenium (0001) surface is exposed to sulphur at room temperature. By using time-resolved scanning tunnelling microscopy to monitor the thermal fluctuations of the centres of mass of the vacancy islands around their final positions in the self-organized lattice, we obtain the elastic constants of the lattice and show that the weak forces responsible for its stability can be quantified.



Relevant publication: Yes

- 8** J de la Figuera; JE Prieto; C Ocal; R Miranda. Creation and Motion of Vacancy Islands on Solid-Surfaces - a Direct View. Solid State Communications. 89 - 9, pp. 815 - 818. 03/1994. ISSN 0038-1098

Type of production: Scientific paper

Format: Journal

Impact source: ISI

Category: Condensed Matter Physics

Impact index in year of publication: 1.2

Journal in the top 25%: No

Source of citations: WOS

Citations: 34

Relevant results: By means of the Scanning Tunneling Microscope (STM), we have purposely created monolayer-deep vacancy islands on a Cu(111) surface covered with submonolayer amounts of Co and observed their motion in real time at room temperature. A quantitative evaluation of their random walk allows us to obtain their diffusion coefficient.

Relevant publication: Yes

- 9** J de la Figuera; JE Prieto; C Ocal; R Miranda. Scanning-Tunneling-Microscopy Study of the Growth of Cobalt on Cu(111). Physical Review B. 47 - 19, pp. 13043 - 13046. 05/1993. Available on-line at: <http://prb.aps.org/abstract/PRB/v47/i19/p13043_1>. ISSN 0163-1829

Type of production: Scientific paper

Format: Journal

Impact source: ISI

Category: Condensed Matter Physics

Impact index in year of publication: 3.7

Journal in the top 25%: Yes

Source of citations: WOS

Citations: 196

Relevant results: This publication was the first STM work on the growth of the first layers of cobalt on (111) copper single crystals. It was motivated by the contradictory set of experimental results on the magnetic coupling of trilayers of Co / Cu / Co on Cu (111). The study showed the presence of growth twins in the initial stages, and a bilayer growth mode. Part of the impact of this work (it is a highly cited work) is due to the technological importance of basic research on the combination of Co / Cu.

Relevant publication: Yes

- 10** M. Oujja; L. Martin-Garcia; E. Rebollar; A. Quesada; M. A. Garcia; J. F. Fernandez; J. F. Marco; J. de la Figuera; M. Castillejo. Effect of wavelength, deposition temperature and substrate type on cobalt ferrite thin films grown by pulsed laser deposition. Applied Surface Science. 452, pp. 19 - 31. 09/2018. ISSN 0169-4332

Type of production: Scientific paper

Format: Journal

- 11** Filar Prieto; Jose F. Marco; Jose E. Prieto; Sandra Ruiz-Gomez; Lucas Perez; Rafael P. del Real; Manuel Vazquez; Juan de la Figuera. Epitaxial integration of CoFe₂O₄ thin films on Si(001) surfaces using TiN buffer layers. Applied Surface Science. 436, pp. 1067 - 1074. 04/2018. ISSN 0169-4332

Type of production: Scientific paper

Format: Journal

- 12** Laura Martin-Garcia; Gong Chen; Yaiza Montana; Arantzazu Mascaraque; Beatriz M. Pabon; Andreas K. Schmid; Juan de la Figuera. Memory effect and magnetocrystalline anisotropy impact on the surface magnetic domains of magnetite(001). Scientific Reports. 8, 04/2018. ISSN 2045-2322

Type of production: Scientific paper

Format: Journal

- 13** Sandra Ruiz-Gomez; Lucas Perez; Arantzazu Mascaraque; Adrian Quesad; Pilar Prieto; Irene Palacio; Laura Martin-Garcia; Michael Foerster; Lucia Aballe; Juan de la Figuera. Geometrically defined spin structures in ultrathin {Fe}3O4 with bulk like magnetic properties. Nanoscale. 10 - 12, pp. 5566 - 5573. 03/2018. ISSN 2040-3364

Type of production: Scientific paper

Format: Journal



- 14** Javier Garcia-Guinea; Fernando Garrido; Paula Lopez-Arce; Virgilio Correcher; Juan de la Figuera. Spectral green cathodoluminescence emission from surfaces of insulators with metal-hydroxyl bonds. *Journal of Luminescence*. 190, pp. 128 - 135. 10/2017. Available on-line at: <<http://www.sciencedirect.com/science/article/pii/S0022231317300327>>. ISSN 0022-2313
Type of production: Scientific paper **Format:** Journal
- 15** A. Quesada; R. Gargallo-Caballero; Y. Montaña; M. Foerster; L. Aballe; J. F. Fernández; J. de la Figuera. Unaltered reversible magnetic transition in {Fe} nanostructures upon ambient exposure. *Ultramicroscopy*. 181, pp. 70 - 73. 10/2017. Available on-line at: <<http://www.sciencedirect.com/science/article/pii/S0304399117300025>>. ISSN 0304-3991
Type of production: Scientific paper **Format:** Journal
- 16** Juan de la Figuera; Christian Tusche. The Verwey transition observed by spin-resolved photoemission electron microscopy. *Applied Surface Science*. 391, Part A, pp. 66 - 69. 01/2017. Available on-line at: <<http://www.sciencedirect.com/science/article/pii/S0169433216311709>>. ISSN 0169-4332
Type of production: Scientific paper **Format:** Journal
- 17** J. López-Sánchez; A. Muñoz-Noval; C. Castellano; A. Serrano; A. del Campo; M. Cabero; M. Varela; M. Abuín; J. de la Figuera; J. F. Marco; G. R. Castro; O. Rodríguez de la Fuente; N. Carmona. Origin of the magnetic transition at 100 {K} in ? -{Fe} 2 {O} 3 nanoparticles studied by x-ray absorption fine structure spectroscopy. *J. Phys.: Condens. Matter*. 29 - 48, pp. 485701 - 485701. 2017. Available on-line at: <<http://stacks.iop.org/0953-8984/29/i=48/a=485701>>. ISSN 0953-8984
Type of production: Scientific paper **Format:** Journal
- 18** J. E. Prieto; Gong Chen; A. K. Schmid; J. de la Figuera. Magnetism of epitaxial Tb films on W(110) studied by spin-polarized low-energy electron microscopy. *Physical Review B*. 94 - 17, pp. 174445 - 174445. 11/2016. Available on-line at: <<http://link.aps.org/doi/10.1103/PhysRevB.94.174445>>. **Type of production:** Scientific paper **Format:** Journal
- 19** J. López-Sánchez; A. Muñoz-Noval; A. Serrano; M. Abuín; J. de la Figuera; J. F. Marco; L. Pérez; N. Carmona; O. Rodríguez de la Fuente. Growth, structure and magnetism of ?-Fe₂O₃ in nanoparticle form. *RSC Advances*. 6 - 52, pp. 46380 - 46387. 05/2016. Available on-line at: <<http://pubs.rsc.org/en/content/articlelanding/2016/ra/c6ra01912a>>. ISSN 2046-2069
Type of production: Scientific paper **Format:** Journal
- 20** B. Santos; M. Rybicki; I. Zasada; E. Starodub; K. F. McCarty; J. I. Cerda; J. M. Puerta; J. de la Figuera. Structure and stability of ultrathin Fe films on W(110). *Physical Review B*. 93 - 19, pp. 195423 - 195423. 05/2016. Available on-line at: <<http://link.aps.org/doi/10.1103/PhysRevB.93.195423>>. **Type of production:** Scientific paper **Format:** Journal
- 21** Laura Martín-García; Arantzasu Mascaraque; Beatriz M. Pabón; Roland Bliem; Gareth S. Parkinson; Gong Chen; Andreas K. Schmid; Juan de la Figuera. Spin reorientation transition of magnetite (001). *Physical Review B*. 93 - 13, pp. 134419 - 134419. 04/2016. Available on-line at: <<http://link.aps.org/doi/10.1103/PhysRevB.93.134419>>. **Type of production:** Scientific paper **Format:** Journal
Relevant results: We have imaged the rearrangement of the magnetic domains on magnetite (001) when crossing the spin reorientation transition and the Verwey transition with nanometer resolution. By means of spin-polarized low-energy electron microscopy we have monitored the change in the easy axes lowering the temperature through both transitions in remanence. The spin reorientation transition occurs in two steps: initial nucleation and growth of domains with a new surface magnetic orientation is followed by a smooth evolution.
- 22** Raquel Gargallo-Caballero; Laura Martín-García; Adrián Quesada; Cecilia Granados-Mirallas; Michael Foerster; Lucía Aballe; Roland Bliem; Gareth S. Parkinson; Peter Blaha; José F. Marco; Juan de la Figuera. Co on Fe₃O₄(001): Towards precise control of surface properties. *The Journal of Chemical Physics*. 144 - 9, pp. 094704 - 094704. 03/2016. Available on-line at: <<http://scitation.aip.org/content/aip/journal/jcp/144/9/10.1063/1.4942662>>.



Type of production: Scientific paper

Format: Journal

Relevant results: A novel approach to incorporate cobalt atoms into a magnetite single crystal is demonstrated by a combination of x-ray spectro-microscopy, low-energy electron diffraction, and density-functional theory calculations. Co is deposited at room temperature on the reconstructed magnetite (001) surface filling first the subsurface octahedral vacancies and then occupying adatom sites on the surface. Progressive annealing treatments at temperatures up to 733 K diffuse the Co atoms into deeper crystal positions, mainly into octahedral ones with a marked inversion level. The oxidation state, coordination, and magnetic moments of the cobalt atoms are followed from their adsorption to their final incorporation into the bulk, mostly as octahedral Co²⁺. This precise control of the near-surface Co atoms location opens up the way to accurately tune the surface physical and magnetic properties of mixed spinel oxides.

- 23** Laura Martín-García; Iván Bernal-Villamil; Mohamed Oujja; Esther Carrasco; Raquel Gargallo-Caballero; Marta Castillejo; Jose F. Marco; Silvia Gallego; Juan de la Figuera. Unconventional properties of nanometric FeO(111) films on Ru(0001): stoichiometry and surface structure. *J. Mater. Chem. C.* 01/2016.

Type of production: Scientific paper

Format: Journal

- 24** Pilar Prieto; Juan de la Figuera; Laura Martín-García; José Emilio Prieto; José F. Marco. Fourfold in-plane magnetic anisotropy of magnetite thin films grown on {TiN} buffered {Si}(001) by ion-assisted sputtering. *J. Mater. Chem. C.* 4 - 32, pp. 7632 - 7639. 2016. Available on-line at: <<http://xlink.rsc.org/?DOI=C6TC02152B>>. ISSN 2050-7526, 2050-7534

Type of production: Scientific paper

Format: Journal

- 25** Laura Martín-García; Adrian Quesada; Lucas Pérez; Michael Foerster; Lucía Aballe; Juan de la Figuera. Initial Stages of the Growth of Mixed Iron-cobalt Oxides on Ru(0001). *Physics Procedia.* 85, pp. 12 - 19. 2016. Available on-line at: <<http://www.sciencedirect.com/science/article/pii/S1875389216303704>>. ISSN 1875-3892

Type of production: Scientific paper

Format: Journal

- 26** Juan de la Figuera; Adrian Quesada; Laura Martín-García; Mikel Sanz; Mohamed Oujja; Marta Castillejo; Arantazu Mascaraque; Alpha T. N'Diaye; Michael Foerster; Lucia Aballe; Jose F. Marco. Mössbauer and Magnetic Properties of Coherently Mixed Magnetite-Cobalt Ferrite Grown by Infrared Pulsed-Laser Deposition. *Croatica Chemica Acta.* 88 - 4, 12/2015.

Type of production: Scientific paper

Format: Journal

- 27** Pilar Prieto; José Emilio Prieto; Raquel Gargallo-Caballero; José Francisco Marco; Juan de la Figuera. Role of the substrate on the magnetic anisotropy of magnetite thin films grown by ion-assisted deposition. *Applied Surface Science.* 359, pp. 742 - 748. 12/2015. Available on-line at: <<http://www.sciencedirect.com/science/article/pii/S0169433215025994>>. ISSN 0169-4332

Type of production: Scientific paper

Format: Journal

- 28** Laura Martín-García; Adrian Quesada; Carmen Munuera; Jose F. Fernandez; Mar García-Hernandez; Michael Foerster; Lucía Aballe; Juan de la Figuera. Atomically flat ultrathin cobalt ferrite islands. *Adv. Mat.* 27, pp. 5955. 25/08/2015.

Type of production: Scientific paper

Relevant results: Ultrathin islands of up to 100 nm² with atomically flat surfaces and free from antiphase boundaries are developed. The extremely low defect concentration leads to a robust magnetic order, even for thicknesses below 1 nm, and exceptionally large magnetic domains. This approach allows the evaluation of the influence of specific extrinsic effects on domain wall pinning. The work has been performed by researchers of the Instituto de Química Física "Rocasolano" and other CSIC institutes (ICV, ICMM) in collaboration with the Alba synchrotron.

- 29** Pilar Prieto; Patricia Ruiz; Isabel J. Ferrer; Juan de la Figuera; Jose F. Marco. Nanocrystalline magnetite thin films grown by dual ion-beam sputtering. *J. Alloys and Compounds.* 636, pp. 150 - 155. 07/2015. ISSN 0925-8388

Type of production: Scientific paper

Format: Journal

- 30** A. Quesada; M. Monti; I. P. Krug; N. Rougemaille; F. Nickel; D. M. Gottlob; H. Doganay; A. T. N'Diaye; G. Chen; A. Serrano; K. F. McCarty; J. F. Fernandez; C. M. Schneider; A. K. Schmid; J. de la Figuera. Reversible temperature-driven domain transition in bistable Fe magnetic nanostrips grown on Ru(0001). Phys. Rev. B. 92, pp. 024416 - 024416. American Physical Society, 07/2015. Available on-line at: <<http://link.aps.org/doi/10.1103/PhysRevB.92.024416>>.
Type of production: Scientific paper **Format:** Journal
- 31** Laura Martin-Garcia; Raquel Gargallo-Caballero; Matteo Monti; Michael Foerster; Jose F. Marco; Luica Aballe; Juan de la Figuera. Spin and orbital magnetic moment of reconstructed root 2 x root 2R45 degrees magnetite(001). Phys. Rev B. 91 - 2, 01/2015. ISSN 1098-0121
Type of production: Scientific paper **Format:** Journal
- 32** Kevin F. McCarty; Matteo Monti; Shu Nie; David A. Siegel; Elena Starodub; Farid El Gabaly; Anthony H. McDaniel; Andrey Shavorskiy; Tolek Tyliczszak; Hendrik Bluhm; Norman C. Bartelt; Juan de la Figuera. Oxidation of Magnetite(100) to Hematite Observed by in Situ Spectroscopy and Microscopy. J. Phys. Chem. C. 118 - 34, pp. 19768 - 19777. 2014. Available on-line at: <<http://dx.doi.org/10.1021/jp5037603>>.
Type of production: Scientific paper **Format:** Journal
- 33** N.-C. Bartelt; S. Nie; E. Starodub; I. Bernal; S. Gallego; L. Vergara; K.-F. McCarty; J. de La Figuera. Order-disorder phase transition on the (100) surface of magnetite. Phys. Rev. B. 88 - 23, pp. 235436. 12/2013. Available on-line at: <<http://arxiv.org/abs/1310.5979>>.
Type of production: Scientific paper **Format:** Journal
- 34** I Palacio; M Monti; J F Marco; K F McCarty; J de la Figuera. Initial stages of FeO growth on Ru(0001). J. Phys.: Cond. Matt.25 - 48, pp. 484001 - 484001. 07/11/2013. Available on-line at: <<http://stacks.iop.org/0953-8984/25/i=48/a=484001>>.
Type of production: Scientific paper **Format:** Journal
- 35** M. Monti; M. Sanz; M. Oujja; E. Rebollar; M. Castillejo; M. Castillejo; A. Bollero; J. Camarero; J. L. F. Cuñado; N. M. Nemes; F.-J. Mompean; M. Garcia-Hernández; S. Nie; K.-F. McCarty; A. T. N'Diaye; G. Chen; A. K. Schmid; J. F. Marco; J. de la Figuera. Room Temperature In-plane <100> Magnetic Easy Axis for Fe3O4/SrTiO3(001):Nb Grown by Infrared PLD. J. App. Phys.114, pp. 223902. 11/2013. Available on-line at: <<http://scitation.aip.org/content/aip/journal/jap/114/22/10.1063/1.4837656>>. ISSN 0021-8979
Type of production: Scientific paper **Format:** Journal
- 36** Mikel Sanz; Mohamed Oujja; Esther Rebollar; Jose F. Marco; Juan de la Figuera; Matteo Monti; Alberto Bollero; Julio Camarero; Francisco J. Pedrosa; Mar Garcia Hernandez; Marta Castillejo. Stoichiometric magnetite grown by infrared nanosecond pulsed laser deposition. App. Surf. Sci.282, pp. 642 - 651. 01/10/2013. ISSN 0169-4332
Type of production: Scientific paper **Format:** Journal
- 37** David A. Siegel; William C. Chueh; Farid El Gabaly; Kevin F. McCarty; Juan de la Figuera; Maria Blanco Rey. Determination of the surface structure of CeO2(111) by low-energy electron diffraction. J. Chem. Phys.139 - 11, 21/09/2013. ISSN 0021-9606
Type of production: Scientific paper **Format:** Journal
- 38** Nicola N. M. Gurusinghe; Juan de la Figuera; Jose F. Marco; Michael F. Thomas; Frank J. Berry; Colin Greaves. Synthesis and characterisation of the n=2 Ruddlesden-Popper phases Ln(2)Sr(Ba)Fe2O7 (Ln = La, Nd, Eu). Mat. Res. Bull.48 - 9, pp. 3537 - 3544. 09/2013. ISSN 0025-5408
Type of production: Scientific paper **Format:** Journal
- 39** Pilar Prieto; Juan de la Figuera; Jose M. Sanz; Jose F. Marco. Effects of low energy ion bombardment on the formation of cubic iron mononitride thin films. Thin Solid Films. 539, pp. 35 - 40. 31/07/2013. ISSN 0040-6090
Type of production: Scientific paper **Format:** Journal



- 40** Shu Nie; Elena Starodub; Matteo Monti; David A. Siegel; Lucia Vergara; Farid El Gabaly; Norman C. Bartelt; Juan de la Figuera; Kevin F. McCarty. Insight into Magnetite's Redox Catalysis from Observing Surface Morphology during Oxidation. *J. Amer. Chem. Soc.* 135 - 27, pp. 10091 - 10098. 10/07/2013. ISSN 0002-7863
Type of production: Scientific paper **Format:** Journal
- 41** Juan de la Figuera; Lucia Vergara; Alpha T. N'Diaye; Adrian Quesada; Andreas K. Schmid. Micromagnetism in (001) magnetite by spin-polarized low-energy electron microscopy. *Ultramicroscopy*. 130, pp. 77 - 81. 07/2013. Available on-line at: <8th International Workshop on Low Energy Electron Microscopy and Photoemission Electron Microscopy (LEEM/PEEM)>. ISSN 0304-3991
Type of production: Scientific paper **Format:** Journal
- 42** M. Monti; B. Santos; A. Mascaraque; O. Rodríguez de la Fuente; M. A. Niño; T. O. Montes; A. Locatelli; K. F. McCarty; J. F. Marco; J. de la Figuera. Oxidation Pathways in Bicomponent Ultrathin Iron Oxide Films. *The Journal of Physical Chemistry C*. 116 - 21, pp. 11539 - 11547. 05/2012. Available on-line at: <<http://dx.doi.org/10.1021/jp300702d>>. ISSN 1932-7447
Type of production: Scientific paper **Format:** Journal
Impact source: ISI **Category:** Chemistry
Impact index in year of publication: 4.5 **Journal in the top 25%:** Yes
- 43** Benito Santos; Silvia Gallego; Arantzazu Mascaraque; Kevin F. McCarty; Adrian Quesada; Alpha T. N'Diaye; Andreas K. Schmid; Juan de la Figuera. Hydrogen-induced reversible spin-reorientation transition and magnetic stripe domain phase in bilayer Co on Ru(0001). *Physical Review B*. 85 - 13, pp. 134409 - 134409. 04/2012. Available on-line at: <<http://link.aps.org/doi/10.1103/PhysRevB.85.134409>>.
Type of production: Scientific paper **Format:** Journal
Impact source: ISI **Category:** Condensed Matter Physics
Impact index in year of publication: 3.7 **Journal in the top 25%:** Yes
- Relevant results:** A cobalt film two atoms thick has a magnetization direction perpendicular to the film plane when grown on ruthenium. Spin-polarized low-energy electron microscopy allows to observe its local magnetization, and follow in real time and real space changes in the magnetic domains of the film. When exposed to minute amounts of hydrogen, the out-of-plane magnetic domains in the film first break into smaller domains and eventually the magnetization direction switches on an in-plane orientation. The effect is understood with theoretical calculations that show that the origin is the change in the electronic structure of the topmost cobalt atoms bonded to hydrogen.
- 44** J. I. Cerdá; B. Santos; T. Herranz; J. M. Puerta; J. de la Figuera; K. F. McCarty. CO-Assisted Subsurface Hydrogen Trapping in Pd(111) Films. *J. Phys. Chem. Lett.* 3 - 1, pp. 87 - 91. 2012. Available on-line at: <<http://dx.doi.org/10.1021/jz201455s>>. ISSN 1948-7185
Type of production: Scientific paper **Format:** Journal
Impact source: ISI **Category:** Chemistry
Impact index in year of publication: 6.2 **Journal in the top 25%:** Yes
Source of citations: WOS **Citations:** 1
- Relevant results:** We have used low-energy electron microscopy to image CO displacing adsorbed H from the Pd(111) surface. Quantitative electron diffraction reveals that upon co-dosing atomic H and CO the later assists the absorption of hydrogen, which ends up trapped between the first and second palladium layers, and blocks its desorption. Density functional calculations reproduce this effect, which is found to originate from the antibonding character of the interaction between the adsorbed hydrogen and the CO pi states.
- 45** P. Prieto; M. Monti; J. Figuera; J. M. Sanz; J. F. Marco. Mössbauer spectroscopic study of FeNi nitrides thin films prepared by ion beam assisted deposition. *Hyperfine Interactions*. 202 - 1-3, pp. 47 - 55. 08/2011. Available on-line at: <<http://www.springerlink.com/content/r6jm47v685830k35>>. ISSN 0304-3843
Type of production: Scientific paper **Format:** Journal



- 46** Arantzazu Mascaraque; T Onur Mentés; Kevin F McCarty; Jose F Marco; Andreas K Schmid; Andrea Locatelli; Juan de la Figuera. Valence band circular dichroism in non-magnetic Ag/Ru(0001) at normal emission. *Journal of Physics: Condensed Matter*. 23 - 30, pp. 305006 - 305006. 08/2011. Available on-line at: <http://iopscience.iop.org/0953-8984/23/30/305006>. ISSN 0953-8984

Type of production: Scientific paper

Format: Journal

Impact source: ISI

Category: Condensed Matter Physics

Impact index in year of publication: 2.3

Journal in the top 25%: Yes

- 47** T. Herranz; B. Santos; K.F. McCarty; J. de la Figuera. Real-space study of the growth of magnesium on ruthenium. *Surface Science*. 605 - 9-10, pp. 903 - 911. 05/2011. Available on-line at: <http://www.sciencedirect.com/science/article/B6TVX-5259C1B-1/2/446e2ad01c6fe8df60e2b9f5a93a5b51>. ISSN 0039-6028

Type of production: Scientific paper

Format: Journal

Impact source: ISI

Category: Surfaces and Interfaces

Impact index in year of publication: 2.0

Journal in the top 25%: Yes

- 48** B Santos; JM Puerta; JI Cerda; T Herranz; KF McCarty; J de la Figuera. Structure of ultrathin Pd films determined by low-energy electron microscopy and diffraction. *New Journal of Physics*. 12, pp. 023023 - 023023. 02/2010. Available on-line at: <http://www.iop.org/EJ/abstract/-search=69502168.1/1367-2630/12/2/023023>. ISSN 1367-2630

Type of production: Scientific paper

Format: Journal

Impact source: ISI

Category: Condensed Matter Physics

Impact index in year of publication: 4.2

Journal in the top 25%: Yes

Source of citations: WOS

Citations: 4

- 49** A Mascaraque; L Aballe; JF Marco; TO Mentés; F El Gabaly; C Klein; AK Schmid; KF McCarty; A Locatelli; J de la Figuera. Measuring the magnetization of three monolayer thick Co islands and films by x-ray dichroism. *Physical Review B*. 80 - 17, 11/2009. Available on-line at: <http://link.aps.org/doi/10.1103/PhysRevB.80.172401>. ISSN 1098-0121

Type of production: Scientific paper

Format: Journal

Impact source: ISI

Category: Condensed Matter Physics

Impact index in year of publication: 3.7

Journal in the top 25%: Yes

Source of citations: WOS

Citations: 1

Relevant results: In collaboration with colleagues from Sandia National Laboratories, Berkeley National Laboratory, Univ. Complutense and Sincrotrone Elettra in Italy we have observed by x-ray dichroism the magnetization in highly perfect triangular islands three atoms high. This is the first time that photoexcited electron microscopy is used to determine both the magnetization and the ratio between the orbital and spin moment of their magnetic moment in islands so thin. Triangular islands of Co 3 atoms tall observed by photoexcited electron microscopy X-ray magnetic dichroism image (5 μm field of view) of triangular Co islands three atoms high, showing their in-plane magnetization pattern. Co islands and films are characterized by x-ray magnetic circular dichroism photoemission electron microscopy. The spatial resolution capabilities of the technique together with atomic growth control permit obtaining perfectly flat triangular islands with a given thickness (3 ML), very close to an abrupt spin-reorientation transition. The magnetic domain configurations are found to depend on island size: while small islands can be magnetized in a single-domain state, larger islands show more complex patterns. Furthermore, the magnetization pattern of the larger islands presents a common chirality. By means of dichroic spectromicroscopy at the Co L absorption edges, an experimental estimate of the ratio of the spin and orbital magnetic moment for three monolayer thick films is obtained.



- 50** B Santos; E Loginova; A Mascaraque; AK Schmid; KF McCarty; J de la Figuera. Structure and magnetism in ultrathin iron oxides characterized by low energy electron microscopy. *Journal of Physics-Condensed Matter*. 21 - 31, pp. 314011 - 314011. 08/2009. Available on-line at: <<http://www.iop.org/EJ/abstract/0953-8984/21/31/314011>>. ISSN 0953-8984

Type of production: Scientific paper

Format: Journal

Impact source: ISI

Category: Condensed Matter Physics

Impact index in year of publication: 2.5

Journal in the top 25%: Yes

- 51** K.F. McCarty; J.C. Hamilton; Y. Sato; A. Saa; R. Stumpf; J.D.L. Figuera; K. Thürmer; F. Jones; A.K. Schmid; A.A. Talin; N.C. Bartelt. How metal films de-wet substrates-identifying the kinetic pathways and energetic driving forces. *New Journal of Physics*. 11, pp. 043001 - 043001. 2009. Available on-line at: <<http://www.iop.org/EJ/abstract/-search=63491141.1/1367-2630/11/4/043001>>.

Type of production: Scientific paper

Format: Journal

Impact source: ISI

Category: Condensed Matter Physics

Impact index in year of publication: 4.2

Journal in the top 25%: Yes

- 52** F El Gabaly; KF McCarty; AK Schmid; J de la Figuera; MC Munoz; L Szunyogh; P Weinberger; S Gallego. Noble metal capping effects on the spin-reorientation transitions of Co/Ru(0001). *New Journal of Physics*. 10, pp. 073024 - 073024. 07/2008. Available on-line at: <http://www.iop.org/EJ/article/-search=58324552.1/1367-2630/10/7/073024/njp8_7_073024.html>. ISSN 1367-2630

Type of production: Scientific paper

Format: Journal

Impact source: ISI

Category: Condensed Matter Physics

Impact index in year of publication: 4.2

Journal in the top 25%: Yes

Source of citations: WOS

Citations: 10

- 53** J de la Figuera; F Leonard; NC Bartelt; R Stumpf; KF McCarty. Nanoscale periodicity in stripe-forming systems at high temperature: Au/W(110). *Physical Review Letters*. 100 - 18, pp. 186102 - 186102. 05/2008. Available on-line at: <<http://link.aps.org/abstract/PRL/v100/e186102>>. ISSN 0031-9007

Type of production: Scientific paper

Format: Journal

Impact source: ISI

Category: Physics

Impact index in year of publication: 7.4

Journal in the top 25%: Yes

Source of citations: WOS

Citations: 6

Relevant results: The simplest possible approach to making nanoscale patterns in films on surfaces is for the film material to spontaneously order into the pattern. A possible physical origin of such order in atomically thick films occurs when the lattice constant of the film does not match the substrate, causing a periodic array of gaps in the film to be energetically preferred. Most theories of this process indicate that the periodicities of such patterns should depend very strongly on the properties of deposit and substrate, so strongly, in fact, that constructing nanoscale patterns in any particular system will be difficult. In contrast, we experimentally observe and study in real time by electron microscopy the formation of self-assembling nanoscale patterns at high temperature in a simple system: gold deposited on tungsten. We show that previous low temperature theories do not correctly describe these patterns and conclude that such patterns should actually be common on metal surfaces at high temperature.

- 54** B Santos; JM Puerta; JI Cerda; R Stumpf; K von Bergmann; R Wiesendanger; M Bode; KF McCarty; J de la Figuera. Structure and magnetism of ultra-thin chromium layers on W(110). *New Journal of Physics*. 10, pp. 013005 - 013005. 01/2008. Available on-line at: <<http://www.iop.org/EJ/abstract/1367-2630/10/1/013005>>. ISSN 1367-2630

Type of production: Scientific paper

Format: Journal

Impact source: ISI

Category: Condensed Matter Physics



Impact index in year of publication: 4.2

Journal in the top 25%: Yes

Source of citations: WOS

Citations: 6

- 55** B Diaconescu; G Nenchev; J de la Figuera; K Pohl. An ultrahigh vacuum fast-scanning and variable temperature scanning tunneling microscope for large scale imaging. *Review of Scientific Instruments*. 78 - 10, pp. 103701. 10/2007. Available on-line at: <http://rsi.aip.org/resource/1/rsinak/v78/i10/p103701_s1>. ISSN 0034-6748

Type of production: Scientific paper

Format: Journal

Impact source: ISI

Category: Instrumentation

Impact index in year of publication: 1.4

Journal in the top 25%: Yes

Source of citations: WOS

Citations: 9

- 56** N Rougemaille; F El Gabaly; R Stumpf; AK Schmid; K Thurmer; NC Bartelt; J de la Figuera. Labyrinthine island growth during Pd/Ru(0001) heteroepitaxy. *Physical Review Letters*. 99 - 10, pp. 106101 - 106101. 09/2007. Available on-line at: <<http://prl.aps.org/abstract/PRL/v99/i10/e106101>>. ISSN 0031-9007

Type of production: Scientific paper

Format: Journal

Impact source: ISI

Category: Physics

Impact index in year of publication: 7.4

Journal in the top 25%: Yes

Source of citations: WOS

Citations: 10

Relevant results: Most theories of epitaxial growth neglect the effects of deposited atoms alloying into the substrate. Our work shows that this omission misses phenomena that are important for determining the morphology of epitaxial films. Using a combination of microscopy and electronic structure calculations we observe and explain a distinctive new growth mode of alloy surfaces. When Pd is deposited on Ru, two-dimensional islands initially nucleate. Remarkably these islands grow only from special regions along their periphery, causing a snake-like motion and giving rise to labyrinth patterns in the Pd film. Atomically resolved scanning tunneling images detect alloying around the non-moving sections of the islands. Ab-initio calculations indicate that the alloying can hinder the growth of the islands. Real-time observations by low energy electron microscopy corroborate the predictions of our model: that some atoms of the substrate mix with the islands sides, "poisoning" them and preventing attachment of additional deposited atoms on these "contaminated" areas. Then only areas of the islands moving fast enough can remain more pure, so that new atoms more easily attach to them. This phenomena should often appear when surface alloying occurs during deposition.

- 57** F El Gabaly; JM Puerta; C Klein; A Saa; AK Schmid; KF McCarty; JI Cerda; J de la Figuera. Structure and morphology of ultrathin Co/Ru(0001) films. *New Journal of Physics*. 9, pp. 80 - 80. 03/2007. Available on-line at: <<http://www.iop.org/EJ/abstract/-search=22967952.1/1367-2630/9/3/080>>. ISSN 1367-2630

Type of production: Scientific paper

Format: Journal

Impact source: ISI

Category: Condensed Matter Physics

Impact index in year of publication: 4.2

Journal in the top 25%: Yes

Source of citations: WOS

Citations: 13

Relevant results: We have determined that a single atomic layer of Cr grown on W(110) presents antiferromagnetic order. We first observed that the distance between the Cr atoms and the W last-layer atoms is only compatible with an antiferromagnetic order when compared with ab-initio calculations of the same system. Later K. von Bergmann and collaborators confirmed this indirect observation by spin-polarized scanning tunneling microscopy. The antiferromagnetic order in a single layer helps to understand the magnetic properties of a perfect bidimensional system. Our Cr layers are perfectly matched with the substrate, something that makes the first-principles calculation of its properties specially convenient.

- 58** J la Figuera; NC Bartelt; KF McCarty. Electron reflectivity measurements of Ag adatom concentrations on W(110). *Surface Science*. 600 - 18, pp. 4062 - 4066. 09/2006. Available on-line at: <<http://www.arxiv.org/abs/cond-mat/0601406>>. ISSN 0039-6028

Type of production: Scientific paper

Format: Journal



Impact source: ISI
Impact index in year of publication: 2

Category: Surfaces and Interfaces
Journal in the top 25%: Yes

- 59** J de la Figuera; JM Puerta; JI Cerda; F El Gabaly; KF McCarty. Determining the structure of Ru(0001) from low-energy electron diffraction of a single terrace. *Surface Science*. 600 - 9, pp. L105 - L109. 05/2006. Available on-line at: <<http://dx.doi.org/10.1016/j.susc.2006.02.027>>. ISSN 0039-6028

Type of production: Scientific paper
Impact source: ISI
Impact index in year of publication: 2
Source of citations: WOS

Format: Journal
Category: Surfaces and Interfaces
Journal in the top 25%: Yes
Citations: 22

- 60** WL Ling; JC Hamilton; K Thurmer; GE Thayer; J de la Figuera; RQ Hwang; CB Carter; NC Bartelt; KF McCarty. Herringbone and triangular patterns of dislocations in Ag, Au, and AgAu alloy films on Ru(0001). *Surface Science*. 600 - 9, pp. 1735 - 1757. 05/2006. Available on-line at: <<http://dx.doi.org/10.1016/j.susc.2006.01.055>>. ISSN 0039-6028

Type of production: Scientific paper
Impact source: ISI
Impact index in year of publication: 2
Source of citations: WOS

Format: Journal
Category: Surfaces and Interfaces
Journal in the top 25%: Yes
Citations: 35

- 61** WL Ling; NC Bartelt; K Pohl; J de la Figuera; RQ Hwang; KF McCarty. Enhanced self-diffusion on Cu(111) by trace amounts of S: Chemical-reaction-limited kinetics. *Physical Review Letters*. 93 - 16, pp. 166101 - 166101. 10/2004. Available on-line at: <<http://prl.aps.org/abstract/PRL/v93/i16/e166101>>. ISSN 0031-9007

Type of production: Scientific paper
Impact source: ISI
Impact index in year of publication: 7.4
Source of citations: WOS

Format: Journal
Category: Physics
Journal in the top 25%: Yes
Citations: 18

- 62** F El Gabaly; R Miranda; J de la Figuera. Properties of dislocation half loops in Au(100): Structure, formation energy, and diffusion barrier. *Physical Review B*. 70 - 1, 07/2004. Available on-line at: <<http://prb.aps.org/abstract/PRB/v70/i1/e012102>>. ISSN 1098-0121

Type of production: Scientific paper
Impact source: ISI
Impact index in year of publication: 3.7
Source of citations: WOS

Format: Journal
Category: Condensed Matter Physics
Journal in the top 25%: Yes
Citations: 3

- 63** WL Ling; J de la Figuera; NC Bartelt; RQ Hwang; AK Schmid; {GE} Thayer; {JC} Hamilton. Strain relief through heterophase interface reconstruction: Ag(111)/Ru(0001). *Physical Review Letters*. 92 - 11, 03/2004. Available on-line at: <<http://prl.aps.org/abstract/PRL/v92/i11/e116102>>. ISSN 0031-9007

Type of production: Scientific paper
Impact source: ISI
Impact index in year of publication: 7.4
Source of citations: WOS

Format: Journal
Category: Physics
Journal in the top 25%: Yes
Citations: 18



- 64** R Otero; F Calleja; VM Garcia-Suarez; JJ Hinarejos; J de la Figuera; J Ferrer; ALV de Parga; R Miranda. Tailoring surface electronic states via strain to control adsorption: O/Cu/Ru(0001). *Surface Science*. 550 - 1-3, pp. 65 - 72. 02/2004. Available on-line at: <<http://www.sciencedirect.com/science/article/pii/S0039602803015413>>. ISSN 0039-6028
- Type of production:** Scientific paper
Impact source: ISI
Impact index in year of publication: 2
Source of citations: WOS
- Format:** Journal
Category: Surfaces and Interfaces
Journal in the top 25%: Yes
Citations: 18
- 65** J de la Figuera; CB Carter; NC Bartelt; RQ Hwang. Interplay between gas adsorption and dislocation structure on a metal surface. *Surface Science*. 531 - 1, pp. 29 - 38. 05/2003. Available on-line at: <<http://www.sciencedirect.com/science/article/pii/S0039602803004011>>. ISSN 0039-6028
- Type of production:** Scientific paper
Impact source: ISI
Impact index in year of publication: 2
Source of citations: WOS
- Format:** Journal
Category: Surfaces and Interfaces
Journal in the top 25%: Yes
Citations: 8
- 66** J de la Figuera; AK Schmid; K Pohl; NC Bartelt; CB Carter; RQ Hwang. Glide and climb of dislocations in ultra-thin metal films. *Thermec'2003, Pts 1-5*. 426-4, pp. 3421 - 3426. 2003. Available on-line at: <[http://surfmoss.iqfr.csic.es/surflab/people/juan-de-la-figuera/publications/MSF426\(2003\)426.pdf](http://surfmoss.iqfr.csic.es/surflab/people/juan-de-la-figuera/publications/MSF426(2003)426.pdf)>. ISSN 0255-5476
- Type of production:** Scientific paper
Source of citations: WOS
- Format:** Journal
Citations: 2
- 67** O Schaff; AK Schmid; NC Bartelt; J de la Figuera; RQ Hwang. In-situ STM studies of strain-stabilized thin-film dislocation networks under applied stress. *Materials Science and Engineering a-Structural Materials Properties*. 319, pp. 914 - 918. 12/2001. Available on-line at: <[http://surfmoss.iqfr.csic.es/surflab/people/juan-de-la-figuera/publications/MatSciEngA319-321\(2001\)914.pdf](http://surfmoss.iqfr.csic.es/surflab/people/juan-de-la-figuera/publications/MatSciEngA319-321(2001)914.pdf)>. ISSN 0921-5093
- Type of production:** Scientific paper
Source of citations: WOS
- Format:** Journal
Citations: 15
- 68** J de la Figuera; AK Schmid; NC Bartelt; K Pohl; RQ Hwang. Determination of buried dislocation structures by scanning tunneling microscopy. *Physical Review B*. 63 - 16, pp. 165431. 04/2001. Available on-line at: <<http://prb.aps.org/abstract/PRB/v63/i16/e165431>>. ISSN 1098-0121
- Type of production:** Scientific paper
Impact source: ISI
Impact index in year of publication: 3.7
Source of citations: WOS
- Format:** Journal
Category: Condensed Matter Physics
Journal in the top 25%: Yes
Citations: 19
- 69** J de la Figuera; K Pohl; OR Rodríguez de la Fuente; AK Schmid; NC Bartelt; CB Carter; RQ Hwang. Direct observation of misfit dislocation glide on surfaces. *Physical Review Letters*. 86 - 17, pp. 3819 - 3822. 04/2001. Available on-line at: <http://prl.aps.org/abstract/PRL/v86/i17/p3819_1>. ISSN 0031-9007
- Type of production:** Scientific paper
Impact source: ISI
Impact index in year of publication: 7.4
Source of citations: WOS
- Format:** Journal
Category: Physics
Journal in the top 25%: Yes
Citations: 23



- 70** J Camarero; J de la Figuera; JJ de Miguel; R Miranda; J Alvarez; S Ferrer. Structural characterisation and homoepitaxial growth on Cu(111). *Surface Science*. 459 - 1-2, pp. 191 - 205. 07/2000. Available on-line at: <<http://www.sciencedirect.com/science/article/pii/S0039602800004635>>. ISSN 0039-6028
Type of production: Scientific paper **Format:** Journal
Impact source: ISI **Category:** Surfaces and Interfaces
Impact index in year of publication: 2 **Journal in the top 25%:** Yes
Source of citations: WOS **Citations:** 27
- 71** JE Prieto; J de la Figuera; R Miranda. Surface energetics in a heteroepitaxial model system: Co/Cu(111). *Physical Review B*. 62 - 3, pp. 2126 - 2133. 07/2000. Available on-line at: <http://prb.aps.org/abstract/PRB/v62/i3/p2126_1>. ISSN 0163-1829
Type of production: Scientific paper **Format:** Journal
Impact source: ISI **Category:** Condensed Matter Physics
Impact index in year of publication: 3.7 **Journal in the top 25%:** Yes
Source of citations: WOS **Citations:** 39
- 72** L Gomez; C Slutzky; J Ferron; J de la Figuera; J Camarero; AL Vazquez de Parga; JJ de Miguel; R Miranda. Novel microscopic mechanism of intermixing during growth on soft metallic substrates. *Physical Review Letters*. 84 - 19, pp. 4397 - 4400. 05/2000. Available on-line at: <http://prl.aps.org/abstract/PRL/v84/i19/p4397_1>. ISSN 0031-9007
Type of production: Scientific paper **Format:** Journal
Impact source: ISI **Category:** Physics
Impact index in year of publication: 7.4 **Journal in the top 25%:** Yes
Source of citations: WOS **Citations:** 24
- 73** J Hrbek; J de la Figuera; K Pohl; T Jirsak; JA Rodriguez; AK Schmid; NC Bartelt; RQ Hwang. A prelude to surface chemical reaction: Imaging the induction period of sulfur interaction with a strained Cu layer. *Journal of Physical Chemistry B*. 103 - 48, pp. 10557 - 10561. 12/1999. Available on-line at: <<http://pubs.acs.org/doi/full/10.1021/jp992564z>>. ISSN 1089-5647
Type of production: Scientific paper **Format:** Journal
Impact source: ISI **Category:** Chemistry
Impact index in year of publication: 3.7 **Journal in the top 25%:** Yes
Source of citations: WOS **Citations:** 22
- 74** J de la Figuera; K Pohl; AK Schmid; NC Bartelt; J Hrbek; RQ Hwang. Multiplication of threading dislocations in strained metal films under sulfur exposure. *Surface Science*. 435, pp. 93 - 98. 08/1999. Available on-line at: <<http://www.sciencedirect.com/science/article/pii/S0039602899000606>>. ISSN 0039-6028
Type of production: Scientific paper **Format:** Journal
Impact source: ISI **Category:** Surfaces and Interfaces
Impact index in year of publication: 2 **Journal in the top 25%:** Yes
Source of citations: WOS **Citations:** 9
- 75** K Pohl; J de la Figuera; MC Bartelt; NC Bartelt; J Hrbek; RQ Hwang. Thermal vibrations of a two-dimensional vacancy island crystal in a strained metal film. *Surface Science*. 435, pp. 506 - 511. 08/1999. Available on-line at: <<http://www.sciencedirect.com/science/article/pii/S0039602899001302>>. ISSN 0039-6028
Type of production: Scientific paper **Format:** Journal
Impact source: ISI **Category:** Surfaces and Interfaces
Impact index in year of publication: 2 **Journal in the top 25%:** Yes

Source of citations: WOS

Citations: 5

- 76** MA Gonzalez; J de la Figuera; OR Rodríguez de la Fuente; JM Rojo. Surface defects and reconstruction instabilities in Au(001). Surface Science. 429 - 1-3, pp. L486 - L491. 06/1999. Available on-line at: <<http://www.sciencedirect.com/science/article/pii/S0039602899004094>>. ISSN 0039-6028

Type of production: Scientific paper

Format: Journal

Impact source: ISI

Category: Surfaces and Interfaces

Impact index in year of publication: 2.0

Journal in the top 25%: Yes

Source of citations: WOS

Citations: 5

- 77** J de la Figuera; K Pohl; AK Schmid; NC Bartelt; RQ Hwang. Linking dislocation dynamics and chemical reactivity on strained metal films. Surface Science. 415 - 1-2, pp. L993 - L999. 09/1998. Available on-line at: <<http://www.sciencedirect.com/science/article/pii/S0039602898006244>>. ISSN 0039-6028

Type of production: Scientific paper

Format: Journal

Impact source: ISI

Category: Surfaces and Interfaces

Impact index in year of publication: 2.0

Journal in the top 25%: Yes

Source of citations: WOS

Citations: 13

- 78** J de la Figuera; MA Gonzalez; R Garcia-Martinez; JM Rojo; OS Hernan; {ALV} de Parga; R Miranda. STM characterization of extended dislocation configurations in Au(001). Physical Review B. 58 - 3, pp. 1169 - 1172. 07/1998. Available on-line at: <http://prb.aps.org/abstract/PRB/v58/i3/p1169_1>. ISSN 0163-1829

Type of production: Scientific paper

Format: Journal

Impact source: ISI

Category: Condensed Matter Physics

Impact index in year of publication: 3.7

Journal in the top 25%: Yes

Source of citations: WOS

Citations: 27

- 79** S Muller; G Kostka; T Schafer; J de la Figuera; {JE} Prieto; C Ocal; R Miranda; K Heinz; K Muller. The structure of Co films on Cu(111) up to 15 ML. Surface Science. 352, pp. 46 - 49. 05/1996. Available on-line at: <<http://www.sciencedirect.com/science/article/pii/0039602895010882>>. ISSN 0039-6028

Type of production: Scientific paper

Format: Journal

Impact source: ISI

Category: Surfaces and Interfaces

Impact index in year of publication: 2.0

Journal in the top 25%: Yes

Source of citations: WOS

Citations: 30

- 80** J de la Figuera; JE Prieto; G Kostka; S Muller; C Ocal; R Miranda; K Heinz. Crystallography and morphology of the early stages of the growth of Co/Cu(111) by LEED and STM. Surface Science. 349 - 2, pp. L139 - L145. 04/1996. ISSN 0039-6028

Type of production: Scientific paper

Format: Journal

Impact source: ISI

Category: Surfaces and Interfaces

Impact index in year of publication: 2.0

Journal in the top 25%: Yes

Source of citations: WOS

Citations: 49

- 81** J de la Figuera; MA Huerta Garnica; JE Prieto; C Ocal; R Miranda. Fabrication of Magnetic Quantum Wires by Step-Flow Growth of Cobalt on Copper Surfaces. Applied Physics Letters. 66 - 8, pp. 1006 - 1008. 02/1995. Available on-line at: <http://apl.aip.org/resource/1/applab/v66/i8/p1006_s1>. ISSN 0003-6951

Type of production: Scientific paper

Format: Journal

Impact source: ISI
Impact index in year of publication: 3.9
Source of citations: WOS

Category: Applied Physics
Journal in the top 25%: Yes
Citations: 64

82 J de la Figuera; JE Prieto; C Ocal; R Miranda. Surface Etching and Enhanced Diffusion During the Early Stages of the Growth of Co on Cu(111). *Surface Science*. 307, pp. 538 - 543. 04/1994. Available on-line at: <<http://www.sciencedirect.com/science/article/pii/0038109894907390>>. ISSN 0039-6028

Type of production: Scientific paper
Impact source: ISI
Impact index in year of publication: 2.0
Source of citations: WOS

Format: Journal
Category: Surfaces and Interfaces
Journal in the top 25%: Yes
Citations: 61

83 ALV Vazquez de Parga; J de la Figuera; JE Prieto; C Ocal; R Miranda. Surface-Structure of Beta-FeSi₂(101) Epitaxially Grown on Si(111). *Applied Physics A-Materials Science & Processing*. 57 - 6, pp. 477 - 482. 12/1993. ISSN 0947-8396

Type of production: Scientific paper
Impact source: ISI
Impact index in year of publication: 1.6
Source of citations: WOS

Format: Journal
Category: Applied Physics
Journal in the top 25%: No
Citations: 11

84 J Alvarez; AL Vazquez de Parga; JJ Hinarejos; J de la Figuera; EG Michel; C Ocal; R Miranda. Geometric and Electronic-Structure of Epitaxial Iron Silicides. *Journal of Vacuum Science & Technology A-Vacuum Surfaces and Films*. 11 - 4, pp. 929 - 933. 08/1993. Available on-line at: <http://avspublications.org/jvsta/resource/1/jvtad6/v11/i4/p929_s1?isAuthorized=no>. ISSN 0734-2101

Type of production: Scientific paper
Impact source: ISI
Impact index in year of publication: 1.6
Source of citations: WOS

Format: Journal
Category: Surfaces and Interfaces
Journal in the top 25%: No
Citations: 24

85 J Alvarez; AL Vazquez de Parga; JJ Hinarejos; J de la Figuera; EG Michel; C Ocal; R Miranda. Initial-Stages of the Growth of Fe on Si(111)7x7. *Physical Review B*. 47 - 23, pp. 16048 - 16051. 06/1993. Available on-line at: <http://prb.aps.org/abstract/PRB/v47/i23/p16048_1>. ISSN 0163-1829

Type of production: Scientific paper
Impact source: ISI
Impact index in year of publication: 3.7
Source of citations: WOS

Format: Journal
Category: Condensed Matter Physics
Journal in the top 25%: Yes
Citations: 75

86 JL Martínez Albertos; J Camarero; JM García; CJ Pastor; JM Gallego; C Limones; JE Prieto; AL Vazquez de Parga; J de la Figuera; C Ocal; R Miranda. A Structural Characterization of the Buffer Layer for Growth of Magnetically Coupled Co/Cu Superlattices. *Journal of Magnetism and Magnetic Materials*. 121 - 1-3, pp. 20 - 23. 03/1993. ISSN 0304-8853

Type of production: Scientific paper

Format: Journal

87 J Alvarez; AL Vazquez de Parga; JJ Hinarejos; J de la Figuera; EG Michel; C Ocal; R Miranda. Structural Phase-Transition During Heteroepitaxial Growth of Iron Silicides on Si(111). *Applied Surface Science*. 70-1, pp. 578 - 582. 1993. ISSN 0169-4332

Type of production: Scientific paper

Format: Journal

**Source of citations:** WOS**Citations:** 6

- 88** AL Vazquez de Parga; J de la Figuera; C Ocal; R Miranda. A New Metastable Epitaxial Silicide - FeSi₂/Si(111). Ultramicroscopy. 42, pp. 845 - 850. 07/1992. Available on-line at: <<http://www.sciencedirect.com/science/article/pii/030439919290367S>>. ISSN 0304-3991
Type of production: Scientific paper **Format:** Journal
Impact source: ISI **Category:** Science Edition - MICROSCOPY
Impact index in year of publication: 2.4 **Journal in the top 25%:** Yes
Source of citations: WOS **Citations:** 26
- 89** JM Gallego; JM García; JE Ortega; AL Vazquez de Parga; J de la Figuera; C Ocal; R Miranda. Growth of Epitaxial Iron Disilicide on Si(100). Surface Science. 270, pp. 1016 - 1021. 05/1992. Available on-line at: <http://apl.aip.org/resource/1/applab/v59/i1/p99_s1>. ISSN 0039-6028
Type of production: Scientific paper **Format:** Journal
Impact source: ISI **Category:** Surfaces
Impact index in year of publication: 2.0 **Journal in the top 25%:** Yes
Source of citations: WOS **Citations:** 13
- 90** AL VAzquez de Parga; J de la Figuera; C Ocal; R Miranda. Real-Space Imaging of the 1st Stages of FeSi₂ Epitaxially Grown on Si(111) - Nucleation and Atomic-Structure. Europhysics Letters. 18 - 7, pp. 595 - 600. 04/1992. Available on-line at: <<http://iopscience.iop.org/0295-5075/18/7/005/>>. ISSN 0295-5075
Type of production: Scientific paper **Format:** Journal
Impact source: ISI **Category:** Physics
Impact index in year of publication: 2.3 **Journal in the top 25%:** No
Source of citations: WOS **Citations:** 64
- 91** J de la Figuera; AL Vazquez de Parga; J Alvarez; J Ibañez; C Ocal; R Miranda. Surface-Morphology of Semiconducting Iron Silicides Grown on Si(111). Surface Science. 264 - 1-2, pp. 45 - 54. 03/1992. Available on-line at: <<http://www.sciencedirect.com/science/article/pii/003960289290163Z>>. ISSN 0039-6028
Type of production: Scientific paper **Format:** Journal
Impact source: ISI **Category:** Surfaces and Interfaces
Impact index in year of publication: 2.0 **Journal in the top 25%:** Yes
Source of citations: WOS **Citations:** 8
- 92** J Alvarez; JJ Hinarejos; EG Michel; JM Gallego; AL Vazquez de Parga; J de la Figuera; C Ocal; R Miranda. Surface Characterization of Epitaxial, Semiconducting, FeSi₂ Grown on Si(100). Applied Physics Letters. 59 - 1, pp. 99 - 101. 07/1991. Available on-line at: <http://apl.aip.org/resource/1/applab/v59/i1/p99_s1>. ISSN 0003-6951
Type of production: Scientific paper **Format:** Journal
Impact source: ISI **Category:** Applied Physics
Impact index in year of publication: 3.9 **Journal in the top 25%:** Yes
Source of citations: WOS **Citations:** 43
- 93** J. F. Marco; J. R. Gancedo; M. Monti; J. de la Figuera. Mössbauer spectroscopy and surface analysis. Mössbauer Spectroscopy: Applications in Chemistry, Biology and Nanotechnology. pp. 455 - 469. John Wiley & Sons, 11/2013. Available on-line at: <<http://eu.wiley.com/WileyCDA/WileyTitle/productCd-1118057244,subjectCd-NT00.html>>.

Type of production: Book chapter

Format: Book

- 94** Juan de la Figuera; Kevin F. McCarty. Low-Energy Electron Microscopy. Surface Science Techniques. 51, pp. 531 - 561. Springer Verlag, 31/01/2013. Available on-line at: <<http://www.springer.com/physics/condensed+matter+physics/book/978-3-642-34242-4>>. ISBN 978-3-642-34242-4

Collection: Springer Series in Surface Sciences

Type of production: Book chapter

Format: Book

- 95** J.J. de Miguel; J. Camarero; J. de la Figuera; J.E. Prieto; R. Miranda.. Tailoring epitaxial growth of low-dimensional magnetic heterostructures by means of surfactants. Morphological Organization in Epitaxial Growth and Removal. pp. 367 - 383. World Scientific, 18/03/1999. ISBN 978-9-8102-3471-3

Collection: Series on Directions in Condensed Matter Physics

Type of production: Scientific book or monograph

Format: Book

- 96** J. de la Figuera; J. E. Prieto; C. Ocal; R. Miranda. The Growth of Cobalt/Copper Epitaxial Layers and its Relationship to the Oscillatory Magnetic Coupling. New Trends in Magnetism, Magnetic Materials and Their Applications. pp. 141 - 149. Plenum Publishing Co.,N.Y., 1994. ISBN 978-0-3064-4829-4

Type of production: Scientific book or monograph

Format: Book

- 97** A. Cebollada; J. de la Figuera; A.L. Vázquez de Parga; C. Ocal; R. Miranda. On the structural quality of Co/Cu trilayers and superlattices: the influence of the template layer. Magnetism and Structure in Systems of Reduced Dimension. pp. 439 - 451. Plenum Press, 1993. ISBN 978-0-3064-4529-3

Type of production: Scientific book or monograph

Format: Book

- 98** Sanchez-Arenillas, M.; Oujja, M.; Moutinho, F.; de la Figuera, J.; Canamares, M. V.; Quesada, A.; Castillejo, M.; Marco, J. F.. Bulk and surface characterisation of micrometer-thick cobalt ferrite films grown by IR PLD. Applied Surface Science. 470, 2019. ISSN 0169-4332

DOI: 10.1016/j.apsusc.2018.11.152

Source of citations: WOS

Citations: 4

- 99** Fdez Cunado, Jose Luis; Camarero, Julio; Pedrosa, Francisco J.; Nemes, Norbert M.; Sanz, Mikel; Oujja, Mohamed; Rebollar, Esther; Marco, Jose F.; de la Figuera, Juan; Monti, Matteo; Castillejo, Marta; Feher, Titusz; Nafradi, Balint; Forro, Laszlo; Bollero, Alberto. Evidence of anomalous switching of the in-plane magnetic easy axis with temperature in Fe₃O₄ film on SrTiO₃:Nb by v-MOKE and ferromagnetic resonance. Nanoscale. 11, 2019. ISSN 2040-3364

DOI: 10.1039/c9nr04198b

PMID: 31599278

- 100** Prieto, P.; Marco, J. F.; Serrano, A.; Manso, M.; de la Figuera, J.. Highly oriented (111) CoO and Co₃O₄ thin films grown by ion beam sputtering. Journal of Alloys and Compounds. 810, 2019. ISSN 0925-8388

DOI: 10.1016/j.jallcom.2019.151912

- 101** Gracia, M.; Gancedo, J. R.; Gautier, J. L.; de la Figuera, J.; Marco, J. F.. Influence of the manganese substitution on the cation distribution and magnetic structure of the spinel-related LiFe_{1-x}Mn_{1+x}O₄ (x=0.00, 0.25, 0.50, 0.75) system. Hyperfine Interactions. 240, 2019. ISSN 0304-3843

DOI: 10.1007/s10751-019-1557-z

- 102** de la Figuera, Juan; Marco, Jose F.. Magnetite and the Verwey transition, from -rays to low-energy electrons. Hyperfine Interactions. 240, 2019. ISSN 0304-3843

DOI: 10.1007/s10751-019-1577-8



- 103** de la Figuera, J.; McCarty, K. F.; Bartelt, N. C.. Metastable misfit dislocations during thin-film growth: The case of Cu on Ru (0001). *Surface Science*. 682, 2019. ISSN 0039-6028
DOI: 10.1016/j.susc.2018.12.007
- 104** Lopez-Sanchez, J.; Serrano, A.; del Campo, A.; Abuin, M.; Salas-Colera, E.; Munoz-Noval, A.; Castro, G. R.; de la Figuera, J.; Marco, J. F.; Marin, P.; Carmona, N.; Rodriguez de la Fuente, O.. Self-assembly of iron oxide precursor micelles driven by magnetic stirring time in sol-gel coatings. *RSC Advances*. 9, 2019. ISSN 2046-2069
DOI: 10.1039/c9ra03283e
- 105** Soria, G. D.; Jenus, P.; Marco, J. F.; Mandziak, A.; Sanchez-Arenillas, M.; Moutinho, F.; Prieto, J. E.; Prieto, P.; Cerda, J.; Tejera-Centeno, C.; Gallego, S.; Foerster, M.; Aballe, L.; Valvidares, M.; Vasili, H. B.; Pereiro, E.; Quesada, A.; de la Figuera, J.. Strontium hexaferrite platelets: a comprehensive soft X-ray absorption and Mossbauer spectroscopy study. *Scientific Reports*. 9, 2019. ISSN 2045-2322
DOI: 10.1038/s41598-019-48010-w
PMID: 31409875
- 106** Mandziak, Anna; Soria, Guiomar D.; Emilio Prieto, Jose; Prieto, Pilar; Granados-Miralles, Cecilia; Quesada, Adrian; Foerster, Michael; Aballe, Lucia; de la Figuera, Juan. Tuning the Neel temperature in an antiferromagnet: the case of NixCo1-xO microstructures. *Scientific Reports*. 9, 2019. ISSN 2045-2322
DOI: 10.1038/s41598-019-49642-8
PMID: 31537821
- 107** Quesada, A.; Delgado, G.; Pascual, L.; Aragon, A. M.; Marin, P.; Granados-Miralles, C.; Foerster, M.; Aballe, L.; Prieto, J. E.; de la Figuera, J.; Fernandez, J. F.; Prieto, P.. Exchange-spring behavior below the exchange length in hard-soft bilayers in multidomain configurations. *Physical Review B*. 98, 2018. ISSN 2469-9950
DOI: 10.1103/PhysRevB.98.214435
Source of citations: WOS **Citations:** 1
- 108** Ruiz-Gomez, Sandra; Foerster, Michael; Aballe, Lucia; Proenca, Mariana P.; Lucas, Irene; Luis Prieto, Jose; Mascaraque, Arantzazu; de la Figuera, Juan; Quesada, Adrian; Perez, Lucas. Observation of a topologically protected state in a magnetic domain wall stabilized by a ferromagnetic chemical barrier. *Scientific Reports*. 8, 2018. ISSN 2045-2322
DOI: 10.1038/s41598-018-35039-6
PMID: 30420675
Source of citations: WOS **Citations:** 1
- 109** Mandziak, Anna; de la Figuera, Juan; Ruiz-Gomez, Sandra; Soria, Guiomar D.; Perez, Lucas; Prieto, Pilar; Quesada, Adrian; Foerster, Michael; Aballe, Lucia. Structure and magnetism of ultrathin nickel-iron oxides grown on Ru(0001) by high-temperature oxygen-assisted molecular beam epitaxy. *Scientific Reports*. 8, 2018. ISSN 2045-2322
DOI: 10.1038/s41598-018-36356-6
PMID: 30568169
Source of citations: WOS **Citations:** 1



Works submitted to national or international conferences

- 1** **Title of the work:** Distribution of antiferromagnetic domains in Fe-doped NiO thin films on Ru (0001)
Name of the conference: IBERTRIVA2019
City of event: Sevilla,
Date of event: 26/06/2019
End date: 28/06/2019
Organising entity: Asociación Española de Vacío y sus Aplicaciones
A. Mandziak; J. de la Figuera; G. Delgado; J.E. Prieto; F. Moutinho; K. Horakova; I. Krug; M. Foerster; L. Aballe.
- 2** **Title of the work:** Insights onto the magnetic coupling at hexaferrite-based hard/soft bilayer systems
Name of the conference: IBERTRIVA2019
City of event: Sevilla,
Date of event: 26/06/2019
End date: 28/06/2019
Organising entity: Asociación Española de Vacío y sus Aplicaciones
G. D. Soria; A. Mandziak; S. Sanchez; M. Sanchez Arenillas; J.F. Marco; F. Moutinho; J. Davalos; J.E. Prieto; M. Foerster; L. Aballe; C. Granados-Miralles; A. Quesada; J. de la Figuera.
- 3** **Title of the work:** Reversible Bilayer-Monolayer Restructuring of ultrathin FeO on Ru(0001)
Name of the conference: IBERTRIVA2019
City of event: Sevilla,
Date of event: 26/06/2019
End date: 28/06/2019
Organising entity: Asociación Española de Vacío y sus Aplicaciones
J.E. Prieto; G. D. Soria; M. Foerster; A. Quesada; L. Aballe; J. de la Figuera.
- 4** **Title of the work:** XANES and EXAFS characterization of (111) oriented NiCo₂O₄ thin films grown by ion beam sputtering
Name of the conference: IBERTRIVA2019
City of event: Sevilla,
Date of event: 26/06/2019
End date: 28/06/2019
Organising entity: Asociación Española de Vacío y sus Aplicaciones
P. Prieto; S. Ruiz-Gómez; J.F. Marco; A. Serrano; L. Aballe; J. de la Figuera.
- 5** **Title of the work:** Because the magnetization is a vector: observing magnetism at the nanometer scale with low-energy electrons
Name of the conference: V Congreso Nacional de Nanotecnología (Chile)
Corresponding author: Yes
City of event: Pucón, Chile
Date of event: 25/11/2018
End date: 29/11/2018
J. de la Figuera.
- 6** **Title of the work:** Magnetite: An Old But Timely Subject, From Gamma-Rays To Low-Energy Electrons
Name of the conference: XVI Latin American Conference on the Applications of the Mössbauer Effect (LACAME 2018)



Corresponding author: Yes
City of event: Santiago de Chile, Chile
Date of event: 18/11/2018
End date: 23/11/2018
Organising entity: Universidad de Santiago de Chile
J. de la Figuera.

7 **Title of the work:** A LEEM for the dynamical study of surfaces in Spain
Name of the conference: X GEFES 2018
Corresponding author: Yes
City of event: Valencia,
Date of event: 24/01/2018
End date: 26/03/2019
Organising entity: REAL SOCIEDAD ESPAÑOLA DE FISICA
J. de la Figuera; A. Quesada.

8 **Title of the work:** Combining vector XMCD-PEEM and micromagnetic simulations
Name of the conference: VIII AUSE Congress and III ALBA User's Meeting
Type of event: Conference **Geographical area:** National
Type of participation: Participatory - oral communication
Corresponding author: Yes
City of event: Madrid, Community of Madrid, Spain
Date of event: 09/10/2017
End date: 11/10/2017
Organising entity: AUSE **Type of entity:** Associations and Groups
City organizing entity: Madrid, Community of Madrid, Spain
J. de la Figuera; S. Ruiz-Gómez; L. Pérez; A. Mascaraque; A. Quesada; A. Mandziak; C. Munuera; L. Martín-García; P. Prieto; I. Palacio; M. Foerster; L. Aballe. Available on-line at:
<https://w3.ual.es/Congresos/AUSE/CONGRESO2017/index_congreso.html>.

9 **Title of the work:** Initial stages of mixed nickel-iron oxides growth on Ru(0001)
Name of the conference: VIII AUSE Congress and III ALBA User's Meeting
Type of event: Conference **Geographical area:** National
Type of participation: 'Participatory - poster
Corresponding author: Yes
City of event: Madrid, Community of Madrid, Spain
Date of event: 09/10/2017
End date: 11/10/2017
Organising entity: AUSE **Type of entity:** Associations and Groups
City organizing entity: Madrid, Community of Madrid, Spain
A. Mandziak; J. de la Figuera; S. Ruiz-Gómez; L. Pérez; P. Prieto; A. Quesada; L. Martín-García; M. Foerster; L. Aballe. Available on-line at:
<https://w3.ual.es/Congresos/AUSE/CONGRESO2017/index_congreso.html>.

10 **Title of the work:** LEEM-PEEM study of magnetic nanowires with chemical notches
Name of the conference: VIII AUSE Congress and III ALBA User's Meeting
Type of event: Conference **Geographical area:** National
Type of participation: 'Participatory - poster
Corresponding author: No
City of event: Madrid, Community of Madrid, Spain
Date of event: 09/10/2017



End date: 11/10/2017

Organising entity: AUSE

Type of entity: Associations and Groups

City organizing entity: Madrid, Community of Madrid, Spain

S. Ruiz-Gomez; M. Foerster; L. Aballe; M. Proenca; I. Luca; J.L. Prieto; A.

Mascaraque; A. Quesada; J. de la Figuera; L. Perez. Available on-line at:

<https://w3.ual.es/Congresos/AUSE/CONGRESO2017/index_congreso.html>.

11 Title of the work: Mössbauer and EXAFS studies of bulk and thin film CoFe₂O₄: cation distribution at room and low temperatures

Name of the conference: VIII AUSE Congress and III ALBA User's Meeting

Type of event: Conference

Geographical area: National

Type of participation: Participatory - poster

Corresponding author: Yes

City of event: Madrid, Community of Madrid, Spain

Date of event: 09/10/2017

End date: 11/10/2017

Organising entity: AUSE

Type of entity: Associations and Groups

City organizing entity: Madrid, Community of Madrid, Spain

J. de la Figuera; Jose F. Marco; Aida Serrano. Available on-line at:

<https://w3.ual.es/Congresos/AUSE/CONGRESO2017/index_congreso.html>.

12 Title of the work: Looking at magnetic domains with low-energy electrons: SPLEEM and XMCD- PEEM of spinel ferrites

Name of the conference: 5th Joint Workshop CNRS-CSIC Trends on Spintronics and Nanomagnetism

Type of event: Workshop

Geographical area: European Union

Type of participation: Participatory - invited/keynote talk

Reasons for participation: Upon invitation

Corresponding author: Yes

City of event: Madrid,

Date of event: 04/10/2017

End date: 06/10/2017

Organising entity: CSIC

Type of entity: Public Research Body

J. de la Figuera. Available on-line at: <http://www.csic.es/buscar?p_p_state=maximized&p_p_lifecycle=1&_contentviewerservice_WAR_alfresco_packportlet_struts_action=%2Fcontentviewer%2Fview&p_p_id=contentviewerservice_WAR_alfresco_packportlet&_contentviewerservice_WAR_alfresco_packportlet%3A%2F%2FspacesStore%2F9b92e8a-3fd3-4855-818c-a59cae2b37c0&p_p_mode=view&contentType=event>.

13 Title of the work: A LEEM for the dynamical study of surfaces in Spain

Name of the conference: Iberian Vacuum Conference, RIVA-X 8th European Topical Conference on Hard Coatings

City of event: Bilbao, Basque Country, Spain

Date of event: 04/10/2017

End date: 06/10/2017

Organising entity: ASEVA

A. Quesada; J. de la Figuera.

14 Title of the work: Strontium hexaferrite: from single crystal to thin films

Name of the conference: Iberian Vacuum Conference, RIVA-X 8th European Topical Conference on Hard Coatings

City of event: Bilbao, Basque Country, Spain



Date of event: 04/10/2017

End date: 06/10/2017

Organising entity: ASEVA

G. Delgado Soria; A. Mandziak; J. Guzman-Minguez; M. Sanchez-Arenillas; J. Davalos; J. F. Marco; J. E. Prieto; P. Prieto; M. Foerster; L. Aballe; A. Quesada; J. de la Figuera.

15 Title of the work: A Low-Energy Electron Microscope for the Study of Growth and Dynamics of Surfaces in Spain

Name of the conference: XXXVI Reunión Bienal de la Real Sociedad Española de Física

City of event: Santiago de Compostela, Galicia, Spain

Date of event: 17/07/2017

End date: 21/07/2017

Organising entity: Universidad de Santiago de Compostela

Type of entity: University

16 Title of the work: Initial stages of mixed nickel-iron oxides growth on Ru(0001)

Name of the conference: 13th European Conference on Surface Crystallography and Dynamics (ECSCD - 13)

Corresponding author: No

City of event: Bilbao, Basque Country, Spain

Date of event: 19/06/2017

End date: 21/06/2017

Organising entity: Universidad del País Vasco

Type of entity: University

A. Mandziak; J. de la Figuera; S. Ruiz-Gómez; L. Pérez; P. Prieto; A. Quesada; L. Martín-García; M. Foerster; L. Aballe. Available on-line at: <<http://ecscd13.dipc.org/>>.

17 Title of the work: Magnetic domains on magnetite islands: from XMCD-PEEM to micromagnetism

Name of the conference: 13th European Conference on Surface Crystallography and Dynamics (ECSCD - 13)

Corresponding author: Yes

City of event: Bilbao, Basque Country, Spain

Date of event: 19/06/2017

End date: 21/06/2017

Organising entity: Universidad del País Vasco

Type of entity: University

J. de la Figuera; S. Ruiz-Gómez; L. Pérez; A. Mascaraque; A. Quesada; A. Mandziak; C. Munuera; P. Prieto; I. Palacio; L. Martín-García; M. Foerster; L. Aballe. Available on-line at: <<http://ecscd13.dipc.org/>>.

18 Title of the work: Combination of 3D XMCD-PEEM magnetometry with micromagnetic simulations in flat magnetite crystals

Name of the conference: 11th Symposium on Hysteresis Modeling and Micromagnetics (HMM 2017)

Corresponding author: Yes

City of event: Barcelona, Catalonia, Spain

Date of event: 29/05/2017

End date: 31/05/2017

Organising entity: Universitat de Barcelona

Type of entity: University

J. de la Figuera; S. Ruiz-Gómez; L. Pérez; A. Mascaraque; A. Quesada; A. Mandziak; C. Munuera; P. Prieto; I. Palacio; L. Martín-García; M. Foerster; L. Aballe. Available on-line at: <<https://sites.google.com/site/hmmbcn2017/>>.

19 Title of the work: 3D magnetometry in micrometer-wide and nanometer-thick magnetite crystals using XMCD-PEEM

Name of the conference: IEEE International Magnetics Conference, INTERMAG Europe 2017



Corresponding author: No

City of event: Dublin, Ireland

Date of event: 24/04/2017

End date: 28/04/2017

S. Ruiz-Gómez; L. Pérez; A. Quesada; P. Prieto; I. Palacio; L. Martín-García; M. Foerster; L. Aballe; J. de la Figuera. Available on-line at: <<http://ecscd13.dipc.org/>>.

20 Title of the work: Ultrathin spinel oxides growth and characterization by in-situ Spectroscopy and Microscopy

Name of the conference: Spring meeting eMRS

Type of event: Conference

Geographical area: European Union

Type of participation: Participatory - invited/keynote talk **Reasons for participation:** Upon invitation

Corresponding author: Yes

City of event: Lille, Nord - Pas-de-Calais, France

Date of event: 02/05/2016

End date: 06/05/2016

Organising entity: European Materials Research Society

City organizing entity: Lille,

L. Martín-García; A. Quesada; C. Munuera; M. Foerster; L. Aballe; J. de la Figuera. Available on-line at: <<http://www.european-mrs.com/meetings/2016-spring-meeting>>.

21 Title of the work: When shape lies: stacking fault removal on FeO growth on Ru(0001)

Name of the conference: ECSCD-12 European Conference on Surface Crystallography and Dynamics

Type of participation: Participatory - oral communication

City of event: Trieste, Italy

Date of event: 18/10/2015

End date: 21/10/2015

Organising entity: Consortium for Physics, Trieste

City organizing entity: Trieste, Italy

M. Monti; L. Martín-García; R. Gargallo-Caballero; M. Foerster; L. Aballe; J. de la Figuera.

22 Title of the work: Atomically flat Fe-doped cobalt ferrite single crystal islands with μm -sized magnetic domains

Name of the conference: 31st European Conference on Surface Science

Type of participation: Participatory - poster

Corresponding author: Yes

City of event: Barcelona, Spain

Date of event: 31/08/2015

End date: 04/09/2015

City organizing entity: Barcelona, Spain

L. Martín-García; A. Quesada; C. Munuera; M. Foerster; L. Aballe; J. de la Figuera.

23 Title of the work: Cobalt doping of magnetite (100)- $\sqrt{2} \times \sqrt{2}$ R45?

Name of the conference: 31st European Conference on Surface Science

Type of participation: Participatory - oral communication

Corresponding author: Yes

City of event: Barcelona, Spain

Date of event: 31/08/2015

End date: 04/09/2015

City organizing entity: Barcelona, Spain



L. Aballe; R. Gargallo-Caballero; L. Martín-García; A. Quesada; C. Granados; M. Foerster; J. de la Figuera.

- 24** **Title of the work:** Magnetism on the magnetite (001) surface
Name of the conference: 31st European Conference on Surface Science
Type of participation: Participatory - invited/keynote talk
Corresponding author: Yes
City of event: Barcelona, Spain
Date of event: 31/08/2015
End date: 04/09/2015
City organizing entity: Barcelona, Spain
J. de la Figuera.
- 25** **Title of the work:** Role of the substrate on the magnetic anisotropy of magnetite thin films grown by IAD
Name of the conference: Recent Trends in Nanomagnetism, Spintronics and their Applications 2015
City of event: Orizia, Spain
Date of event: 29/06/2015
End date: 03/07/2015
Organising entity: Universidad del País Vasco **Type of entity:** University
P. Prieto; J.E. Prieto; A. Muñoz-Martín; R. Gargallo-Caballero; J.F. Marco; J. de la Figuera.
- 26** **Title of the work:** LEEM-PEEM in Surface Science
Name of the conference: VII AUSE Congress and II ALBA User's Meeting - 2015
Type of event: Conference
Type of participation: Participatory - invited/keynote talk
Corresponding author: Yes
City of event: Barcelona,
Date of event: 16/06/2015
End date: 19/06/2015
Organising entity: Alba synchrotron and AUSE **Type of entity:** Associations and Groups
J. de la Figuera.
- 27** **Title of the work:** Near-surface magnetic moment of Co-doped magnetite (100)
Name of the conference: VII AUSE Congress and II ALBA User's Meeting - 2015
Type of participation: Participatory - oral communication
Corresponding author: Yes
City of event: Barcelona,
Date of event: 16/06/2015
End date: 19/06/2015
Organising entity: Alba synchrotron and AUSE **Type of entity:** Associations and Groups
Raquel Gargallo Caballero; Laura Martín García; Adrian Quesada Michelena; Cecilia Granados; Lucía Aballe; M. Foerster; J. de la Figuera.
- 28** **Title of the work:** A real-time view of the (001) magnetite surface
Name of the conference: COST Action CM1104 Reducible oxide chemistry, structure and functions 3rd General Meeting
Date of event: 12/11/2014
End date: 14/11/2014
Organising entity: European Cooperation In Science and Technology (COST)
Juan de la Figuera.



- 29** **Title of the work:** Stoichiometry and structure control of iron-oxide ultra-thin film
Name of the conference: COST Action CM1104 Reducible oxide chemistry, structure and functions 3rd General Meeting
Date of event: 12/11/2014
End date: 14/11/2014
Organising entity: European Cooperation In Science and Technology (COST)
Matteo Monti; Irene Palacio; Kevin F. McCarty; Jose F. Marco; Juan de la Figuera.
- 30** **Title of the work:** Surface Evolution of Magnetite(001)
Name of the conference: 16th Workshop on Dynamical Phenomena at Surfaces
City of event: Madrid,
Date of event: 29/10/2014
End date: 31/10/2014
Organising entity: Universidad Autónoma de Madrid **Type of entity:** University
Juan de la Figuera.
- 31** **Title of the work:** Surface Segregation during the Growth of Mixed Oxides by Reactive Molecular Beam Epitaxy
Name of the conference: 16th Workshop on Dynamical Phenomena at Surfaces
City of event: Madrid,
Date of event: 29/10/2014
End date: 31/10/2014
Organising entity: Universidad Autónoma de Madrid **Type of entity:** University
Laura Martín-García; Michael Foerster; Lucia Aballe; Juan de la Figuera.
- 32** **Title of the work:** A look at Magnetite(001) from the Surface to the Bulk with Cathode Lens Microscopies
Name of the conference: LEEM/PEEM 9
Type of participation: Participatory - oral communication
City of event: Berlin, Germany
Date of event: 14/09/2014
End date: 18/09/2014
Organising entity: Jülich Forschungszentrum
Juan de la Figuera; Laura Martín; Raquel Gargallo-Caballero; Matteo Monti; Jose F. Marco; Michael Foerster; Lucia Aballe; Andreas K. Schmid; Shu Nie; Elena Starodub; Kevin F. McCarty; Norman C. Bartelt.
- 33** **Title of the work:** Temperature dependence of the single-domain threshold in Fe nanostrips: a reversible magnetic transition
Name of the conference: LEEM/PEEM 9
Type of participation: Participatory - oral communication
City of event: Berlin, Germany
Date of event: 14/09/2014
End date: 18/09/2014
Organising entity: Jülich Forschungszentrum
Adrian Quesada; Matteo Monti; Ingo P. Krug; Nicolai Rougemaille; F. Nickel; D. M. Gottlob; H. Donagay; A.T. N'Diaye; Gong Chen; A. Serrano; Kevin F. McCarty; J.F. Fernandez; Claus M. Schneider; Andreas K. Schmid; Juan de la Figuera.
- 34** **Title of the work:** Valence Band Circular Dichroism from a Single Ru(0001) Terrace
Name of the conference: LEEM/PEEM 9
Type of participation: 'Participatory - poster
City of event: Berlin, Germany



Date of event: 14/09/2014

End date: 18/09/2014

Organising entity: Jülich Forschungszentrum

Laura Martín; Lucia Aballe; Beatriz Martínez-Pabón; Arantzazu Mascaraque; Lucas Pérez; Manuel Abuín; Michael Foerster; Juan de la Figuera.

35 Title of the work: Valence Band Circular Dichroism from a Single Ru(0001) Terrace

Name of the conference: Molecular Foundry and National Center for Electron Microscopy User Meeting

Type of participation: 'Participatory - poster

City of event: Berkeley, United States of America

Date of event: 14/09/2014

End date: 18/09/2014

Organising entity: Lawrence Berkeley National Laboratory

Laura Martín; Lucia Aballe; Beatriz Martínez-Pabón; Arantzazu Mascaraque; Lucas Pérez; Manuel Abuín; Michael Foerster; Juan de la Figuera.

36 Title of the work: Magnetism in Magnetite 100: Spin reorientation Transition and Magnetic Moment

Name of the conference: Molecular Foundry and Nacional Center for Electron Microscopy User Meeting

Type of participation: 'Participatory - poster

City of event: Berkeley, United States of America

Date of event: 25/08/2014

End date: 26/08/2014

Organising entity: Lawrence Berkeley National Laboratory

City organizing entity: Berkeley,

Laura Martín; Roland Bliem; Raquel Gargallo-Caballero; Beatriz Martínez-Pabón; Michael Foerster; Gong Chen; Arantzazu Mascaraque; Gareth Parkinson; Lucía Aballe; Andreas K. Schmid; Juan de la Figuera.

37 Title of the work: Valence Band Circular Dichroism from a Single Ru(0001) Terrace

Name of the conference: Novel Frontiers in Magnetism

Type of participation: 'Participatory - poster

City of event: Benasques, Spain

Date of event: 09/02/2014

End date: 15/02/2014

Organising entity: Club Español de Magnetismo

Laura Martín; Lucia Aballe; Beatriz Martínez-Pabón; Arantzazu Mascaraque; Lucas Pérez; Manuel Abuín; Michael Foerster; Juan de la Figuera.

38 Title of the work: Valence Band Circular Dichroism from a Single Ru(0001) Terrace

Name of the conference: VIII Reunión Grupo Especializado de Física del Estado Sólido

Type of participation: 'Participatory - poster

City of event: Toledo, Spain

Date of event: 22/01/2014

End date: 24/01/2014

Organising entity: REAL SOCIEDAD ESPAÑOLA DE FISICA

Laura Martín; Lucia Aballe; Beatriz Martínez-Pabón; Arantzazu Mascaraque; Lucas Pérez; Manuel Abuín; Michael Foerster; Juan de la Figuera.

39 Title of the work: Magnetic bistability of Fe nanowires epitaxially grown on Ru(0001)

Name of the conference: 58th annual conference on Magnetism and Magnetic Materials

City of event: Denver, United States of America

Date of event: 04/11/2013

End date: 08/11/2013

City organizing entity: Denver, United States of America

A. Quesada; M. Monti; A. Serrano; I. Krug; A. T. N'Diaye; G. Chen; F. Nickel; D. Gottlob; H. Doganay; J. de la Figuera; A. K. Schmid; J. Fernandez.

40 Title of the work: Surface studies in ultrathin binary iron oxide films

Name of the conference: Latin American Conference on the Applications of the Mössbauer Effect 2012

Type of participation: Participatory - invited/keynote **Reasons for participation:** Upon invitation talk

Date of event: 11/11/2012

End date: 16/11/2012

City organizing entity: Medellín, Colombia

M. Monti; J. de la Figuera; J.F. Marco. (Colombia):

41 Title of the work: Oxidation pathways in ultrathin iron oxide films

Name of the conference: Joint meeting CMD-24, ECOSS-29, ECSCD-11, CMMP12

Date of event: 03/09/2012

End date: 05/09/2012

City organizing entity: Edinburgo, United Kingdom

J. de la Figuera; M. Monti; B. Santos; A. Mascaraque; O.R. de la Fuente; T.O. Mentés; A. Locatelli; K.F. McCarty; J.F. Marco. (United Kingdom):

42 Title of the work: Surface evolution of (100) magnetite during oxidation

Name of the conference: Joint meeting CMD-24, ECOSS-29, ECSCD-11, CMMP12

Type of participation: Participatory - poster

Date of event: 03/09/2012

End date: 05/09/2012

City organizing entity: Edinburgo, United Kingdom

J. de la Figuera; E. Loginova; L. Vergara; M. Monti; J.F. Marco; N.C. Bartelt; K.F. McCarty. (United Kingdom):

43 Title of the work: Surface studies in ultrathin binary iron oxide films: ancient materials, new opportunities

Name of the conference: International Symposium on the Industrial Applications of the Mössbauer Effect 2012

Type of participation: Participatory - invited/keynote **Reasons for participation:** Upon invitation talk

Date of event: 03/09/2012

End date: 07/09/2012

City organizing entity: Dalian, China

M. Monti; J. de la Figuera; J.F. Marco. (China):

44 Title of the work: Oxidation Mechanism in Iron Oxide Ultrathin Films

Name of the conference: International Conference of Nanoscience and Nanotechnology ICN+T-2012

Date of event: 23/07/2012

End date: 27/07/2012

City organizing entity: Paris, France

M. Monti; B. Santos; A. Mascaraque; O. Rodríguez de la Fuente; M.A. Niño; T.O. Mentés; A. Locatelli; K. F. McCarty; J. F. Marco; J. de la Figuera. (France):



- 45** **Title of the work:** Surface Electron Microscopy Of Ultrathin Magnetite Films
Name of the conference: Third European Workshop on self-organized Nanomagnets
Date of event: 16/04/2012
End date: 20/04/2012
City organizing entity: Guadarrama, Spain
M. Monti; A. Quesada; L. Vergara; A.T. NDiaye; B. Santos; A. Mascaraque; O. Rodríguez de la Fuente; M.A. Niño; T.O. Mentés; A. Locatelli; K. F. McCarty; A. K. Schmid; J. F. Marco; J. de la Figuera. (Spain):
- 46** **Title of the work:** Surface Electron Microscopy of Iron Oxides: from Bulk to Ultrathin Layers
Name of the conference: Franco-spanish PICS Workshop Novel topics in surfaces and interfaces”
Type of participation: Participatory - invited/keynote **Reasons for participation:** Upon invitation talk
City of event: France
Date of event: 12/01/2012
End date: 13/01/2012
Organising entity: Synchrotron SOLEIL
City organizing entity: France
Juan de la Figuera.
- 47** **Title of the work:** Ultrathin iron oxides
Name of the conference: 18th International Symposium on Plasticity & Its Current Applications.
Type of event: Conference **Geographical area:** Non EU International
Type of participation: Participatory - invited/keynote **Reasons for participation:** Upon invitation talk
City of event: Puerto Rico
Date of event: 03/01/2012
End date: 08/01/2012
City organizing entity: United States of America
Juan de la Figuera.
- 48** **Title of the work:** Caracterización química, estructural y magnética de películas ultrafinas de óxidos de hierro crecidas sobre Ru (0001)
Name of the conference: XXIX Jornadas Chilenas de Química
Type of participation: Participatory - invited/keynote **Reasons for participation:** Upon invitation talk
Date of event: 08/11/2011
End date: 11/11/2011
City organizing entity: Quinamávida, Chile
M. Monti; B. Santos; O. Mentés; M.A. Niño; A. Mascaraque; O. Rodríguez; J.R. Gancedo; K.F. McCarty; A. Locatelli; J. de la Figuera; J.F. Marco. (Chile):
- 49** **Title of the work:** a Combined Structural, Chemical And Magnetic Characterization Of Magnetite And Magnetite Ultrathin Films
Name of the conference: ICAME
Type of participation: 'Participatory - poster
Date of event: 27/09/2011
End date: 30/09/2011
City organizing entity: Kobe, Japan
M. Monti; L. Vergara; O. Rodríguez de la Fuente; A. Mascaraque; M.A. Niño; T.O. Mentés; A. Locatelli; K. F. McCarty; A. K. Schmid; J. de la Figuera; J. F. Marco. (Japan):



- 50** **Title of the work:** Initial stages of the growth of iron oxides on ruthenium substrates: structural, chemical and magnetic characterization
Name of the conference: ECASIA 11
Type of participation: 'Participatory - poster
Date of event: 04/09/2011
End date: 11/09/2011
City organizing entity: Cardiff,
L. Vergara; M. Monti; B. Santos; A. Mascaraque; O. Rodríguez de la Fuente; M. A. Niño; T. O. Mentés; A. Locatelli; K. F. McCarty; A. K. Schmid; L. Vergara; J. F. Marco; J. de la Figuera.
- 51** **Title of the work:** Gas adsorption induced reorientations of the magnetic easy-axis in cobalt films
Name of the conference: ECOSS 28
Date of event: 28/08/2011
End date: 02/09/2011
City organizing entity: Wroclaw, Poland
B. Santos; L. Vergara; A. Mascaraque; K. F. McCarty; A. K. Schmid; A. Quesada; A.T. NDiaye; J. de la Figuera. (Poland):
- 52** **Title of the work:** LEEM, PEEM and SPLEEM on magnetite: From the bulk to the nanoscale
Name of the conference: ECOSS 28
Date of event: 28/08/2011
End date: 02/09/2011
City organizing entity: Wroclaw, Poland
M. Monti; B. Santos; A. Mascaraque; O. Rodríguez de la Fuente; M. A. Niño; T. O. Mentés; A. Locatelli; K. F. McCarty; A. K. Schmid; L. Vergara; J. F. Marco; J. de la Figuera. (Poland):
- 53** **Title of the work:** Controlling the magnetic anisotropy in the cobalt bilayer with hydrogen
Name of the conference: Nanospain 2011
Type of participation: 'Participatory - poster
Date of event: 11/04/2011
End date: 14/04/2011
City organizing entity: Bilbao, Spain
B. Santos; L. Vergara; A. Mascaraque; K. F. McCarty; A. K. Schmid; A. Quesada; A. T. NDiaye; J. de la Figuera. (Spain):
- 54** **Title of the work:** Magnetism in magnetite below the nanoscale
Name of the conference: Nanospain 2011
Type of participation: 'Participatory - poster
Date of event: 11/04/2011
End date: 14/04/2011
City organizing entity: Bilbao, Spain
M. Monti; B. Santos; A. Mascaraque; O. Rodríguez de la Fuente; M. A. Niño; T. O. Mentés; A. Locatelli; K. F. McCarty; J. F. Marco; J. de la Figuera. (Spain):
- 55** **Title of the work:** STM and LEEM characterization of the interaction between magnesium grown on Ru(0001) and hydrogen
Name of the conference: Nanospain 2011
Type of participation: 'Participatory - poster
Date of event: 11/04/2011
End date: 14/04/2011
City organizing entity: Bilbao, Spain
L. Vergara; B. Santos; T. Herranz; M. Monti; K. F. McCarty; J. de la Figuera. (Spain):



- 56** **Title of the work:** Surface studies in epitaxially grown Fe₃O₄
Name of the conference: 6th Nassau-Argonne International Mössbauer Symposium
Type of participation: Participatory - invited/keynote **Reasons for participation:** Upon invitation talk
Date of event: 13/01/2011
End date: 14/01/2011
City organizing entity: Nassau Community College,
M. Monti; B. Santos; O. Mentés; M.A. Niño; A. Mascaraque; O. Rodríguez; J.R. Gancedo; K.F. McCarty; A. Locatelli; J. de la Figuera; J.F. Marcoi.
- 57** **Title of the work:** Mössbauer spectroscopic study of iron.nickel nitrides thin films prepared by Ion Beam Assisted Deposition
Name of the conference: Latin American Conference on the Applications of the Mössbauer Effect 2010
Type of participation: Participatory - invited/keynote **Reasons for participation:** Upon invitation talk
Date of event: 07/11/2010
End date: 12/11/2010
City organizing entity: Lima, Peru
P. Prieto; M. Monti; J. de la Figuera; J.M. Sanz; J.F. Marco. (Peru):
- 58** **Title of the work:** Structure and growth of ultra-thin Mg and MgO layers on Ru(0001)
Name of the conference: Fuerzas y Túnel 2010
Type of participation: 'Participatory - poster
Date of event: 27/09/2010
End date: 29/09/2010
City organizing entity: Tarragona, Spain
B. Santos; T. Herranz; and J. de la Figuera. (Spain):
- 59** **Title of the work:** Tweaking magnetic anisotropy beyond the monolayer limit: low energy electron microscopy studies on spin-reorientation transitions on Co/Ru
Name of the conference: European Conference on Surface Crystallography and Dynamics ECSCD-10.
Type of event: Conference **Geographical area:** European Union
Type of participation: Participatory - invited/keynote **Reasons for participation:** Upon invitation talk
City of event: Reading, United Kingdom
Date of event: 20/09/2010
End date: 22/09/2010
Juan de la Figuera.
- 60** **Title of the work:** Magnesium Hydride Formation Studied By Low-Energy Electron Microscopy
Name of the conference: European Conference on Surface Science ECOS-27
Type of participation: 'Participatory - poster
Date of event: 29/08/2010
End date: 03/09/2010
City organizing entity: Groeningen,
T. Herranz; K. F. McCarty; B. Santos; M. Monti and J. de la Figuera.
- 61** **Title of the work:** Magnesium Hydride Formation Studied By In-Situ Real-Time Low-Energy Electron Microscopy
Name of the conference: Gordon Research Conference on Catalysis



Type of participation: 'Participatory - poster
Date of event: 27/06/2010
End date: 02/07/2010
City organizing entity: New Hampshire,
T. Herranz; K. F. McCarty; B. Santos; J. de la Figuera.

62 Title of the work: Controlling the magnetization direction with hydrogen
Name of the conference: Nanospain 2010
Type of participation: 'Participatory - poster
Date of event: 23/03/2010
End date: 26/03/2010
City organizing entity: Malaga, Spain
B. Santos; A. Mascaraque; A. K. Schmid; Juan de la Figuera. (Spain):

63 Title of the work: Design and Construction of an Ultra High Vacuum Integral Low Energy Electron Mössbauer Spectrometer for Surface Analysis
Name of the conference: Nanospain 2010
Type of participation: 'Participatory - poster
Date of event: 23/03/2010
End date: 26/03/2010
City organizing entity: Malaga, Spain
M. Monti; J.R. Gancedo; M. Gracia; J. de la Figuera; J.F. Marco. (Spain):

64 Title of the work: Magnesium Hydride Formation Studied By In-Situ Real-Time Low-Energy Electron Microscopy
Name of the conference: American Chemical Society Spring Meeting 2010
Date of event: 21/03/2010
End date: 25/03/2010
City organizing entity: San Francisco,
T. Herranz; K. F. McCarty; B. Santos; J. de la Figuera.

65 Title of the work: Surface structure of the Pd-H system
Name of the conference: AVS 2009
Date of event: 21/11/2009
End date: 25/11/2009
City organizing entity: San Jose,
B. Santos; J. I. Cerda; T. Herranz; J. de la Figuera; K. F. McCarty.

66 Title of the work: H incorporation into Pd ultra-thin films studied by low energy electron microscopy (LEEM) and scanning tunneling microscopy (STM)
Name of the conference: ECASIA-09 (13th European Conference on Applications of Surface and Interface Analysis).
Date of event: 18/10/2009
End date: 23/10/2009
City organizing entity: Antalya, Turkey
B. Santos; T. Herranz; J. I. Cerda; J.M. Puerta; J. de la Figuera; K. F. McCarty. (Turkey):

67 Title of the work: Hydrogen incorporation into Pd ultra-thin films studied by low energy electron microscopy (LEEM)
Name of the conference: ACSIN-10 (Atomically controlled surface and interfaces)
Date of event: 21/09/2009



End date: 25/09/2009

City organizing entity: Granada, Spain

K. F. McCarty; B. Santos; T. Herranz; J. I. Cerda; J. M. Puerta; J. de la Figuera. (Spain):

- 68** **Title of the work:** Ultra-thin film magnetite islands on ruthenium
Name of the conference: ACSIN-10 (Atomically controlled surface and interfaces)
Date of event: 21/09/2009
End date: 25/09/2009
City organizing entity: Granada, Spain
J. de la Figuera; B. Santos; E. Loginova; A. Mascaraque; T. Herranz; A.K. Schmid K. F. McCarty. (Spain):
- 69** **Title of the work:** Spin reorientation transition upon hydrogen exposure in bilayer cobalt films on Ru(0001)
Name of the conference: IEEE International Magnetic Conference Intermag 2009
Type of participation: 'Participatory - poster
Date of event: 04/05/2009
End date: 08/05/2009
City organizing entity: Sacramento,
B. Santos; A. Mascaraque; A. K. Schmid; J de la Figuera.
- 70** **Title of the work:** Ultra -thin film magnetite islands studied by spin-polarized low energy electron microscopy
Name of the conference: IEEE International Magnetic Conference Intermag 2009
Date of event: 04/05/2009
End date: 08/05/2009
City organizing entity: Sacramento,
B. Santos; E. Loginova; A. Mascaraque; J. de la Figuera; K. F. McCarty.
- 71** **Title of the work:** Hydrogen Incorporation Into Palladium Ultra-Thin-Films By Low Energy Electron Microscopy
Name of the conference: Nanospain 2009
Type of participation: 'Participatory - poster
Date of event: 09/03/2009
End date: 11/03/2009
City organizing entity: Zaragoza, Spain
Benito Santos; Jorge I. Cerda; Juan M. Puerta; Juan de la Figuera; Tirma Herranz; Kevin F. McCarty. (Spain):
- 72** **Title of the work:** Why does a thick film de-wet?
Name of the conference: Nanospain 2009
Date of event: 09/03/2009
End date: 11/03/2009
City organizing entity: Zaragoza, Spain
Kevin F. McCarty; John Hamilton; Angela Saá; Yu Sato; Juan de la Figuera; Andreas Schmid; Konrad Thürmer; Norman C. Bartelt. (Spain):
- 73** **Title of the work:** Labyrinth-like island growth during Pd/Ru(0001) heteroepitaxy
Name of the conference: LEEM-PEEM 6
Date of event: 07/09/2008
End date: 11/09/2008
City organizing entity: Trieste, Italy
N. Rougemaille; F. El Gabaly; R. Stumpf; A. K. Schmid; K. Thürmer; N.C. Bartelt; J. de la Figuera. (Italy):



- 74** **Title of the work:** Observing the kinetic pathways metal films use to de-wet substrates
Name of the conference: LEEM-PEEM 6
Type of participation: 'Participatory - poster
Date of event: 07/09/2008
End date: 11/09/2008
City organizing entity: Trieste, Italy
Kevin F. McCarty; Yu Sato; Angela Saá; Juan de la Figuera; Benito Santos; Andreas Schmid; Konrad Thürmer; Norman C. Bartelt. (Italy):
- 75** **Title of the work:** Surface Electron Microscopy studies of perfectly flat films: coinage metals and Co on Ru(0001)
Name of the conference: LEEM-PEEM 6
Date of event: 07/09/2008
End date: 11/09/2008
City organizing entity: Trieste, Italy
Farid El Gabaly; Arantzazu Mascaraque; T. Onur Mentés; Kevin F. McCarty; Andrea Locatelli; Andreas K. Schmid; Juan de la Figuera. (Italy):
- 76** **Title of the work:** Using real-time observations to understand why the Au/W(110) system forms stripes at high temperature
Name of the conference: LEEM-PEEM 6
Type of participation: 'Participatory - poster
Date of event: 07/09/2008
End date: 11/09/2008
City organizing entity: Trieste, Italy
J. de la Figuera; F. Leonard; N.C. Bartelt; R. Stumpf; K.F. McCarty. (Italy):
- 77** **Title of the work:** Real-Time Observations of Nanoscale Periodicity in Stripe-Forming Systems at High Temperature – the Au/W(110) System
Name of the conference: 2008 International Conference on Nanoscience + Technology (ICN+T)
Date of event: 20/07/2008
End date: 25/07/2008
City organizing entity: Keystone,
J. de la Figuera; F. Leonard; N.C. Bartelt; R. Stumpf; K.F. McCarty.
- 78** **Title of the work:** Spin-reorientation transitions induced by coinage-metal capping of Co/Ru(0001) studied by spin-polarized low energy electron microscopy
Name of the conference: International magnetism conference (Intermag) 2008
Date of event: 04/05/2008
End date: 08/05/2008
City organizing entity: Madrid, Spain
F. El Gabaly; A.K. Schmid; K.F. McCarty; J. de la Figuera. (Spain):
- 79** **Title of the work:** Structure and magnetism of ultra-thin chromium layers on W(110)
Name of the conference: International magnetism conference (Intermag) 2008
Date of event: 04/05/2008
End date: 08/05/2008
City organizing entity: Madrid, Spain
B. Santos; J.M. Puerta; J. Cerda; R. Stumpf; K. von Bergmann; M. Bode; K.F. McCarty; J. de la Figuera. (Spain):



- 80** **Title of the work:** X-ray and valence band photoemission microscopy of ultra-thin magnetic cobalt films on ruthenium
Name of the conference: International magnetism conference (Intermag) 2008
Date of event: 04/05/2008
End date: 08/05/2008
City organizing entity: Madrid, Spain
A. Mascaraque; L. Perez; L. Aballe; T. O. Montes; J.F. Marco; F. El Gabaly; C. Klein; A.K. Schmid; K.F. McCarty; A. Locatelli; J. de la Figuera. (Spain):
- 81** **Title of the work:** Nanoscale periodicity in stripe-forming systems at high temperature: the Au/W(110) system
Name of the conference: Nanospain 2008
Date of event: 14/04/2008
End date: 18/04/2008
City organizing entity: Braga, Portugal
J. de la Figuera; F. Léonard; N. C. Bartelt; R. Stumpf; K. F. McCarty. (Portugal):
- 82** **Title of the work:** Identifying the Kinetic Pathways that Produce Stripe Patterns in De-wetted Films
Name of the conference: 2007 Fall Meeting of the Material Research Society
Date of event: 26/11/2007
End date: 30/11/2007
City organizing entity: Boston,
Kevin F McCarty; Yu Sato; Angela Saa; Juan de la Figuera; Andreas Schmid; Konrad Thurner; Roland Stumpf; Norman C Bartelt.
- 83** **Title of the work:** Quantitative, Local Measurements of Surface Adsorbate Concentrations using Low-energy Electron Microscopy
Name of the conference: 2007 Fall Meeting of the Material Research Society
Date of event: 26/11/2007
End date: 30/11/2007
City organizing entity: Boston,
Kevin F McCarty; Juan de la Figuera; Norman C Bartelt.
- 84** **Title of the work:** Near-surface dislocations observed by electronic and scanning surface microscopies
Name of the conference: XII International Conference on Intergranular and Interphase Boundaries in Materials - IIB 2007.
Type of event: Conference
Type of participation: Participatory - invited/keynote **Reasons for participation:** Upon invitation talk
City of event: Barcelona, Spain
Date of event: 10/07/2007
End date: 13/07/2007
Juan de la Figuera.
- 85** **Title of the work:** First stages of the growth of Sm on epitaxial Co/W(110) films studied by LEEM and LEED
Name of the conference: 17th International Vacuum Conference
Type of participation: 'Participatory - poster
Date of event: 02/07/2007
End date: 06/07/2007
City organizing entity: Stockholm, Sweden



J.E. Prieto; J. de la Figuera; J. M. Puerta; J. I. Cerda; K. F. McCarty. (Sweden):

- 86** **Title of the work:** In-situ Novel Labyrinth-like Island Growth in Metal/Metal Heteroepitaxy
Name of the conference: 17th International Vacuum Conference
Date of event: 02/07/2007
End date: 06/07/2007
City organizing entity: Stockholm, Sweden
N. Rougemaille; F. El Gabaly; R. Stumpf; A. K. Schmid; K. Thürmer; N.C. Bartelt; J. de la Figuera. (Sweden):
- 87** **Title of the work:** Single-Island Magnetic Dichroism in Ultra-thin Cobalt Films
Name of the conference: 17th International Vacuum Conference
Date of event: 02/07/2007
End date: 06/07/2007
City organizing entity: Stockholm, Sweden
Arantzazu Mascaraque; Lucia Aballe; Tevfik Onur Mentis; J.F. Marco; Farid El Gabaly; Christof Klein; Andreas K. Schmid; Kevin F. McCarty; Andrea Locatelli; Juan de la Figuera. (Sweden):
- 88** **Title of the work:** Structure and magnetism in ultra-thin Cr layers on W(110) - how well do experiment and theory agree?
Name of the conference: 17th International Vacuum Conference
Type of participation: 'Participatory - poster
Date of event: 02/07/2007
End date: 06/07/2007
City organizing entity: Stockholm, Sweden
J. de la Figuera; B. Santos; J. M. Puerta; J. I. Cerda; R. Stumpf; K. F. McCarty. (Sweden):
- 89** **Title of the work:** Electron-reflectivity measurement of mobile surface-species concentrations
Name of the conference: LEEM-PEEM V Conference
Date of event: 15/10/2006
End date: 19/10/2006
City organizing entity: Himeji, Japan
Kevin F. McCarty; Norm C. Bartelt; Juan de la Figuera. (Japan):
- 90** **Title of the work:** Use of selected-area diffraction in LEEM
Name of the conference: LEEM-PEEM V Conference
Type of participation: 'Participatory - poster
Date of event: 15/10/2006
End date: 19/10/2006
City organizing entity: Himeji, Japan
J. M. Puerta; Farid El Gabaly; Christof Klein; Angela Saa; Andreas K. Schmid; J. I. Cerda and Juan de la Figuera; Kevin F. McCarty. (Japan):
- 91** **Title of the work:** Spin-Polarized Low Energy Electron Microscopy Studies of Ultra-Thin Magnetic Films
Name of the conference: Trends in Nanotechnology 2006 (TNT2006).
Type of event: Conference
Type of participation: Participatory - invited/keynote **Reasons for participation:** Upon invitation talk
City of event: Grenoble, France
Date of event: 04/09/2006
End date: 08/09/2006



Juan de la Figuera.

- 92** **Title of the work:** Initial stages of the growth of Cobalt on Ru(0001) studied by LEEM
Name of the conference: Trends in Nanotechnology TNT2006
Type of participation: 'Participatory - poster
Date of event: 04/09/2006
End date: 08/09/2006
City organizing entity: Grenoble, France
J. M. Puerta; Farid El Gabaly; Christof Klein; Angela Saa; Andreas K. Schmid; Kevin F. McCarty; J. I. Cerda; Juan de la Figuera. (France):
- 93** **Title of the work:** Capping-layer effects on the spin reorientation transition of ultrathin Cu/Co/Ru films
Name of the conference: International Conference on Magnetism
Date of event: 20/08/2006
End date: 25/08/2006
City organizing entity: Kyoto, Japan
S. Gallego; F.E. Gabaly; C. Klein; M.C. Munoz; L. Szunyogh; P. Weinberger; K. McCarty; A. K. Schmid; J. de la Figuera. (Japan):
- 94** **Title of the work:** Controlling Magnetism by Stacking Individual Atomic Monolayers of Magnetic- and Non-magnetic Materials
Name of the conference: 2006 Spring Meeting of the Material Research Society
Date of event: 17/04/2006
End date: 21/04/2006
City organizing entity: San Francisco,
Farid El Gabaly; Silvia Gallego; Christof Klein; Carmen Munoz; Laszlo Szunyogh; Peter Weinberger; Kevin F. McCarty; Andreas K. Schmid; Juan de la Figuera.
- 95** **Title of the work:** Controlling Magnetism by Stacking Individual Atomic Monolayers of Magnetic- and Non-magnetic Materials
Name of the conference: 2006 Spring Meeting of the Material Research Society
Date of event: 17/04/2006
End date: 21/04/2006
City organizing entity: San Francisco,
Farid El Gabaly; Silvia Gallego; Christof Klein; Carmen Munoz; Laszlo Szunyogh; Peter Weinberger; Kevin F. McCarty; Andreas K. Schmid; Juan de la Figuera.
- 96** **Title of the work:** El crecimiento de películas nanoestructuradas observado mediante microscopía de electrones lentos
Name of the conference: IV Encuentro Nacional de Física del Estado Sólido (GEFES)
Type of event: Conference **Geographical area:** National
Type of participation: Participatory - invited/keynote **Reasons for participation:** Upon invitation talk
City of event: Alicante, Spain
Date of event: 02/02/2006
End date: 04/02/2006
Juan de la Figuera; Farid El Gabaly.
- 97** **Title of the work:** From Isolated Dislocations to Grain Evolution in the Copper-Ruthenium Interface
Name of the conference: 2006 Fall Meeting of the Material Research Society
Type of participation: Participatory - invited/keynote **Reasons for participation:** Upon invitation talk



City of event: Boston, United States of America
Date of event: 27/11/2005
End date: 02/12/2005
Juan de la Figuera.

- 98** **Title of the work:** Multiple Magnetic Reorientation Transition in Ultrathin Co Films on Ru(0001)
Name of the conference: 2005 Fall Meeting of the Material Research Society
Type of participation: 'Participatory - poster
Date of event: 27/11/2005
End date: 02/12/2005
City organizing entity: Boston,
Farid El Gabaly; Silvia Gallego; Carmen Munoz; Laszlo Szunyogh; Peter Weinberger; Christof Klein; Kevin F. McCarty; Andreas K. Schmid; Juan de la Figuera.
- 99** **Title of the work:** Controlling magnetism by stacking individual atomic monolayers of magnetic- and non-magnetic materials
Name of the conference: Micromagnetic Imaging with Nanometer Resolution Workshop
Type of event: Workshop
Type of participation: Participatory - invited/keynote **Reasons for participation:** Upon invitation talk
City of event: Berkeley, United States of America
Date of event: 04/11/2005
Juan de la Figuera.
- 100** **Title of the work:** Structure and magnetism of ultrathin Co films on Ru(0001)
Name of the conference: USA-Spain Nanomaterials Workshop
Type of event: Conference
Type of participation: Participatory - invited/keynote **Reasons for participation:** Upon invitation talk
City of event: Segovia, Castile and León, Spain
Date of event: 20/09/2005
End date: 22/09/2005
Juan de la Figuera.
- 101** **Title of the work:** Electron reflectivity measurements of adatom concentration: the two dimensional gas-solid phase transition of Ag on W(110)
Name of the conference: 23rd European Conference in Surface Science
Type of participation: 'Participatory - poster
Date of event: 04/09/2005
End date: 09/09/2005
City organizing entity: Berlin, Germany
Juan de la Figuera; Norm. C. Bartelt; Winnie L. Ling; Farid El Gabaly; Kevin F. McCarty. (Germany):
- 102** **Title of the work:** Multiple magnetic reorientation transition in Co ultrathin films on Ru(0001)
Name of the conference: 23rd European Conference in Surface Science
Date of event: 04/09/2005
End date: 09/09/2005
City organizing entity: Berlin, Germany
Farid El Gabaly; Silvia Gallego; Carmen Muñoz; Laszlo Szunyogh; Peter Weinberger; Kevin McCarty; Andreas Schmid; Juan de la Figuera. (Germany):



- 103 Title of the work:** LEEM a novel nanocharacterization tool
Name of the conference: Erasmus Intensive Programme 2005 Ion Beam, photon and hyperfine methods in nano-structured materials
Type of event: Conference
Type of participation: Participatory - invited/keynote **Reasons for participation:** Upon invitation talk
City of event: Madrid, Community of Madrid, Spain
Date of event: 13/05/2005
Juan de la Figuera.
- 104 Title of the work:** The Ramon y Cajal Program: towards a tenure track in Spain
Name of the conference: EuroScience Open Forum 2004
Type of participation: Participatory - invited/keynote **Reasons for participation:** Upon invitation talk
City of event: Estocolmo, Sweden
Date of event: 26/08/2004
End date: 28/08/2004
Juan de la Figuera.
- 105 Title of the work:** Strain relief through heterophase interface reconstruction: Ag(111)/Ru(0001)
Name of the conference: 11th International Conference on Intergranular and Interphase boundaries
Type of participation: 'Participatory - poster
Date of event: 25/07/2004
End date: 29/07/2004
City organizing entity: Belfast,
J.C. Hamilton; J. de la Figuera; W.L. Ling.
- 106 Title of the work:** Dislocation networks in S/2ML Cu/Ru(0001): Phase transitions between nanostructures in ultra-thin films
Name of the conference: 8th European Conference in Surface Crystallography and Dynamics
Date of event: 18/07/2004
End date: 21/07/2004
City organizing entity: Segovia, Spain
J. de la Figuera; F. El Gabaly; N. C. Bartelt; K. F. McCarty. (Spain):
- 107 Title of the work:** Dislocations and Dislocation forests in 2ML Cu/Ru(0001)
Name of the conference: 8th European Conference in Surface Crystallography and Dynamics
Type of participation: 'Participatory - poster
Date of event: 18/07/2004
End date: 21/07/2004
City organizing entity: Segovia, Spain
F. El Gabaly; K. F. McCarty; J. de la Figuera. (Spain):
- 108 Title of the work:** Dislocation Networks in S/2ML Cu/Ru(0001): Phase Transitions Between Nanostructures in Ultra-thin Films
Name of the conference: TEDA 2004 Scanning Probe Microscopy, Sensors and Nanostructures
Date of event: 24/05/2004
End date: 27/05/2004
City organizing entity: Beijing, China
J. de la Figuera; F. El Gabaly; N. C. Bartelt; K. F. McCarty. (China):



- 109** **Title of the work:** Dislocations and Dislocation forests: 2ML Cu/Ru(0001)
Name of the conference: Spring Meeting of the Material Research Society
Date of event: 12/04/2004
End date: 16/04/2004
City organizing entity: San Francisco,
F. El Gabaly; K. F. McCarty; J. de la Figuera.
- 110** **Title of the work:** Heterophase Interface Reconstructions for Ag(111)/Ru(0001) and other Systems
Name of the conference: March meeting of the American Physical Society (APS).
Date of event: 22/03/2004
End date: 26/03/2004
City organizing entity: Montreal, Canada
John Hamilton; Juan de la Figuera; Winnie Ling. (Canada):
- 111** **Title of the work:** Mechanism of the enhancement of self-diffusion on Cu(111) by trace amounts of S
Name of the conference: March meeting of the American Physical Society (APS).
Date of event: 22/03/2004
End date: 26/03/2004
City organizing entity: Montreal, Canada
W.L. Ling; N.C. Bartelt; K. Pohl; J. de la Figuera; K.F. McCarty. (Canada):
- 112** **Title of the work:** Autoorganización en Superficies
Name of the conference: III Reunión de la Red Nanociencia
Type of event: Conference
Type of participation: Participatory - invited/keynote **Reasons for participation:** Upon invitation talk
City of event: Oviedo, Principality of Asturias, Spain
Date of event: 11/2003
Farid El Gabaly; Rodolfo Miranda; Juan De la Figuera Bayón.
- 113** **Title of the work:** Adaptación de Gxsm: aplicación del software libre para Microscopía Túnel
Name of the conference: VI Congreso de Software Libre Hispalinux
Date of event: 23/09/2003
End date: 26/09/2003
City organizing entity: Móstoles, Spain
F. El Gabaly; J. de la Figuera. (Spain):
- 114** **Title of the work:** Atomistic simulations and experiments of near-surface dislocation half-loops in Au(100)
Name of the conference: 22nd European Conference on Surface Science ECOS-22
Type of participation: 'Participatory - poster
Date of event: 07/09/2003
End date: 12/09/2003
City organizing entity: Praga, Czech Republic
F. El Gabaly; R. Miranda; J. de la Figuera. (Czech Republic):
- 115** **Title of the work:** Glide and Climb of Dislocations in Ultra-Thin Metal Films
Name of the conference: Thermec'2003, International Conference on Processing & Manufacturing of Advanced Materials
Type of event: Conference
Type of participation: Participatory - invited/keynote **Reasons for participation:** Upon invitation talk

City of event: Leganés, Community of Madrid, Spain

Date of event: 07/07/2003

End date: 11/07/2003

Juan De la Figuera Bayón; .A.K. Schmid; K. Pohl; N.C. Bartelt; C.B. Carter; R.Q. Hwang.

116 Title of the work: Determination of Buried Misfit Dislocations Networks by STM

Name of the conference: III Congreso Español de Microscopías de Fuerzas y Túnel.

Date of event: 24/09/2002

End date: 27/09/2002

City organizing entity: Zamora, Spain

J. de la Figuera; G. E. Thayer; W. L. Ling; J. C. Hamilton; N. C. Bartelt; R. Q. Hwang. (Spain):

117 Title of the work: Determination of Buried Misfit Dislocation Networks by STM

Name of the conference: 7th International Conference on Nanometer-Scale Science and Technology and the 21st European Conference on Surface Science NANO-7/ECOSS-21

Date of event: 24/06/2002

End date: 28/06/2002

City organizing entity: Malmö, Sweden

J. de la Figuera; G. E. Thayer; W. L. Ling; A. K. Schmid; N. C. Bartelt; R. Q. Hwang. (Sweden):

118 Title of the work: Stability of nanostructures at metal surfaces

Name of the conference: 223rd ACS National Meeting.

Date of event: 07/04/2002

End date: 11/04/2002

City organizing entity: Orlando,

K. Pohl; J. de la Figuera.

119 Title of the work: In-Situ STM Study of the Au(111) Herringbone Reconstruction Under Applied Stress

Name of the conference: 15th International Vacuum Congress/ AVS 49th International Symposium.

Date of event: 28/10/2001

End date: 02/11/2001

City organizing entity: San Francisco,

O. Schaff; A.K. Schmid; N.C. Bartelt; J. de la Figuera; R.Q. Hwang.

120 Title of the work: Observation and Simulation of Dislocation Emission after Nanoindentation of an FCC(100) Surface

Name of the conference: 15th International Vacuum Congress/ AVS 49th International Symposium.

Date of event: 28/10/2001

End date: 02/11/2001

City organizing entity: San Francisco,

O. Rodríguez de la Fuente; J.A. Zimmerman; J. de la Figuera; M.A. González; J.C. Hamilton; J.M. Rojo.

121 Title of the work: Redes de dislocaciones: un (posible) sistema para crecer nanoestructuras

Name of the conference: VI Simposio de Física de Materiales

Type of event: Conference

Type of participation: Participatory - invited/keynote **Reasons for participation:** Upon invitation talk

City of event: Ensenada, Mexico

Date of event: 24/01/2001

End date: 26/01/2001

O. Schaff; A.K. Schmid; N.C. Bartelt; R.Q. Hwang.



- 122** **Title of the work:** Direct observation of dislocation glide in thin metal films.
Name of the conference: 19th European Conference on Surface Science ECOSS-19.
Date of event: 05/09/2000
End date: 08/09/2000
City organizing entity: Madrid, Spain
J. de la Figuera; K. Pohl; O. Rodríguez de la Fuente; A.K. Schmid; N.C. Bartelt; R.Q. Hwang. (Spain):
- 123** **Title of the work:** Measurement of the forces between dislocations in the Au(111) herringbone reconstruction.
Name of the conference: 19th European Conference on Surface Science ECOSS-19.
Date of event: 05/09/2000
End date: 08/09/2000
City organizing entity: Madrid, Spain
O. Schaff; N.C. Bartelt; A.K. Schmid; J. de la Figuera; J. C. Hamilton; R.Q. Hwang. (Spain):
- 124** **Title of the work:** Surface diffusion barriers determined by STM in the heteroepitaxial system Co/Cu(111).
Name of the conference: 19th European Conference on Surface Science ECOSS-19.
Type of participation: 'Participatory - poster
Date of event: 05/09/2000
End date: 08/09/2000
City organizing entity: Madrid, Spain
J.E. Prieto; J. de la Figuera; R. Miranda. (Spain):
- 125** **Title of the work:** Teoría y experimentos sobre el comportamiento de dislocaciones de desajuste (misfit dislocations) en sistemas metálicos heteroepitaxiales
Name of the conference: V Simposio de Física de Materiales
Type of event: Conference
Type of participation: Participatory - invited/keynote **Reasons for participation:** Upon invitation talk
City of event: Ensenada, Mexico
Date of event: 26/01/2000
End date: 28/01/2000
N.C. Bartelt; O. Rodríguez de la Fuente; K. Pohl; A.K. Schmid; R.Q. Hwang.
- 126** **Title of the work:** Origin of surface roughness during homoepitaxy on Cu(111).
Name of the conference: European Conference on Surface Science (ECOSS-18)
Type of participation: 'Participatory - poster
Date of event: 21/12/1999
End date: 24/09/1999
City organizing entity: Viena, Austria
J. Camarero; V. Cros; J.E. Prieto; J. de la Figuera; J.J. de Miguel; R. Miranda; J. Alvarez; X. Torrelles; S. Ferrer. (Austria):
- 127** **Title of the work:** Non Capillarity Driven Grain Growth in a Strained Cu Ultrathin Film
Name of the conference: 46th International Symposium of the American Vacuum Society (AVS-46)
Date of event: 25/10/1999
End date: 29/10/1999
City organizing entity: Seattle,
A. K. Schmid; T. Giessel; N. C. Bartelt; J. de la Figuera; R.Q. Hwang.



- 128** **Title of the work:** Sulfurs Effect on Cu(111) Surface morphology
Name of the conference: 46th International Symposium of the American Vacuum Society (AVS-46)
Date of event: 25/10/1999
End date: 29/10/1999
City organizing entity: Seattle,
J. de la Figuera; K. Pohl; M.C. Bartelt; N.C. Bartelt; P. J. Feibelman; R.Q. Hwang.
- 129** **Title of the work:** The Phase Diagram of a Self-Organizing Nano-Array
Name of the conference: 46th International Symposium of the American Vacuum Society (AVS-46)
Date of event: 25/10/1999
End date: 29/10/1999
City organizing entity: Seattle,
K. Pohl; J. de la Figuera; M.C. Bartelt; N. C. Bartelt; J. Hrbek; R.Q. Hwang.
- 130** **Title of the work:** Non-capillarity driven Grain Growth in a Strained Cu film
Name of the conference: European Conference on Surface Science (ECOSS-18)
Type of participation: 'Participatory - poster
Date of event: 21/09/1999
End date: 24/09/1999
City organizing entity: Viena, Austria
T. Giessel; A.K. Schmid; N.C. Bartelt; J. de la Figuera; R.Q. Hwang. (Austria):
- 131** **Title of the work:** Vibrations of misfit dislocations in Cu/Ru(0001) observed with STM
Name of the conference: European Conference on Surface Science (ECOSS-18)
Date of event: 21/09/1999
End date: 24/09/1999
City organizing entity: Viena, Austria
J. de la Figuera; K. Pohl; A.K. Schmid; N.C. Bartelt; R.Q. Hwang. (Austria):
- 132** **Title of the work:** Complete Determination of Buried Dislocation Structures by Scanning Tunneling Microscopy
Name of the conference: Spring Meeting of the Material Research Society
Date of event: 05/04/1999
End date: 09/04/1999
City organizing entity: San Francisco,
J. de la Figuera; A.K. Schmid; K. Pohl; N.C. Bartelt; R.Q. Hwang.
- 133** **Title of the work:** Identification of New Types of Surface Defects on Reconstructed Au(001)
Name of the conference: Fall Meeting of the Material Research Society
Type of participation: 'Participatory - poster
Date of event: 01/12/1998
End date: 05/12/1998
City organizing entity: Boston,
M.A.González; J. de la Figuera; O. Rodríguez de la Fuente; J.M.Rojo.
- 134** **Title of the work:** Ordering Forces of Islands and Dislocation Networks in Strained Metal Films
Name of the conference: Fall Meeting of the Material Research Society
Date of event: 01/12/1998
End date: 05/12/1998
City organizing entity: Boston,
K. Pohl; J. de la Figuera; M.C. Bartelt; N.C. Bartelt; J. Hrbek; R.Q. Hwang.



- 135** **Title of the work:** Identifying the Forces Responsible for Self-Organization of Nanostructures at Crystal Surfaces
Name of the conference: 45th National Symposium of the American Vacuum Society
Date of event: 02/11/1998
End date: 06/11/1998
City organizing entity: Baltimore,
K. Pohl; M.C. Bartelt; J. de la Figuera; N.C. Bartelt; J. Hrbek; R.Q. Hwang.
- 136** **Title of the work:** Interactions of Dislocations in Thin Films
Name of the conference: 45th National Symposium of the American Vacuum Society
Date of event: 02/11/1998
End date: 06/11/1998
City organizing entity: Baltimore,
J. de la Figuera; K. Pohl; A.K. Schmid; N.C. Bartelt; R.Q. Hwang.
- 137** **Title of the work:** Dislocation Behaviour in Strained Thin Films under Reactive Elements Exposure
Name of the conference: 14th International Vacuum Conference.
Date of event: 31/08/1998
End date: 04/09/1998
City organizing entity: Birmingham,
J. de la Figuera; K. Pohl; A.K. Schmid; N.C. Bartelt; J. Hrbek; R.Q. Hwang.
- 138** **Title of the work:** Vibrations of an Ordered Vacancy Island Array in a Strained Metal Film
Name of the conference: 14th International Vacuum Conference
Date of event: 31/08/1998
End date: 04/09/1998
City organizing entity: Birmingham,
K. Pohl; J. de la Figuera; M.C. Bartelt; A.K. Schmid; N. C. Bartelt; J. Hrbek; R.Q. Hwang.
- 139** **Title of the work:** Elastic Interactions in an Ordered Array of Vacancy Islands in a Strained Metal Film
Name of the conference: Spring Meeting of the Material Research Society
Date of event: 04/1998
End date: 04/1998
City organizing entity: San Francisco,
K. Pohl; J. de la Figuera; M.C. Bartelt; N.C. Bartelt; J. Hrbek; R.Q. Hwang.
- 140** **Title of the work:** Accommodation of Point Defects in Strained Metal Films: effects of Oxygen and Sulfur.
Name of the conference: 3S98 Symposium on Surface Science
Date of event: 29/03/1998
End date: 04/04/1998
City organizing entity: Park City,
J. de la Figuera; K. Pohl; A.K. Schmid; M.C. Bartelt; N.C. Bartelt; Jan Hrbek; R.Q. Hwang.
- 141** **Title of the work:** Elastic interactions and Thermal Vibrations in an Ordered Array of Vacancy Islands in a Strained Film .
Name of the conference: 3S98 Symposium on Surface Science
Date of event: 29/03/1998
End date: 04/04/1998
City organizing entity: Park City,
K. Pohl; J. de la Figuera; A.K. Schmid; M.C. Bartelt; N.C. Bartelt; Jan Hrbek; R.Q. Hwang.



- 142** **Title of the work:** How Sulfur Interacts with Bimetallic Surfaces: Macroscopic and Atomistic View of the process
Name of the conference: 3S98 Symposium on Surface Science
Date of event: 29/03/1998
End date: 04/04/1998
City organizing entity: Park City,
J. Hrbek; R.Q. Hwang; J. A. Rodriguez; A.K. Schmid; N.C. Bartelt; K. Pohl; J. de la Figuera.
- 143** **Title of the work:** An Atomic Study of the interaction of Oxygen and strained Cu films
Name of the conference: Fall Meeting of the Material Research Society
Date of event: 01/12/1997
End date: 05/12/1997
City organizing entity: Boston,
J. de la Figuera; N.C. Bartelt; A.K. Schmid; R.Q. Hwang.
- 144** **Title of the work:** Corrosion en películas metálicas bajo tensión
Name of the conference: 3er Simposio de Fisica de Materiales IFUNAM
Date of event: 17/11/1997
End date: 19/11/1997
City organizing entity: Ensenada, Mexico
J. de la Figuera; N.C. Bartelt; A.K. Schmid; R.Q. Hwang. (Mexico):
- 145** **Title of the work:** Atomic View of Corrosion of Strained Metal Films
Name of the conference: 44th National Symposium of the American Vacuum Society
Date of event: 20/10/1997
End date: 24/10/1997
City organizing entity: San Jose,
J. de la Figuera; N.C. Bartelt; A.K. Schmid; R.Q. Hwang.
- 146** **Title of the work:** Defects at the Au(100) surface, or how and when to take advantage of surface reconstruction
Name of the conference: 57 Physical Electronics Conference
Date of event: 18/06/1997
End date: 21/06/1997
City organizing entity: Eugene,
J. de la Figuera; R. García-Martínez; O. Sanchez; M.A. González; A.L. Vazquez de Parga; R. Miranda; J.M. Rojo.
- 147** **Title of the work:** Self rearrangement of gold (100) surfaces after controlled defect creation
Name of the conference: MRS Spring Meeting
Date of event: 31/03/1997
End date: 04/04/1997
City organizing entity: San Francisco,
J. de la Figuera; R. García-Martínez; M.A. González; J.M. Rojo.
- 148** **Title of the work:** Manipulating Epitaxial Growth at the atomic scale: from surfactants to quantum wires
Name of the conference: 125th TMS Annual Meeting
Type of event: Conference
Type of participation: Participatory - invited/keynote **Reasons for participation:** Upon invitation talk



City of event: Anaheim, United States of America

Date of event: 04/02/1996

End date: 08/02/1996

Juan de la Figuera; R. Miranda.

- 149 Title of the work:** Atomic scale Engineering of Superlattices and Magnetic Wires”
Name of the conference: MRS Meeting
Type of participation: Participatory - invited/keynote **Reasons for participation:** Upon invitation talk

City of event: Boston, United States of America

Date of event: 18/04/1995

End date: 21/04/1995

J. Camarero; Juan de la Figuera; L. Spendeler; X. Torrelles; J. Alvarez; S. Ferrer; J.J. de Miguel; J.M. García; O. Sánchez; J.E. Ortega; A.L. Vázquez de Parga; R. Miranda.

- 150 Title of the work:** Struktur ultradünner Co-filme auf Cu(111) im Bereich $\theta < 2^\circ$

Name of the conference: Deutsche Physikalische Gesellschaft

Date of event: 20/03/1995

End date: 23/03/1995

City organizing entity: Berlin, Germany

S. Müller; G. Kostka; J. de la Figuera; J.E. Prieto; C. Ocal; R. Miranda; K. Heinz; K. Müller. (Germany):

- 151 Title of the work:** Estudios de crecimiento de Co/Cu(111) en el ESRF

Name of the conference: Spanish ESRF User Meeting

Date of event: 19/01/1995

End date: 19/01/1994

City organizing entity: Madrid, Spain

J. Camarero; J. de la Figuera; J. J. de Miguel; C. Ocal; R. Miranda; J. Alvarez; X. Torrelles; P. Fajardo; S. Ferrer; E. van der Vegt; E. Vlieg. (Spain):

- 152 Title of the work:** Stacking fault and twin formation during growth of copper and cobalt on Cu(111)

Name of the conference: ESRF User Meeting

Type of participation: 'Participatory - poster

Date of event: 16/12/1994

End date: 16/12/1994

City organizing entity: Grenoble, France

J. Camarero; J. de la Figuera; L. Spendeler; J. J. de Miguel; C. Ocal; R. Miranda; J. Alvarez; X. Torrelles; E. van der Vegt; P. Fajardo; S. Ferrer.(France):

- 153 Title of the work:** Determination of the initial stacking of Co on Cu(111) by STM/LEED

Name of the conference: 14 International Colloquium on Magnetic Films and Surfaces, ICMFS/EMRS.

Type of participation: 'Participatory - poster

Date of event: 29/08/1994

End date: 02/09/1994

City organizing entity: Düsseldorf, Germany

J. de la Figuera; J.E. Prieto; C. Ocal; R. Miranda; G. Schmidt; S. Müller; K. Heinz; K. Müller. (Germany):

- 154 Title of the work:** The growth of Co/Cu : combination of in-situ structural techniques

Name of the conference: 14th European Conference on Surface Science (ECOSS 14)

Type of participation: 'Participatory - poster

Date of event: 12/08/1994



End date: 16/08/1994

City organizing entity: Leipzig, Germany

J. de la Figuera; J.E. Prieto; C. Ocal; R. Miranda; G. Schmidt; S. Müller; K. Heinz; K. Müller. (Germany):

- 155** **Title of the work:** A LEED/STM/ARUPS study of gamma-FeSi₂ epitaxially grown on Si(111)
Name of the conference: 14th General Conference of the Condensed Matter Division of the European Physical Society, GCCMD-14
Type of participation: 'Participatory - poster
Date of event: 28/03/1994
End date: 31/03/1994
City organizing entity: Madrid, Spain
J. Alvarez; C. Limones; A. L. Vázquez de Parga; E.G. Michel; J. de la Figuera; J.E. Prieto; C. Ocal; R. Miranda. (Spain):
- 156** **Title of the work:** In-situ combination of reciprocal-space and real-space structural techniques: the crystallography of cobalt films grown on Cu(111).
Name of the conference: 14th General Conference of the Condensed Matter Division of the European Physical Society, GCCMD-14
Date of event: 28/03/1994
End date: 31/03/1994
City organizing entity: Madrid, Spain
J. de la Figuera; J.E. Prieto; C. Ocal; R. Miranda; G. Schmidt; K. Heinz; K. Müller. (Spain):
- 157** **Title of the work:** Surface Manipulation and real-time Dynamics on the Co/Cu(111) System.
Name of the conference: 14th General Conference of the Condensed Matter Division of the European Physical Society, GCCMD-14
Date of event: 28/03/1994
End date: 31/03/1994
City organizing entity: Madrid, Spain
J. de la Figuera; J.E. Prieto; C. Ocal; R. Miranda. (Spain):
- 158** **Title of the work:** Real Time Experiments on the Dynamics of Tip-Induced Defects
Name of the conference: Second Interamerican Congress on Electron Microscopy.
Date of event: 27/09/1993
End date: 01/10/1993
City organizing entity: Cancún, Mexico
C.Ocal; J. de la Figuera; J.E. Prieto; R. Miranda. (Mexico):
- 159** **Title of the work:** Structural Perfection of beta-FeSi₂ on Si(111).
Name of the conference: The Fifth International Conference on Defect Recognition and Image Processing in Semiconductors and Devices (DRIP 5)
Type of participation: 'Participatory - poster
Date of event: 06/09/1993
End date: 10/09/1993
City organizing entity: Santander, Spain
A.L Vázquez de Parga; J. de la Figuera; J.E. Prieto; C. Ocal; R. Miranda. (Spain):
- 160** **Title of the work:** The Particularities of the Growth of Co on Cu(111) Observed by Scanning Tunneling Microscopy
Name of the conference: 13th European Conference on Surface Science (ECOSS 13)
Date of event: 30/08/1993



End date: 04/09/1993

City organizing entity: Warwick, United Kingdom

J. de la Figuera; J.E. Prieto; C. Ocal; R. Miranda. (United Kingdom):

- 161 Title of the work:** Oscillatory magnetic coupling in epitaxial superlattices
Name of the conference: II Latin-American workshop on Magnetism, Magnetic Materials and their Applications
Date of event: 24/08/1993
End date: 27/08/1993
City organizing entity: Guanajuato, Mexico
J. de la Figuera; J.E. Prieto; C. Ocal; R. Miranda. (Mexico):
- 162 Title of the work:** The Growth of Co on Cu(111) Observed by Scanning Tunneling Microscopy
Name of the conference: IV-European Conference on Surface Crystallography
Type of participation: 'Participatory - poster
Date of event: 23/05/1993
End date: 26/05/1993
City organizing entity: Aarhus, Denmark
J. de la Figuera; J.E. Prieto; C. Ocal; R. Miranda. (Denmark):
- 163 Title of the work:** Are there surface states in iron disilicide epitaxial films?
Name of the conference: International Conference on the Formation of Semiconductor Interfaces (ICFSI)
Type of participation: 'Participatory - poster
Date of event: 1993
End date: 1993
City organizing entity: Jülich, Germany
J. Chrost; J. J. Hinarejos; N. Capuj; C. Limones; J. Alvarez; E. G. Michel; A. L. Vázquez de Parga; J. de la Figuera; J. E. Prieto; C. Ocal; R. Miranda. (Germany):
- 164 Title of the work:** A Structural Characterization of the Buffer Layer for Growth of Magnetically-Coupled Co-Cu Superlattices.
Name of the conference: Symposium on Magnetic Ultra-Thin Films, Multilayers and Surfaces
Date of event: 07/09/1992
End date: 10/09/1992
City organizing entity: Lyon, France
J.L. Martínez-Albertos; J. Camarero; J.M. García; C.J. Pastor; J.M. Gallego; C. Limones; J.E. Prieto; A.L. Vázquez de Parga; J. de la Figuera; C. Ocal; R. Miranda. (France):
- 165 Title of the work:** STM, UPS and ISS study of the initial stages of the growth of Fe on Si(111)
Name of the conference: 8th International Conference on Solid Surfaces (ICSS-8)
Date of event: 1992
End date: 1992
City organizing entity: La Haya,
J. Alvarez; A. L. Vázquez de Parga; J. J. Hinarejos; J. de la Figuera; E. G. Michel; C. Ocal; R. Miranda.
- 166 Title of the work:** Structural characterization of surface defects at different stages of gamma-FeSi₂ growth
Name of the conference: 8th International Conference on Solid Surfaces (ICSS-8)
Type of participation: 'Participatory - poster
Date of event: 1992
End date: 1992
City organizing entity: La Haya,



A. L. Vázquez de Parga; J. de la Figuera; C. Ocal; R. Miranda.

- 167** **Title of the work:** Structural phase transition during heteroepitaxial growth of iron silicides on Si(111)
Name of the conference: 8th International Conference on Solid Surfaces (ICSS-8)
Date of event: 1992
End date: 1992
City organizing entity: La Haya,
J. Alvarez; A. L. Vázquez de Parga; J. J. Hinarejos; J. de la Figuera; E. G. Michel; C. Ocal; R. Miranda.
- 168** **Title of the work:** The epitaxial growth of gamma-FeSi₂ on Si(111) as viewed by scanning tunneling microscopy
Name of the conference: 8th International Conference on Solid Surfaces (ICSS-8)
Date of event: 1992
End date: 1992
City organizing entity: La Haya,
A. L. Vázquez de Parga; J. de la Figuera; C. Ocal; R. Miranda.
- 169** **Title of the work:** A new method for the Growth of Epitaxial Iron Silicides on Si(100).
Name of the conference: 12th European Conference on Surface Science (ECOSS-12)
Type of participation: 'Participatory - poster
Date of event: 1991
End date: 1991
City organizing entity: Estocolmo, Sweden
J. M. Gallego; J. Alvarez; J. J. Hinarejos; E. G. Michel; A. L. Vázquez de Parga; J. de la Figuera; C. Ocal; R. Miranda. (Sweden):
- 170** **Title of the work:** Initial stages of FeSi₂ formation studied by STM
Name of the conference: Coloquio Franco Ibérico de microscopía electrónica.
Date of event: 1991
End date: 1991
City organizing entity: Barcelona, Spain
A. L. Vázquez de Parga; J. de la Figuera; C. Ocal; R. Miranda. (Spain):
- 171** **Title of the work:** STM characterization of the Fe-Si system, interfase and disilicide formation
Name of the conference: International Conference on STM
Date of event: 1991
End date: 1991
City organizing entity: Interlaken, Switzerland
A. L. Vázquez de Parga; J. de la Figuera; C. Ocal; R. Miranda. (Switzerland):
- 172** **Title of the work:** Growth and characterization of iron silicides on silicon
Name of the conference: 11th European Conference on Surface Science (ECOSS-11)
Date of event: 1990
End date: 1990
City organizing entity: Salamanca, Spain
J. M. Gallego; J. Alvarez; J. J. Hinarejos; E. G. Michel; A. L. Vázquez de Parga; J. de la Figuera; C. Ocal; R. Miranda. (Spain):
- 173** **Title of the work:** When shape lies: stacking fault removal on FeO growth on Ru(0001)
Name of the conference: ECSCD-12 European Conference on Surface Crystallography and Dynamics
Type of event: Conference

Type of participation: Participatory - oral communication

City of event: Trieste, Italy

Organising entity: Consortium for Physics, Trieste

City organizing entity: Trieste, Italy

M. Monti; L. Martín-García; R. Gargallo-Caballero; M. Foerster; L. Aballe; J. de la Figuera.

- 174 Title of the work:** Role of substrate on the magnetic anisotropy of magnetite thin films grown by IAD
Name of the conference: Recent Trends in Nanomagnetism, Spintronics, and their Applications 2015
City of event: Ordizia, Spain
Organising entity: Universidad del País Vasco **Type of entity:** University
P. Prieto; J.E. Prieto; A. Muñoz-Martin; R. Gargallo-Caballero; J.F. Marco; J. de la Figuera.

Works submitted to national or international seminars, workshops and/or courses

- 1 Title of the work:** Magnetization of Fe₃O₄ and Co-doped Fe₃O₄ islands by XMCD-PEEM
Name of the event: Seminario
City of event: Paris, France
Date of event: 31/01/2017
Organising entity: Laboratoire de Physique des Solides **Type of entity:** Public Research Body
City organizing entity: France,
- 2 Title of the work:** Magnetization of Fe₃O₄ and Co-doped Fe₃O₄ islands by XMCD-PEEM
Name of the event: Seminario
City of event: Paris, France
Date of event: 30/01/2017
Organising entity: Soleil Synchrotron
- 3 Title of the work:** Magnetite(100): the power of low-energy electrons for observing a surface
Name of the event: Seminario
City of event: Casteldefells, Catalonia, Spain
Date of event: 20/10/2016
Organising entity: The Institute of Photonic Sciences (ICFO)
J. de la Figuera. Available on-line at: <<https://www.icfo.es/newsroom/calendar?yr=2016&mg=5>>.
- 4 Title of the work:** Micromagnetism (and more) on Magnetite(100) with low energy electrons
Name of the event: Teoría y Simulación de Materiales: Seminarios Alternativos
Type of event: Seminar
Corresponding author: Yes
City of event: Madrid, Spain
Date of event: 15/09/2016
Organising entity: Instituto de Ciencia de Materiales **Type of entity:** State agency de Madrid
City organizing entity: Madrid,
J. de la Figuera. Available on-line at: <<http://www.icmm.csic.es/es/eventos/semialt.php>>.
- 5 Title of the work:** A surface electron microscopy view of the magnetite (001) surface: from chemistry to magnetism
Name of the event: Seminario
City of event: Barcelona, Catalonia, Spain



Date of event: 02/06/2016

End date: 02/06/2016

Organising entity: CENTRO DE INVESTIGACION EN NANOCIENCIA Y NANOTECNOLOGIA

Type of entity: State agency

J. de la Figuera.

6 Title of the work: Magnetic domains on the magnetite 100 surface (or using low energy electrons to see magnetic domains)

Name of the event: Seminario

City of event: Saclay, Île de France, France

Date of event: 09/05/2016

Organising entity: Commissariat à l'énergie atomique et aux énergies alternatives (CEA)

City organizing entity: Saclay, France

7 Title of the work: Using low energy electrons to view magnetic domains in magnetite

Name of the event: Seminario

Corresponding author: Yes

City of event: Tres Cantos, Spain

Date of event: 21/04/2016

Organising entity: Instituto de Microelectrónica de Madrid

Type of entity: State agency

J. de la Figuera.

8 Title of the work: Surface electron microscopy: LEEM, SPLEEM, PEEM

Name of the event: Clase de máster

Corresponding author: Yes

City of event: Madrid,

Date of event: 12/04/2016

Organising entity: Universidad Complutense de Madrid

Type of entity: University

9 Title of the work: Magnetic Domains on the surface of magnetite

Name of the event: Seminario

City of event: Madrid,

Date of event: 28/01/2016

Organising entity: Instituto de Magnetismo Aplicado-UCM

10 Title of the work: Towards antiphase-boundary-free spinel-based oxides

Name of the event: Seminario

City of event: Livermore,

Date of event: 09/07/2015

Organising entity: Sandia National Laboratories

11 Title of the work: Micromagnetism on magnetite (001)

Name of the event: Seminario

City of event: Halle, Germany

Date of event: 18/12/2014

End date: 18/12/2014

Organising entity: Max-Planck-Institut für Mikrostrukturphysik

Juan de la Figuera.



- 12** **Title of the work:** The Oldest Metal-Insulator Transition in Condensed Matter: the Verwey Transition of Magnetite, from the Bulk to the Surface
Name of the event: Seminario
City of event: Madrid, Community of Madrid, Spain
Date of event: 12/02/2014
End date: 12/02/2014
Organising entity: Instituto de Química Física Rocasolano
Type of entity: State agency
City organizing entity: Madrid, Community of Madrid, Spain
- 13** **Title of the work:** The 100 surface of magnetite and the Verwey transition
Name of the event: Seminario
City of event: Madrid, Community of Madrid, Spain
Date of event: 05/02/2014
End date: 05/02/2014
Organising entity: Instituto de Microelectrónica de Madrid
Type of entity: State agency
City organizing entity: Madrid, Community of Madrid, Spain
- 14** **Title of the work:** Initial stages of the growth of iron oxides on Ru(0001)
Name of the event: Seminario
City of event: Wien, Austria
Date of event: 05/11/2013
Organising entity: Vienna Technical University
Type of entity: University
City organizing entity: Wien, Austria
- 15** **Title of the work:** The 100 surface of magnetite from bulk crystals to thin films
Name of the event: Seminario
City of event: Pittsburgh, United States of America
Date of event: 21/08/2013
Organising entity: Carnegie Mellon University
City organizing entity: Pittsburgh, United States of America
- 16** **Title of the work:** The 100 surface of magnetite from bulk crystals to thin films
Name of the event: Seminario
City of event: Palo Alto, United States of America
Date of event: 15/08/2013
Organising entity: Stanford University
City organizing entity: Palo Alto, United States of America
- 17** **Title of the work:** The 100 surface of magnetite from bulk crystals to thin films
Name of the event: Seminario
City of event: Berkeley, United States of America
Date of event: 13/08/2013
Organising entity: Lawrence Berkeley National Laboratory
Type of entity: R&D Centre
City organizing entity: Berkeley, United States of America
- 18** **Title of the work:** The 100 surface of magnetite from bulk crystals to thin films
Name of the event: Seminario
City of event: Livermore, United States of America



Date of event: 25/07/2013

Organising entity: Sandia National Laboratories **Type of entity:** R&D Centre

19 Title of the work: LEEM y SPLEEM

Name of the event: Seminario

City of event: Ensenada, Mexico

Date of event: 21/06/2013

Organising entity: Universidad Nacional Autónoma de México- Baja California

City organizing entity: Ensenada, Mexico

20 Title of the work: The 100 surface of magnetite from bulk crystals to thin films

Name of the event: Seminario

City of event: La Jolla, United States of America

Date of event: 20/06/2013

Organising entity: University of California at San Diego (UCSD)

City organizing entity: La Jolla, United States of America

21 Title of the work: The surface of magnetite: from nanometer thick films to bulk crystals

Name of the event: Seminario

City of event: Zaragoza,

Date of event: 16/05/2013

Organising entity: Instituto de Nanociencia de Aragón **Type of entity:** R&D Centre

22 Title of the work: The 100 surface of magnetite from bulk crystals to thin films

Name of the event: Seminario

City of event: Barcelona,

Date of event: 15/05/2013

Organising entity: Instituto de Ciencia de los Materiales de Barcelona **Type of entity:** State agency

23 Title of the work: The 100 surface of magnetite from bulk crystals to thin films

Name of the event: Seminario

City of event: Madrid,

Date of event: 25/04/2013

End date: 25/04/2013

Organising entity: Instituto de Cerámica y Vidrio (ICV)

24 Title of the work: Magnetite and the magnetite surface: a low-energy electron study

Name of the event: Seminario

City of event: San Sebastián, Spain

Date of event: 19/10/2012

Organising entity: Donostia International Physics Center **Type of entity:** otro

City organizing entity: San Sebastián, Spain

25 Title of the work: From Bulk to Ultrathin Iron-oxide Layers a Surface Science Approach

Name of the event: Seminario

City of event: Livermore, United States of America

Date of event: 25/07/2012

Organising entity: Sandia National Laboratories **Type of entity:** State agency



City organizing entity: United States of America

- 26** **Title of the work:** Magnetism in Magnetite: from Bulk to Ultrathin Layers a Surface Science Approach
Name of the event: Seminario
City of event: Madrid, Spain
Date of event: 09/05/2012
Organising entity: Universidad Complutense de Madrid **Type of entity:** University
- 27** **Title of the work:** Surface Electron Microscopy of Magnetite: from Bulk to Ultrathin Layers
Name of the event: Seminario
Date of event: 22/03/2012
Organising entity: Instituto de Cerámica y Vidrio **Type of entity:** State agency
- 28** **Title of the work:** Surface Electron Microscopy of Magnetite: from Bulk to Ultrathin Layers
Name of the event: Seminario
Date of event: 13/03/2012
Organising entity: CONSORCIO PARA CONSTRUCCION, EQUIP. Y EXPL. LABORATORIO LUZ SINCROTON
City organizing entity: Spain
- 29** **Title of the work:** Magnetite in low energy electron microscopy: from bulk to ultra-thin films
Name of the event: Seminario
City of event: Neyagawa, Japan
Date of event: 26/10/2011
Organising entity: Osaka Electro-Communication University **Type of entity:** University
City organizing entity: Neyagawa, Japan
- 30** **Title of the work:** Tuning magnetic anisotropy: Hydrogen induced spin-reorientation transition in Co/Ru
Name of the event: Seminario
City of event: Livermore, United States of America
Date of event: 18/08/2011
Organising entity: Sandia National Laboratories **Type of entity:** State agency
City organizing entity: Livermore, United States of America
- 31** **Title of the work:** Using low-energy electron microscopy to study the interaction of hydrogen with thin metal films
Name of the event: Seminario
City of event: Sapporo, Japan
Date of event: 31/05/2010
Organising entity: Hokkaido University **Type of entity:** University
City organizing entity: Sapporo, Japan
- 32** **Title of the work:** First steps in low-energy electron microscopy of iron oxides
Name of the event: Seminario
City of event: Madrid, Spain
Date of event: 29/04/2010
Organising entity: Instituto de Cerámica y Vidrio **Type of entity:** State agency
City organizing entity: Madrid, Spain



- 33** **Title of the work:** Using low energy electron microscopy to study the interaction of hydrogen with thin films
Name of the event: Seminario
City of event: Madrid, Spain
Date of event: 09/12/2009
Organising entity: FUNDACIÓN IMDEA ENERGIA
City organizing entity: Madrid, Spain
- 34** **Title of the work:** Using low energy electron microscopy to study the interaction of hydrogen with thin films
Name of the event: Seminario
City of event: Madrid, Spain
Date of event: 09/12/2009
Organising entity: FUNDACIÓN IMDEA ENERGIA
City organizing entity: Madrid, Spain
- 35** **Title of the work:** Response of Ultra-Thin Palladium Films to Hydrogen Exposure Studied by Low Energy Electron Microscopy and Diffraction
Name of the event: Seminario
City of event: Livermore, United States of America
Date of event: 06/08/2009
Organising entity: Sandia National Laboratories **Type of entity:** State agency
City organizing entity: Livermore, United States of America
- 36** **Title of the work:** Iron oxides and low energy electron microscopy
Name of the event: Seminario
City of event: Albuquerque, United States of America
Date of event: 27/06/2009
Organising entity: Sandia National Laboratories **Type of entity:** State agency
City organizing entity: Albuquerque, United States of America
- 37** **Title of the work:** Thin films in real time: from dewetting to oxides
Name of the event: Seminario
City of event: Madrid, Spain
Date of event: 17/03/2009
Organising entity: Instituto de Ciencia de Materiales **Type of entity:** State agency
de Madrid
City organizing entity: Madrid, Spain
- 38** **Title of the work:** Magnetic anisotropy at the atomic layer limit: the surprises of Co on Ruthenium
Name of the event: Seminario
City of event: Leuven, Belgium
Date of event: 11/12/2008
Organising entity: Katholieke Universiteit **Type of entity:** University
City organizing entity: Leuven, Belgium
- 39** **Title of the work:** Self-assembly on surfaces: from kinetics to thermodynamics
Name of the event: Seminario
City of event: Barcelona, Spain
Date of event: 17/10/2008
Organising entity: CONSORCIO PARA CONSTRUCCION, EQUIP. Y EXPL. LABORATORIO LUZ
SINCROTON
City organizing entity: Barcelona, Spain



- 40** **Title of the work:** Self-assembly on surfaces: from kinetics to thermodynamics
Name of the event: Seminario
City of event: Madrid, Spain
Date of event: 16/10/2008
Organising entity: Universidad Autónoma de Madrid **Type of entity:** University
City organizing entity: Madrid, Spain
- 41** **Title of the work:** Self-assembly on surfaces: from kinetics to thermodynamics
Name of the event: Seminario
City of event: Tres Cantos, Spain
Date of event: 18/06/2008
Organising entity: Instituto de Microelectrónica de Madrid **Type of entity:** State agency
City organizing entity: Tres Cantos, Spain
- 42** **Title of the work:** The surprises of Co on Ruthenium: Magnetic anisotropy at the Atomic Layer limit
Name of the event: Seminario
City of event: Madrid, Spain
Date of event: 04/06/2008
Organising entity: Universidad Autónoma de Madrid **Type of entity:** University
City organizing entity: Madrid, Spain
- 43** **Title of the work:** The surprises of Co on Ruthenium: Magnetic anisotropy at the Atomic Layer limit
Name of the event: Seminario
City of event: Barcelona, Spain
Date of event: 23/05/2008
Organising entity: CONSORCIO PARA CONSTRUCCION, EQUIP. Y EXPL. LABORATORIO LUZ SINCROTON
City organizing entity: Barcelona, Spain
- 44** **Title of the work:** Spin-Polarized Low Energy Electron Microscopy
Name of the event: Seminario
City of event: Madrid, Spain
Date of event: 29/02/2008
Organising entity: Universidad Autónoma de Madrid **Type of entity:** University
City organizing entity: Madrid, Spain
- 45** **Title of the work:** Formacion de franjas cerca del punto critico: Au en W(110)
Name of the event: Seminario
City of event: Madrid, Spain
Date of event: 30/11/2007
Organising entity: Universidad Autónoma de Madrid **Type of entity:** University
City organizing entity: Madrid, Spain
- 46** **Title of the work:** Stripe formation close to a critical point: Au on W(110)
Name of the event: Seminario
City of event: Madrid, Spain
Date of event: 19/10/2007
Organising entity: Universidad Complutense de Madrid **Type of entity:** University



City organizing entity: Madrid, Spain

- 47** **Title of the work:** The Surprises of Co on Ruthenium: Structure and Magnetism in Ultra-Thin Films
Name of the event: Seminario
City of event: Livermore, United States of America
Date of event: 18/09/2007
Organising entity: Sandia National Laboratories **Type of entity:** State agency
City organizing entity: Livermore, United States of America
- 48** **Title of the work:** Stripe formation close to a critical point: Au on W(110)
Name of the event: Seminario
City of event: Livermore, United States of America
Date of event: 24/10/2006
Organising entity: Sandia National Laboratories **Type of entity:** State agency
City organizing entity: Livermore, United States of America
- 49** **Title of the work:** Stripe formation close to a critical point: Au on W(110)
Name of the event: Seminario
City of event: San Sebastián, Spain
Date of event: 13/04/2006
Organising entity: Donostia International Physics Center **Type of entity:** otro
City organizing entity: San Sebastián, Spain
- 50** **Title of the work:** Controlando el magnetismo capa a capa de materiales magnéticos y no magnéticos: la anisotropía perpendicular en Cobalto en Rutenio(0001)
Name of the event: Seminario
City of event: Las Rozas, Spain
Date of event: 30/03/2006
Organising entity: Instituto de magnetismo aplicado **Type of entity:** University Research Institute
City organizing entity: Las Rozas, Spain
- 51** **Title of the work:** Controlling magnetism by stacking individual atomic monolayers of magnetic- and non-magnetic materials
Name of the event: Seminario
City of event: Madrid, Spain
Date of event: 22/03/2006
Organising entity: Instituto de Química Física Rocasolano **Type of entity:** State agency
City organizing entity: Madrid, Spain
- 52** **Title of the work:** Imaging multiple magnetization easy-axis reorientation transitions on Cobalt on Ru(0001)
Name of the event: Seminario
City of event: Dormuth, United States of America
Date of event: 02/12/2005
Organising entity: New Hampshire University
City organizing entity: Dormuth, United States of America
- 53** **Title of the work:** Microscopía de efecto túnel: STM y diapasones en superficies
Name of the event: Seminario Curs Interdisciplinari en Nanociencia i Nanotecnologia
City of event: Barcelona, Spain



Date of event: 27/11/2005

Organising entity: Universitat Autònoma de Barcelona

Type of entity: University

City organizing entity: Barcelona, Spain

54 Title of the work: Electron Reflectivity measurements of Ag adatom concentrations on W(110)

Name of the event: Seminario

City of event: Livermore, United States of America

Date of event: 25/08/2005

Organising entity: Sandia National Laboratories

Type of entity: State agency

City organizing entity: Livermore, United States of America

55 Title of the work: Cu on Ru(0001): The importance of threading dislocations on the motion of domain boundaries in thin film

Name of the event: Seminario

City of event: Phoenix, United States of America

Date of event: 18/08/2005

Organising entity: Arizona State University

City organizing entity: Phoenix, United States of America

56 Title of the work: Structure and magnetism of ultrathin Co films on Ru(0001)

Name of the event: Seminario

City of event: Albuquerque, United States of America

Date of event: 15/08/2005

Organising entity: Sandia National Laboratories

City organizing entity: Albuquerque, United States of America

57 Title of the work: LEEM a novel nanocharacterization tool

Name of the event: Seminario

City of event: Barcelona, Spain

Date of event: 09/06/2005

Organising entity: Universitat Autònoma de Barcelona

Type of entity: University

City organizing entity: Barcelona, Spain

58 Title of the work: Cu on Ru(0001): The Importance of Threading Dislocations on the Motion of Domain Boundaries in Thin Films

Name of the event: Seminario

City of event: Madrid, Spain

Date of event: 27/05/2005

Organising entity: Universidad Autónoma de Madrid

Type of entity: University

City organizing entity: Madrid, Spain

59 Title of the work: Structure and magnetism of ultrathin Co films on Ru(0001)

Name of the event: Seminario

City of event: Alicante, Spain

Date of event: 09/05/2005

Organising entity: Universidad de Alicante

Type of entity: University

City organizing entity: Alicante, Spain



- 60** **Title of the work:** Structure and magnetism of ultrathin Co films on Ru(0001)
Name of the event: Seminario
City of event: Madrid, Spain
Date of event: 25/02/2005
Organising entity: Instituto de Ciencia de Materiales **Type of entity:** State agency de Madrid
City organizing entity: Madrid, Spain
- 61** **Title of the work:** Evolutions of Twins in Cu Thin Films: Understanding Dislocation Motion
Name of the event: Seminario
City of event: Berkeley, United States of America
Date of event: 09/09/2004
Organising entity: Lawrence Berkeley National Laboratory **Type of entity:** State agency
City organizing entity: Berkeley, United States of America
- 62** **Title of the work:** Evolution of twin-like domains in 2ML Cu/Ru(0001): forest intersection
Name of the event: Seminario
City of event: Albuquerque, United States of America
Date of event: 23/08/2004
Organising entity: Sandia National Laboratories **Type of entity:** State agency
City organizing entity: Albuquerque, United States of America
- 63** **Title of the work:** Evolution of twin-like domains in 2ML Cu/Ru(0001): forest intersection
Name of the event: Seminario
City of event: Livermore, United States of America
Date of event: 11/08/2004
Organising entity: Sandia National Laboratories **Type of entity:** State agency
City organizing entity: Livermore, United States of America
- 64** **Title of the work:** Dislocations and dislocation forests: 2ML Cu/Ru(0001)
Name of the event: Seminario
City of event: Alicante, Spain
Date of event: 29/03/2004
Organising entity: Universidad de Alicante **Type of entity:** University
City organizing entity: Alicante, Spain
- 65** **Title of the work:** Dislocations and dislocation forests: 2ML Cu/Ru(0001)
Name of the event: Seminario
City of event: Madrid, Spain
Date of event: 25/02/2004
Organising entity: Universidad Autónoma de Madrid **Type of entity:** University
City organizing entity: Madrid, Spain
- 66** **Title of the work:** Misfit dislocations: structure, dynamics and applications
Name of the event: Seminario
City of event: Livermore, United States of America
Date of event: 03/09/2003
Organising entity: Sandia National Laboratories
City organizing entity: Livermore, United States of America



- 67** **Title of the work:** Misfit dislocations: structure, dynamics and applications
Name of the event: Seminario
City of event: Yorktown Heights, United States of America
Date of event: 29/07/2003
Organising entity: IBM **Type of entity:** Business
City organizing entity: Yorktown Heights, United States of America
- 68** **Title of the work:** Misfit dislocations: structure, dynamics and applications
Name of the event: Seminario
City of event: Madrid, Spain
Date of event: 26/06/2003
Organising entity: Instituto de Ciencia de Materiales **Type of entity:** State agency de Madrid
City organizing entity: Madrid, Spain
- 69** **Title of the work:** Behaviour of Misfit Dislocations in Ultrathin Metal Films: Direct Observation of Dislocation Glide
Name of the event: Seminario
City of event: Upton, United States of America
Date of event: 12/04/2000
Organising entity: Brookhaven National Laboratory **Type of entity:** State agency
City organizing entity: Upton, United States of America
- 70** **Title of the work:** Sulfur's Effect on Cu(111) Surface Morphology
Name of the event: Seminario
City of event: Madrid, Spain
Date of event: 22/10/1999
Organising entity: Universidad Autónoma de Madrid **Type of entity:** University
City organizing entity: Madrid, Spain
- 71** **Title of the work:** Dynamics and Reactivity of Misfit Dislocations
Name of the event: Seminario
City of event: Tres Cantos, Spain
Date of event: 29/09/1999
Organising entity: Instituto de Microelectrónica de Madrid **Type of entity:** State agency
City organizing entity: Tres Cantos, Spain
- 72** **Title of the work:** Dynamics and Reactivity of Misfit Dislocations
Name of the event: Seminario
City of event: Berkeley, United States of America
Date of event: 15/04/1999
Organising entity: Lawrence Berkeley National Laboratory **Type of entity:** State agency
City organizing entity: Berkeley, United States of America
- 73** **Title of the work:** Dinámica y Reactividad de Dislocaciones
Name of the event: Seminario
City of event: Madrid, Spain
Date of event: 07/01/1998
Organising entity: Universidad Autónoma de Madrid **Type of entity:** University



City organizing entity: Madrid, Spain

- 74** **Title of the work:** Estudio STM de la superficie de Ru(0001)
Name of the event: Seminario
City of event: Madrid, Spain
Date of event: 22/12/1997
Organising entity: Universidad Complutense de Madrid **Type of entity:** University
City organizing entity: Madrid, Spain
- 75** **Title of the work:** Dislocation structures on Au(100)
Name of the event: Seminario
City of event: Livermore, United States of America
Date of event: 12/03/1997
Organising entity: Sandia National Laboratories **Type of entity:** State agency
City organizing entity: Livermore, United States of America
- 76** **Title of the work:** Crecimiento de Co sobre Cu(111): morfología, estructura y dinámica en películas delgadas
Name of the event: Seminario
City of event: México DF, Mexico
Date of event: 23/11/1995
Organising entity: Centro de investigaciones Avanzadas, Instituto Politécnico Nacional **Type of entity:** University
City organizing entity: México DF, Mexico
- 77** **Title of the work:** Estudio del crecimiento de Co sobre Cu(111) mediante microscopía de efecto túnel
Name of the event: Seminario
City of event: México DF, Mexico
Date of event: 14/11/1995
Organising entity: Instituto de Física, UNAM
City organizing entity: México DF, Mexico
- 78** **Title of the work:** Crecimiento y Difusión en el sistema Co/Cu(111)
Name of the event: Seminario
City of event: Madrid, Spain
Date of event: 26/07/1993
Organising entity: Universidad Autónoma de Madrid **Type of entity:** University
City organizing entity: Madrid, Spain
- 79** **Title of the work:** Crecimiento de Siliciuros de Hierro sobre Silicio por Epitaxia de Fase Solida
Name of the event: Seminario
City of event: Madrid, Spain
Date of event: 10/09/1992
Organising entity: Universidad Autónoma de Madrid **Type of entity:** University
City organizing entity: Madrid, Spain



R&D management and participation in scientific committees

Scientific, technical and/or assessment committees

- 1** **Committee title:** Editorial Board Member of the Journal of Physics D: Applied Physics
Primary (UNESCO code): 221100 - Solid state physics; 229900 - Other physical specialities (specify)
Affiliation entity: Institute of Physics (IOP)
Start-End date: 12/2018 - 12/2020
- 2** **Committee title:** Review Panel for National Synchrotron Radiation Centre SOLARIS
Affiliation entity: National Synchrotron Radiation Centre SOLARIS
City affiliation entity: Krakow, Poland
Start date: 22/07/2018
- 3** **Committee title:** International Comitee of the European Conference on Surface Crystallography and Dynamics
Primary (UNESCO code): 221000 - Physical chemistry
Secondary (UNESCO code): 221100 - Solid state physics
Start date: 20/09/2011

Organization of R&D activities

- 1** **Title of the activity:** IV Programa De Iniciación A La Investigación En Química-Física Y Química Física Biológica
Type of activity: organizador y ponente **Geographical area:** National
Start-End date: 07/09/2009 - 18/09/2009
- 2** **Title of the activity:** III Programa De Iniciación A La Investigación En Química-Física Y Química Física Biológica
Type of activity: coorganizador y ponente **Geographical area:** National
Start-End date: 15/09/2008 - 21/09/2008
- 3** **Title of the activity:** 2o Encuentro Nacional de Investigadores Ramón y Cajal
Type of activity: Miembro del comité organizador **Geographical area:** National
Start-End date: 14/04/2005 - 15/04/2005
- 4** **Title of the activity:** 8th European Conference on Surface Cristallography and Dynamics
Type of activity: Miembro del comité organizador **Geographical area:** Europeo
Start-End date: 18/07/2004 - 21/07/2004



R&D management

- 1 Name of the activity:** Director
Type of management: Management of body
Entity: Instituto de Química Física Rocasolano
Start date: 04/07/2013
Type of entity: State agency
Duration: 4 years
- 2 Name of the activity:** Vicedirector de infraestructura
Type of management: Management of body
Entity: Instituto de Química Física Rocasolano
Start date: 03/03/2010
Type of entity: State agency
Duration: 3 years - 5 months

Evaluation and revision of R&D projects and articles

- 1 Name of the activity:** Funding scheme PRELUDIUM
Performed tasks: Evaluador
Entity where activity was carried out: National Science Centre (Narodowe Centrum Nauki - NCN)
City of entity: Poland
Start-End date: 04/09/2016 - 25/09/2016
- 2 Name of the activity:** Comisión de selección del Área Temática de Materiales
Performed tasks: Vocal comisión evaluadora
Entity where activity was carried out: Ministerio de Ciencia e Innovación. Investigación
City of entity: Madrid, Spain
Start-End date: 13/03/2010 - 13/04/2010
- 3 Name of the activity:** Comisión de selección del Área Temática de Materiales
Performed tasks: Vocal comisión evaluadora
Entity where activity was carried out: Ministerio de Ciencia e Innovación. Investigación
City of entity: Madrid, Spain
Start-End date: 19/03/2007 - 19/04/2007
- 4 Name of the activity:** Proyectos del Plan Estatal 2015
Performed tasks: Evaluador
Entity where activity was carried out: Agencia Nacional de Evaluación y Prospectiva
Start date: 22/03/2016
Type of entity: evaluation agency
- 5 Performed tasks:** Referee
Entity where activity was carried out: Science
Start date: 04/09/2014
- 6 Performed tasks:** Referee
Entity where activity was carried out: Phys. Rev. Letters, Phys. Rev. B
Start date: 2012



- 7** **Name of the activity:** Agencia Nacional de Promoción Científica y Tecnológica
Performed tasks: Evaluador
Entity where activity was carried out: Agencia Nacional de Promoción Científica y Tecnológica de Argentina
Type of entity: State agency
City of entity: Argentina
Start date: 2011
- 8** **Performed tasks:** Referee
Entity where activity was carried out: International Journal of Hydrogen Energy
Start date: 2011
- 9** **Performed tasks:** Referee
Entity where activity was carried out: Journal of Physics (C,D)
Start date: 2010
- 10** **Performed tasks:** Referee
Entity where activity was carried out: Physica Status Solidi a
Start date: 2009
- 11** **Performed tasks:** Referee
Entity where activity was carried out: Material Research Bulletin
Start date: 2006
- 12** **Performed tasks:** Referee
Entity where activity was carried out: Surface Science
Start date: 2006

Other achievements

Stays in public or private R&D centres

- 1** **Entity:** Centro para el Desarrollo de la Nanociencia y la Nanotecnología (CEDENNA) **Type of entity:** University Centres and Structures and Associated Bodies
City of entity: Santiago de Chile, Chile
Start-End date: 11/03/2019 - 29/03/2019 **Duration:** 15 days
Goals of the stay: Guest
- 2** **Entity:** Lawrence Berkeley National Laboratory **Type of entity:** Laboratorio Nacional
City of entity: Berkeley,
Start-End date: 24/06/2015 - 30/08/2015 **Duration:** 1 month - 7 days
Goals of the stay: Guest
Provable tasks: Surface magnetism in mixed cobalt-iron oxides II part
- 3** **Entity:** Lawrence Berkeley National Laboratory **Type of entity:** Laboratorio Nacional
City of entity: Berkeley,
Start-End date: 24/07/2014 - 01/09/2014 **Duration:** 1 month - 7 days
Goals of the stay: Guest
Provable tasks: Surface magnetism in mixed cobalt-iron oxides

- 4** **Entity:** Sandia National Laboratories.
City of entity: Livermore, United States of America
Start-End date: 19/06/2013 - 17/08/2013
Goals of the stay: Guest
Provable tasks: Estudio de la magnetita mediante mediante microscopía de electrones lentos
- 5** **Entity:** Berkeley National Laboratory.
City of entity: Berkeley, United States of America
Start-End date: 23/06/2012 - 24/08/2012
Goals of the stay: Guest
Provable tasks: Investigación en óxidos de hierro mediante microscopía de electrones lentos polarizada en espín.
- 6** **Entity:** Sandia National Laboratories.
City of entity: Livermore, United States of America
Start-End date: 23/06/2011 - 24/08/2011
Goals of the stay: Guest
Provable tasks: Estudio mediante microscopía de electrones lentos de la reactividad de películas metálicas ultrafinas
- 7** **Entity:** Sandia National Laboratories.
City of entity: Livermore, United States of America
Start-End date: 26/06/2009 - 29/08/2009
Goals of the stay: Guest
Provable tasks: Investigación en interacción de hidrógeno con magnesio.
- 8** **Entity:** Berkeley National Laboratory.
City of entity: Berkeley,
Start-End date: 24/06/2008 - 26/08/2008
Goals of the stay: Guest
Provable tasks: Investigación en interacción de hidrógeno con superficies metálicas y crecimiento de óxidos de hierro.
- 9** **Entity:** Sandia National Laboratories.
City of entity: Livermore, United States of America
Start-End date: 25/07/2007 - 24/09/2007
Goals of the stay: Guest
Provable tasks: Investigación en dominios autoensamblados.
- 10** **Entity:** Berkeley National Laboratory.
City of entity: Berkeley, United States of America
Start-End date: 01/07/2006 - 26/10/2006
Goals of the stay: Guest
Provable tasks: Investigación en tierras raras.
- 11** **Entity:** Sandia National Laboratories.
City of entity: Livermore, United States of America
Start-End date: 29/06/2005 - 31/08/2005
Goals of the stay: Guest
Provable tasks: Investigación en la reflectividad electronica de Ag sobre W(110)



- 12** **Entity:** Berkeley National Laboratory.
City of entity: Berkeley, United States of America
Start-End date: 23/07/2004 - 17/09/2004
Goals of the stay: Guest
Provable tasks: Investigación en aleaciones CoAg sobre Mo y Ru.
- 13** **Entity:** Sandia National Laboratories.
City of entity: Livermore, United States of America
Start-End date: 01/08/2003 - 12/09/2003
Goals of the stay: Guest
Provable tasks: Investigación en interacción de azufre con películas ultradelgadas metálicas.
- 14** **Entity:** Sandia National Laboratories.
City of entity: Livermore, United States of America
Start-End date: 21/09/2000 - 05/2002
Goals of the stay: Contracted
Provable tasks: Investigación en películas ultradelgadas metálicas.
- 15** **Entity:** Sandia National Laboratories.
City of entity: Livermore, United States of America
Start-End date: 01/01/1999 - 31/08/2000
Goals of the stay: Post-doctoral
Provable tasks: Investigación en películas ultradelgadas metálicas.
- 16** **Entity:** Sandia National Laboratories.
City of entity: Livermore, United States of America
Start-End date: 01/03/1997 - 31/12/1998
Goals of the stay: Post-doctoral
Provable tasks: Investigación en películas ultradelgadas metálicas
- 17** **Entity:** Instituto de Investigaciones en Materiales, UNAM.
City of entity: México DF, Mexico
Start-End date: 15/10/1995 - 15/01/1996
Goals of the stay: Y (Profesor visitante) •
Provable tasks: Construcción de un microscopio de efecto túnel

Obtained grants and scholarships

- 1** **Name of the grant:** Fullbright Fellowship FUL96 2608966
Aims: Post-doctoral
Awarding entity: Fundación Fullbright/Ministerio de Educación y Ciencia **Type of entity:** State agency
Conferral date: 01/03/1997
End date: 31/12/1998
Entity where activity was carried out: Sandia National Laboratories
- 2** **Name of the grant:** Beca de Formación del Personal Investigador PN89 2608966
Aims: Pre-doctoral
Awarding entity: MINISTERIO DE EDUCACION Y CIENCIA



Conferral date: 01/06/1990

End date: 01/09/1992

Entity where activity was carried out: Universidad Autónoma de Madrid

Faculty, institute or centre: Facultad de Ciencias

3 Name of the grant: Beca de colaboración

Aims: Introducción a la investigación

Awarding entity: CajaMadrid

Type of entity: Business

Conferral date: 30/09/1988

End date: 30/06/1989

Entity where activity was carried out: Universidad Autónoma de Madrid

4 Name of the grant: Beca de Introducción a la Investigación

Aims: Formación investigadora

Awarding entity: Consejo Superior de Investigaciones Científicas

Type of entity: State agency

Conferral date: 30/09/1987

End date: 30/06/1988

Entity where activity was carried out: Instituto de Microelectrónica de Madrid

Scientific societies and professional associations

1 Name of the society: Asociación Española de Vacío y sus Aplicaciones (ASEVA)

City affiliation entity: Spain

Start date: 01/12/2016

2 Name of the society: Real Sociedad Española de Física

City affiliation entity: Madrid, Spain

Start date: 10/06/2011

3 Name of the society: Asociación para el Avance de la Ciencia y la Tecnología

City affiliation entity: Madrid, Spain

Start date: 01/01/2006

4 Name of the society: Asociación Nacional de Investigadores Ramón y Cajal

City affiliation entity: Spain

Start date: 01/01/2003

Co-operation networks

Name of the network: Spanish Nanotechnology Network

Identification of the network: Red científico tecnológica



Prizes, mentions and distinctions

Description: Premio Extraordinario de Doctorado

Awarding entity: Universidad Autónoma de Madrid **Type of entity:** University

City awarding entity: Spain

Conferral date: 11/06/1995

Periods of research activity

Nº of recognized periods: 4

Certifying entity: Ministerio de Ciencia e Innovación. **Type of entity:** Ministerio Investigación

City certifying entity: Spain

Date of recognition: 09/06/2014

Summary of other achievements

- 1 Description of the achievement:** RG Score 43
Accrediting entity: ResearchGate
Conferral date: 02/02/2016
- 2 Description of the achievement:** Google Scholar Citations h 25
Accrediting entity: Google Scholar
Conferral date: 14/11/2013
- 3 Description of the achievement:** ORCID 0000-0002-7014-4777 (<http://orcid.org/0000-0002-7014-4777>)
Accrediting entity: ORCID
- 4 Description of the achievement:** ResearcherID E-7046-2010 (<http://www.researcherid.com/rid/E-7046-2010>)
Accrediting entity: Thompson Scientific
- 5 Description of the achievement:** Scopus ID 6701455015
Accrediting entity: Elsevier