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SANTOS BURGOS BENITO - 50114973C

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Benito Santos Burgos

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GOBIERNO DE ESPAÑA · MINISTERIO DE CIENCIA E INNOVACIÓN

FECYT FUNDACIÓN ESPAÑOLA PARA LA CIENCIA Y LA TECNOLOGÍA

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.

Indicadores básicos:

En google scholar sumo 32 artículos científicos con 904 citas, un índice h de 18 a Enero 2021 según el web of Science (artículos no actualizados) 26 artículos con 352 citas, in índice h de 11 a Enero 2021

Perfil científico:

Estudio las propiedades magnéticas estructurales y reactivas de películas metálicas ultra finas por medio de microscopias de electrones de baja energía, microscopía de efecto túnel, radiación sincrotrón y espectroscopías basadas en rayos X.
A la misma vez se estudio la estabilidad de películas ultra delgas, crecimiento de las capas ultra delgadas sus propiedades morfológicas y estructurales, su caracterización magnética y su reactividad cuando son expuestas a gases.
Hago determinación estructural por ajustes de LEED-IV, LEED, determinación magnética por XMCD,XMLD, SPLEEM. Estudio de las reorientaciones de anisotropía magnética de películas magnéticas expuestas a gases. Analizo de la relación entre las propiedades magnéticas de películas ultra delgadas, su estructura y la exposición a gases, formación de óxidos hidruros y crecimiento de grafeno en metales.
He obtenido una patente internacional WO/2010/129390

Perfil profesional y transferencia:

Empecé en la investigación becado 4 meses en el centro de microanálisis de materiales de la UAM, después realice la tesis entre la UAM-CSIC estudiando propiedades magnéticas reactivas y estructurales de películas metálicas ultra delgadas. Posteriormente hice un postdoctorado en el sincrotrón Elettra estudiando sistemas parecidos por LEEM-PEEM y radiación sincrotrón. Estuve dos años trabajando en una certificadora de calidad con proyectos de I+D y actualmente trabajo como investigador en el a UCLM en proyectos relacionados con nanomagnetismo.
He colaborado en centros extranjeros de investigación aprendiendo diversas técnicas y metodológicas de análisis y caracterización desglosadas de la siguiente manera: 4 meses

Benito Santos Burgos

Surname(s): **Santos Burgos**
Name: **Benito**
DNI: **50114973c**
ORCID: **0000-0001-7213-898X**
ScopusID: **36969192400**
Date of birth:
Gender: **Male**
Email:
Mobile phone:

Current professional situation

Employing entity: Universidad de Castilla-La Mancha **Type of entity:** University
Department: IRICA
Professional category: Researcher
Start date: 15/01/2021
Type of contract: Temporary employment contract
Primary (UNESCO code): 221014 - Gas phase physics; 221103 - Crystal Growth; 221117 - Magnetic properties; 221128 - Surfaces; 221191 - Solid state Physics. Spectroscopy of solid

Previous positions and activities

	Employing entity	Professional category	Start date
1	European Quality Assurance-EQA	Employee	20/01/2014
2	Sincrotrón Elettra	Grant-assisted student (post-doctoral, others)	15/10/2011
3	Consejo Superior de Investigaciones Científicas	PhD student	15/09/2009
4	Universidad Autónoma de Madrid	PhD student	15/07/2007
5	Centro de microanálisis de materiales	PhD student	01/01/2007

1 **Employing entity:** European Quality Assurance-EQA **Type of entity:** Business
Professional category: Employee
Start-End date: 20/01/2014 - 20/11/2015 **Duration:** 1 year - 10 months

2 **Employing entity:** Sincrotrón Elettra **Type of entity:** R&D Centre
Professional category: Grant-assisted student (post-doctoral, others)
Start-End date: 15/10/2011 - 15/10/2013 **Duration:** 2 years
Primary (UNESCO code): 221101 - Alloys; 221103 - Crystal Growth; 221104 - Crystallography; 221105 - Crystal structure; 221110 - Electron states; 221117 - Magnetic properties; 221126 - Solid

de estancia en la universidad de New Hampshire para la construcción de un STM, 6 meses en los laboratorios de Sandia National Laboratories estudiando propiedades estructurales de superficies mediante LEEM, 3 meses en Lawrence Berkeley National Laboratory esdudiando propiedades magnéticas mediante SPLEEM.

Más información:

https://scholar.google.es/citations?user=j3y0h4cAAAAJ&hl=es
https://www.linkedin.com/in/benito-santos-014065b5/

Research summary:

Determining the mechanisms by which the morphology, structure and composition of surfaces evolve by direct observation using by means of low-energy electron microscopy (LEEM) scanning tunneling microscope (STM) and synchrotron and lab-based x-ray spectroscopy (PEEM). The phenomena studied include the stability of thin film and collective phenomena in thin film growth, including their structural and magnetic characterization by means of LEEM, XPS,SPLEEM, XMLD, XMCD. Determining surface structure using low-energy electron diffraction (LEED) and LEED-IV. Studying magnetic charcterization in thin film including spin-reorientation-transitions by x-ray
spectroscopies and electron microscopies such as XMCD, XMLD, SPLEEM. The phenomena studied include the relationship between the structure, magnetism and surface reactions when these are exposed to gas. The materials studied include transition-metal oxides, metallic alloys, metal hydrides, graphene growth on metals.

32 scientific articles, 904 cites, h-index 18, January 2021

state devices; 221128 - Surfaces; 221190 - Solid state Physics. Foil; 221191 - Solid state Physics. Spectroscopy of solid

Performed tasks: Magnetic, crystalline and structural characterization of ultra-thin films by means of XPEEM, LEEM, LEED and LEED-IV

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

Professional category: PhD student

Start-End date: 15/09/2009 - 12/09/2011 **Duration:** 2 years

Primary (UNESCO code): 221103 - Crystal Growth; 221104 - Crystallography; 221105 - Crystal structure; 221114 - Interfaces; 221117 - Magnetic properties; 221128 - Surfaces; 221190 - Solid state Physics. Foil; 221191 - Solid state Physics. Spectroscopy of solid

Performed tasks: Magnetic, crystalline and structural characterization of ultra-thin films by means of LEEM, LEED, LEED-IV, XPS and XMCD. Magnetic, structural characterization, and spin-reorinetation-transitions of ultra-thin metallic films exposed to hydrogen studied by SPLEEM, LEED y STM. Designing and building UHV-MBE systems and STM microscopes

4 **Employing entity:** Universidad Autónoma de Madrid **Type of entity:** University

Professional category: PhD student

Start-End date: 15/07/2007 - 15/09/2009 **Duration:** 2 years

Primary (UNESCO code): 221103 - Crystal Growth; 221105 - Crystal structure; 221114 - Interfaces; 221117 - Magnetic properties; 221128 - Surfaces; 221190 - Solid state Physics. Foil; 221191 - Solid state Physics. Spectroscopy of solid

Performed tasks: Magnetic, crystalline and structural characterization of ultra-thin films by means of LEEM, LEED, LEED-IV, XPS and XMCD. Magnetic, structural characterization, and spin-reorinetation-transitions of ultra-thin metallic films exposed to hydrogen studied by SPLEEM, LEED y STM. Designing and building UHV-MBE systems and STM microscopes

5 **Employing entity:** Centro de microanálisis de materiales

Professional category: PhD student

Start-End date: 01/01/2007 - 15/07/2007 **Duration:** 6 months

Primary (UNESCO code): 221105 - Crystal structure; 221117 - Magnetic properties; 221128 - Surfaces

Performed tasks: Structural magnetic characterization of ultrathin Cr layers

Education

University education

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

1 **University degree:** Máster
Name of qualification: Máster en biofísica
City degree awarding entity: Madrid, Community of Madrid, Spain
Degree awarding entity: Universidad Autónoma de Madrid **Type of entity:** University
Date of qualification: 31/07/2007

2 **University degree:** Higher degree
Name of qualification: Licenciado en Ciencias Físicas
City degree awarding entity: Madrid, Community of Madrid, Spain
Degree awarding entity: Universidad Autónoma de Madrid **Type of entity:** University
Date of qualification: 15/09/2006

Doctorates

Doctorate programme: Doctorado en Física de la Materia Condensada y Nanotecnología
Degree awarding entity: Universidad Autónoma de Madrid **Type of entity:** University
City degree awarding entity: Madrid, Community of Madrid, Spain
Date of degree: 12/09/2011
Thesis title: Magnetic and structural properties of ultra-thin metallic layers upon hydrogen exposure
Thesis director: Juan de la Figuera Bayon

Language skills

Language	Listening skills	Reading skills	Spoken interaction	Speaking skills	Writing skills
Italian		A1	A1	A1	A1
English		C1	C1	C1	C1

Teaching experience

General teaching experience

Name of the course: Laboratorio Física II
University degree: Graduado en Ingeniería Agraria
Start date: 15/03/2021 **End date:** 21/04/2021
Entity: Universidad de Castilla-La Mancha **Type of entity:** University
Faculty, institute or centre: Escuela Técnica Superior de Ingenieros Agrónomos

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:** High Performance Anti Viral Protection of Personal Protective Equipment using Nanoparticles
Entity where project took place: Universidad de Castilla-La Mancha **Type of entity:** University
City of entity: Spain
Name principal investigator (PI, Co-PI....): Christopher Binns
Nº of researchers: 6
Start-End date: 18/01/2021 - 18/01/2022

2 **Name of the project:** Low dimensional effects in oxides: growth, structure and magnetism (MAT2009-14578-C03-01)
Entity where project took place: Ministerio de Ciencia e Innovación **Type of entity:** CSIC
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Juan de la Figuera Bayon
Nº of researchers: 5
Start-End date: 2010 - 2012
Total amount: 195.000 €

3 **Name of the project:** Superficies de aleaciones binarias: estructura y dinámica (MAT2006-13149-C02-02)
Entity where project took place: Ministerio de Ciencia y Tecnología **Type of entity:** Universidad autonoma de Madrid/CSIC
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Juan Mannuel Rojo; Juan de la Figuera Bayon
Nº of researchers: 5
Start-End date: 2007 - 2009
Total amount: 105 €

4 **Name of the project:** Estudio de la estructura atómica y magnética de capas ultradelgadas de cromo sobre tungsteno (CCG07-CSIC/MAT-2030)
Entity where project took place: Comunidad Autónoma de Madrid y Consejo Superior de Investigaciones Científicas, España
City of entity: Madrid, Community of Madrid, Spain
Name principal investigator (PI, Co-PI....): Juan de la Figuera Bayon
Nº of researchers: 3
Start-End date: 2008 - 2008
Total amount: 22.000 €

5 **Name of the project:** Estudio de reactividad y magnetismo en películas metálicas epitaxiales
Entity where project took place: Consejo Superior de Investigaciones Científicas **Type of entity:** State agency
City of entity: Madrid, Spain
Start-End date: 2007 - 2008

R&D non-competitive contracts, agreements or projects with public or private entities

Name of the project: Propiedades físicas y químicas de películas ultra finas mediante microscopia XPEEM y LEEM
Degree of contribution: Researcher
Nº of researchers: 3
Funding entity or bodies:
Sincrotrone Trieste, Societa consortile per zioni **Type of entity:** Technological Centre
City funding entity: trieste, Friuli-Venezia Giulia, Italy
Start date: 15/10/2011 **Duration:** 2 years

Results

Industrial and intellectual property

Title registered industrial property: Patente internacional
Type of industrial property: Patent of invention
Inventors/authors/obtainers: Andreas K. Schmid; Arantzazu Mascaraque; Benito Santos Burgos; Juan de la Figuera Bayón
Nº of application: WO/2010/129390 Gas sensor
Country of inscription: United States of America
Conferral date: 2010
Nº of patent: WO/2010/129390
International non-EU patent: Yes
Identify key words: Gas sensors

Scientific and technological activities

Scientific production

Publications, scientific and technical documents

1 S. Günther; T.O. Menteș; R. Reichelt; E. Miniussi; B. .Santos; A. Baraldi; A. Locatelli. Au intercalation under epitaxial graphene on Ru(0001): The role of graphene edges. Carbon. 162, pp. 292 - 299. 20/06/2020.
Type of production: Scientific paper

2 Francesca Genuzio; Pietro Genoni; evfik Onur Menteș; Benito Santos; Alessandro Sala; Cristina Lenardi; Andrea Locatelli. Stimulated CO Dissociation and Surface Graphitization by Microfocused X-ray and Electron Beams. J. Phys. Chem. C. 24/10/2018.
Type of production: Scientific paper

3 P. Genoni; F. Genuzio; A. Sala; C. Lenardi; A. Locatelli. Magnetic patterning by electron beam assisted carbon lithography. ACS Applied Materials & Interfaces. 10(32), pp. 27178 - 27187. 18/07/2018.
Type of production: Scientific paper

4 S. Vlaic; N. Rougemaille; A. Artaud; V. Renard; L. Huder; J.-L. Rouvière; A. Kimouche; B. Santos; A. Locatelli; V. Guisset; P. David; C. Chapelier; L. Magaud; B. Canals; J. Coraux. Graphene as a Mechanically Active, Deformable Two-Dimensional Surfactant. J. Phys. Chem. Lett. 9, pp. 2523 - 2531. 24/04/2018.
Type of production: Scientific paper

5 S. Vlaic; N. Rougemaille; A. Kimouche; B. Santos Burgos; A. Locatelli; J. Coraux. Intercalating cobalt between graphene and iridium (111): Spatially dependent kinetics from the edges. Phys. Rev. Mat.1 - 053406, 30/10/2017.
Type of production: Scientific paper
Citations: 5

6 R. Imbihl; M Hesse; S Günther; A Locatelli; T.O. Mente?; B. Santos. Revisiting the Origin of Low Work Function Areas in Pattern Forming Reactive Systems: Electropositive-Contaminants or Subsurface Oxygen?. J. Phys. Chem. C. 120 - 47, pp. 26864 - 26872. 01/11/2016.
Type of production: Scientific paper
Citations: 2

7 L. B Steren; M. Tortarolo; F. Fernandez Baldis; M. Sirena; M. Sacchi; V. H. Etgens; M. Eddrief; Benito Santos; T.O. Mente?; A. Locatelli. Combined effects of vertical and lateral confinement on the magnetic properties of MnAs micro and nano-ribbons;. J. Appl. Phys.120 - 093905, 07/09/2016.
Type of production: Scientific paper
Citations: 1

8 Santos; Rybicki; Starodub; Cerda; Puerta; de la Figuera; McCarty; Zasada. Structure and stability of ultrathin Fe films on W(110). Physical Review B. 93 - 195423, in press, 17/05/2016.
Type of production: Scientific paper **Format:** Journal
Impact source: SCOPUS
Impact index in year of publication: 3.83

Citations: 3

9 D. Lacour; B. Canals; I.A. Chioar; V.D. Nguyen; M. Hehn; F. Montaigne; A Locatelli; T.O. Mente?; Benito Santos; N. Rougemaille. Fragmentation of magnetism in artificial kagome dipolar spin ice. Nat. Comm.7 - 11446, 13/05/2016.

Type of production: Scientific paper

Impact source: SCOPUS

Impact index in year of publication: 12.12

Citations: 46

10 S. Jamet; S. Da Col; N. Rougemaille; A. Wartelle; A. Locatelli; T.O. Mente?; B. Santos Burgos; R. Afid; L. Cagnon; J. Bachmann; S. Bochmann; O. O.; J.C. J.C.. Quantitative analysis of shadow X-ray Magnetic Circular Dichroism Photo-Emission Electron Microscopy. Physical Review B. 92 - 144428, 01/06/2015.

Type of production: Scientific paper **Format:** Journal

Impact source: ISI

Impact index in year of publication: 3.73

Citations: 16

11 I. A. Chioar; B. Canals; D. Lacour; M. Hehn; B. Santos Burgos; T. O. Mentes; A. Locatelli; F. Montaigne; N. Rougemaille. Kinetic pathways to the magnetic charge crystal in artificial dipolar spin ice". Phys. Rev. B. 90 - 220407, 15/12/2014.

Type of production: Scientific paper **Format:** Journal

Impact source: ISI

Impact index in year of publication: 3.73

Citations: 25

12 David C. Grinter; Chris Muryn; Benito Santos; Bobbie-Jean Shaw; Tevfik O. Mente?; Andrea Locatelli; Geoff Thornton. Spectromicroscopy of a Model Water–Gas Shift Catalyst: Gold Nanoparticles Supported on Ceria. J. Phys. Chem. C,. 118 - 33, pp. 19194 - 19204. 21/07/2014.

Type of production: Scientific paper **Format:** Journal

Impact source: ISI

Impact index in year of publication: 4.77

Citations: 16

13 S. Da Col; S. Jamet; N. Rougemaille; A. Locatelli; T. O. Mentes; B. Santos Burgos; R. Afid; M. Darques; L. Cagnon; J. C. Toussaint; O. Fruchart. Observation of Bloch-point domain walls in cylindrical magnetic nanowires. Phys. Rev. B. 89 - 180405, 12/05/2014.

Type of production: Scientific paper **Format:** Journal

Impact source: ISI

Impact index in year of publication: 3.73

Citations: 74

14 F. Montaigne; D. Lacour; I. A. Chioar; N. Rougemaille; D. Louis; S. Mc Murtry; H. Riahi; B. Santos Burgos; T. O. Mente?; A. Locatelli; B. Canals; M. Hehn. Size distribution of magnetic charge domains in thermally activated but out-of-equilibrium artificial spin ice. Scientific Reports. 4 - 5702, 18/03/2014.

Type of production: Scientific paper **Format:** Journal

Impact source: ISI
Impact index in year of publication: 5.57

Citations: 27

15 S. Vlaic; A. Kimouche; J. Coraux; B. Santos; A. Locatelli; N. Rougemaille. Cobalt intercalation at the graphene/iridium interface: influence of rotational domains, wrinkles and atomic steps". Materials Science. 104 - 101602, 13/03/2014.
Type of production: Scientific paper **Format:** Journal
Impact source: ISI
Impact index in year of publication: 2.37

Citations: 35

16 Jürgen Kraus; Sebastian Böcklein; Robert Reichelt; Sebastian Günther; benito santos; Tevfik O mentes; andrea locatelli. Towards the perfect graphene membrane? Improvement and limits during formation of high quality graphene grown on Cu-foils. carbon. 64, pp. 377 - 390. 22/09/2013.
Type of production: Scientific paper **Format:** Journal
Impact source: ISI
Impact index in year of publication: 6.16

Citations: 32

17 D Alfe; M Pozzo; E Miniussi; S Gunther; P. Lacovig; benito santos; S. Lizzit; A Baraldi; T.O. Mentes; A Locatelli. Fine tuning of graphene-metal adhesion by surface alloying. Scientific Reports. 3 - 2430, 29/07/2013.
Type of production: Scientific paper **Format:** Journal
Impact source: ISI
Impact index in year of publication: 5.07

Citations: 27

18 David C. Grinter; Chi-Ming Yim; Chi L. Pang; Benito Santos; Andrea Locatelli; Tevfik O. Mentes; Geoff Thornton. Oxidation State Imaging of Ceria Island Growth on Re(0001). J. Phys. Chem. C. 117 - 32, pp. 16509 - 16514. 23/07/2013.
Type of production: Scientific paper **Format:** Journal
Impact source: ISI
Impact index in year of publication: 4.82

Citations: 22

19 M. Monti; B. Santos; A. Mascaraque; O. Rodriguez de la Fuente; M.A. Niño; T.O. Mentes; A. locatelli; K.F. McCarty; J.F. Marco; J. de la Figuera. Oxidation Pathways in Bicomponent Ultrathin Iron Oxide Films. J. Phys. Chem C. 116, pp. 11539. 03/05/2012.
Type of production: Scientific paper **Format:** Journal
Impact source: ISI
Impact index in year of publication: 4.82

Citations: 31

20 Benito Santos; S. Gallego; A. Mascaraque; K.F. McCarty; A. Quesada; A.T. N'Diaye; A. Schmid; J. de la Figuera. Hydrogen-induced reversible spin-reorientation transition and magnetic stripe domain phase in bilayer Co on Ru(0001). Physical Review B. 85, pp. 134409. 04/04/2012.

Type of production: Scientific paper **Format:** Journal
Impact source: ISI
Impact index in year of publication: 3.76
Citations: 11

21 M. Monti; Benito Santos; T.O. Mentes; O. Rodriguez de la Fuente; A. Mascaraque; M.A. Niño; A. Locatelli; J.F. Marco; J. de la Figuera. Magnetism in nanometer-thick magnetite. Physical Review B. 85, pp. 020404. 11/01/2012.
Type of production: Scientific paper **Format:** Journal
Impact source: Research gate
Impact index in year of publication: 3.76
Citations: 59
Relevant publication: No

22 J.I. Cerda; 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 - 87, 11/12/2011.
Type of production: Scientific paper **Format:** Journal
Impact source: ISI
Impact index in year of publication: 6.21
Citations: 17

23 T. Herranz; Benito Santos; K.F. McCarty; J. de la Figura. Real-space study of the growth of magnesium on ruthenium. Surface science. 605, pp. 903 - 911. 01/05/2011.
Type of production: Scientific paper **Format:** Journal
Impact source: ISI
Impact index in year of publication: 1.99
Citations: 5

24 J.E. Alfonso; J. Buitrago; J. Torres; J.F. Marco; Benito Santos. Influence of fabrication parameters on crystalization, microstructure and surface composition of NbN thin films deposited by RF magnetron sputtering. Journal of materials science. 45 - 20, 11/10/2010.
Type of production: Scientific paper **Format:** Journal
Impact source: ISI
Impact index in year of publication: 1.85
Citations: 33

25 M. Thompson; T. Herranz; Benito Santos; J.F. Marco; J.F. Berry; C. Graves. The ionic conductivity and local environment of cations in Bi9ReO17. Journal of Solid State Chemistry. 183, pp. 1985 - 1991. 01/09/2010.
Type of production: Scientific paper **Format:** Journal
Impact source: ISI
Impact index in year of publication: 2.26
Citations: 4

26 H. El Shinawi; A. Bertha; J. Hadermann; T. Herranz; Benito Santos; J.F. Marco; F.J. Berry. Synthesis and characterization of La1+x-Sr2?x-CoMnO7?? (x=0,0.2; ?=0,1). Journal of Solid State Chemistry. 183 - 6, pp. 2261 - 2269. 01/06/2010.

Type of production: Scientific paper **Format:** Journal

Impact source: ISI

Impact index in year of publication: 2.26

Citations: 10

27 Benito Santos; J.M. Puerta; J.I. Cerda; T. Herranz; K.F. McCarty; J. de la Figuera. Structure of ultrathin Pd films determined by low-energy electron microscopy and diffraction. New Journal of Physics. 12 - 023023, 01/02/2010.

Type of production: Scientific paper **Format:** Journal

Impact source: ISI

Impact index in year of publication: 3.84

Citations: 16

28 T Herranz; K.F. McCarty; Benito Santos; M. Monti; J. de la Figuera. Real space observations of magnesium hydride formation and decomposition. Chemistry materials. 22, pp. 1291 - 1293. 28/01/2010.

Type of production: Scientific paper **Format:** Journal

Impact source: ISI

Impact index in year of publication: 6.39

Citations: 6

29 Benito Santos; E. Legionova; A. Mascaraque; A. K. Schmid; K.F. McCarty; Juan de la Figuera. Structure and magnetism in ultra thin iron oxides by low energy electron microscopy. Journal of physics C. 21, 13/08/2009.

Type of production: Scientific paper **Format:** Journal

Impact source: ISI

Impact index in year of publication: 4.22

Citations: 29

30 J.E. Alfonso; J. Buitrago; J. Torres; Benito Santos; J.F. Marco. Crystallographic structure and surface composition of NbN x thin films grown by rf magnetron sputtering. Microelectronics Journal. 39, pp. 1327 - 1328. 05/11/2008.

Type of production: Scientific paper **Format:** Journal

Impact source: ISI

Impact index in year of publication: 0.85

Citations: 16

31 Benito Santos; Juan M. Puerta; Jorge I. Cerda; Roland Stumpf; Kirsten von Bergmann; Roland Wiesendanger; Matthias Bode; Kevin F. McCarty; Juan de la Figuera. Structure and magnetism of ultrathin Cr layers on W(110). New journal of physics. 10 - 013005, IOP, 01/01/2008.

Type of production: Scientific paper **Format:** Journal

Impact source: ISI

Impact index in year of publication: 3.44

Citations: 26

32 Benito Santos Burgos; N. Stojic; Jorge Iribas Cerda; J. M. Puerta; C. Binns; J. A. De Toro; R. Lopez-Martin; Davide Peddis; T. O. Menteș; A. Locatelli. Structure and magnetism in ultra-thin hcp Fe films on Re(0001). in preparation 2021.
Type of production: Scientific paper

33 Andreas K Schmid; Arantzazu Mascaraque; Benito Santos; Juan de la Figuera. Gas sensor. 09/09/2014.
Type of production: Patent
Format: Scientific and technical document or report
Citations: 4

Relevant results: US Patent 8,826,726, 2014

Works submitted to national or international conferences

1 **Title of the work:** Structure and magnetism in ultra-thin hcp Fe films on Re(0001)
Name of the conference: LEEM PEEM 8
Type of event: Conference
Type of participation: 'Participatory - poster
City of event: Hong Kong,
Date of event: 12/11/2012
End date: 15/11/2012
Benito Santos; T.O. Mentes; J. I. Cerda; J. M. Puerta; A. Locatelli.

2 **Title of the work:** Structure and magnetism of ultra-thin hcp Fe layers on Re(0001)
Name of the conference: ECOSS29
Type of event: Conference
Type of participation: Participatory - oral communication
City of event: Edimburgo, United Kingdom
Date of event: 03/09/2012
End date: 07/09/2012
City organizing entity: Edimburgo, United Kingdom
Benito Santos.

3 **Title of the work:** Controlling the magnetic anisotropy in the cobalt bilayer with hydrogen
Name of the conference: Nanospain2011
Type of event: Conference
Type of participation: 'Participatory - poster
City of event: Bilbao, Basque Country, Spain
Date of event: 11/04/2011
Organising entity: PHANTOMS Foundation
Benito Santos; L. Vergara; A. Mascaraque; A. Quesada; A. N'Diaye; A.K. Schmid; K.F. McCarty; J. de la Figuera.

4 **Title of the work:** Structure and growth of ultra-thin Mg and MgO layers on Ru(0001)
Name of the conference: Fuerzas y túnel
Type of event: Conference
Type of participation: 'Participatory - poster
City of event: Tarragona, Catalonia, Spain
Date of event: 28/09/2010
Benito Santos; T. Herranz; K.F. McCarty; J. de la Figuera.

5 **Title of the work:** Controlling the magnetization direction with hydrogen
Name of the conference: NANOSPAIN2010
Corresponding author: Yes
City of event: Málaga,
Date of event: 23/03/2010
End date: 26/03/2010
Organising entity: Phanton foundation
Juan de la Figuera; Andreas K. Schmid; Arantzazu Mascaraque; Benito Santos.

6 **Title of the work:** Spin reorientation transition upon hydrogen exposure in bilayer cobalt films on Ru(0001)
Name of the conference: Intermag
Type of event: Conference
Type of participation: 'Participatory - poster
City of event: United States of America
Date of event: 04/05/2009
Organising entity: IEE International Magnetic Conference Intermag
Benito Santos; A. Mascaraque; A.K. Schmid; K.F. McCarty; J. de la Figuera.

7 **Title of the work:** Ultra -thin film magnetite islands studied by spin-polarized low energy electrón microscopy
Name of the conference: Intermag
Type of event: Conference
Type of participation: Participatory - oral communication
City of event: United States of America
Date of event: 04/05/2009
Organising entity: IEE International Magnetic Conference Intermag
Benito Santos; L. Legionova; A. Mascaraque; A.K. Schmid; K.F. McCarty; J. de la Figuera.

8 **Title of the work:** Hydrogen incorporation into palladium ultra-thin-films by Loe energy electrón microscopy
Name of the conference: Nanospain2009
Type of event: Conference
Type of participation: 'Participatory - poster
City of event: Zaragoza, Aragon, Spain
Date of event: 09/03/2009
Organising entity: PHANTOMS Foundation
Benito Santos; J.I. Cerda; J.M. Puerta; T. Herranz; J. de la Figuera; K.F. McCarty.

9 **Title of the work:** Response of Ultra-Thin Palladium Films to Hydrogen Exposure Studied by Low Energy Electron Microscopy and Diffraction
Name of the conference: AVS 55
Type of event: Conference
Type of participation: Participatory - oral communication
City of event: Boston, United States of America
Date of event: 12/10/2008
Organising entity: AVS International Symposium and Exhibition
Benito Santos; J.I. Cerda; J.M. Puerta; J. de la Figuera; K.F. McCarty.

10 **Title of the work:** Structure and magnetism in ultra-thin Cr layers on W(110)
Name of the conference: Intermag
Type of event: Conference
Type of participation: Participatory - oral communication

City of event: Madrid, Community of Madrid, Spain
Date of event: 04/05/2008
Organising entity: IEE International Magnetic Conference Intermag
Benito Santos; J.I. Cerda; J.M. Puerta; R. Stumpf; K. von Bergmann; R. Wiesendanger; K. McCarty; M. Bode; J. de la Figuera.

11 **Title of the work:** Título: Structure and magnetism in ultra-thin Cr layers on W(110): How well do experiments and theory agree?
Name of the conference: 17th International vacuum congress(IVC-17)
Type of event: Conference
Type of participation: 'Participatory - poster
City of event: Stockholm, Sweden
Date of event: 02/07/2007
Organising entity: International Vacuum Congress
Benito Santos; J.I. Cerda; J.M. Puerta; R. Stumpf; J. de la Figuera; K.F. McCarty.

Other achievements

Stays in public or private R&D centres

1 **Entity:** Sincrotrón Elettra — **Type of entity:** R&D Centre
City of entity: Trieste, Friuli-Venezia Giulia, Italy
Start-End date: 14/10/2011 - 14/10/2013 — **Duration:** 2 years
Goals of the stay: Post-doctoral

2 **Entity:** Sandia National Laboratories California USA — **Type of entity:** Public Research Body
City of entity: Livermore, United States of America
Start date: 2010 — **Duration:** 3 months
Goals of the stay: Guest

3 **Entity:** Lawrence Berkeley National Laboratories — **Type of entity:** Public Research Body
City of entity: Berkeley, United States of America
Start date: 2009 — **Duration:** 3 months
Goals of the stay: Guest

4 **Entity:** Universisdad de New Hampshire — **Type of entity:** University
City of entity: Durham, United States of America
Start date: 2008 — **Duration:** 3 months
Goals of the stay: Guest
Provable tasks: fabricación de microscopios de efecto túnel

5 **Entity:** Sandia National Laboratories California — **Type of entity:** Public Research Body
City of entity: Livermore, United States of America
Start date: 2008 — **Duration:** 2 months
Goals of the stay: Guest