

ARTICLES IN JOURNALS

2014



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CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS

ARTICLES IN JOURNALS 2014

ICMAB's researchers published 264 articles in international scientific journals in 2014. In this report you can find them ordered by research sublines and ranked according their Impact Factor. Forty-four of them belong to two sublines and are repeated in each one.

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Articles in Journals 2014

1. MATERIALS FOR INFORMATION SCIENCE AND ELECTRONICS

1.1 Nanostructured magnetic materials and novel functional oxides

1. Farokhipoor, S; Magen, C; Venkatesan, S; Íñiguez, J; Daumont, CJM; Rubi, D; Snoeck, E; Mostovoy, M; de Graaf, C; Muller, A; Doblinger, M; Scheu, C; Noheda, B
Artificial chemical and magnetic structure at the domain walls of an epitaxial oxide
 (2014) *Nature*, 515 (7527), pp. 379-383
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2. Heron, JT; Bosse, JL; He, Q; Gao, Y; Trassin, M; Ye, L; Clarkson, JD; Wang, C; Liu, J; Salahuddin, S; Ralph, DC; Schlom, DG; Íñiguez, J; Huey, BD; Ramesh, R
Deterministic switching of ferromagnetism at room temperature using an electric field
 (2014) *Nature*, 516 (7531), pp. 370-373
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3. Marti, X; Fina, I; Frontera, C; Liu, J; Wadley, P; He, Q; Paull, RJ; Clarkson, JD; Kudrnovsky, J; Turek, I; Kunes, J; Yi, D; Chu, JH; Nelson, CT; You, L; Arenholz, E; Salahuddin, S; Fontcuberta, J; Jungwirth, T; Ramesh, R
Room-temperature antiferromagnetic memory resistor
 (2014) *Nature Materials*, 13 (4), pp. 367-374
4. Carretero-Genevrièr, A; Puig, T; Obradors, X; Mestres, N
Ferromagnetic 1D oxide nanostructures grown from chemical solutions in confined geometries
 (2014) *Chemical Society Reviews*, 43 (7), pp. 2042-2054
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Chemical solution route to self-assembled epitaxial oxide nanostructures
 (2014) *Chemical Society Reviews*, 43 (7), pp. 2200-2225
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Tailored surfaces of perovskite oxide substrates for conducted growth of thin films
 (2014) *Chemical Society Reviews*, 43 (7), pp. 2272-2285
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7. Gich, M; Fina, I; Morelli, A; Sánchez, F; Alexe, M; Gàzquez, J; Fontcuberta, J; Roig, A
Multiferroic Iron Oxide Thin Films at Room Temperature
 (2014) *Advanced Materials*, 26 (27), pp. 4645-4652

8. Radaelli, G; Petti, D; Plekhanov, E; Fina, I; Torelli, P; Salles, BR; Cantoni, M; Rinaldi, C; Gutierrez, D; Panaccione, G; Varela, M; Picozzi, S; Fontcuberta, J; Bertacco, R
Electric control of magnetism at the Fe/BaTiO₃ interface
(2014) *Nature Communications*, 5, 3404

9. Zhao, HJ; Ren, W; Yang, YR; Íñiguez, J; Chen, XM; Bellaiche, L
Near room-temperature multiferroic materials with tunable ferromagnetic and electrical properties
(2014) *Nature Communications*, 5, 4021
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10. Fina, I; Marti, X; Yi, D; Liu, J; Chu, JH; Rayan-Serrao, C; Suresha, S; Shick, AB; Zelezny, J; Jungwirth, T; Fontcuberta, J; Ramesh, R
Anisotropic magnetoresistance in an antiferromagnetic semiconductor
(2014) *Nature Communications*, 5, 4671

11. Coll, M; Moreno, JMM; Gàzquez, J; Nielsch, K; Obradors, X; Puig, T
Low Temperature Stabilization of Nanoscale Epitaxial Spinel Ferrite Thin Films by Atomic Layer Deposition
(2014) *Advanced Functional Materials*, 24 (34), pp. 5368-5374

12. Drisko, GL; Carretero-Genevrièr, A; Gich, M; Gàzquez, J; Ferrah, D; Grosso, D; Boissiere, C; Rodriguez-Carvajal, J; Sanchez, C
Water-Induced Phase Separation Forming Macrostructured Epitaxial Quartz Films on Silicon
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Direct Monolithic Integration of Vertical Single Crystalline Octahedral Molecular Sieve Nanowires on Silicon
(2014) *Chemistry of Materials*, 26 (2), pp. 1019-1028

14. Bhattacharjee, S; Rahmedov, D; Wang, DW; Íñiguez, J; Bellaiche, L
Ultrafast Switching of the Electric Polarization and Magnetic Chirality in BiFeO₃ by an Electric Field
(2014) *Physical Review Letters*, 112 (14), 147601
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Two-Dimensional Electron Gases at LaAlO₃/SrTiO₃ Interfaces: Orbital Symmetry and Hierarchy Engineered by Crystal Orientation
(2014) *Physical Review Letters*, 113 (15), 156802
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(2014) *Nanoscale*, 6 (12), pp. 6646-6650

17. Padilla-Pantoja, J; Herrero-Martin, J; Gargiani, P; Valvidares, SM; Cuartero, V; Kummer, K; Watson, O; Brookes, NB; García-Muñoz, JL
Stability of the Cationic Oxidation States in Pr_{0.50}Sr_{0.50}CoO₃ across the Magnetostructural Transition by X-ray Absorption Spectroscopy
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 (2014) *Inorganic Chemistry*, 53 (23), pp. 12297-12304
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Neutron and X-ray diffraction study of ferrite nanocrystals obtained by microwave-assisted growth. A structural comparison with the thermal synthetic route
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20. Bachelet, R; de Coux, P; Warot-Fonrose, B; Skumryev, V; Niu, G; Vilquin, B; Saint-Girons, G; Sánchez, F
Functional spinel oxide heterostructures on silicon
 (2014) *Crystengcomm*, 16 (47), pp. 10741-10745
21. Caicedo, JM; Fontcuberta, J; Herranz, G
Magnetopolaron-induced optical response in transition metal oxides
 (2014) *Physical Review B*, 89 (4), 45121
22. Gutierrez, D; Radaelli, G; Sánchez, F; Bertacco, R; Fontcuberta, J
Bandwidth-limited control of orbital and magnetic orders in half-doped manganites by epitaxial strain
 (2014) *Physical Review B*, 89 (7), 75107
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Barocaloric and magnetocaloric effects in Fe₄₉Rh₅₁
 (2014) *Physical Review B*, 89 (21), 214105
24. Urcelay-Olabarria, I; Ressouche, E; Mukhin, AA; Ivanov, VY; Kadomtseva, AM; Popov, YF; Vorob'ev, GP; Balbashov, AM; García-Muñoz, JL; Skumryev, V
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 (2014) *Applied Physics Letters*, 104 (15), 152406

26. Scigaj, M; Dix, N; Cabero, M; Rivera-Calzada, A; Santamaria, J; Fontcuberta, J; Herranz, G; Sánchez, F
Yttria-stabilized zirconia/SrTiO₃ oxide heteroepitaxial interface with symmetry discontinuity
 (2014) *Applied Physics Letters*, 104 (25), 251602
27. de Coux, P; Bachelet, R; Warot-Fonrose, B; Skumryev, V; Lupina, L; Niu, G; Schroeder, T; Fontcuberta, J; Sánchez, F
Epitaxial ferromagnetic oxide thin films on silicon with atomically sharp interfaces
 (2014) *Applied Physics Letters*, 105 (1), 12401
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 (2014) *Applied Physics Letters*, 105 (14), 142402
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Engineering the microstructure and magnetism of La₂CoMnO_{6.8} thin films by tailoring oxygen stoichiometry
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A Novel Solventless Coating Method to Graft Low-Molecular Weight Polyethyleneimine on Silica Fine Powders
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31. Salerno, A; Domingo, C
Making microporous nanometre-scale fibrous PLA aerogels with clean and reliable supercritical CO₂ based approaches
 (2014) *Microporous and Mesoporous Materials*, 184, pp. 162-168
32. Vranjes, M; Konstantinovic, Z; Pomar, A; Jakovljevic, JK; Stoiljkovic, M; Nedeljkovic, JM; Saponjic, Z
Room-temperature ferromagnetism in Ni²⁺ doped TiO₂ nanocrystals synthesized from nanotubular precursors
 (2014) *Journal of Alloys and Compounds*, 589, pp. 42-47
33. Craciun, V; Sánchez, F; Paumier, F; Kumar, D
European Materials Research Society Fall Meeting 2013, Symposium B: Stress, structure and stoichiometry effects on the properties of nanomaterials II Preface
 (2014) *Applied Surface Science*, 306, pp. 1
34. Amano, ME; Betancourt, I; Llamazares, JLS; Huerta, L; Sanchez-Valdes, CF
Mixed-valence La_{0.80}(Ag_{1-x}Sr_x)_{0.20}MnO₃ manganites with magnetocaloric effect
 (2014) *Journal of Materials Science*, 49 (2), pp. 633-641

35. Valencia, S; Pena, L; Konstantinovic, Z; Balcells, LI; Galceran, R; Schmitz, D; Sandiumenge, F; Casanove, M; Martínez, B
Intrinsic antiferromagnetic/insulating phase at manganite surfaces and interfaces
 (2014) *Journal of Physics-Condensed Matter*, 26 (16), 166001
36. Blasco, J; Garcia, J; Subias, G; Stankiewicz, J; Lafuerza, S; Rodriguez-Velamazan, JA; Ritter, C; García-Muñoz, JL
Effects of A-site disorder in the properties of A_2CoMnO_6 (A = La, Tb)
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Macroscopic evidence of nanoscale resistive switching in $La_{2/3}Sr_{1/3}MnO_3$ micro-fabricated bridges
 (2014) *Journal of Physics-Condensed Matter*, 26 (39), 395010
38. Cortes-Huerto, R; Sondon, T; Saul, A
Molecular dynamics simulations of the formation of 1D spin-valves from stretched Au-Co and Pt-Co nanowires
 (2014) *Journal of Physics-Condensed Matter*, 26 (47), 474206
39. Stern-Taulats, E; Castillo-Villa, PO; Manosa, L; Frontera, C; Pramanick, S; Majumdar, S; Planes, A
Magnetocaloric effect in the low hysteresis Ni-Mn-In metamagnetic shape-memory Heusler alloy
 (2014) *Journal of Applied Physics*, 115 (17), 173907
40. Padilla-Pantoja, J; Herrero-Martin, J; Torrelles, X; Bozzo, B; Blasco, J; Ritter, C; García-Muñoz, JL
The low temperature magnetostructural transition in $Pr_{0.50}Sr_{0.50}CoO_3$: Bulk versus thin film behavior
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Enhanced spontaneous magnetization in the core of nickel nanoparticles
 (2014) *Journal of Magnetism and Magnetic Materials*, 363, pp. 195-200
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 (2014) *Thin Solid Films*, 553, pp. 7-12
43. Epifani, M; Zamani, R; Arbiol, J; Fabrega, C; Andreu, T; Pace, GB; Siciliano, P; Morante, JR
Soft chemistry routes to transparent metal oxide thin films. The case of sol-gel synthesis and structural characterization of Ta_2O_5 thin films from tantalum chloromethoxide
 (2014) *Thin Solid Films*, 555, pp. 39-41

44. Muñoz-Rojas, D; MacManus-Driscoll, J
Spatial atmospheric atomic layer deposition: a new laboratory and industrial tool for low-cost photovoltaics
(2014) *Materials Horizons*, 1 (3), pp. 314-320
45. Pesquera, D; Wojcik, M; Jedryka, E; Laukhin, V; Dix, N; Sánchez, F; Herranz, G; Fontcuberta, J
Interface and Bulk Charge Localization in Manganite Thin Films
(2014) *Advanced Materials Interfaces*, 1 (6), 1400079
46. Oró-Solé, J; Clark, L; Kumar, N; Bonin, W; Sundaresan, A; Attfield, JP; Rao, CNR; Fuertes, A
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(2014) *Journal of Materials Chemistry C*, 2 (12), pp. 2212-2220
47. Vlasin, O; Pascu, O; Roig, A; Herranz, G
Expanding Effective-Medium Theory to Optical Diamagnetic Responses in Magnetoplasmonic Colloids
(2014) *Physical Review Applied*, 2 (5), 54003
48. Zabaleta, J; Jaafar, M; Asenjo, A; Agramunt-Puig, S; Del-Valle, N; Navau, C; Sanchez, A; Puig, T; Obradors, X; Mestres, N
Magnetic vortex evolution in self-assembled $La_{0.7}Sr_{0.3}MnO_3$ nanoislands under in-plane magnetic field
(2014) *APL Materials*, 2 (7), 76111
49. Ruffer, D; Slot, M; Huber, R; Schwarze, T; Heimbach, F; Tutuncuoglu, G; Matteini, F; Russo-Averchi, E; Kovacs, A; Dunin-Borkowski, R; Zamani, RR; Morante, JR; Arbiol, J; Morral, AFI; Grundler, D
Anisotropic magnetoresistance of individual CoFeB and Ni nanotubes with values of up to 1.4% at room temperature
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1.2 Semiconductors and molecular materials with electronic, opto-electronic and magnetic functionalities

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Silicon-Germanium Nanowires: Chemistry and Physics in Play, from Basic Principles to Advanced Applications
(2014) *Chemical Reviews*, 114 (2), pp. 1371-1412
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Intraband Absorption in Self-Assembled Ge-Doped GaN/AlN Nanowire Heterostructures
(2014) *Nano Letters*, 14 (3), pp. 1665-1673
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Highly Conductive Single-Molecule Wires with Controlled Orientation by Coordination of Metalloporphyrins
(2014) *Nano Letters*, 14 (8), pp. 4751-4756

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(2014) *Advanced Functional Materials*, 24 (15), pp. 2116-2134

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Spectroscopic Evaluation of Mixing and Crystallinity of Fullerenes in Bulk Heterojunctions
(2014) *Advanced Functional Materials*, 24 (44), pp. 6972-6980

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(2014) *Nano Research*, 7 (10), pp. 1556-1568
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 (2014) *ACS Applied Materials & Interfaces*, 6 (4), pp. 2235-2240
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A Compact Tetrathiafulvalene-Benzothiadiazole Dyad and Its Highly Symmetrical Charge-Transfer Salt: Ordered Donor π -Stacks Closely Bound to Their Acceptors
 (2014) *Chemistry-A European Journal*, 20 (23), pp. 7136-7143
65. Geng, Y; Pfattner, R; Campos, A; Wang, W; Jeannin, O; Hauser, J; Puigdollers, J; Bromley, ST; Decurtins, S; Veciana, J; Rovira, C; Mas-Torrent, M; Liu, SX
HOMO Stabilisation in π -Extended Dibenzotetrathiafulvalene Derivatives for Their Application in Organic Field-Effect Transistors
 (2014) *Chemistry-A European Journal*, 20 (50), pp. 16672-16679
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Magnetic Interactions in Spin-Labeled Au Nanoparticles
 (2014) *Journal of Physical Chemistry C*, 118 (37), pp. 21622-21629

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Huge Magnetic Anisotropy in a Trigonal-Pyramidal Nickel(II) Complex
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Anion- π and Halide-Halide Nonbonding Interactions in a New Ionic Liquid Based on Imidazolium Cation with Three-Dimensional Magnetic Ordering in the Solid State
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Restrains in low dimensional organic semiconductor devices at high current densities
(2014) *Organic Electronics*, 15 (1), pp. 211-215
73. Llobet, J; Sansa, M; Gerboles, M; Mestres, N; Arbiol, J; Borriase, X; Perez-Murano, F
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Using high pressure to unravel the mechanism of visible emission in amorphous Si/SiO_x nanoparticles
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