

Schedule:

18 February 2010

9:00 - 9:15 Opening

Session I

- 9:15 - 9:35 Joao Lopes dos Santos (Univ. Porto)
The twisted bilayer: an experimental and theoretical review
- 9:35 - 9:55 Eduardo Castro (Univ. Porto)
Acoustic phonon scattering in doped suspended grapheme
- 9:55 - 10:15 Jaime Santos (Univ. Minho e Univ. Porto)
Electronic doping of graphene by deposited transition metal atoms
- 10:15 - 10:30 Ricardo Mendes Ribeiro (Univ. Minho)
DFT calculations on graphene

Coffee Break

Session II

- 11:00 - 11:20 Yuri Pogorelov (Univ. Porto)
Magnetic field strength and orientation effects in CoFe/Al₂O₃
discontinuous layers close to percolation
- 11:20 - 11:40 Manuel António Salgueiro da Silva (Univ. Porto)
Electron mass enhancement effects on the spin disorder resistivity of
Gd₄(Co_{1-x}Cu_x)₃ compounds
- 11:40 - 12:00 Vítor Amaral (Univ. Aveiro)
Nanosopic scale studies in magnetic and multiferroic material
- 12:00 - 12:20 José Moreira (Univ. Porto)
New insight on the effect of high magnetic field on the metamagnetic
phase transition of Gd₅Si₂Ge₂ and Tb₅Si₂Ge₂
- 12:20 - 12:35 A. Gonçalves (ITN)
Singularities of U-based intermetallics: the U₂Fe₃Ge case

Lunch

Session III

- 14:00 - 14:20 Iveta Pimentel (Univ. Lisboa)
Magnetic Properties of Doped Antiferromagnets
- 14:20 - 14:40 Vitalii Dugaev (IST, Rzeszow Univ.)
Spin Hall effect in a two-dimensional electron gas
with a random Rashba spin-orbit interaction
- 14:40 - 15:00 M. M. Cruz (Univ. Lisboa)
Magnetism in doped wide band gap semiconductors
- 15:00 - 15:20 David Schmool (Univ. Porto)
Static and dynamic properties of exchange- spring systems with
perpendicular anisotropy
- 15:20 - 15:40 Vitor Vieira (IST)
Magnetic dynamics of macrospins in nanosystems
- 15:40 - 16:00 Joao Amaral (Univ. Aveiro)
Novel scaling methods for mean-field and critical phenomena analysis
of ferromagnetic materials

Coffee Break and Poster Session

Session IV

- 17:40 - 18:00 Pedro Alpuim (Univ. Minho)
Fabrication of thin-film flexible silicon solar
cells and other electronic devices
- 18:00 - 18:15 Carlos Jose Tavares (Univ. Minho)
Enhancement of the photocatalytic nature of nitrogen-doped
PVD-grown titanium dioxide thin films on glass and
electro-active polymer substrates
- 18:15 - 18:30 Pedro Martins (Univ. Minho)
Synthesis and characterization of PVDF/CoFe₂O₄ and PVDF/NiFe₂O₄
nanocomposites
- 18:30 - 18:45 Thomas Gasche (Univ. Lisboa, Academia
Militar)
On the calculation of the cubic and hexagonal phases of BaFeO
- 18:45 - 19:00 Gonçalo Nuno de Pinho Oliveira (Univ. Lisboa e
Univ.Porto)
Local Environment in multiferroic AgCrO₂

19 February 2010

Session V

- 9:00 - 9:20 Manuel Almeida (ITN)
1D Systems with conducting and magnetic chains; Magnetic field and pressure effects
- 9:20 - 9:40 Jose Carmelo (Univ. Minho)
d-wave superconductivity in a square-lattice quantum liquid perturbed by weak 3D uniaxial anisotropy
- 9:40 - 10:00 Antonio Garcia-Garcia (IST)
Finite size effects in BCS superconductivity: theory and experiments
- 10:00 - 10:15 Luis Miguel Fortuna Rodrigues Martelo (Univ. Porto)
Exact solution for a boson-fermion model and application to ultra-cold atoms
- 10:15 - 10:30 Patrizia Monachesi (Univ. dell'Aquila e Univ. Lisboa)
Metallic Surfaces as Optical Probes for Absorption of Organic Molecules

Coffee Break

Session VI

- 11:00 - 11:20 Joao Figueirinhas (IST)
Molecular order studies in V shaped mesogens exhibiting a biaxial nematic phase using Deuterium NMR
- 11:20 - 11:40 Carlos Cruz (IST)
Molecular structure and biaxial nematic ordering in thermotropic liquid crystal
- 11:40 - 12:00 José Maria Tavares (Univ. Lisboa)
How patchy can one get and still condense? The role of dissimilar interactions in the criticality and percolation of colloids
- 12:00 - 12:15 Fabian Vaca Chavez (Univ. Lisboa)
Proton multiple-quantum NMR as a tool to study reptation dynamics in polymer melt
- 12:15 - 12:30 Pedro Lind (Univ. Lisboa)
Recent trends for applications of Markov data analysis

Lunch

Session VII

- 14:00 - 14:20 Reinhard Horst Schwarz (IST)
RF-Plasma-assisted PLD growth of GaN and ZnO thin films
- 14:20 - 14:40 Olinda Conde (Univ. Lisboa)
Anomalous magnetotransport and thermoelectric properties of Fe₃O₄ thin films on Si(100)
- 14:40 - 15:00 Helena Cruz (Univ. Lisboa)
Dark states in homogeneous atomic-molecular Bose-Einstein condensates
- 15:00 - 15:20 Tom Girard (Univ. Lisboa)
Spontaneous Vortex Formation in Systems with Local Gauge Invariance
- 15:20 - 15:40 Vadim Ponomarenko (Univ. Minho)
Anyon braiding in charge transfer statistics of fractional edge-state Mach-Zehnder interferometer
- 15:40 - 16:00 Andrii Ya. Vovk (Univ. Lisboa)
Magnetotransport properties of Fe/MgO Granular Multilayers
- 16:00 - 16:20 D Leitao (Univ. Porto)
Magnetotransport signatures on systems of nanohole arrays

Coffee Break

Session VIII

- 16:50 - 17:10 Tito Mendonça (IST)
Phaser: the phonon laser
- 17:10 - 17:30 Nikola Paunkovic (IST)
Quantum Information and Condensed Matter Physics
- 17:30 - 17:45 Nikolay I Polushkin (IST)
Combined electron resonance in the microwave standing field:
A new design for quantum information procession devices

Closing

Posters

1. João Rodrigues (Univ. Porto)
Edge reconstruction of graphene nanoribbons
2. Cátia Silva (Univ. Lisboa)
Titanium dioxide co-doped with iron and cobalt
3. Jaime Silva (Univ. Minho)
Effect of the fiber aspect ratio and orientation in the dielectric response of polymer-based nanocomposites
4. Fátima Cerqueira (Univ. Minho)
Erbium emission of nc-Si:Er grown by r.f. sputtering. Effect of crystal size and crystalline volume fraction on PL emission
5. Marta Jussara Souza da Rocha (Univ. Lisboa)
Magnetic nanoparticles of nickel and iron oxide
6. Joao Ventura (Univ. Porto)
Temperature dependent transport properties of MgO-based ultra-thin magnetic tunnel junctions: experiment and modeling
7. Hugo Gonçalves (Univ. Porto, Univ. Algarve)
Transport Processes in Metal-Insulator Granular Layers
8. Teresa Seixas (Univ. Porto)
Analysis of the magnetic specific heat of Gd₄Co₃ compound
9. Lúcia Silva (IST)
Synchronization of macrospins in nanosystems
10. A. Costa (Univ. Lisboa)
Nitrogen and Argon doped Zinc Oxide
11. Nelson Bernardino (Max Planck)
The interaction of interfaces with substrate
12. Rui Borges (Univ. Lisboa)
Magnetic properties of BaFeO₃ thin films deposited by pulsed injection MOCV
13. Elsa Lopes (ITN)
The search for new materials for thermoelectrical applications

14. Célia Sousa (Univ. Porto)
Pulsed electrodeposition of metal nanowires in nanoporous alumina
15. André Espinha (Univ. Porto)
Polar nano-structures for technical applications
16. Pedro Ribeiro (IST)
U(1) slave-particle study of the finite-temperature doped Hubbard model in one and two dimensions
17. Ricardo Dias (Univ. Aveiro)
Critical hybridization for the Kondo resonance in gapless systems
18. Miguel Araújo (Univ. Évora, IST)
Andreev reflection between a normal single-band metal and a Fe-pnictide superconductor
19. J. G. Barbosa (Univ. Minho)
Barium titanate thin films deposited by electrophoresis on p-doped Si(001) substrates
20. Andrea Parisi (Univ. Lisboa)
Pattern dynamics in eutectic solidification
21. Pedro Patrício (ISEL)
Complete wetting transitions of nematic liquid crystals on a structured substrate
22. Nuno Silvestre (Univ. Lisboa)
Islands in free standing smectic C films
23. Frank Raischel (Univ. Lisboa)
Fiber bundle models for shear failure and plasticity
24. Pedro Sebastiao (IST)
NMR relaxation study of molecular dynamics of liquid crystalline organosiloxane tetrapodes and octapodes
25. Ganna Rozhnova (Univ. Lisboa)
Cluster approximations for infection dynamics on random networks
26. Maria Isabel Cabaço (IST)
Complex formation of carbon dioxide with benzene and hexafluorobenzene studied by Raman spectroscopy and ab initio calculations

27. Marcel Besnard (Univ. Lisboa)
Study of the interactions of water diluted in imidazolium-based ionic liquids using vibrational spectroscopy and DFT calculations

28. Reza M. Baram (Univ. Lisboa)
Applications of space-filling packings

Participants

Guilherme Nunes	(ISCTE)
Emiliano Fernandes Pinto	(Univ. Lisboa)
Margarida Telo da Gama	(Univ. Lisboa)
Paulo Ivo Teixeira	(Univ. Lisboa)
Vítor Torres	(Univ. Aveiro)
Laura Cristina Pereira	(ITN)
Daniel Gouveia	(Univ. Aveiro)
Margarida Godinho	(Univ. Lisboa)
Luís Miguel Almeida	(Univ. Aveiro)
Alexandre Araújo Lopes	(Univ. Aveiro)
Guiomar Evans	(Unv. Lisboa)
Liliana Ferreira	(Univ. Lisboa)
Pedro Castelo Ferreira	(IST)
Pedro Sacramento	(IST)
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