

Program

Sunday, April 18, 2021

| SD | Special Session for PhD students in Physics <i>(3 minutes – 3 slides presentation)</i> Chair persons: Dawid Nałęcz, Kamila Komędera | | |
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| 16:00-16:10 | Welcoming address | Hoa Kim Ngan Nhu-Tarnawska | |
| 16:10-16:15 | <i>The fracture toughness of TiB₂ doped by tungsten measured by the nanoindentation method</i> | Sylvia Sowa | SD-01 |
| 16:15-16:20 | <i>Is there a relationship between curvature and inductance in the Josephson junction?</i> | Aleksander Jarmoliński | SD-02 |
| 16:20-16:25 | <i>Electrical properties of sodium bismuth titanate Na_{0.5}Bi_{0.5}TiO₃ ceramics under various sintering conditions</i> | Kamila Kluczevska-Chmielarz | SD-03 |
| 16:25-16:30 | <i>Effect of Fe doping electric properties of Na_{0.5}B_{0.5}TiO₃ ceramics in unpoled and poled state</i> | Marcin Wąs | SD-04 |
| 16:30-16:35 | <i>Influence of E-poling on the structural, dielectric, vibrational and ferroelectric properties of Na_{0.5}Bi_{0.5}TiO₃ single crystals</i> | Michalina Nowakowska-Malczyk | SD-05 |
| 16:35-16:40 | <i>The electrocaloric effect in BaTiO₃:Eu ceramics determined by an indirect method</i> | Przemysław Gwizd | SD-06 |
| 16:40-17:00 | <i>Discussions</i> | | |

Monday, April 19, 2021

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| SO | <p>Opening Session Chair persons: Hoa Kim Ngan Nhu-Tarnawska, Silvie Mašková-Černá</p> | | |
| 8:45-9:00 | <p>Welcome address Honorary guests of CCFES2021: Michał Rogoż, Vice-Rector of the Pedagogical University of Cracow. Grzegorz Formicki, Dean of Faculty of Exact and Natural Science, Pedagogical University of Cracow.</p> | | |
| S1 | <p>Session 1: Plenary Lectures Chairperson: Ladislav Havela</p> | | |
| 9:00-9:45 | <i>Quantum criticality driven by magnetic field</i> | Dariusz Kaczorowski | PL-01 |
| 9:45-10:30 | <i>Superconductivity enhanced by atomic disorder</i> | Andrzej Ślebarski | PL-02 |
| 10:30-11:00 | <i>Break</i> | | |
| S2 | <p>Session 2: Historical recall of f-electrons research Chairperson: Hoa Kim-Ngan Nhu-Tarnawska</p> | | |
| 11:00-11:45 | <i>Research on Magnetism and Superconductivity of f-metal intermetallic compounds starting in the seventies of the 20th century.</i> | Jaap Franse | HI |
| S3 | <p>Session 3: Actinides I Chairperson: Silvie Mašková-Černá</p> | | |
| 11:45-12:15 | <i>Effects of composition on the UFe_xSb₂ system</i> | Antonio Pereira Gonçalves | I-01 |
| 12:15-12:30 | <i>Magnetic entropy analysis using a calculated phonon background – how does it work for UH₃?</i> | Ladislav Havela | O-01 |
| 12:30-14:00 | <i>Lunch break</i> | | |

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| S4 | Session 4: Rare Earths Chairperson: Artur Błachowski | | |
| 14:00-14:30 | <i>High-spin Ni states in a model for doped NiO₂ planes in NdNiO₂</i> | Andrzej Michał Oleś | I-02 |
| 14:30-14:45 | <i>Quest for new intermetallic f-electron compounds</i> | Tomasz Klimczuk | O-02 |
| 14:45-15:00 | <i>Local origin of strong field-angular anisotropy in magnetic phase diagrams of Ce_{1-x}La_xB₆ measured in a rotating magnetic field</i> | Dmytro Inosov | O-03 |
| 15:00-15:15 | <i>Investigating ground-states of 4f-based single-crystals by neutron diffraction</i> | Margarida S. Henriques | O-04 |
| 15:15-15:30 | <i>The influence of annealing temperature on the magnetic properties of La-doped BiFeO₃ prepared by sol-gel method</i> | Karolina Siedliska | O-05 |
| 15:30-16:00 | <i>Break</i> | | |
| S5 | Session 5: Theory Chairperson: Ryszard Radwański | | |
| 16:00-16:30 | <i>Towards a better understanding of the RKKY interaction in heavy-fermion systems</i> | Gertrud Zwicknagl | I-03 |
| 16:30-17:00 | <i>Enhanced Spin-Orbit Interaction in the Underscreened Anderson Lattice</i> | Peter Riseborough | I-04 |
| 17:00-17:15 | <i>Electronic structure of the non-centrosymmetric heavy-fermion CeRh₂As₂</i> | Évrard- Ouicem Eljaouhari | O-06 |
| 17:15-17:30 | <i>Non-s-wave superconductivity in noncentrosymmetric ThCoC-2 in view of ab initio calculations and Eliashberg formalism</i> | Gabriel Kuderowicz | O-07 |
| Tuesday, April 20, 2021 | | | |
| S6 | Session 6: Strongly correlated systems Chairperson: Andrzej Michał Oleś | | |

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| 9:00-9:30 | <i>Coherence in Kondo alloys</i> | Claudine Lacroix | I-05 |
| 9:30-10:00 | <i>Anisotropic Magnetic Field Dependence of Non-Fermi Liquid Behavior in Quadru-polar Kondo Compound $Pr_{0.05}La_{0.95}Pb_3$</i> | Tatsuya Kawae | I-06 |
| 10:00-10:15 | <i>Spin-orbital entanglement in magnetic quantum materials</i> | Dorota Gotfryd | O-08 |
| 10:15-10:30 | <i>Magnetism and crystal-field states in the Kondo-lattice antiferromagnet $CeRh_2Si_2$</i> | Ryszard Radwański | O-09 |
| 10:30-11:00 | <i>Break</i> | | |
| S7 | Session 7: Magnetism and superconductivity Chairperson: Zbigniew Tarnawski | | |
| 11:00-11:30 | <i>Magnetism, superconductivity and magneto-transport properties of Eu-based ternary pnictides</i> | Zbigniew Bukowski | I-07 |
| 11:30-12:00 | <i>Probing the superconducting state of Ce_3PtIn_{11}</i> | Jeroen Custers | I-08 |
| 12:00-12:15 | <i>^{57}Fe and ^{151}Eu Mössbauer studies of 3d-4f spin interplay in $EuFe_{2-x}Ni_xAs_2$</i> | Artur Błachowski | O-10 |
| 12:15-12:30 | <i>Effect of Gd doping on the magnetic properties of $CeNi_5$ melt-spun ribbons</i> | Andrea Dzubinska | O-11 |
| 12:30-14:00 | <i>Lunch break</i> | | |
| S8 | Session 8: Actinides II Chairperson: Antonio Pereira Gonçalves | | |
| 14:00-14:30 | <i>Non-collinear magnetism in $\beta-UH_3$</i> | Dominik Legut | I-09 |
| 14:30-14:45 | <i>Electrical Resistivity measured on FIB-structured microdevices</i> | Silvie Mašková-Černá | O-12 |
| 14:45-15:00 | <i>Why the cubic phase of uranium ?</i> | Kim-Ngan N.-T.H. | O-13 |

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| 15:00-15:15 | <i>Photoelectron spectroscopy and magnetism of U hydrides</i> | Oleksandra Koloskova | O-14 |
| 15:15-15:30 | <i>Magnetism and superconductivity in complex noncentrosymmetric $M_4Be_{33}Pt_{16}$ ($M = Y, La-Nd, Sm-Lu, Th, \text{ and } U$) compounds</i> | Primož Koželj | O-15 |
| 15:30-16:00 | <i>Break</i> | | |
| S9 | Session 9: Novel materials and techniques Chairperson: Zbigniew Bukowski | | |
| 16:00-16:30 | <i>TOF-SIMS uranium isotopes spectrometry of small and around-natural enrichment in the nuclear forensic science</i> | Itzhak Halevy | I-10 |
| 16:30-17:00 | <i>Revealing intrinsic properties of solid-state materials</i> | Eteri Svanidze | I-11 |
| 17:00-17:15 | <i>^{57}Fe Mössbauer studies of 122-iron arsenides</i> | T.T.Ha Nguyen | O-16 |
| 17:15-17:30 | <i>A typical heavy fermion system $CeRh_2As_2$</i> | Andrzej Ptok | O-17 |
| S11a | <i>EXAFS as a Probe of Actinide Oxide Formation in the Tender X-Ray Regime</i> | James Tobin | P1 |
| Posters | <i>Magnetism of $TmFe_4CoAl_7$ single crystal (authors: A.V. Andreev et al.)</i> | | P3 |
| <i>(3 minutes – 3 slides presentation)</i> | <i>Pseudogap state in untwinned $YBa_2Cu_3O_{7-\delta}$ single crystals (authors: Omelchenko L.V.)</i> | | P4 |
| 17:30-17:50 | <i>Magnetization-Induced Band Shift in ferromagnetic Weyl Semimetal $Co_3Sn_2S_2$ (authors: Xianggang Qiu et al.)</i> | | P5 |
| Wednesday, April 21, 2021 | | | |
| S10 | Session 10: Exotic f-electron systems Chairperson: Eteri Svanidze | | |
| 9:00-9:30 | <i>The dual U 5f electrons and phonon anomalies (rattling) in caged UTE_2Al_{10} systems ($TE = Fe, Ru, \text{ and } Os$)</i> | Małgorzata Samsel-Czekała | I-12 |

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| 9:30-9:45 | <i>Origin of large low-temperature specific heat in topological Kondo insulator SmB₆</i> | Dawid Nałęcz | O-18 |
| 9:45-10:00 | <i>Intermediate Valence Behavior of Yb₂Cu₉Al₈</i> | Martin Juckel | O-19 |
| 10:00-10:15 | <i>The interplay of 4f states and superconductivity in CeIr₃: DMFT study</i> | Sylwia Gutowska | O-20 |
| S11b | <i>Observation of c-f hybridization gap in heavy-fermion system EuNi₂P₂ by using Point-contact spectroscopy</i> | Takuya Takahashi | P2 |
| Posters | | | |
| <i>(3 minutes – 3 slides presentation)</i> | | | |
| 10:15-10:30 | <i>Influence of strontium atoms substituting on the electronic properties of the K_{0.5}Bi_{0.5}TiO₃ studied by ab initio methods</i> | Grzegorz Jagło | P6 |
| Summary and Closing | | | |
| | <i>Summary</i> | Silvie Mašková-Černá | |
| 10:30-10:45 | <i>Closing</i> | Hoa Kim Ngan Nhu-Tarnawska | |
| 10:45-11:30 | On-line round-table discussion | | |

- PL** - Plenary lecture
HI - Honored invited talk
I - Invited talk
O - Oral talk
P - Poster
SD - Studia doktoranckie