

1. Personal information

Name and surname: Cătălin Pașcu MOCA

Date and place of birth: April the 2nd 1973, Oradea, Romania

Present academic position: Professor of Physics, Department of Physics, University of Oradea

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2. Education

2015: Habilitation in Physics, West University, Timisoara, Romania
1996-2000: PhD in physics, "Babes-Bolyai" University, Cluj, Romania
1995-1996: MSc in physics, "Babes-Bolyai" University, Cluj, Romania
1991-1995: BSc in Physics, Faculty of Physics, "Babes-Bolyai" University, Cluj

3. Professional experience

10/2006-present: Visiting Researcher, Budapest University of Technology and Economics, Budapest, Hungary
10/2008-present: Professor, University of Oradea, Romania
09/2004-02/2005: Visiting Professor, Clemson University, SC, USA
02/2004 -09/2008: Associate Professor, University of Oradea, Romania
01/2003-12/2003: Post Doc fellowship, Budapest Technical University, Hungary
06/2002-08/2002: Visiting Scientist Argonne National Laboratory, IL, USA
01/2001-01/2002: Visiting Scientist University of Notre Dame, IN, USA
06/2001-08/2001: Visiting Scientist Argonne National Laboratory, IL, USA
01/2002-02/2004: Lecturer, University of Oradea, Romania

4. Ten selected publications

- [1] Universal Fermi liquid crossover and quantum criticality in a mesoscopic device, A. J. Keller, L. Peeters, C. P. Moca, I. Weymann, D. Mahalu, V. Umansky, G. Zaránd, D. Goldhaber-Gordon, Nature 526, 237-240 (2015)
- [2] Fermi-liquid theory for the single-impurity Anderson model, Christophe Mora, Catalin Pascu Moca, Jan von Delft, Gergely Zarand, Phys. Rev. B 92, 075120(2015)

- [3] Kondo temperature of SU(4) symmetric quantum dots, Michele Filippone, Cătălin Pașcu Moca, Gergely Zaránd, and Christophe Mora, Phys. Rev. B 90, 121406(R) (2014)
- [4] Emergent SU(4) Kondo physics in a spin-charge-entangled double quantum dot, Keller, AJ; Amasha, S; Weymann, I; Moca, CP; Rau, IG; Katine,; Shtrikman, H; Zarand, G ; Goldhaber-Gordon, D, NATURE PHYSICS, Volume: 10 Issue: 2 Pages: 145-150 (2014)
- [5] Measurement of Quantum Noise in a Carbon Nanotube Quantum Dot in the Kondo Regime, J. Basset, A. Yu. Kasumov, C. P. Moca, G. Zaránd, P. Simon, H. Bouchiat, and R. Deblock, Phys. Rev. Lett. 108, 046802 (2012)
- [6] SU(3) Anderson impurity model: A numerical renormalization group approach exploiting non-Abelian symmetries, Cătălin Pașcu Moca, Arne Alex, Jan von Delft, and Gergely Zaránd, Phys. Rev. B 86, 195128 (2012)
- [7] Scaling theory of magnetoresistance and carrier localization in GaMnAs, Moca C.P., Sheu B.L., Samarth N., Schiffer P. and Janko B. , Phys. Rev. Lett. 102, 137203-1 - 137203-4 (2009)
- [8] Longitudinal and spin-Hall conductance of a two-dimensional Rashba system with arbitrary disorder, Moca, C.P. and Marinescu, D.C., Physical Review B 72, 165335-1 – 165335-6 (2005)
- [9] Scaling theory of magnetoresistance in disordered local moment ferromagnet, Zarand, G., Moca, C.P. and Janko, B., Physical Review Letters **94**, 247202-1 - 247202-4 (2005)
- [10] Spin resolved spectra of Shiba multiplets from Mn impurities in MgB₂, Moca C.P., Demler E., Janko B. and Zarand G., Phys. Rev. B 77, 174516-1 – 174516-10 (2008)

5. Research interests

Strongly correlated electronic systems, spintronics, diluted magnetic semiconductors, Kondo physics, superconductivity, high temperature superconductivity, phase transitions and critical phenomena, cold atom systems, Numerical renormalization group approach.

6. Other academic activities

Referee for Nature group, APS, member of the Romanian Physics Society