

Dr. SURYANARAYAN DASH

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Education

Ph.D (UGC-DAE Consortium for Scientific Research, Indore, India)
M.Sc (UTKAL UNIVERSITY, Bhubaneswar, India)

Specialization

Experimental Condensed Matter Physics, Material Science

Research Interest

- Strongly Correlated Systems
- Phase Transitions, especially first order phase transitions in CMR materials, Intermetallics, shape memory alloys etc.
- Nanoparticle synthesis and property studies for drug delivery
- Design of instruments
- Multiferroics and Superconducting materials.
- Magnetism under High pressure.

Course Offered:

- Physics of Quantum World (PH-312)
- Physics-I (PH-101)
- Advanced Quantum Mechanics (PH-511)
- Condensed Matter Physics (PH-406)
- Advanced Quantum Mechanics (PH-511)
- Science of Nanomaterials (PH-351)

Teaching/Research Experiences:

Assistant Professor, (Dec 2011-Continuing), Dept. of Physics, National Institute of Technology, Rourkela, India

Research Fellowship/Scholarships:

- Senior Research Fellow (UGC) (2008-11)
- Junior Research Fellow (UGC)(2006-08)
- National Scholarships (10th to M.Sc., Govt. of India)
- Senior Merit Scholarship (Govt. of Odisha)
- Sindhumati Devi Award (B.Sc), Odisha, India.

Membership

Editorial Board Member of Research and Reviews: Journal of Space Science and Technology

Professional Membership:

Life member of IAPT, ISCA, OPS

Research Publications

Journals:

1. **S. Dash** et al , *Magnetodielectric response of coexisting phases in half doped manganites*, **Journal of Applied Physics** 113, 17D912 (2013)
2. B. Chudhuri; D. Bhadra, **S. Dash**, G. Sardar, K. Pramanik, B. K. Chaudhuri, *Hydroxyapatite and Hydroxyapatite-Chitosan Composite from Crab Shell*, **Journal of Biomaterials and Tissue Engineering**, 3, 653, (2013)
3. A. Banerjee, P. Chaddah, **S. Dash**, Kranti Kumar, Archana Lakhani, X. Chen and R. V. Ramanujan, *History dependent nucleation and growth of the martensitic phase in a magnetic shape memory alloy $Ni_{45}Co_5Mn_{38}Sn_{12}$* , **Physical Review B** 84, 214420 (2011).
4. Archana Lakhani, **S. Dash**, A. Banerjee, P. Chaddah , X. Chen and R. V. Ramanujan, *Tuning the Austenite and Martensite phase fraction in ferromagnetic shape memory alloy ribbons of $Ni_{45}Co_5Mn_{38}Sn_{12}$* **Appl. Phys. Lett** 99, 242503 (2011).
5. A. Banerjee, **S. Dash**, Archana Lakhani, P. Chaddah, X. Chen, R. V. Ramanujan, *Relating field-induced shift in transition temperature to the kinetics of coexisting phases in magnetic shape memory alloys*. **Solid State Communications** 151, 971 (2011).
6. **S. Dash**, K. Kumar, A. Banerjee and P. Chaddah, *Effect of simultaneous application of magnetic field and pressure on magnetic transitions in $La_{0.5}Ca_{0.5}MnO_3$* **Physical Review B** 82, 172412 (2010).
7. **S. Dash**, A. Banerjee, P. Chaddah *On the field induced reentrant transition in $Nd_{0.5}Sr_{0.5}MnO_3$* , **Solid State Communications** 148, 336 (2008).
8. D. Bhoi, P. Mandal, P. Choudhury, **S. Dash**, A. Banerjee, *The magnetization of $PrFeAsO_{0.60}F_{0.12}$ superconductor* **Physica C** 471, 258 (2011).
9. G. D. Prasanna., H. S. Jayanna A. R. Lamani and **S. Dash**, *Polyaniline/CoFe₂O₄ nanocomposites: A novel synthesis, characterization and magnetic properties*, **Synthetic metals** 161, 2306 (2011)
10. A. Mohanta, **S. Dash**, D. Behera *Thermally activated flux creep and current conduction in YBCO+BZO composites* **International Journal of Modern Physics B** 25, 387(2011).
11. S. Bindra Narang, Shalini Bahel and **S. Dash** *Influence of Bi substitution on microwave dielectric properties of $BaO-La_2O_3-Sm_2O_3-TiO_2$ ceramics*, **J Mater Sci: Mater Electron** 21, 1186 (2010).
12. P. Chaddah, **S. Dash**, Kranti Kumar and A. Banerjee *Overtaking while approaching equilibrium* **arxiv:1011.3598v1** cond-mat.stat-mech (2010).

Conferences/symposia:

1. "Green Tea Extract Synthesized Gold Nanoparticles and Percolative Behaviour of KH₂PO₄/PVA Composite Film: A High Dielectric Material" National Conference On Nanomaterials and Devices (NCONAD-2013) Dept. of Physics, NIT Srinagar, India
2. "Magnetodielectric properties of coexisting phases in manganite" 12th Joint MMM/Intermag-2013 Conference, Chicago, Illinois, USA

3. "Low Temperature magnetic study of monovalent doped manganite: $\text{Pr}_{0.75}\text{Na}_{0.25}\text{MnO}_3$ " Poster presented at **INTERMAG-2011**, Taipei, TAIWAN.
4. "Thermally Activated Flux Creep and Current Conduction in YBCO+BZO Composites" Talk presented at **The international conference on Ceramics (ICE-09)** Delhi University, Delhi-2009.
5. "Field induced magnetization step in Al substituted $\text{Pr}_{0.5}\text{Ca}_{0.5}\text{MnO}_3$ " Poster presented at **DAE SSPS-2009** at Baroda University, Baroda, India.
6. "Observation of magnetic glass in half doped $\text{Nd}_{0.5}\text{Sr}_{0.5}\text{MnO}_3$ " Poster presented at **DAE SSPS- 2008** at BARC, Mumbai, India..
7. "Low Temperature phase co-existence in $\text{La}_{5/8-y}\text{Pr}_y\text{Ca}_{3/8}\text{MnO}_3$ " Poster presented at **DAE SSPS-2007** at Mysore University, Mysore, India.

Thanking You.
Suryanarayan Dash

Last Updated: 26/11/2014