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Area of research: Spintronics, Thin film multiferroics, Magnetic nanoparticle, Magnetocaloric effect.

Journal Publications:

26. General Route to Synthesize of Metal (Ni, Co, Mn, Fe) Oxide Nanostructure and their Optical and Magnetic Behavior, S. Chakrabarty, K. De, **S. Das**, V. S. Amaral, K. Chatterjee, Jnl of Nanoscience and Nanotechnology, **13** 1-9 (2013)
25. Strain induced enhanced ferromagnetic behavior in inhomogeneous low doped $\text{La}_{0.95}\text{Sr}_{0.05}\text{MnO}_{3+\delta}$, **S. Das**, J. S. Amaral, K. De, M. Willinger, J. N. Goncalves, A. Roy, P. Dhak, S. Giri, S. Majumder, C. J. R. Silva, M. J. M. Gomes, P. K. Mahapatra, V. S. Amaral, Appl Phys. Lett **102** 112408 (2013)
24. Enhanced ferromagnetism and glassy state in phase separated $\text{La}_{0.95}\text{Sr}_{0.05}\text{MnO}_{3+\delta}$, K. De, **S. Das**, A. Roy, P. Dhak, M. Willinger, J. S. Amaral, V. S. Amaral, S. Giri, S. Majumder, C. J. R. Silva, M. J. M. Gomes, P. K. Mahapatra, J. Appl. Phys. **112** 103907 (2012)
23. A-site disorder driven sharp field-induced transition and collapse of charge ordering in $\text{Sm}_{1/2}\text{Ca}_{1/2-x}\text{Sr}_x\text{MnO}_3$, Sk. Sabyasachi, A. Karmakar, S. Majumder, S. Giri, **S. Das**, V. S. Amaral, J. Appl. Phys. **112** 073905 (2012)
22. Structural transitions and unusual magnetic behavior in Mn-doped $\text{Bi}_{1-x}\text{La}_x\text{FeO}_3$ perovskites; V. A. Khomchenko, I. O. Troyanchuk, D. V. Karpinsky, **S. Das**, V. S. Amaral, M. Tovar, V. Sikolenko, J. A. Paixão J. Appl. Phys. **112** 084102 (2012)
21. Mn doping-induced structural and magnetic transformations in the antiferroelectric phase of the $\text{Bi}_{1-x}\text{Nd}_x\text{FeO}_3$ perovskites; V. A. Khomchenko, I. O. Troyanchuk, T. M. R. Maria, D. V. Karpinsky, **S. Das**, V. S. Amaral, J. A. Paixão J. Appl. Phys. **112** 064105 (2012)
20. Glassy magnetic phase driven by short-range charge and magnetic ordering in nanocrystalline $\text{La}_{1/3}\text{Sr}_{2/3}\text{FeO}_{3-\delta}$: Magnetization, Mössbauer, and polarized neutron studies, Sk. Sabyasachi, M. Patra, S. Majumdar, and S. Giri, **S. Das**, V. S. Amaral, O. Iglesias, W. Borghols, T. Chatterji, Phy Rev B **86** 104416 (2012)

19. Magnetic and electrical transport properties in the self-doped manganite $\text{La}_{0.9}\text{Mn}_{0.9}\text{M}_{0.1}\text{O}_3$ (M = Mn, Zn and Ti), K De, **Soma Das**, A Roy, V. S. Amaral, S. Majumder, S. Giri, P. K. Mahapatra, *Physica B: Cond. Matt.* **407** 2442 (2012)
18. Co-precipitation of Ni-Zn ferrite: Effects of heat treatment conditions and de-agglomeration on the structure and magnetic properties, Olhero, S.M., **Das Soma**, Amaral V. S, Button, T.W., J.M.F. Ferreira, *Journal of the European Ceramic Society* **32** 2469 (2012)
17. Magnetoelectric coupling in multiferroic heterostructure of rf-sputtered Ni–Mn–Ga thin film on PMN–PT, M Y Teferi, V S Amaral, A C Lourneco, **Soma Das**, J S Amaral, D V Karpinski, N Soares, N A Sobolev, A L Kholkina, P B Tavares, *Jnl. Mag. Mat.* **324** 1882 (2012)
16. Comparison of disorder induced by annealing and quench and by ball-milling in B_2FeCo , J. M. Loureiro, B. Malaman, B. F. O. Costa, G. Le Caër, V. A. Khomchenko, **S. Das**, V. S. Amaral, *Phys. Status Solidi C* **8** 3087 (2011)
15. Prediction of realistic entropy behavior from mixed state magnetization data for first order phase transition materials, **S. Das**, J. S. Amaral and V. S. Amaral, *Jnl. Appl. Phys.* **107** 09A912 (2010)
14. Handling mixed state magnetization data for magnetocaloric studies – a solution to achieve realistic entropy behavior, **Soma Das**, J. S. Amaral and V. S. Amaral, *Jnl. of Physics D: Appl. Phys.(Fast Track Communication)* **43** 152002 (2010)
13. Room temperature giant magnetoimpedance in $\text{La}_{0.7}\text{Ba}_{0.15}\text{Sr}_{0.15}\text{MnO}_3$ compound, **Soma Das**, D. Dhak, M. S. Reis, V. S. Amaral and T. K. Dey, *Mat. Chem. & Phys.* **120** 468 (2010)
12. High refrigerant capacity of $\text{PrNi}_{5-x}\text{Co}_x$ magnetic compounds exploiting its spin reorientation and magnetic transition over a wide temperature zone, D.L. Rocco, J.S. Amaral, J.V. Leitão, V.S. Amaral, M.S. Reis, **Soma Das**, R P Fernandes, J P Araújo, A M Pereira, P B Tavares, N V Martins and A A Coelho, *Jnl. of Physics D: Appl. Phys.* **42** 055002 (2009)
11. Giant room temperature magnetoimpedance in $\text{La}_{0.7}\text{Ba}_{0.15}\text{Sr}_{0.15}\text{MnO}_3$ and development of a sensitive position detector, **Soma Das** and T. K. Dey, *J. Nanosc. and Nanotech.* **10** 2944 (2010)
10. Above room temperature magnetocaloric properties of $\text{La}_{0.7}\text{Ba}_{0.3-2}\text{Na}_z\text{MnO}_3$ compounds, **Soma Das** and T. K. Dey, *Mat. Chem. & Phys.* **108** 220 (2008)
9. Structural and Magnetocaloric properties of $\text{La}_{1-y}\text{Na}_y\text{MnO}_3$ compounds prepared by microwave processing, **Soma Das** and T. K. Dey, *Jnl. of Physics D: Appl. Phys.* **40** 1855 (2007)
8. Magnetic entropy change in polycrystalline $\text{La}_{1-x}\text{K}_x\text{MnO}_3$ perovskites, **Soma Das** and T. K. Dey, *Jnl. of Alloys and Comp.* **440** 30 (2007)
7. Thermoelectric power of potassium doped lanthanum manganites at low temperatures, **Soma Das** and T. K. Dey, *Jnl. Mag. Mat.* **311** 714 (2007)
6. Magnetocaloric effect in potassium doped lanthanum manganite perovskites prepared by a pyrophoric method, **Soma Das** and T. K. Dey, *Jnl. of Phys: Cond. Matt.* **18** 7629 (2006)
5. Temperature dependence of the thermoelectric power of $\text{La}_{1-x}\text{K}_x\text{MnO}_3$ compounds in light of a two phase model, **Soma Das** and T. K. Dey, *Physica B: Cond. Matt.* **381** 280 (2006)

4. Role of spin polarized tunneling in magnetoresistance and low temperature minimum of polycrystalline $\text{La}_{1-x}\text{K}_x\text{MnO}_3$ ($x=0.05, 0.10, 0.15$) prepared by pyrophoric method, **Soma Das**, T K.Dey, Bull. Mater. Sci. **29** 633 (2006)
3. Electrical conductivity and low field magnetoresistance in polycrystalline $\text{La}_{1-x}\text{K}_x\text{MnO}_3$ pellets prepared by pyrophoric method, **Soma Das**, T K.Dey, Sol. St. Comm. **134** 837 (2005)
2. Nature of electrical conduction in potassium-substituted lanthanum manganites between 10 and 300K, **S. Das**, T. K. Dey, Jnl. Mag. Mat. **294** 338 (2005)
1. Low temperature electrical transport in $\text{La}_{0.5}\text{Pb}_{0.5}\text{Mn}_{1-x}\text{Cu}_x\text{O}_3$ ($0 < x < 0.1$), **Soma Das** and T. K. Dey, Ind. Jnl. Cryogenics **29** 126 (2004)

Book Chapter Published:

Name of the Book: **THERMODYNAMICS – Systems In Equilibrium And Non-Equilibrium**

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