

## Soma Das

- *Ph. D.* (Indian Institute of Technology, Kharagpur, 2007).
- *M.Tech.* (Electronics & Telecomm. Engineering, 2001).
- *B.Tech.* (Instrumentation & Electronics Engineering, 1998).

*Associate Professor,*  
*Department of Electronics & Communication Engineering.*



Email id: [soma.iitkharagpur@gmail.com](mailto:soma.iitkharagpur@gmail.com), [soma.das@ggu.ac.in](mailto:soma.das@ggu.ac.in)

Mobile no.: +91-7587195566

Area of research: Antenna Design, Magnetic nanoparticle, Spintronics.

➤ **Project Received:**

UGC Major Research Project : 01 (April, 2013-March, 2017)

➤ **No. of Ph.D. students/research scholar:**

Completed : 02

❖ **Dr. Nipun Kumar Mishra (2018)**

Title of the Thesis: **Study and Design of Cylindrical Dielectric Resonator Antenna (A Casestudy for X-band Frequency Applications)**

❖ **Dr. Robert Mark (2020)**

Title of the Thesis: **Study & Design of Wideband Multiple Input Multiple Output Microstrip Antenna for Wireless Application**

Ongoing : 01

➤ **Journal Publications:**

47. Mutual coupling reduction using near-zero  $\epsilon$  and  $\mu$  metamaterial based superstrate for MIMO application, IET Microwaves, Antennas Propagation, Robert Mark, Harsh Verdhhan Singh, Kaushik Mandal, Soma Das, 14(6), 479-484 (2020)

46. De-stabilization of charge order state through in-homogeneity in random ionic distribution in the particles of polycrystalline  $\text{Eu}_{0.2}\text{La}_{0.3}\text{Sr}_{0.2}\text{Ca}_{0.3}\text{MnO}_3$  sample, Bulletin of Materials Science, K De, P Dhak, S De, P Dutta, K Dey, S Mukherjee, S Chatterjee and S Das, 43, 112 (2020)

45. Near zero parameter metamaterial inspired superstrate for isolation improvement in MIMO wireless application, Frequenz Journal of RF-Engineering and Telecommunications, Robert Mark, Soma Das, 74, 17-23 (2020)

44. Isolation and Gain Enhancement Using Metamaterial based Superstrate for MIMO applications, Radioengineering, Robert Mark, Neha Rajak, Kaushik Mandal, Soma Das, 28, 689-695 (2019)

43. Reduced edge-to-edge spaced MIMO antenna using parallel coupled line resonator for WLAN applications, Microwave and Optical Technology Letters, Robert Mark, Harsh Verdhan Singh, Kaushik Mandal, Soma Das, 61, 2374–2380 (2019)
42. Wideband High Gain Cylindrical Dielectric Resonator Antenna for X-band Applications, Frequenz Journal of RF-Engineering and Telecommunications, Nipun Mishra, Soma Das, Dinesh K. Vishwakarma 73 (3-4), 109-116 (2019)
41. Hexagonal Nested Loop Fractal Antenna for Quad Band Wireless Applications, Robert Mark, Nipun Mishra, Kaushik Mandal, Partha Pratim Sarkar, Soma Das, Frequenz Journal of RF-Engineering and Telecommunications, 73 (3-4), 99-108 (2019)
40. Metamaterial-based superstrate towards the Isolation and Gain Enhancement of MIMO antenna for WLAN application, Robert Mark, Neha Rajak, Kaushik Mandal, Soma Das, International Journal of Electronics and Communications (AEU), 100, 144-152 (2019)
39. Beam Steered Linear Array of Cylindrical Dielectric Resonator Antenna, Nipun Mishra, Dinesh K. Vishwakarma, Soma Das, International Journal of Electronics and Communications (AEU), 98, 106-113 (2018)
38. Hexagonal ring fractal antenna with dumb bell shaped defected ground structure for multiband wireless applications, Robert Mark, Nipun Mishra, Kaushik Mandal, Partha Pratim Sarkar, Soma Das, International Journal of Electronics and Communications (AEU), 94, 42-50 (2018)
37. Silica coated metal oxide nanoparticles: Magnetic and cytotoxicity studies, Parbati Basu, Kalyanashis De, Soma Das, Amit Mandal, Anoop Kmar, Tushar K Jana, Kutal Chatterjee, Chemistry Select, 3, 7346-7353 (2018)
36. Magnetic and electrical transport of the cation-deficient LaMnO<sub>3</sub>: Common origin of both Sr-doping and self-doping effects, S. Das, P. Roychoudhury, S. De, S Chatterjee, and K. De, Physica B: Condensed Matter 544, 17-22 (2018)
35. Low Profile Circularly Polarized Cylindrical Dielectric Resonator Antenna Coupled by L- Shaped Resonating Slot, Nipun K. Mishra, Soma Das, Dinesh K. Vishwakarma, Microwave and Optical Technology Letters, 59, 996-1000 (2017)
34. Bandwidth enhancement of Cylindrical Dielectric Resonator Antenna using thin dielectric layer fed by resonating slot, Nipun K. Mishra, Soma Das, Dinesh K. Vishwakarma, Frequenz Journal of RF-Engineering and Telecommunications, 70, 381-388 (2016)
33. Breaking the Geometric Magnetic Frustration in LuMn<sub>1+z</sub>O<sub>3+δ</sub> controlled off-stoichiometry, F G Figueiras, D Karpinsky, P B Tavares, Soma Das, J V Leitao, E H Bruck, J Agostinho Moreira, V S Amaral, Physical Chemistry Chemical Physics, 18, 13519-13523 (2016)
32. Low-temperature localization in the transport properties of self doped La<sub>0.9</sub>Mn<sub>0.98</sub>Zn<sub>0.02</sub>O<sub>3</sub>, K. De and S. Das, Bulletin of Materials Science, 39, 293-298 (2016)

31. Wideband Cylindrical Dielectric Resonator Antenna with different Feeding Techniques at X-band frequency, Nipun K. Mishra, Soma Das, Dinesh K. Vishwakarma, IUP Journal of Telecommunications, 7, Issue-4, 28-37 (2015)
30. Morphology dependent magnetic properties of  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> nanostructures, Chakrabarty, Sankalpita; Jana, Tushar; De, Kalyan; Das, Soma; Dey, Koushik; Chatterjee, Kuntal, Materials Research Express 1 (2014) 046104
29. Formation stages of bcc (Fe<sub>44</sub>Co<sub>44</sub>)Sn<sub>12</sub> extended solid solution by mechanical alloying, J.M. Loureiro, B.F.O. Costa, B. Malaman, G. Le Caër, S. Das, V.S. Amaral, J. of Alloys and Compounds, 615, S559-S563 (2014)
28. Smart Antenna and Multirate Digital Signal Processing: A Review, Nipun K. Mishra, Anil Kumar, Soma Das, Dinesh K. Vishwakarma, IUP Journal of Telecommunications, 5, Issue-4, 1-10 (2013)
27. General Route to Synthesize of Metal (Ni, Co, Mn, Fe) Oxide Nanostructure and their Optical and Magnetic Behavior, Jnl of Nanoscience and Nanotechnology, S. Chakrabarty, K. De, S. Das, V. S. Amaral, K. Chatterjee, 13, 1-9 (2013)
26. Strain induced enhanced ferromagnetic behavior in inhomogeneous low doped La<sub>0.95</sub>Sr<sub>0.05</sub>MnO<sub>3+ $\delta$</sub> , 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)
25. Enhanced ferromagnetism and glassy state in phase separated La<sub>0.95</sub>Sr<sub>0.05</sub>MnO<sub>3+ $\delta$</sub> , 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)
24. A-site disorder driven sharp field-induced transition and collapse of charge ordering in Sm<sub>1/2</sub>Ca<sub>1/2-x</sub>Sr<sub>x</sub>MnO<sub>3</sub>, Sk. Sabyasachi, A Karmakar, S. Majumder, S. Giri, S. Das, V. S. Amaral, J. Appl. Phys. 112 073905 (2012)
23. Structural transitions and unusual magnetic behavior in Mn-doped Bi<sub>1-x</sub>La<sub>x</sub>FeO<sub>3</sub> 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)
22. Mn doping-induced structural and magnetic transformations in the antiferroelectric phase of the Bi<sub>1-x</sub>Nd<sub>x</sub>FeO<sub>3</sub> 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)
21. Glassy magnetic phase driven by short-range charge and magnetic ordering in nanocrystalline La<sub>1/3</sub>Sr<sub>2/3</sub>FeO<sub>3- $\delta$</sub> : 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)
20. Magnetic and electrical transport properties in the self-doped manganite La<sub>0.9</sub>Mn<sub>0.9</sub>M<sub>0.1</sub>O<sub>3</sub> (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 (2012) 2442

19. 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 (2012) 2469
18. 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. Mag. Mat.* 324 (2012) 1882
17. Comparison of disorder induced by annealing and quench and by ball-milling in B2FeCo, 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 (2011) 3087
16. 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 (2010) 09A912
15. 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 (2010) 152002
14. 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 (2010) 468
13. 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 (2009) 055002
12. Room temperature giant magnetoimpedance in polycrystalline  $\text{La}_{0.7}\text{Ba}_{0.25}\text{Sr}_{0.05}\text{MnO}_3$  manganite, Soma Das and T. K. Dey, *AIP Conference Proceedings* 1004 (2008) 3 Published online by Springer: 23 April 2008
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, (2010) 2944
10. Above room temperature magnetocaloric properties of  $\text{La}_{0.7}\text{Ba}_{0.3-z}\text{Na}_z\text{MnO}_3$  compounds, Soma Das and T. K. Dey, *Mat. Chem. & Phys.* 108 (2008) 220
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 (2007) 1855
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 (2007) 30
7. Thermoelectric power of potassium doped lanthanum manganites at low temperatures, Soma Das and T. K. Dey, *Jnl. Mag. Mag. Mat.* 311 (2007) 714
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 (2006) 7629
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 (2006) 280

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 (2006) 633
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 (2005) 837
2. Nature of electrical conduction in potassium-substituted lanthanum manganites between 10 and 300K, S. Das, T. K. Dey, Jnl. Mag. Mat. 294 (2005) 338
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 (2004) 126

➤ **Book Chapters Published:**

**1. Name of the Book:**

**THERMODYNAMICS – Systems In Equilibrium And Non-Equilibrium**

Edited by Juan Carlos Moreno-Pirajan (ISBN: 978-953-307-283-8); 2011

**Name of the Book Chapter:**

**The Mean-field Theory in the Study of Ferromagnets and the Magnetocaloric Effect**

**Authors:** J. S. Amaral, **S. Das** and V. S. Amaral

**Publisher:** INTECH Open Access Publisher

**2. Name of the Book:**

**Recent patents in materials science - special issue - magneto electrics and multiferroics**

Edited by Khurshid Zaman, Volume 7, Issues 3, 2014, pp: 220 – 225

ISSN: 1874-4656 (Online), ISSN: 1874-4648 (Print)

DOI: [10.2174/1874464807666141105204313](https://doi.org/10.2174/1874464807666141105204313)

**Name of the Book Chapter:**

**Giant Room Temperature Magnetoimpedance in doped manganites**

**Authors:** **Soma Das** and Kalyanashis De

**Publisher:** Bentham Science Publishers, USA