
PUBLICATIONS:

A. Patent

- Double layer solar module design for installing in lower space (under preparation)

PUBLISHED PAPER

B. Research Papers Published in International Journals

1. Hydrothermal synthesis of nitrogen doped graphene nanosheets from carbon nanosheets with enhanced electrocatalytic properties, D. Suhag, A. Singh, S. Chattopadhyay, S. Chakraborti and M. Mukherjee, *RSC Advances*, **vol. 5 pp. 39705 (2015)** **IF 3.840**
2. Temperature dependent junction capacitance-voltage characteristics of Ni embedded TiN/SiO₂/p-Si metal-insulator-semiconductor structure, J. Panda, S. Chattopadhyay and T. K. Nath, *Journal of Applied Physics*, **vol 114 pp. 224508 (2013)** **IF 2.183**
3. Enhanced temperature dependent junction magnetoresistance in La_{0.7}Sr_{0.3}MnO₃/Zn(Fe, Al)O carrier induced dilute magnetic semiconductor junctions, S. Chattopadhyay, J. Panda, and T. K. Nath, *Journal of Applied Physics*, **vol. 113 pp. 194501 (2013)** **IF 2.183**
4. Temperature dependent spin injection properties of the Ni nanodots embedded metallic TiN matrix and p-Si heterojunction, J. Panda, S. Chattopadhyay and T. K. Nath, *Thin Solid Films*, **Vol 546, Pages 211-218 (2013)** **IF 1.759**
5. An investigation of origin of junction magnetoresistance in La_{0.7}Sr_{0.3}MnO₃/SiO₂/p-Si heterostructures, S. Chattopadhyay and T. K. Nath, *Journal of Physics D: Applied Physics*, **vol. 44 pp. 285003 (2011)** **IF 2.721**
6. Electrical and magnetoelectronic properties of La_{0.7}Sr_{0.3}MnO₃/SiO₂/p-Si heterostructure for spintronics application, S. Chattopadhyay and T. K. Nath, *Current Applied Physics* **vol. 11 pp. 1153 (2011)** **IF 2.212**
7. Enhancement of room temperature ferromagnetism of Fe-doped ZnO epitaxial thin films with Al co-doping, S. Chattopadhyay, T.K. Nath, A.J. Behan, J.R. Neal, D. Score, Q. Feng, A.M. Fox, G.A. Gehring, *Journal of Magnetism and Magnetic Materials* **vol. 323, pp. 1033 (2011)** **IF 1.970**
8. Temperature dependent carrier induced ferromagnetism in Zn(Fe)O and Zn(FeAl)O thin films, S. Chattopadhyay, T.K. Nath, A.J. Behan, J.R. Neal, D. Score, Q. Feng, A.M. Fox, G.A. Gehring *Applied Surface Science* **vol. 257, pp. 381 (2010)** **IF 2.711**
9. Room temperature enhanced positive magnetoresistance in Pt and carrier induced Zn(Fe)O and Zn(Fe,Al)O dilute magnetic semiconductor junction, S. Chattopadhyay and T. K. Nath, *Journal of Applied Physics* **vol. 108, pp. 083904 (2010)**. *Selected for Virtual Journal of Nanoscale Science & Technology for the October 25, 2010.* **IF 2.183**
10. Electrical properties of Pulsed Laser Deposited ZnO thin films, Sourav Chattopadhyay and Tapan Kumar Nath *Advanced Materials Research* **Vol. 67, pp. 121 (2009)**
11. Electrical characterization of p-ZnO/p-Si heterojunction, S. Majumdar, S. Chattopadhyay and P. Banerji *Applied surface science* **vol. 255, pp. 6141 (2009)** **IF 2.711**

12. Tunneling current at the interface of silicon and silicon dioxide partly embedded with silicon nanocrystals in metal oxide semiconductor structures by G. Chakraborty, S. Chattopadhyay, C. K. Sarkar and C. Pramanik *Journal of Applied Physics* vol. **101**, pp. 24315 (2007) IF 2.183

B. Paper published in International proceedings

1. Unusual magnetoresistive behavior of epitaxial Zn(Fe, Al)O dilute magnetic semiconducting thin film, S. Chattopadhyay and T. K. Nath, AIP Conference Proceedings vol. **1447** pp. 1215 (2012)
2. Magnetoresistance of Ni nanoparticles embedded in tin matrix/p-Si heterostructure for spintronics, J. Panda, S. Chattopadhyay, and T. K. Nath, AIP Conference Proceedings vol **1447** pp. 1227 (2012)
3. Temperature dependent Anomalous Hall Effects in DMS Zn(Fe,Al)O epitaxial thin film, AIP Conference Proceedings, S. Chattopadhyay and T. K. Nath, AIP Conference Proceedings vol. **1349** pp. 1045 (2011)
4. Temperature dependent junction magnetoresistance behavior of LSMO/Zn(Fe,Al)O heterojunction for spintronics, J. Panda, S. Chattopadhyay and T. K. Nath, AIP Conference Proceedings vol. **1349** pp. 1183 (2011)

C. Papers presented in Conferences

1. Unusual magnetoresistive behavior of epitaxial Zn(Fe,Al)O thin film by S. Chattopadhyay and T. K. Nath, *56th DAE Solid State Physics Symposium* 2011.
2. Temperature dependent anomalous Hall Effects in DMS Zn(Fe,Al)O epitaxial thin film by S. Chattopadhyay and T. K. Nath, *55th DAE Solid State Physics Symposium* 2010.
3. Temperature dependent junction magnetoresistance behavior of LSMO/Zn(Fe,Al)O heterojunction for spintronics by J. Panda, S. Chattopadhyay and T. K. Nath, *55th DAE Solid State Physics Symposium* 2010 (2010).
4. Investigation on La_{0.7}Ca_{0.3}MnO₃/SiO₂/n-Si and La_{0.7}Sr_{0.3}MnO₃/SiO₂/p-Si MOS like heterostructures for Spintronics by S. Chattopadhyay, S. K. Giri and T. K. Nath, International Conference on Fundamental & Applications of Nanoscience and Technology (ICFANT) (2010).
5. Magnetoresistive behavior of epitaxial Zinc oxide thin films doped with iron by S. Chattopadhyay, T. K. Nath *International Conference on Magnetic Materials (ICMM-2010)* (2010)
6. Room temperature magnetic sensors with Zn(FeAl)O by Pt Schottky contact by S. Chattopadhyay, T. K. Nath *54th DAE Solid State Physics Symposium* (2009)
7. Electrical properties of Zn/La_{0.7}Sr_{0.3}MnO₃/Pt Schottky device for spintronics by S. Chattopadhyay, T. K. Nath *Condensed Matter Days (CMDAYS09)* (2009)
8. Electrical properties of La_{0.7}Sr_{0.3}MnO₃/SiO₂/Si MOS structure by S. Chattopadhyay, P. Dey, T. K. Nath *53rd DAE Solid State Physics Symposium* (2008)
9. Electrical properties of Pulsed Laser Deposited ZnO thin films by S. Chattopadhyay, T. K. Nath *International Conference on Nanomaterials and Devices Processes and applications* (2008)
10. I-V characteristics of La_{0.7}Sr_{0.3}MnO₃/SiO₂/Si MOS structure by S. Chattopadhyay, P. Dey, T. K. Nath *National Seminar on Advanced Nanomaterials and its Applications* (2008)

COMMUNICATED PAPERS

- A. Bera, S. Chattopadhyay, M. Mukherjee, Optical properties of Fe doped ZnO (communicated 2017)
- P. Mandal, A. Bera, S. Chattopadhyay, M. Mukherjee, Fabrication of room temperature BiFeO₃ based hybrid solar cell (communicated 2017)