



Arya Vidyapeeth College (Autonomous)

আৰ্য্য বিদ্যাপীঠ মহাবিদ্যালয় (স্বায়ত্তশাসিত)



Personal profile

Name of the Faculty: Dr. Dipak Mazumdar

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Date of joining in the present service: 24th September, 2022

Academic M. Sc., Ph. D.

Qualification Cleared Joint Entrance Screening Test (JEST)-2016, SLET-2017

Teaching In UG level: 3 months

Experience In PG level: Nil



Date of obtaining Ph. D. degree: 31/12/2021, Saha Institute of Nuclear Physics, Kolkata, A CI of Homi Bhabha National Institute, Mumbai, India.

Title of Ph. D. Thesis: Physical properties and related phenomena in some selected rare earth transition metal-based perovskite compounds.

Research Experience Length of research experience: 05 years in Ph. D. and 08 months in Institute Post-doctoral experience.

Specialization (Area of interest): Experimental Condensed Matter Physics

Other Academic Position Institute Post-doctoral Fellow at Department of Physics, IIT Kanpur, Kanpur.

Publications **No. of Books Chapter: 01**

- i) “Probing the magnetic interaction with Y-doping in $\text{La}_{0.7}\text{Ca}_{0.3}\text{MnO}_3$ compounds by critical analysis”, New Trends in Physical Research Vol. 4, ISBN: 978-93-5547-678-4.

No. of Research paper published: 17

- i) Dipak Maumdar, Kalipada Das, Susmita Roy, and I. Das. ‘Generation of complex magnetic phase diagram of single-crystalline $\text{Sm}_{0.50}\text{Ca}_{0.25}\text{Sr}_{0.25}\text{MnO}_3$ compound using magnetocaloric effect’, Journal of Magnetism and Magnetic Materials Vol-497, 166066, 2020, ISSN: 0304-8853.
- ii) Dipak Maumdar, Kalipada Das, and I. Das. ‘Effect of short-range ferromagnetic interactions on the magnetocaloric properties of polycrystalline $\text{Eu}_{0.55}\text{Sr}_{0.45}\text{MnO}_3$ compound’, Journal of Magnetism and Magnetic Materials Vol-502, 166507, 2020, ISSN: 0304-8853.
- iii) Dipak Maumdar, Kalipada Das, Susmita Roy, and I. Das. ‘Study of magnetocaloric effect and critical exponents in polycrystalline $\text{La}_{0.4}\text{Pr}_{0.3}\text{Ba}_{0.3}\text{MnO}_3$ compound’, Journal of Applied Physics Vol-127, 093902 (2020); ISSN Number: 0021-8979 (print), 1089-7550 (web).
- iv) Dipak Mazumdar, Kalipada Das, Pintu Sen, and I. Das. ‘Impact of weak ferromagnetism on the magnetocaloric properties of A-site-doped PrMnO_3 compound’ Journal of Materials Science: Materials in Electronics Vol-31, 11714 (2020); ISSN Number: 0957-4522 (print), 1573-482X (web).
- v) Dipak Mazumdar, Kalipada Das, and I. Das. ‘Study of modification of the magnetic and magnetocaloric properties with Gd-doping in Sm-Sr-based manganite compounds: Influence of short range charge-orbital ordering’, Journal of Magnetism and Magnetic Materials Vol-519, 167413 (2021); ISSN Number: 0304-8853.

vi) Dipak Maumdar, and I. Das. 'Role of 3d-4f exchange interaction and local anti-site defect in the magnetic and magnetocaloric properties of double perovskite $\text{Ho}_2\text{CoMnO}_6$ compound', Journal of Applied Physics Vol-129, 063901 (2021); ISSN Number: 0021-8979 (print) 1089-7550 (web).

vii) Dipak Mazumdar, and I. Das. 'Structural, magnetic, and magnetocaloric properties of the multiferroic host double perovskite compound $\text{Pr}_2\text{FeCrO}_6$ ', Physical Chemistry Chemical Physics Vol-23, 5596 (2021); ISSN Number: 1463-9076 (print), 1463-9084 (web).

viii) Dipak Mazumdar, Rajeev Rawat, Sanjib Banik, Kalipada Das, and I. Das. 'Real-space imaging of magnetic phase transformation in single crystalline Sm-Ca-Sr based manganite compound', Journal of Physics: Condensed Matter Vol-33, 235402 (2021); ISSN Number: 0953-8984 (print), 1361-648X (web).

ix) Dipak Mazumdar, Kalipada Das, and I. Das. 'Spin-polarized tunneling and polaronic transport properties of polycrystalline $(\text{Sm}_{1-y}\text{Gd}_y)_{0.55}\text{Sr}_{0.45}\text{MnO}_3$ ($y = 0.5$ and 0.7) compounds', Journal of Physics: Condensed Matter Vol-33, 305601 (2021); ISSN Number: 0953-8984 (print), 1361-648X (web).

x) Dipak Mazumdar, Kalipada Das, and I. Das. 'Schottky-like anomaly in the heat capacity and magnetocaloric effect of charge-ordered single-crystalline $(\text{Sm}, \text{Ca}, \text{Sr})\text{MnO}_3$ compound', Journal of Magnetism and Magnetic Materials Vol-540, 168447 (2021); ISSN Number: 0304-8853.

xi) Soma Chatterjee, Dipak Mazumdar, Kalipada Das, and I. Das. 'Magnetic and magnetocaloric properties of nanocrystalline sample of a glassy ferromagnetic compound: modification of short range ordering', Materials Research Bulletin Vol-150, 111758 (2022); ISSN Number: 0025-5408.

xii) Afsar Ahmed, Dipak Mazumdar, Kalipada Das, and I. Das. 'A comparative study of magnetic and magnetocaloric effect of polycrystalline $\text{Gd}_{0.9}\text{Y}_{0.1}\text{MnO}_3$ and $\text{Gd}_{0.7}\text{Y}_{0.3}\text{MnO}_3$ compounds: influence of Y-ions on magnetic state of GdMnO_3 ', Journal of Magnetism and Magnetic Materials Vol-552, 169133 (2022); ISSN Number: 0304-8853.

xiii) Kalipada Das, Dipak Mazumdar, P. Dasgupta, Sanjay Kumar, and I. Das. 'Experimental observation of weak antiferromagnetic correlation between blocked spins in the nano-crystalline $\text{La}_{0.45}\text{Ca}_{0.55}\text{MnO}_3$ compound at low temperature', Journal of Magnetism and Magnetic Materials Vol-528, 167804 (2021); ISSN Number: 0304-8853.

xiv) Amanulla Karikar, Soma Chatterjee, Dipak Mazumdar, Kalipada Das, and I. Das. 'Study of devitrification of kinetically arrested magnetic phase and magnetocaloric effect for nanocrystalline $\text{Pr}_{0.65}(\text{Ca}_{0.7}\text{Sr}_{0.3})_{0.35}\text{MnO}_3$ compound', Journal of Magnetism and Magnetic Materials Vol-546, 168807 (2022); ISSN Number: 0304-8853.

xv) Kalipada Das, Snehal Mandal, Dipak Mazumdar, Pintu Sen, and I. Das. ‘Study of magnetic and magneto-transport properties of nanocrystalline $\text{Nd}_{0.5}\text{Ca}_{0.5}\text{MnO}_3$ compound: Observation of large magnetoresistance’, Journal of Magnetism and Magnetic Materials Vol-501, 166421 (2020); ISSN Number: 0304-8853.

xvi) Dipak Mazumdar, Sanjib Banik, and I. Das. ‘Critical analysis of Y-doped $\text{La}_{0.7}\text{Ca}_{0.3}\text{MnO}_3$ manganite’ AIP Conference Proceedings Vol-2265, 030536 (2020); ISSN Number: 0094-243X (print) 1551-7616 (web).

xvii) Snehal Mandal, Dipak Mazumdar and I. Das. ‘Bias current dependence of resistivity in $\text{Co}_{0.4}\text{Fe}_{0.4}\text{B}_{0.2}$ ultrathin film prepared by RF magnetron sputtering’, AIP Conf. Proc. Vol-1942, 110050 (2018); ISSN Number: 0094-243X (print) 1551-7616 (web).

Papers
presented in
Seminar/
Conference

(i) Presented a poster entitled “Study of magnetoresistance and magnetocaloric properties in polycrystalline $\text{Pr}_{0.8-x}\text{La}_x\text{Sr}_{0.2}\text{MnO}_3$ ($x = 0, 02$) compounds” in 2nd International Conference on Condensed Matter and Applied Physics (ICCMAP-17) organized by Govt. Engineering College, Bikaner, Rajasthan on Nov 24-25, 2017.

(ii) Presented a poster entitled “Bias current dependence of resistivity in $\text{Co}_{0.4}\text{Fe}_{0.4}\text{B}_{0.2}$ ultrathin film prepared by RF magnetron sputtering” in 62nd DAE-BRNS Solid State Physics Symposium (DAE-BRNS-SSPS) at Bhabha Atomic Research Centre, Mumbai, India organized by Dept. of Atomic Energy, Govt. of India on December 26-30, 2017.

(iii) Presented a poster entitled “Anomalous magnetocaloric behaviour in single-crystalline $\text{Sm}_{0.5}\text{Ca}_{0.25}\text{Sr}_{0.25}\text{MnO}_3$ compound” organized by Magnetism Society of India at National Institute of Scientific Education and Research, Bhubaneswar, Odhisa, India on December 09-13, 2018.

(iv) Presented a poster entitled “Giant magnetocaloric effect in single-crystalline $\text{Sm}_{0.5}\text{Ca}_{0.25}\text{Sr}_{0.25}\text{MnO}_3$ compound” in 63rd DAE-BRNS-SSPS organized by Dept. of Atomic Energy, Govt. of India at Guru Jambheshwar University of Science & Technology, Hisar, Haryana, India December 18-22, 2018.

(v) Presented a poster entitled “Critical analysis of Y-doped $\text{La}_{0.7}\text{Ca}_{0.3}\text{MnO}_3$ manganite” in 64th DAE-BRNS-SSPS organized by Dept. of Atomic Energy, Govt. of India at Indian Institute of Technology Jodhpur, Rajasthan, India on December 18-22, 2019.

(vi) Presented a talk entitled “Construction of complex magnetic phase diagram of single-crystalline Sm-Ca-Sr-based manganite compound using magnetocaloric effect’ in 3rd International Conference on Materials Science (ICMS) organized by Department of Physics, Tripura University, Agartala, India on March 06-08, 2020.

(vii) Presented my whole thesis entitled “Physical properties and related phenomena in some-selected rare-earth transition metal-based perovskite compounds” in 65th DAE-BRNS-SSPS organized by dept. of Atomic Energy, Govt. of India at BARC, Mumbai, India on December 15-19, 2021.

(viii) Presented a poster entitled “Structural and magnetic properties of new double perovskite $\text{La}_2\text{MnRuO}_6$ compound” in Annual Conference on Quantum Condensed Matter 2022 (QMAT22) organized by Dept. of Physics, Indian Institute of Technology Kanpur, Kanpur, India on September 18-22, 2022.

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