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List of Publication

International Journals

1. "Interfacial skyrmion in magnetic thin films and its applications", R. Sharma, S. K. Mishra, Journal of Magnetism and Magnetic Materials 551 **(2022)** 169107.

2. "Observation of V–V dimers softening and distinct length scales in nanostructured VO2 thin films ", P.K. Ojha*, R. Sharma*, R. Hissariya, S. Babu, E. Ketkar, S. Singh, S. Neema, A. Rana, N. Pal, V.G. Sathe, S.K. Mishra, Journal of Physics and Chemistry of Solids 163 **(2022)** 110564.

3. "Antisites disorder mediated magnetization relaxation and polydispersity in La_2NiMnO_6 crystallites", R. Hissariya, R. Sharma, S.K. Mishra, Journal of Physics and Chemistry of Solids 181 **(2023)** 111549.

4. "Magnetic energy dissipative factors of spin-coated $Y_3Fe_5O_{12}$ thin films", R. Sharma, P.K. Ojha and S.K. Mishra, Thin Solid Films 764 **(2023)** 139625.

5. "Magnetic ordering in sol-gel-based $Tm_3Fe_5O_{12}$ thin films", R. Sharma, P.K. Ojha, S. Choudhary and S. K. Mishra, Materials Letters 352 **(2023)** 135154.

6. “Charge ordering at a dielectric gate in itinerant metallic states with low-field memristor properties in VO_2 thin films”, P. K. Ojha, R. Sharma, S. K. Mishra, and S. Ram, Surfaces and Interfaces 42 **(2023)** 103445.

7. “All solution grown epitaxial magnonic crystal of thulium iron garnet thin film”, R. Sharma, P. K. Ojha, S. Sahoo, R. Roychoudhary and S. K Mishra, Applied Physics Letters (arXiv:2312.15973).

8. "Dynamics of phonons, charge-regulated itinerant VO2 states, and their impacts on the memristor properties of thin VO2 films”, P. K. Ojha, R. Sharma, V.G. Sathe, S. Ram and S. K. Mishra, Surfaces and Interfaces, 46 **(2024)** 104029.

Proceeding

1. “The micromagnetic study of stabilizing parameters for the interfacial skyrmions”, R. Sharma, and S. K. Mishra, Materials Today: Proceedings 80 **(2023)** 1205.

Seminar and Symposium

1. MagIC+ Magnetism, Interactions and Complexity: innovative ideas on spin wave dynamics and transport properties in low-dimensional materials **(MagIC+ 2023)** Bedlewo, Poland **(Poster presented)**.

2. 8th International Conference on Nanomaterials for Better Living **(NBL 2023)** Srinagar, Kashmir **(Poster presented)**.

3. Recent Advancement in Sustainable Materials **(GC-RASM 2022)** Mangalore, Karnataka **(Oral presentation)**.

4. International Conference on Higher Education Research and Innovation **(ICHERI 2022) (Attended Virtually)**

5. International Conference on Advanced Materials and Mechanical Characterization **(ICAMMC 2021) (Attended Virtually)**

6. International Conference on Functional Nanomaterials **(ICFNM 2019)** Department of Physics, IIT (BHU), Varanasi, India **(Poster presented)**.

7. The European School on Magnetism **(ESM 2019)**, Brno, Czech Republic **(Poster Presented)**.

Vita

Rajnandini Sharma was born on 14^{th} December 1993 in Rajasthan, India. She has completed her matriculation and intermediate in Madhya Pradesh, India. As she was among the top 1% students of Madhya Pradesh in her intermediate, she got selected for the Scholarship for Higher Education (SHE), INSPIRE, DST, government of India. She also secured the first position in her batch during her bachelor's degree at Gov. Holkar Science College, Indore. She has a master's degree in Physics from the School of Physics, DAVV, Indore, India. She has attended a summer internship at the Institute for Plasma Research (IPR), Gandhinagar, India, during her master's degree. In IPR, she has aligned a polychromator for the SST -1 Tokamak. As a master's thesis, she has studied temperature-dependent Raman spectroscopic studies of $LaFeO_3$ and $LaMnO_3$ across magnetic ordering under Dr. Vasant Sathe at UGC-DAE CSR, Indore. After completing her master's degree, she joined the School of Physics, DAVV, as a Project fellow sponsored by Inter University Accelerator Center, New Delhi, India. There, she developed her interest as a materials researcher. Therefore, she decided to continue materials science as her doctorate stream. Thereafter she joined Dr. Shrawan Kumar Mishra's lab at the School of Materials Science and Technology, Indian Institute of Technology (BHU). In her doctoral studies, she has explored the ferromagnetic insulators, YIG and TmIG. She has synthesized 12- 25 nm thick epitaxial and polycrystalline thin films with all solution-based, cost-effective methods. She presented that it is possible to grow epitaxial thin films of application potential using a cost-effective method.