

Ms. Tusita Sau

Date Of Birth | 15th September 1992
Citizenship | Indian.
Age | 30 Yrs.
Gender | Female.
Designation | RA-I.
Contact Information | Quantum Material Laboratory,
S. N. Bose National Centre For Basic Sciences.
JD Block, Salt lake, Sector III, Kolkata 700106.
Mobile No: 7908076209,
Email : tsau.bcc@gmail.com.



Areas of Specialization

- Experimental work on material science.
- X-Ray & Neutron Powder Diffraction.
- Magnetization.
- Dielectric & Magneto electric Study.

Current Work

Synthesis, Structural and, Magnetic Study of Double Perovskites

Ph.D.

2016-2023

Topic

Structural, dielectric and magneto electric studies on some rare-earth and transition metal based oxide perovskites and double perovskites.

Institute Name

Low Temperature High Magnetic Field XRD Lab,
UGC-DAE Consortium For Scientific Research
DAVV University, Khandwa Road, Indore, M.P. 452001.

Educations

M.Sc (Physics)
University: Visva-Bharati, Santinikatan, W.B. India.
Marks: 70.8%, Duration: 2013-2015.

B.Sc (Physics Hons.)
College: Bankura Christian College, Bankura, W.B. India.
University: Burdwan University, Burdwan, W.B. India.
Marks: 63.25%, Duration: 2010-2013.

Publications

1. High-resolution time of flight neutron diffraction and magnetization studies of spin reorientation and polar transitions in SmCrO₃.
Tusita Sau, Poonam Yadav, Shivani Sharma, Rajamani Raghunathan, Pascal Manuel, Vaclav Petricek, U. P. Deshpande, and N. P. Lalla.

Phys. Rev. B 103, 144418 – Published 12 April 2021.
DOI: [10.1103/PhysRevB.103.144418](https://doi.org/10.1103/PhysRevB.103.144418)

2. First-order nature of the spin-reorientation phase transition in SmCrO_3 .
Tusita Sau, Shivani Sharma, Poonam Yadav, R. Baumbach, T. Siegrist, Alok Banerjee, and N. P. Lalla.
Phys. Rev. B **106**, 064413 – Published 10 August 2022.
DOI: [10.1103/PhysRevB.106.064413](https://doi.org/10.1103/PhysRevB.106.064413)
3. Evidence of a cluster spin-glass state in B-site disordered perovskite $\text{SrTi}_{0.5}\text{Mn}_{0.5}\text{O}_3$.
Shivani Sharma, Poonam Yadav, **Tusita Sau**, Premakumar Yanda, Peter J. Baker, Ivan Da Silva, A. Sundaresan, N. P. Lalla.
Journal Of Magnetism 492, 165671 (2019).
<https://doi.org/10.1016/j.jmmm.2019.165671>
4. Jahn-Teller and geometric frustration effects on the structural and magnetic ground states of substituted spinels (Ni, A) Cr_2O_4 (A= Mn/Cu).
Poonam Yadav, Shivani Sharma, **Tusita Sau**, Ivan Da Silva, N. P. Lalla.
Journal of Alloys and Compounds, 826, 154139 (2020).
<https://doi.org/10.1016/j.jallcom.2020.154139>

Conference Proceedings

1. Coexistence of relaxor and normal ferroelectrics in $(\text{Ba}_{0.82}\text{Sr}_{0.02}\text{Ca}_{0.16})\text{Ti}_{0.9}\text{Zr}_{0.1}\text{O}_3$.
(Oral Presentation in 63rd DAE SSPS, Hisar, December 2018).
Tusita Sau, Poonam Yadav, and N. P. Lalla
AIP Conference Proceedings 2115, 030006 (2019),
<https://doi.org/10.1063/1.5112845>
2. Structural dielectric and impedance spectroscopy of YBaCuFeO_5
Pooja Jain, Poonam Yadav, **Tusita Sau**, and N. P. Lalla.
AIP Conference Proceedings 2265, 030002 (2020);
<https://doi.org/10.1063/5.0016649>

Poster Presentations

1. International Conference on Advancement in Science & Technology.
(September 2018 at Visva-Bharati, Santiniketan, W.B. India)
2. 3rd International Conference on Condensed Matter & Applied Physics (3rd ICC 2019)
(October 2019, Bikaner, Rajasthan, India.)
3. 63th DAE Solid State Physics Symposium (63th DAE SSPS 2019).
(Guru Jambheshwar University, December 2018, Hisar, Haryana, India) (Oral).

4. 64th DAE Solid State Physics Symposium (64th DAE SSPS 2019). (IIT Jodhpur, December 2019, Jodhpur, Rajasthan, India) (Poster).
 5. 36th M.P. Young Scientist Congress, (Online, 23-26th March 2021) (Oral).
 6. In house Research Scholar Workshop UGC-DAE CSR, Indore-2018, Oral.
 7. In house Research Scholar Workshop UGC-DAE CSR, Indore-2019, Oral.
 8. In house Research Scholar Workshop UGC-DAE CSR, Indore-2020, Oral.
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