SAMRIDDHI SANKAR MAITY

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https://ssmaity.github.io/

- SCOSTEP Visiting Scholar, NASA/Goddard Space Flight Centre, Washington DC, USA
- Senior Research Fellow, Indian Institute of Science and Indian Institute of Astrophysics, India

EDUCATION

- **PhD** in Solar Astrophysics, Joint Astronomy Programme (JAP) (2018 - Ongoing, Thesis submitted)
  Indian Institute of Science and Indian Institute of Astrophysics, India
- **Master of Science (M.Sc.)** in Physics (specialisation in Astroparticle Physics) (2015 - 2017)
  St. Xavier's College (Autonomous) under the University of Calcutta, India
- **Bachelor of Science (B.Sc.)** in Physics (2012 - 2015)
  Narasinha Dutt College under the University of Calcutta, India

PUBLICATIONS

- **Maity, S. S.**, Chatterjee, P., Sarkar, R., Mytheen, S. I., Evolution of reconnection flux during eruption of magnetic flux ropes (submitted in ApJ) Arxiv ID: 2407:18188v2
- **Maity, S. S.**, Sarkar, R., Chatterjee, P., Srivastava, N., Photospheric Lorentz force changes in eruptive and confined solar flares. ApJ (2024) 962, 86 [DoI: 10.3847/1538-4357/ad13f0]
- Majumdar, S., Tadepalli, S.P., **Maity, S.S.** et al. Imaging and Spectral Observations of a Type-II Radio Burst Revealing the Section of the CME-Driven Shock That Accelerates Electrons. Sol Phys (2021) 296, 62 [DoI: 10.1007/s11207-021-01810-8]

PROJECTS

- Synthesis for 3D Hydro and Magnetohydrodynamic Simulations of Exo-planet host star surface layers under Prof. S. P. Rajaguru at Indian Institute of Astrophysics, India. (January 2019 – April 2019)
- Trajectory of a neutral particle around a binary black hole spacetime under Dr. Shibaji Bhattacharya at St. Xavier's College, India. (January 2017 – May 2017)

TEACHING EXPERIENCES

- Assisted in teaching for the course 'Introduction to Fluid Mechanics and Plasma Physics' at Indian Institute of Science, India (Aug – Dec, 2022)
- Assisted in teaching for the course 'Computational Physics and Statistics' at Indian Institute of Astrophysics, India (Oct – Dec, 2021)
- Assisted in teaching for the course 'Fundamentals of Astrophysics' at Indian Institute of Science, India (Oct 2020 - Feb 2021)

AWARDS

- Awarded SCOSTEP Visiting Scholar (SVS) Programme in 2024.
- Qualified JEST (a National Eligibility Test in India) with rank 99 out of 13000 (2018).
- Qualified CSIR-UGC NET (a National Eligibility Test in India conducted by Council of Scientific and Industrial Research) for Junior Research Fellowship in Physical Science with rank 135 out of 15000 (June, 2018).

COMPUTATION SKILLS

- Expert in C/C++, Fortran, Python, IDL, MATLAB, and Paraview.
- Experienced in MPI and used High Performance Computing resources.
- Skilled in utilising Pencil Code (a higher-order finite-difference code for compressible hydrodynamic flows with magnetic fields) for solving magneto-hydrodynamic problems in solar corona.

ORAL AND POSTER PRESENTATIONS

- Talk presented in the Symposium of International Astronomical Union (May 5 - 10, 2024) at Jagiellonian University, Krakow, Poland. Title: Eruption of Coronal Flux Rope Under Streamers from Full 3D MHD Simulation.
- Talk presented in the General Assembly of European Geosciences Union (April 14 - 19, 2024) at Vienna, Austria (participated online). Title: Photospheric Lorentz force changes in Eruptive and Confined Solar flares.
- Talk presented in the Astronomical Society of India Workshop (January 31st, 2024) at Indian Space Research Organisation, Bengaluru, India. Title: Calculation of reconnection fluxes during CME initiation: Observations versus numerical simulation.
- Talk presented in the Indo-U.S. Science and Technology Forum at GSFC, NASA, USA (June 5 - 16, 2023). Title: Photospheric Lorentz force changes in Eruptive and Confined Solar flares.
- Talk presented in the In-house Symposium by the Department of Physics at Indian Institute of Science, India (January 24 - 25, 2023). Title: Photospheric magnetic imprints of eruptive and confined solar flares.
- Oral presentation in the 18th Annual Pencil Code User Meeting organized by Indian Institute of Astrophysics, Bengaluru, India (May 4 - 10, 2022). Title: Simulation of solar coronal mass ejections due to twisted flux rope emergence.
- Poster presented in the 40th Astronomical Society of India Meeting jointly organised by ARIES, Nainital and IIT Roorkee, Roorkee at IIT Roorkee, India (March 25 - 29, 2022). Title: Simulation of solar coronal mass ejections due to twisted flux rope emergence
- Poster presented in the In-house Symposium by the Department of Physics at Indian Institute of Science, India (January 27 - 28, 2022). Title: Imaging and Spectral Observations of a Type-II Radio Burst Revealing the Section of the CME-Driven Shock That Accelerates Electrons.

WORKSHOPS AND SCHOOLS ATTENDED

- Participated in an online workshop on High Performance Computing for Astronomy and Astrophysics organised jointly by the IIT Kharagpur under National Supercomputing Mission (Sep 20 - 23, 2021).
- Participated in COSPAR Capacity Building Workshop titled Coronal and Interplanetary Shocks: Analysis of Data from Space and Ground-based Instruments organised by The Committee on Space Research at Kodaikanal, India (January 6 - 17, 2020).
- Participated in a Short Course on High Performance Computing organised by Supercomputer Education and Research Centre at Indian Institute of Science, India (May 27 – 31, 2019).

EXTRA CURRICULARS

- Volunteered as a local organising committee member in 42nd annual meeting of Astronomical Society of India from 31st January 2024 to 4th February 2024 at Indian Institute of Science, Bengaluru.
- Member of the Local Organising Committee for 18th Pencil Code Meeting held at Indian Institute of Astrophysics, Bengaluru in 2022.
- Served as General Secretary of PDA (Phi-Delta-Alpha, an Association of Physics Department at Indian Institute of Science, Bengaluru) from August 2019 - July 2020.

REFERENCE

- Dr. Piyali Chatterjee (Associate Professor)
  Indian Institute of Astrophysics, Bengaluru, India.
  Email: piyali.chatterjee@iiap.res.in
- Prof. Nandita Srivastava (Senior Professor)
  Udaipur Solar Observatory, Physical Research Laboratory, Ahmedabad, India.
  Email: nandita@prl.res.in
- Dr. Nat Gopalswamy
  NASA Goddard Space Flight Centre, Greenbelt, Maryland, USA
  Email: natchimuthuk.gopalswamy-1@nasa.gov