Professor Dr. Durgesh Tripathi

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Research Interest: Solar Astrophysics

- **Coupling & Dynamics of the Solar Atmosphere and Space Weather:** Heating of the solar atmosphere, UV & EUV Spectroscopy, Solar Eruptions and Associated Phenomena, Solar Terrestrial-Relations, Solar Magneto-hydrodynamics, Solar-Stellar Connection.
- **Sun-Climate Relationship:** Variation of Solar Ultraviolet Irradiance and its' relationship with various magnetic and non-magnetic features.
- **Space Missions:** Currently Principal Investigator of the Solar Ultraviolet Imaging Telescope (SUIT) onboard Aditya-L1 mission of the Indian Space Research Organization (ISRO). SUIT will observe the Sun within 200–400 nm using 11 different passbands, providing full disc images of the photosphere and the chromosphere. The radiation emitted from the Sun within this wavelength band is central to our understanding of the Sun-climate relationship.

Awards and Honours

2022 – · · · ·	**Member,** Editorial Board, Royal Astronomical Society Techniques and Instruments (RASTI)
2022 – 2025	**Elected Councillor,** Astronomical Society of India (ASI)
2021 – 2024	**Elected Member,** Steering Committee, Division E (Sun and Heliosphere), International Astronomical Union (IAU)
2020 – 2022	**Elected Chair,** International steering committee of Coronal Loops Workshops
2019 – · · · ·	**Member,** Editorial Board of Proceedings of the Royal Society A
2018 – 2020	**Elected Member,** International steering committee on Coronal Loops Workshops
2017	**BUTI Foundation Award** in Plasma Science and Technology given biennially to a scientist under 45 years by the Physical Research Laboratory, Ahmedabad
2014 – 2021	**Head,** Max-Planck-Partner group of the Max Planck Institute for Solar System Research at IUCAA on the Coupling and Dynamics of the Solar Atmosphere
2013	**Group Achievement Award** in Understanding the Genesis and Evolution of Coronal Mass Ejections, Awarded by the *Romanian Academy of Science, Romania*
2011 – · · · ·	**Life Member,** Clare Hall, University of Cambridge, UK
2010	**JSPS Visiting Professorship** at Kwasan and Hida Observatories Kyoto University, Japan
2009 – 2011	**Fellow** at Clare Hall, University of Cambridge, UK
2006	**Visiting Scientist Fellowship**, High Altitude Observatory, National Centre for Atmospheric Research, Boulder, USA
2006 – 2009	**Associate Member** at St. Edmunds College, University of Cambridge, UK
2002 – 2005	**International Max-Planck-Research School Fellowship** at the Max-Planck-Institute for Solar System Research, Göttingen, Germany
2002	**University Gold Medal (M.Sc. Physics)**, D.D.U. Gorakhpur University, Gorakhpur, India

Employment History

Jul 2019 – **Professor,** Inter-University Centre for Astronomy and Astrophysics (IUCAA), Pune, India +91 20 25604 100

Jul 2014 – Jun 2019 **Associate Professor,** Inter-University Centre for Astronomy and Astrophysics (IUCAA), Pune, India +91 20 25604 100

Apr 2011 – Jun 2014 **Assistant Professor,** Inter-University Centre for Astronomy and Astrophysics (IUCAA), Pune, India +91 20 25604 100

Nov 2008 – Mar 2011 **Post Doctoral Research Associate**, Department of Applied Mathematics and Theoretical Physics (DAMTP), University of Cambridge, Wilberforce Road CB3 0WA, UK +44 1223 765000

May – Nov 2008 **Post Doctoral Research Associate**, Mullard Space Science Laboratory (MSSL), 2 Holmbury St Mary, Dorking, Surrey RH5 6NT, UK +44 1483 204 100

Sep 2005 – May 2008 **Post Doctoral Research Associate**, Department of Applied Mathematics and Theoretical Physics (DAMTP) University of Cambridge, Wilberforce Road CB3 0WA, UK +44 1223 765000

Feb 2005 – Aug 2005 **Post Doctoral Fellow**, Max-Planck-Institute for Solar System Research Max-Planck-Str 2, D-37191 Katlenburg-Lindau, Germany +49 5556 979 0

Education

Feb 2002 – Feb 2005 **Dr. rer. Nat. (Doctor rerum naturalism – Doctor of Natural Sciences (Astronomy and Astrophysics)), Max-Planck Institute** for Solar System Research, (Georg-August Universität) Göttingen, Germany
Thesis title: *EUV and Coronagraphic Observations of Coronal Mass Ejections.*

1999 – 2001 **M.Sc. Physics with Specialization in Astrophysics** – *University Gold Medalist*

Supervision

PhD Students

2021 – · · · · **Biswanath Malaker:** Thesis Title: "Multi-wavelength Observations of Polar Plumes and Jets"

Janmejoy Sarkar: Thesis Title: "Alignment and Characterization of the Solar ultraviolet Imaging Telescope (SUIT)"
[with Dr Gazi Ahmed and Prof A. N. Ramaprakash]

2020 – · · · · **Soumya Roy:** Thesis Title: "Dynamics of the Lower Solar Atmosphere"

2019 – 2023 **Vishal Upendran:** Thesis Title: "Heating and Dynamics of the Quiet Solar Corona"

2018 – 2023 **Abhishek Rajhans:** Thesis Title: "Energetics of the Solar Atmosphere"
[with Dr Vinay L. Kashyap]

2015 – 2020 **Aishawnnya Sharma:** Thesis Title: "Coupling of the Solar Atmosphere through Waves"
[with Dr Gazi Ahmed]

2013 – 2019 **Avyarthana Ghosh:** Thesis Title: "Dynamic Coupling of the Solar Atmosphere: Instrumentation and Observations"
[with Prof A N Ramaprakash and Prof Dibyendu Nandi]

Post Doctoral Fellows

Feb 2021 - · · · · **Dr Megha Anand** IUCAA Post Doctoral Fellow

Supervision (continued)

Sep 2019 - Oct 2021	**Dr Avyarthana Ghosh** Post Doctoral Fellow under SUIT Project (with Prof A N Ramaprakash)
Jan 2018 - Oct 2021	**Dr P. Sreejith** SUIT Project Scientist (with Prof A N Ramaprakash)
Jun 2018 - Oct 2019	**Dr Sargam Mulay** IUCAA Post Doctoral Fellow
Feb 2017 - Jan 2019	**Dr Sangeetha CR** Post Doctoral Fellow under Max-Planck Partner Group
Aug 2013 - Mar 2018	**Dr Girjesh Gupta** DST INSPIRE Faculty Fellow
Nov 2014 - Oct 2016	**Dr Pradeep Kayshap** Post Doctoral Fellow under Max-Planck Partner Group
Jul 2012 - Jun 2014	**Dr Srividya Subramanian** IUCAA Post Doctoral Fellow

Research Assistants

May 2023 – · · · ·	**Deepak Kathait** – Junior, ISRO/RESPOND Project Project title: Multi-Wavelength Observations of Solar Flares
	Lin Abraham – Junior Research Fellow, ISRO/RESPOND Project Project title: Prediction of Solar Flare with application of Machine Learning
Aug 2021 – 2022	**Melvin James** – Senior Research Fellow, SUIT Project Project title: Qualification and assembly of the SUIT payload
Oct 2018 – Sep 2019	**Nived VN** – Project Student at IUCAA under Max Planck Partner Group Project title: Differences and Similarities between Quiet Sun and Coronal Holes
Oct 2018 – Aug 2019	**Aditya Singh** – Project Student at IUCAA under Max Planck Partner Group Project title: Development of data pipeline for SUIT
Jun 2016 – Dec 2017	**Pranjal Sarmah** – Project Student under ISRO RESPOND Scheme with Tezpur University Project title: Dynamics of Prominences
Oct 2014 – Feb 2016	**Aparna V.** – Project Student under DST Fast Track Scheme Project Title: Physics of Jets in the Solar Atmosphere
Jan 2013 - Sep 2014	**Sargam Mulay** – Project Student under DST Fast Track Scheme Project Title: Physics of Jets in the Solar Atmosphere

Undergraduate Students

Mar 2019 – May 2019	**P. V. Manjusha** Thesis submitted at Department of Physics, Government College, Madappally, University of Calicut Project Title: Understanding the relationship between flares and CMEs onset time
	Anushree C. V. Thesis submitted at Department of Physics, Government College, Madappally, University of Calicut Project Title: Understanding the projections effects in CME speeds
Dec 2016 – May 2018	**Nived V. N.** MSc Thesis at Indian Institute of Science Education and Research Project Title: Study of Active Regions using AIA, IRIS and EIS **Moved to:** PhD student at Armagh Observatory, Ireland, UK
Jan 2016 – Apr 2016	**Namrata Roy** MSc Thesis at Presidency University Project Title: Characteristics of Chromospheric Spectral Lines in Solar Flares **Moved to:** PhD student at University of California, Santa Cruz
Oct 2013 – Dec 2014	**Sherry Chhabra** MSc Thesis at Fergusson College, Pune Project Title: On the Asymmetries in the Solar Coronal Spectral Lines **Moved to:** PhD student at New Jersey Institute of Technology, USA

Supervision (continued)

Jan 2013 – Mar 2014 — **Juie Shetye** MSc Student at University College London
Project Title: North-South Asymmetry in Solar Magnetic Flux and effect on the grand solar minima
Moved to: PhD student at Armagh Observatory, Ireland, UK

Engineers/Data Scientists [Jointly with Prof A N Ramaprakash]

Jul 2023 – · · · · — **Nived V N –** SUIT Payload Data Scientist

Jun 2023 – · · · · — **Rahul G. –** SUIT Software Engineer

Dec 2020 – · · · · — **Rushikesh Deogaonkar –** SUIT Software Engineer

Nov 2015 – Aug 2021 — **Mr Ravi Kesharwani –** SUIT Electronics Engineer

Jul 2017 – Jul 2020 — **Akshay Kulkarni –** SUIT Mechanical Engineer

Jan 2015 – Dec 2018 — **A. R. Khan –** SUIT Lead Engineer

Teaching

2021 – 2022 — **Astronomy and Astrophysics II (Stellar Structure and Evolution)**
IUCAA-NCRA Graduate School

2020 – 2021 — **Research Methods and Statistical Techniques (Statistical Techniques)**
IUCAA-NCRA Graduate School

2018 – 2019 — **Astronomy and Astrophysics II (Stellar Structure and Evolution)**
IUCAA-NCRA Graduate School

2017 – 2018 — **Astronomy and Astrophysics II (Stellar Structure and Evolution)**
IUCAA-NCRA Graduate School

2015 – 2016 — **Astrophysics I (Orbits, Fluids, Radiation)**
SP Pune University MSc Course

2014 – 2015 — **Astrophysics I (Orbits, Fluids, Radiation)**
SP Pune University MSc Course

2012 – 2013 — **Electrodynamics and Radiative Processes**
IUCAA-NCRA Graduate School

2011 – 2012 — **Electrodynamics and Radiative Processes**
IUCAA-NCRA Graduate School

Research Grants

2023 – 2026 — **PI –** *Investigating the origin of switchbacks in the solar corona via interchange reconnection - A statistical and multi-instruments approach including machine learning*, Indo-French Center for the Promotion of Advanced Research

2022 – 2025 — **PI –** *Solar Flares: Physics and forecasting for better understanding of space weather*, ISRO/RESPOND, India

2016 – · · · · — **PI –** *Development and building of the Solar Ultraviolet Imaging Telescope (SUIT) on board Aditya – L1*, a project by Indian Space Research Organization (ISRO), India

2016 – 2019 — **Co-PI –** *Dynamics of prominences and large scale eruptions such as CMEs*, funded by ISRO/RESPOND, India

2014 – 2021 — **PI –** *Coupling and Dynamics of the Solar Atmosphere* jointly funded by Max-Planck Society Germany and Indo-German Science and Technology, Department of Science and Technology, India under Max-Planck Partner Group

Research Grants (continued)

2013 – 2015 **Co-PI –** *ClassACT - Indo-US centre for astronomical object and feature characterization and classification* funded by Indo-US Science and Technology Forum

2012 – 2015 **PI –** *Physics of Jets in Solar Atmosphere and their Roles in Large-Scale Eruptions* funded by Department of Science and Technology, India

Organizational Roles

Jun 2022, 28 – Jul 01 **5th Asia Pacific Solar Physics Meeting**, IUCAA, Pune
Co-chair, SOC & Chair, LOC

Feb 2020, 3–8 **5th Asia Pacific Solar Physics Meeting**, IUCAA, Pune
Co-chair, SOC & Chair, LOC

Mar 2018, 6–10 **Annual meeting of Astronomical Society of India**
Member SOC

Feb 2018, 6–10 **IAUS 340: Long-term datasets for the understanding of solar and stellar magnetic cycles**, Jaipur, India
Member LOC

Jun 2017, 27–30 **8th Coronal Loops Workshop**: many facets of magnetically closed corona, Palermo, Italy
Member SOC

Mar 2017, 6–10 **Annual meeting of Astronomical Society of India**
Member SOC

Jan 2016, 24–29 **International Conference on Science for Space Weather** in Goa, India
Member of LOC

Oct 2015, 26–29 **IRIS-5 Workshop** at IUCAA, Pune
Chair of SOC and LOC

Nov 2014, 10–14 **Coupling and Dynamics of the Solar Atmosphere** at IUCAA, Pune
Chair of SOC and LOC

Aug 2014, 2–14 **COSPAR-2014**, Moscow
Member SOC for three different sessions

Nov 2011, 6–9 **International Symposium on Solar-Terrestrial Physics**, IISER, Pune
Member of LOC

Sep 2011, 5–7 **National Workshop on Physics of Solar Transition Region and Corona**, IUCAA, Pune
Chair of SOC and LOC

Sep 2010, 13–15 **International Conference on Solar Plasma Spectroscopy**: Achievements and Future Challenges, DAMTP, University of Cambridge, UK
Co-Chair of SOC and LOC

Jul 2007, 25–27 **Eruptive Phenomena on the Sun**, DAMTP, University of Cambridge, UK
Co-Chair of SOC and LOC

Administration

Sep 2023 – · · · ·	**Member**, Scientific Meetings (selection and approval) and ICARDS
	Member, Infrastructural Facilities at IUCAA
Oct 2023 – · · · ·	**Member**, Rajabhasha Committee at IUCAA
Dec 2020 – · · · ·	**Head**, Creche Committee at IUCAA
Jan 2016 – · · · ·	**Member**, Instrumentation and IUCAA Girawali Observatory
Nov 2012 – · · · ·	**Member**, Teaching Programme Committee at IUCAA
Apr 2011 – · · · ·	**Member**, Academic Programme Committee at IUCAA
Dec 2019 – Sep 2023	**Head**, Rajabhasha Committee at IUCAA
Jan 2016 – Aug 2023	**Head**, IUCAA Library
Nov 2014 – Apr 2022	**Member**, IUCAA Public Outreach Programmes
May 2013 – Nov 2014	**National Outreach Contact** for IAU
Aug 2013 – Nov 2014	**Member**, TMT's WEPO Advisory Group
Oct 2012 – Nov 2014	**Head**, Public Outreach Programmes at IUCAA
2009 – 2011	**Member**, Governing Body, Clare Hall, Cambridge University, Cambridge

Memberships to Professional Societies/Colleges

- **Member** – International Astronomical Union
- **Life Member** – Astronomical Society of India
- **Life Member** – Clare Hall, University of Cambridge, UK

Annexure B: List of Research Publications

1. Sharma, A., & **Tripathi, D.** (2023). Variation of temperature and non-thermal velocity with height in fan loops. ***MNRAS***, *525(2), 1657–1663.* *doi:*10.1093/mnras/stad2359

2. Nandy, D., Banerjee, D., Bhowmik, P., BRUN, A. S., Cameron, R. H., Gibson, S. E., … Usoskin, I. G. (2023). Exploring the Solar Poles: The Last Great Frontier of the Sun. In ***Bulletin of the American Astronomical Society*** (Vol. 55, p. 287). doi:10.3847/25c2cfeb.1160b0ef. arXiv: 2301.00010 [astro-ph.IM]

3. Raouafi, N. E., Hoeksema, J. T., Newmark, J. S., Gibson, S., Berger, T. E., Upton, L. A., … Wilson, L. (2023). Firefly: The Case for a Holistic Understanding of the Global Structure and Dynamics of the Sun and the Heliosphere. In ***Bulletin of the American Astronomical Society*** (Vol. 55, p. 333). doi:10.3847/25c2cfeb.c647a83d

4. Rajhans, A., **Tripathi, D.**, Kashyap, V. L., Klimchuk, J. A., & Ghosh, A. (2023). Center-to-limb Variation of Transition-region Doppler Shifts in Active Regions. ***The Astrophysical Journal***, *944(2), 158.* *doi:*10.3847/1538-4357/acb4ed. *arXiv:* 2301.06723 [astro-ph.SR]

5. Varma, M., Padinhatteri, S., Sinha, S., Tyagi, A., Burse, M., Yadav, R., … Unnikrishnan, A. (2023). The Solar Ultra-Violet Imaging Telescope (SUIT) Onboard Intelligence for Flare Observations. ***Solar Physics***, *298(2), 16.* *doi:*10.1007/s11207-023-02108-7. *arXiv:* 2301.06723 [astro-ph.SR]

6. Mulay, S. M., **Tripathi, D.**, Mason, H., Del Zanna, G., & Archontis, V. (2023). Formation and thermodynamic evolution of plasmoids in active region jets. ***MNRAS***, *518(2), 2287–2299.* *doi:*10.1093/mnras/stac3035. *arXiv:* 2211.01740 [astro-ph.SR]

7. **Tripathi, D.**, Chakrabarty, D., Nandi, A., Raghvendra Prasad, B., Ramaprakash, A. N., Shaji, N., … Yadav, V. K. (2023). The Aditya-L1 mission of ISRO. ***IAU Symposium***, *372*(2), 17–27. doi:10.1017/S1743921323001230. arXiv: 2212.13046 [astro-ph.SR]

8. Varma, S. V. M., Tyagi, A., Joshi, B., Yadav, R., Chordia, P., Kumar, G., … Azaruddin, M. (2023). The Solar Ultraviolet Imaging Telescope: detector characterization and readout electronics testing. ***RAS Techniques and Instruments***, *2*(1), 256–263. doi:10.1093/rasti/rzad013. arXiv: 2211.01740 [astro-ph.SR]

9. Upendran, V., **Tripathi, D.**, Mithun, N. P. S., Vadawale, S., & Bhardwaj, A. (2022). Nanoflare Heating of the Solar Corona Observed in X-Rays. ***The Astrophysical Journal Letters***, *940(2), L38.* *doi:*10.3847/2041-8213/aca078. *arXiv:* 2211.02324 [astro-ph.SR]

10. Ghosh, A., Kesharwani, R., Khan, A. R., Padinhatteeri, S., **Tripathi, D.**, Ramaprakash, A. N., … Sen, S. (2022). The thermal filter for the Solar Ultraviolet Imaging Telescope (SUIT) on-board Aditya-L1. In J.-W. A. den Herder, S. Nikzad, & K. Nakazawa (Eds.), *Society of photo-optical instrumentation engineers (spie) conference series* (Vol. 12181, 121813O). doi:10.1117/12.2629760. arXiv: 2211.02324 [astro-ph.SR]

11. **Tripathi, D.** (2022). Science from Aditya-L1 mission of the Indian Space Research Organization. In *44th cospar scientific assembly. held 16-24 july* (Vol. 44, p. 1354). doi:10.3847/2041-8213/aca078. arXiv: 2211.02324 [astro-ph.SR]

12. Upendran, V., & **Tripathi, D.** (2022a). On the formation solar wind, switchbacks and Quiet Sun heating. In *44th cospar scientific assembly. held 16-24 july* (Vol. 44, p. 1355). doi:10.3847/2041-8213/aca078. arXiv: 2211.02324 [astro-ph.SR]

13. Shokri, Z., Alipour, N., Safari, H., Kayshap, P., Podladchikova, O., Nigro, G., & **Tripathi, D.** (2022). Synchronization of Small-scale Magnetic Features, Blinkers, and Coronal Bright Points. ***The Astrophysical Journal***, *926(1), 42.* *doi:*10.3847/1538-4357/ac4265. *arXiv:* 2201.04459 [astro-ph.SR]

14. Upendran, V., & **Tripathi, D.** (2022b). On the Formation of Solar Wind and Switchbacks, and Quiet Sun Heating. ***The Astrophysical Journal***, *926(2), 138.* *doi:*10.3847/1538-4357/ac3d88. *arXiv:* 2111.11668 [astro-ph.SR]

15. Rajhans, A., **Tripathi, D.**, Bradshaw, S. J., Kashyap, V. L., & Klimchuk, J. A. (2022b). Flows in Enthalpy-

based Thermal Evolution of Loops. ***The Astrophysical Journal***, *924(1), 13.* *doi:*10.3847/1538-4357/ac3009. *arXiv:* 2110.03204 [astro-ph.SR]

16 Roy, S., **Tripathi**, **D.**, & Young, P. (2021b). Characterizing the Spectral Profiles of Mg II, C II and Si IV in Solar Flares. In *Agu fall meeting abstracts* (Vol. 2021, SH25E–2128). doi:10.3847/1538-4357/ac3009. arXiv: 2110.03204 [astro-ph.SR]

17 Upendran, V., & **Tripathi**, **D.** (2021a). Machine learning inference of statistical signatures of heating events. In *Agu fall meeting abstracts* (Vol. 2021, SH15D–2058). doi:10.3847/1538-4357/ac3009. arXiv: 2110.03204 [astro-ph.SR]

18 Upendran, V., & **Tripathi**, **D.** (2021b). Properties of the C II 1334 Å Line in Coronal Hole and Quiet Sun as Observed by IRIS. ***The Astrophysical Journal***, *922(2), 112.* *doi:*10.3847/1538-4357/ac2575. *arXiv:* 2109.04287 [astro-ph.SR]

19 Upendran, V., & **Tripathi**, **D.** (2021c). Solar wind signatures in the chromosphere. In *Agu fall meeting abstracts* (Vol. 2021, SH32B–05). doi:10.3847/1538-4357/ac2575. arXiv: 2109.04287 [astro-ph.SR]

20 Rajhans, A., **Tripathi**, **D.**, & Kashyap, V. L. (2021b). Hydrodynamics of Small Transient Brightenings in the Solar Corona. ***The Astrophysical Journal***, *917(1), 29.* *doi:*10.3847/1538-4357/ac03bb. *arXiv:* 2105.08800 [astro-ph.SR]

21 Upendran, V., & **Tripathi**, **D.** (2021d). On the Impulsive Heating of Quiet Solar Corona. ***The Astrophysical Journal***, *916(1), 59.* *doi:*10.3847/1538-4357/abf65a. *arXiv:* 2103.16824 [astro-ph.SR]

22 Ghosh, A., **Tripathi**, **D.**, & Klimchuk, J. A. (2021d). Nonthermal Velocity in the Transition Region of Active Regions and Its Center-to-limb Variation. ***The Astrophysical Journal***, *913(2), 151.* *doi:*10.3847/1538-4357/abf244. *arXiv:* 2103.15081 [astro-ph.SR]

23 Mulay, S. M., **Tripathi**, **D.**, & Mason, H. (2021d). Thermodynamic evolution of a sigmoidal active region with associated flares. ***MNRAS***, *504(1), 1201–1218.* *doi:*10.1093/mnras/stab816. *arXiv:* 2103.09561 [astro-ph.SR]

24 **Tripathi**, **D.** (2021a). Transient Formation of Loops in the Core of an Active Region. ***The Astrophysical Journal***, *909(2), 105.* *doi:*10.3847/1538-4357/abdd2e. *arXiv:* 2101.06622 [astro-ph.SR]

25 **Tripathi**, **D.**, Nived, V. N., & Solanki, S. K. (2021a). Coronal Heating and Solar Wind Formation in Quiet Sun and Coronal Holes: A Unified Scenario. ***The Astrophysical Journal***, *908(1), 28.* *doi:*10.3847/1538-4357/abcc6b. *arXiv:* 2011.09803 [astro-ph.SR]

26 Kayshap, P., **Tripathi**, **D.**, & Jelınek, P. (2021a). Dynamics of Sunspot Shock Waves in the Chromosphere and Transition Region. ***The Astrophysical Journal***, *906(2), 121.* *doi:*10.3847/1538-4357/abcc6f. *arXiv:* 2011.10192 [astro-ph.SR]

27 **Tripathi**, **D.** (2021b). Heliophysics Public Outreach in India. In *43rd cospar scientific assembly. held 28 january - 4 february* (Vol. 43, p. 2437). doi:10.3847/1538-4357/abcc6f. arXiv: 2011.10192 [astro-ph.SR]

28 **Tripathi**, **D.** (2021c). Space Climate Studies with the Solar Ultraviolet Imaging Telescope on board Aditya-L1 mission. In *43rd cospar scientific assembly. held 28 january - 4 february* (Vol. 43, p. 917). doi:10.3847/1538-4357/abcc6f. arXiv: 2011.10192 [astro-ph.SR]

29 **Tripathi**, **D.** (2020a). ISRO's First Solar Observatory in Space: Aditya-L1 Mission. In *Agu fall meeting abstracts* (Vol. 2020, SH056–01). doi:10.3847/1538-4357/abcc6f. arXiv: 2011.10192 [astro-ph.SR]

30 Ghosh, A., & **Tripathi**, **D.** (2020a). Formation and dynamics of transequatorial loops. ***Astronomy and Astrophysics***, *640(2), A3.* *doi:*10.1051/0004-6361/201936681. *arXiv:* 2005.12839 [astro-ph.SR]

31 Sharma, A., **Tripathi**, **D.**, Erdélyi, R., Gupta, G. R., & Ahmed, G. A. (2020a). Wave amplitude modulation in fan loops as observed by AIA/SDO. ***Astronomy and Astrophysics***, *638(2), A6.* *doi:*10.1051/0004-6361/201936667. *arXiv:* 2004.05797 [astro-ph.SR]

32 Sangeetha, C. R., **Tripathi**, **D.**, & Rajaguru, S. P. (2020a). Signatures of Untwisting Magnetic Field in a

Small Emerging Bipole in the Solar Photosphere. ***The Astrophysical Journal***, 895(*1*), *67*. *doi:*10.3847/1538-4357/ab88a4. *arXiv:* 2004.05615 [astro-ph.SR]

33 **Tripathi**, **D.**, Nived, V. N., Isobe, H., & Doyle, G. G. (2020a). On the Ratios of Si IV Lines (λ1394/λ1403) in an Emerging Flux Region. ***The Astrophysical Journal***, 894(*2*), *128*. *doi:*10.3847/1538-4357/ab8558. *arXiv:* 2004.04530 [astro-ph.SR]

34 Ghosh, A., Klimchuk, J. A., & **Tripathi**, **D.** (2019a). On Doppler Shift and Its Center-to-limb Variation in Active Regions in the Transition Region. ***The Astrophysical Journal***, 886(*1*), *46*. *doi:*10.3847/1538-4357/ab43c4. *arXiv:* 1910.12033 [astro-ph.SR]

35 Klimchuk, J. A., Patsourakos, S., & **Tripathi**, **D.** (2019a). ICSF: Intensity Conserving Spectral Fitting. doi:10.3847/1538-4357/ab43c4. ascl: 1903.007 (astro-ph.SR)

36 Rajaguru, S. P., Sangeetha, C. R., & **Tripathi**, **D.** (2019a). Magnetic Fields and the Supply of Low-frequency Acoustic Wave Energy to the Solar Chromosphere. ***The Astrophysical Journal***, 871(*2*), *155*. *doi:*10.3847/1538-4357/aaf883. *arXiv:* 1910.12033 [astro-ph.SR]

37 Kayshap, P., **Tripathi**, **D.**, Solanki, S. K., & Peter, H. (2018a). Quiet-Sun and Coronal Hole in Mg II k Line as Observed by IRIS. ***The Astrophysical Journal***, 864(*1*), *21*. *doi:*10.3847/1538-4357/aad2d9. *arXiv:* 1807.03494 [astro-ph.SR]

38 Subramanian, S., Kashyap, V. L., **Tripathi**, **D.**, Madjarska, M. S., & Doyle, J. G. (2018a). Energetics of Hi-C EUV brightenings. ***Astronomy and Astrophysics***, 615(*1*), *A47*. *doi:*10.1051/0004-6361/201629304. *arXiv:* 1803.09505 [astro-ph.SR]

39 Gupta, G. R., Sarkar, A., & **Tripathi**, **D.** (2018a). Observation and Modeling of Chromospheric Evaporation in a Coronal Loop Related to Active Region Transient Brightening. ***The Astrophysical Journal***, 857(*2*), *137*. *doi:*10.3847/1538-4357/aab95e. *arXiv:* 1803.11172 [astro-ph.SR]

40 Sharma, A., Gupta, G. R., **Tripathi**, **D.**, Kashyap, V., & Pathak, A. (2017a). Direct Observations of Different Sunspot Waves Influenced by Umbral Flashes. ***The Astrophysical Journal***, 850(*2*), *206*. *doi:*10.3847/1538-4357/aa95c0. *arXiv:* 1710.08438 [astro-ph.SR]

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Annexure A: Books and Book Chapters

1. Mason, H. E., & **Tripathi**, **D.** (2008). Chapter 7: Active Region Diagnostics. In B. N. Dwivedi & U. Narain (Eds.), *Physics of the sun and its atmosphere* (pp. 127–150). World Scientific, ISBN 10-981-271-8.
2. Gopalswamy, N., Mikić, Z., Maia, D., Alexander, D., Cremades, H., Kaufmann, P., … Wang, Y. .-M. (2006). The Pre-CME Sun. In *Coronal mass ejections* (Vol. 21, p. 303). Springer, ISBN 978-0-387-45086-5.
3. Pick, M., Forbes, T. G., Mann, G., Cane, H. V., Chen, J., Ciaravella, A., … Marqué, C. (2006). Multi-Wavelength Observations of CMEs and Associated Phenomena. In *Coronal mass ejections* (Vol. 21, p. 341). Springer, ISBN 978-0-387-45086-5.
4. Schwenn, R., Raymond, J. C., Alexander, D., Ciaravella, A., Gopalswamy, N., Howard, R., … Zhang, J. (2006). Coronal Observations of CMEs. In *Coronal mass ejections* (Vol. 21, p. 127). Springer, ISBN 978-0-387-45086-5.
5. **Tripathi**, **D.** (2005). EUV and Coronagraphic Observations of Coronal Mass Ejections. Copernicus GmBH, ISBN 3-936586-35-7.

Selected Invited Lectures

- "It's hot, it's magnetic, it's dynamic and it matters: the solar atmosphere and solar wind", ARIES, Nainital, India, May 17, 2022
- "The first Indian Space Mission Dedicated to the Solar Observations: Aditya-L1", INPE, San Jose, Brazil, Aug 25, 2021
- "The Solar Ultraviolet Imaging Telescope on board Aditya-L1", PMOD/WRC, Switzerland, April 13, 2021
- "The Solar Ultraviolet Imaging Telescope on board Aditya-L1", Advances in Observations and Modeling of Solar Magnetism and Variability, IIA, Bengaluru, 01-04, March 2021
- "Observing the Sun", Winter School in Observational As- tronomy organized at Varahamihir Astronomical Observatory, Dongla and Ujjain Planetarium, Feb 01-12, 2021
- "The Aditya-L1 mission of the Indian Space Research Orga- nization (ISRO)", Feb 12, 2021, Department of Astronomy, New Mexico Sate University, USA
- "Solar Prominences and Flares: What new Aditya-L1 mission can tell us", 2nd Aditya Science Meeting, Dec 17th , 2020
- "ISRO's First Solar Observatory in Space: the Aditya-L1 Mission", American Geophysical Union, 1-17 Dec 2020.
- "Sun-climate Studies with the Solar Ultraviolet Imaging Telescope (SUIT) on board Aditya-L1", COSPAR, Sydney, 28 Jan - 04 Feb, 2021
- "Heliophysics Public Outreach in India", COSPAR, Sydney Virtual, 28 Jan - 04 Feb, 2021
- "The Aditya-L1 Mission of Indian Space Research Organisation", July 3rd, 2020, SP^2RC, Department of Physics, University of Sheffield, UK
- "Multi-payload QS science using Aditya-L1", First Aditya Science Meeting, ISRO Headquarter, Bangalore, 6-7 March 2020
- "The Science Goal of SUIT payload", First Aditya Science Meeting, ISRO Headquarter, Bangalore, 6-7 March 2020
- "The Solar Ultraviolet Imaging Telescope on board Aditya-L1 mission", Armagh Observatory, Northern Ireland, UK, Feb 26th, 2020
- "The Solar Ultraviolet Imaging Telescope on board Aditya-L1 mission", Queens University, Belfast, UK, Feb 25th, 2020
- "Our Life Giving Star: The Sun", Variable Energy Cyclotron Centre, Kolkata, India, Nov. 29th, 2019 In Hindi
- "Challenges in Solar Astronomy", 5th North-East Meet of Astronomers (NEMA), University of Tezpur, India, Sep. 11-13, 2019
- "Space Weather and Sun Climate with Aditya-L1", Towards Future Research on Space Weather Driver, San Juan, Argentina, July 2-7 Jul. 2019,
- Dynamics of the Solar Atmosphere, Department of Physics, Banaras Hindu University, Varanasi, India, Apr. 18, 2019
- "Reaching for the Sun", World Meteorological Day, Department of Atmospheric and Space Science, SP Pune University, Pune, India, Mar. 23, 2019
- "Reaching for the Sun", World Meteorological Day, Indian Institute of Tropical Meteorology, Pune, India, March 22, 2019
- "Heating and Dynamics of Sun's Atmosphere", Colloquium, Department of Physics, Indian Institute of Technology, Kanpur, Feb 8, 2019
- "It's Hot, Happening and Magnetic: The Solar Corona", IUCAA Colloquium, May 17, 2018
- "The Solar Ultraviolet Imaging Telescope", Dynamic Sun II, Siem Reap, Cambodia, Feb 12-16, 2018

Selected Invited Lectures (continued)

- "Solar Astronomy in India", Indo-Chile Workshop, IUCAA, Jan 10-12, 2018
- "Role of Spectroscopy in the Understanding of the Solar Atmosphere", National Symposium on Multi-dimensional Aspects of Spectroscopy, University of Gorakhpur, Nov. 17-18, 2017
- "Heating and Maintaining the Solar Coronal Plasma to a Million Degree", BUTI Foundation Award Lecture, Physical Research Laboratory, Ahmedabad, India, Nov 11, 2017
- "Heating and Maintaining the Solar Coronal Plasma to a Million Degree", 32nd Symposium on Plasma Science and Technology, PLASMA 2017, IPR, Gandhinagar, India. Nov 7-10, 2017
- "The Aditya-L1 mission", BRICS Meeting, IUCAA, Pune, India, Sep 21-23, 2017
- "The Hot, Magnetic and Happening Solar Atmosphere", Colloquium, University of Exeter, UK, July 13, 2017
- "The Solar Atmosphere at IUCAA and Aditya-L1 mission", Colloquium, Northumbria University, UK, July 10, 2017
- "It's hot, magnetic, happening and it matters: The Solar Atmosphere", Plenary, Astronomical Society of Indian meeting, Jaipur, March 6-10, 2017
- "The Solar Ultraviolet Imaging Telescope on board Aditya-L1", Indian Institute of Technology, Kanpur, 17th October 2016
- "The Solar Ultraviolet Imaging Telescope on board Aditya-L1 mission", Colloquium, Kiepenheuer Institut fuer Sonnenphysik, Freiburg, Germany, July 2016
- "Heating and Dynamics of the Solar Active Region", Invited, International Conference on Dynamic Sun I, Varanasi, India, Feb 21-26, 2016
- "The Solar Ultraviolet Imaging Telescope on board Aditya-L1 mission", Colloquium, Physical Research Laboratory, Ahmedabad, India, December 2015
- "The Solar Ultraviolet Imaging Telescope on board Aditya-L1 mission", Invited, Astronomical Society of India meeting, NCRA, India, February 17-20, 2015
- "Heating of Solar Active Regions", Invited, Asia Pacific Regional IAU meeting, Daejeon, Korea, August 18-22, 2014
- "Science Goals of the Proposed Indian Solar Space Mission", Plenary, Asia Pacific Regional IAU meeting, Daejeon, Korea, August 18-22, 2014
- "Heating of Upper Solar Atmosphere", Invited, Indo-UK Scientific Seminar held at India Institute of Astrophysics, Bengaluru, India, January 2013.
- "Heating of Solar Active Regions", Invited, International Symposium on Solar Terrestrial Physics, Pune, India, November 6-9, 2012
- "Flows and Waves in solar Atmosphere: An observational Overview", Invited, 39th COSPAR Scientific Assembly, Mysuru, India, 14-22 July 2012
- "Heating of Solar Active Regions", Departmental Seminar, Indian Institute for Science Education and Research, Pune, India, April 2012
- "EUV spectroscopy of solar transition region and corona", Invited, Solar Radio Workshop, National Centre for Radio Astrophysics, Pune, India 23-25 November 2011
- "Heating of Solar Active Regions", Institute Seminar, Indian Institute of Astrophysics (IIA), Bangalore, India July 21, 2011
- "Plasma Diagnostics of Solar Active Region",Institute Seminar, Max-Planck-Institute for Solar System Research, Katlenburg-Lindau, Germany, October 2011
- "CME studies with Aditya", Invited, Meeting on Science with Planned and Up-coming Solar Facilities in the Country, held at IIA Bangalore from November 2-3, 2011
- "Large Amplitude Oscillation in Prominences", (Invited Review), BUKS 2011, held in Mallorca , Spain, 27-29 June 2011

Selected Invited Lectures (continued)

- "Heating of Active Regions", Institute Seminar, National Astronomical Observatory of Japan, 2010
- "On Partial Eruption of Prominences", Colloquium, University of Tokyo, Japan June 2007
- "Dynamics of Erupting Prominences and Associated Coronal Mass Ejections", Colloquium, University of Sheffield, UK, May 2007
- "Partial Eruption of Filaments: Flux-rope Bifurcation During CMEs?", Colloquium, Imperial College, London, UK, Feb 2007
- "Observation of Bright Coronal Downflows: Evidence of a Bifurcating Flux-rope", Institute Seminar, High Altitude Observatory, Boulder, Colorado, USA Nov. 2006
- "Coronal Mass Ejections: SoHO Observations", Institute Seminar, Inter-University Centre for Astronomy and Astrophysics, Pune, India, May 2006
- "Observations of Coronal Downflows Following CME Eruptions", Department Seminar, Department of Applied Mathematics and Theoretical Physics, University of Cambridge, UK, Feb, 2006
- "Coronal Mass Ejections: SoHO/LASCO and EIT Observations", Institute Seminar, Mullard Space Science Laboratory, University College London, UK, Jan 2006
- "Coronal Mass Ejections: SoHO Observations", Institute Seminar, Kwasan Observatory, University of Kyoto, Japan, November 2005
- "EUV and Coronagraphic Observations of Coronal Mass Ejections", Invited, International Solar Workshop, Aryabhatta Research Institute for Observational Sciences, Nainital, India, April 2005,
- "SOHO/EUV Post Eruptive Arcades as Signature of Coronal Mass Ejection Source Regions", Institute Seminar, Udaipur Solar Observatory, India, January 2003