Personal details

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Research interests

Primary interests include:

- Probing Cosmic Dawn and Epoch of Reionization (CD & EoR) with line-intensity mapping (LIM), e.g., $[\mathrm{H\ I}]_{21\mathrm{cm}}$, $[\mathrm{C\ II}]_{158\mu\mathrm{m}}$ signals from the EoR
- Various cross-correlation studies of LIM signals
- Structure formation with cosmological simulations (N-body and hydrodynamic simulation)

Other interests include understanding properties of high-redshift ($z \gtrsim 5$) galaxies and modelling of dark matter.

Career and Education

Aug, 2021 - Present	Research Scholar (PhD), *Senior Research Fellow* (CSIR-SRF) Department of Astronomy, Astrophysics and Space Engineering Indian Institute of Technology Indore (IIT Indore), India
Aug, 2019 - July, 2021	Research Scholar (PhD), *Junior Research Fellow* (CSIR-JRF) Department of Astronomy, Astrophysics and Space Engineering Indian Institute of Technology Indore (IIT Indore), India
July, 2016 - June, 2018	Master of Science (M.Sc.) in Physics, Presidency University, Kolkata, India
July, 2013 - June, 2016	Bachelor of Science (B.Sc.) in Physics, Presidency University, Kolkata, India

Event organizing

Jan, 2020	Volunteer for organizing international conference on ”Observing the first billion years of the Universe using next generation Telescopes”, IIT Indore

Teaching

- Teaching assistant for laboratory course - 'Optics', Astronomy, IIT Indore (Spring semester, 2020)
- Teaching assistant for taught course - 'Relativity and Cosmology', IIT Indore (Fall semester, 2020, 2021)

Awards

Aug, 2021	Recipient of Senior Research Fellowship (SRF) Council of Scientific and Industrial Research (CSIR), India
Jan, 2019	Recipient of Junior Research Fellowship (JRF) Council of Scientific and Industrial Research (CSIR), India

Conferences / Workshops

- Recorded talk at the SAZERAC-GULP 21cm 2022 (14-17 Mar 2022)
- Lightning talk at the SALFVIII (6-9 Dec 2021)
- Poster at the 4th Global 21-cm Workshop (11-14 Oct 2021)
- Talk at the SKA-India Workshop on 21-cm Cosmology and Reionization (19-23 Apr 2021)
- Poster at the A Precursor View of the SKA Sky (15-19 Mar 2021)
- Poster at the Astronomical Society of India Meeting 2021 (18-23 Feb 2021)
- Poster at the SAZERAC-SIP on the 21-cm Signal from Cosmic Dawn and the Epoch of Reionization (29 Jan 2021)

Key skills

Programming languages	**Fortran** (basic level) **Python** (intermediate level) **C++** (intermediate - advanced level) **C** (intermediate - advanced level)
Parallel computing libraries	**OpenMP** (basic - intermediate level)
Scientific packages	**G**NU **S**cientific **L**ibrary
Plotting tools	**ProPlot, seaborn** (intermediate level) **Matplotlib** (intermediate level) **Gnuplot** (basic level)
Version control	**Git** (intermediate level)
Operating system handling	**Linux/Unix** like OS (intermediate level)
Web development	**HTML** (basic level) **CSS** (basic level)

Publications (peer-reviewed)

arXiv: https://arxiv.org/a/murmu_c_1.html
publons: https://publons.com/researcher/4713225/chandra-shekhar-murmu/
ORCiD: https://orcid.org/0000-0002-1818-5440

As **first** author:

Year: **2021**

In the ***Monthly Notices of the Royal Astronomical Society:***

- **Chandra Shekhar Murmu**, Suman Majumdar, Kanan K Datta, *C II and H I 21-cm line intensity mapping from the EoR: impact of the light-cone effect on auto and cross-power spectra*, MNRAS, Volume 507, Issue 2, October 2021, Pages 2500–2509, doi: 10.1093/mnras/stab2347, arXiv: 2107.09072