BIBHUTI KUMAR JHA

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CONTACT

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https://bibhuraushan.github.io

COMPUTER SKILLS

IDL, Python, C, C++	4+ yrs
R, Rust, Julia	2+ yrs
LaTex, Html/CSS	4+ yrs
Mathematica	1+ yrs
Adobe Photoshop	4+ yrs
Adobe Lightroom	2+ yrs
InkScape	1+ yrs

EDUCATION

- **Ph.D. (Astrophysics; Conti.):** Aryabhatta Research Institute of Observational Sciences (ARIES), Nainital, India; **(2020–)**
- **Ph.D. (Astrophysics):** Indian Institute of Astrophysics (IIA), Bangalore, India; **(2017–2020)**
- **M.Sc. (Physics):** Department of Physics & Astrophysics , University of Delhi, New Delhi, India; **(2014–2016)**
- **B.Sc. (Physics):** Dyal Singh College, University of Delhi, New Delhi, India; **(2011–2014)**
- **10+2 (Science):** C M Science College, Darbhanga, Bihar, India; **(2008–2010)**

AREA OF RESEARCH

My primary interest is Solar Astrophysics. In the first place, I work on century long archived data to understand the long term variation in the Sun. I am also involved in developing automatic algorithm to extract different solar feature from such a large volume of data and finding the physical parameters from them. Apart from that I am also interested in Solar Dynamo theory to understand the magnetic cycle of the Sun.

RESEARCH SKILLS

- **Image Processing:**
- **Numerical Techniques:**
- **Data Statistics:**
- **Data Visualization:**
- **Machine Learning:**

PROFILES

- **NASA ADS**
- **Google Scholar**
- **ArXive**
- **ORCID**
- **ResearchGate**

PUBLICATIONS

- **A theoretical model of the near-surface shear layer of the Sun**
  Bibhuti Kumar Jha & Arnab Rai Choudhuri; *MNRAS (2021) 506:2 (2189)*
- **Measurements of Solar Differential Rotation Using the Century Long Kodaikanal Sunspot Data**
  Bibhuti Kumar Jha, Jha, Bibhuti Kumar; Aditya Priyadarshi; Sudip Mandal; Subhamoy Chatterjee; Dipankar Banerjee; *Sol Phys (2021) 296: 25*
- **Magnetic field dependence of bipolar magnetic region tilts on the Sun: Indication of tilt quenching**
  Bibhuti Kumar Jha, Bidya Binay Karak, Sudip Mandal, Dipankar Banerjee; *APjL (2020) 889:L19*
- **Delving into the Historical Ca II K Archive from the Kodaikanal Observatory: the Potential of the Most Recent Digitised Series**
  Theodosios Chatzistergos, Ilaria Ermolli, Sami K. Solanki, Natalie A. Krivova, Dipankar Banerjee, Bibhuti K. Jha, Subhamoy Chatterjee; *Sol Phys (2019) 294: 145*
- **Study of Sunspot Penumbra to Umbra Area Ratio Using Kodaikanal White-light Digitised Data**
  Bibhuti Kumar Jha, Sudip Mandal, & Dipankar Banerjee, *Sol Phys (2019) 294: 72*
- **Long-term variation of sunspot penumbra to umbra ratio: A study using Kodaikanal white-light digitized data**
  Bibhuti Kumar Jha, Sudip Mandal, & Dipankar Banerjee 2018, *Proceedings of the International Astronomical,Union, 13, 185–186*

CONFERENCES AND MEETINGS

- Presented a talk titled **Signature of quenching from observation of tilted bipolar magnetic regions on the Sun**, IIA-50 Conference - Advances in Observations and Modelling of Solar Magnetism and Variability, 1-4 March, 2021, IIA, Bangalore, India
- Presented a talk titled **Magnetic field dependence of bipolar magnetic region tilts on the Sun: Evidence of tilt quenching**, Astronomical Society of India Meeting 2020, 13-17 February, 2020, IISER Tirupati, India
- Presented a poster titled **Solar differential rotation as measured from century long Kodaikanal white light digitized data**, 5th Asia Pacific Solar Physics Meeting (APSPM), 3-7 February, IUCAA, Pune, India
- Presented a poster titled **Magnetic field dependency of bipolar magnetic region tilt angle: A study using MDI and HMI data sets**, IRIS-10, 4-8 November, 2019, Christ University Bangalore, India
- Presented a poster titled **Solar Differential Rotation in last century: A study from Kodaikanal white light digitised data**, Young Astronomers Meet, 23-27 September, 2019, Kodaikanal Solar Observatory, IIA Kodaikanal, India

OTHER SKILLS

Software Development

Development of IDLplotlib
Currently working on the python plotting library which will use IDL like syntax for plotting.

Photography

Apart from my research work photography is the area where I spend most of my time.

CONFERENCES AND MEETINGS

- Attended **Solar Physics Summer School at Raman Science Center**,10 - 16 June, 2019, Leh, India
- Presented an oral talk titled **An update on Kodaikanal Digital Archived Data** in a meeting entitled "Reconstructing Solar and Heliospheric Magnetic Field Evolution Over the Past Century", ISSI Team led by Alexei Pevtsov; 12 - 15 February, 2019
- Presented an oral talk titled **Magnetic field dependency of Bipolar magnetic region tilt angle : A study from SOHO/MDI data**, Young Astronomers Meet, 24-28 September, 2018, PRL, Ahmadabad, India
- Attended **Heliophysics Summer School**, 23 - 20 July, 2018 - Boulder, Colorado, USA
- Presented a poster titled **Long-term variation of sunspot penumbra to umbra ratio: A study using Kodaikanal white-light digitized data.**,IAUS340,19 - 24 February, 2018, Jaipur, India

VISITS

- Visiting Scholar at Indian Institute of Technology (IIT), Banaras Hindu University (BHU), Varanasi, India; December 2018
- Visiting Scholar at Max Planck Institute for Solar System Research, Göttingen, Germany; Feb - May, 2019