

Dr. Tridibendra Narayan Chattopadhyay

Current Designation: **Associate Professor**

Department: **Electronics**

Date of Joining: **01-07-2000**

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1. Academic Qualifications

Degree	Institution	Year	Subject/Discipline
M.Sc.	University of Calcutta	1988	Physics
Ph.D	University of Calcutta	1996	Radio Physics

2. Thesis Title

Ph.D./M.Phil Thesis Title: Disturbed Sun and some of its important features

3. Specialization and Area of Interests

Specialization: Electronics

Area of Interests: Solar Physics, AI, Data Science

4. Teaching Responsibilities: UG: Artificial intelligence, Digital Signal Processing

PG: Mathematical Physics, Quantum Mechanics, Digital
Signal processing

5. Publications

a. Research Papers in Journals

1. Solar cycle dependence of polar coronal holes. Solar Physics 148: 61-64, 1993
T.K.Das, T.N.Chatterjee, A.K.Sen.

2. Sixty Six day periodicity of Polar Coronal Holes. *Astrophysics and Space Science* 213: 327-330, 1994 T.K.Das, **T.N.Chatterjee**, A.K.Sen.
3. Solar Flare Surges in relation to Active Prominences and Sunspots. *Australian Journal of Physics* 47: 817-819, 1994 T.K.Das, **T.N.Chatterjee**, A.K.Sen.
4. On the periodicity of the Basic Component of Solar Ultraviolet Flux. *Monthly Notices of the Royal Astronomical Society* 273: 389-390, 1995 T.K.Das, **T.N.Chatterjee**, A.K.Sen.
5. Relation between Solar U.V. Flux and 10.7cm Radio Emission. *Monthly Notices of the Royal Astronomical Society* 274: 858-860, 1995 **T.N.Chatterjee**, T.K.Das.
6. Periodicity in the Basal Component of Solar Radio Emission. *c. 278*: 6-10, 1996 T.K.Das, **T.N.Chatterjee**.
7. Height Temperature dependence of Sunspot Microwave Structure. *Indian Journal of Physics*, 69B(4): 267-273, 1995 T.K.Das, **T.N.Chatterjee**, A.K.Sen.
8. Studies on Solar Prominences in Relation to H-Alpha and X-Ray Flares. *Indian Journal of Physics*, 70B(1): 81-85, 1996 **T.N.Chatterjee**, T.K.Das, A.K.Sen.
9. Observation of Microwave Radio Sun during Total Solar Eclipse on October 24 1995 by Eastern Center for Research in Astrophysics (ECRA). *Indian Journal of Physics*, 70B(3): 169-173, 1996 **T.N.Chatterjee et al.**
10. Short term Periodicity in Proton Fluences during Solar Cycle 22. *Solar Physics* 168: 385-388, 1996 T.K.Das, T.K.Nag, **T.N.Chatterjee**.

11. Periodicity in the Electron Fluences observed in different Phases of Solar Cycle 22. *Indian Journal of Physics*, 271B(4): 511-513, 1997 T.K.Das, T.K.Nag, **T.N.Chatterjee**.
12. ECRA dynamic spectrtograph - design and results. *Bulletin of Astronomical Society of India* 26: 301-304, 1998 **T.N.Chatterjee et al.**
13. On the existence of a low dimentional Chaotic Attractor in the short term Solar U.V. time series. *Solar Physics*, 186: 421-429,1999 **T.N.Chatterjee**.
14. On the application of information theory to the optimum state-space reconstruction of the short term solar radio flux (10.7 cm) and its prediction via a neural network. *Monthly Notices of the Royal Astronomical Society* 323, 101-108, 2001 **T.N.Chatterjee**
15. DCT based contour encoding technique for different Geometrical Shape. Proceedings of COCOSYP-09 (Technically supported by IEEE calcutta Section) University institute of Technology, The University of Burdwan, Burdwan, India, January 02, 2009, Goutam Bhattacharya, Tridibendra Narayan Chattopadhyay.
16. On a DCT based contour encoding technique for conversion of bitmap images into Vector Image format. *Indian Journal of Computing technology*, 3(1); 1-13, May 2008, Goutam Bhattacharya, T. N. Chatterjee.
17. On the existence of a long range correlation in the Geomagnetic Disturbance storm time (Dst) index. *Astrophysics and Space Science (Springer)*. (2012) 337:23-32 DOI:_10.1007/s10509-011-0836-1. Adrija Banerjee, Amaresh Bej and T.N.Chatterjee
18. Multi-techniquw Analysis of the Solar 10.7 cm Radio Flux Time -Series in relation to predictability. *Solar Physics (Springer)*, Accepted and Published Online DOI:- 10.1007/s11207-013-0444-z. Oindrilla Ghosh, Tanushri Ghosh, T.N. Chatterjee
19. A Cellular Automata-based model of Earths' magnetosphere in relation with Dst index. *Space Weather (AGU Publications)*, Accepted and Published Online, DOI:- 10.1002/2014SW001138, Adrija Banerjee, Amaresh Bej and T.N.Chatterjee.
20. On the chaotic nature of a sand pile model. *Indian Journal of Theoretical Physics*, Vol 62, NOS 1 & 2 2014, January 2014-June 2014, ISSN: 0019-5693
21. On the Signature of Chaotic Dynamics in 10.7 cm Daily Solar Radio Flux. *Solar Phys* (2015) 290:3319–3330, DOI 10.1007/s11207-015-0798-5, Oindrilla Ghosh, T.N.Chatterjee
22. An SOC Approach to Study the Solar Wind-Magnetosphere Energy Coupling, Earth and Space Science, Published online 8 APR 2019, DOI 10.1029/2018EA000468
23. Adrija Banerjee¹, Amaresh Bej¹, T. N. Chatterjee², and Abhijit Majumdar¹, Earth and Space Science, Published online 8 APR 2019, DOI 10.1029/2018EA000468

24. **Bej, A.**, Banerjee, A., Chatterjee, T. N., & Majumdar, A. (2022). One-hour ahead prediction of the Dst index based on the optimum state space reconstruction and pattern recognition. In The European Physical Journal Plus (Vol. 137, Issue 4). Springer Science and Business Media LLC. **Impact Factor: 3.758**

25. Banerjee, A., **Bej, A.**, Chatterjee, T. N., & Majumdar, A. (2021). A SOC based avalanche model to study the magnetosphere-ionosphere energy transfer and AE index fluctuations. In NRIAG Journal of Astronomy and Geophysics (Vol. 11, Issue 1, pp. 33–47). Informa UK Limited. **Impact Factor: 0.9**
26. **Bej, A.**, Banerjee, A., Chatterjee, T. N., & Majumdar, A. (2021). A comparative study between Dst and SYM-H indices based on pattern identification. In Indian Journal of Theoretical Physics (Vol. 68, Issue 1 & 2) pp 13-26, ISSN: 0019-5693

27. Banerjee, A., **Bej, A.**, Chatterjee, T. N., & Majumdar, A. (2021). On the threshold value of IMF BZ in relation with geomagnetic storm and Dst index. In Indian Journal of Theoretical Physics (Vol. 65, Issue 3 & 4) pp 119-125, ISSN: 0019-5693.

28. **Bej, A.**, Banerjee, A., Chatterjee, T. N., & Majumdar, A. (2019). An analytical study to find long-range correlation in SYM-H index. In ICPSA 2019: 12th International Conference on Plasma Science and Applications organized by AAAPT (Asian African Association for Plasma Training, ISBN: 978-93-5391-891-0.

29. Banerjee, A., **Bej, A.**, Chatterjee, T. N., & Majumdar, A. (2019). A sandpile model to study the dynamics of terrestrial magnetosphere. In ICPSA 2019: 12th International Conference on Plasma Science and Applications organized by AAAPT (Asian African Association for Plasma Training, ISBN: 978-93-5391-891-0

6. Awards/Honours

Award	Organization	Year	Description
URSI young scientist Award	Union of Radio scientific International	1996	International Award

7. Administrative Responsibility

- **Member of UG Board of Studies of Electronics (CU) from 2006**
- **Morning in Charge of Dinabandhu Andrews College from 2017 to 2023**