

Dr. Partha Sarathy Pal

Assistant Professor
Department of Physics
Bhaskaracharya College of Applied Sciences
University of Delhi
Sector 2, Dwarka
New Delhi 110075

Phone: (+91) 9911228448
Email: parths.pal@bcas.du.ac.in
Date of Birth: February 21, 1981

Residence Address:

E204 Happy Home Apartment
Plot 12A, Sector 7, Dwarka
New Delhi 110075

Education

- Ph.D. Physics, University of Delhi, *Degree awarded*, May 2010.
 - Thesis Topic: *On Behaviour of Convection in Sun-Like Stars*
 - Supervisors: Prof. H. P. Singh, Prof. M. P. Srivastava.
 - Area of Research: Astrophysics.
- M.Sc. Physics, University of Delhi, 2004 with 66.6%.
 - *Specialization*: Computational Physics & Solid State Physics.
 - *General Subjects*: Classical Mechanics, Quantum Mechanics, Solid State Physics, Mathematical Physics, Radiation Theory, Electronics, Electromagnetic Theory, Nuclear & Particle Physics.
- B.Sc. (Hons.) Physics, Sri Venkateswara College, University of Delhi, 2001 with 74.5%.
- H.S.C, C.B.S.E (Delhi), Cambridge Foundation School, New Delhi, 1998 with 86% (PCM).
- S.S.C, C.B.S.E (Delhi), Cambridge Foundation School, New Delhi, 1996 with 86%.

Fellowships

National Eligibility Test (NET) for Lectureship and Junior Research Fellowship (JRF/NET) in 2004 and joined Ph.D with the following fellowship:

- Junior Research Fellowship (NET), UGC, (01/01/2005 - 31/12/2006).
- Senior Research Fellowship (NET), UGC (01/01/2007 - 22/07/2007).

Fields of Interest

Computational Physics, Astronomy & Astrophysics, Web Application Development, Database Management

Research & Teaching

Publications in Refereed Journal

- Classification of High-resolution Solar H α Spectra using t-distributed Stochastic Neighbor Embedding.
Meetu Verma, Gal Matijević, Carsten Denker, Andrea Diercke, Ekaterina Dineva, Horst Balathasar, Robert Kamlah, Ioannis Kontogiannis, Christoph Kuckein, **Partha S. Pal.**, 2021, The Astrophysical Journal, 907:54 (14pp), DOI: <https://doi.org/10.3847/1538-4357/abcd95>
- Solar observatory Einstein Tower: Data release of the digitized solar full-disk photographic plate archive.
Partha S. Pal, Meetu Verma, Jürgen Rendtel, Sergio Javier González Manrique, Harry Enke, Carsten Denker., 2020, Astronomical Notes, 341, 575–587, DOI: <https://doi.org/10.1002/asna.202013791>
- High-resolution spectroscopy of a surge in an emerging flux region.
M. Verma, C. Denker, A. Diercke, C. Kuckein, H. Balthasar, E. Dineva, I. Kontogiannis, **Partha S. Pal**, M. Sobotka., 2020, Astronomy & Astrophysics 639, A19, DOI: <https://doi.org/10.1051/0004-6361/201936762>
- Turbulent Compressible Convection with Rotation - Penetration Below a Convection Zone.
Journal-Ref: **Partha S. Pal**, Harinder P. Singh, Kwing L. Chan, M. P. Srivastava., 2007, Astrophysics & Space Science, 307, 399.
- Turbulent Compressible Convection with Rotation - Penetration Above a Convection Zone.
Journal-Ref: **Partha S. Pal**, Harinder P. Singh, Kwing L. Chan, M. P. Srivastava., 2008, Astrophysics & Space Science, 314, 231.

Conference Proceedings

- 3 - D Simulation of Penetrative Convection with Rotation.
Journal-Ref: Harinder P. Singh, **Partha S. Pal**, Kwing L. Chan, M. P. Srivastava., 2009, in proc. 8th Pacific Rim Conference on Stellar Astrophysics, ASP Conference Series 404

Teaching Experience

- Assistant professor in Bhaskaracharya College of Applied Sciences, University of Delhi for a period of \sim 12 years (2007–present).
- Subjects taught: Mathematical Physics, Numerical Analysis, Computer Programming (C++, Pascal), Wave Optics, Microprocessor, Electromagnetic Theory.

Research Experience

- Postdoctoral researcher in Solar Optical Branch, Leibniz Institute of Astrophysics Potsdam, Potsdam, Germany (2018–2021).

College Activities

- Convener, Digitization & Automation Committee (2016–2018, 2021–present)
- Convener, Time Table Committee (2021–present)

- Developed Enterprise Resource Planning (ERP) software **BRAHMA** (**BCAS Resource Automation, Handling & Management Application**) for the college.
- Developed Events Process Automation Software **BEAMS** (**BCAS Event Automation & Management System**)

Scientific Software

- Programming languages: Interactive Data Language (IDL), Fortran.
- Plotting softwares: IDL, Gnuplot.

Talks & Poster

- Talk titled "Three Dimensional Simulation of Convection in Stellar Convection Zones" in ISRO RESPOND REVIEW MEETING 2010 at Physical Research Laboratory (PRL), Ahmedabad on 20th March 2010
- Poster titled "Digitization of Full-Disk Images at the Solar Observatory Einstein Tower" in China-Europe Solar Physics Meeting, Hvar, Croatia, 6–10 May 2019.

Schools/Conference attended

- **International school on "Solar Physics"** in Kodaikanal, India, organized by Indian Institute of Astrophysics (IIA), 10–22 December 2006.
- **International School on "Astrophysical Fluid Dynamics"** in Trieste, Italy organized by International Center for Theoretical Physics (ICTP), 15–26 October 2007.
- **China - Europe Solar Physics Meeting** in Hvar, Croatia, organized by Hvar Observatory, 6–10 May 2019.

Computer Skills

- **Programming and Computer Languages:** IDL, Fortran 90/95, JavaScript, HTML, CSS, C, C++, Pascal, L^AT_EX
- **Operating Systems:** Linux/Unix, Windows. MacOS

References

- Prof. Harinder P. Singh
Department of Physics & Astrophysics
University of Delhi, Delhi
hpsingh@physics.du.ac.in
- Prof. Balaram Pani
Principal, Bhaskaracharya Collge of Applied Sciences
University of Delhi Sector 2, Dwarka, New Delhi
principal@bcas.du.ac.in

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