

Curriculum Vitae

Himadri Sekhar Das, Ph.D.

Professor, Department of Physics

Assam University, Silchar-788011, India (A Central University)

☎ +91-70028-36376

✉ himadri.sekhar.das@aus.ac.in, hsdas13@gmail.com

🌐 <http://www.aus.ac.in/physics-department/>



Vidwan ID: 59887

ORCID ORCID ID: 0000-0003-0262-7264

Scopus Scopus Author ID: 8662903700



Education

- **Ph.D.**, Assam University, Silchar 2000 - 2005
Thesis title: *Photopolarimetric studies of comets and other objects* ([Link to Thesis](#)).
- **M.Sc. Physics**, Assam University, Silchar 1997 - 1999

Employment History

- **Faculty** 2007 - Present
(Assam University, Silchar)
- **Postdoctoral Fellow** Sep 2013 - Dec 2013
(Department of Astronomy, University of Maryland, College Park, USA)

Administrative Responsibilities

- **Head of Physics Department** March 21, 2024 - Present
(Department of Physics, Assam University, Silchar)
 - Provided strategic leadership for the department, overseeing faculty, curriculum advancement, and resource allocation.
 - Enhanced student mentorship and academic programs to strengthen educational outcomes and research engagement.
- **Proctor** January 03, 2022 - April 03, 2024
(Assam University, Silchar)
 - Maintained discipline among students and enforced university rules and regulations.
 - Investigated cases of student misconduct and imposed appropriate disciplinary actions.
 - Ensured campus security by overseeing security personnel and responding to security emergencies.
- **Dean of Student Welfare (DSW)** April 06, 2021 - January 02, 2022
(Assam University, Silchar)
 - Oversaw student welfare initiatives and support services.
 - Collaborated with faculty and administration to enhance student experience.
 - Oversaw the administration of university hostels, ensuring a conducive living environment for students.

Research Interests

- **Cosmic Dust Scattering:** Exploring the scattering properties of cometary, asteroidal, and interstellar dust to understand their physical and chemical composition.
- **Polarimetric Studies of Small Bodies:** Analyzing the polarization of light scattered by comets and asteroids to probe their surface properties and internal structure.
- **Star Formation Processes:** Investigating the role of magnetic fields and turbulence in the formation of stars, with a focus on the evolution of protostellar cores and disks.

Supervision

- **M.Phil. Scholars:**

5. **Ms. Saonli Datta Majumder** (2009): Aggregate dust model to describe the polarization properties of comet.
4. **Mr. Abinash Suklabaidya** (2008): *Modelling of the light scattering by cometary dust using fractal aggregates.*
3. **Ms. Tapasree Paul** (2008): *Study of light scattering by aggregate particles in comet Levy 1990XX.*
2. **Mr. Dipankar Paul** (2009): *To study the dust grain characteristics of comet by comparing the theoretical polarization values with the observed polarization values for comet* (Registered to Periyar University, Salem through distant mode).
1. **Mr. Sujit Ranjan Das** (2008): *Polarimetric studies of comet Halley using T-matrix theory* (Registered to Madurai Kamaraj University, Madurai through distant mode).

- **Ph.D. Scholars:**

14. **Rajat Subhra Paul** (awarded on 25-09-2025) (PhD Enrolment No, & Date: 0120210180, dtd. 30. 12.2021): *Investigation of some selected molecular clouds through Photo-Polarimetry.*
13. **Tanuj Kumar Dhar** (awarded on 25-07-2025) (PhD/2834/2015 dtd. 12-09-2015): *Study of Light Scattering Properties of Cometary and Interstellar Dust.*
12. **Gulafsha Begom Choudhury** (awarded on 02-05-2024) (PhD Enrolment No, & Date: 0120180122 dtd. 25.01.2018): *Study of Molecular Clouds through Photometry and Polarimetry.* ([Link to Thesis](#))
11. **Ayesha Maryam Mazarbhuiya** (awarded on 23-04-2024) (PhD/2837/15 dtd. 12.09.2015): *Polarimetry as a Tool to Study the Dust Properties of Comets.* ([Link to Thesis](#))
10. **Prithish Halder** (awarded on 01-05-2019) (PhD/2380/13 dtd. 11.09.2013): *Study of Physical Properties of Cosmic Dust from Light Scattering.* ([Link to Thesis](#))
9. **Jaydeep Paul** (awarded on 10-10-2018) (PhD/2276/13 dtd. 03.04.2013): *A Theoretical Study of Double Layers and Sheaths in Various Plasma Configurations.* ([Link to Thesis](#))
8. **Ajoy Barman** (awarded on 13-08-2018) (PhD/2031/12 dtd. 12.09.2012): *Photometric and Polarimetric Studies of Some Selected Dark Clouds.*
7. **Arup Das** (awarded on 07-08-2018) (PhD/2384/13 dtd. 11.09.2013): *Photopolarimetric Study of some Selected Dark Clouds.*
6. **Parizath Deb Roy** (awarded on 26-07-2017) (PhD/1787/11 dtd. 22.09.2011): *A comprehensive dust model to describe the polarization properties of comet.*

5. **Arindwam Chakraborty** (awarded on 26-07-2017) (PhD/1788/11 dtd. 22.09.2011): *Study of optical properties of cosmic dust by numerical simulations and observations.*
4. **Abinash Suklabaidya** (awarded on 07-08-2013) (PhD/1114/10 dtd. 07.04.2010): *Modelling of light scattering properties of cometary dust.* ([Link to Thesis](#))
3. **Chinmoy Bhattacharjee** (awarded on 16-04-2013) (PhD/ 719/2009/ dtd. 16.04.2013). *Study of Light Scattering properties of cosmic dust (as a Co-supervisor).* ([Link to Thesis](#))
2. **Dipankar Paul** (awarded on 26-09-2012) (PhD/718/09/ Dtd. 11.02.09). *Study of Polarisation properties of comets and other objects (as a Co-supervisor).*([Link to Thesis](#))
1. **Sujit Ranjan Das** (awarded on 16-11-2011) (PhD/650/08 dtd. 17.04.08). *Modelling of Optical characteristics of cometary dust by fractal aggregates (as a Co-supervisor).* ([Link to Thesis](#))

Skills

- **Languages:**

Strong reading, writing and speaking competencies in English, Bengali, Hindi, and Assamese.

- **Experience in Computer:**

- **Operating Systems:** WINDOWS, UNIX (LINUX).

- **Programming languages:** Python, C++, FORTRAN.

- **Image Processing Software:** IRAF, IRIS, APT, fv.

- **Other Software Packages:** Latex, Gnuplot, Super Mongo, Mathematica, etc.

Awards, Fellowships, and Achievements

- **Rotary Award-2018:**

Honored by the Rotary Club of Hailakandi for contributions to the field of Astronomy & Astrophysics on **July 01, 2018**.

- **Paragon Excellence Award-2015:**

Honored by *Paragon*, an NGO in Badarpur (Assam), with the **Paragon Excellence Award-2015** on **January 30, 2016** for service in the fields of Education and Nation Building.

- **Inspired Teachers' In-Residence Programme at Rashtrapati Bhavan (2015):**

Honored by the Hon'ble President of India, **Shri Pranab Mukherjee**, during the *Inspired Teachers' In-Residence Programme at Rashtrapati Bhavan* held from **6th June to 12th June, 2015**. The title *Inspired Teacher* (alternatively referred to as President's Inspired Teacher) represents the highest civilian recognition for university-level teachers in India, awarded as part of an In-Residence Programme with the President of India at Rashtrapati Bhavan, New Delhi.

- **Indo-US Research Fellowship (2013):**

Awarded the **Indo-US Research Fellowship** for 2013 to conduct advanced research in **Physical Sciences (Astrophysics)** for a duration of three months (September 15 – December 15, 2013) under **Prof. Ludmilla Kolokolova** at the **University of Maryland, USA**. This fellowship was supported by the Indo-US Science and Technology Forum (IUSSTF) in association with the Science and Engineering Research Council (SERC) of the Department of Science and Technology (DST), Govt. of India.

- **DAE Fellowship (2000 - 2004):**

Worked as a Research Fellow (RF) in the Department of Physics, Assam University, Silchar, under the guidance of **Dr. Asoke Kr. Sen** from March 29, 2000, toward Ph.D. research in a project (BRNS/98/37/6) titled *Photopolarimetric Studies of Comets*, funded by the Department of Atomic Energy (Govt. of India) in collaboration with Bhabha Atomic Research Centre (BARC), Mumbai.

- **Saktipada Das Memorial Award (1992):**

Recipient of the *Saktipada Das Memorial Award* for the year 1992 for securing the highest position in the H.S.L.C. Examination 1992 among students from Nilmani H.S. School, Karimganj, Assam.

- **Sushama Paul Memorial Award (1992):**

Recipient of the *Sushama Paul Memorial Award* for the year 1992 for securing the highest position in the H.S.L.C. Examination 1992 among students from Nilmani H.S. School, Karimganj, Assam.

Visiting Positions and Memberships

- **Member of the Executive Council of the ASI:**

Councillor of the Executive Council of the Astronomical Society of India for the triennium 2025-27.

- **Visiting Scientist:**

Visited University of Maryland, Maryland, USA under Indo-US Science and Technology Forum (IUSSTF) Fellowship, during September-December 2013, March-April 2017 to carry out collaborative research work.

- **Visiting Associate:**

Inter University for Astronomy and Astrophysics (IUCAA), Pune, India since August 01, 2007.

- **Visiting Observer:**

Aryabhata Research Institute of Observational Sciences (ARIES), Manora Peak, Nainital, India.

- **Member:** International Astronomical Union (IAU) (Membership No. 17910).

- **Life Member:** Astronomical Society of India (ASI) (Life Membership No. L 2158).

- **Life Member:** Physics Academy of North East (PANE) (Life Membership No. LM-0255).

Research Project

- **Principal Investigator (PI):**

Department of Science & Technology (DST) (SR/FTP/PS-092/2011), Govt. of India, under the FAST Track scheme. Project funded by DST at Assam University, commencing from July 2012 and completed in 2016. The project title was '*Study of Light Scattering Properties of Cosmic Dust Using Cluster Computation*'.

Astronomy Outreach and Observation Programs

- Organized and conducted numerous night sky observation programs using telescopes at Assam University, providing students with hands-on experience in astronomical observations and fostering interest in the field of Astronomy.
- Engaged in extensive outreach activities, visiting various schools, colleges, and universities to promote Astronomy and raise awareness about space sciences.
- Conducted interactive sessions, practical demonstrations, and presentations tailored to inspire interest in Astronomy among young students and the general public.
- Aimed to bridge the gap between theoretical knowledge and real-world astronomical phenomena, making complex topics accessible and exciting to a broader audience.

Research Publications

In Journals:

46. N. N. Devi, **H. S. Das**, A. Suklabaidya, & B. Goswami, **2025**. *The Umov effect in polydisperse dust aggregates*. Journal of Quantitative Spectroscopy and Radiative Transfer (JQSRT), **347**, 109617 ([Link to Paper](#)).
45. S. Biswas, B. J. Medhi, S. Deb, **H. S. Das**, & M. Tamura, **2025**. *Structural and Dynamical Characterization of a Young Embedded Cluster AFGL 6366S: A Statistical Approach*. Monthly Notices of the Royal Astronomical Society (MNRAS), **541**, 1557 ([Link to Paper](#)).
44. B. Barman, **H. S. Das**, & P. Byakti, **2025**. *Turbulence and Magnetic Field Alignment in Small Molecular Clouds: the Role of Cloud Size, Mass and Density*. Astrophysical Journal (ApJ), **980**, 252 ([Link to Paper](#)).
43. S. Nath Mazumdar, **H. S. Das**, & S. Wolf, **2025**. *Investigating the correlation between the magnetic field orientation and molecular outflow direction in some molecular clouds*. Monthly Notices of the Royal Astronomical Society (MNRAS), **536**, 2381 ([Link to Paper](#)).
42. R. S. Paul, P. Halder, **H. S. Das**, A. M. Mazarbhuiya, & B. J. Medhi, **2024**. *Investigating the extinction and magnetic field geometry in the Bok globule CB26*. Monthly Notices of the Royal Astronomical Society (MNRAS), **535**, 3353 ([Link to Paper](#)).
41. B. Goswami, **H. S. Das**, N.N. Devi, & P. Halder, **2024**. *Influence of porosity on the Umov effect in silicate and organic refractory aggregates*. Journal of Quantitative Spectroscopy and Radiative Transfer (JQSRT), **323**, 109019 ([Link to Paper](#)).
40. S. Biswas, B. J. Medhi, S. Deb, S. Deb, **H. S. Das**, & G I Perren, **2024**. *A statistical approach to polarimetric and photometric investigation of the intermediate-age open cluster NGC 1912*. Monthly Notices of the Royal Astronomical Society (MNRAS), **532**, 1241 ([Link to Paper](#)).
39. B. Prasad, & **H. S. Das**, **2024**. *Unveiling the properties of asteroids: linking photopolarimetry to spectral classification*. Monthly Notices of the Royal Astronomical Society (MNRAS), **532**, 22 ([Link to Paper](#)).
38. B. Barman, & **H. S. Das**, **2024**. *Magnetic field alignment in low-mass molecular clouds: The role of turbulence and density of the clouds*. Monthly Notices of the Royal Astronomical Society (MNRAS), **529**, 1715 ([Link to Paper](#)).
37. G. B. Choudhury, B. Goswami, **H. S. Das**, B. J. Medhi, J. C. Pandey, **2024**. *Probing the magnetic field and dust grain properties of two dark clouds L1495 and L1498 through photopolarimetry*. Monthly Notices of the Royal Astronomical Society (MNRAS), **528**, 7156 ([Link to Paper](#)).
36. B. Goswami, and **H. S. Das**, **2023**. *A study of the correlation between polarization maximum to minimum ratio and scattering parameters in a spheroid dust model*. Journal of Quantitative Spectroscopy and Radiative Transfer (JQSRT), **309**, 108689 ([Link to Paper](#)).
35. A. M. Mazarbhuiya, **H. S. Das**, B. J. Medhi, P. Halder and P. Deb Roy, **2022**. *Study of dust coma of comets 32P/Comas Sola and C/2015 V2 (Johnson) by imaging polarimetry*. Astrophys and Space Science, **367**, 98 ([Link to Paper](#)).
34. G. B. Choudhury, **H. S. Das**, B. J. Medhi, J. C. Pandey, S. Wolf, T. K. Dhar, and A. M. Mazarbhuiya, **2022**. *The Relative Orientation between Local Magnetic Field and Galactic Plane in Low Latitude Dark Clouds*. Research in Astronomy and Astrophysics (RAA), **22**, 075003 ([Link to Paper](#)).

33. A. M. Mazarbhuiya, **H. S. Das**, and P. Halder, **2021**. *The Umov effect in cosmic dust analogue fluffy aggregates*. Monthly Notices of the Royal Astronomical Society (MNRAS), **502**, 2536 ([Link to Paper](#)).
32. G. B. Choudhury, A. Barman, **H. S. Das**, and B. J. Medhi, **2019**. *Bok globule CB17: Polarization, extinction and distance*. Monthly Notices of the Royal Astronomical Society (MNRAS), **487**, 475 ([Link to Paper](#)).
31. O. Ivanova, I. Luk'yanyk, L. Kolokolova, **H. S. Das**, M. Husárik, V. Afanasiev, J. Svoren, V. Rosenbush, N. Kiselev, and V. Krushinsky, **2019**. *Photometry, spectroscopy, and polarimetry of distant comet C/2014 A4 (SONEAR)*. Astronomy & Astrophysics (A&A), **626**, A26 ([Link to Paper](#)).
30. P. Halder, P. Deb Roy and **H. S. Das**, **2018**. *Dependence of light scattering properties on porosity, size and composition of dust aggregates*. Icarus, **312**, 45 ([Link to Paper](#)).
29. J. Paul, A. Nag, and **H. S. Das**, **2018**. *Generation of sheath in magnetized plasma under the impact of slow rotation*. Chinese Journal of Physics (CJP), **56**, 1121 ([Link to Paper](#)).
28. J. Paul, A. Nag, K. Devi and **H. S. Das**, **2018**. *Characteristic features of double layers in rotating magnetised plasma contaminated with dust grains with varying charges*. Journal of the Korean Physical Society (JKPS), **72**, 662 ([Link to Paper](#)).
27. P. Deb Roy, P. Halder and **H. S. Das**, **2017**. *Study of light scattering properties of dust aggregates with a wide variation of porosity*. Astrophysics and Space Science (ASS), **362**, 209 ([Link to Paper](#)).
26. T. K. Dhar and **H. S. Das**, **2017**. *Correlation among extinction efficiency and other parameters in an aggregate dust model*. Research in Astronomy & Astrophysics (RAA), **17**, 118 ([Link to Paper](#)).
25. P. Halder and **H. S. Das**, **2017**. *JaSTA-2: Second version of the Java Superposition T-matrix Application*. Computer Physics Communications (CPC), **221**, 421 ([Link to Paper](#)).
24. A. M. Mazarbhuiya and **H. S. Das**, **2017**. *The study of correlation among different scattering parameters in an aggregate dust model*. Astrophysics and Space Science (ASS), **362**, 161 ([Link to Paper](#)).
23. A. Das, **H. S. Das**, Biman J. Medhi and S. Wolf, **2016**. *Magnetic field geometry of the large globule CB 34*. Astrophysics and Space Science (ASS), **361**, 381 ([Link to Paper](#)).
22. A. Chakraborty and **H. S. Das**, **2016**. *Study of magnetic field geometry and extinction in Bok globule CB130*. Astrophysics and Space Science (ASS), **361**, 321 ([Link to Paper](#)).
21. L. Kolokolova, **H. S. Das**, O. Dubovik, T. Lapyonok, and P. Yang, **2015**. *Polarization of Cosmic Dust Simulated with the Rough Spheroid Model*. Planetary and Space Science (PSS), **116**, 30 ([Link to Paper](#)).
20. A. Barman and **H. S. Das**, **2015**. *Study of grain alignment efficiency and a distance estimate for small globule CB4*. Research in Astronomy & Astrophysics (RAA), **15**, 953 ([Link to Paper](#)).
19. A. Das, **H. S. Das** and A. S. Devi, **2015**. *Distance estimation of some selected small Bok globules*. Monthly Notices of the Royal Astronomical Society (MNRAS), **452**, 389 ([Link to Paper](#)).
18. P. Deb Roy, P. Halder, **H. S. Das** and B. J. Medhi, **2015**. *Imaging polarimetry of comets C/2013 V1 (Boattini) and 290P/Jager before and after perihelion*. Monthly Notices of the Royal Astronomical Society (MNRAS), **450**, 1770 ([Link to Paper](#)).

17. P. Deb Roy, **H. S. Das** and B. J. Medhi, **2015**. *Imaging Polarimetry of Comet C/2012 L2 (LINEAR)*. Icarus, **245**, 241 ([Link to Paper](#)).
16. P. Halder, A. Chakraborty, P. Deb Roy and **H. S. Das**, **2014**. *Java application for Superposition T-matrix code to study the optical properties of cosmic dust aggregates*¹⁵. Computer Physics Communications (CPC), **185**, 2369 ([Link to Paper](#)).
15. A. Chakraborty, **H. S. Das** and D. Paul, **2014**. *Study of background star polarization, and polarization efficiency of three selected Bok globules CB56, CB60 and CB69*. Monthly Notices of the Royal Astronomical Society (MNRAS), **442**, 479 ([Link to Paper](#)).
14. G. Bertrang, S. Wolf and **H. S. Das**, **2014**. *Large-scale magnetic fields in Bok globules*. Astronomy & Astrophysics (A&A), **565**, A94 ([Link to Paper](#)).
13. **H. S. Das**, B. J. Medhi, S. Wolf, G. Bertrang, P. Deb Roy and A. Chakraborty, **2013**. *Polarimetric studies of comet C/2009 P1 (Garradd)*. Monthly Notices of the Royal Astronomical Society (MNRAS), **436**, 3500 ([Link to Paper](#)).
12. D. Paul, **H. S. Das** and A. K. Sen, **2012**. *Imaging polarimetry of the Bok globule CB56*. Bulletin of the Astronomical Society of India (BASI), **40**, 113 ([Link to Paper](#)).
11. **H. S. Das**, D. Paul, A. Suklabaidya and A. K. Sen, **2011**. *Modelling the polarization properties of Comet 1P/Halley using a mixture of compact and aggregate particles*. Monthly Notices of the Royal Astronomical Society (MNRAS), **416**, 94 ([Link to Paper](#)).
10. C. Bhattacharjee, D. Deb, **H. S. Das**, A. K. Sen and R. Gupta, **2011**. *Modelling of laboratory data of bi-directional reflectance of regolith surface containing Alumina*. Publications of the Astronomical Society of Australia (PASA), **28**, 261 ([Link to Paper](#)).
9. D. Deb, A. K. Sen, **H. S. Das** and R. Gupta, **2011**. *The photometric study of light scattering from the surface of alumina powder and interpretations by Hapke formula*. Advances in Space Research, **48**, 1274 ([Link to Paper](#)).
8. **H. S. Das** & A. K. Sen, **2011**. *Model for cometary grains to explain optical polarization*. J. Quant. Spectrosc. Radiat. Transfer, **112**, 1833 ([Link to Paper](#)).
7. **H. S. Das**, A. Suklabaidya, S. Datta Majumder and A. K. Sen, **2010**. *Aggregate dust model to study the polarization properties of comet C/1996 B2 Hyakutake*. Research in Astronomy and Astrophysics (RAA), **10**, 355 ([Link to Paper](#)).
6. D. Paul, S. R. Das, **H. S. Das** and A. K. Sen, **2010**. *Polarisation properties of comet NEAT C/2001 Q4*. Indian Journal of Physics, **84** (6), 623 ([Link to Paper](#)).
5. **H. S. Das**, S. R. Das, and A. K. Sen, **2008**. *Aggregate dust model to describe polarization properties of comet Hale-Bopp*. Monthly Notices of the Royal Astronomical Society (MNRAS), **390**, 1195 ([Link to Paper](#)).
4. **H. S. Das**, S. R. Das, T. Paul, A. Suklabaidya, & A. K. Sen, **2008**. *Aggregate model of cometary dust: An application to comet Levy 1990XX*. Monthly Notices of the Royal Astronomical Society (MNRAS), **389**, 787 ([Link to Paper](#)).
3. **H. S. Das** & A. K. Sen, **2006**. *Polarimetric studies of comet Levy 1990XX*. Astronomy and Astrophysics (A&A), **459**, 271 ([Link to Paper](#)).
2. A. K. Sen, T. Mukai, R. Gupta & **H. S. Das**, **2005**. *An analysis of the distribution of background star polarization in dark clouds*. Monthly Notices of the Royal Astronomical Society (MNRAS), **361**, 177 ([Link to Paper](#)).

1. **H. S. Das**, A. K. Sen & C. L. Kaul, **2004**. *The polarimetric properties of cometary dust and a possible effect of dust aging by the Sun*. *Astronomy and Astrophysics (A&A)*, **423**, 373 ([Link to Paper](#)).

In Special Issue :

1. **H. S. Das** and A. Barman, **2015**. *Extinction map of a small globule CB 224*. *Asian Journal of Physics (AJP)*, Vol. 24, No 8, pp 1045-1048 (A special issue on Constituents of Interstellar Medium) (ISSN 0971-3093) ([Link to Paper](#)).

In Newsletter :

1. **H. S. Das**, **2018**. *Did Comet sow the seeds of Life on Earth?*. *Physics Academy of North East (PANE) Newsletter* (Aug 2018), Volume 4, Issue 3, pp 12–18.

In Book :

2. P. Deb Roy, A. Chakraborty, **H. S. Das**, B. J. Medhi, S. Wolf and G. Bertrang, 2013. Polarimetric observation of comet C/2009 P1 Garradd. In *Emerging Areas of Research and Development in Chemical and Physical Sciences in North East India* (R. Sen & D. G. Thakurata, Eds.), pp. 20 – 24. Publisher: Department of Physics and Chemistry, S. S. College, Hailakandi, Assam, India (ISBN: 978-81-908204-3-3).
1. C. Bhattacharjee, **H. S. Das** and A. K. Sen, 2012. Study of extinction at UV range using aggregate dust model. In *Contemporary Trends of Research in Physical Sciences* (T. K. Dey & Apratim Nag, Eds.), pp 55-59. Publisher: Department of Physics, Gurucharan College, Silchar-788004, Assam, India (ISBN: 978-81-923616-0-4).

In Conferences/Symposium etc Proceedings:

26. A. Barman, and **H. S. Das**, 2020. *Study of extinction in large globule CB3*. In *Proceedings of the Frontiers of Research in Physical Sciences* (ISBN: 978-81-931268-5-1), held during January 19–21, 2018, organized by Dept. of Physics, Karimganj College (Assam). Edited by Sujit Tewari and Rajat Subhra Paul, 2020, p 15–19.
25. A. Das, T. Dhar, and **H. S. Das**, 2020. *Extinction measurement of Bok globule CB27 using Near-Infrared Photometry*. In *Proceedings of the Frontiers of Research in Physical Sciences* (ISBN: 978-81-931268-5-1), held during January 19–21, 2018, organized by Dept. of Physics, Karimganj College (Assam). Edited by Sujit Tewari and Rajat Subhra Paul, 2020, p 11–14.
24. A. M. Mazarbhuiya, P. Halder, **H. S. Das** and B. J. Medhi, 2017. *Imaging polarimetry of comet C/2015 V2 (Johnson)*. In *Proceedings of the National Seminar on Recent Trends in Basic Science Researches (RTBSR-2017)* (ISBN: 978-81-933690-0-5), held during September 21 – 23, 2017, organized by the Dept. of Chemistry and Physics, S. S. college, Hailakandi (Assam). Edited by R. Sen, D. G. Thakurata and S. G. Roy, 2017, p 174.

23. J. Paul, A. Nag and **H. S. Das**, 2017. *A study of the distinctive behaviour of dust grains in a rotating plasma sheath*. In *Proceedings of the National Seminar on Recent Trends in Basic Science Researches (RTBSR-2017)* (ISBN: 978-81-933690-0-5), held during September 21 – 23, 2017, organized by the Dept. of Chemistry and Physics, S. S. college, Hailakandi (Assam). Edited by R. Sen, D. G. Thakurata and S. G. Roy, 2017, p 144.
22. P. Deb Roy and **H. S. Das**, 2017. *Imaging Polarimetry of the dust coma of some comets at small phase angles*. In *Proceedings of the National Seminar on Recent Trends in Basic Science Researches (RTBSR-2017)* (ISBN: 978-81-933690-0-5), held during September 21 – 23, 2017, organized by the Dept. of Chemistry and Physics, S. S. college, Hailakandi (Assam). Edited by R. Sen, D. G. Thakurata and S. G. Roy, 2017, p 64.
21. P. Halder, A. M. Mazarbhuiya, **H. S. Das** and B. J. Medhi, 2017. *Polarimetric study of the dark cloud CB26*. In *Proceedings of the National Seminar on Recent Trends in Basic Science Researches (RTBSR-2017)* (ISBN: 978-81-933690-0-5), held during September 21 – 23, 2017, organized by the Dept. of Chemistry and Physics, S. S. college, Hailakandi (Assam). Edited by R. Sen, D. G. Thakurata and S. G. Roy, 2017, p 43.
20. G. B. Choudhury, A. Barman, **H. S. Das**, B. I. Sharma and B. J. Medhi, 2017. *Study of the magnetic field geometry of a globule CB17 using both optical and sub-millimeter polarimetry*. In *Proceedings of the National Seminar on Recent Trends in Basic Science Researches (RTBSR-2017)* (ISBN: 978-81-933690-0-5), held during September 21 – 23, 2017, organized by the Dept. of Chemistry and Physics, S. S. college, Hailakandi (Assam). Edited by R. Sen, D. G. Thakurata and S. G. Roy, 2017, p 27.
19. A. Das and **H. S. Das**, 2017. *Extinction measurement of the globule CB34 using the Near-infrared Photometry*. In *Proceedings of the National Seminar on Recent Trends in Basic Science Researches (RTBSR-2017)* (ISBN: 978-81-933690-0-5), held during September 21 – 23, 2017, organized by the Dept. of Chemistry and Physics, S. S. college, Hailakandi (Assam). Edited by R. Sen, D. G. Thakurata and S. G. Roy, 2017, p 13.
18. A. Barman and **H. S. Das**, 2017. *Extinction map of a large globule CB 3*. In *Proceedings of the National Seminar on Recent Trends in Basic Science Researches (RTBSR-2017)* (ISBN: 978-81-933690-0-5), held during September 21 – 23, 2017, organized by the Dept. of Chemistry and Physics, S. S. college, Hailakandi (Assam). Edited by R. Sen, D. G. Thakurata and S. G. Roy, 2017, p 1.
17. **H. S. Das**, 2014. *Polarimetric studies of five small Bok Globules*. In *Proceedings of the National Seminar on Frontiers of Research in Physical Sciences* (ISBN: 978-81-931268-0-6), held during 21-23 September 2014, at Karimganj College, Karimganj, Assam, India, Edited by R. S. Paul and S. Tewari, 2014, p. 44.
16. P. Deb Roy, **H. S. Das** and B. J. Medhi, 2014. *Polarimetric studies of Comet C/2012 L2 (LINEAR)*. In *Proceedings of the National Seminar on Frontiers of Research in Physical Sciences* (ISBN: 978-81-931268-0-6), held during 21-23 September 2014, at Karimganj College, Karimganj, Assam, India, Edited by R. S. Paul and S. Tewari, 2014, p. 51.
15. A. Das, **H. S. Das** and B. J. Medhi, 2014. *Photopolarimetric studies of CB34 Bok globule*. In *Proceedings of the National Seminar on Frontiers of Research in Physical Sciences* (ISBN: 978-81-931268-0-6), held during 21-23 September 2014, at Karimganj College, Karimganj, Assam, India, Edited by R. S. Paul and S. Tewari, 2014, p. 56.
14. A. Chakraborty, **H. S. Das** and D. Paul, 2014. *Polarimetric study of some star forming clouds*. In *Proceedings of the National Seminar on Frontiers of Research in Physical Sciences* (ISBN:

- 978-81-931268-0-6), held during 21-23 September 2014, at Karimganj College, Karimganj, Assam, India, Edited by R. S. Paul and S. Tewari, 2014, p. 59.
13. J. Paul, A. Nag, **H. S. Das** and R. Bhattacharjee, 2014. *Generation of sheath in magnetized plasma containing dust grains with varying charges*. In *Proceedings of the National Seminar on Frontiers of Research in Physical Sciences* (ISBN: 978-81-931268-0-6), held during 21-23 September 2014, at Karimganj College, Karimganj, Assam, India, Edited by R. S. Paul and S. Tewari, 2014, p. 188.
 12. **H. S. Das**, 2011. *Astrophysics teaching at Assam University, Silchar*. In *Proceedings of the 29th Meeting of the Astronomical Society of India* (ISBN 978-81-922926-1-8), held during 23-25 February, 2011. ASI Conference Series, Vol. 3, Edited by P. Khare and C.H. Ishwara-Chandra, 2011, p. 169.
 11. A. Suklabaidya, D. Paul, **H. S. Das** and A. K. Sen, 2011. *Study of polarimetric properties of comet Levy 1990XX by mixture of compact and aggregate particles*. In *Proceedings of the 29th Meeting of the Astronomical Society of India* (ISBN 978-81-922926-1-8), held during 23-25 February, 2011. ASI Conference Series, Vol. 3, Edited by P. Khare and C.H. Ishwara-Chandra, 2011, p. 99.
 10. D. Paul, A. Suklabaidya, **H. S. Das** and A. K. Sen, 2011. *Polarimetric study of comet Halley using combined dust model*. In *Proceedings of the 29th Meeting of the Astronomical Society of India* (ISBN 978-81-922926-1-8), held during 23-25 February, 2011. ASI Conference Series, Vol. 3, Edited by P. Khare and C.H. Ishwara-Chandra, 2011, p. 100.
 9. Arindwam Chakraborty, Parizath Debroy, **H. S. Das** and A. K. Sen, 2011. *Modelling Interstellar Extinction Using a Mixture of Compact and Aggregate Particles*. In *Proceedings of the 29th Meeting of the Astronomical Society of India* (ISBN 978-81-922926-1-8), held during 23-25 February, 2011. ASI Conference Series, Vol. 3, Edited by P. Khare and C.H. Ishwara-Chandra, 2011, p. 111.
 8. C. Bhattacharjee, **H. S. Das** and A. K. Sen, 2011. *Study of interstellar extinction by aggregate dust model*. In *Proceedings of the 29th Meeting of the Astronomical Society of India* (ISBN 978-81-922926-1-8), held during 23-25 February, 2011. ASI Conference Series, Vol. 3, Edited by P. Khare and C.H. Ishwara-Chandra, 2011, p. 112.
 7. A. K. Sen and **H. S. Das**, 2010. *Dust models for cometary grains to explain optical polarization*. In *Proceedings of the Electromagnetic and Light Scattering XII*, (ISBN 978-952-10-6374-9), University of Helsinki, Finland, p 270.
 6. H. S. Das, 2010. *Polarization of light scattered by cometary dust particles*. In *Proceedings of the VI th National Conference of Physics Academy of North East (PANE) held at Department of Physics, Tripura University during 2-4 th April, 2009*, p 43.
 5. S. Datta Majumder and H. S. Das, 2010. *Study of light scattering by aggregate particles in comet C/1996 B2 Hyakutake*. In *Proceedings of the VI th National Conference of Physics Academy of North East (PANE) held at Department of Physics, Tripura University during 2-4 th April, 2009*, p 38.
 4. A. K. Sen and **H. S. Das**, 2010. *Dust models for cometary grains to explain optical polarization*. *Electromagnetic and Light Scattering XII Proceedings of the 12th conference held in University of Helsinki, Finland, (June 28 - July 02, 2010)*. Edited by Karri Muinonen et al.. Helsinki: Helsinki University Print, 2010, p. 270.

3. A. K. Sen and **H. S. Das**, **2008**. *The analysis of cometary polarization data using Mie and other light scattering theories*. 11th Electromagnetic and light scattering Conference, Univ. of Hertfordshire, Hatfield, UK (07- 12 September , 2008).
2. **H. S. Das**, **2006**. *Non-spherical dust grain characteristics of comet Halley*. In *Proceedings of the UGC sponsored National Seminar on Physics of 20th Century*, Mirza, South Kamrup (Assam), India, p 34.
1. **H. S. Das**, A. K. Sen, **2004**. *Polarimetric studies of comet Levy 1990XX*. In *Proceedings of the fourth conference on Physics Research in North East*, Silchar (Assam), India, p 19.

In University and College Journals (peer reviewed):

11. R. S. Paul, and **H. S. Das**, **2024**. *Distance Estimation of Bok globule CB69*. Science and Technology Journal (STJ) (ISSN 2321-3388), **12**, 73 ([Link to Paper](#))
10. R. S. Paul, and **H. S. Das**, **2023**. *An approach to study the distance estimation of dark cloud CB130*. Chemical Journal of Karimganj College [ISSN: 2456-6748], Vol. 7, Issue 1, 21-28.
9. B. Goswami, and **H. S. Das**, **2022**. *Study of the Umov effect with Carbon aggregates*. Chemical Journal of Karimganj College [ISSN: 2456-6748], Vol. 6, Issue 1, 35-39.
8. S. R. Das, D. Paul, and **H. S. Das**, **2014**. *Study of polarization properties of Comet Bradfield 1987 P1 using aggregate dust model and its comparison with comet NEAT C/2001 Q4*. Prayas - An international journal of multidisciplinary studies (PIJMS) [ISSN: 2348-618X (online)], Vol 1, Issue 1, p 1-5.
7. **H. S. Das**, **2012**. *Career in Astronomy and Astrophysics*. **Souvenir**: UGC Sponsored National Seminar on *Emerging Areas of Research & Development in Chemical and Physical Sciences in North East India*. Edited by *Rupam Sen*. p 3-6
6. D. Deb, A. K. Sen, **H. S. Das** and R. Gupta, **2011**. *Light scattering from regolith containing powdered alumina: an analogue for asteroid surface scattering*. Assam University Journal of Science and Technology : Physical Sciences and Technology [ISSN : 0975-2773(Print)], Vol 7 (Number II), p 128-132.
5. D. Paul, A. Suklabaidya, **H. S. Das** and A. K. Sen, **2010**. *Study of polarization properties of comet Bradfield 1987 P1 using aggregate dust model and its comparison with comet NEAT C/2001 Q4*. Assam University Journal of Science and Technology : Physical Sciences and Technology [ISSN : 0975-2773(Print)], Vol 6 (Number II), p 30-33.
4. C. Bhattacharjee, **H. S. Das** and A. K. Sen, **2010**. *Modeling of interstellar extinction by aggregates*. Assam University Journal of Science and Technology : Physical Sciences and Technology [ISSN : 0975-2773(Print)], Vol 6 (Number II), p 39-41.
3. A. Suklabaidya, D. Paul, **H. S. Das** and A. K. Sen, **2010**. *Study of Polarization Properties Comet Levy 1990XX using BAM1 Model*. Assam University Journal of Science and Technology : Physical Sciences and Technology [ISSN : 0975-2773(Print)], Vol 6 (Number II), p 120-124.
2. **H. S. Das** and M. Das, **2010**. *Climate change and sustainable development in India*. Annual Journal of Women's College [ISSN : 0975-3338], p 257-262.
1. S. R. Das and **H. S. Das**, **2010**. *Aggregate dust model to describe light scattering properties of comet Halley*. Assam University Journal of Science and Technology : Physical Sciences and Technology [ISSN : 0975-2773(Print)], Vol 5 (Number II), p 186-191.

(**Last updated:** Saturday 4th October, 2025)