Curriculum Vitae

(Prof. Asoke K. Sen)

(1.) Name, designation and full correspondence address

Asoke K. Sen, Senior Professor,

Dept. of Physics, Assam University, Silchar- 788 011, Assam, India.

(2.) Email and contact numbers

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Phone:+91-9435070349(Mob), 91-3842270843(O),91-3842236600(Res)

(3.) Institution : Assam University, Silchar.

(4.) Date and Place of Birth : July 23, 1962; Silchar, Assam, India.

(5.) Gender : Male

(6.) Category: General

(7.) Academic Qualifications

1.	M. Sc.	Physics	1984	IIT, Kharagpur
2.	Ph. D.	Astrophysics	1990	PRL, Ahmedabad (Guj. Uni.)

(8.) Ph.D.

Thesis title: Photopolarimetric studies of comet P/Halley and other astronomical objects.

Institute: Physical Research Laboratory, Ahmedabad (Gujarat University, India).

Year of the award: 1990.

9. Work experience

S.No.	Position	Institute	Period
1.	Post-doctoral fellow	PRL, Ahmedabad	Jul 1990 - Jul 1992
2.	Post-doctoral fellow	IUCAA, Pune	Aug 1992- Aug 1994
3.	Assistant Professor	Center of Plasma Physics, Guwahati	Sep 1994- Apr 1997
4.	Associate Professor	Assam University, Silchar	Apr 1997- March 2005
5.	Professor	Assam University, Silchar	March 2005- Sep 2022
5.	Senior Professor (Level 15)	Assam University, Silchar	Sep 2022- Till date

(10.) Areas of Research

Experimental:

Photometric and polarimetric astronomical observation and related instrumentation; Image processing; Laboratory light scattering experiment: Laboratory Astrophysics- simulation of asteroid regolith dust

Theoretical:

Comets: Solar system studies: Interstellar medium: Star formation: Theory of polarimetry

General Theory of Relativity: Electromagnetism in curved space-time

(11.) Visiting positions / Membership of Societies etc.

11. Visiting positions / Membership of Societies etc.

1. DLR (German Aerospace Center) Fellowship: Guest scientist at Institute of Planetary Research, DLR, Berlin. (April-June 2005)
2. Visiting Scientist : JSPS (Japan) Fellowship under DST-JSPS co-op. science prog., 2000, 01, 03, 04, 05, 06,07,08,09,11,12, 13 (an ongoing collaboration with Planetary Science Group, Kobe University, Nishi- Harima Observatory, Japan on the solar system and other astronomical studies)
3. Visiting Scientist: under European Union's Erasmus Mundus programme (NAMASTE) - visited University Polytechnique Valencia, Spain, during January 2016 and June-July 2017
4. Guest Observer: Loiano Astronomical Observatory, Bologna, Italy Oct 2000
5. Member: Scientific Organising committee: IAU Symposium 'Physics of Sun and star spot' Aug 23-26, 2010, Los Angeles, USA
6. Visiting Associate: Inter Univ. Center for Astronomy and Astrophysics (IUCAA), Pune since 1997
7. Member: Science Working group on 'Interstellar Dust Studies' of TAUVEX (an Indo- Israel Ultraviolet Imaging Experiment that will be launched into a geostationary orbit as a part of ISRO's GSAT-4 mission)
8. Member: Multi-Wavelength Working Group' of ASTROSAT (India's first astronomy satellite, launched by ISRO in Sep 2015)
9. Life Member: (Membership No. L659): Astronomical Society of India

10. Member (Membership No. IN13518): International Astronomical Union

11. Member: Advisory Board, North Eastern Center for Advanced Studies, Silchar

12. Member: Editorial Board- Acta Ciencia Indica 'Physics', Pragati Prakashan, Meerut, India

13. Member: Scientific Organizing Committee (Astronomical Society of India) (2005-08)

14. Member: Executive committee of Astronomical Society of India 2013-2015 as councilor.

(12.) Research Projects undertaken and on-going

(12a.) National projects

1. **Principal Investigator (PI):** Dept. of Science & Technology (DST)-SP/S2/O-09/93 funded research project at IUCAA, Pune, *Construction of an Imagining Polarimeter for observational Programme* (1993- 1997, completed),

2. **Co- PI:** Dept. of Science & Technology (DST)-SP/S2/K-09/95 funded research project at Center of Plasma Physics, Guwahati, *Setting up of a dusty plasma experiment* (1995-1998)completed),

3. **PI:** Dept. of Atomic Energy (DAE)-98/37/6/BRNS funded research project in Assam Univ. Amount 12,94,080 *Photopolarimetric studies of comets* (1999-2004)Completed),

4. **PI:** Dept. of Space (DOS) RESPOND (10/2/286 dtd. 19 Oct, 2004) funded research project in Assam University. *Study of minor bodies of the solar system, by simulating laboratory data to match with spacecraft observation* (completed),

5. **Co-ordinator:** of University Grants Commission's Special Assistance Programme (UGC-SAP) sanctioned to Department of Physics, Assam University, Silchar for five years (2010-14).

(12b.) International research projects

1. **Investigator:** International project 'Study of astrophysical dust in Star-forming regions, Interstellar medium and Planetary bodies' a collaborative research programme between Kobe Univ. Japan, Assam Univ and IUCAA, Pune, Research project funded by Dept of Science and Technology and Japan Society of Promotion of Science. DST/INT/JSPS/P-92/2010 dated 04/06/2010 (2010-2012 completed)

2. **Principal Investigator:** International project 'Cometary Grains: observations and simulations' funded by DST- Indo French center (CEFIPRA) in collaboration with University Paris South CEFIPRA-DST sanction no 4507-1, Amount 15,67,000(2011- 2014 completed)

3. **Principal Investigator:** Project 'Magnetic fields in star-forming clouds' jointly funded by DST(Govt of India) and RFBR (Russian Foundation for Basic Research) (sanction number INT/RFBR/P-104) in collaboration with St. Petersburg University, Russia, Amount 14,46,480, (2011- 14 completed)

4. **Principal Investigator:** International project 'Polarimetric study of Astrophysical dusts using light scattering tools and observation with optical telescope' collaborative research programme between Centre for Astronomy, University of Hyogo and Assam University, with Delhi Univ.;IUCAA, Pune. Exchange programme funded by Dept of Science and Technology and the Japan Society of Promotion of Science. DST/INT/JSPS/P-230/2016 dated 28/07/2016 Amount 8,48,000(Year 2016 -2018 completed)

5. **Principal Investigator:** Project 'Dust and Magnetic fields in low mass star-forming clouds' jointly funded by DST (Govt of India) and RFBR (Russian Foundation for Basic Research) (sanction number DST/INT/RUS/RFBR-P233 of 2016) in collaboration with St. Petersburg University, Russia Amount 23,35,600(Year 2016 - 2019 completed).

(13.) Served / Serving in the following expert committees

1. National Steering Committee of UGC- INFONET Digital Library Consortium (2009-2016),
2. Planning Committee of DST-SERC school in Astronomy and Astronomy (2009),
3. Advisory Committee of High Energy & Cosmic Ray Centre, North Bengal University (2009),
4. Member, Governing Council of Inter University Center for Astronomy and Astrophysics (IUCAA), Pune, India (2013-2015),
5. National Advisory Committee (NAC), e-Shodh Sindhu Consortium, INFLIBNET Centre, MHRD, GOI, (2016).

(14.) Countries visited for research work

USA, UK, France, Germany, Italy, Switzerland, Sweden, Finland, Spain, Austria, Russia, Thailand, China, Taiwan and Japan.

(15.) Administrative responsibilities undertaken

Head: Department of Physics, Assam Univ. (Served two tenures:10 Oct. 2002 - 04 Apr. 2006 and 16 May 2009 to 18 May 2012),
Dean: School of Technology, Assam University (June 2007 to Feb 2011),
Member: Executive Council, Assam University, March 2008- March 2011
Member: Finance Committee, Assam University, March 2008- March 2011
Director: Internal Quality Assurance Cell (IQAC) (05 Mar 2013 to 03 Aug. 2016)
Dean: Albert Einstein School of Physical Sciences (26 Dec 2016 to Dec 2019)
Member: Executive Council, Assam University, Jul 2022- till date
Member: Finance Committee, Assam University, Aug 2022- till date

(16.) Experience of Guiding Ph. D / M Phil

- **Total number of students got Ph D. awarded so far:** 15,
- **Number of scholars registered for Ph. D :** 3 (on going),
- **Total number of M. Phil :** 3 (awarded).

(17.) Details about M. Phil. programmes guided

1.Indira Dey (2001) *Determination of thickness of star-forming clouds,*

2.Debashsis Bhattacharjee (2001) *Study of evolution of planetary orbits,*

3.Farhana Aziz (2007) *A review of the work done on the deflection of light in the gravitational field of a rotating sphere.*

(18.) Details about the Ph. D. programmes guided

1.A. C. Borah (PhD/64/2000 dtd. 16.4.2001) *Electrostatic effects of charged dust grains in star formation, process in interstellar dust clouds, Awarded 2004*

2.H. S. Das (23-12-2005) (Ph D/119/2002 dtd. 26.11.2002) *Photopolarimetric studies of comets and other objects, Year 2004*

3.M. R. Nath (10-07-2009) (PhD/254/2004 dtd. 14.10.04) *Some solvable models of atom-field interaction in quantum optics, 2008*

4.Indira Dey (16-07- 2009) (PhD/221/2003 12.04.04) *Photopolarimetric studies of star-forming clouds, 2009*

5.Sudipta Roy (Oct 2010) (PhD/546/2007/ dtd. 07.12.2007) *Wavelet based intelligent methods in image processing, 2010*

6.Sujit Ranjan Das (16-11- 2011)(Ph D/650/08 dtd. 17.04.08) *Modeling of optical characteristics of cometary dust by fractal aggregates, 2010*

7.Dwaipayan Deb (07-03-2012) (Ph D/477/07/dtd. 18-05-07) *The study of minor bodies of the solar system by simulating data to match with spacecraft observations, 2011*

8.Dipankar Paul (26-09-2012)(Ph D /718/09/ Dtd. 11.02.09) *Study of polarisation properties of comets and other objects, Year 2012*

9.Chinmoy Bhattacharjee (16-04-2013) (Ph D/ 719/2009/ dtd. 16.04.2013) *Study of light scattering properties of cosmic dust, Year 2013*

10.Saumyadeep Roy Choudhury (12-09-2012) (PhD/2033/2012 dtd. 12/09/2012) *The cometary activities as studied through cometary dust, Year 2016.*

11.Anuj Kumar Dubey (12-09-2012) (PhD/2040/2012 dtd. 12/09/2012) *Study of Gravitational redshift from rotating body, Year 2017.*

12.Sarani Chakraborty (12-09-2012) (PhD/2038/2012 dtd. 12/09/2012) *Study of Deflection of Light Due to Rotating Mass and Other Space-Time Geometries Year 2018.*

13.Shaswati Roy (12-09-2012) (PhD/1404/2011 dtd. 08/04/2011) *Calculation of Gravitational Deflection of light dues to Rotational Mass in weak and strong Field, Year 2018*

14.Amritaksa Kar (12-09-2012) (PhD/2034/2012 dtd. 12/09/2012) *To study the light scattering properties of asteroid surface analogue and their interpretation by laboratory measurements, Year 2019*
15.Tanay Ghosh (12-09-2012) (PhD/2039/2012 dtd. 12/09/2012) *Rotation of the Polarization for static and non-static Gravitational Field due to massive body, Year Sep 2020*
16.Naznin R. Choudhury (14 Mar2015) (PhD/2693/15 dtd. 14.03.2015) *Light scattering properties of porous cometary grains, Year: 31Aug2023*

(19.) Publications in Peer Reviewed Journals

1. M. R. Deshpande, U. C. Joshi, A. K. Kulshrestha, **A. K. Sen**, N. K. Rao, A.V. Raveendran, *Variation of linear polarization in the R aquarii system* Publication of Astronomical Society of Pacific **99**, pp62 (1987).

2. U.C. Joshi, M. R. Deshpande, **A. K. Sen**, A. K. Kulshrestha, *Polarization investigations in four peculiar supergiants with high IR excess,* Astronomy and Astrophysics **181**, p31 (1987).

3. **A. K. Sen**, U.C. Joshi, M.R. Deshpande, A. K. Kulshrestha, G. S. D. Babu, B.S. Shylaja, *Polarimetric observations of comet P/Halley on 19 March 1986,* Astronomy and Astrophysics **204**, pp317 (1988).

4. **A. K. Sen**, U.C. Joshi, M. R. Deshpande *Molecular band polarization in comet P/Halley,* Astronomy and Astrophysics **217**, pp307 (1989).

5. **A. K. Sen**, U. C. Joshi, M. R. Deshpande, C. Debi Prasad, *Imaging polarimetry of comet P/Halley,* Icarus **86**, p248 (1990).

6. **A. K. Sen**, M. R. Deshpande, U.C. Joshi, N. K. Rao, A. V.Raveendran, *Polarimetry of comet P/Halley: Properties of dust,* Astronomy and Astrophysics **242**, pp496 (1991).

7. **A. K. Sen**, M. R. Deshpande, U. C. Joshi, *Photometry of comet P/Halley,* Bulletin of Astronomical Society of India **19**, pp47 (1991).

8. **A. K. Sen**, U. C. Joshi, M. R. Deshpande, *Polarimetric properties of comet Austin,* Monthly Notices of Royal Astronomical Society, **253**, p738 (1991).

9. U. C. Joshi, **A. K. Sen**, M. R. Deshpande, J. S. Chauhan, *Photopolarimetric studies of comet Austin,* Journal of Astrophysics and Astronomy **13**, p267 (1992).

10. **A. K. Sen**, N. C.Rana, *On the missing interstellar comets,* Astronomy and Astrophysics **275**, p298 (1993).

11. **A. K. Sen**, M. K. Kakati, *Instrumental polarization caused by telescope optics during widefield imaging,* Astronomy and Astrophysics Supplement Series **126**:1, p113 (1997).

12. A. N. Ramprakash, R. Gupta, **A. K. Sen**, S.N. Tandon, *An imaging polarimeter (IMPOL) for multi wavelength observations,* Astronomy and Astrophysics Supplement Series **128**:2, p369 (1998).

13. C. B. Dwivedi, **A. K. Sen**, S. Bujarbarua, *Pulsational mode of gravitational collapse and its impact on the star formation,* Astronomy and Astrophysics **345**, p1049 (1999).

14. **A. K. Sen**, R. Gupta, A. N. Ramprakash, S. N. Tandon, *Imaging polarimetry of some selected dark clouds,* Astronomy and Astrophysics, supl. **141**, p175 (2000).

15. **A. K. Sen**, *Cometary polarimetry,* Pub. of Astronomical Soc. of Pacific **246**, p275 (2001).

16. H. S. Das, **A. K. Sen**, C. L. Kaul, *The polarimetric effects of cometary dusts and possible effect of grain aging by sun,* Astronomy and Astrophysics **423**, p373 (2004).

17. **A. K. Sen**, T. Mukai, R. Gupta, H. S. Das, *An analysis of the distribution of background star polarization in dark clouds,* Monthly Notices of Royal Astronomical Society (MNRAS) **361**, p177 (2005).

18. Ranjan Gupta, Tadashi Mukai, D. B. Vaidya, **A. K. Sen**, Y. Okada, *Interstellar extinction by spheroidal dust grains,* Astronomy and Astrophysics **441**, p555 (2005).

19. H. S. Das, **A. K. Sen**, *Polarimetric studies of comet Levy 1990 XX,* Astron. & Astrophys, **459**, p271 (2006).

20. G.Hahn, S. Mottola, **A. K. Sen** , A. W. Harris, E. Kuhrt, M. Mueller, *Photometry of Karin family asteroids*, Bulletin of Astronomical Society of India (BASI) **34**, p393 (2006).

21. **A. K. Sen**, T. Mukai, R. Gupta, Y. Okada *A proposal for UV observations of star forming clouds,* Bulletin of Astronomical Society of India (BASI) **35**, p239 2007.

22. A. C. Borah, **A. K. Sen** *Gravitational instability of partially ionized molecular clouds,* Journal of Plasma Physics (Cambridge University Press)**73**, p831-838 (2007).

23. Mihir Ranjan Nath, Surajit Sen, **A. K. Sen**, Gautam Gangopadhyay, *Dynamical symmetry breaking of lambda- and vee-type three-level systems on quantization of the field modes,* PRAMANA **71**:1, p77. (2008).

24. H. S. Das, S. R. Das, T. Paul, **A. K. Sen**, *Aggregate model of cometary dust : An application to comet Levy 1990XX,* Monthly Notices of Royal Astronomical Society (MNRAS) **389**, p787 (2008).

25. H. S. Das, S. R. Das, **A. K. Sen**, *Aggregate dust model to describe polarization properties of comet Hale-Bopp,* Monthly Notices of Royal Astronomical Society (MNRAS) **390**, p1195 (2008).

26. D. Ward-Thompson, **A. K. Sen**, J. M. Kirk, D. Nutter, *Optical and sub-millimetre observations of Bok globules – Tracing the magnetic field from low to high density,* Monthly Notices of Royal Astronomical Society (MNRAS) **398**, p394(2009).

27. Edith Hadamcik, Anny Chantal Levasseur-Regourd, **A. K. Sen**, Ranjan Gupta, Jérémie Lasue, *Is 67P/Churyumov-Gerasimenko a classical JFC comet? Clues from recent polarimetric observations,* Bulletin of the American Astronomical Society **41**:3, p1029-1030 (2009).

28. H. S. Das, S. Shuklabidya, S. Dutta Majumder, **A. K. Sen**, *Aggregate dust model to study polarization properties of comet B/1996 B2 Hyakutake,* Research in Astronomy and Astrophysics **10**:4, p355–362 (2010).

29. E. Hadamcik, **A. K. Sen**, A. C. Levasseur-Regourd, R. Gupta, J. Lasue, *Polarimetric observations of comet 67P/Churyumov-Gerasimenko during its 2008-2009 apparition,* Astronomy and Astrophysics **51**, A86 (2010).

30. **A. K. Sen**, V. F. Polcaro, I. Dey, R. Gupta, *Photopolarimetric study of star forming clouds CB3, CB25 and CB39,* Astronomy and Astrophysics **522**, A45 (2010).

31. Yoichi Itoh, Ranjan Gupta, Yumiko Oasa, **A. K. Sen**, Munechika Tanaka, Tsuyoshi Terai, Seina Nakaoka, *Optical Spectroscopy of Candidates of Young Stellar Objects in NGC 1333*, Publication of Astrophysical Society of Japan **62**: 5 (2010).

32. S. Roy, N. Sinha, **A. K. Sen**, *A new Hybrid image denoising method,* Int. J. Info. Tech. and Know. Manage. *3*: 2, p491-497 (2010).

33. Aruna Goswami, Sreeja S. Kartha, **Asoke K. Sen**, *Evidence of V-band polarimetric separation of carbon stars at high galactic latitude,* The Astro. J. Lett. **722**, L90–94 (2010).

34. **A. K. Sen**, *A more exact expression for the gravitational deflection of light derived using material medium approach* Astrofizika **53** N4 (2010).

35. E. Hadamcik, A.C. Levasseur-Regourd, J.B. Renard, J. Lasue, **A. K. Sen**, *Polarimetric observations and laboratory simulations of asteroidal surfaces: The case of 21-Lutetia,* J. Quant. Spectro. Radiative Transfer (JQSRT) **112**, p1881-1890 (2011).

36. H. S. Das, **A. K. Sen**, *Model for cometary grains to explain optical polarization,* JQSRT **112**, p1833-1837 (2011).

37. K. J. Meech, **A. K. Sen** et-al, *EPOXI: Comet 103P/Hartley 2 observations from a worldwide campaign,* The Astrophysical Journal Letters **734**, L1 (2011).

38. H. S. Das, D. Paul, S. Suklabaidya, **A. K. Sen**, *Modeling polarization properties of comet 1P/Halley using a mixture of compact and aggregate particles,* Monthly Notices of Royal Astronomical Society (MNRAS) **398**, p394 (2011).

39. C. Bhattacharjee, D. Deb, H. S. Das, **A. K. Sen**, R. Gupta, *Modeling of laboratory data of bidirectional reflectance of regolith surface containing alumina,* Publication of Astrophysical Society of Australia (PASA) **28**, p261-265 (2011).

40. D. Deb, **A. K. Sen**, H. S. Das, R. Gupta, *The photometric study of light scattering from the surface of alumina powder and interpretations by Hapke formula,* Advances in Space Research **48**, p1274-1278 (2011).

41. D. Deb, **A. K. Sen**, *Light scattering from Regolith: Intensity versus particle size behavior,* Earth, Moon and Planets **108**, p101-109 (2012).

42. D. Paul, H. S. Das and **A. K. Sen**, *Imaging polarimetry of the Bok globule CB56,* Bulletin of Astronomical Society of India (BASI) **40**, p113-119 (2012).

43. Ryoko Tanii, Yoichi Itoh, Tomoyuki Kudo, Tomonori Hioki, Yumiko Oasa, Ranjan Gupta, **A. K. Sen** et-al *High-resolution near-infrared polarimetry of a circumstellar disk around UX tau A,* Publication of Astrophysical Society of Japan **64**, p124 (2012).

44. E. Hadamcik, **A. K. Sen**, A. C. Levasseur-Regourd, R. Gupta, J. Lasue, R. Botet, *Dust in Comet 103P/Hartley 2 coma before and during 1 EPOXI mission,* Icarus **222**, p774–785 (2012).

45. H. S. Das, **A. K. Sen**, D. Paul, *Imaging polarimetry of the Bok globule CB56,* Bulletin of Astronomical Society of India (BASI) **40**, p113-119 (2012).

46. E. Hadamcik, **A. K. Sen**, A. C. Levasseur-Regourd, S. Roy Choudhury, J. Lause, R. Gupta, R. Botet, *Dust coma of comet C/2009 P1 (Garradd) by imaging polarimetry,* Meteoritics & Planetary Science **49**:1, p36-44 (2013).

47. D. Deb, and **A. K. Sen**, *Rosin's law and size distribution of particles in regolith like samples - An analysis,* Planetary and Space Science **82**, p79-83 (2013).

48. S. Roy Choudhury, E. Hadamcik , and **A. K. Sen**, *A study of comet 78P/Gehrels by imaging polarimetry* JQSRT **146**, p444-451 (2014).

49. M. S. Prokopjeva, **A. K. Sen**, V. B. Il'in , N. V. Voshchinnikov, R. Gupta, *Imaging polarimetry of the rotating Bok globule CB67,* JQSRT **146**, p410-416 (2014).

50. Anuj Dubey, and **A. K. Sen**, *An analysis of gravitational redshift from rotating body,* Int. J. Theo. Phys. **54**: 7, pp-2398 (2015).

51. Sarani Chakraborty, and **A. K. Sen** *Light deflection due to a charged, rotating body,* Classical and Quantum Gravity **32**:11, pp-115011 (2015).

52. Saumyadeep Roy Choudhury, Edith Hadamcik, and **A. K. Sen**, *Study of some comets through imaging polarimetry,* Planetary and Space Science **118**, p193-198 (2015).

53. Amritaksha Kar, Sanjib Deb, and **A. K. Sen**, Ranjan Gupta, *Laboratory simulation of light scattering from Regolith analogues: Effect of porosity,* Publication of Korean Astronomical Society **30**, p65-67 (2015).

54. S. Roy, and **A. K. Sen**, *Trajectory of a light ray in Kerr field: A material medium approach,* Astrophysics and Space Science **360**, pp23 (2015).

55. Anuj Dubey, and **A. K. Sen**, *Gravitational redshift in Kerr-Newman geometry,* Astrophysics and Space Science **360**, pp29 (2015).

56. C Snodgrass,...,**A. K. Sen** et-al, *The 67P/Churyumov-Gerasimenko observation campaign in support of the Rosetta mission,* Phil. Trans. R. Soc. A **375**: 20160249, (2016).

57. Tanay Ghosh, and **A. K. Sen**, *The effect of gravitation on the polarization state of a light ray,* Astrophysical Journal (ApJ), **833**:82 (2016).

58. A. Kar, **A. K. Sen**, and R. Gupta *Laboratory photometry of regolith analogues: Effect of porosity,* Icarus **277**, p300–310 (2016).

59. S. Deb, **and A. K. Sen**, *Laboratory light scattering from regolith surface and simulation of data by Hapke model,* Planetary and Space Science (PSS) **124**, p36-47 (2016).

60. Saswati Roy, and **A. K. Sen**, *Deflection of light ray due to a charged body using material medium approach,* Zeitschrift für Naturforschung A (ZNA) **72**:12, a1113–1126 (2017).

61. Sarani Chakraborty, and **A. K. Sen**, *Trajectory of light ray slightly above the equatorial plane in Kerr geometry and it's deflection,* Canadian Journal of Physics, *95*:12, p1307-1312 (2017).

62. Sarani Chakraborty, and **A. K. Sen**, *Deflection of light in equatorial plane due to Kerr-Taub-NUT body,* Serbian Astronomical Journal **194**, p23-32 (2017).

63. Sarani Chakraborty, and **A. K. Sen**, *Effect of gravomagnetism on the trajectory of light ray,* Zeitschrift für Naturforschung (ZNA) A **72**: 6 (2017).

64. **A. K. Sen**, R. Robert, R. Vilaplana, Naznin R. Choudhury, and Ranjan Gupta, *The effect of porosity of dust particles on polarization and color with special reference to comets,* JQSRT **198**, p164–178 (2017).

65. E. Hadamcik, A.C. Levasseur-Regourd, D.C. Hines, **A. K. Sen**, J. Lasue, J.B. Renard, *Properties of dust particles in comets from photometric and polarimetric observations of 67P,* Monthly Notices of the Royal Astronomical Society Supplement **462**:1, pS507-S515 (2017).

66. Anuj Kumar Dubey, **A. K. Sen**, Bijoy Mazumdar, *Gravitational redshift in Kerr-Newman geometry using gravity's rainbow,* Astrophys Space Sci. **362**:204 (2017).

67. Aya Iwai, Yoichi Itoh, Tsuyoshi Terai, Ranjan Gupta,**Asoke Sen**, Jun Takahashi, *Optical Spectroscopy and Photometry of Main-Belt Asteroids with High Orbital Inclination*, Research in Astronomy and Astrophysics, **17**, id 17, (2017)

68. Ramya Manjunath Anche, **Asoke Kumar Sen**, Gadiyara Chakrapani Anupama, Kasiviswanathan Sankarasubramanian, *Analysis of polarization introduced due to the telescope optics of the Thirty Meter Telescope,* Journal of Astronomical Telescopes, Instruments and Systems (JATIS, SPIE) 4(1), 018003 (Jan–Mar 2018)

69. Anuj Kumar Dubey, **A. K. Sen**, Sonarekha Nath, *The Variation of Photon Speed with Photon Frequency in Quantum Gravity* Indian Journal of Physics (SPRINGER) 92(10):1319-1323 (October, 2018)

70. Kensuke Hosoya1, Yoichi Itoh, Yumiko Oasa, Ranjan Gupta, and **Asoke Kumar Sen** *Spectroscopic survey of H-alpha emission line stars associated with bright-rimmed clouds*, International Journal of Astronomy and Astrophysics, **9** (no. 2), 154-171 (2019)

71. **AK Sen** , E Hadamcik, R Botet, J Lasue, S Roy Choudhury, and R Gupta *Photometry and colour index of Comet 67P/Churyumov-Gerasimenko on 2015 December 12*, Monthly Notices of the Royal Astronomical Society, **487**, Issue 4, August Pages 4809-4818 (2019)

72. T Ghosh and **A K Sen** *Changes in the direction of polarization vector and redshift of an incoming light ray as observed from a rotating frame* , Canadian Journal of Physics, 98: 433–441 (2020)

73. N. R. Choudhury, R. Vilaplana, R. Botet, and **A K Sen** *Comparison of light scattering properties of porous dust particle with connected or unconnected dipoles*, Planetary and Space Science, 190, 104974 (2020)

Publications during last five years

74. A. Kar, **A K Sen** and R Gupta *Laboratory photometry of regolith analogues: Effect of porosity-II*, Icarus, 358, 114211 (2021)

75. **A.K Sen**, V B Ilin, M S Prokopjeva, R Gupta, *Polarimetric and photometric observations of CB54, with analysis on four other dark clouds*, Monthly Notices of Royal Astronomical Society, 503, Issue 4, P 5274–5290,380 (2021)

76. Ranchhaigiri Brahma and **A.K Sen** *Deflection of Light due to Spheroidal Oblate Static Objects*, Bulgarian Journal of Physics, vol. 50, P 27–43 (2023)

77. Ranchhaigiri Brahma and **A.K Sen** *The space–time line element for static ellipsoidal objects*, General Relativity and Gravitation 55:24 (2023)

78. Naznin R. Choudhury, R. Botet b, **A.K. Sen**, A. Zaman *Porous dust particles in astrophysics and their thermal properties*, Planetary and Space Science 230 105676 (2023)

79. **A.K. Sen**, *Circularly polarized light in Kerr gravitational field: its implication in spin-gravity interaction*, Gravitation and Cosmology, Pleiades publishing, vol 30, No 2, pp 197-210 (2024)

80. R. Robert, **A. K. Sen** and A. Zaman , *Vesicular dust particles – light scattering and radiation pressure*, Monthly Notices of Royal Astronomical Society (MNRAS), 540, 2102–2111 (2025) Advance Access publication 2025 May 30

81. Saswati Roy, S Kala, A. Singha, H Nandan,**Asoke K. Sen**, *Deflection of light due to Kerr Sen black hole in heterotic string theory using material medium approach* , Eur. Phys. Journal. C 85:772 (2025)

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Declaration: I hereby declare that all the above information are true, correct and complete to the best of my knowledge.

Date: April 2, 2026

Place: Silchar (Asoke K. Sen)