

Bio data of Asoke Kumar Sen



- 1. Name:** Asoke Kumar Sen
- 2. Date and Place of birth:** July 23, 1962; Silchar, Assam , India
- 3. Nationality:** Indian
- 4.Address :** Dept. of Physics, Assam University,
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6. Educational Qualification (Masters degree onward)

M. Sc.(Physics)	1984	IIT, Kharagpur First Class
Ph. D.(Astrophysics)	1990	Physics Research Laboratory Ahmedabad (Gujarat University, India)

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

7. Current Affiliation and occupation:

Professor, Department of Physics,
Assam University, Silchar 788 011, Assam, India.

Occupation : Teaching / Research in University.

8. Previous Employments:

Post Held	Organisation	Duration
1.Post Doctoral Fellow	Physical Research Laboratory, Ahmedabda India	Jul 1990-Jul 1992
2.Post Doctoral Fellow	IUCAA,Pune, India	Aug 1992- Aug 1994
3.Assistant Prof.	Centre of Plasma Physics, Guwahati,India	Sep 1994-Apr 1997
4.Reader	Assam University, India	Apr 1997- March 2005
4.Professor	Assam University, India	Apr 2005 - till date

9. Areas of Research:

Experimental: Optical photometric and polarimetric astronomical observation and related instrumentation – Image processing- astronomical data analysis- laboratory light scattering experiment

Theoretical: comets- solar system studies - Interstellar medium - star formation- theory of polarimetry

General Theory of Relativity- Electromagnetism in curved space time

10. Visiting positions / Membership of Societies etc

i). DLR (German Aerospace Center) Fellowship: Guest scientist at Institute of Planetary Research, DLR, Berlin. (April-June 2005)

ii). 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 solar system and other astronomical studies).

iii). Visiting Associate at Inter Univ. Center for Astronomy and Astrophysics, Pune since 1997.

iv) Guest observer Loiano Astronomical Observatory, Bologna, Italy Oct 2000

v). Member of Science Working group on 'Interstellar Dust Studies' of TAUVEEX (an Indo- Israel Ultraviolet Imaging Experiment that will be launched into a geostationary orbit as a part of ISRO's GSAT-4 mission).

vi). Member 'Multi wavelength working group' of ASTROSAT (India's first astronomy satellite, to be launched by ISRO).

vii) Life Member (Membership No. L659): Astronomical Society of India

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

x). Member Advisory Board, North Eastern Center for Advanced Studies, Silchar.

xi). Member Editorial Board : Acta Ciencia Indica 'Physics', Pragati Pragati Prakashan, Meerut

xii). Member Scientific Organising Committee (Astronomical Society of India) (2005-08)

xiii) Member Scientific Organising committee: IAU Symposium 'Physics of Sun and star spot' Aug 23- 26, 2010, Los Angeles, USA

xiv) Member Executive committee of Astronomical Society of India 2013-2015 as councilor

11. Research Projects undertaken and on-going

(i) Principal Investigator (PI) of Dept. of Science & Technology(DST)-SP/S2/O-09/93 funded research project at IUCAA, Pune, 'Construction of an Imaging Polarimeter for observational Programme'(completed)

(ii) Co- PI of a 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'(completed)

(iii) PI of a Dept. of Atomic Energy (DAE)-98/37/6/BRNS funded research project in Assam Univ. 'Photopolarimetric studies of comets'

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

(v) 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)

International Research Projects :

(vi) Investigator of an international project 'Study of astrophysical dust in Star forming regions, Interstellar medium and Planetary bodies' Collaborative research programme between Kobe Univ. Japan, Assam Univ and IUCAA, Pune, Exchange programme funded by Dept of Science and Technology and Japan Society of Promotion of Science. DST/INT/JSPS/P-92/2010 dated 04/06/2010 (completed)

(vii) Principal Investigator of an international project '**Cometary Grains: observations and simulations**' funded by DST- Indo French center (CEFIPRA) in collaboration with University Paris South (three years 2011- onwards) CEFIPRA-DST sanction no 4507-1 (completed)

(viii) Principal Investigator of a project '**Magnetic fields in star-forming clouds**' jointly funded by DST(Govt of India) and RFBR (Russian Foundation for Basic Research) (sanction number RUSP-1110) in collaboration with St. Petersburg University, Russia(completed)

(ix) Principal Investigator of an 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 Japan Society of Promotion of Science. DST/INT/JSPS/P-230/2016 dated 28/07/2016 **(on going)**

(x) Principal Investigator of a 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) in collaboration with St. Petersburg University, Russia**(on going)**

12. Served / Serving in the following expert committees :

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

Countries visited for research work : USA, UK, France, Germany, Italy, Switzerland, Sweden, Finland, Spain, Russia, Thailand, China, Taiwan and Japan.

13. Administrative responsibilities undertaken:

(i) Head Department of Physics, Assam Univ.

(Served two tenures : 10 Oct 2002- 04 Apr 2006 and 16 May 2009 to 18 May 2012)

(ii) Dean, School of Technology, Assam Univ. : June 2007 to Feb 2011

(iii) Director, Internal Quality Assurance Cell (IQAC) : 05 Mar 2013 to 03 Aug 2016

(iv) Dean, Albert Einstein School of Physical Sciences : 26 Dec 2016 2013 to till date

14. Experience of Guiding Ph. D / M Phil

i) Total number of students got Ph D. awarded so far 9

ii) Number of scholars registered for Ph. D : 8 (on going)

iii) Total number of M. Phil : 3 (awarded)

15. Published papers (in refereed Journals)

1. Deshpande, M.R., Joshi, U.C., Kulshrestha, A.K., **Sen, A.K.**, Rao, N.K., and Raveendran, A.V., 1987, "Variation of linear polarization in the R Aquarii system"- Publication of Astronomical Society of Pacific, Vol 99, p 62.
2. Joshi, U.C., Deshpande, M.R., **Sen, A.K.**, and Kulshrestha, A.K., 1987, "Polarization investigations in four peculiar supergiants with high IR excess"- Astronomy and Astrophysics, Vol 181, p31.
3. **Sen, A.K.**, Joshi, U.C., Deshpande, M.R., Kulshrestha, A.K., Babu, G.S.D., and Shylaja, B.S., 1988, "Polarimetric observations of comet P/Halley on 19 March 1986"- Astronomy and Astrophysics, Vol 204, p317.
4. **Sen, A.K.**, Joshi, U.C., and Deshpande, M.R., 1989, "Molecular band polarization in comet P/Halley."- Astronomy and Astrophysics, Vol. 217, p307.
5. **Sen, A.K.**, Joshi, U.C., Deshpande, M.R., and Debi Prasad, C., 1990, "Imaging polarimetry of comet P/Halley"- Icarus, Vol.86, p248.
6. **Sen, A.K.**, Deshpande, M.R., Joshi, U.C., Rao, N.K., and Raveendran, A.V., 1991, "Polarimetry of comet P/Halley: properties of dust"- Astronomy and Astrophysics, Vol. 242, p496.
7. **Sen, A.K.**, Deshpande, M.R., and Joshi, U.C., 1991, "Photometry of comet P/Halley"- Bulletin of Astronomical Society of India, Vol 19, p47.
8. **Sen, A.K.**, Joshi, U.C., and Deshpande, M.R., 1991, "Polarimetric properties of comet Austin"- Monthly Notices of Royal Astronomical Society, Vol 253, p738.
9. Joshi, U.C., **Sen, A.K.**, Deshpande, M.R., and Chauhan, J.S., 1992., "Photopolarimetric studies of comet Austin" –Journal of Astrophysics and Astronomy, Vol 13, P 267.
10. **Sen, A.K.**, and Rana, N.C., 1993, "On the missing interstellar comets"- Astronomy and Astrophysics, Vol 275, p 298.
11. **A.K. Sen** and M.K. Kakati, 1997, "Instrumental Polarization caused by telescope optics during widefield imaging" - Astronomy and Astrophysics Supplement Series, vol. 126, no 1, p113.

12. A. N. Ramprakash, R. Gupta, **A.K. Sen** and S.N. Tandon, 1998, "An imaging polarimeter (IMPOL) for multi wavelength observations"- Astronomy and Astrophysics Supplement Series, vol 128, No.2, p369
13. C. B. Dwivedi, **A. K. Sen** and S. Bujarbarua, 1999, "Pulsational mode of Gravitational collapse and its impact on the star formation" Astronomy and Astrophysics, vol. 345, p1049.
14. **A. K. Sen**, R Gupta, A N Ramprakash and S N Tandon, 2000, Imaging Polarimetry of some selected dark clouds', Astronomy and Astrophysics, suppl. vol 141, p175.
15. **A K Sen** 2001, 'cometary polarimetry' Pub. of Astronomical Soc. of Pacific, vol 246, p275.
16. H S Das, **A K Sen** and C L Kaul, 2004 'The polarimetric effects of cometary dusts and possible effect of grain aging by sun' Astron. & Astrophys., 423, p373.
17. **A K Sen**, T Mukai, R. Gupta and H S Das, 2005, 'An analysis of the distribution of background star polarization in dark clouds', Monthly Notices of Royal Astronomical Society (MNRAS) , 2005, 361, p177
18. Ranjan Gupta, Tadashi Mukai, D B Vaidya , **A K Sen** and Y. Okada 2005 'Interstellar Extinction by Spheroidal Dust Grains', Astron. & Astrophys., 441, p555.
19. H S Das and **A K Sen** 2006 'Polarimetric studies of comet Levy 1990 XX' , Astron. & Astrophys, 459, p271
20. G.Hahn, S.Mottola, **A.K.Sen** , A.W.Harris, E. Kuhrt and M.Mueller, 2006, Photometry of Karin Family Asteroids, Bulletin of Astronomical Society of India (BASi), 34, p393
21. **A K Sen**, T Mukai, R Gupta and Y Okada 'A proposal for UV observations of star forming clouds' 2007, Vol 35, p239 Bulletin of Astronomical Society of India (BASi). ISSN 0304-9523
22. A C Borah and **A K Sen** 2007, Gravitational instability of partially ionized molecular clouds, Journal of Plasma Physics (Cambridge University Press), Vol 73, p831-838. (2008 Impact Factor 0.579) ISSN 0022-3778
23. Mihir Ranjan Nath, Surajit Sen, **A K Sen** and Gautam Gangopadhyay 2008, Dynamical symmetry breaking of lambda- and vee-type three-level systems on quantization of the field modes, PRAMANA, Vol. 71, (No.1), p77. (2008 Impact Factor 0.274) ISSN : 0304-4289
24. H S Das, S R Das, T Paul and **A K Sen** 2008, Aggregate model of cometary dust : An application to comet Levy 1990XX, Monthly Notices of Royal Astronomical Society (MNRAS), vol 389, p787 (2009 Impact Factor 5.1) ISSN 1365-2966

25. 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 Royal Astronomical Society (MNRAS), vol 390, p1195 (2009 Impact Factor 5.1) ISSN 1365-2966

26. D. Ward-Thompson, **A. K. Sen**, J. M. Kirk and D. Nutter 2009, 'Optical and sub-millimetre observations of Bok globules – tracing the magnetic field from low to high density', Monthly Notices of Royal Astronomical Society (MNRAS), vol 398, p394 (2009 Impact Factor 5.1) ISSN 1365-2966

27. Edith Hadamcik, Anny Chantal Levasseur-Regourd, **A K Sen**, Rajiv Gupta, Jérémie Lasue, 'Is 67P/Churyumov-Gerasimenko a classical JFC comet? Clues from recent polarimetric observations, 2009, 'Bulletin of the American Astronomical Society' Volume 41, Issue 3, Pages, 1029-1030

28. H S Das, S. Shuklabidya, S Dutta Majumder, **A K Sen** 2010, ' Aggregate dust model to study polarization properties of comet B/1996 B2 Hyakutake' Research in Astronomy and Astrophysics, vol 10, No 4, p355–362 (Impact factor 0.89) ISSN- 1674-4527

29. E. Hadamcik, **A.K. Sen**, A.C. Levasseur-Regourd, R. Gupta, and J. Lasue , 2010 'Polarimetric observations of comet 67P/Churyumov-Gerasimenko during its 2008-2009 apparition', Astronomy and Astrophysics (European Journal), 51, A86 (2009 Impact factor 4.2) ISSN 1432-0746

30. **A K Sen**, V F Polcaro, I Dey and R. Gupta, 2010, Photopolarimetric study of star forming clouds CB3, CB25 and CB39, Astronomy and Astrophysics, 522, A45 (2009 Impact factor 4.2) ISSN 1432-0746

31. Yoichi Itoh, Ranjan Gupta, Yumiko Oasa, **A K Sen**, Munechika Tanaka, Tsuyoshi Terai, and Seina Nakaoka 2010, "Optical Spectroscopy of Candidates of Young Stellar Objects in NGC 1333" Publication of Astrophysical Society of Japan, Vol.62 No.5 (2009 Impact Factor 5.2) ISSN 0004-6264

32. S. Roy, N. Sinha, and **A. K. Sen** " A new Hybrid image denoising method' International Journal of Information Technology and Knowledge Management, vol 3, no 2, pp. 491- 497, Jul-Dec, 2010. ISBN 0973-4414

33. Aruna Goswami, Sreeja S. Kartha, and **Asoke K. Sen**, EVIDENCE OF V-BAND POLARIMETRIC SEPARATION OF CARBON STARS AT HIGH GALACTIC LATITUDE, The Astrophysical Journal Letters, 722: L90–L94, 2010 October 10 (2009 Impact factor 7.4) ISSN 2041-8213

34. **A . K. Sen**, 'A more exact expression for the gravitational deflection of light, derived using material medium approach', Astrofizika (Springer) ,vol 53, N 4, November 2010. (2009 Impact Factor 0.5) ISSN 0571-7256

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, 2011, Journal of Quantitative Spectroscopy and Radiative Transfer (JQSRT-Elsevier) 112, p1881- 1890(Impact factor 1.86) ISSN 0022-4073

36. H. S. Das and **A. K. Sen** 'Model for cometary grains to explain optical Polarization' 2011, Journal of Quantitative Spectroscopy and Radiative Transfer (JQSRT- Elsevier) 112, p1833-1837(Impact factor 1.86) ISSN 0022-4073
37. K. J. Meech **A K Sen** (total 100 authors) EPOXI: Comet 103P/Hartley 2 Observations from a Worldwide Campaign, 2011 The Astrophysical Journal Letters, **734** , L1 (Impact Factor 7.4) ISSN 2041-8213
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', 2011, Monthly Notices of Royal Astronomical Society (MNRAS), vol 398, p394(Impact Factor 5.1) ISSN 1365-2966
39. C Bhattacharjee, D. Deb, H S Das, **A K Sen**, and R Gupta, 'Modeling of Laboratory data of bidirectional reflectance of regolith surface containing Alumina' 2011 Publication of Astrophysical Society of Australia (PASA), 28, p261-265, (Impact factor 3.8), **ISSN:** 1323-3580
40. D Deb, **A K Sen**, H S Das, R Gupta 2011 'The photometric study of light scattering from the surface of alumina powder and interpretations by Hapke formula' Advances in Space Research (Elsevier) 48, 1274- 1278 Impact factor 1.08 (**ISSN:** 0273-1177)
41. D. Deb and **A K Sen** 2012, Light Scattering from Regolith: Intensity Versus Particle Size Behavior' Earth , Moon and Planets (Springer) 108, p101-109 (2010 Impact factor 0.6)_ISSN: 0167-9295
42. D. Paul, H. S. Das and **A. K. Sen** 2012, Imaging polarimetry of the Bok globule CB56, Bulletin of Astronomical Society of India (BASI) , 40, 113-119, (Impact factor 3.89) ISSN: 0304-9523
43. Ryoko Tani, Yoichi Itoh, Tomoyuki Kudo, Tomonori Hioki, Yumiko Oasa, Ranjan Gupta, **A. K. Sen** (total 68 authors). 2012 ' High-Resolution Near-Infrared Polarimetry of a Circumstellar Disk around UX Tau A', Publication of Astrophysical Society of Japan 64, p124 (Impact Factor 5.2) ISSN 0004-6264
44. E. Hadamcik, **A.K. Sen**, A.C. Levasseur-Regourd, R. Gupta, J. Lasue, R. Botet 2012 'Dust in Comet 103P/Hartley 2 coma before and during 1 EPOXI mission', Icarus, 222, p774–785. (Impact Factor 3.218) ISSN: 0019-1035
45. H S Das, A K Sen and D Paul, 2012, 'Imaging polarimetry of the Bok globule CB56' vol 40, p113- 119, Bulletin of Astronomical Society of India (BASI). ISSN 0304-9523
46. E. HADAMCIK, **A. K. SEN**, A. C. LEVASSEUR-REGOURD, S. ROY CHOUDHURY, J. LASUE, R. GUPTA, and R. BOTET Dust coma of comet C/2009 P1 (Garradd) by imaging polarimetry, 2013 Meteoritics & Planetary Science, vol 49, Issue 1, p 36-44 (Impact Factor 2.719) ISSN 1945- 5100

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, 2013, Volume 82, p. 79-83 ISSN: 0004-640X, (Impact Factor: 1.686)

48. S. Roy Choudhury a, E.Hadamcik , **A.K.Sen**'- A study of comet 78P/Gehrels by imaging polarimetry'- 2014, Journal of Quantitative Spectroscopy and Radiative Transfer (JQSRT- Elsevier) vol 146, p444- 451 (Impact factor 1.86) ISSN 0022-4073

49. M.S. Prokopjeva , **A.K.Sen** , V.B.Ilin , N.V.Voshchinnikov, R.Gupta- 'Imaging polarimetry of the rotating Bok globule CB67'- 2014, Journal of Quantitative Spectroscopy and Radiative Transfer (JQSRT- Elsevier) vol 146, p 410-416(Impact factor 1.86) ISSN 0022-4073

50. Anuj Dubey and **A K Sen** 'An Analysis of Gravitational Redshift from Rotating Body' , 2015, International Journal of Theoretical Physics (Springer) vol 54, Issue 7, pp 2398 (Impact Factor 1.2)

51. Chakraborty, Sarani and **A. K Sen** 'Light deflection due to a charged, rotating body'- , 2015, Classical and Quantum Gravity (IOP), 32, No 11, pp 115011 (Impact Factor 3.1)

52. Saumyadeep Roy Choudhury; Edith Hadamcik; **A. K. Sen** 'Study of some comets through imaging polarimetry'- 2015, Planetary and Space Science (Elsevier) , vol 118, p193-198 (Impact Factor 1.87)

53.Amritaksha Kar, Sanjib Deb, **AK Sen**, Ranjan Gupta 'Laboratory Simulation of Light Scattering from Regolith Analogues: Effect of Porosity', , 2015 Publication of Korean Astronomical Society, vol 30, p 65-67 (Impact factor 0.9)

54. S. Roy and **A. K Sen** 'Trajectory of a light ray in Kerr field: A material medium approach' 2015, Astrophysics and Space Science, vol 360, p 23 (Impact Factor 2.26)

55. Anuj Dubey and **A K Sen** 'Gravitational Redshift in Kerr - Newman Geometry'-, 2015 , Astrophysics and Space Science 2015, vol 360, p29 (Impact Factor 2.26).

56. S Deb and **A K Sen** 'Laboratory light scattering from regolith surface and simulation of data by Hapke model'-, 2016, Planetary and Space Science (PSS) vol 124, p36-47 (Impact factor 1.94)

57 A. Kar, **A.K. Sen** , R. Gupta 'Laboratory photometry of regolith analogues: Effect of porosity' -2016 , Icarus 277, 300–310 (Impact Factor 3.03)

58. Tanay Ghosh and **A. K. Sen** 'THE EFFECT OF GRAVITATION ON THE POLARIZATION STATE OF A LIGHT RAY' 833:82 (9pp), 2016 (Impact factor 5.9)

59.C Snodgrass**A K Sen**.....(total 62 authors in alphabetic order) 'The 67P/Churyumov-Gerasimenko observation campaign in support of the Rosetta mission

60. E. Hadamcik¹, 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', 2017, accepted in MNRAS

16. Published papers (in Symposium/ Conference etc. Proceedings) (only important ones listed..... the list is NOT complete)

1. U C Joshi, P V Kulkarni, M R Deshpande, **A K Sen**, and A K Kulshrestha, 'Polarization studies in Bok globules and evidence for star formation' - in International Astronomical Union, Symposium No 122, Heidelberg, June 23-27, 1986.
2. U C Joshi, **A K Sen**, M R Deshpande, and A K Kulshrestha, 'Polarimetry of SN 1987A-A dust shell model'- in International Astronomical Union General Assembly Meeting (commission 25), Baltimore 1988.
3. M R Deshpande, U C Joshi, **A K Sen**, and A K Kulshrestha, 'Do elliptical galaxies harbour BL Lac objects ?'- in Observational Astrophysics with high precisional data, p 159, 1987, Proc. of 27th Liege International Astronomical Union Colloquium, June 23- 26, 1987.
4. M R Deshpande, A K Kulshrestha, U C Joshi, and **A K Sen** 'Optical polarization of active galactic nuclei'- in 27th Liege International Astronomical Colloquium, June 23- 26, 1987.
5. **A K Sen**, M R Deshpande, and U C Joshi, 'Polarimetric properties of Halley's dust'- in IAU Collq. 126 Origin and evolution of interplanetary dust, Aug 27-30, 1990, Kyoto, Japan.
6. **A K Sen**, and S N Tandon, 'An imaging polarimeter for astronomical observations'- 6th Asian Pacific regional meeting on Astronomy, Aug 16-20, 1993, Pune, India.
7. **A K Sen** and S N Tandon, 'A two channel optical Imaging Polarimeter' -International Symposium on Astronomical Telescope and Instrumentation for Twenty First Century. Mar 13- 18, 1994, Kona Hawaii, USA. Instrumentation in Astronomy VIII, Crawford D. L. (ed.) SPIE proceedings, 2198 part I, p264
8. **A K Sen**, S Bujarbarua, M Kakati, K S Goswami, B K Saikia, B J Saikia and A Sahu. 'An experiment to measure Charge on a dust embedded in Plasma. - Int. Conf. on the Physics of dusty Plasmas" Oct 21-25, 1996, Goa, India.
9. **A K Sen** 'Cometary polarimetry and grain aging' in the proceedings of ESO Workshop on High resolution spectroscopy Nov 18- 21, 2003, Munich, Germany. ESO Astrophysics Symposium ed. Kaufl, Siebenmorgen, and Moorwood (published by Springer- 2004)

10. Hadamcik, Edith; Levasseur-Regourd, A.; **Sen, A. K.**; Gupta, R.; Lasue, J.' Is 67P/Churyumov-Gerasimenko a Classical JFC? Clues from Recent Polarimetric Observations', American Astronomical Society, DPS meeting #41, #20.10, 2009,
11. Levasseur-Regourd A.C., Hadamcik E., **Sen A.K.**, Gupta R., Lasue J. 'Recent polarimetric observations of comet 67 P/Churyumov-Gerasimenko' In: Icy bodies in the solar system, IAU 263, Cambridge University Press, 2010 (ISBN-13: 9780521764889)
12. Levasseur-Regourd, Anny-Chantal; Hadamcik, Edith; **Sen, Asoke Kumar**, Lasue, Jeremie; Fulle, Marco, Gupta, R 'Properties of dust in the coma of Churyumov-Gerasimenko' 38th COSPAR Scientific Assembly. Held 18-15 July 2010, in Bremen, Germany, p.7, 2010
13. Hadamcik, E.; Levasseu Regourd, A.-C., Renard, J.-B., Lasue, J., **Sen A. K.**, 'Observations and laboratory simulations of asteroids by polarization measurements'. Electromagnetic and Light Scattering XII Proceedings of the 12th conference held in Helsinki, June 28 - July 2, 2010. Edited by Karri Muinonen et al.. Helsinki: Helsinki University Print, 2010, p.70
14. **A. K Sen**; H S Das 'Dust models for cometary grains to explain optical polarization' Electromagnetic and Light Scattering XII Proceedings of the 12th conference held in Helsinki, June 28 - July 2, 2010. Edited by Karri Muinonen et al.. Helsinki: Helsinki University Print, 2010, p.270
15. Levasseur-Regourd, Anny-Chantal; Hadamcik, Edith; Sen, AK; Lasue, Jeremie; Fulle, Marco; Gupta, R., ' Properties of dust in the coma of Churyumov-Gerasimenko' 38th COSPAR Scientific Assembly. Held 18-15 July 2010, in Bremen, Germany, p.7
16. Nalin H. Samarasinha, B. E. A. Mueller, E. Hadamcik, Z. Y. Lin, K. J. Meech, G. P. Tozzi, P. Tricarico, W. Waniak, M. F. A'Hearn, T. Bonev, G. Borisov, J. R. Brucato, M. Drahos, E. M. Epifani, T. L. Farnham, A. Gersch, O. R. Hainaut, W. H. Ip, L. M. Lara, A. C. Levasseur-Regourd, J. Licandro, P. Patriarchi, J. Pittichova, **A. K. Sen**, P. Tanga, P. Thomas, Coma Morphology and Rotational Dynamics of Comet 103P/Hartley 2 during the DIXI Encounter, 2012, American Astronomical Society, DPS meeting #44, #506.03
17. Jenny Atwood, Warren Skidmore, GC Anupama, Ramya M Anche, Krishna Reddy, **Asoke Sen** , Polarimetric analysis of the thirty meter telescope (TMT) for modeling instrumental polarization characteristics, SPIE Astronomical Telescopes+ Instrumentation, *Proc. SPIE* 9150, Modeling, Systems Engineering, and Project Management for Astronomy VI, 915013 (August 4, 2014); doi:10.1117/12.2056965

18. Skidmore, Warren; Atwood, Jenny; Manjunath, Ramya; Reddy, B. Krishna; Anupama, G. C.; **Sen, Asoke** Polarimetric analysis of the Thirty Meter Telescope (TMT) for modeling instrumental polarization characteristics, TMT in the Astronomical Landscape of the 2020s, Thirty Meter Telescope Science Forum, held 16-19 July, 2014 in Tucson Arizona. Online at <http://conference.ipac.caltech.edu/tmtsf2014/>, id. 3

19. S Roy Choudhury, E Hadamcik, **AK Sen** ‘Polarimetric imaging of some comets at different phase angles’ Asteroids, Comets, Meteors , 2014, vol 1, p96, Proceedings of the conference held May 16-20, 2012 in Niigata, Japan.

20. Ramya M Anche, GC Anupama, Krishna Reddy, **Asoke Sen**, K Sankarasubramanian, AN Ramaprakash, Sujana Sengupta, Warren Skidmore, Jenny Atwood, Sivarani Tirupathi, Shashi Bhushan Pandey , Analytical modelling of Thirty Meter Telescope optics polarization, 2015, International Conference on Optics and Photonics 2015, edited by Rajib Chakraborty, Kallol Bhattacharya, Proc. of SPIE Vol. 9654, 965408 · © 2015 SPIE
CCC code: 0277-786X/15/\$18 · doi: 10.1117/12.2181397

16. Publication in Assam University Journal of Science and Technology

1. S. Roy, **A. K. Sen** and N. Sinha, “VQ-DCT based Image Compression: A New Hybrid Approach”, Assam University Journal of Science and Technology, 5(2), pp. 73-80, Jan, 2010.

18. Details about M Phil programmes guided

1. Indira Dey (2001) Determination of Thickness of star forming clouds
2. Debashis Bhattacharjee (2001) Study of Evolution of Planetary orbits
3. Farhana Aziz (M Phil/Physics/242/2007) A review of the work done on the deflection of light in the gravitational field of a rotating sphere.

19. Details about the Ph. D programmes guided :

1. A. C. Borah (awarded 14.12.2004) (PhD/64/2000 dtd. 16.4.2001) Electrostatic effects of Charged dust grains in star formation process in interstellar dust clouds
2. H S Das (23-12-2005) (Ph D/119/2002 dtd. 26.11.2002) Photopolarimetric studies of comets and other objects .
3. M R Nath (10-07-2009) (PhD/254/2004 dtd. 14.10.04) Some solvable models of Atom-Field interaction in Quantum Optics

4. Indira Dey (16-07- 2009) (PhD/221/2003 12.04.04) Photopolarimetric Studies of Star forming clouds
5. Sudipta Roy (Oct 2010) (PhD/546/2007/ dtd. 07.12.2007) Wavelet based Intelligent methods in Image processing
6. Sujit Ranjan Das (16-11- 2011)(Ph D/650/08 dtd. 17.04.08) Modelling of Optical characteristics of cometary dust by fractal aggregates
7. Dwaipayan Deb (07-03-2012) (Ph D/477/07/dtd. 18-05-07) The study of minor bodies of solar system by simulating data to match with spacecraft observations..
8. Dipankar Paul (26-09-2012)(Ph D /718/09/ Dtd. 11.02.09) Study of Polarisation properties of comets and other objects
9. Chinmoy Bhattacharjee (16-04-2013) (Ph D/ 719/2009/ dtd. 16.04.2013) Study of Light Scattering properties of cosmic dust'

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