

# Curriculum Vitae of Prof. S.K. Chakrabarti

Born: on Nov. 15th 1958, at Malda (WB), INDIA.

Marital Status: Married

Nationality: Indian

Address:-

Prof. Sandip K. Chakrabarti

S.N. Bose National Center for Basic Sciences,

JD-Block, Sector-III, Salt Lake, 700098, INDIA E-MAIL:chakraba@bose.res.in, Tel No:  
091-33-2335-5706, Fax No. 091-33-2335-3477

Res. Tel No: 091-33-2359-2905; Mobile No.: +919903120700

Address(Sat-Sun):

Prof. Sandip K. Chakrabarti, In Charge

Indian Centre for Space Physics

43 Chalantika, Garia Station Road, Kolkata 700084

E-MAIL:sandip@csp.res.in, Tel No: 091-33-2436-6003/2462-2153 (Fax Ext. 28),

## Education:

*Bachelor of Science* (B.Sc.) in Physics Hons. from Calcutta University in 1979 with *First Class First* position.

*Master of Science* (M.Sc.) in Physics Hons. from Indian Institute of Technology, Kanpur in 1981 with *first division with distinction*.

*Ph.D.* from the Dept. of Physics, The University of Chicago, Thesis on “Rotating Wind Solution and the Acceleration of Cosmic Radio Jets”, in July, 1985 (Supervisor: Prof. W. D. Arnett).

## Positions held:

- 1) Research Assistant from Oct. 1981 to Sept. 1985 at the University of Chicago
- 2) *R. C. Tolman Fellow (1985-1987)* at the California Institute of Technology.
- 3) Postdoctoral Fellow (1987-1988), ICTP, Trieste.
- 4) Visiting Fellow (Nov. 1988 - July 1989) Tata Institute Of Fundamental Research, Bombay.
- 5) Fellow (Aug. 1989 - July 1994) TIFR, Bombay.
- 6) Reader (Aug. 1994 - Feb. 1998), TIFR, Bombay
- 7) Assoc. Professor (Dec. 1996 - Dec. 2003) S.N. Bose National Center for Basic Sciences
- 8) Acting Administrative Officer, S.N. Bose National Center for Basic Sciences (Apr. 1998 - Oct, 1998)
- 9) In Charge, Academic Affairs and General Secretary: Indian Centre for Space Physics

(1999 - )

10) Professor, S.N. Bose National Centre for Basic Sciences, (2004 -2007)

11) Senior Professor, S.N. Bose National Centre for Basic Sciences (2008- )

12) Dean (Academic Prog.), S.N. Bose National Centre for Basic Sciences (2010 - )

13) Adjunct Faculty: International Centre for Relativistic Astrophysics (ICRA) Network, Italy (2010 - )

### **Awards and Appointments:**

1) *National Science Talent Search* (NSTS) Scholarship in 1975.

2) *National Science* (NS) Scholarship in 1975.

3) Research Assistant from Oct. 1981 to Sept. 1985 at the University of Chicago

4) Life Member: Indian Association of General Relativity and Gravitation.

5) Young Associate award from Indian Academy of Sciences (1990-1993).

6) Young Scientist award by the Indian National Science Academy (1990)

7) Regular Associate: International Center For Theoretical Physics, Trieste, Italy (1990-1997).

8) Member: International Astronomical Union (1991- )

9) A.K. Bose Award by Indian National Science Academy (1994)

10) INSA/DFG nomination to attend 44th Meeting of the Nobel Prize Winners in Lindau (1994)

11) Member: Executive Committee of Commission-28 (Galaxies) of International Astronomical Union (1994-2000)

12) Senior Research Associate (National Research Council, National Academy of Sciences) at NASA/Goddard Space Flight Centre (Oct.1994 - Oct.1995)

13) Member: American Astronomical Society (1996)

14) Sub-Editor (Astrophysics Section) of Indian Journal of Physics (1999- )

15) Honorary Professor, Indian Centre for Space Physics, Kolkata (2002- )

16) Senior Associate, Abdus Salam ICTP, Trieste, Italy (2003- 2009)

17) Head of the Department, Astrophysics and Cosmology, SBNBCBS (2006- )

18) Member: American Astronomical Society (2007- 2008)

19) Member Editorial Board: Open Astronomy Journal (Bentham) (2007- )

20) Member: International Society of the Study of the Origin of Life (ISSOL) (2008-2009)

21) Member: Editorial board of "Bulletin of Astronomical Society of India (BASI)" (2010- )

22) Guest Editor for PhD Thesis series: Springer Publishers, Germany (2012 - )

Others: Member of the Expert Committee on Astrophysics: Indira Gandhi National Open University; Expert member: Italian Space Agency Proposal Review Committee (2001); Invited Professor, University of Paris (two months), 2002; Member: Project Monitoring Body of RT-2 payloads (2005-2008)

## Research Experiences and Some of the Visits to Scholarly places:

1. Summer 1976: NSTS summer Research on ‘Geomagnetic Micropulsation’ under Dr. M.K. Rama Rao in the Physics Dept. of Andhra University, Waltair, AP, INDIA.
2. Summer 1978: NSTS summer Research on ‘X-ray diffraction patterns of Fe-Co-Ni alloys’ under Dr. A.K. Majumder in the Physics Dept. of Indian Institute of Technology, Kanpur (IIT/K), UP, INDIA.
3. Summer 1979: Literature Survey on Ferromagnetic Alloys under Dr. D.C. Khan in the Physics Dept. of IIT/K.
4. Feb. 1981: Visited Osmania University in relation to a conference.
5. Summer 1981: Follow up of my Master’s Thesis work on the “Magnetic Bubbles” under Dr. D.C. Khan (IIT/K) and Dr. K.N. Swamy Rao (IIT/K).
6. Fall 1981 to Spring 1982: Teaching Assistant, Dept. of Physics (20 hrs/week), The University of Chicago for three quarters.
7. Summer 1982 - September 1985: Research Assistant, Dept. of Physics, University of Chicago.
8. April 1984: Visited University of Manchester in relation to AGN conference.
9. December 1984: Visited Hebrew University of Jerusalem in relation to 12th Texas Symposium.
10. June 1985: Visited Canadian Institute of Theoretical Astrophysics in relation to Relativistic Astrophysics Conference.
11. October 1985 - October 1987: R.C. Tolman Fellow at the California Institute of Technology.
12. July 1986: Visited Stockholm Observatory in relation to GR11 conference.
13. Oct. 1986: Visited George Meson University, Virginia, in relation to the conference on Supermassive Black Holes.
14. Jan. 1987: Visited University of California, at Santa Barbara.
15. July 1987: Visited TIFR, Bombay and Raman Research Institute, Bangalore.
16. November 1987 - October 1988: Post doctoral fellow at the International Center of Theoretical Physics.
17. Dec. 1987: Visited Torino Observatory.
18. Mar. 1988: Visited University of Tokyo in relation to the 20th Yamada Conference.
19. Summer 1988: Visited Osservatorio Astronomico, Rome; Max Planck Institute and University of Crete
20. Visited California Institute of Technology, University of Colorado, Princeton University and the Harvard University (June 29th to July 20th, 1989).
21. Summer 1990: Visited Leiden Observatory, University of Amsterdam and the Astrophysical Observatory in Paris.

22. Visited International Center for Theoretical Physics, Trieste, as an associated member of the Institute (Nov. 30th 1990 - Feb. 27th 1991).
23. Participated at the winter college on 'Multilevel Techniques in Computational Physics' at International Center for Theoretical Physics, Trieste, (21st Jan. 1991- 1st February 1991).
24. Visited Kyoto University as a guest scholar, (23rd June 1991 - 14th July 1991).
25. Visited Institute of Astronomy, Cambridge (Apr.20 - Apr.24), Georgia State University (Apr.25 - Apr.28), California Institute of Technology (Apr.29 - May 5), Univ. of California at Los Angeles (May 6 - May 8), ICTP (May 10 - Jun. 26), Univ. of Catania (Jun. 8 - Jun. 10), Univ. of Milano (Jun. 16 - Jun. 17), IAFE, Buenos Aires (Jul. 5 - Jul. 8) in 1992.
26. Participated at the school on 'Dynamical systems' at International Center for theoretical Physics, Trieste from 15th May to 29th May, 1992.
27. Nov. 1992: Visited Science College, Calcutta University.
28. Visited Inter-University Center for Astrophysics and Astronomy at Pune, from Nov. 30th to Dec.4th, 1992.
29. Mar. 1993: Visited Saha Institute of Nuclear Physics, Calcutta
30. Visited University of Palermo (Mar. 28th - Apr. 8th); Princeton University (Apr. 13th - Apr. 18th); Goddard Space Flight Center (Apr. 20th - Apr.23rd); STSCI (Apr. 24th - Apr. 26th); Washington University (Apr. 27th - Apr. 28th); University of Missouri (Apr. 29th - May 2nd); University of Texas at Denton, (May 3rd - May 5th); University of Texas at Austin (May 6th - May 11th); Rice University (May 12th); University of Waterloo, Canada (May 13th - May 15th); Ohio State University (May 17th - May 21st); University of California at Los Angeles (May 22nd- May 30th); Georgia State University, Atlanta (May 31st - Jun. 6th); Aspen Center for Physics, Colorado (Jun. 7th - Jun. 20th); High Altitude Observatory, Colorado (Jun. 20th - Jun. 22nd); University of Chicago (Jun. 22nd - Jul. 22nd); UNAM, Mexico City (Jul. 23rd - Jul. 31st); ICTP, Trieste (Aug. 2nd - Sep. 7th); Geneva Observatory (Aug. 29th - Sep. 4th) in 1993.
31. Visited Landessternwarte, Heidelberg from June 14th to 25th, 1994, Max-Planck-Institut für Astrophysik from July 1st to 31st, 1994, Institute of Theoretical Astrophysics, University of Heidelberg from August 1st to August 31st, 1994.
32. Visited Goddard Space Flight Center as a Senior Research Associate (National Academy of Sciences) Oct. 1994 to Oct. 1995.
33. Visited Arecibo Observatory, Marshall Space Flight Center, University of Kentucky, Space Telescope Science Institute, Univ. of Maryland, Univ. of California (Los Angeles), Jet Propulsion Laboratory, Calif. Institute of Technology, Harvard University, Columbia University, Princeton University during Oct. 94 - Oct. 95.
34. Visited Universities of Sydney and Melbourne, Monash University (Melbourne), Australian National Telescope Facility (Sydney), Australian National University (Canberra) during July 4th -July 14th, 1996.

35. Visited Pusan National University (Korea), Kobe University and Osaka University during Aug. 15th to Sept. 4th., 1996.
36. Visited Goddard Space Flight Center (Maryland) and University of Chicago during Dec. 5th to Dec. 23rd, 1996.
37. Visited Physikzentrum at Bad Honnef, Germany, during 17th - 23rd August, 1997
38. Visited Dhaka University during Aug 28th - Sept. 1st, 1998.
39. Visited IUCAA during Nov. 15th - Nov. 21st, 1998.
40. Visited Mehta Research Institute, March 1999.
41. Visited Space Research Institute, Moscow, July (8-10) 1999.
42. Visited International Centre for Relativistic Astrophysics (ICRA), Pescara, (June 1999).
43. Visited University of Rome, July (22-23) 1999.
44. Visited Samarkhand State University, Aug. (14-20), 1999.
45. Visited Indian Space Research Organization and Indian Institute of Astrophysics, Oct (4-8), 1999.
46. Visited Delhi University, Physical Research Laboratory, TIFR (Feb.-March, 2000).
47. Visited Seoul National University, Chungnam National University, Korean Astrophysical Observatory (April-May, 2000).
48. Visited ICTP to attend the Summer School on 'Astroparticle Physics and Cosmology' (June 2000).
49. Visited University of Rome as a participant and a Chairman of the Session 'Accretion On Black Holes' at the 9th Marcel Grossman Meeting (July 2000).
50. Visited Heidelberg as an Invited Lecturer at the High Energy Gamma Ray Astronomy and Landessternwarte, Königstuhl, (June 2000).
51. Visited Granada as an Invited speaker at the 3rd Micro-Quasar workshop (Sept. 2000)
52. Visited ICTP as a Chairman and an invited speaker for the workshop 'First Steps in the Origin of Life' (Sept. 2000)
53. Visited Indian Institute of Astrophysics, Raman Research Institute and Institute of Mathematical Science (Dec. 2000)
54. Visited Physical Research Laboratory facilities at Mt. Abu (March 2001)
55. Visited IGNOU HQ to structure the Astrophysics Syllabus for IGNOU students (March, 2001).
56. Visited Tata Institute of Fundamental Research (Sept. 2001)
57. Visited IUCAA (Feb. 2002)
58. Visited Bhopal University (Feb. 2002)
59. Visited Florida International University (Miami), University of Florida (Gainesville), Georgia State University (Atlanta) (March, 2002)
60. Invited as an expert in the joint meeting on the launching of the Israeli satellite TAUVEK by GSAT-4 of ISRO at the Indian Institute of Astrophysics (April, 2002)
61. Visited Nainital Observatory (April, 2002)

62. Visited Indian Institute of Astrophysics to Participate in Discussions on Israeli payload ‘Taufex’
63. Visited SACLAY, France and Cargese School, Corsica (May-June, 2002)
64. Visited Univ. of Rio, Brazil to Chair a on Astrophysical Black Holes at the 10th Marcel Grossman Meeting on General Relativity and Gravitation (July 2003)
65. Visited SACLAY, France; Strasbourg Observatory and Univ. of Milano, (August-Sept., 2003)
66. Visited ICTP to Chair a Session on ‘Astrochemistry’ at the Origin of Life Conference.
67. Visited Hong-Kong University in May, 2004
68. Visited Tsinghua University, Beijing in June, 2004
69. Visited ICTP, Italy as a Senior Associate in April-May, 2006
70. Visited Princeton Univ., ICRA (Pescara), Free University (Berlin) (to Chair two sessions on Black holes at 11th Marcel Grossman Meeting on General Relativity and Gravitation conference), July 2006
71. Visited Space Research Institute (IKI), Russian Academy of Sciences and Moscow Space Research Institute (Oct. 1-Oct. 6, 2007); ICTP, Trieste, CNRS (Palermo), Univ. of Palermo; INFN (Trieste), ICRA (Pescara), Univ. of Rome, (Oct/Nov. 2007)
72. Visited Princeton University, Louisiana State University, George Mason University, University of Texas at Arlington (May-June, 2008)
73. Visited ICTP, Trieste and ICRANET, Pescara, Aug-Sept. (2008)
74. Visited Shanghai Observatory (Oct. 2009)
75. Visited Observatory of Cote Azur (Nice) Feb. (2010); July (2010); Sept. (2010)
76. Visited University of Rome and ICRANET, Pescara for Erasmus Mundus Joint Astronomy Programme Collaboration December (2010)

## Research Publications:

### (A) In Refereed Journals

- J1. **S.K. CHAKRABARTI**, R.P. GERCH and C. LIANG: Timelike Curves of Limited Acceleration in General Relativity, 1983, *Journal of Mathematical Physics*, **24**, 597.
- J2. **S.K. CHAKRABARTI**: On Mass dependent Spheroidal Harmonics of Spin One half, 1984, *Proceedings of Royal Society of London, A*, **391**, 27.
- J3. **S.K. CHAKRABARTI**: The Natural Angular Momentum Distribution in the Study of Thick Disks Around Black Holes, 1985, *Astrophysical Journal*, **288**, 1.
- J4. **S.K. CHAKRABARTI**: Analytic Structure of Cosmic Radio Jets: A Preliminary Investigation, 1985, *Astrophysical Journal*, **288**, 7.
- J5. **S.K. CHAKRABARTI**: Rotating Wind Solution and the Acceleration of the Cosmic Radio Jets, 1986, *Astrophysical Journal*, **303**, 582.

- J6. **S.K. CHAKRABARTI**, L. JIN, and W.D. ARNETT: Nucleosynthesis Inside Thick Accretion Disks Around a Black Hole-I Thermodynamic Conditions And Preliminary Analysis, 1987, *Astrophysical Journal*, **313**, 674.
- J7. **S.K. CHAKRABARTI**: Constraints on viscosity in Thick disks from X ray and gamma ray observation of SS433, 1988, *Astrophysical Journal* **324**, 391.
- J8. **S.K. CHAKRABARTI**: Spacetime with Self Gravitating Thick Disk Around a Black Hole, 1988 *Journal of Astrophysics and Astronomy*, **9**, 49.
- J9. **S.K. CHAKRABARTI**: Vortex Rings in the working surface of a Radio Jet, 1988, *Journal of Astrophysics and Astronomy*, **9**, 185.
- J10. **S.K. CHAKRABARTI**: On the Damping of the Bending Wave in the Saturn's Rings, 1988 *Journal of Astrophysics and Astronomy*, **9**, 243.
- J11. **S.K. CHAKRABARTI**: On the Dynamics of the Working Surface of Supersonic Radio Jets, 1988, *M.N.R.A.S.*, **235**, 33.
- J12. L. JIN, W.D. ARNETT and **S.K. CHAKRABARTI**: Nucleosynthesis Inside Thick Accretion Disks Around Black Holes-II Results for Massive Black Holes, 1989, *Astrophysical Journal*, **336**, 572.
- J13. **S.K. CHAKRABARTI**: Studying Shocks in Model Astrophysical Flows, 1989, *Astrophysical Journal (Letters)*, **337**, L89.
- J14. **S.K. CHAKRABARTI**: Dynamics of Particles in Bending Waves of the Planetary Rings, 1989 *M.N.R.A.S.*, **238**, 1381.
- J15. **S.K. CHAKRABARTI**: Standing Shocks in the Isothermal Rotating Winds and Accretion, 1989, *M.N.R.A.S.*, **240**, 7.
- J16. **S.K. CHAKRABARTI**: Multiple Shocks in the Adiabatic Rotating Winds from Self-Gravitating Thick Disks, 1989, *Journal Astrophysics Astronomy*, **10**, 261.
- J17. **S.K. CHAKRABARTI**: A systematic study of the standing shocks in thin flows near compact objects, 1989, *Publication of the Astronomical Society of Japan*, **41**, No. 6, 1145.
- J18. **S.K. CHAKRABARTI**: Standing Rankine-Hugoniot Shocks in the Hybrid Model Flows of Black Hole Accretion and Winds, 1989, *Astrophysical Journal*, **347**, 365.
- J19. **S.K. CHAKRABARTI**: Standing Shocks in Rotating Winds and Accretion in Kerr Spacetime, 1990 *Astrophysical Journal* **350**, 275.
- J20. **S.K. CHAKRABARTI**: Resolved and Unresolved issues in the Study of the Thick accretion disks, 1990, *Comments on Astrophysics*, **4**, 209.
- J21. M. ABRAMOWICZ and **S.K. CHAKRABARTI**: Standing Shocks in the Adiabatic Black Hole accretion of Rotating Matter, 1990, *Astrophysical Journal*, **350**, 281.
- J22. **S.K. CHAKRABARTI**: Standing Shocks in Isothermal Rotating Winds and Accretion II: Effects of Viscous Dissipation, 1990, *M.N.R.A.S.*, **243**, 610.
- J23. **S.K. CHAKRABARTI**: Standing Rankine-Hugoniot Shocks in the hybrid model flows II: non-axisymmetric self-similar solution, 1990, *Astrophysical Journal*, **362**, 406.
- J24. **S.K. CHAKRABARTI**: von Zeipel Surfaces, 1990, *M.N.R.A.S.*, **245**, 747.
- J25. **S.K. CHAKRABARTI**: Weber-Davis Model Revisited: Standing Magnetohy-

- drodynamic Shocks in Winds and Accretion, 1990, *M.N.R.A.S.*, **246**, 134.
- J26. A.R. PRASANNA & **S.K. CHAKRABARTI**, Angular Momentum Coupling and Optical Reference Geometry in Kerr Space Time, *Gen. Rel. Grav.*, 1990, **22**, 987. J27. **S.K. CHAKRABARTI** & A.R. PRASANNA, The Newtonian forces in the Kerr geometry, *J. Astrophys. Astron.*, 1990 **11**, 29, J28. **S.K. CHAKRABARTI**: von Zeipel Surfaces II- A Catalogue, 1991, *M.N.R.A.S.*, **250**, 7.
- J29. **S.K. CHAKRABARTI**: Production of Primordial Magnetic Field in Protogalactic Torus, 1991, *M.N.R.A.S.*, **252**, 246.
- J30. **S.K. CHAKRABARTI** and P. BHASKARAN: On the Origin, Acceleration and Collimation of the Bi-polar Outflows and Cosmic Radio Jets, 1992, *M.N.R.A.S.*, **255**, 255.
- J31. **S.K. CHAKRABARTI** and P.J. WIITA: Standing Shocks and the Spectrum of Active Galactic Nuclei, 1992, *Astrophysical Journal (Letters)*, **387**, L21
- J32. **S.K. CHAKRABARTI** and T. MATSUDA: Spiral Shocks and the Sub-day Variability in SS433 System, 1992, *Astrophysical Journal*, **390**, 639.
- J33. **S.K. CHAKRABARTI** and R. KHANNA: A Newtonian Description of the Geometry around a Rotating Black Hole, 1992, *M.N.R.A.S.*, **256**, 300.
- J34. R. KHANNA and **S.K. CHAKRABARTI**: Effects of a self-gravitating Disc on Test Particle Motion Around a Kerr Black Hole, 1992, *M.N.R.A.S.*, **259**, 1.
- J35. **S.K. CHAKRABARTI**: The properties of Oort Cloud and the Origin of Comets, 1992, *M.N.R.A.S.*, **259**, 37
- J36. **S.K. CHAKRABARTI**: Can Shocks form in Three Dimensional Accreting Flows? *M.N.R.A.S.*, 1992, **259**, 410
- J37. **S.K. CHAKRABARTI** and K.S. KRISHNASWAMY: Is there a Comet Cloud around PSR1257+12? *Astronomy and Astrophysics*, 1992, **263**, L1-L2.
- J38. **S.K. CHAKRABARTI**: Reversal of force and energy coupling around a rotating black hole, *M.N.R.A.S.*, 1993, **261**, 625.
- J39. **S.K. CHAKRABARTI** and P.J. WIITA: Effects of Spiral Shocks on Disk Line Emission, *Astronomy and Astrophysics*, 1993, **271**, 216.
- J40. **S.K. CHAKRABARTI**: When Gravitational Waves Collide! *International Journal of Modern Physics D*, 1992, **1**, 525.
- J41. **S.K. CHAKRABARTI** and P.J. WIITA: Spiral Shocks In Accretion Disks As a Contributor To Variability In Active Galactic Nuclei, *Astrophysical Journal*, 1993, **411**, 602
- J42. **S.K. CHAKRABARTI**: Binary Black Holes in Stationary Orbits and a test of the AGN Paradigm, *Astrophysical Journal*, 1993, **411**, 610.
- J43. **S.K. CHAKRABARTI** and D. MOLTENI: Smoothed Particle Hydrodynamics Confronts Theory: Formation of Standing Shocks in Accretion and Wind around Black Holes, *Astrophysical Journal*, 1993, **417**, 671.
- J44. **S.K. CHAKRABARTI** and SYDNEY D'SILVA: Magnetic Activity inside Thick Accretion Disks and Associated Observable Phenomena I. Flux Expulsion, *Astrophysical*

*Journal*, 1994 **424**, 138.

J45. SYDNEY D'SILVA and **S.K. CHAKRABARTI**: Magnetic Activity inside Thick Accretion Disks and Associated Observable Phenomena II. Flux Storage, *Astrophysical Journal*, 1994, **424**, 149.

J46. D. MOLTENI, G. LANZAFAME and **S.K. CHAKRABARTI**: Simulation of Thick Accretion Disks which Include Shocks by Smoothed Particle Hydrodynamics, *Astrophysical journal*, 1994 **425**, 161

J47. **S.K. CHAKRABARTI** and P.S. JOSHI: Naked Singularities as Candidates for the Gamma-ray Bursters, *Int. J. Modern Physics D*, 1994, v.3, 647.

J48. **S.K. CHAKRABARTI**, R. ROSNER, and S.I. VAINSHTEIN, Possible Role of Massive Black Holes in the Generation of Galactic Magnetic Fields, 1994, *Nature*, **368**, 434 .

J49. **S.K. CHAKRABARTI** and P.J. WIITA: Variable Emission Lines As Evidence Of Spiral Shocks In Accretion Disks Around Active Galactic Nuclei, 1994, *Astrophysical Journal*, **434**, 518.

J50. D. MOLTENI, G. GERARDI and **S.K. CHAKRABARTI**, Simulation of Interactions of An Orbiting Compact Star with an Accretion Disk by Smoothed Particle Hydrodynamics, *Astrophysical J.*, 1994, **436**, 249.

J51. **S.K. CHAKRABARTI** and D. MOLTENI, Viscosity Prescriptions and the Evolution of Accretion Disks, 1995, M.N.R.A.S., 272, 80.

J52. **S.K. CHAKRABARTI**, Velocity Profile of the Ionized Disk in M87 and the Mass of the Black Hole, 1995, *Astrophys. J.*, 441, 576 .

J53. **S.K. CHAKRABARTI** and L.G. TITARCHUK, Spectral Properties of Galactic and Extragalactic Black Hole Candidates, 1995, *Astrophys. J.*, 455, 623.

J54. **S.K. CHAKRABARTI**, Accretion Processes On Black Holes, 1996, Physics Reports, v.266, No 5 & 6, p 229-392.

J55. D. MOLTENI, H. SPONHOLZ and **S.K. CHAKRABARTI**, Resonance Oscillation of Radiative Shock Waves in Accretion Disks Around a Black Hole, 1996, *Astrophys. J.* 457, 805

J56. K. EBISAWA, L. TITARCHUK & **S.K. CHAKRABARTI**, On the spectral slopes of hard X-ray Emission from Black Hole Candidates, Publ. Astron. Soc. Japan, 1996, v. 48 No. 1. 59

J57. **S.K. CHAKRABARTI**, Gravitational Waves from Binary Systems in Presence of Accretion Disks, 1996, *Phys. Rev. D.* v.53, 2901

J58. **S.K. CHAKRABARTI**, Grand Unification of Solutions of Accretions and Winds Around Black Holes and Neutron Stars: 1996, *Astrophys. J.*, 464, 664.

J59. **S.K. CHAKRABARTI**, L.G. TITARCHUK, D. KAZANAS & K. EBISAWA: Observational Signatures of the Boundary layer of Black Holes, *Astron. & Astrophys. Suppl. Series*, 1996, 120, 163-166

J60. D. MOLTENI, D. RYU & **S.K. CHAKRABARTI**, 1996, Numerical Simulations of Standing Shocks in Accretion Flows around Black Holes: A Comparative Study, *As-*

*trophysical J.*, 470, 460.

- J61. **S.K. CHAKRABARTI**, Solutions of Two Dimensional Viscous Accretion and Winds In Kerr Black Hole Geometry, 1996, *Astrophysical J.*, 471, 237
- J62. **S.K. CHAKRABARTI**, Global Solutions of Viscous Transonic Flows in Kerr Geometry I: Weak Viscosity Limit, 1996, *M.N.R.A.S.*, 283, 325.
- J63. D. RYU, **S.K. CHAKRABARTI** & D. MOLTENI, 1997, Zero Energy Rotating Accretion Flows near a Black Hole, *Astrophysical J.*, 474, 378.
- J64. **S.K. CHAKRABARTI** and S. SAHU, Bondi Flows on Compact Objects Revisited, *Astronomy & Astrophysics*, 1997, 323, 382.
- J65. **S.K. CHAKRABARTI**, Spectral Properties of Accretion Disks Around Black Holes II: Sub-Keplerian Flows with and Without Shocks, 1997, *Astrophys. J.*, 484, 313.
- J66. G. LANZAFAME, D. MOLTENI, & **S.K. CHAKRABARTI**, Smoothed Particle Hydrodynamic Simulations of Viscous Accretion Discs Around Black Holes, 1998, *MNRAS*, V. 299, 799
- J67. **S.K. CHAKRABARTI**, Identification of Astrophysical Black Holes (Review), 1998, Indian Journal of Physics, V. 72B, p183-223 (astro-ph/9803227)
- J68. **S. K. CHAKRABARTI**, Spectral Softening due to Winds in Accretion Disks, 1998, Indian Journal Of Physics, v. 72B, No. 6, 565-569 (astro-ph/9810412)
- J69. **S.K. CHAKRABARTI** & B. MUKHOPADHYAY, 1999, Neutron Disks Around Black Holes, *Astronomy and Astrophysics*, 344, 105 (astro-ph/9904342)
- J70. B. MUKHOPADHYAY & **S.K. CHAKRABARTI**, Semi-analytical Solution of Dirac Equation in Schwarzschild Geometry 1999, *CQG*, v. 16, 3165 (gr-qc/9907100)
- J71. T. DAS & **S.K. CHAKRABARTI**, Mass Outflow Rates from Accretion Disks Around Compact Objects, 1999, *Classical and Quantum Gravity*, v. 16, No. 19, 3879 (astro-ph/9912493)
- J72. **S.K. CHAKRABARTI**, Estimation and Effects of the mass outflow from shock compressed flow around compact objects, 1999, *Astronomy and Astrophysics*, 351, 185. (astro-ph/9910014)
- J73. B. MUKHOPADHYAY & **S.K. CHAKRABARTI**, Nucleosynthesis in Advective Accretion Flows Around Black Holes, 2000 *Astronomy & Astrophysics*, **353**, 1029 (astro-ph/9912568)
- J74. B. MUKHOPADHYAY & **S.K. CHAKRABARTI**, Solution of Dirac Equation around a spinning black hole, 2000, *Nuclear Physics B*, 582, 627-645. (gr-qc/0007016)
- J75. **S. K. CHAKRABARTI** & S.G. MANICKAM, 2000, Correlation among QPO frequencies and Quiescence-state Duration in Black Hole Candidate GRS 1915+105, *Astrophysical Journal Letters* **531**, L41 (astro-ph/9910012)
- J76. I. CHATTOPADHYAY & **S.K. CHAKRABARTI**, Effects of Radiative Acceleration on topologies of outflows, 2000, *Int. J. Mod. Phys D*, Vol 9(1), p. 57 .
- J77. S. CHAKRABARTI & **S.K. CHAKRABARTI**, 2000, Can DNA bases be produced during molecular cloud collapse? *Astronomy & Astrophysics Letters* 354, L6-L8. (astro-ph/0001079)

- J78. **S.K. CHAKRABARTI** & B. MUKHOPADHYAY, Scattering of Dirac waves off a Kerr Black Hole 2000, *Mon. Not. R. Astron. Soc.*, 317, p.979-984. (astro-ph/0007277)
- J79. **S.K. CHAKRABARTI** & S. CHAKRABARTI, Adenine Abundance in a Collapsing Molecular Cloud, 2000, *Ind. J. Phys.*, 74B, 97-99. (astro-ph/0003271)
- J80. I. CHATTOPADHYAY & **S.K. CHAKRABARTI**, A Comparative Study of Bondi type and Radiative Outflows Around Compact Objects, 2000, *Int. J. Mod. Phys D*, Vol. 9, No. 6 717-731
- J81. A.R. RAO, S. NAIK, S.V. VADAWALE AND **S.K. CHAKRABARTI**, 2000, *X-ray spectral components in the hard state of GRS 1915+105: origin of the 0.5 - 10 Hz QPO*, 2000, *A&A*, 360, L25 (astro-ph/0007405)
- J82. A. NANDI, S. MANICKAM & **S.K. CHAKRABARTI** *Classification of Light curves of the Black Hole Candidate GRS1915+105*, 2000, *Ind. J. Phys.* 74B (5), 331 (astro-ph/0012523)
- J83. **S.K. CHAKRABARTI** & A. BHATTACHARYA *Constraints on the C ring parameters of Saturn at the Titan -1:0 resonance*, 2001, *MNRAS*, v. 326, p L23-L26
- J84. A. NANDI, S. G. MANICKAM, A.R. RAO and **S. K. CHAKRABARTI**, *On the source of QPO of the black hole candidate GRS1915+105: some new observations and their interpretation*, 2001, *MNRAS* 324, 267
- J85. **S.K. CHAKRABARTI** and A. NANDI, 2000, Fundamental States of accretion/jet configuration and the black hole candidate GRS1915+105, *Ind. J. Phys.* 75(B), 1 (astro-ph/0012526)
- J86. B. MUKHOPADHYAY and **S.K. CHAKRABARTI**, 2001, Stability of Accretion Disks in Presence of Nucleosynthesis, *Astrophysical Journal*, 555, 816
- J87. S.V. VADAWALE, A.R. RAO, AND **S.K. CHAKRABARTI**: Spectral Differences Between the Radio-Loud and Radio-Quite Low-Hard States of GRS 1915+105: Possible Detection of Synchrotron Radiation In X-Rays, 2001, *A&A*, 372, 793
- J88. A. NANDI, **S. K. CHAKRABARTI**, S. V. VADAWALE and A. R. RAO: Ejection of the inner accretion disk in GRS 1915+105: the magnetic rubber-band effect 2001, *A&A* 380, 245
- J89. S.V. VADAWALE, A.R. RAO, A. NANDI and **S.K. CHAKRABARTI**: Observational evidence for mass ejection during soft X-ray dips in GRS 1915+105 2001, *A&A*, 370, L17-L21
- J90. SANTABRATA DAS, INDRANIL CHATTOPADHYAY AND **S. K. CHAKRABARTI**, Standing Shocks around Black Holes: An Analytical Study, *ApJ.*, 2001, v. 557, 983
- J91. **S. K. CHAKRABARTI**, SANTABRATA DAS: Model Dependence of Transonic Properties of Accretion Flows Around Black Holes, *MNRAS*, 2001, 327, 808
- J92. SANTABRATA DAS, INDRANIL CHATTOPADHYAY, A. NANDI and **S. K. CHAKRABARTI**, Computation of Outflow Rates from Accretion Disks Around Black Holes, 2001, *A&A*, 379, 683
- J93. D. MOLTENI, K. ACHARYA, O. KUZNETSOV, D. BISIKALO, **S. K. CHAKRABARTI**, Kelvin-Helmholtz Instability on the Accretion Disk Surface, 2001, *ApJL*, v 563, p L57

- J94. D. MOLTENI, D., F. FAUCI, G. GERARDI, D. BISIKALO, O. KUZNETSOV, K. ACHARYA, **S.K. CHAKRABARTI**, 2001, New Instabilities in Accretion Flows onto Black Holes, *J. Korean Astron. Society*, 34, 247
- J95. **S.K. CHAKRABARTI**, 2001, Advective Flow Paradigm and Microquasar GRS1915+105, *Astrophysics and Space Science*, v 276, p. 191
- J96. D. MOLTENI, K. ACHARYA, **S. K. CHAKRABARTI**, Hydrodynamic Interaction Between an Accretion Disk and Strong Wind Around a Black Hole 2002, *Ind. J. Phys*, 76B, 7
- J97. **S.K.CHAKRABARTI**, P. GOLDONI, P. J. WIITA, A. NANDI, S. DAS, 2002, On the Ejection Mechanism of Bullets in SS 433, *Astrophys. J. Lett.* v. 576, L45
- J98. S. NAIK, A.R. RAO AND **S.K. CHAKRABARTI**, 2001, Fast Transition between High-soft and Low-soft States in GRS 1915+105: Evidence for a Critically Viscous Accretion Disk, 2002, *J. Astron. Astrophys*, 23, 213
- J99. I. CHATTOPADHYAY AND **S. K. CHAKRABARTI**, 2001, Effects of Radiative Acceleration and Radiation drag on outflows and Jets, 2002, *MNRAS*, 333, 454
- J100. **S.K. CHAKRABARTI**, A. NANDI, S. MANICKAM, S. MANDAL & A.R. RAO, 2002, *Spectral Signature of Mass Loss from (and Mass Gain by) an Accretion Disk around a Black Hole*, *Astrophys. J. Letters* V. 579, p 21.
- J101. **S.K. CHAKRABARTI**, K. ACHARYA, D. MOLTENI, 2004, The effect of cooling on time dependent behaviour of accretion flows around black holes, *Astron. & Astrophys.*, 421, 1
- J102. **S. K. CHAKRABARTI**, S. PAL, K. ACHARYA, S. MANDAL, S. CHAKRABARTI, R. KHAN, B. BOSE, 2002, VLF observation during Leonid Meteor Shower-2002 from Kolkata, *Ind. J. Phys.* v. 76B, 693
- J103. **S. K. CHAKRABARTI**, K. ACHARYA, B. BOSE, S. MANDAL, A. CHATTERJEE, N.M. NANDI, S. PAL, R. KHAN, 2003, Monitoring of Sudden Ionospheric Disturbances (SID) from Kolkata, *Ind. J. Phys.* 77B, 173-175
- J104. **SANDIP K. CHAKRABARTI**, S. PAL, A. NANDI, B.G. ANANDARAO, SOUMEN MONDAL, Photometric Evidence of Ejection of Bullets in the Black Hole Candidate SS433, 2003, *ApJ Letters*, 595, L45
- J105. ABHIJIT K. BHATTACHARYA & **S. K. CHAKRABARTI**, 2005, Analytical Studies of Particle Dynamics in Planetary Rings, *MNRAS*, 357, 156
- J106. I. CHATTOPADHYAY, S. DAS and **S. K. CHAKRABARTI**, 2004, Radiationally driven electron-positron jets from two component accretion flows, *MNRAS*, 348, 846
- J107. **S. K. CHAKRABARTI** and SANTABRATA DAS, 2004, Properties of Accretion Shock Waves in Viscous Flows Around Black Holes, *MNRAS*, 349, 649
- J108. S. MANDAL and **S. K. CHAKRABARTI**, 2004, Emitted Radiation From a Two Temperature Advective Flow Around Black Holes, 2004, *Ind. J. Phys.* 78B(2), 145
- J109. K. ACHARYYA, S. CHAKRABARTI and **S. K. CHAKRABARTI**, Formation of Simple Bio-Molecules During Collapse of a Interstellar Cloud – A Preliminary Anal-

- ysis, 2004, Ind. J. Phys. 78B(1), 7-11
- J110. S. PAL and **S.K. CHAKRABARTI**, Mass Accretion Rate of the Galactic Black Hole A0620-00 in its Quiescent State, 2004, Astron. Astrophys. 421, 13
- J111. **S. K. CHAKRABARTI**, A. NANDI, ASIT CHOUDHURY and UTPAL CHATTERJEE, 2004, Evidence of Class Transitions in GRS 1915+105 from IXAE Data, Astrophys. J. 607, 406
- J112. S. MANDAL and **S.K. CHAKRABARTI**, 2005, Signatures of Accretion Shocks in Broadband Spectrum of Advective Flows Around Black Holes, Int. J. Mod. Phys. D., v. 14, No. 6, 933
- J113. S. DAS AND **S. K. CHAKRABARTI**, 2004, Properties of Accretion Shocks in Viscous Flows with Cooling Effects, 2004, Int. J. Modern Phys. D, V. 13, No. 9, p.1955
- J114. A. NANDI, **S.K. CHAKRABARTI**, T. BELLONI, P. GOLDONI, 2005, X-ray Observation of SS 433 with RXTE, MNRAS, 359, 629
- J115. **S.K. CHAKRABARTI**, A. NANDI, A. CHATTERJEE, A. CHOUDHURY, U. CHATTERJEE, 2005, Class Transitions and Two Component Accretion Flow in GRS 1915+105 A&A, 431, 825
- J116. **S.K. CHAKRABARTI**, 2005, Spectral Properties of Black Holes in Gamma Rays, Astrophysics and Space Science 297, 131
- J117. S. MANDAL & **S.K. CHAKRABARTI**, 2005, Identification of Shocks in the Spectra from Black Holes, Astrophysics and Space Science 297, 269
- J118. K. ACHARYYA, **S.K. CHAKRABARTI**, S. CHAKRABARTI, 2005, Molecular Hydrogen Formation During Interstellar Cloud Collapse MNRAS, 361, 550
- J119. S. MANDAL and **S.K. CHAKRABARTI**, 2005, Signature of Accretion Shocks in Emitted Radiation From a Two Temperature Advective Flows Around Black Holes, Astron. Astrophys, 434, 839
- J120. **S.K. CHAKRABARTI**, B.G. ANANDARAO, S. PAL, S. MONDAL, A. NANDI, A. BHATTACHARYYA, S. MANDAL, RAM SAGAR, J. C. PANDEY, A. PATI and S.K. SAHA, 2005, SS 433: Results of a Recent Multi-wavelength Campaign, MNRAS, 362, 957
- J121. **S.K. CHAKRABARTI**, A Recent Multi-Wavelength Campaign to observe the microquasar SS433, BASI, V. 33, No. 2, 109, 2005
- J122. **S.K. CHAKRABARTI**, M. SAHA, R. KHAN, S. MANDAL, K. ACHARYYA, AND R. SAHA, 2005, Possible Detection of Ionospheric Disturbances during Sumatra-Andaman Islands Earthquakes in December, 2005 Indian J. Radio and Space Phys. 34, 314
- J123. **S.K. CHAKRABARTI** & S. MONDAL, 2005, A modified gravitational potential to study particles and fluids around a rotating black hole in the equatorial plane, Ind. J. Phys., 79 (11), 1237
- J124. **S.K. CHAKRABARTI**, A. DAS, K. ACHARYYA and S. CHAKRABARTI, 2006, Recombination Efficiency of Molecular Hydrogen on interstellar Grains - II. A Numerical Study, Bul. Astron. Soc. Ind. 34, 299.

- J125. **S.K. CHAKRABARTI** and S. MONDAL, 2006, Studies of Accretion Flows Around Rotating Black Holes - I: Particle Dynamics in a Pseudo-Kerr Potential, MNRAS, 369, 976.
- J126. **S.K. CHAKRABARTI**, A. NANDI, D. DEBNATH, R. SARKAR and B.G. DUTTA, 2005, Propagating Oscillatory Shock Model for QPOS in GRO J1655-40 During the March 2005 Outburst, Indian J.Phys. B78 (2005), 1
- J127. S. PAL, **S.K. CHAKRABARTI**, A. KRAUS and S. MANDAL, 2005, Broadband Radio Spectrum of SS433, Bul. Astron. Soc. Ind. 34, 1
- J128. K. ACHARYYA & **S.K. CHAKRABARTI**, 2005, Recombination Efficiency of Molecular Hydrogen on Interstellar Grains and Its Effect On Production of  $H_2$ , Bul. Astron. Soc. Ind., 33 (4) 473, 2005
- J129. **S.K. CHAKRABARTI** & S. MANDAL, 2006, Spectral properties of shocked two component accretion flows in presence of synchrotron emission, ApJ, 642, L49
- J130. S. DAS and **S.K. CHAKRABARTI**, 2006, Parameter space study of magneto-hydrodynamic flows around magnetized compact objects, MNRAS, 374, 729.
- J131. **S.K. CHAKRABARTI**, S.PAL & A. NANDI, 2006, Simultaneous VLBI/GMRT/RXTE observation of SS433, A&A, 453, 965
- J132. SOUMEN MONDAL and **S. K. CHAKRABARTI**, 2007, Nonlinearities in accretion and winds around black holes, IJMPD, 16, 1381
- J133. S. MONDAL AND **S.K. CHAKRABARTI**, 2006, Studies of Accretion Flows Around Rotating Black Holes - II: Standing Shocks in pseudo-Kerr geometry, MNRAS, 371, 1418
- J134. **S.K. CHAKRABARTI**, A. DAS, K. ACHARYYA and S. CHAKRABARTI, 2006, Effective grain surface area in the formation of molecular hydrogen in interstellar clouds, A&A, 457, 167
- J135. **S.K. CHAKRABARTI** and S. MANDAL, 2007, Spectral Properties of Shocked Accretion Flows - a Self-consistent Study, Astrophysics and Space Science, 309, 163
- J136 S. MANDAL and **S.K. CHAKRABARTI**, 2007, Spectral Fit of Cygnus X-1 in High Energy — A Self-consistent Study, Astrophysics and Space Science, 309, 305
- J137. A. DAS, **S.K. CHAKRABARTI**, K. ACHARYYA, S. CHAKRABARTI, 2008, Time evolution of simple bio-molecules during proto-star collapse, New Astronomy, 13, 457
- J138. S. CHAKRABARTI, S. SASMAL, M. SAHA, R. KHAN, D. BHOUMIK, **S.K. CHAKRABARTI**, 2007, Unusual behaviour of D-region Ionization time at 18.2KHz during seismically active days, Ind. J. Phys. 81, 531
- J139. K. CHAKRABARTI, M.M. MAJUMDAR and **S.K. CHAKRABARTI**, 2008, Accretion onto compact objects viewed as a flow in converging-diverging ducts, IJMPD, 17(5), 799
- J140. **S.K. CHAKRABARTI**, 2007, Quasi-Periodic Oscillations in Quasars to nano-Quasars, Bull. Astron. Soc. Ind., 35, 271
- J141. P. BASU, S. MONDAL, **S.K. CHAKRABARTI**, 2008, Gravitational wave

- emission from a massive companion black hole in presence of an accretion disk around a super-massive Kerr black hole, *MNRAS*, 388, 219
- J142. P. BASU, **S.K. CHAKRABARTI**, 2008, Gravitational wave damping from a self gravitating vibrating ring of matter around a black hole, *New Astronomy*, 13, 451
- J143. A. DAS, K. ACHARYYA, S. CHAKRABARTI, **S.K. CHAKRABARTI**, 2008, Formation of Water and Methanol in Star forming Molecular clouds, *Astronomy & Astrophysics*, 486, 209
- J144. S. Das and **S.K. CHAKRABARTI**, Dissipative accretion flows around a rotating black hole, 2008, *MNRAS*, 389, 371.
- J145. **S. K. CHAKRABARTI**, D. DEBNATH, A. NANDI and P.S. PAL, 2008, Evolution of Quasi-Periodic Oscillation Frequency in GRO J1655-40 – Implications on Accretion Disk Dynamics, *A & A*, 489L, 41
- J146. D. DEBNATH, **S. K. CHAKRABARTI**, A. NANDI and S. MANDAL, Spectral and Timing evolution of GRO J1655-40 during its outburst of 2005, 2008, *BASI* 36, 151,
- J147. S. MANDAL & **S. K. CHAKRABARTI**, 2008, Spectrum of an accretion disk around a super-massive black hole: an application to M87, *ApJ*, 689, 17
- J148. **S. K. CHAKRABARTI**, S. PALIT, D. DEBNATH, A. NANDI, V. YADAV, R. SARKAR, 2009, Fresnel Zone Plate Telescopes for X-ray Imaging I: Experiments with a quasi-parallel beam, *Exp. Astronomy*, 24, 109
- J149. **S.K. CHAKRABARTI**, B.G. DUTTA & P.S. PAL, 2009, Accretion flow behaviour during the evolution of the Quasi Periodic Oscillation Frequency of XTE J1550-564 in 1998 outburst, 2009, *MNRAS*, 394, 1463
- J150. S. MONDAL, P. BASU AND **S. K. CHAKRABARTI**, 2009 Studies of accretion flows around rotating black holes - III. Shock oscillations and an estimation of the spin parameter from QPO frequencies, *MNRAS*, 396, 1038
- J151. H. GHOSH, **S.K. CHAKRABARTI** & P. LAURENT, 2009, Monte-Carlo Simulations of Thermal Comptonization Process in a Two Component Accretion Flow Around a Black Hole, *IJMPD*, 18, 1693
- J152. S. Das, **S.K. Chakrabarti** & Mondal, S., 2010 Studies of dissipative standing shock waves around black holes, *MNRAS*, 401, 2053
- J153. S. Sasmal & **S.K. Chakrabarti**, 2009, Ionospheric Anomaly due to Seismic Activities -I: Calibration of the VLF signal of VTX 18.2KHz Station From Kolkata and Deviation During Seismic events, *Nat. Hazards Earth Syst. Sci.*, 9, 1403.
- J154. B.G. Dutta & **S.K. Chakrabarti**, 2010, Evidence for two component flows around the black hole candidate XTE J1550-564 from spectral features during its 1998-1999 outburst, *MNRAS*, 404, 2136
- J155. S. Palit, **S. K. Chakrabarti**, D. Debnath, A. R. Rao, A. Nandi, Vipin K. Yadav, V. Girish, 2009, Fresnel Zone Plate Telescopes for X-ray Imaging II: Numerical simulations with parallel and diverging beams, *Exp. Astronomy*, 27, 77
- J156. H. Ghosh, S. Garain, **S.K. Chakrabarti** and P. Laurent, 2010, Monte-Carlo Simulations in a Two component Flow in presence of Outflow, *IJMPD*, 19, 607

- J157. Kinsuk Giri, **S. K. Chakrabarti**, Madan M. Samanta, Dongsu Ryu, 2009, Hydrodynamic Simulations of Oscillating Shock Waves in a Sub-Keplerian Accretion Flow Around Black Holes, *MNRAS*, 403, 516
- J158 S. MANDAL & **S.K. CHAKRABARTI**, 2010, On the Evolution of Accretion Rates in Compact Outburst Sources, *Astrophysical Journal Letters*, 710, 147
- J159 A.R. RAO, M. HINGER, A. MALKAR, **S.K. CHAKRABARTI** et al., 2010, RT-2 Detection of Quasi-Periodic Pulsations in the 2009 July 5 Solar Hard X-ray Flare, *Astrophysical Journal*, 714, 1142
- J160. D. DEBNATH, A. NANDI, A. R. RAO, J. P. MALKAR, M. K. HINGAR, T. B. KOTOCH, S. SREEKUMAR, V. P. MADHAV, **S. K. CHAKRABARTI**, 2010, Instruments of RT-2 Experiment onboard CORONAS-PHOTON and their test and evaluation I: RT-2/S and RT-2/G Payloads, *Exp. Astron.* 29, 1
- J161. T. B. KOTOCH, A. NANDI, D. DEBNATH, J. P. MALKAR, A. R. RAO, M. K. HINGAR, V. P. MADHAV, S. SREEKUMAR, **S. K. CHAKRABARTI**, 2010, Instruments of RT-2 Experiment onboard CORONAS-PHOTON and their test and evaluation II: RT-2/CZT Payload, *Exp. Astron.* 29, 27
- J162. A. NANDI, S. PALIT, D. DEBNATH, **S.K. CHAKRABARTI**, T. B. KOTOCH, R. SARKAR, V. K. YADAV, V. GIRISH, A. R. RAO, D. BHATTACHARYA, 2010, Instruments of RT-2 Experiment onboard CORONAS-PHOTON and their test and evaluation III: Coded Aperture Mask and Fresnel Zone Plates in RT-2/CZT Payload, *Exp. Astron.* 9, 55
- J163. R. SARKAR, S. MANDAL, D. DEBNATH, T. B. KOTOCH, A. NANDI, A. R. RAO, **S. K. CHAKRABARTI**, 2010, Instruments of RT-2 Experiment onboard CORONAS-PHOTON and their test and evaluation IV: Background Simulations using GEANT-4 Toolkit, *Exp. Astron.* 29, 85
- J164. S. SREEKUMAR, P. VINOD, E. SAMUEL, J. P. MALKAR, A. R. RAO, M. K. HINGAR, V. P. MADHAV, D. DEBNATH, T. B. KOTOCH, A. NANDI, S. SHAHEDA BEGUM, **S. K. Chakrabarti**, 2010, Instruments of RT-2 Experiment onboard CORONAS-PHOTON and their test and evaluation V: Onboard software, Data Structure, Telemetry and Telecommand, *Exp. Astron.* 29, 109.
- J165 R. SARKAR & **S.K. CHAKRABARTI**, 2010, Feasibility of Spectro-Photometry in X-rays (SPHINX) from the Moon, *Exp. Astron.* 28, 61
- J166. **S.K. Chakrabarti**, S. Sasmal, S. Chakrabarti, 2009, Ionospheric Anomaly due to Seismic Activities - II: Evidence from D-Layer preparation and disappearance times, *Nat. Haz. Earth. Syst. Sc.* 10, 1751
- J167 C.B. Singh and **S.K. Chakrabarti**, 2010, Outflow rates in a black hole environment in presence of a dissipative standing shock, *MNRAS* 410, 2414
- J168 D. Debnath and **S.K. Chakrabarti**, 2010, Properties of the Propagating Shock wave in the accretion flow around GX 339-4 in 2010 outburst, *Astron. & Astrophys.* 520, 98
- J169 K. Chakrabarti, M. M. Majumdar and **S. K. Chakrabarti**, 2010, Accretion prob-

lem in a Kerr Black Hole Geometry Viewed as Flows in Converging-Diverging Ducts, Ind. J. Mod. Phys. D. 19, 2059

J170 A. R. RAO, J. P. MALKAR, M. K. HINGAR, V. K. AGRAWAL, **S. K. CHAKRABARTI**, A. NANDI, D. DEBNATH, T. B. KOTOCH, R. SARKAR, T. R. CHIDAMBARAM, P. VINOD, S. SREEKUMAR, Y. D. KOTOV, A. S. BUSLOV, V. N. YUROV, V. G. TYSHKEVICH, A. I. ARKHANGELSKIJ, R. A. ZYATKOV, 2010, Detection of GRB 090618 by *RT-2* Experiment Onboard the *Coronas – Photon* Satellite Astrophysical Journal 728, 42

J171 A. Das, K. Acharyya and **S.K. Chakrabarti**, 2010 Effects of initial condition and cloud density on the composition of the grain mantle, MNRAS, 409, 789

J172 A. R. RAO, J. P. MALKAR, M. K. HINGAR, V. K. AGRAWAL, **S. K. CHAKRABARTI**, A. NANDI, D. DEBNATH, T. B. KOTOCH, R. SARKAR, T. R. CHIDAMBARAM, P. VINOD, S. SREEKUMAR, Y. D. KOTOV, A. S. BUSLOV, V. N. YUROV, V. G. TYSHKEVICH, A. I. ARKHANGELSKIJ, R. A. ZYATKOV, 2010, Onboard performance of the RT-2 detectors, Solar System Research, 45, 123

J173. A. Das, K. Acharyya and S.K. Chakrabarti, 2010 Effects of initial condition and cloud density on the composition of the grain mantle, MNRAS, 409, 789

J174. S.K. Chakrabarti, S. K. Mandal, S. Sasmal, D. Bhowmick, A. K. Choudhury, N. P. Patra, 2010, First VLF detections of ionospheric disturbances due to Soft Gamma Ray Repeater SGR J1550-5418 and Gamma Ray Burst GRB 090424, InJPh, 84, 1461

J175 S. Ray, **S.K. Chakrabarti**, S. Mondal, S. Sasmal, 2010, Correlation between night time VLF amplitude fluctuations and effective magnitudes of earthquakes in Indian sub-continent, Nat. Hazards and Earth Syst. Science, 11, 2699

J176 P. S. Pal, S. K. Chakrabarti, A. Nandi, 2011, Evidence of variation of the accretion flow geometry in GRS 1915+105 from IXAE and RXTE data, IJMPD, 20, 2281

J177 P. S. Pal, S. K. Chakrabarti, A. Nandi, 2011, Permissible transitions of the variability classes of GRS1915+105, Astronomy and Astrophysics, (submitted).

J178 S. Ray, S. K. Chakrabarti, S. Sasmal, 2011, Precursory Effects in the night time VLF signal Amplitude for the 18th Jan. 2011 Pakistan Earthquake, Ind. J. Physics, (in press).

J179 S.K. Chakrabarti et al. 2011, VLF signals in summer and winter in the Indian sub-continent using multi-station campaigns, Ind. J. Physics, (In press).

J180 I. Chattopadhyay and S. K. Chakrabarti, 2011, Effects of the composition on transonic properties of accretion flows around black holes, IJMPD, 20, 1597

J181 H. Ghosh, S. K. Garain, Kinsuk Giri, Sandip K. Chakrabarti, 2011, Effect of Compton Cooling on the Hydrodynamic and the Spectral Properties of a Two Component Accretion Flow around a Black Hole, MNRAS, 416, 959

J182 A. Das, Sandip K. Chakrabarti, 2011, Composition and evolution of Interstellar Grain mantle under the effects of Photodissociation, MNRAS, 418, 545

J183 S.K. Chakrabarti, S. Pal, S. Sasmal, S. K. Mondal, S. Ray, T. Basak, S. K. Maji, B. Khadka, D. Bhowmick, A. K. Chowdhury, 2011, VLF campaign during the total

- eclipse of 22nd July, 2009: observational results and interpretations, *J. Atmos. Solar terr. physics* (Submitted)
- J184 S. K Maji, S. K Chakrabarti, S. K. Mondal, 2011, Unique observation of a Solar Flare by Lunar Occultation during the 2010 Annular Solar Eclipse through ionospheric disturbances in VLF waves, *EMP*, 2012 (in press)
- J185 C.B. Singh and S.K. Chakrabarti, 2011, Model dependence of outflow rates from an accretion disk in presence of a dissipative standing shock, *IJMPD*, 20, 2507
- J186 K. Giri and Sandip Chakrabarti, 2012, Hydrodynamic simulations of viscous accretion flows around black holes, *MNRAS*, tmp, 2329
- J187 Fundamental Concepts in Transonic Flow Paradigm of Black Hole Astrophysics, 2011, *IJMPD*, 20, 1723
- J188 Das, A., Majumdar, L., S.K. Chakrabarti and S. Chakrabarti, 2011, Study of the formation of proto-stars by a two dimensional hydrodynamic simulation and the chemical evolution during these processes, *MNRAS* (submitted)
- J189 A. Nandi, D. Debnath, S. Mandal, S.K. Chakrabarti, 2011, Accretion flow dynamics during the evolution of timing and spectral properties of GX 339-4 in 2010-11 outburst, *Astron. Astrophys.* (submitted)
- J190 D. Debnath, S.K. Chakrabarti, A. Nandi, 2011, *MNRAS*, Evolution of QPO frequency in 2010 & 2011 outbursts of H 1743-322: Implication on the Accretion Flow Dynamics (submitted).
- J191 S. Pal, S.K. Chakrabarti, 2012, Modeling of subionospheric VLF signal perturbations associated with Total Solar Eclipse-2009 in India (Submitted)
- J192 VLF detection of a Recent Soft Gamma Ray Repeater SGR J1550-5418, 2011, S. K. Mondal, S.K. Chakrabarti, S. Sasmal (Submitted)
- J193 Unique Observation and Modeling of the D-region electron density profile due to a Solar Flare occulted by Lunar Disc during the 2010 Annular Solar Eclipse, 2012, S.K. Pal, S. Maji, S.K. Chakrabarti (Submitted)

(B) In Proceedings/books, refereed journals as proceedings

- P1. S.K. CHAKRABARTI: Some Exactly Solvable Models of Thick Disks and Radio Jets around Black Holes, 1984, *Proceeding of the Conference on Active Galactic Nuclei*, J. E. Dyson (ed), University of Manchester Press, UK, 346-350.
- P2. S.K. CHAKRABARTI: Rotating Winds and Acceleration of Jets, 1986, *Proceedings of the Conference on "Jets from Stars and Galaxies"* R. N. Henricksen (Ed.), CITA, Canada.
- P3. S.K. CHAKRABARTI: Nucleosynthesis in the Neighborhood of a black hole, 1986, *Proceedings of the XXIst Moriond Conference on "Accretion Processes in Astrophysics"* J. Audouze (Ed.) Institute d'Astrophysique de Paris.
- P4. L. JIN, W.D. ARNETT and S.K. CHAKRABARTI: Detailed Numerical Calcula-

- tions of Nucleosynthesis in Thick Accretion Disks Around Black Hole, 1986, *Bulletin of the 167th AAS Meeting*, Houston, Texas.
- P5. S.K. CHAKRABARTI: On the Physics of Thick Disks and Inner Jets, 1986, *Bulletin of the 167th AAS Meeting*, Houston, Texas.
- P6. S.K. CHAKRABARTI: Rotating Wind Solution and the Acceleration of the Jet in SS433, 1986 *Proceedings of General Relativity 11 Conference*
- P7. S.K. CHAKRABARTI, L. JIN and W.D. ARNETT: Nucleosynthesis Inside Thick Accretion Disk, 1987, *Bulletin of the 169th Meeting of the American Astronomical Society*.
- P8. S.K. CHAKRABARTI: Nucleosynthesis In Thick Accretion Disks, 1987, *Proceedings of the 13th Texas Symposium*, Ed. Ulmer (World Scientific) p. 351.
- P9. S.K. CHAKRABARTI, L. JIN and W.D. ARNETT: Nucleosynthesis in Thick disks around Super Massive Blackholes, 1987, *Supermassive Black Holes*, Ed. M. Kafatos, Cambridge Univ. Press, p. 311.
- P10. L. JIN, W.D. ARNETT and S.K. CHAKRABARTI: Nucleosynthesis around Super massive Black holes, 1988, *Bulletin of the 173rd Meeting of the Annual Astronomical Society*.
- P11. S.K. CHAKRABARTI: Element Productions in Thick Accretion Disks, 1988, *Proceedings of the 20th Yamada Conference*, K. Sato (Ed.), Cambridge University Press, p. 355
- P12. S.K. CHAKRABARTI: Role of Angular Momentum in Relativistic Astrophysics, Proceedings of XV IAGRG conference, 1989, p. 19, Eds. Mukherjee, S., A.R. Prasanna, and A. Kembhavi, Wiley Eastern (New Delhi)
- P13. S.K. CHAKRABARTI, 1989, Hybrid models for quasi-three dimensional accretion flows to study standing shocks, in the ‘Abstracts of Contributed Papers’ of the GR12 conference Vol.II, p.407.
- P14. S.K. CHAKRABARTI: Properties of Self-similar Spiral Shocks in disks, in Poster Proceedings of IAU Symposium No.144, Hans Bloemen (Ed.), 1990, p.83.
- P15. S.K. CHAKRABARTI: Shocks in Isothermal Transonic Flows in Black Hole Geometry, in Proceedings of IAU129 meeting on *Structure and emission properties of Accretion disks*, 1991, 409.
- P16. S.K. CHAKRABARTI: On the Instability of Spiral Flows around Compact Objects, in Proceedings of IAU129 meeting on *Structure and emission properties of Accretion disks*, 1991, 407.
- P17. S.K. CHAKRABARTI: Magnetohydrodynamic Transonic Flows Around Compact Objects, in Proceedings of IAU129 meeting on *Structure and emission properties of Accretion disks*, 1991, 405.
- P18. S.K. CHAKRABARTI: Solving Time Dependent Problems—the brute force method, in Proceedings of IAU129 meeting on *Structure and emission properties of Accretion disks*, 1991, 403.
- P19. P. WIITA, R. MILLER, N. GUPTA and S.K. CHAKRABARTI: Accretion Disk

- Models for Micro-variability, in *Variability of Blazars*, ed. E. Valtaoja & M. Valtonen (Cambridge University Press: Cambridge), p. 311, 1992
- P20. S.K. CHAKRABARTI: Production of Primordial Magnetic Fields in the Universe, *Proceedings of 6th Marcel Grossmann meetings*, 1993, ed. H. Sato & T. Nakamura, 1363
- P21. S.K. CHAKRABARTI and A. SHIEKH: Forces on a Charged Particle Orbiting Around a Kerr Black-hole, *Proceedings of 6th Marcel Grossmann meetings*, 1993, ed. H. Sato & T. Nakamura, 1360
- P22. S.K. CHAKRABARTI: On a Pseudo-Kerr Potential, in ‘Abstracts of the contributed papers’ of the GR13 conference, Cordoba, Argentina, Eds. P.W. Lamberti and O.E. Ortiz, p.322
- P23. S.K. CHAKRABARTI and P.J. WIITA: Standing Shocks in Accretion Disks and the Spectra of AGNs, in ‘Abstracts of the contributed papers’ of the GR13 conference, Cordoba, Argentina, Eds. P.W. Lamberti and O.E. Ortiz, p.323
- P24. P.J. WIITA, A.V. MANGALAM and S.K. CHAKRABARTI: Rapid Variability in AGN and Accretion Disk Hot-spots, *Proceedings of 2nd Maryland meeting on Testing AGN Paradigm*, in AIP Conf. Proc. 254 (American Inst. Of Physics: New York), p. 251-254.
- P25. P.J. WIITA and S.K. CHAKRABARTI: Accretion Disks with Standing Shocks and AGN spectra, 1991, in the 179th Meeting of the *American Astronomical Society*
- P26. S.K. CHAKRABARTI: Planetsimal around Pulsars, 1993, *Publ. Astrophys. Soc. of Pacific*, v. 36, eds (J.A. Phillips, S.E. Thorsett & S.R. Kulkarni, p. 317.
- P27. S.K. CHAKRABARTI: Binary Black Holes in Stationary Orbits, 1992, in the Bulletin of the 181st meeting of the American Astronomical Society, V. 24, No.4, p.1258.
- P28. S.K. CHAKRABARTI and SYDNEY D’SILVA: Dynamics of Magnetic Flux Tubes in Thick Accretion Disks and Associated Observable Phenomenon, 1993, in the Bulletin of the 181st meeting of the American Astronomical Society, V. 24, No.4, 1992, p. 1166.
- P29. SYDNEY D’SILVA and S.K. CHAKRABARTI: Dynamics of Magnetic Flux Tubes in Thick Accretion Disks 1993, in the Proceedings of the 14th TEXAS/PASCOS symposium, p.726.
- P30. D. MOLTENI and S.K. CHAKRABARTI: Simulations with Smoothed Particles confirm stationary shocks in accretion flows onto Black Holes, NATO ASI conference on ‘Theory of Accretion Disks -2’, W.J. Duschl, J. Frank, F. Meyer, E. Meyer-Hofmeister and W.M. Tscharnuter, (Eds.), Vol. 417, Kluwer Academic Press, 1994.
- P31. S.K. CHAKRABARTI: Binary compact objects in Stationary Orbits and a possible explanation of NGC6814 in the ‘Proceedings of the 5th Canadian Conference on the Relativistic Astrophysics’ at Waterloo, Eds. R.B. Mann & R.G. McLenaghan, 1994, p. 204.
- P32. S.K. CHAKRABARTI: Accretion Disks in Astrophysics, in Numerical Simulations in Astrophysics, 1994, Eds. J. Franco, S. Lizano, L. Aguilar & E. Daltabuit (Cambridge University Press: Cambridge), p. 288.
- P33. D. MOLTENI, G. GERARDI and S.K. CHAKRABARTI: Numerical Simulation

of the Co-planer Star-Disk Interactions, in Numerical Simulations in Astrophysics, 1994, Eds. J. Franco, S. Lizano, L. Aguilar & E. Daltabuit (Cambridge University Press: Cambridge), p. 301.

P34. S.K. CHAKRABARTI: On the Accretion Disk Models with Stationary and Non-Stationary Shock Waves, 1994 in Multi-wavelength Continuum Emission of AGN, eds. T.J.-L. Courvoisier and A. Blecha, (Kluwar Academic publishers: Dordrecht) p. 477

P35. S.K. CHAKRABARTI: How Massive is the Black Hole in M87? in *Highlights in Astronomy*, I. Appenzeller (Ed.),, V. 10, 535-538.

P36. S.K. CHAKRABARTI: Accretion Disks in Active Galaxies- the Sub-Keplerian Paradigm, in the Proceedings of 17th Texas Symposium, 1995, p. 546, ed. H. Böhringer, E. Morfill & J. Trümper (New York Academy of Sciences, New York).

P37. S.K. CHAKRABARTI: Velocity Profile and Line emission in Ionized Disk of M87, in the Bulletin of the AAS , 1995, V27, No.1, p.765

P38. S.K. CHAKRABARTI: Aspects of Accretion Processes On a Rotating Black Hole, 1996, in Proceedings of the XVIIIth conference of the Indian Association of General Relativity and Gravitation, IMSC report no. 117, Eds. G. Date and Bala R. Iyer, p. 77

P38A. S.K. CHAKRABARTI:, 1996, Are Gamma Ray Bursts The ‘Birth Cry’ of black holes? 3rd Huntsville symposium on Gamma Ray Bursts

P39. S.K. CHAKRABARTI: New Twists In The Study Of Gravity Wave Emission In Systems With Massive Black Holes in the Proceedings of the IAU Asia-Pacific regional meeting at Pusan National University, Ed. H.M. Lee, S.S. Kim, K.S. Kim, J. Korean Astron. Soc., v. 29, 1996, 281-282.

P40. S.K. CHAKRABARTI, D. RYU, D. MOLTENI, H. SPONHOLZ, G. LANZAFAME, G. EGGUM: Numerical Simulations Of Advective Accretion Disks Around Black Holes in the Proceedings of the IAU Asia-Pacific regional meeting at Pusan National University, Ed. H.M. Lee, S.S. Kim, K.S. Kim, J. Korean Astron. Soc., v. 29, 1996, 229-230.

P41. S.K. CHAKRABARTI: Spectral Properties of Galactic and Extragalactic Black Hole Candidates in the Proceedings of the IAU Asia-Pacific regional meeting at Pusan National University, Ed. H.M. Lee, S.S. Kim, K.S. Kim, J. Korean Astron. Soc., v. 29, 1996, 223-226.

P42. D. MOLTENI, H. SPONHOLZ & S.K. CHAKRABARTI, X-rays from Shock Waves In Accretion Flows Around Black Holes, 1996, ‘Roentgenstrahlung from the Universe’, Eds. Zimmermann, H.U., Trumper, J. and Yorke, H., MPE Report 263, p. 657

P43. S.K. CHAKRABARTI, D. RYU, D. MOLTENI, H. SPONHOLZ, G. LANZAFAME, G. EGGUM: Numerical Simulations Of Advective Flows Around Black Holes in the Proceedings of the IAU-163 symposium on ‘Accretion Phenomena and Related Outflow’ , Ed. D. Wickramasinghe et al. p. 690

P44. S.K. CHAKRABARTI: Unified Accretion Disk Models Around Black Holes and Neutron Stars and Their Spectral Properties, in the Proceedings of the IAU-163 symposium on ‘Accretion Phenomena and Related Outflow’ , Ed. D. Wickramasinghe et al. 427

- P45. S.K. CHAKRABARTI: Accretion Processes around Black Holes and Neutron Stars: Advective Disk Paradigm, 1997, Proceedings of the International Colloquium on 'Perspective of High Energy Astrophysics' at the TIFR, Ed. P. C. Agrawal & P.R. Vishwanath, (Orient Longman)
- P46. S.K. CHAKRABARTI: 'Recent Progresses of Accretion Disk Models Around Black Holes, 1998, Proceedings of the 18th Texas Symposium, Ed. J. Frieman, A. Olinto & D.N. Schramm, p. 229
- P47. D. RYU and S.K. CHAKRABARTI, Numerical Simulations of Rotating Accretion Flows near a Black Hole, 1997, in Proceedings of the Kinston Meeting on Computational Astrophysics Eds. D.A. Clark, M.J. West, p. 296-301
- P48. S.K. CHAKRABARTI, Accretion and Winds Around Galactic and Extragalactic Black Holes, (a series of invited lectures), in 'Black Holes: Theory and Observation' Ed. F. Hehl, K. Keifer and R.J.K. Metzler, p. 80, Springer Verlag.
- P49. COLLMAR, W., STRAUMANN, N., CHAKRABARTI, S. K., 'T HOOFT, G., SEIDEL, E., ISRAEL, W. 1998: Panel Discussion- The Definitive Proofs of the Existence of Black Holes in 'Black Holes: Theory and Observation' Ed. F. Hehl, Springer Verlag.
- P50. S. K. CHAKRABARTI: Accretion Disk Models Around Black Holes: Twenty Five Years Later a review at the 'Observational Evidence for Black Holes in the Universe', Ed. S.K. Chakrabarti, (Kluwer Academic Publishers, Holland) p. 19. (astro-ph/9807104)
- P51. S.K. CHAKRABARTI: Global Inflow and Outflow Solutions (GIOS) around a Black Hole, 1998, Proceedings of the Mini Workshop by Bangladesh Mathematical Society, (Eds.) J.N. Islam, M.A. Hosain, D.A.S Rees, G.D. Roy, N.C. Ghosh (Dept. of Mathematics, SUST) p. 235 (astro-ph/9812140)
- P52. S.K. CHAKRABARTI & B. MUKHOPADHYAY: The Complete Solution of Dirac Equation in Kerr Geometry, 1998, Proceedings of the Mini Workshop by Bangladesh Mathematical Society, (Eds.) J.N. Islam, M.A. Hosain, D.A.S Rees, G.D. Roy, N.C. Ghosh (Dept. of Mathematics, SUST) p. 251
- P53. S.K. CHAKRABARTI: Latest trends in the study of accretion and outflows around compact objects, 1999, in Proceedings of 'Young Astrophysicists of Today's India', Indian Journal of Physics, 1999, 73B(6), 931-944
- P54. S.G. MANICKAM & S.K. CHAKRABARTI: On the nature of quasi periodic oscillations in the black hole candidate GRS1915+105, 1999, in Proceedings of 'Young Astrophysicists of Today's India', Indian Journal of Physics, 73B(6), 967-976
- P55. S.K. CHAKRABARTI, 2000, 'Advective Accretion Flows: Ten Years Later, *Il Nuovo Cemento* (Review article in the Proceedings of the 3rd ICRA workshop on General Relativity and Gravitation, July 12-21st, 1999, Rome/Pescara) (Ed.) Remo Ruffini Vol. 115, p. 897 (astro-ph/0007254)
- P56. S.K. CHAKRABARTI and B. MUKHOPADHYAY, 2000, 'Dirac Equation in Kerr Geometry and its Solution' *Il Nuovo Cemento* (Review article in the Proceedings of the 3rd ICRA workshop on General Relativity and Gravitation, July 12-21st, 1999,

- Rome/Pescara) (Ed.) Remo Ruffini, Vol. 115, p. 885 (astro-ph/0007253)
- P57. S.K. CHAKRABARTI, 2000, 'Satellite observations of thought experiments close to a black hole', in Classical and Quantum Gravity (Review Article in the Proceedings of 'Gravitational Frontiers' a Symposium on Experimental Gravitation, Samarkhand, Aug, 16-21st, 1999), (Ed.) M. Karim, v. 17, 2427 (astro-ph/0007259)
- P58. S.K. CHAKRABARTI, Jets and Outflows From Advective Accretion Disks (Review), 2001, in High Energy Gamma Ray Astronomy, Eds. F.A. Aharonian, H. Volk and D. Horns p. 246 (AIP Proceedings No. 745: New York)
- P59. S.K. CHAKRABARTI, 2001, Jets, Disks and Spectral States of Black Holes (contributed), in High Energy Gamma Ray Astronomy, Eds. F.A. Aharonian, H. Volk and D. Horns 831 (AIP Proceedings No. 745: New York)
- P60. I CHATTOPADHYAY and S.K. CHAKRABARTI, 2001, On Radiative Acceleration of Jets and Outflows from Advective Disks (contributed) in High Energy Gamma Ray Astronomy, Eds. F.A. Aharonian and H. Volk p. 835 (AIP: New York)
- P61. S.K. CHAKRABARTI, 2002, Effect of an Accretion Disk on the Gravitational Wave Signal from an Inspiralling Binary Black Holes, Proceedings of IXth Marcel Grossman Meeting, Eds. Vahe G. Gurzadyan, Robert T. Jantzen, Remo Ruffini, 1639 (World Scientific: Singapore)
- P62. S.K. CHAKRABARTI And I. CHATTOPADHYAY 2002, Bulk Motion Comptonization – a sure sign of Black Holes Proceedings of IXth Marcel Grossman Meeting, Ed. Vahe G. Gurzadyan, Robert T. Jantzen, Remo Ruffini, 2253
- P63. S.K. CHAKRABARTI, A. NANDI and S. G. MANICKAM, 2002, Relation of Light Curve Behaviour with Accretion Rates in Black Hole Candidate GRS1915+105, Proceedings of IXth Marcel Grossman Meeting, Eds. Vahe G. Gurzadyan, Robert T. Jantzen, Remo Ruffini, 2209
- P64. I. CHATTOPADHYAY AND S. K. CHAKRABARTI, 2002, Generation and Acceleration of Jets from Effective Boundary Layer around Black Hole, Proceedings of IXth Marcel Grossman Meeting, Eds., Vahe G. Gurzadyan, Robert T. Jantzen, Remo Ruffini, 2289
- P65. S.K. CHAKRABARTI, 2002, State-of-the-art Accretion and Wind Solutions Around Black Holes, Proceedings of IXth Marcel Grossman Meeting, Eds. Vahe G. Gurzadyan, Robert T. Jantzen, Remo Ruffini, 1613
- P66. S.K. CHAKRABARTI, S.G. MANICKAM, A. NANDI And A.R. RAO, 2002, Understanding Galactic Black Hole Candidate GRS 1915+105 Proceedings of IXth Marcel Grossman Meeting, Eds., Vahe G. Gurzadyan, Robert T. Jantzen, Remo Ruffini, 2279
- P67. D. MOLTENI, M.A. VALENZA, G. GERARDI, S.K. CHAKRABARTI, K. Acharya, 2002, The Many Ways a Shock Wave Can Oscillate Close to a Black Hole, Proceedings of IXth Marcel Grossman Meeting, Eds. Vahe G. Gurzadyan, Robert T. Jantzen, Remo Ruffini, 2257
- P68. S.K. CHAKRABARTI and S. CHAKRABARTI, 2001, Can Bio-Molecules be formed in Collapsing Interspellar Clouds? Proceedings of conference 'First Steps in the

- Origin of Life', Ed. J. Chela Flores, 2001,
- P69. S.K. CHAKRABARTI, 2002, Advective Flow Paradigm of Disks and Outflows Around Black Holes, Bulletin of Astronomical Society of India, 30, 125
- P70. SANTABRATA DAS AND S.K. CHAKRABARTI, 2002, Analytical study of standing shock around black hole, Bulletin of Astronomical Society of India, 30, 321
- P71. ANUJ NANDI AND S.K. CHAKRABARTI, 2002, Understanding the behavior of high energy X-rays from the black hole candidate GRS 1915+105, Bulletin of Astronomical Society of India, 30, 327
- P72. K. ACHARYA, S.K. CHAKRABARTI AND D. MOLTENI, 2002, Wind Induced Instabilities in Accretion Flow Around Black Holes, in Bulletin of Astronomical Society of India, 30, 317
- P73. I. CHATTOPADHYAY AND S.K. CHAKRABARTI, 2002, Shocks in Winds from Accretion Disks and the Formation of High Energy Particles in Bulletin of Astronomical Society of India, 30, 313
- P74. BHATTACHARYYA, A. and CHAKRABARTI, S. K, 2001, Theoretical Study of Constraints on the C Ring Parameters of Saturn at the Titan -1:0 Resonance in 32nd Annual Lunar and Planetary Science Conference (LPI Abstract No 1046)
- P75. S.K. CHAKRABARTI, 2003, Accretion Process on Stars and Compact Objects in 'Recent Trends in Astro and Plasma Physics in India', S.K. Chakrabarti, S. Das, M. Khan and B. Basu (Eds.), p. 50, (CSP:India).
- P76. K. ACHARYYA, S. K. CHAKRABARTI, D. MOLTENI, O. KUZNETSOV and D. BISIKALO, 2003, Numerical Simulation of Bending Wave Instability of an Accretion Disk in 'Recent Trends in Astro and Plasma Physics in India', S.K. Chakrabarti, S. Das, M. Khan and B. Basu (Eds.), p. 159, (CSP:India).
- P77. S.K. CHAKRABARTI, 2002, Study of Accretion Processes on Black Holes: Fifty Years of Developments, in the Celebratory Volume on 'Frontiers in Astrophysics' commemorating 75th year of Indian Journal of Physics, (Ed.) S.K. Chakrabarti.
- P78. S.K. CHAKRABARTI, 2003, Plasma Astrophysics Around Black Holes, in 'Recent Trends in Astro and Plasma Physics in India', S.K. Chakrabarti, S. Das, M. Khan and B. Basu (Eds.), p. 146, (CSP:India). P79. S. K. CHAKRABARTI and A. BHATTACHARYYA, 2002, Bulletin of the Astronomical Society of India (In press)
- P80. K. ACHARYA, S.K. CHAKRABARTI and D. MOLTENI, 2002, Interaction of Accretion Shocks with Winds, in Jour. Astrophys. Astron. V. 23, p. 155, 2002
- P81. I. CHATTOPADHYAY and S. K. CHAKRABARTI, 2002, Radiatively Driven Winds from Effective Boundary Layer around Black Holes, 2002 in Jour. Astrophys. Astron. V. 23, p. 149, 2002
- P82. S. DAS and S.K. CHAKRABARTI, Standing Shocks Around Black Holes and Estimation of Outflow Rates, 2002, Jour. Astrophys. Astron., V. 23 p. 143, 2002
- P83. A. NANDI and S.K. CHAKRABARTI, Understanding of the Inflow/Outflow Characteristics of the Black Hole Candidate GRS 1915+105 2002, in "Multicolour Universe", Ed. R.K. Manchanda and B. Paul, 109

- P84. S. K. CHAKRABARTI, Observational Evidence for Two Component Advective Flow, Solutions in a Black Hole Geometry, 2002, Proceedings of the ‘Multi-wavelength Experiments Through Astronomical Satellite’.
- P85. S. K. CHAKRABARTI, ‘Do Astrophysical Black Holes Exist?’ (Review) 2002, Indian Journal of Theoretical Physics, v 49, p. 29, 2001  
Solutions in a Black Hole Geometry, 2002, Proceedings of the ‘Multi-wavelength Experiments Through Astronomical Satellite’.
- P86. S.K. CHAKRABARTI, Problem of black hole accretion in the 50 years, 2002, Proceedings of the National Space Science Symposium p. 383
- P87. M.M. Samanta and S.K. CHAKRABARTI Shock Acceleration in Accretion Flows Around Black Holes, 2002, Proceedings of the National Space Science Symposium p. 384
- P88. S. MANDAL and S.K. CHAKRABARTI, 2002, Study of Two Temperature Accretion Flows Around Black Holes, Proceedings of the National Space Science Symposium p. 385
- P89. K. ACHARYA, S. CHAKRABARTI and S.K. CHAKRABARTI, On the Possibility of Formation of Organic Molecules during star formation, 2002, Proceedings of the National Space Science Symposium p. 380
- P90. S. DAS and S.K. CHAKRABARTI, Analytical solution of studying shocks around black hole, 2002, Proceedings of the National Space Science Symposium p. 386
- P91. A. NANDI and S.K. CHAKRABARTI, Ejection of inner accretion disk in black hole candidate GRS 1915+105: observations and analytical study, Proceedings of the National Space Science Symposium p. 387
- P92. S.K. CHAKRABARTI “Saturn’s Rings: How Thick are They?” Bulletin of Astronomical Society of India, 2002, v. 30, p. 563-572
- P93. S.K. CHAKRABARTI ‘25 Years with SS433’ in Exotic Stars as Challenges to Evolution, Ed. W. Vanhamme & C. Tout, (2002) p. 5-14 (ASP:San Francisco)
- P94. A. NANDI & S.K. CHAKRABARTI ‘Ejection of Inner Accretion Disk in Microquasars: Magnetized TCAF (MTCAF) Model’ in New Views on Microquasars, Eds. P. Dourouchaux, Y. Fuchs & J. Rodriguez, p. 120 (CSP:India)
- P95. S. DAS & S.K. CHAKRABARTI ‘Parameter Space for Accretion Flows Around Black Holes: Effects of Energy Dissipation’ in New Views on Microquasars, 2003, Eds. P. Dourouchaux, Y. Fuchs & J. Rodriguez p. 132 (CSP: India)
- P96. I. Chattopadhyay & S.K. CHAKRABARTI ‘Radiatively Driven Jets around Black Holes’ in New Views on Microquasars, 2003, Eds. P. Dourouchaux, Y. Fuchs & J. Rodriguez p. 126 (CSP:India)
- P97. S.K. CHAKRABARTI ‘Two Component Advective Flow Paradigm’ in New Views on Microquasars, 2003, Eds. P. Dourouchaux, Y. Fuchs & J. Rodriguez p. 101 (CSP:INDIA)
- P98. S.K. CHAKRABARTI & S. MANDAL ‘Spectral Properties of Two Temperature Advective Flows’ in New Views on Microquasars, Eds. P. Dourouchaux, Y. Fuchs & J. Rodriguez p. 117 (CSP:India)
- P99. A. NANDI & S.K. CHAKRABARTI ‘The Outflows and Jets in Microquasars: the

- TCAF Paradigm' in *New Views on Microquasars* Eds. P. Dourouchaux, Y. Fuchs & J. Rodriguez, p. 105 (CSP:India)
- P100. S. DAS & S.K. CHAKRABARTI, 2003, Behavior of Standing Shocks Around Black Holes and the Outflow Rates, in 'Recent Trends in Astro and Plasma Physics in India', S.K. Chakrabarti, S. Das, M. Khan and B. Basu (Eds.), p. 70, (CSP:India).
- P101. I. CHATTOPADHYAY, S. DAS, S. MANDAL & S.K. CHAKRABARTI, 2003, Behavior of Standing Shocks Around Black Holes and the Outflow Rates, in 'Recent Trends in Astro and Plasma Physics in India', S.K. Chakrabarti, S. Das, M. Khan and B. Basu (Eds.), p. 76, (CSP:India).
- P102. M.M. SAMANTA, D. RYU & S.K. CHAKRABARTI, 2003, Consequences of Radial Shock Oscillations in Two Dimensional Advective Flows in 'Recent Trends in Astro and Plasma Physics in India', S.K. Chakrabarti, S. Das, M. Khan and B. Basu (Eds.), p. 81, (CSP:India).
- P103. A. NANDI & S.K. CHAKRABARTI, 2003, GRS1915+105 A Galactic Black Hole Candidate in 'Recent Trends in Astro and Plasma Physics in India', S.K. Chakrabarti, S. Das, M. Khan and B. Basu (Eds.), p. 103, (CSP:India).
- P104. S. PAL & S.K. CHAKRABARTI, 2003, SS433 - A Puzzling Cosmic gun in 'Recent Trends in Astro and Plasma Physics in India', S.K. Chakrabarti, S. Das, M. Khan and B. Basu (Eds.), p. 108, (CSP:India).
- P105. K. ACHARYYA, S. CHAKRABARTI & S.K. CHAKRABARTI, 2003, Formation of Bio-Molecules During Star Formation, in 'Recent Trends in Astro and Plasma Physics in India', S.K. Chakrabarti, S. Das, M. Khan and B. Basu (Eds.), p. 259, (CSP:India).
- P106. K. ACHARYYA, S.K. CHAKRABARTI AND S. CHAKRABARTI, 2005, Formation of Simplest Bio-Molecules During Collapse of an Interstellar Cloud in *Proceedings of 'Life in the Universe'* Ed. J. Seckbach, Chela-Flores, J., Owen, T. and Raulin, F. (Eds.), Kluwer Publications 195-199.
- P107. S.K. CHAKRABARTI, S. CHAKRABARTI and K. ACHARYYA, 2005, Fate of Glycine During Collapse of Interstellar Clouds and Star Formation in *Proceedings of 'Life in the Universe'* Ed. J. Seckbach, Chela-Flores, J., Owen, T. and Raulin, F. (Eds.), Kluwer Publications, 191-194.
- P108. S.K. CHAKRABARTI, Role of Disk Models in Identifying Astrophysical Black Holes, 2006, in 'General Relativity and Gravitation', Eds. M. Novello & S.P. Bergliaffa, p. 559, World Scientific Co.: Singapore
- P109. S. MANDAL and S.K. CHAKRABARTI, Spectral Properties of a Two Component and Two Temperature Advective Flow, 2006, in 'General Relativity and Gravitation', Eds. M. Novello & S.P. Bergliaffa, World Scientific Co.: Singapore
- P110. S.K. CHAKRABARTI, K. ACHARYYA & D. MOLTENI, 2006, in 'General Relativity and Gravitation', Eds. M. Novello & S.P. Bergliaffa, p. 1375, World Scientific Co.: Singapore.
- P111. S.K. CHAKRABARTI, A. NANDI & A.R.RAO, 2006, Spectral Signatures of Winds from Accretion Disks Around Black Holes, in 'General Relativity and Gravita-

- tion', Eds. M. Novello & S.P. Bergliaffa, World Scientific Co.: Singapore
- P112. S.K. CHAKRABARTI, A. NANDI, S. PAL, B.G. ANANDARAO, S. MANDAL, 2004, Photometric Evidence of Bullets in SS433 Jets, in 'General Relativity and Gravitation', Eds. M. Novello & S.P. Bergliaffa, p. 1324, World Scientific Co.: Singapore
- P113. S. PAL & S.K. CHAKRABARTI, A GHz Flare in Quiescent Black Hole and A Determination of the Mass Accretion rate, 2005, Chinese Journal of Astronomy and Astrophysics, MNRAS, 361, 550
- P114. S. PAL & S.K. CHAKRABARTI, K. GOSWAMI, A. NANDI, B.G. ANANDARAO, S. MANDAL, 2005, Results of Recent Multiwavelength Campaign of SS433, Chinese Journal of Astronomy and Astrophysics, 361, 550
- P115. S. K. CHAKRABARTI, 2005, Numerical simulations reveal the origin of QPOs in black hole candidates, Chinese Journal of Astronomy and Astrophysics, 5, 27
- P116. S.K. CHAKRABARTI, 2005, Class Transitions in Black Holes, Chinese Journal of Astronomy and Astrophysics, 5, 33
- P117. Prasad Basu and Sandip K. Chakrabarti, 2005, Gravitational Wave Emission from Black Holes Surrounded by Massive disks, BASI, 33, 387
- P118. Ankan Das, Sandip K. Chakrabarti, Sonali Chakrabarti, and Kinsuk Acharyya, 2005, Monte-Carlo Simulation of Molecular Hydrogen Formation on Grain Surfaces, BASI, 33, 390
- P119. S. Samanta, S. Mondal, Sandip K. Chakrabarti, 2005, Pseudo-Kerr Geometry, BASI, 33, 386
- P120. Soumen Mondal, Sudeshna Samanta and Sandip K. Chakrabarti, 2005, Pseudo-Potential Approach for Astrophysical Fluid Dynamics Study, BASI,33, 386
- P121. K. Acharyya, S.K. Chakrabarti, S. Chakrabarti & A. Das, 2005, Formation of  $H_2$  and Complex Bio-Molecules in Collapsing Interstellar Cloud, Poster paper at IAU-231 Symposium at Asilomer (USA).
- P122. S. K. Chakrabarti, M. Saha, R. Khan, S. Mandal, K. Acharyya and R. Saha, 2005, Unusual Sunset Terminator behaviour of VLF signals at 17KHz during the Earthquake episode of Dec., 2004, Proc. URSI General Assembly of 2005 (New Delhi)
- P123. S. K. Chakrabarti, B.G. Ananda Rao, S. Pal, A. Nandi, R. Sagar, J.C. Pandey, A. Bhattacharyya, S. Mondal, S. Mandal, A. Pati, S.K. Saha, SS 433: Results of a Recent Multi-wavelength Campaign, Proc. URSI General Assembly of 2005 (New Delhi)
- P124. Z. Paragi, S.K. Chakrabarti, A. Nandi, K. Borkowski, P. Cassaro, T. Foley, G. Hrynek, A. Kraus, M. Lindquist, A. Orlati, and L. Xiang, 2007, Radio and X-ray monitoring of SS433, 2005, in Proceedings of "Triggering Relativistic Jets" Revista Mexicana de Astronomia y Astrofisica (CD version), 27, 222.
- P125. K. Acharyya, S.K. Chakrabarti, S. Chakrabarti, A. Das, Production of complex bio-molecules in collapsing interstellar cloud. in 'Astrochemistry Throughout the Universe: Recent Successes and Current Challenges' Proceedings of IAU Symposium no. 231, (Eds) Dariusz C. Lis, Geoffrey A. Blake & Eric Herbst, CUP (2005), p. 155
- P126. S.K. CHAKRABARTI, 2006, Spiral Shocks Oscillations and the QPOs with 3:2

- ratio, Proceedings of 6th Microquasars, Ed. T. Belloni, PoS(MQW6)105
- P127. S.K. CHAKRABARTI, A. NANDI, D. DEBNATH, R. SARKAR, B.G. DUTTA, 2006, Spectral and timing properties of GRO J1655-40 during March 2005 outburst, Proceedings of 6th Microquasars, Ed. T. Belloni, PoS(MQW6)103
- P128. S.K. CHAKRABARTI and S. MANDAL, 2006, Theoretical Studies of Timing and Spectral Properties of Quasars to Nano-quasars till a few MeV, Proceedings of Science, Ed. T. Belloni, PoS(MQW6)038
- P129. P. BASU, S. MONDAL, S.K. CHAKRABARTI, 2007, Gravitational wave emission from a stellar companion black hole in presence of an accretion disk around a Kerr black hole, Proc. Marcel Grossman Meeting, Ed. R. Ruffini et al. (World Scientific)
- P130. P. BASU, S.K. CHAKRABARTI, 2007, Gravitational wave damping from a self gravitating vibrating ring of matter around a black hole, Proc. Marcel Grossman Meeting, Ed. R. Ruffini et al. (World Scientific)
- P131. S. K. CHAKRABARTI, H. GHOSH and D. SOM, 2007, Astrophysical black holes – do they have boundary layers?, Proc. Marcel Grossman Meeting, Ed. R. Ruffini et al. (World Scientific)
- P132. S. K. Chakrabarti, D. Debnath, P.S. Pal, A. Nandi, R. Sarkar, M.M. Samanta, P.J. Wiita, H. Ghosh and D. Som, 2007, Quasi periodic oscillations due to axisymmetric and non-axisymmetric shock oscillations in black hole accretion, Proc. Marcel Grossman Meeting, Ed. R. Ruffini et al. (World Scientific).
- P133. Soumen Mondal and Sandip K. Chakrabarti, 2007, Pseudo-Kerr Geometry, Proc. Marcel Grossman Meeting, Ed. R. Ruffini et al. (World Scientific).
- P134. Soumen Mondal and Sandip K. Chakrabarti, 2007, Standing Shocks in Pseudo-Kerr Geometry, Proc. Marcel Grossman Meeting, Ed. R. Ruffini et al. (World Scientific).
- P135. Santabrata Das and Sandip K. Chakrabarti, 2007, Parameter space study of magnetohydrodynamic flows around magnetized compact objects, Proc. Marcel Grossman Meeting, Ed. R. Ruffini et al. (World Scientific).
- P136. Santabrata Das and Sandip K. Chakrabarti, 2007, Properties of accretion shock waves in viscous flows with cooling effects, Proc. Marcel Grossman Meeting, Ed. R. Ruffini et al. (World Scientific).
- P137. Samir Mandal and Sandip K. Chakrabarti, 2007, Spectral and timing properties of magnetized advective flows with standing shocks, Proc. Marcel Grossman Meeting, Ed. R. Ruffini et al. (World Scientific).
- P138. Ankan Das, Sandip K. Chakrabarti, Kinsuk Acharyya and Sonali Chakrabarti, 2006, Average recombination time of atomic hydrogen on grain surfaces: A Monte Carlo study, COSPAR, 36, 623 (2006).
- P139. Monte-Carlo simulation of Production of Hydrogen Molecule on Grain Surfaces, Sandip K. Chakrabarti, Kinsuk Acharyya, Sonali Chakrabarti and Ankan Das, 2006, In Book of Abstract: *Complex molecules in space and the Present status and prospects with ALMA*, p.57
- P140. Time dependent chemical evolution of molecular clouds, 2006, by Ankan Das,

- Sandip K. Chakrabarti, Kinsuk Acharyya, Sonali Chakrabarti, In Book of Abstract: *Complex molecules in space and the Present status and prospects with ALMA*, p.59
- P141. Methanol Formation: A Monte Carlo Study, 2008, Ankan Das, Kinsuk Acharyya, Sonali Chakrabarti, Sandip K. Chakrabarti, *Proceedings of the International Astronomical Union (2008)*,4, 121 (CUP:Cambridge)
- P142. Formation of Water and Methanol in Star Forming Molecular Clouds, Sonali Chakrabarti, Ankan Das, Kinsuk Acharyya and Sandip K. Chakrabarti, 2008, *Origin of Life and Evolution of Biosphere*, (in press).
- P143. Chakrabarti, S.K., Mondal, S.K., Sasmal, S. and Bhowmick, D. 2009, GCN, 8900, Detailed lightcurves of ICSP VLF observation of SGR/AXP 1E1547.0-5408.
- P144. Chakrabarti, S.K., Mondal, S.K., Sasmal, S. and Bhowmick, D. 2009, GCN, 8881, ICSP VLF observation of the signatures of SGR/AXP 1E1547.0-5408 bursts.
- P145. Chakrabarti, S. K., Bhoumik, D., Debnath, D., Sarkar, R., Nandi, A., Yadav, V., Rao, A. R. CSPOB-Continuous Spectrophotometry of Black Holes, 2008, AIP conference proceedings, 1053, 409
- P146. Bhoumik, Debashis, Mondal, Shyamal, Chakrabarti, S. K., 2008, Developments of Si-PIN detectors for Continuous Spectro-photometry of Black Holes (CSPOB), 2008, AIP conference proceedings, 1053, 403
- P147. Palit, S., Chakrabarti, S. K., Debnath, D., Yadav, Vipin, Nandi, Anuj, 2008, Fresnel zone plates for Achromatic Imaging Survey of X-ray sources, AIP conference proceedings, 1053, 391
- P148. Ghosh, Himadri, Chakrabarti, S. K., Laurent, Philippe, 2008 Inverse Comptonization in a Two Component Advective Flow: Results of a Monte Carlo simulation, AIP conference proceedings, 1053, 373
- P149. Das, Santabrata, Chakrabarti, Sandip K., 2008, Standing accretion shock waves around rotating black holes in presence of cooling AIP conference proceedings, 1053, 365
- P150. Chakrabarti, S. K., Black Hole Accretion: From Quasars to Nano-Quasars, 2008, AIP conference proceedings, 1053, 325
- P151. Sarkar, R., Chakrabarti, S. K., Nandi, A., 2008, X-ray Observation of SWIFT J1753.5-0127 with RXTE & XMM-Newton, AIP conference proceedings, 1053, 215
- P152. Pal, Partha Sarathi, Nandi, Anuj, Chakrabarti, Sandip K., 2008, Dynamical Nano Quasar GRS 1915+105, AIP conference proceedings, 1053, 209
- P153 Debnath, D., Nandi, A., Pal, P. S., Chakrabarti, S. K., 2008, QPO Evolution in 2005 Outburst of the Galactic Nano Quasar GRO J1655-40, AIP conference proceedings, 1053, 171
- P154. Dutta, Broja G., Chakrabarti, Sandip K., Pal, Partha S., 2008, Evolution of QPOs in XTE J1550-564 in 1998 outburst: a Case of Quasi Outburst? AIP conference proceedings, 1053, 165
- P155. Choudhury, A. K.; Chatterjee, A. K.; Bari, W.; Chakrabarti, S. K., 2008, Live Coverage of Class Transitions in the Nano Quasar GRS 1915+105, AIP conference proceedings, 1053, 161

- P156. Basu, Prasad, Chakrabarti, Sandip K., 2008, Gravitational wave emission from a companion black hole in presence of an accretion disk around a super-massive Kerr black hole, AIP conference proceedings, 1053, 33.
- P157. S.K. Chakrabarti, 2009, Generalized Accretion Flow Configuration: Rationale and Observational Evidences, (Eds.) S.K. Chakrabarti, G.S. Bisnovaty-Kogan & A.I. Zhuk
- P158. S.K. CHAKRABARTI, S. PALIT, A. NANDI, V. K. YADAV, D. DEBNATH, 2009, Fresnel Zone Plate Telescopes as high resolution imaging devices, in Proceedings of International conference on Space Science and Technology, Thessaloniki, Greece, Eds. G. Lampropoulos and M. Petrou. P159. V.K. YADAV, S.K. CHAKRABARTI, A. NANDI, S. PALIT, 2009, X-ray experiments for Space applications in intermediate energy range in Proceedings of International conference on Space Science and Technology, Thessaloniki, Greece, Eds. G. Lampropoulos and M. Petrou.
- P160. A. NANDI, A.R. RAO, S.K. CHAKRABARTI, J.P. MALKAR, S. SREEKUMAR, D. DEBNATH, M.K.HINGAR, T. KOTOCH, Y. KOTOV, A. ARKHANGELSKIY, 2009, Indian Payloads (RT-2 Experiment) Onboard CORONAS-PHOTON Mission, in Proceedings of International conference on Space Science and Technology, Thessaloniki, Greece, Eds. G. Lampropoulos and M. Petrou.
- P161 S.K. Chakrabarti, 2010, Black Hole Astrophysics in 'The Sun, Stars, The Universe and General Relativity', proceedings in Memory of Y. Zeldovich, held in Minsk (April 2009), p. 41-50, Ed. R. Ruffini and G. Vereschagin
- P162 S.K. Chakrabarti and S. Chakrabarti, 2010, Evolution of Pre-biotic molecules during star formation in 'The Sun, Stars, The Universe and General Relativity', proceedings in Memory of Y. Zeldovich, held in Minsk (April 2009), , p. 51-58, Ed. R. Ruffini and G. Vereschagin
- P163 S.K. Chakrabarti Fundamental Concepts in Transonic Flow Paradigm of Black Hole Astrophysics, 2010, Proceedings of 1st Galileo-Xu-Guangqi conference in Shanghai, Oct. 2009 (in press)
- P164 S.K. Chakrabarti, A.R. Rao, V.K. Agrawal, Anuj Nandi, D. Debnath, T.B. Kotoch, S. Sreekumar, Y. Kotov, A.S. Buslov, 2010, RT-2 Observations of gamma-ray bursts, 38th COSPAR Scientific Assembly.
- P165 S.K. Chakrabarti, A.R. RAO, V.K. AGRAWAL A. NANDI, D. DEBNATH, T.B. KOTOCH, S. SREEKUMAR, Y. KOTOV, A. ARKHANGELSKY, A.S. BUSLOV, E.M. ORESHNIKOV, V. YUROV, V. TYSHKEVICH, P.K. MANOHARAN, S. SHAHEDA BEGUM, 2010, RT-2 Observations of solar flares 38th COSPAR Scientific Assembly.
- P166 Chakrabarti Sandip K., Sasmal S., Pal S., Mondal S. K. Results of VLF campaigns in Summer, Winter and during Solar Eclipse in Indian Subcontinent and Beyond AIP Conf. Proc. 1286, 61 (2010)
- P167 Pal Sujay, Chakrabarti S. K. Theoretical models for Computing VLF wave amplitude and phase and their applications AIP Conf. Proc. 1286, 42 (2010)
- P168 Bhowmick D., Chakrabarti S. K., Sasmal S., Mondal S. K. Studies of VLF Signals

- using Balloon Borne and Undersea Antennas AIP Conf. Proc. 1286, 345 (2010)
- P169 Kotoch T. B., Chakrabarti Sandip K., Nandi A., Debnath D., Mondal S. K. GammaRay Bursts from RT2 payloads and VLF signals AIP Conf. Proc. 1286, 339 (2010)
- P170 Mondal S. K., Chakrabarti S. K. Earths Ionosphere as a Gigantic Detector of Extraterrestrial Energetic Phenomena: A Review AIP Conf. Proc. 1286, 311 (2010)
- P171 Ray Suman, Chakrabarti S. K., Sasmal S., Choudhury A. K. Correlations between the Anomalous Behaviour of the Ionosphere and the Seismic Events for VTXMALDA VLF Propagation AIP Conf. Proc. 1286, 298 (2010)
- P172 Sasmal S., Chakrabarti S. K., Chakrabarti S. Studies of the Correlation Between Ionospheric Anomalies and Seismic Activities in the Indian Subcontinent AIP Conf. Proc. 1286, 270 (2010)
- P173 Maji Surya K., Chakrabarti Sandip K., Mondal Sushanta K. Partial Effects on VLF Data due to a Solar Flare During 2010 Annular Solar Eclipse AIP Conf. Proc. 1286, 214 (2010)
- P174 Nandi Anuj, Chakrabarti Sandip K., Debnath Dipak, Kotoch Tilak B., Rao A. R., Mondal S. K., Maji S., Sasmal S. Simultaneous observation of Solar Events by Indian Payload (RT2) and ICSPVLF receiver, AIP Conf. Proc. 1286, 200 (2010)
- P175 Basak Tamal, Chakrabarti S. K., Pal S. Global effects on Ionospheric Weather over the Indian subcontinent at Sunrise and Sunset AIP Conf. Proc. 1286, 137 (2010)
- P176 S. Pal, T. Basak and S. K. Chakrabarti, "Results of computing amplitude and phase of the VLF wave using wave hop theory", ADGEO, Vol-27, Solar Terrestrial, 2011.

### (C) Books

- B1. S.K. CHAKRABARTI: **Theory of Transonic Astrophysical Flows:** World Scientific Publishing Co., Singapore (1990).
- B2. S.K. CHAKRABARTI: **Observational Evidence for Black Holes in the Universe** , Edited Volume (Kluwar Academic Publishing Co.), (1998)
- B3. S.K. CHAKRABARTI (Editor) Proceedings of 'Young Scientists of Today's India' Indian Journal of Physics, 73B(6), 1999
- B4. S.K. CHAKRABARTI (Guest Editor) 'Frontiers in Astrophysics (Vol-II)' a Celebratory volume to commemorate 125th anniversary of Indian Association for the Cultivation of Science and 75th year of the Indian Journal of Physics (Allied Publishers) (2002)
- B5. S.K. Chakrabarti, S. Das, B. Basu and M. Khan (Eds.) 'Recent Trends in Astro and Plasma Physics in India', 2003, (CSP: Kolkata)
- B6. S.K. CHAKRABARTI: 'Compact Stars' for IGNOU Astronomy Course
- B7. S.K. CHAKRABARTI: 'Active Galaxies' and 'Milky Way' for IGNOU Astronomy Course
- B8. S.K. CHAKRABARTI and S. DAS: **Theory of Advective Astrophysical Flows:** (in preparation).

- B9. S.K. CHAKRABARTI and A.S. MAJUMDAR: **Observational Evidence for Black Holes in the Universe** , AIP Publication No. 1053 (NY), (2008)
- B10. S.K. CHAKRABARTI, G.S. Bisnovaty-Kogan, A.I. Zhuk,:**Astrophysics and Cosmology After Gamow**, AIP Publication No. 1206 (NY), (2009)
- B11. S.K. Chakrabarti: **Propagation Effects of Very Low Frequency Waves**, AIP Publication (NY), No. 1286 (2010)

(D) Popular Science

- PS1. S.K. CHAKRABARTI: 'Introduction of Astronomy and Astrophysics in the University Syllabus', 1997, Physics Teachers, v. 39, p.25
- PS2. S.K. CHAKRABARTI: 'My encounter with Chandra', In Bulletin of the Calcutta Mathematical Society, Vol. 20, No. 10 (1997)
- PS3. S.K. CHAKRABARTI: 'Mahabiaswe-o-Aami' in the Bulletin of the Indian Centre for Space Physics 'Mahaviswa O Aami' (June 2000)
- PS4. S.K. CHAKRABARTI: Editor of the Bulletin of the Indian Centre for Space Physics 'Mahaviswa-O-Aami' (Nov. 2000)

## (E) Book Reviews

BR1. Edwin Hubble-Mariner of the Nebulae by Gale E. Christianson, in Ind. J. Phys. V. 79(12), p. 1427, 2005

BR2. Space Plasma Physics by A.C. Das, in Ind. J. Phys. v. 78(12), 1405, 2004

BR3. The Universe in Gamma Rays by Volker Schonfelder in Ind. J. Phys v. 77B(4), 473, 2003

BR4. Interplanetary Dust by E. Gruen et al. in Ind. J. Phys., v. 77B(5), 583, 2003

## (F) News Media

N1. ‘MahaViswe Black Hole’er Osthitwa kee Kolkatatey Nirupito Hobe?’ in Aajkal (26th of November, 1997), A Bengali Daily Newspaper.

N2. ‘Mysterious Black Holes’ in The Statesman (22nd of Dec. 1997), An English Newspaper.

N3. Participated at the Discussion of ‘Year-2000 problem’ broadcast (AIR) on the 22nd of December, 1997, in Yubabani.

N4. *All India Radio* broadcast a six minutes programme based on the Interview with Prof. P. J. Wiita, Prof. H.M. Lee and Prof. S.K. Chakrabarti (2nd January, 1998)

N5. *All India Radio* broadcast of a 15 minutes discussion on black holes based on the Interview with Prof. S.K. Chakrabarti and Prof. C.K. Majumdar (15th January, 1998).

N6: ‘A night too soon’ a ten minutes interview broadcast in Doordarshan (Aug. 1999).

N7. Script Writer of a 12 minutes Television Programme on ‘Mysterious Black Holes’ produced by Educational Media Research Center (Calcutta). Broadcasting was done several times in Doordarshan Channel (in 2001).

N8-N9: Television broadcast of interviews at Space Science Symposia (Nov. 2000) and National Conference on Black Hole Astrophysics (March 2001)

N10-N11. Letters to the Editor in *Telegraph* and *Ananda Bazar Patrika* on Black Holes and Gamma Ray Bursts respectively.

N12-N13: Discussed my work in special section ‘Faces of Bengal’ by Anandabazar Patrika and ‘Carrier Guide’ in Sananda magazine.

N14-N25 ‘Black Holes Food Habits’ A discussion on my work with comments from experts throughout the world: in ‘The Telegraph’ Newspaper (Feb. 2002).

Numerous reports on my work in Scientific American (1989), Science (1994, 1998), Discovery (1994), Nature (News and Views, 1994), New Scientist (2000), Anandamela (Feb 2000), Science Reporter (March 2000), Down to Earth (2005-2007), etc. and in various News Papers (1997-2005; too many to cite). Live expert comments on Space Shuttle Atlantis landing (for 2.30hours) in TV channel ‘24 Ghanta’ (24 hours) and Video conferencing of Astronaut Ms. Sunita Willams at United States Information Service. Expert

comments for several All India Radio programmes. Several articles on Chandrayaan-I mission came in Telegraph newspaper (Oct. 2008). Interviewed for four hours in '24 Ghanta' channel and 'Times now' channel.

### **Current Ph.D. Students**

1. S. Sasmal, SRF (submitting: March 2012)
2. H. Ghosh, SRF (Submitting: March 2012)
3. P. S. Pal, SRF (Submitting: March 2012)
4. C. B. Singh, SRF (Submitting: March, 2012)
4. K. Giri, SRF
5. S. Garain, SRF
6. T. Basak, SRF
7. S. Pal, SRF
8. V. U.J. Nwankwo, JRF
9. S. Mondal, JRF
10. L. Majumdar, JRF

### **Summer students supervised**

1. Nimisha Kantharia (Gujrat University) on 'Transonic Accretion Flows in presence of self-gravitating disk'
2. P. Sandhu (Delhi University) on 'Trajectories of photons in curves space time'
3. S. Sahu (Hyderabad. Univ.) on 'Bondi flow on Black Holes and neutron stars'
4. Samik Dasgupta (Pune University) on 'Solution of Navier Stokes' Equation away from equatorial plane'
5. Debashis Das (Biswabharati University) on 'Dark Matter of the Universe'
6. Sabyasachi Pal (Calcutta Univ.) 'Two temperature Solution of Spherical Accretion Flow'
7. Kinshuk Acharya (Calcutta Univ.) 'Wind Induced Instability of Accretion Flows'
8. W. M. Chenglei (Delhi Univ.) 'The Study of Gravitational Waves'
9. D. Mankane (Mumbai University) Spectra from Keplerian Disks
10. P. Agrawal (North Bengal University) Production of jets.
11. A. Saha (Post B.Sc. Integrated Ph.D. at SNBNCBS).
12. A. Pal (Post B.Sc. Integrated Ph.D. at SNBNCBS).
13. Partha S. Pal (IIT/Madras).
14. Bhupendra Mishra (IIT/Gauhati)

## Lectures/Posters and Other activities:

MAR. 1978: Talk on ‘Modification of  $\beta$ -decay theory’ at Indian Association for the College Going Scientists conference at the St. Xavier’s College, Calcutta.

FEB. 1980: Participated in experiments during a total solar eclipse (February 16th. 1980, in southern India) conducted by an 18 member research team from Indian Institute of Technology, Kanpur.

FEB. 1981: Attended the XIIth National Conference on Structure of Matter held at the Osmania University (AP). The talk was given by Professor K.N.S. Rao. The paper was on “A Perspective Study of Crystal Structure of Gernets” by Prof. K.N.S. Rao, S.K. Chakrabarti and Prof. D.C. Khan.

FEB. 1984: Talk presented on “Theory of Fat Disks around a Black Hole and the Numerical Simulation” at the Astrophysics Department Seminar of the University of Chicago.

APR. 1984: Talk presented on “Some Exactly Solvable Models of Thick Disks and Radio Jets Near Black Holes” at the International Conference on Active Galactic Nuclei held at the University of Manchester, UK.

OCT. 1984: Talk presented on “Analytic Theory of Thick Disk and Radio Jets Near Black Hole” at the relativity seminar of the University of Chicago.

DEC. 1984: Poster paper presented on “Understanding Jet Formation” at the 12th Texas Symposium on Relativistic Astrophysics, Jerusalem.

JUN. 1985: Talk presented on “Rotating Winds and Acceleration of Jets” at the Conference “Jets from Stars and Galaxies”, Toronto.

OCT. 1985: Relativity seminar on “More on Thick Disks and Jets” at Caltech.

JAN. 1986: Thesis Talk presented on “On the Physics of Thick Disks and Inner Jets” at the 167th Meeting of the American Astronomical Society, Houston, Texas.

MAR. 1986: Talk presented on “Renormalization Group Approach to Sunspot Statistics” at the Astrophysics Dept. of the University of Chicago.

MAR. 1986: Invited talk presented on “Nucleosynthesis in the Neighborhood of a Black Hole” at the XXIst Moriond Meeting on “Accretion on the Compact Objects”, Les Arcs, France.

APR. 1986: Journal club talks ‘On Colliding Plane Gravitational Waves’, ‘Summary of VIth Moriond Conference on ”Accretion onto compact Objects” ’ and ”The Magnetic fields in Cygnus A” at Caltech.

JUL. 1986: Talk presented on “Theory of Rotating Winds and the Acceleration of the Radio Jets in SS433 and Cyg X3” at the GR11 meeting at Stockholm.

AUG. 1986: Poster paper presented on “Renormalization group approach to Sunspot Statistics” at the Workshop on Solar Cycle at the Big Bear Solar Observatory.

OCT. 1986: Talk presented on “Consequences of Nucleosynthesis in a thick disk around Supermassive Hole” at the Third George Mason Fall workshop on Supermassive Black-holes: at George Mason Univ.

DEC. 1986: Talk presented on “Nucleosynthesis in the Disk around SS433 and obser-

vation of Fe line by EXOSAT” at the SS433 meeting at the Washington University, St. Louis.

DEC. 1986: Talk presented on “Nucleosynthesis in the Thick Disks around Black Holes” at the 13th Texas symposium at Chicago.

JAN. 1987: Talk presented on “Nucleosynthesis Around Black Holes” at the 169th AAS meeting at Pasadena.

JAN. 1987: Talk presented on “Nature of the Working Surface of a Radio jet: The Predictions and Verification with Existing Numerical Results” at the Active Galactic Nuclei Meeting at Santa Barbara.

JUL. 1987: Talks presented on “Thick Accretion Disks” at Tata Institute of Fundamental Research and the Raman Research Institute.

DEC. 1987: Talks on “Nucleosynthesis in disk around SS433” and “Fluid dynamics at the working surface of a Supersonic jet” were presented at Torino Observatory.

DEC. 1987: Talks on “Nucleosynthesis in Thick disks” and “Spacetime with self-gravitating Thick disks” were presented at the International School of Advanced Studies (SISSA).

MAR. 1988: Contributed talk on “Element Productions in Thick Accretion Disks” at the 20th Yamada Conference in Tokyo (28th March-2nd April).

MAY 1988: Talk presented on “Standing Shocks in Black Hole Accretion” at the University of Crete, Greece.

MAY 1988: Talk presented on “Status of Nucleosynthesis Works in Thick Accretion Disks” at the Osservatorio Astronomico, Rome.

JUN. 1988 Journal club talk on ‘Binary black hole OJ-287’ at ICTP, Trieste.

JUL. 1988: Talk presented on “Status of Nucleosynthesis Works in Thick Accretion Disks” at the *High Energy Astrophysics and Cosmology* workshop, at ICTP, Trieste.

JUL. 1988: Talk presented on “Standing Shocks in Black Hole Accretion” at SISSA, Trieste.

SEP. 1988: Talk presented on “Standing Shocks in Rotating Winds and Accretions” at the Max Plank Institute, Munich.

NOV. 1988: Talk on “Standing Shocks in Model Astrophysical Flows” at Tata Inst. of Fundamental Research.

JAN. 1989: Talk on “Bending Waves of Saturn’s Rings” at Tata Inst. of Fundamental Research.

MAR-APR. 1989: Seven lectures on “Transonic astrophysical flows” at Tata Institute of Fundamental Research.

JUN. 1989: Invited talk on “Transonic Astrophysical Flows” at the 13th meeting of the Astronomical Society of India at Srinagar.

JUL. 1989: Two posters on “Classical forces in Kerr geometry” and “Studying Shocks in the hybrid model flows in Accretion and Winds around the black holes” presented at the 12th international conference on the general relativity and gravitation, Boulder, Colorado.

JUL. 1989: Astrophysics Seminar on “Transonic Astrophysical Flows” at the Center for

Astrophysics, Harvard University.

AUG. 1989: Talk on “General Relativistic Transonic Flows” at the Saha Institute of Nuclear Physics, Calcutta, in the Indian Physical Society Meeting.

NOV. 1989: Invited Talk on “Role of Angular momentum in Relativistic Astrophysics” at the General Relativity and Gravitation (IAGRG) meeting (North Bengal University).

MAR. 1990: Journal club talk on ‘Self-consistent shocks in Radiation Dominated Flows’ at TIFR.

JUN. 1990: Poster on “Properties of Spiral Shocks” in the IAU 144 meeting on ‘Disk-Halo Interaction’ held in Lieden observatory (June 18th-22nd), Holland.

JUN. 1990: Colloquium on “Transonic Astrophysical flows” in the University of Amsterdam.

JUL. 1990: Posters on (a) Transonic Isothermal Flows, (b) High and Low states in Self-similar Spiral Flows, (c) Standing MHD shocks in Accretion and Wind, (d) Solving Time Dependent Problems—the brute force approach, in IAU129/IAP 6 meeting on ‘Structure and emission properties of accretion disks’ (Paris: 1-6th July)

AUG. 1990: ‘Summary of IAU129/IAP Meeting in Paris’ at TIFR.

SEPT. 1990: Physics colloquium “Astrophysical Flows Around Black Holes” at Tata Inst. of Fundamental Research.

DEC. 1990: Posters on ‘Production of Primordial Magnetic Field in Giant Ion Tori’ and ‘On the origin of Optical Micro-variability and X-Ray Flickering’ at the 15th Texas Symposium/CERN/ESO conference at Brighton, Sussex.

FEB. 1991: Physics Colloquium on “ Transonic Flows Around Black Holes” at the University of Padova.

FEB. 1991: Astrophysics Seminar on “Transonic Astrophysical Flows” at SISSA, Trieste.

APR. 1991: Astronomy and Astrophysics Seminar on “Production of Primordial Magnetic field in Protogalactic Torus” at the Tata Inst. of Fund. Res.

JUN. 1991: Contributed talk on “Production of Primordial Magnetic Field in the Universe by Thermal Battery Effect” at the 6th Marcel Grossman Meeting held in Kyoto.

JUN. 1991: Poster papers on ‘von Zeipel Surfaces’ and ‘Forces on a Charged Particle orbiting around a Kerr-Newman Black hole’ at the 6th Marcel Grossman Meeting held in Kyoto.

JUL. 1991: Astrophysics Seminar on “Production of Primordial Magnetic Fields in Protogalactic Tori” at the Astrophysics Dept., Kyoto University.

JUL. 1991: Special Colloquium on “ Astrophysical Flows Around Black Holes” at the Aeronautical Engineering Dept., Kyoto University.

APR, 1992: Astrophysics seminar on ‘Shocks in Accretion Flows and AGN spectra’ at Institute of Astronomy, Cambridge.

APR, 1992: Physics Colloquium on ‘Shocks in Accretion Flows’ at the Georgia State University.

APR, 1992: Poster on ‘Planetesimals around nearby Millisecond Pulsars’: at the ‘Plan-

ets around Pulsars' held at California Inst. of Technology.

MAY, 1992: Astrophysics Seminar on 'N-body simulation of the Evolution of Oort cloud' at Jet Propulsion Laboratory, Caltech.

MAY, 1992: Astrophysics seminar on 'Stationary and Non-stationary Shocks in Accretion flows' at Univ. of California and Los Angeles.

MAY, 1992: Astrophysics seminar on 'Comet clouds around the Sun and the pulsars' at SISSA, Trieste.

JUN, 1992: Special High Energy Physics Seminar on 'Origin of Primordial Magnetic Field in the Universe — A classical Dynamical Approach' at ICTP, Trieste.

JUN 1992: Astrophysics Seminar on 'Shocks in Higher Dimensional Flows' at University of Catania, Sicily.

JUN 1992: Astrophysics Seminar on 'Shocks in Accretion Flows' at the University of Milano.

JUN 1992: Presented talk on 'Effects of Shocks on AGN Spectrum' at the 13th International Conference on General Relativity and Gravitation held in Cordoba, Argentina.

JUN 1992: Poster papers on 'Production of primordial magnetic field in the universe', 'Binary black holes in stationary orbits' and 'Reversal of forces on an orbiting particle around a black hole' at the 13th International Conference on General Relativity and Gravitation held in Cordoba, Argentina.

JUL 1992: Presented a talk on 'Production of Primordial Magnetic field in the Universe— A Classical Dynamical Approach' at the mini conference 'Cosmologia' at Institute of Astrophysics and Space Science, Buenos Aires.

JUL 1992: Astrophysics Seminar on 'Periodic X-ray Flares of NGC-6814— A case of gravitational lensing?' at TIFR, Bombay.

AUG 1992: Informal discussion on 'Naked Singularities as Possible Candidates for Gamma-ray Bursters' at TIFR, Bombay.

OCT. 1992: Invited talk on 'Astrophysics Around Black Holes', in the workshop on 'Space Astronomy' at TIFR, Bombay.

NOV. 1992: 'Galactic Center' a popular talk at the Amateur Astronomical Society meeting at St. Xaviers College, Bombay.

NOV. 1992: 'Astrophysics Around Black Holes', at the University Science College, Calcutta University.

NOV.-DEC. 1992: A series of six lectures on 'Accretion Disks and Jets' at DST-SERC school on Active Galaxies at IUCAA, Pune

DEC. 1992: 'Mysterious Black holes' a popular talk at the Physical Society meeting of Jai Hind College, Bombay.

DEC. 1992: 'Real Centrifugal Force around Black Holes' — physics colloquium at TIFR.

DEC. 1992: Poster on 'Binary Black Holes in Stationary Orbits' presented (in absentia) at the TEXAS/PASCOS Meeting, Berkeley.

JAN. 1993: Poster on 'Binary Black Holes in Stationary Orbits' presented (in absentia) at the American Astronomical Society meeting at Phoenix, Arizona.

MAR. 1993: ‘Discontinuous’ Flows around black holes: at Saha Institute of Nuclear Physics, Calcutta.

MAR. 1993: ‘Mysterious Black holes’ a popular talk at the R.K.M.R. College, Narendrapur, Calcutta.

APR. 1993: ‘Discontinuous Flows Around Black Holes’ at the University of Palermo, Italy.

APR. 1993: Astrophysics Seminar on ‘Discontinuous Flows Around Black Holes’ at the Goddard Space Flight Center, USA.

APR. 1993: Astrophysics Seminar on ‘Shock Formation in Accretion Disks Around Black Holes’ at the Space Telescope Science Institute, USA

MAY 1993: Contributed talk on ‘Mathematical Properties of Standing Shocks in Accretion Flows Around Black Holes’ at the 3rd Midwest Geometry conference, University of Missouri.

MAY 1993: Colloquium on ‘Astrophysical Flows Around Black Holes’, at the University of North Texas, Denton.

MAY 1993: Colloquium on ‘Discontinuous Flows Around Black Holes’, at the University of Texas at Austin.

MAY 1993: Astrophysics seminar on ‘Transonic Flows Around Black Holes’ at the Rice University, Houston.

MAY 1993: Contributed talk at ‘How to Keep Two Black Holes in Stationary Orbits’ at the 5th Canadian Conference on the Relativistic Astrophysics at the University of Waterloo.

MAY 1993: Astrophysics Colloquium on ‘Discontinuous Flows Around Black Holes’ at the Ohio State University.

JUN 1993: Physics Colloquium on ‘Two Topics in Astrophysics Around Black Holes’ at the Georgia State University at Atlanta.

JUN 1993: Astrophysics Seminar on ‘A Few Interesting Topics in Astrophysics Around Black Holes’ at the Aspen Workshop on ‘Gravitational Problems in Relativistic Astrophysics.

JUN 1993: Astrophysics seminar on ‘Discontinuous Flows Around Black Holes’ at the High Altitude Observatory, Boulder, Colorado.

JUL 1993: Astrophysics seminar on ‘Transonic Flows Around Black Holes’ at the University of Chicago.

JUL 1993: Invited Review talk on ‘Accretion Disks in Astrophysics’ at the UNAM-CRAY International conference on Numerical Astrophysics (July 25th - Aug. 30th) in Mexico City.

JUL 1993: Posters on ‘N-Body Simulation of the Oort cloud’, ‘Dynamics of Particles in the Planetary Rings’ and the ‘Numerical Simulation of the co-planer Star-disk interactions’ at the UNAM-CRAY International conference on Numerical Astrophysics (July 25th - Aug. 30th) in Mexico City.

AUG 1993: Poster paper on ‘Disk Models with Stationary and Non-stationary shock

waves' at the IAU symposium (No. 159) at the Geneva Observatory.

NOV. 1993: Invited talk on 'Astrophysics Around Black Holes', in the workshop on 'Space Astronomy' at TIFR, Bombay.

FEB. 1994: Astronomy Seminar on 'Model of variable double peaked emission from AGN' and 'Origin of galactic magnetic field' at TIFR, Bombay.

JUN 1994: SFB Seminar of 'Discontinuous Flows around a Black Hole' and astronomy seminar on 'Assorted Problems in Astrophysics' at the Landessternwarte, Konigstuhl, Heidelberg.

JUL 1994: Seminar on 'Determination of the Mass of the Black Hole in M87 from the Recent HST observations' at European Southern Observatory, Garching

JUL 1994: Astrophysics seminar on 'Shocks in Accretion disks and the Observable Consequences' at the Max-Planck-Institute für Astrophysik, at Garching b. München.

AUG 1994: 'How Massive is the Black Hole in M87?' a contributed talk at the IAU general assembly in den Haag, Nederlands.

DEC. 1994: 'Model of Temporal and Spatial Line Emission Profiles in AGNs' at GSFC/NASA.

DEC. 1994: 'Are AGN Disks Really Keplerian?' an invited talk at the 17th Texas Symposium in Munich.

JAN. 1995: 'How Massive is the Black Hole in M87?' a poster paper presented at the 185th AAS meeting

FEB. 1995: 'Astrophysics Around Black Holes' a popular talk at the Univ. of Puerto Rico, Humacao

FEB. 1995: 'On Grand Unification of Accretion Disk Models' at the Arecibo Observatory, Arecibo, Puerto Rico.

JUN. 1995: 'Grand Unified Description of Accretion Disks' at the Space Telescope Science Institute.

JUN. 1995: 'Spectral Properties of Accretion Disks around Galactic and Extragalactic Black Holes' at the Goddard Space Flight Center.

SEP. 1995: 'Spectral Properties of Accretion Disks around Galactic and Extragalactic Black Holes' at the Marshall Space Flight Center.

SEP. 1995: 'Spectral Properties of Accretion Disks around Galactic and Extragalactic Black Holes' at University of Kentucky

SEP. 1995: 'Observational Evidence of sub-Keplerian Accretion Disks: from Gravity Waves to Gamma Rays' at University of Maryland.

OCT. 1995: 'Spectral Properties of Accretion Disks around Galactic and Extragalactic Black Holes' at California Institute of Technology

OCT. 1995: 'Spectral Properties of Accretion Disks around Galactic and Extragalactic Black Holes' at Jet Propulsion Laboratory

OCT. 1995: 'Spectral Properties of Accretion Disks around Galactic and Extragalactic Black Holes' at Univ. California at Los Angeles

OCT. 1995: 'Spectral Properties of Accretion Disks around Galactic and Extragalactic Black Holes' at Princeton University Observatory

OCT. 1995: ‘Spectral Properties of Accretion Disks around Galactic and Extragalactic Black Holes’ at Columbia University

OCT. 1995: ‘Spectral Properties of Accretion Disks around Galactic and Extragalactic Black Holes’ at Harvard University

FEB. 1996: ‘Aspects of Black Hole Accretion Flows’ at the 18th conference of the Indian Association of General Relativity and Gravitation, Madras.

MAR. 1996: ‘Accretion Flows Around Black Holes’ at the Theory Physics Seminar at Tata Institute of Fundamental Research.

JUL. 1996: ‘Numerical Studies of Accretion and Winds Around Black Holes’ and ‘Peculiarities of General Relativistic Advective Flows Around Black Holes and Neutron Stars’ at the Monash University, Australia.

JUL. 1996: ‘Consequences of non-Keplerian Accretion Disks Around a Black Hole: From Gamma rays to Gravity Waves’ at the University of Melbourne, and Sydney University, Australia.

JUL. 1996: ‘Grand Unification of Accretion Disk Models Around Black Holes and Neutron Stars’ at the Australian National Telescope Facility, Sydney, and Australian National University, Canberra.

JUL. 1996: ‘Unification of Accretion Disk Models and the formation of Jets’ an invited review talk at the IAU163 meeting on ‘Accretion Phenomena and Related Outflow’, Port Douglas, Australia.

JUL. 1996: Poster paper presented on ‘Numerical Simulation of Advective Disks Around Compact Objects’ at the IAU163 meeting on ‘Accretion Flows and Related Phenomena’, Port Douglas, Australia.

AUG. 1996: ‘Accretion Flows on Black Holes’ an invited review talk at the International Colloquium on ‘Perspective in High Energy Astrophysics’, TIFR, Mumbai.

AUG. 1996: ‘Spectral Properties of Galactic and Extragalactic Black Hole Candidates’ an invited review talk at the IAU Asia-Pacific Regional meeting at Pusan National University, Korea

AUG. 1996: ‘Summary of Posters on AGNS, High Energy Astrophysics, Theoretical Astrophysics’ an invited talk at the IAU Asia-Pacific Regional meeting at Pusan National University, Korea

AUG. 1996: Poster papers on ‘Numerical Simulations of Advective Disks’ and ‘New Twists in the Study of Gravity Wave Emission in Systems with Massive Black Holes’ at the IAU Asia-Pacific Regional meeting at Pusan National University, Korea

SEP. 1996: ‘Astrophysical Flows around Black Holes’ a series of two talks at the Kobe University, Japan.

DEC. 1996: Seminar on ‘Quasi-Periodic Oscillation and Spectral Properties of Black Hole Accretion’ at the Goddard Space Flight Center.

DEC. 1996: Contributed talk on ‘Recent Progresses in Accretion Disk Models Around Galactic and Extragalactic Black Holes’ at the 18th Texas Symposium (Chicago).

Jan. 1997: Invited talks on ‘Solar Wind’, ‘Astrophysical Flows Around Black Holes’

and ‘Our Galactic Center’ at the Winter School of Eastern Center for Research In Astrophysics (ECRA) at Science College.

Jan. 1997: Welcome Address at the 1st Winter School of ECRA on ‘Basics of Astrophysics’ at the Science College, Calcutta, and invited address at the ECRA Training Programme on ‘Millimeter Wave Physics’.

Feb. 1997: Invited talk on ‘Introduction of Astrophysics in the University Teaching’ at the Jadavpur University.

Mar. 1997: Invited talk on ‘Astrophysics of Black Holes’ at the Symposium of West Bengal Academy of Science at the Indian Association for the Cultivation of Science.

Apr. 1997: ‘Stable and Unstable Oscillation of Advective Disks Around Black Holes’ at the Mini-Symposium at S.N.B.N.C.B.S., Calcutta.

May. 1997: ‘Astrophysics Around Black Holes’ a popular talk the Birla Planetarium, Calcutta.

Aug 1997: ‘Astrophysical Flows around Galactic and Extragalactic Black Holes’: a set of three lectures at the Physikzentrum, Bad Honnef.

Aug 1997: ‘Definite Proofs of Existence of Black Holes’ participated at the panel discussion at the Physikzentrum, Bad Honnef.

Sep 1997: ‘Astrophysics Around Black Holes’ a Theoretical Physics Seminar Circuit seminar at the Biswabharati University, Shantiniketan.

Sep 1997: New Twist in Gravitational Wave Studies from Coalescing Binaries’ at the S.N.B.N.C.B.S.

Jan. 1998: A Crash Course on Advective Accretion Disks (three lectures) at the International Workshop at the S.N.B.N.C.B.S. on ‘Multiwavelength Studies of Stars and Compact Objects’

Jan. 1998: Non-axisymmetric and Magnetized Advective Flows, at the S.N.B.N.C.B.S. at the International Workshop at the S.N.B.N.C.B.S. on ‘Multiwavelength Studies of Stars and Compact Objects’

Jan. 1998: Accretion Disk Models Around Black Holes: Twenty Five Years Later, at the S.N.B.N.C.B.S. at the International Conference on ‘Observational Evidence for Black Holes in the Universe’

Mar 1998: ‘Mysterious Black Holes’ at Bethun College

Apr. 1998: ‘Electrons as tracers of Black Holes’ at the symposium on ‘100 years of electrons, 50 years of pions and 25 years of asymptotic freedom’, Jadavpur University

Apr. 1998: ‘Our Galactic Center’ at Presidency College, Calcutta

Jun. 1998: ‘The Universe’, a set of two lectures at the Kendriya Vidyalaya at the Post-Graduate Inservice Course Meeting, Salt Lake

Aug. 1998: ‘Astrophysical Flows around Black Holes’ and ‘Mathematical properties of Black Hole Accretion’ at the Department of Mathematics, Dhaka University, Bangladesh

Dec. 1998: ‘Uncertainties in Astrophysics: from large scale to small’ at the one day symposium on ‘Leonids-98’ at the S.N. Bose National Centre for Basic Sciences.

Mar. 1999: ‘Identification of Astrophysical Black Holes’ at Mehta Research Institute

Mar. 1999: ‘Latest Trend of Accretion Disk Models Around Black Holes and Neutron Stars’, at YATI conference, SNBNCBS, 1999

Jul. 1999: ‘Identification of Astrophysical Black Holes’ at Space Research Institute, Moscow

Jul. 1999: ‘Formation of Outflows from Accretion disks around Compact objects’ a series of two lectures at the 3rd workshop of the International Centre for Relativistic Astrophysics, Pescara

July 1999: ‘Solution of Dirac Equation in Kerr Geometry’ at 3rd workshop of the International Centre for Relativistic Astrophysics, Pescara, July (12-23), 1999

Aug. 1999: ‘Gravitational Experiments Near a Black Hole’ at the ‘Gravitation Frontiers’, A symposium on ‘Experimental Gravitation’ held at Samarkhand, Uzbekistan, Aug. (16-21), 1999

Oct. 1999: ‘Latest Trend of Black Hole Astrophysics’ a Colloquium at the Indian Institute of Astrophysics, Bangalore.

Nov. 1999: ‘Do Astrophysical black holes exist?’ a Colloquium at the Saha Institute of Nuclear Physics, Calcutta

Feb. 2000: ‘Search for Astrophysical Black Holes’, Physics Dept. Seminar at Delhi University

Feb. 2000: ‘Quasi-Periodic Oscillations of X-rays from Black Holes’ at Physical Research Laboratory, Ahmedabad

Feb. 2000: ‘Modern Developments in Theory of Accretion Disks and Jets around Black Holes’ TPSC Seminar at Tata Institute of Fundamental Research, Mumbai

Mar. 2000: ‘Our Universe’ at the Space Science Symposium at RKMR College

Apr. 2000: ‘Astrophysical Jets’ at the Physics Dept. of Jadavpur University

Apr. 2000: ‘Advective Accretion Disks: Ten Years Later’ at Seoul National University

Apr. 2000: ‘Jets, Disks and Spectral States of Black Holes’ at the Korean Physical Society

May. 2000: ‘Advective Accretion Disks: Ten Years Later’ at Korean Astrophysical Observatory

Jun. 2000: ‘Constituents of the Universe and ourselves’ at the Space Science Symposium, Malda College

Jun. 2000: ‘Identification of Astrophysical Black Holes’ at the ‘Summer School on Astroparticle physics and Cosmology’ ICTP

Jun. 2000: ‘Outflow Rates of Jets’ in the ‘High Energy Gamma-Ray Astronomy Symposium’ June (26-30), 2000

Jul. 2000: ‘Why Bulk Motion Comptonization Should Explain Hard Tail in Soft States?’ at 9th Marcel Grossman Meeting in Rome

Jul. 2000: ‘State of the Art Models of Accretion and Winds around Black Holes’ at 9th Marcel Grossman Meeting in Rome

Jul. 2000: ‘Effect of Accretion Disks on GW wave Signal’ at 9th Marcel Grossman Meeting in Rome

Jul. 2000: ‘Correlation between the QPO frequency and the duration’ at 9th Marcel Grossman Meeting in Rome

Jul. 2000: Chairman of the Session of ‘Astrophysical Black Holes’ at 9th Marcel Grossman Meeting in Rome

Sep. 2000: Chairman of the Session ‘Astrochemistry’ at ‘First Steps in the Origin of Life’ conference at ICTP (Sept. 2000)

Sep. 2000: ‘Can DNA form during the molecular cloud collapse?’ at the conference on ‘First Steps in the Origin of Life’ at ICTP (Sept. 2000)

Sep. 2000: ‘Accretion Disks and Winds’ at the 3rd Micro-Quasar conference at Granada (Sept. 2000)

Oct. 2000: ‘Stellar Evolution’ at Bongyo Bigjan Parishad

Nov. 2000: ‘Constituents of the Universe’ at the Space Science Symposium at Serampore College

Dec. 2000: ‘Modern Developments of Accretion Disk Physics Around Black Holes’ a colloquium at the Indian Institute of Astrophysics

Dec. 2000: ‘Formation of Biomolecules in Collapsing Interstellar Cloud’ a seminar at the Raman Research Institute

Dec. 2000: ‘Black Hole Astrophysics’ a seminar at the Indian Institute of Mathematical Science, Chennai

Dec. 2000: ‘Can Biomolecules form in Collapsing Interstellar Clouds?’ A Colloquium at the Indian Institute of Mathematical Science, Chennai.

Jan-Feb. 2001: ‘Mysterious Black Holes’ at UCB School, Bharatiya Sanskriti Sansad and Midnapore College.

March 2001: Invited Review talk on ‘Accretion Disks Around Black Holes’ at the Gamma Ray Astronomy Conference at Mt. Abu

March 2001: Invited talks (2) on ‘Accretion Processes and Jet Formation’ in the National Workshop on Black Hole Astrophysics, Calcutta.

April 2001: ‘Plasma Astrophysics Around Black Holes’ at the National Conference on ‘Recent Trends in Plasma Physics’, Calcutta

Sept. 2001: Gave invited talk on ‘Transonic Astrophysical Flows’ at International Conference on ‘Multiwavelength Experiments Through Astronomical Satellite’, TIFR, Mumbai

Sept. 2001: ‘Do Astrophysical Black Holes Exist?’ S.P. Chatterjee Memorial Lecture at Institute of Theoretical Physics

Oct. 2001: ‘Constituents of the Universe’ At Raiganj School at the Districtwise Space Science Symposium

Dec. 2001: ‘Problem of the Identification of Black Holes’: Invited review talk at the conference ‘Three Generation of Space Physicists’

Feb. 2002: “Saturn’s Rings: How Thick are they?” Invited review talk at the Annual Meeting of the Astronomical Society of India, Pune

Feb. 2002: “Stellar Mass Black Holes” Invited review talk at the National Space Science

Symposium (NSSS-2002), Bhopal

Mar. 2002: "SS433: 25 years after discovery" Invited Review talk at the 187th IAU Colloquium at Florida International University

Mar. 2002: "Identification of Black Hole" Colloquium at the Dept. of Astrophysics at University of Florida, Gainesville

Mar. 2002: "Recent Developments in Advective Accretion Flows" Colloquium at the Dept. of Astrophysics, Georgia State University, Atlanta

Mar. 2002: "Our Universe" at the Districtwise Space Science Symposium, B.D. High School.

Apr. 2002: "Variabilities of Galactic and Extra-galactic Black Holes" at the Nainital Observatory

May 2002: "Advective Accretion Flows" a Colloquium at Service d' Astrophysique, SACLAY (France)

May 2002: "Two Component Advective Flow Paradigm" Talk at the 4th Microquasar Conference at Cargese (Corsica)

Jul. 2002: "Types of Data Obtained Through Astrophysical Observations" Invited talk at the Workshop on 'Techniques of Satellite Data Analysis' at CSP.

Oct. 2002: "Advective Accretion Disks", at National Centre for Radio Astrophysics, Pune

Oct. 2002: "Developments in Modern Astrophysics" at Positional Astronomy Center, Alipore, Kolkata

Oct. 2002: "Mysterious Black Holes" at the Silver Jubilee celebration of the Sky Watcher's Association.

Dec. 2002: "Modern Astrophysics" A series of two lectures at the Refresher Course for University teachers at Calcutta University.

Jan. 2003: 'Mysterious Universe' and 'Mysterious Black Holes' at the Districtwise Space Science Symposium at Khakurdaha High School

Apr.-July 2003: A full lecture course on Introduction of Astrophysics at SNBNCBS

July 2003: 'Advective Accretion Flows' a Colloquium at SNBNCBS

July 2003: Space Science – The Final Frontier? At the meeting 'Aerospace Technology: Infinite Potential and Prospects' by Institution of Engineers (India)

July 2003: Chairman of the Session of 'Astrophysical Black Holes' at the 10th Marcel Grossman Meeting in Rio de Janeiro

July 2003: Invited talk on 'Multiwavelength Campaign Of SS433' at 10th Marcel Grossmann meeting at Rio

July 2003: Invited talk on 'Review: Role of Disk models in Identifying Astrophysical Black Holes' at 10th Marcel Grossmann meeting at Rio

July 2003: Invited talk on 'Spectral Properties of Two Component and Two-temperature Accretion Flows Around Black Holes' at 10th Marcel Grossmann meeting at Rio

July 2003: Invited talk on 'QPOs from radial and vertical oscillation of shocks in advective accretion flows' at 10th Marcel Grossmann meeting at Rio

August 2003: 'Recent Developments in Advective Flow Physics' at SACLAY, France

Sept. 2003: 'Advective Accretion Disks' at Meudon Observatory, Paris and Starsbourg Observatory, France and University of Milan, Mirate

Sept. 2003: 'Fate of Glycine during the collapse of molecular clouds and Star Formation' at the 'Origin of Life Conference' in Trieste, ICTP

Sept. 2003: 'Effect of an Accretion Disk on Gravitation Wave Emission from a Binary Black Hole System' at the 'Gravitation Wave' Conference in Trieste, ICTP

Jan. 2004: 'Mysterious Universe' at the Malda Town Hall

Feb. 2004: 'Mysterious Black Holes' at the Ravindra Bhawan, Coochbehar

June, 2004: 'Spectral Properties Of Galactic And Extra-Galactic Black Holes In Gamma Rays' A review talk at the 'The Multiwavelength Approach To Unidentified Gamma-Ray Sources' conference held at Hong Kong University.

June, 2004: Poster paper on 'Identification For Shocks In Spectra From Black Hole Candidates' at the 'The Multiwavelength Approach To Unidentified Gamma-Ray Sources' conference held at Hong Kong University.

June, 2004: 'Class Transitions in Microquasars' A review talk at the 'Fifth Microquasar Workshop' at Tsinghua National University, Beijing.

June, 2004: 'Quasi-Periodic Oscillations reproduced by Numerical Simulations' a Contributed talk at the 'Fifth Microquasar Workshop' at Tsinghua National University, Beijing.

October 2004: 'Plasma Physics Around Black Holes' an invited talk at the Seminar on 'Recent Advances on Modern Plasma Physics' at the Centre for Plasma Studies, Jadavpur University.

Nov. 2004: Mysterious Universe at the Platinum Jubilee celebration of B.N.K.N.C.M. High School, Hooghly

Dec. 2004: Invited talk at the Mt. Abu Conference at PRL, Ahmedabad, on 'Multi-wavelength Campaign of the Galactic Black Hole Candidate SS433'

Feb. 2005: Talk on 'Progress Report on the nature of the emitted radiation from accretion flows around compact objects' at Pondicherry

Feb. 2005: Invited talk on 'Mysterious Black Holes' at Sonamukhi College, Bankura

Feb. 2005: Invited talks on 'Mysterious Universe' at Ravindra Bhawans of Bankura and Purulia Districts at the Districtwise Space Science Symposium

Mar. 2005: Invited talk on 'Mysterious Black Holes at St. Xavier's College

June. 2005: Invited talk on 'Galaxies and Extra-Galactic Objects' at Jadavpur University

October, 2005: Posters on 'SS433: Results of a recent Multi-Wavelength campaign' and 'Unusual Sunset Terminator behaviour of VLF signals at 17KHz during the Earthquake episode of December 2004' at the General Assembly of URSI in New Delhi

November, 2005: "Evolving view of Observable Universe" an invited talk for the Year of Physics celebration at R.K.M. Vidyamandir, Belur.

November, 2005: "Astrophysical Flows Around Black holes" an invited talk in the As-

trophysics Workshop, St. Xavier's College.

February, 2006: "Mysterious Black Holes" at the District wise Space Science Symposia in Dakshin Dinajpur and Darjeeling districts organized by Indian Centre for Space Physics

March, 2006: "Can we Observe QPOs in UV using Tauvex?" at the Indo-Israeli Tauvex meet at Indian Institute of Astrophysics, Bangalore

March, 2006: "Analytical and Numerical Simulation of QPOs in black hole candidates" at the Physical Research Lab., Ahmedabad.

April, 2006: Poster presentations on (a) "Time dependent Chemical Evolution of Molecular Clouds" by A. Das, S.K. Chakrabarti, K. Acharyya and S. Chakrabarti; (b) Can Amino Acids be Formed during Molecular Cloud Collapse?? by K. Acharyya, S.K. Chakrabarti, A. Das and S. Chakrabarti; (c) Monte-Carlo Simulation of the Production of Hydrogen Molecules on Grain Surfaces by S.K. Chakrabarti, A. Das, K. Acharyya and S. Chakrabarti in 'Faraday Discussion 133' held at St. Jacut De La Mar, Brittany

May, 2006: Poster Presentations on (a) "Time dependent Chemical Evolution of Molecular Clouds" by A. Das, S.K. Chakrabarti, K. Acharyya and S. Chakrabarti; (b) Can Amino Acids be Formed during Molecular Cloud Collapse?? by K. Acharyya, S.K. Chakrabarti, A. Das and S. Chakrabarti; (c) Monte-Carlo Simulation of the Production of Hydrogen Molecules on Grain Surfaces by S.K. Chakrabarti, A. Das, K. Acharyya and S. Chakrabarti in 'Complex Molecules in Space Present status and prospects with ALMA' held at Aarhus, Denmark

July, 2006: Talk on 'Spectral and Timing Properties of Two Component advective Flows around black holes' at the 'Physics and Astrophysics of Supermassive Black holes' conference at Santa Fe, USA

July, 2006: 'Spectral and Timing Properties of Two Component advective Flows around black holes' at Princeton University

July, 2006: 'Spectral and Timing Properties of Two Component advective Flows around black holes' at the ICRANET at Pescara, Italy

July, 2006: 'Astrophysical black holes: Do they have boundary layers?' Rapporteur talk at the APT1 session at the 11th Marcel Grossman meeting, Berlin

July, 2006: 'Shocking story of Quasi-Periodic Oscillations in Black Hole Candidates' Rapporteur talk at the APT1 session at the 11th Marcel Grossman meeting, Berlin

July. 2006: Chairman of the Sessions on 'Astrophysical Black Holes' and 'Theoretical Models of Observations of black hole candidates' at the 11th Marcel Grossman Meeting in Berlin

Sept. 2006: Chairman of the Session on 'Microquasars at TeV energies' at the 6th Microquasar workshop in Como, Italy

Sept. 2006: Contributed talk on 'Theoretical Studies of Timing and Spectral Properties of Quasars to Nano-quasars till a few MeV' at the 6th Microquasar workshop in Como, Italy

Sept. 2006: Posters and brief presentations on 'Spectral and timing properties of GRO

J1655-40 during March 2005 outburst' and 'Spiral Shocks Oscillations and the QPOs with 3:2 ratio' at the 6th Microquasar workshop in Como, Italy

October, 2006: Colloquium on 'Establishing Cosmology as a precise science - the Nobel Prize of 2006' at the S.N. Bose National Centre for Basic Sciences.

December, 2006: Attended the Project Monitoring Board Member Meeting of the Indo-Russian Satellite "CORONAS-PHOTON" at VSSC, Trivandrum.

February, 2007: Colloquium on 'Shocking Story of Black Hole Accretion" in the Dept of Physics, Indian Institute of Science, Bangalore

February, 2007: Two lectures on 'Accretion Flows: Some issues and problems' at the Mini-school on 'Hydrodynamic and Radiative Processes in Astrophysics', SNBNCBS

February, 2007: Invited talk at Sri Ramatosh Sarkar Memorial lecture on 'Wonderful Astronomy' at Bongyo Bijnan Porishad

March, 2007: Talks at PMB meeting in Bangalore and RESPOND meeting at PRL, Ahmedabad

May, 2007: 'Mysterious universe', two invited talks at the 14th and 15th Districtwise Space Science Symposium held in Burdwan and Suri.

May, 2007: 'Continuous Spectrophotometry of Black Holes' at ISRO, ADCOS meeting, Bangalore

May, 2007: Invited talk on 'Search for planets with strong magnetic field as a pulsating source' at the Brainstorming session on ESA COSMIC-Vision 2017 project, Bangalore

June, 2007: Presented a talk on 'VLF Astronomy as Earthquake/Tsunami prediction' at the National Disaster Management meeting in New Delhi

August, 2007: Invited 'Continuous Spectro-photometry of Black Holes' at ISRO, Bangalore

August, 2007: Invited talk at TIFR on 'Zone plates as X-ray imaging device' at the Preliminary Design Review (PDR) of RT-2/CZT payload.

August, 2007: Invited talk on 'X-ray and Gamma-Ray Astronomy from Moon' at the PLANEX meeting on Chadrayaan-II at PRL, Ahmedabad

Oct., 2007: Invited talk on 'Zone plates as the X-ray Imaging Device' at the 'Space Week' meeting (MePhi) at the 50th Anniversary of Sputnik mission.

Oct. 2007: 'Correlation Between ionospheric activities with earthquakes by monitoring Very Low Frequency(VLF) signals' at the Earthquake workshop (SMR1864)

Oct., 2007: Invited talk on the 'Hydrodynamic and Spectral properties of Transonic Astrophysical Flows Around Black Holes' at the SMR1865 Workshop on 'Astrophysical Fluid Dynamics' at ICTP, Italy

Oct., 2007: 'Spectral Properties of shocked advective flows at high energy' and 'Zone plates as X-ray imaging device', at the forthcoming BEPPO/SCARSI meeting in Palermo

Oct., 2007: Invited talk on 'Theoretical and Observational Evidence of the Boundary Layer of Black Hole' at ICRA, University of Rome

Oct. 2007: Invited talk on 'Synthesis of Biomolecules in the Interstellar Medium' at the Physics of the Living State, Applied Physics Scientific Section Seminar at ICTP

Dec. 2007: Invited talk on 'Do we SEE black holes?' at the Platinum Jubilee Commemorative conference of ISI, Kolkata

Dec. 2007: Invited talk on 'Space Explorations: The Indian Perspective' organized by Paschimbanga Bijnan Mancha at Seoraphuli, Hoogley. January 2008: Invited talks on 'Mysterious Universe' at Districtwise Space Science Symposia in Murshidabad and Nadia Districts

February 2008: Invited talk on 'Black Hole Accretion' at the Second Kolkata meeting on 'Observational Evidence for Black Holes in the Universe', Kolkata

March 2008: Invited talk on 'Can we form biomolecules during Star Formation?' at the 'Astrobiology' Conference at IIT/Roorkee

March 2008: Invited talk on 'Stellar Evolution and Black Hole Formation' at the Taki Govt. College

May. 2008: Talks on 'Accretion processes of black holes' at George Mason University, Luisiana State University, University of Texas at Arlington and 212th AAS meeting at St. Louis

August, 2008: Poster presentations on Evolution of pre-biotic molecules during collapse of Interstellar clouds and Monte Carlo Simulation of Water and Methanol on Grain Surfaces at the 15th ISSOL meeting, Florence.

March, 2009: Study of the correlation between ionosphere activities with earth quakes by monitoring Very Low Frequency (VLF) signals and Analytical Modeling and Numerical Simulations of the Quasi-Periodic Oscillations of Black Hole Candidates at the ISRO RESPOND meeting in PRL, Ahmedabad.

July, 2009: Chaired APT4 session on 'Astrophysical Black Holes: From Quasars to nano-Quasars' of the 12th Marcel Grossman Conference held at UNESCO HQ July 12-18, 2009

July, 2009: Invited talk on 'Seeing is believing – Do we see black holes?' in APT4 session at the 12th Marcel Grossman Conference held at UNESCO HQ July 12-18, 2009

July, 2009: Invited talk on 'Evolution of QPOs in Transient Black Holes' in APT1 session at the 12th Marcel Grossman Conference held at UNESCO HQ July 12-18, 2009

August, 2009: Plenary Talk on Shock waves in Accretion flows into black holes, at the 'Astronomy and beyond: Astrophysics, Cosmology, Radioastronomy, High Energy Physics and Astrobiology' conference in Odessa, Ukraine, 17-23rd Aug. 2009.

August, 2009: Talks on 'Fresnel Zone Plate Telescopes as high resolution imaging devices', 'Indian Payloads (RT-2 Experiment) Onboard CORONAS-FOTON Mission' and 'X-ray experiments for Space applications in intermediate energy range' at the International Conference on Space Technology, Thessaloniki, 24-26th August, 2009.

August, 2009: Talk on 'X-Ray and Gamma-Ray Astronomy from the Moon' at the International Conference on 'Low Cost Planetary Missions' at Goa, 31st Aug-4th Sept., 2009.

October, 2009, Invited talk on "Unification of Accretion and Outflows Around Black Holes" at the 1st Galileo - Xu Guanqi meeting at Shanghai

November, 2009, Invited talk on "Evolution of Telescope based Observations" Commem-

orative 150th Birth Centenary of J.C. Bose and 400th year of Galileo's observation (IYA prog.), BESU, West Bengal

December, 2009, Reporting the Status of RT-2 in front of ISRO Committee on Space Science

January, 2010, Invited talk on "Importance of Galileo and Darwin today" at IYA programme (400yrs. of Galileo Telescope and 200 years of Darwin's birth)

February, 2010, Series of Five talks on "Accretion Process Around Black Holes" at University of Nice (Observatory of Cote Azur), France

March, 2010, Invited talk on "Chemical Evolution during Star formation and effects of X-rays and Gamma Rays" at IIT/Roorkee at the Conference on 'Origin of Life'

March, 2010, Invited talks on "VLF Research at SNBNCBS and ICSP" at the International Conference on Very Low Frequency Radio Waves: Theory and Observations (VELFRATO-10)

April, 2010, Reporting the Status of RT-2 in front of ADCOS Committee

July, 2010, 'VLF Campaigns in summer, winter and during solar eclipse all over India' at the AOGS conference, Hyderabad, July, 2010

July, 2010, Accretion onto outbursting black holes: How do they do it? at the 2nd Galileo-Xu Guanqi meeting at Ventimiglia.

July, 2010, Oral presentations of 'RT-2 observations of Solar flares', 'Possible First Evidence of a double gamma ray burst' and poster presentations on 'RT-2 observations of Gamma-Ray Bursts', 'Variability Classes of GRS1915+105: Physical Picture' and 'Evidence of two component accretion flow around the black hole candidate XTE J1550-564 during the outbursts' at 10th COSPAR meeting (17th-25th July) Bremen.

Sept. 2010, A Series of 5 lectures to Erasmus Mundus Joint Astronomy Programme Students at the University of Nice

October 2010, "Accretion processes on Black Holes: the Spectral and temporal properties" at the "Accretion and Outflow in Black Hole Systems" (10-16th October, 2010), Kathmandu, Nepal.

November, 2010, Chaired the sessions and gave Invited talk on "VLF Campaigns in Summer, Winter and Solar eclipses" at the International Workshop on Seismo-Electromagnetics and Atmospheric Science (IWSE-AS 2010), Agra

January, 2011, Invited talk on the Observational Evidence for Transonic Astrophysical Flows Around Black holes, at "Wideband X-ray astronomy" International Conference at IUCAA, Pune.

February, 2011: Invited talk on "Imaging in X-rays for space astronomy" DST SERC School on Guided Wave Optics and Devices during February, 2011

February, 2011: Invited talk on Excitements in Astronomy and Space Physics at Students Reunion, St Xavier's College, Kolkata.

March 2011: Invited talk on "Astrochemistry in Relation to Origin of Life" at the 41st ANNUAL RE-UNION of DEPARTMENT OF CHEMISTRY at Jadavpur University.

March 2011: ISRO RESPOND meeting lectures at Physical Research Laboratory.

May, 2011: "Science with weather balloons" at the 20th ESA conference on Balloons and Rockets in Heyres, France

May, 2011: Two lectures on "astrophysical flows around black holes" at EMJD programme, University of Nice.

August, 2011: Perturbation of the GW signals from a binary system in presence of an accretion flow at the Lijiang conference on Gravitation wave Astronomy

August, 2011: Earthquakes and VLF signal anomalies at the URSI conference in Istanbul

September, 2011: Excitements in Astrophysics at the NCSM head quarters

## **Upcoming events**

Member, International Co-ordination Committee of "13th Marcel Grossman Conference on General Relativity and Cosmology, Stockholm, July, 2012

Chairman, "Accretion processes on Black Holes" at "13th Marcel Grossman Conference on General Relativity and Cosmology, Stockholm, July, 2012

Member, International Scientific Organizing Committee of "International Conference on Astrophysics and Cosmology", Kathmandu, July, 2012

Two invited talks on "Accretion Processes around Black Holes and Physics of Jets" at "International Conference on Astrophysics and Cosmology", Kathmandu, July, 2012 and one talk on "Excitements in Astrophysics" at Tribhuban University

Scientific Organizers in Three sessions in COSPAR 2012 General Assembly (C0.4, E1.2, F3.5), Mysore, July, 2012.

## **Other Conferences Attended:**

FEB. 1986: Stevens meeting on General Relativity and Gravitation: at the University of California, Santa Barbara.

JUN. 1986: Star formation in Galaxies: at Caltech.

MAR. 1989: Supernovae: at Goa.

JUNE 1994: 44th Meeting of the Nobel Prize Winners in Lindau (Nominated for Participation by Indian National Science Academy and Deutsch Forschungsgemeinschaft).

DEC. 1996: Attended S. Chandrasekhar Memorial Lecture at the University of Chicago.

Nov. 1998: Participated in the workshop on 'Image Processing and Data Analysis' at IUCAA (Nov 15th - 21st, 1998).

Jul. 2000: 'Perspectives of Relativistic Astrophysics' at Pescara

## **Organization of Conferences**

- C1. Convener of the workshop on ‘Multiwavelength Studies of Stars and Compact Objects’ (Jan. 1st - Jan. 17th, 1998) and of the Conference ‘Observational Evidence for Black Holes in the Universe’ (Jan. 11th - Jan. 17th, 1998).
- C2. Convener of the Conference on ‘Leonids 98 - A postmortem’ held at the SNBNCBS (December 20th, 1998).
- C3. Convener of “Young Astrophysicists of Today’s India” conference at the S.N. Bose National Centre for Basic Sciences (March 24-27th, 1999)
- C4. convener of “Districtwise Space Science Symposium” (Malda district) organized by Indian Centre for Space Physics (June, 2000).
- C5. Convener of “Districtwise Space Science Symposium” and ‘Astrophysical Flows Around Black Holes’ organized by Indian Centre for Space Physics at Serampore College (November, 2000).
- C6. Convener of “Young Astrophysicists of Today’s India-2001” and “Black Hole Astrophysics” organized by Indian Centre for Space Physics (March, 2001)
- C7. Convenor of “Districtwise Space Science Symposium” (North Dinajpur; Oct. 2001)
- C8. Convenor of “Three Generations of Space Physicists of Kolkata” (Dec. 2001)
- C9. Convenor of “Districtwise Space Science Symposium” (North 24 Paraganas; Mar. 2002)
- C10. Convenor of “Districtwise Space Science Symposium” (East/West Medinipur Districts; Jan. 2003)
- C11. Convenor of “Districtwise Space Science Symposium” (Coochbehar/Jalpaiguri Districts; Feb. 2004)
- C12. Convenor of “Districtwise Space Science Symposium” (Bankura/Purulia Districts; Jan/Feb. 2005)
- C13. Convenor of “Districtwise Space Science Symposium” (Dinajpur (D) and Darjeeling Districts; Feb. 2006)
- C14. Convenor of “Districtwise Space Science Symposium” (Birbhum and Bardhaman Districts; May, 2007)
- C15. Joint Convenor of ”Second Kolkata Conference on Observational Evidence for Black Holes in the Universe”; Feb. 2008 and the Satellite SNB-ICRANet Meeting on ‘Black Holes, Neutron Stars and Gamma Ray Bursts’ (Feb. 2008)
- C16 Convener of ”First International Conference on Very Low Frequency Radio Waves: Theory and Observations” (March, 2010)

Table 1: Students who completed/submitted Ph.D. Thesis and Their present Status

Name	Title of Thesis	Year	Present Status
Tapas K. Das	Modeling The Origin Of Astrophysical Outflows From Accretion Disks Around Compact Objects	2000	Faculty of HRI (Phys.)
B. Mukhopadhyay	Interaction Of Charged Fluid With Astrophysical Black Holes	2001	Faculty of IISc (Phys.)
A. Bhattacharyya	Collective Effects in the Planetary Ring Particle Dynamics	2001 <sup>1</sup>	Faculty at BARC, Mumbai
I. Chattopadhyay	Studies of the Hydrodynamic and Radiative Acceleration Processes of Cosmic Radio Jets and Bipolar Outflows From Compact Objects	2002	Faculty at ARIES (Nainital)
S. Manickam	Quasi Periodic Oscillations in the X-ray Emission from Black Hole Candidates	2003	Software Industry
Anuj Nandi	Spectral and timing properties of accretion flows around black holes from observational data	2005	Scientist at ISRO-HQ/ICSP
Santabrata Das	Analytical studies of standing shocks in accretion flows around compact objects	2005	Faculty at IIT Guwahati
Sabyasachi Pal	Radio Properties of Compact Galactic Objects	2006 <sup>2</sup>	Radio Astronomer at IRAR, Univ. West Australia
Samir Mandal	Theoretical studies of spectral properties of two-component advective flows around black holes	2006	Asst. Prof. IISST, Trivandrum
Soumen Mondal	Accretion Processes Around Kerr Black Holes	2007	Faculty at RKMR College Narendrapur
K. Acharyya	Formation of Complex Molecules during Star Formation	2007 <sup>3</sup>	Tenure Track position at SBNCBS
P. Basu	Effects of Accretion Disks on Gravitational Waves from Binary	2008 <sup>1</sup>	Post Doc
A. Das	Hydrodynamic Simulation of the formation of Protostars	2009 <sup>3</sup>	Faculty at ICSP, Kolkata
R. Sarkar	X-Ray Studies of Compact Objects Data Analysis, Development of Instruments and Their Characteriation	2010	TRIL Prog. INFN, Italy
D. Debnath	X-ray Properties of the Sun and Some Compact objects of our Galaxy	2010	RT-2 proj. ICSP
B.G. Dutta (FIP)	X-Ray properties of a few Galactic Black Holes during Their Outbursts	2010	YSP Coll.

1 Joint supervisor: Dr. A. M. Basu of Jadavpur University; 2 Joint supervisor: Dr. K. Goswami of Jadavpur University; 3 Joint supervisor: Dr. Sonali Chakrabarti of MMC College/Indian Centre for Space Physics