

# List of Publications

## From M.Sc. Review Work

1. Brewster's Law Polariser at Normal Incidence, G.P. Sastry, S. Chakrabarty, Am. J. Phys. **52** (1984) 177.
2. Locating the Extra-Ordinary Ray, G.P. Sastry, Krishna Kummer and S. Chakrabarty, Am. J. Phys. **55** (1987) 659.
3. The generalised Brewster Condition from the Extinction Theorem, G.P. Sastry and S. Chakrabarty, Eur. J. Phys. **8**, (1987) 125.
4. Reflection of Electromagnetic Waves from Singly Refracting Doubly Anisotropic Media, G.P. Sastry and S. Chakrabarty, Rev. Roum. Phys. Tome **33** (1988) 185.

## During and After Ph.D. Period

1. Pre-Equilibrium Quark Momentum Distribution in the Quark-Gluon Plasma, S. Chakrabarty and D. Syam. Lett. Nuovo Cimento **41** (1984) 381.
2. Transport Coefficients of Quark-Gluon Plasma, S. Chakrabarty, Pramana, J. Phys. **25** (1985) 673.
3. Strange Matter and Mechanism of Confinement, S. Chakrabarty, S. Raha and B. Sinha, Phys. Lett. **B229** (1989) 112.
4. Deuteron Induced Reaction, S. Mukherjee and S. Chakrabarty, Proc. of Int. Conf. on Nuclear Reaction Mechanism, January 3-9, 1989, World Scientific, P.392.
5. Partial Deconfinement and Strange Quark Formation in Nuclear matter, S. Chakrabarty, Acta Phys. Pol. **B21** (1990) 65.
6. Deuteron-Induced Reactions, S. Mukherjee and S. Chakrabarty, Proc. of the Seminar on Direct Reactions, Bangalore, India, 1990, Indian Academy of Sciences, Page 391.
7. On the Stability of Strangelets, S. Chakrabarty, Physica Scripta **43** (1991) 11.
8. Equation of State of Strange Quark Matter and Strange Stars, S. Chakrabarty, Phys. Rev. **D43** (1991) 627.
9. On Partial Deconfinement, Strange Star and Quark-Hadron Phase Transition in the Early Universe, S. Chakrabarty, IL Nuovo Cimento **B106** (1991) 1023.
10. On the Stability of Bulk and Quasi-Bulk Strange Quark Matter and Strange Stars, Nucl. Phys. **B24** (1991) 148.
11. Photons and Dileptons from an Expanding Quark Gluon Plasma, J. Alam, S. Chakrabarty, S. Raha, D.K. Srivastava and B. Sinha, Nucl. Phys. **A544** (1992) 493c (Quark Matter '91).
12. Can The hadronic matter Shine as Bright as Quark-Gluon Plasma?, Proc. Medium and High Energy Nuclear Physics, Saha Institute of Nuclear Physics, Calcutta, December 20-22, 1991 (World Scientific), P. 229, S. Chakrabarty, J. Alam, D.K. Srivastava, B. Sinha and S. Raha.
13. Boost Non-Invariant Hydrodynamics in Ultra-Relativistic Heavy-Ion Collisions, D.K. Srivastava, J. Alam, S. Chakrabarty, S. Raha and B. Sinha, Phys. Lett. **B278** (1992) 225.
14. Pre-equilibrium Production of Photons and Leptons in Relativistic Heavy-Ion Collisions, S. Chakrabarty, S. Raha and B. Sinha, Mod. Phys. Lett. **A7** (1992) 927.
15. A Cosmological Lower Limit for Quark Compositeness Energy Scale, S. Chakrabarty, B. Datta and B. Sinha, Mod. Phys. Lett. **A7** (1992) 2377.
16. High Energy Photons from Expanding Quark-Gluon Plasma and Hot Hadronic Matter, S. Chakrabarty, J. Alam, D.K. Srivastava, B. Sinha and S. Raha, Phys. Rev. **D46** (1992) 3802.

17. Equation of State of Quasi-Free Gluon gas, S. Chakrabarty, D. Bandopadhyay and D. Syam, *Jour. Phys.* **G19** (1993) 249.
18. Stability of Strange Quark Matter at  $T \neq 0$ , S. Chakrabarty, *Phys. Rev.* **D48** (1993) 249.
19. Hydrodynamics of Ultra-Relativistic Heavy-Ion Collisions Considerations of Boost Non-Invariant and Stopping, D.K. Srivastava, J. Alam, S. Chakrabarty, B. Sinha and S.Raha, *Ann. Phys.* **228** (1993) 104.
20. Magnetostatics of a Superconducting Quark Star, S. Chakrabarty, *Can. J. Phys.* **71** (1993) 488.
21. On the Possibility of Nuclear Liquid Gas Phase Transition, S. Chakrabarty, *Jour. Phys.* **G20** (1994) 121.
22. Strange Quark Matter in Strong Magnetic Field, S. Chakrabarty, *Astrophys. and Space Science*, **213** (1994) 121.:
23. On the Possibility of Strangelets in Neutron Matter, S. Chakrabarty, *Mod. Phys. Lett.* **A9** (1994) 187.
24. Meson Properties from Bag Model Compared to Lattice Theory and Heavy-Ion Experiment, J. Dey, L. Tomio, M. Dey and S. Chakrabarty, *Z. Phys.* **C61** (1994) 350.
25. Electron Capture rates of Light Elements of Astrophysical Interest in Presence of Non-Thermal tail of Electron Plasma, S. Chakrabarty and N.C. Rana, *Jour. Phys.* **G20** (1994) L117.
26. On the Possibility of Low Mass Quark Droplet Stars, S. Chakrabarty, *Mod. Phys. Lett.* **A9** (1994) 2691.
27. On the Stability of Strange Quark Matter in Presence of Strong Magnetic Field, S. Chakrabarty and A. Goyal, *Mod. Phys. Lett.* **A9** (1994) 3611.
28. Quark Droplet Formation in a Neutron Star Core in the Presence of a Strong Magnetic Field, S. Chakrabarty, *Phys. Rev.* **D51** (1995) 4591.
29. Cosmoc Quark-Hadron Phase Transition in Presence of a Strong Magnetic Field and Baryon Number Inhomogeneity in the Early Universe, S. Chakrabarty, *Jour. Astrophys. and Astron.* **16** (1995) 399.
30. Effect of Strong Magnetic Field on the Stability of Strange Stars, S. Chakrabarty and P.K. Sahu, *Phys. Rev.* **D53** (1996) 4687.
31. Quark Matter in Strong Magnetic Field, S. Chakrabarty, *Phys. Rev.* **D54** (1996) 1306.
32. Dense Nuclear Matter in a Strong Magnetic Field, S. Chakrabarty, D. Bandopadhyay and S. Pal, *Phys. Rev. Lett.* **78** (1997) 2898.
33. Quantizing Magnetic Field and Quark-Hadron Phase Transition in a Neutron Star, D. Bandopadhyay, S. Chakrabarty and S. Pal, *Phys. Rev. Lett.* **79** (1997) 2176.
34. Weakly Interacting Quark Matter in Presence of a Ultra Strong Magnetic Field, S. Chakrabarty, D. Bandopadhyay and S. Pal, *Int. Jour. Mod. Phys.* **A13** (1998) 295.
35. Proto-neutron Star in a Strongly Quantizing Magnetic Field, S. Bandopadhyay, S. Pal and S. Chakrabarty, *Jour. Phys.* **G24** (1998) 1647.
36. Rapid Cooling of Magnetized Neutron Stars, D. Bandopadhyay, S. Chakrabarty, P. Dey and S. Pal, *Phys. Rev.* **D58** (1998) 121301 (Rapid Communication).
37. Strong Magnetic Field in a Protoneutron Star, S. Pal, D. Bandopadhyaya and S. Chakrabarty, *Jour. Phys.* **G25** (1999) L117.
38. Can There be Quark Matter Core in a Magnetar? T. Ghosh and S. Chakrabarty, *Phys. Rev.* **D63** (2001) 043006.
39. Chemical Evolution of Quark Matter Core in Presence of a Strong Magnetic Field, T. Ghosh and S. Chakrabarty, *Int. Jour. Mod. Phys.* **D10** (2001) 89.
40. Electrical Conductivity at the Core of a Magnetar, Sutapa Ghosh, Sanchayita Ghosh, Kanupriya Goswami, Somenath Chakrabarty, Ashok Goyal, *Int. Jour. Mod. Phys.* **D11** (2002) 843.

41. Thomas-Fermi-Dirac Model for Low Density Stellar Matter in Presence of a Strong Quantizing Magnetic Field, N. Nag and S. Chakrabarty, *Int. Jour. Mod. Phys.* **D11** (2002) 817.
42. Magnetically Induced "Dry" Water Like Structure of Electron Gas in Dense Stellar Matter in Presence of an Ultra Strong Magnetic Field, Sutapa Ghosh and Somenath Chakrabarty, *Mod. Phys. Lett.* **A17**, (2002) 2147.
43. Can There be  $\beta$ -Equilibrated Quark Matter at the Core of a Compact Newborn Neutron Star With Moderately Strong Magnetic Field? Sutapa Ghosh and Somenath Chakrabarty, *Spacetime & Substance journal*, Vol. 3 (2002), Page 88.
44. Impossibility of Spin Polarized States for Neutron Star / Proto-neutron Star Matter in  $\beta$ -Equilibrium Condition, Sutapa Ghosh, Soma Mandal and Somenath Chakrabarty, *Mod. Phys. Lett.* **A18** (2003) 1297.
45. Instability of Quark Matter Core in a Compact Newborn Neutron Star with Moderately Strong Magnetic Field, Sutapa Ghosh and Somenath Chakrabarty, *Pramana* **60** (2003) 901.
46. Relativistic Version of Landau Theory of Fermi Liquid in Presence of Strong Quantizing magnetic Field- An Exact Formalism, Sutapa Ghosh, Soma Mandal and Somenath Chakrabarty, *Ann. Phys.***312** (2004) 398.
47. Collapse/Flattening of Nucleonic Bags in Ultra-Strong Magnetic Field, Soma Mandal and Somenath Chakrabarty, *IJMP* **D13** (2004) 1157.
48. Neutron star equation of state and the possibility of Complex Self-energy in Landau Theory of Fermi Liquid in the Presence of a Strong Quantizing Magnetic Field, Soma Mandal, Sutapa Ghosh and Somenath Chakrabarty, *Phys. Rev.* **C74**, 015801 (2006).
49. Chiral Properties of QCD Vacuum in Ultra-Strong Magnetic Field- A Nambu-Jona-Lasinio Model with Semi-Classical Approximation, Sutapa Ghosh, Soma Mandal and Somenath Chakrabarty, *Phys. Rev.* **C75**, (2007) 015805.
50. The Upper Limit of Magnetic Field Strength in Dense Stellar Hadronic Matter, Somenath Chakrabarty, *Astrophysics & Space Science* **310**, (2007) 195.
51. Expulsion of Magnetic Flux Lines from the Growing Superconducting Core of a Magnetised Quark Star, Somenath Chakrabarty, *Astrophysics & Space Science*, **314**, (2008) 105.
52. The Study of Relatively Low Density Stellar Matter in Presence of Strong Quantizing Magnetic Field, Nandini Nag, Sutapa Ghosh and Somenath Chakrabarty, *Ann. of Phys.*, **324**, (2009) 499.
53. On a Possible Mechanism of Low Surface Magnetic Field Structure of Quark Stars, Nandini Nag, Sutapa Ghosh, Roni Saha and Somenath Chakrabarty *Astrophysics & Space Science*, **323**, (2009) 123.
54. On the Crustal Matter of Magnetars, Nandini Nag, Sutapa Ghosh and Somenath Chakrabarty, *Euro. Phys. Jour.* **A45**, (2010) 99.
55. On Magnetically Deformed Inner Crust Matter of Magnetars, Arpita Ghosh and Somenath Chakrabarty, *EPJA* **47**, (2011) 56.
56. The Work Function Associated with Ultra-relativistic Electron Emission from Strongly Magnetized Neutron Star Surface, Arpita Ghosh and Somenath Chakrabarty, *Astrophysics and Astronomy*, **32**, (2011) 377.
57. The Effects of Strong Quantizing Magnetic Fields on the Cold Emission of Electrons from Ultramagnetized Compact Stellar Objects, Arpita Ghosh and Somenath Chakrabarty, *Mon. Not. R. Astron. Soc.*, **425**, (2012) 1239.