

**Pawan Kumar**

**Bibliography (published in peer reviewed journals)**

1. “Probing Massive Stars Around Gamma-Ray Burst Progenitors”, Lu, W., Kumar, P., Smoot, G.F., accepted for publication in MNRAS
2. “External Inverse-Compton Emission from Jetted Tidal Disruption Events”, Lu, Wenbin, and Kumar, P., submitted to MNRAS
3. “Monte Carlo Simulations of the Photospheric Process”, Santana, R., Hernandez, R.A., Crumley, P. and Kumar, P., submitted to MNRAS
4. “Radiation from a Relativistic Poynting Jet: some general considerations”, Kumar, P. and Crumley, P., 2015, MNRAS 453, 1820
5. “How Bad/Good Are the External Forward Shock Models of Gamma-Ray Bursts?”, Wang, X-G, Zhang, B., Liang, E-W, Gao, H., Li, L., Deng, C-M, Qin, S-M, Tang, Q-W, Kann, D.A., Ryde, F., and Kumar, P., 2015, Ap. J. Sup 219, 9
6. “A novel paradigm for short gamma-ray bursts with extended X-ray emission”, Rezzolla, L., Kumar, P., 2015, ApJ 802, 95
7. “Some Implications of inverse-Compton Scattering of Hot Cocoon Radiation by relativistic jets in Gamma-Ray Bursts”, Kumar, P. and Smoot, G.F., 2014, MNRAS 445, 528
8. “A Small, Rapid Optical-IR Response Gamma-Ray Burst Space Observatory (The NGRG)”, Grossan, B., Kumar, P., Perley, D., and Smoot, G.F., 2014 PASP 126, 885
9. “The Physics of Gamma-Ray Bursts & Relativistic Jets”, Kumar, P. and Zhang, B., 2015, Physics Reports 561, 1–109
10. “Magnetic Fields In Relativistic Collisionless Shocks”, Santana, R., Barniol Duran, R. and Kumar, P., 2014, ApJ 785, 29
11. “Radio Emission of the Forward Bow Shock in the Stellar Wind Model of G2”, Crumley, P. & Kumar, P., 2013, MNRAS 436, 1955
12. “A model for the multiwavelength radiation from tidal disruption event Swift J1644+57”, Kumar, P., Barniol Duran, R., Bošnjak, Z. & Piran, T., 2013, MNRAS 434, 3078
13. “Model-Dependent High-Energy Neutrino Flux from Gamma-Ray Bursts”, Zhang, B. & Kumar, P., 2013, Physical Review Letters 110, 121101

14. “Hadronic models for Large Area Telescope prompt emission observed in Fermi gamma-ray bursts”, Crumley, P. & Kumar, P., 2013, MNRAS 429, 3238
15. “Inverse Compton cooling in Klein-Nishina regime and GRB prompt spectrum”, Barniol Duran, R., Bošnjak, Z. & Kumar, P., 2012, MNRAS 424, 3192
16. “Maximum Synchrotron Frequency for Shock Accelerated Particles”, Kumar, P., Hernández, R.A., Bošnjak, J. & Barniol Duran, R., 2012, MNRAS 427, L40
17. “Magnetic jet model for GRBs and the delayed arrival of  $>100$  MeV photons”, Bošnjak, Z. and Kumar, P., 2012, MNRAS 421, L39
18. “Simulations of Accretion Powered Supernovae in the Progenitors of Gamma Ray Bursts”, Lindner, C.C., Milosavljevic, M., Shen, R. and Kumar, P., 2012, ApJ 750, 163
19. “Supernovae Powered by Collapsar Accretion in Gamma-Ray Burst Sources”, Milosavljević, M., Lindner, C., Shen, R. & Kumar, P., 2012, ApJ 744, 103
20. “Evidence for mild deviation from power-law distribution of electrons in relativistic shocks: GRB 090902B”, Barniol Duran, R. and Kumar, P., 2011, MNRAS 417, 1584
21. “Constraints on Cold Magnetized Shocks in Gamma-Ray Bursts”, Narayan, R., Kumar, P. and Tchekhovskoy, A., 2011, MNRAS 416, 2193
22. “Implications of electron acceleration for high-energy radiation from gamma-ray bursts”, Barniol Duran, R., & Kumar, P., 2011, MNRAS 412, 522
23. “External forward shock origin of high energy emission for three GRBs detected by Fermi”, Kumar, P. and Barniol Duran, R., 2010, MNRAS 409, 226
24. “Supernovae-induced accretion and star formation in the inner kiloparsec of a gaseous disk”, Kumar, P. & Johnson, J.L., 2010, MNRAS 404, 2170
25. “Collapsar Accretion and the Gamma-Ray Burst X-Ray Light Curve”, Lindner, C.C., Milosavljevic, M., Couch, S.M. and Kumar, P., 2010, ApJ 713, 800
26. “The late jet in gamma-ray bursts and its interactions with a supernova ejecta and a cocoon”, Shen, R., Kumar, P. and Piran, T., 2010, MNRAS 403, 229
27. “On the generation of high-energy photons detected by the Fermi Satellite from gamma-ray bursts”, Kumar, P. and Barniol Duran, R., 2009, MNRAS 400, L75
28. “A turbulent model of gamma-ray burst variability”, Narayan, R. & Kumar, P., 2009, MNRAS 394, L117
29. “Gamma-ray Burst 080319B: Evidence for Relativistic Turbulence, Not Internal Shocks”, Kumar P. & Narayan, R., 2009, MNRAS 395, 472

30. “Adiabatic expansion, early x-ray data and the central engine in GRBs”, Barniol Duran, R. & Kumar, P., 2009, MNRAS 395, 955
31. “Properties of Gamma-Ray Burst Progenitor Stars”, Kumar P., Narayan, R. and Johnson, J.L., 2008, Science 321, 376
32. “Mass fall-back and accretion in the central engine of gamma-ray bursts”, Kumar P., Narayan, R. and Johnson, J.L., 2008, MNRAS 388, 1729
33. “What did we learn from gamma-ray burst 080319B?”, Kumar, P and Panaitescu, A., 2008, MNRAS 391, L19
34. “A general scheme for modeling gamma-ray burst prompt emission”, Kumar, P. and McMahon, E., 2008, MNRAS 384, 33
35. “The Dust Scattering Model Can Not Explain The Shallow X-ray Decay in GRB Afterglows”, Shen, R-F, Willingale, R., Kumar, P., O’Brien, P.T. and Evans, P.A., 2009, MNRAS 393, 598
36. “Scattered emission from a relativistic outflow and its application to gamma-ray bursts”, Shen, R.-F., Duran, R. Barniol, and Kumar, P., 2008, MNRAS 384, 1129
37. “A unified picture for the gamma-ray and prompt optical emissions of GRB 990123”, Panaitescu, A., and Kumar, P., 2007, MNRAS 376, 1065
38. “The nature of the outflow in gamma-ray bursts”, Kumar, P., McMahon, E., et al., 2007, MNRAS 376, 57
39. “GRB 060313: A New Paradigm for Short-hard Bursts?”, Roming, Peter, et al., 2006, ApJ, 651, 985
40. “No universality for the electron power-law index ( $p$ ) in gamma-ray bursts and other relativistic sources”, Shen, Rongfeng, Kumar, P., and Robinson, Edward, L., 2006, MNRAS 371, 1441
41. “Swift observations of the prompt X-ray emission and afterglow from GRB050126 and GRB050219A”, Goad, M.R., et al., 2006, A&A 449, 89
42. “A unified picture for gamma-ray burst prompt and X-ray afterglow emissions”, Kumar, P., McMahon, E., et al., 2006, MNRAS 367, 52
43. “Distribution of gamma-ray burst ejecta energy with Lorentz factor”, Granot, Jonathan and Kumar, P., 2006, MNRAS 366, 13
44. “Reverse shock emission as a probe of gamma-ray burst ejecta”, McMahon, E., Kumar, P., and Piran, T., 2006, MNRAS 366, 575

45. "Swift Observations of the X-Ray Bright GRB 050315", Vaughan, S., et al., 2006, ApJ 638, 920
46. "Swift Panchromatic Observations of the Bright Gamma-Ray Burst GRB 050525a", Blustin, A.J., et al., 2006, ApJ 637, 901
47. "Discovery of an Afterglow Extension of the Prompt Phase of Two Gamma-Ray Bursts Observed by Swift", Barthelmy, S.D., et al., 2005, ApJ 635, 133
48. "The afterglow of GRB 050709 and the nature of the short-hard gamma-ray bursts", Fox, D.B., et al., 2005, Nature 437, 845
49. "An unexpectedly rapid decline in the X-ray afterglow emission of long Gamma-ray bursts", Tagliaferri, G., et al. 2005, Nature 436, 985
50. "An HST Search for Supernovae Accompanying X-Ray Flashes", Soderberg, A., et al, 2005, ApJ 627, 877
51. "Swift Observations of GRB 050128: The Early X-Ray Afterglow", Campana, S., et al., 2005, ApJ 625, 23
52. "The Swift Gamma-ray Burst Mission", Gehrels, N. et al., 2004, ApJ 611, 1005
53. "Prompt Gamma-ray and Early Afterglow Emission in the External Shock Model", McMahon, E., Kumar, P., and Panaitescu, A., 2004, MNRAS 354, 915
54. "Creation of electron-positron wind in gamma-ray bursts and its effect on the early afterglow emission", Kumar, P. and Panaitescu, A., 2004, MNRAS 354, 252
55. "The Slow Decay of Some Radio Afterglows, a Puzzle for the Simplest GRB Fireball Model", Panaitescu, A. and Kumar, P., 2004, MNRAS 350, 213
56. "Analysis of two scenarios for the early optical emission of the GRB afterglows 990123 and 021211", Panaitescu, A. and Kumar, P., 2004, MNRAS 353, 511
57. "A unified treatment of the gamma-ray burst 021211 and its afterglow", Kumar, P. and Panaitescu, A., 2003, MNRAS 346, 905
58. "The Effect of Angular Structure of Gamma-Ray Burst Outflows on the Afterglow Emission", Panaitescu, A. and Kumar, P., 2003, ApJ 592, 390
59. "The Evolution of a Structured Relativistic Jet and GRB Afterglow Light-Curves", Kumar, P. and Granot, J., 2003, ApJ 591, 1075
60. "Constraining the Structure of GRB Jets Through the Afterglow Light Curves", Granot, J. and Kumar, P., 2003, ApJ 591, 1086

61. “Electron–Positron Pair Wind in Gamma-Ray Bursts and Its Effect on the Early Afterglow Emission”, Kumar, P., and Panaitescu, A., 2004, MNRAS 354, 252
62. “GRB021004: a Massive Progenitor Star Surrounded by Shells”, Schaefer, B.E. et al., 2003, ApJ 588, 387
63. “X-ray Lines From Gamma-ray Bursts”, Kumar, P., and Narayan, R., 2003, ApJ 584, 895
64. “Angular momentum extraction by gravity waves in the sun”, Talon, S., Kumar, P., and Zahn, J-P, 2002, ApJ 574, L175
65. “Off-Axis Afterglow Emission from Jetted Gamma-Ray Bursts”, Granot, J., Panaitescu, A., Kumar, P., and Woosley, S.E., 2002, ApJ 570, L61
66. “Properties of Relativistic Jets in Eight Gamma-ray Burst Afterglows”, Panaitescu, A., and Kumar, P., 2002, ApJ 576, 120
67. “Fundamental Physical Parameters of Collimated Gamma-ray Burst Afterglows”, Panaitescu, A., and Kumar, P., 2001, ApJ 560, L49
68. “Observational Prospects for Afterglows of Short-Duration Gamma-ray Bursts”, Panaitescu, A., Kumar, P., and Narayan, R., 2001, ApJ 561, L171
69. “The energy of Long-duration Gamma-ray Bursts”, Piran, T., Kumar, P., Panaitescu, A., and Piro, L., 2001, ApJ 560, L167
70. “Accretion Models of Gamma-Ray Bursts”, Narayan, R., Piran, T. and Kumar, P., 2001, ApJ 557, 949
71. “Jet Energy and other Parameters for the Afterglows of Gamma-ray Bursts 980703, 990123, 990510, and 991216 Determined from Modeling of Multi-Frequency Data”, Panaitescu, A. and Kumar, P., 2001, ApJ 554, 667
72. “BeppoSAX confirmation of beamed afterglow emission from GRB 990510”, Pian, E., Soffitta, P., ASlessi, A., Amati, L., Costa, E., Frontera, F., Fruchter, A., Masetti, N., Palazzi, E., Panaitescu, A., and Kumar, P., A&A 372, 456
73. “Afterglow Emission from Naked Gamma-Ray Bursts,” Kumar, P. and Panaitescu, A., 2000, ApJ 541, L51.
74. “Steepening of Afterglow Decay for Jets Interacting with Stratified Media,” Kumar, P., and Panaitescu, A., 2000, ApJ 541, L9.
75. “Analytic Light-Curves of Gamma-Ray Burst Afterglows: Homogeneous versus Wind External Media,” Panaitescu, A., and Kumar, P., 2000, ApJ, 543, 66.

76. "The Distribution of Burst Energy and Shock Parameters for Gamma-ray Bursts," Kumar, P., 2000, ApJ, 538, L125.
77. "Some Observational Consequences of GRB Shock Models," Kumar, P., and Piran, T., 2000, ApJ, 532, 286.
78. "Energetics and Luminosity Function of Gamma-ray Bursts," Kumar, P., and Piran, T., 2000, ApJ, 535, 152.
79. "Source depth for solar p-modes," Kumar P. and Basu, S., 2000, ApJ letter, 545, L65
80. "Energy distribution of Solar oscillation Modes inferred from Space-Based measurements", Wooddard, M.F., Korzennik, S.G., Rabello-Soars, M.C., Kumar, P., Tarbell, T.D., and Acton, S., 2001, ApJ 548, L103
81. "Tidal spin-up of stars in dense stellar cusps around massive black holes," Alexander, T. and Kumar, P., 2001, ApJ 549, 948
82. "Gamma-Ray Burst Energetics," Kumar, P., 1999, ApJ, 523, L113.
83. "Line asymmetry of solar p-modes: Properties of acoustic sources," Kumar, P., and Basu, S., 1999, ApJ, 519, 396.
84. "Line asymmetry of solar p-modes: Reversal of asymmetry in intensity power spectra," Kumar, P., and Basu, S., 1999, ApJ, 519, 389.
85. "Angular momentum redistribution by waves in the Sun," Kumar, P., Talon, S. and Zahn, J-P, 1999, ApJ, 520, 859.
86. "The structure of the central disk of NGC 1068: a clumpy disk model," Kumar, P., 1998, ApJ, 519, 599.
87. "Dissipation of a tide in a differentially rotating star," Talon, S. and Kumar, P., 1998, ApJ, 503, 387.
88. "Possible explanations for some unusually large velocity dispersion molecular clouds near the Galactic centre," Kumar, P. and Riffert, H., 1997, MNRAS, 292, 871.
89. "Localized Helioseismic Constraints on Solar Structure," Bahcall, J.N., Basu, S., and Kumar, P., 1997, ApJ, 485, L91.
90. "On the orbital decay of the PSR J0045-7319 Binary," Kumar, P. and Quataert E., 1998, ApJ, 493, 412.
91. "Differential rotation enhanced dissipation of tides in the PSR J0045-7319 Binary," Kumar, P. and Quataert E., 1997, ApJ, 479, L51.

92. "Angular momentum transport by gravity waves and its effect on the rotation of the solar interior," Kumar, P. and Quataert, E.J., 1997, *ApJ*, 475, L143.
93. "Asymmetries of Solar p-mode Line Profiles," Abrams, D. and Kumar, P., 1996, *ApJ*, 472, 882.
94. "Observational Searches for Solar g-modes: Some Theoretical Considerations," Kumar, P., Quataert, E.J., and Bahcall, J.N., 1996, *ApJ*, 458, L83.
95. "Nonlinear Damping of Oscillations in Tidal-Capture Binaries," Kumar, P. and Goodman, G., 1996, *ApJ*, 466, 946.
96. "HI Observations of two Molecular Clouds with Extremely Large Velocity Dispersions," Riffert, H., Kumar, P. and Huchtmeier, W.K., 1997, *MNRAS*, 284, 749.
97. "On the validity of the classical apsidal motion formula for tidal distortion," Quataert, E.J., Kumar, P. and Ao, C.O., 1996, *ApJ*, 463, 284.
98. "On The Interaction of Convection and Rotation in Stars," Kumar, P., Narayan, R. and Loeb, A., 1995, *ApJ*, 453, 480.
99. "Tidal Excitation of Modes in Binary Systems with Applications to Binary Pulsars," Kumar, P., Ao, C.O., and Quataert, E.J., 1995, *ApJ*, 449, 294.
100. "Causality in Strong Shear Flows," Narayan, R., Loeb, A., and Kumar, P., 1994, *ApJ*, 431, 359.
101. "Properties of Acoustic Sources in the Sun," Kumar, P, 1994, *ApJ*, 428, 827.
102. "Limits on Coronal Reflection Using High-Frequency Solar Oscillations," Kumar, P, Fardal, M.A., Jefferies, S.M., Duvall, T.L. Jr., Harvey J.W., and Pomerantz, M.A., 1994, *ApJ*, 422, L29.
103. "Excitation of Solar p-modes," Goldreich, P., Murray, N., and Kumar, P., 1994, *ApJ*, 424, 466.
104. "Effect of Nonlinear Interactions Among Solar acoustic Modes on p-mode Frequencies," Kumar, P., Goldreich, P., and Kerswell, R., 1994, *ApJ*, 427, 483.
105. "g-modes and The Solar Neutrino Problem," Bahcall J. N., and Kumar P., 1993, *ApJ*, 409, L73.
106. "Reconstructing the Primordial Spectrum of Fluctuations of the Universe from the Observed Nonlinear Clustering of Galaxies," Hamilton, A.J.S., Kumar, P., Lu, E., and Matthews, A., 1991, *ApJ*, 374, L1.
107. "The Location of the Source of High Frequency Solar Acoustic Oscillations," Kumar, P., and Lu, E., 1991, *ApJ*, 375, L35.

108. "Implications of Solar P-Mode Frequency Shifts," Goldreich, P., Murray, N., Willette, G., and Kumar, P., 1991, *ApJ*, 370, 752.
109. "Thermal and Mechanical Damping of Solar p-Modes," Goldreich, P., Kumar, P., 1991, *ApJ*, 374, 366.
110. "Wave Generation By Turbulent Convection," Goldreich, P. and Kumar, P., 1990, *ApJ*, 363, 694.
111. "Nonlinear Interactions Among Solar Acoustic Modes," Kumar, P. and Goldreich, P., 1989, *ApJ*, 342, 558.
112. "Distribution Functions for the Time Averaged Energies of Stochastically Excited Solar p-modes," Kumar, P., Franklin, J. and Goldreich, P., 1988, *ApJ*, 328, 879.
113. "The Interaction of Acoustic Radiation with Turbulence," Goldreich, P. and Kumar, P., 1988, *ApJ*, 326, 462.