

Jonathan Granot _____ Curriculum Vitae

Centre for Astrophysics Research, University of Hertfordshire, College Lane, Hatfield, AL10 9AB, UK; j.granot@herts.ac.uk, <http://star.herts.ac.uk/~granot>, +44-1707-284569

EDUCATION _____

- 2002 **Ph.D.** in Physics, Hebrew University of Jerusalem
- 1999 **M.Sc.** in Physics, Hebrew University of Jerusalem
- 1997 **B.Sc.** in Physics and Mathematics, Hebrew University of Jerusalem

EMPLOYMENT _____

- 2008 – Reader in Astrophysics at the University of Hertfordshire
- 2007 – 2008 Principal Lecturer at the University of Hertfordshire
- 2004 – 2007 Research Associate at the Kavli Institute for Particle Astrophysics and Cosmology (KIPAC) in Stanford
- 2001 – 2004 Member at the Institute for Advanced Study (IAS) in Princeton
- 1998 – 2001 Instructor at a physics lab, during Ph.D. studies (Hebrew Univ.)
- 1996 – 1998 Teaching Assistant, during M.Sc. studies at the Hebrew University

VISITING POSITIONS _____

- Long term: 2011 – Erskine Visiting Associate Professor, Hebrew University
- Short term: 2008, 9 KIPAC, Stanford & University of California, Santa Cruz
- 2006 Kavli Institute for Theoretical Physics, Santa Barbara
- 2000 Kersten Visiting Fellow, University of Chicago

HONORS, PRIZES, AWARDS _____

- 2011 HEAD AAS Rossi Prize to B. Atwood, P. Michelson & the Fermi LAT team
- 2007 Royal Society Wolfson Research Merit Award (for 5 years; significant salary enhancement + some research funds)
- 2007 HEAD AAS Rossi Prize to Neil Gehrels and the Swift team
- 2003 Keck Fellowship (Institute for Advanced Study, Princeton)
- 2000 A 3 year Scholarship from the Horowitz foundation
- 2000 The Giulio Racah prize for academic excellence
- 1999 M.Sc. *cum laude* in Physics (Hebrew University)
- 1997 B.Sc. *cum laude* in Physics and Mathematics (Hebrew Univ.)
- 1995, 6 Dean's list of the Faculty of Mathematics and Natural Sciences

RESEARCH INTERESTS _____

- High energy astrophysics; gamma-ray bursts; magnetars; gravitational lensing; high energy neutrinos; pulsar wind nebulae; relativistic fluid dynamics and MHD; structure of blast waves; dynamics of relativistic jets; tests of Lorentz invariance violation.

SELECT ACADEMIC ACHIEVEMENTS _____

- ★ **103** papers published in refereed journals (+ **3** submitted)
- ★ **36** first (or main) author papers; **4** review articles; **1** book chapter
- ★ **31** invited talks at conferences/meetings (+**4** scheduled, >30 colloquia/seminars)
- ★ Over **5000** citations (SAO/NASA Astrophysics Data System)

PROFESSIONAL ACTIVITY _____

- Peer Review for: Science Magazine; Physical Review (Letters & E); Astrophysical Journal (Letters & main journal); Mon. Not. Roy. Astron. Soc. (Letters & main journal); Astronomy and Astrophysics; Rep. Prog. Phys.; Adv. in Space Res.; Astroparticle Physics; Pub. Astron. Soc. Jap.; Rev. Mex. A&A, ASTRA, IJMPCS
- Review of proposals for: National Aeronautics and Space Administration (NASA); European Science Foundation (ESF); US-Israel Binational Science Foundation (BSF) Science & Technology Facilities Council (STFC); Aristeia; Gemini Observatory
- Co-I in VLBA, VLA, VLT, EVN, WSRT, Chandra, Spitzer, and Hubble Space Telescope proposals, and PI of a VLBA proposal
- Chaired sessions or was a member of the SOC in many international conferences
- Member of the **Swift** Science Theory Team 2006–
- Affiliated Scientist with the **Fermi Large Area Telescope** collaboration 2007–
- Member of **Cherenkov Telescope Array** collaboration (GRB task co-leader) 2008–

RECENT PERSONAL RESEARCH FUNDING _____

- Marie Curie International Reintegration Grant (€100,000 over 4 years)
- Royal Society Wolfson Research Merit Award (£18,000 over 5 years)

TEACHING AND MENTORING EXPERIENCE _____

- Taught courses in astrophysics, physics, mathematics, programming (2007 – 2011)
- Organized a GRB Journal Club at KIPAC, Stanford (2006 – 2007)
- Worked with, mentored and guided PhD students during my post-docs at Princeton (2001 – 2004) and at Stanford (2004 – 2007); supervised a post-doc at the University of Hertfordshire (2007 – 2009); guiding post-docs at the Hebrew University
- Gave tutorial talks at summer schools and review talks at conferences
- Mentored a summer student and guided him through a research project, at Stanford
- Worked as an instructor at a second year undergraduate physics lab during my Ph.D. studies (1998 – 2001), and as a teaching assistant during my M.Sc. (1996 – 1998)

INVITED TALKS SINCE 2009

1. “GRB Jet Dynamics: Analytic Models and Numerical Simulations”, Fall 2012 Gamma-Ray Burst Symposium, October 8-12, 2012, Marbella, Malaga, Spain
2. “Magnetars and high B-field radio pulsars: A comparative view”, at the 39th COSPAR Scientific Assembly, July 14-22, 2012, Mysore, India
3. “Gamma-Ray Burst theoretical models”, at the 13th Marcel Grossmann meeting (MG13), July 6, 2012, Stockholm, Sweden
4. “Magnetized Relativistic Outflows”, at the 13th Marcel Grossmann meeting (MG13), July 5, 2012, Stockholm, Sweden
5. “Gamma-Ray Bursts: Review of the Current Status of the Field and Prospects for the Future”, review talk at the International Conference on Astrophysics & Cosmology (ICAC2012), March 20, 2012, Kathmandu, Nepal
6. “What we could learn from Cherenkov Telescope Array observations of Gamma-Ray Bursts”, at the 12th HEAD meeting, Sep. 7, 2011, Newport, Rhode Island, USA
7. “Constraints on Lorentz Invariance Violation from Fermi”, at *First LINK Workshop: Probing physics beyond the Standard Model with CTA*, Nov. 12, 2010, Oxford, UK
8. “GRB theory in the Fermi Era”, given at the conference *Accretion and Outflow in Black Hole Systems*, October 15, 2010, Kathmandu, Nepal
9. “Current Status and Future Prospects of GRB Science”, review talk at the RAS special discussion meeting *Explosive Transients*, June 18, 2010, Liverpool, England
10. “Limits on Lorentz Invariance Violation from Fermi GRBs”, given at *Fundamental Physics Laws: Lorentz Symmetry and Quantum Gravity*, June 2, 2010, Paris, France
11. “Highlights from Fermi GRB observations”, review talk at the Royal Astronomical Society *NAM 2010*, April 14, 2010, Glasgow, Scotland
12. “Highlights from Fermi Gamma-Ray Space Telescope observations of GRBs”, given at the “April” 2010 Meeting of the APS, February 14, 2010, Washington, DC, USA
13. “High-Energy Fermi GRBs, Long and Short”, given at the 215th meeting of the American Astronomical Society, January 4, 2010, Washington, DC, USA
14. “Some Implications of Fermi High-Energy GRB Observations”, given at *The Shocking Universe*, September 15, 2009, San Servolo, Venice, Italy
15. “GRB High-Energy Emission: First Year Highlights from Fermi”, given at *Particle Acceleration in Astrophysical Plasmas*, Aug. 17, 2009, KITP, Santa Barbara, CA
16. “Similarities and Differences between Fermi GRB 080825C and AGILE GRB 080514B”, given at the 6th Science AGILE Workshop, April 23, 2009, Milan, Italy
17. “First Results from Fermi on GRBs”, given at the Symposium *First Results from the Fermi Gamma-ray Space Telescope*, March 7, 2009, Tokyo, Japan
18. “GRB Theory in the Fermi Era”, given at the 44th Rencontres de Moriond on *Very High Energy Phenomena in the Universe*, February 2, 2009, La Thuile, Italy

LIST OF PUBLICATIONS

Articles **published in refereed journals** are marked by ‘★’

Articles **submitted** to refereed journals but not yet published are marked by ‘o’

Impulsive Relativistic Jets: MagnetoHydroDynamics & Radiation

1. ★ “The effects of sub-shells in highly magnetized relativistic flows”,
Granot, J. 2012b, MNRAS, 421, 2467–2477
2. ★ “Interaction of a highly magnetized impulsive relativistic flow with an external medium”,
Granot, J. 2012a, MNRAS, 421, 2442–2466
3. ★ “Impulsive Acceleration of Strongly Magnetized Relativistic Flows”,
Granot, J., Komissarov, S. S., & Spitkovsky, A. 2011, MNRAS, 411, 1323–1353
4. ★ “Opacity Build-up in Impulsive Relativistic Sources”,
Granot, J., Cohen-Tanugi, J., & do Couto e Silva, E. 2008, **ApJ**, 677, 92–126

Fundamental Physics: Astrophysical Tests of Lorentz Invariance

5. ★ “A limit on the variation of speed of light arising from quantum gravity effects”, the Fermi LAT and Fermi GBM Collaborations, 2009, **Nature**, 462, 331–334 (**J. Granot** is a corresponding author; he initiated, organized and supervised this work and was the main driving force behind it; he would be first author if not for the Fermi LAT collaboration’s strict alphabetical author list rule).

Gravitational Microlensing

6. ★ “The Mean Number of Extra Microimage Pairs for Macrolensed Quasars”
Granot, J., Schechter, P. L., & Wambsganss, J. 2003, **ApJ**, 583, 575–583
7. ★ “Microlensing and the Surface Brightness Profile of the Afterglow Image of GRB 000301C”, Gaudi, B. S., **Granot, J.**, & Loeb, A. 2001, **ApJ**, 561, 178–182
8. ★ “Chromatic Signatures in the Microlensing of GRB Afterglows”
Granot, J., & Loeb, A. 2001, **ApJ Lett.**, 551, L63–L66

High Energy Neutrinos

9. ★ “Neutrinos from Pulsar Wind Bubbles as Precursors to Gamma-Ray Bursts”,
Granot, J., & Guetta, D. 2003, **Phys. Rev. Lett.**, 90, 191102
10. ★ “Neutrinos of Energy $\sim 10^{16}$ eV from Gamma-Ray Bursts in Pulsar Wind Bubbles”,
Guetta, D., & **Granot, J.** 2003, **Phys. Rev. Lett.**, 90, 201103

Highly Magnetized Neutron Stars: Phenomenology, Theory

11. ◦ “Prologue and Epilogue: SGRJ1550-5418 bursts during the first and last active episodes detected with Fermi/GBM”, von Kienlin, A., et al. 2012 (**J. Granot** author #4 out of 19) submitted to ApJ
12. ◦ “Broadband Spectral Investigations of SGR J1550–5418 Bursts”, Lin, L., et al. 2012 (**J. Granot** author #4 out of 12), submitted to ApJ
13. ★ “Magnetic Field Decay in Neutron Stars: from SGRs to Weak Field Magnetars”, Dall’Osso, S., **Granot, J.**, & Piran, T. 2012, MNRAS published online (doi:10.1111/j.1365-2966.2012.20612.x)
14. ★ “SGR J1550–5418 Bursts during its most Prolific Activity observed with Fermi/GBM”, van der Horst, A. J., et al. 2012 (**J. Granot** author #8 out of 37), ApJ 749, 122
15. ★ “Burst and Persistent Emission Properties during the Recent Active Episode of the Anomalous X-ray Pulsar 1E 1841-045”, Lin, L., et al. 2011 (**J. Granot** author #10 out of 18), **ApJ Lett.**, 740, L16
16. ★ “Fermi/GBM Observations of SGRJ0501+4516 Bursts”, Lin, L., et al. 2011 (**J. Granot** author #10 out of 30), ApJ, 739, 87
17. ★ “Discovery of a New Soft Gamma Repeater: SGR J0418+5729”, van der Horst, A. J., et al. 2010 (**J. Granot** author #8 out of 35) **ApJ Lett.**, 711, L1–L6
18. ★ “Magnetar Twists: Fermi/Gamma-ray Burst Monitor (GBM) detection of SGR1550-5418”, Kaneko, Y., et al. 2010 (**J. Granot** author #4 out of 14) **ApJ**, 710, 1335
19. ★ “An infrared ring around the magnetar SGR 1900+14”, Wachter, S., Ramirez-Ruiz, E., Dwarkadas, V. V., Kouveliotou, C., **Granot, J.**, Patel, S. K., & Figer, D. 2008, **Nature**, 453, 626–628
20. ★ “The Giant Flare from SGR 1806–20 and its Radio Afterglow”, Taylor, G. B., & **Granot, J.** 2006, invited Brief Review, **Mod. Phys. Lett. A**, 21, 2171–2188
21. ★ “Diagnosing the Outflow from the SGR 1806-20 Giant Flare with Radio Observations”, **Granot, J.**, and 8 other co-authors, 2006, **ApJ**, 638, 391–396
22. ★ “The Growth, Polarization, and Motion of the Radio Afterglow from the Giant Flare from SGR 1806-20”, Taylor, G. B., Gelfand, J. D., Gaensler, B. M., **Granot, J.**, and 7 other co-authors, 2005, **ApJ Lett.**, 634, L89–L92
23. ★ “A Re-brightening of the Radio Nebula associated with the 2004 Dec. 27 Giant Flare from SGR 1806-20”, Gelfand, J. D., Lyubarsky, Y. E., Eichler, D., Gaensler, B. M., Taylor, G. B., **Granot, J.**, & 4 co-authors, 2005, **ApJ Lett.**, 634, L93–L96
24. ★ “A giant γ -ray flare from the magnetar SGR 1806-20”, Palmer, D. M., Barthelmy, S., Gehrels, N., Kippen, R. M., Cayton, T., Kouveliotou, C., Eichler, D., Wijers, R. A. M. J., Woods, P. M., **Granot, J.**, & 18 co-authors, 2005, **Nature**, 434, 1107–1109
25. ★ “An expanding radio nebula produced by a giant flare from the magnetar SGR 1806-20”, Gaensler, B.M., Kouveliotou, C., Gelfand, J.D., Taylor, G.B., Eichler, D., Wijers, R. A. M. J., **Granot, J.**, & 12 co-authors, 2005, **Nature**, 434, 1104–1106

Structure and Stability of Relativistic Shocks

26. ★ “Stability of Radiative Relativistic Shocks to Global Oscillations”, Königl, A., & **Granot, J.** 2008, International Journal of Modern Physics D, 17, 1777–1786
27. ★ “Radiative Hydromagnetic Shocks in Relativistic Outflow Sources”, **Granot, J.**, & Königl, A. 2001, **ApJ**, 560, 145–159

Polarization in GRBs

28. ★ “Radio Flares and the Magnetic Field Structure in GRB Outflows”, **Granot, J.**, & Taylor, G. B. 2005, **ApJ**, 625, 263–270
29. ★ “The Most Probable Cause for the High Gamma-Ray Polarization in GRB 021206”, **Granot, J.** 2003, **ApJ Lett.**, 596, L17–L21
30. ★ “Linear Polarization in GRBs: The Case for an Ordered Magnetic Field”, **Granot, J.**, & Königl, A. 2003, **ApJ Lett.**, 594, L83–L87

Dynamics of GRB Jets: Numerical and Analytic studies

31. ★ “Scaling relations between numerical simulations and physical systems they represent”, **Granot, J.** 2012, MNRAS, 421, 2610–2615
32. ★ “On the lateral expansion of GRB jets”, **Granot, J.**, & Piran, T. 2012, MNRAS, 421, 570
33. ★ “Simulations of GRB Dynamics in a Stratified External Medium: Afterglow Lightcurves, Jet Breaks and Radio Calorimetry”, De Colle, F., Ramirez-Ruiz, E., **Granot, J.**, Lopez-Camara, D. 2012, **ApJ**, 751, 57
34. ★ “Gamma-Ray Burst Dynamics and Afterglow Radiation from Adaptive Mesh Refinement, Special Relativistic Hydrodynamic Simulations”, De Colle, F., **Granot, J.**, Lopez-Camara, D., & Ramirez-Ruiz, E. 2012, **ApJ**, 746, 122
35. ★ “The Evolution of a Structured Relativistic Jet and Gamma-Ray Burst Afterglow Light Curves”, Kumar, P., & **Granot, J.** 2003, **ApJ**, 591, 1075–1085
36. “The Jet Angular Profile and the Afterglow Light Curves”, **Granot, J.**, Kumar, P., & Piran, T. 2004, in “Gamma Ray Bursts in the Afterglow Era - 3rd Workshop”, ed. M. Feroci, F. Frontera, N. Masetti, & L. Piro (San Francisco: ASP), 312, p. 373
37. “Light Curves from an Expanding Relativistic Jet”, **Granot, J.**, Miller, M., Piran, T., Suen, W.M., & Hughes, P.A. 2001, in “Gamma-Ray Bursts in the Afterglow Era - 2nd Workshop”, ed. E. Costa, F. Frontera, & J. Hjorth (Berlin; Springer) p. 312
38. “Hydrodynamics and Radiation from a Relativistic Expanding Jet with Applications to GRB Afterglow”, **Granot, J.**, Miller, M., Piran, T., & Suen, W. M. 2000, AIP Conf. Proc. 526, 5th Huntsville Symposium on Gamma-Ray Bursts, ed. R. M. Kippen, R. S. Mallozzi & G. J. Fishman (New York: AIP), 534, p. 540

Angular Structure of GRB Jets

39. ★ “The Structure and Dynamics of GRB Jets”, **Granot, J.** 2006, **invited review** for the proceedings of the conference “Triggerring Relativistic Jets”, held in Cozumel, Mexico, on March 28 to April 1, 2005; **Rev. Mex. A&A**, 27, 140–165
40. ★ “Revealing the Jet Structure of GRB 030329 with High Resolution Multicolor Photometry”, Gorosabel, J., Castro-Tirado, A. J., Ramirez-Ruiz, E., **Granot, J.**, et al. 2006, **ApJ Lett.**, 641, L13–L16
41. ★ “Afterglow Light Curves from Impulsive Relativistic Jets with an Unconventional Structure”, **Granot, J.** 2005, **ApJ**, 631, 1022–1031
42. ★ “Two-Component Jet Models of Gamma-Ray Burst Sources”, Peng, F., Königl, A., & **Granot, J.** 2005, **ApJ**, 626, 966–977
43. ★ “Constraining the Structure of GRB Jets through the log(N)-log(S) Distribution”, Guetta, D., **Granot, J.**, & Begelman, M.C. 2005, **ApJ**, 622, 482–491
44. ★ “Testing the Predictions of the Universal Structured GRB Jet Model”, Nakar, E., **Granot, J.**, & Guetta, D. 2004, **ApJ Lett.**, 606, L37–L40
45. ★ “Constraining the Structure of Gamma-Ray Burst Jets through the Afterglow Light Curves”, **Granot, J.**, & Kumar, P. 2003, **ApJ**, 591, 1086–1096

The GRB - Supernovae Connection

46. ★ “Detailed radio view on two stellar explosions: XRF080109/SN2008D and SN2007uy in NGC 2770” van der Horst, A. J., Kamble, A. P., Paragi, Z., Sage, L. J., Pal, S., Taylor, G. B., Kouveliotou, C., **Granot, J.**, & 11 co-authors, 2011, **ApJ**, 726, 99
47. ★ “A mildly relativistic radio jet from the normal Type Ic Supernova 2007gr”, Paragi, Z., Taylor, G. B., Kouveliotou, C., **Granot, J.**, Ramirez-Ruiz, E., Bietenholz, M., van der Horst, A. J., Pidopryhora, Y., van Langevelde, H. J., Garrett, M. A. Szomoru, A., Argo, M., & Paczyński, B. 2010, **Nature**, 463, 516–518
48. ★ “SN 2001em: Not so Fast”, Schinzel, F. K., Taylor, G. B., Stockdale, C. J., **Granot, J.**, Ramirez-Ruiz, E. 2008, **ApJ**, 691, 1379–1385
49. ★ “Prompt and Afterglow Emission Properties of GRBs with Spectroscopically identified Supernovae”, Kaneko, Y., Ramirez-Ruiz, E., **Granot, J.**, Kouveliotou, C., Woosley, S. E., et al. 2007, **ApJ**, 654, 385–402
50. ★ “The Case for a Misaligned Relativistic Jet from SN 2001em”, **Granot, J.**, & Ramirez-Ruiz, E. 2004, **ApJ Lett.**, 609, L9–L12
51. ★ “Radio Imaging of GRB Jets in Nearby Supernovae”, **Granot, J.**, & Loeb, A. 2003, **ApJ Lett.**, 593, L81–L84

X-ray Flashes, GRBs Viewed Off-Axis & Orphan Afterglows

52. “Jets and Gamma-Ray Burst Unification Schemes”, **Granot, J.**, & Ramirez-Ruiz, E. 2011, book chapter, to appear in ”Gamma-ray Bursts” (CUP)
53. ★ “A late time afterglow rebrightening in GRB081028”, Margutti, R., Genet, F., **Granot, J.**, et al. 2010, **MNRAS**, 402, 46–64
54. ★ “Rise and fall of the X-ray flash 080330: an off-axis jet?”, Guidorzi, C., Clemens, S. Kobayashi, S., **Granot, J.**, and 30 other co-authors, 2009, **A&A**, 499, 439–453
55. ★ “Afterglow Observations Shed New Light on the Nature of X-ray Flashes”, **Granot, J.**, Ramirez-Ruiz, E., & Perna, R. 2005, **ApJ**, 630, 1003–1014
56. ★ “An Off-Axis Model for GRB 031203”, Ramirez-Ruiz, E., **Granot, J.**, Kouveliotou, C., Woosley, S. E., Patel, S. K., & Mazzali, P. A. 2005, **ApJL**, 625, L91–L94
57. ★ “The Detectability of Orphan Afterglows”, Nakar, E., Piran, T., & **Granot, J.** 2002, **ApJ**, 579, 699–705
58. ★ “Off-Axis Afterglow Emission from Jetted Gamma-Ray Bursts”, **Granot, J.**, Panaitescu, A., Kumar, P., & Woosley, S. E. 2002, **ApJ Lett.**, 570, L61–L64

Swift: Short-Hard GRBs, Early Afterglows, and More

59. ★ “X-ray flare candidates in short gamma-ray bursts”, Margutti, R., Chincarini, G., **Granot, J.**, and 7 co-authors, 2011, **MNRAS**, 417, 2144–2160
60. ★ “The missing link: Merging neutron stars naturally produce jet-like structures and can power short Gamma-Ray Bursts”, Rezzolla, L., Giacomazzo, B., Baiotti, L., **Granot, J.**, Kouveliotou, C., & Aloy, M. A. 2011, **ApJ Lett.**, 732, L6
61. ★ “The long rapid decay phase of the extended emission from the short GRB080503”, Genet, F., Butler, N. R., & **Granot, J.** 2010, **MNRAS**, 405, 695–700
62. ★ “Limits on radioactive-powered emission associated with a short-hard GRB 070724A in a star-forming galaxy”, Kocevski, D., Thöne, C., Ramirez-Ruiz, E., Bloom, J. S., **Granot, J.**, and 7 other co-authors, 2010, **MNRAS**, 404, 963–974
63. ★ “The spectral-temporal properties of the prompt pulses and rapid decay phase of GRBs”, Willingale, R., Genet, F., **Granot, J.**, & O’Brien, P. T. 2010, **MNRAS**, 403, 1296–1316
64. ★ “Testing High Latitude Emission in GRBs”, Genet, F., & **Granot, J.** 2009, **MNRAS**, 399, 1328–1346
65. ★ “Late time observations of GRB080319B: jet break, host galaxy and accompanying supernova”, Tanvir, N. R., Rol, Levan, A., Fruchter, A., **Granot, J.**, and 13 other co-authors, 2009, **ApJ**, 725, 625

66. ★ “GRB 080503: Implications of a Naked Short Gamma-Ray Burst Dominated by Extended Emission”, Perley, D. A., Metzger, B. D. **Granot, J.**, Butler, N. R., Sakamoto, T., Ramirez-Ruiz, E., et al. 2009, **ApJ**, 696, 1871–1885
67. ★ “GRB 080319B: A Naked-Eye Stellar Blast from the Distant Universe”, Racusin, J. L., Karpov, S. V., Sokolowski, M., **Granot, J.**, and 87 other co-auteurs, 2008, **Nature**, 455, 183–188
68. ★ “GRB 060714: No Clear Dividing Line between Prompt Emission and X-ray Flares”, Krimm, H. A, **Granot, J.**, Marshal, F., Perri, M., Barthelmy, S. D., Burrows, D. N., Gehrels, N., Mészáros, P., & Morris, D. 2007, **ApJ**, 665, 554–568
69. ★ “The flat decay phase in the early X-ray afterglows of Swift GRBs”, **Granot, J.** 2006, short review for “Swift and GRBs: Unveiling the Relativistic Universe”, Venice, Italy, June 5-9, 2006; **Il Nuovo Cimento B**, 121, 1073–1079
70. ★ “Swift detects a remarkable gamma-ray burst, GRB 060614, that introduces a new classification scheme”, Gehrels, N., Norris, J. P., Mangano, V., Barthelmy, S. D., Burrows, D. N., **Granot, J.**, et al. 2006, **Nature**, 444, 1044–1046
71. ★ “Implications of the Early X-Ray Afterglow Observations of Swift GRBs”, **Granot, J.**, Königl, A., & Piran, T. 2006, **MNRAS**, 370, 1946–1960
72. ★ “Distribution of Gamma-ray Burst Ejecta Energy with Lorentz Factor”, **Granot, J.**, & Kumar, P. 2006, **MNRAS Lett.**, 366, L13–L16
73. ★ “The Case for Anisotropic Afterglow Efficiency within Gamma-Ray Burst Jets”, Eichler, D., & **Granot, J.** 2006, **ApJ Lett.**, 641, L5–L8
74. ★ “Evidence for a Canonical GRB Afterglow Light Curve in the *Swift*/XRT Data”, Nousek, J. A., Kouveliotou, C., Grupe, D., Page, K., **Granot, J.**, Ramirez-Ruiz, and 22 other co-authors, 2006, **ApJ**, 642, 389–400
75. ★ “The Galaxy Hosts and Large-Scale Environments of Short-Hard γ -ray Bursts”, Prochaska, J. X., Bloom, J. S., Chen, H.-W., Foley, R. J., Perley, D. A., Ramirez-Ruiz, E., **Granot, J.**, Lee, W. H., et al. 2005, **ApJ**, 642, 989–994
76. ★ “Constraints on Short Gamma-Ray Burst Models with Optical Limits of GRB 050509b”, Hjorth, J., Sollerman, J., Gorosabel, J., **Granot, J.**, Klose, S., Kouveliotou, C., Melinder, J., Ramirez-Ruiz, E., et al. 2005, **ApJ Lett.**, 630, L117–L120
77. ★ “A Compact Binary Merger Model for GRB 050509b”, Lee, W. H., Ramirez-Ruiz, E., & **Granot, J.** 2005, **ApJ Lett.**, 630, L165–L168
78. ★ “Closing in on a Short-Hard Burst Progenitor: Constraints from Early-Time Optical Imaging and Spectroscopy of a Possible Host Galaxy of GRB 050509b”, Bloom, J. S., Prochaska, J. X., Pooley, D., Blake, C. W., Foley, R. J., Jha, S., Ramirez-Ruiz, E., **Granot, J.**, et al. 2006, **ApJ**, 638, 354–368

High Energy Emission from Relativistic Sources

79. ◦ “Constraining the High-Energy Emission from Gamma-ray Bursts with Fermi”, The Fermi LAT/GBM Collaborations, 2012, submitted to *ApJ* (arXiv:1201.3948)
80. ◦ “Scientific Prospects for Cherenkov Telescope Array Observations of Gamma-Ray Bursts”, Inoue, S., **Granot, J.**, O’Brien, P., and 16 other co-authors 2011, a review for a special issue of *Astro-Particle Physics*
81. ★ “Design concepts for the Cherenkov Telescope Array CTA: an advanced facility for ground-based high-energy gamma-ray astronomy”, The CTA Consortium, 2011, *Exp. Astron.*, 32, 193–316
82. ★ “Detection of High-Energy Emission during the X-ray Flaring Activity in GRB 100728A”, the Fermi LAT/GBM collaborations, 2011, ***ApJ Lett.***, 734, L27
83. ★ “Constraints on the γ -ray Opacity of the Universe with the Fermi Gamma-Ray Space Telescope”, the Fermi LAT collaboration, 2010, ***ApJ***, 723, 1082–1096
84. ★ “Detection of a Spectral Break in the Extra Hard Component of GRB090926A”, the Fermi LAT/GBM collaborations, 2011, ***ApJ***, 729, 114
85. ★ “Fermi observations of high-energy gamma-ray emission from GRB 090217”, the Fermi LAT/GBM collaborations, 2010, ***ApJ Lett.***, 717, L127–L132
86. ★ “Fermi Observations of GRB 090510: A Short Hard GRB with an Additional, Hard Power-Law Component from 10 keV to GeV Energies”, the Fermi LAT/GBM collaborations, 2010, ***ApJ***, 716, 1178–1190 (**J. Granot** is a contact author)
87. “Highlights from Fermi GRB observations”, **Granot, J.**, for the Fermi LAT/GBM collaborations, invited talk, to appear in proc. of “The Shocking Universe – GRBs and High Energy Shock phenomena”, Venice, Italy, Sep. 14-18, 2009 (arXiv:1003.2452)
88. ★ “Fermi Detection of Delayed GeV Emission from the Short Gamma-Ray Burst 081024B” the Fermi and Swift collaborations, 2010, ***ApJ***, 712, 558–564
89. ★ “Swift and Fermi observations of the early afterglow of the short GRB 090510”, the Swift and Fermi collaborations, 2010, ***ApJ Lett.***, 709, L146–L151
90. ★ “Fermi Observations of GRB 090902B: A Distinct Spectral Component in the Prompt and Delayed Emission”, the Fermi and Swift collaborations, 2009, ***ApJ Lett.***, 706, L138–L144
91. ★ “Fermi observations of high-energy γ -ray emission from GRB 080825C”, the Fermi LAT/GBM collaborations, 2009, ***ApJ***, 707, 580–592 (**J. Granot** is a contact author)
92. ★ “Fermi observations of high-energy gamma-ray emission from GRB 080916C”, the Fermi LAT and Fermi GBM Collaborations, 2009, ***Science***, 323, 1688–1693

93. “GRB Theory in the Fermi Era”, **J. Granot**, for the Fermi LAT and Fermi GBM collaborations, invited talk, to appear in the proceedings of 44th Recontres de Moriond - “Very High Energy Phenomena in the Universe”, La Thuile (Val d’Aosta, Italy) February 1 - 8, 2009 (arXiv:0905.2206).
94. ★ “Prospects for GRB science with the GLAST Large Area Telescope”, the Fermi LAT collaboration, 2009, **ApJ**, 701, 1673–1694
95. “Gamma Ray Burst Section of the White Paper on the Status and Future of Ground-based TeV Gamma-ray Astronomy”, Falcone, A. D., Williams, D. A., Baring, M. G., Blandford, R., Buckley, J., Connaughton, V., Coppi, P., Dermer, C., Dingus, B., Fryer, C., Gehrels, N., **Granot, J.**, et al. 2008 (arXiv:0810.0520)
96. ★ “A Simple Test of the External Shock Model for the Prompt Emission in Gamma-Ray Bursts”, Ramirez-Ruiz, E., & **Granot, J.** 2007, **New Astronomy**, 12, 630–634
97. ★ “High Energy Emission from the Double Pulsar system J0737–3039”
Granot, J., & Mészáros, P. 2004, **ApJ Lett.**, 609, L17–L20
98. ★ “Explaining the High Energy Spectral component in GRB 941017”,
Granot, J., & Guetta, D. 2003, **ApJ Lett.**, 598, L11–L14
99. ★ “High-Energy Emission from the Prompt Gamma-Ray Burst”,
Guetta, D., & **Granot, J.** 2003, **ApJ**, 585, 885–889

Temporal Variability in GRB afterglows

100. ★ “Smooth Light Curves from a Bumpy Ride: Relativistic Blast Wave Encounters a Density Jump”, Nakar, E., & **Granot, J.** 2007, **MNRAS**, 380, 1744–1760
101. ★ “Refreshed Shocks from a γ -ray burst”,
Granot, J., Nakar, E., & Piran, T. 2003, **Nature**, 426, 138–139
102. ★ “Variability in GRB afterglows and GRB 021004”
Nakar, E., Piran, T., & **Granot, J.** 2003, **New Astronomy**, 8, 495–505

GRBs in Pulsar Wind Bubbles

103. ★ “Observational Implications of a Plerionic Environment for Gamma-Ray Bursts”,
Guetta, D., & **Granot, J.** 2003, **MNRAS**, 340, 115–138
104. ★ “Gamma-Ray Burst Afterglows in Pulsar-Wind Bubbles”,
Königl, A., & **Granot, J.** 2002, **ApJ**, 574, 134–154
105. “Gamma-Ray Bursts in Pulsar Wind Bubbles: Observational Implications”, Guetta, D., & **Granot, J.** 2003, in “Gamma-Ray Bursts in the Afterglow Era - 3rd Workshop”, ed. M. Feroci, F. Frontera, N. Masetti, & L. Piro (San Francisco: ASP), 312, p. 377

Detailed Study of GRB Afterglow Emission

106. ★ “Analytic Expressions for the Surface Brightness Profile of GRB Afterglow Images”, **Granot, J.** 2008, **MNRAS Lett.**, 390, L46–L50
107. ★ “Stirring the Embers: High Sensitivity VLBI Observations of GRB 030329”, Pihlström, Y. M., Taylor, G. B., **Granot, J.**, & Doeleman, S. 2007, **ApJ**, 664, 411–415
108. “Critical Review of Basic Afterglow Concepts”, short review for “070228: The Next Decade of Gamma-Ray Burst Afterglows”, Amsterdam, 2007 March 19-23, eds. Wijers, R.A.M.J., Kaper, L, and van Eerten, H.J. (Elsevier: Amsterdam)
109. ★ “Implications of the Measured Image Size for the Radio Afterglow of GRB 030329”, **Granot, J.**, Ramirez-Ruiz, E. & Loeb, A. 2005, **ApJ**, 618, 413–425
110. ★ “The Shape of Spectral Breaks in Gamma-Ray Burst Afterglows”, **Granot, J.**, & Sari, R. 2002, **ApJ**, 568, 820–829
111. ★ “The Synchrotron Spectrum of Fast Cooling Electrons Revisited”, **Granot, J.**, Piran, T., & Sari, R. 2000, **ApJ Lett.**, 534, L163–L166
112. ★ “Images, Light Curves and Spectra of GRB Afterglow”, **Granot, J.**, Piran, T., & Sari, R. 1999, **A&A**, Supl. Ser. 138, 541
113. ★ “Synchrotron Self Absorption in GRB Afterglow”, **Granot, J.**, Piran, T., & Sari, R., 1999, **ApJ**, 527, 236–246
114. ★ “Images and Spectra From the Interior of a Relativistic Fireball”, **Granot, J.**, Piran, T., & Sari, R. 1999, **ApJ**, 513, 679–689
115. ★ “The Bright Gamma-Ray Burst 991208 - Tight Constraints on Afterglow Models from Observations of the Early-Time Radio Evolution”, Galama, T. J., et al. 2000, **ApJ Lett.**, 541, L45–L49
116. “Some Recent Peculiarities of the Early Afterglow”, Piran, T., Nakar, E., & **Granot, J.** 2003, in the Proceedings of the Conference “30 Years of GRB Discovery”, Santa Fe, New Mexico, USA, September 8-12, 2003 (astro-ph/0312138)
117. “Theory of GRB Afterglow”, Piran, T. & **Granot, J.** 2001, in “GRBs in the Afterglow Era – 2nd Workshop”, ed. E. Costa, F. Frontera, & J. Hjorth (Berlin; Springer), 300