

CURRICULUM VITAE

Asaf Pe'er

August 2025

Field of Research:

Theoretical astrophysics, with focus on high energy astrophysics, relativistic plasma astrophysics, astroparticle physics and radiative transfer problems in various transient astronomical objects.

Contact Address:

Department of Physics

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Academic Qualifications

12/2004 Ph.D. High energy Astrophysics, Weizmann Institute of Science, Rehovot, Israel.

06/1999 M.Sc. in Physics, Weizmann Institute of Science, Rehovot, Israel.

06/1993 B.Sc. in Physics and Mathematics (“Talpiot” program), The Hebrew University of Jerusalem, Israel.

Thesis work

Ph.D. “The emission of radiation from Gamma Ray Bursts”. Adviser: Prof. Eli Waxman

M.Sc. “Optically stimulated chemical HBr laser - summary of simulation and spontaneous emission experiments”. Advisers: Prof. Moshe Shapiro, Weizmann Institute of Science; Dr. Yehuda Nachshon, IADA (RAFAEL); Prof. Uri Oppenheim, Technion.

Positions held

- 2024 - Professor, Physics Department, Bar-Ilan University, Israel.
- 2018 - Associate Professor, Physics Department, Bar-Ilan University, Israel.
- 2018 - Professor, Physics Department, University College Cork (UCC), Cork, Ireland.
- 2012 - 2018 Lecturer (tenured), Physics Department, University College Cork (UCC), Cork, Ireland.
- 2014: Long term visitor, Space Telescope Science Institute, Baltimore, Maryland.
- 2010 - 2012: Research Associate, Institute of Theory and Computation, Harvard-Smithsonian Center for Astrophysics, Cambridge, MA.
- 2007 - 2010: Riccardo Giacconi Fellow, Space Telescope Science Institute, Baltimore, MD.
- 2004 - 2007: Postdoctoral fellowship, Astronomical Institute “Anton Pannekoek”, Amsterdam, The Netherlands.
- 2005 - 2006: Long term visitor, Pennsylvania State University, University Park, Pennsylvania. Host: Peter Mészáros
- 1999 - 2004: Ph.D. student, Weizmann Institute of Science, Rehovot, Israel
- 1990 - 1999: Military service. (Major)
Participant in “Talpiot program”, Israel. This national project selects 25 high-school graduates every year from all around Israel; The participants attend an advanced program of academic study and research. Following three years of undergraduate studies, the graduates serve additional five years as R&D officers.
- 1996-1999 Research physicist, RAFAEL, IADA. Main research topics: hydrodynamical simulations and experimental projects in chemical lasers.
- 1993-1996 Research physicist, Israeli Air Force & Israeli Aircraft Industry. Main research topics: numerical aerodynamical simulations.

Selected Grants, Honors & Award

- 2023 Bar Ilan Rector’s prize for scientific innovative

As P.I.

- 2023 Israel Space Agency (ISA) Grant #6766 (P.I., 312,545 ILS)
- 2017 EU ERC Consolidator Grant #773062 (P.I., €1,951,744)
- 2017 IRC GOIPG/2017/1146 (project leader, €94,000)
- 2013 Marie Curie FP7-PEOPLE-2013-CIG #618499 (P.I., €100,000)
- 2013 IRC GOIPG/2013/315 (project leader, €96,000)
- 2011 Fermi cycle 4 proposal #41162 (P.I., \$80,000)
- 2010 Fermi cycle 3 proposal #31014 (P.I., \$80,000)
- 2009 Fermi cycle 2 proposal #21267 (P.I., \$70,000)

Computational time - as P.I.

- 2025 Prace EuroHPC Regular Access Call: 50,000 node hours on MeluXina GPU (EHPC-REG-2025R01-168)
- 2024 Prace EuroHPC Development Access Call: 4,500 node hours on Leonardo BOOSTER GPU (EHPC-DEV-2024D10-034)
- 2024 Prace EuroHPC Development Access Call: 3,000 node hours on MeluXina GPU
- 2024 Prace EuroHPC Development Access Call: 800 node hours on MeluXina GPU
- 2023 Prace EuroHPC Development Access Call: 1,000 node hours on Vega GPU
- 2020 Irish Center for High End Computing (ICHEC) proposal #ucast010b (P.I., 1,000,000 core hours)
- 2016 Irish Center for High End Computing (ICHEC) proposal #ucast008b (P.I., 800,000 core hours)

As Co.I. / principle Co.I.

- 2021 Chandra cycle 23 proposal #23500404 (Co.I., 80 ks + 4 HST orbit + 24 NRAO hours; P.I. Fruchter)
- 2019 Chandra cycle 21 proposal #21500258 (Co.I., 120 ks; P.I. Fruchter)
- 2019 Hubble cycle 27 proposal #HST-GO-15993 (Co.I., 11 orbits; P.I. Fruchter)
- 2018 Chandra cycle 20 proposal #20500677 (Co.I., 120 ks; P.I. Fruchter)
- 2018 Hubble cycle 26 proposal #HST-GO-15613 (Co.I., 11 orbits; P.I. Fruchter)
- 2016 Chandra cycle 18 proposal #18500670 (Co.I., 120 ks; P.I. Fruchter)
- 2016 Hubble cycle 24 proposal #HST-GO-14851 (Co.I., P.I. Fruchter)
- 2015 Chandra cycle 17 proposal #17500753 (Co.I., 120 ks; P.I. Fruchter)
- 2014 Hubble cycle 22 proposal #HST-GO-13951 and HST-GO-13950 (Principal Co.I.)
- 2014 Chandra cycle 16 proposal #16500869 (Co.I., \$60.000, 120 ks + 11 HST orbits; P.I. Fruchter)
- 2013 Chandra cycle 15 proposal #15500895 (Co.I., \$60.000, 120 ks + 11 HST orbits; P.I. Fruchter)
- 2012 Chandra cycle 14 proposal #14500851 (Co.I.; P.I. Fruchter)
- 2012 Fermi cycle 5 proposal #51382 (Co.I., \$80.000; P.I. Fruchter)
- 2011 HST cycle 19 proposal #12502 (Co.I., 21 orbits; P.I. Fruchter)
- 2011 Chandra cycle 13 proposal #13500898 (Co.I., 120 ks; P.I. Fruchter)
- 2010 Chandra cycle 12 proposal #12500918 (Co.I., 120 ks [\$45000]; P.I. Fruchter)
- 2009 Fermi cycle 2 proposal #21035 (Co.I., \$80.000; P.I. Zhang)
- 2008 Fermi cycle 1 proposal #11190 (Co.I., \$210.000; P.I. Kouveliotou)

Additional awards

- 2007 The Riccardo Giacconi fellowship award, STScI
- 1990 Participant in “Talpiot program”, Israel

Post-Graduate supervision

- Dr. Mukesh Kumar Vyas (2019 -)
- Dr. Damien Bégué (2020 -)
- Dr. Husne Dereli-Bégué (2020 -)

Graduate student supervision: current

- Mr. Danny Riordan (2013 -)
- Mr. Killian Long (2016 -)
- Mr. John Wallace (2018 -)
- Mr. Yossef Nissim Kindi (2020 -)
- Ms. Hebzibha Isravel (2021 -)
- Mr. Akshay Singh (2022 -)
- Mr. Yarden Shani (2024 -)
- Ms. Maya Rogovski (2024 -)

Graduate student supervision: alumni

- Dr. Christoffer Lundman (co-supervisor; 2010 - 2014. Currently: post-doc, Stockholm University)
- Dr. Michael O'Riordan (2013 - 2018. Currently: works for the Bank of Ireland)
- Ms. Gowri Anil (2022 - 2024)
- Ms. Liraz Kativ (2018)
- Mr. Shukai Sun (2020)
- Mr. Benjamin Pevzner (2020)
- Between 2006- 2007 I was involved in the supervision of the Ph.D. student Hylke Koers (his Ph.D. supervisors were prof. Karel Gaemers and prof. Ralph Wijers) and the Ph.D. student Jacob Frederiksen (a visiting student from Stockholm).

Visiting graduate students

- Dr. Filip Samuelsson (2019- 2020)
- Dr. GuoQiang Zhang (2021- 2023)

Undergraduate students project supervision

2013: Mr. Hugh Barlow & Mr. Shane O'Mahony (summer project)*
2015: Mr. Killian Long (final year project)*
2015: Mr. Stephen Brophy (final year project)
2017: Mr. John Wallace (final year project)
2021: Ms. Gowri Anil (summer project)
2021: Mr. Yehuda Ben Shabo (summer project)
2021: Mr. Jonathan Alon (summer project)
2022: Mr. Ma'an Badran (summer project)
2023: Mr. Yarden Shani (summer project)
2024: Mr. Lingyu Xia (final year project)
2025: Mr. Nissim Farhy (summer project)

*: The results of these projects led to scientific publications. The research papers were published in the Astrophysical Journal.

Teaching

In Bar-Ilan:

86-115 Mechanics I	(2018/19-)
86-676 General Relativity and Introduction to Cosmology	(2018/19-)
86-677 Introduction to Plasma Physics	(2019/20-)
86-351 Introduction to Particles and Nuclear Physics	(2020/21-)
86-432 Seminars in selected topics	(2023/24-)

In UCC:

PY 1052 "Introductory Physics I"	(2012/13 - 2014/15)
PY 2104 "Introduction to Thermodynamics and Statistical Physics"	(2012/13 - 2017/18)
PY 3102 "Quantum Mechanics"	(2015/16 - 2017/18)
PY 4112 "Gravitation and Cosmology"	(2012/13 - 2017/18)
PY 4106 "Quantum Field Theory"	(2013/14 - 2016/17)
PY 4111 "Galactic and Extragalactic Astrophysics"	(2016/17)

All these courses were developed by myself.

Online lecture notes are available on my webpage, see <https://asafpeer2.ph.biu.ac.il/lectures>

Teaching Assistantship

- 2002: "Topology and Geometry for physicists" (Prof. M. Milgrom)
- 1999: "High energy astrophysics" (Prof. E. Waxman)

Service

• General

- Referee for Science, the Astrophysical Journal, Monthly Notices of the Royal Astronomical Society, Astronomy and Astrophysics, Science China, Advances in Astronomy, Advances in Space Research, Astrophysics and Space Science, Journal of Cosmology and Astroparticle Physics, Journal of Plasma Physics, Publications of the Astronomical Society of Japan, Physics Letters, Journal of Astrophysics and Astronomy and Rev. Mexicana de Astronomia Y Astrofisica.
- Participate in APS white paper "The future of ground-based gamma-ray astronomy"
- Special lecture: "Applying to academic jobs" given to UCC graduate students (March 2016). See <http://www.physics.ucc.ie/appeer> → Lectures
- Special lecture: "Applying to academic jobs" given to BIU graduate students (June 2023).
- Member, Bar Ilan university teaching committee

• Participation in examination committees

- Head, Ph.D. examination committee of the Ph.D. candidate Mr. Imri Dickstein (Bar Ilan, 2024)

- Head, Ph.D. examination committee of the Ph.D. candidate Mr. Eitan Tsuk (Bar Ilan, 2022)
- External examiner of the Ph.D. candidate Ms. Aldana Grichener (Technion, 2022)
- External examiner and thesis reporter of the Ph.D. candidate Dr. Damien Bégue (University “La Sapienza”, Rome, Oct. 2014)
- Member of examination committee of master candidate Ofek Gilon (BIU, October 2021)
- Examiner of the Ph.D. candidate Dr. Mark Kennedy (University College Cork, April 2017)
- Examiner of the Master candidate Mr. Simon Willis (University College Cork, Feb. 2016)

- **Proposal reviewer**

- Reviewer for ERC proposals
- Participate in the selection committee of proposals submitted to the Israel Space Agency and to the Israel Science Foundation (CIRP program).
- Participate in the review committee of NSF and NASA / ATP proposals.
- External reviewer for NASA / ADAP proposals
- External reviewer for NSF proposals
- External reviewer for HST Director Discretionary proposals
- External reviewer for the Estonian Research Council (ETAg)
- External reviewer for Dutch Research Council (NWO)
- External reviewer for Israeli Science Foundation (ISF)
- External reviewer for National Research, Development and Innovation Office, Hungary (NKFI)
- Reviewer for DEVA (Agencia Andaluza del Conocimiento - Andalusian Knowledge Agency, Spain)
- External reviewer for the Romanian Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI, Romania)

- **Organization committees**

- Member, organization committee and chair of the astrophysics sessions of the 70th Israel Physics Society (IPS) meeting (Technion, Israel, July 2025)
- Member, scientific organization committee of GRB2024 (Suzhou, China, May 2024)
- Member, scientific organization committee of a miniconference on Neutron stars (open university, Israel, Feb. 2024)
- Organizer, ”SpaceTech 2023” summit (Tel Aviv, Israel, May 2023). This meeting was awarded 100.000 ILS from the Israel ministry of Science.

- Member, organization committee of the 68th Israel Physics Society (IPS) meeting (Ramat-Gan, Israel, April 2023)
- Organizer, summer minicourse on “The Physics of Cosmic rays” (Bar-Ilan, July 2022)
- Organizer, the 1st Israel-Sweden workshop on Gamma-Ray Bursts (Eilat, Israel, Feb. 2020)
- Participate in the local organization committee of “Niall Fest 2018”, in honour of Niall O’Murchadha’s career in general relativity (Cork, Ireland, May 2018)
- Advisor to the scientific committee of “14th Marcel – Grossman meeting” (Rome, Italy, 2015)
- Participate in scientific organization committee of the workshop “future directions in the study of relativistic jets” (Skokloster, Sweden, Sep. 2013)
- Participated in the local organization committee & “best poster” selection committee of “070228: The next decade of GRB afterglows” conference (Amsterdam, March 2007)
- Member, Institute of Physics in Ireland (IOPI); organizer of IOPI guest speaker program (2013- 2018)
- Organizer of internal seminars. “Astro Wine & Cheese” seminar and “accreting compact objects discussion group” in JHU and STScI; “Astronomy pizza meeting club” in the University of Amsterdam.
- Co-organizer of “Pizza astro-lunch” in UCC (2012 - 2018).

- **Membership in international consortia**

- Member, Cherenkov Telescope Array (CTA).
- Member, ULTRASAT consortium.
- Member, THESEUS project consortium.
- Member, GRIPS consortium.
- Member, Astrogam consortium.
- Member, GTA (GRB Temporal Analysis) consortium.
- Member, Irish LOFAR consortium.

Outreach activities

- “Physics for All” blog, 2015 -
See <http://www.physics.ucc.ie/apeer> → Physics for all
- “The physics of black holes - and how to take away their energy”, a special talk given in Mada’atech for Israel space Science week, Haifa, Israel, Jan. 2024; Jan 2025
- “Will there be an Israely facility for detecting gravitational waves?” Article published in “Ha’yadan” journal, May 2023 (in Hebrew), see <https://www.hayadan.org.il/>
- “From the ancient Greeks to Einstein: an astrophysical journey”, a special talk to high-school kids, Yokneam, Israel, Dec. 2022

- “Bridging the gap of observed Lorentz factors in astronomical objects” blogpost published in Nature Astronomy, September 2022.
see <https://astronomycommunity.nature.com/posts/bridging-the-gap-of-observed-lorentz->
- “A short history of the universe”, a special talk given to prisoners, Israel, January 2022
- “A Journey through modern astrophysics”, a special talk to high-school students, Bar-Ilan University, Israel, February 2020
- “Space and the moon”, a special talk for elementary school kids, Modi’in, Israel, April 2019
- “Physics on the Extreme: Gamma-Ray Bursts, Gravitational Waves and the Dawn of Multi-Messenger Astronomy”, in “Pint of Science”, Cork, Ireland, May 2018
- “General Relativity in a Nutshell” special talks given to high-school students, Cork, Ireland, May 2017
- Co-organizer, “Frontiers of Physics” meeting for high-school teachers, September 2013
- Referee for “Physics prize” competition, organized by the physics society in UCC, Cork, March 2013
- Public lectures:
 - “Extracting energy from black holes”, Israel Astronomical Association, Giv’eatayim, Israel, Jan. 2023
 - “Physics on the extreme: gamma-ray bursts, gravitational waves and the dawn of multi-messenger astronomy” Israel Astronomical Association, Giv’eatayim, Nov. 2018
 - “GW/GRB170817: the dawn of multimessenger astronomy”, Physics and astronomy society in Cork, March 2018.
 - “Gamma ray bursts: the most extreme explosions in the universe” as part of space week in Cork, Cork, Jan. 2017
 - “Gamma ray bursts: the most extreme explosions in the universe” Israel Astronomical Association, Giv’eatayim, Dec. 2016
 - “100 years of general relativity”, Cork, Nov. 2015;
 - “The highest energy cosmic rays”, Cork, Nov. 2012;
 - “The measure of cosmological distances”, STScI, August 2008;
 - “Life and death of stars”, Weizmann Inst., July 2004.
- Public explanation on the discovery of gravitational waves published in the social media and became “viral”. Can be found at
<http://rotter.net/forum/scoops1/289120.shtml#1>
<https://www.facebook.com/asaf.peer/posts/10207313001856551>
(text in Hebrew).
- Participated in open days in the university college, Cork, and earlier in the astrophysics department at the University of Amsterdam.

Interviews

- Interview for "Kan 11" TV channel on recent DESI results (March 20th, 2025).
- Interview for Reshet Bet on the Artemis program (April 28th, 2023).
see <https://www.kan.org.il/radio/player.aspx?ItemId=306831>
- Interview for ynet radio on the NIF controlled fusion results:
"Prof. Asaf Pe'er on the recent USA nuclear breakthrough", Dec. 14th, 2022.
see <https://www.ynet.co.il/radio/category/43522>
- Interview for "Haaretz" newspaper (in Hebrew) on dark matter:
"Observations confirm: there are galaxies in the universe which are lacking dark matter", July 23rd 2021, see <https://www.haaretz.co.il/science/space/.premium-1.10020740>

Invited talks in international conferences

1. "The structure of relativistic jets and their magnetic fields" in "Relativistic fluids around compact objects", Warsaw, Poland (May 2025)
2. "What can we learn from GRB pulses and their shapes: implications on GRB prompt phase" in "Workshop on GRBs and Central Engine Powered Transients", Cancun, Mexico (Dec. 2024)
3. "GRBs: what do we know today that we did not know 10 years ago ?" in the 17th Marcel-Grossmann meeting (MG17), Pescara, Italy (July 2024)
4. "A different interpretation of GRB spectra: backscattering model to explain keV-MeV and proton-synchrotron for TeV emission" in the 17th Marcel-Grossmann meeting (MG17), Pescara, Italy (July 2024)
5. "What can we learn from GRB pulses and their shapes?" in "The 3rd Nanjing GRB conference", Suzhou, China (May 2024)
6. "Study of accretion and ejection from disks in MAD states using a new, GPU-accelerated GRMHD code", in "To Our Cosmic Horizon and Beyond: A Celebration of 20 Years of the Institute for Theory and Computation", Cambridge, MA (May 2024)
7. "Recent observational and theoretical progress in the study of gamma-ray bursts", in "International Symposium on Recent Developments in Relativistic Astrophysics: Celebrating 50 Stellar Years of Banibrata Mukhopadhyay", Gangtok, Sikkim, India (December 2023)
8. "The plateau phase in GRBs", in "New Evolution of MultiMessenger Astrophysics", State College, PA (Keynote speaker) (August 2023)
9. "Hadronic model for explaining TeV emission in GRBs", in "New Evolution of Multi-Messenger Astrophysics", State College, PA (August 2023)
10. "Introduction to the Science of black holes", in "SpaceTech summit 2023" Tel Aviv, Israel (May 2023)
11. "cuHARM: A new GPU-accelerated GRMHD code" (keynote speaker) in "The First Israeli-Korean Astronomy & Space Science workshop", Ariel, Israel (Jan. 2023)
12. "The X-ray Plateau Phase of Gamma-ray Bursts", in "Astrophysics in the Next Decade: From the First Stars to Intelligent Life", Martha's Vineyard, MA (June 2022)
13. "Studying jet launching and properties using cu-HARM- a new, cuda-version of HARM", in "Fourth Purdue Workshop on Relativistic Plasma Astrophysics", Purdue, IN (May 2022)
14. "Theory of plateau phase in GRBs", in 16th Marcel-Grossmann meeting (MG16) [held via zoom] (July 2021)
15. "Relativistic jets formation and collimation: status on theory and numerical simulations" in "Shalom Kobe: a workshop to bring together experts on High Energy Astrophysics from Japan and Israel", Kobe, Japan (July 2019)

16. “Cosmic rays, GRBs and shock waves” in “Gamma-Ray Bursts and Related Astrophysics in Multi-Messenger Era”, Nanjing, China (May 2019)
17. “High energy radiation from jets and accretion disks near rotating black holes” in NiallFest 2018, Cork, Ireland (May 2018)
18. “High energy radiation from jets and accretion disks near rotating black holes” in 2nd CTA-Ireland meeting, Dublin, Ireland (August 2017)
19. “Short gamma ray bursts and neutron star binary mergers: observations and theory” in Nordita workshop on the physics of extreme gravity stars, Stockholm, Sweden (June 2017)
20. “GRBs: What do we learn from many high energy photons” in MAGIC science meeting, CERN, Switzerland (April 2017)
21. “CTA impact on the study of Gamma-Ray Bursts” in CTA and Ireland workshop, Armagh, North Ireland (Jan. 2017)
22. “Photospheric Emission in Gamma-Ray Bursts” in the 41st COSPAR meeting, Istanbul, Turkey (Aug. 2016. Note: this COSPAR meeting was canceled)
23. “The effect of radiation on the reconnection rate in the striped wind model” in the 2nd Purdue workshop on relativistic plasma astrophysics, Purdue, IN (May 2016)
24. “Gamma-ray bursts with the Cherenkov Telescope Array” in the general meeting of the LST collaboration, Munich, Germany (Jan. 2016)
25. “Hydrodynamic Properties of GRB Outflows Based on Thermal Emission” in “14th Marcel Grossman Meeting”, Rome, Italy (July 2015)
26. “ASTROGAM Contribution to Understanding Gamma-Ray Bursts Physics”, in the second ASTROGAM workshop, Paris, France (March 2015)
27. “The Physics of Gamma-Ray Bursts Prompt Emission”, a series of 3 lectures given in “Gamma Ray Bursts at UCD” workshop, Dublin, Ireland (September 2014)
28. “Emission Mechanisms in Gamma-Ray Bursts” in “SNe and GRBs 2013”, Kyoto, Japan (Nov. 2013)
29. “Energetic and broad-band spectral distribution of emission from XRBs” in ISSI workshop on “The physics of Accretion on to black holes”, Bern, Switzerland (October 2012)
30. “Radiative Mechanism in GRB prompt emission” in “15 years of Gamma-Ray Bursts afterglows: progenitors, environments and host galaxies from the nearby to the early Universe”, Málaga, Spain (October 2012)
31. “Theory of Photospheric Emission in GRBs” in “13th Marcel Grossmann Meeting”, Stockholm, Sweden (July 2012)
32. “Photospheres in Gamma-Ray Bursts: a Critical Overview” in “13th Marcel Grossmann Meeting”, Stockholm, Sweden (July 2012)

33. “Radiative processes during GRB prompt emission” in “Gamma Ray Bursts in the Era of Rapid Followup”, Liverpool, UK (June 2012)
34. “Impact of Fermi on Gamma-ray Burst Studies”, 2011 Fermi Symposium, Rome, Italy (May 2011)
35. “A New Model For Emission From Microquasar Jets”, 2010 Hubble Fellows Symposium, STScI, Baltimore, MD (March 2010)
36. “Photospheric Emission in Gamma-Ray Bursts” in “Nonlinear Processes in Astrophysical Plasmas: Particle Acceleration, Magnetic Field Amplification, and Radiation Signatures”, KITP, Santa Barbara, CA (October 2009)
37. “Thermal Emission in GRB Prompt Emission Phase”, in “The shocking universe: gamma ray bursts and high energy shock phenomena”, Venice, Italy (September 2009)
38. “The Effect of a Photospheric Emission on GRB Spectra”, in “Physics of relativistic flows: An observational view” Stockholm, Sweden (June 2009)
39. “Radiative Processes in GRB Prompt Emission”, in “KIAA program on GRB Physics”, Kavli Institute for Astronomy and Astrophysics (KIAA) in Peking University, Beijing, China (May 2009)
40. “Thermal Emission in Gamma-Ray Bursts”, 2009 Hubble Fellows Symposium, STScI, Baltimore, MD (March 2009)
41. “Temporal Evolution of Thermal Emission in GRB Prompt Emission Phase”, 2008 Nanjing GRB conference, Nanjing, China (June 2008)
42. “The Observable Effects of a Photospheric Component on GRBs and XRFs Prompt Emission Spectrum”, GRB mini-symposium, Stockholm, Sweden (September 2006)
43. “The Physics of GRB Prompt Emission”, GRB RTN school, Santorini, Greece (September 2005)

Department Colloquia

44. "Accretion disks, jets and energy extraction from black holes", Bar Ilan University, Ramat Gan, Israel (March 2025)
45. "Study accretion and ejection using a new GPU-accelerated GRMHD code", University of Nevada, Las Vegas (Feb. 2024)
46. "cuHARM: A new GPU-accelerated GRMHD code" The Open University of Israel (March 2022)
47. "New thoughts on the prompt emission of gamma-ray bursts", Aryabhata Research Institute of Observational Sciences (ARIES), Nainital, India (September 2020)
48. "Gamma-ray bursts prompt emission: breakthroughs and challenges", University of Crete, Heraklion, Greece (October 2019)
49. "Accretion, Ejection, Jets, GRBs and Cosmic Rays", Ben-Gurion University, Be'er-Sheva, Israel (June 2019)
50. "Cosmic Rays, GRBs and Shock Waves", Dublin Institute of Advanced Studies, Dublin, Ireland (March 2019)
51. "Cosmic Rays, GRBs and Shock Waves", University College Cork, Cork, Ireland (March 2019)
52. "Frontiers in the Study of Gamma-ray Bursts", Bar Ilan University, Ramat-Gan, Israel (Dec. 2017)
53. "Frontiers in the Study of Gamma-ray Bursts", Dublin College University, Dublin, Ireland (Nov. 2017)
54. "The Underlying Physics of Gamma-Ray Bursts", Trinity College, Dublin, Ireland (Dec. 2016)
55. "A paradigm shift in understanding gamma-ray bursts", John-Moorse University, Liverpool, UK (Feb. 2015)
56. "A paradigm shift in understanding gamma-ray bursts", Joint Space Science Institute, UMD, Maryland (August 2014)
57. "A paradigm shift in understanding gamma-ray bursts", Rome Astronomical Observatory, Rome, Italy (Apr. 2014)
58. "A paradigm shift in understanding gamma-ray bursts", University of Amsterdam, Amsterdam, the Netherlands (Feb. 2014)
59. "The basic concepts of general relativity", UCC, Cork, Ireland (Nov. 2013)
60. "A Paradigm shift in understanding GRBs", UCC, Cork, Ireland (Nov. 2012)
61. "What do we know about the prompt emission in GRBs ?", CCAPP, Ohio State, Columbus, Ohio (May 2012)

62. "Physics of the Most Extreme Objects in the Universe", Open University, Israel (April 2012)
63. "Study the prompt emission phase in GRBs: the role of photospheric emission", University College Cork, Ireland (Dec. 2011)
64. "Thermal emission from Gamma-ray bursts", UMBC, Maryland (Nov. 2010)
65. "The highest energy Cosmic Rays", Ben Gurion University, Be'er Sheva, Israel (May 2010)
66. "The highest Energy Cosmic Rays", Oskar Klein Centre, Stockholm, Sweden (May 2010)
67. "Observations, theory and implications of thermal emission from Gamma-ray bursts", Radboud University Nijmegen, the Netherlands (Feb. 2010)
68. "A Model for Emission from Microquasar Jets: Consequences of a Single Acceleration Episode", University of Southampton, UK (Jan. 2010)
69. "Gamma-ray bursts: past, present and future", Carnegie institute, Washington, DC. (Jan. 2010)
70. "Gamma-ray bursts: past, present and future", University of North Texas (UNT), Dallas, Texas (Oct. 2009)
71. "A Model for Emission from Microquasar Jets: Consequences of a Single Acceleration Episode", invited seminar in University of Maryland, Maryland (Oct. 2009)
72. "A model for emission from Jets in X-ray Binaries: Consequences of a single acceleration episode", University of Nevada, Las Vegas (UNLV), Las Vegas, Nevada (Jan. 2009)
73. "Thermal emission in GRB's", NASA Goddard space flight center, Washington, DC (Oct. 2008)
74. "Open questions in the study of Gamma-Ray Bursts", Virginia Tech, VA (Aug. 2008)
75. "Temporal evolution of thermal emission in GRB's", Inter-University Centre for Astronomy and Astrophysics (IUCAA), Pune, India (Sep. 2007)
76. "Analysis of the thermal emission component in GRBs", Prague, Czech republic (May 2007)
77. "The observable effect of a photospheric component on GRBs prompt emission spectrum: peak energy clustering and flat spectra above the thermal peak", University of Nevada, Las Vegas (UNLV), Las Vegas, Nevada (Feb. 2006)
78. "The Signature of a wind reverse shock in GRB afterglows", Kavli Institute for Theoretical Physics (KITP), Santa Barbara, California (Jan. 2006)
79. "Peak energy clustering and efficiency in compact objects", Pennsylvania State University (PSU), State College, Pennsylvania (Nov. 2005)

80. “High energy photon emission in the early afterglow of GRBs”, Max Planck Institute for Astrophysics (MPA), Garching, Germany (Jan. 2005)

Contributed talks

81. "A parametric study of population inversions in relativistic plasmas through nonresonant interactions with Alfvén waves and their applications to Fast Radio Bursts" in Relativistic magnetosphere workshop 2025, Les Houches, France (April 2025)
82. "Constraining low- and high-luminosity gamma-ray bursts as sources of ultra-high energy cosmic rays", in NCfA symposium 2024, "the path forward in multimessenger astrophysics", Las Vegas, Nevada (Feb. 2024)
83. "Study accretion and ejection using a new GPU-accelerated GRMHD code", in the 10th Microquasar Workshop "The various facets of extreme gravity", Heraklion, Crete, Greece (May 2023)
84. "Study accretion and ejection using a new GPU-accelerated GRMHD code" in IAU symposium 378: "Black hole winds at all scales", Haifa, Israel (March 2023)
85. "Photons' scattering in a relativistic plasma with velocity shear: generation of high energy power-law spectra", in the 10th Fermi symposium, Johannesburg, South Africa (October 2022)
86. "Understanding prompt emission: where do we stand ?", in 16th Marcel-Grossmann meeting (MG16) [held via zoom] (July 2021)
87. "The connection between GRB prompt emission physics and high energy cosmic rays: new constraints using Fermi data" in "Ninth International Fermi Symposium" Johannesburg, South Africa [held via zoom] (April 2021)
88. "Pitch-angle Diffusion and Bohm-type Approximations in Diffusive Shock Acceleration", in HEPRO VII, Barcelona, Spain (July 2019)
89. "High energy radiation from jets and accretion disks near rotating black holes" in Nordita workshop on the physics of extreme gravity stars, Stockholm, Sweden (June 2017)
90. "Dynamical properties of internal shocks revisited" in European week of space science (EWASS), Prague, Czech republic (June 2017)
91. "Poynting flux dominated jets challenged by their photospheric emission" in "Mysterious Connection Between Superluminous Supernovae and Gamma-Ray Bursts", Baltimore, MD (May 2016)
92. "Poynting flux dominated jets challenged by their photospheric emission" in "Relativistic Jets: creation, dynamics and internal physics", Krakow, Poland (April 2015)
93. "A two component jet model for the tidal disruption event Swift J1644", in the 60th meeting of the Israel Physical Society (IPS), Ben Gurion University, Israel (Dec. 2014)
94. "Constraining sources of ultra-high energy cosmic rays using high energy observations with the Fermi satellite" in "The physics of astronomical transients", Aspen, Colorado (Jan. 2012)

95. "The connection between thermal and non-thermal emission in gamma-ray bursts: general considerations and GRB090902B as a case study" in "Gamma-Ray Bursts 2010 Conference", Annapolis, Maryland (Nov. 2010)
96. "Radio quiet AGN's as possible sources of ultra-high energy cosmic rays" in "CCAPP Symposium 2009: Towards Fundamental Breakthroughs in Astrophysics and Cosmology within the Next Decade", Ohio State University, Columbus, Ohio (Oct. 2009)
97. "Theoretical implications of thermal emission from GRBs", in "Gamma Ray Bursts symposium 2008", Huntsville, AL (Oct. 2008)
98. "Analysis of the thermal emission component in GRBs", in "070228: The next decade of GRB afterglows", Amsterdam, the Netherlands (March 2007)
99. "The observable effects of a photospheric component on GRBs prompt emission spectrum", Royal Society Gamma-ray burst discussion meeting, London, UK (Sep. 2006)
100. "The Signature of a wind reverse shock in GRB afterglows", in "Swift and GRBs: Unveiling the Relativistic Universe", Venice, Italy (June 2006)
101. "Prompt GRB spectrum: detailed calculations and the effect of pair production", GRB- RTN meeting, Padova, Italy (April 2004)
102. "The effect of pairs on GRB prompt emission spectra", International School on astroparticle physics, Conca Specchiulla, Italy (July 2003)
103. "High energy photons and neutrino emission in the early afterglow of GRBs", Frontiers in particle astrophysics and cosmology, München, Germany (Oct. 2001)

Additional Seminars

104. In addition to the above, since January 2008 I gave over 40 formal seminars in various physics departments worldwide.

Press releases

Following our Nature Communication paper on Lorentz factor of 10th that can explain the plateau phase in GRBs, several articles referring to this work appeared in the popular media:

- "An Israeli scientists propose a novel explanation to an astro-physical phenomenon in space", ynet, science, Feb. 5th 2023 (in Hebrew).
see <https://www.ynet.co.il/environment-science/article/sjmsctoni>
- "Israeli scientists shed light on mysterious matter jets in space" - Study, The Jerusalem Post, Feb. 2nd, 2023.
See <https://www.jpost.com/science/article-730388>
- "Investigadores israelíes desvelan extraños reactores de materia espacial" (in Spanish), Noticias de Israel, Feb. 2nd, 2023.
See <https://israelnoticias.com/tecnologia/investigadores-israelies-desvelan-extranos-reactores-de-materia-espacial/>

- "A paradigm shift in our understanding of a well-known astrophysical phenomenon", Space Daily, Jan. 24th, 2023.
See https://www.spacedaily.com/reports/Study_suggests_a_paradigm_shift_in_our_understanding_of_a_well_known_astrophysical_phenomenon_999.html
- "Study suggests a paradigm shift in our understanding of gamma ray bursts" , Phys. Org., Jan. 24th, 2023.
See <https://phys.org/news/2023-01-paradigm-shift-gamma-ray.html>
- Radio interview for the program "Three who know" (in Hebrew), Feb. 7th, 2023.
See <https://www.kankids.org.il/podcast/program.aspx/?progId=2029>

Following an ERC consolidating grant award, an article about my research appeared in UCC research spotlight website:

- "Dr Asaf Pe'er awarded ERC grant" in UCC research website on Dec. 2017,
see <https://www.ucc.ie/en/research/spotlight/drasafpeerawardedercgrant/>

The following articles which refer to my works appeared in *Nature*, as well as popular science magazines:

- "Astronomy: 'Oddball' gamma ray burst challenges models of origins", appeared in Nature astronomy research highlight, Dec. 8th, 2022,
see <https://www.natureasia.com/en/research/highlight/14318>
- "X-ray vision can reveal the moment of birth of violent supernovae", appeared in "UK Swift and GRBs in the press" on Dec. 10th, 2012 .
(many newspapers); see <http://www.swift.ac.uk/about/press.php#2012>
- "Astrophysicists from around the world at LJMU-led Conference", appeared in the Liverpool John Moores University press release on June 26th, 2012.
see http://www.ljmu.ac.uk/NewsUpdate/index_123618.htm
- "Cosmic blasts powered by a hot glow" by Eric Hand,
appeared in "Nature" News, May 8th, 2012.
See <http://www.nature.com/news/cosmic-blasts-powered-by-a-hot-glow-1.10598>
- "Mysterious gamma-ray bursts continue to surprise" by Bill Andrews,
appeared in "Astronomy.com" blog on July 24th 2009.
See <http://cs.astronomy.com/asycs/blogs/astronomy/2009/07/24/mysterious-gamma-ray-bursts-continue-to-surprise.aspx>
- "Gamma-Ray Burst Afterglows Brighter Than Expected" by JR Minkel,
appeared in Scientific American on July 8th, 2008.
See <http://www.scientificamerican.com/article.cfm?id=gamma-ray-burst-afterglow>

Scientific references to my work

- Avachat, S. (Nature Astronomy editor) "Modelling a long gamma-ray burst", in "research highlight" section, Nature Astronomy, 7, 1010 (2023)

Asaf Pe'er - LIST OF PUBLICATIONS**Refereed journal papers**

1. Wallace, J., Bégué, D., & **Pe'er, A.**, "*Direct Solution of the Time-Dependent Covariant Radiative Transfer Equation and its Coupling to General Relativistic Magnetohydrodynamics with cuHARM*", 2025, *Astrophys. J.*, submitted (arXiv:2508.15532)
2. Long, K., & **Pe'er, A.**, "*Fast Radio Bursts from non-resonant Alfvén waves and synchrotron maser emission in the magnetar wind*", 2025, *Mon. Not. R. Astron. Soc.*, submitted (arXiv:2508.05840)
3. Sahakyan, N., Bégué, D., Giommi, P., Dereli-Bégué, H., & **Pe'er, A.**, "*Impact of Spectral Coverage on Parameter recovery in Blazar Modeling*", 2025, *Astrophys. J.*, submitted
4. Riordan, J.D., Dieckmann, M.E., & **Pe'er, A.**, "*Formation and Evolution of Pair-Alfvén Shocks with PIC Simulations*", 2025, *Physics of Plasmas*, submitted (arXiv:2507.22175)
5. Kindi, Y.N., **Pe'er, A.**, Bret, A., Silva, L.O., & Schoeffler, K.M., "*Bridging the Gap between Collisional and Collisionless Plasma Shocks: A Simulation Study using OSIRIS*", 2025, *Physics of Plasmas*, submitted (arXiv:2508.11097)
6. Sahakyan, N., Bégué, D., Casotto, A., Dereli-Bégué, H., Vardanyan, V., Khachatryan, M., Giommi, P., & **Pe'er, A.**, "*Modeling blazar broadband emission with convolutional neural networks - III. proton synchrotron and hybrid models*", 2025, *Astrophys. J.*, in press (arXiv:2506.23885)
7. Vyas, M.K., & **Pe'er, A.**, "*Generation of magnetic fields around black hole accretion discs due to non conservative radiation fields*", 2025, *Astrophys. J. (Lett.)*, 988, L59
8. Abe, K., et al. (including **A. Pe'er**) "*Galactic transient sources with the Cherenkov Telescope Array Observatory*", 2025, *Mon. Not. R. Astron. Soc.*, 540, 205
9. Gowri, A., **Pe'er, A.**, Ryde, F., & Dereli-Bégué, H., "*Gamma-ray burst pulse structures and emission mechanisms*", 2025, *Astrophys. J.*, in press (arXiv:2409.17860)
10. Dereli-Bégué, H., **Pe'er, A.**, Bégué, D., Ryde, F., "*Unravelling the Origins of GRB X-ray Plateaus through a Study of X-ray Flares*", 2025, *Astrophys. J.*, 985, 261
11. Long, K., & **Pe'er, A.**, "*A parametric study of population inversions in relativistic plasmas through nonresonant interactions with Alfvén waves and their applications to fast radio bursts*", 2025, *Mon. Not. R. Astron. Soc.*, 538, 1029
12. Singh, A., Bégué, D., & **Pe'er, A.**, "*Radiative cooling changes the dynamics of magnetically arrested disks: Analytics*", 2025, *Astrophys. J. (Lett.)*, 981, L11
13. Bret, A., & **Pe'er, A.**, "*A mechanism that could stop the acceleration process within a collisionless shock*", 2025, *Laser and Particle Beams*, 43, e1 (arXiv:2412.12911)
14. **Pe'er, A.** & Ryde, F., "*Gamma-ray burst interaction with the circumburst medium: The CBM phase of GRBs*", 2024, *Astrophys.J.*, 976, 55

15. Vyas, M.K., **Pe'er, A.**, & Iyyani, S., "*Unified theory of negative and positive spectral lags in GRB prompt phase due to shear Comptonization from a structured jet*", 2024, *Astrophys. J. (Lett.)*, 975, L29
16. **Pe'er, A.** & Zhang, B., "*Physical conditions that lead to the detection of the pair annihilation line in the BOAT GRB221009A*", 2024, *Astrophys. J. (Lett.)*, 973, L51
17. Vyas, M.K., & **Pe'er, A.**, "*Optically thick jet base and explanation of edge brightening in AGN jets*", 2024, *Astrophys. J.*, 972, 40
18. Sahakyan, N., Bégué, D., Casotto, A., Dereli-Bégué, H., Giommi, P., Gasparyan, S., Vardanyan, V., Khachatryan, M., & **Pe'er, A.**, "*Modeling blazar broadband emission with convolutional neural networks – II. External Compton model*", 2024, *Astrophys. J.*, 971, 70
19. Bret, A., & **Pe'er, A.**, "*On the width of a collisionless shock and the index of the cosmic rays it accelerates*", 2024, *Astrophys. J.*, 968, 100
20. Abe, S., et. al. (incl. **A. Pe'er**), "*Dark Matter Line Searches with the Cherenkov Telescope Array*", 2024, *Journal of Cosmology and Astropar. Phys.*, 07, 047
21. Shvartzvald, Y., et. al. (including **A. Pe'er**), "*ULTRASAT: A wide field time-domain UV space telescope*", 2024, *Astrophys. J.*, 964, 74
22. Bégué, D., Sahakyan, N., Dereli-Bégué, H., Giommi, P., Gasparyan, S., Khachatryan, M., Casotto, A., & **Pe'er, A.**, "*Modeling blazar broadband emission with convolutional neural networks – I. Synchrotron self-Compton model*", 2024, *Astrophys. J.*, 963, 71
23. Zhang, G.-Q., Bégué, D., **Pe'er, A.**, & Zhang, B.-B., "*A study of the MAD accretion state across black hole spins for radiatively inefficient accretion flows*", 2024, *Astrophys. J.*, 962, 135
24. Isravel, H., Bégué, D., & **Pe'er, A.**, "*Hybrid Emission Modeling of GRB 221009A: Shedding Light on TeV Emission Origins in Long-GRBs*", 2023, *Astrophys. J.*, 956, 12
25. Isravel, H., **Pe'er, A.**, & Bégué, D., "*Proton Synchrotron Origin of the Very High Energy Emission of GRB 190114C*", 2023, *Astrophys. J.*, 955, 70
26. Long, K., & **Pe'er, A.**, "*Formation of Population Inversions in Relativistic Plasmas through Nonresonant Interactions with Alfvén Waves*", 2023, *Phys. Rev. D. (Lett.)*, 107, L121301
27. Li, L., Wang, Y., Ryde, F., **Pe'er, A.** et. al., "*A Cosmological Fireball with Sixteen-Percent Gamma-Ray Radiative Efficiency*", 2023, *Astrophys. J. (Lett.)*, 944, L57
28. Bégué, D., **Pe'er, A.**, Zhang, G.-Q., Zhang, B.-B., & Pevzner, B., "*cuHARM : a New GPU Accelerated GR-MHD Code and its Application to ADAF Disks*", 2023, *Astrophys. J. (Supp. Ser.)*, 264, 32

29. Gompertz, B., et. al. (including **A. Pe'er**), “*The Case for a Minute-Long Merger-Driven Gamma-Ray Burst from Fast-Cooling Synchrotron Emission*”, 2023, Nature Astronomy, 7, 67
30. Vyas, M.K., & **Pe'er, A.**, “*Photons’ Scattering in a Relativistic Plasma with Velocity Shear: Generation of High Energy Power-law Spectra* “, 2023, Astrophys. J. (Lett.), 943, L3
31. Wallace, J., & **Pe'er, A.**, “*X-ray Spectra from Weakly Magnetized Accretion Flows*”, 2022, Astrophys. J., 939, 87
32. Dereli-Bégué, H., **Pe'er, A.**, Ryde, F., Oats, S.R., Zhang, B., & Dainotti, M.G., “*A Wind Environment and Lorentz Factors of Tens Explain Gamma-Ray Bursts X-ray Plateau*”, 2022, Nature Communication, 13, 5611
33. Bégué, D., Samuelsson, F., & **Pe'er, A.**, “*Bethe-Heitler Signature in Proton Synchrotron Models for Gamma-Ray Bursts*”, 2022, Astrophys. J., 937, 101
34. Ryde, F., Iyyani, S., Ahlgren, B., **Pe'er, A.**, Sharma, V., Lundman, C., & Axelsson, M., “*Onset of Particle Acceleration in Gamma-Ray Bursts as Revealed by Synchrotron Emission in GRB160821A*”, 2022, Astrophys. J. (Lett.), 932, L15
35. Yuan, C., Murase, K., Guetta, D., **Pe'er, A.**, Bartos, I., & Mészáros, P., “*GeV Signature of Short Gamma-Ray Bursts in Active Galactic Nuclei*”, 2022, Astrophys. J., 932, 80
36. Ghirlanda, G., et. al. (including **A. Pe'er**), “*Gamma Ray Burst studies with THESEUS*”, 2021, Experimental Astronomy, 52, 277
37. Ciolfi, R., et. al. (including **A. Pe'er**), “*Multi-Messenger Astrophysics with THESEUS in the 2030s*”, 2021, Experimental Astronomy, 52, 245
38. Vyas, M.K., **Pe'er, A.**, & Eichler, D., “*Predicting Spectral Parameters in the Backscattering Dominated Model for the Prompt Phase of GRBs*”, 2021, Astrophys. J. (Lett.), 918, L12
39. Wallace, J., & **Pe'er, A.**, “*An Observational Signature of Sub-equipartition Magnetic Fields in the Spectra of Black Hole Binaries*”, 2021, Astrophys. J., 916, 63
40. Bret, A., & **Pe'er, A.**, “*Bridging the Gap Between Collisional and Collisionless Shock Waves*”, 2021, J. Plasma Physics, 87 (02), 905870204
41. Li, L., Ryde, F., **Pe'er, A.**, Yu, H.-F., & Acuner, Z., “*Bayesian Time-Resolved Spectroscopy of Multi-Pulsed GRBs: Variations of Emission Properties amongst Pulses*”, 2021, Astrophys. J. (Sup.), 254, 35
42. Vyas, M.K., **Pe'er, A.**, & Eichler, D., “*A Backscattering Dominated Prompt Emission Model for the Prompt Phase of Gamma Ray Bursts*”, 2021, Astrophys. J., 908, 9
43. The CTA consortium (including **A. Pe'er**), “*Sensitivity of the Cherenkov Telescope Array for Probing Cosmology and Fundamental Physics with Gamma-Ray Propagation*”, 2021, Journal of Cosmology and Astropart. Phys., 02, 048

44. The CTA consortium (including **A. Pe'er**), “*Sensitivity of the Cherenkov Telescope Array to a Dark Matter Signal from the Galactic Centre*”, 2021, Journal of Cosmology and Astropart. Phys., 1, 057
45. Samuelsson, F., Begue, D., Ryde, F., **Pe'er, A.**, & Murase, K. “*Constraining Low-luminosity Gamma-Ray Bursts as Ultra-high Energy Cosmic Ray Sources Using GRB 060218 as a Proxy*”, 2020, Astrophys. J., 902, 148
46. Dereli-Bégué, H., **Pe'er, A.**, & Ryde, F., “*Classification of Photospheric Emission in Short GRBs*”, 2020, Astrophys. J., 897, 145
47. Diekmann, M.E., Riordan, D., & **Pe'er, A.**, “*Change of a Weibel-Type to an Alfvénic Shock in Pair Plasma by Upstream Waves*”, 2020, Physics of Plasmas, 27, 062107
48. Kangas, T., Fruchter, A., Cenko, B., Corsi, A., De Ugarte Postigo, A. **Pe'er, A.**, et. al., “*The Late-Time Afterglow Evolution of Long Gamma-Ray Bursts GRB 160625B and GRB 160509A*”, 2020, Astrophys. J., 894, 43
49. Acuner, Z., Ryde, F., **Pe'er, A.**, Mortlock, D., & Ahlgren, B., “*The Fraction of Gamma-ray Bursts with an Observed Photospheric Emission Episode*”, 2020, Astrophys. J., 893, 128
50. Sharma, V., et. al. (including **A. Pe'er**), “*Time Varying Polarized Gamma-Rays from a Single Pulse GRB Emission: Evidence for Magnetized Outflow*”, 2019, Astrophys. J. (Lett.), 882, L10
51. Ahlgren, B., Larsson, J., Valan, V., Mortlock, D., Ryde, F., & **Pe'er, A.**, “*Investigating Subphotospheric Dissipation in Gamma-Ray Bursts using Joint Fermi-Swift Observations*”, 2019, Astrophys. J., 880, 76
52. Acharyya, A., et. al. (the CTA consortium, including **A. Pe'er**), “*Monte Carlo Studies for the Optimisation of the Cherenkov Telescope Array Layout*”, 2019, Astropart. Phys., 111, 35
53. Samuelsson, F., Begue, D., Ryde, F., & **Pe'er, A.**, “*The Limited Contribution of Low- and High-Luminosity Gamma-Ray Burst to Ultra-High Energy Cosmic Rays*”, 2019, Astrophys. J., 876, 93
54. Ahlgren, B., Larsson, J., Ahlberg, E., Lundman, C., Ryde, F., & **Pe'er, A.**, “*Testing a Model for Subphotospheric Dissipation in GRBs: Fits to Fermi Data Constrain the Dissipation Scenario*”, 2019, Mon. Not. R. Astron. Soc., 485, 474
55. Ryde, F., Yu, H.-F., Dereli-Begue, H., Lundman, C., **Pe'er, A.**, & Li, L., “*On the alpha-intensity Correlation in Gamma-Ray Bursts: Subphotospheric Heating with Varying Entropy*”, 2019, Mon. Not. R. Astron. Soc., 484, 1912
56. Riordan, J. D., & **Pe'er, A.**, “*Pitch-Angle Diffusion and Bohm-Type Approximation in Diffusive Shock Acceleration*”, 2019, Astrophys. J., 873, 13

57. Lloyd-Ronning, N. M., Gompertz, B., **Pe'er, A.**, Dainotti, M., & Fruchter, A., “*A Comparison Between Radio Loud and Quiet Gamma-Ray Bursts, and Evidence for a Potential Correlation between Intrinsic Duration and Redshift in the Radio Loud Population*”, 2019, *Astrophys. J.*, 871, 118
58. Gompertz, B. P., Fruchter, A. & **Pe'er, A.**, “*The Environments of the Most Energetic Gamma-Ray Bursts*”, 2018, *Astrophys. J.*, 866, 162
59. Long, K., & **Pe'er, A.**, “*Synchrotron Maser from Weakly Magnetized Neutron Stars as the Emission Mechanism of Fast Radio Bursts*”, 2018, *Astrophys. J.* 864, L12
60. Bret, A., & **Pe'er, A.**, “*On the Formation and Properties of Fluid Shocks and Collisionless Shock Waves in Astrophysical Plasmas*”, 2018, *Journal of Plasma Physics*, 84(3), 905840311
61. O’Riordan, M., **Pe'er, A.**, & McKinney, J. C., “*Observational Signature of Mass-Loading in Jets Launched by Rotating Black Holes*”, 2018, *Astrophys. J.*, 853, 44
62. **Pe'er, A.** “*Constraining Magnetization of Gamma-Ray Bursts Outflows using Prompt Emission Fluence*”, 2017, *Astrophys. J.*, 850, 200
63. **Pe'er, A.**, Long, K., & Casella, P. “*Dynamical Properties of Internal Shocks Revisited*”, 2017, *Astrophys. J.*, 846, 54
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65. Acero, F., et. al. (the CTA consortium, including **A. Pe'er**), “*Prospects for CTA Observations of the Young Supernovae Remnant RX J1713.7-3946*”, 2017, *Astrophys. J.*, 840, 74
66. Bret, A., **Pe'er, A.**, Sironi, L., Sadowski, A., & Narayan, R., “*Kinetic Inhibition of Shock Formation in the Vicinity of a Parallel Magnetic Field*”, 2017, *Journal of Plasma Physics*, 83(2), 715830201
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68. O’Riordan, M., **Pe'er, A.**, & McKinney, J. C., “*Effects of Spin on High-Energy Radiation from Accreting Black Holes*”, 2016, *Astrophys. J.*, 831, 62
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77. Liu, D., **Pe'er, A.**, & Loeb, A., “*A Two-component Jet Model for the Tidal Disruption Event Swift J164449.3+573451*”, 2015, Astrophys. J., 798, 13
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88. Van der Horst, A.J., et. al. (including **A. Pe'er**), "*SGR J1550 - 5418 Bursts Detected With the Fermi Gamma-Ray Burst Monitor During its Most Prolific Activity*", 2012, Astrophys. J., 749, 122
89. **Pe'er, A.**, & Loeb, A., "*Constraining Sources of Ultra High Energy Cosmic Rays Using High Energy Observations with the Fermi Satellite*", 2012, Journal of Cosmology and Astropart. Phys., 03, 007
90. **Pe'er, A.**, Zhang, B-B., Ryde, F., McGlynn, S., Zhang, B., Preece, R.D., & Kouveliotou, C., "*The Connection Between Thermal and Non-Thermal Emission in Gamma-Ray Bursts: General Considerations and GRB090902B as a Case Study*", 2012, Mon. Not. R. Astron. Soc., 420, 468
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