

Jordan Flitter



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Academic Positions

Postdoctoral Fellow, Scuola Normale Superiore, Pisa, Italy,
Cosmology research group.

2024–today

Education

Ph.D. Physics, Ben-Gurion University, Israel

2020–2025

M.Sc. Physics, Tel-Aviv University, Israel
(concurrent with military service)

2015–2020

B.Sc. Physics, Tel-Aviv University, Israel

2009–2013

B.Sc. Electrical Engineering, Tel-Aviv University, Israel

2009–2013

Military Service

UAV System Engineer, Israeli Air Force (Final rank: Captain)

2014–2019

Awards & Achievements

Promotion to "Instructor" rank in BGU due to excellence in teaching (only one Ph.D. student in the Physics Department can hold this rank)	2024
Rector prize for excellence in research (the highest honor for Ph.D. students at Ben-Gurion University)	2023
Prof. Rahamimoff travel grant for young scientists of the US-Israel Binational Science Foundation (BSF)	2023
Dean prize for excellence in research	2022
Zin fellowship awarded by the BGU Kreitman School	2022
High-Tech fellowship awarded by the BGU Kreitman School	2021
Graduated summa cum laude, Electrical engineering B.Sc	2013
Graduated summa cum laude, Physics B.Sc	2013

Teaching

Lecturer, Ben-Gurion University

Introduction to Mechanics (for chemists)	2022–2024
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Teaching Assistant, Ben-Gurion University

Advanced Quantum Mechanics (graduate course)	2020–2024
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Introduction to Particles and Fields	2020–2024
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Physics 2 (for industrial engineers)	2020
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Publications

J. Flitter, J. B. Muñoz, E. D. Kovetz, 2021. Outliers in the LIGO black hole mass function from coagulation in dense clusters. *Mon. Not. R. Astron. Soc.* 507: 743–760.

D. Sarkar, **J. Flitter**, E. D. Kovetz, 2022. Exploring delaying and heating effects on the 21-cm signature of fuzzy dark matter. *Phys. Rev. D.* 105, 103529.

J. Flitter, E. D. Kovetz, 2022. Closing the window on fuzzy dark matter with the 21-cm signal. *Phys. Rev. D.* 106, 063504.

J. Flitter, C. Creque-Sarbinowski, M. Kamionkowski, L. Dai, 2023. Magnetic fields from compensated isocurvature perturbations. *Phys. Rev. D.* 107, 103536.

H. A. G. Cruz, T. Adi, **J. Flitter**, M. Kamionkowski, E. D. Kovetz, 2023. 21-cm fluctuations from primordial magnetic fields. *Phys. Rev. D.* 109, 023518.

J. Flitter, E. D. Kovetz, 2023. 21cmFirstCLASS I. Cosmological tool for Λ CDM and beyond. *Phys. Rev. D.* 109, 043512.

J. Flitter, E. D. Kovetz, 2023. 21cmFirstCLASS II. Early linear fluctuations of the 21-cm signal. *Phys. Rev. D.* 109, 043513.

S. Libanore, **J. Flitter**, E. D. Kovetz, Z. Li, A. Dekel, 2023. Effects of feedback-free starburst galaxies on the 21-cm signal and reionization history. *Mon. Not. R. Astron. Soc.* 532: 149–163.

H. Lazare, **J. Flitter**, E. D. Kovetz, 2024. Constraints on the fuzzy dark matter mass window from high-redshift observables. *Phys. Rev. D.* 110, 123532.

H. Plombat, T. Simon, **J. Flitter**, V. Poulin, 2024. Probing Dark Relativistic Species and Their Interactions with Dark Matter through CMB and 21cm surveys. *JCAP* 01, 071.

T. Adi, **J. Flitter**, E. D. Kovetz, 2024. Early Dark Energy Effects on the 21cm Signal. *Phys. Rev. D.* 111, 043515.

J. Flitter, S. Libanore, E. D. Kovetz, 2024. Does it matter? A more careful treatment of density fluctuations in 21-cm simulations. *Phys. Rev. D.* 112, 023537.

Codes

BH-coagulation: code for solving the coagulation equation for black hole and neutron star mergers

21cmFirstCLASS: an extension of the popular 21cmFAST code that interfaces with CLASS.

SP α RTA: speedy Ly α ray tracing algorithm.

Professional Service

Referee for JCAP

2025–today

Talks

Tel-Aviv University, High-Energy Physics Seminar, Israel (August 13th, 2020).

(Invited) University of Padova, Cosmology Group Seminar, Italy (November 16th, 2022).

(Invited) University of Texas, Astronomy Seminar, United States (September 11th, 2023).

New York University, Astrophysics Seminar, United States (September 25th, 2023).

Massachusetts Institute of Technology, Dark Matter Group Seminar, United States (September 27th, 2023).

Harvard University, Cosmology Group Seminar, United States (September 29th, 2023).

Ben-Gurion University, Astrophysics Seminar, Israel (January 31th, 2024).

Sapienza University of Rome, GEMMA 2 workshop, Italy (September 19th, 2024).

Conferences and Schools

The 37th Advanced School in Theoretical Physics: New Ideas for Old Puzzles in Particle Physics, Jerusalem Hebrew University, Israel (December 29th, 2019 - January 9th, 2020).

The Israeli Physics Society (IPS) Conference, Ben-Gurion University, Israel (February 2nd, 2022).

Contributed talk: "Exploring delaying and heating effects on the 21-cm signature of fuzzy dark matter".

Black Holes: From Theory to Observations, Academic Conference, Tel-Aviv, Israel (February 1st, 2023).

The Israeli Physics Society (IPS) Conference, Tel-Aviv, Israel (April 4th, 2023).

Neutral Hydrogen as a Cosmological Probe Across Cosmic Time, Nazareth, Israel (May 15th-19th, 2023).

Contributed talk: "Searching for dark matter signatures in the 21-cm signal".

Gravitational waves, ElectroMagnetic and dark Matter physics (GEMMA 2) workshop (September 16th-19th, 2024).

Contributed talk: "Searching for dark matter signatures in the 21-cm signal".