Elad Steinberg

Curriculum Vitae

■ Personal Details

Name	Elad Steinberg
Country of Birth	Israel
Citizenship	Israeli
Email	elad.steinberg@mail.huji.ac.il
Date Updated	10/01/2024

■ Higher Education

2010–2016	**PhD Physics**, "The Hebrew University of Jerusalem", Jerusalem, Israel, Dept of Physics, Supervisoer: Prof. Re'em Sari
2008–2010	**M.Sc Physics**, "The Hebrew University of Jerusalem", Jerusalem, Israel, Dept of Physics, Supervisoer: Prof. Re'em Sari
2005–2008	**B.Sc Physics**, "The Hebrew University of Jerusalem", Jerusalem, Israel

■ Professional Experience

2021-present	**Senior Lecturer**, *Hebrew University of Jerusalem Department of Physics*
2019–2020	**Postdoctoral research fellow**, "The Hebrew University of Jerusalem", Jerusalem, Israel, Dept of Physics, Host: Dr. Yuval Birnboim
2017–2019	**Postdoctoral research fellow**, "Columbia University", New York, USA, Dept of Physics, Host: Prof. Brian Metzger
2016–2017	**Postdoctoral research fellow**, "The Hebrew University of Jerusalem", Jerusalem, Israel, Dept of Physics, Host: Dr. Yuval Birnboim

■ Master Thesis

Title	*Binary YORP and Evolution of Binary Asteroids*
Supervisor	Prof. Re'em Sari

■ PhD Thesis

Title	*Understanding Planet Formation: Spin and Size Distribution of the Main Belt Asteroids and Numerical Hydrodynamics*, Unpublished
Supervisor	Prof. Re'em Sari

■ Grants

2022-2024 **Co-Investigator - "A Library of Tidal Disruption Event Simulations: the Key to Intermediate Mass Black Hole Discovery"**, *11.9 Million CPU hours on Snellius supercomputer.*

Awards

2012-2015 **Ilan Ramon Scholarship**, *Israel Ministry of Science*, "Understanding Planet Formation: The size and spin distribution of Main-Belt Asteroids, Elad Steinberg 250,000 NIS

Advising

2023 **Itamar Giron**, *MSc student, The Hebrew University of Jerusalem*

2023 **Maor Mizrachi**, *MSc student, The Hebrew University of Jerusalem*

Publications

1. 2011 **"Binary YORP Effect and Evolution of Binary Asteroids"**, ***Steinberg, Elad** & Sari, Re'em*, 2011, AJ, 141, 55

2. 2015 **"Spins of Large Asteroids: A Hint of a Primordial Distribution in Their Spin Rates"**, ***Steinberg, Elad** & Sari, Re'em.*, 2015, AJ, 149, 124

3. 2015 **"Balancing the load: A Voronoi based scheme for parallel computations"**, ***Steinberg, Elad**; Yalinewich, Almog; Sari, Re'em; Duffell, Paul.*, 2015, ApJS, 216, 14

4. 2015 **"RICH: Open Source Hydrodynamic Simulation on a Moving Voronoi Mesh"**, *Yalinewich, Almog; **Steinberg, Elad**; Sari, Re'em.*, 2015, ApJS, 216, 35

5. 2015 **"The Galactic Center cloud G2 and its gas streamer"**, *Pfuhl, Oliver; Gillessen, Stefan; Eisenhauer, Frank; Genzel, Reinhard; Plewa, Philipp M.; Ott, Thomas; Ballone, Alessandro; Schartmann, Marc; Burkert, Andreas; Fritz, Tobias K.; Sari, Re'em; **Steinberg, Elad**; Madigan, Ann-Marie*, 2015, ApJ, 798, 111

6. 2016 **"Instability of supersonic cold streams feeding galaxies - I. Linear Kelvin-Helmholtz instability with body modes"**, *Mandelker et al; **Steinberg, Elad**.*, 2016, MNRAS, 463, 3921

7. 2016 **"Grid noise in moving mesh codes: fixing the volume inconsistency problem"**, ***Steinberg, Elad**; Yalinewich, Almog; Sari, Re'em.*, 2016, MNRAS, 459, 1596

8. 2018 **"The multidimensional structure of radiative shocks: suppressed thermal X-rays and relativistic ion acceleration"**, ***Steinberg, Elad**; Metzger, Brian.*, 2018, MNRAS, 479, 687

9. 2018 **"Instability of supersonic cold streams feeding galaxies-II. Non-linear evolution of surface and body modes of Kelvin-Helmholtz instability"**, *Padnos et al; **Steinberg, Elad**.*, 2018, MNRAS, 477, 3293

10. 2018 **"Ignition of detonation in accreted helium envelopes"**, *Glasner et al; **Steinberg, Elad**.*, 2018, MNRAS, 476, 2238

11. 2018 **"Probing the gas density in our Galactic Centre: moving mesh simulations of G2"**, ***Steinberg** et al.*, 2018, MNRAS, 473, 1841

12. 2019 **"Radio emission from the unbound debris of tidal disruption events"**, *Yalinewich, Almog; **Steinberg, Elad**; Piran, Tsvi; Krolik, Julian.*, 2019, MNRAS, 487, 4083

13. 2019 **"Thawing the frozen-in approximation: implications for self-gravity in deeply plunging tidal disruption events"**, *Steinberg et al.*, 2019, MNRAS Letters, 485, 146

14. 2020 **"X-ray spectroscopy of the γ-ray brightest nova V906 Car (ASASSN-18fv)"**, *Sokolovsky et al. (7th author out of 18)*, 2020, MNRAS, 497, 2569

15. 2020 **"Direct evidence for shock-powered optical emission in a novae"**, *Aydi, Elias; Sokolovsky, Kirill V.; Chomiuk, Laura;* **Steinberg, Elad**; *et al. (39 authors in total)*, 2020, Nature Astronomy, 4, 776

16. 2020 **"Internal shocks from variable outflows in classical novae"**, **Steinberg, Elad**; *Metzger, Brian.*, 2020, MNRAS, 491, 4232

17. 2020 **"Early Spectral Evolution of Classical Novae: Consistent Evidence for Multiple Distinct Outflows"**, *Aydi et al. (17th author out of 21)*, 2020, ApJ, 905

18. 2022 **"A New Discrete Implicit Monte Carlo Scheme for Simulating Radiative Transfer Problems"**, **Steinberg, Elad**; *Heizler, Shay.*, 2022, ApJS, 258, 12

19. 2022 **"Multi-frequency implicit semi-analog Monte-Carlo (ISMC) radiative transfer solver in two-dimensions (without teleportation)"**, **Steinberg, Elad**; *Heizler, Shay.*, 2022, JCOMP, 450

20. 2022 **"The first nova eruption in a novalike variable: YZ Ret as seen in X-rays and γ-rays"**, *Sokolovsky et al. (8th author out of 19)*, 2022, MNRAS, 514, 2

21. 2023 **"The multiwavelength view of shocks in the fastest nova V1674 Her"**, *Sokolovsky et al. (16th author out of 44)*, 2023, MNRAS, 521, 4

22. 2023 **"Frequency-Dependent Discrete Implicit Monte Carlo Scheme for the Radiative Transfer Equation"**, **Steinberg, Elad**; *Heizler, Shay.*, 2023, Nuclear Science and Engineering, 197, 9

Teaching Experience

2008–2009	**Teaching Assistant**, *Mechanics for Medicine students, Second Year Physics Lab Instructor*
2009–2011	**Teaching Assistant**, *Mechanics for Chemistry and Pharmacology students, Advanced Astrophysics (graduate course)*
2011–2014	**Teaching Assistant**, *Mechanics and Special Relativity, Quantum Mechanincs I*
2021-2024	**Lecturer**, *Computational Hydrodynamics*

Languages

English	Mother tongue
Hebrew	Mother tongue

Computer Skills

Programming Languages	Fortran, C++, MPI, Python.
Mathematical Program Proficiency	Matlab, Mathematica.