

CV - DOLEV BASHI

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Research Interests

Exoplanets, Binary stars & compact objects, Galactic archaeology, Space exploration, Nanosatellites

Education & Appointments

Research associate: School of Physics and Astronomy, Tel-Aviv University (working with Prof. Tsevi Mazeh)	2022 - present
Ph.D.: School of Geosciences, Tel-Aviv University (Advisor: Prof. Shay Zucker)	2017 - Q2 2022
M.Sc. (summa cum laude): Department of Geophysics & Planetary Sciences, Tel Aviv University (Advisors: Prof. Ravit Helled, Prof. Shay Zucker)	2015 - 2017
B.Sc.: School of Physics and Astronomy, Tel Aviv University	2008 - 2011

Refereed Publications

First-author publications:

- [1] **Bashi, D.**, Shahaf, S., Mazeh, T., Faigler, S., Dong, S., El-Badry, K., Rix, H. W., Jorissen, A: Gaia Spectroscopic orbits validated with LAMOST and GALAH radial velocities [2022, MNRAS, 517, 3888](#)
- [2] **Bashi, D.**, and Zucker, S.: Exoplanets in the Galactic context: Planet occurrence rates in the thin disk, thick disk, and stellar halo of Kepler stars [2022, MNRAS, 510, 3449](#)
- [3] **Bashi, D.**, and Zucker, S.: Quantifying the similarity of planetary system architectures [2021, A&A, 651, A61](#)
- [4] **Bashi, D.**, Zucker, S., Adibekyan, V., Santos, N. C., Tal-Or, L., Trifonov, T., and Mazeh, T.: Occurrence rates of small planets from HARPS: Focus on the Galactic context [2020, A&A, 643, A106](#)
- [5] **Bashi, D.**, and Zucker, S.: Small planets in the Galactic context: host star kinematics, iron and α elements Enhancement [2019, AJ, 158, 2](#)
- [6] **Bashi, D.**, Helled, R., and Zucker, S.: A Quantitative Comparison of Exoplanet Catalogs [2018, Geoscience, 8, 325](#)
- [7] **Bashi, D.**, Helled, R., Zucker, S., and Mordasini, C.: Two Empirical Regimes of the Planetary Mass-Radius Relation [2017, A&A, 604, A83](#)

Second- or third-author publications:

[8] Shahaf, S., **Bashi, D.**, Mazeh, T., Faigler, S., Arenou, F., El-Badry, K., Rix, H.: Triage of the Gaia astrometric orbits. I. A sample of binaries with probable compact companions [2022, MNRAS, accepted](#)

[9] Mazeh, T., Faigler, S., **Bashi, D.** et al.: Probable Dormant Neutron Star in a Short-Period Binary System [2022, MNRAS, 517, 4005](#)

Additional publications:

[10] El-Badry, K. et al.: A Sun-like star orbiting a black hole [2022, MNRAS, accepted](#)

[11] Eyer, L. et al.: Gaia Data Release 3. Summary of the variability processing and analysis [2022, A&A, accepted](#)

[12] Gomel, R.; Mazeh, T.; Faigler, S.; **Bashi, D.** et al.: Gaia Data Release 3: Ellipsoidal Variables with Possible Black-Hole or Neutron Star secondaries [2022, A&A, accepted](#)

Employment

System engineer, Nanosatellites and space science center, Tel-Aviv University 2018 - present

Military Service, unit 81 (IDF Intelligence Technological unit), team leader, rank: Captain 2011 - 2017

Space based projects

TAUSAT-2: system-engineer and integrator of a 2U CubeSat aimed for a demonstration of novel communication protocol + LED experiment to be observed from the ground 2021-present

TAU COTS-Capsule: an integrator of a radiation payload experiment sent to the ISS 2021-2022

TEVEL: mentoring eight high-school groups developing a 1U CubeSat, including retroreflector payloads 2020-present (in space)

TAUSAT-1: system-engineer and integrator of a 3U CubeSat (TAU first nanosatellite), including a radiation and space weather dedicated payload 2019-2022

Talks and Posters

Talk: Gaia Spectroscopic Orbits Validation with external Radial Velocity Surveys (MW-Gaia WG2/1 Workshop, Naples) Sep 2022

Talk: Exoplanets in the Galactic context: Planet occurrence rates in the thin disk, thick disk, and stellar halo of Kepler stars (Weizmann Institute of Science) Jan 2022

Poster: Quantifying the similarity of planetary system architectures (TESS Science Conference II - virtual) Aug 2021

Talk: Nanosatellites and the new space revolution (Technion, Haifa - virtual) Feb 2021

<u>Poster</u> : Occurrence rates of small planets from HARPS: Focus on the Galactic context (Exoplanets III, Heidelberg - virtual)	Aug 2020
<u>Talk</u> : Small Planets in the galactic context- the era of <i>Gaia</i> (MW- <i>Gaia</i> WG3 Workshop, Porto)	Nov 2019
<u>Talk</u> : Small Planets in the galactic context (The Hebrew University of Jerusalem)	Jun 2019
<u>Talk</u> : Two empirical regimes of the planetary mass-radius relation (the University of Zurich, University of Bern)	Apr 2018

Observing Experience

LCO 10h using NRES	2022A
LCO 10h using NRES	2021B

Scholarships and Honors

The Akiva Bar-Nun scholarship for excellence	2019
Dean's scholarship for academic excellence	2017

Outreach

Teaching coding and programming to a joint group of American and Israeli high-school students as part of the America-Israel Friendship League (AIFL)

Mentor of TEVEL ('students building satellites' - in Hebrew) project

Lecturing astronomy to school students of all ages