

Offek Tziperman Lotan

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PROFILE

I am a final year undergraduate studying physics and mathematics. My current research interests include quantum information, nonlinear optics and astrophysics. I am especially fascinated by the areas of physics in which theory is closely motivated by experiment.

EDUCATION

Oct 2019 — Present

B.Sc Physics and Mathematics, Hebrew University of Jerusalem

GPA: 4.0 out of 4.0. First in 2021 class of physics.

RESEARCH EXPERIANCE

May 2019 — Present

Undergraduate Research Project - Complex Photonics Lab

Hebrew University

“Mode Locked Fiber Laser”

- Built a mode locked laser.
- Designed a numerical simulation in Python of laser mode locking.

“Loosely and Tightly Bound Optical Soliton Steady States”

- Experimentally measured and analytically calculated noise-mediated interactions of short light pulses.
- Presented in group meetings.

Aug 2021 — Present

Amirim Honors Program Project - Cosmology Group

Hebrew University

“Survival of Giant Clumps at High Redshift”

- Taken part in analytical “toy modeling” of survival of giant clumps against disruption by supernova feedback.
- Analyzed data from heavy numerical simulations in Python.

MANDATORY MILITARY SERVICE

Jul 2015 — Jul 2018

Maglan Special Forces Infantry Unit

IDF

- Worked as part of a team in a wide variety of physically and mentally challenging tasks.

PUBLICATIONS

- "Pairs of Solitons Bound by Noise-Mediated Casimir-Like Interactions", Kfir Sulimany*, **Offek Tziperman***, Yaron Bromberg, Omri Gat. ***Equally contributed.** arXiv preprint: <https://arxiv.org/abs/2112.07136> (2021).
- "Clump Survival vs Disruption by Supernova Feedback", Avishai Dekel, **Offek Tziperman** et al. In preparation.

SCHOLARSHIPS AND AWARDS

Aug 2021 — Present

Natural Sciences Bachelors Degree Fellowship

Hebrew University

Given to a few undergraduates studying natural sciences a year to encourage active participation in research.

Oct 2020 — Present

Amirim Honors Program

Hebrew University

Participants are science students with a high GPA, 5% of student body.

2019 — Present

Dean's Prize

Hebrew University

May 2018

Presidential Medal for Excellence in Millitary Service

IDF

PROGRAMING EXPERIANCE

Designed numerical simulations and analyzed experimental data in Python and MATLAB. Programmed extensively in Latex and Mathematica.

In my free time I enjoy rock climbing and playing the guitar.