

Yonatan Sklansky

Graduate Research Assistant

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Education

2023– **Ph.D.** Astronomy, University of Texas at Austin, Austin, TX.
2019–23 **B.A.** Physics (*Magna Cum Laude*), University of Pennsylvania, Philadelphia, PA.

Research

2023– Analytically Computing the Summary Statistics of Reionization Bubbles and the
21cm Signal, UT Austin, (Advisor: [Julian Muñoz](#))
2022–23 Topology of the Cosmic Web’s Caustic Skeleton in N-Body Simulations, University
of Groningen Kapteyn Astronomical Institute, (Advisors: [Rien van de Weygaert](#) and
[Job Feldbrugge](#))
2022 Mini Project on Gravitational Wave Emissions from a Triple Black Hole System,
Perimeter Institute
2021–22 Persistent Homology in the Filaments and Voids of the Cosmic Web, UPenn, (Advi-
sor: [Ravi K. Sheth](#))

Tools & Software

[Zeus21](#): Fast analytic computation of the 21cm signal during cosmic dawn and reioniza-
tion. **Developed an analytic method for 21cm statistics** during reionization using ionized
bubble distributions following a halo model analogy.

[oLIMpus](#): A code for line intensity mapping auto- and cross-power spectra during reion-
ization. **Contributed to reionization bubble modeling and coeval maps of xHII.**

Awards

2025 Summer Excellence Fellowship
2022 Perimeter Institute PSI Start

Publications

1. **Y. Sklansky**, E. Th  lie, J. B. Mu  oz
New Efficient Models of Ionized Bubbles during Reionization
In prep.
2. E. Th  lie, S. Libanore, **Y. Sklansky**, J. B. Mu  oz, E. Kovetz
An Analytic Cross-Correlation of LIM and Reionization Bubbles
In prep.
3. S. Libanore, E. Kovetz, J. B. Mu  oz, **Y. Sklansky**, E. Th  lie
A New Boundary Condition on Reionization
Submitted. [arXiv:2509.08886](#)

Talks

- 2025 "A New Efficient Model for Reionization", Seminar, UT Austin
- 2025 "New Efficient Models to Uncover the Sources of Reionization", 2nd-year defense talk, UT Austin
- 2024 "Analytically Calculating the Size Distribution of HII Bubbles During Reionization", invited talk, ICCUB University of Barcelona
- 2023 "The Size Distribution of HII Bubbles During Reionization", seminar, UT Austin

Teaching

- 2024 **TA**, undergraduate cosmology (UT Austin), ~ 40 students
- 2022–23 **Lab TA**, Mechanics and E&M (UPenn), ~ 40 students
- 2021 **Organizer**, Peer-Led Team Learning (PLTL) introductory physics classes (UPenn), ~ 80 students

Academic Advising/Mentoring

- 2025– Co-organizer of graduate-undergraduate astronomy mentorship program, matching 30+ pairs of students. We guide undergraduates towards astronomy research, graduate school, and professional development. We also host mixers and panels.
- 2024 Jannuel Esquivel, Rhodes College, REU student at UT Austin; "Capturing Cosmic Dawn and Reionization: Making Ultra-Efficient Maps using the 21-cm Power Spectrum".
- 2023– Long-term volunteer mentor for two undergraduate students through astronomy and physics graduate school applications.

Last updated: October 22, 2025