Goni Halevi

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Education

Princeton University
Ph.D., Astrophysical Sciences, expected 2023. *Advisor*: Prof. Jim Stone (IAS)
M.A., Astrophysical Sciences, 2019
University of California, Berkeley
B.A., Physics & B.A., Astrophysics, 2017 *(with distinction in general scholarship)*

Scientific Interests

High-energy, nuclear, computational astrophysics
Transients, compact objects, thermonuclear burning, r-process, accretion, MHD

Awards and Fellowships

Graduate Student Fellowship (Math/Physics), Prison Teaching Initiative, 2020-23
Graduate Research Fellowship, National Science Foundation, 2019-22
Outstanding Graduate Student Instructor, UC Berkeley, 2017
Commencement Speaker ($1000), UC Berkeley Astronomy Dept., 2017
Google Lick Pre-doctoral Fellowship, Google/Lick Observatory, 2016–17
Daniel Edward Wark Award ($5000), UC Berkeley Astronomy Dept., 2015

Presentations

Selected talks and seminars (* = invited)

- *"Toward self-consistent simulations of stellar transients," *Theory Group Meeting*, CIERA (Northwestern), Oct. 2022
- *"Toward more realistic simulations of astrophysical transients," *High-Energy Astro Journal Club*, University of Chicago, Apr. 2022
- *"Panning for gold: The formation of heavy elements," *Physics Colloquium*, Franklin and Marshall College, Apr. 2022
- *"Nuclear-MHD modeling of WD transients," *Astronomy Seminar*, University of Wisconsin– Madison (remote), Nov. 2020
- *"Jet-driven core-collapse supernovae as a candidate site for r-process nucleosynthesis," *Multi-Messenger astrophysics in the gravitational wave era*, YITP, Kyoto, Oct. 2019

Teaching

East Jersey State Prison (Raritan Valley Community College)
Head instructor, "Introductory Physics (with Lab)", Spring 2020
Head instructor, "Elementary Algebra", Fall 2019
Instructor, "Astronomy", Fall 2018
Dept. of Astrophysical Sciences, Princeton University
Assistant in Instruction, "Topics in Modern Astronomy", Spring 2022
Assistant in Instruction, "Life in The Universe", Fall 2021
Assistant in Instruction, "Cosmology", Spring 2020
Assistant in Instruction, "The Universe", Spring 2019
Dept. of Astronomy, UC Berkeley
Student Instructor, "Introduction to Astrophysics II", Spring 2016 & 2017
Student Instructor, "Introduction to General Astronomy", Fall 2015 & 2016

Outreach, Leadership, Service	*Peer Reviewer*, Monthly Notices of the Royal Astronomical Society, 2019– *Peer Reviewer*, The Astrophysical Journal, 2018– *Research Project Leader*, Warrior-Scholars Project (Princeton), 2022 *Mentorship Committee Member*, Dept. of Astrophysical Sciences, Princeton University, 2021-22 *Graduate Student Mentor*, Científico Latino, 2019 *Executive Board Member*, Princeton University Women in Physics, 2019-21 *Co-founder, Graduate Student Representative*, Climate Committee for Equity and Inclusion, Dept. of Astrophysical Sciences, Princeton University, 2018–21 *Public observing volunteer*, Peyton Observatory, 2018-19 *Volunteer Astronomer*, Public Programs Series, Lick Observatory, 2015-19 *Co-founder, facilitator*, AstroJustice Discussion Group, UC Berkeley, 2015-17 *Undergraduate coordinator*, Society for Women in the Physical Sciences, UC Berkeley, 2015-17 *Co-founder, Organizing Committee Member*, Undergraduate Astronomy Society, UC Berkeley, 2015-17 *Vice president*, Society of Physics Students, UC Berkeley, 2015-16 *Outreach coordinator*, Society of Physics Students, UC Berkeley, 2014-15

Publication List

Refereed

Aryan, Amar, S. B. Pandey, WeiKang Zheng, Alexei V. Filippenko, Jozsef Vinko, Ryoma Ouchi, Thomas G. Brink, et al. (Dec. 2022). "SN 2016iyc: a Type IIb supernova arising from a low-mass progenitor". In: *MNRAS* 517.2, pp. 1750–1766. DOI: 10.1093/mnras/stac2326. arXiv: 2208.07377 [astro-ph.HE].

Aryan, Amar, S. B. Pandey, WeiKang Zheng, Alexei V. Filippenko, Jozsef Vinko, Ryoma Ouchi, Isaac Shivvers, et al. (Aug. 2021). "Progenitor mass constraints for the type Ib intermediate-luminosity SN 2015ap and the highly extinguished SN 2016bau". In: *MNRAS* 505.2, pp. 2530–2547. DOI: 10.1093/mnras/stab1379. arXiv: 2105.05088 [astro-ph.SR].

de Jaeger, T. et al. (Dec. 2019). "The Berkeley sample of Type II supernovae: BVRI light curves and spectroscopy of 55 SNe II". In: *MNRAS* 490.2, pp. 2799–2821. DOI: 10.1093/mnras/stz2714. arXiv: 1909.13813 [astro-ph.HE].

de Jaeger, Thomas et al. (Aug. 2018). "SN 2016esw: a luminous Type II supernova observed within the first day after the explosion". In: *MNRAS* 478.3, pp. 3776–3792. DOI: 10.1093/mnras/sty1218. arXiv: 1805.03205 [astro-ph.HE].

Halevi, Goni, Andy Goulding, et al. (Nov. 2019). "HSC-XD 52: An X-Ray Detected AGN in a Low-mass Galaxy at z $\sim$ 0.56". In: *ApJL* 885.1, L3, p. L3. DOI: 10.3847/2041-8213/ab4b4f. arXiv: 1910.02173 [astro-ph.GA].

Halevi, Goni and Philipp Mösta (June 2018). "r-Process nucleosynthesis from three-dimensional jet-driven core-collapse supernovae with magnetic misalignments". In: *MNRAS* 477.2, pp. 2366–2375. DOI: 10.1093/mnras/sty797. arXiv: 1801.08943 [astro-ph.HE].

Lin, Han et al. (Aug. 2021). "SN 2015bf: A fast declining type II supernova with flash-ionized signatures". In: *MNRAS* 505.4, pp. 4890–4905. DOI: 10.1093/mnras/stab1550.

Mösta, Philipp et al. (Sept. 2018). "r-process Nucleosynthesis from Three-dimensional Magnetorotational Core-collapse Supernovae". In: *ApJ* 864.2, 171, p. 171. DOI: 10.3847/1538-4357/aad6ec. arXiv: 1712.09370 [astro-ph.HE].

Stahl, Benjamin E., WeiKang Zheng, Thomas de Jaeger, Thomas G. Brink, et al. (Mar. 2020). "Berkeley supernova Ia program: data release of 637 spectra from 247 Type Ia supernovae". In: *MNRAS* 492.3, pp. 4325–4343. DOI: 10.1093/mnras/staa102. arXiv: 2001.03235 [astro-ph.SR].

Stahl, Benjamin E., WeiKang Zheng, Thomas de Jaeger, Alexei V. Filippenko, et al. (Dec. 2019). "Lick Observatory Supernova Search follow-up program: photometry data release of 93 Type Ia supernovae". In: *MNRAS* 490.3, pp. 3882–3907. DOI: 10.1093/mnras/stz2742. arXiv: 1909.11140 [astro-ph.SR].

U, Vivian et al. (Jan. 2022). "The Lick AGN Monitoring Project 2016: Velocity-resolved Hβ Lags in Luminous Seyfert Galaxies". In: *ApJ* 925.1, 52, p. 52. DOI: 10.3847/1538-4357/ac3d26. arXiv: 2111.14849 [astro-ph.GA].

Villafaña, Lizvette et al. (May 2022). "The Lick AGN Monitoring Project 2016: Dynamical Modeling of Velocity-resolved Hβ Lags in Luminous Seyfert Galaxies". In: *ApJ* 930.1, 52, p. 52. DOI: 10.3847/1538-4357/ac6171. arXiv: 2203.15000 [astro-ph.GA].

Zheng, WeiKang, Alexei V. Filippenko, et al. (May 2017). "Discovery and Follow-up Observations of the Young Type Ia Supernova 2016coj". In: *ApJ* 841.1, 64, p. 64. DOI: 10.3847/1538-4357/aa6dfa. arXiv: 1611.09438 [astro-ph.SR].

Zheng, WeiKang, Benjamin E. Stahl, et al. (May 2022). "The Lick Observatory Supernova Search follow-up program: photometry data release of 70 SESNe". In: *MNRAS* 512.3, pp. 3195–3214. DOI: 10.1093/mnras/stac723. arXiv: 2203.05596 [astro-ph.HE].

Unrefereed

Brink, T. et al. (Mar. 2017). "LOSS Transient Classification Report for 2017-03-21". In: *Transient Name Server Classification Report* 2017-334, p. 1.

Gong, Munan et al. (2022). "Implementation of chemistry in the Athena++ code". In: *expected submission to ApJ*.

Graham, M. L. et al. (Oct. 2015). "Classification of PSN J09254453+3416361 as a Type II Supernova". In: *The Astronomer's Telegram* 8169, p. 1.

Halevi, G., A. Goulding, and J. Greene (Jan. 2020). "HSC-XD: A new X-ray search for AGN in dwarf galaxies out to z 1". In: *American Astronomical Society Meeting Abstracts #235*. Vol. 235. American Astronomical Society Meeting Abstracts, 129.02, p. 129.02.

Halevi, G., H. Yuk, et al. (Aug. 2016a). "LOSS Transient Classification Report for 2016-08-03". In: *Transient Name Server Classification Report* 2016-518, p. 1.

— (Feb. 2016b). "Spectroscopic Classification of PSN J15502534+1856075 as a Type II Supernova". In: *The Astronomer's Telegram* 8670, p. 1.

— (Aug. 2016c). "Spectroscopic Classifications of AT2016cyw and AT2016ehy as Type IIP and Ia Supernovae, Respectively". In: *The Astronomer's Telegram* 9309, p. 1.

Halevi, G., W. Zheng, and A. Filippenko (Mar. 2016). "LOSS Transient Discovery Report for 2016-03-24". In: *Transient Name Server Discovery Report* 2016-240, p. 1.

Halevi, G., W. Zheng, and A. V. Filippenko (Aug. 2016). "LOSS Transient Discovery Report for 2016-08-09". In: *Transient Name Server Discovery Report* 2016-542, p. 1.

Halevi, Goni and Philipp Moesta (Jan. 2017). "r-Process Nucleosynthesis in Jet-driven Core-Collapse Supernovae". In: *American Astronomical Society Meeting Abstracts #229*. Vol. 229. American Astronomical Society Meeting Abstracts, 341.22, p. 341.22.

Halevi, Goni, Elias Most, and James Stone (2023). "Dynamo in post-merger disks from BH-NS binaries". In: *expected submission to ApJ*.

Halevi, Goni, Belinda Wu, et al. (2022). "The Density Profiles of Collapsed Rotating Stars Favor Long Gamma-Ray Bursts". In: *to be submitted to ApJL*. URL: https://gonihalevi.github.io/collapsar_density_profiles_ApJL.pdf.

Lin, Han et al. (June 2021). "SN 2015bf: a fast declining type II supernova with flash-ionised signatures". In: *arXiv e-prints*, arXiv:2106.04375, arXiv:2106.04375. arXiv: 2106.04375 [astro-ph.HE].

Zheng, W., T. Brink, et al. (Mar. 2017). "LOSS Transient Classification Report for 2017-03-17". In: *Transient Name Server Classification Report* 2017-318, p. 1.

Zheng, W., G. Halevi, et al. (Oct. 2015). "Spectroscopic Classification of ASASSN-15rm as a Type Ia Supernova". In: *The Astronomer's Telegram* 8209, p. 1.