Brenna Mockler
UCO Lick/Astronomy, Interdisciplinary Sciences Bldg. Santa Cruz, CA 95064
bmockler@ucsc.edu; https://people.ucsc.edu/bmockler/

Education

UCSC
M.Sc. (2018)
Ph.D. Astronomy & Astrophysics

Cornell University
B.A. Physics and College Scholar

Publications

Summary: 13 accepted publications, 1 waiting review, 2 first author

Gagliano, A., et al. inc. **Mockler, B.**, 2021, submitted to ApJ, arXiv:2105.09963
An Early-Time Optical and Ultraviolet Excess in the type-Ic SN 2020oi

Hung, T., et al. inc. **Mockler, B.**, 2021, ApJ, 917, 9
Discovery of a Fast Iron Low-ionization Outflow in the Early Evolution of the Nearby Tidal Disruption Event AT2019qiz

Jones, D.O., et al. inc. **Mockler, B.**, 2021, ApJ, 908, 143
The Young Supernova Experiment: Survey Goals, Overview, and Operations

**Mockler, B.** & Ramirez-Ruiz, E., 2021, ApJ, 906, 101
An Energy Inventory of Tidal Disruption Events

Law-Smith, J. A. P., et al. inc. **Mockler, B.**, 2020, ApJ, 905, 141
Stellar TDEs with Abundances and Realistic Structures (STARS): Library of Fallback Rates

Hung, T., et al. inc. **Mockler, B.**, 2020, ApJ, 903, 31
Double-peaked Balmer Emission Indicating Prompt Accretion Disk Formation in an X-Ray Faint Tidal Disruption Event

Roth, N., et al. inc. **Mockler, B.**, 2020, Space Sci. Rev., 216, 114
Radiative Emission Mechanisms of Tidal Disruption Events

Holoien, TW.-S., et al. inc. **Mockler, B.**, 2020, ApJ, 898, 161
The Rise and Fall of ASASSN-18pg: Following a TDE from Early To Late Times

Leloudas, G., et al. inc. **Mockler, B.**, 2019, ApJ, 887, 218
The spectral evolution of AT 2018dyb and the presence of metal lines in tidal disruption events

**Mockler, B.**, Guillochon, J., & Ramirez-Ruiz, E., 2019, ApJ, 872, 151
Weighing Black Holes with Tidal Disruption Events

Ascenzi, S., et al. inc. **Mockler, B.**, 2019, MNRAS, 486, 672
A luminosity distribution for kilonovae based on short gamma-ray burst afterglows

Perley, D., et al. inc. **Mockler, B.**, 2019, MNRAS, 484, 1031
The fast, luminous ultraviolet transient AT2018cow: extreme supernova, or disruption of a star by an intermediate-mass black hole?

Guillochon, J., et al. inc. **Mockler, B.**, 2018, ApJS, 236, 6
MOSFiT: Modular Open-Source Fitter for Transients

Gallardo, P. A. et al. inc. **Mockler, B.**, 2017, Appl. Opt. 56, 2796
Deep reactive ion etched anti-reflection coatings for sub-millimeter silicon optics

Talks & Posters

Summary: 13 talks (2 invited), 1 poster
EAS 2021
Talk: ‘Probing the stellar populations around supermassive black holes with tidal disruption events’

Supermassive Black Holes (originally in Pucon, Chile)
Talk: ‘Tidal Disruption Events’, watch here.

Chandra Frontiers in Time-Domain Science
Talk: ‘An Energy Inventory of Tidal Disruption Events’

Tidal Disruptions in Kyoto
Talk: ‘An Energy Inventory of Tidal Disruption Events’

TDEs in the Golden Age of Time Domain Astronomy – 235th AAS Meeting (invited)
Talk: ‘Weighing Black Holes with Tidal Disruption Events’

Hot-Wiring the Transient Universe VI
Talk: ‘Tidal Disruption Events with LSST’

University of Nova Gorica (invited colloquium)
Talk: ‘Weighing Black Holes with Tidal Disruption Events’

2019 Spring Symposium – The Deaths & Afterlives of Stars
Poster: ‘Weighing Black Holes with Tidal Disruption Events’

17th Meeting of the AAS High Energy Astrophysics Division
Talk: ‘Weighing Black Holes with Tidal Disruption Events’

Aspen Winter Conference: Using TDEs to study super-massive black holes
Talk: ‘Weighing Black Holes with MOSFiT’

DARK Institute for Cosmology
Talk: ‘The future of Black Hole population studies’

UC Santa Cruz FLASH
Talk: ‘Weighing Black Holes with MOSFiT’

TDE17: Piercing the sphere of influence
Talk: ‘Weighing Black Holes with MOSFiT’

Deciphering the violent universe
Talk: ‘Weighing Black Holes with MOSFiT’

Successful Grant Proposals (as PI)

- NASA Swift Cycle 17 Guest Investigator
  ‘MOSFIT: Connecting Models to Tidal Disruption Event Observations’

Recent Outreach, Teaching & Mentoring

- Project Mentor & Workshop Leader - UC Santa Cruz
  Lamat REU program
  REU focused on increasing the retention of diverse students in astronomy and planetary science. Recruits from local community colleges.

- Astro on Tap - Santa Cruz
  Informal public talk on black holes (watch here).

- Talk Coordinator Chair - UC Santa Cruz
  Women in Physics and Astronomy Group

- Thesis advisor for undergraduate student - UC Santa Cruz
  Summer researcher/senior thesis
  Project: The phase space of astronomical transients
Teaching Assistant - UC Santa Cruz 2017, 2018
ASTR119: Introduction to Scientific Computing; ASTR111: Order of Magnitude Astrophysics

Project Mentor - UC Santa Cruz 2016 - 2017
AY9: Introduction to Research in Astronomy
This class provides research opportunities to minority and disadvantaged students in their first year at UCSC

Founder and Leader of UWiP at Cornell - Cornell University 2015 - 2016
Undergraduate Women in Physics Group at Cornell

Officer of Communications and Women in Physics - Cornell University 2014-2016
Cornell Society of Physics Students

Selected Awards & Honors
AAUW American Dissertation Fellowship 2021-2022
UCSC President’s Dissertation Year Fellowship 2021-2022
Denice Denton Excellence in Research Award 2021-2022
NSF Graduate Research Fellowship Honorable Mention 2018
UC Santa Cruz Astronomy Award for Excellence in Mentoring 2017-2018
Member of Mortar Board Der Hexenkreis Senior Honor Society 2016 - present
UC Santa Cruz Chancellor’s Fellowship 2016 - 2017
UC Santa Cruz Regents’ Fellowship 2016 - 2017
Maris and Andrew Rosenberg Scholarship 2016
P.E.O. Janet H. Griswold Scholarship, Ethel O. Gardner Scholarship 2015 - 2016
Cornell College Scholar 2013 - 2016
Cornell Varsity Soccer team 2012 - 2016
Neil Lubow Essay Prize for outstanding essay in Ethics 2013

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