

PHILLIP J. MACIAS

Contact Information

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ACADEMIC APPOINTMENTS

Postdoctoral Scholar, Astronomy & Astrophysics
University of California, Santa Cruz July 2020 -

Interim Postdoctoral Scholar, Astronomy & Astrophysics
University of California, Santa Cruz Sep 2019 - Jan 2020

EDUCATION

Doctor of Philosophy, Astronomy & Astrophysics
Advisor: Enrico Ramirez-Ruiz
University of California, Santa Cruz June 2019

Master of Science, Astronomy & Astrophysics
Advisor: Enrico Ramirez-Ruiz
University of California, Santa Cruz June 2015

Bachelor of Science, Physics
With Highest Honors
Advisor: Lars Bildsten
University of California, Santa Barbara June 2012

PUBLICATIONS

1. Everson, R.W., Macleod, M., De, S., **Macias, P.**, & Ramirez-Ruiz, E., *Common Envelope Wind Tunnel: Range of Applicability and Self-Similarity in Realistic Stellar Envelopes*, ApJ, 899, 1, 2020
2. Karpov, P., Martizzi, D., **Macias, P.**, Ramirez-Ruiz, E., Kolborg, A., & Naiman, J., *The Effects of Metallicity and Abundance Pattern of the ISM on Supernova Feedback*, ApJ, 896, 66, 2020
3. Kirby, E., Duggan, G., Ramirez-Ruiz, E., & **Macias, P.**, *The Stars in M15 were Born with the r -process*, ApJL, 891, L13, 2020
4. **Macias, P.** & Ramirez-Ruiz, E., *Constraining Collapsar r -Process Models through Stellar Abundances*, ApJL, 877, L24, 2019
5. Safarzadeh, M., Ramirez-Ruiz, E., Andrews, J., **Macias, P.**, Fragos, A., & Scannapieco, E., *r -Process Enrichment of Ultra Faint Dwarf Galaxies by Fast Merging Double Neutron Stars*, ApJ, 872, 105S, 2019
6. **Macias, P.** & Ramirez-Ruiz, E., *A Stringent Limit on the Mass Production Rate of r -Process Elements in the Milky Way*, ApJ, 860, 89, 2018
7. MacLeod, M., **Macias, P. J.**, Ramirez-Ruiz, E., Grindlay, J., Batta, A., Montes, G., *Lessons from the Onset of a Common Envelope Episode: the Remarkable M31 2015 Luminous Red Nova Outburst*, ApJ, 835, 282, 2017

8. MacLeod, M., Antoni, A., Murguia-Berthier, A., **Macias, P.**, & Ramirez-Ruiz E., *Common Envelope Wind Tunnel: Coefficients of Drag and Accretion in a Simplified Context for Studying Flows around Objects Embedded within Stellar Envelopes* , ApJ, 838, 56, 2017
9. Law-Smith, J., MacLeod, M., Guillochon, J., **Macias, P.**, & Ramirez-Ruiz, E., *Low-mass White Dwarfs with Hydrogen Envelopes as a Missing Link in the Tidal Disruption Menu* ApJ, 841, 132, 2017
10. Murguia-Berthier, A., MacLeod ,M., Ramirez-Ruiz, E., Antoni A., & **Macias, P.**, *Accretion Disk Assembly During Common Envelope Evolution: Implications for Feedback and LIGO Binary Black Hole Formation* , ApJ, 845,173, 2017
11. **Macias, P.**, Windju, M., & Ramirez-Ruiz, E., *The Past and Future of Detached Double White Dwarfs with Helium Donors*, arXiv:1504.00007
12. Bildsten, L., Paxton, B., Moore, K. and **Macias, P.**, *Acoustic Signatures of the Helium Core Flash*, ApJ, 744, L6, 2012.

TEACHING EXPERIENCE

University of California, Santa Cruz

Teaching assistant, ASTR1: Introduction to the Cosmos Fall 2018
Conducted discussion sections and held office hours (~ 220 students).

Teaching assistant, ASTR2: Overview of the Universe Fall 2018
Conducted discussion sections and held office hours (~ 200 students).

Group Mentor, ASTR9: Introduction to Astronomical Research Winter 2017/2018
Co-designed and supervised a research project for entering undergraduates with the aim of inclusion and retention of underrepresented groups in astronomy.

Co-instructor, ASTR111: Order of Magnitude Astrophysics Fall 2015
Developed course material, lectured two hours per week, and held office hours (~ 30 students)

Teaching assistant, ASTR6: Astronomy in the Space Age Spring 2013
Conducted discussions sections and held office hours (~ 120 students).

AWARDS & HONORS

ARCS Scholar, UCSC 2017-2018

Student Award for Excellence in Mentoring - Undergraduate Research, UCSC 2015

Whitford Prize Recipient, UCSC 2014
“... awarded to the Astronomy and Astrophysics graduate student who, in the judgment of the faculty, attains the highest achievement in research, coursework, teaching, and the preliminary exam.”

NSF Graduate Research Fellow 2013-2019

Eugene Cota-Robles Fellow, UCSC 2012-2015