

Christopher B. Mendillo Ph.D.

Curriculum Vitae

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CURRENT & PAST POSITIONS

Associate Professor, Electrical and Computer Engineering, UMASS Lowell	9/24-
Assistant Research Professor, Physics Department, UMASS Lowell	6/20-8/24
Research Scientist, Physics Department, UMASS Lowell	1/18-5/20
Post-Doctoral Research Fellow, Physics Department, UMASS Lowell	5/13-12/17

EDUCATION

Boston University, Boston, MA USA	9/05-5/13
Ph.D., Astronomy, May 2013	
Dissertation title: "Scattering Properties of Dust in Orion and the Epsilon Eridani Exoplanetary System"	
Advisor: Supriya Chakrabarti	
Brown University, Providence, RI USA	9/01-5/05
ScB, Physics, May 2005	

RESEARCH INTERESTS

Direct imaging of exoplanets and their environments

Experience: PI of NASA PICTURE-D Mission (2022 - 2027) Development and launch (September, 2019 & 2022) of the PICTURE-C high-altitude balloon, an exoplanetary direct imaging mission targeting multiple nearby stars.
Development and launch (October, 2011 & 2015) of the PICTURE sounding rocket, a mission to directly image exozodiacal dust in the Eridani system.

Optical design & wavefront sensing and control

Experience: Full optical design for the PICTURE-C telescope and coronagraph.
Polarization aberration analysis for PICTURE-C.
Design of high and low-order wavefront control systems using multiple deformable mirrors for PICTURE-C.
Development of a fine pointing system that achieved 5 milliarcsecond stability on board the PICTURE rocket.

Interstellar dust

Experience: Determining the far-ultraviolet emission from the Te. oembhS9[-p] TJ [-336(Prop)] T

TECHNICAL SKILLS

- [13] C. B. Mendillo, B. A. Hicks, T. A. Cook, T. G. Bifano, D. A. Content, B. F. Lane, B. M. Levine, D. Rabin, S. R. Rao, R. Samuele, E. Schmidtlin, M. Shao, J. K. Wallace, and S. Chakrabarti. Picture: a sounding rocket experiment for direct imaging of an extrasolar planetary environment. Proc. SPIE, 8442, September 2012.
- [14] Thaddeus Potter, Christopher Mendillo, Kuravi Hewawasam, Jason Martel, Timothy Cook, and Supriya Chakrabarti. The picture-c exoplanetary imaging balloon mission: a refactored thermal model and framework for an end-to-end model for balloon borne coronagraphs. In H. Philip Stahl, Allison A. Barto, and A. A. Cnd an

- [21] G. A. Howe, C. B. Mendillo, K. Hewawasam, J. Martel, S. C. Finn, T. A. Cook, and S. Chakrabarti. The low-order wavefront control system for the picture-c mission: preliminary testbed results from the shack-hartmann sensor. volume 10400Proc. SPIE, pages 10400 { 10400 { 9, 2017.
- [22] K. Hewawasam, G. A. Howe, C. B. Mendillo, J. Martel, S. C. Finn, T. A. Cook, and S. Chakrabarti. The low-order wavefront control system for the picture-c mission: high-speed image acquisition and processing. volume 10400Proc. SPIE, pages 10400 { 10400 { 9, 2017.
- [23] E. S. Douglas, C. B. Mendillo, T. A. Cook, and S. Chakrabarti. Wavefront sensing in space from the picture-b sounding rocket. InSpace Telescopes and Instrumentation 2016: Optical, Infrared, and Millimeter Wave volume 9904 of

and Instrumentation for Detection of Exoplanets IV volume 7440 of Proc. SPIE, page 74401B, August 2009.

- [30] S. R. Rao, J. K. Wallace, R. Samuele, S. Chakrabarti, T. Cook, B. Hicks, P. Jung, B. Lane, B. M. Levine, C. Mendillo, E. Schmidtlin, M. Shao, and J. B. Stewart. Path length control in a nulling coronagraph with a mems deformable mirror and a calibration interferometer. Proc. SPIE, 6888:68880B, March 2008.