

MARION DIERICKX
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EDUCATION

Harvard University Cambridge, MA
PhD in Astronomy and Astrophysics July 2017
• Secondary Field in Computational Science and Engineering

Harvard College Cambridge, MA
BA with Highest Honors in Astrophysics May 2012

AWARDS AND HONORS

- Bok Center Certificate of Distinction in Teaching, 2014, 2016, 2017
- John P. and Carol J. Merrill Graduate Fellowship, 2013-2014
- Leo Goldberg Prize, May 2012
- Thomas T. Hoopes Prize, May 2012
- Phi Beta Kappa, May 2012
- Weissman International Internship Program Fellow, 2010

RESEARCH

Harvard-Smithsonian Center for Astrophysics Cambridge, MA
Postdoctoral Fellow Aug 2017-present
• Supervisor: Prof. John Kovac
• Building calibration hardware and developing analysis tools for the BICEP/Keck Array collaboration, aiming to detect B-mode polarization from inflationary gravitational waves in the Cosmic Microwave Background.
• On-site Team Lead for Keck Array and BICEP3 telescopes at the South Pole for December 2017-February 2018 summer season.

Harvard University Cambridge, MA
Ph.D. Student Sept 2012-July 2017
• Advisor: Prof. Abraham Loeb
• Dissertation: Simulations of Local Group galactic interactions
• Built new reference model for the Sagittarius dwarf galaxy orbit and resulting stellar stream. Model predicted farthest-ranging structure in Milky Way known to date.

Breakthrough Starshot Project Cambridge, MA
Theory Group Member June 2015-present
• Evaluated practicality of propulsion methods for high speed interstellar mission
• Invited speaker for conference panel on solar gravitational lensing

Harvard College Cambridge, MA
Honors Astronomy Researcher Sept 2011-Aug 2012
• Wrote award-winning senior thesis on new constraints on distribution of dark matter in the Local Group

Max-Planck Institut für Astronomie Heidelberg, Germany
Weissman International Internship Program Fellow June 2010-July 2010
• Tested possible formation mechanisms of the Milky Way disk by analyzing eccentricity distribution of SDSS stars

TEACHING

Teaching Fellow Jan 2015-present
Freshman seminar 21G – How did the first stars and galaxies form?

- Taught 50% of lecture time in cosmology seminar of 12 students
- Created course material including lectures and problem sets

Teaching Fellow

Jan 2014-May 2014

Astronomy 16 - Stellar and Planetary Astrophysics

- Trained students in problem solving in biweekly interactive tutorials
- Lead lab sections through nocturnal astronomical observation sessions

PROFESSIONAL AND ACADEMIC SERVICE

Harvard Department of Astronomy

Cambridge, MA

Committee on Academic Studies Member

Sept 2014-Sept 2016

- Elected Student Representative by graduate student body
- Oversaw academic progress of graduate students, created material and redesigned format of qualifying exam

Harvard University

Cambridge, MA

Eliot House Resident Tutor

Sept 2013-May 2016

- Nominated Sophomore Advising Coordinator by House Masters
- Supervised team of 25 tutors for academic advising of sophomore class

Harvard Women's Polo Team

Cambridge, MA

Captain

Sept 2011-May 2012

- Elected to the United States Polo Association All Star Intercollegiate Polo Team 2011, 2012

PUBLICATIONS

M. Dierickx and A. Loeb. *An Upper Limit on the Milky Way Mass from the Orbit of the Sagittarius Dwarf Satellite*. The Astrophysical Journal, 847:42, September 2017

B. Sesar, N. Hernitschek, **M. Dierickx**, M. Fardal and H.-W. Rix. *The >100 kpc Distant Spur of the Sagittarius Stream and the Outer Virgo Overdensity, as Seen in PS1 RR Lyrae Stars*. The Astrophysical Journal Letters, 844:L4, July 2017

M. Dierickx and A. Loeb. *Predicted Extension of the Sagittarius Stream to the Milky Way Virial Radius*. The Astrophysical Journal, 836:92, February 2017

M. Dierickx, I. Jiménez-Serra, V. M. Rivilla and Q. Zhang. *Submillimeter Array high-angular resolution observations of the Monoceros R2 star-forming cluster*. The Astrophysical Journal, 803:89, April 20 2015

M. Dierickx, L. Blecha and A. Loeb. *Signatures of the M31-M32 galactic collision*. The Astrophysical Journal Letters, 788:L38-L44, June 20 2014

I. Jiménez-Serra, A. Báez-Rubio, V. M. Rivilla, J. Martín-Pintado, Q. Zhang, **M. Dierickx** and N. Patel. *A new radio recombination line maser object toward the MonR2 HII region*. The Astrophysical Journal Letters, 763:L4-L10, February 10 2013

M. Dierickx, R. Klement, H.-W. Rix and C. Liu. *Observational evidence from SDSS for a merger origin of the Milky Way's thick disk*. The Astrophysical Journal Letters, 725:L186-L190, December 20 2010

SELECTED TALKS

M. Dierickx. "The Sun as a Gravitational Lens" Breakthrough Discuss invited panelist, Stanford, CA. April 16, 2016

M. Dierickx. "The Orbits of Local Group Satellites" UCSC Galaxy Workshop, Santa Cruz, CA. August 20, 2015