

## JO BOVY

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## EDUCATION

**Ph.D., Physics**, expected June 2011

New York University, New York, NY

**Postgraduate of Logic, History and Philosophy of Science**, *summa cum laude*, September 2006

Universiteit Gent, Belgium

**Master, Physics**, *magna cum laude*, June 2005

Katholieke Universiteit Leuven, Belgium

**Master, Mathematics**, *cum laude*, June 2005

Katholieke Universiteit Leuven, Belgium

**Candidate, Civil Engineering**, *magna cum laude*, June 2003

Katholieke Universiteit Leuven, Belgium

## FELLOWSHIPS AND SCHOLARSHIPS

GSAS Student Travel Grant, New York University, 2009

Horizon Fellowship in the Natural and Physical Sciences, GSAS, New York University, 2009

Henry M. MacCracken Scholarship at New York University, 2006-2011

Honorary Fellow of the Belgian American Educational Foundation (BAEF), 2006-2007

ERASMUS exchange program scholarship, Ludwig-Maximilians Universität München/ Max-Planck Institut für Physik München, 2005

## TEACHING EXPERIENCE

**Invited Speaker and Teaching Assistant**, International Max Planck Research School for Astronomy and Cosmic Physics at the University of Heidelberg (IMPRS-HD), 2009

Topic: *Statistical Inferences from Astrophysical Data*

Science talk “Inference in action: the force law in the Solar System” and preparation and assistance of lab exercises at a summer school aimed at graduate students and postdocs

**Teaching Assistant**, Department of Physics, 2007-2008

Modern Physics I+II, Spring/Fall 2008

Taught both the lab and recitation section for an introductory course in special relativity and quantum mechanics.

General Physics I+II, Spring 2007/Fall 2007/Summer 2008

Taught lab and recitation sections, prepared recitation problem sets.

## REFEREED PUBLICATIONS

- Jo Bovy**, David W. Hogg, & Hans-Walter Rix, Galactic masers and the Milky Way circular velocity, *Astrophys. J.* **704**, 1704 (2009) arXiv:0907.5423 [astro-ph].
- Jo Bovy**, David W. Hogg, & Sam T. Roweis, The velocity distribution of nearby stars from Hipparcos data I. The significance of the moving groups, *Astrophys. J.* **700**, 1794 (2009) arXiv:0905.2980 [astro-ph].
- Jo Bovy**, Substructure boosts to dark matter annihilation from Sommerfeld enhancement, *Phys. Rev. D* **79**, 083539 (2009) arXiv:0903.0413 [astro-ph].
- Surhud More, **Jo Bovy**, & David W. Hogg, Cosmic transparency: A test with the baryon acoustic feature and type Ia supernovae, *Astrophys. J.* **696**, 1727 (2009) arXiv:0810.5553 [astro-ph].
- Jo Bovy** & Glennys R. Farrar, Connection between a possible fifth force and the direct detection of dark matter, *Phys. Rev. Lett.* **102**, 101301 (2009) arXiv:0807.3060 [hep-ph].
- Jo Bovy**, David W. Hogg, & John Moustakas, The transparency of galaxy clusters, *Astrophys. J.* **688**, 198 (2008) arXiv:0805.1200 [astro-ph].
- Jo Bovy**, Dieter Lüst, & Dimitrios Tsimpis,  $N = 1, 2$  Supersymmetric vacua of  $IIA$  supergravity and  $SU(2)$  structures. *J. High Energy Phys.* **08**, 056 (2005) arXiv:hep-th/0506160.

## PUBLICATIONS IN PREPARATION

- Jo Bovy**, David W. Hogg, & Sam T. Roweis, Extreme deconvolution: inferring complete distribution functions from noisy, heterogeneous and incomplete observations, *submitted to AOAS* (2009) arXiv:0905.2979 [stat.ME].
- Jo Bovy**, Iain Murray, & David W. Hogg, The gravitational force law in the Solar System (2009) arXiv:0903.5308 [astro-ph].

## UNREFEREED PUBLICATIONS

- Jo Bovy, The self-energy of the electron: a quintessential problem in the development of QED (2006) arXiv:physics/0608108.
- Jo Bovy, Discrete Mathematics in Contemporary Physical Theories (Thesis Postgraduate in Logic, History and Philosophy of Science, 2006).
- Jo Bovy, Supersymmetric compactifications of  $IIA$  Supergravity (Thesis Master of Physics, 2005).
- Jo Bovy, Symmetries of Parallel Transport (Thesis Master of Mathematics, 2005).

## MISCELLANEOUS

- Bovy, J., Hogg, D. W., & Roweis, S. T., 2009, *extreme-deconvolution* codebase, GPLv2, (<http://code.google.com/p/extreme-deconvolution/>).

## TALKS

- 2009/09/04 “The velocity distribution of nearby stars from Hipparcos data”, The Milky Way and the Local Group - Now and in the Gaia Era, Heidelberg
- 2009/08/07 “Inferring the dynamics of the Milky Way”, MPE, Garching
- 2009/07/30 “Galactic masers and the Milky Way circular velocity”, Galaxy Coffee, MPIA, Heidelberg
- 2009/07/14 “Inferring dynamics from a kinematic snapshot: the importance of the distribution function”, Distribution of Mass in the Milky Way Galaxy workshop, Lorentz Center, Leiden

- 2009/04/06 “Substructure boosts to Dark Matter annihilation”, CCPP Brown Bag, NYU
- 2009/02/06 “Inferring the velocity distribution of nearby stars from Hipparcos data”,  
New York Workshop on Computer, Earth, and Space Sciences, Goddard Institute  
for Space Studies, New York, NY
- 2008/11/03 “Cosmic transparency”, CCPP Brown Bag, NYU
- 2008/04/28 “The transparency of galaxy clusters” and “Direct detection implications of a fifth  
force in the dark sector”, CCPP Brown Bag, NYU.

## POSTERS

- The velocity distribution of nearby stars from Hipparcos data*, Distribution of Mass in the Milky Way Galaxy workshop, July 13-17 2009, Lorentz Center, Leiden, The Netherlands
- What if Newton had one epoch? Gravity estimation from snapshot observations*, Unveiling the Mass: Extracting and Interpreting Galaxy Masses, June 15-19 2009, Queens University, Kingston, Canada