

Vinicius Miranda

The University of Chicago

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EDUCATION

- Ph.D., Astrophysics, **University of Chicago** 2015
Advisor: Wayne Hu
- M.S., Physics, **Federal University of Rio de Janeiro (UFRJ)** 2010
Advisor: Ioav Waga
- B.S., Physics, **Federal University of Rio de Janeiro (UFRJ)** 2008

PUBLICATIONS

- V. **Miranda**, W. Hu & C. Dvorkin, “Polarization Predictions for Inflationary CMB Power Spectrum Features”, *arXiv:1411.5956*, submitted to *Phys.Rev. D*
- V. **Miranda**, W. Hu & Peter Adshead, “Steps to Reconcile Inflationary Tensor and Scalar Spectra”, *Physical Review. D. Particles, Fields, Gravitation, and Cosmology.* , v. 89, p. 101302(R), 2014
- V. **Miranda**, & W. Hu, “Inflationary Steps in the Planck Data”, *Physical Review. D. Particles, Fields, Gravitation, and Cosmology.* , v. 89, p. 083529, 2014
- Peter Adshead, W. Hu & V. **Miranda** , “Bispectrum in single-field inflation beyond slow-roll”, *Physical Review. D, Particles, Fields, Gravitation, and Cosmology.* , v.88, p.023507 - , 2013
- V. **Miranda**, W. Hu & Peter Adshead, “Warp features in DBI inflation”, *Physical Review. D. Particles, Fields, Gravitation, and Cosmology.* , v.86, p.063529 - , 2012
- V. **Miranda**, S. Joras, I. Waga & M. Quartin, “Viable Singularity-Free f(R) Gravity without a Cosmological Constant”, *Physical Review Letters (Print).* , v.102, p.221101 - , 2009

FELLOWSHIPS AND AWARDS

- **Schramm Fellowship**, 2014
Prestigious Fellowship granted by the University of Chicago.
- **Nathan Sugarman Award for Excellence in Graduate Student Research**, 2014
- **Fulbright/CAPES Fellowship**, 2010-2014
Fellowship granted by a joint agreement between Fulbright commission and CAPES foundation, which is funded by the Ministry of Education of Brazil.
- **McCormick Fellowship**, 2010-2012
Awarded to the top ranking candidates by the admission committee.
- **FAPERJ Scholarship Award** (FAPERJ Nota 10), 2009
A very competitive annual fellowship awarded by the Rio de Janeiro state science agency (FAPERJ).

Invited Talks

- Cosmology After Planck, *University of Michigan.* Sep 2013
- Seminar, *Federal University of Rio de Janeiro (UFRJ)* May 2013
- Seminar, *Brazilian Center for Physics Research (CBPF)* May 2013
- Cosmology Beyond the Power Spectrum, *Berkeley Center for Cosmological Physics* April 2013

PROGRAMMING SKILLS

- **C++**
I am proficient in C++, including the new C++11 standard.
- **Fortran**
I have working experience in Fortran 2003 and I have good knowledge in using CosmoMC and CAMB packages.
- **C**
I have working experience in C and I have good knowledge in using GSL and NAG numerical libraries.
- **Parallel Programming**
I am proficient in using Intel Thread Building Blocks for share memory parallelization in C++ and I have working experience in OpenMP and MPI.
- **Unix/Bash**
I am proficient in Bash and I have working experience in maintaining unix/linux servers.
- **Software Packages and Analysis Tools**
CosmoMC, CAMB, Minuit2, GSL, NAG, Supermongo, Armadillo, Wolfram Mathematica.

OUTREACH

- **Brazilian Astronomy Olympiad, 2004-2009**
I was part of the team responsible for training the final 20-50 candidates for the International Astronomy Olympiad.

ACADEMIC REFERENCES

- **Wayne Hu**
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The University of Chicago, Chicago, Illinois, U.S.A.
Email: whu@background.uchicago.edu
- **Peter Adshead**
Department of Physics
The University of Illinois at Urbana-Champaign, Champaign, Illinois, U.S.A.
Email: adshead@illinois.edu
- **Scott Dodelson**
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The University of Chicago, Chicago, Illinois, U.S.A.
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