

Henrique S. Xavier

Ph.D. & M. Sc. in Physics
hsxavier@if.usp.br +55 11 3091-2818

Date of birth: 10th of March, 1983.

Current work address: Rua do Matão, 1226. São Paulo - SP - Brazil - 05508-090.

Academic Background

01/04/2014 - present: Post-doctoral position

At the Institute of Astronomy, Geophysics and Atmospheric Sciences of the University of São Paulo, under supervision of Prof. Laerte Sodré Jr.

Project title: Optimisation of galaxy power spectrum estimation on large scales.

01/10/2014 - 30/09/2015: Post-doctoral position

At the Department of Physics & Astronomy of University College London, under supervision of Dr. Filipe B. Abdalla.

Project title: Optimisation of galaxy power spectrum estimation on large scales.

01/08/2009 - 28/03/2014: Ph.D. in physics

At the Physics Institute of the University of São Paulo, under supervision of Dr. Raul Abramo, with a scholarship by FAPESP.

Monography title: Type Ia supernovae: environmental dependencies and a new observational method. Date of 'Viva' (thesis defense): 30th March, 2014.

01/03/2011 - 31/03/2012: Research scholar

At the Department of Physics and Astronomy of the University of Pennsylvania, under supervision of Dr. Masao Sako.

01/08/2005 - 26/11/2007: M.Sc. in physics

At the Physics Institute of the University of São Paulo, under supervision of Dr. Raul Abramo.

Monography title: Tomography of the primordial gravitational potential using CMB polarization in galaxy clusters.

Date of Degree: 26th November, 2007

01/08/2005 - 30/06/2008: Bachelor in physics education

At the Physics Institute and School of Education of the University of São Paulo.

Date of Degree: 25th August, 2008

01/04/2002 - 30/07/2003: Research fellow

At the Physics Institute of the University of São Paulo, under supervision of Dr. Luiz Carlos Chamon.

01/03/2001 - 30/11/2004: Bachelor in physics

At the Physics Institute of the University of São Paulo.

Date of Degree: 9th June, 2005

Publications

Bengaly Jr., C. A. P. et al. (2017) *The dipole anisotropy of WISE x SuperCOSMOS number counts* (arXiv:1707.08091, submitted to Monthly Notices of the Royal Astronomical Society).

Bengaly Jr., C. A. P. et al. (2016) *Is there evidence for anomalous dipole anisotropy in the large-scale structure?* Monthly Notices of the Royal Astronomical Society, Vol. 464, p. 768.

Xavier, H. S.; Abdalla, F. B. & Joachimi, B. (2016) *Improving lognormal models for cosmological fields.* Monthly Notices of the Royal Astronomical Society, Vol. 459, p. 3693.

Xavier, H. S. et al. (2014). *Photometric type Ia supernova surveys in narrow band filters.* Monthly Notices of the Royal Astronomical Society, Vol. 444, p. 2313.

Benitez, N. et al. (2014). *J-PAS: The Javalambre-Physics of the Accelerated Universe Astrophysical Survey.* (arXiv:1403.5237).

Xavier, H. S. et al. (2013). *Properties of type Ia supernovae inside rich galaxy clusters.* Monthly Notices of the Royal Astronomical Society, Vol. 434, p. 1443.

Abramo, L. R.; Reimberg, P. H. & Xavier, H. S. (2010). *CMB in a box: Causal structure and the Fourier-Bessel expansion.* Physical Review D, Vol. 82, p. 043510.

Abramo, L. R. & Xavier, H. S. (2007). *Real space tomography of the primordial Universe with cluster polarization.* Physical Review D, Vol. 75, p. 101302.

Teaching Experience

01/03/2010 - 30/06/2010: Teaching assistant

For “Thermodynamics” at the University of São Paulo, Brazil.

01/08/2009 - 30/11/2009: Teaching assistant

For “Physics II” (introduction to special relativity) at the University of São Paulo, Brazil.

2008 - 2009: Private tutoring

Physics and mathematics for high school and university students, Brazil.

15/02/2008 - 30/03/2009: Physics high school teacher

For underprivileged students at Bem Comum Non-Governmental Organisation, Brazil.

01/08/2006 - 30/11/2006: Teaching assistant

For “Physics I” (mechanics) class at the University of São Paulo, Brazil.

01/08/2004 - 30/11/2006: Teaching assistant

For “Physics V” (modern physics) class at the University of São Paulo, Brazil.

Schools, Conferences & Meetings

Talks given

EUCLID meeting, Lausanne, Switzerland (2015).

Simulations for verifying 2-pt estimators.

10th J-PAS meeting, Paraty, Brazil (2015).

Full-sky lognormal multi-field simulations.

7th J-PAS meeting, Teruel, Spain (2013).

Properties of type Ia supernova inside rich galaxy clusters.

6th J-PAS meeting, Valencia, Spain (2013).

The supernova simulations and cosmological constraints.

4th J-PAS meeting, Madrid, Spain (2012).

J-PAS borders and the SN survey.

DES collaboration meeting, Philadelphia, USA (2011).

The JPAS Supernova Survey Simulations.

3rd J-PAS meeting, Rio de Janeiro, Brazil (2011).

The J-PAS Supernova Survey Simulations.

Posters presented

XV Latin American Regional IAU Meeting, Cartagena, Colombia (2016).

Beyond lognormal models of cosmological fields: the FLASK code.

IV Jayme Tiomno School of Cosmology, Rio de Janeiro, Brazil (2016).

Beyond lognormal models of cosmological fields: the FLASK code.

Meeting on Fundamental Cosmology, Barcelona, Spain (2016).

Beyond lognormal models of cosmological fields: the FLASK code.

Theoretical and Observational Progress on Large-scale Structure of the Universe, Munich, Germany (2015).

Full sky realisations of correlated lognormal fields.

The Olympian Symposium: Cosmology and the Epoch of Reionization, Katerini, Greece (2015).
Full sky realisations of correlated lognormal fields
Photometric supernova surveys in narrow band filters.

XIV Latin American Regional IAU Meeting, Florianopolis, Brazil (2013).
Properties of type Ia supernovae inside rich galaxy clusters.

USP Conference on Cosmology, Large Scale Structure & First Objects, São Paulo, Brazil (2012).
J-PAS: supernova survey with narrow band filters.

Science with LSST: A Brazilian/US joint workshop, Campos do Jordao, Brazil (2012).
J-PAS: supernova survey with narrow band filters.

VI Workshop Nova física no espaço, Campos do Jordao, Brazil (2007).
Reconstruction of primordial perturbations from CMB polarization.

Participation

9th J-PAS meeting, Teruel, Spain (2014).

III Jaime Tiomno School of Cosmology, Rio de Janeiro, Brazil (2014).

8th J-PAS meeting, Florianopolis, Brazil (2014).

ICTP Summer School on Cosmology, Trieste, Italy (2012).

ICTP Workshop on Large Scale Structure, Trieste, Italy (2012).

5th J-PAS meeting, São Paulo, Brazil (2012).

I Jayme Tiomno School of Cosmology, Rio de Janeiro, Brazil (2010).

III INPE Advanced Course on Astrophysics: Astrostatistics, São Jose dos Campos, Brazil (2009).

II Workshop Challenges of New Physics in Space, Campos do Jordao, Brazil (2009).

XIV Cycle of Special Courses of the National Observatory, Rio de Janeiro, Brazil (2009).

II SCS PIRE summer school on large scale structure-CMB connection, Santiago, Chile (2007).

First INPE advanced course: A Roadmap for Cosmology. São Jose dos Campos, Brazil (2005).

Participation in examining Committees

2016: At the international phase of the XXI International Symposium of undergraduate research fellows, São Paulo, Brazil.

2016: At the first phase (in the Astronomy department) of the XXI International Symposium of undergraduate research fellows, São Paulo, Brazil.

2007: In the field of modern physics and technology at the Oswald de Andrade - Caravelas high school, Brazil.

2006: In the field of modern physics and technology at the Oswald de Andrade - Caravelas high school, Brazil.

Participation in Managing Committees

01/10/2010 - 28/02/2011: Graduate students representative

At the Council of the Experimental Physics Department and at the Assembly of the Physics Institute of the University of São Paulo.

01/10/2005 - 30/09/2006: Graduate students representative

At the Graduate Courses Committee of the Physics Institute of the University of São Paulo.

01/10/2002 - 30/09/2004: Undergraduate students representative

At the Assembly of the Physics Institute of the University of São Paulo.

01/10/2002 - 30/09/2004: Undergraduate students representative

At the Library Committee of the Physics Institute of the University of São Paulo.

01/10/2003 - 30/09/2004: Student's Assembly director

At CEFISMA physics student's assembly of the Physics Institute of the University of São Paulo, Brazil.

Other Experiences

01/03/2008 - 01/12/2008: Finance and Logistics Analyst

At Verax consulting company, São Paulo, Brazil.