Henrique Rubira – CV

Contact: henrique.rubira at desy.de

Interests

Large Scale Structure – Gravitational Waves –
Cosmological Perturbation Theory – First Order Phase Transitions

Education

PhD, DESY (Deutsches Elektronen-Synchrotron)
2018-now.
Thesis topic: Gravitational Waves and Large Scale Structure.
Supervisor: Thomas Konstandin.

MSc, University of São Paulo
2016-2018.
Dissertation: "Effective Field Theories in Large Scale Structure"
Supervisor: Marcos V. B. T. Lima.
Internship: DESY (Sep 2017 - Dec 2017).

BSc, University of São Paulo
Molecular Sciences, 2011-2015.
"Calculation of Photometric Redshift in the Dark Energy Survey"

Fellowships

Graduate Fellowship Overseas, FAPESP .
2017
Project: "Three Loops Matter Power Spectrum Calculation Using EFTs"
Supervisor abroad: Thomas Konstandin
Institute: DESY (Deutsches Elektronen-Synchrotron)

Graduate Fellowship, FAPESP .
2016-2018
Project: "EFTs in LSS and the 3-point matter correlation
function in the Dark Energy Survey"
Supervisor: Marcos V. B. T. Lima
Institute: University of São Paulo

Undergraduate Fellowship, FAPESP .
2013-2015
Project: "Neural Nerworks and photometric redshifts"
Supervisor: Marcos V. B. T. Lima
Institute: University of São Paulo

Workshops

The science of Third-Generation GW Detectors (2019, Berlin).
MITP Summer School (2019, Mainz).
VI La Plata International School of Astronomy and geophysics: Cosmology in the era of large surveys. U. La Plata (2018, La Plata).
School on Open Problems in Cosmology
ICTP-SAIFR/ICTP-Trieste (2017, São Paulo).
DESY Theory Workshop (2017, Hamburg).
XIX Swieca Summer School on Particles and Fields SBF (2017, Maresias).
IV Jayme Tiomno School of Cosmology
Observatorio Nacional (2016, Rio de Janeiro).
School on Effective Field Theory across Length Scales
ICPT-SAIFR (2016, São Paulo).
School on Dark Matter ICPT-SAIFR (2016, São Paulo).
School and Workshop on Observational Cosmology
ICPT-SAIFR (2014, São Paulo).
Minicourse on Data Analysis in Cosmology ICPT-SAIFR (2014, São Paulo).

Talks

"A hybrid simulation of gravitational wave production in first-order phase transitions", Bielefeld Autumn Workshop 2020
"A hybrid simulation of gravitational wave production in first-order phase transitions", DESY Theory Workshop 2020.

"The Effective Field Theory of Large Scale Structure at Three Loops", MITP Summer School 2019
"The Effective Field Theory of Large Scale Structure at Three Loops", DESY Theory Workshop 2019,
"The Effective Field Theory of Large Scale Structure at Three Loops", Bielefeld Kosmologietag 2019.

Awards

Fifth place at ICTP-SAIFR Young Physics Award 2013.
XIX Swieca Summer School on Particles and Fields, best presentations, 2017.

Teaching

Alphabetization of adults, Teaching Math, Science and English
Social project developed in two schools in Brazil 2014
Escola Móbile & Lourenço Castanho, 2013-2015

Languages and Skills

Portuguese (native), English, Spanish.
C, C++, Python, Mathematica.

Henrique Rubira – Publications

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[1] Henrique Rubira and Rodrigo Voivodic.
The Effective Field Theory and Perturbative Analysis for Log-Density Fields
arXiv: 2011.12280

[2] Ryusuke Jinno, Thomas Konstandin and Henrique Rubira.
A hybrid simulation of gravitational wave production in first-order phase transitions
arXiv: 2010.00971, Submitted to JCAP

[3] Rodrigo Voivodic, Henrique Rubira and Marcos Lima.
The Halo Void (Dust) Model of Large Scale Structure
arXiv: 2003.06411
Published in: JCAP 10 (2020) 033

[4] Valerie Domcke, Ryusuke Jinno and Henrique Rubira.
Deformation of the gravitational wave spectrum by density perturbations
arXiv: 2002.11083
Published in: JCAP 06 (2020) 046

[5] Mathias Garny, Thomas Konstandin and Henrique Rubira.
The Schrödinger-Poisson method for Large-Scale Structure
arXiv: 1911.04505
Published in: JCAP 04 (2020) 003

[6] Thomas Konstandin, Rafael A. Porto and Henrique Rubira.
The Effective Field Theory of Large Scale Structure at Three Loops
arXiv: 1906.00997
Published in: JCAP 11 (2019) 027