

Guilherme Raposo

EDUCATION

Sapienza University of Rome - Physics Department

Ph.D. degree in Physics

Rome, Italy

Nov. 2017 – Present

- Dissertation Topic: *Testing black holes with gravitational waves*
- Supervisor: Prof. Paolo Pani

Instituto Superior Técnico - Lisbon University

MSc. in Physics Engineering Grade: 17/20

Lisbon, Portugal

Sep. 2014 – Jan. 2017

- Dissertation Topic: *Relativistic tidal Love numbers - tests of strong-field gravity*
- Supervisor: Prof. Vitor Cardoso
- Grade: 19/20

Instituto Superior Técnico - Lisbon University

BSc. in Physics Engineering Grade: 16/20

Lisbon, Portugal

Sep. 2011 – Aug. 2014

EXPERIENCE AND PAST POSITIONS

Visiting Graduate Student

Instituto Superior Técnico

Oct. 2020 – Present

Lisbon, Portugal

- Collaboration with Prof. José Natário on elastic compact objects.

Teaching Assistant

Sapienza University

Fall 2019 – Present

Rome, Italy

- Assistant in the course of computational Physics.

Visiting Graduate Student

Johns Hopkins University

Oct. 2020 – Present

Baltimore, USA

- Collaboration with Prof. Emanuele Berti on gravitational depletion of scalar clouds.

Teaching Assistant

Sapienza University

Fall 2018 – Present

Rome, Italy

- Assistant in the course of computational Physics.

Referee Activity

- I've refereed publications for the following scientific journals: PLB, Mod. Phys. Lett. A.

HONORS, AWARDS AND FELLOWSHIPS

PhD scholarship for *Foreign students educated abroad*.

- Competitive scholarship awarded by Sapienza University of Rome to candidates educated abroad.

Best MSc. thesis in the field of astrophysics and gravitation.

- Awarded by the Physics department of Instituto Superior Técnico during the academic year of 2016/2017.

PUBLICATION LIST

8. Massimo Bianchi, Dario Consoli, Alfredo Grillo, José Francisco Morales, Paolo Pani, Guilherme Raposo, “The multipolar structure of fuzzballs”, *JHEP* 01 (2021) 003, 2008.01445[hep-th];
7. Massimo Bianchi, Dario Consoli, Alfredo Grillo, José Francisco Morales, Paolo Pani, Guilherme Raposo, “Distinguishing fuzzballs from black holes through their multipolar structure”, *Phys.Rev.Lett.* 125 (2020) 22, 221601, 2007.01743[hep-th];
6. Guilherme Raposo, Paolo Pani, “Axisymmetric deformations of neutron stars and gravitational-wave astronomy”, *Phys.Rev.D* 102 (2020) 4, 044045, 2002.02555[gr-qc];
5. Emanuele Berti, Richard Brito, Caio F.B. Macedo, Guilherme Raposo, Joao Luis Rosa, “Ultralight boson cloud depletion in binary systems”, *Phys.Rev.D* 99 (2019) 10, 104039, 1904.03131[gr-qc];
4. Guilherme Raposo, Paolo Pani, Roberto Emparan, “Exotic compact objects with soft hair”, *Phys.Rev.D* 99 (2019) 10, 104050, 1812.07615[gr-qc];
3. Guilherme Raposo, Paolo Pani, Miguel Bezares, Carlos Palenzuela, Vitor Cardoso, “Anisotropic stars as ultracompact objects in General Relativity”, *Phys.Rev.D* 99 (2019) 10, 104072, 1811.07917[gr-qc];
2. Edgardo Franzin, Vitor Cardoso, Paolo Pani, and Guilherme Raposo, “Testing strong gravity with gravitational waves and Love numbers”, *J.Phys.Conf.Ser.* 1, 841 (2017);
1. Vitor Cardoso, Edgardo Franzin, Andrea Maselli, Paolo Pani, and Guilherme Raposo, “Testing strong-field gravity with tidal Love numbers”, *Phys.Rev.D* 95 (2017) 8, 084014 , [Addendum: *Phys.Rev.D* 95 (2017) 8, 089901], **Editor’s Suggestion of Physical Review D**, arXiv:1701.01116[gr-qc];

Including the following White Papers:

2. E. Barausse *et al*, “Prospects for Fundamental Physics with LISA”, *Gen.Rel.Grav.* 52 (2020) 8, 81, 2001.09793[gr-qc];
1. L. Barack *et al*, “Black holes, gravitational waves and fundamental physics: a roadmap”, *Class.Quant.Grav.* 36 (2019) 14, 143001, 1806.05195[gr-qc];

SEMINARS AND TALKS

XII Black Holes Workshop	Dec. 2019
<i>Deformed compact objects in general relativity</i>	<i>Guimarães, Portugal</i>
GR22 and Amaldi13	July-2019
<i>Deformed compact objects in general relativity and beyond</i>	<i>Valencia, Spain</i>
GR22 and Amaldi13	July-2019
<i>Anisotropic stars as ultracompact objects in general relativity</i>	<i>Valencia, Spain</i>
2nd GWverse Meeting	Jan-2019
<i>Anisotropic stars as ultracompact objects in general relativity</i>	<i>Athens, Greece</i>
Group Meeting Seminar - Johns Hopkins University	Dec. 2018
<i>Anisotropic stars as ultracompact objects in general relativity</i>	<i>Baltimore, USA</i>
X Black Holes Workshop	Dec. 2017
<i>Multipole moments of exotic compact objects</i>	<i>Aveiro, Portugal</i>
Spanish-Portuguese Relativity Meeting	Sep. 2016
<i>Love numbers of black holes</i>	<i>Lisbon, Portugal</i>

INTERNSHIPS, EXTRACURRICULAR ACTIVITIES AND OUTREACH

Student Newspaper	2015 – 2017
<i>Instituto Superior Técnico</i>	<i>Lisbon, Portugal</i>

- Management, redaction and proofreading.

PROGRAMMING SKILLS

- **Advanced:** Mathematica, C/C++.
- **Intermediate:** Matlab, Python.
- **Basic:** Root, CUDA, HTML/CSS.
- **OS Preference:** Windows, Linux.

LANGUAGES

- **Native:** Portuguese.
- **Fluent:** English.
- **Intermediate:** Italian.

REFERENCES AND CONTACTS

- Prof. Paolo Pani, *Sapienza University of Rome*, paolo.pani@uniroma1.it
- Prof. Vitor Cardoso, *Instituto Superior Técnico*, vitor.cardoso@tecnico.ulisboa.pt
- Prof. Carlos Palenzuela, *University of Balearic Islands*, carlos.palenzuela@uib.es