

● ABOUT ME

I am a PhD student in Physics at the University of Rome La Sapienza. I work on Gravitational Wave Cosmology with my Supervisor Dr. Simone Mastrogiovanni.

● EDUCATION AND TRAINING

01/11/2023 – CURRENT Rome, Italy

PHD IN PHYSICS La Sapienza University

22/09/2021 – 25/09/2023 Rome, Italy

MASTER OF SCIENCE La Sapienza University

Final grade: 110/110 with honors

Exams taken: 13 Weighted average: 29.76

The title of the **thesis** is "*Test the speed of gravity and cosmology using time delays between gravitational waves and their electromagnetic counterpart*". The objective is to set constraints on both the speed of gravity and cosmology using time delays between the gravitational waves of binary neutron stars and their electromagnetic counterpart. For this, I code in Python and use Bayesian hierarchical modeling. **Supervisor:** Prof. Francesco Pannarale, Dr. Simone Mastrogiovanni

25/04/2018 – 21/10/2021 Rome, Italy

BACHELOR IN SCIENCE La Sapienza University

Exams taken: 21 Weighted average: 29.48

the **Thesis** is titled "*Superradiance in Bose-Einstein condensates*". This thesis studies how certain conditions in ultra-cold gases can mimic the behavior of black holes, amplifying radiation and exploring how these systems become unstable under specific circumstances. **Supervisor:** Prof. Paolo Pani. The thesis was discussed on **21/10/2021**.

Final grade 110/110 with honors

● LANGUAGE SKILLS

Mother tongue(s): **ITALIAN** | **FRENCH**

Other language(s):

		UNDERSTANDING				SPEAKING		WRITING
		Listening		Reading		Spoken production Spoken interaction		
ENGLISH	C2	C2 ^g	C2	C2	C2 ^g			

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● DIGITAL SKILLS

C | C++ | Python | Matlab

● GRANTS AND FUNDS

2024 – CURRENT

Grant (2.1k€) "Bando di Mobilità" from Sapienza University of Rome

3-month research visit to the Laboratoire de Physique de l'École Normale Supérieure in Paris.

● HONOURS AND AWARDS

19/09/2024

Young Scientist GEMMA2 Award for the best poster contributions by skilled young researchers – la Sapienza University

Percorso di Eccellenza – Sapienza

Awarded **"Percorso di eccellenza"** (path of excellence) for both bachelor's and master's degrees in Physics (**30** and **15** places available respectively): The path offers additional educational activities consisting of disciplinary and interdisciplinary research, seminars and internships according to a personalized program agreed with each student. A tutor is assigned to every student who is successful in accessing the path of excellence. The tutor supervises him or her and supports the organization of activities agreed with the student.

Activities carried out in the bachelor's degree:

1. Approfondimenti di Elettromagnetismo (In-depth analysis of Electromagnetism), Prof. F.Lacava
2. Physics and Reality, Prof. G.Pisano
3. Buchi Neri Acustici (Acoustic Black Holes), Prof. P.Pani

Activities I am carrying out or I will carry out in the master's degree:

1. Numerical Methods for Partial differential equations in Cosmological Simulations, Prof. L.Graziani
2. Overview of main gravitational wave searches inside the LIGO-Virgo-KAGRA collaborations, Prof. P.Leaci, Prof. F.Pannarale, Prof. M.Drago, Dr. S.Mastrogiovanni
3. Gravitational Wave open data workshop, Prof. F.Pannarale, Dr. S.Mastrogiovanni

● CONFERENCES AND SEMINARS

16/09/2024 – 19/09/2024 Rome

GEMMA 2

Link <https://agenda.infn.it/event/39794/page/8543-poster-session>

07/07/2024 – 12/07/2024 Pescara

Seventeenth Marcel Grossmann Meeting

Link <https://indico.icranet.org/event/8/>

01/07/2024 – 06/07/2024 Toulouse

Third MaNiTou Summer School on Gravitational Waves

Link <https://indico.in2p3.fr/event/31714/overview>

● PUBLICATIONS

2025

Search for continuous gravitational waves from known pulsars in the first part of the fourth LIGO- Virgo-KAGRA observing run

A. G. Abac et al. [LIGO Scientific, Virgo, KAGRA], [arXiv:2501.01495 [astro-ph.HE]]

2024

Search for gravitational waves emitted from SN 2023ixf

A. G. Abac et al. [LIGO Scientific, Virgo, KAGRA], [arXiv:2410.16565 [astro-ph.HE]]

2024

A search using GEO600 for gravitational waves coincident with fast radio bursts from SGR 1935+2154

A. G. Abac et al. [LIGO Scientific, Virgo, KAGRA], Astrophys. J. Lett. 977 (2024) no.2, 255

2024

Measuring the Speed of Gravity and the Cosmic Expansion with Time Delays between Gravity and Light from Binary Neutron Stars

L. Iampieri, S. Mastrogiovanni and F. Pannarale, Phys. Rev. D 111, 023533

2024

Observation of Gravitational Waves from the Coalescence of a 2.5–4.5 M_⊙ Compact Object and a Neutron Star

A. G. Abac et al. [LIGO Scientific, Virgo, KAGRA], Astrophys. J. Lett. 970 (2024) no.2, L34

● **SUPERVISING AND TEACHING**

Tutor Position – Mathematics and Statistics

40-hour tutor activity for the **Mathematics and Statistics** course in the **Environmental Sciences** degree program,
Sapienza University, 1st semester, a.y. 2024/2025.

Ai fini della pubblicazione

F.to Leonardo Iampieri

14/03/2025