



## Paolo Cremonese, Ph.D.

### PostDoc Researcher



Vancouver, BC



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PaoloCremo

## About me

I am a Postdoctoral Researcher at the UIB in Palma, Spain, specializing in gravitational lensing of gravitational waves. I have a strong passion for finance, technology, data analysis, and continuous learning, complemented by a love for travel. I love tackling challenging problems and am now seeking to leverage my analytical skills and passion for innovation in a dynamic opportunity outside of academia, where I can combine my interests in finance and technology.

## Skills

Python

macOS

Linux

Mathematica

$\LaTeX$

Slurm

Git

Apple Keynotes

HTML/CSS

SQL

## Languages

Italian - Mother Tongue

English - Fluent

Spanish - Basics

## Interests

Technology

Data Analysis

Finance and Investments

Sports, Books & Piano.

## Work Experience

Current

**PostDoc Researcher**

UIB, Palma, Spain

Member of LIGO collaboration.

Gravitational Waves Data Analysis

2018

**Internship as Data Scientist**

DBA Group, Italy

I worked in a group developing methods and knowledge on how to record and elaborate different type of data, from meteorological to industrial

## Education

2022

**Ph.D. in Physics**

Szczecin, Poland

*Gravitational lensing of Gravitational Waves*

2017

**M.Sc. in Astronomy**

Padova, Italy & Stockholm, Sweden

Thesis on lensing of gravitational waves done at Stockholm university

2015

**B.Sc. in Astronomy**

Padova, Italy

Thesis on dark matter in spiral galaxies

## Projects

- **#research** I develop tools to analyze Gravitational Waves data, focusing on finding events that are bent or magnified by massive objects (i.e. lensing). I'm also working on a project to organize and automate the process of detecting these lensed events more efficiently.
- **#personalfinance** **#appdevelop** **#sideprojects** I'm developing a personalised mobile app to help manage personal finances. This includes creating a custom Python package to track expenses and investments. On the side, I'm also working on a fun project that lets me control Spotify playlists and building a bot to send daily updates of new research papers from ArXiv based on topics of interest.
- **#website** I designed and coded my own website, where I keep my info, thoughts and different things.

## Main Publications

- #6 **Invariance transformations in wave-optics lensing: implications for gravitational-wave astrophysics and cosmology**
- #5 **Follow-up Analyses to the O3 LIGO-Virgo-KAGRA Lensing Searches**
- #4 **Characteristic features of Gravitational Wave lensing as probe of lens mass model**
- #3 **Breaking the mass-sheet degeneracy with gravitational wave interference in lensed events**
- #2 **High accuracy on  $H_0$  measurements from gravitational wave lensing events**
- #1 **The lensing time delay between gravitational and electromagnetic waves**

The complete list at [inspirehep.net/authors/1859874](https://inspirehep.net/authors/1859874)

## Mentions

- #2 **Top ArXiv papers from week 15, 2021 - S.Vagnozzi - Link to article**
- #1 **Constraining the Hubble Constant with Lensed Gravitational Wave Events, 2019 - K. Shin - Link to article**

## Main Conferences

### Talks & Posters

- **"Mass-Sheet Degeneracy in Gravitational Wave Lensing"** @ NBI Strong Group seminar, 2023/12; LVK meeting, 2023/09
- **"Wave Optics in Gravitational Wave Lensing"** @ UBC Gravity seminar, 2023/09
- **"Divulgative talk on Dark matter"** @ YouTube, 2022/10
- **Presented paper #3** @ GWverse, 2021/09; Gravitex 2021, 2021/08; COSMO '21, 2021/08; Amaldi 14, 2021/07 Cosmology from Home, 2021/07; Ibericos 2021/04
- **Presented paper #2** @ Cosmic controversies, 2019/10
- **Member of organizing committee** @ The 6th Conference of the Polish Society on Relativity, 2019/09

The complete list with slides and link to conferences at [paolocremonese.com/CV](https://paolocremonese.com/CV)