

Piazzale Aldo Moro, 5, Room 101, Marconi Building, 1st floor, 00185, Rome, Italy

## ● EDUCATION AND TRAINING

2017 – 2021 – Italy

**MD IN ASTRONOMY AND ASTROPHYSICS** – “Sapienza” University of Rome

- Observational Cosmology
- Cosmic microwave background radiation
- Transition Edge Sensor
- Cryogenics

### Field(s) of study

- Natural sciences, mathematics and statistics : *Physics*

**Thesis:** Characterization of the multi-moded detectors for the LSPE- SWIPE receiver 110/110 | EQF level 7

2013 – 2017 – Italy

**BD IN PHYSICS AND PHYSICS** – “Sapienza” University of Rome

- Physical Cosmology
- Standard cosmological model
- Cosmic microwave background radiation

### Field(s) of study

- Natural sciences, mathematics and statistics : *Physics*

**Thesis:** The standard cosmological model

102/110 | EQF level 6



## LANGUAGE SKILLS

Mother tongue(s): **ITALIAN**

Other language(s):

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken production	Spoken interaction	

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

## DIGITAL SKILLS

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Suite Office (Excel Word Ppt) | LaTeX

1 / 2

### Programming languages:

C, C++ | Python | Fortran | Web HTML CSS

### Operating systems:

Windows | Linux

### Application Software:

CAD Solidworks | LabViewRT | Zemax OpticStudio

## RESEARCH EXPERIENCE

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### Observational Cosmology

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During the Astrophysics Laboratory course, I had the access to the laboratory's facilities for 6 months in order to assemble and to test the clamp-release system for the LSPE-SWIPE polarization modulator. My role first consisted in assembling the prototype, then I made tests for the proper operation both to room temperature and low temperature by using a cryogenic system.

During my Master's degree thesis, I made electrical and optical tests on superconductive bolometers (TES) for LSPE-SWIPE at low temperatures. I was involved in the characterization of the optical chain of filters using a DFTS (Differential Fourier Transform Spectrometer), then my job consisted in extracting the spectra from the interferograms to study the filters' transmittance. I was also involved in the tuning of the cryogenics system used for the pixel characterization. I performed the characterization of the TES prototype by measuring the time constant, the responsivity, the angular response and readout noise.

The accumulated experience has allowed me to increase my skills in the field of scientific and quantitative reasoning, problem analysis and problem solving, writing effectiveness.

## PUBLICATIONS

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L. Lamagna, M. Basilicata, A. Occhiuzzi, F. Columbro, A. Coppolecchia, G. D'Alessandro, P. de Bernardis, S. Masi, L. Mele, A. Paiella, G. Pisano, "Modeling and characterization of quasioptical elements in the optical system of LSPE/SWIPE"

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(Submitted)

