

Fabrizio Muratore

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🌐 Fabrizio Muratore • in Fabrizio Muratore

I am a Ph.D. student in Astronomy at the University of Padua. I have a great passion for Astrophysics, data analysis, and programming. As confirmed by my education, my interests are varied, both in the humanities and in the scientific field, this allows me to face situations with an analytical approach without neglecting the possibility of alternative visions.

Education

- **2023–present Ph.D. in Astronomy**, *Department of Physics and Astronomy Galileo Galilei* University of Padua, Italy.

- **2021–2023 Master Degree in Astrophysics and Cosmology**, *Department of Physics and Astronomy Galileo Galilei* University of Padua, Italy.

Observations, Experiments, and Interpretation Curriculum

Subjects: Galactic and Extragalactic Astrophysics - Cosmology - Data analysis, interpretation, and visualization - N-body simulation - Machine Learning

Thesis: Hunting UV-dim stars in Magellanic Cloud star clusters with HST

Supervisor: Prof. Antonino Milone

Final mark: 110/110 cum laude

Young star clusters in the Magellanic Clouds are complex systems, characterized by extended main-sequence turn-offs (eMSTOs) and split main sequences (MSs). The age-spread scenario and the rotation-spread scenario have been proposed to explain these features. Additionally, the CMD of NGC1783, obtained with UV and optical filters, reveals UV-dim stars, with redder colors than MSTO stars. These stars may be obscured by disk, suggesting a scenario, in which the entire eMSTO could be composed of dusty stars. I analyze NGC1818 to individuate and characterize the properties and distribution of UV-dim stars.

- **2017–2020 Bachelor Degree in Astronomy**, *Department of Physics and Astronomy Galileo Galilei* University of Padua, Italy.

Thesis: *Funzioni di massa e popolazioni multiple in ammassi globulari*

Supervisors: Prof. Antonino Milone

Final mark: 101/110 obtained on 11/12/2020

I studied the old globular cluster 47Tuc and I derive the mass function of two main populations inside the system to constrain the scenario of formation.

- **2012–2017 High School Diploma in classical studies**, *Liceo Classico Umberto I* Palermo, Italy.
Final mark: 94/100

Research Experiences

2020–present: Collaborator of GALFOR group

GALFOR is a project of Galactic archaeology (ERC-2016-STG, 716082) to address hot topics of modern astrophysics such as the formation of globular clusters, and their multiple stellar populations and the star formation history in young star clusters.

Computer Skills

Languages: Python, SuperMongo — basis of html, css and c++

Coding software: SPyder — Emacs — PyCharm — Jupiter Notebook — Google Colab — VScode

Other software: \LaTeX — Microsoft Office (Power Point, Excel, Word) — IRAF — DS9 — CASA

OS: Linux — Microsoft Windows