

Campion Stefano

Position: PhD. student

Period: 2017-2021 (**Last update 31/05/2021**)

Education

1) University of Rome “La Sapienza”: **Bachelor Degree** (106/110) in Physics and Astrophysics (12/2012):

Thesis: “*L’esperimento DAMA/LIBRA ai laboratori Nazionali del Gran Sasso*”

Advisor: “Dott.ssa Maria Antonella Incicchitti”

2) University of Rome “La Sapienza”: **Master Degree** (110/110) in Astronomy and Astrophysics (01/2016):

Thesis: “*A model for spheroidal galaxies with prevalence of radial component in the velocity distribution of stars*”

Advisor: “Prof. Marco Merafina”

3) IRAP.Ph.D.-International Center for Relativistic Astrophysics Network (ICRANet)/ University of Rome “La Sapienza”: **PhD. in Relativistic Astrophysics** (02/2021)

Thesis: “*Neutrino emission via proton-proton interaction and magnetic field screening in GRBs*”

Advisor: “Prof. Remo Ruffini”

Scholarship

1) I received a scholarship during the three years of my Ph.D. from the ICRANet center.

Conferences with talks

1) Workshop “ISU2015 Quest for visible and invisible strange stuff in the Universe” to INFN-LNF (Frascati (Italy), 27/11/2015);

2) Fifteenth Marcel Grossmann Meeting (University of Rome “La Sapienza” 1-7 July 2018):

- First talk: “*Neutrinos production in GRBs*”;
- Second talk: “*DarkMatter haloes in spheroidal galaxies with prevalence of radial component in the velocity profile*”;

3) 16th Italian-Korean Symposium on Relativistic Astrophysics
July 1-5, 2019 - ICRANet, Pescara (ITALY)

4) Open Universe International Doctoral School (Nice (Fr),11-14 June 2019)

- Talk: “*Some aspects of high-energy particles emission from Binary Driven Hypernovae*”;

- 5) SIF National Congress (L'Aquila (It), 23-27 September 2019);
 - First talk: *"Neutrino production from pp interaction in the BdHNe model for GRB"*;
 - Second talk: *"Mechanism of magnetic field screening in strong magnetic field near a BH"*;
- 6) 30th Texas Symposium (Portsmouth (GB), 16-20 December 2019):
 - Talk: *"Self-screening of magnetic field in a Kerr black hole"*;
- 7) 4th Zeldovich Meeting (virtual meeting), (7-11 September 2020):
 - Talk: *"On the magnetic field screening"*.

List of Publications

- 1)** *"Neutrino production from proton-proton interactions in binary-driven hypernovae"* (submitted to Physical Review Letters D)
- 2)** *"On magnetic field screening in strong crossed electromagnetic fields"* (to appear in Astronomy Reports for the 4th Zeldovich meeting)
- 3)** *"On magnetic field screening in strong crossed electromagnetic fields"* (to be submitted)
- 4)** *"Self-similarity and power-laws in GRB 190114C"*, Ruffini, R. *et al.* (arXiv:1904.04162)
- 5)** *"On the Nature of the Ultrarelativistic Prompt Emission (UPE) Phase of GRB190114C"*, Moradi, R. *et al.* (submitted to PRD)

Scientific Interests

My research is principally theoretical. I am most interested, and have research experience, in topics related to high-energy physics and astrophysics, astroparticles physics, gamma-ray bursts, magnetic fields in astrophysics, dynamical systems of self-gravitating stellar systems, thermodynamics of stellar systems, cosmology and dark matter (its nature from different approaches: particle, cosmological, dynamical).

Languages

Speak (Fluent): Italian, English

Programming: C, Fortran, Mathematica, LaTeX

Signature and Date