



UNIVERSITÀ  
degli STUDI  
di CATANIA

DIPARTIMENTO DI FISICA E ASTRONOMIA  
"ETTORE MAJORANA"

DOTTORATO DI RICERCA IN FISICA

ANNO ACCADEMICO 2018 – 2019

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**NUCLEAR ASPECTS OF EXPLOSIVE ASTROPHYSICS AND MULTIMESSENGER  
ASTRONOMY**

3 CFU

**Teaching Staff**

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**Program of the course:**

- 1) Introduction to Nuclear Astrophysics.
- 2) Measurements of nuclear reactions cross sections important for nuclear astrophysics: experimental techniques.
- 3) Novae and Super Novae phenomena.
- 4) Big Bang nucleosynthesis.
- 5) Explosive phenomena as a link between nuclear and particle astrophysics.

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**Bibliography:**

- 1) Cauldrons in the cosmos, Claus E. Rolfs and William S. Rodney, University of Chicago Press.
- 2) Physics of Neutrinos and Applications to Astrophysics, M. Fukugita and T. Yanagida, Springer.
- 3) Selected papers in the field.