



UNIVERSITÀ
degli STUDI
di CATANIA

DIPARTIMENTO DI FISICA E ASTRONOMIA

DOTTORATO DI RICERCA IN FISICA

CICLO XXXIII
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Experimental searches for Dark Matter

2 CFU

Teaching staff

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Program of the course:

- Observational evidence for Dark Matter
- Brief summary of candidate solutions for Dark Matter
- Direct search: detectors and experimental techniques
- Dark Matter search at colliders and fixed target experiments
- Dark Photon: experimental techniques for the “visible decay” search
- Search for invisible decays of Dark Photons: missing mass and missing momentum experiments
- Beam-dump experiments for light Dark Matter search with proton and electron beams

Bibliography:

- G. Bertone, Particle Dark Matter: Observations, Models and Searches Cambridge University Press 2010
- US Cosmic Visions: New Ideas in Dark Matter 2017, arXiv:1707.04591