



The Galileo Galilei Institute for Theoretical Physics Arcetri, Florence



Collider Physics and the Cosmos

Aug 28, 2017 - Oct 14, 2017

Studies at the connection between energy frontier collider physics and astroparticle physics constitute one of the most fascinating scientific endeavours of our time. The workshop will study in depth the relations between dark matter and collider physics for both the most popular WIMP dark matter candidates and non-WIMP scenarios. It will assess the sensitivity of the LHC and future colliders to dark matter motivated models, explore the combinations of data from colliders, direct and indirect searches and the underlying systematics. The Higgs sector may play a key role in connecting dark matter to ordinary matter and will be examined in detail.

The scientific program will evolve around four main thematic areas: Collider Physics and Dark Matter, Higgs Sector beyond Electro-weak Symmetry Breaking, Collider Physics and the Early Universe, Collider Physics and High Energy Cosmic Ray. The workshop will promote the interaction between its participants across their fields of expertise, define the relevant open questions, gather theorists and experimentalists working towards solutions, introduce students and young postdocs to new concepts, offer expert tutoring and training in the use of computational tools.

Topics:

- Collider Physics and Dark Matter
- The Higgs Sector beyond Electro-weak Symmetry Breaking
- Collider Physics and the Early Universe
- Collider Physics and High Energy Cosmic Rays

Organizing Committee:

Marco Battaglia (University of California at Santa Cruz, CA, USA)
Marco Cirelli (LPTHE, Universite' Pierre et Marie Curie, Paris 6, France)
Albert De Roeck (CERN, Geneva, Switzerland)
Abdelhak Djouadi (LPT CNRS, Universite' Paris Sud 11, Orsay, France)
JoAnne Hewett (SLAC, Menlo Park, CA, USA)

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