

LAPTh

Laboratory of Annecy for Theoretical Physics

UMR 5108 - CNRS / USMB

Faculty: UFR Sciences and Mountains

PhD school: Grenoble Physics Doctoral School (EDPHY)

KEY DATA*

25 researchers and professors

5 administrative and technical staff

7 PhD students et 6 postdoctoral researchers

* Academic year 2023-2024



LAPTh physicists study the structure of matter from a very small to a very large scale in the Universe. They develop mathematical tools applied to various fields of physics - some of them being more phenomenologically oriented - and work in relation with experimentalists to explain various results from high energy particles accelerator collisions (closely with the LHC accelerator at CERN) or astrophysical observations.

Skills

- › Modelling of physical phenomena
- › Symbolic and numerical computation methods

Networks and partnerships

Academic cooperations

- › University of Boston (USA)
- › University of Turin (Italy)
- › University of Sydney (Australia)
- › Weizmann Institute of Science (Rehovot, Israel)
- › Princeton (USA)

Institutional collaborations

- › CERN (Geneva, Switzerland)
- › CEA Saclay (France)
- › DESY (Hamburg, Germany)
- › LabEx Enigmass

International partners

- › IRP
- › Asia (South Korea, Japan, India, Vietnam)
- › European networks
- › North Africa (Algeria, Morocco)
- › Europe
- › USA
- › Australia

Research Themes

Research at LAPTh is organized along three main lines:

Mathematical physics

- › Symmetries
- › Integrable systems and applications
- › Strings and quantum field theory

Theoretical particle physics

- › Interactions between fundamental constituents
- › The Standard Model and its extensions
- › Phenomenology of particle and astroparticle physics

Cosmology and astroparticles

- › The large scale structure of the Universe: formation, evolution and contents
- › Astrophysical phenomena such as cosmic rays, gamma ray bursts...



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