

BACHELOR AND MASTER PROJECTS (Group Stefano Pozzorini)

Our group develops new methods and tools for precise theoretical simulations of particle collisions at high-energy colliders. The general and automated character of the employed methods allows for a wide range of applications at CERN's Large Hadron Collider and future colliders. The employed methods are based on a variety of aspects of quantum-field theory, and the applications encompass all aspects of the Standard Model of particle physics, including strong and electroweak interactions as well as Higgs physics.

Bachelor and master projects can involve a flexible mix of mathematical/analytical aspects of scattering amplitudes, their implementation through computer-algebra frameworks and/or numerical programs, as well as applications to collider physics.

The specific content of a project can be designed in a flexible way based on the pre-knowledge and interests of the students.