

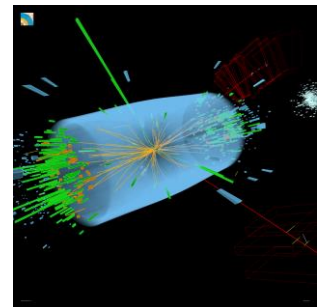
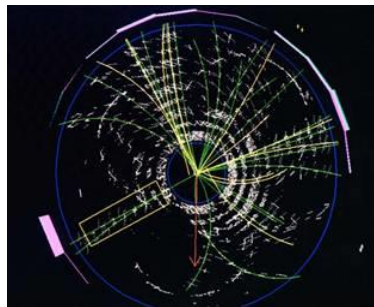
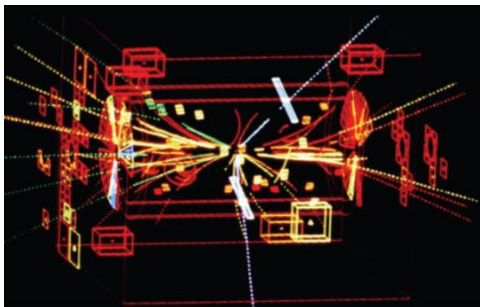
## Einladung zum Physikalischen Kolloquium

07.02.2025 **Thomas Müller, Karlsruher Institut für Technologie**  
**»Discoveries at Hadron Colliders - On the Occasion of  
the 70<sup>th</sup> Anniversary of CERN and of other round dates«**

*Einführung: M. Klute*

The foundation of CERN in 1954, planned as a project to promote peaceful open research in war-torn Europe, created the pre-requisites of obtaining our modern picture of nature and its fundamental processes. Many important discoveries were made in the ensuing decades - at CERN and in other laboratories world wide – but only led to collect more elements of the puzzle of particle physics. To finally solve this puzzle and to prove (or disprove) the theory which claimed to describe the fundamental forces and interactions, research at energy scales beyond 100 GeV, or equivalently at distance scales of less than  $10^{-18}$ m was mandatory. This could only be achieved with utilizing a novel concept of particle accelerator: the hadron collider which was introduced at CERN about 50 years ago. A new generation of particle detectors was introduced to extract information of the collision events.

This colloquium highlights three fundamental discoveries made at hadron colliders in the last forty years, and one which led to the three.



First  $Z^0$  Candidate found by UA1 at CERN in 1984

First Top Quark candidate identified by CDF at Fermilab in 1992

Higgs Boson candidate found by CMS in 2010

Der Vortrag findet **am Freitag, den 07. Februar 2025 um 15:45 Uhr im Otto-Lehmann-Hörsaal**, Physik-Flachbau (Geb. 30.22), KIT-Campus Süd statt.