



SPEAKER: Max Baak (CERN)

TITLE: **After the Higgs: status and prospects of the electroweak fit of the SM and beyond -- with Gfitter**

DATE: Tue 24/09/2013 11:00

PLACE: Main Auditorium

ABSTRACT

Today, all fundamental Standard Model parameters are known and the global electroweak fit is used as a powerful tool to assess the validity of the Standard Model and to constrain scenarios for new physics. We present and discuss the Standard Model predictions of several key observables of the electroweak fit, which are dramatically improved by the knowledge of the Higgs mass. These results are compatible with, and exceed in precision, the direct measurements.

Constraints from the electroweak fit on loop contributions from beyond-SM models are also obtained, through an analysis of the so-called oblique parameters. We discuss the impact of the electroweak fit on Higgs coupling studies and vice versa.

Future measurements at the Large Hadron Collider and the International Linear Collider promise to improve the experimental precision of key observables used in the fit. We present the prospects of the global electroweak fit in view of these improvements.