## LHC Run1 Aftermath <BR> Where Theory meets Experiment



Contribution ID: 17

Type: not specified

## Status and prospects of the electroweak fit of the SM with Gfitter after the Higgs discovery

Tuesday 1 October 2013 16:00 (40 minutes)

With the discovery of a Higgs boson at the LHC and the precise measurement of its mass all fundamental Standard Model parameters are known and the global electroweak fit is overconstrained. This allows for the assessment of the validity of the Standard Model and to constrain scenarios for new physics. We present and discuss the influence of the known Higgs mass on the indirect determination of several key parameters of the Standard Model. 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.

Future measurements at the LHC 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.

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