



Contribution ID: 389

Type: Oral Presentation

## The search for new bosons at the Large Hadron Collider

*Thursday, 6 July 2017 10:00 (20 minutes)*

With the discovery of a Higgs boson at the Large Hadron Collider (LHC) new opportunities have opened for the field of collider physics. The study of the couplings of this Higgs boson to other particles and the search for new bosons have become a focus. Based on features of the data collected by experiments at the LHC during Run 1 (until the end of 2012) the hypothesis of a new boson was formulated and the compatibility with the data was estimated. In this hypothesis the new boson would have a mass around 270 GeV and would decay into the Higgs boson and another scalar, referred to as S, among other decays. This leads to a number of predictions that will be summarized. The compatibility of the hypothesis with new data will also be discussed.

**Apply to be considered for a student award (Yes / No)?**

No

**Level for award (Hons, MSc, PhD, N/A)?**

N/A

**Would you like to submit a short paper for the Conference Proceedings (Yes / No)?**

Yes

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**Session Classification:** Nuclear, Particle and Radiation Physics 2

**Track Classification:** Track B - Nuclear, Particle and Radiation Physics