



Tevatron evidence in the search for the Higgs boson.

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Tuesday, 22 January 2013, 16:45 h
DESY Auditorium

July 4th, 2012 brought the Higgs boson to the masses, literally and figuratively. A new particle consistent with the Higgs boson was observed, with evidence of its decay to bosons, both to two Z bosons and to two photons. This evidence came from two independent LHC experiments, CMS and ATLAS. Meanwhile, ten years of the Tevatron searches for the Higgs boson had also delivered evidence for a new particle decaying to two b quarks. And all the while, none of these experimentalists have formally declared the Higgs boson discovered!

This talk will present what the Tevatron experiments have added to the discovery of the new particle, while explaining some techniques developed by the Tevatron experiments, and utilized at the LHC, for discerning a Higgs boson signal from the background. The talk will also piece together what is known about the new particle from the LHC and the Tevatron and when we may actually be able to call it “the Higgs boson”.

MISSING PARTICLE:

Name: *Higgs boson*

Age: *13.7 billion years*

Missing: *45 years*

Birthday: *Daily at LHC*

Favorite trait: *Mass*

Favorite particle: *top quark*

Favorite Drink: *Molasses*

Possible sightings: *Tevatron & LHC*

- **Coffee, tea and cookies will be served at 16:30h**
- **After the seminar there is a chance for private discussions with the speaker over wine and pretzels**

