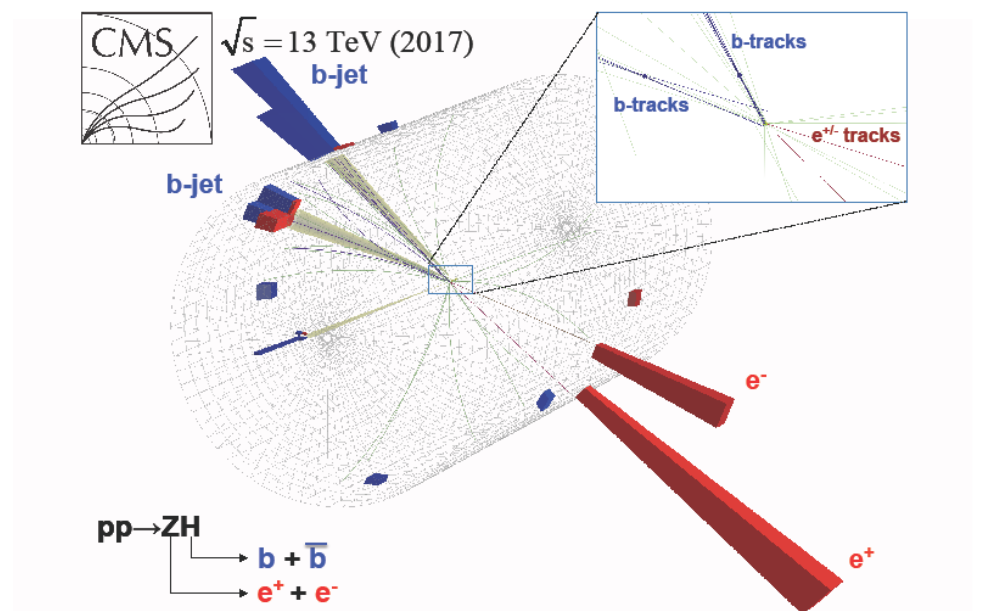




# Observation of Higgs boson decay to bottom quarks.

**Tuesday, 28 August 2018**  
**DESY Auditorium, 16:45 h**

**Heiner Tholen (DESY)**



Marking a milestone in the exploration of the Higgs boson at the LHC, the ATLAS and CMS experiments have reported the first direct observations of the Higgs boson decaying to bottom quarks. While the Standard Model predicts this to be the dominant decay mode, its discovery poses a huge challenge due to overwhelming background. This talk focuses on the recent analysis of Higgs boson production in association with a W or Z boson, with data collected in proton-proton collisions at  $\sqrt{s} = 13$  TeV. These measurements are combined with previous results from other production modes.

Along with the observation of the Higgs boson decay into tau leptons and its coupling to the top quark, these results complete a series of measurements revealing the third generation Yukawa couplings, which open a new era of precision studies in the Higgs sector.

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