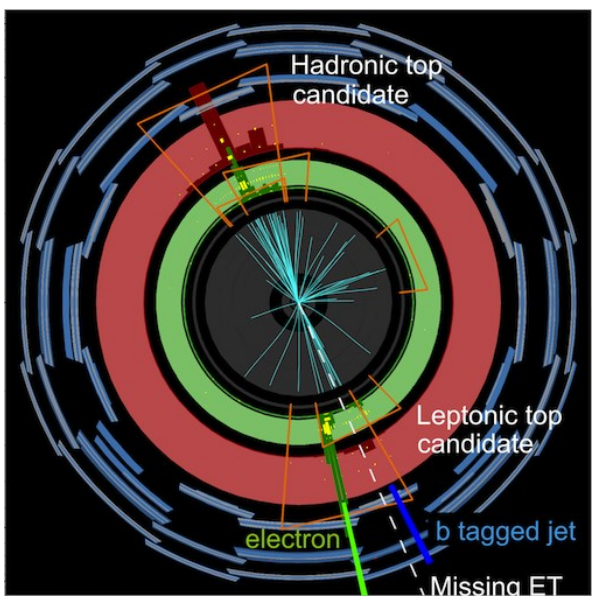
DESY
Physics Seminar

Mass production in ATLAS – Generation of mass in and beyond the Standard Model and massive generator event production.

Thorsten Kuhl (DESY)

Tuesday, 18 February 2014, 16:45 h, Auditorium

The origin of fundamental particle mass remains one of the key topics for particle physics at the LHC, even after the discovery of the Higgs. Because of the relatively low Higgs Boson mass, uncertainty remains as to whether the Standard Model (SM) can actually describe all Higgs related observations, or whether a theory beyond the SM will be required. The largest deviations fro the SM can be expected to be observed in couplings of the most massive Standard Model particle, the top quark, to the Higgs. These couplings are directly accessible in processes where one of the two top quarks in top pair events radiates a Higgs Boson (ttH event). Acceptance corrections to the complex ttH final state rely heavily on Monte Carlo Simulations. The simulations have to describe the recorded data well and huge Monte Carlo samples are needed to balance high background suppression factors arising from the signal selection. Existing analyses searching for the origin of particle mass will be presented and preparations for the measurementt of ttH in the LHC – Run II (2015 – 2017) are discussed.



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

Accelerators | Photon Science | Particle Physics

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