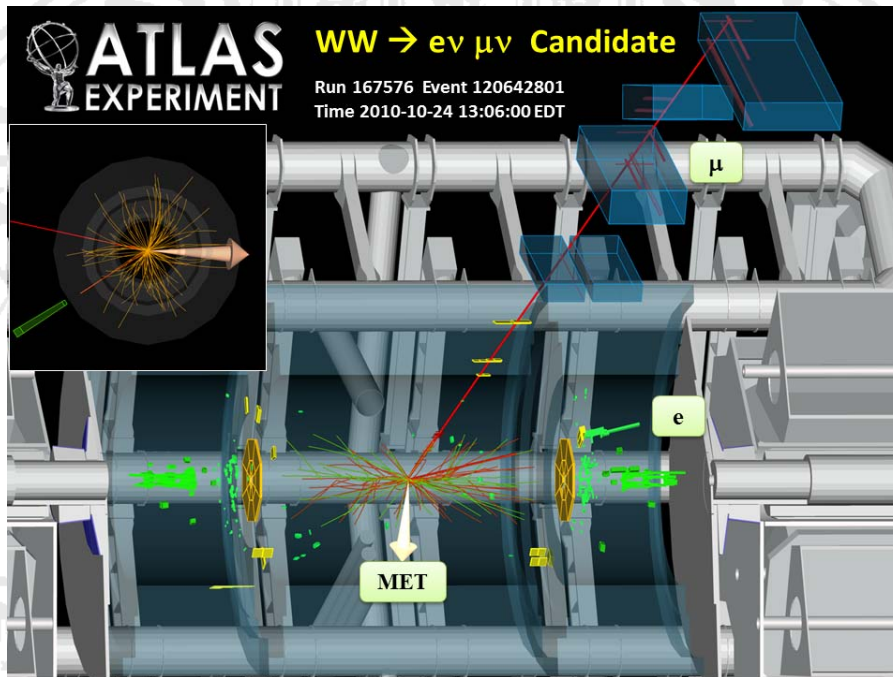


PHYSIKALISCHES KOLLOQUIUM

AM 14. NOVEMBER 2011 UM 17 UHR C.T.

IM GROßEN HÖRSAAL



SEARCH FOR THE HIGGS BOSON AT HADRON COLLIDERS

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One of the prime tasks of the physics program of the Large Hadron Collider is the investigation of electroweak symmetry breaking. In the Standard Model the Higgs mechanism is invoked to give masses to the electroweak gauge bosons and fermions and to restore unitarity of the theory at high energies. Although the Higgs mechanism is one of the cornerstones of the Standard Model it is experimentally not yet established and the associated Higgs boson has escaped detection so far.

The leading edge in this search has been for a long time with the experiments CDF and D0 at the Tevatron collider at the US research lab Fermilab. With the start-up of the Large Hadron Collider the high energy frontier has moved to CERN. The data recorded from the Large Hadron Collider in the years 2010/11 by the ATLAS and CMS experiments allow already to establish tighter constraints on the allowed mass range for the Higgs boson. In this talk the strategies and the current status of the search for the Higgs boson at hadron colliders are presented. Particular attention is given to the presentation of the current results and on the discussion of prospects for finding the Higgs boson and measuring its parameters at the Large Hadron Collider.