

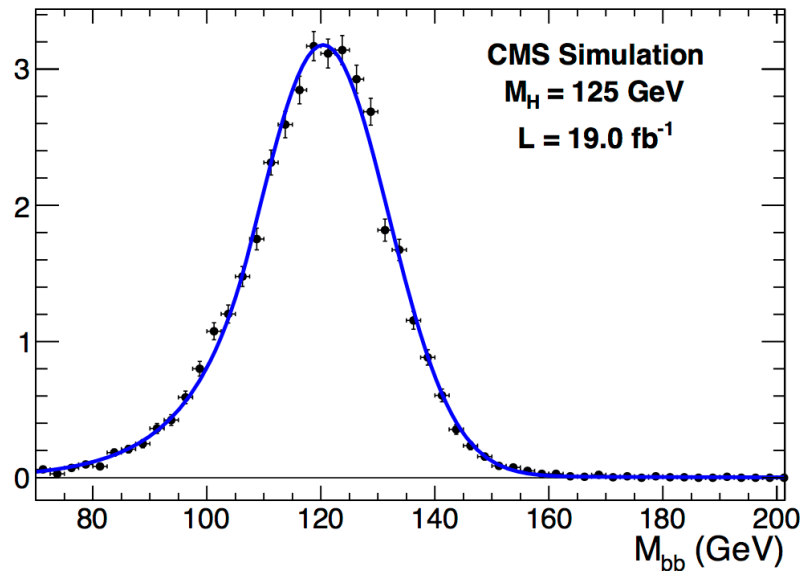
Higgs to bb in the VBF channel at CMS

Paolo Azzurri (INFN Pisa)

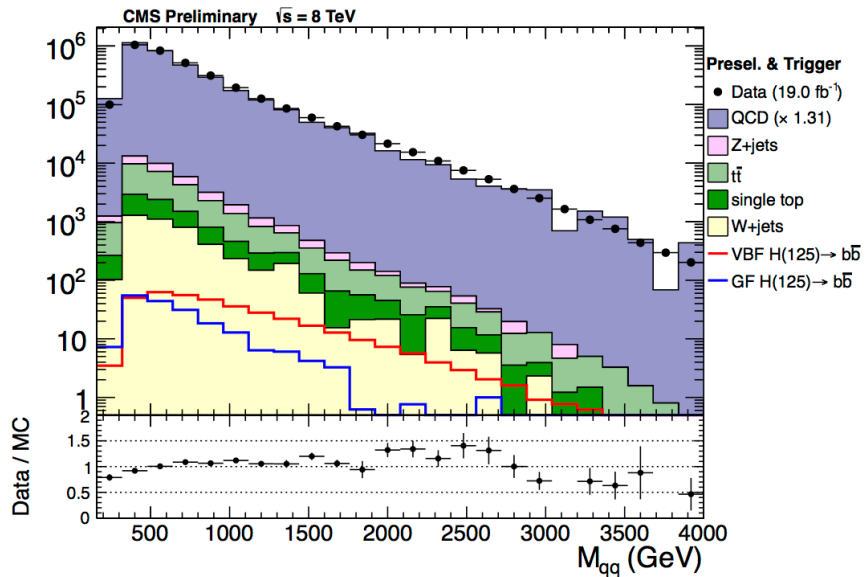
Collider Cross Talk

Thursday, 20 June 2013

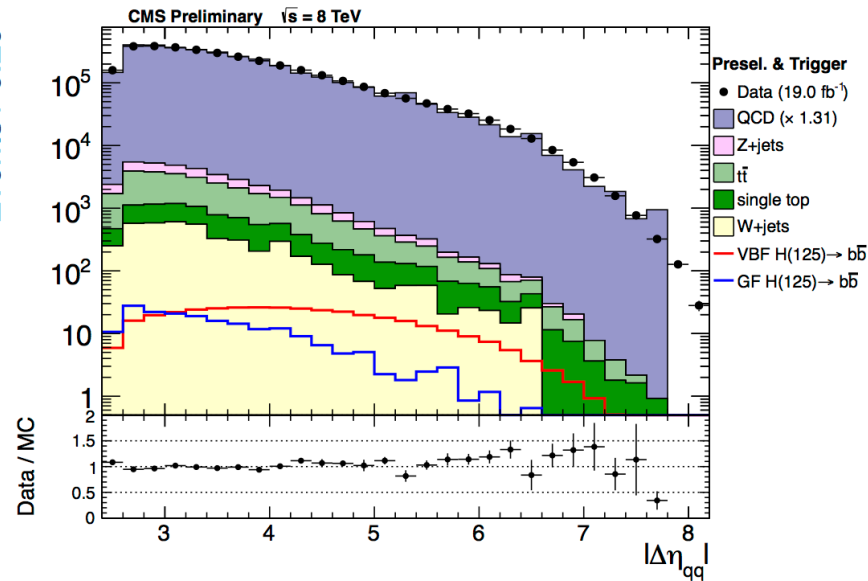
Events / 2.5 GeV

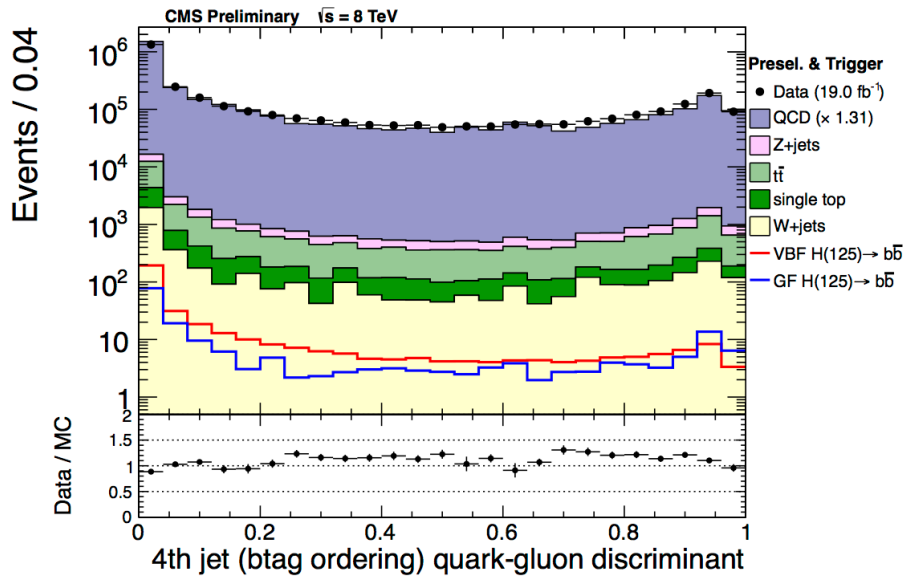
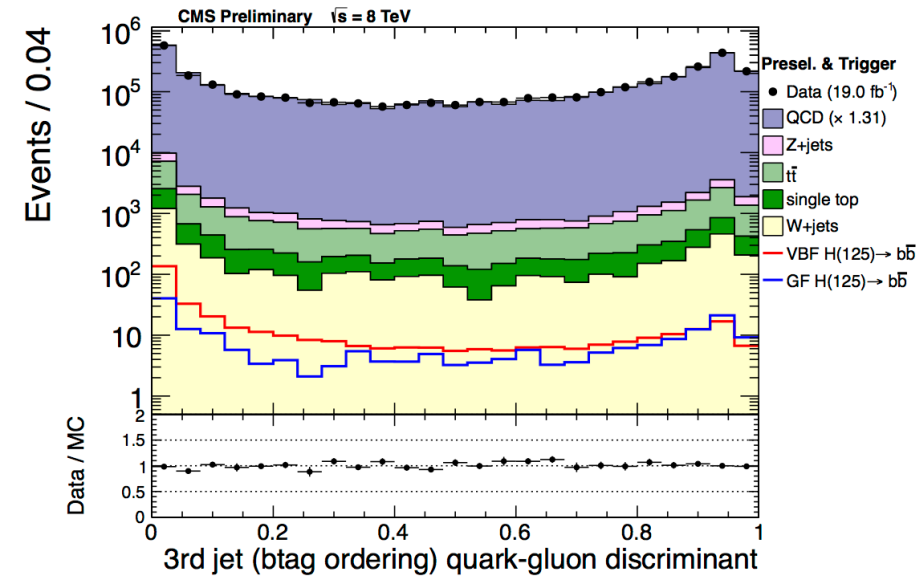
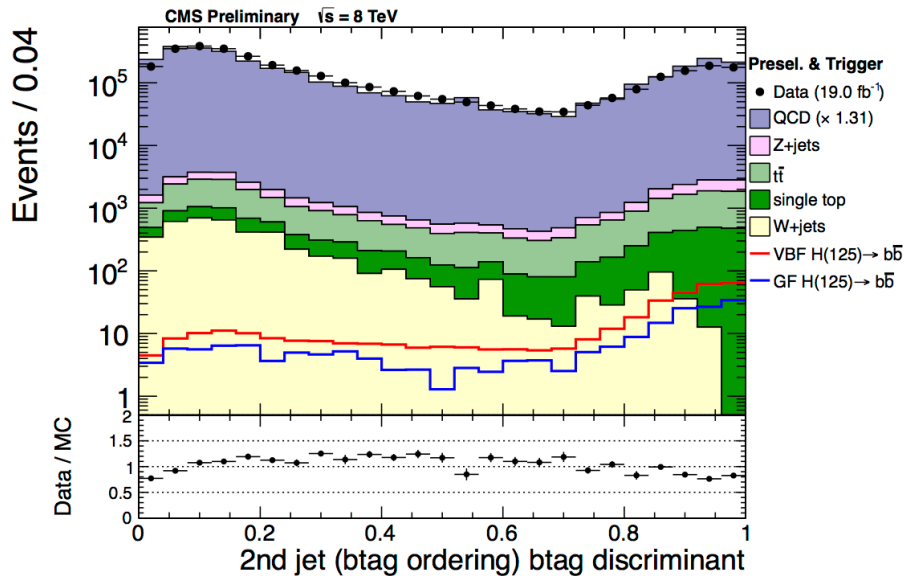
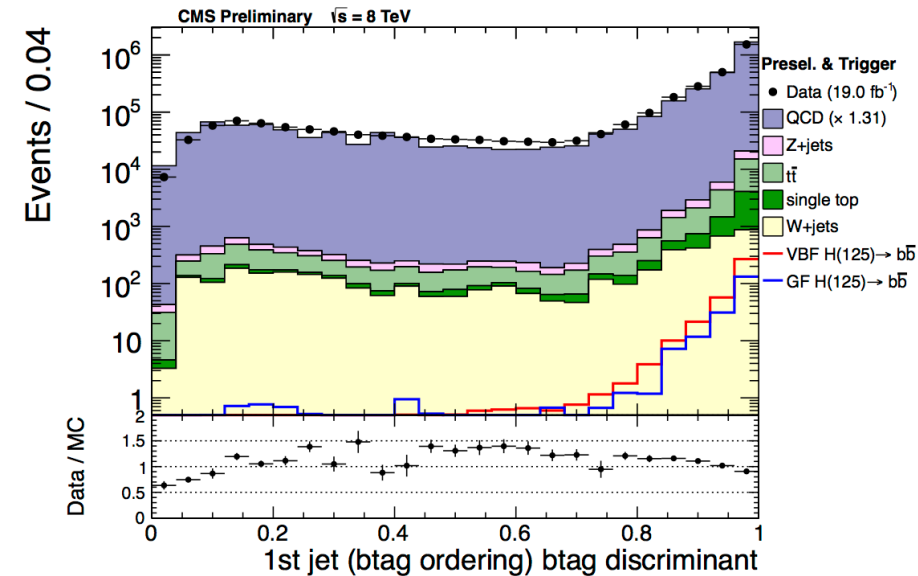


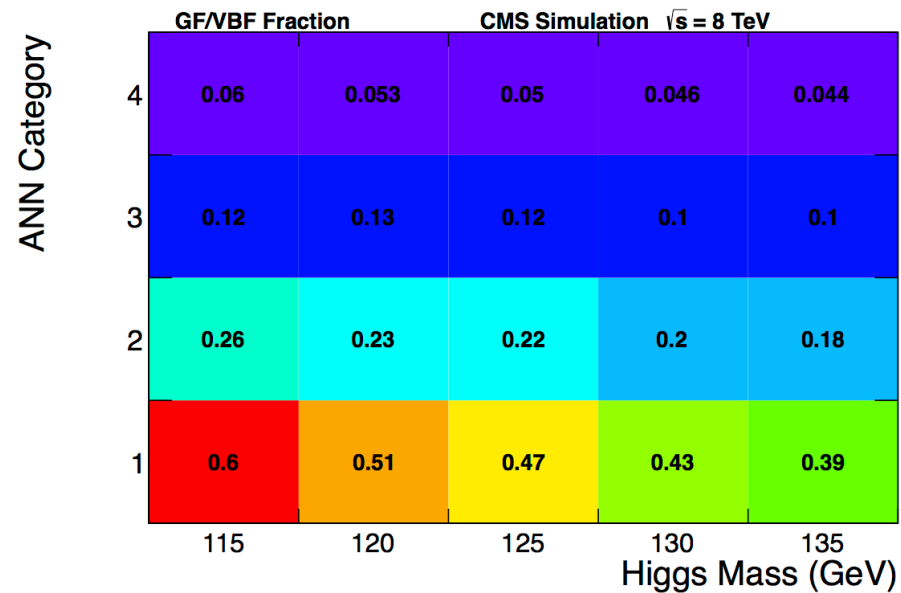
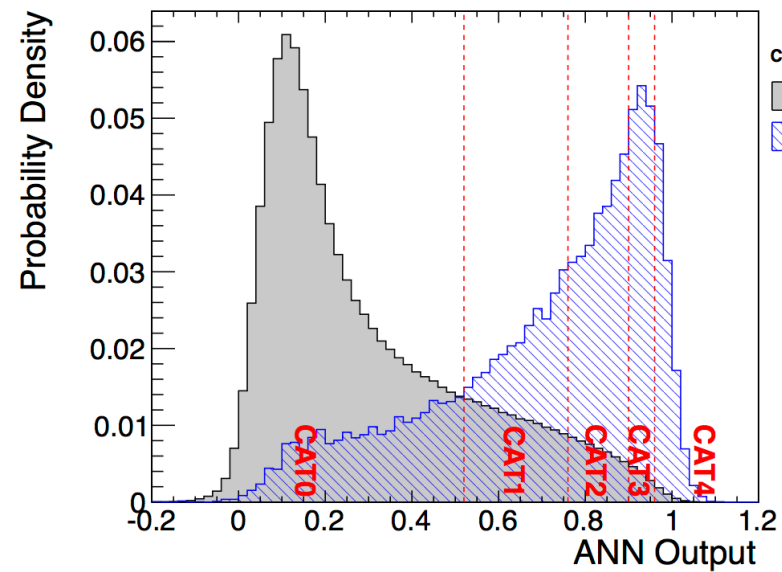
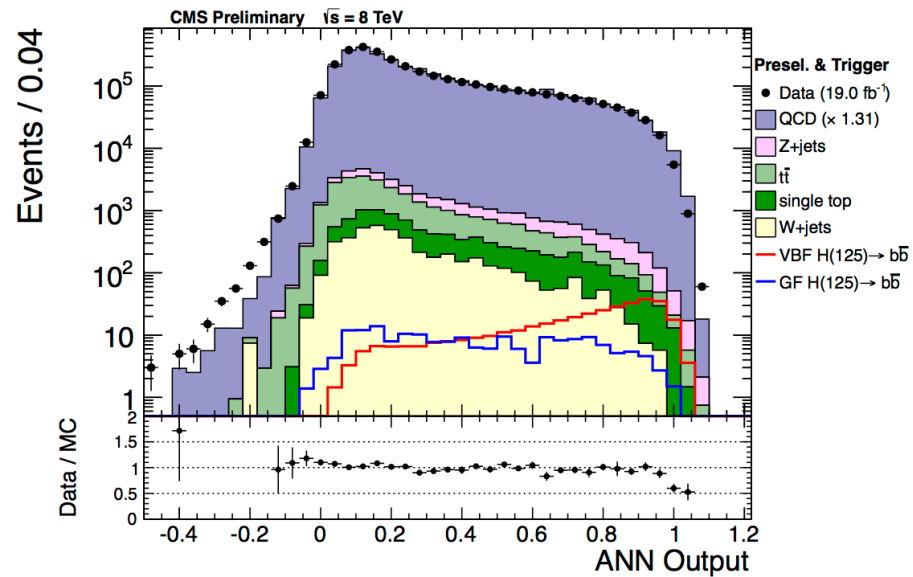
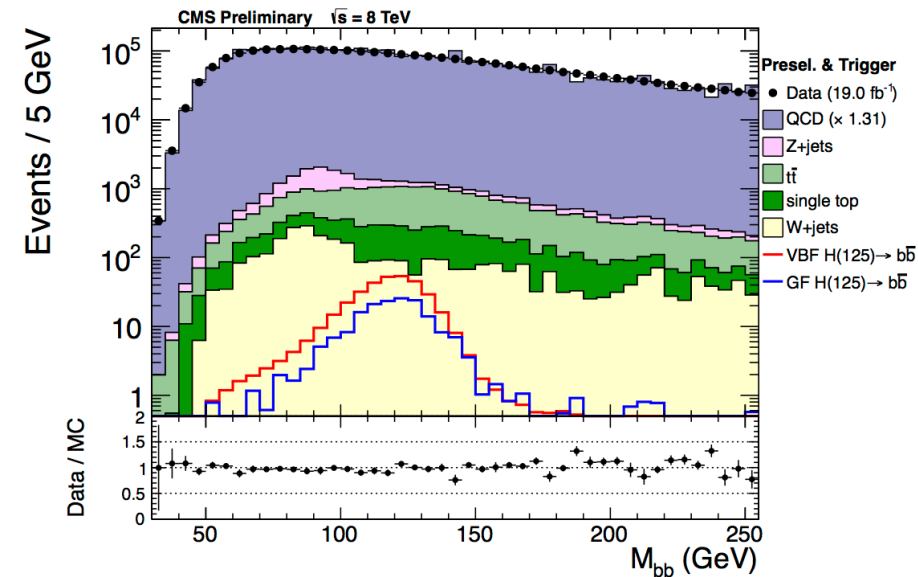
Events / 160 GeV

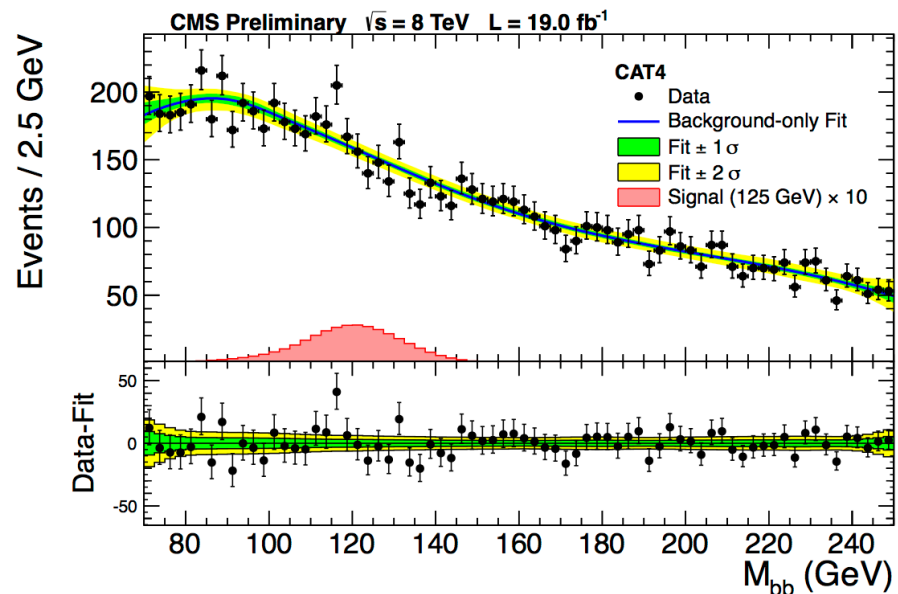
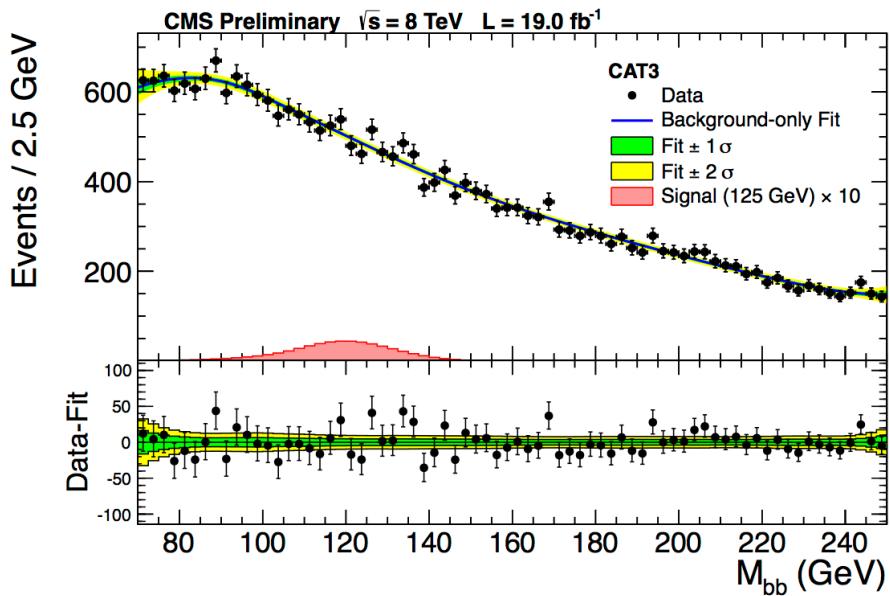
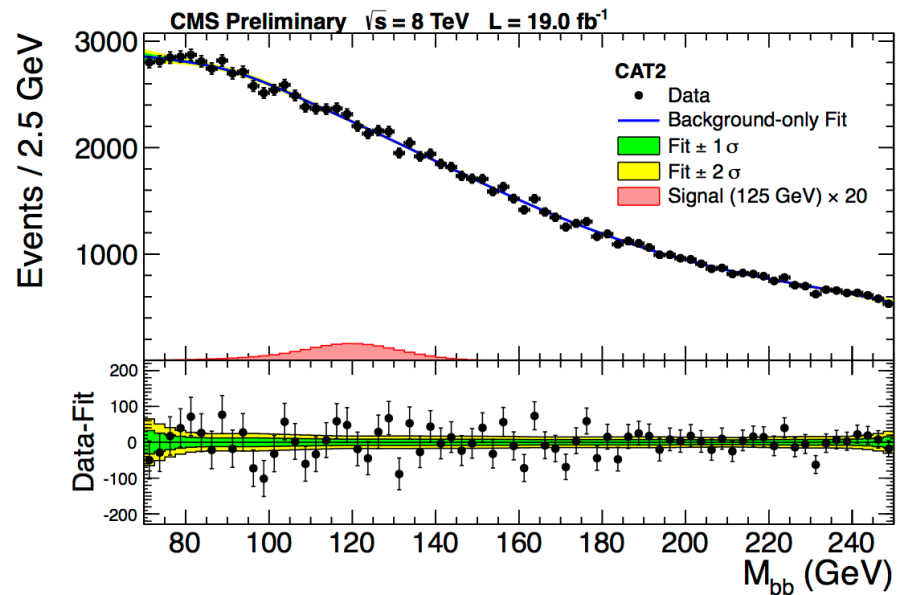
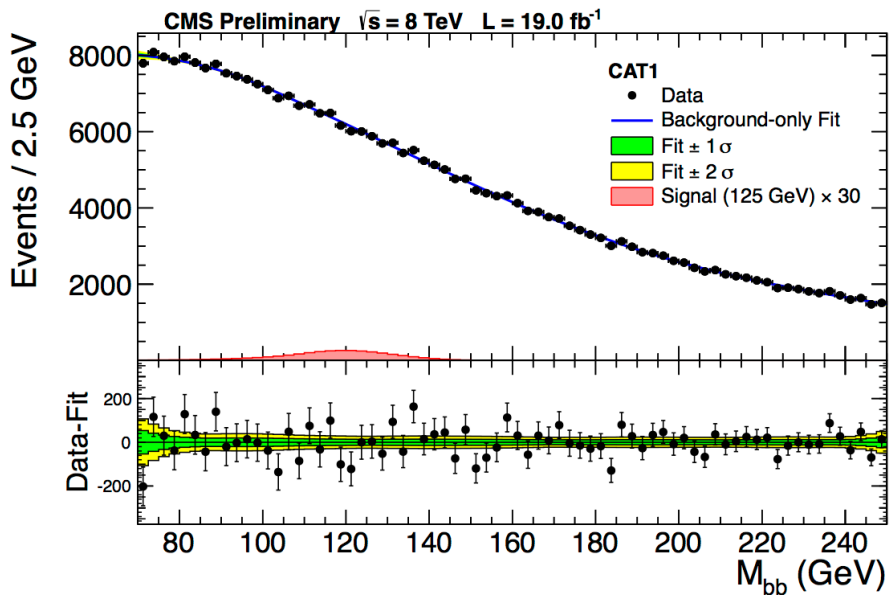


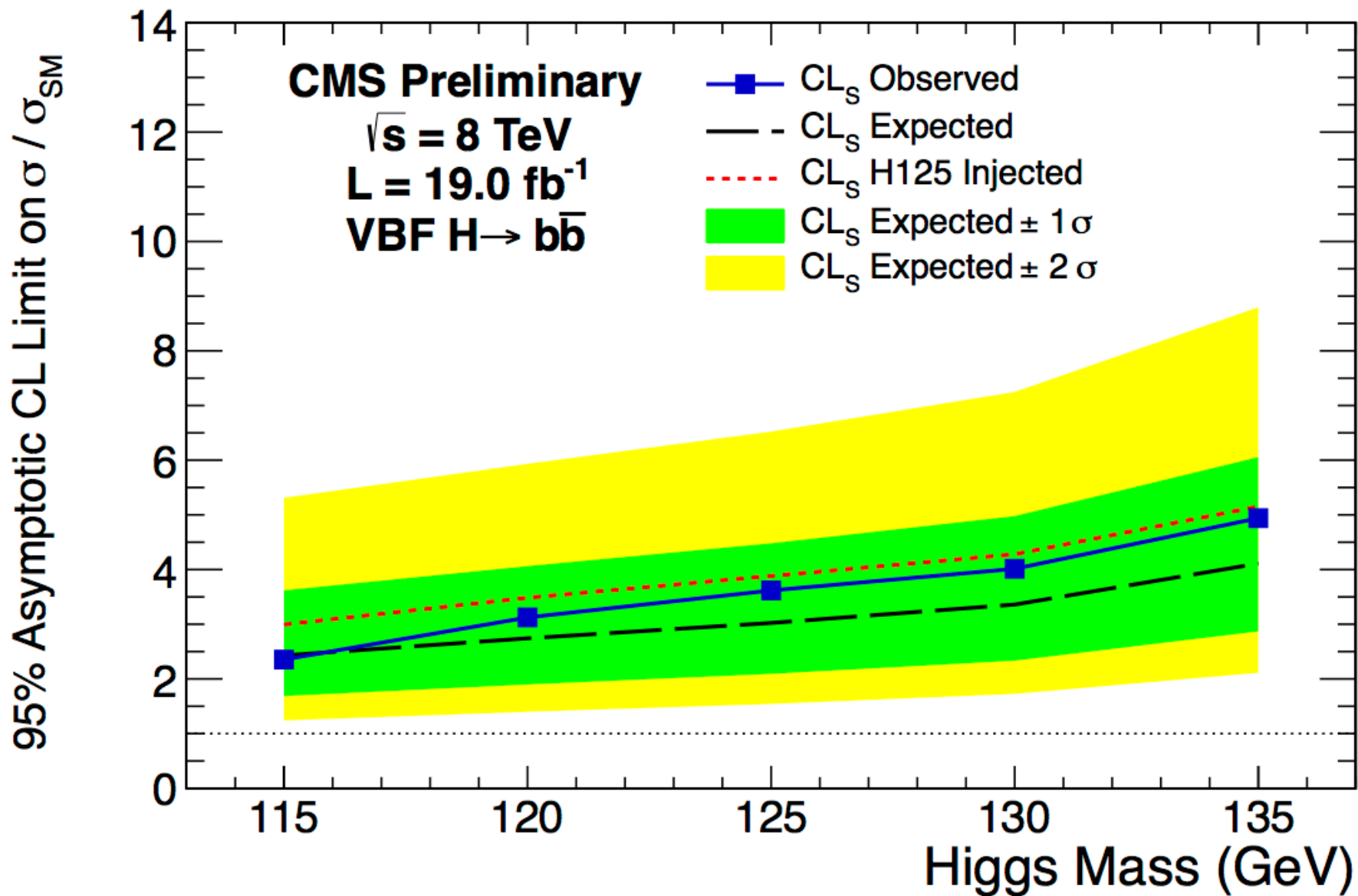
Events / 0.20

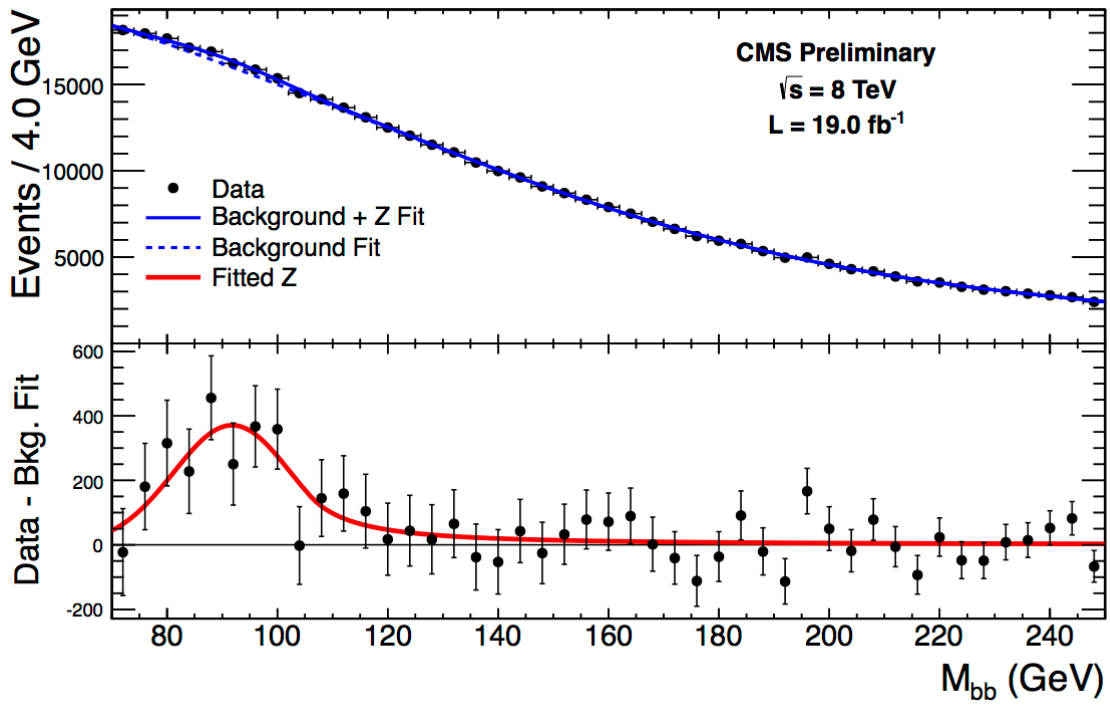












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2013/05/16

Search for the standard model Higgs boson produced in vector boson fusion, and decaying to bottom quarks

The CMS Collaboration

Abstract

A search for the standard model Higgs boson in the vector boson fusion production channel with decay to bottom quarks is reported. A data sample comprising 19.0 fb^{-1} of proton-proton collisions at $\sqrt{s} = 8 \text{ TeV}$ collected during the 2012 running period has been analyzed and 95% Confidence Level upper limits are derived for five mass points from 115 to 135 GeV. At a Higgs boson mass of 125 GeV the observed limit is 3.6 while the expected limit is 3.0 times the standard model prediction. For a 125 GeV Higgs boson signal the fitted signal strength is $\mu = \sigma/\sigma_{\text{SM}} = 0.7 \pm 1.4$.

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Search for the standard model Higgs boson produced in vector boson fusion, and decaying to bottom quarks

LHCP 2013

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Plots

<https://twiki.cern.ch/twiki/bin/view/CMSPublic/PhysicsResultsHIG>

<http://cds.cern.ch/record/1547579/files/HIG-13-011-pas.pdf>