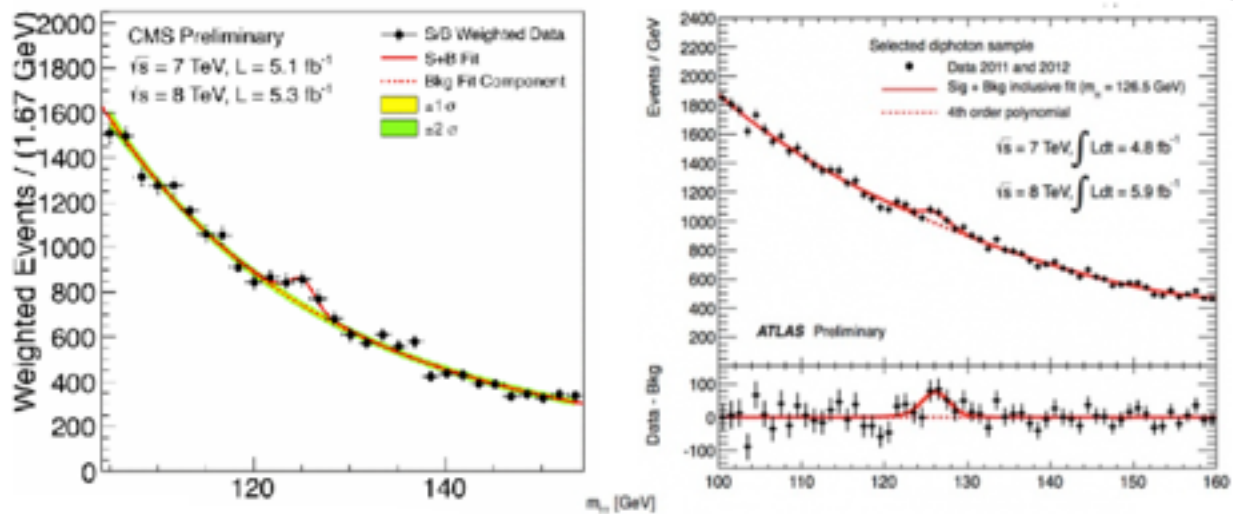


Has Fermi LAT seen the Higgs ?

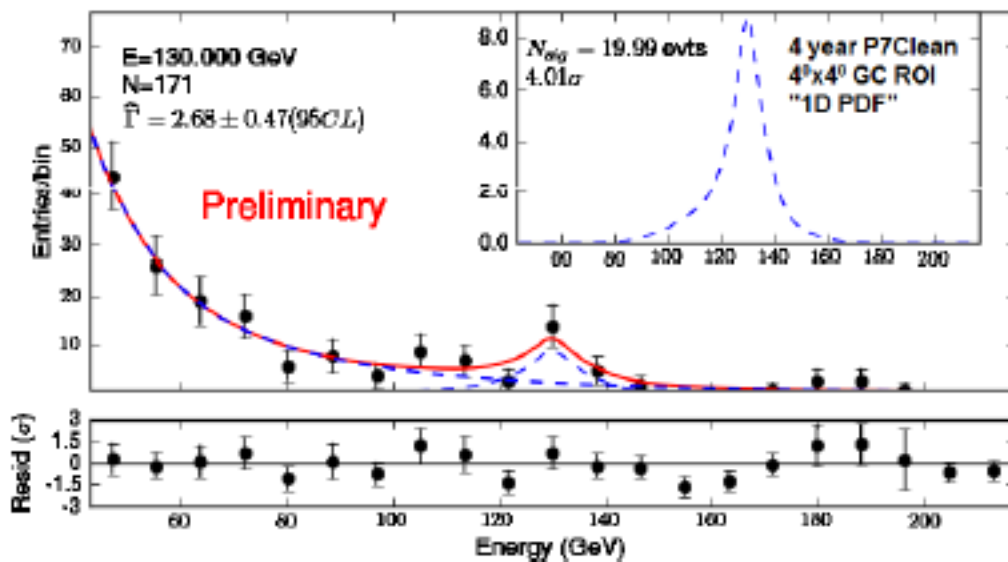
Frank Dodd (Tony) Smith, Jr. - 2012

Sagittarius A* (Sgr A*) is a very massive black hole in the center of our Galaxy into which large amounts of Hydrogen fall. As the Hydrogen approaches Sgr A* it increases in energy, ionizing into protons and electrons, and eventually producing a fairly dense cloud of infalling protons that collide with one another at energies similar to the proton-proton collisions at the LHC.

LHC diphoton histograms for ATLAS and CMS as of mid-2012 clearly show a peak that probably is evidence of a Higgs boson with mass around 125 GeV.



Andrea Albert at The Fermi Symposium 11/2/2012 said: "... gamma rays detectable by the Fermi Large Area Telescope [FLAT] ...



... Line-like Feature near 135 GeV ... localized in the galactic center ...".

Jester in his resonaances blog on 17 April 2012 said:

"... This would correspond to a ... particle with the mass of 130 ± 2 GeV annihilating into 2 photons ...".

Olivier K. in a comment in Jester's blog on 10 November 2012 said:

"... Could the 135GeV bump be related (one way or another) to current Higgs particule properties ? I was wondering if gravitationnal effects generated by the GC blackhole could produce some Higgs-related side effect responsible for this type gamma-ray ray. The coincidence between GeV figures between Higgs mass and this bump is thrilling for an amateur like me...

Jester, replying to the comment by Olivier K., dismissed the proposal that Fermi LAT may have seen the Higgs, saying on 11 November 2012:

"Afaik, there's no model connecting the 130(5)GeV Fermi line to the 125 GeV Higgs."

Therefore, I hereby propose a model:

Protons from Hydrogen infalling into Sgr A* acquire enough energy and density to produce proton-proton collisions similar to those at the LHC
and
the 135 GeV Line observed by Fermi LAT is due to proton-proton collisions producing Higgs in the diphoton channel
and
the 125 GeV Higgs-like evidence observed by ATLAS and CMS is also due to proton-proton collisions producing Higgs in the diphton channel
and
the difference between 135 GeV at Fermi LAT and 125 GeV at LHC can be accounted for by comparing details of experimental setup and analysis-related assumptions.

Given that model,

I propose that Olivier K. be given credit for stating the possibility that both Fermi LAT and the LHC have indeed seen the Higgs,

which is an interesting example of

mutual confirmation of Collider Physics and Astrophysics observations.