

Special Report

Higgs Update from D0 and CDF

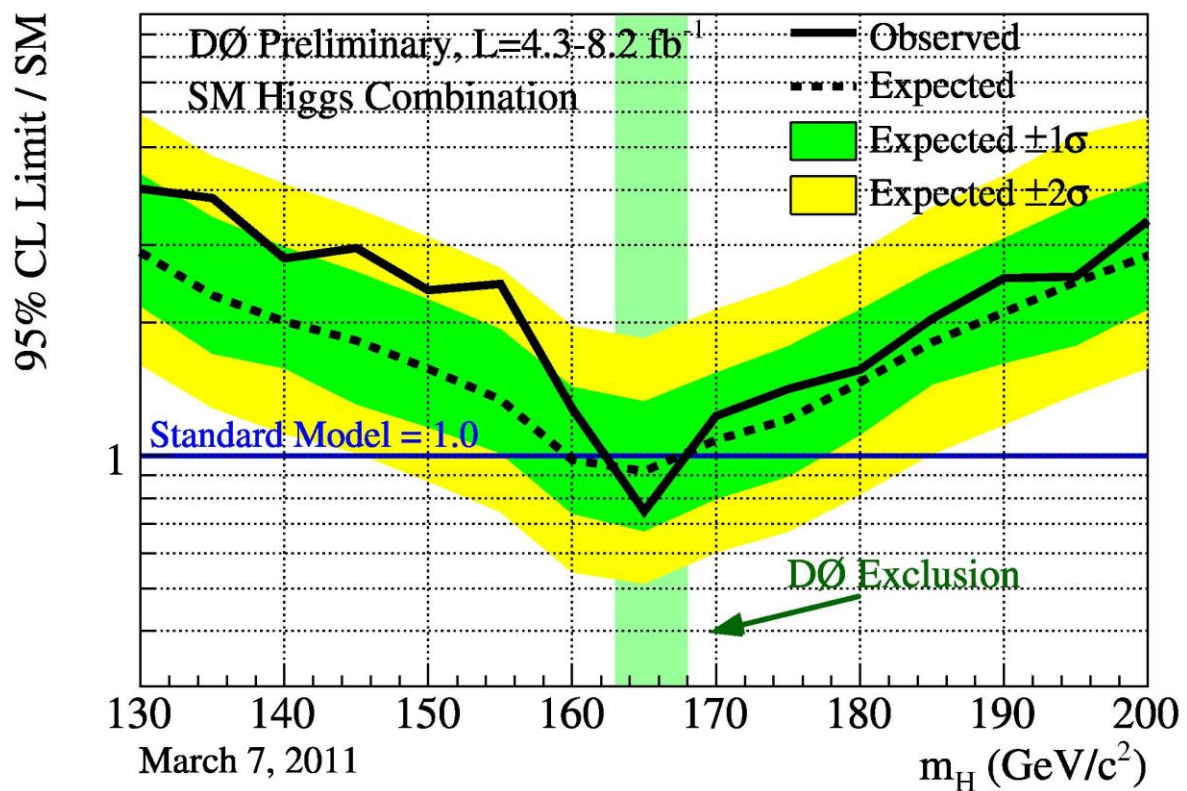
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Abstract

This is a Higgs Update from D0 and CDF. The small amount of additional data helps to extend the exclusion range, but we will need to see a combination with CDF to get the best limits.

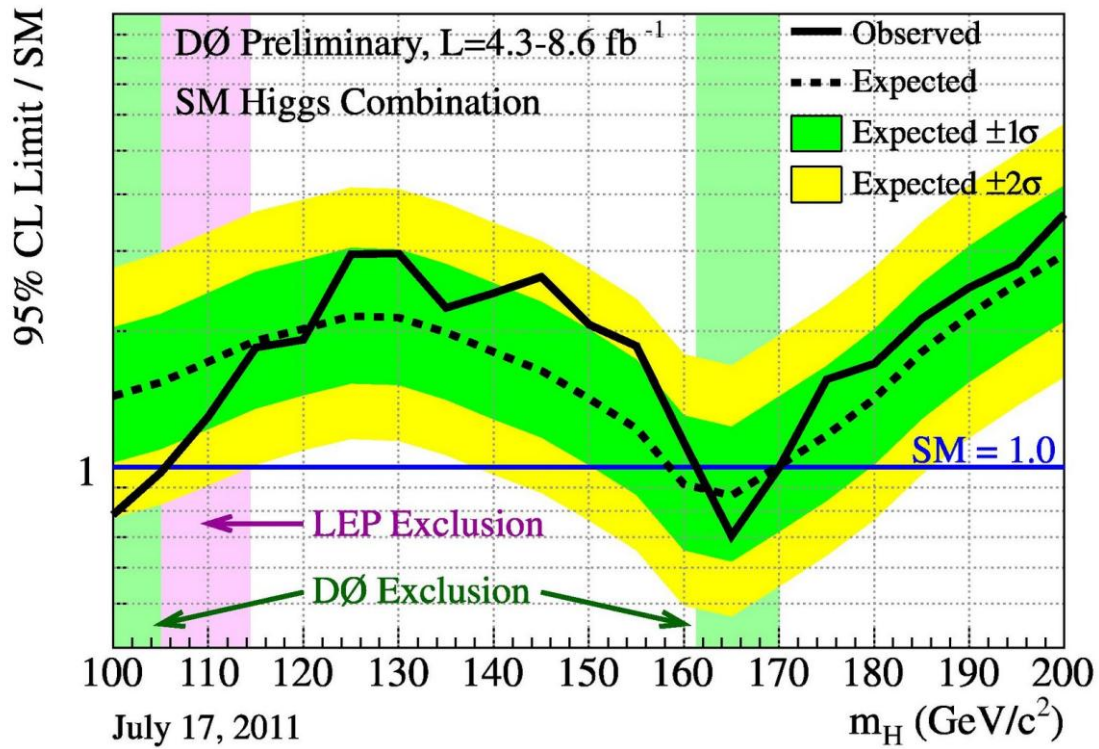
Key Words: D0, CDF, Higgs, ESP-HEPS, 2011.

At Moriond earlier in March D0 showed us this confidence level plot with their first exclusions.

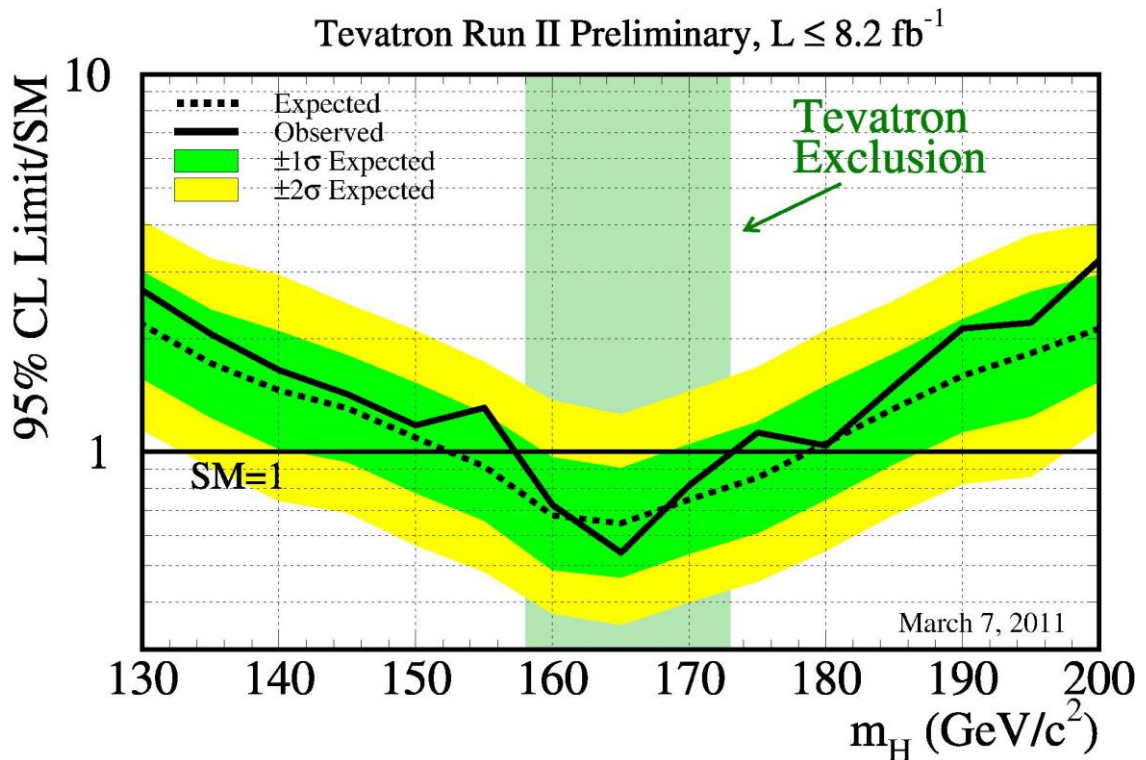


This week they will give us this update (Thanks to Walter for the pointer)

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The small amount of additional data helps to extend the exclusion range, but we will need to see a combination with CDF to get the best limits. In March it looked like this



Update: Tevatron Higgs results for individual channels were presented in four talks this afternoon (21st July 2011)

- [Higgs -> WW,ZZ \(Tuchming\)](#)
- [Higgs -> \$\gamma\gamma\$, or \$\tau\tau\$ \(Kasmi\)](#)
- [Higgs -> bb \(Potamianos\)](#)
- [Higgs -> other \(Limosani\)](#)

Tomorrow we will see the channels combined for each experiment and in the plenary session we hope to see a new fully combined result for the Tevatron.

Second Update: Fermilab has now made [a press release](#) to say that they have shown that the Higgs must lie between 114 GeV and 137 GeV. This just means that they have extended their exclusion zone by about 20 GeV either side and that is not surprising. Their claim depends on the indirect exclusion above 185 GeV due to precision measurements, however this is only true on the condition of some fairly weak assumptions about physics at higher energies. In fact anything outside the standard model could invalidate this analysis.

The funniest thing that could happen now would be for CMS and ATLAS to find a signal for the Higgs at 200 GeV. See also [TRF](#)

References

1. <http://blog.vixra.org/2011/07/21/higgs-update-from-d0/>