

# 8.701

Introduction to Nuclear  
and Particle Physics

Markus Klute - MIT

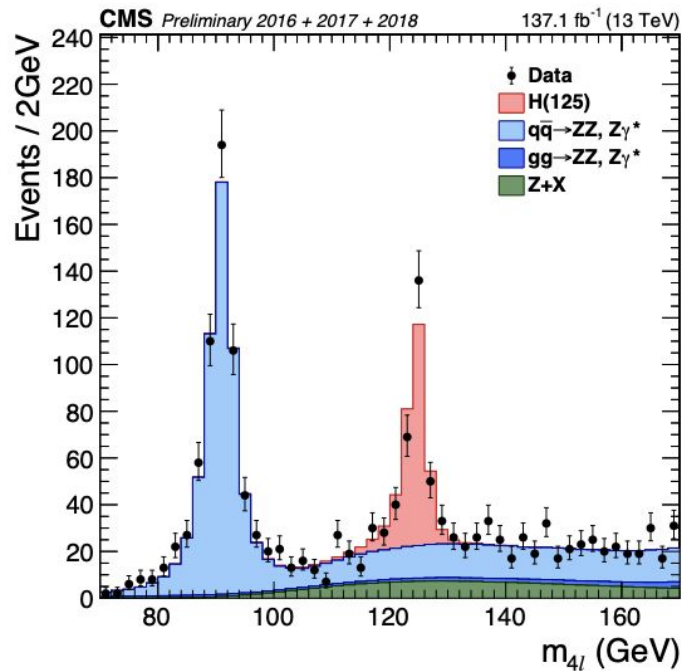
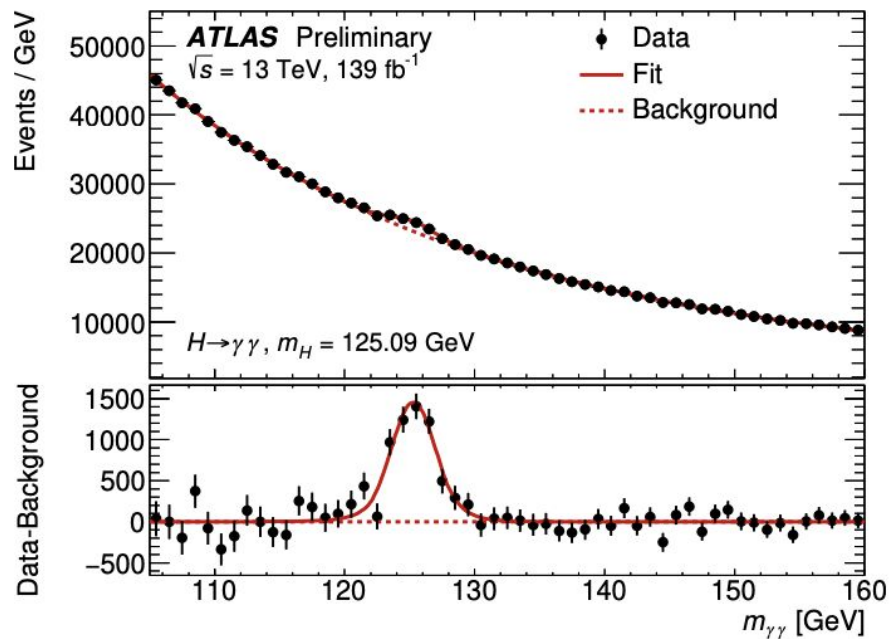
7. Higgs Physics

7.4 Current Status



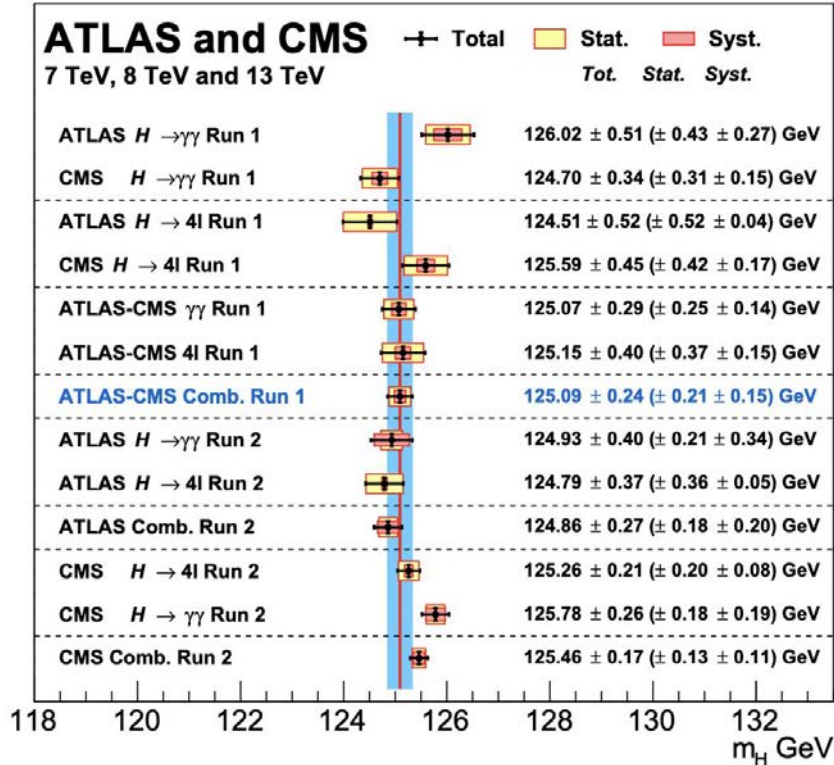
# Vector Bosons

---



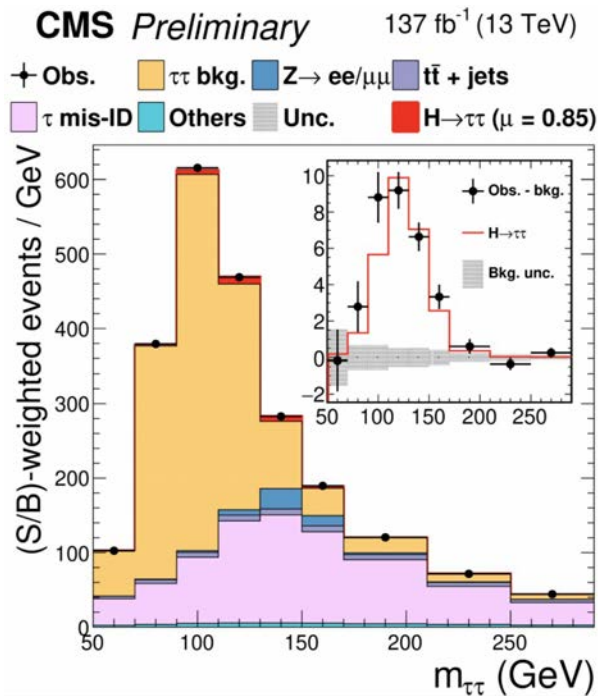
© ATLAS Collaboration/CERN. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/fairuse>.

# Mass Measurements

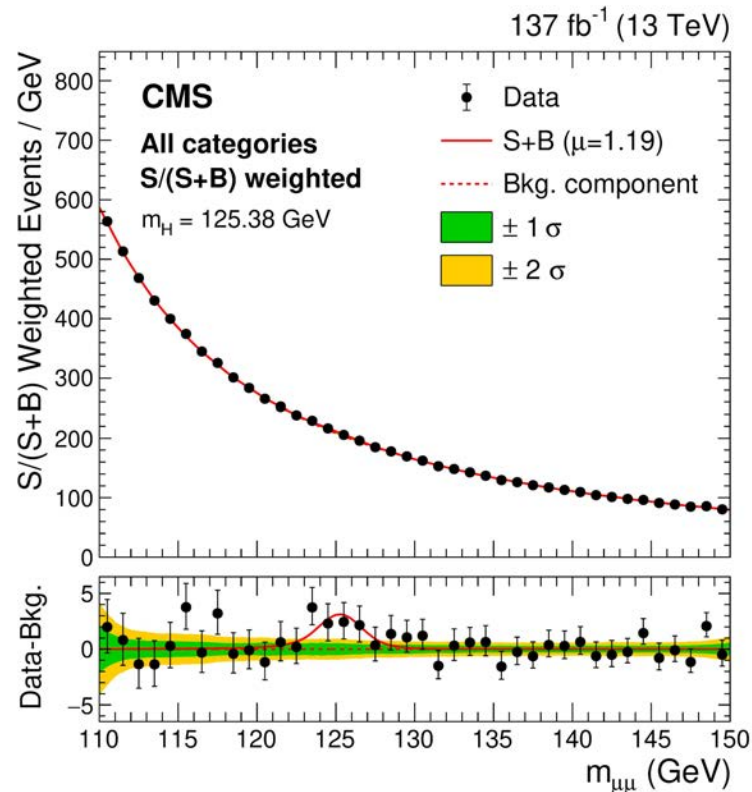


© Source unknown. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/fairuse>.

# Fermions Couplings

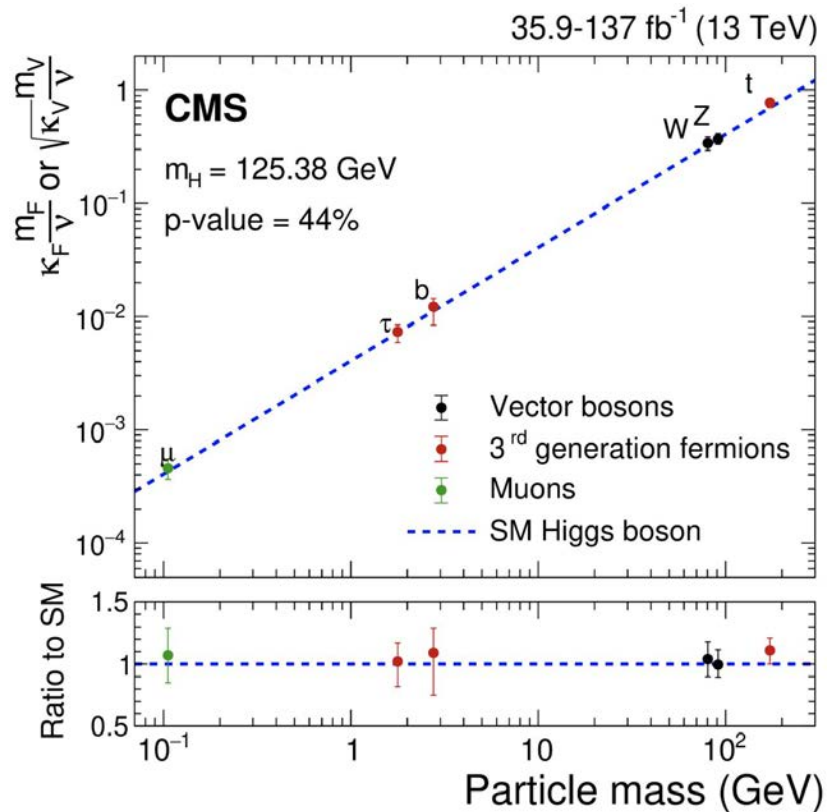


© Source unknown. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/fairuse>.



© CERN. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/fairuse>.

# Higgs Couplings



© Source unknown. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/fairuse>.

# Summary

---

**Measured:** mass,  $J^{CP}$ , couplings to Z, W, t, b,  $\tau$ , and  $\mu$

**Open:** coupling to light quarks and electrons, coupling to itself

**More open questions:** are there more Higgs bosons? will improved precision reveal new physics? are there non-SM decays? ...

MIT OpenCourseWare  
<https://ocw.mit.edu>

8.701 Introduction to Nuclear and Particle Physics  
Fall 2020

For information about citing these materials or our Terms of Use, visit: <https://ocw.mit.edu/terms>.