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## The bottom quark mass and the Higgs boson

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A new method is presented to extract quark masses from collider data on Higgs production and decay rates. We find a value for the bottom quark  $\overline{MS}$  mass at the scale of the Higgs boson mass of  $m_b(m_h) = 2.6 \pm 0.3$  GeV from recent measurements by ATLAS and CMS. This result is compatible with the prediction of  $m_b(m_h)$  from the evolution of the world average for  $m_b(m_b)$  and thus provides further evidence for the scale evolution, or “running” of the bottom quark mass. Future precision measurements of Higgs decay rates are expected to improve this result considerably. We assess, in particular, the potential of a future “Higgs factory” electron-positron collider.

This abstract is related to the abstract presented by Adrian Irlles and Seidai Tairafune, on determinations of the bottom quark mass in Z-boson production.

### Time Zone

Europe/Africa/Middle East

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