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Precise measurement of the Higgs boson mass with the CMS detector

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Using the high mass resolution channels $H \rightarrow \gamma\gamma$ and $H \rightarrow ZZ \rightarrow 4$ leptons, where the leptons are electrons or muons, a precise measurement of the Higgs boson mass is obtained. The analysis is based on pp collision data collected at centre-of-mass energies of 7 and 8 TeV, corresponding to integrated luminosities of 5/fb and 20/fb, respectively. The results together with strategy of the measurement and the methods to control the main systematic errors on the energy and momentum scale are discussed in detail.

Summary

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