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## QCD couplings probed with top quark pairs at CMS

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A measurement of the inclusive top quark-antiquark pair production cross section in proton proton collisions at a centre-of-mass energy of 13 TeV is used by the CMS experiment, together with the theoretical prediction at next-to-next-to-leading order, to determine the top quark mass and to extract a value of the strong coupling constant with different sets of parton distribution functions. Dilepton events are selected and the cross section is measured from a likelihood fit to the final state distributions. The dependence of the measured cross section on the assumption on the top quark mass parameter in the POWHEG simulation is mitigated by including this parameter in the fit. The top quark mass is extracted in the pole and running mass schemes.

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