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Search of Higgs boson in H->ZZ->2l2tau final state

A search for the Standard Model Higgs in decay mode $H \rightarrow ZZ \rightarrow l + l - \tau + \tau -$, where $l = \mu$, e is presented based on CMS data corresponding to an integrated luminosity of [~]25 fb-1 (combined 2011,2012 data). Hadronic and leptonic decays of τ are inspected, giving total eight final states which include all lepton flavours: e, μ and τ . No evidence is found for a significant deviation from standard model expectations anywhere in the ZZ mass range considered in this analysis. An interpretation of the results in terms of an upper limit on the production cross-section × decay branching ratio for a Higgs boson decaying with standard model couplings is presented.

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