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Title:	The lepton flavour violating Higgs decays at the HL-LHC and the ILC
Authors:	Mitra, Manimala (/jspui/browse?type=author&value=Mitra%2C+Manimala)
Keywords:	significances CMS collaboration Events
Issue Date:	2016
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Citation:	Journal of High Energy Physics,2016(7).
Abstract:	Run-I results from the CMS collaboration show an excess of events in the decay $h \rightarrow \mu\tau e$ with a local significances of 2.4σ . This could be the first hint of flavour violation in the Higgs sector. We summarise the bounds on the flavour violating Yukawa couplings from direct searches, low energy measurements and projected future experiments. We discuss the sensitivity of upcoming HL-LHC runs and future lepton colliders in measuring lepton-flavour violating couplings using an effective field theory framework. For the HL-LHC we find limits on $BR(h \rightarrow \mu\tau)$ and $BR(h \rightarrow e\tau) \lesssim O(0.5)\%$ and on $BR(h \rightarrow e\mu) \lesssim O(0.02)\%$. For an ILC with center-of-mass energy of 1 TeV we expect $BR(h \rightarrow e\tau)$ and $BR(h \rightarrow \mu\tau)$ to be measurable down to $O(0.2)\%$.
Description:	Only IISERM authors are available in the record.
URI:	https://link.springer.com/article/10.1007/JHEP07(2016)059 (https://link.springer.com/article/10.1007/JHEP07(2016)059) http://hdl.handle.net/123456789/2555 (http://hdl.handle.net/123456789/2555)
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