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Higgs physics prospects at Muon Collider with a detailed detector simulation

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Multi-TeV center of mass energies muon collisions are an ideal environment for studying Higgs boson properties. At these energies the high production rates will allow precise measurements of its couplings to fermions and bosons. Moreover, in such collisions it will be possible to study the Higgs potential by measuring the double Higgs production cross section and determining the trilinear self-couplings. The studies proposed for this contribution have been performed with a detailed simulation of the signal and physics background samples and by evaluating the effects of the beam-induced background on the detector performance.

A global fit of the expected results on all Higgs boson measurements will be also presented to demonstrate the impact of the muon collider program.

Collaboration / Activity

IMCC

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