



Contribution ID: 172

Type: **not specified**

Precision Test of the Muon-Higgs Coupling at a High-energy Muon Collider

Wednesday 25 August 2021 23:25 (25 minutes)

An open question in particle physics is whether the Higgs mechanism generates the masses of all the fermions by the Yukawa interactions. We propose to scrutinize the muon Yukawa coupling at a high-energy muon collider. By the subtle interplay between the muon Yukawa coupling in the high-energy production of multiple (vector and Higgs) bosons, we show that it is possible to measure the muon Yukawa coupling to an accuracy of ten percent for a 10 TeV collider and a few percent for a 30 TeV machine.

Authors: REUTER, Jürgen (DESY Hamburg, Germany); XIE, Keping (University of Pittsburgh); KREHER, Nils; HAN, Tao (University of Pittsburgh); STRIEGL, Tobias; KILLIAN, Wolfgang (University of Siegen); MA, Yang (University of Pittsburgh)

Presenter: XIE, Keping (University of Pittsburgh)

Session Classification: Lepton Colliders

Track Classification: Lepton Colliders