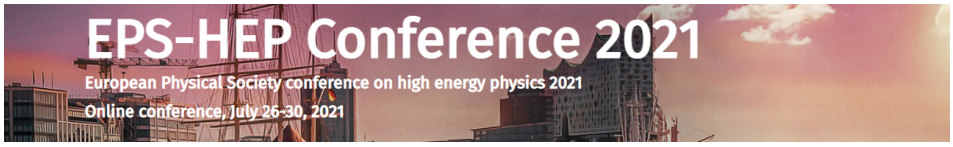

Contribution ID: **841** Type: **Poster**

Design a calorimeter system for the Muon Collider experiment

A muon collider is being proposed as a next generation facility. This collider would have unique advantages, since clean events as in electron-positron colliders are possible, and high collision energy as in hadron colliders could be reached due to negligible beam radiation losses. The beam-induced background, produced by the muon decays in the beams and subsequent interactions, reaches the interaction region and the detectors and presents unique features and challenges with respect to other machines. As an example, a diffused flux of photons and neutrons passes through the calorimeter system, which thus requires a design to avoid this substantial background. In this talk an overview of the calorimetry at the Muon Collider is given, with a particular focus on the reconstruction and measurement of hadronic jets, that are studied with the full simulation of the detector. R&D for new calorimeter technologies, developed specifically for the Muon Collider, will be also presented.

First author

Lorenzo Sestini

Email

lorenzo.sestini@pd.infn.it

Collaboration / Activity

Muon Collider

Primary authors: GIANELLE, Alessio; ZULIANI, Davide; SARRA, Ivano; BUONINCONTRI, Laura; Dr SESTINI, Lorenzo (INFN-Padova); VALENTE, Marco; CASARSA, Massimo; SWIATLOWSKI, Maximilian; PASTRONE, Nadia; BARTOSIK, Nazar; ANDREETTO, Paolo

Presenter: Dr SESTINI, Lorenzo (INFN-Padova)

Session Classification: T12: Detector R&D and Data Handling

Track Classification: Detector R&D and Data Handling