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Jet Reconstruction performance at Muon Collider with Beam-induced Background LORENZO SESTINI, INFN Padua, DONATELLA LUCCHESI, DAVIDE ZULIANI, University and INFN of Padua, ALESSIO GIANELLE, PAOLO ANDRETTO, INFN Padua, LAURA BUONINCONTRI, University and INFN of Padua, NAZAR BARTOSIK, NADIA PASTRONE, INFN Turin, MASSIMO CASARSA, INFN Trieste, MAXIMILIAN SWIATLOWSKI, MARCO VALENTE, TRIUMF, IVANO SARRA, INFN National Laboratory of Frascati — Muon collider is being proposed as next generation facilities, since clean events as in electron-positron colliders are possible, and high collision energy as in hadron colliders could be reached, due to negligible radiation losses. In a multi-TeV muon collider a considerable number of Higgs bosons events can be produced, including double and triple Higgs events, allowing an unprecedented precision for measurements in the Higgs sector. It is evident that the b-jet reconstruction will play an important role in these measurements. The main challenge for the detector is represented by the beam-induced-background produced by muon decays and subsequent interactions with the machine. In this contribution the possible calorimeter technologies that could be employed to face this background and to keep high performance in the jet reconstruction are discussed. Moreover results on the b-jets reconstruction and identification obtained by studying the full simulation of the experiment are presented.

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