

Abstract Submitted
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Muon Reconstruction Performance in Presence of Beam-Induced Background at Muon Collider CHIARA AIME', CRISTINA RICCARDI, PAOLA SALVINI, Univ Degli Studi Di Pavia, INFN-Pavia, ILARIA VAI, Univ Degli Studi Di Bergamo, INFN-Pavia, LAURA BUONINCONTRI, CAMILLA CURATOLO, DONATELLA LUCCHESI, Univ Degli Studi Di Padova, INFN-Padova, PAOLO ANDREETTO, ALESSIO GIANELLE, LORENZO SESTINI, INFN-Padova, NAZAR BARTOSIK, NADIA PASTRONE, INFN-Torino, MASSIMO CASARSA, INFN-Trieste, FRANCESCO COLLAMATI, INFN-Roma, PAOLA SALA, INFN-Milano, SERGO JINDARIANI, Fermilab, SIMONE PAGAN GRISO, LBNL — In the context of the simulation and reconstruction for the Muon Collider, based on CLICs ILCSOFT software, the performances of the muon detector have been studied for muon beams collisions at a centre-of-mass energy of 1.5 TeV. The CLIC muon system foresees to instrument the iron yoke plates with layers of track sensitive chambers in order to enhance the muon identification. The glass Resistive Plate Chambers technology has been adopted both for barrel and endcap region with readout cells of 30x30 mm². Alternative MicroPattern Gaseous Detector technologies are under investigation. Simulated data of the particles reaching the muon chambers have been analyzed both for a single muon and a background sample to study the detector layout and performance. The results of a first preliminary study investigating the muon reconstruction efficiency, Beam-induced Background sensitivity, and background mitigation are presented.

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