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Detector Performance Study at Muon Collider

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A Muon Collider represents a possible option for the next generation of high-energy collider machines.
Among the technological challenges in the realization of such a machine, the mitigation of the beam-induced background is one of the most critical issues for the detectors.
At the desired luminosity the muons decay rate is very high, beam decay products and subsequent particles from secondary interactions with the machine elements can reach the interaction point, jeopardizing the physical performance of the detector.
In this talk the characterization of the beam-induced-background and the strategies for its mitigation are discussed.
The detector performance has been studied in full-simulated samples, in particular the tracking efficiencies and the jet reconstruction in the calorimeters are presented.
It will be shown that the use of novel detector technologies with state-of-the-art timing resolution allows to keep the detector occupancy at a manageable level.

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Secondary track (number)

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