APR21-2021-000930
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Abstract for an Invited Paper
for the APR21 Meeting of
the American Physical Society

Design a detector for a Muon Collider experiment

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The Muon Collider is becoming more and more a realistic option for the next generation of high energy collider machines. Among the technological challenges in the realization of such a machine, the treatment of the beam-induced background is one of the most critical issues for the detector. Beams with intensity from 10^9 up to 10^{11} muons per bunch are necessary to obtain the desired luminosity, which entails a very high rate of muons decay. This contribution will present a first detector proposal based on strategies that have been studied to mitigate the beam-induced background by exploiting new detectors technologies and at the same time aims to meet the performance requirements needed for a vast physics program. An overview of the expected performance will be discussed, within the context of representative physics processes.