Muon Collider Tracking Software

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Background

- High energy muon collisions have a lot of scientific potential

- BUT muons have a lifetime of ~2 microseconds and produce a multitude (of order $10^8$) of particles known as beam induced background (BIB)

C. Aimè et al., *Simulated Detector Performance at the Muon Collider* for Snowmass 2021, 15 March 2022
Goal

- Optimize tracking algorithm to differentiate between “fake” tracks caused by BIB and “real” tracks from collision products.
- Keep efficiency relatively high

C. Aimè et al., *Simulated Detector Performance at the Muon Collider for Snowmass 2021*, 15 March 2022
Thanks for your time!