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Deep learning particle tracks in the CMS detector

Thursday, 4 January 2018 18:15 (15 minutes)

In order to improve track reconstruction in Run 2 and to prepare for the increasingly difficult detector conditions of Run 3 at the Compact Muon Solenoid (CMS) detector, the use of novel machine learning methods in the CMS tracking are being studied. These methods provide ways to deal with for example the high particle densities, growing combinatorics and track quality assignments in the tracker. In this talk I will discuss the CMS track reconstruction, it's challenges in Run 2 and Run 3 and how we can use machine learning to ensure the continued high level of performance in track reconstruction.

Summary

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