

Tracker Data Quality Certification in CMS with new Machine Learning Tools

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The CMS Tracker in Run 3 is made up of thousands of silicon modules (Pixel:1856 modules, Strip: 15148 modules). Because of the aging of the detector, and all other possible accidents that may happen during the operations, there is the need for constant monitoring of the detector components, in order to guarantee the best data quality. The procedures and tools adopted by the CMS Tracker group to monitor the data (both Online and Offline) will be presented, together with the results of the data certification in Run 3. New tools are being developed to support the work of the human shifters in the daily task of checking hundreds of histograms. To further increase the efficacy of the process, machine learning models are being trained on data to identify the most subtle discrepancies that may pass unnoticed to the human eye.

Alternate track

I read the instructions above

Yes

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