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Event Data Model in ATLAS

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The event data model (EDM) of the ATLAS experiment is presented. For large collaborations like the ATLAS experiment common interfaces and data objects are a necessity to insure easy maintenance and coherence of the experiments software platform over a long period of time. The ATLAS EDM improves commonality across the detector subsystems and subgroups such as trigger, test beam reconstruction, combined event reconstruction, and physics analysis. The object oriented approach in the description of the detector data allows the possibility to have one common raw data flow. Furthermore the EDM allows the use of common software between online data processing and offline reconstruction. One important component of the ATLAS EDM is a common track class which is used for combined track reconstruction across the innermost tracking subdetectors and is also used for tracking in the muon detectors. The structure of the track object and the variety of track parameters are presented. For the combined event reconstruction a common particle class is introduced which serves as the interface between event reconstruction and physics analysis.

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