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The ATLAS Event Picking Service and its evolution

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Every year the ATLAS experiment produces several billions event records in raw and other formats. The data are spread among hundreds of computing Grid sites around the world. The EventIndex is the complete catalogue of all ATLAS real and simulated events, keeping the references to all permanent files that contain a given event in any processing stage; its implementation has been substantially revised in advance of LHC Run 3 to be able to scale to the higher production rates. During physics analysis, it is often necessary to retrieve a lot of events in different runs to inspect their properties in detail and check their reconstruction parameters; manual extraction of such data takes a lot of time. The Event Picking Server automates the procedure of finding the location of the events, extracting and collecting them into separate files. It supports different formats of events and has an elastic workflow for different input data. The convenient graphical interface of the Event Picking Server is integrated with ATLAS SSO. The monitoring system controls the performance of all parts of the service.

Summary

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