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Type: **Parallel Talk**

Simpler, faster analysis with modern ROOT

Friday, 8 July 2022 17:00 (15 minutes)

Several recent advancements in ROOT's analysis interfaces enable the development of high-performance, highly parallel analyses in C++ and Python – without requiring expert knowledge of multi-thread parallelization or ROOT I/O.

ROOT's RDataFrame is a modern interface for data processing that provides a natural entry point to many of these advancements. Power users can extend existing functionality while remaining decoupled from most of the underlying complexity thanks to carefully designed customization points.

This contribution presents the latest improvements in performance and ergonomics of modern ROOT analysis interfaces, show how real-world analyses and frameworks make use of these features and provide a glimpse of what is to come in the future. Topics will include interoperability of C++ and Python code, scaling up execution from a laptop to large computing clusters with minimal code changes, machine learning inference and user-friendly handling of systematic variations.

In-person participation

Yes

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