Contribution ID: **93** Type: **not specified**

Highlights of xRooFit - The High-Level API for RooFit

Thursday 20 November 2025 14:50 (20 minutes)

xRooFit, created in 2020 and integrated into ROOT as an experimental feature in 2022, is an API and toolkit designed to augment RooFit's existing functionalities. Designed to work with any RooFit workspace, xRooFit adds features to assist with workspace creation, exploration, visualization, and modification. It also includes a suite of functionality for statistical analysis, including NLL construction and minimization management, dataset generation, profile-likelihood test statistic evaluation, and hypothesis testing (including automated CLs limits with both toys and asymptotic formulae). xRooFit is designed to work with any workspace, no matter how it is created, and works in both C++ and python ecosystems. The primary objective of the xRooFit project is to help users build better, smarter, easier to understand statistical models, and to perform statistical analysis tasks more efficiently.

I will present an introduction to xRooFit, highlighting some of its many functionalities, and showcase the ways that xRooFit has already been seamlessly integrated into many ATLAS statistical analysis workflows.

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Session Classification: Afternoon session I