

A python-based analysis pipeline for the ATLAS Integration Challenge

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The "Integration Challenge" is the latest IRIS-HEP project exploring physics analysis pipelines for the HL-LHC. Compared to earlier iterations, this one focuses on capturing the detailed needs of experiments. The contribution presents the analysis pipeline built for the ATLAS version of the project, which is based on a variety of Scikit-HEP and IRIS-HEP projects (including uproot, awkward, coffea, hist, ServiceX). We provide an overview of the components involved and the optimizations that have led us to the current implementation. While still relying on Dask for distributed execution, a number of changes compared to traditional coffea-based approaches have both expanded functionality and increased robustness.

Primary authors: HELD, Alexander (University of Wisconsin–Madison); CORDEIRO OUDOT CHOI, Artur (University of Washington)

Presenters: HELD, Alexander (University of Wisconsin–Madison); CORDEIRO OUDOT CHOI, Artur (University of Washington)

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