

Automating calibration at the Belle II detector

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In 2018 the Belle II detector will begin collecting data from e^+e^- collisions at the SuperKEKB electron-positron collider at the High Energy Accelerator Research Organization (KEK, Tsukuba, Japan). Belle II aims to collect a data sample 50 times larger than the previous generation of B-Factories, taking advantage of the SuperKEKB design luminosity of $8 \times 10^{35} \text{ cm}^{-2} \text{ s}^{-1}$.

It is crucial for the detector components at Belle II to be calibrated quickly and accurately to provide analysts with the best possible data promptly so that Belle II can remain competitive in key analyses. A calibration framework (CAF) has been developed in the Belle II Analysis Software Framework (basf2). This allows basf2 users to write and run calibration code themselves in an easy and common format, while taking advantage of parallelized submission to local batch systems.

A system to perform the automatic submission and monitoring of CAF processes on newly acquired data is currently in development at Belle II. In recent years workflow management software (WMS) using Directed Acyclic Graphs (DAGs) has become increasingly popular as a way to specify complex and potentially dynamic workflows. A WMS + DAG system is used in the automated CAF submission system. The current status of this, and a brief review of the various WMS projects investigated, will be presented.

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