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Key4hep Project Status Update

Saturday, 9 July 2022 09:30 (15 minutes)

Detector studies for future experiments rely on advanced software tools to estimate performance and optimize their design and technology choices. The Key4hep project provides a turnkey solution for the full experiment life-cycle based on established community tools such as ROOT, Geant4, DD4hep, Gaudi, podio and spack. Members of the CEPC, CLIC, EIC, FCC, and ILC communities have joined to develop this framework, and merged or are in the progress or merging their respective software environments into the Key4hep stack. The software stack contains the necessary ingredients for event generation, detector simulation with Geant4, reconstruction algorithms, and analysis. Ongoing developments include the integration of the ACTS toolkit for track reconstruction, the PandoraPFA toolkit for clustering and particle flow, and the CLUE package for calorimeter clustering in high-density environments. This presentation will give an overview of the Key4hep project and highlight use cases from the involved communities, showcasing the synergy obtained through the adaptation of this common venture.

In-person participation

Yes

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