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Offline Software Framework for the Super Tau Charm Facility

Wednesday 1 December 2021 17:00 (20 minutes)

The Super Tau Charm Facility (STCF) is a high-luminosity electron–positron
collider proposed in China, for the study of charm and tau physics. The Offline Software of Super Tau Charm
Facility (OSCAR) is designed and developed
based on SNiPER, a lightweight common framework for HEP experiments. Several state-of-art software and
tools in the HEP community are adopted, such as
the Detector Description Toolkit (DD4hep) for the consistent detector-geometry
description, the plain-old-data I/O (PODIO) for the efficient implementation of
the event data model, etc. This talk will focus on the design and implementation of OSCAR, particularly the
way to integrate Geant4, DD4hep and PODIO
into SNiPER to provide a unified computing environment and platform for
detector simulation, reconstruction and visualization. Now OSCAR is used to
facilitate design of the STCF detector, conduct detector performance study as
well as the physics potential study. OSCAR also provides a potential solution for other lightweight HEP
experiments.

Significance

This work is origin, and is not published or reported in other conferences.

References

Speaker time zone

Compatible with Asia

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