

Simulation Results of CEPC OTK with CEPCSW

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The AC-LGAD technology has been selected for use as the Time-of-Flight (ToF) detector and outer tracker for the Circular Electron-Positron Collider (CEPC). This ToF detector is essential for flavor physics at the CEPC, particularly for distinguishing kaons from pions in the low-energy range. The AC-LGAD-based ToF and outer tracker will be positioned between the TPC and ECAL, covering an area of 90 m².

The geometric model of the LGAD detector has been completed and integrated into CEPCSW. Using the DD4HEP toolkit, this model incorporates all relevant features and aligns with the existing geometry. Calculations have been conducted to assess the hit rate based on the simulation results with the integrated geometry.

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