



Contribution ID: 135

Type: ORAL

Development of precision tracking detectors at Fermilab

Wednesday 9 October 2024 12:12 (20 minutes)

Availability of low-power, highly granular detectors that will provide excellent position resolution is one of the key requirements for FCC-ee physics goals, and has been highlighted as a priority research directions for European Strategy and the P5 panels. Several technologies are currently being pursued in the HEP and NP communities to achieve these goals. We will present the latest developments on precision tracking detectors for FCC-ee applications at Fermilab. Efforts have been focused on advances towards manufacturing of novel sensors and on the design of sophisticated Application Specific Integrated Circuits (ASICs) required to achieve the ambitious goals of FCC-ee. We will present developments over several directions that aim to advance particle detectors technologies. The talk will cover our developments and plans for Monolithic Active Pixel Sensors for tracking and calorimeters, 3D-integrated sensors and dedicated ASICs, and 4D-tracking sensors. These projects are a result of successful collaborations among many US and international partners, and this collaborative aspects will be also presented.

Primary authors: DRAGONE, Angelo (SLAC); APRESYAN, Artur (Fermilab); KENNY, Chris (SLAC); BRAGA, Davide (Fermilab); FAHIM, Farah (Fermilab); SEGAL, Julie (SLAC); ROTA, Lorenzo (SLAC); BACCHETTA, Nicola (Fermilab); LIPTON, Ron (Fermilab); SCHWARTZMAN, SLAC (SLAC)

Presenter: APRESYAN, Artur (Fermilab)

Session Classification: Parallel - WG3

Track Classification: WG3: WG3 - Detector R&D