Contribution ID: **71** Type: **oral**

A vertex and tracking detector system for CLIC

Wednesday, 24 May 2017 16:30 (18 minutes)

The physics aims at the proposed future CLIC high-energy linear e+e- collider pose challenging demands on the performance of the detector system. In particular the vertex and tracking detectors have to combine precision measurements with robustness against the expected high rates of beam-induced backgrounds. The requirements include ultra-low mass, facilitated by power pulsing and air cooling in the vertex-detector region, small cell sizes and precision hit timing at the few-ns level. A detector concept meeting these requirements has been developed and an integrated R&D program addressing the challenges is progressing in the areas of ultra-thin sensors and readout ASICs, interconnect technology, mechanical integration and cooling. We present the proposed vertex and tracking detector system, its performance obtained from full-detector simulations, and give an overview of the ongoing technology R&D, including results from recent beam tests of prototypes.

Primary author: ANDREAS, Nurnberg (CERN, Geneva, Switzerland)

Presenter: ANDREAS, Nurnberg (CERN, Geneva, Switzerland)

Session Classification: R2-Experimental detector systems(4)

Track Classification: Experimental detector systems