



Contribution ID: 475

Type: Oral Presentation

Detector Research and Development projects for future High Energy Physics experiments

Wednesday 9 July 2025 15:10 (30 minutes)

The European Strategy for Particle Physics stimulated the preparation of the European Detector Roadmap document in 2021 by the European Committee for Future Accelerators ECFA. This roadmap, defined during a bottom-up process by the community, outlines nine technology domains for HEP instrumentation and pin-points urgent R&D topics, known as Detector R&D Themes (DRDTs). Task forces were set for each domain, leading to Detector R&D Collaborations (DRDs), now hosted at CERN. Eight DRD collaborations have been established and set up their collaboration structures, with some having already started their R&D

I will give a brief overview of the current status of DRD collaborations covering detector developments in the field of gaseous detectors, noble liquid detectors for rare event searches, semiconductor detectors, photodetectors and concepts for particle ID, quantum sensors, calorimetry, electronics for HEP instrumentation and mechanical and integration aspects. Many of these topics would be of great interest to South African particle physics community to plan their involvement in future accelerator projects such as CEPC, FCC as well as in technology transfer and applications in other fields.

Apply for student award at which level:

None

Consent on use of personal information: Abstract Submission

Yes, I ACCEPT

Author: MAZINI, Rachid (School of Physics, The University of the Witwatersrand)

Co-authors: MELLADO, Bruce (University of the Witwatersrand and iThemba LABS); SIDERAS-HADDAD, Elias (University of the Witwatersrand); KUMAR, Mukesh (School of Physics and Institute for Collider Particle Physics, University of the Witwatersrand)

Presenter: MAZINI, Rachid (School of Physics, The University of the Witwatersrand)

Session Classification: Nuclear, Particle and Radiation Physics-2

Track Classification: Track B - Nuclear, Particle and Radiation Physics