Optimisation, Validation, Software Plans

André Sailer[1]
On behalf of Konrad Elsener[1] and Frank Simon[2]

[1]CERN-EP-LCD, [2]MPI Physik, Munich

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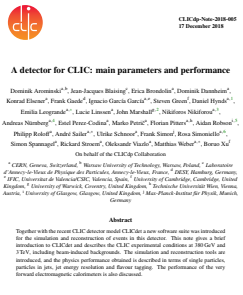
Detector Validation Status

- CLICdet Detector Model finalised for more than year
- Last year saw many studies and improvements for the reconstruction and the publication of the note on the performance of the detector: CLICdp-Note-2018-005
- More details in M. Weber's presentation: https://indico.cern.ch/event/753671/contributions/3278127/



CLICdp-Note-2018-005
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A detector for CLIC: main parameters and performance

Dominik Arominski[a,b], Jean-Jacques Blaising[a], Erica Brondolin[a], Dominik Dannheim[a], Konrad Elsener[a], Frank Gaede[d], Ignacio Garcia Garcia[a,e], Steven Green[f], Daniel Hynds[a,1], Emilia Leogrande[a,*], Lucie Linssen[a], John Marshall[f,2], Nikiforos Nikiforou[a,3], Andreas Nürnberg[a,4], Estel Perez-Codina[a], Marko Petric[a], Florian Pitters[a,5], Aidan Robson[f,3], Philipp Roloff[a], André Sailer[a,*], Ulrike Schnoor[a], Frank Simon[g], Rosa Simoniello[a,5], Simon Spannagel[a], Rickard Strom[h], Oleksandr Viazlo[a], Matthias Weber[a,*], Boruo Xu[i]
On behalf of the CLICdp Collaboration

[a] CERN, Geneva, Switzerland, [b] Warsaw University of Technology, Warsaw, Poland, [c] Laboratoire d'Annecy-le-Vieux de Physique des Particules, Annecy-le-Vieux, France, [d] DESY, Hamburg, Germany, [e] IFIC, Universitat de Valencia/CSIC, Valencia, Spain, [f] University of Cambridge, Cambridge, United Kingdom, [g] University of Warwick, Coventry, United Kingdom, [h] Technische Universität Wien, Vienna, Austria, [i] University of Glasgow, Glasgow, United Kingdom, [j] Max-Planck-Institut für Physik, Munich, Germany

Abstract

Together with the recent CLIC detector model CLICdet a new software suite was introduced for the simulation and reconstruction of events in this detector. This note gives a brief introduction to CLICdet and describes the CLIC experimental conditions at 380 GeV and 3 TeV, including beam-induced backgrounds. The simulation and reconstruction tools are introduced, and the physics performance obtained is described in terms of single particles, particles in jets, jet energy resolution and flavour tagging. The performance of the very forward electromagnetic calorimeters is also discussed.

* Corresponding Editor
[1] Now at Nikhef, Amsterdam, The Netherlands
[2] Formerly at University of Cambridge, Cambridge, United Kingdom
[3] Now at University of Texas at Austin, Austin, Texas, USA
[4] Now at Karlsruhe Institute of Technology, Karlsruhe, Germany
[5] Also at CERN, Geneva, Switzerland
[6] Now at Johannes Gutenberg Universität Mainz, Mainz, Germany

Ongoing Optimisation and Validation Efforts

- Understanding and possibly improving flavour tagging performance
  - Might be related to pattern recognition or track fitting, or both
- Background levels in the calorimeter endcaps and mitigation methods
  - see presentation by D. Arominski: https://indico.cern.ch/event/753671/contributions/3278130/
- Open tasks
  - Realistic digitisation for the silicon tracking
  - Reconstruction with $\gamma\gamma \rightarrow$ hadrons and incoherent pair background
  - Tracking with realistic B-field
  - ...

Software Status and Plans

- Presentation by M. Petric on Tuesday https://indico.cern.ch/event/753671/contributions/3278128/
- O. Viazlo restarted work to provide Pandora Calibration System via iLCDirac, to ease updates (e.g., new Geant4 versions) and developments
- Looking forward to large space Monte Carlo productions