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Advanced R&D of the dual-readout calorimeter for future collider projects

Friday, 19 March 2021 12:00 (20 minutes)

We present various R&Ds of the dual-readout calorimeter for future collider projects. This presentation is based on six letters of interest submitted to Snowmass 2021 and they proposed various interesting studies related to the dual-readout calorimeter. In the letters, following topics are for future e+e- collider experiments (FCC-ee and CEPC): 1) fast optical photon transport at GEANT4, 2) tau reconstruction and identification using ML, 3) sensitivity study of Higgs decaying to Zgamma, 4) feasibility study of combining a MTD, and 5) heavy flavour tagging using ML with a silicon vertex detector. In addition, we are also interested in applying the dual-readout calorimeter detector for future Electron-Ion collider (EIC) experiment. In this presentation, we will discuss our idea, plan and status of the proposed topics.

Primary author: YOO, Hwidong (Yonsei University)

Presenter: YOO, Hwidong (Yonsei University)

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