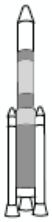

CALOR 2024

第２０回 素粒子・原子核物理学
カロリメータ検出器国際会議
（つくば国際会議場, 2024年5月20日～２４日）

Contribution ID: **67** Type: **Oral**

Stereo crystal ECAL design and simulation studies

Friday 24 May 2024 11:30 (20 minutes)

This presentation proposes a novel design of stereo crystal ECal, with the goal of creating a truly homogeneous calorimeter with 2D readout on the outer side of the long crystal bar, and obtaining the third position dimension information by allowing the adjacent layers to have opposite pointing angles with respect to the radius of the cylinder of the detector system, similar to human left/right eyes. A simulation using the CEPC software (CEPCSW) framework was conducted to assess the 3D position resolution, intrinsic energy resolution, as well as the separation of two particles using traditional clustering algorithms. Additionally, an end-to-end neural network was employed to resolve the shower information, similar to the human brain.

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Session Classification: Future colliders 5