Contribution ID: **121** Type: **Oral presentation using Zoom**

Jet energy calibration using e+e- → γZ process at the ILC

Wednesday, 27 October 2021 13:25 (20 minutes)

The International Large Detector (ILD) is a detector concept for the International Linear Collider (ILC). ILD is a general purpose detector designed to fully reconstruct almost all events. A particular emphasis has been put on excellent jet energy resolution (JER), by optimizing the detector for efficient particle flow reconstruction. Excellent understanding of the absolute jet energy scale (JES) is needed to fully profit from excellent JER. We have developed a data-driven method to extract the absolute JES using the e+e- -> γZ process. This method makes use of measured jet masses and jet and photon directions to extract jet energies without reference to the directly measured energies. Comparing the extracted and directly measured jet energies will allow a very precise control of the JES to 10 MeV or better for ˜100 GeV jets. We present the result of a full-simulation demonstration of this new method, including an evaluation of the achievable JES accuracy and its dependence on jet energy, direction and flavor.

1st preferred time slot for your oral presentation

13:00-15:00 JST (6:00-8:00 CEST, 0:00-2:00 EDT, 21:00-23:00 PDT)

2nd preferred time slot for your oral presentation

15:30-17:30 JST (8:30-10:30 CEST, 2:30-4:30 EDT, 23:30-1:30 PDT)

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Session Classification: B-1: Calorimeters

Track Classification: Parallel sessions: Detectors: Session B: Calorimeters