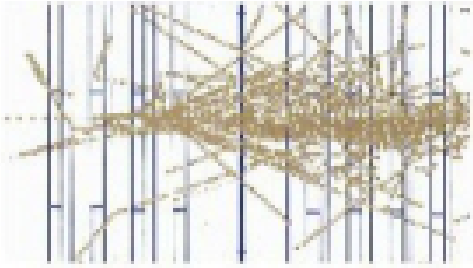

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Hadron showers in the CALICE scintillator HCAL

Summary

The CALICE Collaboration

The CALICE test beam calorimeters operated at the CERN SPS facility have collected a large sample of hadronic showers with unprecedented granularity. The analysis of single pion showers, recorded with a scintillator tile HCAL offer the unique possibility to test hadronic shower models using a number of different observables. Total energy, longitudinal and lateral profiles with very high resolution and shower composition are being studied in detail and compared with the available GEANT4 based simulations. Furthermore, studies of shower separation are performed using event mixing techniques. Shower separation is critical for the performance of modern particle flow algorithms, which for the first time can be tested on experimental data here.

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Track Classification: Simulation