

Separation of nearby hadronic showers in the CALICE SDHCAL prototype detector using ArborPFA

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A new reconstruction algorithm, ArborPFA, is developed to separate nearby hadronic showers in the SDHCAL prototype. This intends to demonstrate the capability of high granularity hadronic calorimeters such as the SDHCAL to efficiently apply Particle Flow Algorithms. The reconstruction algorithm we present here uses the tree-like structure features of hadronic showers, that high granular calorimeters reveal, to associate hits belonging to each hadronic shower and to reduce confusions between two close-by showers. The results of these studies indicate a good single particle efficiency and reconstructed energy. A powerful separation down to distances of 5 cm is obtained.

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