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## B-tagging without tracks in highly boosted TeV Jets using an Artificial Neural Network

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The performance of standard tagging algorithms begins to fall in the case of highly boosted B hadrons ( $\gamma\beta=p/m>200$ ). This work builds on our previous study that uses the jump in hit multiplicity among the pixel layers of an ATLAS or CMS-like detector when a B hadron decays within the detector volume. Consequently, tracking is not required.

First, multiple pp interactions within a finite luminous region were found to have little effect. Second, the study has been extended to use the multivariate techniques of an artificial neural network (ANN). After training, the ANN shows significant improvements to the ability to reject light-quark and charm jets; thus increasing the expected significance of the technique.

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