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Soft b-hadron tagging with the ATLAS detector

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The identification of b-hadrons at low-pT can play a crucial role in a variety of analyses, such as those where soft b-hadrons are produced by new physics signals as in compressed SUSY searches for stop/sbottom production or in analyses that require heavy flavour jet vetos. Such b-hadron identification is a particularly challenging task, owing to the relatively short decay length of such b-hadrons and difficulties identifying hadronic jets, and current flavour tagging algorithms are often not tuned to identify such b-hadron decays. This [talk/ poster] presents new developments for soft b-hadron tagging techniques based either on the presence of jets composed only of tracks, or on the identification of secondary vertices from the b-hadron decay seeded without requiring the presence of a jet. The techniques will be described and their performance reviewed.

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