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Full Event Intepretation at Belle II

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The Belle II experiment is an e+e- collider experiment in Japan, which begins its main physics run in early 2019. The clean environment of e+ecollisions together with the unique event topology of Belle II, in which an Y(4S) particle is produced and subsequently decays to a pair of B mesons, allows a wide range of physics measurements to be performed which are difficult or impossible at hadron colliders. A critical technique for many of these measurements is tag-side B meson reconstruction, in which one B meson in the event is reconstructed. The Full Event Interpretation is an algorithm which reconstructs tag-side B mesons at Belle II. The algorithm trains multivariate classifiers to classify O(100) unique decay channels, which allows it in turn to reconstruct O(10000) decay chains. This talk presents the algorithm and its performance relative to previous tag-side B meson reconstruction algorithms.

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