ID de Contribution: **53**   Type: **Non spécifié**

Reconstruction of generic decay trees using a Graph Neural Network

mardi 16 mars 2021 10:45 (15 minutes)

The decays of a B-meson with neutrinos or other undetected particles in the final state cannot be fully reconstructed without the information coming from the rest of the event. The Belle II experiment benefits from the clean environment of electron-positron collisions where B mesons are produced in pairs without other particles in the event. A complete reconstruction of the other B meson of the event allows then to constrain the undetected particles. The challenge lies in the thousand of generic decays that are possible and the complex combinatorial nature of the problem. In the current algorithm used at Belle II, the Full Event Interpretation, the possible decay channels are explicitly hard-coded which limits its scope of action. In this talk, we present an alternative method to reconstruct a generic decay tree from its final state particles using a graph neural network.

Auteurs principaux: THALLER, Arthur (IPHC); DUJANY, Giulio (CNRS - IPHC)

Orateur: THALLER, Arthur (IPHC)

Classification de Session: Mardi matin