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A new algorithm for jet flavor identification for FCC-ee

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The Future Circular Collider (FCC) is designed to provide unprecedented luminosity and centre-of-mass energies via three options, namely FCC-ee, FCC-eh, and FCC-hh. At this stage, one of the priorities of the FCC program is the optimization of the detector concepts and physics reach. A critical component to maximize the physics reach is the identification of the flavor of the jet. To this end, in this talk, we are presenting the latest developments in jet-flavour identification using state-of-the Deep Learning techniques that hence allow exploring much more of the true potential of the different detector configurations. A possible calibration strategy is also briefly discussed. Lastly, we include highlights from their application on physics analyses focusing on the Higgs sector. Despite these developments being designed for the FCC-ee case, they are certainly relevant for all other electron-positron collider options.

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