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Impact of changes in the flavour tagger performance on the Higgs coupling measurements in ZH fully hadronic final states at the FCCee

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The FCC-ee is a potential future Higgs factory that can continue to probe the validity of the electroweak theory. One of the key tasks is to study how the next generation of particle detectors can be optimised to study the Higgs boson in detail. This study uses the ZH process, where both the Higgs and Z decay to a pair of jets, to investigate the impact of changing the flavour tagger performance on the measurements of the Higgs coupling with the IDEA detector concept proposed for FCC-ee. The ParticleNet Tagger currently in use as a baseline in FCC-ee studies is re-trained for various possible IDEA vertex detector configurations. The ZH fully hadronic analysis is rerun for each re-trained tagger, and the expected 68% Confidence Level uncertainty on the Higgs coupling to the b-, c-, s-quarks and the gluon is used as the metric to determine the impact of the flavour tagger's performance.

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