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Strange quark tagging with ILD to search for new physics in the Higgs sector

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In the context of the Energy Frontier of Snowmass 2021, we are developing a neural network tagger for identifying the flavour of a jet with a physics focus on strange decays of Higgs bosons. The tagger will be deployed as part of prospect studies for SM H->ss measurements as well as for BSM heavy Higgs measurements, H(+)->cs, at future lepton colliders. In particular, these studies are performed using samples reconstructed using the International Large Detector at the proposed International Linear Collider. Jet-level variables as well the constituent particles within a jet are provided as inputs to the neural network, and different neural network architectures are studied. In this talk, we will present our progress to-date, including the performance of our preliminary jet taggers, and the work which remains to be done.

Time Zone

Americas

Primary author: BASSO, Matthew (University of Toronto (CA))

Co-authors: CAIRO, Valentina (SLAC National Accelerator Laboratory (US)); HEINTZ, Ulrich (Brown University (US)); LUO, Jingyu (Brown University (US)); NARAIN, Meenakshi (Brown University (US)); ORR, Robert (University of Toronto (CA)); SCHWARTZMAN, Ariel Gustavo (SLAC National Accelerator Laboratory (US)); STRUBE, Jan (University of Oregon); SU, Dong (SLAC National Accelerator Laboratory (US)); TANABE, Tomohiko (KEK); USAI, Emanuele (Brown University (US)); VERNIERI, Caterina (SLAC National Accelerator Laboratory (US)); YOUNG, Charlie (SLAC National Accelerator Laboratory (US))

Presenter: BASSO, Matthew (University of Toronto (CA))

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