



JOHANNES GUTENBERG
UNIVERSITÄT MAINZ

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Kick-off meeting for Future Collider Forum

Higgs at the LHeC

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Overview

- Previous studies on the Higgs-Boson physics potential at an LHeC collider are based only on fast simulations
- Our intermediate goal
 - Validate the $H \rightarrow b\bar{b}$ analysis using a full Geant4-based detector simulation with state-of-the-art reconstruction algorithms
- Final goal
 - Extend studies to generic $H \rightarrow \text{hadronic}$ decays (these studies will be based on DELPHES again)
- Where do we stand?
 - We are currently trying to reproduce the published LHeC prospects based in DELPHES
 - We hope to have first results using a full simulation by summer 2021

