

Higgs as a gluon trigger

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In the forthcoming high-luminosity phase at the LHC many of the most interesting QCD measurements so far become prohibitively difficult due to the high pile-up. We suggest a program of QCD measurements based on the observed Higgs boson which can be started now and can be carried through also in the large pile-up environment at high luminosity. It focuses on gluonic processes at high mass scales, and tier distinctive QCD features compared to classic probes such as Drell-Yan. It explores the strong-interaction sector of the Standard Model both at high transverse momenta and at low transverse momenta, by investigating issues on gluon fusion processes which have never been addressed experimentally before. We discuss a few specific examples and present results of Monte Carlo simulations.

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