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On-Shell Methods Applied to Higgs Production with Heavy Quarks at NLO in QCD Physics BENJAMIN THAYER, Florida State University — We calculate the production of a pair of heavy quarks  $(Q\bar{Q})$  with a pseudoscalar (A) Higgs boson at hadron colliders, including NLO QCD corrections. The amplitude for  $q\bar{q}, gg \rightarrow Q\bar{Q}A$  is caculated both with a traditional Feynman-diagram approach and with more recently proposed on-shell methods. We use this process as a testing ground for the new on-shell methods in a case where several massive particles are involved.

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