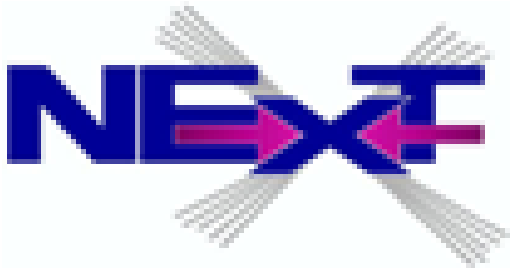

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CP-odd higgs boson search via Zh channel

Thursday, 1 July 2021 15:10 (5 minutes)

We study the process qq, gg $\longrightarrow$ A $\longrightarrow$ Z $*$h in a 2-Higgs Doublet Model Type-II where the mass of the CP-odd Higgs state A is lower than the rest mass of the Z and h particles (the latter being the Standard Model-like Higgs state discovered at the Large Hadron Collider in 2012), i.e., mA < mZ +mh $\approx$ 215 GeV. This is a mass range which is not being currently tested by ATLAS and CMS, yet we show that there can be sensitivity to it already during Runs 2 & 3, assuming leptonic decays of the gauge boson and bottom-antibottom quark ones for the Higgs boson.

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