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Studies of the CMS HF "aging" effect at the High-luminosity LHC KAMURAN DILSIZ, None, CMS COLLABORATION — The Hadronic Forward Calorimeters (HF) at the CMS are instrumented to have a pseudorapidity coverage from 3.0 to 5.0 in the CMS laboratory frame. It plays a key role in identifying forward jets to study the Higgs boson produced in vector boson fusion (VBF) processes. After the proposed high-luminosity LHC upgrade, during the course of running the quartz fibres used in the HF readout are expected to receive significant radiation dose and the performance of the forward jet reconstruction could be degraded, an "aging" effect. This could degrade the performance of the Higgs studies in VBF channels. In this talk, we present a study of this "aging" effect using CMS fast Monte-Carlo simulations in the context of VBF Higgs decaying into taus. Preliminary results show that the VBF signal is not significantly diminished by the "aging" effect in the HF.

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