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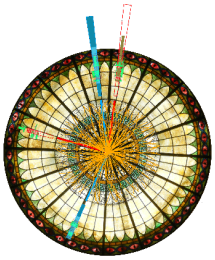

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Linear polarization of gluons and Higgs plus jet production at the LHC

Wednesday 29 April 2015 17:30 (20 minutes)

We consider Higgs plus jet production as a process that is sensitive to the linear polarization of gluons inside the unpolarized protons of the LHC. The leading order expressions for the transverse momentum distribution of the Higgs plus jet pair are calculated in terms of transverse momentum dependent quark and gluon distributions. Both angular independent and azimuthal angular dependent contributions are presented directly in the laboratory frame. Lacking experimental constraints on the linearly polarized gluon distribution, we study its effects on Higgs plus jet production using two different models to illustrate the generic features and maximal effects. It is found that the cos2ϕ distribution may be the most promising observable, as it is driven by only one initial linearly polarized gluon.

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