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Title:	Two loop QCD amplitudes for di-pseudo scalar production in gluon fusion
Authors:	Bhattacharya, A. (/jspui/browse?type=author&value=Bhattacharya%2C+A.) Mahakhud, M. (/jspui/browse?type=author&value=Mahakhud%2C+M.) Mathews, P. (/jspui/browse?type=author&value=Mathews%2C+P.) Ravindran, V. (/jspui/browse?type=author&value=Ravindran%2C+V.)
Keywords:	Quantum Chromodynamics (QCD) Field theory Pseudo-scalars
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Abstract:	We compute the radiative corrections to the four-point amplitude $g+g \to A+A$ in massless Quantum Chromodynamics (QCD) up to order α_s^4 in perturbation theory. We used the effective field theory that describes the coupling of pseudo-scalars to gluons and quarks directly, in the large top quark mass limit. Due to the CP odd nature of the pseudo-scalar Higgs boson, the computation involves careful treatment of chiral quantities in dimensional regularisation. The ultraviolet finite results are shown to be consistent with the universal infrared structure of QCD amplitudes. The infrared finite part of these amplitudes constitutes the important component of any next to next to leading order corrections to observables involving pair of pseudo-scalars at the Large Hadron Collider.
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