

Di-Higgs Production in SUSY Models

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I will discuss the di-Higgs production via gluon fusion within the context of Minimal Supersymmetric Standard Model (MSSM) and Next-to-Minimal Supersymmetric Standard Model (NMSSM). The calculation is based on the analytical expression of the leading order Feynman amplitudes (which includes both quark and squark loops), and therefore, both off-shell effects and interference between resonant and non-resonant contributions are accounted for. We choose the parameter space that is allowed by the current experimental constraints, and also relevant to the LHC experiments in the near future. I am going to show the parameter space where the di-Higgs production can be enhanced significantly in each case.

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