

Exact formulae for the $\gamma\gamma \rightarrow \phi_i\phi_j$ processes in the two Higgs doublet model via a nonlinear gauge

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Abstract content

We study the production of neutral Higgs boson pairs at $\gamma\gamma$ colliders through the $\gamma\gamma \rightarrow \phi_i\phi_j$ reaction within the context of the two-Higgs doublet model type III. Exact analytical expressions are presented. The use of a nonlinear R_ξ -gauge, which considerably simplifies the loop calculations and renders compact analytical expressions, is stressed. The $\gamma\gamma \rightarrow \phi_i\phi_j$ phenomenology is analyzed in the light of the most recent bounds obtained from precision measurements for the parameters of the model.

Summary

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