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## Higgs mediated flavor-violating transitions of the top quark

### Abstract content

Flavor violating  $tu_i H$  vertex induces top quark couplings  $tc\gamma$  and  $tu_i\gamma\gamma$  ( $u_i = u, c$ ) at the one-loop level, in the effective Yukawa sector through dimension six  $SU_L(2) \times U_Y(1)$ -invariant operators. The  $t \rightarrow cH$  and  $t \rightarrow c\gamma\gamma$  decays can reach branching ratios about  $5 \times 10^{-3}$  and  $10^{-4}$ , respectively. As for  $tc$  production, it is found that, due to the presence of a resonant effect in the convoluted cross section  $\sigma(e^+e^- \rightarrow \gamma\gamma \rightarrow t\bar{c} + \bar{t}c)$ , about  $(0.5 - 2.7) \times 10^3$   $tc$  events may be produced at the ILC for  $m_H \sim m_t$ .

### Summary

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