

# QCD corrections to squark production in $e^+e^-$ Annihilation in the MSSM with complex parameters

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**Abstract:** We discuss the pair production of scalar quarks in  $e^+e^-$  annihilation within the MSSM with complex parameters. We calculate the SUSY-QCD corrections to the cross section  $\sigma(e^+e^- \rightarrow \tilde{q}_i \tilde{q}_j)$  ( $i, j=1, 2$ ) and show that the effect of the CP phases of these complex parameters on the cross section can be quite strong in a large region of the MSSM parameter space. This could have important implications for squarks searches and the MSSM parameter determination in future collider experiments. © Springer Science+Business Media, LLC 2007.

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