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## SUSY contributions in light of recent $\epsilon'/\epsilon$

*Saturday, July 8, 2017 12:15 PM (15 minutes)*

Recently, the standard model prediction of  $\epsilon'/\epsilon$  was improved, and a discrepancy from the experimental results was reported at the  $2.9\sigma$  level. We study the charging contributions to  $Z$  penguin especially with the vacuum stability constraint. The vacuum decay rate is investigated, and it is shown that the discrepancy can be explained if super particles are lighter than  $4 - 6\text{TeV}$ . Correlations with  $\mathcal{B}(K_L \rightarrow \pi^0 \nu \bar{\nu})$  is also discussed. We also study the gluino contributions to  $Z$  penguin.

### Experimental Collaboration

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