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CP violation and the CKM matrix

Experiment: KLOE

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Measurement of $\Gamma(K_S \rightarrow \pi^+\pi^-\gamma)/\Gamma(K_S \rightarrow \pi^0\pi^0)$

The KLOE Collaboration

Abstract

We have measured the ratio $R_S = \Gamma(K_S \rightarrow \pi^+\pi^-\gamma)/\Gamma(K_S \rightarrow \pi^0\pi^0)$ with the KLOE detector at the DAΦNE collider. This measurement is fully inclusive with respect to the $\pi^+\pi^-\gamma$ final state. The sample of over one million two-pion decays of tagged K_S mesons allows a statistical error as low as $\sim 0.1\%$ to be obtained. The accuracy is limited by systematic uncertainties, which are estimated primarily from data. We find $R_S = 2.236 \pm 0.003 \pm 0.015$. hep-ph/0203232

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