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Hadron spectroscopy and exotics (experiment and theory)

Experiment: KLOE

Contact Person: Juliet Lee-Franzini

Institute: Laboratori Nazionali di Frascati INFN

Email: Juliet.LeeFranzini@lnf.infn.it

Study of the decay $\phi \rightarrow \eta \pi^0 \gamma$

The KLOE Collaboration

Abstract

In a sample of 53 million ϕ decays observed with the KLOE detector at Frascati ϕ -factory DAΦNE we find 606 $\eta\pi^0\gamma$ events with $\eta \rightarrow \gamma\gamma$, and 197 $\eta\pi^0\gamma$ events with $\eta \rightarrow \pi^+\pi^-\pi^0$. The decay $\eta\pi^0\gamma$ is dominated by the process $\phi \rightarrow a_0\gamma$. From a fit to the $\eta\pi^0$ mass spectrum we find $\text{BR}(\phi \rightarrow a_0(980)\gamma) = (7.4 \pm 0.7) \times 10^{-5}$.

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