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Search for a leptophobic U(1) B boson using $\eta \rightarrow \pi^0 \gamma \gamma$ and $\phi \rightarrow \pi^0 \eta \gamma$ decays

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The sensitivity of the rare decays $\eta \rightarrow \pi^0 \gamma \gamma$ and $\phi \rightarrow \pi^0 \eta \gamma$ to signatures of a leptophobic B boson in the MeV-GeV mass range is analyzed in this talk. By adding an explicit B -boson resonance exchange to the Standard Model contributions from vector and scalar meson exchanges, and employing experimental data for the associated branching ratios and invariant mass spectra, it allows us to improve the current constraints on the B -boson mass m_B and coupling to Standard Model particles α_B .

session

D. Hadron Decays

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