

Search for the lepton flavor violating decay

$$J/\psi \rightarrow e\mu$$

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We present a search for the lepton flavor violating decay $J/\psi \rightarrow e\mu$ using 8.998×10^9 J/ψ events collected with the BESIII detector at the BEPCII e^+e^- storage ring. No excess of signal above background is observed; we therefore set an upper limit on the branching fraction of $J/\psi \rightarrow e\mu < 4.5 \times 10^{-9}$ at the 90% confidence level. Improving the previous best result by a factor of more than 30, this measurement places the most stringent limit to date on lepton flavor violation in the heavy quarkonium sector.

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