

# Search for Charged Lepton Flavor Violation in $J/\psi$ decays at BESIII

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The observation of any CLFV process would be a clear signal of new physics beyond the Standard Model. Various decay modes, including lepton ( $\mu$ ,  $\tau$ ) decays, pseudoscalar meson ( $K$ ,  $\pi$ ) decays, vector meson ( $\phi$ ,  $J/\psi$ ,  $\Upsilon$ ) decays, and Higgs decays, have been explored to detect the violation. This presentation focuses on the search for CLFV at the BESIII experiment, the results of the search for  $J/\psi \rightarrow e\tau/e\mu$  using the 10 billion  $J/\psi$  events collected by the BESIII experiment are presented. The upper limits at the 90% confidence level are  $B(J/\psi \rightarrow e\tau) < 7.5 \times 10^{-8}$  and  $B(J/\psi \rightarrow e\mu) < 4.5 \times 10^{-9}$ , respectively. Improving the previously published limits by two orders of magnitudes, the results are the most stringent CLFV searches in heavy quarkonium systems.

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**Classifica Sessioni:** Young Researchers Talks