Contribution ID: **131** Type: **Talk**

Lattice QCD calculation of the semileptonic decay $J/\psi \to D/D_s l \nu_l$

Tuesday, 30 July 2024 13:45 (20 minutes)

We perform the first lattice calculation on the semileptonic decay of J/ψ using the (2+1)-flavor Wilson-clover gauge ensembles generated by CLQCD collaboration. After a continuum extrapolation using three lattice spacings, we obtain the final branching fraction of $J/\psi \to D/D_s e \nu_e$. The ratios of the branching fractions between lepton μ and e are also calculated and given by $R_{J/\psi}(D)$ and $R_{J/\psi}(D_s)$, which provide necessary theoretical supports for the experimental test of lepton flavour universality in the future.

Primary author: MENG, Yu (Zhengzhou University)

Co-authors: LIU, Chuan (Peking University); YAN, Haobo (Peking University); DANG, Jin-Long (Peking University); TUO, Xin-Yu (Brookhaven National Laboratory); YANG, Yi-Bo (University of Chinese Academy of Sciences); ZHANG, Ke-Long (Computer Network Information Center, Chinese Academy of Sciences)

Presenter: MENG, Yu (Zhengzhou University)

Session Classification: Quark and lepton flavour physics

Track Classification: Quark and Lepton Flavour Physics