



Contribution ID: 85

Type: Talk

Update of kaon semileptonic form factor using $N_f = 2 + 1$ PACS10 configurations

Friday, 2 August 2024 11:15 (20 minutes)

We calculate the form factors for the kaon semileptonic decay process using the PACS10 configurations, whose physical volume is more than $(10 \text{ fm})^4$ at very close to the physical point. The configurations were generated with the Iwasaki gauge action and $N_f = 2 + 1$ stout-smearred nonperturbatively $O(a)$ improved Wilson quark action at the three lattice spacings, 0.085, 0.063, and 0.042 fm. We present updated results for the form factors, and discuss their continuum extrapolations, momentum transfer interpolation, and short chiral extrapolation to tune the simulated pion and kaon masses to the physical ones. The value of $|V_{us}|$ is determined using our result. It is compared with those using the previous calculations and also those determined through the kaon leptonic decay process.

Primary author: YAMAZAKI, Takeshi (Univ. of Tsukuba)

Co-authors: ISHIKAWA, Ken-Ichi (Hiroshima University); Prof. ISHIZUKA, Naruhito (University of Tsukuba); KURAMASHI, Yoshinobu (University of Tsukuba/RIKEN AICS); NAMEKAWA, Yusuke (Hiroshima University); TANIGUCHI, Yusuke (University of Tsukuba); Dr UKITA, Naoya (University of Tsukuba)

Presenter: YAMAZAKI, Takeshi (Univ. of Tsukuba)

Session Classification: Quark and lepton flavour physics

Track Classification: Quark and Lepton Flavour Physics