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## $|V_{us}|$ from kaon semileptonic form factor in $N_f = 2 + 1$ QCD at the physical point on $(10 \text{ fm})^4$

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We determine the value of  $|V_{us}|$  using the kaon semileptonic form factor calculated from the PACS10 configurations, whose physical volumes are more than  $(10 \text{ fm})^4$  at the physical point. The configurations were generated using 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 0.041 fm. We present a preliminary result of the kaon semileptonic form factor calculated at the smallest lattice spacing. The value of  $|V_{us}|$  in the continuum limit evaluated from our results including the new data is also presented. We compare our result of  $|V_{us}|$  with the previous results and those through the kaon leptonic decay.

### Topical area

Quark and Lepton Flavor Physics

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