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## Chiral phase transition in $(2 + 1)$ -flavor QCD on $N_\tau = 6$ lattices

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We present updated studies of chiral phase transition in  $N_f = 2 + 1$  QCD. Simulations have been performed with Highly Improved Staggered Quarks (HISQ) on lattices with temporal extent  $N_\tau = 6$  at vanishing baryon chemical potential. We updated our previous study (1511.00553) by extending the temperature window from (140MeV, 150MeV) to (140MeV, 170MeV). The strange quark mass was chosen to its physical value  $m_s^{phy}$ , and five values of two degenerate light quark masses ( $m_l$ ) are varied from  $m_s^{phy}/80$  to  $m_s^{phy}/20$  which correspond to a Goldstone pion mass ranging from 80 MeV to 160 MeV in the continuum limit.

The universal scaling behaviour of the QCD chiral phase transition is investigated by studying the temperature and quark mass dependence of chiral condensates and chiral susceptibilities. The window of criticality compared to previous studies is also discussed.

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