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Study of 2+1 flavor finite-temperature QCD using improved Wilson quarks at the physical point with the gradient flow

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We study thermodynamic properties of 2+1 flavor QCD with improved Wilson quarks applying the method of Makino and Suzuki based on the gradient flow. The method provides us with a general way to compute correctly renormalized physical observables irrespective of explicit violation of symmetries due to the regularization, such as the violation of Poincare and chiral symmetries on the lattice. We report on the status of our on-going project to compute the energy momentum tensor and the chiral condensate at the physical point.

Authors: KANAYA, Kazuyuki (University of Tsukuba); BABA, Atsushi; EJIRI, Shinji (Niigata University); Prof. KITAZAWA, Masakiyo (Osaka University); SUZUKI, Asobu (University of Tsukuba); Prof. SUZUKI, Hiroshi (Kyushu Univ.); TANIGUCHI, Yusuke (University of Tsukuba); Dr UMEDA, Takashi (Hiroshima University)

Presenter: KANAYA, Kazuyuki (University of Tsukuba)

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