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## QCD energy momentum tensor at finite temperature using gradient flow

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We apply the gradient flow method to  $N_f=2+1$  full QCD at finite temperature.

Our main interest is on temperature dependence of:

1. energy-momentum tensor with quark contribution,
2. chiral condensate and its susceptibility.

We show that these observables are well measured with the gradient flow method.

Our finite temperature system is constructed by fixing the lattice spacing and varying the temporal length  $Nt$  (fixed scale method).

We adopt the lattice spacing  $a=0.07$  (fm) and cover a wide range of temperature region  $174 \leq T \leq 697$  MeV.

The  $u$  quark mass is rather heavy  $m_\pi/m_\rho \simeq 0.63$  and  $s$  quark mass is set to almost the physical value.

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