



Contribution ID: 148

Type: Talk

## Measurement of thermodynamics using Gradient Flow

*Saturday, 28 June 2014 09:30 (30 minutes)*

We propose a novel method to define and calculate the energy-momentum tensor (EMT) in lattice gauge theory on the basis of the Yang-Mills gradient flow.

Using this method, we measure the thermodynamics of SU(3) gauge theory on fine

lattices with lattice size up to  $64^3 \times 18$ .

The numerical results with small lattice spacing confirm our previous findings;

the expectation values of the EMT have reasonable dependences on the flow time

near the continuum limit, and thus our method can successfully be applied to the

analysis of the EMT on the lattice.

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**Session Classification:** Plenary

**Track Classification:** Theoretical Developments