



Contribution ID: 219

Type: **Talk**

Thermal evolution of the 1-flavour Schwinger model with using Matrix Product States

Wednesday, 15 July 2015 17:30 (20 minutes)

The Schwinger model, or 1+1 dimensional QED, offers an interesting object of study, both at zero and non-zero temperature, because of its similarities to QCD. In this talk we present the first full calculation of the temperature dependent chiral condensate of this model in the continuum limit using Matrix Product States (MPS). MPS methods, in general tensor networks, constitute a very promising technique for the non-perturbative study of Hamiltonian quantum systems. In the last few years, they have shown their suitability as ansatzes for ground states and low-lying excitations of lattice gauge theories. We show the feasibility of the approach also for finite temperature.

Primary author: Dr SAITO, Hana (DESY)

Co-authors: Prof. CIRAC, J. Ignacio (MPQ); Dr JANSEN, Karl (DESY); Dr CICHY, Krzysztof (Goethe University Frankfurt); Dr BA{Y-N}ULS, Mari Carmen (MPQ)

Presenter: Dr SAITO, Hana (DESY)

Session Classification: Theoretical Developments

Track Classification: Theoretical Developments