



Contribution ID: 75

Type: **Talk**

Applications of Jarzynski's relation in lattice gauge theories

Tuesday, 26 July 2016 17:10 (20 minutes)

Jarzynski's equality is a well-known result in statistical mechanics, relating free-energy differences between equilibrium ensembles with fluctuations in the work performed during non-equilibrium transformations from one ensemble to the other.

In this talk, an extension of this relation to lattice gauge theory will be presented, along with numerical results for the Z_2 gauge model in three dimensions and for the equation of state in $SU(2)$ Yang-Mills theory in four dimensions. Then, further applications will be discussed, in particular for the Schroedinger functional and for the study of QCD in strong magnetic fields.

Primary authors: Mr NADA, Alessandro (Università di Torino & INFN, Torino); Ms TONIATO, Arianna (CP3-Origins & Danish IAS, University of Southern Denmark); Dr COSTAGLIOLA, Gianluca (Università di Torino & INFN, Torino); Prof. PANERO, Marco (Università di Torino & INFN, Torino); Prof. CASELLE, Michele (Università di Torino & INFN, Torino)

Presenter: Mr NADA, Alessandro (Università di Torino & INFN, Torino)

Session Classification: Algorithms and Machines

Track Classification: Algorithms and Machines