



Contribution ID: 283

Type: Talk

Updates on the density of states method in finite temperature Symplectic gauge theories

Wednesday, 31 July 2024 12:15 (20 minutes)

First order phase transitions in the early universe have rich phenomenological implications, such as the production of potentially detectable background gravitational waves. Density of states methods, and in particular the linear logarithmic relaxation method, can be used to resolve issues related to the meta-stable dynamics around the critical point and allow for the accurate determination of the thermodynamic observables that are otherwise inaccessible, such as the free energy. In this contribution, we present an update on results for the analysis of the finite temperature deconfinement phase transition in a pure $Sp(4)$ gauge theory, a model for physics beyond the standard model, using the LLR method. We present an analysis of the properties of the transition in the thermodynamic limit.

Primary authors: LUCINI, Biagio (Swansea University); MASON, David (University of Swansea); VADACCHINO, Davide (University of Plymouth); BENNETT, Ed (Swansea University); Dr RINALDI, Enrico (RIKEN (iTHEMS)); ZIERLER, Fabian (Swansea University); PIAI, Maurizio (Swansea University)

Presenter: MASON, David (University of Swansea)

Session Classification: Particle physics beyond the Standard Model

Track Classification: Particle Physics Beyond the Standard Model