Contribution ID: **39** Type: **not specified**

Efficient method to compute the bounce action for a first order cosmological phase transition

Sunday 3 November 2024 10:30 (18 minutes)

In a first order phase transition, a barrier forms between two minima. The transition from false to true minimum proceeds through tunneling, and the probability of the transition is determined by the bounce action. Techniques have been developed to solve for the field configuration that minimizes the action. More recently, J.R. Espinosa developed a method that introduces an auxiliary tunneling potential, V_t, allowing one to bypass the bounce equation and calculate the action from the potential and tunneling potential. In this talk, I will introduce a new way of constructing the auxiliary function, V_t, leading to a more efficient calculation of the action.

Authors: DASGUPTA, Arnab; BATELL, Brian; LEWIS, Ian

Co-author: CASSIDY, Morgan

Presenter: CASSIDY, Morgan

Session Classification: Beyond the Standard Model Phenomenology 2