



Contribution ID: 29

Type: **Physics Beyond the Standard Model**

Phase Transition and Gravitational Wave Signatures

Wednesday, 16 February 2022 09:00 (12 minutes)

I will discuss the conformal and non-conformal two Higgs doublet model with a focus on their phase transition and gravitational wave signatures. The construction of the finite temperature effective potential of both models will be discussed in detail. Compared to the non-conformal case, the conformal model yields a very interesting phase diagram in the 2-dimensional parameter space corresponding to the phase transition. An exploration of other conformal hidden sector models (such as the well established real singlet and two real singlet models) suggests that the special shape of the phase diagram could be a universal feature in a generic class of conformal models.

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Please select: Experiment or Theory

Theory

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Session Classification: Nuclear Physics / Nuclear Astrophysics / Gravitational Waves