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Thermal Loop Effects on Large-Scale Curvature Perturbation in the Higgs Inflation

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It is known that the Higgs potential in the Standard Model can drive successful inflation as long as the Higgs field couples non-minimally to gravity. It is then inevitable to take into account the loop corrections of the Standard Model particles to the Higgs potential in the Higgs inflation. In this talk, we discuss the one-loop corrections at finite temperature to the curvature perturbation generated during the Higgs inflation. We find that the thermal loop effects can suppress the power of the curvature perturbation at large scales, thus resulting in a low quadrupole of the temperature anisotropy in the cosmic microwave background.

Summary

Author: Mr CHANG, Po-Wen (The Ohio State University)

Co-authors: Prof. CHIANG, Cheng-Wei (National Taiwan University); Dr NG, Kin-Wang (Academia Sinica)

Presenter: Mr CHANG, Po-Wen (The Ohio State University)

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