

THEORETICAL PHYSICS SEMINAR

Title: Effects of the trace anomaly on the Stochastic Gravitational Wave background

Speaker: Mr. Sampurnanand , Physical Research laboratory, Ahmedabad

Date/Time/Venue: 25th May, 2017 (Thursday)/4:00 PM/ Room No. 469

Tea will be served at 3:30pm outside Room 469

ABSTRACT

One of the important sources of the stochastic Gravitational Wave Background (SGW) is cosmological phase transitions. Apart from the dynamics of the phase transition, the characteristic frequency and the fractional energy density of the SGW depends upon the temperature of the transition. We compute the SGW spectrum in the light of QCD the equation of state provided by lattice results. We find that the inclusion of trace the anomaly enhances the SGW signal generated during the QCD phase transition by ~50% and the peak frequency of the QCD era SGW are shifted higher by ~25% as compared to the earlier estimates without trace anomaly. This result is extremely significant for testing the phase transition dynamics near the QCD epoch.

All are welcome to attend