

Finite temperature effects on particle decays (11+3)

Thursday 3 October 2019 09:42 (14 minutes)

At high densities and temperatures the standard quantum field theoretical approach to particle physics should be modified. Temperature enters explicitly in observables, for instance in decay rates, and under certain conditions expected results deviate significantly from the case of zero-temperature. I have put together a collection of thermal decay rates covering scalars, pseudo scalars and fermions consequently expanding the existing literature. I aim to lay out the procedure of thermal calculations detailing the explicit appearance of temperature in the two-point correlation function. I also highlight the interpretation of the thermal decay rate in comparison with the zero-temperature dito.

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Session Classification: Thu morning session 1