

## Early Universe Expansion of Quark Gluon Plasma with Quasi-Particle Approach

*Thursday 23 September 2021 19:20 (5 minutes)*

We study the expansion of early universe using quasi-particle approach. In order to determine the accurate time evolution of the thermodynamic parameters in the early universe of quark gluon plasma (QGP), we solve the Friedmann equation. The calculation results provide us the time variation of the energy density and also the time evolution of temperature in the early universe using finite quark mass value. The results shown in figures show the time evolution of early universe which also help to calculate other thermodynamic observables. Finally, these new findings about this state of matter using quasi-particle approach could be interesting in the relativistic heavy ion collisions and in QGP-Hadron phase transition.

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**Session Classification:** Poster session (Relativistic nuclear physics, elementary particle physics and high-energy physics)

**Track Classification:** Section 4. Relativistic nuclear physics, elementary particle physics and high-energy physics.