THEORETICAL PHYSICS SEMINAR

Title: Dissipative properties of hot and dense matter in excluded volume hadron resonance gas model

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Date/Time/Venue: 2nd July (Thursday)/4:00 PM/ Room No. 469

ABSTRACT

Matter created in Relativistic Heavy Ion Collider i.e quark gluon plasma (QGP), is "the most perfect" fluid found in nature. Although "the most perfect fluid" implies zero viscosity, QGP has non zero shear viscosity(5 × 10^11 Pa·s). Indeed, based on anti-deSitter-conformal field theory (AdS/CFT) correspondence, Kovtun-Son-Starinets conjectured that no fluid found in nature can have shear viscosity to entropy ratio less that 0.08. This bound is famous KSS bound. However, in our recent work based on relativistic kinetic theory, we found that a simple system consisting of gas of hard spheres hadrons, KSS bound is violated if the gas is sufficiently dense. In this seminar I will discuss these results of the kinetic theory within the limitations of the theory.

All are welcome to attend