Area Seminar

Title	Probing quark gluon plasma (QGP) through electromagnetic radiations
Date and Time	21/06/2012 16:00:00
Speaker	Jajati K. Nayak Variable Energy Cyclotron Centre, Kolkata
Area	Theoretical Physics
Venue	Room No. 469

Abstract

Heavy nuclei like Pb(Lead)+Pb, In(Indium)+In \& Au(Gold)+Au are collided at very high energies at Super Proton Synchrotron (SPS), CERN, Geneva and at Relativistic Heavy Ion Collider (RHIC), Brook Haven National Laboratory, USA aiming to create the novel state of matter quark gluon plasma (QGP). The matter created at the relativistic nuclear collisions emits different radiations. To diagonise the matter using the electromagnetic radiations such as photons and lepton pairs are more advantageous because of their nature of interactions with the medium they are produced. Here we discuss the photon and lepton pair productions from Pb+Pb, In+In and Au+Au collisions in terms of invariant spectra at different colliding energies. The thermodynamic informations like the initial temperature of the matter has been inferred from the evaluation of the spectra and it has been found that the inferred temperatures for the above SPS and RHIC energies are larger than the transition temperature (Tc) of the hadronic matter to QGP as predicted by lattice quantum chromodynamics (lQCD) at zero baryonic chemical potential.