乞掲示

理化学研究所原子核グループコロキウム(CNS 共催)

2002. 9. 12

講師 : **Dr. Steffen A. Bass**

(Duke University & RIKEN/BNL Research Center)

題目 : Physics of Relativistic Heavy Ion Collisions
with the Parton Cascade Model

∗ The seminar will be given in *English.*

日時 : 2002年 9月 12日 (Thu.) 15:00 –

場所 : RIKEN Nishina Memorial Bldg. Nishina hall

Abstract

The Parton Cascade Model (PCM) was developed to explore the mechanisms for the formation of a Quark-Gluon-Plasma and then determine the initial conditions of the equilibrated state. Preliminary studies within the model provided valuable insight into the dynamics of such collisions. Over the past two years, a thorough revision and refinement of the original PCM implementation (VNI) has been undertaken, involving the construction of the initial state, the treatment of the binary parton interactions, the intial and final state shower devlopment, and the evolution of the partonic cascade itself. This new and improved PCM, named VNI/BMS, is now being applied to proton-proton as well as heavy-ion reactions at RHIC energies.
We investigate collision rates and the time-evolution of the energy density and the build-up of transverse momentum in order to probe the time-scales for thermal and chemical parton equilibration and determine whether the PCM dynamics actually predicts the creation of a thermalized system of quarks and gluons.
Another possibility is the study of pre-equilibrium photons radiated by partons while they undergo thermalization. This should provide a most valuable and direct insight into the evolution of the system, where the relavent scales are succesively governed by the initial energy, the Q^2 of pre-equilibrium collsions, and then finally the temperature of the system.

皆様
上記の次第で東大 CNS と理研の共同セミナーを企画いたしましたのでよろしくご参集ください。講演者の Bass 氏は理研 BNL センターの理論フェロー研究員でデューク大との兼務をされている方です。今回、東大 CNS の招きで物理学会シンポジウムのために来日され、学会シンポジウムとは別の演題でご講演いただくことになりました。 講演後には懇親会を予定しております。

∗ Host researcher : H.Hamagaki (CNS), H.En'yo (RIKEN)

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