First Announcement

Workshop on

QCD challenges for LHC and hadronic physics

May 5 - 23, 2008
Centro Internacional de Ciencias (CIC)
Cuernavaca, Morelos, Mexico

The workshop on "QCD challenges for LHC and hadronic physics" will be held from May 5 - 23, 2008 at the *Centro Internacional de Ciencias* (CIC, International Center of Sciences), in Cuernavaca, Morelos, Mexico. It is organized jointly by the *Instituto de Ciencias Nucleares, UNAM* (National Autonomous University of Mexico) and the *CIC.*

Scope of the Workshop

The Large Hadron Collider (LHC) will start to collect data from the second half of 2008 on. Apart from searching for the Higgs boson and supersymmetry, it will investigate the properties of the dense matter created in heavy-ion collisions. One of the main experimental and theoretical challenges is to understand the hadronization of the Quark-Gluon Plasma (QGP) formed and the chemical freeze out. The intention is to gather specialists to discuss possible models and predictions.

Another topic is hadronic physics whose properties are described by non-perturbative Quantum ChromoDynamics (QCD). The only non-perturbative methods known are lattice gauge theory and string theory. There are, however, several many-body descriptions that rely on the use of phenomenological models with effective degrees of freedom which have had significant success to describe QCD at low energy. These models/methods might be also useful to describe the properties of the quark-gluon

plasma. Therefore, the other part of the workshop will concentrate on the non-perturbative descriptions of QCD.

The main topic to be discussed are:

- Hadronization of the QGP
- Chemical freeze out
- Jet quenching and parton energy loss
- Proton-proton collisions at low and high energies
- Hadronic physics
- Lattice QCD
- String theories and QGP
- Chiral perturbation theory
- Effective models of QCD at low energy

During the workshop the results of experimental and theoretical groups will be presented during one or two talks each day. Afterwards, discussion groups will be formed during which the ideas and results presented in the talks will be analyzed. Each group will attend a specific topic. Within a discussion group there will be a short introductory talk of maximally 20 minutes, with the purpose to focus on the topic to be discussed. A chairman will guide the session.

Participants are encouraged to stay at least a couple of days to enhance the interaction with the other visitors. Obviously, if they wish, they can stay for the entire duration of the workshop.

Information:
http://athena.nucleares.unam.mx/~bijker/TallerCIC.html
http://www.cicc.unam.mx

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