量子物理学・ナノサイエンス第 158 回セミナー

The Electron-Ion Collider project in the US

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日程　：　8 月 5 日（金）16:30-18:00

場所　：　本館 2 階　H284AB　物理学系輪講室

概　要

Our understanding of the theory of strong interaction, quantum chromo-dynamics (QCD), has advanced enormously in the past decades. Both experimentally and theoretically, perturbative regime in QCD has been explored and understood at precision. At the same time, lattice QCD calculations have begun to yield many quantitative results on properties of hadrons. The experimental understanding of how nucleons and nuclei are formed from their constituent quarks and gluons and their interactions, has also made progress via new experiments and theoretical frameworks such as GPDs (generalized parton distributions) and TMDs(transverse momentum dependent distributions). However, it has been clear for some time that a new experimental facility is needed in order to quantify the role of quantum fluctuations and gluons in nuclear physics and to bring the understanding of nucleon and nuclear structure and dynamics to a new level. The Electron-Ion Collider (EIC) being proposed in the US and selected as the Nuclear Physics facility with highest priority for new construction in the US is such a facility. I will discuss the physics to be explored at EIC and how they set the parameters of EIC and its detectors. I will also outline the current status of the EIC project.

Rik Yoshida 氏はドイツ DESY の HERA-ZEUS 実験のスポークスマンとして、また CERN の LHC-ATLAS 実験でも活躍して来られましたが、本年 3 月より米国 Jefferson Lab で計画されている EIC の Physics Group Leader に就任されました。来日を機に EIC 計画についてお話し頂きます。

連絡教員　物理学系　久世　正弘（内線 2080）

ナノサイエンス・量子物理学国際研究センター 主催
東京工業大学理学院・物理学系、「ナノサイエンスを拓く量子物理学拠点」 共催

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