

**ELPH seminar**

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日時 : 10月3日 (火) 14:00 – 15:00

場所 : 電子光理学研究センター三神峯ホール

**Towards the Electron Ion Collider (EIC):**  
*physics motivations and technical contributions of the IJCLab*

The future Electron Ion Collider under construction at the Brookhaven National Laboratory (New-York, USA) represents a unique opportunity to understand the structure of nucleons and nuclei directly from the dynamics of the quarks and gluons governed by the Quantum Chromodynamics (QCD). Understanding the collective physics of gluons will provide deep insights about QCD. Complementary to the 25 year contribution of our IJCLab team into the hadronic physics program at Jefferson Lab (Newport-News, Virginia, USA) we intend, as part of the electron-Proton/Ion Collider (ePIC) collaboration, to pursue the experimental investigation of the 3D-imaging of nucleons and nuclei. Our main focus is the study of exclusive reactions, such as Deeply Virtual Compton Scattering (DVCS). In this context, technical contributions have been initiated at IJCLab: the design of the electromagnetic calorimeter backward endcap and the design of the chip (EICROC) to read a new generation of Low Gain Avalanche Diode (LGAD) pixelated sensors (AC-LGAD) which offer an excellent time resolution combined with a very good spatial resolution. The status of the EICROC project and its perspectives will be discussed.

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