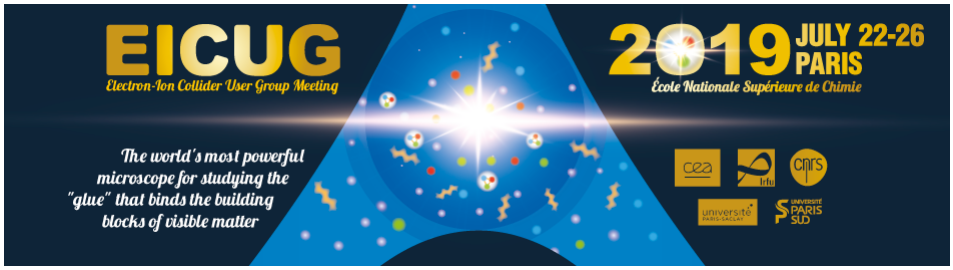

ID de Contribution: **35** Type: **Oral presentation**

General-purpose Monte Carlo event generators for an EIC

jeudi 25 juillet 2019 11:00 (15 minutes)

General-purpose Monte Carlo event generators are essential tools for any high-energy collider experiments by acting as a link between first-principle calculations and complicated final states measured in the detectors. Large amount of data from different LHC experiments have lead to many recent improvements in perturbative treatment and phenomenological models describing the non-perturbative physics in the modern event generators. In this talk I will give an overview on the current status of Pythia, Herwig and Sherpa event generators for processes relevant to an electron-ion collider. In particular I will discuss about single- and multi-jet production in deep inelastic scattering and compare results from different event generators to data from HERA experiments. In addition, I will present recent developments in photoproduction regime. Here the modelling of the non-perturbative physics becomes more relevant as the (quasi-)real photons may fluctuate into a hadronic state enabling different soft QCD processes, such as diffraction, and multiparton interactions. Also the abilities to generate events with nuclear targets will be commented.

Auteur principal: HELENIUS, Ilkka (University of Jyväskylä)

Orateur: HELENIUS, Ilkka (University of Jyväskylä)

Classification de Session: Parallel session A

Classification de thématique: Simulation & software