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Statement from NuPECC regarding the LHeC and ALICE

The Large Hadron electron Collider project, LHeC, at CERN has important implications for high-energy nuclear physics. High-energy electrons colliding with high-energy heavy ions will probe the gluon density at extremely small momentum fractions, where theory predicts gluon saturation effects. High-precision measurements of the nuclear parton distribution functions will furthermore provide a useful baseline for separating initial state effects from those produced by the quark-gluon plasma in central nucleus-nucleus collisions at the LHC.

In its 2010 Long Range plan, in the section on "Phases of Strongly Interacting Matter", NuPECC listed as its top priority "Support for a comprehensive physics programme with proton-nucleus and nucleus-nucleus collisions at several energies and upgrades of the ALICE detector". At a recent Town Meeting, the heavy ion community has re-stated this program as its top priority for the coming years. The community thus has well defined plans of experiments at the LHC that carry on at least until 2025, which is the time needed to fully exploit the potential of the accelerator and the experiments, on which the Nuclear Physics community has already made a major 20-year effort.

Support for R & D to complete a technical design report for the LHeC was also included among the recommendations in the Long Range plan, but with lower priority. From the point of view of the Heavy Ion community, the LHec could thus be seen as an interesting option in the future, if the necessary critical mass of people could be assembled. The recent proposal to use Point 2 (where the ALICE experiment is located) as the interaction region for the LHeC is not supported, if installation were to start before 2025, because it is incompatible with the top priority of the Long Range plan.

Primary authors: Prof. BRACCO, Angela (Univesity of Milano); NYSTRAND, Joakim (University of Bergen (NO))