

HL-LHC focusing quadrupoles as precursors to HE-LHC/FCC magnet development

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The world-wide HEP community has identified the exploitation of physics opportunities at the High Luminosity-LHC (HL-LHC) as one of the highest near-term priorities. Thanks to multi-year R&D programs, Laboratories and Universities in America and Europe have developed technical solutions to increase the LHC luminosity by bringing the Nb₃Sn technology for magnets to production readiness. In the next ~5 years, the experience gained building ~30 “accelerator quality” focusing quadrupoles for HL-LHC will represent a treasure chest of knowledge and capabilities on which plans for future high energy hadron machine can be based.

The proposed presentation will cover the plans and achievements of magnets for the HL-LHC Project, and will describe some of the issues on which further development and coordinated work is necessary to converge on magnets meeting the requirement of proposed future hadron colliders, such as a possible High Energy-LHC (HE-LHC).

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