Title: The Role of Superconducting Magnets for High Energy Physics

Speaker: Dr. Lucio Rossi, CERN

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Abstract

Superconducting Magnets have played a crucial role for the particle physics energy frontier. From Tevatron to LHC, passing through HERA and RHIC, they have defined the last 30 years of hadron colliders. The talk will review the successful projects and mention the reasons and learning from the ill-fated projects, Isabelle and SSC. Technology spin-off will be discussed, together with the development of the next generation magnets; the high field ones, aimed at passing the 10 Tesla frontier in collider quality magnets, and the fast cycled ones, aimed at enabling field ramp rates of 1 to 4 Tesla per second in synchrotron quality magnets.