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Progress in the design of the magnets for a Muon Collider

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Magnets have been identified as one of the critical technologies for a proton-driven Muon Collider. Within the scope of the International Muon Collider Collaboration we have progressed in the review of requirements, and the development of concepts towards the initial engineering of several of the most critical magnets identified from our previous work. In this paper we present an update of the accelerator magnet configuration for all the parts of the Muon Collider complex, from muon production to collision. We then give details on the specific technologies that have been selected as baseline. Overall, it is clear that a Muon Collider requires very significant innovation in accelerator magnet technology, mostly relying on the success of HTS magnet development. We include in our description a list of options and development staging steps intended to mitigate technical, cost and schedule risk.

Footnotes

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