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Magnet design issues for the next generation collider

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Magnet Design Issues for the Next Generation Collider

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The design and practicality of new collider options being considered to supercede the LHC at the high energy frontier will depend heavily on the superconducting main dipole magnets. As a major cost driver, these magnets must be highly optimized between cost and performance. Steady progress has been made over the last several years and new technology is becoming available. This paper explores some of the near term possibilities and examines several magnet design options in the light of the most recent technology and new ideas with special attention being paid to trade-offs which affect the overall cost of the magnets. A few of the various options, available now or in the near future are examined in terms of their potential for development.