

**Field Quality Analysis of Short Model  
Quadrupoles for the LHC Low-Beta Insertions\***,

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collision conditions, the field quality of the low-beta triplet quadrupoles determines the dynamic aperture of the LHC. Field errors must be less than 1 part in 10,000 out to a radius of 20 mm or more. A collaboration of Fermilab and LBNL is developing a high gradient quadrupole for the LHC insertions that must meet this requirement. In this paper we present the magnetic field measurements of several 2 m long model magnets and compare them with expectations based on the as-built dimensional parameters and with a preliminary table of field quality requirements. Strategies to achieve the required field quality are discussed.

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