

**Performance of the 1-metre Models of the 70 mm Aperture Quadrupole for the LHC Low-beta Insertions**, L. BOTTURA, G.A. KIRBY, M. LAMM, R. OSTOJIC, F. RODRIGUEZ-MATEOS, S. RUSSENCHUCK, S. SCHLOSS, T.M. TAYLOR, I. VANENKOV, CERN, Geneva, Switzerland; S.R. MILWARD, K.D. SMITH, M.C. TOWNSEND, J.R. TREADGOLD, J.M. WIATRZYK, Oxford Instruments Ltd, UK- Following the successful testing of the first 1-metre model of the 70 mm aperture quadrupole for the LHC low-beta insertions, two further 1-metre magnets have been built by Oxford Instruments. All magnets feature a four layer coil wound from two 8.2 mm wide graded NbTi cables and a four-way split yoke supporting structure. In this paper we review the results of magnet tests that have been performed at 4.2 K and 1.9 K in several measurement campaigns. All magnets surpassed the operating gradient required for the LHC, with the third magnet reaching 251 T/m, the original design point. The magnet training is summarised, and the quench velocities, peak temperatures in the superconductor and efficiency of the layer strip heaters are reported for different field levels. We also present the results of magnetic field measurements and discuss the correlations between coil construction errors and the leading measured multipole terms.