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Sat-Mo-Or6-02: Test results of the LQXFA/B02 and LQXFA/B03 cryo-assemblies for the High Luminosity LHC upgrade

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The US High-Luminosity LHC Accelerator Upgrade Project (AUP) is responsible for delivering cryo-assemblies for the Q1/Q3 quadrupole optical components of the High Luminosity LHC upgrade at CERN. Total of 10 cryo-assemblies containing two Nb₃Sn quadrupole magnets per cold mass will be delivered within this program. After the successful test of the first pre-series cryo-assembly in 2023, two more cryo-assemblies were tested at Fermilab's horizontal test facility.

Production overview and the test results of the LQXFA/B02 and LQXFA/B03 cryo-assemblies are summarized in this paper. After the first test, to increase the capability of the horizontal test facility, various improvements have been made. These improvements are also described in this paper.

Authors: NOBREGA, Alfred (Fermi National Accelerator Lab. (US)); Mr VOURIS, Antonios; OROZCO, Charles Rafael; ORRIS, Darryl (Fermi National Accelerator Laboratory); AMBROSIO, Giorgio (Fermilab); APOLLINARI, Giorgio (Fermi National Accelerator Lab. (US)); CHLACHIDZE, Guram; DIMARCO, Joseph; BALDINI, Maria (Fermilab); ANERELLA, Michael; FERRACIN, Paolo; RABEHL, Roger Jon (Fermi National Accelerator Lab. (US)); FEHER, Sandor (Fermilab); PRESTEMON, Soren; STOYNEV, Stoyan (Fermilab); NIKOLIC, Vlad (FERMILAB)

Presenter: CHLACHIDZE, Guram

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