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Cold powering tests of the 2 meter Nb₃Sn DS11T model magnets at CERN

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For the upgrade of the LHC a few 15 meter Nb-Ti main dipole magnets are foreseen to be replaced by two 11 T Nb₃Sn dipoles, 5.5 meter long each. A series of model magnets has been produced to verify the design choices that are important for the prototype and series production. A fourth and fifth 2 meter single aperture model and a second double aperture model coil were produced, assembled and tested. In this paper the cold powering tests of the newly tested single aperture models and double aperture model will be presented and the results will be compared with the previous models. Special attention is given to the upper limit of the magnet powering which was found to be in the mid plane for some of the models.

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