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## Development of a short model of the superconducting separation dipoles D2 for the High Luminosity Upgrade of LHC

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The luminosity upgrade of the Large Hadron Collider requires that the new separation/recombination dipoles D2 shall deliver a field integral of 35 Tm. A design has been developed of a twin dipole generating a magnetic field as high as 4.5 T in apertures of 105 mm and 7.78 m magnetic length. The magnetic field direction is identical in both apertures causing a not negligible magnetic cross talk, which could be highly detrimental for the field quality. In order to minimize the cross talk effects a design based on asymmetric coils has been developed in the past years. Recently the design has achieved a level of maturity allowing the starting of a second phase of development involving the construction of a short model and, later on, of a prototype. The short model (1.6 m long) has been designed in all aspects and it is presently under construction in industry. The contribution is focused on the design of the short model with emphasis on the mechanical aspects, which include a novel approach to the integration of coils in the mechanical structure through the use of Al-alloy sleeves. General aspects related to the integration of the D2 in the IR are discussed as well.

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