**Beam Coupling Impedance of the New Beam Screen of the LHC Injection Kicker Magnets**

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The LHC injection kicker magnets experienced significant beam induced heating of the ferrite yoke, with high intensity beam circulating for many hours, during operation of the LHC in 2011 and 2012. The causes of this beam coupling impedance were studied in depth and an improved beam screen implemented to reduce the impedance. Results of measurements and simulations of the new beam screen design are presented in this paper: these are used to predict power loss and temperature of the ferrite yoke for operation after long shutdown 1 and for proposed HL-LHC operational parameters.

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