

LHC BEAM VACUUM SYSTEM CONSOLIDATION DURING THE LONG SHUTDOWN AND OUTLOOK FOR THE 2015 PHYSIC RUN

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Abstract

At the beginning of 2013 the LHC accelerator stopped for the Long Shutdown (LS1) by the need to consolidate the magnets interconnects. During this period of time, despite the very good performances of the beam vacuum system during the 2010-2012 physic run, different activities were held in parallel by the VSC group so as to consolidate, improve and upgrades some dedicated area of the LHC accelerator. As example a campaign aiming the consolidation of some RF bridges was conducted, NEG coated inserts were installed as a permanent electron cloud multipacting suppressor in critical locations and boosting of pumping speed by the introduction of compact NEG cartridges were performed in special devices. In addition consolidation of different beam equipment such as collimators, BGI, BSRT, BQS, installation of news TCDQ and MKB to name some, were carried out.

In this paper a review of the main consolidations carried out during the LS1 in the beam vacuum system of the LHC are presented and discussed. Their impacts for the future operation are presented and finally a restart expected scenario for the LHC beam vacuum system is described.