

# **The LHC long shutdown 1 - A Reliable Energy Upgrade**

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On September 19<sup>th</sup> 2008 the LHC undertook a serious incident, when a faulty electrical joint opened up, creating an arc between two magnet busbars. This event led to a series of consequences that forced the LHC to almost one-year stop to carry on repairs and implement corrective measures. Due to the complex design of the LHC, it was decided to perform the subsequent operation period (2010-2013) at reduced safe energy (4 TeV) and postpone the splice consolidation to the first long shutdown foreseen for 2013-2014. During this phase all electrical joints have been consolidated and several improvements or system upgrade resulted to be needed during the Run1 carried out. As a result of this large amount of work, the LHC main superconducting splices are now a reliable component of the accelerator, which can be safely operate at its design energy and beam intensity.

Oral presentation