SOFTWARE APPLICATIONS FOR THE COMMISSIONING OF THE LHC SUPERCONDUCTING CIRCUITS

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Abstract

During the 2008 Hardware Commissioning phase of the Large Hadron Collider, the 1572 superconducting circuits of the accelerator were individually tested at different current levels before being released for operation with beam. Almost 12,000 tests had to be carried out in about six months, the performance of the different circuits analysed and the results stored. In order to cope with the schedule, manpower constrains and huge complexity of the systems under test, a set of software tools was developed during the last two years in order to automate as much as possible the preparation, execution, analysis and tracking of the tests. This paper outlines the different tools developed, describes their integration amongst themselves and within the whole Hardware Commissioning Project and details the overall performance and positive impact they have had on the different actors involved in these powering tests.

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