

A Look Back on 2012 LHC Availability

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Abstract

LHC availability in 2012 has been studied. This paper will outline first triggers and root causes with associated downtime, given from both the operation and system viewpoints. A relative comparison between system performances will be made and a weighted-downtime will be presented, where system failure rates are scaled by a measure of system complexity.

A comparison of the failure rates and modes of the LHC Machine Protection Systems will be made, commenting on the observed versus predicted failure rates and modes of the critical systems.

Finally, proposals will be made for changes to information capture in the post-LS1 era, to improve the quality of availability calculations.