

R2E Experience and Outlook

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Abstract

The period before 2011 and 2012 LHC operation involved several actions related to R2E mitigation, aiming in keeping SEE failures at an acceptable rate. In this respect, 2012 very successful LHC operation has continued to provide valuable input for the detailed analysis of radiation levels and radiation induced equipment failures, mostly confirming the estimates provided in Chamonix. Radiation levels around LHC critical areas and the LHC tunnel were studied in detail and compared to available simulation results, as well as put in perspective to LHC operation parameters. Observed radiation induced failures were continuously analysed and addressed through early relocation measures and patch-solution on the equipment level whenever required. During LS1 all primary mitigation actions will be completed, involving significant relocation and shielding activities all around the LHC and aiming to allow for nominal operation and beyond. This talk will focus on the observed equipment failures, their relation to radiation levels and extrapolation to post-LS1 operation