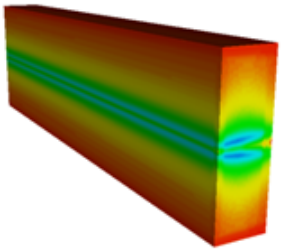

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Accelerometer and microphone measurements of the LHC collimator

Tuesday, 4 September 2007 14:30 (20 minutes)

Sound and vibration measurements of the LHC collimator were performed with various accelerometers and a microphone during collimator robustness tests in 2004 and 2006. The collimator jaws were hit by 450 GeV protons beam of up to 3.5x10e13, equivalent to a total energy of about 2.4 MJ (0.65% of the nominal LHC beam at 7 TeV). It was demonstrated that these measurements can be used to detect beam impacts of LHC beams on the collimators and hence possibly damaged collimators. In this talk the experimental layout is presented and detailed frequency analysis of the measured vibration signals are presented.

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Track Classification: Accelerometer and microphone measurements