

Radiation Hardness of Gaseous Detectors

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Testing the effect of radiation on detector systems is fundamental for their correct design and operation, and specially for evaluating their lifetime in the experiments. Radiation damage mechanisms and their effects differ for the various detector technologies. For gas detectors, in addition to the radiation damage of materials used in the assemblies and their electronics, the amount of charge deposited on electrodes due to avalanches in the gas is the most relevant parameter. This lecture will explain the aging mechanisms and long-term validation strategies of gas detector systems, focusing on the technologies currently used at the LHC experiments.