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(G*) POS-J96 – Drift Time and Charge Trapping in P-Type Point-Contact HPGe Detectors

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P-type point contact (PPC) high-purity Germanium detectors have gained substantial interests in the search for neutrinoless double beta decay (0νββ) due to their background-rejection capabilities and excellent energy resolution. The drift time of charge carriers in the detector can be used in determining the position of an energy deposition and identifying sources of the background. One can also use drift time to look for evidence of charge trapping by impurities in the germanium crystal and correct the degraded energy resolution. Here we will discuss charge trapping in detail and present an optimized method for measuring the drift time in PPC detectors.

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