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Calibration schemes for Spherical Gas Detectors

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Spherical gaseous particle detectors being developed with the NEWS-G collaboration are a new type of dark matter detector being used to detect low-mass WIMPs (Weakly Interacting Massive Particles). They consist of a metal sphere filled with gas, with a central electrode producing a radial electric field throughout. Incident particles ionize some of the gas, the charge from which creates a current pulse in the electrode. Understanding the behaviour of these detectors involves different calibration strategies. Properties investigated include among others, the homogeneity of the response of the detector, event energy reconstruction, discrimination between track-like and point-like events. This talk will concentrate on activities related to calibrations schemes using gaseous radioactive sources and ultraviolet lasers.

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