

Gas properties and optimization for active targets

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Active targets have been used for a wide variety of nuclear physics experiments since the eighties. These systems are somehow strange animals in the world of gas detectors. While the gas or mixture of gas usually chosen is adapted to the nuclei or particle you want to detect (gain, counting rate...), the gas and pressure in gaseous active targets is determined in terms of target nuclei quantity.

After a general introduction on gaseous detection processes and TPCs, the presentation will focus on active target peculiarities like the characteristics of the gases usually used and the pressure regime. The problematic linked to high counting rates and/or high energy deposits will be discussed. Moreover, the detector quality is of primary importance and some calibrations methods will be presented. The problem of energy resolution, that is influencing the performances of the chamber, will be also treated.

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