

Hybrid high pressure TPC developments in measurements and simulations

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A hybrid readout Time Projection Chamber (TPC) is a TPC which is simultaneously read out by means of optical readout and charge readout. Optical readout of the device provides 2D images of particle tracks in the active volume, while the charge readout provides additional information on the particle position perpendicular to the image plane. Such a hybrid TPC working at high pressure is an attractive device for physics cases where a high target density is required as *e.g.* measuring a neutrino beam at the source of long baseline neutrino oscillation experiment. In this talk we will present two different lines of work towards the goal of developing hybrid TPC technology: a) Studies with gas electron multipliers employing optical and charge readout. b) An analytical parametrisation of the gas gain for a multi wire proportional chamber based on garfield++ simulations and validated with measurements, which allows to skip these simulations in the future altogether.

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No, this is an entirely new submission.

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