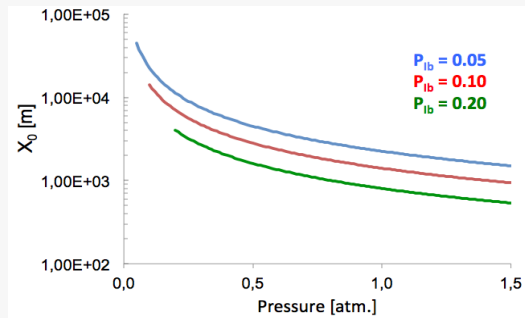
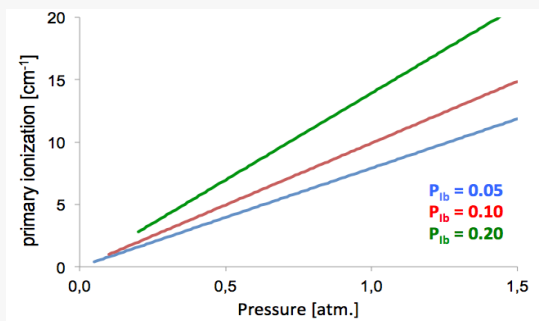
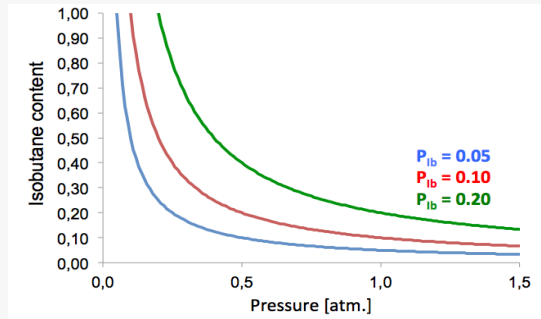


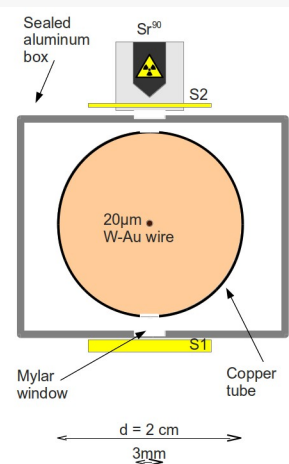
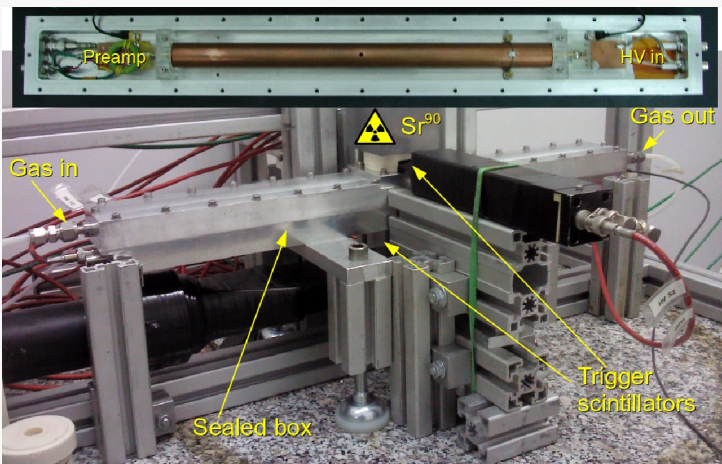
Ultra-Light Gas Mixtures for Drift Chambers



Test of He based drift chamber gas mixtures at pressures ranging from 1.2 to 0.1 atm.

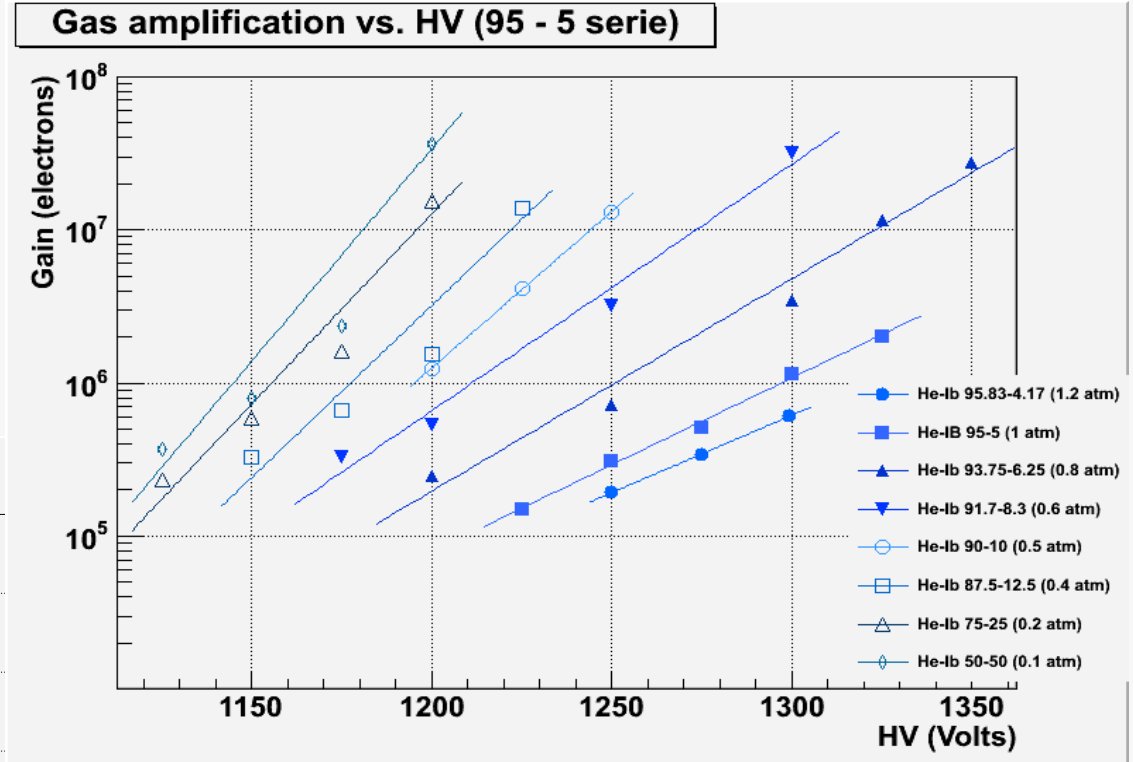
- Reduce multiple scattering
- Improve dE/dx straggling

- Single 20nm tungsten sense wire in 2cm tube
- ^{90}Sr β electrons and 3-23 KeV X-rays
- 1.8 GHz, 20db preamplifier

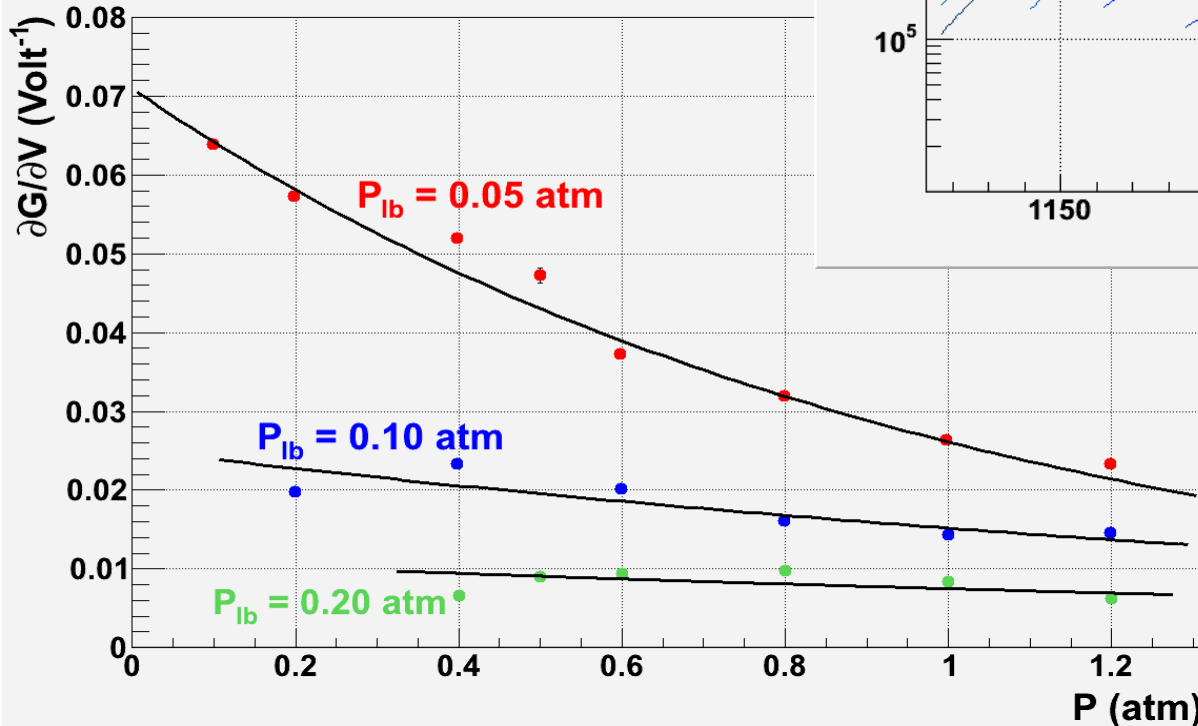


Gain measurements

Gain variation vs V for different P at $P_{lb} = 0.05$ atm

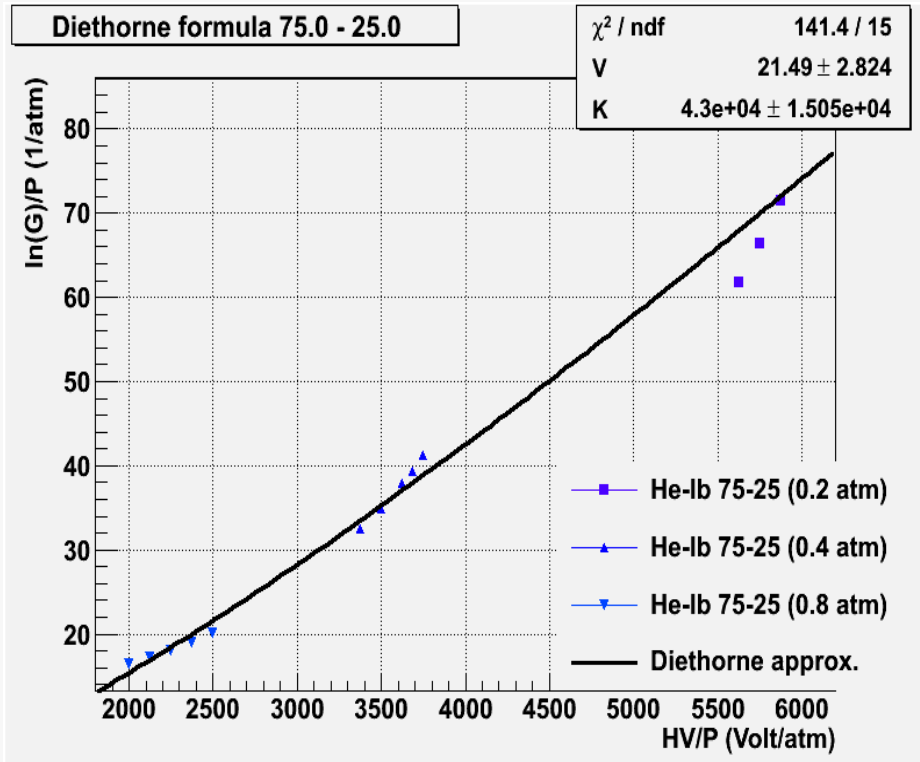


Rate of Gain variation with V as a function of P

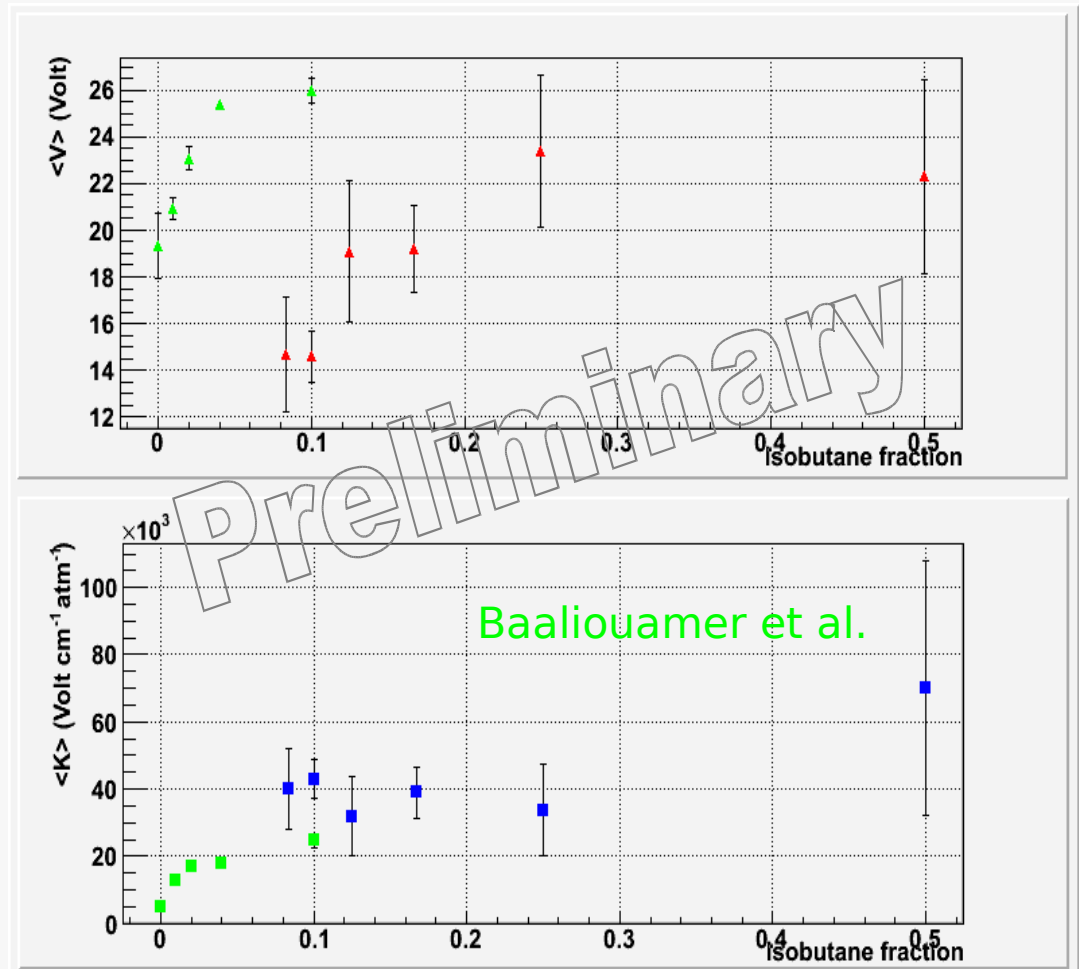


Rate of gain variation with V as a function of P for different He/Ib mixtures.

Diethorn parametrization



Results of the fit with Diethorn formula, our parameters are compared with those of Baaliouamer et al.



$\langle V \rangle$ average potential between two consecutive ionization acts
 $\langle K \rangle$ threshold value of E/P for avalanche formation