

microTPC simulation

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Figure-Of-Merit

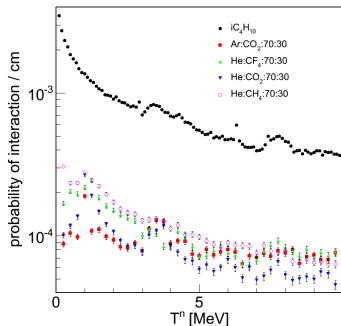
Figure-Of-Merit is derived from what I did in arXiv:1110.3444

$$\frac{dFOM}{dT_R}(P) = \frac{\mu_A^2}{\mu_N^2} \cdot \rho(P) \cdot V \frac{d}{dT_R} \Gamma^A \cdot \frac{\int_0^{z_{max}=33.33cm} L_{L>L_0}(P)(T_R, P) dz}{L(T_R, P)} \quad (1)$$

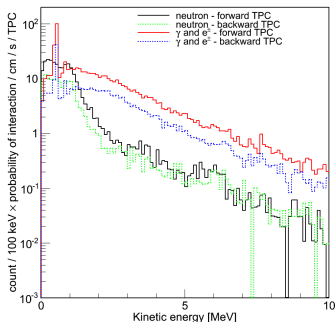
in neutron case can be expressed by:

$$\frac{dFOM}{dT_R}(P) = \frac{d}{dT_R} \frac{\int_0^{z_{max}} L_{L>L_0}(P)(T_R, P, \varepsilon) dz}{L(T_R, P, \varepsilon)} \quad (2)$$

● probability of interaction



● expected rate of interacting particles in a single TPC



General status

- update geometry to the latest FC geometry
- implementation in basf2 started (1 should be done before the TDR is due)
- FOM code almost done first result next week
- standalone simulation for detection efficiency studies will be ready next week