$$n = \frac{\sum\limits_{tracks} pe}{\sum\limits_{tracks} 1}$$

$$\overrightarrow{\mathbf{x}} + \overrightarrow{\mathbf{p}} \cdot c(t - \Delta t) + \overrightarrow{\mathbf{l}} \frac{c}{n_{\mathrm{g}}} \Delta t = \overrightarrow{\mathbf{e}} + \overrightarrow{\mathbf{f}} \xi$$

$$\overrightarrow{\mathbf{p}} \cdot \overrightarrow{\mathbf{l}} = \frac{1}{n_{\mathrm{p}}} \qquad \overrightarrow{\mathbf{l}}^2 = 1$$

$$\lambda_{prop} = \sqrt{\frac{\lambda_a \lambda_{eff}}{3}} \quad \lambda_{eff} = \frac{\lambda_{scat}}{1-\tau} \quad \tau =< \cos(\theta_{scat}) >$$

$$N(r) = \pi R_{OM}^2 \cdot \frac{c_i}{4} \cdot \frac{1}{4\pi D r} e^{-\frac{r}{\lambda_{prop}}}$$

$$N(d) = \frac{3 N_{\mathrm{C}} A_{\mathrm{PMT}}}{8\pi \lambda_{\mathrm{eff}}} K_0 \left( \frac{d}{\lambda_{\mathrm{prop}}} \right) \quad \text{diffusive}$$

$$N(d) = e^{-d/\lambda_a} \cdot \left( 1 + \frac{\tau \cdot c_i}{\lambda_a} \right)^{-d/\lambda} \quad \text{pandel}$$