

$$\frac{\sigma_E}{E} = \frac{1.9\%}{\sqrt[4]{E [\text{GeV}]}} \oplus \frac{\text{Stat}}{\sqrt{E [\text{GeV}]}} \oplus \frac{\text{Elec}}{E [\text{GeV}]}$$

fluctuation of e/m shower leakage      statistics of photoelectrons      electronic noise

$$\text{Stat} = 100\% \cdot \sqrt{\frac{F}{S [\text{ph.e/MeV}] \cdot N_{\text{APD}} \cdot 1000}}$$

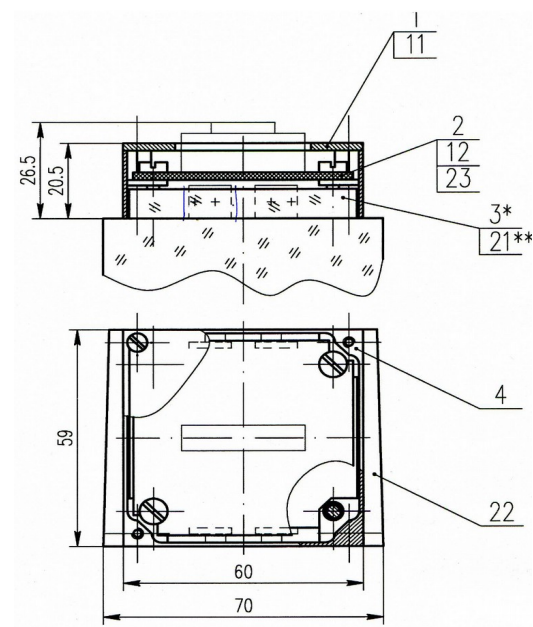
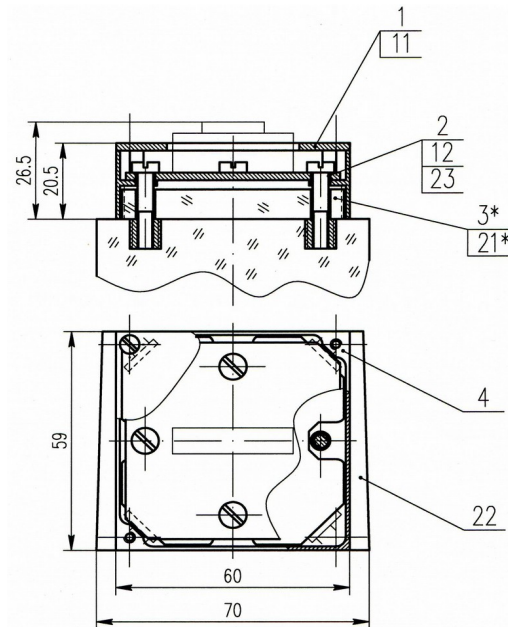
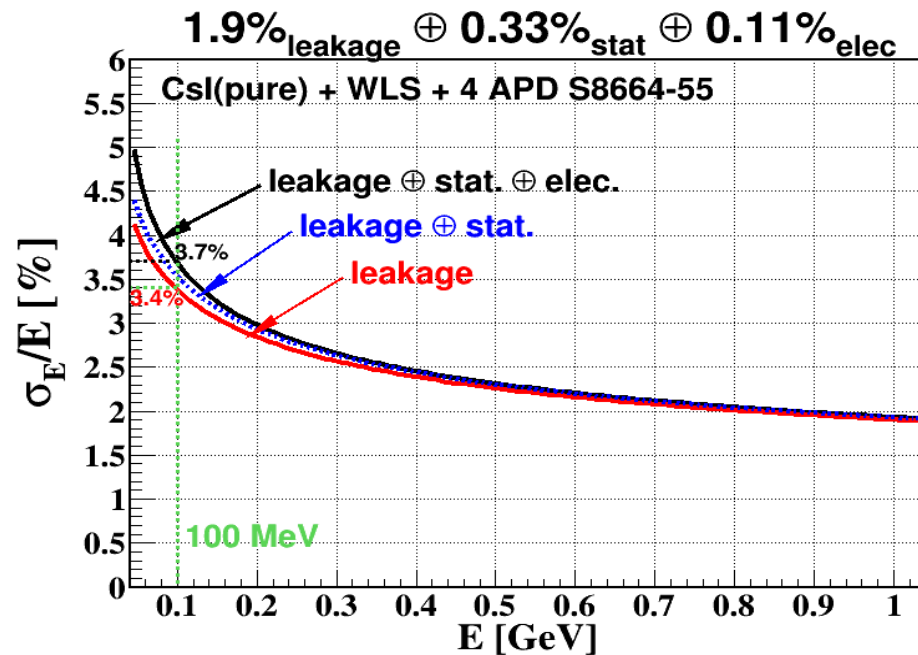
$$\text{Elec} = 100\% \cdot \frac{\text{ENE} [\text{MeV}] \cdot \sqrt{N_{\text{crys}}}}{1000}$$

$$F = 1.69 \pm 0.04$$

$$\mathbf{S \cdot N_{APD} = (160 \pm 9) \text{ ph.el./MeV}}$$

$$\text{ENE} = (0.33 \pm 0.03) \text{ MeV}$$

$N_{\text{crys}} = 10$  – number of crystals in the 1 GeV cluster



**Plan to construct the calorimeter prototype (16 counters) and perform beam tests**