Analytical formula of the pulses in the neutrino telescope Baikal GVD

Sampling effect, MC simulations, Double pulse detection, pulse separation

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Analytical formula of the pulses

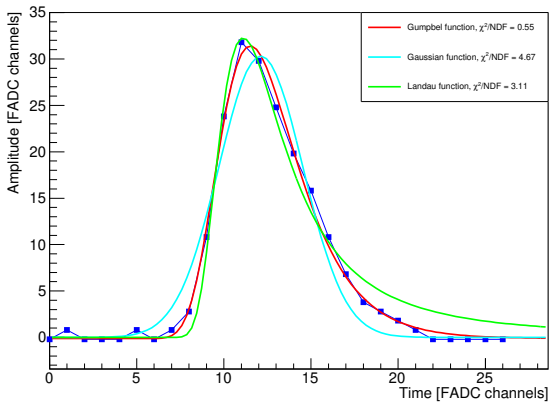
Motivation

- MC simulations
- Sampling effect studies
- Double Pulse Detection Technique (DPDT)
- Pulse separation in the case of pile-ups
- Pulse Quality control

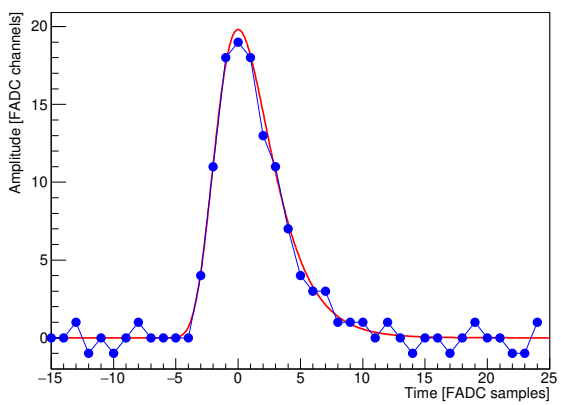
Gumpbel Function

$$f(x) = a \cdot \mathrm{e}^{-(z(x)+\mathrm{e}^{-z(x)})},\ z(x) = \frac{x-\mu}{\beta} \tag{1}$$

Comparison of different fitting functions



53.86*exp(-((x)/2.1978 + exp(-(x)/2.1978)))



Pulse separation - step 1