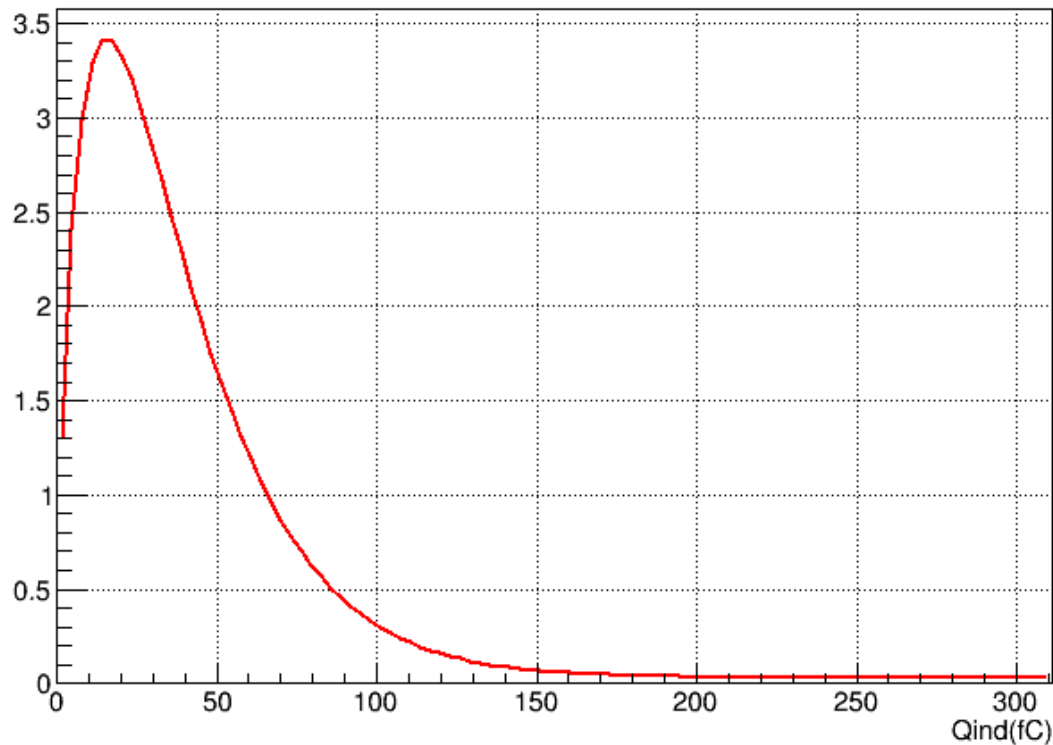# 2016.06.21

S.Chen

Distribution of charge

The Q spectrum of one MIP of induction can be estimated from the Polya PDF defined by:

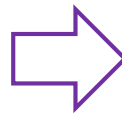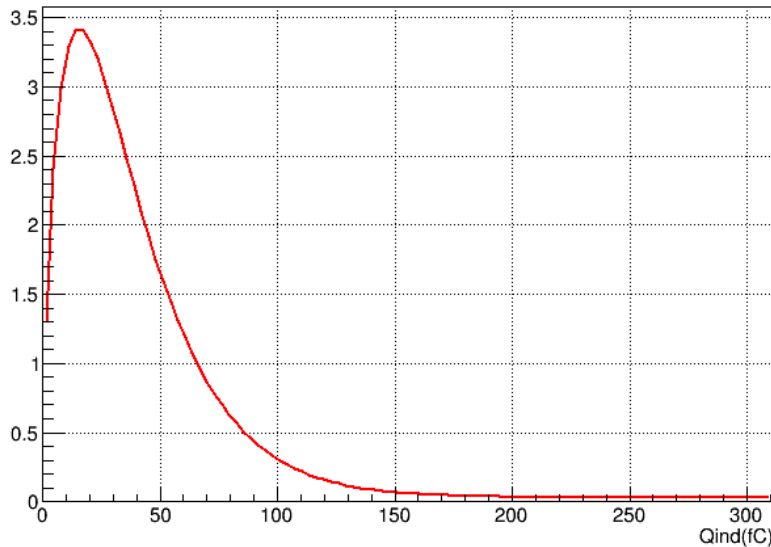$$P(Q_{ind}; a, b, c) = {Q_{ind}}^{a} e^{-bQ_{ind}} + c$$
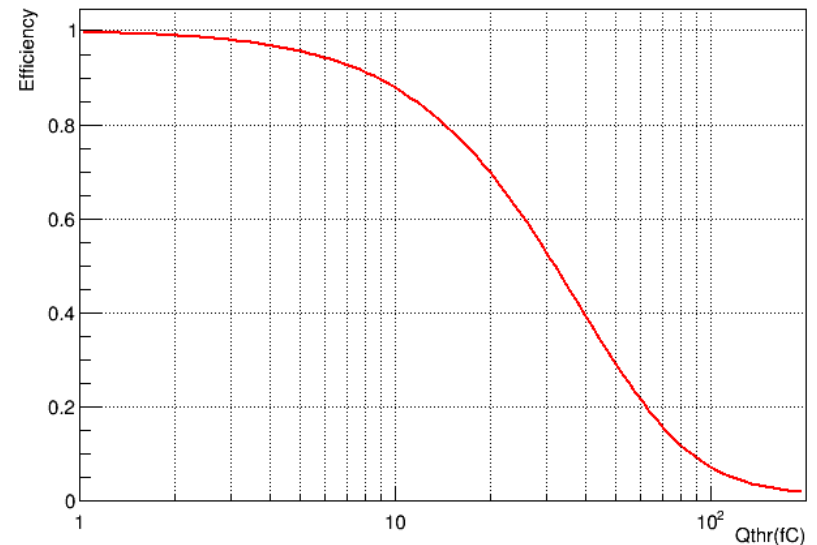
PDF of MIP(MPGD)

Distribution of charge

The efficiency as the function of threshold Qthr can be expressed by:

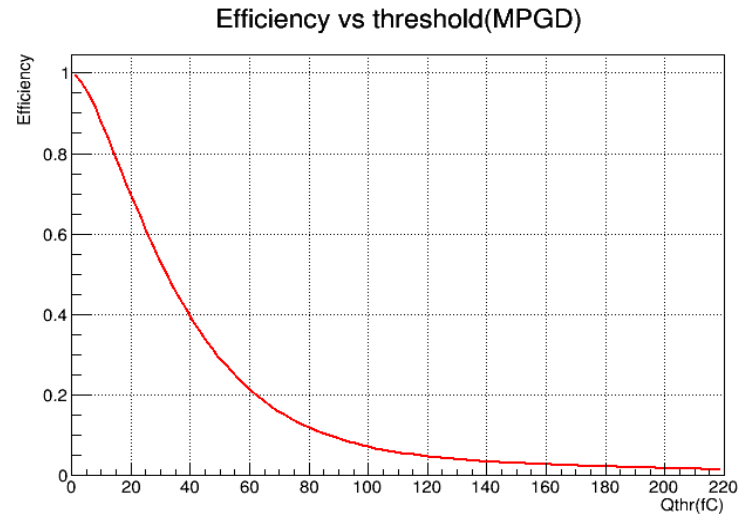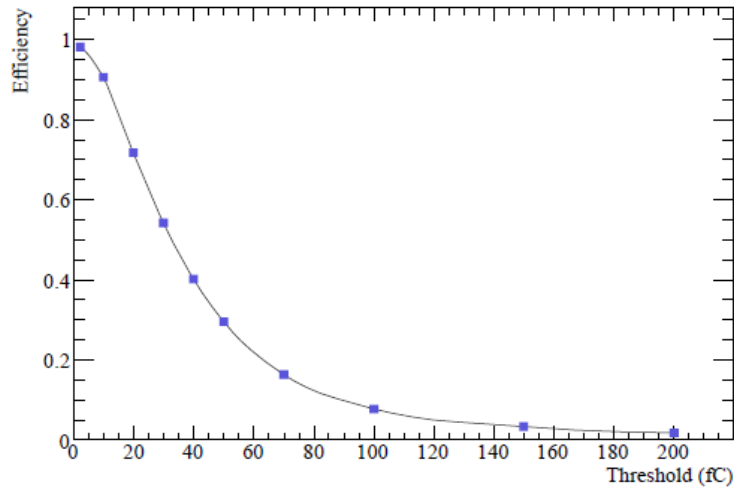$$\varepsilon(Q_{thr}) = 1 - c \int_0^{Q_{thr}} P(Q_{ind}; a, b, c) dQ_{ind}$$
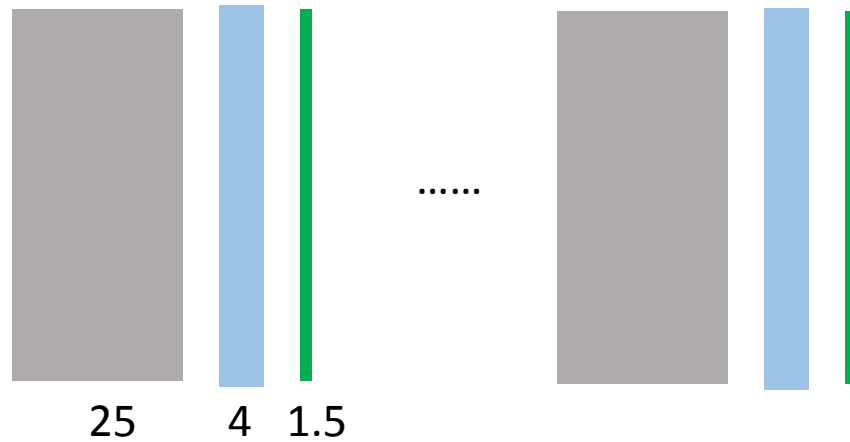
PDF of MIP(MPGD)

Efficiency vs threshold(MPGD)

Compare with data

Efficiency vs threshold(MPGD)

Data from C. A. et al., JINST P11023,2009

探测器结构

25   4 1.5

/Mokka/init/globalModelParameter SiCalLayerStructure (Iron:0,THGEM1:4,PCB:1.5)*200
/Mokka/init/globalModelParameter SiCalZeroThickReset 25*200
/Mokka/init/globalModelParameter SiCalInnerRadius 2080
/Mokka/init/globalModelParameter SiCalBarrelHalfZ 2450