A direct measurement of the avalanche charge in the RPC detector

RPC 10x10 cm²
ρ_{bak} = 15 \, \text{G} \Omega \text{cm}

Gas Mix:
C_2H_2F_4/i-C_4H_{10}/SF_6
(95/4/1 or 96/4/0)

From "Pure avalanche mode operation of a 2 mm gap resistive plate chamber", Cerron Zeballos E. et al., NIM A 396 (1997) 93-102

Avalanche Charge (pC)
Fit via \( f(x) = e^{a+bx} + e^{c+dx} \)

From the TDC spectra we deduce that, the double exponential behaviour of the avalanche charge, could be explained by the transition from the proportional mode to the streamer mode.