

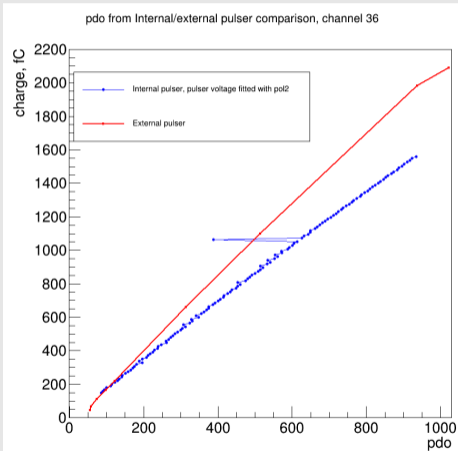
Mu2E internal/external pdo calibration [2023-12-25 Mon]

Straw TB team

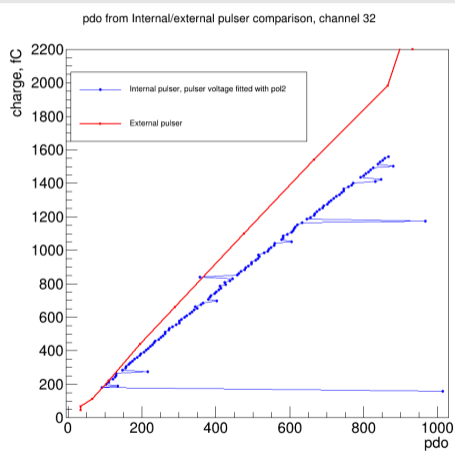
December 25, 2023

Internal/external calibration comparison

Channel 36

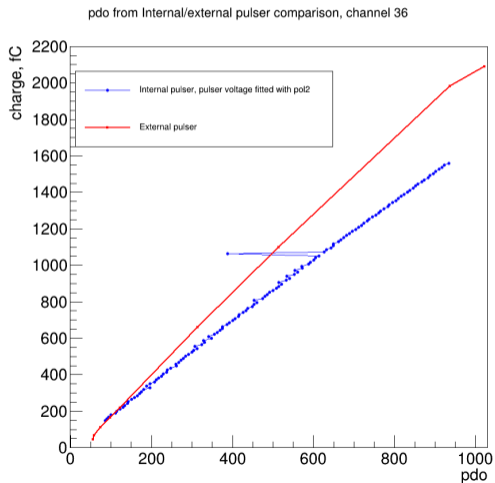


Channel 32



Different slopes?

Channel 36

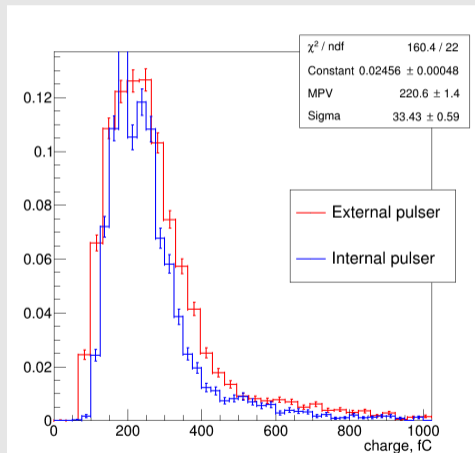


Fitted with:

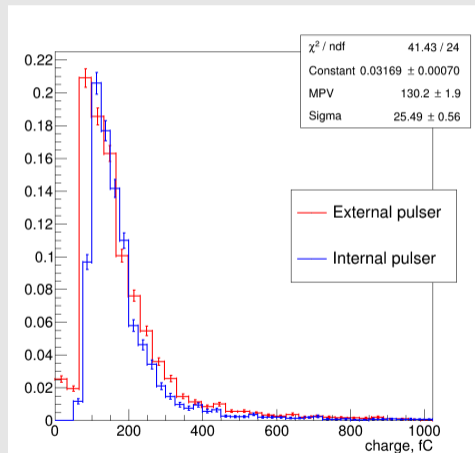
- Pol 2 for $pdo > 65$
- Pol 1 between $55 < pdo < 65$
- Pol 1 for $pdo < 55$

Results comparison – internal vs external

1750V, 1mm from wire

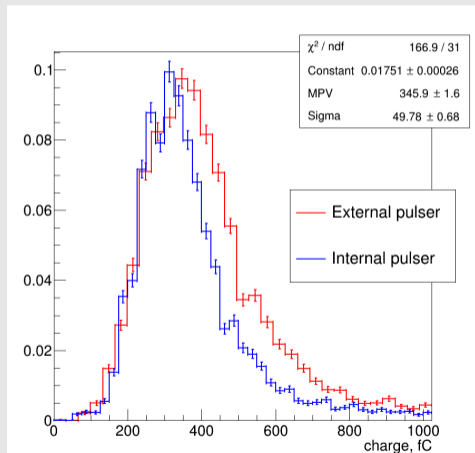


1750V, 4mm from wire

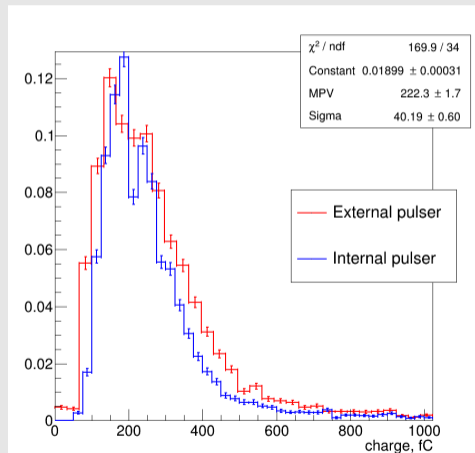


Results comparison – internal vs external

1805V, 1mm from wire

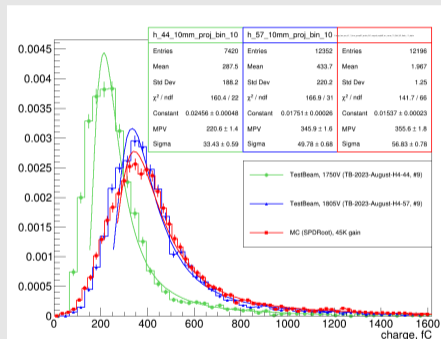


1805V, 4mm from wire

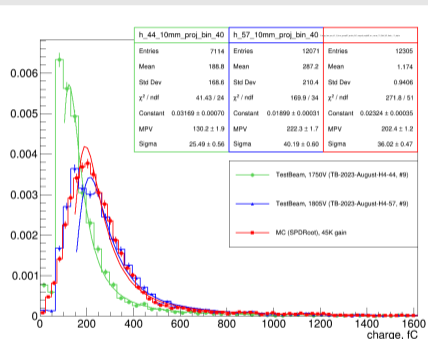


Results with external pdo: comparison with MC

1mm from wire

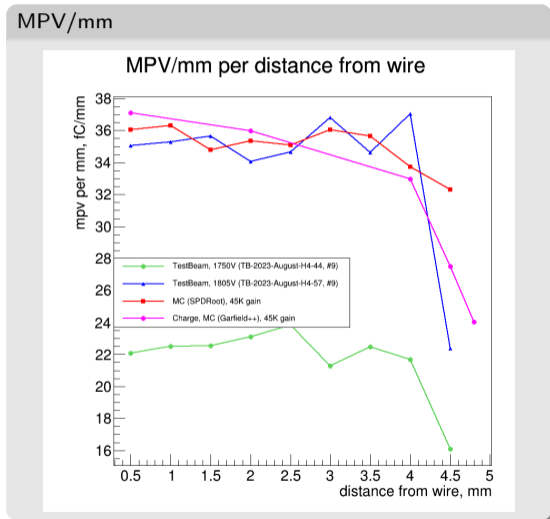


4mm from wire

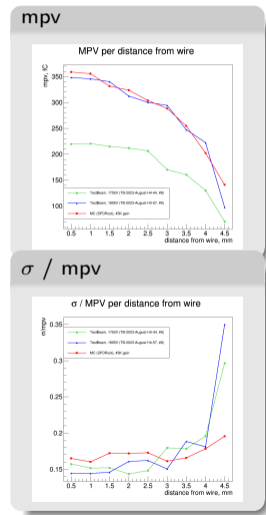


- Green – Data, 1750V (45K gain)
- Blue – Data, 1750V (45K gain)
- Red – SPDRoot, 45K gain

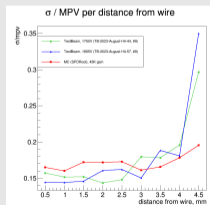
Results with external pdo: estimated gain



About 27K gain at 1750V?

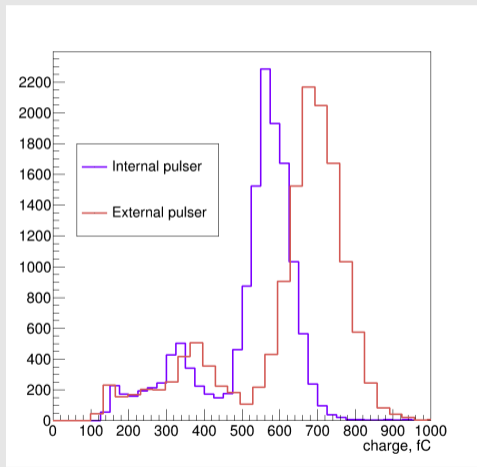


σ / mpv

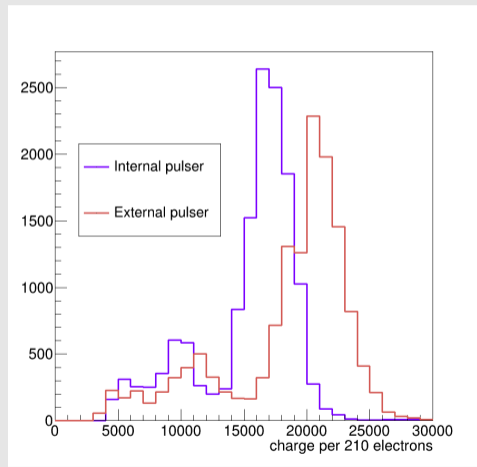


Comparison on Fe55

Charge from Fe55



Gain estimated from 210e from Fe



About 21K gain?