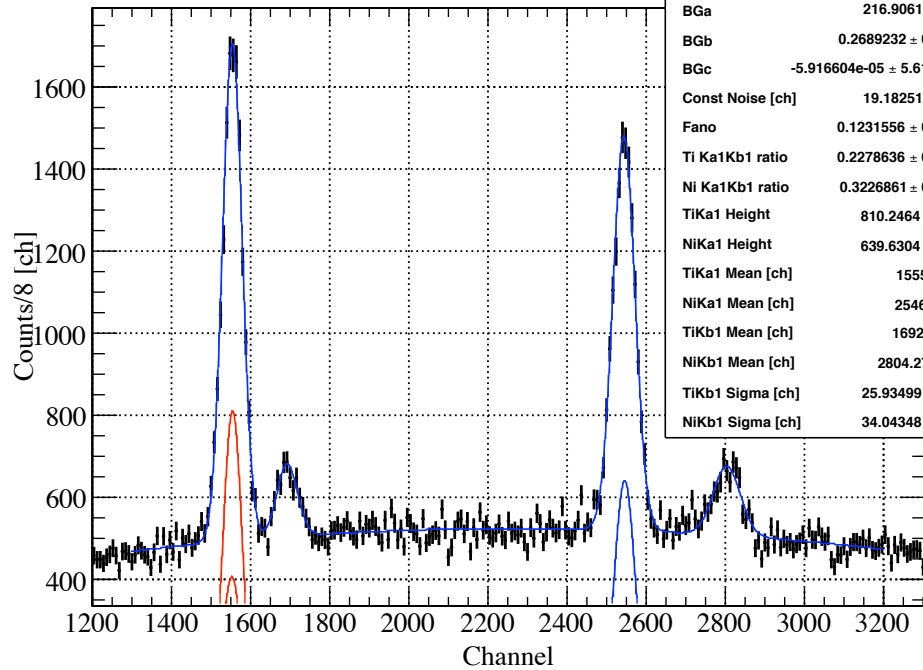


14/Nov/2006 H.Tatsuno

With CuK α contamination fitting
to reduce the K β shift (especially on Ni)

out mean and noise free fit



χ^2 / ndf	267.2307 / 223
Prob	0.02269104
BGa	216.9061 \pm 28.3209
BGb	0.2689232 \pm 0.0257782
BGc	-5.916604e-05 \pm 5.612989e-06
Const Noise [ch]	19.18251 \pm 1.75102
Fano	0.1231556 \pm 0.0270634
Ti Ka1Kb1 ratio	0.2278636 \pm 0.0169323
Ni Ka1Kb1 ratio	0.3226861 \pm 0.0237250
TiKa1 Height	810.2464 \pm 13.7063
NiKa1 Height	639.6304 \pm 12.0307
TiKa1 Mean [ch]	1555.07 \pm 0.41
NiKa1 Mean [ch]	2546.26 \pm 0.52
TiKb1 Mean [ch]	1692.94 \pm 2.16
NiKb1 Mean [ch]	2804.273 \pm 2.748
TiKb1 Sigma [ch]	25.93499 \pm 1.94605
NiKb1 Sigma [ch]	34.04348 \pm 2.84136

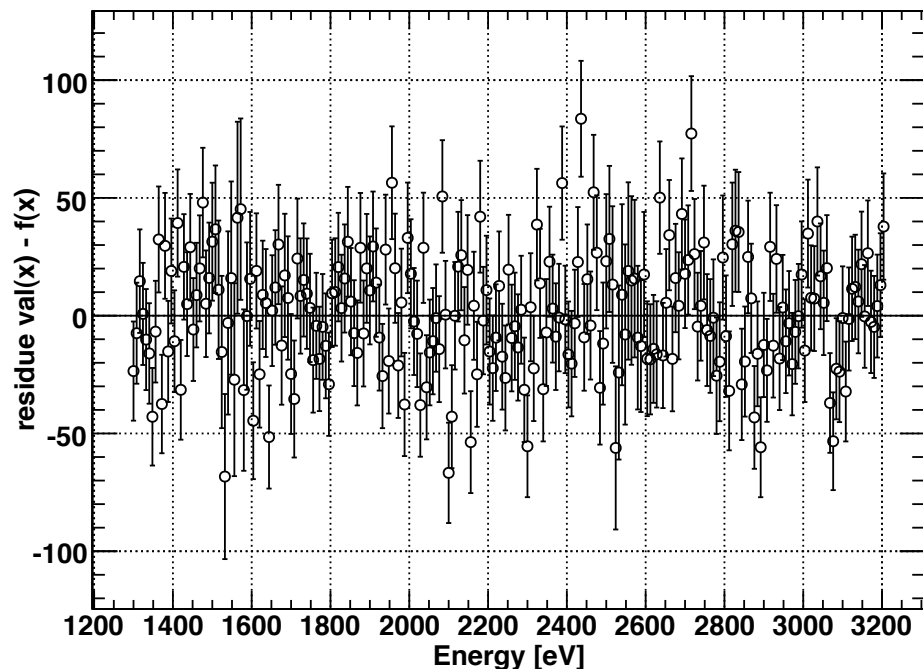
run 300-313

sdd2

self trigger spectrum

without CuKa contamination

fit residue



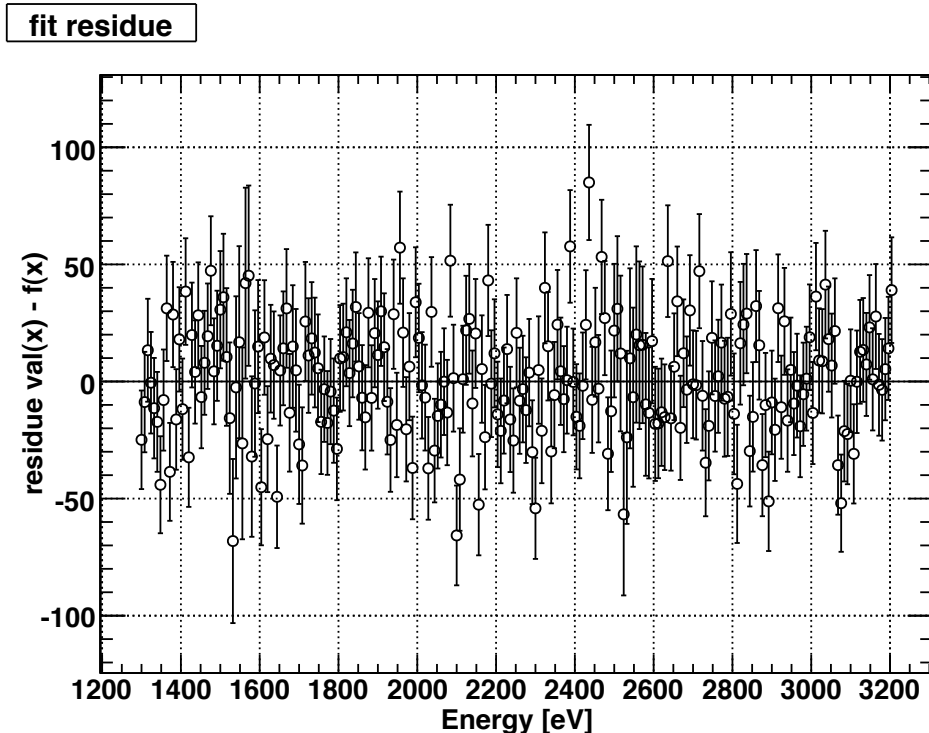
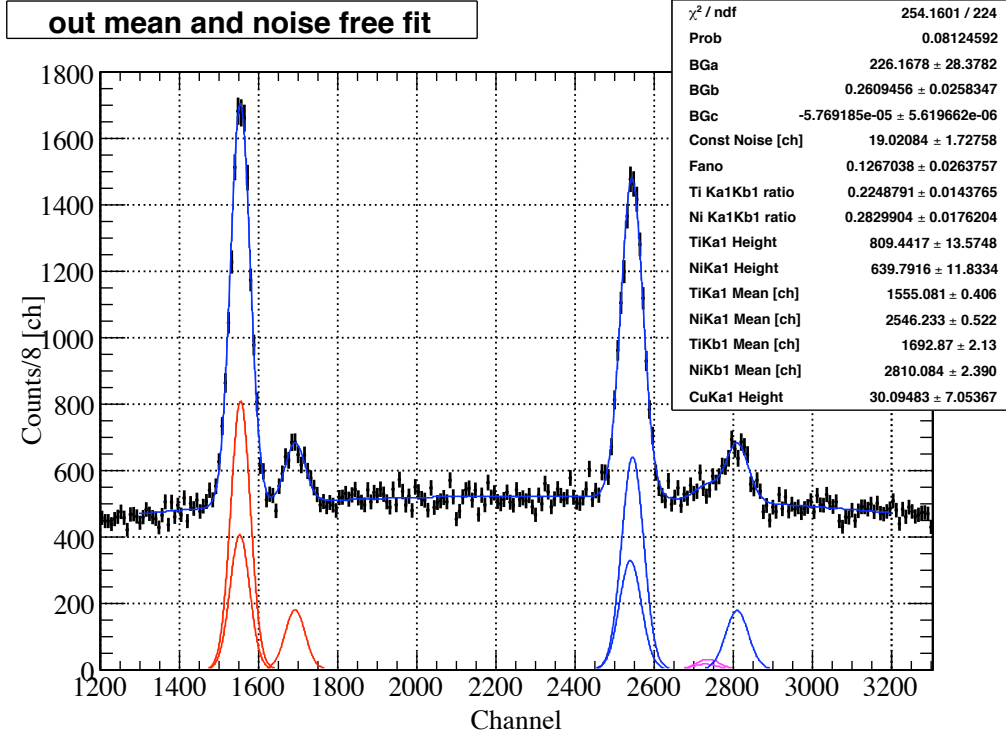
$K\beta$ sigma is free to separate
off the ambiguity in $K\beta$

run 300-313

sdd2

self trigger spectrum

with CuKa contamination



KaI parameters are same as those of the fit w/o CuKa

number of counts (rough)

Ti : 10.8 k
Ni : 9.9k
Cu (Ka) : 0.4k

contamination
~ 4% of Ni

Summary

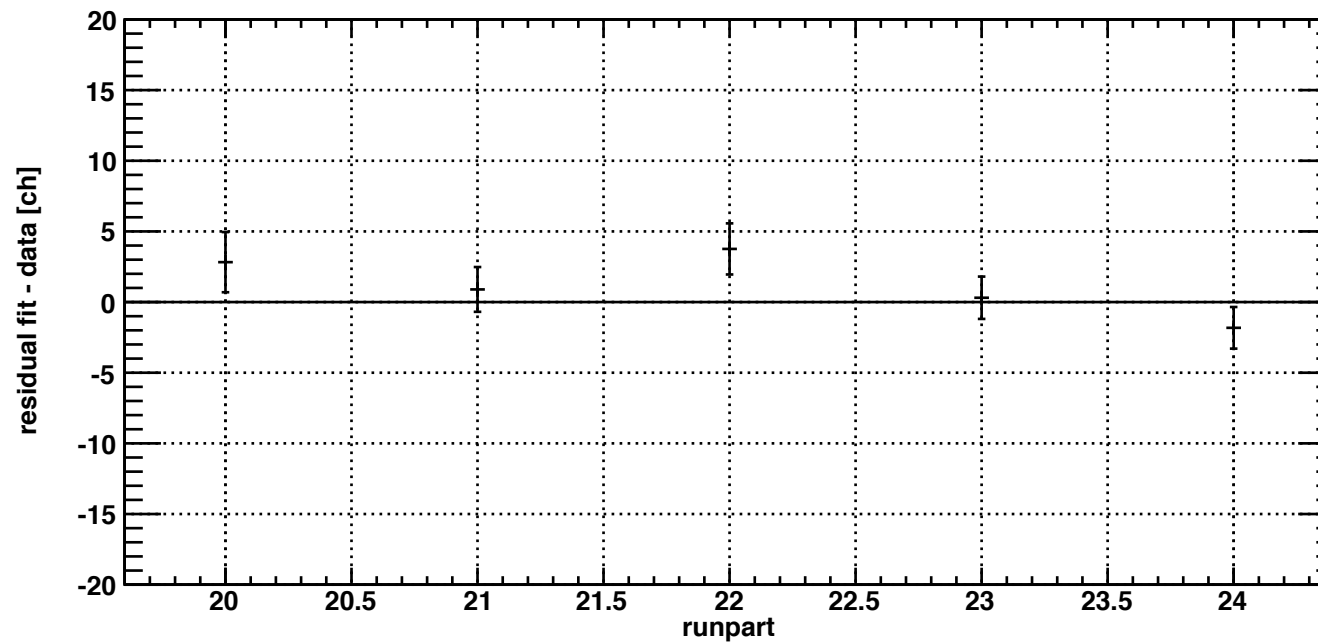
- Cu contamination reduced the $K\beta$ shift and it looks reasonable within statistical error
- The CuK α line didn't influence the other parameters for energy calibration
- The Cu contamination is about 4% of Ni/Ti peaks (phenomenologically)

With CuKa contamination

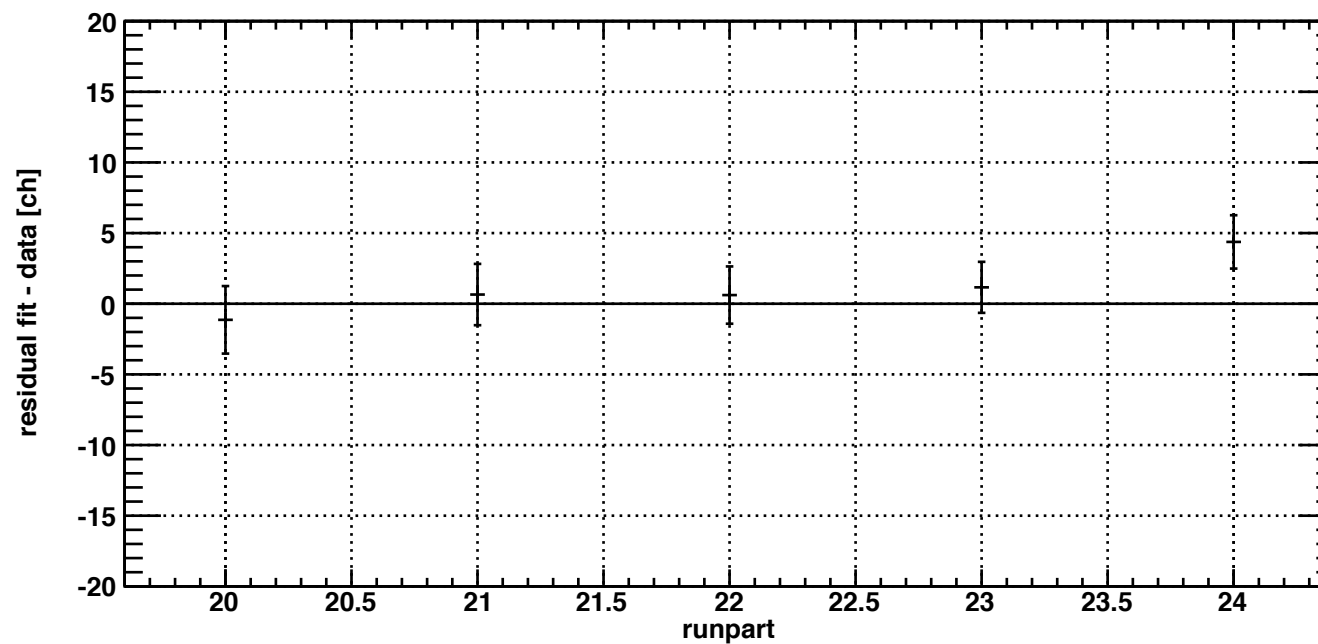
- FADC pre pedestal cut $\leq \text{mean} + 2.5 * \text{sigma}$
(sigma is the standard deviation of the pedestal: SDD dependence)

2.5 σ cut

cycle1 out sdd2 TiKb1

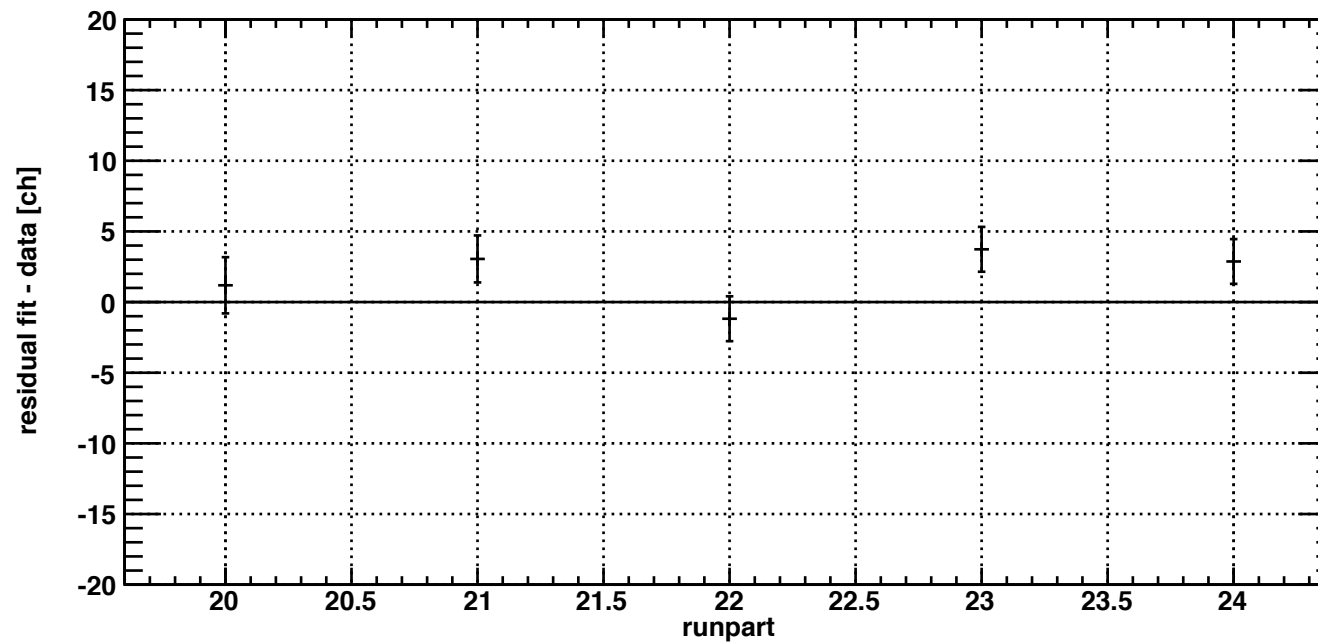


cycle1 out sdd2 NiKb1

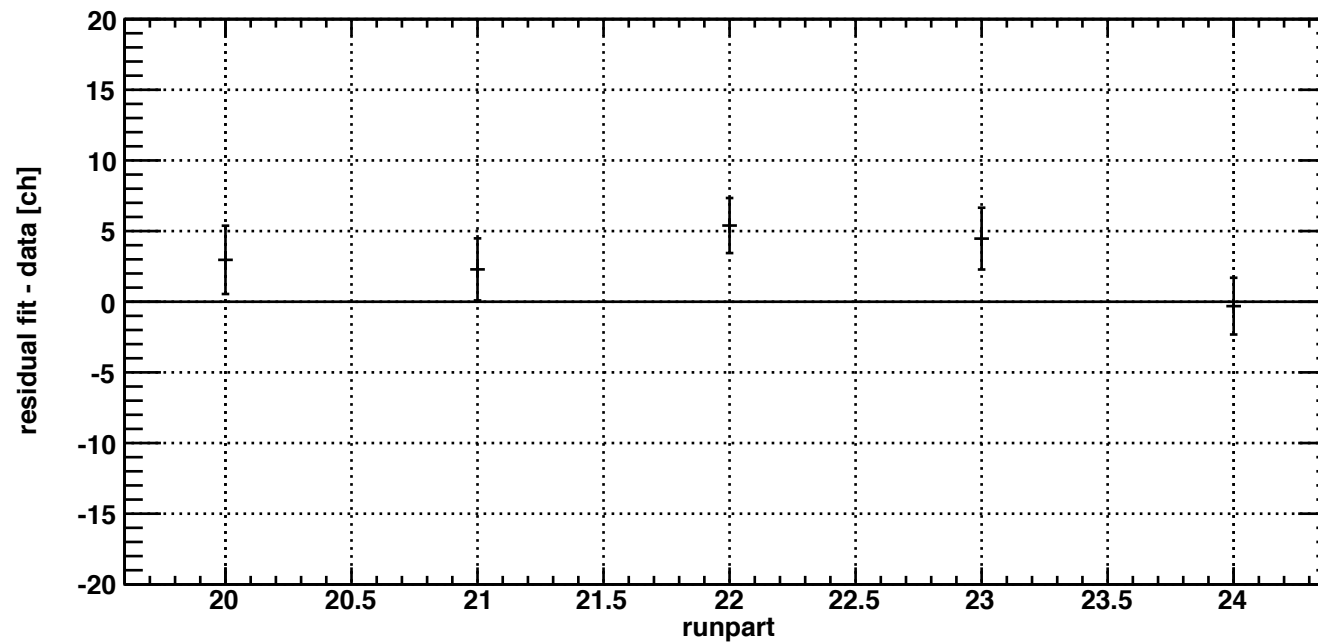


2.5 σ cut

cycle1 out sdd4 TiKb1

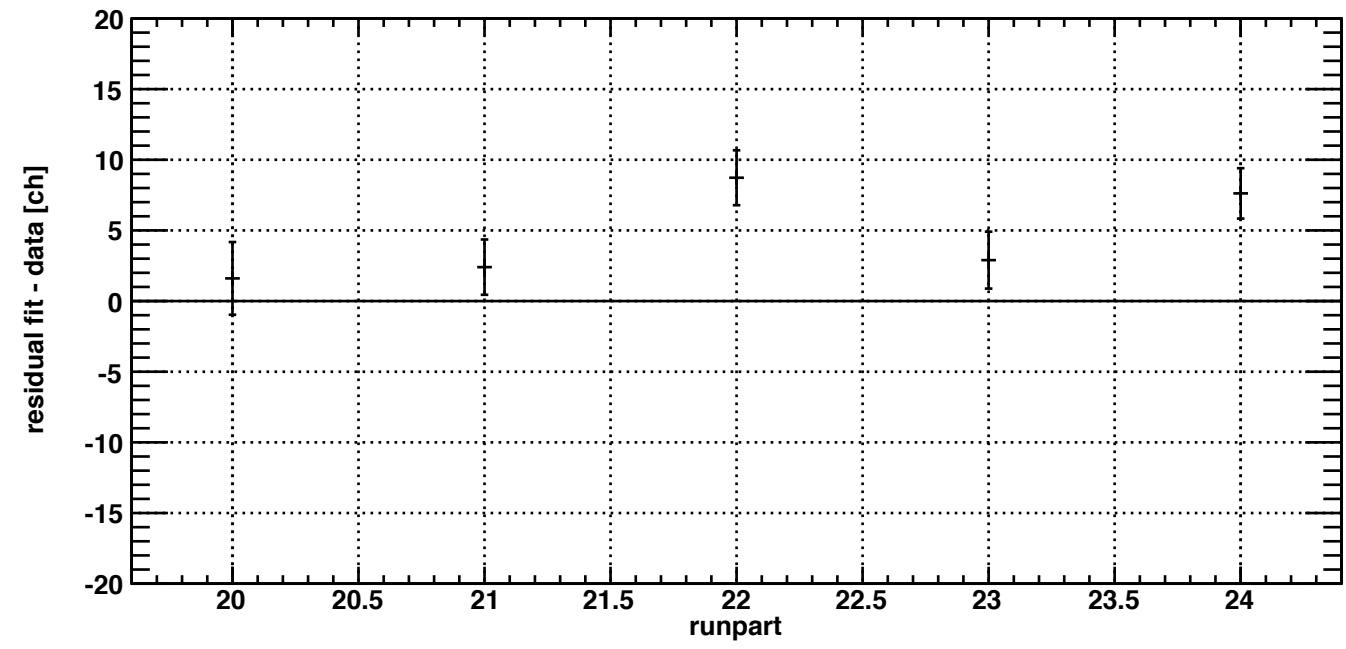


cycle1 out sdd4 NiKb1

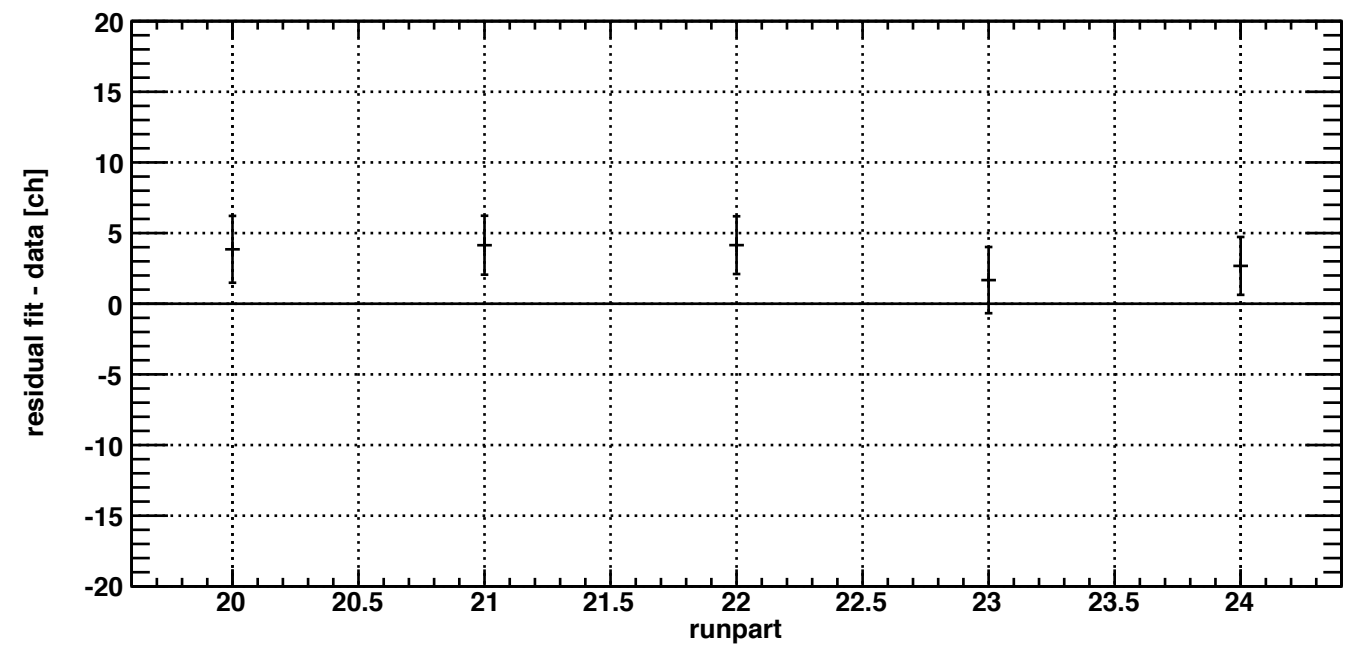


2.5 σ cut

cycle1 out sdd5 TiKb1



cycle1 out sdd5 NiKb1



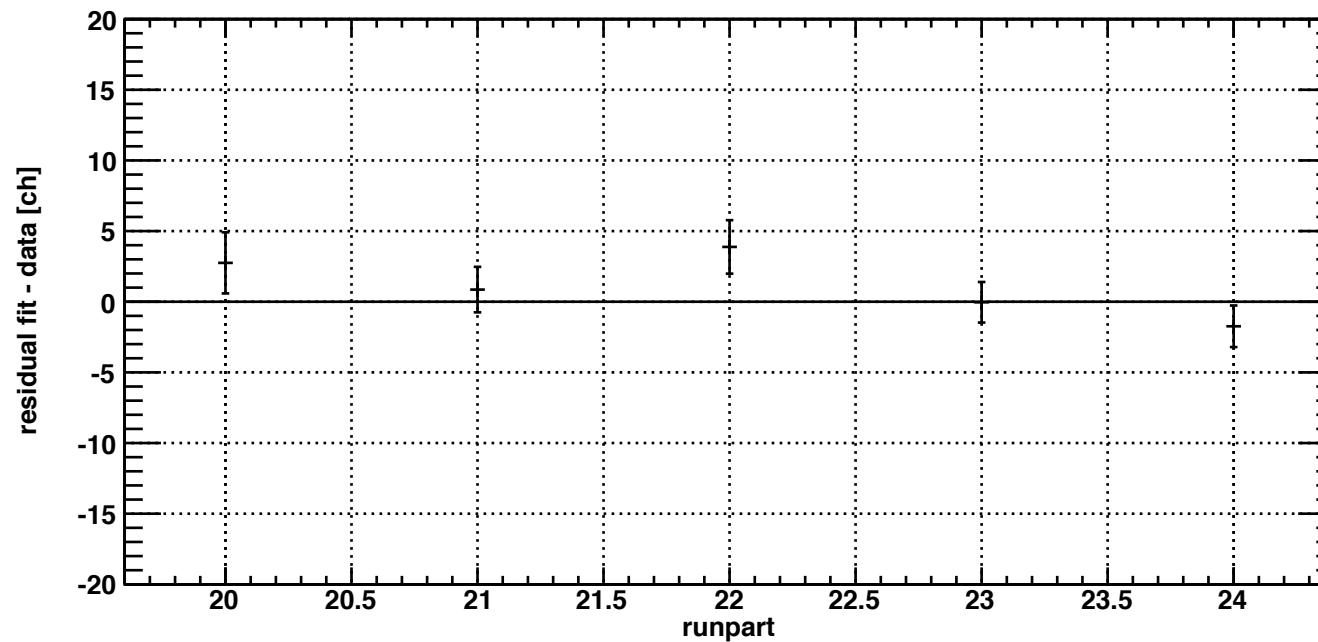
Without CuKa contamination

- FADC pre pedestal cut $\leq \text{mean} + 2.5 * \text{sigma}$
(sigma is the standard deviation of the pedestal: SDD dependence)

2.5 σ cut

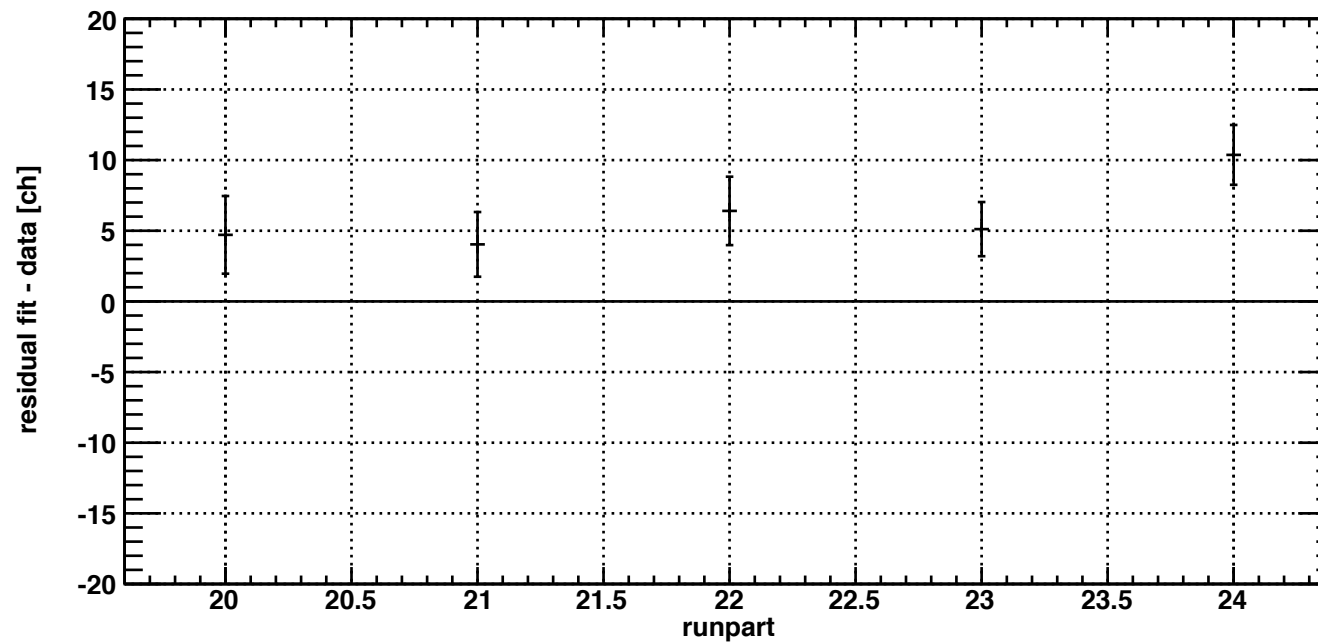
Δ ch

cycle1 out sdd2 TiKb1



Δ ch

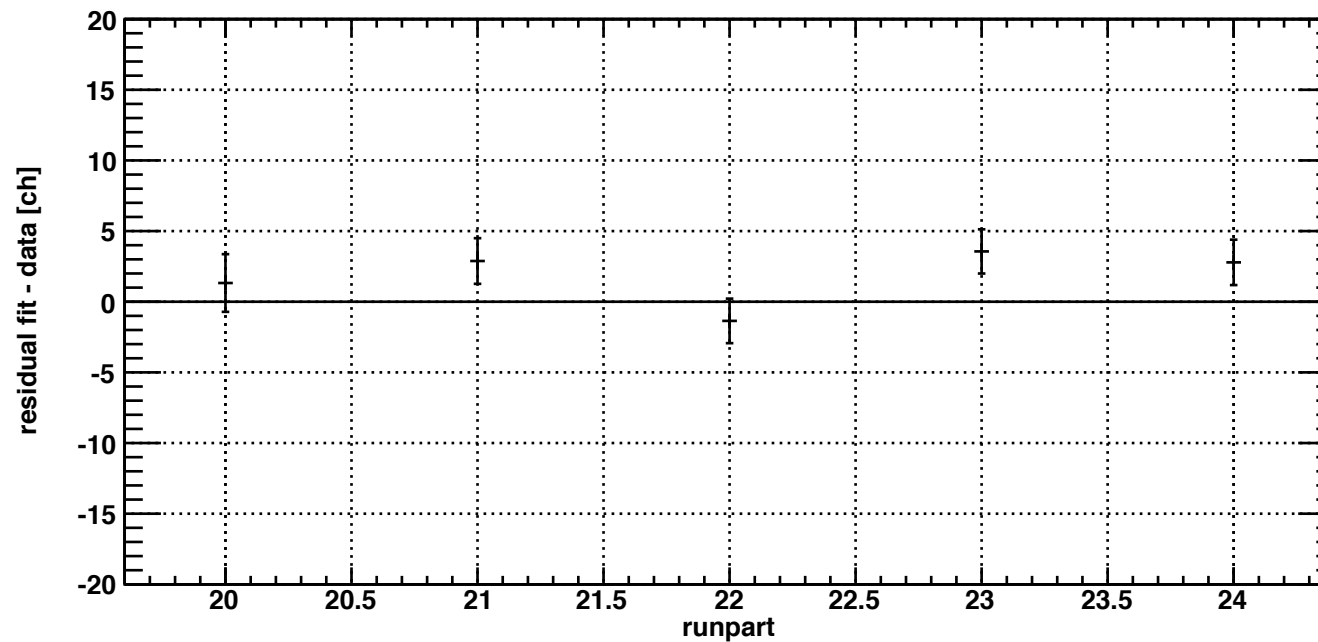
cycle1 out sdd2 NiKb1



2.5 σ cut

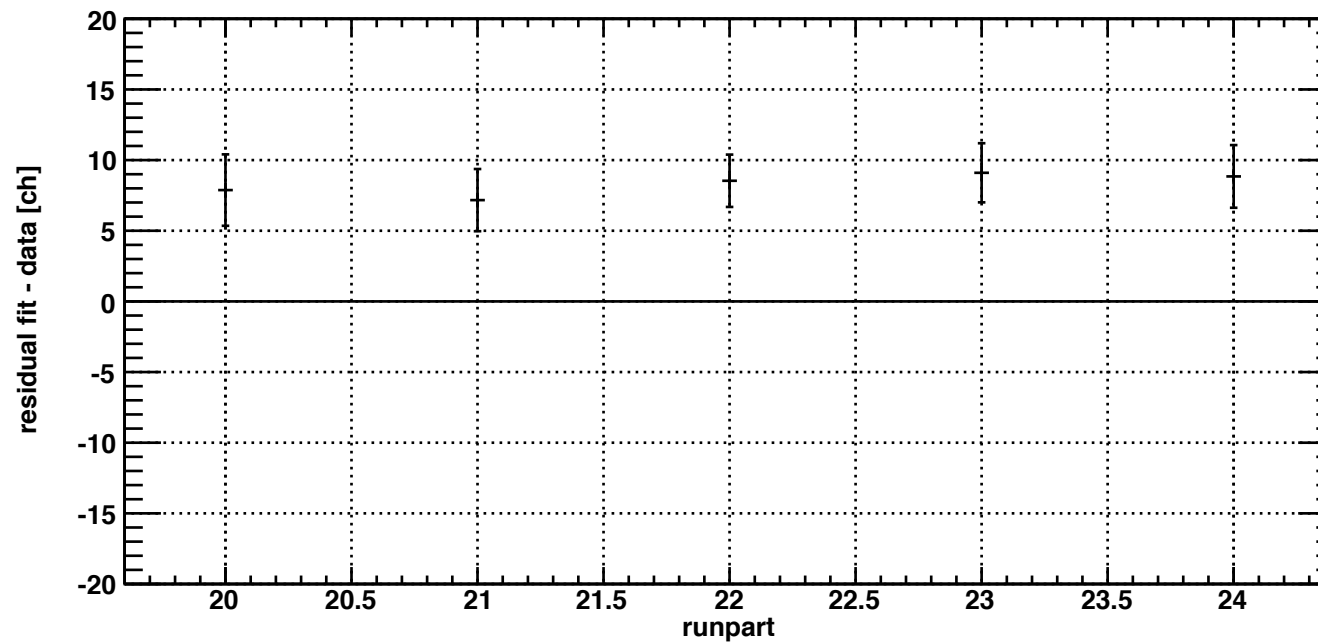
Δ ch

cycle1 out sdd4 TiKb1



Δ ch

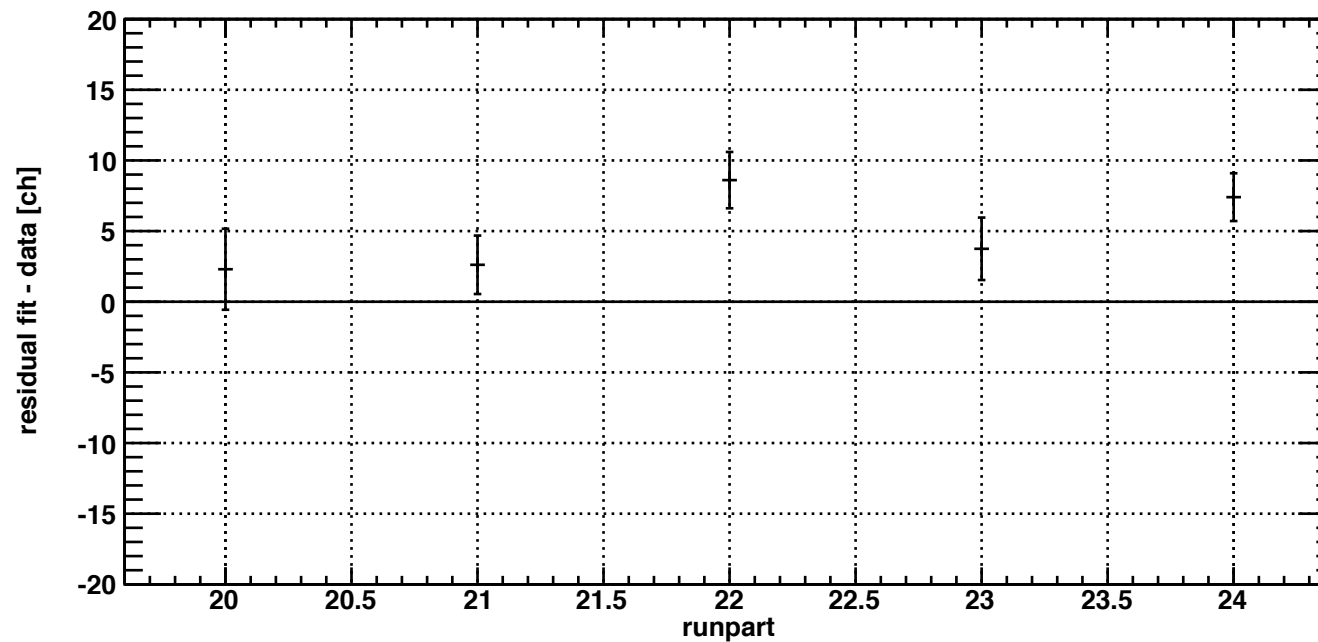
cycle1 out sdd4 NiKb1



2.5 σ cut

Δ ch

cycle1 out sdd5 TiKb1



Δ ch

cycle1 out sdd5 NiKb1

