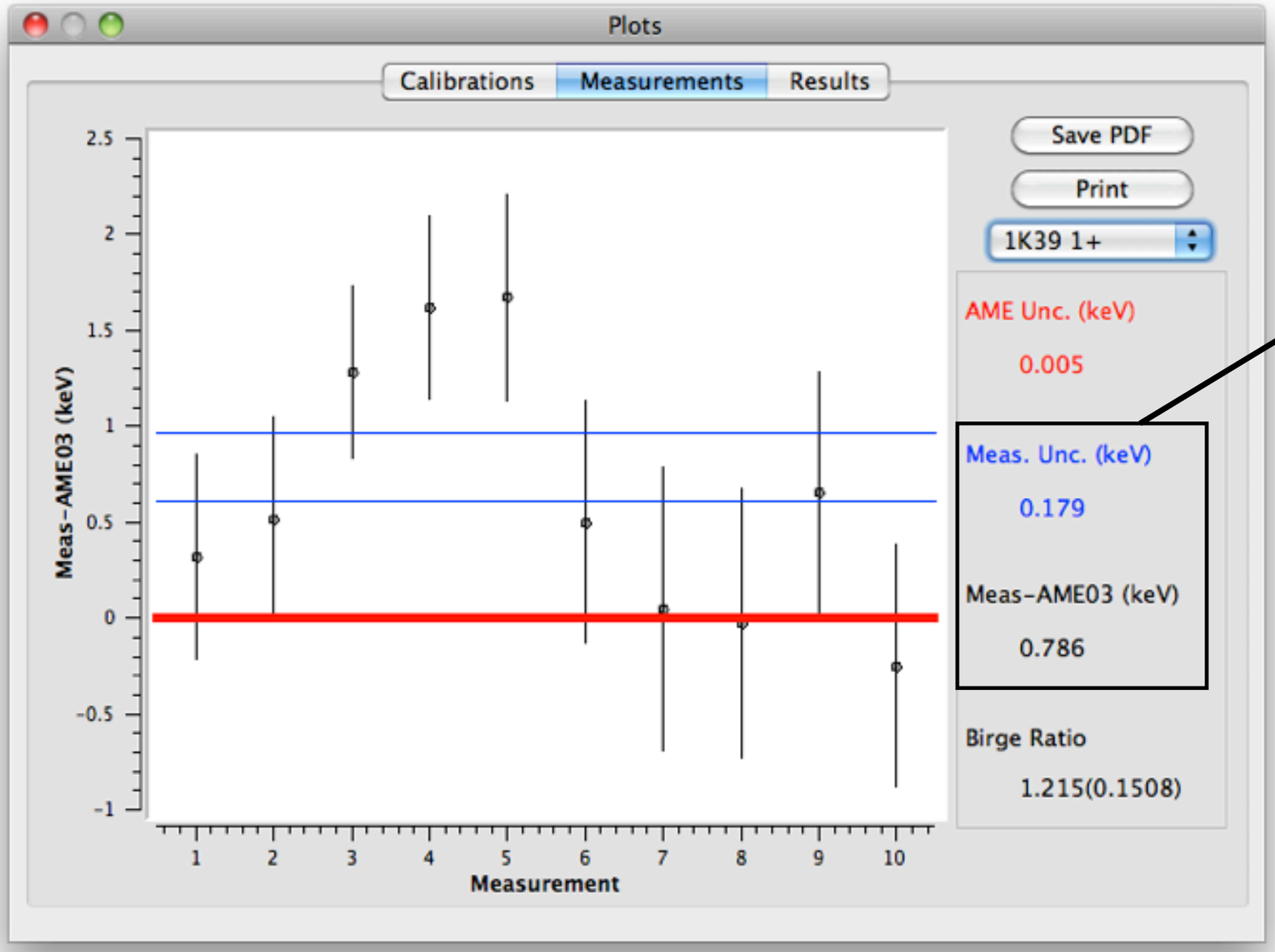
Accuracy check:

- before beamtime (night Aug 19-20)
- 1 Hz rep. rate
- ^{39}K vs ^{23}Na
- literature: new FSU data



mass dep. shift:
0.8(2) keV
over
ΔA=16

Tuning RFQ:

- ^{27}Al from ISAC
- Day 1:

FC3=1.1 *10^{-10} A
FC0=3.0 *10^{-11} A ⇒ about 30 % DC transfer efficiency

increased gas flow ⇒ lower efficiency ???

but 5 sccm to stop beam in trapped mode

gas flow [sccm]	FC0 [A]
1	2.8 *10^11
2	5.7 *10^12
3	2.3 *10^12
4	7.0 *10^13
5	0

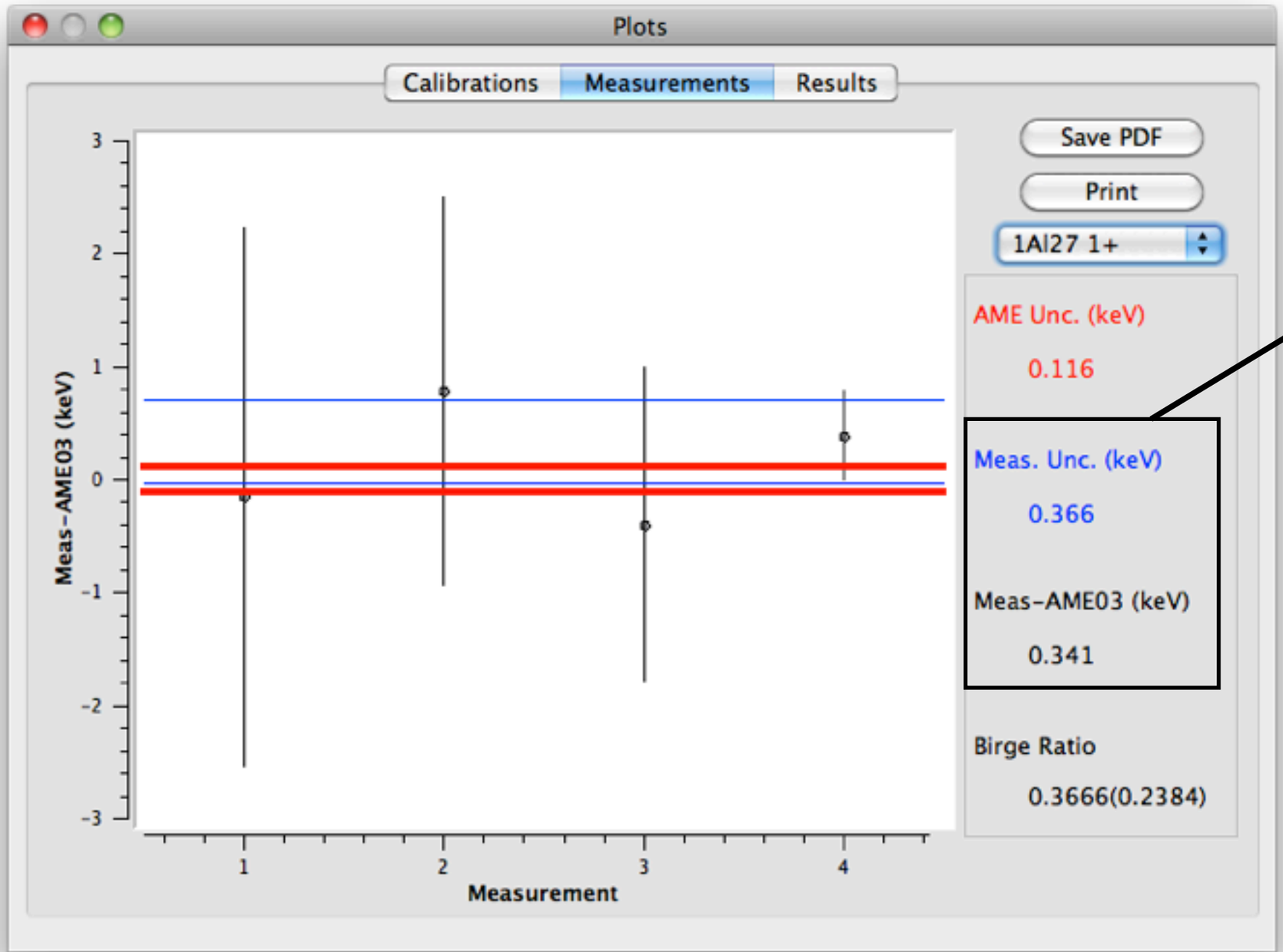
- Day 2:

Tuning of RFQ with MCP0
lower DC efficiency (below 10 %) but higher count rate on MCP0
variations of beamline tune after RFQ did not lead to improvements ⇒ loose ions due to RFQ

optimize RF Freq. & RF DC with MCS on MCP0 (works very well!)

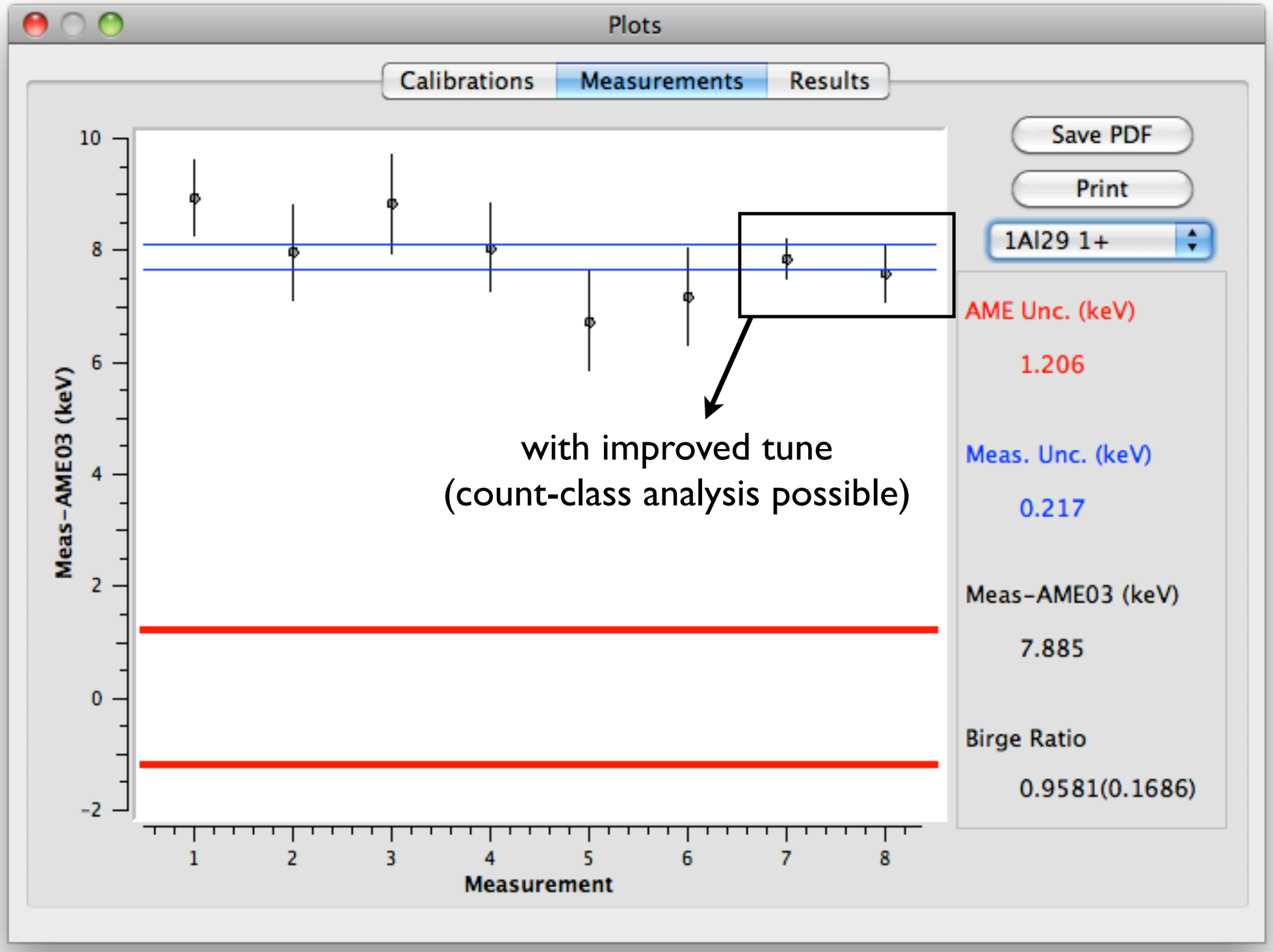
Accuracy check II:

- ^{27}Al from ISAC
- use ^{27}Al to optimize trapping parameters and scale radioactives from there
- reference: ^{23}Na



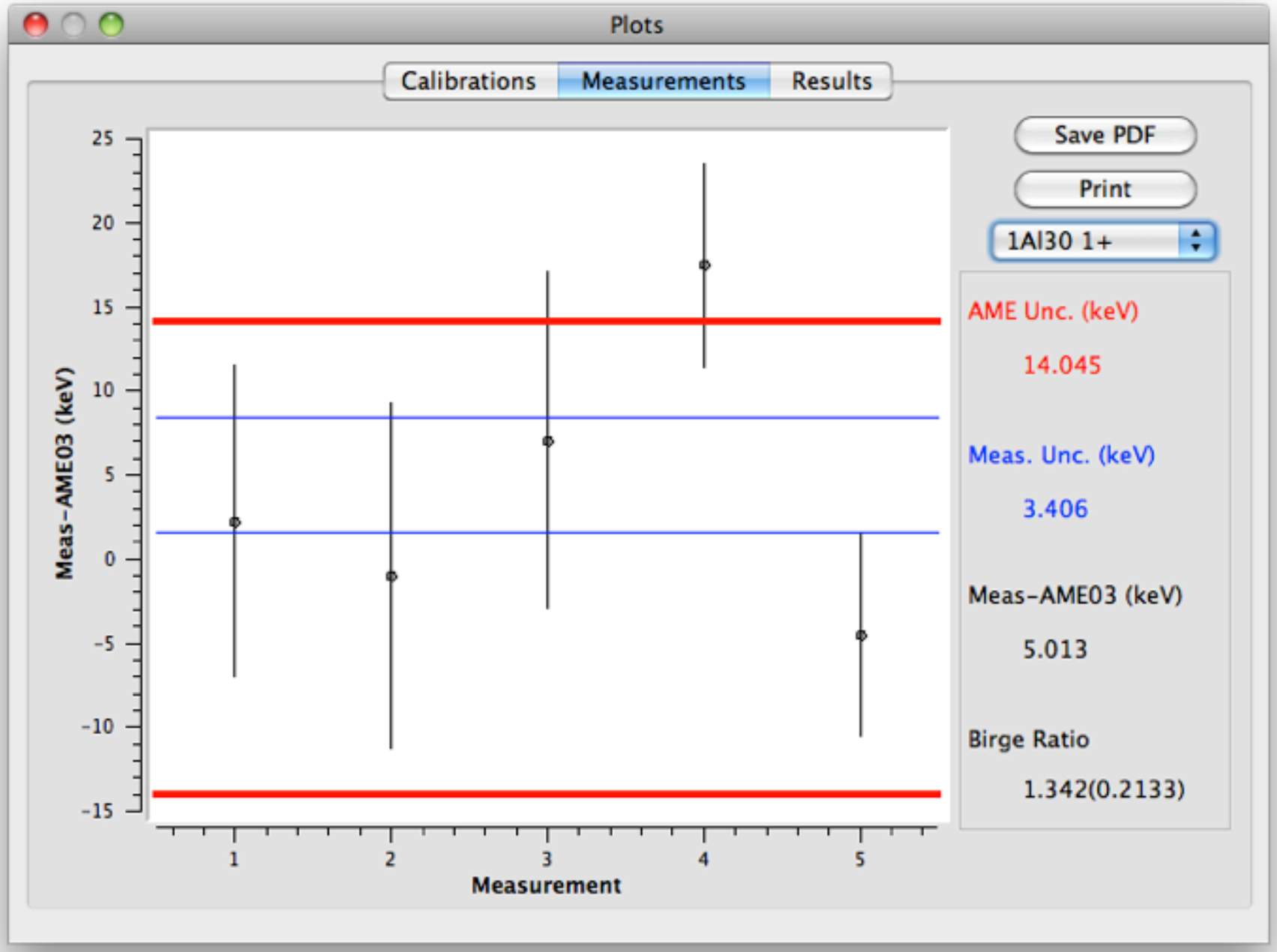
mass dep. shift:
0.3(4) keV
over
ΔA=4

^{29}Al without dipole:



^{30}Al:

- 10 Hz rep. rate (more counts!)
- 30,000 ions/sec at the channeltron but hardly anything at MPET MCP (ca. 400 counts in 1/2h)

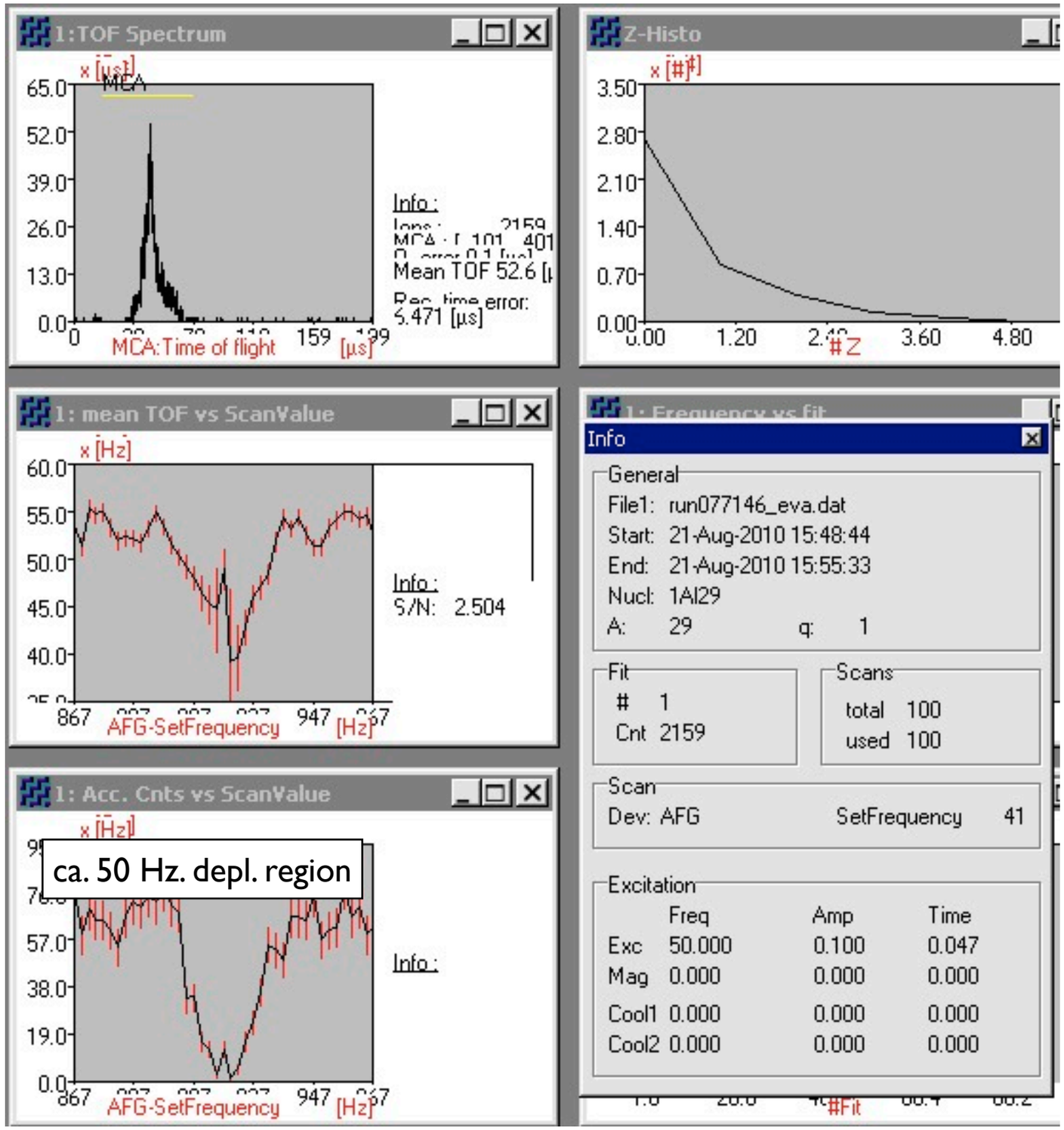


Contamination A=29

- 10 Hz rep. rate & dipole cleaning of 47 ms
- about 10 % of counts are not ^{29}Al
- no indications of Mg or Na
- certainly Si, possibly P

- dipole directly to waveform generator:

element	fc	f+
P29	1959942	1953825
Si29	1960301	1954184
Al29	1960035	1953918
Mg29	1959483	1953366
Na29	1958519	1952402

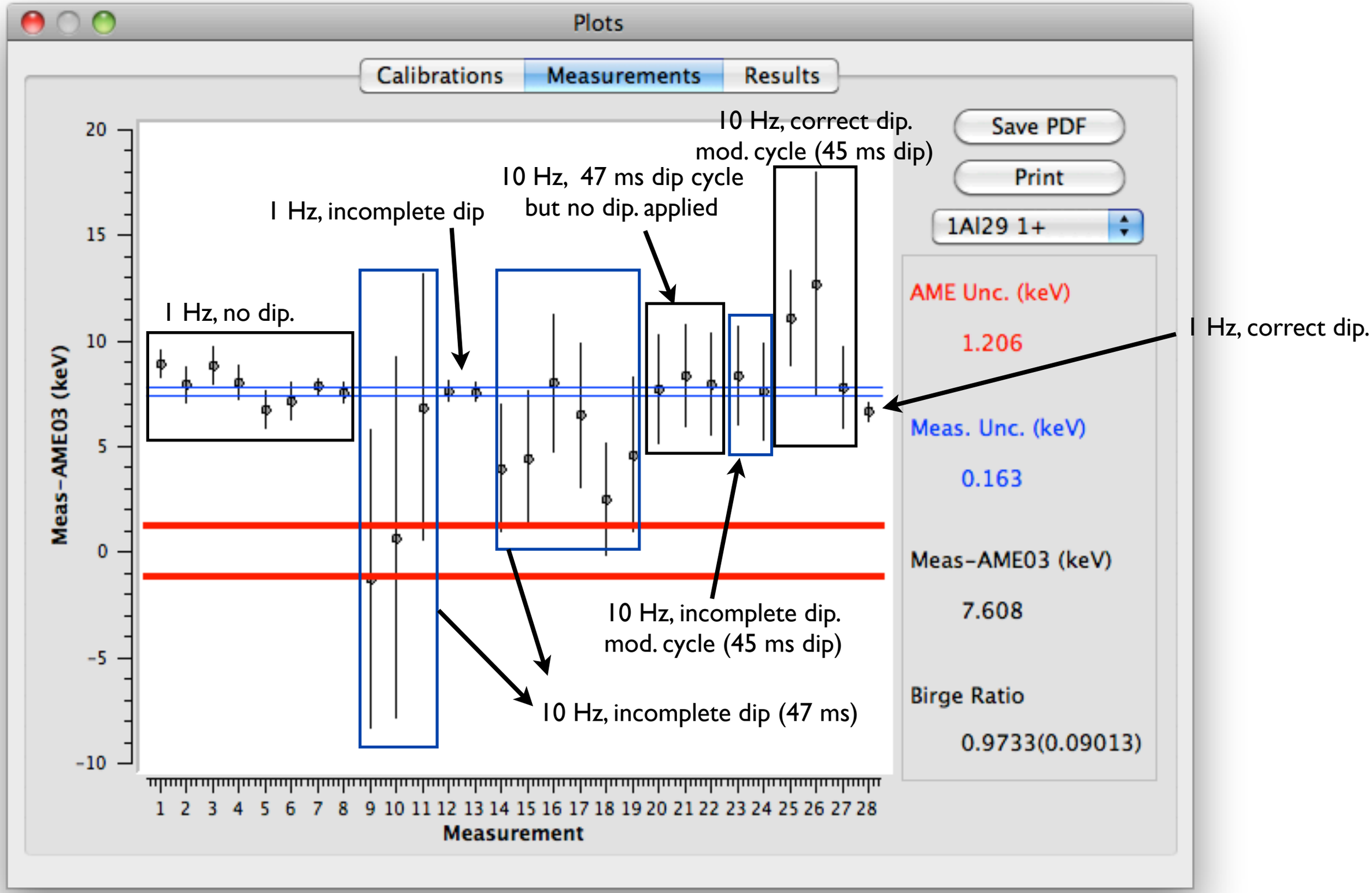


- coupling box reduces amplitude (!!!)
  ⇒ we ran long without any real dipole !

  ⇒ impact for K beamtime ???

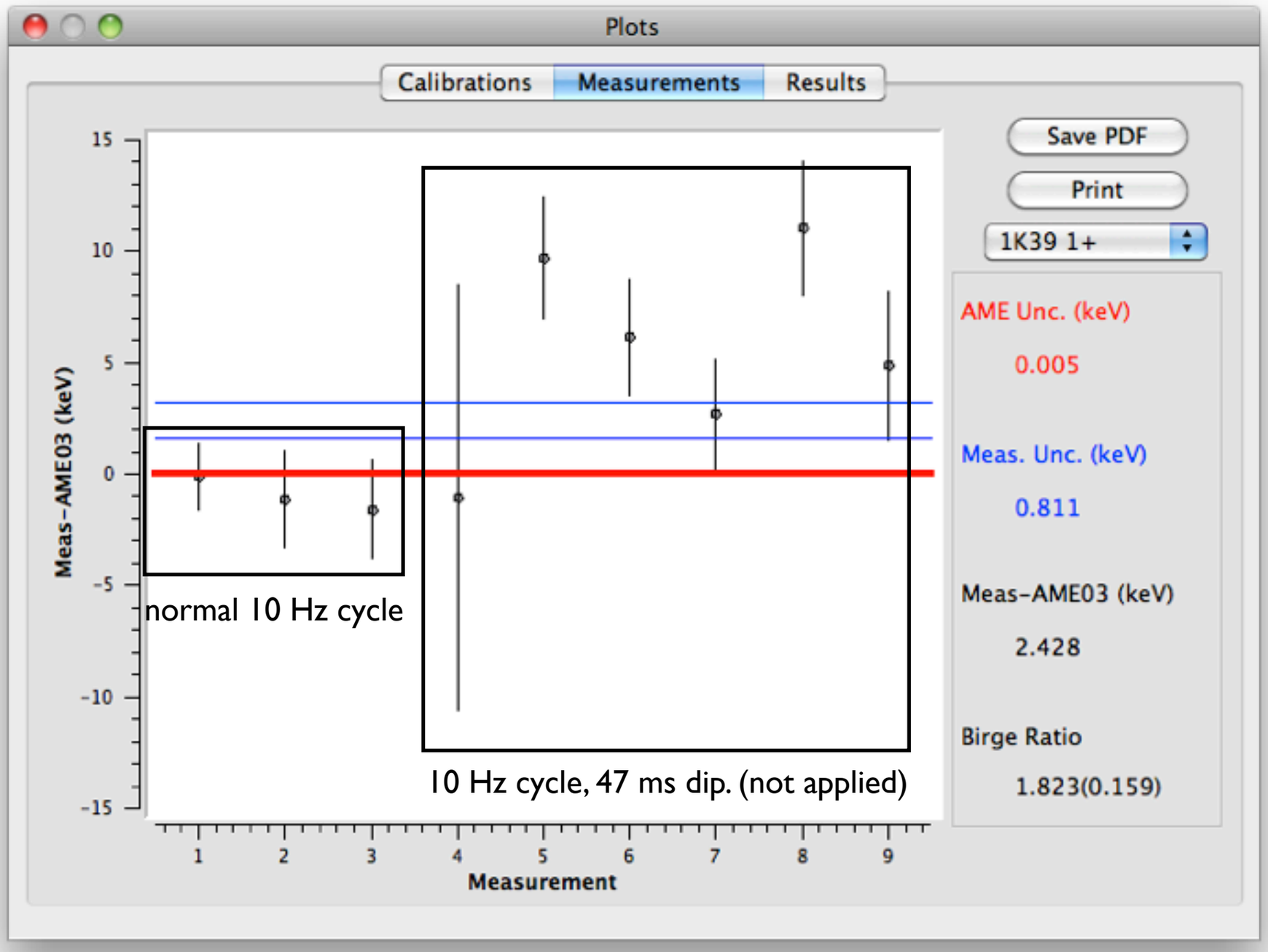
- corrected later

^{29}Al complete data:



Accuracy check III:

- after beamtime (yesterday and today)
- 10 Hz rep. rate & ^{39}K vs ^{23}Na



no resonances for
10 Hz cycle, 45 ms dip.
(not applied)

for ^{23}Na, but for ^{39}K ok????

Summary:

- resonances of ^{27,29,30}Al
- trapped ^{28}Na
- terrible RFQ efficiency
- systematic uncertainties: PPG ???? , LS , pressure