M.S. Levitsky
20.09.2000

Analysis of June and August 2000 muon data.

Data

June 2000

180 GeV

12 points (from C to O) 20K
X scan Y=0 mm (X from –240 to +240, step 20 mm) 10K
Y scan X=70 mm (Y from –150 to 150, step 20 mm) 10K
Y scan X=-70 mm (Y from –150 to 150, step 20 mm) 10K

120 GeV
3 points(G,J,K) not used

August 2000

150 GeV

12 points (from C to O) 10K
X scan Y=0 mm (X from –260 to +260 mm, step 20 mm) 10K
Y scan X=70 mm (Y from –180 to +180 mm, step 20 mm) 10K
Y scan X=240 mm (Y from –180 to +180 mm, step 20 mm) 10K
Y scan X=-240 mm (Y from –180 to +180 mm, step 20 mm) 10K

120 GeV

Y scan X=-240 mm (Y from –140 to +180 mm, step 20 mm) 15K
(efficiency of MWPC 30-60%)

Calculation procedures.

Calibration coefficients:

0608 (linear) for June runs
For comparison were used 0607, 0712, 0713 and 0714 (nonlinear)
0808 (linear) for August runs
For comparison was used 0807(nonlinear)

Weights for signal reconstruction:

0607 for June runs
0807 for August runs

Reference point for TDC(tdc_wac_mu):

1415 for June 180 GeV muon runs
1455 for August 150 GeV muon runs and for June 120 GeV muon runs
1575 for August 120 GeV muon runs

TDC_raw_offset:

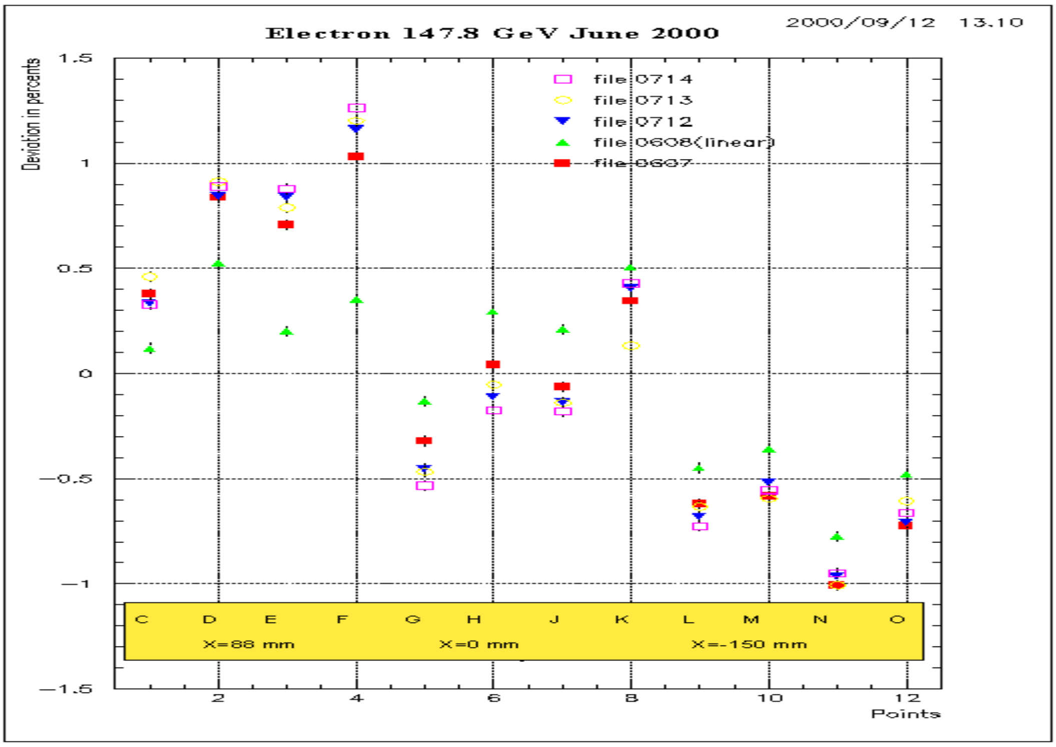
	June (tzero=7 time slices)	August (tzero=7, tzero=8)
Segment 1	665	860
Segment 2	750	930
Segment 3	520	740
Segment 4	600	810

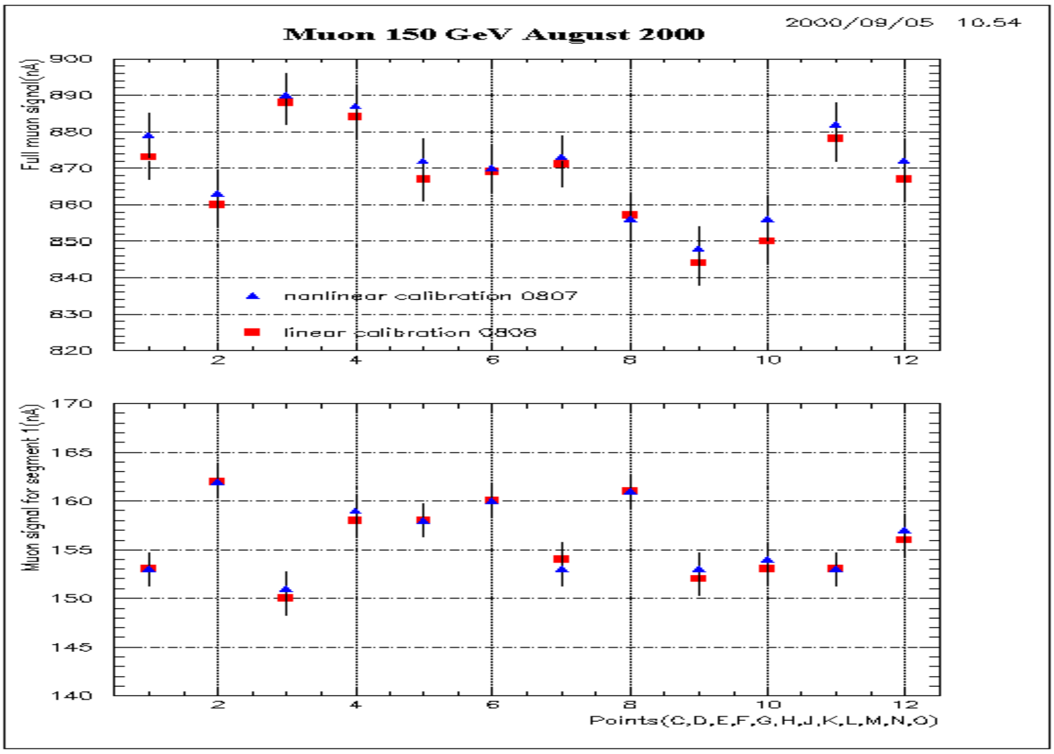
Correction weights:

Segment 4 module 2 w=4/3 for June runs
Segment 4 module 3 w=4/3 for August runs

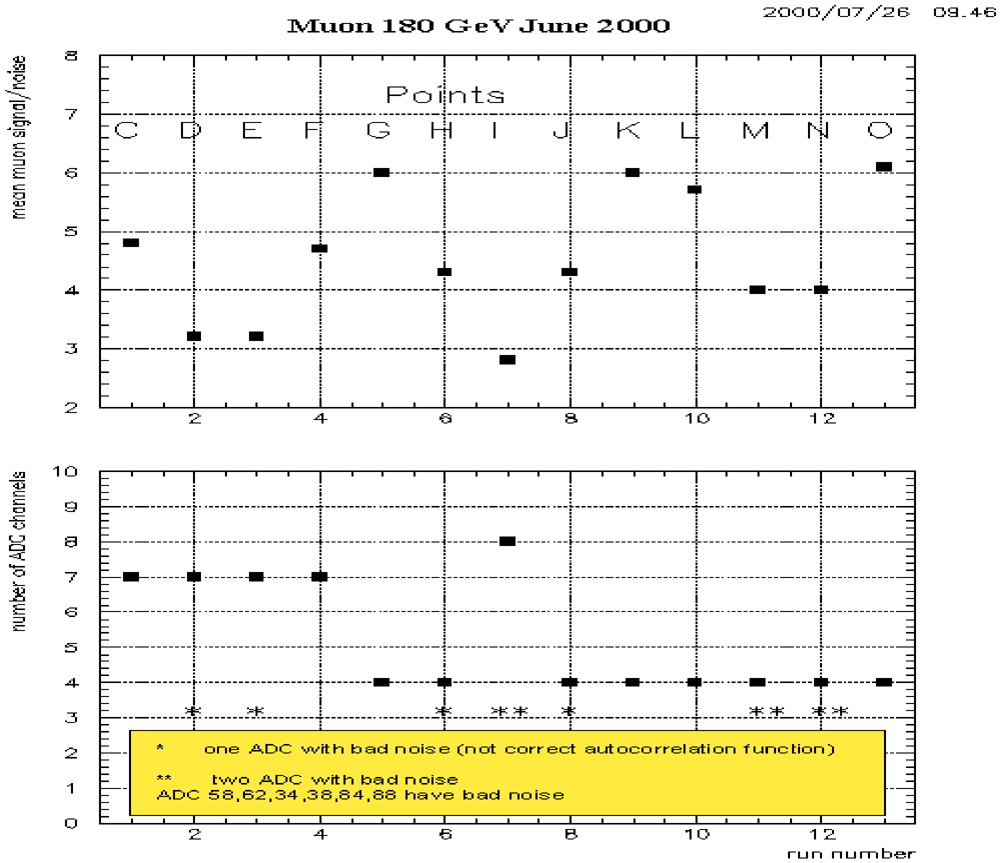
Results.

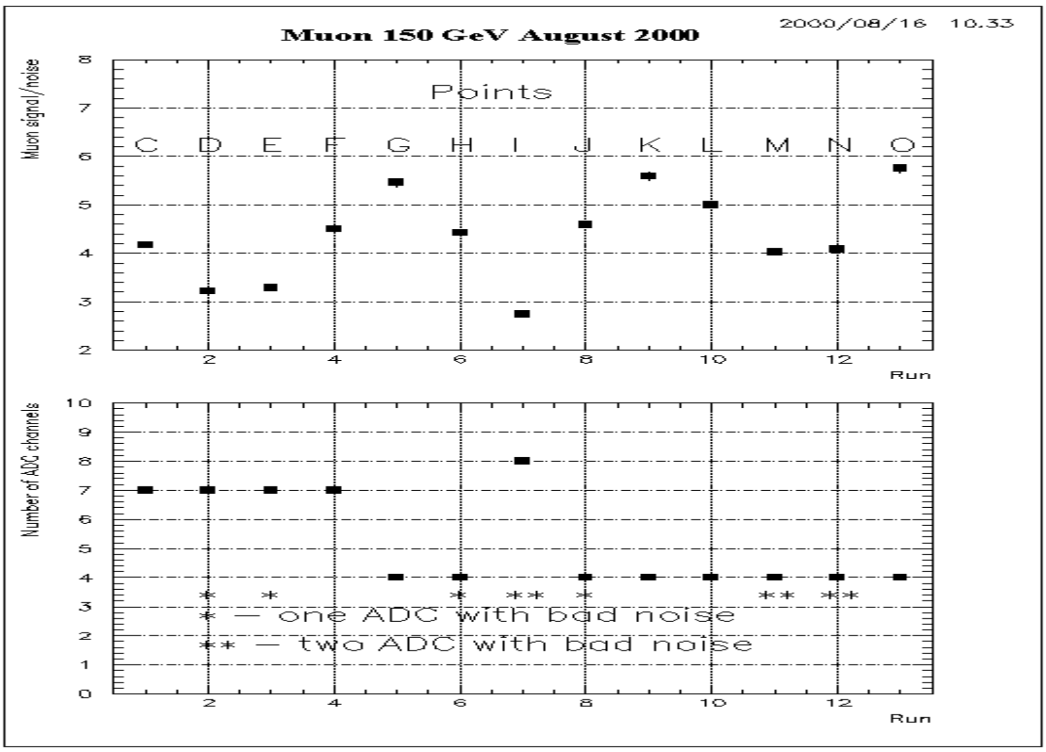
Comparison calibration files.



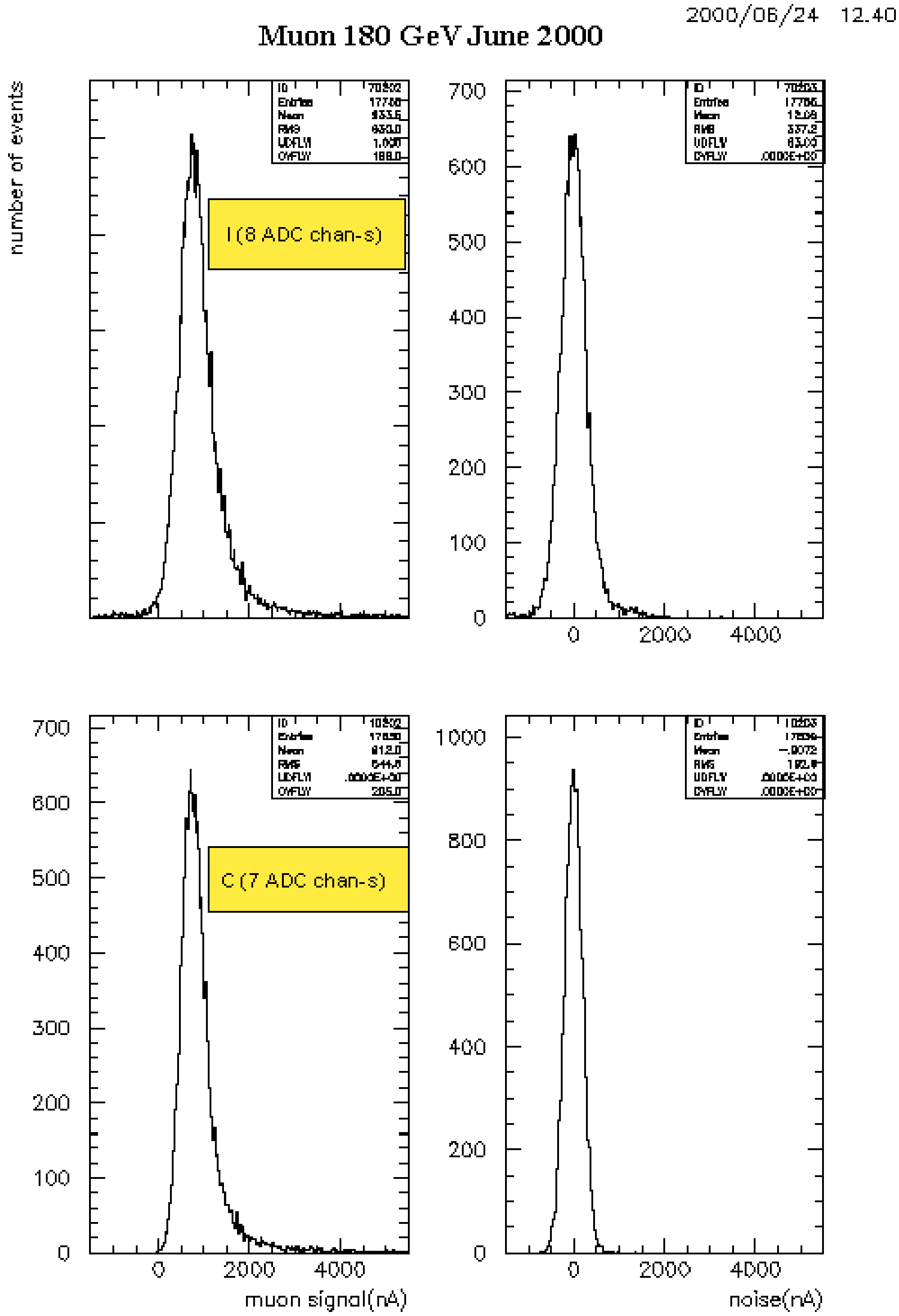


The ratio muon signal to noise.

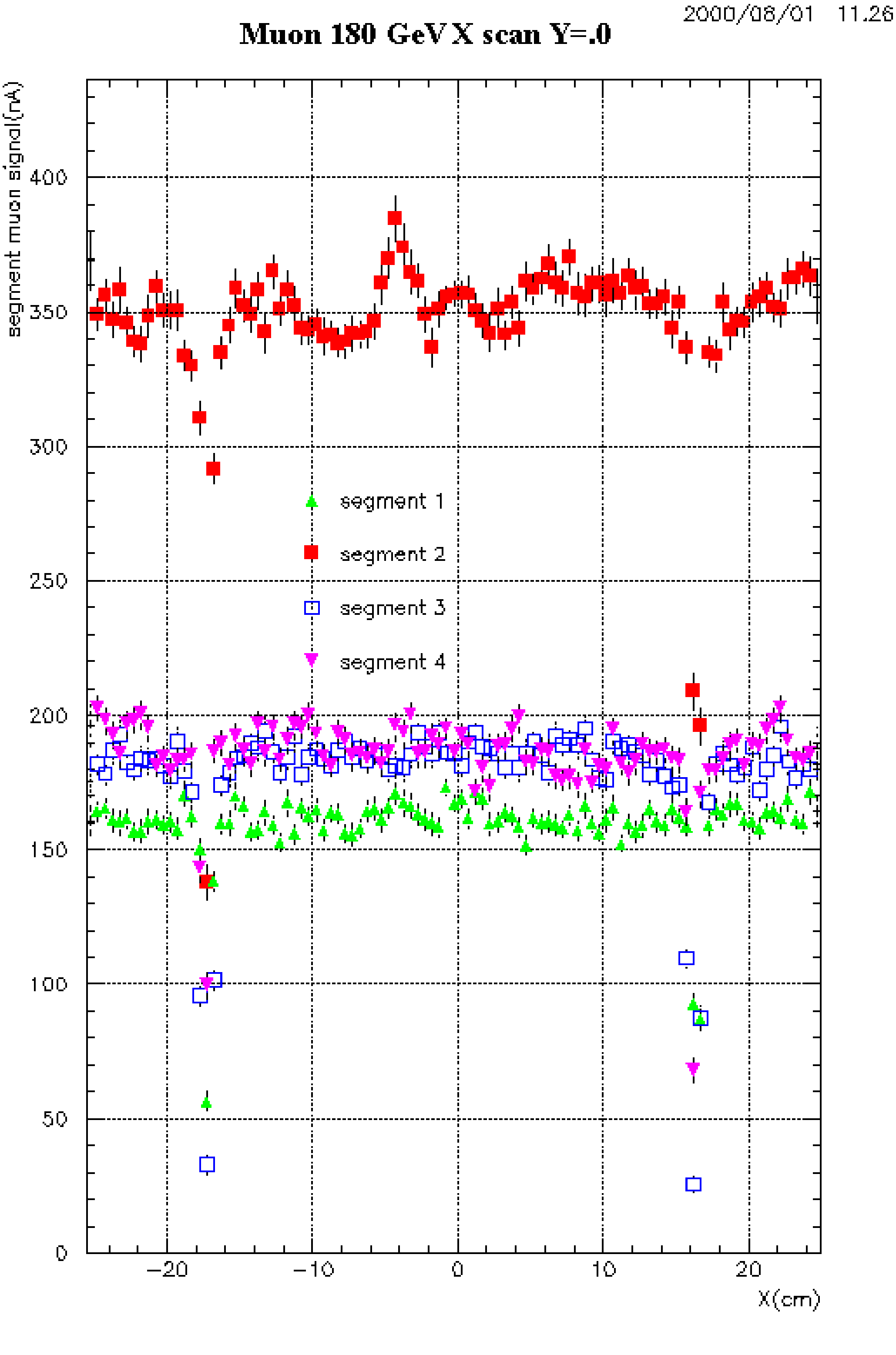




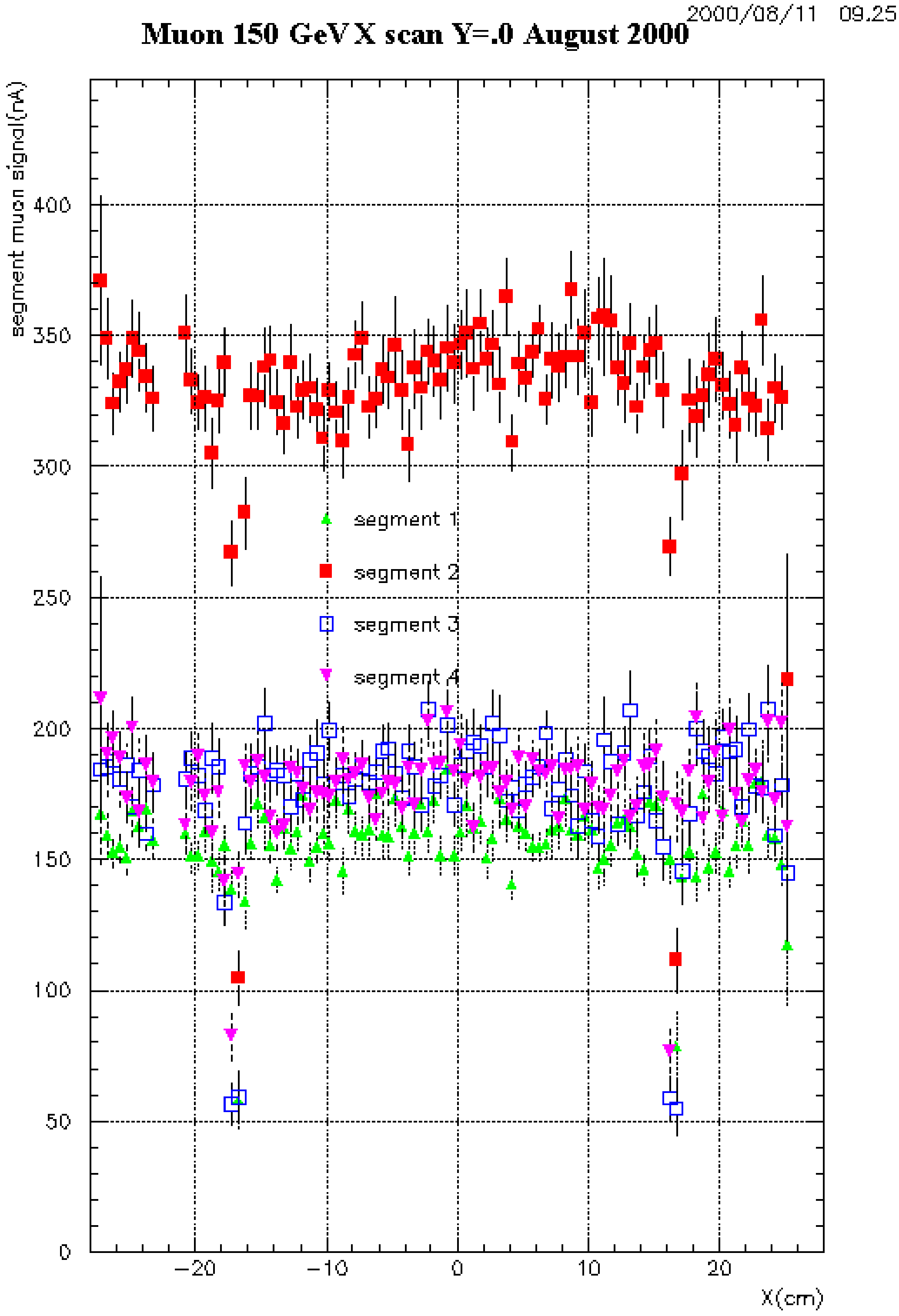
Influence of ADC channel with bad noise

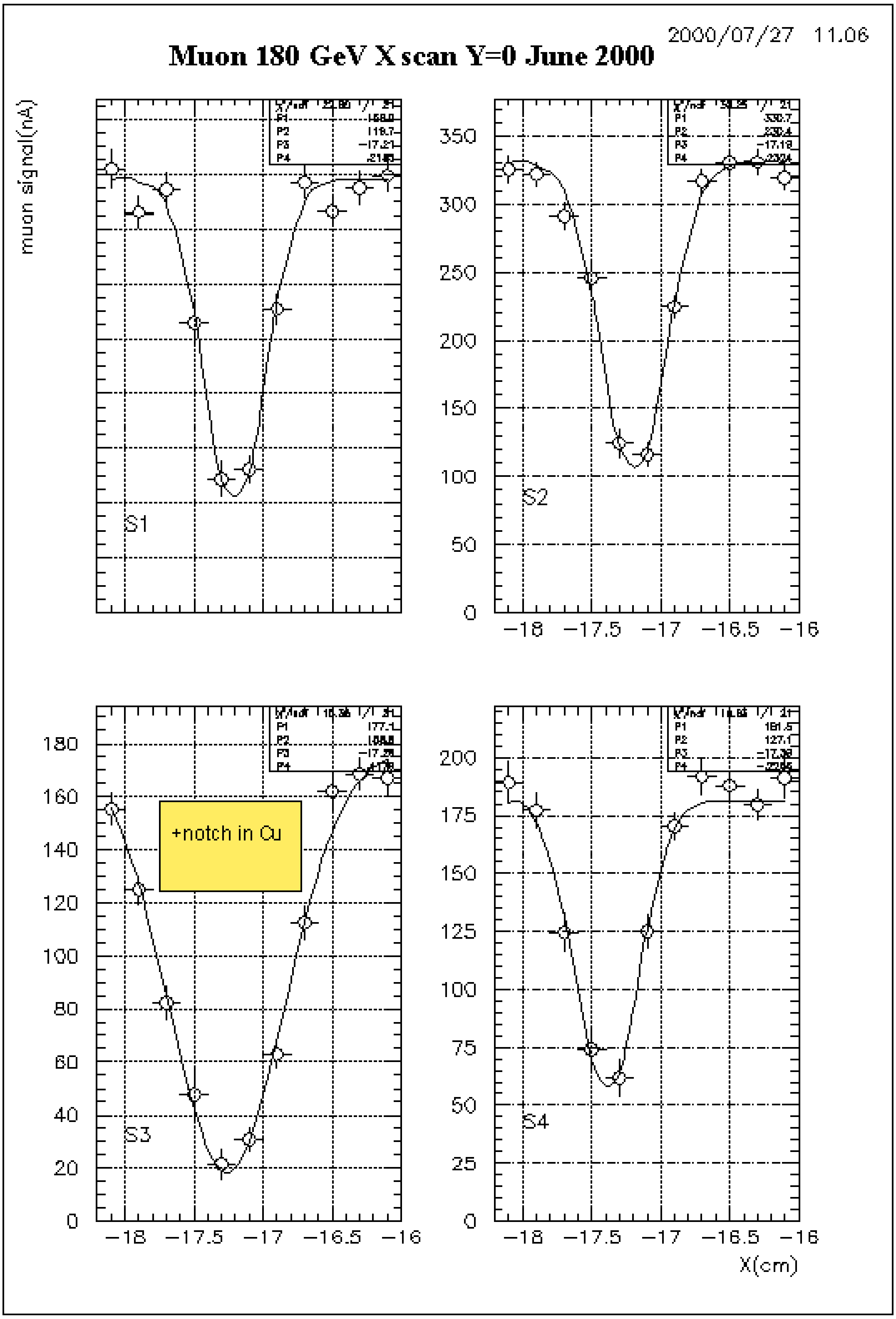


X scan.

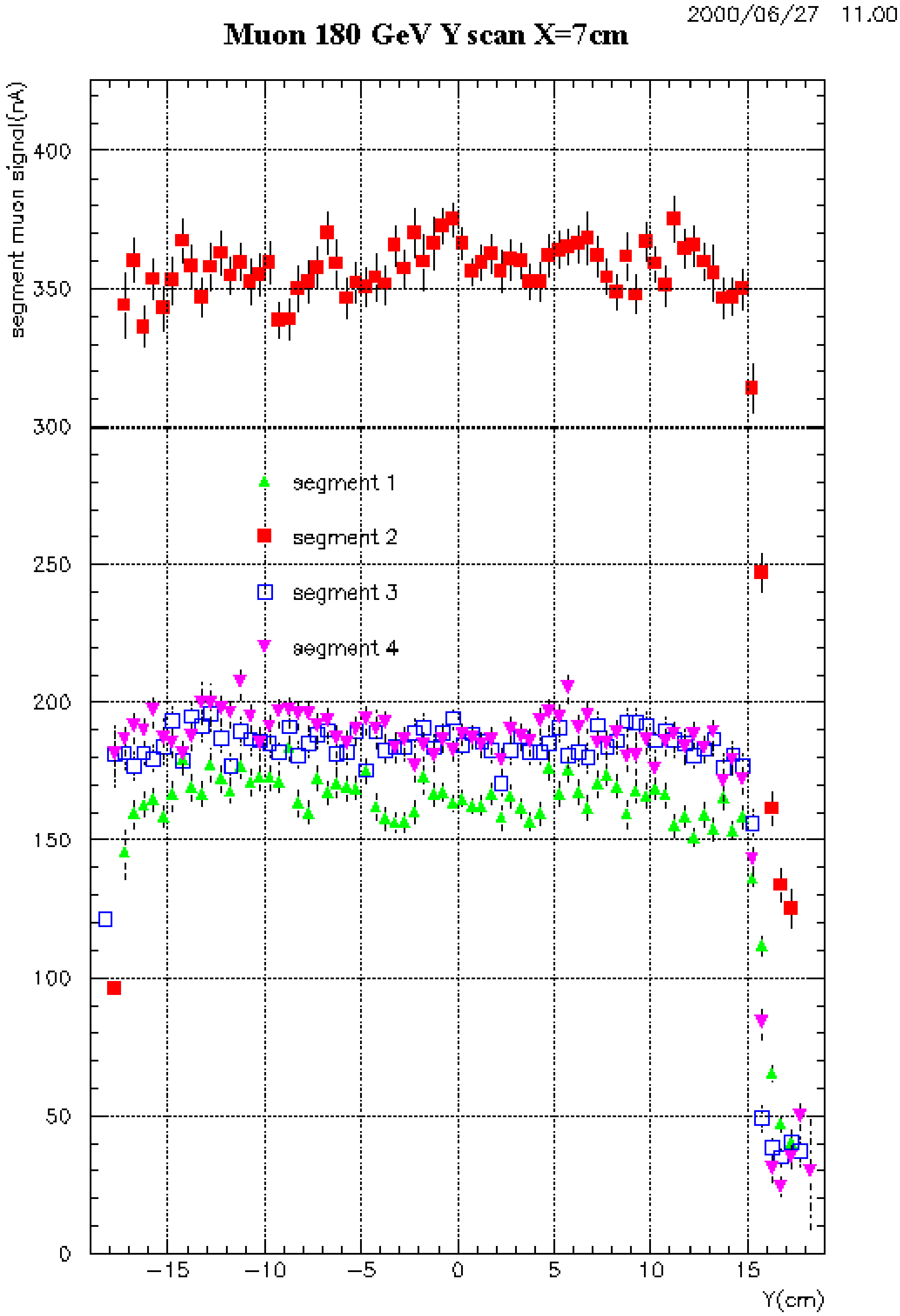


2000/08/01 11.26
Muon 180 GeV X scan Y=.0
segment muon signal(nA)
400
350
300
250
200
150
100
50
0
-20
-10
0
10
20
X(cm)
segment 1
segment 2
segment 3
segment 4

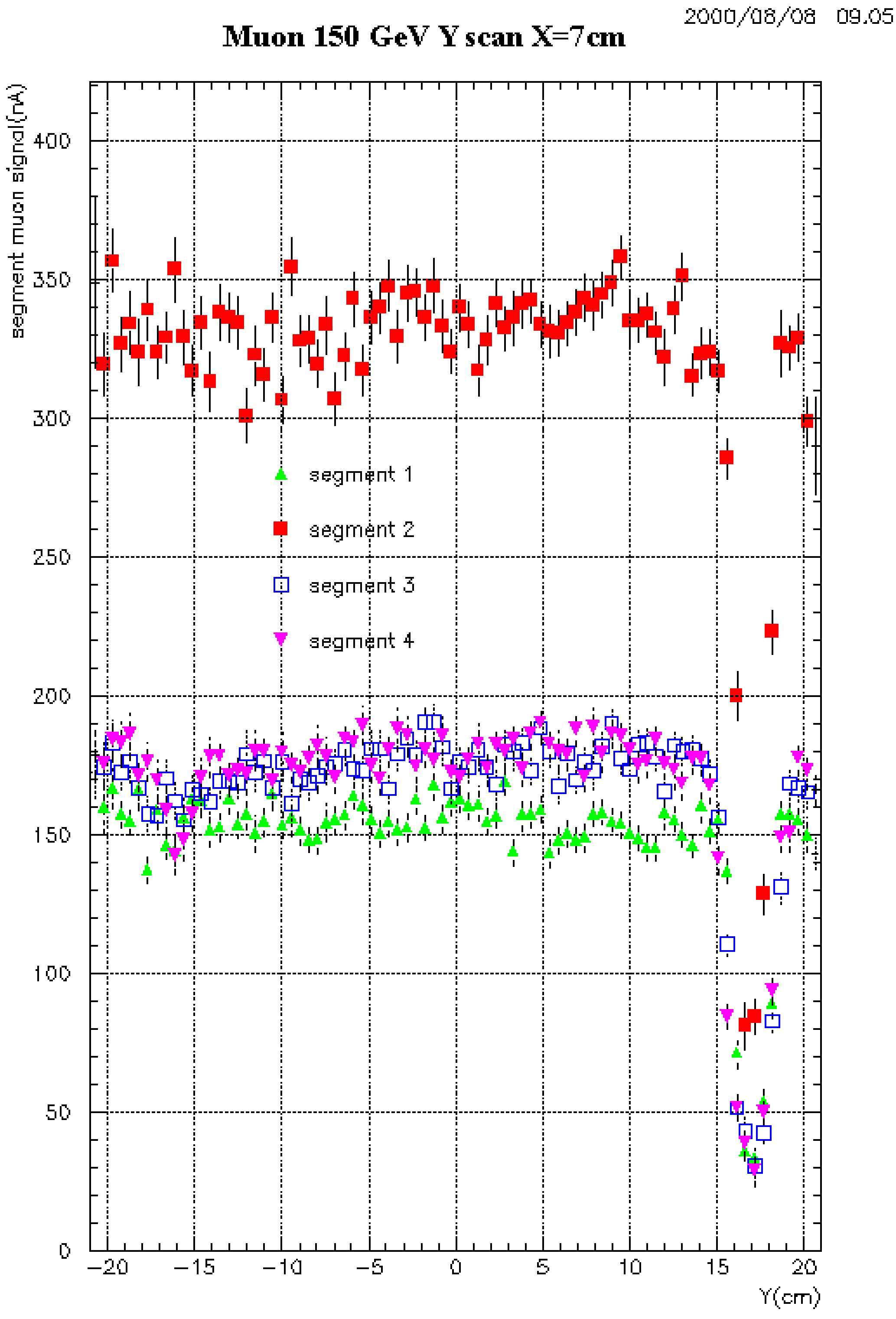

2000/08/11 09.25
Muon 150 GeV X scan Y=.0 August 2000
segment muon signal(nA)
X(cm)
segment 1
segment 2
segment 3
segment 4
0
50
100
150
200
250
300
350
400
−20
−10
0
10
20


2000/07/27 11.06
Muon 180 GeV X scan Y=0 June 2000
muon signal(nA)
S1
S2
S3
S4
+notch in Cu
X(cm)

Y scan.



2000/06/27 11.00
Muon 180 GeV Y scan X=7cm
segment muon signal(nA)
segment 1
segment 2
segment 3
segment 4
Y(cm)



2000/08/08 09.05
Muon 150 GeV Y scan X=7cm
segment muon signal(nA)
Y(cm)
segment 1
segment 2
segment 3
segment 4
0
50
100
150
200
250
300
350
400
−20
−15
−10
−5
0
5
10
15
20

Conclusions.

- Linear and nonlinear calibration coefficients give the same result for 150 GeV muon August 2000 data. All nonlinear calibration coefficients give practically the same result for 147.8 GeV electron June data.

- The ratio signal to noise in the case 4^{th} ADC channels are about 6 for 180 GeV and about 5.5 for 150 GeV muon data. For ADC channels 58, 62, 34, 38, 84 and 88 we see very bad noises as for June as for August data.

- With help muon X scan data we clearly see the crack positions for all segments. For segment 3 we also see the influence of the notchs in copper plates.

- With help muon Y scan data we clearly se the tie-rod positions for all segments.