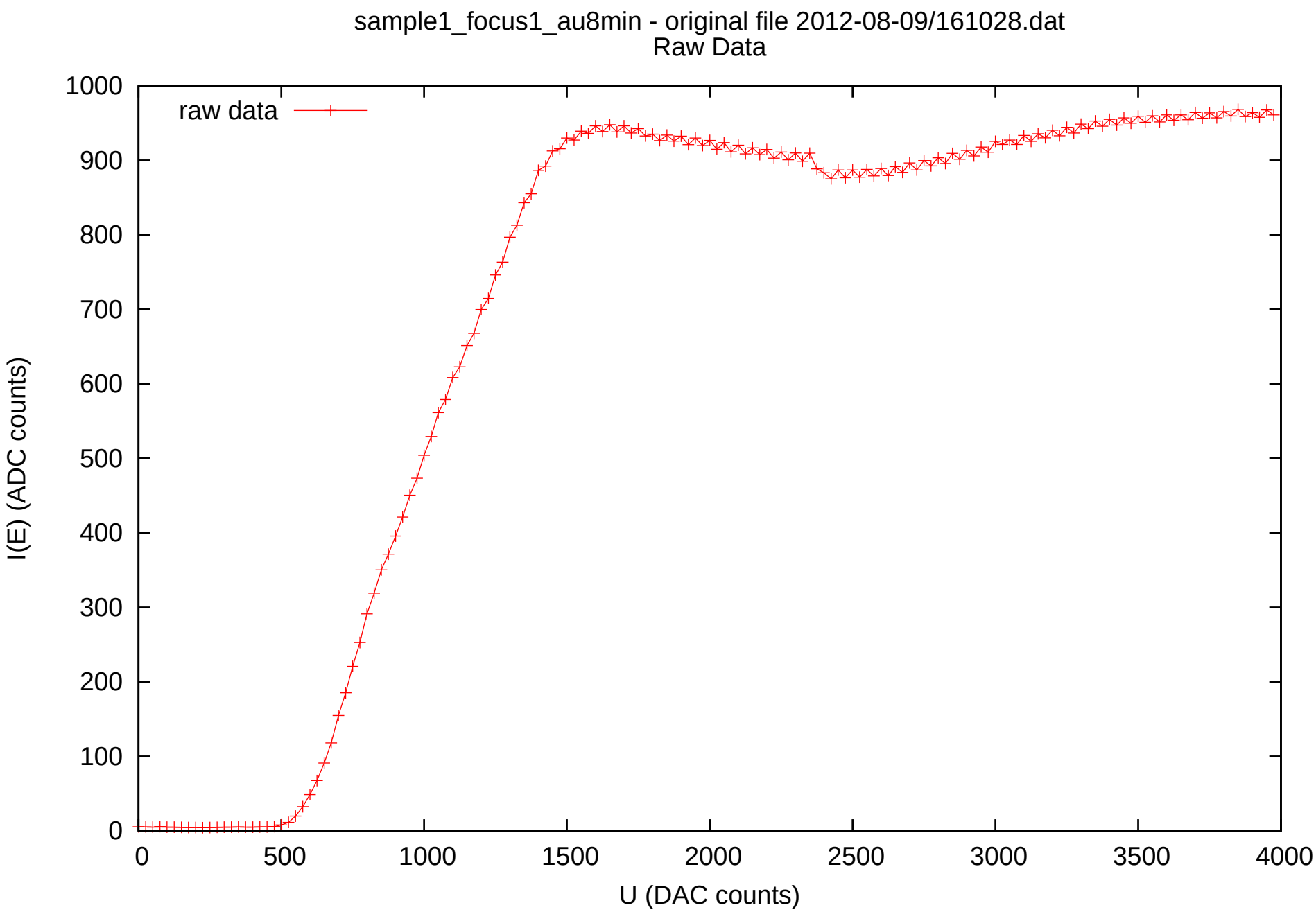
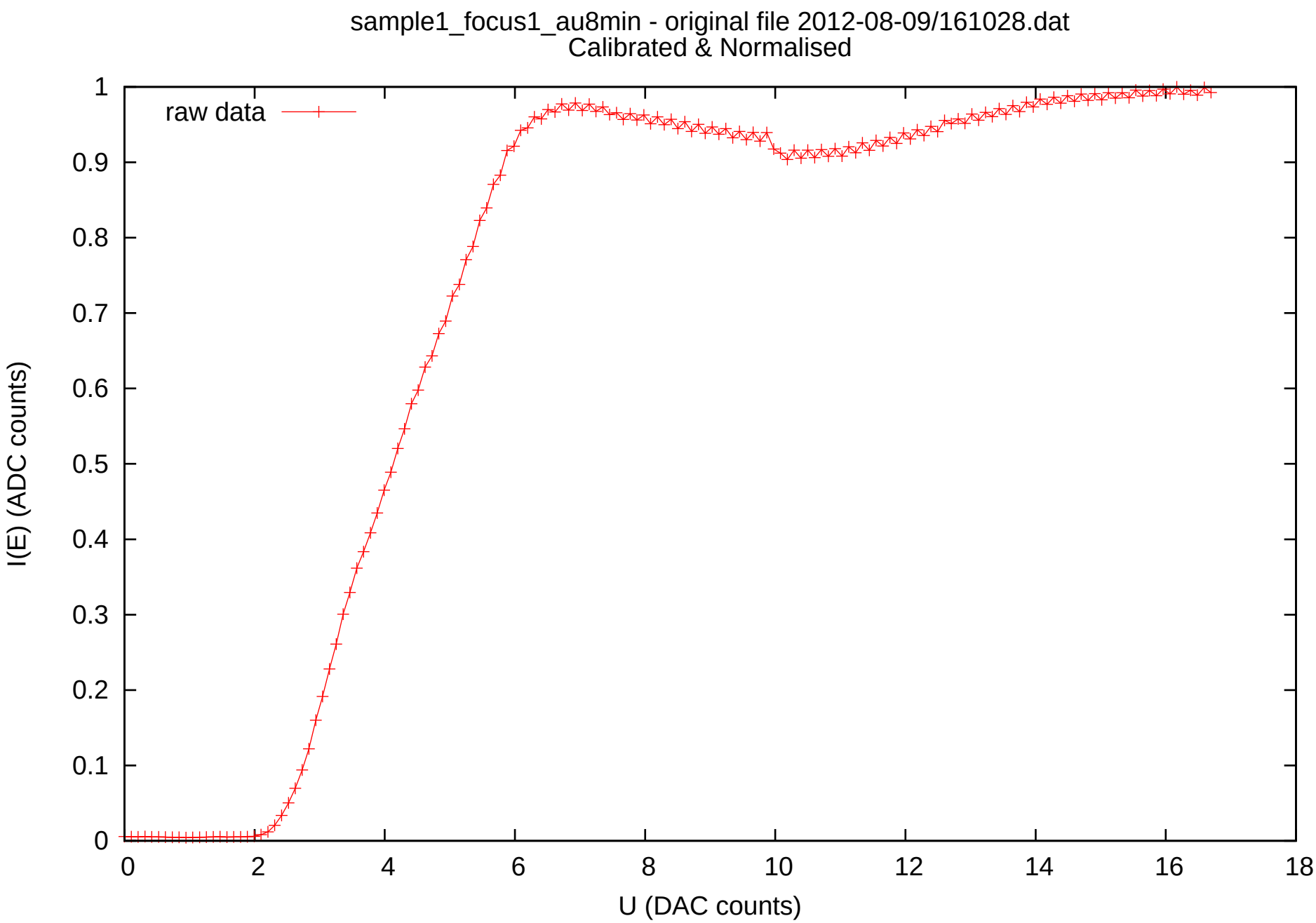
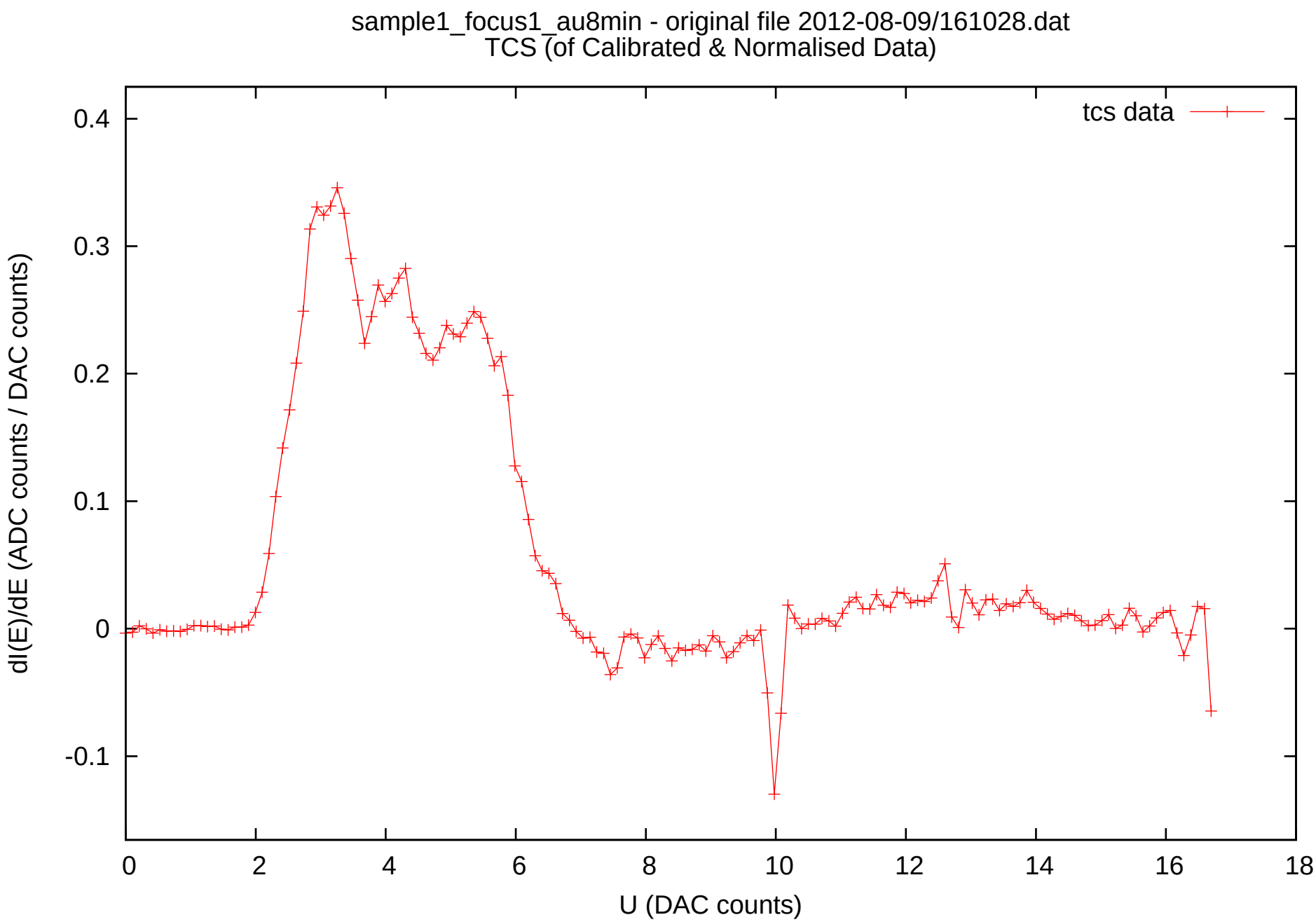
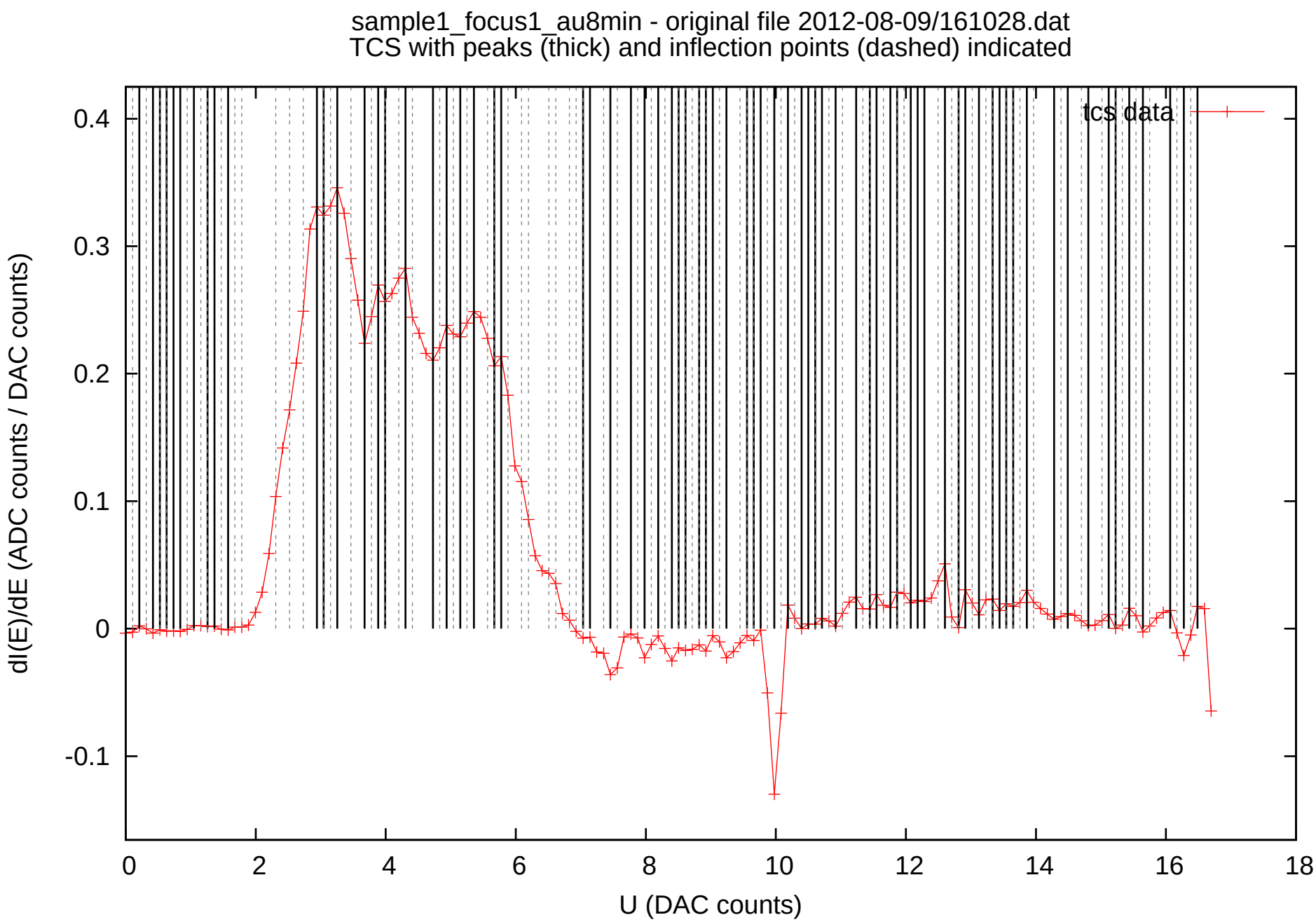
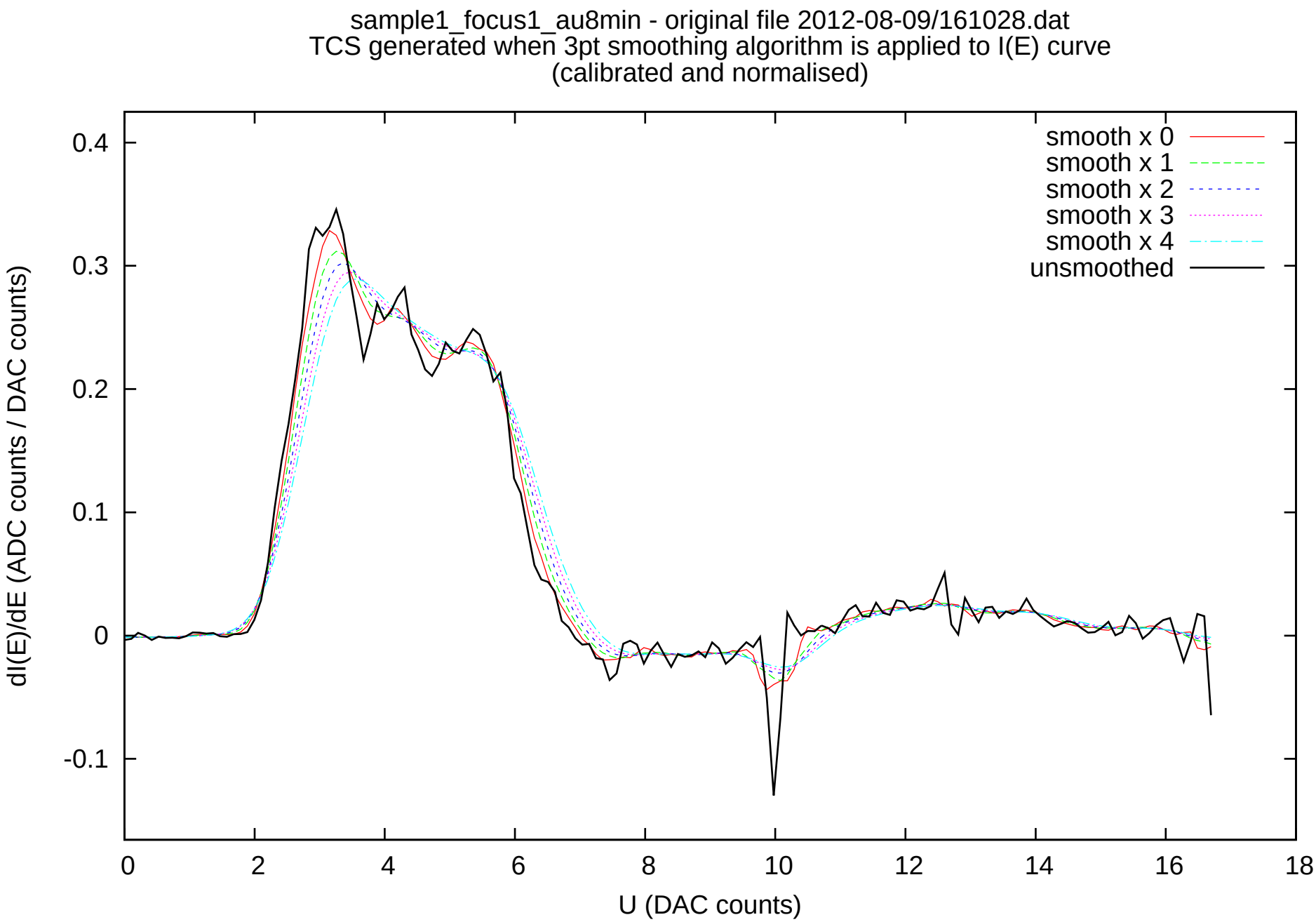
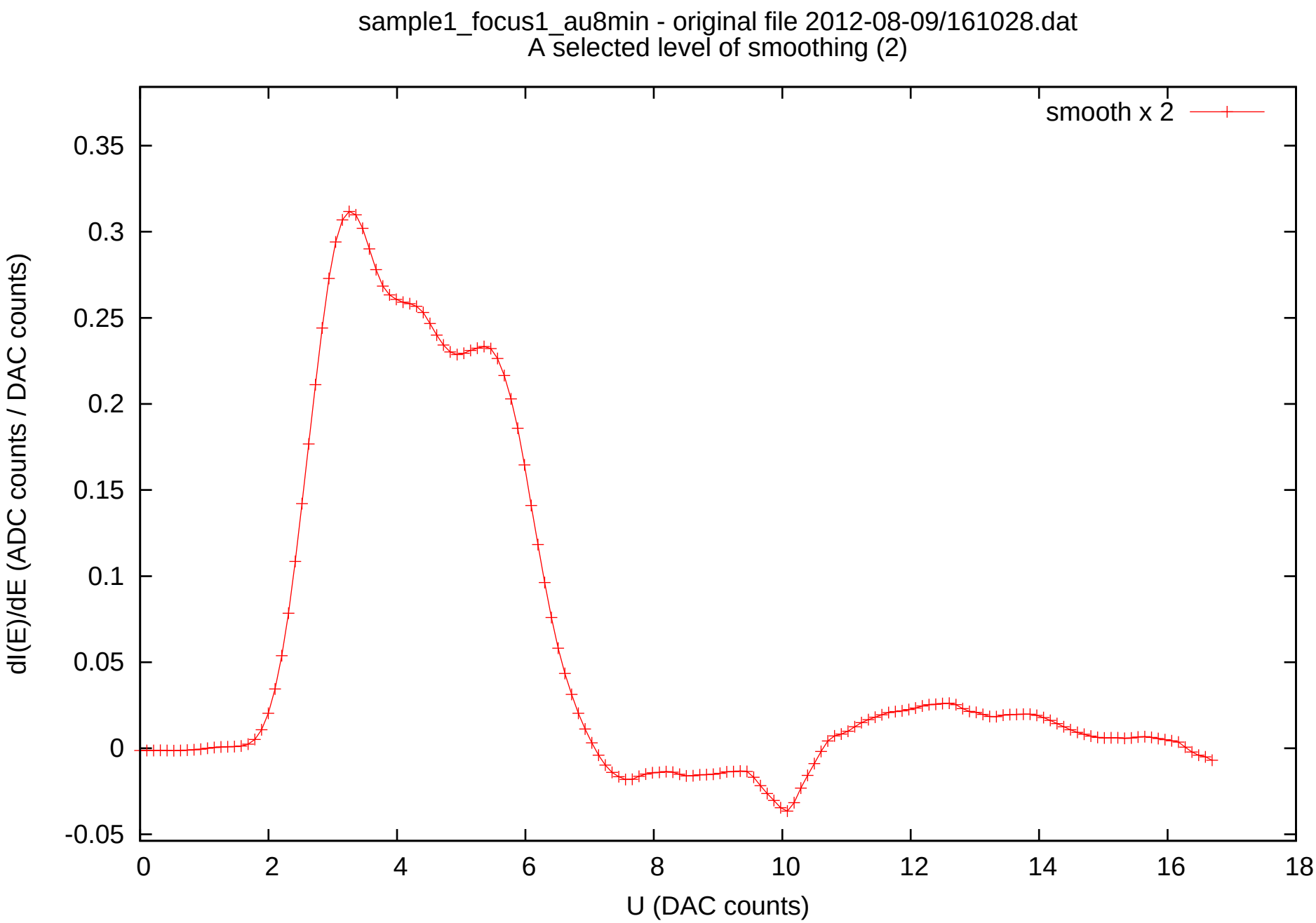

sample1_focus1_au8min - original file 2012-08-09/161028.dat
Raw Data
raw data
I(E) (ADC counts)
U (DAC counts)
0
100
200
300
400
500
600
700
800
900
1000
0
500
1000
1500
2000
2500
3000
3500
4000

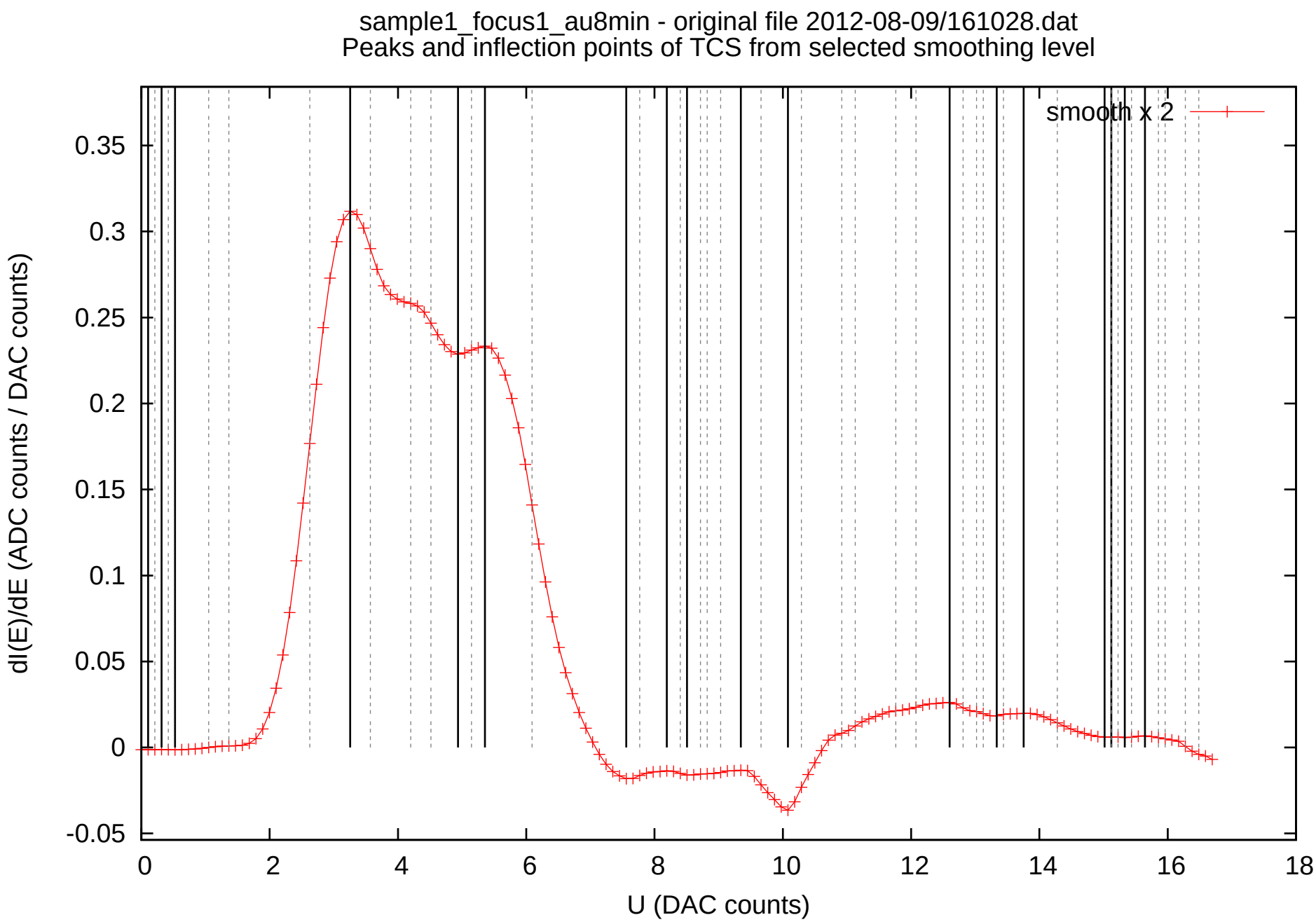

sample1_focus1_au8min - original file 2012-08-09/161028.dat
Calibrated & Normalised
raw data
I(E) (ADC counts)
U (DAC counts)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
0
2
4
6
8
10
12
14
16
18

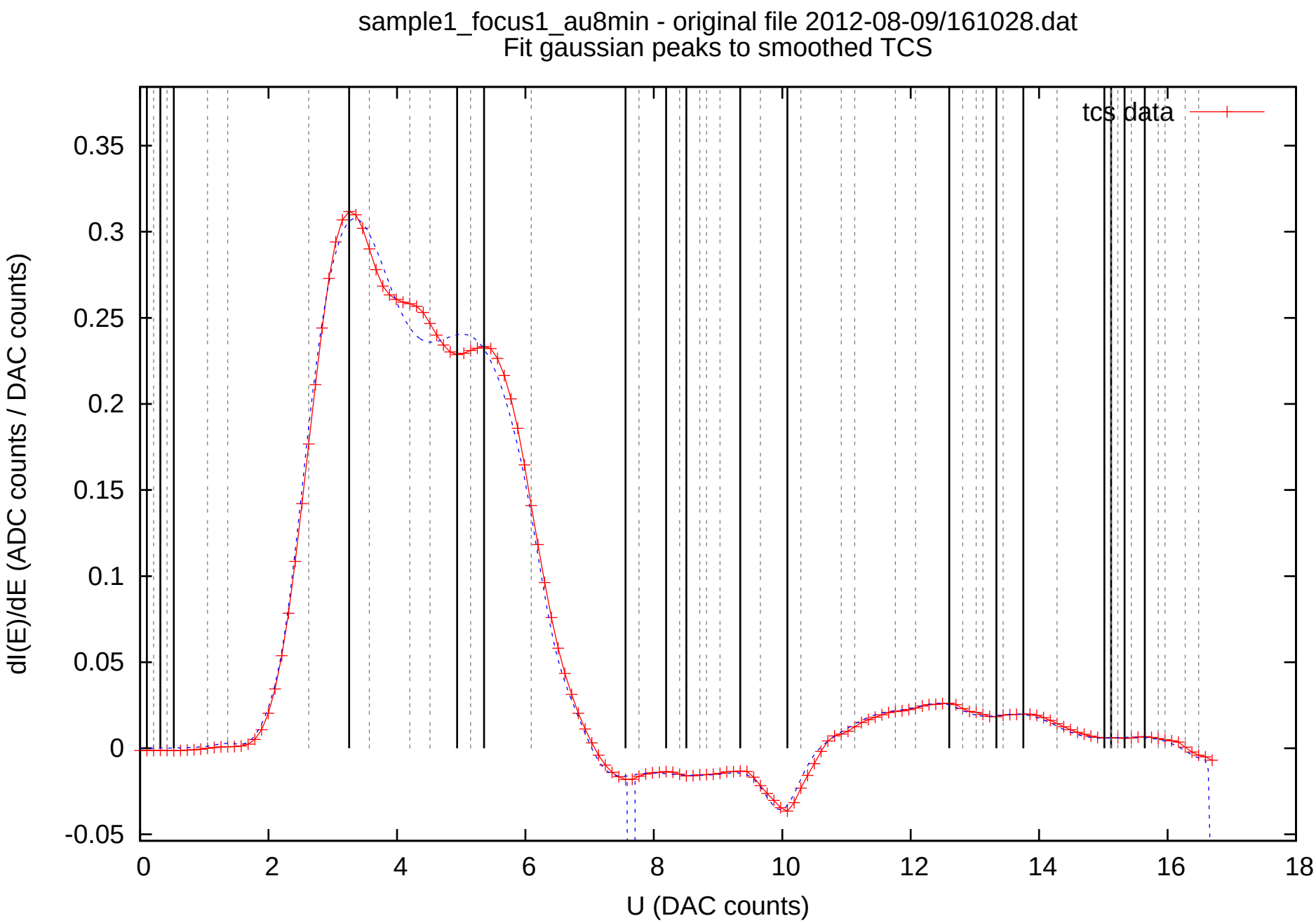

sample1_focus1_au8min - original file 2012-08-09/161028.dat
TCS (of Calibrated & Normalised Data)
tcs data
dI(E)/dE (ADC counts / DAC counts)
U (DAC counts)
0.4
0.3
0.2
0.1
0
-0.1
0
2
4
6
8
10
12
14
16
18

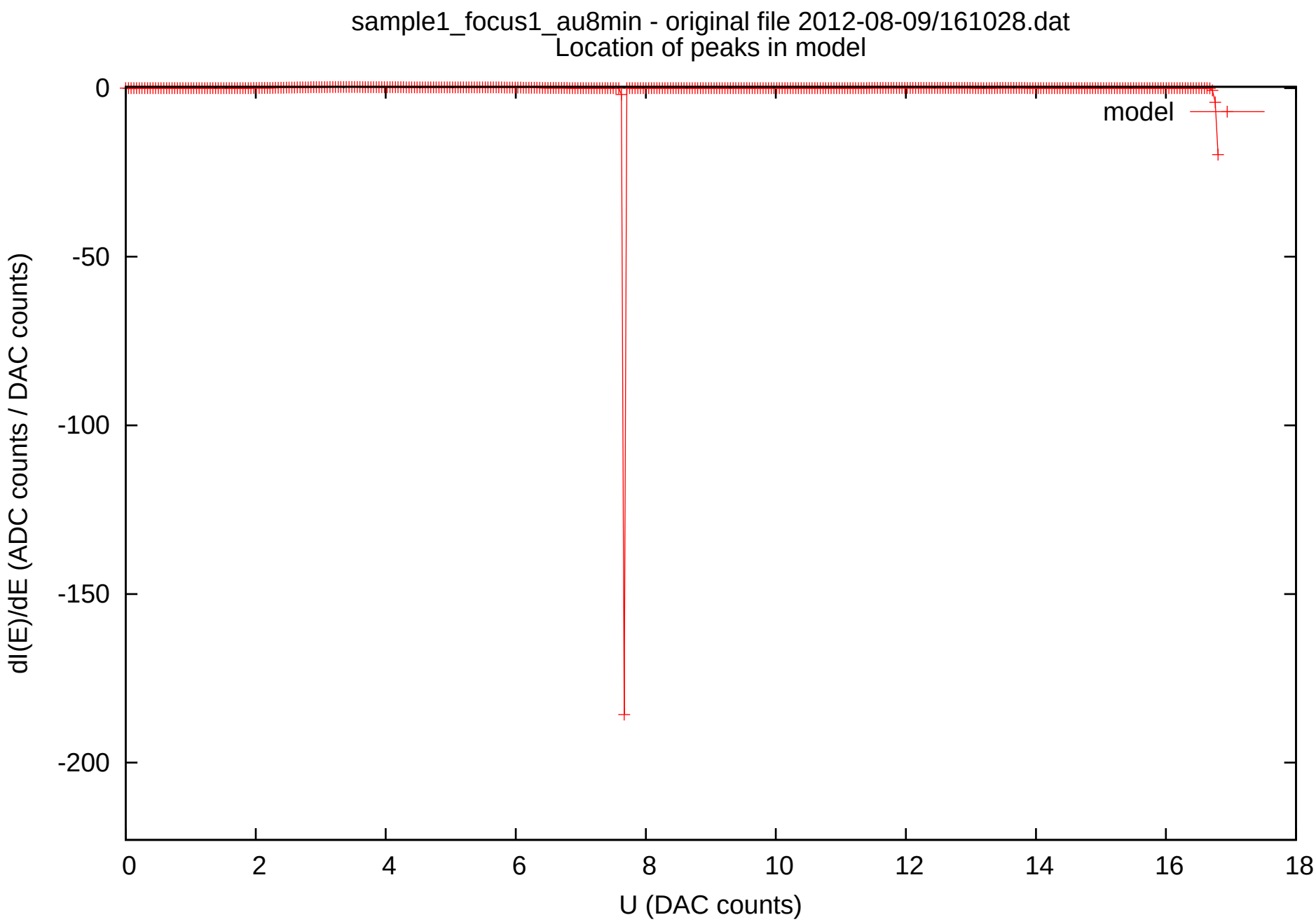

sample1_focus1_au8min - original file 2012-08-09/161028.dat
TCS with peaks (thick) and inflection points (dashed) indicated
tcs data
dI(E)/dE (ADC counts / DAC counts)
U (DAC counts)
0.4
0.3
0.2
0.1
0
-0.1
0
2
4
6
8
10
12
14
16
18

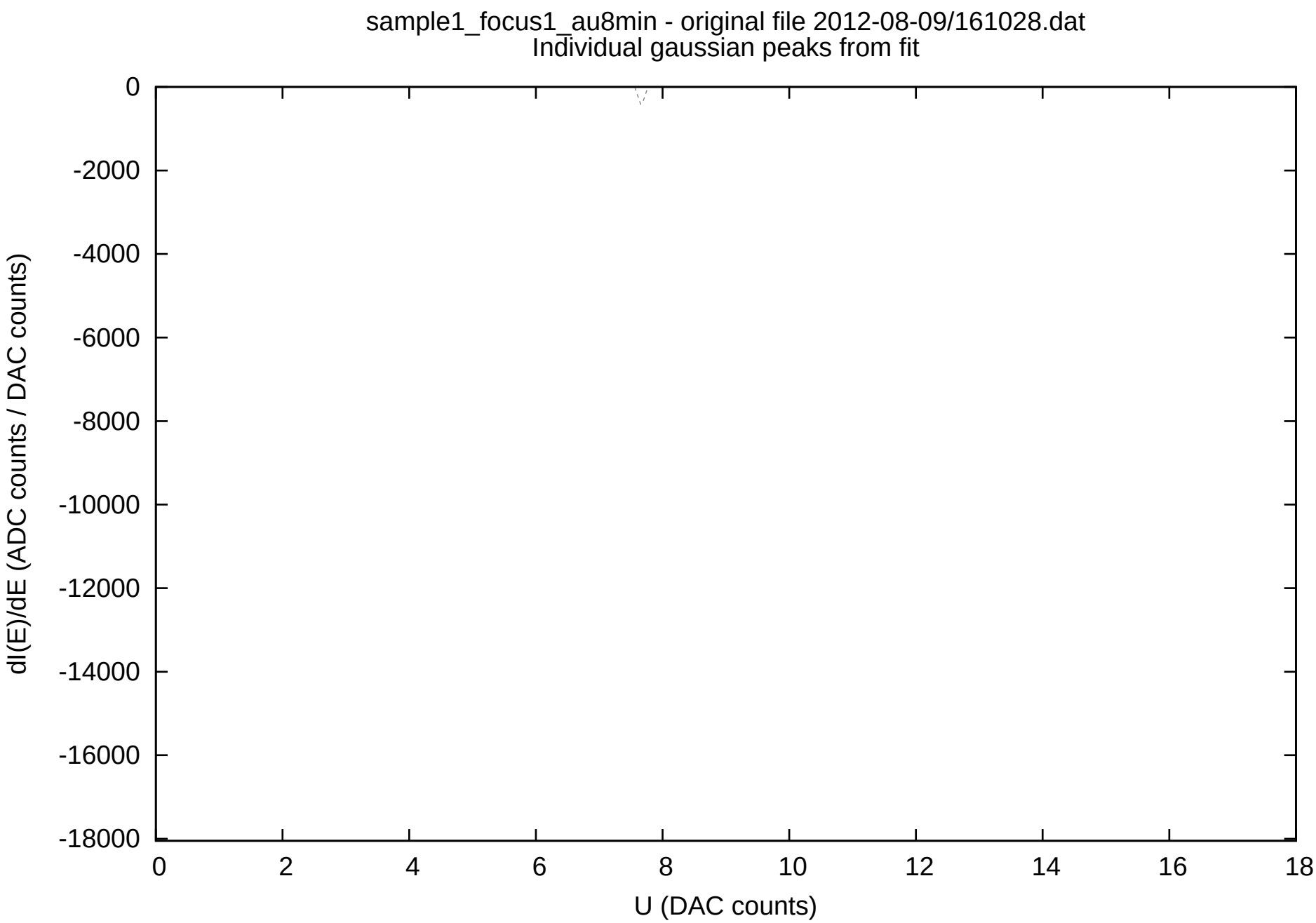

sample1_focus1_au8min - original file 2012-08-09/161028.dat
TCS generated when 3pt smoothing algorithm is applied to I(E) curve
(calibrated and normalised)
smooth x 0
smooth x 1
smooth x 2
smooth x 3
smooth x 4
unsmoothed
dI(E)/dE (ADC counts / DAC counts)
U (DAC counts)
0.4
0.3
0.2
0.1
0
-0.1
0
2
4
6
8
10
12
14
16
18

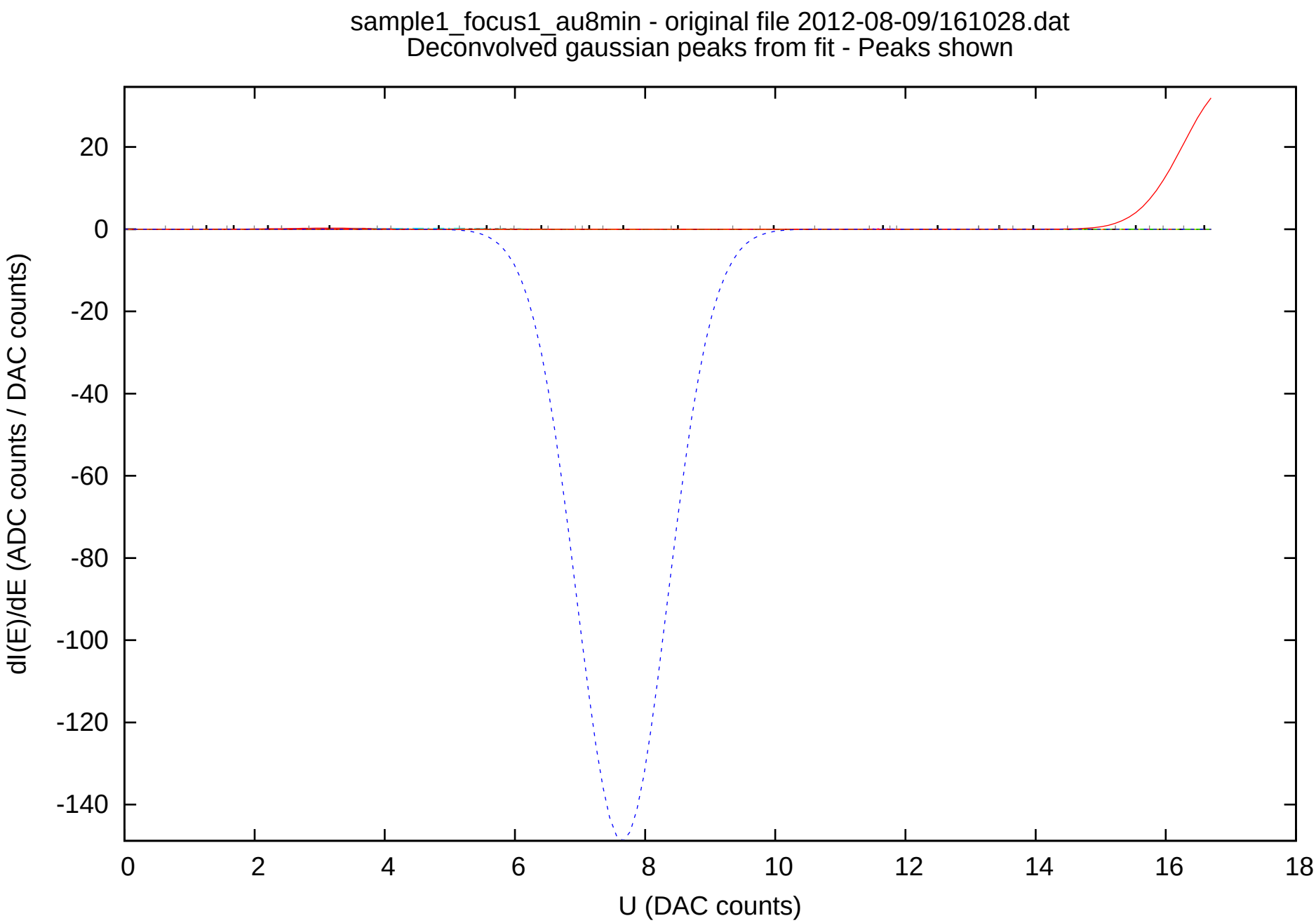

sample1_focus1_au8min - original file 2012-08-09/161028.dat
A selected level of smoothing (2)
smooth x 2
dI(E)/dE (ADC counts / DAC counts)
U (DAC counts)
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
-0.05
0
2
4
6
8
10
12
14
16
18

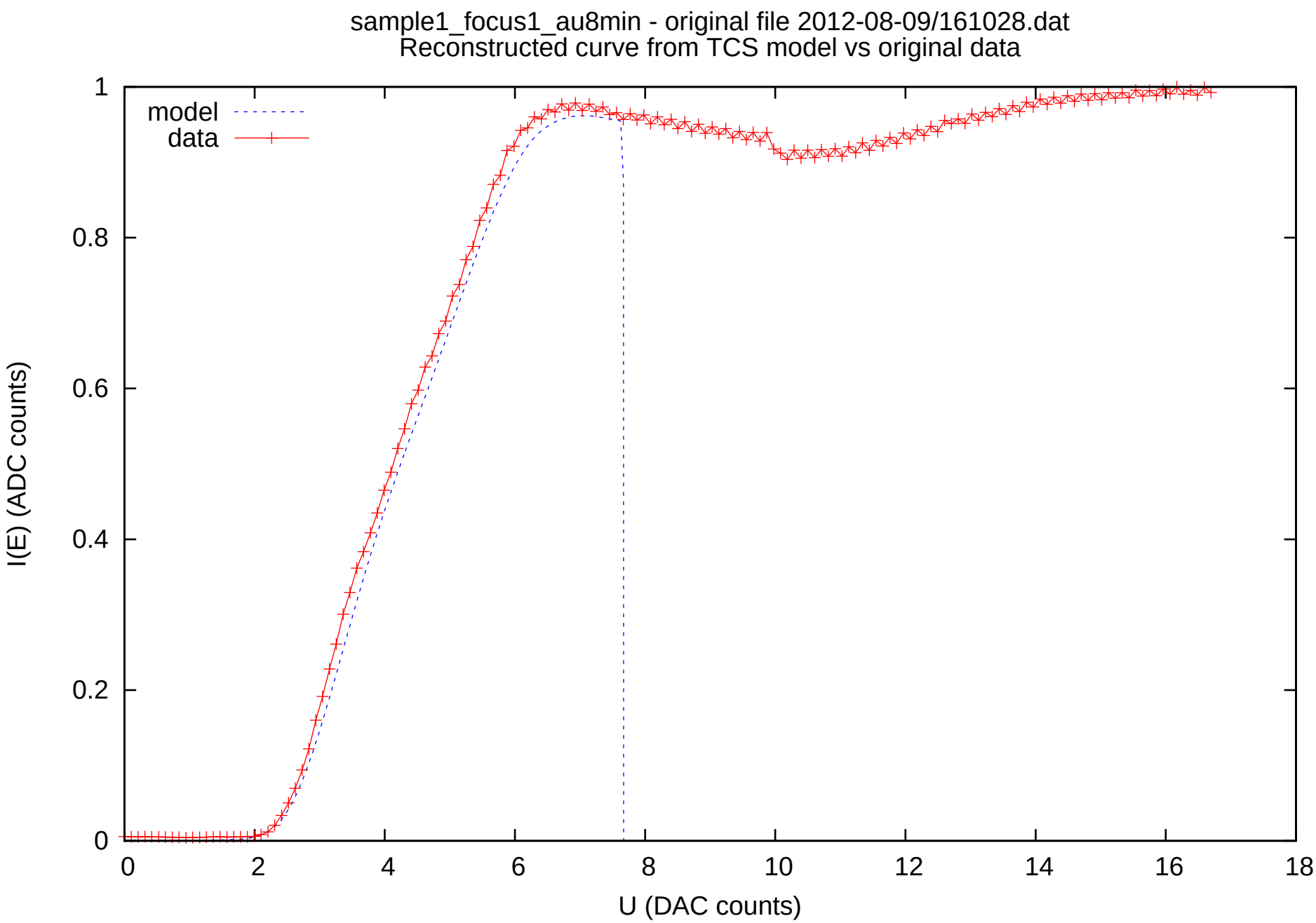

sample1_focus1_au8min - original file 2012-08-09/161028.dat
Peaks and inflection points of TCS from selected smoothing level
smooth x 2
dI(E)/dE (ADC counts / DAC counts)
U (DAC counts)
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
-0.05
0
2
4
6
8
10
12
14
16
18


sample1_focus1_au8min - original file 2012-08-09/161028.dat
Fit gaussian peaks to smoothed TCS
tcs data
dI(E)/dE (ADC counts / DAC counts)
U (DAC counts)
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
-0.05
0
2
4
6
8
10
12
14
16
18


sample1_focus1_au8min - original file 2012-08-09/161028.dat
Location of peaks in model
model
dI(E)/dE (ADC counts / DAC counts)
U (DAC counts)
0
-50
-100
-150
-200
0
2
4
6
8
10
12
14
16
18


sample1_focus1_au8min - original file 2012-08-09/161028.dat
Individual gaussian peaks from fit
dI(E)/dE (ADC counts / DAC counts)
U (DAC counts)
0
-2000
-4000
-6000
-8000
-10000
-12000
-14000
-16000
-18000
0
2
4
6
8
10
12
14
16
18


sample1_focus1_au8min - original file 2012-08-09/161028.dat
Deconvolved gaussian peaks from fit - Peaks shown
dI(E)/dE (ADC counts / DAC counts)
U (DAC counts)
20
0
-20
-40
-60
-80
-100
-120
-140
0
2
4
6
8
10
12
14
16
18


sample1_focus1_au8min - original file 2012-08-09/161028.dat
Reconstructed curve from TCS model vs original data
model
data
I(E) (ADC counts)
U (DAC counts)
0
0.2
0.4
0.6
0.8
1
0
2
4
6
8
10
12
14
16
18