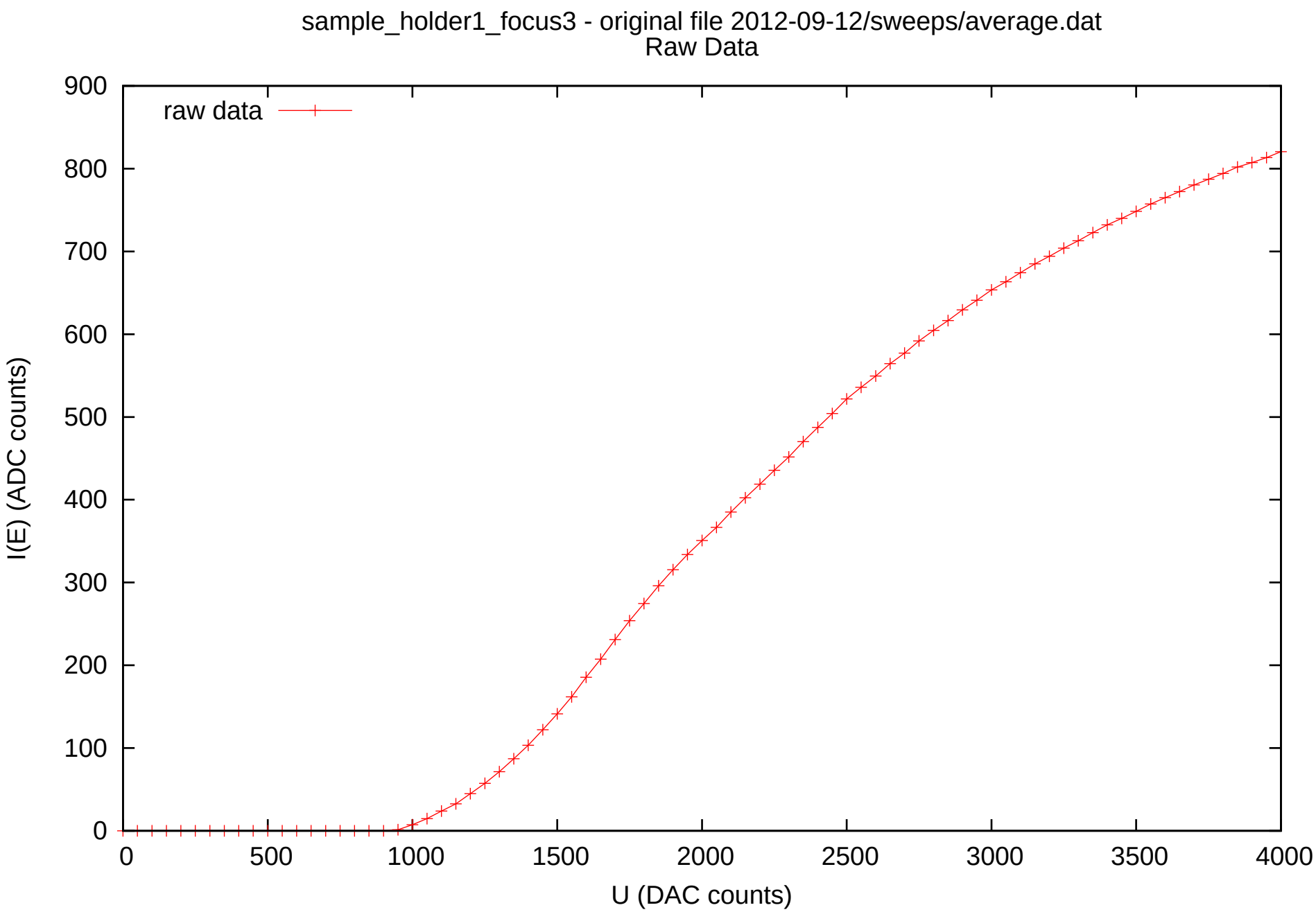
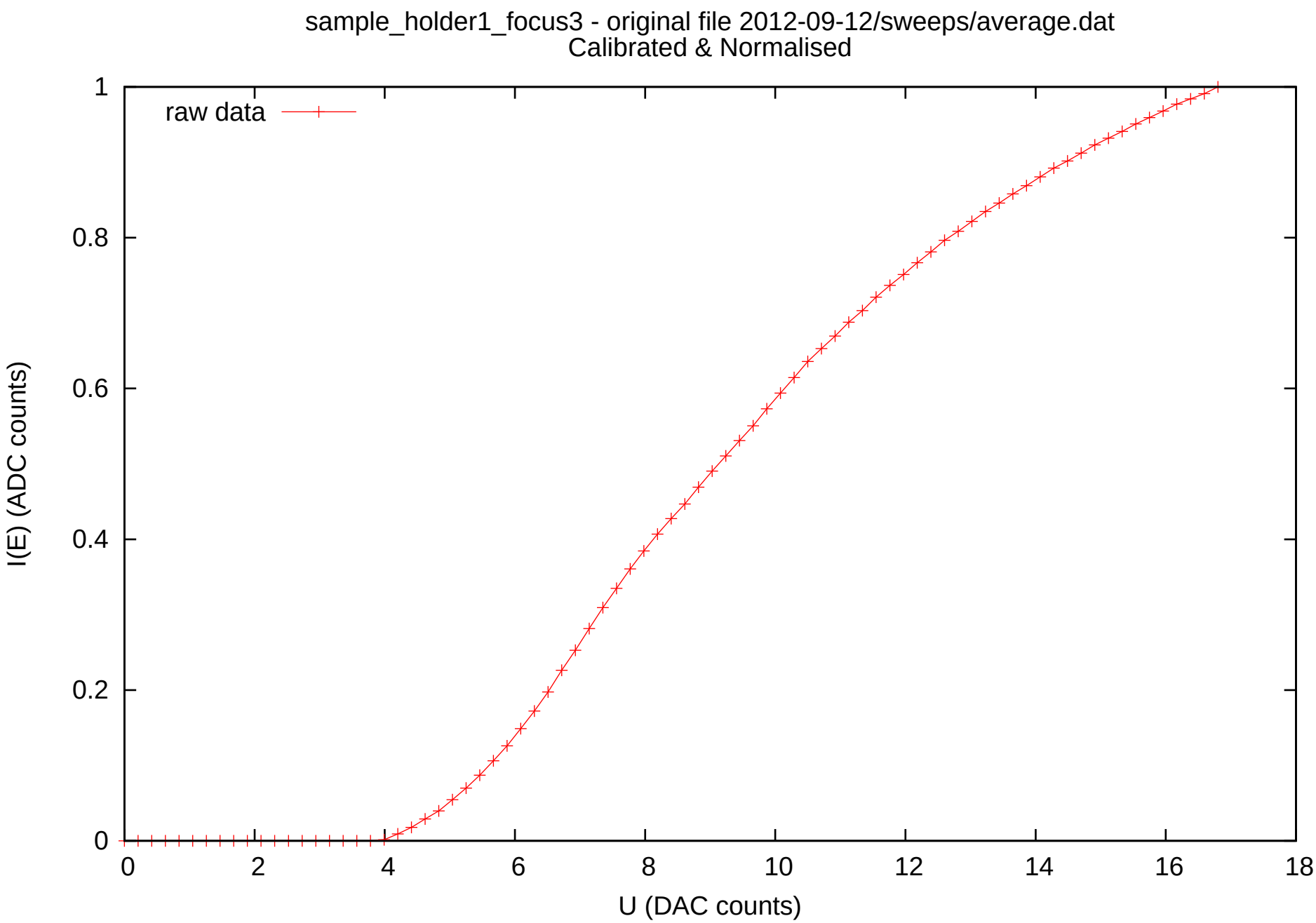
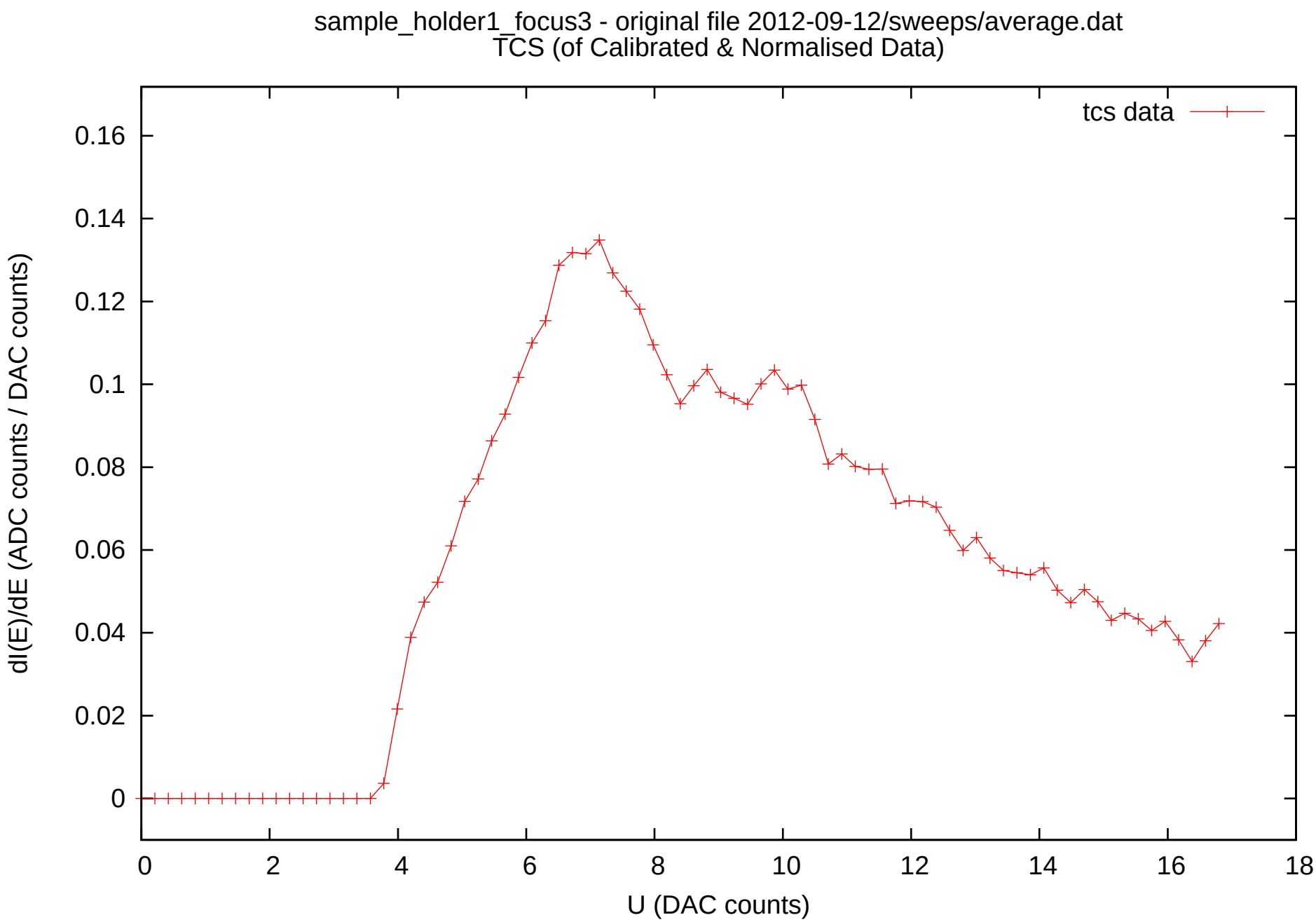
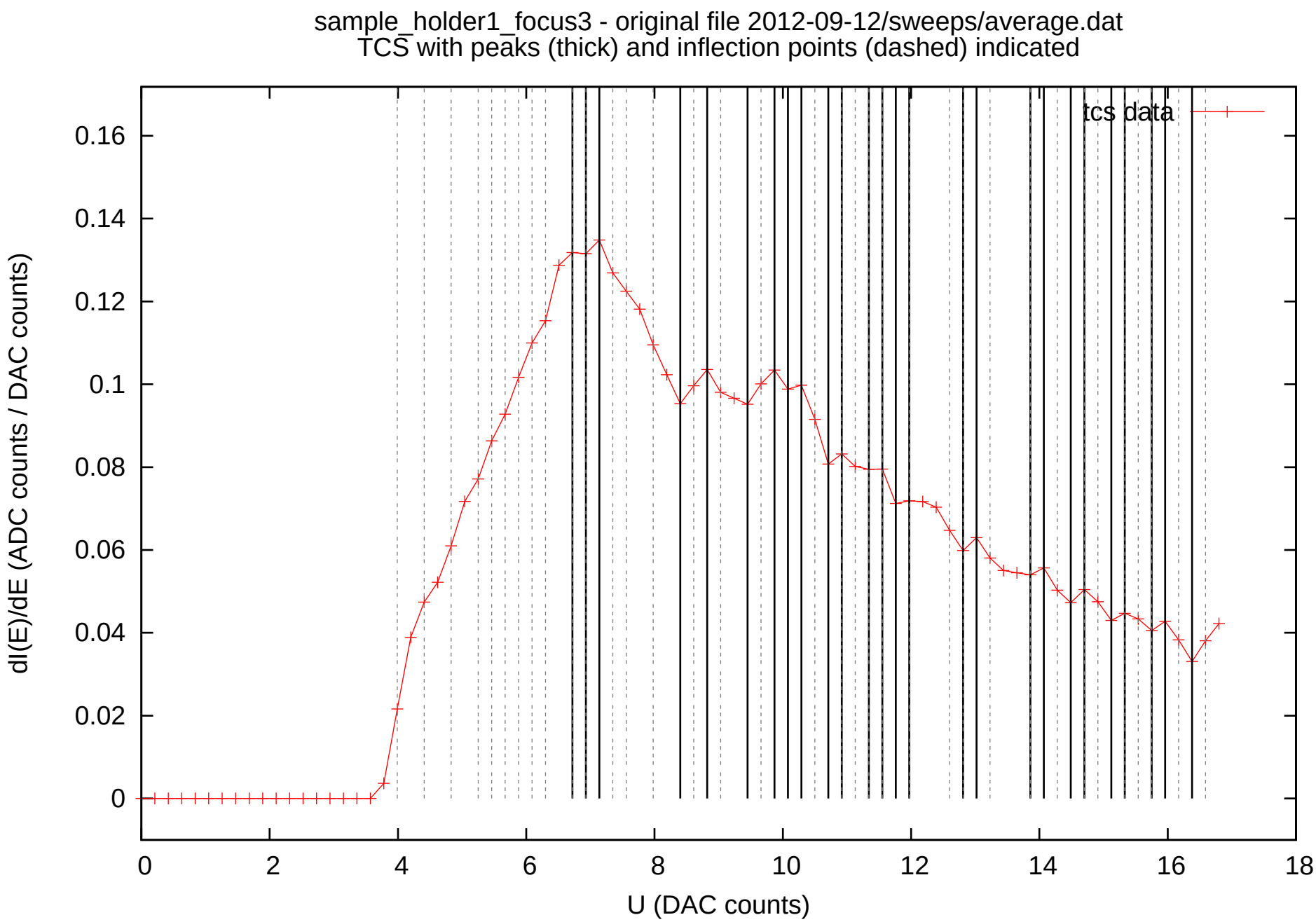
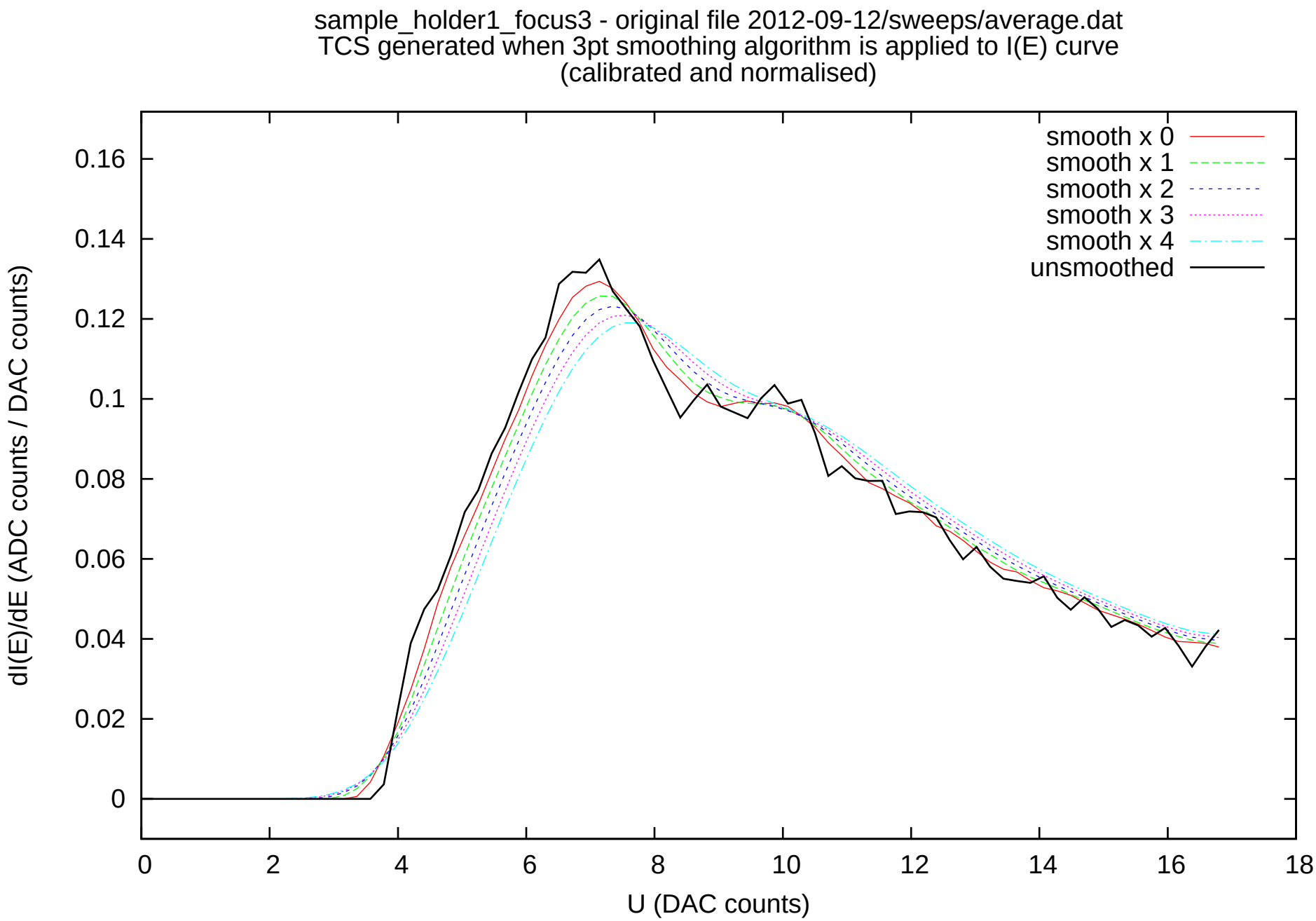
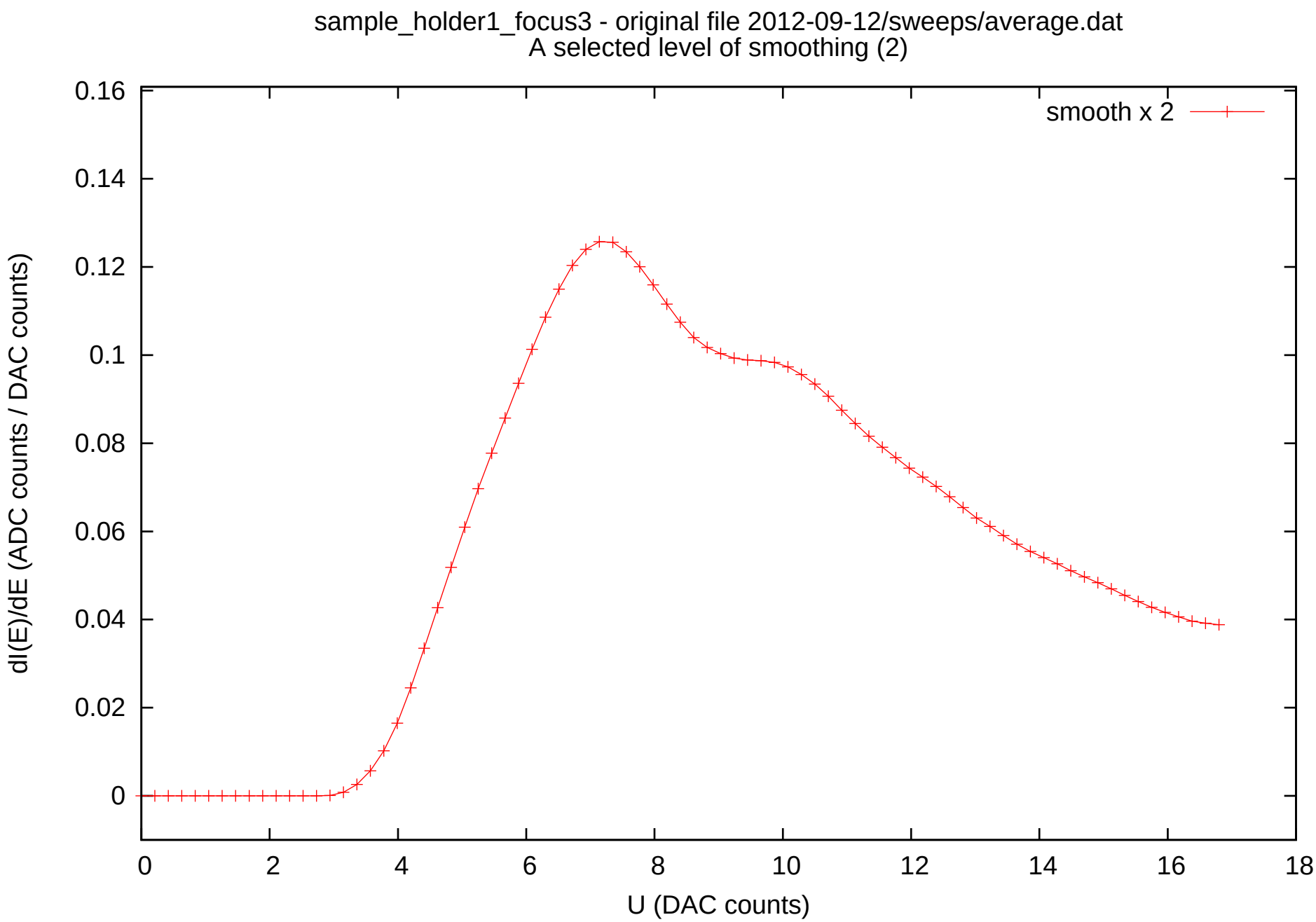

sample_holder1_focus3 - original file 2012-09-12/sweeps/average.dat
Raw Data
raw data
I(E) (ADC counts)
U (DAC counts)
0
100
200
300
400
500
600
700
800
900
0
500
1000
1500
2000
2500
3000
3500
4000

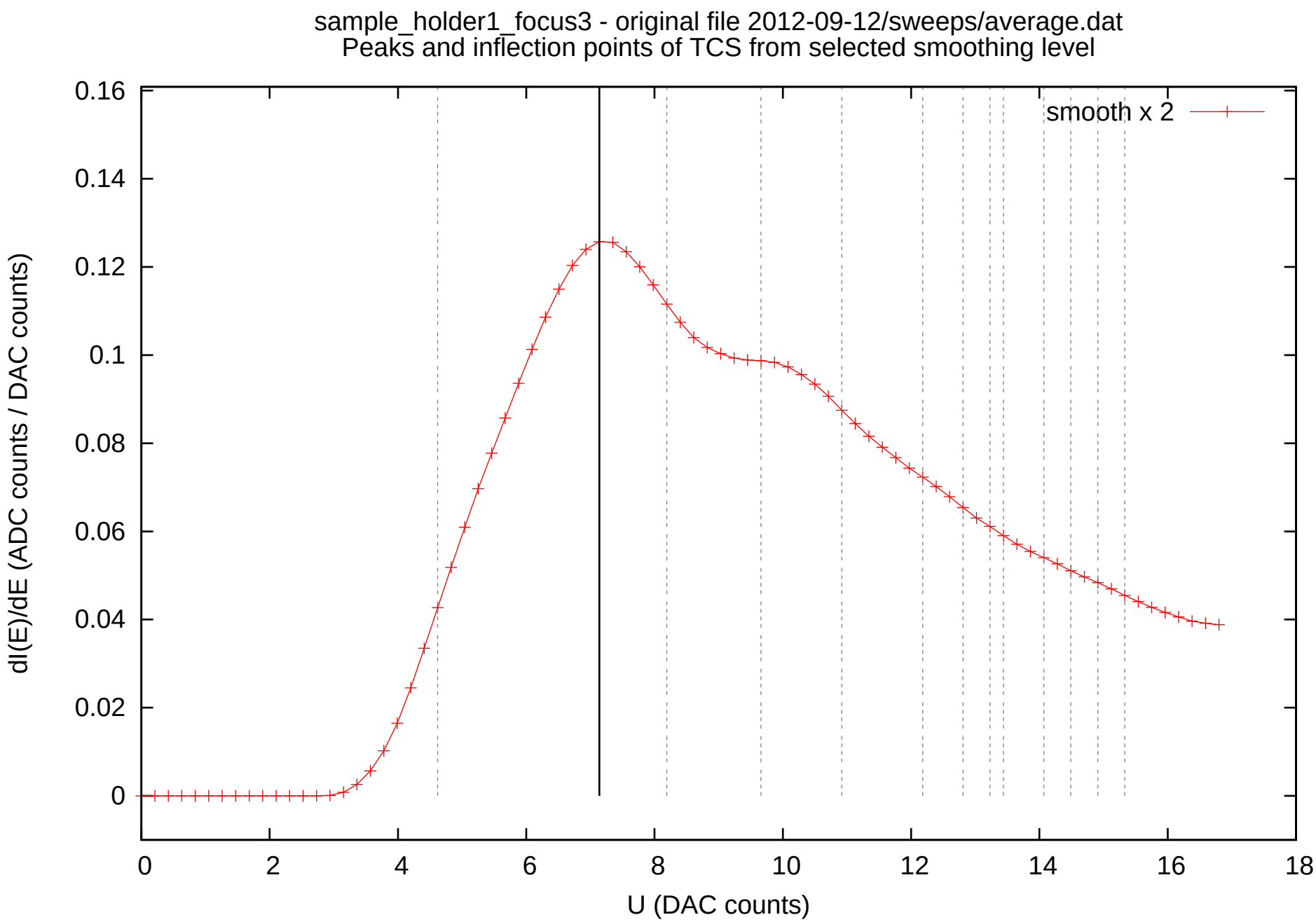

sample_holder1_focus3 - original file 2012-09-12/sweeps/average.dat
Calibrated & Normalised
raw data
I(E) (ADC counts)
U (DAC counts)
0
0.2
0.4
0.6
0.8
1
0
2
4
6
8
10
12
14
16
18

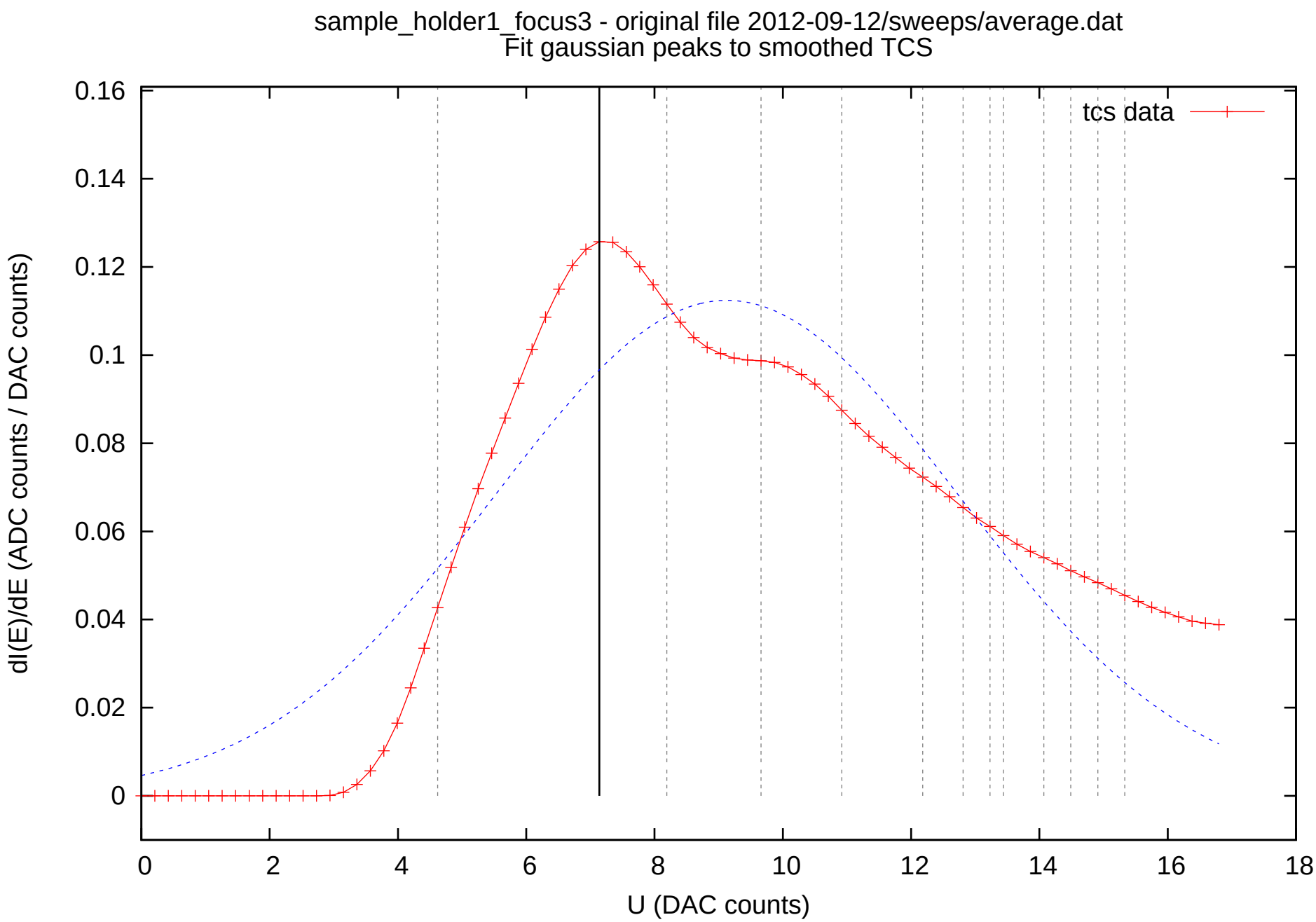

sample_holder1_focus3 - original file 2012-09-12/sweeps/average.dat
TCS (of Calibrated & Normalised Data)
tcs data
dI(E)/dE (ADC counts / DAC counts)
U (DAC counts)
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
0
2
4
6
8
10
12
14
16
18

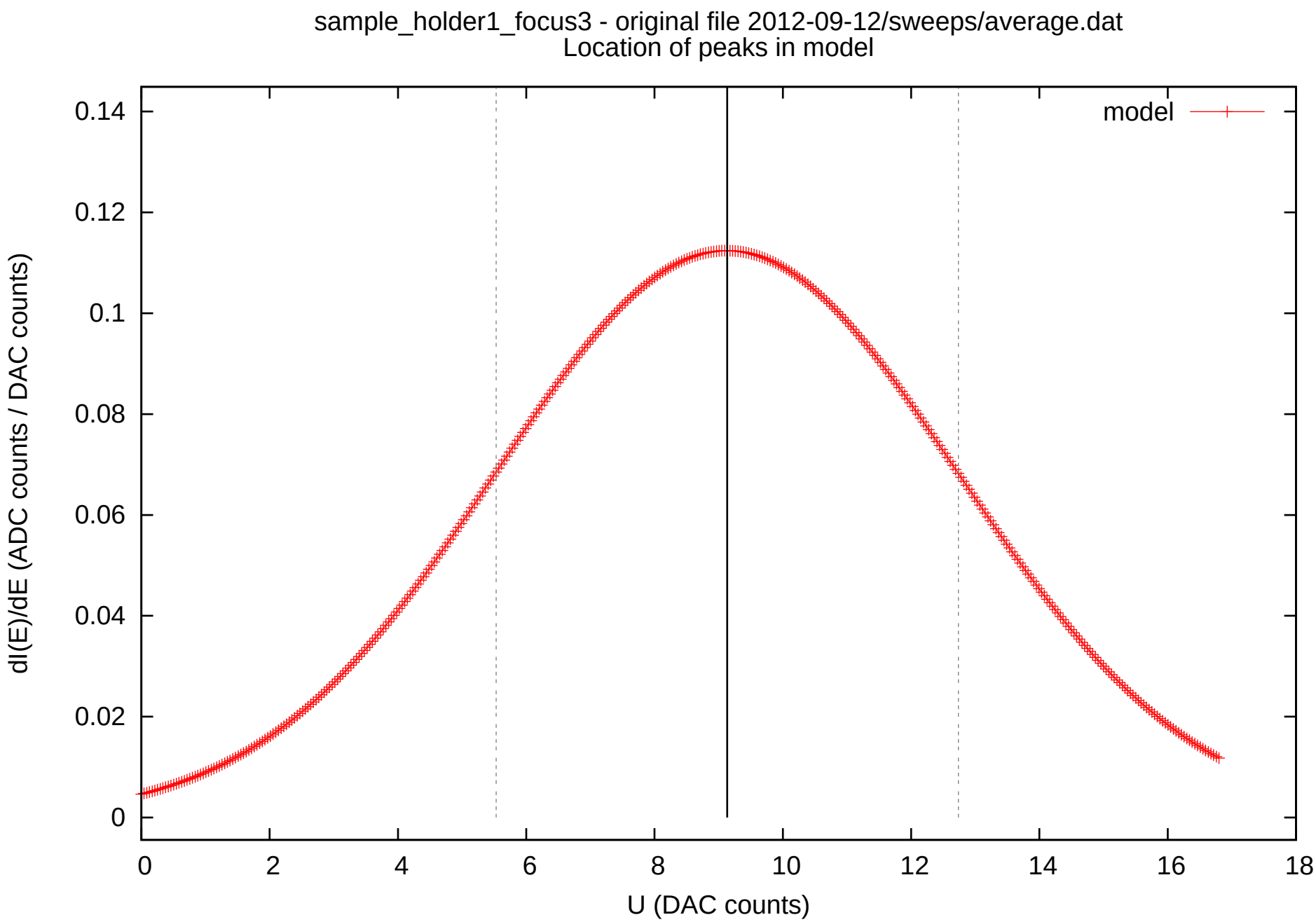

sample_holder1_focus3 - original file 2012-09-12/sweeps/average.dat
TCS with peaks (thick) and inflection points (dashed) indicated
tcs data
dI(E)/dE (ADC counts / DAC counts)
U (DAC counts)
0
0.02
0.04
0.06
0.08
0.1
0.12
0.14
0.16
0
2
4
6
8
10
12
14
16
18

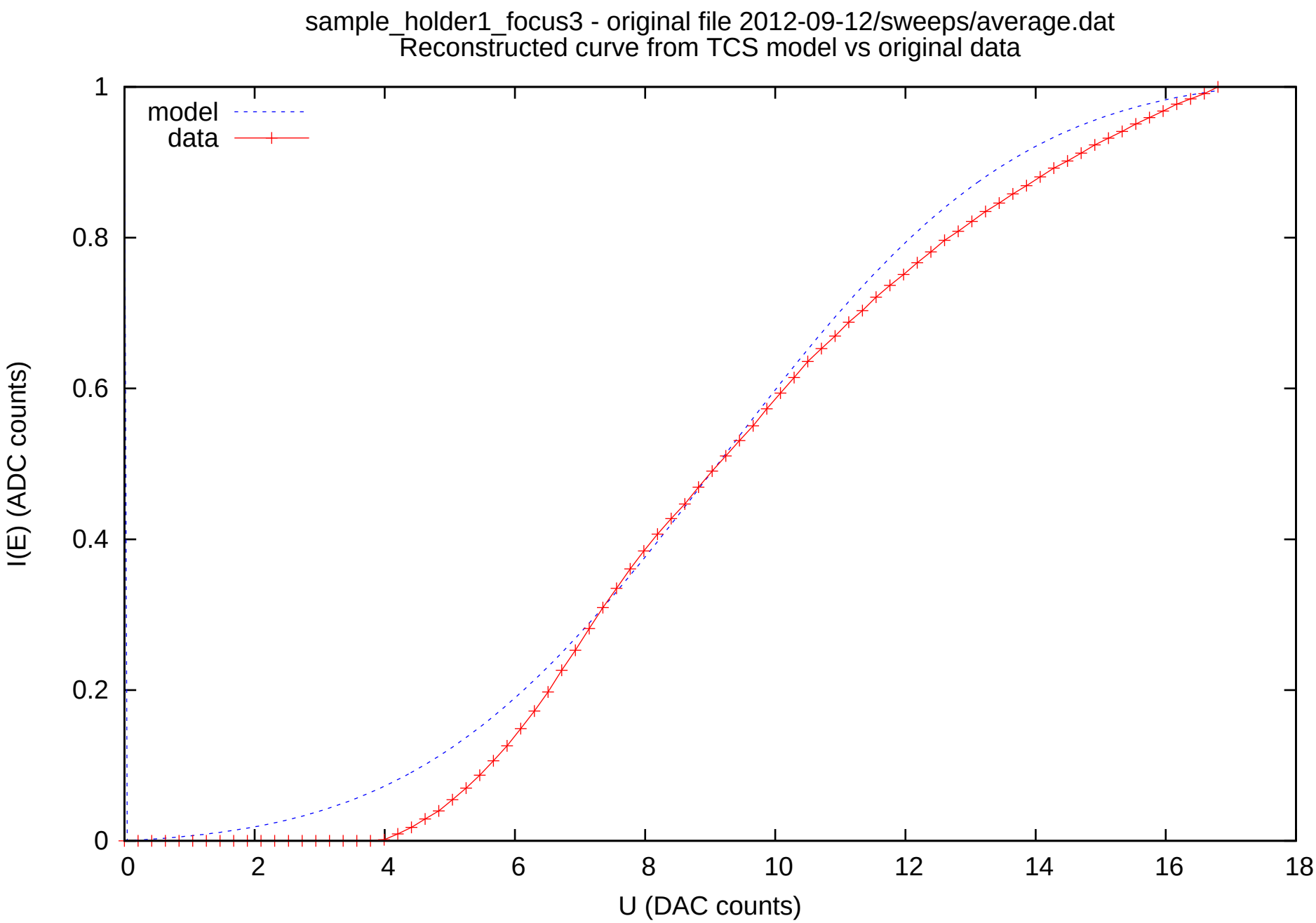

sample_holder1_focus3 - original file 2012-09-12/sweeps/average.dat
TCS generated when 3pt smoothing algorithm is applied to I(E) curve
(calibrated and normalised)
smooth x 0
smooth x 1
smooth x 2
smooth x 3
smooth x 4
unsmoothed
dI(E)/dE (ADC counts / DAC counts)
U (DAC counts)
0
0.02
0.04
0.06
0.08
0.1
0.12
0.14
0.16
0
2
4
6
8
10
12
14
16
18


sample_holder1_focus3 - original file 2012-09-12/sweeps/average.dat
A selected level of smoothing (2)
smooth x 2
dI(E)/dE (ADC counts / DAC counts)
U (DAC counts)
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
0
2
4
6
8
10
12
14
16
18


sample_holder1_focus3 - original file 2012-09-12/sweeps/average.dat
Peaks and inflection points of TCS from selected smoothing level
smooth x 2
dI(E)/dE (ADC counts / DAC counts)
U (DAC counts)
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
0
2
4
6
8
10
12
14
16
18


sample_holder1_focus3 - original file 2012-09-12/sweeps/average.dat
Fit gaussian peaks to smoothed TCS
tcs data
dI(E)/dE (ADC counts / DAC counts)
U (DAC counts)
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
0
2
4
6
8
10
12
14
16
18


sample_holder1_focus3 - original file 2012-09-12/sweeps/average.dat
Location of peaks in model
model
dI(E)/dE (ADC counts / DAC counts)
U (DAC counts)
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
0
2
4
6
8
10
12
14
16
18


sample_holder1_focus3 - original file 2012-09-12/sweeps/average.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