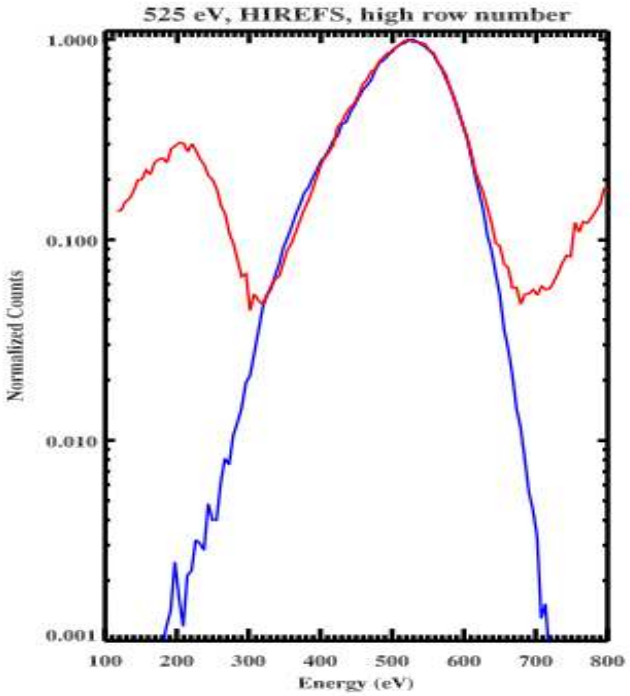
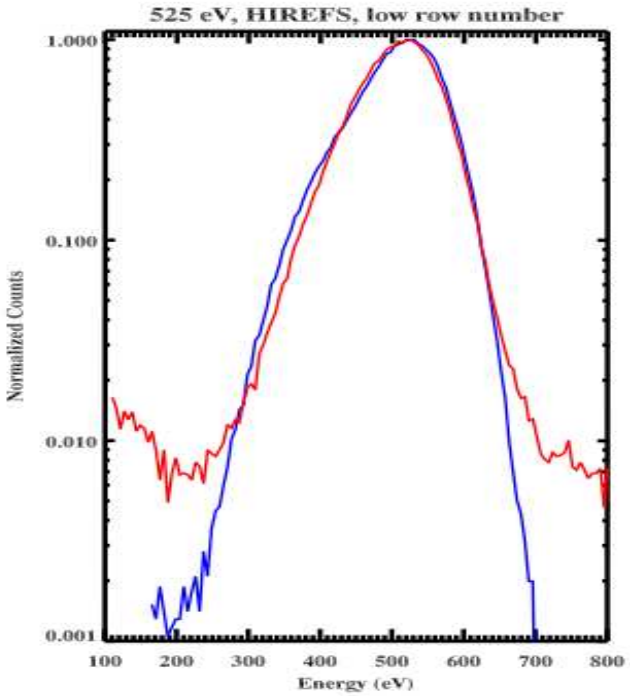
Improved model of BI CCD response at low energies.

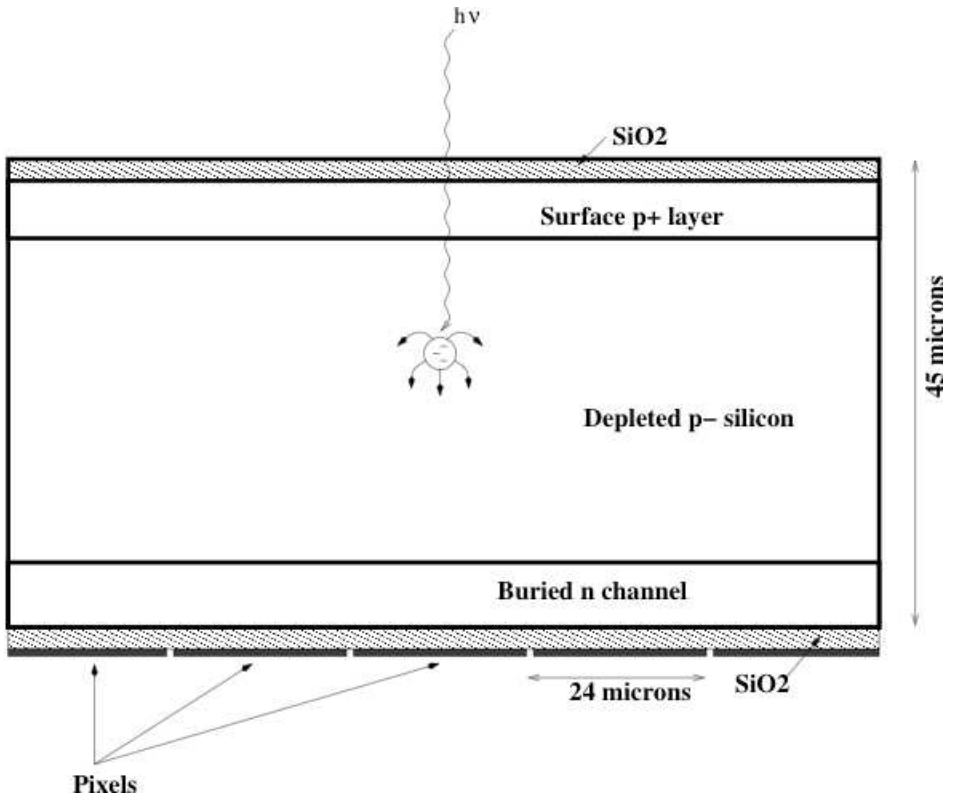
G. Prigozhin, N. Schulz, A.Vikhlinin,
J. DePasquale, P. Plucinsky

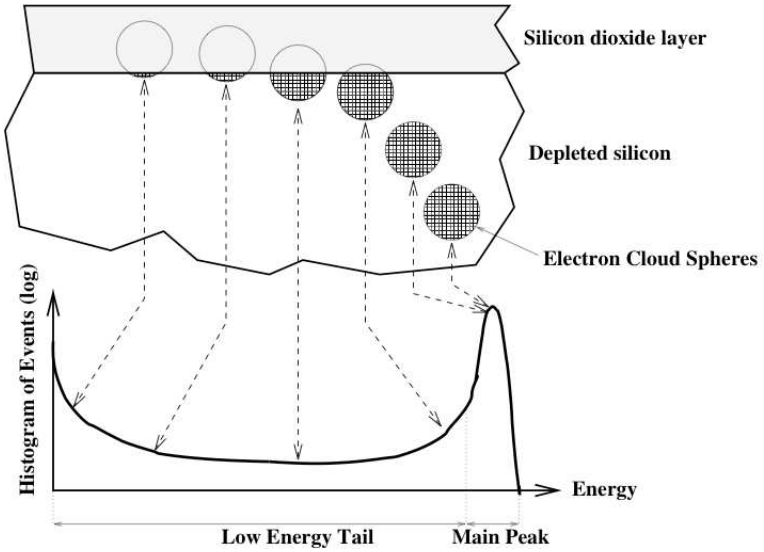
Comparison of old model with experimental data available at the time of ground calibration



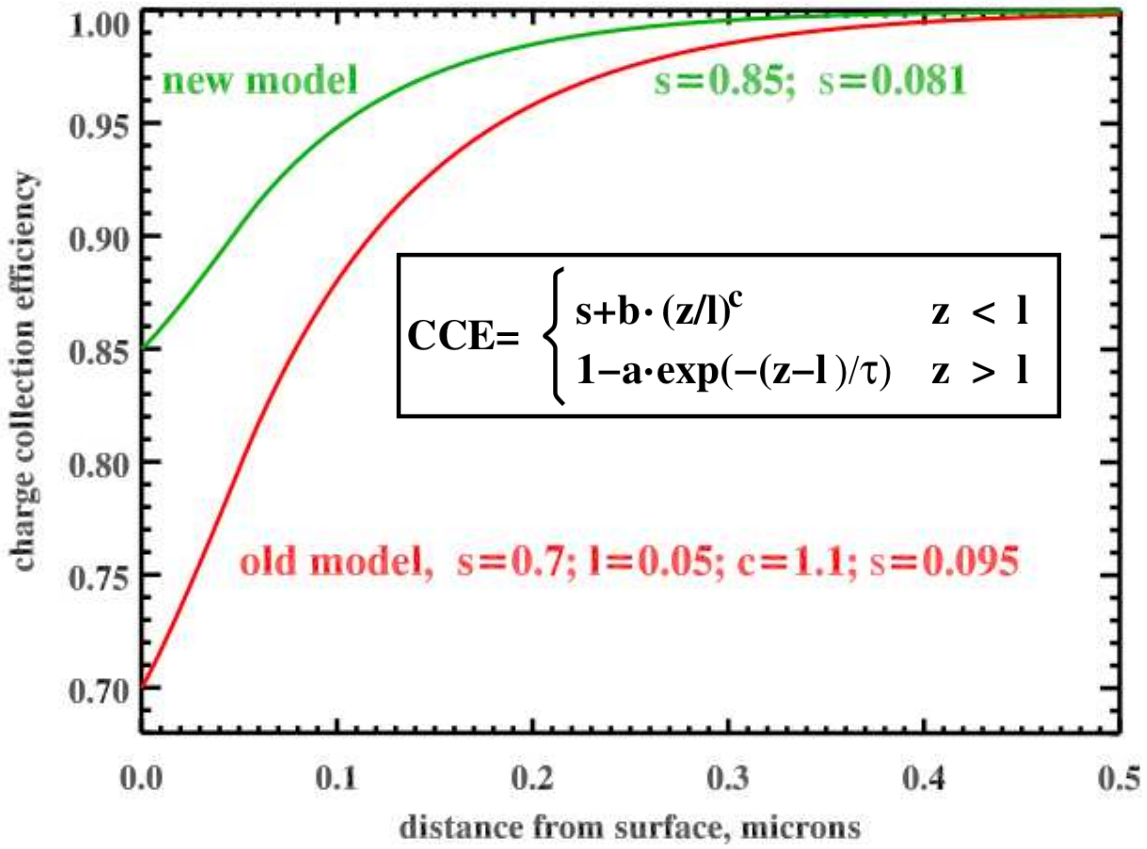


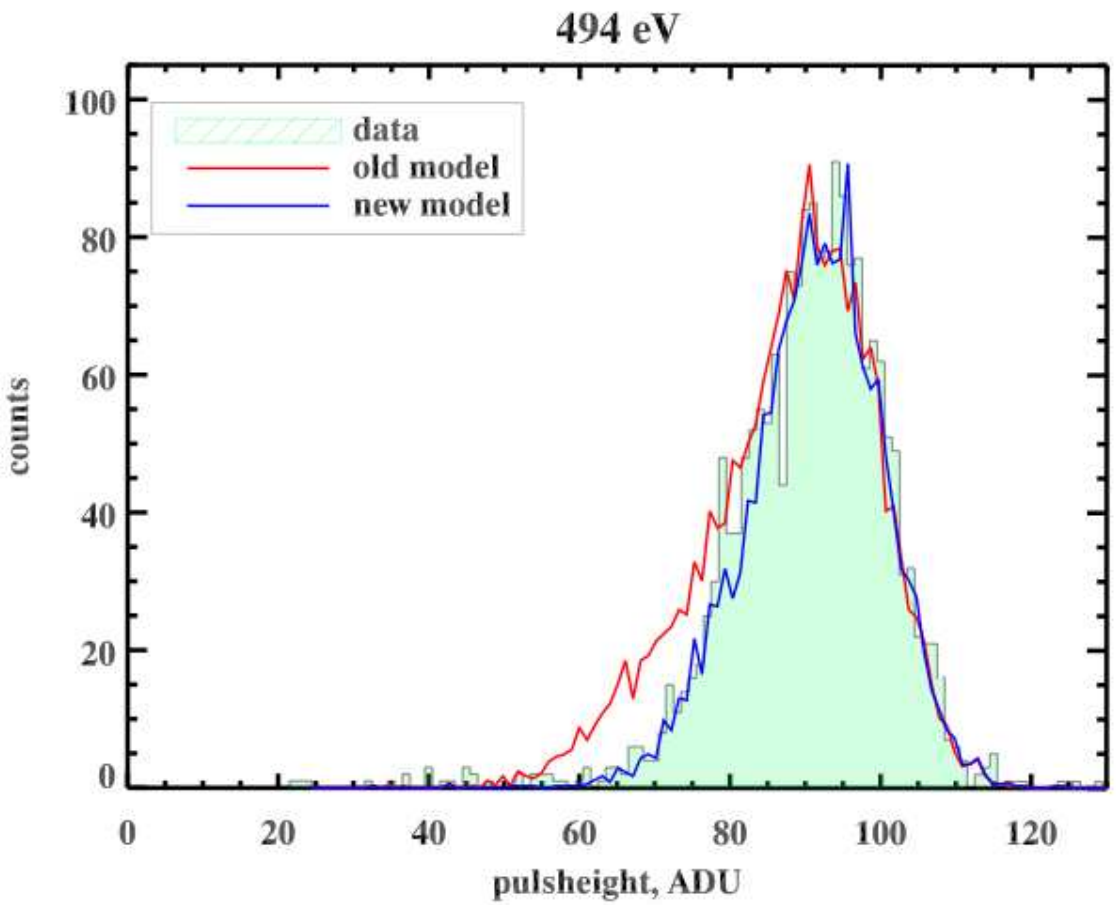
Origin of the soft tail and shoulder in the response function of the BI CCD.

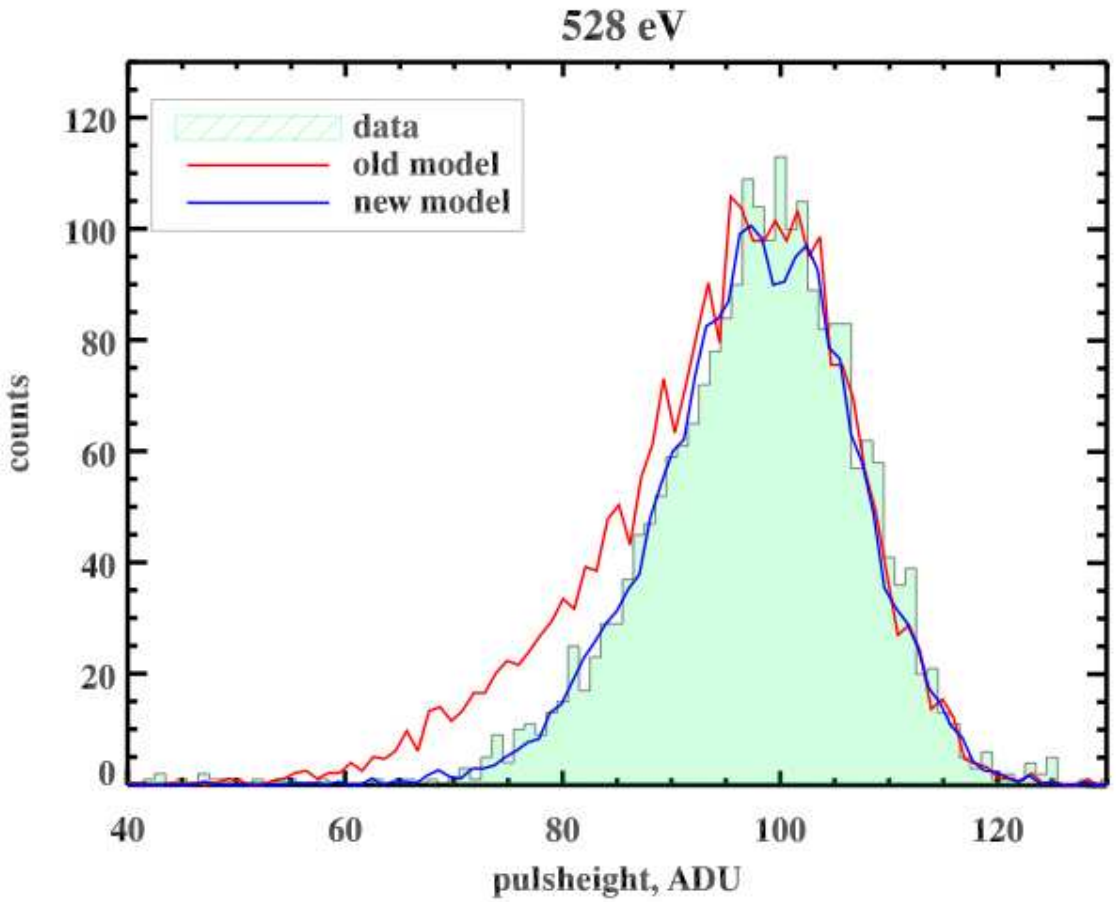


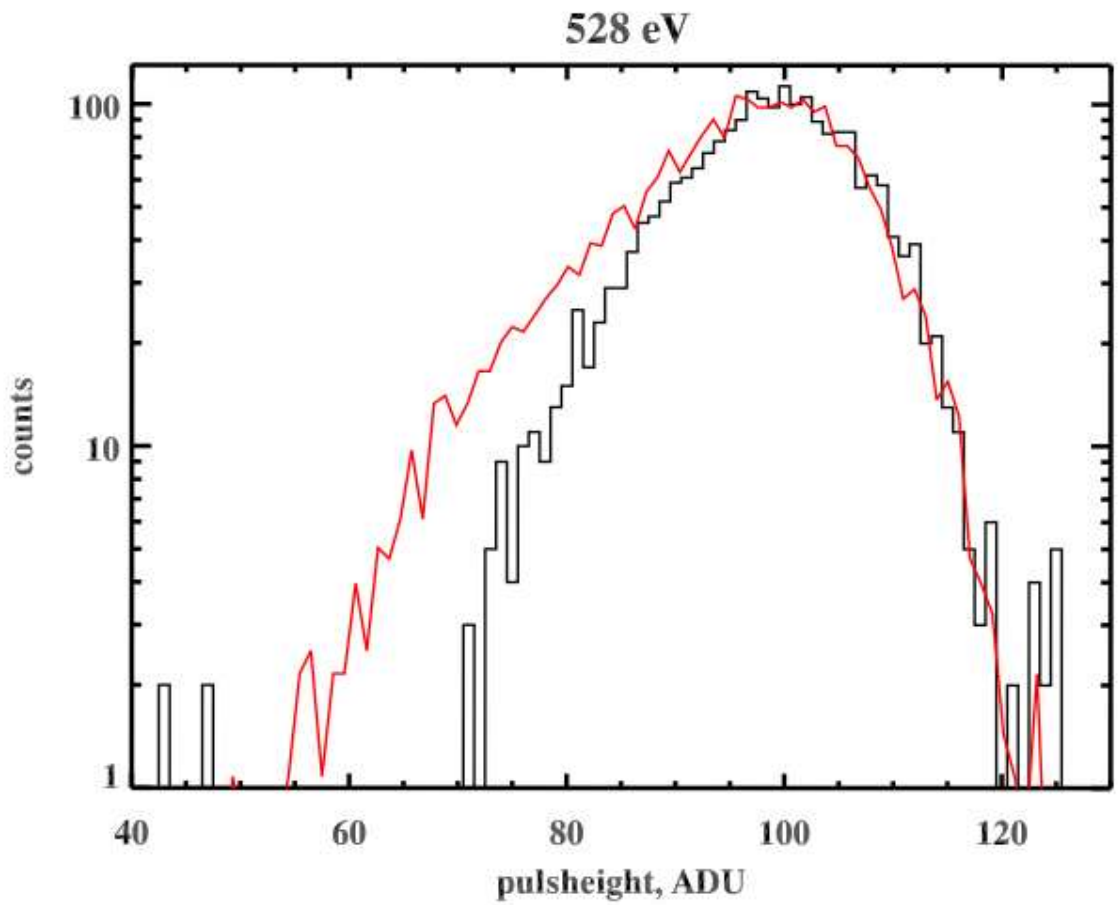


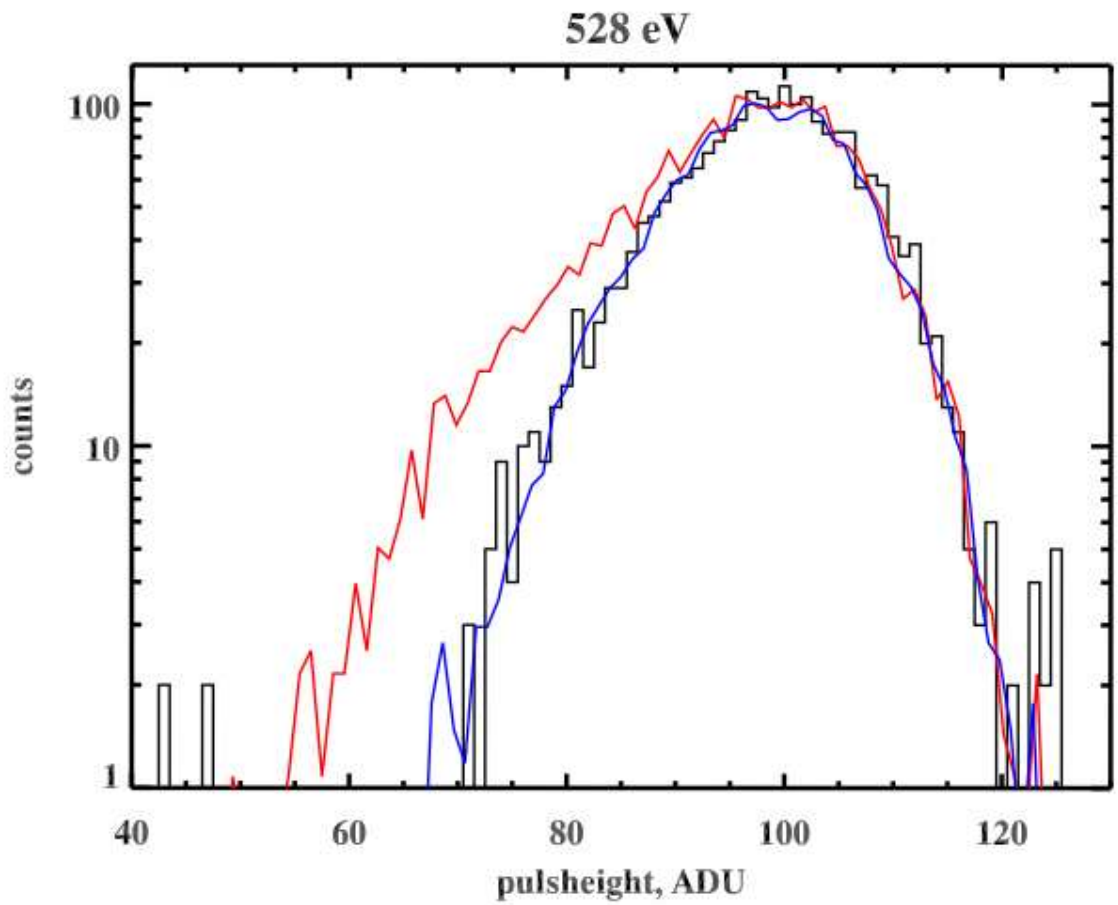
Charge collection efficiency as a function of depth for original and improved models.

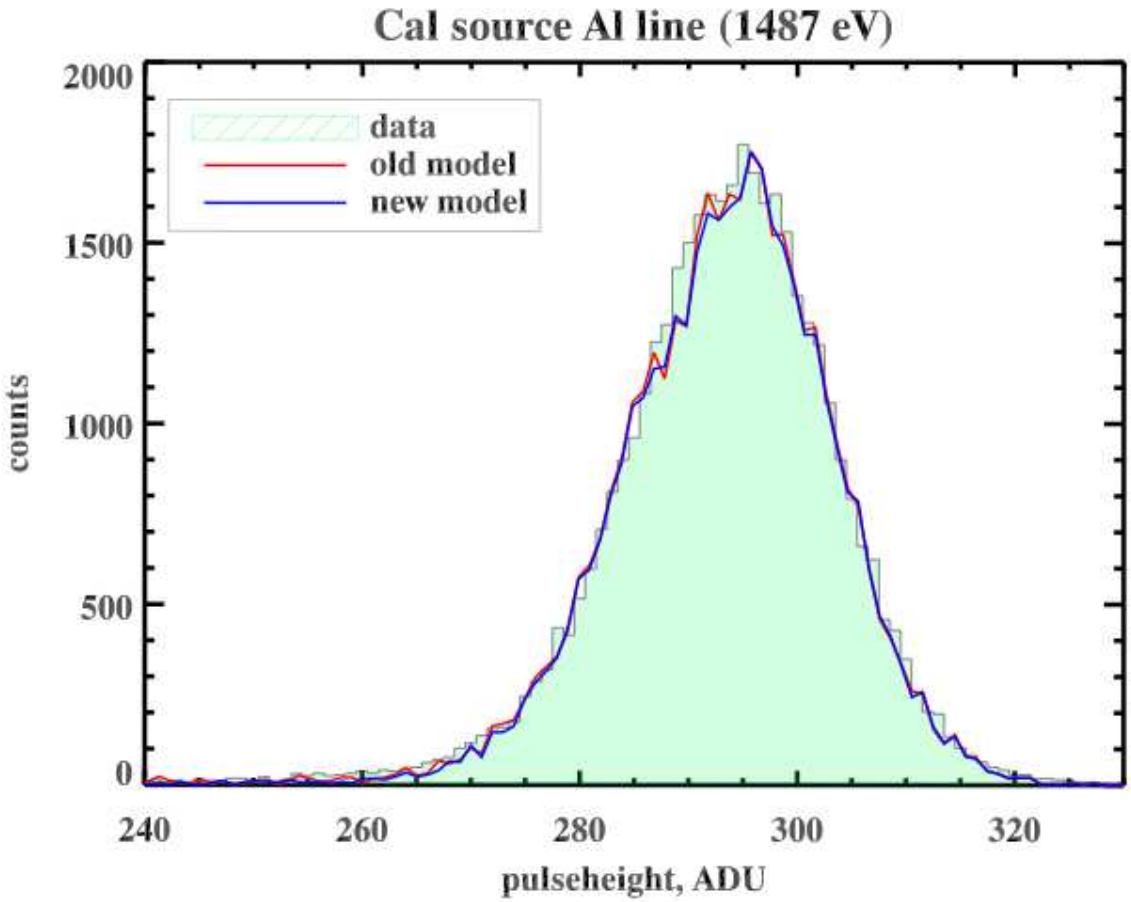


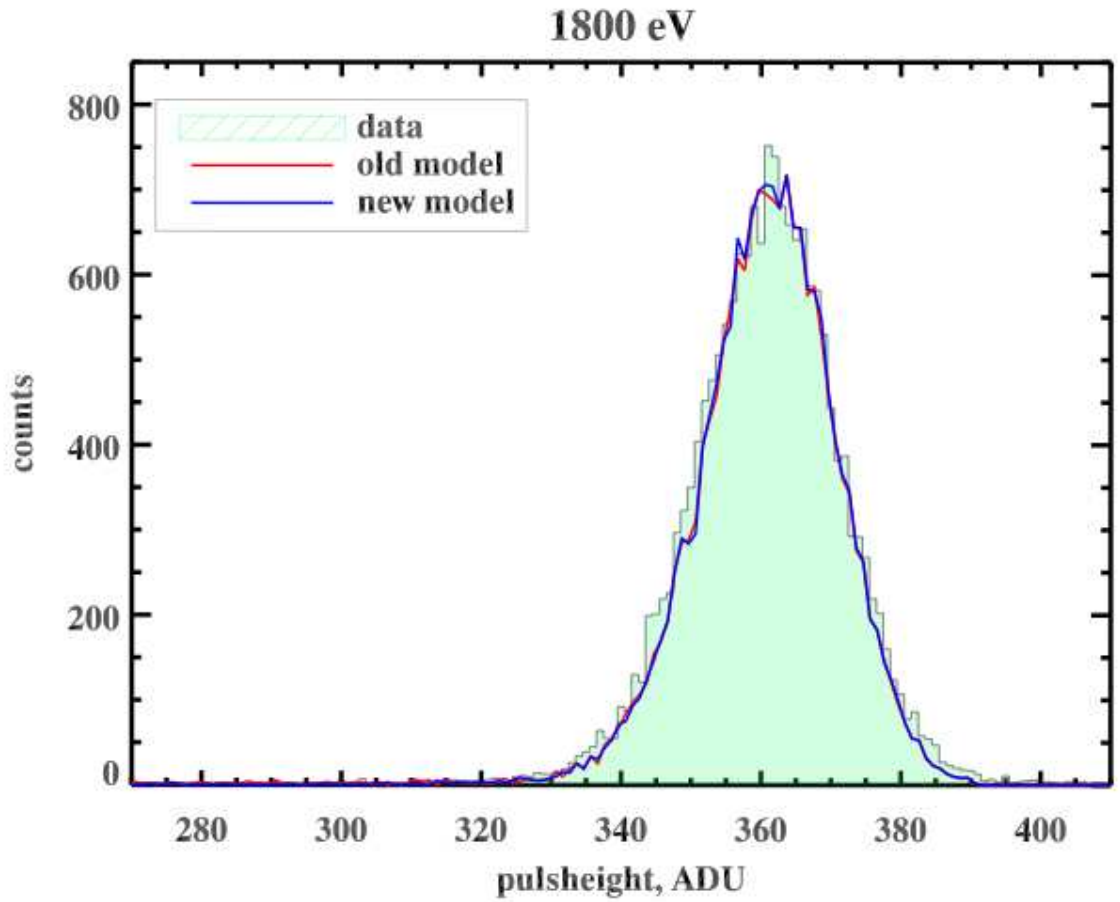

494 eV
data
old model
new model
counts
pulsheight, ADU
0
20
40
60
80
100
120

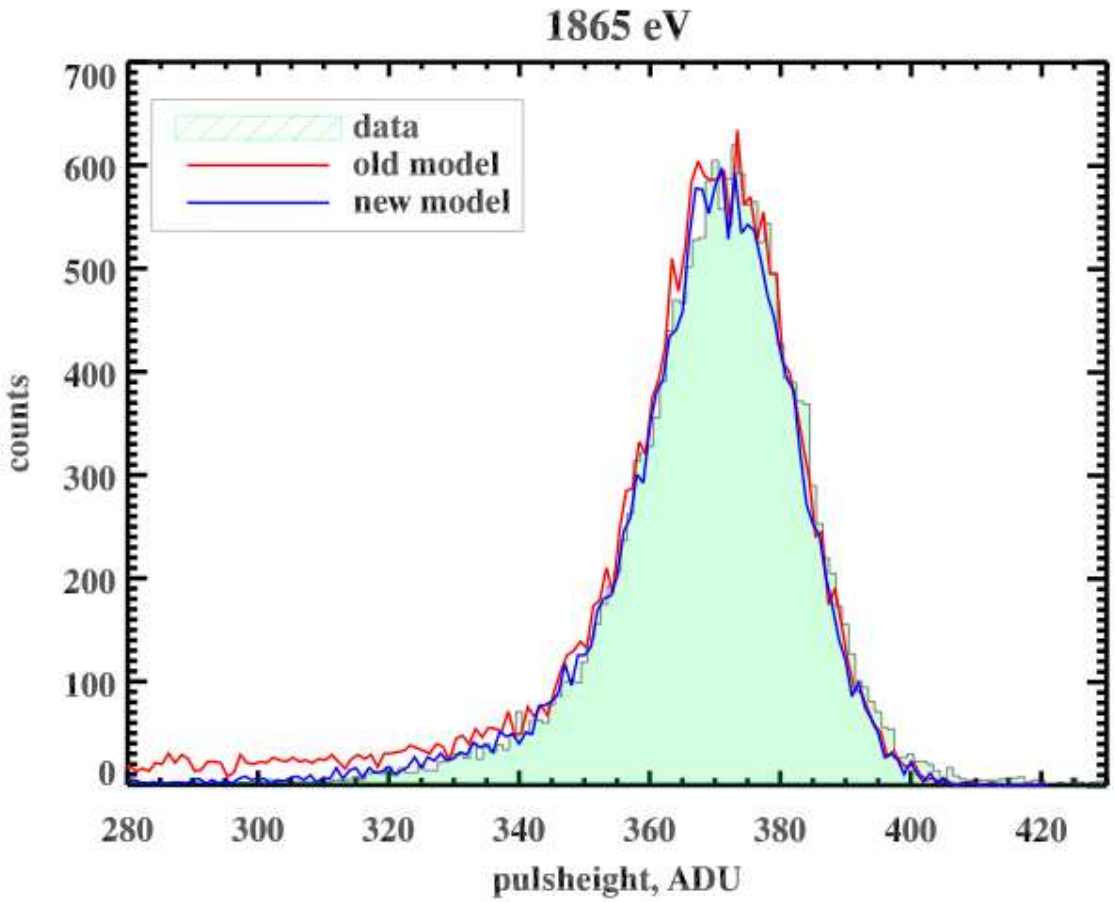

528 eV
data
old model
new model
counts
pulsheight, ADU
0
20
40
60
80
100
120
40
60
80
100
120

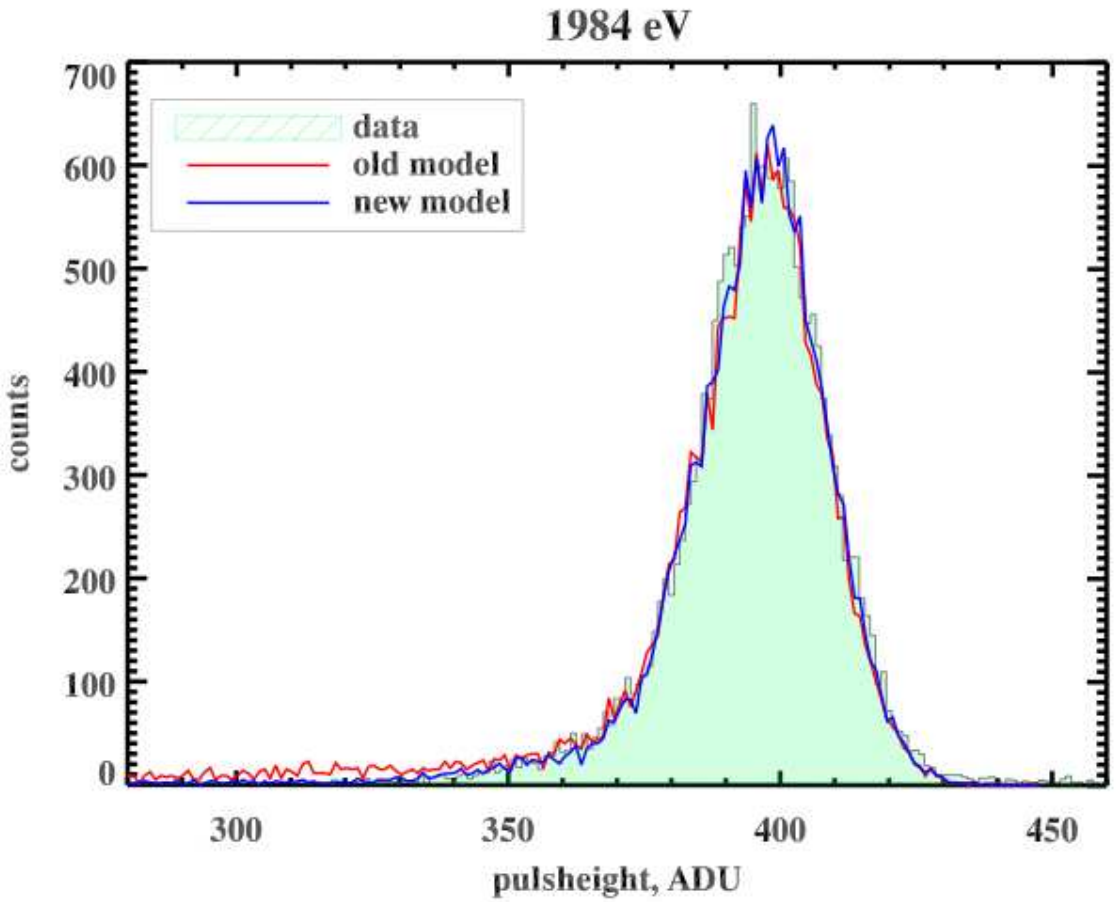
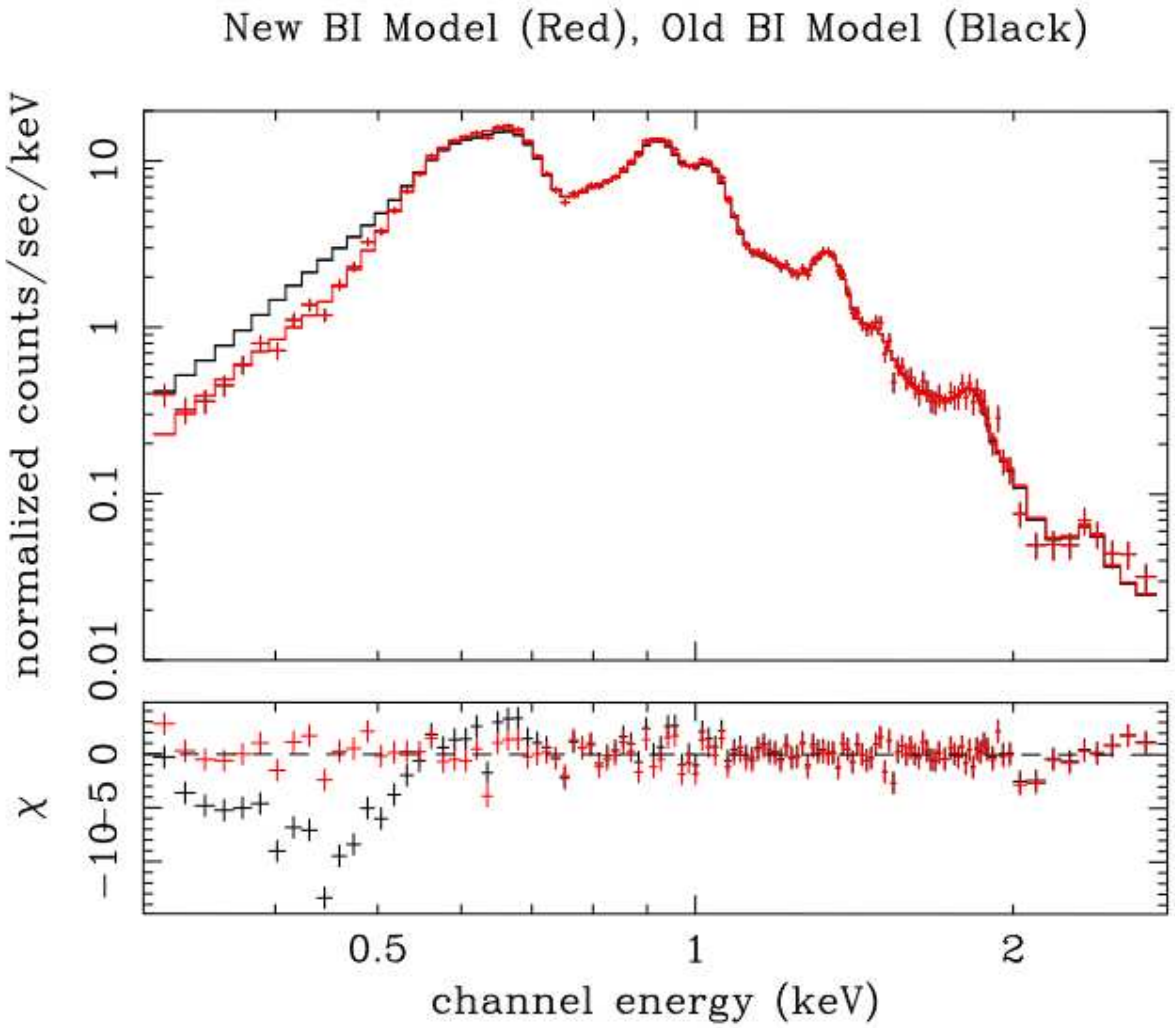

528 eV
100
10
1
counts
40
60
80
100
120
pulsheight, ADU


528 eV
100
10
1
counts
40
60
80
100
120
pulsheight, ADU


Cal source Al line (1487 eV)
data
old model
new model
counts
2000
1500
1000
500
0
240
260
280
300
320
pulseheight, ADU


1800 eV
data
old model
new model
counts
pulsheight, ADU
0
200
400
600
800
280
300
320
340
360
380
400


1865 eV
data
old model
new model
counts
pulsheight, ADU
0
100
200
300
400
500
600
700
280
300
320
340
360
380
400
420


1984 eV
data
old model
new model
counts
pulsheight, ADU
0
100
200
300
400
500
600
700
300
350
400
450

Specral Fit to the E0102, obsid 3520, Feb 2003