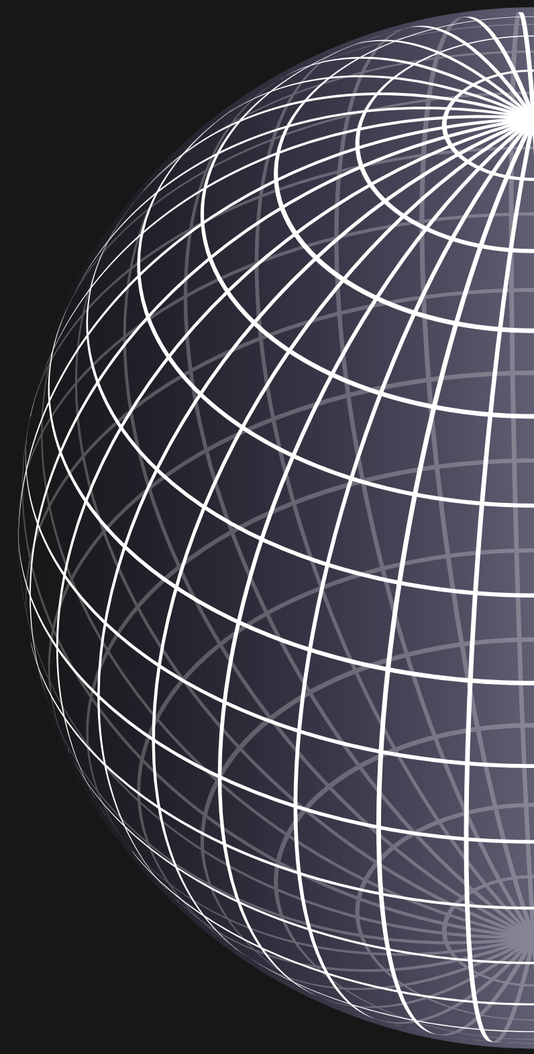
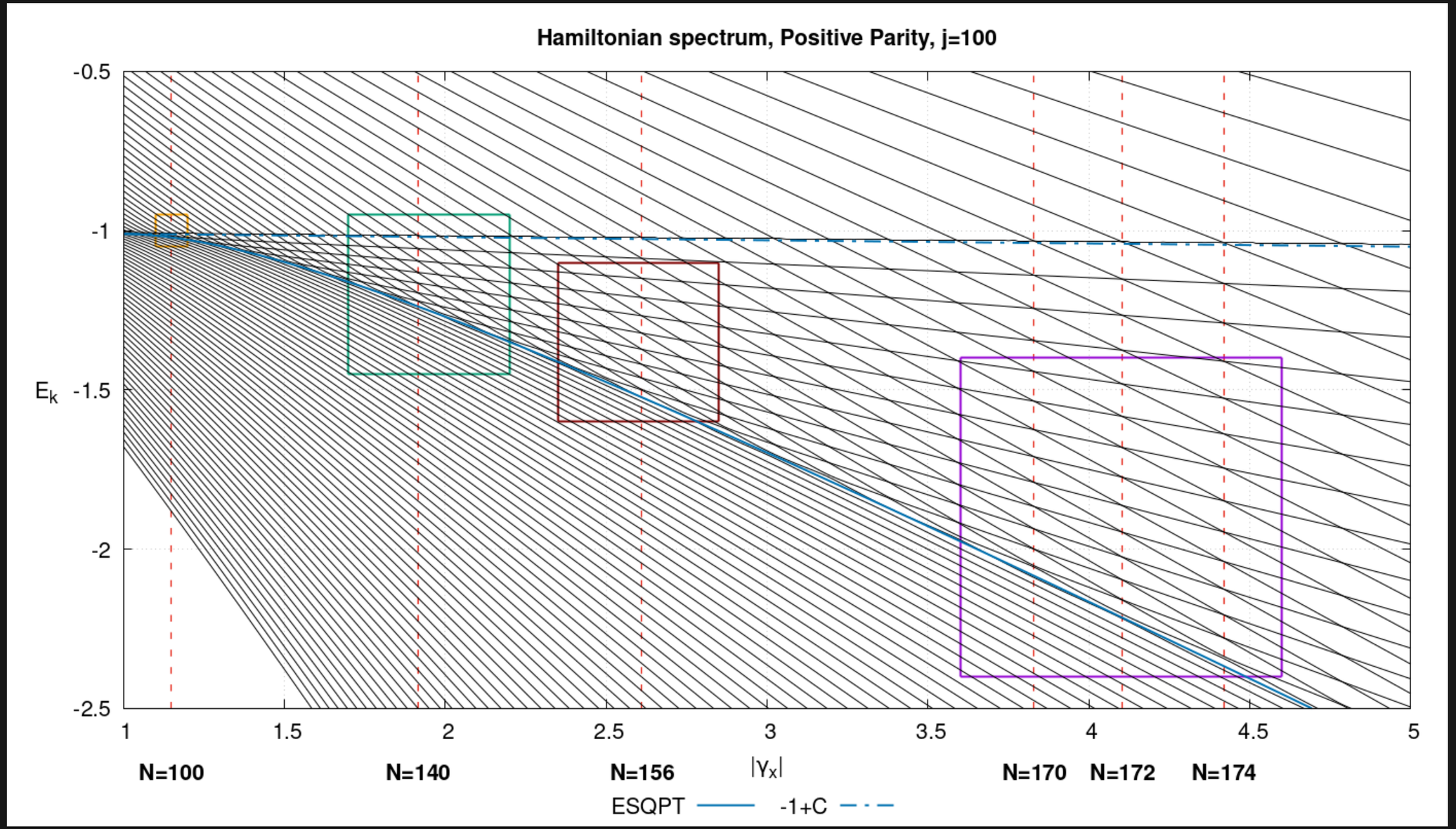
LINEAR FITS

Isaías Siliceo



LMG energy spectrum



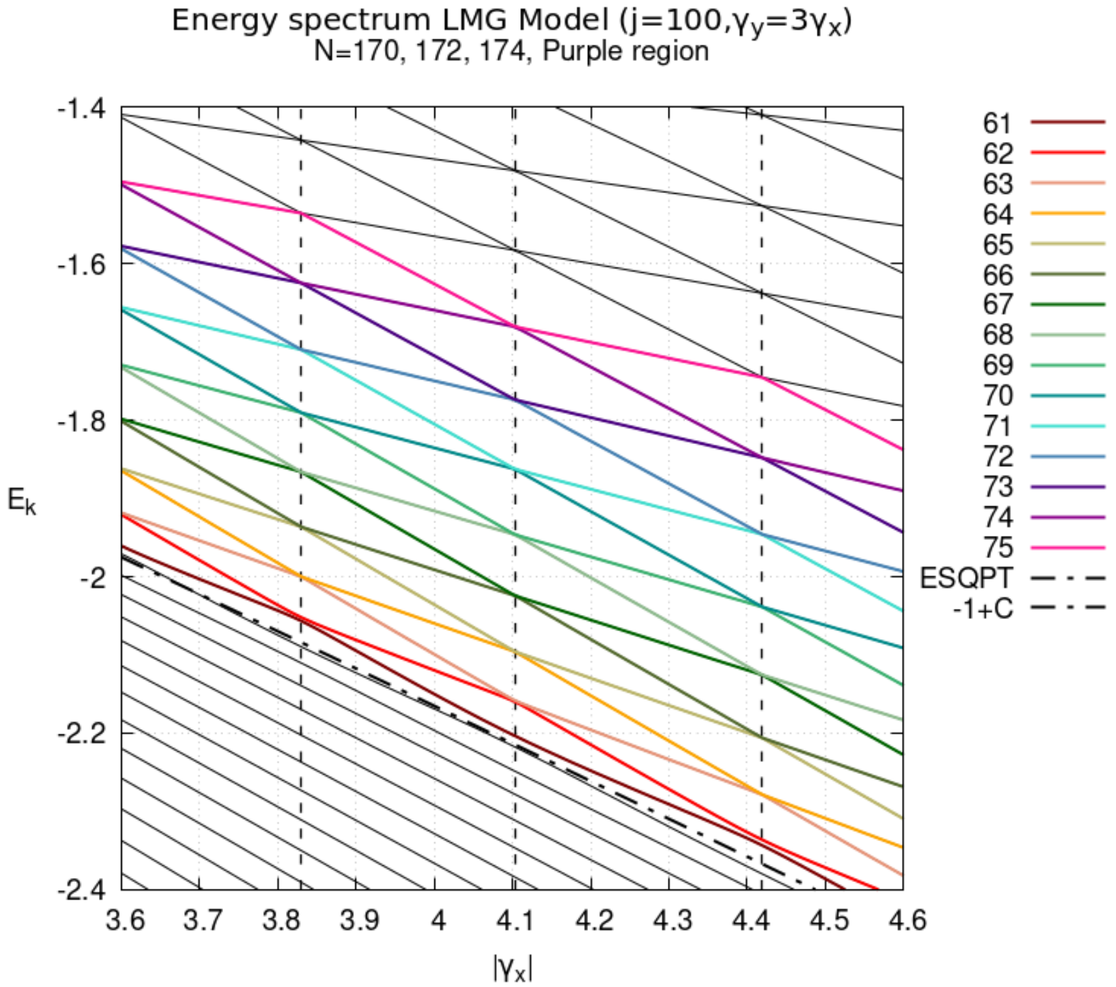
Previous result

- ACs at N= 170 & 174 correspond to different pairs of levels.

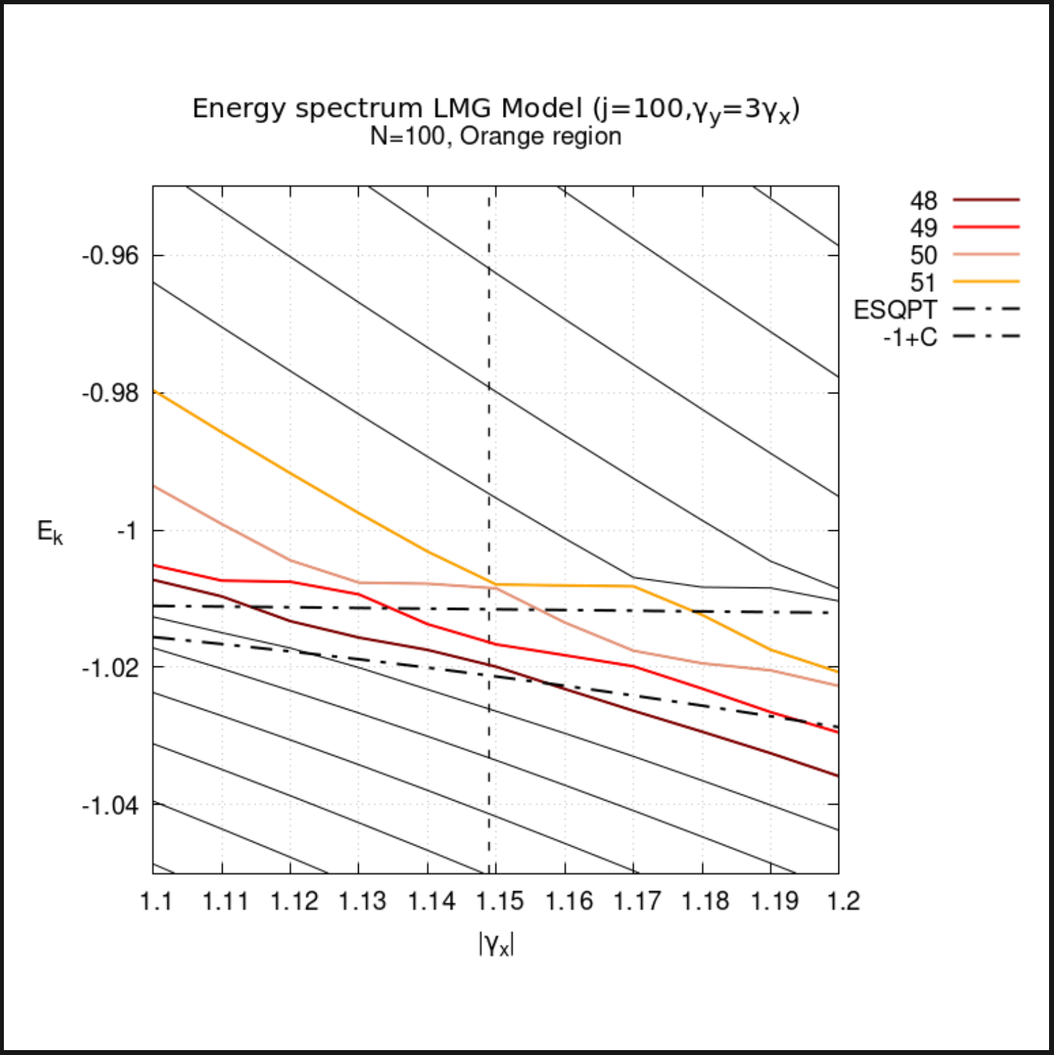
(61-62) -> (63-64) -> (65-66)-> ... (73-74)

- ACs at N=172 correspond to the pairs

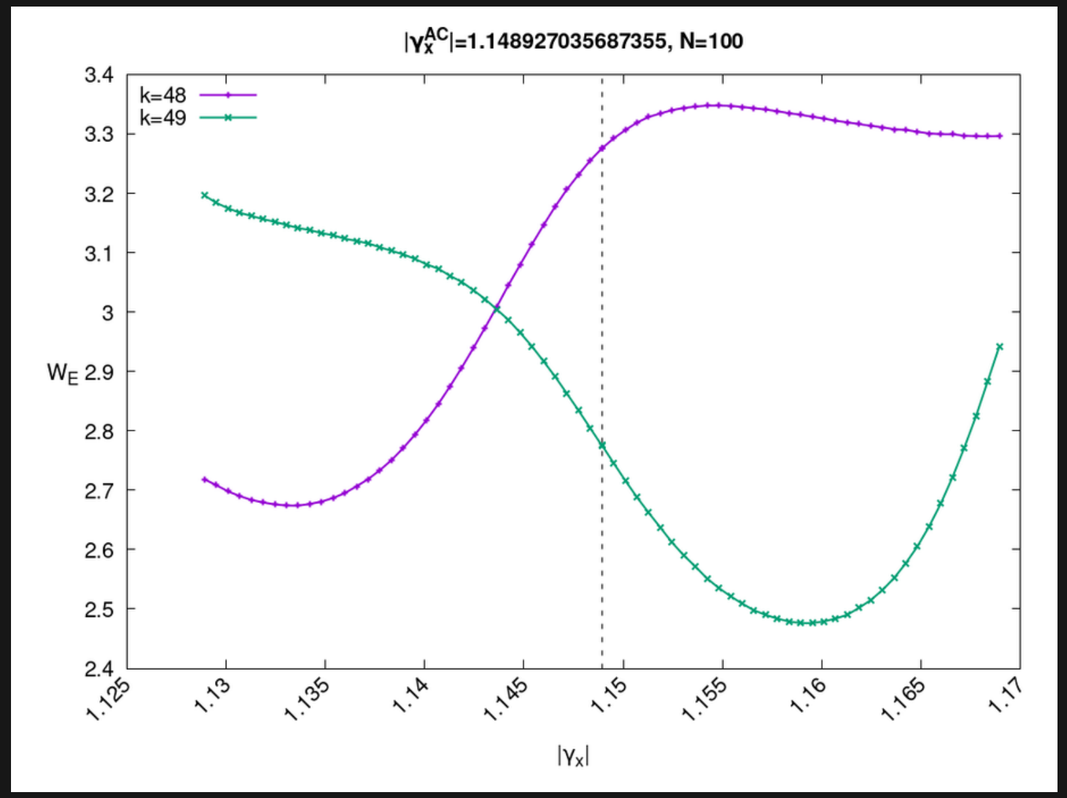
(62-63) -> (64,65) -> (66-67)-> ... (74-75)



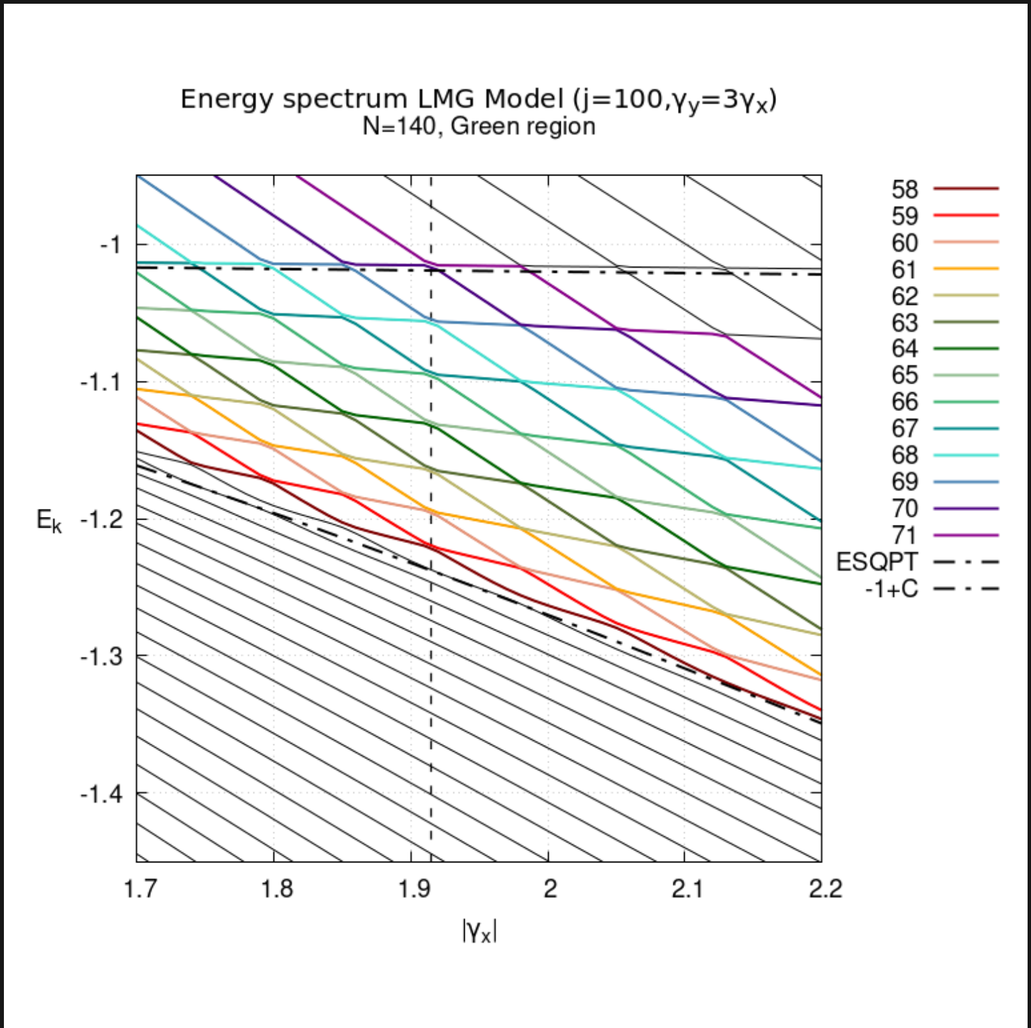
≡ N=100

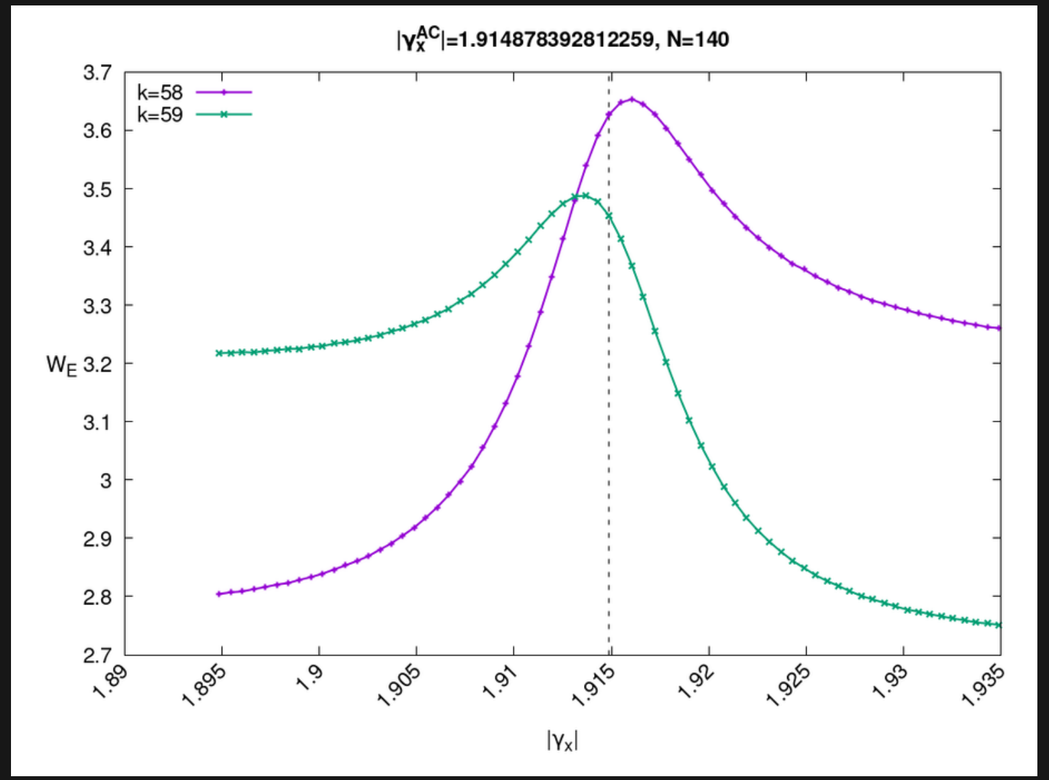


- Entropy of the first pair after the ESQPT does not cross at the AC.

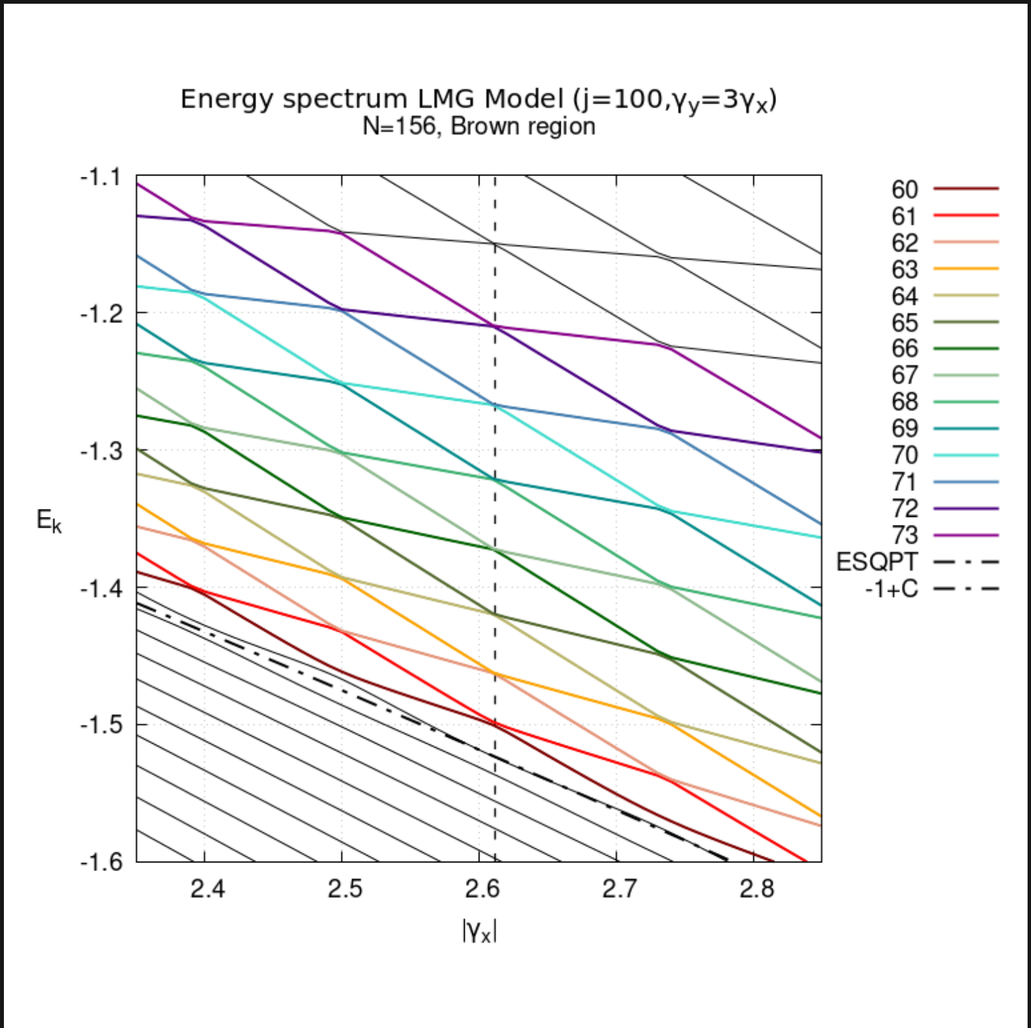


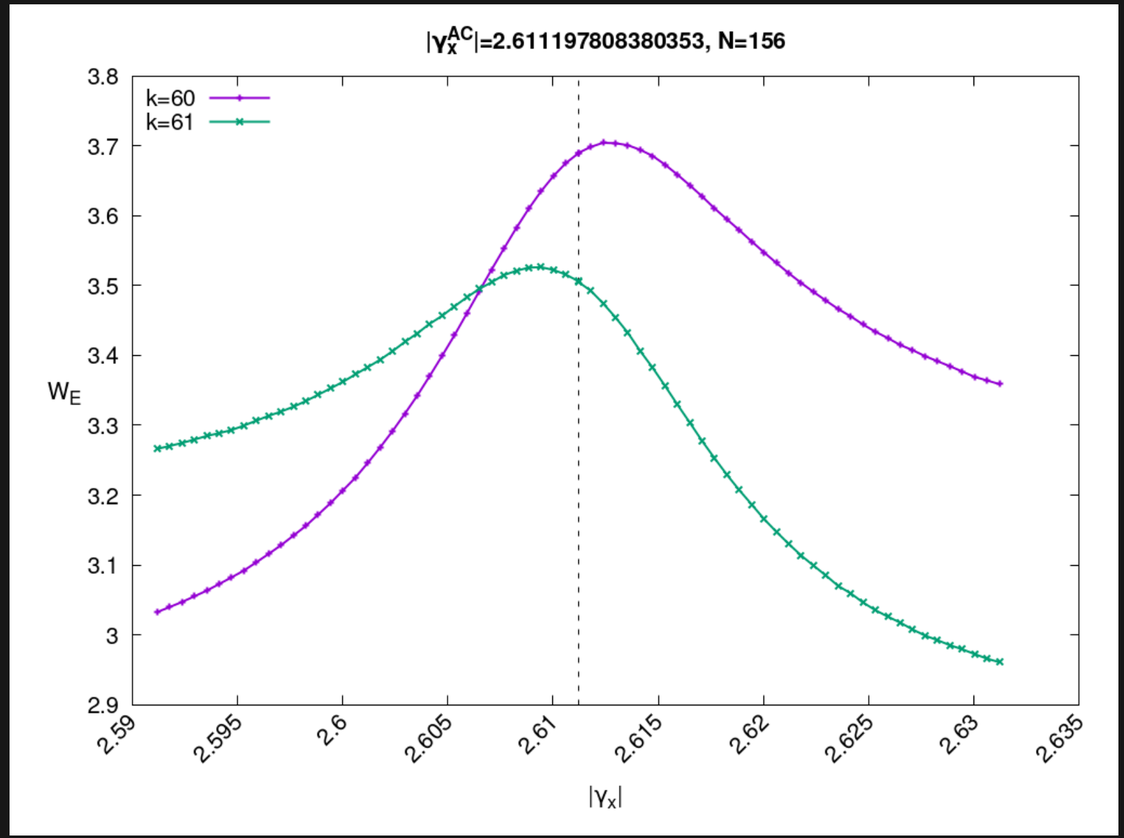
≡ N=140


Energy spectrum LMG Model (j=100,γy=3γx)
N=140, Green region
Ek
|γx|
58
59
60
61
62
63
64
65
66
67
68
69
70
71
ESQPT
-1+C

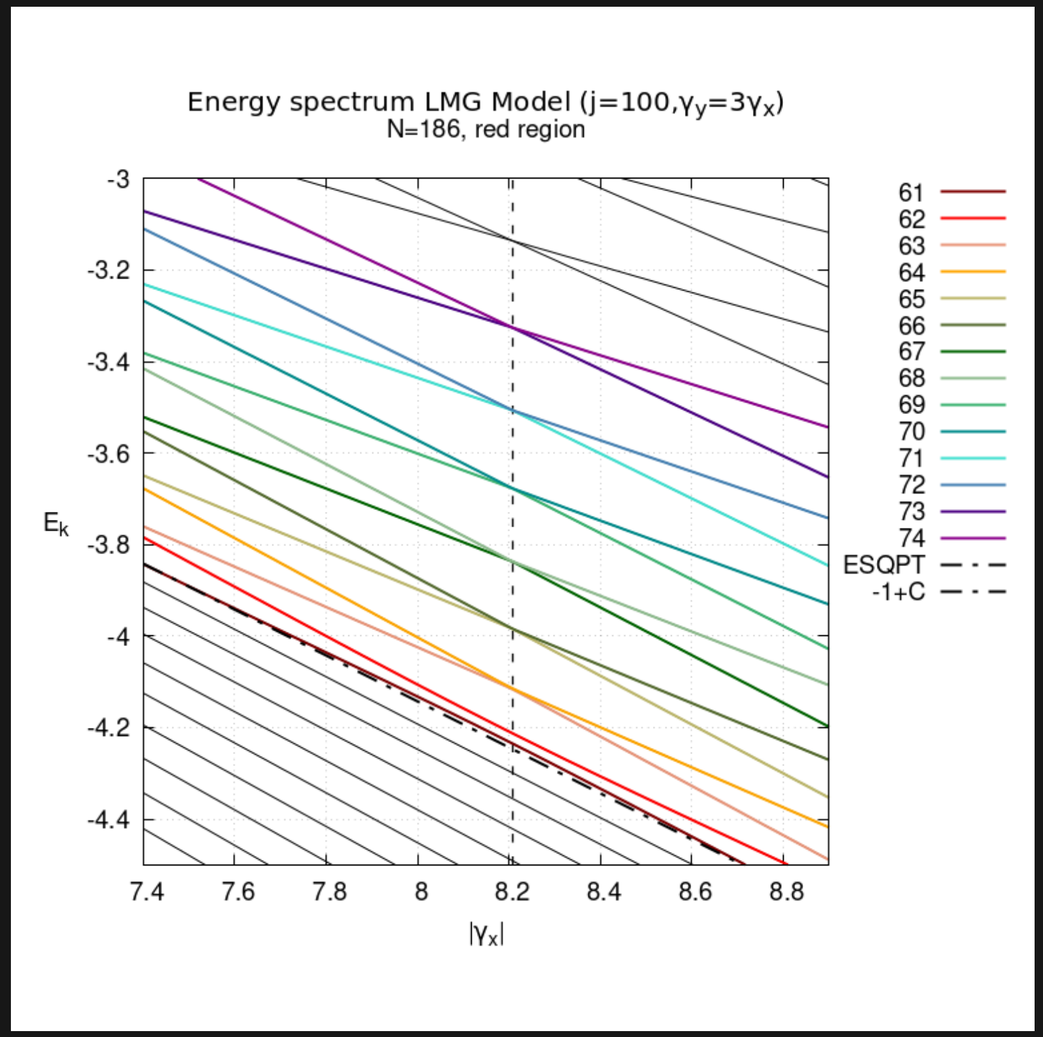

|γxAC|=1.914878392812259, N=140
WE
|γx|
k=58
k=59

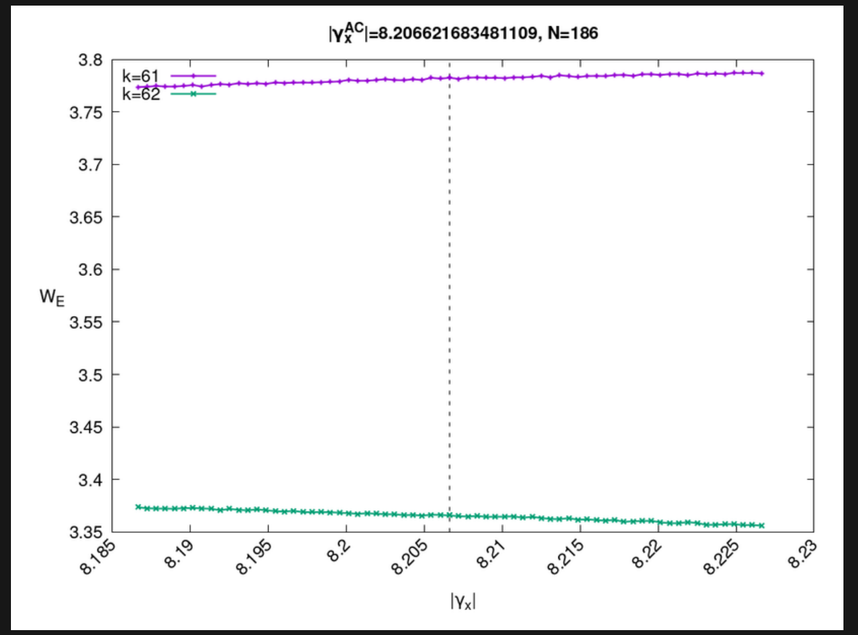
≡ N = 156

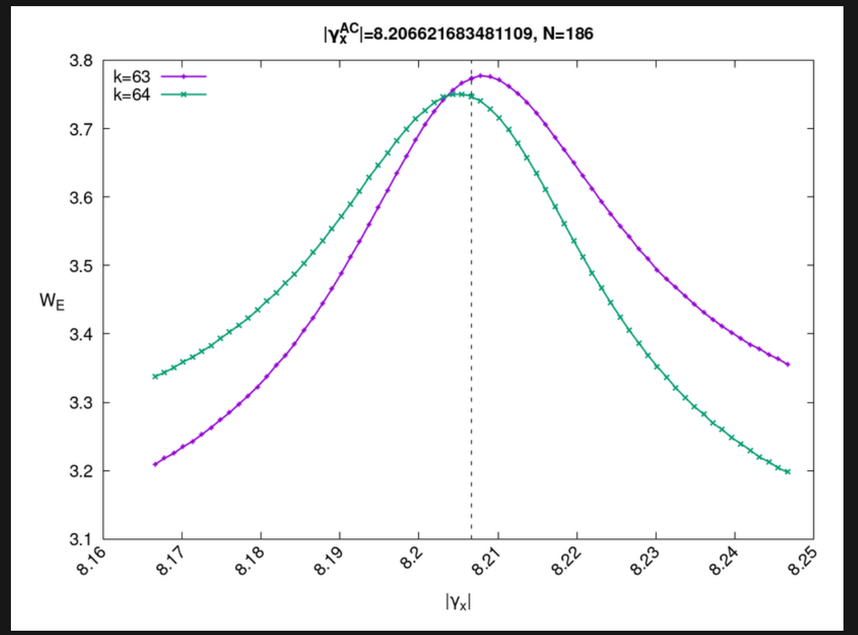

Energy spectrum LMG Model (j=100,γy=3γx)
N=156, Brown region
-1.1
-1.2
-1.3
-1.4
-1.5
-1.6
Ek
2.4
2.5
2.6
2.7
2.8
|γx|
60
61
62
63
64
65
66
67
68
69
70
71
72
73
ESQPT
-1+C


|γxAC|=2.611197808380353, N=156
k=60
k=61
3.8
3.7
3.6
3.5
3.4
3.3
3.2
3.1
3
2.9
WE
2.59
2.595
2.6
2.605
2.61
2.615
2.62
2.625
2.63
2.635
|γx|

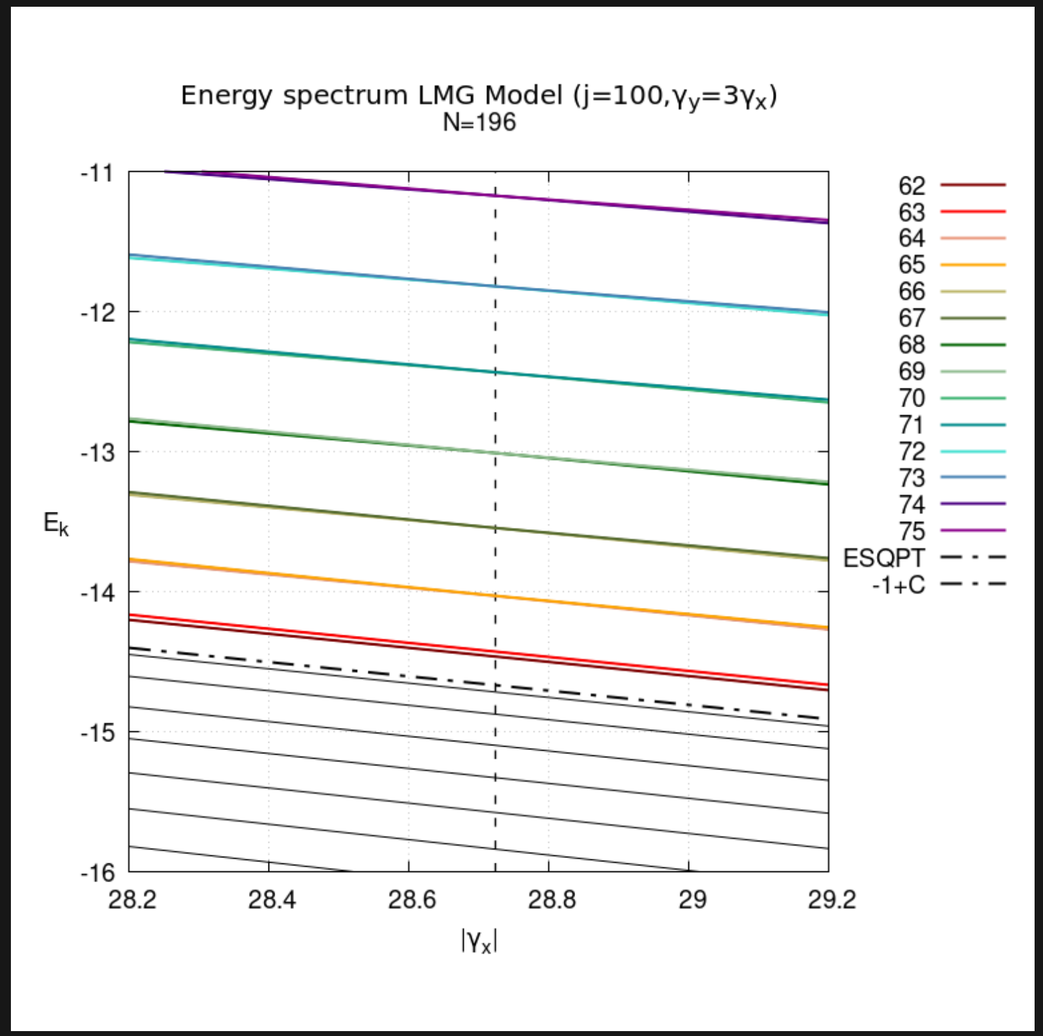
≡ N= 186

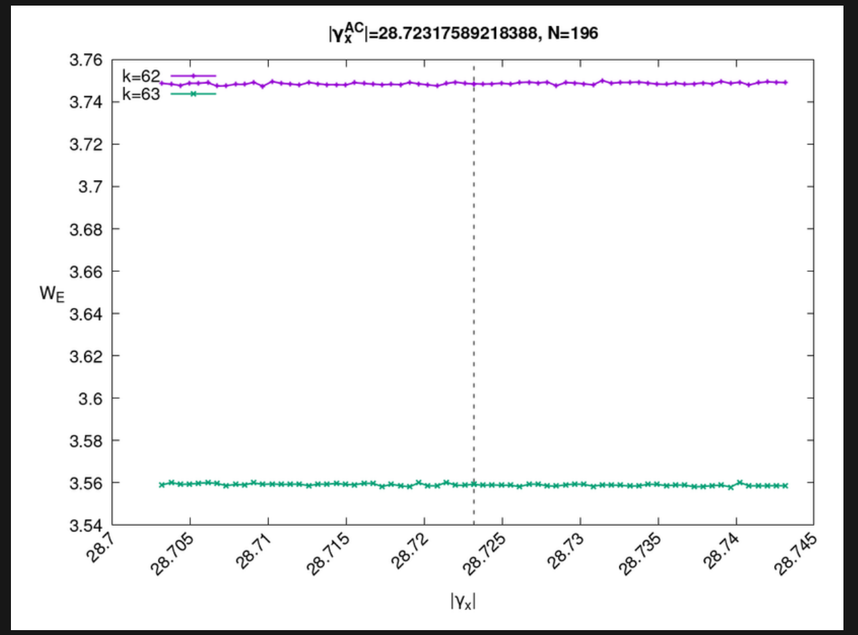

Energy spectrum LMG Model (j=100,γy=3γx)
N=186, red region
Ek
|γx|
61
62
63
64
65
66
67
68
69
70
71
72
73
74
ESQPT
-1+C

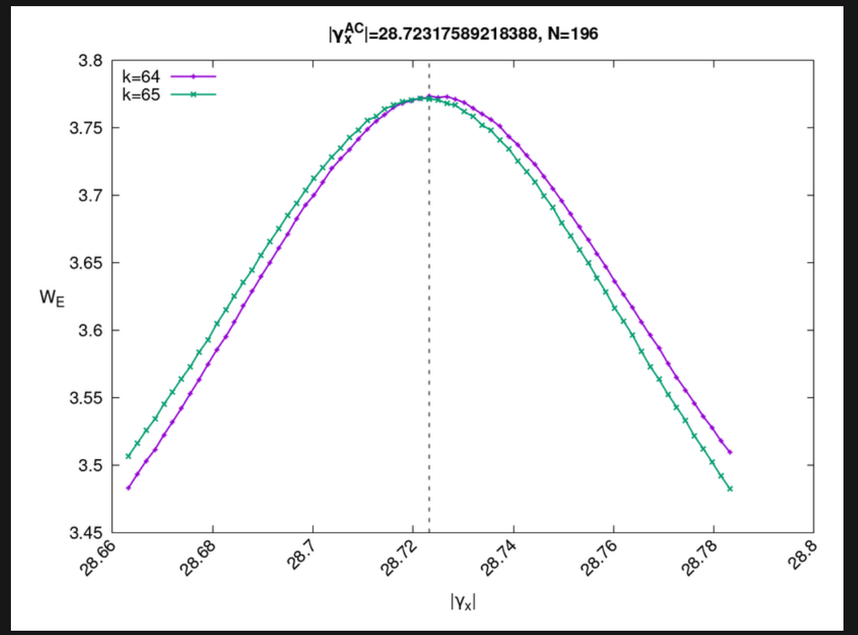

|γx^AC|=8.206621683481109, N=186
k=61
k=62
WE
|γx|


|γx^AC|=8.206621683481109, N=186
k=63
k=64
WE
|γx|

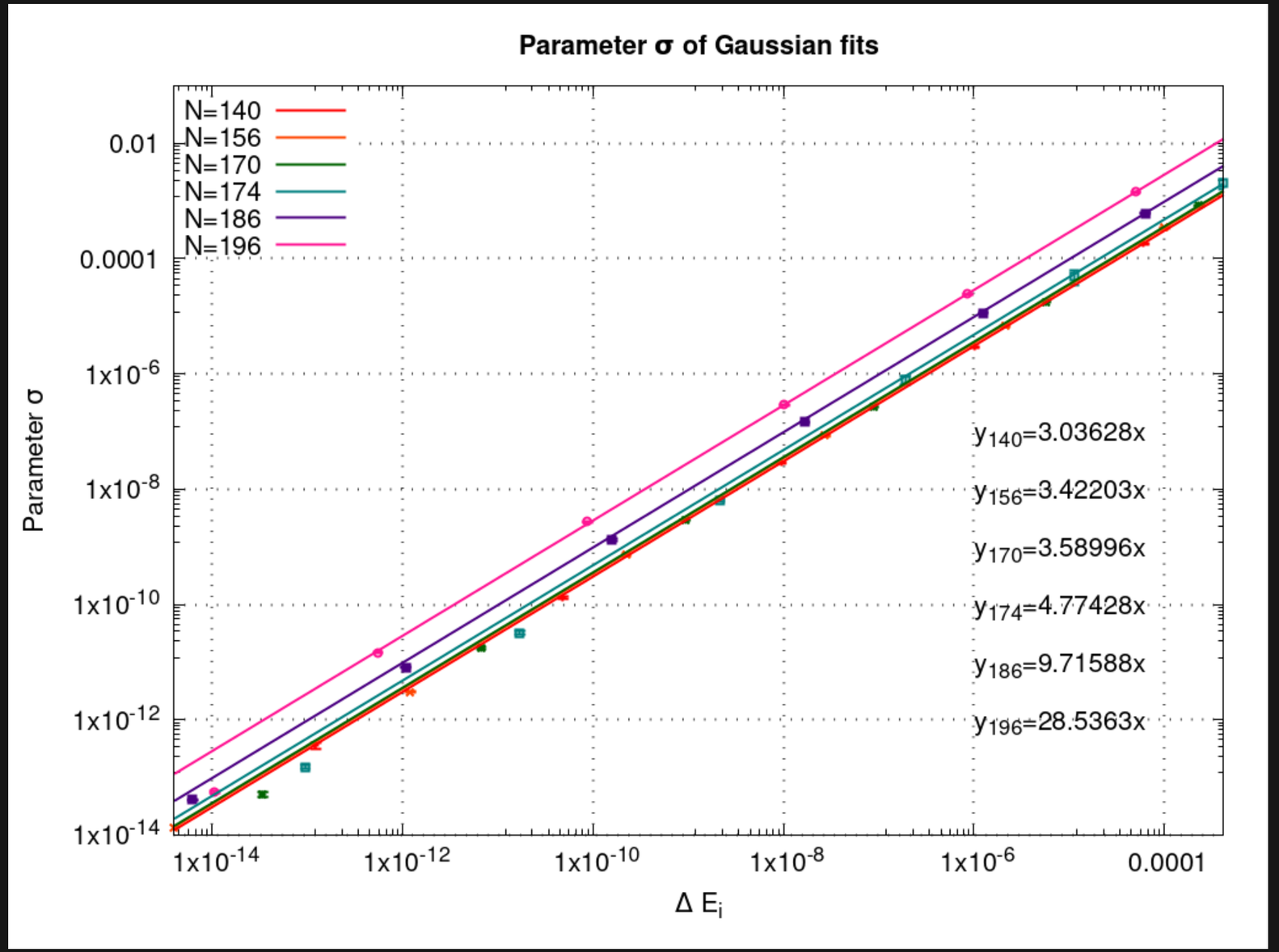
≡ N= 196

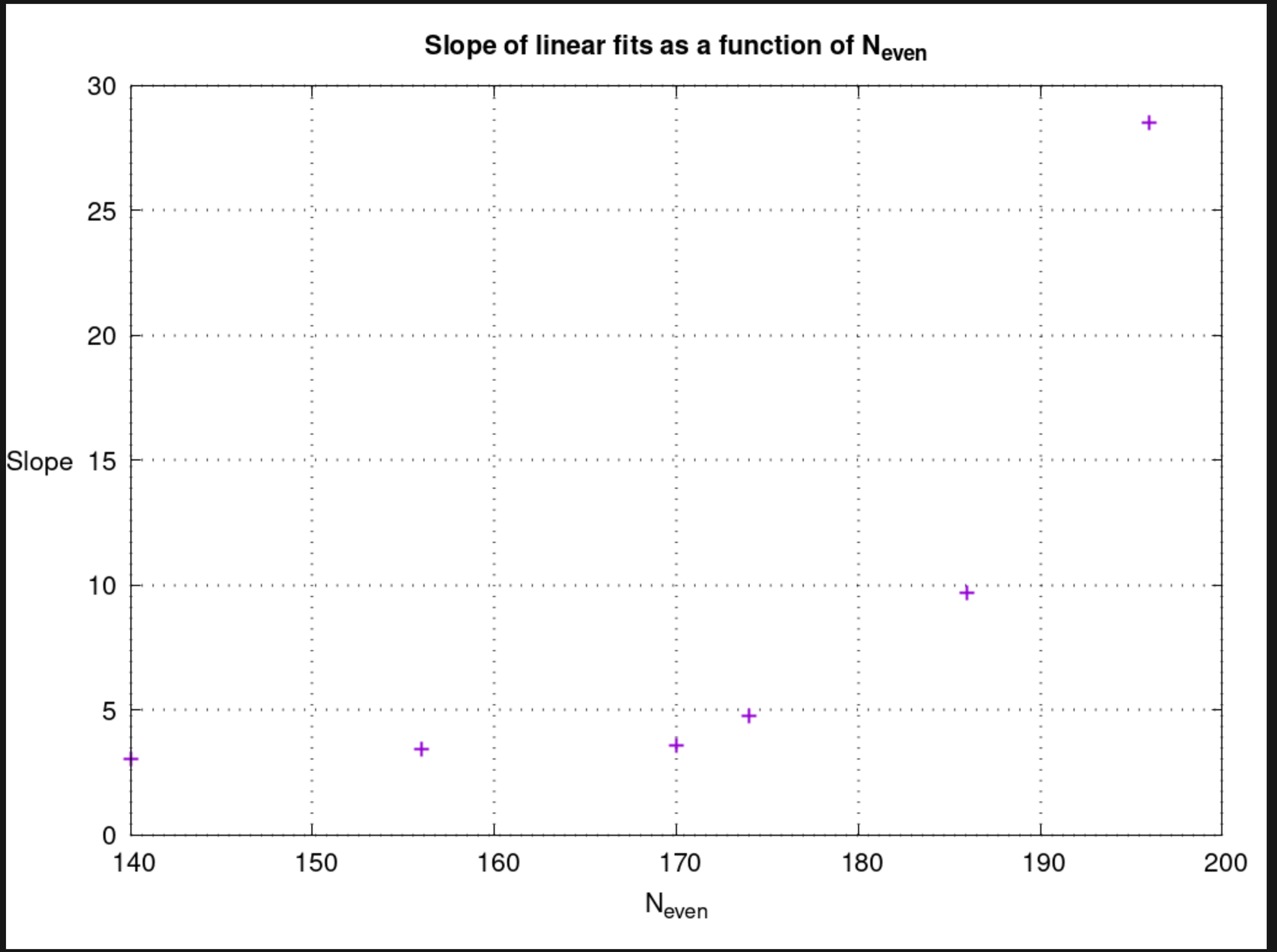

Energy spectrum LMG Model (j=100,γy=3γx)
N=196
Ek
|γx|
62
63
64
65
66
67
68
69
70
71
72
73
74
75
ESQPT
-1+C


|γxAC|=28.72317589218388, N=196
WE
|γx|
k=62
k=63


|γxAC|=28.72317589218388, N=196
WE
|γx|
k=64
k=65

Linear fits of σ vs. ΔE_i at 6 AC




Slope of linear fits as a function of N_{even}
Slope
30
25
20
15
10
5
0
140
150
160
170
180
190
200
N_{even}