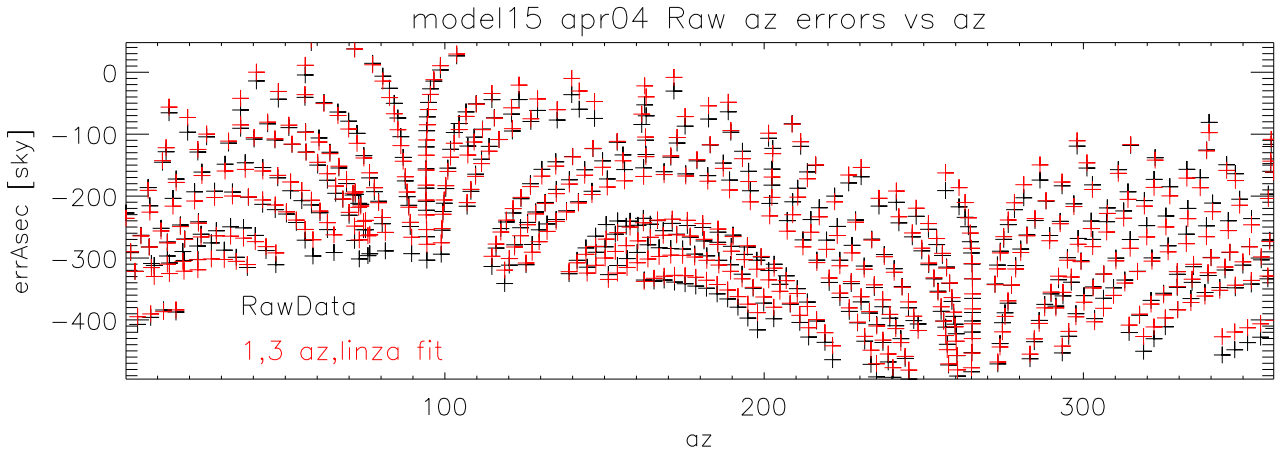
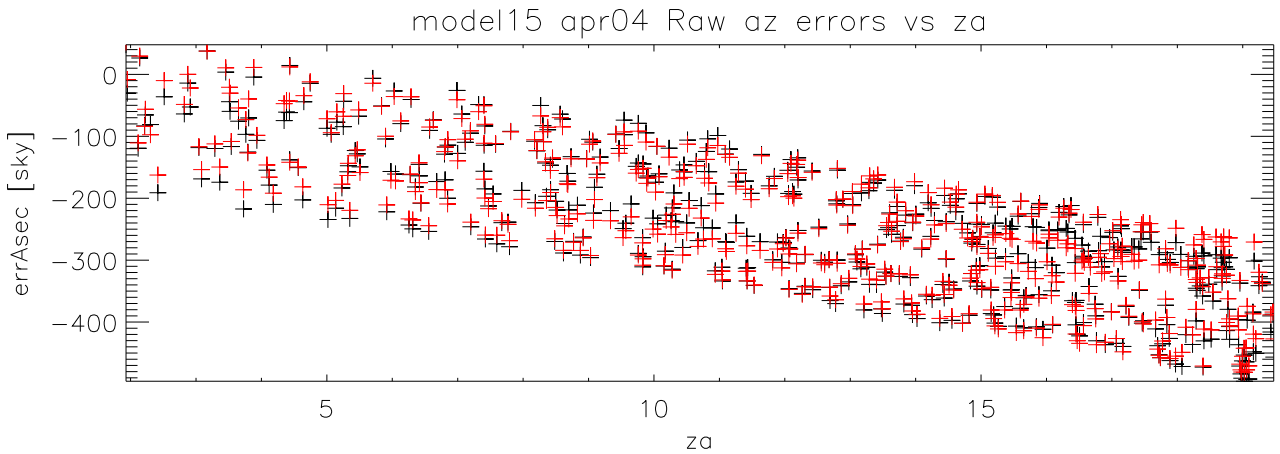
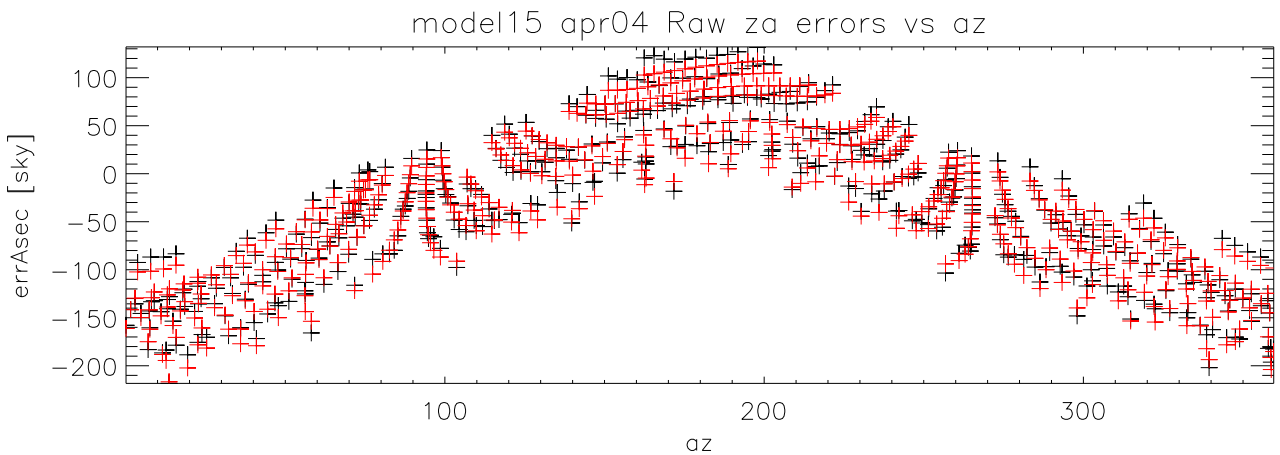
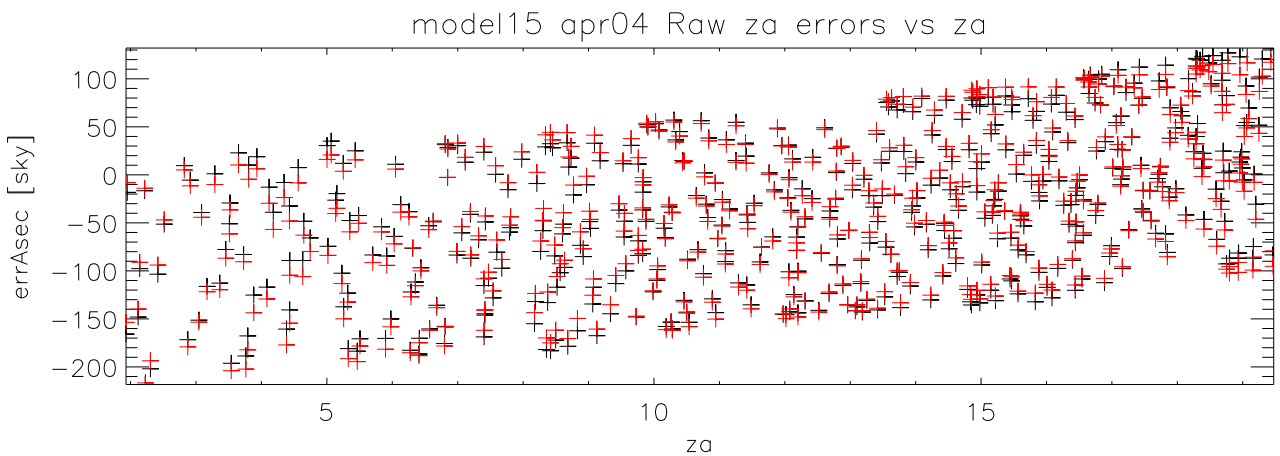
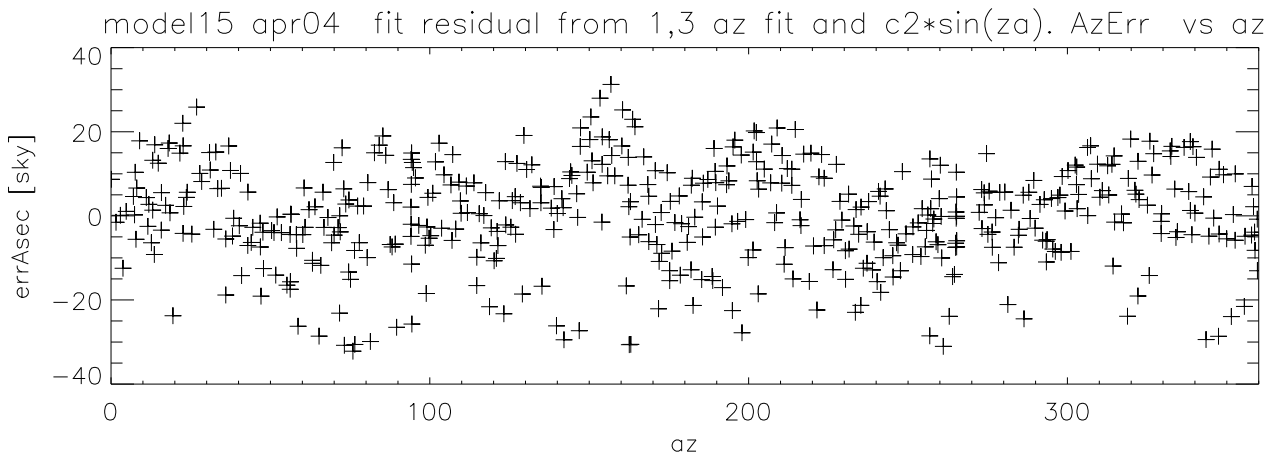
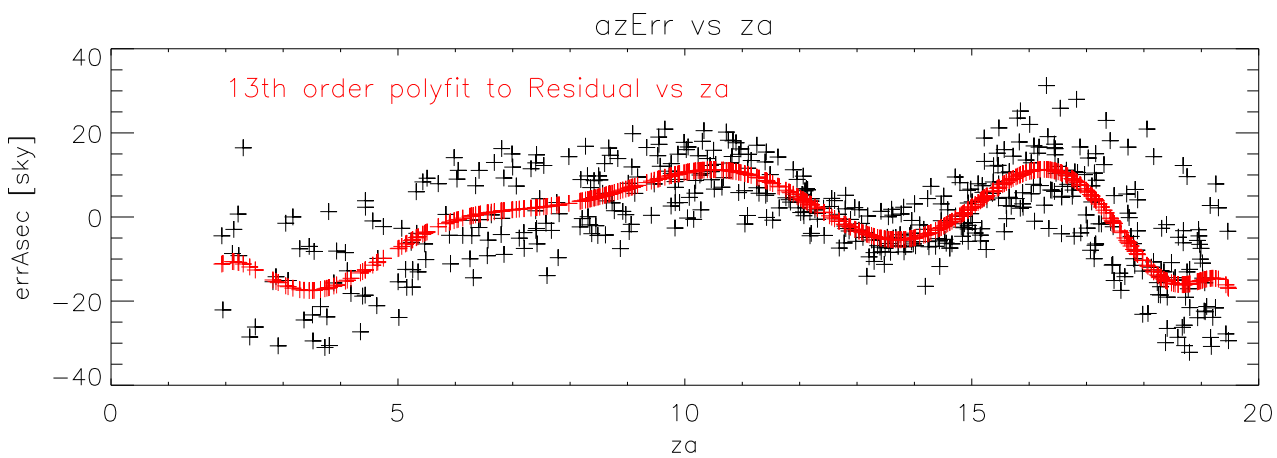

model15 apr04 Raw az errors vs az
errAsec [sky]
0
−100
−200
−300
−400
RawData
1,3 az,linza fit
100
200
300
az

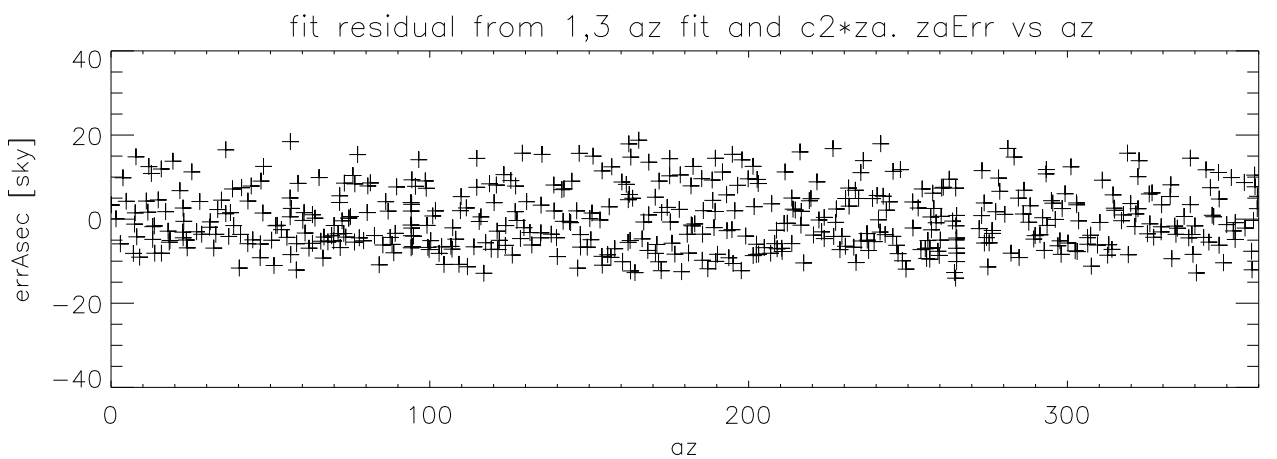

model15 apr04 Raw az errors vs za
errAsec [sky]
0
−100
−200
−300
−400
5
10
15
za

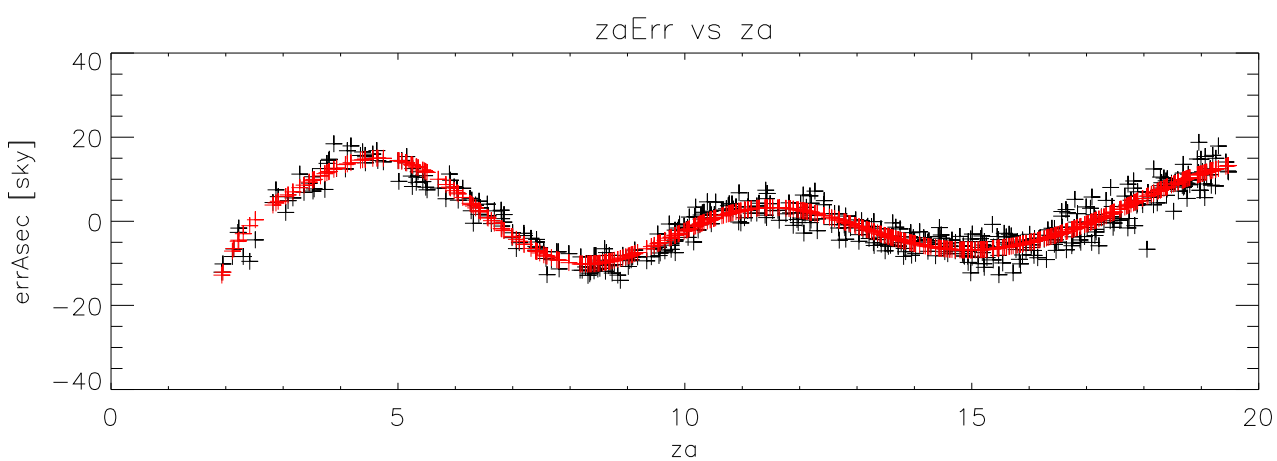

model15 apr04 Raw za errors vs az
errAsec [sky]
100
50
0
−50
−100
−150
−200
100
200
300
az

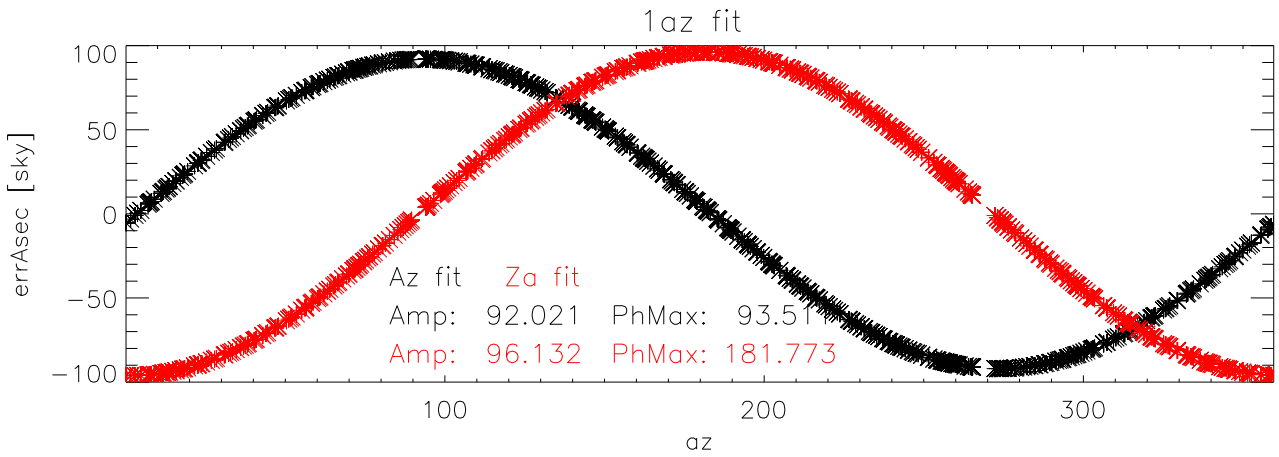

model15 apr04 Raw za errors vs za
errAsec [sky]
100
50
0
−50
−100
−150
−200
5
10
15
za

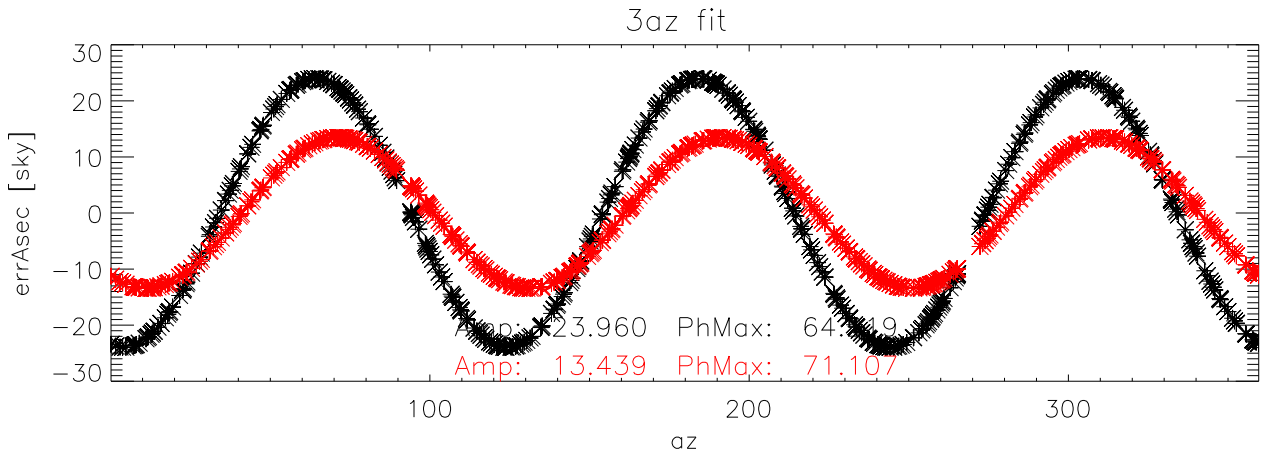

model15 apr04 fit residual from 1,3 az fit and c2*sin(za). AzErr vs az
errAsec [sky]
40
20
0
−20
−40
0
100
200
300
az

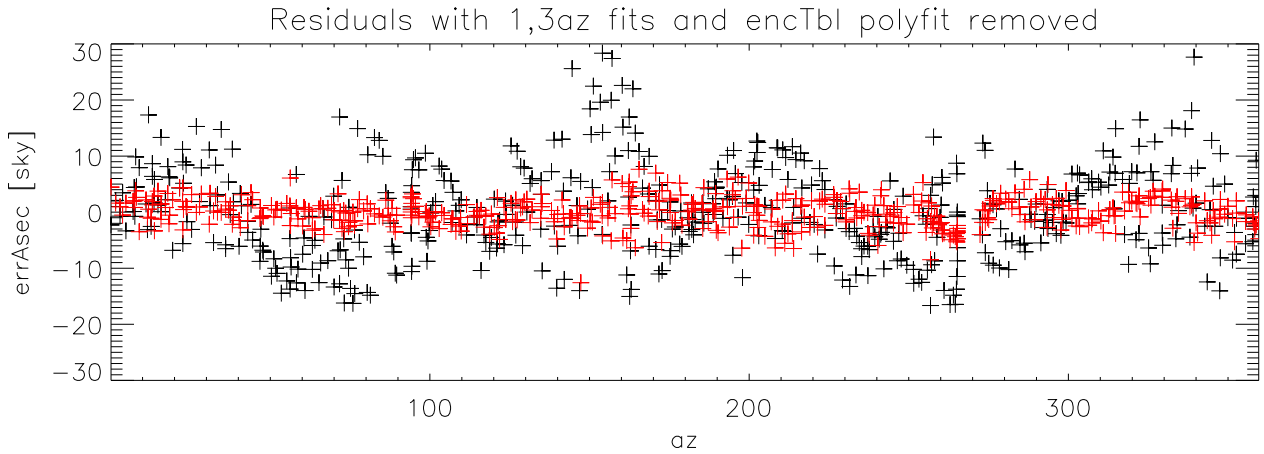

azErr vs za
13th order polyfit to Residual vs za
errAsec [sky]
40
20
0
−20
−40
0
5
10
15
20
za


fit residual from 1,3 az fit and c2*za. zaErr vs az
errAsec [sky]
40
20
0
−20
−40
0
100
200
300
az


zaErr vs za
errAsec [sky]
40
20
0
−20
−40
0
5
10
15
20
za

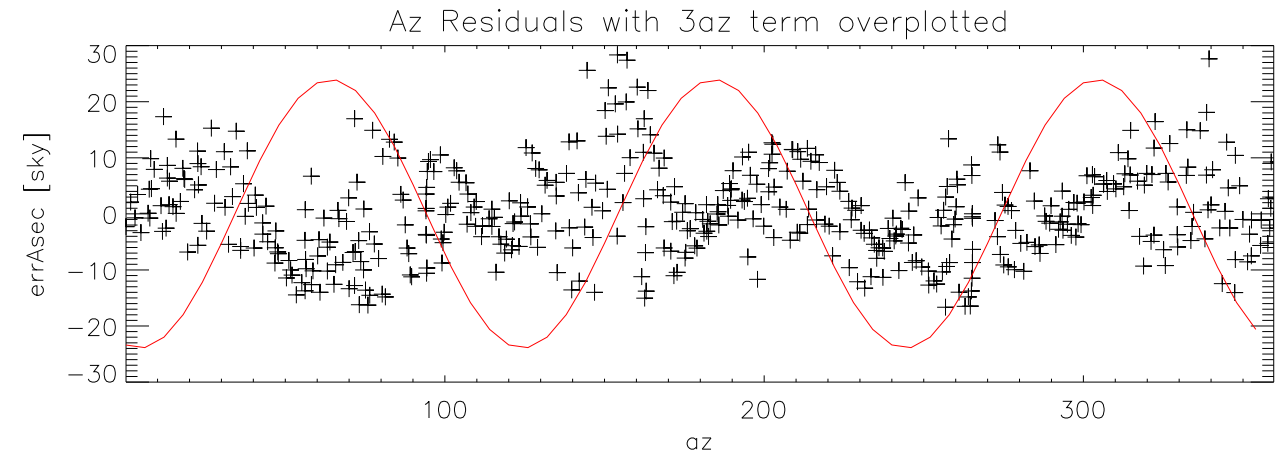


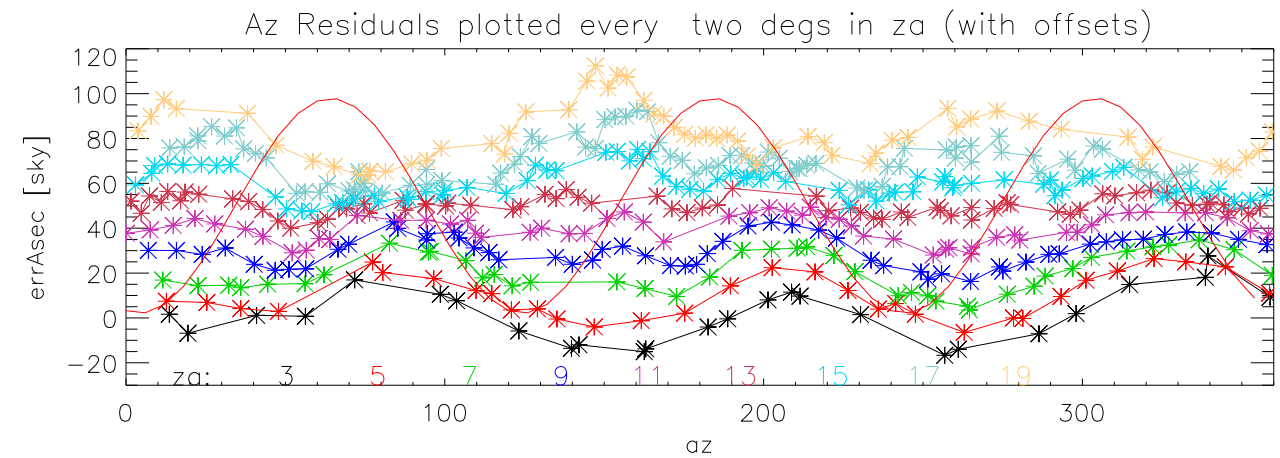


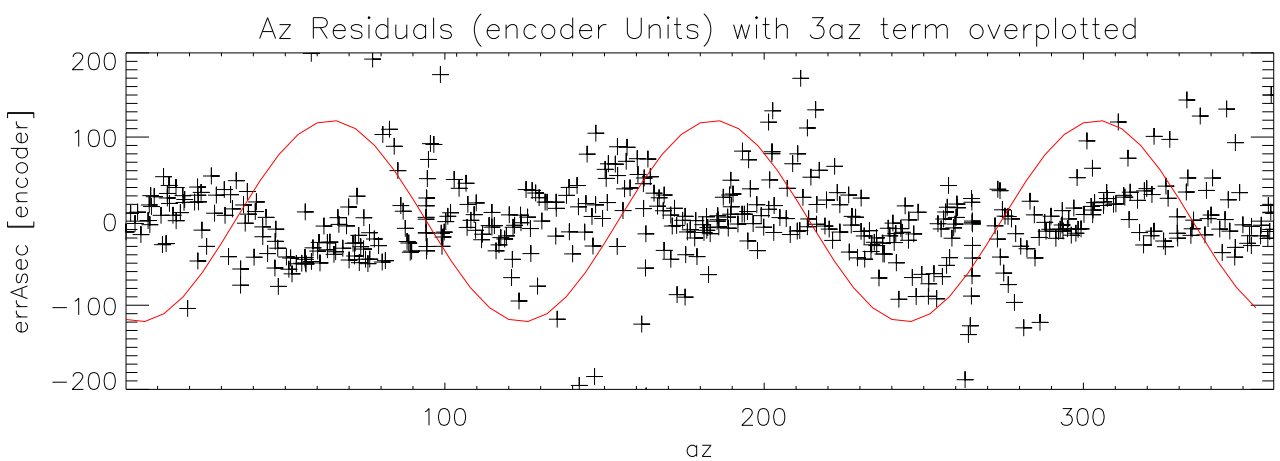


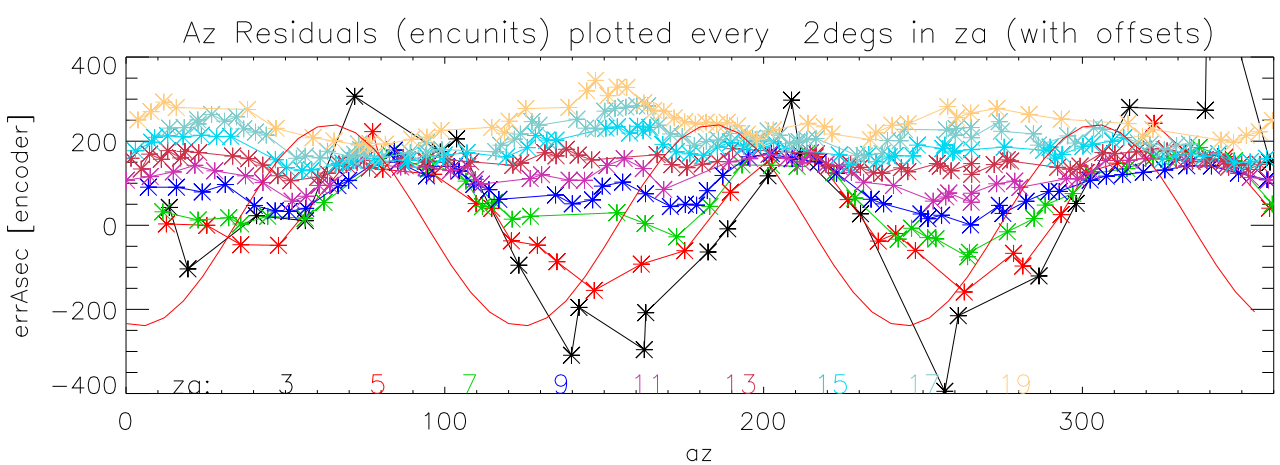
azE=C0 + az0*AZ + za0*sin(ZA) + az1*sin(AZ − Ph) + az3*sin(3AZ−Ph)
C0 −7.400 az0: −0.002 za0:−1129.124
az1 Amp: 92.021 PhMax: 93.511
az3 Amp: 23.960 PhMax: 64.219

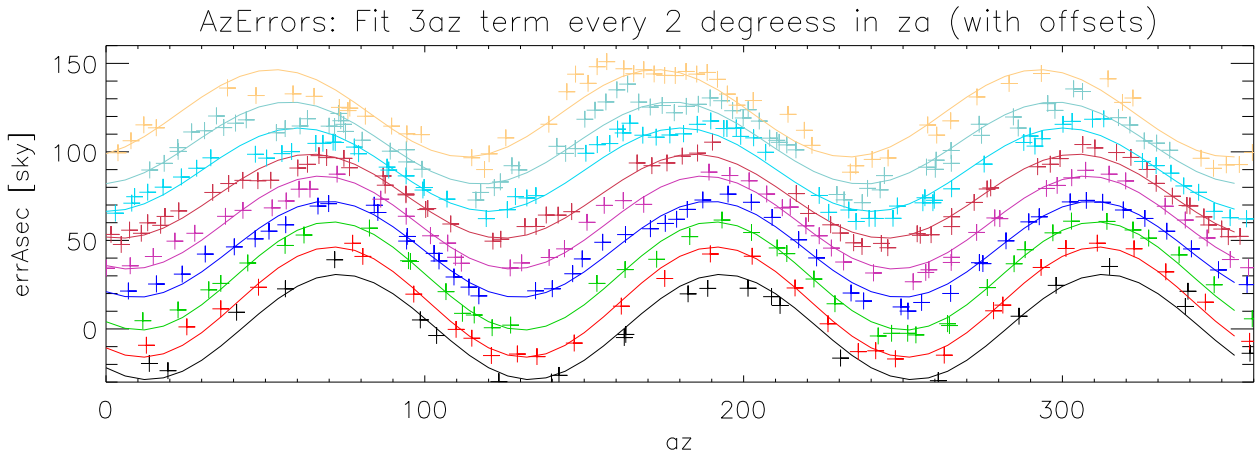
zaE=C0 + az0*AZ + za0*ZA + az1*sin(AZ − Ph) + az3*sin(3AZ−Ph)
C0 −124.951 az0: 0.008 za0: 6.978
az1 Amp: 96.132 PhMax: 181.773
az3 Amp: 13.439 PhMax: 71.107

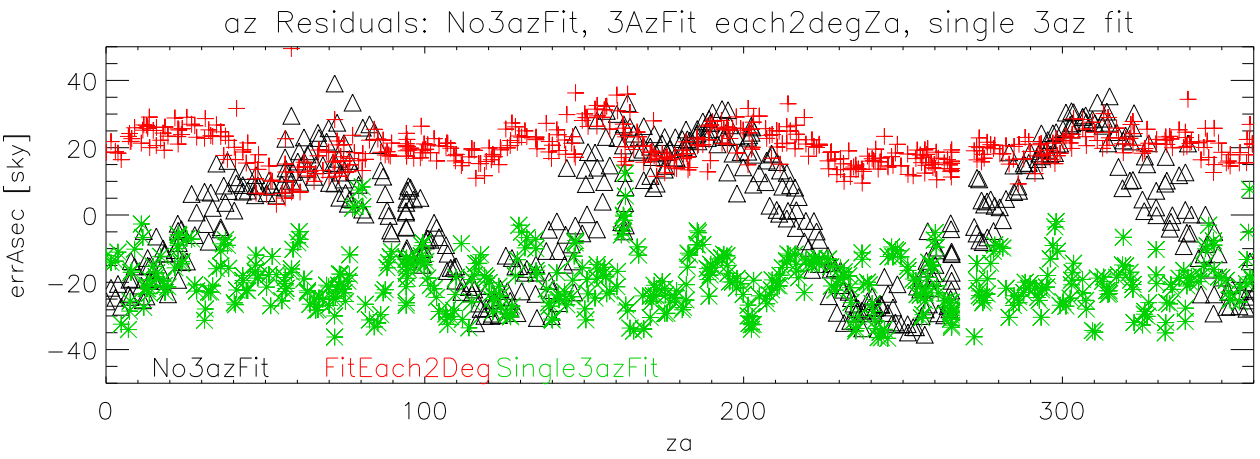

Az Residuals with 3az term overplotted
errAsec [sky]
30
20
10
0
−10
−20
−30
100
200
300
az

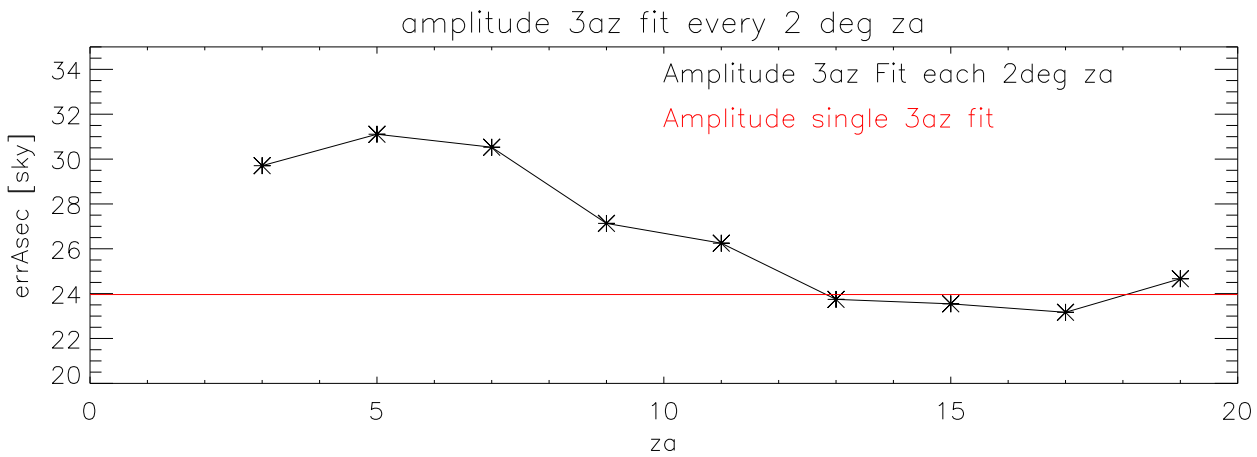

Az Residuals plotted every two degs in za (with offsets)
errAsec [sky]
120
100
80
60
40
20
0
−20
za: 3 5 7 9 11 13 15 17 19
0
100
200
300
az

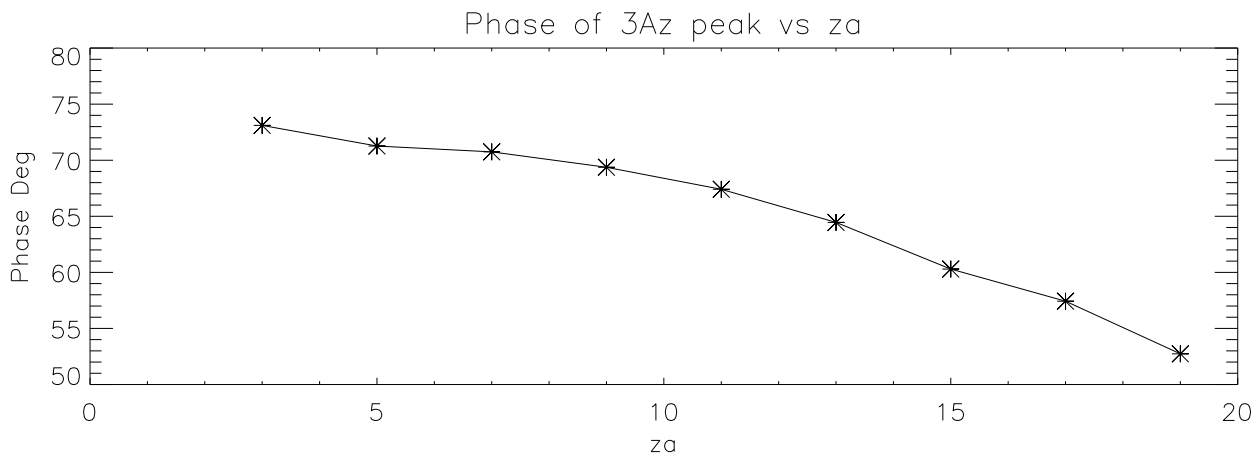

Az Residuals (encoder Units) with 3az term overplotted
errAsec [encoder]
200
100
0
−100
−200
100
200
300
az

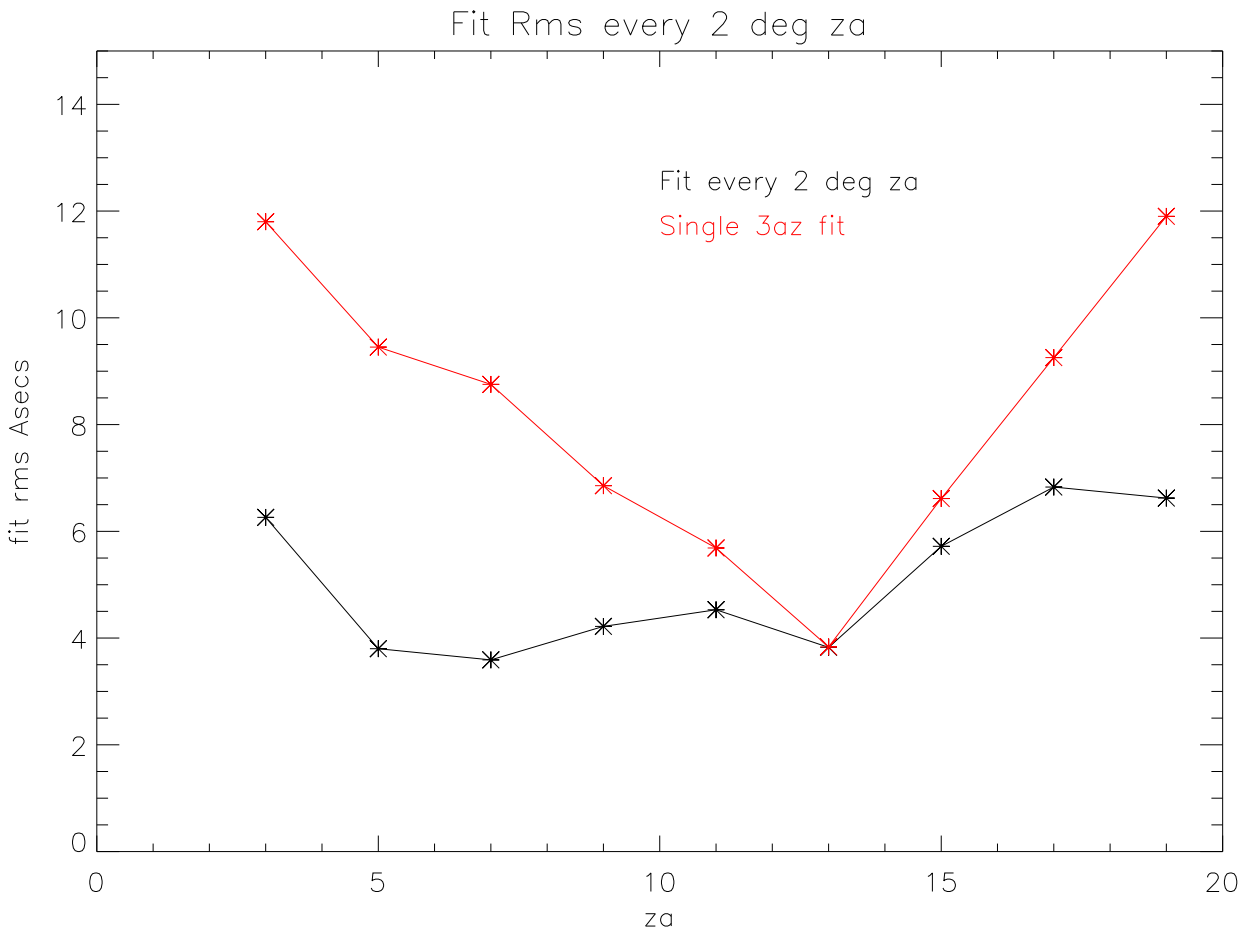

Az Residuals (encunits) plotted every 2degs in za (with offsets)
errAsec [encoder]
400
200
0
−200
−400
za: 3 5 7 9 11 13 15 17 19
0
100
200
300
az

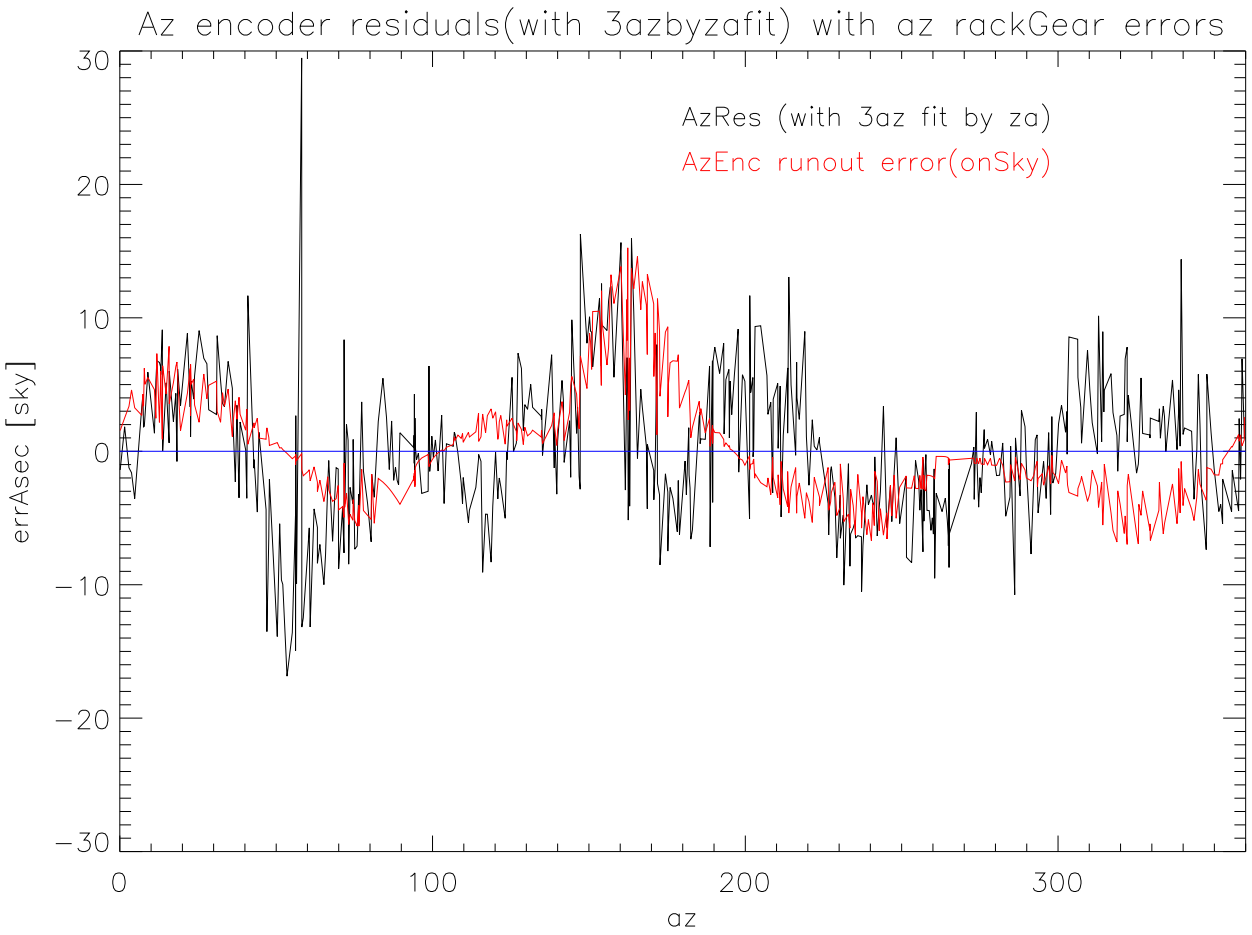

AzErrors: Fit 3az term every 2 degreess in za (with offsets)
errAsec [sky]
150
100
50
0
0
100
200
300
az

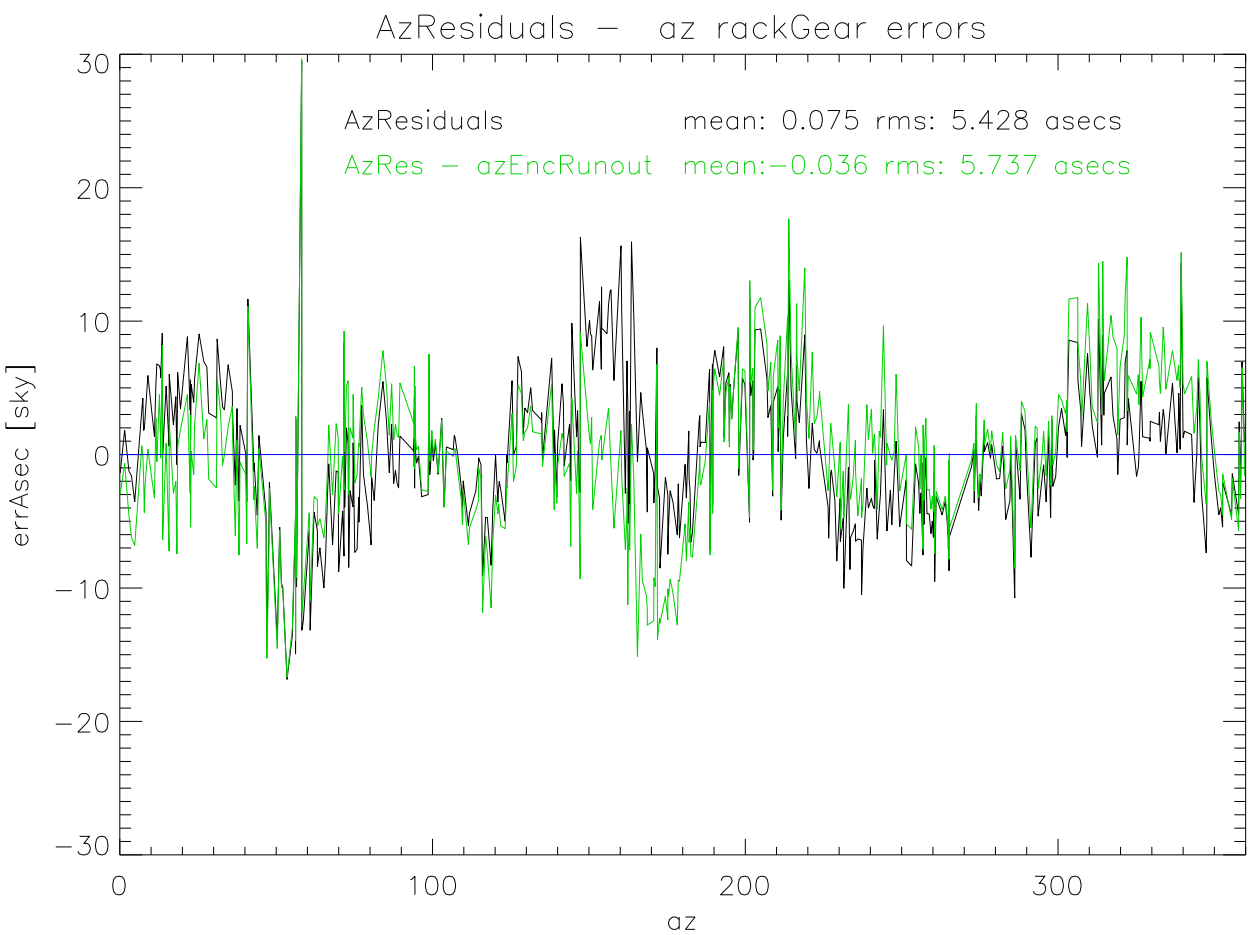

az Residuals: No3azFit, 3AzFit each2degZa, single 3az fit
errAsec [sky]
40
20
0
−20
−40
No3azFit
FitEach2Deg
Single3azFit
0
100
200
300
za


amplitude 3az fit every 2 deg za
errAsec [sky]
Amplitude 3az Fit each 2deg za
Amplitude single 3az fit
34
32
30
28
26
24
22
20
0
5
10
15
20
za


Phase of 3Az peak vs za
Phase Deg
80
75
70
65
60
55
50
0
5
10
15
20
za


Fit Rms every 2 deg za
Fit every 2 deg za
Single 3az fit
fit rms Asecs
za
0
2
4
6
8
10
12
14
0
5
10
15
20


Az encoder residuals(with 3azbyzafit) with az rackGear errors
AzRes (with 3az fit by za)
AzEnc runout error(onSky)
errAsec [sky]
az
30
20
10
0
−10
−20
−30
0
100
200
300


AzResiduals − az rackGear errors
AzResiduals
mean: 0.075 rms: 5.428 asecs
AzRes − azEncRunout
mean:−0.036 rms: 5.737 asecs
errAsec [sky]
az
30
20
10
0
−10
−20
−30
0
100
200
300