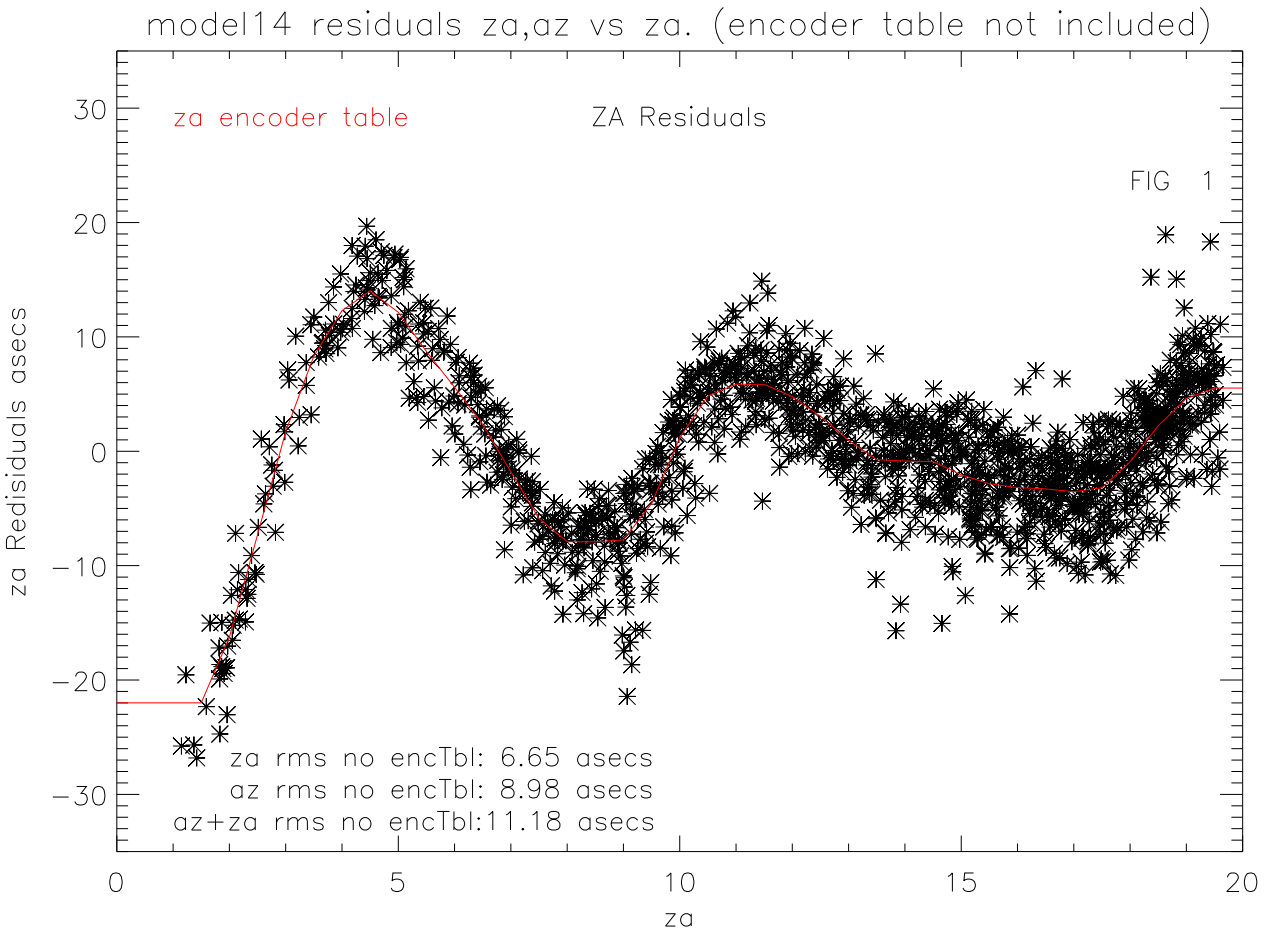
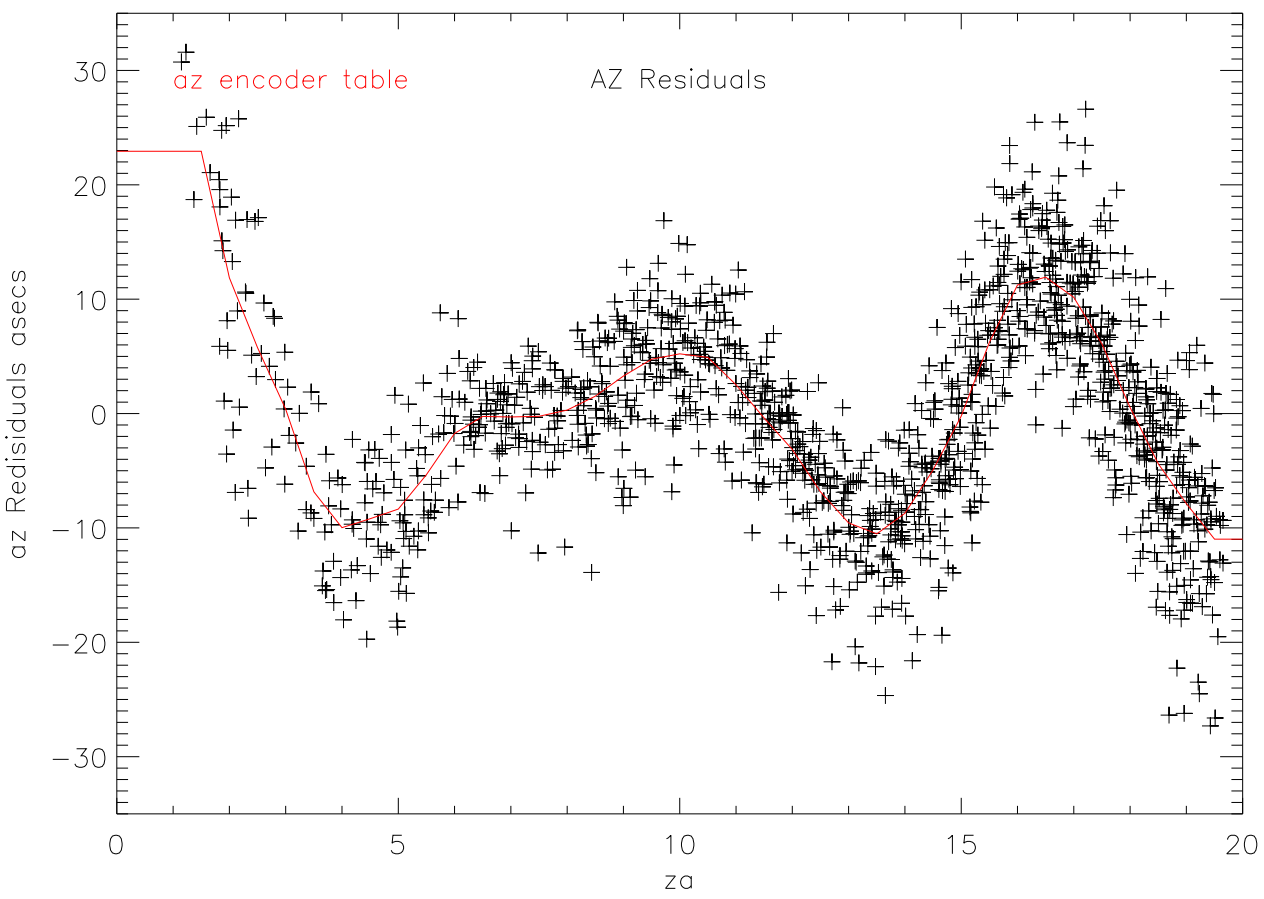
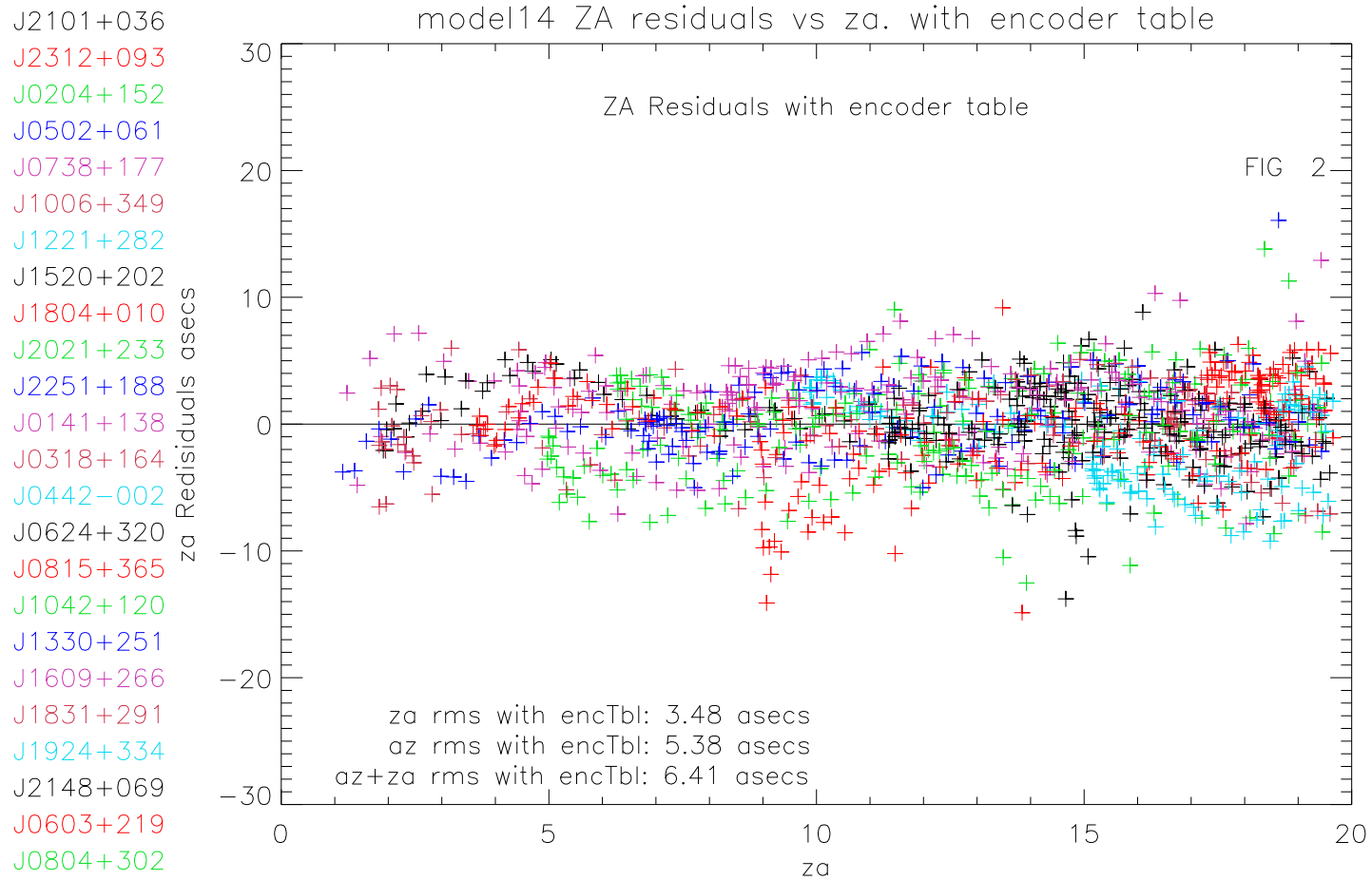
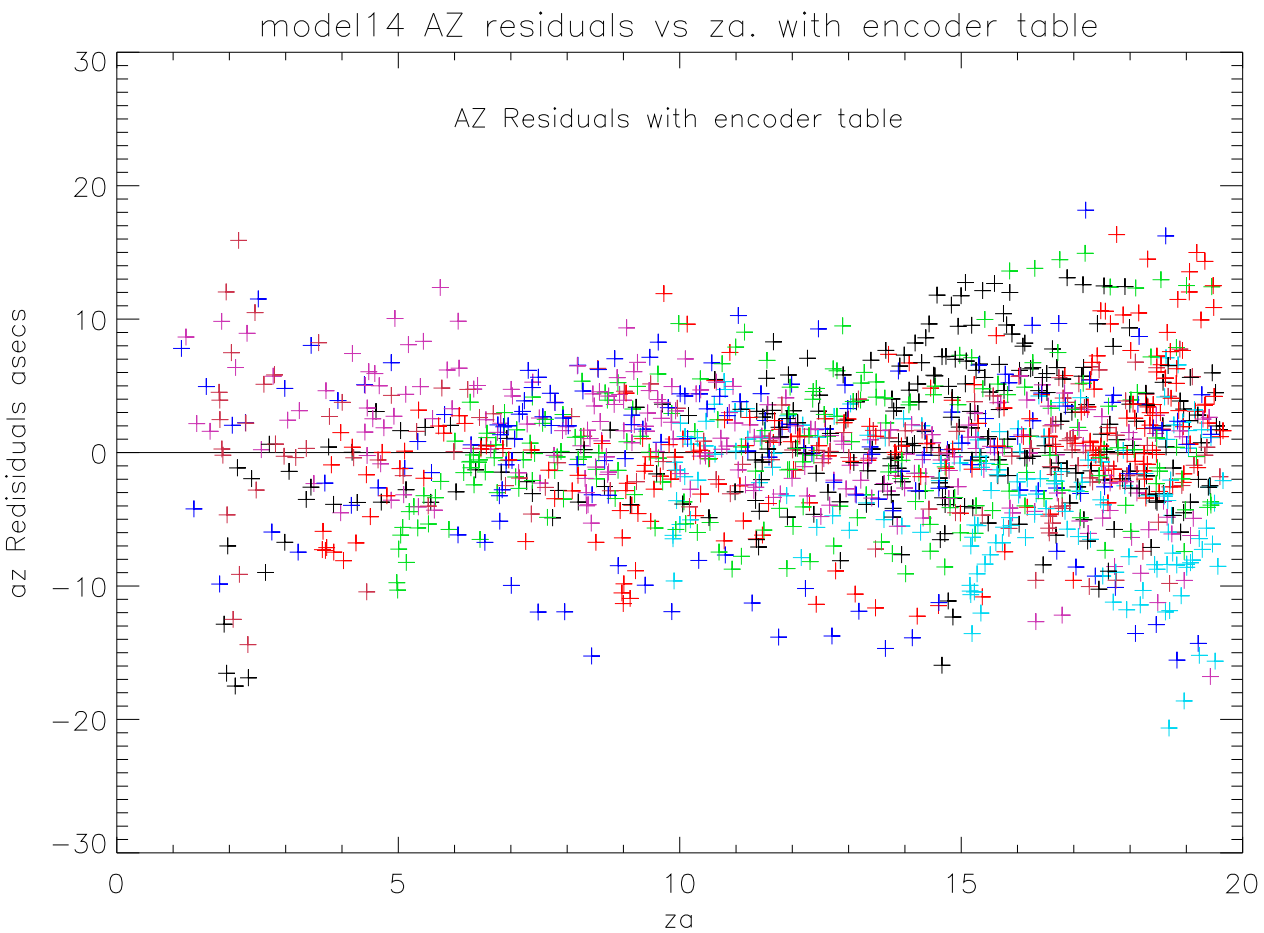
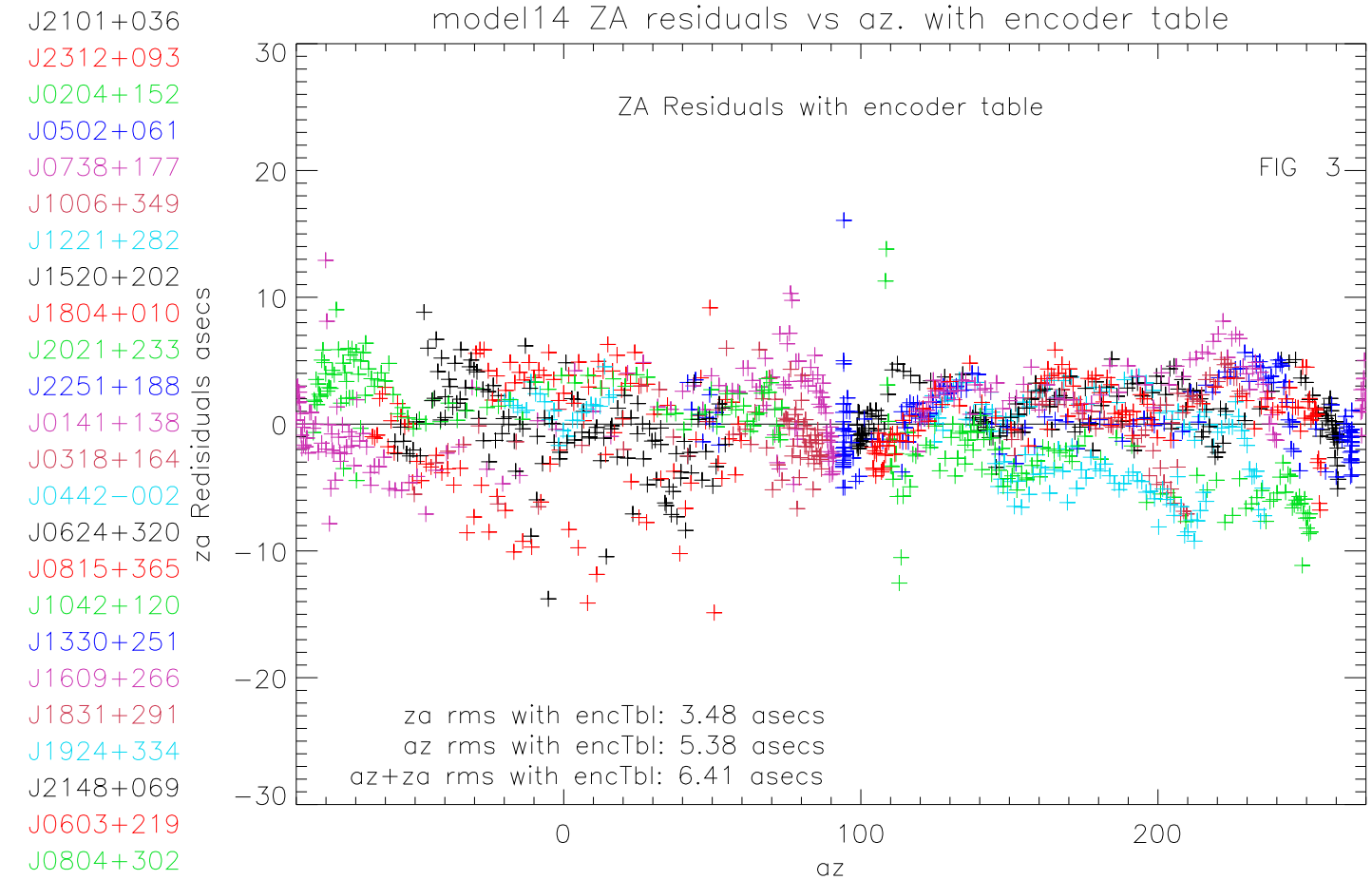
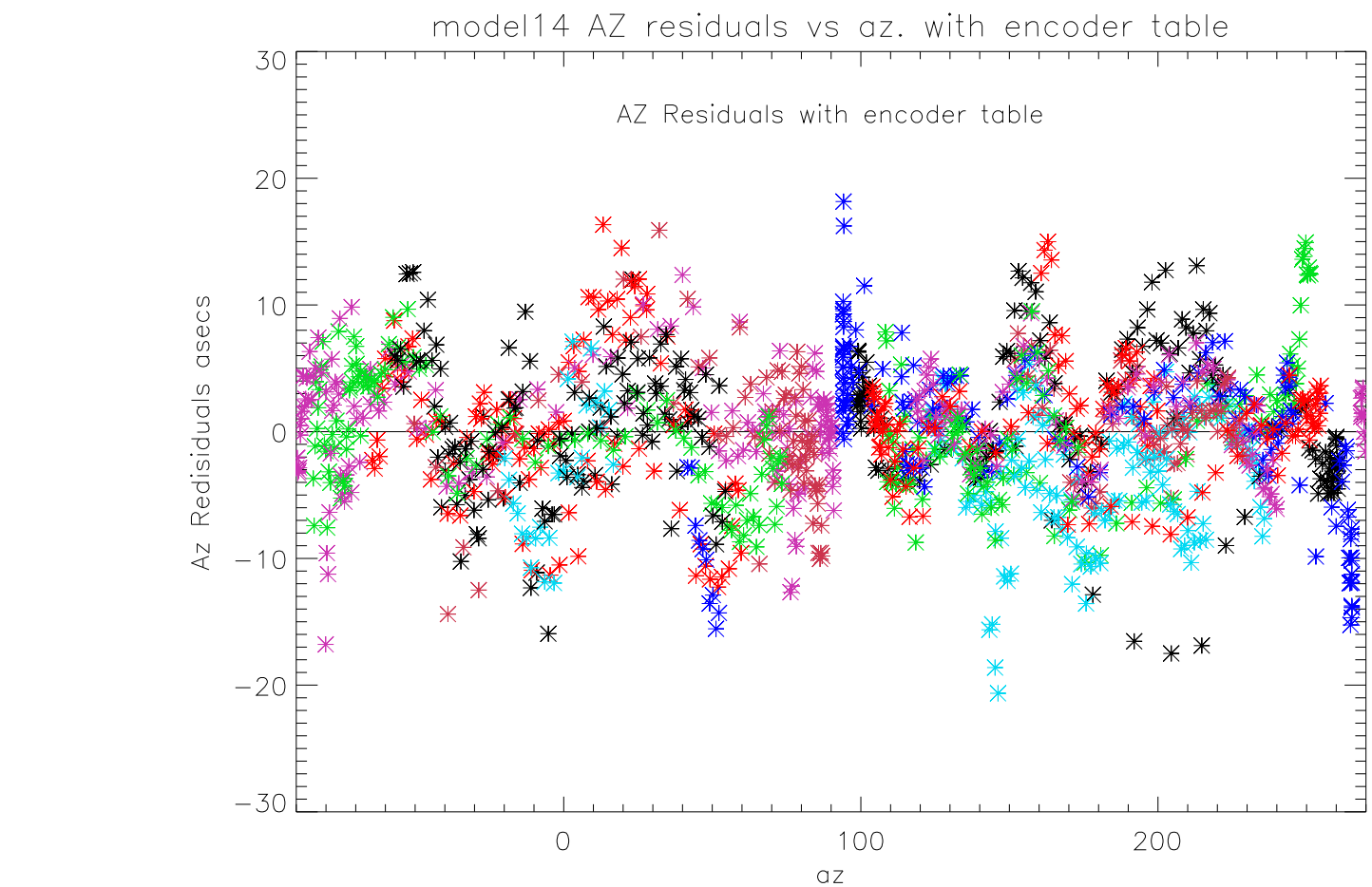

model14 residuals za,az vs za. (encoder table not included)
za encoder table
ZA Residuals
FIG 1
za Redisiduals asecs
za rms no encTbl: 6.65 asecs
az rms no encTbl: 8.98 asecs
az+za rms no encTbl:11.18 asecs
za

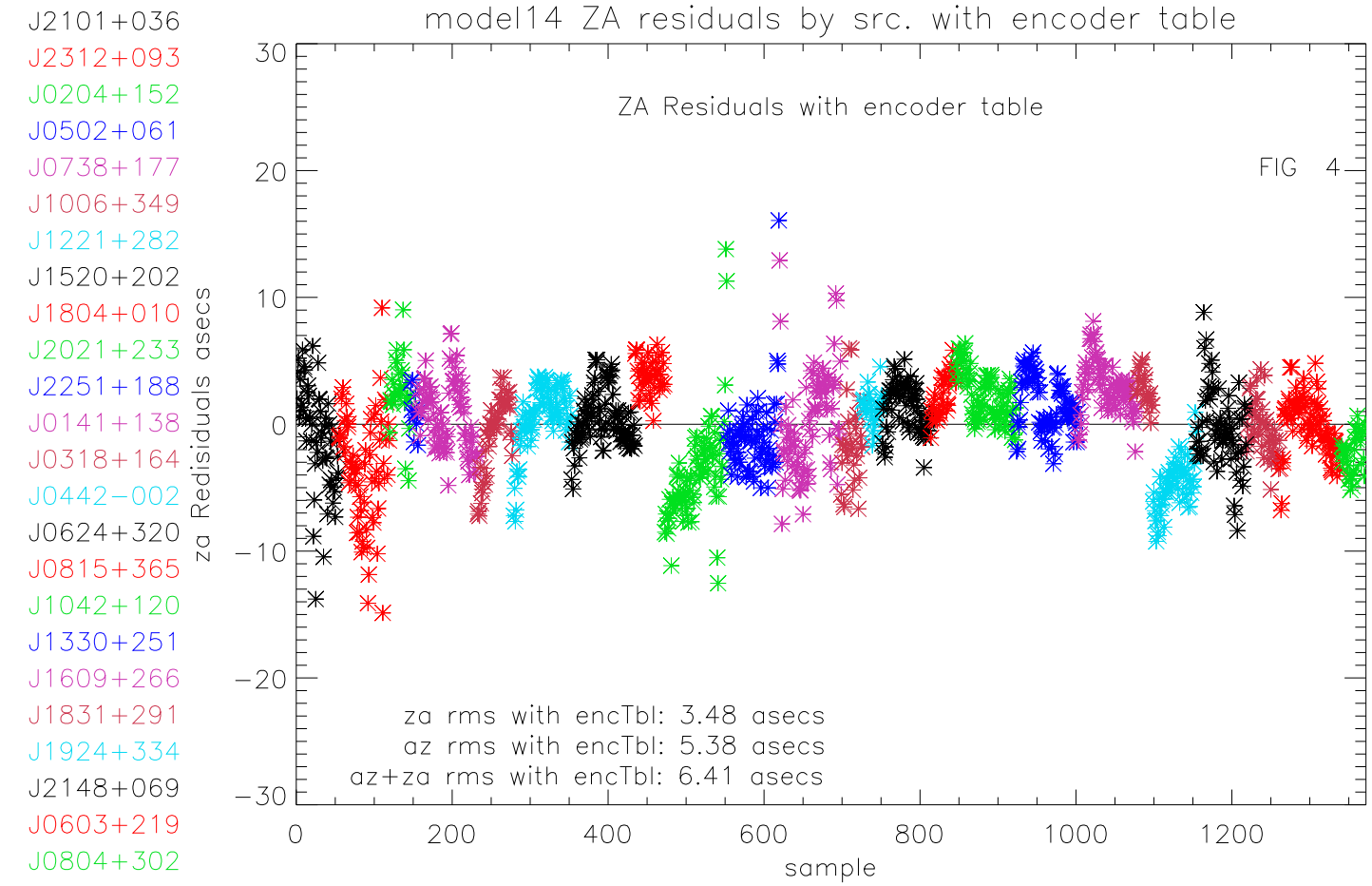

az encoder table
AZ Residuals
az Redisiduals asecs
za

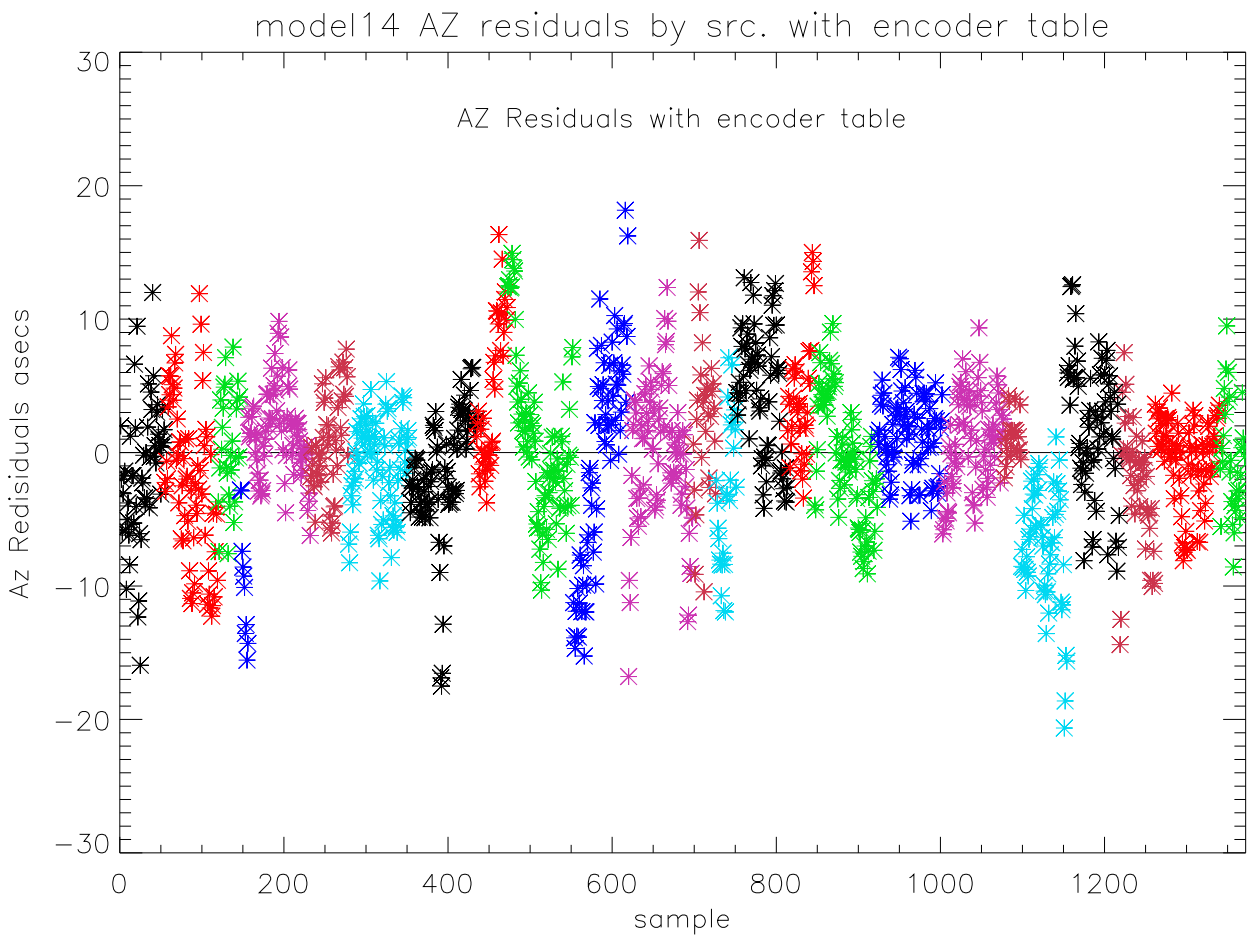

J2101+036
J2312+093
J0204+152
J0502+061
J0738+177
J1006+349
J1221+282
J1520+202
J1804+010
J2021+233
J2251+188
J0141+138
J0318+164
J0442−002
J0624+320
J0815+365
J1042+120
J1330+251
J1609+266
J1831+291
J1924+334
J2148+069
J0603+219
J0804+302
model14 ZA residuals vs za. with encoder table
ZA Residuals with encoder table
FIG 2
za rms with encTbl: 3.48 asecs
az rms with encTbl: 5.38 asecs
az+za rms with encTbl: 6.41 asecs
za Redisiduals asecs
za

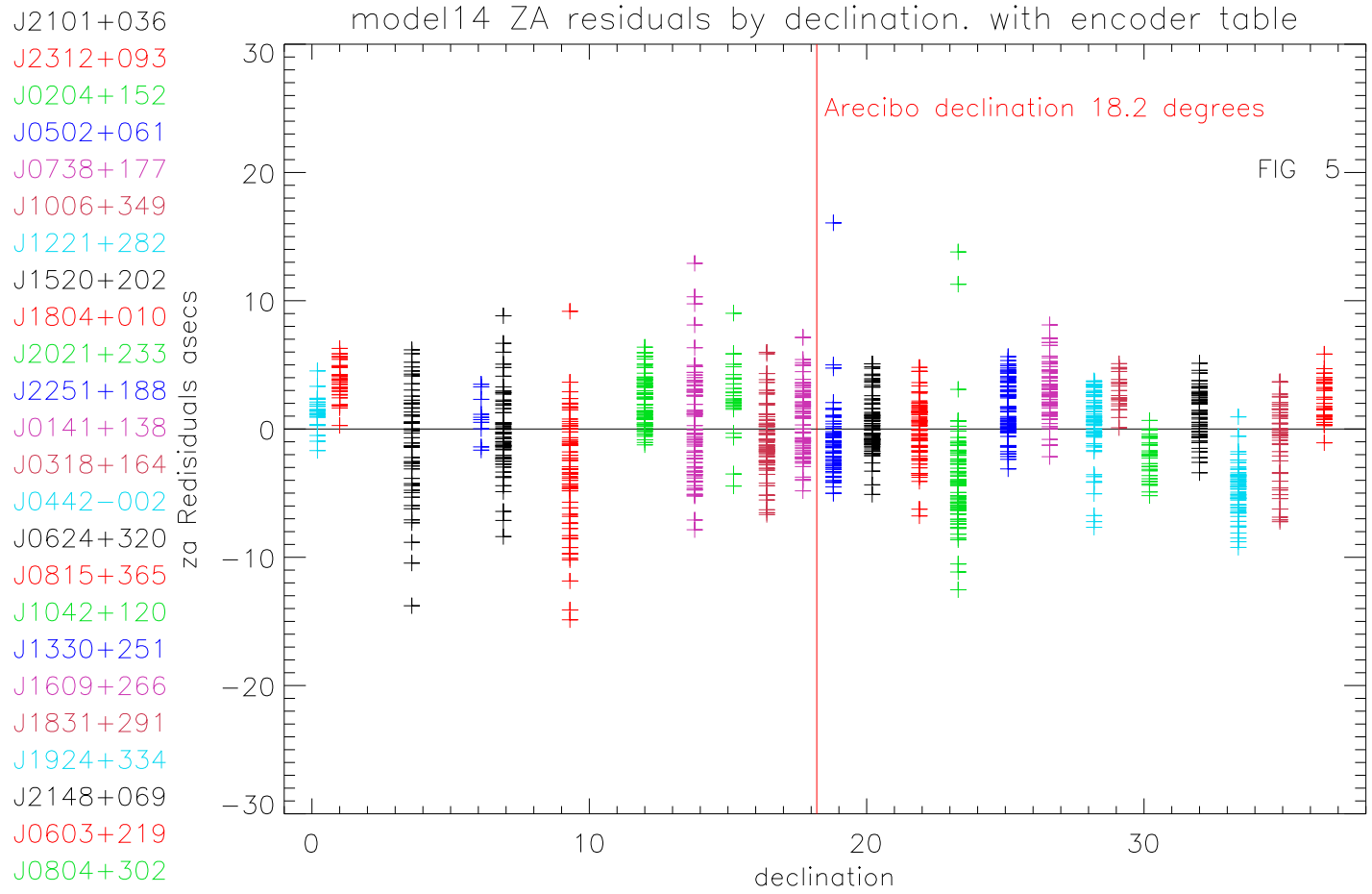

model14 AZ residuals vs za. with encoder table
AZ Residuals with encoder table
az Redisiduals asecs
za

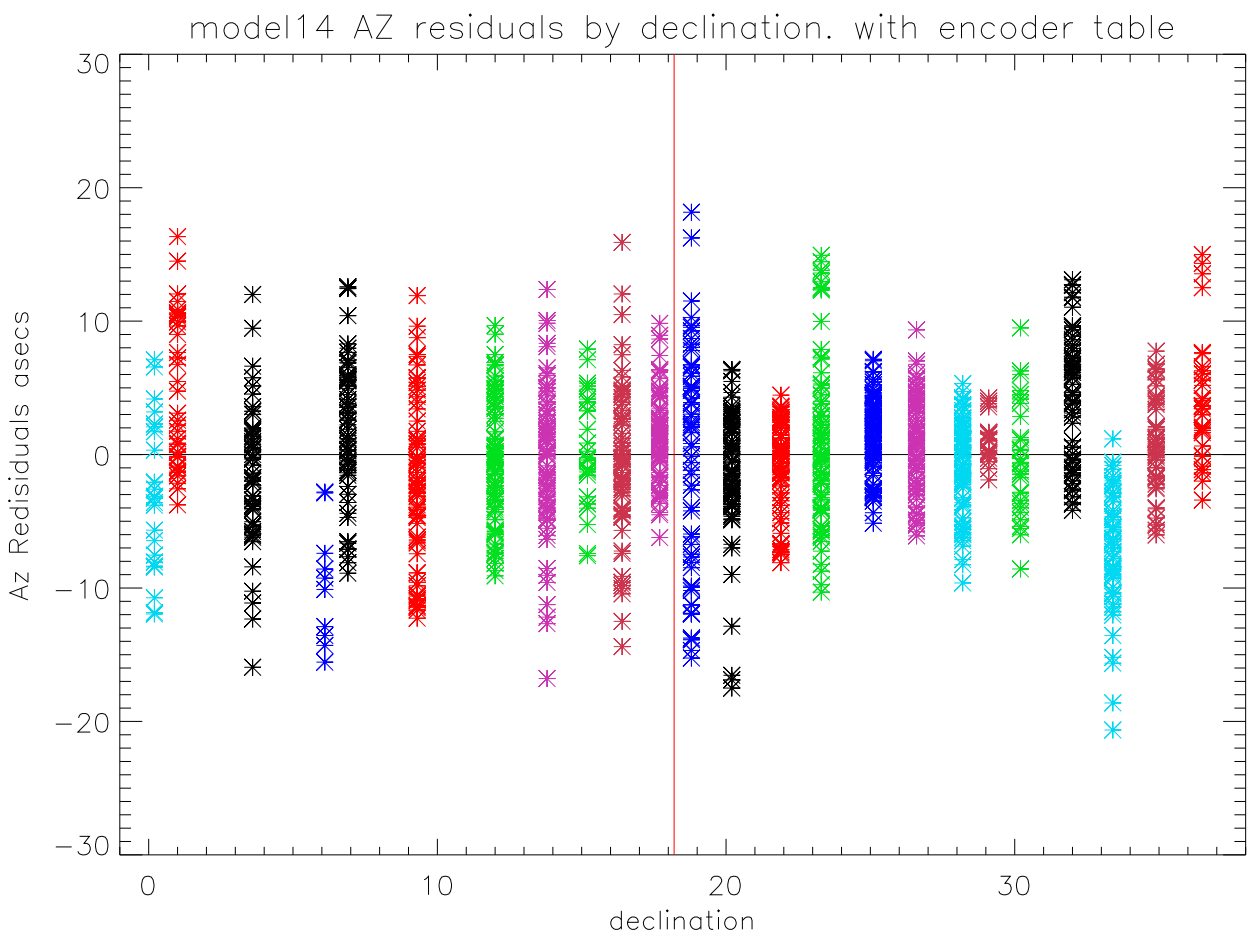

J2101+036
J2312+093
J0204+152
J0502+061
J0738+177
J1006+349
J1221+282
J1520+202
J1804+010
J2021+233
J2251+188
J0141+138
J0318+164
J0442−002
J0624+320
J0815+365
J1042+120
J1330+251
J1609+266
J1831+291
J1924+334
J2148+069
J0603+219
J0804+302
model14 ZA residuals vs az. with encoder table
ZA Residuals with encoder table
FIG 3
za Redisiduals asecs
az
za rms with encTbl: 3.48 asecs
az rms with encTbl: 5.38 asecs
az+za rms with encTbl: 6.41 asecs

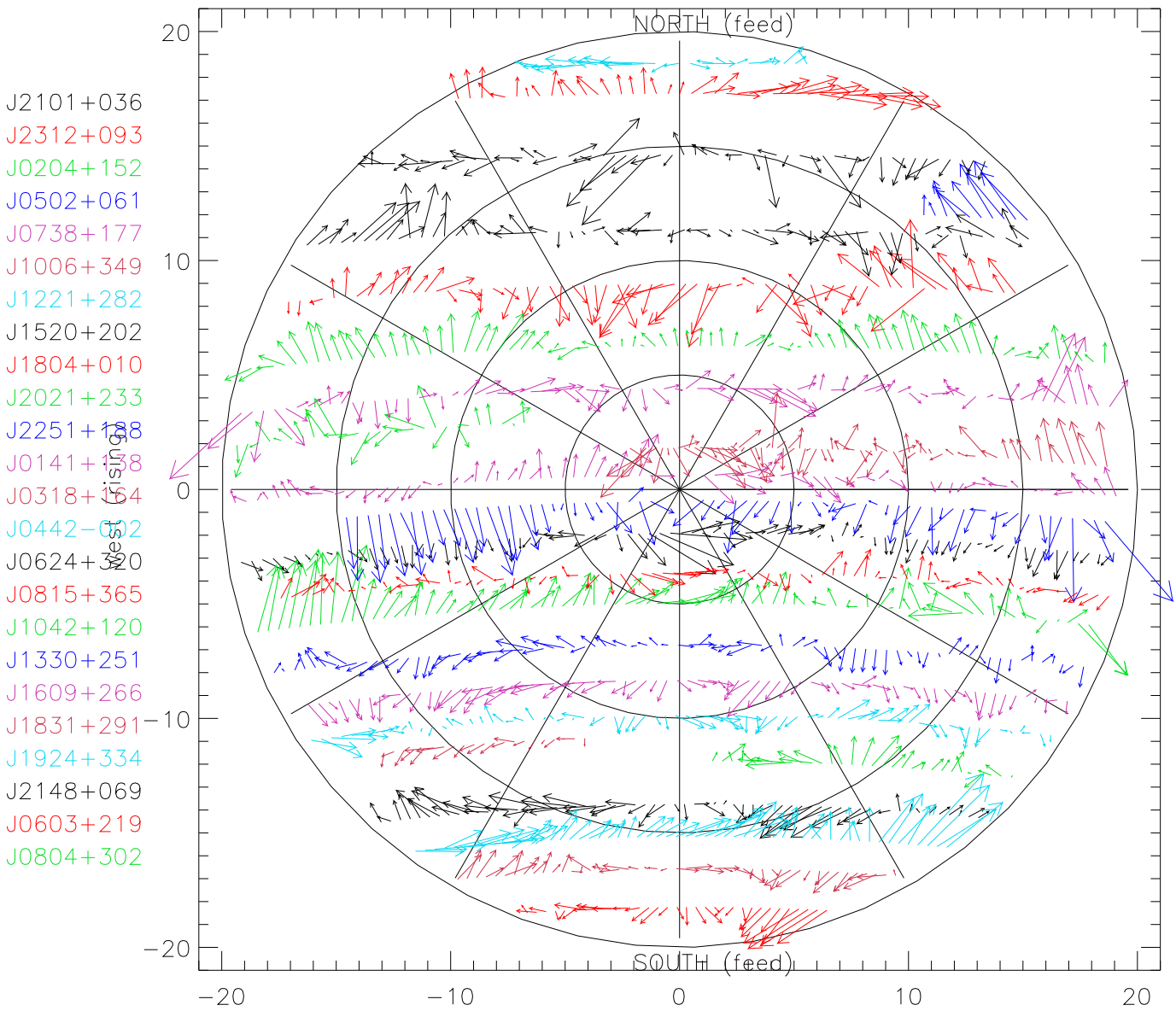

model14 AZ residuals vs az. with encoder table
AZ Residuals with encoder table
Az Redisiduals asecs
az


J2101+036
J2312+093
J0204+152
J0502+061
J0738+177
J1006+349
J1221+282
J1520+202
J1804+010
J2021+233
J2251+188
J0141+138
J0318+164
J0442−002
J0624+320
J0815+365
J1042+120
J1330+251
J1609+266
J1831+291
J1924+334
J2148+069
J0603+219
J0804+302
model14 ZA residuals by src. with encoder table
ZA Residuals with encoder table
FIG 4
za Redisiduals asecs
za rms with encTbl: 3.48 asecs
az rms with encTbl: 5.38 asecs
az+za rms with encTbl: 6.41 asecs
sample


model14 AZ residuals by src. with encoder table
AZ Residuals with encoder table
Az Redisiduals asecs
sample


J2101+036
J2312+093
J0204+152
J0502+061
J0738+177
J1006+349
J1221+282
J1520+202
J1804+010
J2021+233
J2251+188
J0141+138
J0318+164
J0442−002
J0624+320
J0815+365
J1042+120
J1330+251
J1609+266
J1831+291
J1924+334
J2148+069
J0603+219
J0804+302
model14 ZA residuals by declination. with encoder table
Arecibo declination 18.2 degrees
FIG 5
za Redisiduals asecs
declination
30
20
10
0
−10
−20
−30
0
10
20
30


model14 AZ residuals by declination. with encoder table
Az Redisiduals asecs
declination
30
20
10
0
−10
−20
−30
0
10
20
30




model 14 residuals errors [asecs] with encoder table vs az,za
1 div= 5.00Asecs
errors each 5.0deg

| za | max | avg | rms |
|---|---|---|---|
| all | 22.8 | 5.4 | 3.4 |
| 5 | 17.5 | 6.2 | 3.6 |
| 10 | 15.8 | 4.7 | 2.8 |
| 15 | 21.1 | 5.0 | 3.0 |
| 20 | 22.8 | 6.0 | 3.8 |

| az | za | model coefficients |
|---|---|---|
| −38.81 | −79.26 | constant |
| −6.41 | −100.92 | cos(az) |
| 99.16 | −5.74 | sin(az) |
| −713.84 | 175.81 | sin(za) |
| −1028.24 | 489.81 | sin(za)**2 |
| −22.20 | −11.42 | cos(3az) |
| −12.08 | −7.80 | sin(3az) |
| 7.31 | 4.00 | sin(za−balance)*cos(3az) |
| 111.56 | 1.25 | sin(za−balance)*sin(3az) |
| 2.49 | 0.43 | cos(2az) |
| −0.69 | −0.42 | sin(2az) |
| −1.93 | −0.30 | cos(6az) |
| 0.91 | −0.19 | sin(6az) |

| npts | chisqaz | chisqza | rmsAz | rmsZa | rmsTot | |
|---|---|---|---|---|---|---|
| 1371 | ******* | 60609.9 | 8.98 | 6.65 | 11.18 | model |
| | | | 5.38 | 3.48 | 6.41 | model + encTable |