FGS 2R2  (SN 2004)
Results from First AMA Move 2009.153-154
AGENDA for FGS 2R2 AMA Move

- Mirror Move

- ITS Observation

- Results from S-curve Observations and Analysis
Commanded AMA motor moves:
- M1 40 steps forward
- M2 32 steps reverse

Predicted shift in pupil at the face of the Koester’s prism
- \( X = + 0.1 \) mm
- \( Y = + 1.0 \) mm

ITS Observation
- ITS moved in expected direction

<table>
<thead>
<tr>
<th></th>
<th>X (asec)</th>
<th>Y (asec)</th>
<th>Predicted X Change</th>
<th>Predicted Y Change</th>
<th>Measured X Change</th>
<th>Measured Y Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before AMA Move</td>
<td>-407.431</td>
<td>518.651</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
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<td>2009:152:16:16:00.020</td>
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<tr>
<td>After AMA Move</td>
<td>-406.621</td>
<td>532.198</td>
<td>+1.26</td>
<td>+12.67</td>
<td>0.810</td>
<td>13.547</td>
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<td>2009:154:00:20:25.698</td>
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</table>

- Predicted vs measured on ground varied between 0.2 to 0.7 asec for 1 mm move
• Comparison of day 152 (black) and 154 (red) S-curves
Results from Day 154 Observations

X-Axis Points 1.8,

$S$-Curve(s) at Pickle Position(s) for FGS S/N 2004 X-Axis, Full Aperture

Decenter values are in mm


Graph generated by Danbury.CCSUser on Wed Jun 03 00:30:34 2009 using PMatrix Version 1.3
Results from Day 154 Observations
Y-Axis Points 1.8,

S-Curve(s) at Pickle Position(s) for FGS S/N 2004 Y-Axis, Full Aperture

Decenter values are in mm
Graph generated by Danbury.CCSUser on Wed Jun 03 00:31:29 2009 using PMatrix Version 1.3
Strategy for the first move is to improve the S-curve at position 8.
- Fitting routine is more effective for improved S-curves (i.e. pupil not as mis-aligned at the face of the Koester’s prism)

Fit for the Y-axis S-curve from day 152 was poor.
- Fits at higher decenters can be somewhat inaccurate
- Decenter was likely -0.8 to -0.7 mm versus -1.0 mm

Current decenter at position 8:
- X = -0.1 mm
- Y = +0.3 mm

Preliminary mirror move at position 8 for Y only (moving – 0.3 mm):
- M1 = -12 steps
- M2 = +12 steps