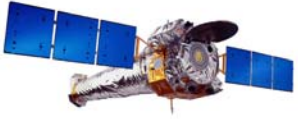


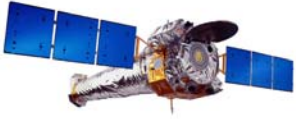
Updating the Slew Error Table



Overview



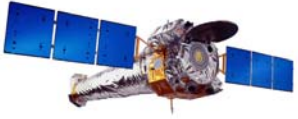
-
- **Why**
 - **Data Plots**
 - **Testing**



Why



-
- **A Major Goal of Updating IRU Calibration**
 - Provides for more flexibility in scheduling
 - More accurately reflects on-board capability
 - **Improves FOT MP Scheduling Efficiency**
 - More flexibility equals fewer intermediate attitudes
 - Less time spent finding attitudes with good stars and max maneuver angles
 - **Increases Available Science Time**
 - Fewer intermediate attitudes equals more time spent observing
 - More efficient maneuvering



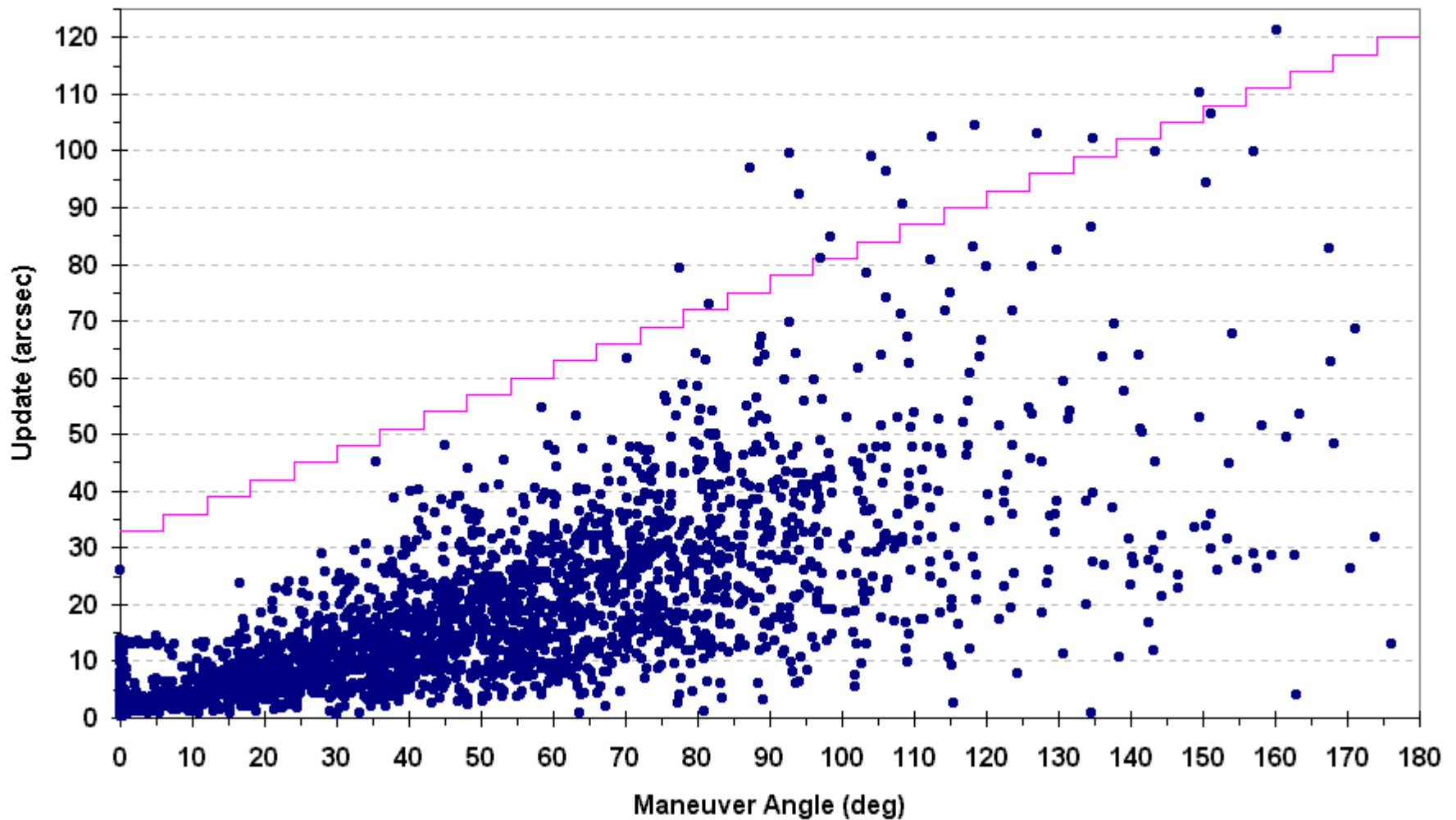
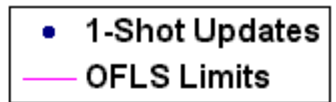
Max Maneuver Angle



- **Pre-Processing Step Before Scheduling**

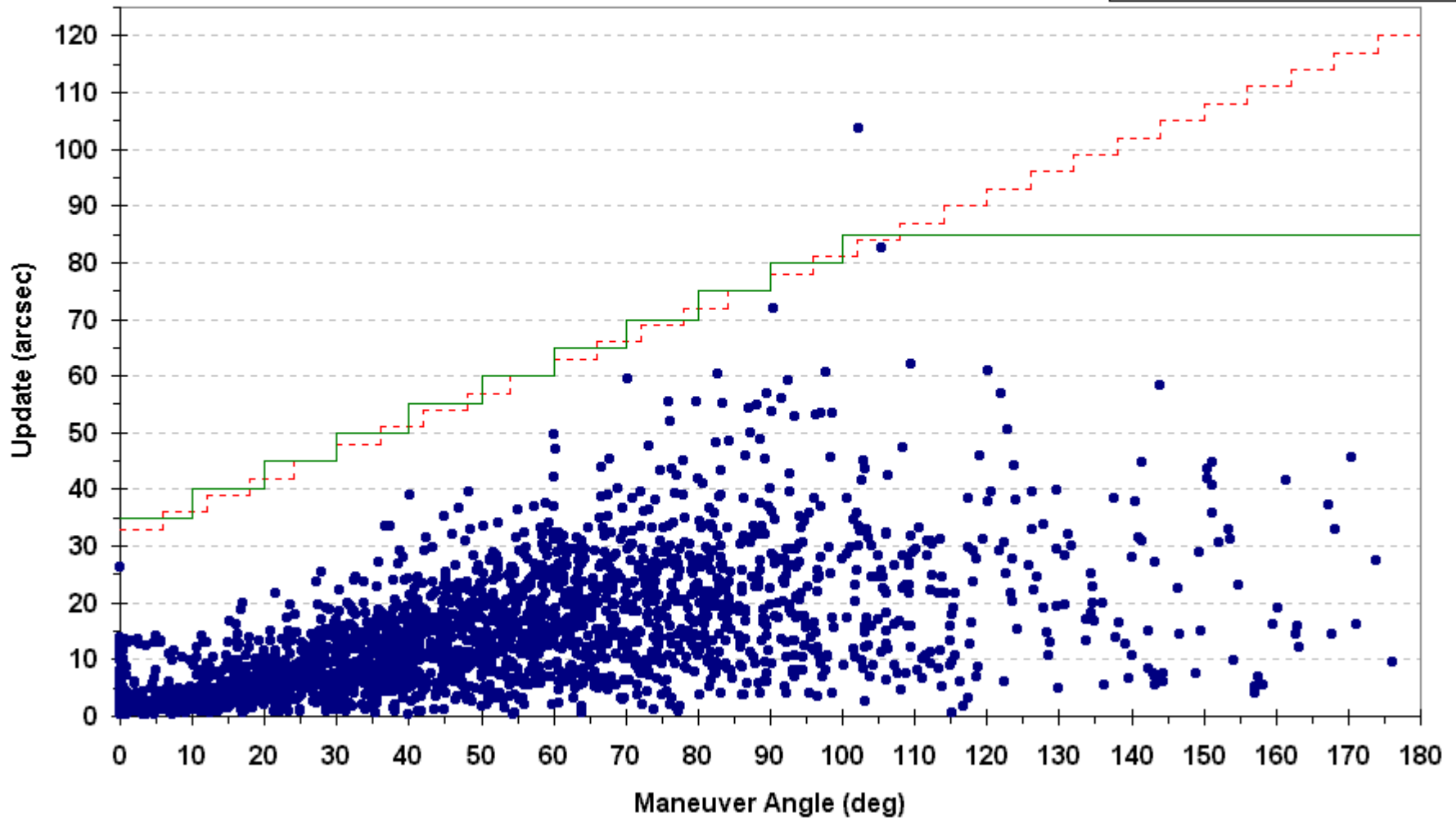
- **OFLS Logic**
 - **Set Search Boxes**
 - **Expand outward from candidate star until a spoiler is reached**
 - **Derive Max Allowed Error**
 - **Max error is equal to search box half-width**
 - **Use Table to Translate Max Error Into Maneuver Angle Allowed**
 - **Restrict Maximum Maneuver to Target**
 - **Smallest search box size used**

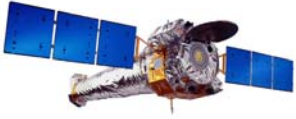
One-Shot Updates for 1999:241 to 2002:197
3305 Maneuvers with No Adjustments



One-Shot Updates for 1999:241 to 2002:197 3305 Maneuvers with IRU Calib Adjustments

- Adjusted 1-Shot Updates
- Current OFLS Limits
- Proposed OFLS Limits





Characteristics Change



Old:

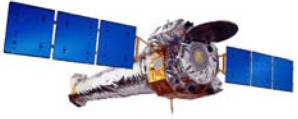
ODB_N_SLEW_ANG = 30, !Final Value: Source: TRW Nancy Kascak
ODB_SLEW_ANG = 6.0, 12.0, 18.0, 24.0, 30.0, !Final Value: Source: TRW Nancy Kascak [degrees]
36.0, 42.0, 48.0, 54.0, 60.0,
66.0, 72.0, 78.0, 84.0, 90.0,
96.0, 102.0, 108.0, 114.0, 120.0,
126.0, 132.0, 138.0, 144.0, 150.0,
156.0, 162.0, 168.0, 174.0, 180.0

ODB_SLEW_ERR = 33.0, 36.0, 39.0, 42.0, 45.0, !Final Value: Source: TRW Nancy Kascak [arc
seconds]
48.0, 51.0, 54.0, 57.0, 60.0,
63.0, 66.0, 69.0, 72.0, 75.0,
78.0, 81.0, 84.0, 87.0, 90.0,
93.0, 96.0, 99.0, 102.0, 105.0,
108.0, 111.0, 114.0, 117.0, 120.0

New:

ODB_N_SLEW_ANG = 12, !Final Value: Source: FOT MP K. Marsh 8/16/02
ODB_SLEW_ANG = 10.0, 20.0, 30.0, 40.0, 50.0, !Final Value: Source: FOT MP K. Marsh 8/16/02
[degrees]
60.0, 70.0, 80.0, 90.0, 100.0,
179.99, 180.0

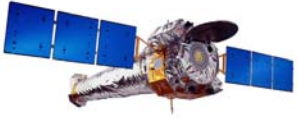
ODB_SLEW_ERR = 35.0, 40.0, 45.0, 50.0, 55.0, !Final Value: Source: FOT MP K. Marsh 8/16/02 [arc
seconds]
60.0, 65.0, 70.0, 75.0, 80.0,
85.0, 140.0



Additional Items



-
- **140 arcsec Max Search Box Size**
 - In general, large search boxes good
 - OFLS uses last entry in table as limit
 - **5 arcsec Steps**
 - Can only command in 5 arcsec intervals
 - Removes possibility of rounding error



Testing



-
- **Draws on the same data used for the IRU Calibration Update**
 - **OFLS has been exercised with the new table**
 - **Results were as expected**