

# Matera Laser Ranging Observatory Performance Characterization 2001 - 2004

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Telespazio

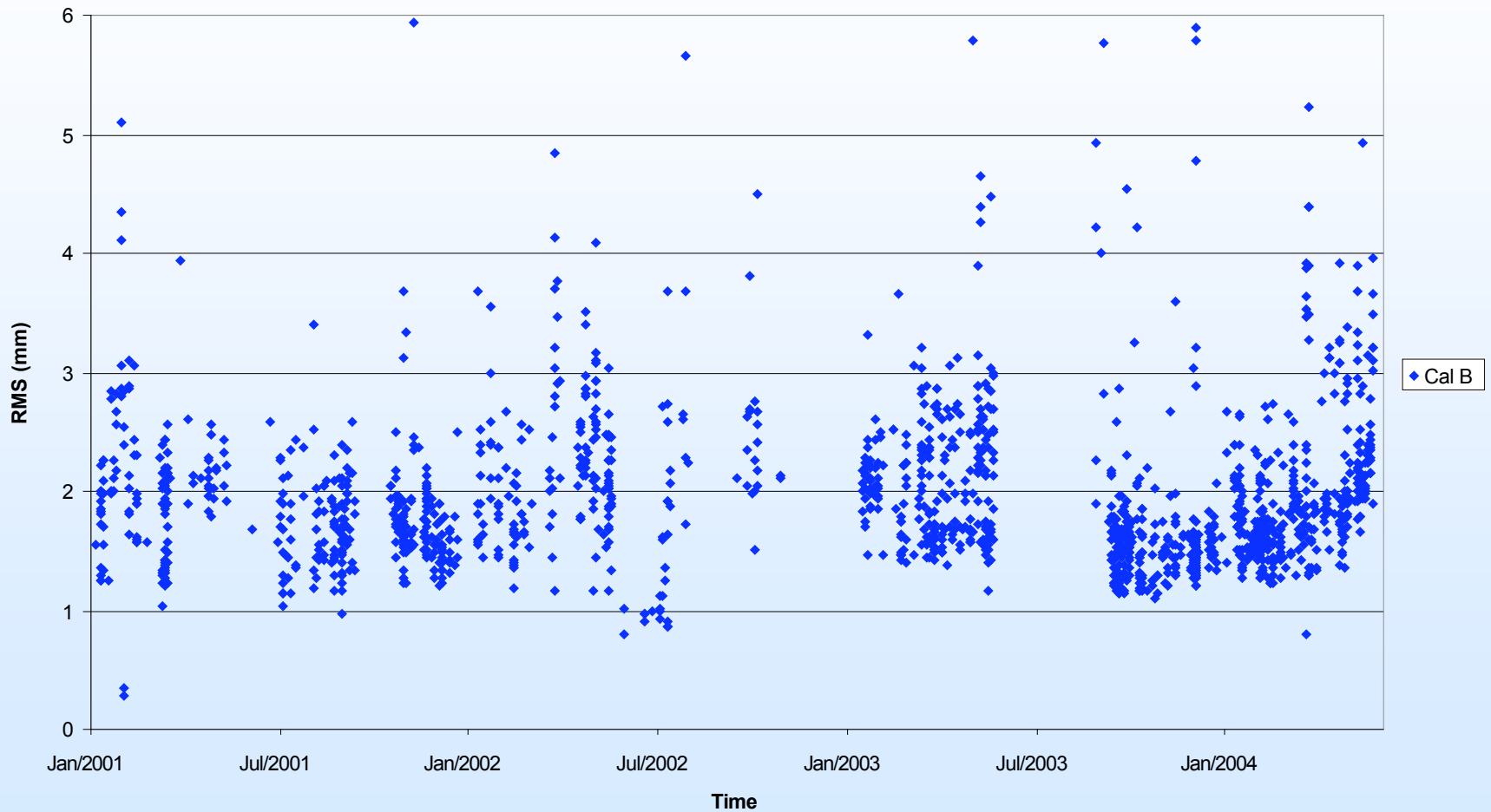


## OUTLINE

- Raw data statistics
- Stability issues
- Internal precision
- Calibrations
- Geodetic accuracy

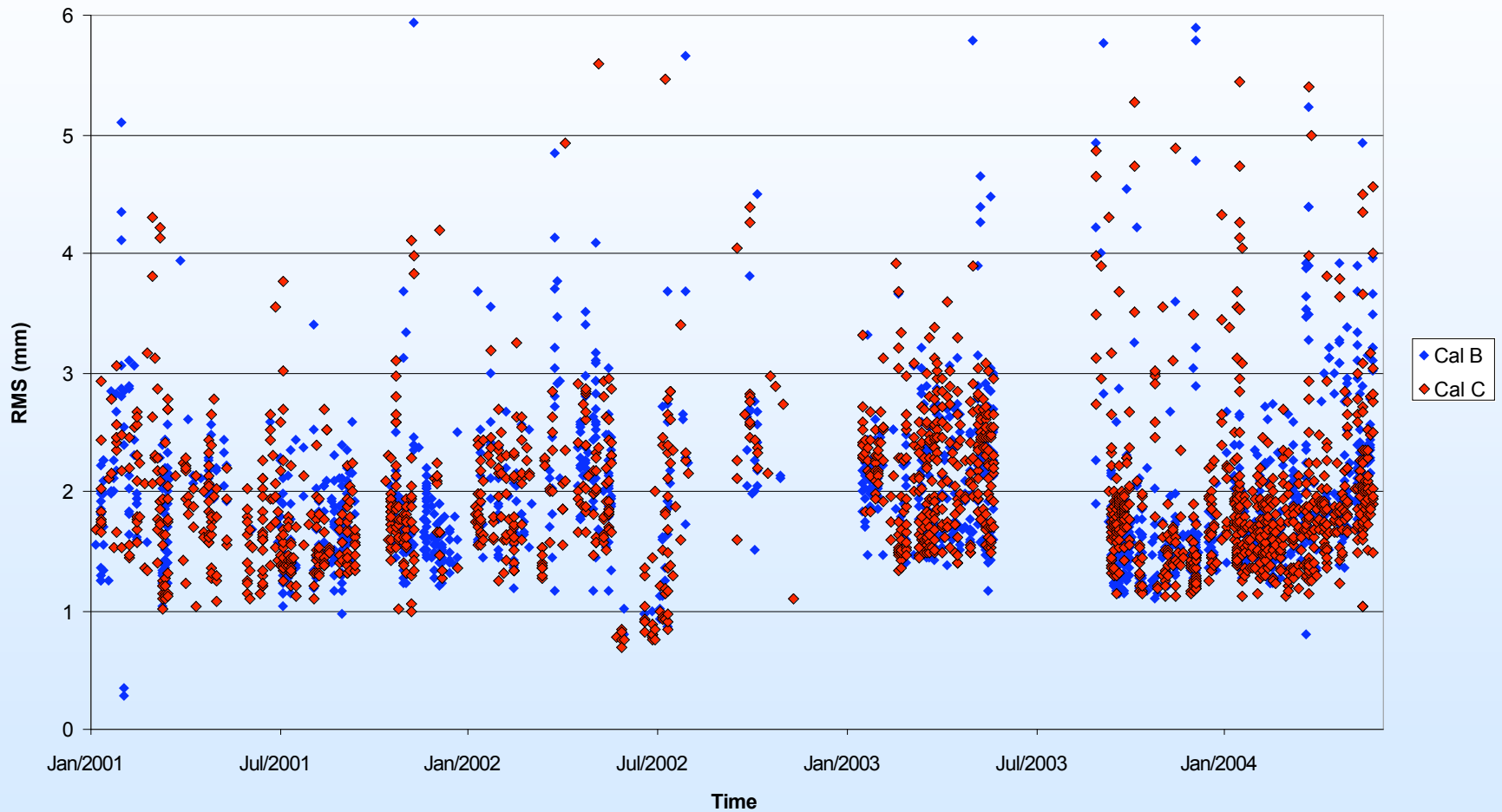


### RMS Vs Time for Cal B & Cal C





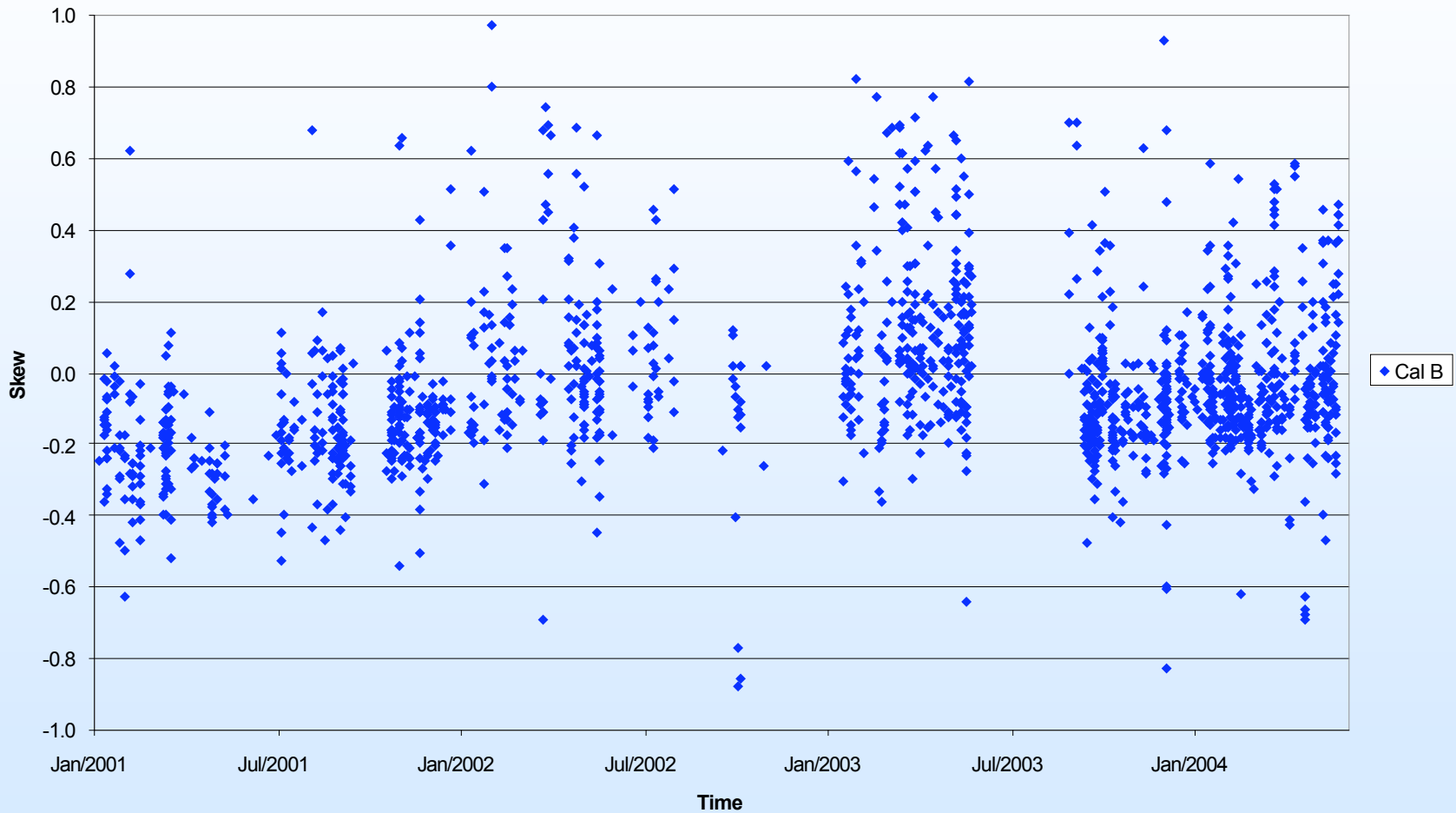
### RMS Vs Time for Cal B & Cal C





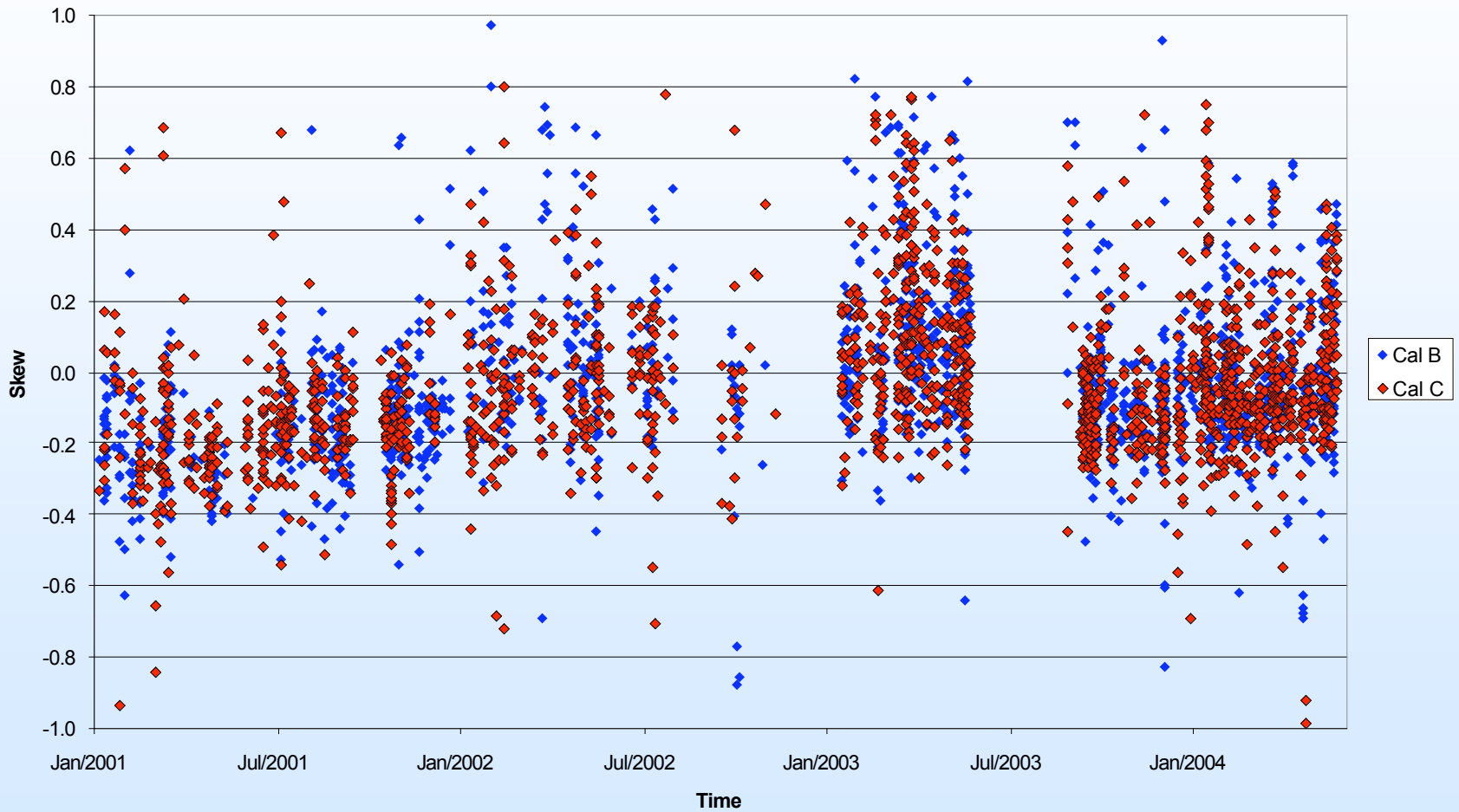


### Skew Vs Time for Cal B & Cal C

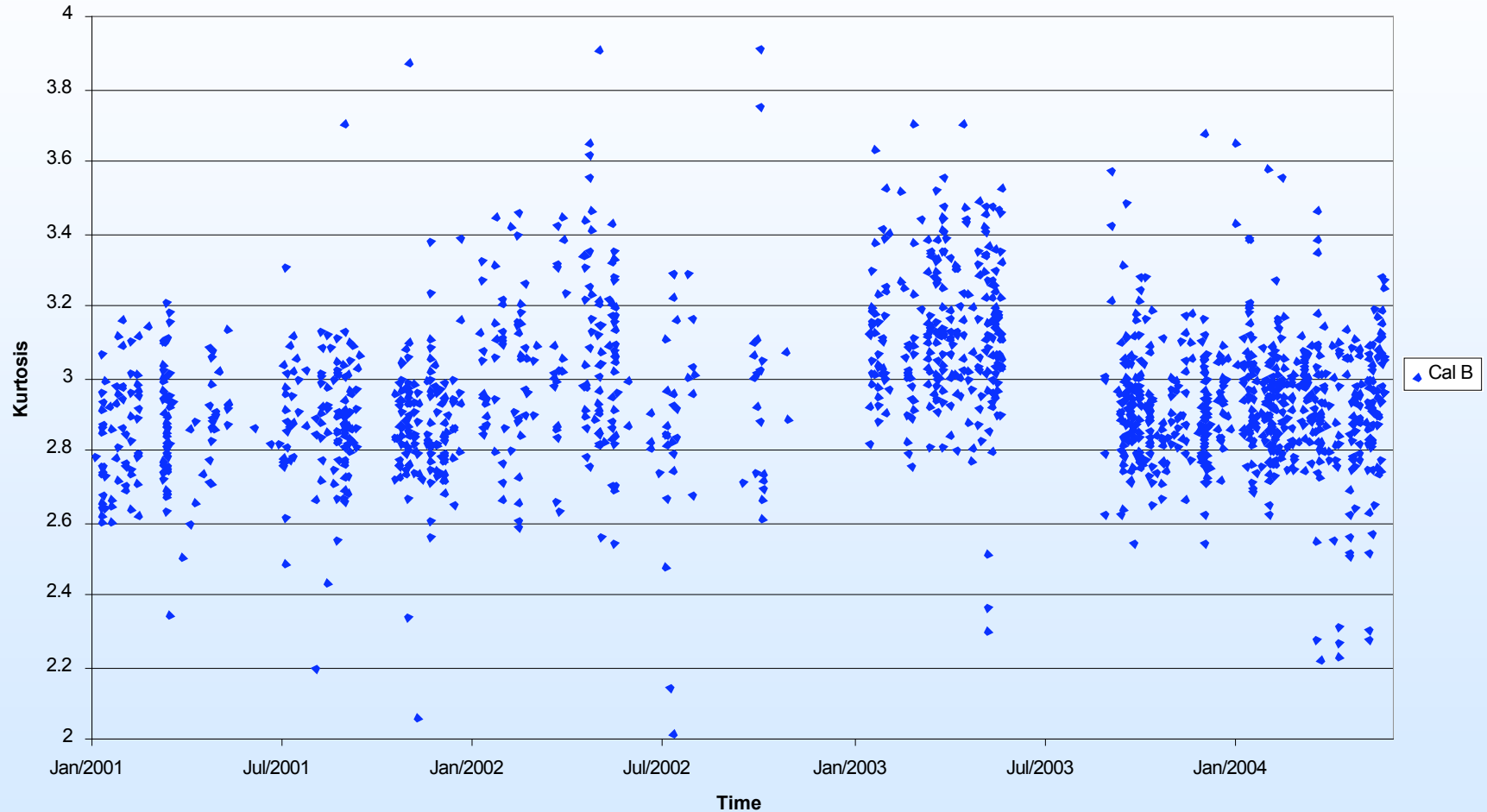




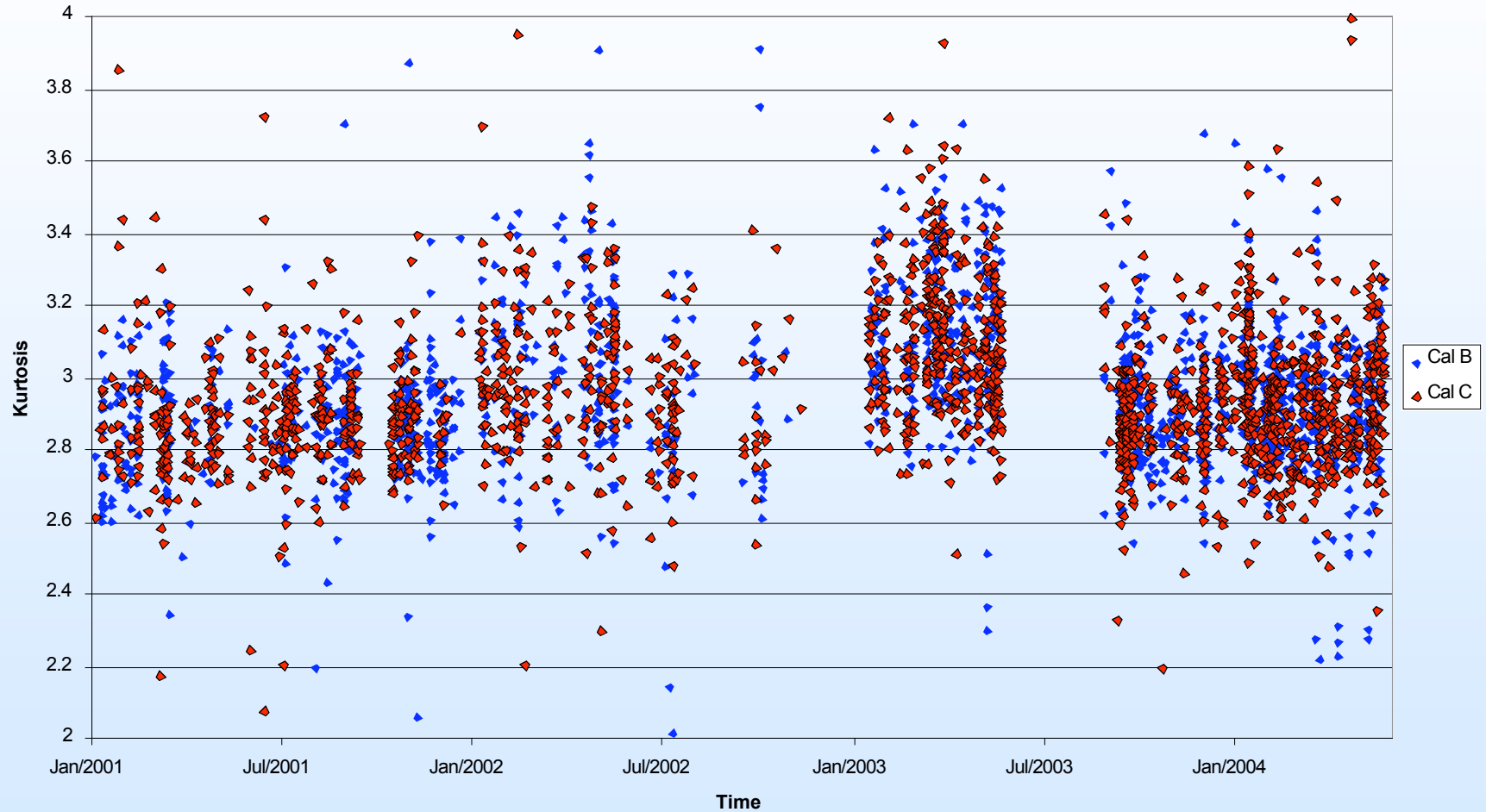
### Skew Vs Time for Cal B & Cal C



### Kurtosis Vs Time for Cal B & Cal C



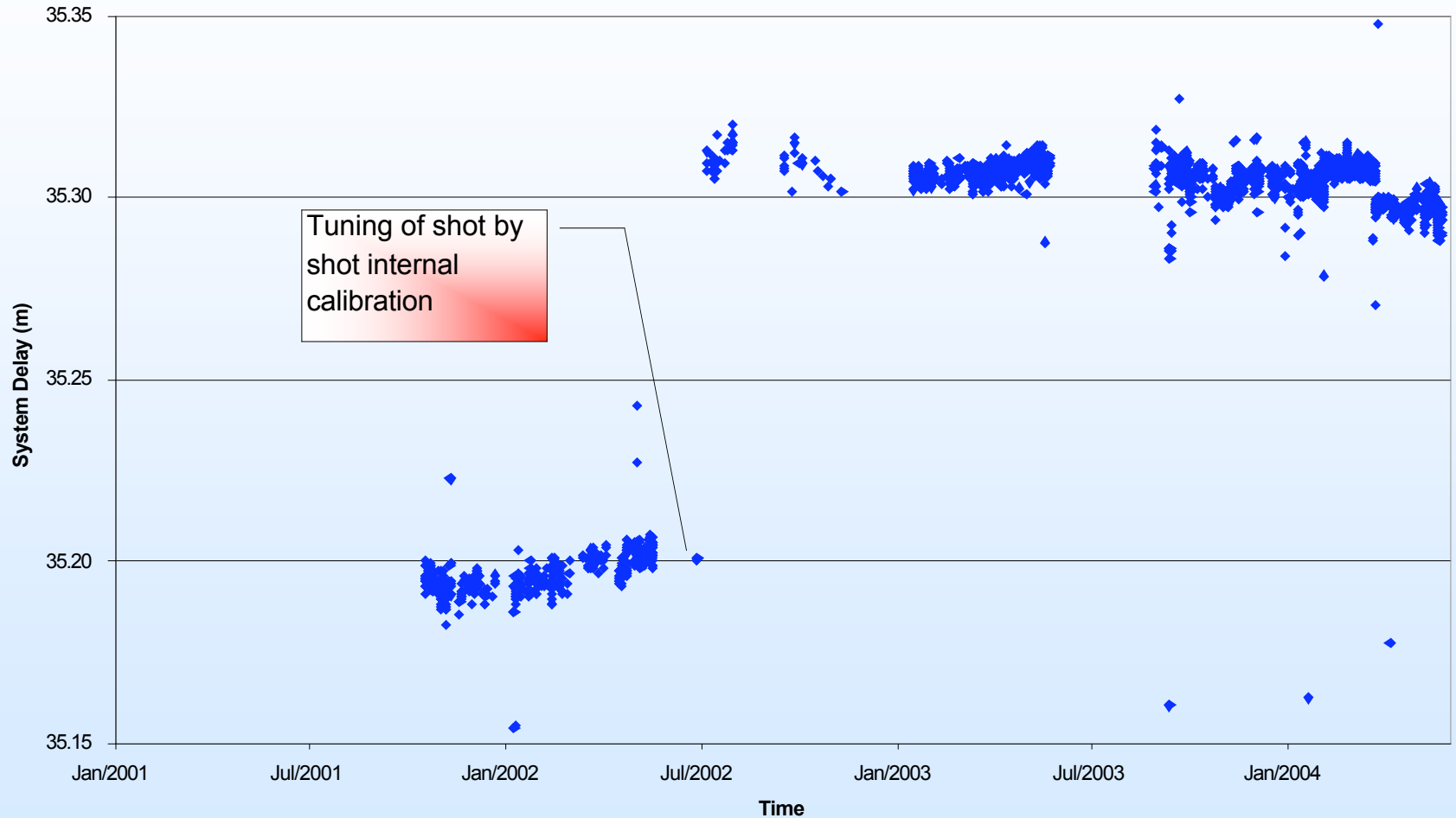
### Kurtosis Vs Time for Cal B & Cal C



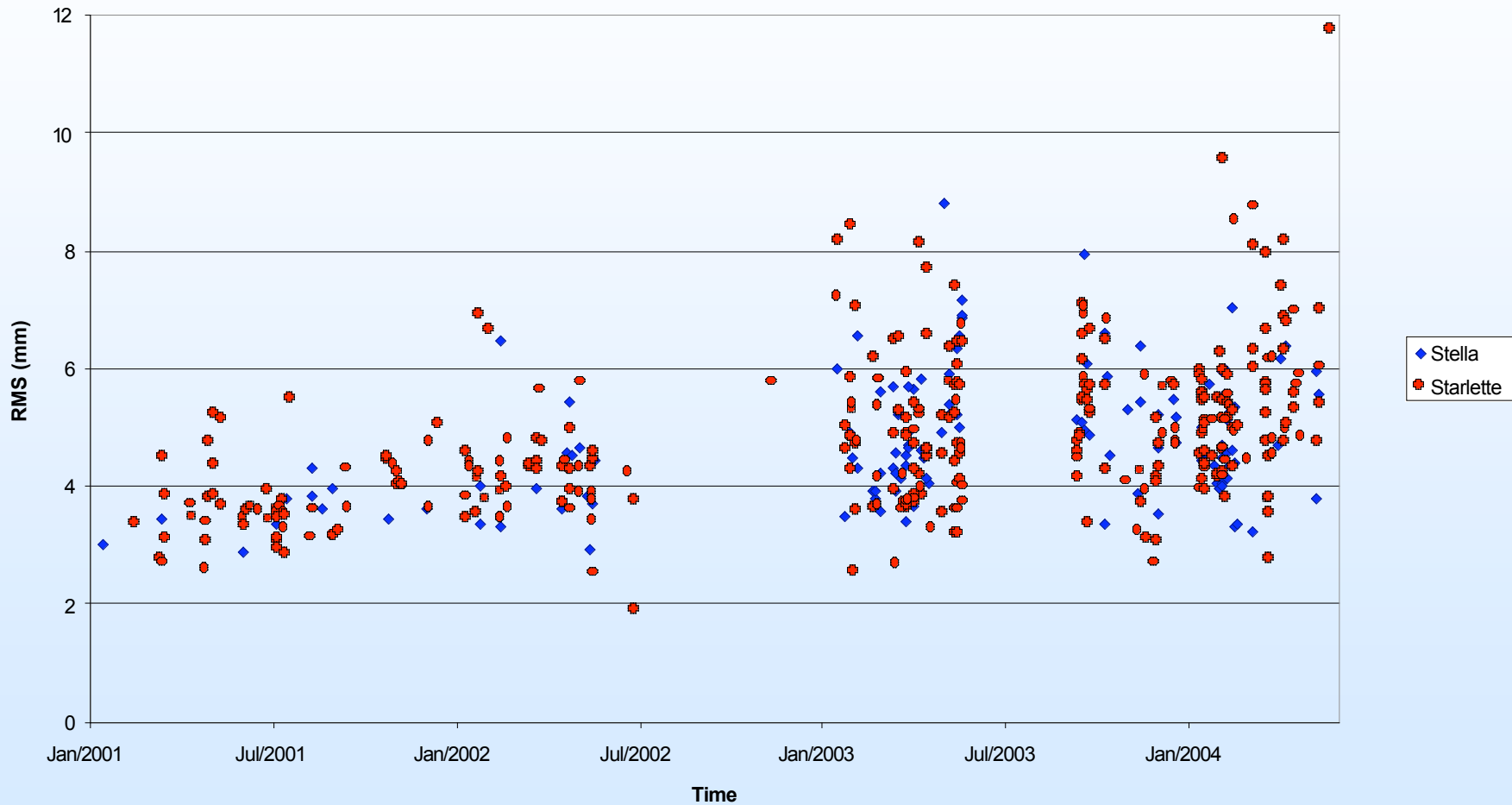




### System Delay Vs Time for Cal B & Cal C



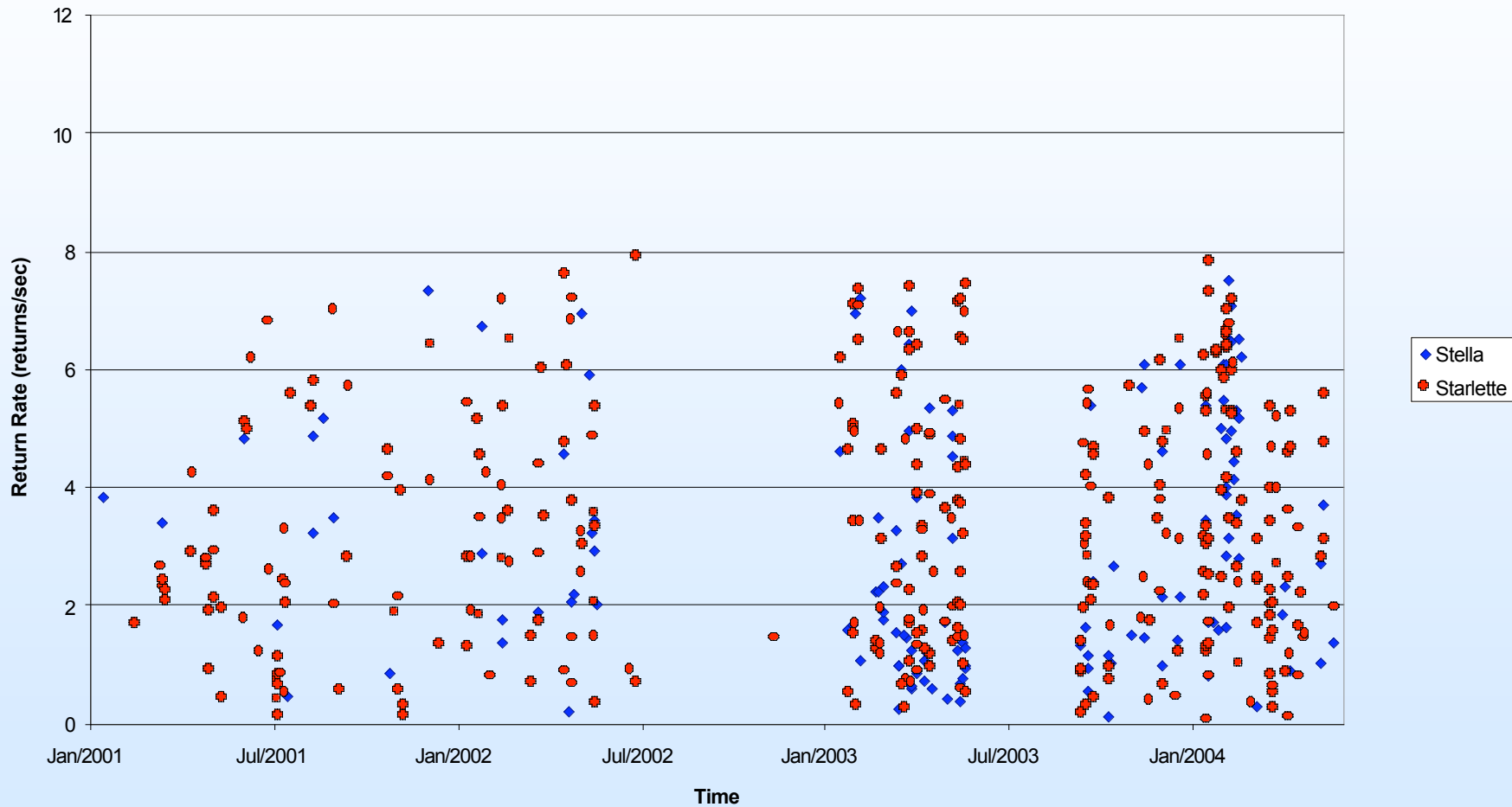
### RMS Vs Time for Stella & Starlette

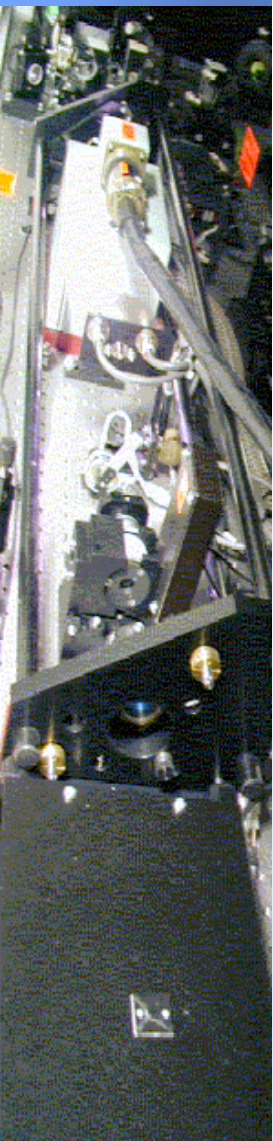




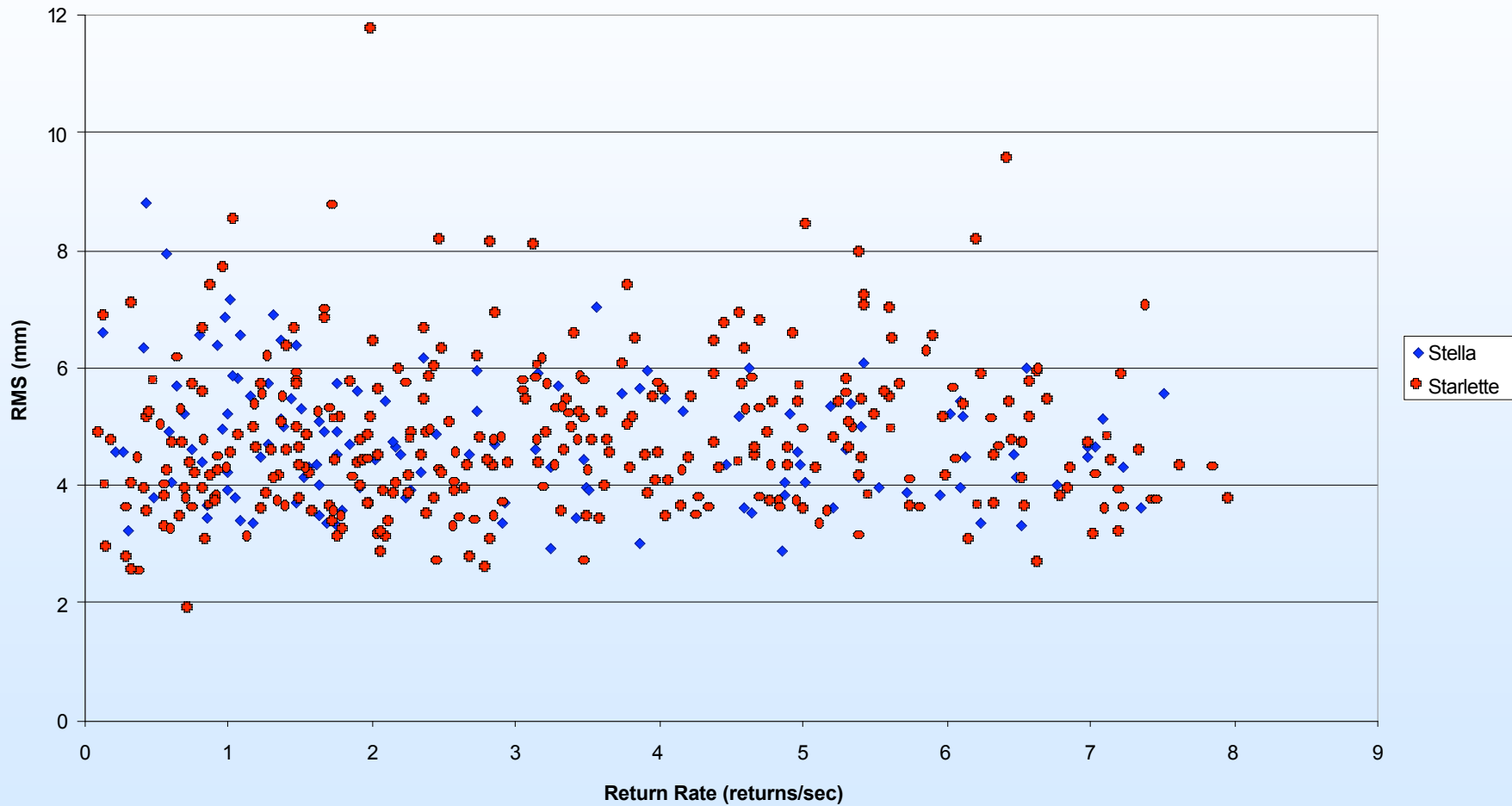


### Return Rate Vs Time for Stella & Starlette



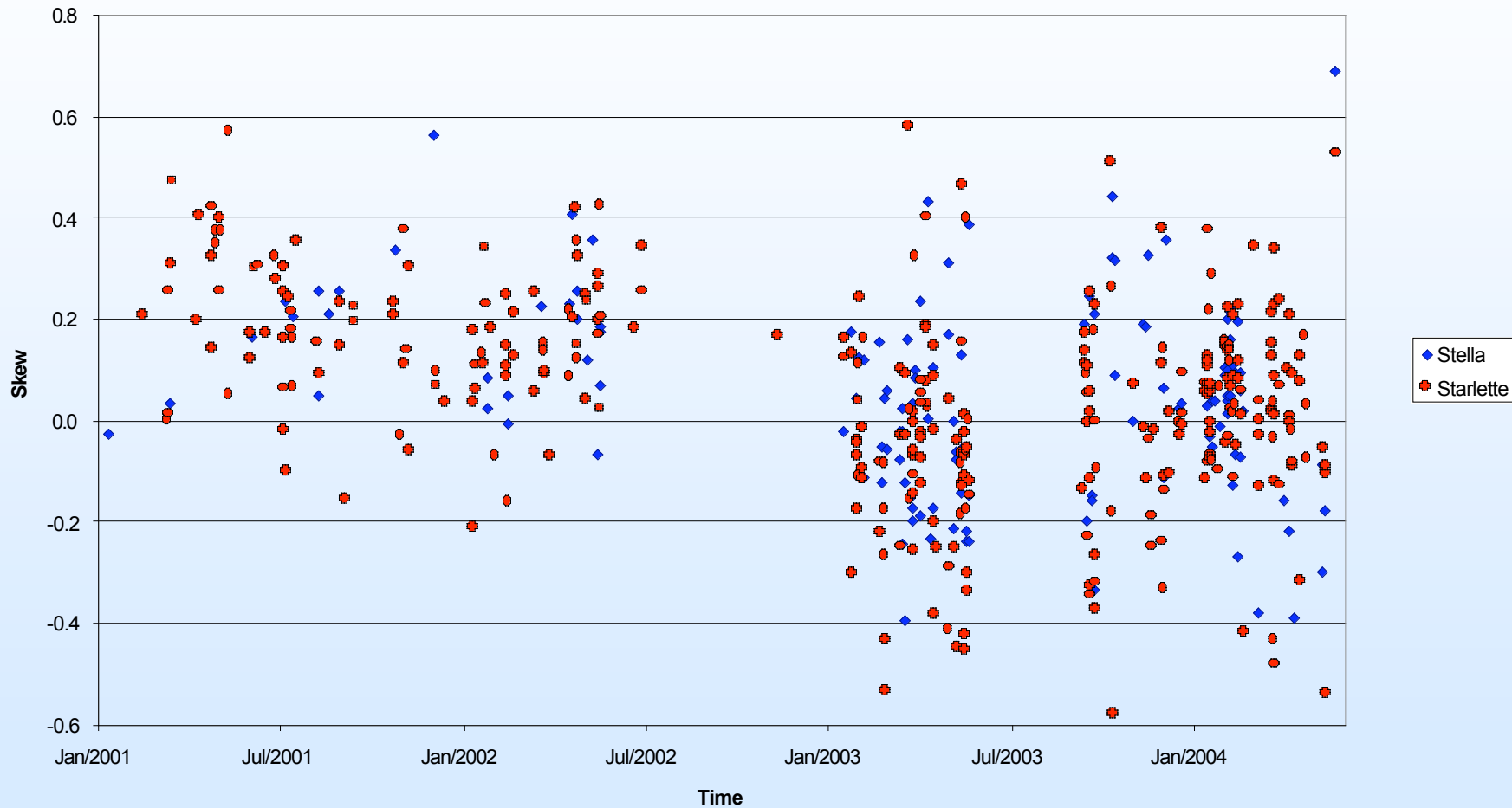


### RMS Vs Return Rate for Stella & Starlette



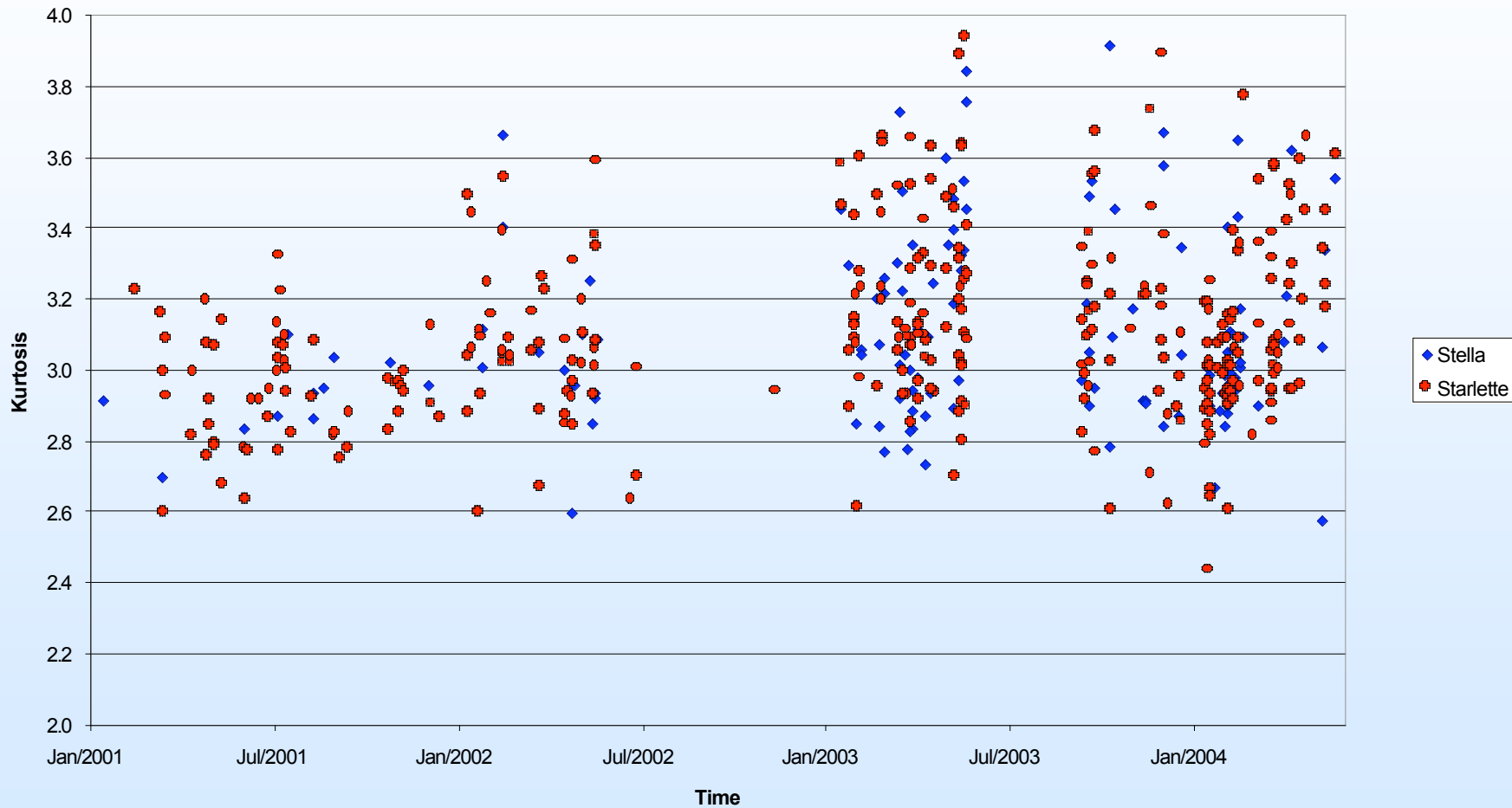


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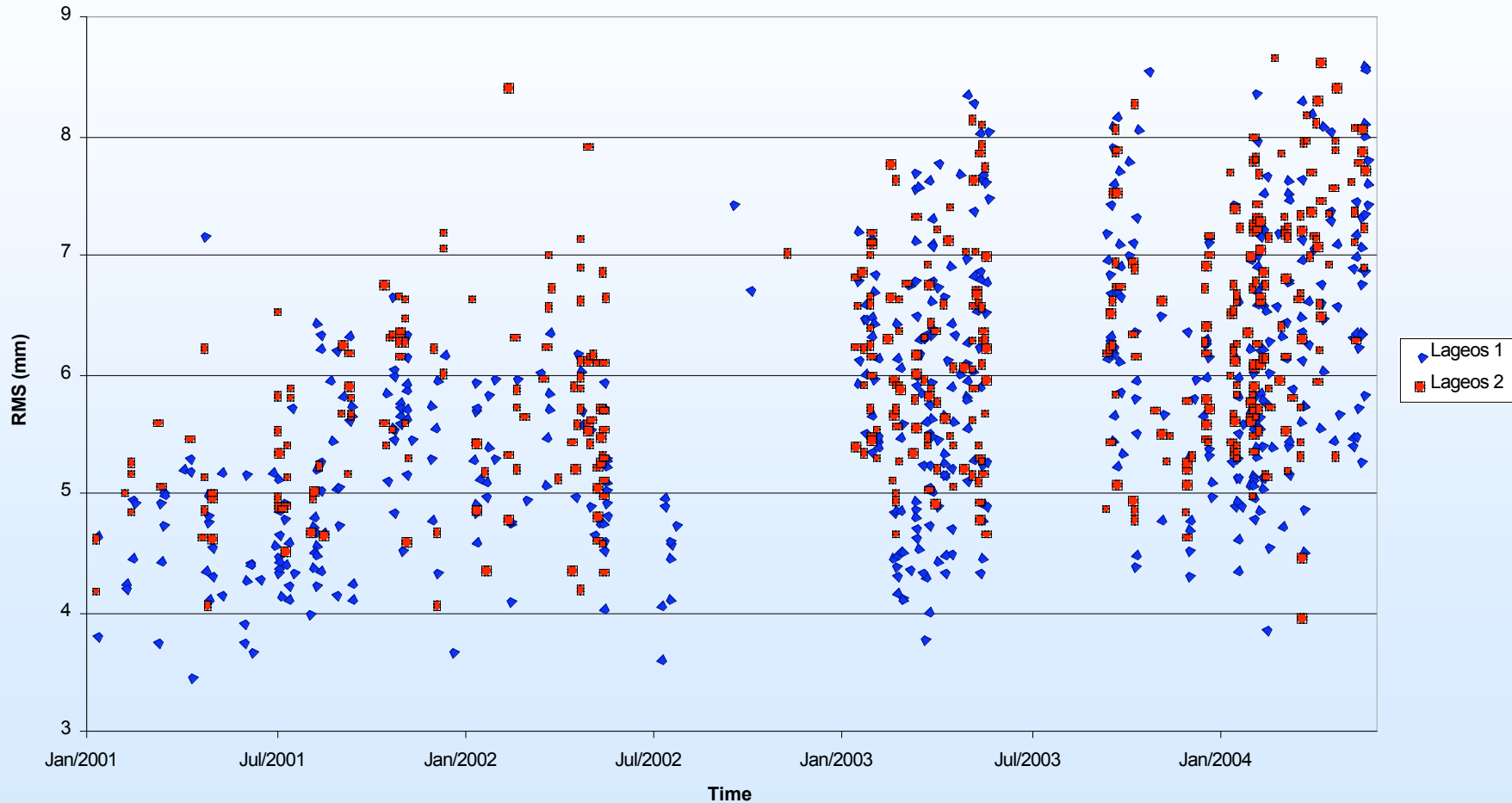


### Kurtosis Vs Time for Stella & Starlette

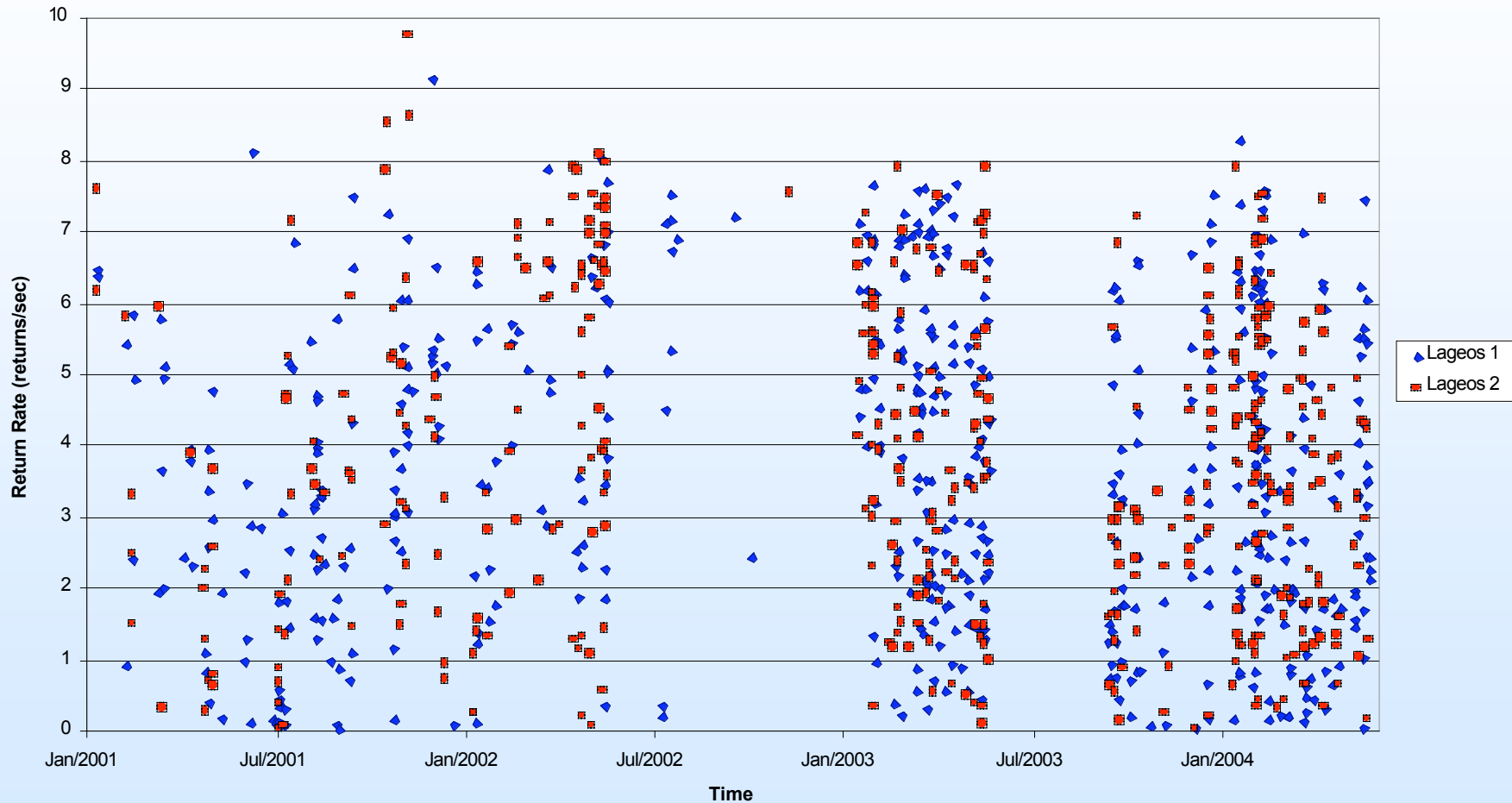




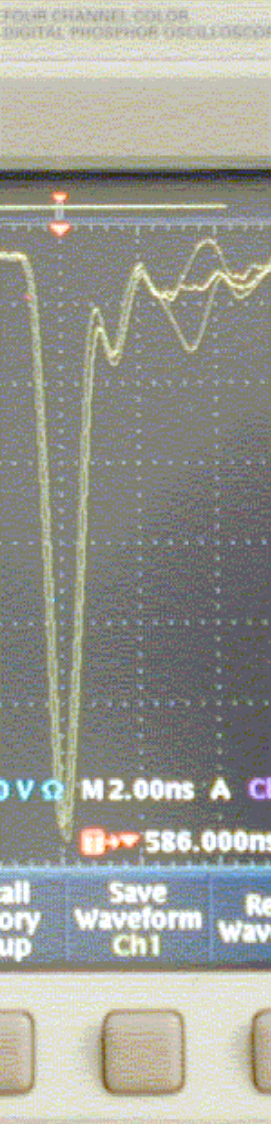
### RMS Vs Time for Lageos 1 & Lageos 2



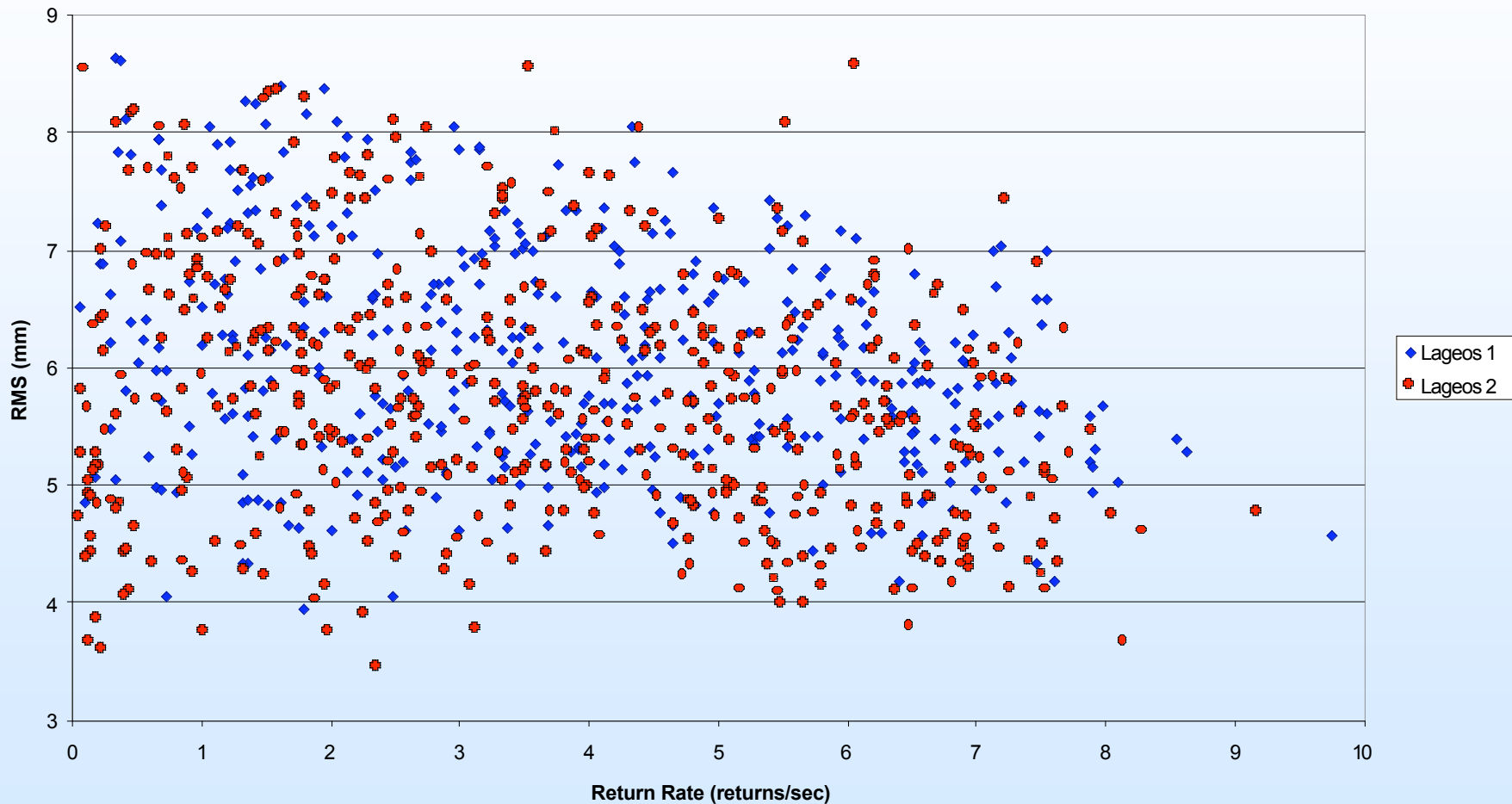
### Return Rate Vs Time for Lageos 1 & Lageos 2

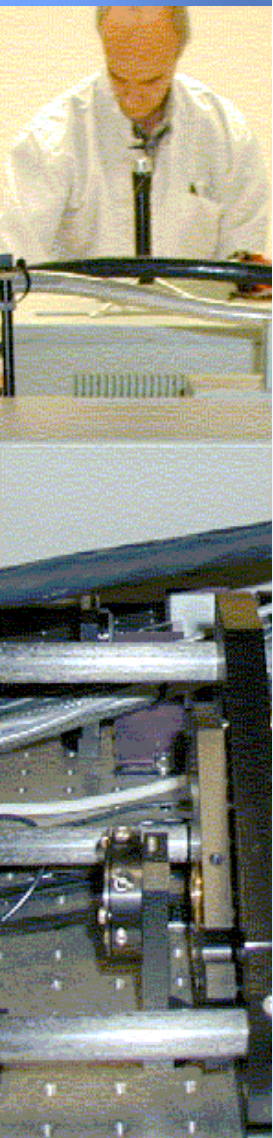




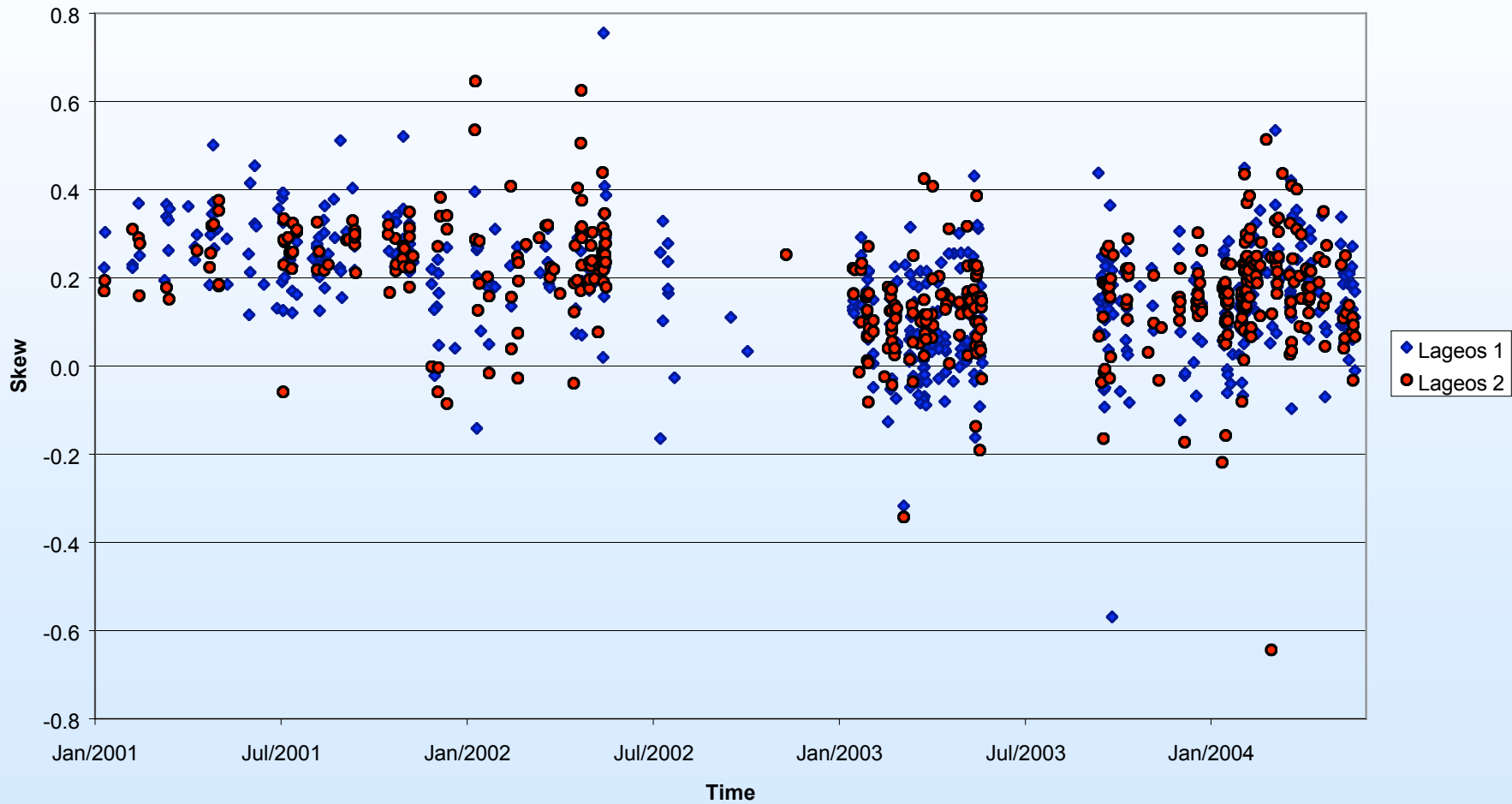


### Return Rate Vs RMS for Lageos 1 & Lageos 2



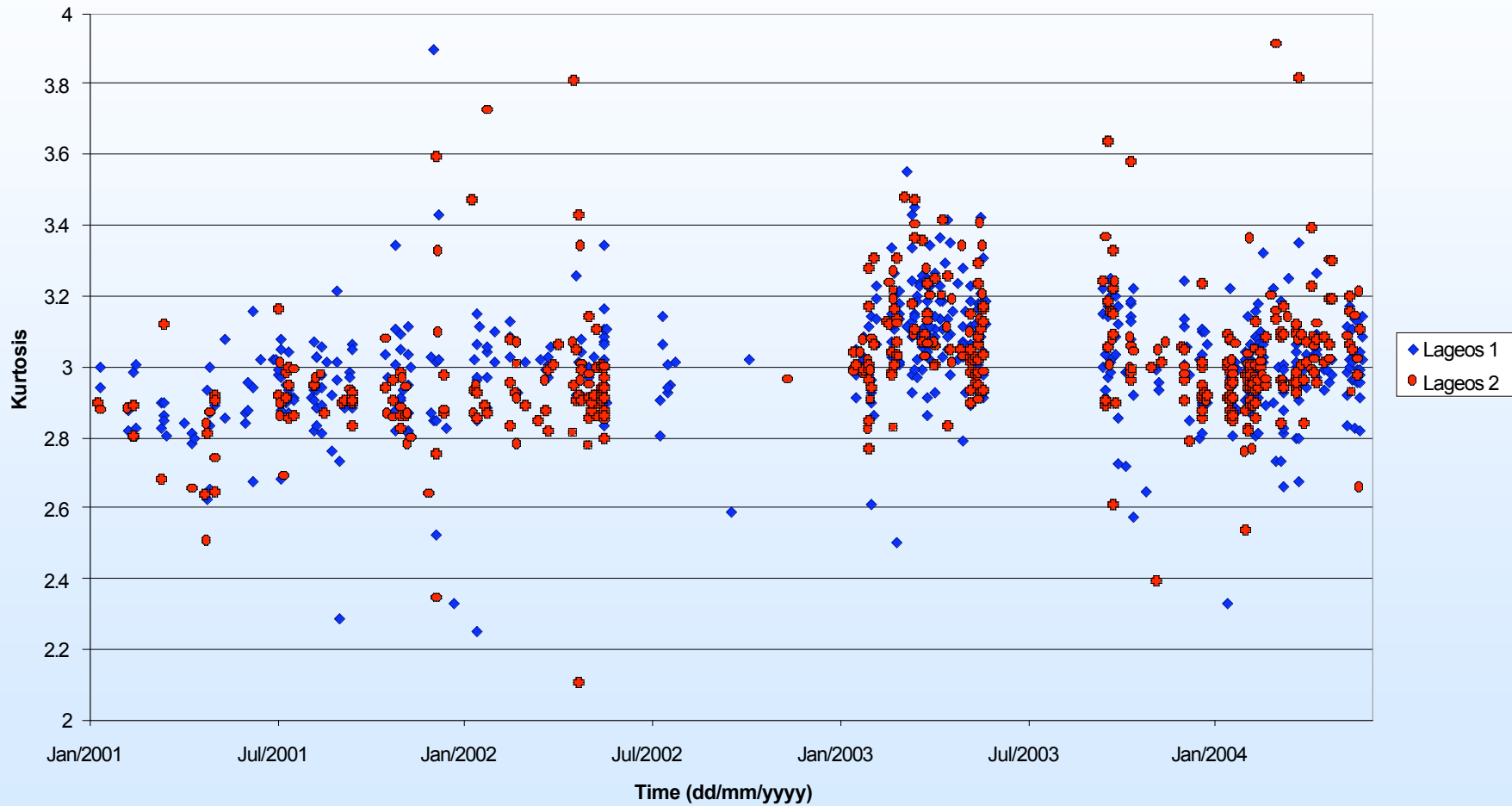


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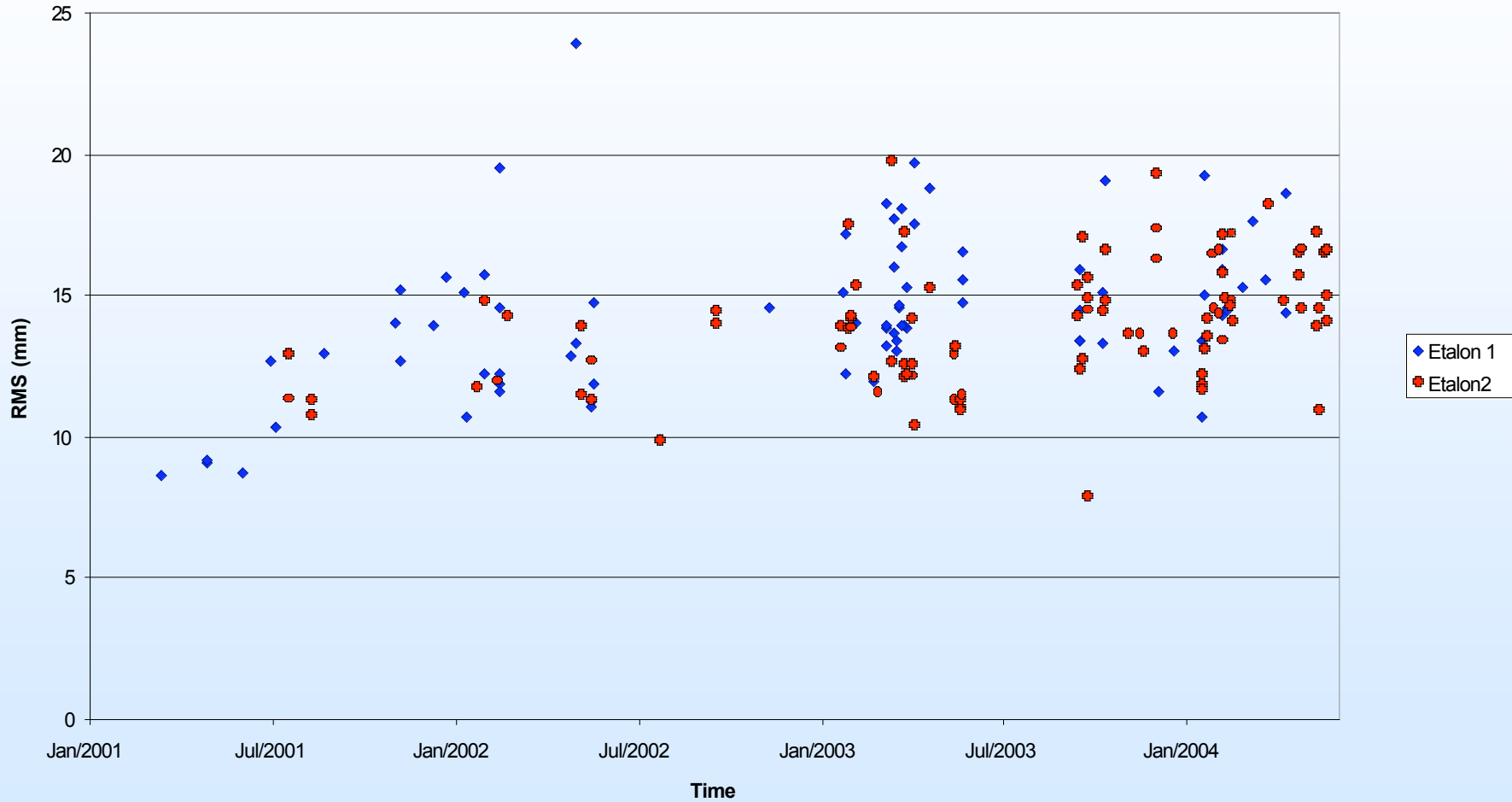


### Kurtosis Vs Time for Lageos 1 & Lageos 2





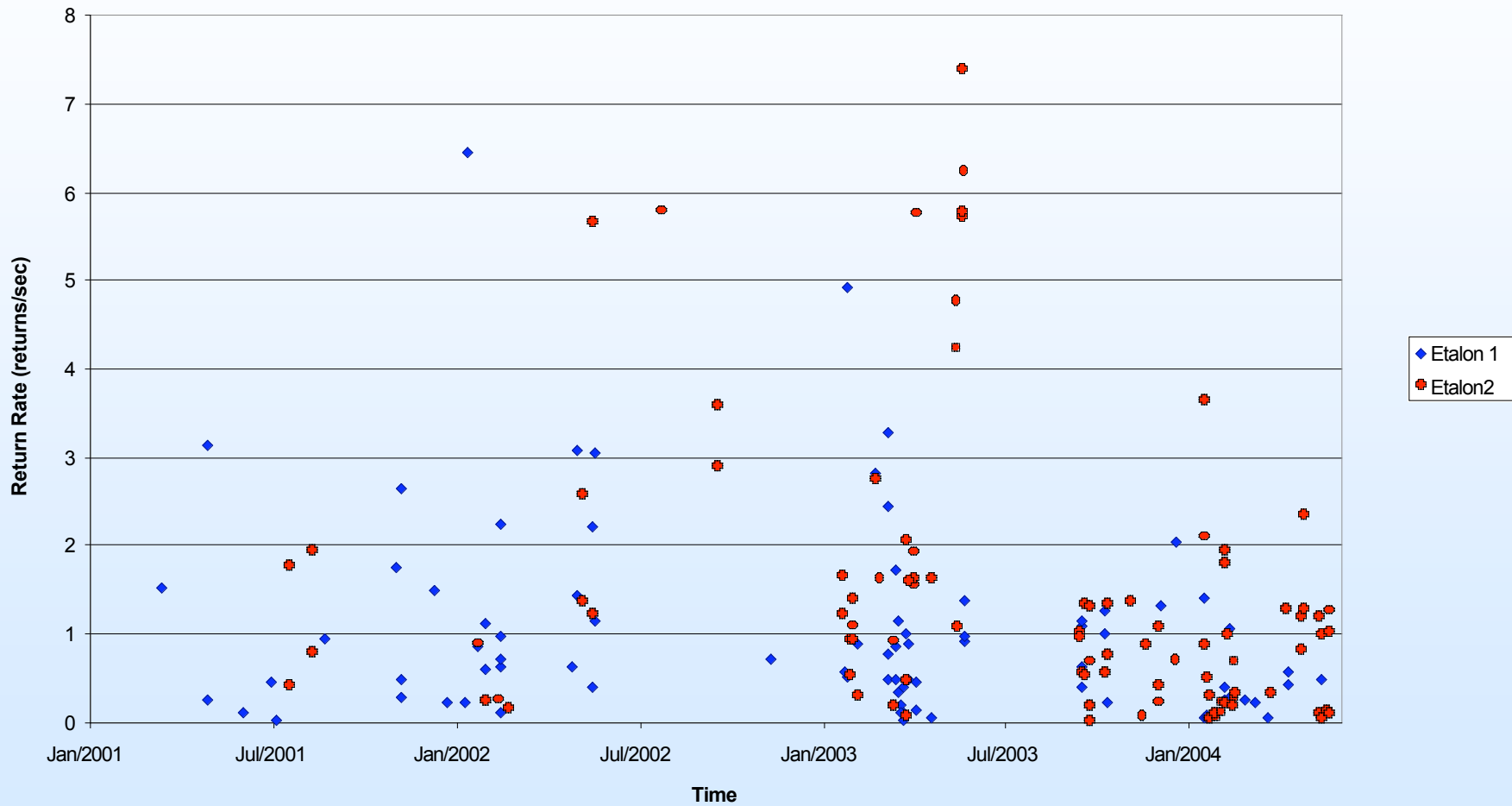
RMS Vs Time for Etalon 1 & Etalon 2





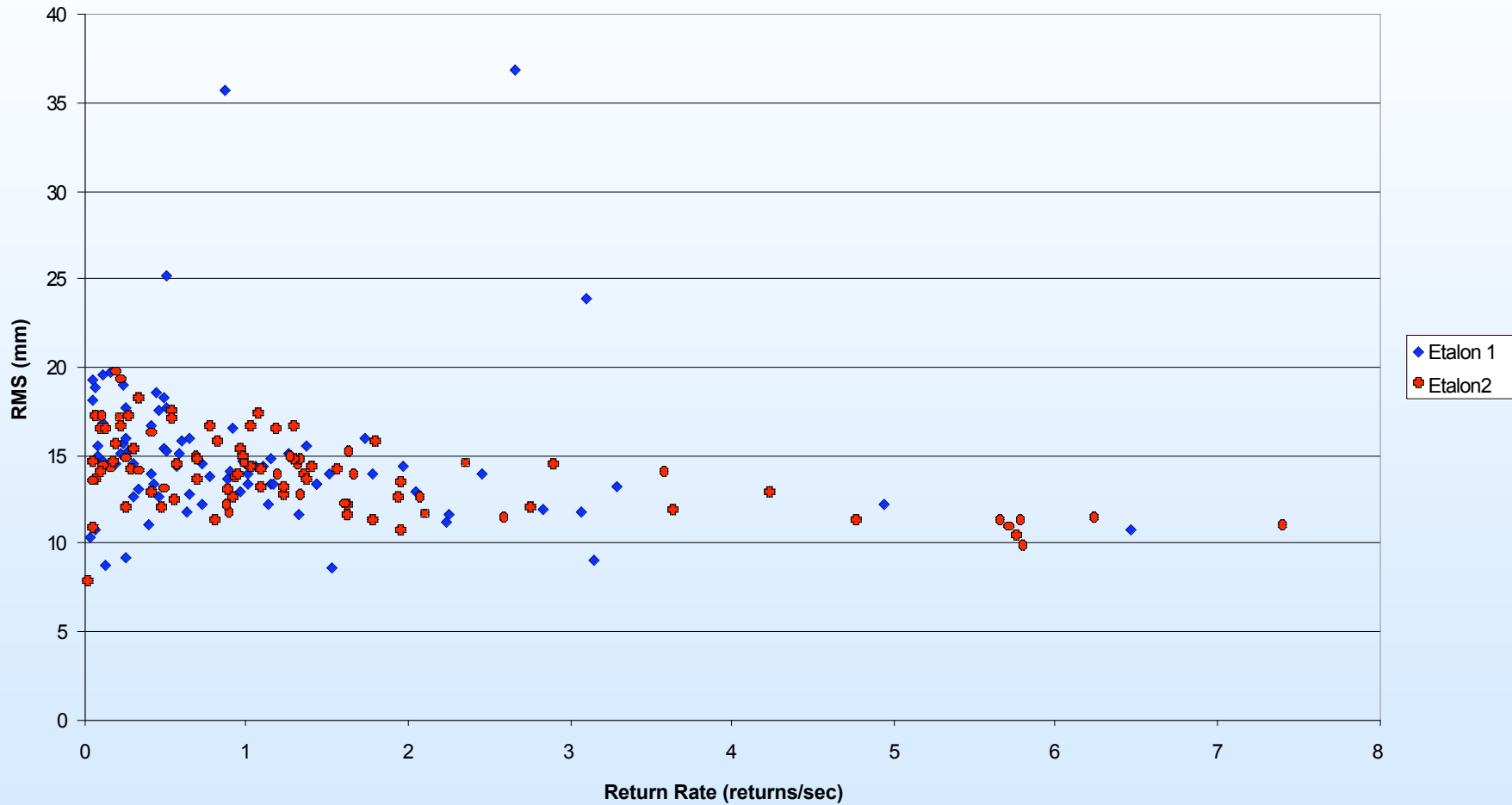


Return Rate Vs Time for Etalon 1 & Etalon 2

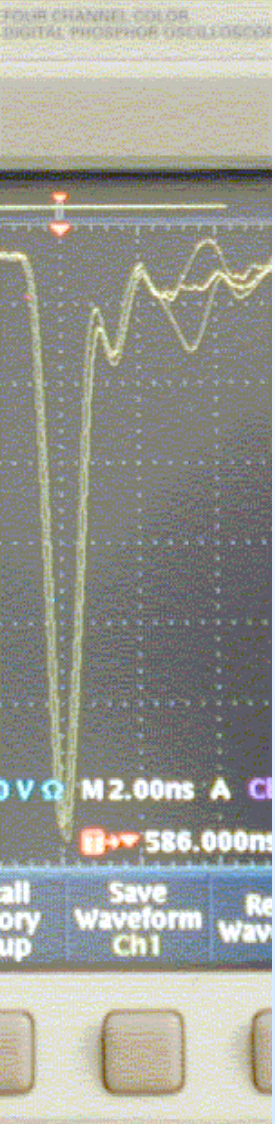




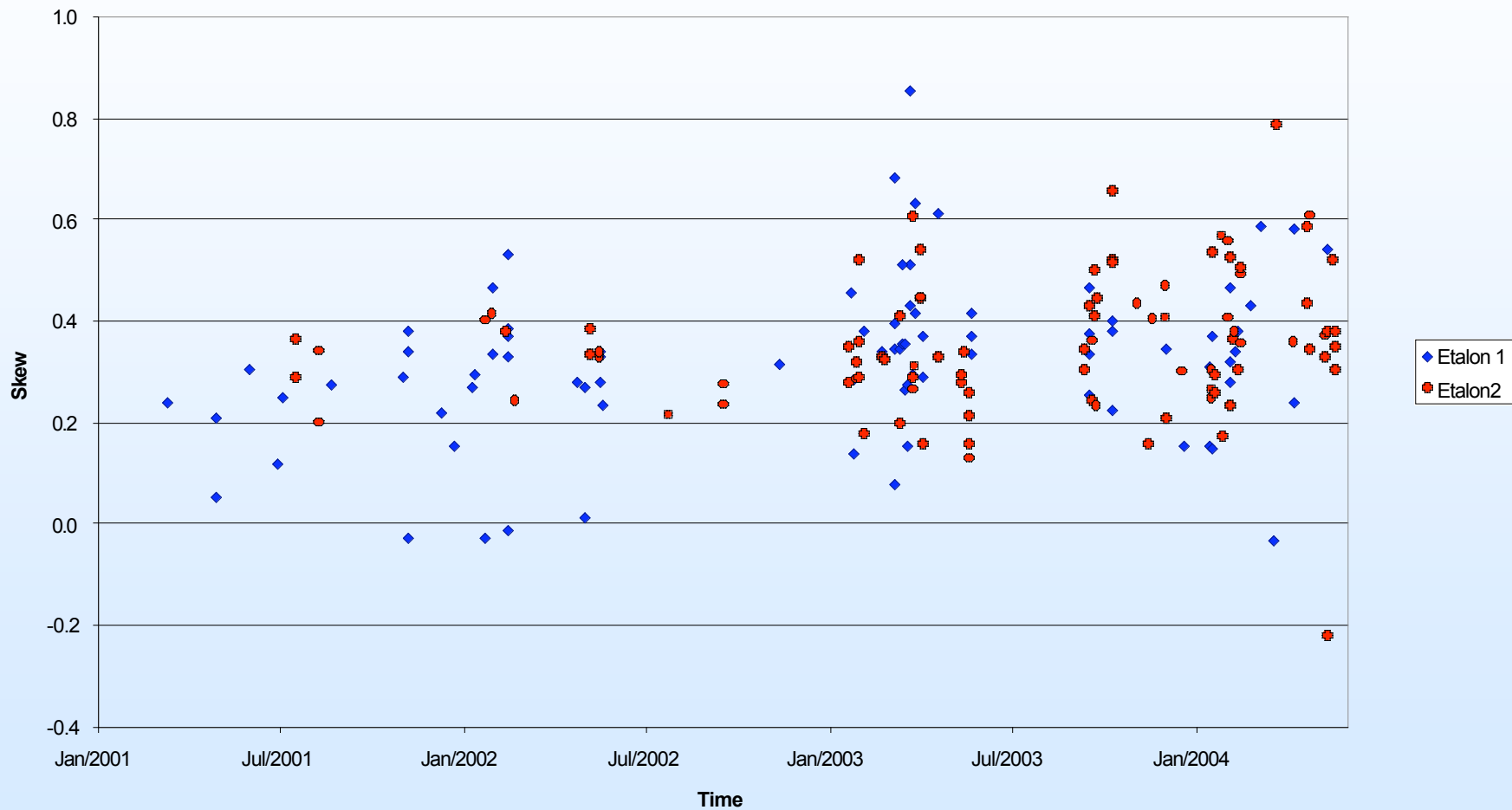
### Return Rate Vs RMS for Etalon 1 & Etalon 2





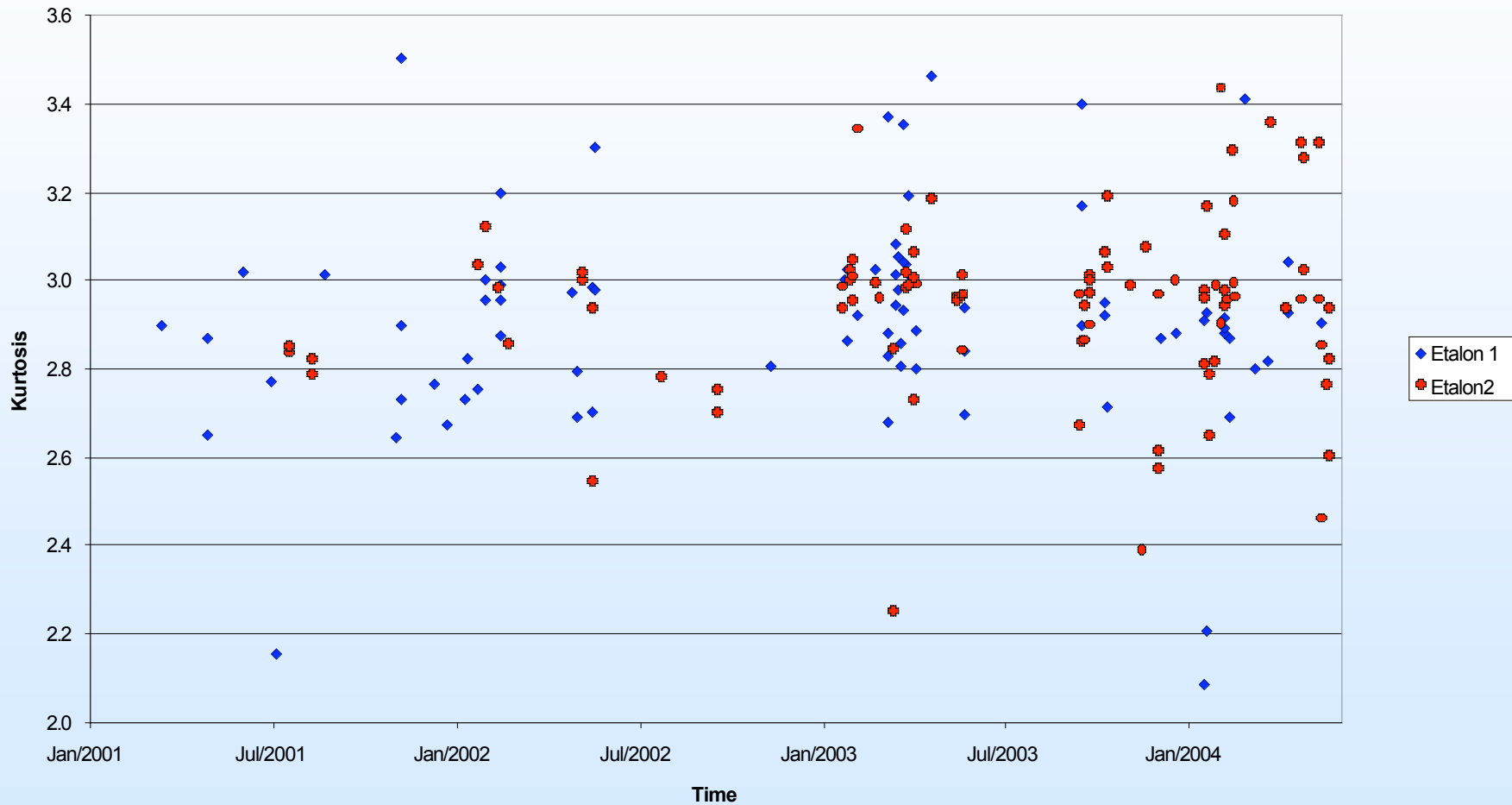


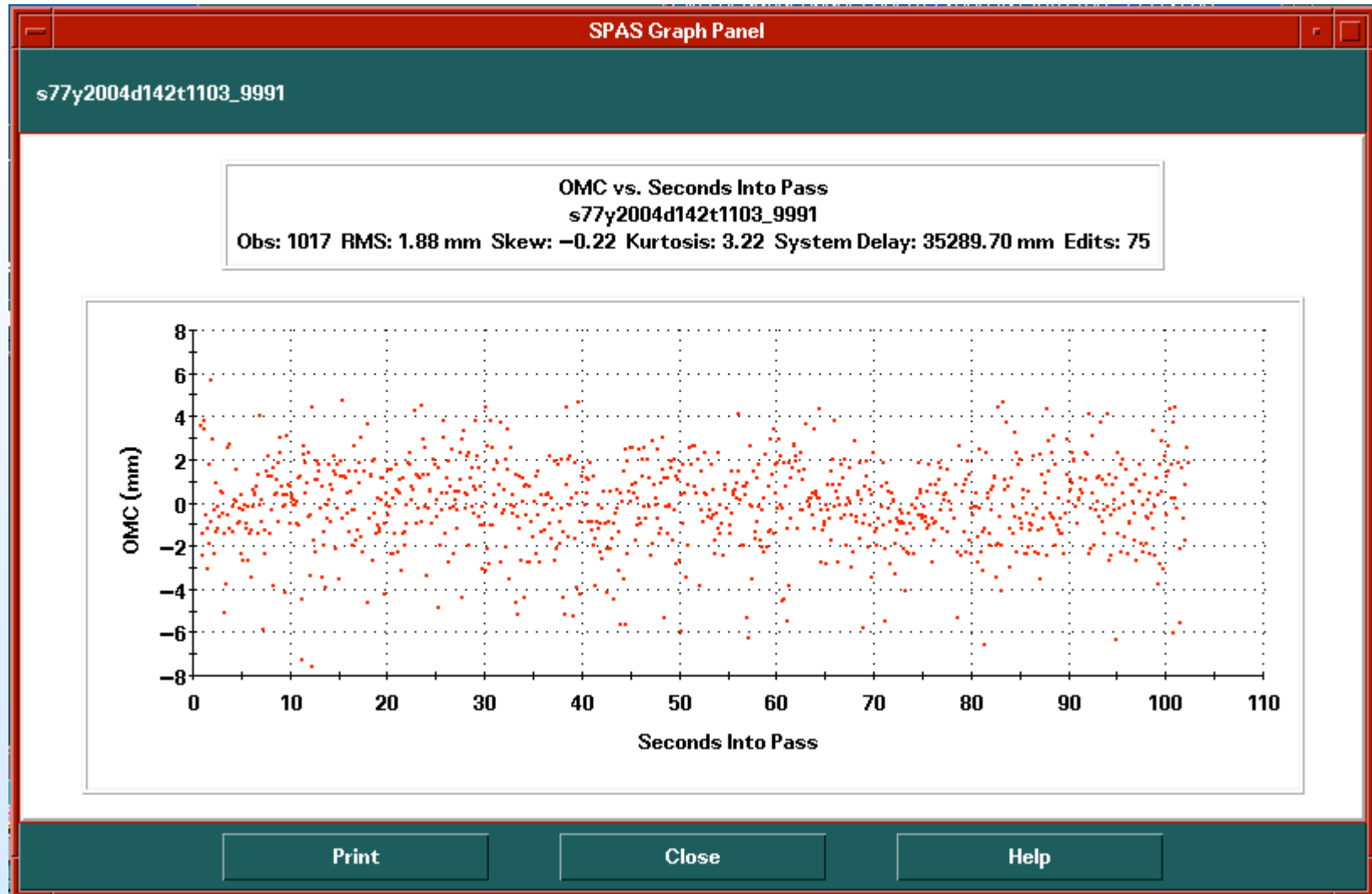
Skew Vs Time for Etalon 1 & Etalon 2

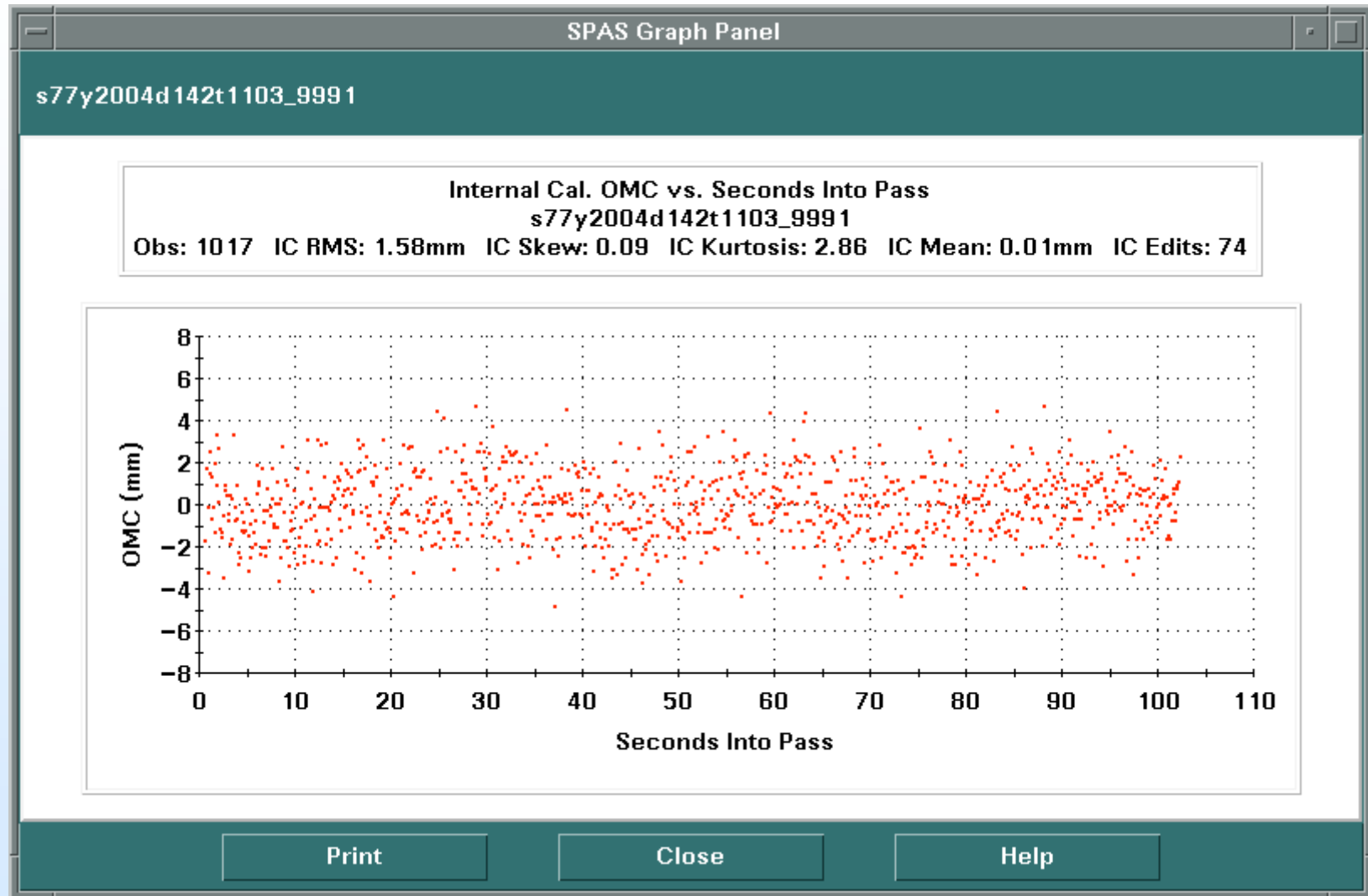




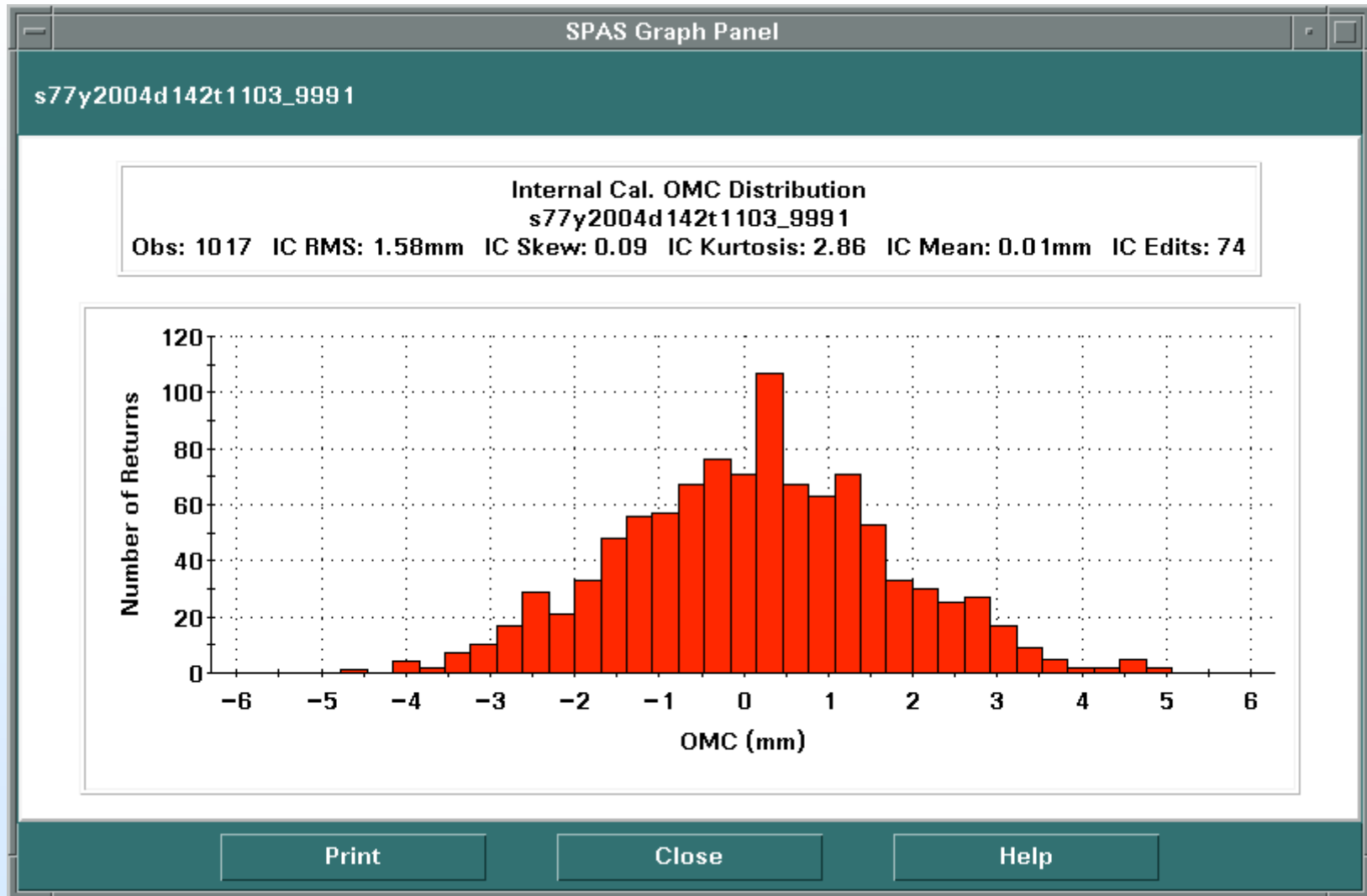
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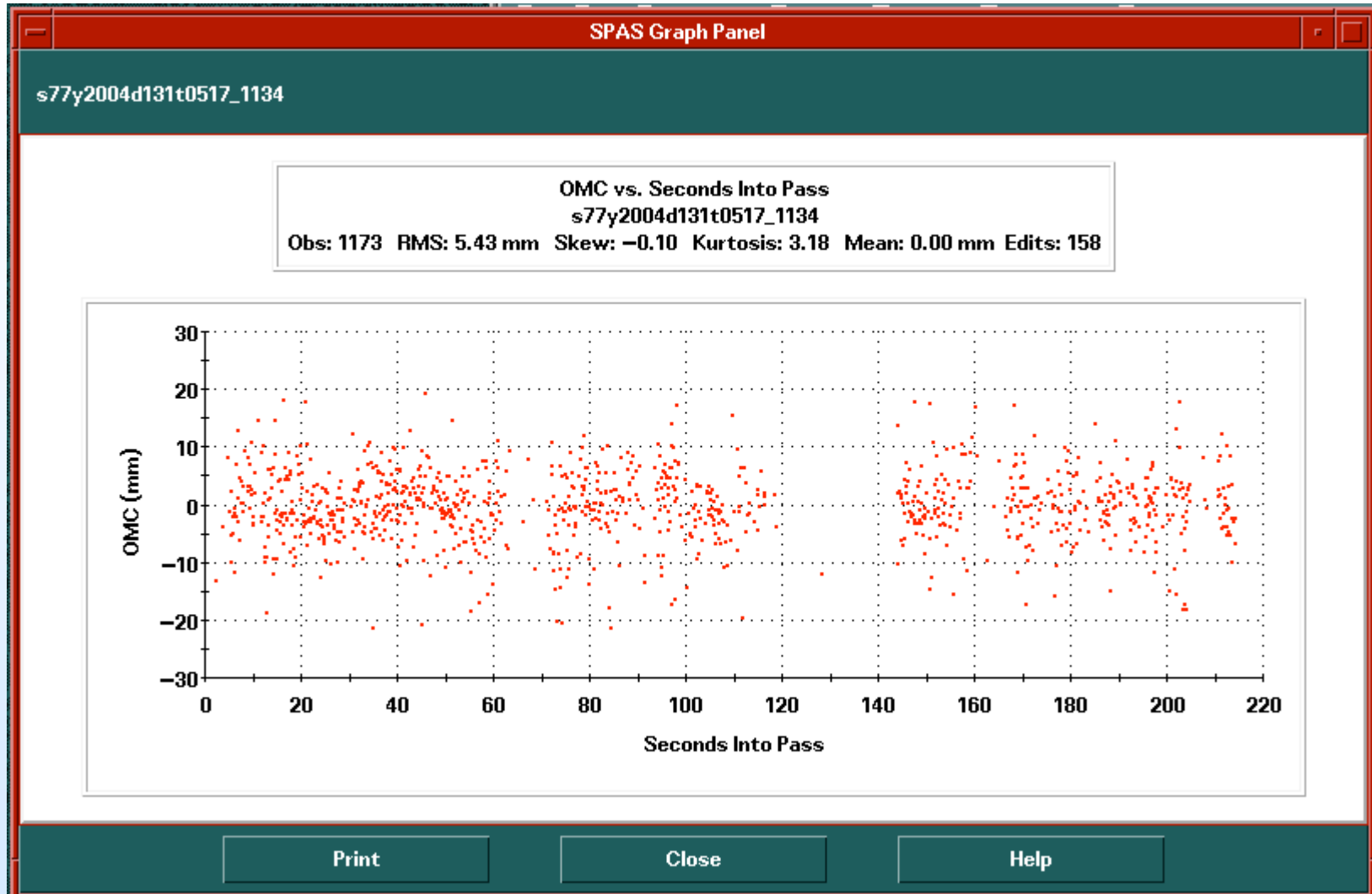




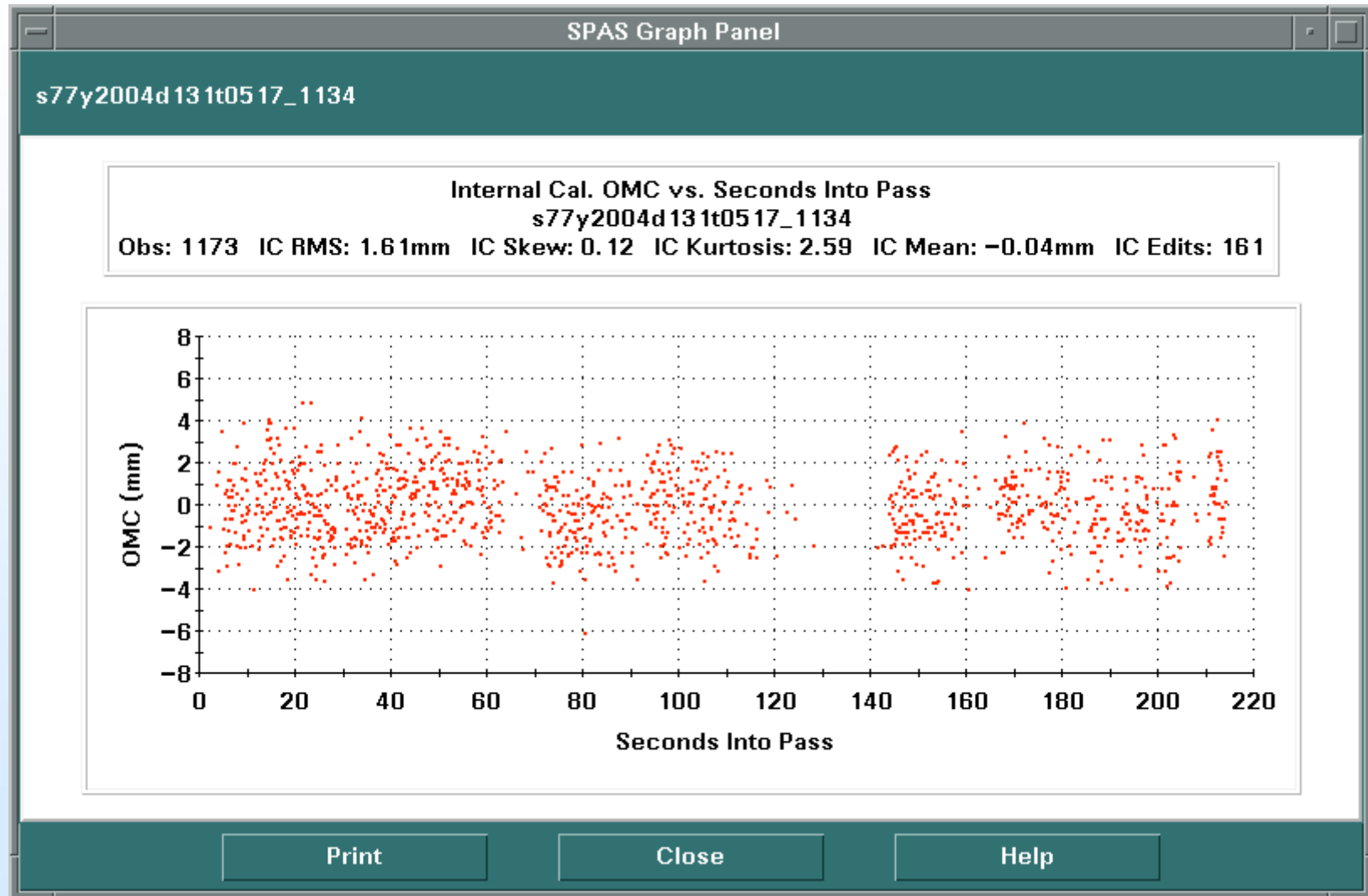


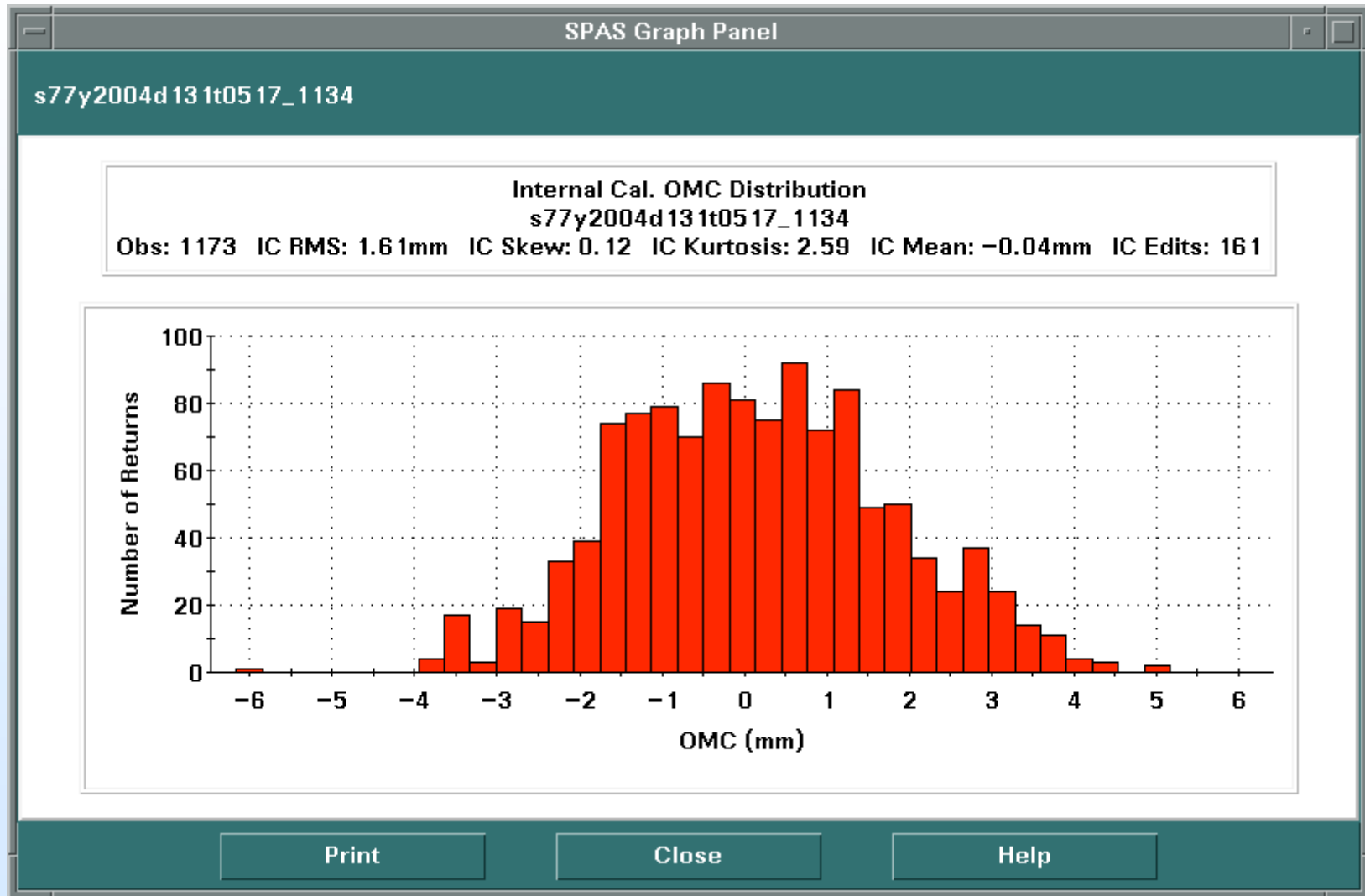


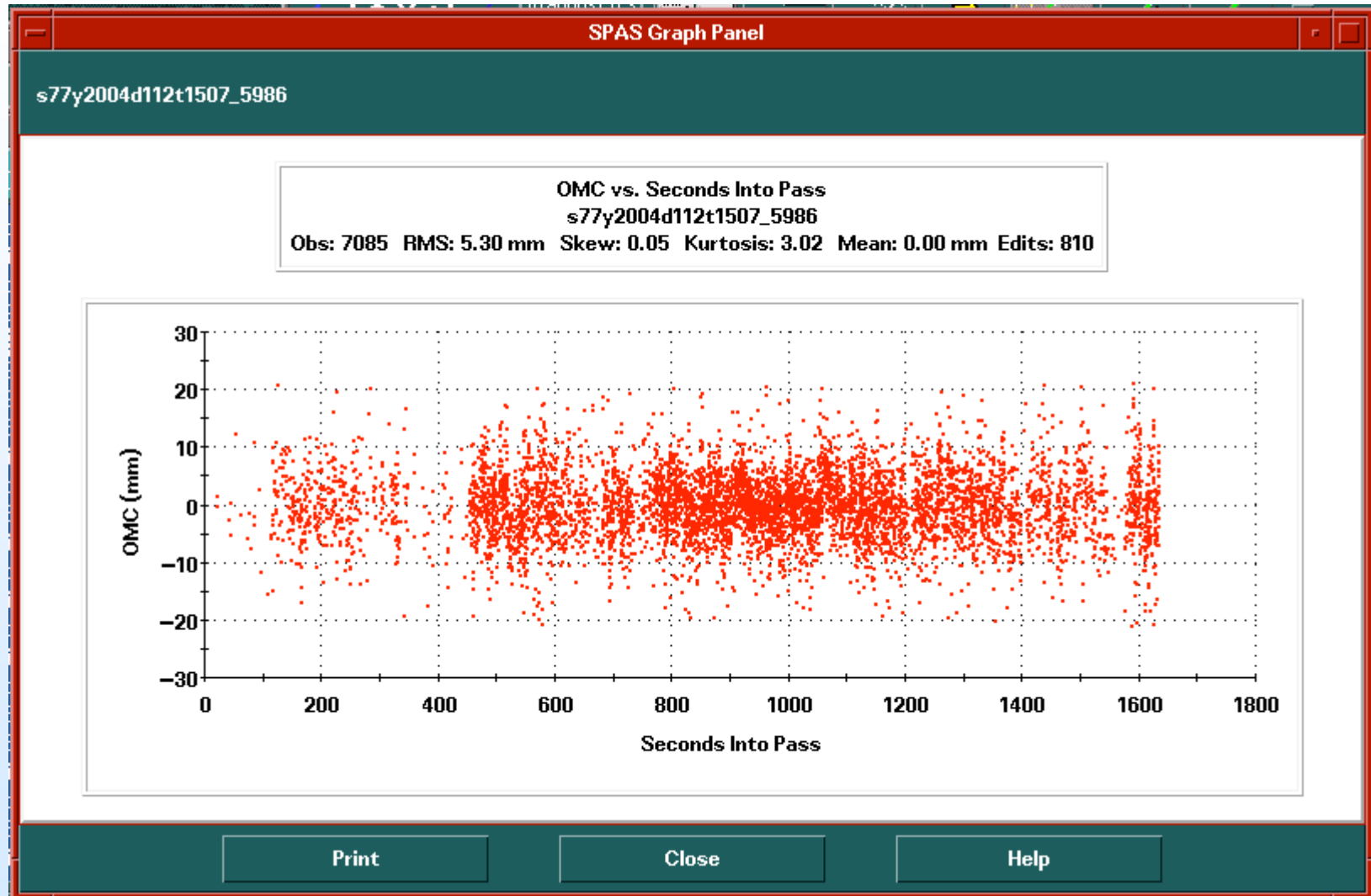


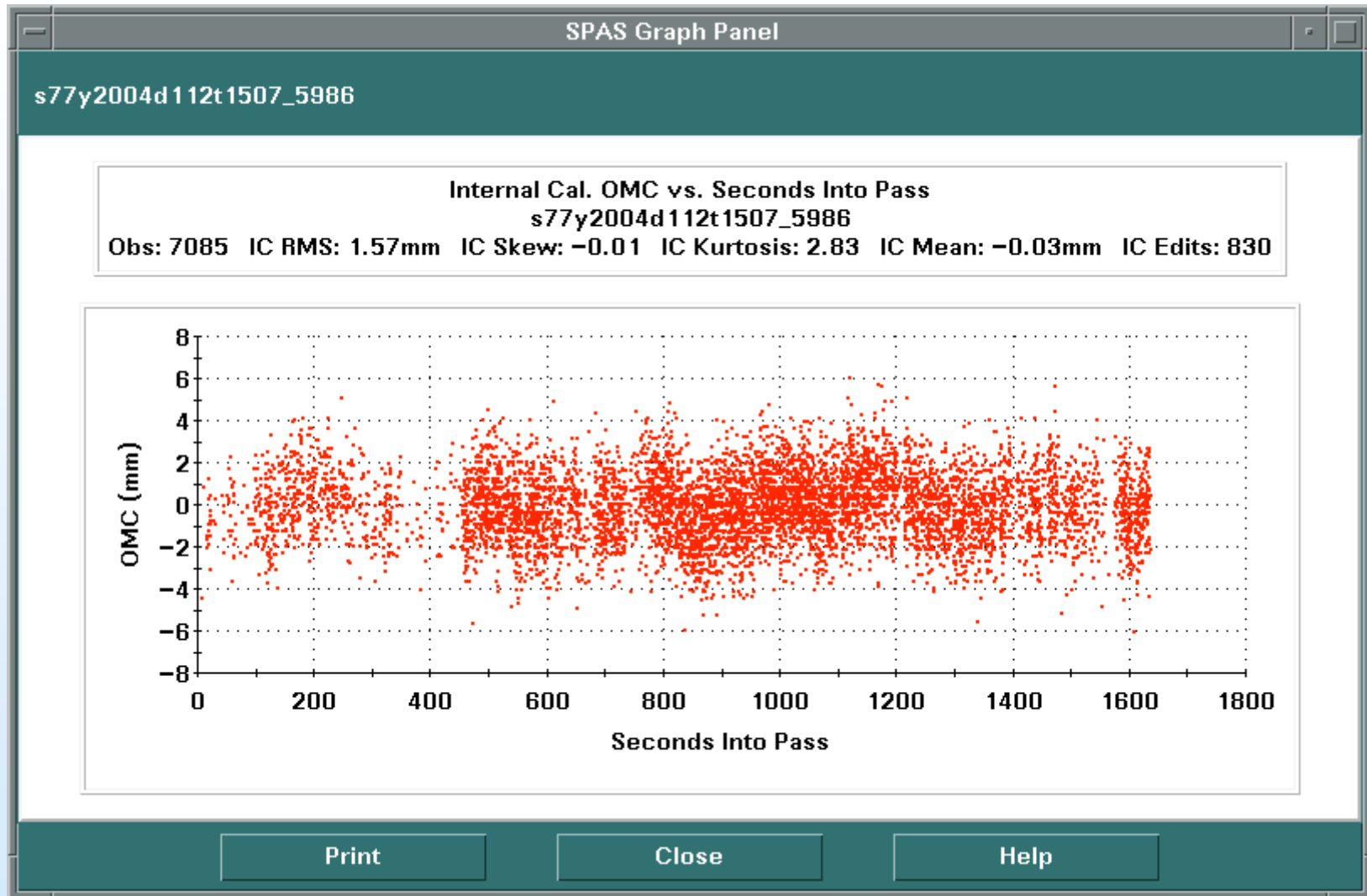




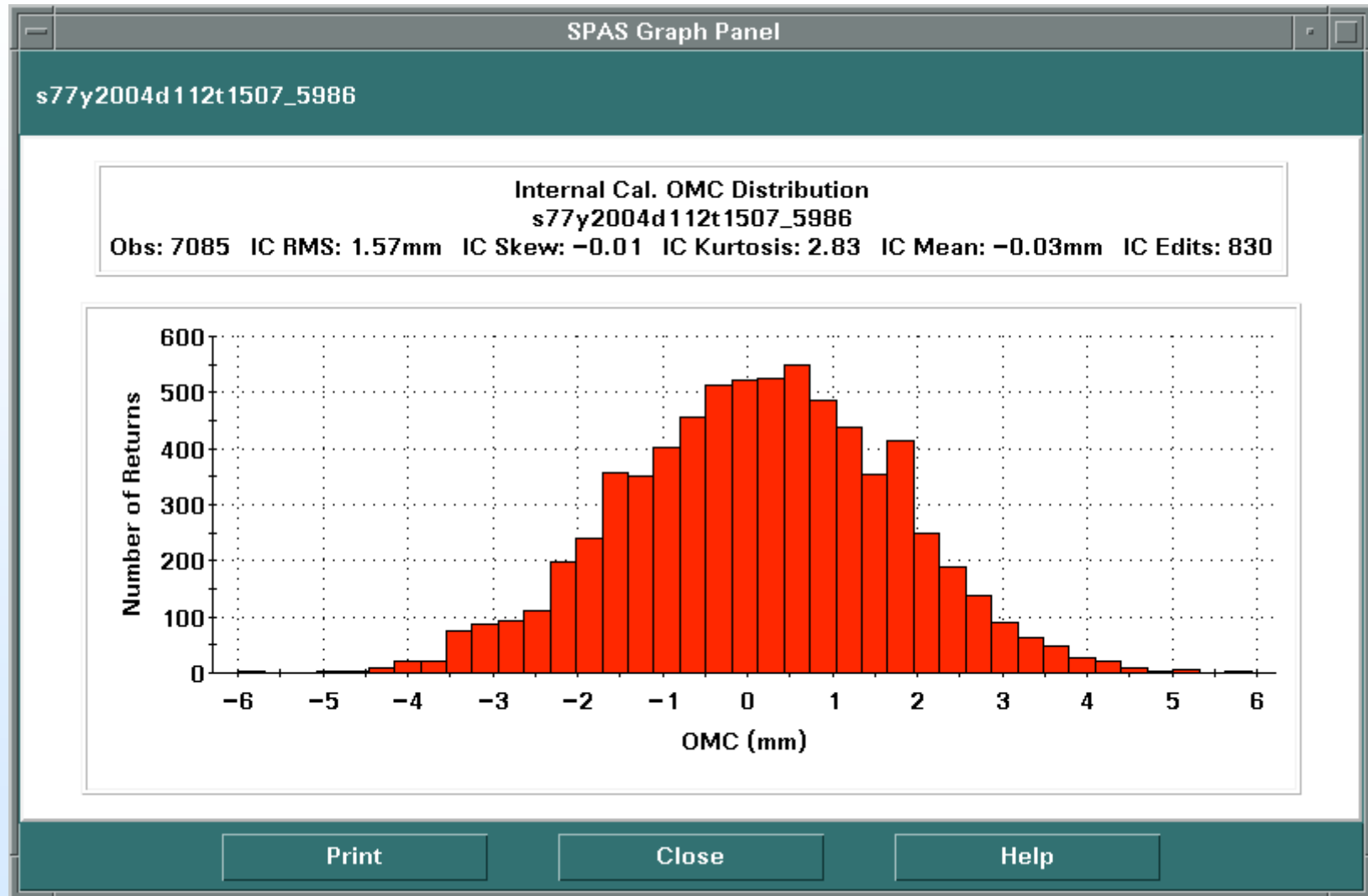


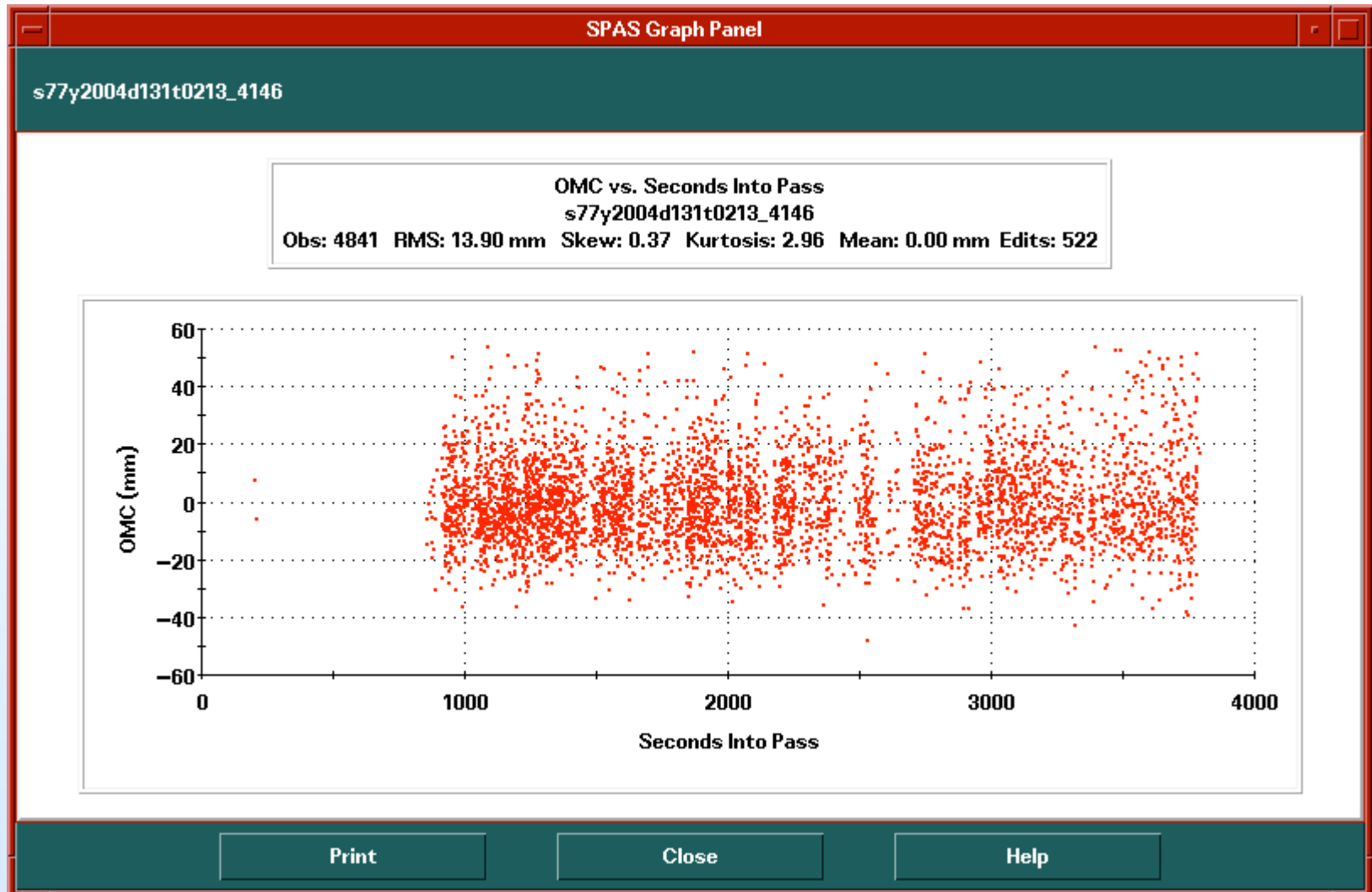


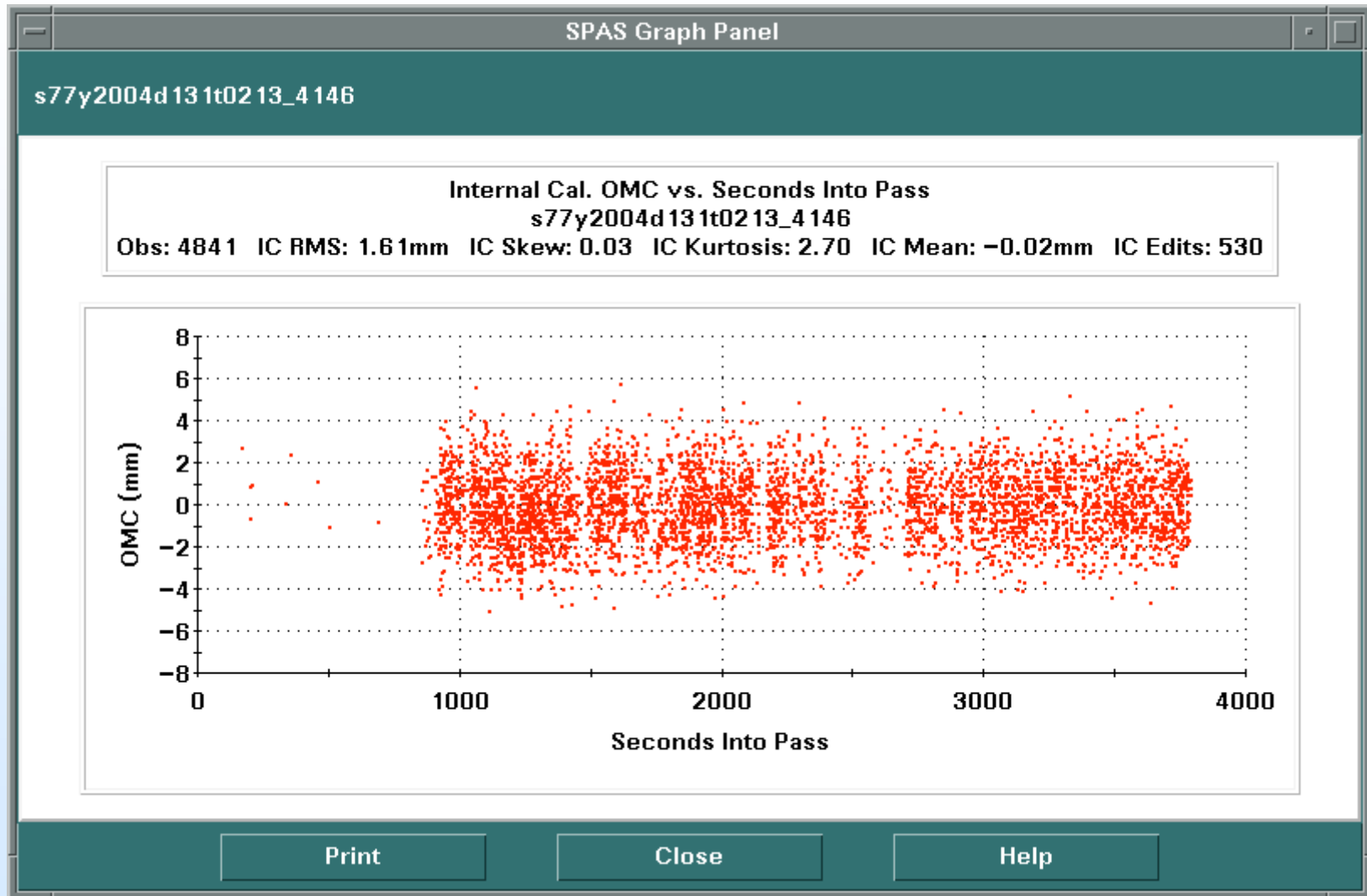


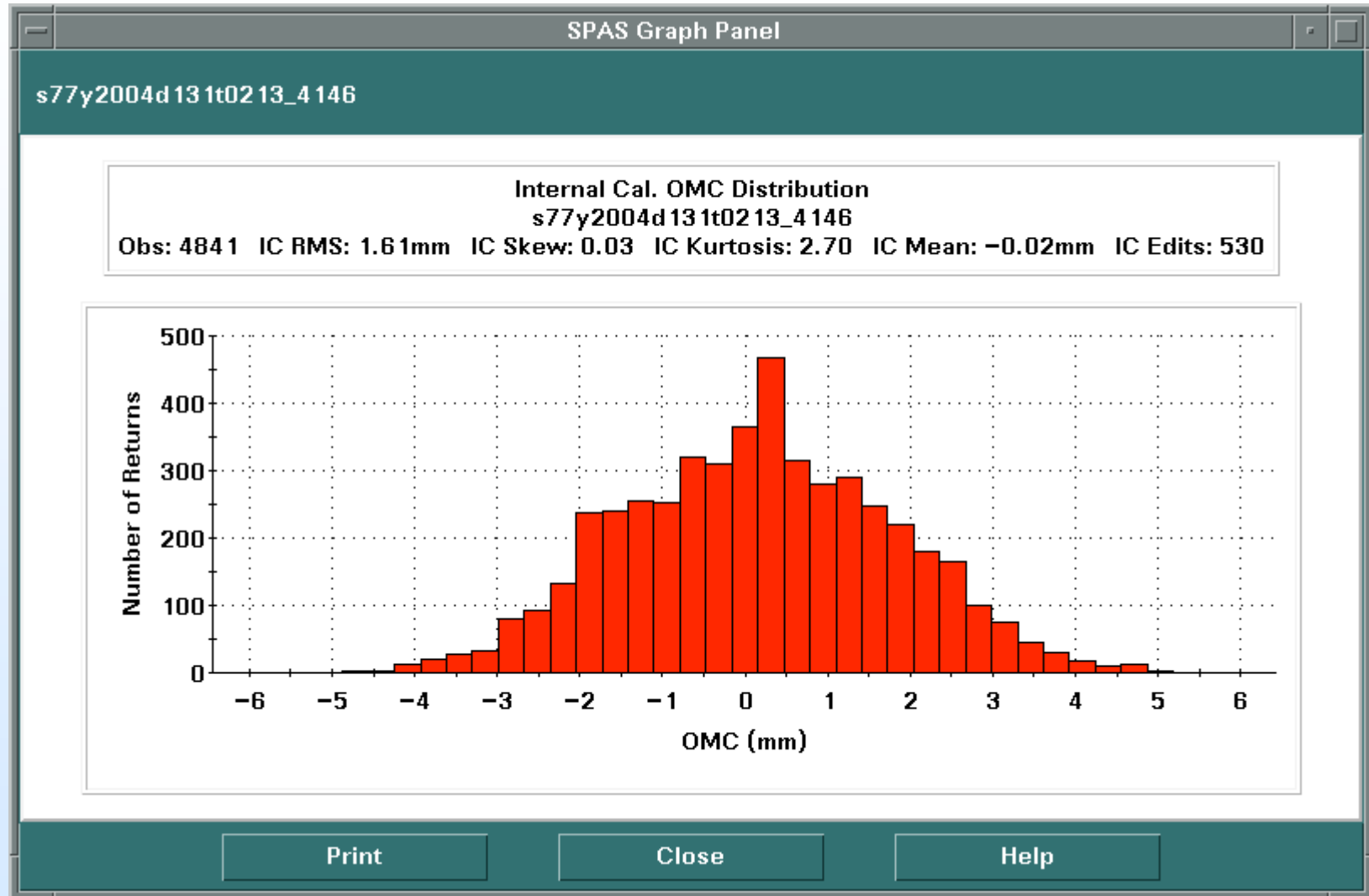




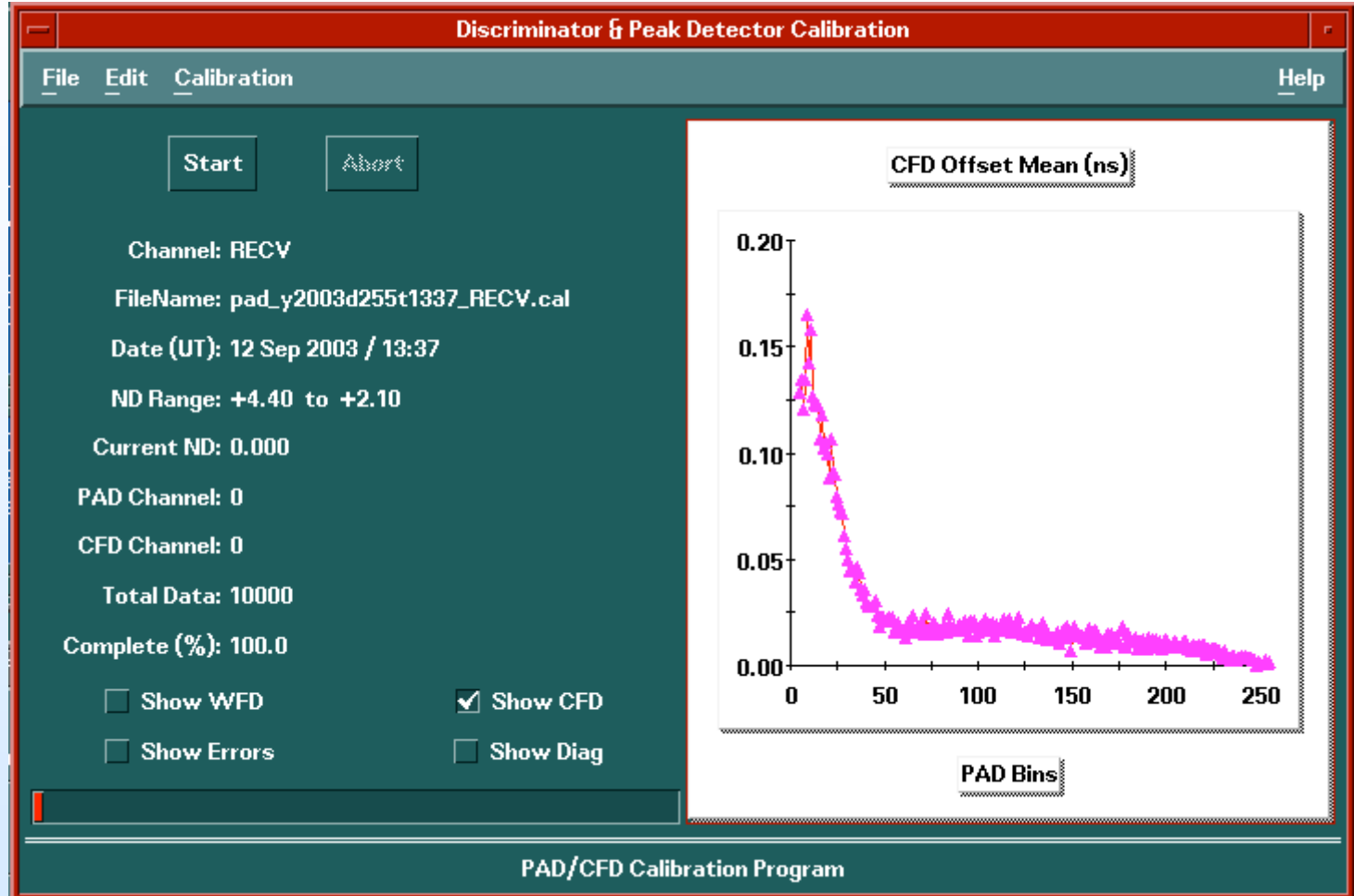




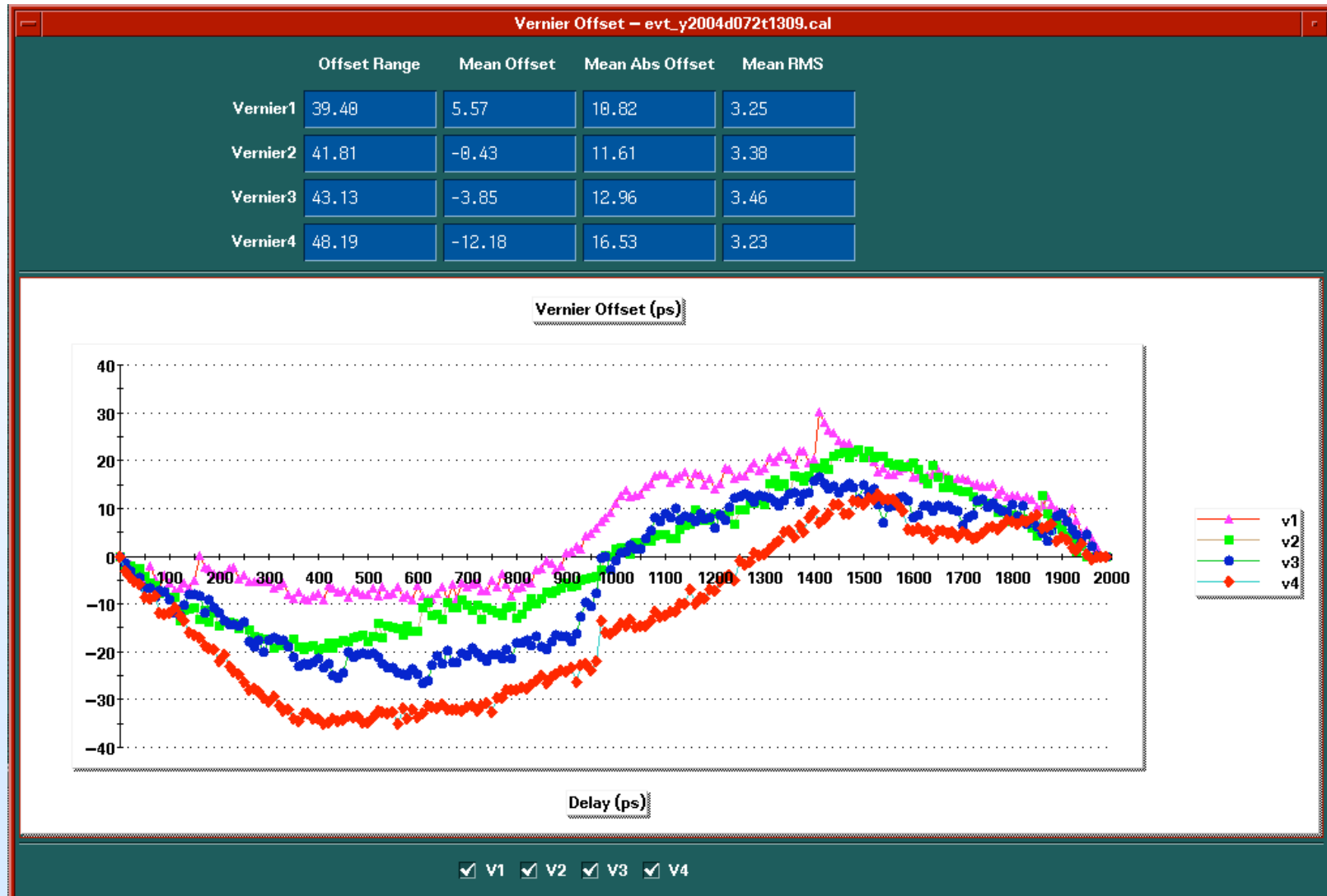


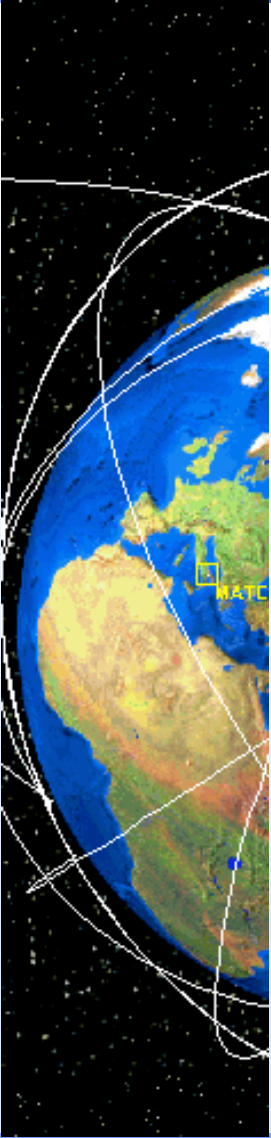




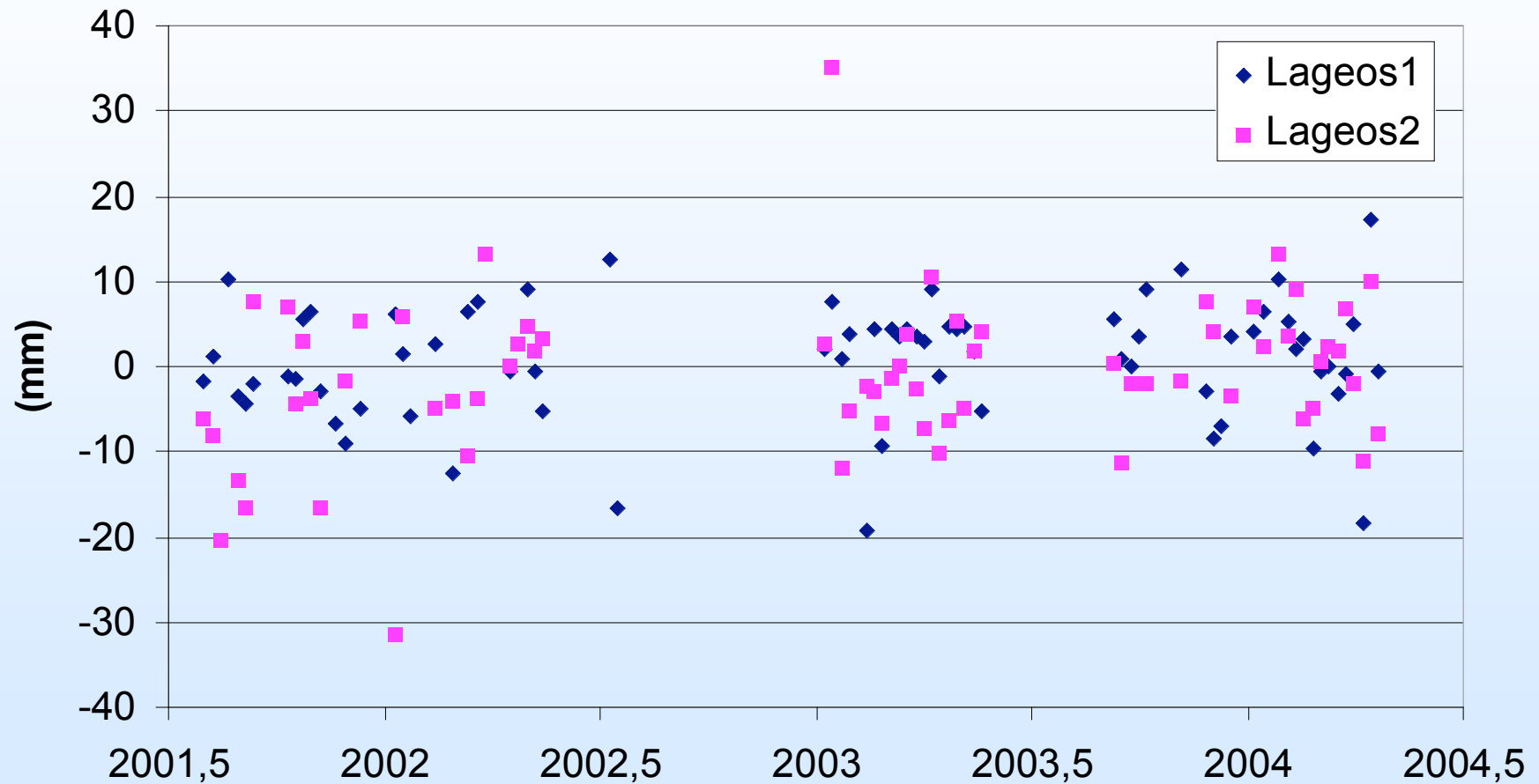








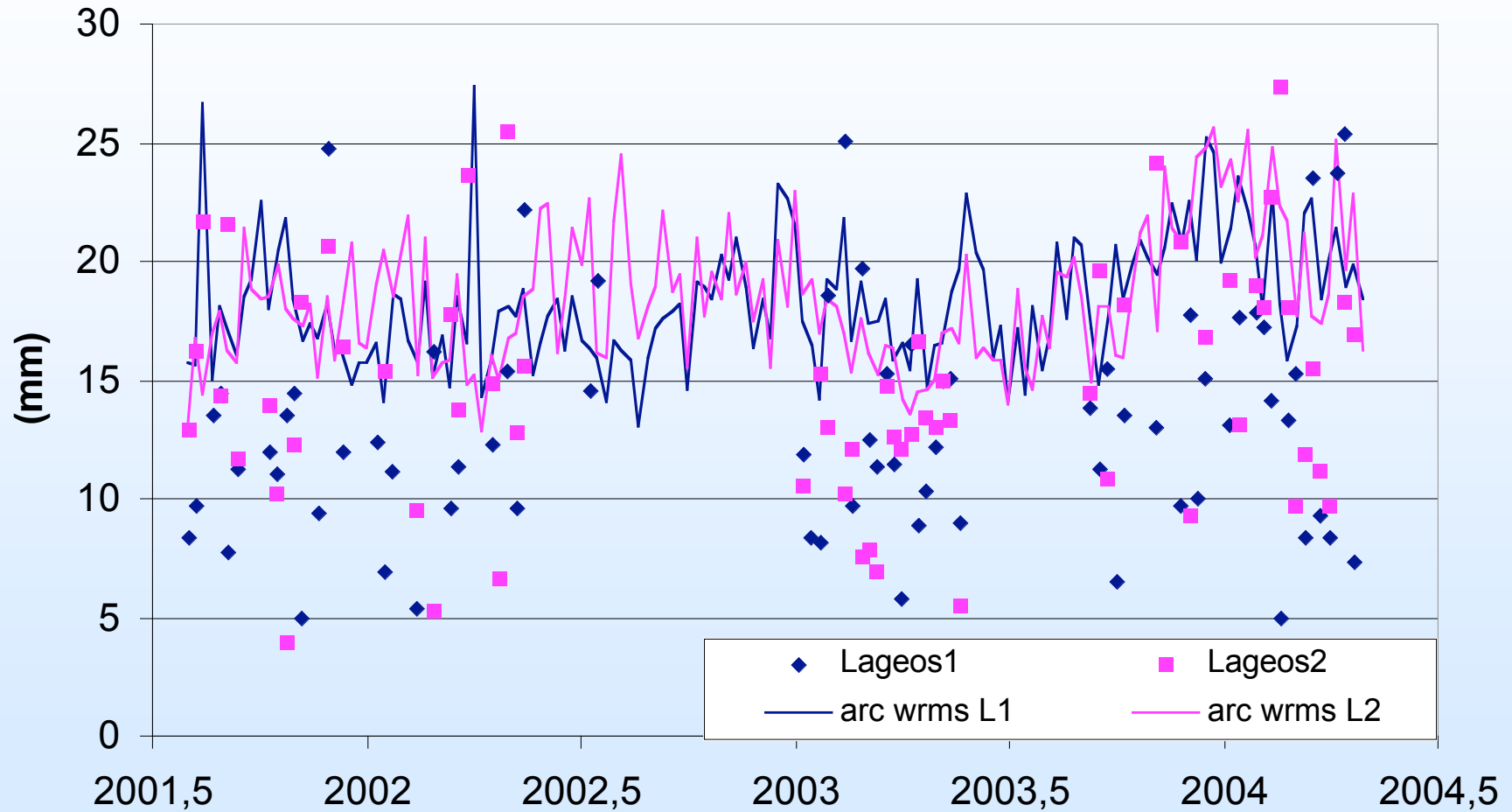
## Weekly bias

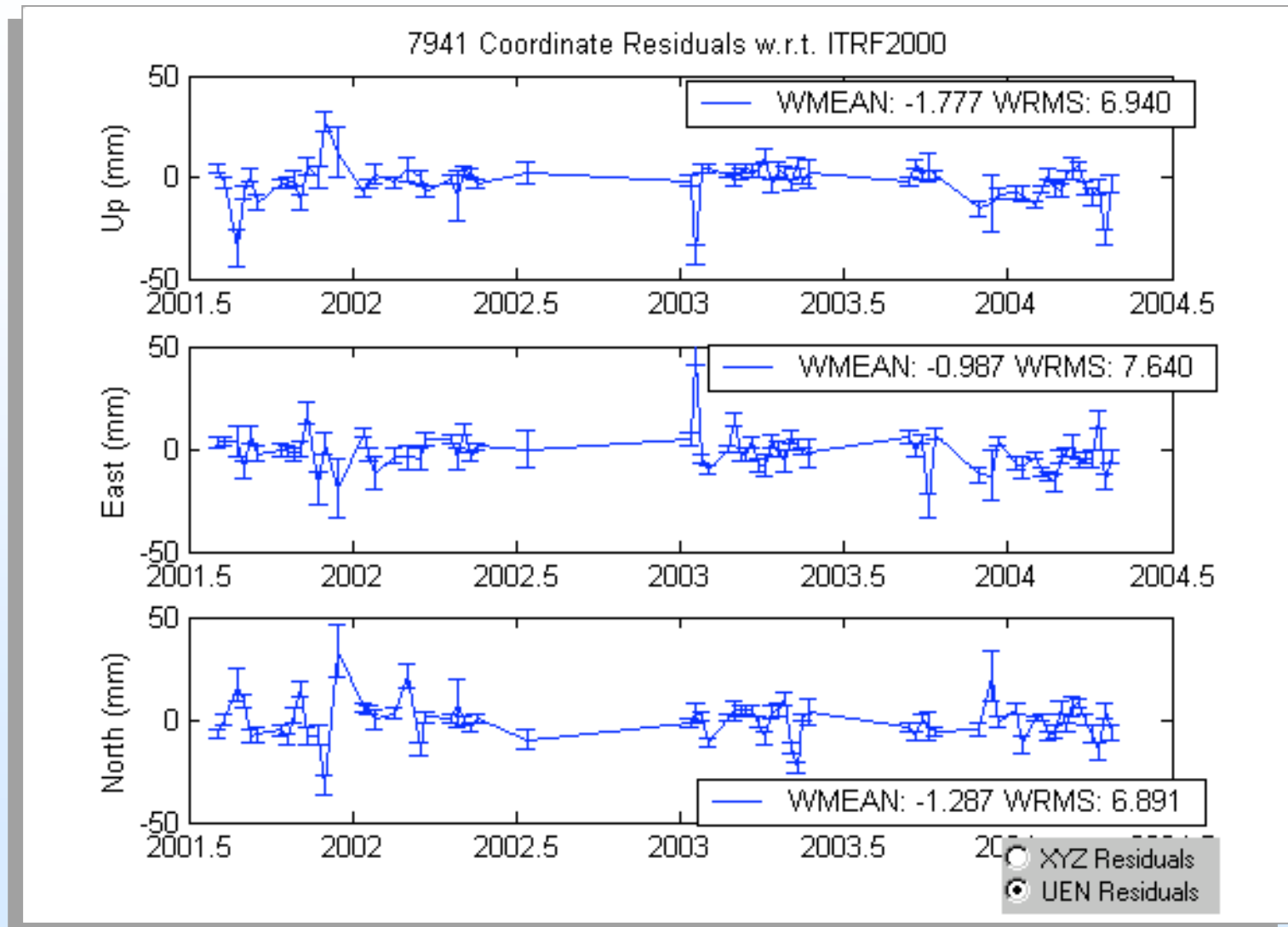


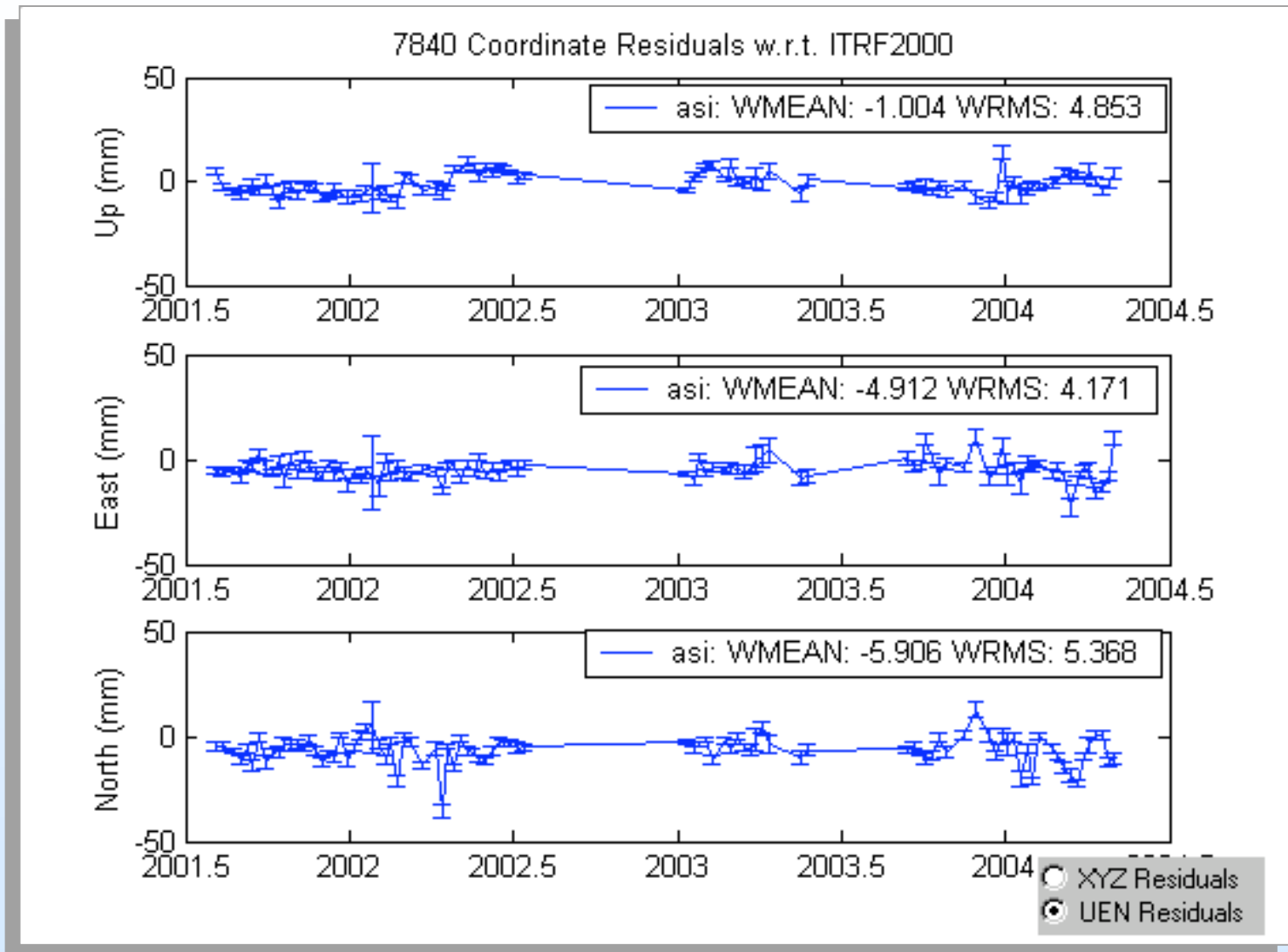
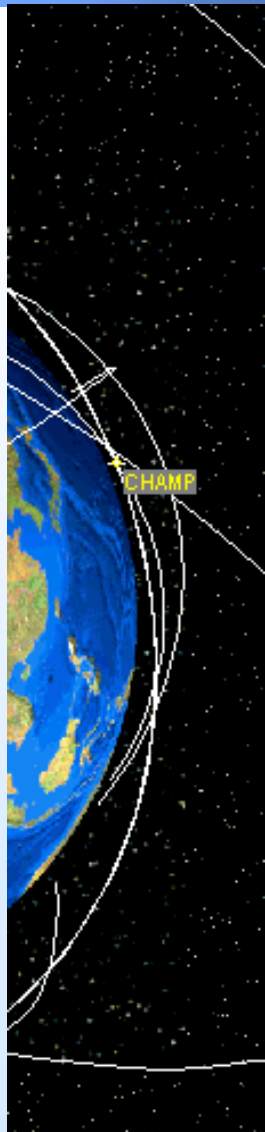




## Residuals wrms









### CONCLUSIONS

- Millimeter level precision, target dependant
- Automated calibrations
- Millimeter level stability
- Good geodetic accuracy, need more data