

Navigation & POD Overview

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NAV/PVT

August 20, 2002

Navigation/POD Team

- Internal NAV
 - JPL: management
 - Raytheon: trajectory products, maneuvers
- External NAV
 - FDF: operational OD
- Internal POD
 - JPL: management
 - Raytheon: MOE, verification of POE
- External POD
 - GSFC: POE
 - UT: verification of POE and other science products
 - UC: support
- Timely delivery of products & requirements met

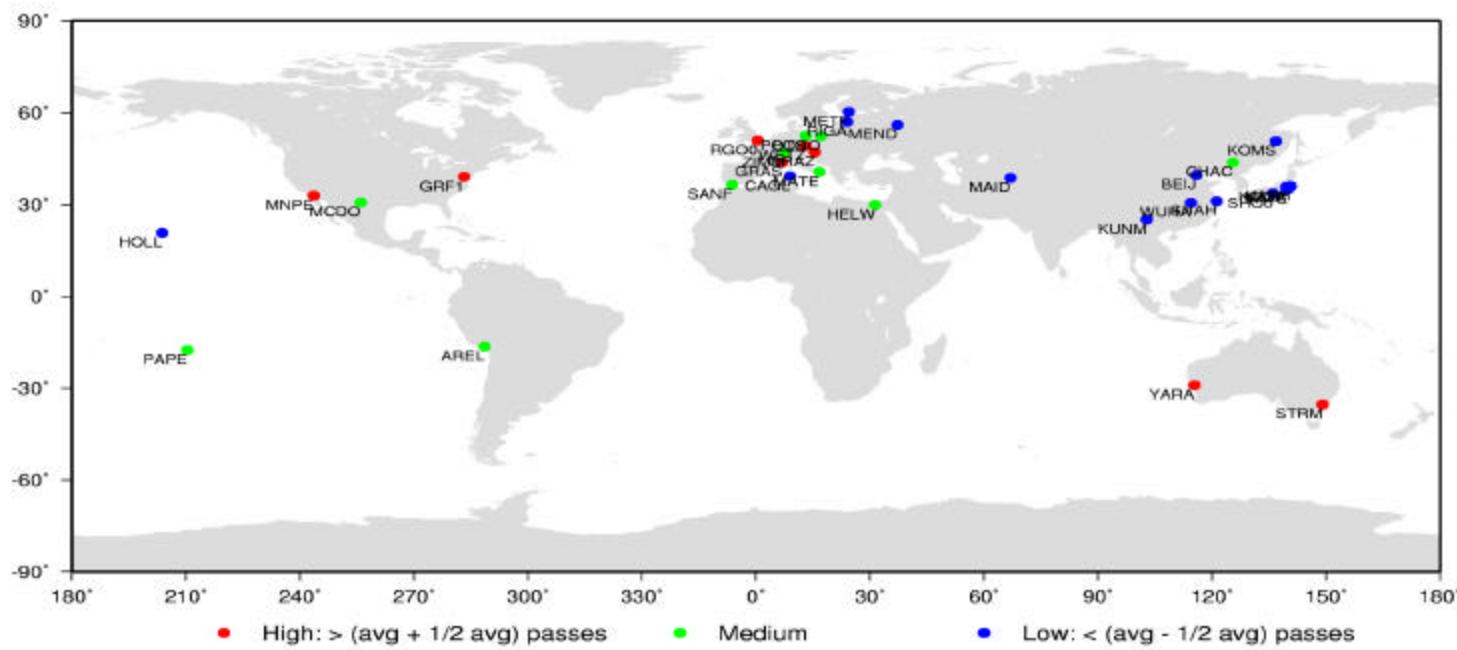
FDF support

- TOPEX and TDRS EPVs
 - routine OPS
 - Maneuver support
- Timely delivery of EPVs & requirements met
- FY03 support

UT & UC support

- Detailed verification of POE and other science products (sea surface anomaly based on POE)
- Telemetry-based attitude files
- Timely delivery of products & requirements met
- UT contract has been terminated on 1 July
- UC FY03 support

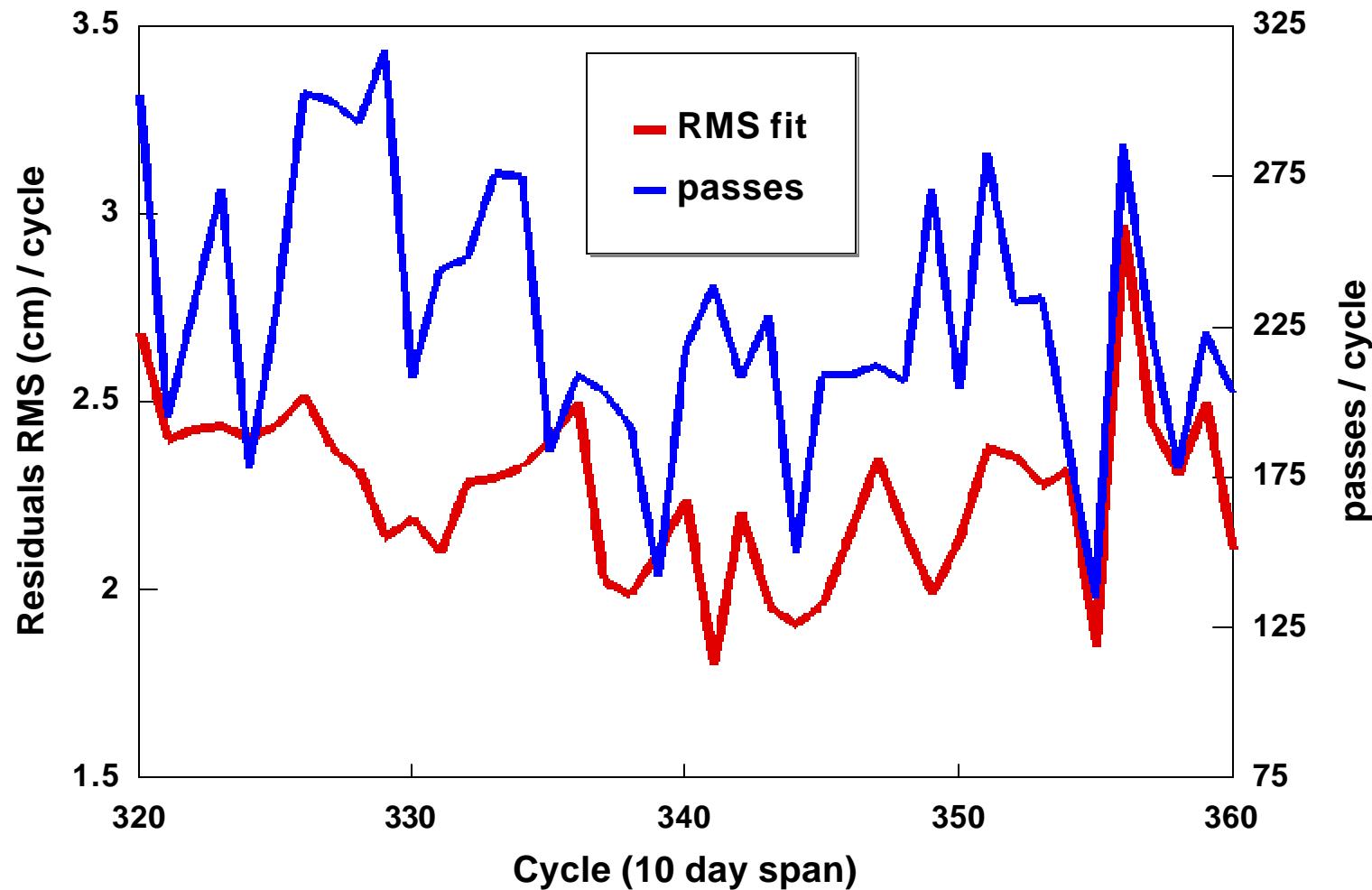
TOPEX/POSEIDON SLR Tracking Network (1999 - 34 Sites)



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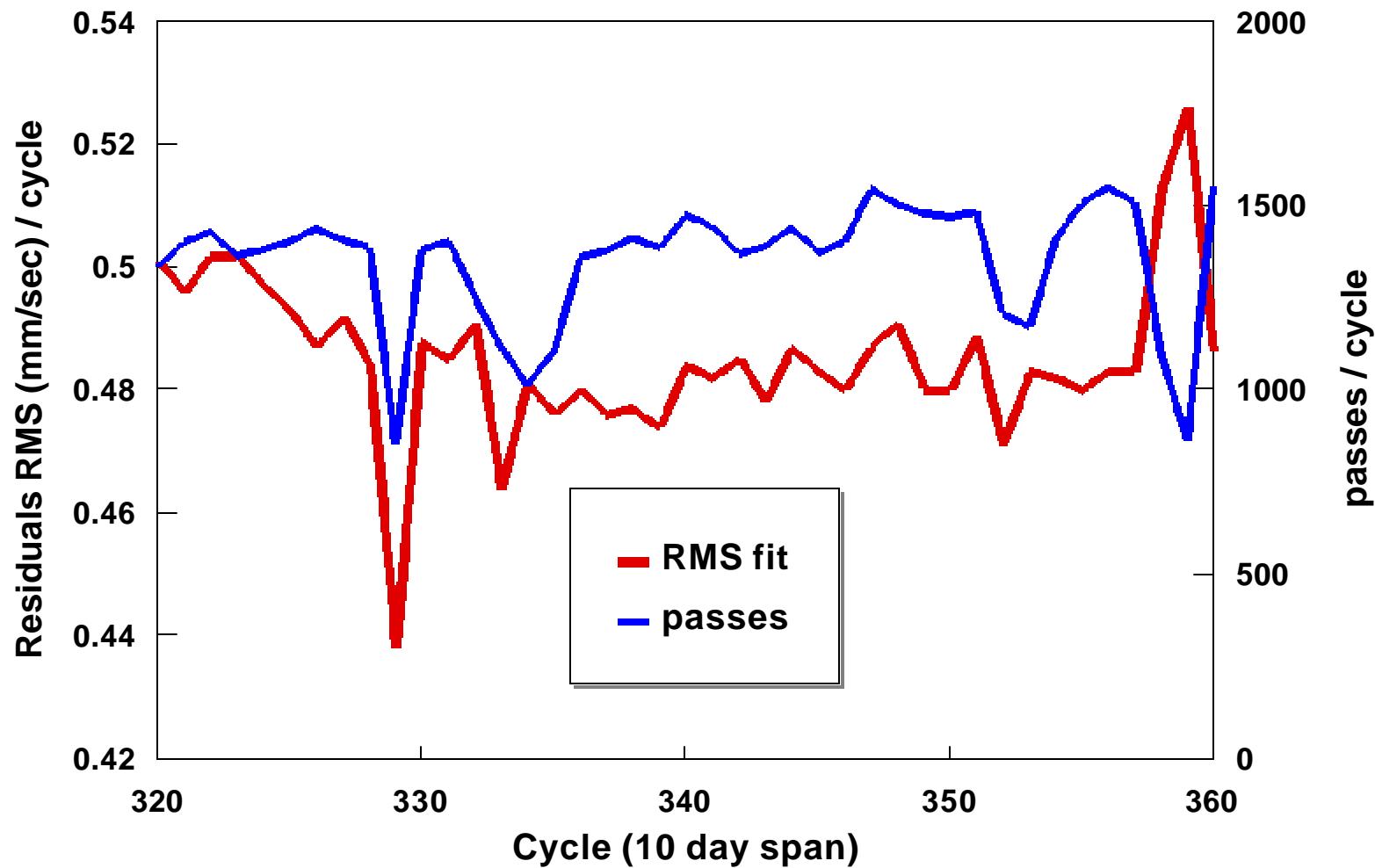
SLR Tracking Performance

10 day SLR+DORIS solutions: May 22 '01 - July 2 '02



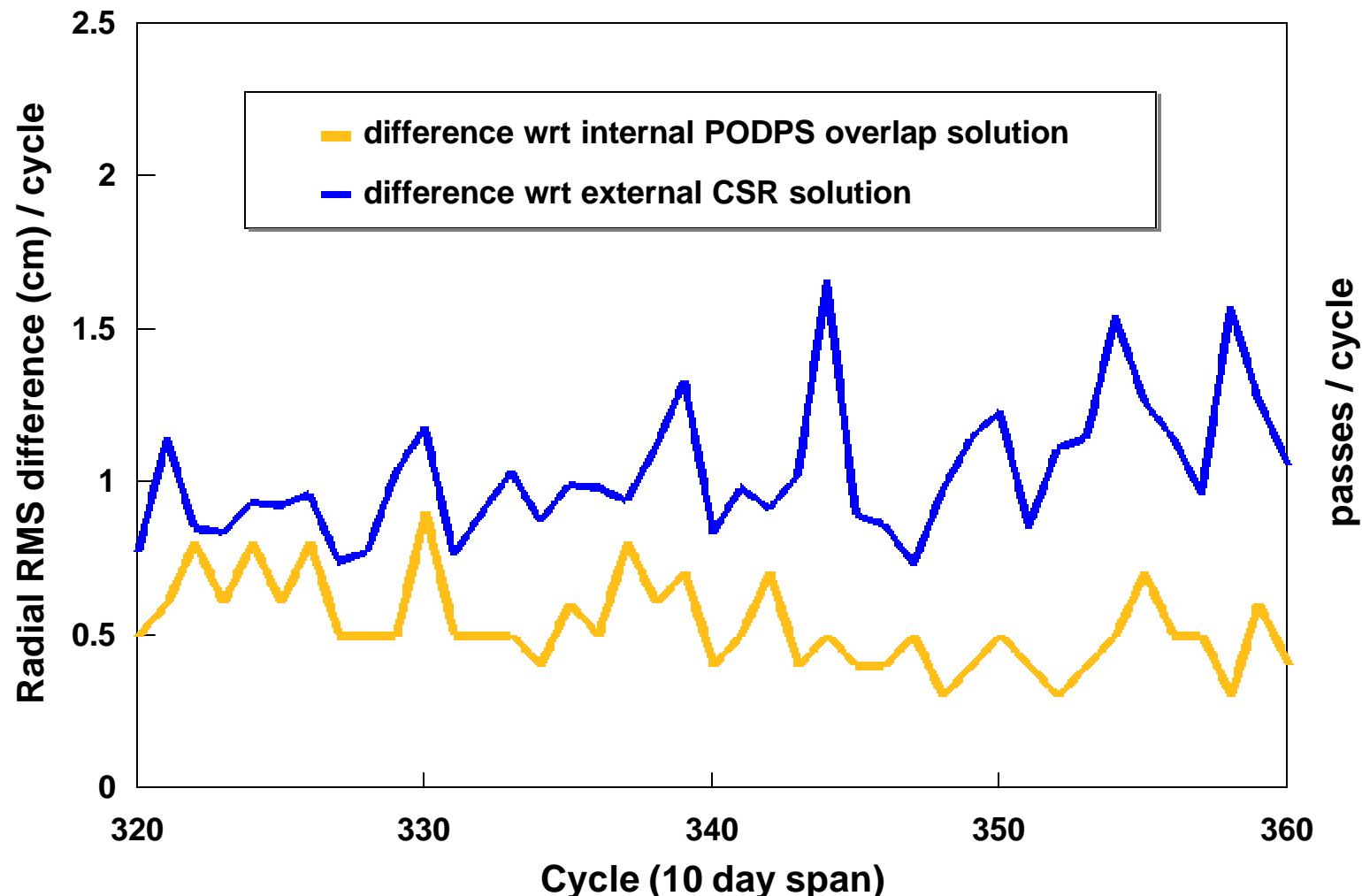
DORIS Tracking Performance

10 day SLR+DORIS solutions: May 22 '01 - July 2 '02

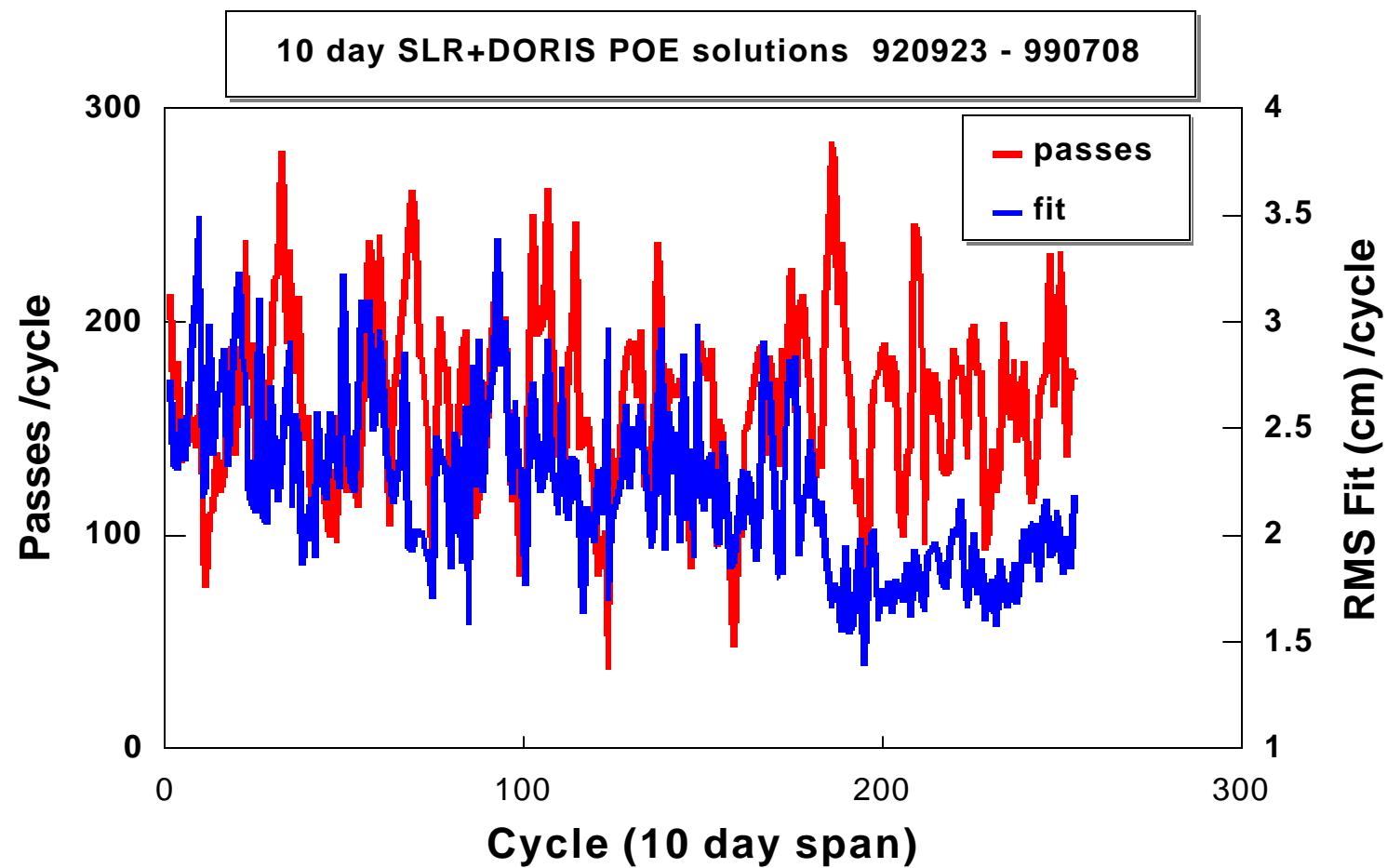


Radial Orbit Consistency

10 day SLR+DORIS solutions: May 22 '01 - July 2 '02



SLR Tracking Performance

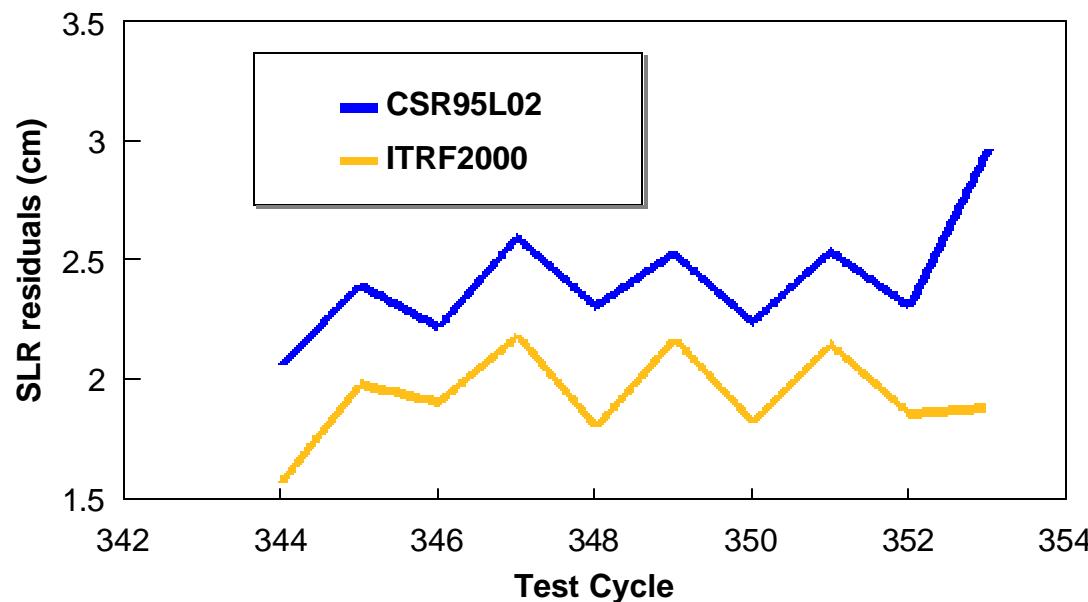


POD Error Budget

Error Source	Current Model	Error (cm)
Static Gravity	JGM-3	1
Radiative Forces	2 nd Gen. Tuned Macro Model	<2
Atmospheric Drag	DTM '87 Density	<1
Tides	Ray '94 Ocean, Wahr '81 Earth	1
Station Position	CSR '95	<1
Other		1
RSS Total		2-3

ITRF2000 Reference System

- PODPS has begun using the ITRF2000 reference system as of cycle 360
- GDR continuity not affected ¹
- ITRF2000 promises better orbits



1. Effect of ITRF2000 on TOPEX/POSEIDON Orbit Determination and Mean Sea Level Time Series, EOS Trans. AGU, 82(47), 2001 Fall Meet. Suppl., Abstract G51B-0251. (J. C. Ries, D. P. Chambers, K.-R. Choi and R. J. Eanes).