

Estimation of Solar Radiation Pressure (SRP) coefficients and impact on DORIS-derived Z-geocenter

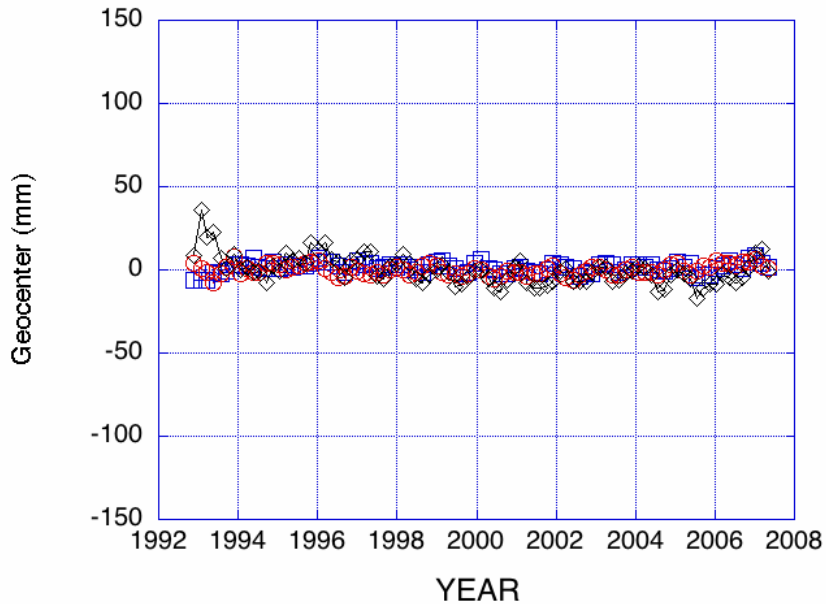
Pascal Willis, Marie-Line Gobinddass

SUMMARY

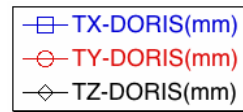
- Currents errors in Z-geocenter
- Why Z-errors are correlated with SRP?
- Estimating daily SRP coefficients
- Update current geocenter solutions (fixing SRP coefficients)
- Conclusions



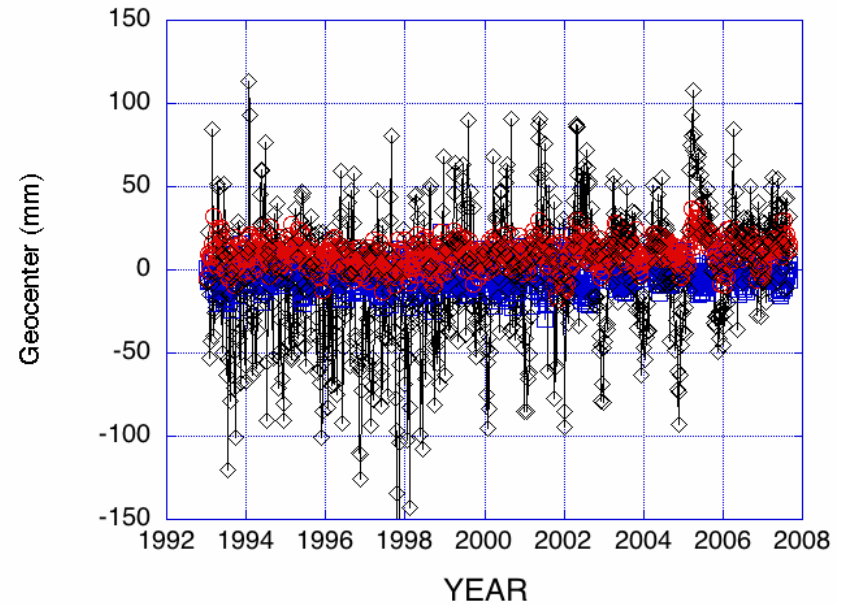
Solution Laser (J. Ries, U. Texas)



Laser/ U. Texas

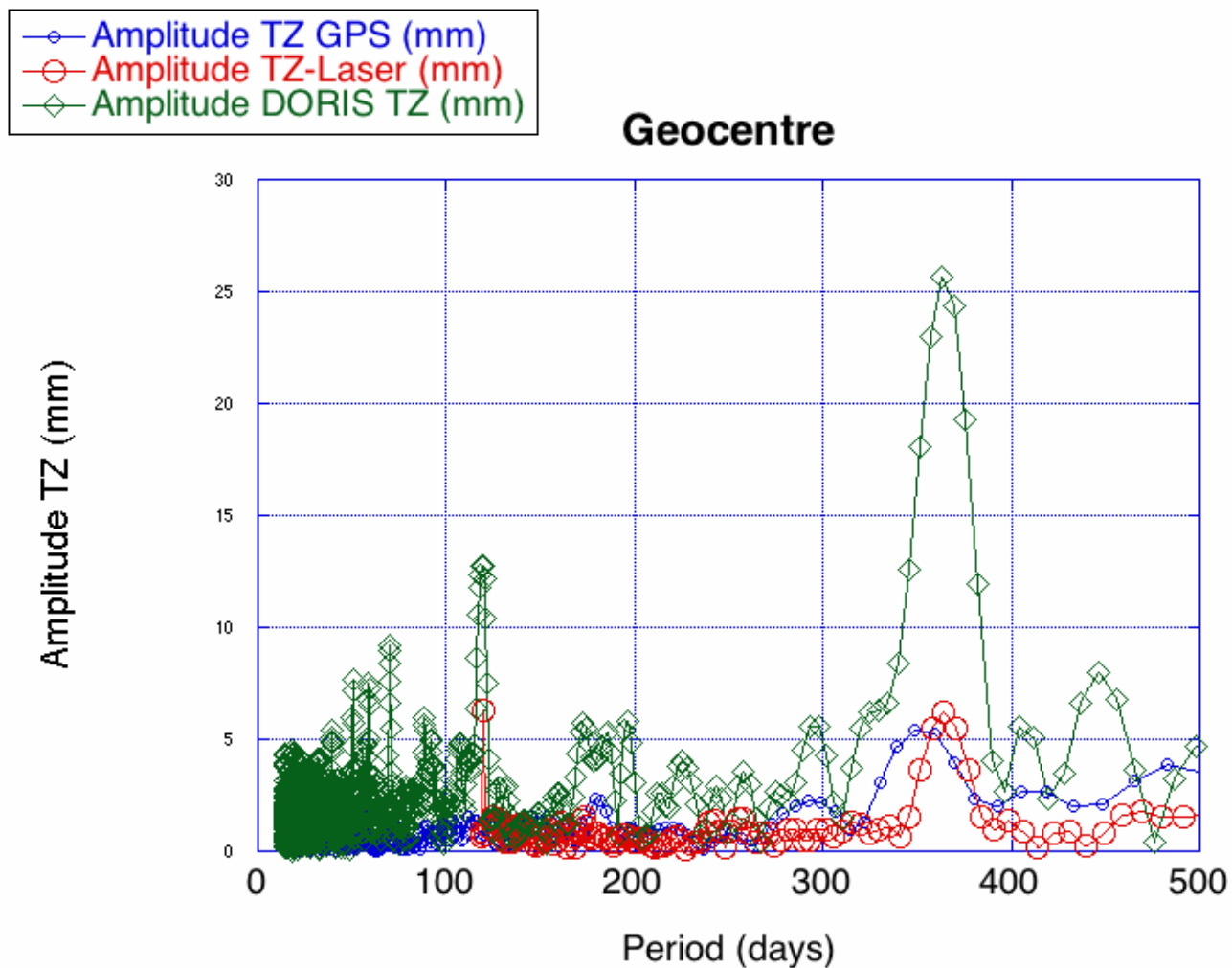


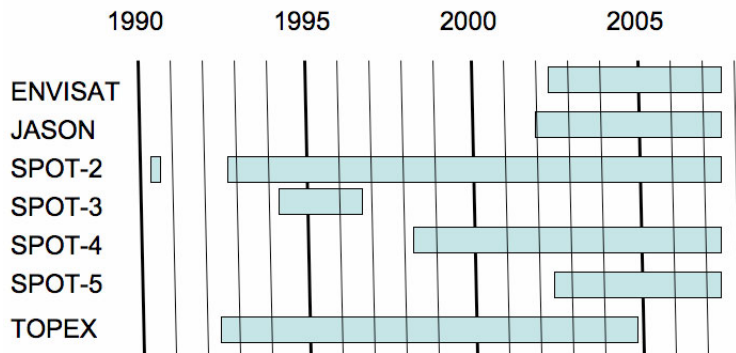
Solution DORIS ign07wd01 (P. Willis, IGN/IPGP)



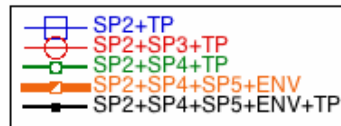
DORIS/IGN

Erroneous signal = 1year + 118 days

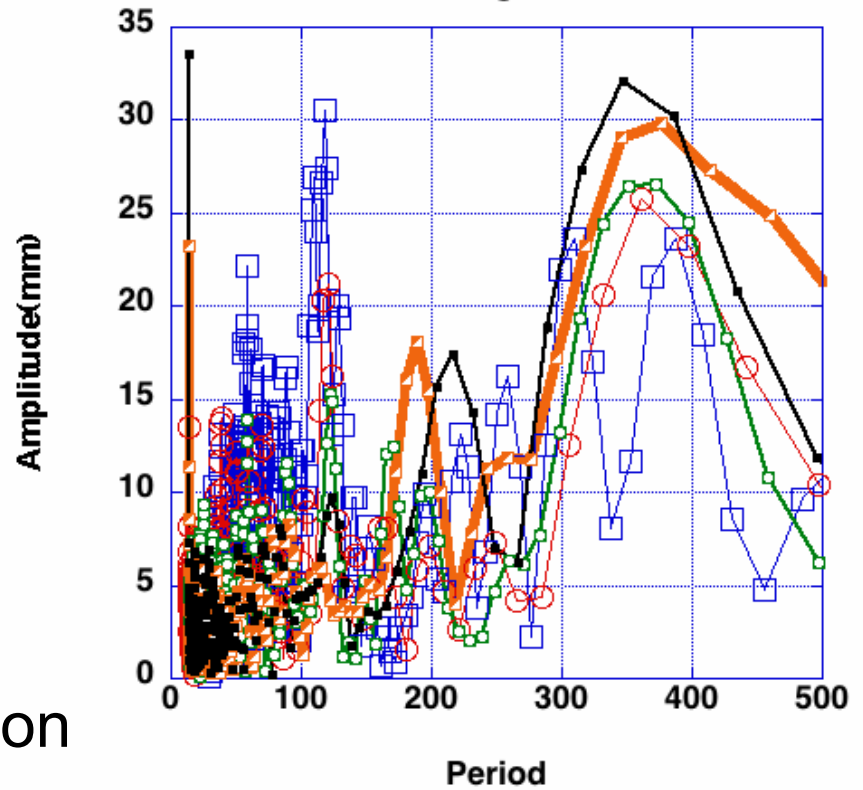




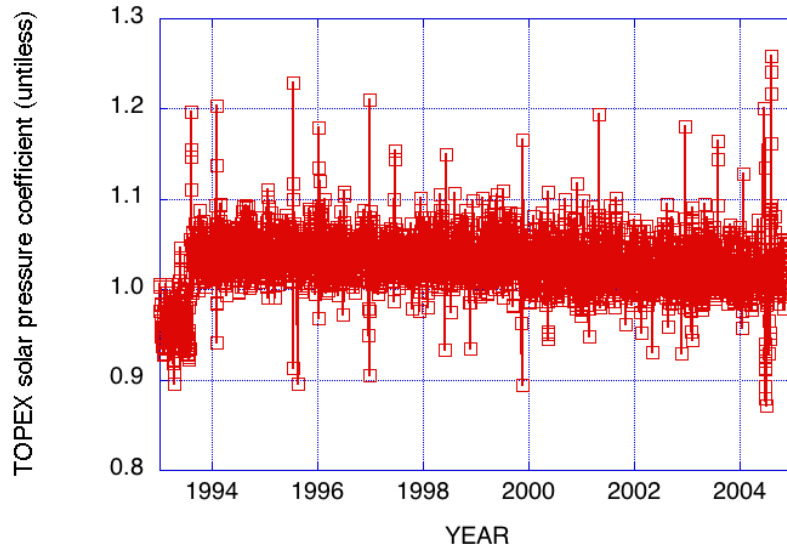
DORIS satellite constellation



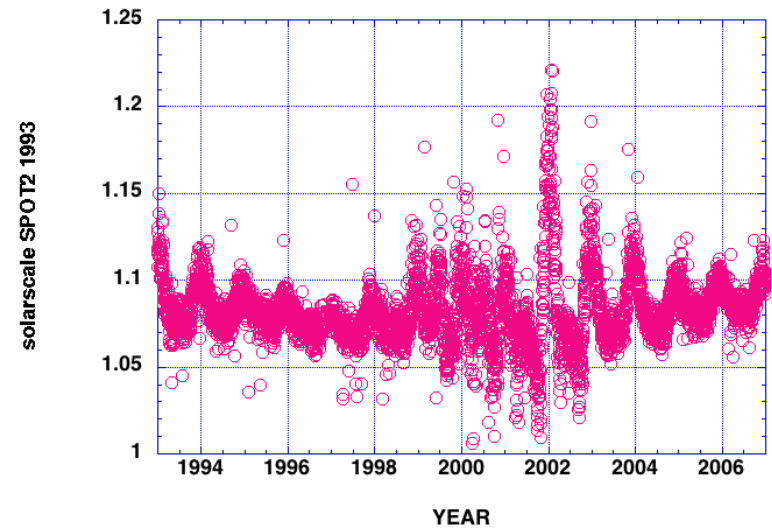
Periodogramme



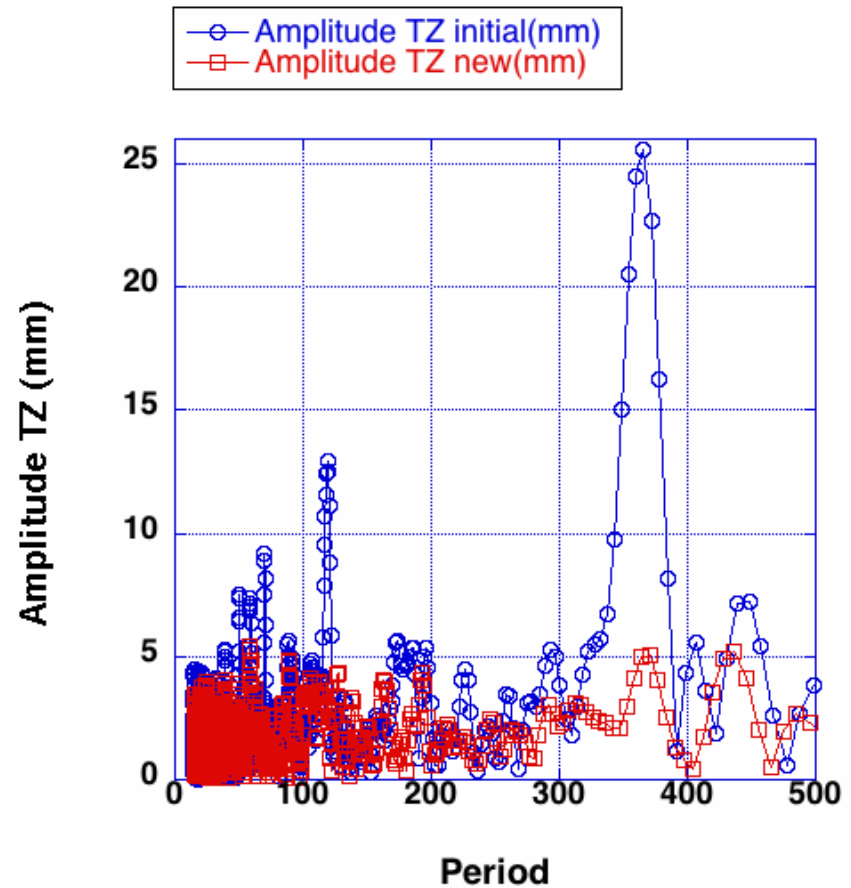
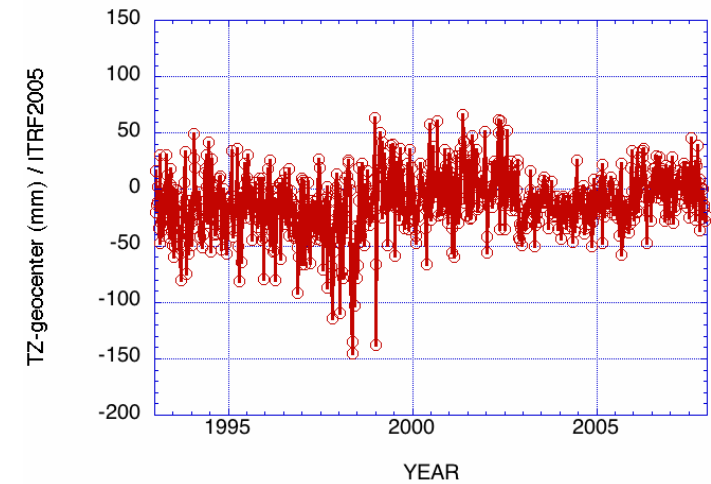
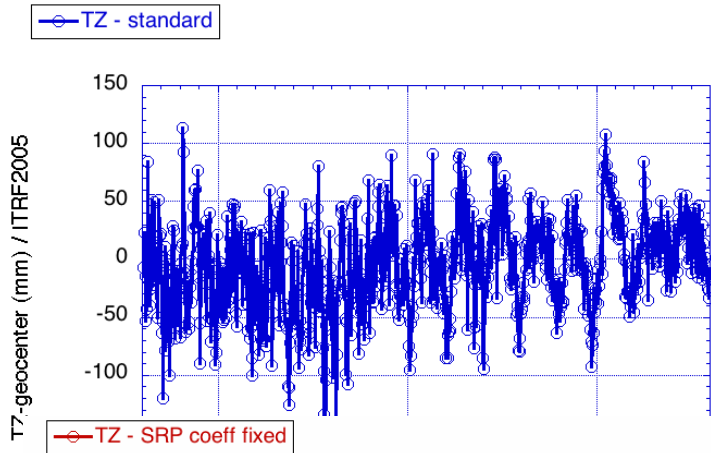
Estimating daily SRP coefficients



$1/\text{rev} = 0$ (fixed)
Coordinates = free



DORIS recomputation



CONCLUSIONS

- Need to fix daily SRP in future IGN (IDS?) solutions (preliminary solution provided to Zuheir Altamimi)
- Need to discuss with other AC to adopt values
- Need confirmation from CNES (discontinuity TOPEX 27-JUL-1993?)

Additional studies (long time series of products and residuals)