

CLS provided the new version of GRGS-GPS normal equations

grg08223pw01.n6.gz -- GPS normal equations (Daily eop and eop rates)  
grg08230pw01.n6.gz  
grg08237pw01.n6.gz

These GPS normals equations are based on the IGS GPS data from all GPS satellites using 121 stations of the IGS tracking network.  
57 stations of them are collocated with DORIS, VLBI and/or SLR.

Changes with previous delivery (Spring 2010) are the following :

- gravity field model provided by Jean-Michel Lemoine (see [viewtopic.php?f=18&t=62](http://viewtopic.php?f=18&t=62))
- A priori EOP from <http://hpiers.obspm.fr/iers/eop/eopc04/eopc04.62-now> apart for UT1 corrections for which we kept old values (see [viewtopic.php?f=18&t=64](http://viewtopic.php?f=18&t=64))
- A priori stations coordinates from ITRF2008
- Mean pole following the IERS2010 standards
- pole tides gravitational corrections from DESAI 2002 (IERS2010 standards)
- The ocean tides model FES2004 was already used in previous versions (see [viewtopic.php?f=18&t=70](http://viewtopic.php?f=18&t=70))
- GPS PCOs from igs08.atx
- tropospheric model GMF/GPT with North & East gradients

GPS normal equations contain:

- Station coordinates for all stations: weekly parameters, epoch Wednesday 12:00
- X-pole, Y-pole, X-pole rate, Y-pole rate, UT1-UTC and LOD, Nutation parameters NUT\_LN , NUT\_OB and rates : daily values at 12:00
- Following [viewtopic.php?f=7&t=63](http://viewtopic.php?f=7&t=63) , the tropospheric gradients and zenithal biases for the subset of the 9 following sites have been let un-reduced in the normal equations:

hrao  
conz  
usn3  
gode  
str1  
thti  
kokb  
nyal  
nyal

---

Sylvain LOYER  
CLS - 8 -10 rue Hermès  
31526 Ramonville Saint Agne  
tel : (+33) 5 61 39 47 52  
[sloyer@cls.fr](mailto:sloyer@cls.fr) / [igs-ac@cls.fr](mailto:igs-ac@cls.fr)

<http://igsac-cnes.cls.fr/>

---