



Release 3 of the GRACE gravity solutions from CNES/GRGS

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The GRACE mission, already more than 10 years in operation, has provided a large-scale vision of the temporal gravity variations occurring on the Earth surface.

A complete reprocessing of the Level-1B data (“V2”) was recently made available by JPL to the GRACE community. In this context the CNES/GRGS team has undertaken a full reiteration of the GRACE and LAGEOS data processing based on upgraded data, models and inversion procedures.

This new release of the CNES/GRGS GRACE gravity solution, named “Release 3” or “RL03”, features in addition to using the L-1BV2 data:

- an improved a priori gravity model, closely following the actual gravity variations already observed by GRACE,
- the use of FES2012 tide model in replacement of FES2004,
- the use of the atmospheric dealiasing fields ECMWF ERA-interim (every 3 hours) in replacement of ECMWF operational model (every 6 hours),
- the use of the oceanic dealiasing fields TUGO (every 3 hours) in replacement of MOG2D (every 6 hours),
- some changes in the K-Band ranging and accelerometer parameterization,
- an inversion procedure using truncated Eigen values allowing, as was the case for RL02, a direct interpretation of the gravity solutions without the need for additional filtering,
- an extension of the maximal degree of the time-variable parameters from 50 to 80.

The CNES/GRGS RL03 solutions will be compared with the RL05 solutions from the other groups at the 10-day and at the monthly time scale.