

GRACE Science Data System Monthly Report April 2005

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Satellite Science Relevant Events:

- Nominal operation in Science Mode throughout the month!
- The GRACE-1 Brouwer mean orbital elements on May 01, 2005 00:00:00 are as follows:

A [m] = 6845395.134

E [-] = 0.001676

I [°] = 89.037271

The satellites separation was 194 km on April 29 with a rate of -0.65 km/d. Next orbit maintenance maneuver will be needed in about 2 months.

Level-0 raw data dump reception statistics at DLR ground stations Weilheim and Neustrelitz:

GRACE-1 Housekeeping: 99.6 %

GRACE-1 Science: 100.0 %

GRACE-2 Housekeeping: 99.5 %

GRACE-2 Science: 100.0 %

Level-1 Data Processing:

- Level-1B Release 01 instrument data have been processed at JPL and archived at GRACE-ISDC and JPL PO.DAAC.

Notes:

- o On day 2005-04-06 an orbit maintenance maneuver was performed by GRACE-B resulting in about 1.5 hour KBR1B data loss

The columns in the table are:

- A) KBR1B product name
- B) Total arc length with data (hours)
- C) Number of observations used in residual calculation
- D) KBR-GPS range residual RMS (cm)
- E) minimum KBR-GPS range residual (cm)
- F) maximum KBR-GPS range residual (cm)
- G) number of continuous segments in the KBR product

A	B	C	D	E	F	G
KBR1B_2005-03-25_X_01.dat	23.8	17091	1.75	-8.1	3.8	3
KBR1B_2005-03-26_X_01.dat	24.0	17260	1.51	-3.5	5.2	1
KBR1B_2005-03-27_X_01.dat	24.0	17260	1.63	-4.7	4.5	1
KBR1B_2005-03-28_X_01.dat	23.7	17059	1.59	-4.6	4.6	3
KBR1B_2005-03-29_X_01.dat	24.0	17280	1.46	-3.5	4.0	1
KBR1B_2005-03-30_X_01.dat	24.0	17280	1.50	-4.9	3.9	1
KBR1B_2005-03-31_X_01.dat	24.0	17280	1.49	-5.3	4.2	1
KBR1B_2005-04-01_X_01.dat	24.0	17280	2.05	-5.8	5.5	1
KBR1B_2005-04-02_X_01.dat	23.8	17125	1.85	-5.1	5.4	2
KBR1B_2005-04-03_X_01.dat	23.8	17105	2.01	-7.2	5.1	3
KBR1B_2005-04-04_X_01.dat	24.0	17260	1.67	-4.9	4.7	1
KBR1B_2005-04-05_X_01.dat	24.0	17260	1.38	-3.9	3.9	1
KBR1B_2005-04-06_X_01.dat	22.6	16227	1.49	-3.6	6.0	3
KBR1B_2005-04-07_X_01.dat	24.0	17260	1.86	-5.5	4.6	1
KBR1B_2005-04-08_X_01.dat	24.0	17260	1.40	-4.4	4.3	1
KBR1B_2005-04-09_X_01.dat	23.9	17156	1.68	-4.4	5.0	4
KBR1B_2005-04-10_X_01.dat	23.8	17137	1.59	-4.5	3.4	3
KBR1B_2005-04-11_X_01.dat	23.9	17190	1.42	-3.8	4.2	3
KBR1B_2005-04-12_X_01.dat	24.0	17280	1.92	-5.7	5.0	1
KBR1B_2005-04-13_X_01.dat	23.7	17032	1.57	-3.9	3.7	1
KBR1B_2005-04-14_X_01.dat	23.9	17190	1.69	-5.5	4.3	3

KBR1B_2005-04-15_X_01.dat	23.8	17125	2.21	-5.2	6.1	2
KBR1B_2005-04-16_X_01.dat	24.0	17246	1.68	-5.0	4.8	2
KBR1B_2005-04-17_X_01.dat	24.0	17260	1.91	-5.4	4.8	1
KBR1B_2005-04-18_X_01.dat	23.9	17185	1.91	-6.4	5.2	2
KBR1B_2005-04-19_X_01.dat	23.8	17145	1.88	-7.8	4.2	2
KBR1B_2005-04-20_X_01.dat	24.0	17280	1.58	-4.5	3.7	1
KBR1B_2005-04-21_X_01.dat	24.0	17280	1.98	-4.2	5.4	1
KBR1B_2005-04-22_X_01.dat	not yet processed					
...						
KBR1B_2005-04-30_X_01.dat	not yet processed					

- Level-1B barotropic sea level products (OCN1B) and de-aliasing products (AOD1B) until April 30 were calculated by GFZ and archived at GRACE-ISDC.

Level-2 Data Processing:

- All 3 L2 centers at CSR, JPL and GFZ concentrated on improvements in the gravity model product quality and catching up on the remaining monthly fields data processing.
- Experiments continued to investigate the influence of different non-tidal ocean models on gravity field model quality. Results were presented in a GFZ poster at the EGU.

GRACE Product Distribution:

- No Level-2 products have been delivered to the archives.

Miscellaneous:

- The GRACE satellites completed their 17000th revolution around the Earth on April 3.
- 38 oral and poster presentations with “GRACE” in the title at the EGU in Vienna, Austria, 24-29 April, 2005 prove the strong interest of the geo-scientific community analyzing GRACE mission data.
- Selected and reviewed presentations from the July 2004 Joint CHAMP/GRACE Science Meeting will be published in a special issue of EGU’s ‘Advances of Geosciences’.
- Science data users are encouraged to submit citations of their own and other works related with GRACE to the bibliography web page implemented at PO.DAAC: <http://podaac.jpl.nasa.gov/grace/bibliography.html>.