

GRACE Science Data System Monthly Report

August 2004

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The GRACE Science Team members who acquire GRACE products at PO.DAAC should re-visit the public GRACE data website and double check that they have all products. For the present, the password protected site is not being updated with new products, only the public site is.

GRACE-ISDC does not distinguish between ST members and other users. Therefore double checking is not necessary.

Satellite Science Relevant Events:

- Onboard data handling (OBDH) software version 5.04 has been uploaded to both satellites. On August 10 (GRACE-2) and August 12 (GRACE-1) the software was activated and will result in improved data continuity.
- Instrument Processing Unit (IPU) software libraries (build 149.1 patch) have been uploaded on August 15/16 (GRACE-2) and August 18 (GRACE-1) to achieve improved star camera performance.
- The GRACE-1 Brouwer mean orbital elements on September 01, 2004 00:00:00 are as follows:
A [m] = 470446.03
E [-] = 0.001987
I [°] = 89.015440

The satellites separation was 185 km on August 31 with a rate of -0.40 km/d. The next orbit maneuver will be the satellite switch maneuver which is scheduled for October 18.

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

GRACE-1 Housekeeping: 99.7 %
 GRACE-1 Science: 100.0 %
 GRACE-2 Housekeeping: 99.7 %
 GRACE-2 Science: 100.0 %

Level-1 Data Processing:

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

The following table gives provides statistical information on the available KBR1B products.
 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_2004-07-17_X_00.dat	23.8	17145	1.75	-5.2	5.9	2
KBR1B_2004-07-18_X_00.dat	23.8	17114	1.83	-4.4	5.6	2
KBR1B_2004-07-19_X_00.dat	24.0	17280	1.97	-6.4	6.4	1
KBR1B_2004-07-20_X_00.dat	24.0	17280	1.42	-4.8	4.3	1
KBR1B_2004-07-21_X_00.dat	23.8	17145	1.83	-5.1	4.6	2
KBR1B_2004-07-22_X_00.dat	24.0	17280	1.74	-4.7	5.1	1
KBR1B_2004-07-23_X_00.dat	23.8	17139	1.63	-3.8	5.0	2
KBR1B_2004-07-24_X_00.dat	24.0	17280	1.46	-3.8	3.5	1
KBR1B_2004-07-25_X_00.dat	24.0	17260	1.68	-4.5	5.2	1
KBR1B_2004-07-26_X_00.dat	24.0	17260	1.53	-3.8	4.2	1
KBR1B_2004-07-27_X_00.dat	23.7	17045	1.92	-5.3	4.4	2

KBR1B_2004-07-28_X_00.dat	23.8	17125	1.78	-4.2	5.0	2
KBR1B_2004-07-29_X_00.dat	24.0	17280	1.76	-4.0	6.2	1
KBR1B_2004-07-30_X_00.dat	24.0	17246	2.02	-4.6	8.2	2
KBR1B_2004-07-31_X_00.dat	23.9	17223	1.42	-3.0	4.1	5
KBR1B_2004-08-01_X_00.dat	24.0	17261	1.46	-3.7	4.2	1
KBR1B_2004-08-02_X_00.dat	23.6	16932	1.79	-4.5	6.8	4
KBR1B_2004-08-03_X_00.dat	24.0	17235	1.42	-3.4	3.9	2
KBR1B_2004-08-04_X_00.dat	24.0	17252	1.64	-4.3	6.8	1
KBR1B_2004-08-05_X_00.dat	24.0	17250	1.60	-5.7	4.0	1
KBR1B_2004-08-06_X_00.dat	24.0	17266	1.38	-3.7	3.9	2
KBR1B_2004-08-07_X_00.dat	23.9	17199	1.58	-3.7	4.9	2
KBR1B_2004-08-08_X_00.dat	24.0	17241	1.38	-4.8	3.4	1
KBR1B_2004-08-09_X_00.dat	23.8	17023	1.59	-4.7	3.8	3
KBR1B_2004-08-10_X_00.dat	24.0	17228	1.61	-3.9	5.8	1
KBR1B_2004-08-11_X_00.dat	24.0	17182	1.62	-3.1	4.5	1
KBR1B_2004-08-12_X_00.dat	23.7	17027	1.84	-5.9	4.4	2
KBR1B_2004-08-13_X_00.dat	24.0	17280	1.61	-3.9	4.5	1
KBR1B_2004-08-14_X_00.dat	23.8	17130	1.32	-3.4	3.3	3
KBR1B_2004-08-15_X_00.dat	24.0	17280	1.63	-4.0	5.6	1
KBR1B_2004-08-16_X_00.dat	23.7	17045	1.66	-4.3	4.3	3
KBR1B_2004-08-17_X_00.dat	24.0	17252	1.68	-5.1	4.8	3
KBR1B_2004-08-18_X_00.dat	23.2	16726	1.51	-5.5	4.1	3
KBR1B_2004-08-19_X_00.dat	23.8	17144	1.38	-3.6	4.5	2
KBR1B_2004-08-20_X_00.dat	24.0	17280	1.42	-4.0	5.0	1
KBR1B_2004-08-21_X_00.dat	24.0	17280	1.68	-5.3	4.5	1
KBR1B_2004-08-22_X_00.dat	23.8	17145	1.46	-3.4	3.9	2
KBR1B_2004-08-23_X_00.dat	24.0	17265	1.44	-5.0	4.2	2
KBR1B_2004-08-24_X_00.dat	24.0	17266	1.68	-4.5	5.5	2
KBR1B_2004-08-25_X_00.dat	23.9	17205	1.40	-3.2	3.8	2
KBR1B_2004-08-26_X_00.dat	24.0	17229	1.76	-4.1	5.4	3
KBR1B_2004-08-27_X_00.dat	24.0	17245	1.82	-4.2	6.0	2
KBR1B_2004-08-28_X_00.dat	--- not yet processed ---					
...						
KBR1B_2004-08-31_X_00.dat	--- not yet processed ---					

Additionally all level-1B barotropic sea level products (OCN1B) and de-aliasing products

(AOD1B) until August 31 were calculated by GFZ and archived at GRACE-ISDC.

Level-2 Data Processing:

- Radio occultation experiment on July 28/29 seems to have no influence on gravity field recovery. Final analysis ongoing.
- 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.

GRACE Product Distribution:

- On August 9 GRACE L1B and L2 products for the period August 1, 2002 until May 31, 2004 have been provided to the public.
- Status of Level-2 products available at the GRACE-ISDC and PO.DAAC has not been changed compared to July 2004 except that CSR has provided the June 2004 monthly solution.

Miscellaneous:

- 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>.