GRACE Science Data System Monthly Report
January 2005

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Satellite Science Relevant Events:

- Nominal operation in Science Mode throughout the month!
- On January 28 the satellites completed their 16.000 revolution
- The GRACE-1 Brouwer mean orbital elements on February 01, 2005 00:00:00 are as follows:

  A [m] = 468391.0
  E [-] = 0.001741
  I [º] = 89.024013

  The satellites separation was 257 km on January 31 with a rate of +0.69 km/d. The next orbit maintenance maneuver is planned for February 10, 2005.

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

GRACE-1 Housekeeping:	99.9 %
GRACE-1 Science:	100.0 %
GRACE-2 Housekeeping:	99.4 %
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.

  Note: December 31, 2004 was the last data set of Version 00. Starting from 2005-01-01

Version 01 data will be distributed. Version 01 has improved telemetry processing (e.g. improved L0 packet handler, automatic star camera head detection), optimized GPS data screening and enhancements which are required for new science algorithms (e.g. precise attitude determination) which may be implemented at a later time (depending on future funding situation).

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_2004-12-25_X_00.dat	23.8	17145	1.78	-5.0	4.4	2
KBR1B_2004-12-26_X_00.dat	24.0	17280	2.02	-5.4	6.7	1
KBR1B_2004-12-27_X_00.dat	23.9	17247	1.95	-7.9	4.8	3
KBR1B_2004-12-28_X_00.dat	24.0	17280	1.88	-4.3	3.9	1
KBR1B_2004-12-29_X_00.dat	24.0	17261	1.85	-5.8	5.0	1
KBR1B_2004-12-30_X_00.dat	23.8	17130	1.81	-4.5	5.3	3
KBR1B_2004-12-31_X_00.dat	23.8	17126	1.96	-7.3	4.7	2
KBR1B_2005-01-01_X_01.dat	24.0	17280	1.65	-4.6	4.2	1
KBR1B_2005-01-02_X_01.dat	24.0	17280	1.78	-4.8	4.4	1
KBR1B_2005-01-03_X_01.dat	24.0	17280	1.55	-4.7	4.1	1
KBR1B_2005-01-04_X_01.dat	23.6	17000	1.58	-3.8	5.8	2
KBR1B_2005-01-05_X_01.dat	23.7	17048	1.61	-5.1	4.2	4
KBR1B_2005-01-06_X_01.dat	23.9	17204	1.79	-5.0	4.3	3
KBR1B_2005-01-07_X_01.dat	23.9	17178	1.66	-3.9	4.0	2
KBR1B_2005-01-08_X_01.dat	24.0	17260	1.66	-4.3	4.5	1
KBR1B_2005-01-09_X_01.dat	24.0	17280	1.82	-4.3	5.7	1
KBR1B_2005-01-10_X_01.dat	24.0	17260	1.46	-5.3	3.6	1
KBR1B_2005-01-11_X_01.dat	23.9	17205	1.62	-4.0	5.0	2
KBR1B_2005-01-12_X_01.dat	24.0	17280	1.55	-4.2	4.3	1

KBR1B_2005-01-13_X_01.dat	23.8	17134	2.14	-8.4	5.6	2
KBR1B_2005-01-14_X_01.dat	24.0	17280	1.86	-4.8	4.9	1
KBR1B_2005-01-15_X_01.dat	24.0	17280	1.57	-4.1	4.8	1
KBR1B_2005-01-16_X_01.dat	23.8	17145	1.51	-3.9	4.5	2
KBR1B_2005-01-17_X_01.dat	23.9	17205	1.54	-5.4	3.6	2
KBR1B_2005-01-18_X_01.dat	24.0	17266	1.59	-4.1	4.3	2
KBR1B_2005-01-19_X_01.dat	24.0	17251	1.74	-5.5	5.2	3
KBR1B_2005-01-20_X_01.dat	23.9	17247	1.29	-2.9	3.6	3
KBR1B_2005-01-21_X_01.dat	24.0	17261	1.70	-4.9	5.7	1
KBR1B_2005-01-22_X_01.dat	23.9	17205	1.50	-4.4	4.5	2
KBR1B_2005-01-23_X_01.dat	23.8	17157	1.47	-3.7	3.9	2
KBR1B_2005-01-24_X_01.dat	24.0	17280	1.96	-5.5	6.1	1
KBR1B_2005-01-25_X_01.dat	24.0	17280	1.95	-5.0	5.5	1
KBR1B_2005-01-26_X_01.dat	24.0	17280	1.67	-5.2	4.3	1
KBR1B_2005-01-27_X_01.dat	23.8	17111	1.49	-3.5	4.4	3
KBR1B_2005-01-28_X_01.dat	24.0	17280	1.64	-3.9	7.3	1
KBR1B_2005-01-29_X_01.dat	24.0	17280	1.58	-4.6	4.5	1
KBR1B_2005-01-30_X_01.dat	23.8	17159	1.47	-4.4	6.2	2
KBR1B_2005-01-31_X_01.dat	23.8	17145	1.68	-3.7	6.2	2

- Level-1B barotropic sea level products (OCN1B) and de-aliasing products (AOD1B) until January 31 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.

GRACE Product Distribution:

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

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.