GRACE Science Data System Monthly Report
May 2005

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Satellite Science Relevant Events:

- Nominal operation in Science Mode throughout the month except on May 11, when a center-of mass calibration maneuver has been successfully performed. This maneuver was necessary to validate the shift of the x-axis masses on May 10 (-98 μm on GRACE-1 and -82 μm on GRACE-2, respectively). See also Level-1 Data Processing below.
- The GRACE-1 Brouwer mean orbital elements on May 01, 2005 00:00:00 are as follows:

  A [m] = 6845218.789
  E [-] = 0.001921
  I [º] = 89.0341171

  The satellites separation was 174 km on May 31 with a rate of -0.63 km/d. Thus, an orbit maintenance maneuver will be performed on June 7.

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:	99.9 %
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:

- On day 2005-04-24 two IPU reboots occurred (GRACE A & GRACE B) resulting in about 20 minutes of KBR1B data loss
- On 2005-05-11 about 80 seconds of accelerometer (ACC1A) data was removed on both spacecraft due to the motion of the trim mass.
- On 2005-05-11 the Center of Mass calibration was performed on both spacecraft (02:00 - 11:45). Caution should be used when using the L1B data during this period
- Due to vacation of L1 team staff, the L1B data distribution (not the production) was halted for two weeks and will resume in the week of June 15th.

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_2005-04-22_X_01.dat	24.0	17280	1.69	-6.0	4.3	1
KBR1B_2005-04-23_X_01.dat	24.0	17280	1.72	-4.7	4.2	1
KBR1B_2005-04-24_X_01.dat	23.6	16995	1.95	-7.8	4.8	4
KBR1B_2005-04-25_X_01.dat	24.0	17280	2.08	-5.0	8.9	1
KBR1B_2005-04-26_X_01.dat	24.0	17266	1.90	-4.7	4.2	2
KBR1B_2005-04-27_X_01.dat	23.8	17145	1.76	-4.9	7.0	2
KBR1B_2005-04-28_X_01.dat	24.0	17266	1.76	-7.0	5.4	2
KBR1B_2005-04-29_X_01.dat	23.8	17145	1.95	-6.6	6.5	2
KBR1B_2005-04-30_X_01.dat	24.0	17280	2.18	-6.8	6.9	1
KBR1B_2005-05-01_X_01.dat	24.0	17280	2.29	-8.0	7.3	1
KBR1B_2005-05-02_X_01.dat	23.9	17205	1.87	-5.1	5.3	2
KBR1B_2005-05-03_X_01.dat	24.0	17280	1.77	-4.3	6.3	1
KBR1B_2005-05-04_X_01.dat	24.0	17280	1.76	-4.9	5.4	1

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KBR1B_2005-05-05_X_01.dat  23.9  17191  1.55    -5.3    3.6  3
KBR1B_2005-05-06_X_01.dat  24.0  17280  1.82    -4.6    4.8  1
KBR1B_2005-05-07_X_01.dat  23.8  17145  1.79    -4.4    4.2  2
KBR1B_2005-05-08_X_01.dat  24.0  17280  1.56    -4.8    4.4  1
KBR1B_2005-05-09_X_01.dat  24.0  17253  1.74    -4.7    6.7  2
KBR1B_2005-05-10_X_01.dat  24.0  17252  1.84    -5.5    5.5  3
KBR1B_2005-05-11_X_01.dat  23.9  17205  1.98    -5.5    5.5  2
KBR1B_2005-05-12_X_01.dat  23.9  17202  1.85    -7.5    6.0  2
KBR1B_2005-05-13_X_01.dat  not yet distributed
…
KBR1B_2005-05-31_X_01.dat  not yet distributed
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- Level-1B barotropic sea level products (OCN1B) and de-aliasing products (AOD1B) until May 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:

- 18 oral and poster presentations with “GRACE” in the title at the spring AGU in New Orleans, USA, May 23-27, 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.