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 Following IAU Conventions 2000, IERS provides new products dX, dY, celestial pole offsets with respect to the new IAU2000A Precession-Nutation theory.

The present Bulletin B version includes the celestial pole offsets dX, dY:

$$dX = X_{\text{obs}} - X_{\text{IAU2000A}} \text{ and } dY = Y_{\text{obs}} - Y_{\text{IAU2000A}}$$

where

X_obs, Y_obs are the observed coordinates of the Celestial Intermediate Pole (CIP) in the Geocentric Celestial Reference System, and

X_IAU2000A, Y_IAU2000A are the celestial pole coordinates provided by using the IAU2000A Precession-Nutation theory.

The current Bulletin B including (dpsi,deps)_1980 will be maintained until December 2004.

For more details refer to IERS Messages 38, on IAU 2000 Resolution Compliancy Information.

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Contents are described in the Explanatory Supplement available at
<http://hpiers.obspm.fr/eop-pc/>

1 - EARTH ORIENTATION PARAMETERS (IERS evaluation).

The values in this section are samplings of section 2 given at five-day intervals.

Date 2004 (0h UTC)	MJD	x "	y "	UT1R-UTC s	UT1R-TAI s	dX 0.001"	dY 0.001"
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Final Bulletin B values.

APR 4	53099	-.14085	.32862	-.437859	-32.437859	.07	-.10
APR 9	53104	-.13972	.34246	-.442473	-32.442473	-.02	.09
APR 14	53109	-.13902	.35797	-.446364	-32.446364	.07	.06
APR 19	53114	-.13342	.37369	-.449754	-32.449754	.14	.14
APR 24	53119	-.13268	.38724	-.452263	-32.452263	.24	-.07
APR 29	53124	-.12500	.39791	-.454042	-32.454042	.02	.07
MAY 4	53129	-.11706	.41347	-.456294	-32.456294	.07	-.03

Preliminary extension, to be updated weekly in Bulletin A and monthly in Bulletin B.

MAY 9	53134	-.11108	.42617	-.459864	-32.459864	-.09	-.14
MAY 14	53139	-.10224	.43998	-.463001	-32.463001	.13	.03
MAY 19	53144	-.09882	.44817	-.466493	-32.466493	.05	-.12
MAY 24	53149	-.09312	.45494	-.469431	-32.469431	.00	.00
MAY 29	53154	-.08848	.46301	-.470395	-32.470395	.00	.00
JUN 3	53159	-.08069	.47025	-.470432	-32.470432	.00	.00
JUN 8	53164	-.07057	.47826	-.470615	-32.470615	.00	.00
JUN 13	53169	-.05866	.48560	-.470402	-32.470402	.00	.00
JUN 18	53174	-.04564	.49211	-.469776	-32.469776	.00	.00
JUN 23	53179	-.03195	.49766	-.468769	-32.468769	.00	.00
JUN 28	53184	-.01780	.50221	-.467503	-32.467503	.00	.00
JUL 3	53189	-.00334	.50573	-.466007	-32.466007	.00	.00
JUL 8	53194	.01132	.50820	-.464367	-32.464367	.00	.00
JUL 13	53199	.02610	.50960	-.462627	-32.462627	.00	.00
JUL 18	53204	.04090	.50993	-.460834	-32.460834	.00	.00
JUL 23	53209	.05560	.50920	-.459034	-32.459034	.00	.00

JUL 28 53214 .07016 .50740 -.457310 -32.457310 .00 .00

Note. In UT1R, the effects of zonal tides with periods shorter than 35 days are removed ; UT1-UT1R (smaller than 0.0025s in absolute value) should be added after quadratic interpolation of UT1R. Section 2 of this Bulletin gives the daily interpolation of x, y, UT1, duration of day, dX, and dY.

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2 - SMOOTHED VALUES OF x, y, UT1, D, dX, dY (IERS EVALUATION) at one-day intervals. For smoothing characteristics, see Table2 in the explanatory supplement. The reference system is described in the 2002 IERS Annual Report.

2004		MJD	x	y	UT1-UTC	UT1-UT1R	D	dX	dY
(0 h UTC)			"	"	s	ms	ms	0.001"	0.001"
APR	4	53099	-.14085	.32862	-.436824	1.035	1.423	.07	-.10
APR	5	53100	-.14111	.33094	-.438352	.417	1.562	-.15	-.06
APR	6	53101	-.14072	.33327	-.439962	-.226	1.557	-.21	-.15
APR	7	53102	-.14007	.33614	-.441421	-.750	1.346	-.09	-.25
APR	8	53103	-.13987	.33930	-.442625	-1.041	1.052	-.01	-.10
APR	9	53104	-.13972	.34246	-.443523	-1.050	.771	-.02	.09
APR	10	53105	-.13916	.34573	-.444191	-.812	.563	-.07	.15
APR	11	53106	-.13870	.34912	-.444689	-.424	.389	-.10	.12
APR	12	53107	-.13882	.35232	-.445012	-.015	.314	-.05	.07
APR	13	53108	-.13905	.35518	-.445352	.297	.452	.04	.06
APR	14	53109	-.13902	.35797	-.445934	.430	.702	.07	.06
APR	15	53110	-.13850	.36075	-.446757	.356	.887	.05	.10
APR	16	53111	-.13728	.36366	-.447692	.100	1.002	.04	.15
APR	17	53112	-.13588	.36700	-.448734	-.274	1.078	.06	.18
APR	18	53113	-.13463	.37040	-.449817	-.679	1.037	.11	.16
APR	19	53114	-.13342	.37369	-.450779	-1.025	.879	.14	.14
APR	20	53115	-.13272	.37720	-.451553	-1.239	.688	.15	.20
APR	21	53116	-.13286	.38027	-.452144	-1.273	.480	.17	.29
APR	22	53117	-.13303	.38274	-.452513	-1.111	.237	.20	.29
APR	23	53118	-.13290	.38514	-.452629	-.769	.010	.24	.14
APR	24	53119	-.13268	.38724	-.452550	-.287	-.141	.24	-.07
APR	25	53120	-.13200	.38900	-.452370	.272	-.218	.22	-.16
APR	26	53121	-.13046	.39082	-.452140	.836	-.212	.18	-.09
APR	27	53122	-.12846	.39281	-.451970	1.329	-.090	.11	.04
APR	28	53123	-.12664	.39512	-.451983	1.682	.111	.02	.08
APR	29	53124	-.12500	.39791	-.452211	1.832	.340	.02	.07
APR	30	53125	-.12334	.40104	-.452673	1.738	.623	.14	.15
MAY	1	53126	-.12138	.40421	-.453452	1.395	.902	.28	.37
MAY	2	53127	-.11966	.40736	-.454452	.846	1.080	.29	.47
MAY	3	53128	-.11839	.41045	-.455570	.196	1.154	.16	.29
MAY	4	53129	-.11706	.41347	-.456709	-.415	1.120	.07	-.03
MAY	5	53130	-.11581	.41638	-.457768	-.843	.956	.11	-.21
MAY	6	53131	-.11493	.41910	-.458603	-1.000	.728	.17	-.16
MAY	7	53132	-.11391	.42156	-.459237	-.879	.528	.12	-.07
MAY	8	53133	-.11250	.42387	-.459698	-.559	.375	-.01	-.08
MAY	9	53134	-.11108	.42617	-.460035	-.171	.323	-.09	-.14
MAY	10	53135	-.10962	.42873	-.460386	.148	.410	-.03	-.15
MAY	11	53136	-.10793	.43162	-.460879	.303	.586	.12	-.10
MAY	12	53137	-.10600	.43446	-.461561	.255	.747	.23	-.07
MAY	13	53138	-.10391	.43722	-.462359	.026	.895	.23	-.04
MAY	14	53139	-.10224	.43998	-.463327	-.326	1.025	.13	.03
MAY	15	53140	-.10121	.44230	-.464380	-.718	1.072	.04	.13
MAY	16	53141	-.10060	.44406	-.465443	-1.069	1.010	.00	.13
MAY	17	53142	-.10010	.44556	-.466380	-1.306	.861	.01	.04
MAY	18	53143	-.09966	.44683	-.467153	-1.379	.689	.04	-.03
MAY	19	53144	-.09882	.44817	-.467755	-1.263	.504	.05	-.12
MAY	20	53145	-.09769	.44948	-.468168	-.962	.298	.11	-.15
MAY	21	53146	-.09620	.45102	-.468366	-.509	.119	.00	.00
MAY	22	53147	-.09516	.45227	-.468427	.040	-.008	.00	.00
MAY	23	53148	-.09417	.45349	-.468375	.616	-.083	.00	.00
MAY	24	53149	-.09312	.45494	-.468286	1.145	-.062	.00	.00
MAY	25	53150	-.09188	.45660	-.468272	1.557	.027	.00	.00
MAY	26	53151	-.09076	.45832	-.468312	1.794	.134	.00	.00
MAY	27	53152	-.09018	.45981	-.468468	1.816	.263	.00	.00

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3 - NORMAL VALUES OF THE EARTH ORIENTATION PARAMETERS AT FIVE-DAY INTERVALS
(IERS evaluation).

		Raw normal values					Uncertainties				
2004	MJD	x	y	UT1-UTC	dX	dY	x	y	UT1	dX	dY
(0 h UTC)		"	"	s	0.001"		0.001"	0.0001s	0.001"		
APR 4	53099	-.14085	.32861	-.436828	-.031	-.013	.02	.02	.02	.02	.03
APR 9	53104	-.13973	.34246	-.443524	-.032	.099	.01	.02	.02	.02	.03
APR 14	53109	-.13904	.35797	-.445932	.069	.070	.01	.01	.02	.02	.02
APR 19	53114	-.13341	.37369	-.450779	.186	.173	.02	.02	.02	.03	.03
APR 24	53119	-.13269	.38724	-.452551	.224	-.067	.01	.01	.02	.02	.03
APR 29	53124	-.12500	.39791	-.452210	.001	.048	.02	.01	.02	.02	.03
MAY 4	53129	-.11706	.41347	-.456710	.073	.018	.02	.02	.02	.02	.02
MAY 9	53134	-.11108	.42617	-.460035	-.082	-.122	.01	.01	.02	.01	.01
MAY 14	53139	-.10225	.43998	-.463327	.174	-.028	.01	.02	.02	.04	.05
MAY 19	53144	-.09882	.44817	-.467755	.059	-.104	.02	.02	.02	.02	.02
MAY 24	53149	-.09312	.45494	-.468289	-	-	.03	.04	.06	-	-

4 - DURATION OF THE DAY AND ANGULAR VELOCITY OF THE EARTH (IERS evaluation).
The data of this section are smoothed, with the same characteristics as UT1R in section 1. They are corrected for the effects of zonal tides with periods up to 35 days. Section 2 gives the daily interpolation of D.

Date (0h UTC)		DR	OmegaR	
2004	MJD	s	(microrad/s)	
APR 4	53099	.00087	72.921	15073
APR 9	53104	.00090		15071
APR 14	53109	.00074		15084
APR 19	53114	.00059		15097
APR 24	53119	.00040		15113
APR 29	53124	.00038		15115
MAY 4	53129	.00058		15097

5 - INFORMATION ON TIME SCALES

No leap second was introduced in UTC on 31 December 2003.
No leap second will be introduced in UTC on 30 June 2004.
All information concerning time scales : announcements of the leap seconds (Bulletin C) and of the value of DUT1 (Bulletin D) can be found in our web/ftp site :

World Wide Web : <http://hpiers.obspm.fr>
Anonymous ftp : [hpiers.obspm.fr](ftp://hpiers.obspm.fr) or 145.238.100.28

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6 - SUMMARY OF CONTRIBUTED EARTH ORIENTATION PARAMETERS SERIES

This section gives the average precision of the individual series contributing to the combination and their average agreement with it. The periods covered start at the beginning of the first month in Section 1 and end with the last available value in the individual series considered.

Units : 0.001" for x,y , 0.0001s for UT1, 0.001" for dX, dY.

EOP series Periods covered	Mean formal uncertainty Weighted RMS agreement with Bulletin B						Data Number
	x	y	UT	D	dX	dY	
VLBI							

EOP(AUS) 1 R 01	.31	.35	.19	-	-	-	14
53101.21 to 53145.27	.09	.24	.10	-	-	-	
EOP(BKG) 3 R 04	.11	.09	.04	-	-	-	13
53101.21 to 53143.21	.25	.11	.07	-	-	-	
EOP(BKG) 3 R 02	-	-	.12	-	-	-	37
53100.79 to 53150.79	-	-	.15	-	-	-	
EOP(GSFC) 4 R 02	.07	.07	.03	-	-	-	15
53101.21 to 53145.27	.13	.06	.04	-	-	-	
EOP(GSFC) 4 R 01	-	-	.14	-	-	-	36
53100.79 to 53150.79	-	-	.14	-	-	-	
EOP(IAA) 3 R 04	.06	.06	.03	-	.11	.04	14
53101.21 to 53145.27	.12	.08	.06	-	.14	.04	
EOP(IAA) 3 R 03	-	-	.11	-	-	-	36
53100.79 to 53150.79	-	-	.14	-	-	-	
EOP(SPBU) 3 R 03	.32	.36	.19	-	-	-	4
53108.20 to 53118.27	.22	.35	.10	-	-	-	
EOP(SPBU) 2 R 01	-	-	.13	-	-	-	31
53100.79 to 53137.79	-	-	.12	-	-	-	
EOP(MAO) 3 R 01	.10	.10	.05	-	.16	.06	15
53101.20 to 53145.30	.12	.05	.10	-	.19	.09	
EOP(USNO) 3 R 04	.07	.07	.03	-	-	-	12
53101.21 to 53139.27	.12	.06	.07	-	-	-	
EOP(IVS) 0 R 01	.06	.06	.02	-	-	-	12
53101.00 to 53139.00	.27	.05	.06	-	-	-	
GPS							
EOP(CODE) 98 P 01	.01	.01	-	.26	-	-	53
53099.50 to 53151.50	.06	.07	-	.18	-	-	
EOP(EMR) 96 P 03	.03	.03	-	.04	-	-	53
53099.50 to 53151.50	.06	.10	-	.57	-	-	
EOP(ESOC) 96 P 01	.02	.02	-	.03	-	-	53
53099.50 to 53151.50	.20	.08	-	.32	-	-	
EOP(GFZ) 96 P 02	.01	.01	-	.01	-	-	53
53099.50 to 53151.50	.11	.06	-	.33	-	-	
EOP(IAA) 1 P 01	.03	.03	-	.06	-	-	53
53099.50 to 53151.50	.14	.19	-	.57	-	-	
EOP(JPL) 96 P 03	.03	.03	-	.13	-	-	53
53099.50 to 53151.50	.05	.06	-	.52	-	-	
EOP(NOAA) 96 P 01	.01	.01	-	.02	-	-	45
53099.50 to 53143.50	.19	.27	-	.51	-	-	
EOP(SIO) 96 P 01	.05	.05	-	.11	-	-	53
53099.50 to 53151.50	.06	.06	-	.41	-	-	
EOP(IGS F)95 P 02	.02	.03	.08	.04	-	-	42
53099.50 to 53140.50	.05	.04	.27	.17	-	-	
EOP(IGS R)96 P 02	.03	.03	.18	.07	-	-	53
53099.50 to 53151.50	.09	.04	.83	.22	-	-	
EOP(IERS) 97 P 01	.03	.04	.18	.12	-	-	53
53099.50 to 53151.50	.02	.01	.41	.15	-	-	
SLR							
EOP(ASI) 3 L 02	.07	.08	-	.19	-	-	52
53099.50 to 53150.50	.26	.20	-	.95	-	-	
EOP(CSR) 95 L 01	.28	.32	.26	-	-	-	15
53100.39 to 53142.10	.32	.53	1.02	-	-	-	
EOP(IAA) 2 L 01	.04	.05	.03	.03	-	-	54
53099.00 to 53152.00	.17	.13	.28	.15	-	-	
EOP(MCC) 97 L 01	.05	.07	-	.10	-	-	47
53099.00 to 53145.00	.16	.12	-	.98	-	-	

Bulletin A							
EOP(NEOS) 97 C 01	.05	.05	.09	-	-	-	54
53099.00 to 53152.00	.08	.05	.26	-	-	-	