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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:

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

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.

FEB 4	53039	-.05120	.18897	-.405146	-32.405146	.09	-.06
FEB 9	53044	-.06254	.19533	-.406397	-32.406397	-.06	-.22
FEB 14	53049	-.07674	.20444	-.408551	-32.408551	.03	-.06
FEB 19	53054	-.08657	.21486	-.410915	-32.410915	.02	-.29
FEB 24	53059	-.09981	.22638	-.413662	-32.413662	-.07	-.15
FEB 29	53064	-.10833	.23783	-.417052	-32.417052	.13	-.37
MAR 5	53069	-.11724	.24881	-.418957	-32.418957	.12	-.19

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

MAR 10	53074	-.12292	.26000	-.420586	-32.420586	-.06	-.02
MAR 15	53079	-.12683	.27060	-.422354	-32.422354	.08	-.03
MAR 20	53084	-.13164	.28183	-.424462	-32.424462	-.16	-.08
MAR 25	53089	-.13288	.29840	-.428592	-32.428592	.00	.00
MAR 30	53094	-.13868	.31483	-.433377	-32.433377	.00	.00
APR 4	53099	-.14134	.33003	-.437977	-32.437977	.00	.00
APR 9	53104	-.14216	.34475	-.442326	-32.442326	.00	.00
APR 14	53109	-.14127	.35903	-.446285	-32.446285	.00	.00
APR 19	53114	-.13908	.37297	-.449879	-32.449879	.00	.00
APR 24	53119	-.13569	.38660	-.453159	-32.453159	.00	.00
APR 29	53124	-.13122	.39986	-.456104	-32.456104	.00	.00
MAY 4	53129	-.12573	.41272	-.458714	-32.458714	.00	.00
MAY 9	53134	-.11929	.42510	-.460972	-32.460972	.00	.00
MAY 14	53139	-.11196	.43693	-.462841	-32.462841	.00	.00
MAY 19	53144	-.10378	.44814	-.464329	-32.464329	.00	.00
MAY 24	53149	-.09483	.45868	-.465412	-32.465412	.00	.00

MAY 29 53154 -.08516 .46849 -.466099 -32.466099 .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"
FEB 4	53039	-.05120	.18897	-.404451	.695	-.266	.09	-.06
FEB 5	53040	-.05416	.18978	-.404202	1.155	-.183	.12	-.09
FEB 6	53041	-.05664	.19071	-.404117	1.467	.011	.11	-.25
FEB 7	53042	-.05878	.19197	-.404239	1.572	.258	.04	-.37
FEB 8	53043	-.06061	.19354	-.404635	1.445	.534	-.03	-.36
FEB 9	53044	-.06254	.19533	-.405294	1.103	.757	-.06	-.22
FEB 10	53045	-.06488	.19714	-.406121	.612	.889	-.07	-.03
FEB 11	53046	-.06765	.19907	-.407035	.068	.939	-.05	.08
FEB 12	53047	-.07072	.20089	-.407962	-.413	.875	-.03	.08
FEB 13	53048	-.07376	.20261	-.408757	-.731	.711	.01	.00
FEB 14	53049	-.07674	.20444	-.409372	-.821	.493	.03	-.06
FEB 15	53050	-.07946	.20620	-.409750	-.675	.250	.03	-.07
FEB 16	53051	-.08151	.20807	-.409901	-.349	.082	.00	-.07
FEB 17	53052	-.08287	.21005	-.409955	.050	.067	-.01	-.09
FEB 18	53053	-.08421	.21227	-.410077	.395	.177	.02	-.21
FEB 19	53054	-.08657	.21486	-.410338	.578	.365	.02	-.29
FEB 20	53055	-.08984	.21722	-.410815	.540	.631	-.03	-.26
FEB 21	53056	-.09301	.21950	-.411585	.291	.865	-.10	-.20
FEB 22	53057	-.09564	.22197	-.412516	-.101	.991	-.15	-.15
FEB 23	53058	-.09791	.22427	-.413532	-.543	1.056	-.15	-.14
FEB 24	53059	-.09981	.22638	-.414599	-.937	1.044	-.07	-.15
FEB 25	53060	-.10126	.22861	-.415598	-1.206	.896	.02	-.15
FEB 26	53061	-.10248	.23094	-.416379	-1.301	.685	.12	-.15
FEB 27	53062	-.10390	.23339	-.416968	-1.205	.502	.17	-.23
FEB 28	53063	-.10597	.23580	-.417389	-.927	.284	.17	-.33
FEB 29	53064	-.10833	.23783	-.417552	-.500	.038	.13	-.37
MAR 1	53065	-.11048	.23982	-.417486	.023	-.121	.06	-.28
MAR 2	53066	-.11228	.24203	-.417334	.572	-.148	.01	-.09
MAR 3	53067	-.11387	.24417	-.417217	1.071	-.083	.00	.01
MAR 4	53068	-.11545	.24634	-.417194	1.441	.053	.06	-.04
MAR 5	53069	-.11724	.24881	-.417344	1.613	.258	.12	-.19
MAR 6	53070	-.11892	.25142	-.417719	1.542	.487	.15	-.30
MAR 7	53071	-.12026	.25403	-.418311	1.226	.732	.12	-.30
MAR 8	53072	-.12151	.25616	-.419156	.718	.923	.05	-.20
MAR 9	53073	-.12229	.25800	-.420116	.120	.957	.00	-.05
MAR 10	53074	-.12292	.26000	-.421026	-.440	.840	-.06	-.02
MAR 11	53075	-.12370	.26208	-.421761	-.838	.596	-.10	-.07
MAR 12	53076	-.12439	.26406	-.422201	-.996	.346	-.13	-.18
MAR 13	53077	-.12515	.26617	-.422458	-.896	.179	-.10	-.19
MAR 14	53078	-.12596	.26847	-.422586	-.588	.015	-.02	-.12
MAR 15	53079	-.12683	.27060	-.422527	-.173	-.086	.08	-.03
MAR 16	53080	-.12801	.27274	-.422454	.227	.006	.17	.04
MAR 17	53081	-.12915	.27479	-.422572	.498	.221	.13	.00
MAR 18	53082	-.12998	.27703	-.422912	.567	.462	.03	-.06
MAR 19	53083	-.13107	.27953	-.423491	.418	.741	-.09	-.10
MAR 20	53084	-.13164	.28183	-.424371	.091	1.033	-.16	-.08
MAR 21	53085	-.13178	.28464	-.425524	-.332	1.150	-.20	-.04
MAR 22	53086	-.13185	.28786	-.426638	-.751	1.113	-.21	-.03
MAR 23	53087	-.13183	.29124	-.427724	-1.078	1.103	-.14	-.06
MAR 24	53088	-.13201	.29490	-.428828	-1.247	1.049	.00	.00
MAR 25	53089	-.13288	.29840	-.429815	-1.223	.902	.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"	0.001"	0.0001s	0.001"	0.001"	0.001"
FEB 4	53039	-.05119	.18896	-.404460	.081	-.044	.01	.02	.02	.02	.02
FEB 9	53044	-.06253	.19533	-.405293	-.067	-.212	.02	.02	.03	.03	.03
FEB 14	53049	-.07674	.20444	-.409373	.055	-.076	.02	.02	.04	.04	.04
FEB 19	53054	-.08659	.21486	-.410337	.021	-.276	.02	.02	.02	.02	.02
FEB 24	53059	-.09981	.22638	-.414602	-.096	-.148	.02	.02	.02	.04	.04
FEB 29	53064	-.10833	.23783	-.417553	.113	-.364	.02	.02	.02	.02	.02
MAR 5	53069	-.11725	.24880	-.417343	.110	-.241	.01	.01	.03	.04	.04
MAR 10	53074	-.12291	.25999	-.421027	-.051	.015	.01	.02	.02	.02	.02
MAR 15	53079	-.12684	.27061	-.422527	.093	-.024	.01	.01	.02	.02	.03
MAR 20	53084	-.13163	.28182	-.424373	-.171	-.085	.02	.03	.05	.08	.09
MAR 25	53089	-.13289	.29840	-.429816	-	-	.02	.03	.03	-	-

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)		
FEB 4	53039	.00025	72.921	15126
FEB 9	53044	.00033		15119
FEB 14	53049	.00053		15102
FEB 19	53054	.00045		15109
FEB 24	53059	.00071		15087
FEB 29	53064	.00053		15102
MAR 5	53069	.00032		15120

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 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		Mean formal uncertainty						
Periods covered		Weighted RMS agreement with Bulletin B						
		x	y	UT	D	dX	dY	Data Number
VLBI								
EOP(AUS)	1 R 01	.30	.35	.18	-	-	-	14
	53041.27 to 53087.21	.19	.20	.09	-	-	-	

EOP(BKG) 3 R 04	.10	.09	.04	-	-	-	12
53041.27 to 53080.20	.27	.17	.04	-	-	-	
EOP(BKG) 3 R 02	-	-	.17	-	-	-	31
53039.79 to 53087.79	-	-	.16	-	-	-	
EOP(GSFC) 3 R 06	.08	.07	.03	-	-	-	15
53041.27 to 53087.21	.28	.14	.03	-	-	-	
EOP(GSFC) 3 R 05	-	-	.16	-	-	-	31
53039.79 to 53087.79	-	-	.24	-	-	-	
EOP(IAA) 3 R 04	.07	.07	.03	-	.12	.05	14
53041.27 to 53087.21	.21	.15	.04	-	.13	.05	
EOP(IAA) 3 R 03	-	-	.14	-	-	-	31
53039.79 to 53087.79	-	-	.15	-	-	-	
EOP(SPBU) 3 R 03	.31	.36	.19	-	-	-	12
53045.21 to 53083.27	.15	.23	.08	-	-	-	
EOP(SPBU) 2 R 01	-	-	.15	-	-	-	25
53039.79 to 53087.79	-	-	.15	-	-	-	
EOP(MAO) 3 R 01	.10	.09	.04	-	.16	.07	13
53041.26 to 53083.28	.33	.18	.05	-	.16	.08	
EOP(USNO) 3 R 04	.09	.08	.04	-	-	-	14
53041.27 to 53087.21	.18	.09	.05	-	-	-	
EOP(IVS) 0 R 01	.05	.05	.02	-	-	-	14
53041.00 to 53087.00	.21	.11	.05	-	-	-	
GPS							
EOP(CODE) 98 P 01	.01	.01	-	.27	-	-	50
53039.50 to 53088.50	.06	.06	-	.30	-	-	
EOP(EMR) 96 P 03	.03	.03	-	.04	-	-	50
53039.50 to 53088.50	.06	.09	-	.36	-	-	
EOP(ESOC) 96 P 01	.01	.02	-	.03	-	-	47
53039.50 to 53085.50	.20	.07	-	.40	-	-	
EOP(GFZ) 96 P 02	.01	.01	-	.01	-	-	50
53039.50 to 53088.50	.09	.08	-	.37	-	-	
EOP(IAA) 1 P 01	.02	.03	-	.06	-	-	50
53039.50 to 53088.50	.11	.15	-	.37	-	-	
EOP(JPL) 96 P 03	.02	.03	-	.14	-	-	50
53039.50 to 53088.50	.04	.06	-	.72	-	-	
EOP(NOAA) 96 P 01	.01	.01	-	.02	-	-	50
53039.50 to 53088.50	.22	.37	-	.60	-	-	
EOP(SIO) 96 P 01	.05	.05	-	.13	-	-	50
53039.50 to 53088.50	.07	.07	-	.29	-	-	
EOP(IGS F)95 P 02	.01	.03	.08	.05	-	-	39
53039.50 to 53077.50	.03	.07	.25	.26	-	-	
EOP(IGS R)96 P 02	.03	.04	.23	.06	-	-	50
53039.50 to 53088.50	.07	.06	.93	.25	-	-	
EOP(IERS) 97 P 01	.03	.04	.24	.17	-	-	50
53039.50 to 53088.50	.02	.02	.43	.18	-	-	
SLR							
EOP(ASI) 3 L 02	.08	.08	-	.19	-	-	50
53039.50 to 53088.50	.25	.28	-	.88	-	-	
EOP(CSR) 95 L 01	.23	.27	.18	-	-	-	8
53040.05 to 53059.74	.55	.62	1.43	-	-	-	
EOP(DUT) 98 L 01	.11	.12	-	-	-	-	25
53039.00 to 53063.00	.26	.33	-	-	-	-	
EOP(IAA) 2 L 01	.04	.05	.03	.03	-	-	51
53039.00 to 53089.00	.15	.13	.30	.17	-	-	
EOP(MCC) 97 L 01	.05	.06	-	.10	-	-	44
53039.00 to 53089.00	.14	.25	-	.63	-	-	

Bulletin A

EOP(NEOS) 97 C 01

53039.00 to 53089.00

.07	.07	.07	-	-	-
.08	.05	.23	-	-	-