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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	MJD	x	y	UT1R-UTC	UT1R-TAI	dX	dY
		"	"	s	s	0.001"	0.001"
2004/05							
(0h UTC)							

Final Bulletin B values.

DEC 5	53344	0.19057	0.28426	-0.491303	-32.491303	0.16	-0.49
DEC 10	53349	0.18234	0.27436	-0.494165	-32.494165	0.46	-0.59
DEC 15	53354	0.17323	0.26419	-0.497056	-32.497056	0.16	-0.51
DEC 20	53359	0.16757	0.25580	-0.499855	-32.499855	0.03	-0.53
DEC 25	53364	0.15980	0.24720	-0.502373	-32.502373	0.11	0.00
DEC 30	53369	0.15116	0.24079	-0.504411	-32.504411	0.12	-0.48
JAN 4	53374	0.14846	0.23466	-0.506278	-32.506278	0.00	-0.55

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

JAN 9	53379	0.14188	0.22671	-0.508403	-32.508403	0.34	-0.19
JAN 14	53384	0.13196	0.22086	-0.511369	-32.511369	0.14	-0.45
JAN 19	53389	0.12412	0.21551	-0.514585	-32.514585	0.02	-0.34
JAN 24	53394	0.11238	0.21137	-0.517951	-32.517951	0.00	0.00
JAN 29	53399	0.10060	0.20881	-0.519965	-32.519965	0.00	0.00
FEB 3	53404	0.08796	0.20846	-0.521828	-32.521828	0.00	0.00
FEB 8	53409	0.07733	0.20837	-0.523933	-32.523933	0.00	0.00
FEB 13	53414	0.06679	0.20890	-0.526115	-32.526115	0.00	0.00
FEB 18	53419	0.05632	0.21026	-0.528404	-32.528404	0.00	0.00
FEB 23	53424	0.04593	0.21242	-0.530838	-32.530838	0.00	0.00
FEB 28	53429	0.03563	0.21539	-0.533424	-32.533424	0.00	0.00
MAR 5	53434	0.02551	0.21912	-0.536186	-32.536186	0.00	0.00
MAR 10	53439	0.01560	0.22359	-0.539116	-32.539116	0.00	0.00
MAR 15	53444	0.00594	0.22877	-0.542221	-32.542221	0.00	0.00
MAR 20	53449	-0.00342	0.23462	-0.545479	-32.545479	0.00	0.00
MAR 25	53454	-0.01243	0.24109	-0.548851	-32.548851	0.00	0.00

MAR 30 53459 -0.02107 0.24815 -0.552338 -32.552338 0.00 0.00

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 2003 IERS Annual Report.

2004/05	MJD	x	y	UT1-UTC	UT1-UT1R	D	dX	dY
(0 h UTC)	"	"	s	ms	ms	0.001"	0.001"	
DEC 5	53344	0.19057	0.28426	-0.489799	1.504	0.770	0.16	-0.49
DEC 6	53345	0.18894	0.28248	-0.490745	1.176	0.955	0.26	-0.52
DEC 7	53346	0.18732	0.28024	-0.491721	0.713	1.056	0.39	-0.42
DEC 8	53347	0.18644	0.27820	-0.492824	0.200	1.098	0.48	-0.37
DEC 9	53348	0.18412	0.27692	-0.493878	-0.251	0.952	0.48	-0.48
DEC 10	53349	0.18234	0.27436	-0.494695	-0.530	0.727	0.46	-0.59
DEC 11	53350	0.18027	0.27253	-0.495320	-0.566	0.502	0.45	-0.48
DEC 12	53351	0.17857	0.27046	-0.495716	-0.364	0.269	0.36	-0.22
DEC 13	53352	0.17658	0.26850	-0.495899	-0.014	0.161	0.22	-0.13
DEC 14	53353	0.17487	0.26636	-0.496090	0.342	0.278	0.12	-0.31
DEC 15	53354	0.17323	0.26419	-0.496497	0.558	0.493	0.16	-0.51
DEC 16	53355	0.17192	0.26208	-0.497094	0.543	0.710	0.25	-0.51
DEC 17	53356	0.17030	0.26039	-0.497908	0.285	0.922	0.26	-0.40
DEC 18	53357	0.16939	0.25870	-0.498908	-0.156	1.054	0.17	-0.40
DEC 19	53358	0.16868	0.25721	-0.499979	-0.676	1.072	0.07	-0.51
DEC 20	53359	0.16757	0.25580	-0.501016	-1.161	0.996	0.03	-0.53
DEC 21	53360	0.16595	0.25386	-0.501945	-1.521	0.780	0.04	-0.40
DEC 22	53361	0.16465	0.25208	-0.502563	-1.696	0.567	0.11	-0.21
DEC 23	53362	0.16302	0.25002	-0.503076	-1.659	0.393	0.18	-0.10
DEC 24	53363	0.16165	0.24854	-0.503355	-1.418	0.143	0.17	-0.06
DEC 25	53364	0.15980	0.24720	-0.503376	-1.003	-.051	0.11	0.00
DEC 26	53365	0.15842	0.24626	-0.503274	-0.470	-.135	0.06	0.05
DEC 27	53366	0.15638	0.24552	-0.503132	0.111	-.149	0.06	-0.02
DEC 28	53367	0.15454	0.24363	-0.503001	0.666	-.096	0.08	-0.21
DEC 29	53368	0.15304	0.24223	-0.502962	1.125	-.019	0.11	-0.40
DEC 30	53369	0.15116	0.24079	-0.502979	1.432	0.112	0.12	-0.48
DEC 31	53370	0.15014	0.23904	-0.503192	1.555	0.337	0.09	-0.51
JAN 1	53371	0.14924	0.23787	-0.503652	1.487	0.552	0.03	-0.60
JAN 2	53372	0.14877	0.23671	-0.504286	1.245	0.692	-0.02	-0.74
JAN 3	53373	0.14879	0.23565	-0.505018	0.870	0.794	-0.03	-0.75
JAN 4	53374	0.14846	0.23466	-0.505848	0.429	0.878	0.00	-0.55
JAN 5	53375	0.14803	0.23313	-0.506741	0.013	0.791	0.01	-0.31
JAN 6	53376	0.14693	0.23164	-0.507398	-0.282	0.575	0.00	-0.27
JAN 7	53377	0.14511	0.22976	-0.507871	-0.374	0.388	0.06	-0.38
JAN 8	53378	0.14353	0.22780	-0.508176	-0.237	0.212	0.23	-0.37
JAN 9	53379	0.14188	0.22671	-0.508325	0.078	0.160	0.34	-0.19
JAN 10	53380	0.13997	0.22544	-0.508546	0.450	0.204	0.27	-0.12
JAN 11	53381	0.13736	0.22432	-0.508784	0.724	0.381	0.13	-0.36
JAN 12	53382	0.13535	0.22300	-0.509341	0.775	0.707	0.07	-0.67
JAN 13	53383	0.13360	0.22182	-0.510199	0.549	0.984	0.10	-0.70
JAN 14	53384	0.13196	0.22086	-0.511282	0.087	1.148	0.14	-0.45
JAN 15	53385	0.13006	0.21962	-0.512451	-0.503	1.226	0.13	-0.32
JAN 16	53386	0.12871	0.21837	-0.513689	-1.085	1.175	0.12	-0.36
JAN 17	53387	0.12740	0.21724	-0.514768	-1.543	1.014	0.11	-0.40
JAN 18	53388	0.12585	0.21618	-0.515701	-1.800	0.824	0.08	-0.35
JAN 19	53389	0.12412	0.21551	-0.516413	-1.828	0.594	0.02	-0.34
JAN 20	53390	0.12163	0.21515	-0.516896	-1.633	0.401	0.00	0.00
JAN 21	53391	0.11932	0.21382	-0.517230	-1.252	0.254	0.00	0.00
JAN 22	53392	0.11712	0.21321	-0.517424	-0.738	0.124	0.00	0.00
JAN 23	53393	0.11474	0.21221	-0.517501	-0.160	0.047	0.00	0.00
JAN 24	53394	0.11238	0.21137	-0.517543	0.409	0.028	0.00	0.00
JAN 25	53395	0.11001	0.21048	-0.517579	0.894	0.019	0.00	0.00
JAN 26	53396	0.10759	0.20962	-0.517597	1.237	0.149	0.00	0.00
JAN 27	53397	0.10542	0.20913	-0.517747	1.400	0.429	0.00	0.00

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

		Raw normal values					Uncertainties				
2004/05	MJD	x	y	UT1-UTC	dX	dY	x	y	UT1	dX	dY
(0 h UTC)		"	"	s	0.001"		0.001"	0.0001s	0.001"		
DEC 5	53344	0.19059	0.28429	-0.489836	0.196	-.493	0.02	0.02	0.02	0.03	0.03
DEC 10	53349	0.18233	0.27437	-0.494696	0.463	-.598	0.02	0.02	0.02	0.10	0.09
DEC 15	53354	0.17324	0.26419	-0.496497	0.167	-.508	0.01	0.01	0.01	0.02	0.02
DEC 20	53359	0.16757	0.25580	-0.501017	0.003	-.579	0.01	0.02	0.01	0.03	0.04
DEC 25	53364	0.15980	0.24720	-0.503375	0.115	0.053	0.01	0.01	0.03	0.04	0.04
DEC 30	53369	0.15119	0.24079	-0.502979	0.115	-.477	0.02	0.02	0.02	0.03	0.03
JAN 4	53374	0.14846	0.23466	-0.505847	0.008	-.563	0.01	0.02	0.02	0.03	0.03
JAN 9	53379	0.14189	0.22673	-0.508325	0.347	-.171	0.01	0.02	0.02	0.02	0.02
JAN 14	53384	0.13196	0.22087	-0.511282	0.145	-.432	0.01	0.01	0.02	0.04	0.04
JAN 19	53389	0.12412	0.21550	-0.516415	0.020	-.344	0.02	0.02	0.03	0.03	0.03
JAN 24	53394	0.11239	0.21138	-0.517544	-	-	0.02	0.02	0.04	-	-

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	
2004/05	MJD	s	(microrad/s)	
DEC 5	53344	0.00054	72.921	15102
DEC 10	53349	0.00057		15099
DEC 15	53354	0.00061		15095
DEC 20	53359	0.00057		15099
DEC 25	53364	0.00044		15110
DEC 30	53369	0.00034		15118
JAN 4	53374	0.00044		15110

5 - INFORMATION ON TIME SCALES

No leap second was introduced in UTC on 31 December 2004.
No leap second will be introduced in UTC on 30 June 2005.
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 Periods covered	Mean formal uncertainty Weighted RMS agreement with Bulletin B						
	x	y	UT	D	dX	dY	Data Number
VLBI							

EOP(AUS) 1 R 1	0.10	0.09	0.04	-	-	-	11
53346.23 to 53384.27	0.33	0.16	0.07	-	-	-	
EOP(BKG) 3 R 4	0.11	0.10	0.04	-	-	-	13
53346.23 to 53389.21	0.22	0.21	0.07	-	-	-	
EOP(BKG) 3 R 2	-	-	0.11	-	-	-	36
53344.33 to 53394.79	-	-	0.11	-	-	-	
EOP(GSFC) 4 R 2	0.09	0.08	0.03	-	-	-	9
53346.23 to 53374.20	0.11	0.06	0.10	-	-	-	
EOP(GSFC) 4 R 1	-	-	0.13	-	-	-	31
53344.33 to 53386.33	-	-	0.12	-	-	-	
EOP(IAA) 3 R 4	0.13	0.10	0.05	-	0.17	0.06	13
53346.23 to 53389.21	0.16	0.15	0.06	-	0.09	0.04	
EOP(IAA) 3 R 3	-	-	0.13	-	-	-	35
53344.33 to 53394.79	-	-	0.11	-	-	-	
EOP(SPBU) 3 R 3	0.32	0.35	0.19	-	-	-	11
53346.23 to 53381.21	0.08	0.16	0.08	-	-	-	
EOP(SPBU) 2 R 1	-	-	0.14	-	-	-	22
53346.79 to 53384.81	-	-	0.13	-	-	-	
EOP(MAO) 3 R 1	0.10	0.09	0.04	-	0.17	0.06	12
53346.22 to 53384.30	0.38	0.26	0.10	-	0.40	0.10	
EOP(USNO) 4 R 1	0.09	0.08	0.03	-	-	-	13
53346.23 to 53389.21	0.14	0.09	0.06	-	-	-	
EOP(IVS) 0 R 1	0.08	0.07	0.03	-	-	-	9
53346.00 to 53374.00	0.24	0.06	0.09	-	-	-	
GPS							
EOP(CODE) 98 P 1	0.02	0.02	-	0.14	-	-	53
53344.50 to 53396.50	0.04	0.09	-	0.20	-	-	
EOP(EMR) 96 P 3	0.03	0.03	-	0.04	-	-	53
53344.50 to 53396.50	0.05	0.17	-	0.35	-	-	
EOP(ESOC) 96 P 1	0.03	0.03	-	0.53	-	-	52
53344.50 to 53395.50	0.07	0.13	-	0.42	-	-	
EOP(GFZ) 96 P 2	0.01	0.01	-	0.01	-	-	53
53344.50 to 53396.50	0.06	0.04	-	0.29	-	-	
EOP(IAA) 1 P 1	0.03	0.03	-	0.06	-	-	51
53344.50 to 53394.50	0.14	0.44	-	0.35	-	-	
EOP(JPL) 96 P 3	0.02	0.02	-	0.10	-	-	53
53344.50 to 53396.50	0.19	0.04	-	0.17	-	-	
EOP(NOAA) 96 P 1	0.01	0.01	-	0.02	-	-	47
53344.50 to 53390.50	0.09	0.11	-	0.18	-	-	
EOP(SIO) 96 P 1	0.05	0.05	-	0.11	-	-	53
53344.50 to 53396.50	0.07	0.06	-	0.21	-	-	
EOP(IGS F)95 P 2	0.02	0.03	0.09	0.05	-	-	42
53344.50 to 53385.50	0.06	0.11	0.16	0.17	-	-	
EOP(IGS R)96 P 2	0.04	0.04	0.17	0.06	-	-	53
53344.50 to 53396.50	0.10	0.11	0.67	0.17	-	-	
EOP(IERS) 97 P 1	0.04	0.04	0.18	0.12	-	-	53
53344.50 to 53396.50	0.02	0.02	0.42	0.17	-	-	
SLR							
EOP(ASI) 3 L 2	0.09	0.11	-	0.26	-	-	52
53344.50 to 53395.50	0.24	0.31	-	1.24	-	-	
EOP(ILRS) 5 L 1	0.12	0.13	-	0.27	-	-	49
53344.50 to 53392.50	0.20	0.27	-	0.77	-	-	
EOP(CSR) 95 L 1	0.37	0.37	0.31	-	-	-	8
53346.07 to 53367.10	0.45	0.20	0.58	-	-	-	
EOP(DUT) 98 L 1	0.12	0.13	-	-	-	-	54
53344.00 to 53397.00	0.44	0.35	-	-	-	-	

EOP(IAA) 2 L 1	0.04	0.04	0.02	0.02	-	-	54
53344.00 to 53397.00	0.26	0.20	0.34	0.22	-	-	
EOP(MCC) 97 L 1	0.06	0.07	-	0.10	-	-	47
53344.00 to 53390.00	0.20	0.22	-	0.57	-	-	
Bulletin A							
EOP(NEOS) 97 C 1	0.07	0.07	0.07	-	-	-	54
53344.00 to 53397.00	0.10	0.11	0.40	-	-	-	