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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	MJD	x	y	UT1R-UTC	UT1R-TAI	dX	dY
2004/2005		"	"	s	s	0.001"	0.001"
(0h UTC)							

Final Bulletin B values.

NOV 5	53314	.20773	.35209	-.471908	-32.471908	.21	-.21
NOV 10	53319	.20802	.34085	-.475218	-32.475218	.29	-.39
NOV 15	53324	.20773	.32934	-.479006	-32.479006	.19	.03
NOV 20	53329	.20597	.31776	-.482559	-32.482559	.23	-.37
NOV 25	53334	.20181	.30663	-.485802	-32.485802	.35	-.16
NOV 30	53339	.19859	.29566	-.488745	-32.488745	.27	-.06
DEC 5	53344	.19057	.28426	-.491303	-32.491303	.16	-.49

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

DEC 10	53349	.18236	.27441	-.494169	-32.494169	.63	-.61
DEC 15	53354	.17322	.26425	-.497042	-32.497042	.17	-.58
DEC 20	53359	.16761	.25580	-.499873	-32.499873	.00	.00
DEC 25	53364	.15981	.24718	-.502398	-32.502398	.00	.00
DEC 30	53369	.15107	.24091	-.504425	-32.504425	.00	.00
JAN 4	53374	.14819	.23481	-.506363	-32.506363	.00	.00
JAN 9	53379	.13973	.22872	-.508106	-32.508106	.00	.00
JAN 14	53384	.13015	.22339	-.509769	-32.509769	.00	.00
JAN 19	53389	.12005	.21880	-.511402	-32.511402	.00	.00
JAN 24	53394	.10963	.21496	-.513035	-32.513035	.00	.00
JAN 29	53399	.09898	.21188	-.514744	-32.514744	.00	.00
FEB 3	53404	.08817	.20957	-.516529	-32.516529	.00	.00
FEB 8	53409	.07726	.20803	-.518436	-32.518436	.00	.00
FEB 13	53414	.06630	.20726	-.520512	-32.520512	.00	.00
FEB 18	53419	.05537	.20726	-.522770	-32.522770	.00	.00
FEB 23	53424	.04449	.20801	-.525211	-32.525211	.00	.00

FEB 28 53429 .03374 .20950 -.527866 -32.527866 .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.

IERS, B 203 (2)

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		MJD	x	y	UT1-UTC	UT1-UT1R	D	dX	dY
(0 h UTC)			"	"	s	ms	ms	0.001"	0.001"
NOV	5	53314	.20773	.35209	-.470467	1.442	.274	.21	-.21
NOV	6	53315	.20799	.34933	-.470860	1.624	.524	.13	-.20
NOV	7	53316	.20799	.34674	-.471521	1.592	.781	.07	-.28
NOV	8	53317	.20813	.34443	-.472417	1.342	1.029	.10	-.37
NOV	9	53318	.20817	.34272	-.473562	.906	1.236	.20	-.40
NOV	10	53319	.20802	.34085	-.474857	.360	1.325	.29	-.39
NOV	11	53320	.20818	.33900	-.476169	-.183	1.267	.31	-.37
NOV	12	53321	.20776	.33645	-.477350	-.598	1.105	.29	-.26
NOV	13	53322	.20815	.33436	-.478354	-.782	.879	.25	-.06
NOV	14	53323	.20795	.33175	-.479110	-.702	.513	.21	.10
NOV	15	53324	.20773	.32934	-.479410	-.404	.335	.19	.03
NOV	16	53325	.20749	.32657	-.479826	-.005	.371	.20	-.21
NOV	17	53326	.20733	.32442	-.480198	.352	.410	.27	-.42
NOV	18	53327	.20698	.32184	-.480678	.545	.588	.32	-.46
NOV	19	53328	.20682	.31977	-.481383	.511	.820	.32	-.40
NOV	20	53329	.20597	.31776	-.482305	.254	1.024	.23	-.37
NOV	21	53330	.20591	.31523	-.483403	-.163	1.130	.13	-.37
NOV	22	53331	.20499	.31322	-.484532	-.647	1.134	.10	-.34
NOV	23	53332	.20434	.31111	-.485639	-1.095	1.057	.16	-.28
NOV	24	53333	.20320	.30883	-.486621	-1.420	.869	.28	-.23
NOV	25	53334	.20181	.30663	-.487362	-1.560	.641	.35	-.16
NOV	26	53335	.20072	.30419	-.487899	-1.487	.440	.34	-.01
NOV	27	53336	.19983	.30185	-.488249	-1.209	.259	.31	.17
NOV	28	53337	.19966	.29968	-.488435	-.765	.103	.30	.27
NOV	29	53338	.19919	.29780	-.488479	-.214	-.041	.29	.18
NOV	30	53339	.19859	.29566	-.488378	.367	-.113	.27	-.06
DEC	1	53340	.19742	.29340	-.488278	.903	-.033	.27	-.28
DEC	2	53341	.19604	.29106	-.488332	1.326	.223	.27	-.36
DEC	3	53342	.19395	.28869	-.488738	1.584	.419	.26	-.36
DEC	4	53343	.19226	.28629	-.489176	1.646	.531	.19	-.41
DEC	5	53344	.19057	.28426	-.489799	1.504	.770	.16	-.49
DEC	6	53345	.18896	.28254	-.490706	1.176	.976	.22	-.49
DEC	7	53346	.18733	.28023	-.491729	.713	1.072	.38	-.38
DEC	8	53347	.18656	.27824	-.492815	.200	1.093	.52	-.34
DEC	9	53348	.18421	.27688	-.493875	-.251	.959	.59	-.46
DEC	10	53349	.18236	.27441	-.494699	-.530	.728	.63	-.61
DEC	11	53350	.18027	.27250	-.495318	-.566	.496	.62	-.52
DEC	12	53351	.17859	.27053	-.495707	-.364	.277	.52	-.26
DEC	13	53352	.17658	.26841	-.495914	-.014	.176	.32	-.16
DEC	14	53353	.17486	.26645	-.496111	.342	.264	.16	-.34
DEC	15	53354	.17322	.26425	-.496484	.558	.483	.17	-.58
DEC	16	53355	.17192	.26214	-.497095	.543	.717	.24	-.60
DEC	17	53356	.17031	.26034	-.497908	.285	.922	.25	-.44
DEC	18	53357	.16942	.25874	-.498908	-.156	1.058	.00	.00
DEC	19	53358	.16868	.25719	-.499985	-.676	1.081	.00	.00
DEC	20	53359	.16761	.25580	-.501034	-1.161	.985	.00	.00
DEC	21	53360	.16590	.25388	-.501929	-1.521	.774	.00	.00
DEC	22	53361	.16464	.25209	-.502567	-1.696	.571	.00	.00
DEC	23	53362	.16303	.25005	-.503068	-1.659	.389	.00	.00
DEC	24	53363	.16161	.24857	-.503352	-1.418	.159	.00	.00
DEC	25	53364	.15981	.24718	-.503401	-1.003	-.020	.00	.00
DEC	26	53365	.15832	.24622	-.503333	-.470	-.168	.00	.00
DEC	27	53366	.15640	.24556	-.503209	.111	-.147	.00	.00
DEC	28	53367	.15440	.24368	-.503065	.666	-.132	.00	.00
DEC	29	53368	.15295	.24225	-.502967	1.125	-.046	.00	.00

DEC 30 53369 .15107 .24091 -.502993 1.432 .147 .00 .00  
 IERS, B 203 (3)

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"
NOV 5	53314	.20781	.35212	-.470466	.232	-.217	.01	.01	.01	.03	.04
NOV 10	53319	.20801	.34086	-.474857	.243	-.394	.01	.01	.01	.03	.03
NOV 15	53324	.20775	.32934	-.479412	.249	-.027	.02	.01	.02	.05	.05
NOV 20	53329	.20594	.31777	-.482304	.180	-.307	.01	.01	.02	.04	.04
NOV 25	53334	.20181	.30663	-.487363	.353	-.231	.01	.01	.04	.04	.04
NOV 30	53339	.19860	.29566	-.488372	.245	-.065	.02	.02	.04	.05	.05
DEC 5	53344	.19060	.28425	-.489801	.156	-.483	.02	.02	.03	.03	.03
DEC 10	53349	.18233	.27442	-.494699	.503	-.598	.02	.02	.02	.11	.10
DEC 15	53354	.17322	.26424	-.496483	.171	-.578	.01	.01	.01	.03	.03
DEC 20	53359	.16761	.25580	-.501034	-	-	.01	.01	.02	-	-
DEC 25	53364	.15981	.24718	-.503401	-	-	.01	.02	.05	-	-
DEC 30	53369	.15108	.24090	-.502989	-	-	.02	.02	.05	-	-

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)
NOV 5 53314	.00056	72.921 15099
NOV 10 53319	.00076	15082
NOV 15 53324	.00071	15087
NOV 20 53329	.00068	15089
NOV 25 53334	.00061	15095
NOV 30 53339	.00046	15108
DEC 5 53344	.00054	15102

5 - INFORMATION ON TIME SCALES

No leap second was introduced in UTC on 31 December 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](http://hpiers.obspm.fr) or 145.238.100.28

IERS, B 203 (4)

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.

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EOP series	Mean formal uncertainty
Periods covered	Weighted RMS agreement with Bulletin B

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	x	y	UT	D	dX	dY	Data Number
VLBI							
EOP(AUS) 1 R 01	.17	.15	.07	-	-	-	11
53314.27 to 53349.27	.36	.22	.04	-	-	-	
EOP(BKG) 3 R 04	.17	.15	.06	-	-	-	11
53314.27 to 53349.27	.25	.28	.07	-	-	-	
EOP(BKG) 3 R 02	-	-	.10	-	-	-	41
53314.81 to 53362.81	-	-	.13	-	-	-	
EOP(GSFC) 4 R 02	.10	.09	.04	-	-	-	13
53314.27 to 53356.27	.11	.12	.04	-	-	-	
EOP(GSFC) 4 R 01	-	-	.12	-	-	-	37
53314.81 to 53368.79	-	-	.13	-	-	-	
EOP(IAA) 3 R 04	.24	.17	.08	-	.29	.11	11
53314.27 to 53349.27	.23	.13	.05	-	.18	.12	
EOP(IAA) 3 R 03	-	-	.13	-	-	-	42
53314.81 to 53362.81	-	-	.14	-	-	-	
EOP(SPBU) 3 R 03	.37	.41	.22	-	-	-	10
53314.27 to 53349.27	.19	.11	.13	-	-	-	
EOP(SPBU) 2 R 01	-	-	.13	-	-	-	25
53317.79 to 53356.81	-	-	.16	-	-	-	
EOP(MAO) 3 R 01	.12	.11	.05	-	.19	.07	13
53314.28 to 53356.28	.52	.27	.10	-	.40	.14	
EOP(USNO) 4 R 01	.11	.11	.05	-	-	-	13
53314.27 to 53356.27	.15	.11	.08	-	-	-	
EOP(IVS) 0 R 01	.06	.06	.03	-	-	-	1
53314.00 to 53314.00	.02	.09	.02	-	-	-	
GPS							
EOP(CODE) 98 P 01	.03	.03	-	.07	-	-	55
53314.50 to 53368.50	.04	.07	-	.30	-	-	
EOP(EMR) 96 P 03	.03	.03	-	.04	-	-	55
53314.50 to 53368.50	.08	.14	-	.38	-	-	
EOP(ESOC) 96 P 01	.05	.04	-	1.51	-	-	55
53314.50 to 53368.50	.09	.10	-	.36	-	-	
EOP(GFZ) 96 P 02	.01	.01	-	.01	-	-	55
53314.50 to 53368.50	.05	.05	-	.27	-	-	
EOP(IAA) 1 P 01	.03	.03	-	.06	-	-	51
53314.50 to 53364.50	.17	.34	-	.56	-	-	
EOP(JPL) 96 P 03	.02	.02	-	.11	-	-	55
53314.50 to 53368.50	.05	.07	-	.36	-	-	
EOP(NOAA) 96 P 01	.01	.01	-	.02	-	-	49
53314.50 to 53362.50	.09	.10	-	.32	-	-	
EOP(SIO) 96 P 01	.05	.05	-	.11	-	-	54
53314.50 to 53367.50	.06	.09	-	.34	-	-	
EOP(IGS F)95 P 02	.02	.02	.09	.05	-	-	44
53314.50 to 53357.50	.06	.10	.22	.34	-	-	
EOP(IGS R)96 P 02	.03	.04	.16	.06	-	-	55
53314.50 to 53368.50	.12	.10	.63	.25	-	-	
EOP(IERS) 97 P 01	.04	.04	.17	.12	-	-	55
53314.50 to 53368.50	.03	.03	.32	.24	-	-	
SLR							
EOP(ASI) 3 L 02	.08	.09	-	.25	-	-	55
53314.50 to 53368.50	.27	.29	-	1.30	-	-	
EOP(CSR) 95 L 01	.38	.42	.31	-	-	-	18
53316.21 to 53367.10	.48	.23	.64	-	-	-	
EOP(DUT) 98 L 01	.12	.12	-	-	-	-	52
53316.00 to 53369.00	.34	.31	-	-	-	-	

EOP(IAA) 2 L 01	.04	.04	.03	.03	-	-	56
53314.00 to 53369.00	.19	.20	.38	.22	-	-	
EOP(MCC) 97 L 01	.06	.06	-	.10	-	-	56
53314.00 to 53369.00	.21	.17	-	.64	-	-	
Bulletin A							
EOP(NEOS) 97 C 01	.06	.07	.09	-	-	-	56
53314.00 to 53369.00	.10	.12	.30	-	-	-	