BULLETIN B 221
(IAU 2000)
4 july 2006

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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 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 as long as necessary.

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 2006 (0h UTC)		MJD	x "	y "	UT1R-UTC s	UT1R-TAI s	dX 0.001"	dY 0.001"
Final Bulletin B values.								
MAY	4	53859	0.10967	0.35802	0.233268	-32.766732	0.08	-0.38
MAY	9	53864	0.10803	0.35283	0.227233	-32.772767	0.04	-0.31
MAY	14	53869	0.10860	0.34990	0.220867	-32.779133	0.00	-0.20
MAY	19	53874	0.11137	0.34624	0.214775	-32.785225	0.12	-0.34
MAY	24	53879	0.11365	0.34337	0.210180	-32.789820	-0.02	-0.39
MAY	29	53884	0.11843	0.33794	0.205918	-32.794082	0.04	-0.01
JUN	3	53889	0.12168	0.33371	0.202762	-32.797238	0.08	-0.14
Preliminary extension, to be updated weekly in Bulletin A and monthly in Bulletin B.								
JUN	8	53894	0.12317	0.32707	0.200417	-32.799583	0.12	-0.28
JUN	13	53899	0.12448	0.31957	0.199542	-32.800458	0.08	-0.26
JUN	18	53904	0.12634	0.31434	0.199033	-32.800967	-0.04	-0.16
JUN	23	53909	0.12498	0.30928	0.197778	-32.802222	0.10	-0.17
JUN	28	53914	0.12631	0.30353	0.195578	-32.804422	0.00	0.00
JUL	3	53919	0.12906	0.29748	0.192473	-32.807527	0.00	0.00
JUL	8	53924	0.12875	0.29283	0.190552	-32.809448	0.00	0.00
JUL	13	53929	0.12773	0.28876	0.189858	-32.810142	0.00	0.00
JUL	18	53934	0.12561	0.28505	0.189842	-32.810158	0.00	0.00
JUL	23	53939	0.12276	0.28158	0.190308	-32.809692	0.00	0.00
JUL	28	53944	0.11938	0.27831	0.191078	-32.808922	0.00	0.00
AUG	2	53949	0.11559	0.27525	0.192032	-32.807968	0.00	0.00
AUG	7	53954	0.11148	0.27242	0.193039	-32.806961	0.00	0.00
AUG	12	53959	0.10705	0.26983	0.193993	-32.806007	0.00	0.00
AUG	17	53964	0.10237	0.26753	0.194809	-32.805191	0.00	0.00
AUG	22	53969	0.09746	0.26554	0.195404	-32.804596	0.00	0.00

AUG	27	53974	0.09233	0.26389	0.195724	-32.804276	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 2004 IERS Annual Report.

2006 (0 h UTC)		MJD	x "	y "	UT1-UTC s	UT1-UT1R ms	D ms	dX 0.001"	dY 0.001"
MAY	4	53859	0.10967	0.35802	0.233627	0.359	0.921	0.08	-0.38
MAY	5	53860	0.10921	0.35690	0.232631	0.627	1.040	0.11	-0.33
MAY	6	53861	0.10878	0.35561	0.231539	0.725	1.204	0.09	-0.17
MAY	7	53862	0.10862	0.35436	0.230230	0.658	1.347	0.04	-0.03
MAY	8	53863	0.10834	0.35352	0.228857	0.453	1.428	0.02	-0.08
MAY	9	53864	0.10803	0.35283	0.227392	0.159	1.496	0.04	-0.31
MAY	10	53865	0.10777	0.35219	0.225889	-0.159	1.515	0.08	-0.56
MAY	11	53866	0.10754	0.35182	0.224387	-0.432	1.482	0.08	-0.64
MAY	12	53867	0.10754	0.35150	0.222947	-0.590	1.372	0.05	-0.51
MAY	13	53868	0.10787	0.35078	0.221657	-0.580	1.230	0.02	-0.32
MAY	14	53869	0.10860	0.34990	0.220488	-0.379	1.049	0.00	-0.20
MAY	15	53870	0.10970	0.34920	0.219544	-0.004	0.864	0.01	-0.22
MAY	16	53871	0.11072	0.34865	0.218731	0.479	0.759	0.04	-0.30
MAY	17	53872	0.11109	0.34798	0.217988	0.969	0.743	0.09	-0.36
MAY	18	53873	0.11118	0.34713	0.217205	1.346	0.839	0.13	-0.37
MAY	19	53874	0.11137	0.34624	0.216280	1.505	1.024	0.12	-0.34
MAY	20	53875	0.11162	0.34551	0.215146	1.381	1.248	0.06	-0.32
MAY	21	53876	0.11193	0.34509	0.213795	0.975	1.445	-0.01	-0.31
MAY	22	53877	0.11231	0.34468	0.212289	0.353	1.568	-0.04	-0.33
MAY	23	53878	0.11293	0.34418	0.210708	-0.361	1.587	-0.04	-0.37
MAY	24	53879	0.11365	0.34337	0.209166	-1.013	1.474	-0.02	-0.39
MAY	25	53880	0.11447	0.34226	0.207798	-1.468	1.248	0.00	-0.36
MAY	26	53881	0.11523	0.34119	0.206688	-1.638	0.930	0.02	-0.28
MAY	27	53882	0.11604	0.34011	0.205930	-1.513	0.583	0.05	-0.18
MAY	28	53883	0.11720	0.33898	0.205492	-1.151	0.313	0.06	-0.07
MAY	29	53884	0.11843	0.33794	0.205265	-0.653	0.176	0.04	-0.01
MAY	30	53885	0.11940	0.33701	0.205105	-0.133	0.163	-0.01	-0.05
MAY	31	53886	0.12004	0.33626	0.204913	0.314	0.240	-0.03	-0.19
JUN	1	53887	0.12060	0.33545	0.204610	0.622	0.391	-0.01	-0.33
JUN	2	53888	0.12116	0.33466	0.204126	0.763	0.558	0.04	-0.32
JUN	3	53889	0.12168	0.33371	0.203497	0.735	0.685	0.08	-0.14
JUN	4	53890	0.12226	0.33247	0.202767	0.562	0.766	0.09	0.07
JUN	5	53891	0.12259	0.33117	0.201982	0.291	0.795	0.08	0.13
JUN	6	53892	0.12258	0.32983	0.201199	-0.022	0.761	0.10	0.02
JUN	7	53893	0.12274	0.32846	0.200482	-0.310	0.655	0.12	-0.16
JUN	8	53894	0.12317	0.32707	0.199911	-0.506	0.467	0.12	-0.28
JUN	9	53895	0.12344	0.32580	0.199564	-0.556	0.220	0.06	-0.30
JUN	10	53896	0.12347	0.32455	0.199477	-0.422	-0.045	0.03	-0.26
JUN	11	53897	0.12362	0.32303	0.199647	-0.108	-0.262	0.04	-0.23
JUN	12	53898	0.12396	0.32131	0.199976	0.339	-0.377	0.07	-0.23
JUN	13	53899	0.12448	0.31957	0.200363	0.821	-0.367	0.08	-0.26
JUN	14	53900	0.12518	0.31810	0.200668	1.217	-0.223	0.00	-0.30
JUN	15	53901	0.12571	0.31707	0.200775	1.407	0.001	-0.08	-0.30
JUN	16	53902	0.12601	0.31621	0.200653	1.320	0.313	-0.11	-0.28
JUN	17	53903	0.12620	0.31538	0.200159	0.950	0.625	-0.09	-0.23
JUN	18	53904	0.12634	0.31434	0.199396	0.362	0.816	-0.04	-0.16
JUN	19	53905	0.12640	0.31313	0.198533	-0.322	0.871	-0.01	-0.08
JUN	20	53906	0.12625	0.31200	0.197701	-0.962	0.777	0.00	-0.04
JUN	21	53907	0.12601	0.31096	0.197017	-1.429	0.618	0.02	-0.06
JUN	22	53908	0.12554	0.31012	0.196483	-1.639	0.402	0.05	-0.12
JUN	23	53909	0.12498	0.30928	0.196211	-1.567	0.169	0.10	-0.17
JUN	24	53910	0.12489	0.30820	0.196124	-1.251	-0.015	0.00	0.00
JUN	25	53911	0.12522	0.30699	0.196206	-0.776	-0.116	0.00	0.00
JUN	26	53912	0.12567	0.30580	0.196320	-0.247	-0.069	0.00	0.00
JUN	27	53913	0.12602	0.30466	0.196314	0.233	0.066	0.00	0.00

JUN 28	53914	0.12631	0.30353	0.196168	0.591	0.255	0.00	0.00
JUN 29	53915	0.12669	0.30232	0.195796	0.782	0.449	0.00	0.00

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

	Raw normal values					Uncertainties				
2006 (0 h UTC)	MJD	x "	y "	UT1-UTC s	dX 0.001"	dY	x 0.001"	y	UT1 0.0001s	dX 0.001"	dY
MAY 4	53859	0.10966	0.35803	0.233615	0.088	-.369	0.02	0.02	0.02	0.03	0.03
MAY 9	53864	0.10803	0.35282	0.227397	0.049	-.340	0.01	0.01	0.02	0.02	0.03
MAY 14	53869	0.10860	0.34991	0.220484	0.023	-.226	0.02	0.02	0.02	0.04	0.04
MAY 19	53874	0.11137	0.34625	0.216283	0.126	-.336	0.01	0.01	0.02	0.02	0.03
MAY 24	53879	0.11366	0.34337	0.209167	-.011	-.376	0.02	0.02	0.02	0.02	0.02
MAY 29	53884	0.11842	0.33796	0.205267	0.049	-.018	0.01	0.01	0.02	0.02	0.02
JUN 3	53889	0.12168	0.33372	0.203499	0.054	-.189	0.01	0.01	0.02	0.03	0.03
JUN 8	53894	0.12317	0.32708	0.199912	0.086	-.282	0.01	0.01	0.01	0.02	0.02
JUN 13	53899	0.12448	0.31956	0.200364	0.096	-.352	0.02	0.02	0.02	0.03	0.04
JUN 18	53904	0.12634	0.31434	0.199390	-	-	0.01	0.01	0.03	-	-
JUN 23	53909	0.12498	0.30928	0.196209	0.134	-.221	0.01	0.01	0.02	0.06	0.07
JUN 28	53914	0.12630	0.30354	0.196164	-	-	0.01	0.02	0.03	-	-

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) 2006	MJD	DR s	OmegaR (microrad/s)
MAY 4	53859	0.00127	72.921 15039
MAY 9	53864	0.00118	15047
MAY 14	53869	0.00135	15033
MAY 19	53874	0.00105	15058
MAY 24	53879	0.00091	15070
MAY 29	53884	0.00071	15087
JUN 3	53889	0.00058	15097

5 - INFORMATION ON TIME SCALES
A leap second was introduced in UTC on 31 December 2005.
No leap second was introduced in UTC on 30 June 2006.
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

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 1	0.07	0.07	0.04	-	-	-		14
53860.27 to 53909.27	0.11	0.14	0.05	-	-	-		
EOP(BKG) 3 R 4	0.11	0.08	0.07	-	-	-		14
53860.27 to 53900.27	0.11	0.14	0.07	-	-	-		
EOP(BKG) 3 R 2	-	-	0.13	-	-	-		49
53859.79 to 53913.79	-	-	0.26	-	-	-		
EOP(USNO) 5 R 1	-	-	0.12	-	-	-		47
53859.79 to 53912.79	-	-	0.19	-	-	-		
EOP(GSFC) 4 R 2	0.09	0.07	0.06	-	-	-		15
53860.27 to 53909.27	0.12	0.11	0.17	-	-	-		
EOP(GSFC) 4 R 1	-	-	0.14	-	-	-		49
53859.79 to 53913.79	-	-	0.18	-	-	-		
EOP(IAA) 5 R 2	0.08	0.08	0.04	-	0.05	0.05		13
53860.27 to 53900.27	0.12	0.14	0.06	-	0.05	0.07		
EOP(IAA) 5 R 1	-	-	0.12	-	-	-		49
53859.79 to 53913.79	-	-	0.17	-	-	-		
EOP(SPBU) 3 R 3	0.29	0.36	0.18	-	-	-		13
53860.27 to 53900.27	0.18	0.18	0.14	-	-	-		
EOP(SPBU) 2 R 1	-	-	0.14	-	-	-		49
53859.79 to 53913.79	-	-	0.25	-	-	-		
EOP(MAO) 3 R 1	0.09	0.09	0.04	-	0.06	0.06	12	
53860.29 to 53900.31	0.09	0.20	0.07	-	0.10	0.11		
EOP(USNO) 6 R 1	0.08	0.08	0.04	-	-	-		13
53860.27 to 53900.27	0.11	0.11	0.06	-	-	-		
EOP(IVS) 0 R 1	0.05	0.05	0.02	-	-	-		11
53860.00 to 53895.00	0.13	0.26	0.09	-	-	-		
GPS								
EOP(CODE) 98 P 1	0.01	0.01	-	0.06	-	-		56
53859.50 to 53914.50	0.06	0.06	-	0.20	-	-		
EOP(EMR) 96 P 3	0.03	0.03	-	0.04	-	-		56
53859.50 to 53914.50	0.07	0.06	-	0.50	-	-		
EOP(ESOC) 96 P 1	0.01	0.01	-	0.04	-	-		56
53859.50 to 53914.50	0.06	0.12	-	0.45	-	-		
EOP(GFZ) 96 P 2	0.01	0.01	-	0.02	-	-		56
53859.50 to 53914.50	0.06	0.05	-	0.23	-	-		
EOP(IAA) 1 P 1	0.03	0.03	-	0.06	-	-		56
53859.50 to 53914.50	0.17	0.23	-	0.65	-	-		
EOP(JPL) 96 P 3	0.02	0.02	-	0.11	-	-		52
53859.50 to 53910.50	0.04	0.03	-	0.34	-	-		
EOP(SIO) 96 P 1	0.02	0.02	-	0.00	-	-		56
53859.50 to 53914.50	0.05	0.28	-	0.22	-	-		
EOP(IGS F)95 P 2	0.02	0.03	0.09	0.05	-	-		45
53859.50 to 53903.50	0.02	0.08	0.17	0.14	-	-		
EOP(IGS R)96 P 2	0.04	0.05	0.18	0.06	-	-		56
53859.50 to 53914.50	0.06	0.05	0.60	0.17	-	-		
EOP(IERS) 97 P 1	0.03	0.03	0.17	0.11	-	-		56
53859.50 to 53914.50	0.02	0.02	0.65	0.19	-	-		
SLR								
EOP(ASI) 3 L 2	0.06	0.06	-	0.13	-	-		55
53859.50 to 53913.50	0.18	0.21	-	0.47	-	-		
EOP(DUT) 98 L 1	0.09	0.10	-	-	-	-		29
53859.00 to 53887.00	0.42	0.29	-	-	-	-		

EOP(IAA) 2 L 1	0.03	0.03	0.02	0.02	-	-	57
53859.00 to 53915.00	0.15	0.24	0.24	0.10	-	-	
EOP(MCC) 97 L 1	0.13	0.15	-	0.10	-	-	57
53859.00 to 53915.00	0.16	0.18	-	0.21	-	-	
EOP(ILRS) 5 L 1	0.06	0.06	-	0.13	-	-	52
53859.50 to 53910.50	0.14	0.14	-	0.40	-	-	
Bulletin A							
EOP(NEOS) 97 C 1	0.04	0.05	0.08	-	-	-	57
53859.00 to 53915.00	0.03	0.10	0.17	-	-	-	