

TABLE 6. MEASUREMENTS OF THE DURATION OF THE TAI SCALE INTERVAL

The following table gives the difference d between the duration of the TAI scale interval and the SI second as produced by the primary standards CRL Cs1, LPTF JPO, LPTF FO1, NIST-7, NRC CsV, NRC CsVI A and C, PTB CS1, PTB CS2, PTB CS3 and SU MCsR 102 for the period 1991-1996. Previous calibrations are available in the successive annual reports of the BIPM Time Section volumes 1 to 8.

The frequencies of these primary frequency standards are corrected for the gravitational shift (of about 1×10^{-13} for an altitude of 1000 m), and for the black-body radiation shift (of about 2×10^{-14} for a temperature of 40 °C) when available (standards tagged with a *).

The characteristics of the calibrations of the TAI frequency provided by the different primary standards are as follows:

Standard	Unc. (1σ)	Operation	Comparison with	Transfer to TAI
CRL Cs1*	1.1×10^{-13}	discontinuous	UTC (CRL)	60 d
LPTF JPO*	1.1×10^{-13}	discontinuous	UTC (OP)	10 d
LPTF FO1*	0.3×10^{-14}	discontinuous	H maser	5 d or 10 d
NIST NIST-7*	1×10^{-14}	discontinuous	H maser	5 d or 10 d
NRC CsV	$\approx 1 \times 10^{-13}$	continuous	TAI	60 d
NRC CsVI A	$\approx 1 \times 10^{-13}$	continuous	TAI	60 d
NRC CsVI C	$\approx 1 \times 10^{-13}$	continuous	TAI	60 d
PTB CS1*	3×10^{-14}	continuous	TAI	60 d
PTB CS2*	1.5×10^{-14}	continuous	TAI	60 d
PTB CS3*	1.4×10^{-14}	continuous	TAI	60 d
SU MCsR 102*	5×10^{-14}	discontinuous	UTC (SU)	60 d

TABLE 6. (CONT.)

Interval for transfer to TAI	Central date of the calibration	d in 10-14 s				
		CRL Cs1*	LPTF JPO*	NIST NIST-7*	SU MCsR 102*	LPTF FO1*
48499-48559	1991 Sep 27	+1.3				
48859-48919	1992 Sep 30				+0.1	
48919-48979	1992 Nov 30				-0.9	
48949-49009	1992 Dec 23	-2.6				
48979-49039	1993 Jan 30				+4.0	
49039-49099	1993 Mar 31				-2.0	
49119-49129	1993 May 17		+11.6			
49099-49159	1993 May 30				-1.9	
49159-49229	1993 Jul 30				-1.3	
49229-49289	1993 Sep 30				+0.6	
49289-49349	1993 Nov 30				+5.2	
49469-49529	1994 May 30				+0.6	
49529-49589	1994 Jul 31				-0.5	
49589-49649	1994 Sep 30				-3.5	
49649-49709	1994 Nov 30				+0.3	
49789-49799	1995 Mar 16			+2.0		
49809-49819	1995 Apr 5			+3.0		
49819-49829	1995 Apr 15			+2.9		
49829-49839	1995 Apr 25			+2.0		
49839-49849	1995 May 8			+2.2		
49899-49909	1995 Jul 7			+2.2		
49959-49969	1995 Sep 3			+3.3		
49959-50019	1995 Sep 30				+3.5	
49969-49979	1995 Sep 14					+1.4
49979-49989	1995 Sep 24					+1.6
49989-49999	1995 Oct 4					+1.8
49999-50009	1995 Oct 14					+2.2
50009-50019	1995 Oct 24					+1.4
50029-50039	1995 Nov 13					+1.3
50039-50049	1995 Nov 23					+1.1
50049-50059	1995 Dec 3					+0.6
50059-50069	1995 Dec 13					+1.1
50069-50079	1995 Dec 23					+1.6
50019-50029	1995 Nov 7			+2.2		
50019-50079	1995 Nov 30				+4.3	
50079-50084	1995 Dec 30			+2.5		
50094-50124	1996 Jan 27				+8.4	
50124-50154	1996 Feb 26				+2.4	
50144-50149	1996 Mar 4			+2.1		
50154-50184	1996 Mar 27				+1.9	
50199-50209	1996 May 1			+2.5		
50209-50214	1996 May 8					+1.8
50214-50219	1996 May 13					+2.3
50219-50224	1996 May 18					+2.2

TABLE 6. (CONT.)

d in 10-14 s

Interval for transfer to TAI	Central date of the calibration	NRC CsV	NRC CsVIA	NRC CsVIC	PTB CS1*	PTB CS2*	PTB CS3*
48249-48309	1991 Jan 23	-6.7	+13.8	+11.7	+3.6	+5.6	-
48309-48369	1991 Mar 24	-10.7	-20.1	+17.0	+3.8	+7.0	-
48369-48429	1991 May 23	-7.9	-25.2	+5.1	+2.4	+3.4	-
48429-48499	1991 Jul 27	-2.3	-12.2	+2.1	+1.7	+4.4	-
48499-48559	1991 Sep 30	+3.5	-7.4	+4.9	+2.3	+5.3	-
48559-48619	1991 Nov 29	+10.6	-12.5	-0.6	+1.9	+3.4	-
48619-48679	1992 Jan 28	+9.5	-15.6	+0.4	-0.4	+2.1	-
48679-48739	1992 Mar 28	+13.3	-20.3	0.0	+0.7	+2.6	-
48739-48799	1992 May 27	+12.2	-22.2	-6.0	+1.3	+4.3	-
48799-48859	1992 Jul 26	+7.6	-20.6	-14.6	+0.1	+4.1	-
48859-48919	1992 Sep 24	-5.5	-14.5	-20.2	+0.7	+3.4	-
48919-48979	1992 Nov 23	-	-	-20.3	+2.6	+1.8	-
48979-49039	1993 Jan 22	-	-	-19.0	+2.0	+1.4	-
49039-49099	1993 Mar 23	-	-	-11.8	+2.8	+0.6	-
49099-49159	1993 May 22	-	-	-13.1	+0.8	+2.4	-
49159-49229	1993 Jul 26	-	-	-9.0	+1.3	+2.1	-
49229-49289	1993 Sep 29	-	-	-9.4	+2.3	+2.9	-
49289-49349	1993 Nov 28	-	-	-12.6	-0.7	+2.3	-
49349-49409	1994 Jan 27	-	-	-10.2	+0.6	+1.4	-
49409-49469	1994 Mar 28	-	-	-11.6	+1.4	+1.3	-
49469-49529	1994 May 27	-	-	-11.4	+1.2	+2.9	-
49529-49589	1994 Jul 26	-	-	-10.8	+2.1	+3.3	-
49589-49649	1994 Sep 24	-	-	-10.8	+1.0	+2.4	-
49649-49709	1994 Nov 23	-	-	-10.4	+0.6	+1.9	-
49709-49769	1995 Jan 22	-	-	-	+2.5	+2.7	-
49769-49829	1995 Mar 23	-	-7.5	-1.7	-0.1	+3.0	-
49829-49889	1995 May 22	-	-10.7	-6.1	+3.5	+2.0	-
49889-49959	1995 Jul 26	-	-11.6	-5.0	-	+3.5	-
49959-50019	1995 Sep 29	-	-11.1	-5.8	-	+2.7	+4.9
50019-50079	1995 Nov 28	-	-9.2	-6.3	-	+2.5	+4.3
50079-50139	1996 Jan 27	-	-15.7	-8.2	-	+3.1	-
50139-50199	1996 Mar 27	-	-17.6	-7.2	-	+2.8	-
50199-50264	1996 May 28	-	-15.5	-5.9	-	+2.6	-
50264-50324	1996 Jul 30	-	-15.6	-7.7	-	+2.9	+5.6
50324-50384	1996 Sep 28	-	-13.7	-2.5	-	+2.2	+2.6
50384-50444	1996 Nov 27	-	-12.5	-5.3	-	+2.9	+5.0