

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, NIST-7, NRC CsV, NRC CsVI A and C, PTB CS1, PTB CS2, PTB CS3 and SU MCsR 102 for the period 1990-1995. Previous calibrations are available in the successive annual reports of the BIPM Time Section volumes 1 to 7.

The frequencies of these primary frequency standards are corrected for the gravitational shift (of about 1 part in 10^{-13} for an altitude of 1000 m), and for the black body radiation shift (of about 2 parts in 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
NIST NIST-7*	1×10^{-14}	discontinuous	H maser No 201	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

d in 10-14 s

Interval for transfer to TAI	Central date of the calibration	CRL Cs1*	LPTF JPO*	NIST NIST-7*	SU MCsR 102*
47949-48009	1990 Apr 5	-1.9			
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
49509-49519	1994 Jun 11			-1.5	
49529-49589	1994 Jul 31				-0.5
49589-49599	1994 Aug 30			-2.0	
49599-49609	1994 Sep 9			-0.3	
49589-49649	1994 Sep 30				-3.5
49629-49639	1994 Oct 9			+0.6	
49649-49709	1994 Nov 30				+0.3
49689-49699	1994 Dec 4			+2.0	
49699-49709	1994 Dec 17			+2.5	
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
50019-50029	1995 Nov 7			+2.2	
50019-50079	1995 Nov 30				+4.3

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*
47889-47949	1990 Jan 28	+28.4	+10.1	-1.6	+2.4	+5.2	-
47949-48009	1990 Mar 29	-5.9	+4.5	-3.7	+2.4	+5.3	-
48009-48069	1990 May 28	-18.2	-1.5	+98.9	+1.4	+4.4	-
48069-48129	1990 Jul 27	-2.0	+2.5	+20.1	+0.8	+3.0	-
48129-48189	1990 Sep 25	+10.4	0.0	+3.2	+1.7	+6.6	-
48189-48249	1990 Nov 24	+0.5	-7.9	+6.1	+3.5	+2.7	-
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
50019-50059	1995 Nov 28	-	-9.2	-6.3	-	+2.5	+4.3