

# **Liste complémentaire de 18 couples étalons Déclinaison comprise entre $-20^\circ$ et $+20^\circ$ établie par Guy Morlet Liste basée sur les résultats d'Hipparcos**

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## **Présentation**

Le but de ce document est de proposer 18 couples étalons de référence qui permettent à l'utilisateur d'un instrument de déterminer avec précision :

- l'angle de position de sa caméra ou de son appareil de mesure, à partir de l'angle actuel du couple;
- la distance focale résultante de son instrument, à partir de la séparation actuelle du couple.

Les informations affichées dans les pages « Détails des mesures » présentent les données de la dernière version du Catalogue WDS de l'USNO, notamment toutes les mesures et leurs références.

## **Les critères de choix des couples ont été les suivants :**

- Couple mesuré par le satellite Hipparcos.
- Déclinaison : comprise entre  $-20^\circ$  et  $+20^\circ$ .
- Séparation : comprise entre 15" et 30".
- Magnitude de l'étoile secondaire : inférieure ou égale à 9.
- Couple pour lequel la variation annuelle de la position, mesurée par Hipparcos pendant les 3 années de la mission, est indiquée dans le catalogue des résultats comme faible pour l'angle et nulle (inférieure à 1/1000 de seconde) pour la séparation.

**LISTE de 18 COUPLES ETALONS de déclinaison comprise entre -20° et +20°**

Nom du couple	Coordonnées 2000		Angle Hipparcos en 1991.25		Angle en 2007.300	Sépar. Hipp. en 1991.25	Magnit.	N° Hipp.	Dernière mesure au WDS		
	Asc.dr.	Déclin.	Variation						Date	Angle	Sép.
	h m s	° ' "	°	° par an					"	°	"
STF 136	1 34 52	+12 33,5	77,26	-0,01	77,10	15,54	7.3 8.7	7367	2004,735	77,3	15,31
STF 697	5 23 32	+16 02,4	285,82	+0,01	285,98	26,07	7,3 8,3	25201	2002,093	286,0	26,17
STF 792	5 46 47	- 3 15,6	131,54	-0,03	131,06	24,75	8,7 8,9	27273	2004,120	131,4	24,69
STF 855	6 08 58	+ 2 30,0	114,06	-0,01	113,90	29,17	5,7 6,7	29154	2005,030	113,5	29,10
STF 924	6 32 19	+17 47,1	210,97	+0,01	211,13	19,90	6,4 7,1	31156	2002,901	210,9	19,71
SHJ 73	6 36 23	-18 39,6	263,90	-0,03	263,42	17,40	5,8 7,4	31560	2002,148	264,0	17,78
STF 1132	7 42 13	- 3 31,2	234,48	-0,01	234,32	20,04	8,1 8,5	37532	2003,068	235,0	20,24
STF 1138	7 45 29	-14 41,4	339,77	0,00	339,77	16,77	6,0 6,7	37842	2003,311	339,7	16,61
ARG 20	8 28 44	-17 31,5	173,46	+0,02	173,78	15,07	8,4 8,9	41590	2003,085	174,0	14,81
STF 1283	8 49 56	+14 50,0	122,97	-0,03	122,49	16,49	7,8 8,9	43360	2002,323	122,7	16,51
STF 1565	11 39 37	+18 59,8	304,20	+0,10	305,80	21,77	7,3 8,4	56872	2003,389	305,2	21,49
STF 1649	12 31 37	-11 04,3	193,98	0,00	193,98	15,52	8,0 8,4	61125	2003,184	194,0	15,80
STF 1677	12 45 18	- 3 53,3	348,07	-0,01	347,91	15,99	7,3 8,1	62233	2004,370	349,0	15,56
S 665	15 04 31	-17 54,2	90,49	0,00	90,49	25,07	8,1 8,9	73753	2003,299	89,8	24,69
STF 2202	17 44 34	+ 2 34,8	93,11	0,00	93,11	20,67	6,2 6,4	86835	2004,683	93,1	20,57
STT 370	19 17 03	+ 9 20,3	13,72	-0,01	13,56	19,52	8,4 8,9	94774	2003,458	13,5	19,75
STF 2562	19 42 46	+ 8 23,0	251,56	-0,01	251,40	27,17	7,0 8,9	96976	2002,736	250,9	27,05
S 763	20 48 26	-18 12,1	293,87	+0,01	294,03	15,56	7,2 7,8	102681	2002,529	294,0	15,80

Remarques :

- Les critères retenus pour établir cette liste sont : - Déclinaison comprise entre -20° et +20° - Séparation comprise entre 15 " et 30 " – Magnitude de l'étoile secondaire inférieure ou égale à 9 – Variation annuelle de la séparation considérée comme nulle (inférieure à 1/1000 ") dans le catalogue des résultats d'Hipparcos.
- La variation annuelle de la séparation étant nulle, les valeurs de la colonne des séparations Hipparcos en 1991.25 sont valables pour n'importe quelle date.

## Codes utilisés dans les pages de chaque couple

#

- 0 Post-IDS measure added by Lick Observatory
- 1 Post-IDS measure added by USNO
- 2 Measure prior to Lick punch-card collection, added by USNO
- 3 Post WDS (1984.0) measure added by USNO
- 4 Post WDS (1984.0) old measure added by USNO
- 5 Post WDS (1996.0) measure added by USNO
- 6 Post WDS (1996.0) old measure added by USNO
- 7 Post WDS (2001.0) measure added by USNO
- 8 Post WDS (2001.0) old measure added by USNO

## Méthode d'observation (when blank, consult the notes)

- A Refractor, micrometer
- B Reflector, micrometer
- C Comparison image micrometer
- D Heliometer
- E Visual interferometer, aperture is of largest baseline on the monolithic mirror (e.g., Finsen's 26" or 240" on the 20 foot beam used on the 100").
- F CCD astrometry
- G Photographic, with astrograph
- H Photographic, with medium or long-focus technique
- I Transit method
- J Occultation binary
- K Long baseline interferometer, aperture is of largest telescope/siderostat not the baseline.
- L Electronographic camera
- M Meridian circle
- N Visual measures with a double-image micrometer
- O Photographic, with ocular enlargement
- P Photoelectric phase-grating interferometer
- Q HST (FGS, WFPC, NICMOS, etc.)
- R RGO use of micrometer plus comparison image micrometer on same star
- S Speckle interferometry
- T Hipparcos or Tycho type observation - aperture reflects Rayleigh limit at V
- U Adaptive Optics
- V Photocell with diaphragm in focal plane
- W Area scanner
- X Visual estimate made with an objective grating
- Y Wedge photometer
- Z Visual photometry with a double-image or polarizing photometer

## Codes

- 1
- 2
- 3
- 4
- 5
- 6 Mean of multiple measures of same photographic plate
- 7 No. of nights varies 50% or more between angle and separation measures
- 8
- 9
- A Separation in milliarcseconds (mas)
- B Blue (Johnson U or B, blue photographic, etc.) magnitudes
- C Separation given in minutes of arc (') instead of seconds of arc (")
- D Distance less than value quoted
- E Elongated, but too close to measure
- F Too faint, not seen, or not located
- G
- H
- I Identification, or question about such
- J
- K K-band or other infrared (>1 micron) magnitudes
- L Original PA given as n, nf, f, sf, s, sp, p, or np  
(n = north, f = following, s = south, p = preceding), and converted  
to 0, 45, 90, 135, 180, 225, 270, or 315, respectively.  
Also, PA given as e or w (e = east, w = west) is converted to 90 or 270 respectively.  
Due to the small number of single letter codes (n, f, s, and p),  
the PA is assumed accurate only to the nearest quadrant (i.e., 45 deg).
- M More than one telescope used
- N Identification error, position error, or misprint in publication, corrected.
- O Optical
- P Corrected by author
- Q Quadrant reversed by the cataloger
- R Red (Johnson R or I, red photographic, etc.) magnitudes
- S Single
- T Identification error, position error, or misprint in publication, NOT corrected.  
Code "T" data are not included in the summary line.
- U Uncertain or Estimated
- V Variable
- W A magnitude, not a magnitude difference in columns 48-53
- X General note, may be worth consulting
- Y Author also published measures corrected for purported systematic effects.  
However, only the uncorrected measures have been tabulated in the catalog.
- Z Measurer other than author(s)

STF136

WDS Star No. 01349+1234

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RA & DEC (2000)	Disc. Number	Comp	No. Obs.	Magni tudes		Spec. Type	PM/1000 yr		DM No.	
				A	B		RA	DEC		
01349+1234	STF 136	AB	90	7.33	8.33	A6V	+015-012		+11	201

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Precise Position of Primary of System or Subsystem (when available)

RA = 01 34 51.6 Dec = +12 33 31.

Proper Motion (PM/1000 yr) of Secondary of Subsystem (when available)

RA = +009 Dec = -006

Note? = yes Orbit? = no DM? = yes Other? = no

	Date Observed	Positi on Angle	Separati on
First	1783	85	15.9
Last	1998	77	15.6

Observations

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Date	P. A.	Sep.	Mag-a	Mag-b	#	RefCode	Aperture	Method	Codes
1783.59	85.0	15.87	.	.	1	H__1906A	06	B	
1821.91	80.4	16.02	.	.	1	HJ_1906A	05	A	
1823.44	79.6	15.68	7.	8.	2	StF1837	04	A	
1831.47	78.8	16.03	6.6	8.0	5	StF1837	10	A	
1833.86	78.9	15.9	.	.	1	Smy1844	06	A	
1841.80	78.6	15.15	.	.	1	Mad1842a	10	A	
1842.82	78.7	15.32	.	.	3	Mad1843	10	A	
1843.06	80.1	15.36	.	.	2	Kai 1865	06	A	
1843.80	78.9	15.36	.	.	1	Mad1844	10	A	
1844.58	79.1	16.12	.	.	4	Stt1878	15	A	
1845.84	78.1	15.90	.	.	1	Hi n1852	07	A	Q
1847.10	75.5	16.35	.	.	1	Tho1849	06	C	
1850.99	78.8	15.04	.	.	1	Mad1856	10	A	
1851.98	77.9	15.78	.	.	1	Fl t1853a	04	A	Z
1852.66	79.1	15.58	.	.	5	Fl t1853a	04	A	
1852.88	76.6	15.46	.	.	5	Mad1856	10	A	
1856.03	78.8	15.81	7.5	8.5	1	D__1883	05	A	
1857.95	78.0	16.12	.	.	1	Mad1859	10	A	
1858.04	78.0	15.96	6.5	7.2	2	Se_1860b	10	A	
1862.90	76.63	15.83	8.0	9.5	1	Mai 1862	08	D	
1863.36	79.2	16.72	.	.	3	Eng1865	05	A	
1865.45	79.0	15.85	7.0	8.2	3	D__1884	07	A	
1866.17	78.2	16.31	.	.	3	Tal 1868	10	A	7
1867.05	79.1	15.64	.	.	6	Kai 1872	07	A	
1869.07	78.8	15.90	6.6	7.8	4	Du_1876	10	A	
1872.77	79.1	15.48	.	.	1	Tal 1873	10	A	
1873.89	78.8	16.5	.	.	1	Gl d1875	09	A	
1873.89	79.2	16.4	.	.	3	WS_1875	08	A	U
1876.86	79.2	.	.	.	1	Tal 1878	10	A	
1881.81	78.46	15.90	.	.	2	Nst1904	06	A	
1883.13	80.0	16.01	.	.	3	Sbk1884	8	A	
1883.14	79.8	16.02	.	.	2	Sbk1884	8	A	
1883.90	78.5	15.94	7.0	8.3	2	Per1887	15	A	
1887.77	79.3	15.88	.	.	2	Tar1889	10	B	
1887.84	78.5	15.87	.	.	1	Cos1899	09	A	
1888.86	77.9	15.54	.	.	2	SBC1899	09	A	
1889.08	77.0	16.19	7.2	8.1	2	Gl p1895	04	A	7
1892.83	78.5	15.38	6.7	7.4	2	Gl p1894a	09	A	
1893.785	79.63	16.20	.	.	2	Nst1904	06	A	
1894.92	78.2	15.75	.	.	3	Col 1896	08	A	
1899.70	78.3	15.3	7.1	7.1	1	Pl q1939b	13	H	
1899.70	77.9	15.417	.	.	1	WFC1998	13	G	
1899.79	79.0	16.16	.	.	2	Col 1904	08	A	
1902.61	78.7	15.85	.	.	3	Hu_1911	12	A	
1902.83	78.7	15.72	.	.	3	Dob1927	06	A	

1907.75	78.5	15.95	.	.	1	Lau1908a	10	A	
1907.75	78.3	15.62	.	.	1	Jan1908	10	A	
1907.86	79.5	15.928	.	.	1	WFC1998	13	G	
1907.94	79.2	15.25	.	.	1	Roe1908	06	A	
1908.82	78.6	15.76	.	.	4	Vol 1909	12	A	
1910.46	78.8	15.65	8.0	9.3	2	Lau1911a	10	A	
1910.859	78.3	15.86	.	.	3	Fox1915	18	A	
1911.00	77.9	15.75	.	1.4	3	Wz_1923	19	A	
1911.87	79.3	15.484	.	.	1	WFC1998	13	G	
1913.00	78.6	15.704	.	.	1	WFC1998	13	G	
1913.80	78.8	16.055	.	.	1	WFD1931	08	M	
1914.84	77.6	15.73	.	.	3	BrF1916	18	A	
1914.87	78.3	15.74	.	.	2	Frk1915	06	A	
1914.99	78.4	15.71	.	.	1	Gui 1931	13	A	
1915.87	76.8	15.81	.	.	1	Hns1916a	10	A	
1915.87	78.4	15.57	.	.	1	Jan1916	10	A	
1920.86	77.9	15.53	.	.	1	Ni e1921	10	A	
1920.86	77.8	15.75	.	.	1	Fj l 1921a	10	A	
1920.87	79.2	15.64	.	.	2	Jan1921a	10	A	
1920.88	80.6	15.64	.	.	1	Jan1921a	10	A	Z
1922.74	78.2	15.50	.	.	2	Bl o1931	06	A	
1922.89	77.2	15.37	.	.	2	Sci 1923	07	A	
1923.47	81.3	15.3	.	.	2	Pl q1939b	13	H	
1925.739	78.9	16.07	.	.	1	Baz1927a	04	A	
1927.00	79.8	15.493	.	.	1	WFD1941	08	M	
1929.37	79.4	15.474	.	.	1	WFC1958b	06	G	
1930.91	79.5	15.39	6.9	8.0	1	Al l 1932	05	A	
1931.88	77.9	15.33	.	.	2	Al l 1932	05	A	
1931.89	78.7	15.75	.	.	2	Baz1932a	05	A	
1933.87	77.6	15.64	.	.	2	Urb1938	12	H	X
1939.019	80.4	15.81	.	.	1	Al l 1947	05	A	
1959.23	77.5	15.364	.	.	1	WFC1975	06	G	
1972.700	79.0	16.00	7.2	8.4	3	CI l 2003	03	A	
1976.010	77.41	15.522	.	.	1	USN1978	26	H	
1976.031	77.46	15.521	.	.	1	USN1978	26	H	
1976.032	77.46	15.528	.	.	1	USN1978	26	H	
1980.000	79.0	15.00	7.2	8.4	3	CI l 2003	04	A	
1980.0	77.4	15.449	.	.	7	WFD1997	06	M	
1991.25	77.2	15.54	7.34	8.66	1	HI P1997a	54	T	
1991.69	76.9	15.54	7.33	8.33	1	TYC2002	07	T	
1993.72	77.1	15.34	.	.	1	EI t1994	10	M	
1993.868	76.0	14.80	.	.	1	Roj 2003	04	A	
1994.077	78.0	14.80	.	.	1	Roj 2003	04	A	
1994.107	77.0	14.80	.	.	1	Roj 2003	04	A	
1995.87	77.8	15.35	.	.	4	Ctt1996	08	B	
1998.72	77.2	15.61	.	.	1	TMA2003	51	F	K

STF697 AB  
WDS Star No. 05235+1602  
=====

RA & DEC (2000)	Disc. Number	Comp	No. Obs.	Magnitudes		Spec. Type	PM/1000 yr		DM No.
				A	B		RA	DEC	
05235+1602	STF 697	AB	44	7.27	8.10	B7V	+001-005	+15	805

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Precise Position of Primary of System or Subsystem (when available)  
RA = 05 23 31.7      Dec = +16 02 25.

Proper Motion (PM/1000 yr) of Secondary of Subsystem (when available)  
RA = -003      Dec = -007

Note? = yes    Orbit? = no    DM? = yes    Other? = no

	Date Observed	Position Angle	Separation
First	1828	285	25.9
Last	2002	286	26.2

Observations  
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Date	P. A.	Sep.	Mag-a	Mag-b	#	RefCode	Aperture	Method	Codes
1828.67	285.0	25.93	7.2	8.2	2	StF1837	10	A	
1832.07	285.2	30.	.	1.0	1	HJ_1836	18	B	
1832.14	285.2	26.03	.	.	1	StF1837	10	A	
1857.96	284.9	27.30	7.0	8.0	1	D__1883	05	A	
1863.14	284.0	26.16	.	.	5	Eng1865	05	A	
1865.75	285.4	25.91	6.5	7.3	3	D__1884	07	A	
1866.16	283.3	25.76	.	0.9	1	Mai 1866	08	D	
1877.07	284.8	25.96	7.5	8.2	2	Pl m1878	12	A	
1893.06	285.0	26.04	7.1	7.6	2	Gl p1894a	09	A	
1901.12	284.9	25.954	.	.	1	WFC1998	13	G	
1902.04	285.7	26.227	.	.	1	WFC1998	13	G	
1902.66	285.6	26.06	.	.	1	Hu_1911	12	A	
1906.06	286.2	25.671	.	.	1	WFC1998	13	G	
1910.11	285.4	26.15	.	.	2	Lau1910	10	A	
1910.13	285.7	25.95	.	.	2	Cal 1910	10	A	
1913.84	285.6	26.11	.	.	2	Doo1923	18	A	
1914.07	285.1	26.19	.	.	1	Dsc1914	15	A	
1914.9	284.2	26.469	.	.	1	WFD1931	08	M	
1916.78	285.5	26.50	.	.	1	Gui 1931	13	A	
1917.10	285.1	25.94	.	.	2	Frk1917	06	A	
1918.	284.5	26.316	.	.	2	WFD1928a	07	M	
1923.88	285.5	26.06	.	.	1	Bl o1931	06	A	
1928.99	285.4	25.826	.	.	1	WFC1958b	06	G	
1932.02	284.5	26.21	.	.	1	Jan1934	10	A	
1934.12	284.9	25.89	.	.	3	Al l 1936	05	A	
1937.15	285.2	25.94	7.2	8.2	2	Sch1938	08	A	
1937.16	285.2	25.82	.	.	2	Sch1938	08	A	
1938.07	284.75	26.18	7.2	8.2	2	Sch1939	08	A	
1940.05	286.4	26.073	.	.	1	WFC1947	05	G	
1961.09	285.9	25.825	.	.	1	WFC1975	06	G	
1964.122	285.71	26.019	.	.	1	USN1969	26	H	
1964.144	285.70	25.967	.	.	1	USN1969	26	H	
1964.737	285.60	26.041	.	.	1	USN1969	26	H	
1964.813	285.66	26.028	.	.	1	USN1969	26	H	
1964.819	285.69	26.048	.	.	1	USN1969	26	H	
1964.819	285.73	26.037	.	.	1	USN1969	26	H	
1971.300	285.0	26.00	6.9	8.4	3	Cl l 2003	03	A	
1979.78	286.1	25.749	.	.	8	WFD1997	06	M	
1980.000	285.0	26.00	6.9	8.4	3	Cl l 2003	04	A	
1982.0	285.9	25.860	.	.	3	WFC1999	08	G	
1991.25	285.7	26.07	7.28	8.28	1	HI P1997a	54	T	
1991.54	285.7	26.01	7.27	8.10	1	TYC2002	07	T	
1998.72	285.8	26.07	.	.	1	TMA2003	51	F	
2002.093	286.0	26.17	.	.	1	Arn2002c	08	B	K

STF 792  
WDS Star No. 05468-0316  
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RA & DEC (2000)	Disc. Number	Comp	No. Obs.	Magnitudes		Spec. Type	PM/1000 yr		DM No.
				A	B		RA	DEC	
05468-0316	STF 792		15	8.66	8.93	G0	-008	-001	-03 1192

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Precise Position of Primary of System or Subsystem (when available)  
RA = 05 46 46.54      Dec = -03 15 36.4

Proper Motion (PM/1000 yr) of Secondary of Subsystem (when available)  
RA = -004      Dec = +007

Note? = no      Orbit? = no      Linear Fit? = no      DM? = yes      Other? = no

	Date Observed	Position Angle	Separation
First	1831	134	24.9
Last	2004	131	24.7

Observations  
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Date	P. A.	Sep.	Mag-a	Mag-b	#	RefCode	Aperture	Method	Codes
1831.16	133.9	24.94	8.2	8.7	3	StF1837	10	A	
1847.23	133.4	25.49	.	.	1	Mad1906A	10	A	
1863.15	133.2	25.42	.	.	3	Eng1865	05	A	
1867.40	133.1	25.05	8.1	8.7	3	D_1884	07	A	
1894.20	132.6	25.220	.	.	1	WFC1998	13	G	
1896.15	132.5	24.944	.	.	1	WFC1998	13	G	
1905.05	132.7	24.87	.	.	1	Bu_1906	40	A	
1916.13	132.6	25.00	.	.	2	Frk1916	06	A	
1969.43	131.8	24.765	.	.	3	WFC1992	08	G	
1980.000	132.0	25.00	8.2	8.9	3	CI I 2003	04	A	
1981.06	131.7	24.757	.	.	4	WFC1999	08	G	
1991.25	131.5	24.75	8.66	8.95	1	HI P1997a	54	T	
1991.91	131.5	24.760	8.66	8.93	1	TYC2000b	07	T	
1998.77	131.3	24.72	.	.	1	TMA2003	51	E	K
2004.120	131.4	24.69	.	.	1	Arn2005b	08	F	

STF 855 AB

WDS Star No. 06090+0230

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RA & DEC (2000)	Disc. Number	Comp	No. Obs.	Magnitudes A B		Spec. Type	PM/1000 yr RA DEC		DM No.
06090+0230	STF 855	AB	52	5.68	6.68	A3Vn A0V	+001-012	+02	1139

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Precise Position of Primary of System or Subsystem (when available)

RA = 06 08 57.9 Dec = +02 29 59.

Proper Motion (PM/1000 yr) of Secondary of Subsystem (when available)

RA = -004 Dec = -016

Note? = yes Orbit? = no Linear Fit? = no DM? = yes Other? = no

	Date Observed	Position Angle	Separation
First	1824	113	29.2
Last	2005	114	29.1

Observations

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Date	P. A.	Sep.	Mag-a	Mag-b	#	RefCode	Aperture	Method	Codes
1824.94	112.6	29.19	.	.	2	S_1906A	05	A	
1828.21	113.2	29.17	.	.	1	StF1837	10	A	
1829.02	113.0	29.95	.	1.0	1	HJ_1833a	05	A	
1830.96	114.8	30.17	.	1.0	1	HJ_1833a	05	A	
1831.10	117.8	25.	.	1.0	1	HJ_1833c	18	B	U
1832.73	113.3	29.35	5.8	6.8	2	StF1837	10	A	
1857.95	113.6	29.46	5.5	6.5	1	D_1883	05	A	
1863.14	113.8	29.36	.	.	5	Eng1865	05	A	
1866.66	113.8	29.36	6.2	7.2	3	D_1884	07	A	
1871.22	113.9	29.25	.	0.6	1	Mai 1871	08	D	
1888.02	113.6	29.18	.	.	2	Mon1899	09	A	
1888.09	113.0	29.40	.	.	2	Cos1899	09	A	
1889.19	113.3	29.46	5.9	6.9	2	Gl p1895	04	A	
1889.41	113.5	29.34	.	.	2	Ki n1928	13	H	
1889.99	113.4	28.92	.	.	4	Gi a1890a	05	A	
1893.09	113.1	29.12	.	.	2	Gl p1894a	09	A	
1909.05	114.1	29.24	.	.	1	Jan1909b	10	A	
1909.3	114.3	28.991	.	.	4	WFD1914	06	M	
1910.03	113.3	29.430	.	.	1	WFC1998	13	G	
1910.03	113.2	29.543	.	.	1	WFC1998	13	G	
1910.04	111.1	30.337	.	.	1	WFC1998	13	G	
1911.104	113.8	29.28	.	.	1	Lau1911c	06	G	
1912.023	114.02	29.364	.	.	2	Jan1912	10	A	
1915.08	112.7	29.57	.	.	1	Gui 1931	13	A	
1915.08	113.5	29.31	.	.	2	Frk1915	06	A	
1916.10	113.0	29.261	.	.	1	WFD1931	08	M	
1921.16	113.5	.	.	.	3	Arm1922	05	A	
1922.11	113.2	29.81	.	.	1	Scl 1923	07	A	
1923.08	113.6	29.26	.	.	2	Bl o1931	06	A	
1924.15	113.5	18.43	.	.	1	Gau1925	13	G	
1926.145	113.6	29.19	.	.	1	Baz1927a	04	A	
1927.08	113.7	29.29	5.8	6.8	5	Si l 1931	12	A	
1928.17	113.74	29.296	5.8	6.8	1	Lbz1929	13	H	Z
1929.24	112.1	29.20	.	.	1	Arm1934	05	A	
1929.59	113.7	29.219	.	.	1	WFC1958b	06	G	
1937.05	113.0	29.555	.	.	1	WFC1949	05	G	
1952.90	113.89	29.201	.	.	1	Kpr1992	36	H	
1960.23	114.0	29.25	5.9	6.8	2	Mro1960	18	A	
1963.05	113.1	29.154	.	.	1	WFC1975	06	G	
1973.0	114.5	29.6	.	.	2	Ary1977	06	A	
1973.000	114.0	29.00	5.6	7.0	3	Cl I 2003	03	A	
1980.000	114.0	29.00	5.8	7.0	3	Cl I 2003	04	A	
1982.18	113.	28.9	.	.	1	Wat1986	10	B	
1991.25	114.0	29.17	5.73	6.93	1	HI P1997a	54	T	
1991.85	114.2	29.258	5.68	6.68	1	TYC2000c	07	T	

1993.046	115.0	27.62	.	.	1	Tob2003	04	A	
1994.202	113.0	27.20	.	.	1	Roj 2003	04	A	
1995.233	114.0	27.70	.	.	1	Roj 2003	04	A	
1999.89	114.0	29.26	.	.	1	TMA2003	51	E	K
2002.123	114.0	29.13	.	.	1	Arn2002c	08	B	
2002.977	113.7	28.67	.	.	1	WSI 2004a	26	S	
2003.200	113.9	29.35	.	.	1	Dal 2004a	09	F	
2005.03	113.5	29.1	.	.	2	Dbr2006	05	F	

STF 924 AB

WDS Star No. 06323+1747

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RA & DEC (2000)	Disc. Number	Comp	No. Obs.	Magni tudes A B	Spec. Type	PM/1000 yr RA DEC	DM No.
06323+1747	STF 924	AB	95	6. 31 6. 88	F8III	+035+026	+17 1286

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Precise Position of Primary of System or Subsystem (when available)

RA = 06 32 18.5 Dec = +17 47 03.

Proper Motion (PM/1000 yr) of Secondary of Subsystem (when available)

RA = +037 Dec = +026

Note? = yes Orbit? = no DM? = yes Other? = no

	Date Observed	Positi on	Angle	Separati on
First	1755		218	20. 0
Last	2002		211	19. 7

Observations

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Date	P. A.	Sep.	Mag-a	Mag-b	#	RefCode	Aperture	Method	Codes
1755.	218. 4	20. 0	.	.	1	Bdy1906A	04	A	
1756.	223. 4	22. 5	.	.	1	MyC1906B			
1822. 05	209. 0	19. 45	.	.	2	SHJ1906A	05	A	
1822. 15	207. 8	19. 47	6. 5	7. 5	1	StF1837	04	A	
1830. 00	209. 8	20. 01	6. 0	6. 9	4	StF1837	10	A	
1832. 07	208. 6	18.	.	1. 0	1	HJ_1836	18	B	
1833. 99	209. 2	20. 4	.	.	1	Smy1844	06	A	
1846. 71	209. 8	19. 85	.	.	3	Mad1906A	10	A	
1851. 14	210. 4	19. 68	.	.	2	Mad1856	10	A	
1851. 85	208. 7	20. 02	.	.	1	Stt1878	15	A	
1852. 16	210. 3	19. 38	.	.	2	Mad1856	10	A	
1856. 00	210. 5	19. 96	6. 0	7. 0	1	D__1883	05	A	
1856. 21	209. 8	19. 70	.	.	2	Mad1859	10	A	7
1858. 25	209. 7	19. 65	.	.	2	Mad1859	10	A	
1862. 17	209. 27	19. 67	7. 0	7. 5	1	Mai 1862	08	D	
1863. 12	210. 0	19. 71	.	.	1	Rom1865	10	A	
1863. 24	210. 6	19. 43	.	.	2	Eng1865	05	A	
1867. 50	209. 8	19. 94	6. 1	7. 0	4	D__1884	07	A	
1874. 13	211. 1	20. 4	.	.	1	Gl d1875	09	A	
1874. 13	210. 1	20. 1	.	.	4	WS_1875	08	A	
1875. 19	212. 7	19. 87	6. 0	7. 0	1	WS_1877	08	A	
1875. 24	209. 8	19. 92	.	.	3	Sp_1888	09	A	
1878. 663	209. 7	20. 079	.	.	4	Je_1880h	06	A	
1888. 09	210. 4	19. 66	.	.	1	CoS1899	09	A	
1889. 06	210. 4	19. 88	.	.	2	SBC1899	09	A	
1889. 49	210. 0	19. 81	.	.	10	Gi a1890b	05	A	
1889. 96	209. 9	20. 08	.	.	2	Ki n1928	13	H	
1893. 13	210. 0	19. 93	6. 4	6. 9	2	Gl p1894a	09	A	
1894. 34	210. 4	20. 30	.	.	4	Amb1919		D	
1896. 12	209. 6	20. 357	.	.	1	WFC1998	13	G	
1896. 20	210. 3	20. 02	.	.	2	Col 1896	08	A	
1899. 16	209. 4	19. 54	.	.	2	Col 1904	08	A	
1902. 04	212. 3	19. 609	.	.	1	WFC1998	13	G	
1902. 74	210. 0	20. 09	.	.	1	Hu_1911	12	A	
1903. 240	210. 4	19. 94	6. 1	6. 7	3	VBS1904	15	A	
1904. 84	211. 3	19. 767	.	.	4	WFD1920c	09	M	
1906. 126	209. 9	20. 06	.	.	2	Lau1906b	10	A	
1906. 60	210. 1	20. 126	.	.	3	WFD1915a	06	M	
1907. 10	209. 9	20. 02	.	.	2	Jan1909b	10	A	
1907. 14	210. 2	20. 05	.	0. 6	4	Wz_1912	19	A	
1907. 6	211. 9	19. 408	.	.	1	WFD9999		M	
1909. 36	210. 8	19. 98	.	.	3	Zi n1909	12	A	
1909. 4	211. 5	20. 153	.	.	5	WFD1929c	09	M	
1914. 16	210. 7	20. 00	.	.	2	Dsc1914	15	A	
1914. 60	210. 7	20. 025	.	.	1	WFD1931	08	M	

1915.05	209.6	19.78	.	.	1	Jan1915	10	A	
1916.22	210.0	20.03	.	.	2	Frk1916	06	A	
1921.24	211.1	.	.	.	3	Arm1922	05	A	
1921.95	210.6	19.75	.	.	1	Gui 1931	13	A	
1923.05	210.2	19.31	.	.	1	Gbb1924a	19	A	
1924.01	210.5	20.23	.	.	1	Bl o1931	06	A	
1925.600	210.6	19.87	.	.	1	Baz1927a	04	A	
1928.1	210.3	20.150	.	.	6	WFD1949a	06	M	
1929.10	209.3	20.188	.	.	1	WFC1958b	06	G	
1929.35	211.7	19.940	.	.	4	WFD1949b	06	M	
1929.98	210.5	19.34	.	.	3	Arm1934	05	A	
1932.20	210.6	19.97	.	.	3	Al l 1934	05	A	
1934.95	209.0	19.892	.	.	7	WFD1969	08	M	
1939.10	211.4	19.720	.	.	8	WFD1953	06	M	
1940.09	211.2	20.274	.	.	1	WFC1947	05	G	
1940.15	210.4	19.95	.	.	1	Vat1945	16	A	Z
1952.90	210.71	19.868	.	.	1	Kpr1992	36	H	
1955.079	210.72	19.929	.	.	1	De01957	18	H	
1955.149	210.78	19.848	.	.	1	Gzl 1962	20	H	
1956.019	210.63	19.933	.	.	1	De01957	18	H	
1956.794	210.72	19.925	.	.	1	USN1963	18	H	
1956.827	210.70	19.890	.	.	1	USN1963	18	H	
1957.892	210.78	19.918	.	.	1	USN1963	18	H	
1957.954	210.73	19.893	.	.	1	USN1963	18	H	
1958.148	210.79	19.944	.	.	1	USN1963	18	H	
1958.148	210.52	19.898	.	.	1	USN1963	18	H	
1958.148	210.59	19.893	.	.	1	USN1963	18	H	
1958.151	210.64	19.999	.	.	1	USN1963	18	H	
1958.151	210.72	19.941	.	.	1	USN1963	18	H	
1960.07	210.3	19.476	.	.	1	WFC1975	06	G	
1962.150	210.67	19.918	.	.	1	Sum1971	26	H	
1962.821	210.58	19.977	.	.	1	Sum1971	26	H	
1973.0	211.4	20.7	.	.	2	Ary1977	06	A	
1973.000	210.0	20.00	7.0	7.9	3	Cl l 2003	03	A	
1980.000	210.0	20.00	7.1	7.0	3	Cl l 2003	04	A	
1980.1	210.8	20.066	.	.	8	WFD1997	06	M	
1982.043	.	20.9	.	.	1	Lef1982	10	B	
1984.164	210.2	19.86	.	.	1	Doc1985b	05	A	
1984.164	210.7	19.81	.	.	1	Csa1985	05	A	
1985.136	209.9	19.95	.	.	2	Doc1986c	05	A	
1985.84	211.0	19.987	.	.	4	WFD1985	07	M	
1987.6	209.6	19.948	.	.	2	WFD1989	08	M	
1990.09	211.0	20.81	.	.	1	Gi r1992	10	M	
1991.25	210.8	19.90	6.41	7.07	1	HI P1997a	54	T	
1991.84	211.1	19.889	6.31	6.88	1	TYC2000b	07	T	
1994.8706	.	.	.	.	1	Msn1996b	142	S	S
1997.80	210.7	19.93	.	.	1	TMA2003	51	F	K
2001.11	209.5	19.67	.	.	1	Bko2002	14	F	
2002.126	211.0	19.75	.	.	1	Arn2002c	08	B	
2002.13	210.7	20.00	.	.	5	TI f2003	05	I	
2002.178	210.9	19.92	.	.	1	Dal 2003a	08	F	
2002.200	211.01	19.88	6.31	6.88	1	Bko2003	14	F	6
2002.901	210.9	19.71	.	.	1	WSI 2004a	26	S	

SHJ 73

WDS Star No. 06364-1840

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RA & DEC (2000)	Disc. Number	Comp	No. Obs.	Magnitudes A B		Spec. Type	PM/1000 yr RA DEC	DM No.
06364-1840	SHJ 73		33	5.79	7.38		-013+018	-18 1480

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Precise Position of Primary of System or Subsystem (when available)

RA = 06 36 22.85 Dec = -18 39 35.6

Proper Motion (PM/1000 yr) of Secondary of Subsystem (when available)

RA = -009 Dec = +022

Note? = yes Orbit? = no Linear Fit? = no DM? = yes Other? = no

	Date Observed	Position Angle	Separation
First	1800	256	19.0
Last	2002	264	17.8

Observations

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Date	P. A.	Sep.	Mag-a	Mag-b	#	RefCode	Aperture	Method	Codes
1800.	255.5	19.0	.	.	1	Pz_1844A		M	
1821.22	259.9	17.24	.	.	1	SHJ1824	05	A	
1830.83	260.2	17.2	.	.	1	Smy1844	06	A	
1842.82	261.6	17.34	.	.	1	Mai 1844A	08	D	
1854.16	262.7	.	.	.	3	Pwl 1857	04	A	
1856.02	263.2	17.7	.	.	2	Pwl 1857	04	A	
1859.98	262.8	16.79	.	.	2	Mrt1861	08	A	
1861.06	263.0	17.2	.	.	2	Pwl 1864	04	A	
1863.12	260.68	17.17	6.0	8.0	1	Mai 1863	08	D	
1877.12	262.5	17.54	6.0	7.0	1	Upt1878	11	A	
1877.18	262.2	17.35	6.0	8.0	1	Hwe1878	11	A	
1879.79	262.8	17.35	.	.	1	Egb1882	11	A	
1883.47	262.6	17.49	5.7	7.8	3	WHC1890	11	A	
1891.6	265.0	16.833	.	.	1	WFD1924a	07	M	
1914.09	262.4	17.76	5.7	8.0	1	Frk1914a	06	A	
1915.030	261.0	18.38	.	.	1	Poc1916	08	G	T
1915.03	261.5	18.594	.	.	1	WFC1998	08	G	
1915.10	263.3	16.940	.	.	1	WFD1931	08	M	
1916.97	263.1	17.718	.	.	1	WFC1998	08	G	
1916.97	265.7	18.292	.	.	1	WFC1998	08	G	
1926.142	262.9	17.52	.	.	1	Baz1927a	04	A	
1933.07	263.3	17.349	.	.	1	WFC1940b	05	G	
1938.182	262.6	17.12	.	.	2	Al I 1941	05	A	
1938.42	264.0	17.818	.	.	8	WFD1953	06	M	
1951.971	263.41	17.409	.	.	1	The1970	24	H	
1969.25	263.4	17.060	.	.	4	WFC1992	08	G	
1973.000	260.0	17.00	6.4	8.0	3	CI I 2003	03	A	
1978.006	262.5	16.00	.	.	1	Scn2003	09	B	
1980.000	261.0	17.00	6.0	8.4	3	CI I 2003	04	A	
1983.992	.	.	.	.	1	Tob2003	04	A	
1989.117	265.5	17.00	.	.	2	Tob2003	04	A	
1991.25	263.8	17.40	5.87	7.61	1	HI P1997a	54	T	
1991.63	263.6	17.492	5.79	7.38	1	TYC2000c	07	T	
1993.205	257.8	17.09	.	.	1	Tob2003	04	A	
1999.05	263.9	17.35	.	.	1	TMA2003	51	E	K
2002.148	264.0	17.78	.	.	1	Arn2002c	08	B	

STF 1132

WDS Star No. 07422-0331

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RA & DEC (2000)	Disc. Number	Comp	No. Obs.	Magni tudes A B	Spec. Type	PM/1000 yr RA DEC	DM No.
07422-0331	STF 1132		40	8. 13 8. 49	K5	-017-005	-03 2019

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Precise Position of Primary of System or Subsystem (when available)  
 RA = 07 42 12.50      Dec = -03 31 10.4

Proper Motion (PM/1000 yr) of Secondary of Subsystem (when available)  
 RA = -017      Dec = -023

Note? = yes    Orbit? = no    Linear Fit? = no    DM? = yes    Other? = no

	Date Observed	Positi on Angle	Separati on
First	1783	246	18.3
Last	2003	235	20.2

Observations

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Date	P. A.	Sep.	Mag-a	Mag-b	#	RefCode	Aperture	Method	Codes
1783.03	246.0	18.31	.	.	1	H_1906A	06	B	
1797.20	230.7	17.47	.	.	1	Lal 1831			
1825.03	238.1	19.88	.	.	1	S_1906A	05	A	
1825.08	238.5	19.32	.	.	2	StF1837	10	A	
1834.96	237.3	19.30	8.1	8.7	3	StF1837	10	A	
1847.23	236.4	19.10	.	.	1	Mad1906A	10	A	
1855.98	236.1	19.10	7.5	8.2	1	D_1883	05	A	
1867.46	236.5	19.52	7.7	8.2	3	D_1884	07	A	
1874.18	235.9	20.88	.	.	1	Gl d1875	09	A	
1874.18	235.7	20.6	.	.	3	WS_1875	08	A	
1879.18	237.4	19.80	7.5	7.5	1	Hwe1879	11	A	
1880.16	237.7	19.75	.	.	2	Prt1887a	12	A	
1880.17	234.0	19.48	.	.	1	Prc1887	12	A	
1881.19	236.8	19.38	.	.	2	Smt1884	8	A	
1881.20	237.4	19.27	.	.	2	Hod1884	8	A	
1881.20	237.5	19.43	.	.	3	Sbk1884	8	A	
1890.47	236.5	19.62	.	.	3	Gi a1890b	05	A	
1891.0	235.0	20.514	.	.	2	WFD1906b	06	M	
1893.18	235.3	19.87	7.5	7.9	2	Gl p1894a	09	A	
1894.18	239.1	18.568	.	.	1	WFC1998	13	G	
1909.07	236.7	19.926	.	.	1	WFC1998	13	G	
1910.89	236.9	20.03	.	.	3	Dob1927	06	A	
1911.38	235.8	19.79	.	0.7	4	Wz_1923	19	A	
1913.10	236.9	19.755	.	.	1	WFD1931	08	M	
1915.14	234.8	19.89	.	.	2	Frk1915	06	A	
1922.03	235.8	19.55	.	.	1	Nvl 1924	16	A	
1923.16	234.6	19.77	.	.	3	Sci 1923	07	A	
1933.50	235.9	20.159	.	.	1	WFC1945b	05	G	
1968.60	234.9	19.871	.	.	4	WFC1992	08	G	
1976.180	234.78	19.943	.	.	1	USN1978	26	H	
1980.000	229.0	20.00	8.2	8.7	3	CI I 2003	04	A	
1981.22	234.4	19.754	.	.	5	WFC1999	08	G	
1985.87	234.7	20.001	.	.	4	WFC1994	09	G	
1991.25	234.4	20.04	8.16	8.44	1	HI P1997a	54	T	
1991.92	234.6	20.060	8.13	8.49	1	TYC2000b	07	T	
1994.079	233.0	20.10	.	.	1	Roj 2003	04	A	
1994.115	232.0	20.10	.	.	1	Roj 2003	04	A	
1997.186	224.3	20.79	.	.	1	Tob2003	04	A	
1999.07	234.1	20.02	.	.	1	TMA2003	51	E	
2003.068	235.0	20.24	.	.	1	Arn2003e	08	B	K

STF 1138

WDS Star No. 07455-1441

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RA & DEC (2000)	Disc. Number	Comp	No. Obs.	Magni tudes A B	Spec. Type	PM/1000 yr RA DEC	DM No.
07455-1441	STF 1138	AB	58	6.00 6.73	A2V A8V	-007-020	-14 2194

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Precise Position of Primary of System or Subsystem (when available)

RA = 07 45 29.1 Dec = -14 41 25.

Proper Motion (PM/1000 yr) of Secondary of Subsystem (when available)

RA = -003 Dec = -024

Note? = yes Orbit? = no Linear Fit? = no DM? = yes Other? = no

	Date Observed	Position Angle	Separation
First	1782	339	17.4
Last	2003	340	16.6

Observations

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Date	P. A.	Sep.	Mag-a	Mag-b	#	RefCode	Aperture	Method	Codes
1782.77	339.2	17.38	.	.	1	H_1906A	06	B	
1800.	6.	13.8	.	.	1	Pz_1844A		M	
1822.17	341.7	15.91	6.5	7.5	1	StF1837	04	A	
1825.13	339.8	16.81	6.2	7.0	1	StF1837	10	A	
1831.76	338.9	16.40	.	.	2	StF1837	10	A	
1836.20	338.8	16.8	.	.	1	Smy1844	06	A	
1846.72	339.3	16.98	.	.	2	Mad1906A	10	A	
1848.24	339.3	16.82	.	.	1	Mad1856	10	A	
1857.97	337.2	16.67	6.0	7.0	1	D_1883	05	A	
1863.17	338.05	16.29	7.0	7.5	1	Mai 1863	08	D	
1863.17	338.1	16.29	.	.	1	Mad1906A	10	A	
1863.19	339.2	16.74	.	.	5	Eng1865	05	A	
1863.243	338.6	16.70	.	.	1	HI_1877a	10	A	
1868.66	338.8	16.83	5.9	6.7	4	D_1884	07	A	
1876.08	340.2	17.91	5.5	5.5	1	Hwe1877	11	A	
1878.16	339.8	16.70	6.2	7.0	1	Hwe1879	11	A	7
1878.22	339.1	16.89	6.5	7.0	1	Stn1879	11	A	
1885.14	339.8	16.53	6.0	7.0	1	WHC1890	11	A	
1888.11	338.8	17.03	.	.	2	SBC1899	09	A	
1888.12	339.2	16.22	.	.	2	Cos1899	09	A	
1889.78	339.2	16.48	.	.	1	Ki n1928	13	H	
1890.04	339.0	16.56	.	.	2	Gi a1890b	05	A	
1893.18	338.6	16.94	6.2	6.8	2	Gl p1894a	09	A	
1894.70	335.5	17.315	.	.	2	WFD1908b	09	M	
1902.16	338.6	17.925	.	.	1	WFC1998	13	G	
1903.29	340.8	16.599	.	.	1	WFC1998	13	G	
1909.05	338.6	16.75	6.2	7.0	2	Bu_1913	40	A	
1909.10	339.4	16.70	.	0.7	3	Wz_1912	19	A	
1912.06	338.9	16.87	6.0	6.9	3	Doo1915b	18	A	
1913.90	339.6	17.402	.	.	1	WFD1931	08	M	
1916.25	339.5	16.62	.	.	2	Frk1916	06	A	
1917.16	338.8	17.05	.	.	1	Vou1925b	10	G	
1920.85	339.3	16.76	.	.	1	Gui 1931	13	A	
1922.03	340.4	16.67	.	.	1	Bl o1931	06	A	
1926.142	339.6	17.34	.	.	1	Baz1927a	04	A	
1928.195	340.3	17.03	.	.	3	Arm1945	06	A	
1928.20	340.3	17.03	.	.	3	Arm1929	05	A	
1932.17	338.9	16.66	.	.	4	Al l 1934	05	A	
1933.66	339.6	16.93	6.2	7.0	4	Wal 1934	14	A	
1933.98	338.4	17.028	.	.	4	WFD1951a	06	M	
1939.1	339.1	17.310	.	.	8	WFD1953	06	M	
1973.1	340.1	16.6	.	.	2	Ary1977	06	A	
1980.000	340.0	17.00	6.1	6.1	3	Cl l 2003	04	A	
1982.29	341.	17.4	.	.	1	Wat1986	10	B	
1983.178	340.3	17.16	.	.	1	Doc1984a	05	A	

1983. 178	340. 8	16. 82	.	.	1	Csa1984	05	A
1983. 5	359. 6	15. 404	.	.	2	WFD1988	07	M
1984. 194	337. 2	17. 09	.	.	1	Li n1985b	05	A
1984. 205	338. 0	17. 04	.	.	3	Doc1985b	05	A
1984. 221	339. 3	16. 96	.	.	2	Csa1985	05	A
1990. 057	342. 0	16. 70	.	.	1	Tob2003	04	A
1991. 25	339. 7	16. 77	6. 10	6. 97	1	HI P1997a	54	T
1991. 87	339. 8	16. 869	6. 00	6. 73	1	TYC2000c	07	T
1998. 25	339. 8	16. 80	.	.	1	TMA2003	51	E
2000. 248	339. 7	16. 94	.	.	1	Pop2001	26	A
2002. 170	340. 0	16. 79	.	.	1	Arn2002c	08	B
2003. 230	340. 2	16. 95	.	.	1	Dal 2004a	09	F
2003. 311	339. 7	16. 61	.	.	1	WSI 2004b	26	S

K

ARG20

WDS Star No. 08287-1732

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RA & DEC (2000)	Disc. Number	Comp	No. Obs.	Magnitudes A B		Spec. Type	PM/1000 yr RA DEC		DM No.
08287-1732	ARG 20		18	8.44	8.92	FOV+	+000-002	-17 2512	

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Precise Position of Primary of System or Subsystem (when available)

RA = 08 28 43.94 Dec = -17 31 30.8

Proper Motion (PM/1000 yr) of Secondary of Subsystem (when available)

RA = -005 Dec = -002

Note? = yes Orbit? = no Linear Fit? = no DM? = yes Other? = no

	Date Observed	Position Angle	Separation
First	1877	173	15.3
Last	2003	174	14.8

Observations

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Date	P. A.	Sep.	Mag-a	Mag-b	#	RefCode	Aperture	Method	Codes
1877.79	172.8	15.29	8.0	8.5	3	Cin1906B	11	A	
1879.08	173.2	15.35	8.0	8.5	1	Hwe1879	11	A	
1895.7	173.7	15.750	.	.	2	WFD1908b	09	M	
1912.054	171.7	15.35	.	.	3	Fox1915	18	A	
1915.02	173.5	15.37	8.5	8.9	1	Ara1963	08	G	T
1915.03	173.1	15.395	.	.	1	WFC1998	08	G	
1915.036	171.2	15.12	.	.	2	Poc1916	08	G	T
1915.05	170.6	14.902	.	.	1	WFC1998	08	G	
1915.08	170.1	15.21	8.4	8.9	2	Ara1963	08	G	T
1915.10	170.2	15.49	.	.	1	Bha1916	08	G	T
1915.11	170.1	15.355	.	.	1	WFC1998	08	G	
1915.17	172.1	15.24	8.0	8.6	3	Doo1923	18	A	
1918.19	173.0	15.23	8.0	8.3	2	Frk1918	06	A	
1933.19	173.6	14.769	.	.	1	WFC1940a	05	G	
1938.274	172.9	15.12	.	.	3	All1941	05	A	
1951.250	173.33	15.035	.	.	1	The1970	24	H	
1980.000	173.0	15.00	8.6	8.9	3	Cil2003	04	A	
1986.3	172.2	15.214	.	.	4	WFD1985	07	M	
1991.25	173.4	15.07	8.45	8.67	1	HIP1997a	54	T	
1991.65	173.6	15.072	8.44	8.92	1	TYC2000b	07	T	
1999.30	173.4	15.10	.	.	1	TMA2003	51	E	K
2003.085	174.0	14.81	.	.	1	Arn2003e	08	B	

STF1283

WDS Star No. 08499+1450

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RA & DEC (2000)	Disc. Number	Comp	No. Obs.	Magnitudes		Spec. Type	PM/1000 yr		DM No.
				A	B		RA	DEC	
08499+1450	STF 1283		44	7.66	8.45	F0	-020+003	+15 1912	

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Precise Position of Primary of System or Subsystem (when available)  
 RA = 08 49 55.8      Dec = +14 50 00.

Proper Motion (PM/1000 yr) of Secondary of Subsystem (when available)  
 RA = -019      Dec = +004

Note? = yes    Orbit? = no    DM? = yes    Other? = no

	Date Observed	Position Angle	Separation
First	1782	119	17.2
Last	2002	123	16.5

Observations

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Date	P. A.	Sep.	Mag-a	Mag-b	#	RefCode	Aperture	Method	Codes
1782.99	119.0	17.23	.	.	1	H__1906A	06	B	
1829.23	123.3	16.46	7.0	8.0	3	StF1906A	10	A	
1832.07	125.0	18.	.	0.5	1	HJ_1836	18	B	
1833.72	123.4	16.32	7.0	7.5	4	StF1837	10	A	
1851.20	123.5	16.28	.	.	3	Mad1856	10	A	
1852.59	123.7	.	.	.	3	Mad1856	10	A	
1854.23	122.9	16.49	.	.	3	Mad1859	10	A	
1855.19	123.9	16.03	7.3	8.3	3	D__1883	05	A	
1856.18	125.1	16.49	7.	7.5	1	Se_1860b	10	A	
1860.27	123.9	16.51	.	.	2	Mad1906A	10	A	
1863.12	122.2	16.16	.	.	1	Rom1865	10	A	
1863.23	122.4	16.47	.	.	3	Eng1865	05	A	
1864.35	125.0	16.54	.	0.5	1	Mai 1864	08	D	
1866.04	123.3	16.39	7.0	8.0	3	D__1884	07	A	
1888.18	123.4	16.14	.	.	1	Cos1899	09	A	
1888.20	123.4	16.54	.	.	2	SBc1899	09	A	
1889.24	123.1	16.29	.	.	3	Gi a1890b	05	A	
1889.55	122.2	16.47	.	.	2	Ki n1928	13	H	
1892.13	125.3	15.80	.	.	1	Cos1899	33	B	
1892.13	124.0	16.38	.	.	1	Rsd1899	33	B	
1900.18	125.1	16.455	.	.	1	WFC1998	13	G	
1905.25	122.1	16.668	.	.	1	WFC1998	13	G	
1906.21	122.0	16.634	.	.	1	WFC1998	13	G	
1911.074	124.2	16.40	.	.	1	Lau1911c	06	G	
1912.70	125.0	16.643	.	.	1	WFD1931	08	M	
1913.19	122.7	16.13	.	.	1	Gui 1931	06	A	
1914.14	119.9	16.219	.	.	2	WFD1928a	07	M	
1915.20	123.3	16.56	.	.	2	Frk1915	06	A	
1923.19	122.1	16.35	.	.	1	Gui 1931	13	A	
1928.256	122.5	15.90	.	.	3	Arm1945	06	A	
1928.26	122.5	15.90	.	.	3	Arm1929	05	A	
1929.67	123.8	16.660	.	.	1	WFC1958b	06	G	
1933.28	123.3	16.22	.	.	2	AI I 1934	05	A	
1940.11	124.0	16.245	.	.	1	WFC1947	05	G	
1959.19	124.7	16.636	.	.	1	WFC1975	06	G	
1973.000	124.0	16.00	7.0	8.1	3	CI I 2003	03	A	
1973.034	122.99	16.457	.	.	1	USN1978	26	H	
1973.034	122.90	16.448	.	.	1	USN1978	26	H	
1974.159	122.90	16.483	.	.	1	USN1978	26	H	
1980.000	123.0	16.00	7.0	8.2	3	CI I 2003	04	A	
1991.25	122.9	16.49	7.75	8.90	1	HI P1997a	54	T	
1991.56	122.9	16.416	7.66	8.45	1	TYC2000b	07	T	
1997.87	122.9	16.47	.	.	1	TMA2003	51	F	K
2002.203	123.0	16.46	.	.	1	Arn2002d	08	B	
2002.323	122.72	16.51	7.66	8.45	1	Bko2003	14	F	6

STF1565

WDS Star No. 11396+1900

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RA & DEC (2000)	Disc. Number	Comp	No. Obs.	Magnitudes A B	Spec. Type	PM/1000 yr RA DEC	DM No.
11396+1900	STF 1565		52	7.26 8.41	F4IV	-053-002	+19 2483

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Precise Position of Primary of System or Subsystem (when available)

RA = 11 39 36.50 Dec = +18 59 48.3

Proper Motion (PM/1000 yr) of Secondary of Subsystem (when available)

RA = -052 Dec = -002

Note? = yes Orbit? = no Linear Fit? = no DM? = yes Other? = no

	Date Observed	Position Angle	Separation
First	1829	304	21.5
Last	2003	305	21.5

Observations

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Date	P. A.	Sep.	Mag-a	Mag-b	#	RefCode	Aperture	Method	Codes
1829.26	304.1	21.52	7.0	8.0	4	StF1837	10	A	
1843.02	303.2	21.69	7.2	8.2	3	Gsh1908	12	A	
1848.33	303.7	21.81	.	.	5	Stt1878	15	A	
1858.29	304.3	21.56	7.3	8.5	1	D__1883	05	A	
1863.05	302.3	21.15	.	.	1	Eng1865	05	A	
1863.25	302.25	21.11	7.0	8.0	1	Mai 1863	08	D	
1863.25	302.3	21.11	.	.	1	Mad1906A	10	A	
1867.98	304.4	21.54	6.9	8.0	4	D__1884	07	A	
1884.19	304.0	21.73	7.0	8.4	2	Per1887	15	A	
1888.29	304.1	21.82	.	.	1	Cos1899	09	A	
1888.78	304.0	21.76	.	.	2	SBc1899	09	A	
1889.36	304.9	22.60	6.4	7.7	2	Gl p1895	04	A	
1889.52	304.2	21.66	.	.	1	Ki n1928	13	H	
1890.21	304.1	21.28	.	.	4	Gi a1890b	05	A	
1893.30	303.6	21.573	.	.	1	WFC1998	13	G	
1895.24	303.8	21.436	.	.	1	WFC1998	13	G	
1898.32	303.4	21.80	6.2	7.9	2	Gl p1899	09	A	
1905.5	305.0	21.867	.	.	3	WFD1915a	06	M	
1906.39	302.9	22.97	.	.	1	I no1909	12	A	
1907.23	303.3	21.91	.	.	2	Jan1907b	10	A	
1907.23	303.7	21.72	7.0	8.0	2	Lau1917	10	A	
1908.3	302.5	22.261	.	.	4	WFD1929c	09	M	
1909.37	303.5	21.72	.	.	2	Gui 1912	06	A	
1912.25	303.6	21.97	.	.	3	Doo1923	18	A	
1913.30	303.4	21.758	.	.	1	WFD1931	08	M	
1915.26	304.2	21.60	.	.	2	Frk1915	06	A	
1917.95	304.1	21.81	.	.	1	Gui 1931	13	A	
1924.34	305.3	21.88	.	.	2	Lrz1924b	10	A	
1924.36	305.0	21.72	.	.	1	Jan1924b	10	A	
1925.435	304.2	21.21	.	.	1	Baz1927b	04	A	
1930.72	303.0	21.624	.	.	1	WFC1958b	06	G	
1936.380	303.5	22.11	.	.	2	Al l 1941	05	A	
1937.34	302.7	21.64	7.0	8.0	3	Sch1938	08	A	
1937.35	303.6	22.25	.	.	2	Sch1938	08	A	
1938.29	303.6	21.49	7.0	8.0	1	Sch1939	08	A	
1940.17	306.4	21.831	.	.	1	WFC1947	05	G	
1955.198	304.08	21.802	.	.	1	De01957	18	H	
1955.301	304.04	21.693	.	.	1	De01957	18	H	
1955.304	304.16	21.714	.	.	1	De01957	18	H	
1958.28	303.73	21.875	7.1	8.4	1	Bot1962	08	H	
1961.24	303.1	21.809	.	.	1	WFC1975	06	G	
1980.000	305.0	22.00	7.3	8.9	3	Cl I 2003	04	A	
1981.33	304.2	21.583	.	.	2	WFC1999	08	G	
1985.2	303.6	21.612	.	.	8	WFD1988	07	M	
1985.283	304.11	21.591	.	.	1	Sca1992	08	H	

1986.26	304.5	21.658	.	.	4	WFD1985	07	M	
1991.25	304.2	21.77	7.33	8.63	1	HIP1997a	54	T	
1991.61	304.4	21.614	7.26	8.41	1	TYC2000b	07	T	
1998.34	304.2	21.76	.	.	1	TMA2003	51	E	K
2002.260	304.0	21.73	.	.	1	Arn2002d	08	B	
2002.445	303.67	21.730	.	.	2	SI e2003	10	F	
2003.389	305.2	21.49	.	.	3	Ary2004	08	A	

STF1649

WDS Star No. 12316-1104

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RA & DEC (2000)	Disc. Number	Comp	No. Obs.	Magnitudes A B		Spec. Type	PM/1000 yr RA DEC		DM No.
12316-1104	STF 1649		43	7.97	8.43	A7	-051-004	-10 3487	

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Precise Position of Primary of System or Subsystem (when available)

RA = 12 31 36.46 Dec = -11 04 20.2

Proper Motion (PM/1000 yr) of Secondary of Subsystem (when available)

RA = -051 Dec = -006

Note? = yes Orbit? = no Linear Fit? = no DM? = yes Other? = no

	Date Observed	Position Angle	Separation
First	1830	194	15.2
Last	2003	194	15.8

Observations

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Date	P. A.	Sep.	Mag-a	Mag-b	#	RefCode	Aperture	Method	Codes
1830.60	194.1	15.17	7.2	8.0	3	StF1837	10	A	
1844.34	195.1	13.88	.	.	1	Mad1845	10	A	
1857.39	195.0	15.45	.	.	1	Se_1860b	10	A	
1858.30	195.3	15.30	7.5	8.0	1	D_1883	05	A	
1863.35	194.80	15.49	7.5	7.8	1	Mai 1863	08	D	
1863.35	194.8	15.49	.	.	1	Mad1906A	10	A	
1866.94	194.9	15.18	7.2	7.7	3	D_1884	07	A	
1879.34	193.7	15.57	8.0	9.0	1	Hwe1879	11	A	
1880.22	195.0	12.00	.	.	1	Egb1882	11	A	
1883.00	194.7	15.45	7.0	7.4	4	WHC1890	11	A	
1888.326	193.5	15.30	.	.	2	Tar1890	10	B	
1888.34	194.5	15.52	.	.	1	Mon1899	09	A	
1888.34	193.8	15.29	.	.	2	SBc1899	09	A	
1890.41	194.4	14.98	.	.	2	Gl p1892f	06	A	
1904.36	194.4	14.87	.	.	1	Hu_1911	12	A	
1906.32	193.3	15.464	.	.	1	WFC1998	13	G	
1906.32	194.3	15.853	.	.	1	WFC1998	13	G	
1916.31	194.3	15.43	.	.	2	Frk1916	06	A	
1916.32	194.8	15.13	.	.	1	Gui 1931	06	A	
1923.30	193.8	15.37	.	.	2	Bl o1931	06	A	
1933.30	195.8	15.320	.	.	1	WFC1939	05	G	
1938.37	194.4	15.59	.	.	2	Lac1939	10	A	
1951.163	193.47	15.596	.	.	1	The1970	24	H	
1955.42	194.2	15.42	.	.	2	Ml r1958	06	C	
1957.225	194.16	15.440	.	.	1	The1970	24	H	
1969.86	194.1	15.336	.	.	4	WFC1992	08	G	
1973.000	193.0	15.00	7.5	8.0	3	Cl I 2003	03	A	
1980.000	193.0	15.00	7.5	8.0	3	Cl I 2003	04	A	
1985.296	195.0	15.50	7.5	8.0	1	Tob2003	04	A	
1988.641	196.0	15.50	.	.	1	Tob2003	04	A	
1989.230	193.5	15.50	.	.	1	Tob2003	04	A	
1991.25	193.9	15.52	7.99	8.46	1	HI P1997a	54	T	
1991.67	193.9	15.518	7.97	8.43	1	TYC2000b	07	T	
1992.242	192.9	15.22	.	.	1	Tob2003	04	A	
1994.421	192.0	15.30	.	.	1	Roj 2003	04	A	
1994.421	192.0	15.30	.	.	1	Tob2003	04	A	
1995.274	192.4	15.23	.	.	1	Tob2003	04	A	
1995.277	192.9	15.50	.	.	1	Tob2003	04	A	
1995.381	194.0	15.50	.	.	1	Roj 2003	04	A	
1995.414	195.0	15.40	.	.	1	Roj 2003	04	A	
1995.416	194.0	15.50	.	.	1	Roj 2003	04	A	
2000.19	194.1	15.44	.	.	1	TMA2003	51	E	K
2003.184	194.0	15.80	.	.	1	Arn2004a	09	F	

STF 1677

WDS Star No. 12453-0353

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RA & DEC (2000)	Disc. Number	Comp	No. Obs.	Magni tudes A B		Spec. Type	PM/1000 yr RA DEC	DM No.
12453-0353	STF 1677		56	7. 30	8. 12	A9IV	-036+013	-03 3349

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Precise Position of Primary of System or Subsystem (when available)

RA = 12 45 17.35 Dec = -03 53 17.0

Proper Motion (PM/1000 yr) of Secondary of Subsystem (when available)

RA = -053 Dec = +012

Note? = yes Orbit? = no Linear Fit? = no DM? = yes Other? = no

	Date Observed	Positi on Angle	Separati on
First	1783	349	13.0
Last	2004	349	15.6

Observations

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Date	P. A.	Sep.	Mag-a	Mag-b	#	RefCode	Aperture	Method	Codes
1783.32	349.0	12.97	.	.	1	H__1906A	06	B	
1802.31	345.5	.	.	.	1	H__1906A	06	B	
1822.80	351.3	15.95	7.5	8.5	2	StF1837	04	A	
1823.41	348.3	16.77	.	.	2	SHJ1906A	05	A	
1830.61	348.4	15.90	7.0	8.0	3	StF1837	10	A	
1843.31	348.6	16.37	.	.	1	Mad1844	10	A	
1856.82	348.7	16.06	7.	7.8	2	Se_1860b	10	A	
1858.31	347.3	16.11	7.0	8.0	1	D__1883	05	A	
1863.28	348.37	16.01	6.8	7.2	1	Mai 1863	08	D	
1863.29	348.4	16.01	.	.	1	Mad1906A	10	A	
1867.27	348.0	15.79	6.5	7.5	3	D__1884	07	A	
1867.63	17.2	15.48	10.3	8.0	3	D__1884	07	A	Q
1879.25	348.4	15.76	7.0	8.0	1	Hwe1879	11	A	
1879.30	348.0	16.18	.	.	3	Ci n1906A	11	A	
1879.36	348.3	16.64	6.8	8.2	1	Stn1879	11	A	
1879.39	347.6	16.27	8.0	9.0	1	Egb1879	11	A	
1888.34	348.0	16.06	.	.	1	Mon1899	09	A	
1888.34	347.7	16.19	.	.	2	SBc1899	09	A	
1889.36	347.2	15.62	.	.	2	Tar1893	10	B	
1889.45	347.7	16.04	.	.	1	Ki n1928	13	H	
1890.30	347.5	15.90	.	.	4	Gi a1890b	05	A	
1890.43	347.8	15.86	.	.	2	Gl p1892f	06	A	
1890.9	352.0	15.242	.	.	3	WFD1906b	06	M	
1893.42	355.1	15.860	.	.	1	WFC1998	13	G	
1893.47	351.1	15.144	.	.	1	WFC1998	13	G	
1894.43	351.1	15.7	.	.	3	Brt1931	13	G	T
1896.42	347.7	16.245	.	.	1	WFC1998	13	G	
1904.35	347.8	16.05	.	.	1	Hu_1911	12	A	
1905.29	347.7	15.72	6.5	7.5	2	Lau1905	10	A	
1912.249	347.76	15.880	.	.	1	Jan1912	10	A	
1912.278	347.84	16.122	.	.	2	BAn1912	10	A	
1912.60	349.2	16.548	.	.	1	WFD1931	08	M	
1914.30	340.1	16.674	.	.	3	WFD1917a	06	M	
1915.28	347.7	15.76	.	.	2	Frk1915	06	A	
1916.32	347.9	15.80	.	.	1	Gui 1931	06	A	
1921.37	349.0	.	.	.	3	Arm1922	05	A	
1922.97	347.6	15.78	.	.	3	Bl o1931	06	A	
1924.42	348.3	16.03	.	.	1	PTC1924	16	A	
1925.37	348.8	16.38	.	.	2	Lrz1926a	10	A	
1925.37	348.0	16.36	.	.	2	Jan1926a	10	A	
1926.184	348.6	16.41	.	.	2	Baz1927b	04	A	
1927.25	349.3	15.10	.	.	3	Arm1927b	05	A	
1930.29	348.4	16.27	.	.	3	Arm1934	05	A	
1933.40	346.5	15.749	.	.	1	WFC1945b	05	G	
1938.37	350.0	16.15	.	.	2	Lac1939	10	A	

1970.36	348.0	15.900	.	.	4	WFC1992	08	G	
1973.000	349.0	16.00	6.8	8.1	3	CI I 2003	03	A	
1980.000	350.0	16.00	6.8	8.1	3	CI I 2003	04	A	
1980.57	348.4	16.360	.	.	8	WFD1997	06	M	
1991.25	348.0	15.99	7.37	8.13	1	HI P1997a	54	T	
1991.51	347.9	16.056	7.30	8.12	1	TYC2000b	07	T	
1994.221	349.5	15.59	.	.	1	Tob2003	04	A	
1994.421	350.0	15.40	.	.	1	Roj 2003	04	A	
1995.416	349.0	15.80	.	.	1	Roj 2003	04	A	
1995.419	349.0	15.80	.	.	1	Roj 2003	04	A	
2000.26	348.1	15.91	.	.	1	TMA2003	51	E	K
2001.397	348.6	16.22	.	.	1	Dal 2002b	09	F	
2002.299	348.0	16.29	.	.	1	Arn2002d	08	B	
2004.370	349.0	15.56	.	.	3	Ary2005	08	A	

S665

WDS Star No. 15045-1754

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RA & DEC (2000)	Disc. Number	Comp	No. Obs.	Magnitudes A B		Spec. Type	PM/1000 yr RA DEC		DM No.
15045-1754	S 665		20	8.07	8.88		-015-001	-17 4246	

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Precise Position of Primary of System or Subsystem (when available)

RA = 15 04 30.89 Dec = -17 54 13.0

Proper Motion (PM/1000 yr) of Secondary of Subsystem (when available)

RA = -016 Dec = +005

Note? = yes Orbit? = no Linear Fit? = no DM? = yes Other? = no

	Date Observed	Position Angle	Separation
First	1825	91	25.1
Last	2003	90	24.7

Observations

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Date	P. A.	Sep.	Mag-a	Mag-b	#	RefCode	Aperture	Method	Codes
1825.	91.	25.1	.	.	1	S_1826	05	A	
1830.24	90.3	23.65	.	1.0	1	HJ_1833a	05	A	
1831.36	92.5	25.	.	0.5	1	HJ_1833c	18	B	
1879.46	90.2	25.98	7.5	8.5	1	Hwe1879	11	A	
1890.46	91.3	24.72	.	.	2	Gl p1892f	06	A	
1895.05	91.7	26.077	.	.	3	WFD1908b	09	M	
1903.27	91.5	24.72	7.7	8.2	2	Bu_1906	40	A	
1916.24	91.7	25.473	.	.	1	WFC1998	08	G	
1916.26	91.4	25.09	.	.	2	Bha1916	08	G	T
1916.28	91.8	24.740	.	.	1	WFC1998	08	G	
1919.38	91.0	24.57	.	.	2	Frk1919a	06	A	
1933.37	89.9	24.997	.	.	1	WFC1940a	05	G	
1969.93	90.7	25.031	.	.	4	WFC1992	08	G	
1973.000	93.0	25.00	8.3	9.2	3	CI I 2003	03	A	
1980.000	92.0	25.00	8.3	9.2	3	CI I 2003	04	A	
1981.28	90.7	24.406	.	.	2	WFC1999	08	G	
1985.06	90.4	25.333	.	.	4	WFC1994	09	G	
1991.25	90.4	25.07	8.09	8.97	1	HI P1997a	54	T	
1991.57	90.5	25.065	8.07	8.88	1	TYC2000b	07	T	
1998.24	90.4	24.94	.	.	1	TMA2003	51	E	K
2003.299	89.8	24.69	.	.	1	Arn2004a	09	F	

STF2202 AB

WDS Star No. 17446+0235

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RA & DEC (2000)	Disc. Number	Comp	No. Obs.	Magni tudes		Spec. Type	PM/1000 yr	DM No.
17446+0235	STF 2202 AB	AB	140	6. 13	6. 47	A1IV-V	+008+016	+02 3390

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Precise Position of Primary of System or Subsystem (when available)

RA = 17 44 34.0 Dec = +02 34 45.

Proper Motion (PM/1000 yr) of Secondary of Subsystem (when available)

RA = 000 Dec = +013

Note? = yes Orbit? = no DM? = yes Other? = no

	Date Observed	Positi on	Angl e	Separati on
First	1781	90		19. 1
Last	2004	93		20. 6

Observations

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Date	P. A.	Sep.	Mag-a	Mag-b	#	RefCode	Aperture	Method	Codes
1781. 55	90.	19. 07	.	.	1	H__1906A	06	B	U
1800.	90.	26. 1	.	.	1	Pz_1844A		M	
1821. 68	94. 0	20. 48	.	.	1	StF1837	04	A	7
1821. 77	93. 6	20. 52	.	.	1	SHJ1906A	05	A	
1825. 56	94. 1	20. 53	.	.	3	StF1837	10	A	
1830. 45	95. 2	20. 44	5. 5	5. 8	6	StF1837	10	A	
1833. 53	93. 9	20. 7	.	.	1	Smy1844	06	A	
1834. 58	93. 6	20. 45	.	.	1	Shp1844A		A	
1842. 63	93. 8	19. 90	.	.	1	Mad1843	10	A	
1843. 52	94. 3	20. 07	.	.	2	Mad1844	10	A	
1851. 51	93. 9	20. 38	.	.	3	Fl t1853a	04	A	
1852. 63	94. 5	20. 10	.	.	2	Mad1856	10	A	
1857. 64	93. 8	20. 51	7. 0	7. 5	1	D__1883	05	A	
1862. 47	93. 57	19. 98	7. 5	8. 0	1	Mai 1862	08	D	
1863. 63	93. 6	21. 03	.	.	5	Eng1865	05	A	
1866. 13	93. 7	20. 32	5. 5	6. 2	3	D__1884	07	A	
1866. 52	93. 1	22. 29	.	.	1	Wi n1882	15	A	
1866. 52	94. 6	19. 89	.	.	1	Wi n1882	15	A	
1869. 30	93. 4	20. 49	5. 0	5. 4	3	Du_1876	10	A	
1874. 54	93. 1	20. 7	.	.	4	WS_1875	08	A	
1874. 55	93. 4	20. 5	.	.	2	WS_1875	08	A	
1874. 57	93. 6	20. 84	.	.	2	Gl d1875	09	A	
1876. 37	93. 18	20. 595	.	.	2	Scr1879	06	D	
1876. 59	.	20. 60	.	.	1	Pl m1878	12	A	
1877. 150	93. 5	20. 216	.	.	5	Je_1880k	06	A	
1877. 65	93. 6	20. 36	.	.	4	Sp_1888	09	A	
1882. 70	93. 7	20. 38	.	.	3	Sbk1884	8	A	
1882. 70	94. 3	21. 07	.	.	3	Sbk1884	8	A	
1883. 51	93. 6	20. 66	5. 5	6. 5	2	Per1887	15	A	
1883. 64	93. 6	20. 55	.	.	5	Sp_1888	09	A	
1884. 60	94. 5	20. 83	.	.	1	Nst1904	06	A	Z
1885. 48	94. 1	20. 67	.	.	1	And1899	09	A	
1886. 64	93. 8	20. 76	.	.	3	Cel 1923	08	A	
1887. 33	93. 7	20. 71	.	.	3	Cel 1923	08	A	
1887. 95	93. 4	20. 51	.	.	2	Mon1899	09	A	
1888. 56	93. 6	20. 56	.	.	1	Cel 1923	08	A	
1888. 98	92. 8	20. 68	.	.	2	SBC1899	09	A	
1888. 99	93. 6	20. 37	.	.	9	Gi a1891	05	A	
1889. 46	93. 4	20. 57	.	.	2	Ki n1928	13	H	
1890. 41	92. 7	20. 11	.	.	2	Gl p1892f	06	A	
1890. 66	93. 1	20. 86	.	.	1	Cel 1923	08	A	
1892. 72	93. 7	20. 33	.	.	5	Sp_1909	19	A	
1892. 93	93. 4	20. 74	.	.	7	Amb1919		D	
1894. 54	94. 1	20. 88	.	.	3	Rsd1899	09	A	
1894. 57	93. 1	20. 67	5. 3	5. 6	2	Gl p1895	09	A	

1895.66	93.5	20.45	5.2	5.6	1	Gl p1897	09	A	
1896.63	93.1	20.66	.	.	2	Hu_1897	12	A	
1897.59	93.1	20.64	5.2	5.7	2	Gl p1899	09	A	
1898.47	92.6	20.16	.	.	1	Sol 1898b	06	A	
1898.56	94.1	20.72	.	.	4	Col 1904	08	A	
1900.61	93.0	20.61	.	.	2	Dob1927	14	A	N
1902.41	93.5	20.65	.	.	3	Hu_1911	12	A	
1905.46	93.5	20.65	5.0	5.4	2	Lau1906a	10	A	
1905.48	93.4	20.68	.	.	1	L__1905	28	A	Q
1909.4	93.4	20.516	.	.	5	WFD1914	06	M	
1909.51	93.6	20.841	.	.	1	WFC1998	13	G	
1910.48	91.5	21.028	.	.	1	WFC1998	13	G	
1911.62	93.0	20.49	.	.	4	Vou1922	10	A	
1912.53	93.2	20.48	5.5	5.8	3	Bu_1913	40	A	
1912.71	93.2	20.59	.	.	3	Gui 1931	06	A	
1913.33	92.8	20.51	.	.	3	Ern1921	12	C	
1914.500	93.31	20.576	.	.	1	Hzg1920	20	H	
1914.50	93.9	21.001	.	.	1	WFD1931	08	M	
1915.38	93.2	20.47	.	.	2	Frk1915	06	A	
1915.45	93.4	20.48	.	.	4	Rab1923	08	A	
1917.44	92.8	20.45	.	.	3	Hrc1926		A	
1922.81	93.3	20.68	.	.	3	Scl 1923	07	A	
1923.48	93.1	20.54	.	.	2	Bl o1931	06	A	
1925.526	94.2	20.46	.	.	1	Baz1927b	04	A	
1926.63	93.2	20.60	.	.	4	Kom1929	15	A	
1927.48	93.0	20.45	5.5	5.8	7	Si l 1931	12	A	
1927.49	93.5	20.65	.	.	2	Kom1935a	15	A	
1927.51	93.43	20.571	5.5	5.8	1	Lbz1929	13	H	Z
1930.05	92.5	20.494	.	.	1	WFC1958b	06	G	
1931.61	93.2	20.45	5.5	5.8	3	Al l 1932	05	A	
1932.24	93.8	20.63	6.2	6.5	3	Fi l 1937	12	A	
1933.5	93.3	20.482	.	.	7	WFD1969	08	M	
1933.52	94.2	20.46	.	.	3	Dob1934	09	A	
1933.57	93.3	20.63	6.2	6.5	3	Kru1936	20	A	
1933.61	93.3	20.57	.	.	2	Urb1938	12	H	X
1936.36	95.1	20.454	.	.	1	WFC1949	05	G	
1936.595	93.6	20.64	.	.	3	Mat1983	06	A	
1937.69	93.31	20.57	.	.	1	Hzg1940	36	H	
1938.30	93.30	20.60	.	.	1	Jef1951	36	H	
1939.61	94.0	20.863	.	.	8	WFD1953	06	M	
1940.64	93.34	20.603	.	.	1	Str1946	24	H	
1942.56	93.34	20.80	.	.	6	Ahn1957	05	A	
1949.46	93.27	20.588	.	.	1	Kpr1992	36	H	
1949.50	93.27	20.580	.	.	1	Kpr1992	36	H	
1949.53	93.41	20.66	6.2	6.5	1	Kra1951	20	H	
1950.66	93.0	20.59	6.2	6.5	1	Opa1956	06	A	
1951.55	93.31	20.585	.	.	1	Kpr1992	36	H	
1952.404	93.37	20.597	.	.	1	Jef1978	36	H	
1952.62	92.9	21.23	.	.	4	Fer1960	05	A	
1952.63	94.4	20.74	.	.	2	Al l 1960	05	A	
1955.405	93.30	20.614	.	.	1	Gzl 1962	20	H	
1955.561	93.16	20.599	.	.	1	Gzl 1962	20	H	
1955.61	93.5	21.01	.	.	2	Fer1960	05	A	
1955.67	92.68	20.482	.	.	2	Bot1958	05	H	
1958.41	93.26	20.599	.	.	1	Kpr1992	36	H	
1958.41	93.27	20.595	.	.	1	Kpr1992	36	H	
1958.41	93.28	20.595	.	.	1	Kpr1992	36	H	
1958.46	93.37	20.532	6.3	6.7	1	Bot1962	08	H	
1958.59	87.7	22.82	.	.	1	Cta1960	05	A	
1958.59	90.9	23.62	.	.	1	Fer1960	05	A	
1959.291	93.35	20.604	.	.	1	USN1963	26	H	
1959.340	93.29	20.602	.	.	1	USN1963	26	H	
1959.343	93.32	20.609	.	.	1	USN1963	26	H	
1959.346	93.28	20.620	.	.	1	USN1963	26	H	
1959.436	93.41	20.573	.	.	1	USN1963	26	H	
1959.436	93.39	20.581	.	.	1	USN1963	26	H	
1962.64	93.4	20.57	6.0	6.5	3	Pma1964	26	A	
1963.39	92.3	20.849	.	.	1	WFC1975	06	G	
1963.67	93.10	20.53	.	.	1	Hau1965	13	G	
1966.357	93.35	20.627	.	.	1	USN1969	26	H	

1966.475	93.34	20.644	.	.	1	USN1969	26	H
1967.605	93.5	20.41	.	.	1	Fos1970	20	O
1968.237	93.18	20.619	.	.	1	USN1974	26	H
1968.344	93.22	20.616	.	.	1	USN1974	26	H
1968.453	93.27	20.634	.	.	1	USN1974	26	H
1973.000	93.0	21.00	6.2	6.5	3	CI I 2003	03	A
1980.000	93.0	21.00	6.2	6.5	3	CI I 2003	04	A
1987.660	92.0	20.50	.	.	1	Scn2003	09	B
1988.62	92.7	20.95	.	.	5	GeI 1992	04	M
1991.25	93.1	20.67	6.16	6.44	1	HI P1997a	54	T
1991.73	93.2	20.640	6.13	6.47	1	TYC2000c	07	T
1992.21	92.5	20.70	.	.	1	El t1994	10	M
1992.490	93.2	21.21	.	.	1	Jny2003	11	Z
1992.548	92.4	20.65	.	.	1	Tob2003	04	A
1994.56	92.5	20.97	.	.	4	Ctt1995	08	I
1994.676	93.0	20.70	.	.	1	Roj 2003	04	A
1995.477	93.0	20.70	.	.	1	Roj 2003	04	A
1995.569	93.0	20.56	.	.	1	Tob2003	04	A
1995.573	95.0	20.50	.	.	1	Roj 2003	04	A
1996.493	90.0	20.67	.	.	1	Tob2003	04	A
2000.44	93.2	20.64	.	.	1	TMA2003	51	F
2002.463	93.31	20.61	6.13	6.47	1	Ni_2003a	12	F
2002.677	93.4	20.84	.	.	1	Dal 2003a	09	F
2003.290	93.1	20.38	.	.	1	WSI 2004b	26	S
2004.374	93.0	20.74	.	.	1	Arn2005e	08	F
2004.683	93.1	20.57	.	.	1	Dal 2005a	09	F

K  
6

STT 370 AB

WDS Star No. 19171+0920

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RA & DEC (2000)	Disc. Number	Comp	No. Obs.	Magni tudes A B		Spec. Type	PM/1000 yr RA DEC	DM No.
19171+0920	STT 370 AB	AB	41	8.34	8.71	K2IIvar	+009-004	+09 4047

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Precise Position of Primary of System or Subsystem (when available)

RA = 19 17 03.1 Dec = +09 20 19.

Proper Motion (PM/1000 yr) of Secondary of Subsystem (when available)

RA = +006 Dec = -007

Note? = yes Orbit? = no DM? = yes Other? = no

	Date Observed	Positi on	Angl e	Separati on
First	1843		15	19.5
Last	2003		14	19.8

Observations

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Date	P. A.	Sep.	Mag-a	Mag-b	#	RefCode	Aperture	Method	Codes
1843.55	14.7	19.53	.	.	2	Mad1844	10	A	
1845.55	15.0	20.27	.	.	1	Mad1856	10	A	
1846.83	14.5	19.58	.	.	3	Stt1878	15	A	
1851.71	14.1	19.65	.	.	1	Mad1856	10	A	
1867.77	15.1	19.52	7.4	8.1	4	D_1883	07	A	
1884.61	14.5	19.67	7.3	8.0	1	Per1886	15	A	
1885.46	13.8	19.60	7.8	8.5	2	Per1886	15	A	
1893.73	13.6	19.61	7.7	8.2	2	Gl p1895	09	A	
1894.70	13.8	19.64	7.3	7.7	2	Gl p1895	09	A	
1897.65	12.7	19.531	.	.	1	WFC1998	13	G	Q
1898.51	14.4	19.56	.	.	3	Hu_1901a	12	A	
1898.52	12.0	19.36	.	.	1	Sol 1898b	06	A	
1900.611	18.8	19.59	.	.	1	Sol 1900	06	A	
1906.54	15.2	20.117	.	.	1	WFC1998	13	G	Q
1907.57	14.4	19.61	7.5	8.2	3	Bu_1913	40	A	
1907.59	13.8	19.64	.	.	2	Prz1908	12	A	
1908.58	14.4	19.62	7.2	8.1	2	Lau1908c	10	A	
1912.73	14.7	8.52	.	.	1	Fes1913	12	A	
1914.35	13.9	19.043	.	.	1	WFD1931	08	M	Q
1914.56	14.0	19.67	.	.	2	Frk1914b	06	A	
1917.62	14.1	18.70	.	.	1	Jan1921b	10	A	
1919.54	14.2	19.86	.	.	1	Haa1919	10	A	
1920.61	14.2	19.532	.	.	1	WFC1998	13	G	Q
1929.09	12.8	19.827	.	.	1	WFC1958b	06	G	Q
1934.62	14.3	19.34	7.5	8.2	4	AI I 1936	05	A	
1939.71	14.0	19.764	.	.	1	WFC1948	05	G	Q
1946.74	13.7	19.86	.	.	3	Mun1948	12	A	
1949.78	13.99	19.56	7.5	8.2	1	Kra1951	20	H	
1951.64	14.1	19.53	7.5	8.2	1	LeS1953	20	H	
1957.65	13.6	18.897	.	.	1	WFC1975	06	G	Q
1958.56	14.34	19.665	9.0	9.5	1	Bot1962	08	H	
1961.50	13.99	19.59	.	.	1	Hau1965	13	G	
1972.634	13.80	19.516	.	.	1	USN1974	26	H	
1972.754	13.79	19.539	.	.	1	USN1974	26	H	
1973.497	13.82	19.523	.	.	1	USN1978	26	H	
1980.000	14.0	20.00	8.5	9.1	3	CI I 2003	04	A	
1989.	13.9	19.287	.	.	6	WFD1985	07	M	Q
1991.25	13.7	19.52	8.40	8.87	1	HI P1997a	54	T	
1991.74	13.5	19.51	8.34	8.71	1	TYC2002	07	T	
1999.59	13.7	19.43	.	.	1	TMA2003	51	F	K
2003.458	13.5	19.75	.	.	1	Arn2004b	09	F	

STF2562 AB  
WDS Star No. 19428+0823  
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RA & DEC (2000)	Disc. Number	Comp	No. Obs.	Magnitudes A B	Spec. Type	PM/1000 yr RA DEC	DM No.
19428+0823	STF 2562	AB	53	6.95 8.69	F8V G0V	+024+054	+08 4190

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Precise Position of Primary of System or Subsystem (when available)  
RA = 19 42 45.8      Dec = +08 22 57.

Proper Motion (PM/1000 yr) of Secondary of Subsystem (when available)  
RA = +026      Dec = +052

Note? = no      Orbit? = no      DM? = yes      Other? = no

	Date Observed	Position Angle	Separation
First	1822	252	28.0
Last	2002	251	27.1

Observations  
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Date	P. A.	Sep.	Mag-a	Mag-b	#	RefCode	Aperture	Method	Codes
1822.63	252.3	28.01	7.	9.	2	StF1837	04	A	7
1825.52	252.5	27.37	.	.	1	StF1837	10	A	
1830.62	255.4	40.	.	1.0	1	HJ_1833c	18	B	
1831.24	252.7	27.14	6.5	8.2	2	StF1837	10	A	
1833.78	253.7	26.8	.	.	1	Smy1844	06	A	
1844.89	252.0	27.19	.	.	1	Mad1845	10	A	
1857.73	252.2	27.12	6.5	8.5	1	D__1883	05	A	
1862.73	252.2	27.48	.	.	1	Frg1862	10	A	
1863.66	252.2	26.53	.	.	1	Frg1863	10	A	
1864.76	250.1	26.70	.	1.7	1	Mai 1864	08	D	
1868.07	252.3	26.92	6.3	8.1	4	D__1884	07	A	
1885.63	251.9	28.05	.	.	1	And1899	09	A	
1887.62	252.0	27.23	.	.	2	Mon1899	09	A	
1888.58	252.6	27.28	.	.	3	SBc1899	09	A	
1888.68	252.3	27.28	.	.	1	Ki n1928	13	H	
1889.51	252.4	27.29	5.5	7.2	2	Gl p1895	06	A	
1890.51	252.3	26.83	.	.	2	Gl p1892f	06	A	
1894.57	252.4	27.13	6.3	8.0	2	Gl p1895	09	A	
1895.68	251.6	27.32	.	.	4	Col 1896	08	A	
1902.25	252.1	27.03	.	.	3	Gui 1912	06	A	
1902.61	252.4	27.55	.	.	1	Gui 1912	13	A	
1906.55	252.9	27.383	.	.	1	WFC1998	13	G	
1907.56	252.2	27.37	.	.	2	Gui 1912	06	A	
1908.58	252.8	27.16	6.0	8.1	2	Lau1908c	10	A	
1913.60	251.5	27.657	.	.	1	WFD1931	08	M	
1914.73	252.9	27.06	.	.	2	Frk1915	06	A	
1919.58	252.3	27.10	.	.	1	Gui 1931	13	A	
1919.70	251.2	27.179	.	.	1	WFC1998	13	G	
1920.60	251.8	27.30	.	.	2	Jan1921a	10	A	
1922.59	252.6	27.43	.	.	3	Bl o1931	06	A	
1925.624	252.3	27.02	.	.	1	Baz1928	04	A	
1929.18	251.9	26.847	.	.	1	WFC1958b	06	G	
1931.68	252.0	26.89	6.5	8.2	4	Al l 1932	05	A	
1931.77	252.8	26.92	.	.	2	Baz1933a	05	A	
1936.47	251.7	26.961	.	.	1	WFC1950c	05	G	
1957.65	251.6	26.648	.	.	1	WFC1975	06	G	
1980.000	251.0	27.00	7.0	8.7	3	Cl l 2003	04	A	
1982.78	251.5	27.091	.	.	6	WFC1999	08	G	
1983.729	.	.	7.0	8.5	1	Tob2003	02	A	
1985.40	251.5	27.293	.	.	4	WFD1985	07	M	
1989.564	252.0	27.20	.	.	1	Tob2003	04	A	
1991.25	251.5	27.17	7.00	8.92	1	HI P1997a	54	T	
1991.78	251.3	27.113	6.95	8.69	1	TYC2000c	07	T	
1993.54	252.4	27.12	.	.	1	El t1994	10	M	
1993.550	251.0	27.24	.	.	1	Tob2003	04	A	
1993.569	251.7	27.30	.	.	1	Tob2003	04	A	

1993.572	248.3	27.11	.	.	1	Tob2003	04	A	
1993.865	252.0	27.40	.	.	1	Roj 2003	04	A	
1994.523	251.0	27.00	.	.	1	Roj 2003	04	A	
1994.692	252.0	27.60	.	.	1	Roj 2003	04	A	
1999.83	251.1	26.97	.	.	3	Ary2000	08	M	Q
2000.67	251.4	27.16	.	.	1	TMA2003	51	F	K
2002.490	251.39	27.16	6.95	8.69	1	Ni_2003a	12	F	6
2002.736	250.9	27.05	.	.	3	WSI 2004a	26	S	

S763AB

WDS Star No. 20484-1812

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RA & DEC (2000)	Disc. Number	Comp	No. Obs.	Magnitudes A B	Spec. Type	PM/1000 yr RA DEC	DM No.
20484-1812	S 763	AB	36	7.24 7.79	G8III-IV	+031-011	-18 5779

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Precise Position of Primary of System or Subsystem (when available)

RA = 20 48 25.9 Dec = -18 12 06.

Proper Motion (PM/1000 yr) of Secondary of Subsystem (when available)

RA = +022 Dec = -013

Note? = yes Orbit? = no Linear Fit? = no DM? = yes Other? = no

	Date Observed	Position Angle	Separation
First	1795	287	14.8
Last	2002	294	15.8

Observations

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Date	P. A.	Sep.	Mag-a	Mag-b	#	RefCode	Aperture	Method	Codes
1795.62	286.6	14.79	.	1.	1	Lal1831			
1830.58	294.5	16.0	.	0.4	3	HJ_1833c	18	B	
1872.72	295.37	15.10	7.5	8.0	1	Mai1872	08	D	
1877.74	294.3	15.76	6.8	7.2	2	Hwe1878	11	A	
1878.68	294.2	15.48	6.5	7.5	1	Stn1879	11	A	
1878.68	294.1	15.71	6.0	7.0	1	Hwe1879	11	A	
1882.48	294.9	15.86	7.0	7.5	1	WHC1890	11	A	
1895.75	294.8	16.209	.	.	2	WFD1924a	07	M	
1903.49	294.4	15.70	7.0	7.1	3	Bu_1906	40	A	
1913.71	294.5	15.80	.	.	3	Rab1923	08	A	
1914.65	292.4	16.397	.	.	1	WFD1931	08	M	
1916.57	293.6	15.85	.	.	2	Frk1916	06	A	
1917.79	294.8	14.496	.	.	1	WFC1998	08	G	
1917.82	295.6	15.00	8.0	8.6	2	Ara1963	08	G	T
1917.85	296.6	15.487	.	.	1	WFC1998	08	G	
1919.1	295.3	16.007	.	.	2	WFD1933b	09	M	
1925.613	293.5	15.80	.	.	1	Baz1928	04	A	
1933.61	293.9	15.694	.	.	1	WFC1940b	05	G	
1935.79	293.6	15.97	.	.	3	AlI1936	05	A	
1939.	295.1	15.559	.	.	4	WFD1948	09	M	
1940.86	293.6	16.069	.	.	8	WFD1953	06	M	
1950.56	294.30	15.634	.	.	1	Lem1958	24	H	
1960.403	294.10	15.630	.	.	3	vAd1983	24	H	
1963.78	294.79	15.62	.	.	1	Hau1966	13	G	
1971.61	294.1	15.308	.	.	4	WFC1992	08	G	
1973.000	293.0	16.00	6.7	7.2	3	CI I 2003	03	A	
1980.000	294.0	16.00	6.7	7.4	3	CI I 2003	04	A	
1980.18	294.0	15.697	.	.	8	WFD1997	06	M	
1980.499	293.97	15.611	.	.	1	Jas1995	24	H	
1981.669	293.97	15.605	.	.	1	vAd1987	24	H	
1983.690	314.0	.	.	.	1	Tob2003	04	A	
1991.25	293.8	15.56	7.30	7.62	1	HI P1997a	54	T	
1991.54	293.8	15.569	7.24	7.79	1	TYC2000b	07	T	
1992.539	288.3	15.84	.	.	1	Tob2003	04	A	
1992.556	298.5	16.44	.	.	1	Tob2003	04	A	
1998.50	293.9	15.58	.	.	1	TMA2003	51	E	K
2001.666	295.0	15.92	.	.	1	Arn2001	08	B	
2002.529	294.0	15.80	.	.	1	Arn2003b	08	B	