Measurements of 50 Neglected Stars - Report of January 2022

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Abstract:
The position angles and separations of 50 neglected double stars were measured from photographs taken remotely. The double stars were selected from the Washington Double Star Catalog, which is published by the United States Naval Observatory. When it was possible, comparisons were made with published data. The photographs were taken at the Open University located on the Canary Islands, Spain. The WDS data was current as of 1 December 2021. The data analyses were done by the author.

This research made use of the SIMBAD database operated by CDS, in Strasbourg, France, and the Washington Double Star Catalog maintained by the United States Naval Observatory.

Data about the Open University sites
The observatory is in the Canary Islands, Spain at a latitude of 28 ° 17 '59 "N, a longitude of 16 ° 30' 30" W, and an altitude of 2,360 meters. on the island of Tenerife. The telescope has an aperture of 0.42m and is of the Dall-Kirkham design. The camera is a Proline model KAF 09000 without filters, and all the default settings were used.

Methodology
The photographs were reduced by the author using SKY X version 10.5.0, a product of Bisque Software. Several factors, namely ambient temperature, humidity, wind, and visibility were not reported by the observatories. Not all photographs were useful, and the number of possible measurements for each star is reported. A literature search was performed for each star and the data sources were reported.

Report
The information included in this report consists of the WDS identifier, the constellation, the discoverer code, the components, the position angle, the separation, the number of measurements, and the date of the most recent measurement.

00115+2949 AND	MLB 441 AB	358.92	14.3	3	2021.8356
GAIA DR2 v3		358.51	14.17		2018
Tycho2		358.7	14.153		1991
WDS		359	14.1	21	2015
	MLB 441 AC	351.21	50.5	3	2021.8356
JDSO (Knapp)		346.581	50.297		2018
WDS		347	50.3	7	2015
	MLB 441 BC	348.25	36.1	3	2021.8356
WDS		342	36.6	11	2015
	MLB 441 CD	138.72	6.4	3	2021.8356

00132+2402 AND	POU 9 AB	58.53	6.1	3	2021.9945
JDSO (Knapp)		57.735	5.857		2018

Webb (Harshaw)		56.0	6.2		1991
WDS		58	5.9	9	2015
00140+2527 AND	POU 11 AB	305.27	6.1	3	2021.9945
GAIA DR2 v3		305.62	5.92		2018
JDSO (Knapp)		305.427	5.900		2018
WDS		306	5.9	9	2015

Knapp reported that this pair is “almost certainly optical”

00140+2527 AND	POU 11 AB	305.27	6.1	3	2021.9945
GAIA DR2 v3		305.62	5.92		2018
JDSO (Knapp)		305.427	5.900		2018
WDS		306	5.9	9	2015

00358+4331 AND	POP 182 AB	287.27	6.0	3	2021.9863
JDSO (Knapp)		286.944	5.92		2018
WDS		287	5.9	9	2015

Knapp reported that this pair is “almost certainly optical but undecidable with given PM data”7
Stelle Doppie reported that this pair is not physical.

00497+2958 AND	MLB 633 AB	21.05	6.6	3	2021.9178
GAIA DR2 v3		19.80	6.21		2018
JDSO (Knapp)		19.71	6.19		2018
WDS		20	6.2	9	2015

01028+3838 AND	ALI 733 AB	7.97	5.8	3	2022.0055
GAIA DR2 v3		8.2	5.72		2018
JDSO (Knapp)		8.158	5.746		2018
WDS		8	5.7	9	2015

01085+3956 AND	MLB 914 AB	137.35	27.5	3	2021.7945
CCDM		134	24		2002
GAIA DR2 v3		137.93	27.08		2018
JDSO (Knapp)		137.874	27.085		2018
WDS		138	27.1	5	2015
	MLB 914 BC	138.57	6.2	3	2021.7945
GAIA DR2 v3		138.30	6.11		2018
WDS		138	6.1	6	2015

Knapp reported that the AB pair is “almost certainly optical”

01095+4715 AND	SBK 1 AC	224.08	9.8	3	2021.7232
WDS		186	14.7	2	1998
	SBK 1 AD	63.18	27.7	3	2021.7232
WDS		64	27.7	1	1884

01164+3807 AND	ES 1947 AB	43.93	6.1	3	2021.8356
WDS		52	6.2	6	2014

01270+3740 AND	ES 2548 AB	174.34	6.5	3	2021.7945
GAIA DR2 v3		175.29	6.50		2018
JDSO (Knapp)		175.47	6.500		2018
WDS		173	6.1	8	2017

Knapp reported that this pair is “almost certainly optical”

01344-0412 CET	LDS 5336 AB	351.88	344.0	3	2021.7232
WDS		352	344.0	1	1960+

01393+4901 AND	ES 1132 AB	182.95	6.1	3	2021.8356
WDS		182	6.0	9	2020

01409+4952 AND	HU 531 BC	281.53	6.6	3	2021.9863
JDSO (Arnold)		281.5	6.17		2016
WDS		282	6.6	9	2020

01570+4324 AND	ES 1499 AB	299.27	6.5	3	2021.9917
GAIA DR2 v3		299.17	6.35		2018
JDSO(Knapp)		299.175	6.351		2018
WDS		299	6.3	8	2015

Knapp reported that this pair is “almost certainly optical”

02034+3919 AND	MLB 10 AB	51.69	4.0	3	2021.9178
GAIA DR2 v3		50.82	4.01		2018
WDS		51	4.1	14	2015
	BKO 11 AC	29.36	57.7	3	2021.9178
JDSO (Knapp)		29.556	59.601		2018
WDS		30	58.6	5	2015
	BKO 11 CD	180.69	6.3	3	2021.9178
GAIA DR2 v3		182.34	6.20		2018
WDS		182	6.2	8	2015

Knapp reported that the AC pair is “almost certainly optical”

02034+3919 AND	MLB 10 AB	51.69	4.0	3	2021.9178
GAIA DR2 v3		50.82	4.01		2018
WDS		51	4.1	14	2015
	BKO 11 AC	29.36	57.7	3	2021.9178
JDSO (Knapp)		29.556	59.601		2018
WDS		30	58.6	5	2015
	BKO 11 CD	180.69	6.3	3	2021.9178
GAIA DR2 v3		182.34	6.20		2018

WDS		182	6.2	8	2015

Knapp reported that the AC pair is “almost certainly optical”

02059+3835 AND	ALI 748 AB	85.96	6.3	3	2021.9178
nGAIA DR2 v3		85.63	6.16		2018
JDSO (Knapp)		85.658	6.182		2018
WDS		86	6.2	9	2015

Knapp reported that this pair is “probably optical”

02361+7944 CEP	MLB 449 AC	191.71	5.3	3	2021.5959
WDS		193	5.6	1	1976

02546-1623 ERI	ARA 15 AB	5.57	11.7	3	2021.6630
WDS		5	11.9	1	1916

03464+2435 TAU	LDS 6110 AC	198.11	83.1	3	2021.7232
WDS		199	82.0	1	1960

03476+2337 TAU	HL 24 AB	210.65	48.1	3	2021.7205
WDS		210	48.5	1	1885

03533+2540 TAU	LDS 5446 AB	225.13	13.9	3	2021.6739
WDS		225	14.0	1	1960

03533+2540 TAU	LDS 5446 AB	225.13	13.9	3	2021.6739
WDS		225	14.0	1	1960
04317+1538 TAU	WOR 16 AB	326.14	4.1	3	2021.7178
WDS		322	4.2	6	2015
	LDS 1174 AC	336.21	12.1	6	2021.7178
WDS		336	12.0	1	1962

05177+0441 ORI	STF 678 AC	338.48	78.2	3	2021.9917
Tycho2		338.5	77.59		1991.56
WDS		339	78.3	8	2015

05177-1041 ORI	HJ 2260 AB	2.09	31.4	3	2022.0055
JDSO (Knapp)		1.885	31.193		2018
OAG (Comellas)		1	31		1980.9
Tycho2		1.9	31.21		1991.62
WDS		3	31.0	20	2018
	SIN 14 AC	12.54	109.7	3	2022.0055
Tycho2		12.9	109.32		1991.62
WDS		13	109.0	9	2015

	SIN 14 AD	18.1	132.4	3	2022.0055
WDS		19	131.8	1	1989

05263+2836 TAU	BAR 26 AB	237.94	33.8	3	2021.8438
CCDM		239	33.4		2002
WDS		239	33.4	1	1898

05358-0529 ORI	HLB 1 AB	72.25	7.8	3	2021.9178
WDS		73	7.7	1	1997

09123+1500 CNC	BUP 125 AB	117.17	90.5	3	2022.0027
WDS		117	98.8	6	2015
	WIL 1 AE	262.07	44.7	3	2022.0027
WDS		262	43.0	1	1997

12538+2742 COM	LDS 1340 AB	32.21	97.6	3	2021.9863
WDS		33	97	1	1966

13073+2845 COM	LDS 1361 AB	128.64	55.2	3	2021.9917
WDS		129	56.9	5	2015

19301+2503 VUL	POU 3863 AB	289.64	10.2	3	2021.7945
WDS		291	9.9	1	1906

20219+2327 VUL	POU 4402 AB	79.65	12.5	3	2021.800
WDS		81	12.4	1	1898

20248+2503 VUL	OSO 125 AB	132.22	6.0	3	2021.8000
WDS		132	5.9	1	1994
	OSO 125 AC	35.68	8.4	3	2021.8000
WDS		31	8.4	2	1997

20380+3806 CYG	SEI 1197 AB	173.41	14.3	3	2021.6958
JDSO (Bryant III)		173.5	14.728		2017
WDS		174	14.7	1	1895

21125+2442 VUL	POU 5249 AB	93.32	6.5	3	2021.8164
WDS		94	6.3	1	1898

22106-0416 AQR	SCA 122 AB	112.67	48.6	3	2021.6466
WDS		113	48.4	1	1985

22380-1550 AQR	FEN 40 AB	59.94	6.1	3	2021.6493
WDS		61	5.9	1	1916

22456+4524 LAC	LDS 4995 AB	10.33	5.2	3	2021.3712
WDS		10	5.0	1	1960

23057+4005 AND	ES 2000 AB	65.58	5.9	3	2021.9315
GAIA DR2 v3		66.35	6.34		2018
WDS		66	6.3	8	2015

23139+0335 PSC	SCA 145 AB	35.47	77.5	3	2021.6958
WDS		37	77.7	1	1985

23234+4230 AND	BKO 674 AB	204.75	6.1	3	2022.0055
GAIA DR2 v3		204.94	6.04		2018
WDS		205	6.0	8	2015

Stelle Doppie reported that “this double is not physical”

23265+6038 CAS	OSO 196 AB	45.87	10.8	3	2021.6598
WDS		47	10.47	1	1994
	OSO 196 AC	305.57	15.5	3	2021.6598
WDS		301	15.3	3	1999
	OSO 196 AD	49.44	14.8	3	2021.6598
WDS		45	14..6	3	1999
	OSO 196 AE	99.7	16.7	3	2021.6598
WDS		105	14.9	4	2003

23313+5225 CAS	STT 498 AB	244.21	17.2	3	2021.6712
GAIA DR2 v3		243.51	17.38		2018
JDSO (Arnold)		244.1	17.28		2009
WDS		244	17.4	23	2015
	STT 498 AC	287.59	9.2	3	2021.6712
WDS		289	9.1	1	1913

23358+4838 AND	DAM 253 AC	208.74	12.5	3	2021.9178
GAIA DR2 v3		209.26	12.4		2018
WDS		209	12.4	6	2015

23367+7418 CEP	LDS 2047 AB	355.51	7.1	3	2021.6958
WDS		356	7.0	1	1965

23499+0223 PSC	LDS 6065 AB	283.27	233.5	3	2021.7425
WDS		285	233.0	1	1960

23500+4829 AND	OSO 206 AB	28.68	6.6	3	2021.7945
WDS		14	6.1	4	2002

23530-1629 AQR	ARA 314 AB	44.11	6.2	3	2021.6520
WDS		44	6.1	1	1916

23556+4508 AND	SMA 211 AB	22.29	6.6	3	2021.7945
JDSO (Knapp)		22.532	5.963		2018
WDS		23	6.0	9	2015

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