

Measurements of Neglected Double Stars: November 2014 Report

Joseph M. Carro

Cuesta College, San Luis Obispo, California

Abstract: This article presents measurements of 30 neglected double stars. The stars were selected from the Washington Double Star Catalog published by the United States Naval Observatory. The photographs were taken by a remote telescope. The measurements were done by the author.

Methodology

The photographs were taken using a telescope located in the Canary Islands near the west coast of Africa. The telescope is located at an elevation of 2,300 meters. The instrument has a focal length of 3,910mm, an aperture of 356mm, and is a Celestron unit of Schmidt-Cassegrain design. The observatory, which is called SLOOH, is a part of the Institute of Astrophysics. The methods used to calibrate the instruments of the SLOOH Observatory are unknown to this author.

The camera used most frequently was a CCD SBIG 10XME, but some photographs were taken using a CCD SBIG 2000XM.

The photographs were analyzed by the author using the programs CCD Soft v5 and SKY 6. The two programs are products of Software Bisque.

After accumulating the photographs, averages were calculated for the position angles and separations. All of the star patterns were compared with the data from ALADIN (part of the SIMBAD site) or with the SKY X program, to insure correctness.

After measuring each star and calculating the results, comparisons were made with the published data. The results are listed in the table. The numbers in the table represent averages of measurements, or, in the case of a single measurement, the actual value.

Report

The following information was reported for each star: the WDS code with components, the discoverer

code, the constellation, the position angle, the separation, the date of the first observation, and, under measures by the author, the results of other authors. The number of measurements for WDS values was the number of past observations reported in the WDS prior to these current observations.

The column headings are: number of the Washington Double Star and components, DC = Discovery Code, PA = position angle, Sep = Separation, Mts = number of measurements, Con = Constellation, and the first observation date.

Acknowledgements

Grateful appreciation is extended to Russell Genet for his guidance and to Thomas Smith for his support.

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

References

- Arnold, D., "Divinus Lux Observatory Bulletin: Report 5", *Journal of Double Star Observations*, **2**, 79-86, 2006.
- Arnold, D., "Divinus Lux Observatory Bulletin: Report 20", *JDSO*, **6**, 5-11, 2010.
- Arnold, D., "Divinus Lux Observatory Bulletin: Report 27", *JDSO*, **9**, 10-18, 2013.

(Continued on page 69)

Measurements of Double Stars: November 2014 Report

WDS number/Comp	D.C.	P.A.	Sep	Mts	Con	Date
00313+6321 AB	BU 107	354.2	5.7	1	CAS	2014.641
WDS		0	2.0			1873
WDS		354	5.8	25		2012
00313+6321 AC	BU 107	336.8	46.8	1		2014.641
WDS		336	46.9			1898
WDS		337	46.9	14		2012
00313+6321 AD	BU 107	145.2	51.7	1		2014.641
WDS		146	50.3			1898
WDS		145	51.8	14		2012
00313+6321 AE	BU 107	171.4	111.4	1		2014.641
WDS		171	113.6			1898
WDS		172	112.4	12		2012
00313+6321 AF	BU 107	114.2	154.1	1		2014.641
WDS		115	150.5			1898
WDS		115	154.3	13		2012
00313+6321 AG	LV 13	265.3	20.8	1		2014.641
WDS		267	21.2			1916
WDS		266	21.1	7		2012
00313+6321 AH	BU 107	93.0	46.0	1		2014.641
WDS		94	45.6			1908
WDS		94	46.3	9		2012
00313+6321 BC	BU 107	334.5	41.4	1		2014.641
WDS		334	41.5			1898
WDS		335	41.3	14		2012
00313+6321 BD	BU 107	147.9	56.7	1		2014.641
WDS		149	55.4			1898
WDS		148	57.0	15		2012
00313+6321 CD	BU 107	150.7	98.	1		2014.641
WDS		151	96.8			1898
WDS		151	98.1	16		2012
00313+6321 CE	BU 107	167.1	157.2	1		2014.641
WDS		167	159.4			1898
WDS		168	158.1	13		2012
00313+6321 DE	BU 107	190.7	69.0	1		2014.641
WDS		188	71.3			1898
WDS		191	69.1	13		2012
BD+62 94						

Other identifiers: ADS 423 AB, BD+62 94; CCDM J00313+6320AB; HIC 2460; HIP 2460

Measurements of Double Stars: November 2014 Report

WDS number/Comp	D.C.	P.A.	Sep	Mts	Con	Date
13288+5956 CA	S 649	110.6	182.2	1	UMA	2014.422
JDSO (Arnold)		110.3	181.7			2013
Tycho -2		110.3	182.1			1991
WDS		262	20			1831
WDS		111	181.7	11		2012

Other identifiers: BD+60 1461; CCDM J13286+5956ABC

15511-5503 AB	DUN 193	15.3	16.2	4	NOR	2014.515
O A G (Duque)		13	16.8			1988
Tycho -2		12.7	16.7			1991
Webb (Argyle)		10.1	15.8			2013
Webb (Nicholson)		12.4	16.5			1999
WDS		19	22.5			1836
WDS		10	15.8	24		2013
15511-5503 AC	ARY 99	20.8	50.9	4		2014.515
WDS		19	50.2	1		2013

Other identifiers: ALS 15016; GSC 08701-00350; HIP 77645; SAO 243044

16057-0617 AC	STF 2005	232.3	30.1	2	OPH	2014.370
WDS		231	20.0			1835
WDS		232	29.0	15		2000
16057-0617 AD	STF 2005	201.5	55.3	2		2014.370
WDS		185	35.0			1835
WDS		200	55.4	10		2000
16057-0617 AE	SHY 696	270.5	260	2		2014.370
WDS		271	259.4			1991
WDS		270	259.4	4		2000
16057-0617 CD	STF 2005	175.8	34.2	2		2014.370
WDS		151	25.4			1835
WDS		174	34.2	9		2000

Other identifiers: ADS 9918 C; BD-05 4324C; CCDM J16057-0617C; CSI-05 4234 2;
GEN +1.00144362C; IDS 16004-0601 C; UBV 13628

17211+0127 AB	STF 2150	213.6	11.7	1	OPH	2014.625
WDS		185	8.1			1832
WDS		213	11.6	25		2013

Other identifiers: AG+01 1959; BD+01 3422; GSC 00400-00165; HIP 84919; SAO 122303;
TD1 20301; TYC 400-165-11; UBV 14791; YZ 1 2410

Measurements of Double Stars: November 2014 Report

WDS number/Comp	D.C.	P.A.	Sep	Mts	Con	Date
17311+1027 AB	STF 2176	16.8	16.8	1	OPH	2014.625
JDSO (Schlimmer)		17.0	16.7			2013
WDS		9	16.9			1829
WDS		17	17.1	24		2004
17311+1027 AC	GUI 19	71.4	89.9	1		2014.625
Tycho-2		71.2	89.9			1991
WDS		71	90.5			1908
WDS		71	89.3	17		2013

Other identifiers: AG+10 2067; BD+10 3225; GSC 00996-01492; SAO 102878; TYC 996-1492-1

17344+1310 AB	STF 2184	65.3	22.7	1	OPH	2014.625
JDSO (Schlimmer)		65.7	22.7			2010
JDSO (Schlimmer)		64.9	22.8			2012
WDS		82	15.9			1783
WDS		65	23.7	25		2013

Other identifiers: AG+13 1693; BD+13 3397; GSC 01004-00180; HIP 85979; SAO 102925; TYC 1004-180-1; YZ 13 6159

17344+2520 AB	HJ 1300	263.5	12.3	3	HER	2014.608
JDSO (Arnold)		256.9	13.3			2006
WDS		300	8.0			1828
WDS		264	12.2	13		2013
17344+2520 AC	SLV 5	241.3	15.5	3		2014.608
WDS		264	13.9			1897
WDS		241	15.4	13		2013
17344+2520 BC	HJ 1300	192.9	6.2	3		2014.608
WDS		190	2			1828
WDS		193	6.2	9		2002

Other identifiers: ADS 10637; GSC 02079-00082; TYC 2079-82-1; UCAC3 231-130475

18209+0323 AB	HJ 5495	284	27.5	2	OPH	2014.625
Webb (Nicholson)		283.9	27.1			2002
WDS		290	18			1827
WDS		284	27.1	12		2002
18209+0323 AC	HJ 5495	81.4	57.9	2		2014.625
JDSO (Nicholson)		81.9	58.4			2002
WDS		80	58			1912
WDS		82	58.4	6		2002

Other identifiers: ADS 11271 A; BD+03 3680; GSC 00436-03545; HIP 89918; SAO 123377; TYC 436-3545-1; YZ 3 6199

Measurements of Double Stars: November 2014 Report

WDS number/Comp	D.C.	P.A.	Sep	Mts	Con	Date
18289+3515 AB	POP 34	2.6	6.6	8	CYG	2014.405
WDS		79	2.9			1969
WDS		4	6.4	19		2011

Other identifiers: BD+34 3568; CCDM J19289+3515AB; IDS 19252+3503

19464+3344 AB	STF 2580	68.8	26.3	4	CYG	2014.405
JDSO (Arnold)		69.0	26.2			2010
JDSO (Carro)		68.9	25.5			2011
JDSO (Malwald)		68.2	26.1			2012
JDSO (Schlimmer)		68.1	26.0			2006
WDS		73	25.5			1822
WDS		70	25.6	73		2013

Other identifiers: 17 CYG; ADS 12913; BD+33 3587; HD 187013; HIP 97295; HR 7534; SAO 68827; TYC 2660-04227-1

(Continued from page 65)

Carro, J., "Astrometric Measurements of Seven Double Stars: Report of September 2011", *JDSO*, **8**, 40-47, 2011.

Malwald, M., "Double Star Measurements Using a Small Refractor", *JDSO*, **9**, 189-194, 2013.

Nicholson, M., "Astrometric Survey of 250 Double Stars - Paper II", Webb, 2002.

Schlimmer, J., "Double Star Measurements Using a Webcam: Annual Report of 2006", *JDSO*, **3**, 131-133, 2007.

Schlimmer, J., "Double Star Measurements Using a Webcam: Annual Report of 2010", *JDSO*, **7**, 233-239, 2011.

Schlimmer, J., "Double Star Measurements Using a Webcam: Annual Report of 2012", *JDSO*, **9**, 230-246, 2013.

