

# Measurements of Neglected Double Stars Report of September 2014

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**Abstract:** This article presents measurements of 25 neglected double stars. The stars were selected from the Northern List I of Neglected Double Stars published by the United States Naval Observatory. While, the photographs were obtained with a remote telescope, the astrometric reductions were done by the author. This report is part of a project to measure all of the neglected northern stars.

## 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 2300 meters. The instrument has an effective focal length of 3,910 mm, an aperture of 356 mm, and is a Celestron 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.

In most cases, a photograph was taken every two days until there were four photographs for each star. After accumulating four 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) 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. At times, there were no comparative data. The numbers in the table represent

averages of measurements.

## 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, following measures by the author, the results of other authors. The number of measurements for WDS values was the number taken from the WDS on the first observation date.

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

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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.

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<b>WDS number</b>	<b>D.C.</b>	<b>P.A.</b>	<b>Sep</b>	<b>Mts</b>	<b>Con</b>	<b>Date</b>
<b>00148+6250 AB</b>	<b>STF 10</b>	<b>176.1</b>	<b>18.1</b>	<b>4</b>	<b>CAS</b>	<b>2014 07 31</b>
JDSO (Nugent)		176	17.6			2011
JDSO (Wiley)		175.6	17.64			2012
WDS		180	20.0			1789
WDS		176	17.6	41		2012
<b>00148+6250 AC</b>	<b>STF 10</b>	<b>103.4</b>	<b>55.7</b>	<b>4</b>	<b>CAS</b>	<b>2014 07 31</b>
JDSO (Frey)		102.3	55.9			2008
WDS		101	55.7			2000
WDS		103	55.4	5		2012
<b>00218+6628 AC</b>	<b>STT 7</b>	<b>260.0</b>	<b>48.9</b>	<b>4</b>	<b>CAS</b>	<b>2014 07 31</b>
Tycho-2		258.8	48.95			1991
Webb		257.0	51.5			1880
Webb (Harshaw)		259.0	50.2			1992
WDS		256	52.4			1847
WDS		260	48.5	25		2011
<b>00218+6628 AD</b>	<b>STT 7</b>	<b>101.6</b>	<b>109.3</b>	<b>4</b>	<b>CAS</b>	<b>2014 07 31</b>
Tycho-2		102.2	109.02			1991
Webb (Harshaw)		103.0	108.6			1992
WDS		103	105.2			1880
WDS		102	109.1	14		2003
<b>00218+6628 CD</b>	<b>STT 7</b>	<b>95.0</b>	<b>155.4</b>	<b>4</b>	<b>CAS</b>	<b>2014 07 31</b>
WDS		94	154.1			1893
WDS		95	155.3	14		2003
<b>00232+5146 AB</b>	<b>HJ 1022</b>	<b>40.5</b>	<b>5.4</b>	<b>4</b>	<b>CAS</b>	<b>2014 07 20</b>
JDSO (Hennig)		35.5	6.4			2007
WDS		16	3.5			1828
WDS		40	5.9	16		2011
<b>01283+5329 AB</b>	<b>HU 1651</b>	<b>161.7</b>	<b>16.5</b>	<b>5</b>	<b>CAS</b>	<b>2014 07 21</b>
JDSO (Buchheim)		162.1	16.3			2008
OAG (Comellas)		161	16			1980
Tycho-2		162.1	16.5			1991
WDS		166	13.5			1831
WDS		162	16.3	19		2007
<b>01283+5329 AC</b>	<b>HU 1651</b>	<b>169.5</b>	<b>52.3</b>	<b>5</b>	<b>CAS</b>	<b>2014 07 21</b>
JDSO (Buchheim)		178.8	53.6			2008
WDS		179	54.1			1902
WDS		179	53.6	7		2007
<b>01283+5329 BC</b>	<b>HU 1651</b>	<b>173.1</b>	<b>36.0</b>	<b>5</b>	<b>CAS</b>	<b>2014 07 21</b>
JDSO (Buchheim)		185.8	38.3			2008
WDS		188	38.2			1902
WDS		186	38.3	7		2007
<b>01283+5329 CD</b>	<b>HU 1651</b>	<b>73.8</b>	<b>8.4</b>	<b>5</b>	<b>CAS</b>	<b>2014 07 21</b>
JDSO (Buchheim)		74.3	8.6			2008
WDS		78	9.3			1902
WDS		74	8.6	7		2007

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WDS number	D.C.	P.A.	Sep	Mts	Con	Date
02145+5912 AB	STI 1812	58.6	10.7	4	CAS	2014 08 06
WDS		41	8.0			1908
WDS		59	10.7	8		2011

15569+3613 AB	SPN 1	86.8	25.6	5	CRB	2014 07 20
WDS		87	25.4			1998
WDS		87	25.7	4		2007

*This star is listed on the Northern Neglected Star list as HJ 258.*

17299+3035 AB	SLE 29	29.7	11.5	6	HER	2014 06 17
WDS		74	37.6			1982
WDS		74	37.6	1		1982

18092+4314 AB	ES 1417	207.7	13.7	4	HER	2014 06 17
JDSO (Soon)		208.05	13.51			2006
WDS		245	6.7			1893
WDS		207	13.3	7		1915

19192+3715 AB	ES 2113	337.4	4.7	4	LYR	2014 09 03
Webb (Soon)		339.3	4.59			2006
WDS		352	4.5			1924
WDS		339	4.6	4		2006

19300+4010 AB	MLB 978	144.8	4.8	4	CYG	2014 08 17
WDS		140	4.4			1935
WDS		145	4.8	6		2006

19300+4010 AC	MLB 978	307.1	42.8	4	CYG	2014 08 17
OAG (Tob)		308.2	44.7			1982
WDS		310	39.0			1935
WDS		307	43.0	3		2006

19303+2911 AB	MLB 697	9.7	7.6	4	CYG	2014 08 17
WDS		3	3.1			1931
WDS		7	7.2	2		2006

*For 19303+2911, It is noted that the average value of my position angle measurements is significantly different from the WDS data. Photographs were taken on 17, 23, 26, and 31 August 2014. The measurements were consistent, with a Standard Deviation of +/-0.51. The separation average is close to the published value.*

19303+2911 AC	MLB 697	96.6	4.8	4	CYG	2014 08 17
Webb (Soon)		100.55	4.50			2006
WDS		99	4.2			1931
WDS		101	4.5	2		2006

21478+5743 AB	FOX 263	300.2	16.7	4	CEP	2014 08 29
OAG (Tob)		301.6	16.03			1983
WDS		313	19.5			1905
WDS		301	17.2	7		2007

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WDS number	D.C.	P.A.	Sep	Mts	Con	Date
21576+6708 AB	HJ 1711	244.8	9.4	4	CEP	2014 08 29
WDS		250	12.0			1825
WDS		254	9.1	7		2006
22320+6311 AB	LMP 20	11.1	59.9	4	CEP	2014 08 29
WDS		15	63.0			1898
WDS		11	60.3	10		2012
22320+6311 AD	LMP 20	254.1	39.1	4	CEP	2014 08 29
WDS		254	38.6			1933
WDS		254	39.1	3		2003
22320+6311 BC	LMP 20	24.8	18.3	4	CEP	2014 08 29
WDS		23	18.4			1898
WDS		25	18.3	9		2012
22500+6018 AB	HJ 1821	103.7	11.5	4	CEP	2014 08 30
WDS		110	8.0			1828
WDS		103	11.7	7		2006
23448+5627 AB	BAR 64	318.5	350.4	4	CAS	2014 08 09
OAG (Tob)		318.7	352.7			1983
WDS		319	350.3			1899
WDS		319	351.8	8		2003
23591+5658 AB	ES 38	237.2	24.3	5	CAS	2014 08 16
WDS		238	18.2			1900
WDS		237	23.9	6		2006

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