

30 Neglected Stars in Andromeda

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Abstract

This article presents measurements of 30 neglected double stars all of which are located in the constellation of Andromeda. The stars were selected from the Washington Double Star Catalog published by the United States Naval Observatory. The photographs were taken by remote telescopes. The measurements were done by the author.

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.

Methodology

Photographs were taken using a telescope operated by the Open Science Observatory located in the Canary Islands near the west coast of Africa at an elevation of 2,300 meters on the island of Tenerife. The Open Science Observatory has a Celestron telescope of Schmidt-Cassegrain design, with an aperture of 35cm, and a focal length of 3,910mm. The camera used most frequently at the Open Sciences Observatory was a ProLine KAF-09000. The methods used to calibrate those instruments are unknown to this author.

The photographs were analyzed by the author using the program SKY X, a product of Software Bisque. After accumulating the photographs, averages were calculated for the position angles and separations.

All of the results were compared with the data from the Washington Double Star catalog, and other references. The results are listed in the tables, which contain averages of the measurements.

Report

The following information was reported for each star: the WDS code with constellation, the discoverer code with components, the position angle, the separation, the number of measurements, and the date of the last observation.

The column headings are: WDS number/Con = Washington Double Star identifier/Constellation code, DC = Discovery Code and components, PA = position angle, SE = Separation, Mts = number of measurements, and Date = the last observation date.

WDS number/Con	DC	PA	SE	Mts	Date
00056+4236 AND	ES 1480 AB	89.35	5.7	3	2020.9780
GAIA DR2 v3		87.96	5.69		2018
JDSO (Knapp)		87.823	5.685		2018
Webb (Berkó)		88.13	5.72		2001
Webb (Harshaw)		91.0	6.1		1989.756
WDS		88	5.7	9	2015

Stelle Doppie reports that this double is not physical.

00112+4419 AND	ES 1406 AB	331.49	9.8	3	2020.9780
GAIA DR2 v3		332.19	9.72		2018
JDSO (Harshaw)		331.5	9.35		2015

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JDSO(Knapp)		332.148	9.731		2018
WDS		333	9.7	15	2015
	ES 1406 AD	207.21	79.2	3	2020.9780
WDS		207	79.1	10	2015
	ES 1406 BC	348.66	5.4	3	2020.9780
GAIA DR@ v3		349.00	5.7		2018
WDS		349	5.7	8	2015

On the AB components, Knapp reported that this double is "almost certainly optical"

00154+4443 AND	DAM 829 AC	160.36	10.5	3	2020.9507
GAIA DR2 v3		160.93	10.45		2018
JDSO (Knapp)		160.966	10.473		2018
WDS		161	10.5	6	2015

00247+2407 AND	POU 25 AB	62.51	5.6	3	2020.8849
GAIA DR2 v3		63.85	5.55		2018
JDSO (Knapp)		64.147	5.531		2018
Webb (Harshaw)		64.0	5.7		1989.890
WDS		64	5.5	9	2015

00251+2414 AND	POU 26 AB	109.44	15.3	3	2020.7808
JDSO (Knapp)		109.609	15.34		2018
WDS		110	15.3	7	2015
00251+2414 AND	POU 26 AC	57.12	4.8	3	2020.7808
WDS		63	5.2	5	2015

Knapp reported: "almost certainly optical". Stelle Doppie reported: this double is not physical

00281+3545 AND	ES 2079 AB	345.74	5.2	3	2020.7808
WDS		345	5.1	6	2015

Stelle Doppie reported: the nature of this double is uncertain

00293+3937 AND	MLB 809 AB	321.35	5.3	3	2020.7808
WDS		322	5	8	2015

00401+3541 AND	ES 2080 AB	43.61	4.8	3	2020.7808
GAIA DR2 v3		41.18	5.02		2018
JDSO (Carballo)		44.4	4.901		2013
WDS		41	5	3	2015

00443+2734 AND	MLB 594 AB	55.19	5.2	3	2020.7808
JDSO (Knapp)		54.904	5.072		2018
WDS		55	5.1	7	2015

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Stelle Doppie reported: this double is not physical

00461+3731 AND	ALI 253 AB	306.18	7.0	2	2020.5589
WDS		294	6	2	2013

00486+4458 AND	A 654 AB	83.46	5.7	3	2020.8896
GAIA DR2 v3		85.67	5.36		2018
WDS		86	5.4	4	2015

00523+4220 AND	HDS 114 AB	165.14	5.0	3	2020.7808
Tycho2		166.5	5.01		1991
WDS		167	5	2	1991

00525+2406 AND	POU 71 AB	156.02	5.3	3	2020.8931
GAIA DR2 v3		156.01	5.33		2018
Webb (Harshaw)		152.0	5.2		1987.743
WDS		156	5.3	6	2015

00555+2337 AND	POU 77 AB	91.28	4.2	3	2020.8219
GAIA DR2 v3		97.27	5.17		2018
WDS		97	5.2	9	2015

00568+2404 AND	POU 78 AB	43.40	5.4	3	2020.8931
GAIA DR2 v3		44.34	5.39		2018
WDS		44	5.4	6	2015

01190+4431 AND	ES 1409 AB	216.12	5.3	3	2020.8329
GAIA DR2 v3		215.43	5.21		2018
JDSO (Knapp)		215.494	5.173		2018
WDS		215	5.2	9	2015

01273+4414 AND	ES 1410 AB	84.07	18.8	3	2020.8931
GAIA DR2 v3		82.46	18.19		2018
JDSO (Knapp)		82.451	18.085		2018
WDS		83	18.1	10	201
	ES 1410 BC	122.19	4.6	3	2020.8931
GAIA DR2 v3		122.03	5.4		2018
WDS		122	5.4	6	2015

For the AB components, Knapp reported that they are "almost certainly optical".

02276+4206 AND	ES 1503 AB	56.37	5.5	3	2020.8849
GAIA DR2 v3		55.40	5.31		2018

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JDSO (Jones)		55.0	4.93		2011.922
JDSO (Knapp)		55.214	5.301		2018
WDS		55	5.3	8	2015

02287+4630 AND	BRT 2614 AB	128.06	5.9	3	2020.8931
GAIA DR2 v3		127.07	5.51		2018
JDSO (Knapp)		126.897	5.517		2018
WDS		127	5.5	8	2015
WDS number/Con	DC	PA	SE	Mts	Date

02304+4325 AND	TDS 2269 AB	330.29	3.5	3	2020.8219
GAIA DR2 v3		341.72	5.10		2018
Tycho2		332.8	3.16		1991
WDS		342	5.1	8	2015

02346+4520 AND	BRT 331 AB	347.01	5.1	3	2020.7802
GAIA DR2 v3		347.92	5.01		2018
WDS		348	5	7	2015

23010+4257 AND	LYS 23 AB	47.81	5.7	3	2020.8849
GAIA DR2 v3		48.88	5.53		2018
JDSO (Knapp)		49.225	5.567		2018
WDS		49	5.5	7	2015

23066+423 AND	ES 1596 AB	21.14	35.3	3	2020.7808
JDSO (Knapp)		21.181	35.172		2018
WDS		21	35.2	9	2015
23066+423 AND	ES 1596 BC	72.97	5.4	3	2020.7808
GAIA DR2 v3		71.92	5.15		2018
JDSO (Knapp)		71.222	5.033		2018
WDS		72	5.2	8	2015

Knapp reported for these components that they are "almost certainly optical"

23077+4226 AND	J 2378	50.03	5.8	3	2020.8849
GAIA DR2 v3		50.06	5.49		2018
WDS		50	5.5	9	2015

23164+3739 AND	ES 2537 AB	53.66	5.2	3	2020.7808
WDS		54	5.1	8	2014

Stelle Doppie reports: This double is not physical.

23355+4059 AND	MLB 997 AB	212.62	5.2	3	2020.7808
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WDS		213	5.2	8	2015
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Stelle Doppie reports: the nature of this double is uncertain.

23407+4508 AND	BRT 1162 AB	177.13	5.5	3	2020.8931
WDS		177	5.5	4	2016

Stelle Doppie reports: the nature of this double is uncertain.

23545+4814 AND	ES 551 AB	88.09	32.7	3	2020.9123
WDS		89	32.7	9	2015
	ES 551 AD	12.25	30.4	3	2020.9123
Tycho2		12.1	30.308		1991
WDS		12	30.3	11	2015
	ES 551 BC	312.06	5.4	3	2020.9123
GAIA DR2 v3		313.94	5.44		2018
WDS		314	5.4	7	2015

23551+4447 AND	SMA 210 AB	311.52	5.4	3	2020.8219
GAIA DR2 v3		312.41	5.13		2018
WDS		312	5.2	9	2015

23570+3945 AND	MLB 806 AB	63.26	5.0	3	2020.7808
GAIA DR2 v3		63.72	5.17		2018
WDS		64	5.2	8	2015

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