

# Double Star Measures Using a DSLR Camera #6

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**Abstract:** This article contains measures by the author made with a DSLR camera. The images used for the measures were taken in the period between 2009.874-2009.926. The result is 442 positive and 18 negative measures.

Recently, I have had some problems, causing a short break in measuring, and in publishing measurement data. One of the problems was that in the spring, due to extreme weather, the building of my telescope was flooded twice.

Now, continuing the work, I report here the evaluation of the photos taken in 2009 between 15 November – 4 December.

The equipment used for photographing, and the methods of photo processing and measuring, are the same as those detailed in my first article [1]. Therefore, I would only like to note that I was working with a Canon 350D digital camera with a 35.5cm Newton telescope, and focal length increased to 4200mm. The pictures were measured with Florent Losse's program (Reduc 3.85). I used approximately 3279 photos for the present article. It contains the data of 4184 independent measures of 460 pairs.

A table contains the results of the measures, followed by the notes. I have also attached images of the doubles that I measured, with captions provided. In the first three columns of the table, the WDS coordinates and names of the doubles, as well as the components' brightness can be found. I described the brightness of the components on the basis of WDS, although it seems contradictory sometimes. When

there is an Anon. component, I gave the GSC or USNO "R" brightness, if not available, I provided the brightness that I estimated on the basis of the photo.

This is followed by the position angle (PA) and the separation (Sep) measured and calculated by me. In both cases, the value of the standard deviation is also indicated (+/-). The column (Epoch) gives the time when the images was taken. Finally, in every row, the number of individual measures (n), the reference number to the description (Notes), and the reference number of the image belonging to the measures (Img) can be seen.

In the descriptions (notes), you can find the GSC number of the primary star of those doubles that I measured; in case it appears in the GSC catalog. Also, my personal notes about the given double star can be read here. I found the greatest problem with the 10-character identification coordinates of WDS. In many cases it is different from the real position of the double. Although WDS contains more precise coordinates for most of the pairs, at times the double cannot be found at these locations. For the doubles measured by me, I "give suggestions" regarding these closest coordinates in the form of (xxxxx+xxxx!).

In the case of some doubles, when the available

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measures show a significant deviation in the parameters, I tried to explore the reason for this difference. I downloaded the DSS images of the area (POSS 1 Blue and POSS 2 IR): using these I checked if the doubles under scrutiny changed in the period between the different measures. In some cases it has been proved that the proper motion of one of the components causes this change. I employed the same method when I could not identify a double in or near the position given by WDS.

I would specially like to thank the work of Ágnes Kiricsi, who has helped a lot in this publication with the English translation and the correspondence.

### References

1. Berkó, Ernő, "Double Star Measures Using a DSLR Camera", JDSO, 4, 144-156, 2008.

WDS	Discoverer	m1	m2	PA	+/-	Sep	+/-	Epoch	n	Notes	Img
20100+2314	POU4238	11.02	11.4	354.56	0.24	15.36	0.05	2009.874	15	1	
20108+2319	POU4247	12.7	12.7	95.73	0.17	10.45	0.04	2009.874	18	2	1
20109+2311	Anon 1	12.0	13.0	143.96		5.46		2009.874	1	3	1
20111+2330	Anon 2	11.5	11.6	255.48	0.24	7.18	0.07	2009.874	4	4	
20112+2330	Anon 3	11.5	11.6	98.92	0.26	5.24	0.06	2009.874	7	5	
20112+2319	Anon 4	13.5	13.5	326.33		4.76		2009.874	1	6	
20113+2333	POU4253	13.8	14.1	50.74	0.14	9.18	0.08	2009.874	5	7	
20113+2314	POU4254	12.7	12.8	314.48	0.13	13.81	0.02	2009.874	16	8	
20114+2331	POU4255	11.63	12.9	43.32	0.10	17.85	0.04	2009.874	16	9	
20115+2328	Anon 5	13.5	13.5	256.63	0.38	2.75	0.14	2009.874	3	10	
20115+2318	Anon 6	14.0	14.0	82.86		4.18		2009.874	1	11	2
20116+2318	Anon 7	13.5	14.0	119.68	0.42	5.77	0.05	2009.874	11	12	2
20117+2320	POU4256	11.04	12.5	249.42	0.21	10.99	0.02	2009.874	15	13	2
20118+2317	Anon 8	14.0	14.0	281.87	0.47	5.64	0.06	2009.874	6	14	2
20118+2316	POU4258	12.6	13.8	176.08	0.18	9.30	0.04	2009.874	16	15	2
20119+2351	POU4262	10.72	11.5	5.84	0.28	7.51	0.04	2009.874	13	16	
20119+2348	POU4260	12.17	13.1	334.60	0.18	14.75	0.06	2009.874	4	17	
20119+2329	POU4261	12.6	14.1	112.17	0.24	6.48	0.06	2009.874	11	18	3
20119+2328	Anon 9	12.2	14.0	34.52		4.56		2009.874	1	19	3
20120+2358	POU4264	12.2	12.7	353.51	0.15	16.77	0.03	2009.874	16	20	3
20120+2357	POU4265	12.5	14.0	238.13	0.22	9.40	0.05	2009.874	16	21	
20120+2350	POU4263	10.7	11.6	293.69	0.25	7.60	0.06	2009.874	14	22	
20121+2429	Anon 10	10.5	12.5	26.06	0.22	8.78	0.07	2009.882	8	23	
20121+2324	Anon 11	12.7	13.5	54.64		6.82		2009.874	1	24	
20122+2359	POU4267	13.0	14.1	172.36	0.30	6.16	0.04	2009.874	12	25	
20123+2404	POU4268	8.81	14.9	41.05	0.18	14.18	0.06	2009.874	5	26	
20123+2348	Anon 12	12.5	13.0	162.43	0.39	4.49	0.07	2009.874	3	27	
20124+2433	POU4269	11.80	12.05	272.09	0.08	13.18	0.02	2009.882	15	28	
20125+2326	POU4270AB	14.0	14.1	219.60	0.33	13.64	0.04	2009.874	13	29	
20125+2326	Anon 13Ax	14.0	14.3	183.61	0.15	5.37	0.03	2009.874	2	29	

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WDS	Discoverer	m1	m2	PA	+/-	Sep	+/-	Epoch	n	Notes	Img
20126+2539	DOO 15AB	7.47	11.03	296.48	0.06	117.40	0.06	2009.882	10	30	
20126+2539	DOO 15BC	9.1	10.8	170.28		2.39		2009.882	1	31	
20126+2539	OPI 22BD	11.03	13.5					2009.882		32	
20126+2539	OPI 22BE	11.03	11.72	243.95	0.13	38.43	0.06	2009.882	13	33	
20126+2529	BRT3355	11.30	11.3	206.75	0.29	3.48	0.07	2009.882	7	34	
20126+2326	POU4272AB	12.0	12.4	31.63	0.14	13.61	0.03	2009.874	17	35	
20126+2326	Anon 14Ax	12.0	14.5	58.81		8.52		2009.874	1	35	
20126+2326	Anon 14By	12.4	14.5	19.16		7.10		2009.874	1	35	
20127+2430	POU4273AB	10.95	12.06	233.07	0.25	8.11	0.04	2009.882	15	36	
20127+2430	POU4274AC	10.95	13.91	8.72	0.26	13.32	0.05	2009.882	15	36	
20128+2412	Anon 15	13.0	13.5	249.27		2.68		2009.874	1	37	
20128+2405	POU4277	12.12	13.1	318.42	0.25	12.57	0.08	2009.874	6	38	
20130+2527	Anon 16	12.0	12.0	223.46	0.28	6.87	0.09	2009.882	10	39	
20131+2414	POU4279	14.0	14.1	184.05		2.63		2009.874	1	40	
20132+2328	POU4280	11.04	13.3	47.25	0.27	6.91	0.06	2009.874	8	41	
20133+2411	POU4282	12.7	13.2	14.85	0.32	6.59	0.08	2009.874	6	42	
20135+2325	POU4284	12.6	14.0	342.77	0.18	14.49	0.03	2009.874	15	43	
20136+2334	POU4287	12.2	14.1	62.96	0.26	15.31	0.05	2009.874	15	44	
20137+2333	POU4288	10.6	11.7	105.83	0.11	14.72	0.02	2009.874	14	45	
20137+2330	Anon 17	12.5	13.5	293.30		2.22		2009.874	1	46	
20138+2334	Anon 18AB	13.0	13.5	171.85	0.32	9.93	0.06	2009.874	15	47	
20138+2334	Anon 18AC	13.0	14.0	13.49	0.24	10.22	0.07	2009.874	11	47	
20138+2325	Anon 19	13.1	13.5	83.47		6.58		2009.874	1	48	
20139+2358	POU4290	12.03	14.1	165.27	0.25	13.96	0.04	2009.874	12	49	
20139+2357	NYS 5AB	13.7	13.8	134.51	0.17	17.81	0.05	2009.874	8	50	
20139+2357	NYS 5BC	13.8	15.0	154.00	0.21	8.90	0.06	2009.874	2	50	
20140+2449	Anon 20	11.5	13.0	182.66	0.19	7.09	0.07	2009.882	7	51	
20140+2335	POU4292	13.2	14.1	248.30	0.10	12.39	0.07	2009.874	2	52	
20141+2446	Anon 21	13.5	13.5	249.04	0.28	6.07	0.09	2009.882	7	53	
20141+2443	POU4293	13.17	13.15	204.94		2.84		2009.882	1	54	
20142+2446	POU4295	12.67	14.1	302.54	0.04	3.67	0.11	2009.882	2	55	
20142+2355	Anon 22	14.0	14.0	298.92	0.52	5.61	0.10	2009.874	2	56	
20143+2401	Anon 23	14.3	14.4	162.89	0.23	8.49	0.05	2009.874	7	57	
20143+2352	Anon 24	13.0	13.0	325.77		1.86		2009.874	1	58	
20143+2328	POU4296	13.1	13.7	80.85	0.07	15.54	0.03	2009.874	16	59	
20144+2453	POU4300	12.2	14.0	268.58		24.94		2009.882	1	60	
20144+2358	POU4299AB	12.60	14.3	334.69	0.29	10.47	0.02	2009.874	5	61	
20144+2358	POU4298AC	12.60	14.1	320.40	0.22	12.36	0.06	2009.874	11	61	
20144+2354	Anon 25	13.0	13.2	217.69	0.40	3.43	0.14	2009.874	2	62	
20145+2451	STT 402	7.46	10.73	35.00	0.15	13.97	0.05	2009.882	13	63	
20145+2359	POU4302	11.34	12.4	107.32	0.17	15.62	0.02	2009.874	14	64	
20146+2459	POU4304	12.31	14.3	324.43	0.12	17.76	0.07	2009.882	17	65	
20146+2453	J 1165	10.75	12.4	119.44		1.24		2009.882	1	66	
20146+2334	POU4305	12.39	14.6	316.16	0.25	6.66	0.03	2009.874	13	67	
20147+2355	Anon 26	13.5	13.5	158.69		2.51		2009.874	1	68	

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WDS	Discoverer	m1	m2	PA	+/-	Sep	+/-	Epoch	n	Notes	Img
20147+2327	POU4306	12.55	13.2	205.06	0.13	12.81	0.05	2009.874	16	69	
20148+2335	POU4307	11.77	13.7	233.10	0.27	12.26	0.08	2009.874	5	70	
20149+2451	Anon 27	12.5	13.5	264.57		5.57		2009.882	1	71	
20150+2428	POU4311	12.7	14.0	38.83	0.15	11.03	0.05	2009.882	12	72	
20150+2424	POU4309AB	13.2	13.2	71.58	0.29	6.94	0.06	2009.882	16	73	
20150+2424	POU4310AC	13.2	13.2	38.98	0.15	17.84	0.04	2009.882	16	73	
20150+2424	Anon 28Ax	13.2	14.0	313.95	0.29	4.47	0.05	2009.882	4	73	
20153+2432	POU4313	11.5	12.2	329.75	0.27	12.11	0.04	2009.882	18	74	4
20153+2428	POU4312AB	9.78	13.1	220.98	0.14	20.44	0.07	2009.882	18	75	
20153+2428	Anon 29Ax	9.78	14.0	31.22	0.37	6.95	0.10	2009.882	5	75	
20153+2428	Anon 29Ay	9.78	14.0	186.35	0.19	17.98	0.05	2009.882	11	75	
20155+2439	POU4317	12.5	13.9	96.08	0.22	4.72	0.06	2009.882	3	76	4
20155+2437	POU4315	10.48	10.6	92.91	0.58	4.24	0.03	2009.882	4	77	4
20157+2503	POU4318	11.41	12.9	214.04	0.29	14.36	0.05	2009.882	11	78	
20158+2437	Anon 30	14.1	14.1	96.50	0.17	8.23	0.06	2009.882	8	79	
20160+2505	Anon 31	14.0	14.0	9.68	0.39	3.35	0.05	2009.882	2	80	
20162+2506	POU4323	14.0	14.1	21.90	0.34	4.84	0.05	2009.882	9	81	
20162+2437	POU4324	11.02	14.4	189.06		18.07		2009.874	1	82	
20166+2503	POU4329	12.6	13.8	51.10	0.34	8.35	0.06	2009.882	12	83	
20166+2433	POU4330	11.18	12.6	306.98	0.19	15.07	0.03	2009.874	4	84	
20177+2510	POU4344	11.38	13.9	226.33	0.04	6.45	0.07	2009.887	6	85	
20178+3956	HJ 2951	8.80	9.54	124.93	0.11	10.88	0.03	2009.920	16	86	
20179+3712	SEI1071	10.77	11.6	11.42	0.09	27.30	0.05	2009.920	15	87	
20180+2450	Anon 32	13.5	13.5	229.60	0.18	5.29	0.05	2009.887	5	88	
20183+3953	Anon 33	8.80	12.0	58.70	0.19	7.09	0.06	2009.920	9	89	
20183+2539	BU 985AB	6.99	12.8	153.18		5.94		2009.887	1	90	
20183+2539	HJ 1499AC	6.96	10.87	356.72	0.14	21.47	0.07	2009.887	17	91	
20183+2539	WAL 131AE	6.96	8.13	151.17	0.02	123.10	0.05	2009.887	17	91	
20183+2539	BU 985CD	9.7	12.4	65.58	0.36	8.53	0.02	2009.887	3	91	
20183+2449	POU4349	11.47	13.1	13.71	0.18	10.31	0.01	2009.887	16	92	
20184+2511	POU4352	13.25	14.04	280.90	0.08	14.03	0.03	2009.887	15	93	
20184+2501	POU4350	14.1	14.2					2009.887		94	
20187+3720	SLE 995	11.6	11.6	142.77	0.22	8.88	0.04	2009.920	16	95	
20187+3715	SLE 994	11.6	12.3	353.89	0.17	14.57	0.08	2009.920	15	96	
20188+2504	POU4355	13.2	14.0	177.57	0.22	10.70	0.04	2009.887	16	97	
20188+2454	POU4357	14.0	14.2	65.84	0.20	13.73	0.05	2009.887	16	10	
20189+3723	Anon 34	12.0	13.0	202.51	0.11	6.71	0.02	2009.920	3	98	
20192+3938	ES 2051	10.43	12.9	306.12		4.93		2009.920	1	99	
20192+2441	A 391AB	9.82	10.40					2009.887		100	
20192+2441	Anon 35Ax	9.82	13.0	262.80	0.29	6.72	0.01	2009.887	3	101	
20193+2443	POU4361	10.89	14.1	233.83	0.08	20.75	0.04	2009.887	16	102	
20194+2457	GRV 330	12.9	13.6	148.31	0.03	47.34	0.04	2009.887	16	10	
20194+2446	POU4366	11.9	13.1	258.11	0.14	13.20	0.01	2009.887	17	103	
20195+2454	POU4369	11.53	12.5	39.73	0.05	20.40	0.04	2009.887	16	104	
20195+2453	POU4368	12.8	14.2	183.59	0.27	10.75	0.03	2009.887	14	105	

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WDS	Discoverer	m1	m2	PA	+/-	Sep	+/-	Epoch	n	Notes	Img
20196+3808	SEI1084AB	10.5	11.0	247.43	0.08	26.30	0.02	2009.920	16	106	
20196+3808	TOB 185AC	11.8	12.3	259.58	0.10	13.64	0.04	2009.920	16	106	
20196+2442	POU4373	14.2	14.3	219.74	0.25	8.74	0.03	2009.887	16	10	
20197+2447	Anon 36	13.0	13.5	245.61	0.15	4.73	0.07	2009.887	7	10	
20198+3958	MLB1014	10.7	11.5	240.72	0.29	7.57	0.05	2009.920	6	107	
20198+3806	Anon 37	13.0	13.5	81.21	0.21	4.93	0.06	2009.920	5	10	
20199+4000	MLB1015	12.0	12.1	86.17		3.96		2009.920	1	10	
20199+3933	SEI1086	9.58	11.3	316.05	0.21	4.83	0.04	2009.920	12	108	
20200+3938	HO 593	9.0	10.8					2009.920		109	
20202+2458	POU4378	13.6	14.0	315.35	0.24	6.82	0.05	2009.887	13	110	
20203+3958	BRT2260	12.55	12.78	7.65	0.27	2.7	0.03	2009.920	5	111	
20203+2501	J 1195	10.01	14.5	105.51	0.07	4.38	0.06	2009.887	6	112	
20205+4122	LI 5AB	10.95	15.9	143.87	0.36	8.34	0.02	2009.920	3	113	
20205+4122	FAB 15AC	10.95	12.81	202.89	0.14	19.50	0.05	2009.920	15	113	
20207+2502	POU4387	12.0	13.8	281.89	0.25	13.06	0.05	2009.887	14	114	
20208+2448	POU4389	12.06	12.7	255.94	0.10	14.76	0.05	2009.887	16	115	
20213+2514	POU4393	12.8	13.8	241.49	0.11	13.09	0.05	2009.887	15	116	
20213+2445	Anon 38	14.0	14.0	106.80	0.32	3.45	0.05	2009.887	3	117	
20213+2443	Anon 39	11.6	13.5	65.58	0.28	7.60	0.06	2009.887	12	118	
20213+2440	POU4394	13.2	14.4	24.09	0.10	15.09	0.02	2009.887	16	10	
20216+3836	SEI1102	9.86	10.1	156.79	0.09	18.96	0.03	2009.920	16	119	
20218+2517	POU4399AB	12.4	13.4	21.24	0.19	10.74	0.03	2009.887	15	120	
20218+2517	POU4400AC	12.4	14.2	72.81	0.14	17.71	0.06	2009.887	15	120	
20219+2510	Anon 40	13.5	14.0	355.62	0.12	5.11	0.04	2009.887	3	121	
20221+3839	Anon 41	12.6	13.7	94.29	0.25	8.25	0.06	2009.920	9	122	
20221+2516	Anon 42	13.5	13.6	85.36	0.25	6.24	0.06	2009.887	5	123	
20223+3837	Anon 43	11.5	12.5	332.11	0.25	5.21	0.05	2009.920	11	124	
20229+3829	MLB 773AB	10.5	11.7	293.85	0.19	9.50	0.06	2009.920	15	125	
20229+3829	Anon 44Bx	11.7	12.5	151.81	0.32	2.52	0.05	2009.920	6	125	
20241+2453	POU4448	13.0	13.0					2009.874		126	
20242+3516	POP1230AC	10.8	11.4	147.64	0.06	46.99	0.05	2009.909	15	127	
20242+2453	POU4450	11.53	11.7	230.69	0.16	17.93	0.04	2009.874	14	128	
20243+2445	POU4455	11.93	13.1	299.05	0.43	6.63	0.02	2009.874	12	129	
20245+3511	POP 202	9.71	12.4					2009.909		130	
20246+2510	POU4463	12.39	13.3	142.83	0.24	12.43	0.04	2009.874	14	131	
20247+3523	SEI1117	11.80	12.15	126.59	0.26	13.01	0.06	2009.909	11	132	
20251+3522	SEI1118	11.1	11.2	149.52	0.20	9.27	0.06	2009.909	17	133	
20252+3522	SEI1120	10.34	10.55	216.53	0.09	27.25	0.03	2009.909	17	134	
20253+2506	POU4483	12.8	13.8	228.40	0.34	5.63	0.04	2009.874	8	135	
20293+3731	WEI 35AB	8.35	8.81	213.26	0.39	3.49	0.01	2009.909	2	136	
20293+3731	WEI 35AC	8.35	9.40	99.92	0.16	87.67	0.09	2009.909	7	136	
20293+3731	WEI 35BC	8.81	9.40	97.89	0.01	89.17	0.03	2009.909	11	136	
20293+3731	WEI 35CD	9.40	10.4	200.81	0.26	12.13	0.06	2009.909	10	136	
20296+4021	STN 50	9.0	10.0					2009.909		137	
20299+4022	HJ 1525AB	9.13	9.58	234.36	0.14	9.09	0.03	2009.909	16	138	

*Table continues on next page.*

## Double Star Measures Using a DSLR Camera #6

WDS	Discoverer	m1	m2	PA	+/-	Sep	+/-	Epoch	n	Notes	Img
20299+4022	HJ 1525AC	9.13	13.5	38.74		16.78		2009.909	1	138	
20311+3652	SEI1148	12.19	12.9	280.94	0.11	24.62	0.07	2009.909	7	139	
20313+3654	TOB 188	11.8	12.8	261.70	0.15	16.54	0.09	2009.909	5	140	
20317+3831	ES 246AB	10.92	13.4					2009.909		141	
20317+3831	ES 246AC	10.92	12.4	353.56	0.24	10.03	0.05	2009.909	8	142	
20327+3916	SEI1160AB	8.20	10.38	50.85	0.15	14.51	0.05	2009.909	14	143	
20327+3916	SEI1159AC	8.20	10.2					2009.909		144	
20332+3910	SEI1165	9.34	10.8	4.28	0.30	10.81	0.06	2009.909	14	145	
20332+3324	SEI1162	8.89	10.40	91.12	0.11	20.59	0.04	2009.909	15	146	
20333+4119	HJ 1539AB	9.23	10.80	202.12	0.25	9.54	0.08	2009.909	15	147	
20333+4119	HJ 1539AC	9.23	11.8	51.84	0.27	18.32	0.06	2009.909	11	147	
20333+4119	ARN 77AD	9.23	10.14	120.72	0.09	38.16	0.03	2009.909	15	147	
20333+4119	ARN 77BD	10.80	10.14	106.32	0.06	37.92	0.03	2009.909	15	147	
20333+3323	HJ 1535AB	8.29	11.9	245.60	0.25	17.20	0.06	2009.909	7	148	
20333+3323	HJ 1535AC	8.29	11.9	191.79	0.03	30.43	0.09	2009.909	2	148	
20333+3323	HJ 1535AD	8.29	11.03	229.46	0.04	57.81	0.03	2009.909	15	148	
20335+3913	SEI1168	9.80	11.3	117.40	0.21	19.74	0.04	2009.909	15	149	
20340+3737	SEI1170	12.36	13.4	28.82	0.17	17.45	0.05	2009.909	10	150	
20349+4143	STU 13	7.57	10.13	195.68	0.21	27.27	0.08	2009.920	14	151	
20351+3914	MLB 777	11.0	11.1	185.37	0.29	6.09	0.01	2009.909	2	152	
20355+3749	SEI1184	10.59	11.98	35.96	0.28	27.23	0.05	2009.909	9	153	
20357+3747	TOB 190	9.8	12.6	68.68	0.20	17.78	0.09	2009.909	4	154	
20362+3737	SEI1188AB	10.64	11.29	78.20	0.13	15.49	0.04	2009.909	13	155	
20362+3737	SEI1187BC	9.0	11.0	272.40	0.22	22.74	0.05	2009.909	7	155	
20362+3737	TOB 191BD	11.9	12.7	134.74	0.07	37.38	0.06	2009.909	9	155	
20363+3854	MLB 953	11.70	12.2	6.12		6.10		2009.909	1	156	
20383+3814	SEI1202	11.0	11.0					2009.909		157	
20390+3804	SEI1204	11.0	11.0	294.79	0.30	7.80	0.09	2009.909	3	158	5
20391+3759	SEI1208	10.58	11.8	10.46	0.33	7.41	0.08	2009.909	5	159	
20411+2322	Anon 45	12.0	13.5	210.44	0.29	7.39	0.06	2009.901	12	160	
20411+2321	POU4864AB	12.20	15.0	212.51	0.20	13.78	0.04	2009.901	18	161	
20411+2321	Anon 46Bx	15.0	14.0	300.73	0.32	10.47	0.05	2009.901	8	162	
20412+2322	POU4866	14.3	14.4	38.82	0.24	10.17	0.05	2009.901	11	163	
20415+2318	Anon 47	12.0	13.8	239.84	0.23	10.72	0.05	2009.901	18	164	
20415+2317	Anon 48	13.8	13.8	32.80	0.31	8.73	0.07	2009.901	5	165	
20416+2323	POU4871	13.5	13.6	68.51	0.11	15.46	0.06	2009.901	18	166	
20417+2318	Anon 49	13.0	13.5	345.75	0.24	8.10	0.06	2009.901	16	167	
20418+2321	Anon 50	13.9	14.2	76.80	0.25	7.74	0.03	2009.901	6	168	
20418+2317	Anon 51	11.0	13.0	262.06	0.25	9.87	0.06	2009.901	10	169	
20420+2317	POU4884AB	12.58	13.3	286.81	0.18	6.43	0.03	2009.901	16	170	
20420+2317	POU4885AC	12.58	13.5	227.32	0.10	20.19	0.04	2009.901	18	170	
20420+2317	Anon 52Ax	12.58	14.0	12.16	0.31	15.06	0.05	2009.901	11	170	
20420+2317	Anon 52Ay	12.58	13.8	95.27	0.12	22.32	0.03	2009.901	18	170	
20421+2319	Anon 53AB	12.5	13.5	299.07	0.29	4.76	0.04	2009.901	3	171	
20421+2319	Anon 53AC	12.5	13.0	344.76	0.22	9.59	0.06	2009.901	15	171	

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## Double Star Measures Using a DSLR Camera #6

WDS	Discoverer	m1	m2	PA	+/-	Sep	+/-	Epoch	n	Notes	Img
20423+2352	POU4893	11.09	14.3	248.21	0.17	14.83	0.05	2009.901	11	172	
20425+2352	Anon 54	14.0	14.0	311.50	0.12	9.01	0.03	2009.901	4	10	
20425+2350	POU4900	13.5	14.4	3.73	0.32	10.63	0.04	2009.901	13	173	
20427+2355	POU4907AB	11.77	11.76	220.04	0.30	5.73	0.05	2009.901	13	174	
20427+2355	POU4906AC	11.77	13.79	159.48	0.19	12.10	0.04	2009.901	15	175	
20429+2356	Anon 55	12.5	13.6	311.50	0.18	9.05	0.05	2009.901	3	176	
20430+2421	POU4910	12.3	12.4	114.07	0.10	16.01	0.03	2009.901	16	177	
20432+2353	POU4912AB	13.0	13.1	27.84	0.10	16.28	0.04	2009.901	16	178	
20432+2353	Anon 56Bx	13.1	14.0	77.51	0.27	6.63	0.04	2009.901	3	178	
20432+2349	POU4913	10.46	15.3	26.97	0.22	18.14	0.06	2009.901	9	179	
20435+2420	Anon 57	12.0	13.6	346.49	0.32	10.42	0.05	2009.901	16	180	
20435+2415	POU4922	12.00	10.90	190.59	0.09	18.63	0.05	2009.901	12	181	
20436+2420	BRT2481	10.99	11.1					2009.901		182	
20439+2416	POU4928	12.8	14.3	208.67	0.25	8.61	0.04	2009.901	13	183	
20445+2420	Anon 58	12.5	13.5	69.14		4.11		2009.901	1	184	
20445+2402	POU4935	13.9	14.4	79.19	0.21	2.84	0.08	2009.901	5	185	
20445+2356	STF2724	8.97	9.00	150.98	0.29	2.07	0.12	2009.901	3	186	
20446+2423	POU4936	11.4	12.3	256.85	0.24	9.46	0.03	2009.901	16	187	6
20446+2423	Anon 59	13.0	13.2	62.76	0.37	4.78	0.09	2009.901	2	188	6
20446+2403	Anon 60	12.5	13.5	130.27		3.85		2009.901	1	189	
20446+2358	POU4941	13.9	14.4	328.43	0.27	9.73	0.04	2009.901	17	190	
20447+2424	POU4943	13.4	13.6	295.50	0.31	11.65	0.03	2009.901	10	191	6
20447+2356	Anon 61	13.5	14.0	13.46	0.25	11.39	0.02	2009.901	3	192	
20450+2423	POU4950	12.0	12.2	137.31	0.11	13.91	0.03	2009.901	14	193	
20450+2356	POU4949	12.50	13.44	271.67	0.24	13.48	0.08	2009.901	16	194	
20451+2414	POU4967	13.7	14.0					2009.901		195	
20459+2344	POU4962	13.4	13.7	0.26	0.43	2.95	0.02	2009.901	5	196	
20460+2349	POU4965	14.5	14.5	113.80	0.32	7.69	0.05	2009.901	5	197	
20460+2343	POU4963AB	13.7	13.9	297.60	0.22	7.82	0.06	2009.901	15	198	
20460+2343	Anon 62Bx	13.9	14.5	220.52	0.10	4.11	0.01	2009.901	2	198	
20461+2358	POU4970	14.5	14.5	1.88	0.22	14.69	0.06	2009.901	12	199	
20461+2354	POU4969	13.4	13.8	146.36	0.18	18.53	0.03	2009.901	14	200	
20462+2358	POU4971	9.53	13.3	74.12	0.21	13.28	0.05	2009.901	14	201	
20463+2343	POU4973	14.3	14.5	331.64	0.29	4.06	0.05	2009.901	10	202	
20465+2403	POU4975	12.14	14.8	159.40	0.25	18.53	0.07	2009.901	11	203	
20469+2342	POU4983	11.53	14.1	245.04	0.19	16.20	0.06	2009.901	14	204	
20471+2343	POU4984	12.4	14.1	154.34	0.24	9.67	0.07	2009.901	10	205	
20471+2341	POU4985	12.25	14.2	110.13	0.08	16.26	0.03	2009.901	16	206	
20475+2342	Anon 63	13.0	14.0	127.77	0.20	6.55	0.07	2009.901	9	207	
20476+2518	POU4996	12.27	14.3	126.84	0.20	12.30	0.05	2009.884	15	208	
20476+2339	POU4993	13.3	13.5	114.26		3.23		2009.901	1	209	
20476+2322	Anon 64	13.6	14.0	314.80	0.24	9.63	0.07	2009.901	11	210	
20477+2339	POU4997AB	12.4	14.2	194.89	0.25	12.29	0.04	2009.901	10	211	
20477+2339	Anon 65Ax	12.4	12.5	235.40	0.77	1.66	0.01	2009.901	2	211	
20478+2519	BUP 218AB	11.27	11.29	36.73	0.03	49.48	0.01	2009.884	15	212	

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## Double Star Measures Using a DSLR Camera #6

WDS	Discoverer	m1	m2	PA	+/-	Sep	+/-	Epoch	n	Notes	Img
20478+2519	BUP 218AC	11.27	11.2	142.78	0.22	5.74	0.02	2009.884	2	213	
20478+2519	BUP 218AD	11.27	10.78	252.49	0.01	154.66	0.02	2009.884	15	214	
20478+2320	POU4999	12.23	13.2	125.73	0.07	21.28	0.04	2009.901	14	215	
20479+2519	Anon 66	13.4	13.5	177.43	0.26	9.26	0.05	2009.884	10	216	
20480+2428	Anon 67	13.7	13.9	148.97	0.31	8.25	0.05	2009.884	10	217	
20480+2321	Anon 68	13.9	14.1	208.35	0.26	9.74	0.04	2009.901	9	218	
20480+2319	POU5000	14.1	14.2	6.59	0.19	10.96	0.04	2009.901	15	219	
20482+2624	STF2728AB	7.92	10.38	25.93	0.25	10.36	0.04	2009.884	17	220	
20482+2624	STF2728AC	7.92	13.6	210.62	0.27	19.31	0.06	2009.884	6	220	
20483+2515	POU5004	13.4	13.2	325.25	0.14	15.04	0.06	2009.884	18	221	
20484+2426	Anon 69	13.5	13.5	264.07	0.26	8.81	0.03	2009.884	8	10	
20484+2422	POU5005	11.9	13.0	61.29	0.25	13.90	0.06	2009.884	13	222	
20485+2444	POU5007	14.5	14.6	155.86	0.33	3.62	0.04	2009.884	11	223	7
20486+2444	Anon 70	13.5	13.5	299.93	0.18	8.58	0.07	2009.884	17	224	7
20486+2428	POU5009AB	13.5	13.8	185.15	0.13	14.63	0.07	2009.884	5	10	
20486+2428	Anon 71Bx	13.8	14.0	224.75		1.98		2009.884	1	10	
20487+2507	Anon 72	13.0	14.0	59.62	0.22	7.49	0.06	2009.884	5	225	
20487+2442	Anon 73	13.5	14.0	275.23	0.31	3.85	0.03	2009.884	9	10	
20488+2449	POU5010	13.1	13.4	217.43	0.31	2.60	0.04	2009.884	6	226	7
20488+2446	POU5013	13.4	14.0	353.79	0.13	14.65	0.03	2009.884	17	10	7
20488+2427	POU5014	12.7	13.5	140.91	0.16	13.51	0.04	2009.884	16	227	
20490+2637	COU 828AC	10.66	13.3	96.34	0.16	25.59	0.05	2009.884	11	228	
20490+2504	Anon 74	11.0	14.0	315.60	0.33	8.84	0.04	2009.884	5	229	
20490+2439	POU5018	11.10	13.28	282.91	0.05	22.31	0.05	2009.884	16	230	
20491+2509	Anon 75	13.9	14.0	100.92	0.30	8.53	0.07	2009.884	7	231	
20491+2442	Anon 76	13.3	13.5	114.15	0.21	2.25	0.02	2009.884	2	232	
20492+2510	POU5021	12.0	13.4	359.70	0.14	5.75	0.02	2009.884	5	233	
20492+2504	POU5020	13.1	13.6	70.28	0.49	3.83	0.07	2009.884	2	10	
20493+2440	Anon 77	11.3	13.0	350.88	0.11	4.56	0.05	2009.884	2	234	
20494+2405	POU5022	13.4	13.6	45.07	0.30	10.62	0.09	2009.884	10	10	
20494+2359	POU5023	13.0	13.2	291.03	0.22	13.34	0.05	2009.884	13	235	
20496+2444	POU5027	11.4	13.6	179.12	0.17	14.43	0.03	2009.884	16	236	
20496+2404	POU5026	11.94	13.9	92.65	0.15	17.01	0.04	2009.884	15	237	8
20497+2507	Anon 78	13.1	13.5	275.72	0.24	9.71	0.07	2009.884	7	238	
20497+2358	Anon 79	13.5	13.7	299.71	0.19	9.73	0.04	2009.884	4	10	
20499+2510	POU5029	12.15	13.53	19.75	0.15	12.53	0.04	2009.884	16	239	9
20499+2508	POU5030	12.2	12.4	345.58	0.34	4.03	0.05	2009.884	11	240	9
20499+2456	Anon 80	13.3	13.5	237.65	0.22	8.26	0.03	2009.884	6	241	
20499+2454	POU5035	12.8	13.4	54.37	0.32	9.60	0.05	2009.884	12	242	
20499+2412	POU5031AB	11.74	11.88	318.49		17.72		2009.884	1	243	
20499+2412	POU5032AC	11.74	12.3	310.83		16.47		2009.884	1	243	
20499+2408	Anon 81	13.5	13.9	266.84		11.81		2009.884	1	10	
20499+2407	Anon 82	12.1	13.9	93.34	0.21	11.61	0.06	2009.884	14	244	
20499+2402	POU5034	13.65	13.8	127.43	0.27	4.40	0.06	2009.884	5	245	8
20499+2401	Anon 83	13.5	13.5	290.26	0.22	11.34	0.06	2009.884	8	246	8

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## Double Star Measures Using a DSLR Camera #6

WDS	Discoverer	m1	m2	PA	+/-	Sep	+/-	Epoch	n	Notes	Img
20500+2508	Anon 84	13.5	14.0	256.52	0.27	12.59	0.08	2009.884	9	10	
20500+2412	Anon 85	13.5	13.6	146.34		5.62		2009.884	1	247	
20501+2512	POU5038	12.15	13.7	342.31	0.06	16.55	0.04	2009.884	3	248	9
20503+2518	POU5040	10.45	12.4	290.65	0.06	18.34	0.04	2009.884	17	249	
20503+2507	POU5039	11.1	13.5	84.37	0.18	10.68	0.05	2009.884	14	250	9
20506+2512	POU5041	12.5	12.7	176.96	0.23	14.52	0.06	2009.884	16	251	
20507+2527	POU5042	12.00	12.4	344.25	0.21	7.36	0.04	2009.884	13	252	
20507+2525	Anon 86	13.5	14.0	66.61	0.32	7.91	0.08	2009.884	8	253	
20510+2320	POU5043	11.02	12.5	157.91		5.07		2009.901	1	254	
20513+2426	Anon 87	12.2	13.5	269.55	0.02	5.14	0.07	2009.884	2	255	
20514+2329	POU5047	13.5	13.6	145.24	0.29	6.97	0.06	2009.901	7	256	
20514+2326	POU5046	12.4	13.6	268.36		3.41		2009.901	1	257	
20515+2444	POU5048AB	10.85	11.0	303.74	0.18	8.42	0.02	2009.884	16	258	
20515+2444	Anon 88Bx	11.0	13.0	226.75		7.30		2009.884	1	258	
20516+2440	Anon 89	12.5	12.5	157.65	0.24	5.20	0.05	2009.884	11	259	
20516+2429	POU5049	11.61	13.9	107.00	0.06	14.95	0.03	2009.884	14	260	
20516+2426	Anon 90	13.2	13.5	219.99	0.35	6.20	0.07	2009.884	4	10	
20517+2323	Anon 91	13.5	13.6	79.81		2.22		2009.901	1	10	
20522+2353	POU5051	11.8	11.9	349.67	0.18	6.49	0.03	2009.901	15	261	
20523+2352	Anon 92	13.5	13.5	308.63	0.24	4.38	0.03	2009.901	7	262	
20526+2353	Anon 93	13.6	13.6	8.44	0.24	8.98	0.05	2009.901	10	263	
21110+2353	POU5224	12.61	14.8	32.07		15.86		2009.882	1	264	
21110+2345	Anon 94	12.0	13.0	16.18	0.34	4.29	0.02	2009.882	2	265	
21112+2353	POU5227	11.90	14.6	323.91	0.18	14.93	0.05	2009.882	16	266	
21112+2351	Anon 95	12.4	14.5	89.71	0.23	13.91	0.04	2009.882	12	267	
21112+2347	POU5228	12.3	14.0	238.95	0.16	17.40	0.08	2009.882	13	268	10
21113+2349	POU5230	14.1	14.4	21.42	0.16	11.01	0.04	2009.882	6	269	10
21114+2348	POU5232	11.5	12.8	143.15	0.07	17.74	0.03	2009.882	16	270	10
21118+2348	POU5240	13.5	14.2	43.11	0.34	8.12	0.05	2009.882	3	271	
21122+2556	SLE 368	11.18	13.0	267.61	0.30	13.20	0.07	2009.882	7	272	
21124+2333	POU5247	13.8	14.0	21.84	0.21	14.16	0.06	2009.882	8	273	
21125+2619	STF2774AB	8.55	10.6	335.84	0.11	27.25	0.05	2009.884	15	274	
21125+2619	SLE 369AC	8.55	12.9	337.86	0.07	51.66	0.06	2009.884	15	275	
21128+2516	POU5251	11.2	13.8	302.85	0.11	18.26	0.04	2009.882	17	276	
21129+2457	POU5257	12.4	13.8	157.09		14.87		2009.882	1	277	
21129+2330	POU5252AB	11.24	12.8	226.75	0.23	13.24	0.04	2009.882	16	278	
21129+2330	POU5253AC	11.24	13.0	207.45	0.21	17.14	0.04	2009.882	16	278	
21129+2330	POU5254AD	11.24	13.2	217.89	0.06	30.86	0.04	2009.882	16	278	
21129+2330	Anon 96Ax	11.24	14.0	141.95		6.99		2009.882	1	278	
21129+2329	Anon 97	11.19	13.7	114.49	0.09	42.60	0.03	2009.882	16	279	
21130+2513	POU5260	11.30	11.9	193.36	0.22	6.54	0.02	2009.882	16	280	
21132+2503	POU5263	12.2	12.3	298.88		1.37		2009.882	1	281	
21133+2515	POU5265	12.5	13.7	34.02	0.15	21.04	0.04	2009.882	10	282	
21133+2501	POU5266	13.8	13.9	328.80	0.13	12.20	0.05	2009.882	9	10	
21134+2457	POU5267	14.0	14.1	113.24	0.06	6.06	0.05	2009.882	2	283	

*Table continues on next page.*

## Double Star Measures Using a DSLR Camera #6

WDS	Discoverer	m1	m2	PA	+/-	Sep	+/-	Epoch	n	Notes	Img
21135+2512	POU5269	11.4	11.6	269.58	0.26	4.29	0.06	2009.882	10	284	
21136+2508	Anon 98	14.7	14.8	286.96		5.51		2009.882	1	285	
21136+2503	POU5272	12.7	13.4	37.60	0.23	7.59	0.05	2009.882	8	286	
21137+2510	POU5273	10.24	13.6					2009.882		287	
21138+2333	POU5274	13.3	13.4	323.69	0.09	17.51	0.04	2009.882	16	288	
21138+2329	Anon 99	14.7	14.0	14.39	0.03	8.05	0.03	2009.882	3	289	
21139+2512	POU5276	11.28	13.9	110.62	0.26	5.52	0.05	2009.882	3	290	
21139+2329	Anon100	15.0	15.0	189.82	0.18	9.07	0.01	2009.882	2	291	
21143+2522	POU5283AB	10.0	11.0	85.90	0.07	15.99	0.03	2009.882	12	292	
21143+2522	POU5284AC	10.0	12.4					2009.882		293	
21143+2519	POU5286	11.94	13.2	159.47	0.18	18.10	0.07	2009.882	17	294	
21143+2333	POU5282	12.81	13.5	358.91	0.22	7.39	0.03	2009.882	13	295	
21145+2523	Anon101	13.1	14.0	117.35	0.26	9.60	0.06	2009.882	2	296	
21153+2527	SLE 375	11.35	13.1					2009.882		297	
21160+2524	POU5301	12.9	13.0	61.85	0.36	10.00	0.08	2009.882	7	298	
21170+2452	POU5310	10.37	12.4	12.75	0.18	15.07	0.04	2009.884	15	299	
21174+2445	POU5313	12.23	13.2	314.86	0.12	15.34	0.03	2009.884	17	300	
21174+2332	POU5314	11.53	11.8	125.48	0.09	17.23	0.02	2009.884	15	301	
21174+2330	POU5312	12.72	14.3	292.81		4.10		2009.884	1	302	
21176+2556	SLE 380	12.01	12.9	272.79	0.28	10.89	0.06	2009.884	13	303	
21176+2453	POU5317	12.4	14.0	336.95		14.63		2009.884	1	304	
21177+2449	POU5318AB	10.60	12.9	231.69	0.19	8.76	0.04	2009.884	16	305	
21177+2449	POU5319AC	10.60	14.4	154.46	0.30	17.04	0.07	2009.884	16	305	
21178+2449	POU5320	10.60	11.8					2009.884		306	
21185+2428	POU5327	12.12	13.7	248.28	0.24	20.01	0.05	2009.884	15	307	
21190+2423	POU5331	11.75	13.4	233.06	0.29	11.75	0.05	2009.884	12	308	
21194+2513	POU5332AB	12.86	13.1	53.81	0.26	9.40	0.04	2009.884	9	309	
21194+2513	POU5333AC	12.86	14.6	191.46	0.46	9.60	0.10	2009.884	2	309	
21198+2435	Anon102	14.4	14.5	89.07		5.79		2009.901	1	310	
21199+2432	POU5337	12.0	13.6	191.01	0.24	10.87	0.05	2009.901	8	311	
21200+2440	POU5338	12.66	13.9	267.77	0.32	11.61	0.03	2009.901	8	312	
21203+2453	POU5341	11.67	14.1	73.08	0.11	14.43	0.03	2009.901	11	313	
21205+2448	Anon103	14.5	14.5	9.21		2.55		2009.901	1	314	
21209+2426	POU5343	13.6	13.9	137.58	0.32	6.67	0.09	2009.901	4	315	
21210+2435	POU5347	12.49	13.2	19.41	0.10	17.87	0.01	2009.901	2	316	
21210+2428	POU5345	13.4	14.0	263.89	0.29	4.06	0.04	2009.901	8	317	
21216+2344	POU5350	11.2	12.9	342.75	0.27	11.51	0.07	2009.901	8	318	
21217+2420	POU5351	12.09	12.7	145.01	0.11	17.29	0.05	2009.901	16	319	
21218+2241	HLM 40	10.7	11.0					2009.901		320	
21220+2350	COU 132	8.85	10.33	201.04	0.19	13.34	0.04	2009.901	12	321	
21229+2346	POU5355	13.2	13.3	12.41	0.29	14.04	0.06	2009.901	11	322	
21237+2519	Anon104	11.5	12.5	252.77		4.85		2009.901	1	323	
21240+2416	HJ 1641	5.71	10.5	301.88	0.09	61.52	0.05	2009.901	5	324	
21240+2352	J 3137	11.2	11.5	238.98	0.26	7.24	0.06	2009.901	10	325	11
21241+2519	BU 447AB	6.20	12.2	313.92	0.38	9.24	0.05	2009.901	7	326	

*Table continues on next page.*

## Double Star Measures Using a DSLR Camera #6

WDS	Discoverer	m1	m2	PA	+/-	Sep	+/-	Epoch	n	Notes	Img
21241+2519	BU 447AC	6.20	11.7	191.41	0.07	57.80	0.06	2009.901	12	326	
21241+2519	BU 447AD	6.20	11.8	83.85	0.08	46.88	0.06	2009.901	11	327	
21241+2519	BU 447AE	6.20	10.96	115.74	0.06	66.59	0.06	2009.901	13	326	
21241+2519	BU 447AF	6.20	10.7	217.27	0.05	83.17	0.06	2009.901	13	326	
21490+2456	POU5512AB	12.35	12.9	5.05	0.26	11.41	0.05	2009.901	10	328	
21490+2456	POU5513AC	12.35	13.76	66.92	0.27	11.32	0.06	2009.901	11	328	
21494+2509	POU5517	12.5	12.6	233.02	0.30	6.43	0.06	2009.909	3	329	
21495+2458	POU5519	13.7	13.9	250.33	0.10	8.07	0.01	2009.901	2	330	
21495+2334	BU 1306AB	8.43	13.2	301.85	0.25	31.04	0.07	2009.901	14	331	
21495+2334	BU 1306A-CD	8.43	13.0	271.53	0.21	34.53	0.06	2009.901	11	331	
21495+2334	POU5518B-CD	13.2	13.0	208.04	0.12	17.54	0.08	2009.901	7	332	
21495+2334	BU 1306CD	13.6	14.0					2009.901		333	
21496+2431	POU5520	11.76	12.4	307.31	0.19	19.20	0.05	2009.901	12	334	
21498+2503	POU5521	13.0	13.2	75.48	0.21	15.51	0.07	2009.909	7	335	
21500+2437	POU5522	12.7	13.8	137.63	0.32	4.22	0.09	2009.901	3	336	
21501+2433	GRV 512	10.9	13.1	190.84	0.04	69.06	0.06	2009.901	15	337	
21504+2519	POU5524AB	12.4	13.6	126.58	0.07	14.24	0.08	2009.909	2	338	
21504+2519	POU5525AC	12.4	13.8	302.19	0.16	15.69	0.06	2009.909	2	338	
21506+2447	POU5527AB	12.10	13.8	97.29	0.17	8.01	0.04	2009.909	4	339	
21506+2447	POU5528AC	12.10	13.9	157.70	0.38	8.98	0.01	2009.909	5	339	
21507+2449	POU5529	13.9	14.0	19.39	0.28	9.03	0.09	2009.909	6	340	
21507+2422	POU5530	10.44	11.95	50.04	0.05	35.20	0.06	2009.901	14	341	
21508+2451	POU5532	12.1	13.7	322.83	0.30	9.16	0.05	2009.909	7	342	
21510+2437	GRV 514	11.9	13.0	115.01	0.22	42.93	0.07	2009.909	9	343	
21510+2420	POU5533	13.2	13.7	234.17	0.27	10.62	0.07	2009.901	7	344	
21516+2434	POU5537	11.69	14.6	95.51	0.21	18.36	0.06	2009.909	14	345	
21517+2437	POU5538	10.93	12.1	277.79	0.32	6.63	0.05	2009.909	16	346	
21524+2348	POU5540	12.1	13.7	283.53	0.26	11.15	0.06	2009.926	16	347	
21529+2354	POU5545	10.26	12.4	124.40	0.17	19.13	0.03	2009.926	13	348	
21535+2347	POU5550	10.49	13.2	125.10	0.26	9.49	0.03	2009.926	11	349	
21556+2406	POU5572	12.7	13.3	277.36	0.24	20.29	0.04	2009.926	10	350	
21565+2613	ES 526	9.25	13.4	98.21	0.33	10.01	0.03	2009.920	7	351	
21568+2357	POU5580	12.13	14.0	140.81	0.25	15.02	0.05	2009.926	12	352	
21571+2509	POU5582	12.9	13.3	338.09	0.25	7.74	0.04	2009.926	7	353	
21572+2457	POU5583	12.6	13.2	15.55	0.24	13.64	0.05	2009.926	4	354	
21574+2458	POU5587	11.8	13.1	329.65	0.21	12.95	0.06	2009.926	10	355	
21574+2354	POU5585	12.7	13.3	73.58		5.42		2009.926	1	356	
21575+2457	POU5588	12.6	13.3	11.51	0.21	5.44	0.01	2009.926	2	357	
21576+2440	POU5589	11.9	13.1	26.18	0.31	13.09	0.07	2009.926	6	358	
21578+2437	POU5590	11.12	13.2	136.39	0.28	10.25	0.04	2009.926	10	359	
21582+2507	POU5591	11.7	13.3	323.65	0.17	14.71	0.04	2009.926	13	360	
21583+2440	POU5592	11.6	12.9	99.26	0.23	9.21	0.05	2009.926	14	361	
21584+2510	POU5593	12.39	13.6	325.24		4.64		2009.926	1	362	
22049+2158	GAU 18	11.29	11.83	132.05	0.03	53.68	0.04	2009.926	16	363	
22052+2158	HJ 3088	9.46	12.98	193.54	0.19	23.33	0.03	2009.926	16	364	

*Table concludes on next page.*

Double Star Measures Using a DSLR Camera #6

WDS	Discoverer	m1	m2	PA	+/-	Sep	+/-	Epoch	n	Notes	Img
22053+2156	HJ 3089	9.1	13.43	110.78	0.11	22.02	0.06	2009.926	16	365	
22063+2423	POU5636	11.54	14.3	42.98	0.17	18.57	0.06	2009.874	15	366	
22066+2427	POU5638	10.16	13.68	164.59	0.28	18.40	0.08	2009.874	8	367	
22077+2421	POU5641	11.2	13.3	238.65		6.47		2009.874	1	368	
22081+2419	POU5643	13.1	13.3	284.82	0.28	3.85	0.08	2009.874	9	369	12
22082+2418	GRV 541	8.4	13.6	269.00	0.07	45.48	0.06	2009.874	14	370	12
22082+2416	Anon105	10.2	13.5	151.17	0.23	9.47	0.05	2009.874	11	371	12
22084+2525	POU5644	11.5	13.8	321.89	0.24	16.16	0.03	2009.874	15	372	
22087+2342	Anon106	13.0	13.2	316.34	0.31	9.32	0.04	2009.884	8	373	
22089+2347	POU5646	11.68	13.0	119.50	0.27	3.41	0.03	2009.884	2	374	
22090+2518	POU5647	9.92	13.5	114.07	0.18	22.22	0.08	2009.874	9	375	
22092+2510	POU5648	12.3	13.9	210.97	0.38	9.24	0.08	2009.874	6	376	
22096+2425	POU5650	13.4	13.6	293.65	0.15	16.43	0.08	2009.874	5	377	
22102+2418	POU5653	11.94	12.54	310.41	0.09	21.71	0.06	2009.874	11	378	
22105+2421	POU5655	13.4	13.8	223.52	0.13	13.71	0.05	2009.874	15	379	
22106+2342	POU5656	14.10	13.95	280.18	0.29	8.44	0.05	2009.926	11	380	
22109+2417	POU5657	12.1	13.8	325.56	0.13	11.89	0.03	2009.874	13	381	
22112+2359	POU5658	11.8	11.9	17.89	0.13	9.25	0.03	2009.884	17	382	
22112+2335	ARY 63	9.68	10.14	188.75	0.03	93.19	0.07	2009.874	13	383	
22113+2353	CBL 100	13.0	14.5	348.61	0.15	21.79	0.05	2009.884	17	384	
22115+2356	POU5659	12.01	13.67	92.06	0.11	13.29	0.05	2009.884	17	385	
22131+2351	HJ 1743	11.4	11.4	297.62	0.18	10.43	0.05	2009.874	15	386	
22132+2358	POU5667	11.7	13.1	232.12	0.22	3.95	0.02	2009.874	3	387	
22133+2352	HJ 1744	11.64	13.4	345.47	0.18	14.75	0.04	2009.874	15	388	
22134+2402	ARY 57	7.93	10.75	55.28	0.03	92.79	0.06	2009.874	9	389	

Table Notes

1. A=GSC 2154 374.
2. A=GSC 2154 1130 non star (20108+2314!).
3. AB=GSC 2154 1497 non star.
4. AB=GSC 2154 3324 non star.
5. AB=GSC 2154 3396 non star.
6. AB=GSC 2154 1371 non star.
7. A=GSC 2154 3310 non star.
8. A=GSC 2154 1205.
9. A=GSC 2154 3352.
10. Does not appear in GSC.
11. AB=GSC 2154 377 non star.
12. AB=GSC 2154 707 non star.
13. AB=GSC 2154 1010 non star.
14. AB=GSC 2154 356 non star.
15. AB=GSC 2154 1495 non star.
16. AB=GSC 2154 3278.
17. A=GSC 2154 2130.
18. AB=GSC 2154 650 non star.
19. A=GSC 2154 104.
20. A=GSC 2154 335.
21. AB=GSC 2154 912 non star.
22. AB=GSC 2154 1386 non star.
23. AB=GSC 2158 243 non star.

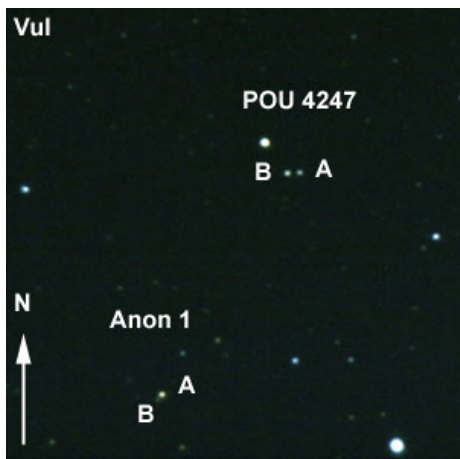


Figure 1: See Notes 2 and 3.

Double Star Measures Using a DSLR Camera #6

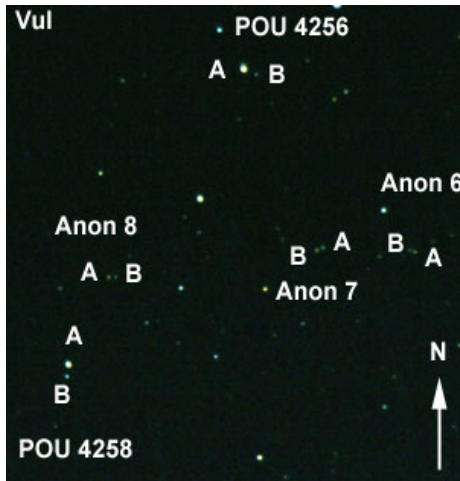


Figure 2: See notes 11 - 15.

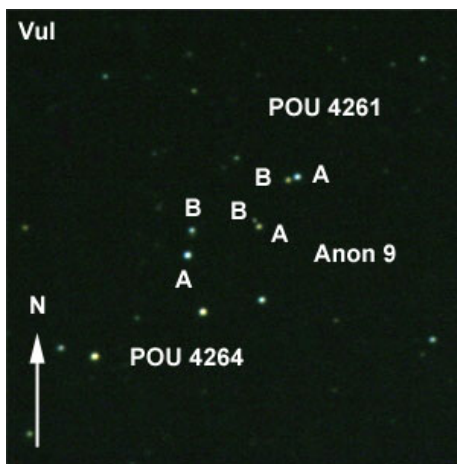


Figure 3: See notes 18 - 20.

- 24. AB=GSC 2154 68 blended object.
- 25. AB=GSC 2154 1194 non star.
- 26. A=GSC 2154 1014.
- 27. AB=GSC 2154 2368 non star.
- 28. A=GSC 2158 1903 (20123+2433!).
- 29. Ax=GSC 2154 1951 non star.
- 30. A=GSC 2158 1023. The proper motion in PA 10 direction of component A accounts for the changes of the measured parameters. This however is of small scale, therefore the 1900 measures could be PA302, in my opinion.
- 31. BC=GSC 2158 1438. The proper motion in PA 40 direction of components B and C accounts for the changes of the measured parameters. Cpm pair?
- 32. I cannot find component D. It cannot be identified in the DSS images, either.
- 33. BC=GSC 2158 1438.
- 34. AB=GSC 2158 1516.
- 35. Bxy=GSC 2154 1287 non star.
- 36. A=GSC 2158 369.
- 37. AB=GSC 2154 1742.
- 38. A=GSC 2154 2872.
- 39. AB=GSC 2158 1381 non star.
- 40. AB=GSC 2154 1236 non star. Uncertain measures.
- 41. AB=GSC 2154 1079.
- 42. AB=GSC 2154 1107 non star.
- 43. A=GSC 2154 1449. The proper motion in PA 210 direction of component B accounts for the changes of the measured parameters.
- 44. A=GSC 2154 2968.
- 45. A=GSC 2154 2884.
- 46. AB=GSC 2154 3468.
- 47. AC=GSC 2154 2942 non star.
- 48. A=GSC 2154 899 blended object.
- 49. A=GSC 2155 1877.
- 50. A=GSC 2154 1454 non star.
- 51. AB=GSC 2159 401 non star.
- 52. A=GSC 2155 1941.
- 53. AB=GSC 2159 339 non star.
- 54. AB=GSC 2159 807.
- 55. AB=GSC 2159 25 non star (20142+2447!).
- 56. AB=GSC 2155 1751 non star.
- 57. A=GSC 2155 1917 non star.
- 58. AB=GSC 2155 1217.
- 59. A=GSC 2155 1503.
- 60. A= J1165AB! (20145+2453!). Very different parameters. The images available do not show significant proper motion of the nearby stars.
- 61. A=GSC 2155 1215 non star.
- 62. AB=GSC 2155 703 non star.
- 63. A=GSC 2159 483.
- 64. A=GSC 2155 513.
- 65. A=GSC 2159 91.
- 66. AB=GSC 2159 941 (20145+2453!). Uncertain measures.
- 67. AB=GSC 2155 1295 non star.
- 68. AB=GSC 2155 1730 non star.
- 69. A=GSC 2155 1433 non star.
- 70. A=GSC 2155 1169.
- 71. A=GSC 2159 183 blended object.
- 72. A=GSC 2159 461.
- 73. AB=GSC 2159 2001 non star.
- 74. A=GSC 2159 2063 (20152+2432!).
- 75. A=GSC 2159 459.
- 76. AB=GSC 2159 619 non star.
- 77. AB=GSC 2159 129 non star.

### Double Star Measures Using a DSLR Camera #6

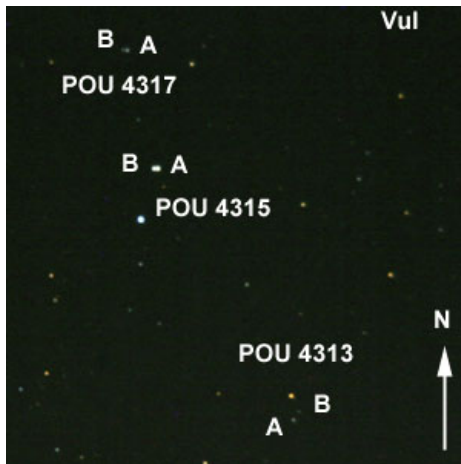


Figure 4: See notes 74, 76, 77.

78. A=GSC 2159 1379.
79. A=GSC 2159 655.
80. AB=GSC 2159 1311 non star.
81. AB=GSC 2159 1372 non star.
82. A=GSC 2159 919.
83. AB=GSC 2159 1497 non star (20162+2507!). Far from the indicated position (6').
84. A=GSC 2159 593.
85. AB=GSC 2159 1354 non star (20176+2509!).
86. A=GSC 3155 1860.
87. A=GSC 2684 951.
88. AB=GSC 2159 307 non star.
89. A=GSC 3155 1332.
90. A=GSC 2159 108. Very difficult to measure.
91. A=GSC 2159 108.
92. A=GSC 2159 317 (20183+2448!).
93. Does not appear in GSC. The proper motion in PA 200 direction of component A accounts for the changes of the measured parameters.
94. AB=GSC 2159 1524. According to DSS images, the members are getting closer. At present star-like, impossible to measure.
95. AB=GSC 2684 1827 non star.
96. A=GSC 2684 1415.
97. Does not appear in GSC. (20187+2504!). According to DSS images, the members are becoming more distant.
98. AB=GSC 2684 1779 non star.
99. AB=GSC 3155 242.
100. AB=GSC 2159 497. Cannot be measured.
101. AB=GSC 2159 497.
102. A=GSC 2159 725 (20192+2443!). The proper motion in PA 30 direction of component A accounts for the changes of the measured parameters.
103. A=GSC 2159 837.
104. A=GSC 2159 615.
105. A=GSC 2159 281 (20195+2452!). The proper motion in PA 40 direction of component B accounts for the changes of the measured parameters.
106. A=GSC 3151 3207.
107. A=GSC 3155 80 blended object. The proper motion in PA 200 direction of component B accounts for the changes of the measured parameters.
108. AB=GSC 3155 298.
109. A=GSC 3155 348. I cannot find component B. It cannot be identified in the DSS images, either. In my opinion, it is the same as SEI 1086.
110. AB=GSC 2159 121 non star.
111. AB=GSC 3156 2170 (20205+4000!).
112. A=GSC 2159 1513.
113. A=GSC 3160 391.
114. A=GSC 2159 1505 (20206+2502!).
115. A=GSC 2159 901.
116. A=GSC 2159 1092 (20212+2514!).
117. AB=GSC 2159 147 non star.
118. AB=GSC 2159 635 non star.
119. A=GSC 3152 1159.
120. A=GSC 2159 1219.
121. AB=GSC 2159 1251 non star.
122. A=GSC 3152 1261.
123. AB=GSC 2159 1211 non star.
124. AB=GSC 3152 1059 non star.
125. A=GSC 3152 624 blended object.
126. It is the same as POU 4450, but with a difference of 180 degrees. I cannot find any other double.
127. AB=GSC 2693 181 (20243+3517!).
128. A=GSC 2160 1144.
129. AB=GSC 2160 1219 non star (20243+2446!).
130. A=GSC 2693 421 I cannot find component B. It cannot be identified in the DSS images, either.
131. A=GSC 2160 300.
132. A=GSC 2693 562.
133. AB=GSC 2693 445 non star. )20251+3521!).
134. A=GSC 2693 924.
135. AB=GSC 2160 1203 non star.
136. A=GSC 3152 824 1.
137. I cannot find such double in the vicinity. It cannot be identified in the DSS images, either. The images available do not show significant proper motion of the nearby stars.
138. A=GSC 3156 1942 1.

**Double Star Measures Using a DSLR Camera #6**

- 139. A=GSC 2697 1159.
- 140. A=GSC 2697 1353.
- 141. A=GSC 3153 1233 I cannot find component B. It cannot be identified in the DSS images, either. It may have got too close to component C.
- 142. A=GSC 3153 1233
- 143. A=GSC 3153 1235.
- 144. I cannot find component C. It cannot be identified in the DSS images, either.
- 145. A=GSC 3153 317.
- 146. A=GSC 2690 774.
- 147. A=GSC 3161 1325 1.
- 148. A=GSC 2690 833. The proper motion in PA 40 direction of components A and B accounts for the changes of the measured parameters. Cpm pair?
- 149. A=GSC 3153 289.
- 150. A=GSC 3153 340 non star.
- 151. A=GSC 3161 880.
- 152. AB=GSC 3153 239 non star (20351+3913!).
- 153. A=GSC 3153 56.
- 154. A=GSC 3153 112.
- 155. A=GSC 3153 890.
- 156. AB=GSC 3153 677 non star.
- 157. I cannot find such double in the vicinity. It cannot be identified in the DSS images, either. The images available do not show significant proper motion of the nearby stars.
- 158. AB=GSC 3153 674 non star (20392+3805!). The

- 160. AB=GSC 2170 307 non star.
- 161. A=GSC 2170 69.
- 162. B=GSC 2170 372 non star (13,3m).
- 163. A=GSC 2170 19 non star.
- 164. A=GSC 2170 193.
- 165. A=GSC 2170 2039 non star.
- 166. A=GSC 2170 1897.
- 167. AB=GSC 2170 137 non star.
- 168. A=GSC 2170 2011.
- 169. AB=GSC 2170 321 non star.
- 170. AB=GSC 2170 163 non star.
- 171. AB=GSC 2170 711 non star.
- 172. A=GSC 2170 1411 (20423+2353!).
- 173. A=GSC 2170 621 non star.
- 174. AB=GSC 2170 1856 non star (20426+2354!). PA136 value might have been a typo in earlier WDS. The images available do not show significant proper motion.
- 175. AB=GSC 2170 1856 non star.
- 176. AB=GSC 2170 1616 non star.
- 177. A=GSC 2170 625 non star (20429+2421!).
- 178. A=GSC 2170 714 (20431+2353!).
- 179. A=GSC 2170 783 (20432+2348!).
- 180. A=GSC 2170 1376 non star.
- 181. A=GSC 2170 716.
- 182. I cannot find a double for these data. The images available do not show significant proper motion of the nearby stars. In my opinion, it is the same as POU 4928.
- 183. AB=GSC 2170 1808 non star.
- 184. AB=GSC 2170 514 non star.
- 185. AB=GSC 2170 1452 non star.

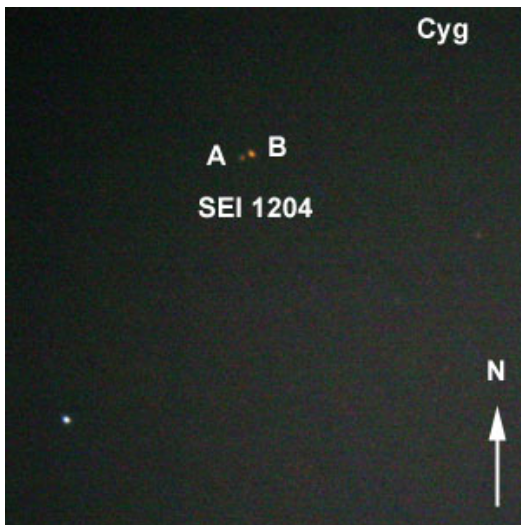


Figure 5: See note 158.

proper motion in PA 700 direction of component A accounts for the changes of the measured parameters. B are brightness star.

- 159. A=GSC 3153 86.

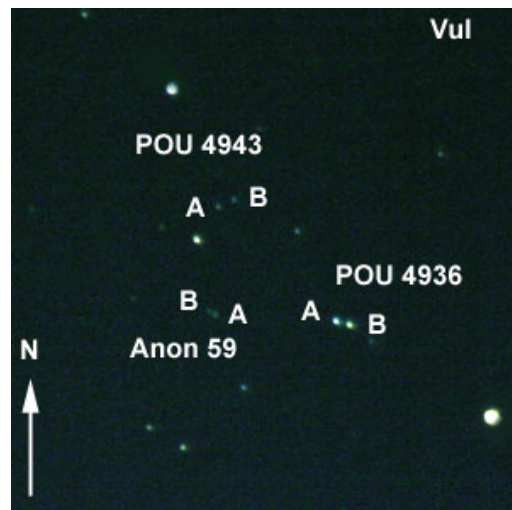


Figure 6: See notes 187, 188, 191.

### Double Star Measures Using a DSLR Camera #6

186. A=GSC 2170 1648 1.  
 187. AB=GSC 2174 2220 non star (20445+2423!).  
 188. AB=GSC 2174 1534 non star.  
 189. AB=GSC 2170 1328 non star.  
 190. A=GSC 2170 1396 non star.  
 191. A=GSC 2174 2330 (20446+2424!).  
 192. A=GSC 2170 1634.  
 193. A=GSC 2174 575 non star.  
 194. A=GSC 2170 1682 (20449+2355!).  
 195. I cannot find such double in the vicinity. It cannot be identified in the DSS images, either. The images available do not show significant proper motion of the nearby stars.  
 196. AB=GSC 2170 1905.  
 197. AB=GSC 2170 1511 non star.  
 198. ABx=GSC 2170 537 non star.  
 199. B=GSC 2170 1582 non star (20461+2359!).  
 200. A=GSC 2170 630.  
 201. A=GSC 2170 1488.  
 202. AB=GSC 2170 2430 non star.  
 203. A=GSC 2170 1258.  
 204. A=GSC 2170 1513.  
 205. A=GSC 2170 1231 non star.  
 206. A=GSC 2170 1393.  
 207. AB=GSC 2171 912 non star.  
 208. A=GSC 2175 1403 non star = BUP 218D.  
 209. AB=GSC 2171 116.  
 210. A=GSC 2171 300 non star.  
 211. Ax=GSC 2171 34 non star.  
 212. A=GSC 2175 1431.  
 213. Actually this is BUP 218BC! I measured it accordingly.  
 214. A=GSC 2175 1431.  
 215. A=GSC 2171 20.  
 216. A=GSC 2175 1215 non star.  
 217. A=GSC 2175 246 non star.  
 218. A=GSC 2171 818 non star.  
 219. A=GSC 2171 1367.  
 220. A=GSC 2179 1370.  
 221. A=GSC 2175 1551. The proper motion in PA 80 direction of component A accounts for the changes of the measured parameters.  
 222. A=GSC 2171 371 (20487+2420!). Mirror image? I cannot find any other double. The images available do not show significant proper motion of the nearby stars.  
 223. AB=GSC 2175 1731 non star.  
 224. AB=GSC 2175 1826 non star.

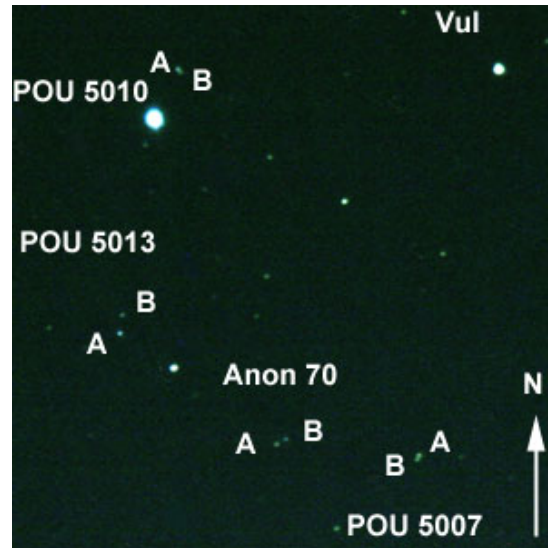


Figure 7: See notes 223, 224, 226, 10.

225. AB=GSC 2175 1863 non star.  
 226. AB=GSC 2175 1560 (20487+2449!).  
 227. A=GSC 2175 738 non star.  
 228. AB=GSC 2179 1668. The proper motion in PA 100 direction of component C accounts for the changes of the measured parameters.  
 229. AB=GSC 2175 1883 non star.  
 230. A=GSC 2175 6. The proper motion in PA 50 direction of component A accounts for the changes of the measured parameters. In my opinion the 1999' measure are correct in earlier WDS.  
 231. A=GSC 2175 1466 non star.  
 232. AB=GSC 2175 1824 non star.  
 233. AB=GSC 2175 1408 nonstar. The proper motion in PA 210 direction of component B accounts for the changes of the measured parameters.  
 234. AB=GSC 2175 1929.  
 235. A=GSC 2171 7.  
 236. A=GSC 2175 1792 non star (20496+2445!).  
 237. A=GSC 2171 199. The proper motion in PA 10 direction of component B accounts for the changes of the measured parameters.  
 238. A=GSC 2175 1041.  
 239. A=GSC 2175 1666 (20498+2510!).  
 240. AB=GSC 2175 1085 non star (20498+2509!).  
 241. A=GSC 2175 1144 non star.  
 242. AB=GSC 2175 1652 non star. The proper motion in PA 180 direction of component A accounts for the changes of the measured parameters.  
 243. A=GSC 2171 325 non star (20499+2413!).  
 244. A=GSC 2171 385 non star.  
 245. AB=GSC 2171 235 non star (20500+2402!).



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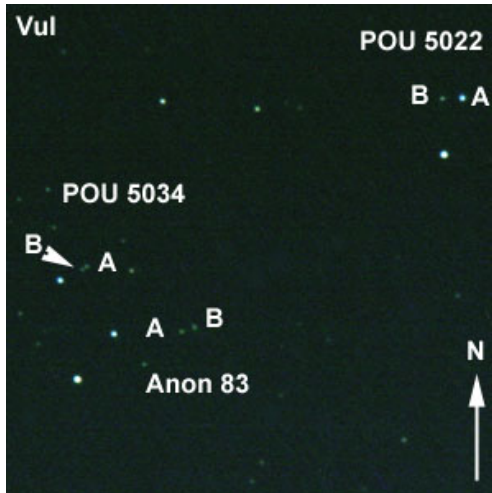


Figure 8: See notes 237, 245, 246.

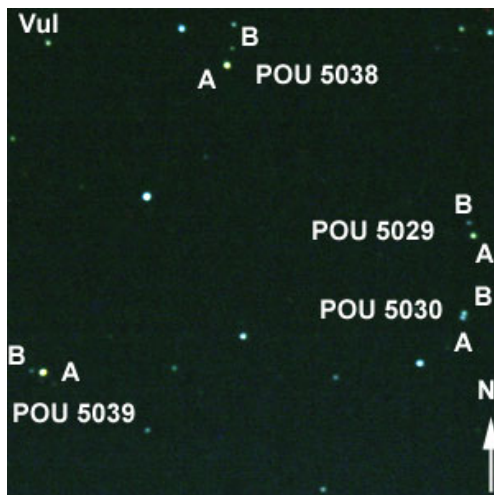


Figure 9: See notes 239, 240, 248, 249.

246. B=GSC 2171 49.  
 247. AB=GSC 2171 283 non star.  
 248. A=GSC 2175 965.  
 249. A=GSC 2175 1360 (20504+2518!).  
 250. A=GSC 2175 1689 non star (20503+2508!).  
 251. A=GSC 2175 1068 non star.  
 252. AB=GSC 2175 731 non star.  
 253. AB=GSC 2175 1052 non star.  
 254. AB=GSC 2171 424. The proper motion in PA 20 direction of component B accounts for the changes of the measured parameters.  
 255. AB=GSC 2175 309 non star. The proper motion in PA 200 direction of component A accounts for the changes of the measured parameters.  
 256. AB=GSC 2171 962 non star.

257. AB=GSC 2171 1638 non star (20514+2327!).  
 258. AB=GSC 2175 1867 non star.  
 259. AB=GSC 2175 1954 non star.  
 260. A=GSC 2175 45 non star. Mirror image? I cannot find any other double.  
 261. AB=GSC 2171 877 non star.  
 262. AB=GSC 2171 707 non star.

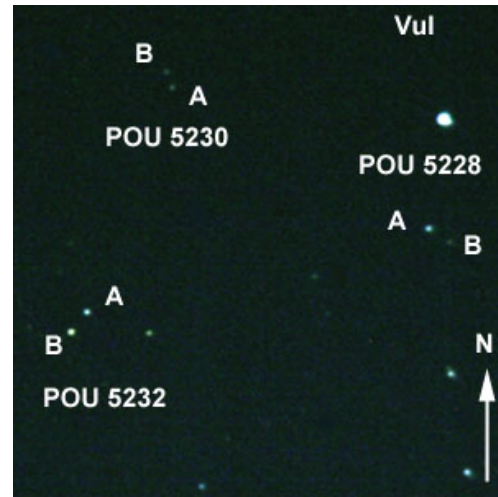
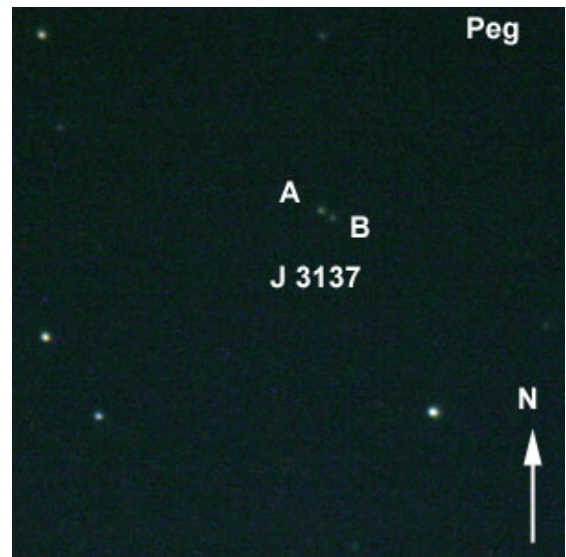


Figure 10: See notes 268 - 270.

263. A=GSC 2171 635 non star.  
 264. A=GSC 2173 1149 (21109+2353!).  
 265. AB=GSC 2173 1831 non star.  
 266. A=GSC 2173 1331 (21111+2352!).  
 267. A=GSC 2173 1758.  
 268. A=GSC 2173 1229 (21111+2347!).  
 269. A=GSC 2173 2239.  
 270. A=GSC 2173 1641 non star (21114+2346!).  
 271. AB=GSC 2173 1910 non star.  
 272. A=GSC 2177 2622 non star.  
 273. A=GSC 2173 1217 (21124+2332!).  
 274. A=GSC 2181 1268.  
 275. C=GSC 2181 1508. Could PA be a typo in WDS? I cannot find any other double.  
 276. A=GSC 2190 1825 (21128+2515!).  
 277. A=GSC 2190 1860.  
 278. Ax=GSC 2186 269.  
 279. A=GSC 2186 2248. The proper motion in PA 220 direction of components A and B accounts for the changes of the measured parameters. Cpm pair?  
 280. AB=GSC 2190 1600 non star.  
 281. AB=GSC 2190 2441. Uncertain measures.  
 282. A=GSC 2190 1206.  
 283. A=GSC 2190 2080 non star.

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284. AB=GSC 2190 37 non star. The proper motion in PA 340 direction of component A accounts for the changes of the measured parameters.
285. A=GSC 2190 283 non star. The proper motion in PA 200 direction of component A accounts for the changes of the measured parameters.
286. A=GSC 2190 1120 non star.
287. A=GSC 2190 1556. I cannot find component B. It cannot be identified in the DSS images, either.
288. A=GSC 2186 2060 non star.
289. A=GSC 2186 647.
290. A=GSC 2190 1776. The proper motion in PA 270 direction of component B accounts for the changes of the measured parameters.
291. A=GSC 2186 197.
292. A=GSC 2190 968.
293. I cannot find component C. It cannot be identified in the DSS images, either.
294. A=GSC 2190 1955 (21144+2519!).
295. A=GSC 2186 2128 non star.
296. A=GSC 2190 1659 non star.
297. A=GSC 2190 2410. I cannot find component C. It cannot be identified in the DSS images, either.
298. A=GSC 2190 1262 non star.
299. A=GSC 2190 2174 (21170+2453!).
300. A=GSC 2190 1894.
301. A=GSC 2186 2134.
302. AB=GSC 2186 1537 non star. The proper motion in PA 80 direction of component B accounts for the changes of the measured parameters.
303. A=GSC 2190 413. There's nothing else nearby. Very different parameters. The images available do not show significant proper motion of the nearby stars.
304. A=GSC 2190 2443 (21177+2453!).
305. A=GSC 2190 2002.
306. I cannot find such double in the vicinity. It cannot be identified in the DSS images, either.
307. A=GSC 2190 729.
308. A=GSC 2190 378.
309. A=GSC 2190 1646 non star (21195+2514!). The proper motion in PA 100 direction of component A accounts for the changes of the measured parameters.
310. AB=GSC 2190 399 non star.
311. A=GSC 2190 591.
312. A=GSC 2190 2217.
313. A=GSC 2190 1697 non star. The proper motion in PA 220 direction of component B accounts for the changes of the measured parameters.
314. AB=GSC 2190 1802 non star.
315. AB=GSC 2191 1717 non star (21212+2427!).
316. A=GSC 2191 1856 (21210+2436!).
317. AB=GSC 2191 1669 non star. The proper motion in PA 120 direction of component A accounts for the changes of the measured parameters.
318. A=GSC 2187 1626.
319. A=GSC 2187 1277.
320. I cannot find such double in the vicinity. It cannot be identified in the DSS images, either. The images available do not show significant proper motion of the nearby stars.
321. A=GSC 2187 2180.



**Figure 11:** See note 325.

322. A=GSC 2187 2122. The proper motion in PA 170 direction of component A accounts for the changes of the measured parameters.
323. AB=GSC 2191 2186 non star. The proper motion in PA 30 direction of component A accounts for the changes of the measured parameters.
324. A=GSC 2187 2177. The proper motion in PA 90 direction of component A accounts for the changes of the measured parameters.
325. AB=GSC 2187 1077 non star (21239+2351!).
326. A=GSC 2191 2228.
327. A=GSC 2191 2228. The proper motion in PA 250 direction of component D accounts for the changes of the measured parameters.
328. A=GSC 2206 1862 (21489+2456!).
329. AB=GSC 2206 877 non star. The proper motion in PA 210 direction of component A accounts for the changes of the measured parameters.
330. A=GSC 2206 1445 non star.

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331. A=GSC 2202 34.  
 332. CD= GSC 2202 584. The proper motion of components accounts for the changes of the measured parameters.  
 333. CD=GSC 2202 584. The duplicity can be seen, but cannot be measured.  
 334. A=GSC 2206 1266.  
 335. A=GSC 2206 432.  
 336. AB=GSC 2206 1164 non star.  
 337. A=GSC 2206 1404.  
 338. A=GSC 2206 1259 non star (21503+2519!).  
 339. ABC=GSC 2206 1786 non star.  
 340. A=GSC 2206 809 (21509+2449!).  
 341. A=GSC 2202 693 (21506+2422!). The proper motion in PA 220 direction of component A accounts for the changes of the measured parameters.  
 342. AB=GSC 2206 1600 non star.  
 343. A=GSC 2206 1380 (21511+2438!).  
 344. AB=GSC 2202 429 non star.  
 345. A=GSC 2206 1242.  
 346. AB=GSC 2206 1143. The proper motion in PA 150 direction of component B accounts for the changes of the measured parameters.  
 347. A=GSC 2202 945.  
 348. A=GSC 2202 348.  
 349. A=GSC 2202 70.  
 350. A=GSC 2203 2272.  
 351. A=GSC 2207 2049.  
 352. A=GSC 2203 2225 (21568+2356!).  
 353. AB=GSC 2207 2533 non star. The proper motion in PA 250 direction of component B accounts for the changes of the measured parameters.  
 354. A=GSC 2207 2221.  
 355. A=GSC 2207 1750 (21574+2457!).  
 356. AB=GSC 2203 2162 non star.  
 357. AB=GSC 2207 1766 non star.  
 358. A=GSC 2207 2325.  
 359. AB=GSC 2207 1843 non star.  
 360. A=GSC 2207 1780 (21582+2506!).  
 361. A=GSC 2207 2001 non star.  
 362. AB=GSC 2207 1878 non star.  
 363. A=GSC 1692 1687.

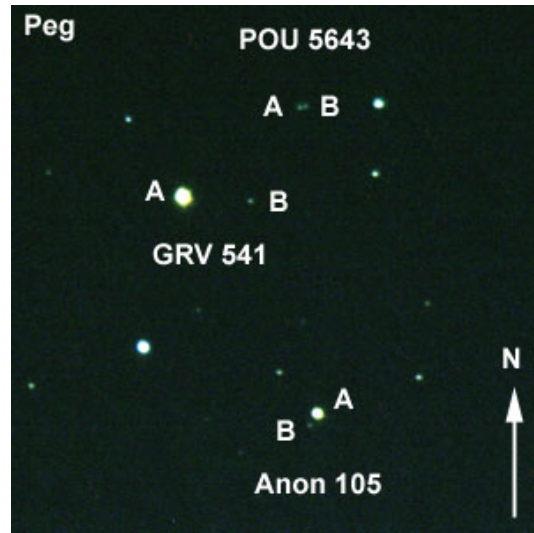


Figure 12: See notes 369 - 371.

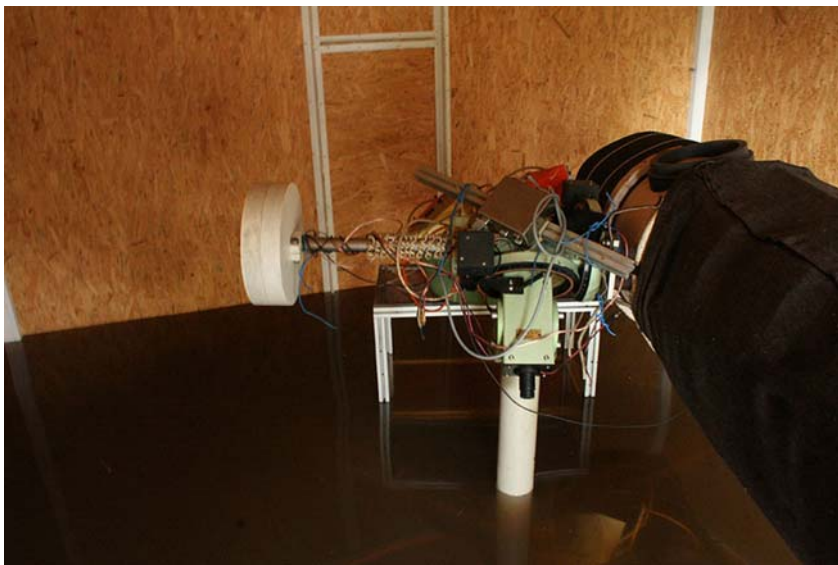
364. A=GSC 1692 1717. The images available do not show significant proper motion.  
 365. A=GSC 1692 1885. The images available do not show significant proper motion.  
 366. A=GSC 2208 564.  
 367. A=GSC 2208 1472 (22068+2428!).  
 368. AB=GSC 2208 2006 non star (22078+2520!). A little proper motion can be observed.  
 369. AB=GSC 2204 112 non star (22082+2420!).  
 370. A=GSC 2204 259 (22083+2419!).  
 371. A=GSC 2204 562.  
 372. A=GSC 2208 807.  
 373. A=GSC 2204 486.  
 374. AB=GSC 2204 1364 non star.  
 375. A=GSC 2208 1147. The proper motion in PA 230 direction of component A accounts for the changes of the measured parameters.  
 376. A=GSC 2208 1905 non star.  
 377. A=GSC 2208 1422 (22095+2426!).  
 378. A=GSC 2204 271 (22102+2419!).  
 379. A=GSC 2204 448. The proper motion in PA 150 direction of component B accounts for the changes of the measured parameters.  
 380. A=GSC 2204 1649 (22106+2341!).  
 381. A=GSC 2204 127 non star.  
 382. A=GSC 2205 989 non star.

### Double Star Measures Using a DSLR Camera #6

**Editor's Note:** Ernő Berkó made reference to extreme weather and the flooding of his observatory at the beginning of this article. He sent us pictures showing his flooded facility, which we show below. You can see that he came very close to experiencing a disastrous loss. At its highest, the water was 30 cm from his telescope. Considering this, it is remarkable that Mr. Berkó was able to do any double star observations at all.



Outside Ernő Berkó's observatory during the flooding.



Inside the observatory. You can see that water came to within a few inches of his telescope.