

Observation and Measurement of 10 Double Stars: April 2012 – July 2012

Gaetano Lauritano

Giugliano in Campania,
Naples, Italy
gaetano.lauritano@alice.it

Abstract: This report submits CCD measurements of ten pairs, observed in the period April 2012 – July 2012. All measurements were made at my urban location of Giugliano in Campania (Naples) with a Newtonian 8" F5 on an equatorial mount.

Introduction

Between April 2012 – July 2012 I performed primarily visual observations of several doubles. Some of these pairs I also performed measurements with Webcam Philips Vesta 675 with a IRCut filter at the prime focus of my Newtonian Skywatcher 8" F5. In some cases I also used a 2X apochromatic Barlow. For astrometric measurements I used the excellent software Reduc v4.6 by Florent Losse,.

Method

Usually I select the systems to be observed in the free software Sky Charts, comparing the parameters with the WDS. Additional information is collected at the website <http://stelledoppie.goaction.it>. When all members of my family are in bed for the night, I go to the east balcony of my house, Figure 1. A neighbor looks at me, intrigued by the instrumentation in my possession.

The software for video capture is GiGiwebcap. After capturing movies I return to the binary systems to make a visual observation.



Figure 1: My primary telescope. Skywatcher Newtonian 8" F5 at work.

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STF2264

It is also known as 95 Herculis is very beautiful, bright pair in Hercules. The primary was sky blue and it's companion was a rich, golden yellow, Figure 2.

STF2894:

A nice pair whose components are represented by a white star and a red companion. The system is located on the border with Pegasus, Figure 4.



Figure 2: STF2264



Figure 4: STF2894

STF3049

It is also known as Sigma Cassiopeiae is a binary star in the Cassiopeia. The two stars seem to have the same color of blue, Figure 3.

STF2841

Easy split. At the eyepiece there was some color contrast of a whitish yellow primary with a tint of blue on the secondary, Figure 5.

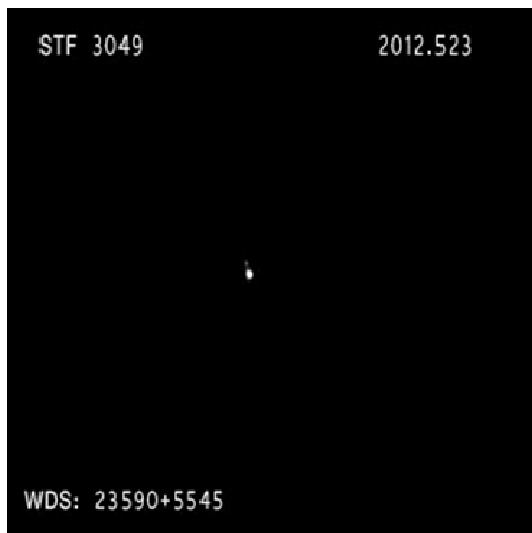


Figure 3: STF3049



Figure 5: STF 2841

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STFB11

Flamsteed 1 Peg, a nice couple in Pegasus. Characterized by a strong difference in magnitude, Figure 6.



Figure 6: STF B11

AGC15AB

Beta Cassiopeia, also known as Caph, although not the main star is the brightest in the constellation of Cassiopeia, having an apparent magnitude of 2.2. Caph is a yellow-white giant star of F2 spectral type, with a surface temperature of 7000°, slightly higher than our sun and is just about 50 light years from us. It is a variable star, the brightest of the class of Delta Scuti, whose magnitude varies between +2.25 and 2.31 with a period of .5 hours. Caph is almost four times the radius of the Sun and is 28 times brighter. The companion has an orbital period of 27 days, Figure 7.

STF99

Not difficult to find, Primary bright and yellow, companion elusive, Figure 8. About this pair I've found an interesting files on the net. <http://adsa.bs.harvard.edu/full/1992Obs...112..125B>



Figure 7: AGC 15



Figure 8: STF 99

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STFA4

This pair is composed of two yellow giants and is located near the open cluster NGC 752, Figure 9.

References

Stelle Doppie - <http://stelledoppie.goaction.it/>

Florent Losse <http://astrosurf.com/hfosaf/>

Andrea Console <http://andreaconsole.altervista.org>

Registax - <http://www.astronomie.be/registax/>

Skychart - <http://www.ap-i.net/skychart/>

The Washington Double Star Catalog (WDS), U.S. Naval Observatory.



Figure 9: STFA 4

Table 1: Measurements of the 10 double stars.

NAME	RA+DEC	MAGS	PA	SEP	DATE	NOTE
AGC 15AB	00 ^h 09 ^m 10.68 ^s +59°08' 59.2"	2.3 13.70	268	66.1	2012.539	Caph, Beta Cassiopea
STF 5	00 ^h 10 ^m 02.18 ^s +11° 08' 44.9"	5.54 9.44	150.8	7.7	2012.539	34PSc
STF 12	00 ^h 14 ^m 58.84 ^s +08° 49' 15.5"	6.06 7.51	142.4	11.9	2012.539	35PSc
STF 99	01 ^h 13 ^m 44.94 ^s +24° 35' 01.6"	4.65 9.11	221.4	7.8	2012.539	PHI PSc
STFA 4	01 ^h 56 ^m 09.23 ^s +37° 15' 06.5"	5.79 6.07	148.7	314.0	2012.539	56 And
STF2264	18 ^h 01 ^m 30.41 ^s +21° 35' 44.8"	4.85 5.2	97.2	6.2	2012.320	95 Herculis
STFB 11	21 ^h 22 ^m 05.13 ^s +19° 48' 15.7"	4.2 7.56	326.3	48.4	2012.523	1 Pegasi
STF2841	21 ^h 54 ^m 17.44 ^s +19° 43' 05.3"	6.45 7.99	124.2	29.7	2012.523	STF2841
STF2894	22 ^h 18 ^m 56.17 ^s +37° 46' 09.0"	6.21 8.85	193.3	16.0	2012.514	STF2894
STF3049	23 ^h 59 ^m 00.53 ^s +55° 45' 17.8"	4.99 7.24	339.3	3.9	2012.523	Sigma Cassiopea

Gaetano Lauritano began to scan the sky in 1989 with a small 60/700. Attracted by all objects beyond Earth's atmosphere is affecting recently astrometric measurement of double stars. He observes from an urban location in Giugliano in Campania, Napoli, Italy. He maintains the blog "The Nights of Wonder" (<http://thenightsof wonder.wordpress.com/>), devoted to his astronomical works.