

## 5 Results

For the observation of April 2~3, 2006, the 14 images after autocorrelation and boxcar process are shown in figure 5-1, 12 binaries except CHR259 were detected, and the results are listed on Table 5-1. The orbit of each binary with observed data in the Fourth Interferometry Catalog and on this work are plotted on figure 5-2. Observing magnitude limit was set at 7.0 due to high focal ratio and the sensitivity of webcam.

### Observation with Philips 840K webcam on April, 2006

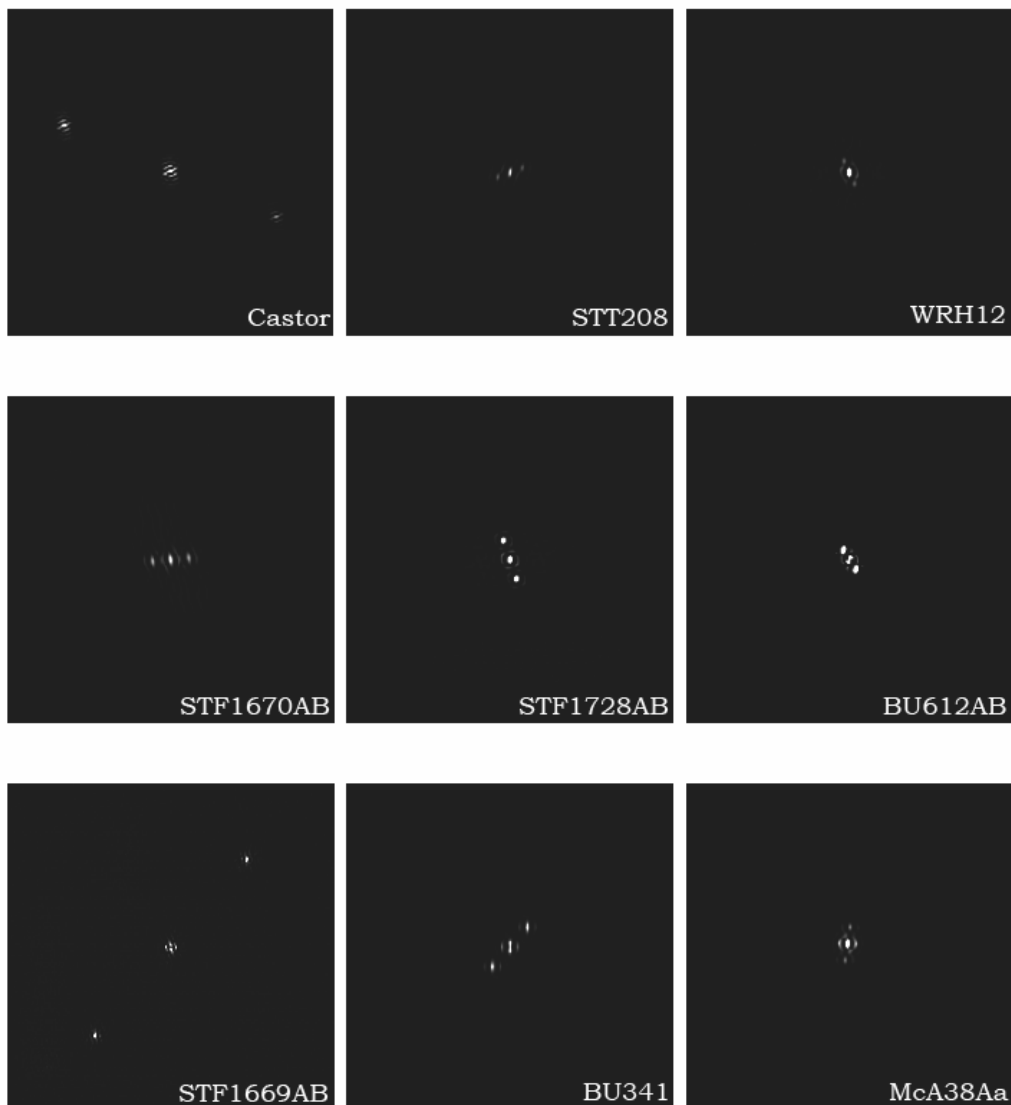


figure 5-1 The images after autocorrelation processed

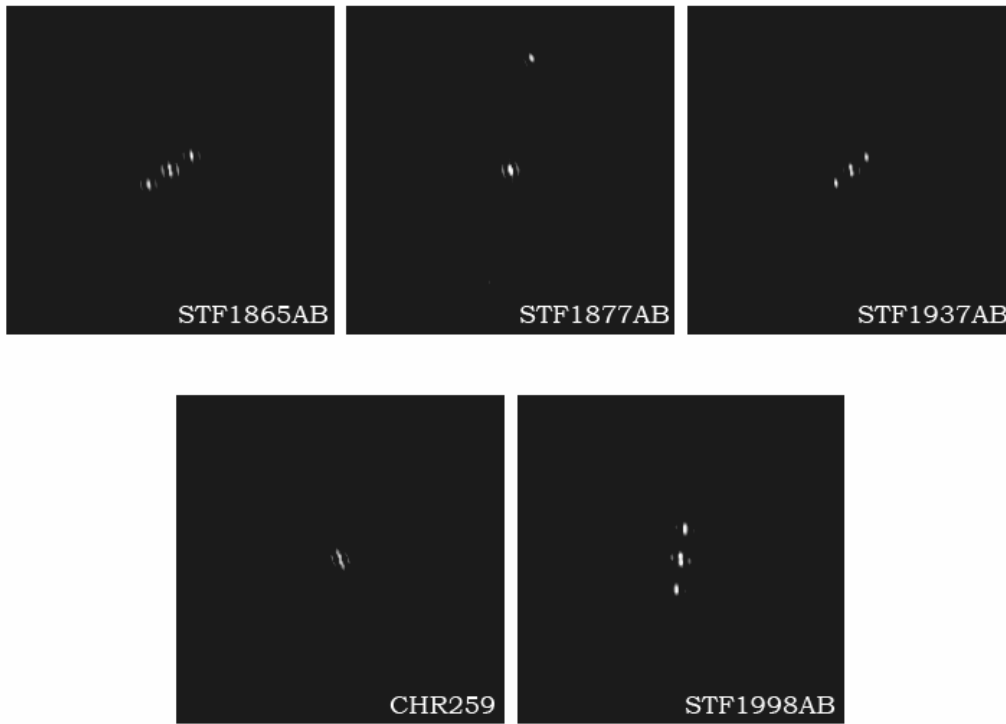
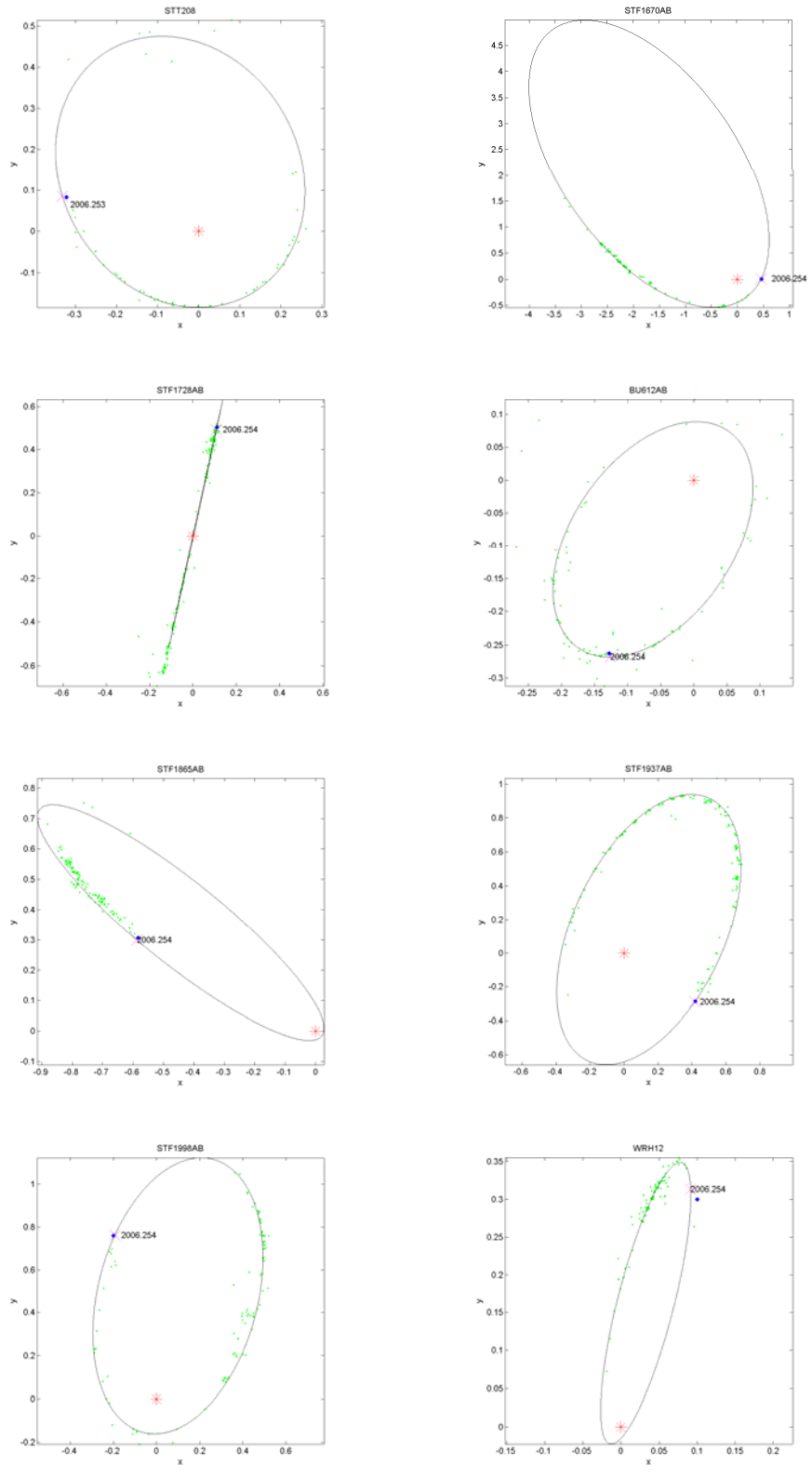


figure 5-1 (continue) The images after autocorrelation processed

Table 5-1 The results of 12 of 14 selected binaries on April 2-3, 2006,  
 where n.o. in the table of  $\rho_{(O-C)}$  or  $\theta_{(O-C)}$  are targets with no 6<sup>th</sup> orbit elements

WDS	Name	epoch	$\rho_{\text{obs}}(")$	$\theta_{\text{obs}}(^{\circ})$	$\rho_{(O-C)}(")$	$\theta_{(O-C)}(^{\circ})$
09521+5404	STT208	2006.253	0.33	284.5	-0.01	0.1
12413-1301	STF1669AB	2006.254	5.30	40.8	n.o.	n.o.
12417-0127	STF1670AB	2006.254	0.46	84.7	0.00	0.4
13038-2035	BU341	2006.254	0.67	41.8	n.o.	n.o.
13099-0532	McA38Aa	2006.254	0.42	189.0	n.o.	n.o.
13100+1732	STF1728AB	2006.254	0.52	161.2	0.01	0.0
13396+1045	BU612	2006.254	0.29	147.6	-0.00	0.7
14411+1344	STF1865AB	2006.254	0.66	55.9	-0.00	0.7
14450+2704	STF1877AB	2006.254	2.90	10.7	n.o.	n.o.
15232+3017	STF1937AB	2006.254	0.51	49.3	0.00	-0.4
16044-1122	STF1998AB	2006.254	0.79	8.3	-0.00	-0.5
12349+2238	WRH12	2006.254	0.32	198.5	-0.05	2.2

figure 5-2 The results are plot with data points in 4<sup>th</sup> interferometric catalog and orbit of 6<sup>th</sup> orbit catalog. Blue dots are observation results, green spot are data point in 4<sup>th</sup> interferometric catalog, and red symbol of “✱” is the position of primary.



In the period of observation on February, 2007, a cooled frame transfer CCD was used to increase the sensitivity and to decrease the instrumental noise. The 21 images after autocorrelation and boxcar process are shown in figure 5-3. The results of 17 binaries except HU1138, KUI48, McA38Aa, and STT163AB are listed on Table 5-2. The orbit of each binary with observed data in the Fourth Interferometry Catalog and on this work are plotted on figure 5-4. Observing magnitude limit was set at 9.0 due to the higher sensitivity of CCD.

**Observation with Andor iXon CCD on February, 2007**

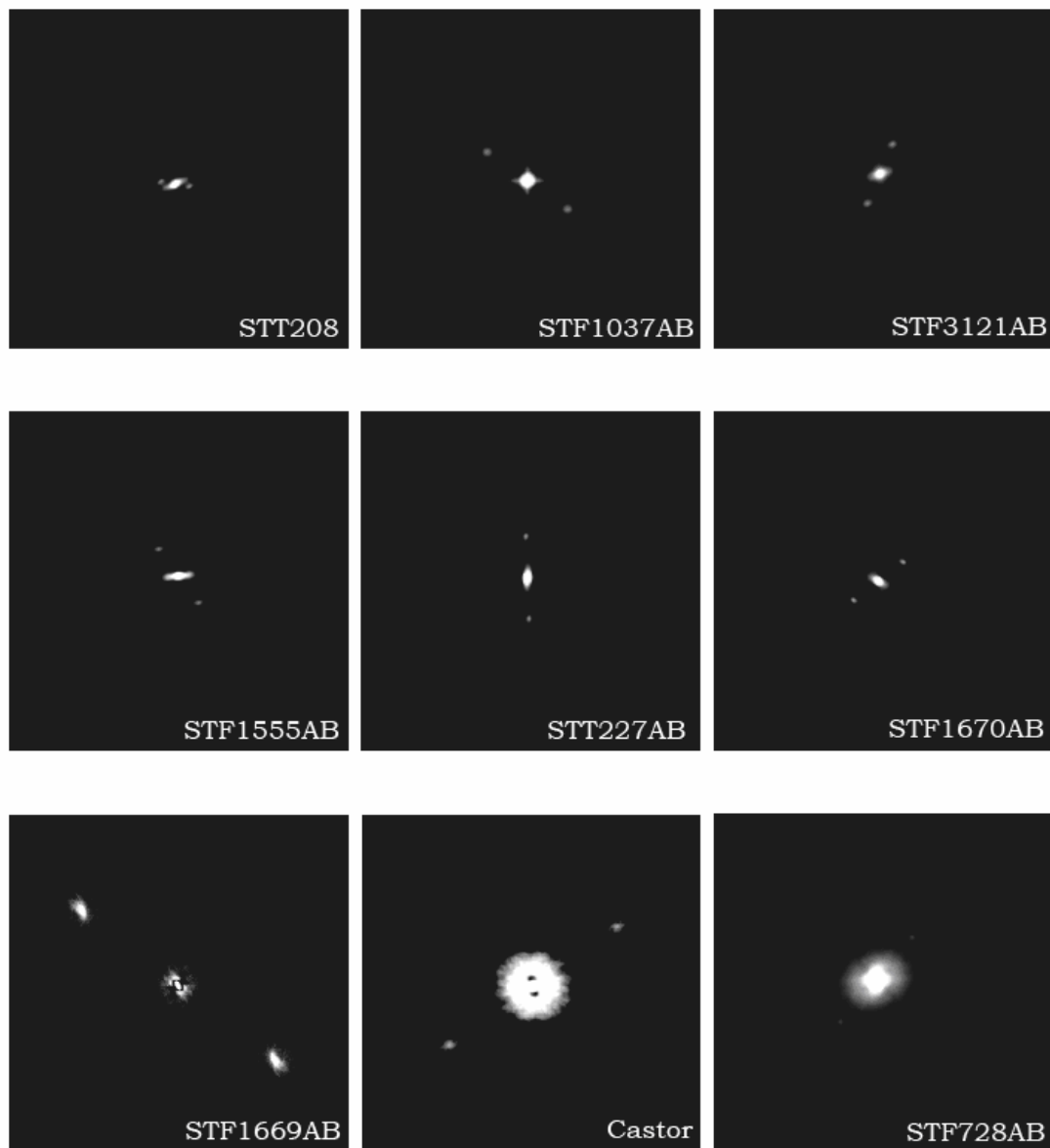


figure 5-3 The images after autocorrelation processed

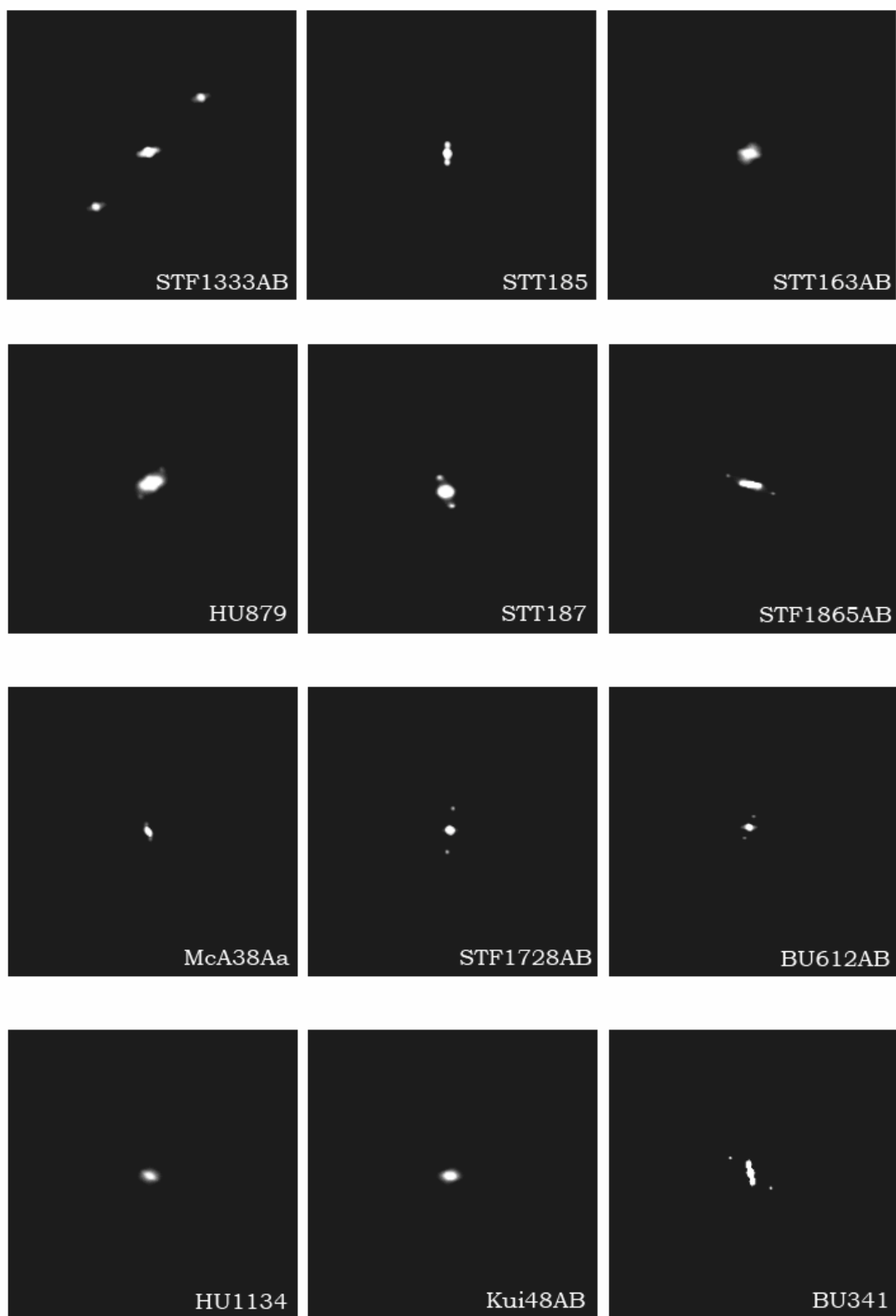


figure 5-3 (continue) The images after autocorrelation processed

Table 5-2 The results on February 9-11, 2007,

where n.o. in the table of  $\rho_{(O-C)}$  or  $\theta_{(O-C)}$  are targets with no 6<sup>th</sup> orbit elements

WDS	Name	Epoch	$\rho_{\text{obs}}(“)$	$\theta_{\text{obs}}(°)$	$\rho_{(O-C)}(“)$	$\theta_{(O-C)}(°)$
05308+0557	STF728	2007.114	1.26	44.8	0.02	0.4
07128+2713	STF1037AB	2007.111	1.13	130.5	0.07	-0.2
07346+3153	Castor	2007.114	4.69	59.2	0.26	0.4
07573+0108	STT185	2007.114	0.23	4.8	0.10	8.5
08041+3302	STT187	2007.114	0.41	163.6	0.00	1.9
09179+2834	STF3121AB	2007.111	0.75	29.0	0.04	2.4
09184+3522	STF1333	2007.114	2.04	49.2	n.o.	n.o.
09521+5404	STT208	2007.111	0.34	101.8	-0.01	5.0
10279+3642	HU879	2007.114	0.44	44.9	0.01	4.3
10417+1044	STT227	2007.111	0.93	183.1	n.o.	n.o.
11363+2747	STF1555AB	2007.111	0.77	147.8	0.08	-1.0
12413-1301	STF1669AB	2007.112	5.60	131.2	n.o.	n.o.
12417-0127	STF1670AB	2007.112	0.72	58.9	0.03	1.9
13038-2035	BU341	2007.114	0.67	131.3	n.o.	n.o.
13100+1732	STF1728AB	2007.114	0.59	13.1	0.03	0.7
13396+1045	BU612AB	2007.114	0.32	26.6	0.01	2.4
14411+1344	STF1865	2007.114	0.66	115.9	0.02	0.7

figure 5-4 The results are plot with data points in 4<sup>th</sup> interferometric catalog and orbit of 6<sup>th</sup> orbit catalog. Blue dots are observation results, green spot are data point in 4<sup>th</sup> interferometric catalog, and red symbol of “\*” is the position of primary.

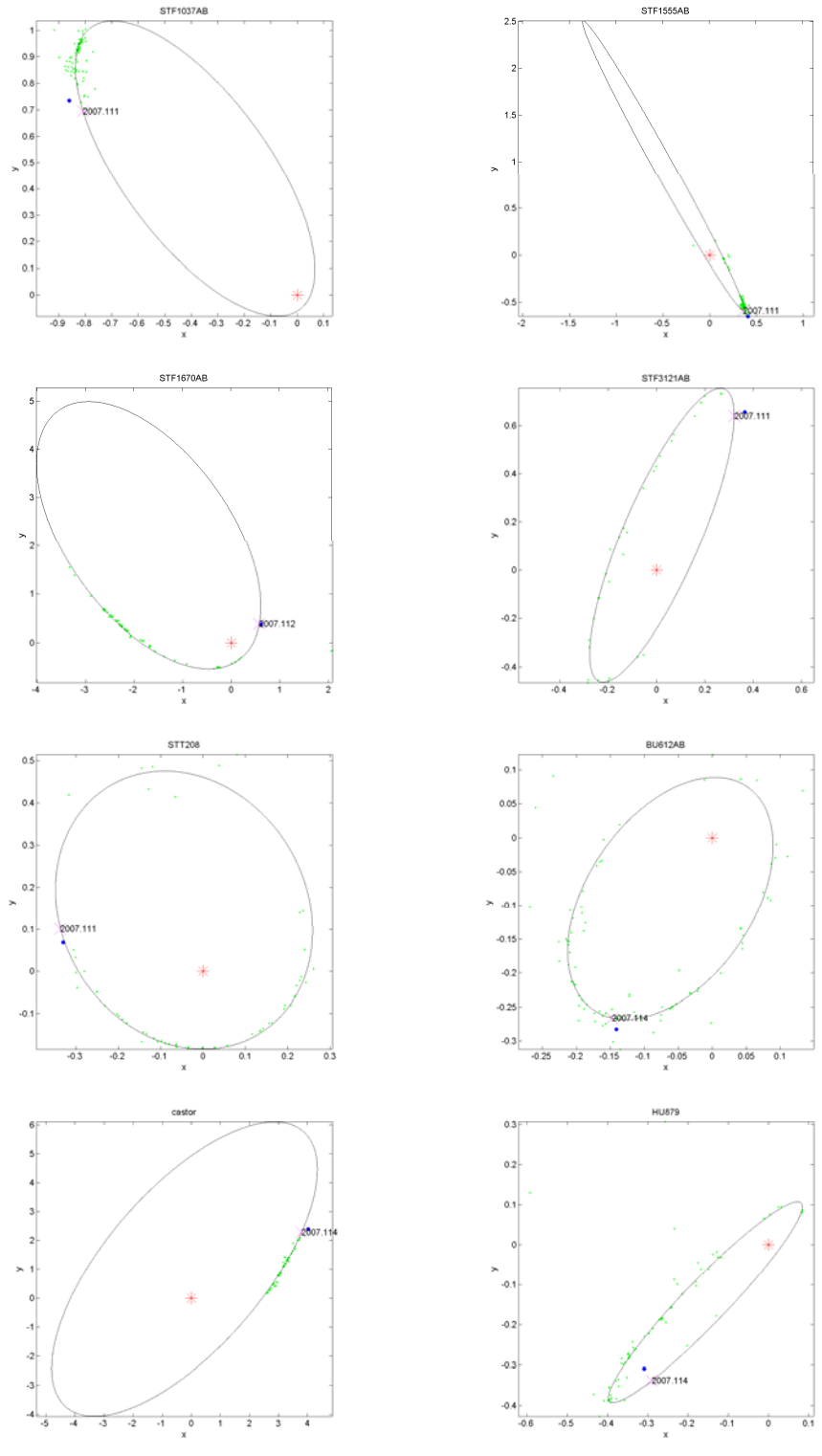


figure 5-4 (continue) The results are plot with data points in 4<sup>th</sup> interferometric catalog and orbit of 6<sup>th</sup> orbit catalog. Blue dots are observation results, green spot are data point in 4<sup>th</sup> interferometric catalog, and red symbol of “✱” is the position of primary.

