

# KIC 006390236

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_{\star}$ ( $R_{\odot}$ )	$T_{\star}$ (K)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006390236-01	OBS	6701.01	0.898765	131.671772	5.3	2.019	7.3	5.1	1.10	6224	0.30	4751.73

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006390236-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

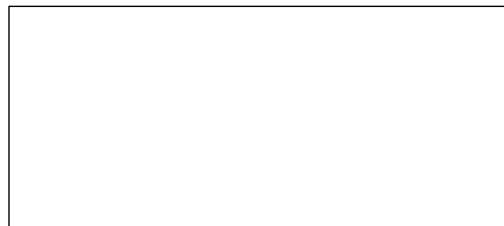
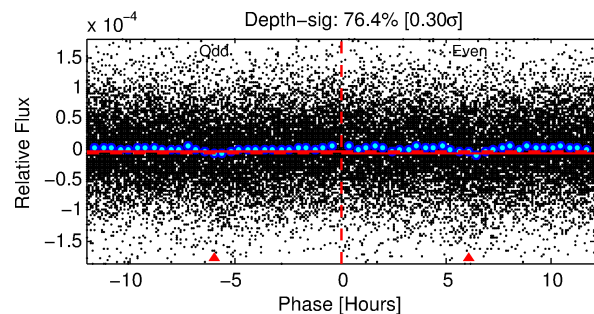
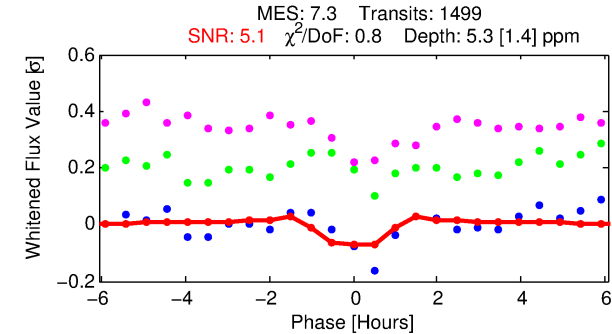
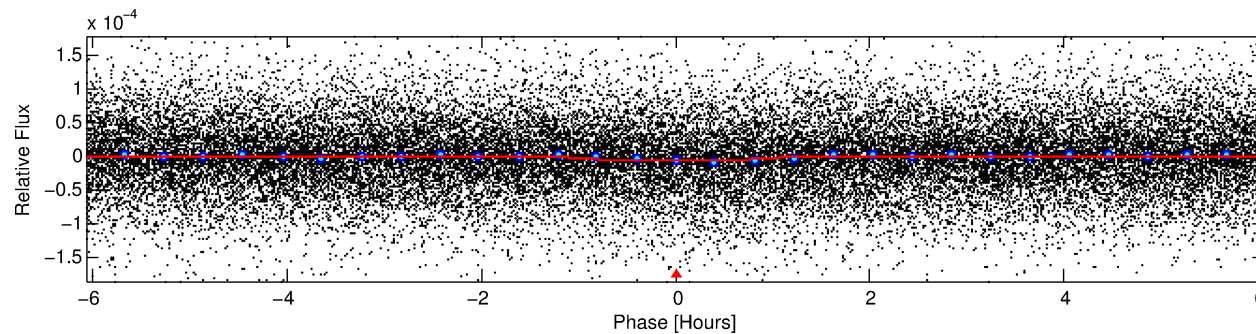
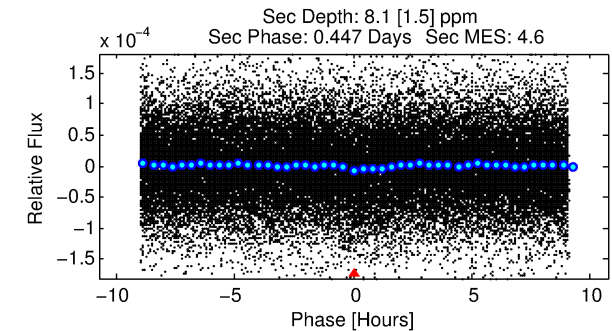
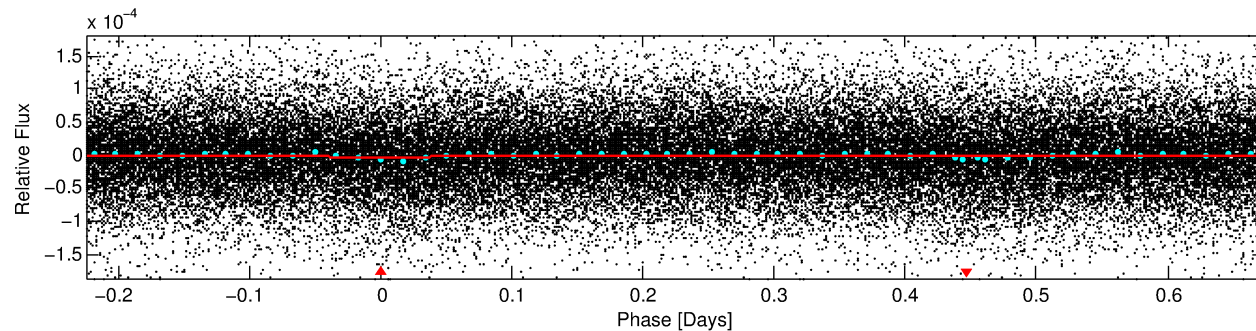
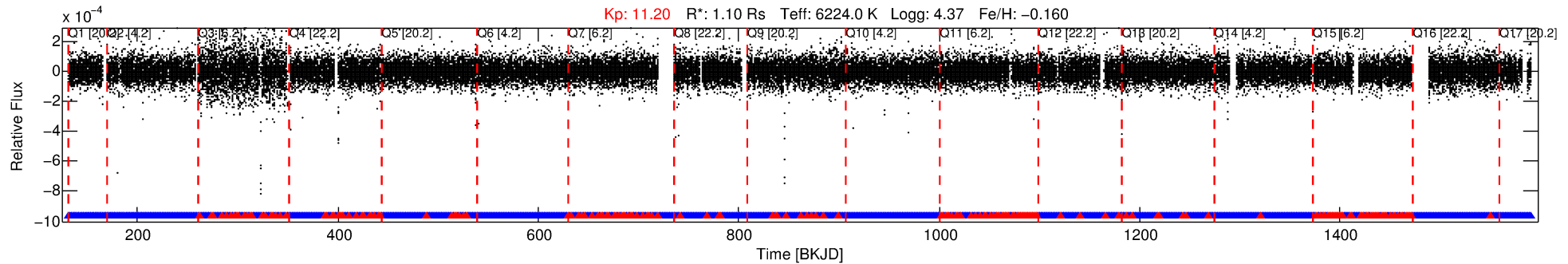
## Ephemeris Match Information For 006390236-01

No Significant Match Found

# DV One-Page Summary

KIC: 6390236 Candidate: 1 of 1 Period: 0.899 d

KOI: K06701.01 Corr: 0.752



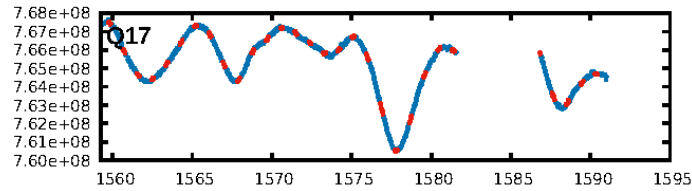
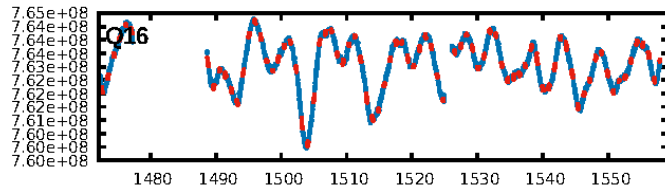
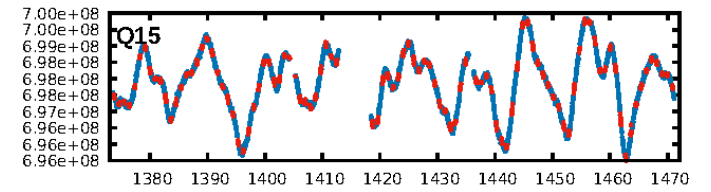
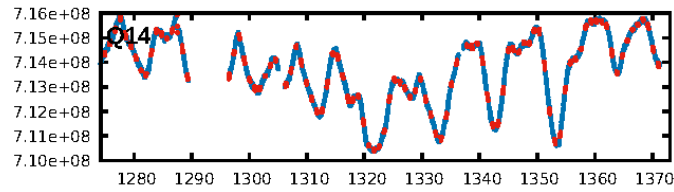
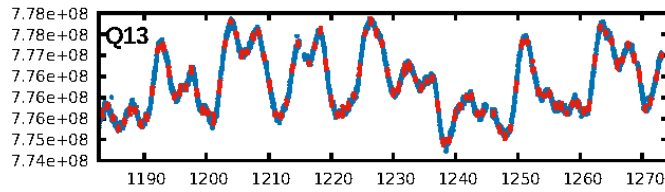
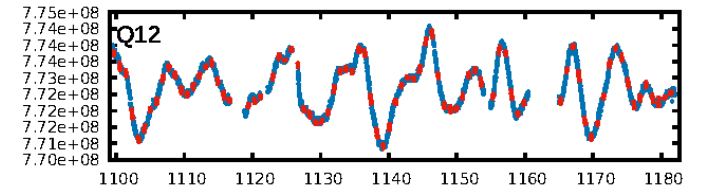
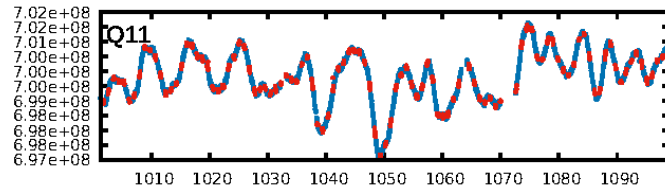
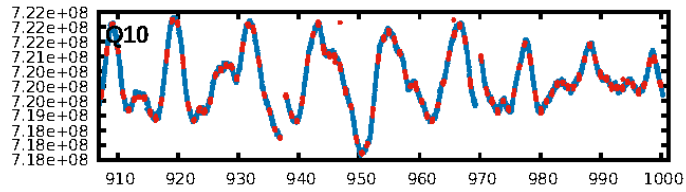
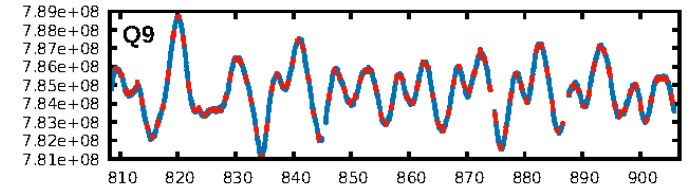
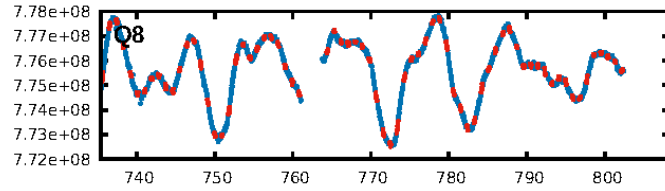
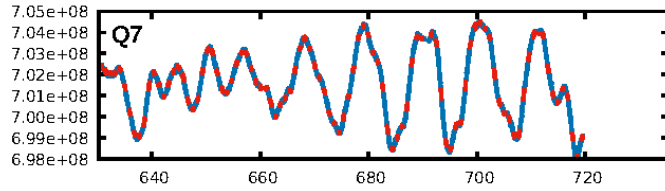
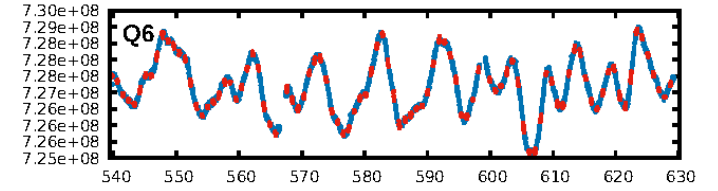
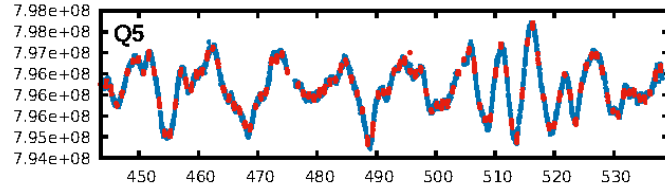
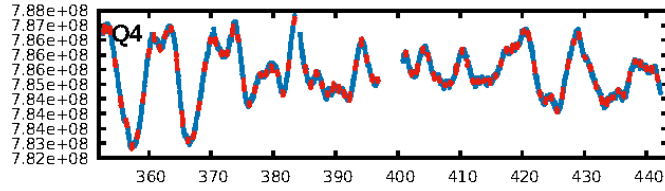
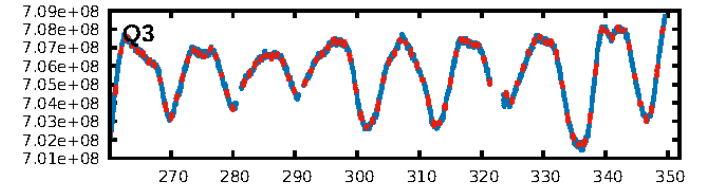
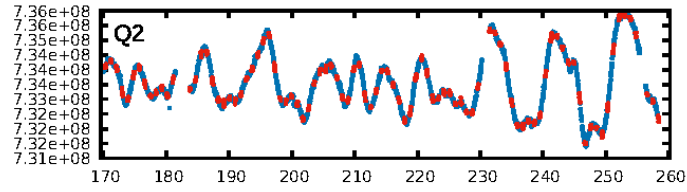
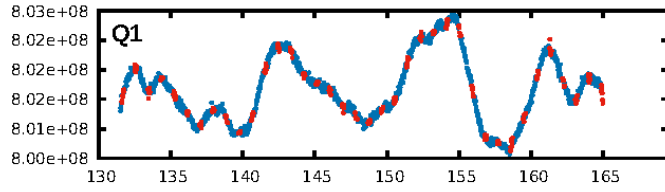
## DV Fit Results:

Period = 0.89876 [0.00002] d  
Epoch = 131.6718 [0.0041] BKJD  
Rp/R\* = 0.0025 [0.0005]  
a/R\* = 1.77 [1.06]  
b = 0.90 [0.19]  
Seff = 4751.73 [1398.86]  
Teq = 2117 [156] K  
Rp = 0.30 [0.09] Re  
a = 0.0184 [0.0033] AU  
Ag = 17.13 [8.90] [1.81σ]  
Teffp = 6659 [776] K [5.74σ]

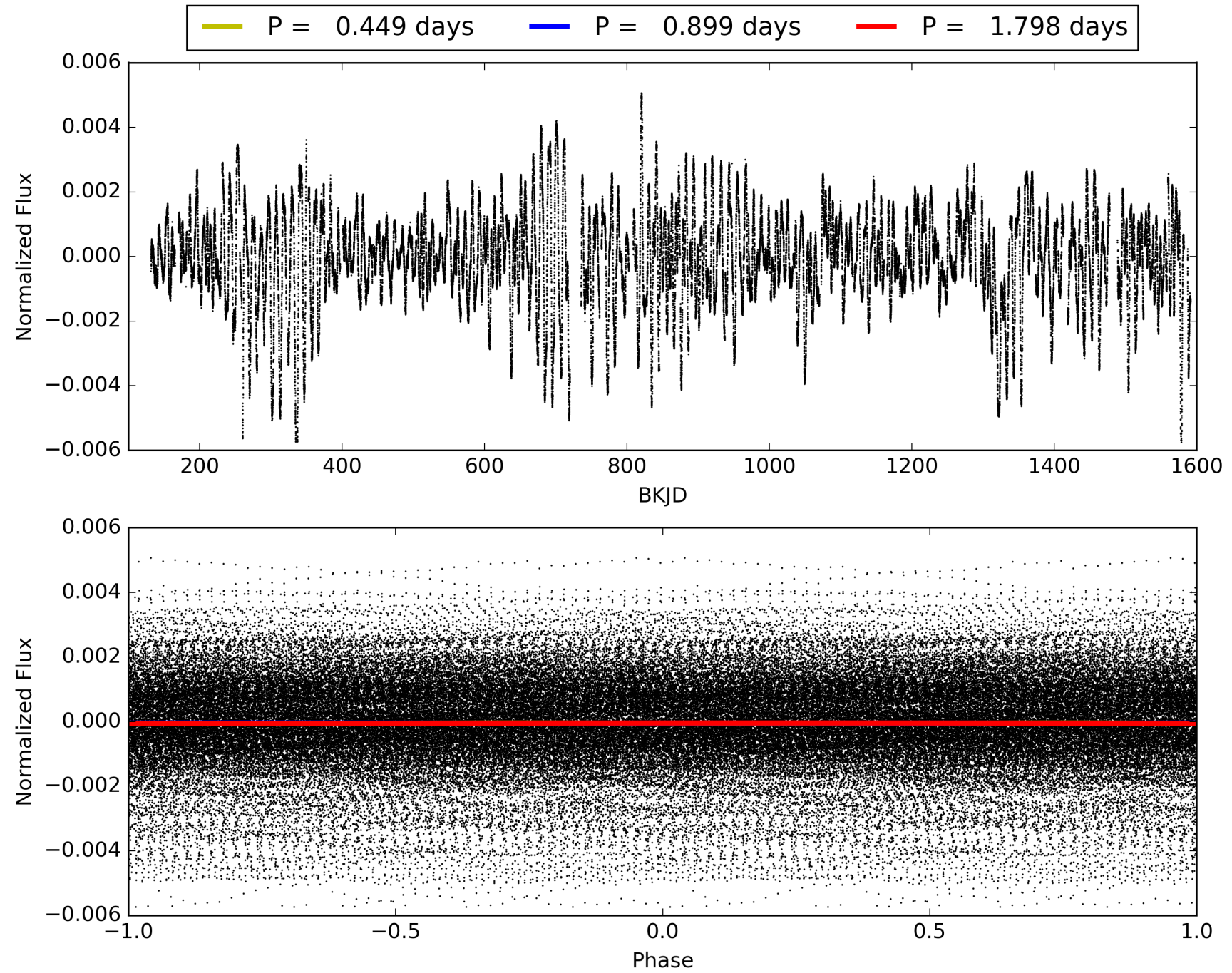
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.31e-12  
RollingBand-fgt: 0.85 [1218/1432]  
GhostDiagnostic-chr: -0.6161  
Centroid-sig: 0.3%  
Centroid-so: 4.864 arcsec [2.07σ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 006390236-01, PDC Light Curves

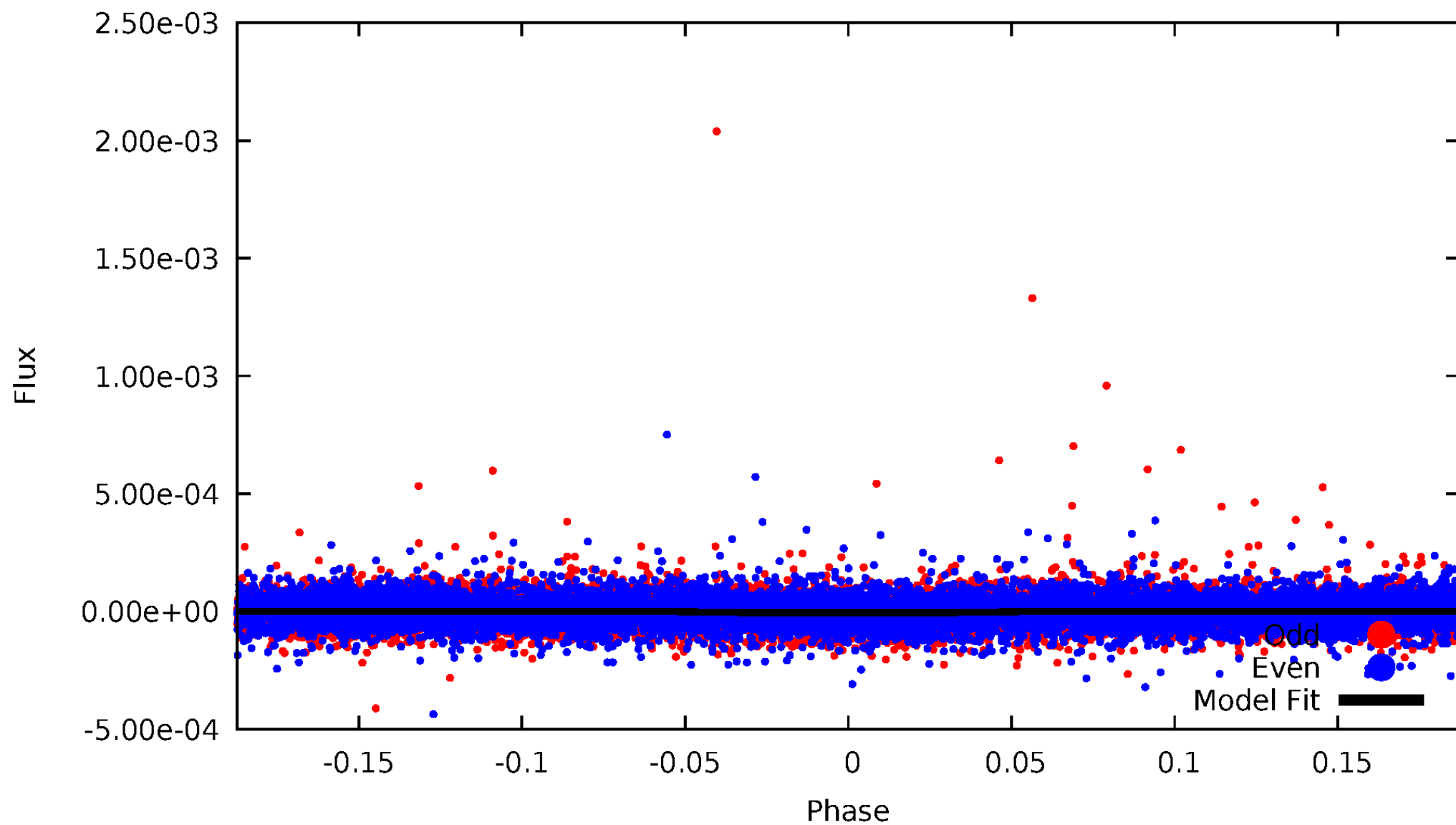


TCE 006390236-01



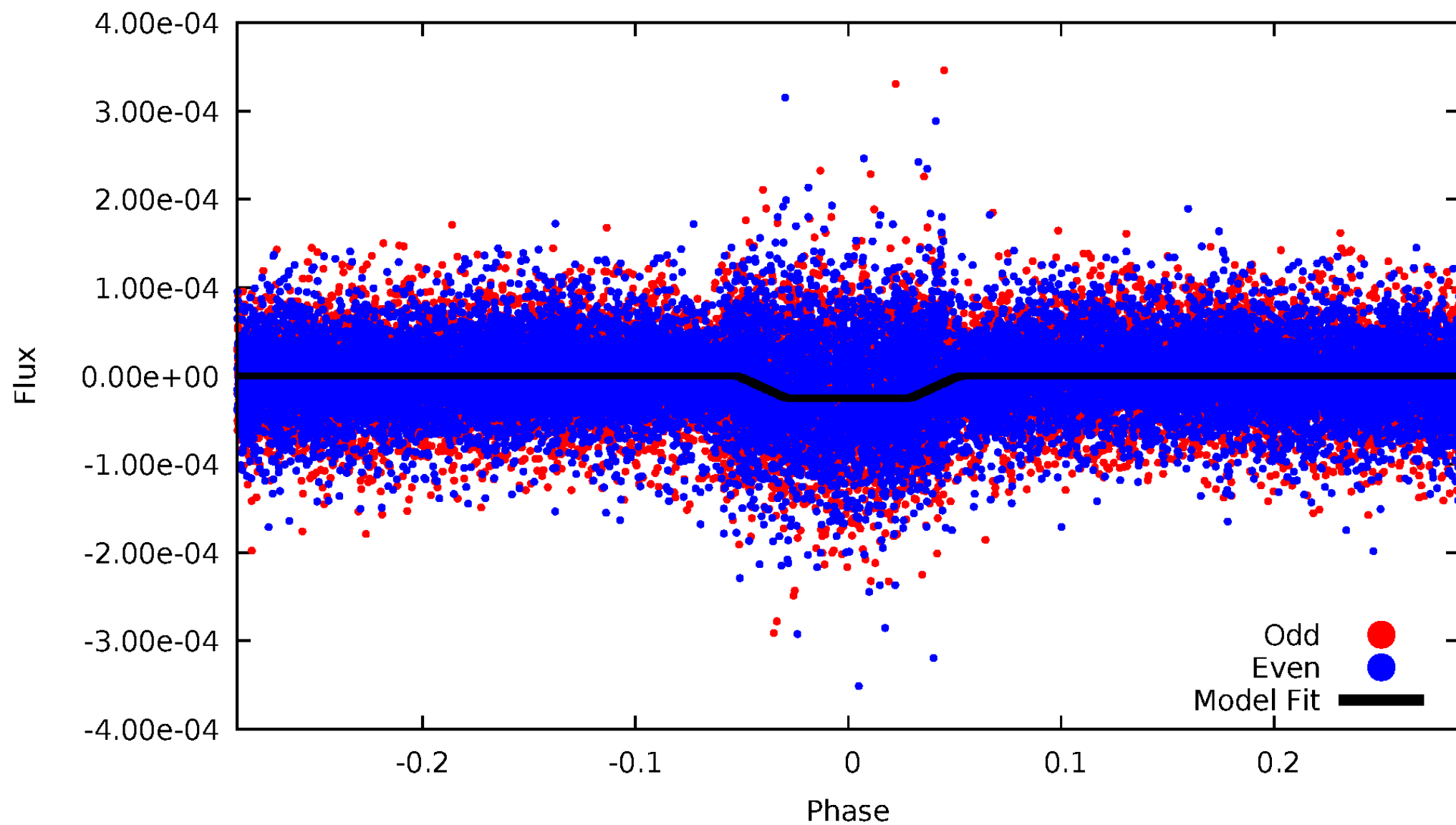
# DV Odd/Even

TCE 006390236-01



# ALT Odd/Even

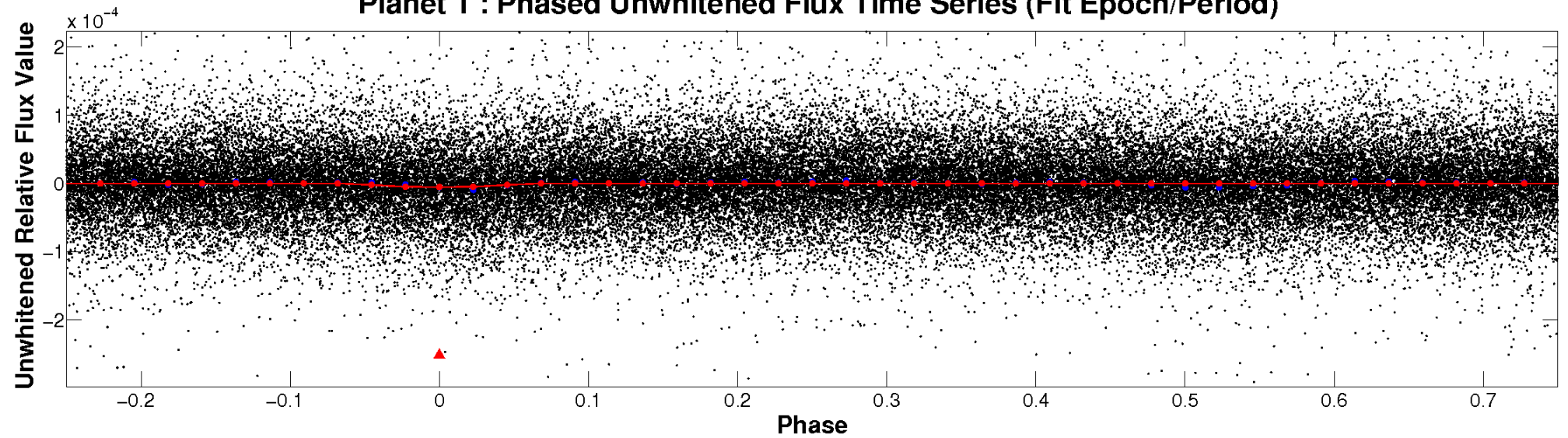
TCE 006390236-01



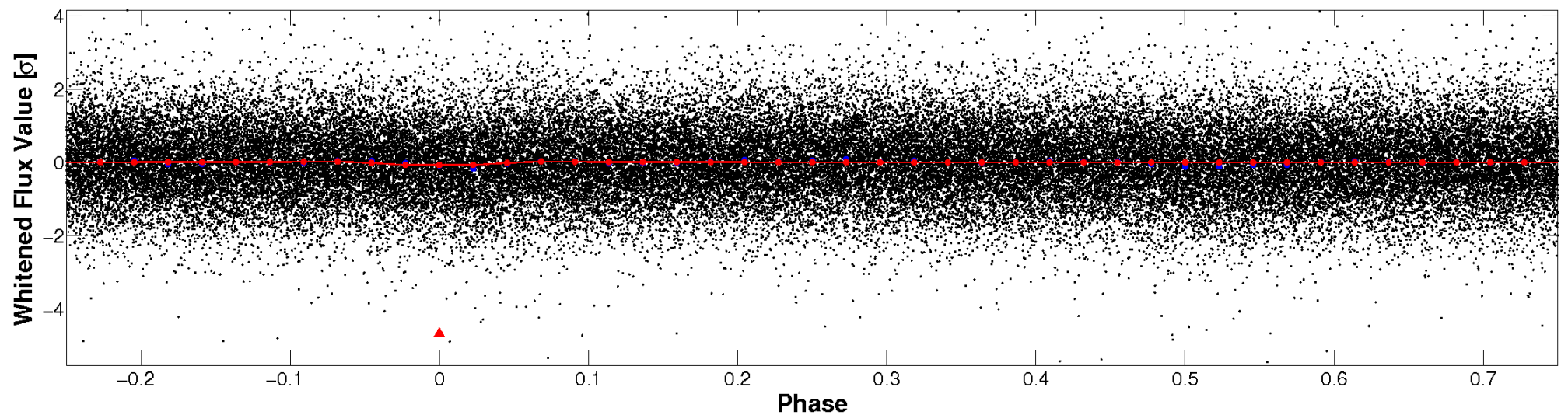


# Non-Whitened Vs. Whitened Light Curve

**Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)**

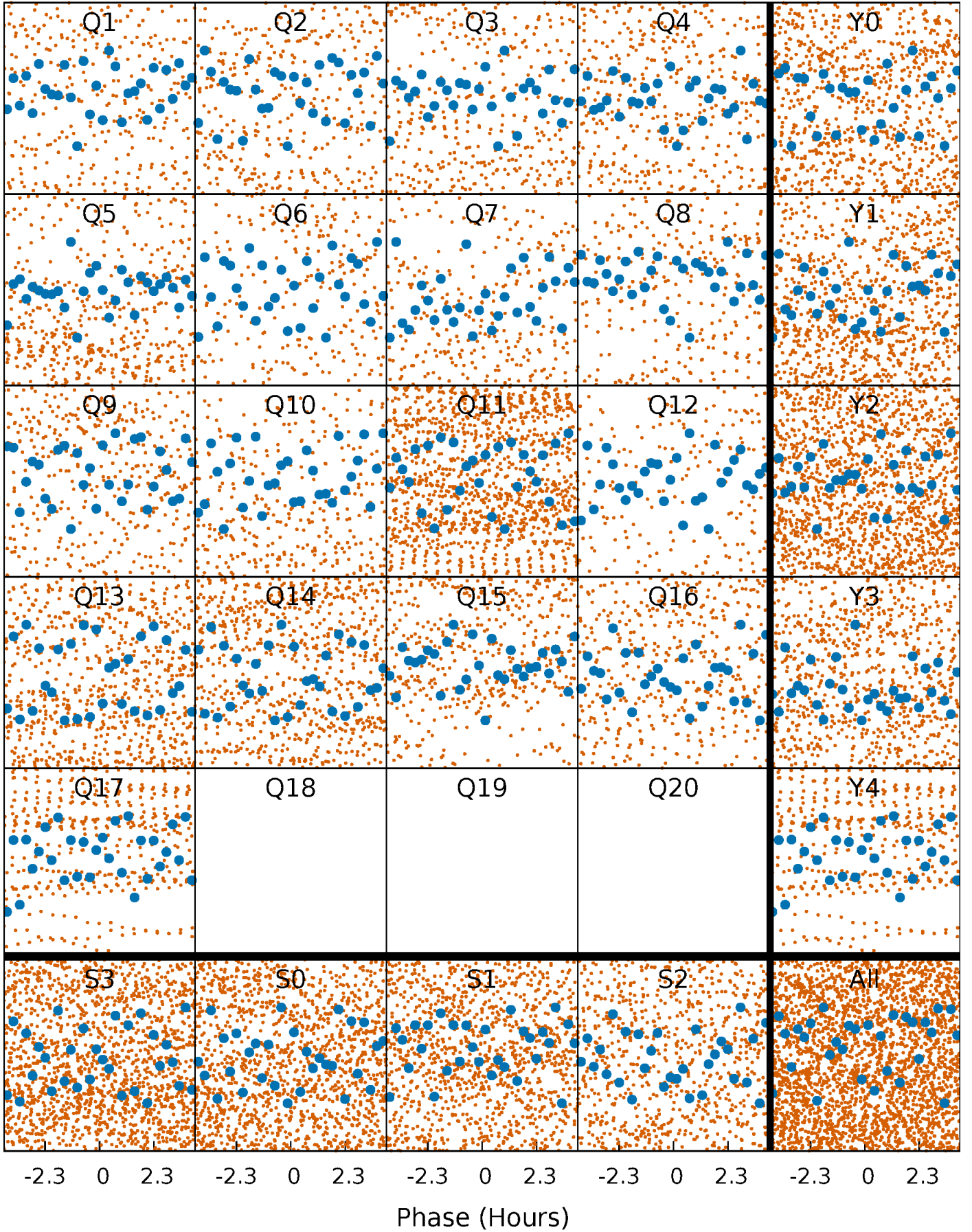


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

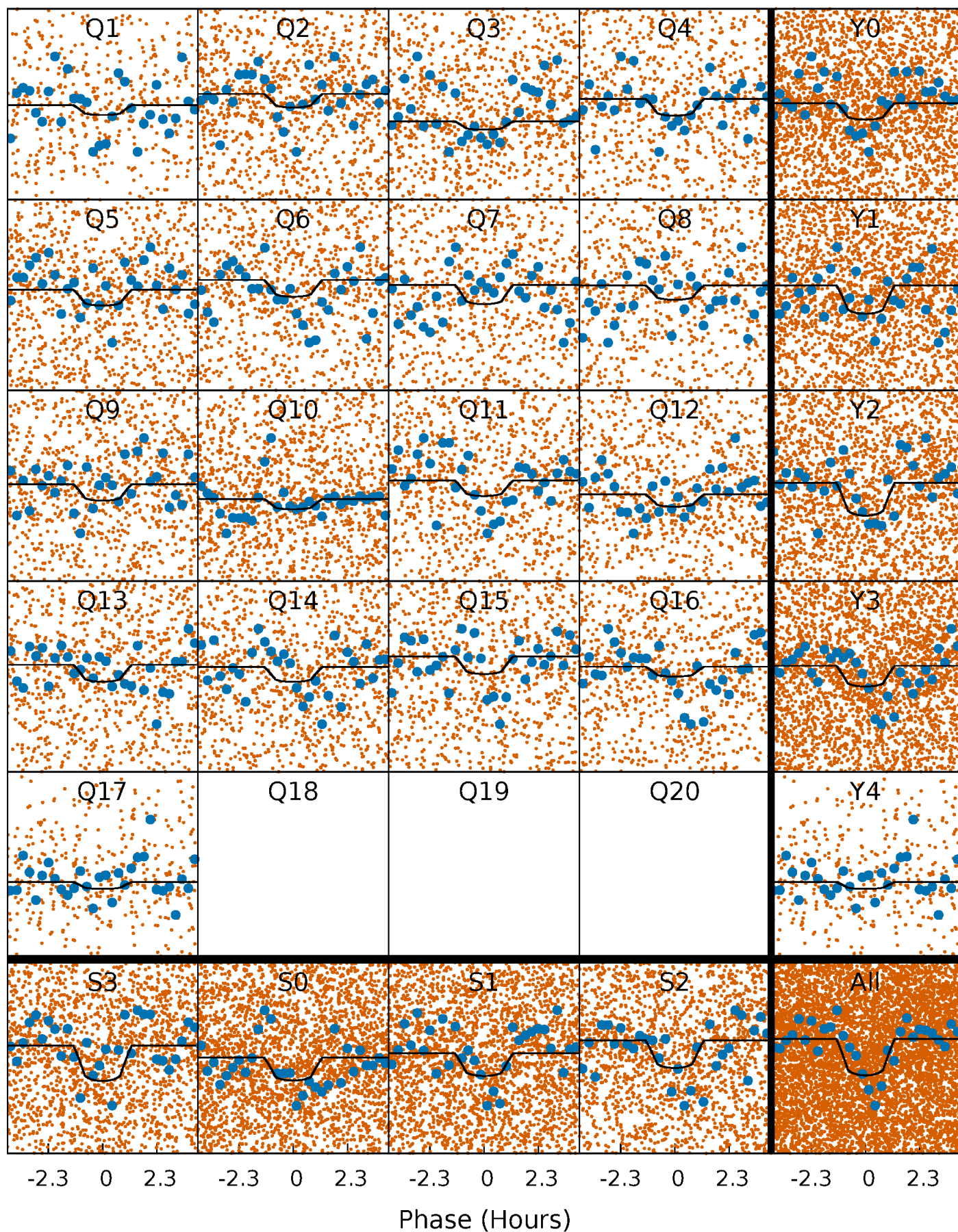
TCE 006390236-01   P= 0.898765 Days    $T_0=131.671772$  (BKJD)





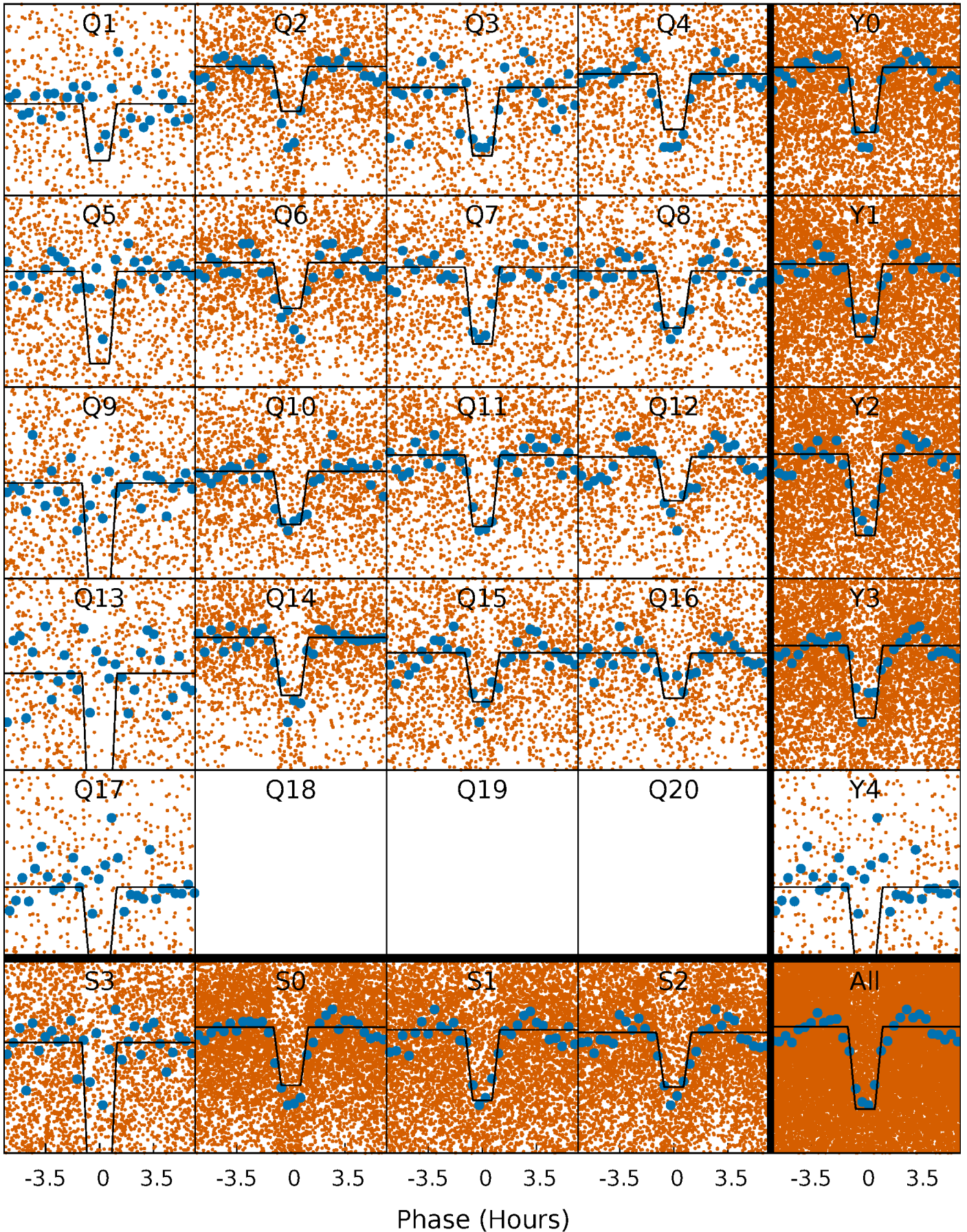
# DV Quarter-Phased Transit Curves

TCE 006390236-01 P= 0.898765 Days  $T_0=131.671772$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 006390236-01   P= 0.898794 Days    $T_0=131.660846$  (BKJD)

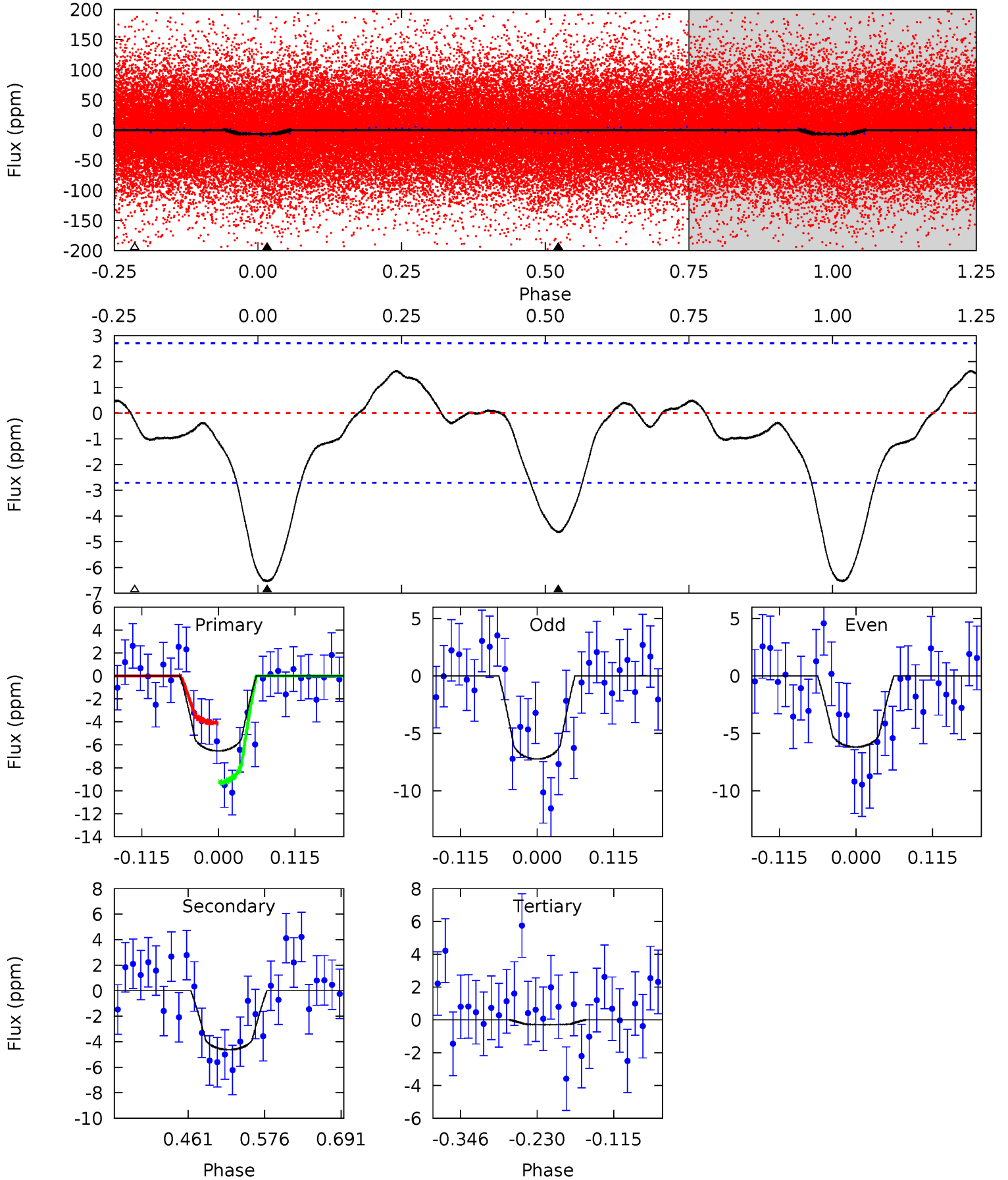




# DV Model-Shift Uniqueness Test

006390236-01, P = 0.898765 Days, E = 130.773007 Days

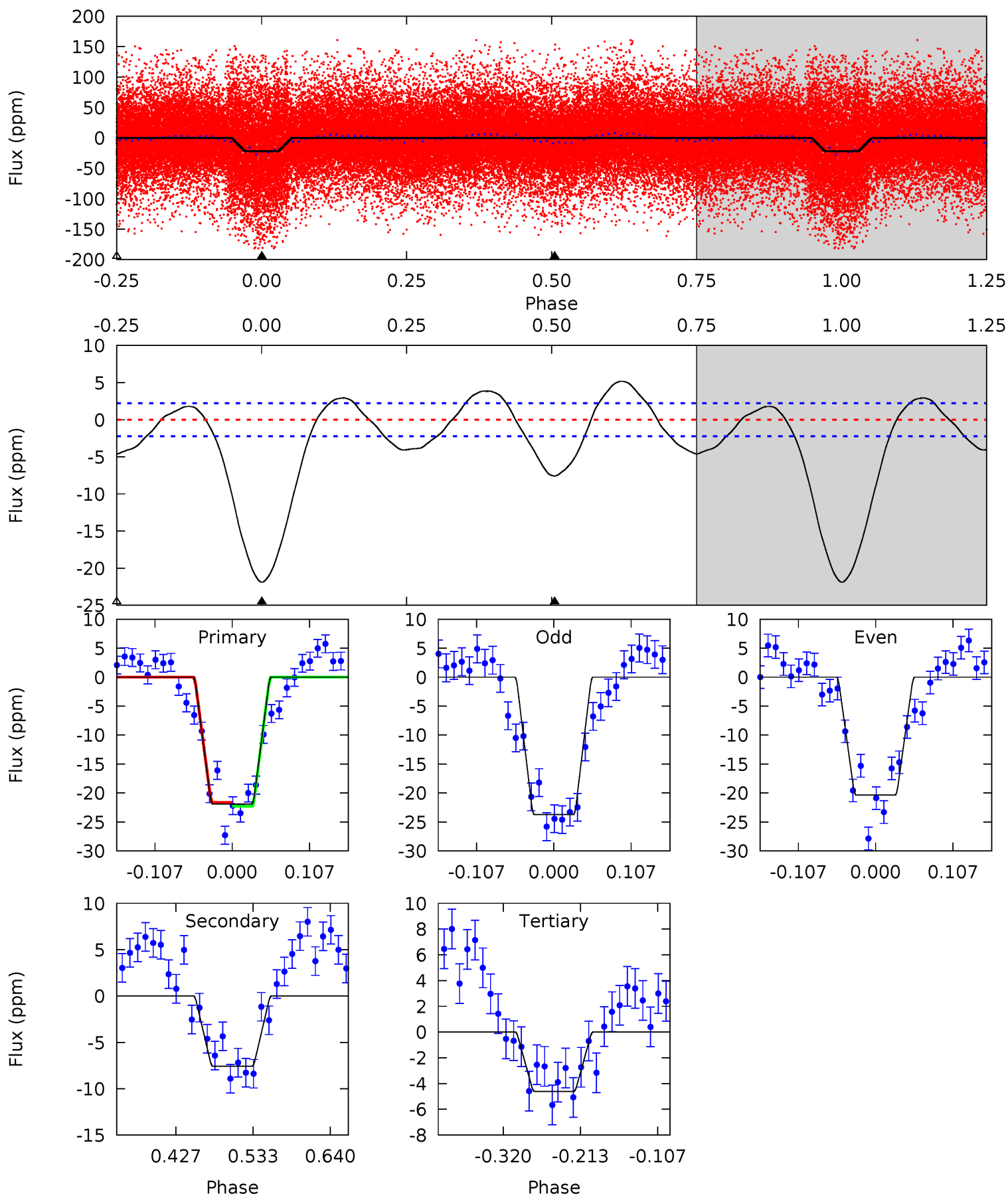
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	7.75	0.50	0	4.53	1.58	1.23	10.4	10.9	7.25	7.75	0.88	1.02	0.20	4.37



# Alt Model-Shift Uniqueness Test

006390236-01, P = 0.898794 Days, E = 130.762052 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
44.6	15.4	9.39	0	4.55	1.61	5.88	35.2	44.6	6.06	15.4	3.44	0.98	0.19	0.64



### Stellar Parameters For KIC 006390236

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6224^{+148}_{-203}$	$4.373^{+0.084}_{-0.144}$	$-0.160^{+0.250}_{-0.300}$	$1.096^{+0.237}_{-0.138}$	$1.031^{+0.142}_{-0.116}$	$1.102^{+0.451}_{-0.472}$
	+2%/-3%	+2%/-3%	+156%/-188%	+22%/-13%	+14%/-11%	+41%/-43%
Source	PHO1	FLK73	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 006390236-01 / KOI 6701.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-5 \pm 1$	$0.30^{+0.08}_{-0.06}$	$2985^{+158}_{-140}$	$5747^{+743}_{-534}$	$9.363^{+6.404}_{-3.311}$
Alt.	$-8 \pm 0$	$0.61^{+0.10}_{-0.08}$	$2977^{+155}_{-142}$	$4650^{+265}_{-225}$	$3.780^{+1.242}_{-0.890}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature

$T_{\text{obs}}$  = Observed Planetary Temperature (Assuming A=0.3)

$A_{\text{obs}}$  = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if  $T_{\text{obs}} \gg T_{\text{max}}$  AND  $A_{\text{obs}} \gg 1.0$



## DV Centroid Data

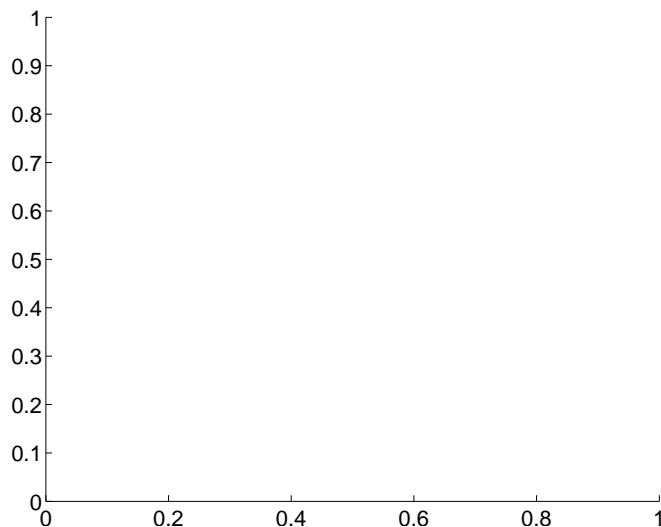
Supplemental centroid analysis for 006390236-01. **Kepler magnitude: 11.20.** Transit SNR 5.14

**There are 0 quarters with good PRF difference image offsets**

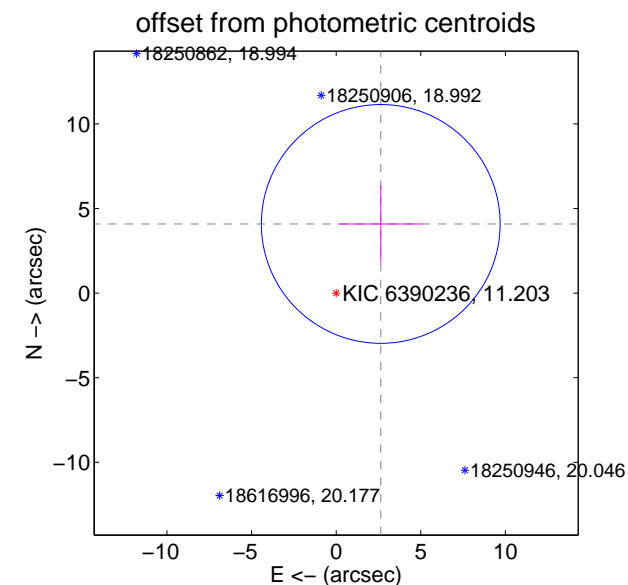
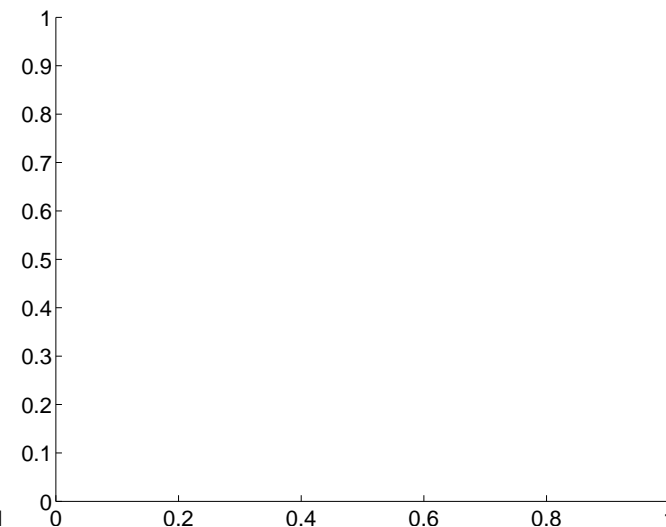
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$4.86 \pm 2.35$	2.07	$-2.64 \pm 2.49$	$4.09 \pm 2.29$

There is no PRF-fit offset from OOT-fit

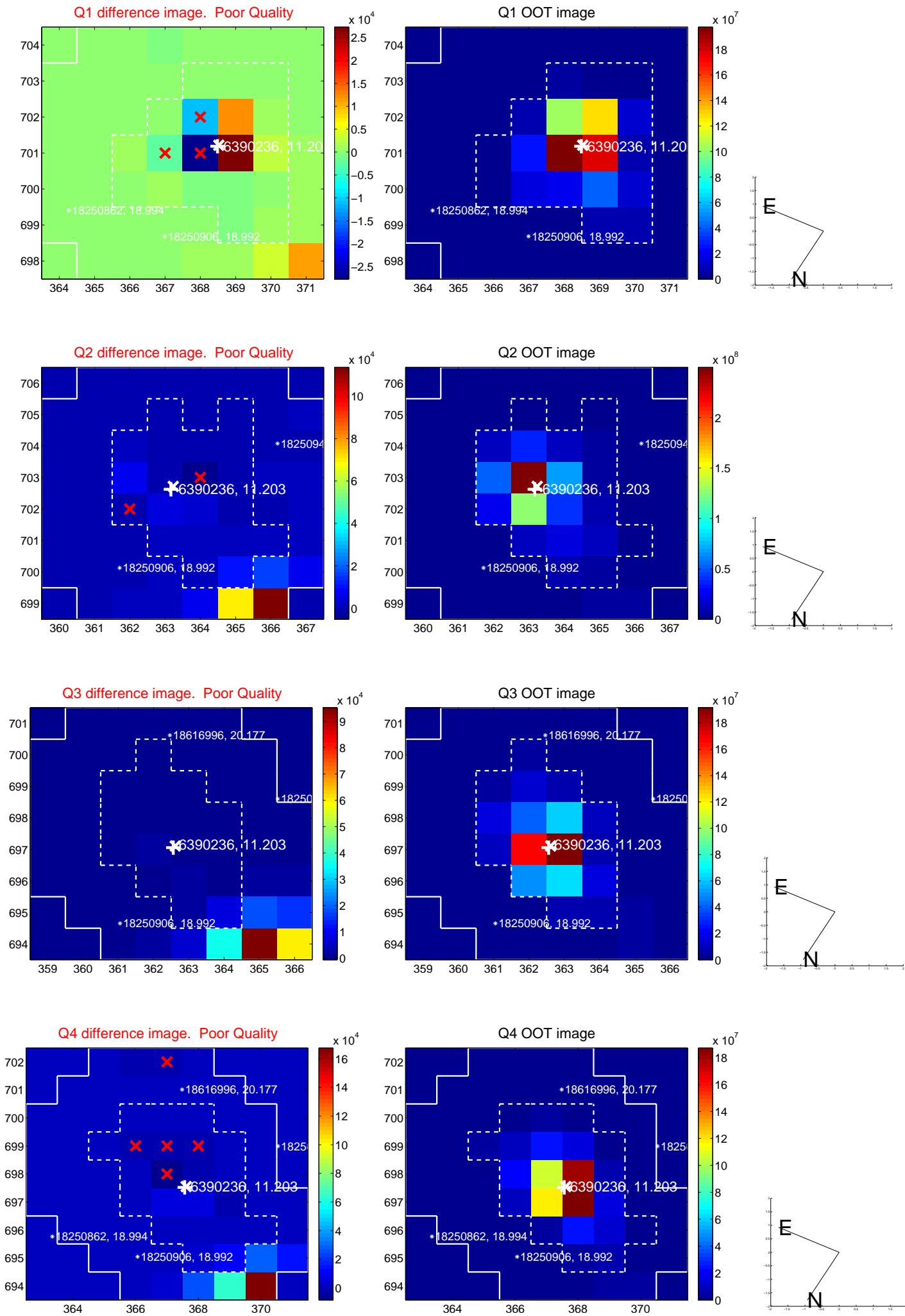


There is no PRF-fit offset from KIC

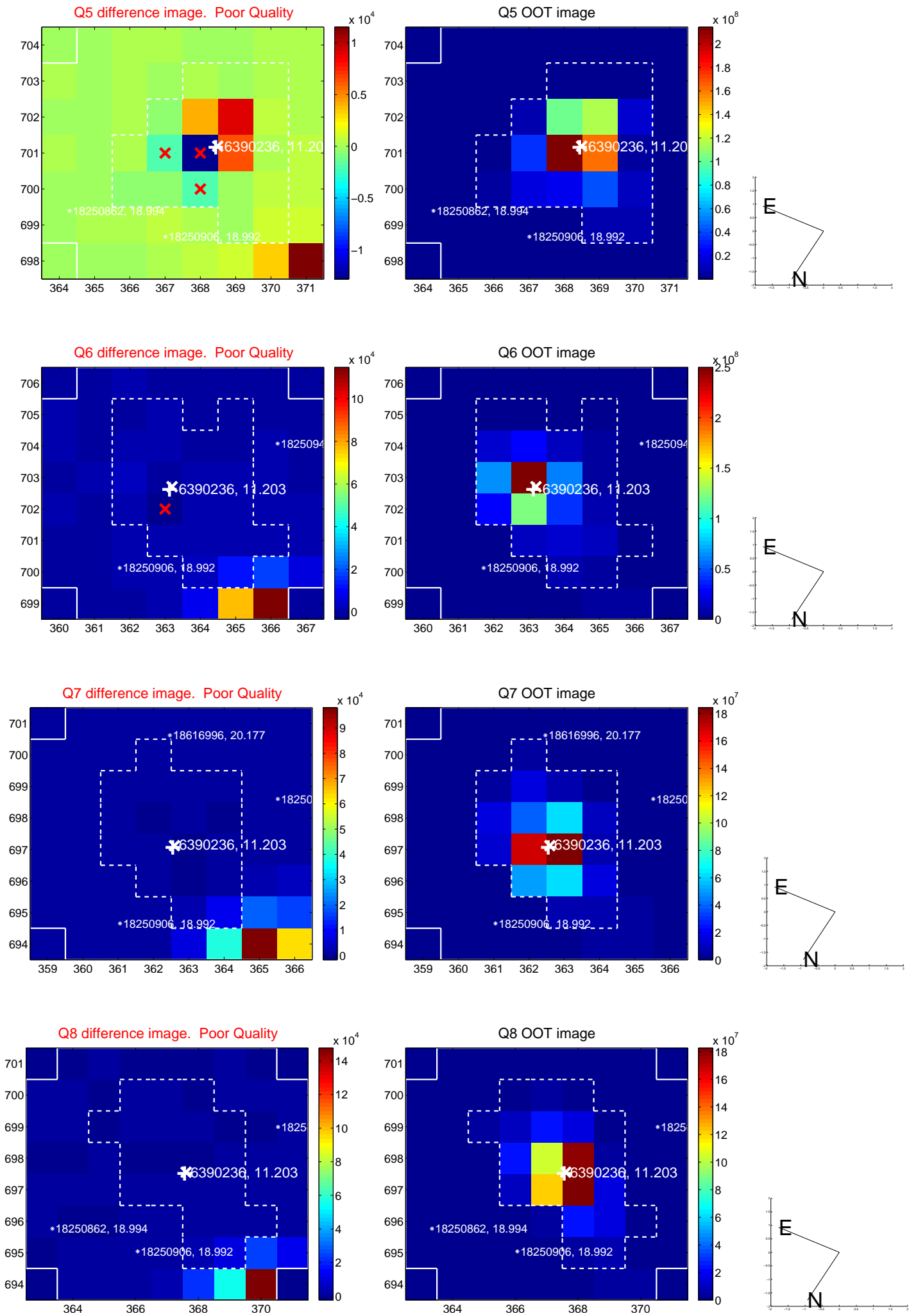


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

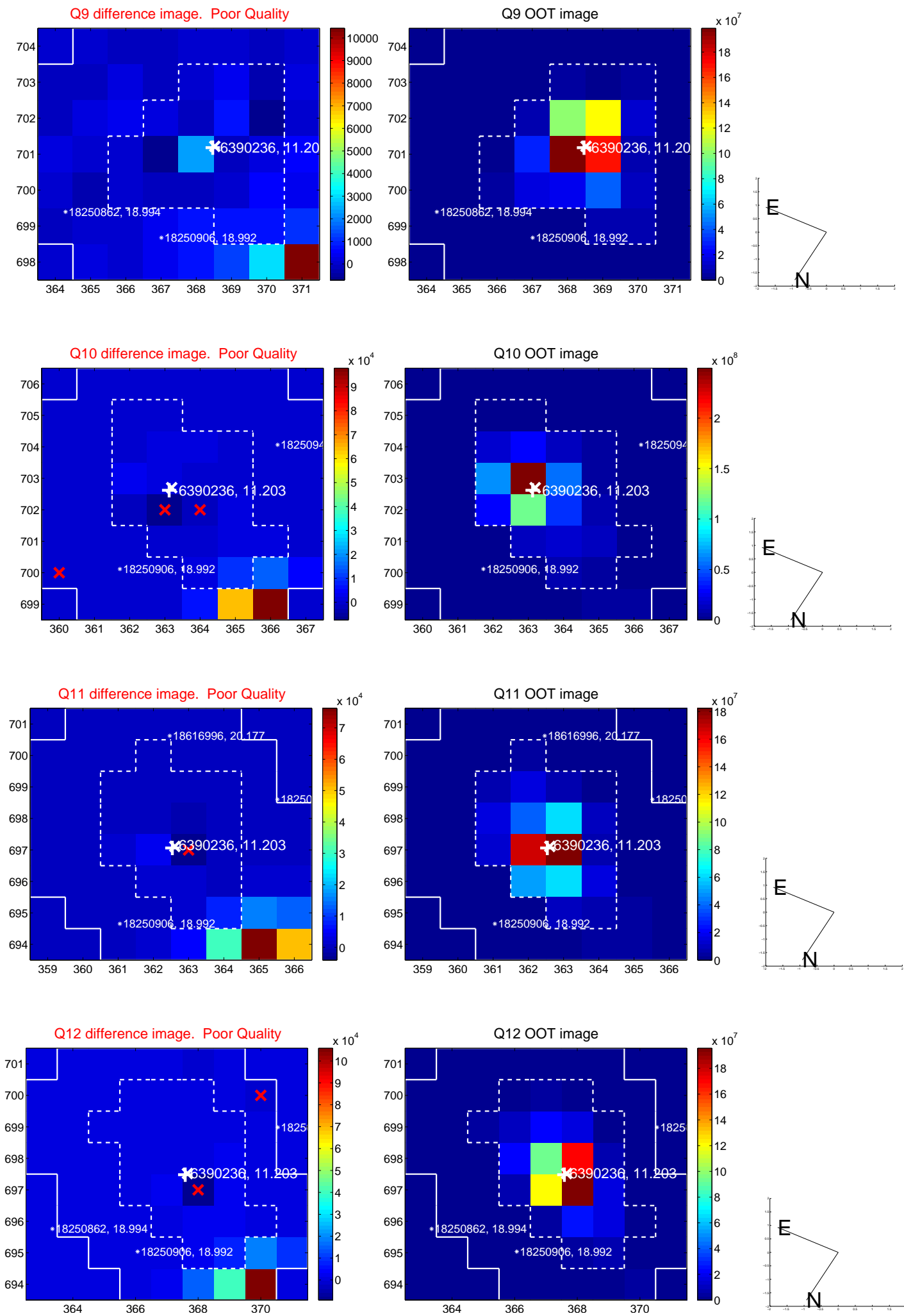
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



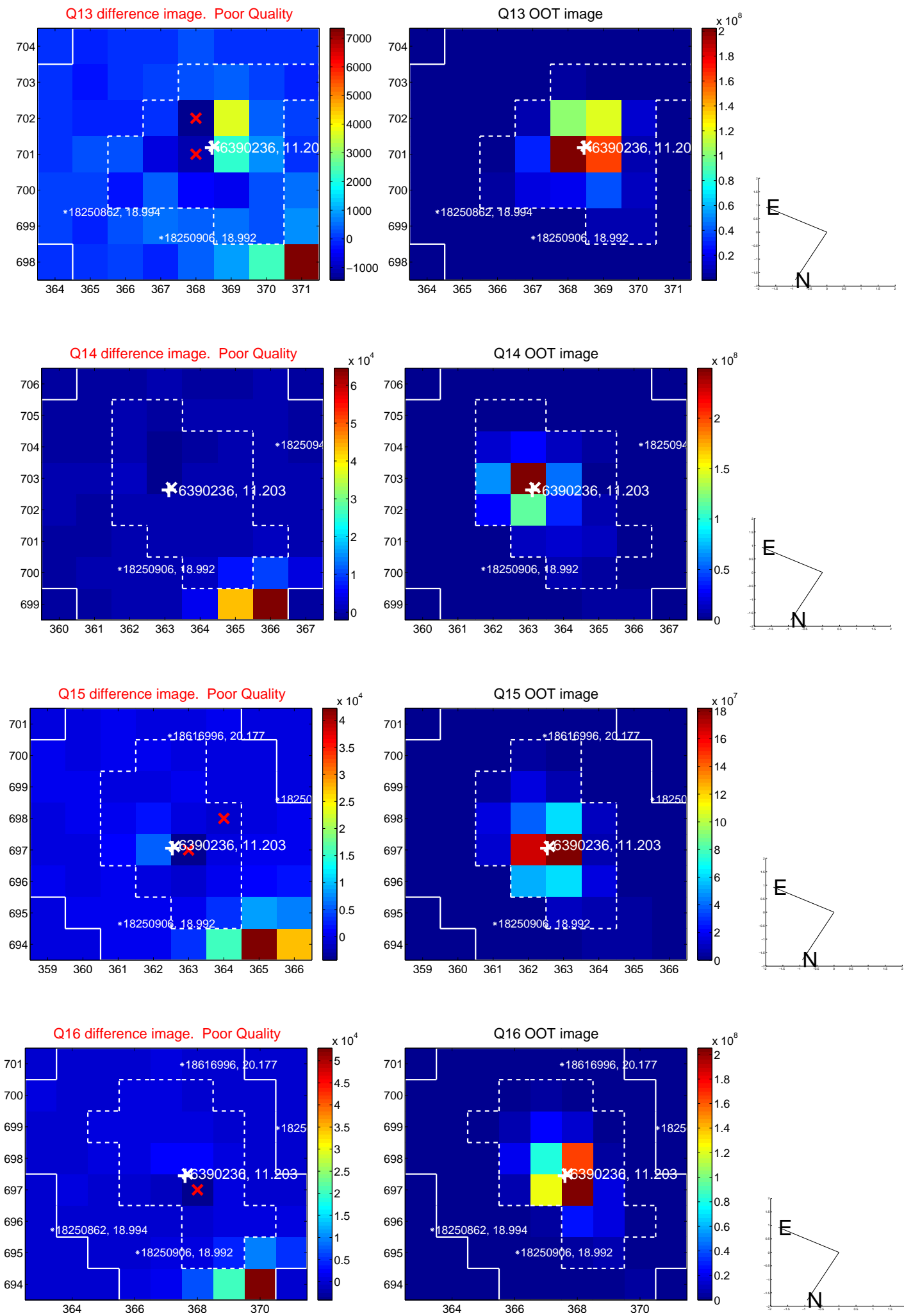
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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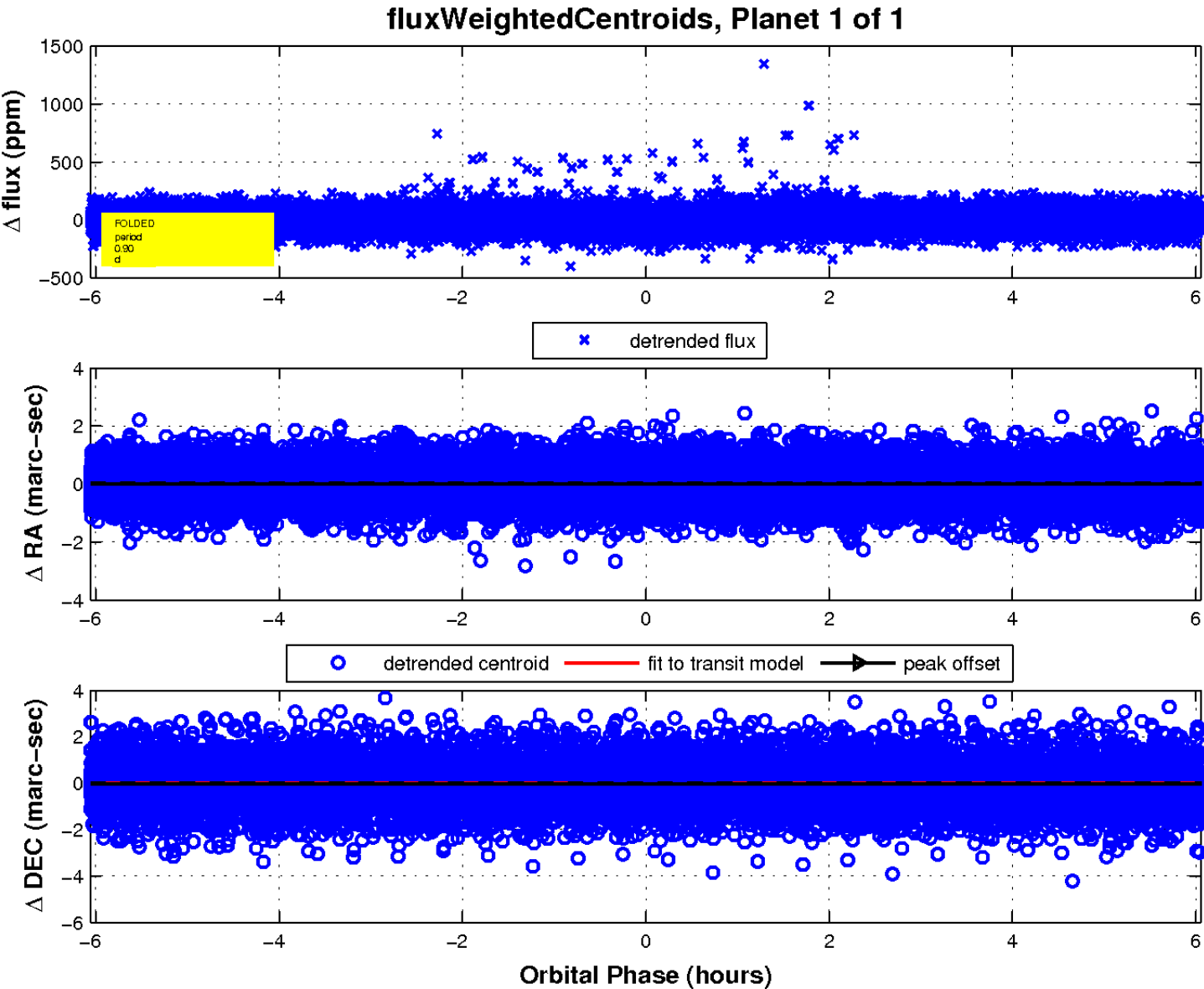
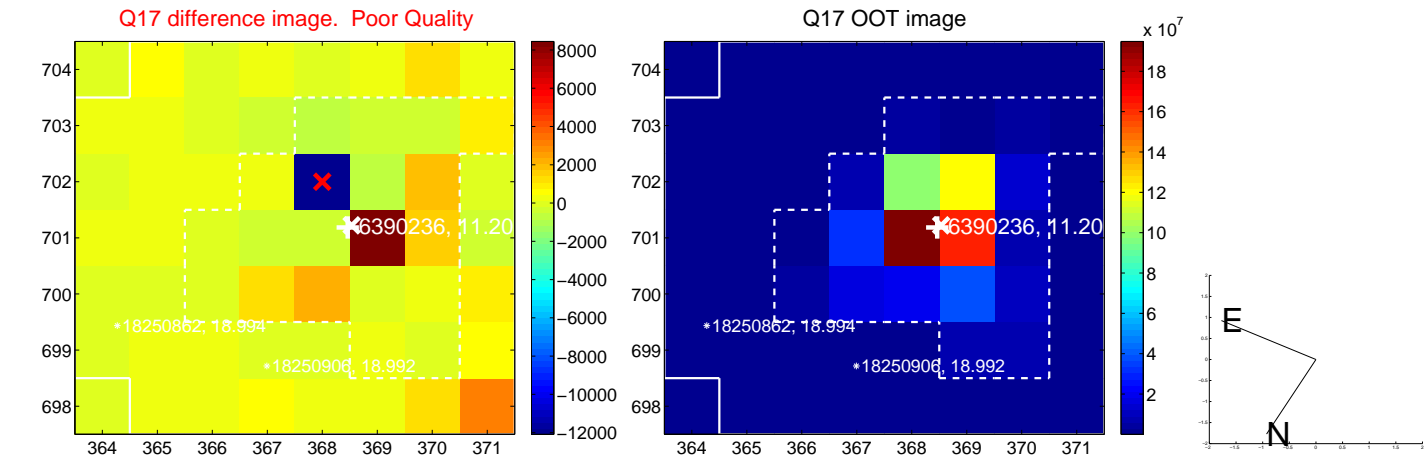


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

