

# KIC 005397905

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005397905-01	OBS	6577.01	1.236117	132.257488	36.6	1.628	7.2	8.6	0.79	5339	0.58	1110.46

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005397905-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET—HALO_GHOST

**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 005397905-01

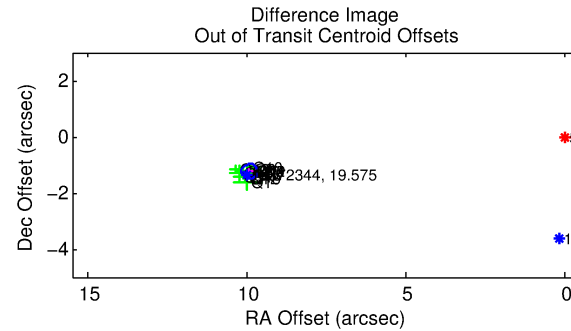
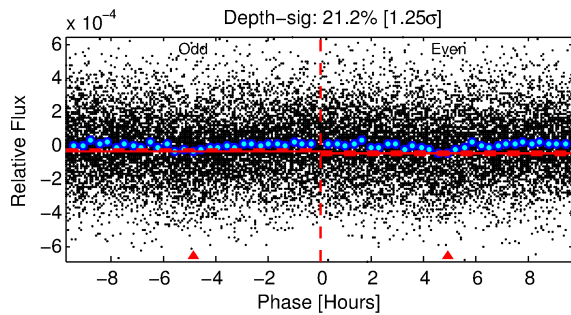
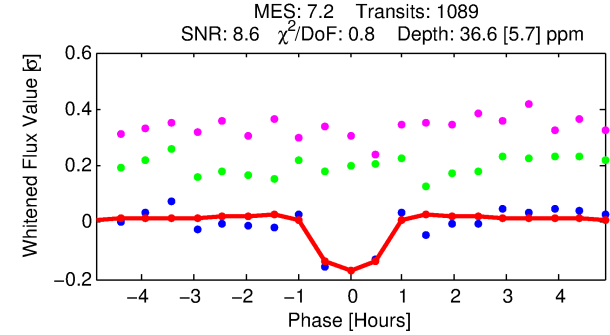
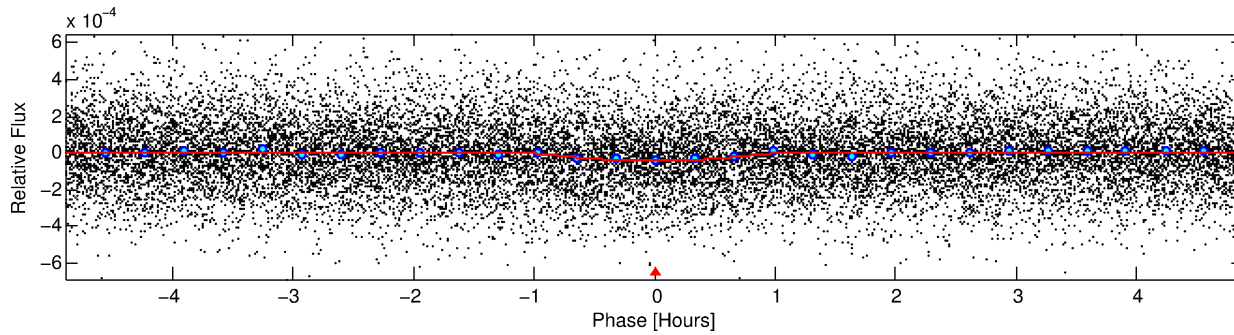
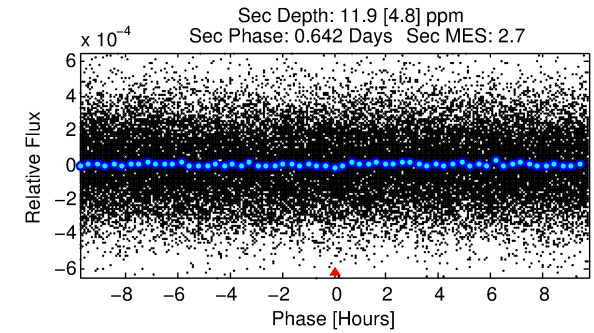
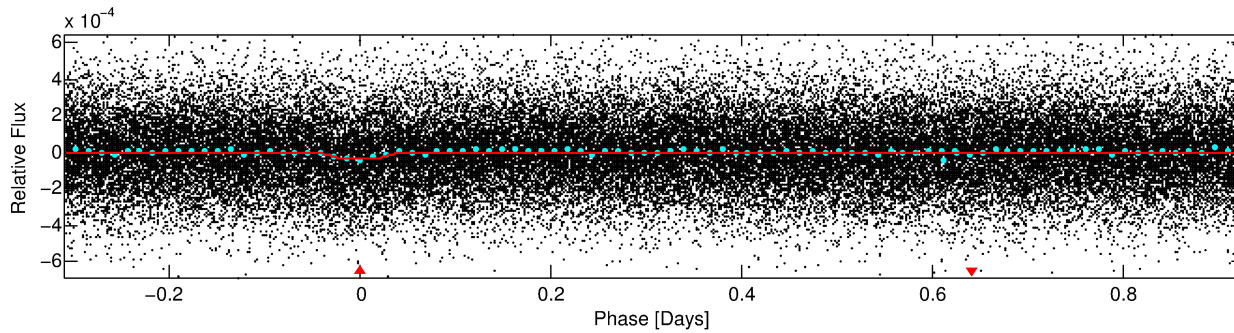
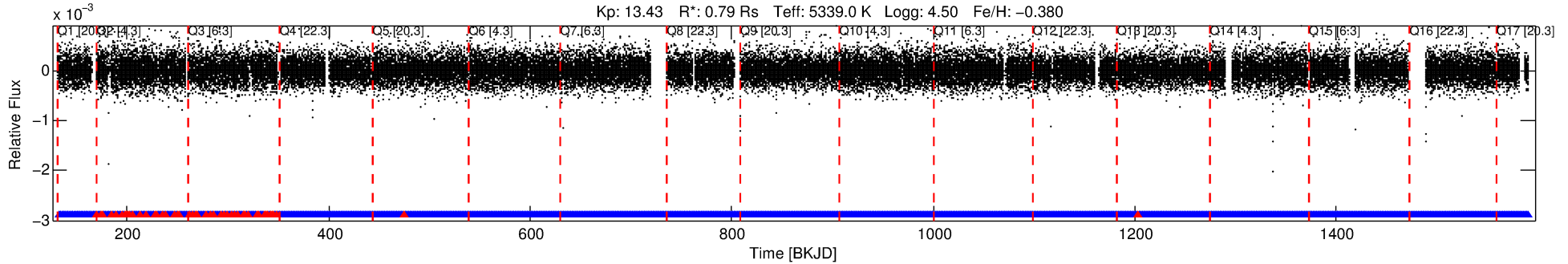
No Significant Match Found

# DV One-Page Summary

KIC: 5397905 Candidate: 1 of 1 Period: 1.236 d

KOI: K06577 Corr: No Ephemeris Match

Kp: 13.43 R\*: 0.79 Rs Teff: 5339.0 K Logg: 4.50 Fe/H: -0.380



## DV Fit Results:

Period = 1.23612 [0.00001] d  
Epoch = 132.2575 [0.0025] BKJD  
Rp/R\* = 0.0067 [0.0041]  
a/R\* = 2.77 [6.66]  
b = 0.90 [0.60]  
Seff = 1110.46 [259.15]  
Teq = 1472 [86] K  
Rp = 0.58 [0.37] Re  
a = 0.0203 [0.0028] AU  
Ag = 8.13 [10.68] [0.67σ]  
Teffp = 3843 [1253] K [1.89σ]

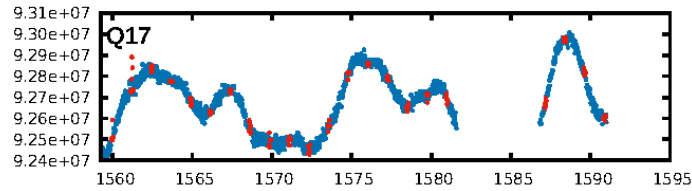
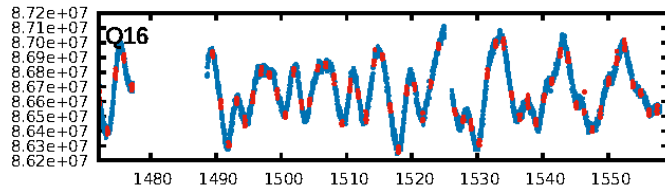
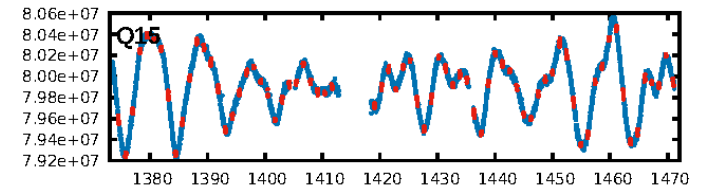
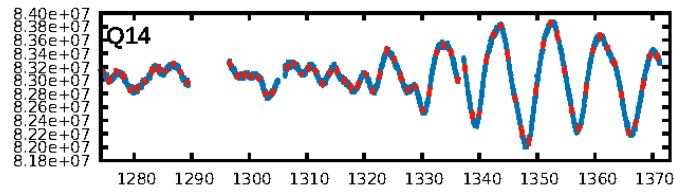
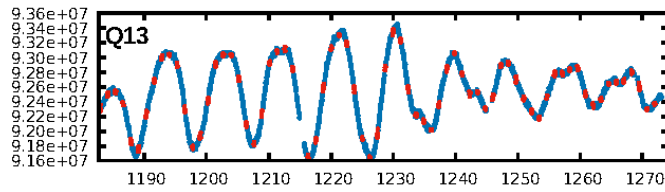
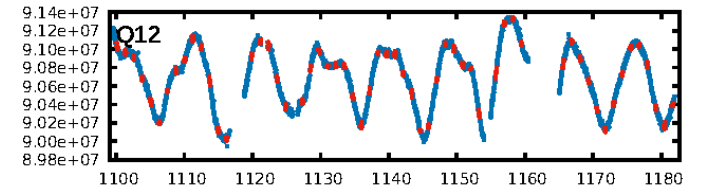
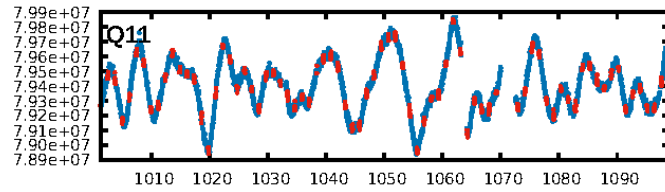
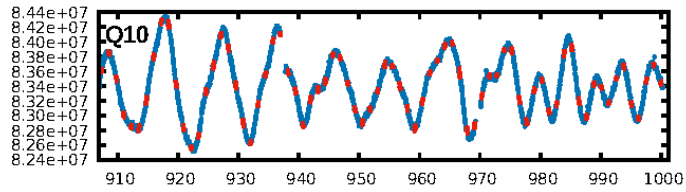
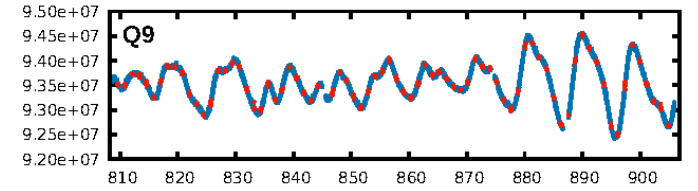
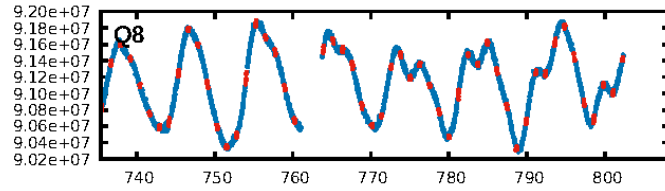
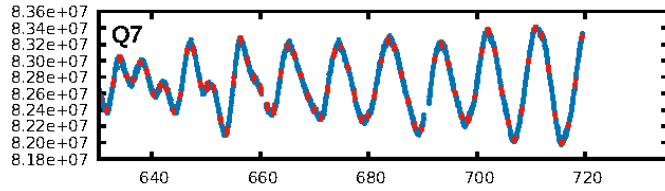
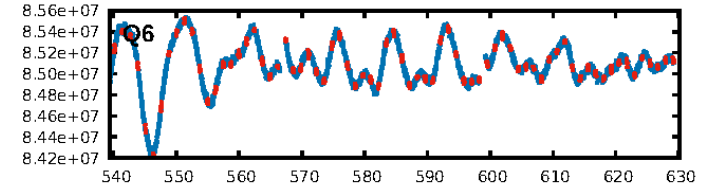
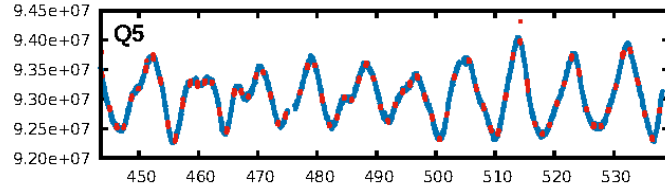
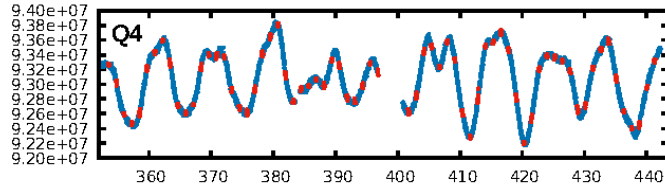
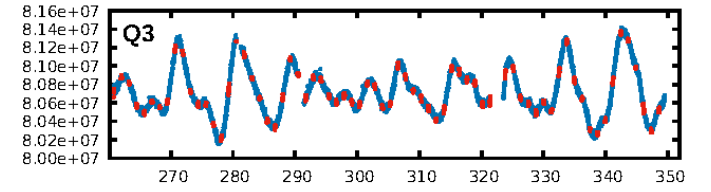
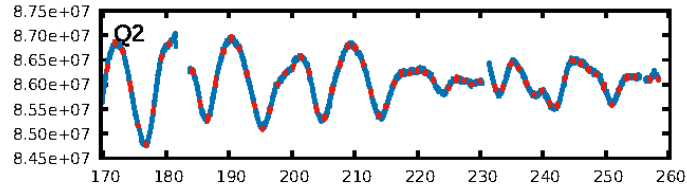
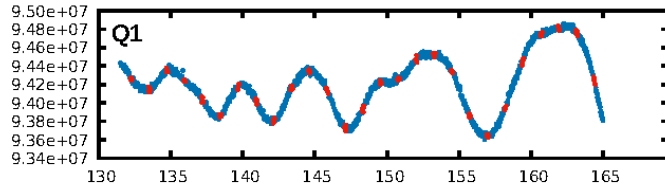
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 3.17e-13  
RollingBand-fgt: 0.95 [990/1040]  
GhostDiagnostic-chr: -0.1539  
Centroid-sig: 0.0%  
Centroid-so: 20.848 arcsec [13.49σ]  
OotOffset-rm: 9.990 arcsec [122.91σ]  
KicOffset-rm: 10.084 arcsec [129.11σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 1.00 [17/17]

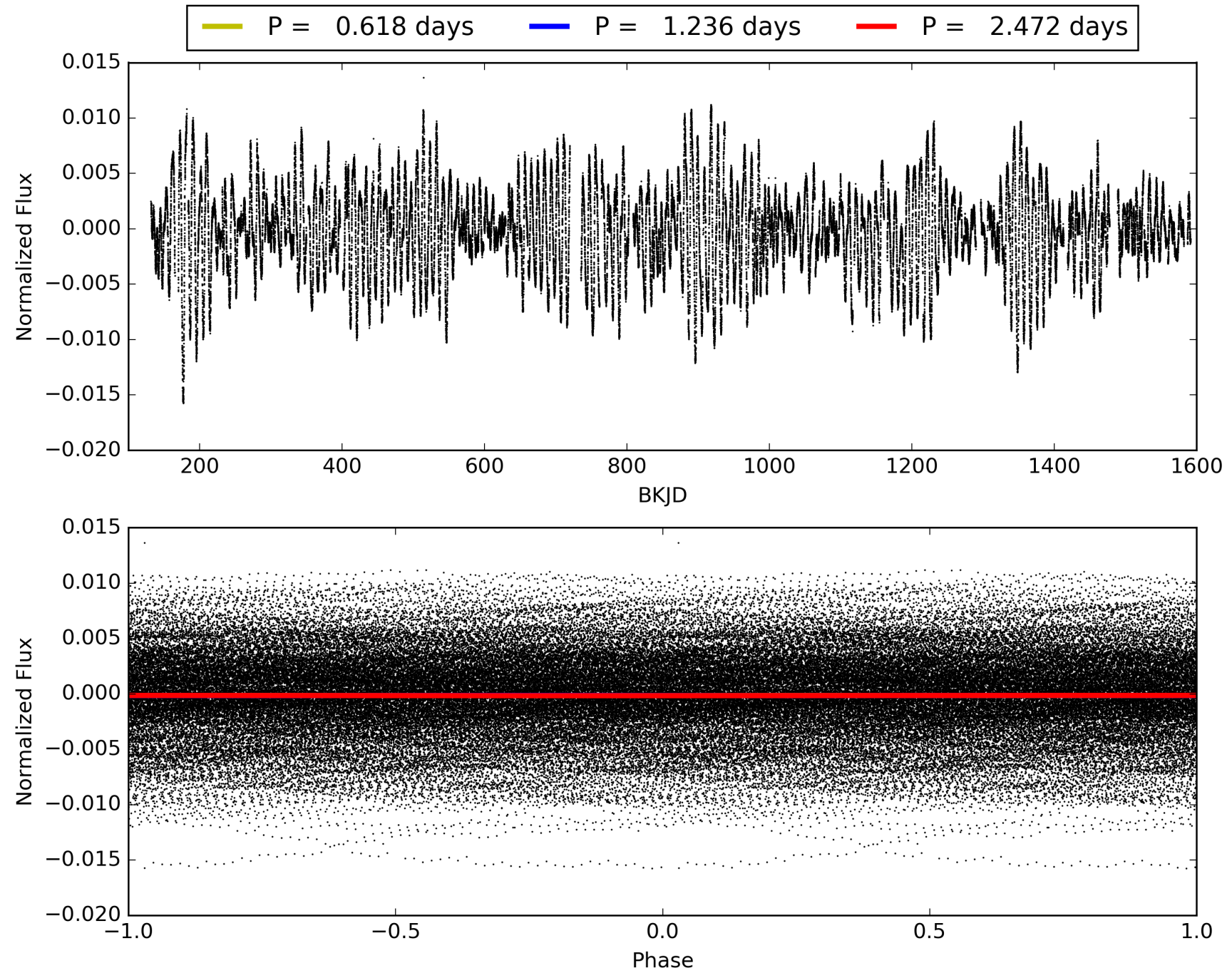
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 10:12:58 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005397905-01, PDC Light Curves

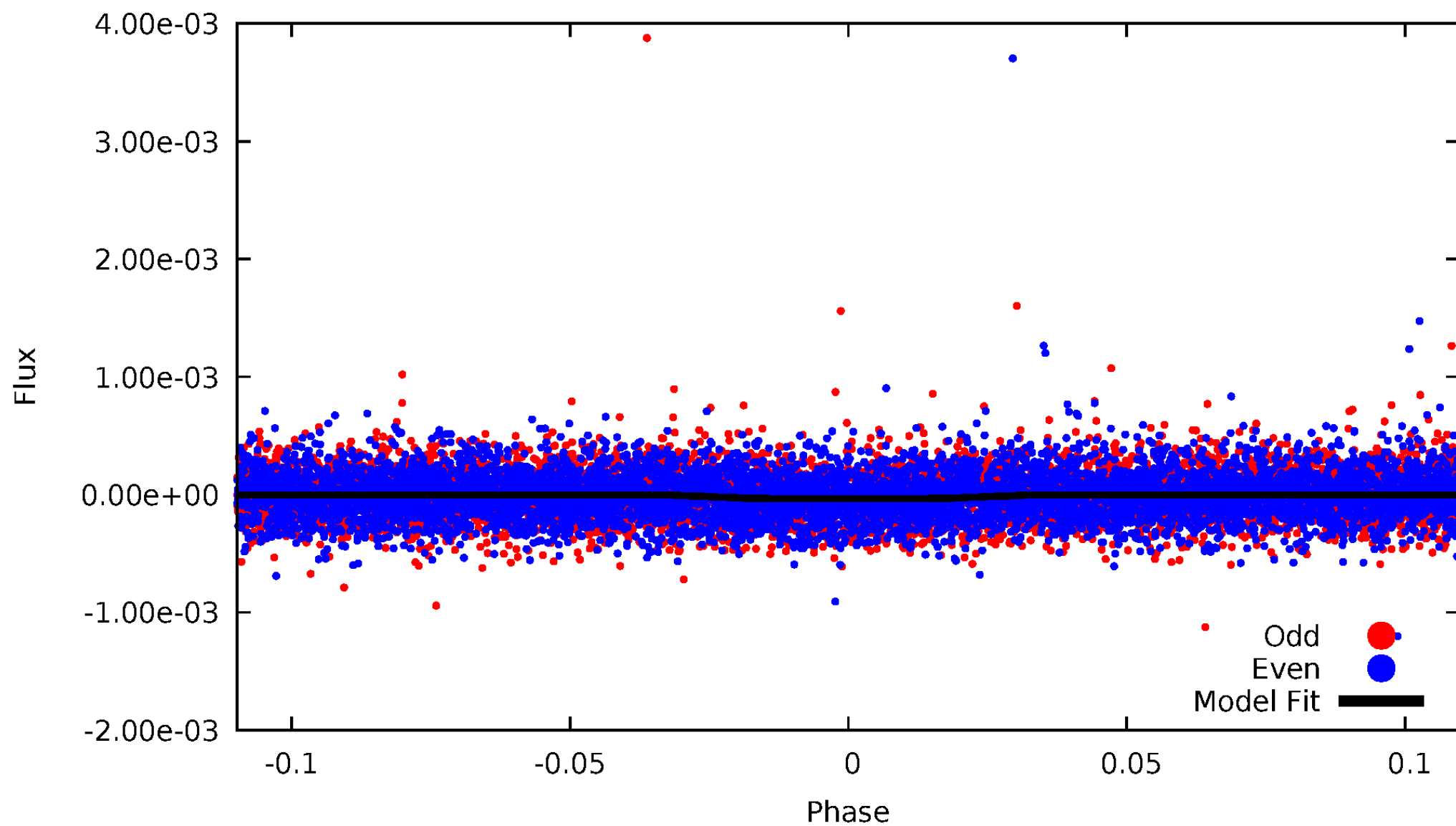


TCE 005397905-01



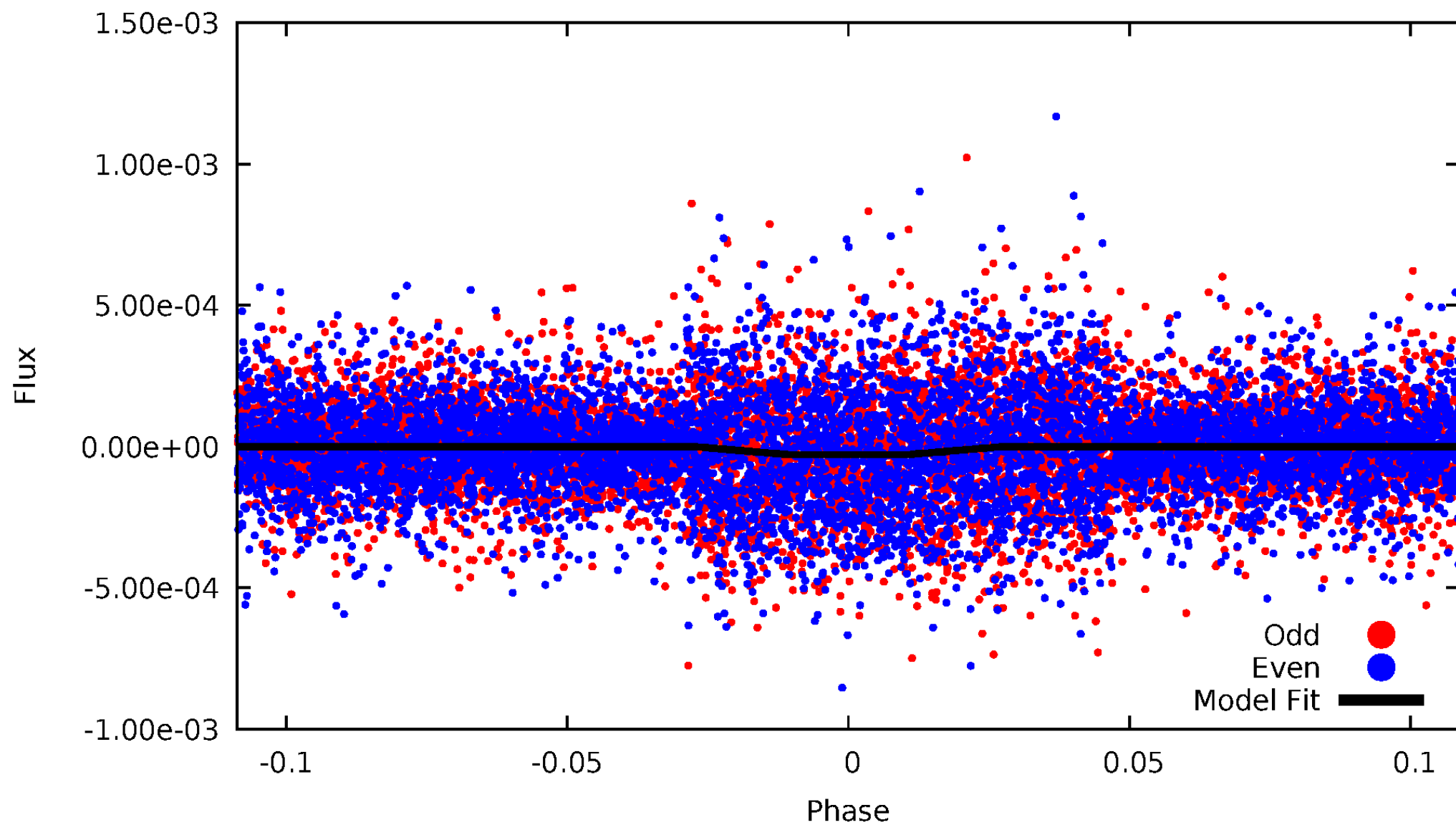
# DV Odd/Even

TCE 005397905-01



# ALT Odd/Even

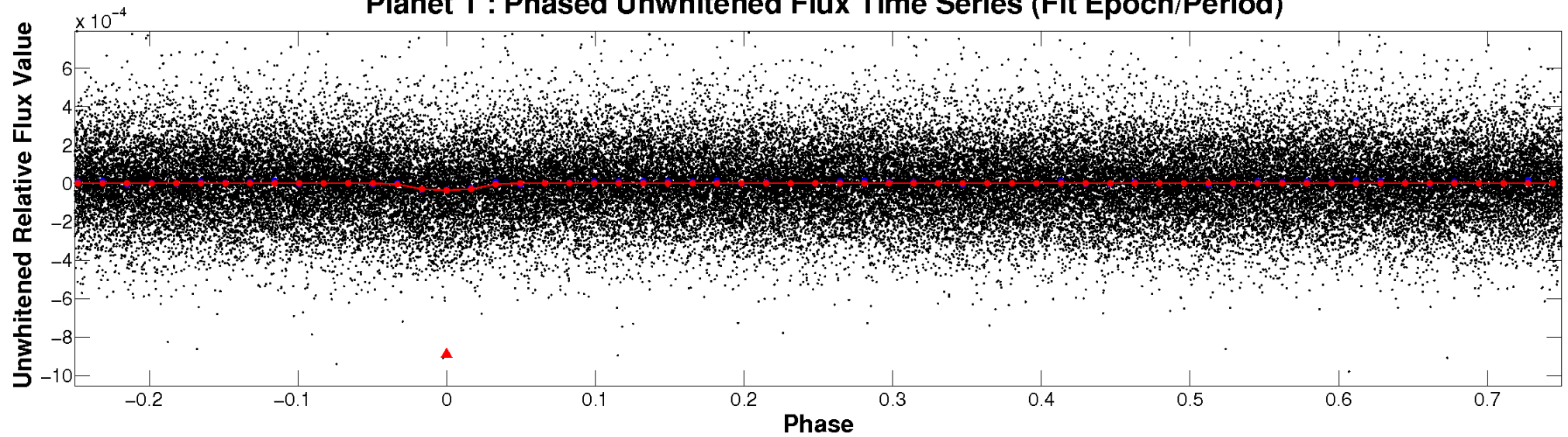
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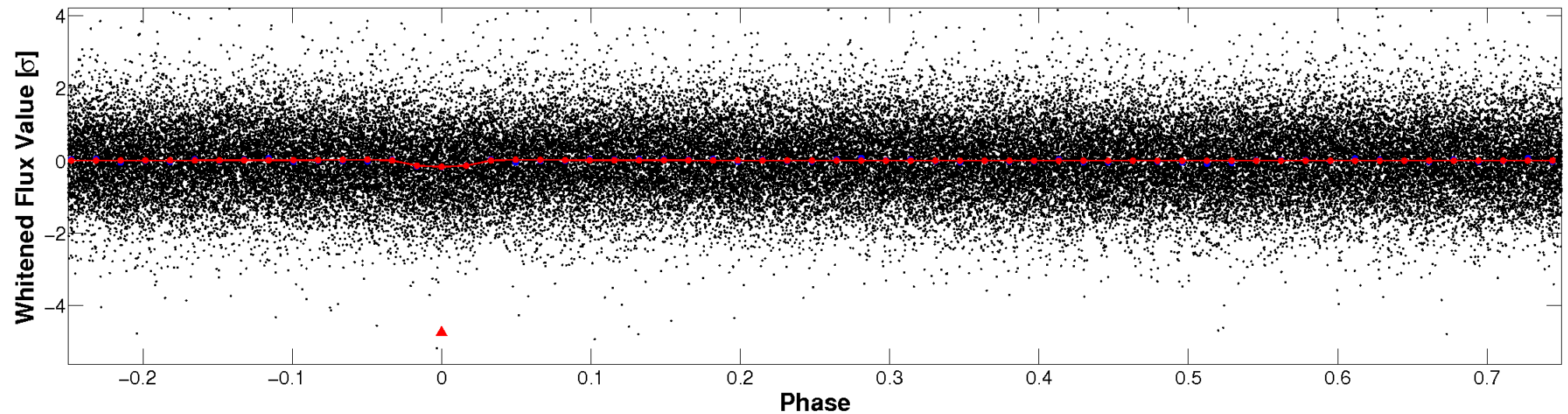


# Non-Whitened Vs. Whitened Light Curve

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

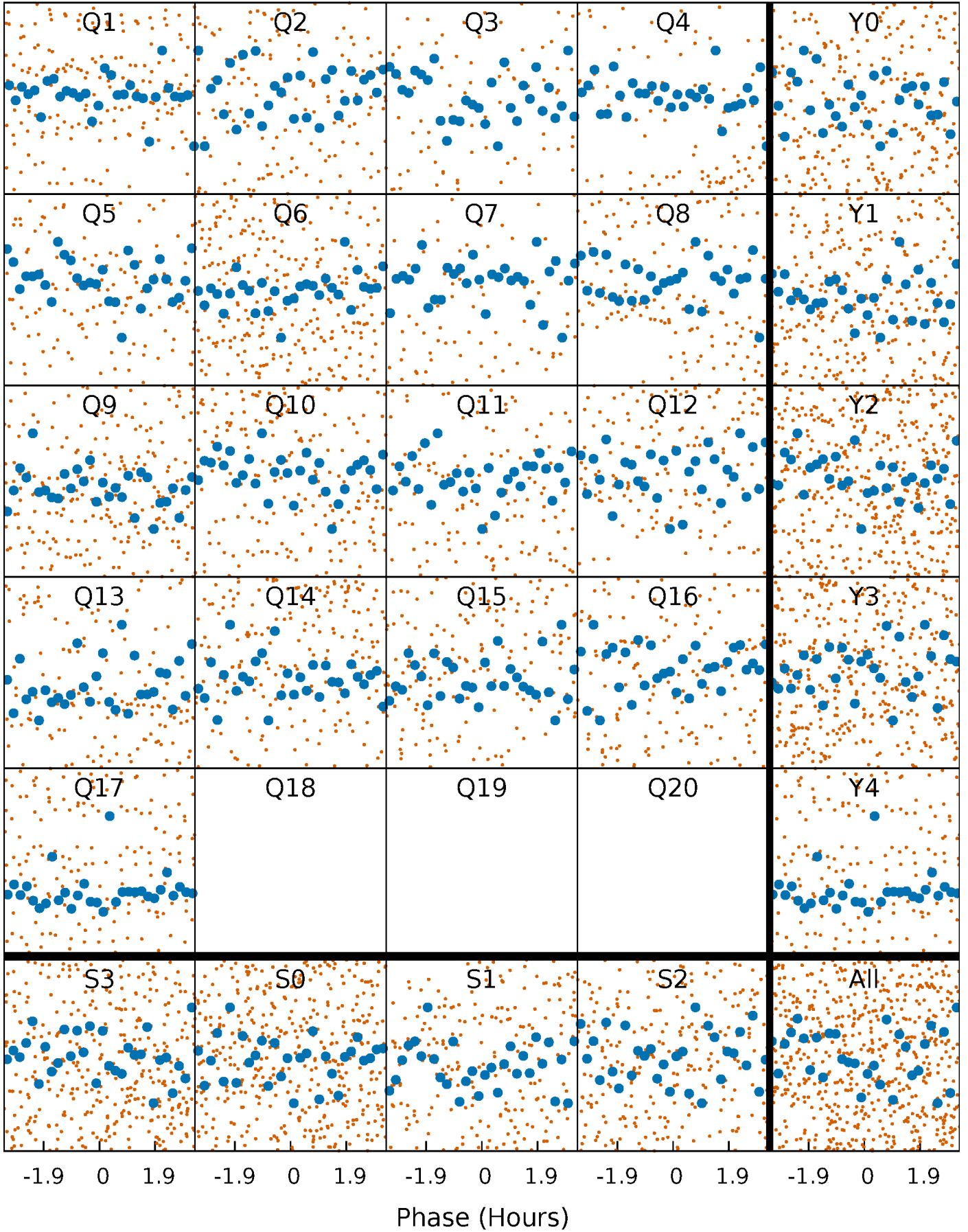


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

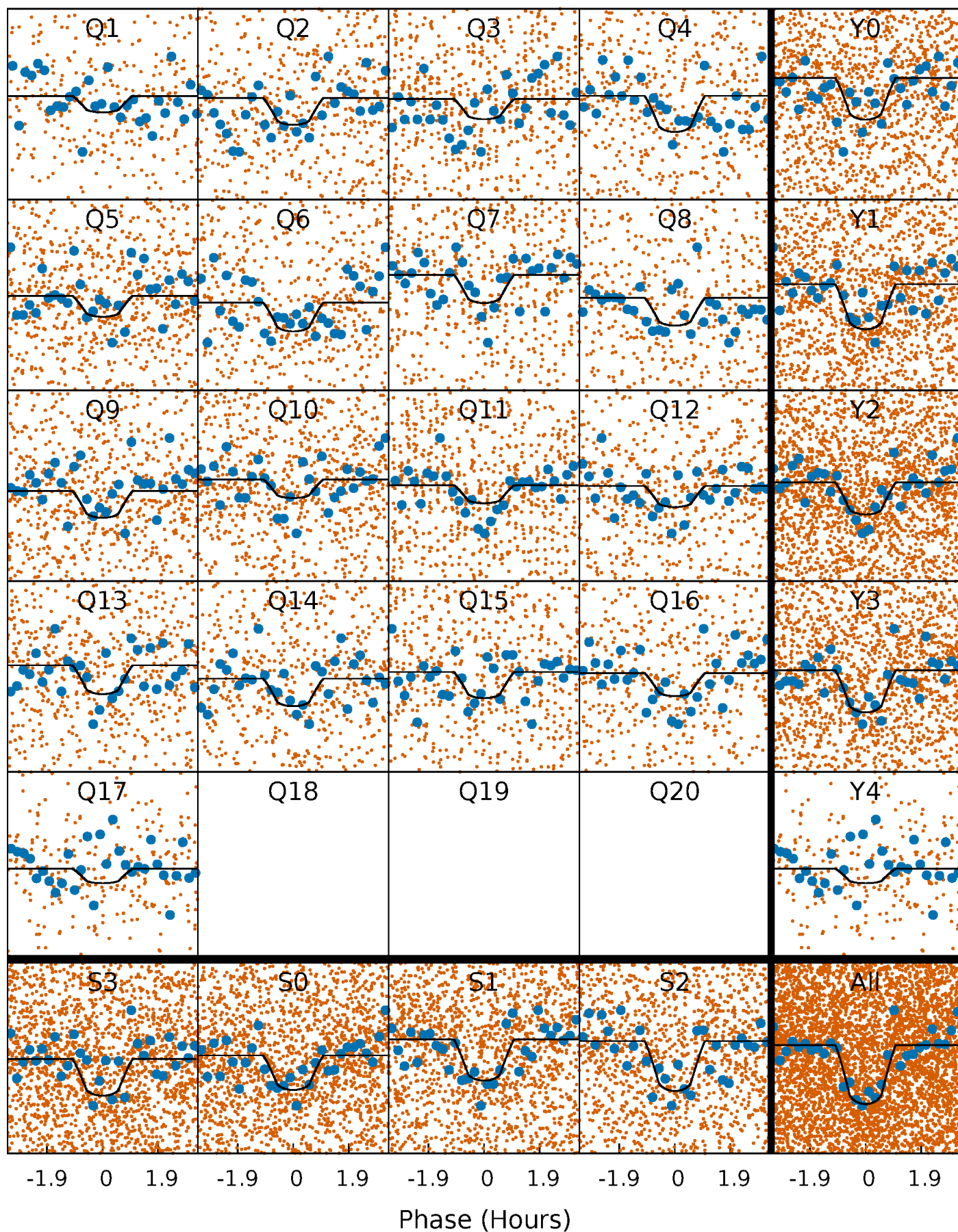
TCE 005397905-01 P= 1.236117 Days  $T_0=132.257488$  (BKJD)





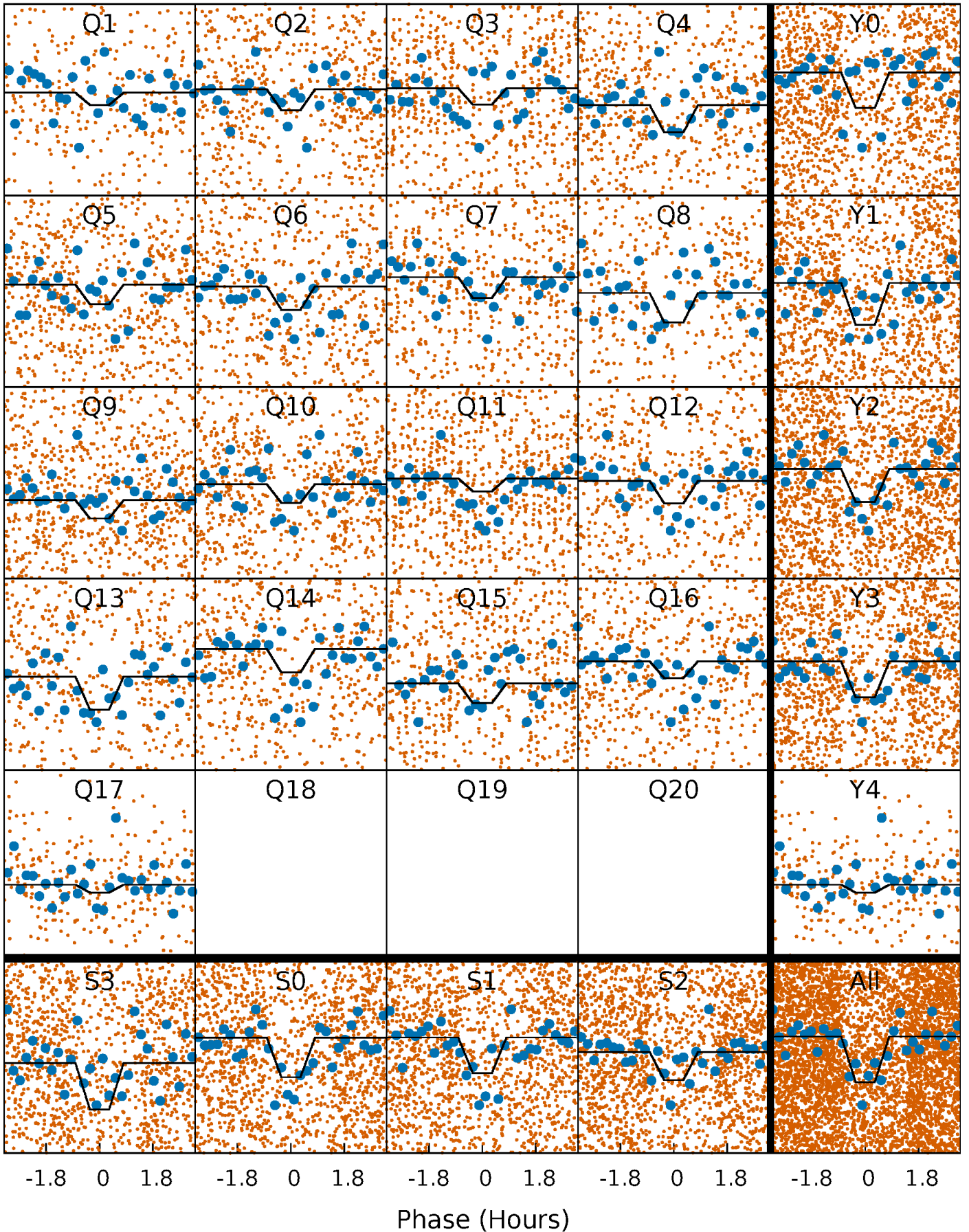
# DV Quarter-Phased Transit Curves

TCE 005397905-01 P= 1.236117 Days  $T_0=132.257488$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

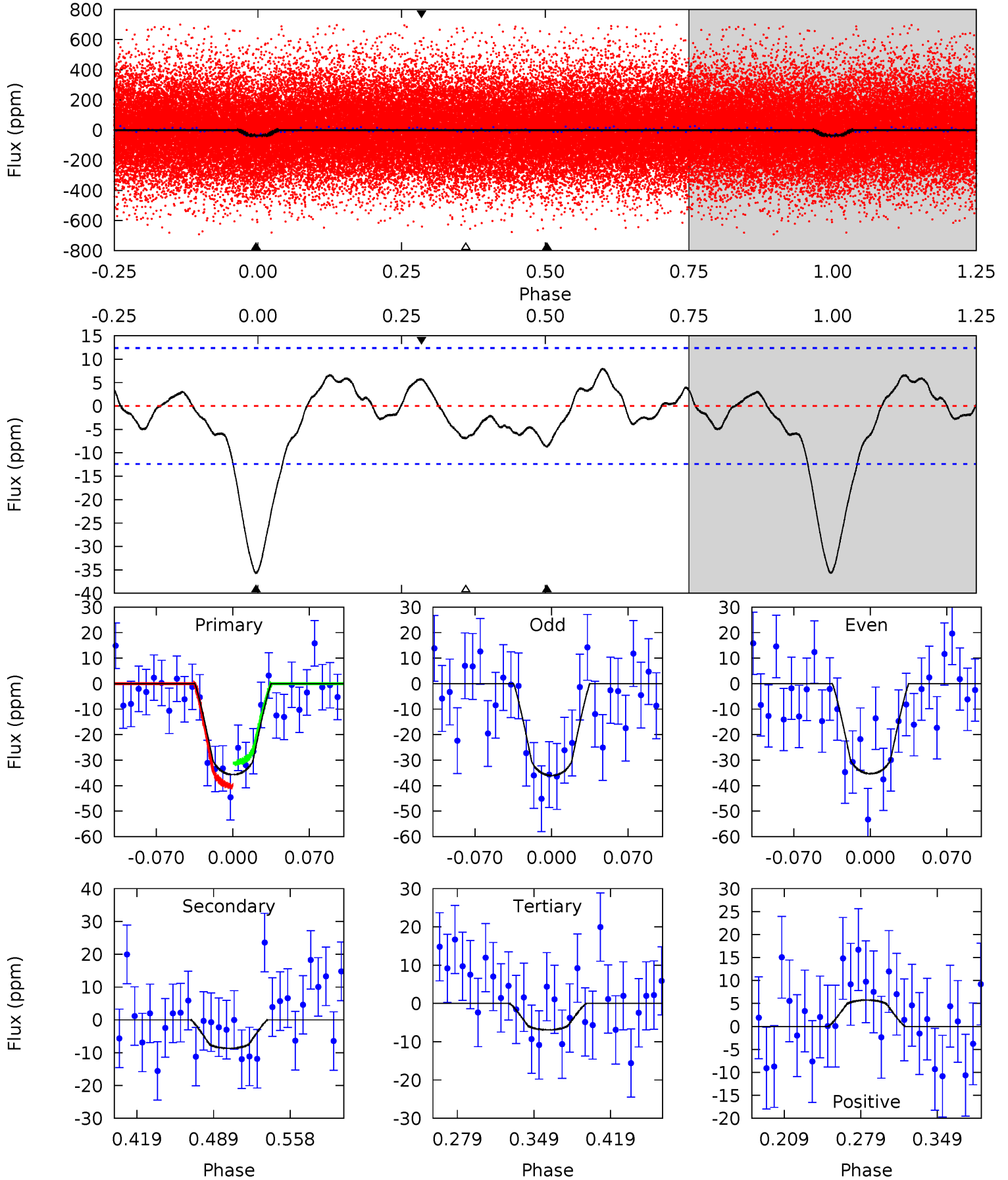
TCE 005397905-01 P= 1.236112 Days  $T_0=132.256794$  (BKJD)



# DV Model-Shift Uniqueness Test

005397905-01, P = 1.236117 Days, E = 131.021371 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
13.4	3.25	2.58	2.15	4.64	1.81	1.37	10.8	11.2	0.67	1.11	0.14	0.92	0.18	1.70

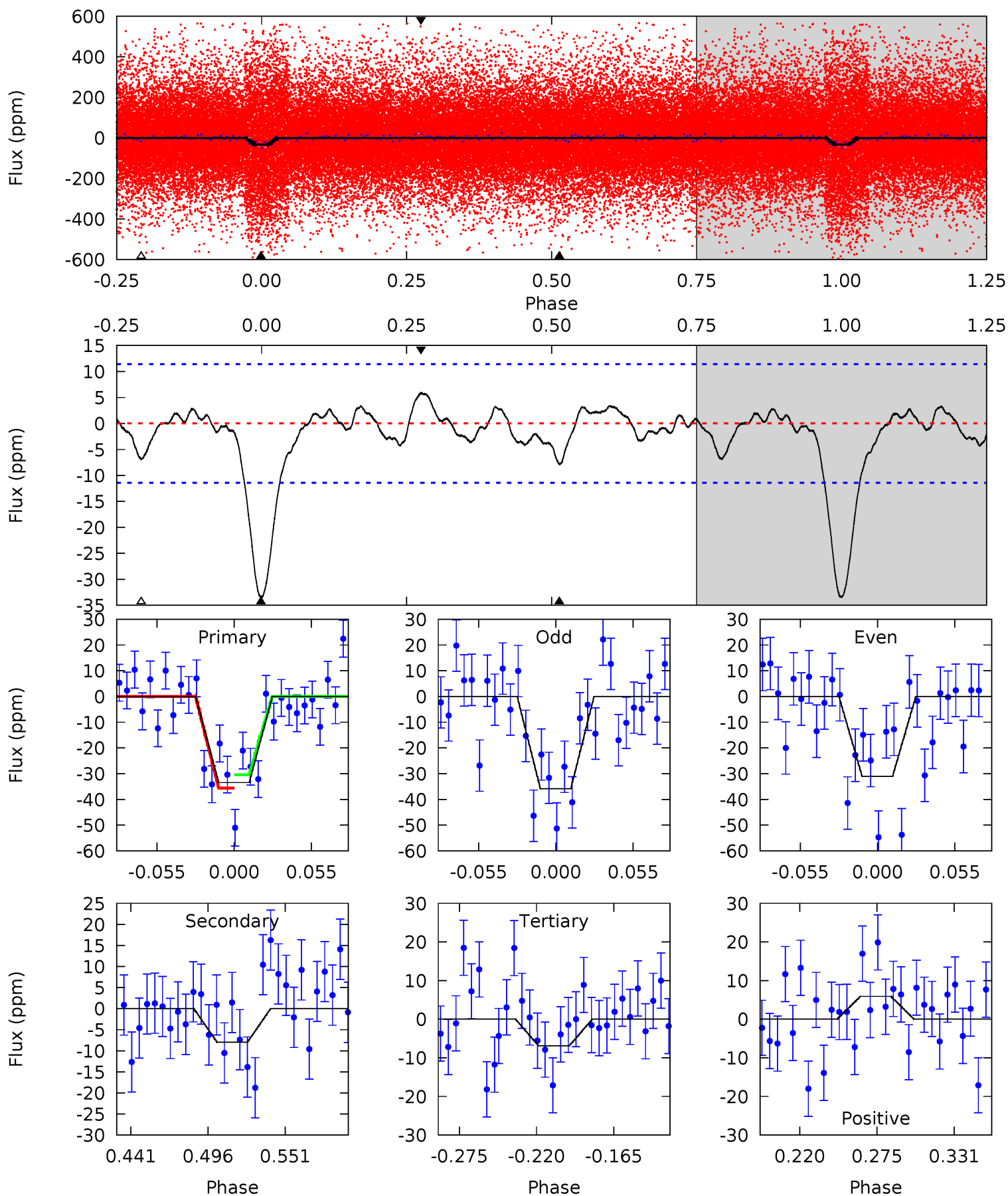




# Alt Model-Shift Uniqueness Test

005397905-01, P = 1.236112 Days, E = 131.020682 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
13.8	3.26	2.84	2.43	4.69	1.92	1.00	10.9	11.3	0.42	0.84	0.99	0.93	0.15	1.07



### Stellar Parameters For KIC 005397905

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5339^{+160}_{-144}$	$4.503^{+0.099}_{-0.110}$	$-0.380^{+0.350}_{-0.300}$	$0.793^{+0.128}_{-0.105}$	$0.731^{+0.118}_{-0.050}$	$2.067^{+0.952}_{-0.651}$
	+3%/-3%	+2%/-2%	+92%/-79%	+16%/-13%	+16%/-7%	+46%/-31%
Source	PHO1	KIC0	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 005397905-01 / KOI 6577.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-9 \pm 3$	$0.61^{+0.38}_{-0.32}$	$2063^{+100}_{-93}$	$3731^{+1335}_{-599}$	$5.140^{+17.838}_{-3.359}$
Alt.	$-8 \pm 2$	$0.52^{+0.37}_{-0.30}$	$2067^{+102}_{-95}$	$3926^{+1761}_{-661}$	$6.859^{+31.868}_{-4.573}$

$T_{max}$  = Theoretical Maximum Planetary Temperature

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

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

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



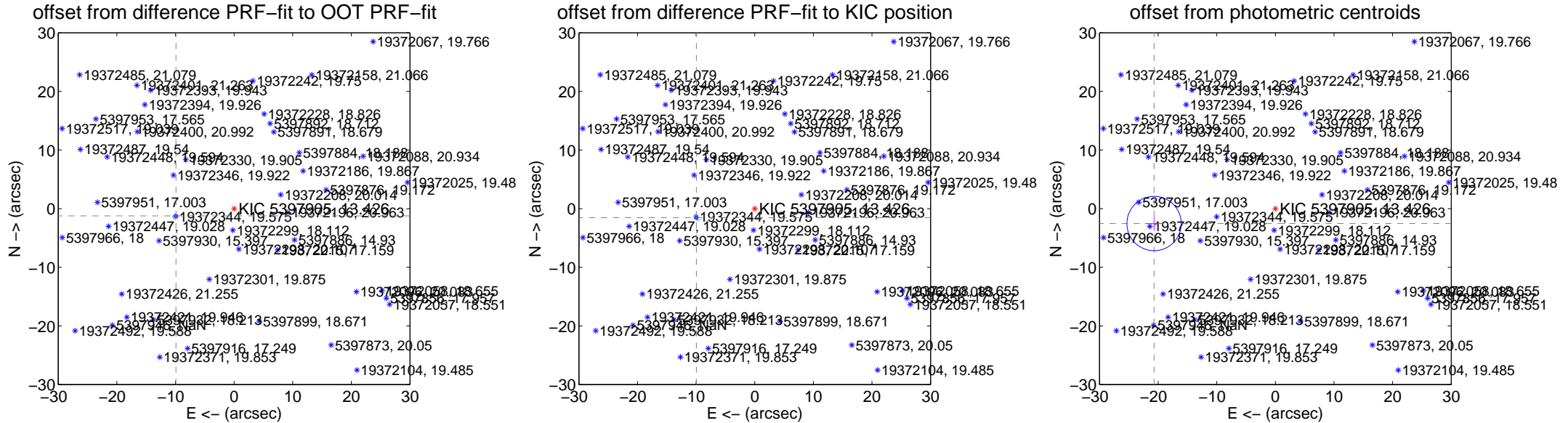
## DV Centroid Data

Supplemental centroid analysis for 005397905-01. Kepler magnitude: 13.43. Transit SNR 8.57

There are 17 quarters with good PRF difference image offsets

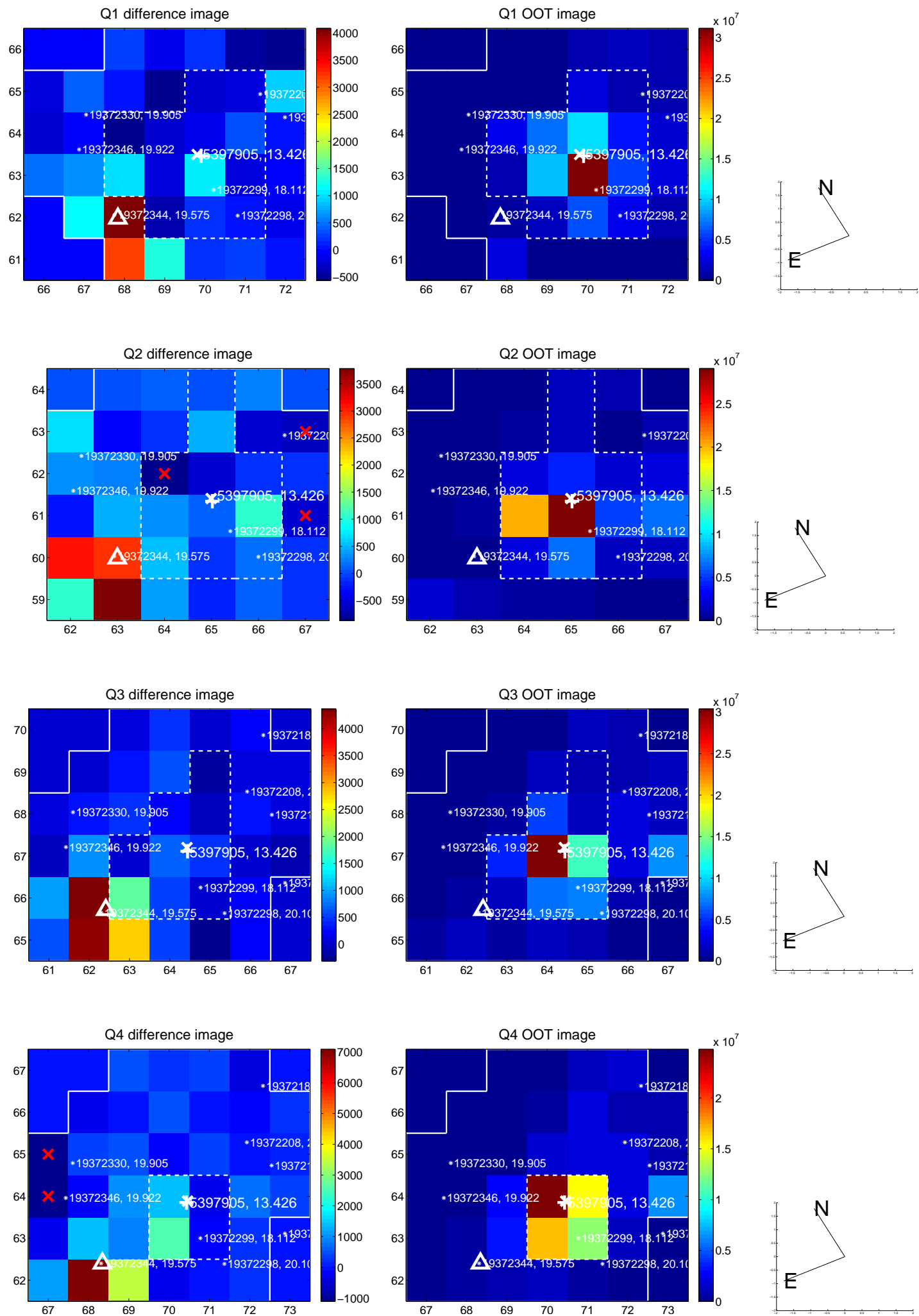
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	9.990 $\pm$ 0.081	122.91	9.914 $\pm$ 0.081	-1.235 $\pm$ 0.074
PRF-fit source offset from KIC position	10.084 $\pm$ 0.078	129.11	9.967 $\pm$ 0.078	-1.536 $\pm$ 0.074
photometric centroid source offset	20.85 $\pm$ 1.55	13.49	20.69 $\pm$ 1.55	-2.53 $\pm$ 1.21

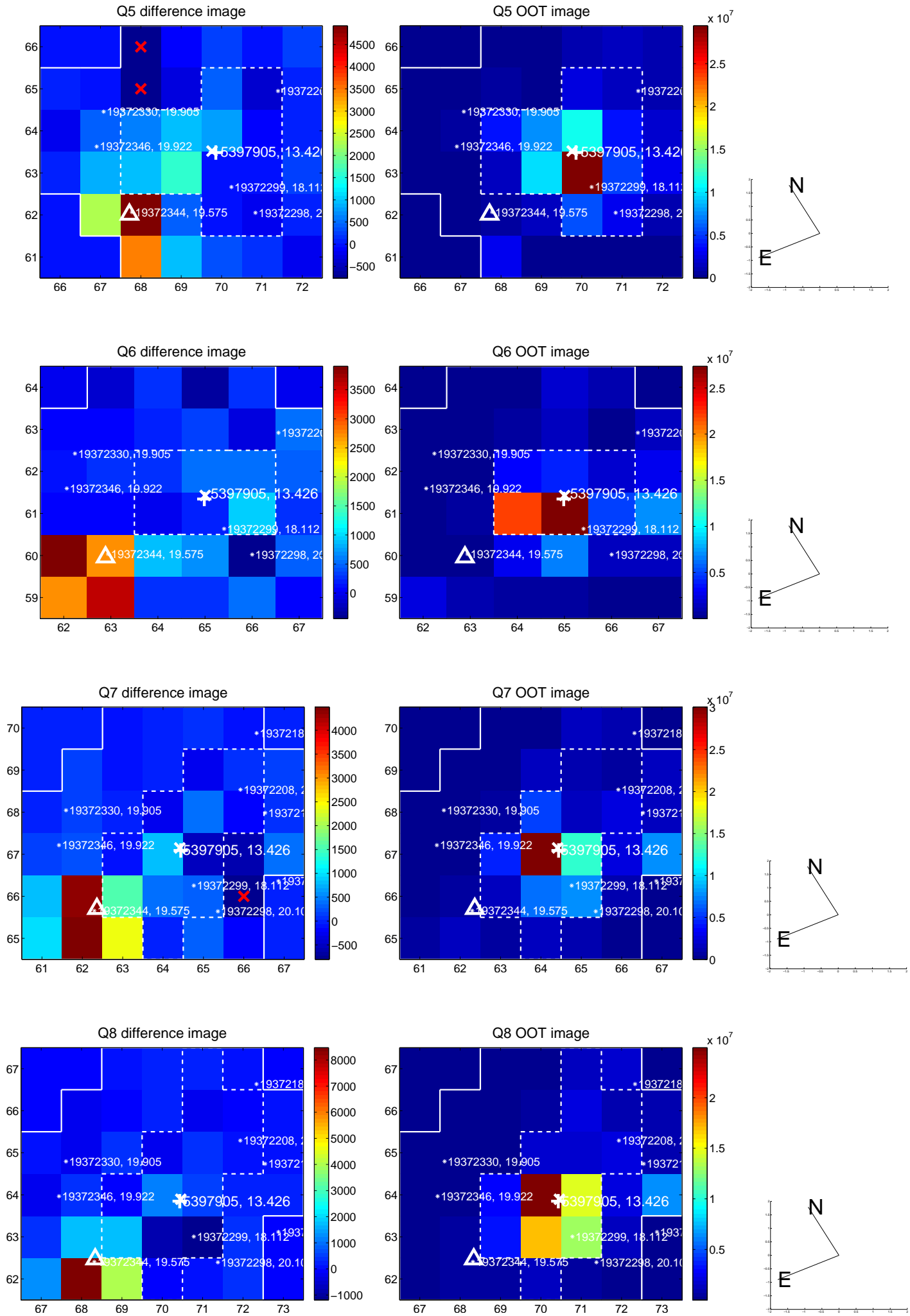


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . 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.

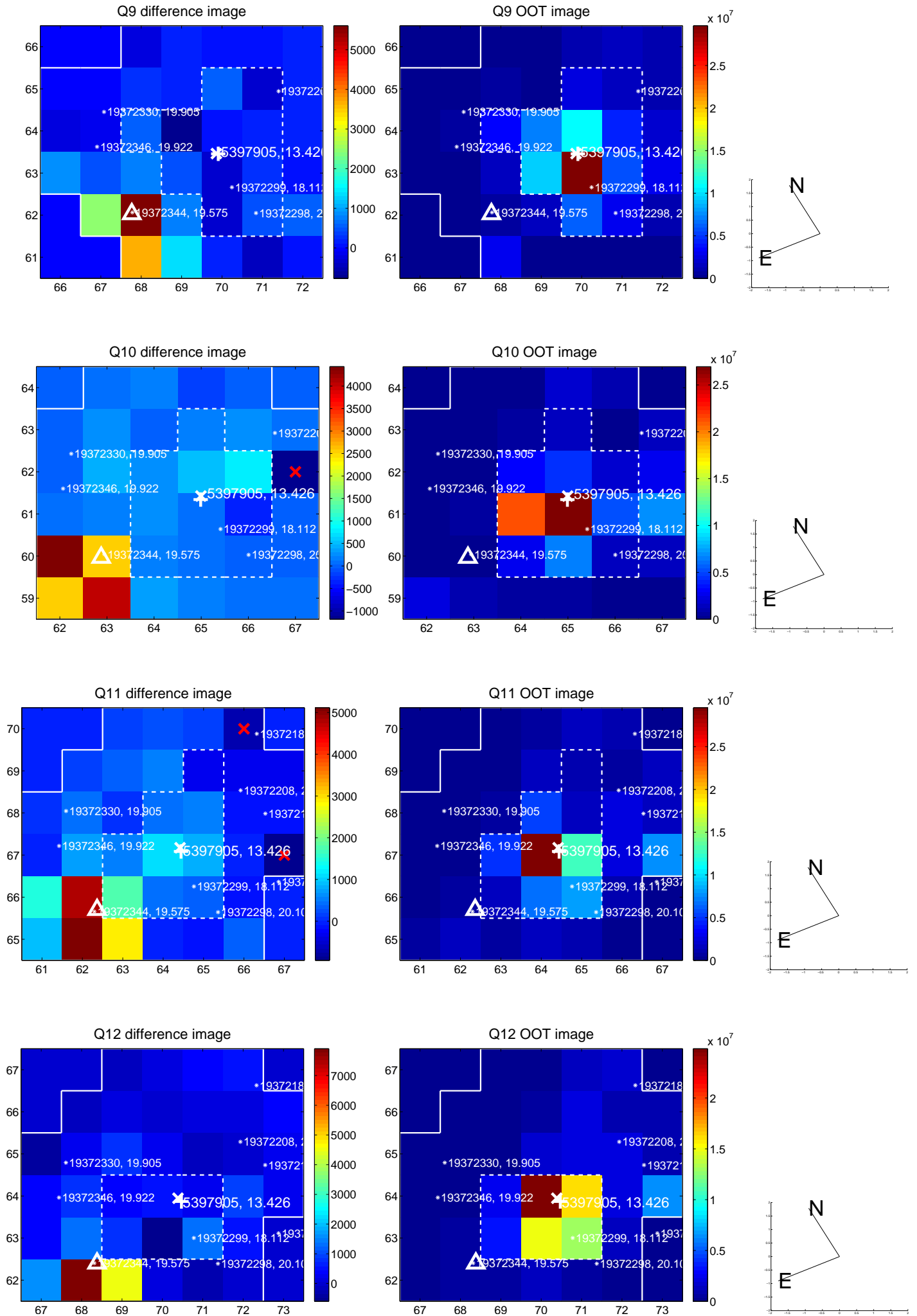
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



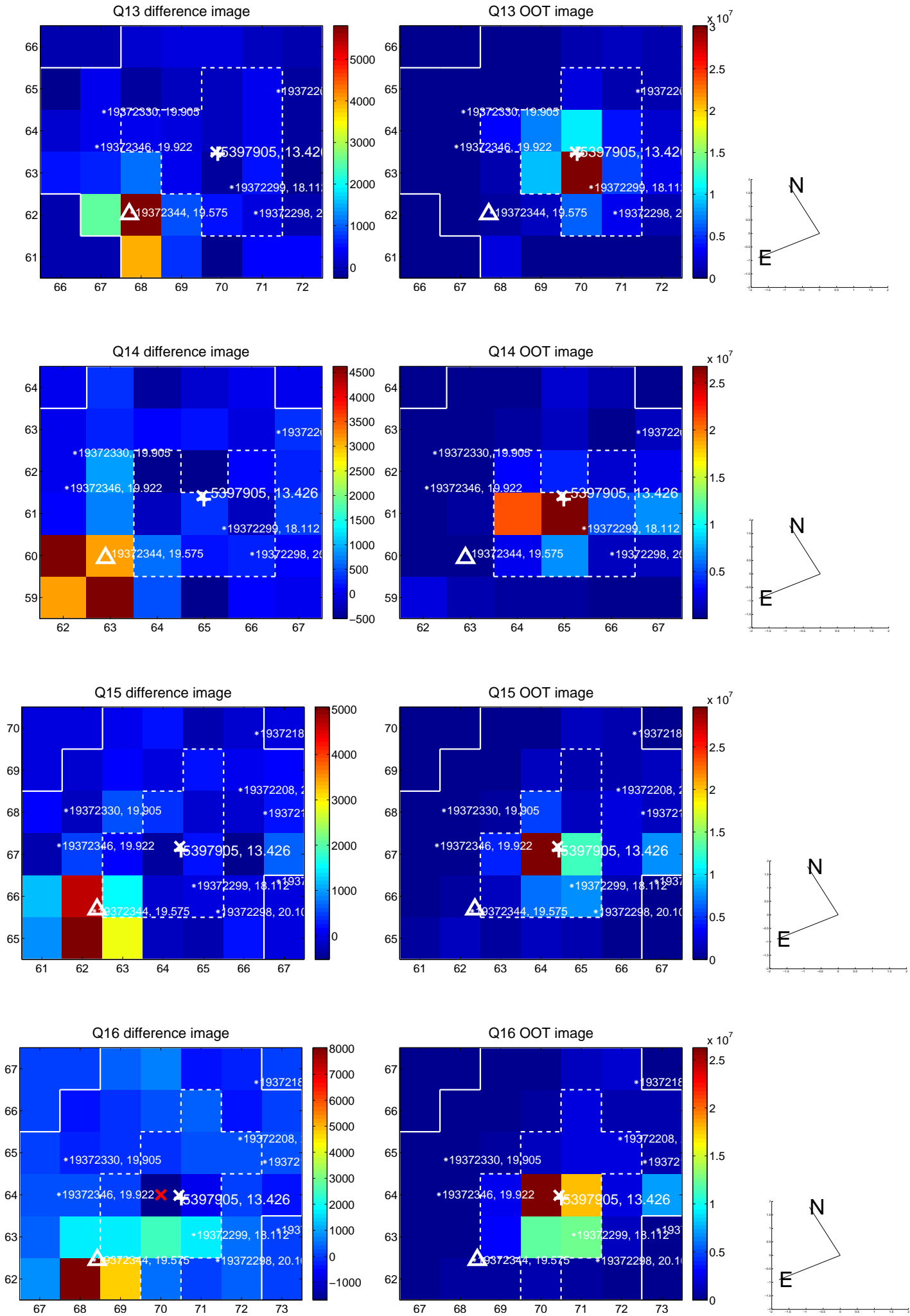
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

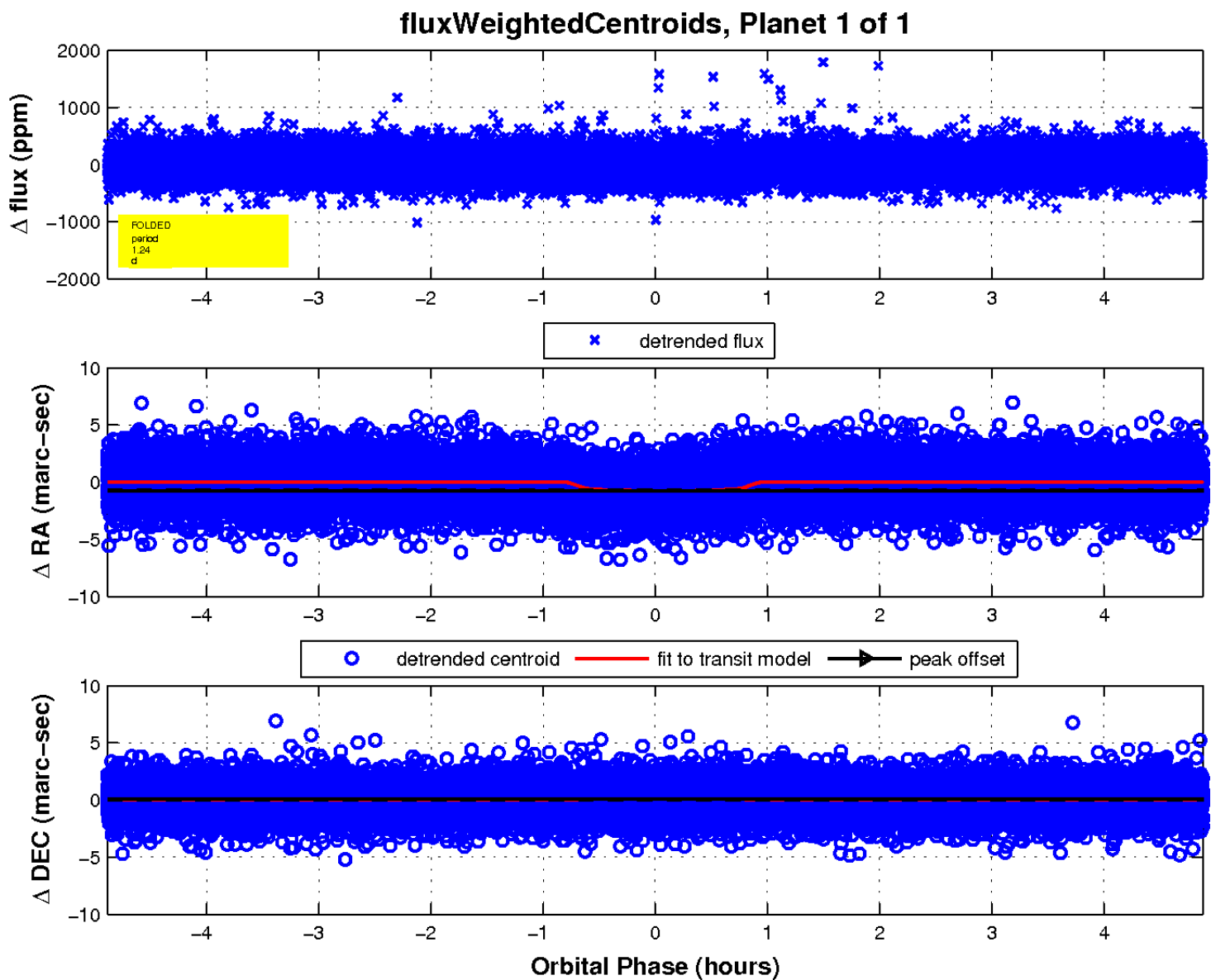
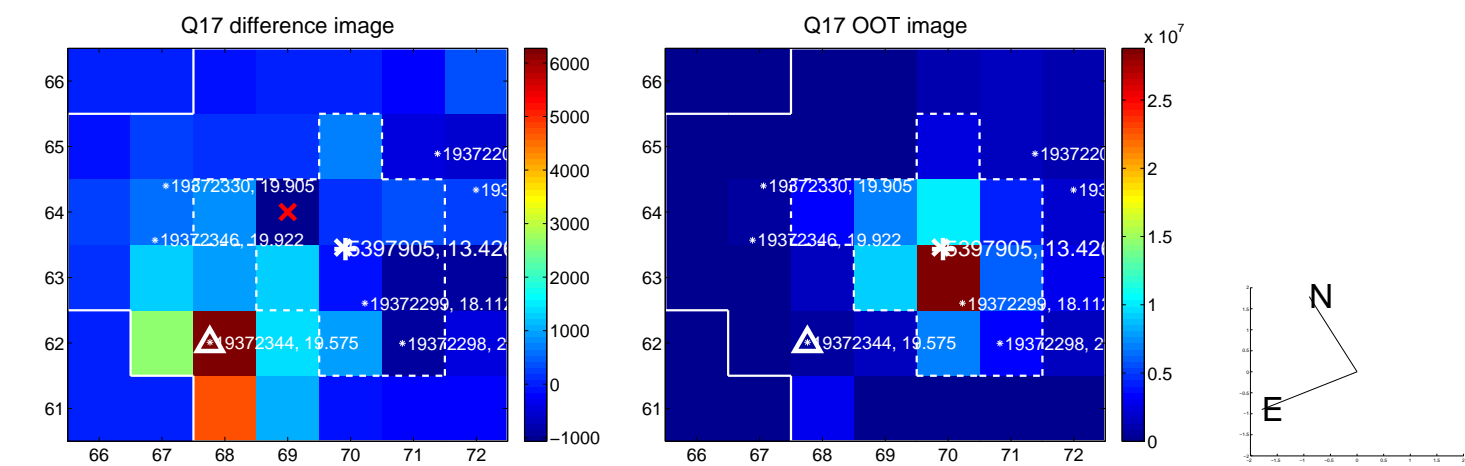


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

