

# KIC 007449541

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007449541-01	OBS	2063.01	3.007238	131.906830	257.3	4.318	23.9	25.8	0.78	5667	1.46	374.84

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007449541-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

**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 007449541-01

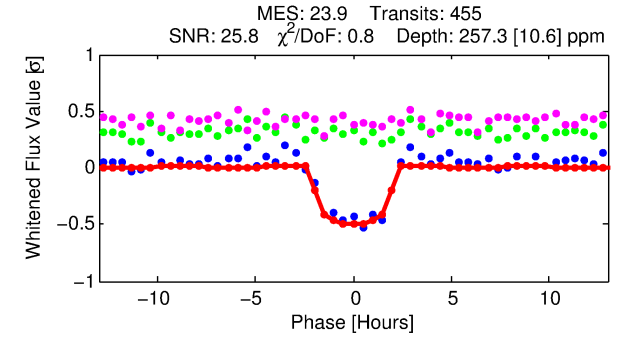
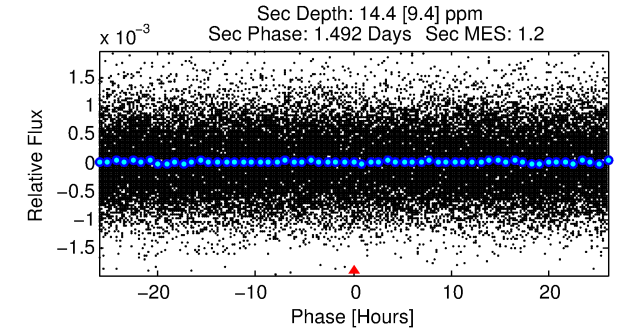
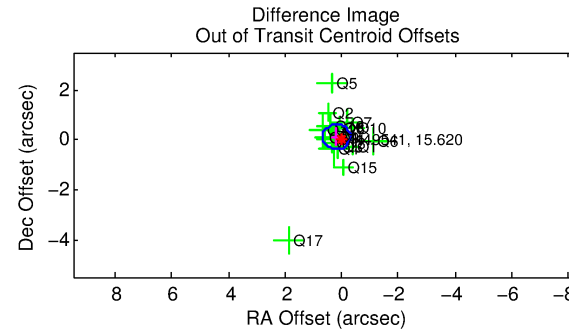
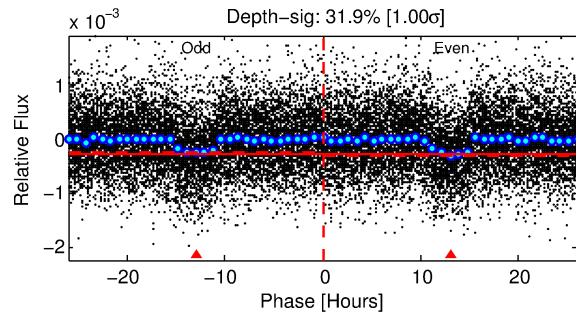
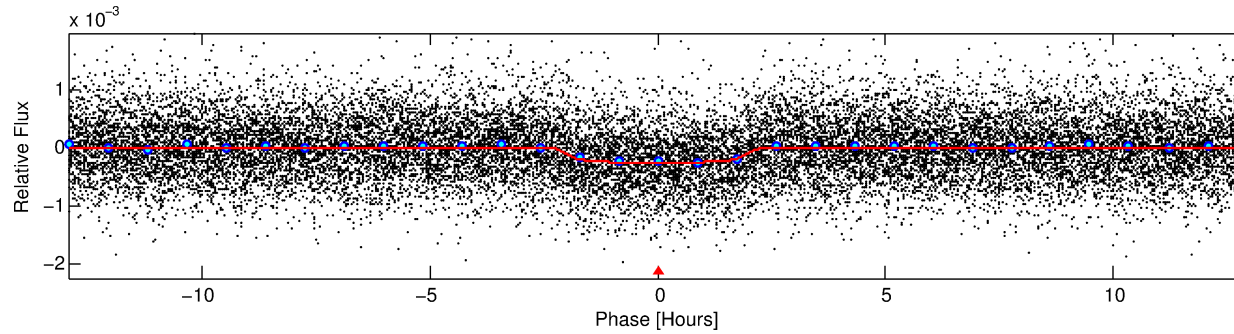
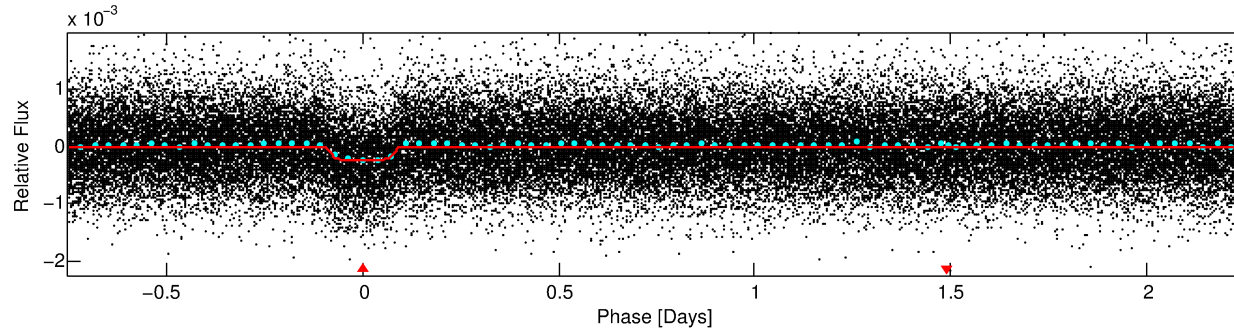
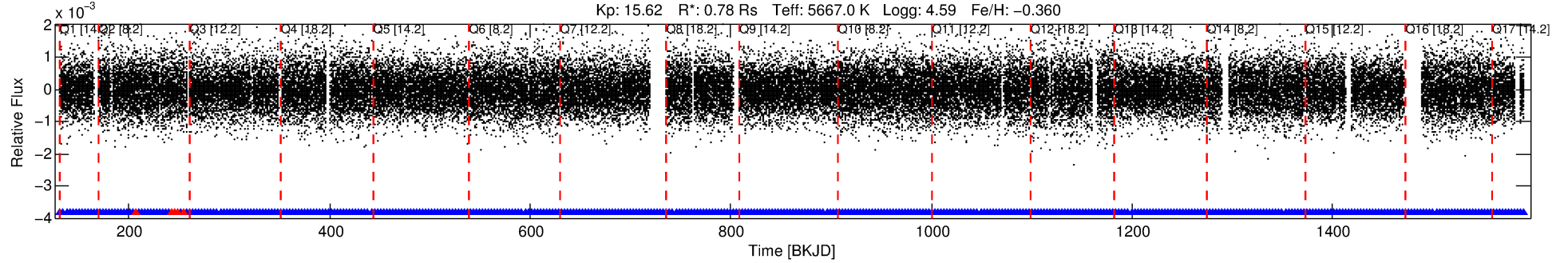
No Significant Match Found

# DV One-Page Summary

KIC: 7449541 Candidate: 1 of 1 Period: 3.007 d

KOI: K02063.01 Corr: 0.990

Kp: 15.62 R\*: 0.78 Rs Teff: 5667.0 K Logg: 4.59 Fe/H: -0.360



## DV Fit Results:

Period = 3.00724 [0.00001] d  
Epoch = 131.9068 [0.0024] BKJD  
Rp/R\* = 0.0171 [0.0031]  
a/R\* = 2.88 [2.19]  
b = 0.88 [0.23]  
Seff = 374.84 [107.70]  
Teff = 1122 [81] K  
Rp = 1.46 [0.41] Re  
a = 0.0388 [0.0070] AU  
Ag = 5.58 [4.42] [1.04σ]  
Teffp = 2666 [505] K [3.02σ]

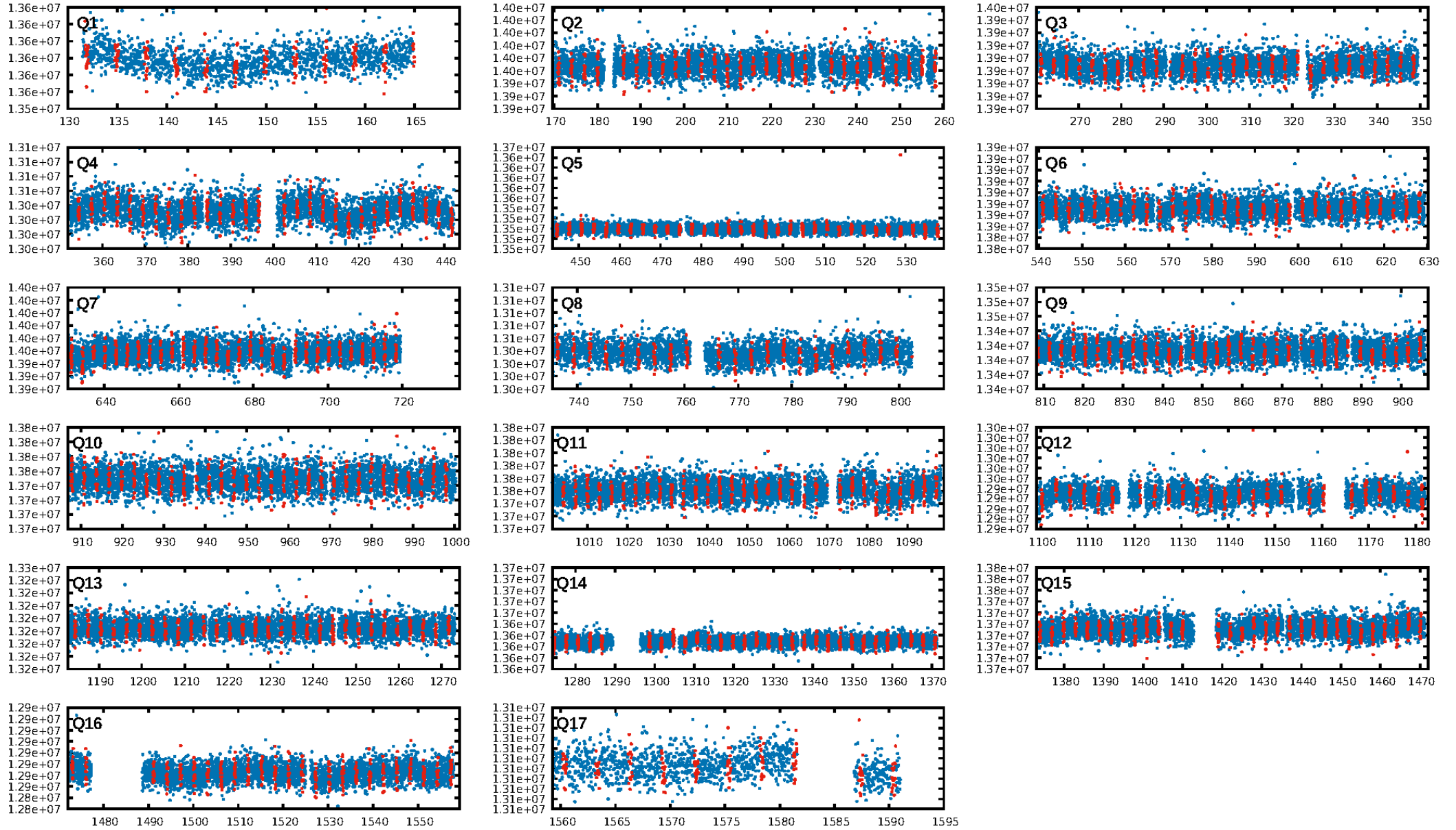
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.84e-120  
RollingBand-fgt: 0.99 [428/433]  
GhostDiagnostic-chr: 2.062  
Centroid-sig: 7.5%  
Centroid-so: 0.993 arcsec [1.66σ]  
OotOffset-rm: 0.216 arcsec [1.31σ]  
KicOffset-rm: 0.285 arcsec [1.51σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.94 [16/17]  
DiffImageOverlap-fno: 1.00 [17/17]

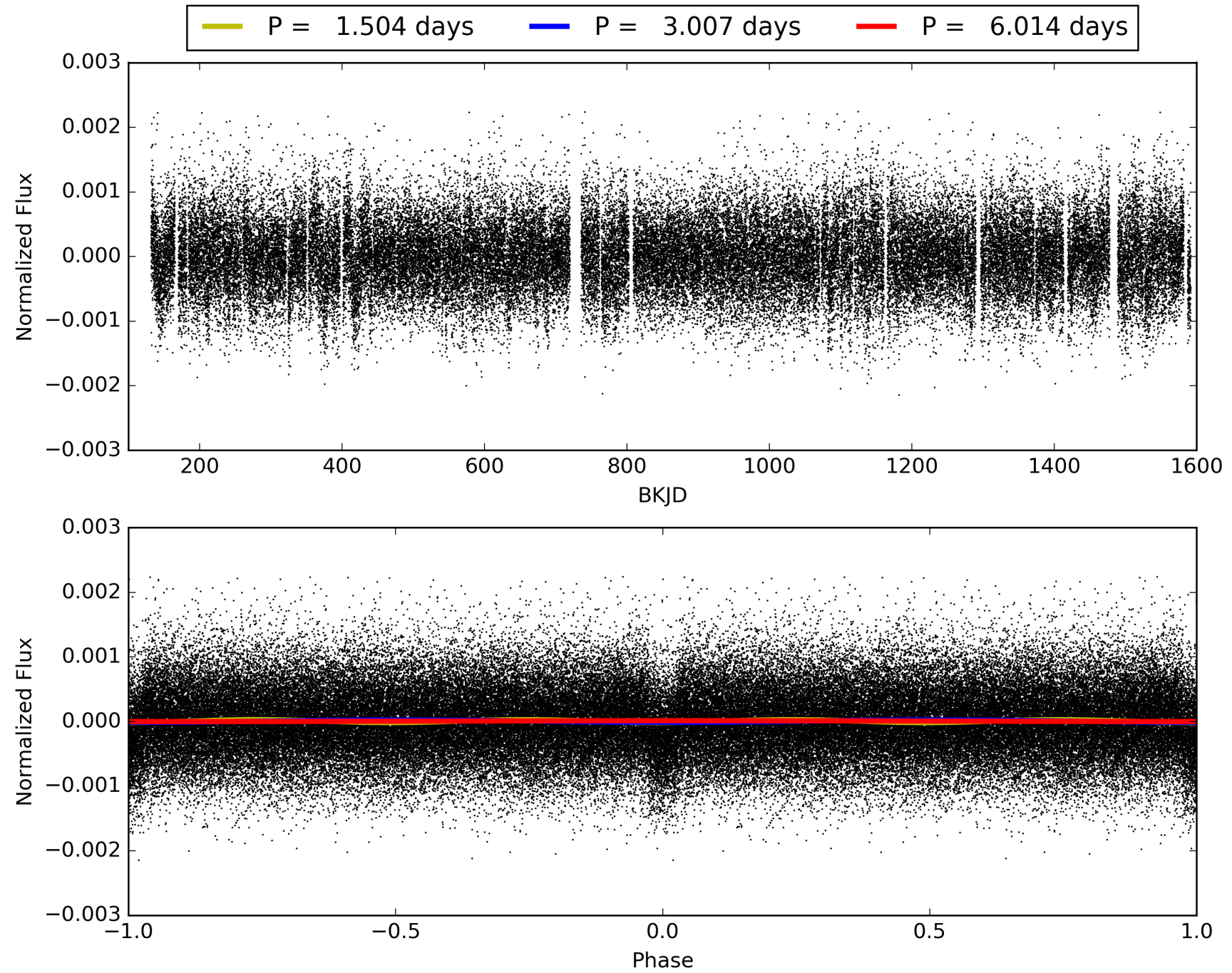
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:57:27 Z

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

# TCE 007449541-01, PDC Light Curves

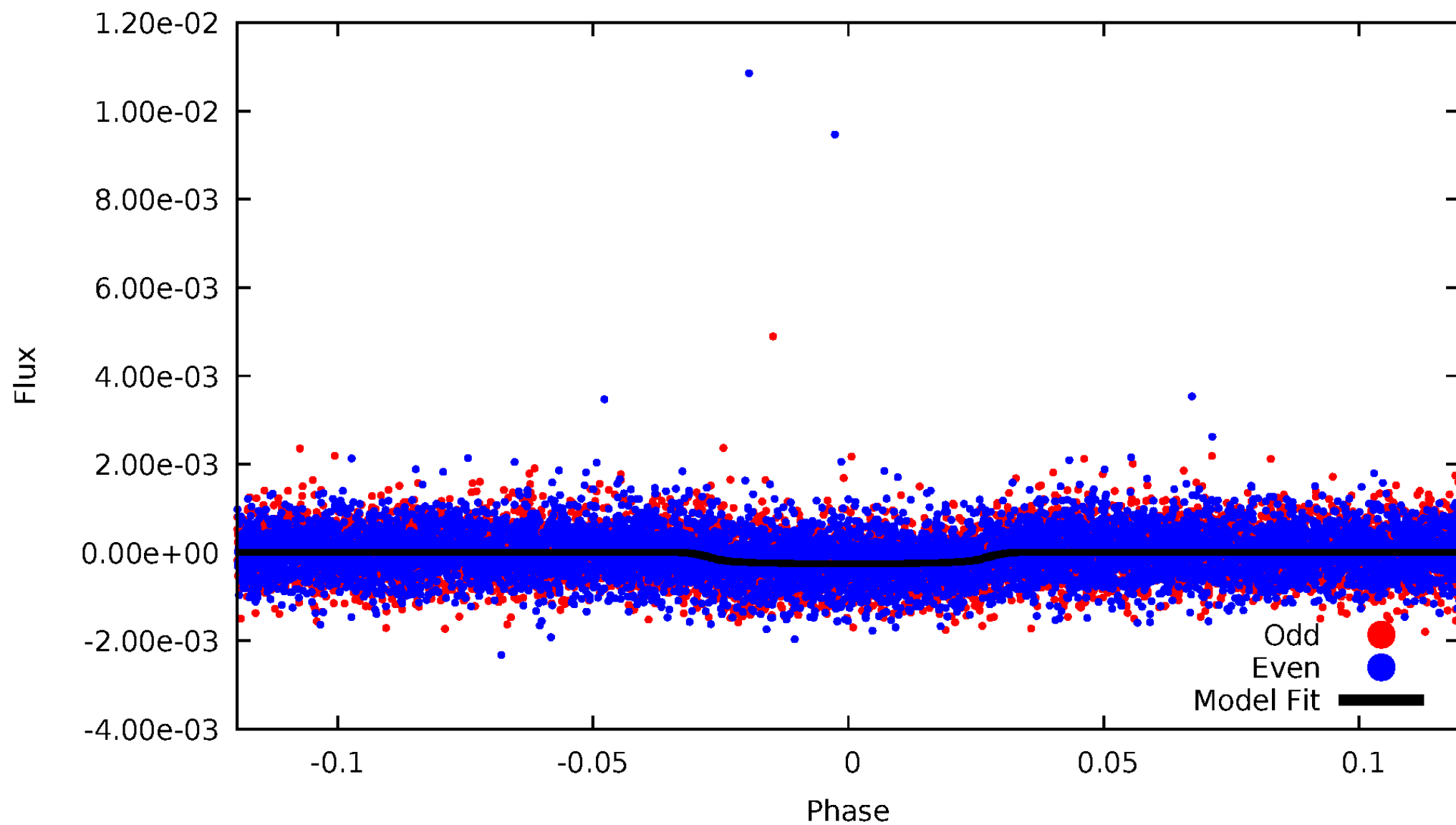


TCE 007449541-01



# DV Odd/Even

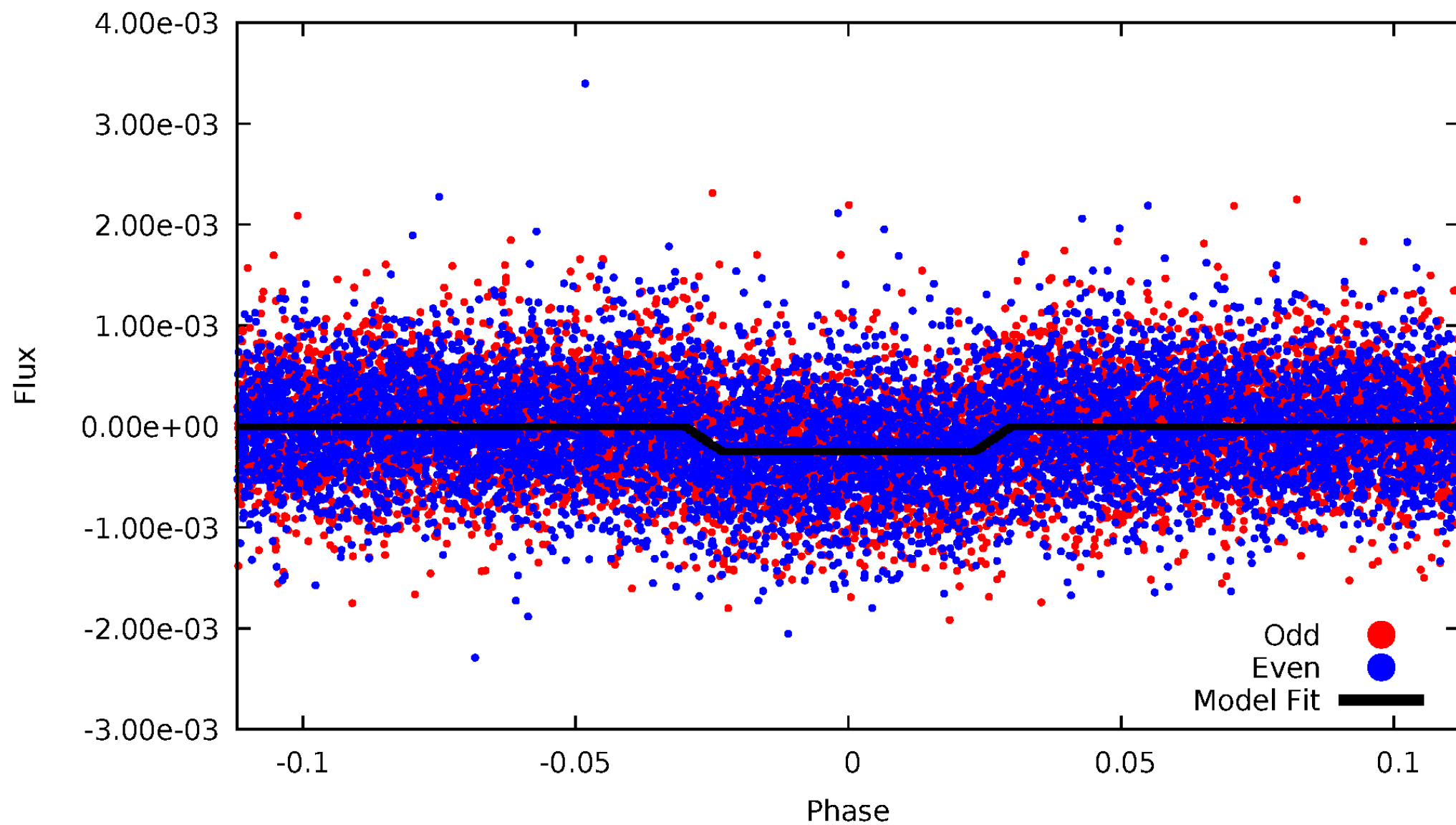
TCE 007449541-01



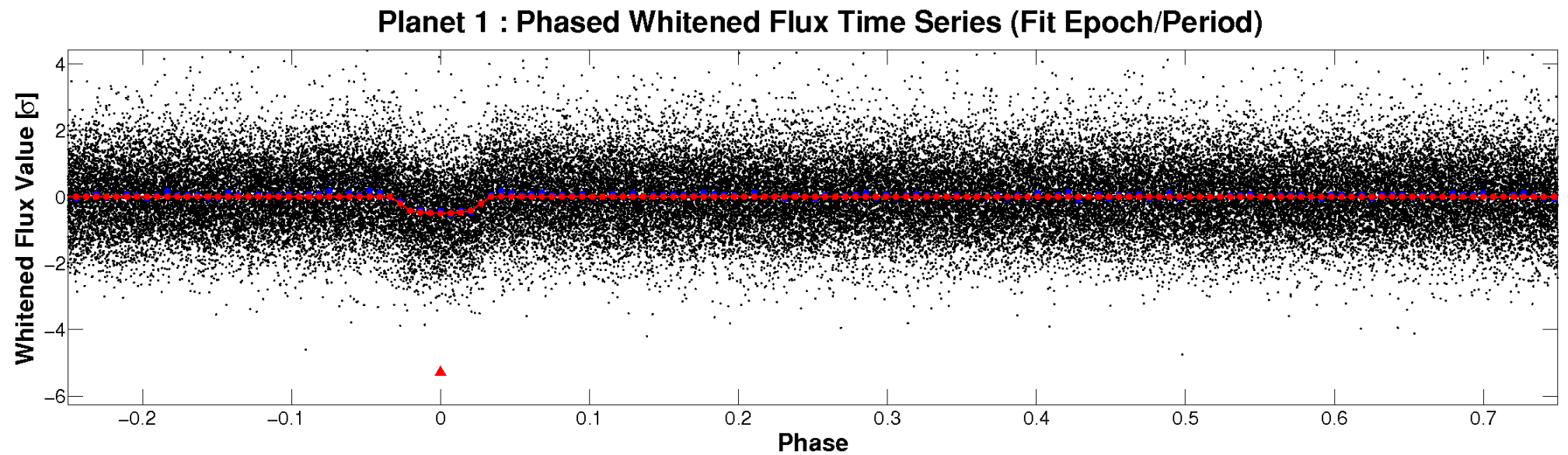
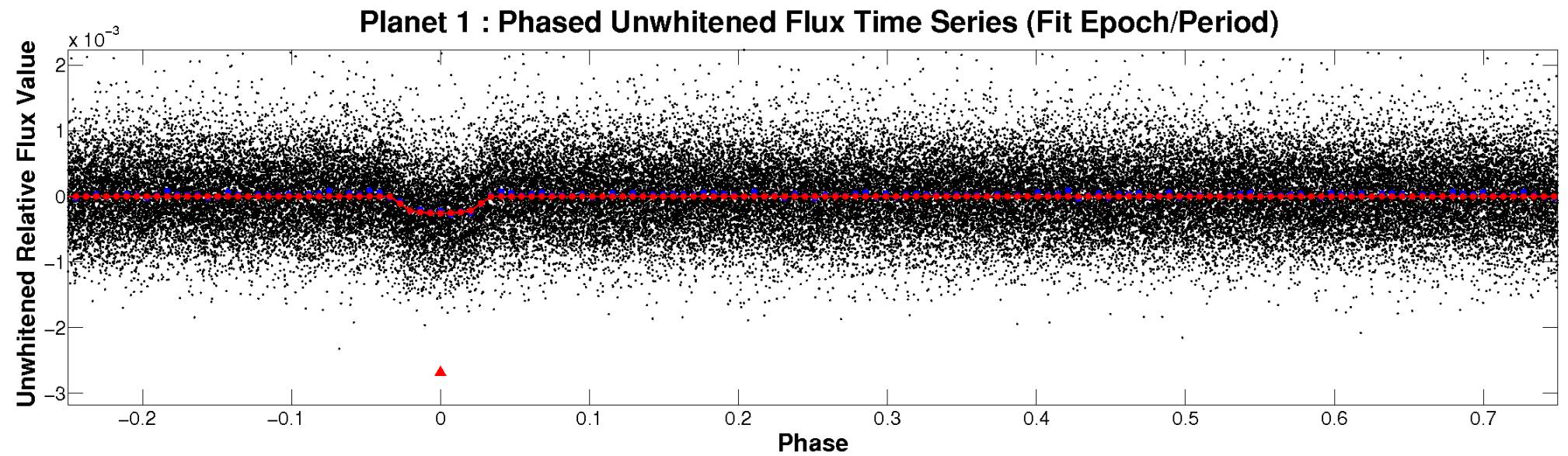


# ALT Odd/Even

TCE 007449541-01

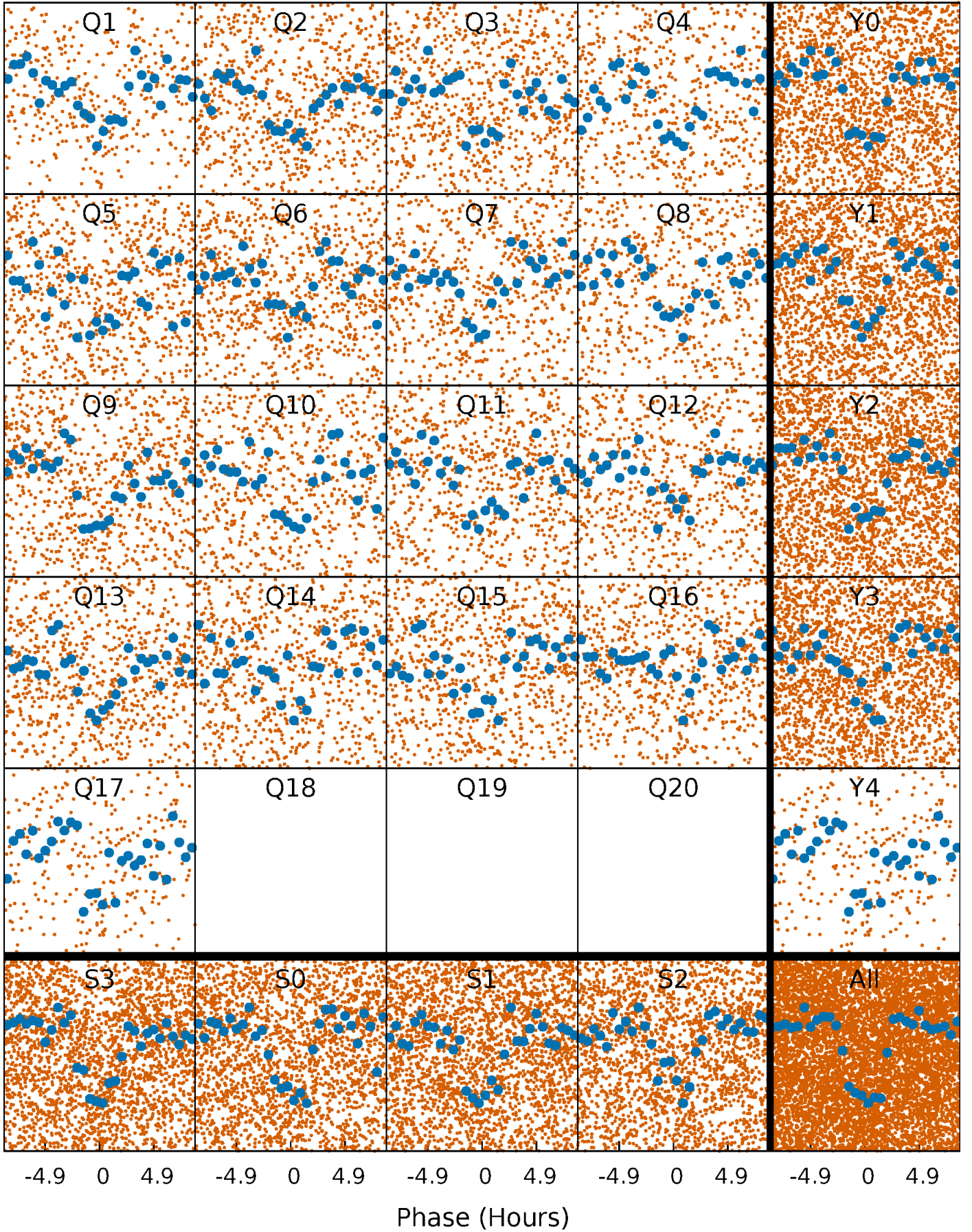


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

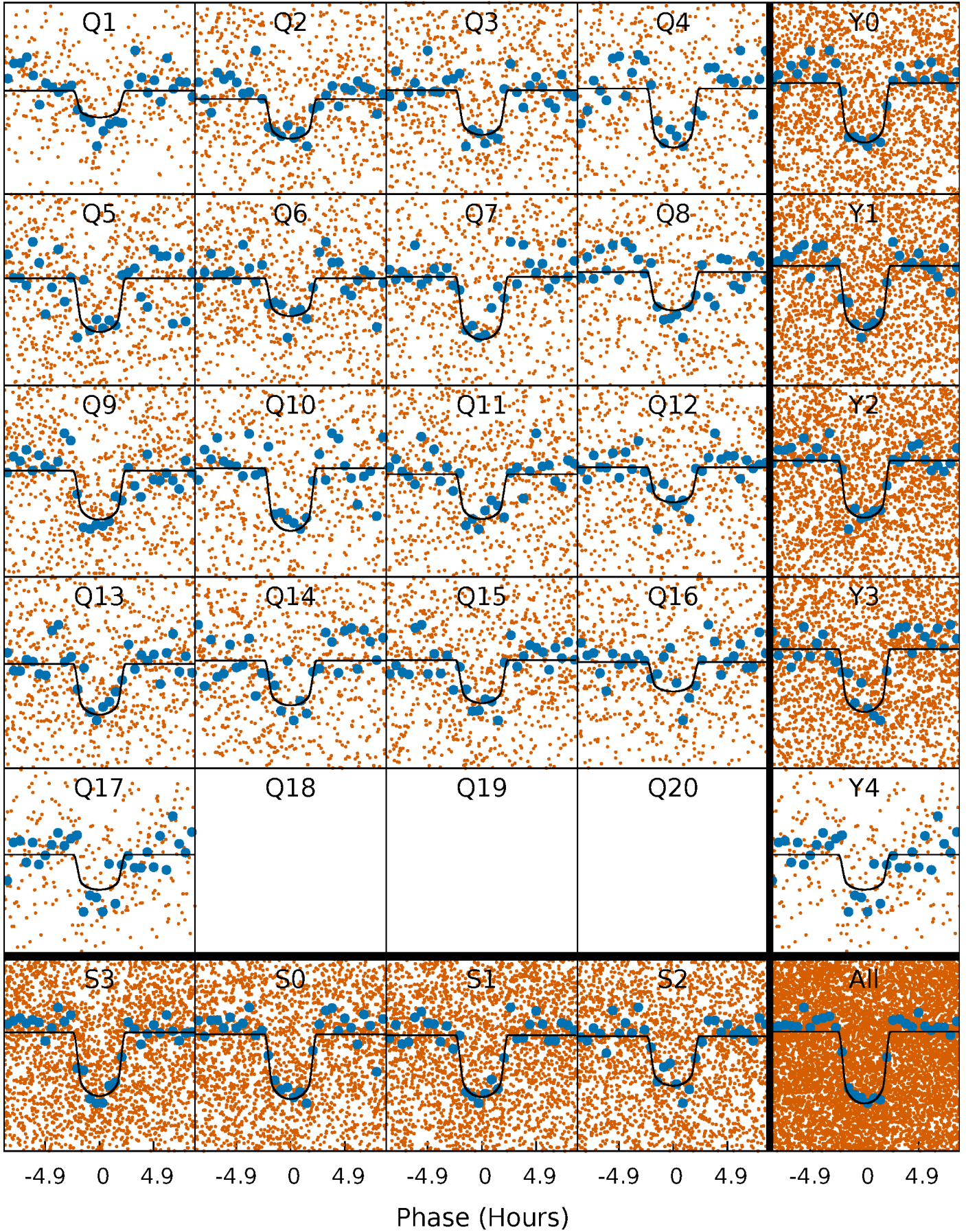
TCE 007449541-01 P= 3.007238 Days  $T_0=131.906830$  (BKJD)





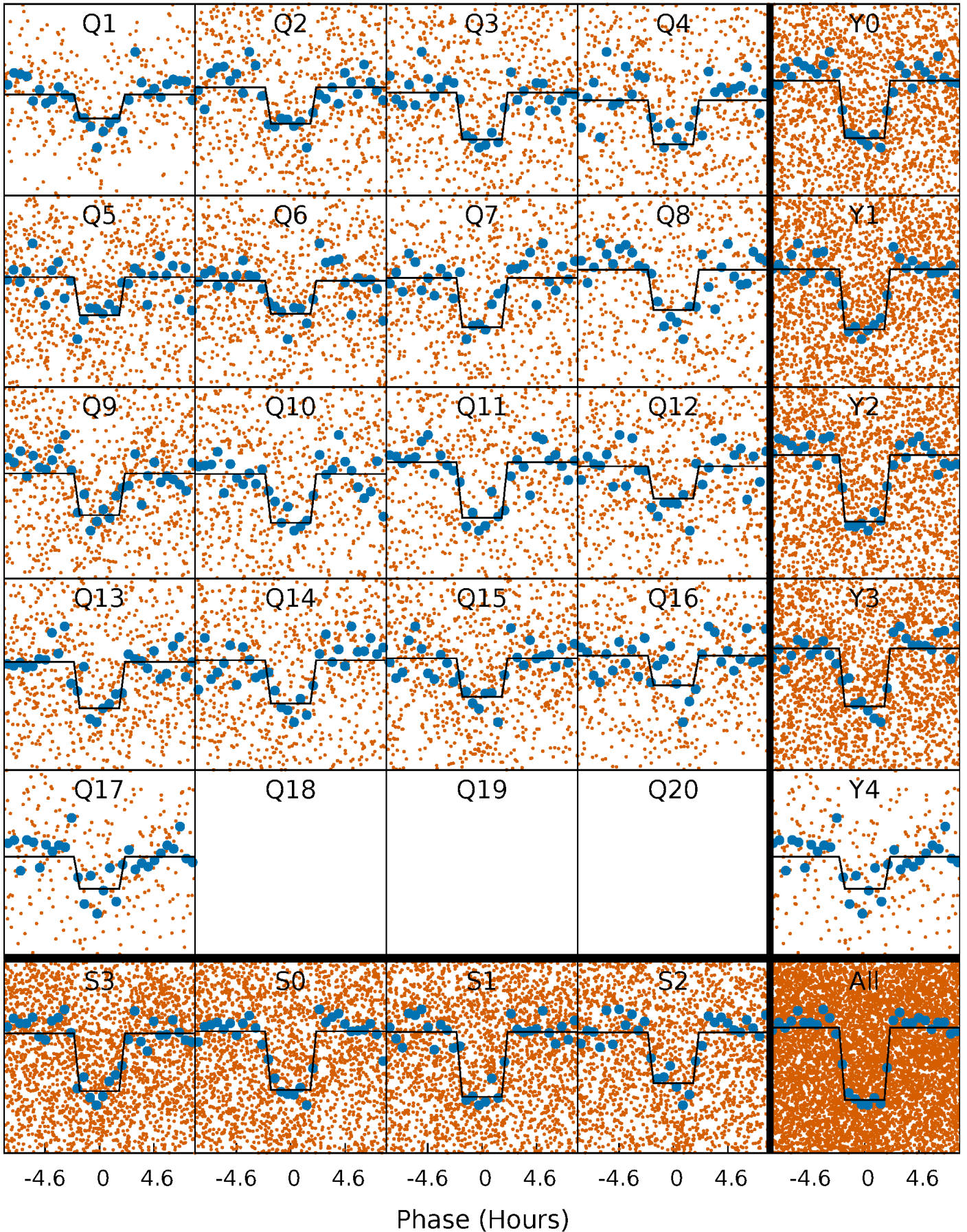
# DV Quarter-Phased Transit Curves

TCE 007449541-01 P= 3.007238 Days  $T_0=131.906830$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

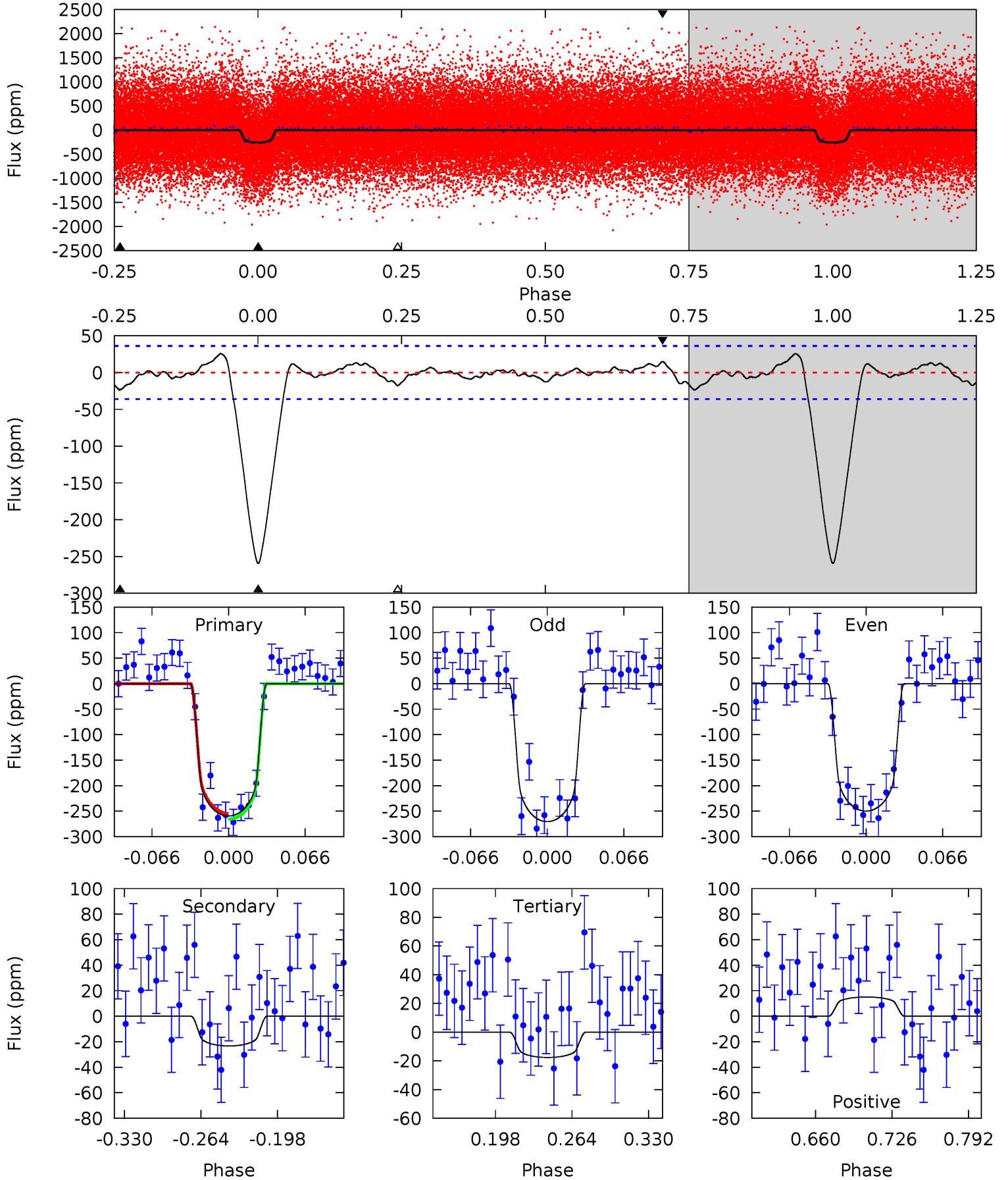
TCE 007449541-01 P= 3.007239 Days  $T_0=131.907984$  (BKJD)



# DV Model-Shift Uniqueness Test

007449541-01, P = 3.007238 Days, E = 128.899592 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
33.4	3.00	2.27	1.94	4.65	1.84	0.94	31.1	31.4	0.73	1.06	1.33	0.99	0.09	0.71

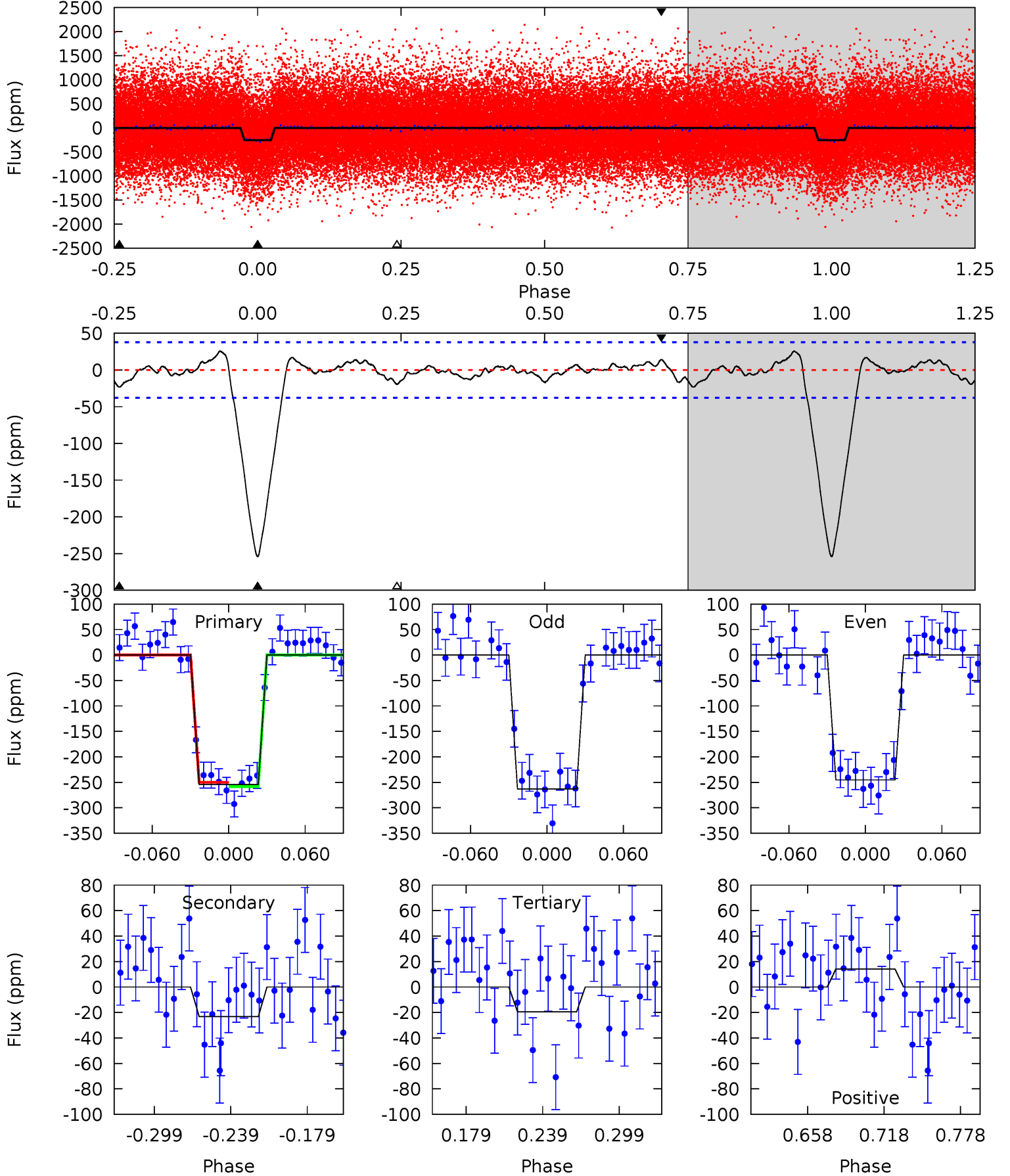




# Alt Model-Shift Uniqueness Test

007449541-01, P = 3.007239 Days, E = 128.900745 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
31.4	2.88	2.41	1.75	4.67	1.88	0.99	29.0	29.6	0.47	1.13	1.10	0.97	0.09	0.53





### Stellar Parameters For KIC 007449541

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5667^{+169}_{-152}$	$4.587^{+0.038}_{-0.142}$	$-0.360^{+0.300}_{-0.300}$	$0.781^{+0.169}_{-0.061}$	$0.873^{+0.088}_{-0.107}$	$2.576^{+0.479}_{-1.027}$
	+3%/-3%	+1%/-3%	+83%/-83%	+22%/-8%	+10%/-12%	+19%/-40%
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 007449541-01 / KOI 2063.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-23 \pm 8$	$1.52^{+0.30}_{-0.32}$	$1597^{+79}_{-59}$	$3474^{+316}_{-289}$	$8.224^{+5.738}_{-3.526}$
Alt.	$-23 \pm 8$	$1.40^{+0.30}_{-0.28}$	$1601^{+85}_{-68}$	$3556^{+345}_{-307}$	$9.473^{+6.840}_{-4.193}$

$T_{\text{max}}$  = 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  $A_{\text{obs}} \gg 1.0$

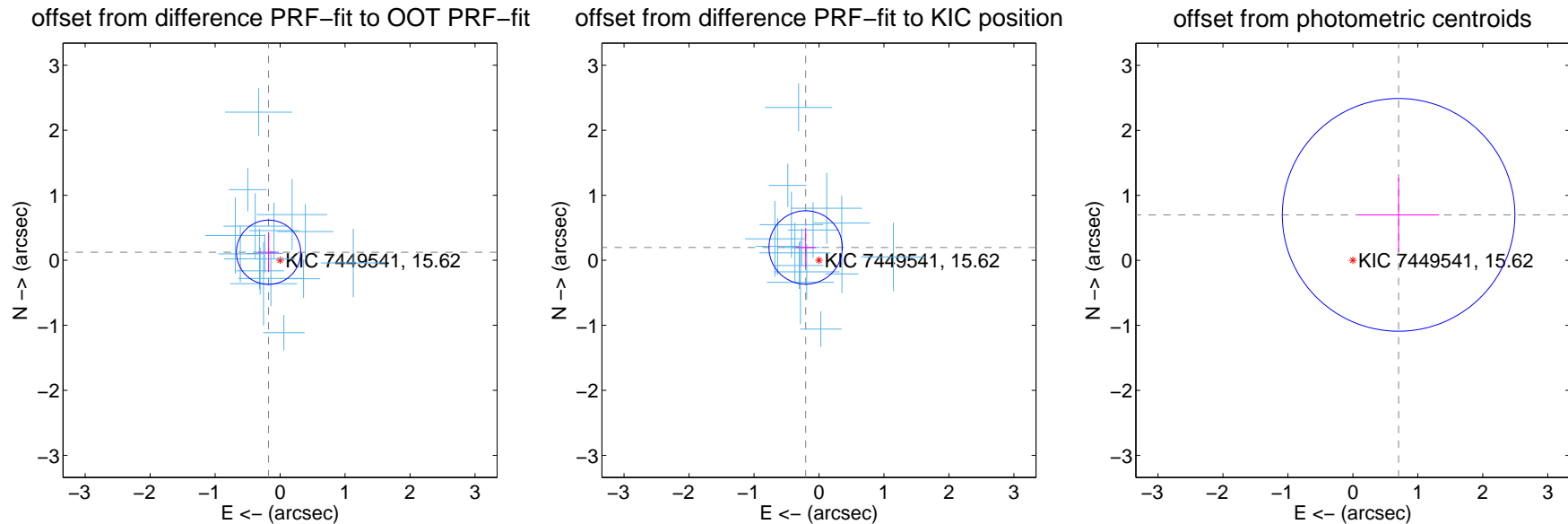
## DV Centroid Data

Supplemental centroid analysis for 007449541-01. Kepler magnitude: 15.62. Transit SNR 25.82

There are 16 quarters with good PRF difference image offsets

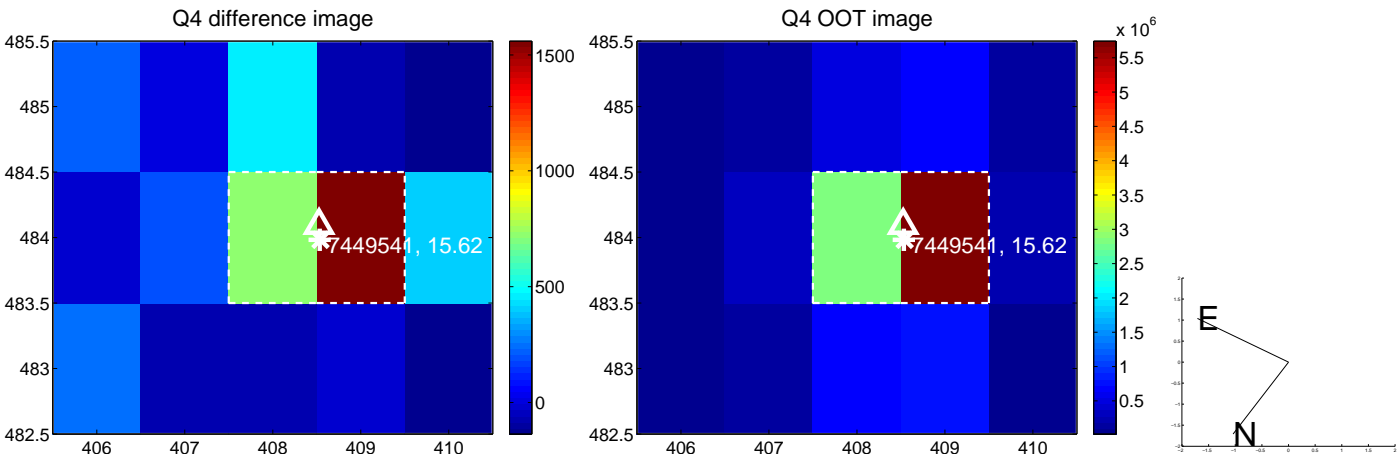
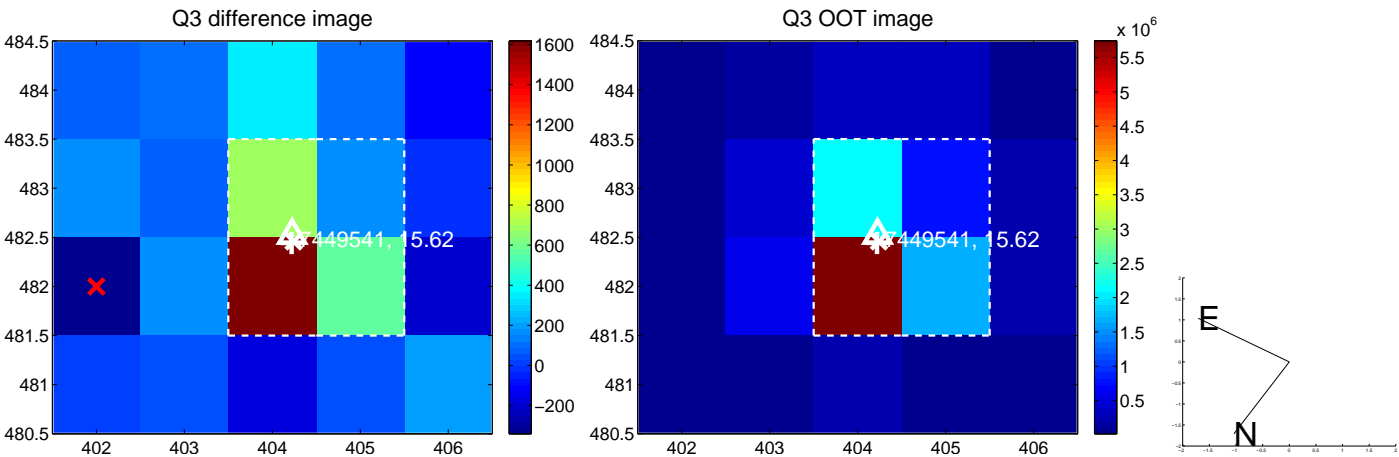
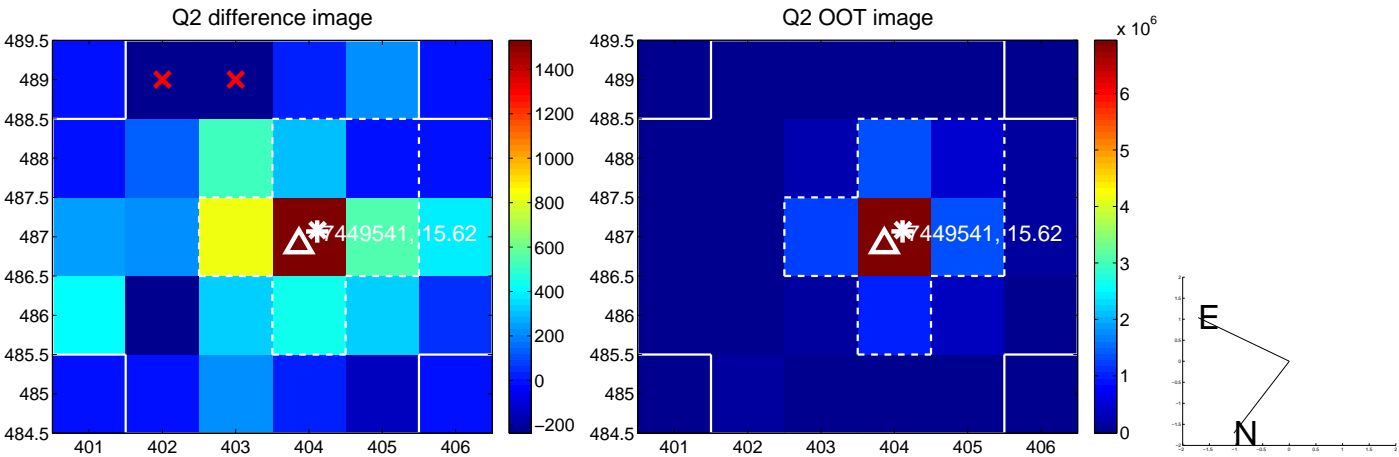
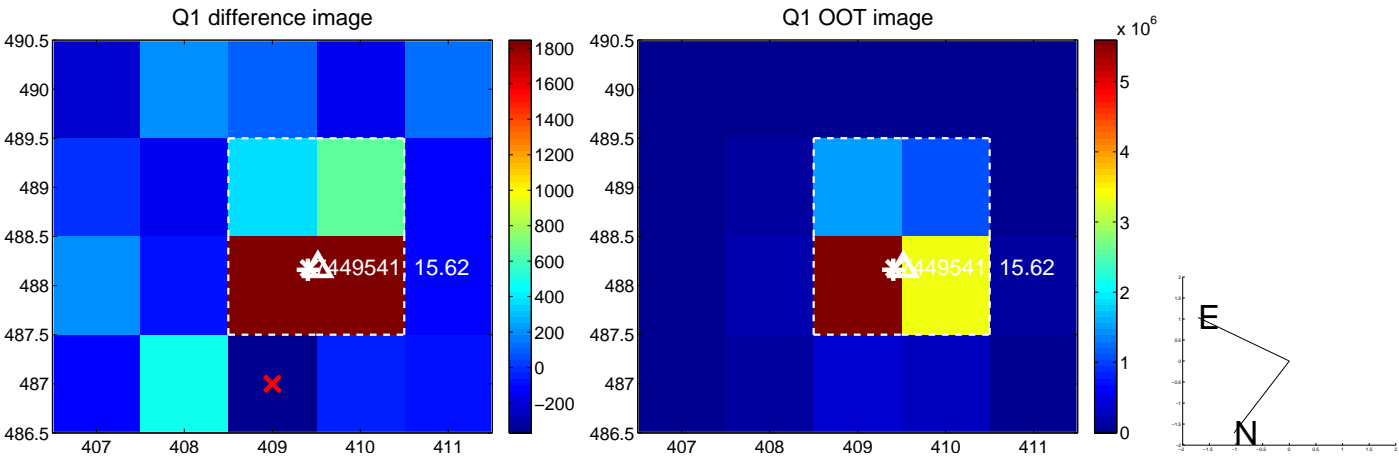
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.216 \pm 0.165$	1.31	$0.178 \pm 0.158$	$0.123 \pm 0.306$
PRF-fit source offset from KIC position	$0.285 \pm 0.188$	1.51	$0.205 \pm 0.156$	$0.197 \pm 0.303$
photometric centroid source offset	$0.99 \pm 0.60$	1.66	$-0.70 \pm 0.62$	$0.70 \pm 0.57$

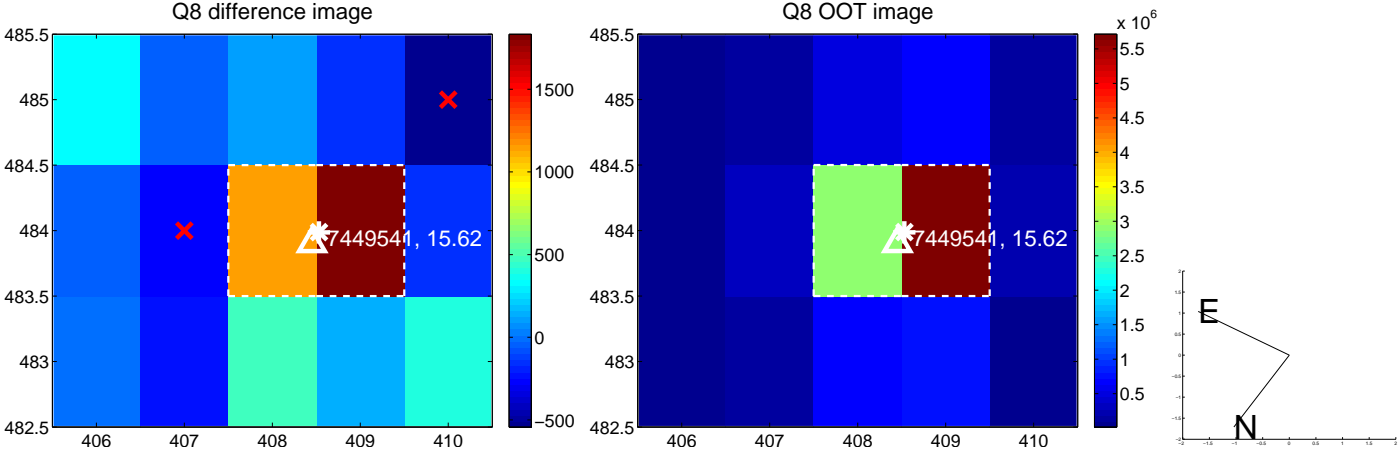
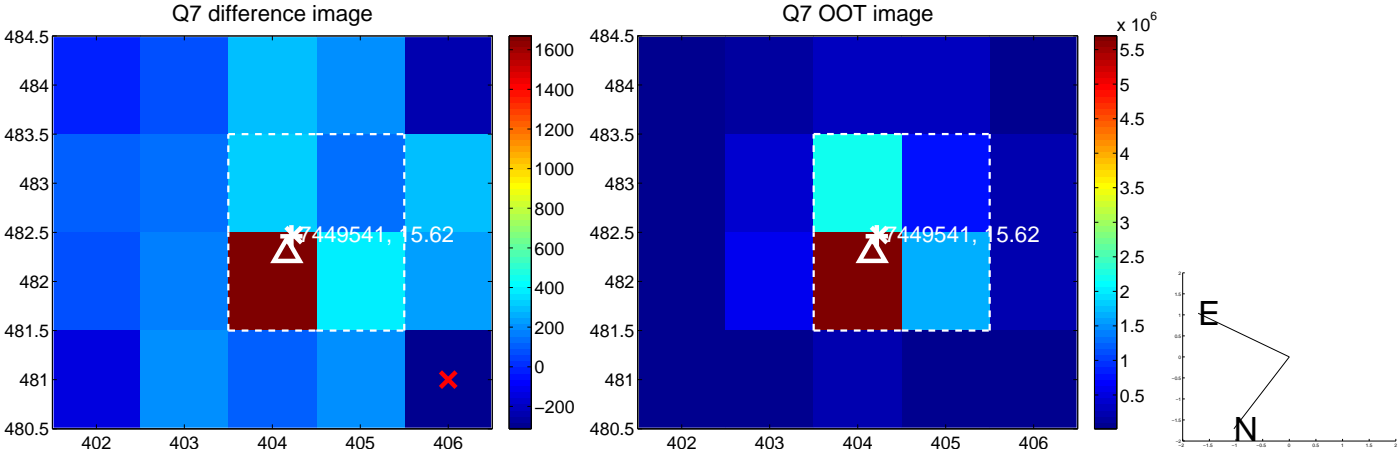
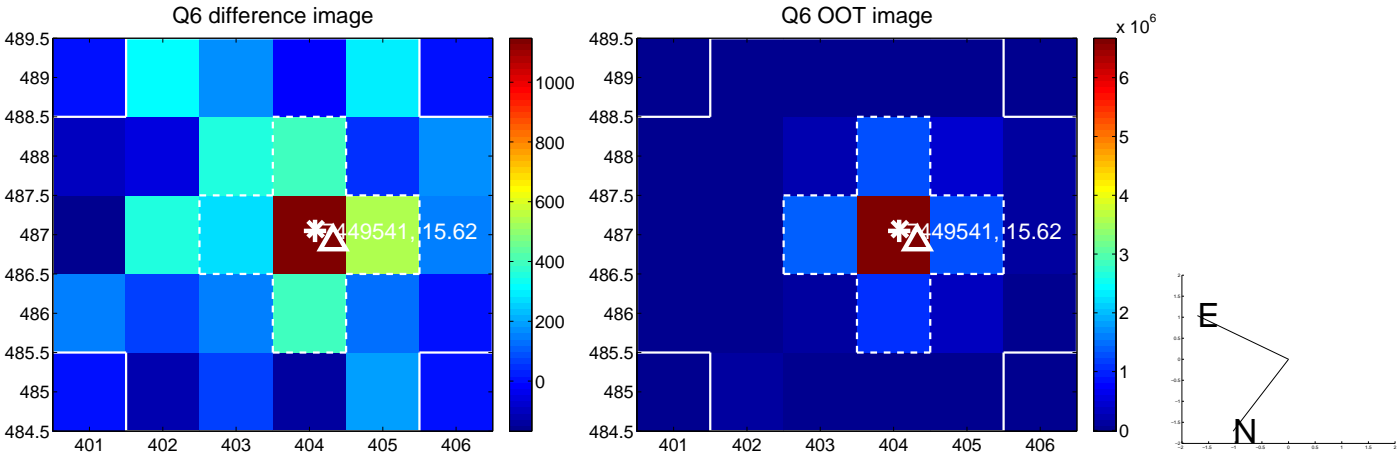
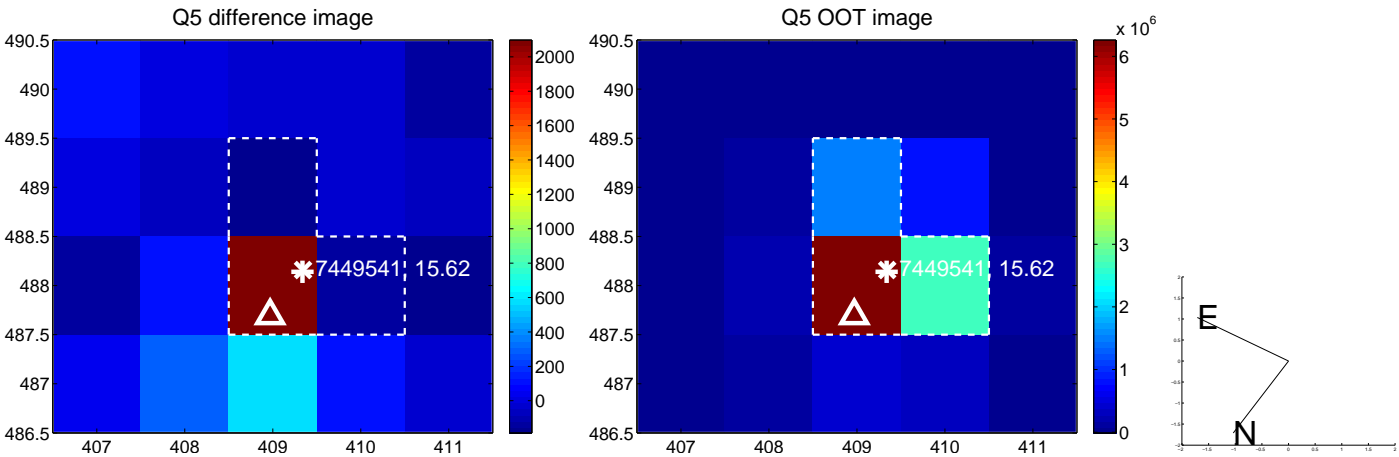


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

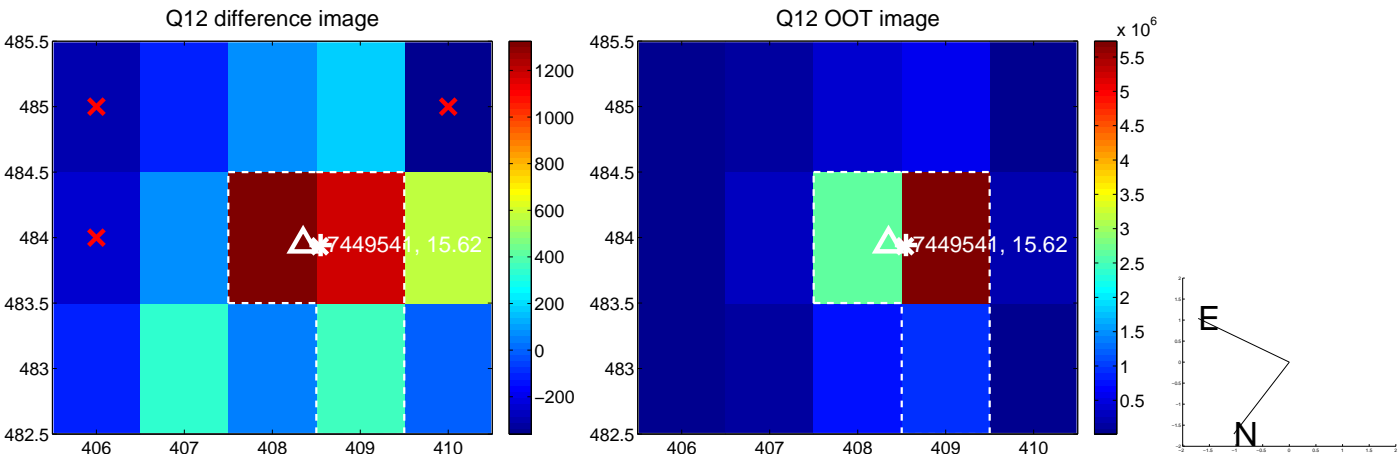
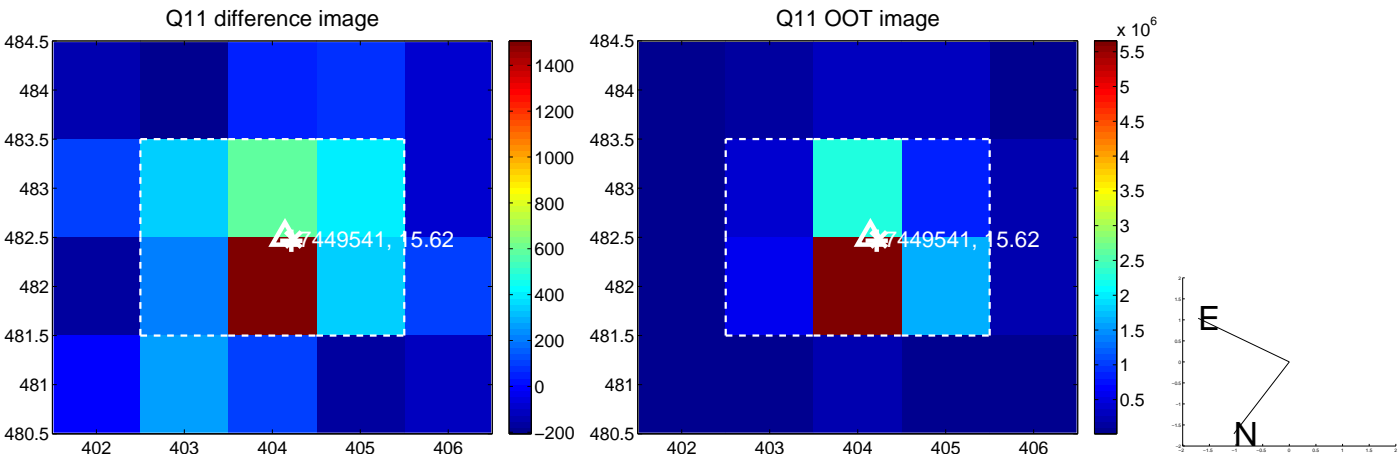
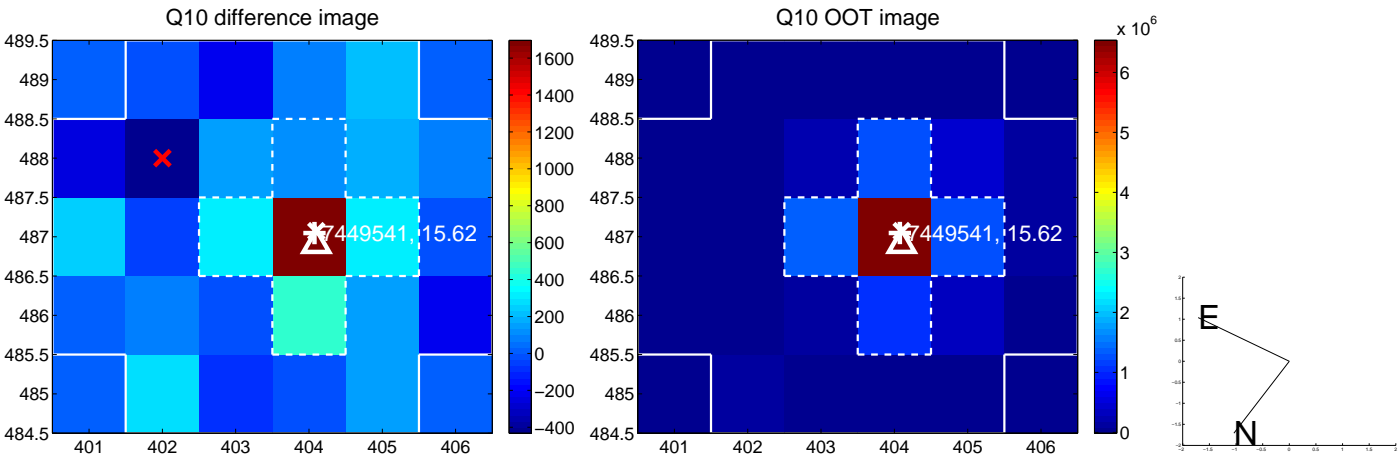
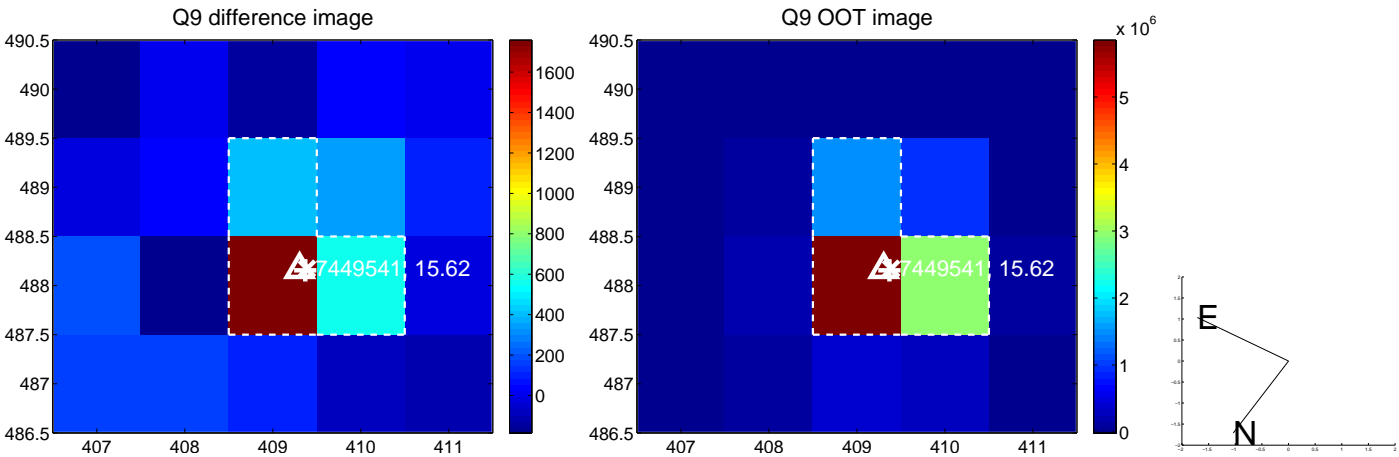


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

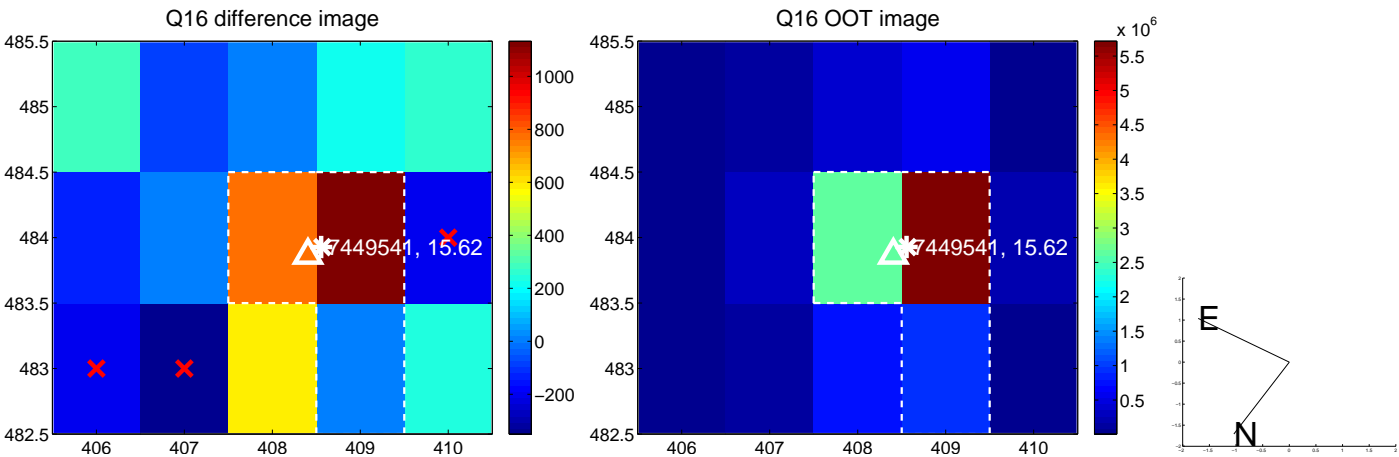
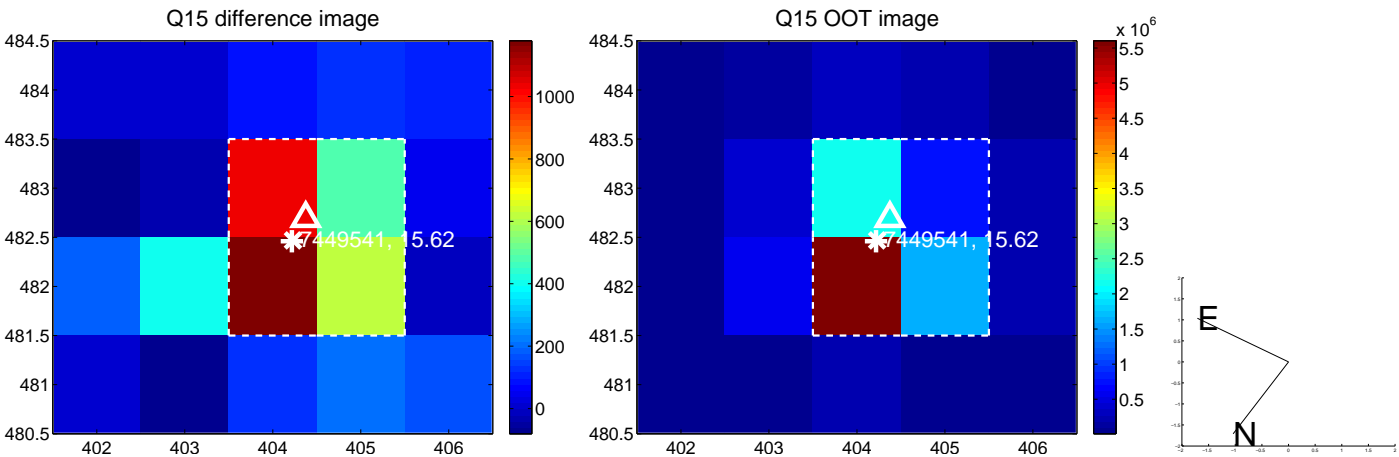
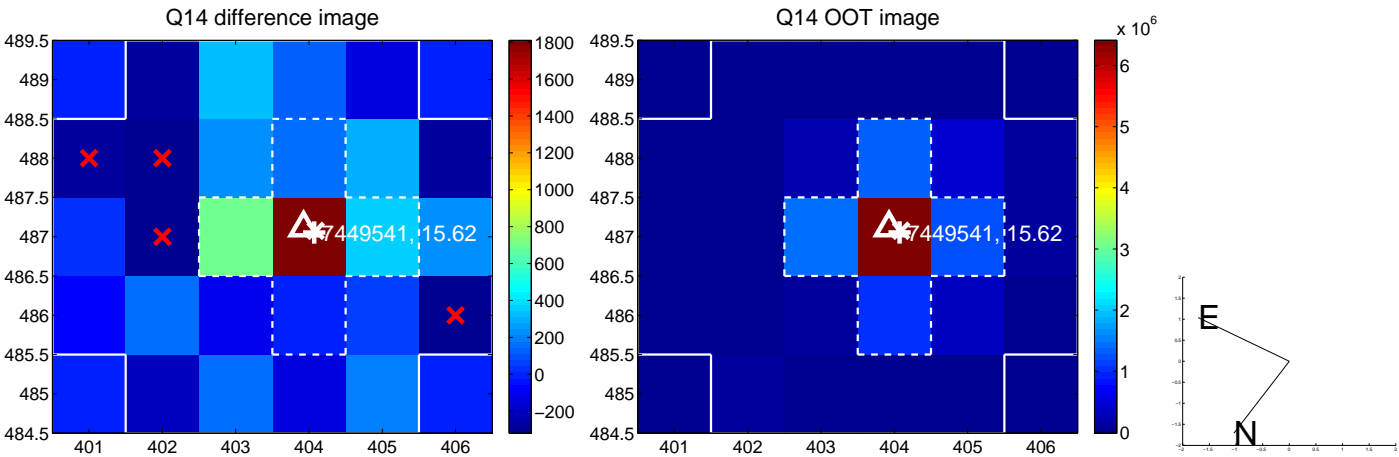
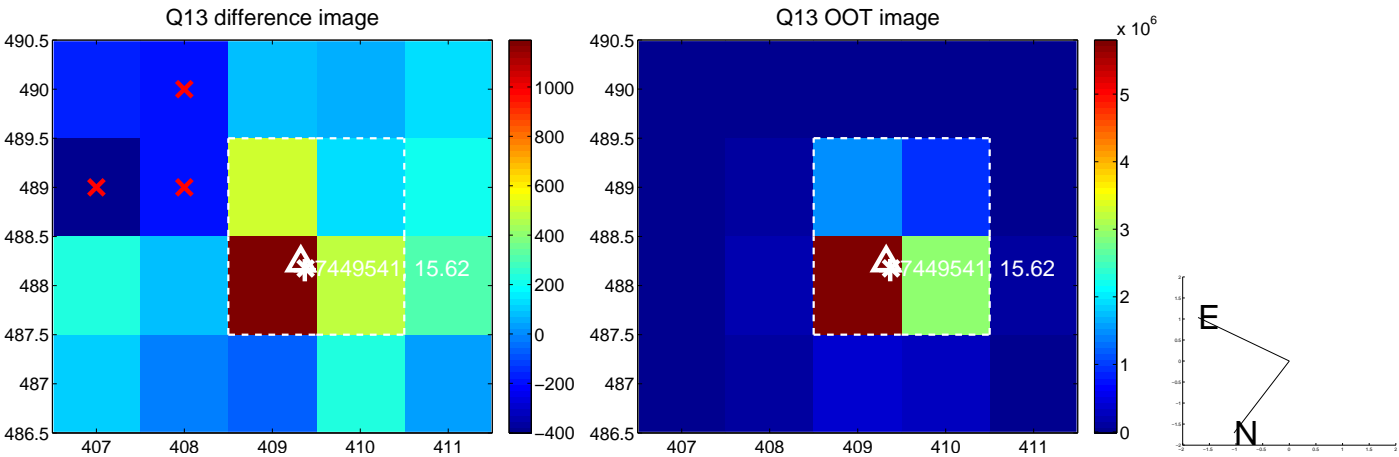




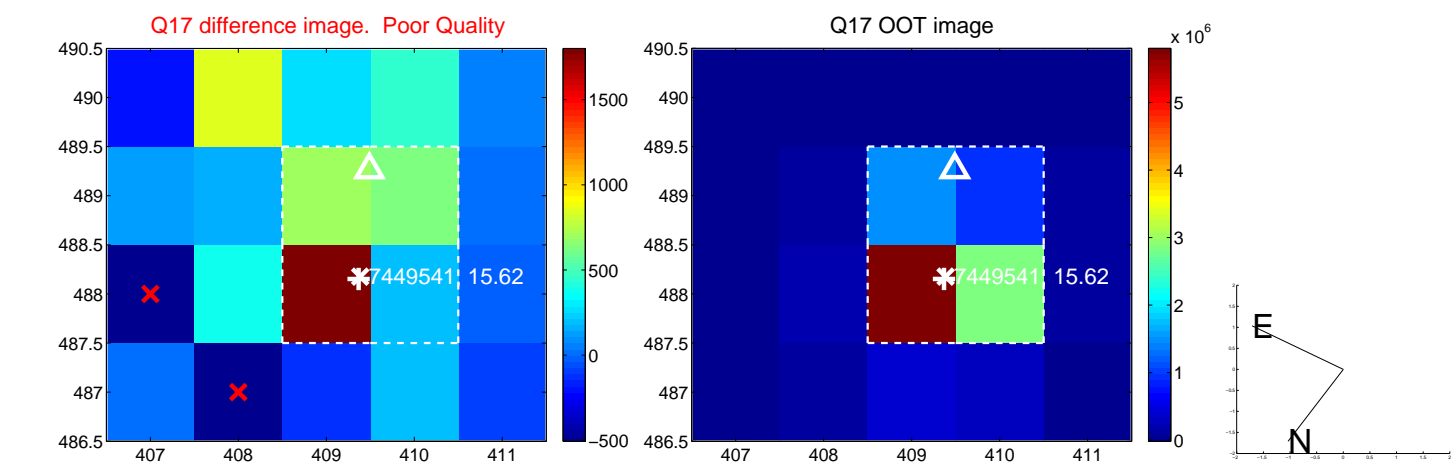
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



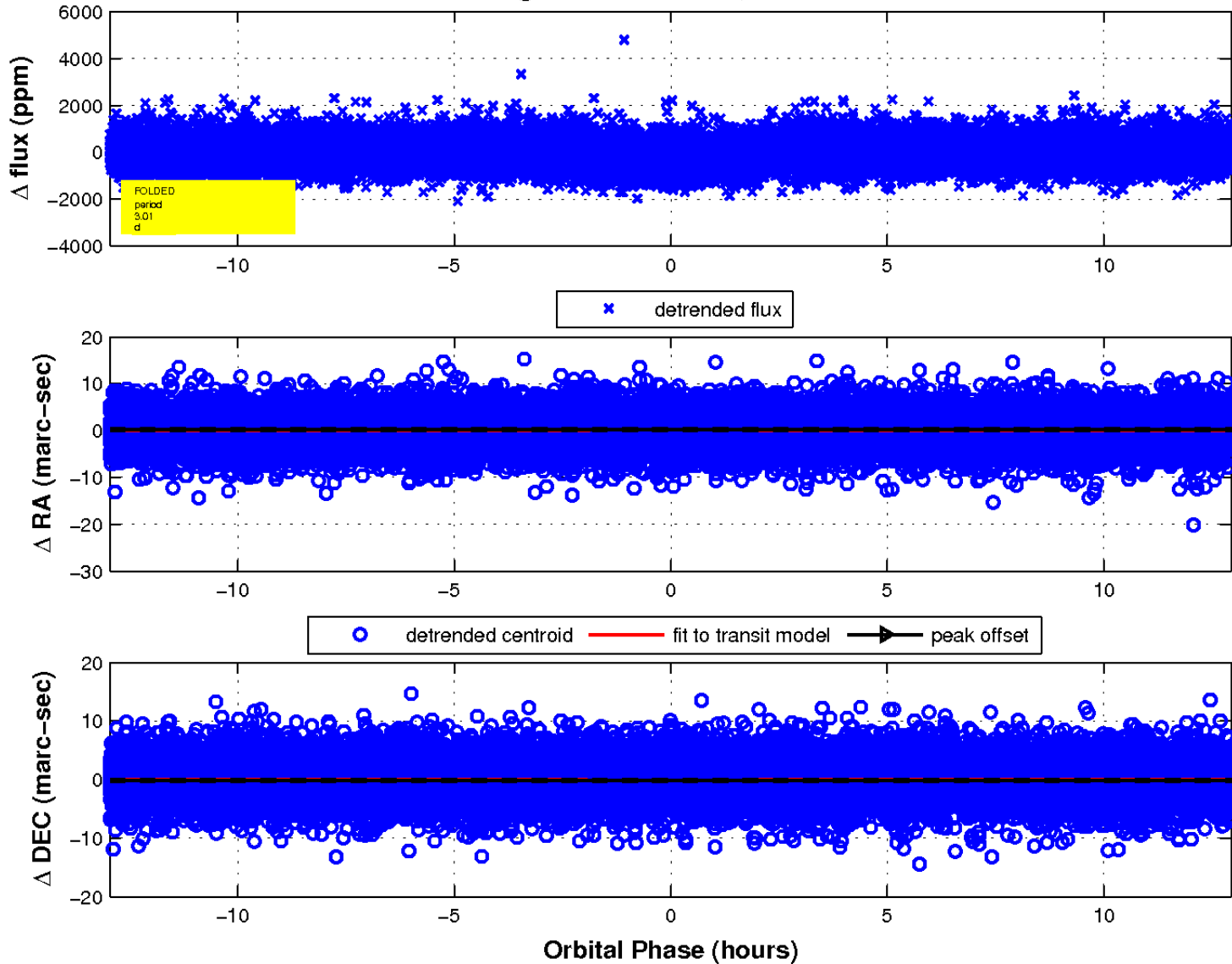
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



# UKIRT Image

Declination

