

# KIC 005008501

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005008501-01	OBS	1666.01	0.968034	131.751248	183.3	0.835	17.4	30.3	1.19	6469	1.93	5217.74

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005008501-01	OBS	FP	0.04	0	0	1	0	CENT_UNRESOLVED_OFFSET

**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.

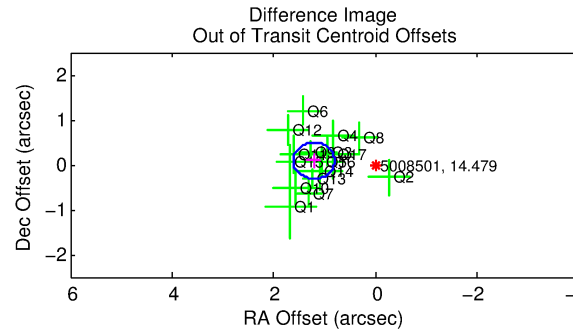
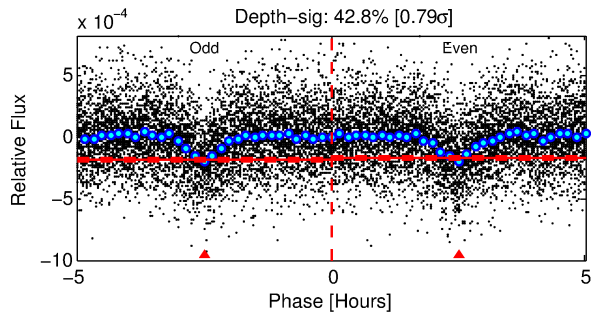
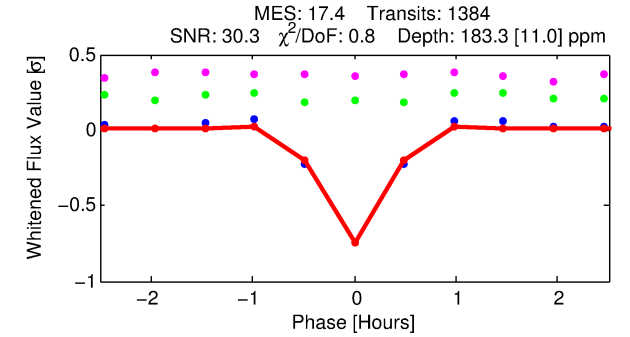
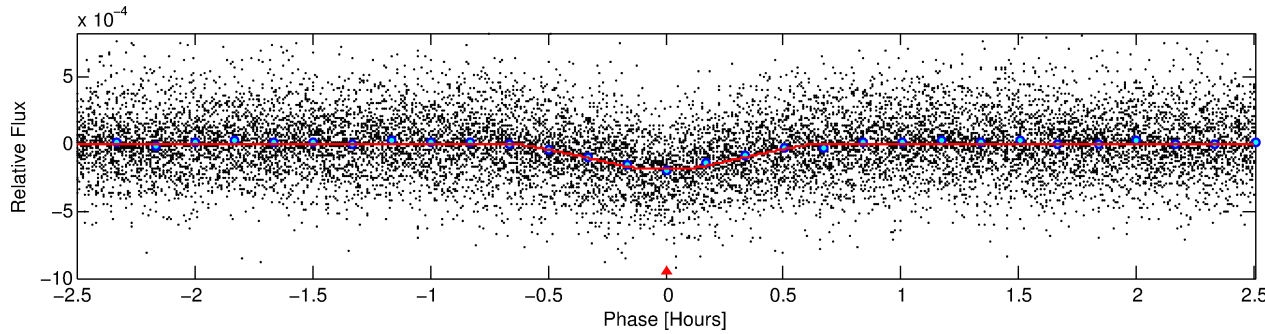
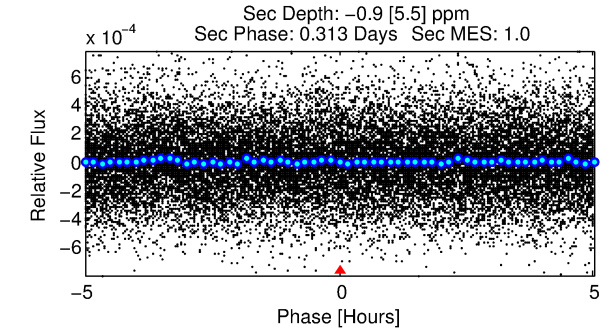
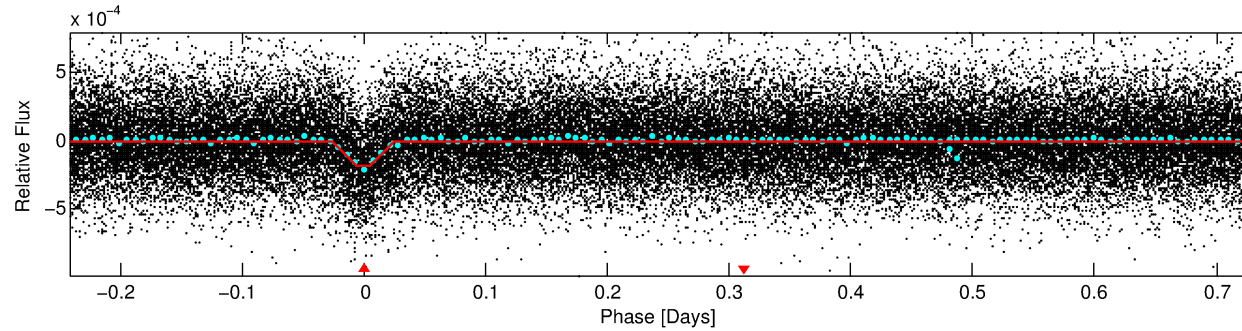
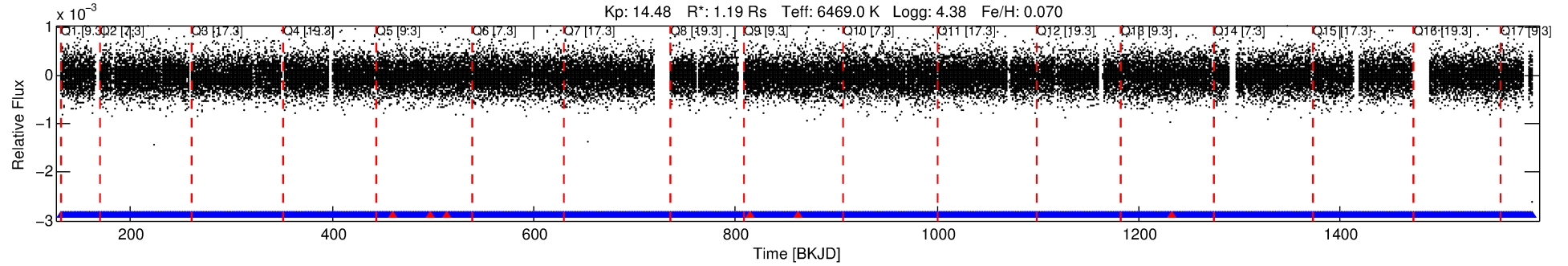
## Ephemeris Match Information For 005008501-01

No Significant Match Found

# DV One-Page Summary

KIC: 5008501 Candidate: 1 of 1 Period: 0.968 d  
KOI: K01666.01 Corr: 0.900

Kp: 14.48 R\*: 1.19 Rs Teff: 6469.0 K Logg: 4.38 Fe/H: 0.070



## DV Fit Results:

Period = 0.96803 [0.00000] d  
Epoch = 131.7512 [0.0005] BKJD  
Rp/R\* = 0.0149 [0.0039]  
a/R\* = 4.08 [5.54]  
b = 0.91 [0.28]  
Seff = 5217.74 [1860.28]  
Teff = 2167 [193] K  
Rp = 1.93 [0.75] Re  
a = 0.0207 [0.0049] AU  
Ag = N/A  
Teffp = N/A

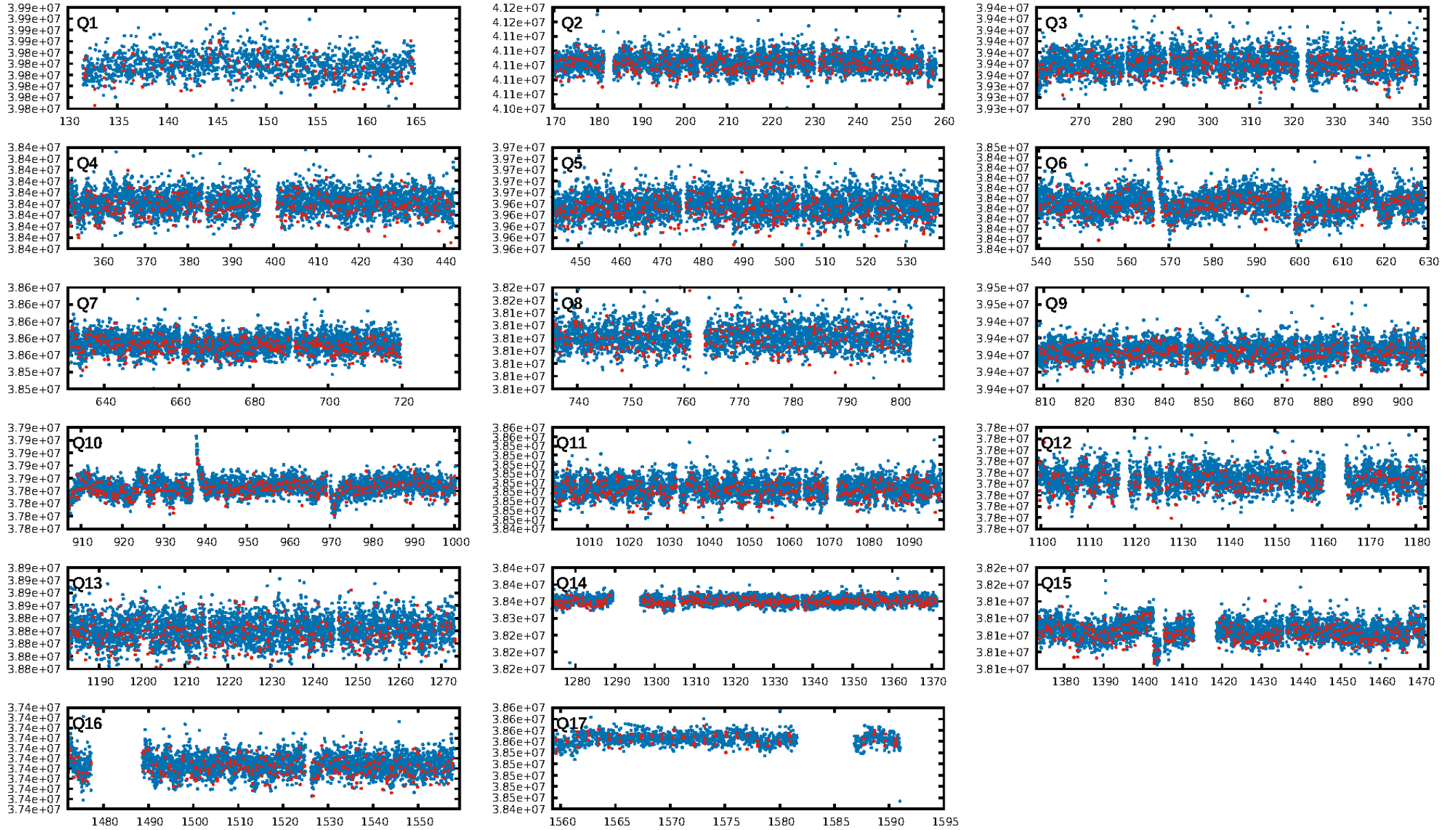
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.01e-66  
RollingBand-fgt: 1.00 [1316/1322]  
GhostDiagnostic-chr: 77.89  
Centroid-sig: 0.0%  
Centroid-so: 1.149 arcsec [2.81σ]  
OotOffset-rm: 1.214 arcsec [9.05σ]  
KicOffset-rm: 1.234 arcsec [8.78σ]  
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]

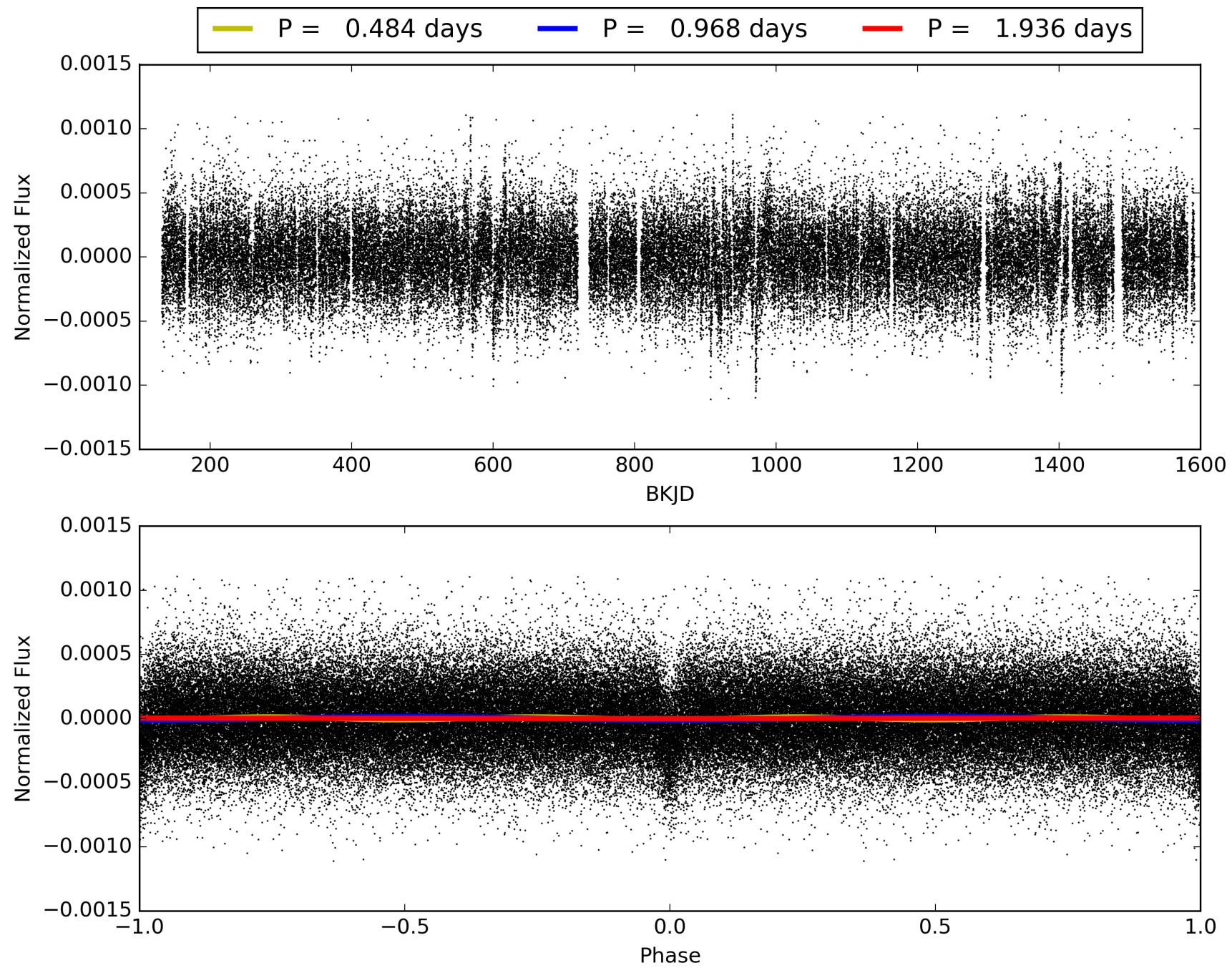
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:32:37 Z

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

# TCE 005008501-01, PDC Light Curves



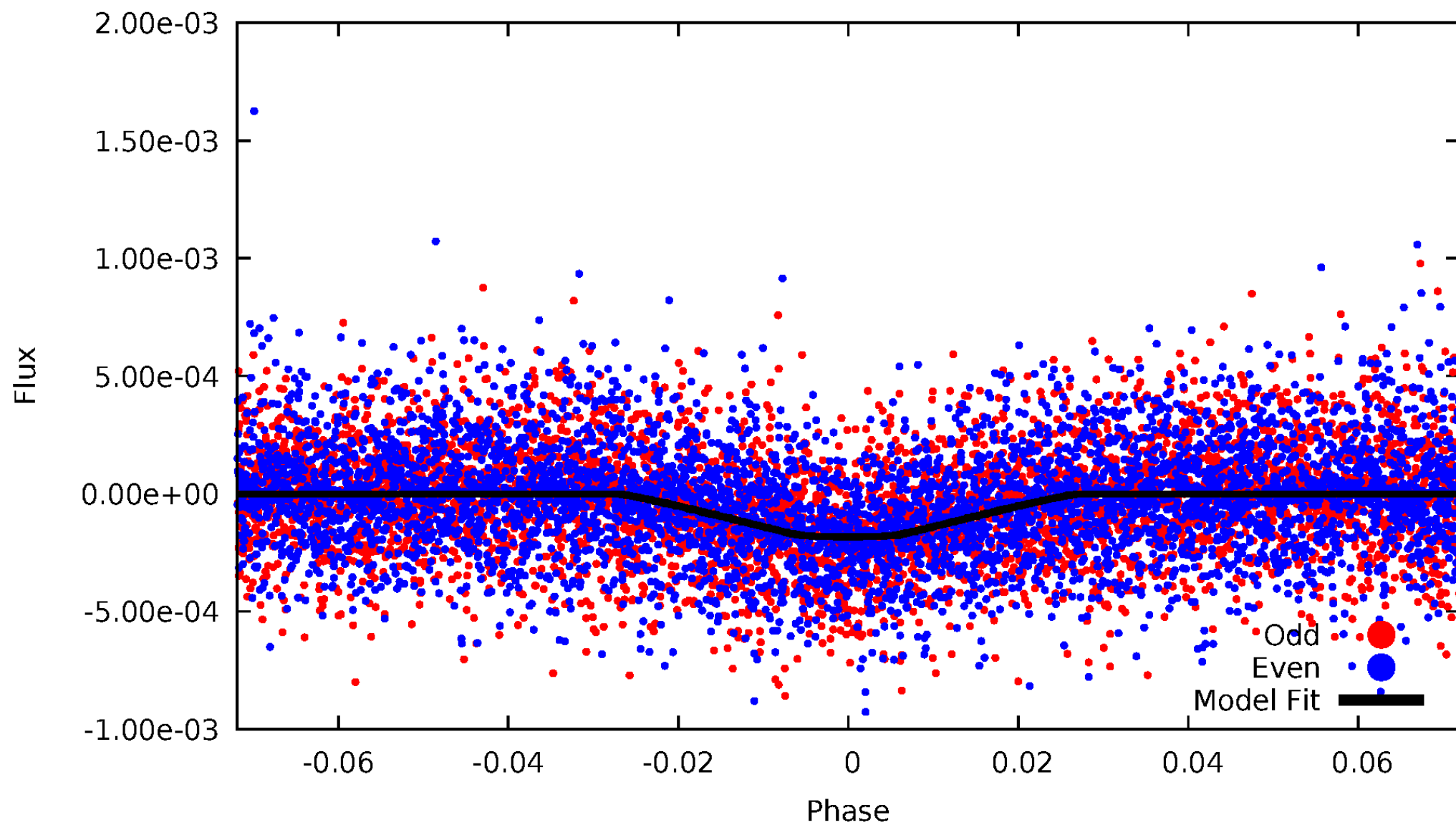
TCE 005008501-01





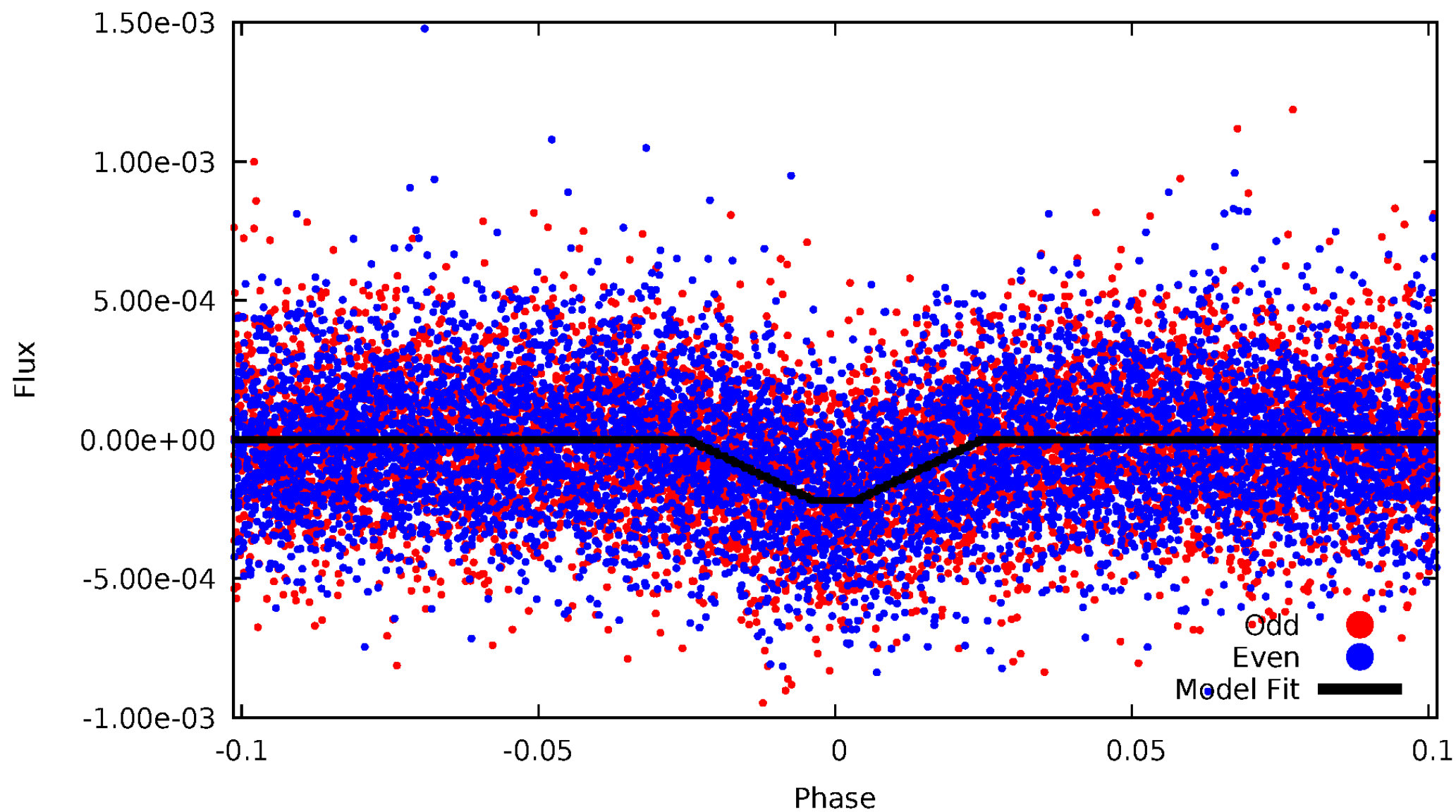
# DV Odd/Even

TCE 005008501-01



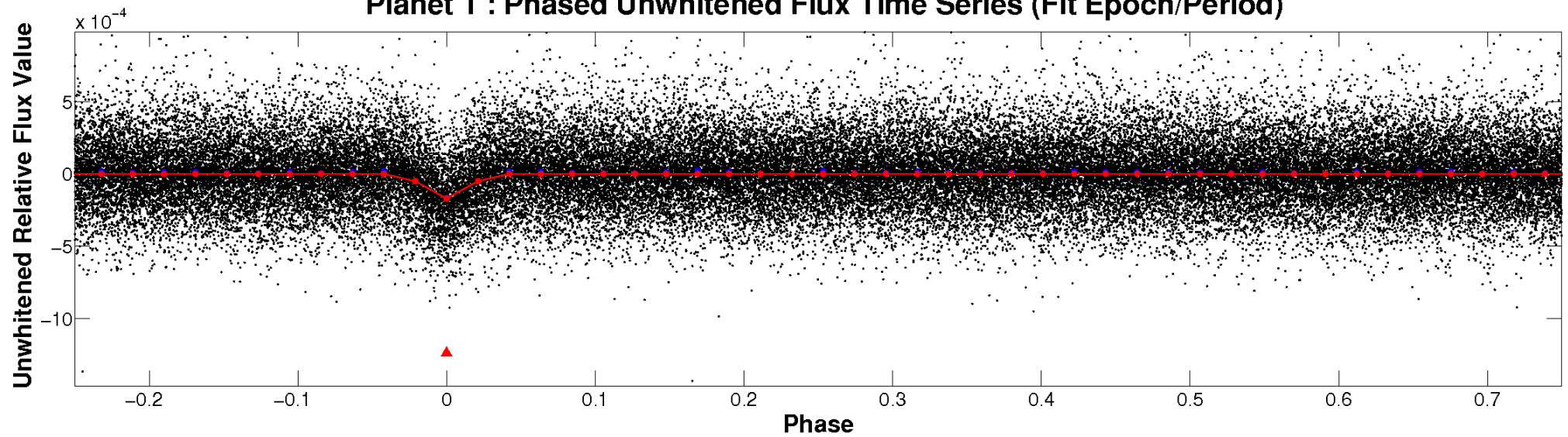
# ALT Odd/Even

TCE 005008501-01

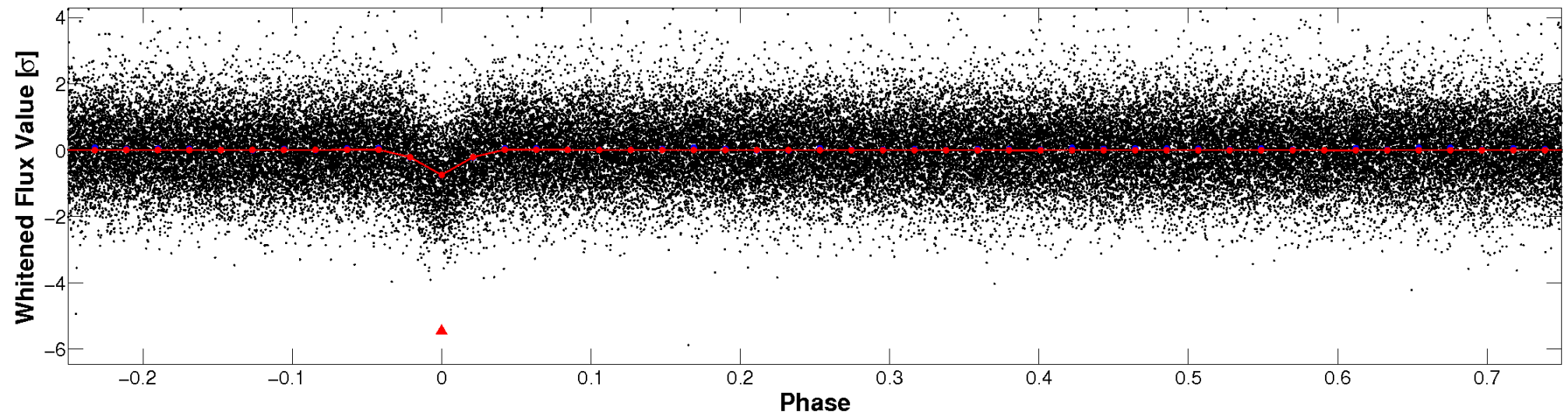


# Non-Whitened Vs. Whitened Light Curve

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

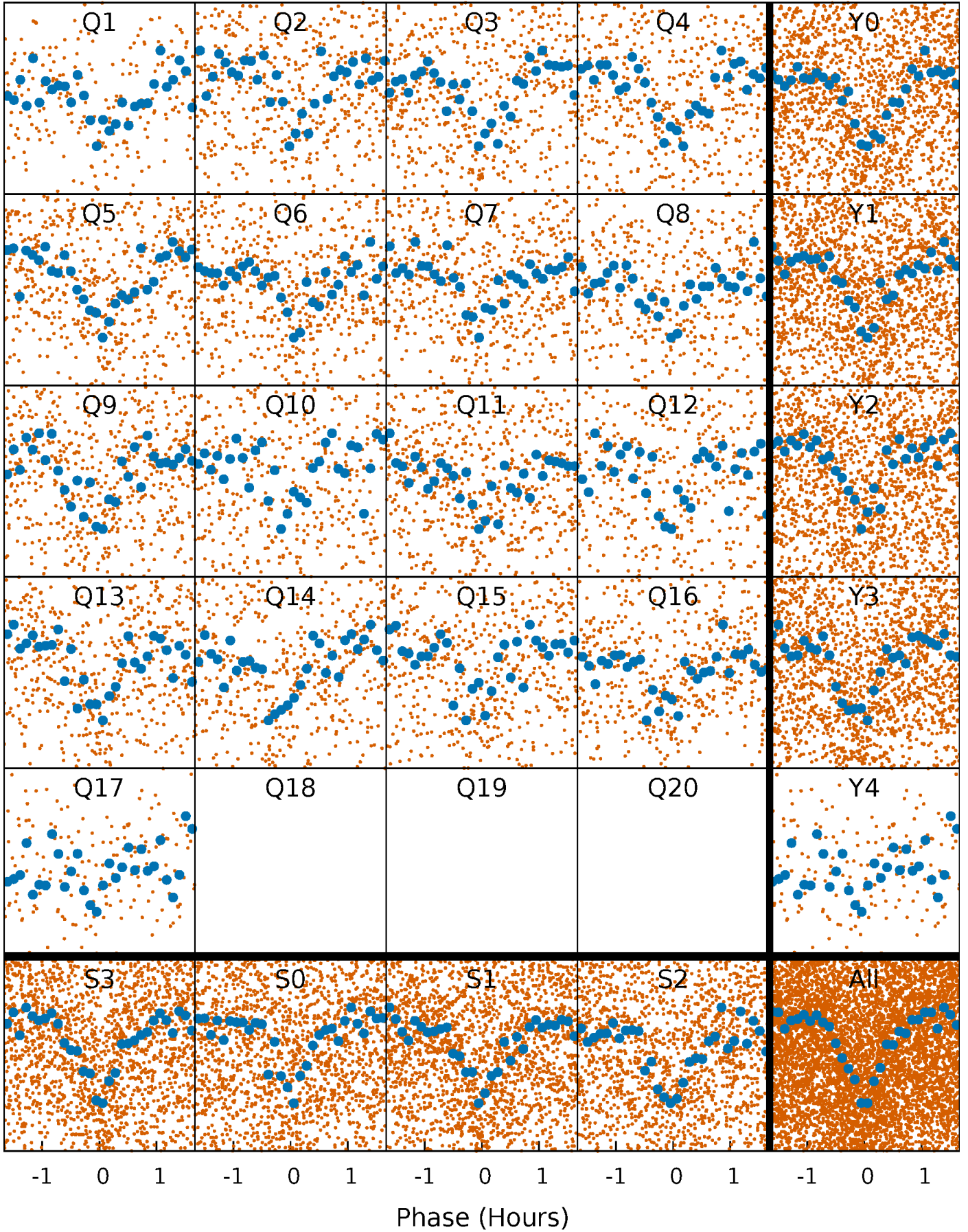


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

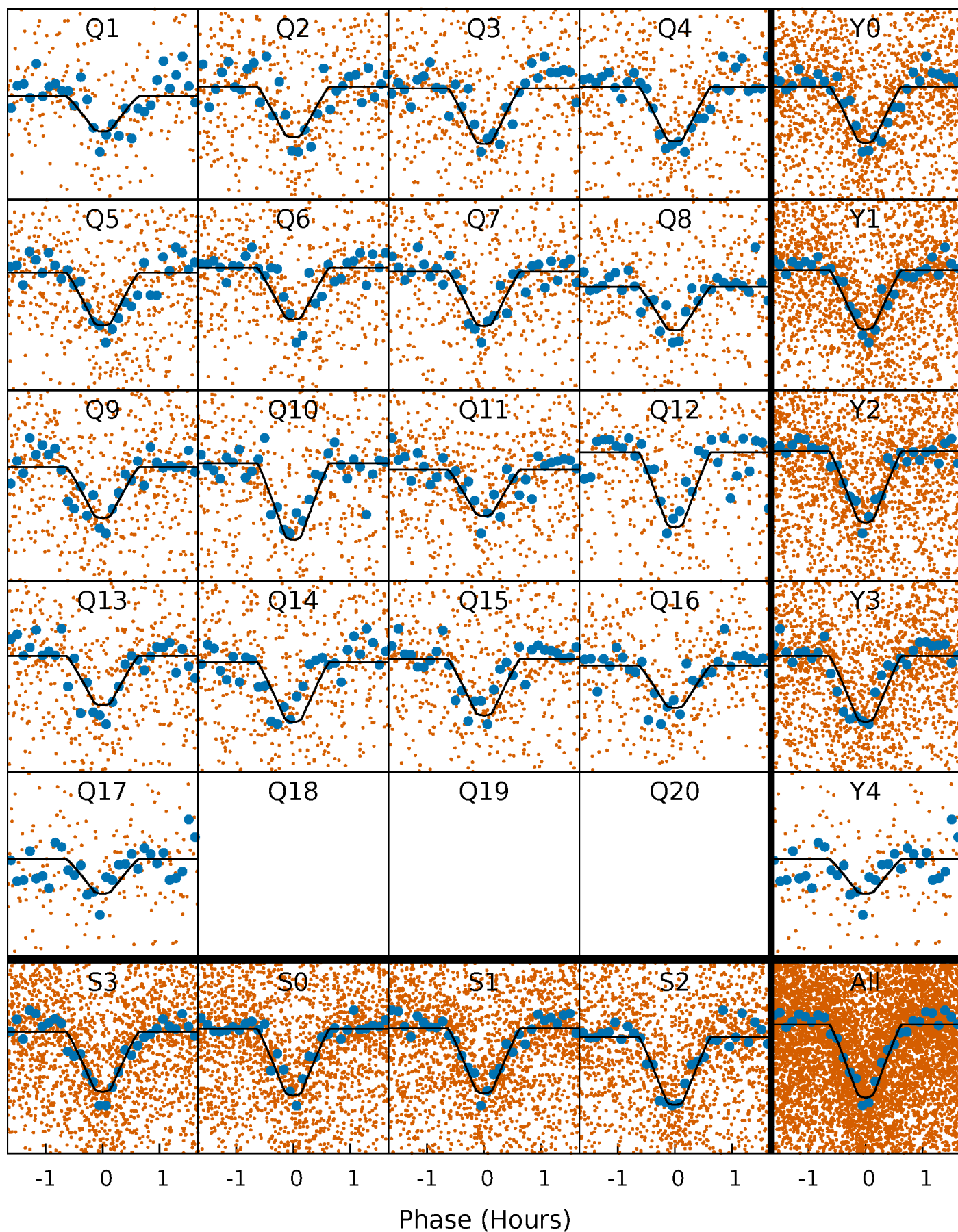
TCE 005008501-01   P= 0.968034 Days    $T_0=131.751248$  (BKJD)





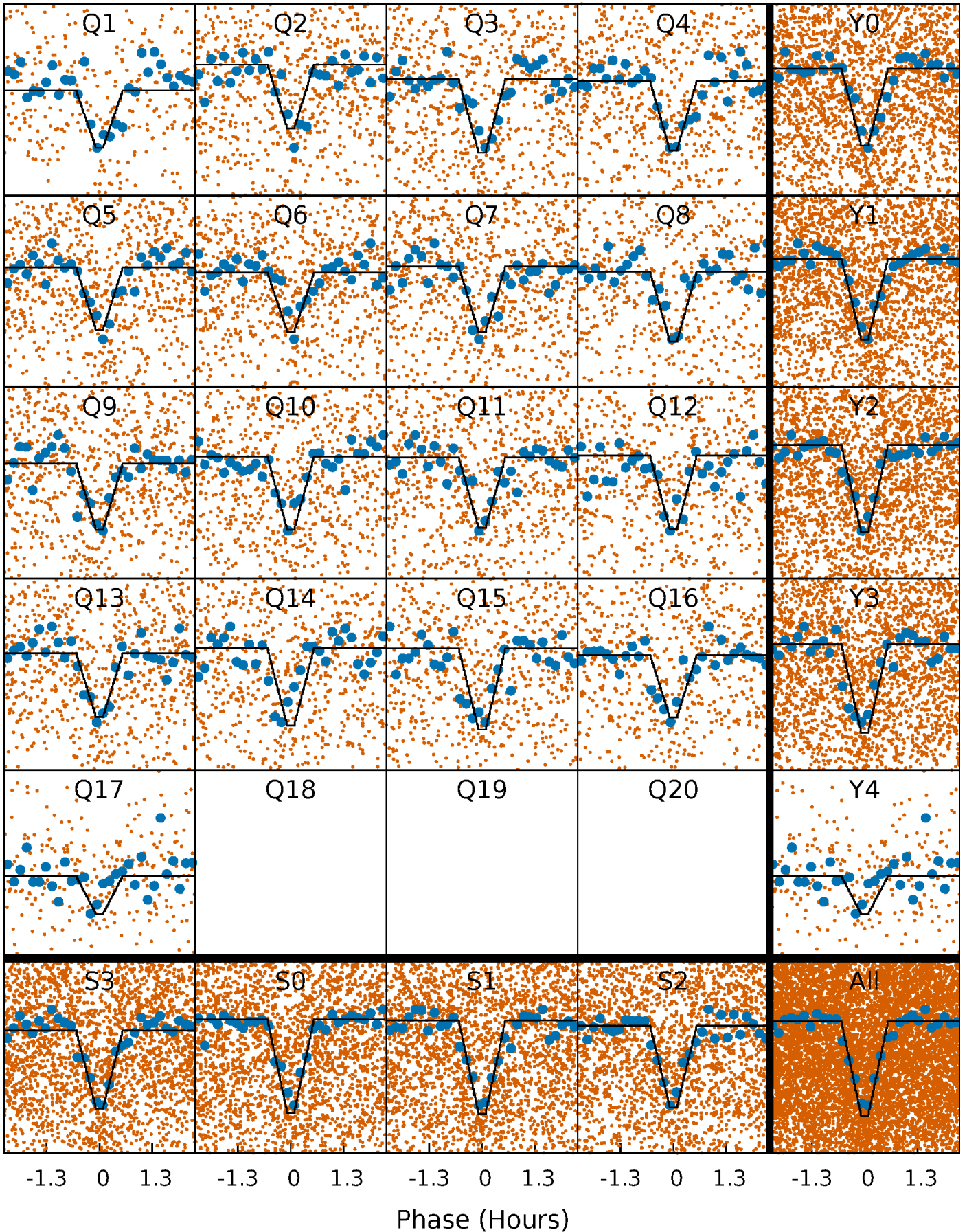
# DV Quarter-Phased Transit Curves

TCE 005008501-01   P= 0.968034 Days    $T_0=131.751248$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

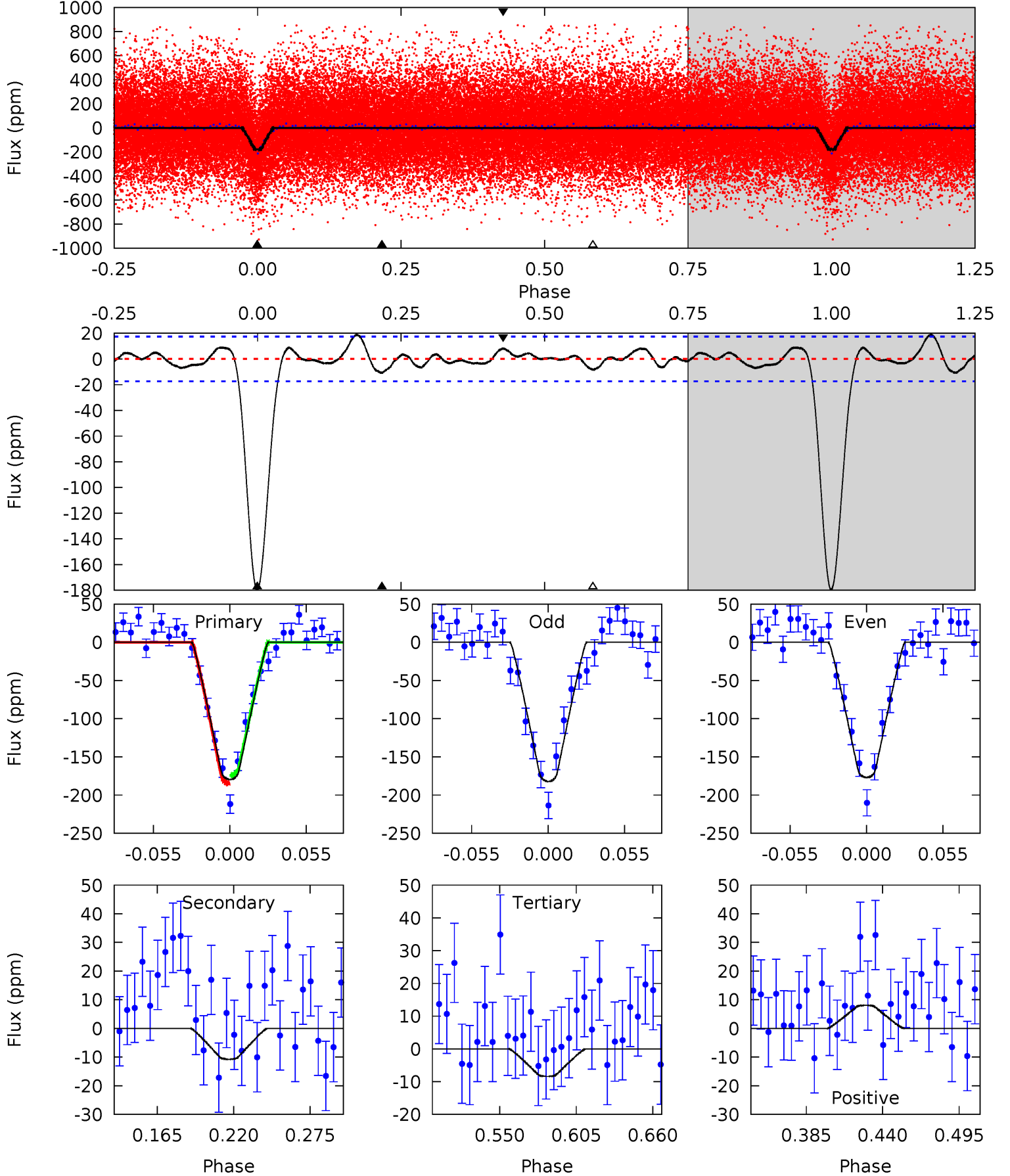
TCE 005008501-01 P= 0.968035 Days  $T_0=131.750441$  (BKJD)



# DV Model-Shift Uniqueness Test

005008501-01, P = 0.968034 Days, E = 130.783214 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
48.4	2.90	2.27	2.18	4.69	1.92	1.09	46.2	46.3	0.63	0.73	0.71	1.00	0.09	1.42

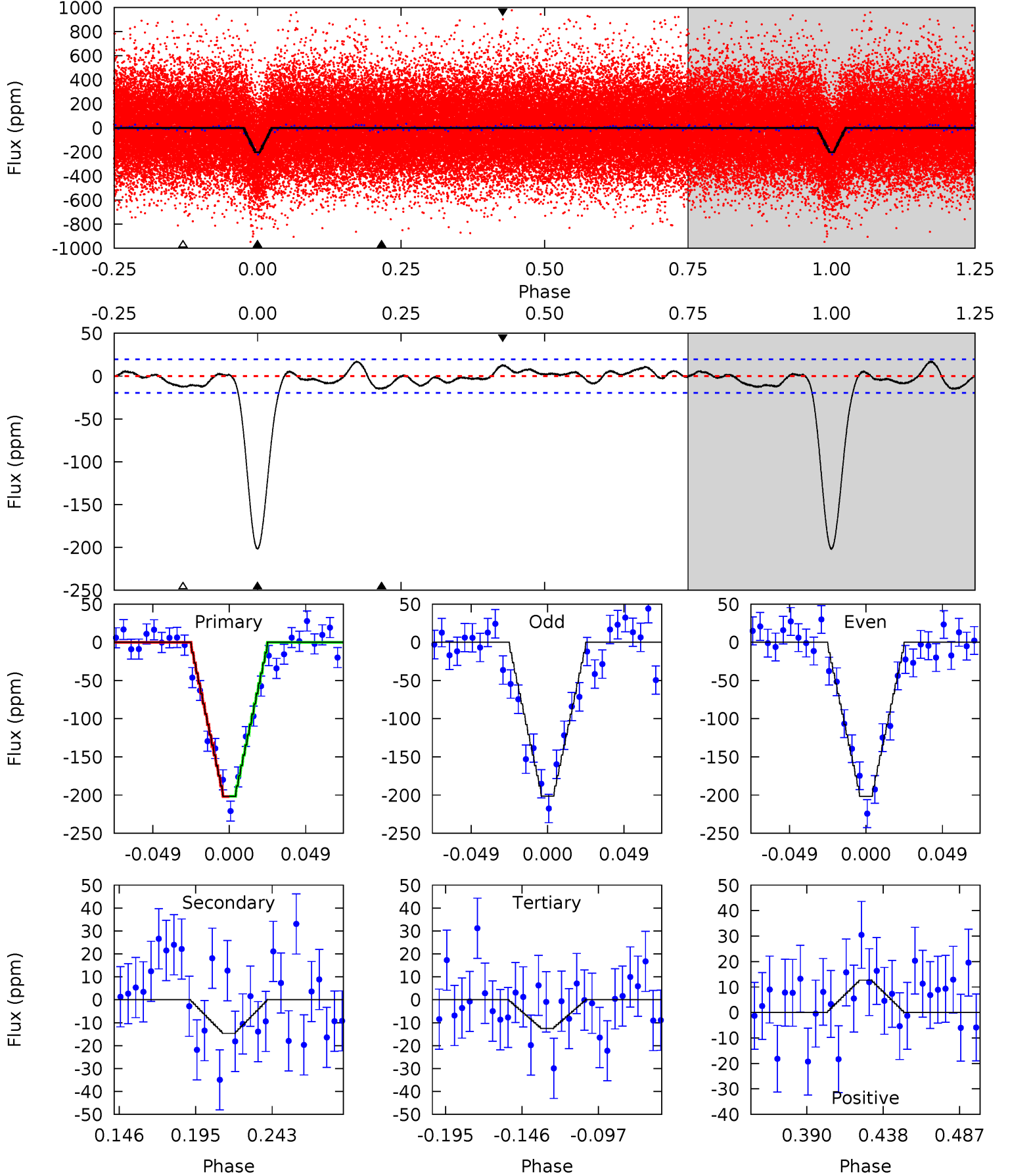




# Alt Model-Shift Uniqueness Test

005008501-01, P = 0.968035 Days, E = 130.782406 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
48.7	3.54	3.03	3.06	4.71	1.97	1.42	45.7	45.6	0.52	0.48	0.03	0.98	0.08	0.04





### Stellar Parameters For KIC 005008501

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6469^{+154}_{-193}$	$4.385^{+0.060}_{-0.180}$	$0.070^{+0.250}_{-0.350}$	$1.193^{+0.342}_{-0.122}$	$1.260^{+0.154}_{-0.188}$	$1.047^{+0.266}_{-0.518}$
	+2%/-3%	+1%/-4%	+357%/-500%	+29%/-10%	+12%/-15%	+25%/-49%
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 005008501-01 / KOI 1666.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-11 \pm 4$	$2.02^{+0.57}_{-0.57}$	$3065^{+203}_{-140}$	$3101^{+628}_{-1120}$	$0.577^{+0.660}_{-0.270}$
Alt.	$-15 \pm 4$	$1.96^{+0.66}_{-0.56}$	$3071^{+179}_{-143}$	$3458^{+561}_{-583}$	$0.859^{+0.842}_{-0.402}$

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

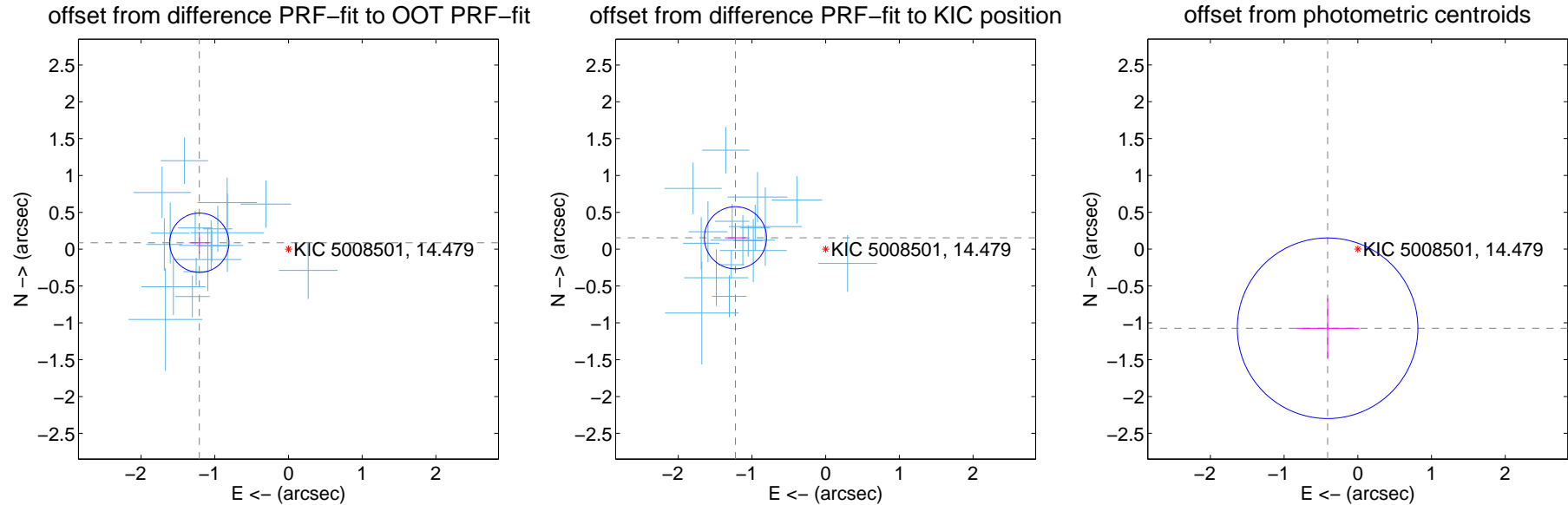
## DV Centroid Data

Supplemental centroid analysis for 005008501-01. Kepler magnitude: 14.48. Transit SNR 30.35

There are 17 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

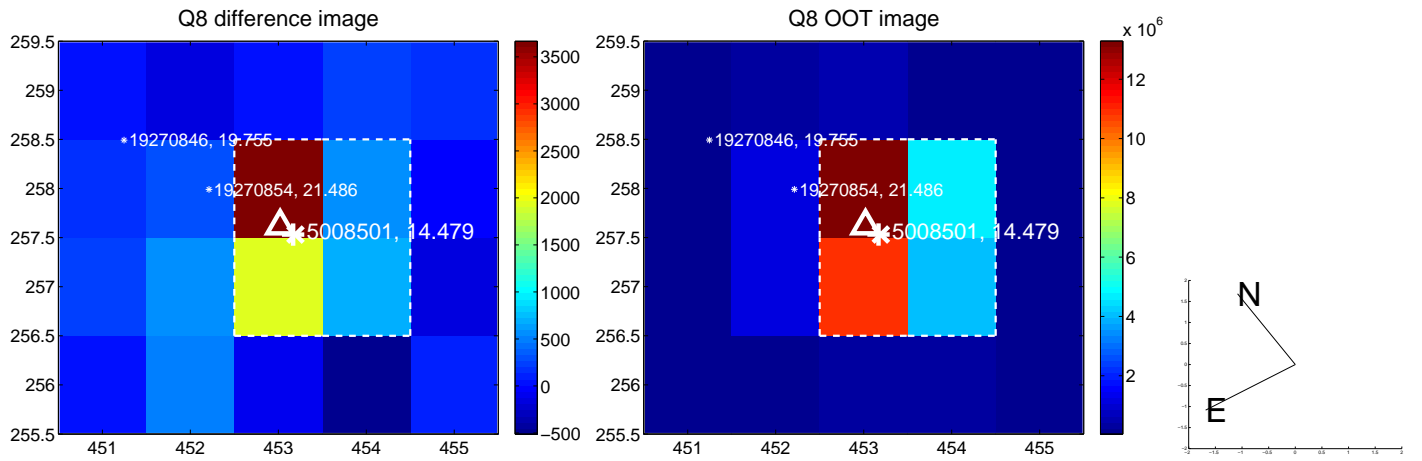
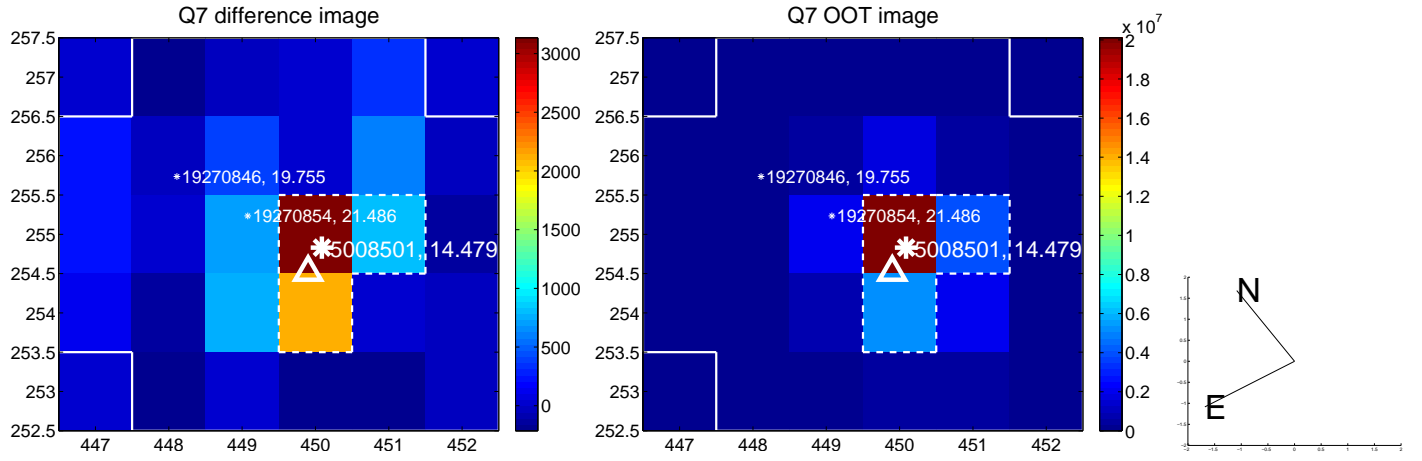
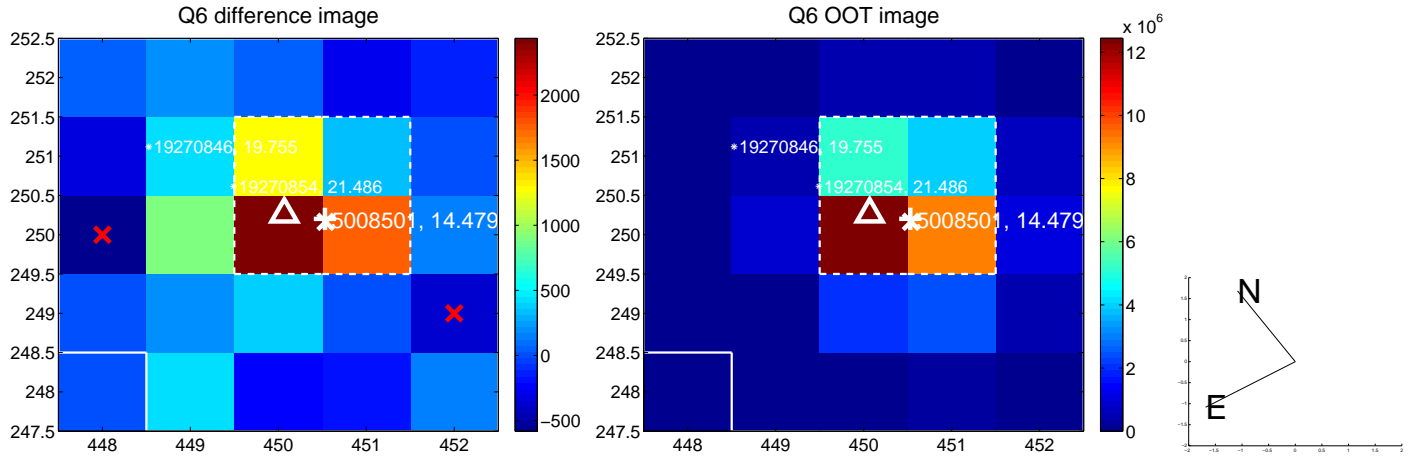
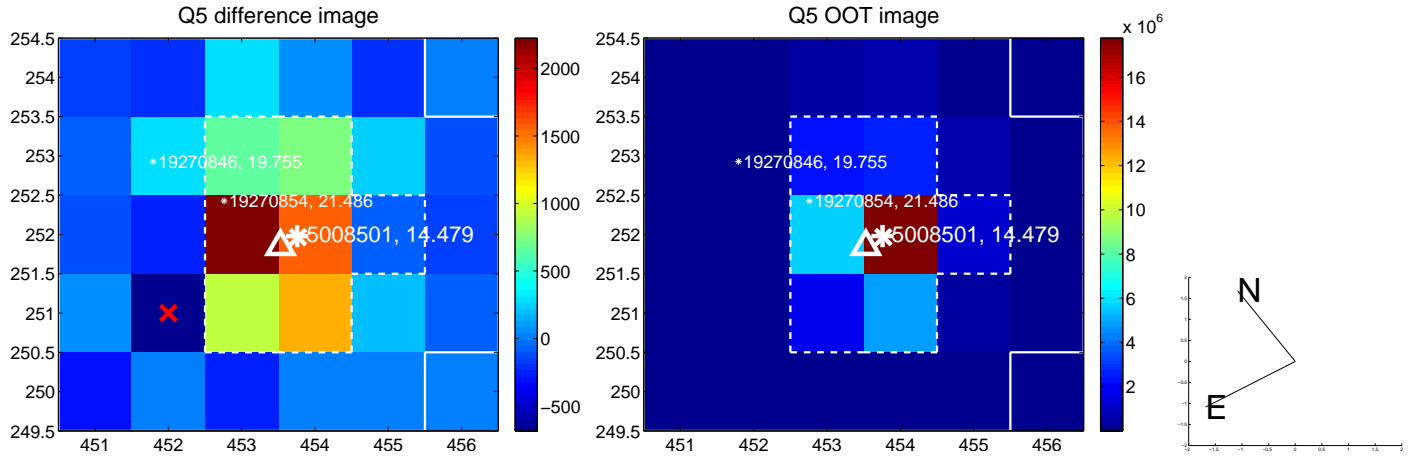
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>1.214 <math>\pm</math> 0.134</b>	<b>9.05</b>	1.211 $\pm$ 0.135	0.088 $\pm$ 0.147
PRF-fit source offset from KIC position	<b>1.234 <math>\pm</math> 0.141</b>	<b>8.78</b>	1.224 $\pm$ 0.143	0.155 $\pm$ 0.145
photometric centroid source offset	1.15 $\pm$ 0.41	2.81	0.41 $\pm$ 0.43	-1.07 $\pm$ 0.41



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.

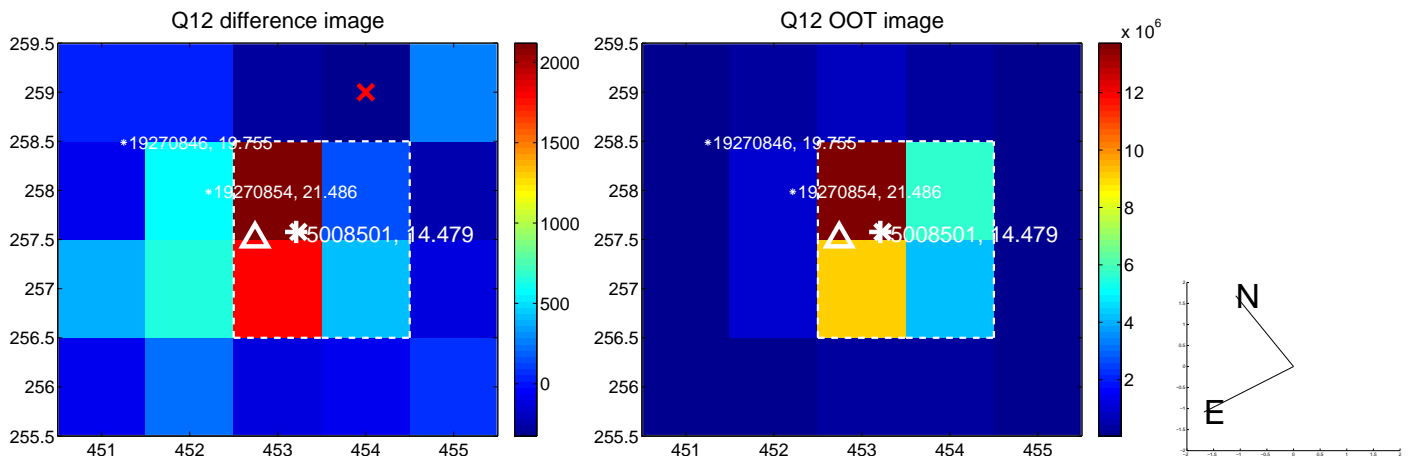
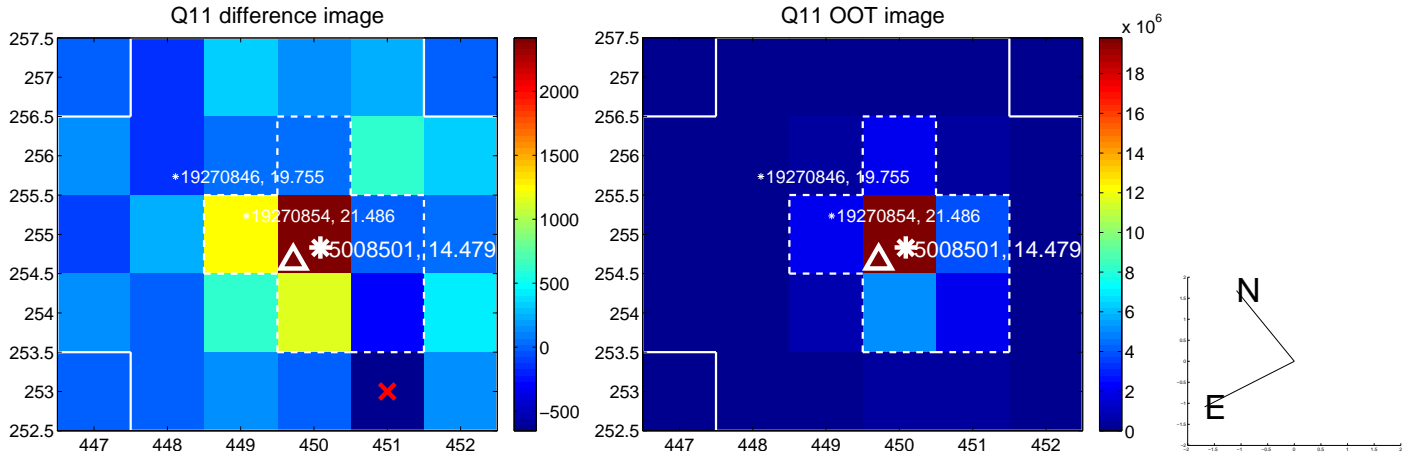
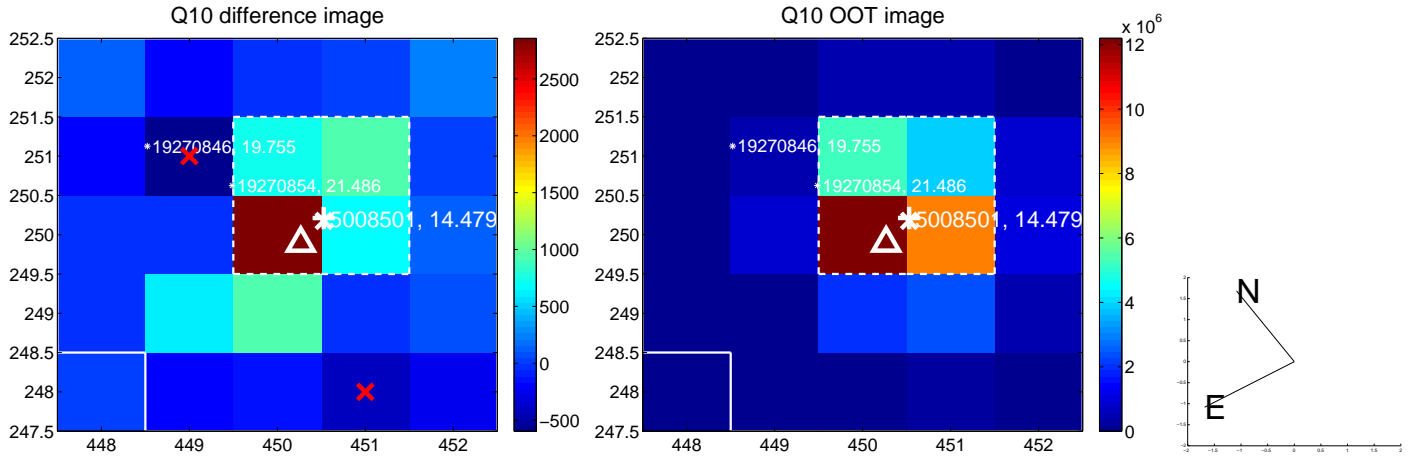
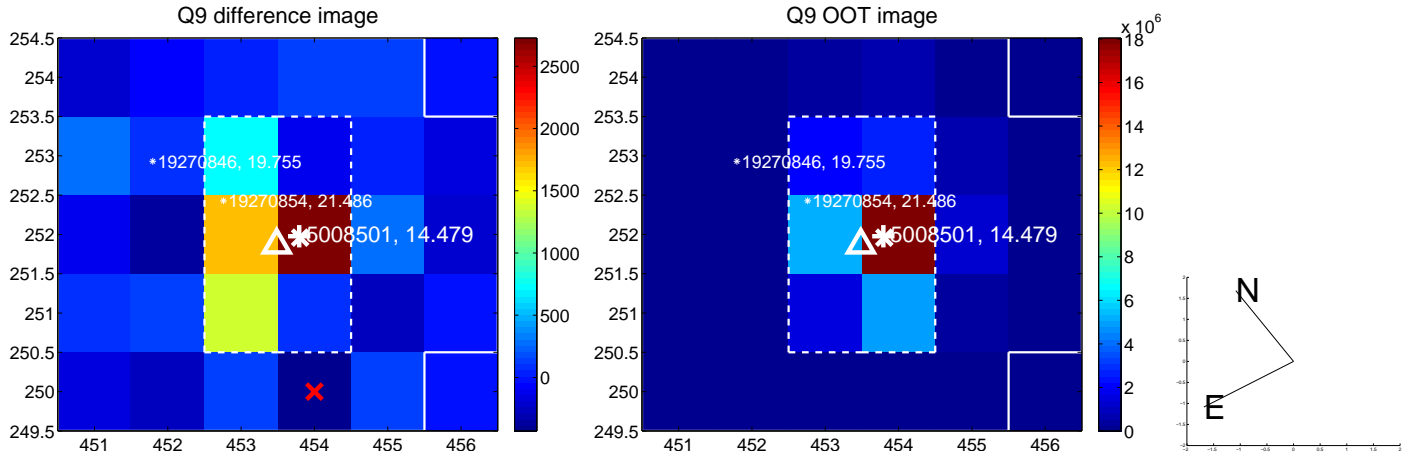


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

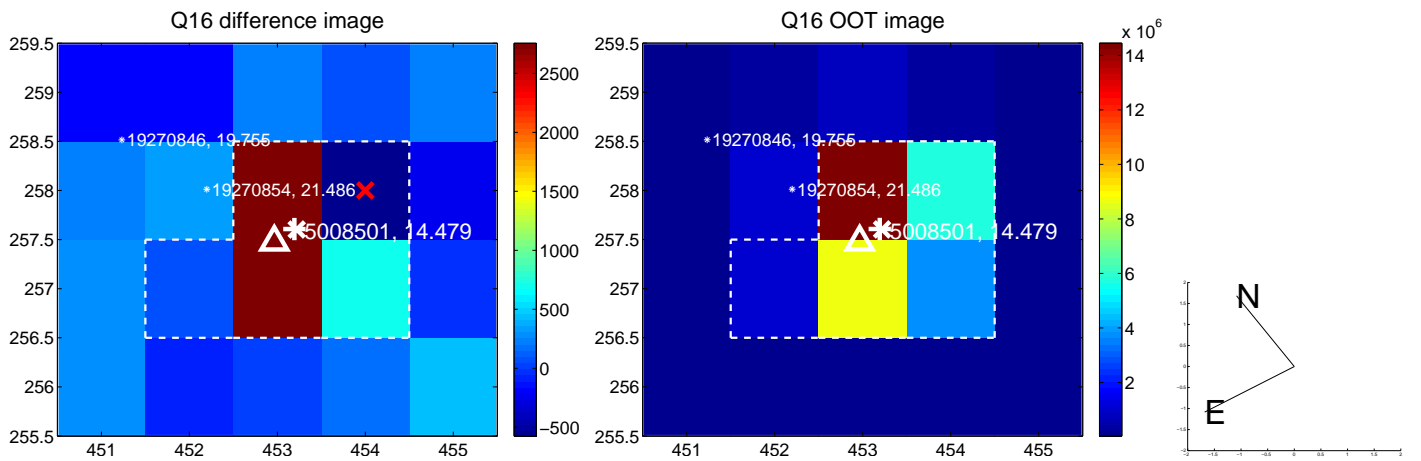
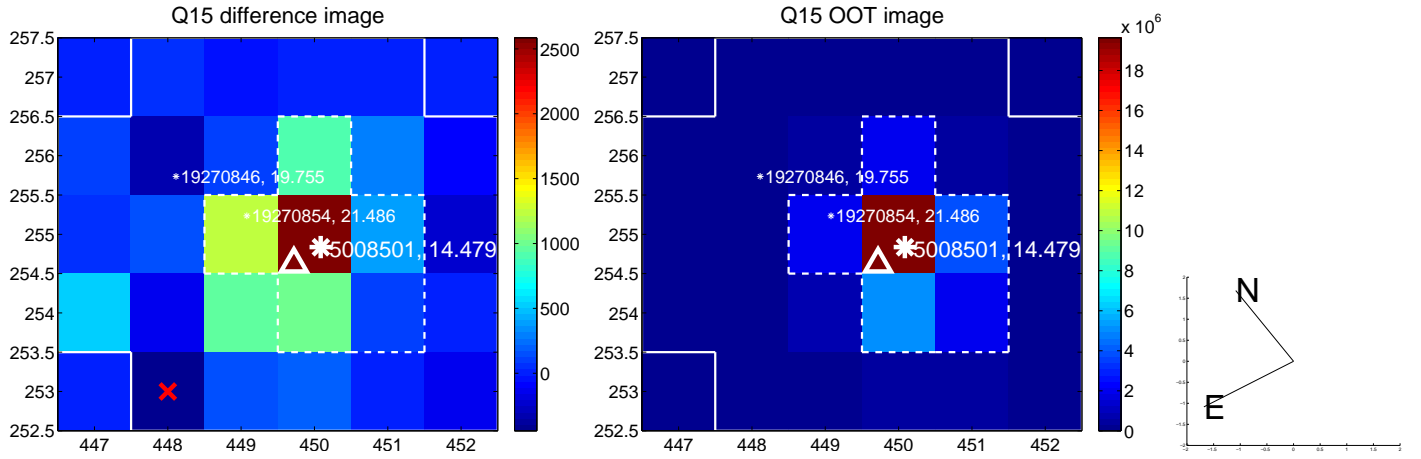
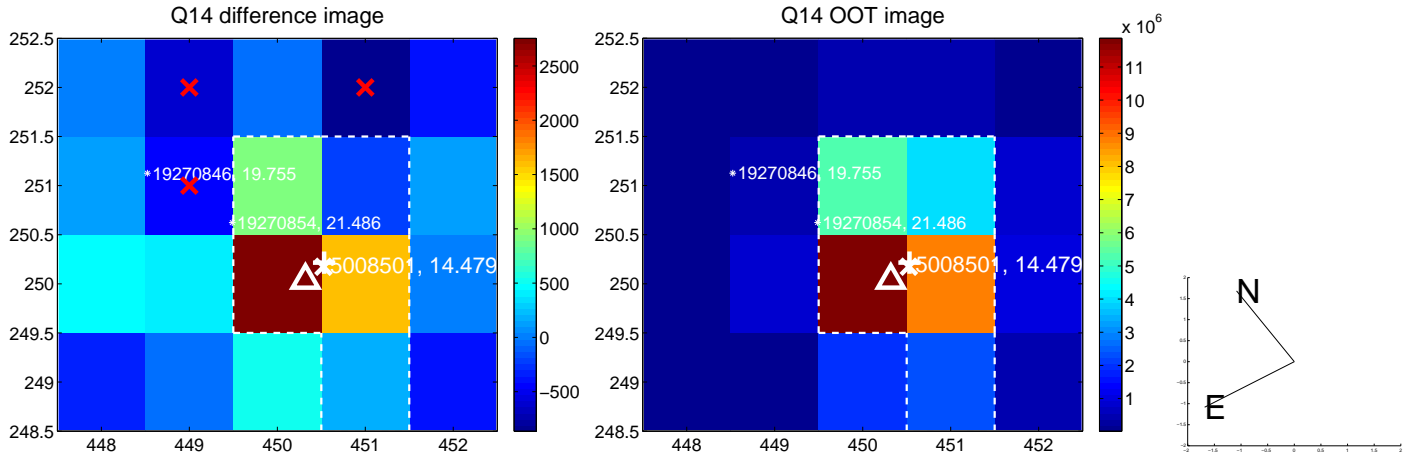
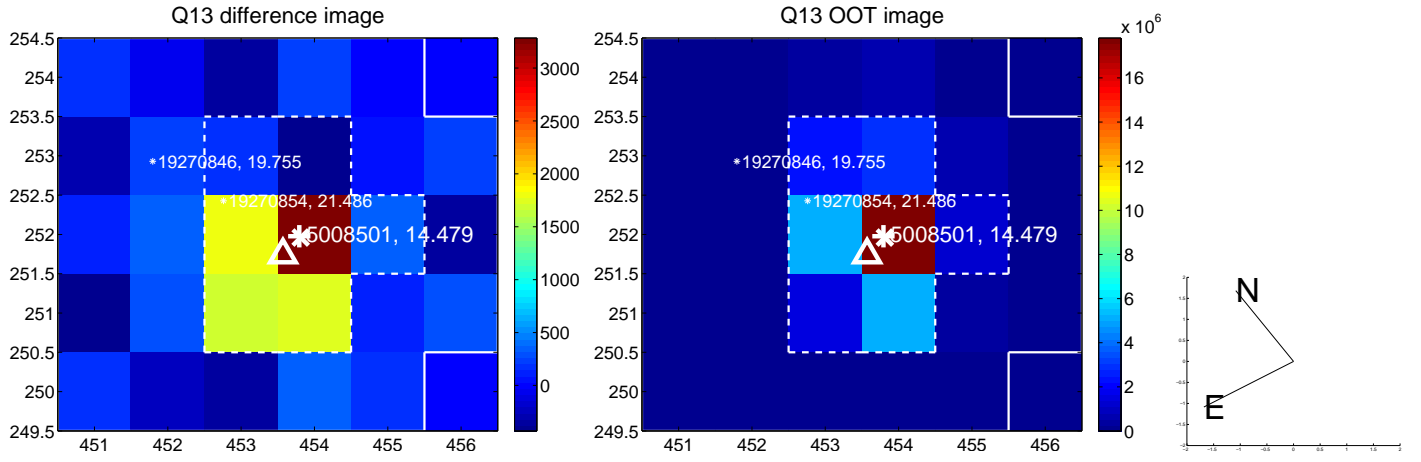




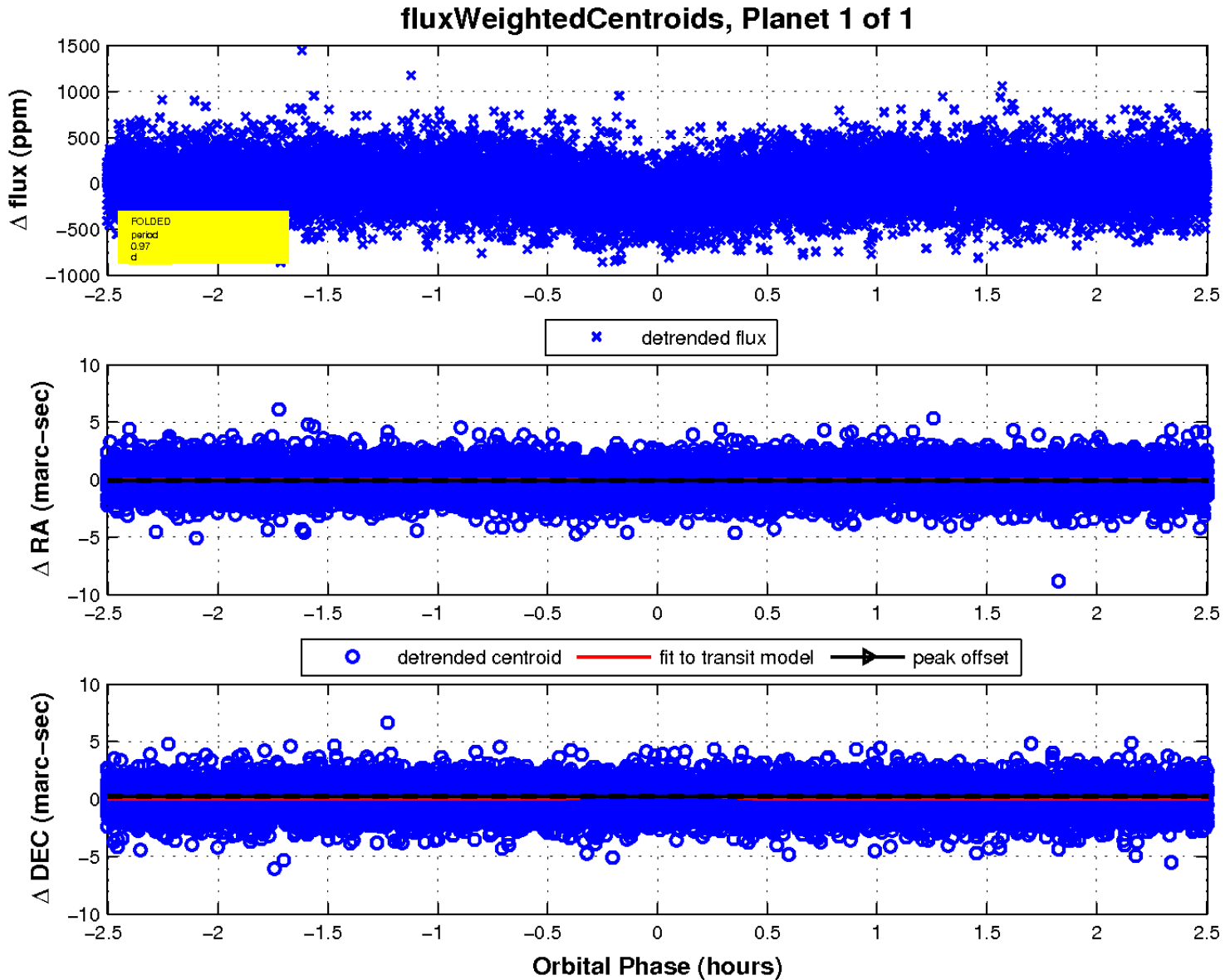
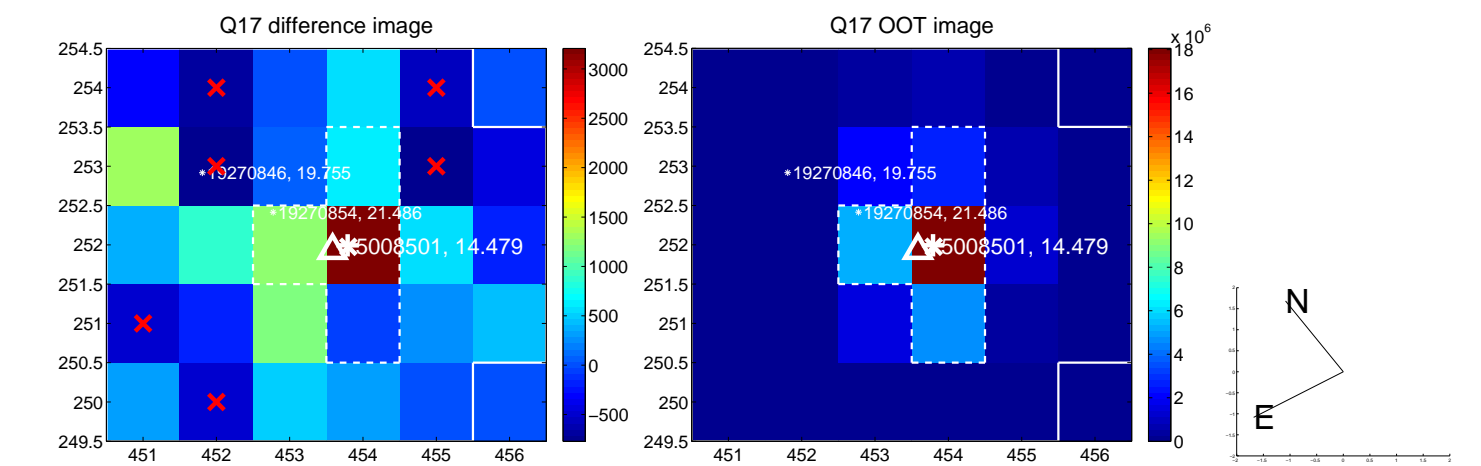
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



# UKIRT Image

Declination

