

# KIC 006268872

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006268872-01	OBS	No	425.083386	243.654138	249.9	2.634	7.4	4.4	0.37	3627	0.66	0.03

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006268872-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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

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

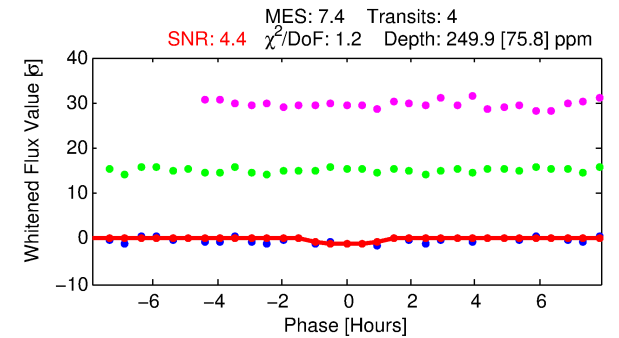
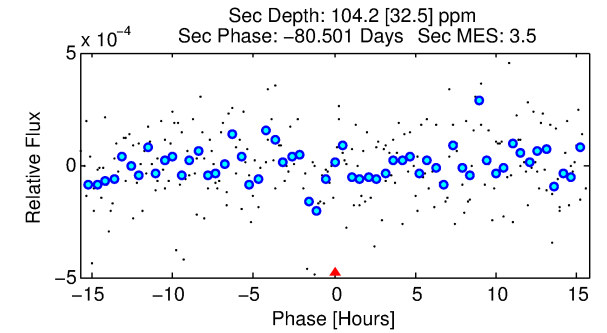
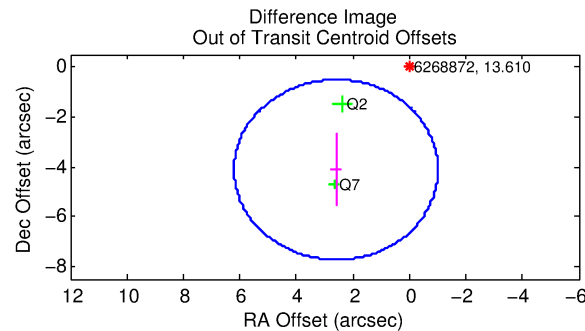
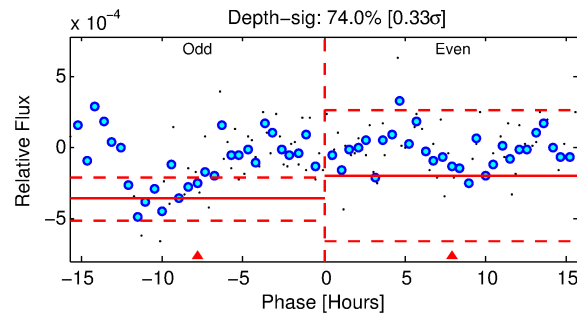
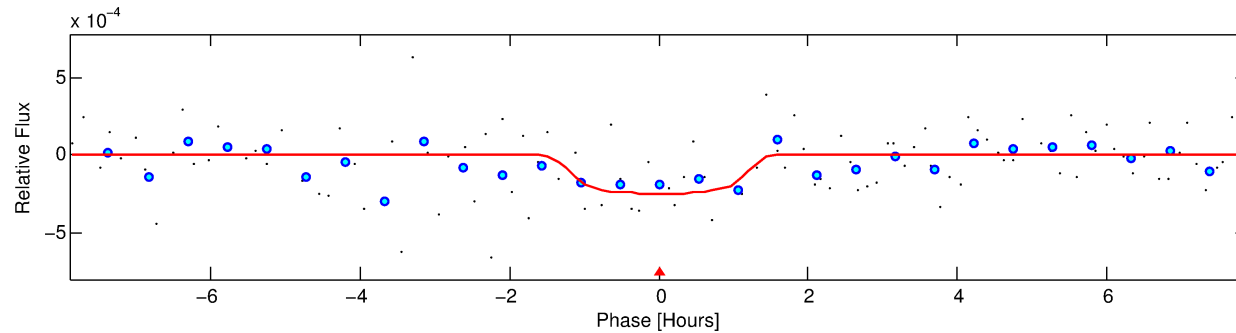
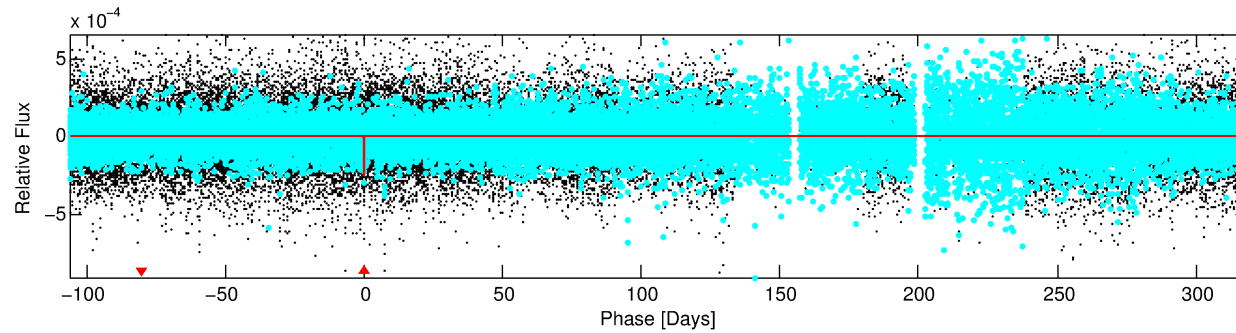
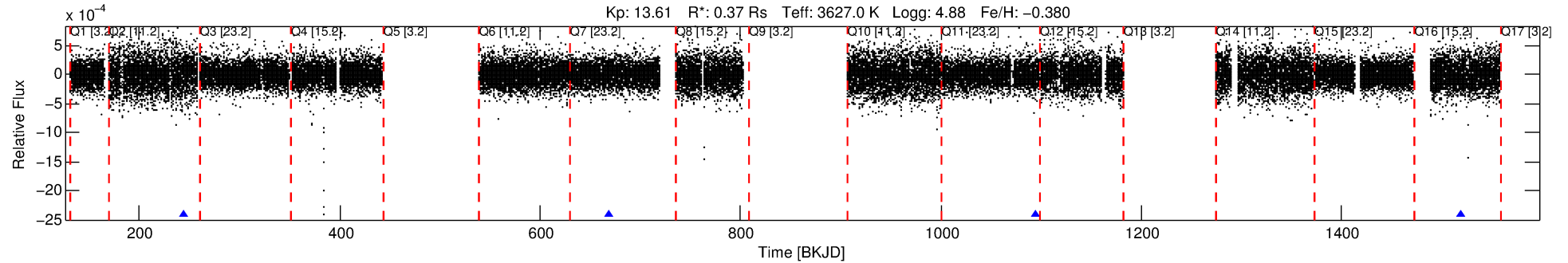
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006268872-01

No Significant Match Found

# DV One-Page Summary

KIC: 6268872 Candidate: 1 of 1 Period: 425.083 d



## DV Fit Results:

Period = 425.08339 [0.00713] d  
Epoch = 243.6541 [0.0144] BKJD  
Rp/R\* = 0.0162 [0.0363]  
a/R\* = 728.06 [8079.93]  
b = 0.83 [4.26]  
Seff = 0.03 [0.01]  
Teq = 109 [8] K  
Rp = 0.66 [1.48] Re  
a = 0.8034 [0.1528] AU  
Ag = 85844.99 [385451.17] [0.22 $\sigma$ ]  
Teffp = 2878 [3227] K [0.86 $\sigma$ ]

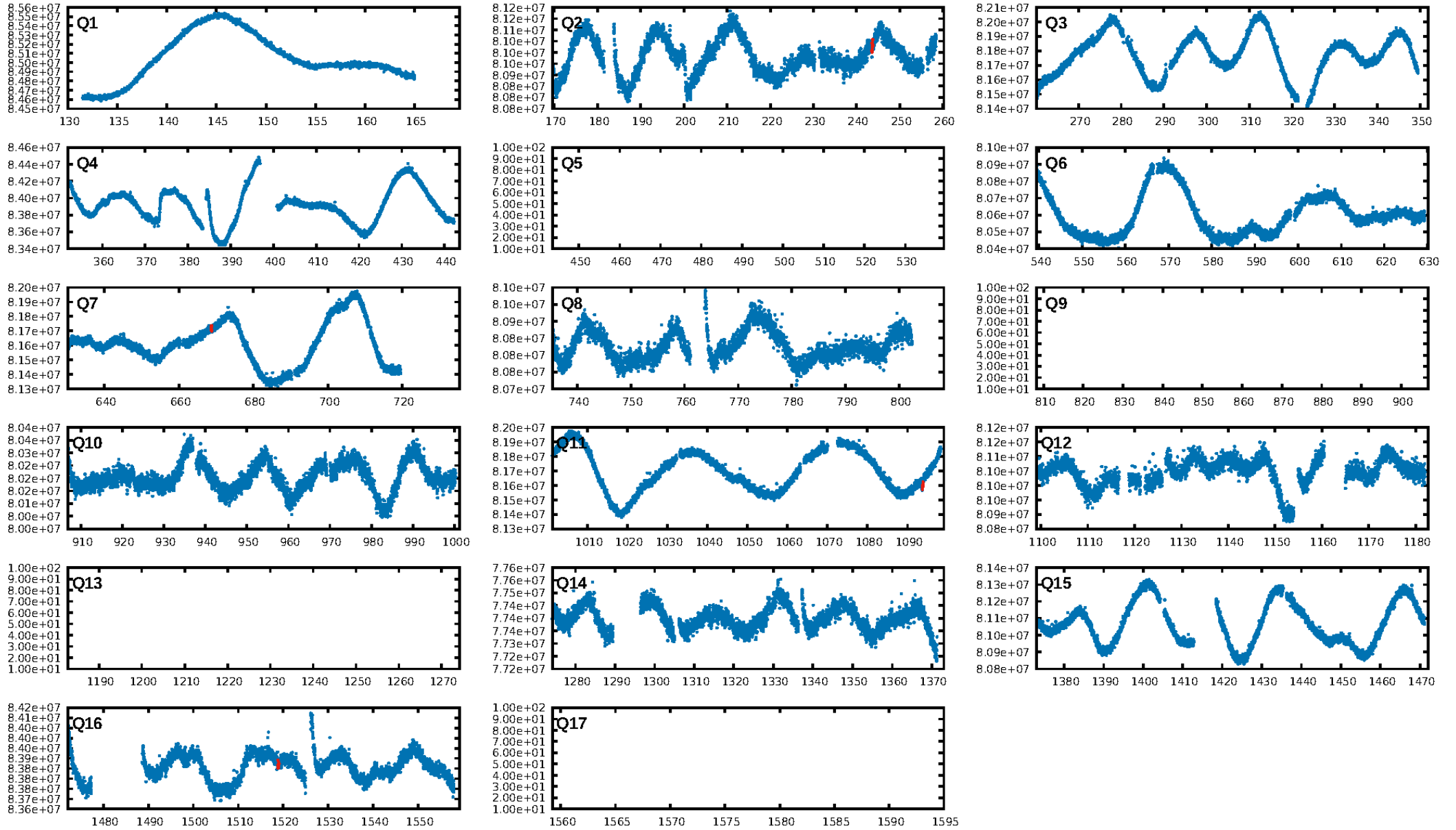
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 2.4%  
ModelChiSquareGof-sig: 90.4%  
Bootstrap-pfa: 1.90e-12  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: -0.1894  
Centroid-sig: 27.9%  
Centroid-so: 2.557 arcsec [1.21 $\sigma$ ]  
OotOffset-rm: 4.876 arcsec [4.05 $\sigma$ ]  
KicOffset-rm: 4.819 arcsec [3.58 $\sigma$ ]  
OotOffset-st: 1/1/0/0 [2]  
KicOffset-st: 1/1/0/0 [2]  
DiffImageQuality-fgm: 0.50 [1/2]  
DiffImageOverlap-fno: 1.00 [3/3]

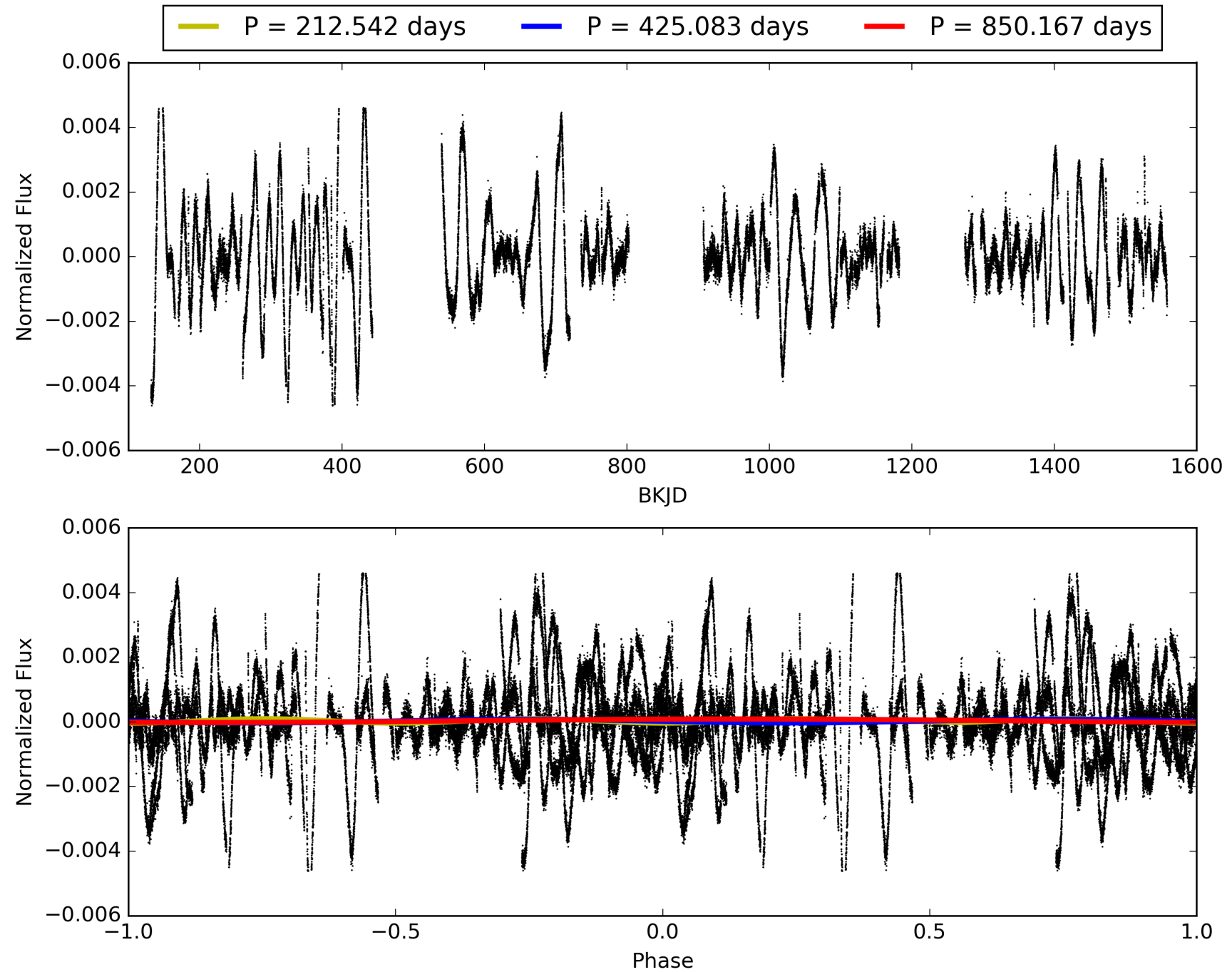
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:52:02 Z

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

# TCE 006268872-01, PDC Light Curves

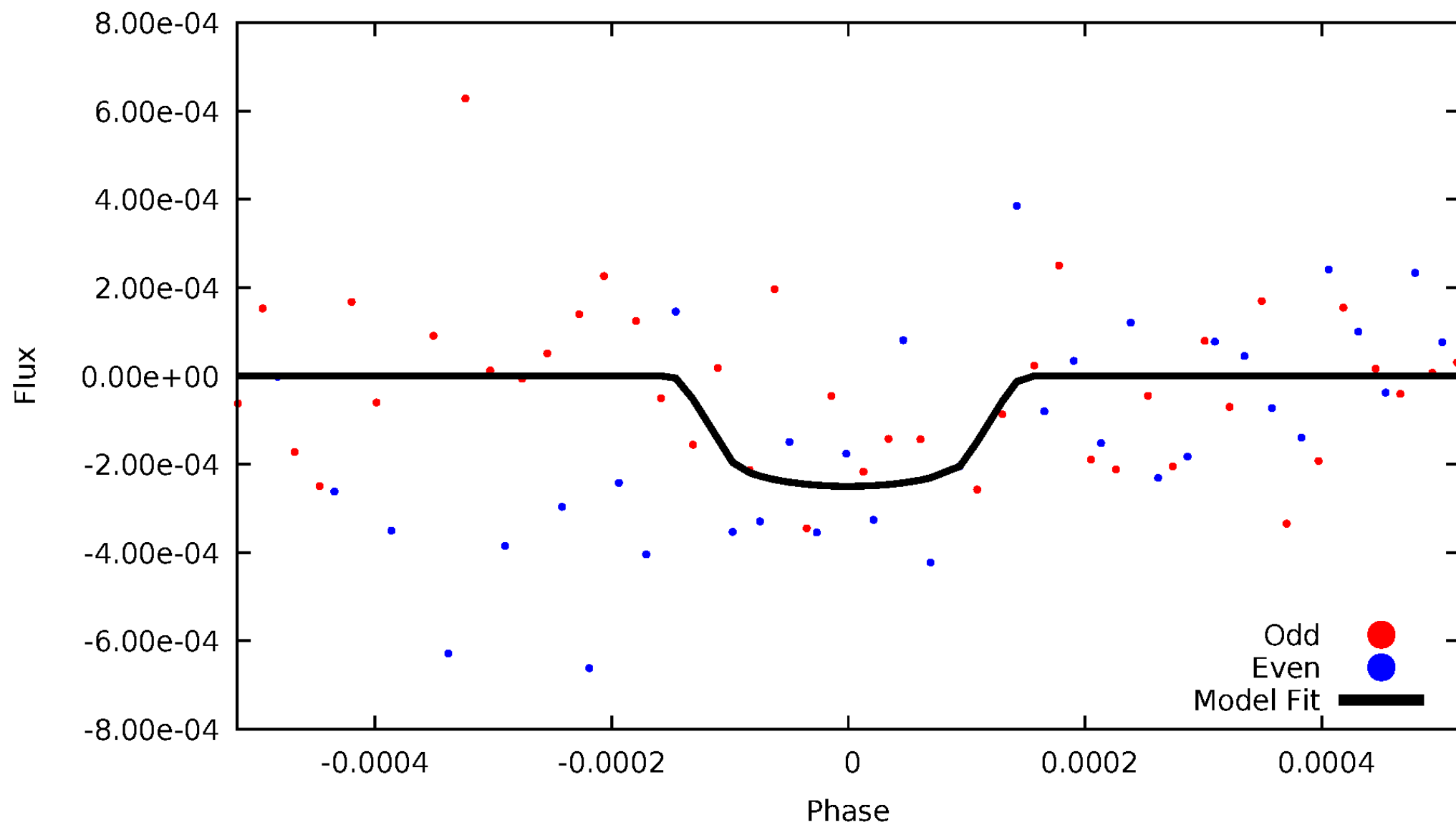


TCE 006268872-01



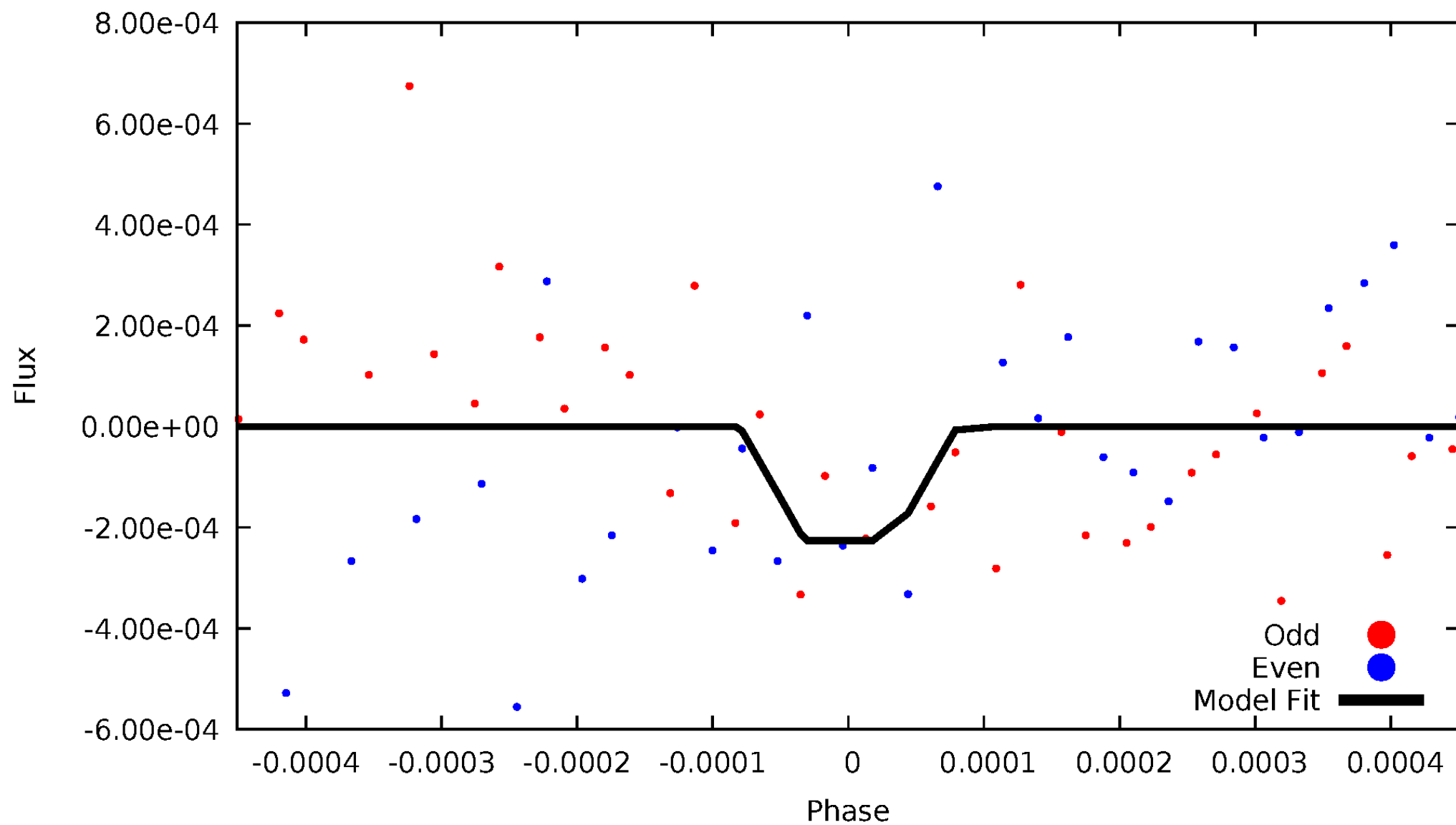
# DV Odd/Even

TCE 006268872-01

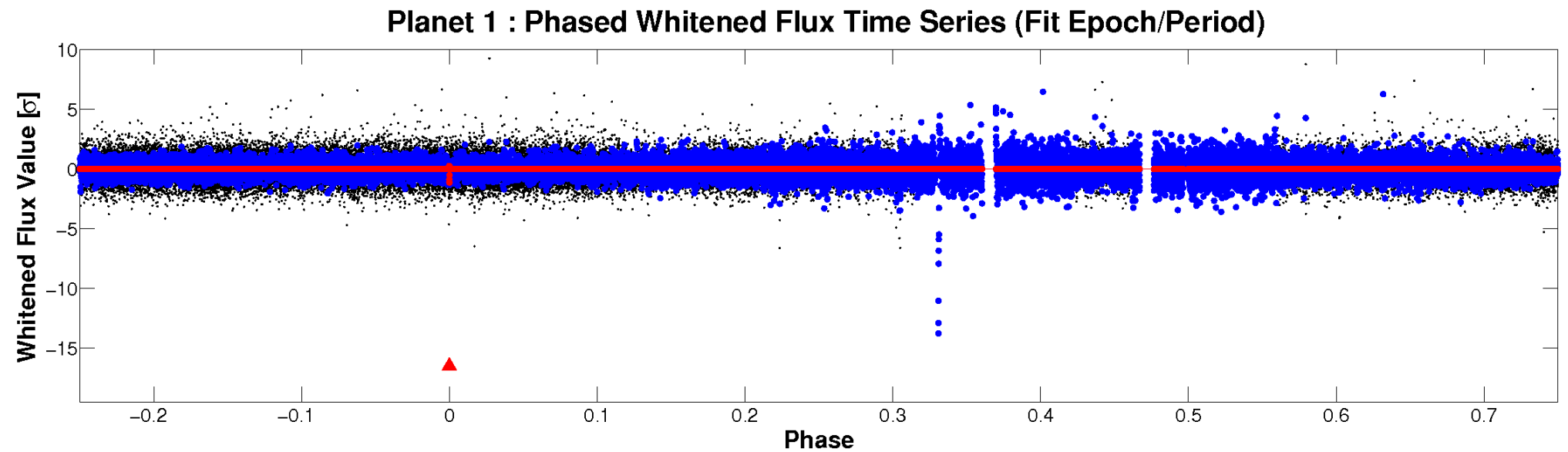
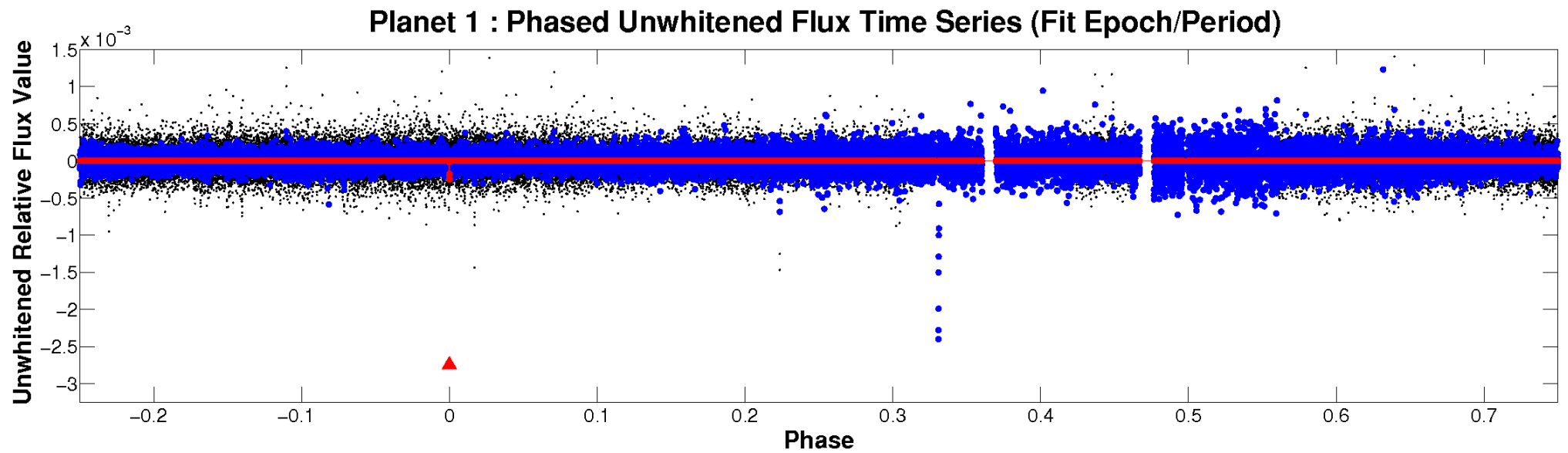


# ALT Odd/Even

TCE 006268872-01

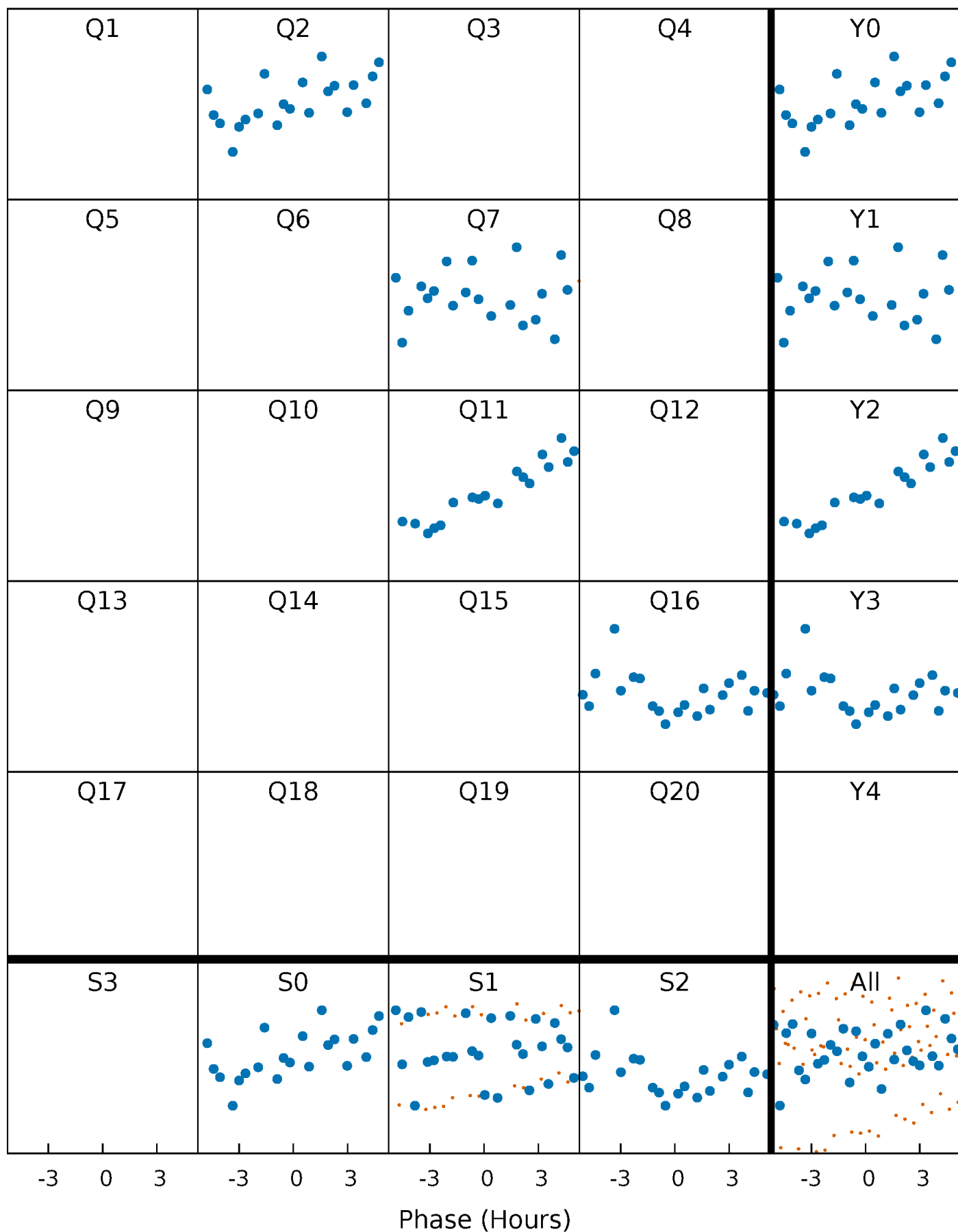


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

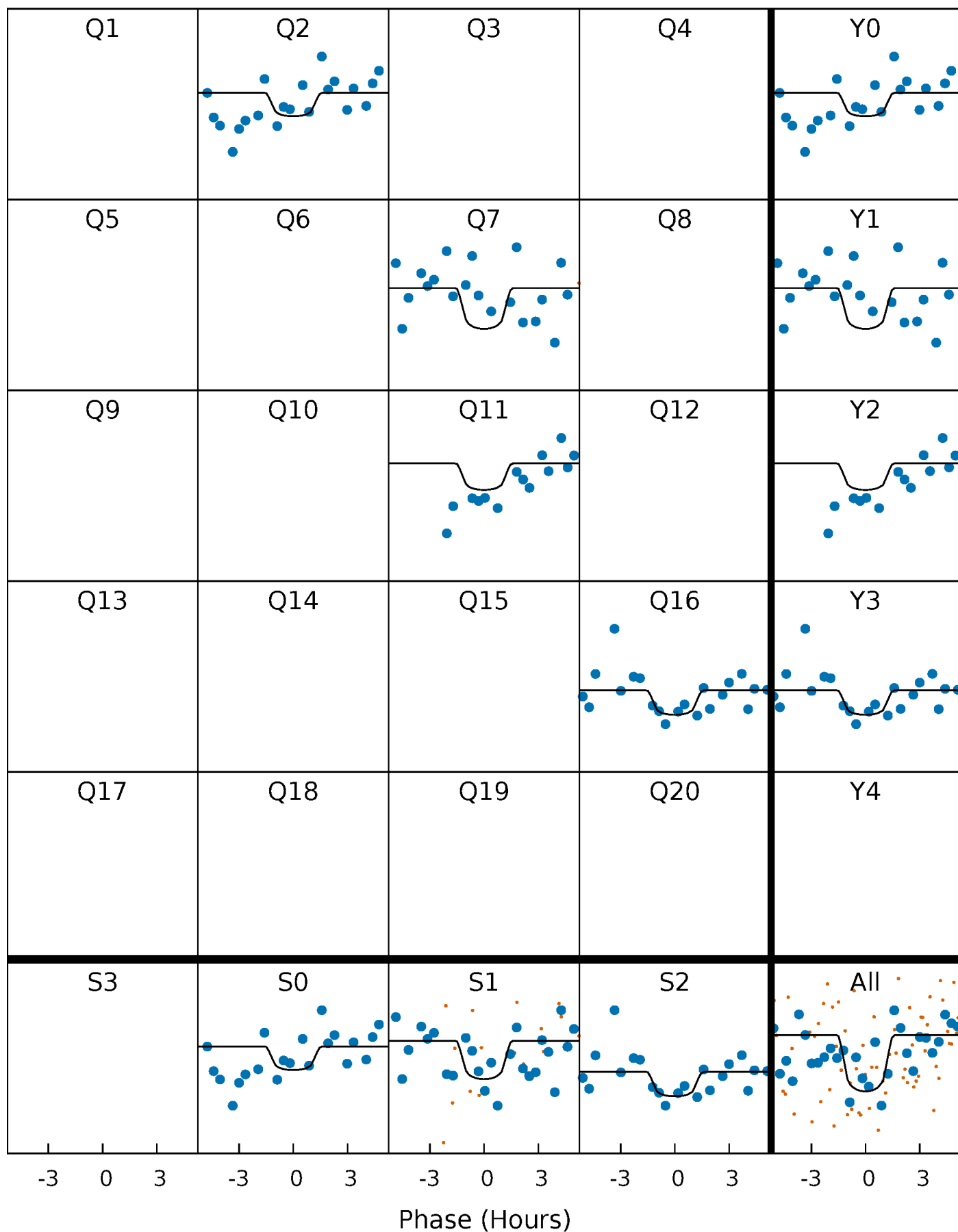
TCE 006268872-01 P=425.083386 Days  $T_0=243.654138$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 006268872-01 P=425.083386 Days  $T_0=243.654138$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

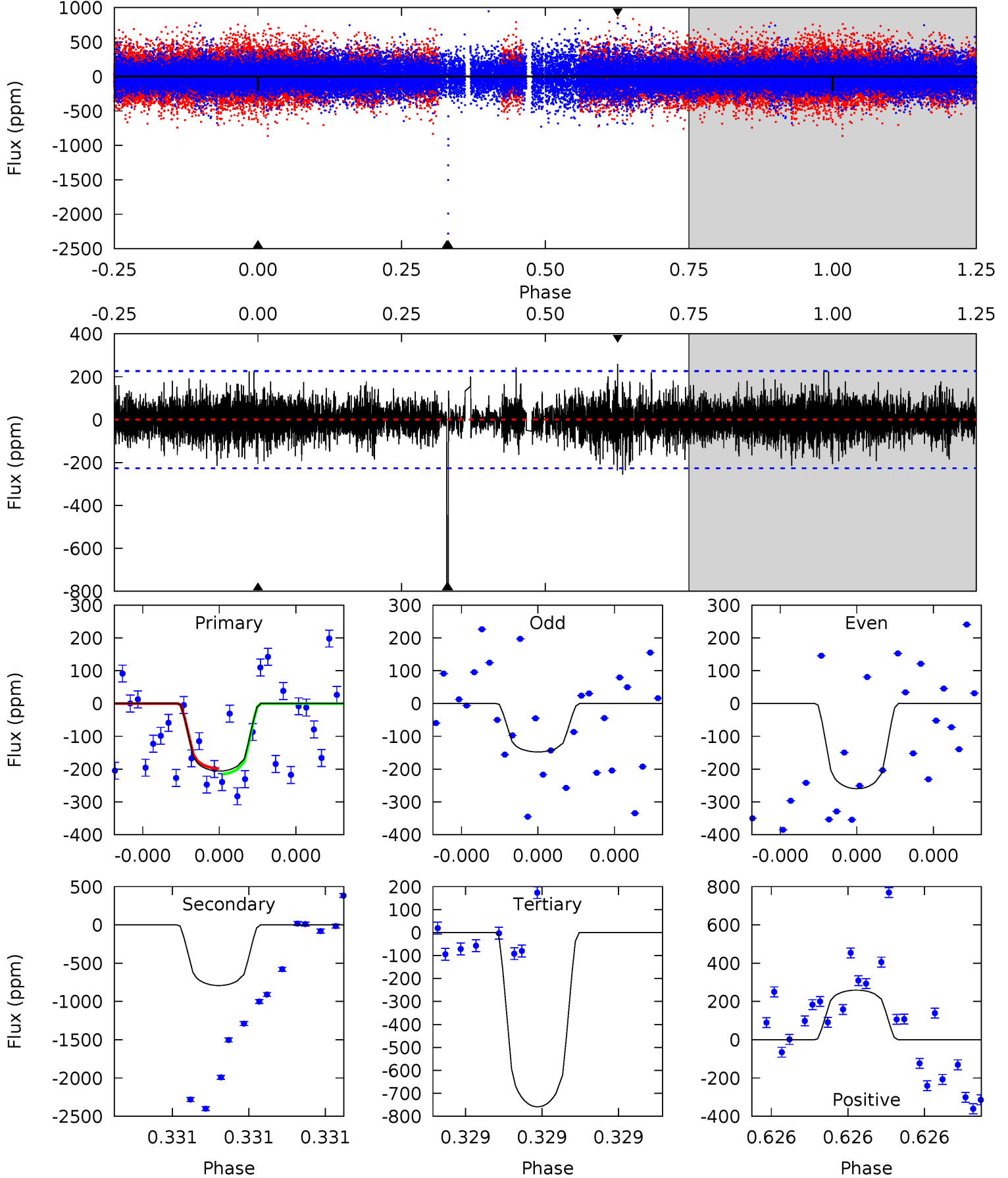
TCE 006268872-01 P=425.072538 Days  $T_0=243.686679$  (BKJD)



# DV Model-Shift Uniqueness Test

006268872-01, P = 425.083386 Days, E = 243.654138 Days

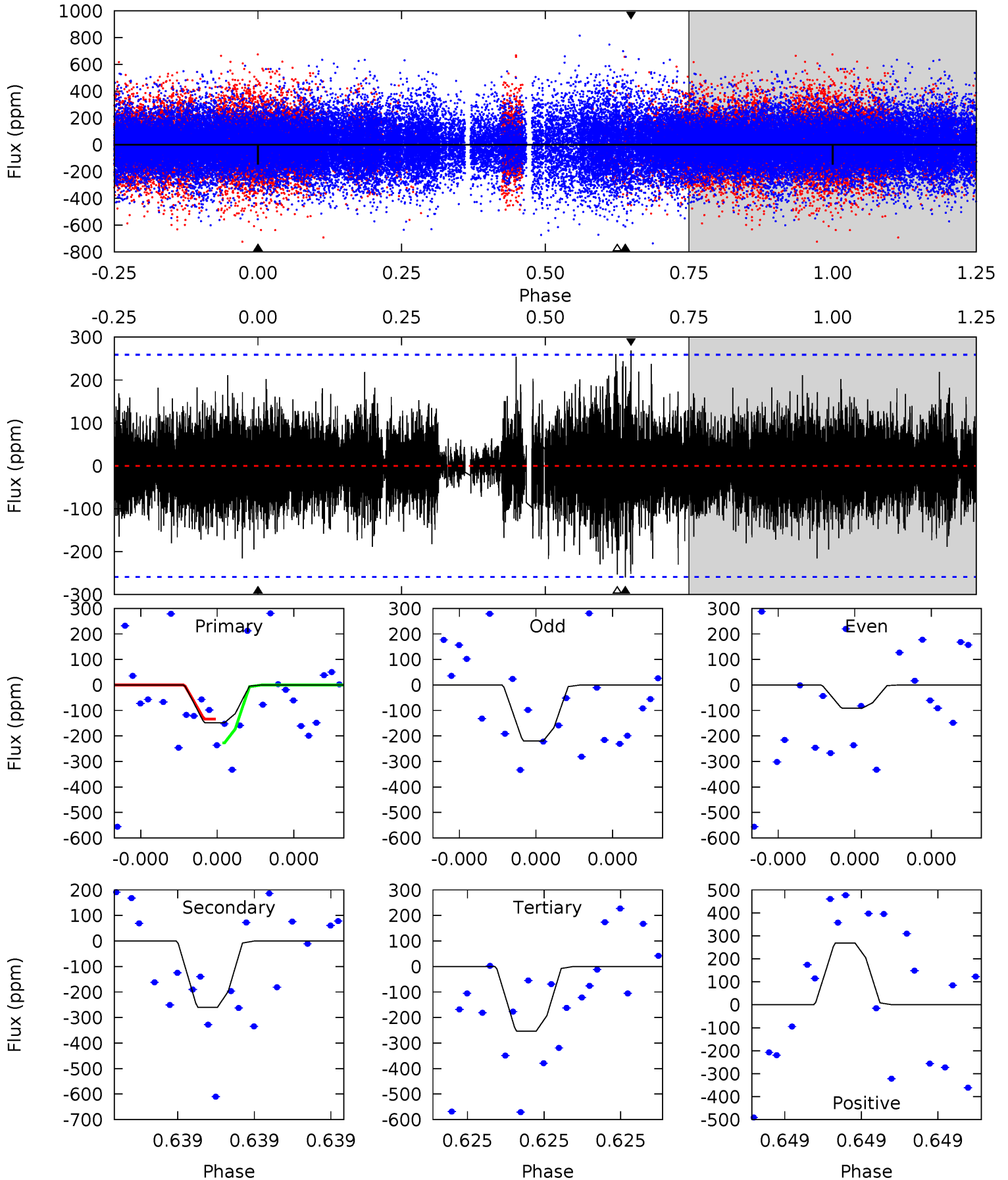
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.16	19.8	19.0	6.49	5.67	3.63	1.42	-13.8	-1.33	0.84	13.3	1.40	0.94	0.25	0.21



# Alt Model-Shift Uniqueness Test

006268872-01, P = 425.072538 Days, E = 243.686679 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
3.28	5.76	5.61	5.97	5.74	3.74	1.22	-2.33	-2.69	0.15	-0.21	1.48	0.77	0.51	1.00



### Stellar Parameters For KIC 006268872

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$3627^{+102}_{-127}$	$4.882^{+0.114}_{-0.076}$	$-0.380^{+0.300}_{-0.300}$	$0.371^{+0.077}_{-0.094}$	$0.383^{+0.076}_{-0.105}$	$10.580^{+7.844}_{-3.276}$
	+3%/-4%	+2%/-2%	+79%/-79%	+21%/-25%	+20%/-27%	+74%/-31%
Source	PHO54	PHO54	PHO54	DSEP		

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

### Secondary Eclipse Parameters for KIC 006268872-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-793 \pm 40$	$1.27^{+1.25}_{-0.90}$	$151^{+8}_{-9}$	$3482^{+2150}_{-643}$	$174633^{+1946532}_{-128745}$
Alt.	$-260 \pm 45$	$1.27^{+1.19}_{-0.87}$	$151^{+7}_{-8}$	$2910^{+1310}_{-437}$	$53857^{+516187}_{-38854}$

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

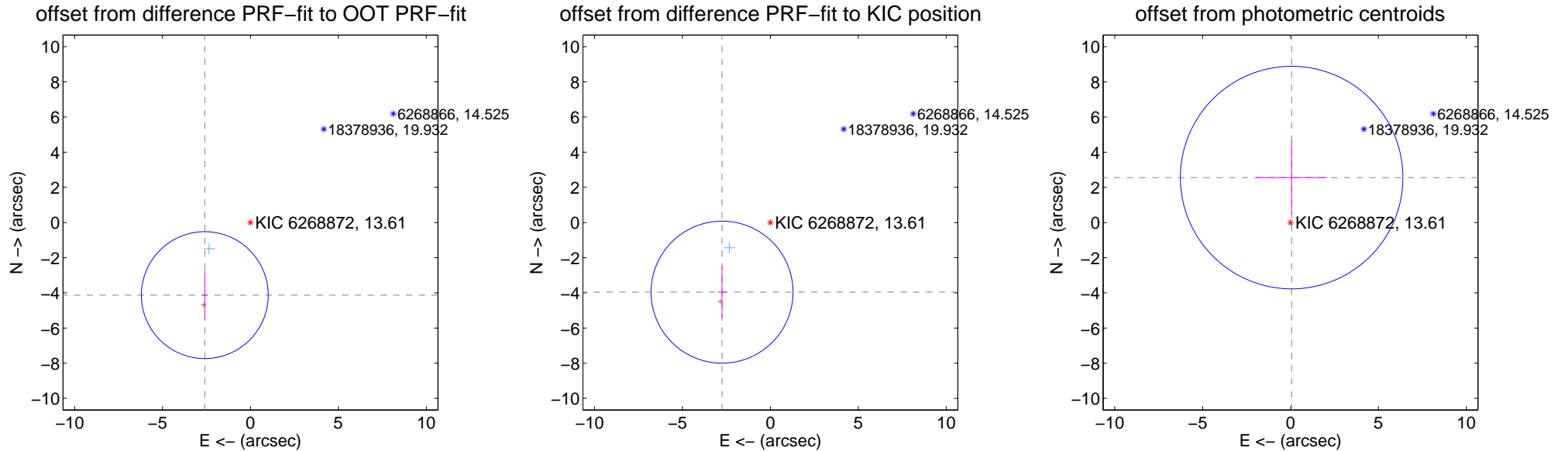
## DV Centroid Data

Supplemental centroid analysis for 006268872-01. Kepler magnitude: 13.61. Transit SNR 4.41

There are 1 quarters with good PRF difference image offsets

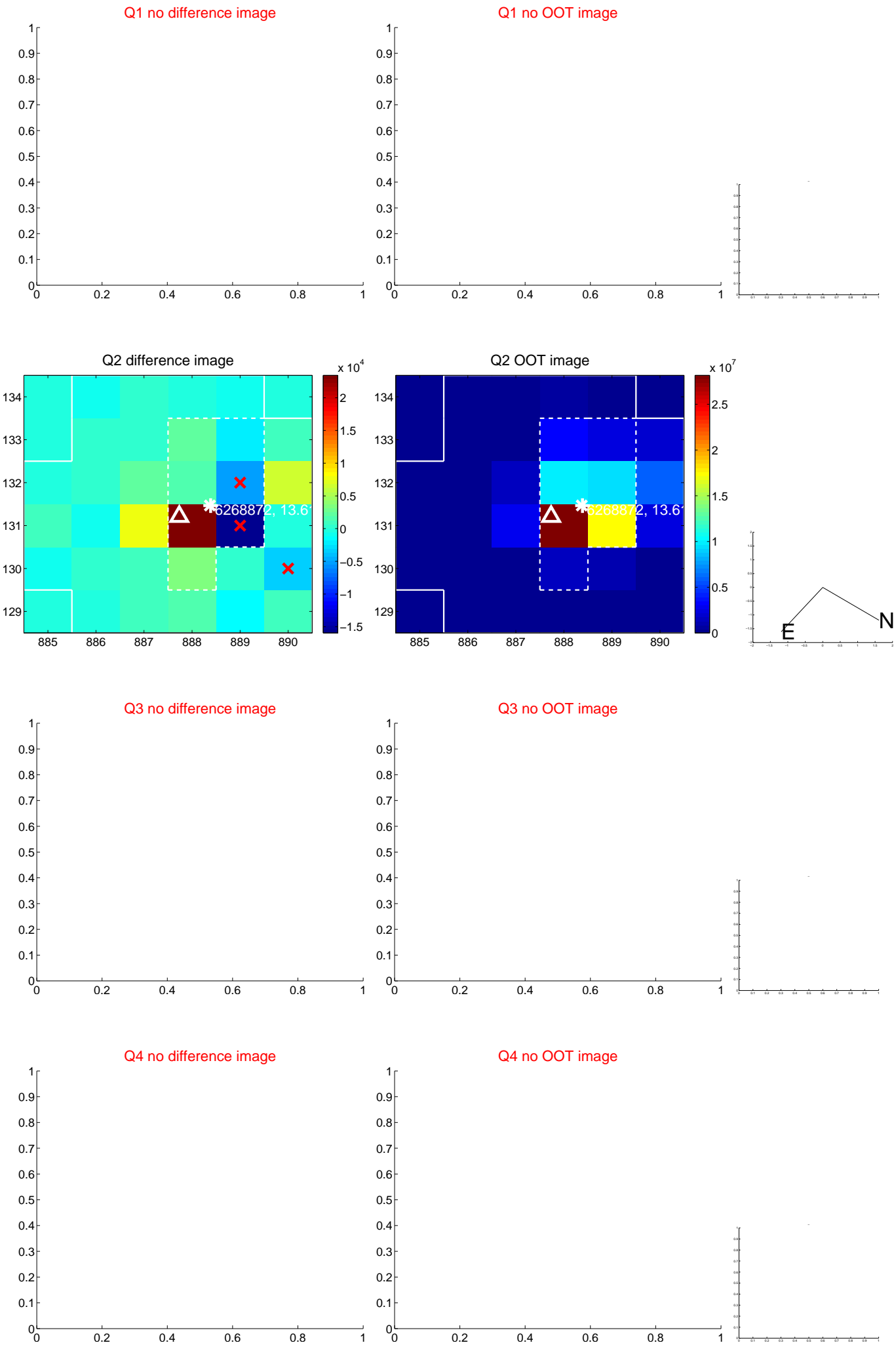
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.876 \pm 1.203$	4.05	$2.596 \pm 0.157$	$-4.128 \pm 1.417$
PRF-fit source offset from KIC position	$4.819 \pm 1.346$	3.58	$2.747 \pm 0.258$	$-3.959 \pm 1.465$
photometric centroid source offset	$2.56 \pm 2.11$	1.21	$-0.06 \pm 2.03$	$2.56 \pm 2.11$



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.

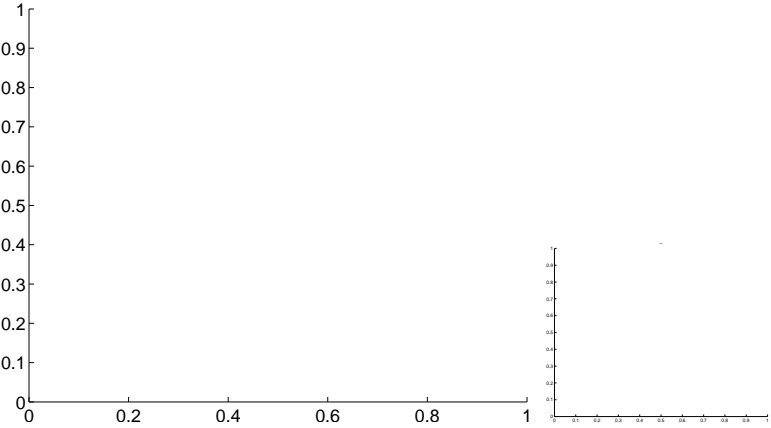


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

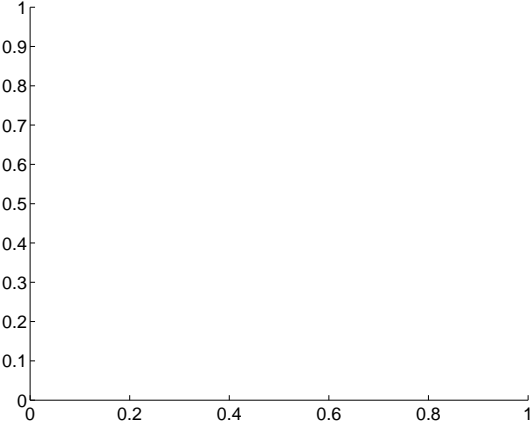
Q5 no difference image



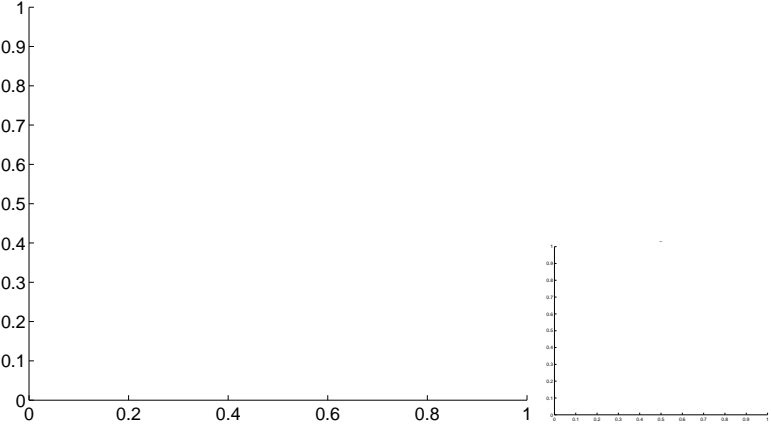
Q5 no OOT image



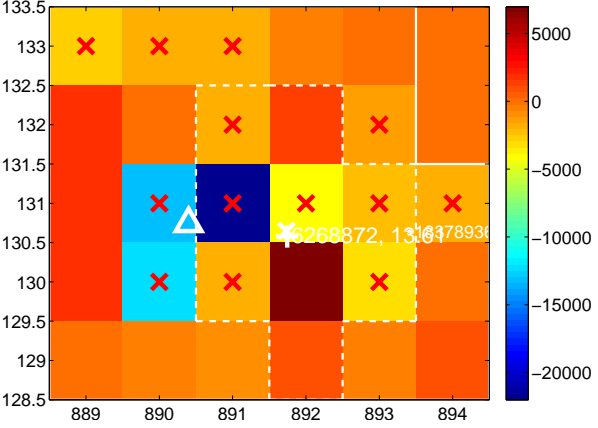
Q6 no difference image



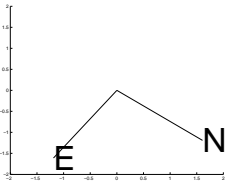
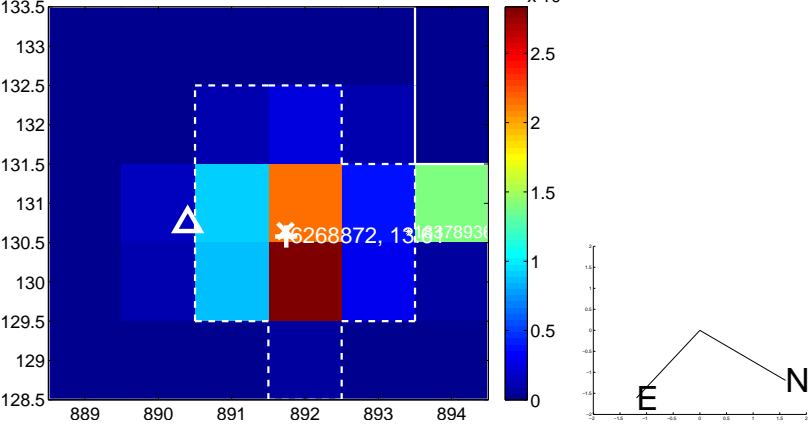
Q6 no OOT image



Q7 difference image. Poor Quality



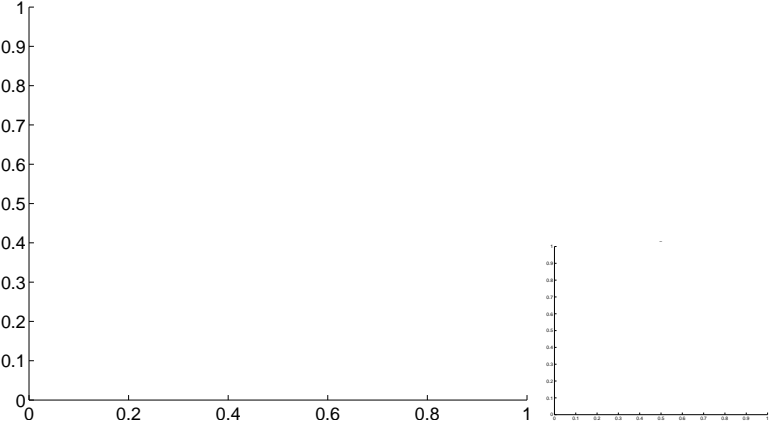
Q7 OOT image



Q8 no difference image



Q8 no OOT image

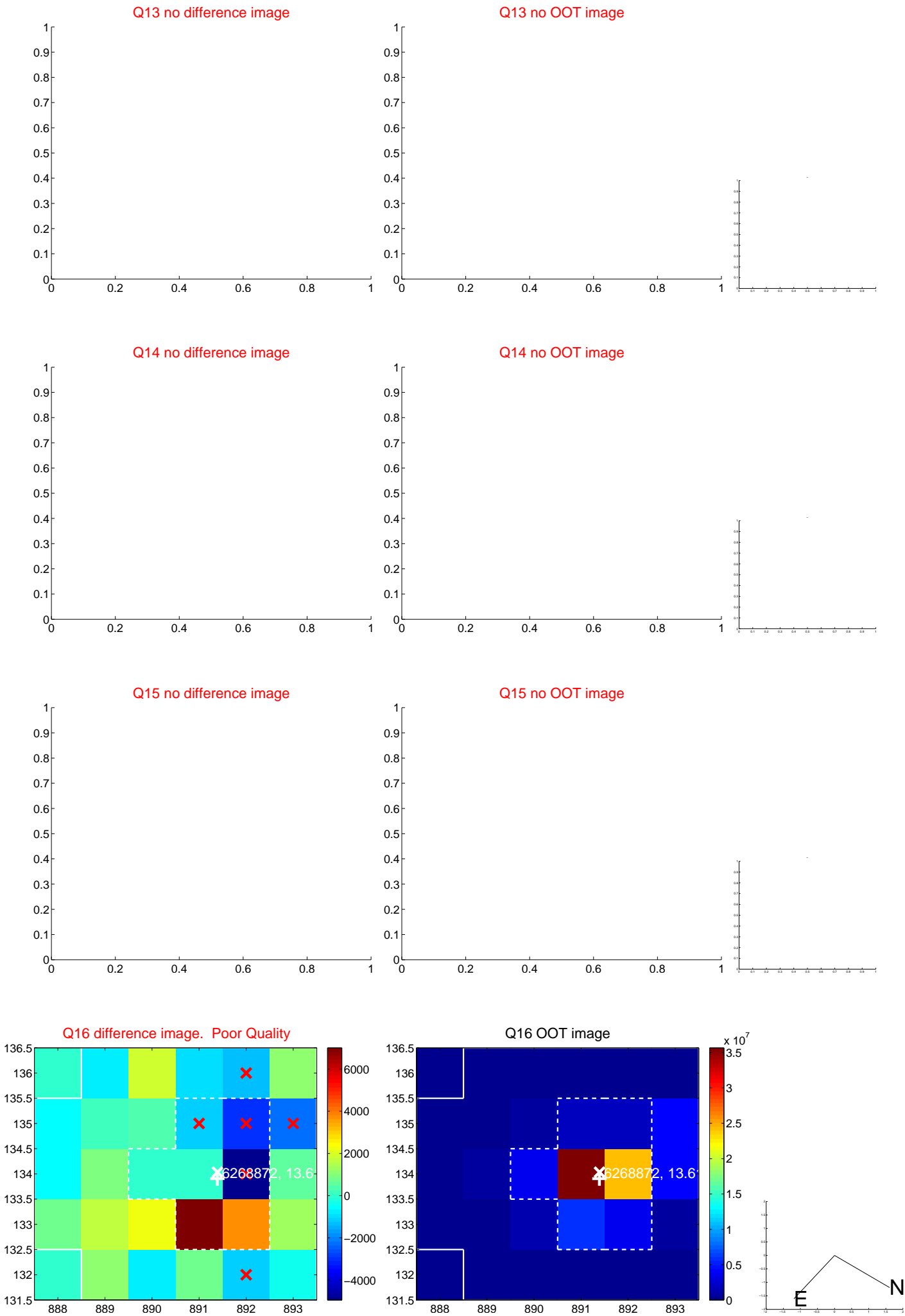




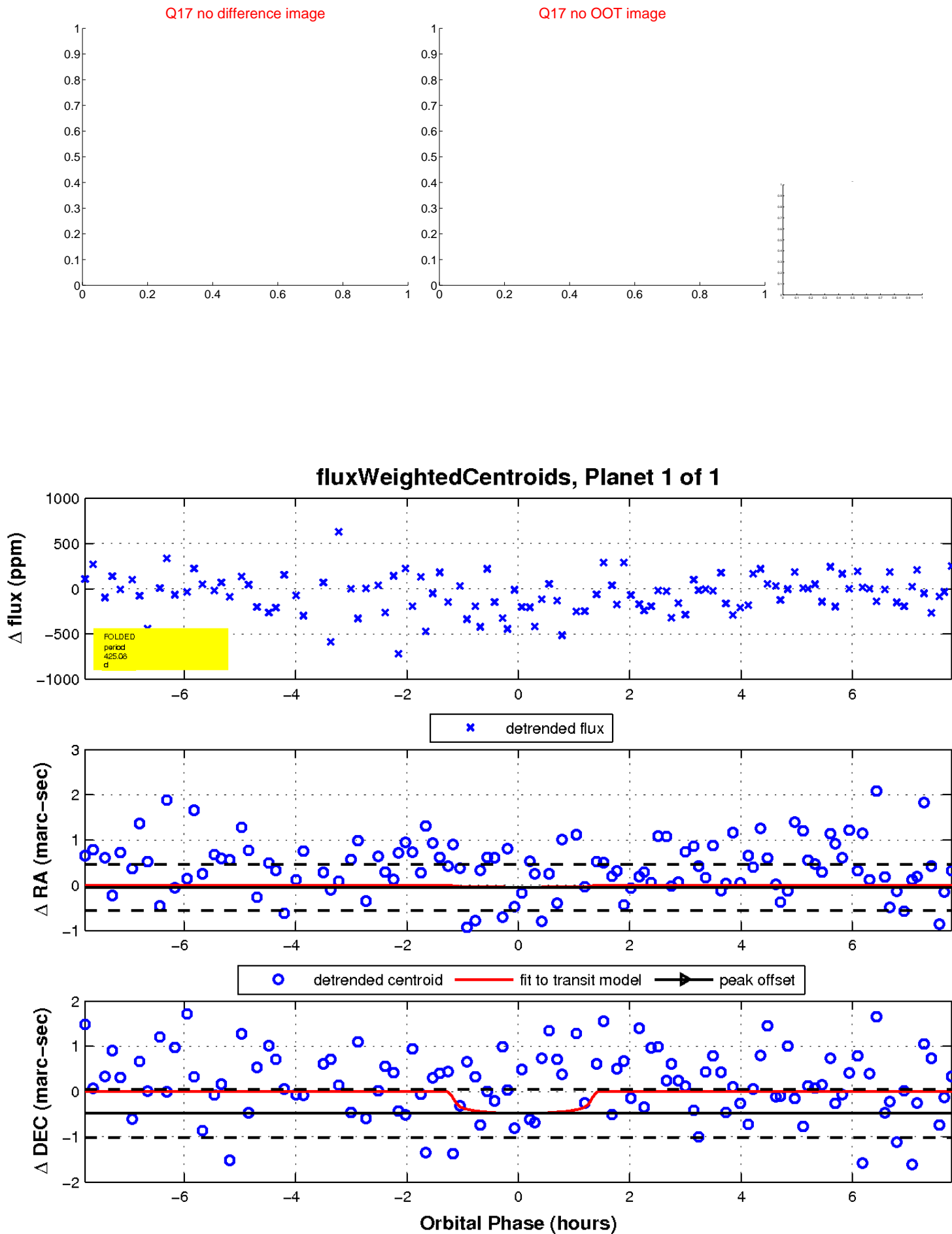
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image

Declination

