

# KIC 004372282

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004372282-01	OBS	No	1.268111	132.432600	14.2	10.832	8.5	5.9	2.60	6950	0.99	18800.19

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004372282-01	OBS	FP	0.00	1	0	1	0	LPP_DV—HALO_GHOST

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

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

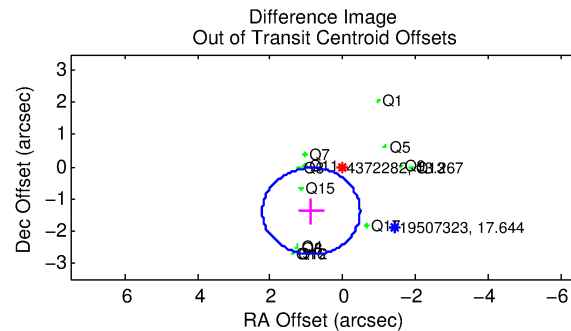
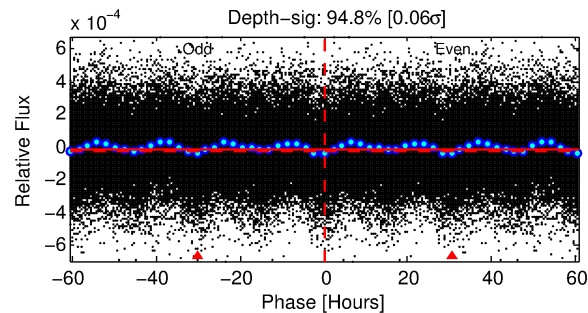
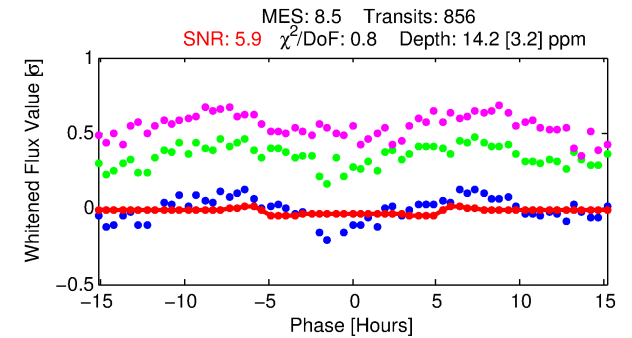
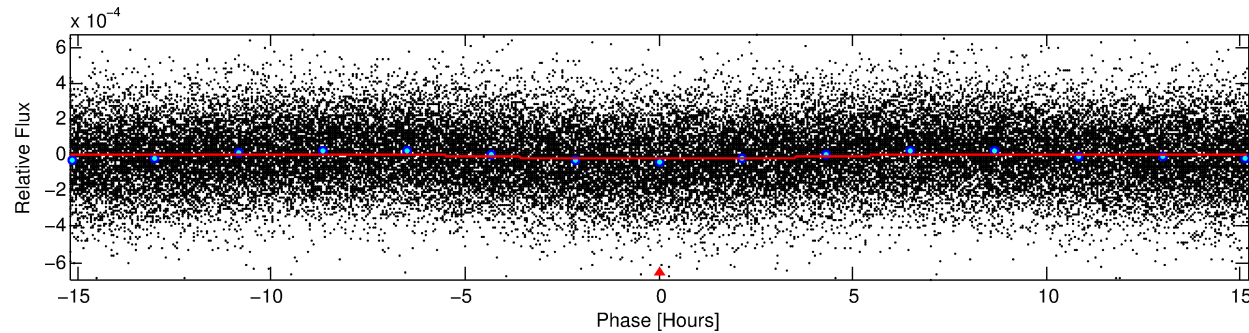
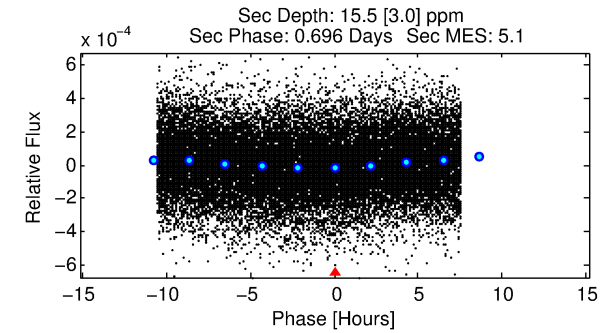
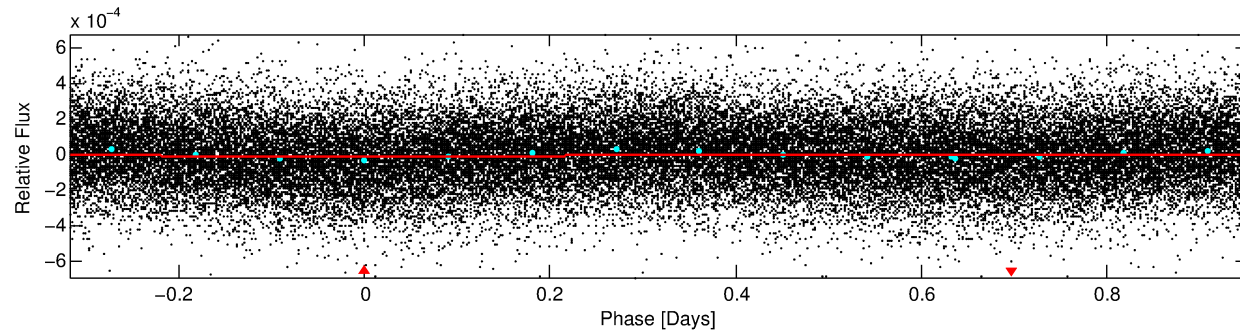
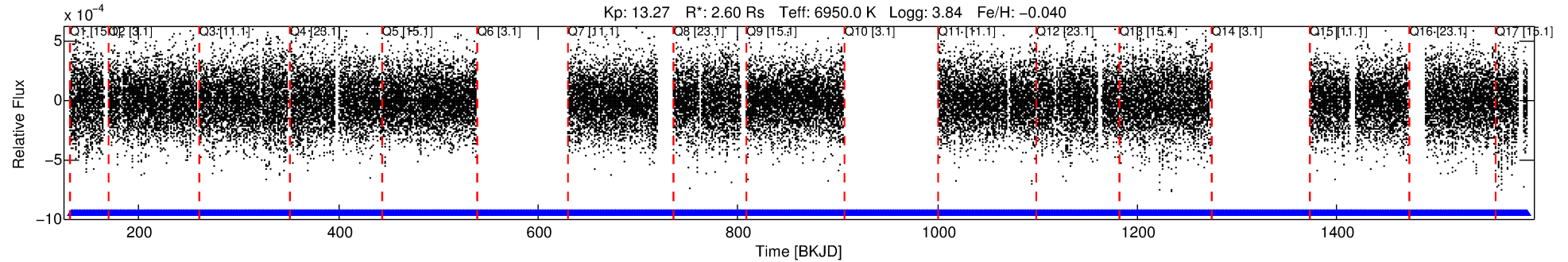
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004372282-01

No Significant Match Found

# DV One-Page Summary

KIC: 4372282 Candidate: 1 of 1 Period: 1.268 d



## DV Fit Results:

Period = 1.26811 [0.00003] d  
Epoch = 132.4326 [0.0086] BKJD  
Rp/R\* = 0.0035 [0.0042]  
a/R\* = 1.12 [1.51]  
b = 0.06 [117.40]  
Seff = 18800.18 [9113.20]  
Teq = 2986 [362] K  
Rp = 0.99 [1.24] Re  
a = 0.0274 [0.0082] AU  
Ag = 6.54 [16.09] [0.34σ]  
Teffp = 7381 [4471] K [0.98σ]

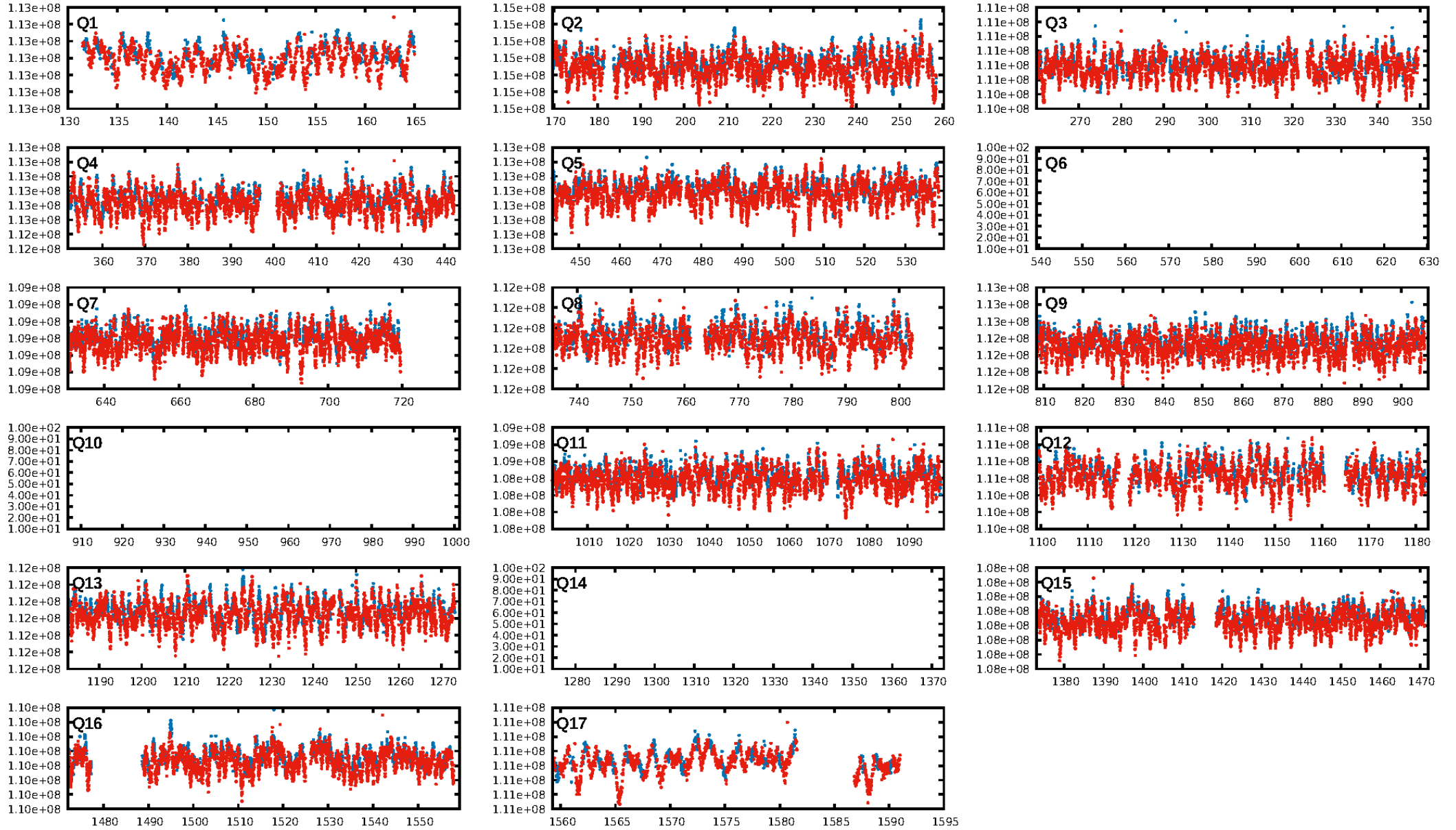
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [808/808]  
GhostDiagnostic-chr: 0.2009  
Centroid-sig: 0.0%  
Centroid-so: 4.582 arcsec [4.13σ]  
OotOffset-rm: 1.640 arcsec [3.65σ]  
KicOffset-rm: 1.630 arcsec [3.69σ]  
OotOffset-st: 0/4/4/5 [13]  
KicOffset-st: 0/4/4/5 [13]  
DiffImageQuality-fgm: 1.00 [13/13]  
DiffImageOverlap-fno: 1.00 [14/14]

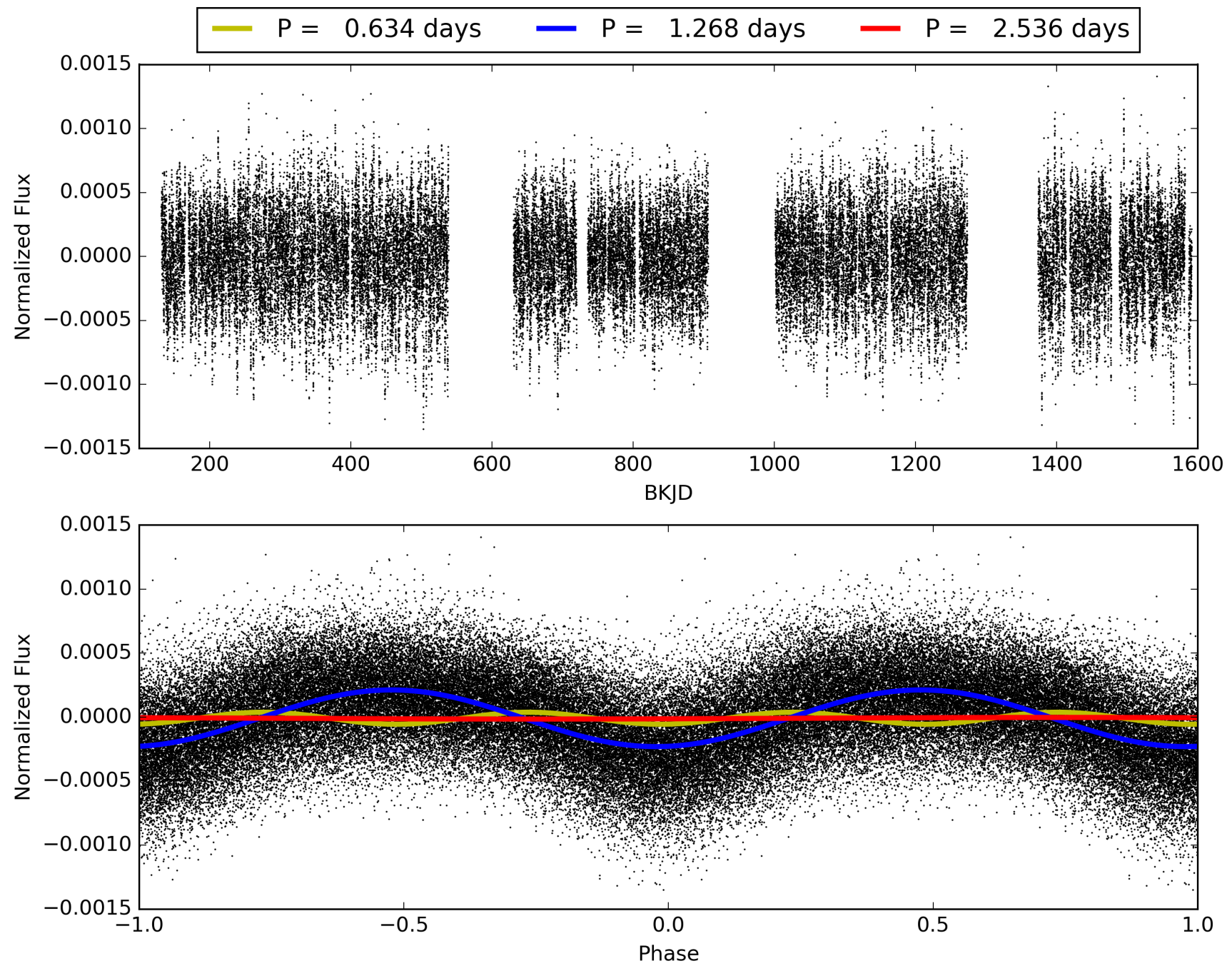
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:39:10 Z

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

# TCE 004372282-01, PDC Light Curves

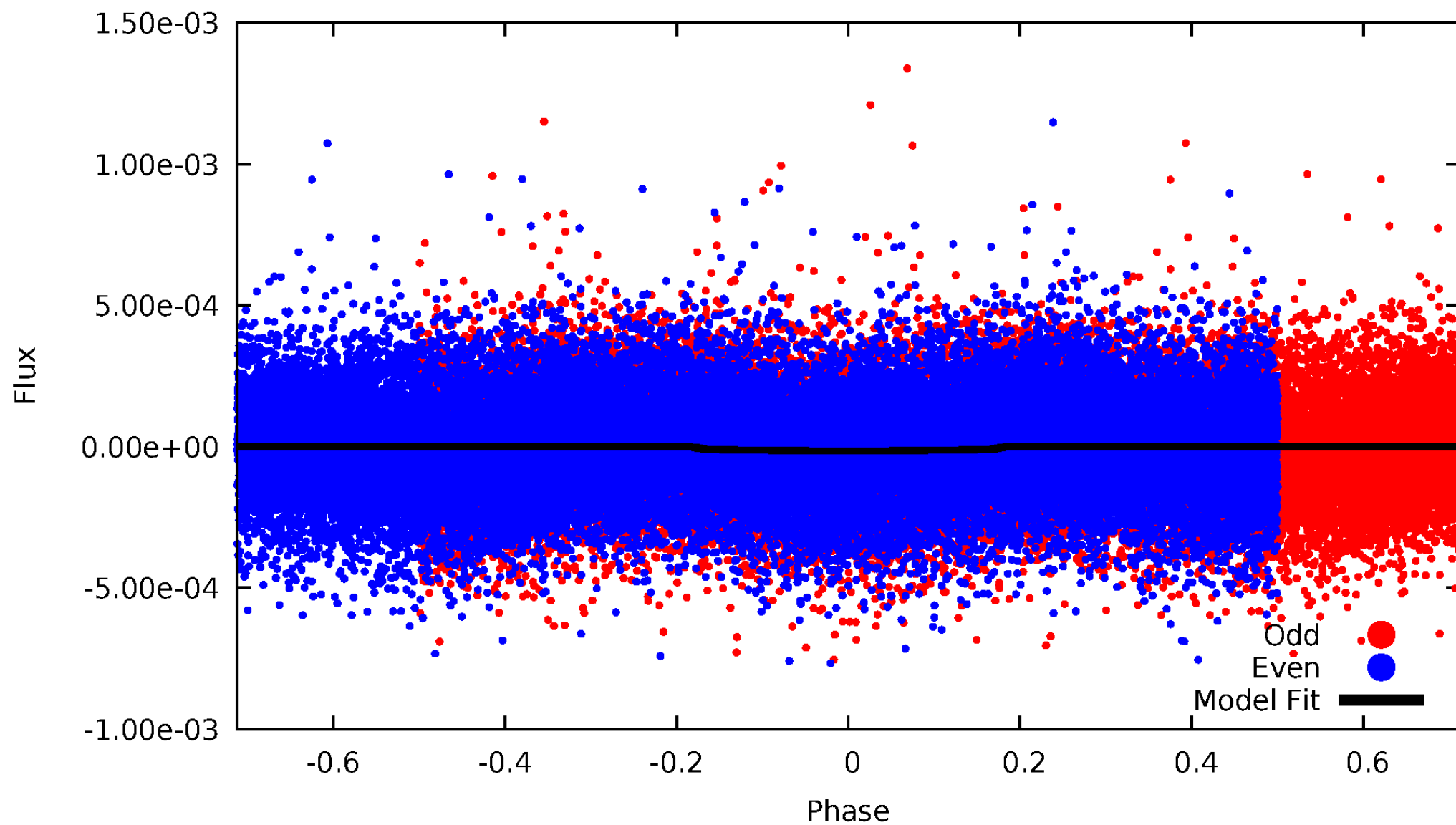


TCE 004372282-01



# DV Odd/Even

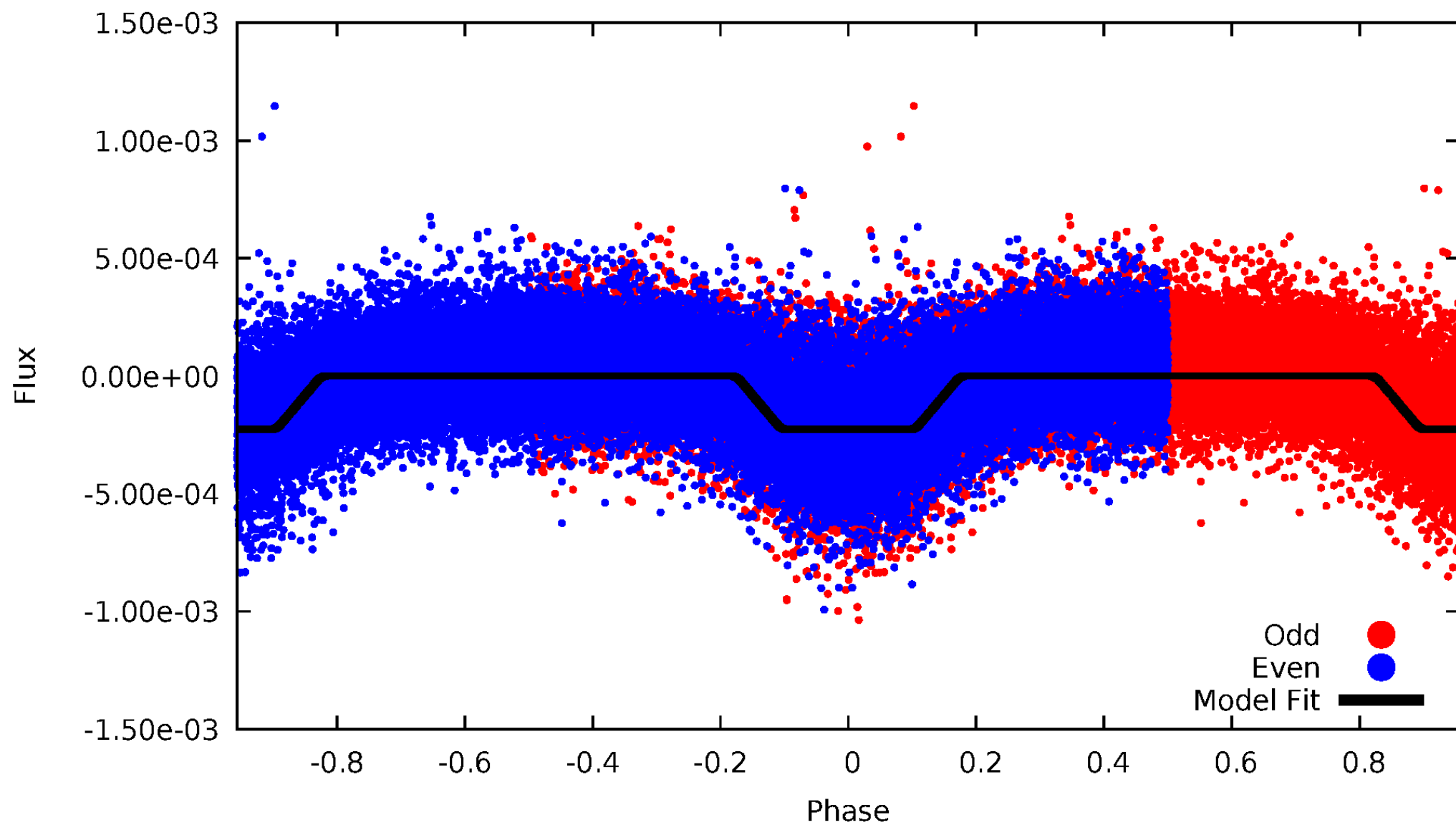
TCE 004372282-01





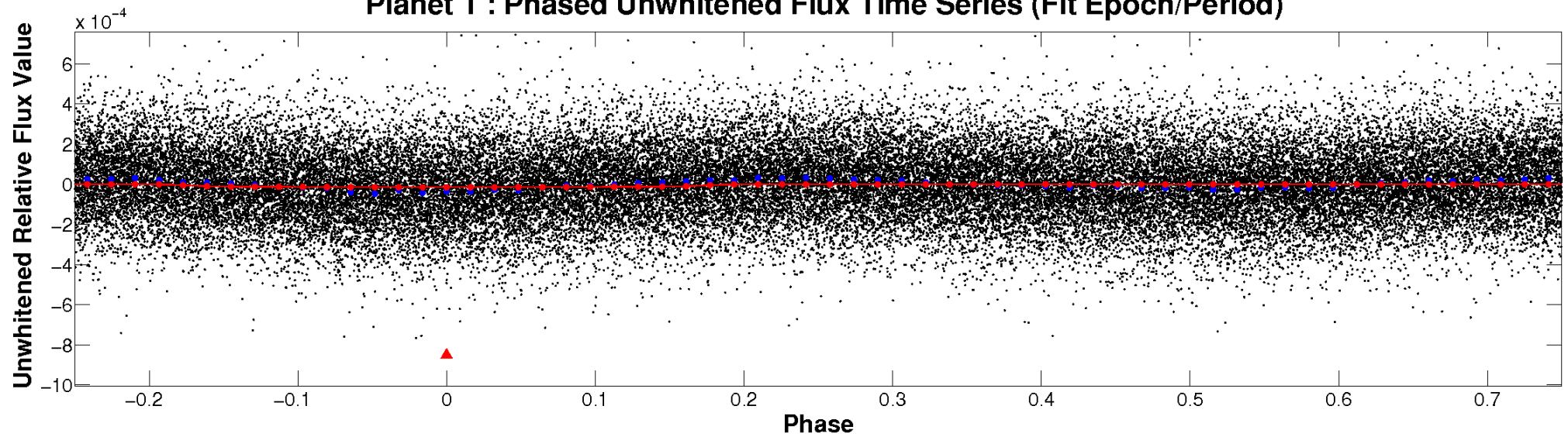
# ALT Odd/Even

TCE 004372282-01

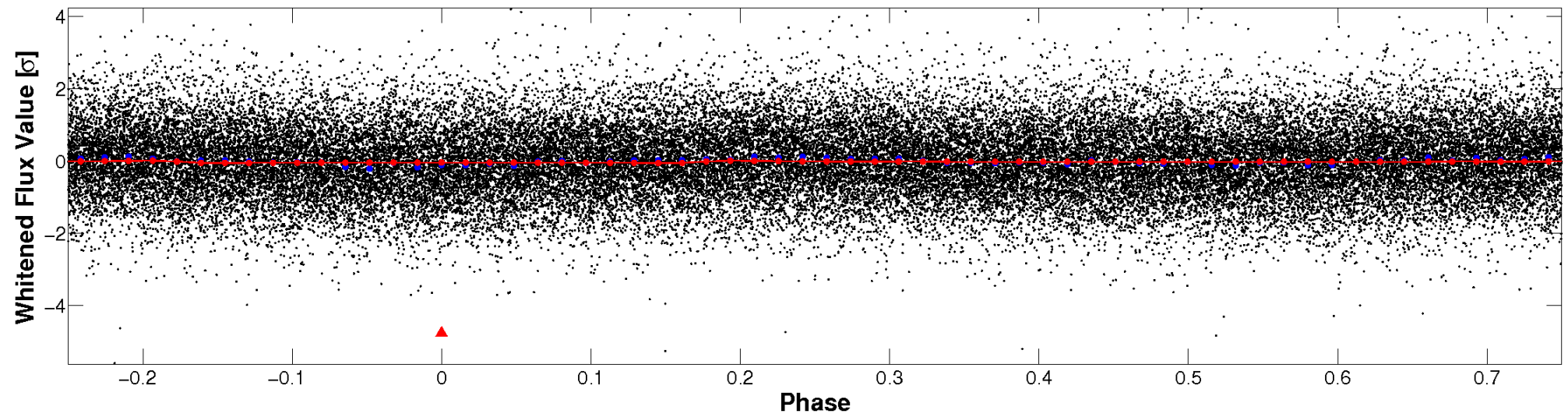


# Non-Whitened Vs. Whitened Light Curve

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

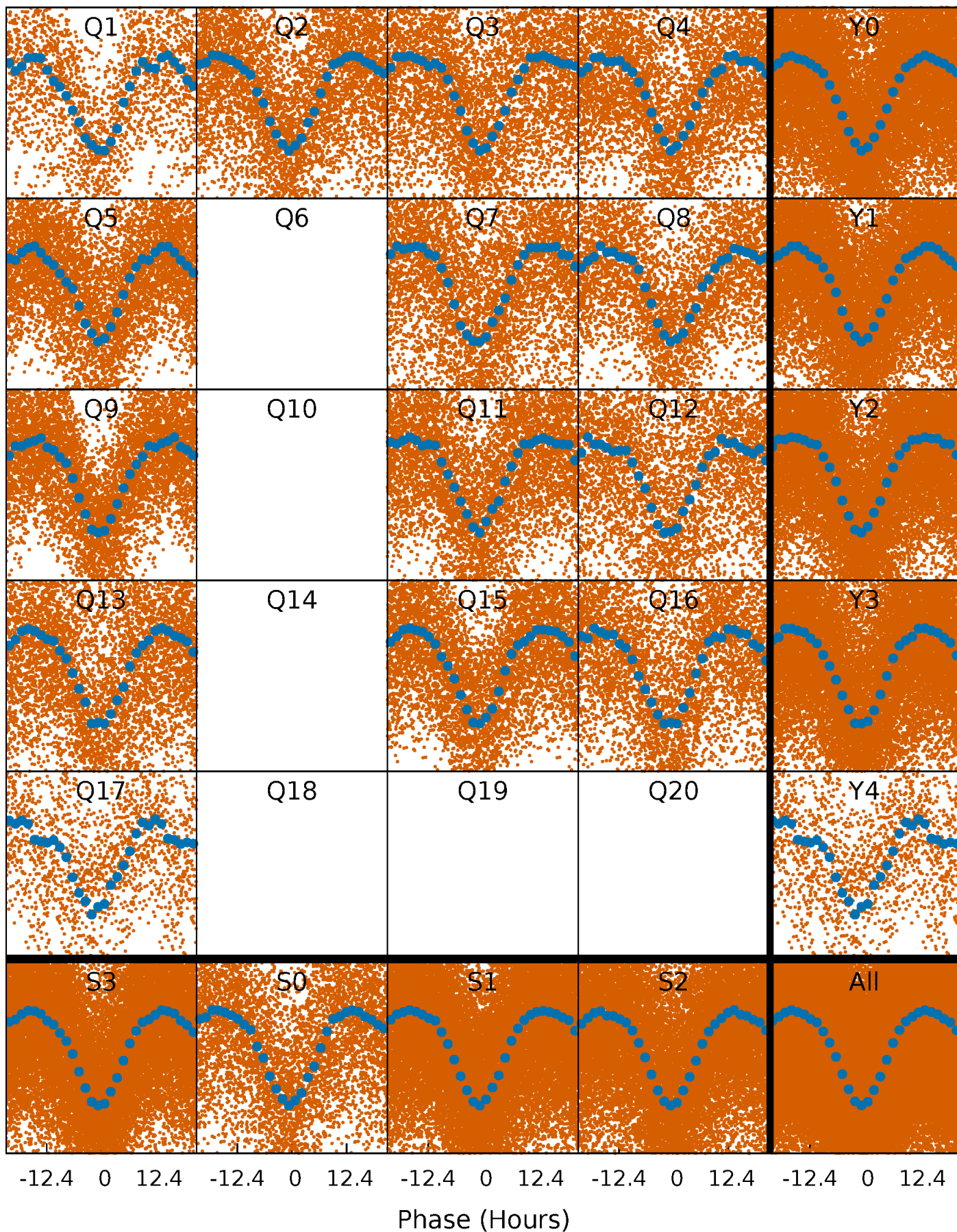


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

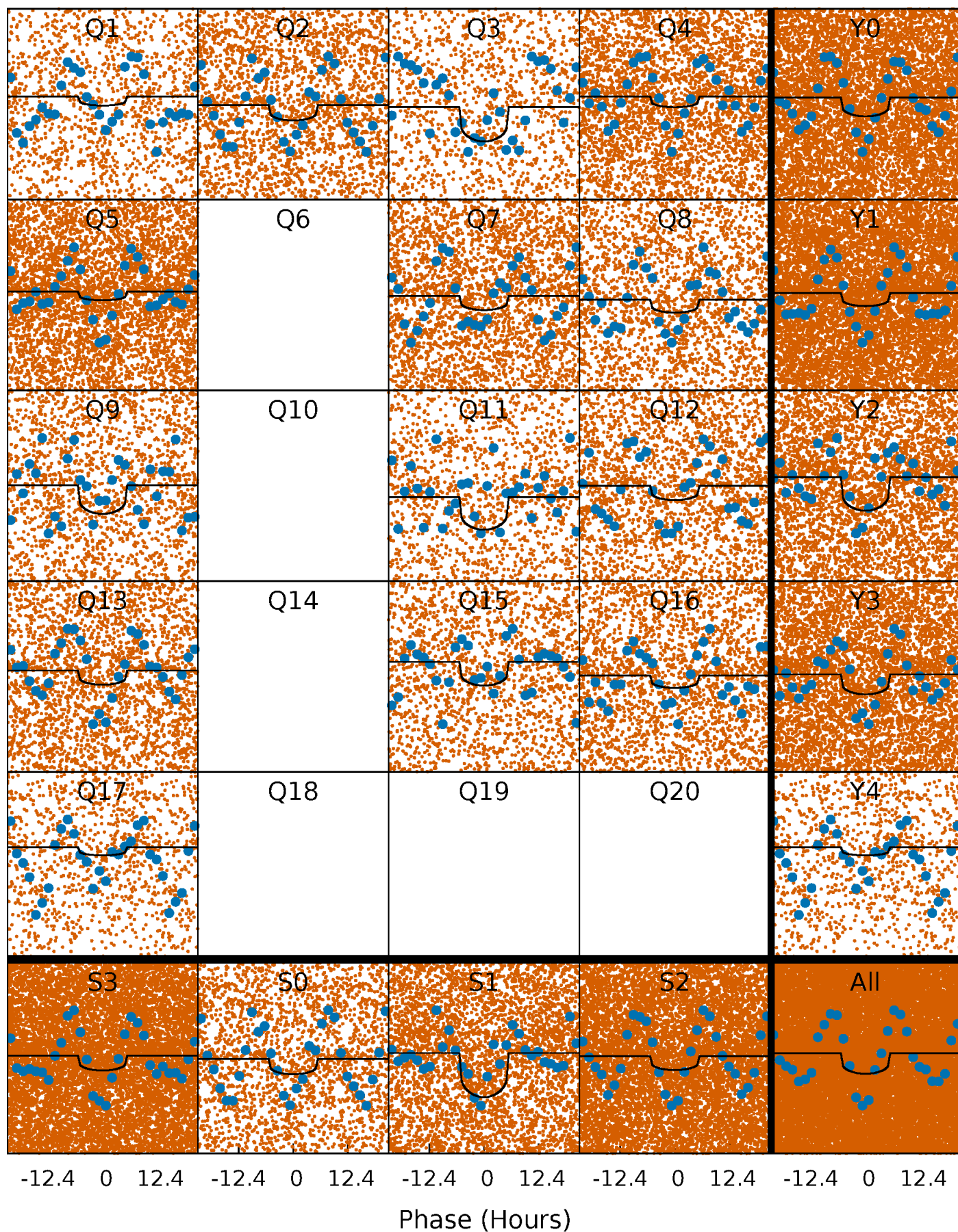
TCE 004372282-01   P= 1.268111 Days    $T_0=132.432600$  (BKJD)





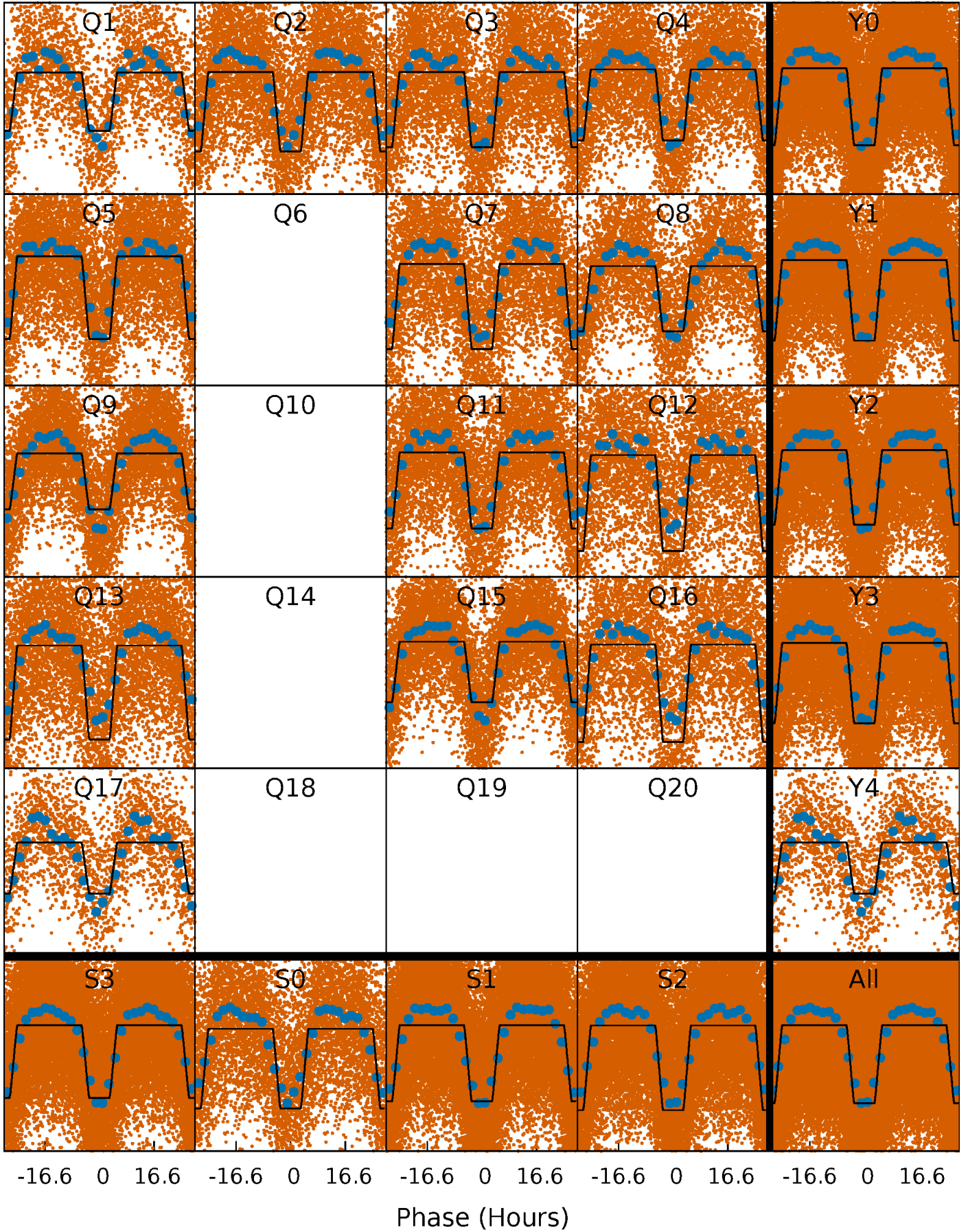
# DV Quarter-Phased Transit Curves

TCE 004372282-01 P= 1.268111 Days  $T_0=132.432600$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

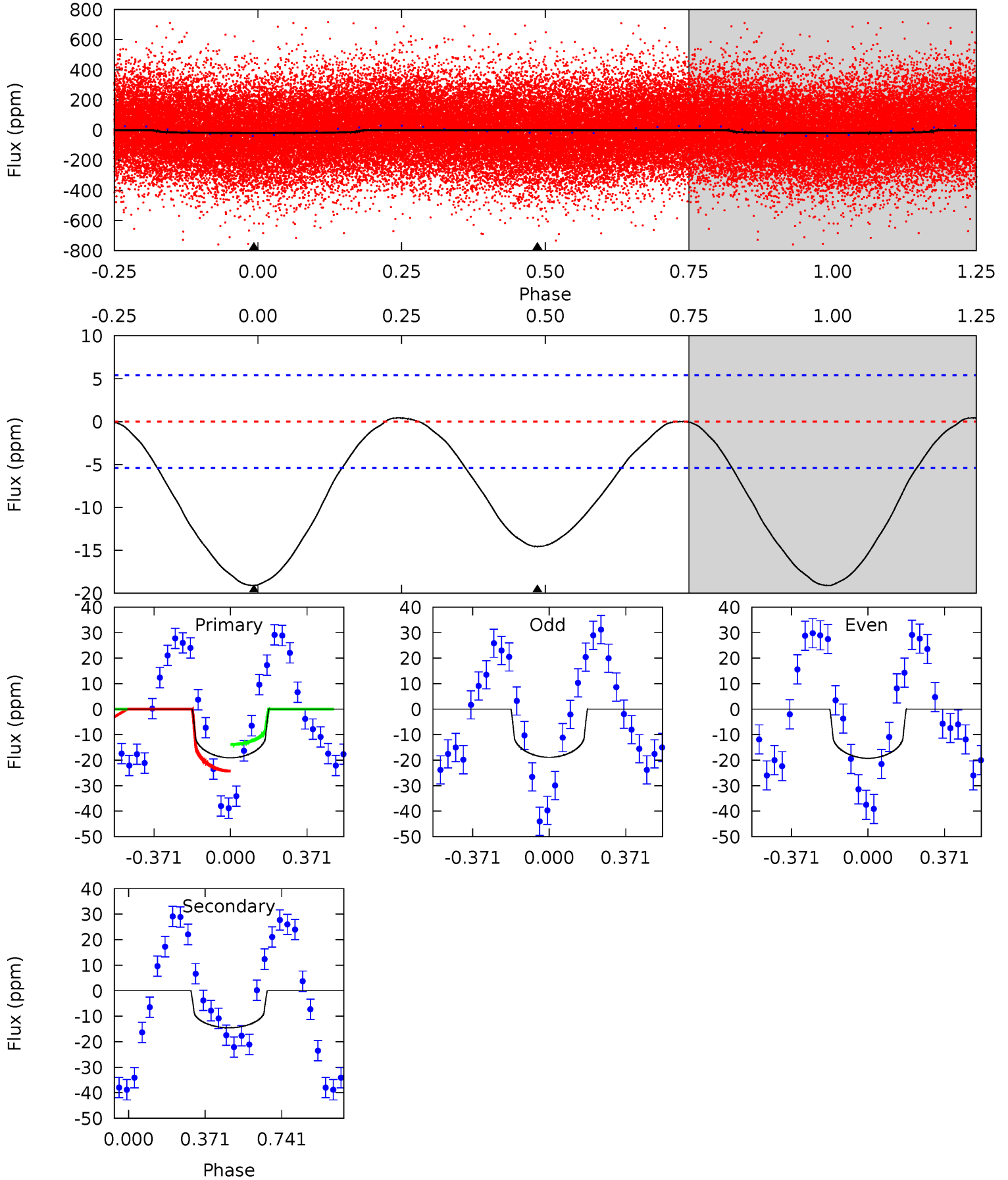
TCE 004372282-01   P= 1.268077 Days    $T_0=132.428292$  (BKJD)



# DV Model-Shift Uniqueness Test

004372282-01, P = 1.268111 Days, E = 131.164489 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
15.1	11.5	0	0	4.28	0.90	0.22	15.1	15.1	11.5	11.5	0.15	1.14	0.02	4.05

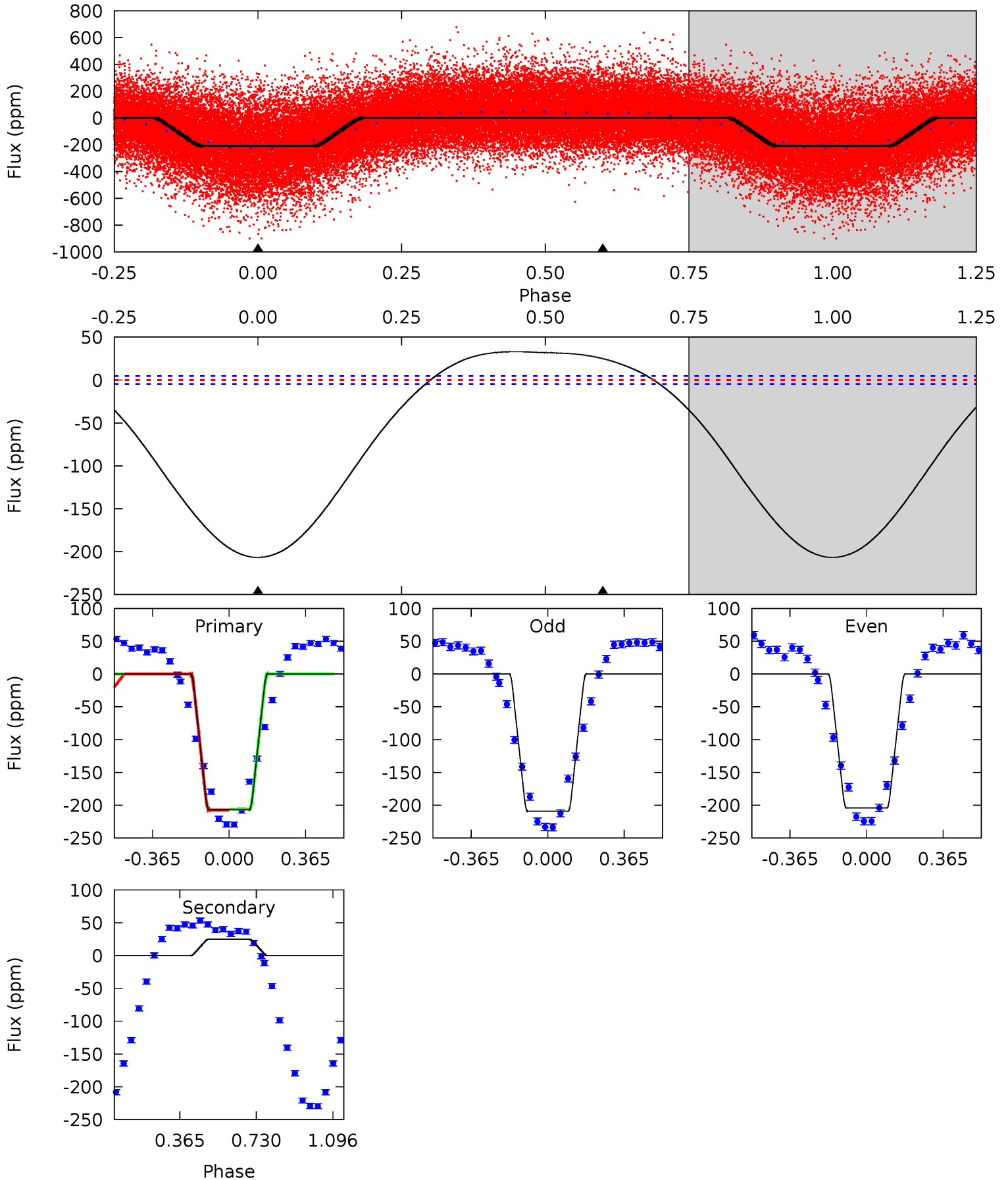




# Alt Model-Shift Uniqueness Test

004372282-01, P = 1.268077 Days, E = 131.160215 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
190.6	-23.0	0	0	4.29	0.91	14.6	190.6	190.6	-23.0	-23.0	2.39	1.03	0.14	0.45





### Stellar Parameters For KIC 004372282

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6950^{+187}_{-250}$	$3.841^{+0.266}_{-0.114}$	$-0.040^{+0.250}_{-0.300}$	$2.602^{+0.458}_{-0.851}$	$1.709^{+0.149}_{-0.349}$	$0.137^{+0.235}_{-0.048}$
	+3%/-4%	+7%/-3%	+625%/-750%	+18%/-33%	+9%/-20%	+172%/-35%
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 004372282-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-15 \pm 1$	$1.19^{+1.08}_{-0.78}$	$4102^{+267}_{-348}$	$6230^{+6391}_{-1667}$	$4.215^{+32.664}_{-3.068}$
Alt.	$25 \pm 1$	$4.09^{+1.40}_{-1.28}$	$4107^{+260}_{-325}$	$-4555^{+271}_{-465}$	$-0.601^{+0.261}_{-0.668}$

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

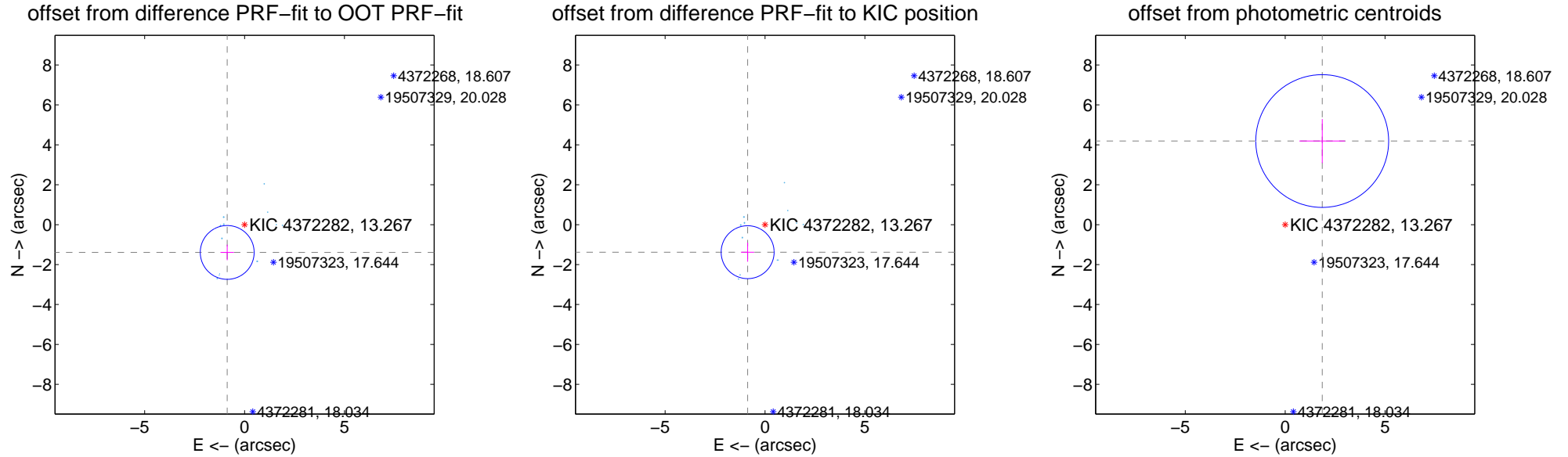
## DV Centroid Data

Supplemental centroid analysis for 004372282-01. Kepler magnitude: 13.27. Transit SNR 5.85

There are 13 quarters with good PRF difference image offsets

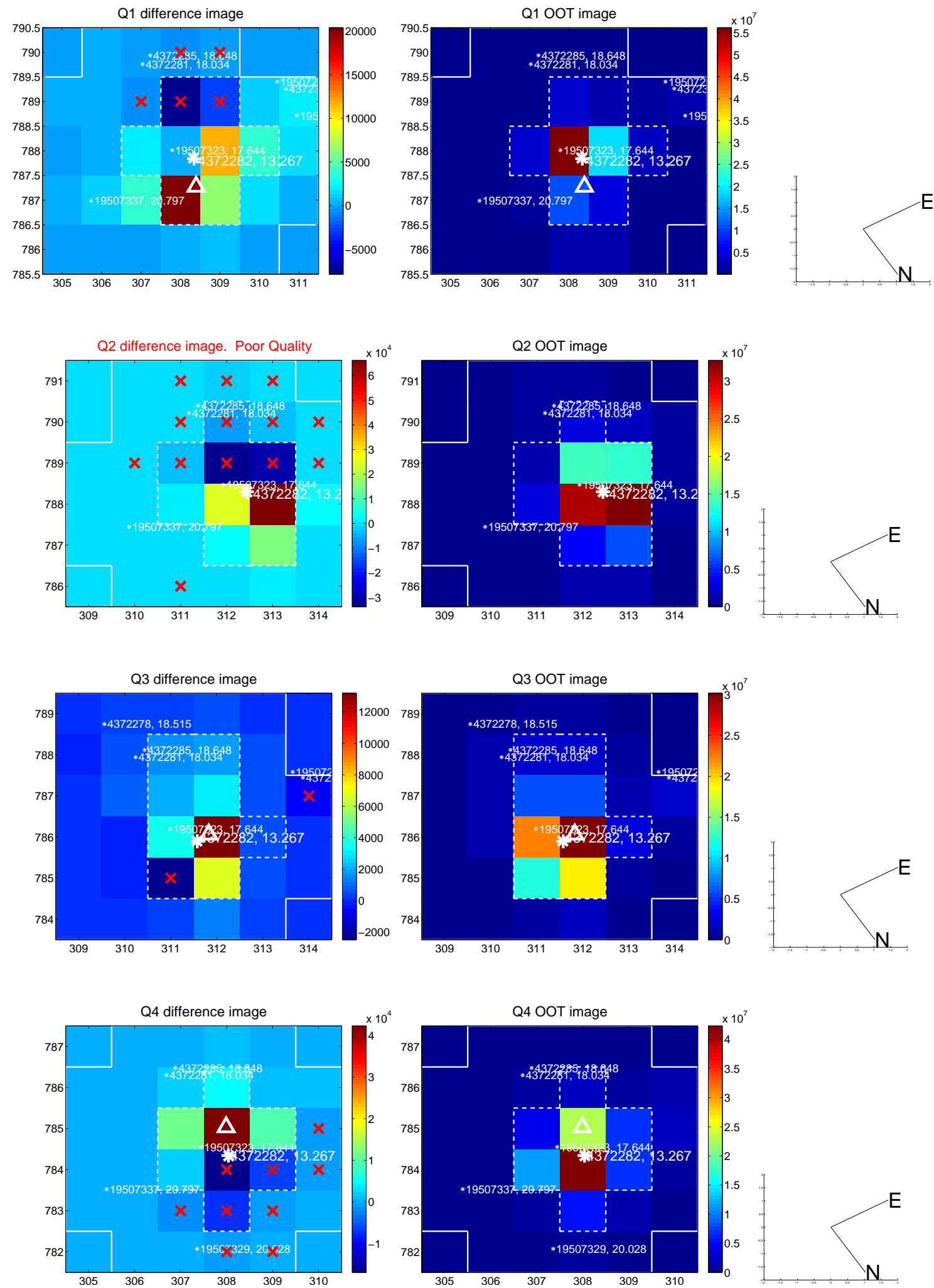
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.640 \pm 0.449$	<b>3.65</b>	$0.868 \pm 0.336$	$-1.391 \pm 0.387$
PRF-fit source offset from KIC position	$1.630 \pm 0.442$	<b>3.69</b>	$0.870 \pm 0.330$	$-1.379 \pm 0.479$
photometric centroid source offset	$4.58 \pm 1.11$	<b>4.13</b>	$-1.85 \pm 1.14$	$4.19 \pm 1.10$

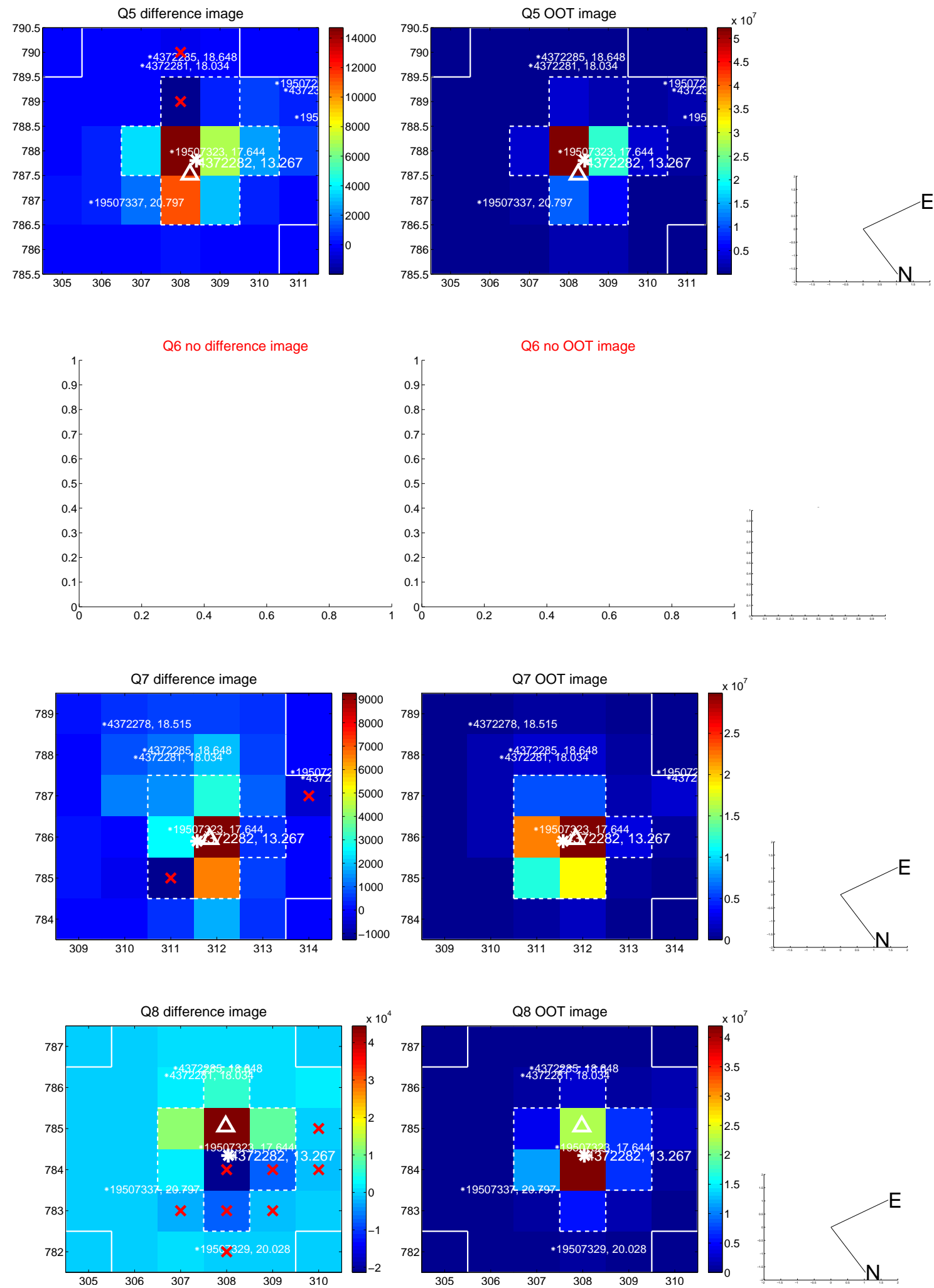


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

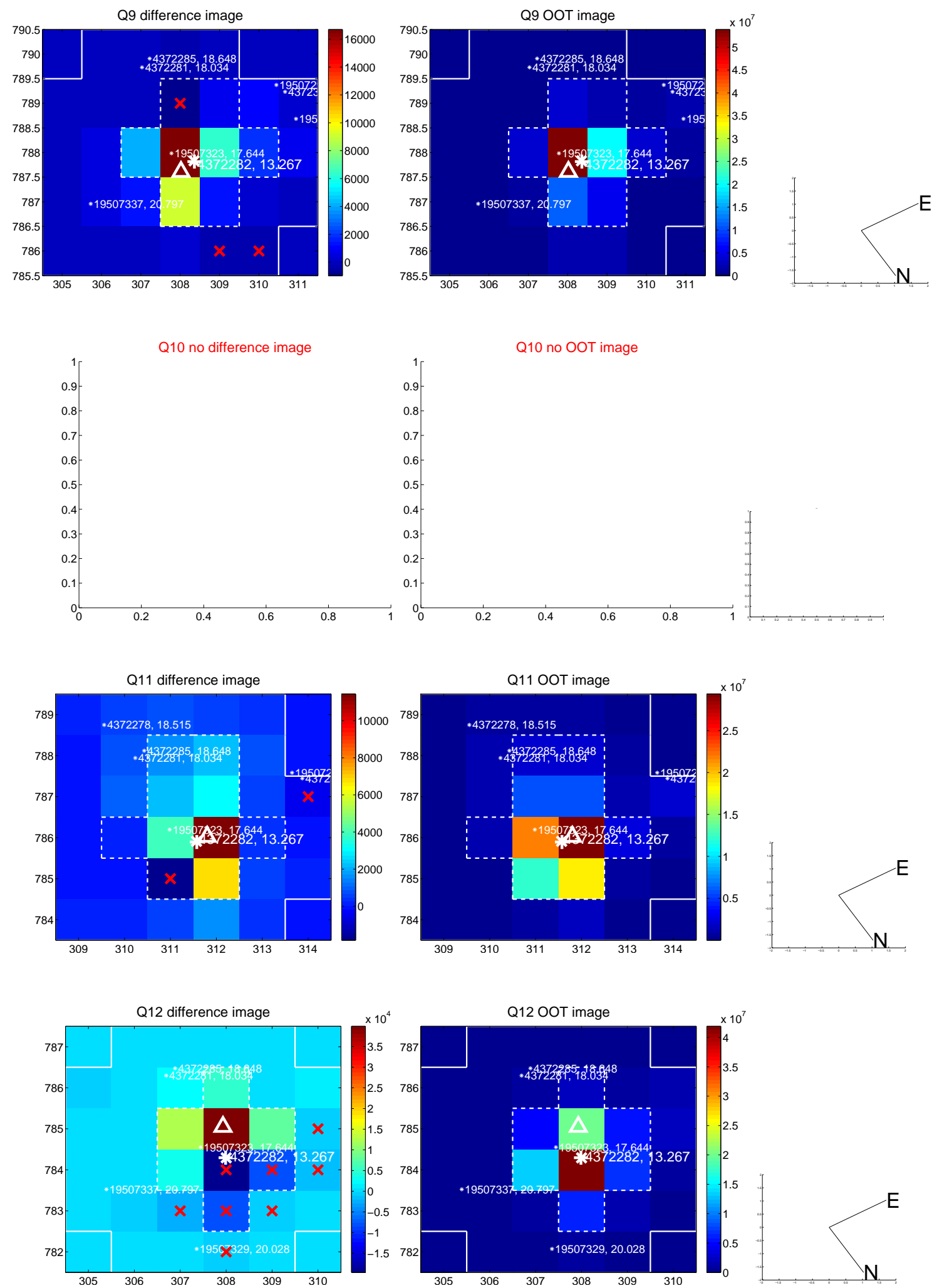


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

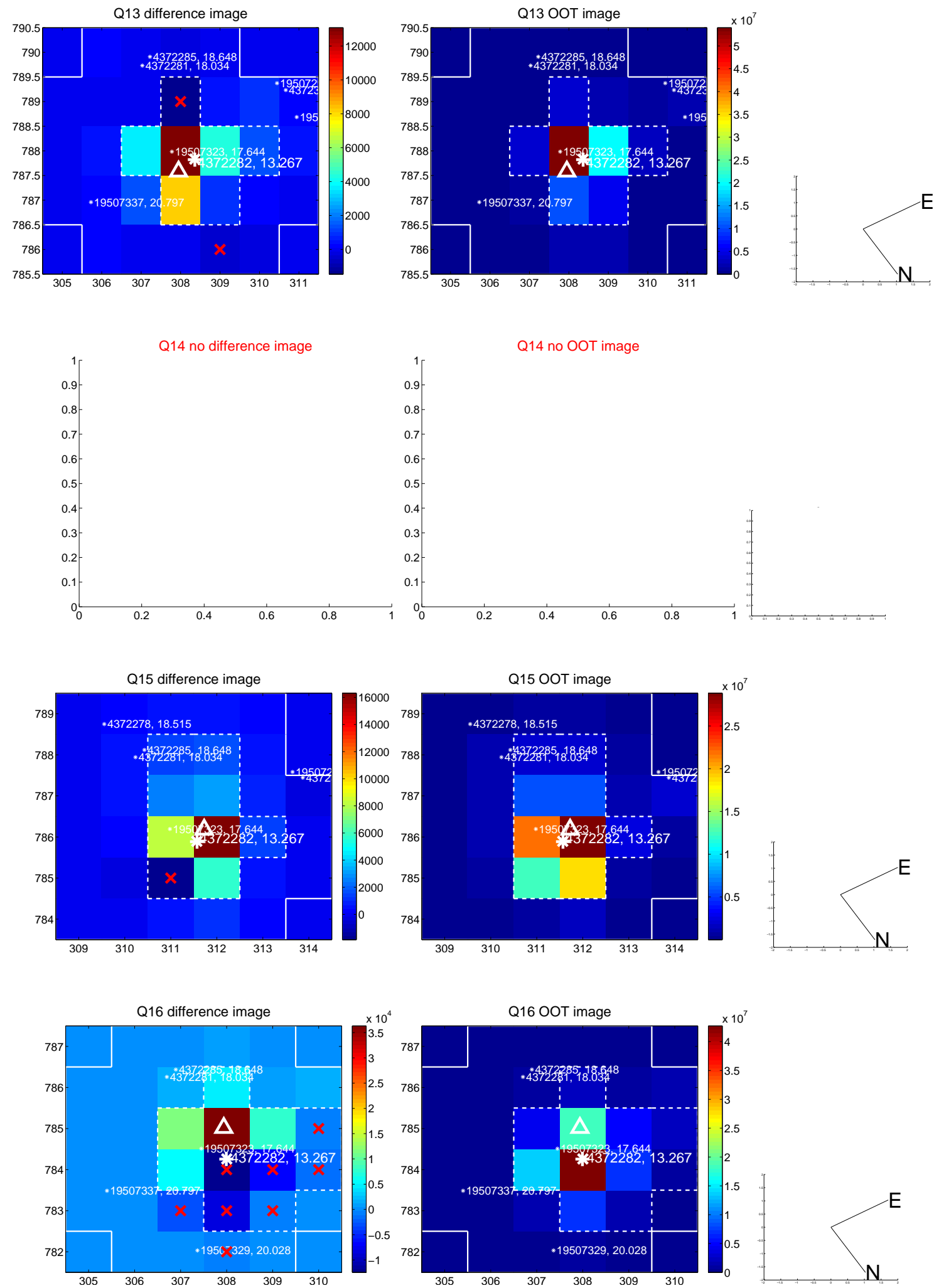




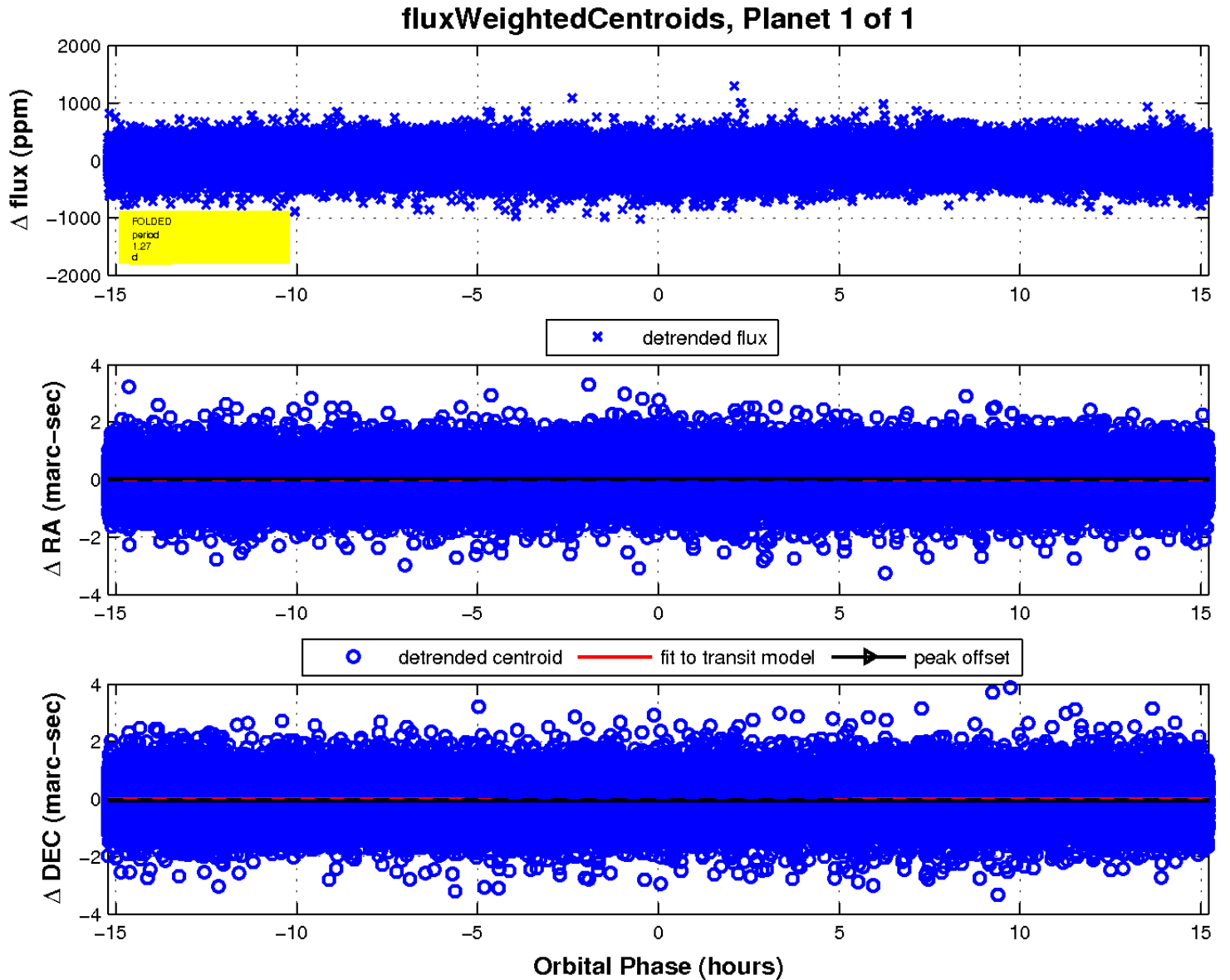
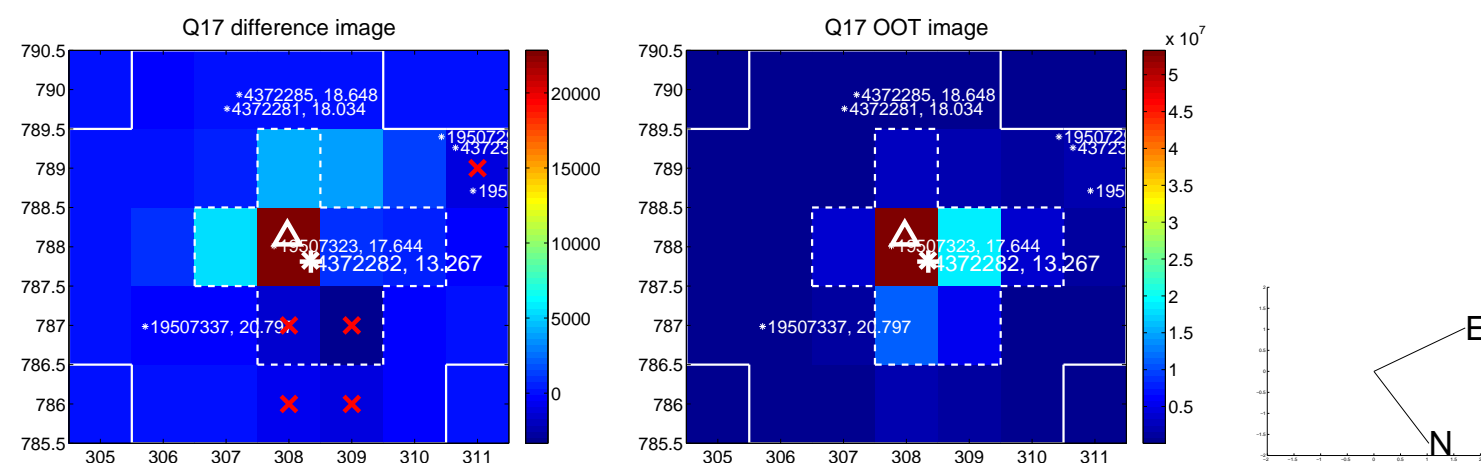
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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

