

# KIC 007373255

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007373255-01	OBS	No	13.659299	136.173155	209.2	41.597	16.6	31.1	1.48	6526	4.20	250.12

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007373255-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV

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

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

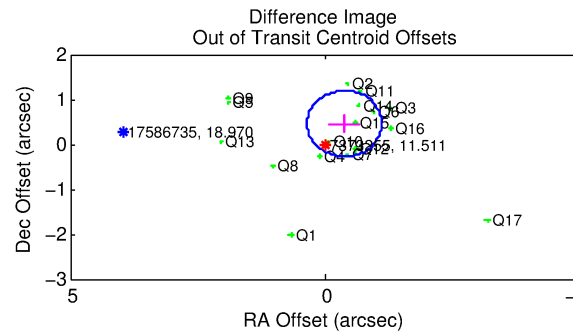
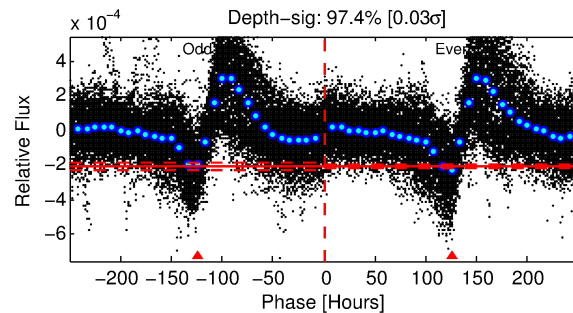
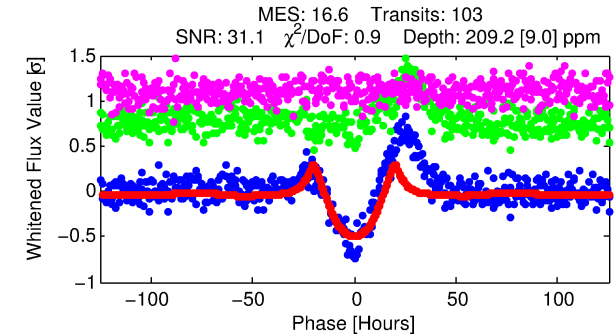
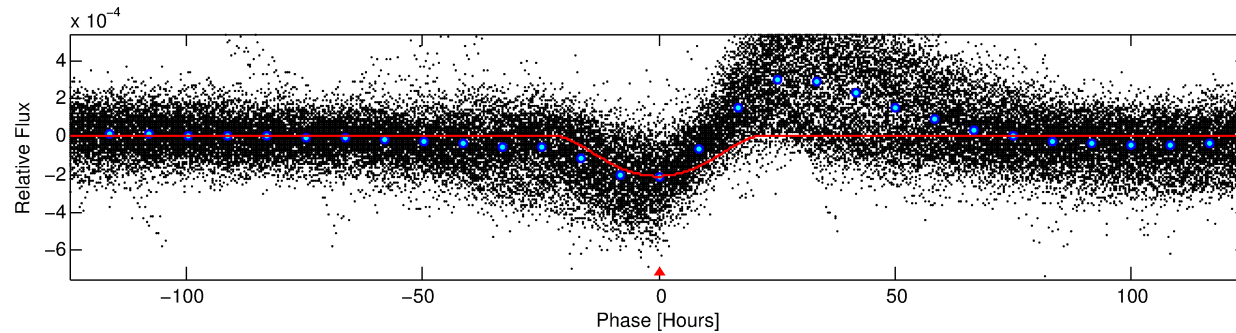
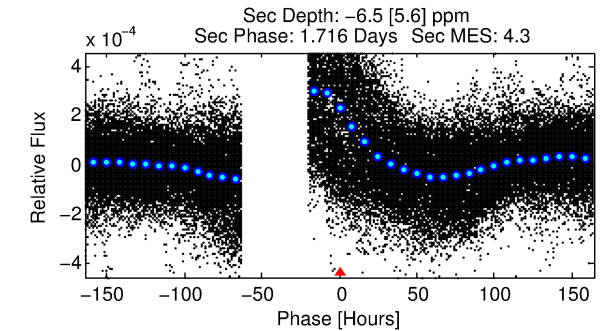
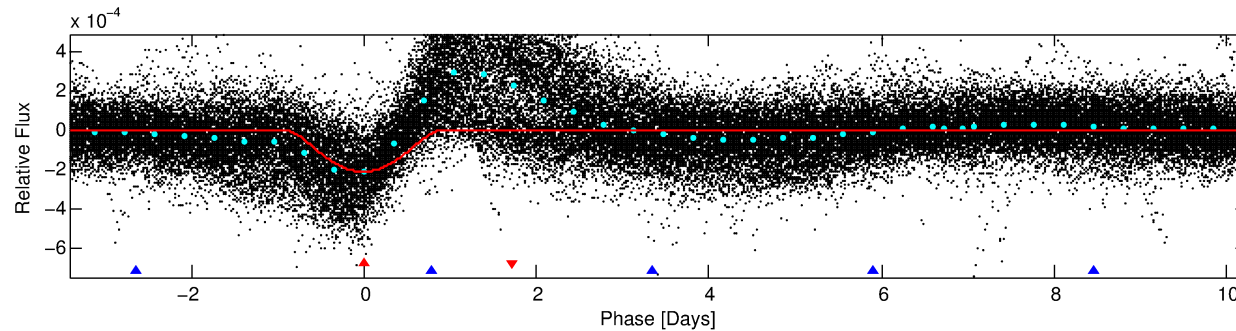
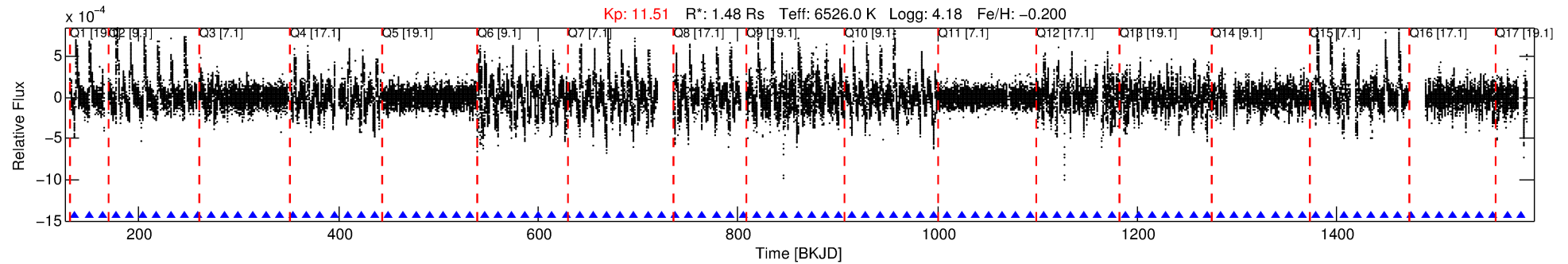
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007373255-01

No Significant Match Found

# DV One-Page Summary

KIC: 7373255 Candidate: 1 of 2 Period: 13.659 d



## DV Fit Results:

Period = 13.65930 [0.00031] d  
Epoch = 136.1732 [0.0181] BKJD  
Rp/R\* = 0.0260 [0.0083]  
a/R\* = 1.16 [0.02]  
b = 1.00 [0.01]  
Seff = 250.12 [75.78]  
Teq = 1014 [77] K  
Rp = 4.20 [1.60] Re  
a = 0.1195 [0.0222] AU  
Ag = N/A  
Teffp = N/A

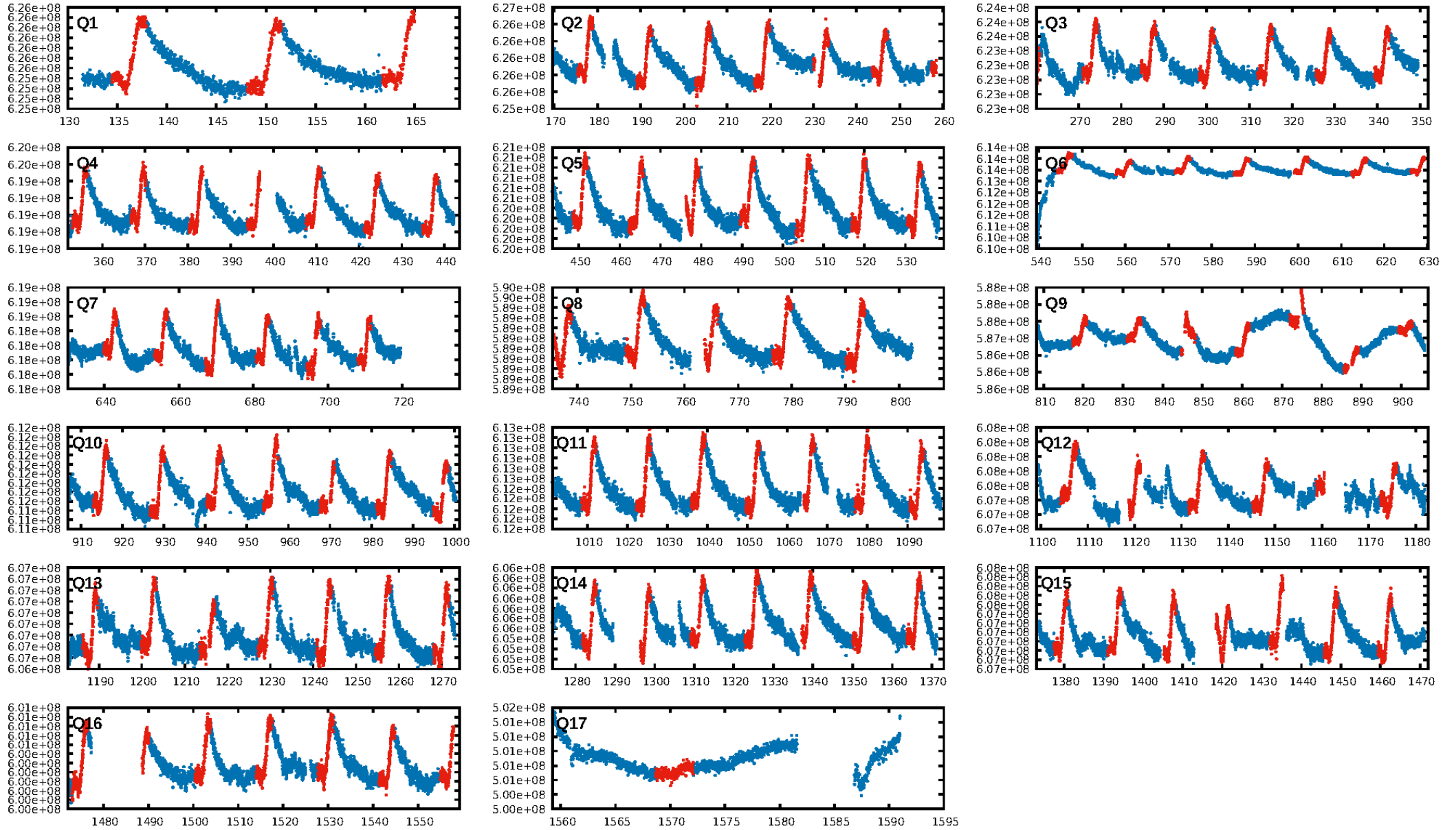
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [155.23σ]  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 6.15e-61  
RollingBand-fgt: 1.00 [99/99]  
GhostDiagnostic-chr: 3.187  
Centroid-sig: 2.4%  
Centroid-so: 0.142 arcsec [1.31σ]  
OotOffset-rm: 0.599 arcsec [2.44σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-rm: 0.807 arcsec [3.57σ]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.82 [14/17]  
DiffImageOverlap-fno: 1.00 [17/17]

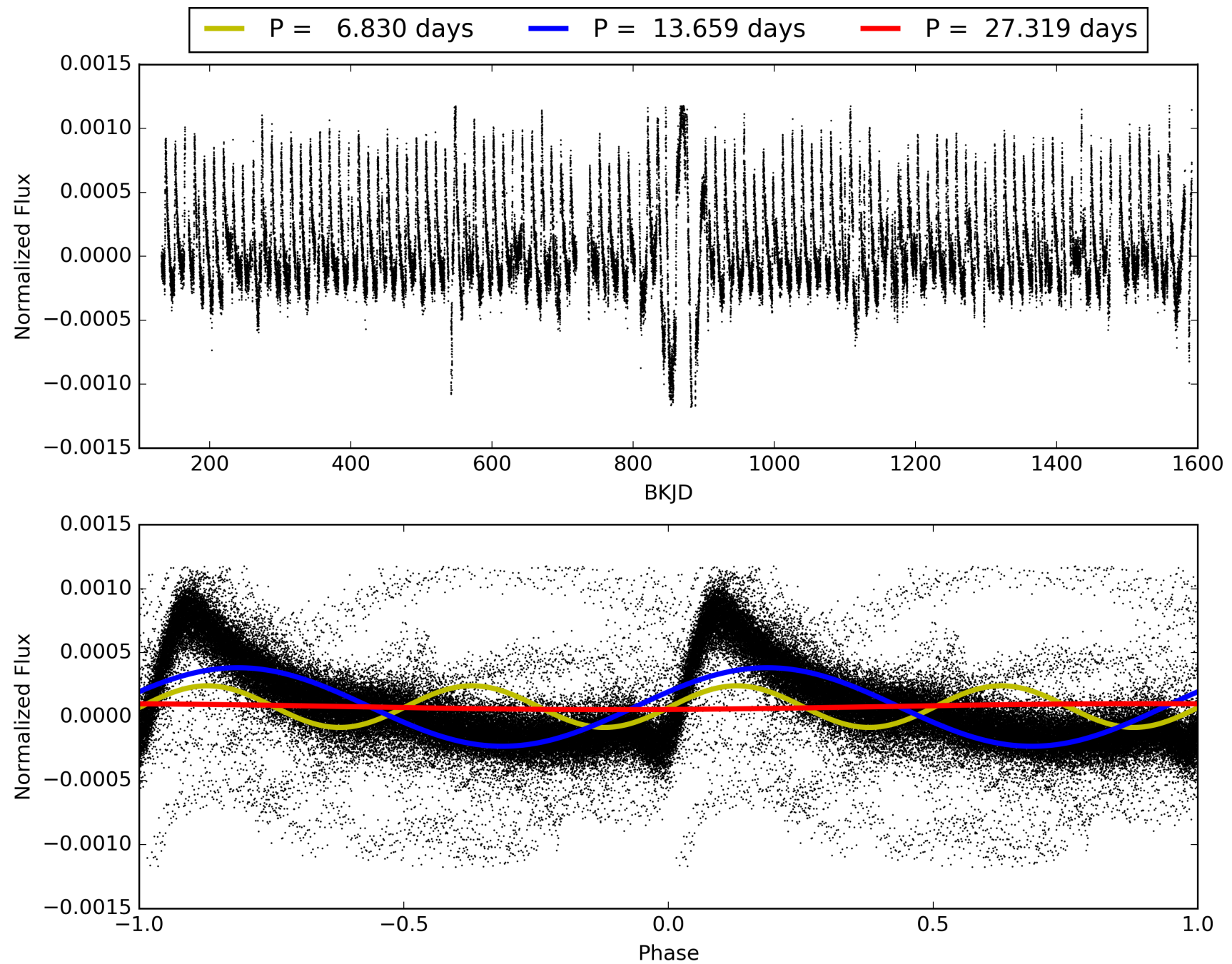
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 23:06:16 Z

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

# TCE 007373255-01, PDC Light Curves

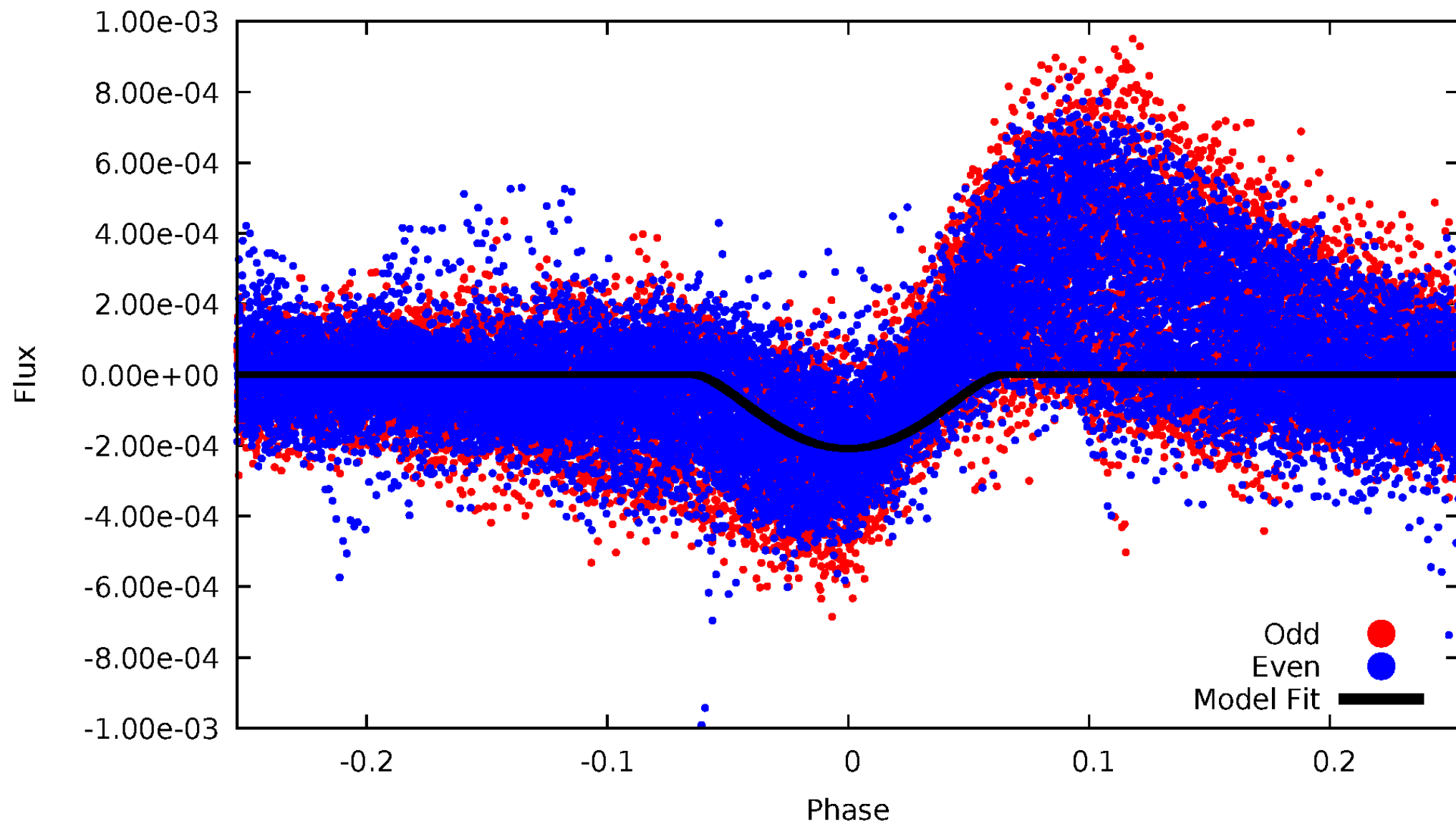


TCE 007373255-01



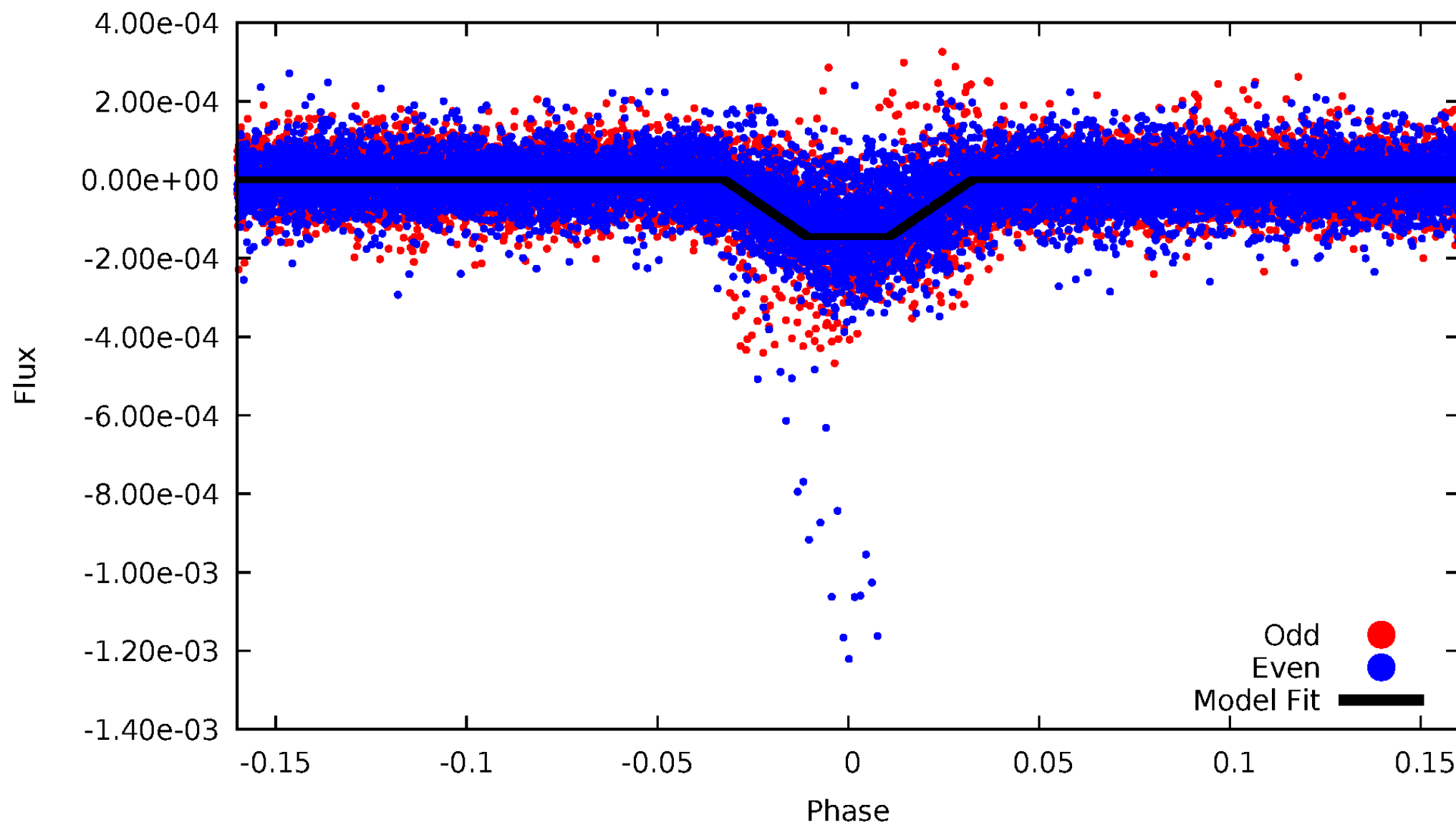
# DV Odd/Even

TCE 007373255-01



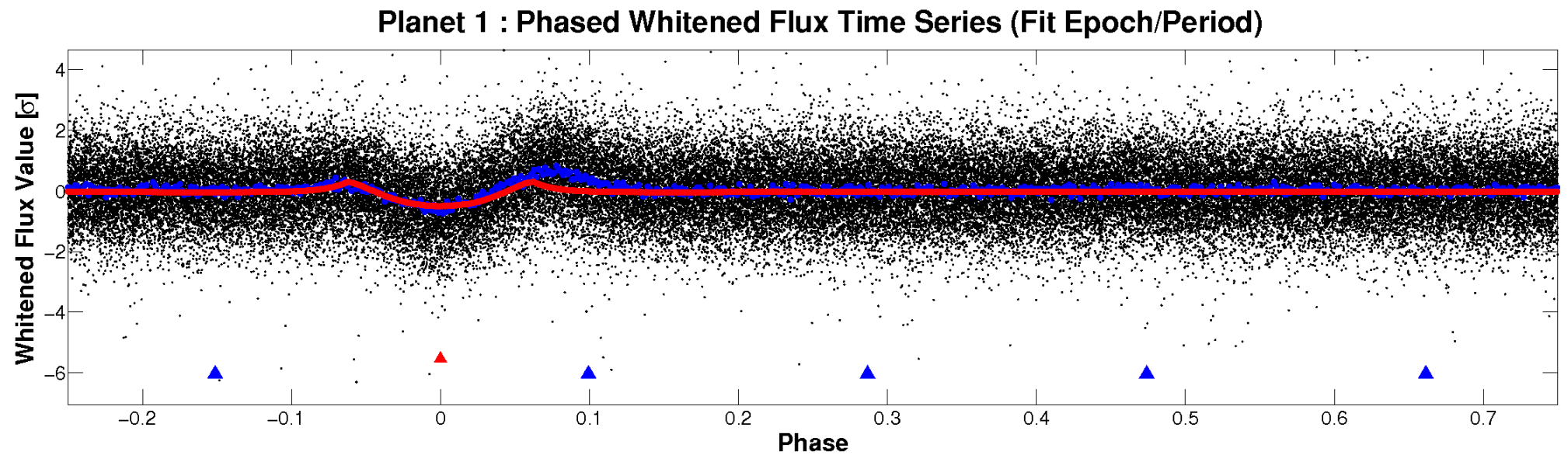
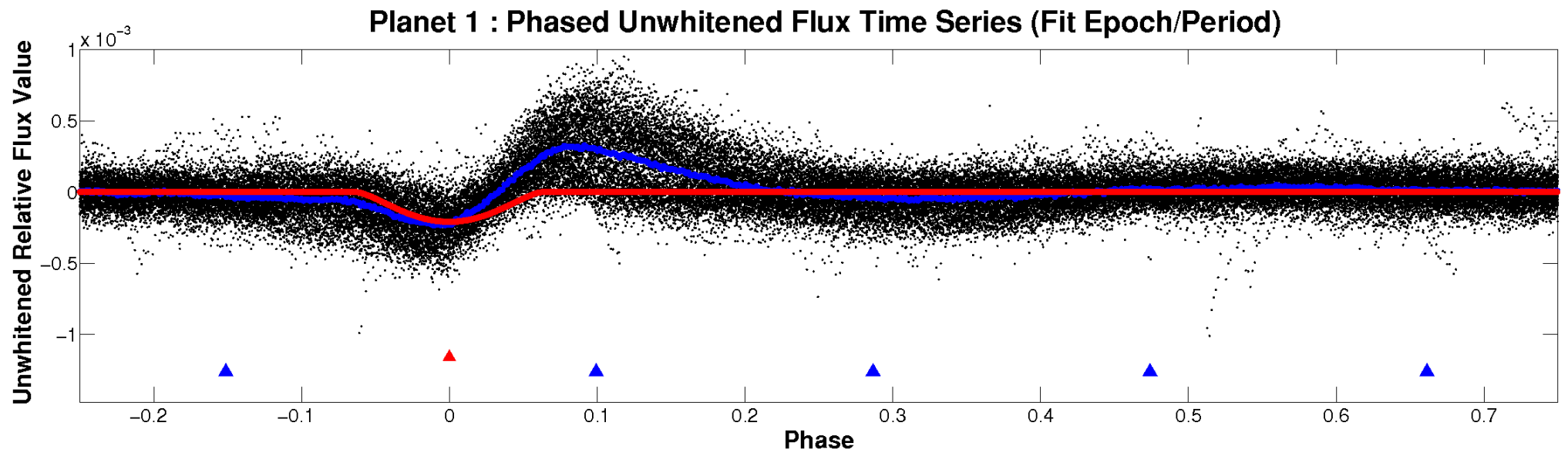
# ALT Odd/Even

TCE 007373255-01



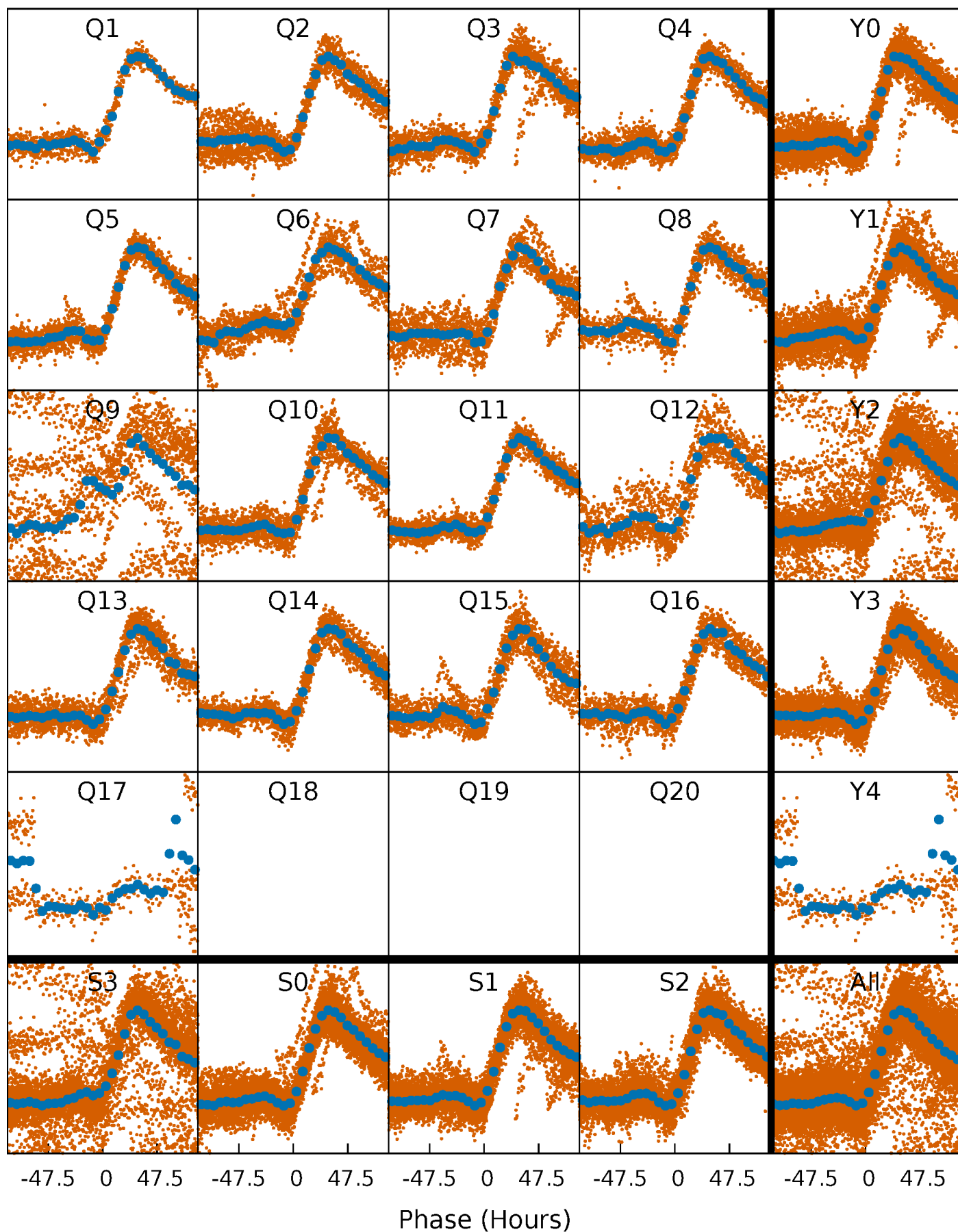


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

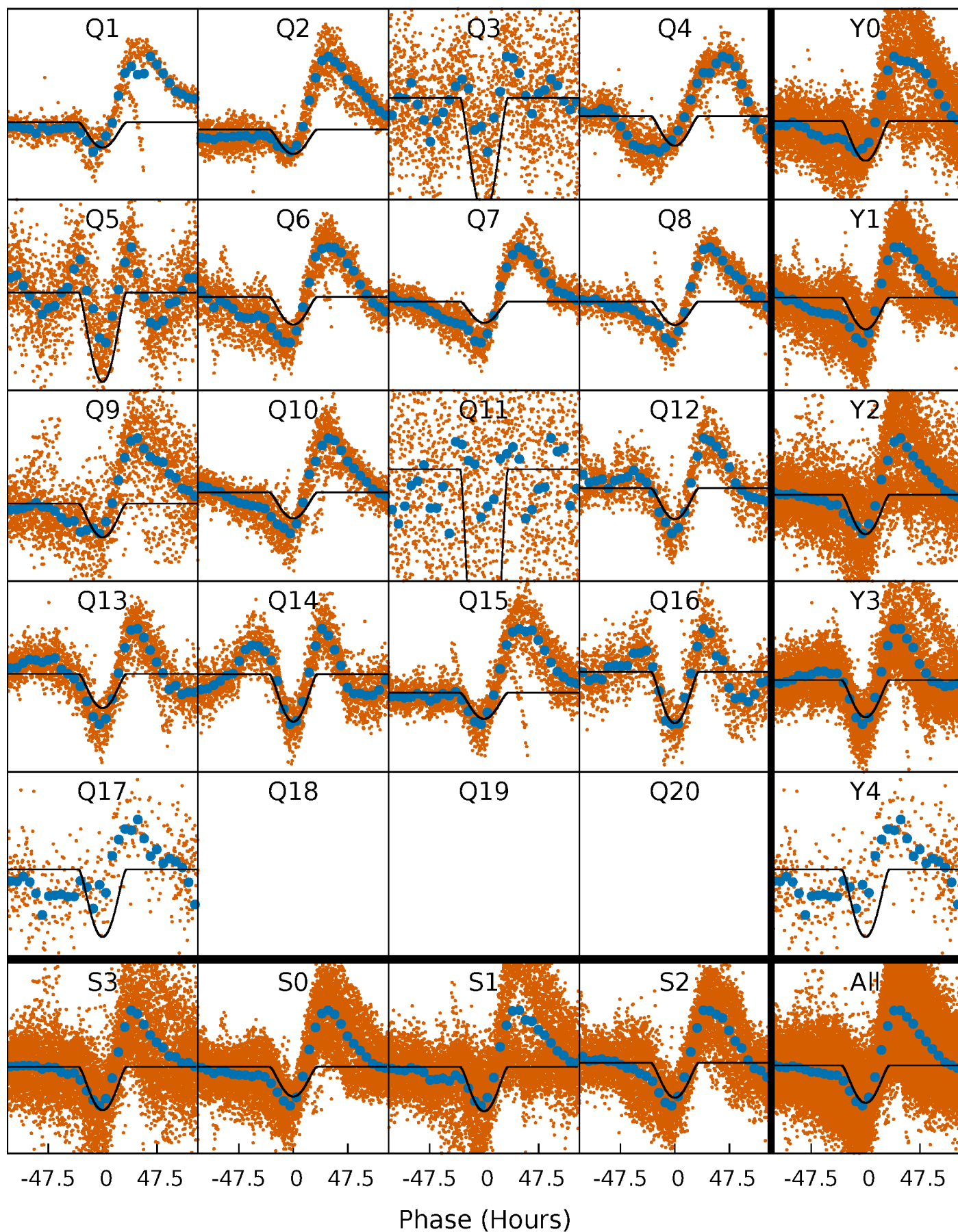
TCE 007373255-01 P= 13.659299 Days  $T_0=136.173155$  (BKJD)





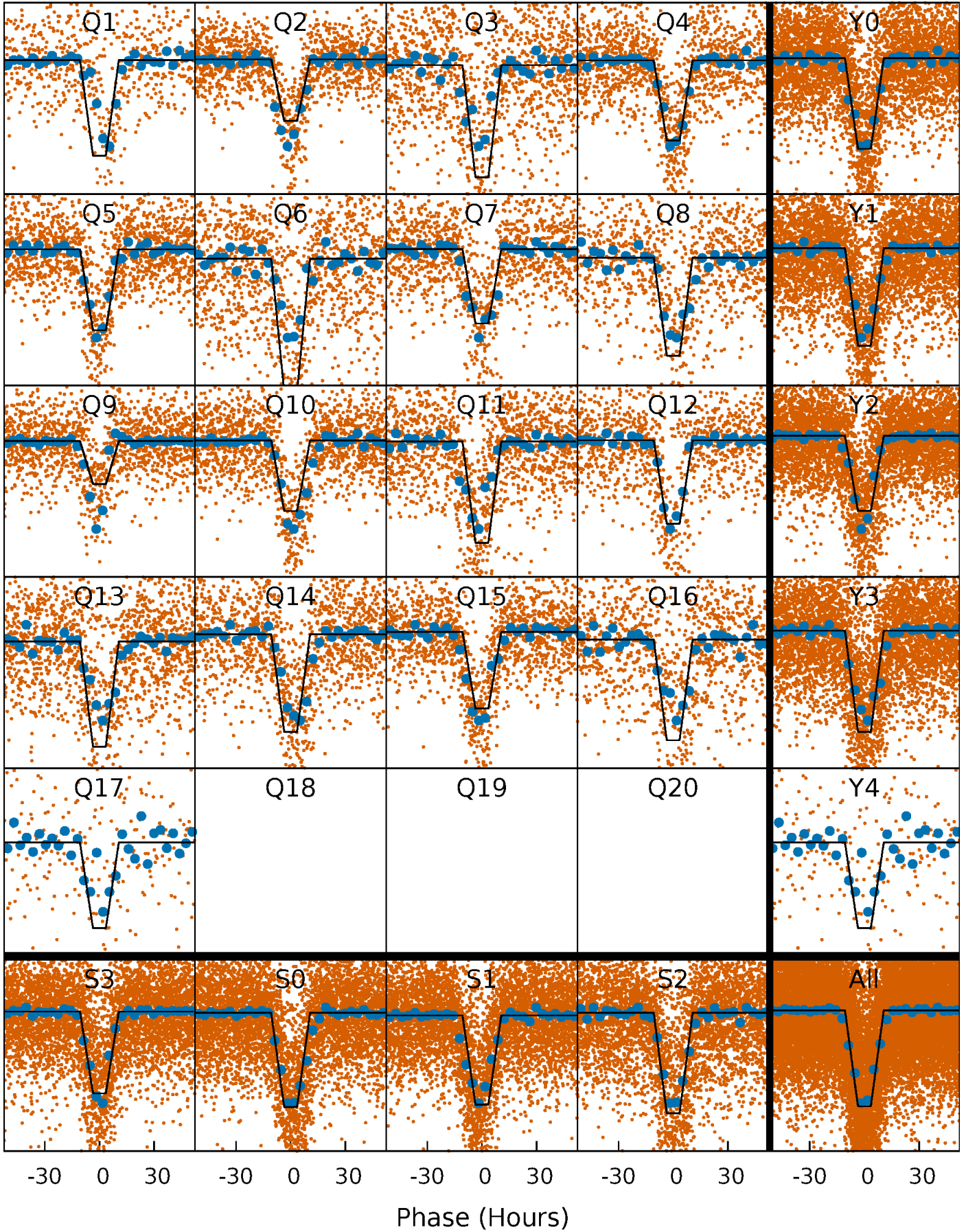
# DV Quarter-Phased Transit Curves

TCE 007373255-01 P= 13.659299 Days  $T_0=136.173155$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

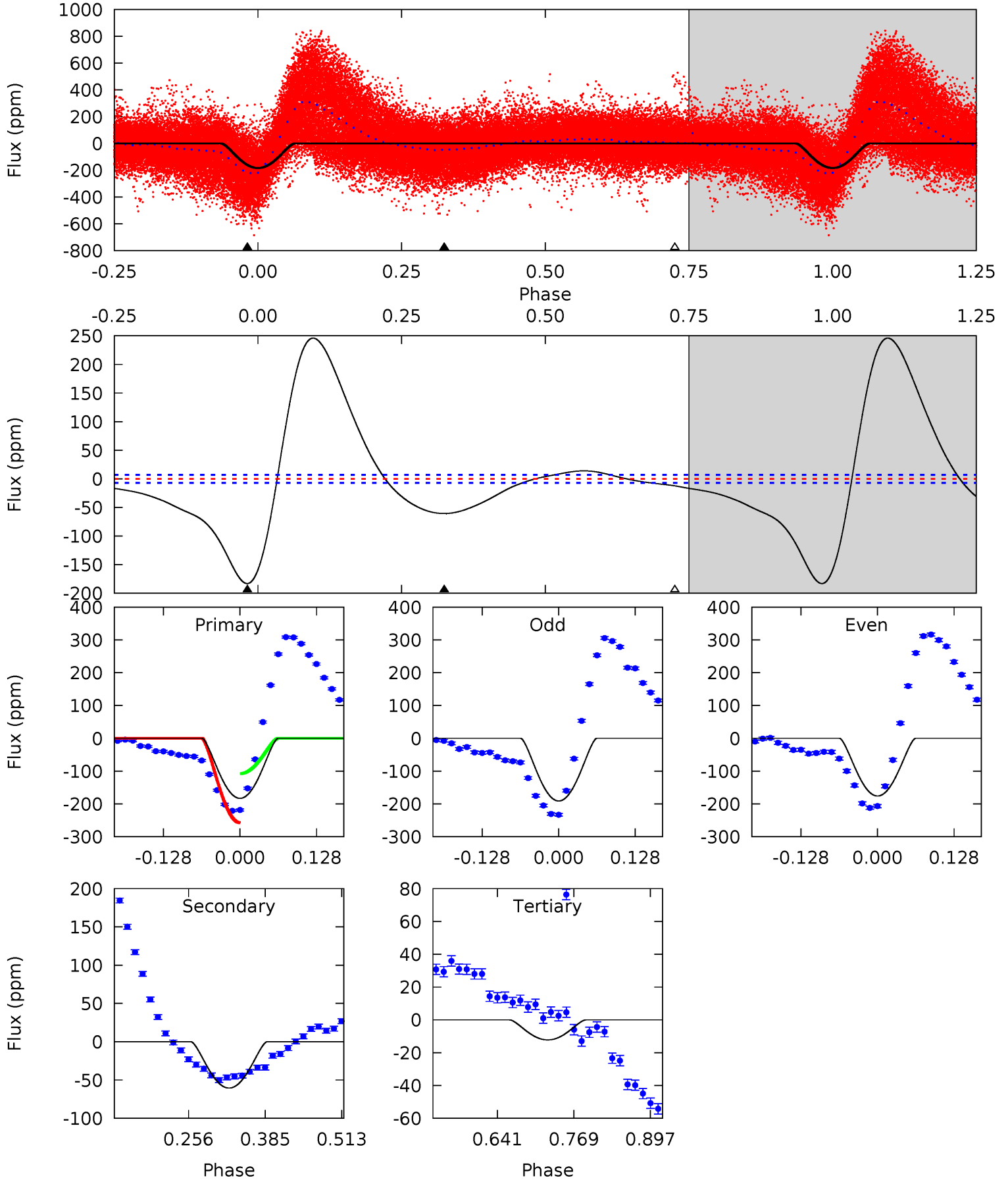
TCE 007373255-01 P= 13.657852 Days  $T_0=136.256832$  (BKJD)



# DV Model-Shift Uniqueness Test

007373255-01, P = 13.659299 Days, E = 122.513856 Days

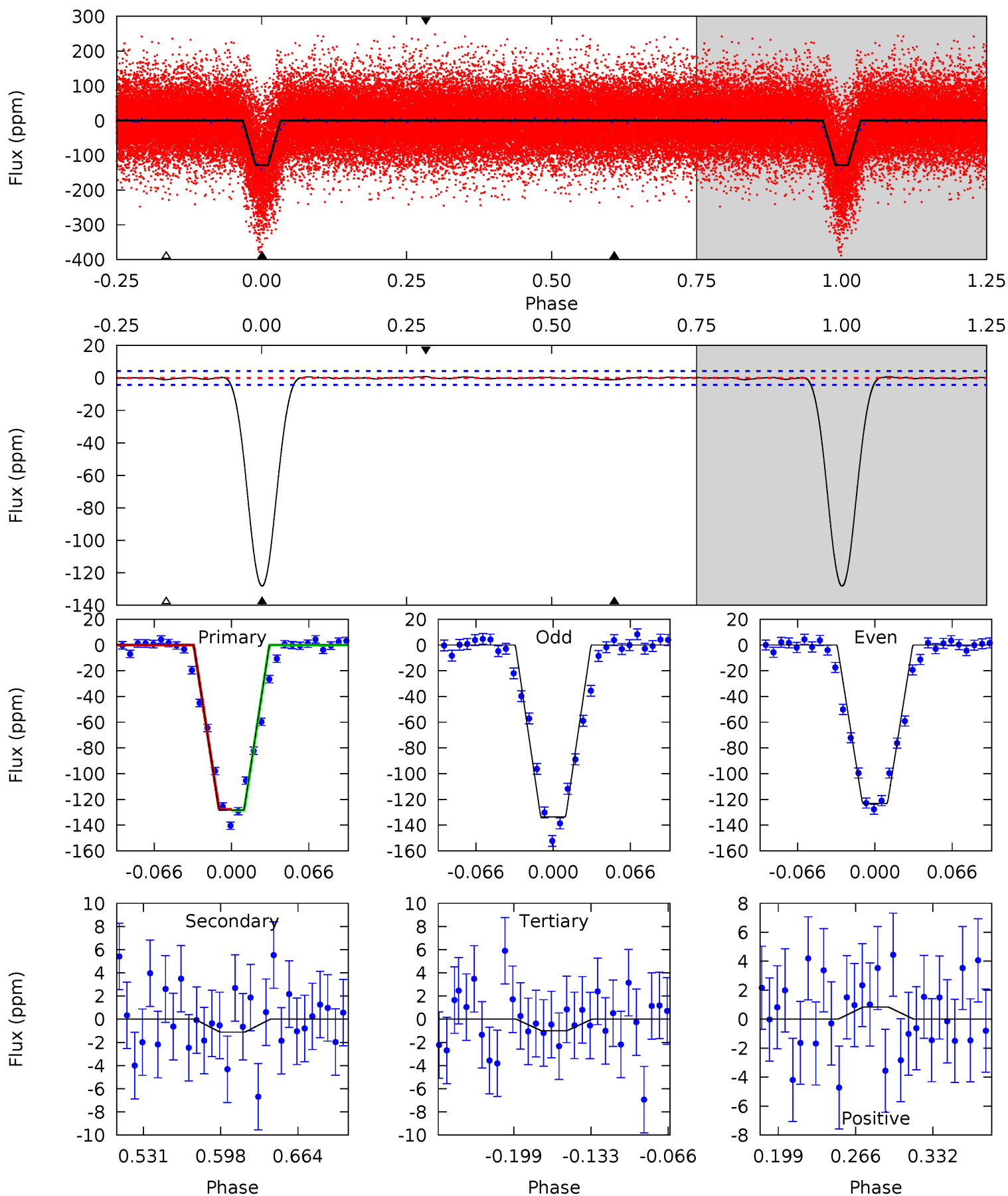
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
115.9	38.3	7.74	0	4.51	1.52	39.5	108.1	115.9	30.6	38.3	4.86	1.04	0.57	49.0



# Alt Model-Shift Uniqueness Test

007373255-01, P = 13.657852 Days, E = 122.598980 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
139.8	1.21	1.10	0.92	4.65	1.84	0.38	138.7	138.8	0.11	0.30	5.72	1.04	0.01	0.51



### Stellar Parameters For KIC 007373255

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6526^{+146}_{-178}$	$4.182^{+0.160}_{-0.131}$	$-0.200^{+0.250}_{-0.300}$	$1.482^{+0.311}_{-0.311}$	$1.223^{+0.145}_{-0.177}$	$0.529^{+0.432}_{-0.205}$
	+2%/-3%	+4%/-3%	+125%/-150%	+21%/-21%	+12%/-14%	+82%/-39%
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 007373255-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-61 \pm 2$	$4.16^{+1.39}_{-1.44}$	$1415^{+83}_{-87}$	$3903^{+634}_{-348}$	$27^{+37}_{-12}$
Alt.	$-1 \pm 1$	$2.03^{+1.45}_{-1.17}$	$1414^{+86}_{-79}$	$2547^{+807}_{-4545}$	$1.734^{+9.013}_{-1.594}$

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



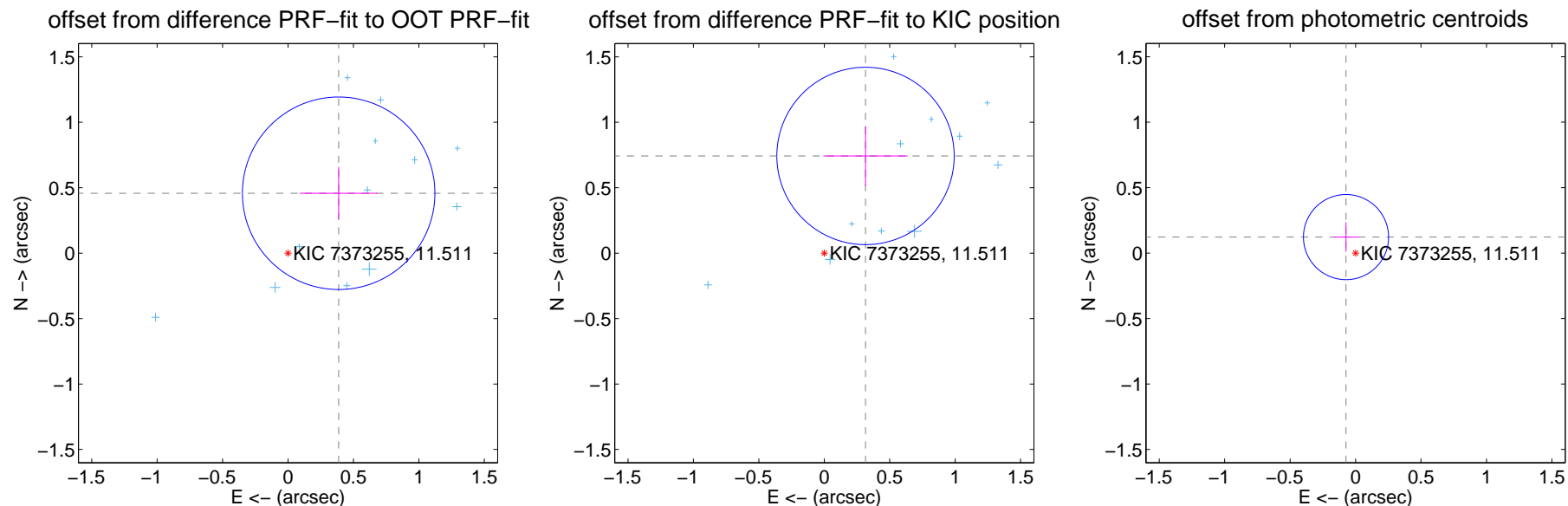
## DV Centroid Data

Supplemental centroid analysis for 007373255-01. **Kepler magnitude: 11.51.** Transit SNR 31.08

There are 14 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.40 arcsec

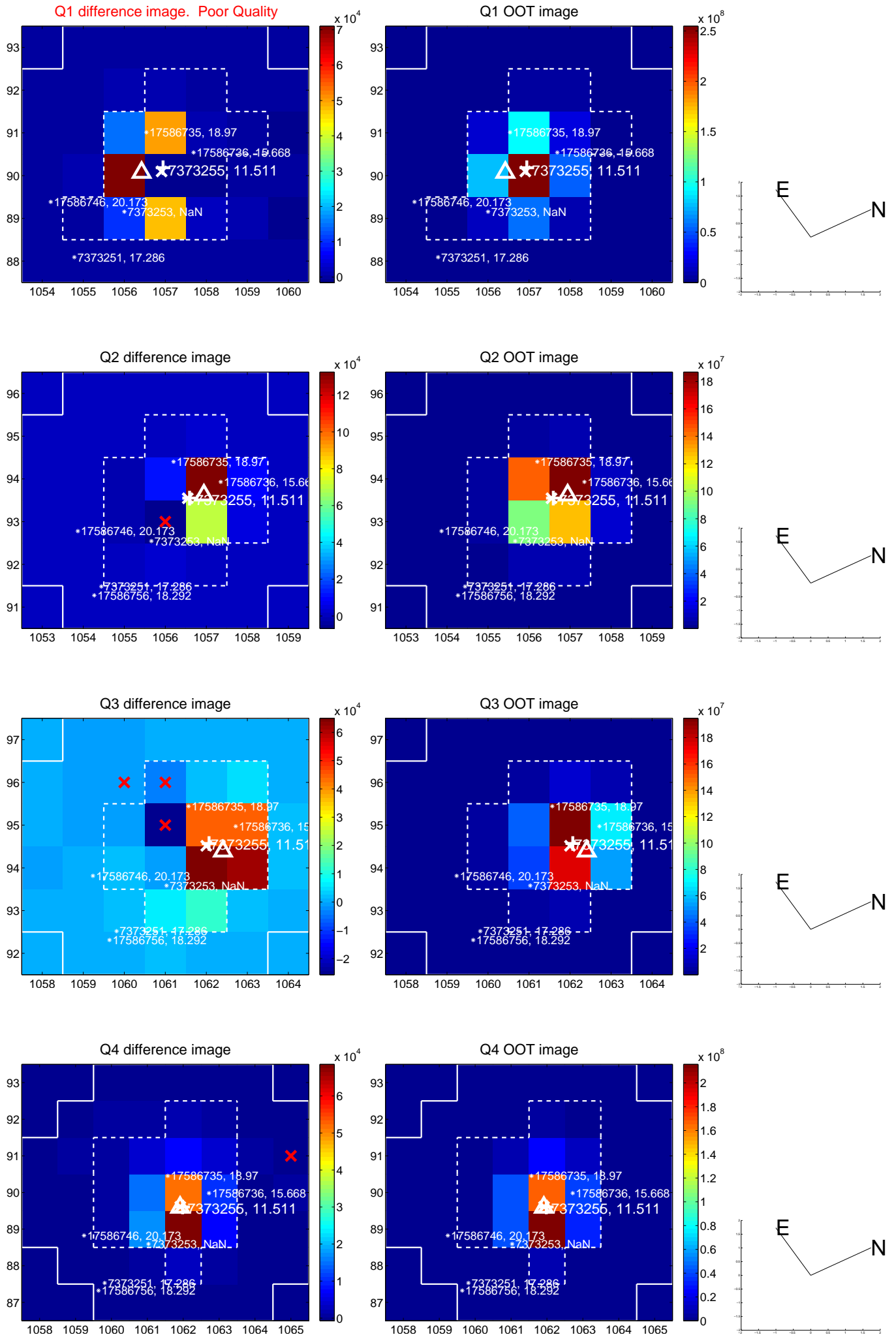
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.599 \pm 0.245$	2.44	$-0.387 \pm 0.297$	$0.458 \pm 0.200$
PRF-fit source offset from KIC position	<b><math>0.807 \pm 0.226</math></b>	<b>3.57</b>	$-0.315 \pm 0.323$	$0.743 \pm 0.229$
photometric centroid source offset	$0.14 \pm 0.11$	1.31	$0.07 \pm 0.10$	$0.12 \pm 0.11$



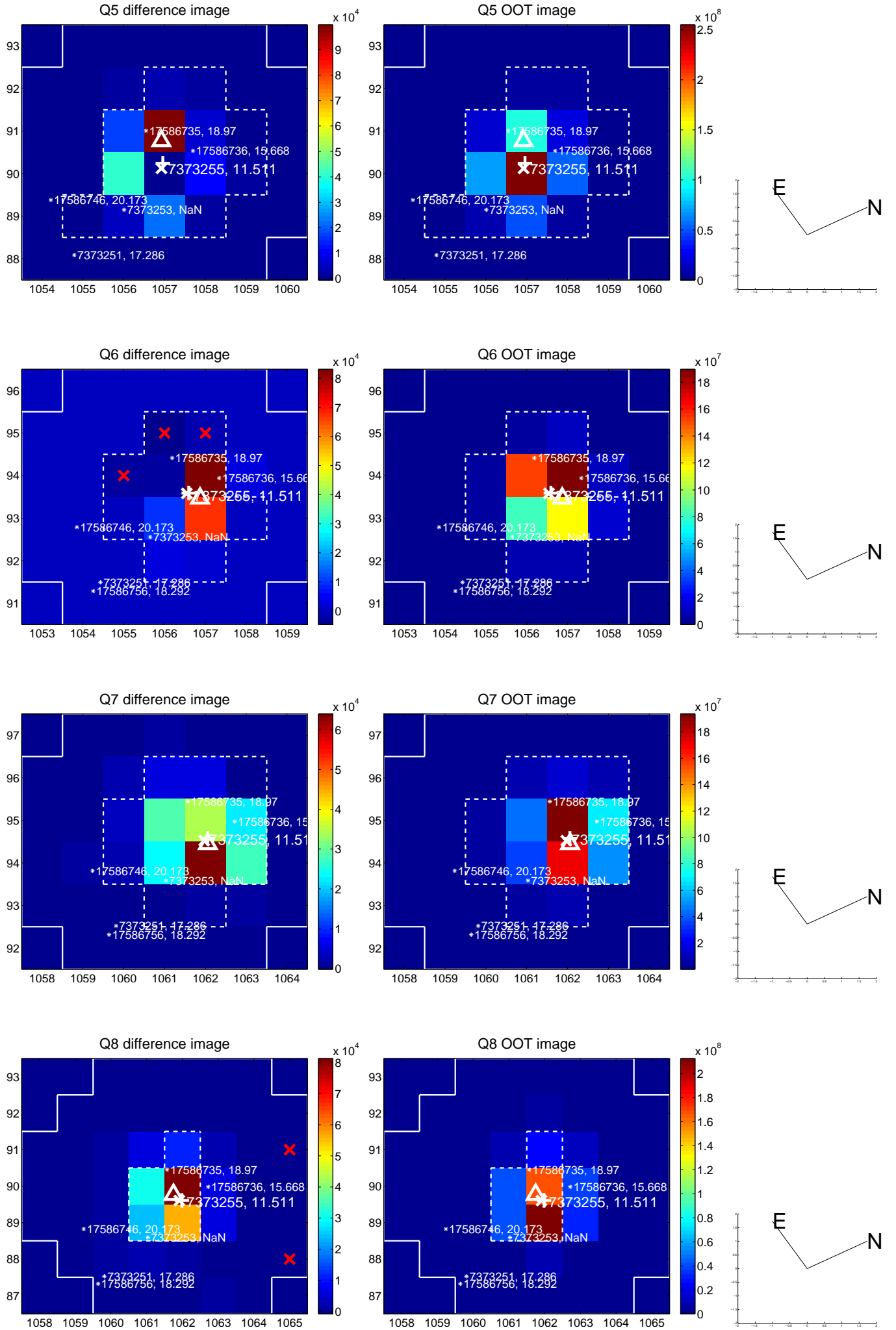
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



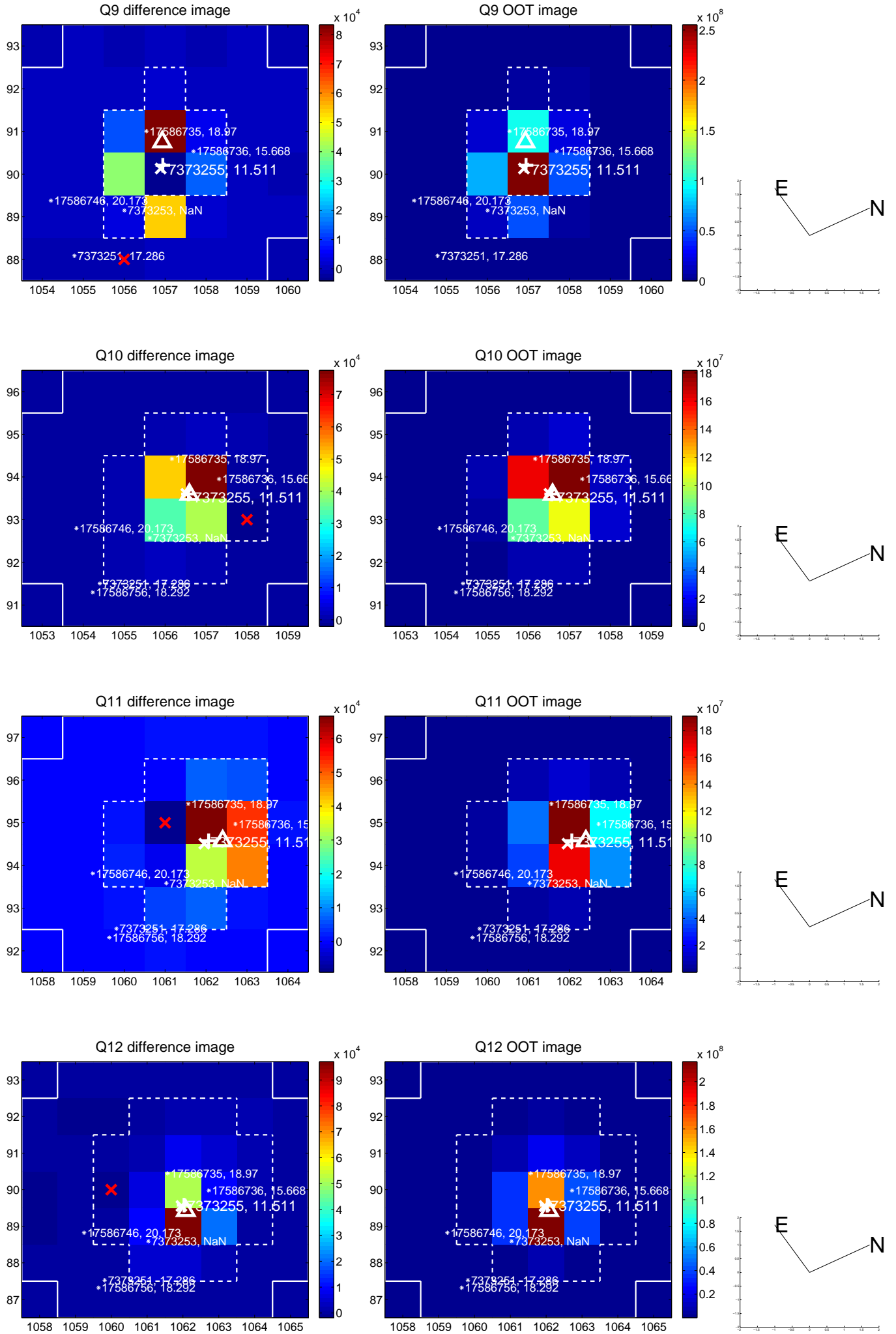
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



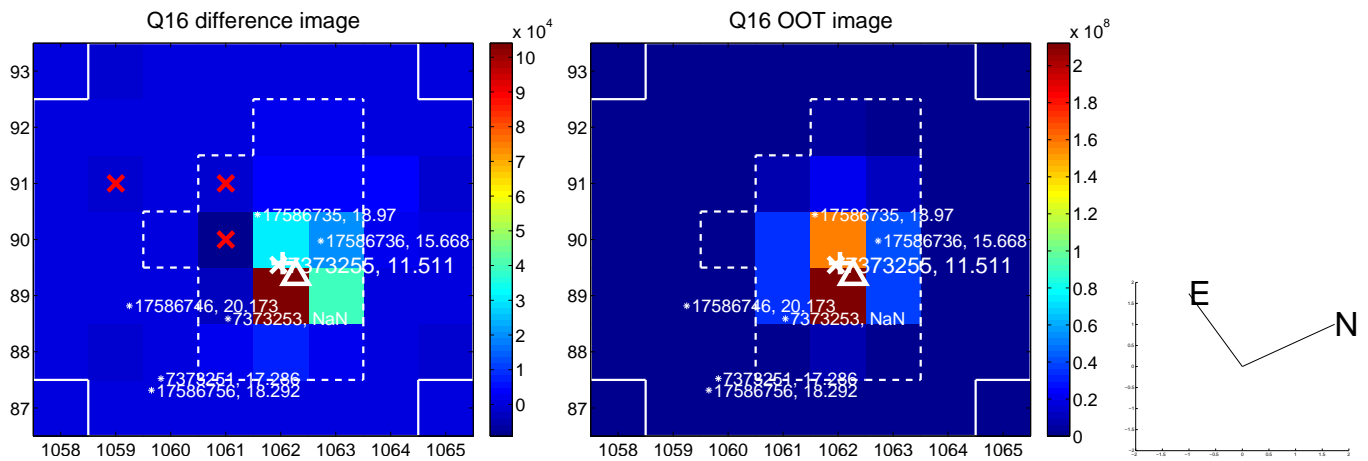
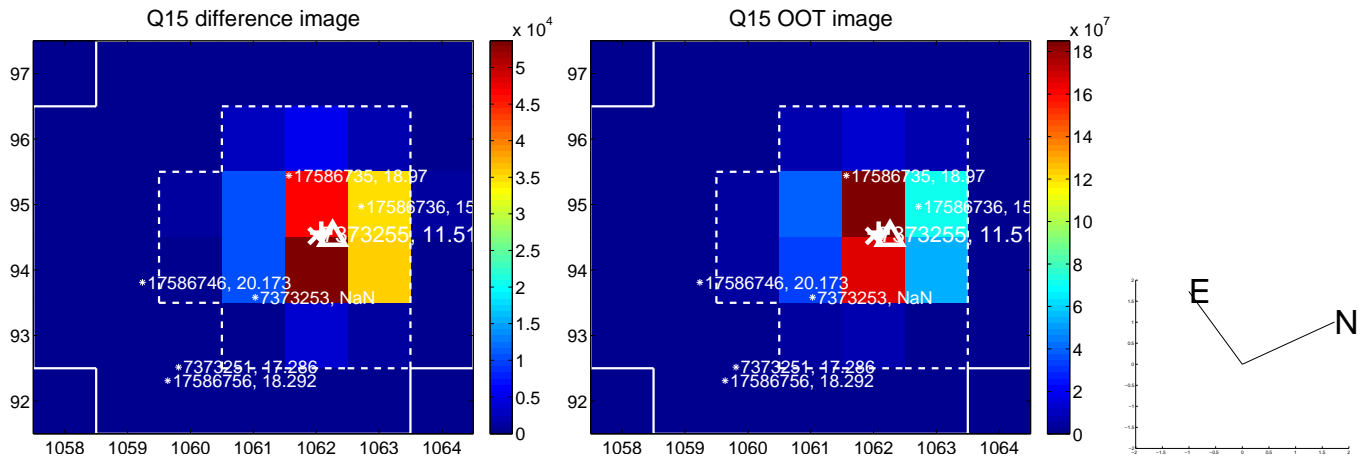
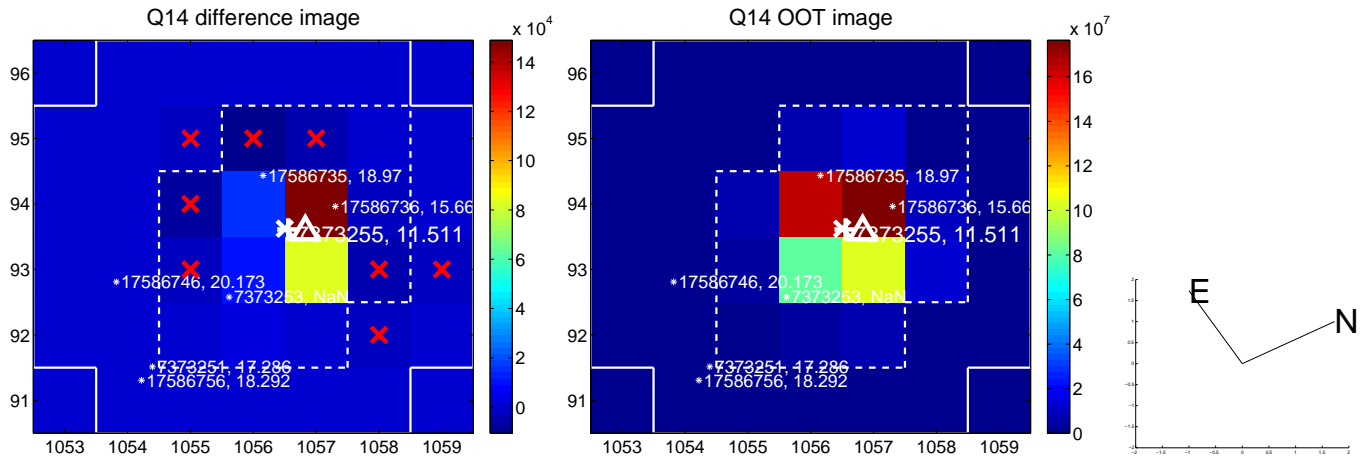
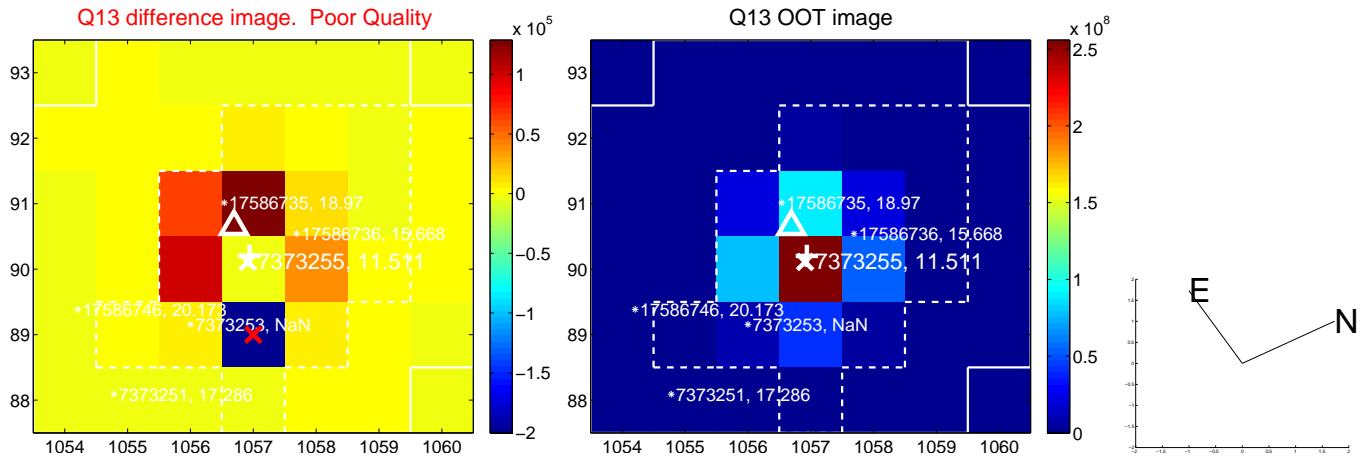
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



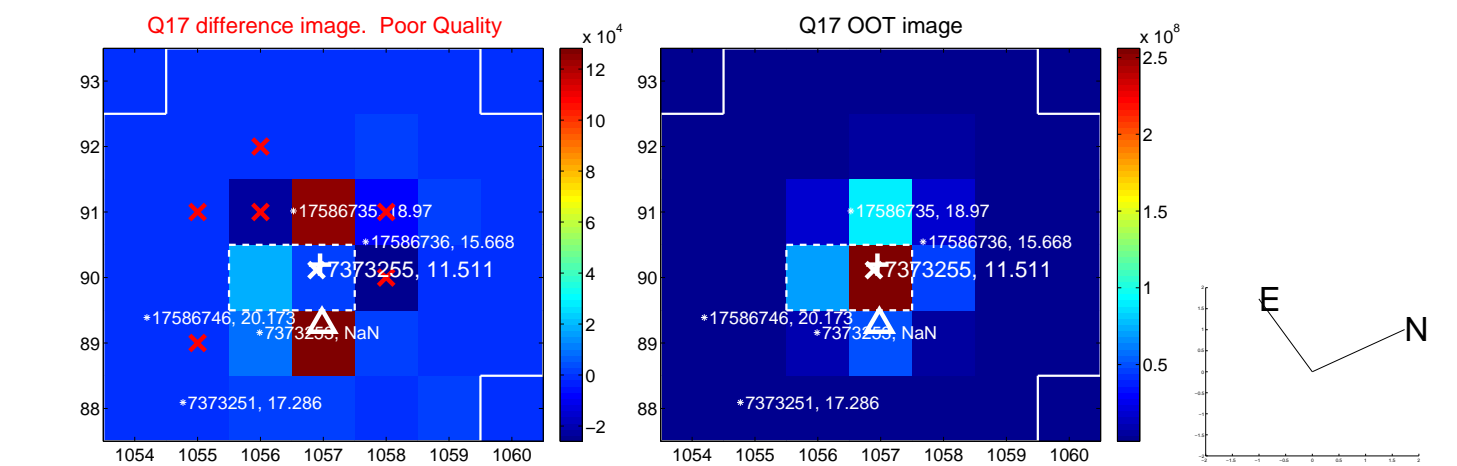
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



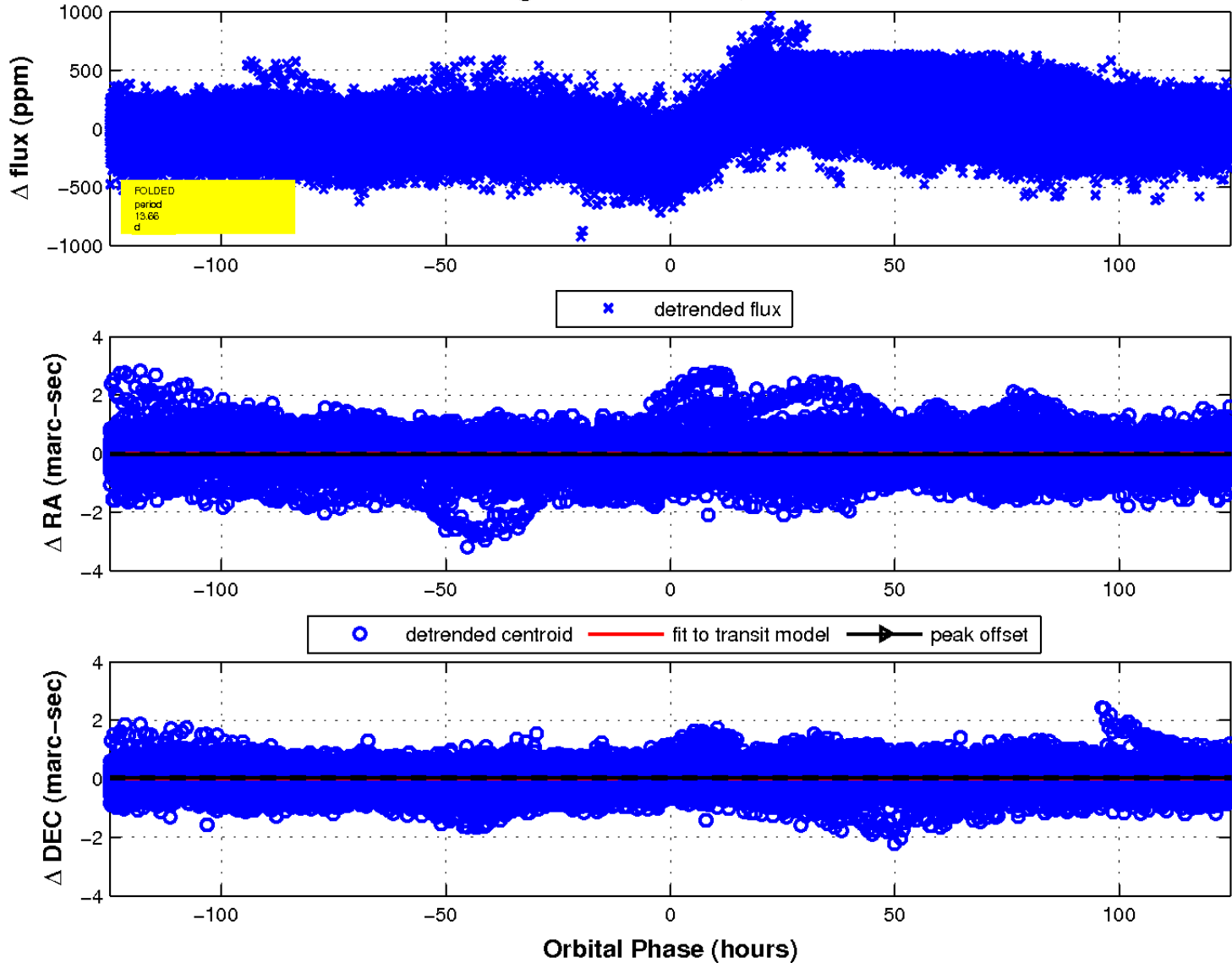
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination

