

# KIC 003446746

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003446746-01	OBS	0385.01	13.144945	135.413016	294.4	3.732	33.6	36.3	0.89	5411	1.74	56.23

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003446746-01	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.

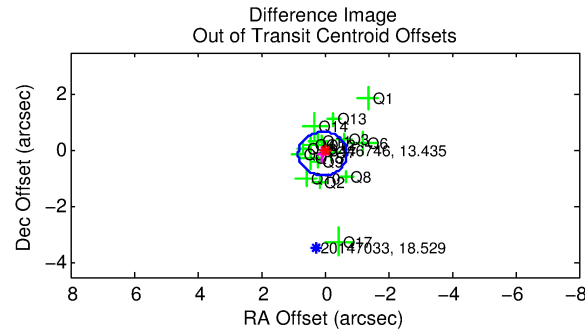
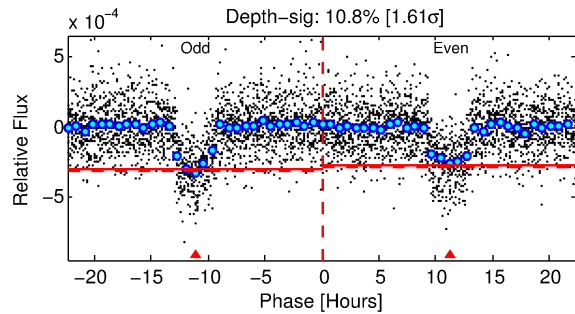
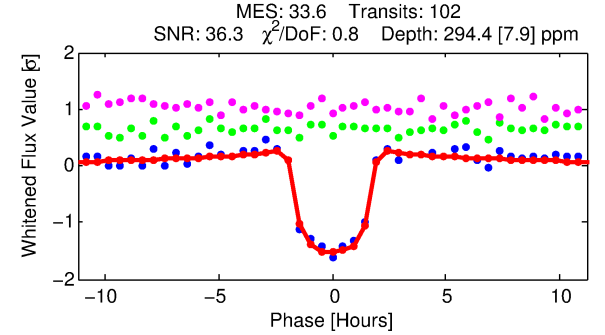
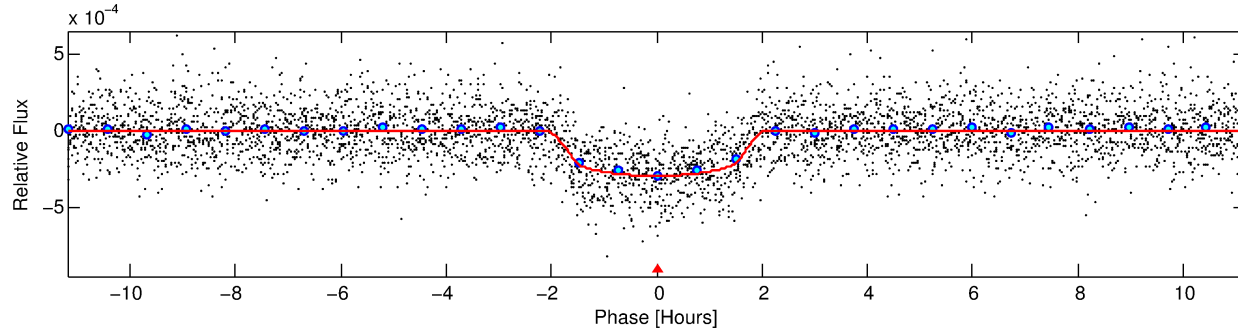
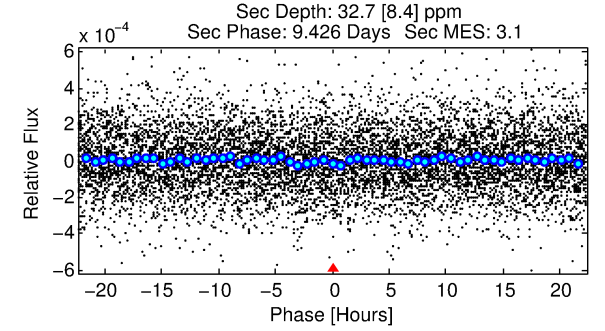
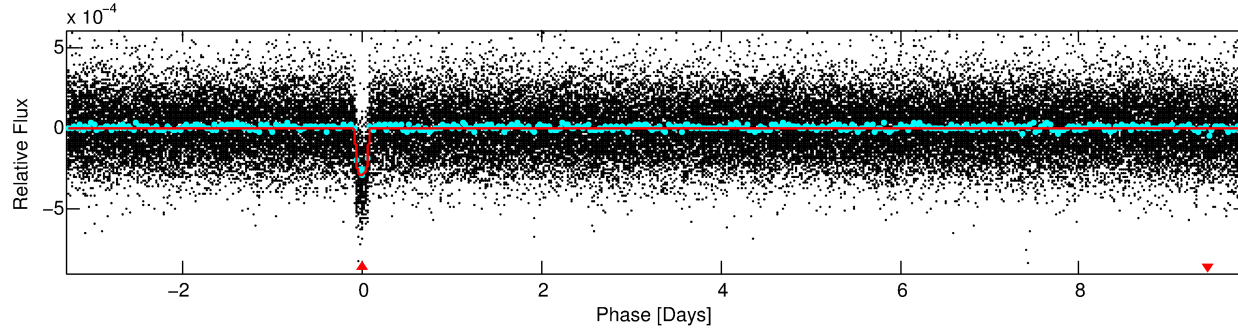
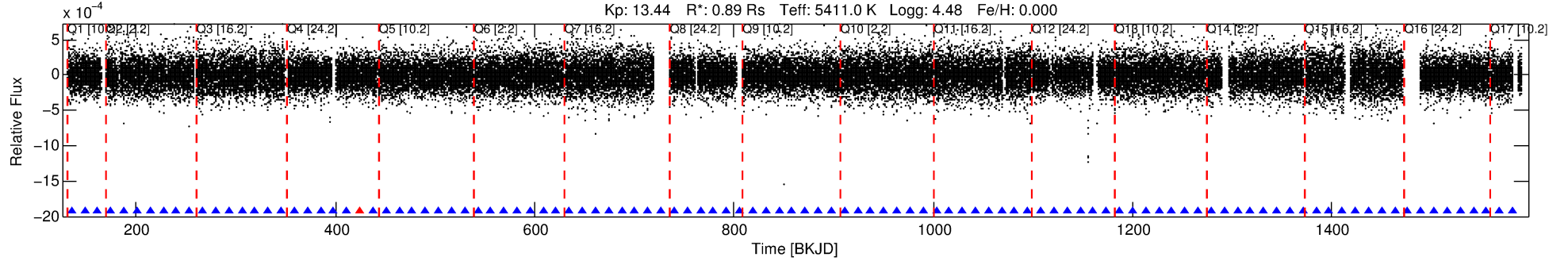
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003446746-01

No Significant Match Found

# DV One-Page Summary

KIC: 3446746 Candidate: 1 of 1 Period: 13.145 d  
KOI: K00385.01 Corr: 0.982



## DV Fit Results:

Period = 13.14494 [0.00003] d  
Epoch = 135.4130 [0.0019] BKJD  
Rp/R\* = 0.0179 [0.0035]  
a/R\* = 15.62 [12.54]  
b = 0.84 [0.29]  
Seff = 56.23 [8.82]  
Teq = 698 [27] K  
Rp = 1.74 [0.38] Re  
a = 0.1038 [0.0092] AU  
Ag = 64.31 [31.33] [2.02σ]  
Teffp = 3057 [363] K [6.48σ]

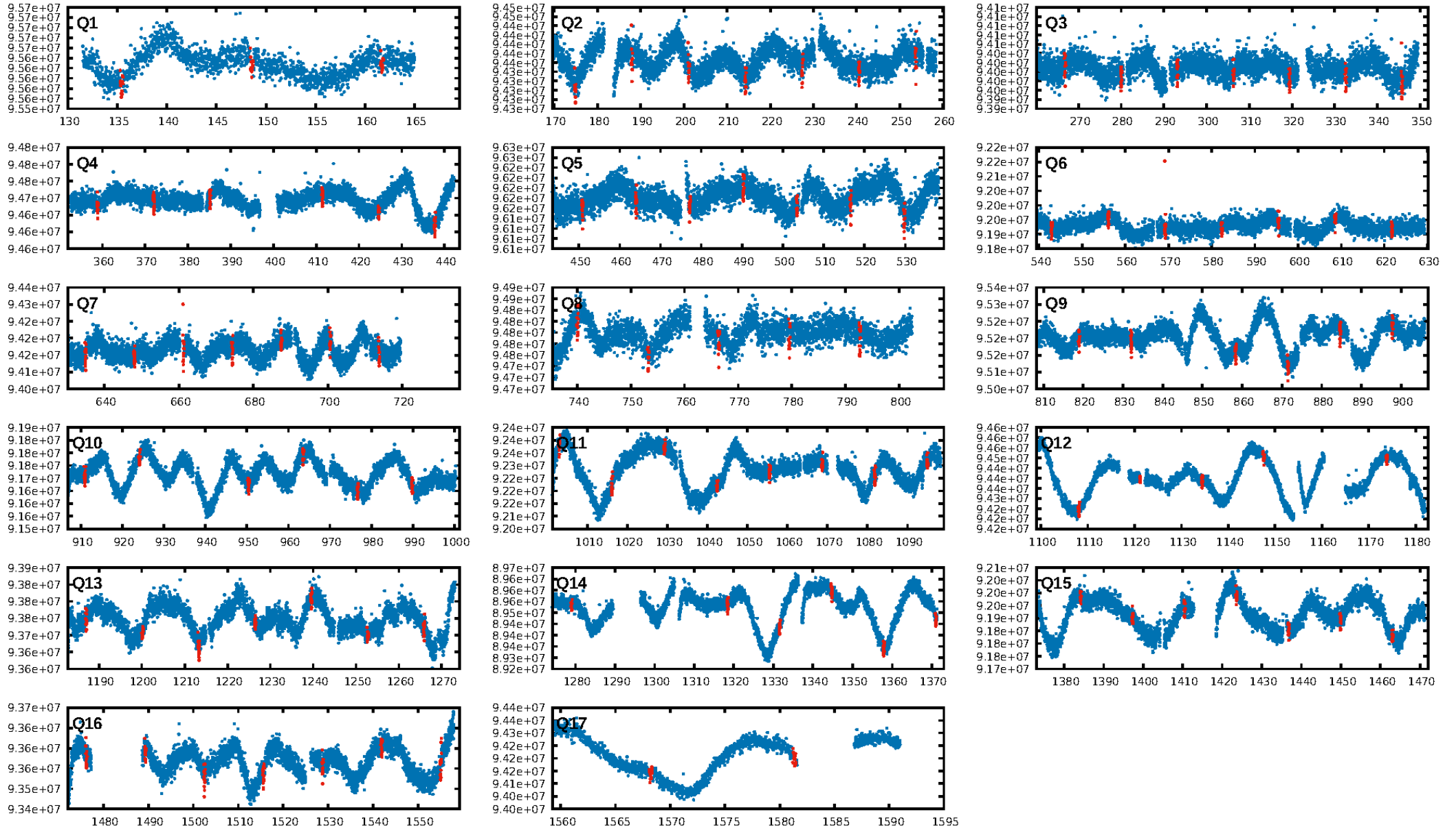
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 96.8%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 7.21e-236  
RollingBand-fgt: 0.99 [96/97]  
GhostDiagnostic-chr: 4.559  
Centroid-sig: 1.2%  
Centroid-so: 0.930 arcsec [2.86σ]  
OotOffset-rm: 0.131 arcsec [0.51σ]  
KicOffset-rm: 0.291 arcsec [1.24σ]  
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]

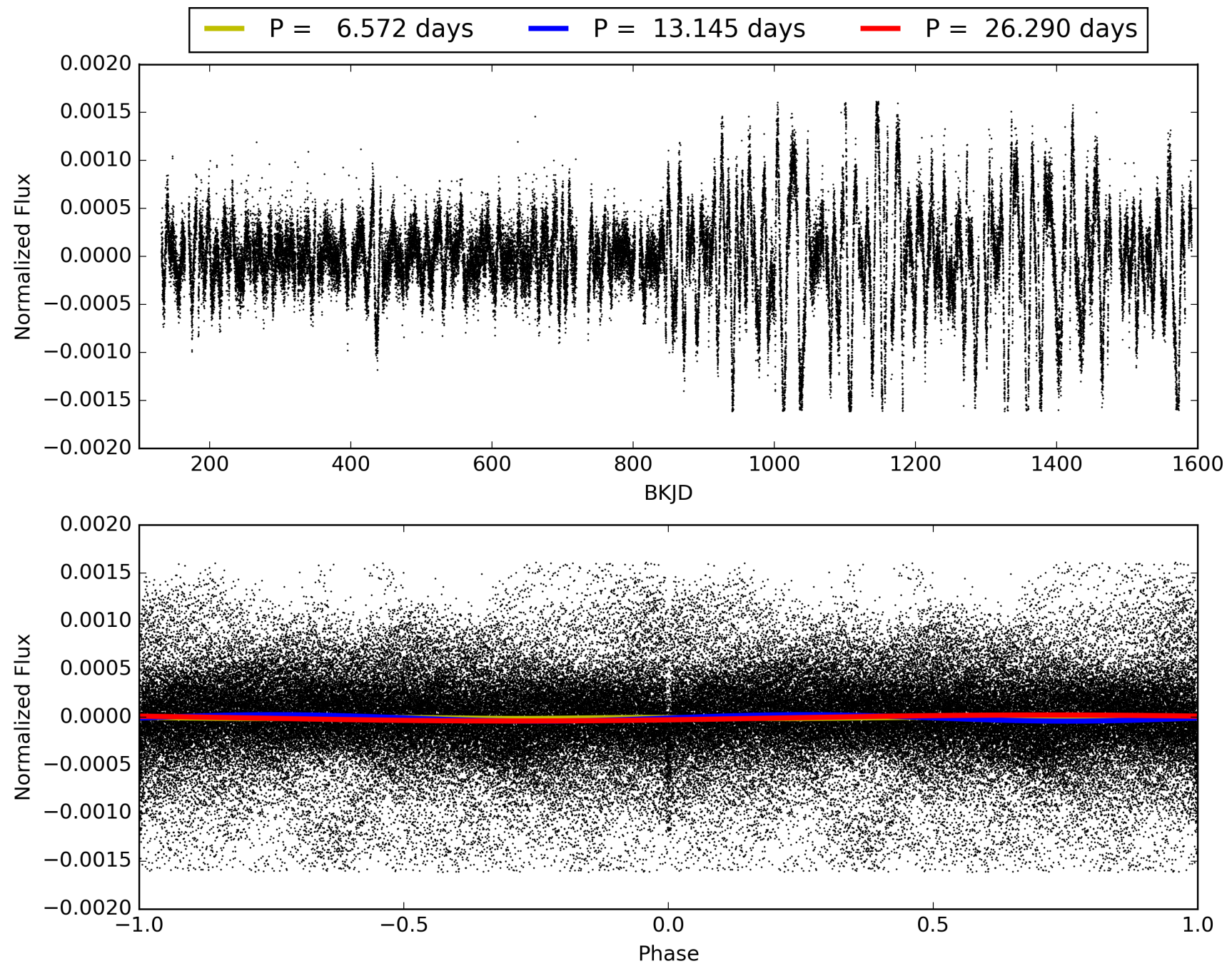
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:32:50 Z

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

# TCE 003446746-01, PDC Light Curves

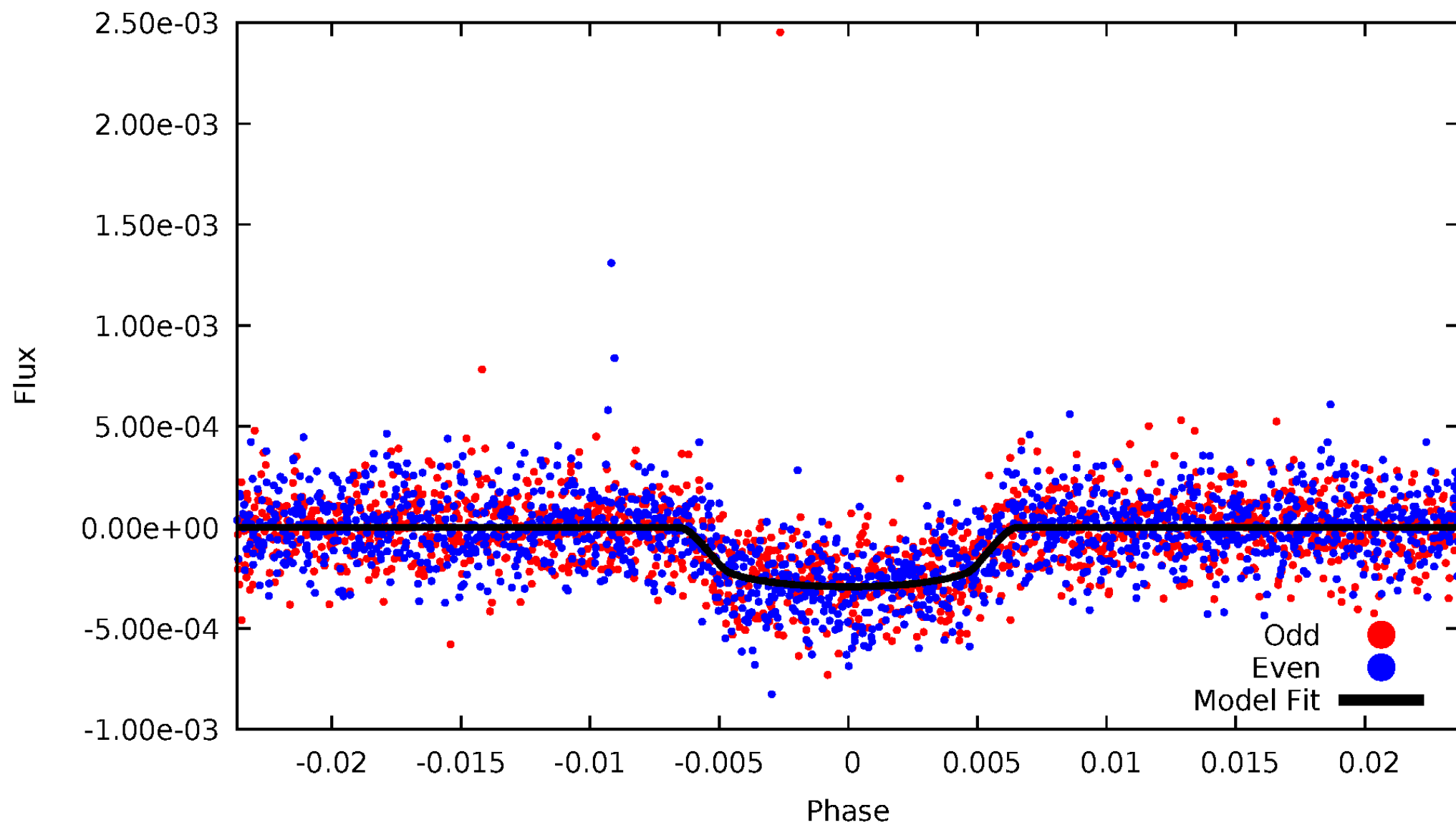


TCE 003446746-01



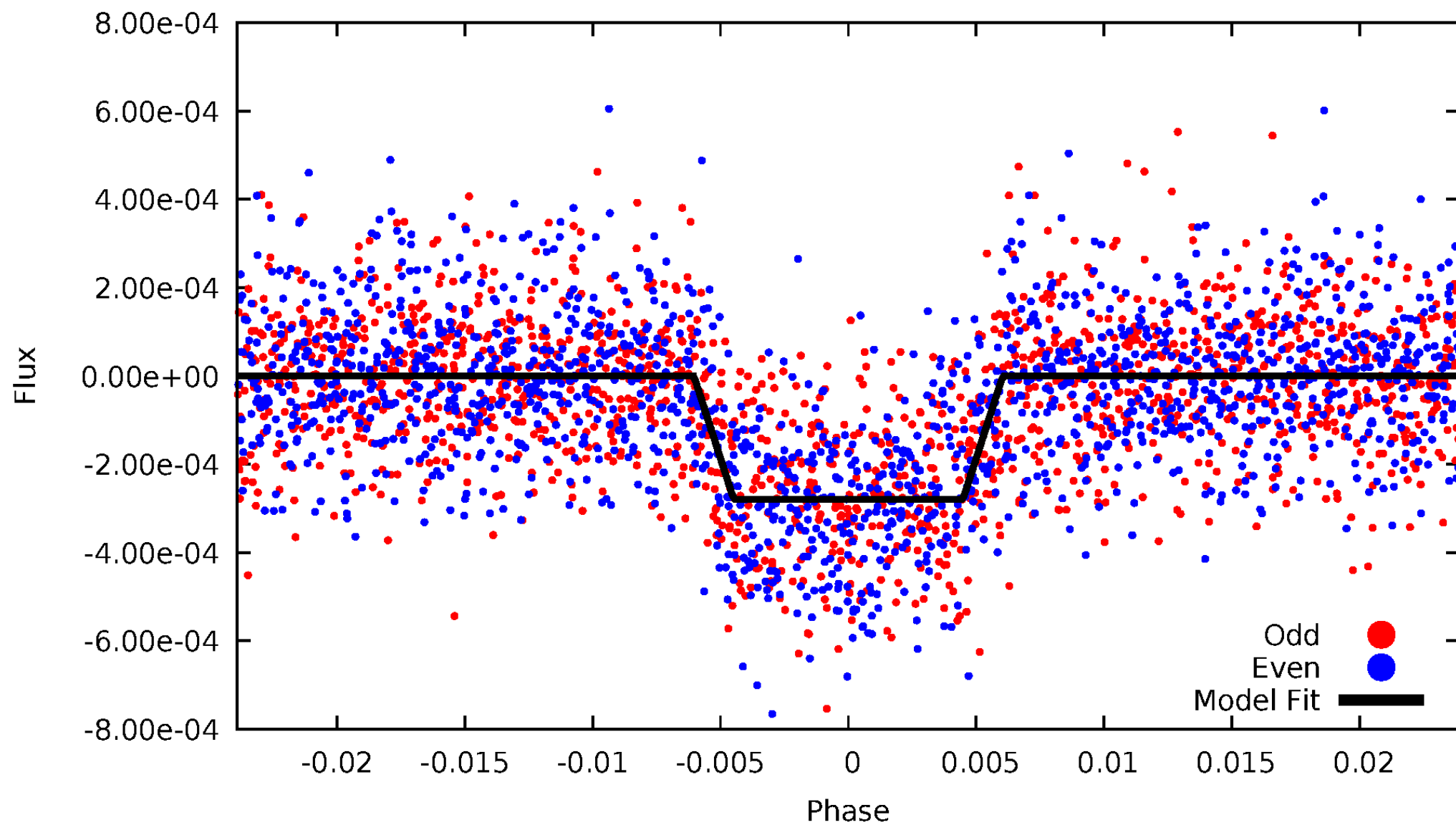
# DV Odd/Even

TCE 003446746-01



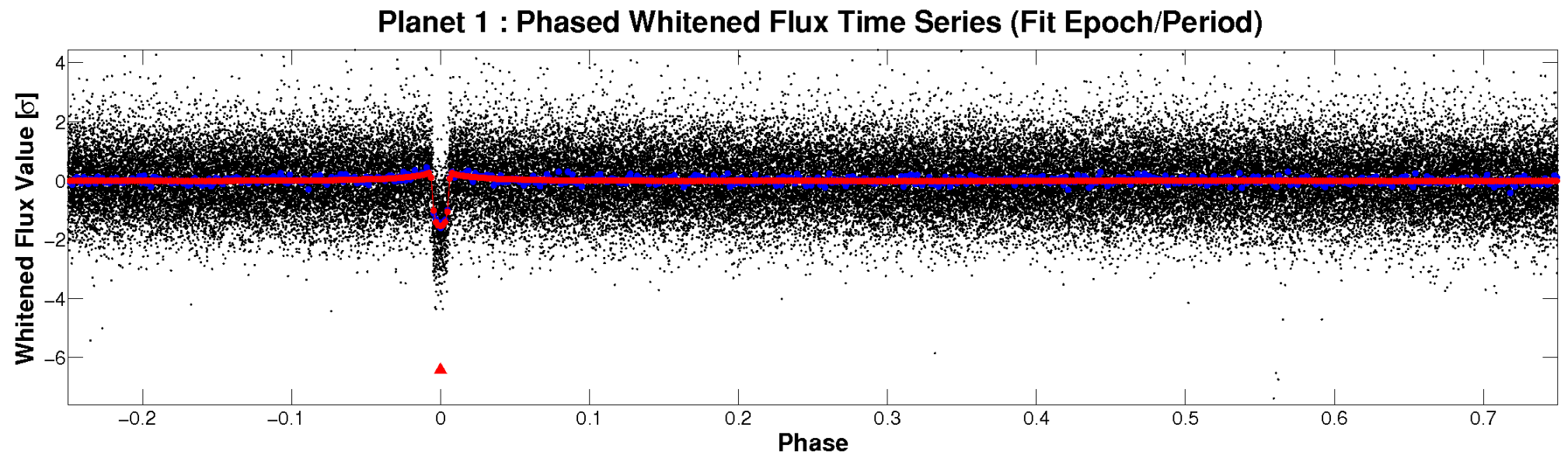
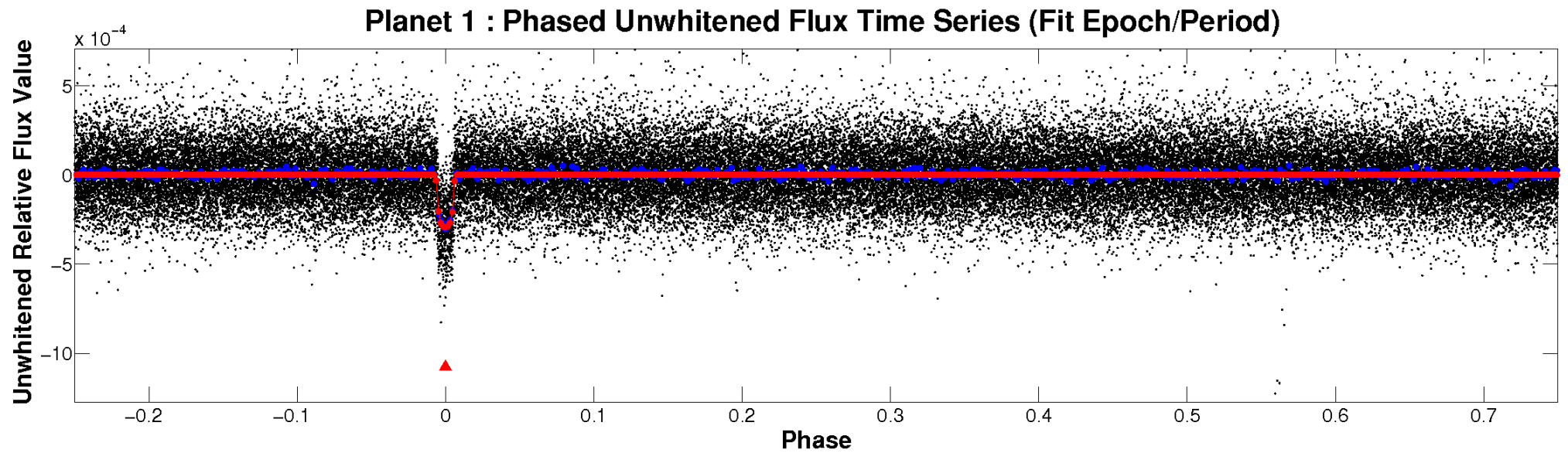
# ALT Odd/Even

TCE 003446746-01



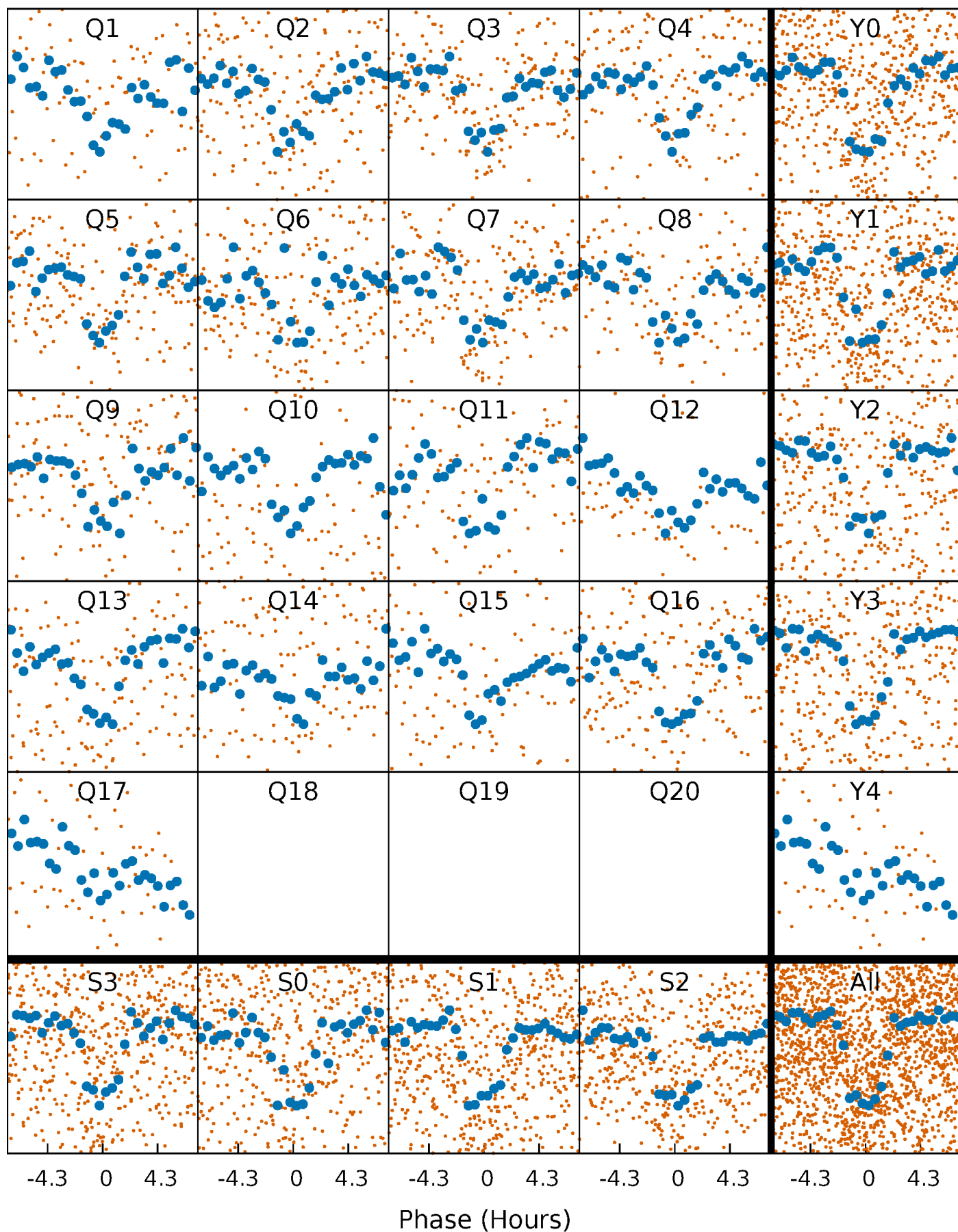


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

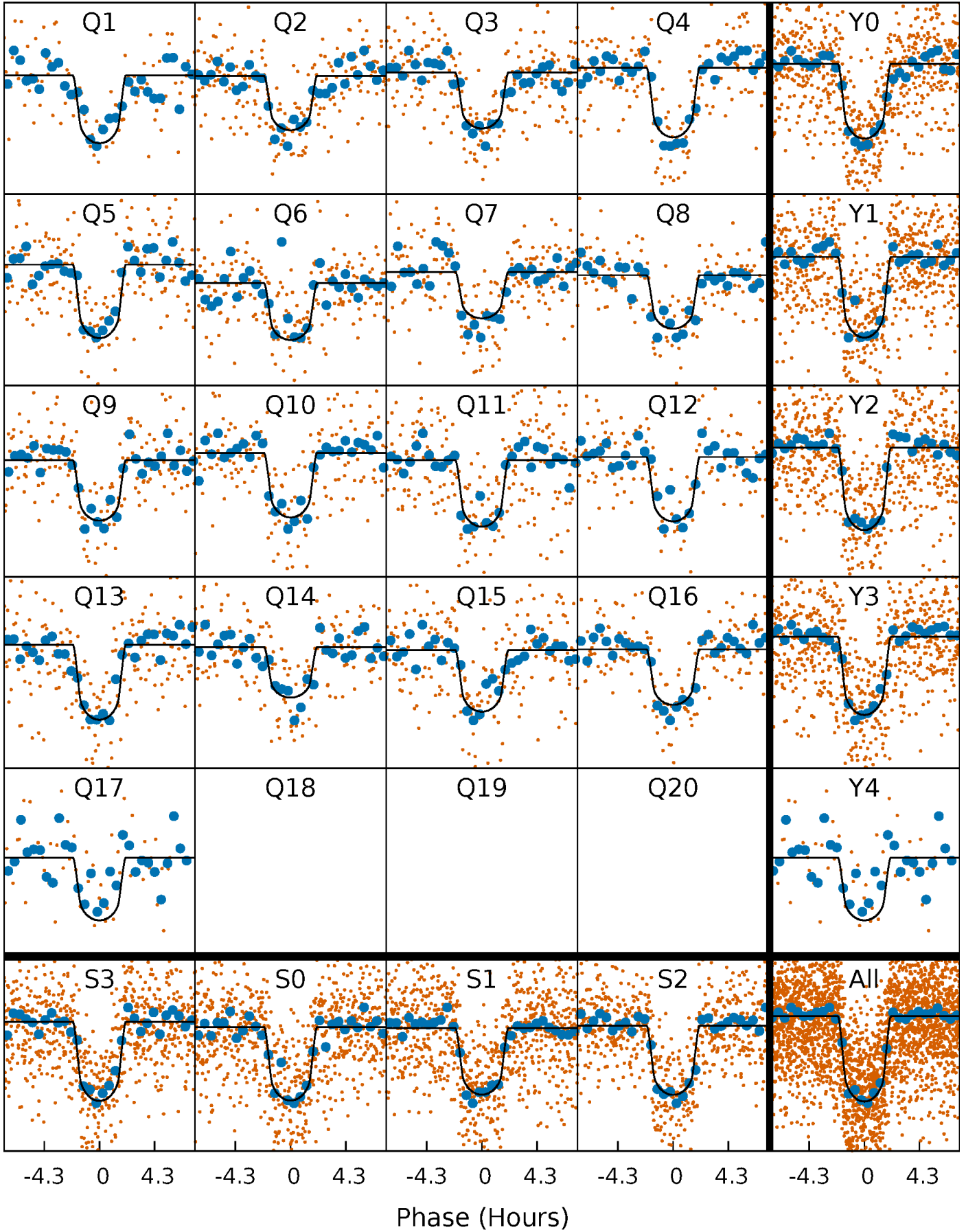
TCE 003446746-01 P= 13.144945 Days  $T_0=135.413016$  (BKJD)





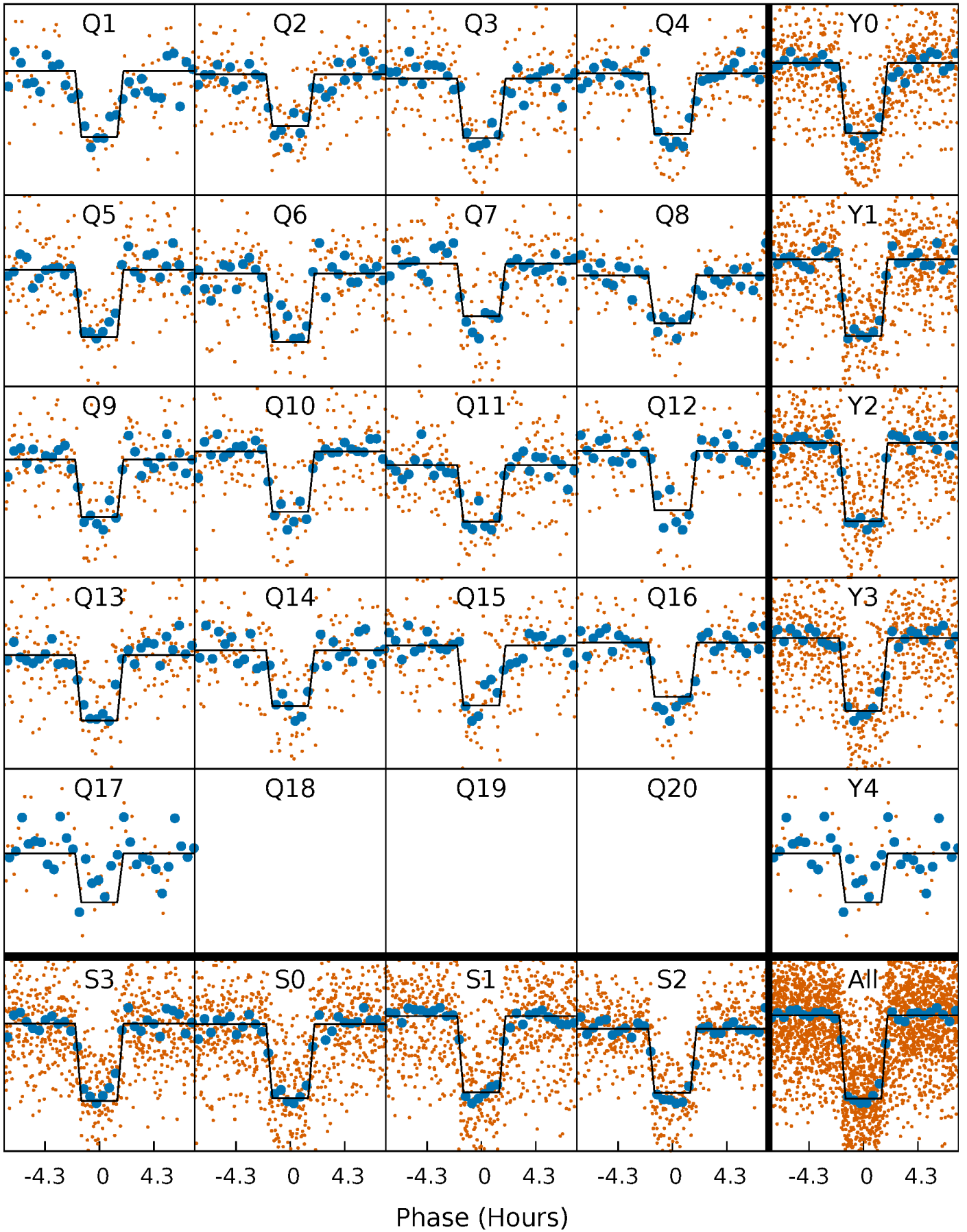
# DV Quarter-Phased Transit Curves

TCE 003446746-01 P= 13.144945 Days  $T_0=135.413016$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

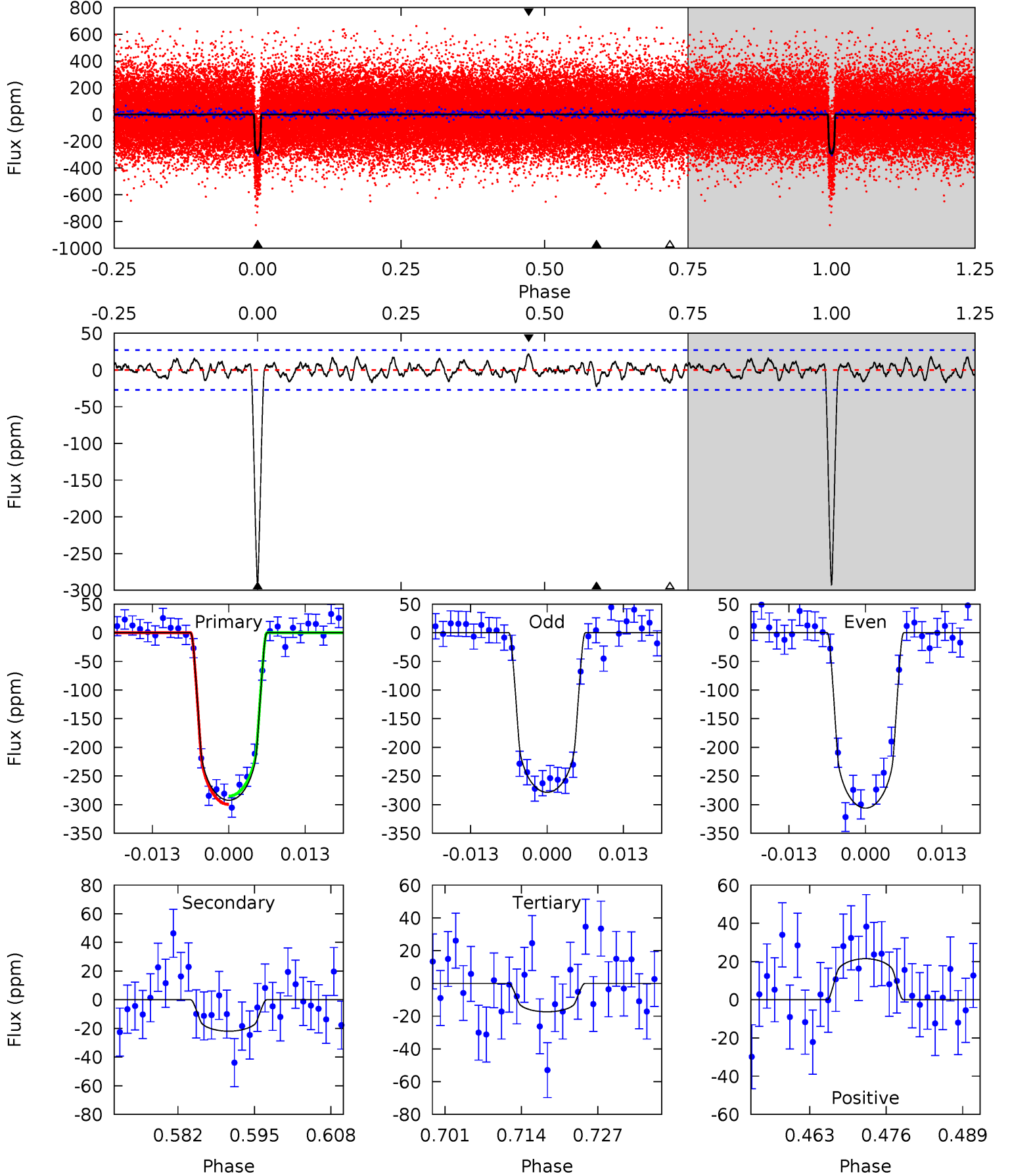
TCE 003446746-01 P= 13.144932 Days  $T_0=135.413814$  (BKJD)



# DV Model-Shift Uniqueness Test

003446746-01,  $P = 13.144945$  Days,  $E = 122.268071$  Days

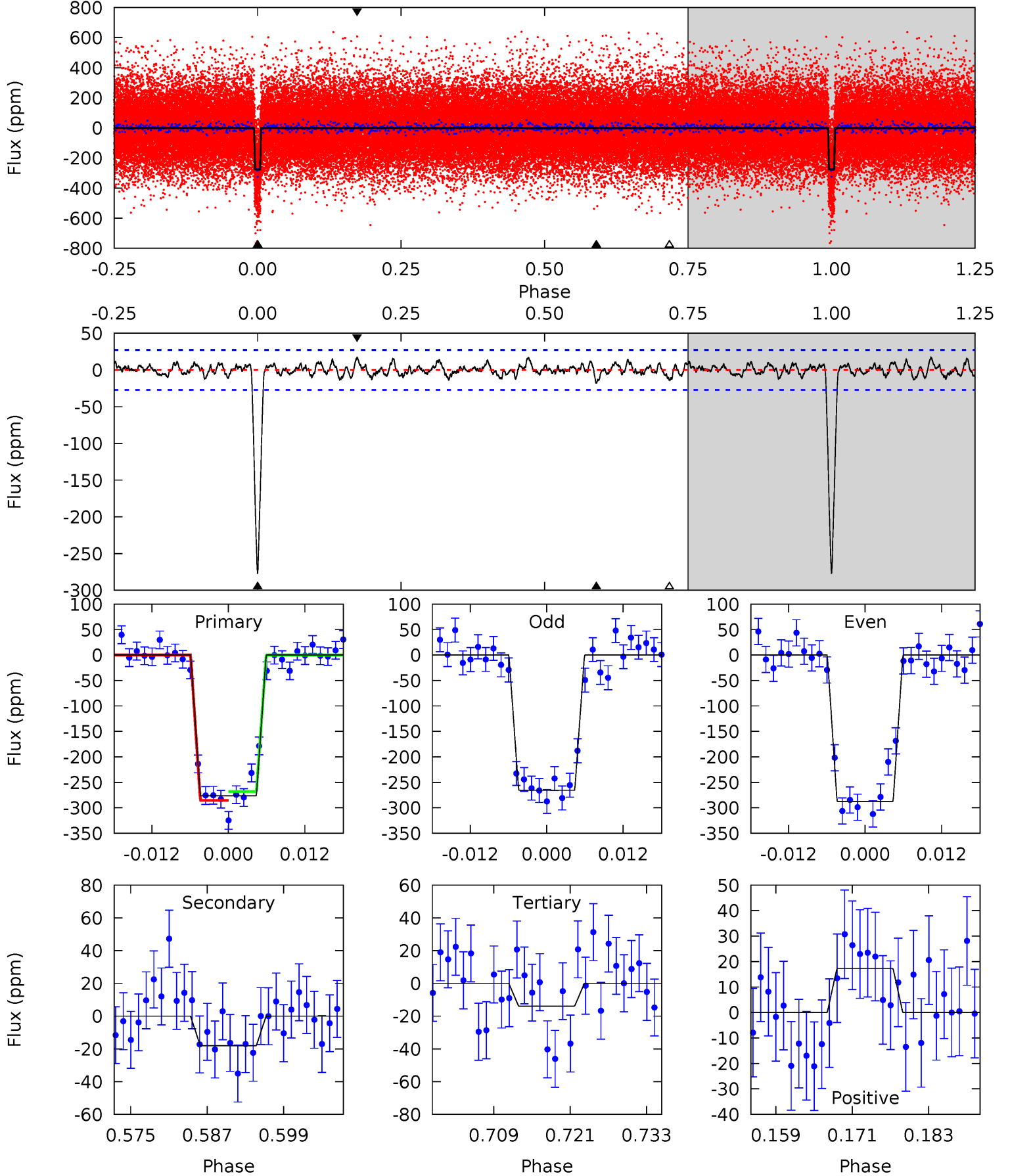
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
53.7	4.02	3.19	3.94	4.97	2.48	1.30	50.5	49.7	0.84	0.09	2.53	0.96	0.07	1.33



# Alt Model-Shift Uniqueness Test

003446746-01, P = 13.144932 Days, E = 122.268882 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
50.7	3.31	2.54	3.16	4.99	2.51	1.04	48.2	47.6	0.76	0.15	2.01	1.01	0.06	1.59



### Stellar Parameters For KIC 003446746

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5411^{+107}_{-107}$	$4.477^{+0.070}_{-0.077}$	$0.000^{+0.150}_{-0.150}$	$0.888^{+0.088}_{-0.073}$	$0.862^{+0.059}_{-0.045}$	$1.737^{+0.445}_{-0.389}$
	+2%/-2%	+2%/-2%	+inf%/-inf%	+10%/-8%	+7%/-5%	+26%/-22%
Source	SPE57	SPE57	SPE57	DSEP		

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

### Secondary Eclipse Parameters for KIC 003446746-01 / KOI 0385.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-22 \pm 5$	$1.75^{+0.36}_{-0.35}$	$978^{+32}_{-33}$	$3295^{+259}_{-220}$	$42^{+26}_{-15}$
Alt.	$-18 \pm 5$	$1.61^{+0.33}_{-0.33}$	$976^{+35}_{-31}$	$3287^{+286}_{-252}$	$41^{+30}_{-17}$

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



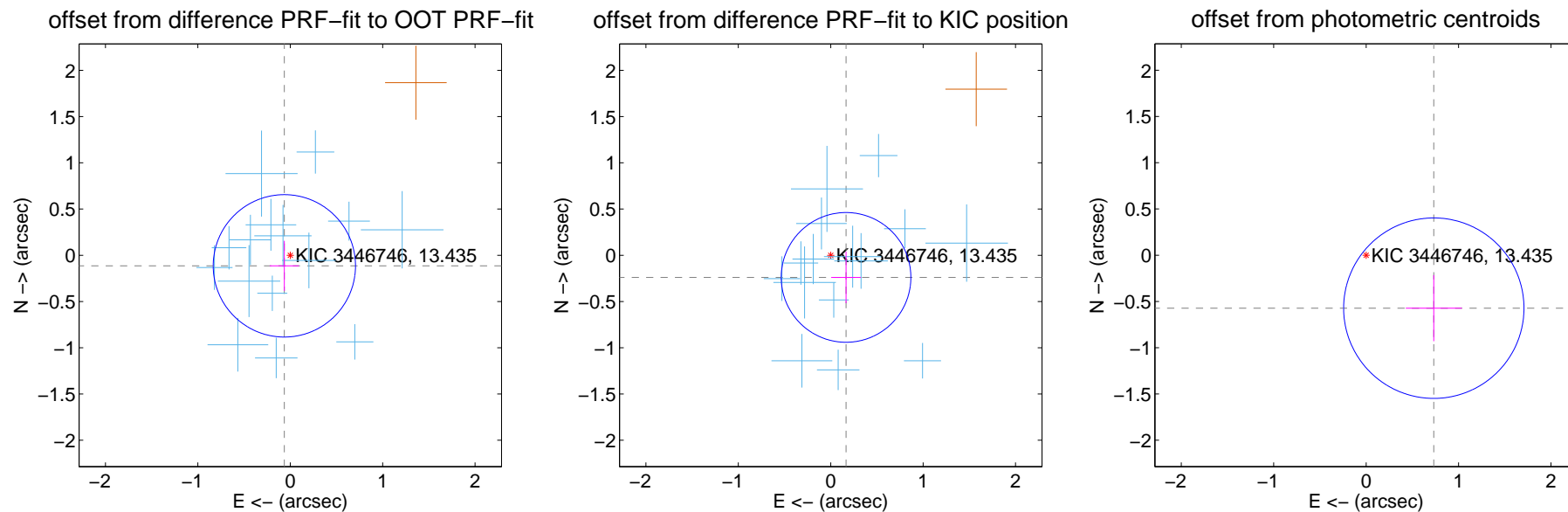
## DV Centroid Data

Supplemental centroid analysis for 003446746-01. Kepler magnitude: 13.44. Transit SNR 36.27

There are 16 quarters with good PRF difference image offsets

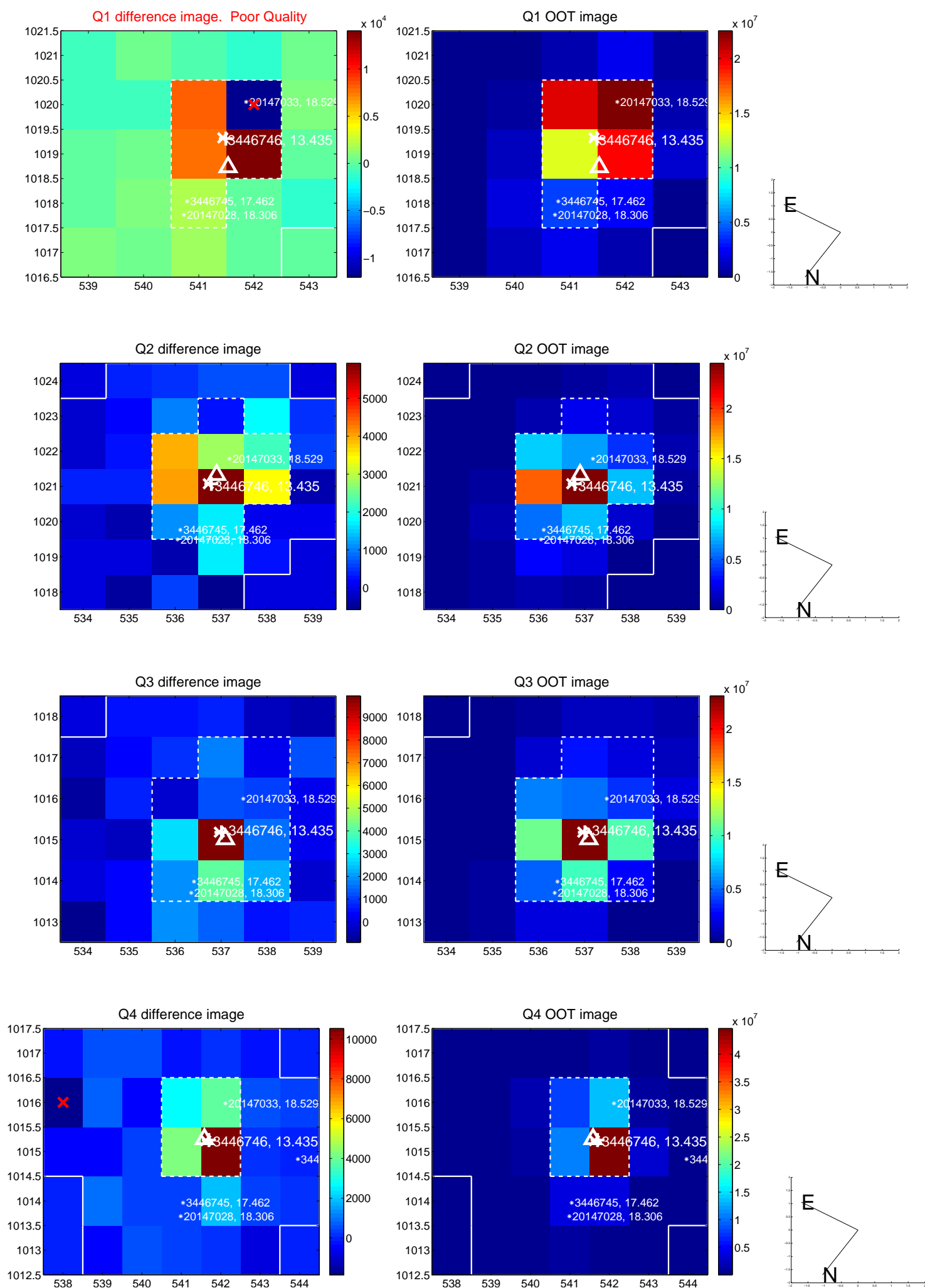
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.131 \pm 0.257$	0.51	$0.064 \pm 0.158$	$-0.114 \pm 0.270$
PRF-fit source offset from KIC position	$0.291 \pm 0.234$	1.24	$-0.166 \pm 0.161$	$-0.239 \pm 0.279$
photometric centroid source offset	$0.93 \pm 0.33$	2.86	$-0.73 \pm 0.30$	$-0.57 \pm 0.36$

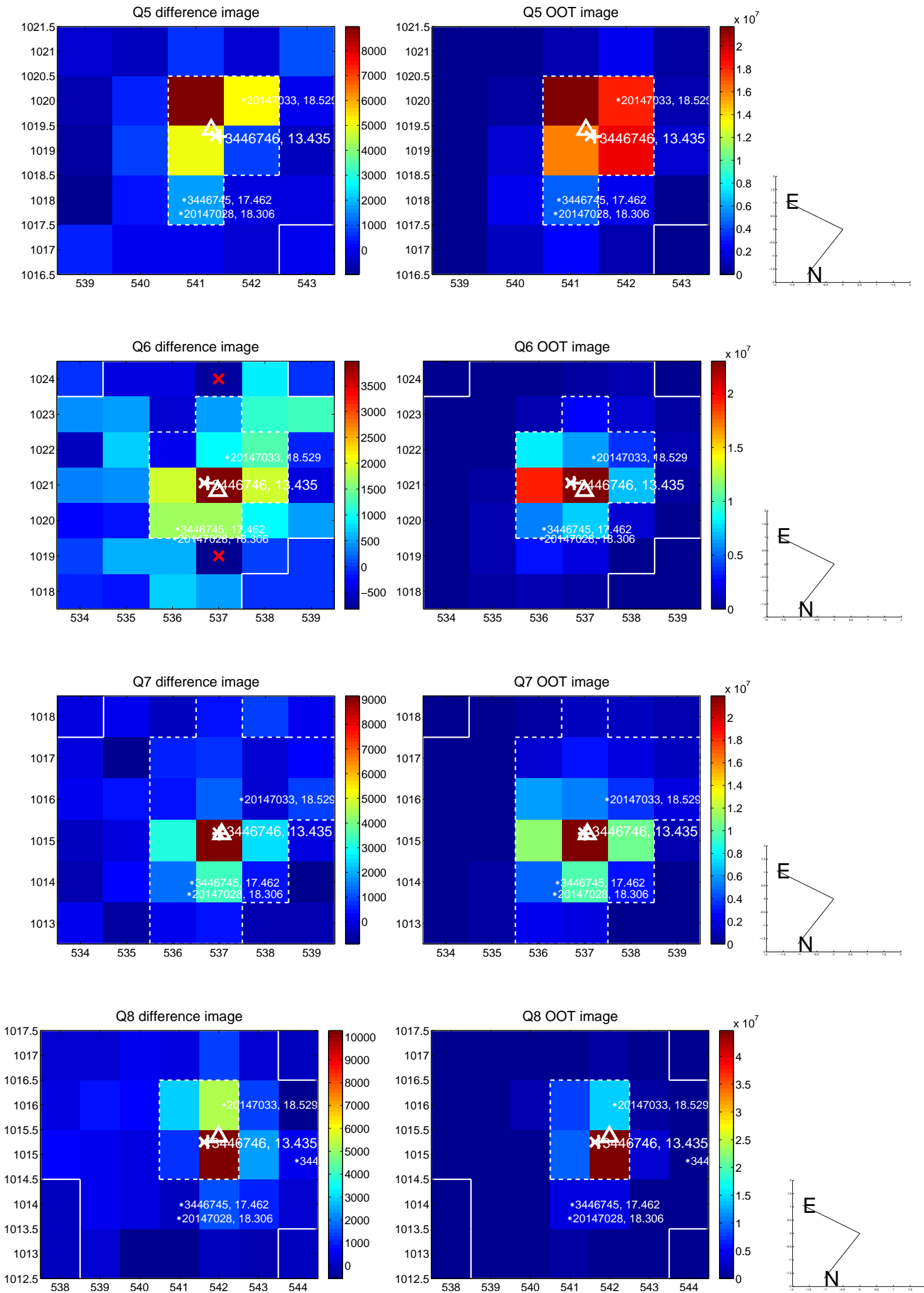


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

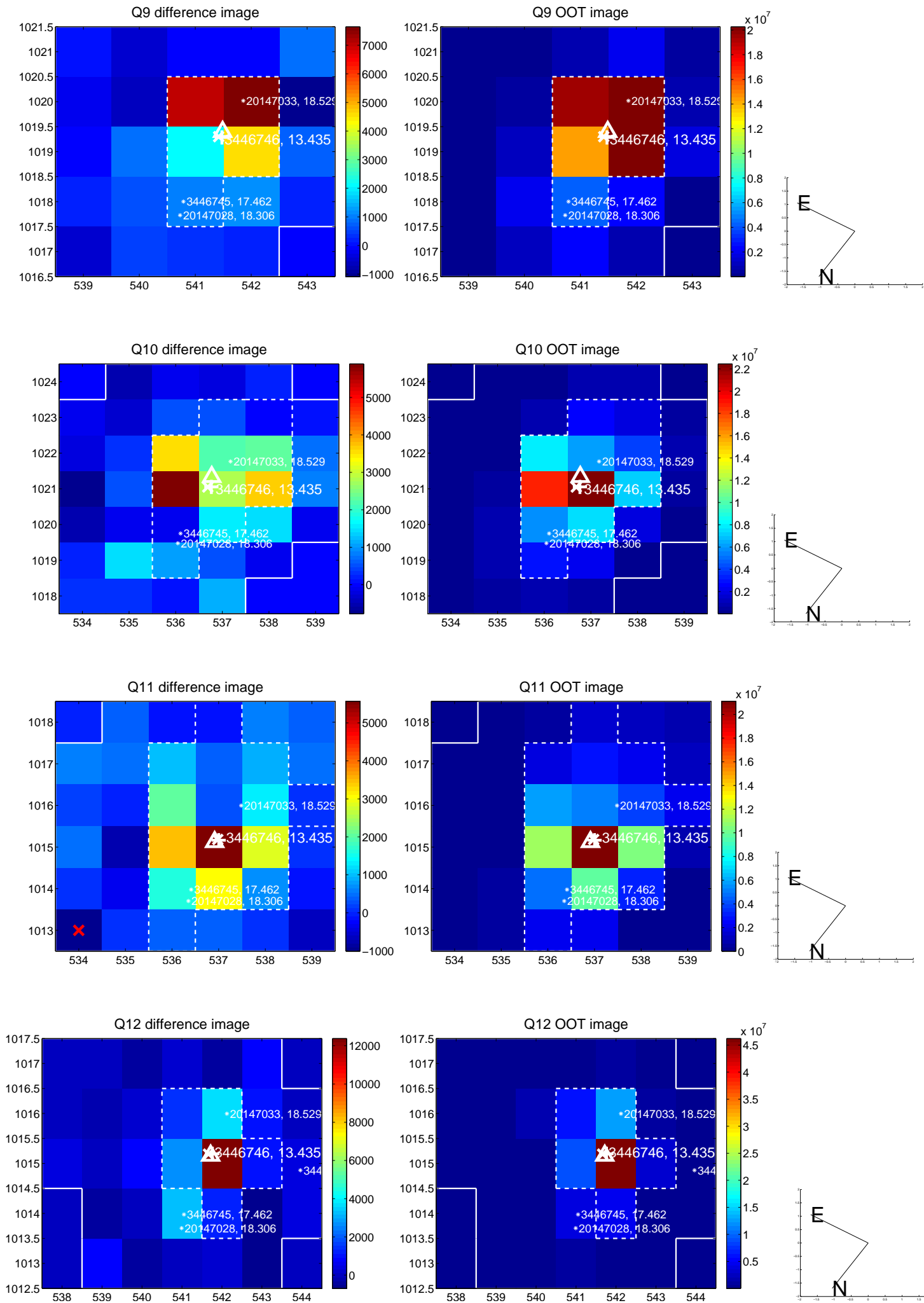
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



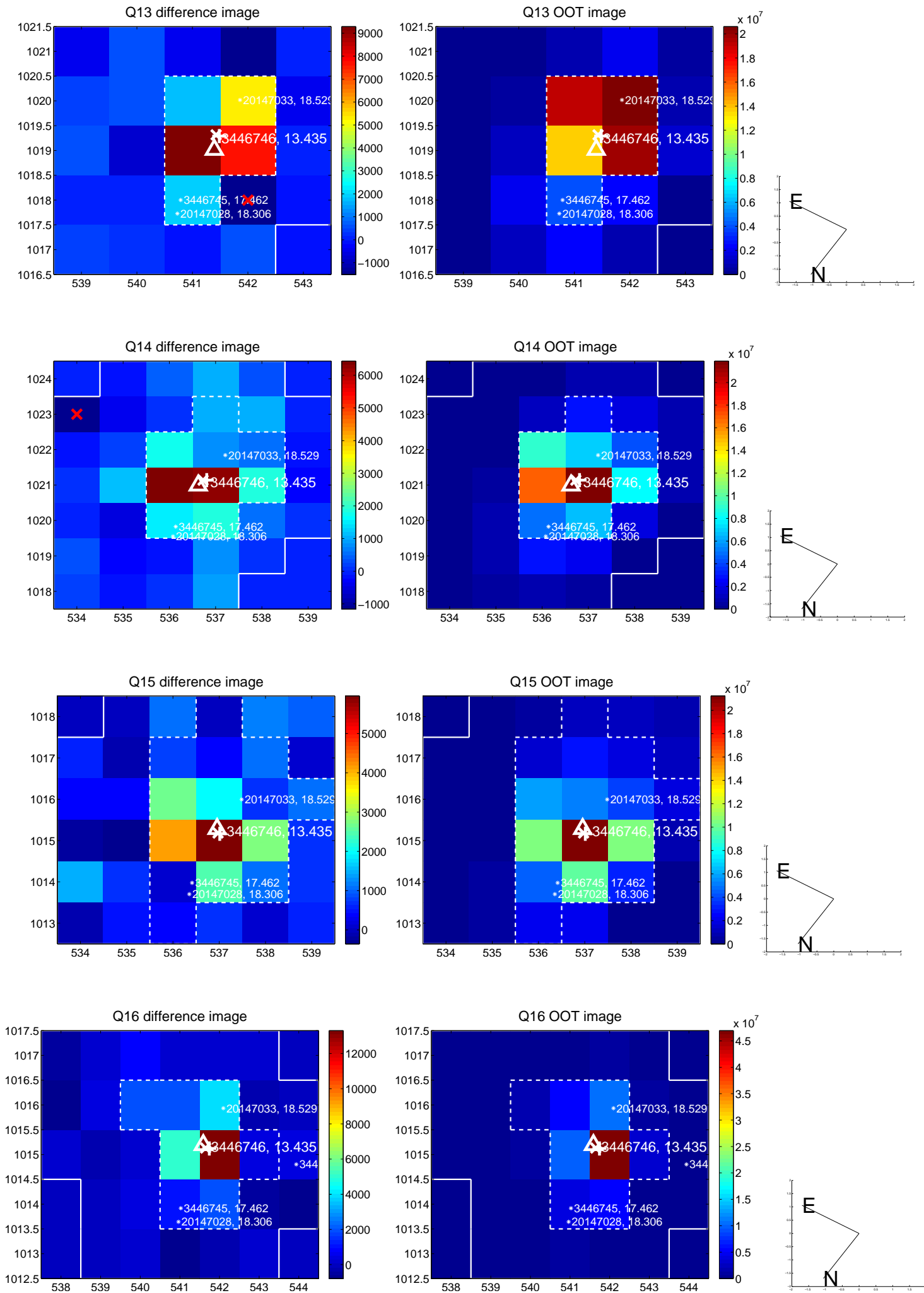
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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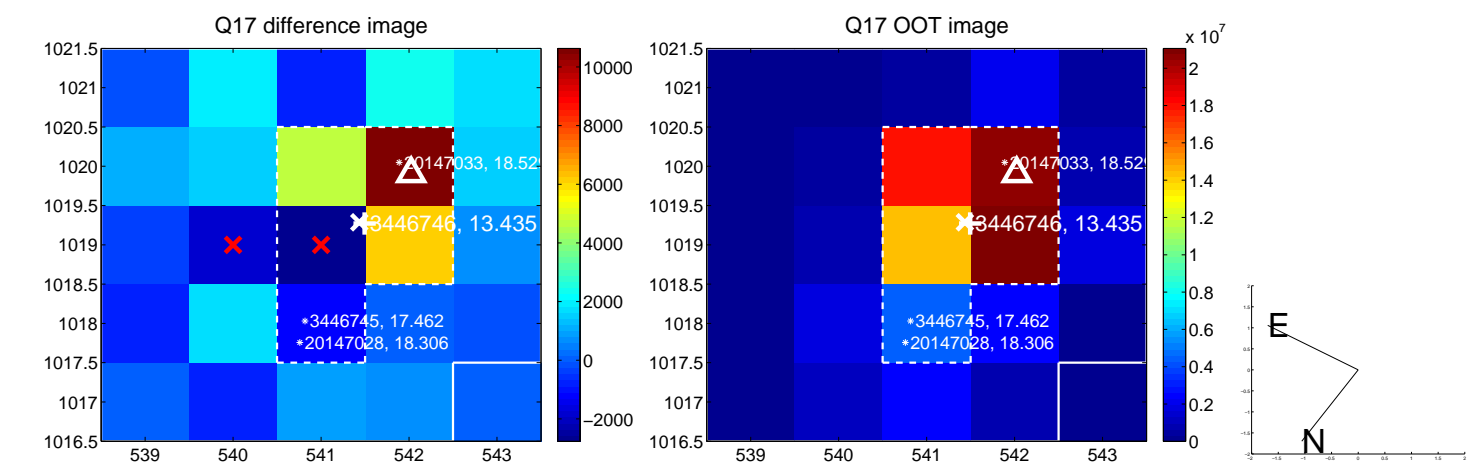


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

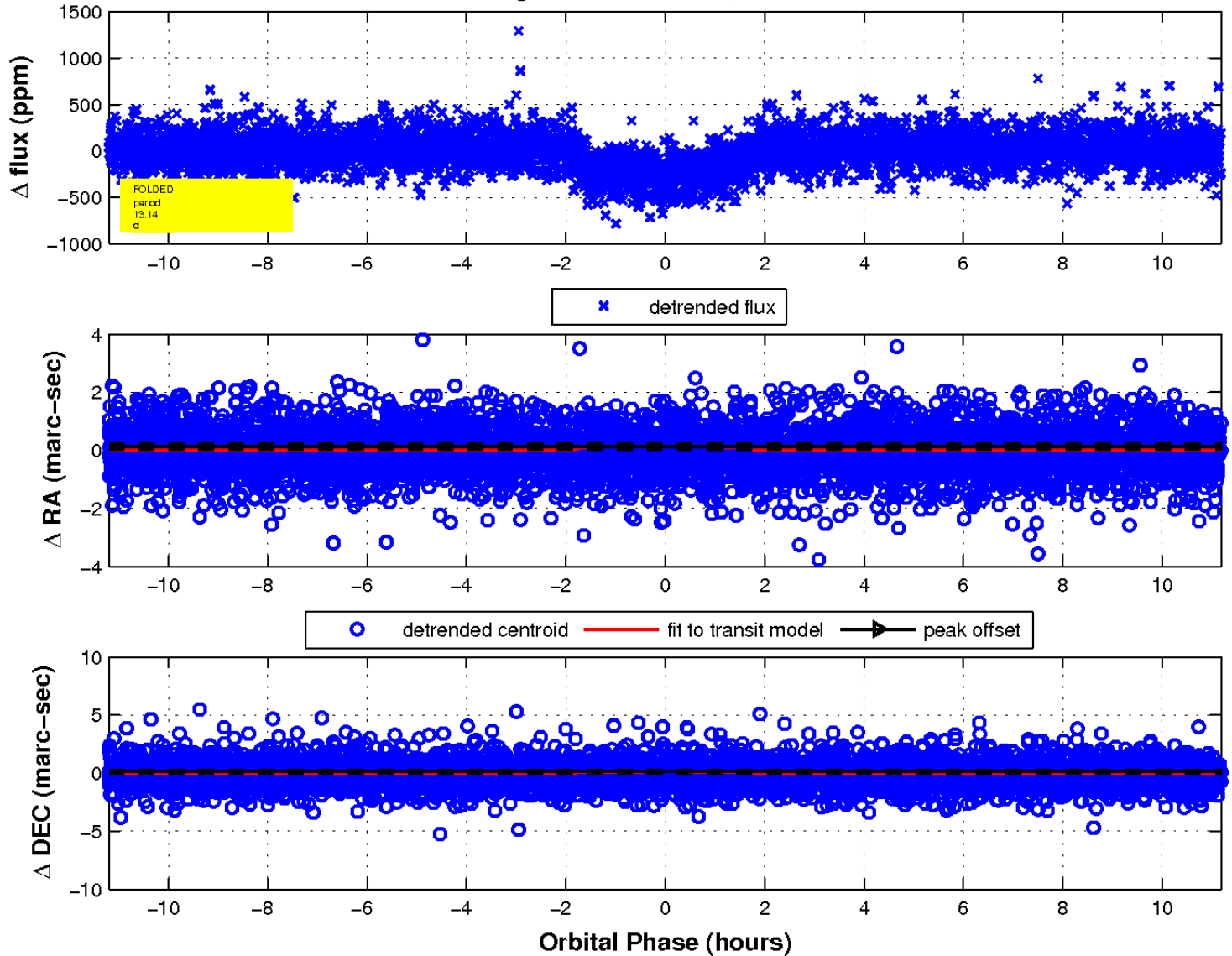




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

