

# KIC 008848288

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008848288-01	OBS	3886.01	5.566635	133.029402	105.7	4.574	35.5	11.2	12.70	4694	16.07	11121.63

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008848288-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED

**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 008848288-01

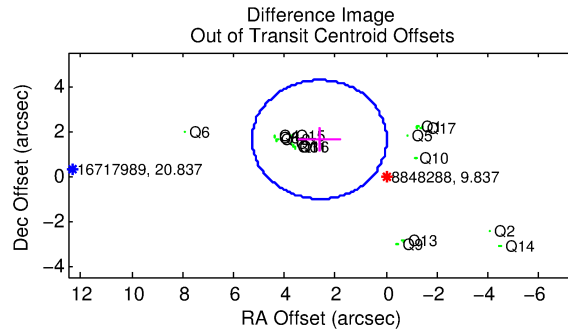
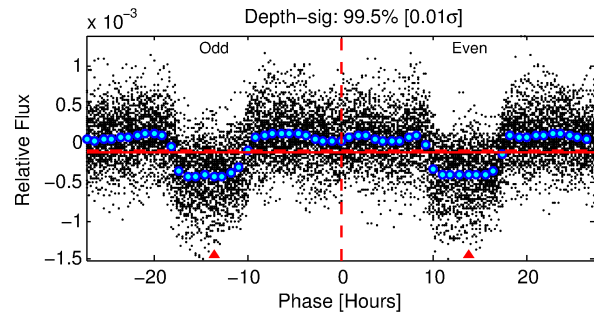
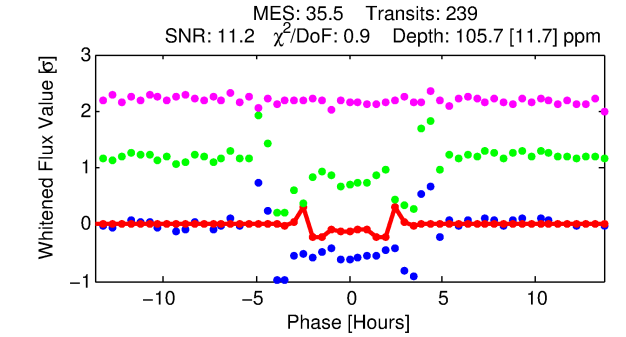
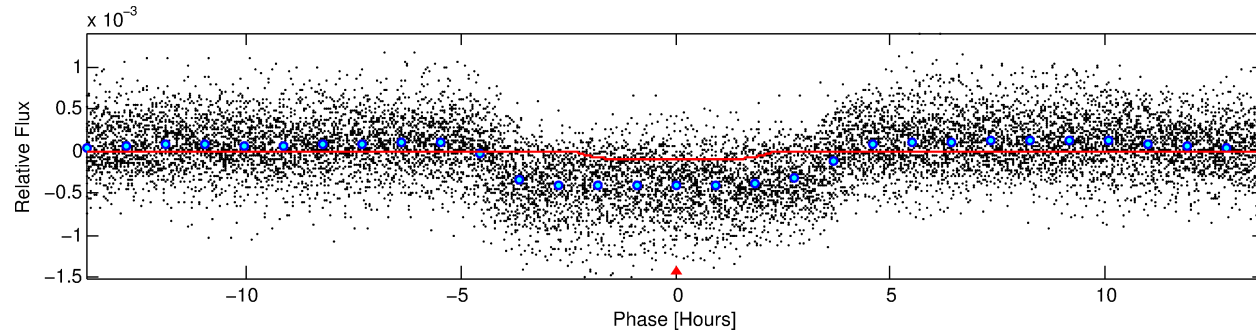
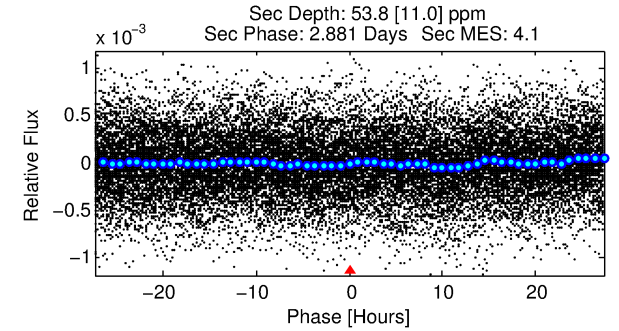
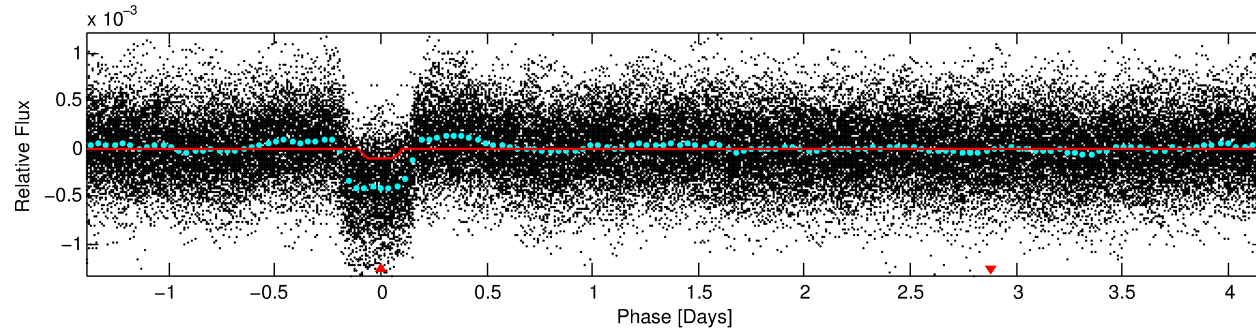
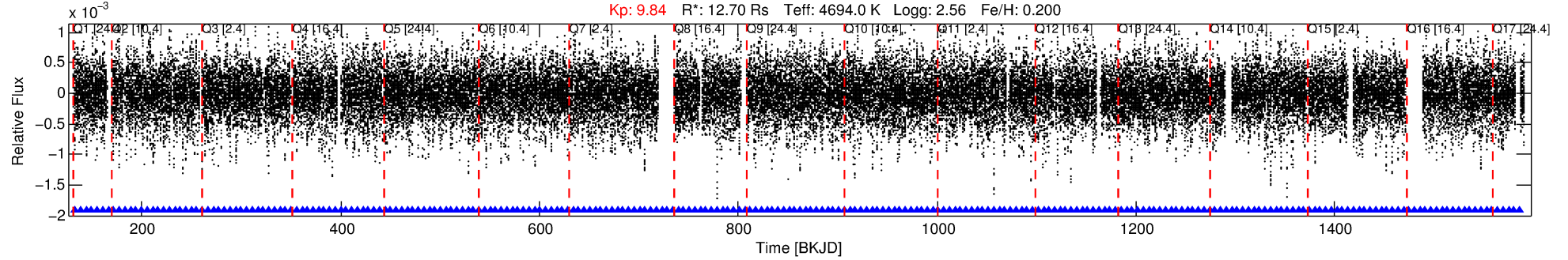
No Significant Match Found

# DV One-Page Summary

KIC: 8848288 Candidate: 1 of 1 Period: 5.567 d

KOI: K03886 Corr: No Ephemeris Match

Kp: 9.84 R\*: 12.70 Rs Teff: 4694.0 K Logg: 2.56 Fe/H: 0.200



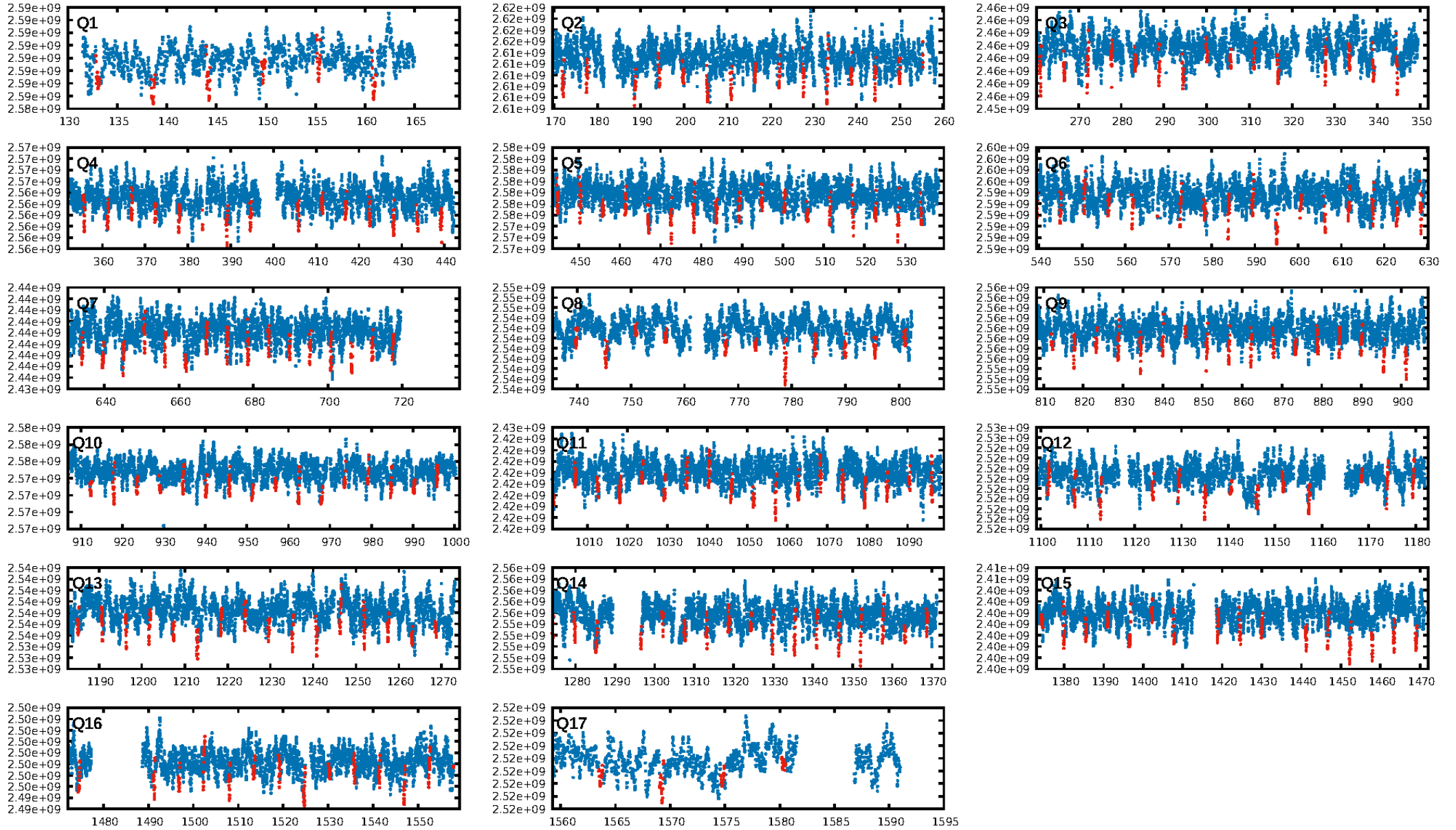
## DV Fit Results:

Period = 5.56664 [0.00001] d  
Epoch = 133.0294 [0.0014] BKJD  
Rp/R\* = 0.0116 [0.0015]  
a/R\* = 4.40 [1.70]  
b = 0.90 [0.09]  
Seff = 11121.63 [2247.22]  
Teff = 2619 [132] K  
Rp = 16.07 [4.49] Re  
a = 0.0794 [0.0133] AU  
Ag = 0.72 [0.27] [-1.04σ]  
Teffp = 3733 [320] K [3.22σ]

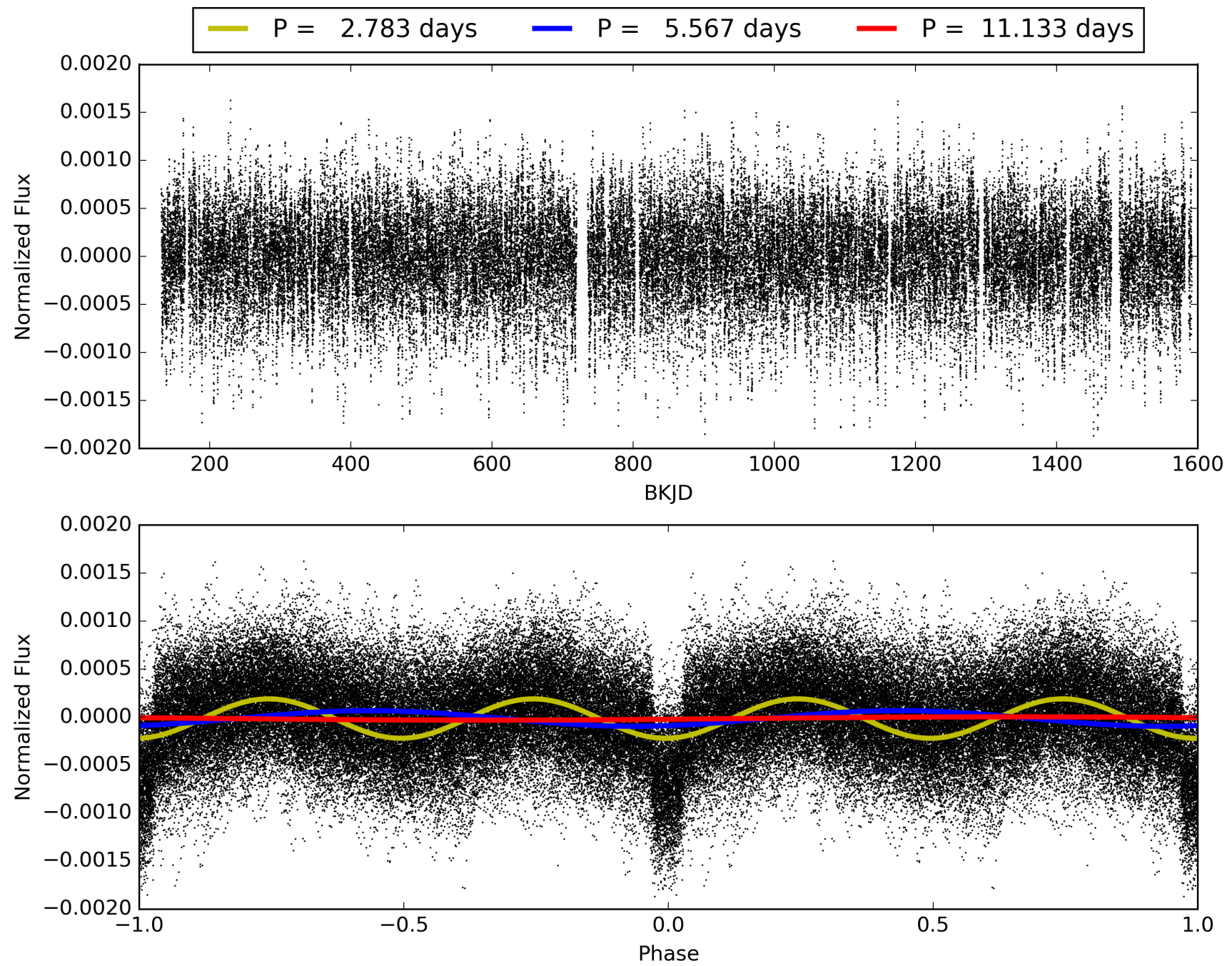
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 6.12e-248  
RollingBand-fgt: 1.00 [229/229]  
GhostDiagnostic-chr: N/A  
Centroid-sig: 0.0%  
Centroid-so: 1.392 arcsec [3.70σ]  
OOTOffset-rm: 3.081 arcsec [3.50σ]  
KicOffset-rm: 2.564 arcsec [2.79σ]  
OOTOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.53 [9/17]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 008848288-01, PDC Light Curves



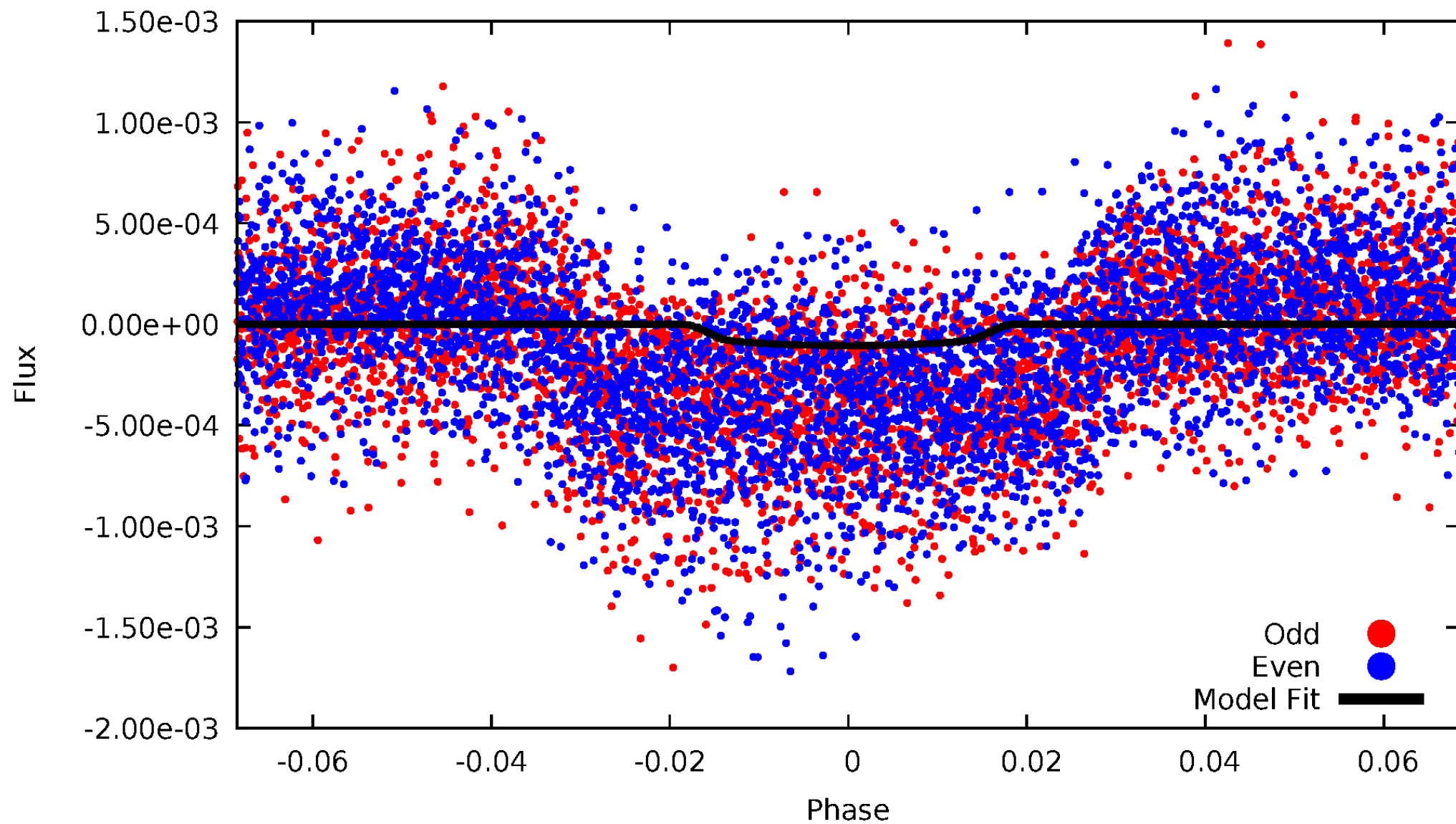
TCE 008848288-01





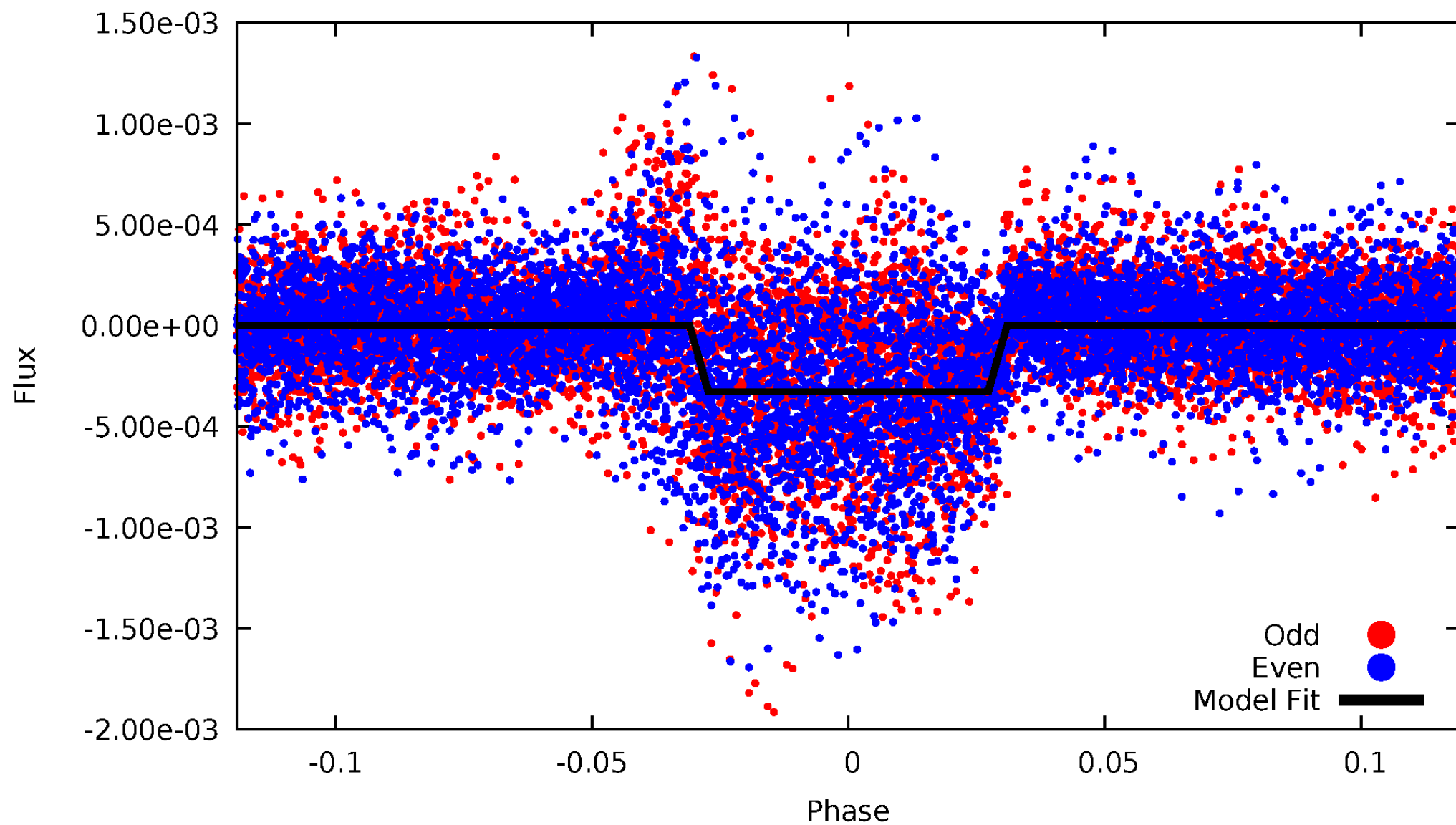
# DV Odd/Even

TCE 008848288-01

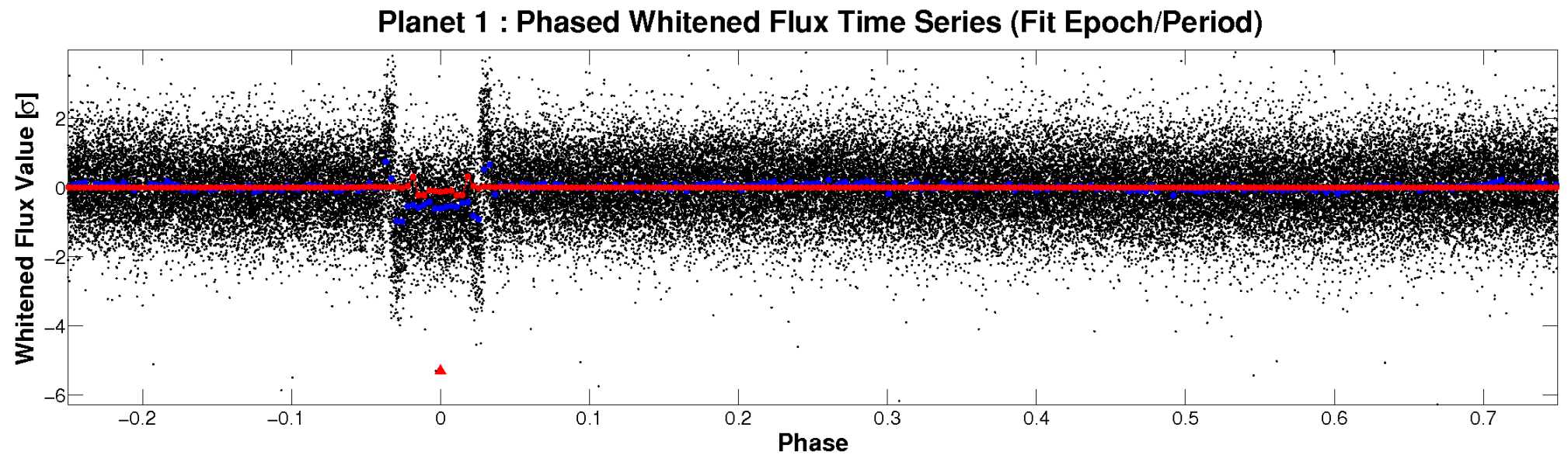
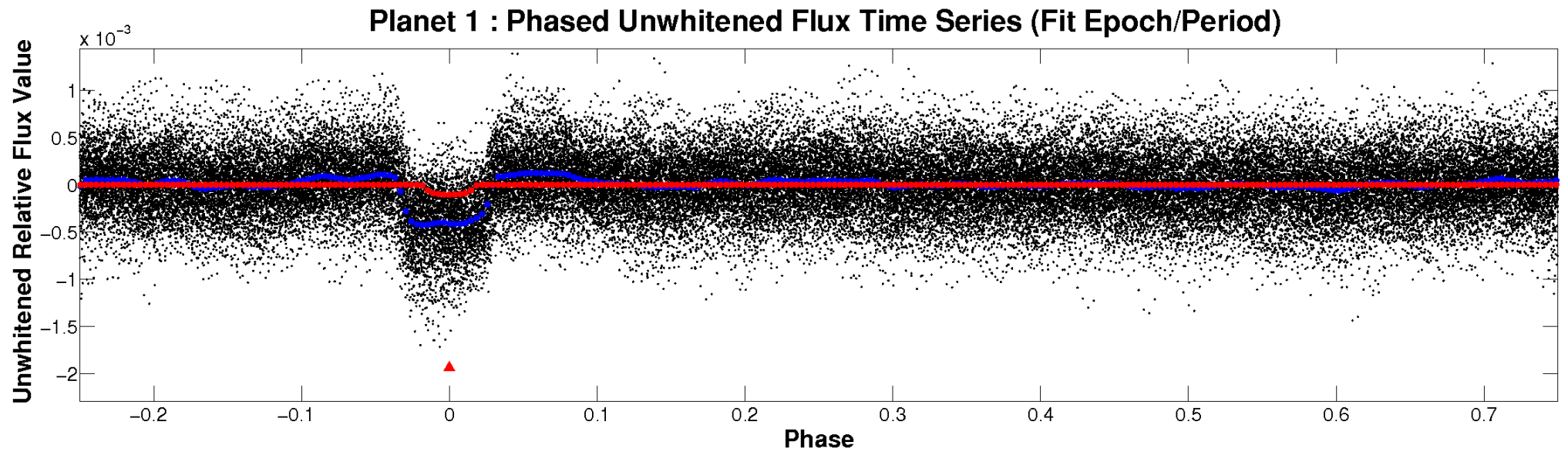


# ALT Odd/Even

TCE 008848288-01

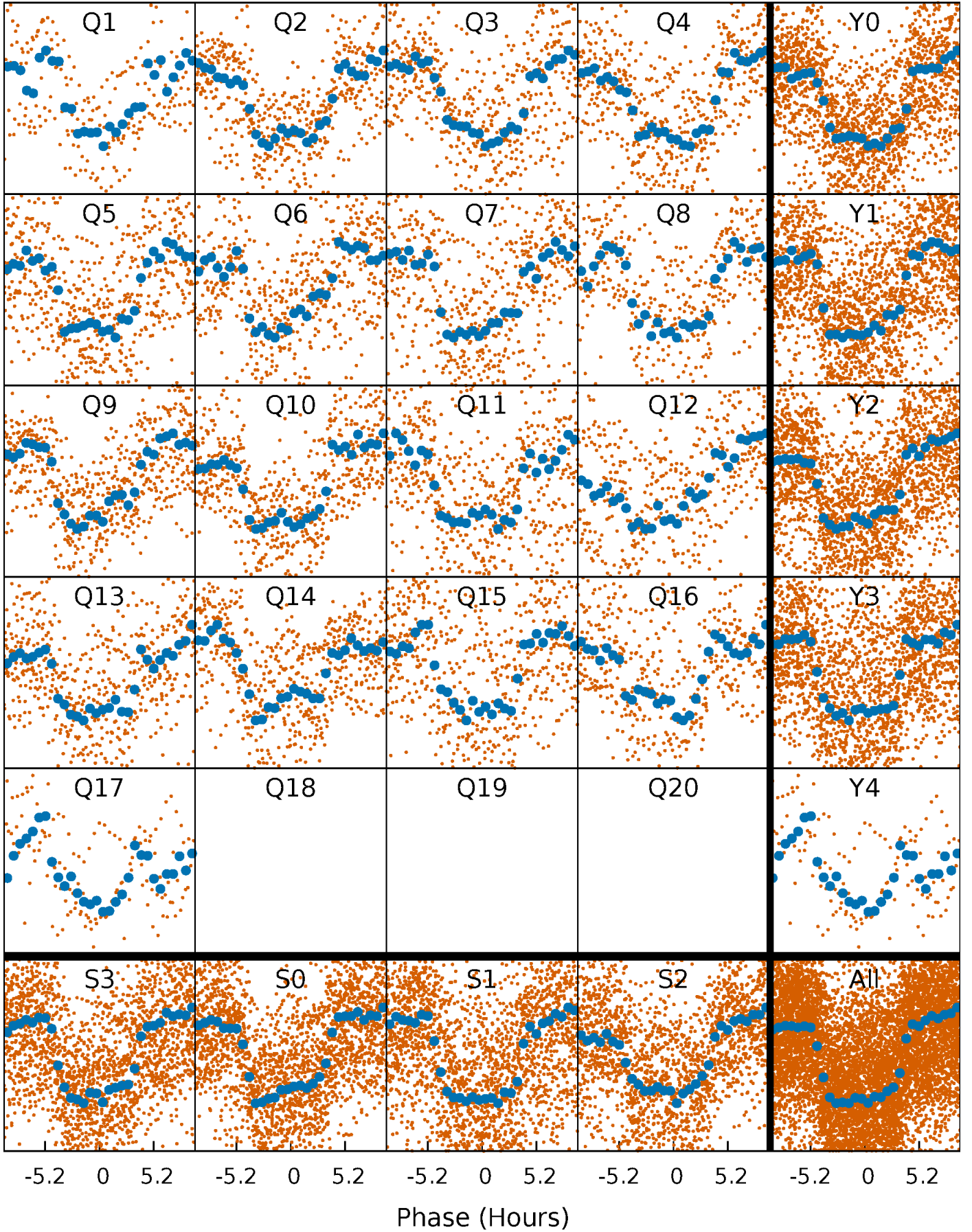


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

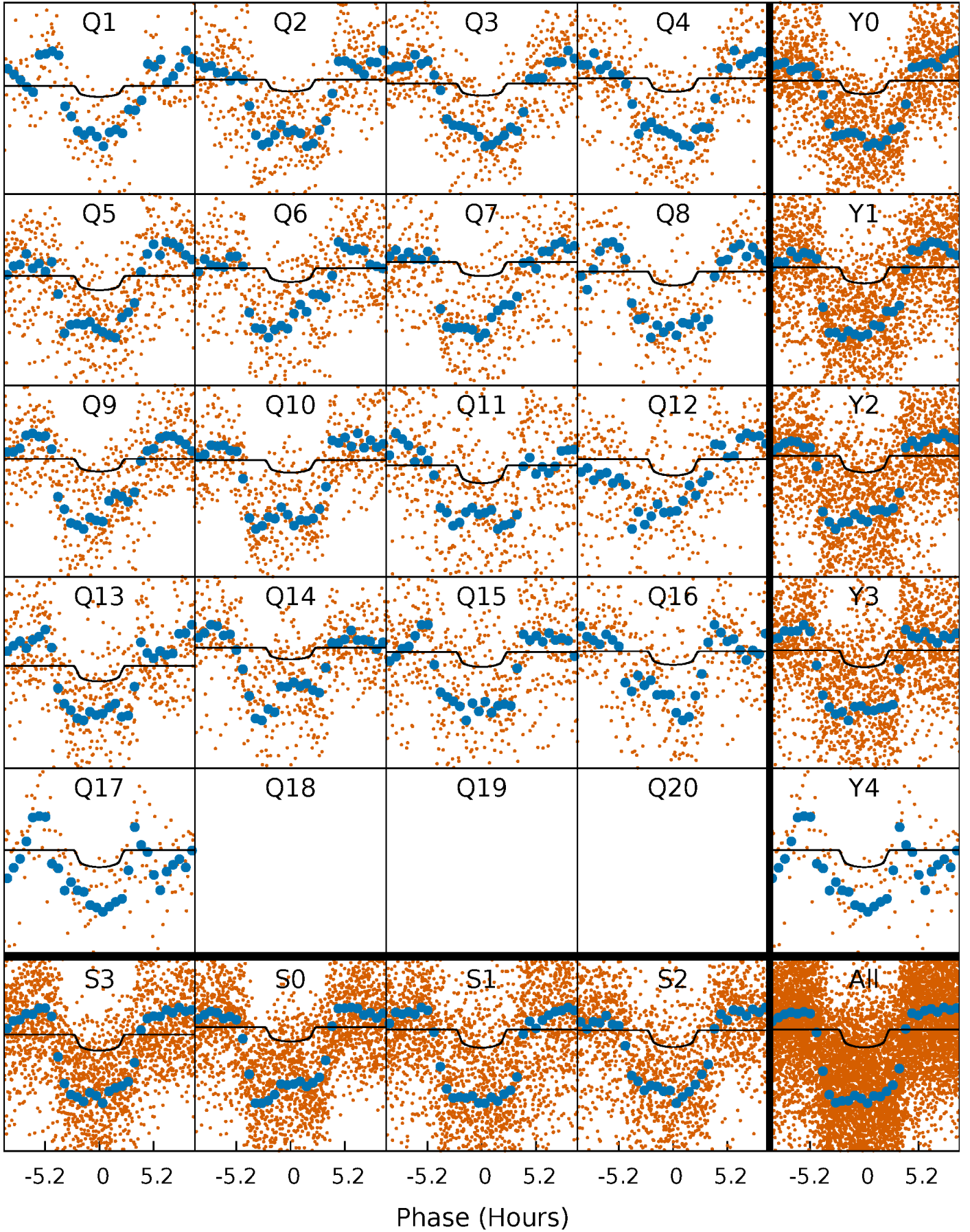
TCE 008848288-01   P= 5.566635 Days    $T_0=133.029402$  (BKJD)





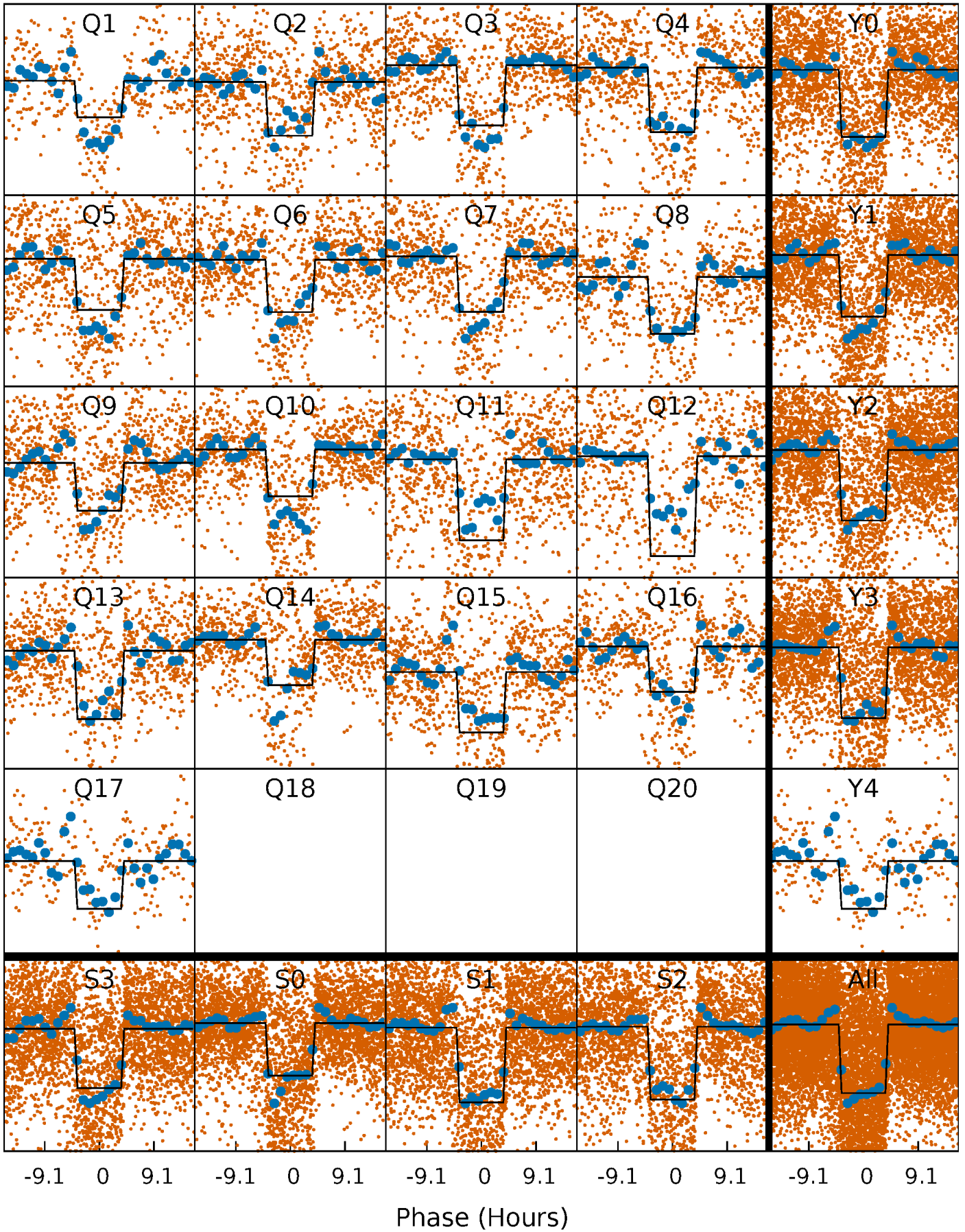
# DV Quarter-Phased Transit Curves

TCE 008848288-01   P= 5.566635 Days    $T_0=133.029402$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

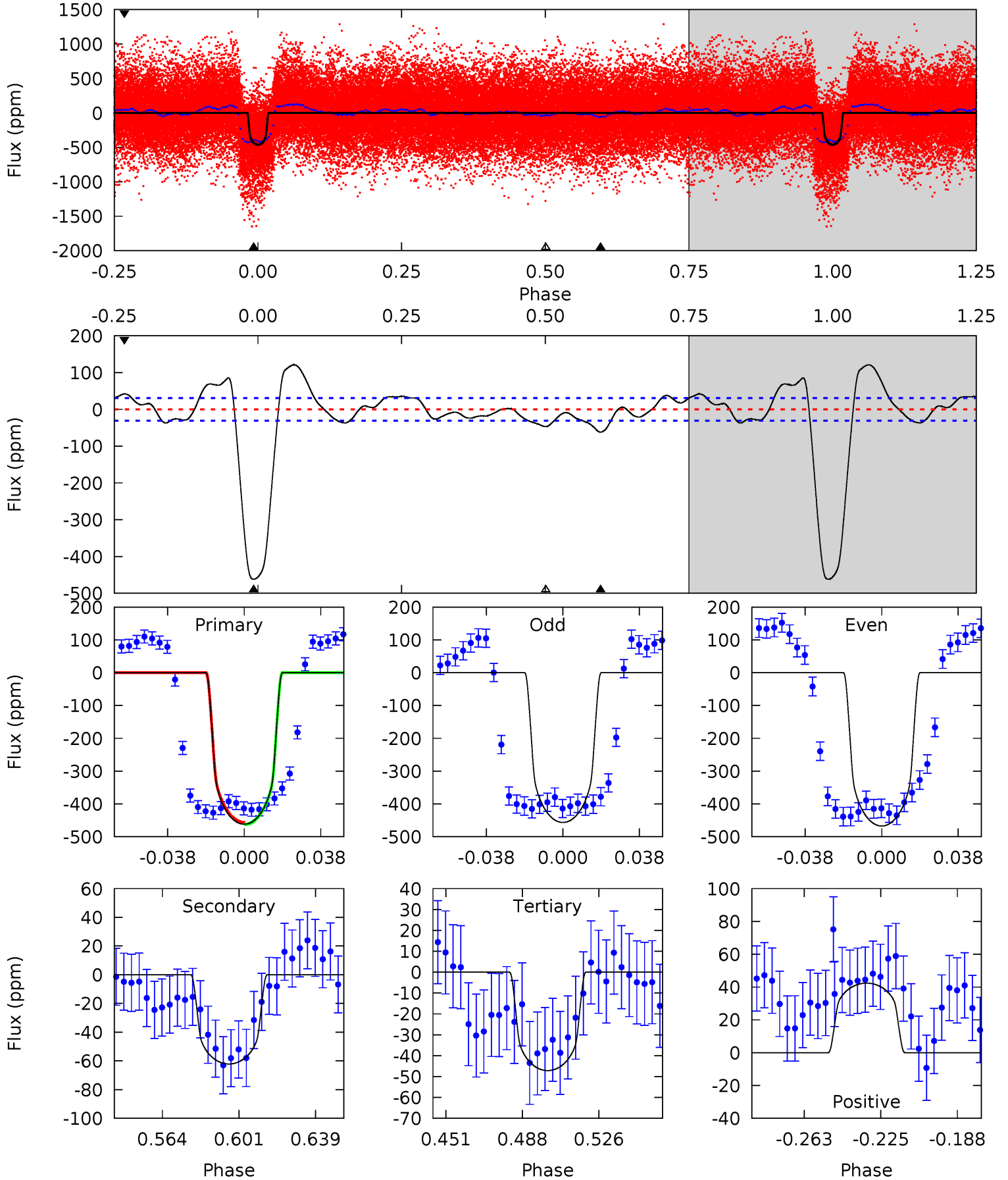
TCE 008848288-01 P= 5.566466 Days  $T_0=133.038018$  (BKJD)



# DV Model-Shift Uniqueness Test

008848288-01, P = 5.566635 Days, E = 127.462767 Days

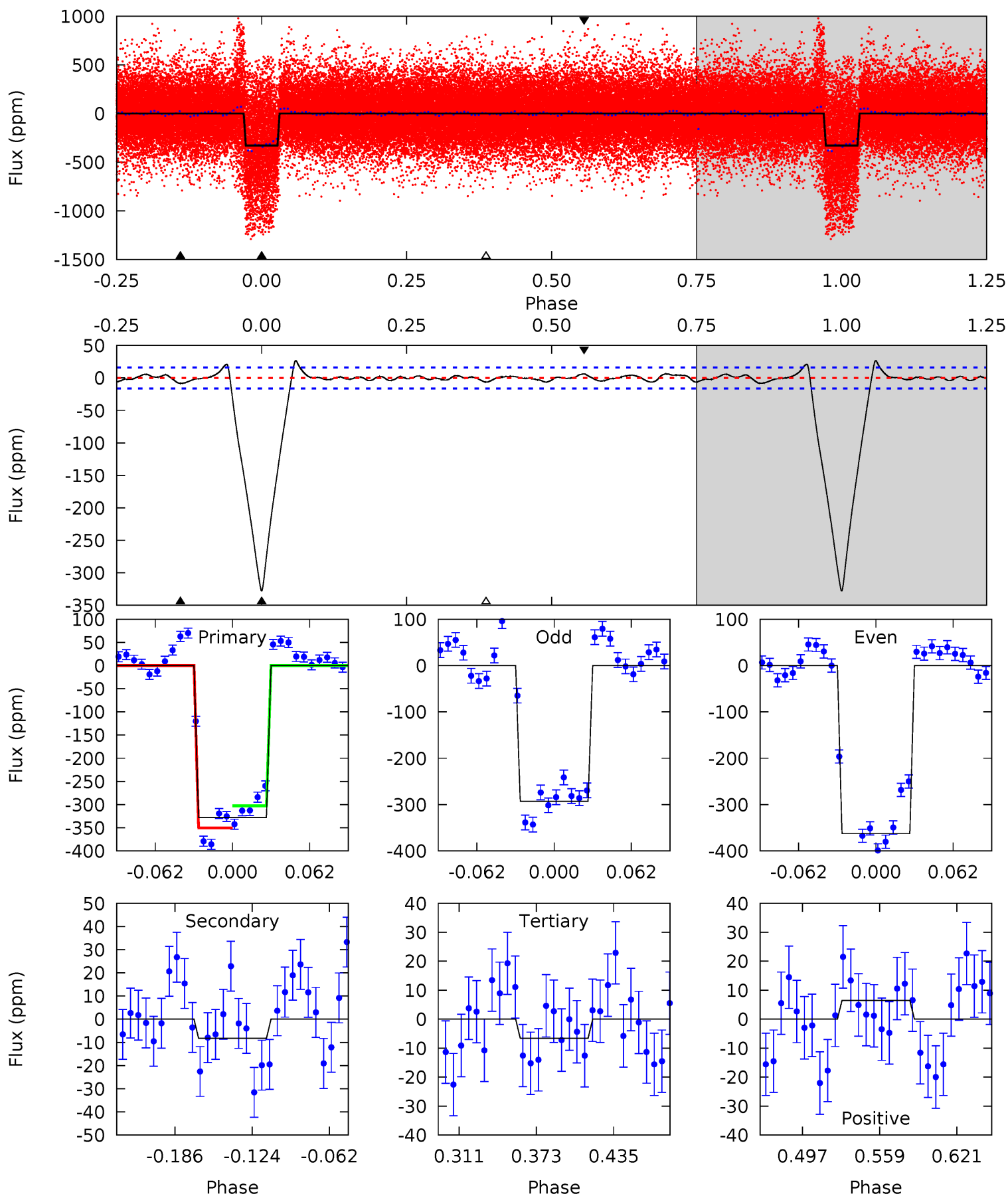
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
71.3	9.59	7.28	6.54	4.77	2.08	5.77	64.0	64.7	2.32	3.05	0.84	1.10	0.21	0.52



# Alt Model-Shift Uniqueness Test

008848288-01, P = 5.566466 Days, E = 127.471552 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
94.8	2.39	1.90	1.87	4.66	1.87	1.13	92.9	92.9	0.49	0.52	10.0	1.02	0.08	6.84





### Stellar Parameters For KIC 008848288

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$4694^{+69}_{-126}$	$2.564^{+0.027}_{-0.027}$	$0.200^{+0.100}_{-0.200}$	$12.701^{+2.109}_{-3.164}$	$2.156^{+0.768}_{-0.854}$	$0.001^{+0.001}_{-0.000}$
	+1%/-3%	+1%/-1%	+50%/-100%	+17%/-25%	+36%/-40%	+36%/-14%
Source	SPE74	AST9	SPE74	DSEP		

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

### Secondary Eclipse Parameters for KIC 008848288-01 / KOI 3886.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-62 \pm 6$	$16.34^{+3.08}_{-2.94}$	$3658^{+109}_{-138}$	$3725^{+295}_{-270}$	$0.818^{+0.292}_{-0.195}$
Alt.	$-8 \pm 3$	$26.15^{+3.56}_{-3.98}$	$3663^{+99}_{-109}$	$-3336^{+91}_{-76}$	$0.044^{+0.020}_{-0.019}$

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

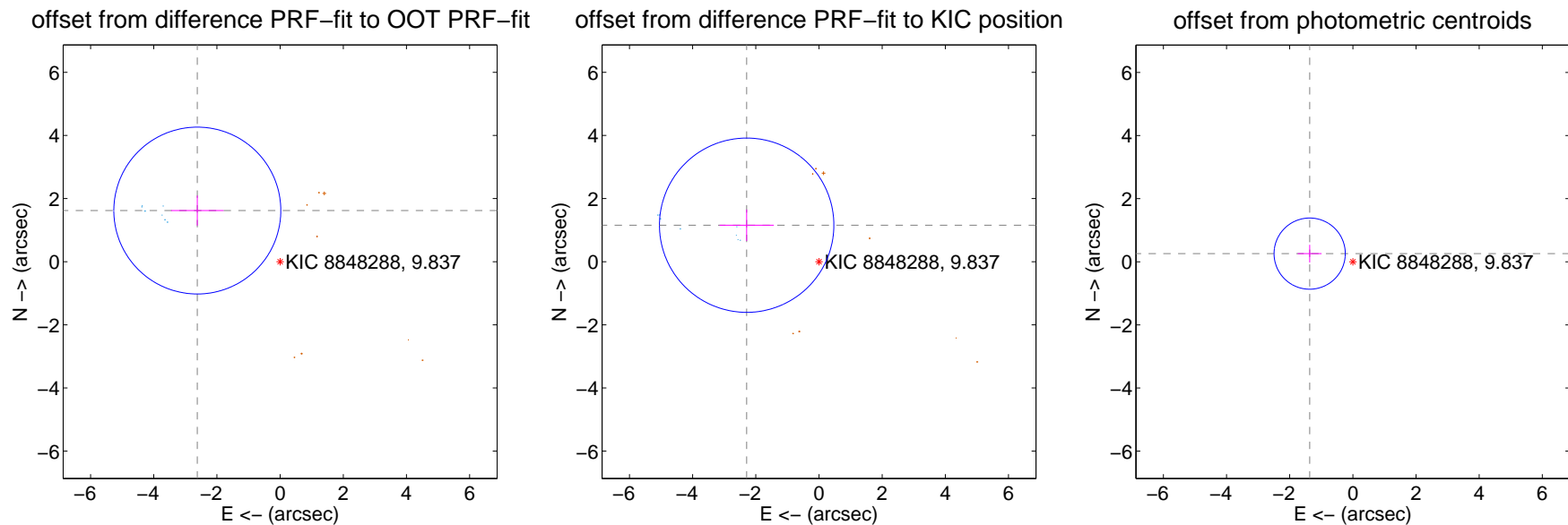
## DV Centroid Data

Supplemental centroid analysis for 008848288-01. **Kepler magnitude: 9.84.** Transit SNR 11.16

There are 9 quarters with good PRF difference image offsets

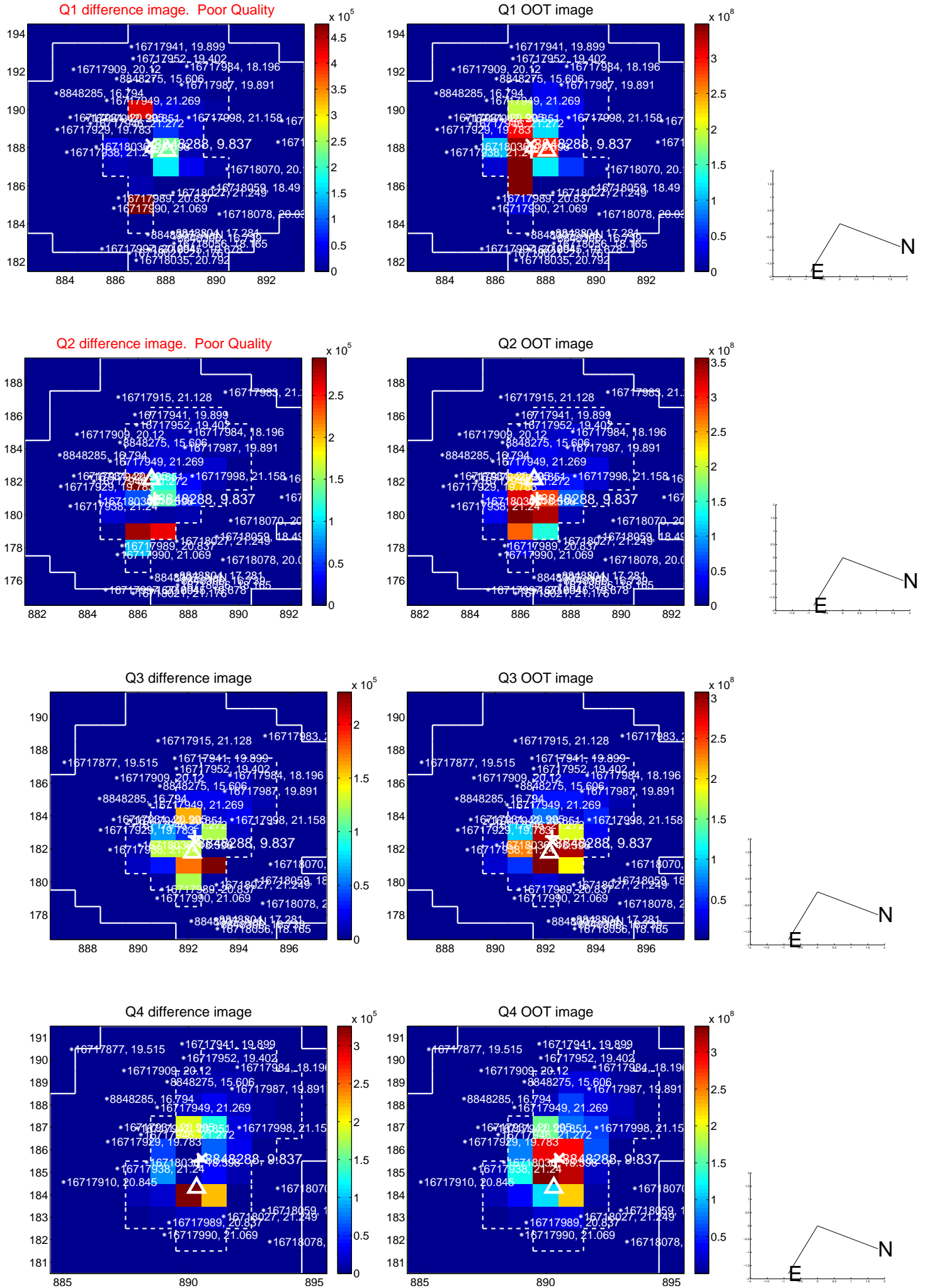
The direct PRF centroid is offset from the target star catalog position by about 1.41 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>3.081 \pm 0.881</math></b>	<b>3.50</b>	$2.620 \pm 0.831$	$1.620 \pm 0.476$
PRF-fit source offset from KIC position	$2.564 \pm 0.920$	2.79	$2.289 \pm 0.859$	$1.156 \pm 0.497$
photometric centroid source offset	<b><math>1.39 \pm 0.38</math></b>	<b>3.70</b>	$1.37 \pm 0.38$	$0.26 \pm 0.28$

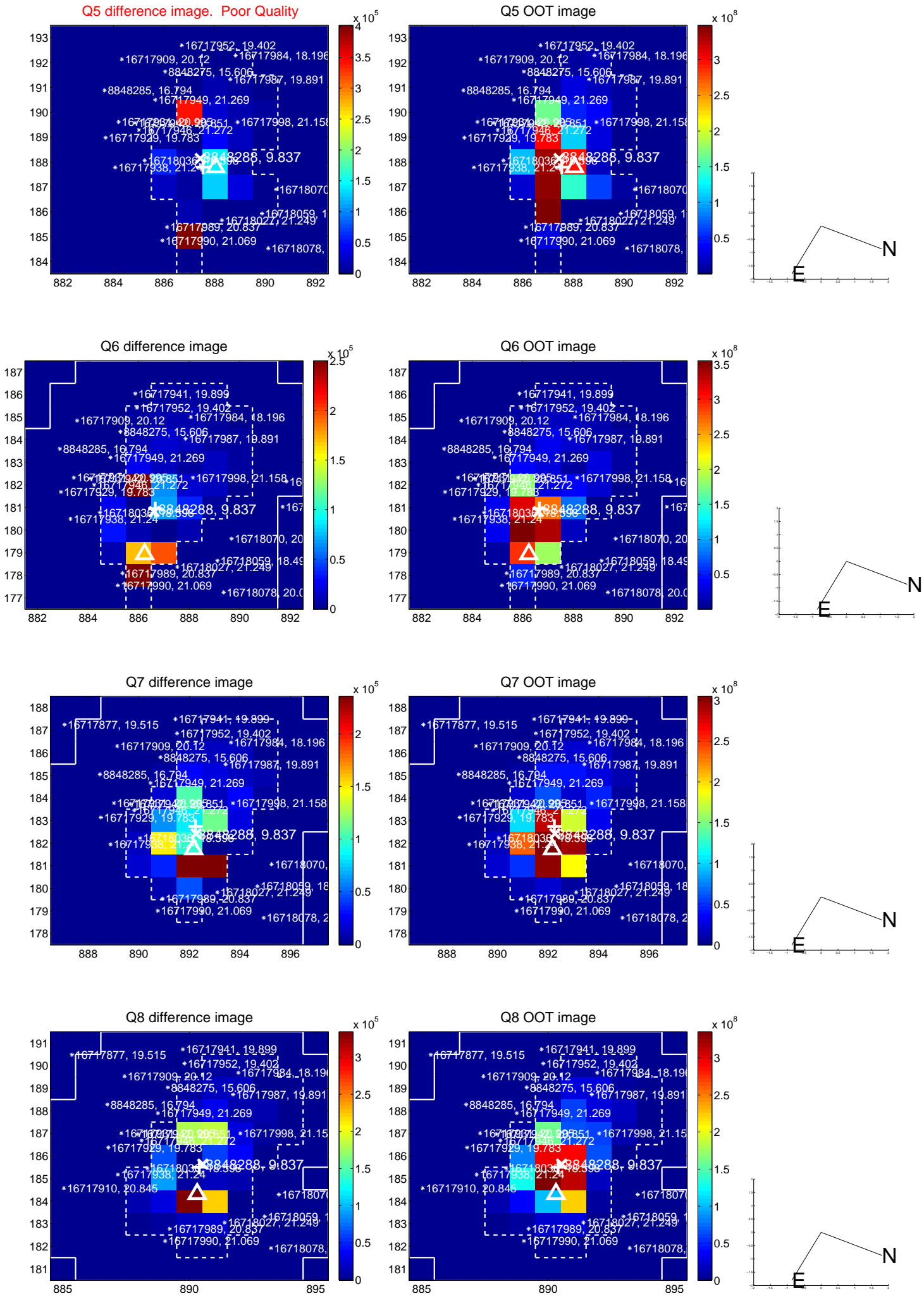


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

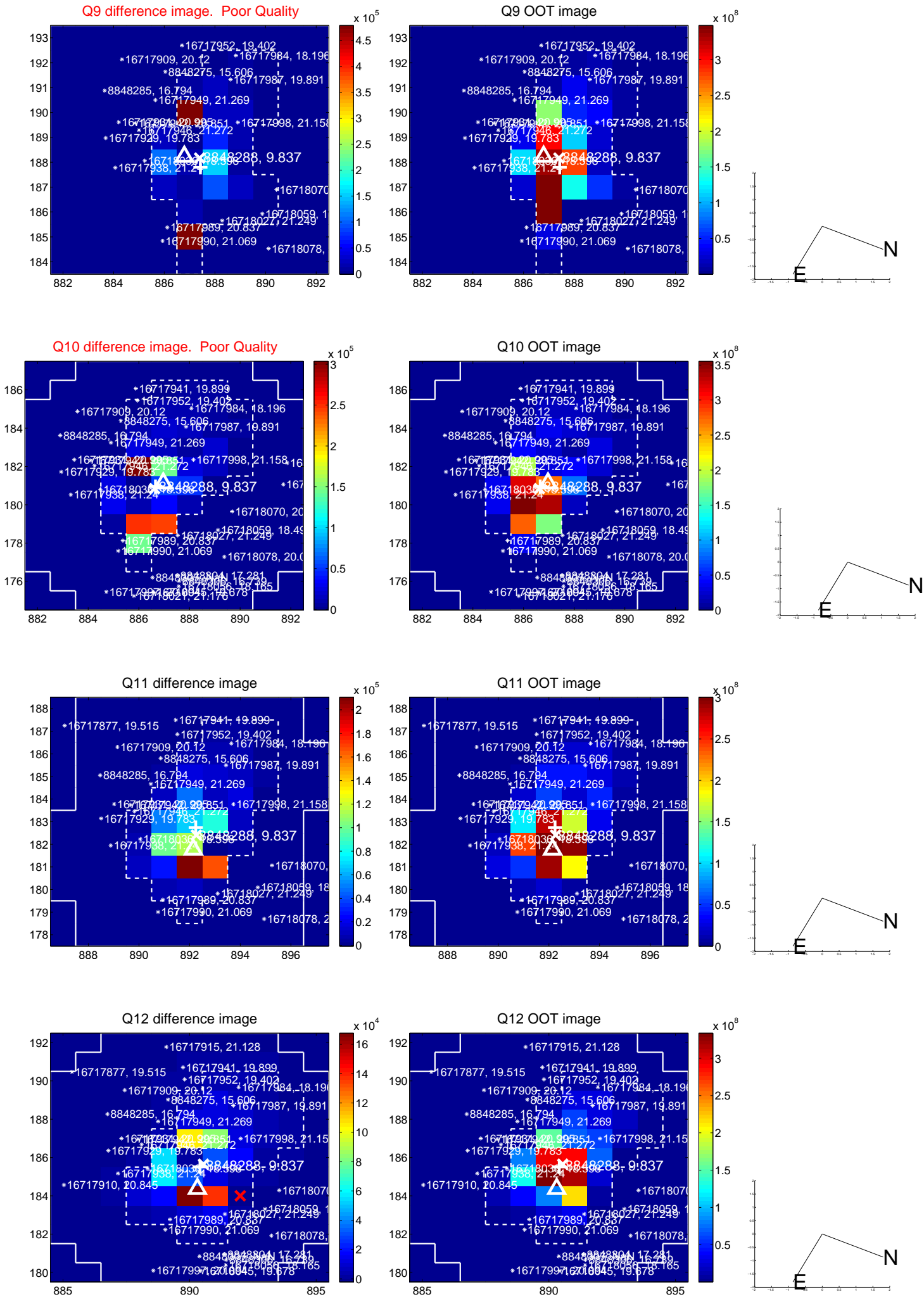


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

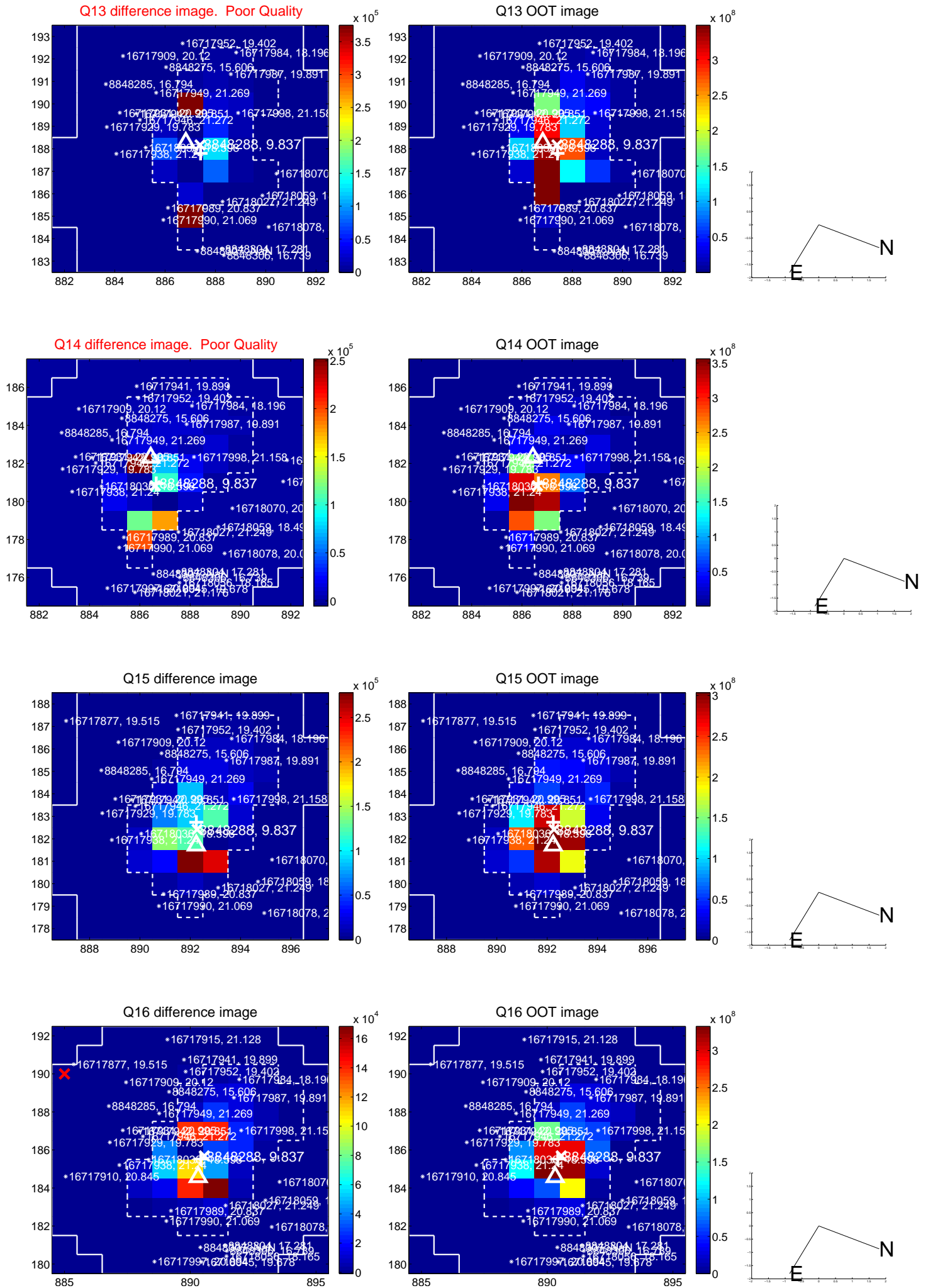




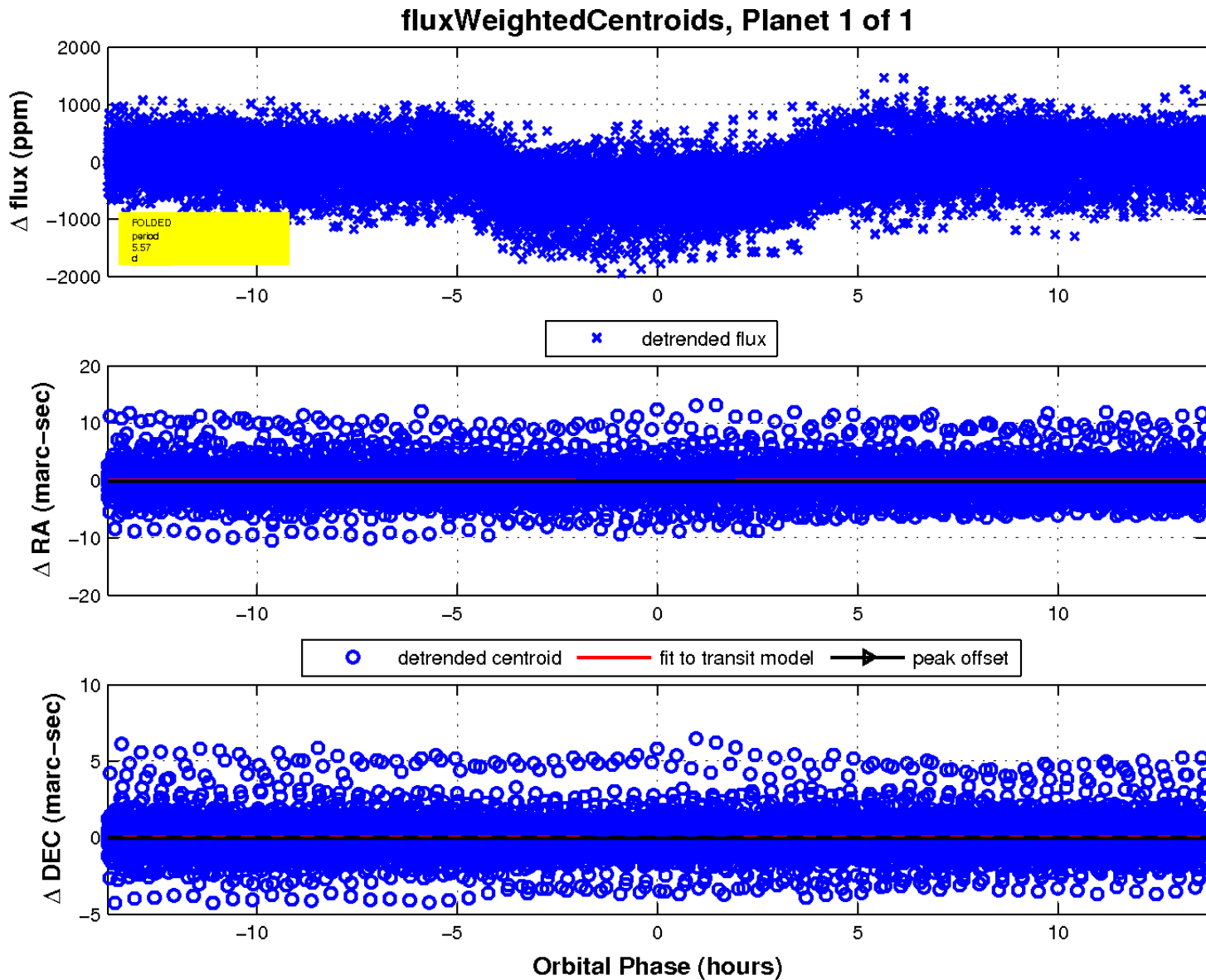
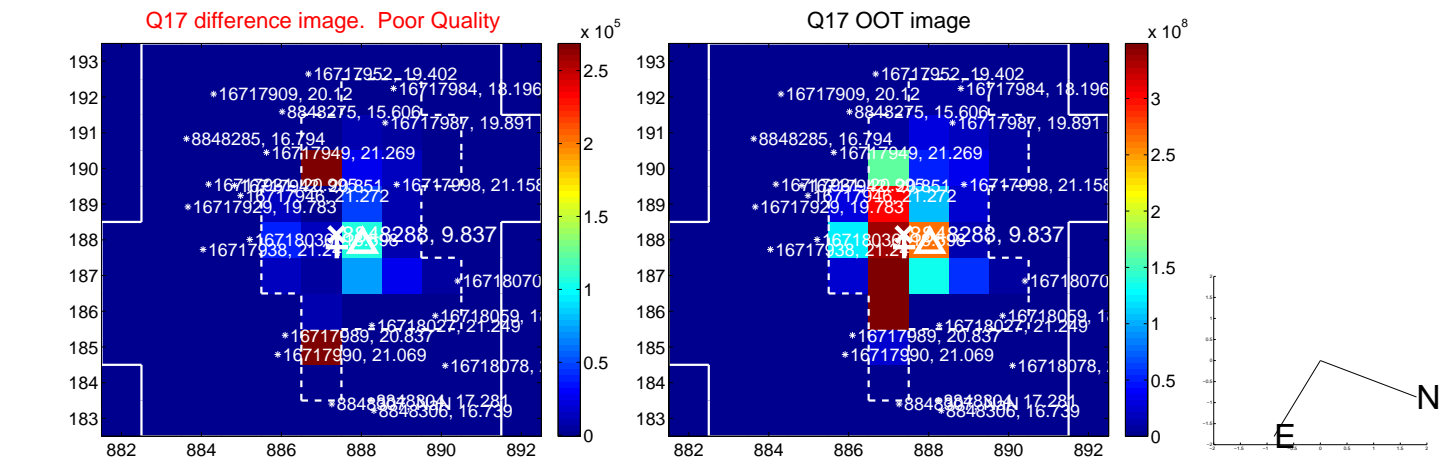
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



UKIRT Image

