

# KIC 005783884

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005783884-01	OBS	No	5.165082	132.671126	306.3	23.038	7.5	9.3	0.69	5151	1.75	115.01

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005783884-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

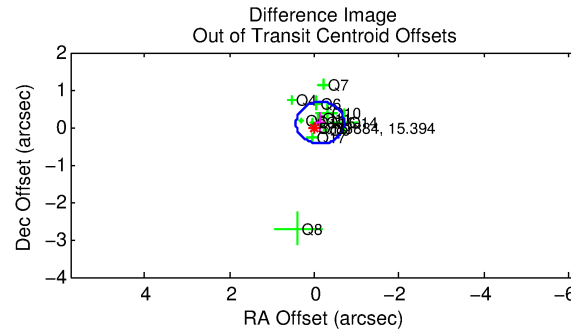
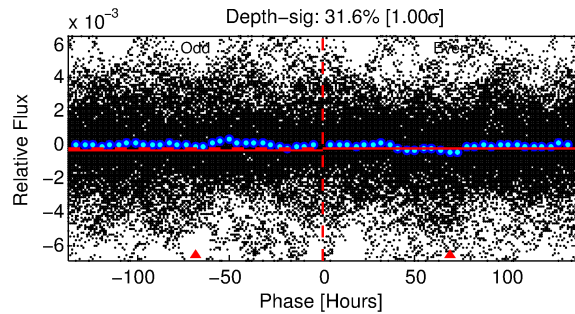
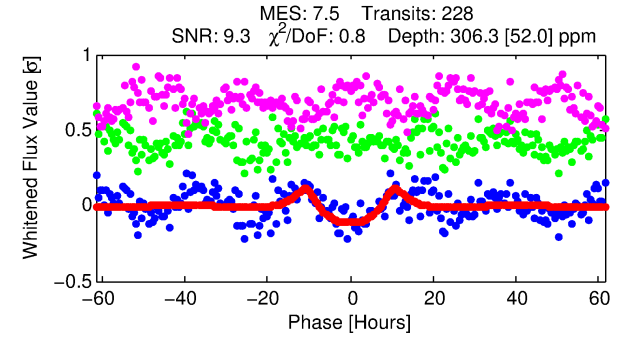
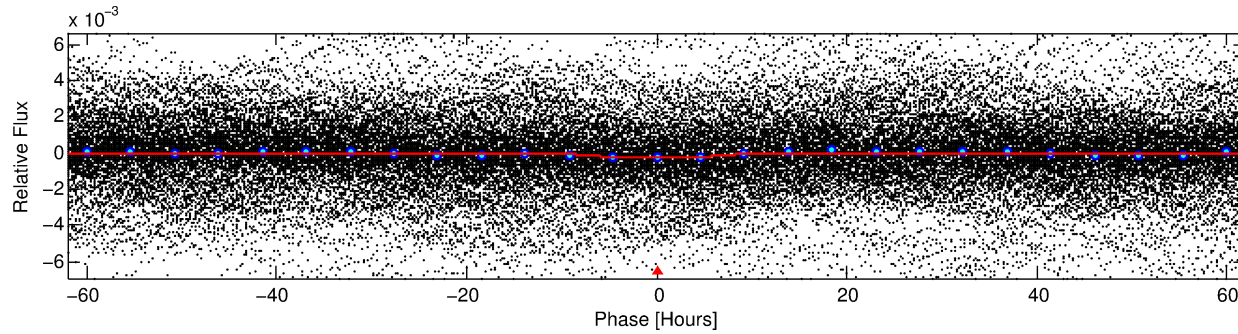
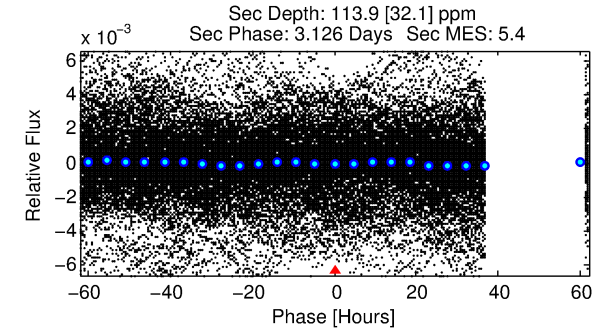
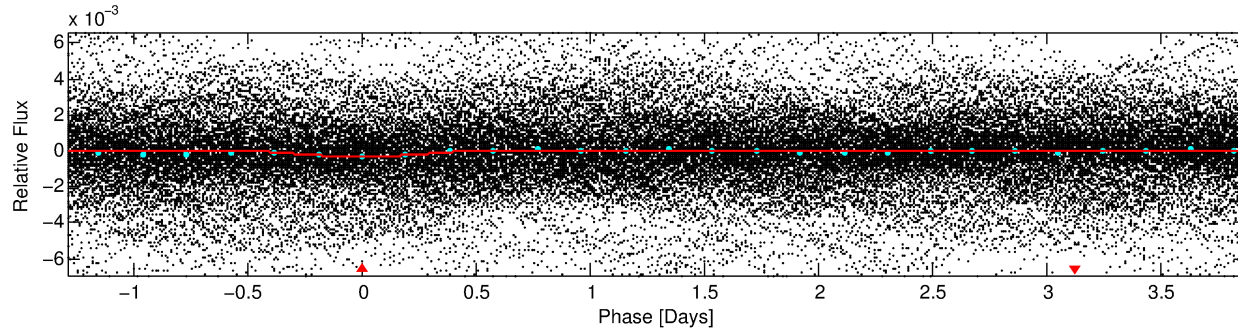
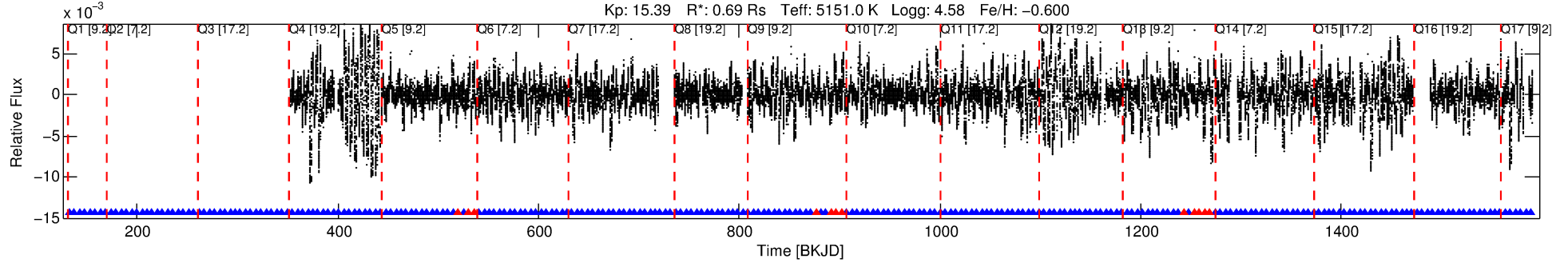
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005783884-01

No Significant Match Found

# DV One-Page Summary

KIC: 5783884 Candidate: 1 of 1 Period: 5.165 d



## DV Fit Results:

Period = 5.16508 [0.00022] d  
Epoch = 132.6711 [0.0361] BKJD  
Rp/R\* = 0.0234 [0.0038]  
a/R\* = 1.11 [0.02]  
b = 0.98 [0.01]  
Seff = 115.01 [22.84]  
Teq = 835 [41] K  
Rp = 1.76 [0.35] Re  
a = 0.0509 [0.0050] AU  
Ag = 52.80 [23.76] [2.18σ]  
Teffp = 3480 [391] K [6.73σ]

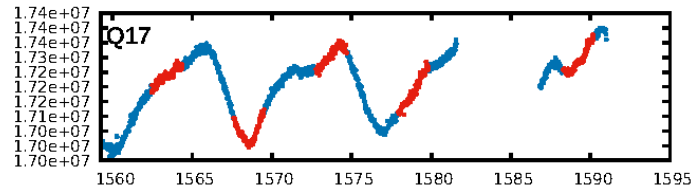
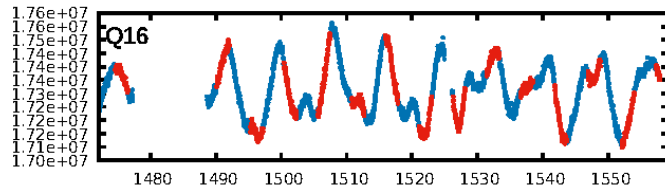
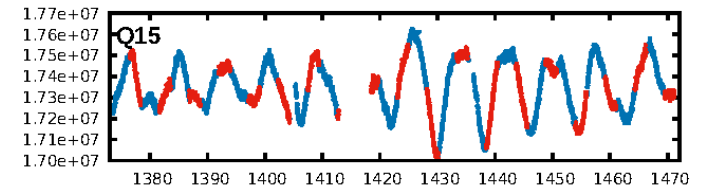
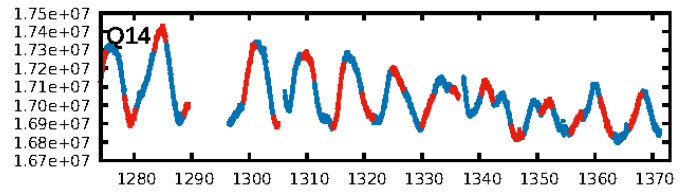
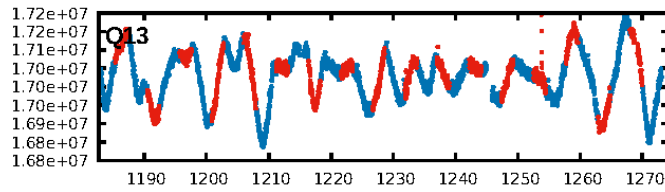
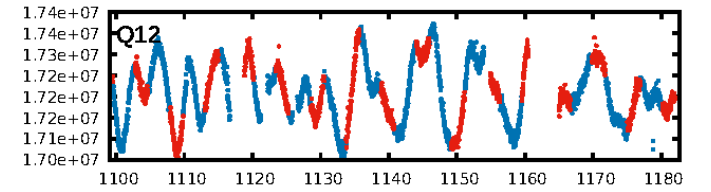
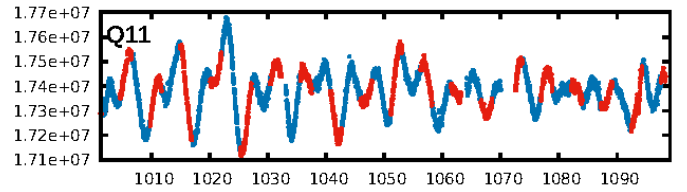
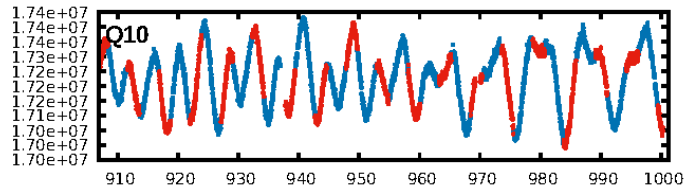
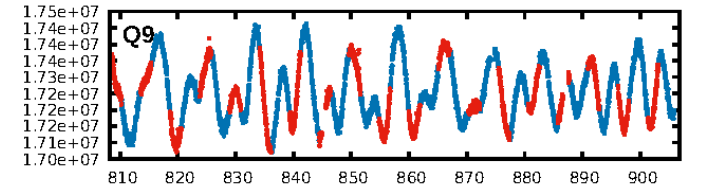
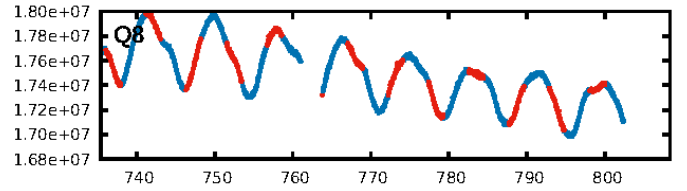
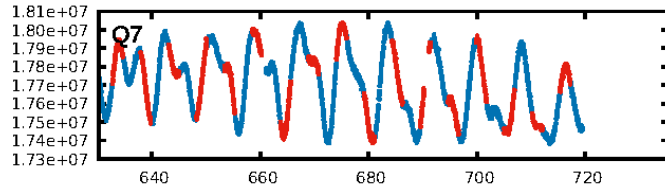
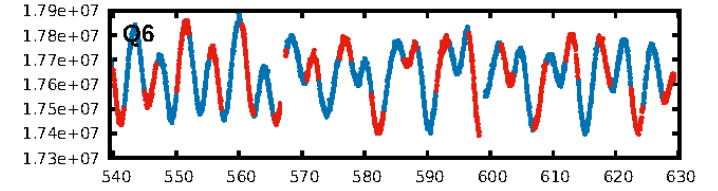
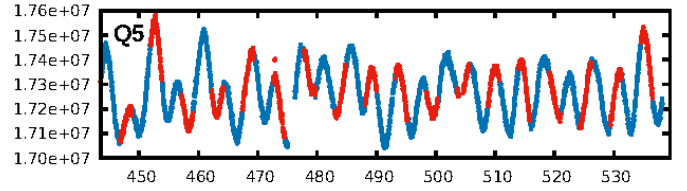
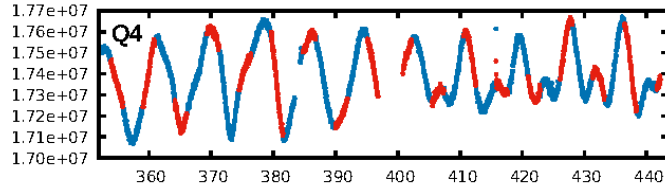
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.13e-15  
RollingBand-fgt: 0.95 [211/223]  
**GhostDiagnostic-chr: 0.9919**  
Centroid-sig: 0.3%  
Centroid-so: 0.654 arcsec [1.51σ]  
OotOffset-rm: 0.181 arcsec [0.96σ]  
KicOffset-rm: 0.155 arcsec [0.64σ]  
OotOffset-st: 3/3/4/3 [13]  
KicOffset-st: 3/3/4/3 [13]  
DiffImageQuality-fgm: 0.46 [6/13]  
DiffImageOverlap-fno: 1.00 [14/14]

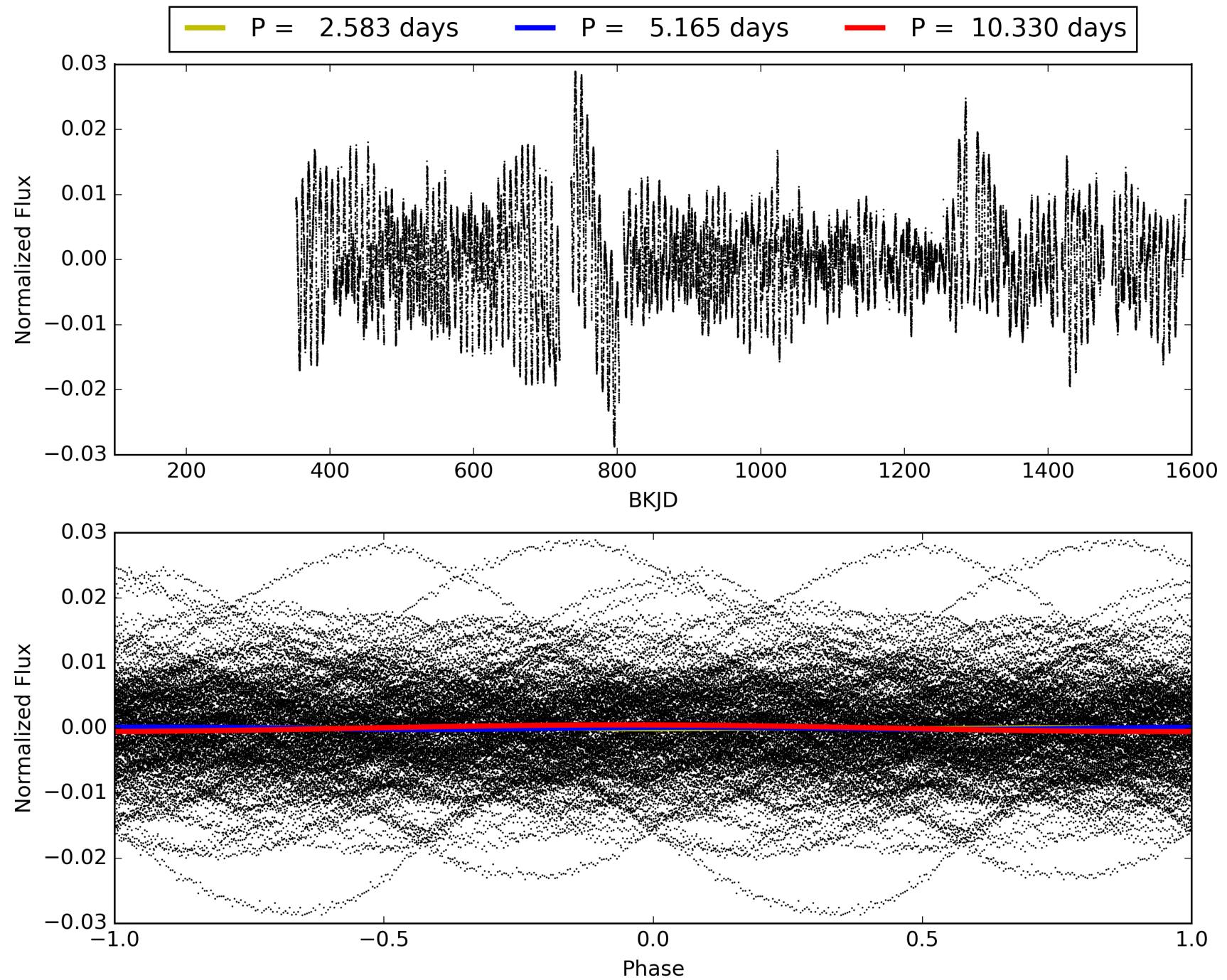
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005783884-01, PDC Light Curves

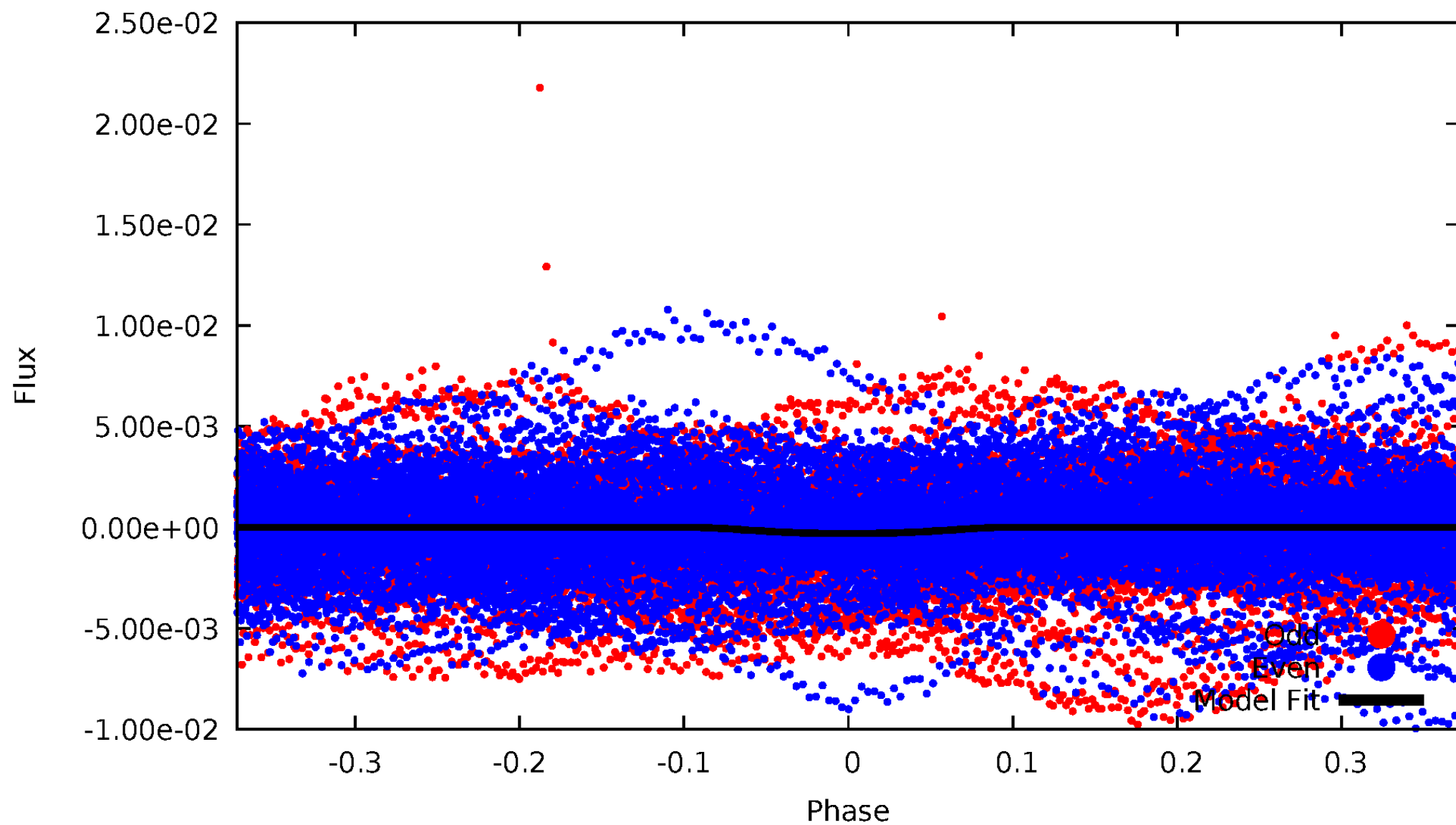


TCE 005783884-01



# DV Odd/Even

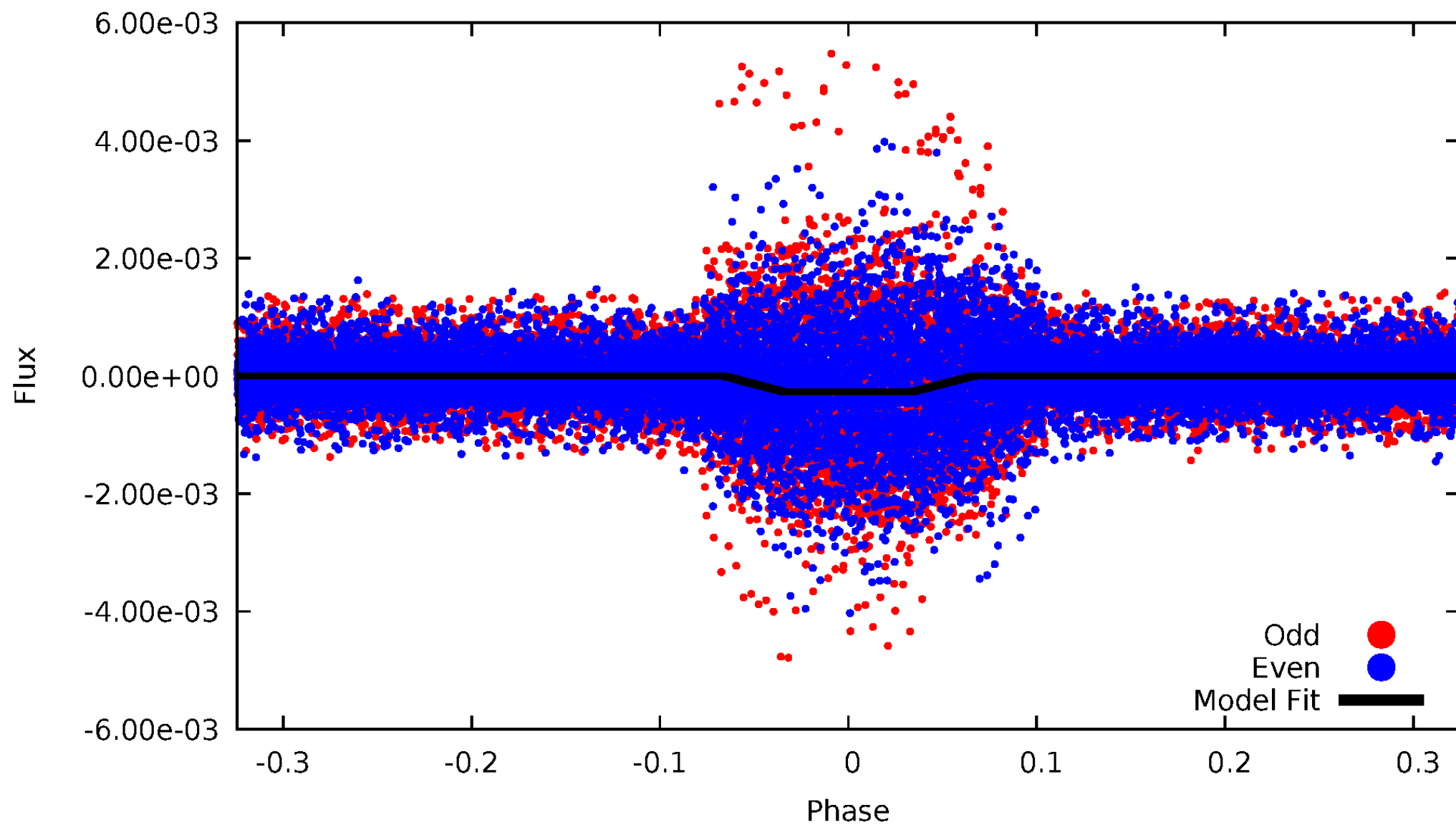
TCE 005783884-01



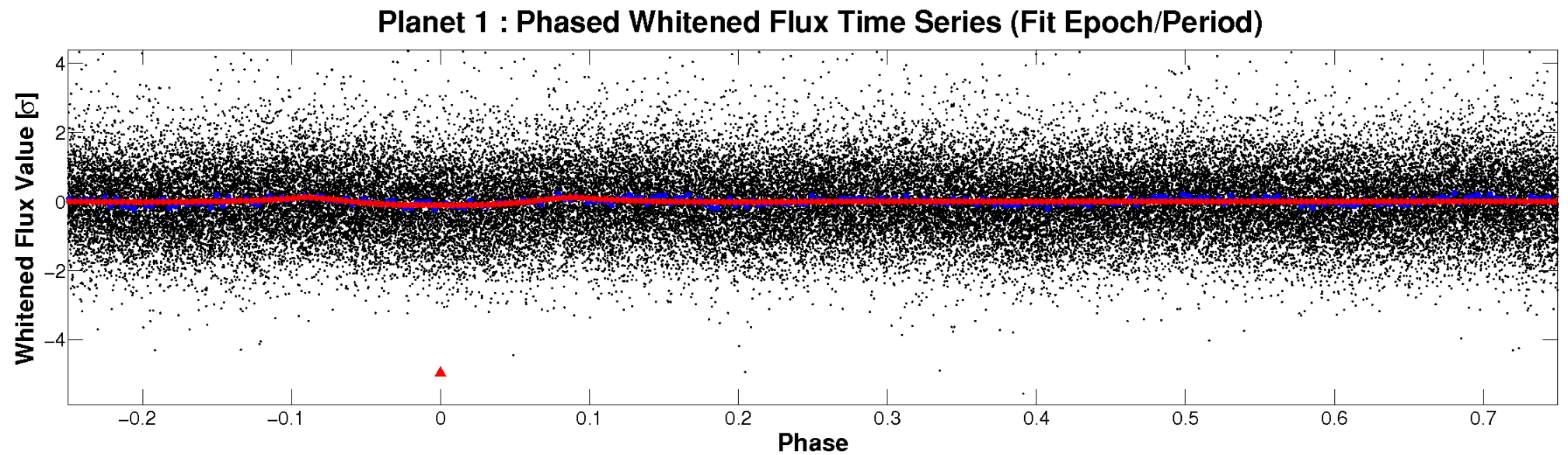
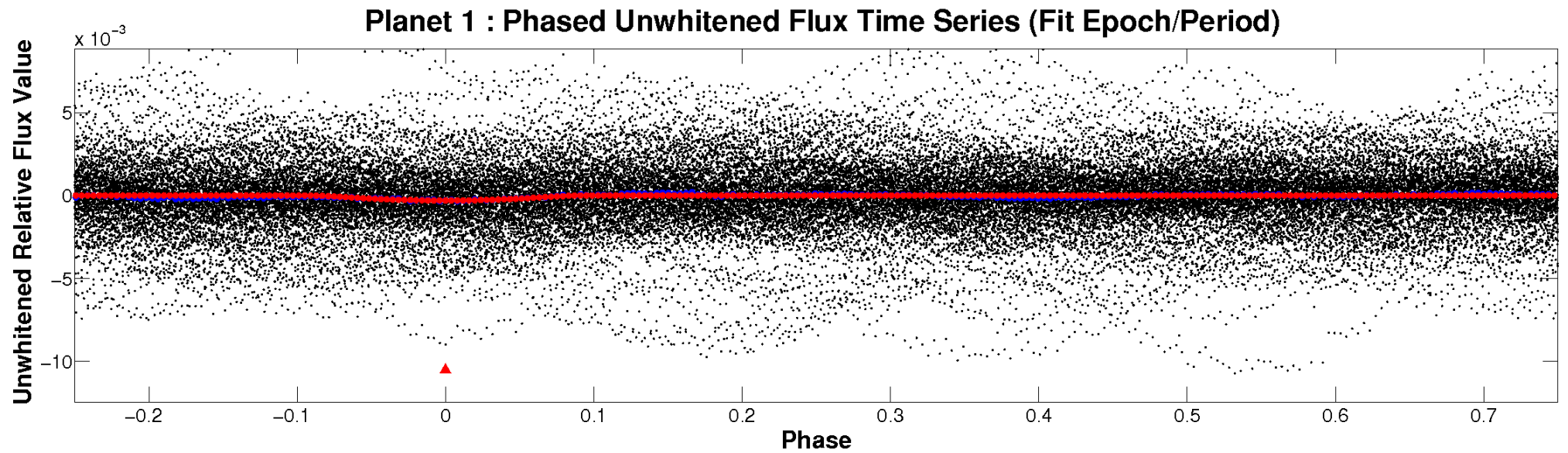


# ALT Odd/Even

TCE 005783884-01

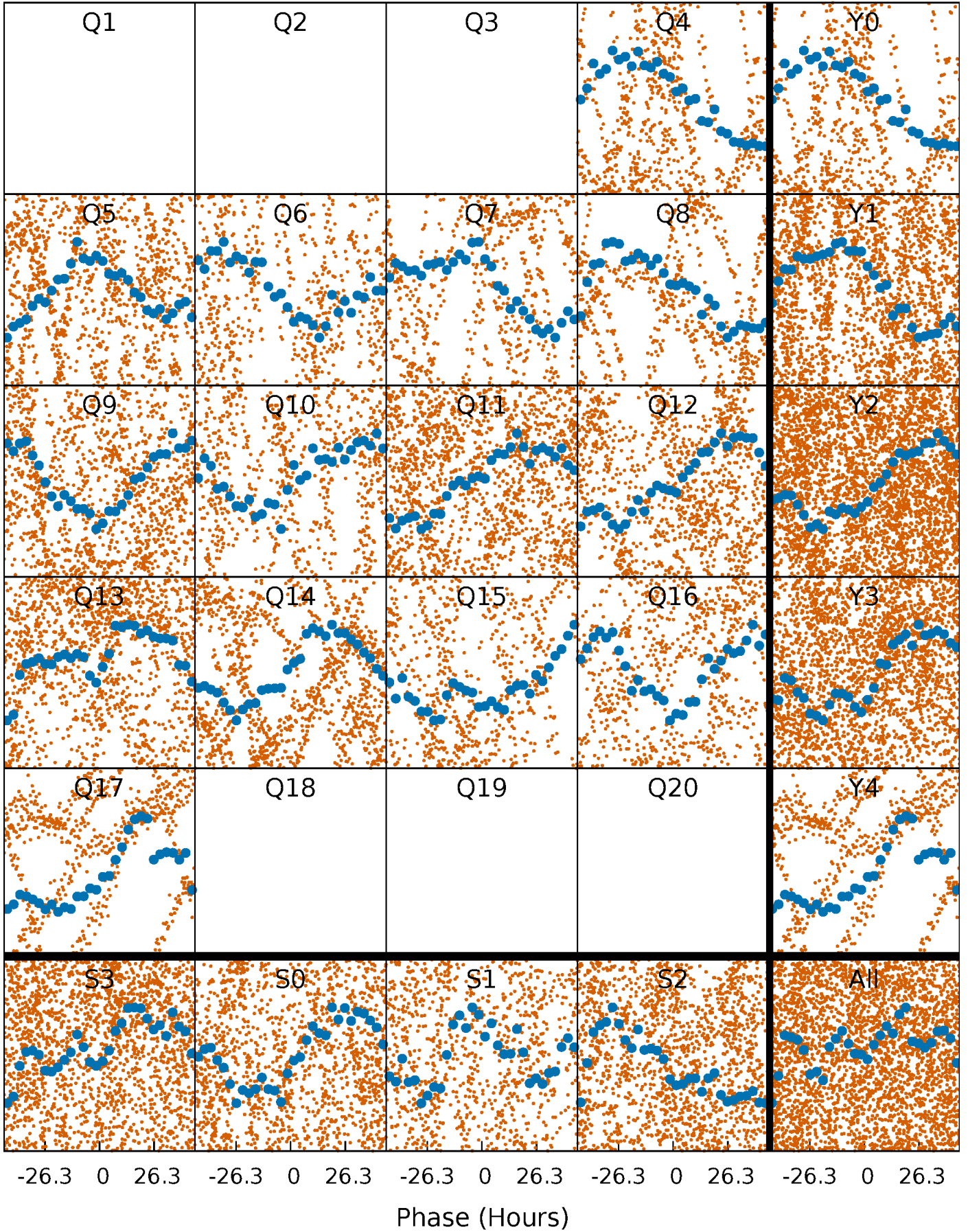


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

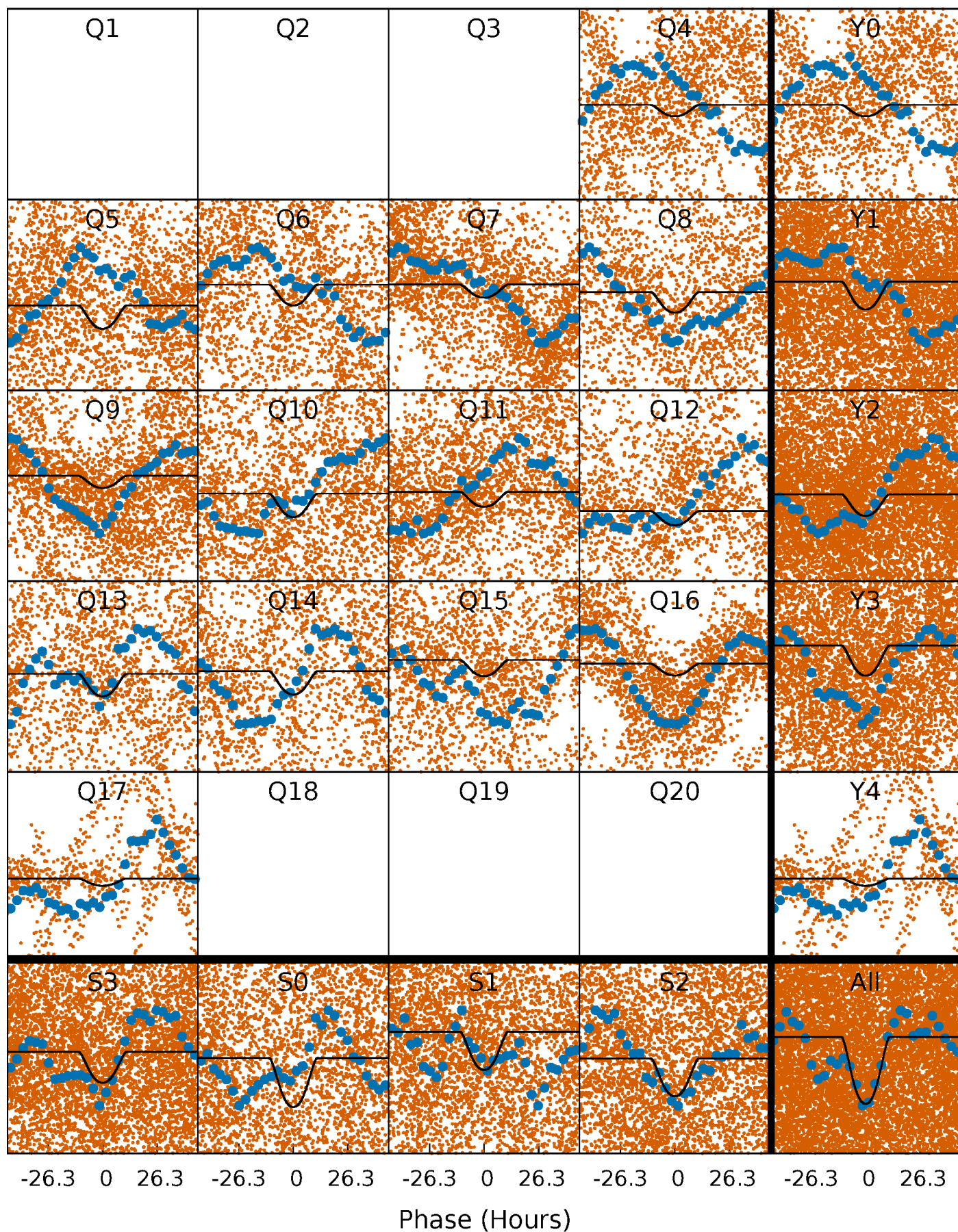
TCE 005783884-01 P= 5.165082 Days  $T_0=132.671126$  (BKJD)





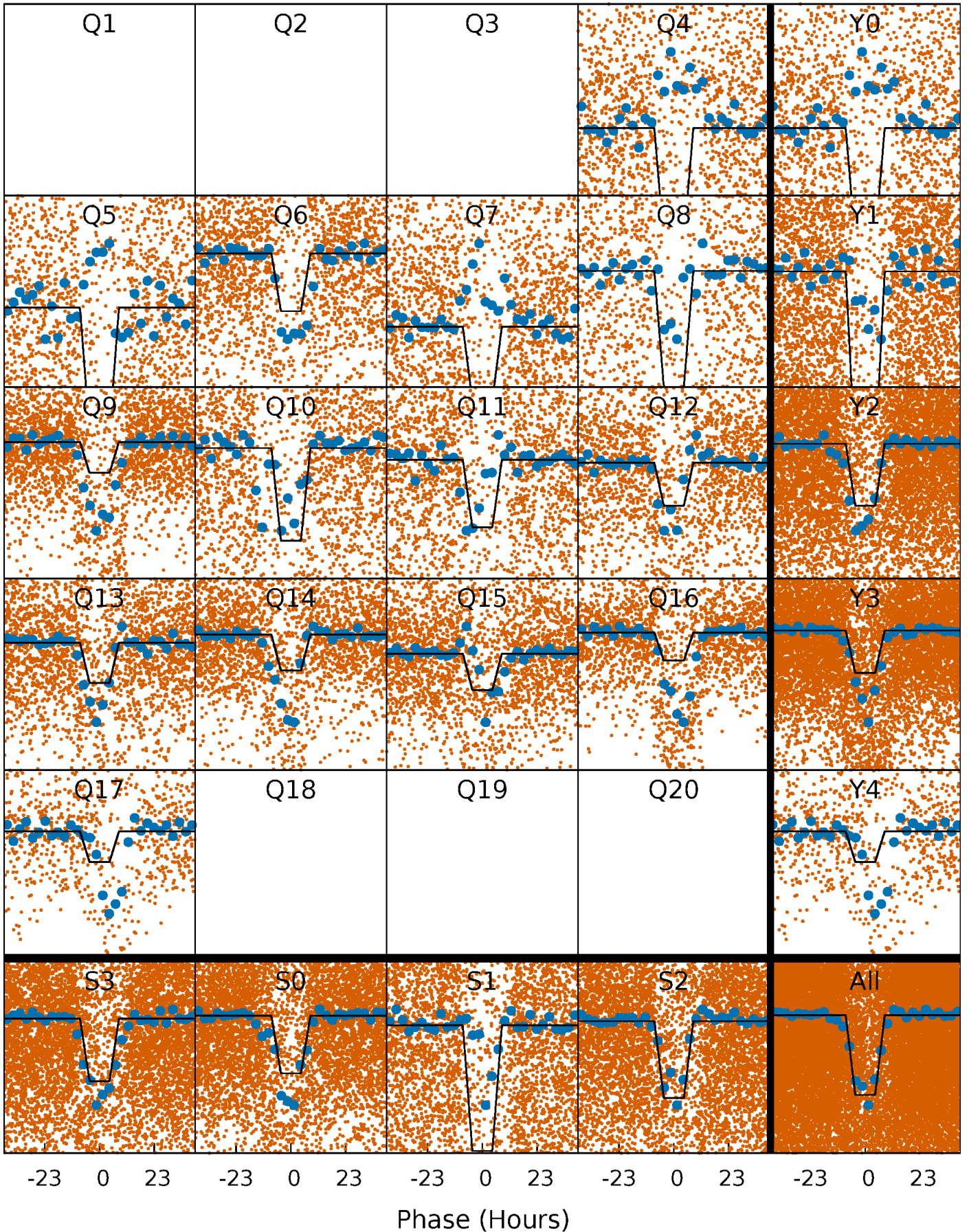
# DV Quarter-Phased Transit Curves

TCE 005783884-01 P= 5.165082 Days  $T_0=132.671126$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 005783884-01 P= 5.165167 Days  $T_0=132.646544$  (BKJD)

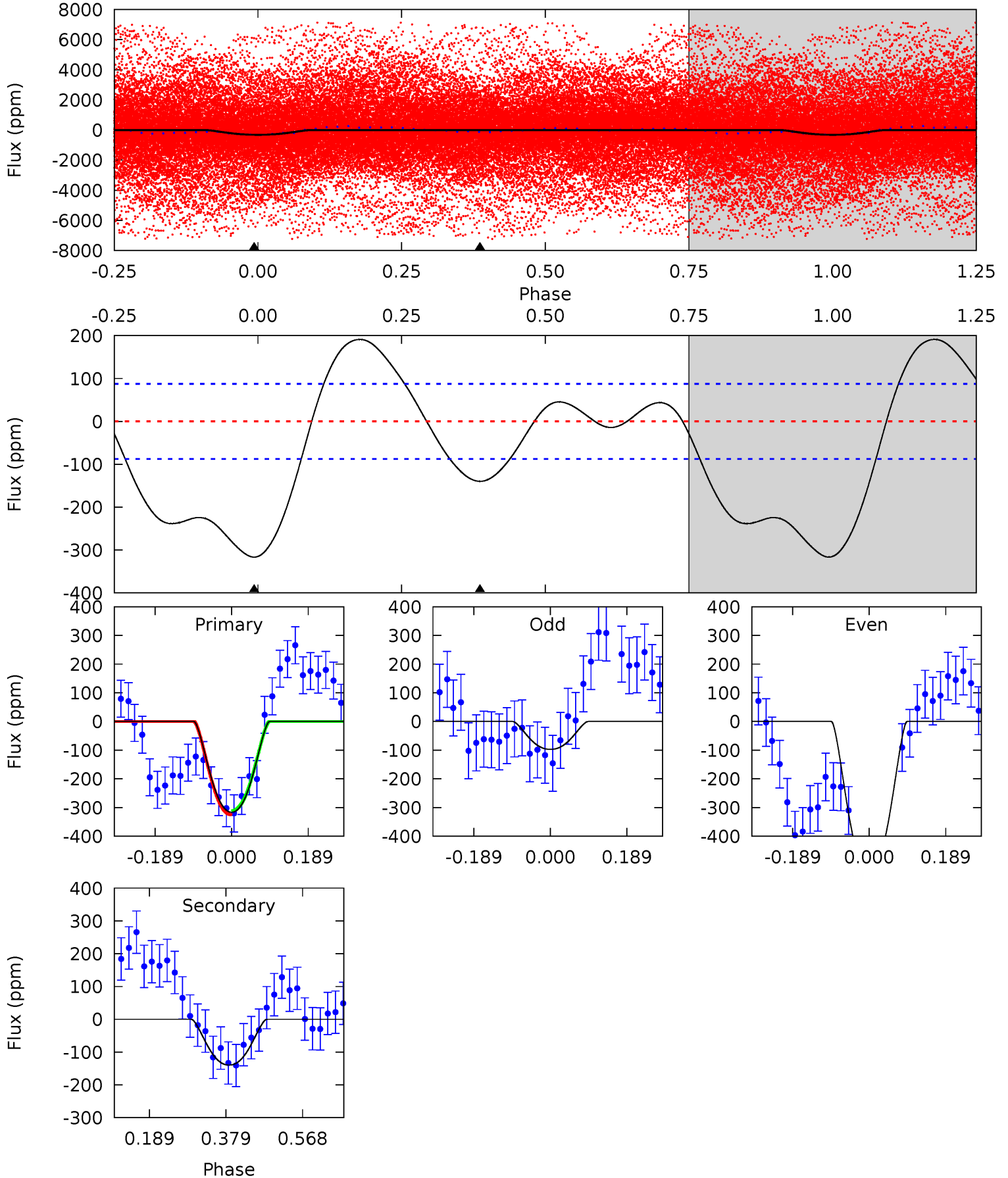




# DV Model-Shift Uniqueness Test

005783884-01, P = 5.165082 Days, E = 132.671126 Days

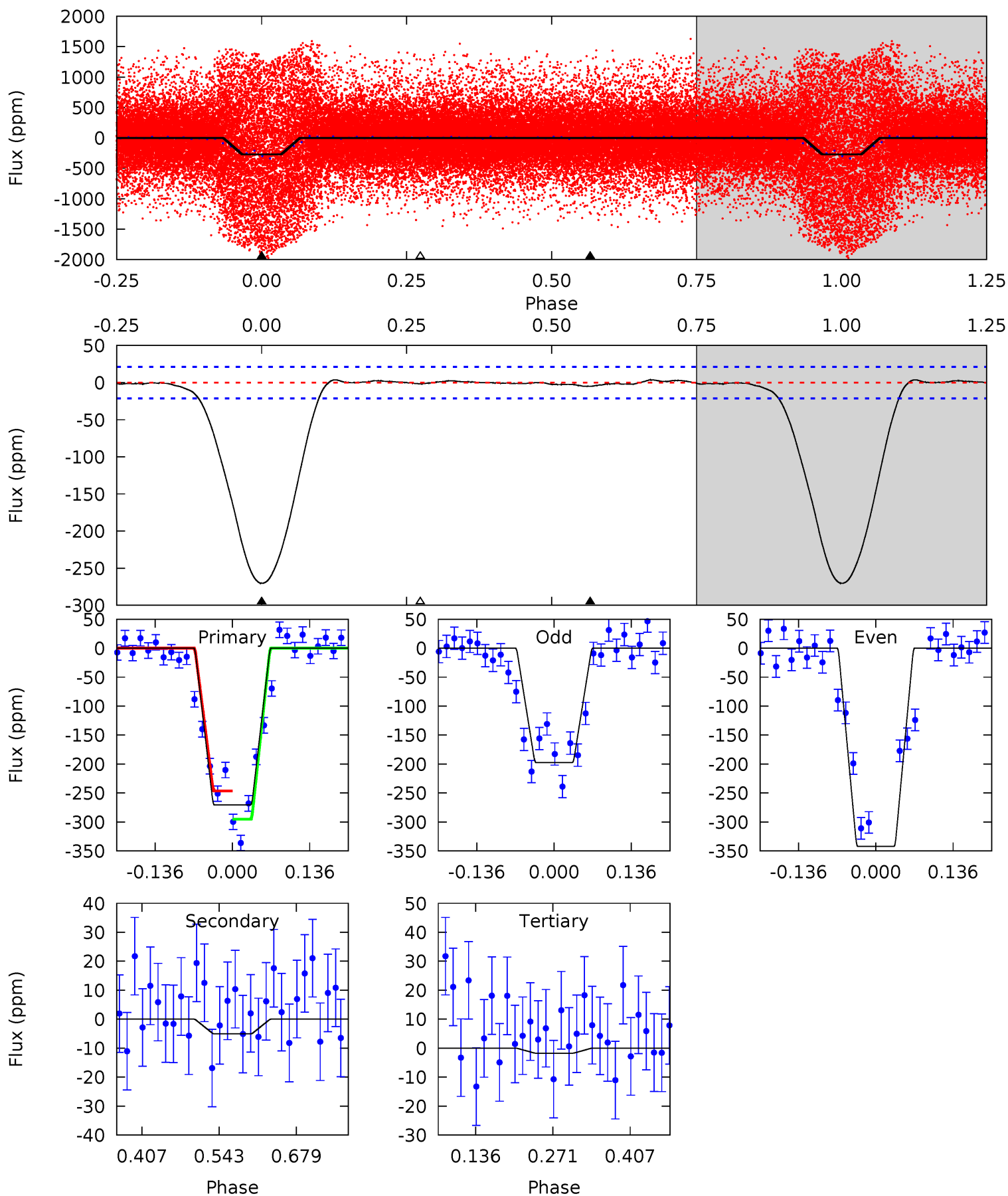
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.0	7.08	0	0	4.43	1.31	3.79	16.0	16.0	7.08	7.08	10.8	1.38	0.38	0.34



# Alt Model-Shift Uniqueness Test

005783884-01, P = 5.165167 Days, E = 132.646544 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
57.3	1.07	0.37	0	4.50	1.49	0.35	57.0	57.3	0.70	1.07	15.2	1.13	0.01	5.12





### Stellar Parameters For KIC 005783884

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5151^{+179}_{-179}$	$4.583^{+0.077}_{-0.063}$	$-0.600^{+0.350}_{-0.300}$	$0.688^{+0.081}_{-0.066}$	$0.662^{+0.087}_{-0.037}$	$2.858^{+0.912}_{-0.579}$
	+3%/-3%	+2%/-1%	+58%/-50%	+12%/-10%	+13%/-6%	+32%/-20%
Source	KIC0	KIC0	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 005783884-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-140 \pm 20$	$1.75^{+0.32}_{-0.29}$	$1164^{+57}_{-49}$	$3959^{+265}_{-256}$	$65^{+33}_{-19}$
Alt.	$-5 \pm 5$	$1.24^{+0.28}_{-0.28}$	$1162^{+55}_{-49}$	$2647^{+346}_{-854}$	$4.726^{+6.137}_{-4.277}$

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

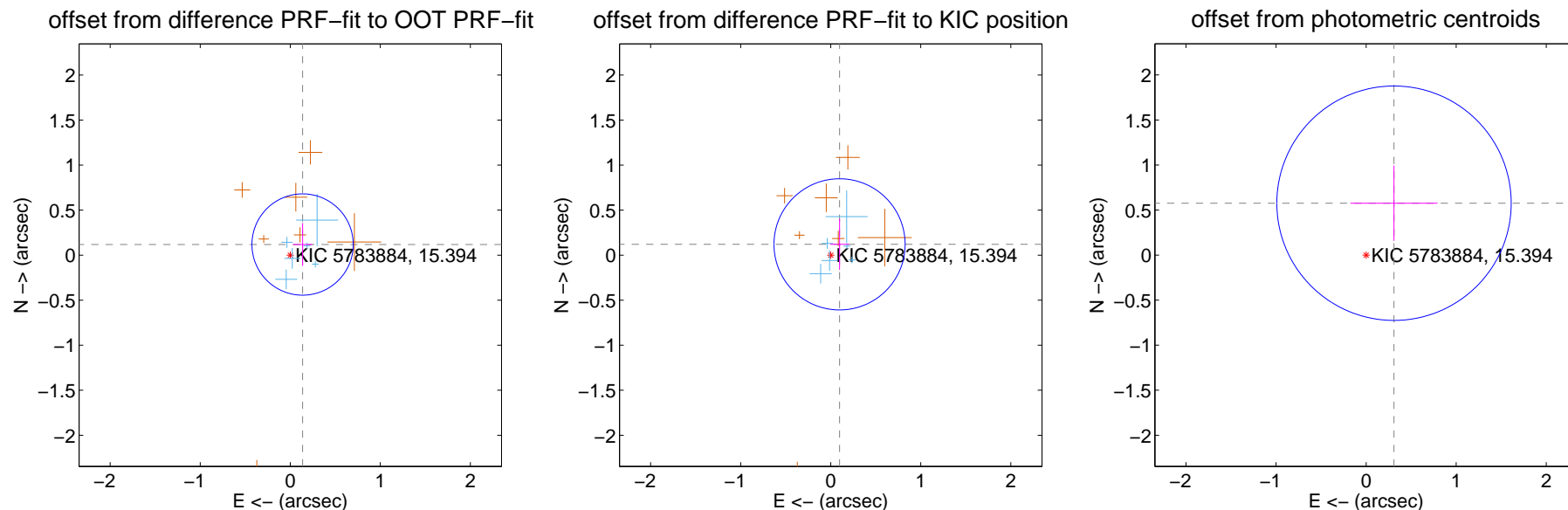
## DV Centroid Data

Supplemental centroid analysis for 005783884-01. Kepler magnitude: 15.39. Transit SNR 9.31

There are 6 quarters with good PRF difference image offsets

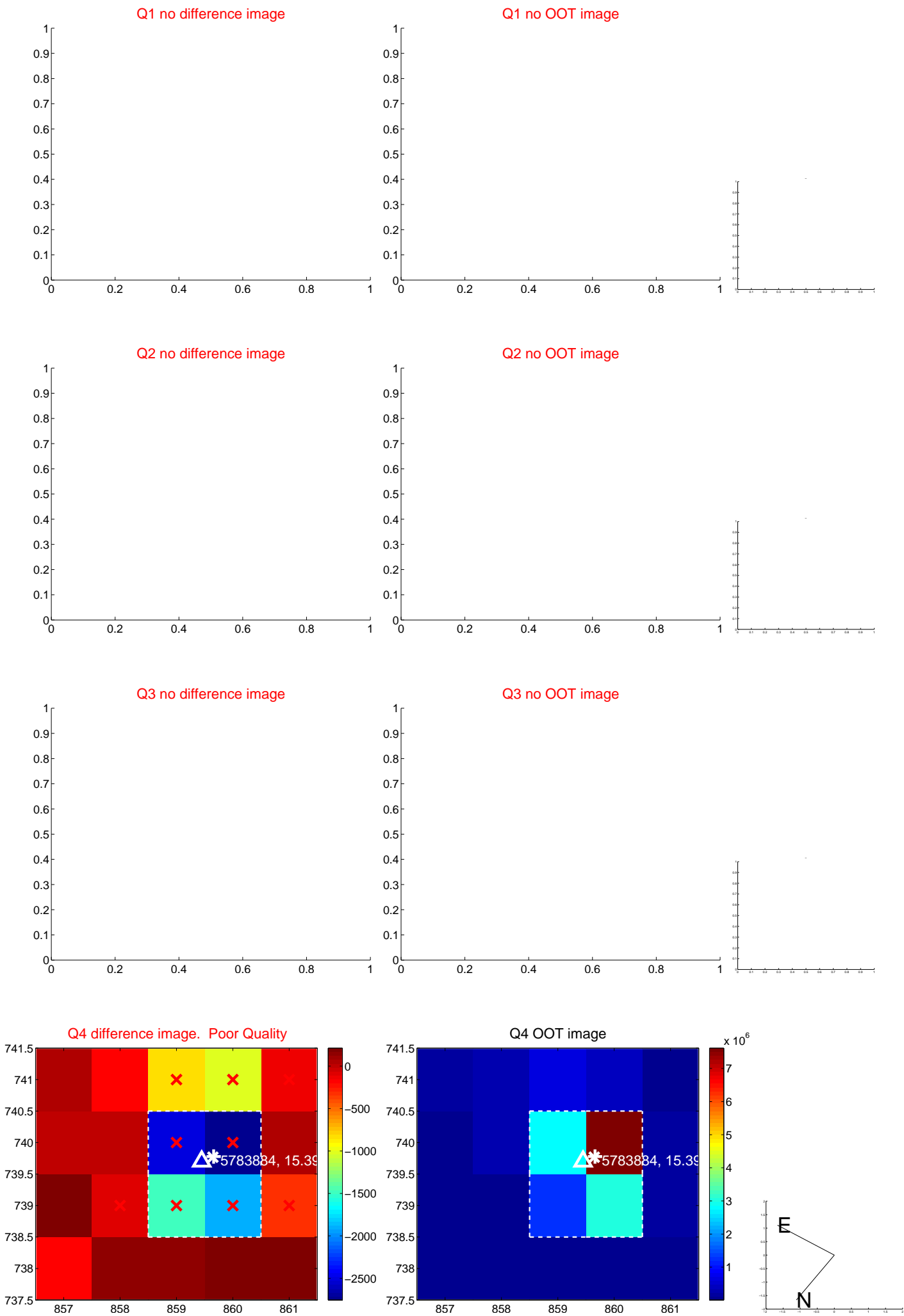
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.181 \pm 0.188$	0.96	$-0.137 \pm 0.106$	$0.118 \pm 0.238$
PRF-fit source offset from KIC position	$0.155 \pm 0.243$	0.64	$-0.098 \pm 0.104$	$0.120 \pm 0.283$
photometric centroid source offset	$0.65 \pm 0.43$	1.51	$-0.31 \pm 0.48$	$0.58 \pm 0.42$

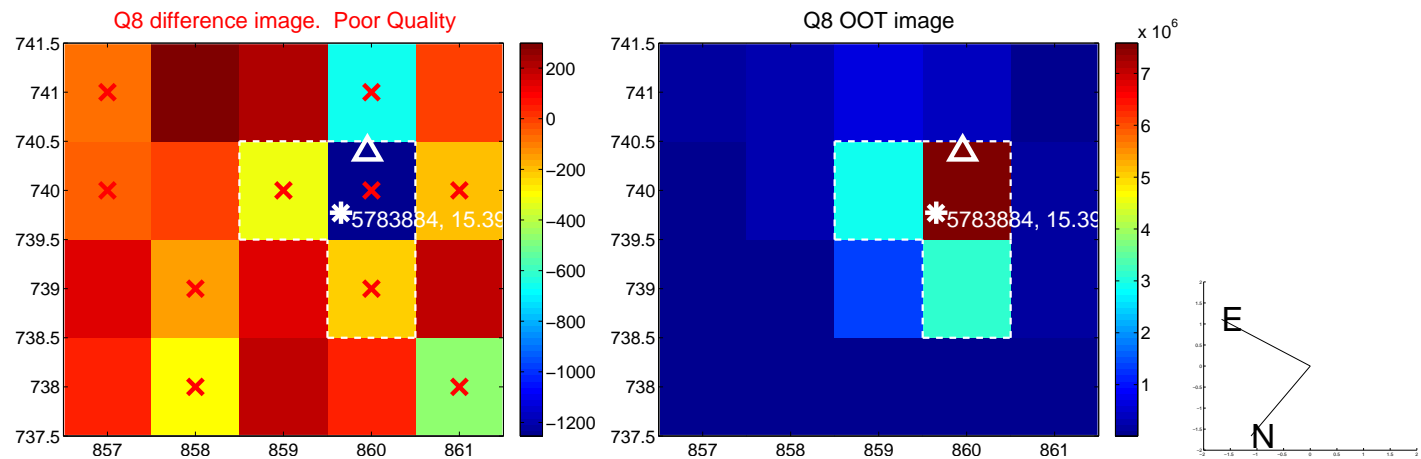
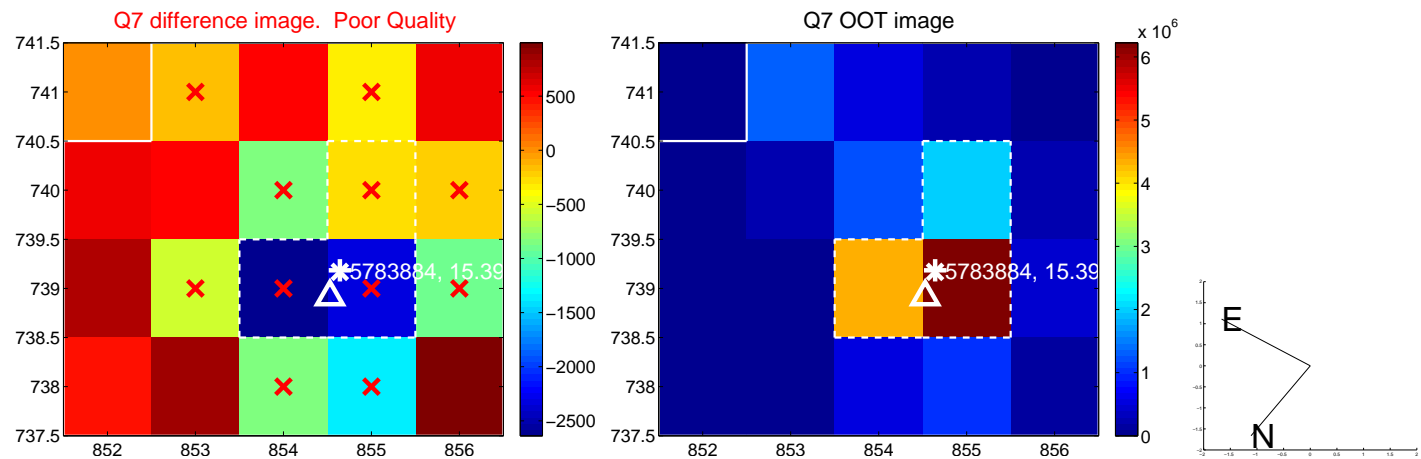
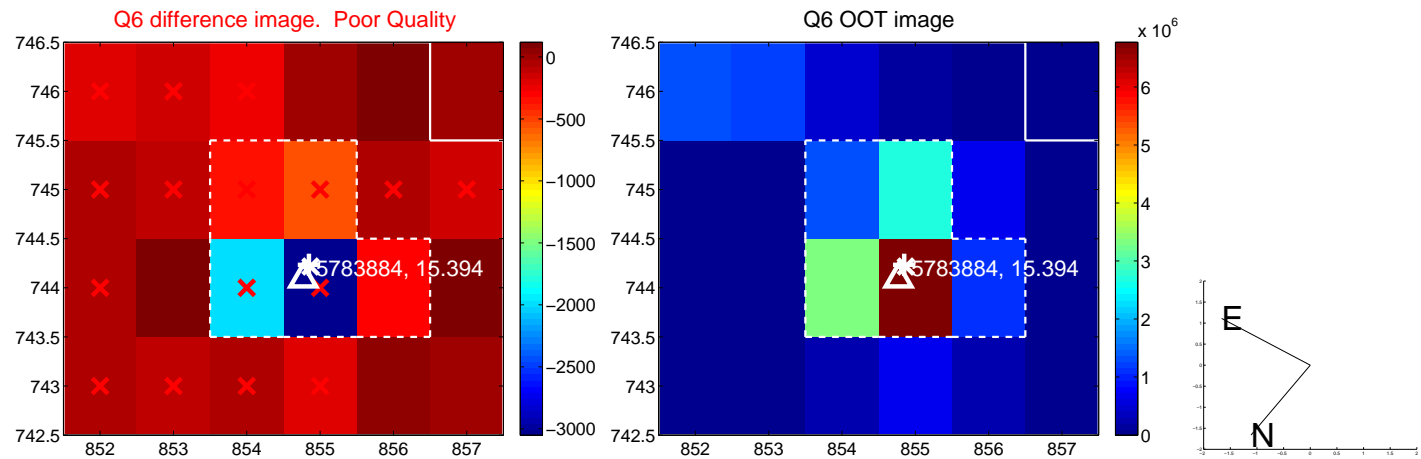
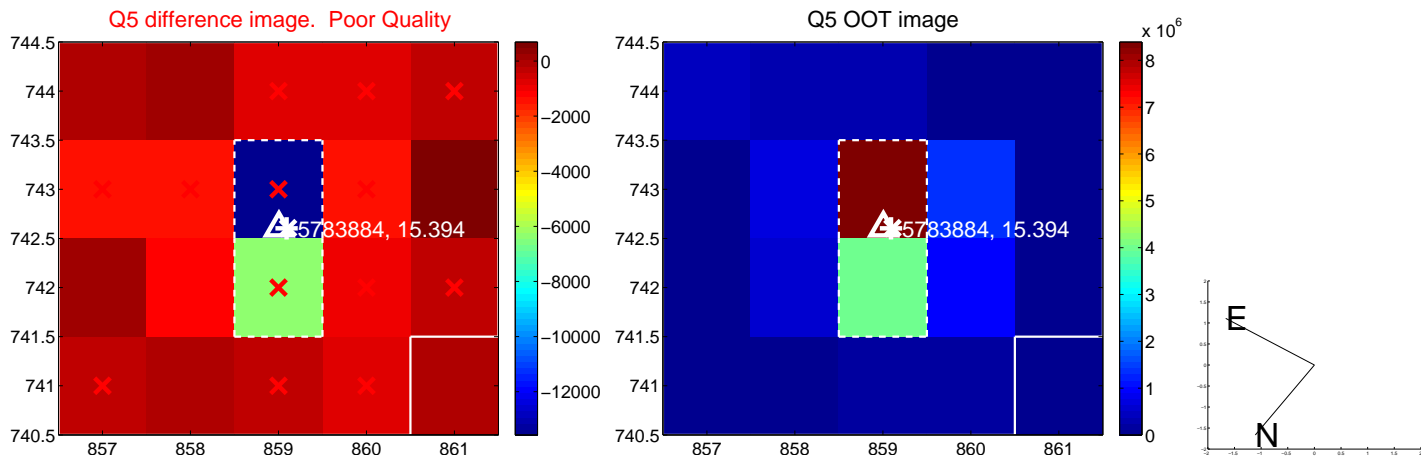


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

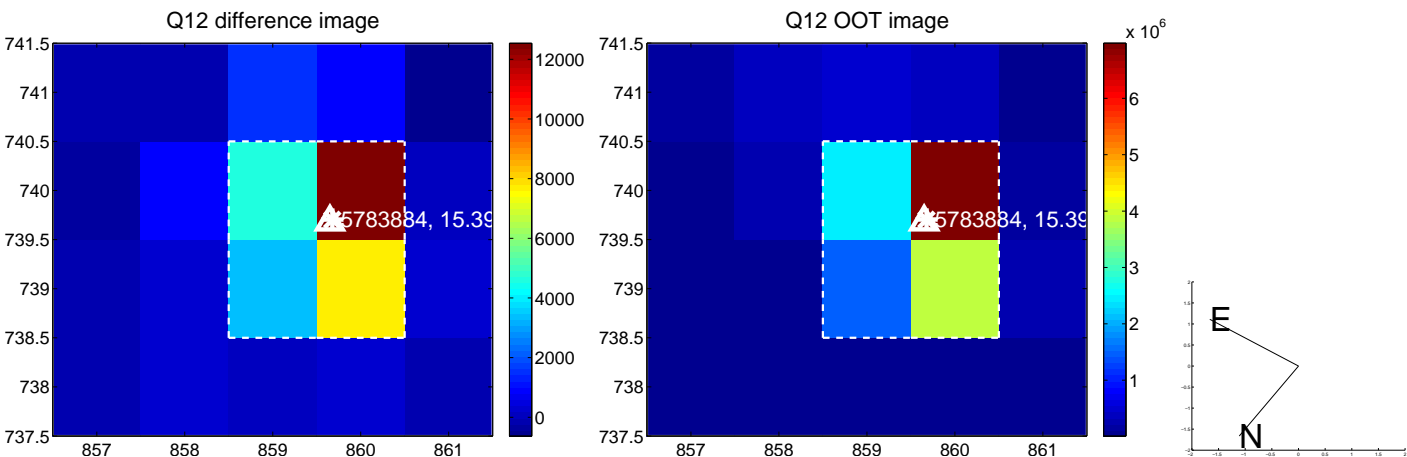
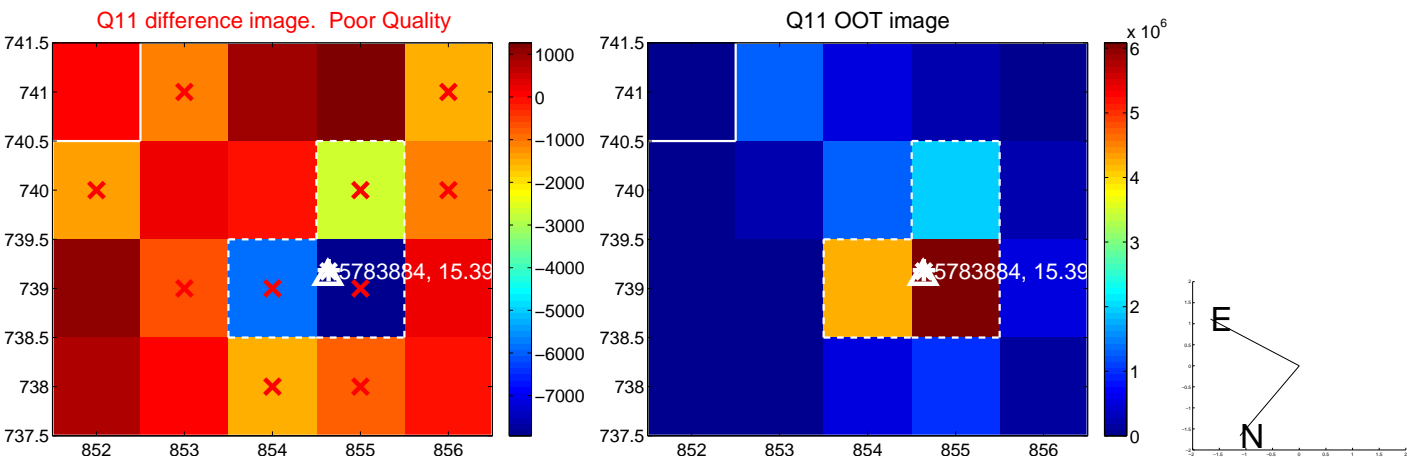
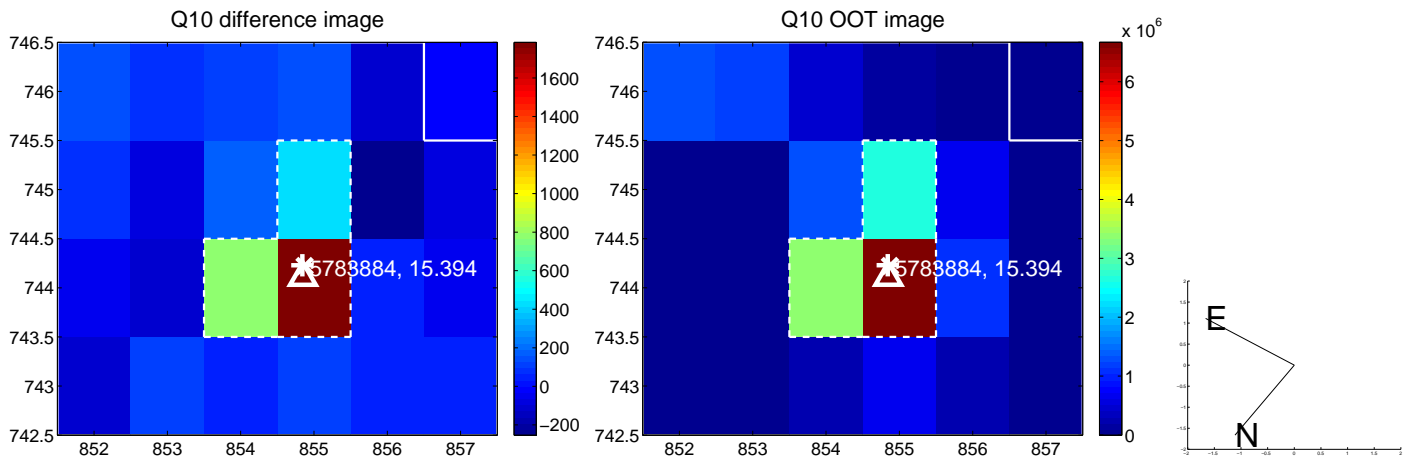
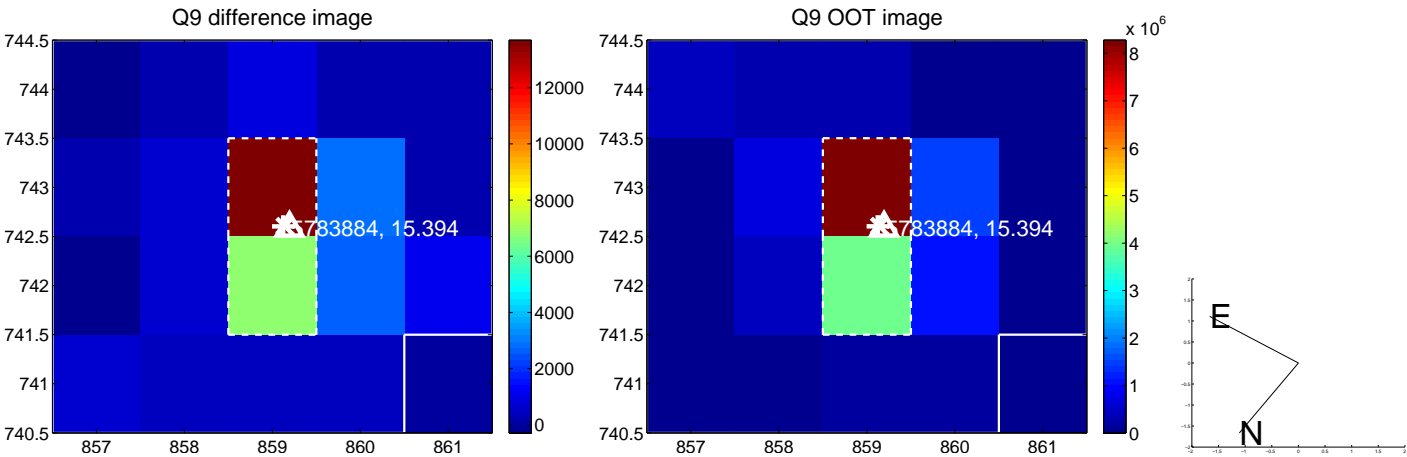


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

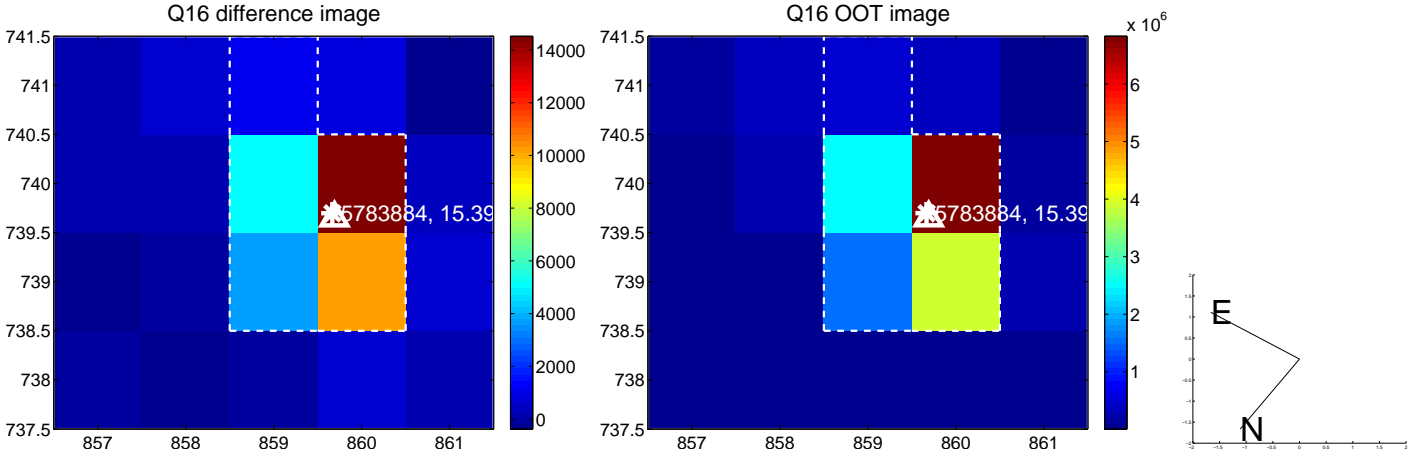
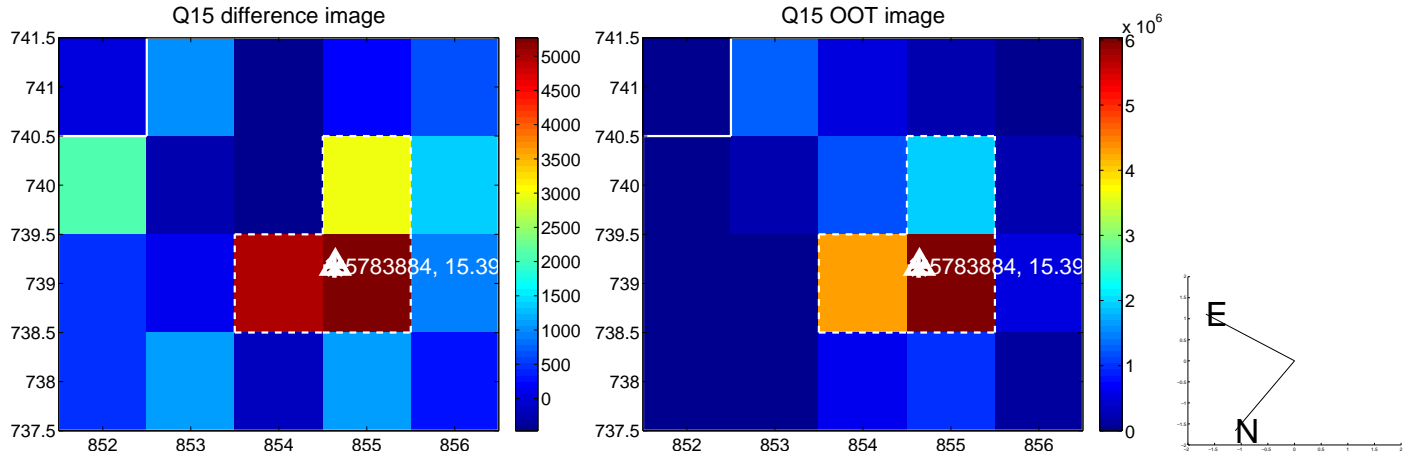
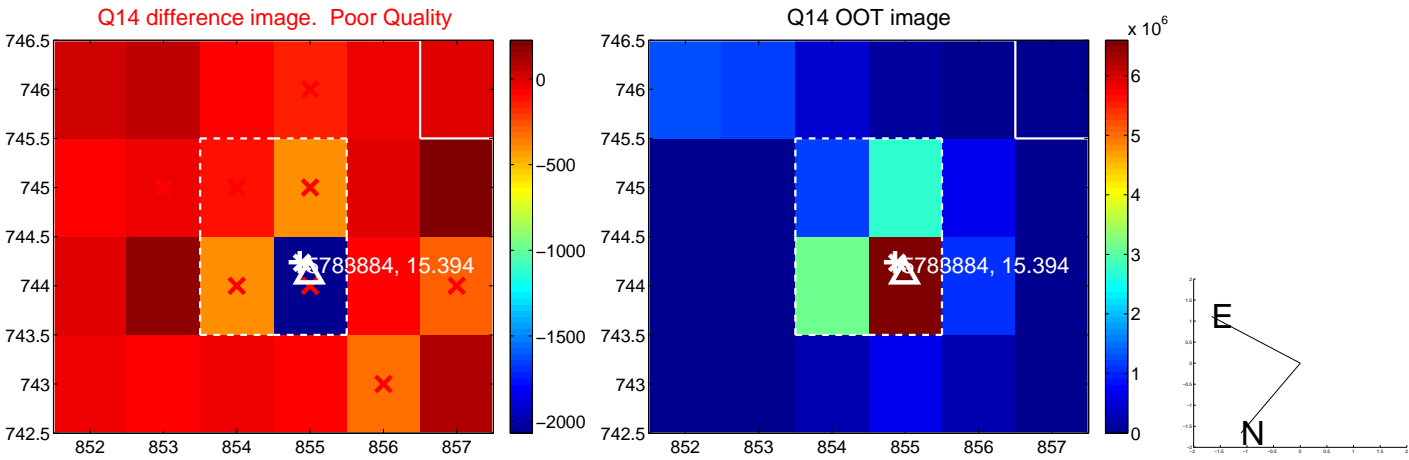
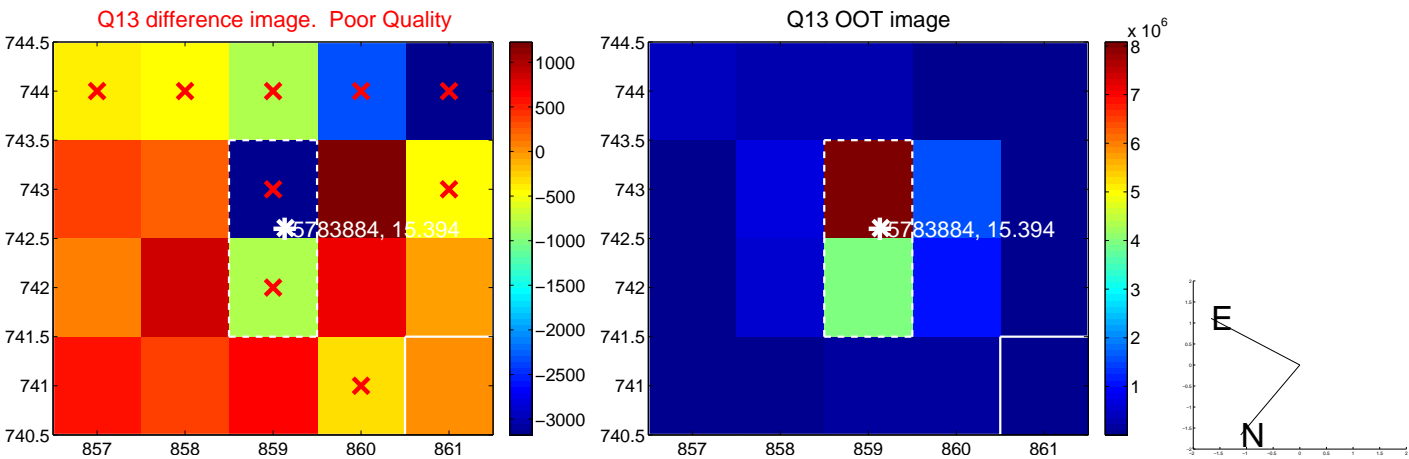




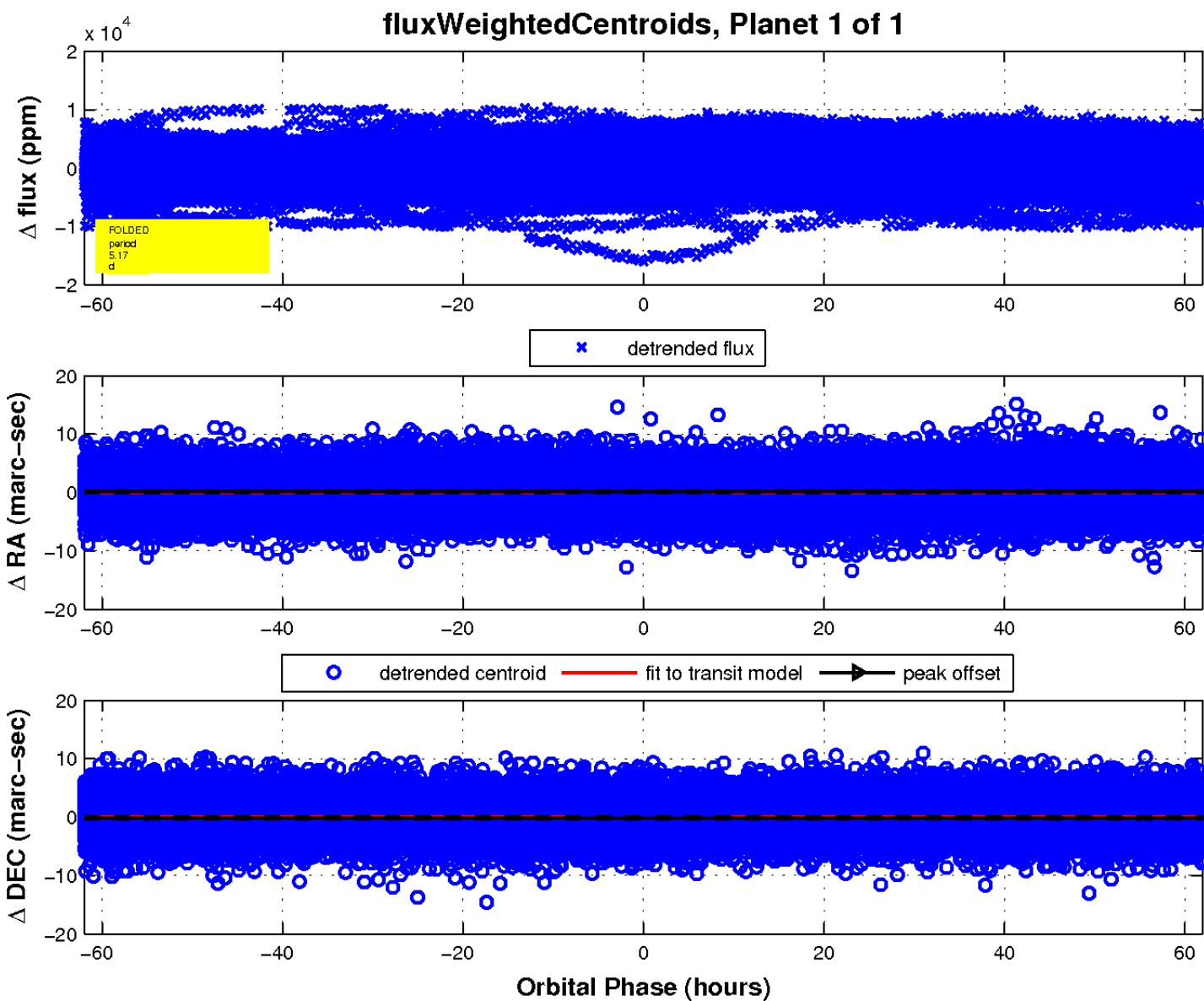
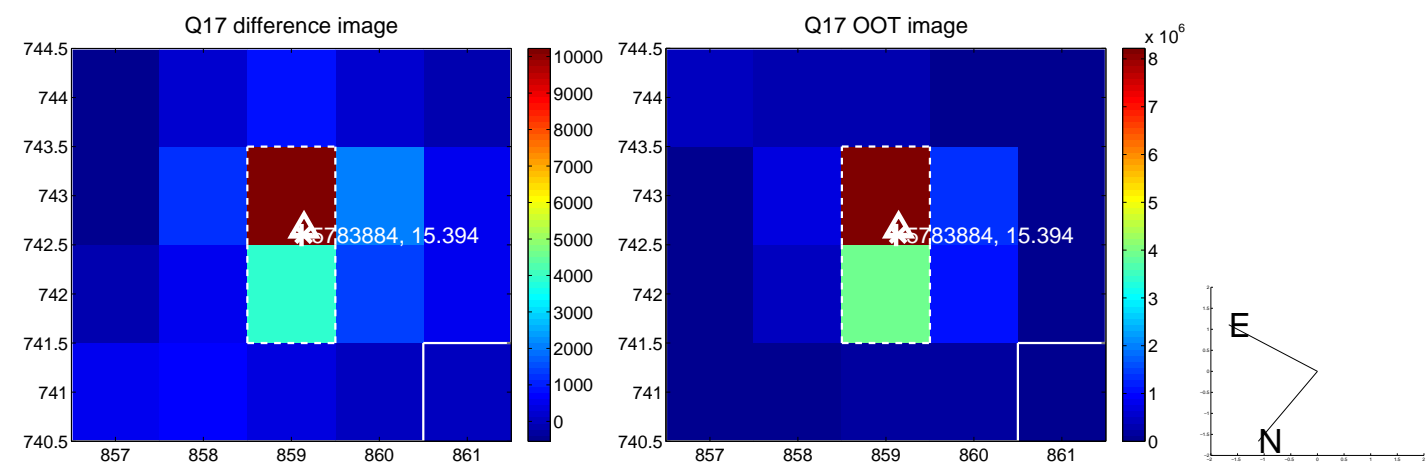
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

