

# KIC 003240667

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003240667-01	OBS	No	0.907906	132.396737	30.8	3.416	8.1	5.7	0.93	5818	0.53	2539.20

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003240667-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET

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

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

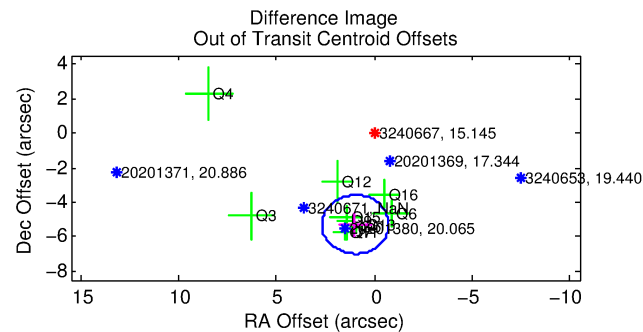
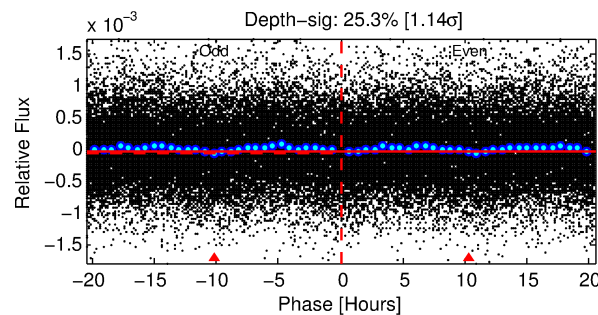
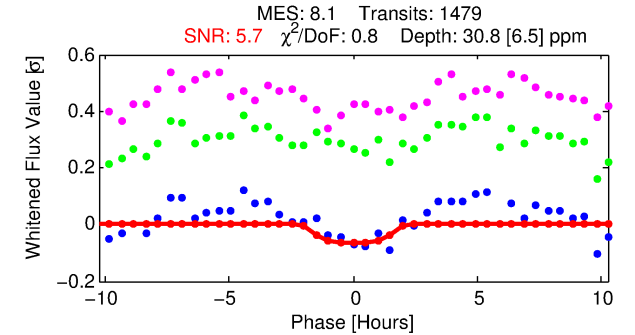
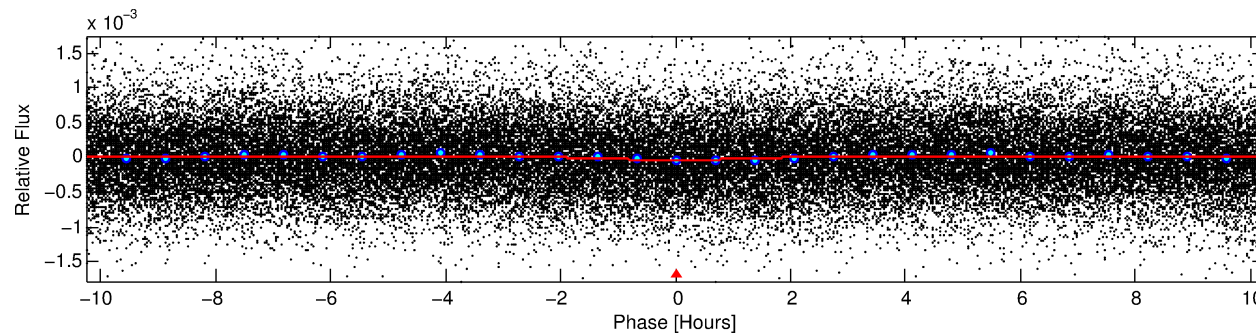
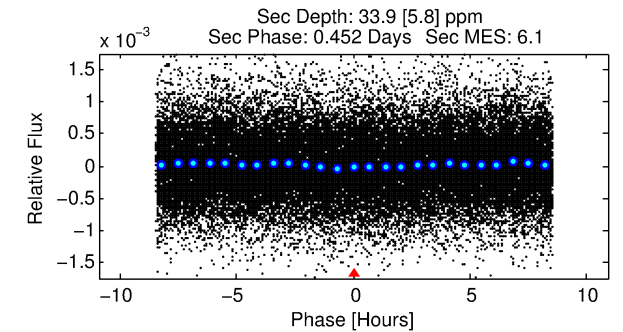
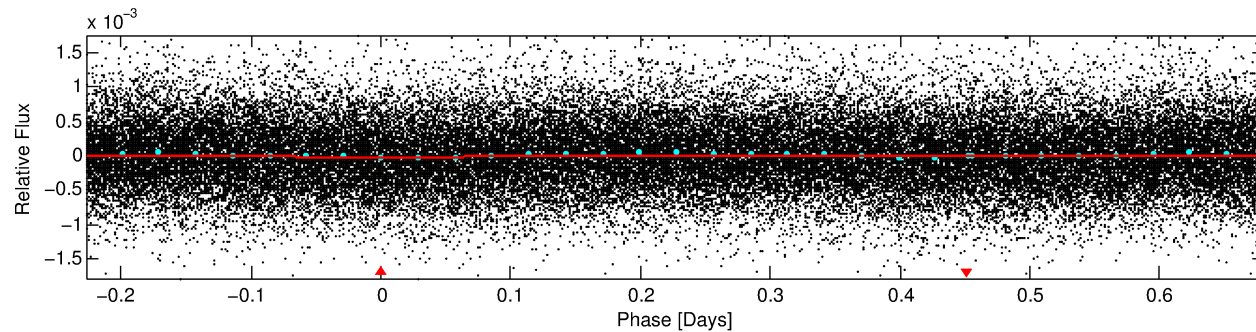
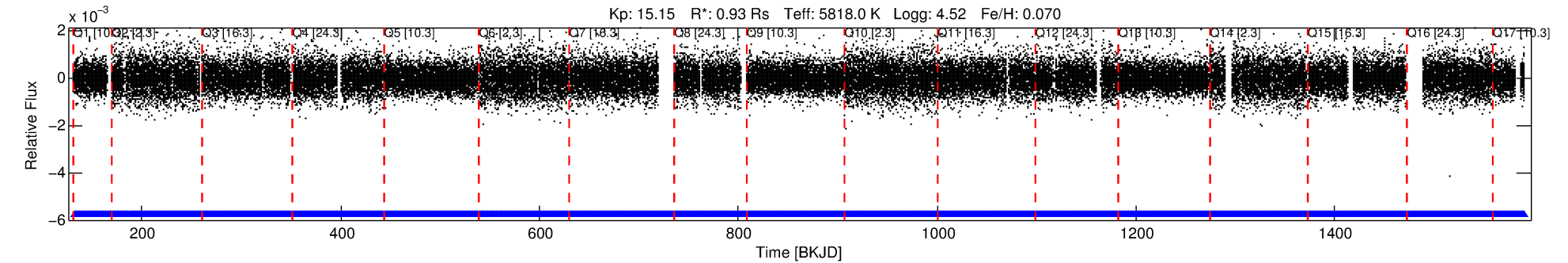
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003240667-01

No Significant Match Found

# DV One-Page Summary

KIC: 3240667 Candidate: 1 of 1 Period: 0.908 d



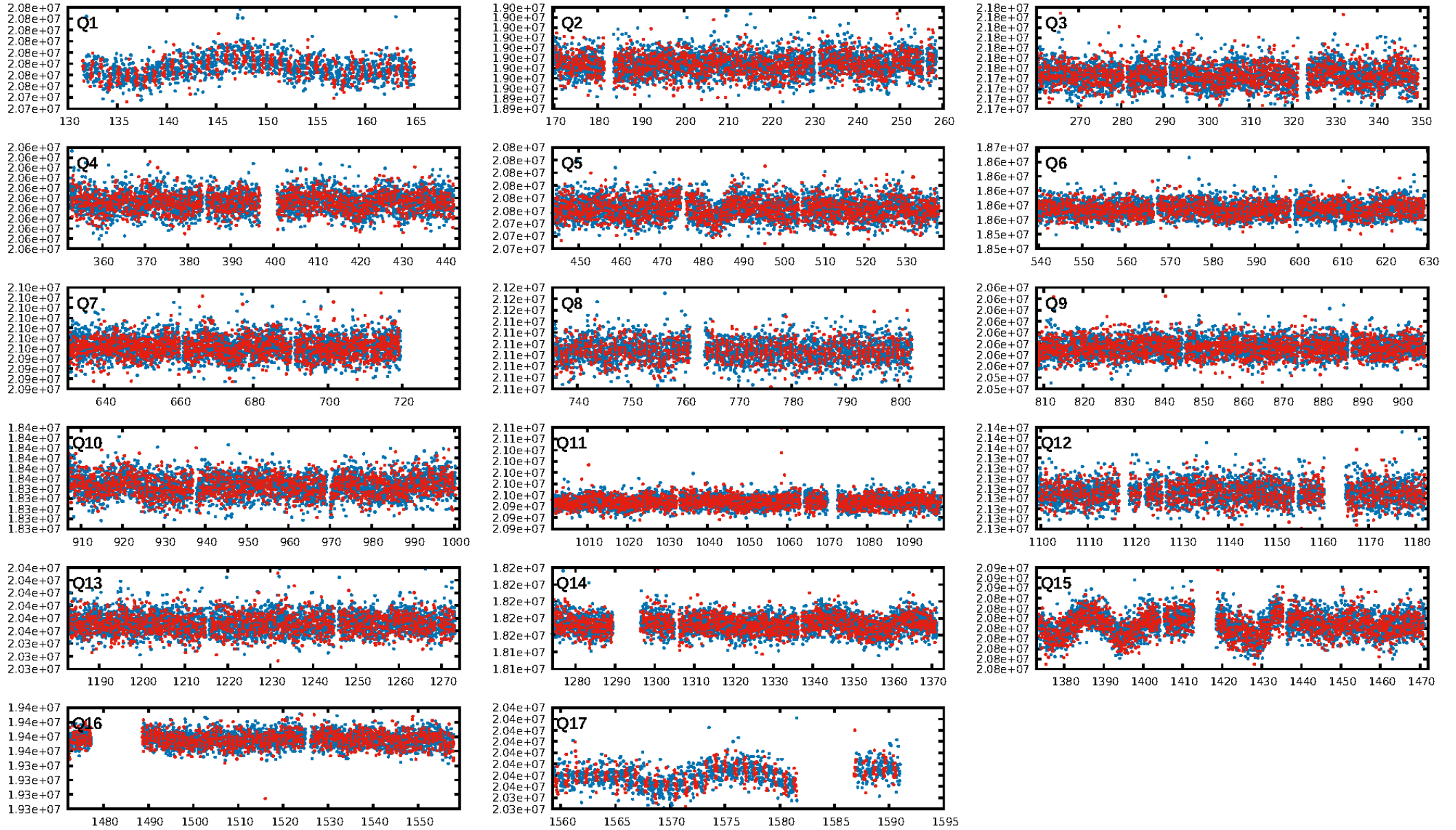
## DV Fit Results:

Period = 0.90791 [0.00002] d  
Epoch = 132.3967 [0.0078] BKJD  
Rp/R\* = 0.0052 [0.0050]  
a/R\* = 1.88 [5.59]  
b = 0.53 [5.64]  
Seff = 2539.20 [939.27]  
Teff = 1810 [167] K  
Rp = 0.53 [0.52] Re  
a = 0.0186 [0.0044] AU  
Ag = 23.19 [44.91] [0.49 $\sigma$ ]  
Teffp = 6141 [2931] K [1.48 $\sigma$ ]

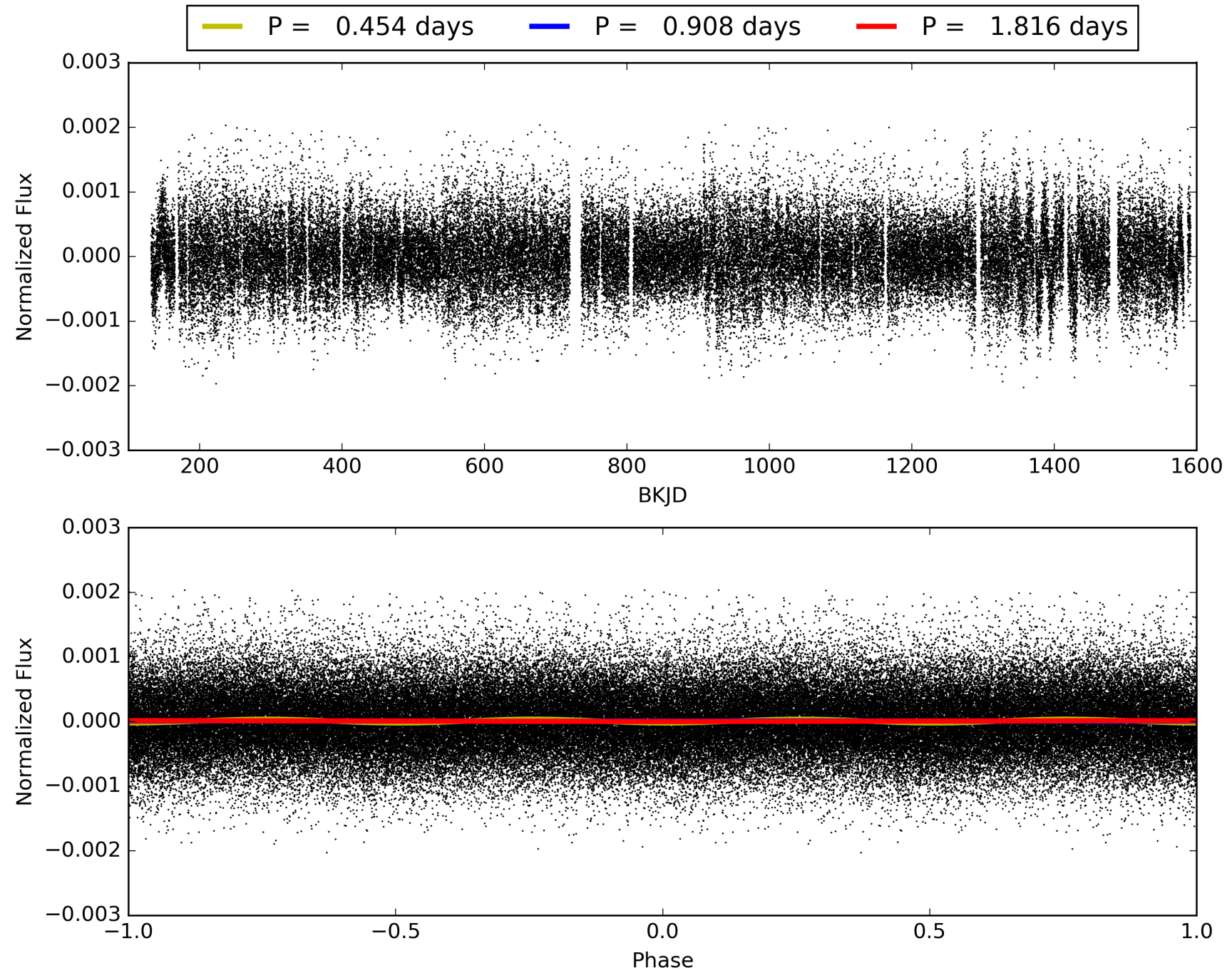
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.74e-16  
RollingBand-fgt: 1.00 [1412/1412]  
GhostDiagnostic-chr: 1.652  
Centroid-sig: 0.0%  
Centroid-so: 11.140 arcsec [4.84 $\sigma$ ]  
OotOffset-rm: 5.378 arcsec [9.49 $\sigma$ ]  
KicOffset-rm: 5.610 arcsec [9.58 $\sigma$ ]  
OotOffset-st: 1/4/3/3 [11]  
KicOffset-st: 1/4/3/3 [11]  
DiffImageQuality-fgm: 0.64 [7/11]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 003240667-01, PDC Light Curves



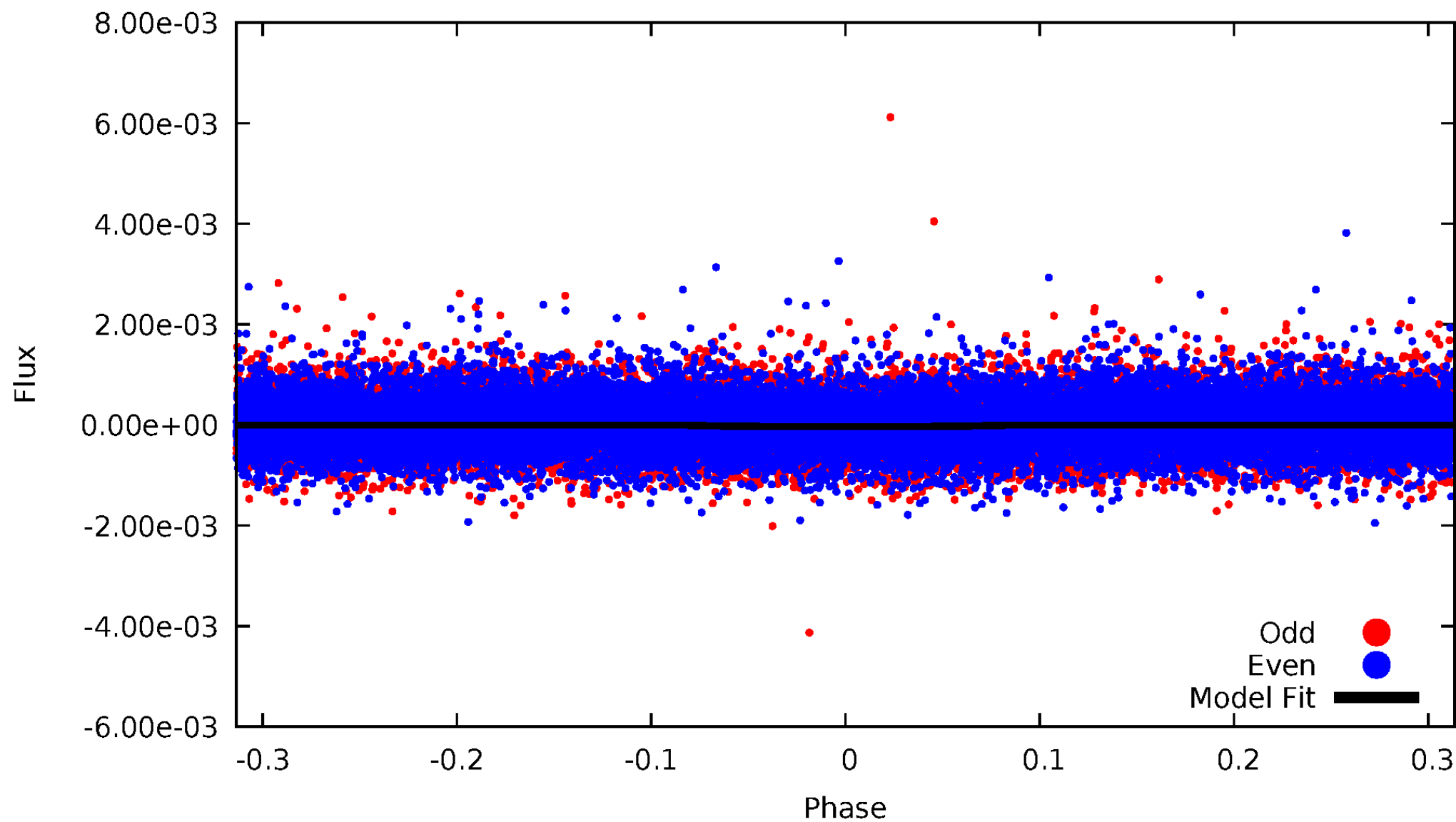
TCE 003240667-01





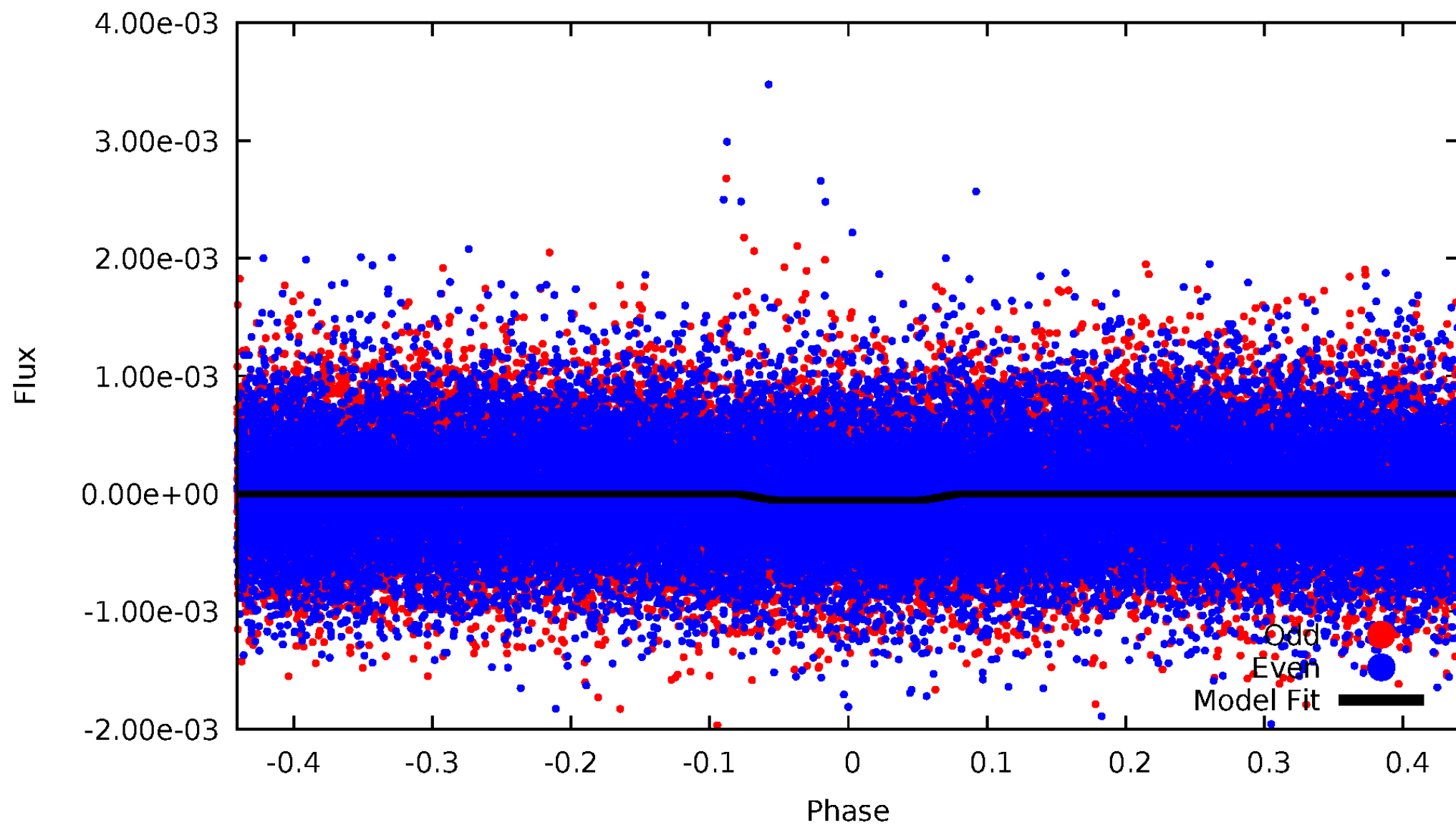
# DV Odd/Even

TCE 003240667-01



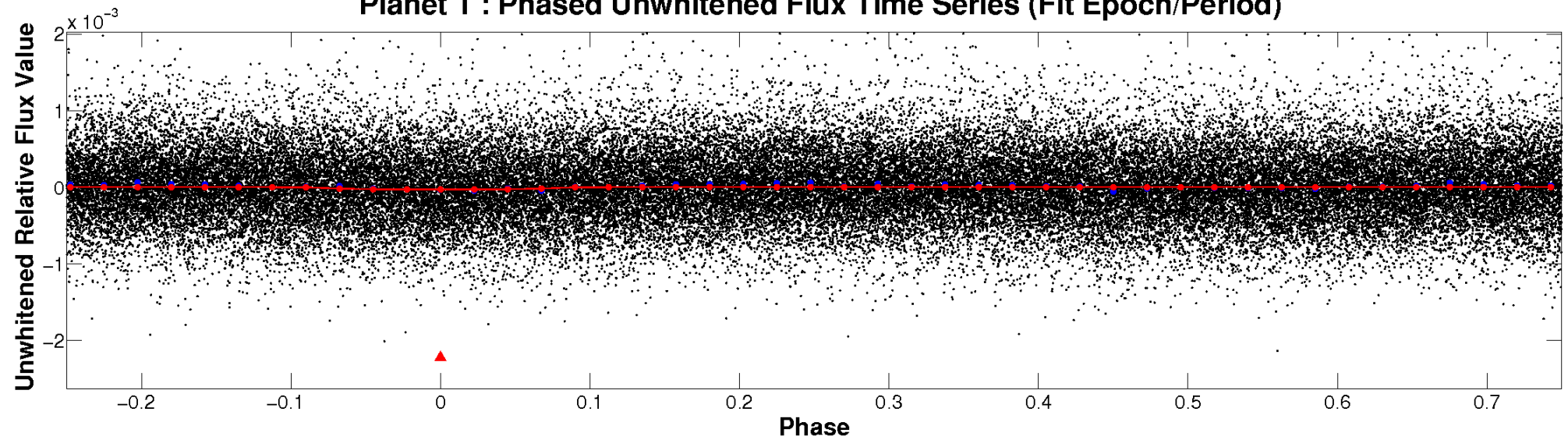
# ALT Odd/Even

TCE 003240667-01

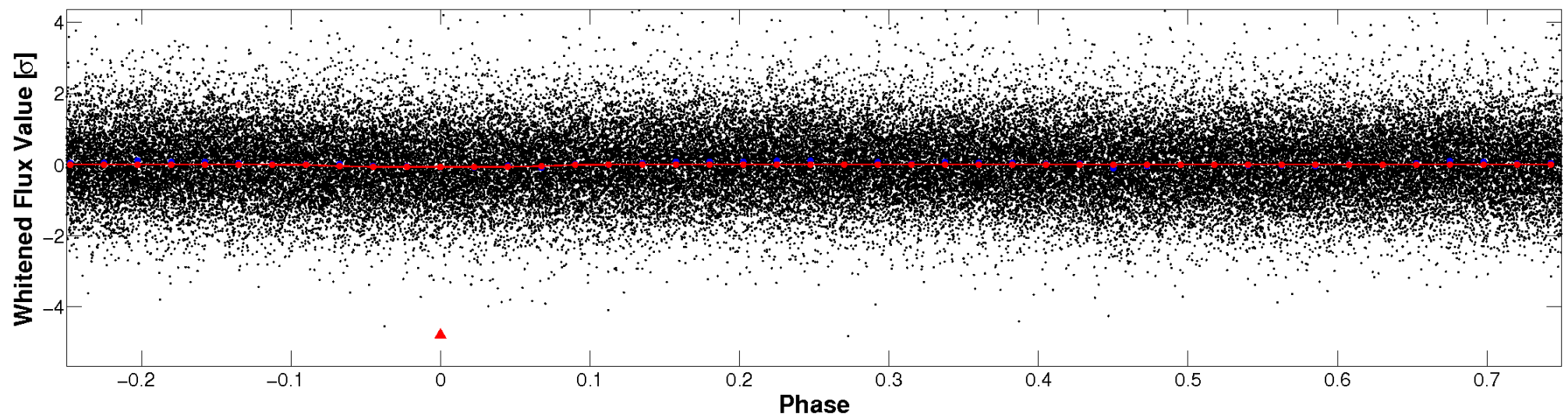


# Non-Whitened Vs. Whitened Light Curve

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

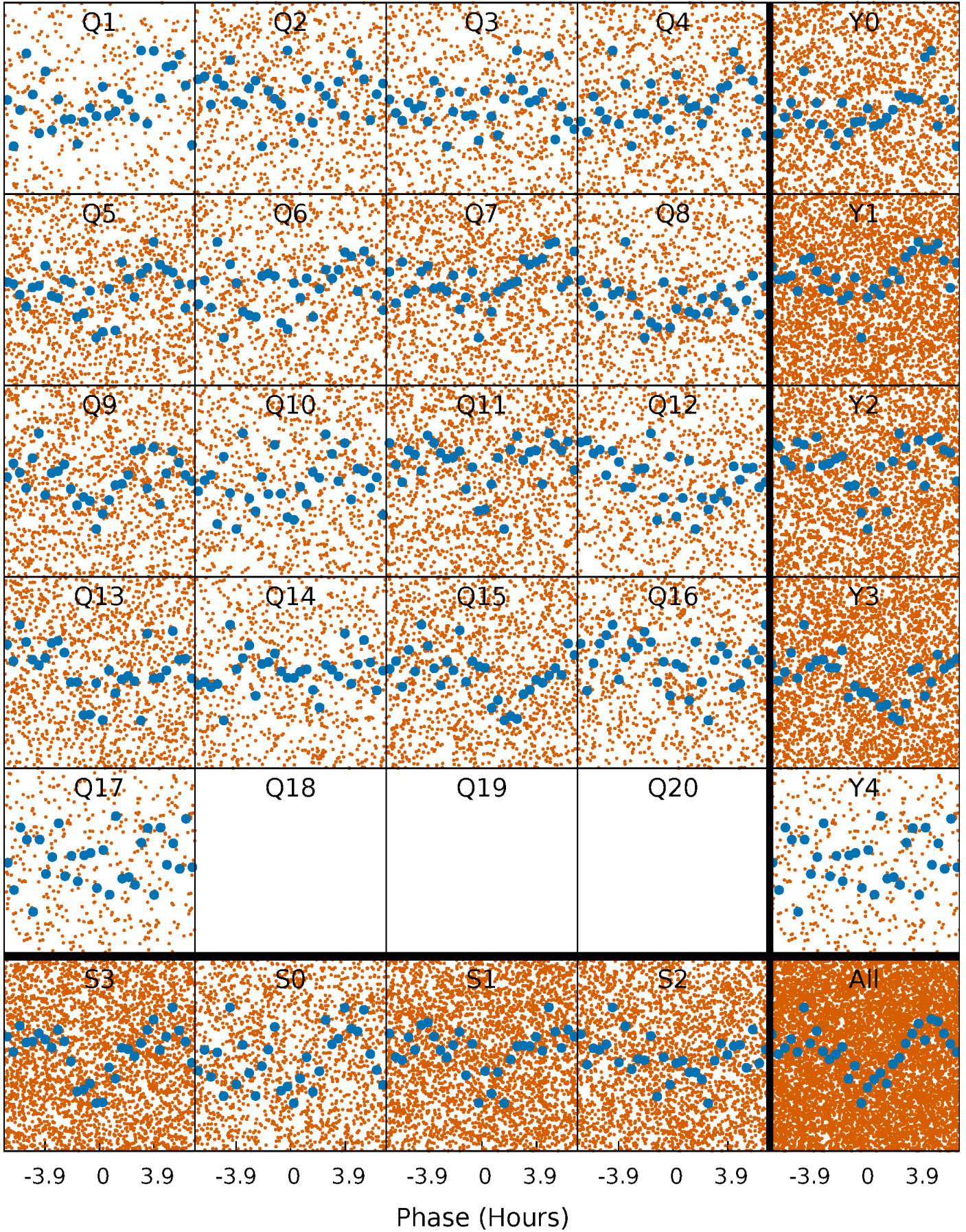


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

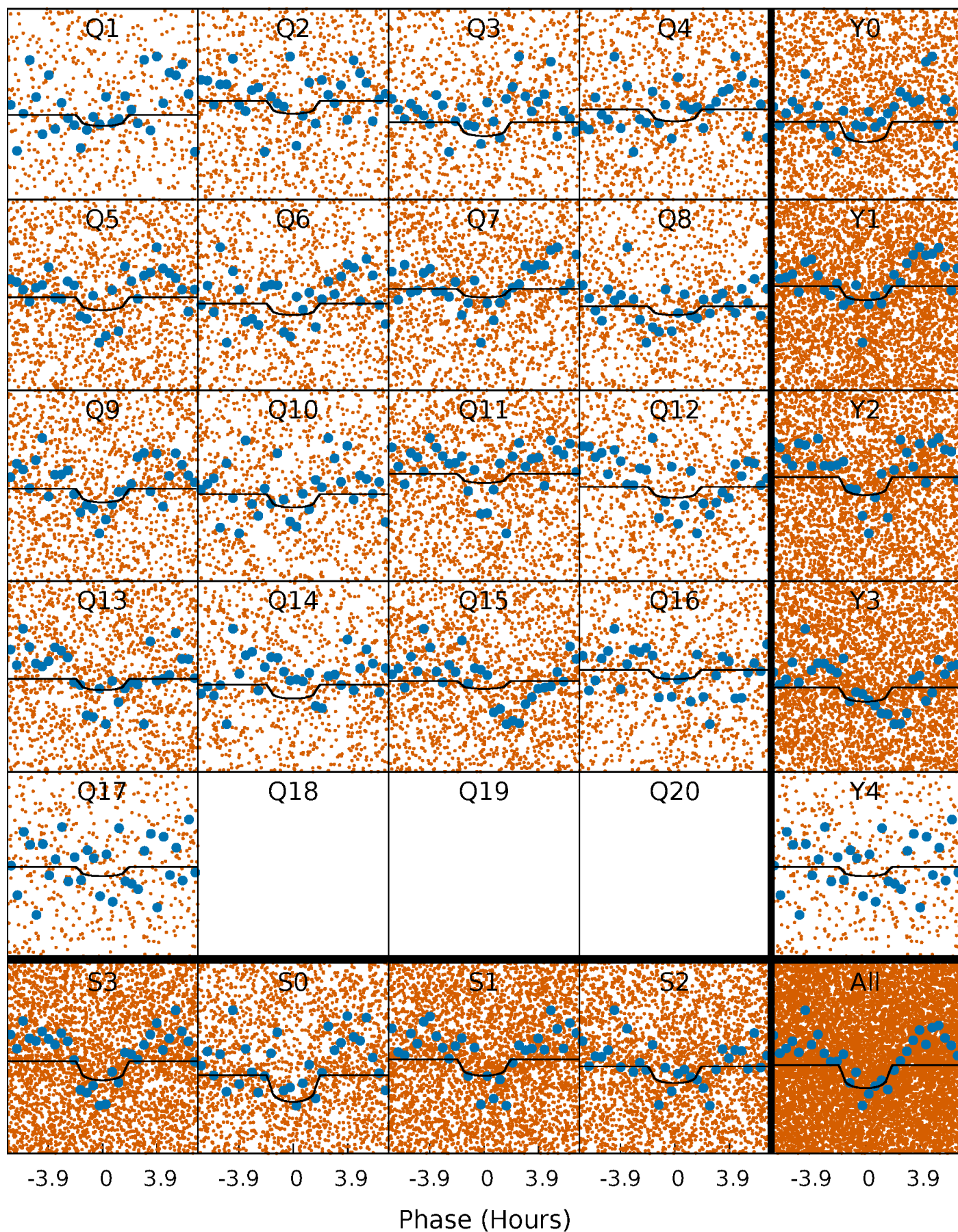
TCE 003240667-01 P= 0.907906 Days  $T_0=132.396737$  (BKJD)





# DV Quarter-Phased Transit Curves

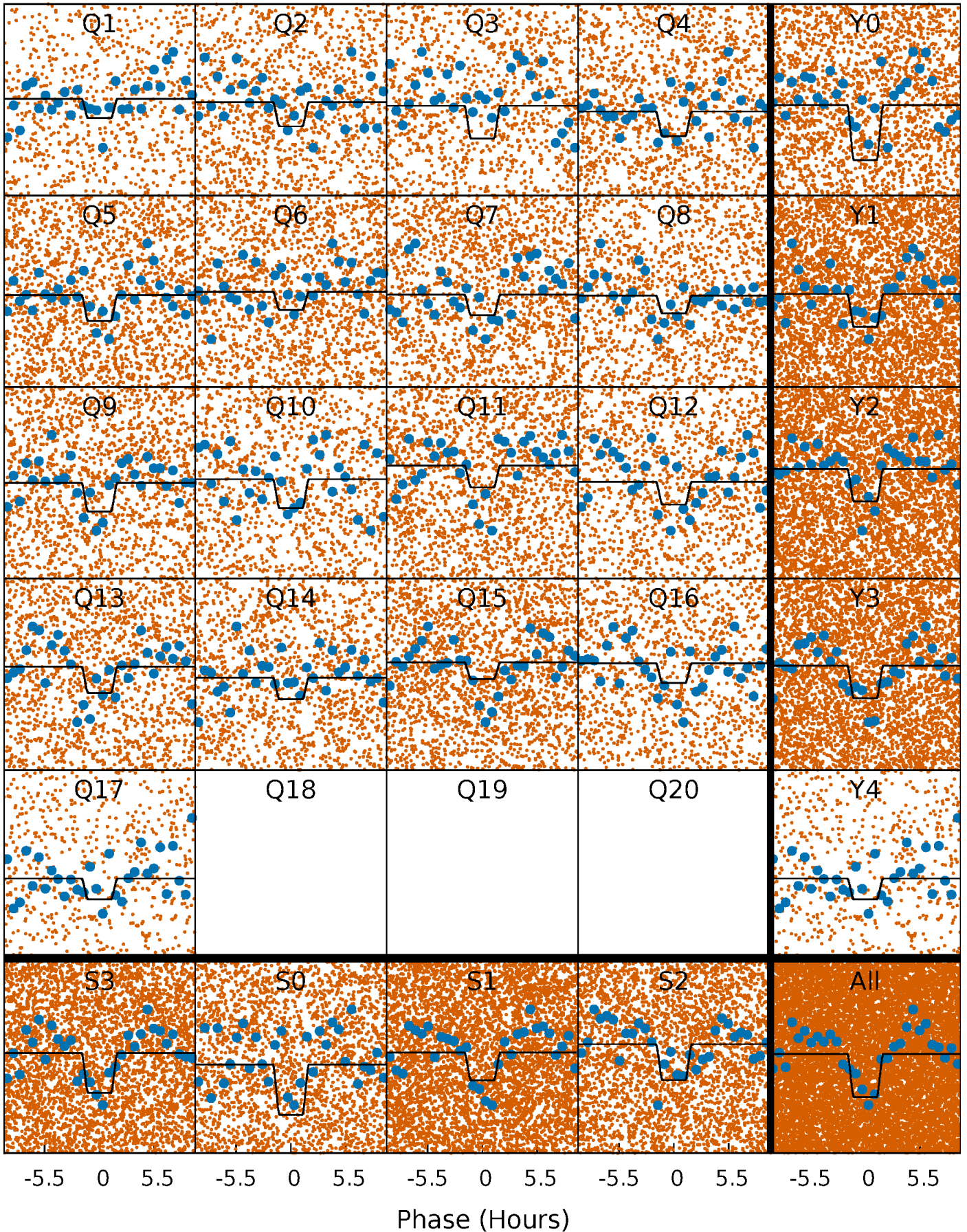
TCE 003240667-01   P= 0.907906 Days    $T_0=132.396737$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

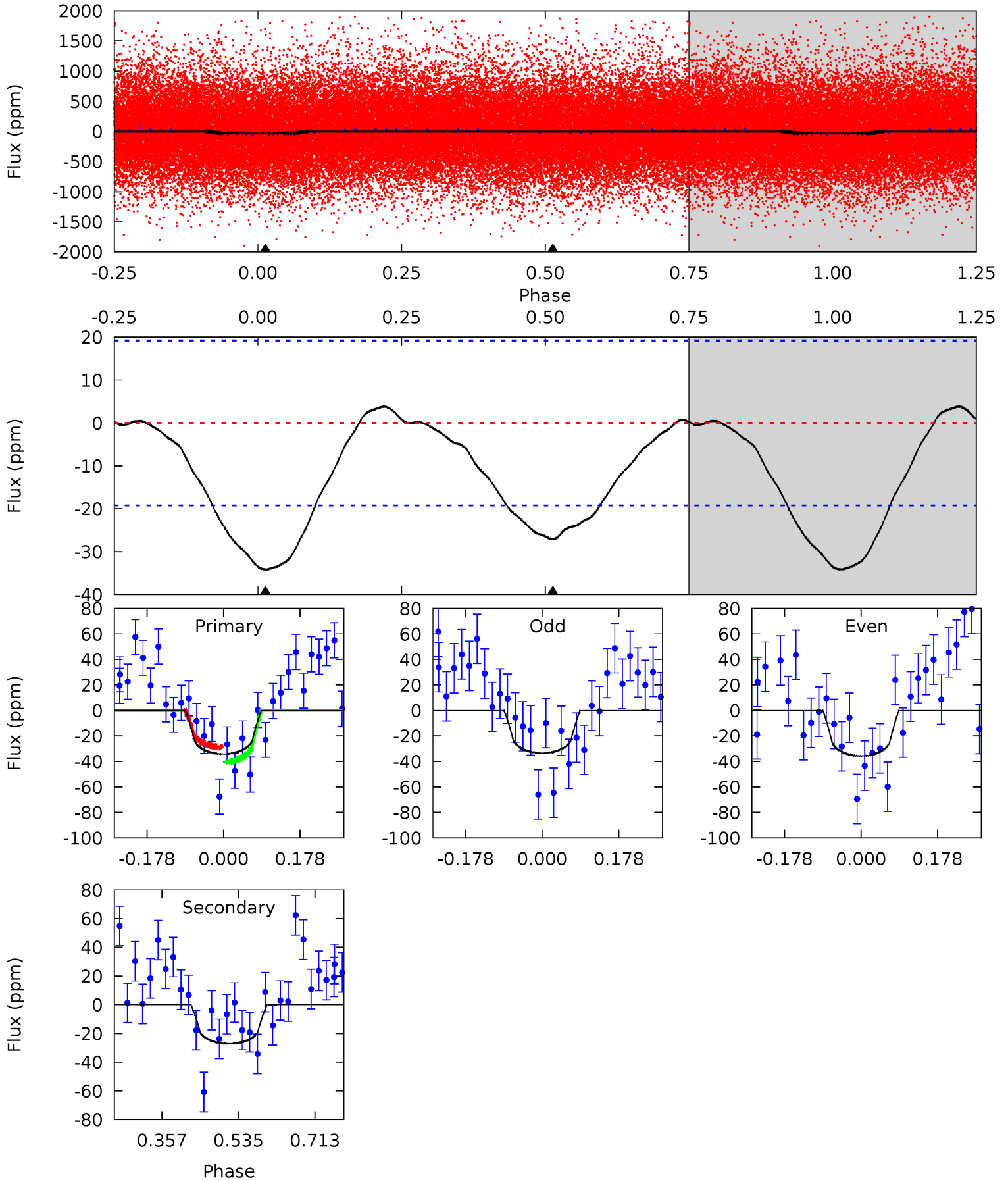
TCE 003240667-01 P= 0.907999 Days  $T_0=132.324942$  (BKJD)



# DV Model-Shift Uniqueness Test

003240667-01, P = 0.907906 Days, E = 131.488831 Days

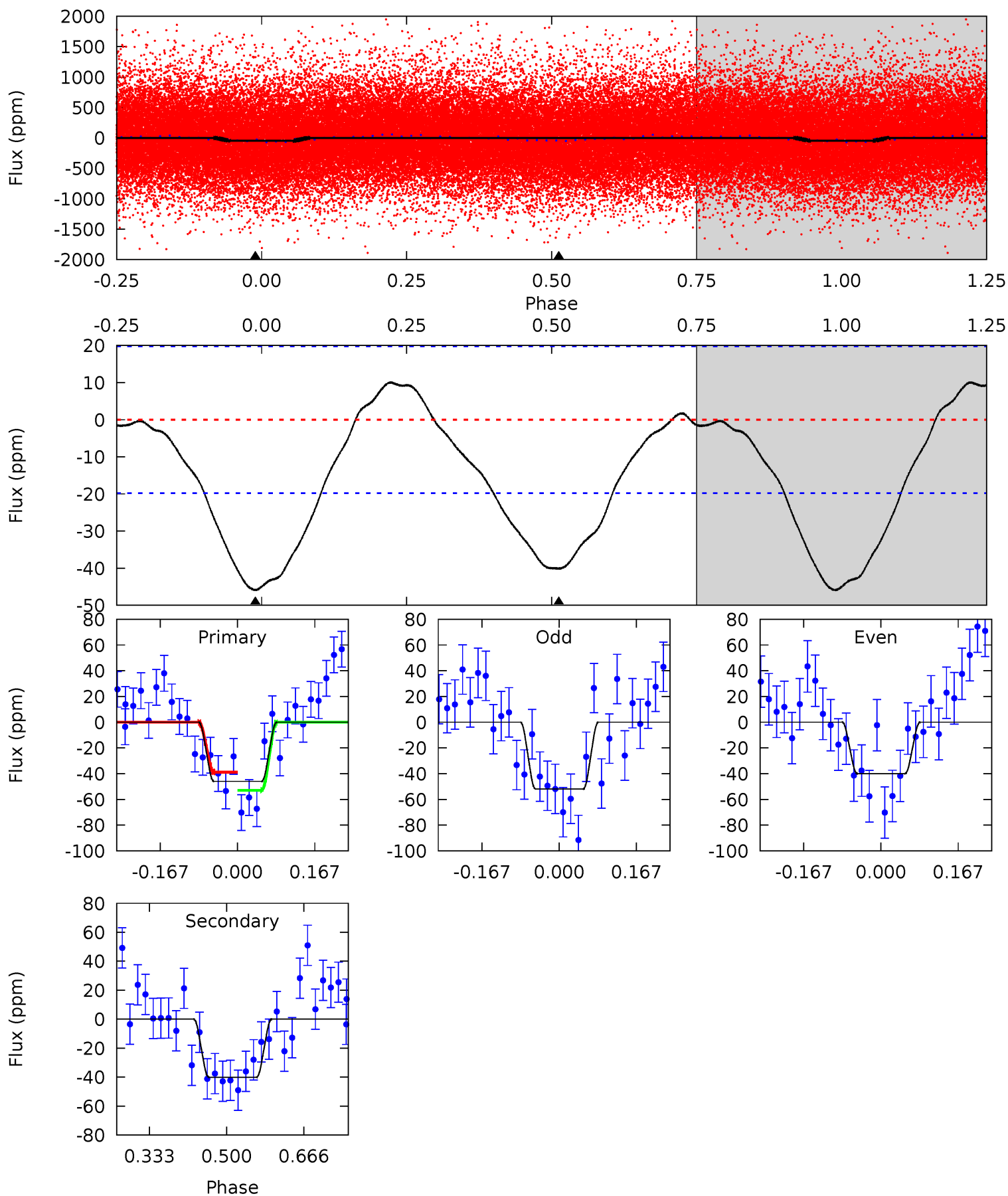
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.89	6.26	0	0	4.44	1.35	0.43	7.89	7.89	6.26	6.26	0.26	1.02	0.10	1.38



# Alt Model-Shift Uniqueness Test

003240667-01, P = 0.907999 Days, E = 131.416943 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
10.3	9.05	0	0	4.46	1.38	1.10	10.3	10.3	9.05	9.05	1.35	0.97	0.18	1.60





### Stellar Parameters For KIC 003240667

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5818^{+162}_{-182}$	$4.523^{+0.036}_{-0.192}$	$0.070^{+0.250}_{-0.300}$	$0.925^{+0.257}_{-0.086}$	$1.039^{+0.102}_{-0.136}$	$1.852^{+0.355}_{-0.934}$
	+3%/-3%	+1%/-4%	+357%/-429%	+28%/-9%	+10%/-13%	+19%/-50%
Source	PHO1	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 003240667-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-27 \pm 4$	$0.66^{+0.49}_{-0.41}$	$2585^{+177}_{-109}$	$5345^{+3598}_{-1125}$	$12^{+66}_{-8}$
Alt.	$-40 \pm 4$	$0.76^{+0.60}_{-0.41}$	$2601^{+151}_{-122}$	$5433^{+2909}_{-1176}$	$12^{+49}_{-8}$

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

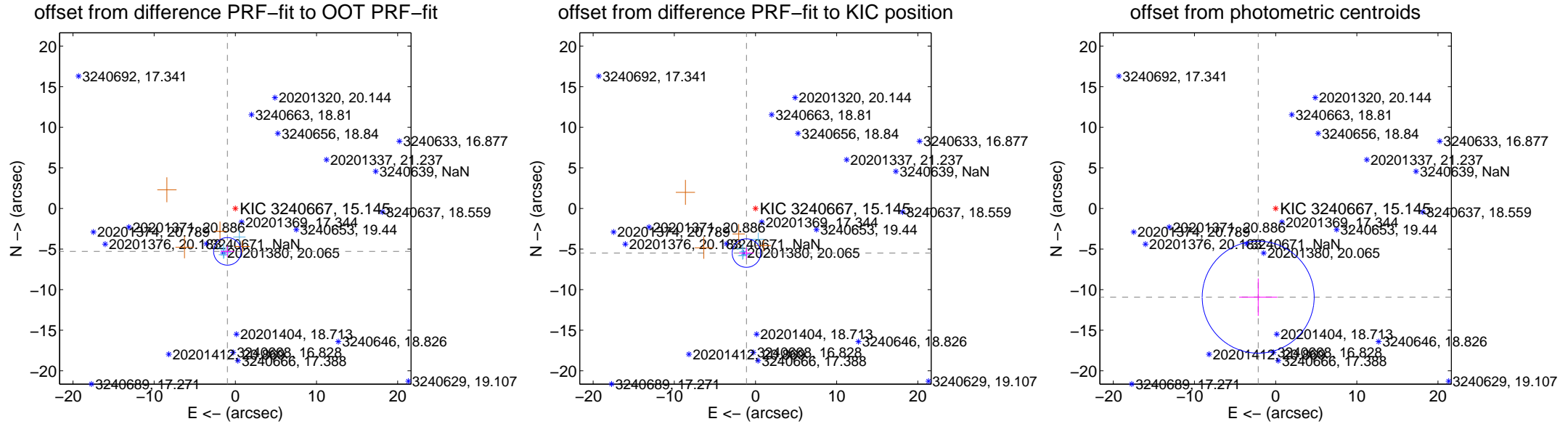
## DV Centroid Data

Supplemental centroid analysis for 003240667-01. Kepler magnitude: 15.14. Transit SNR 5.73

There are 7 quarters with good PRF difference image offsets

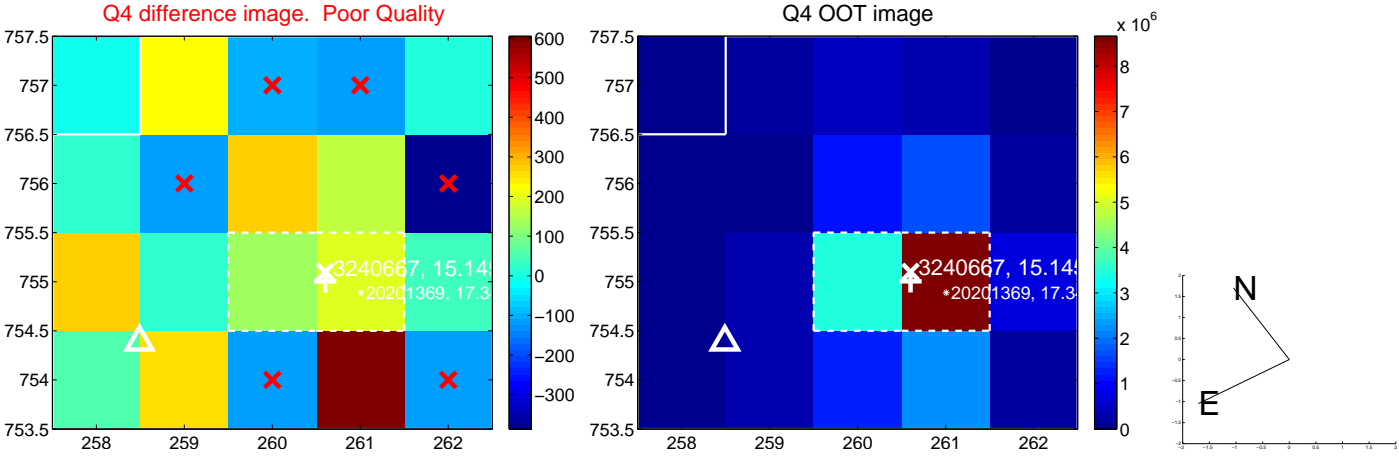
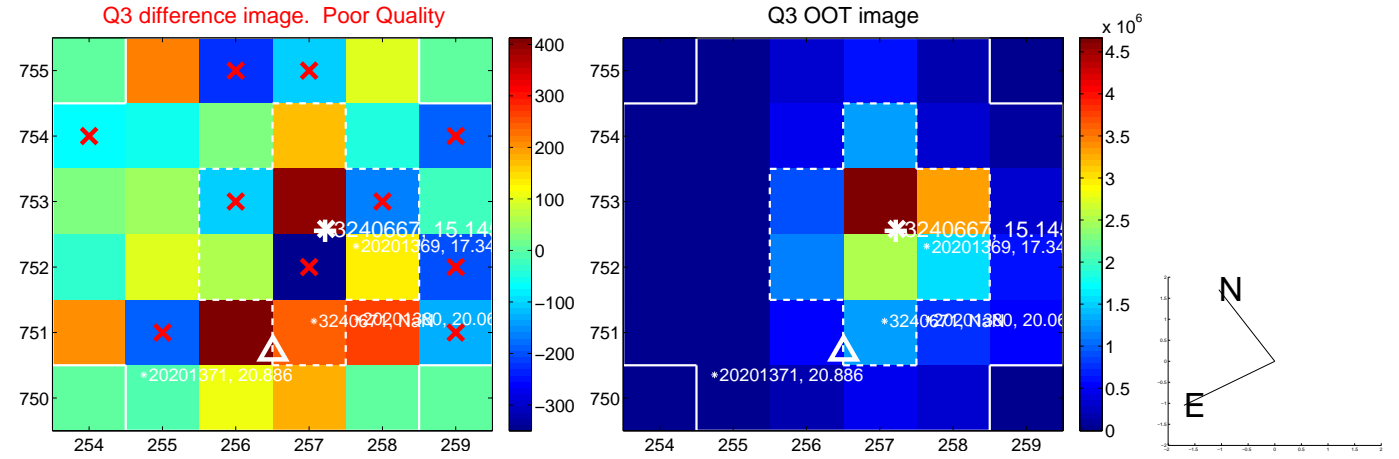
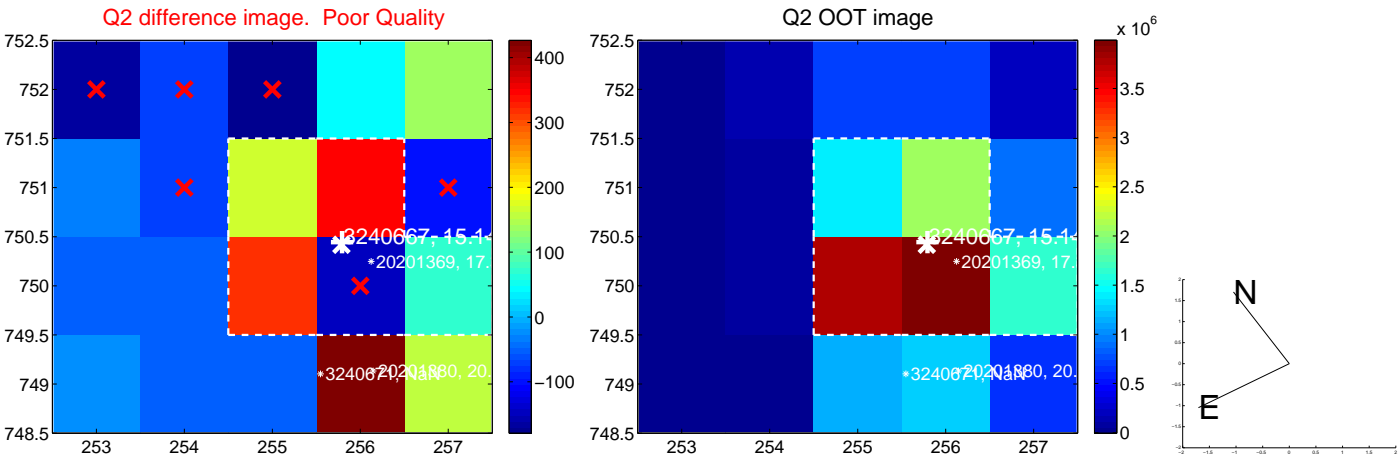
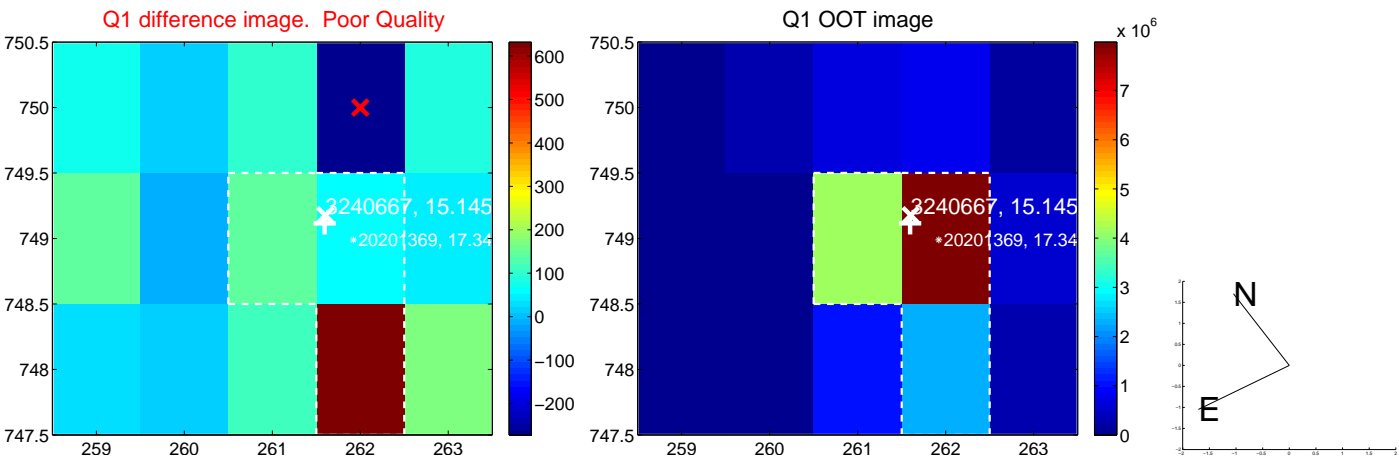
The direct PRF centroid is offset from the target star catalog position by about 0.33 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$5.378 \pm 0.567$	9.49	$0.978 \pm 0.839$	$-5.289 \pm 0.674$
PRF-fit source offset from KIC position	$5.610 \pm 0.585$	9.58	$1.116 \pm 0.903$	$-5.498 \pm 0.721$
photometric centroid source offset	$11.14 \pm 2.30$	4.84	$2.15 \pm 2.36$	$-10.93 \pm 2.30$

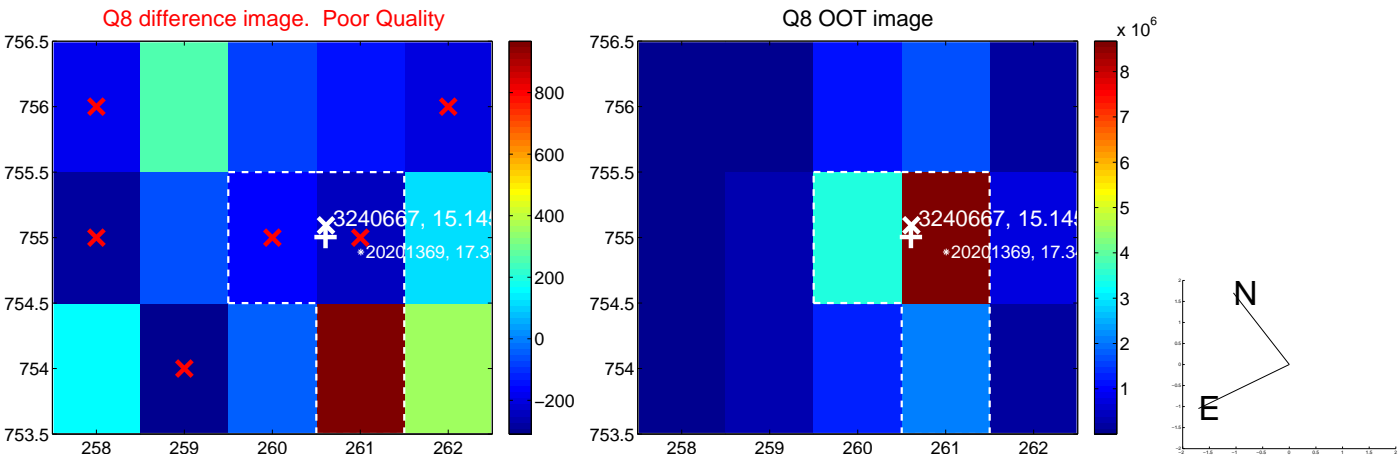
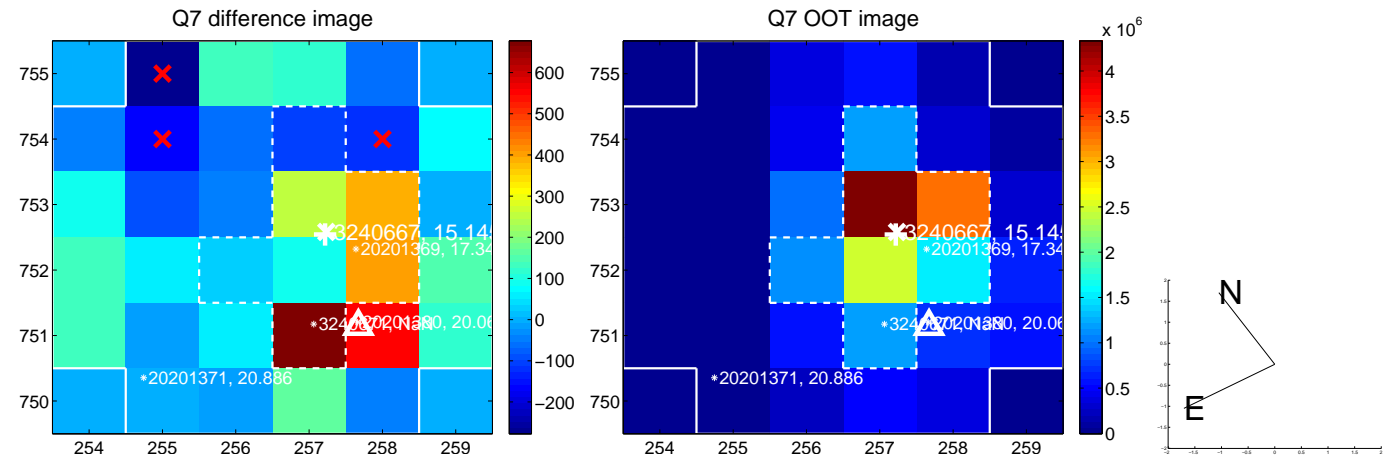
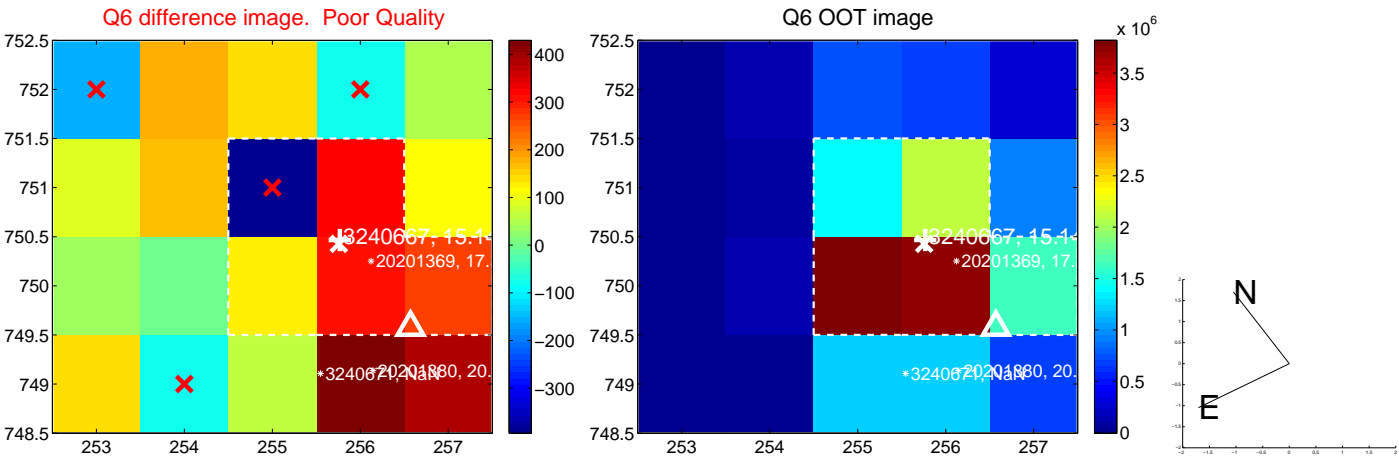
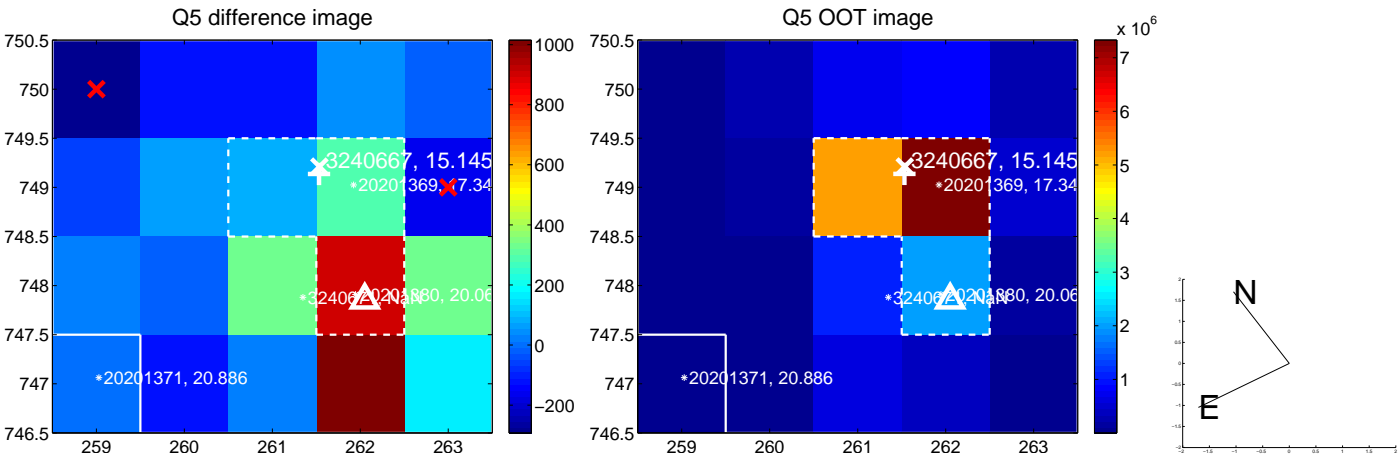


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

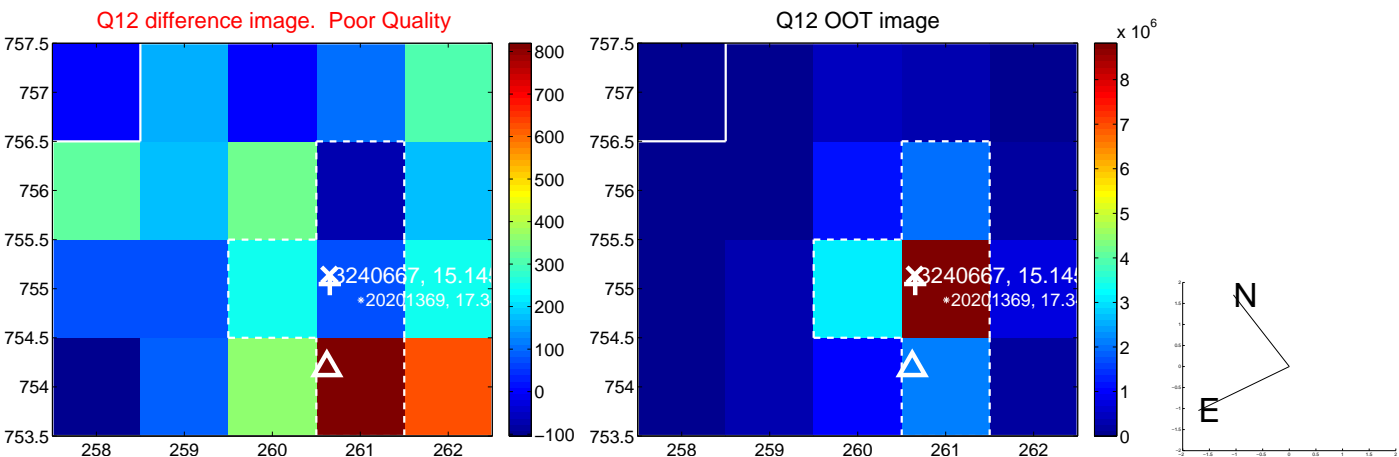
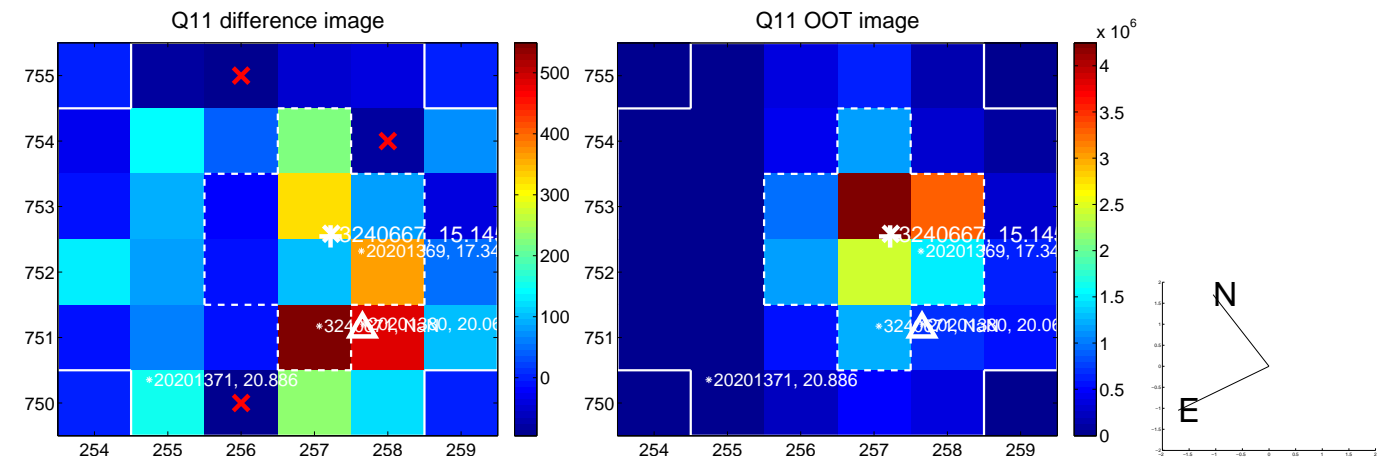
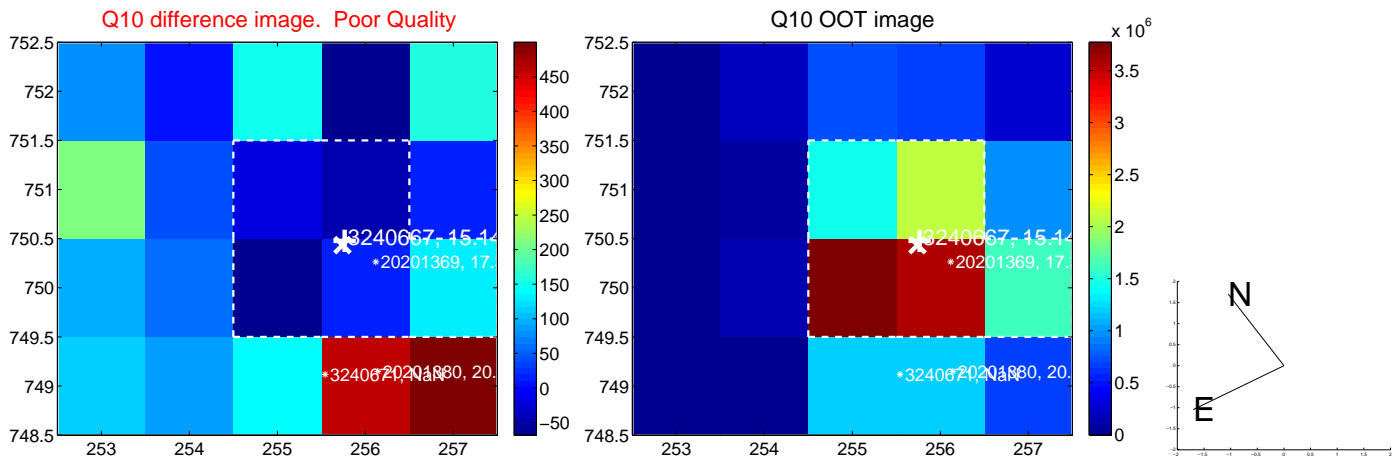
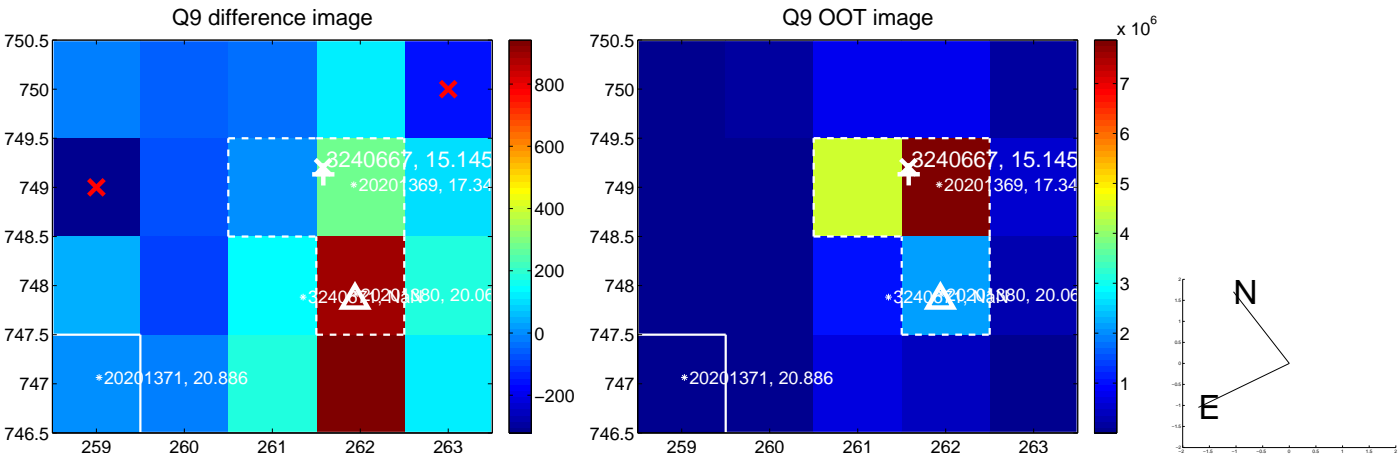


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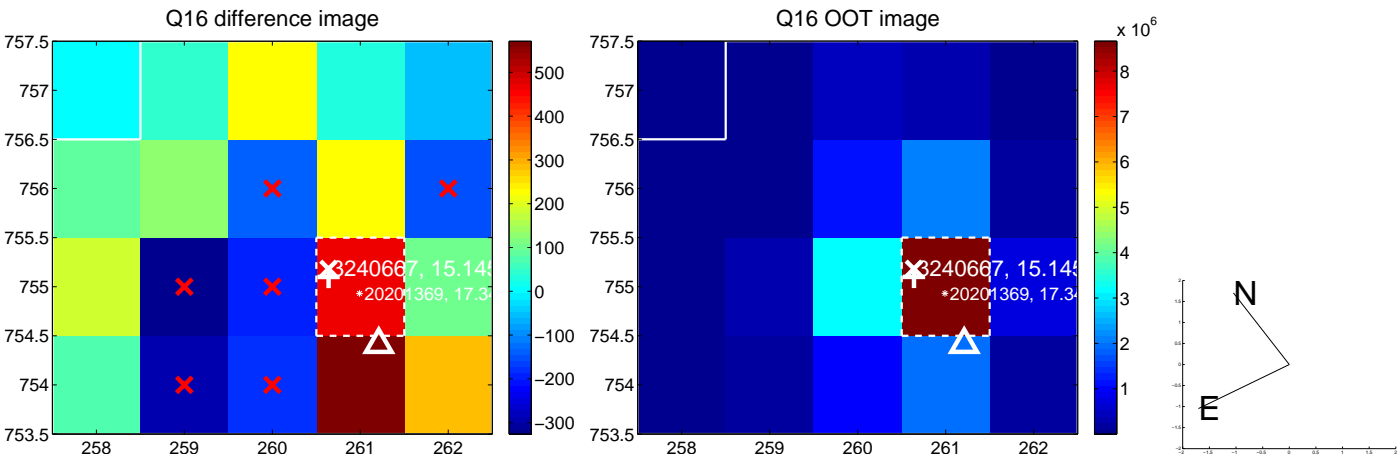
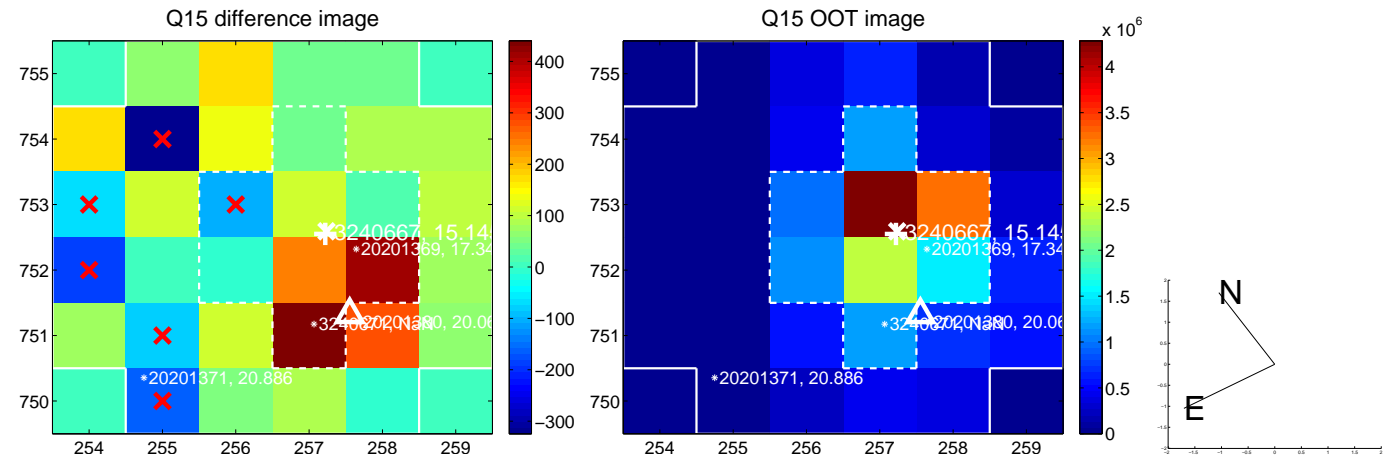
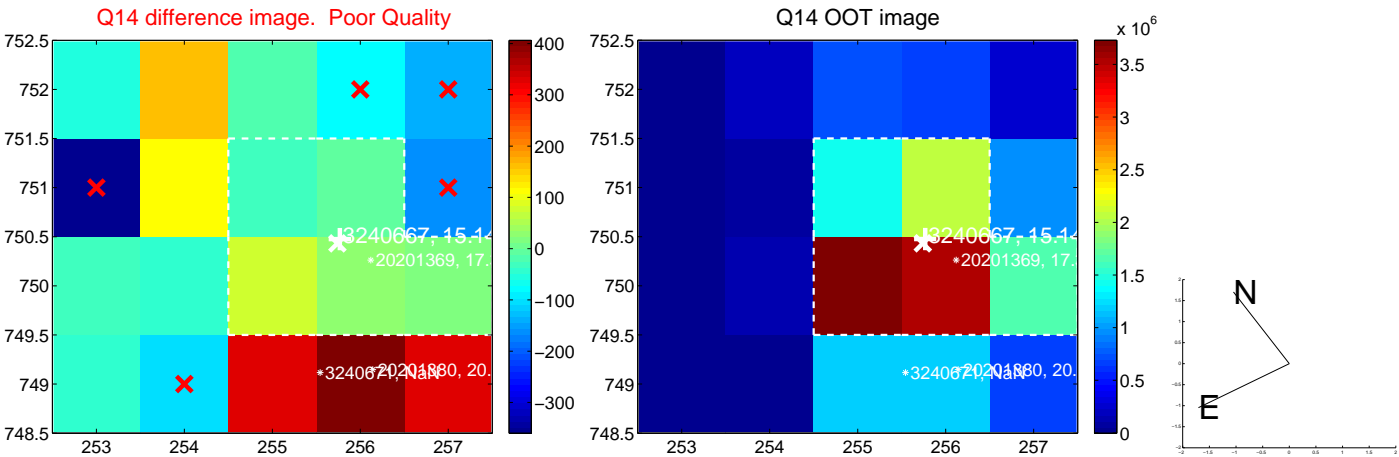
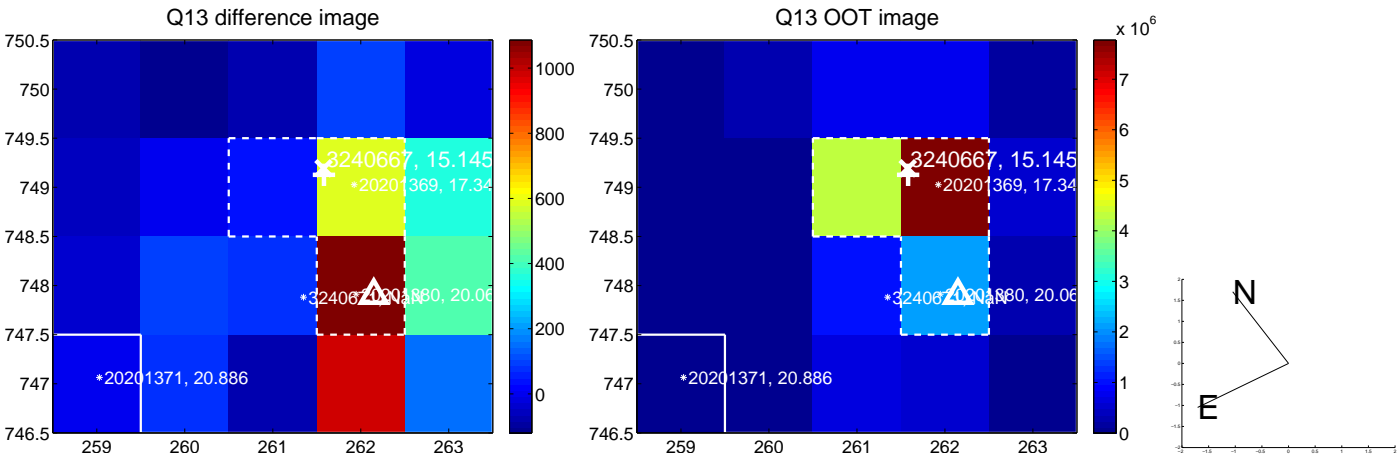




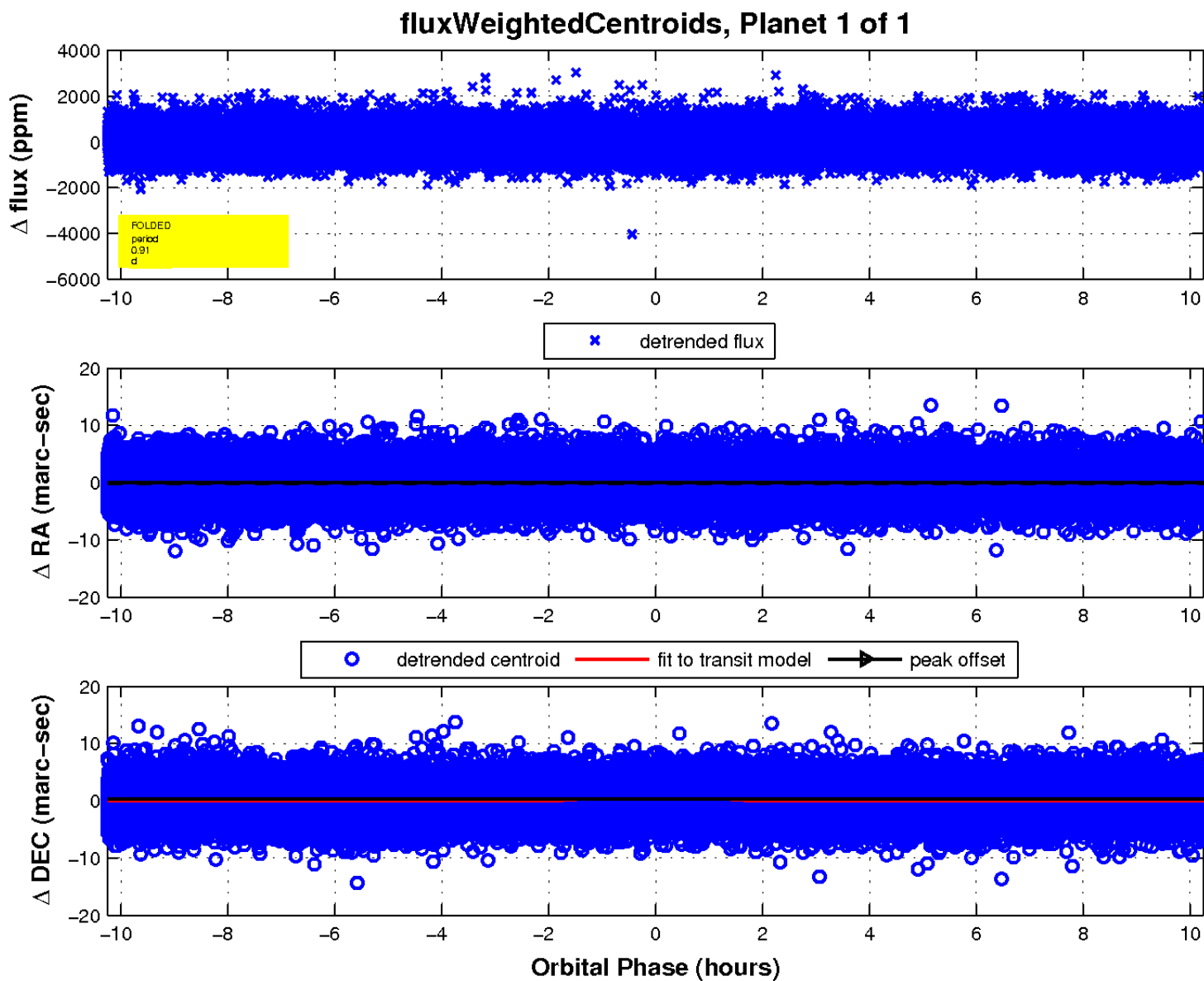
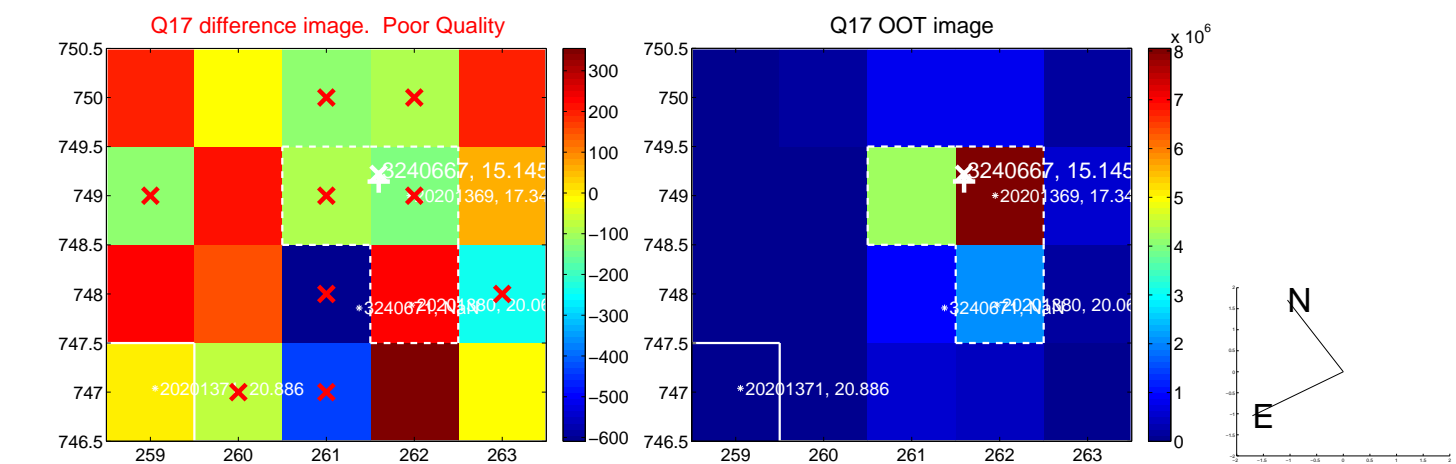
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

