

# KIC 007879648

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007879648-01	OBS	7852.01	1.020715	132.203000	110.5	0.831	8.1	12.0	0.87	5815	0.97	2090.42

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007879648-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—CENT_UNRESOLVED_OFFSET

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

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

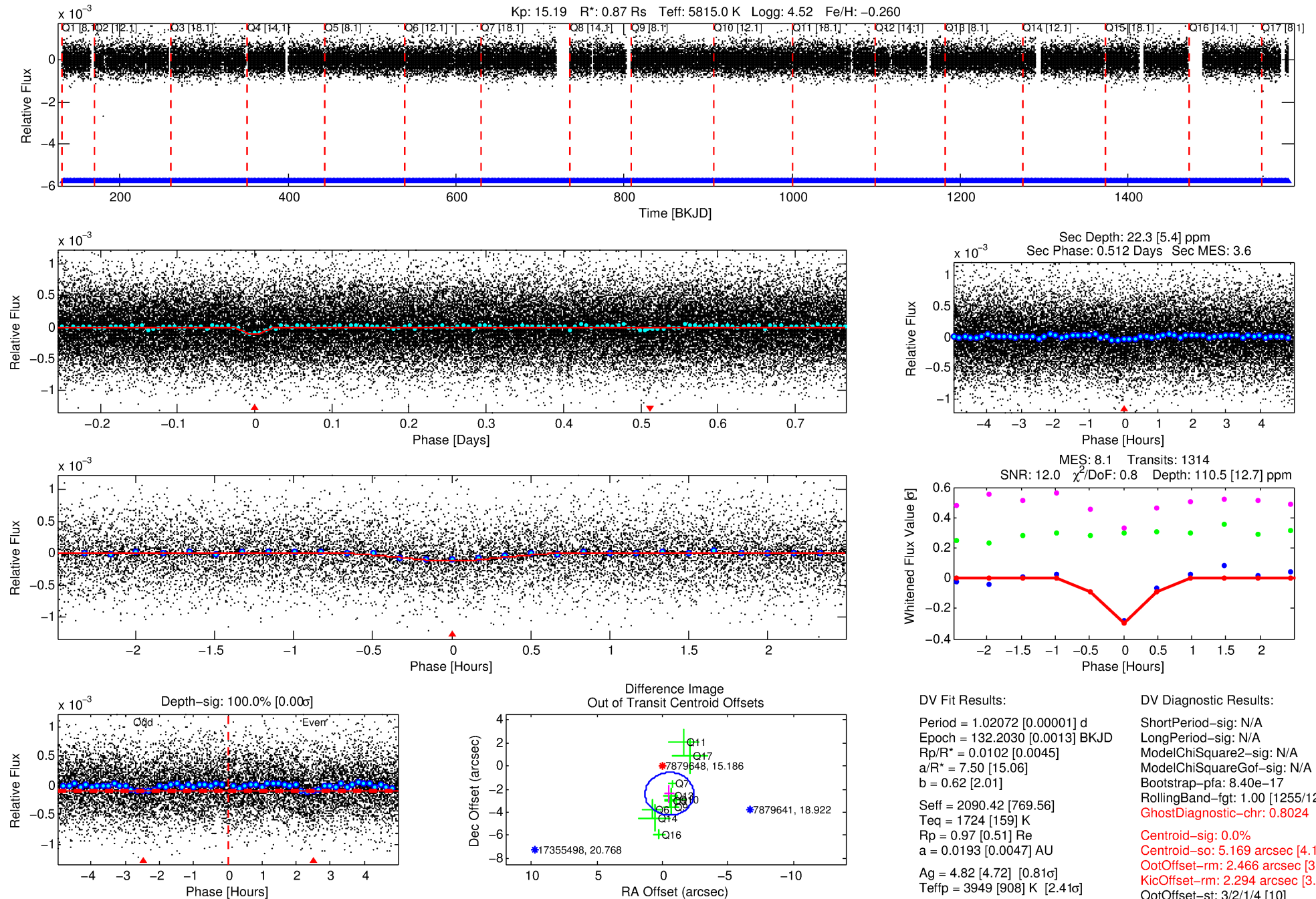
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007879648-01

No Significant Match Found

# DV One-Page Summary

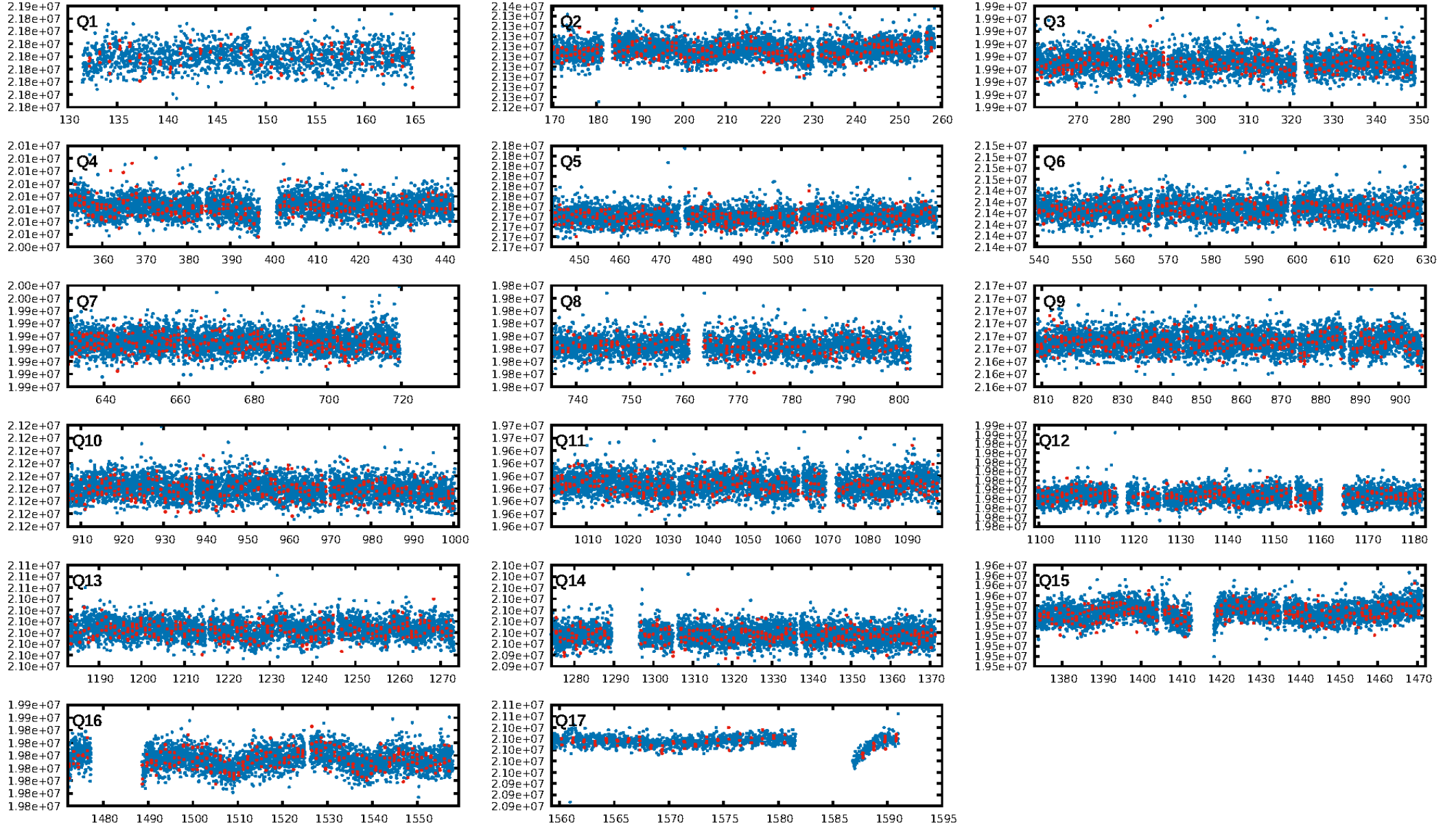
KIC: 7879648 Candidate: 1 of 1 Period: 1.021 d



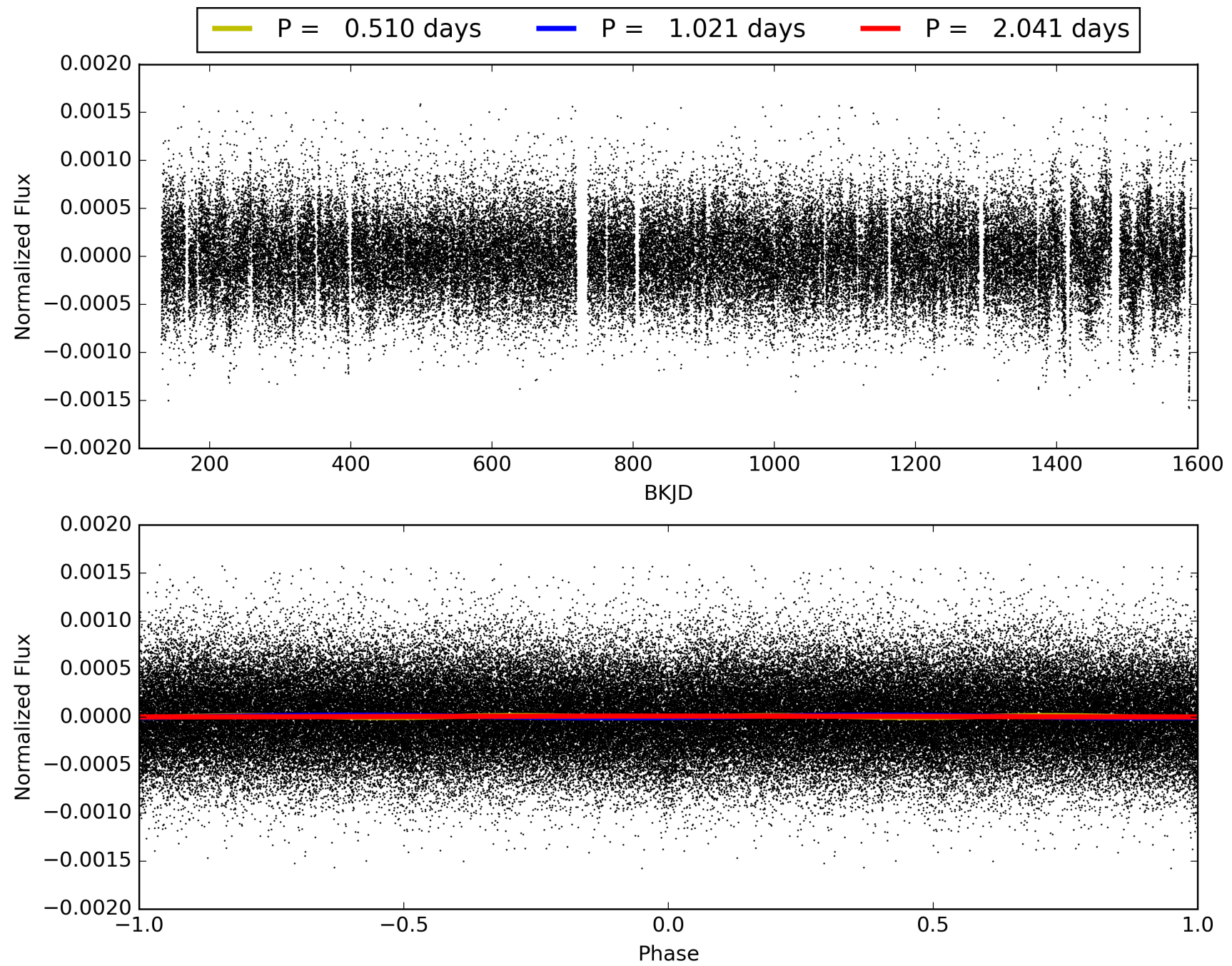
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 02:09:06 Z

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

# TCE 007879648-01, PDC Light Curves



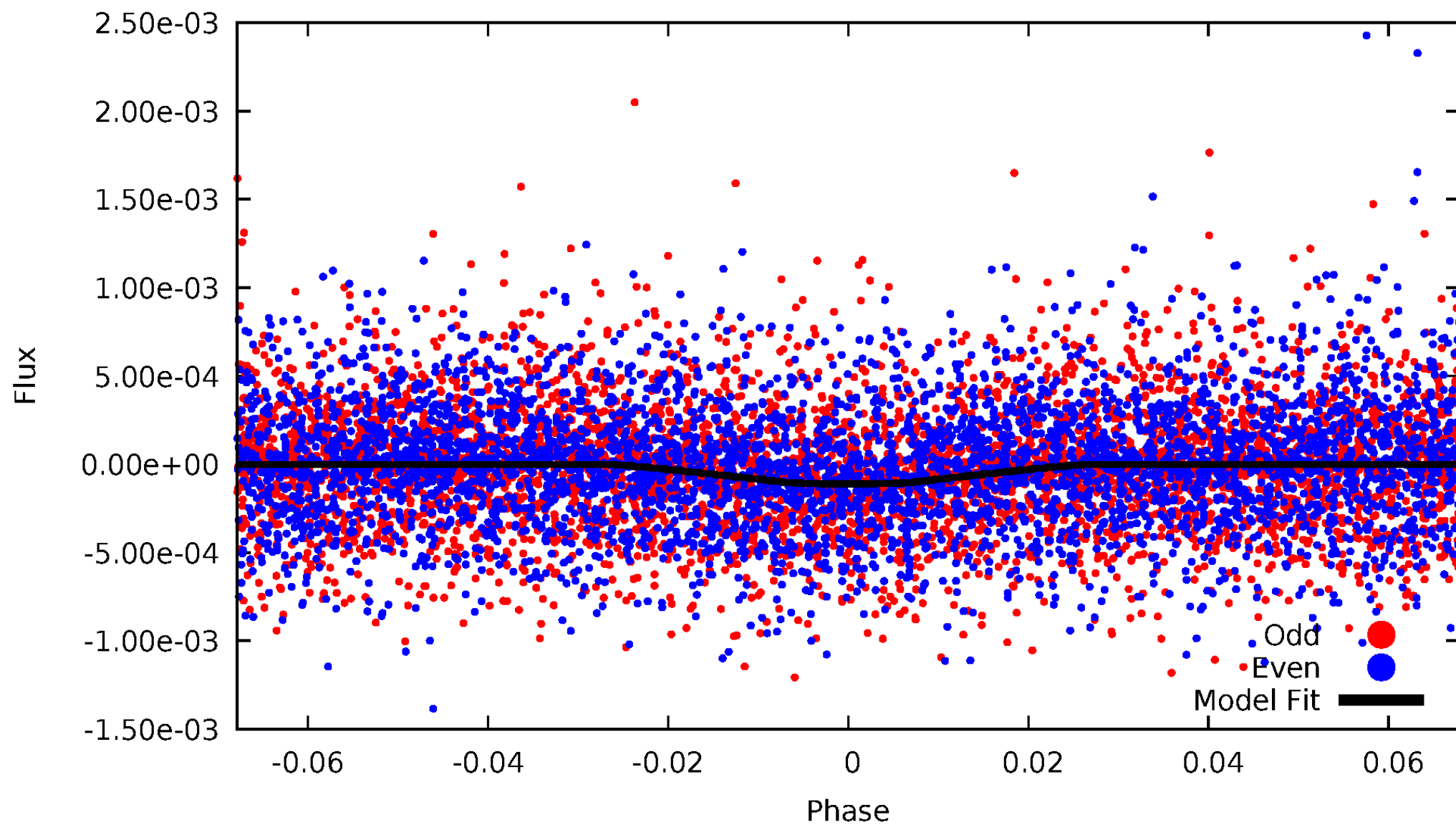
TCE 007879648-01





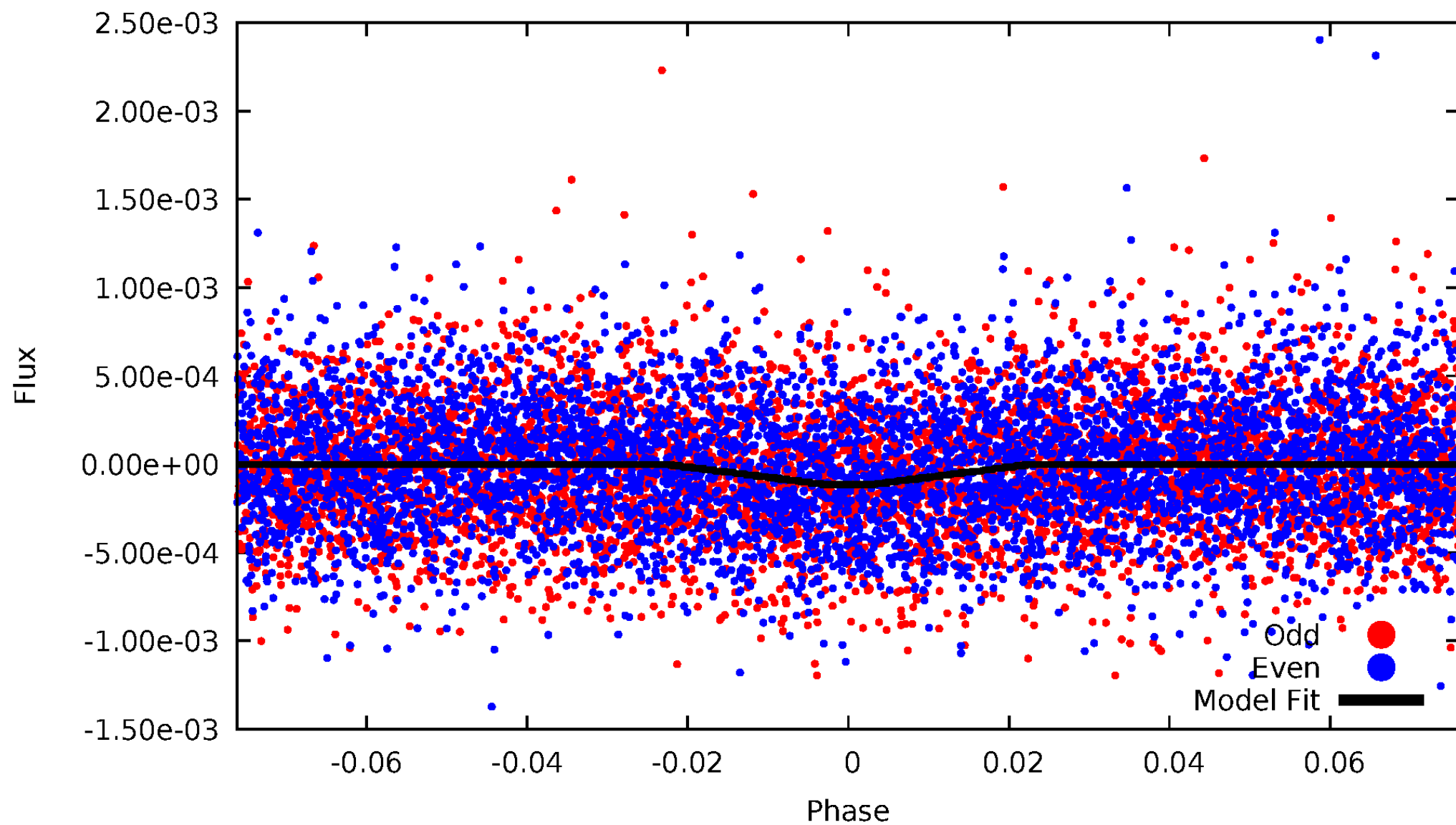
# DV Odd/Even

TCE 007879648-01

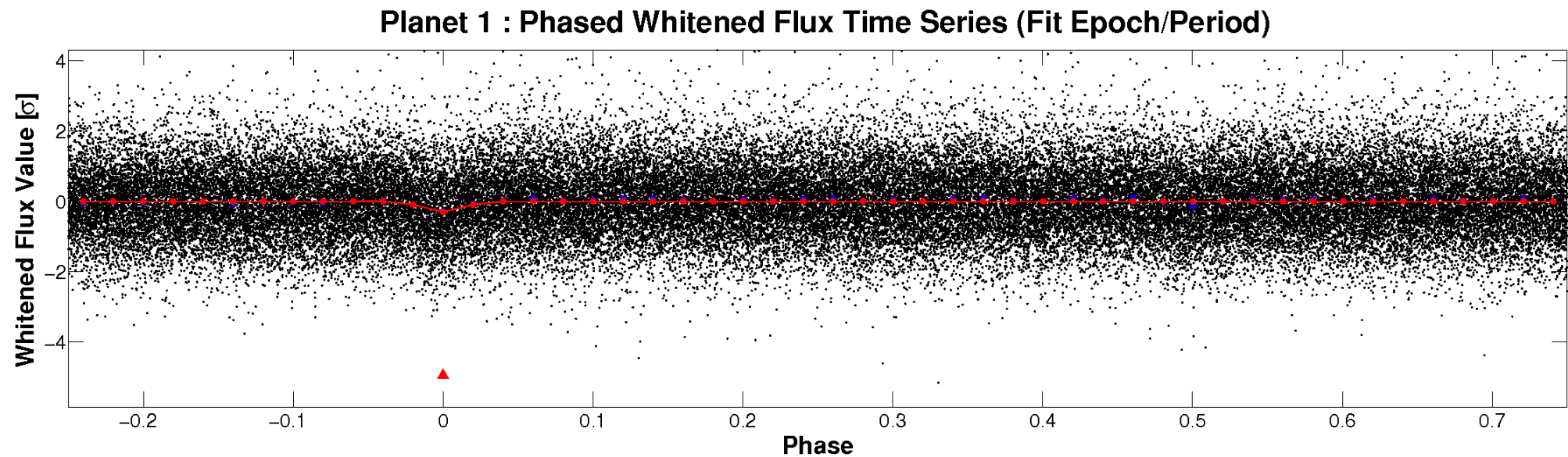
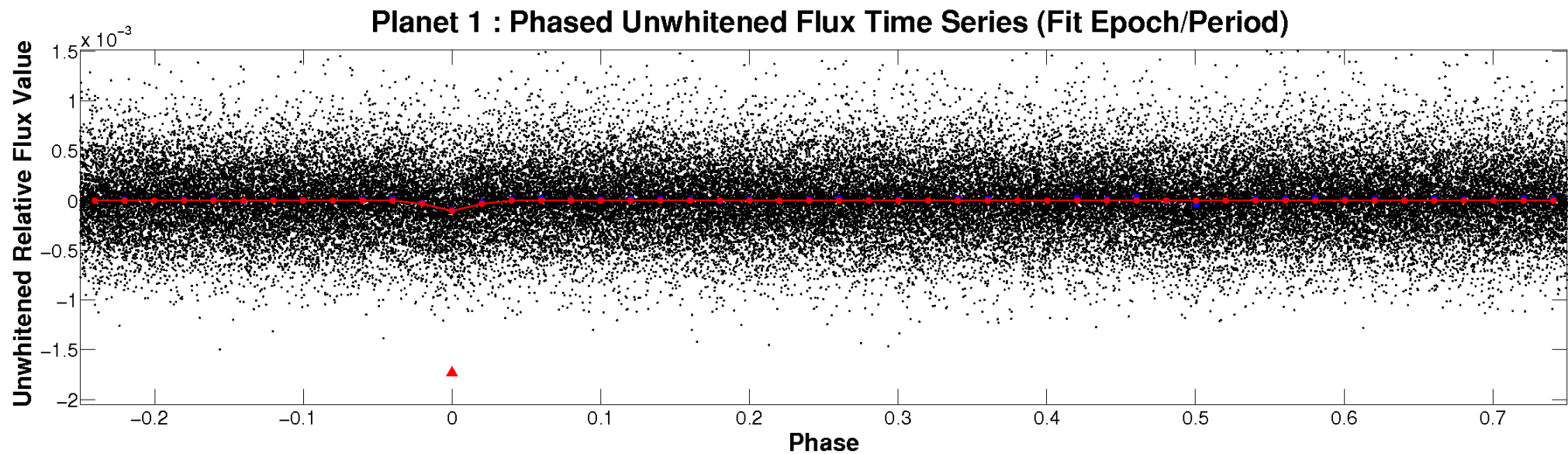


# ALT Odd/Even

TCE 007879648-01

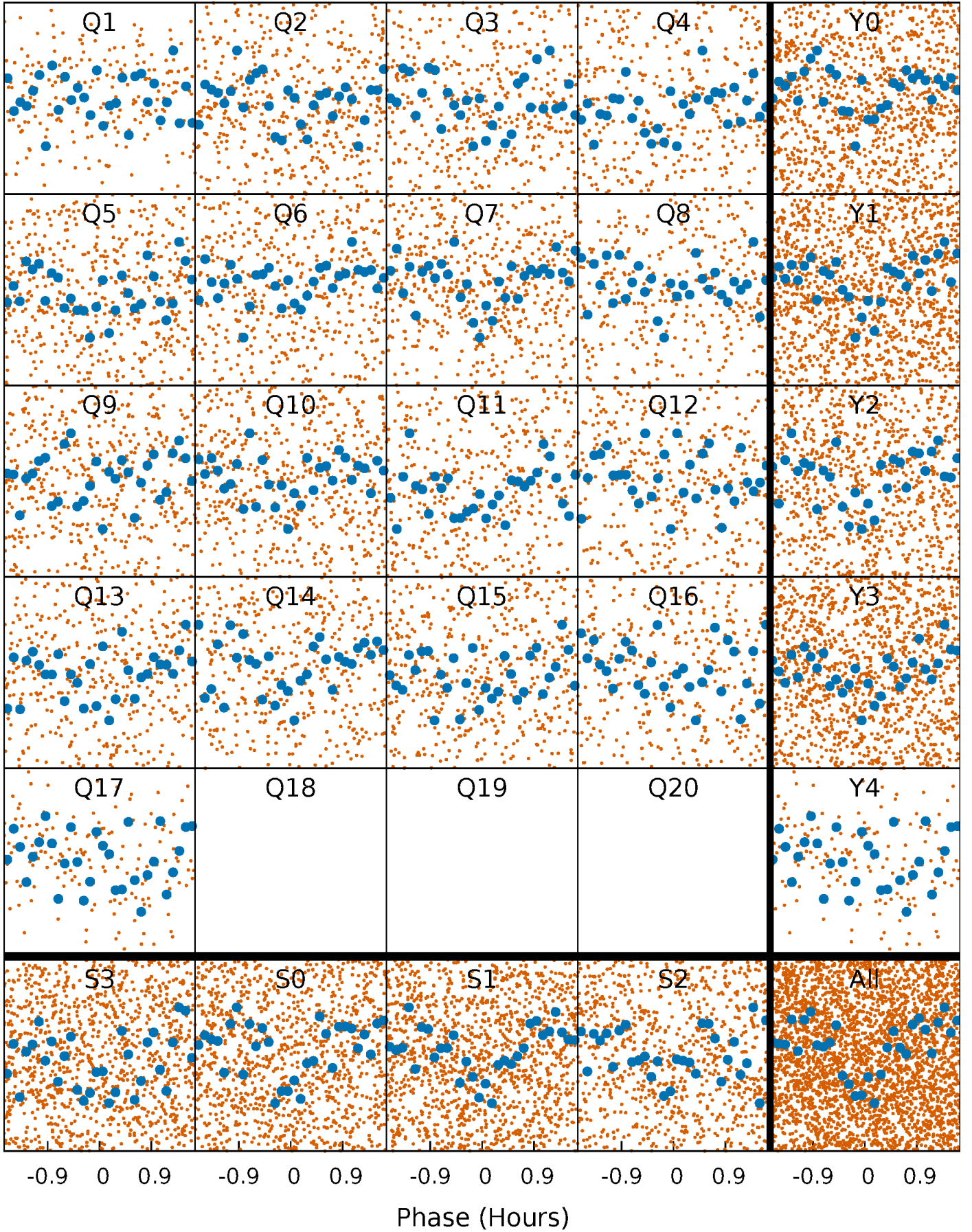


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

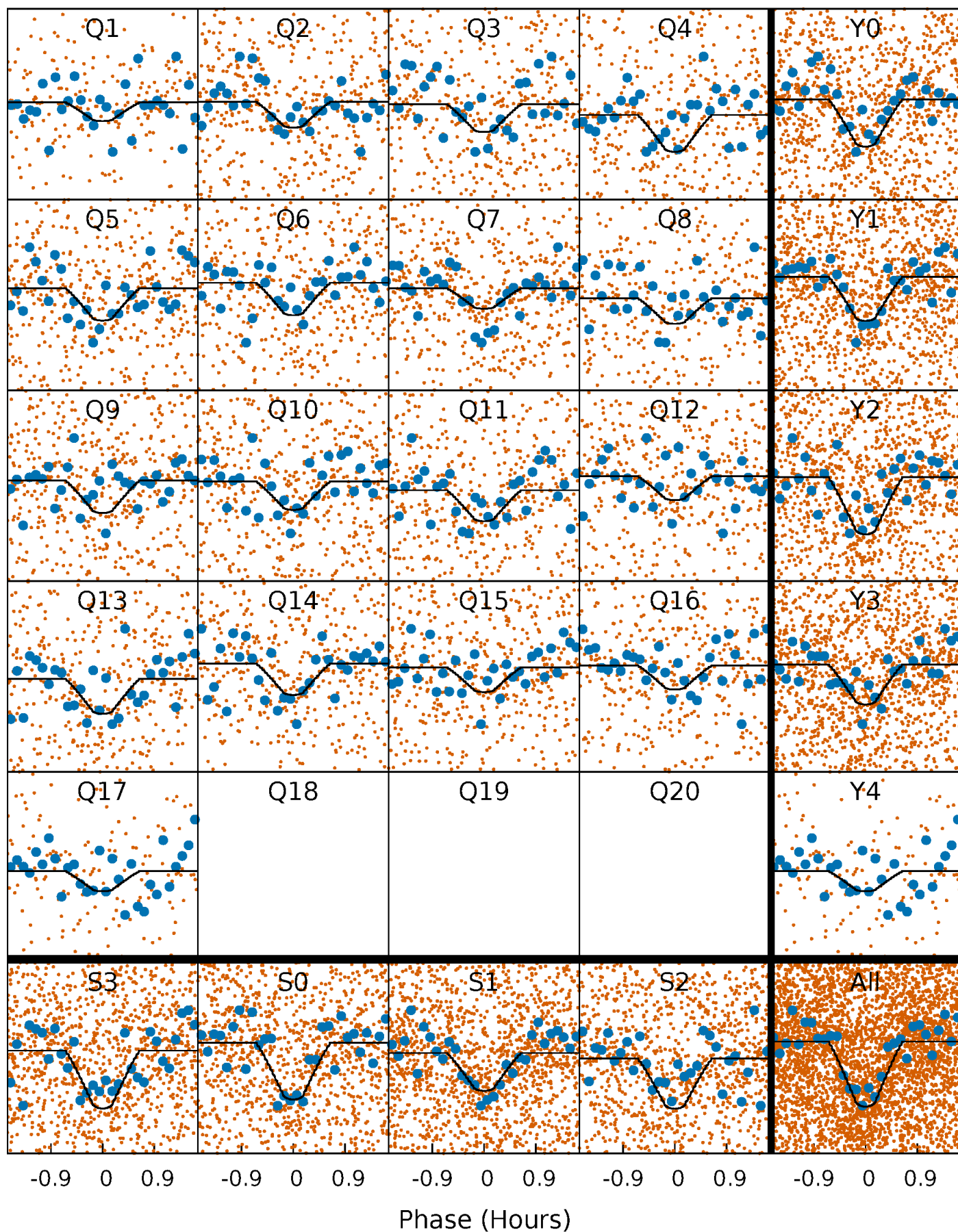
TCE 007879648-01   P= 1.020715 Days    $T_0=132.203000$  (BKJD)





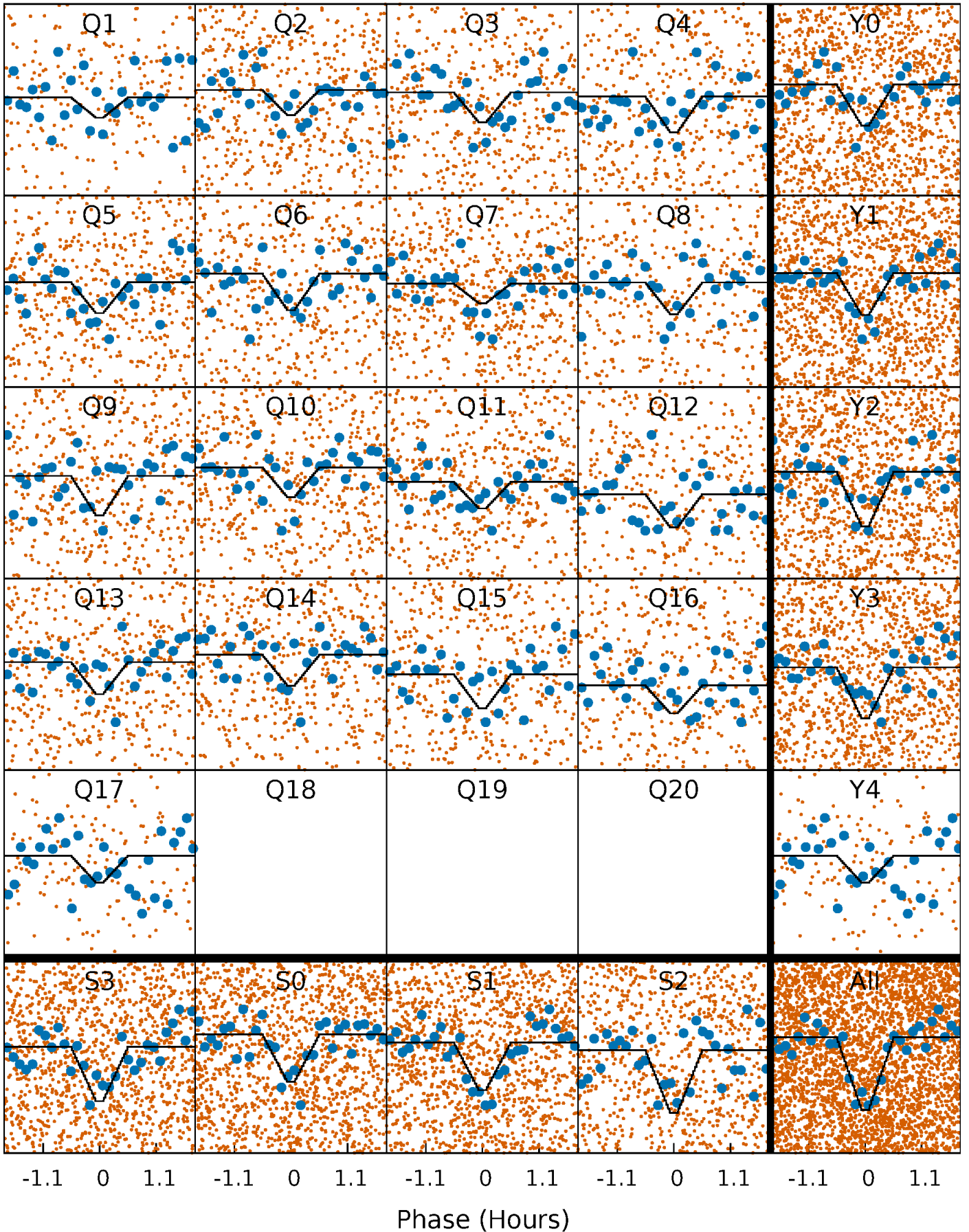
# DV Quarter-Phased Transit Curves

TCE 007879648-01 P= 1.020715 Days  $T_0=132.203000$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

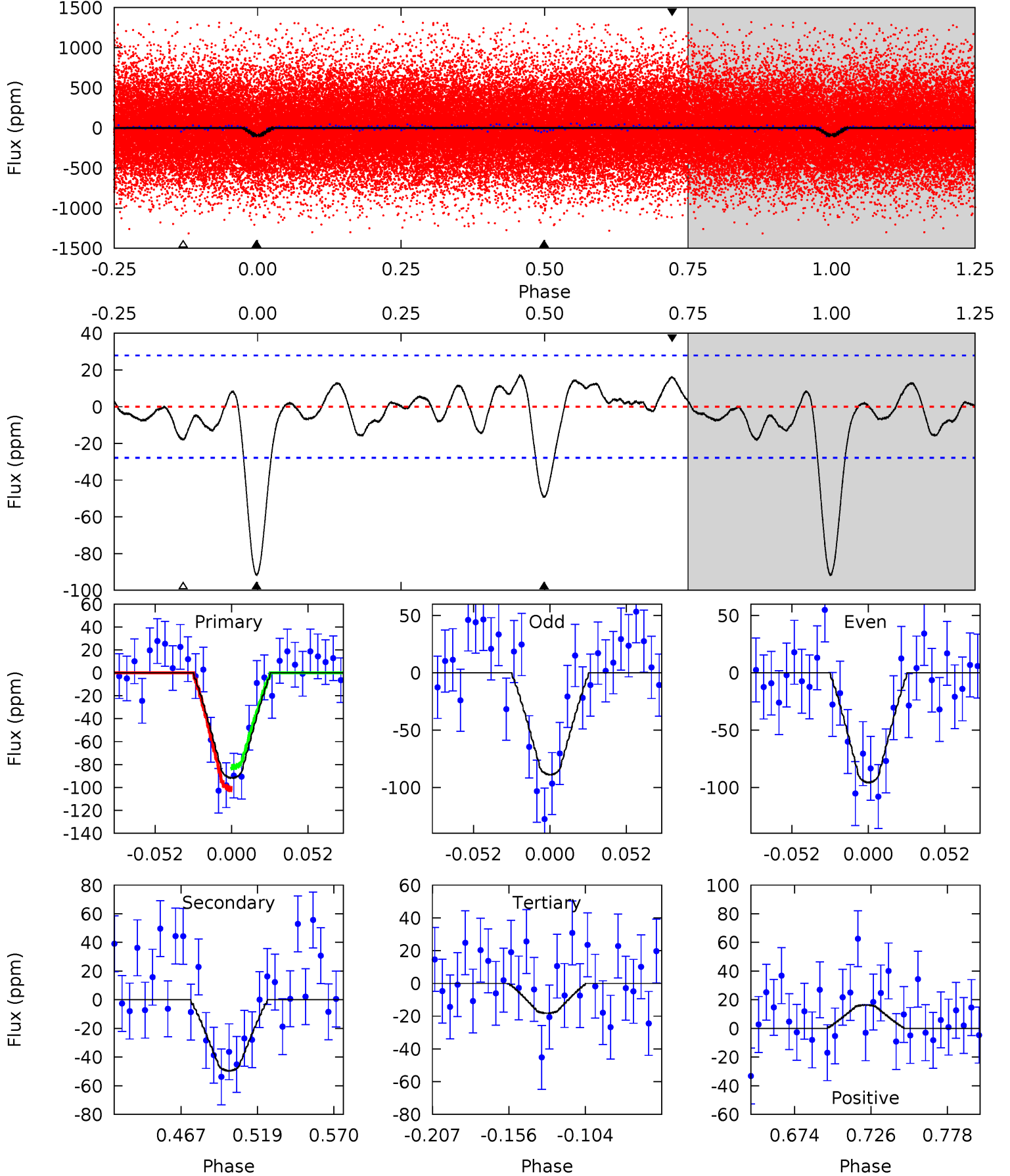
TCE 007879648-01 P= 1.020712 Days  $T_0=132.202766$  (BKJD)



# DV Model-Shift Uniqueness Test

007879648-01, P = 1.020715 Days, E = 131.182285 Days

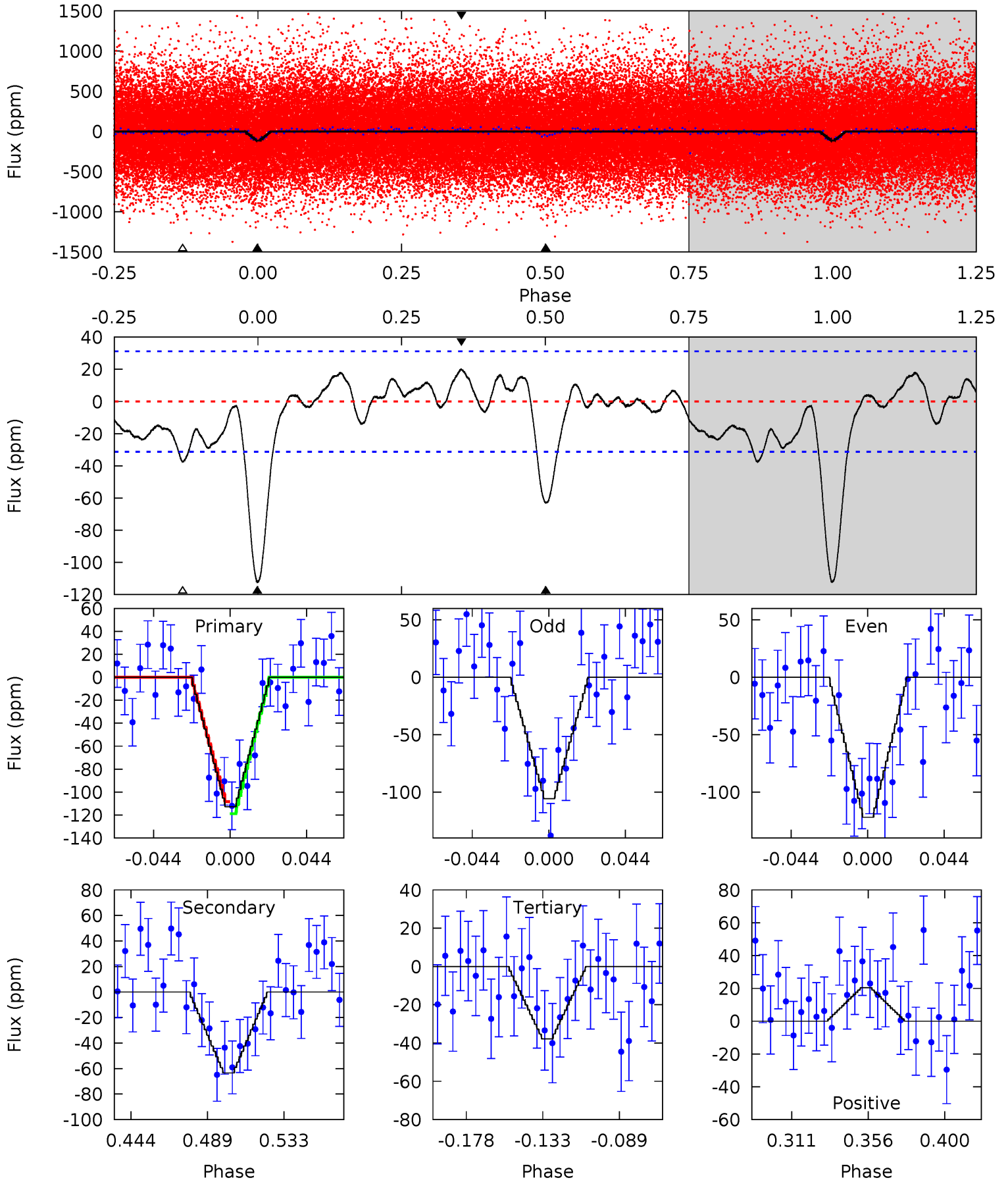
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.5	8.35	3.06	2.75	4.70	1.94	1.33	12.4	12.7	5.29	5.60	0.57	0.88	0.16	1.62



# Alt Model-Shift Uniqueness Test

007879648-01, P = 1.020712 Days, E = 131.182054 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
17.1	9.63	5.73	3.09	4.73	2.01	1.95	11.4	14.0	3.89	6.53	1.23	0.86	0.15	0.80





### Stellar Parameters For KIC 007879648

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5815^{+157}_{-157}$	$4.520^{+0.060}_{-0.192}$	$-0.260^{+0.300}_{-0.300}$	$0.870^{+0.251}_{-0.084}$	$0.913^{+0.111}_{-0.101}$	$1.955^{+0.515}_{-0.993}$
	+3%/-3%	+1%/-4%	+115%/-115%	+29%/-10%	+12%/-11%	+26%/-51%
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 007879648-01 / KOI 7852.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-50 \pm 6$	$1.01^{+0.50}_{-0.44}$	$2451^{+170}_{-114}$	$4874^{+1520}_{-709}$	$9.721^{+21.725}_{-5.422}$
Alt.	$-63 \pm 7$	$1.05^{+0.47}_{-0.45}$	$2449^{+168}_{-111}$	$5090^{+1578}_{-741}$	$12^{+23}_{-6}$

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

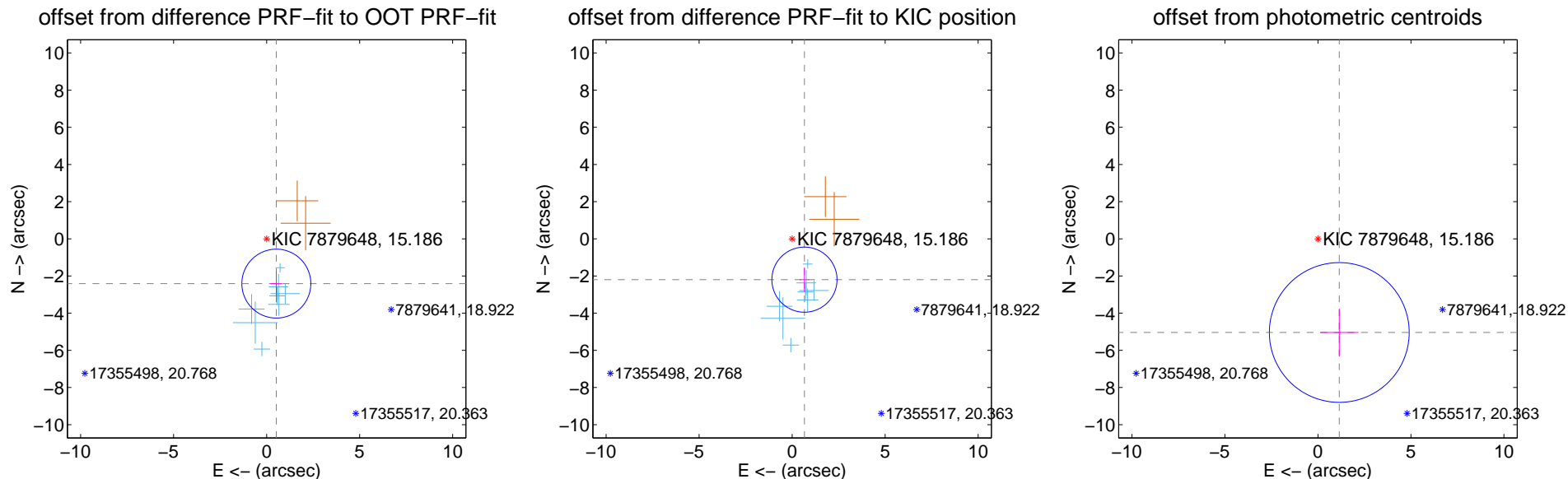
## DV Centroid Data

Supplemental centroid analysis for 007879648-01. Kepler magnitude: 15.19. Transit SNR 12.05

There are 8 quarters with good PRF difference image offsets

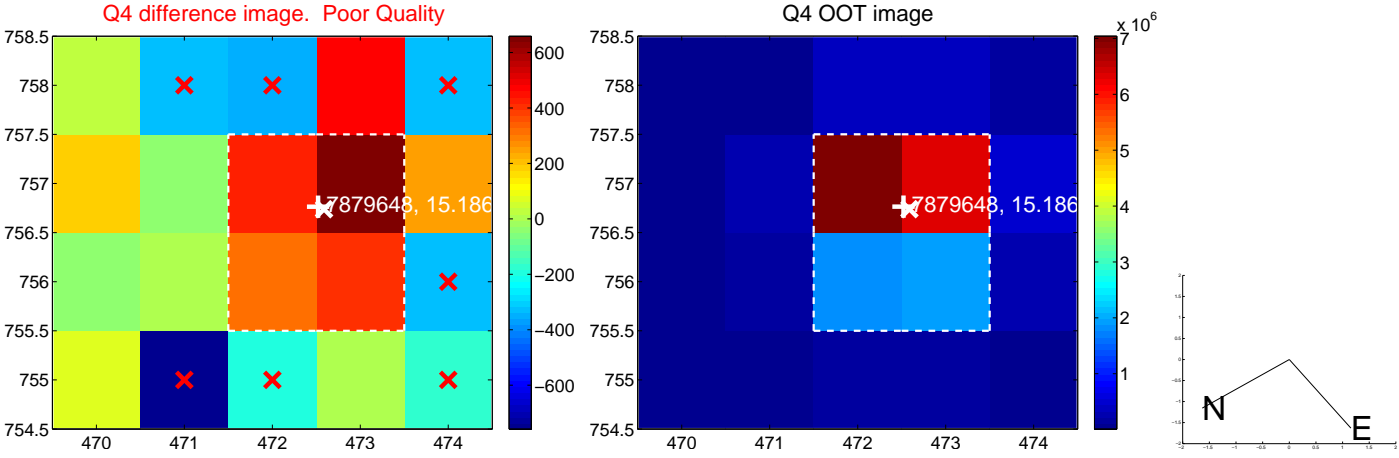
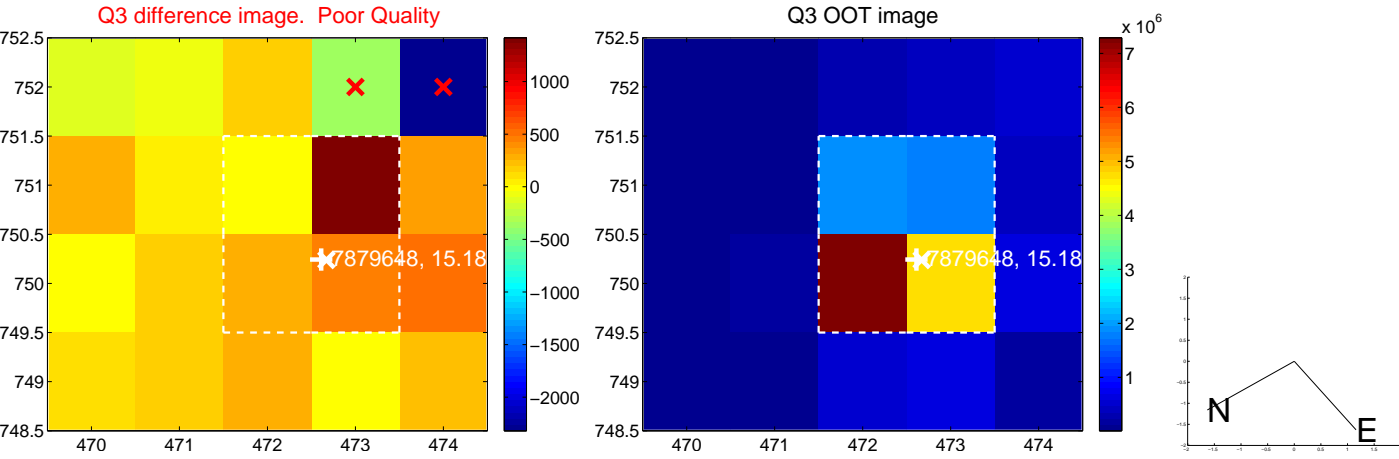
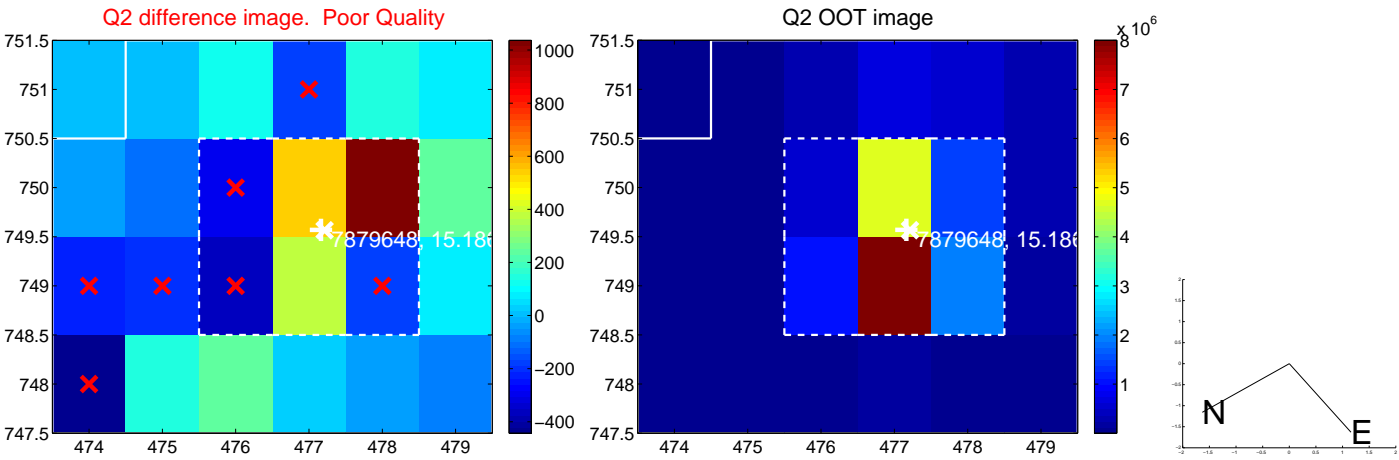
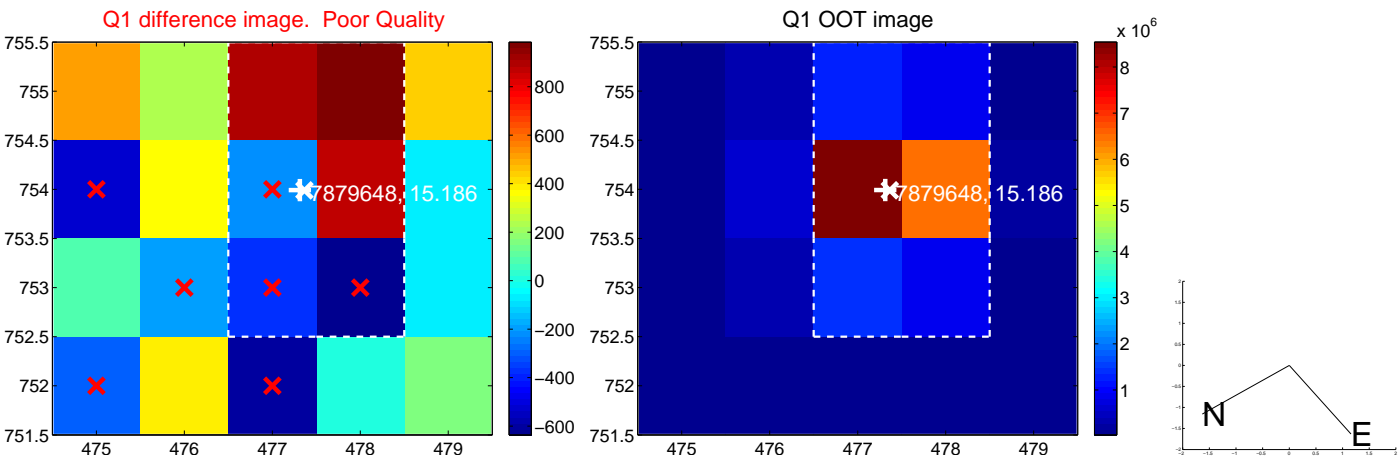
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.466 \pm 0.618$	3.99	$-0.522 \pm 0.315$	$-2.410 \pm 0.690$
PRF-fit source offset from KIC position	$2.294 \pm 0.584$	3.93	$-0.662 \pm 0.256$	$-2.197 \pm 0.663$
photometric centroid source offset	$5.17 \pm 1.25$	4.12	$-1.15 \pm 1.03$	$-5.04 \pm 1.26$

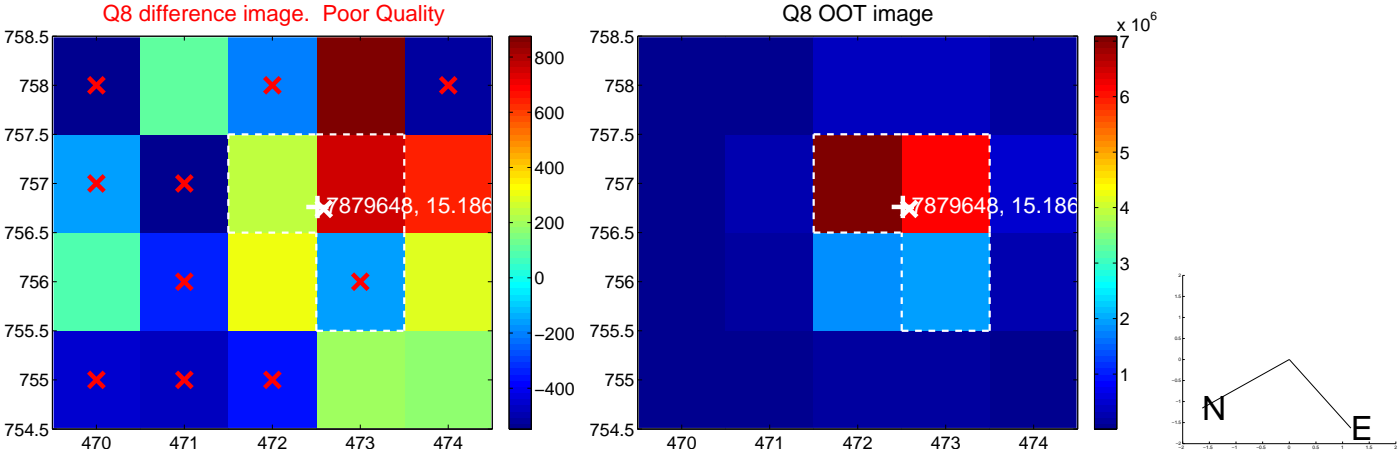
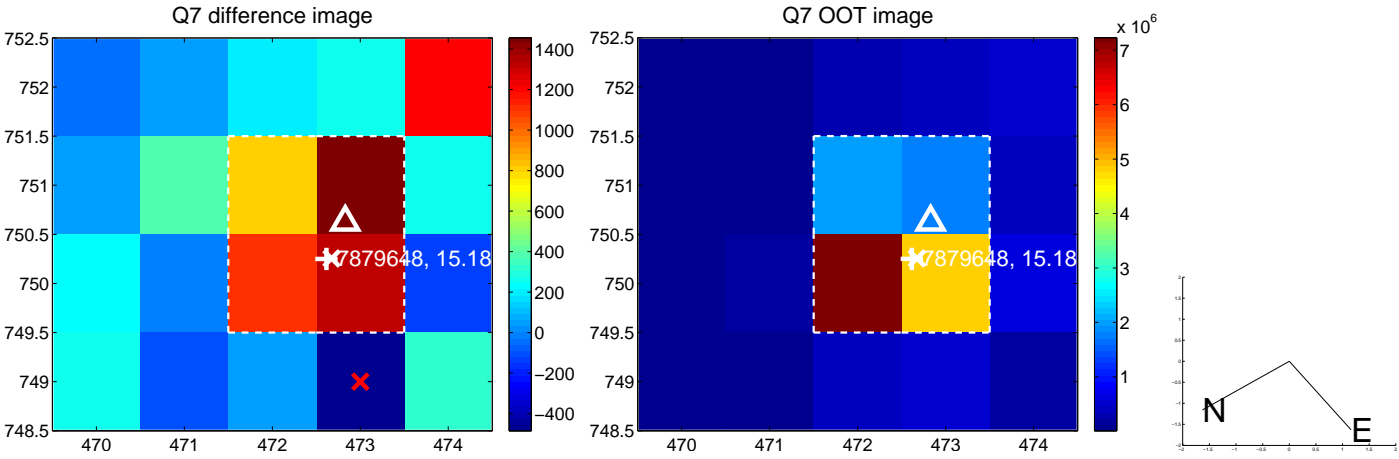
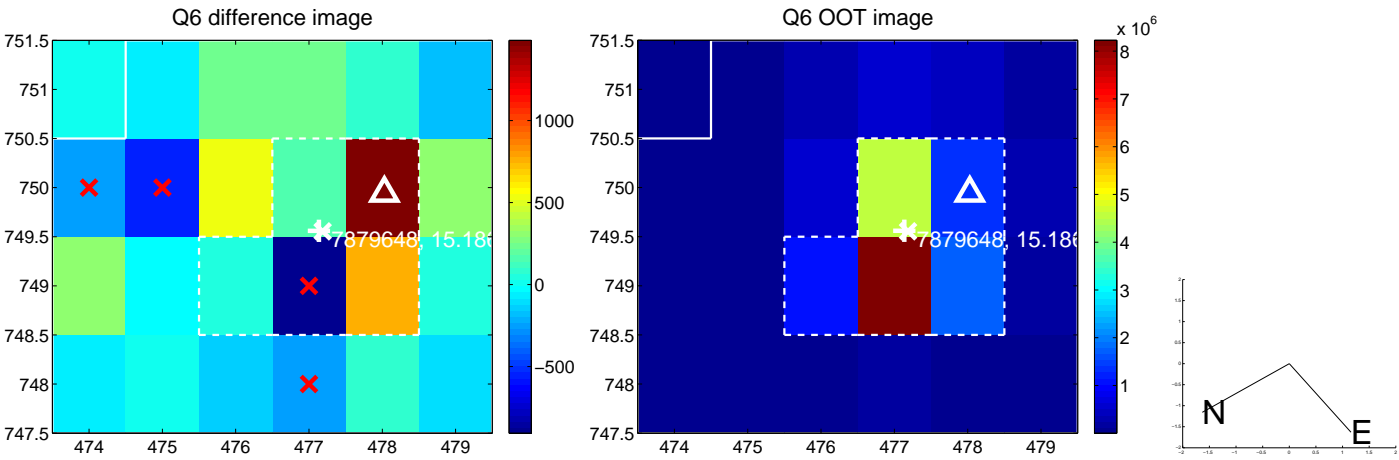
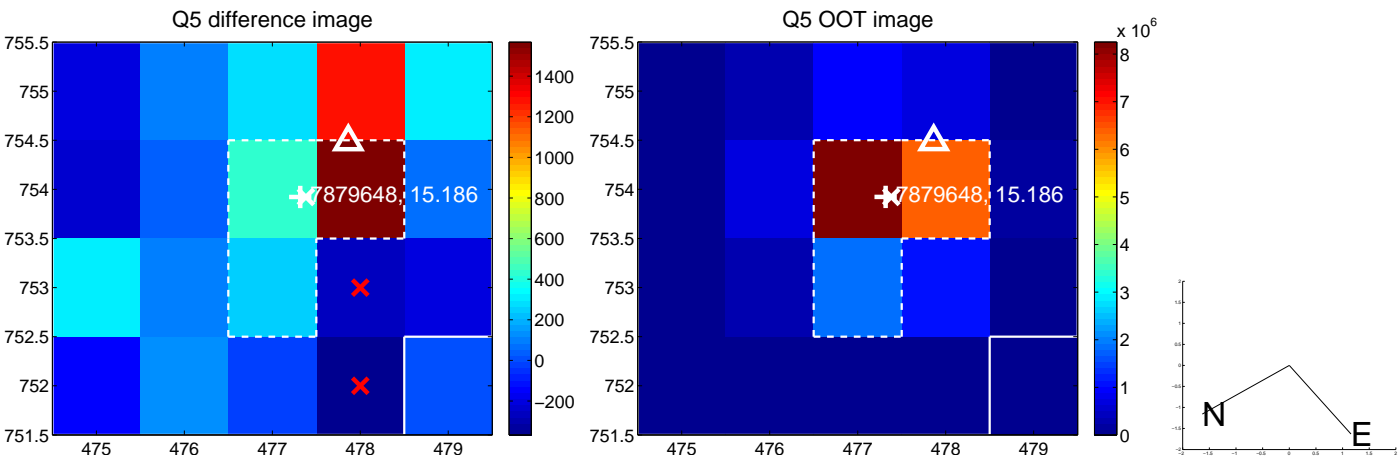


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

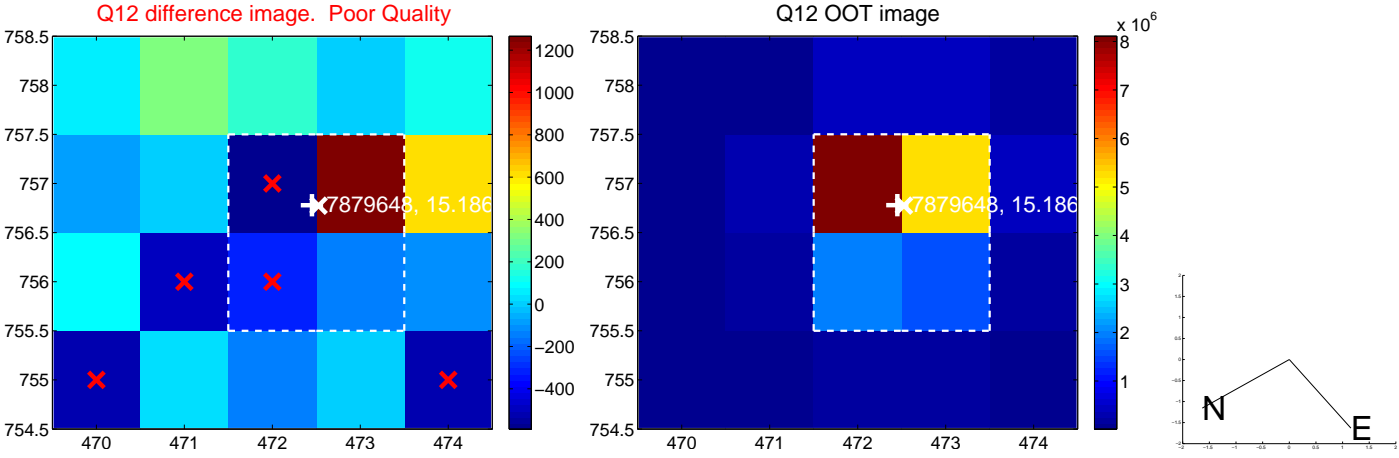
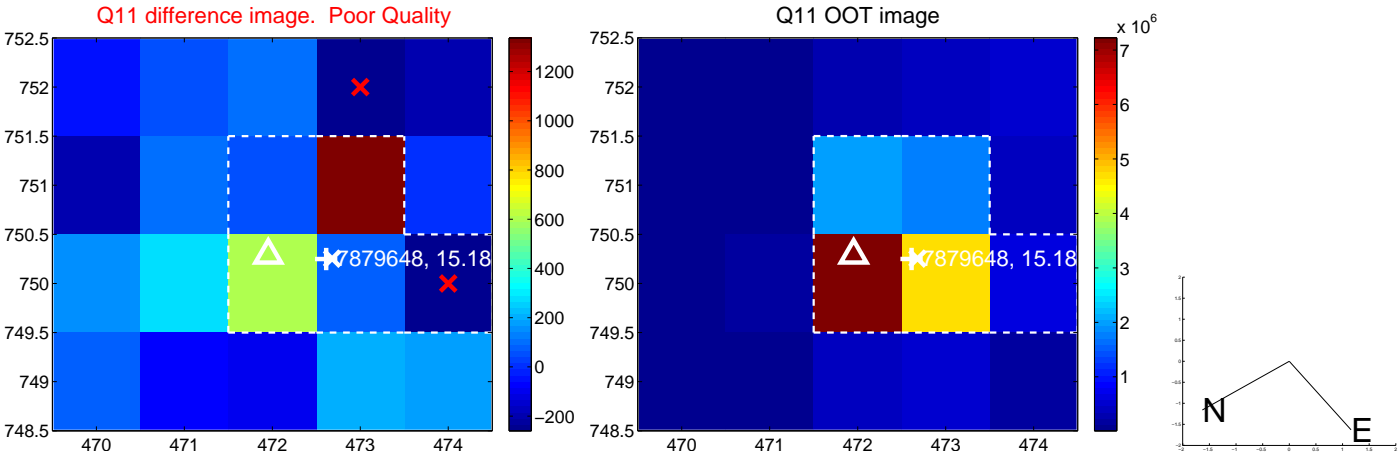
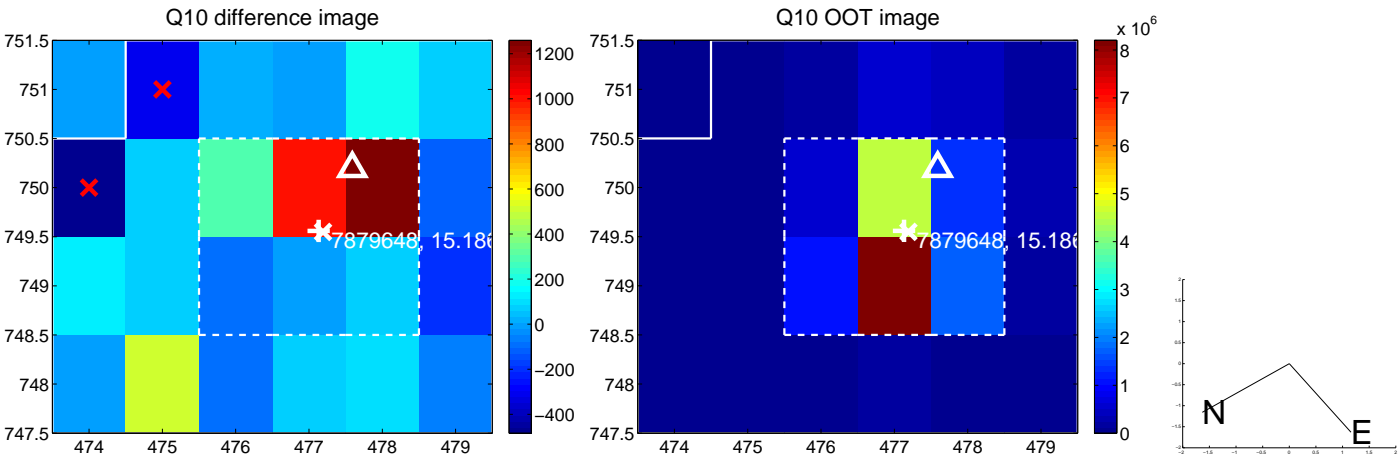
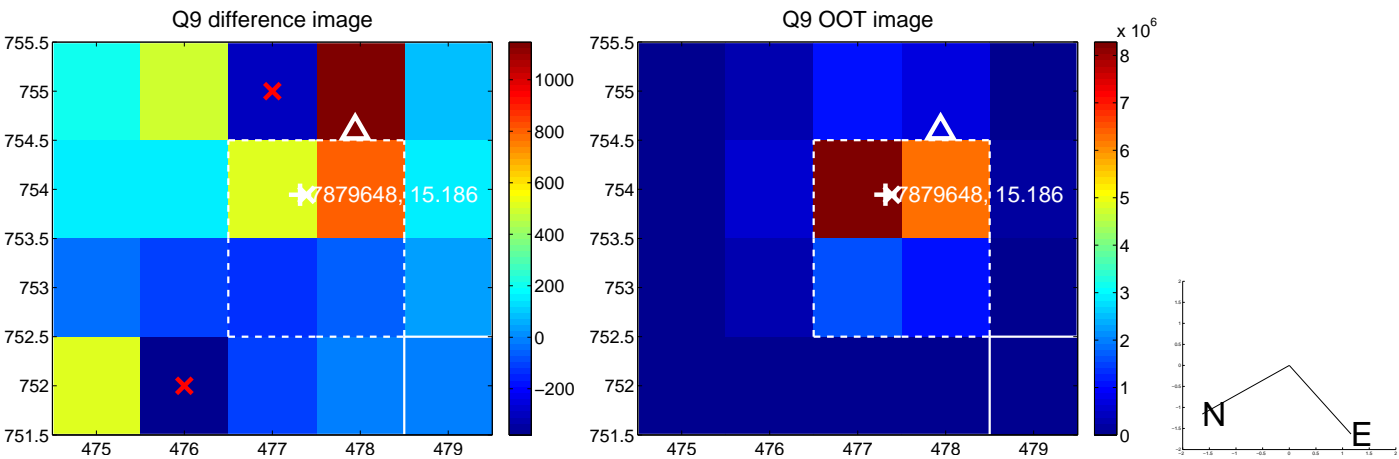


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

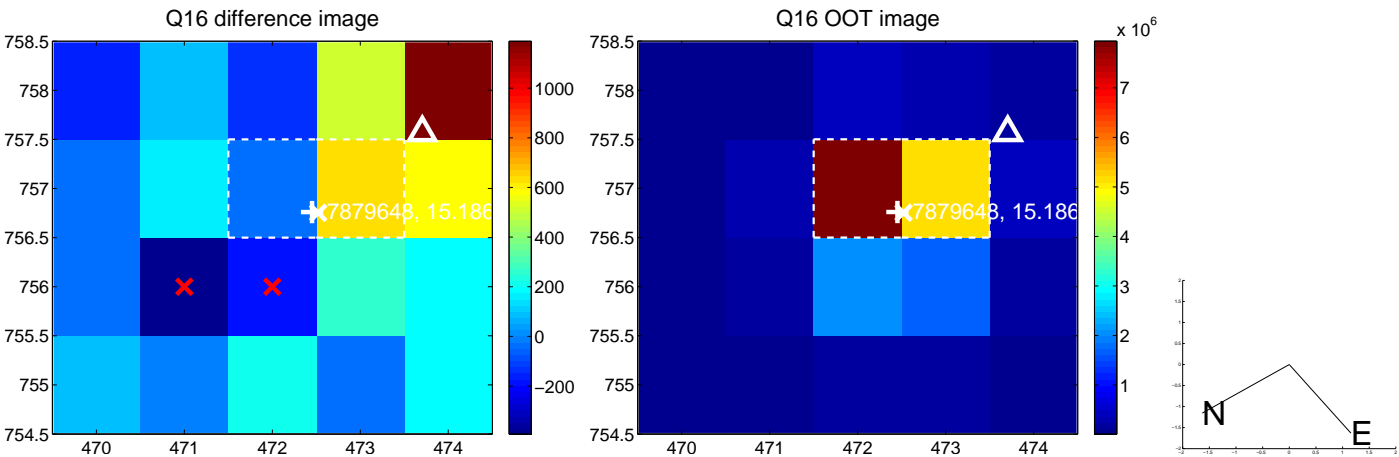
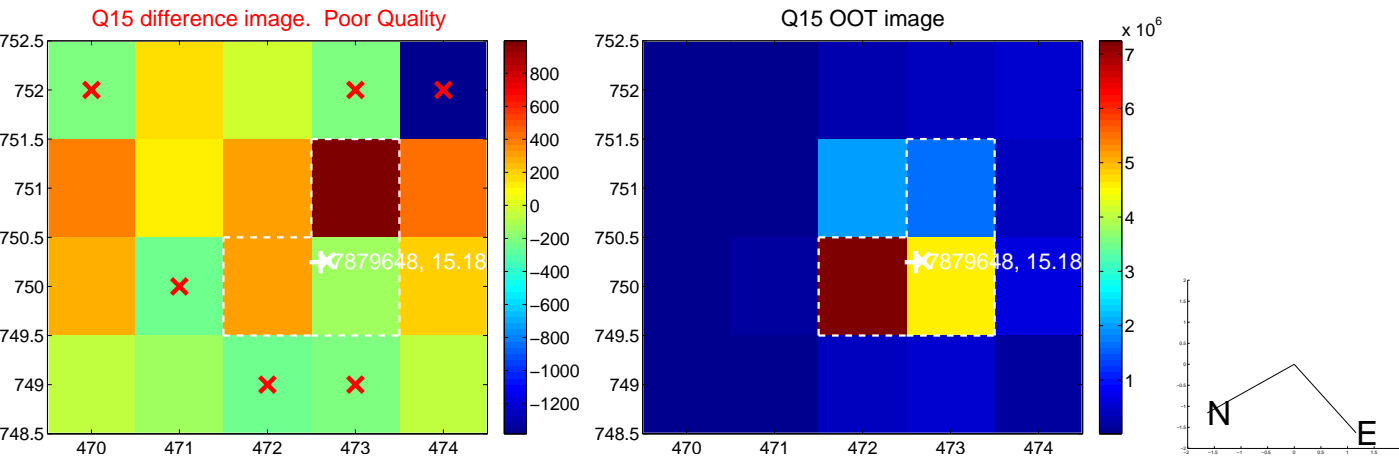
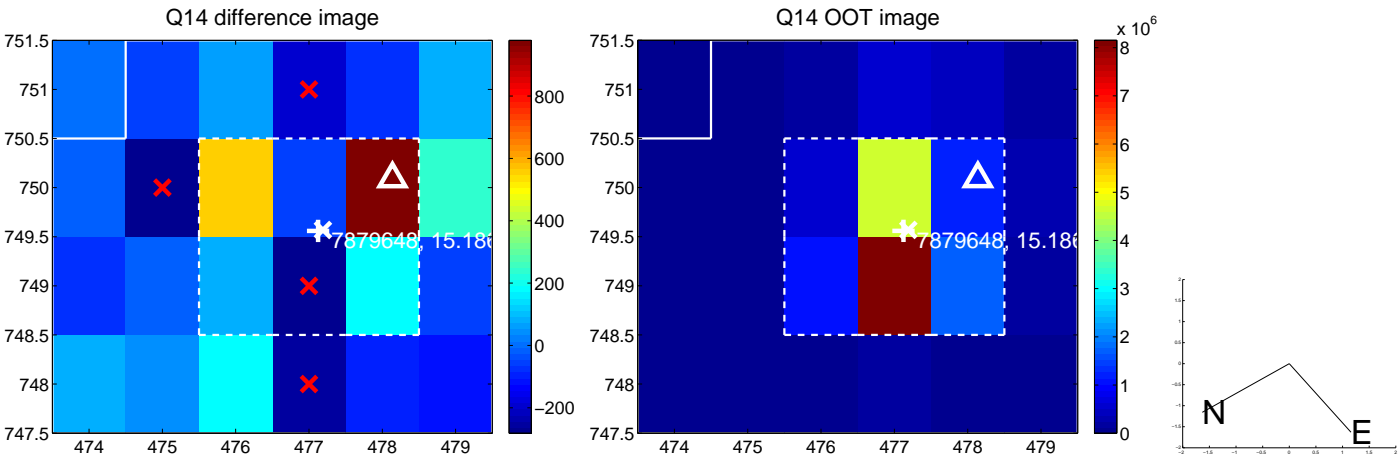
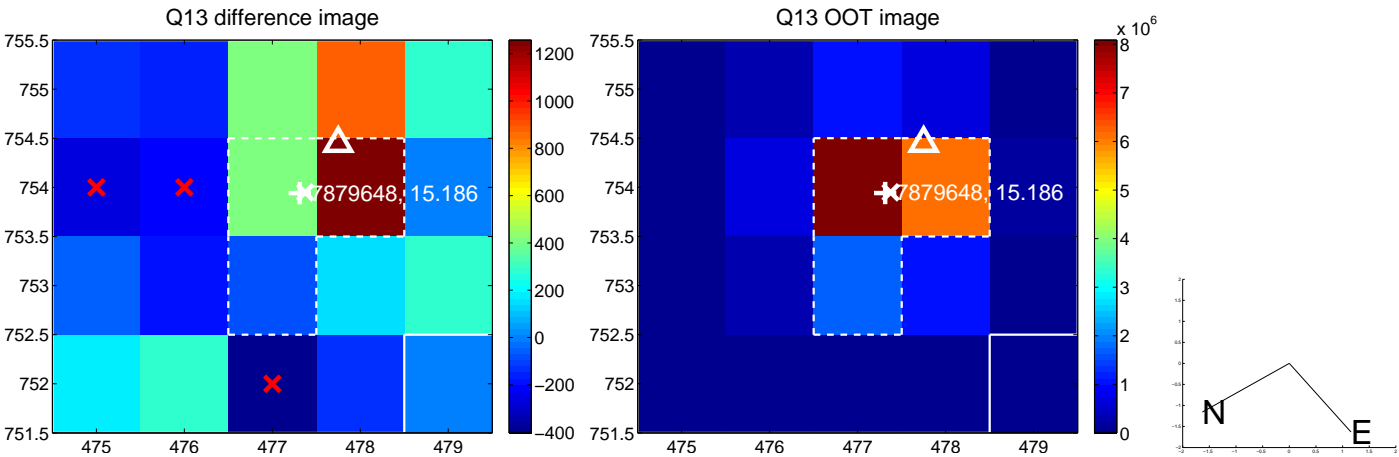




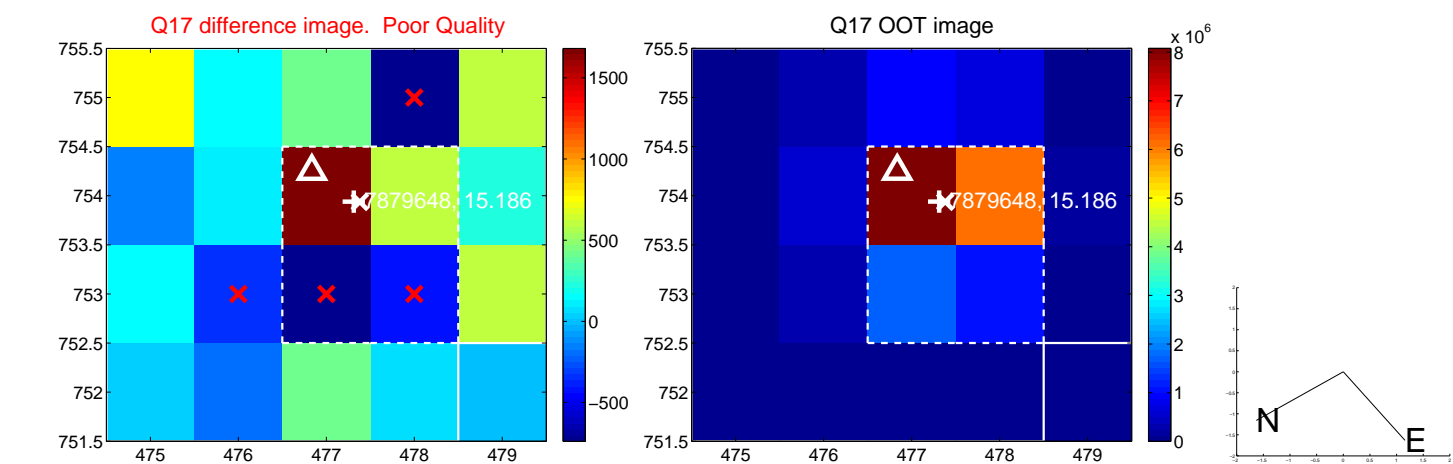
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



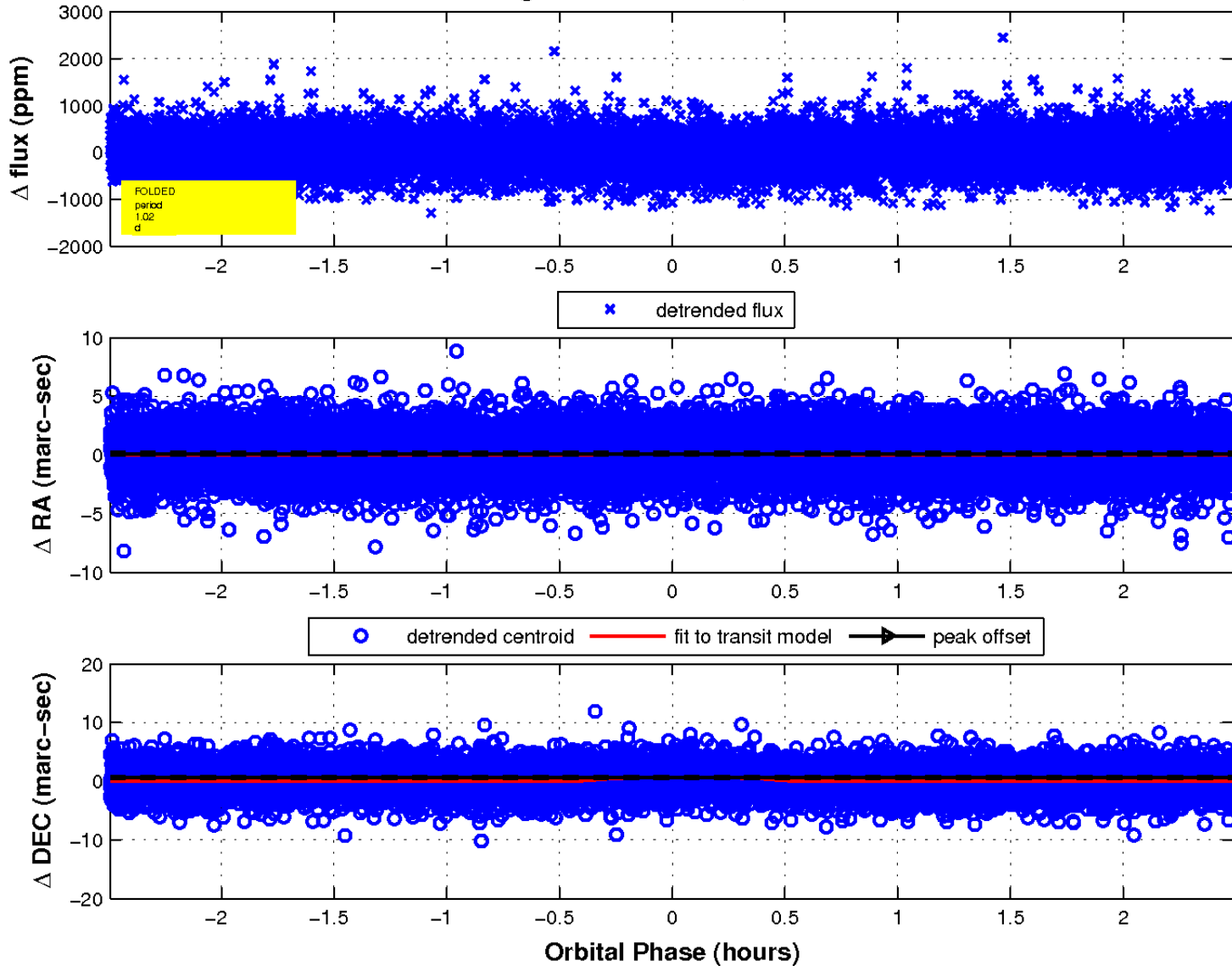
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



# UKIRT Image

Declination

