

# KIC 007968921

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007968921-01	OBS	No	579.158142	393.043787	839.8	17.993	7.6	7.4	0.77	5522	2.25	0.32

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007968921-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

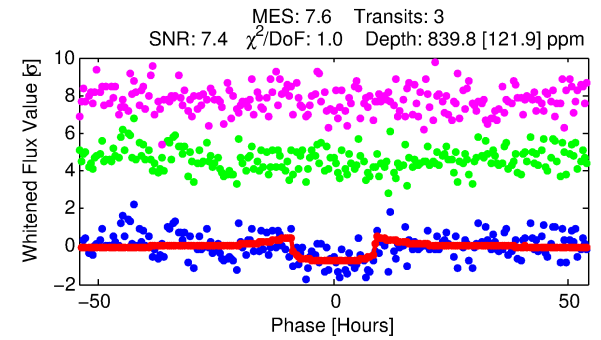
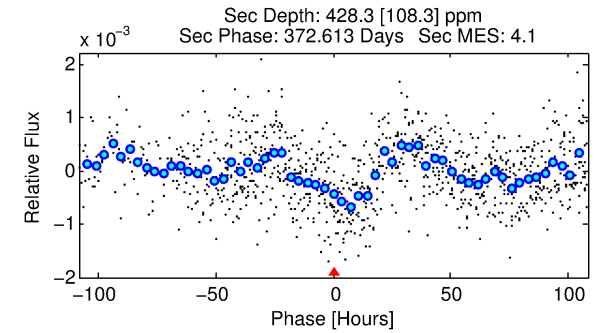
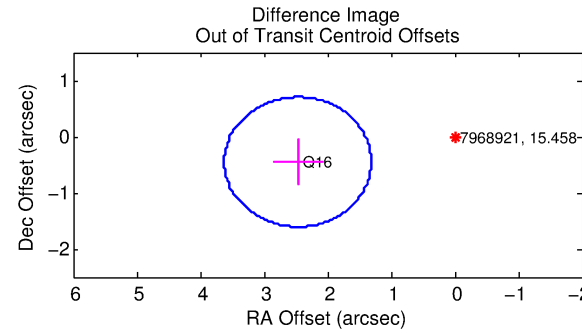
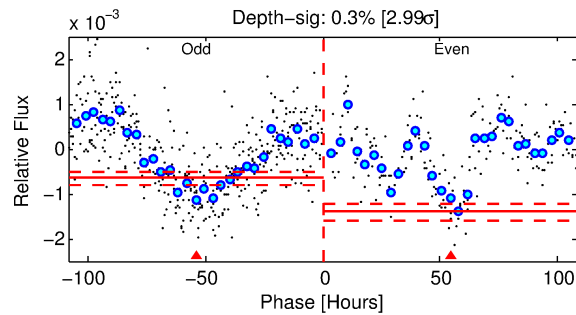
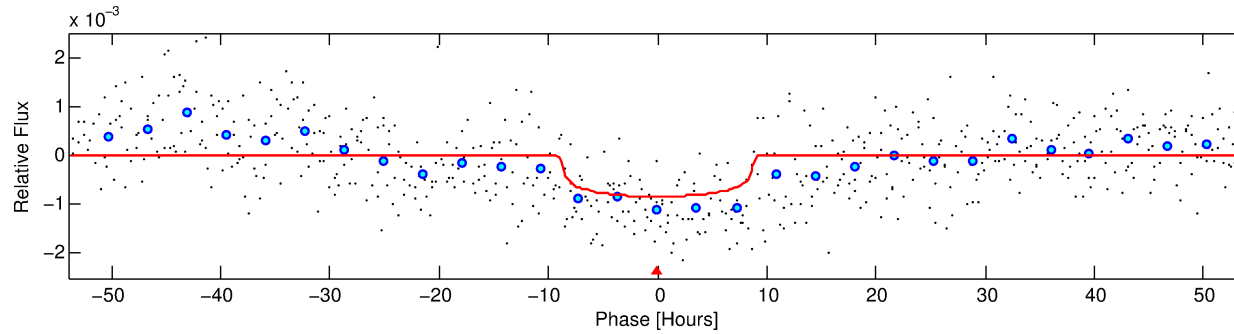
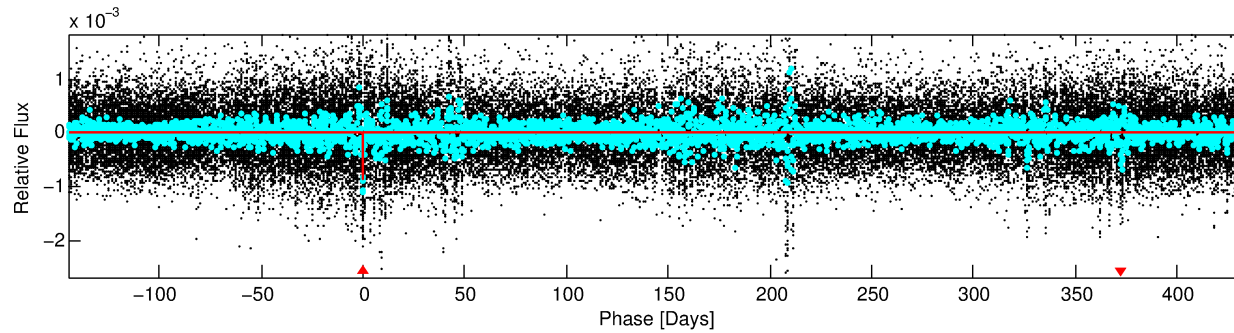
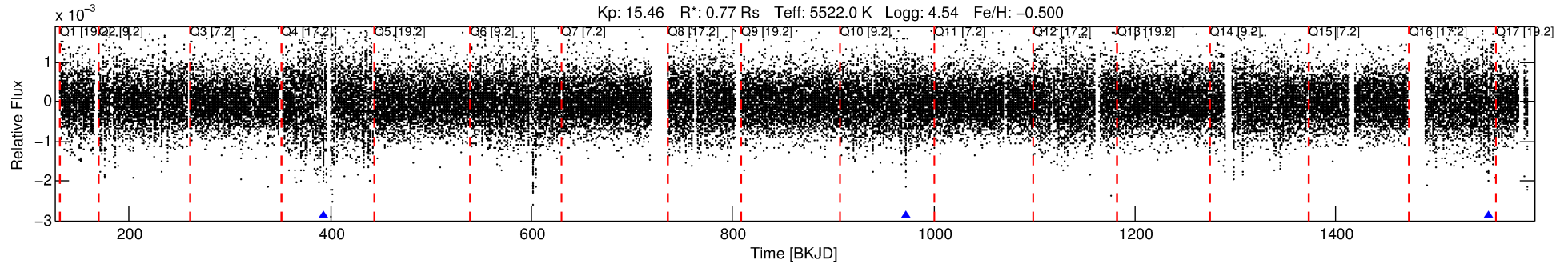
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007968921-01

No Significant Match Found

# DV One-Page Summary

KIC: 7968921 Candidate: 1 of 1 Period: 579.158 d



## DV Fit Results:

Period = 579.15814 [0.01623] d  
Epoch = 393.0438 [0.0204] BKJD  
Rp/R\* = 0.0268 [0.0132]  
a/R\* = 233.79 [500.16]  
b = 0.39 [4.71]  
Seff = 0.32 [0.08]  
Teq = 192 [11] K  
Rp = 2.25 [1.17] Re  
a = 1.2394 [0.1707] AU  
Ag = 71623.91 [74474.08] [0.96σ]  
Teffp = 4857 [1250] K [3.73σ]

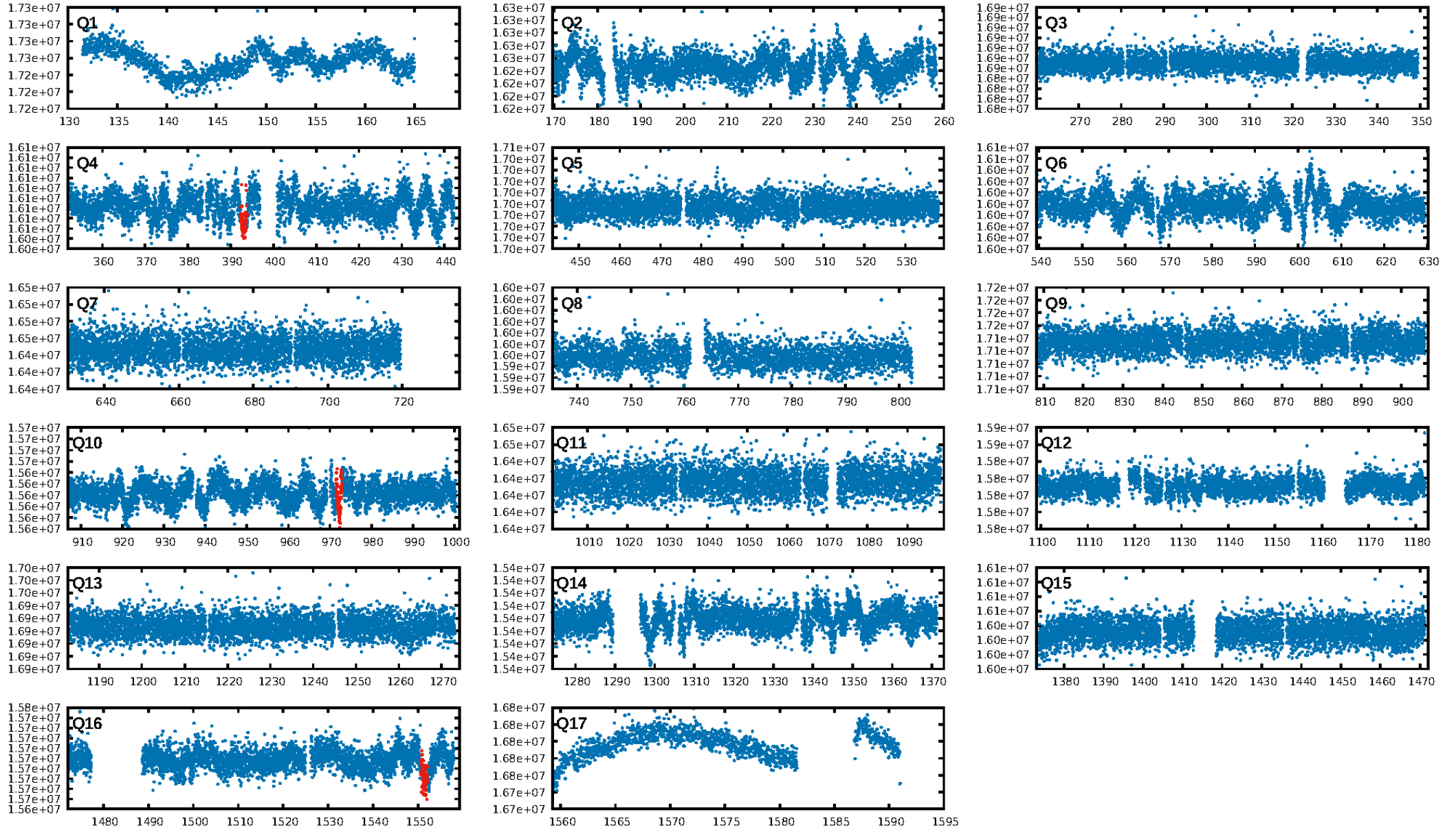
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 24.5%  
ModelChiSquareGof-sig: 99.9%  
**Bootstrap-pfa: 3.33e-09**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 7.507  
Centroid-sig: 0.6%  
Centroid-so: 6.428 arcsec [2.55σ]  
**OotOffset-rm: 2.510 arcsec [6.52σ]**  
**KicOffset-rm: 2.678 arcsec [6.95σ]**  
OotOffset-st: 0/0/1/0 [1]  
KicOffset-st: 0/0/1/0 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [2/2]

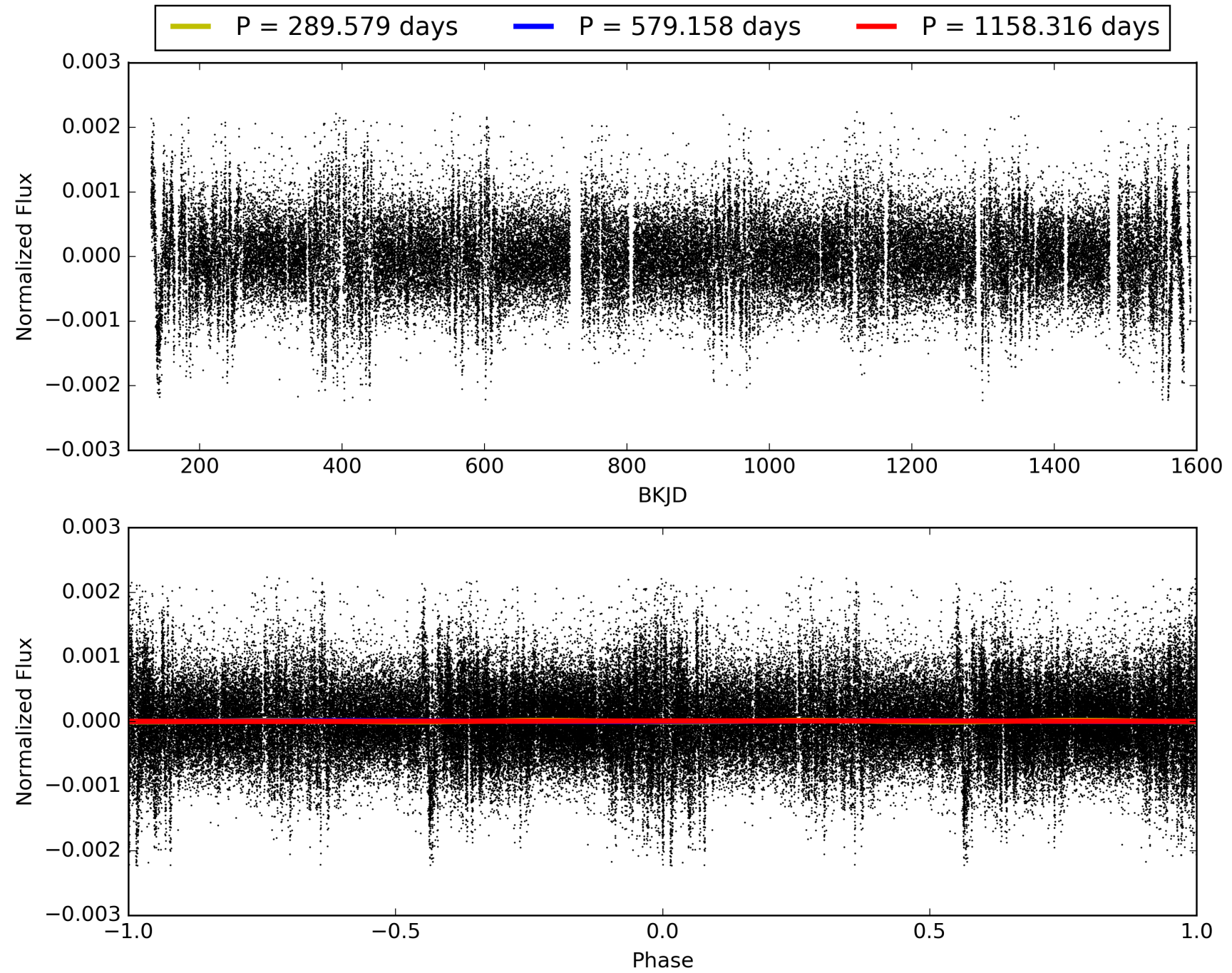
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 02:27:05 Z

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

# TCE 007968921-01, PDC Light Curves

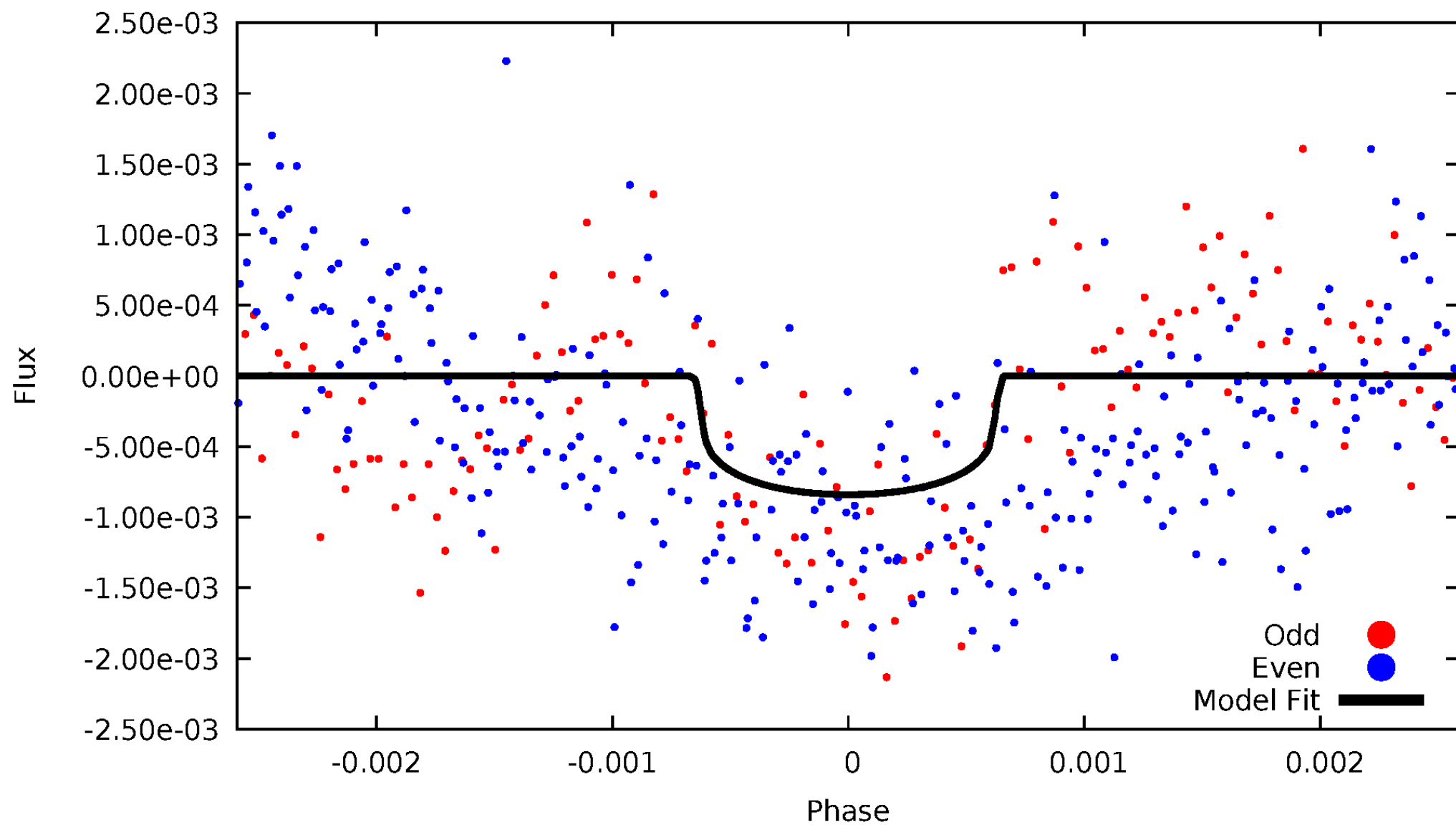


TCE 007968921-01



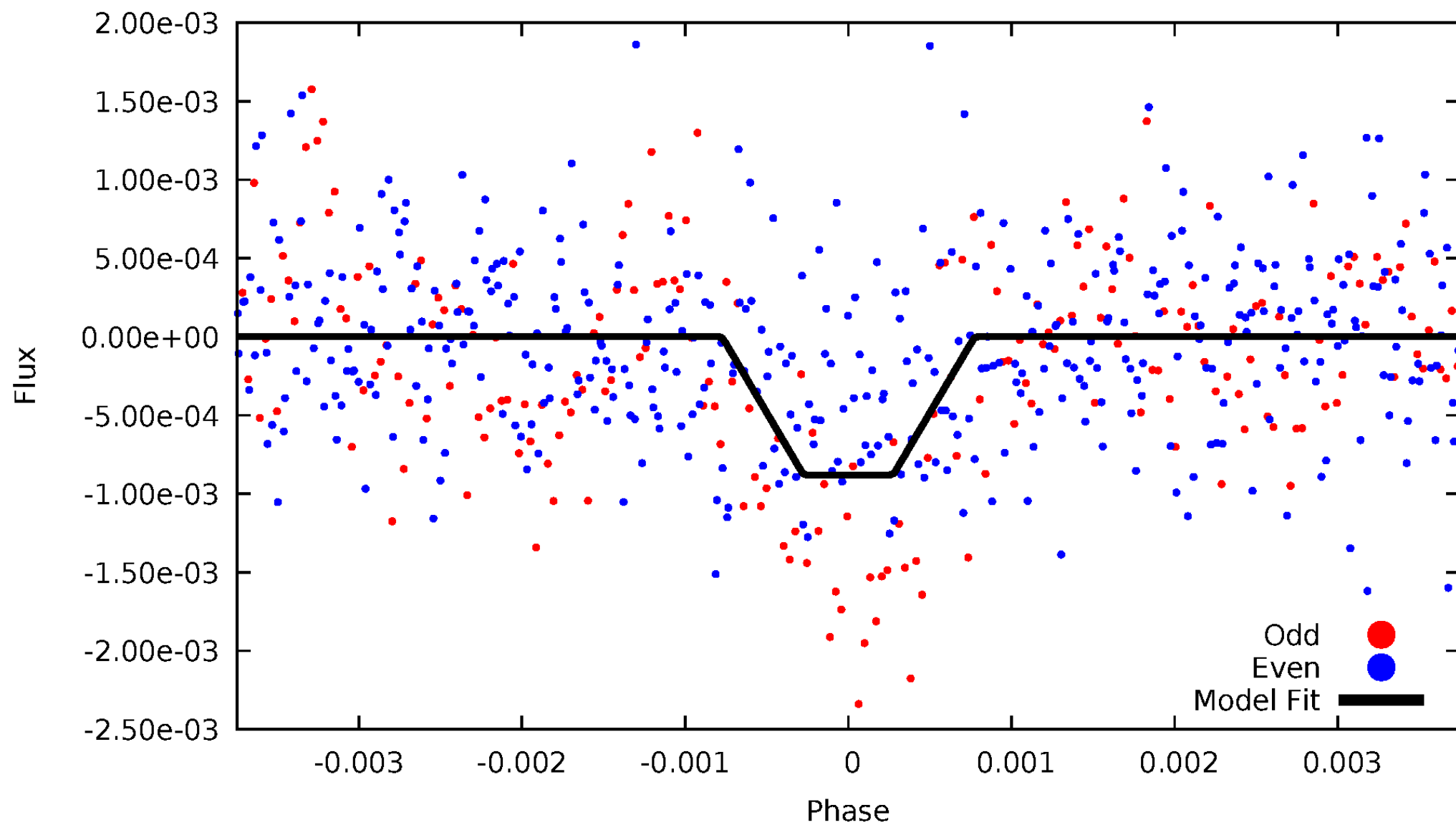
# DV Odd/Even

TCE 007968921-01



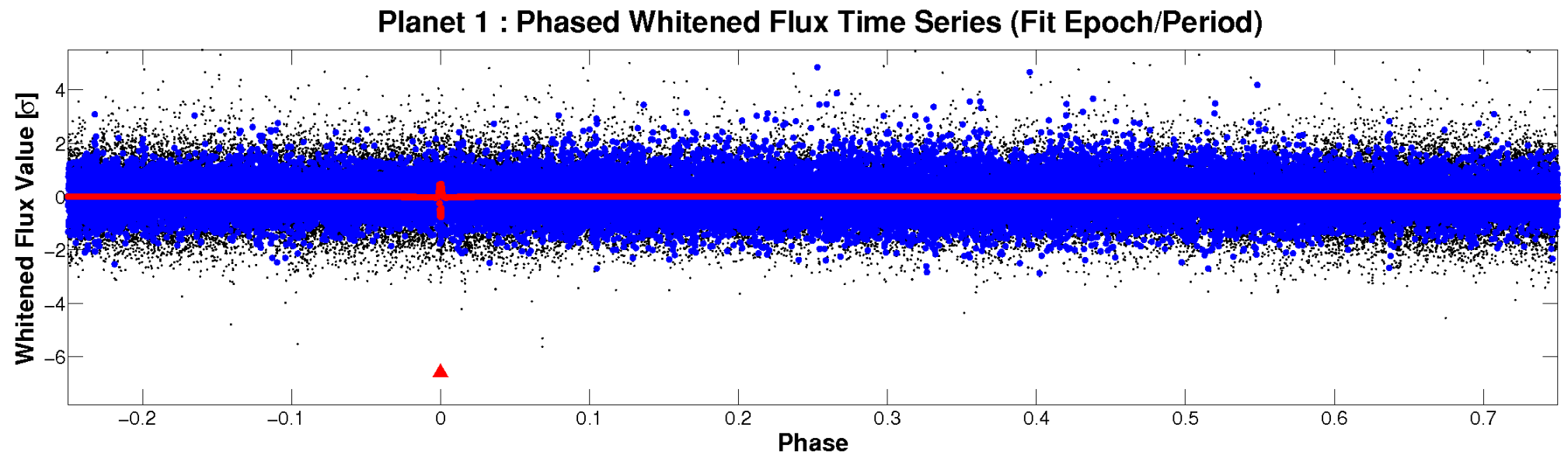
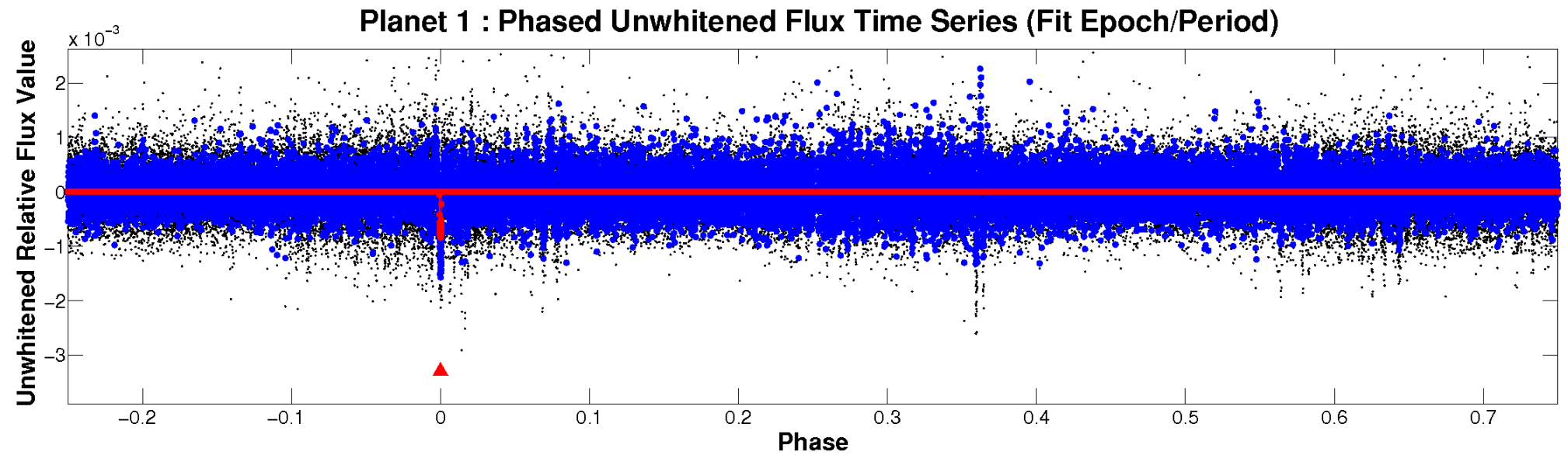
# ALT Odd/Even

TCE 007968921-01



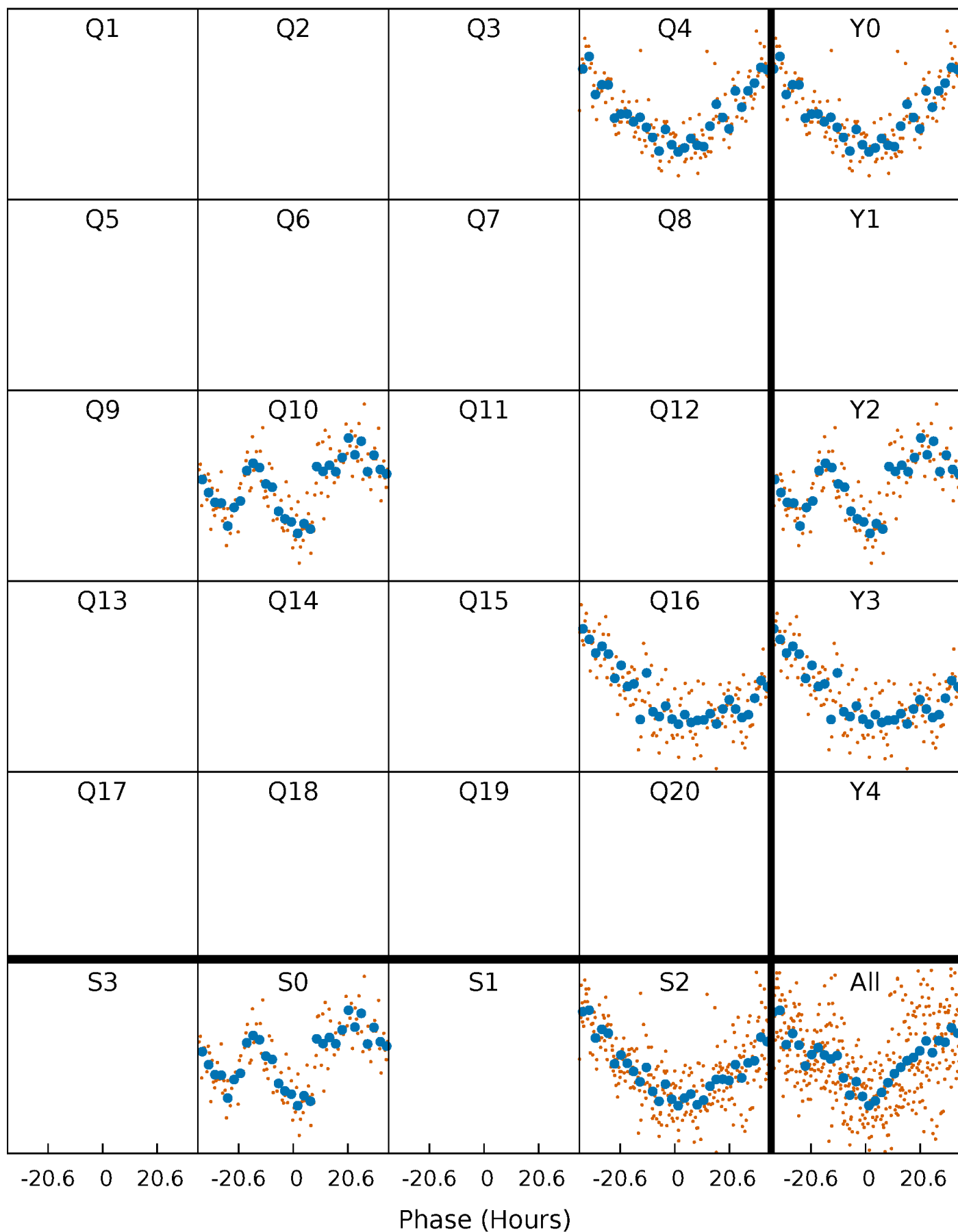


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

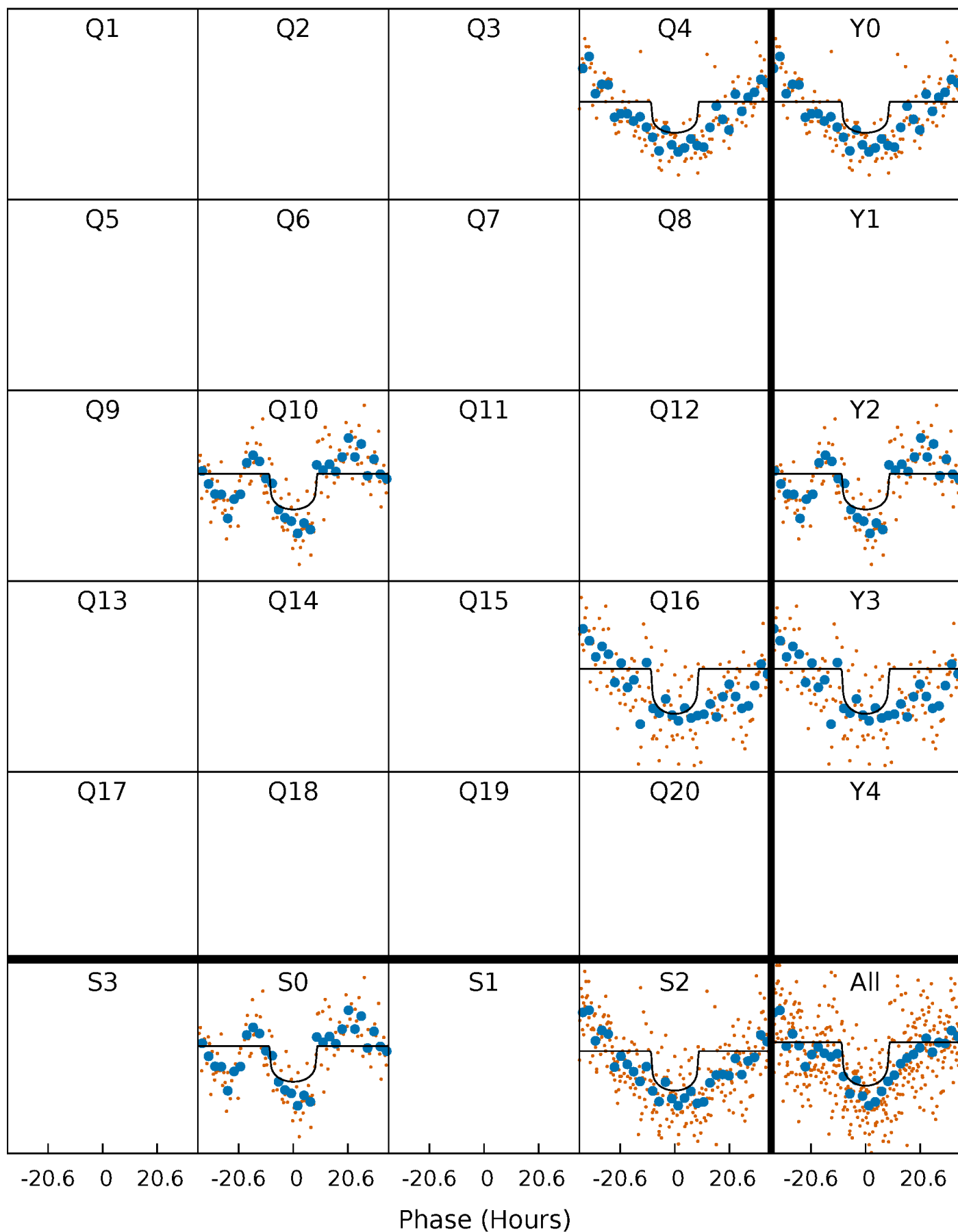
TCE 007968921-01 P=579.158142 Days  $T_0=393.043787$  (BKJD)





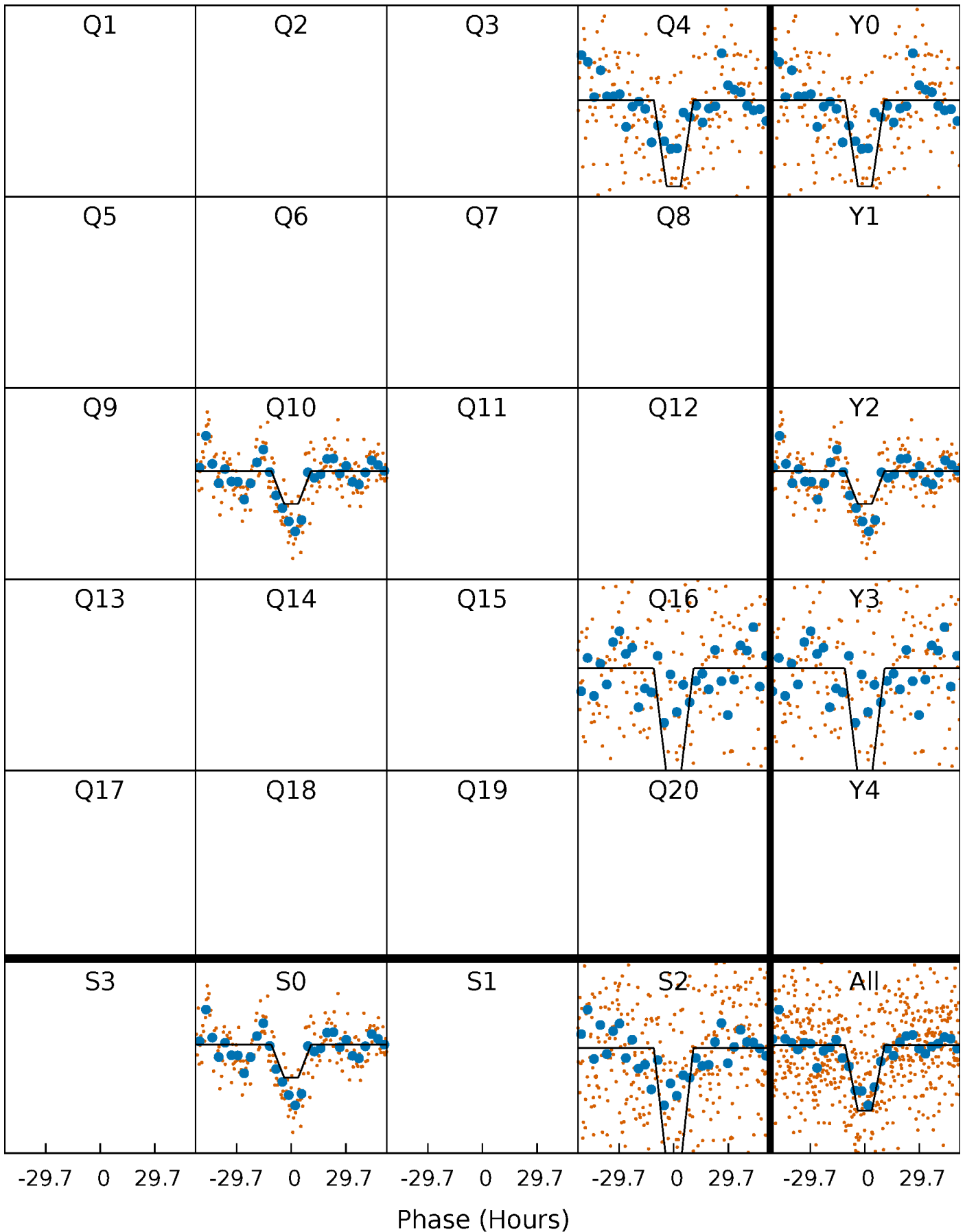
# DV Quarter-Phased Transit Curves

TCE 007968921-01 P=579.158142 Days  $T_0=393.043787$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

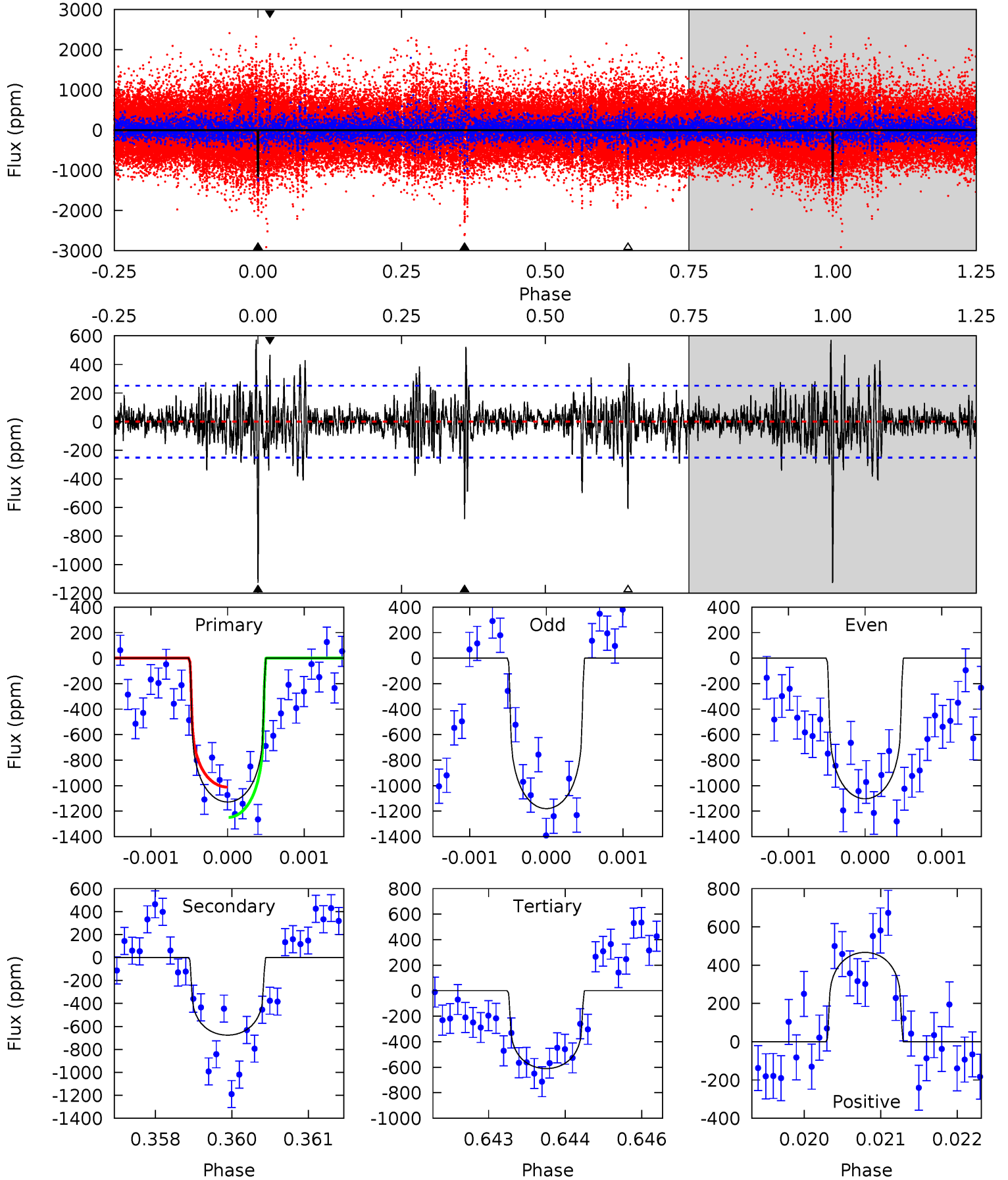
TCE 007968921-01 P=578.998545 Days  $T_0=393.260227$  (BKJD)



# DV Model-Shift Uniqueness Test

007968921-01, P = 579.158142 Days, E = 393.043787 Days

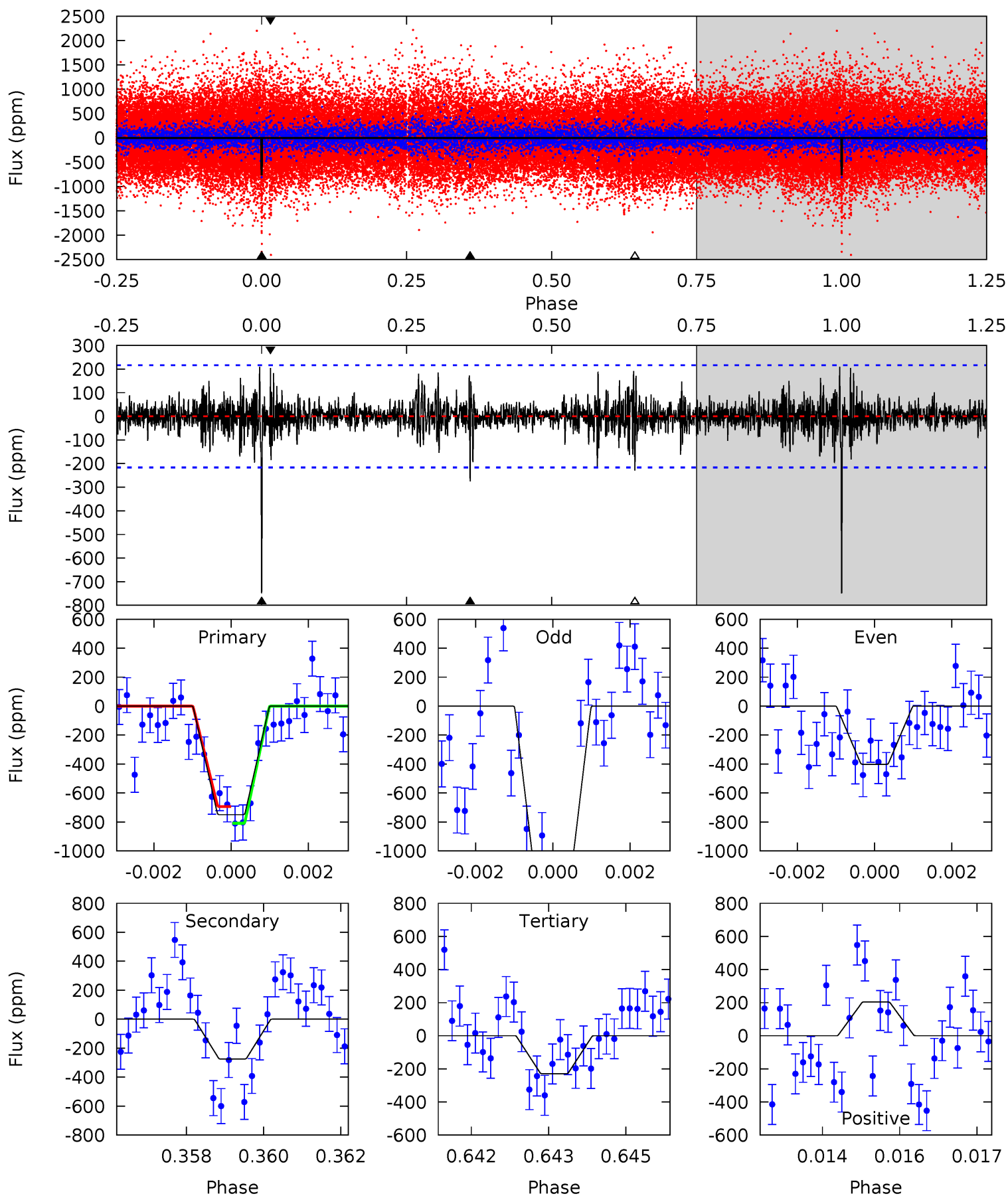
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.3	14.5	13.1	10.0	5.40	3.21	2.32	11.1	14.2	1.41	4.50	0.79	0.96	0.34	2.55



# Alt Model-Shift Uniqueness Test

007968921-01, P = 578.998545 Days, E = 393.260227 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
18.6	6.81	5.69	5.05	5.37	3.16	1.16	12.9	13.5	1.12	1.76	12.0	1.50	0.22	1.43



### Stellar Parameters For KIC 007968921

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5522^{+180}_{-163}$	$4.544^{+0.076}_{-0.105}$	$-0.500^{+0.300}_{-0.300}$	$0.770^{+0.129}_{-0.086}$	$0.756^{+0.098}_{-0.053}$	$2.333^{+0.810}_{-0.763}$
	+3%/-3%	+2%/-2%	+60%/-60%	+17%/-11%	+13%/-7%	+35%/-33%
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 007968921-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-676 \pm 46$	$2.32^{+1.10}_{-1.11}$	$270^{+13}_{-11}$	$5423^{+2117}_{-809}$	$106457^{+289847}_{-55686}$
Alt.	$-275 \pm 40$	$2.58^{+1.17}_{-1.18}$	$270^{+14}_{-11}$	$4293^{+1205}_{-531}$	$34691^{+80153}_{-19023}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature

$T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{\text{obs}}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{\text{obs}} \gg T_{\text{max}}$  AND  $A_{\text{obs}} \gg 1.0$

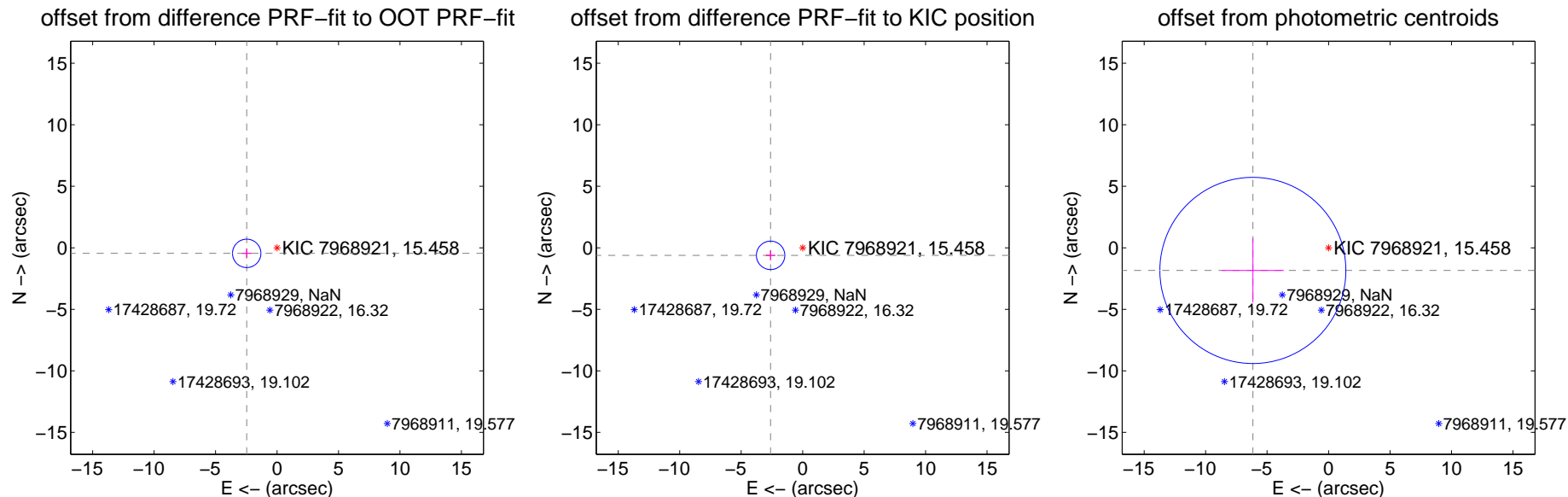
## DV Centroid Data

Supplemental centroid analysis for 007968921-01. Kepler magnitude: 15.46. Transit SNR 7.41

There are 0 quarters with good PRF difference image offsets

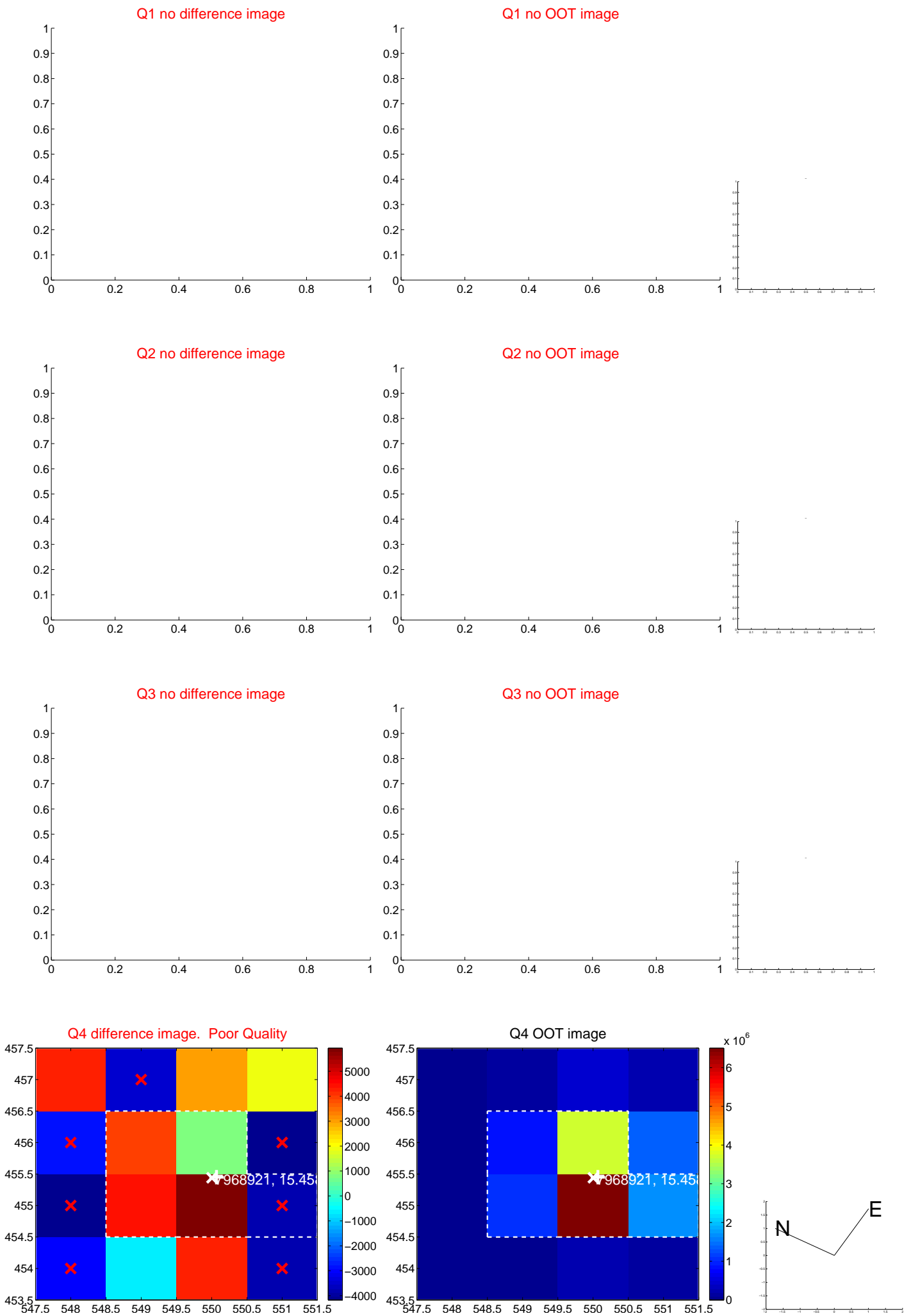
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.510 \pm 0.385$	6.52	$2.468 \pm 0.384$	$-0.452 \pm 0.403$
PRF-fit source offset from KIC position	$2.678 \pm 0.385$	6.95	$2.607 \pm 0.384$	$-0.615 \pm 0.403$
photometric centroid source offset	$6.43 \pm 2.52$	2.55	$6.16 \pm 2.51$	$-1.84 \pm 2.61$



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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.





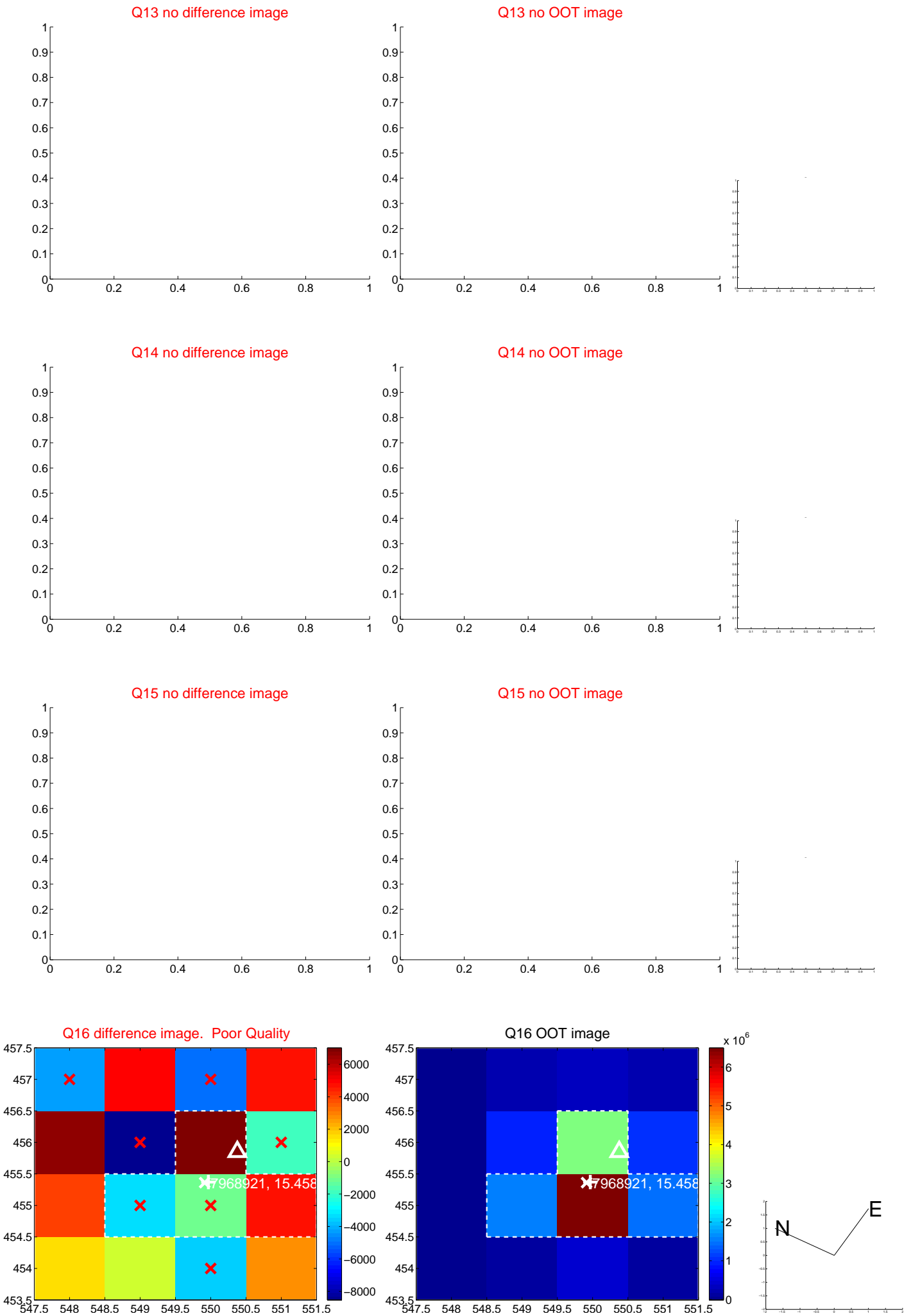
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



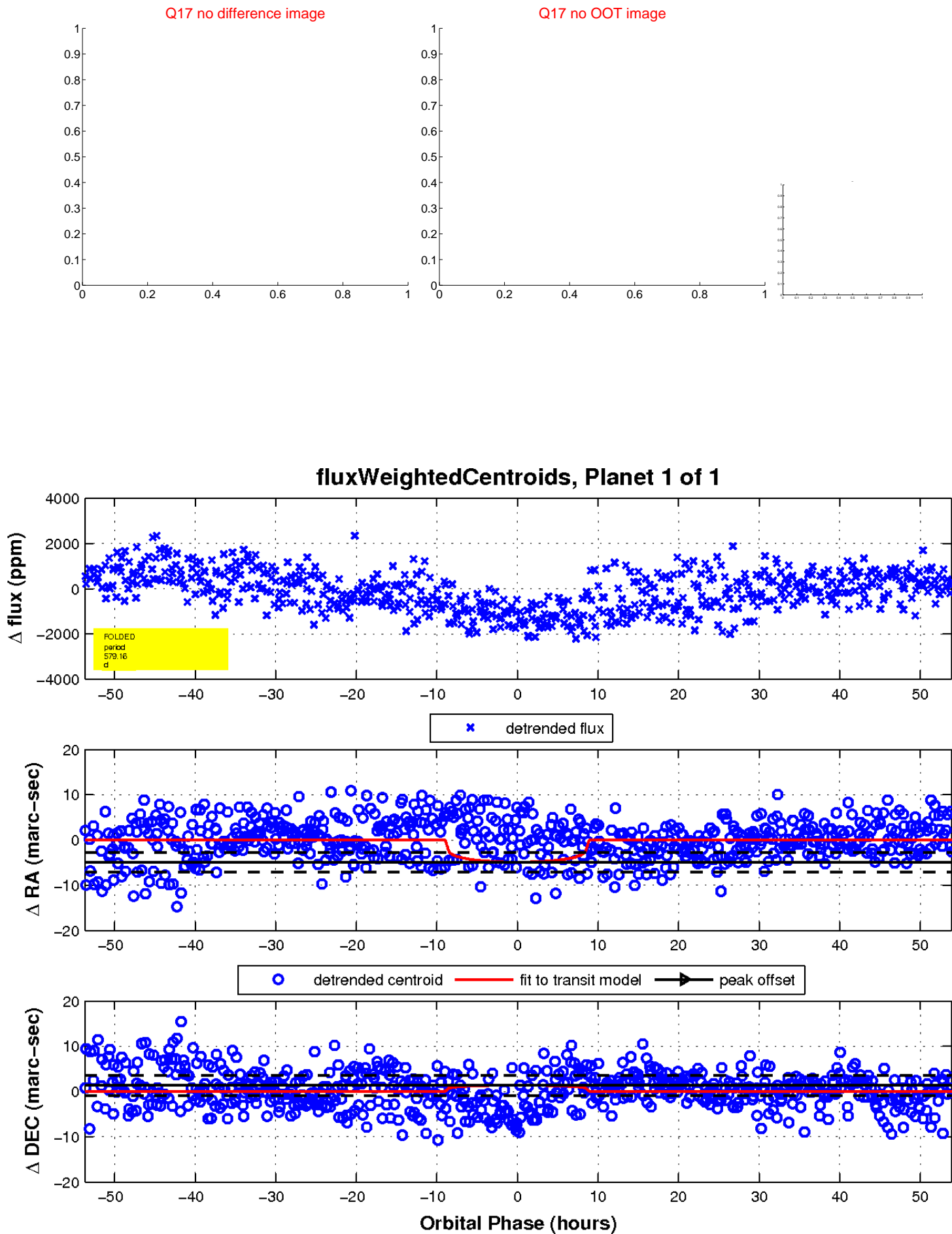
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

Declination

