

# KIC 007968579

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007968579-01	OBS	No	569.385618	402.858891	1780.2	18.479	8.2	8.6	0.99	5688	7.93	0.53

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007968579-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—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.

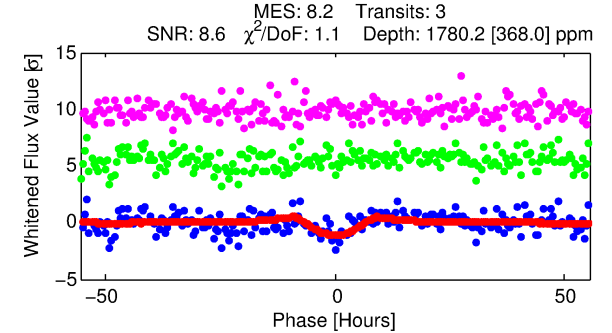
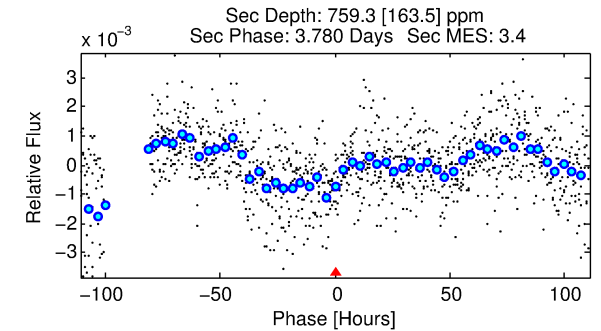
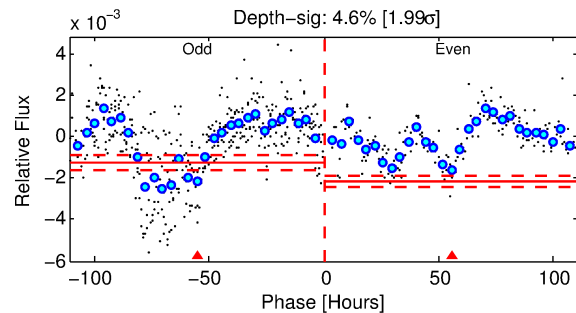
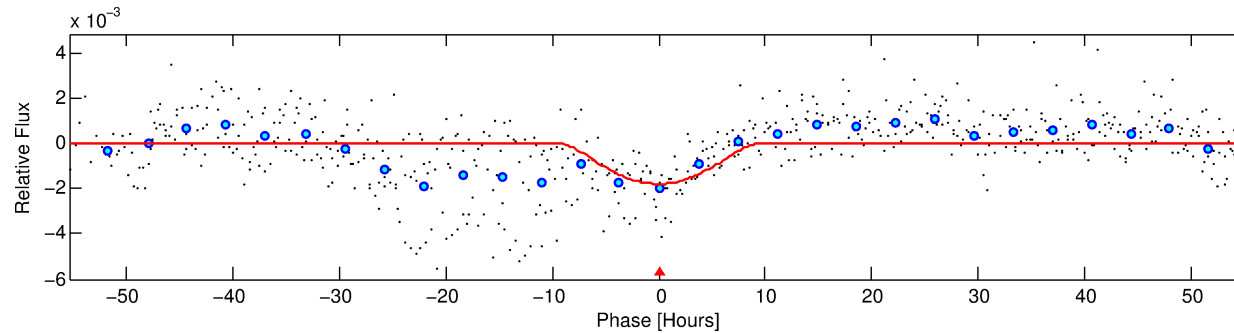
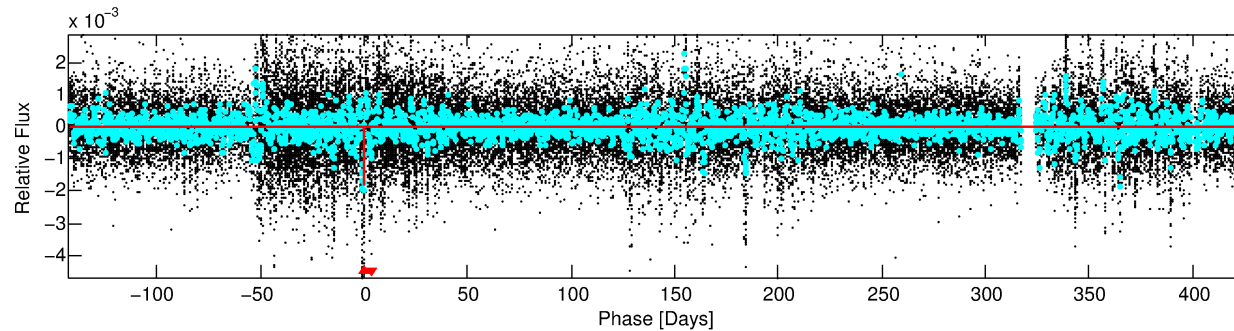
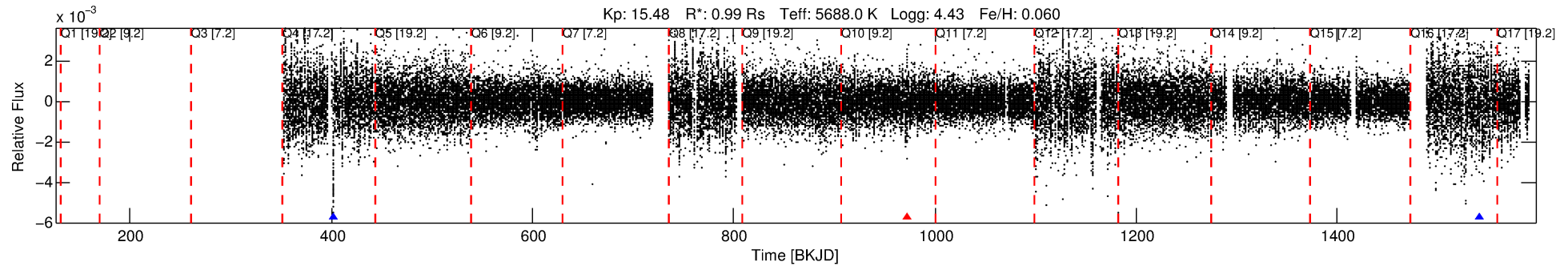
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007968579-01

No Significant Match Found

# DV One-Page Summary

KIC: 7968579 Candidate: 1 of 1 Period: 569.386 d



## DV Fit Results:

Period = 569.38562 [0.03955] d  
Epoch = 402.8589 [0.0458] BKJD  
Rp/R\* = 0.0732 [0.2395]  
a/R\* = 92.78 [67.65]  
b = 1.00 [0.35]  
Seff = 0.52 [0.19]  
Teq = 217 [20] K  
Rp = 7.93 [26.04] Re  
a = 1.3272 [0.3159] AU  
Ag = 11704.75 [76759.64] [0.15σ]  
Teffp = 3491 [5716] K [0.57σ]

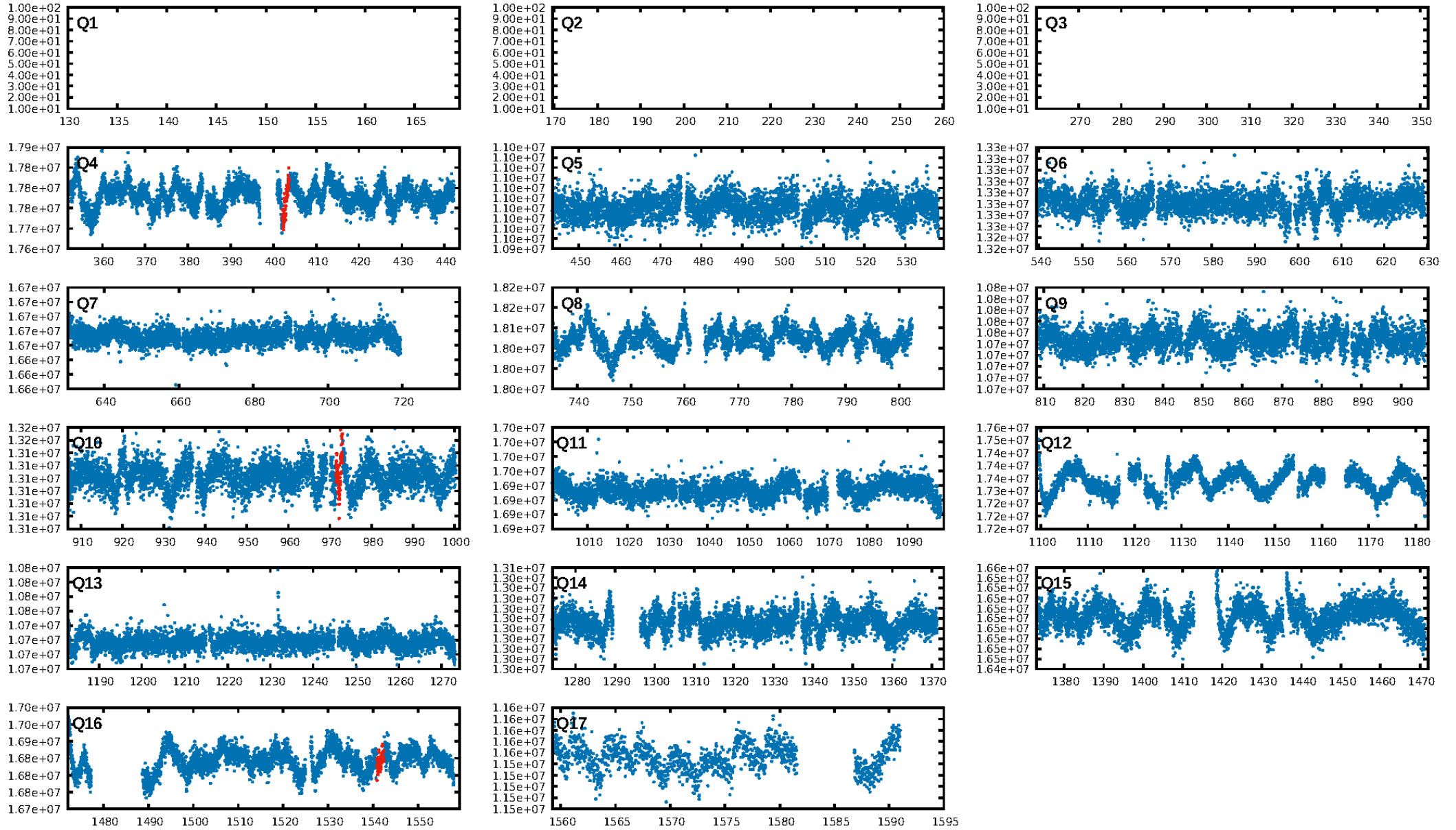
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 92.7%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 3.68e-11  
RollingBand-fgt: 0.67 [2/3]  
GhostDiagnostic-chr: 1.31  
Centroid-sig: 4.4%  
Centroid-so: 4.526 arcsec [24.48σ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [1/1]

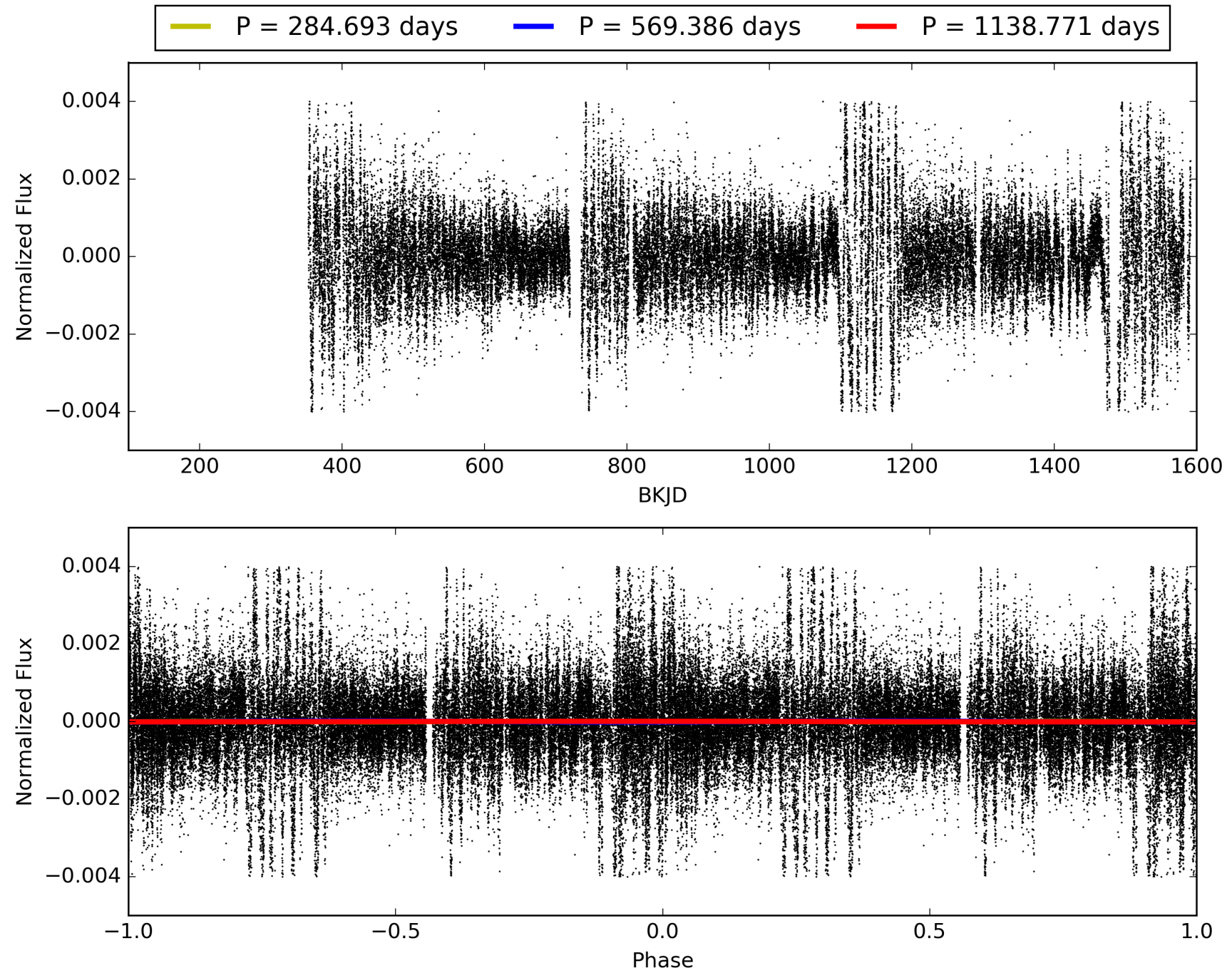
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 02:10:56 Z

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

# TCE 007968579-01, PDC Light Curves

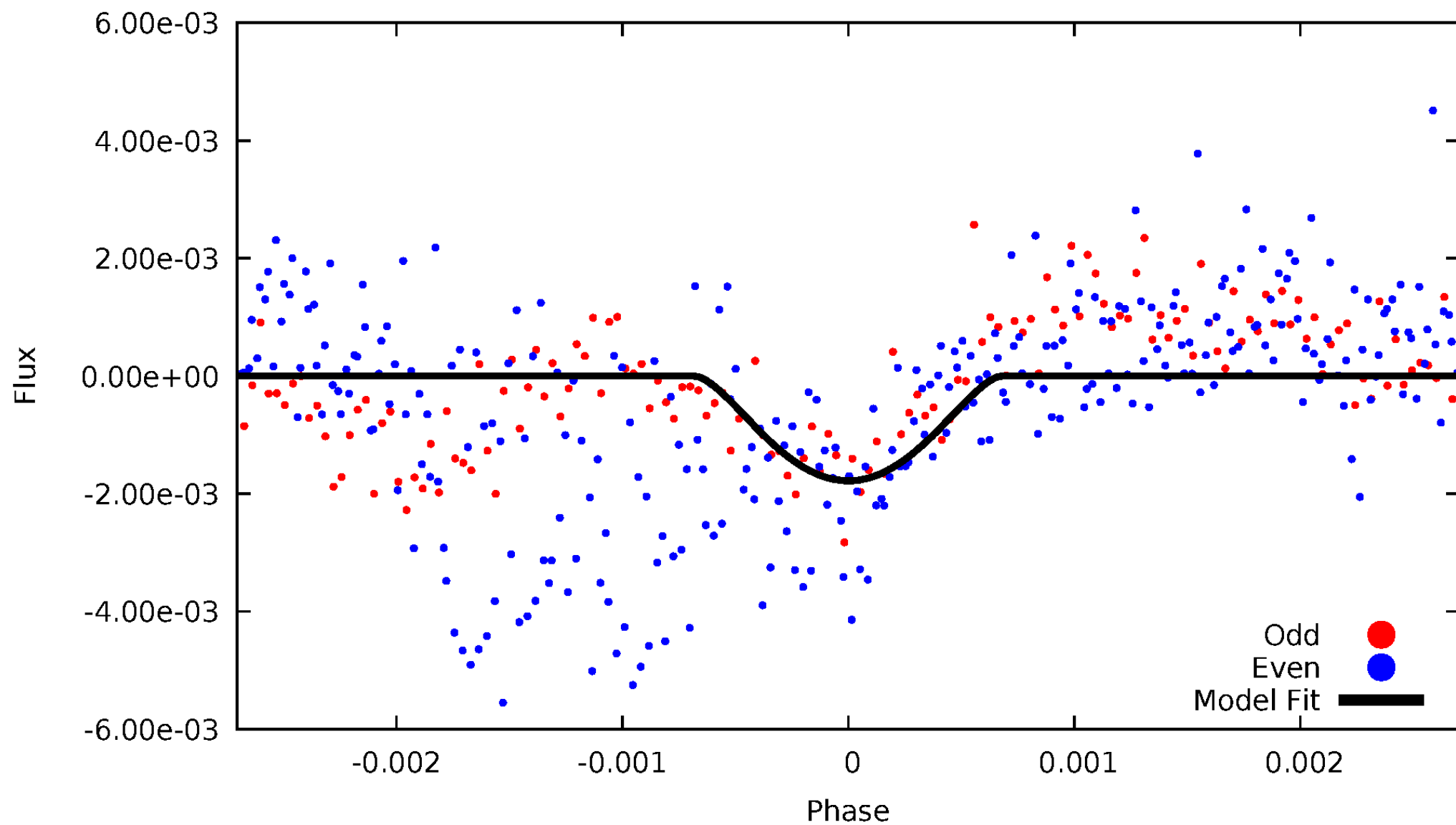


TCE 007968579-01



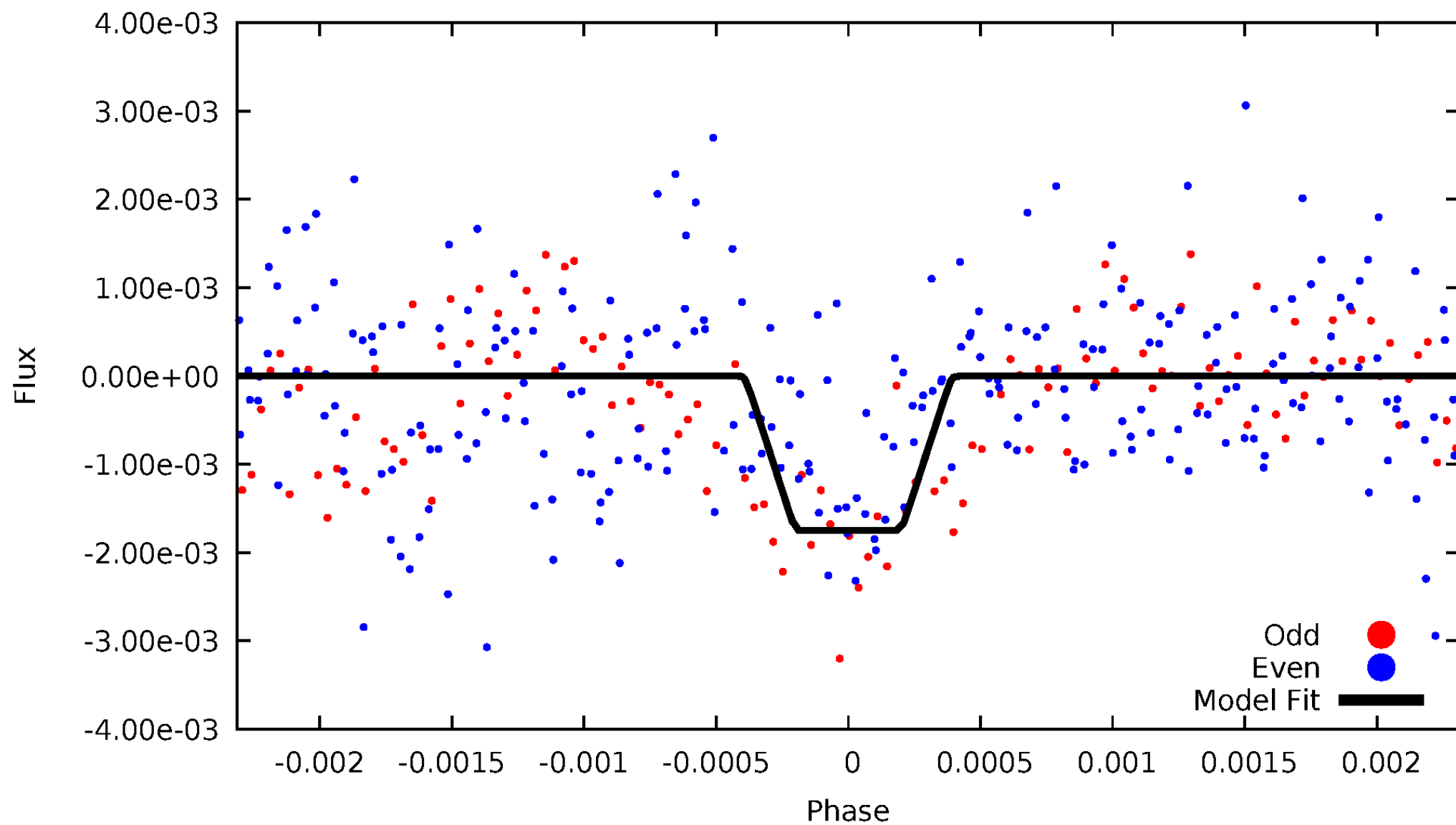
# DV Odd/Even

TCE 007968579-01



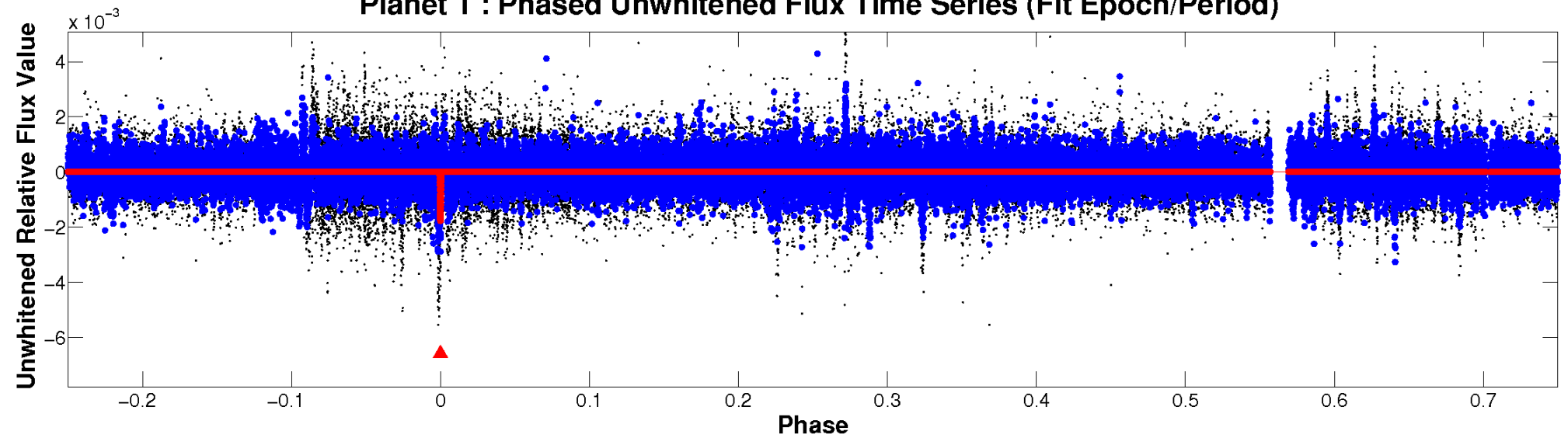
# ALT Odd/Even

TCE 007968579-01

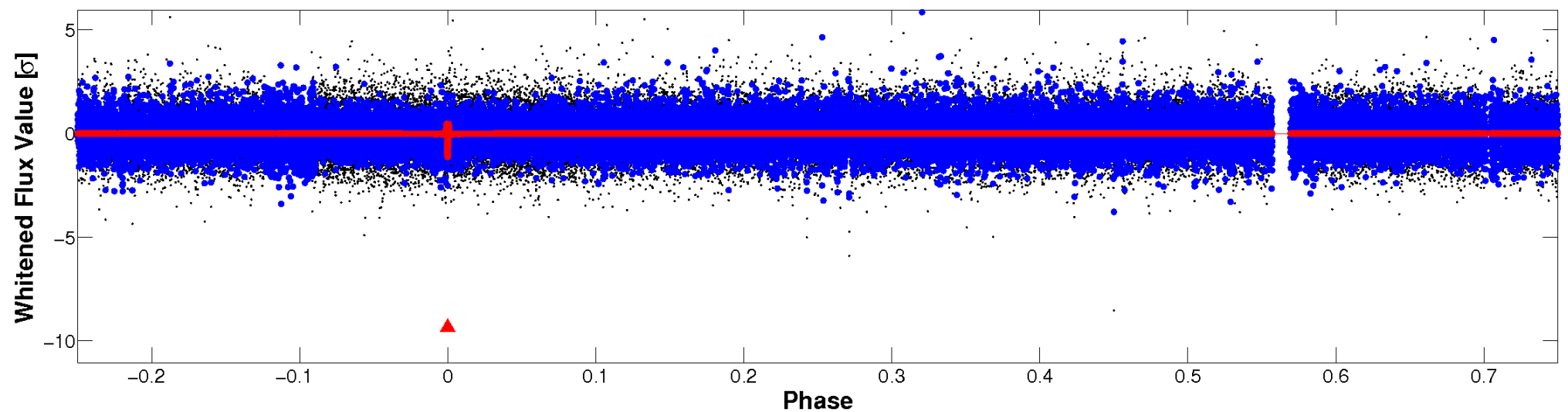


# Non-Whitened Vs. Whitened Light Curve

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



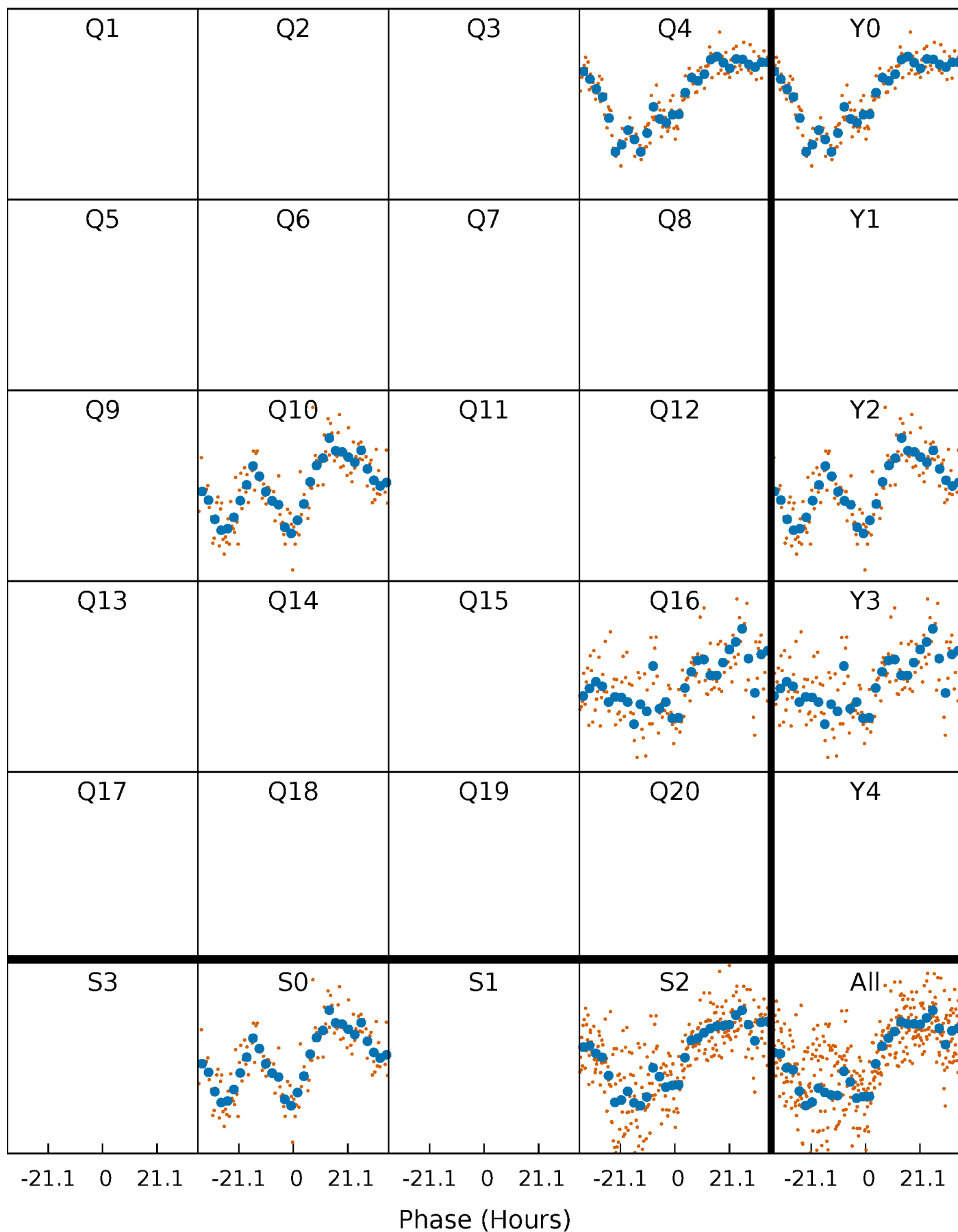
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

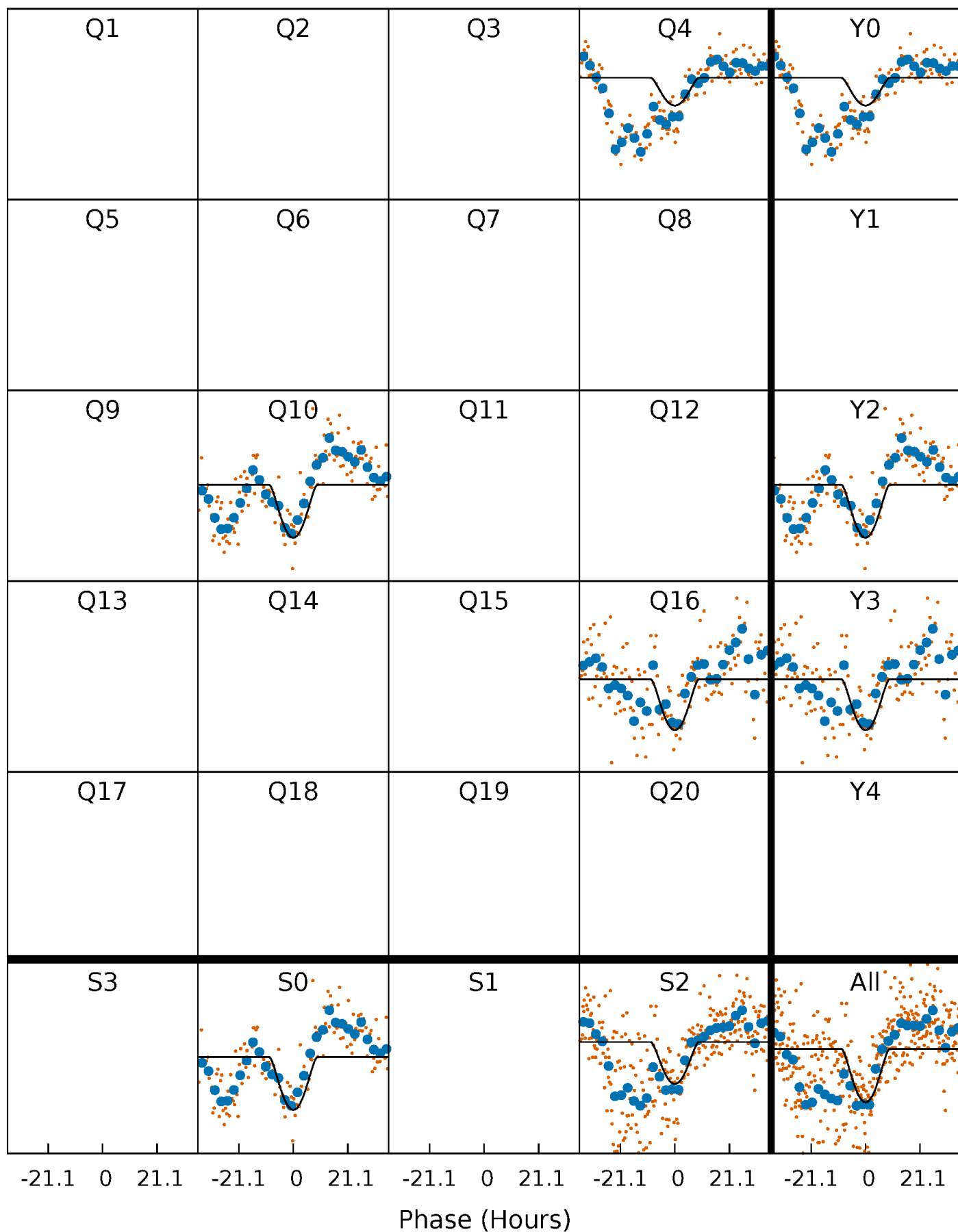
TCE 007968579-01 P=569.385618 Days  $T_0=402.858891$  (BKJD)





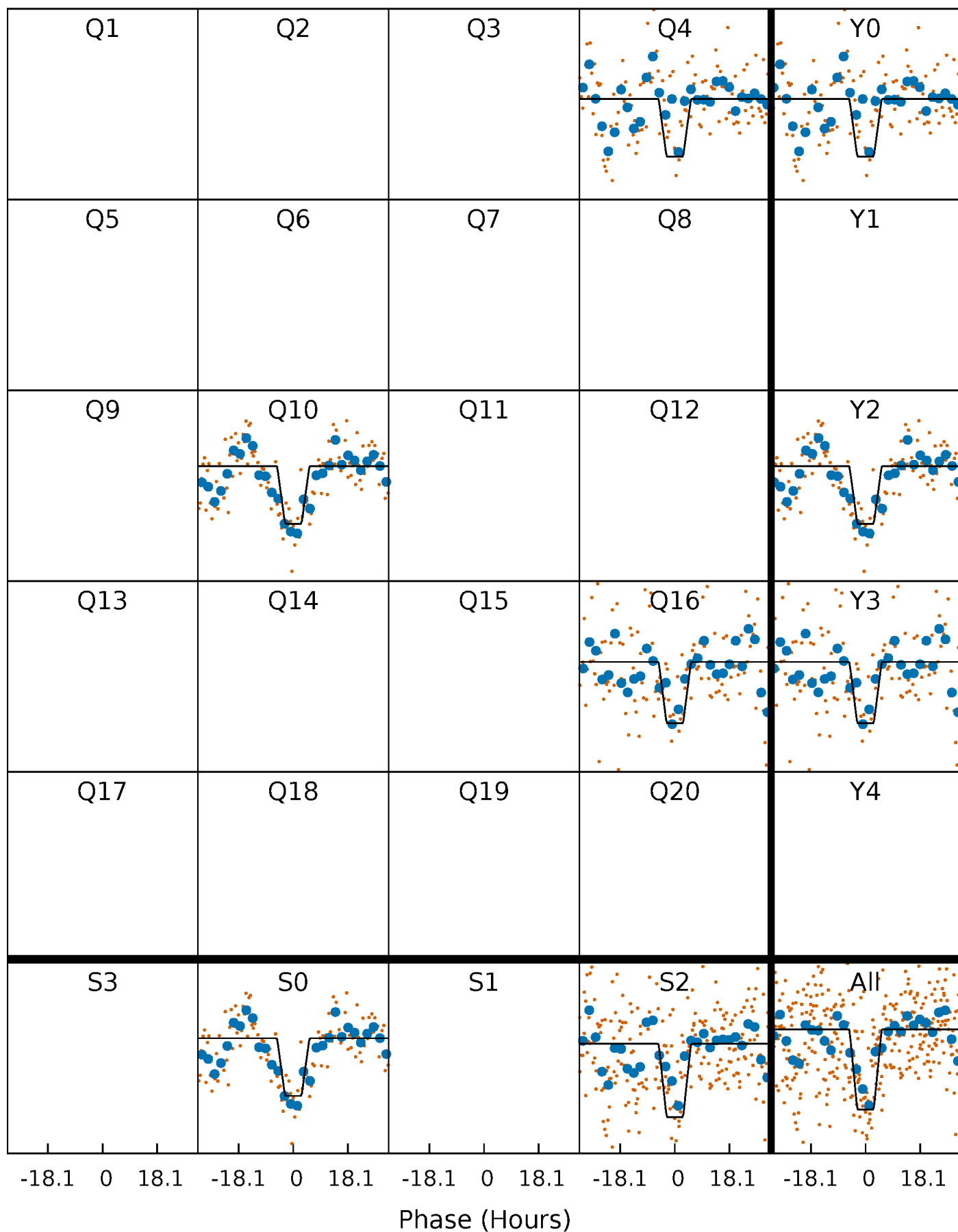
# DV Quarter-Phased Transit Curves

TCE 007968579-01 P=569.385618 Days  $T_0=402.858891$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

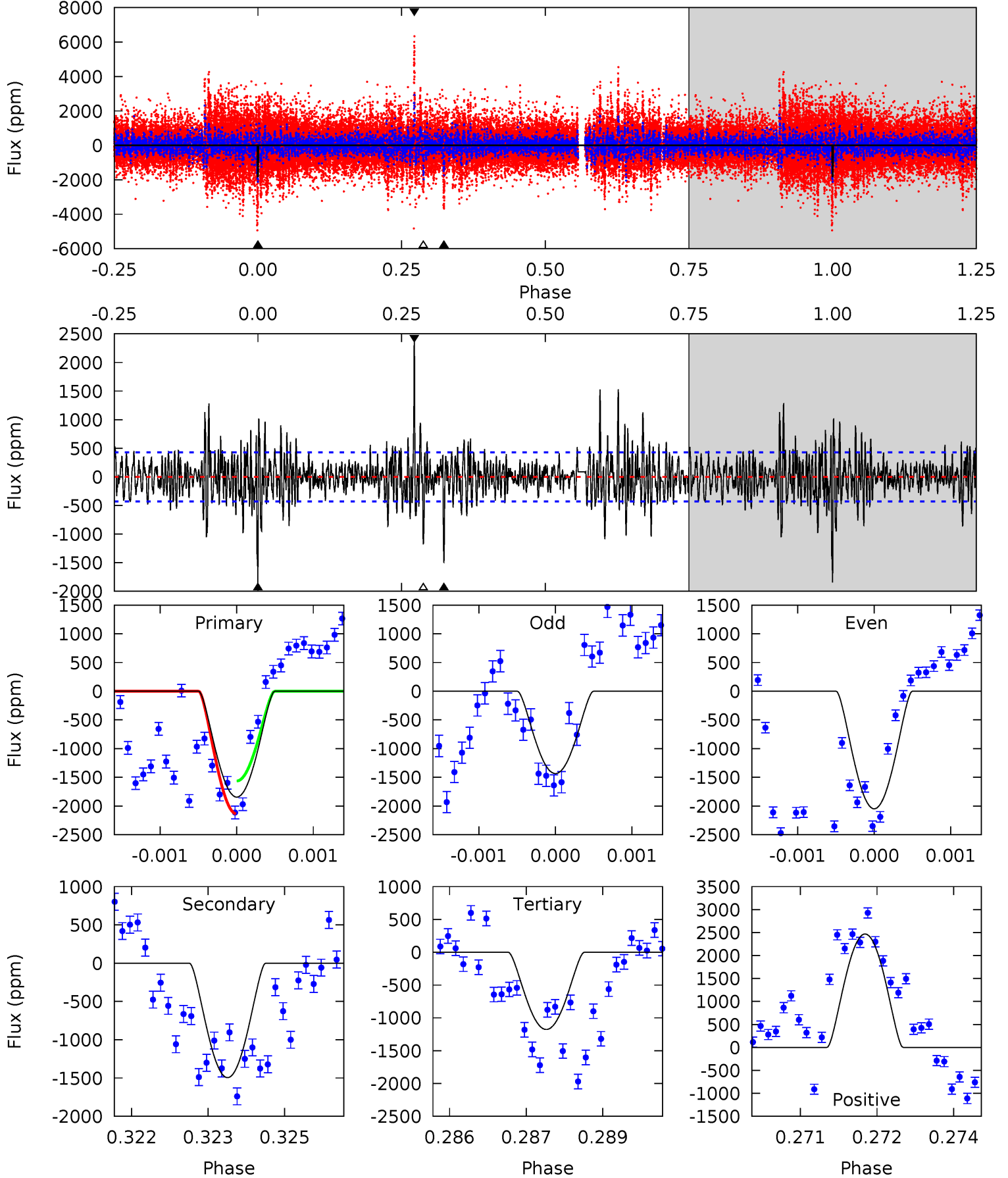
TCE 007968579-01 P=569.401583 Days  $T_0=402.851466$  (BKJD)



# DV Model-Shift Uniqueness Test

007968579-01, P = 569.385618 Days, E = 402.858891 Days

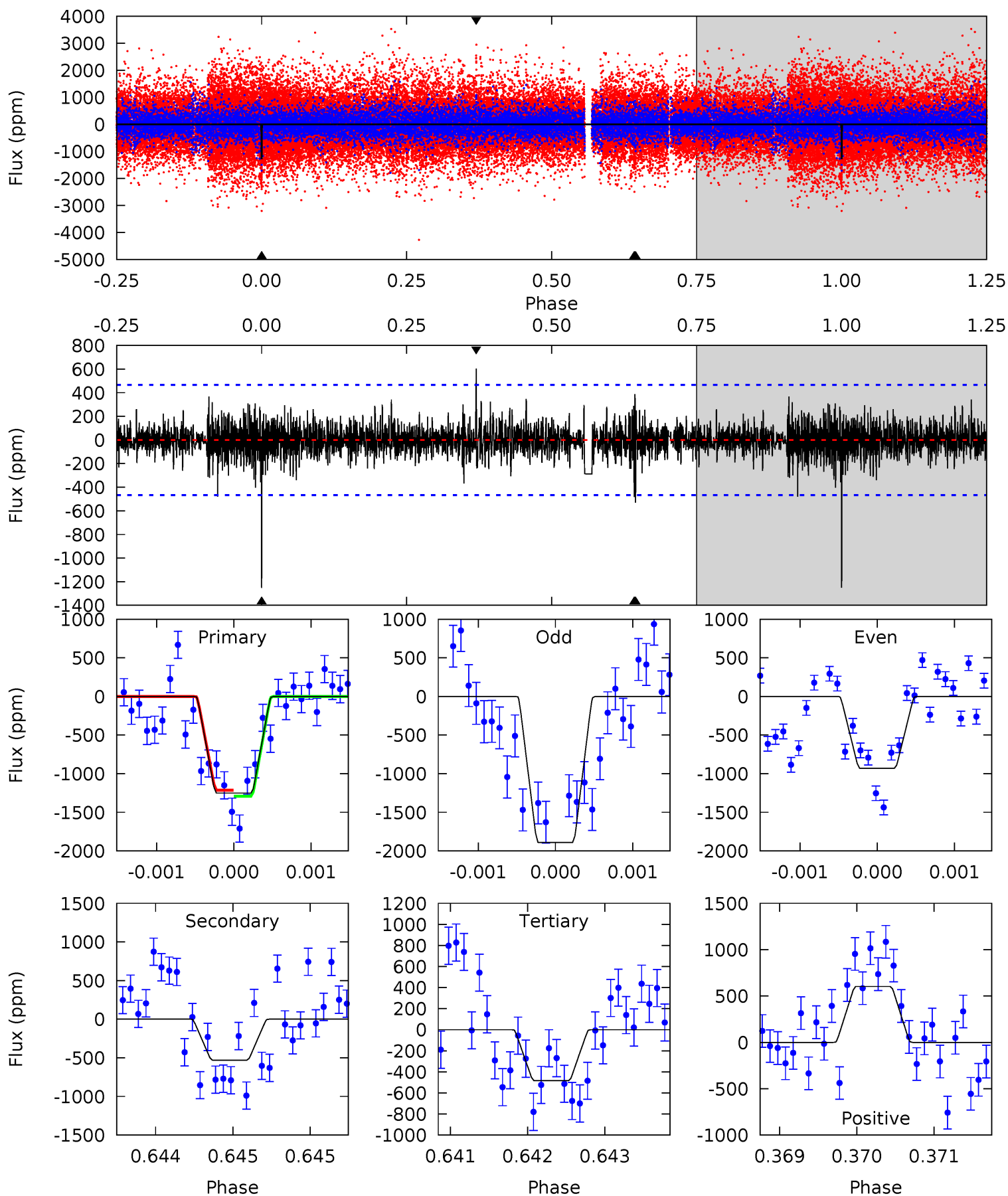
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.2	18.8	14.8	31.1	5.39	3.20	4.10	8.41	-7.84	4.00	-12.2	3.63	1.29	0.57	3.61



# Alt Model-Shift Uniqueness Test

007968579-01, P = 569.401583 Days, E = 402.851466 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
14.7	6.24	5.68	7.09	5.49	3.34	1.17	9.04	7.63	0.56	-0.85	5.37	1.07	0.33	0.46



### Stellar Parameters For KIC 007968579

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5688^{+171}_{-188}$	$4.427^{+0.087}_{-0.188}$	$0.060^{+0.250}_{-0.300}$	$0.993^{+0.282}_{-0.130}$	$0.961^{+0.122}_{-0.100}$	$1.384^{+0.627}_{-0.695}$
	+3%/-3%	+2%/-4%	+417%/-500%	+28%/-13%	+13%/-10%	+45%/-50%
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 007968579-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-1495 \pm 79$	$21.81^{+21.37}_{-14.56}$	$307^{+21}_{-18}$	$3127^{+1443}_{-510}$	$3091^{+25085}_{-2324}$
Alt.	$-531 \pm 85$	$19.39^{+21.87}_{-13.15}$	$306^{+21}_{-15}$	$2807^{+1140}_{-472}$	$1370^{+11786}_{-1081}$

$T_{max}$  = 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

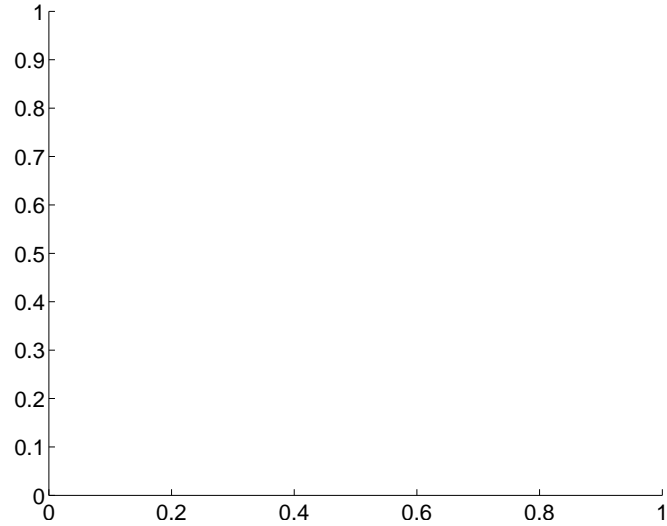
Supplemental centroid analysis for 007968579-01. Kepler magnitude: 15.48. Transit SNR 8.57

There are 0 quarters with good PRF difference image offsets

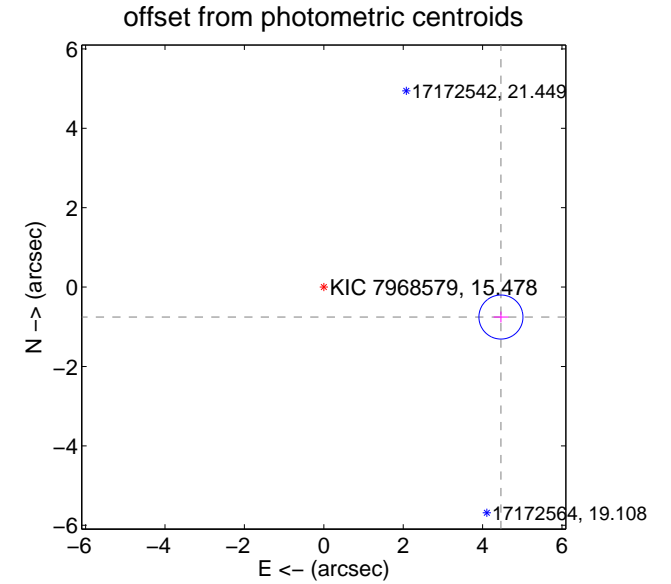
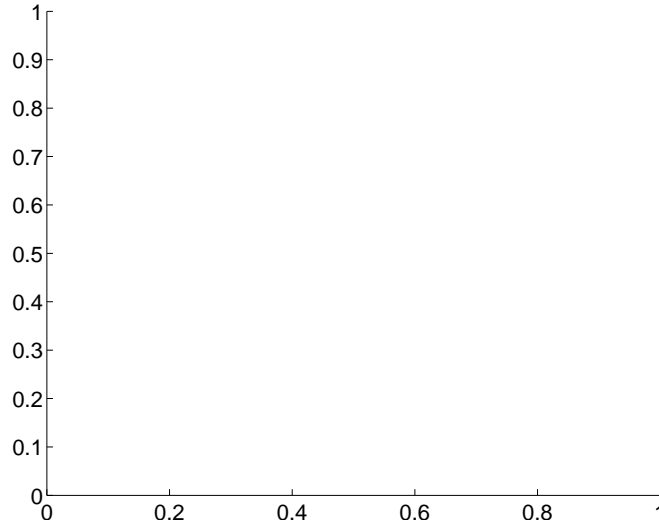
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$4.53 \pm 0.18$	24.48	$-4.46 \pm 0.19$	$-0.75 \pm 0.14$

There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC



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.





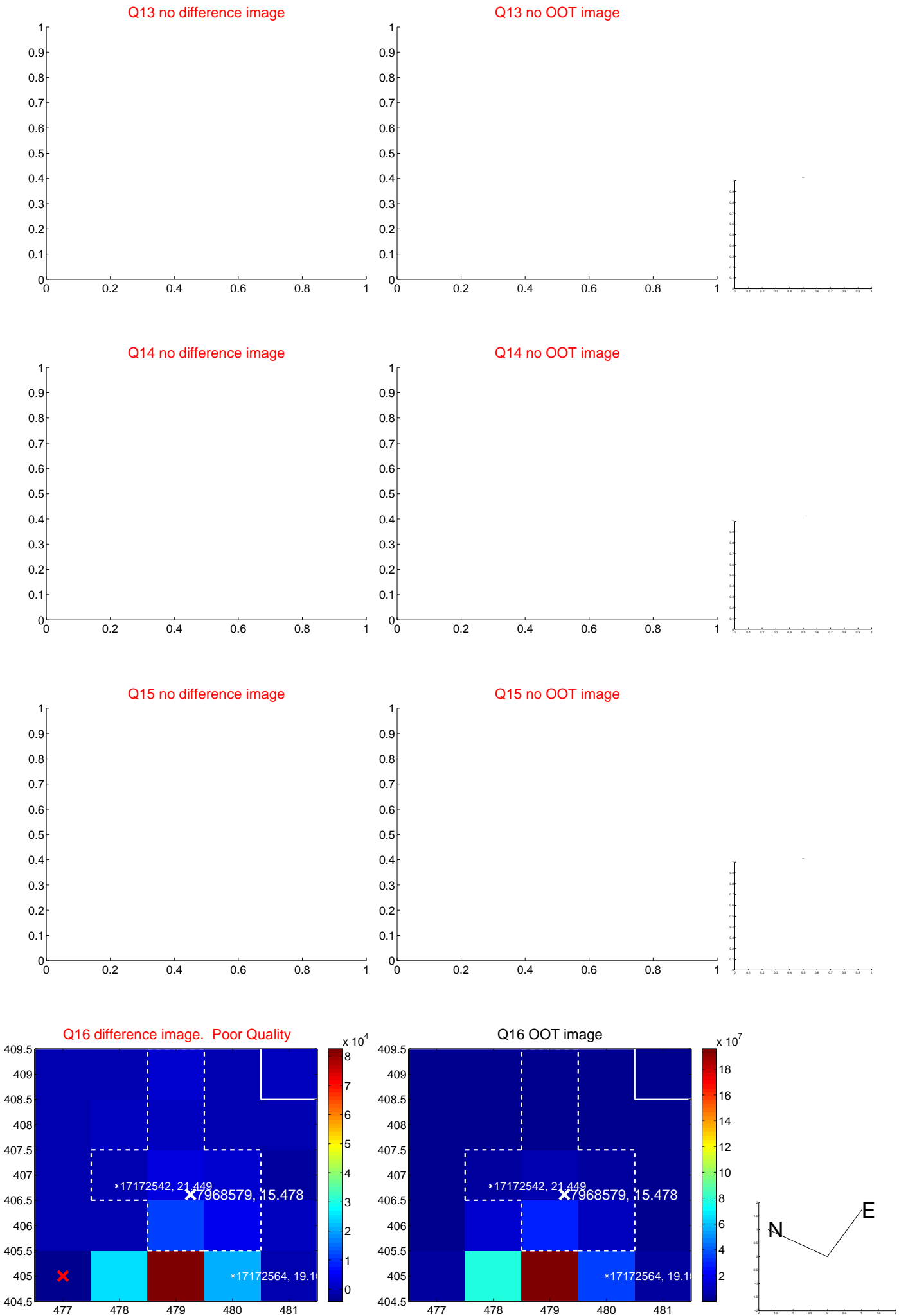
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



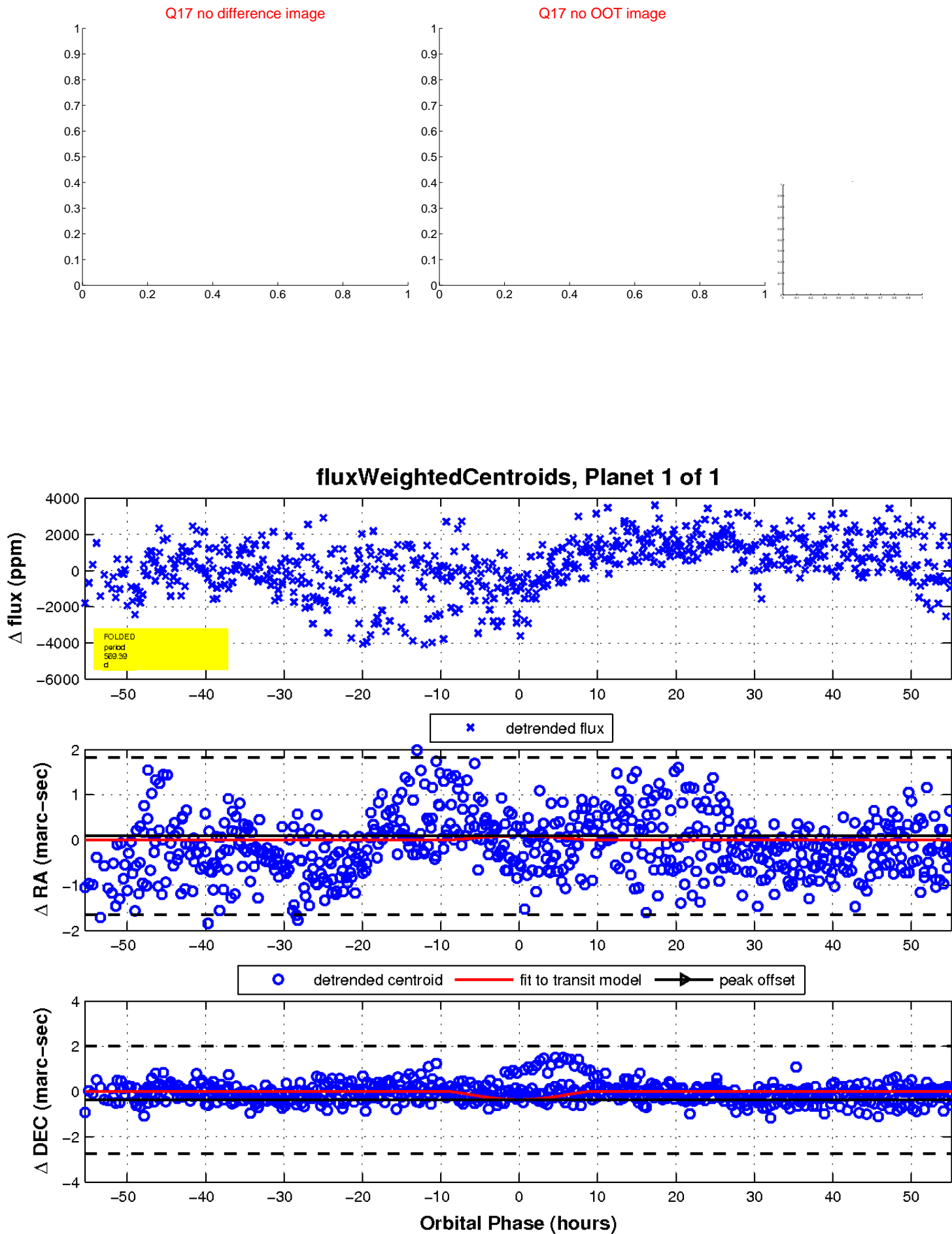
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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination

