

KIC 008228228

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})
008228228-01	OBS	No	370.137980	297.149498	1767.6	64.118	12.6	17.8	0.85	5525	6.83	0.67

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008228228-01	OBS	FP	0.00	1	0	1	1	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST—EPHEM_MATCH

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 for comment definitions.

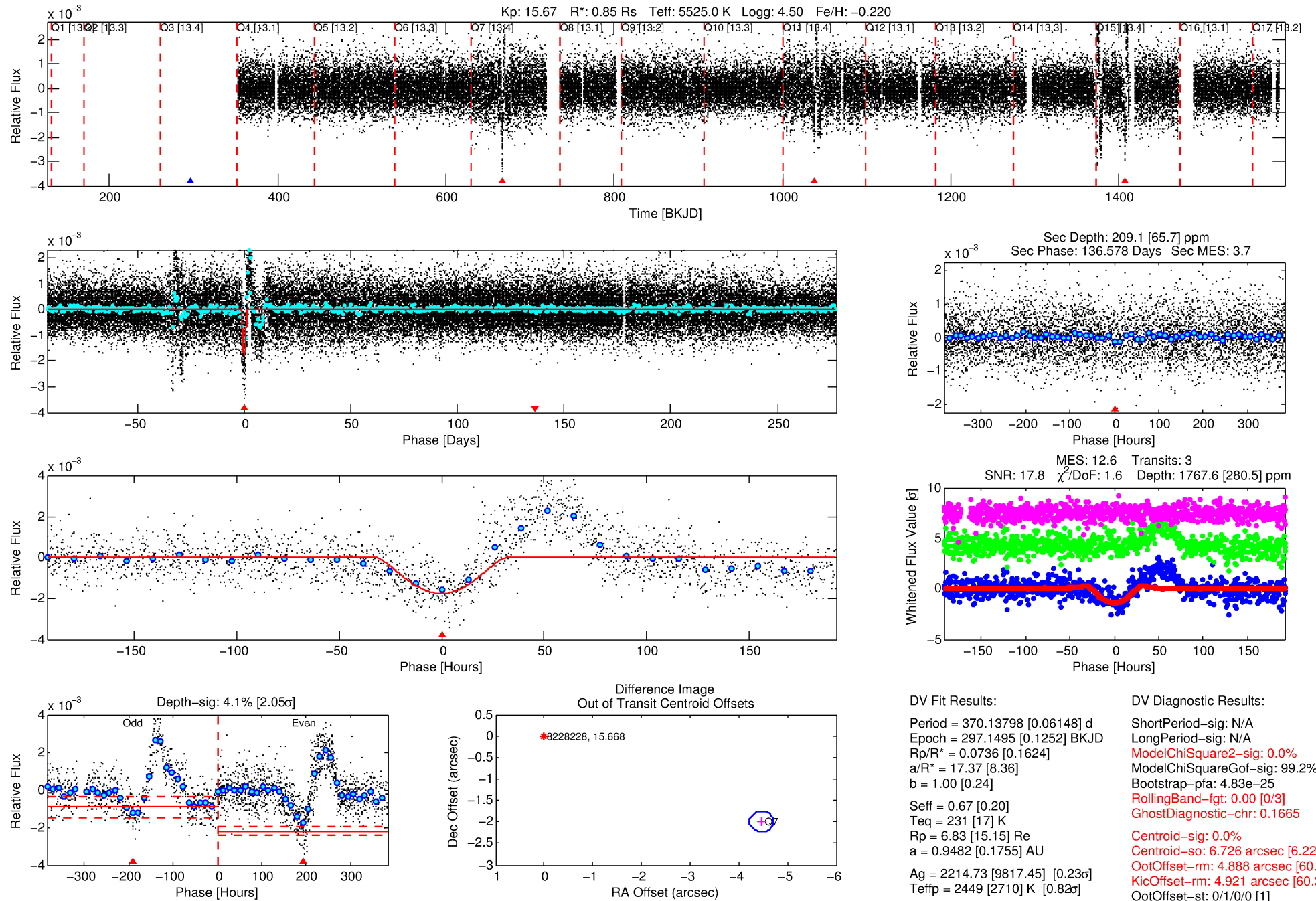
Ephemeris Match Information For 008228228-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist (\prime)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
008228228-01	8228228	008362237-01	8362237	1:1	1640.3	-413	5	15.69	15.67	0.60	Col-Anomaly	1	4.05	4.35

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

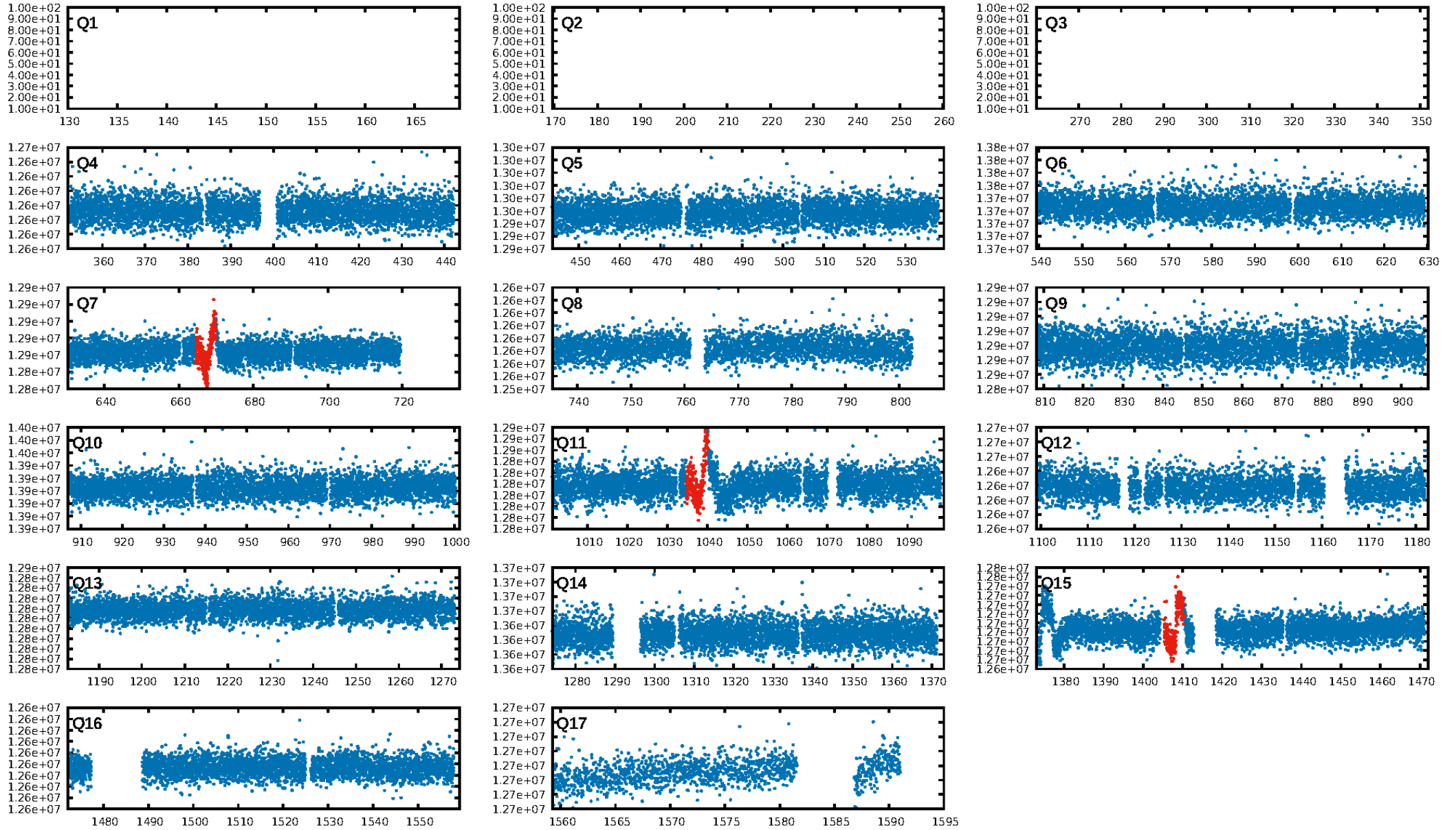
KIC: 8228228 Candidate: 1 of 1 Period: 370.138 d



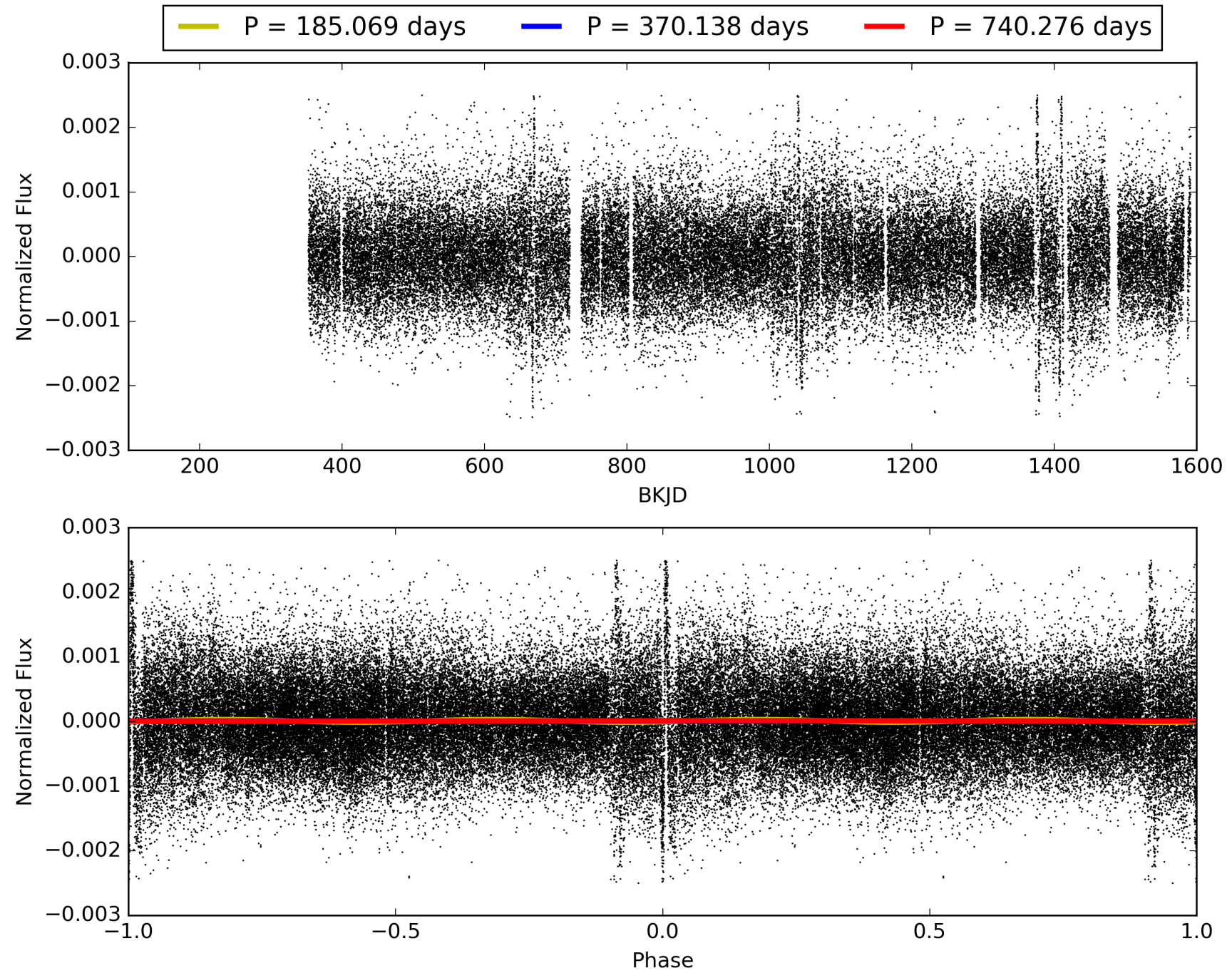
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:17:41 Z

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

TCE 008228228-01, PDC Light Curves

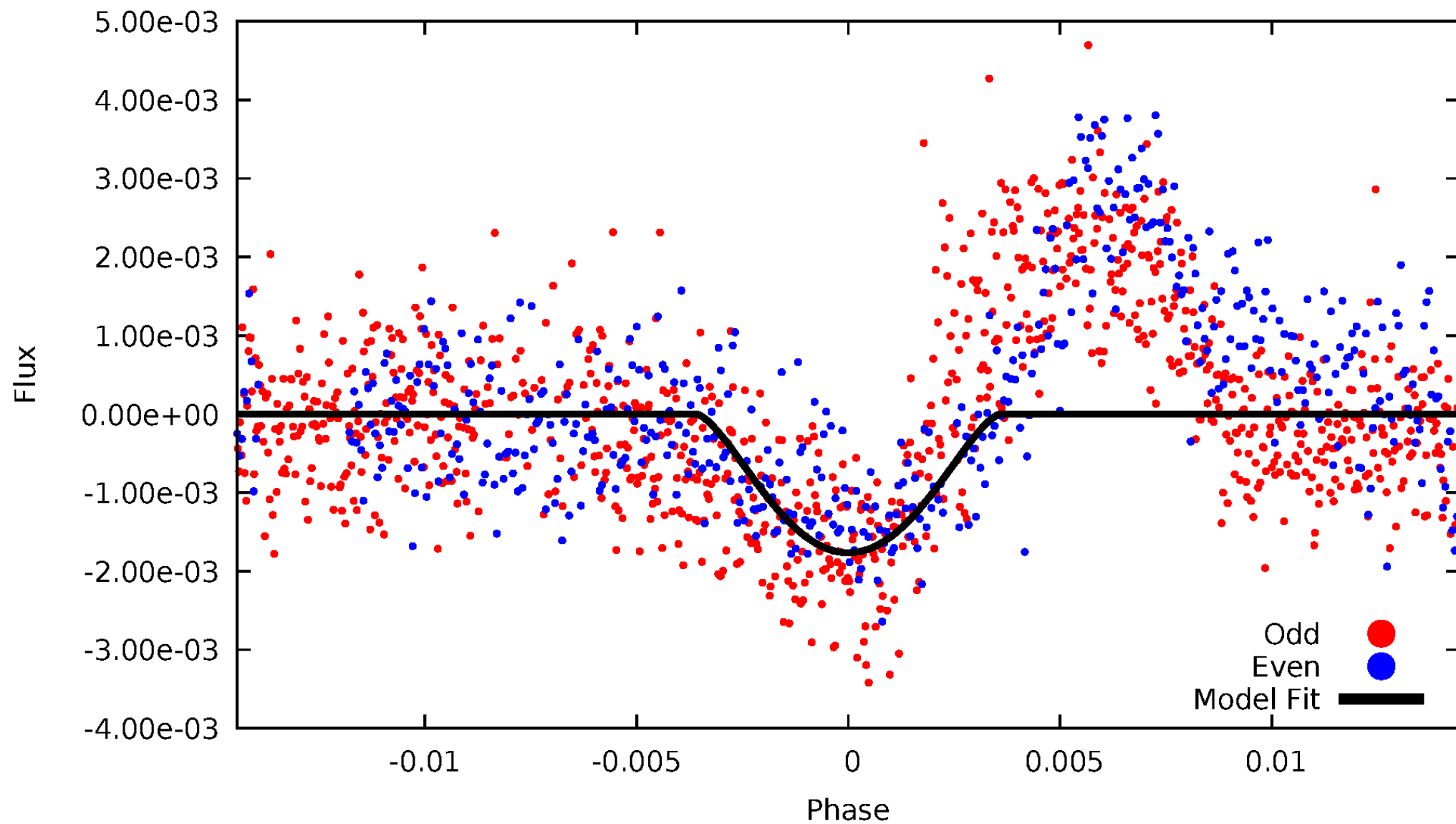


TCE 008228228-01



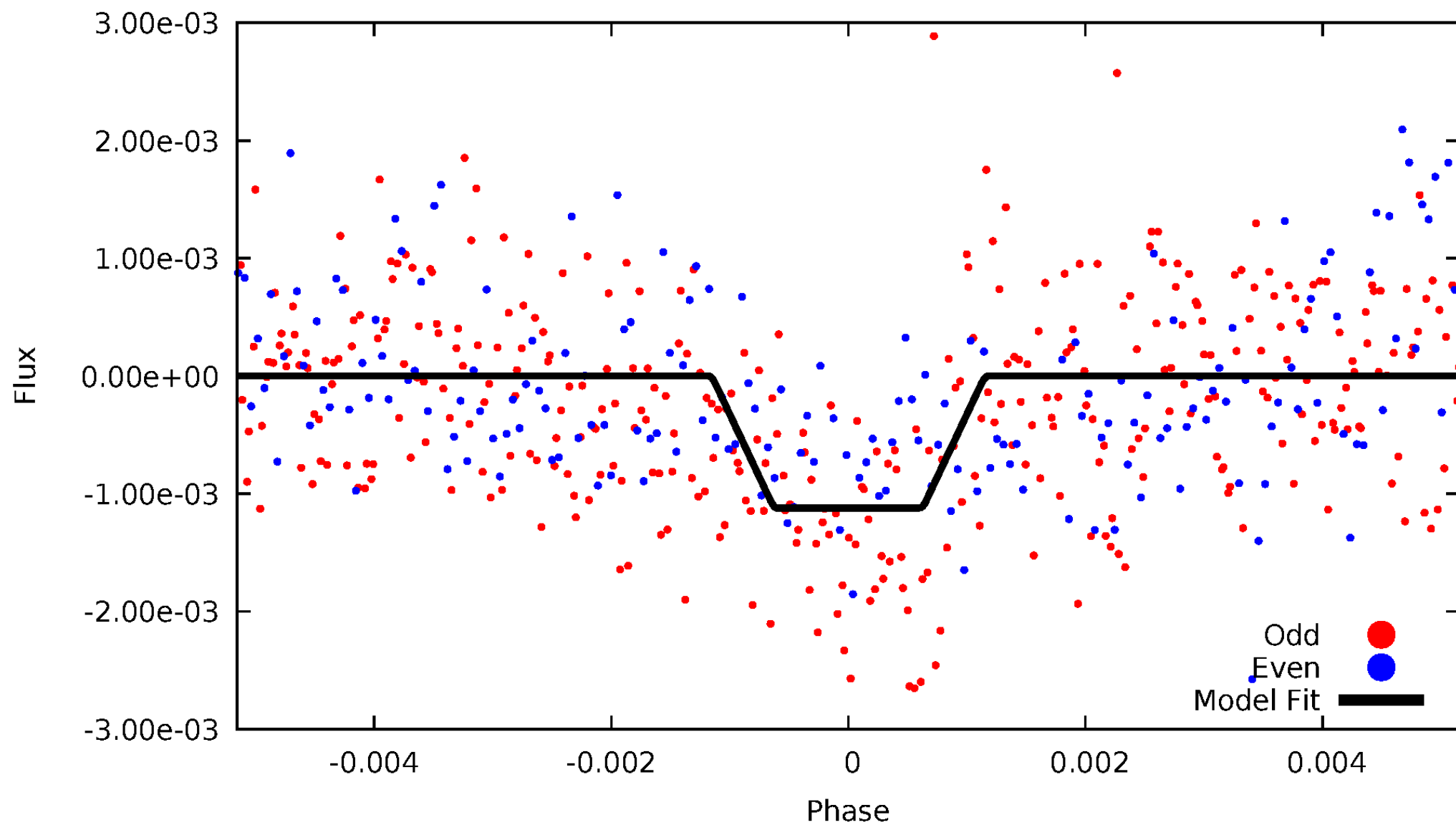
DV Odd/Even

TCE 008228228-01



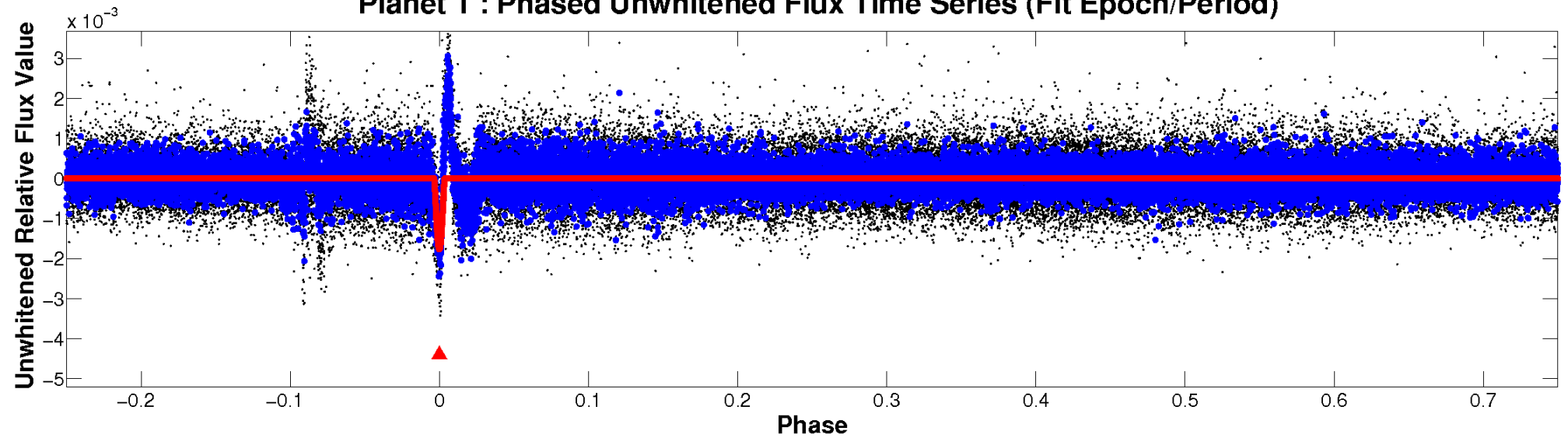
ALT Odd/Even

TCE 008228228-01

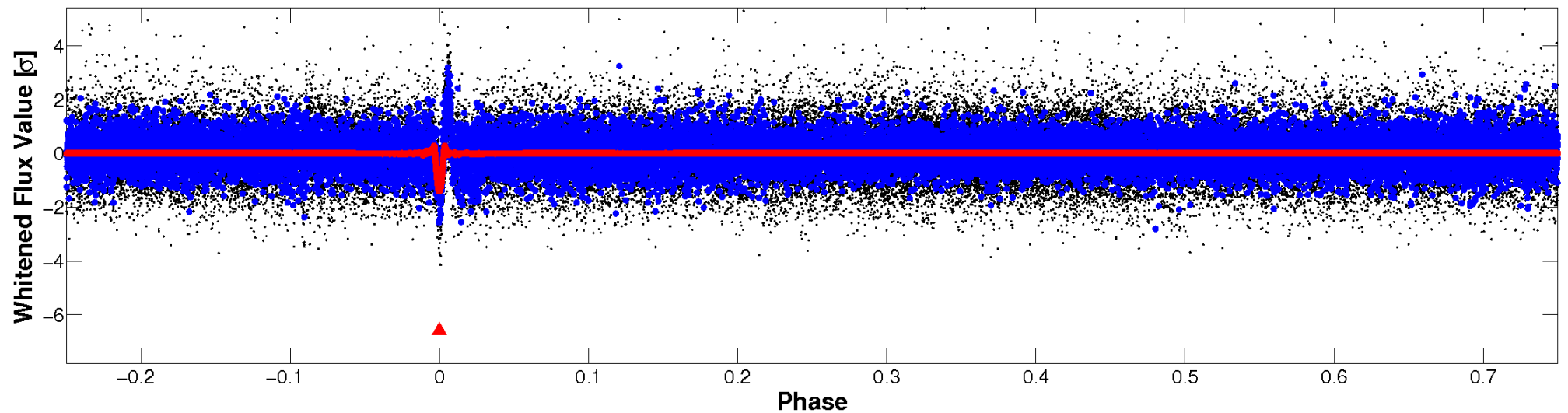


Non-Whitened Vs. Whitened Light Curve

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

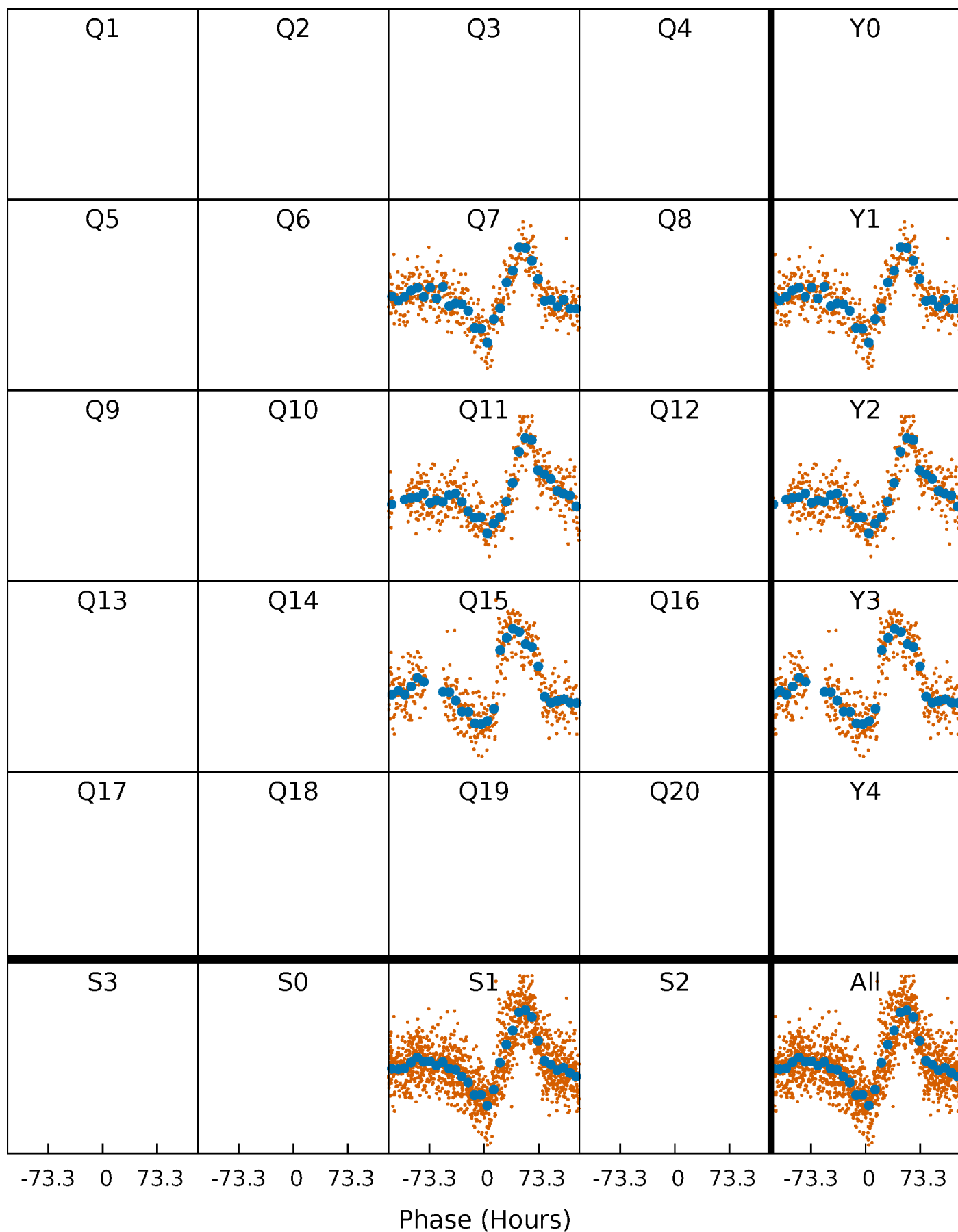


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



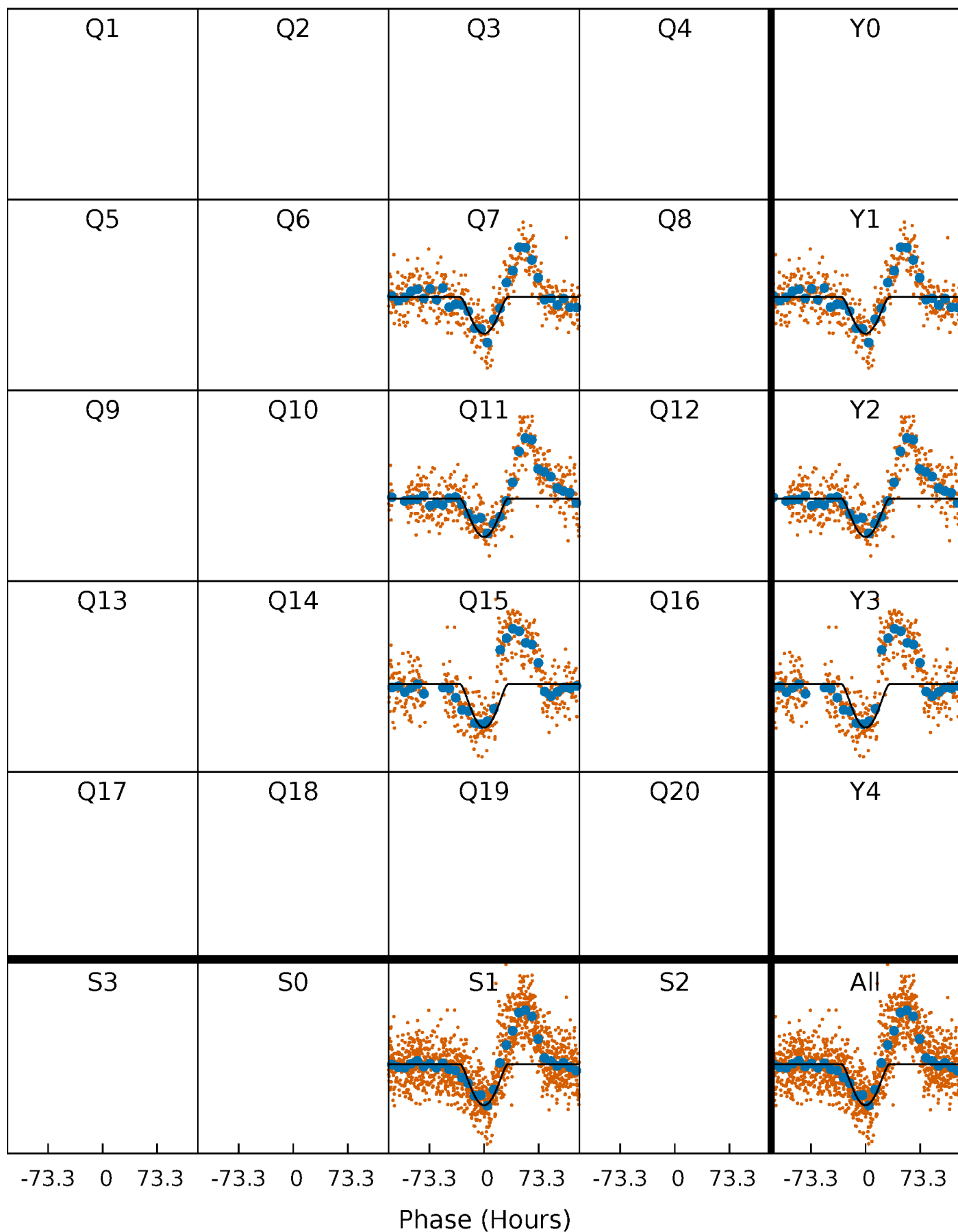
PDC Quarter-Phased Transit Curves

TCE 008228228-01 P=370.137980 Days $T_0=297.149498$ (BKJD)



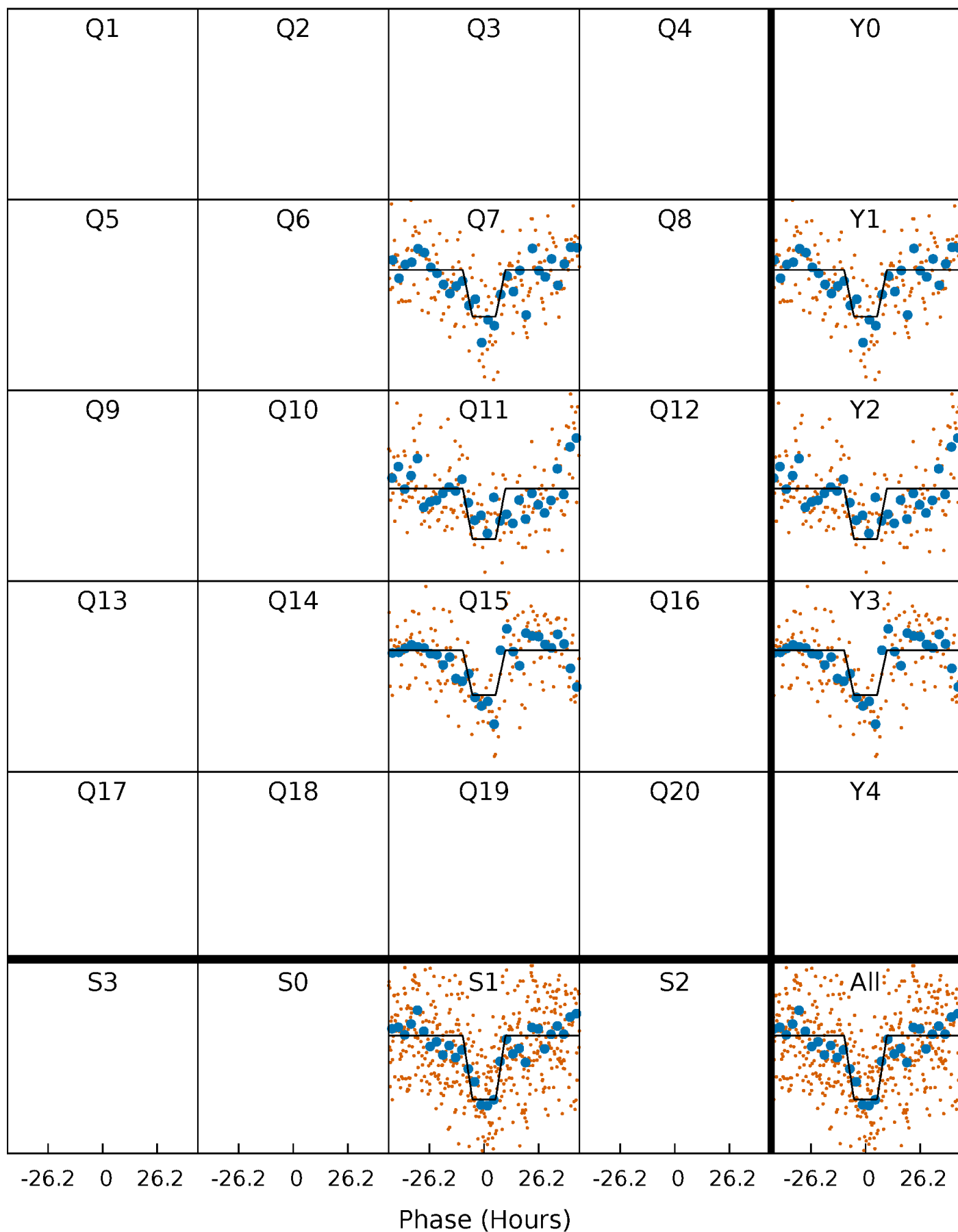
DV Quarter-Phased Transit Curves

TCE 008228228-01 P=370.137980 Days $T_0=297.149498$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

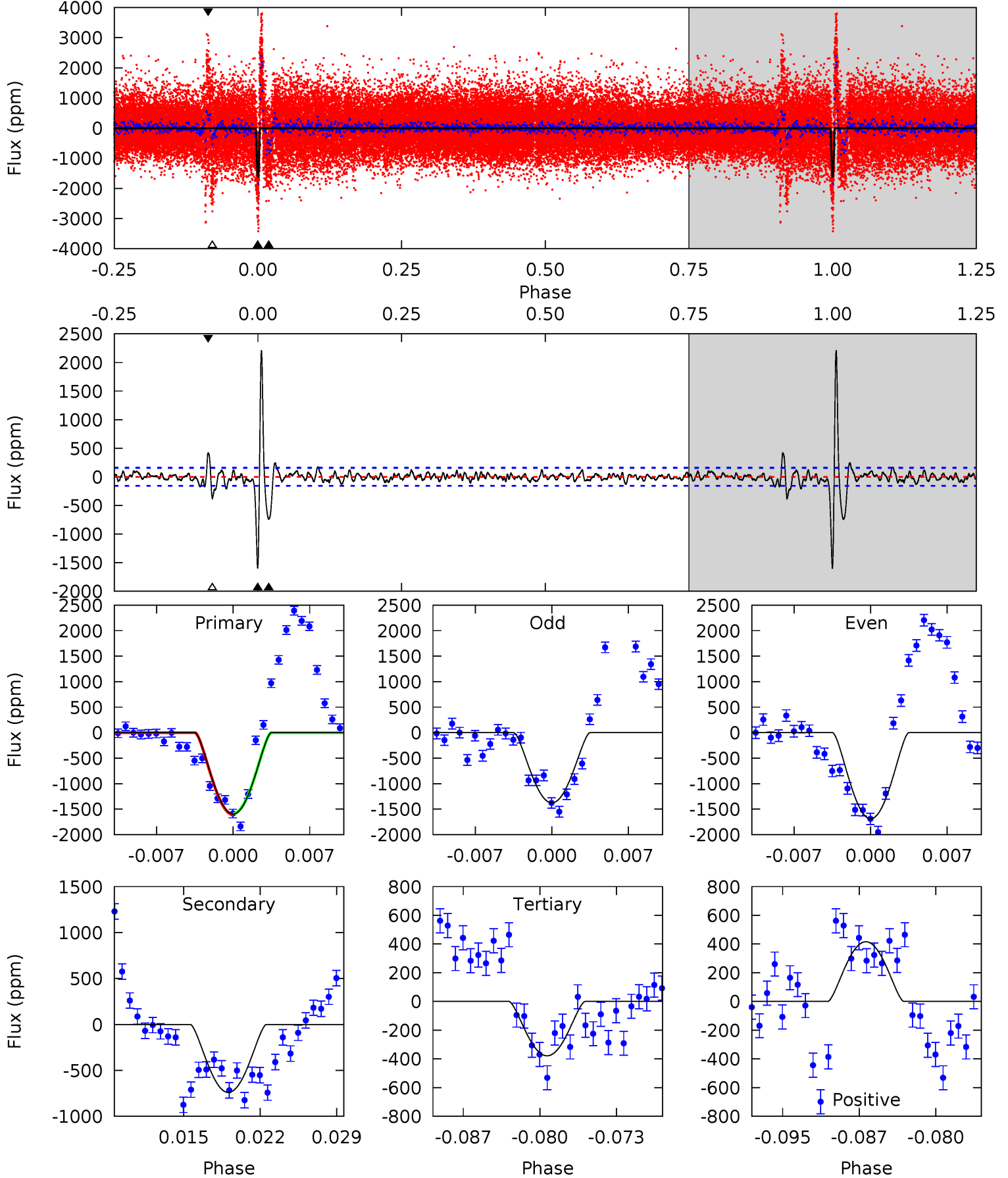
TCE 008228228-01 P=370.249296 Days $T_0=297.208616$ (BKJD)



DV Model-Shift Uniqueness Test

008228228-01, P = 370.137980 Days, E = 297.149498 Days

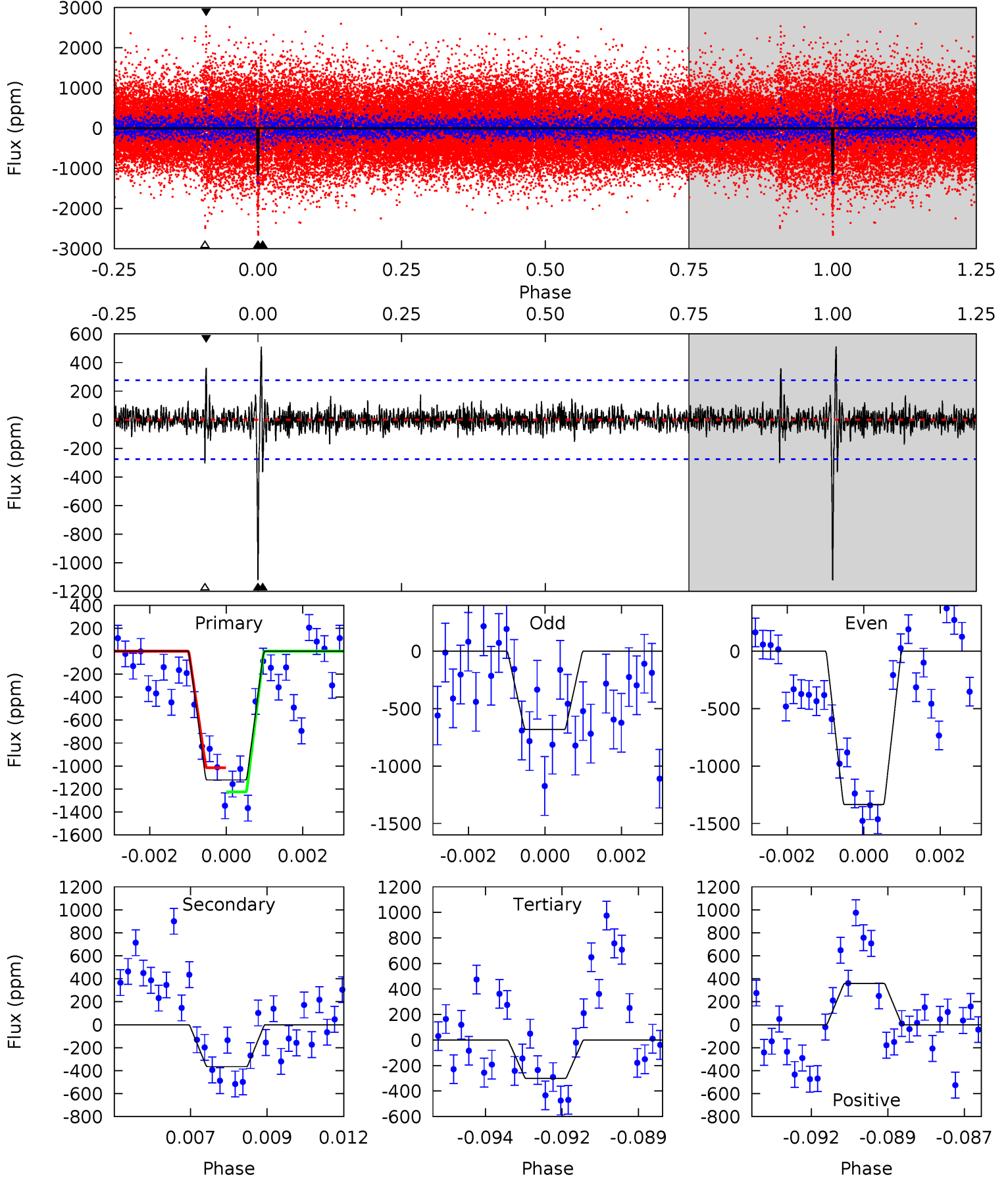
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
51.5	23.9	12.2	13.4	5.09	2.68	3.24	39.3	38.1	11.7	10.5	4.82	1.05	0.58	0.35



Alt Model-Shift Uniqueness Test

008228228-01, P = 370.249296 Days, E = 297.208616 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.5	7.02	5.78	6.89	5.30	3.04	0.97	15.7	14.6	1.23	0.12	5.94	0.86	0.31	2.03



Stellar Parameters For KIC 008228228

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5525^{+182}_{-182}	$4.497^{+0.081}_{-0.150}$	$-0.220^{+0.300}_{-0.300}$	$0.851^{+0.185}_{-0.100}$	$0.829^{+0.111}_{-0.074}$	$1.896^{+0.645}_{-0.798}$
	+3%/-3%	+2%/-3%	+136%/-136%	+22%/-12%	+13%/-9%	+34%/-42%
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 008228228-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-740 ± 31	$13.89^{+12.38}_{-9.33}$	326^{+21}_{-15}	3046^{+1339}_{-495}	1895^{+15962}_{-1366}
Alt.	-365 ± 52	$12.11^{+11.46}_{-8.20}$	326^{+19}_{-16}	2863^{+1179}_{-452}	1216^{+10173}_{-901}

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

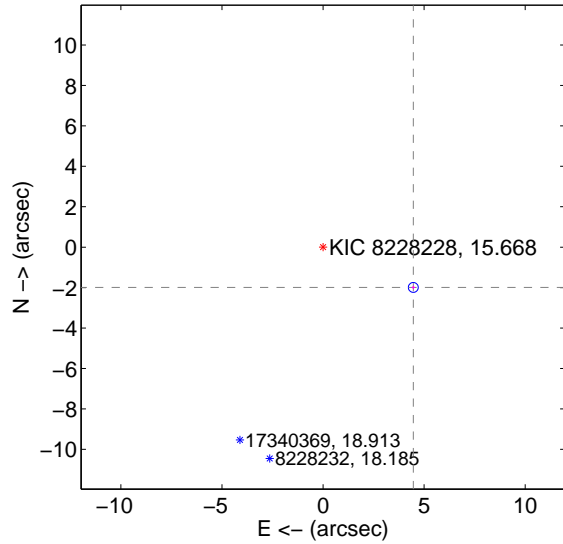
Supplemental centroid analysis for 008228228-01. Kepler magnitude: 15.67. Transit SNR 17.81

There are 0 quarters with good PRF difference image offsets

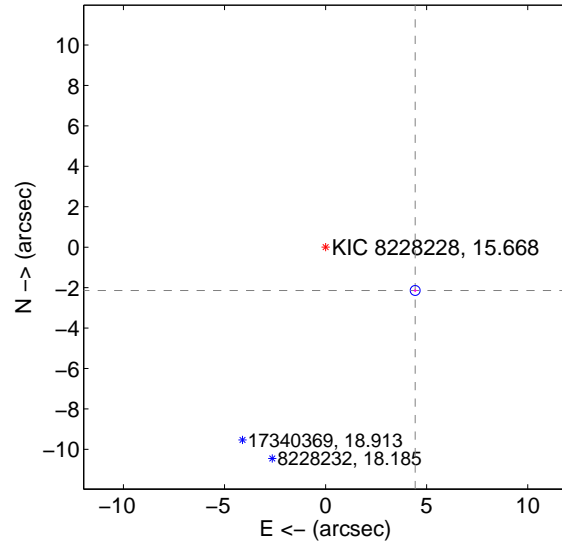
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.888 ± 0.081	60.00	-4.464 ± 0.081	-1.991 ± 0.083
PRF-fit source offset from KIC position	4.921 ± 0.082	60.38	-4.431 ± 0.081	-2.142 ± 0.083
photometric centroid source offset	6.73 ± 1.08	6.22	-4.89 ± 1.03	4.61 ± 1.14

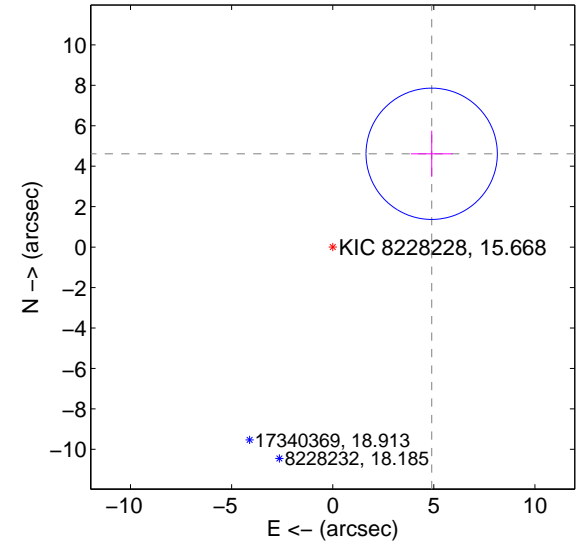
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



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- σ uncertainty. Blue circle: three- σ . 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.

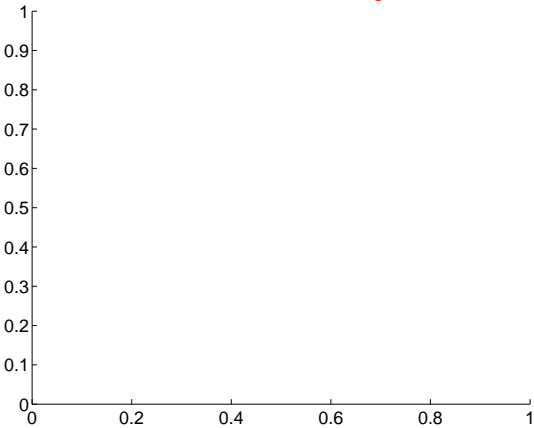
Q5 no difference image



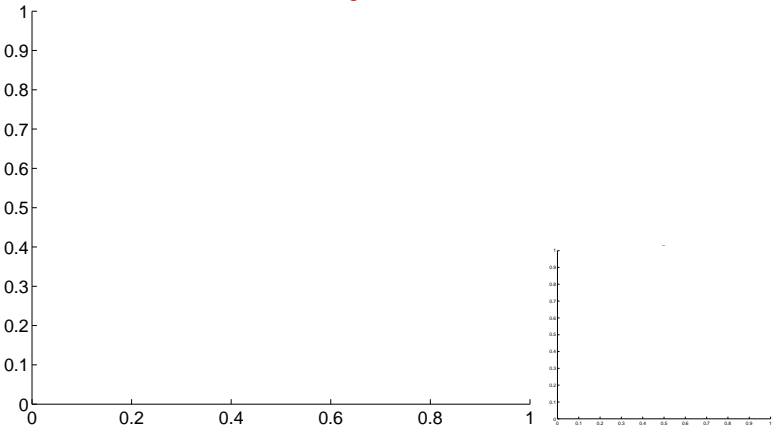
Q5 no OOT image



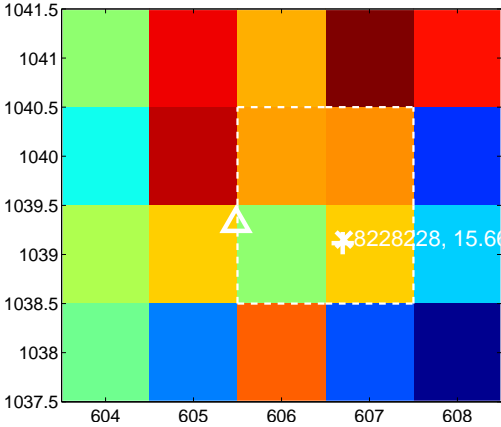
Q6 no difference image



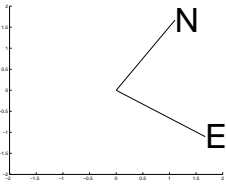
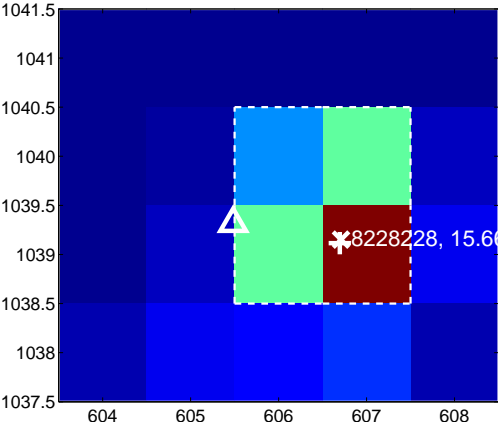
Q6 no OOT image



Q7 difference image. Poor Quality



Q7 OOT image



Q8 no difference image



Q8 no OOT image



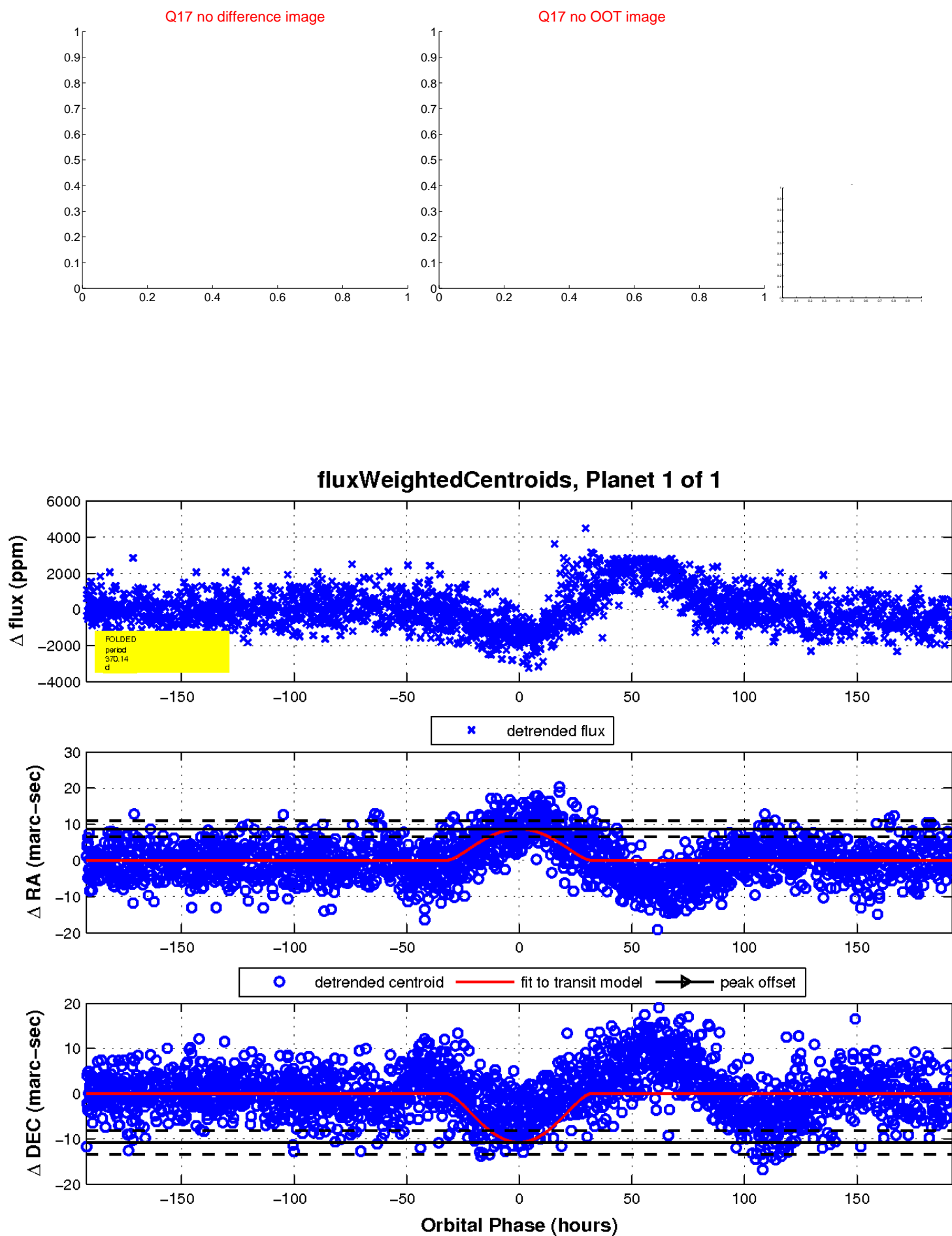
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

