

KIC 008457341

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})
008457341-01	OBS	No	490.732513	283.468720	388.1	16.967	7.2	7.3	0.89	5624	1.91	0.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008457341-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—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.

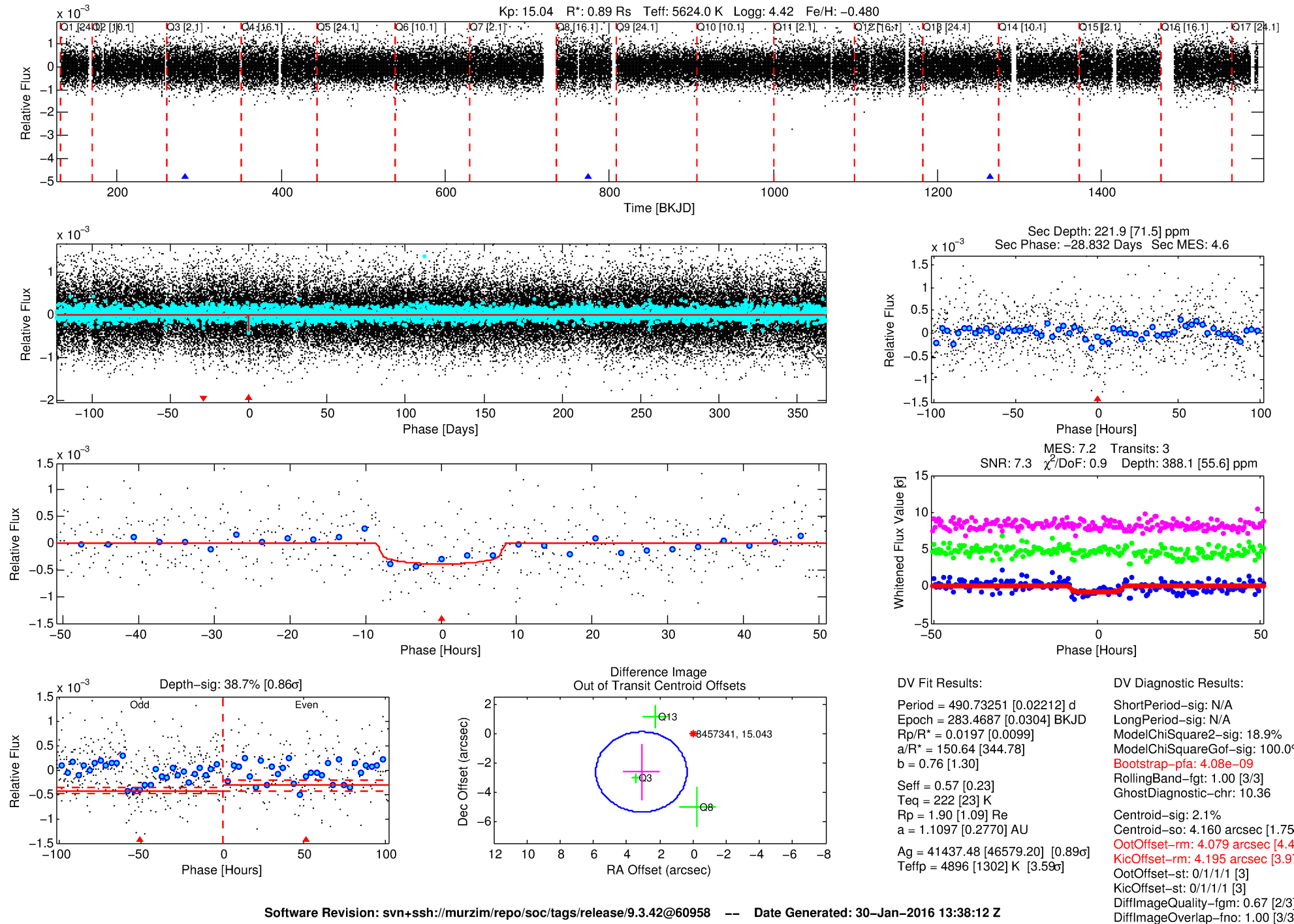
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008457341-01

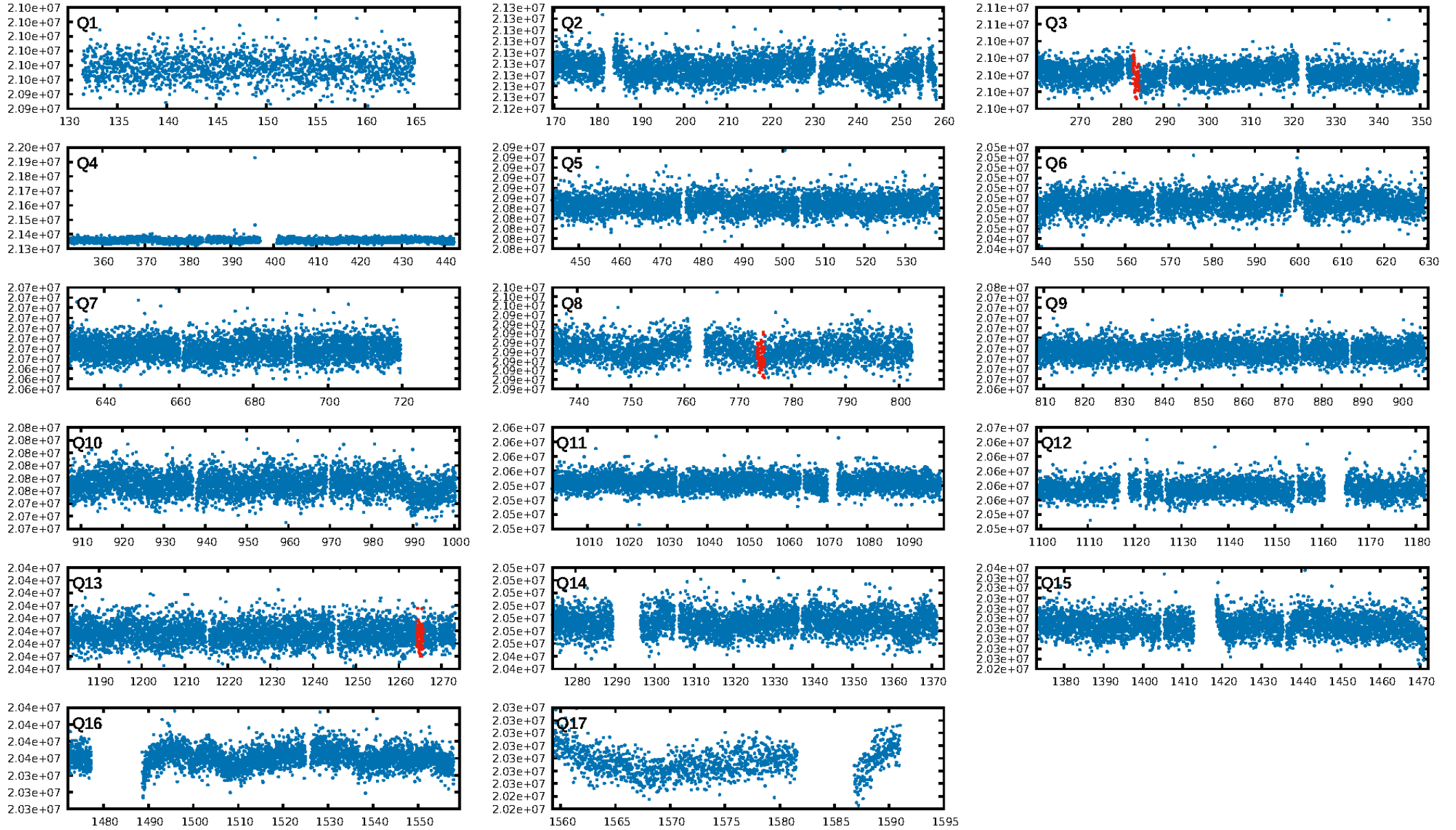
No Significant Match Found

DV One-Page Summary

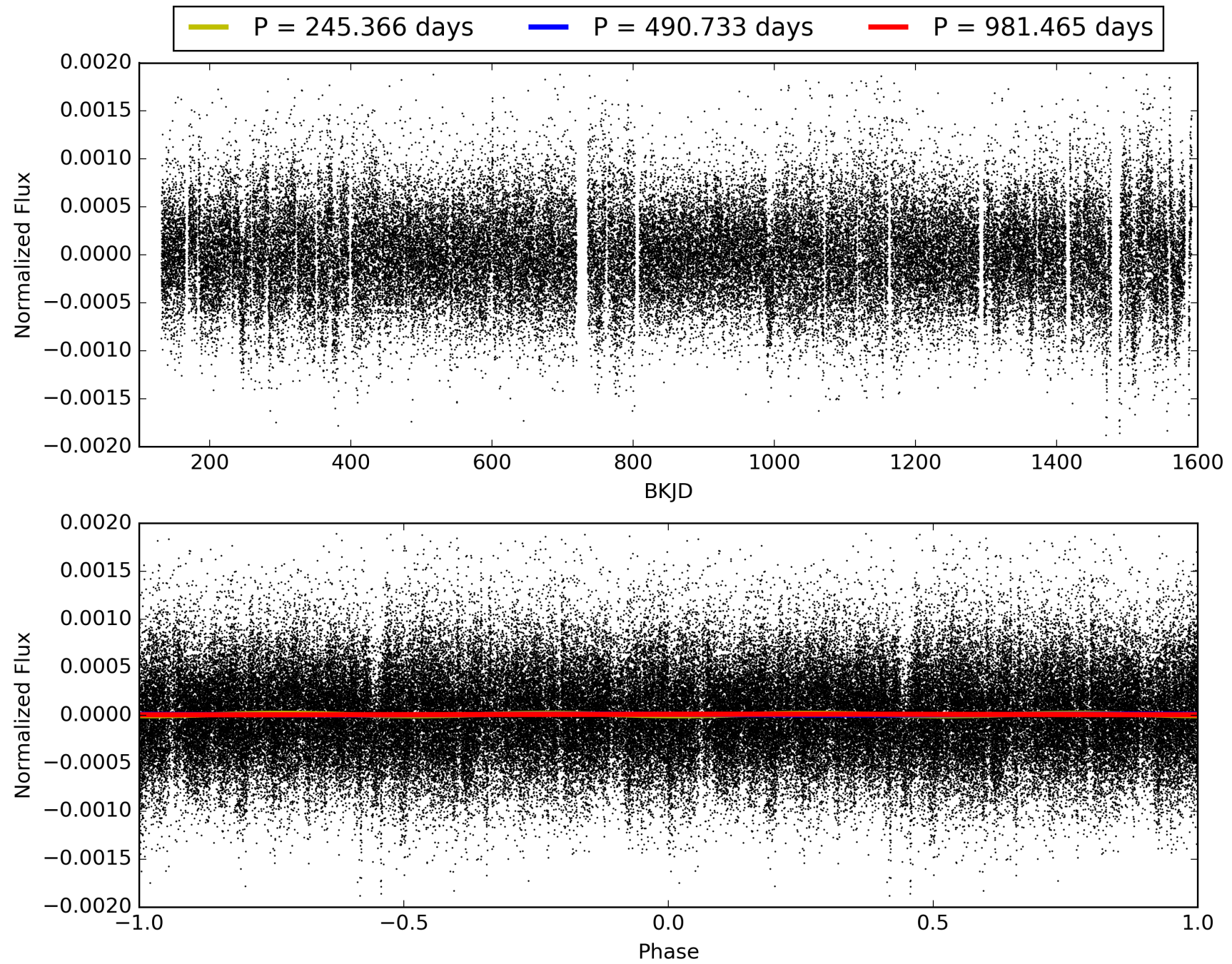
KIC: 8457341 Candidate: 1 of 1 Period: 490.733 d



TCE 008457341-01, PDC Light Curves

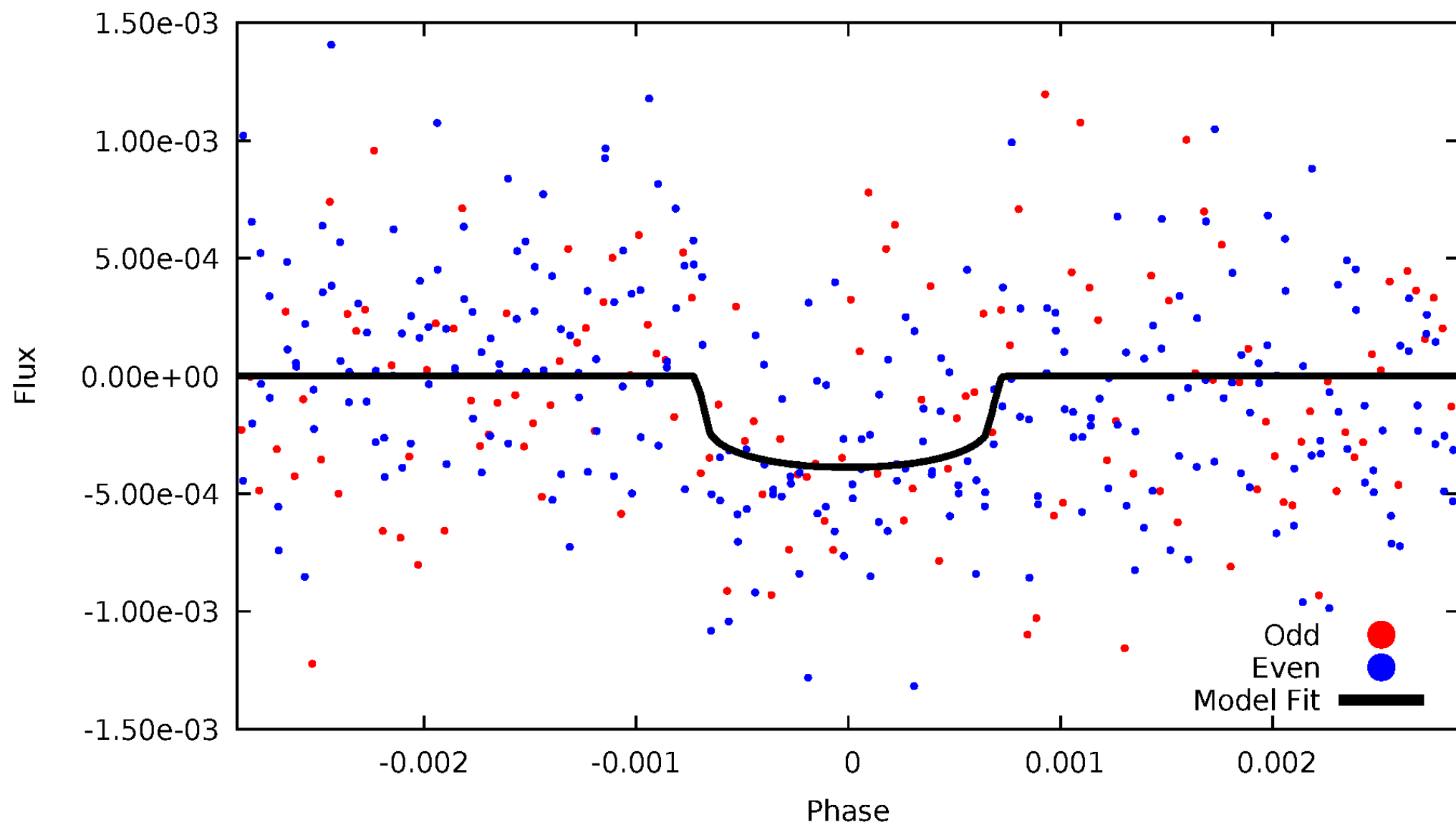


TCE 008457341-01



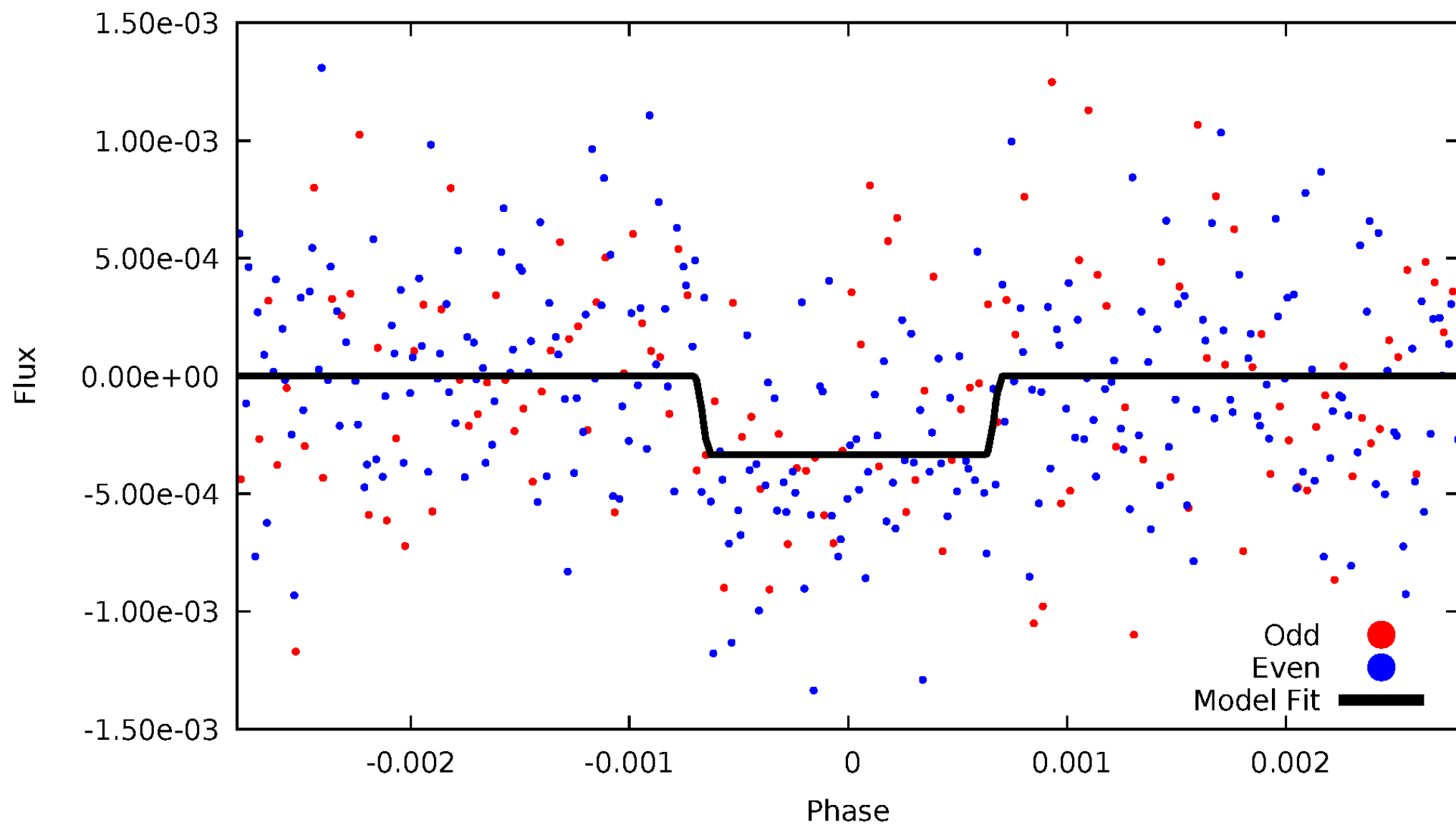
DV Odd/Even

TCE 008457341-01



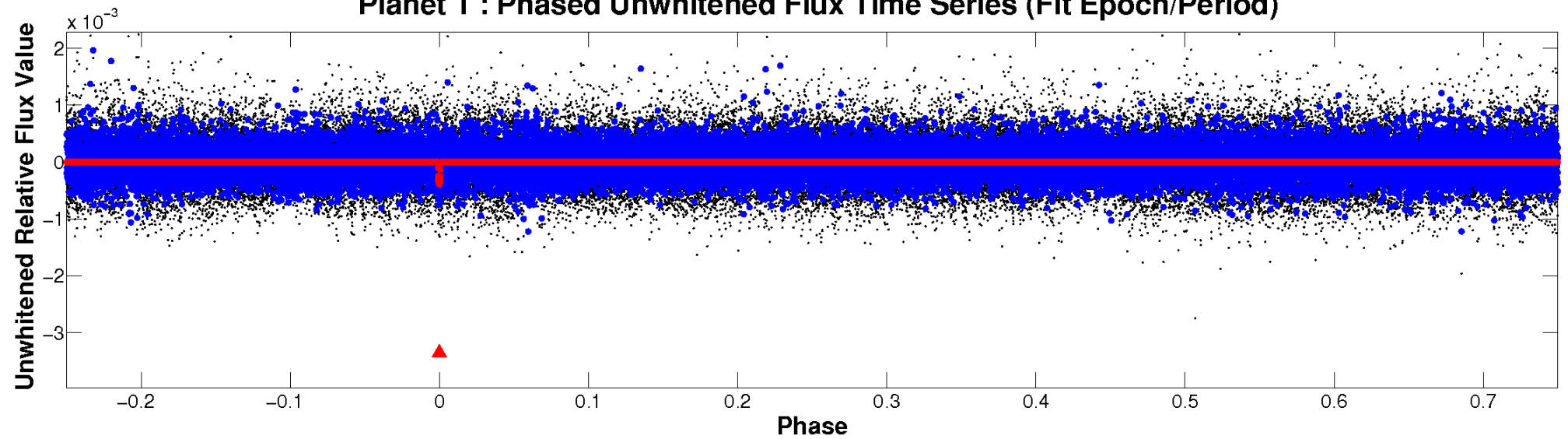
ALT Odd/Even

TCE 008457341-01

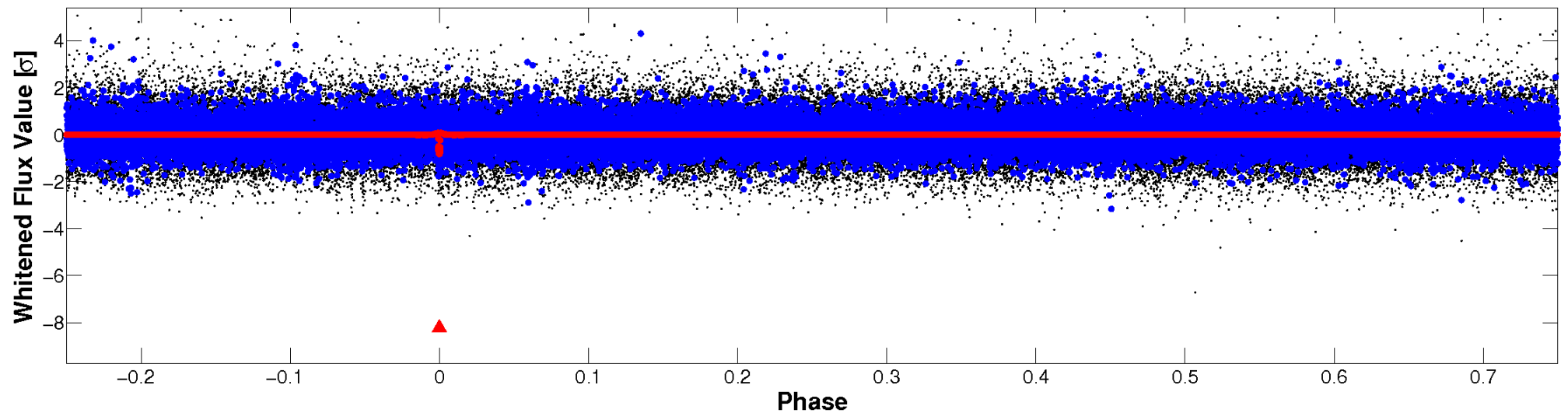


Non-Whitened Vs. Whitened Light Curve

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

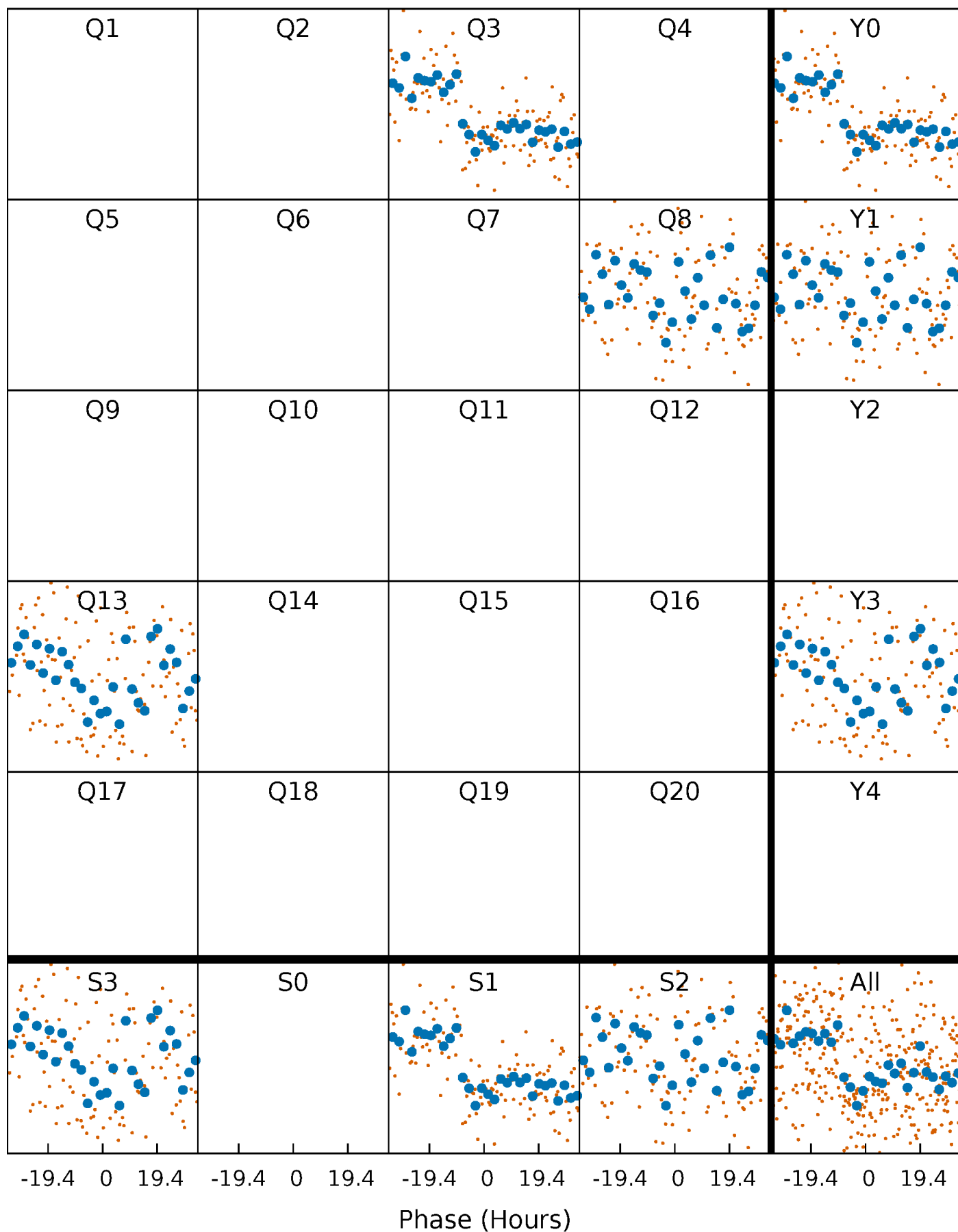


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



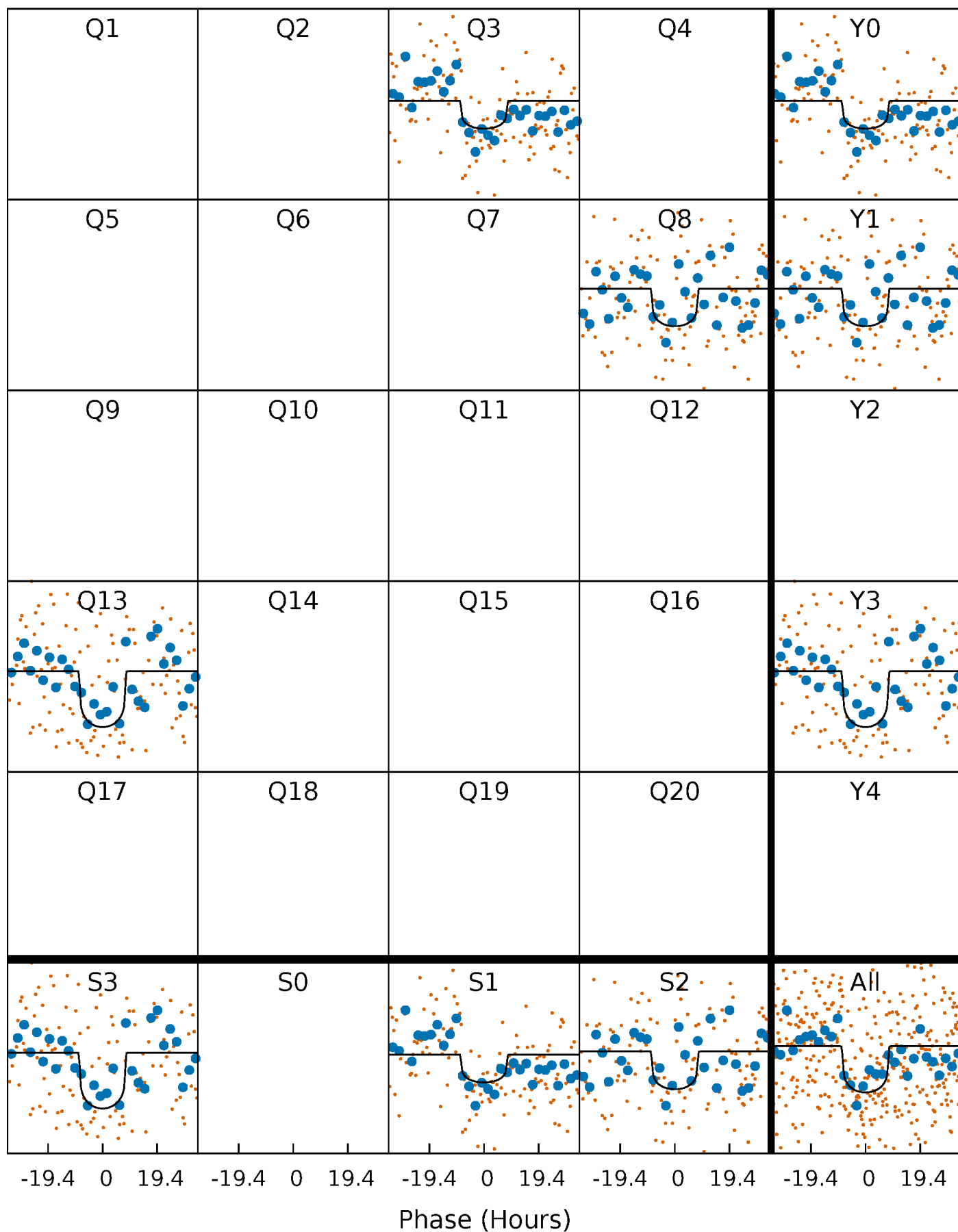
PDC Quarter-Phased Transit Curves

TCE 008457341-01 P=490.732513 Days $T_0=283.468720$ (BKJD)



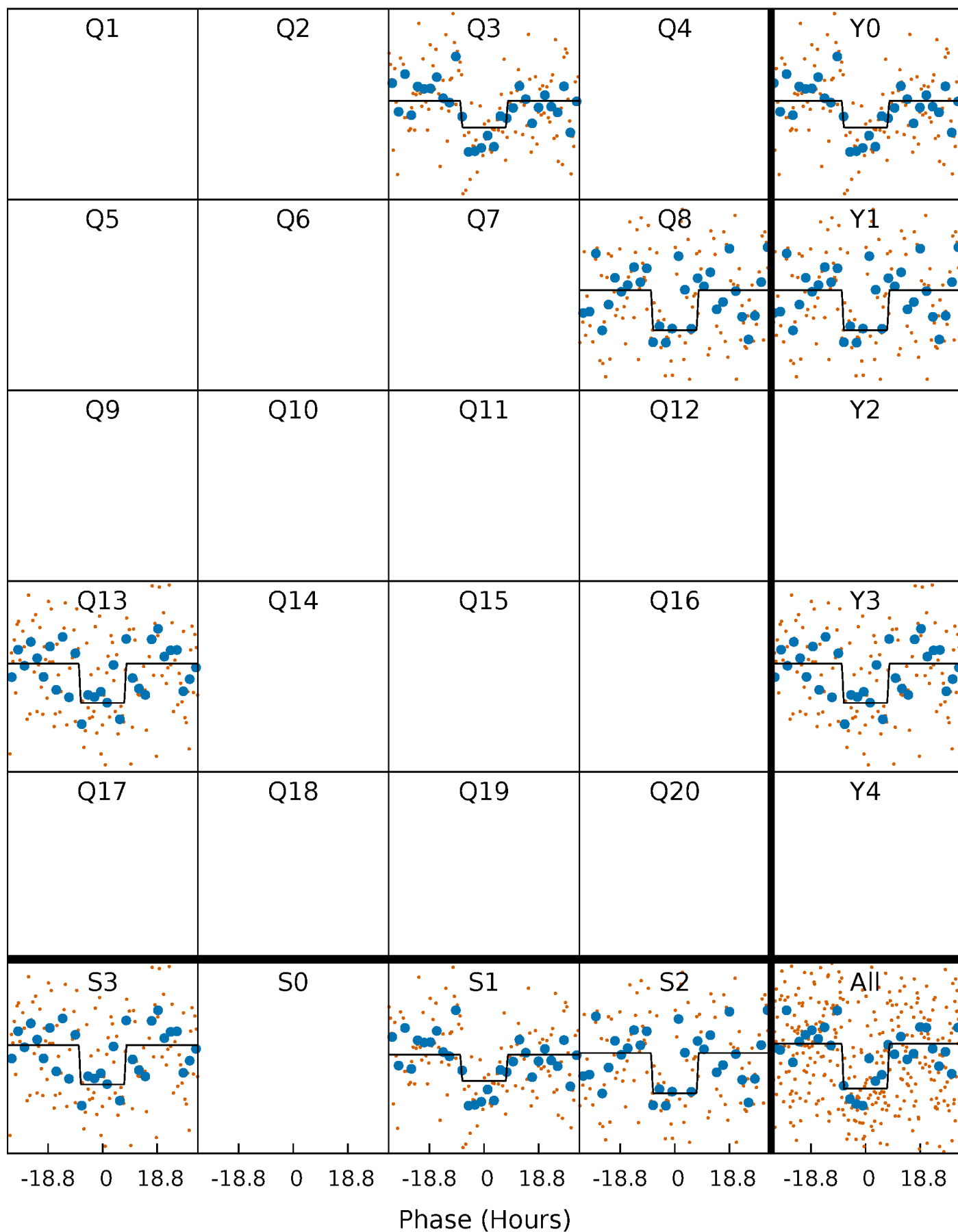
DV Quarter-Phased Transit Curves

TCE 008457341-01 P=490.732513 Days $T_0=283.468720$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

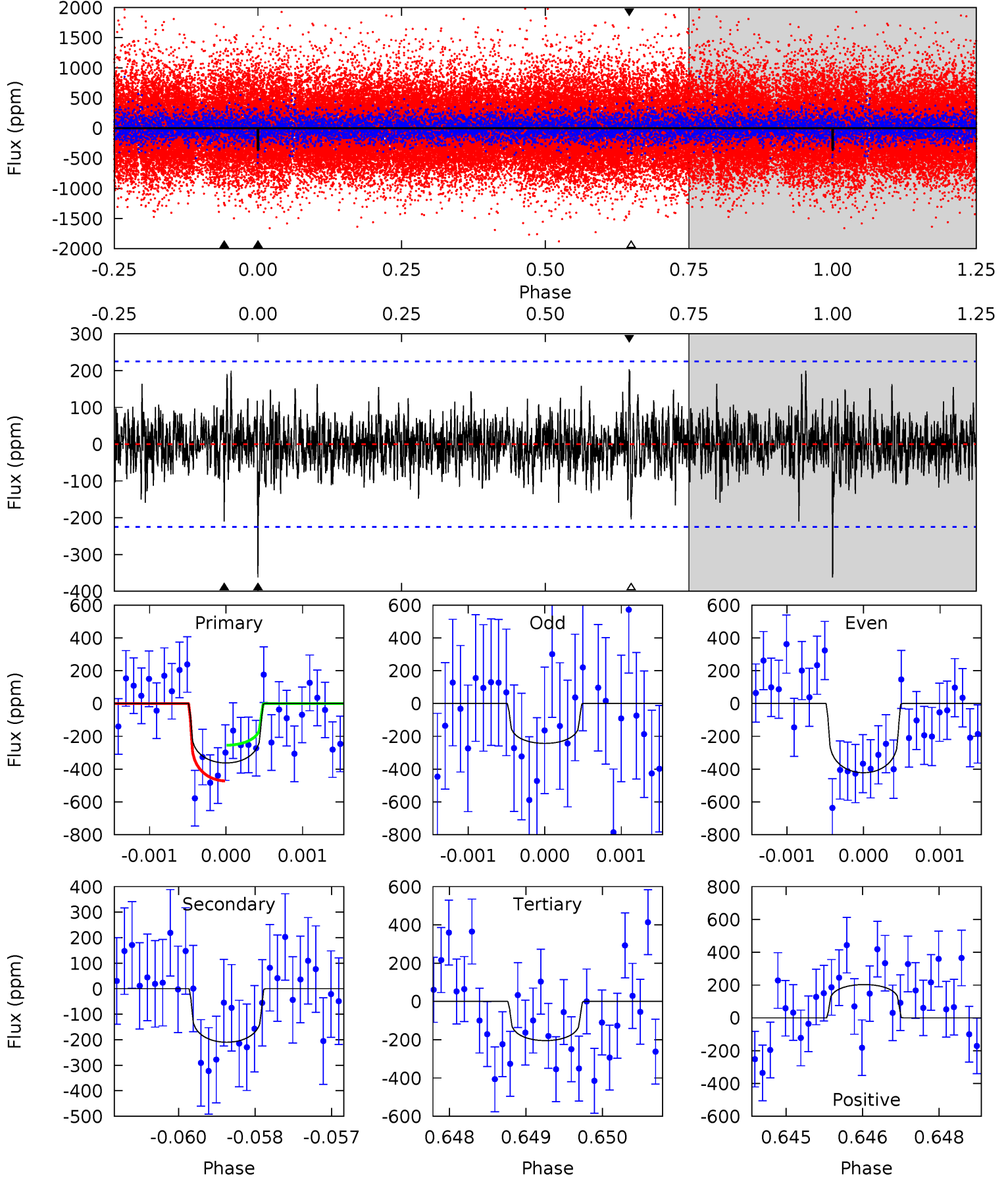
TCE 008457341-01 P=490.745999 Days $T_0=283.453908$ (BKJD)



DV Model-Shift Uniqueness Test

008457341-01, P = 490.732513 Days, E = 283.468720 Days

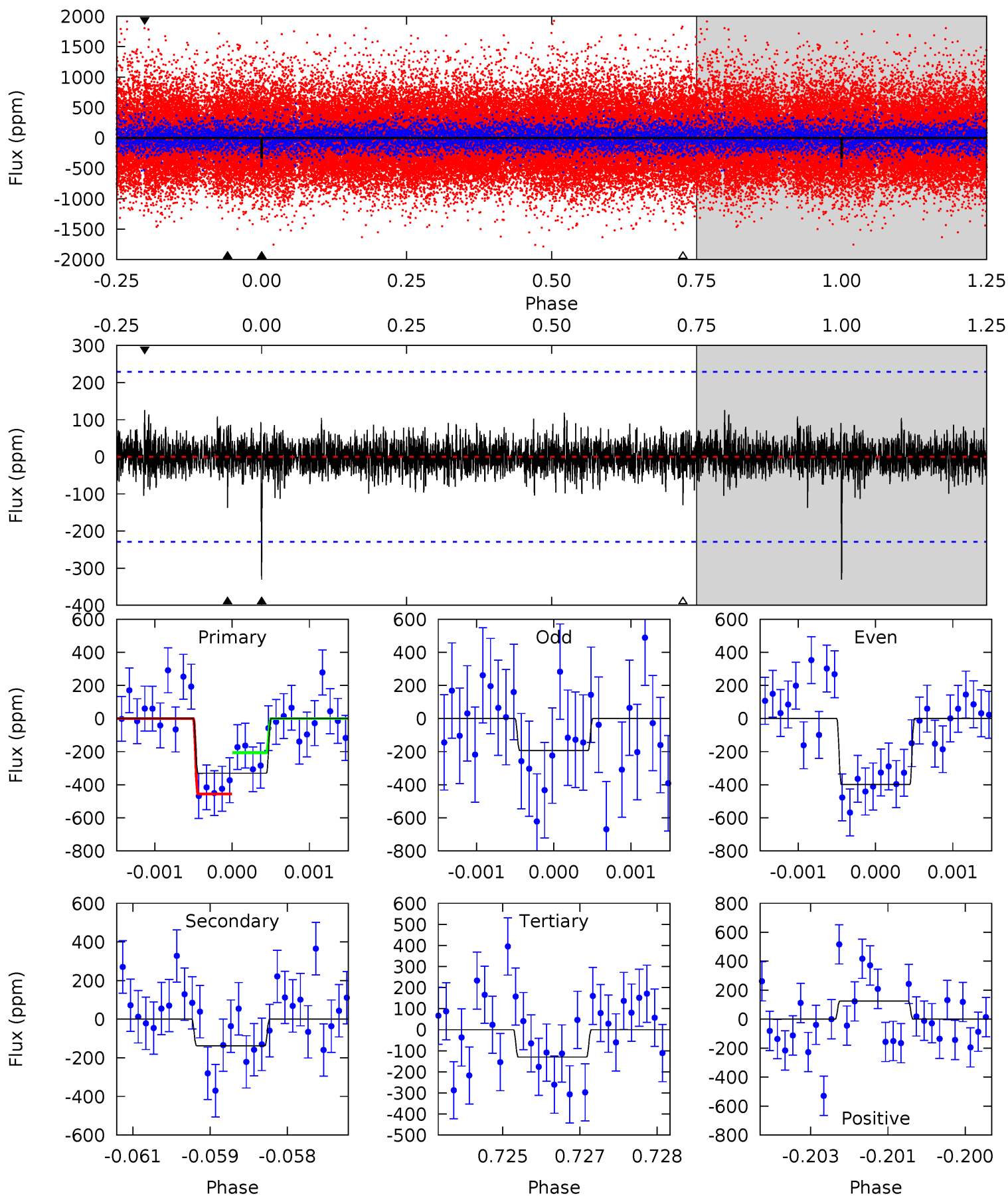
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.67	5.02	4.89	4.85	5.38	3.18	1.17	3.78	3.82	0.13	0.17	2.03	1.18	0.36	2.61



Alt Model-Shift Uniqueness Test

008457341-01, P = 490.745999 Days, E = 283.453908 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.79	3.23	3.05	2.96	5.39	3.19	0.70	4.73	4.83	0.18	0.27	2.30	1.13	0.28	2.94



Stellar Parameters For KIC 008457341

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5624^{+186}_{-169}	$4.420^{+0.167}_{-0.222}$	$-0.480^{+0.300}_{-0.300}$	$0.888^{+0.243}_{-0.150}$	$0.756^{+0.115}_{-0.044}$	$1.522^{+1.113}_{-0.780}$
	+3%/-3%	+4%/-5%	+62%/-62%	+27%/-17%	+15%/-6%	+73%/-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 008457341-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-210 ± 42	$1.95^{+1.07}_{-0.95}$	313^{+26}_{-20}	4897^{+1781}_{-741}	$36322^{+106930}_{-20974}$
Alt.	-137 ± 42	$1.80^{+1.02}_{-0.86}$	313^{+25}_{-21}	4669^{+1571}_{-775}	28588^{+75731}_{-18134}

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

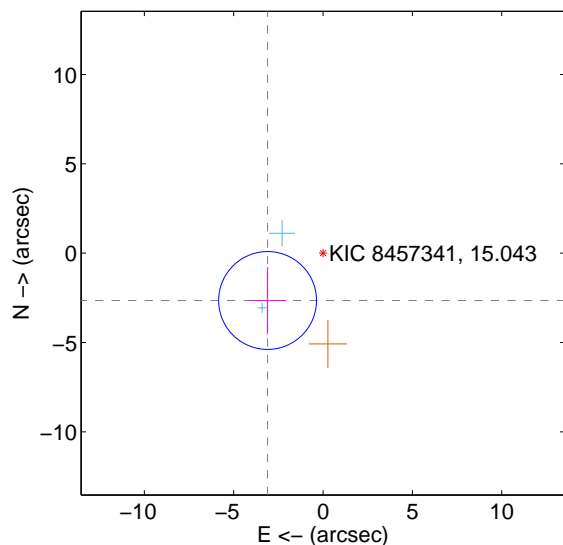
Supplemental centroid analysis for 008457341-01. Kepler magnitude: 15.04. Transit SNR 7.29

There are 2 quarters with good PRF difference image offsets

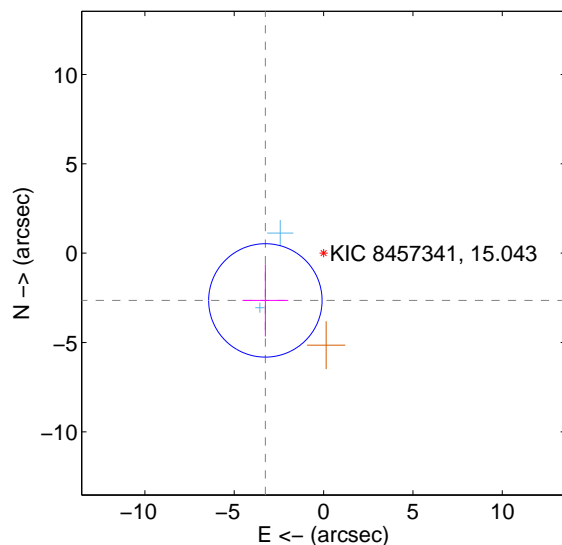
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.079 ± 0.912	4.47	3.103 ± 1.047	-2.648 ± 1.867
PRF-fit source offset from KIC position	4.195 ± 1.058	3.97	3.257 ± 1.282	-2.643 ± 2.016
photometric centroid source offset	4.16 ± 2.37	1.75	2.83 ± 2.21	-3.04 ± 2.51

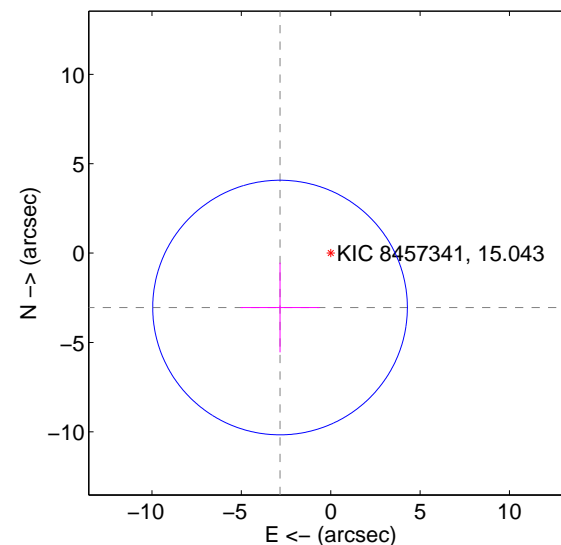
offset from difference PRF-fit to OOT PRF-fit



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.

Q1 no difference image



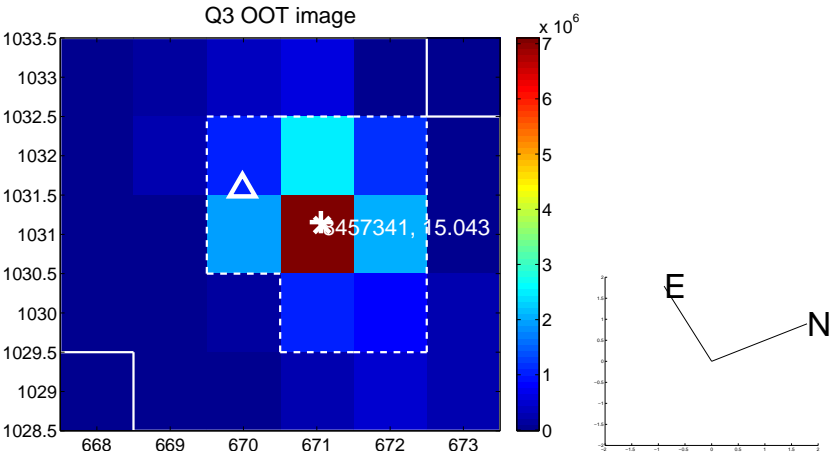
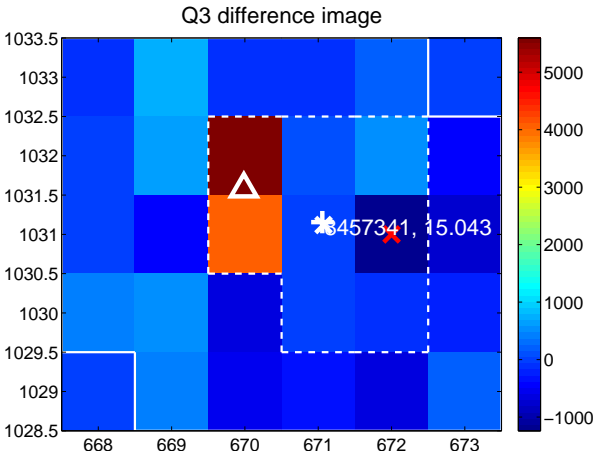
Q1 no OOT image



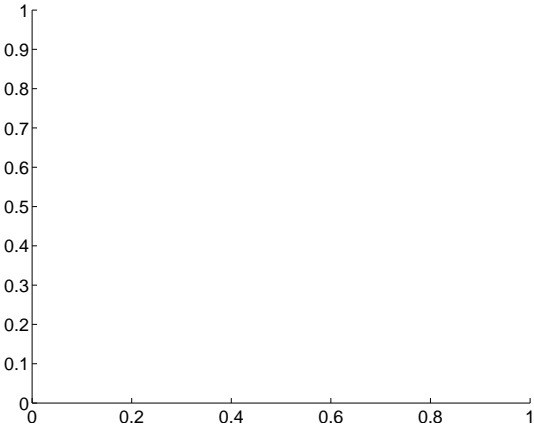
Q2 no difference image



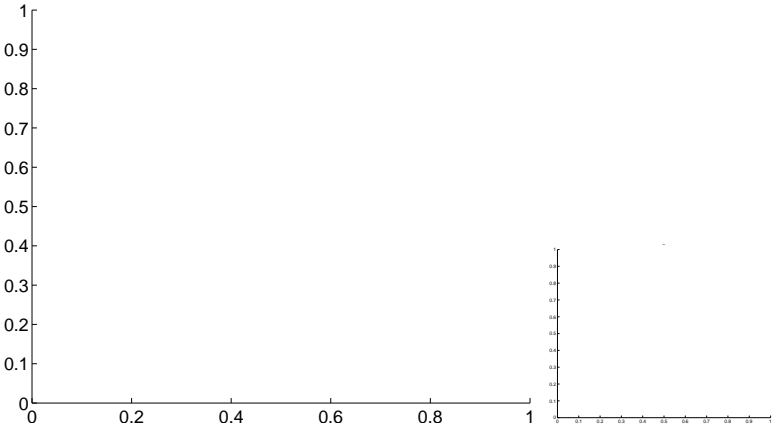
Q2 no OOT image



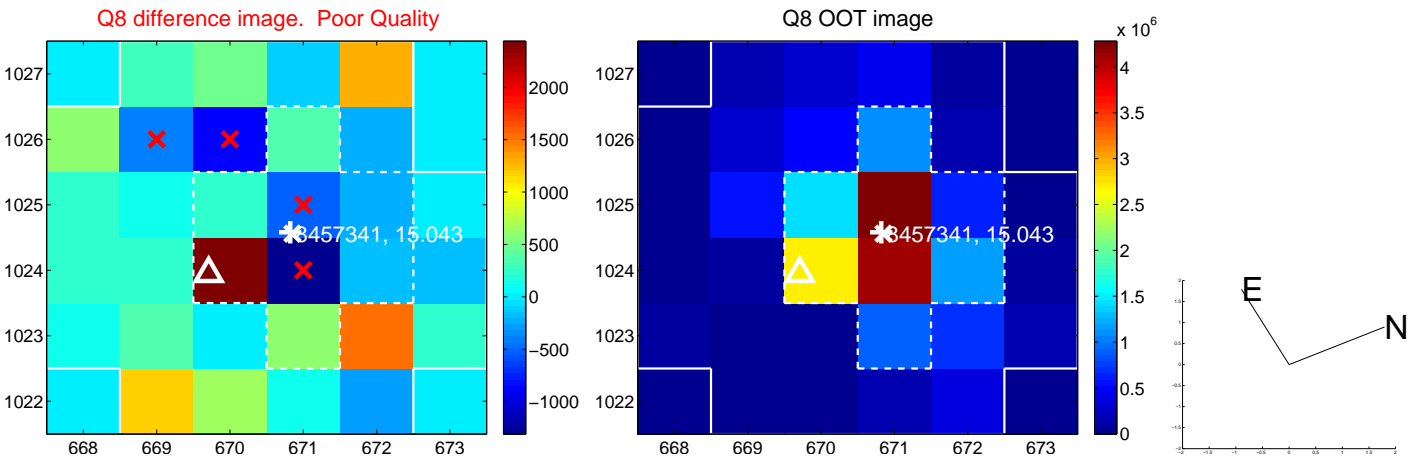
Q4 no difference image



Q4 no OOT image



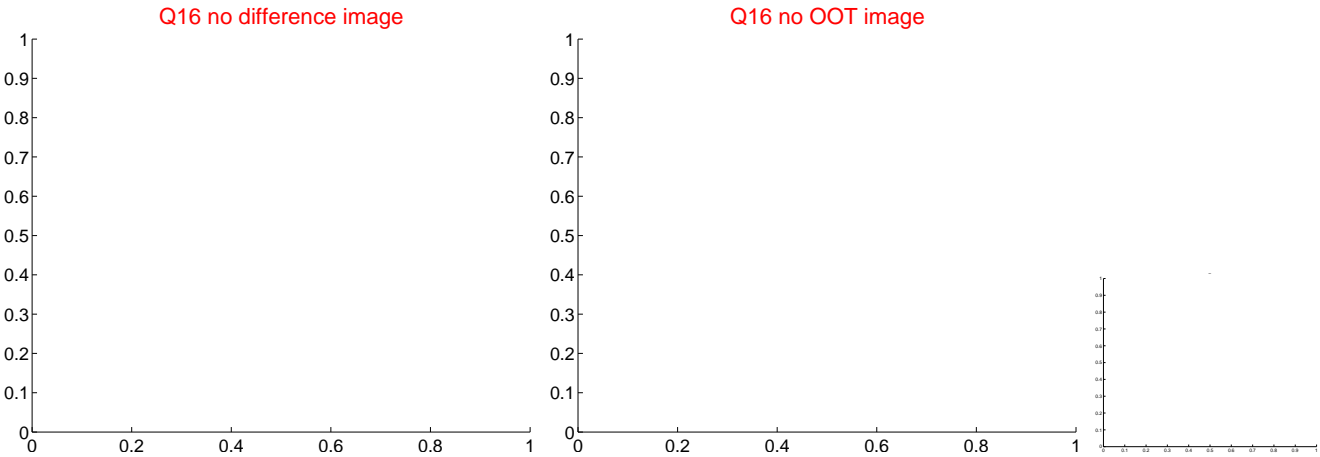
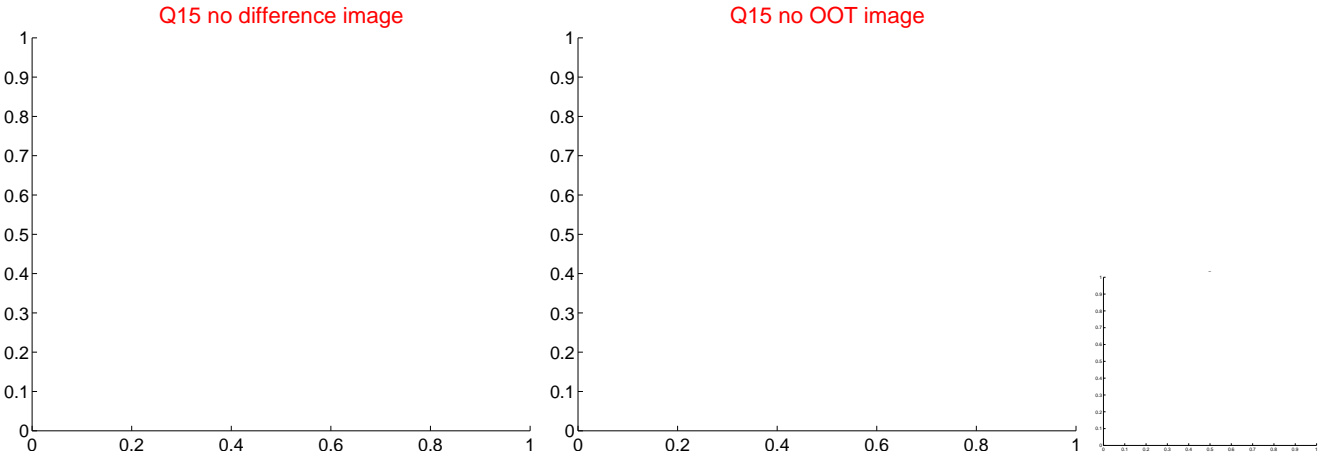
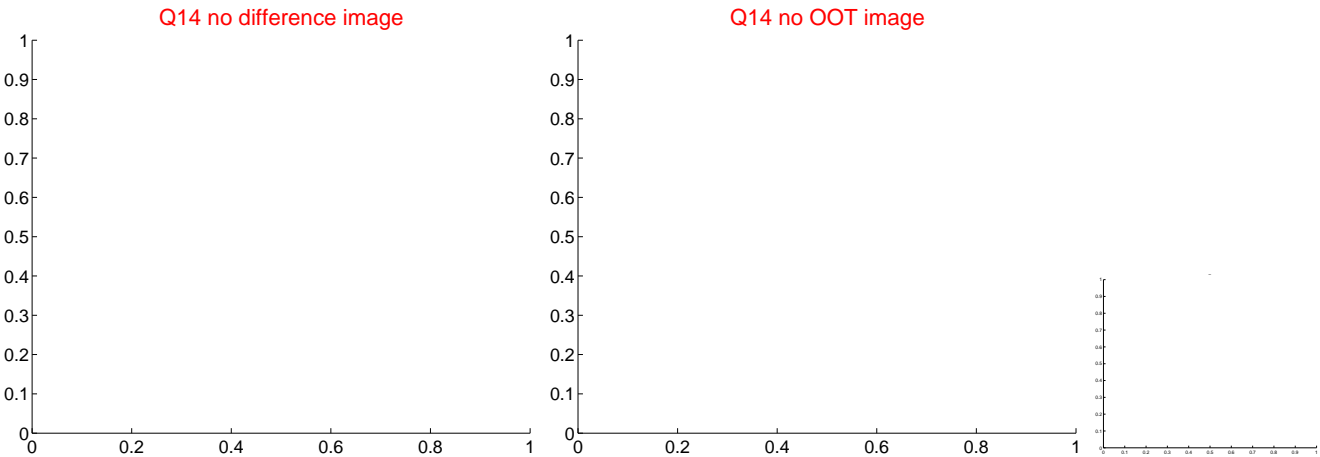
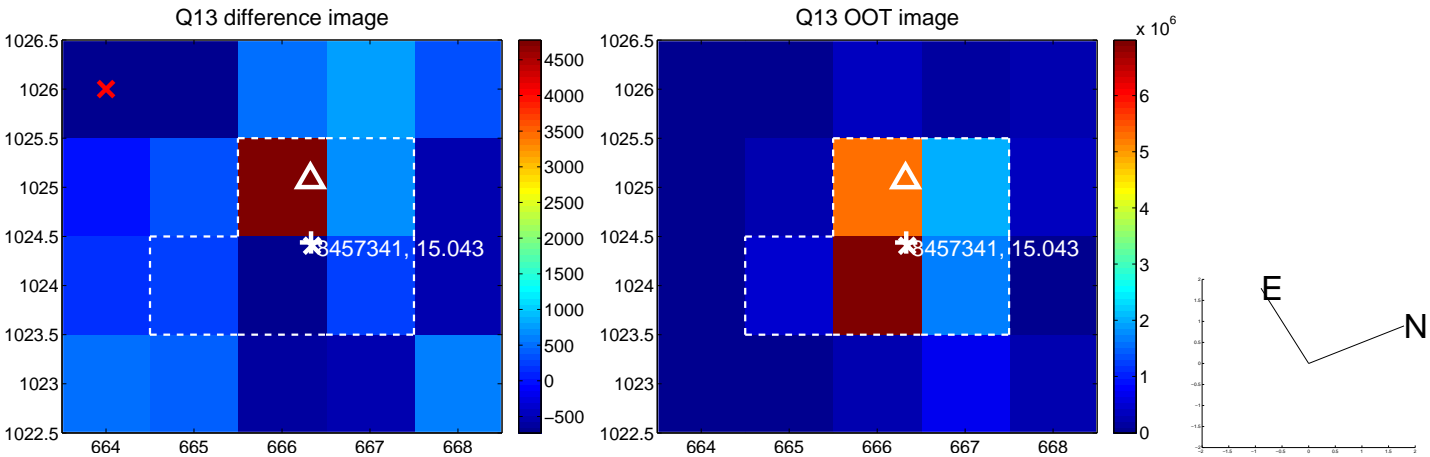
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



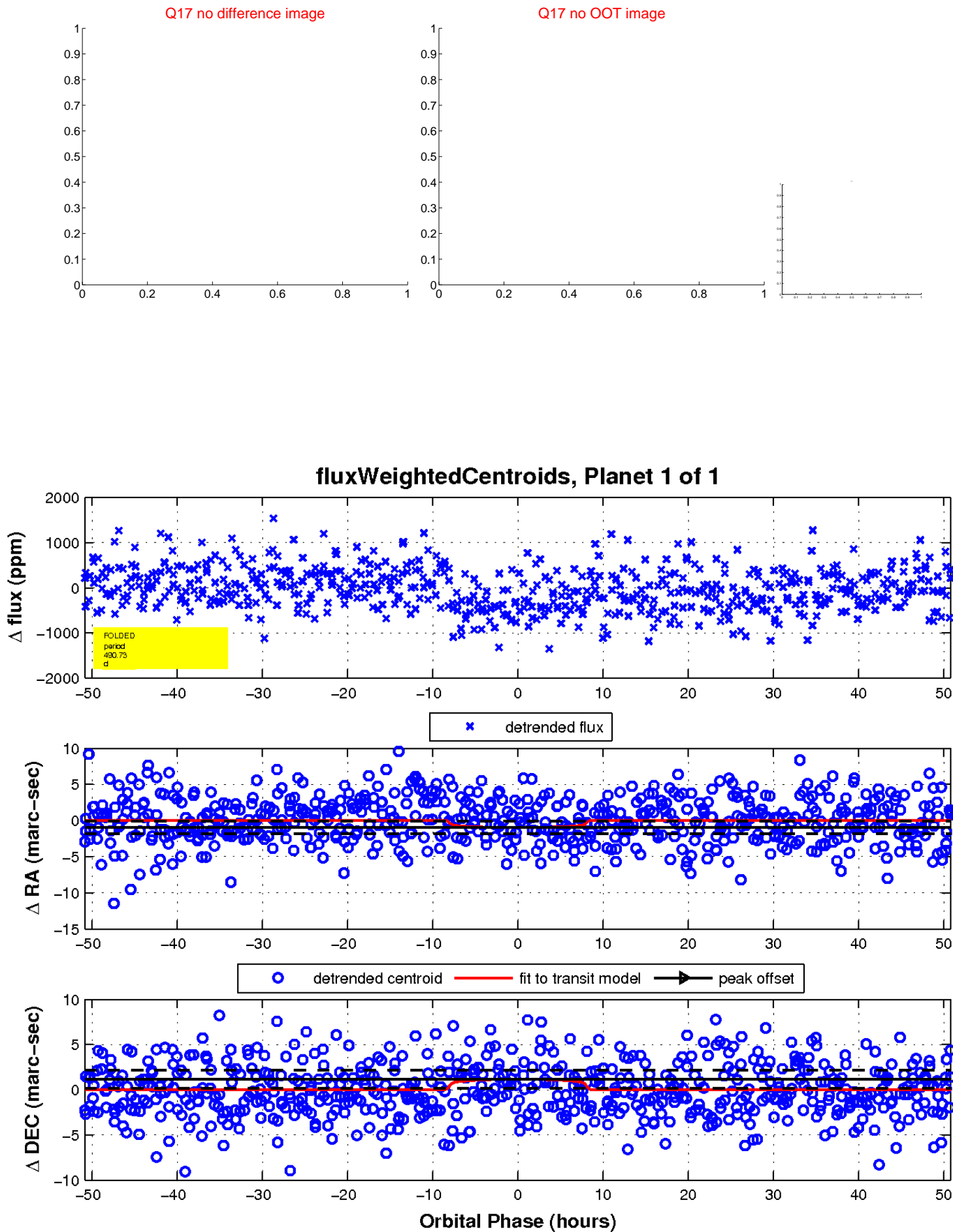
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

