

KIC 012647757

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
012647757-01	OBS	8241.01	490.667735	561.568229	331.0	17.795	7.4	6.9	4.82	5037	10.95	6.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012647757-01	OBS	PC	0.25	0	0	0	0	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.

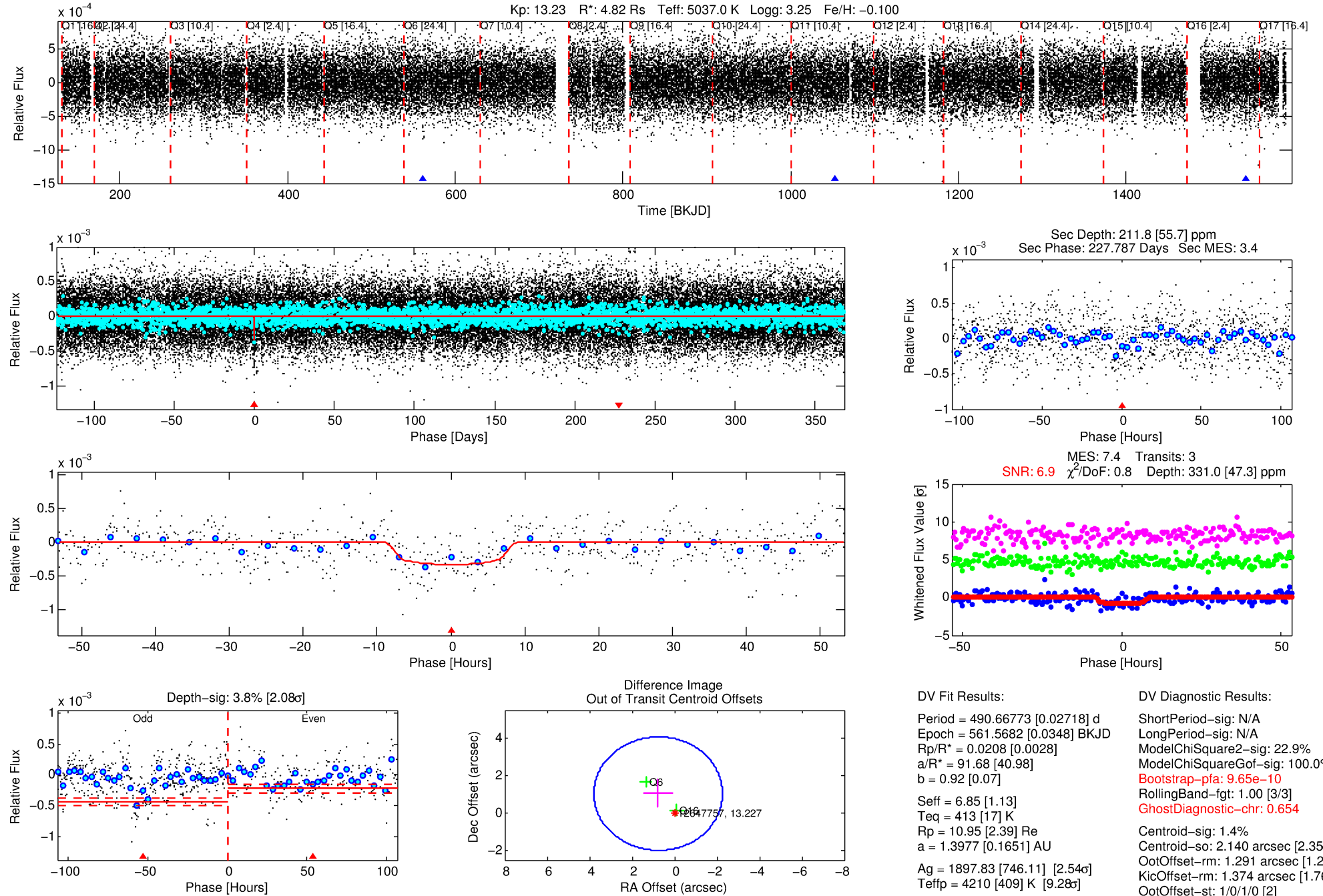
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012647757-01

No Significant Match Found

DV One-Page Summary

KIC: 12647757 Candidate: 1 of 1 Period: 490.668 d



DV Fit Results:

Period = 490.66773 [0.02718] d
Epoch = 561.5682 [0.0348] BKJD
Rp/R* = 0.0208 [0.0028]
a/R* = 91.68 [40.98]
b = 0.92 [0.07]
Seff = 6.85 [1.13]
Teff = 413 [17] K
Rp = 10.95 [2.39] Re
a = 1.3977 [0.1651] AU
Ag = 1897.83 [746.11] [2.54 σ]
Teffp = 4210 [409] K [9.28 σ]

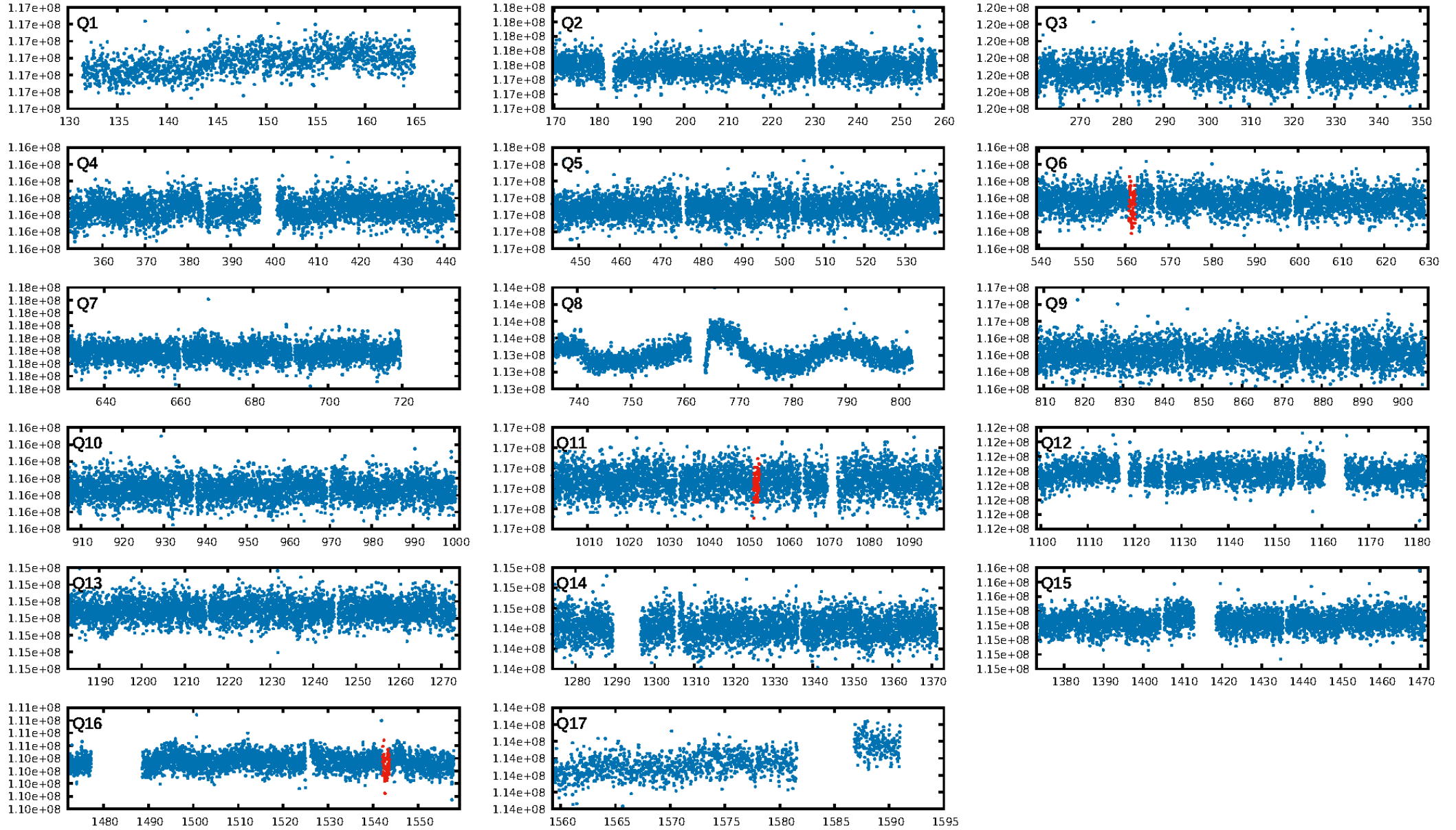
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 22.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.65e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.654
Centroid-sig: 1.4%
Centroid-so: 2.140 arcsec [2.35 σ]
OotOffset-rm: 1.291 arcsec [1.28 σ]
KicOffset-rm: 1.374 arcsec [1.76 σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

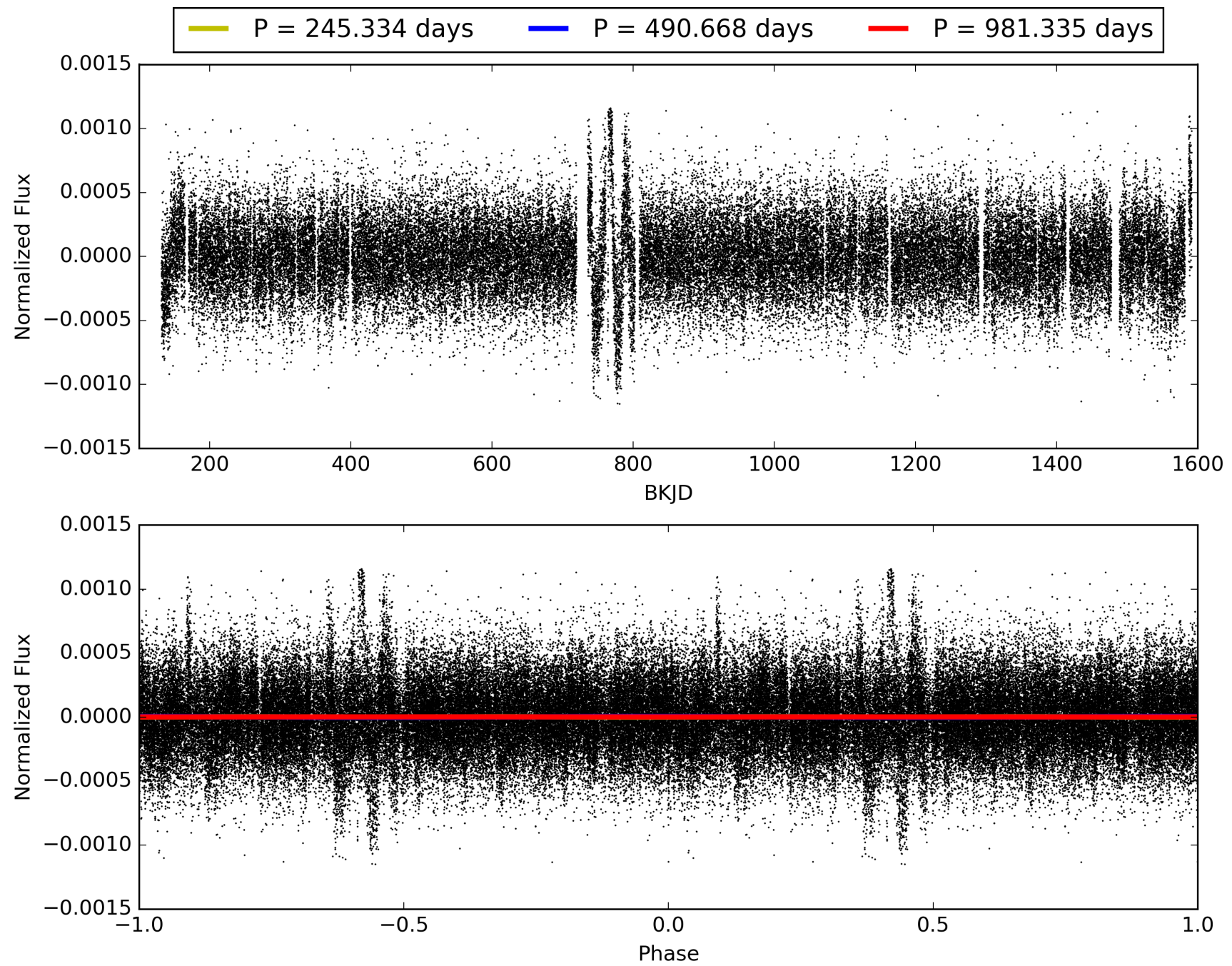
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:14:43 Z

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

TCE 012647757-01, PDC Light Curves

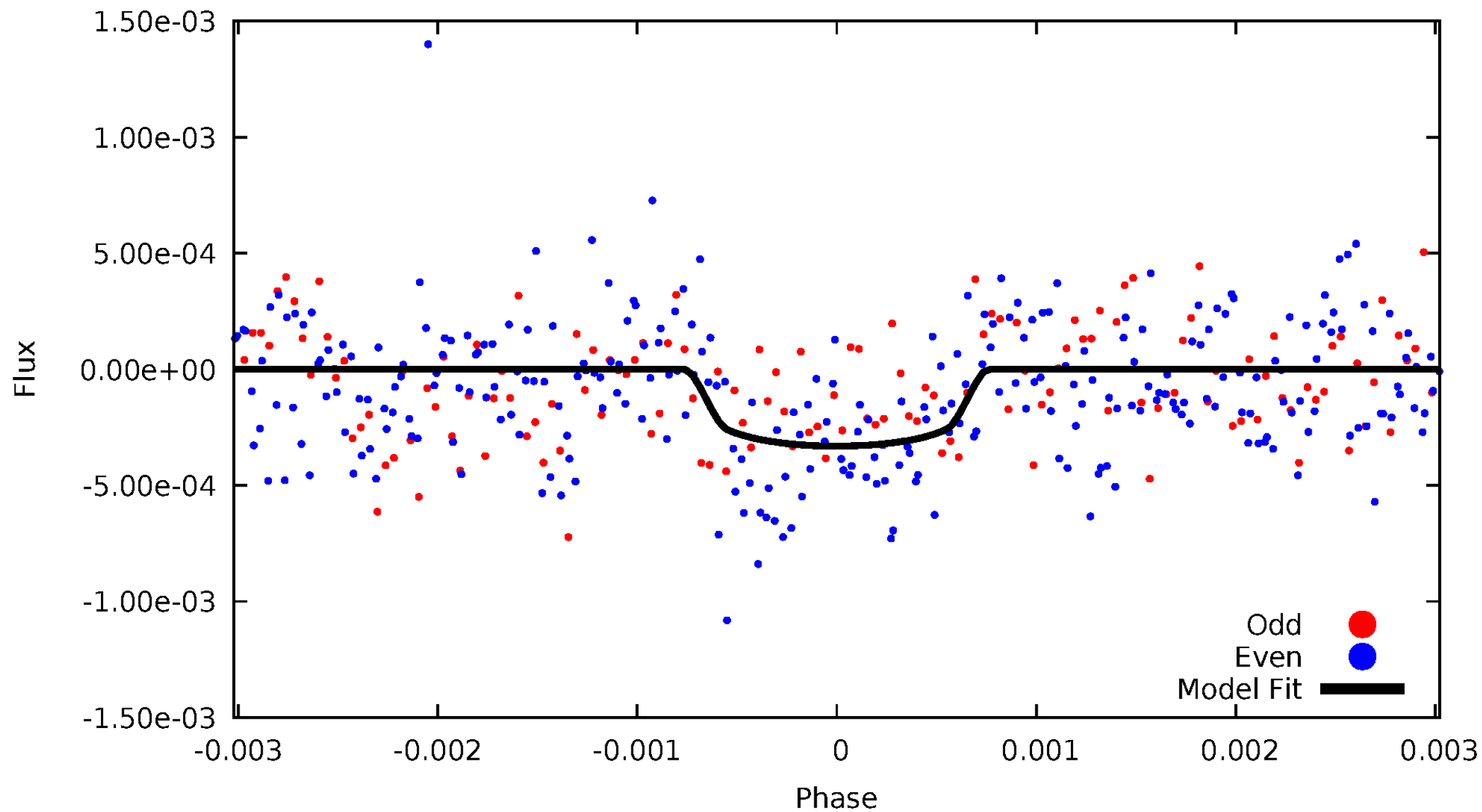


TCE 012647757-01



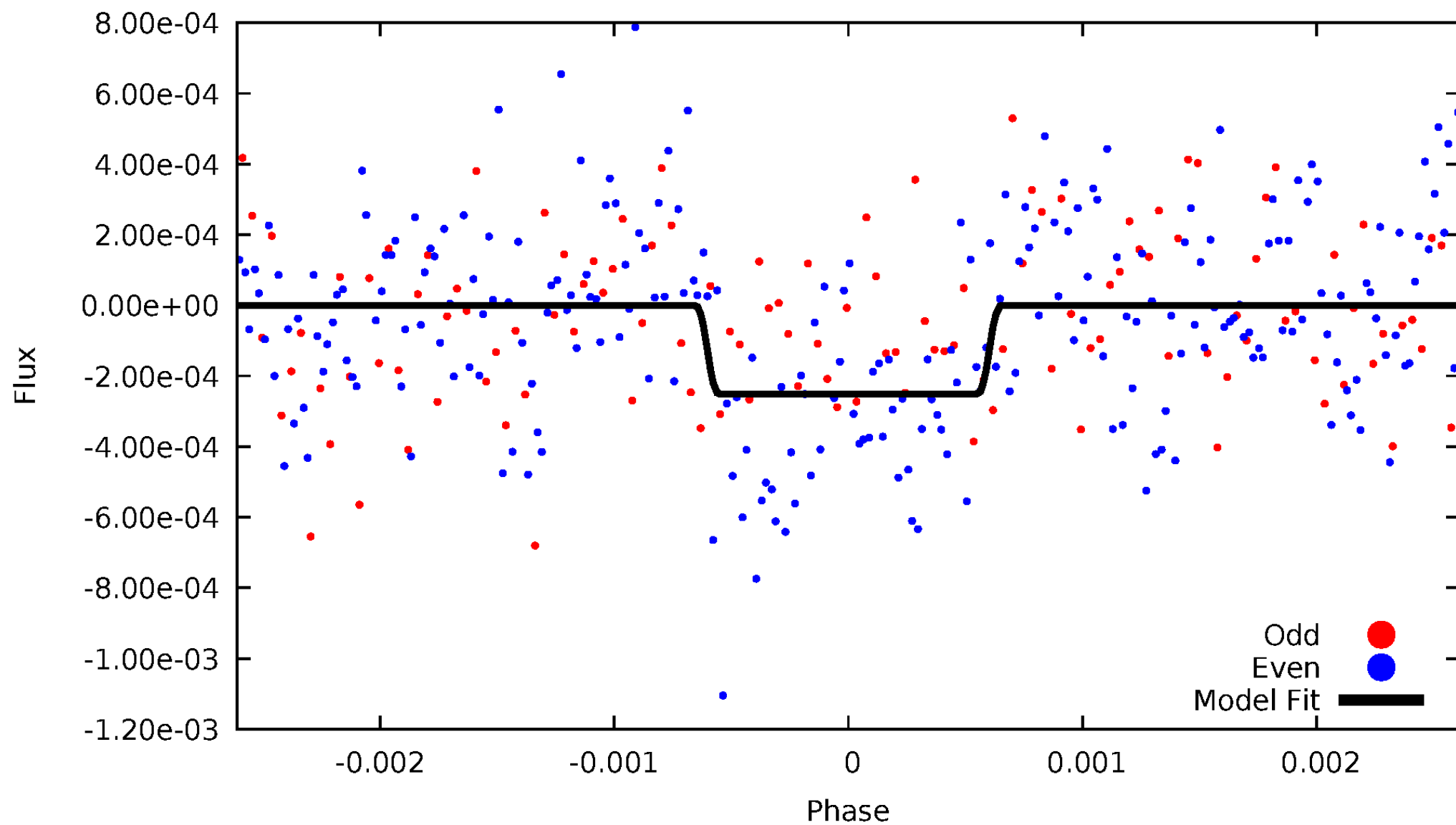
DV Odd/Even

TCE 012647757-01



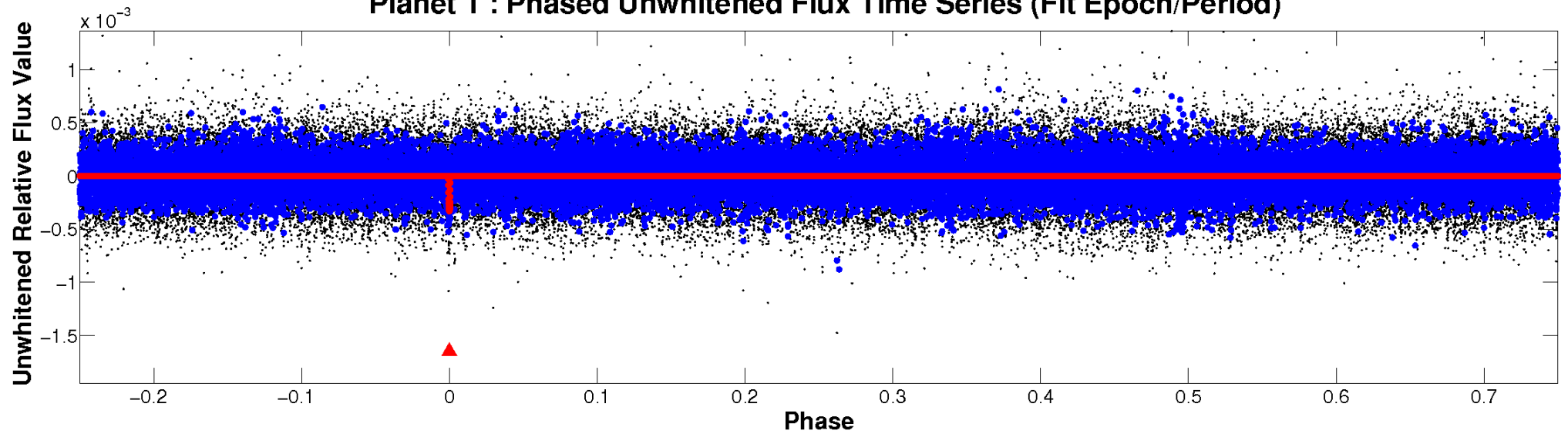
ALT Odd/Even

TCE 012647757-01

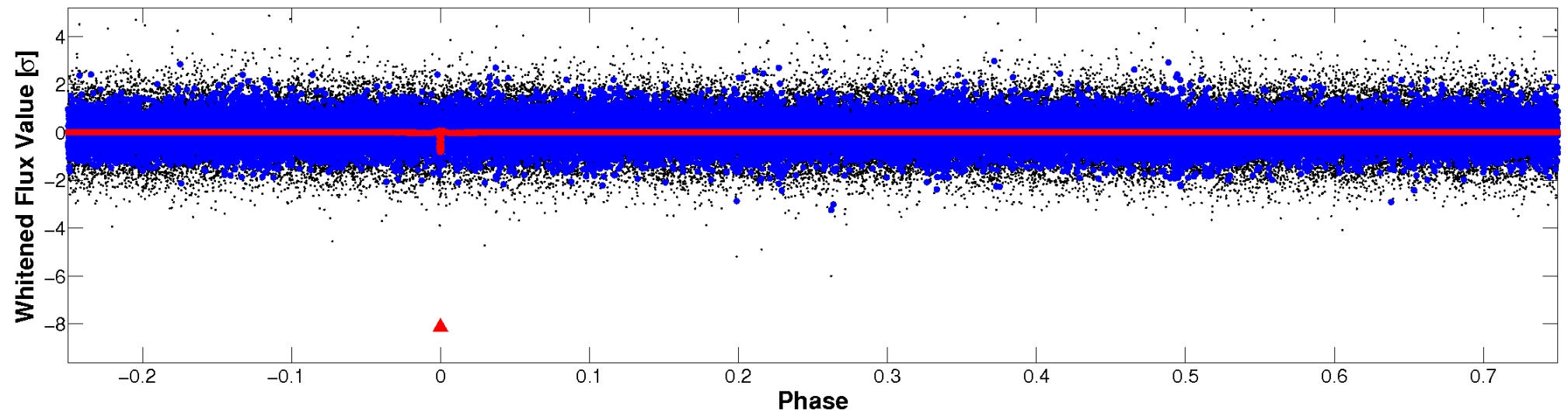


Non-Whitened Vs. Whitened Light Curve

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

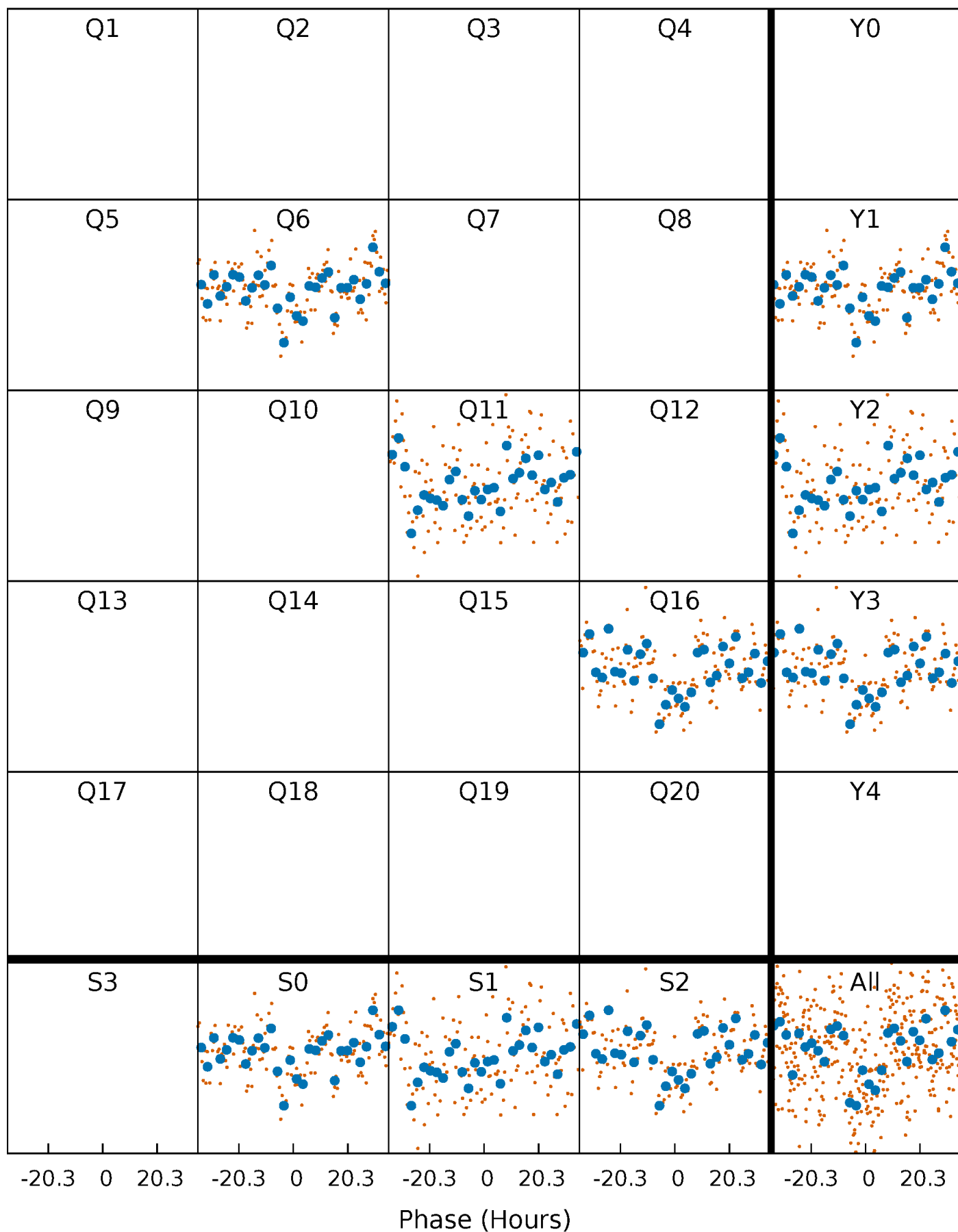


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



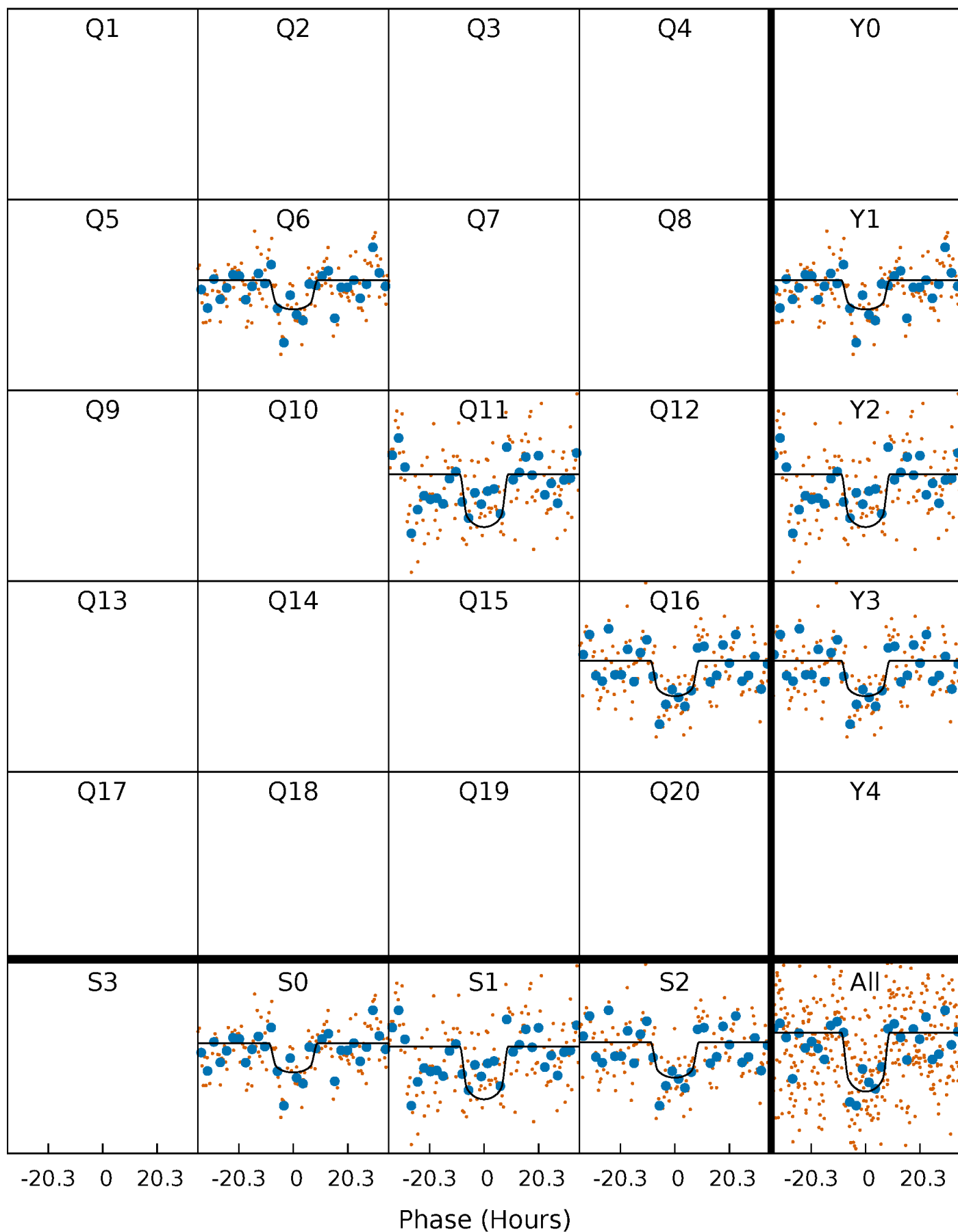
PDC Quarter-Phased Transit Curves

TCE 012647757-01 P=490.667735 Days $T_0=561.568229$ (BKJD)



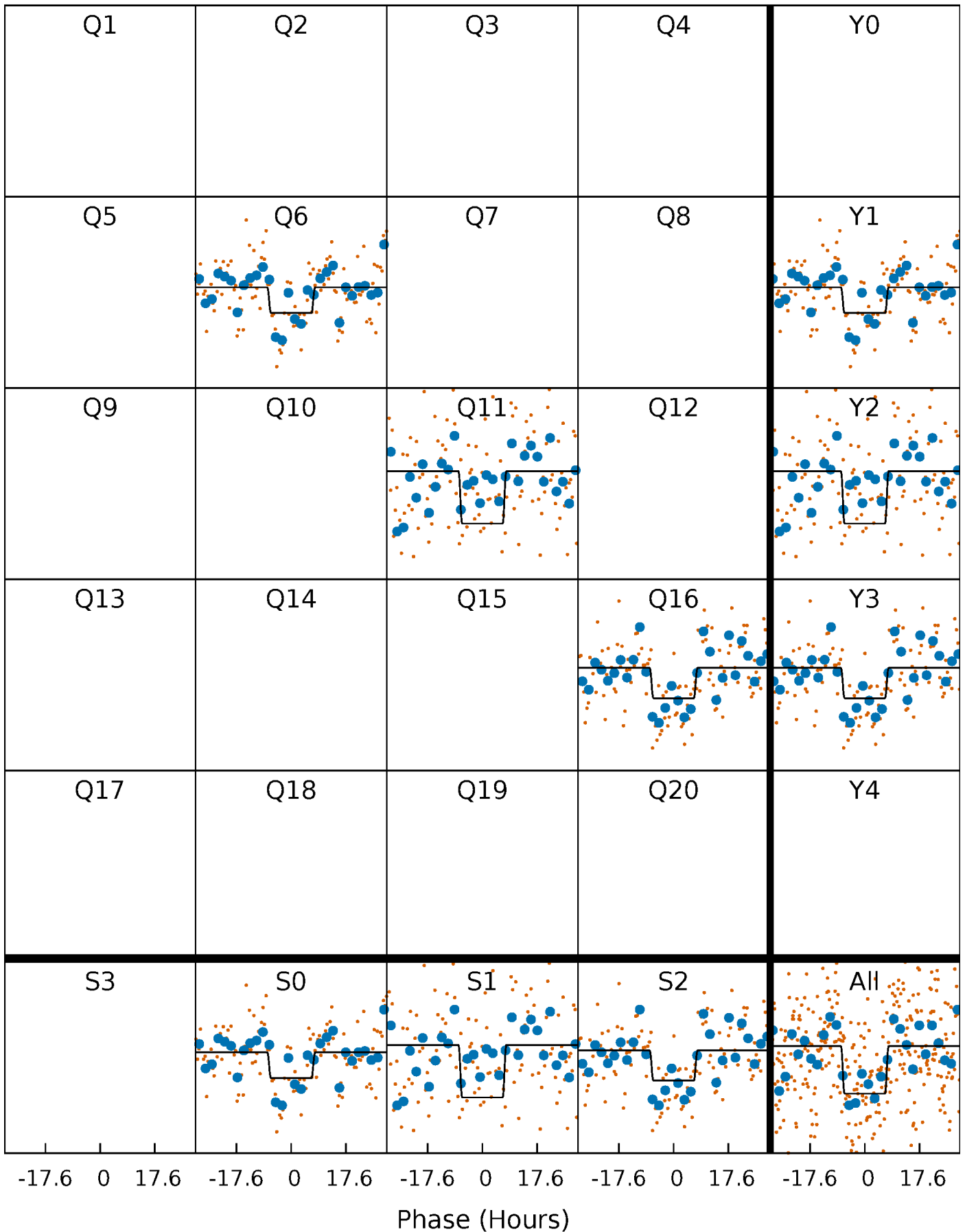
DV Quarter-Phased Transit Curves

TCE 012647757-01 P=490.667735 Days $T_0=561.568229$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

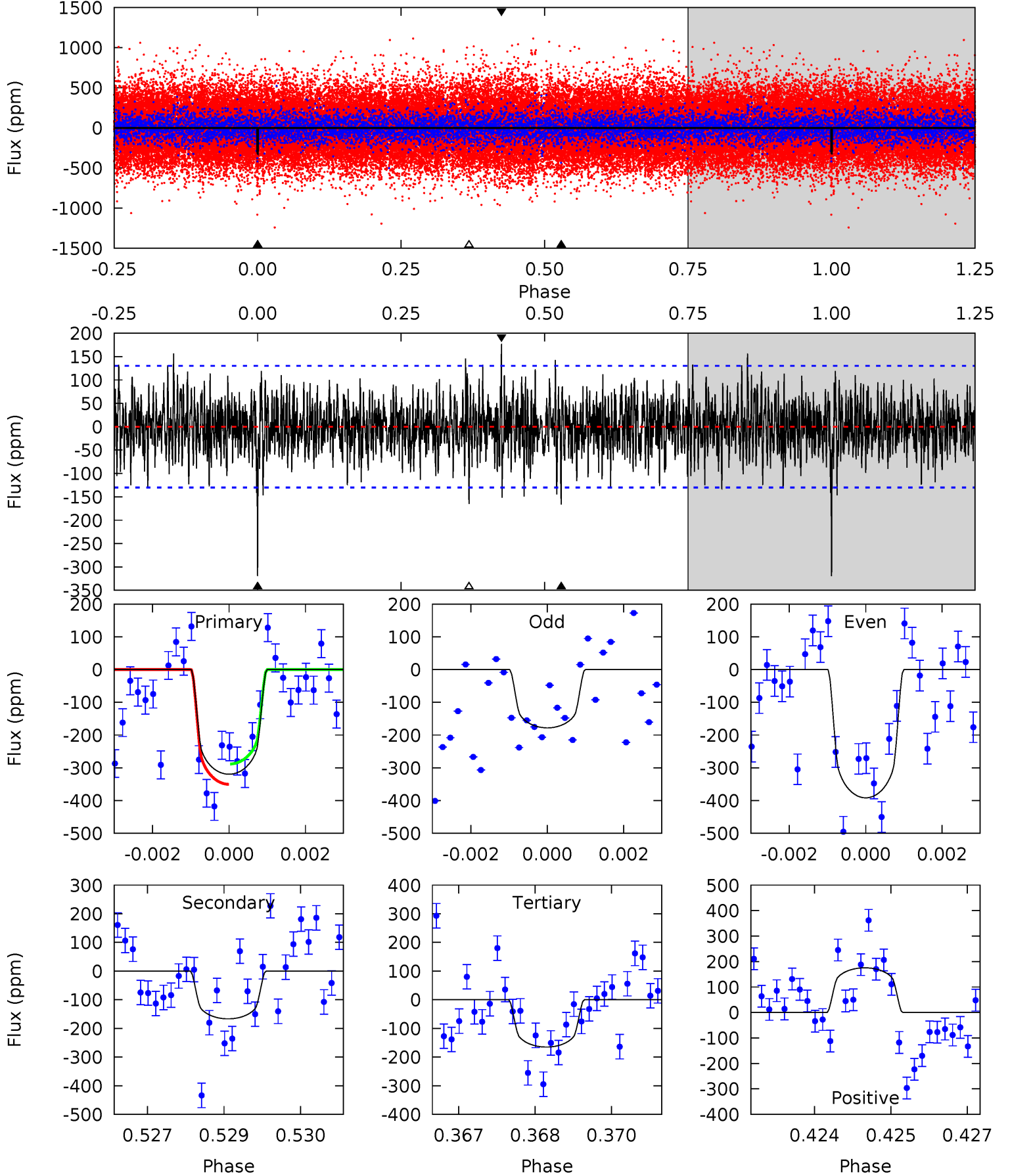
TCE 012647757-01 P=490.664265 Days $T_0=561.568226$ (BKJD)



DV Model-Shift Uniqueness Test

012647757-01, $P = 490.667735$ Days, $E = 70.900494$ Days

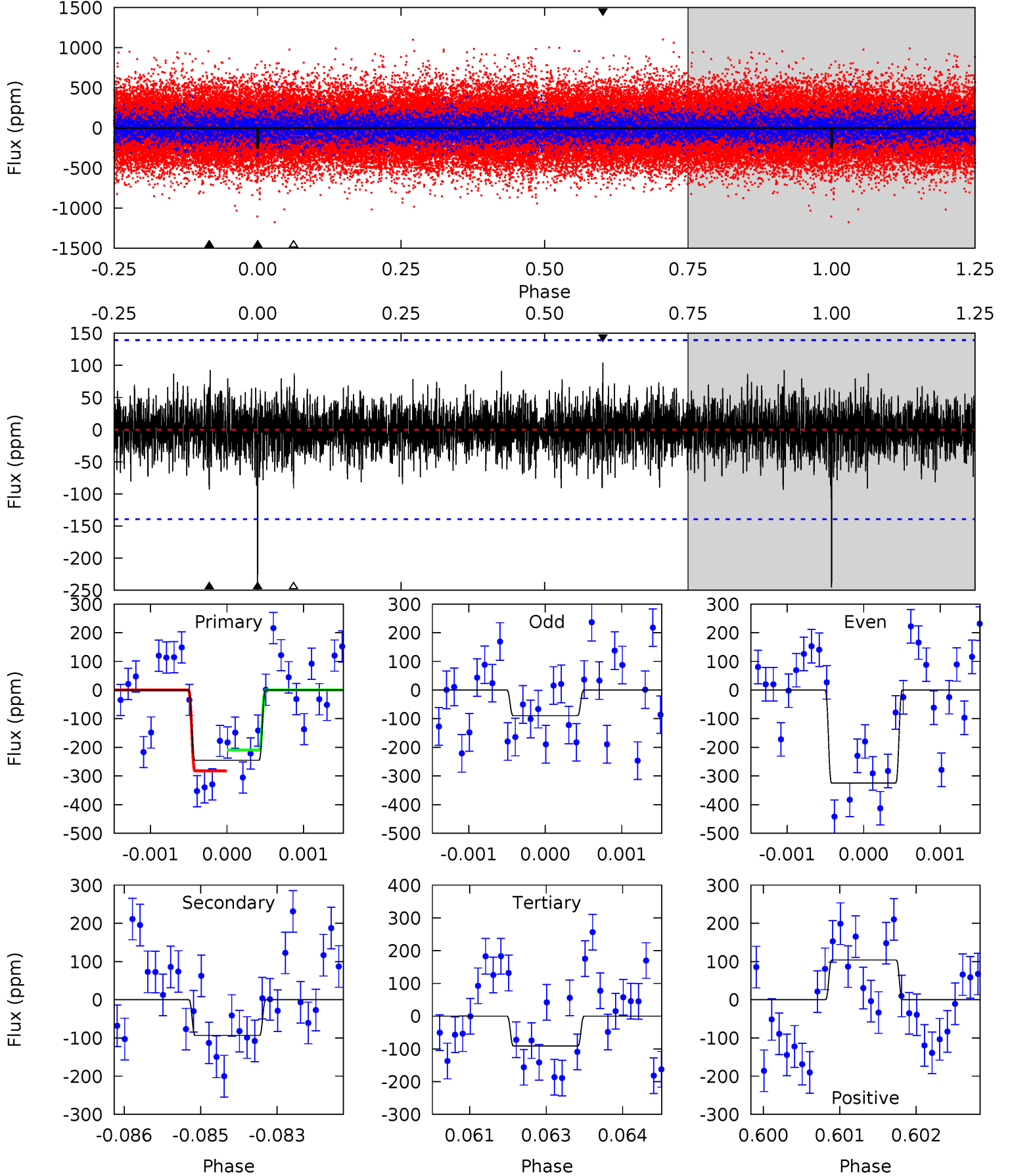
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.2	6.88	6.81	7.23	5.37	3.17	1.86	6.37	5.95	0.07	-0.36	4.18	0.86	0.35	1.27



Alt Model-Shift Uniqueness Test

012647757-01, $P = 490.664265$ Days, $E = 70.903961$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.52	3.62	3.54	4.04	5.40	3.22	1.01	5.98	5.48	0.08	-0.42	4.31	0.90	0.30	1.41



Stellar Parameters For KIC 012647757

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5037^{+87}_{-137}	$3.252^{+0.030}_{-0.030}$	$-0.100^{+0.200}_{-0.250}$	$4.817^{+0.359}_{-0.837}$	$1.513^{+0.255}_{-0.437}$	$0.019^{+0.005}_{-0.002}$
	+2%/-3%	+1%/-1%	+200%/-250%	+7%/-17%	+17%/-29%	+25%/-10%
Source	PHO1	AST9	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 012647757-01 / KOI 8241.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-167 ± 24	$11.02^{+1.59}_{-1.63}$	575^{+15}_{-18}	4157^{+247}_{-230}	1506^{+533}_{-386}
Alt.	-93 ± 26	$8.33^{+1.64}_{-1.53}$	576^{+13}_{-17}	4130^{+387}_{-338}	1428^{+842}_{-542}

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

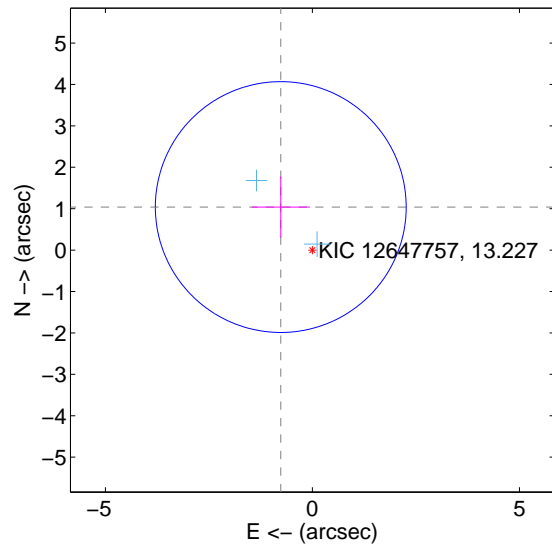
Supplemental centroid analysis for 012647757-01. Kepler magnitude: 13.23. Transit SNR 6.94

There are 2 quarters with good PRF difference image offsets

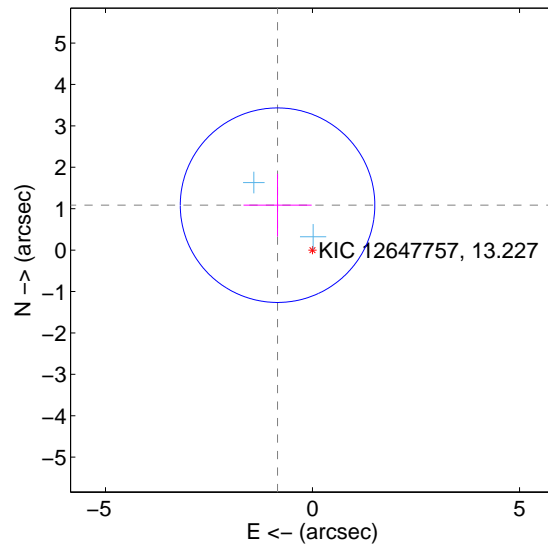
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.291 ± 1.010	1.28	0.765 ± 0.704	1.039 ± 0.738
PRF-fit source offset from KIC position	1.374 ± 0.783	1.76	0.844 ± 0.823	1.084 ± 0.757
photometric centroid source offset	2.14 ± 0.91	2.35	0.73 ± 0.85	2.01 ± 0.92

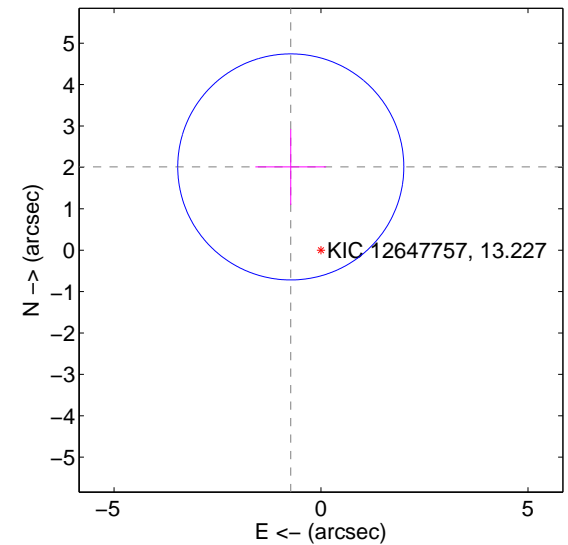
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

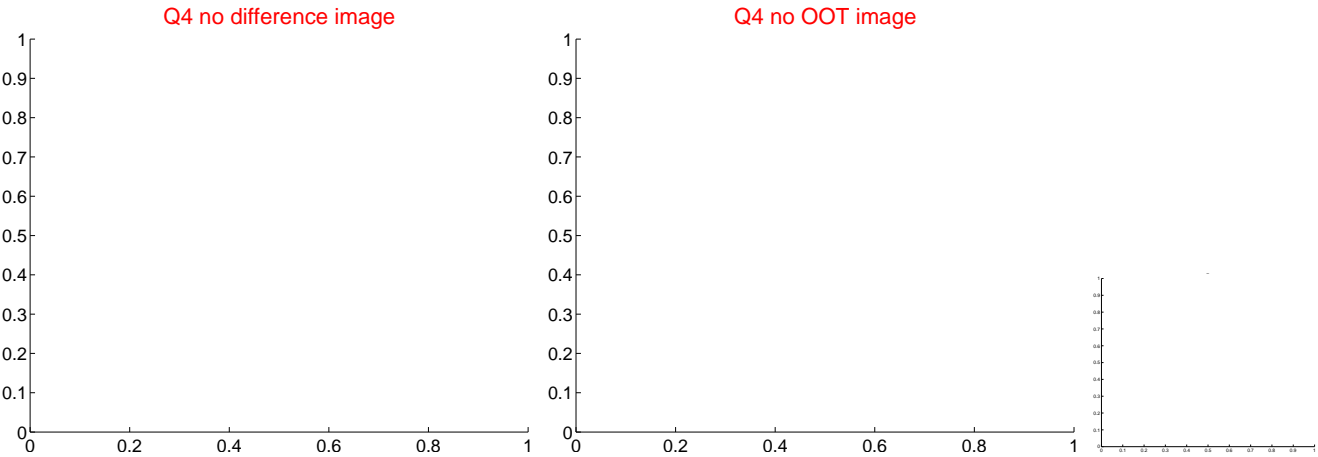
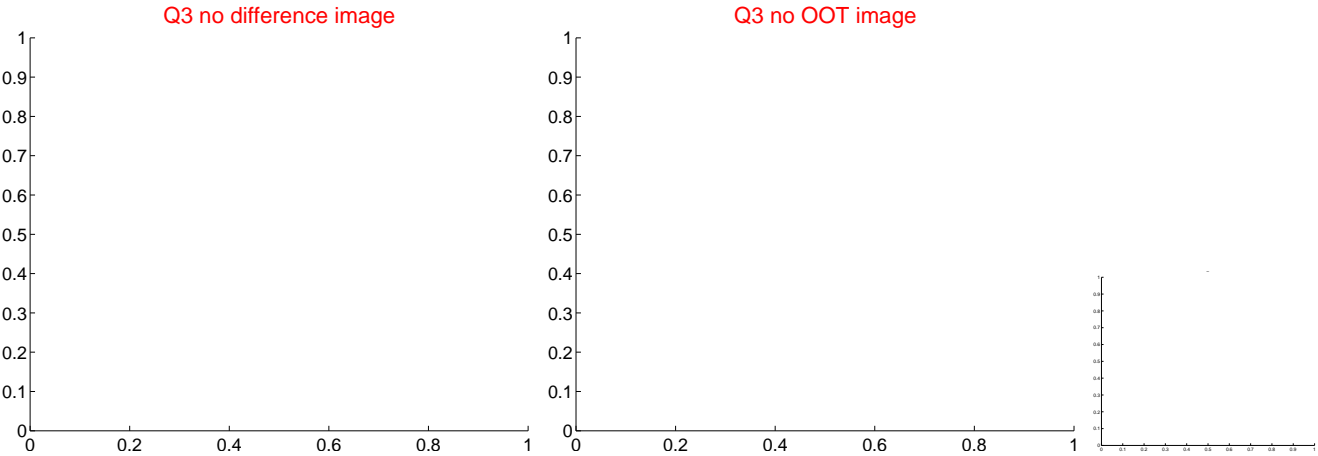
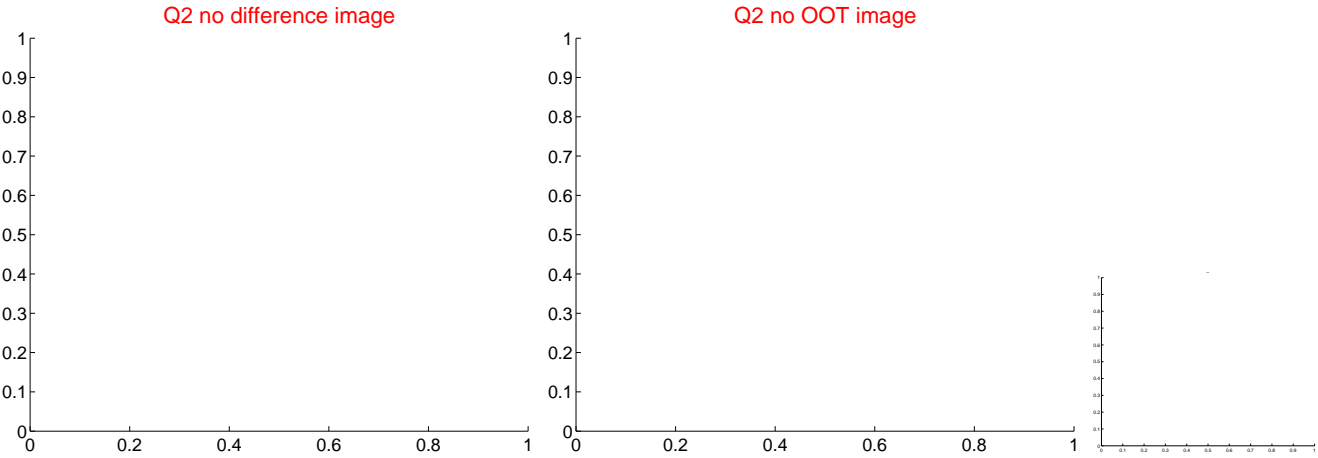
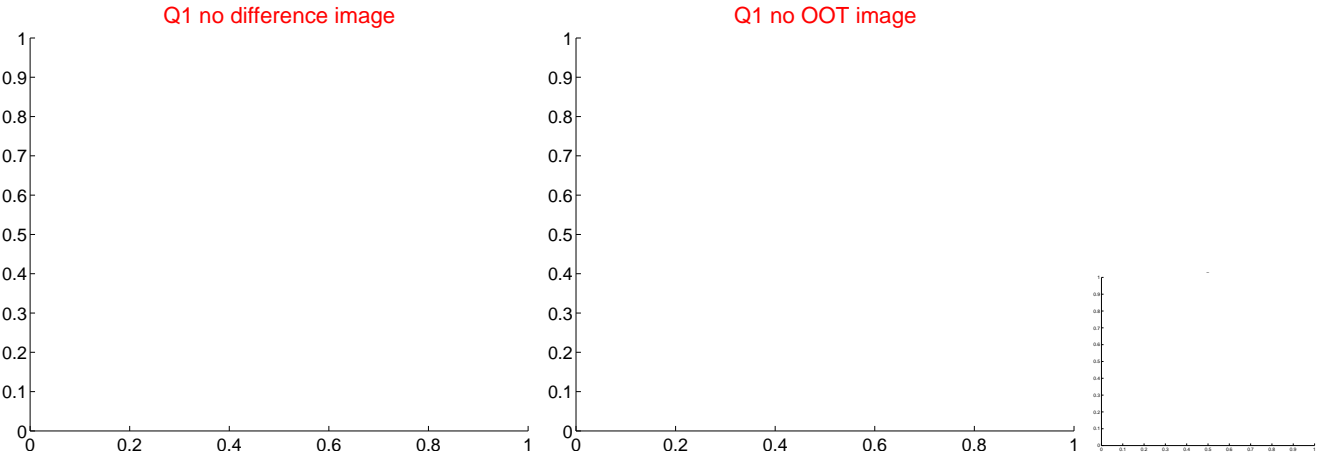


offset from photometric centroids

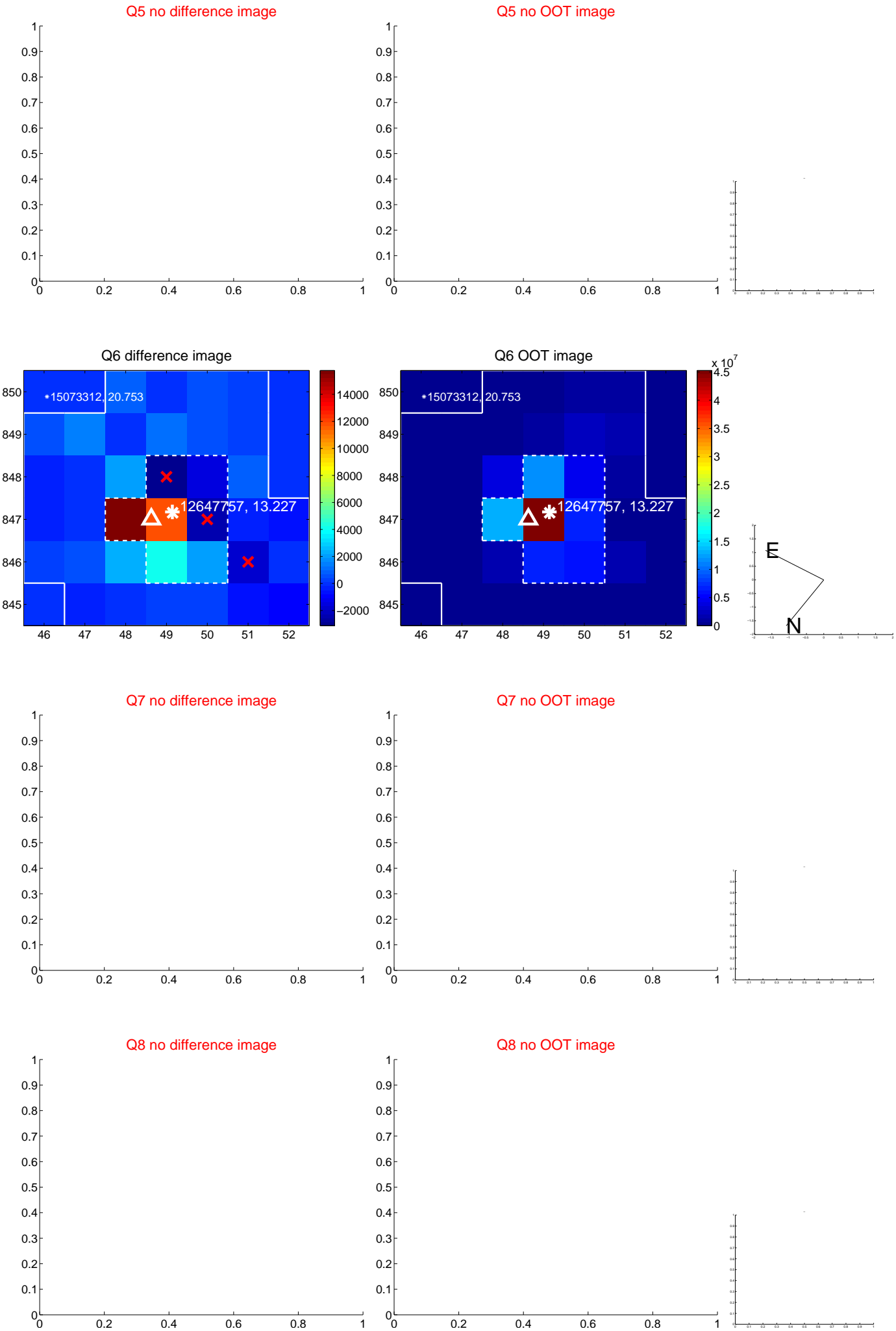


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

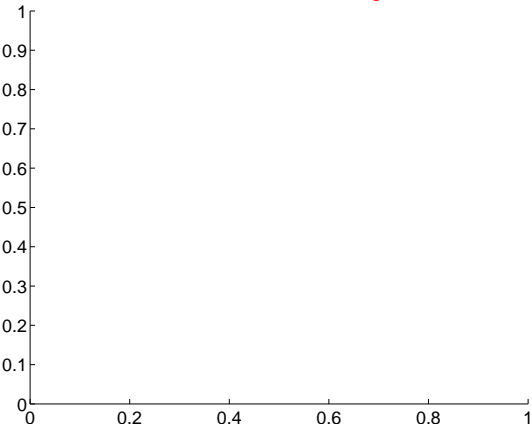


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

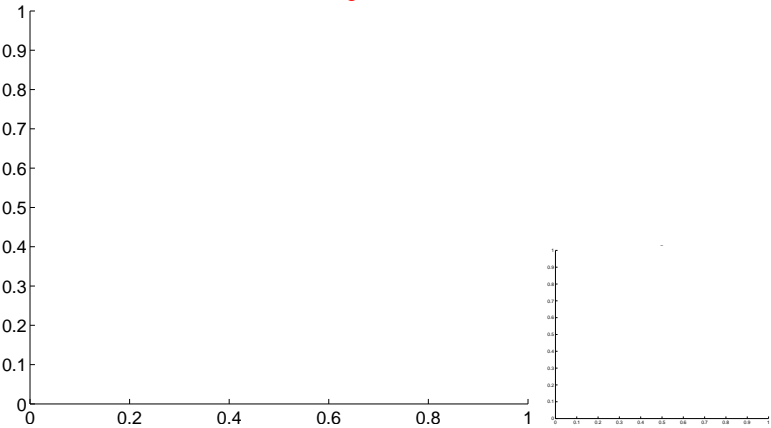


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

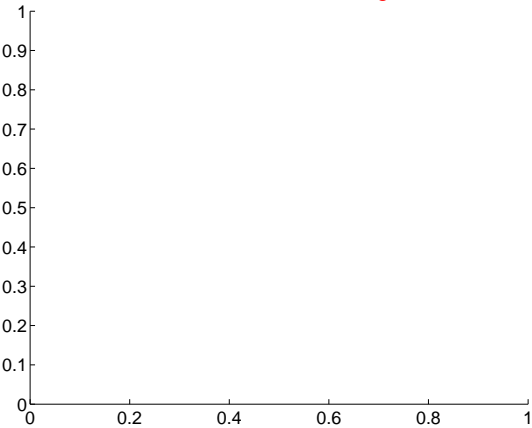
Q9 no difference image



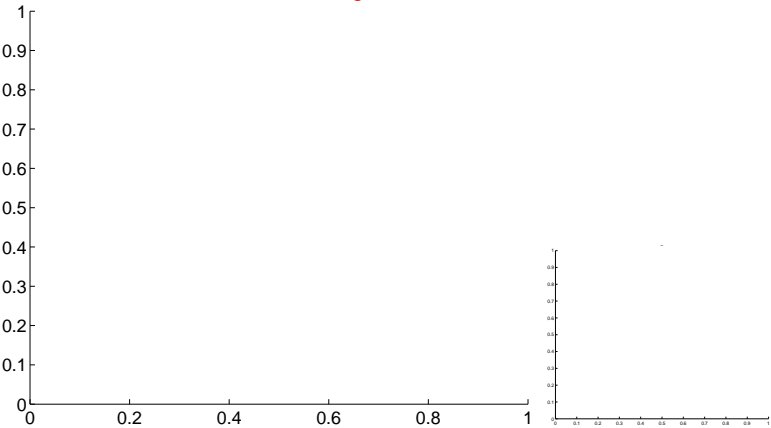
Q9 no OOT image



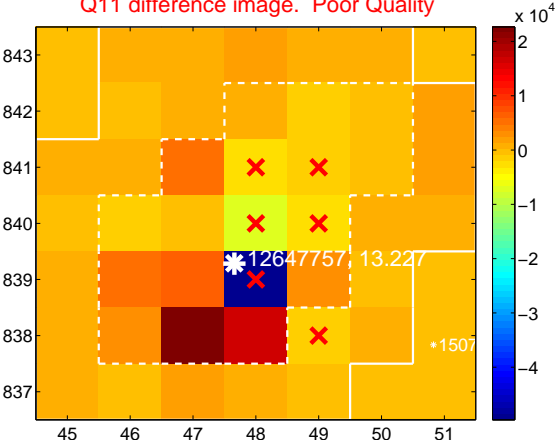
Q10 no difference image



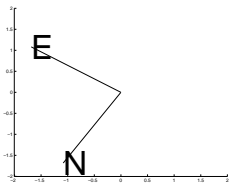
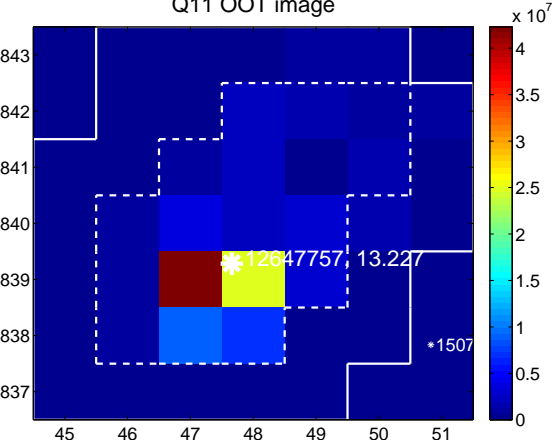
Q10 no OOT image



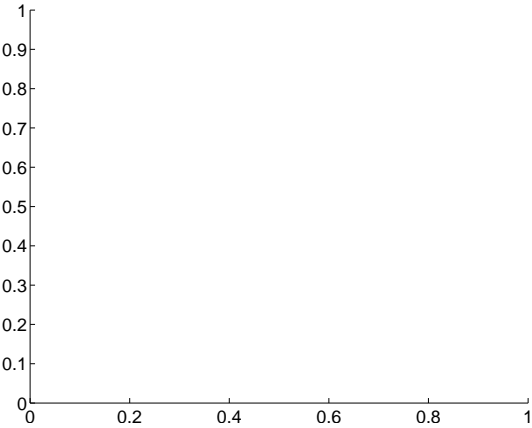
Q11 difference image. Poor Quality



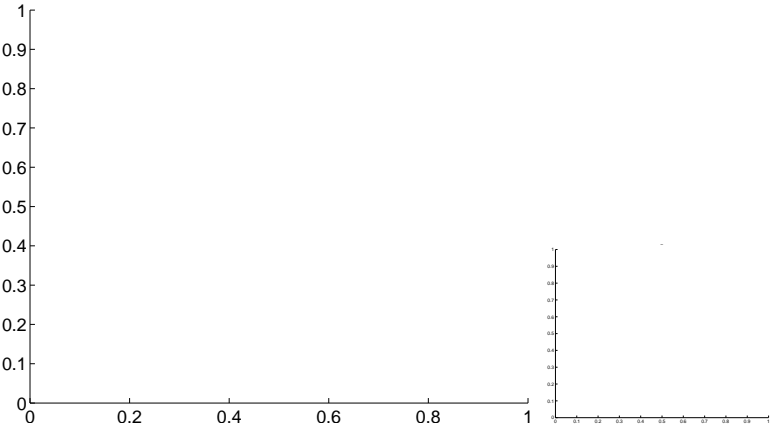
Q11 OOT image



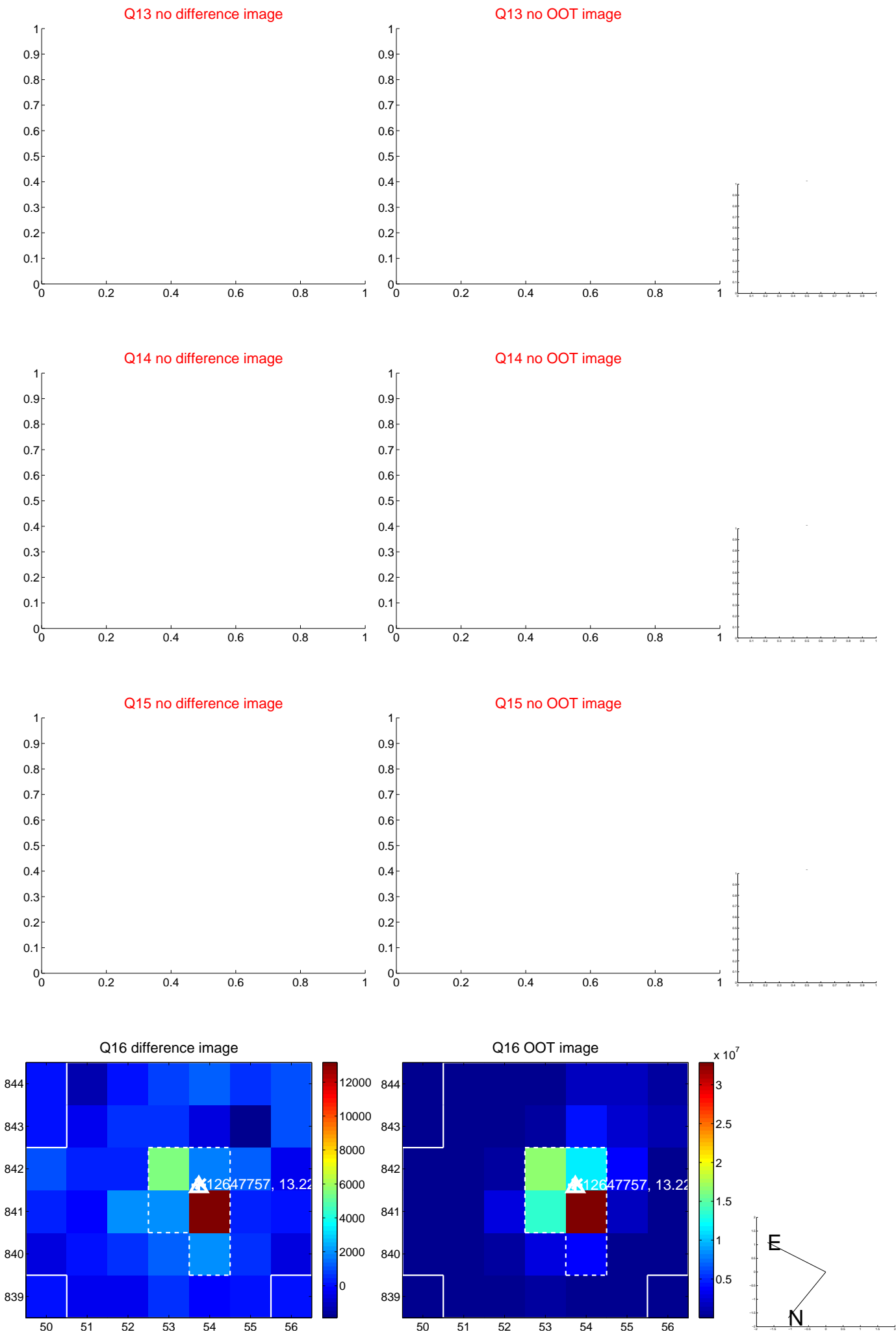
Q12 no difference image



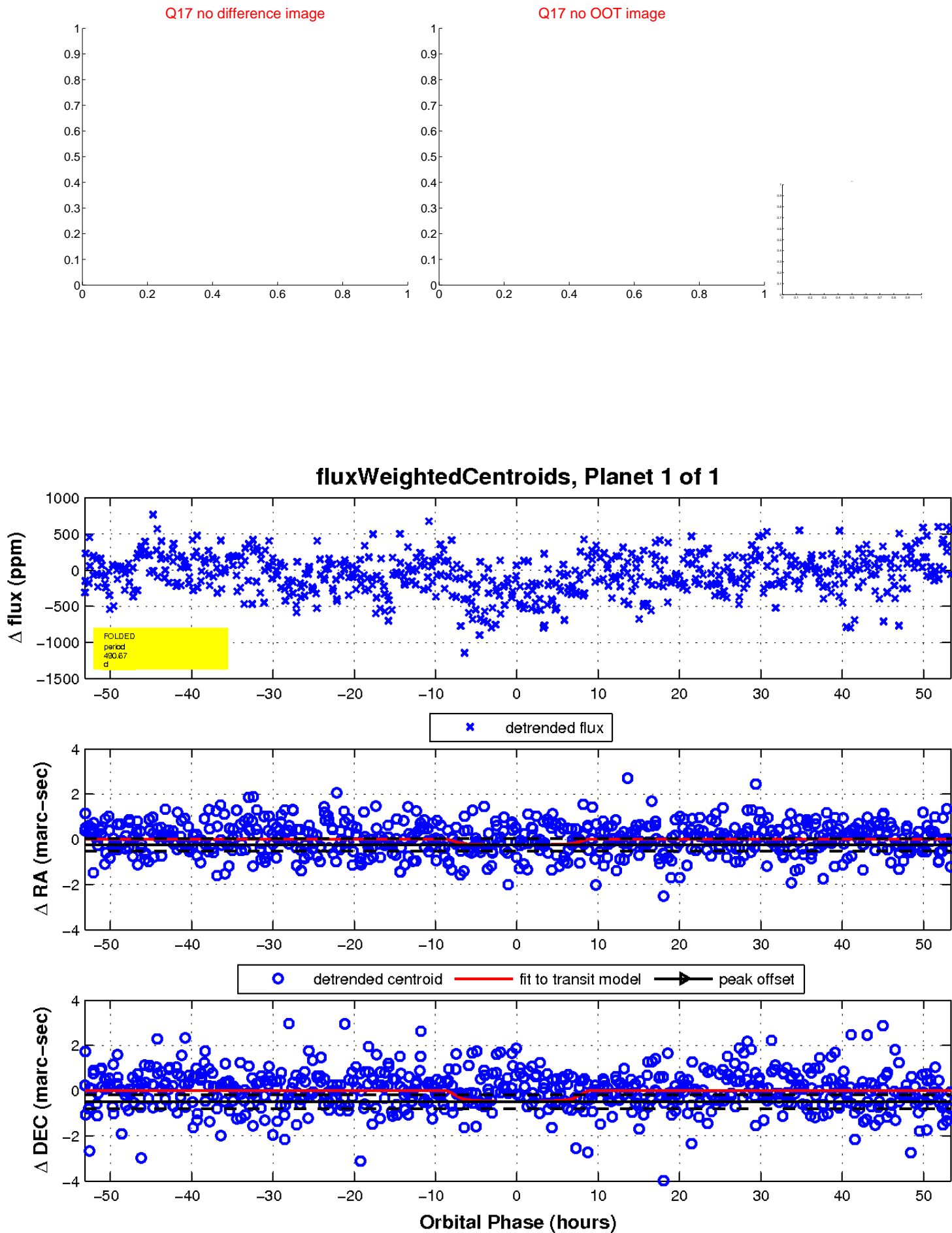
Q12 no OOT image



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.



UKIRT Image

