

KIC 012555642

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})
012555642-01	OBS	No	496.379644	454.767709	139.9	5.782	8.9	6.4	0.47	3685	0.64	0.04

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012555642-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED

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

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

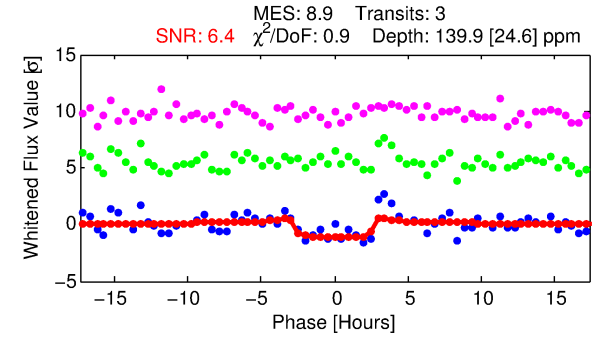
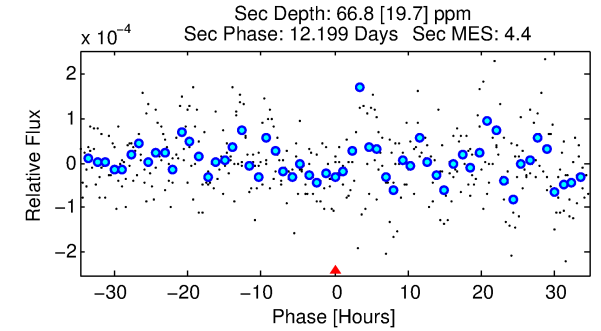
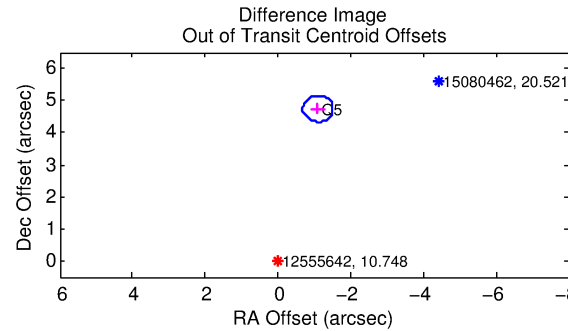
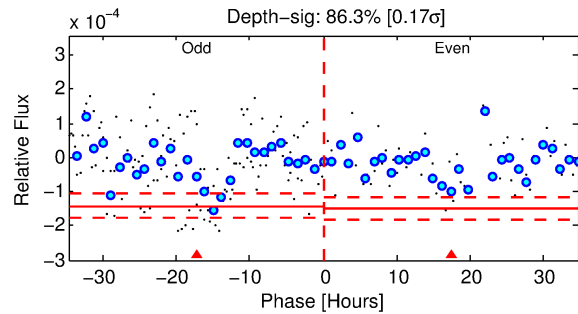
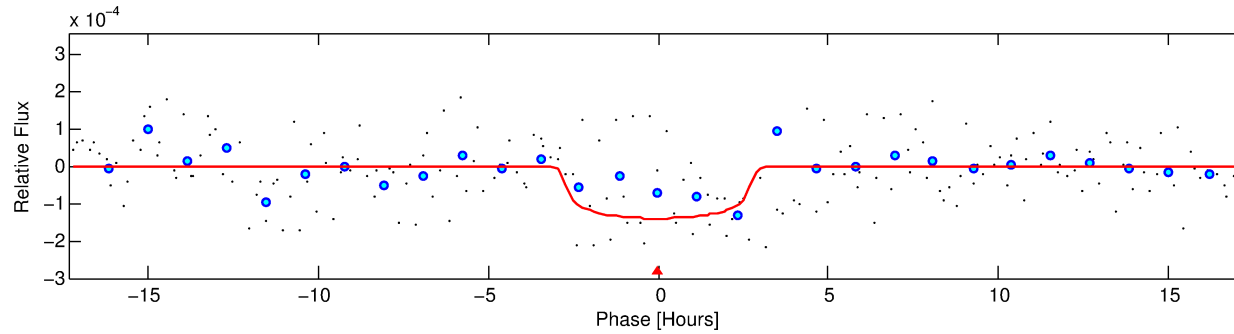
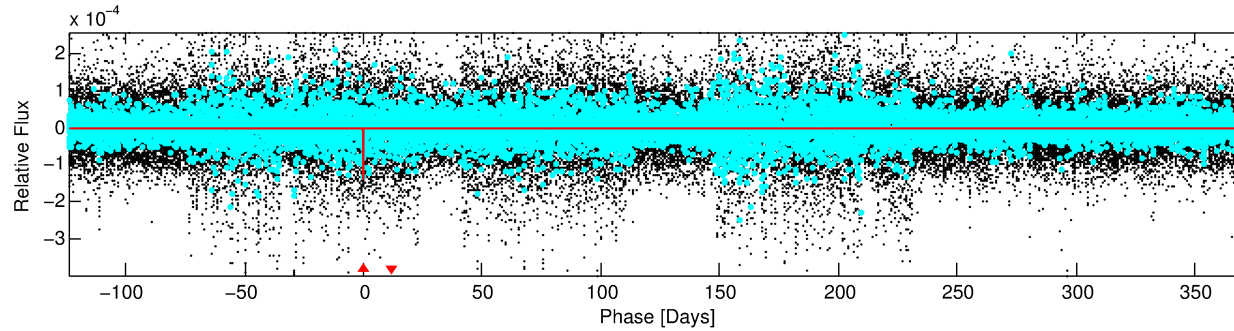
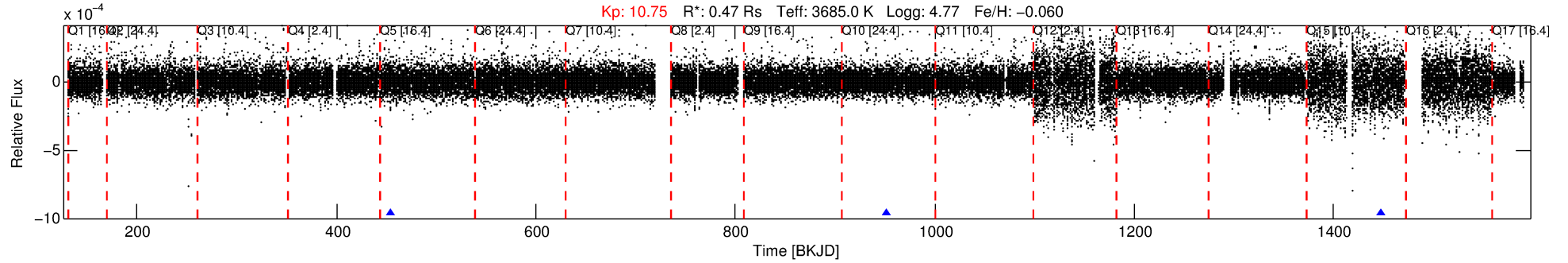
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012555642-01

No Significant Match Found

DV One-Page Summary

KIC: 12555642 Candidate: 1 of 1 Period: 496.380 d



DV Fit Results:

Period = 496.37964 [0.00813] d
Epoch = 454.7677 [0.0108] BKJD
Rp/R* = 0.0125 [0.0054]
a/R* = 344.16 [627.29]
b = 0.87 [0.53]
Seff = 0.04 [0.01]
Teq = 114 [8] K
Rp = 0.64 [0.32] Re
a = 0.9628 [0.1739] AU
Ag = 82085.64 [78077.25] [1.05 σ]
Teffp = 2979 [696] K [4.12 σ]

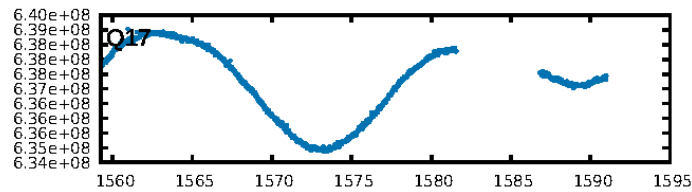
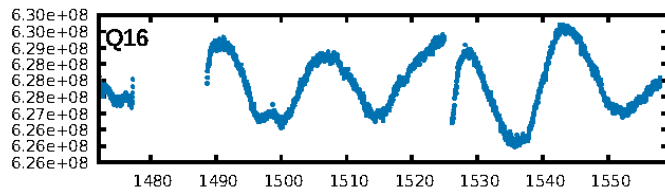
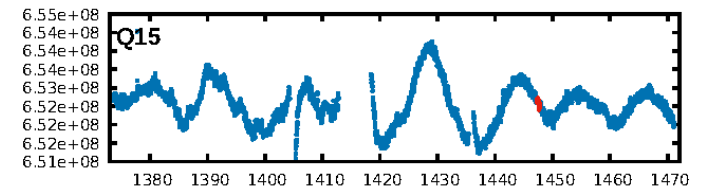
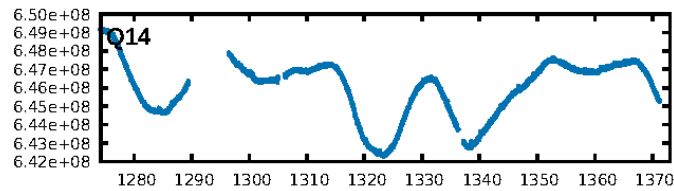
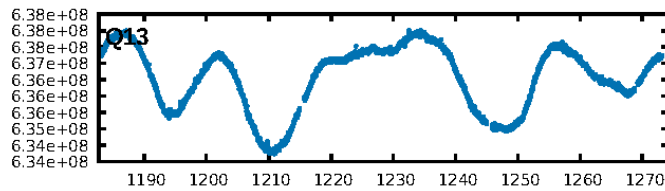
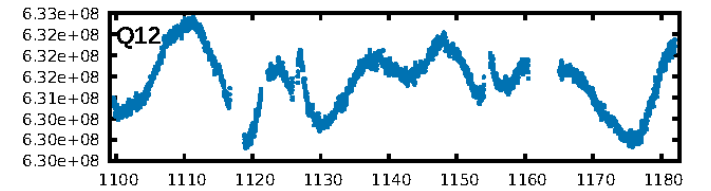
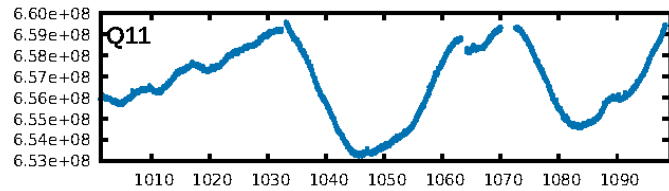
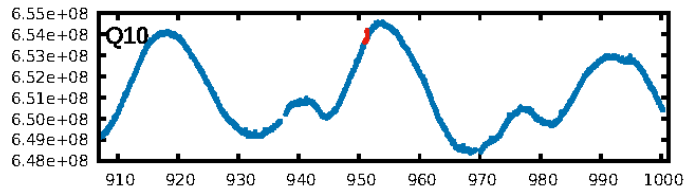
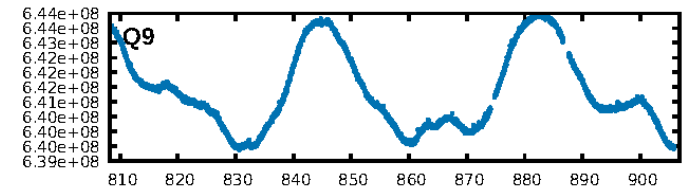
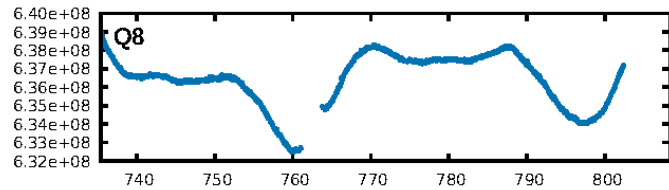
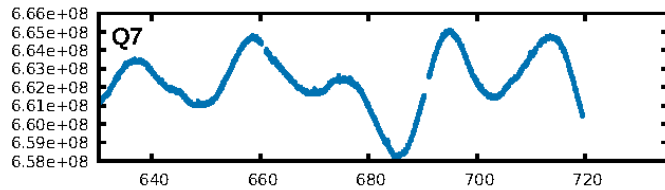
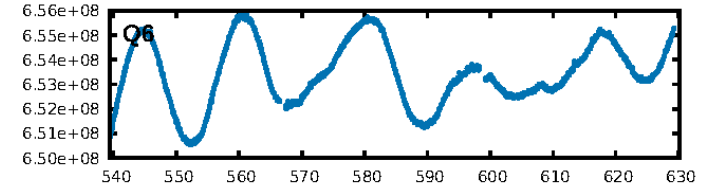
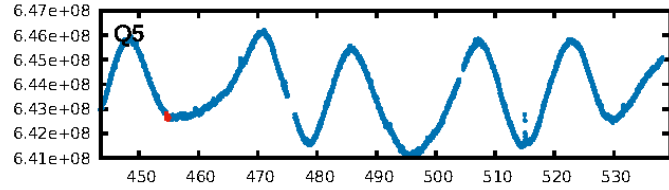
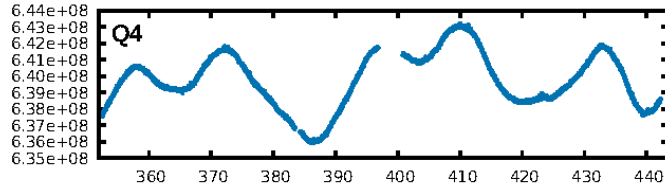
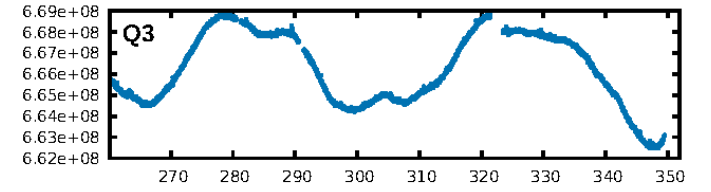
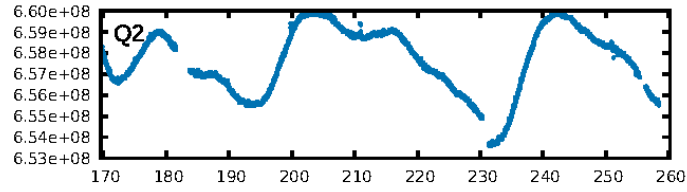
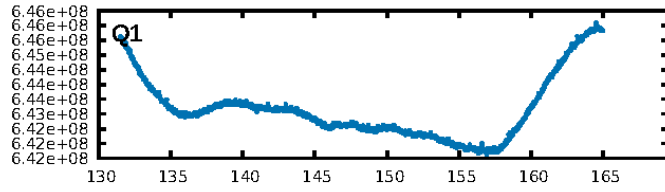
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.5%
ModelChiSquareGof-sig: 94.0%
Bootstrap-pfa: 1.60e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: N/A
Centroid-sig: 77.2%
Centroid-so: 1.108 arcsec [0.56 σ]
OotOffset-rm: 4.868 arcsec [35.52 σ]
KicOffset-rm: 5.991 arcsec [43.56 σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

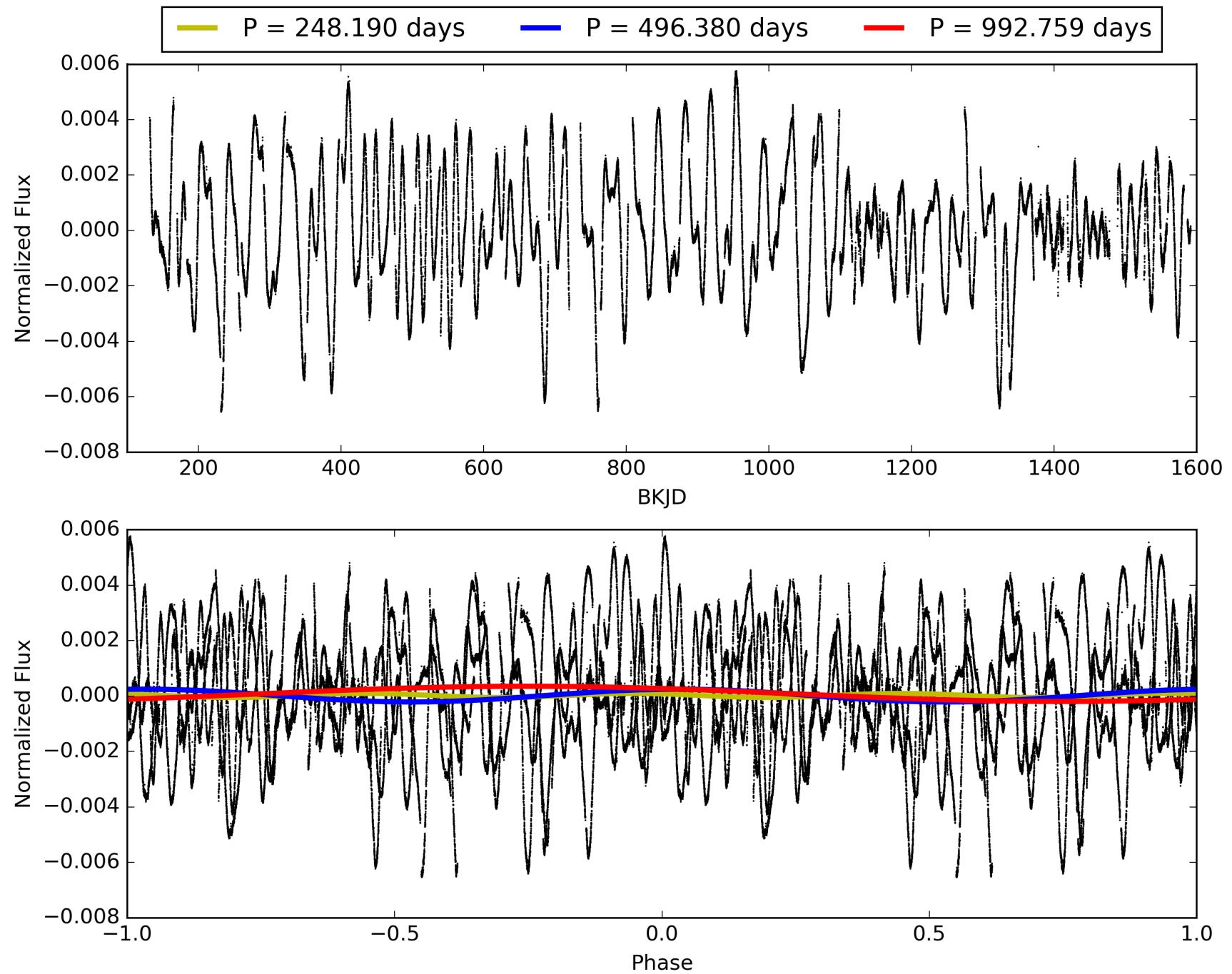
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:06:33 Z

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

TCE 012555642-01, PDC Light Curves

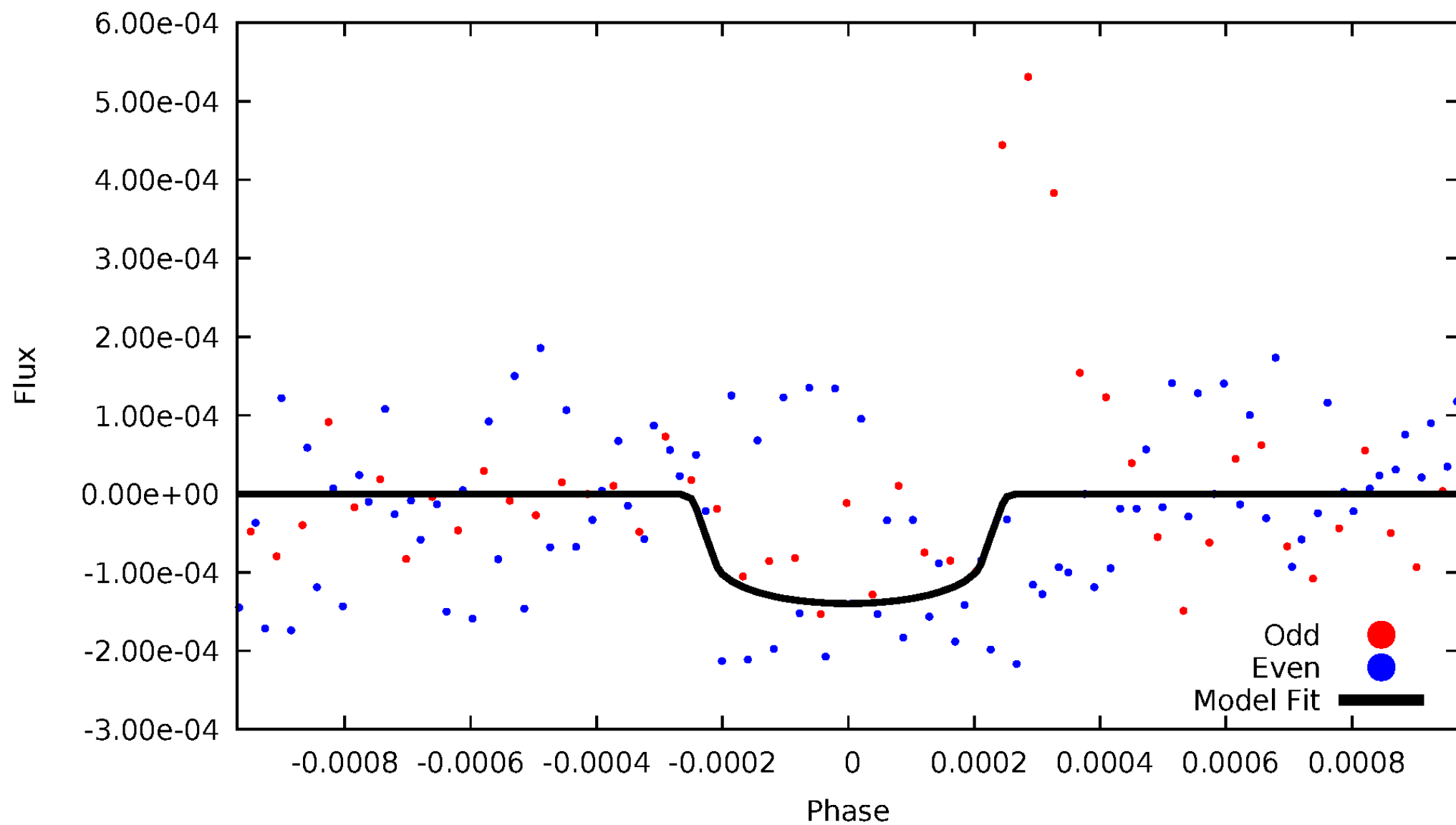


TCE 012555642-01



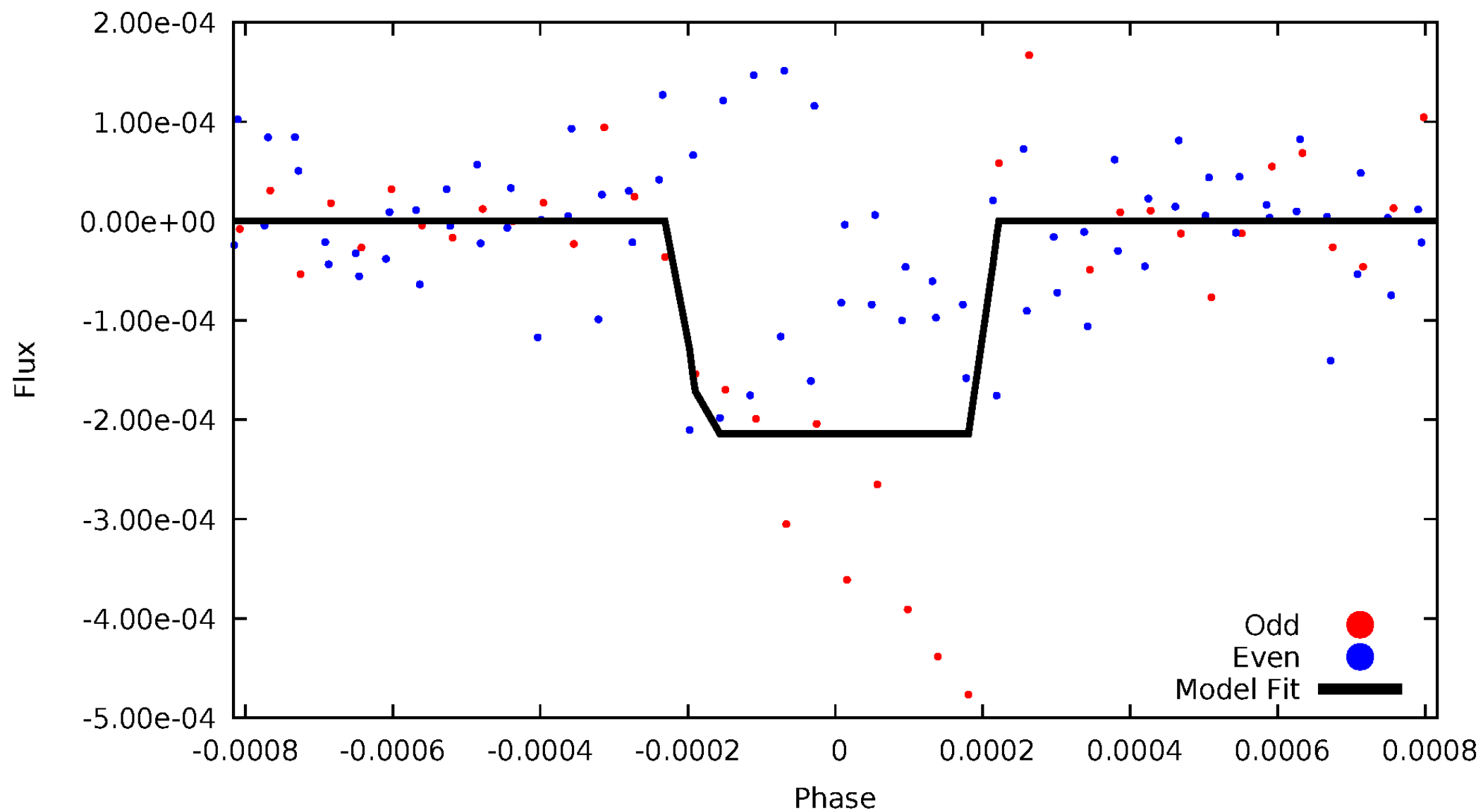
DV Odd/Even

TCE 012555642-01



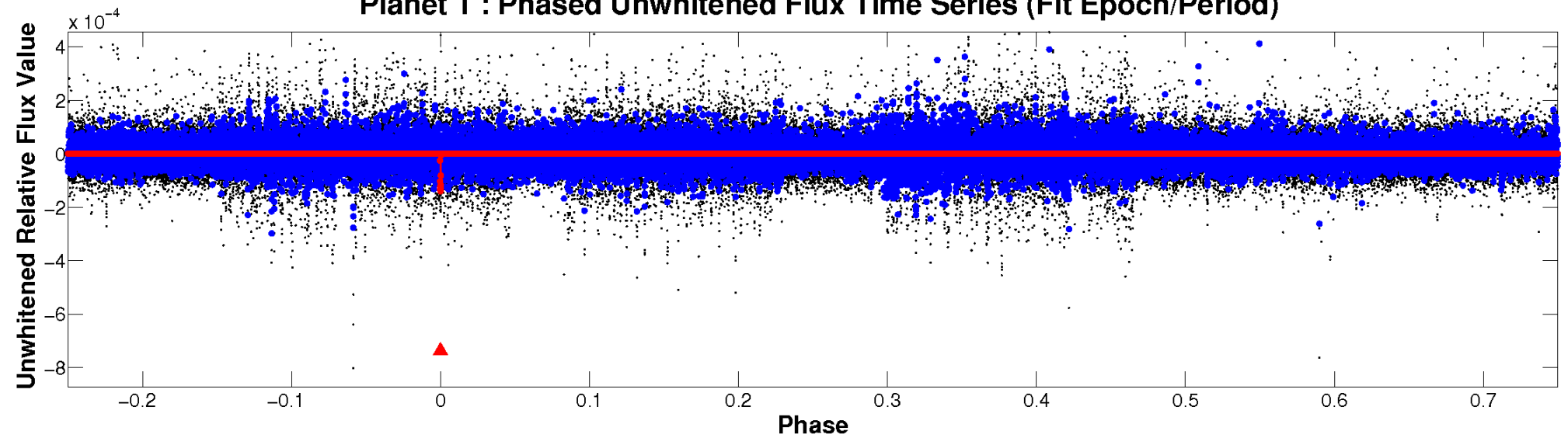
ALT Odd/Even

TCE 012555642-01

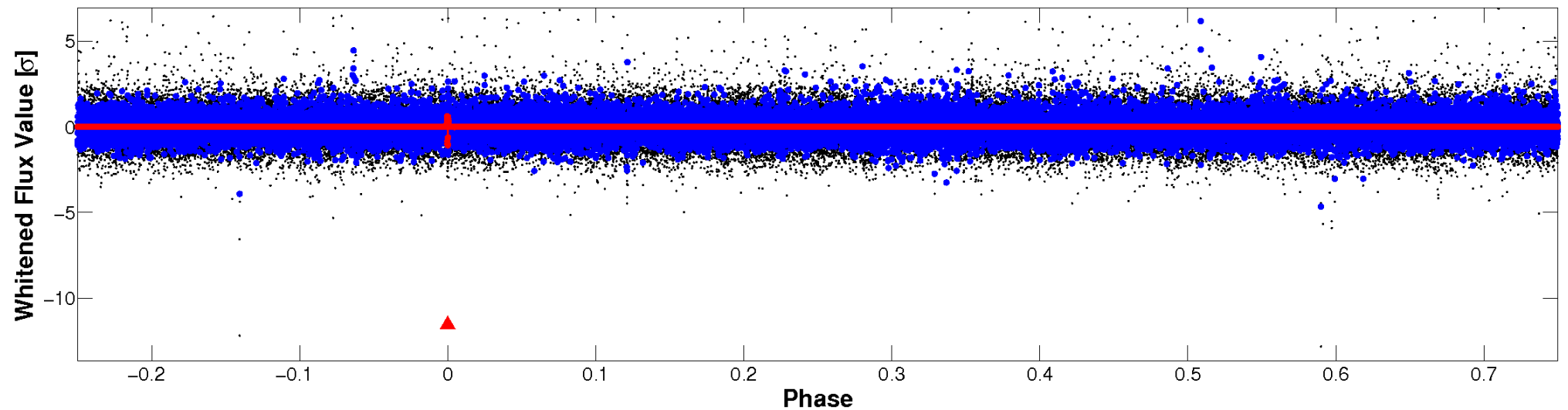


Non-Whitened Vs. Whitened Light Curve

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

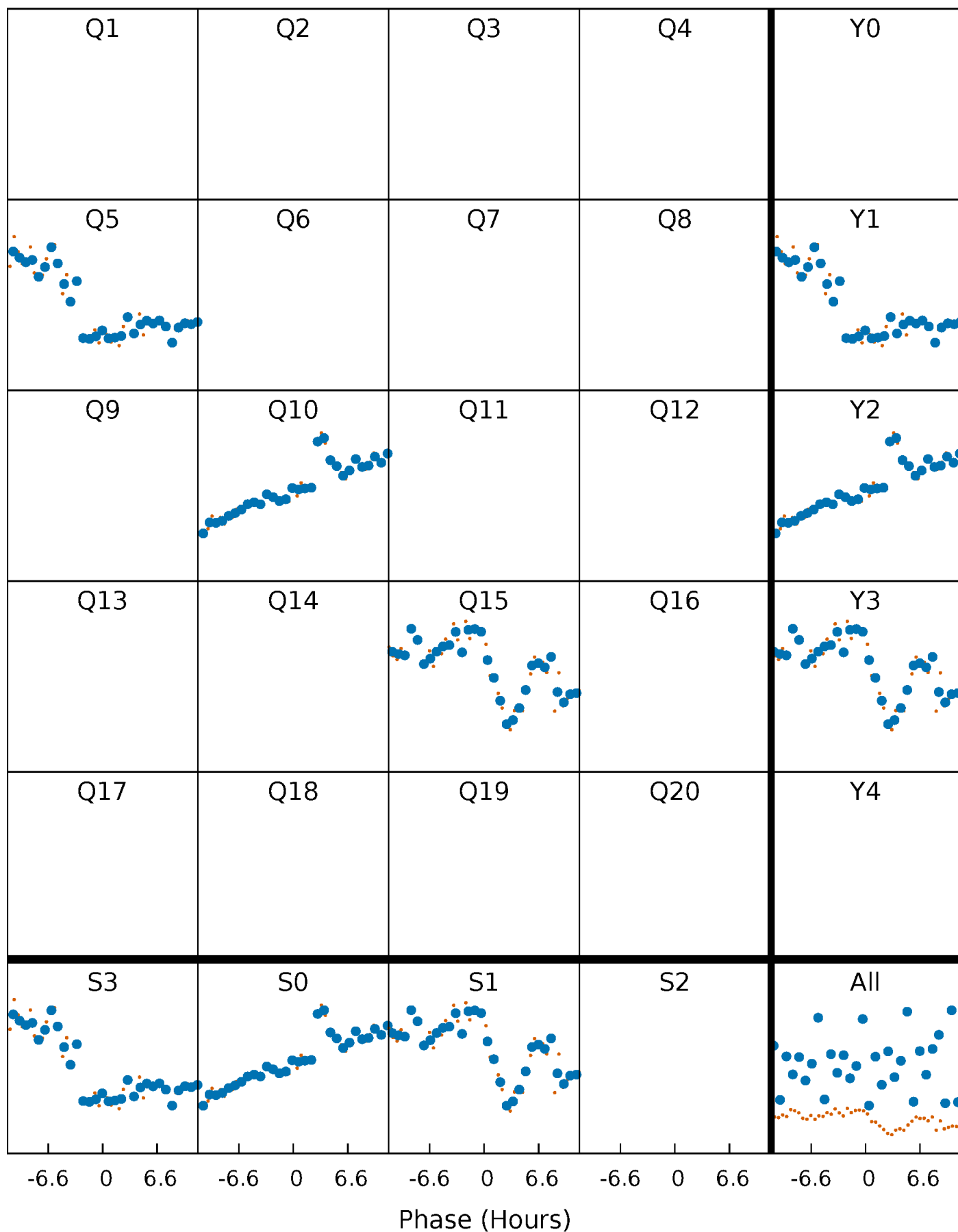


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



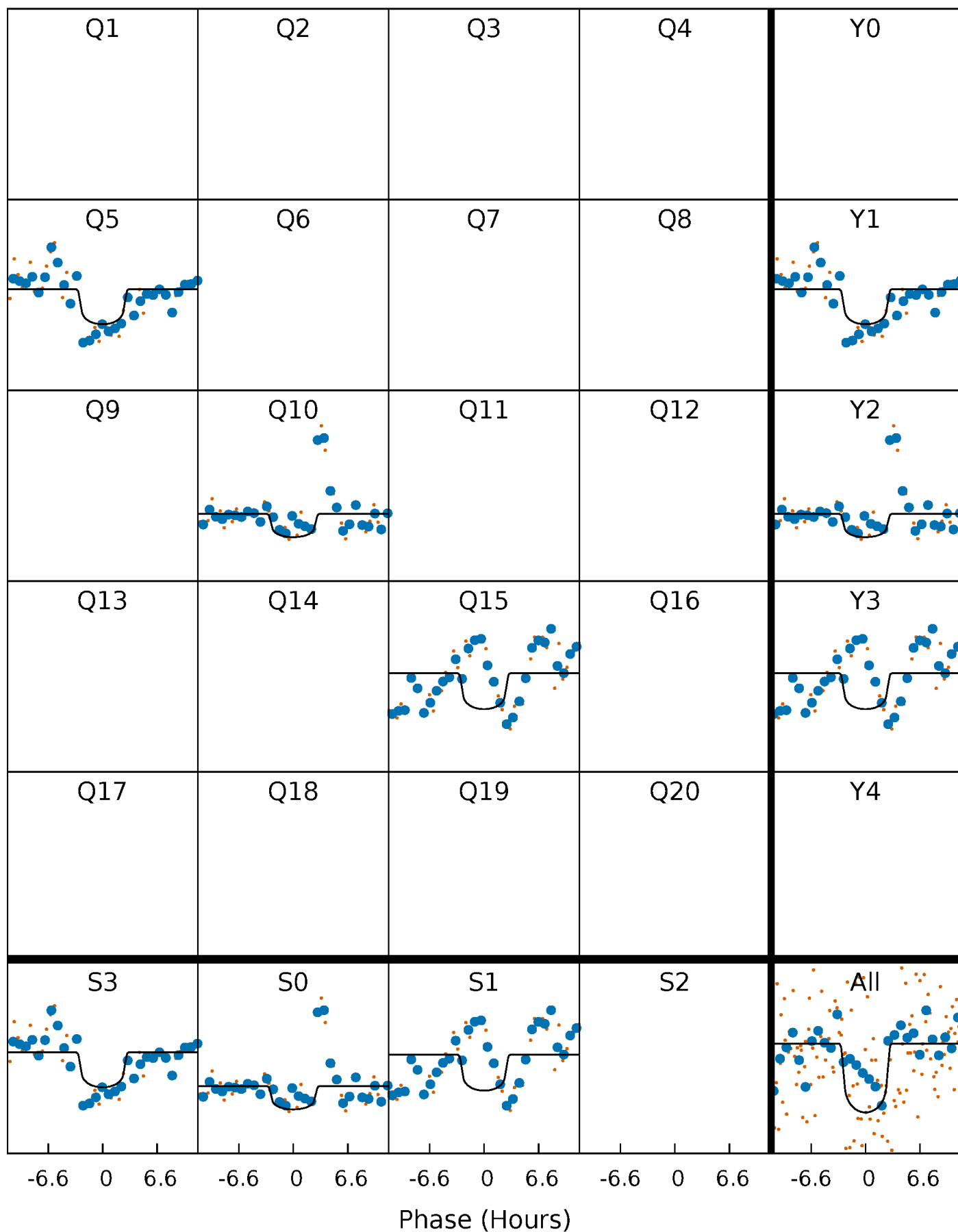
PDC Quarter-Phased Transit Curves

TCE 012555642-01 $P=496.379644$ Days $T_0=454.767709$ (BKJD)



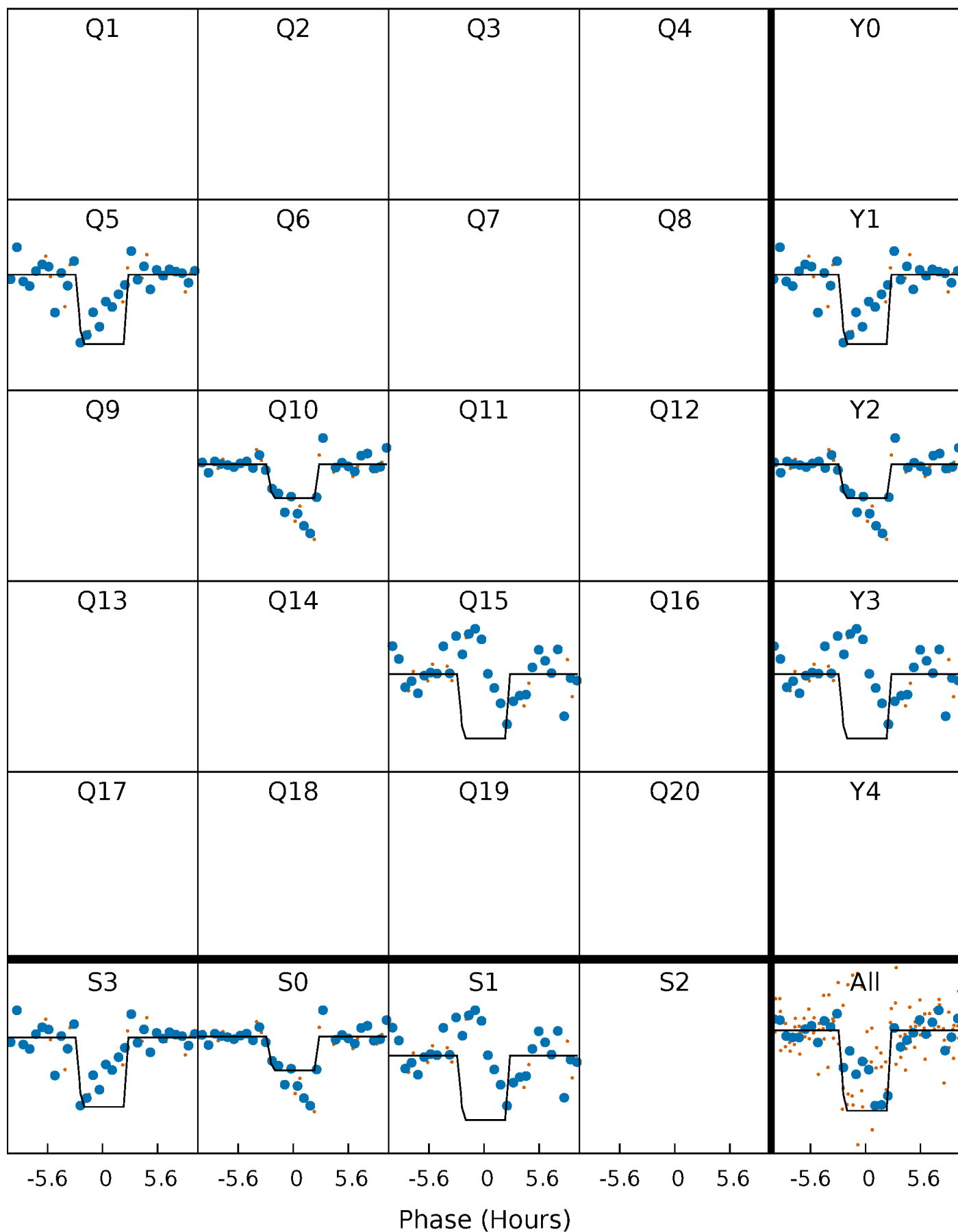
DV Quarter-Phased Transit Curves

TCE 012555642-01 P=496.379644 Days $T_0=454.767709$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

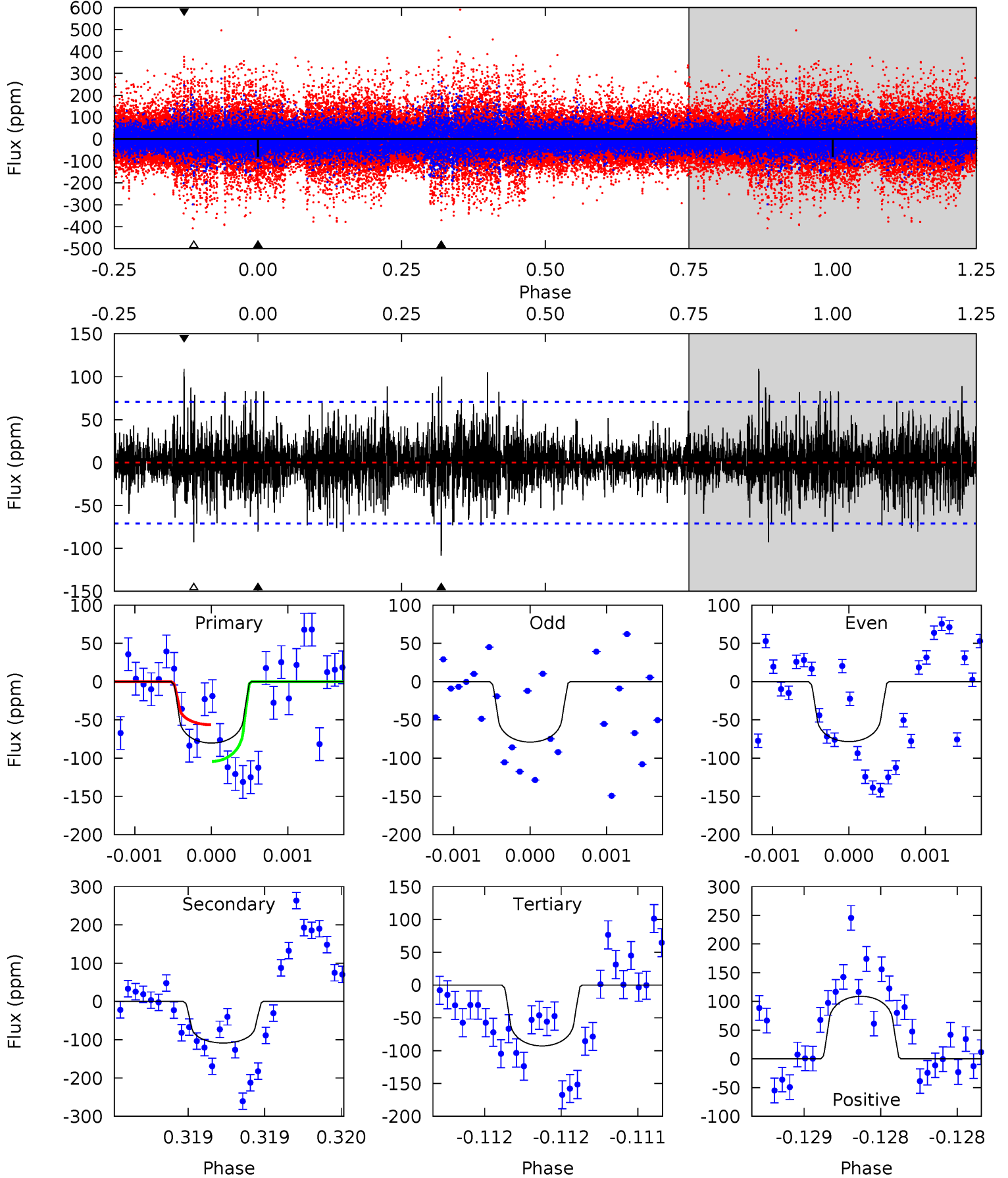
TCE 012555642-01 P=496.392473 Days $T_0=454.766141$ (BKJD)



DV Model-Shift Uniqueness Test

012555642-01, P = 496.379644 Days, E = 454.767709 Days

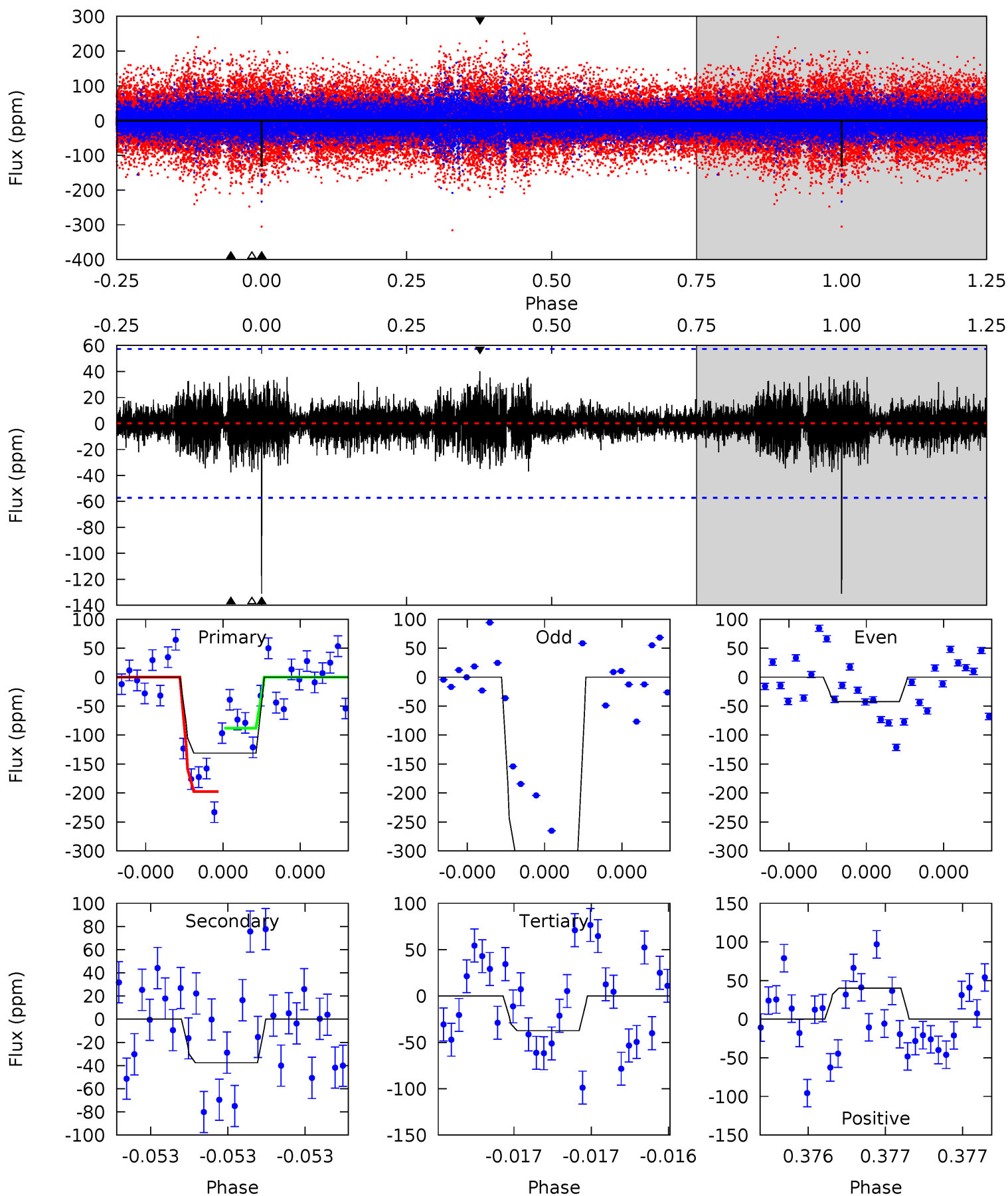
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.31	8.53	7.29	8.56	5.57	3.48	1.59	-0.98	-2.26	1.24	-0.04	0.02	0.99	0.50	1.89



Alt Model-Shift Uniqueness Test

012555642-01, P = 496.392473 Days, E = 454.766141 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	3.68	3.65	3.92	5.61	3.53	0.76	9.18	8.91	0.03	-0.24	14.3	1.06	0.23	5.39



Stellar Parameters For KIC 012555642

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3685^{+114}_{-152}	$4.774^{+0.120}_{-0.048}$	$-0.060^{+0.250}_{-0.300}$	$0.472^{+0.059}_{-0.110}$	$0.482^{+0.060}_{-0.111}$	$6.477^{+4.587}_{-1.332}$
	+3%/-4%	+3%/-1%	+417%/-500%	+12%/-23%	+12%/-23%	+71%/-21%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 012555642-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-109 ± 13	$0.63^{+0.29}_{-0.26}$	157^{+7}_{-8}	3428^{+639}_{-351}	$136615^{+246070}_{-70547}$
Alt.	-38 ± 10	$0.75^{+0.28}_{-0.28}$	157^{+7}_{-8}	2824^{+390}_{-275}	33939^{+51406}_{-17414}

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 $A_{obs} \gg 1.0$

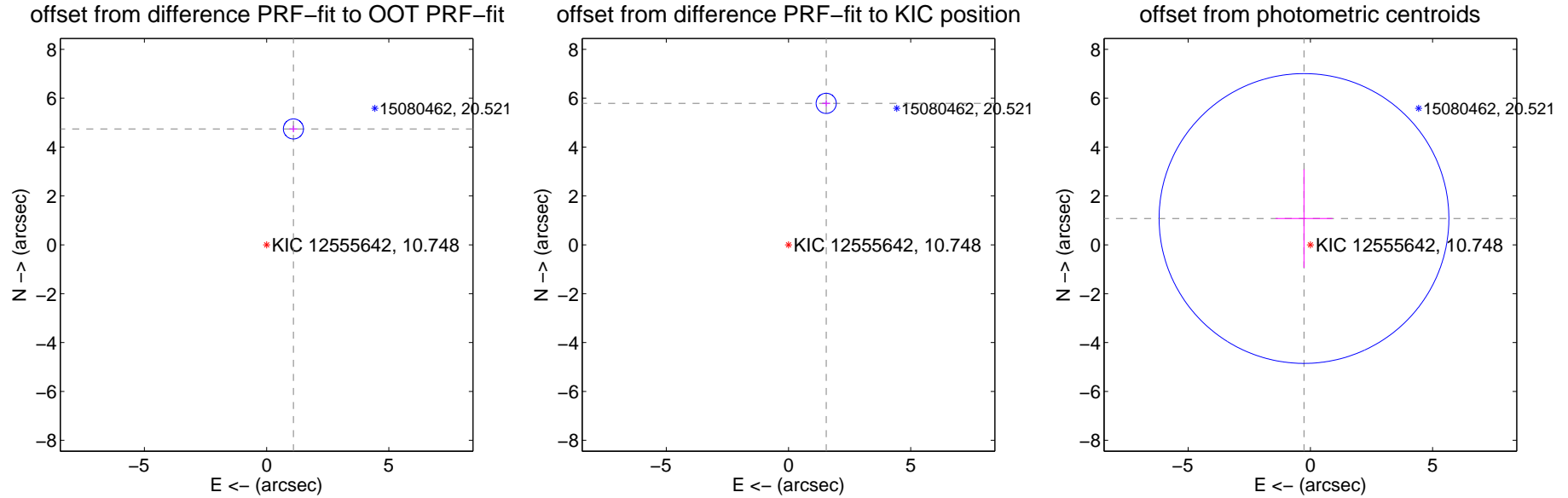
DV Centroid Data

Supplemental centroid analysis for 012555642-01. **Kepler magnitude: 10.75.** Transit SNR 6.44

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 1.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.868 ± 0.137	35.52	-1.097 ± 0.165	4.743 ± 0.135
PRF-fit source offset from KIC position	5.991 ± 0.138	43.56	-1.543 ± 0.165	5.789 ± 0.135
photometric centroid source offset	1.11 ± 1.98	0.56	0.26 ± 1.16	1.08 ± 2.01

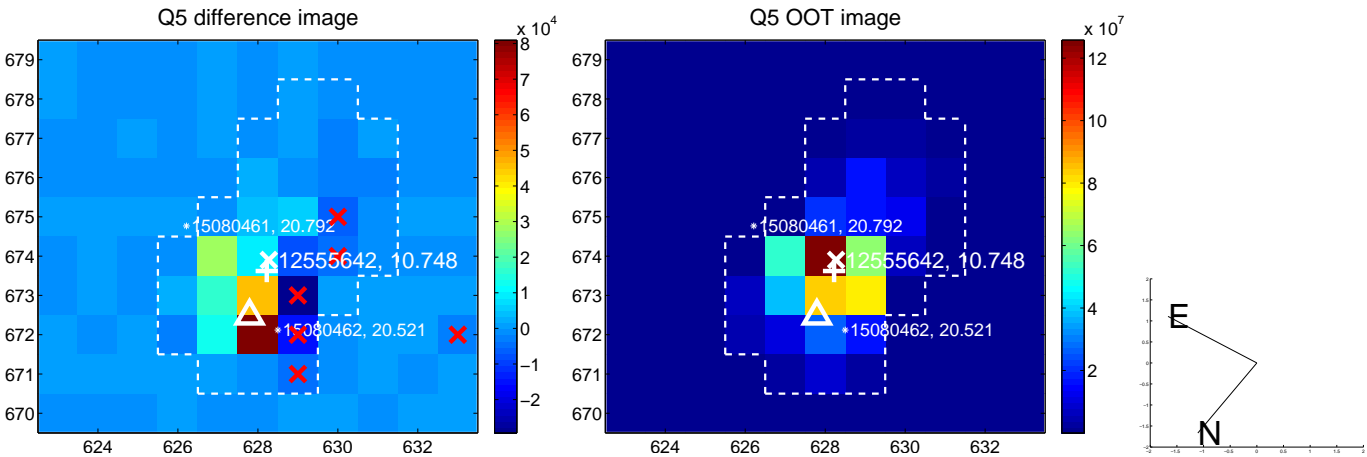


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

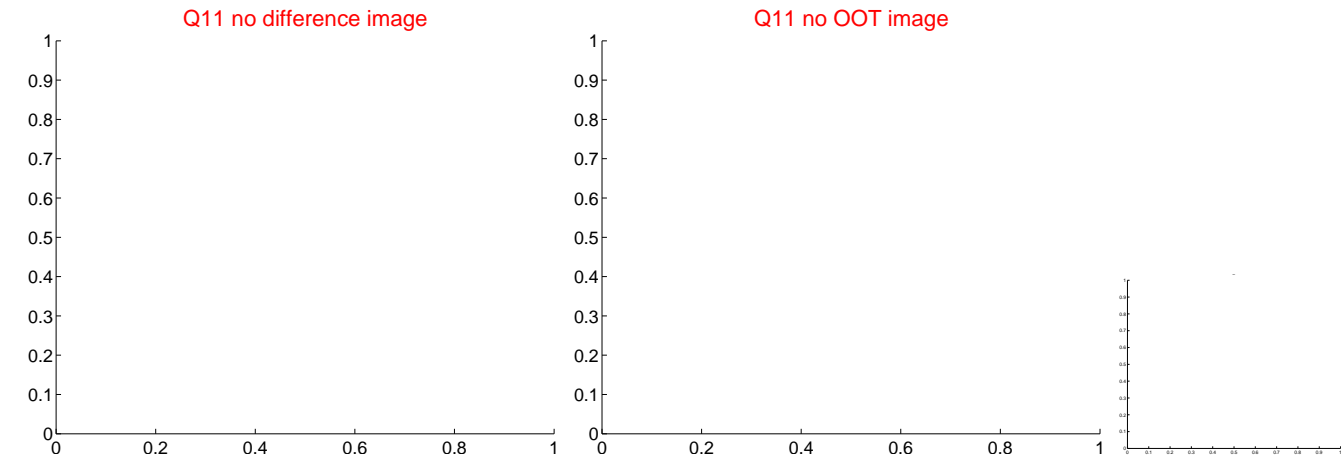
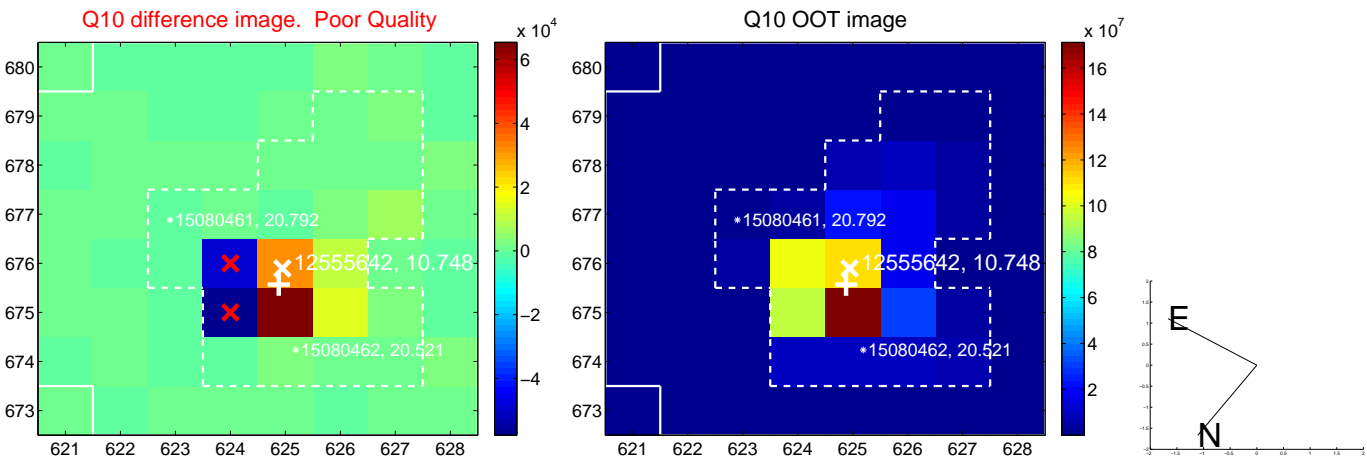
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



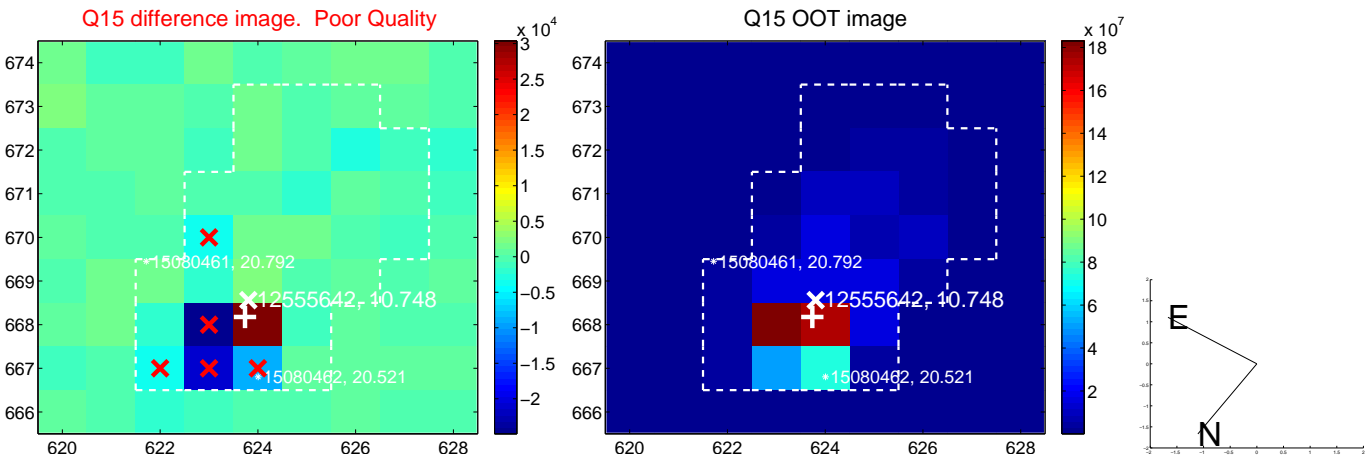
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



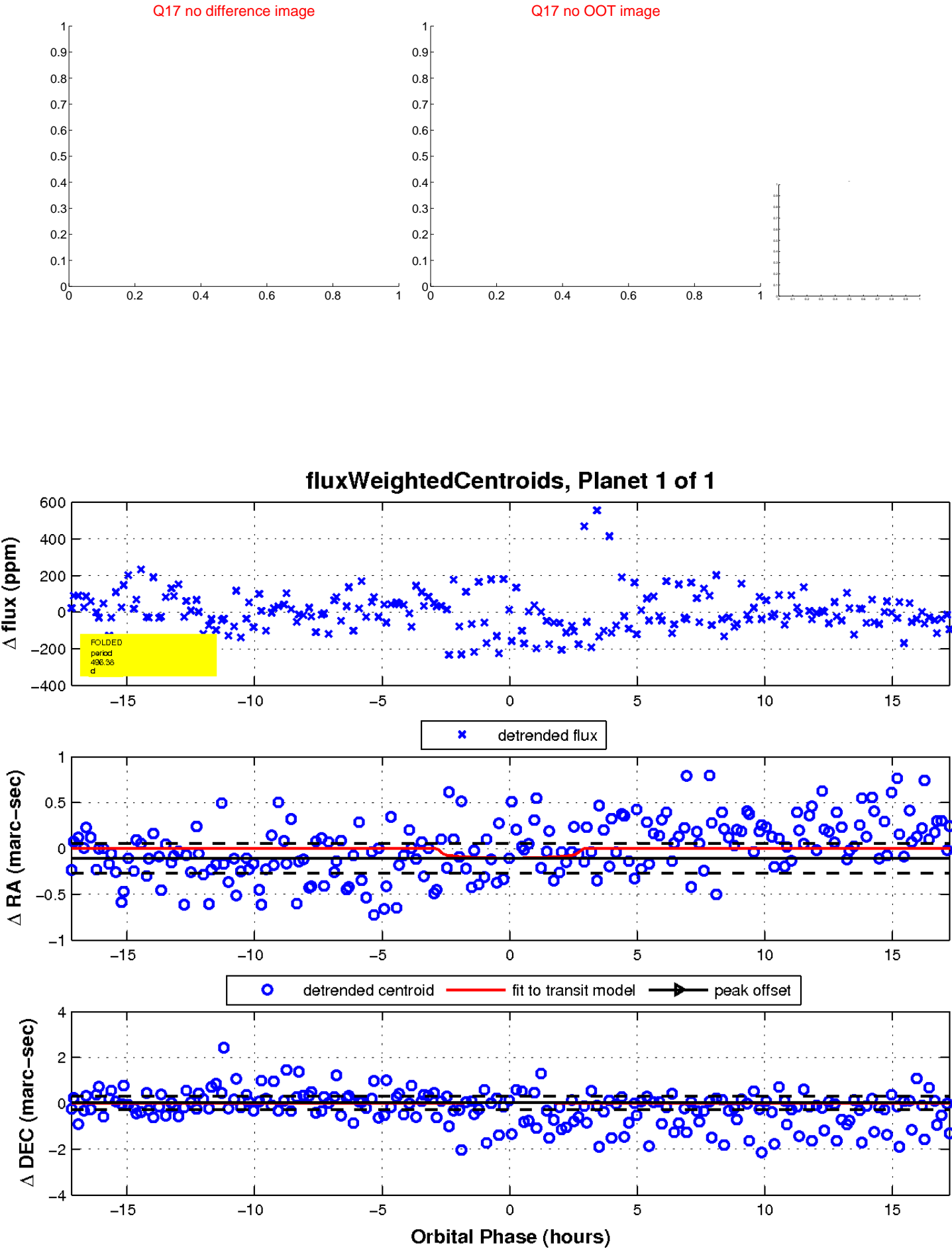
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

