

KIC 005638865

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})
005638865-01	OBS	No	247.547075	358.975508	541.5	3.931	10.1	4.9	14.74	4732	33.05	82.51

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005638865-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS

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

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

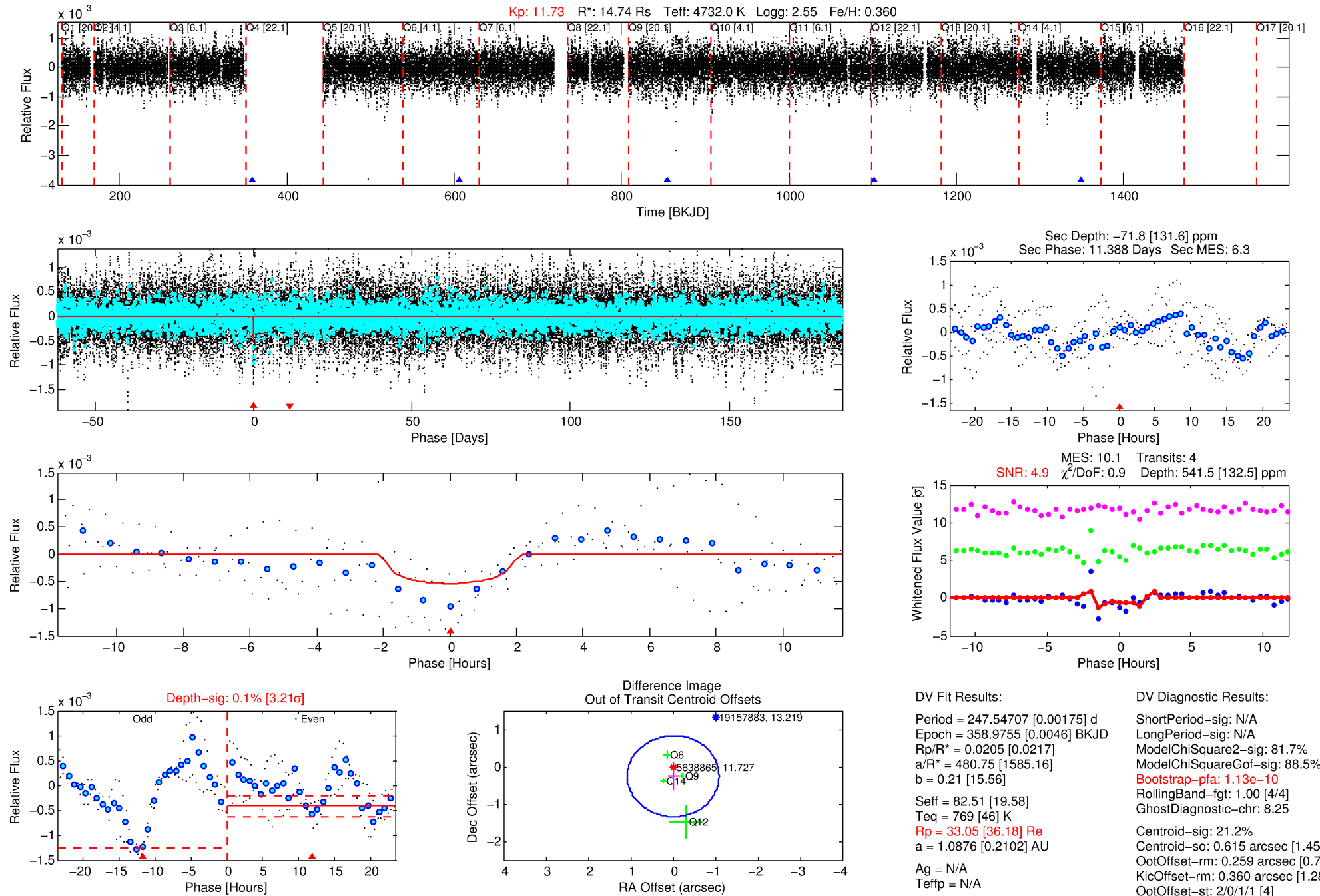
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005638865-01

No Significant Match Found

DV One-Page Summary

KIC: 5638865 Candidate: 1 of 1 Period: 247.547 d



DV Fit Results:

Period = 247.54707 [0.00175] d
Epoch = 358.9755 [0.0046] BKJD
Rp/R* = 0.0205 [0.0217]
a/R* = 480.75 [1585.16]
b = 0.21 [15.56]
Seff = 82.51 [19.58]
Teq = 769 [46] K
Rp = 33.05 [36.18] Re
a = 1.0876 [0.2102] AU
Ag = N/A
Teffp = N/A

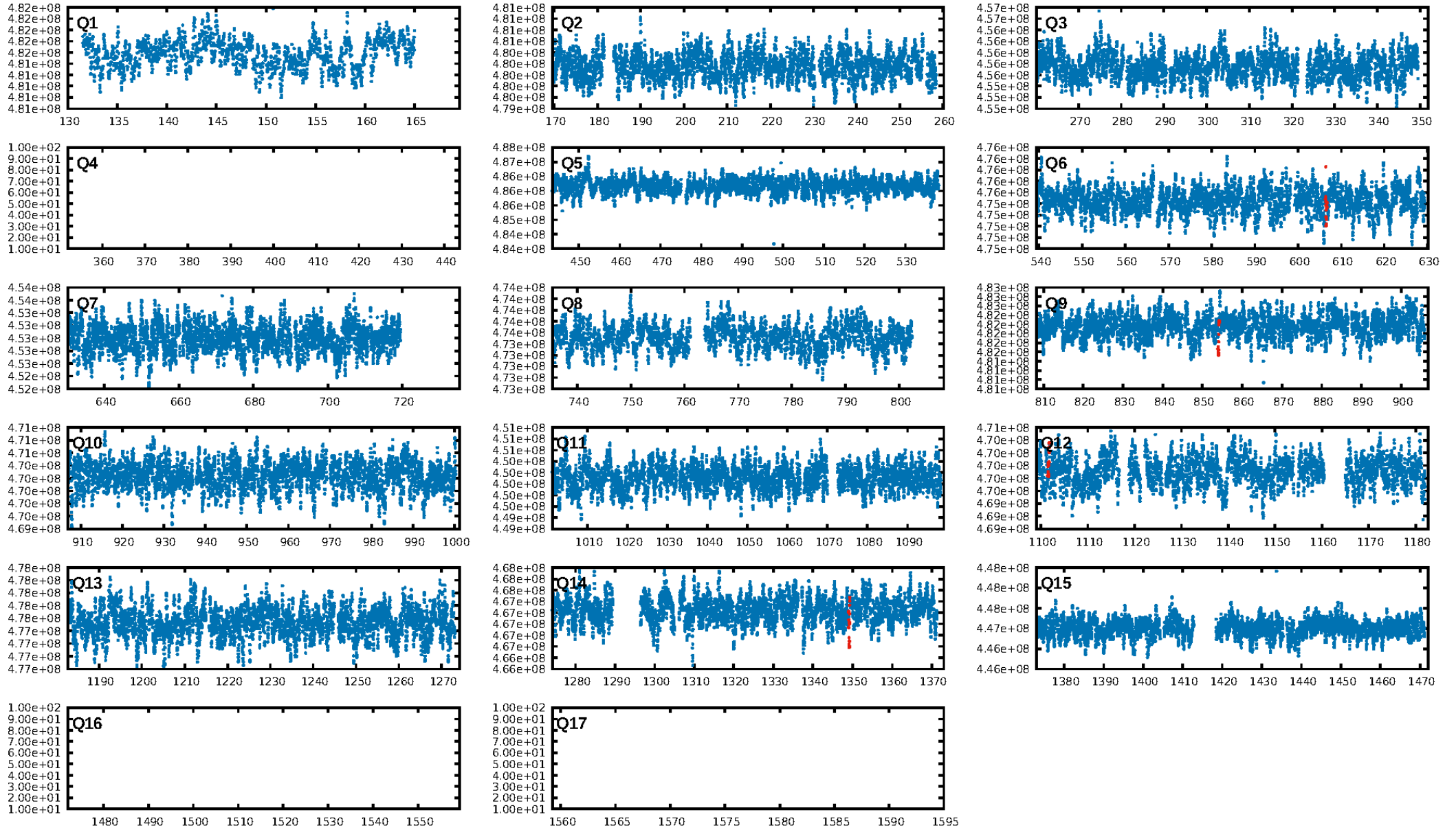
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 81.7%
ModelChiSquareGof-sig: 88.5%
Bootstrap-pfa: $1.13e-10$
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 8.25
Centroid-sig: 21.2%
Centroid-so: 0.615 arcsec [1.45 σ]
OotOffset-rm: 0.259 arcsec [0.72 σ]
KicOffset-rm: 0.360 arcsec [1.28 σ]
OotOffset-st: 2/0/1/1 [4]
KicOffset-st: 2/0/1/1 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [4/4]

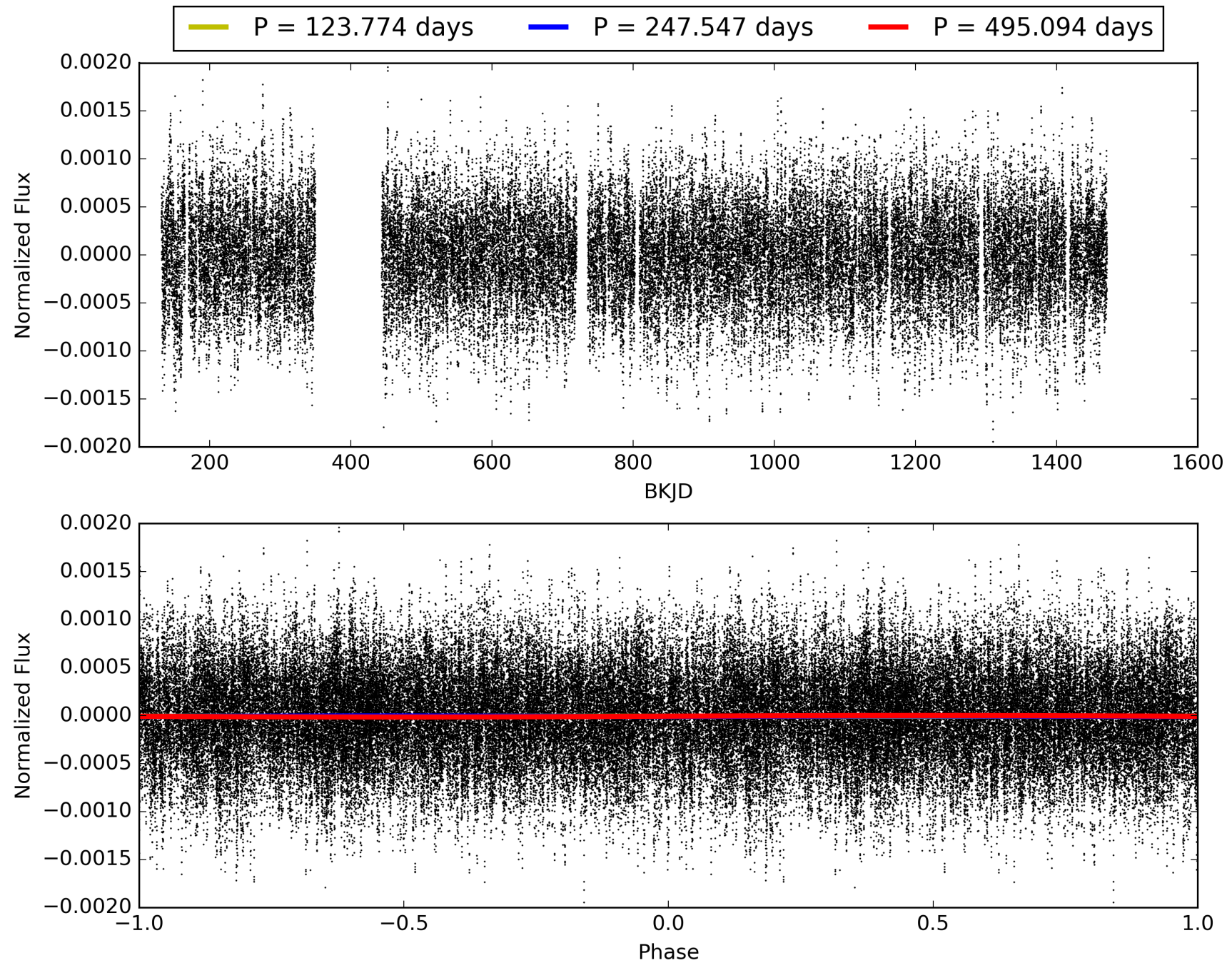
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 21:22:29 Z

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

TCE 005638865-01, PDC Light Curves

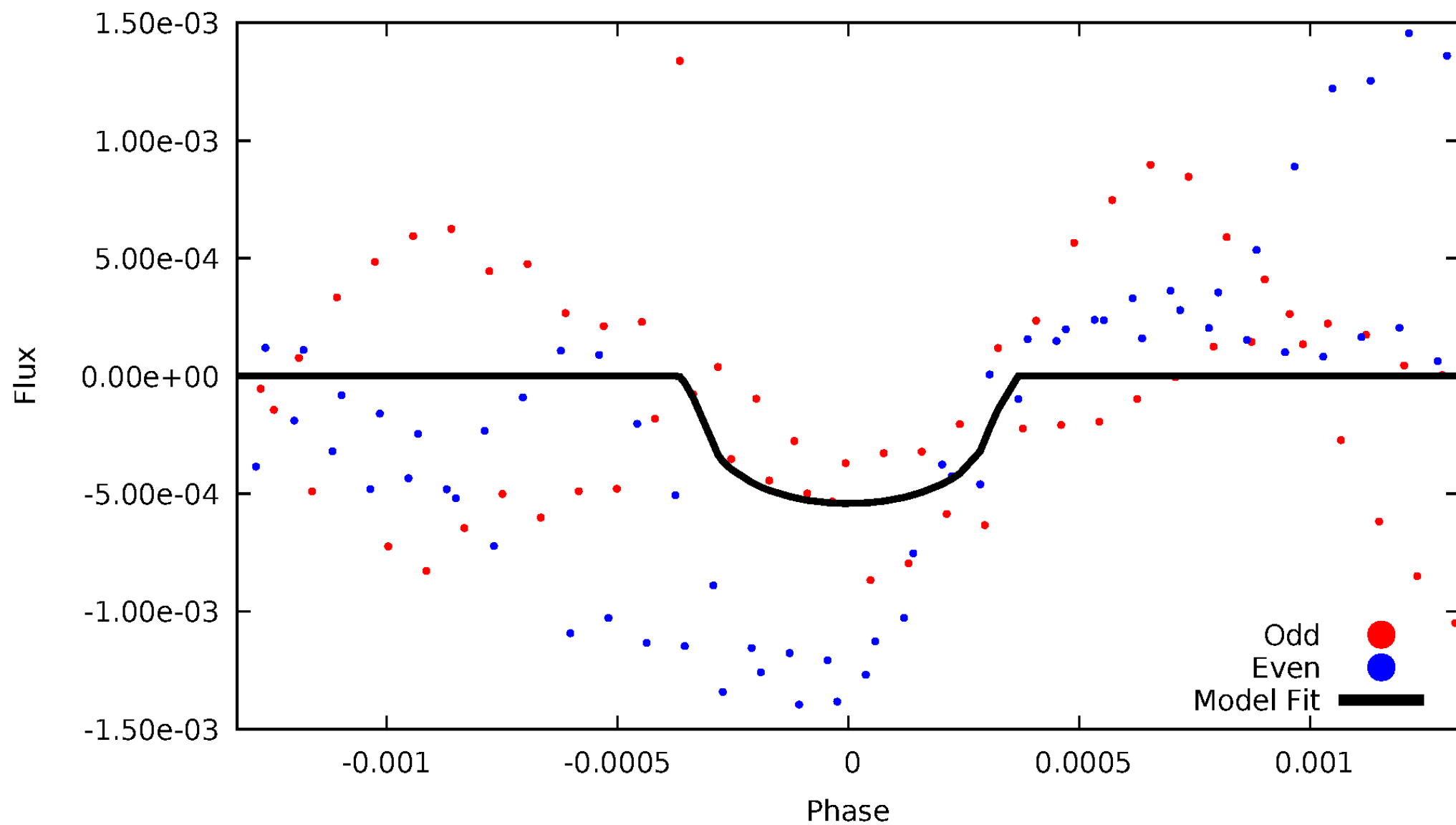


TCE 005638865-01



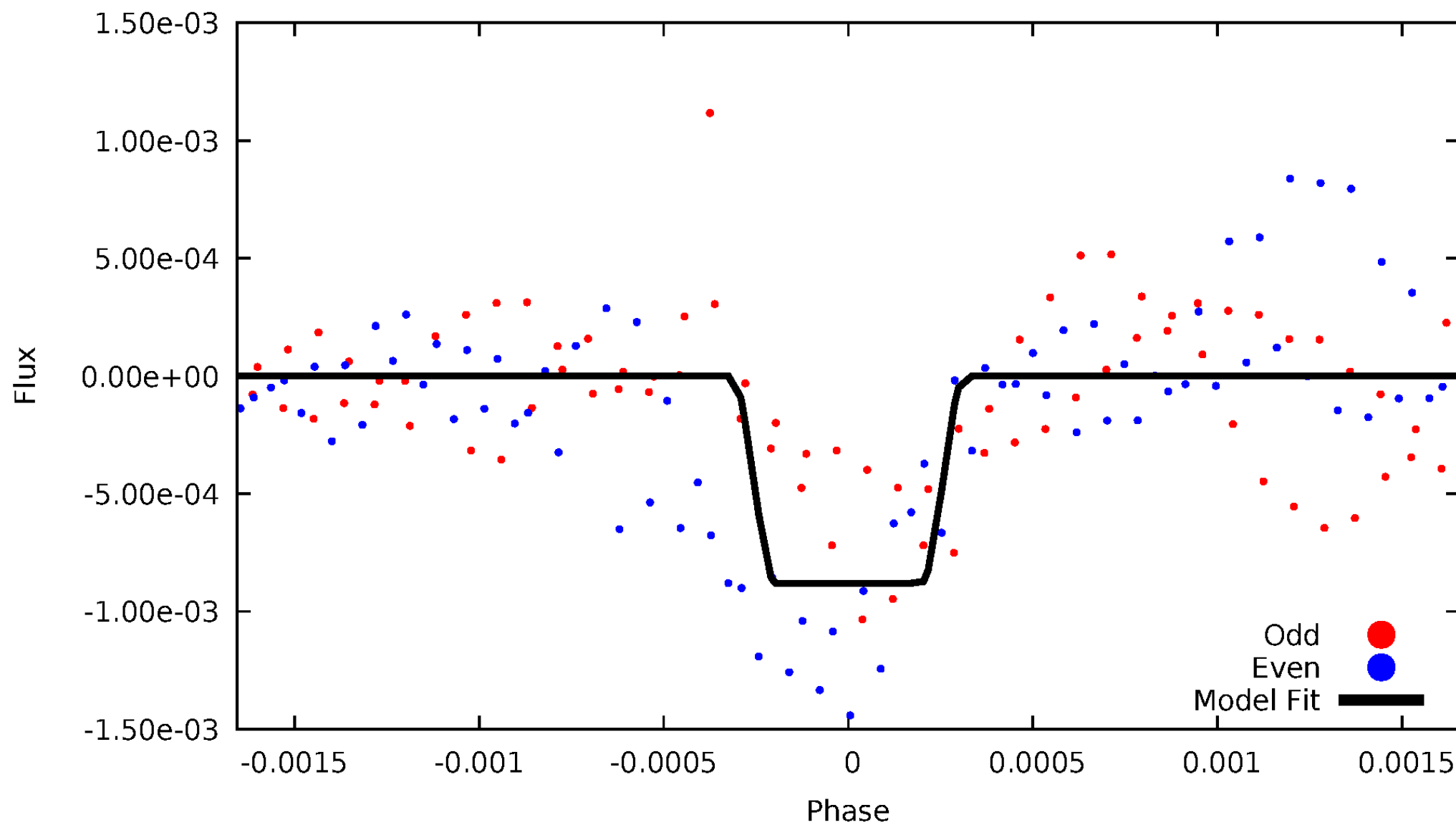
DV Odd/Even

TCE 005638865-01



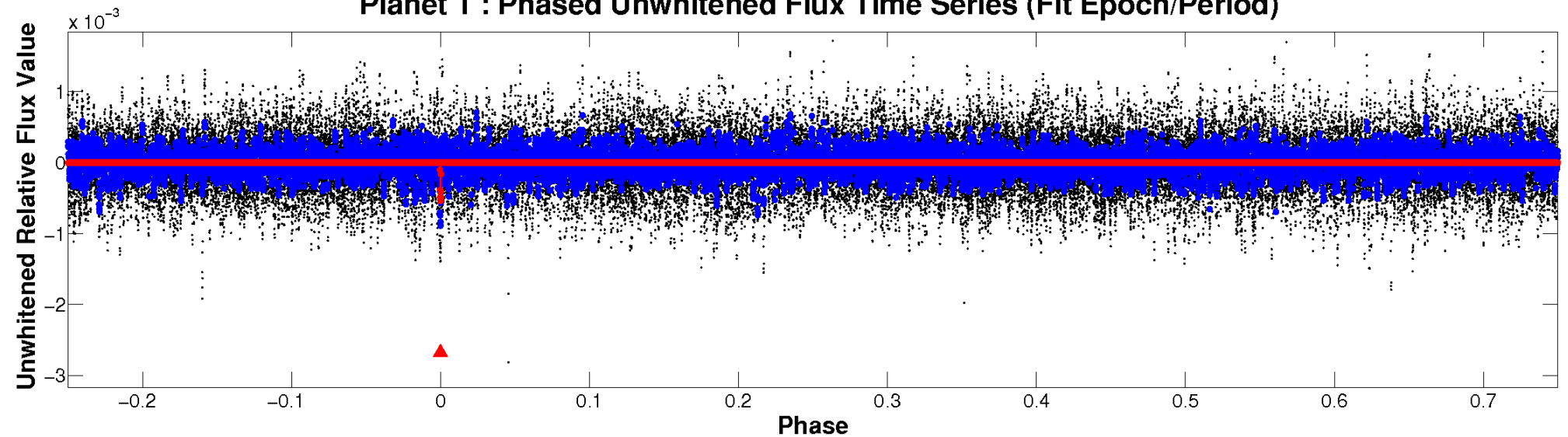
ALT Odd/Even

TCE 005638865-01

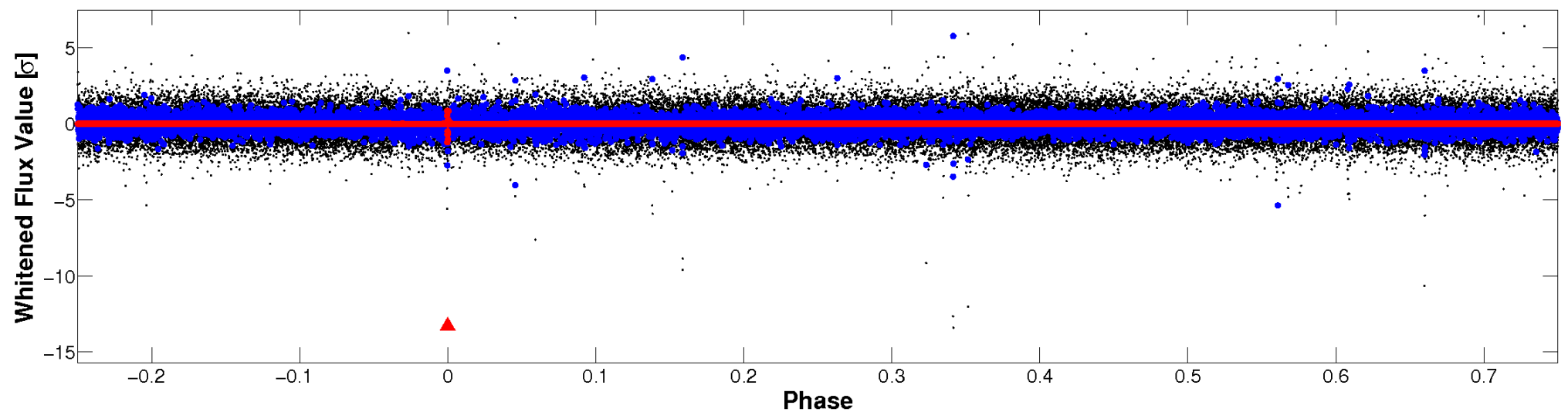


Non-Whitened Vs. Whitened Light Curve

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

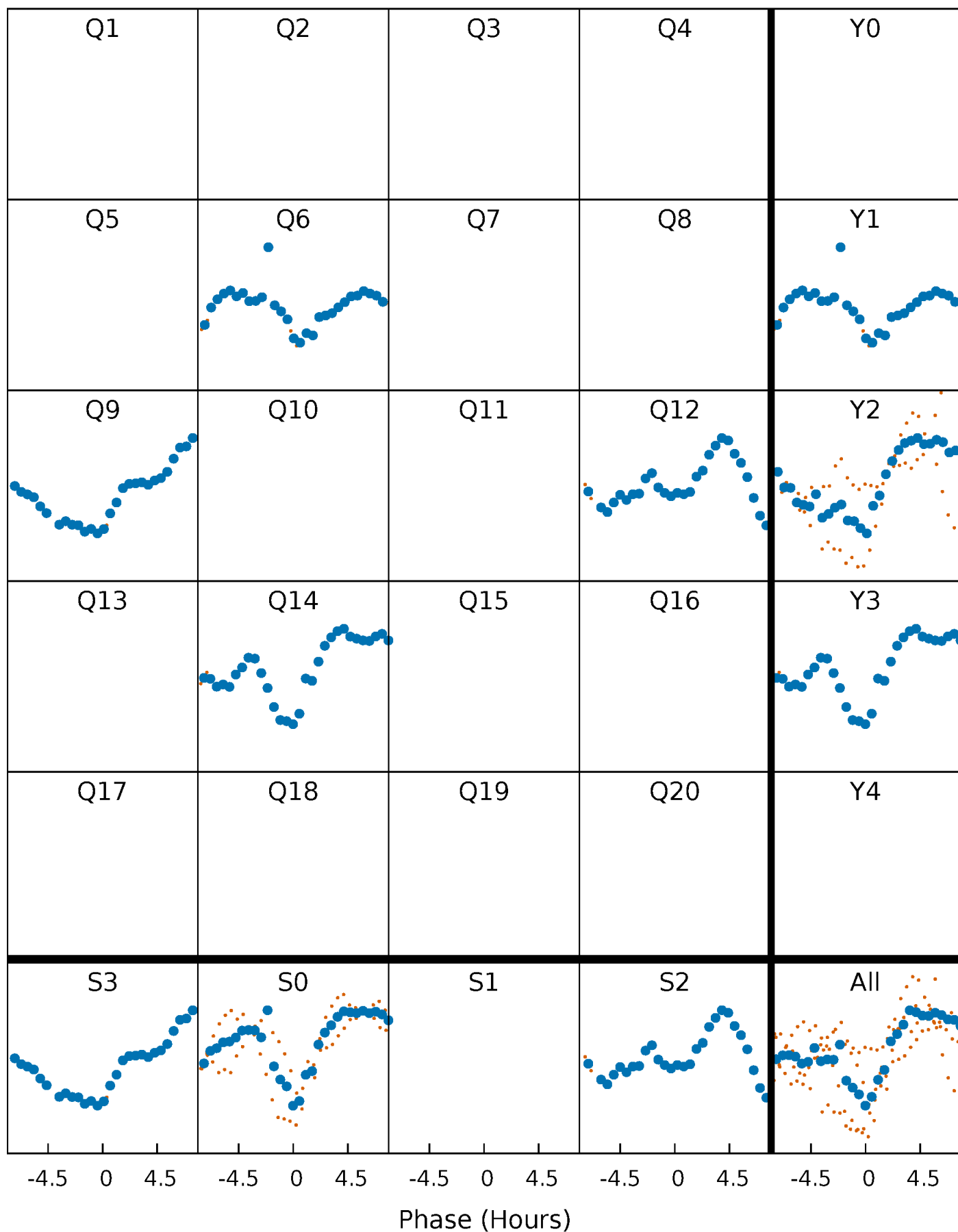


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



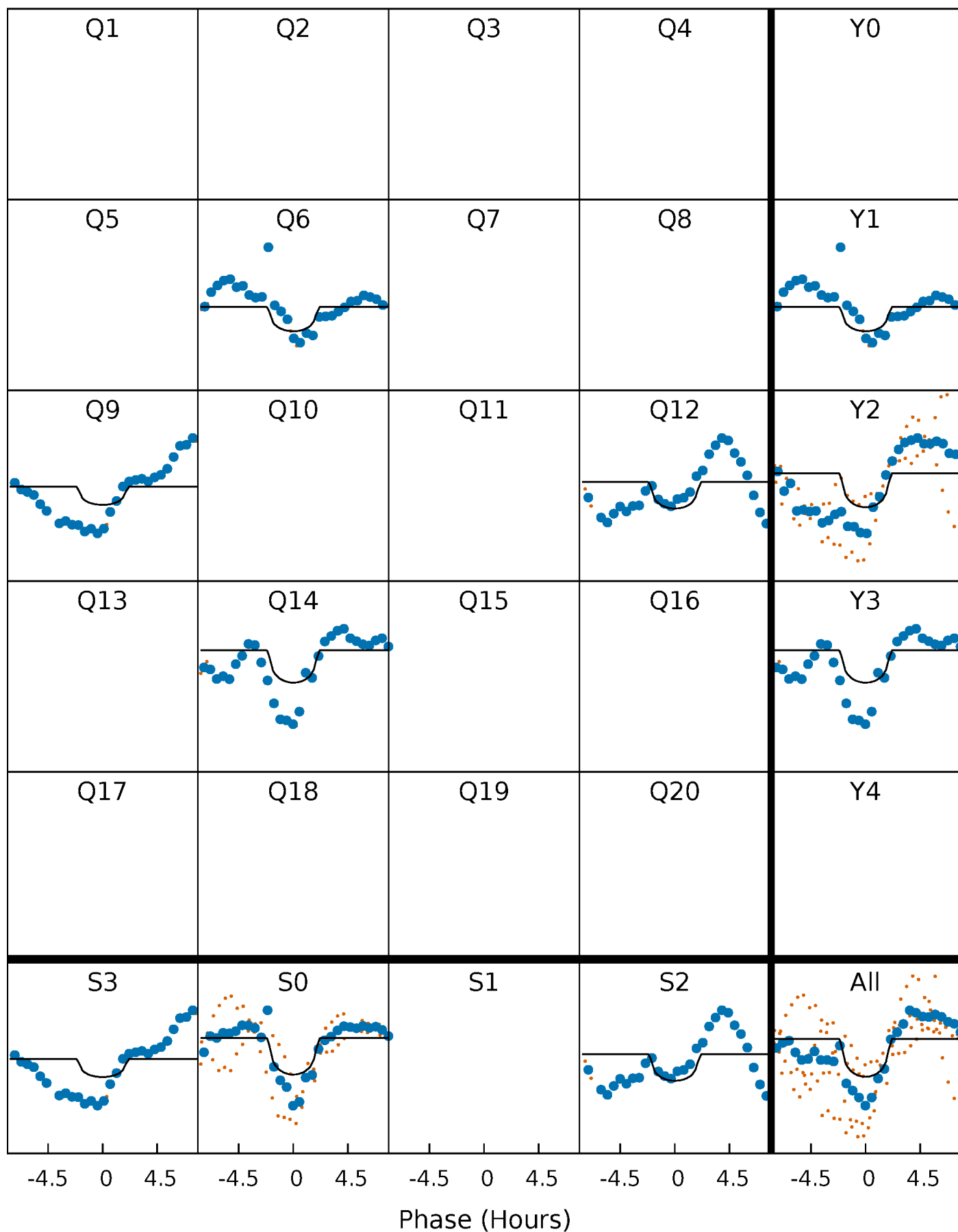
PDC Quarter-Phased Transit Curves

TCE 005638865-01 P=247.547075 Days $T_0=358.975508$ (BKJD)



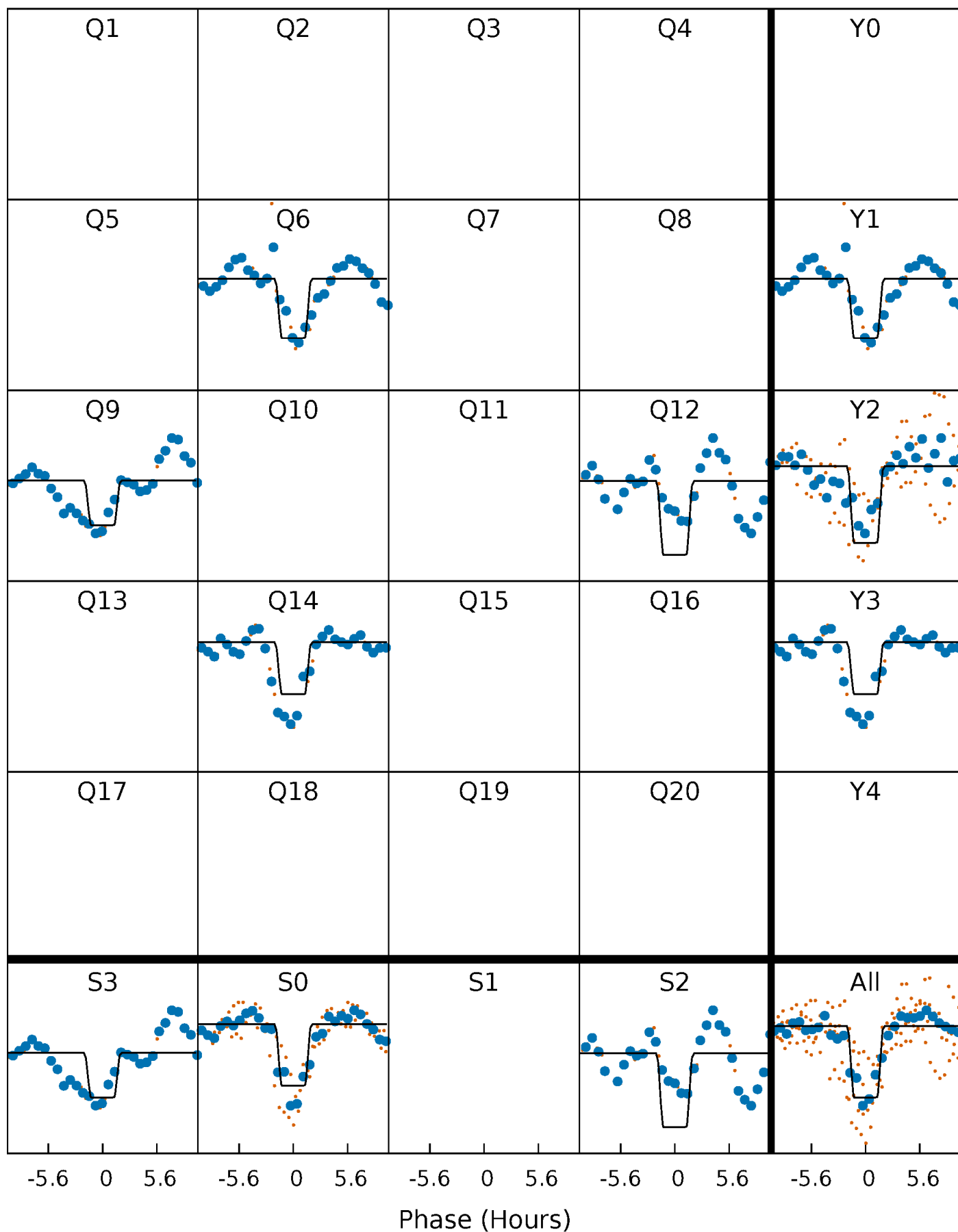
DV Quarter-Phased Transit Curves

TCE 005638865-01 P=247.547075 Days $T_0=358.975508$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

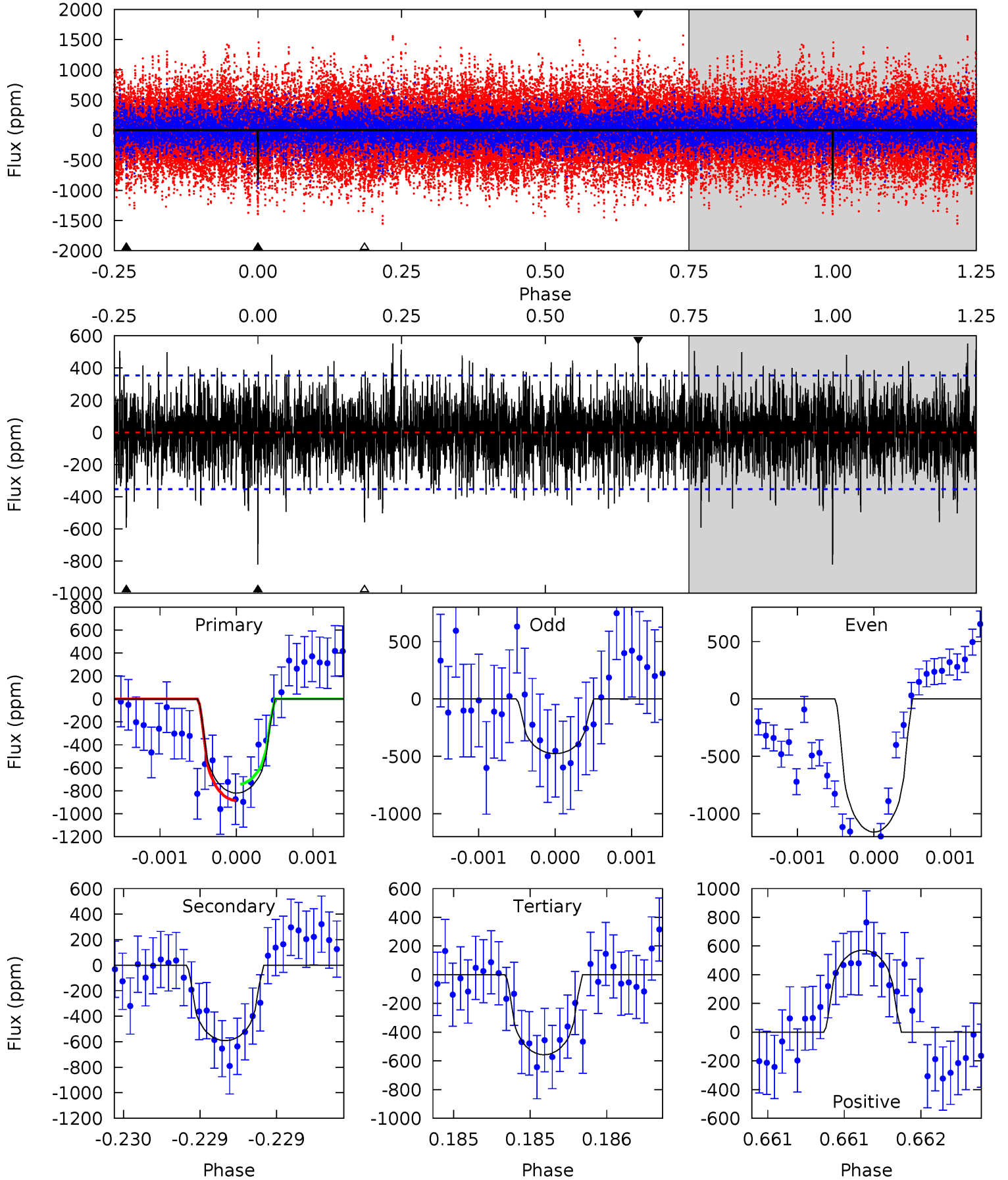
TCE 005638865-01 P=247.548992 Days $T_0=358.976033$ (BKJD)



DV Model-Shift Uniqueness Test

005638865-01, P = 247.547075 Days, E = 111.428433 Days

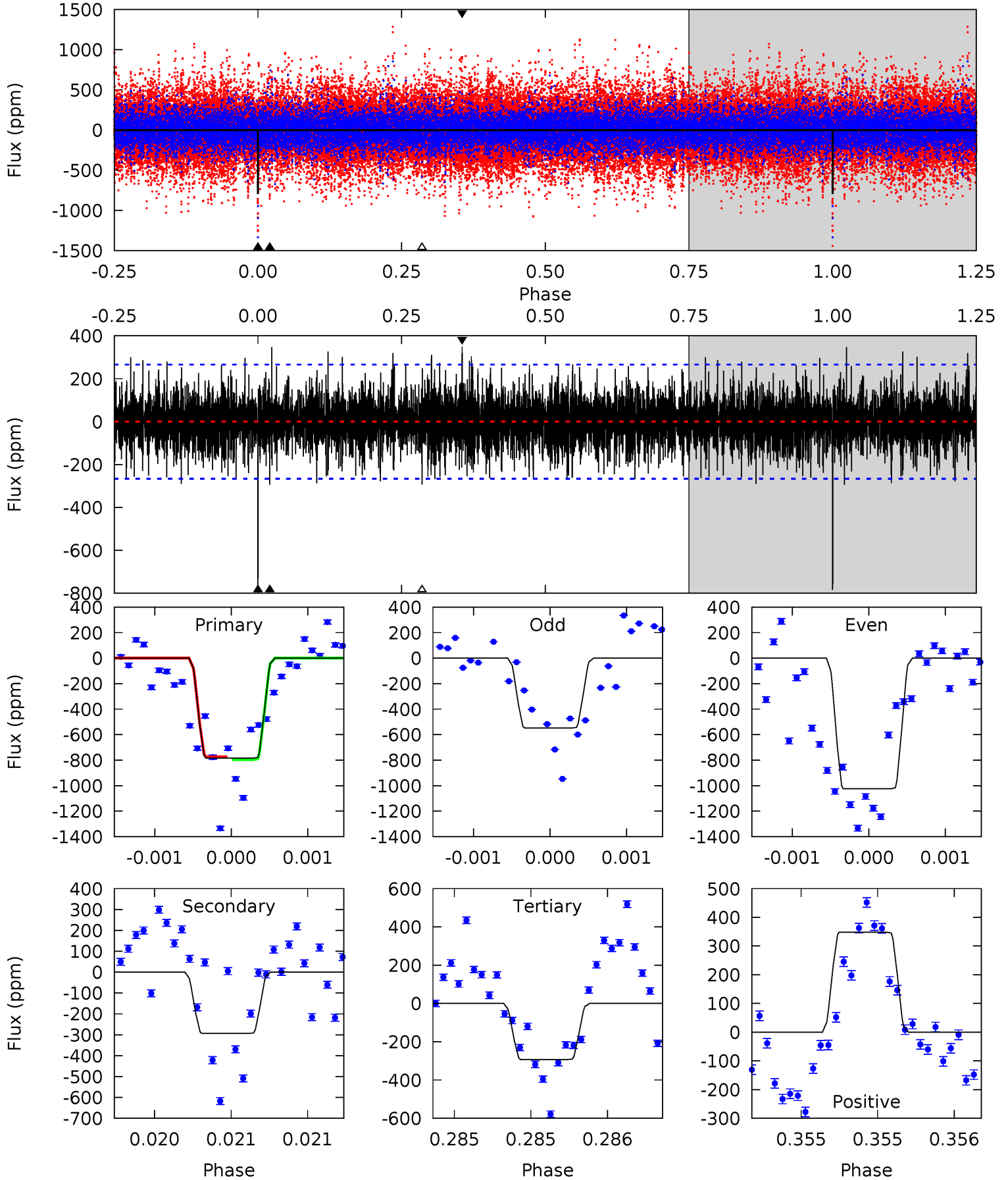
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	9.22	8.69	8.90	5.51	3.38	2.39	4.10	3.88	0.53	0.32	5.33	0.97	0.41	1.10



Alt Model-Shift Uniqueness Test

005638865-01, P = 247.548992 Days, E = 111.427041 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.4	6.12	6.11	7.26	5.54	3.44	1.85	10.3	9.10	0.01	-1.14	4.96	1.01	0.31	0.24



Stellar Parameters For KIC 005638865

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4732^{+71}_{-155}	$2.548^{+0.032}_{-0.022}$	$0.360^{+0.100}_{-0.250}$	$14.740^{+0.997}_{-4.238}$	$2.799^{+0.317}_{-1.347}$	$0.001^{+0.001}_{-0.000}$
	+2%/-3%	+1%/-1%	+28%/-69%	+7%/-29%	+11%/-48%	+44%/-11%
Source	SPE74	AST9	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 005638865-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-592 ± 64	$42.52^{+29.88}_{-27.84}$	1069^{+26}_{-38}	4563^{+2996}_{-830}	215^{+1573}_{-143}
Alt.	-293 ± 48	$51.85^{+34.64}_{-31.20}$	1072^{+23}_{-36}	3711^{+1686}_{-542}	69^{+395}_{-44}

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 $A_{obs} \gg 1.0$

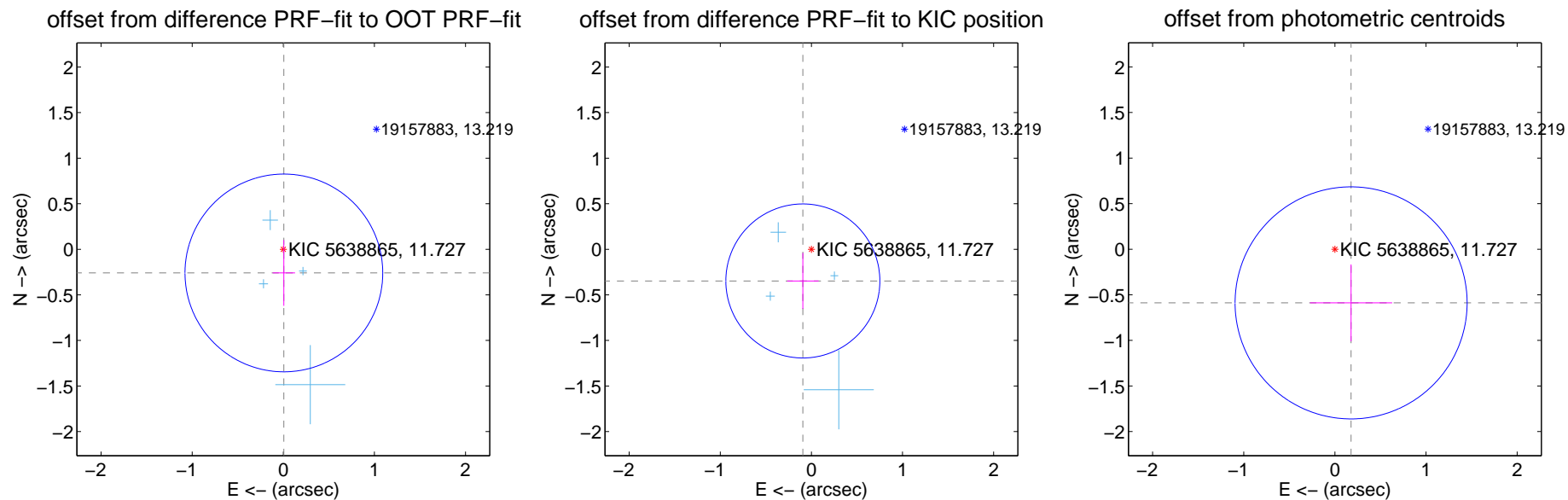
DV Centroid Data

Supplemental centroid analysis for 005638865-01. **Kepler magnitude: 11.73.** Transit SNR 4.88

There are 4 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.259 ± 0.362	0.72	-0.006 ± 0.123	-0.259 ± 0.361
PRF-fit source offset from KIC position	0.360 ± 0.282	1.28	0.094 ± 0.173	-0.347 ± 0.307
photometric centroid source offset	0.61 ± 0.42	1.45	-0.18 ± 0.45	-0.59 ± 0.42



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.

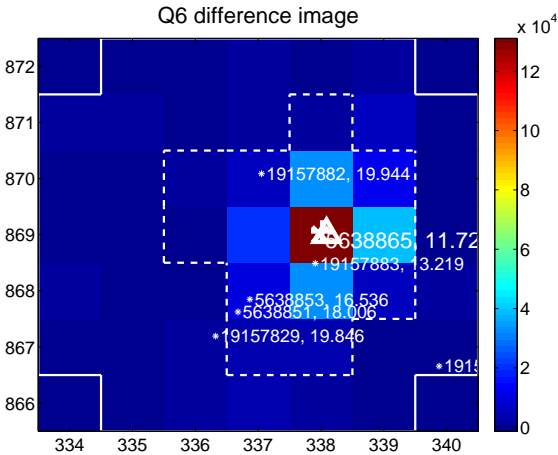
Q5 no difference image



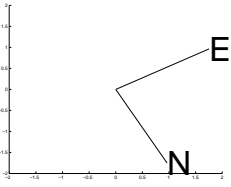
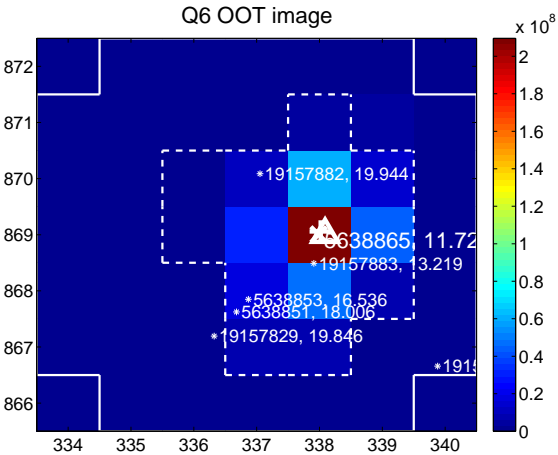
Q5 no OOT image



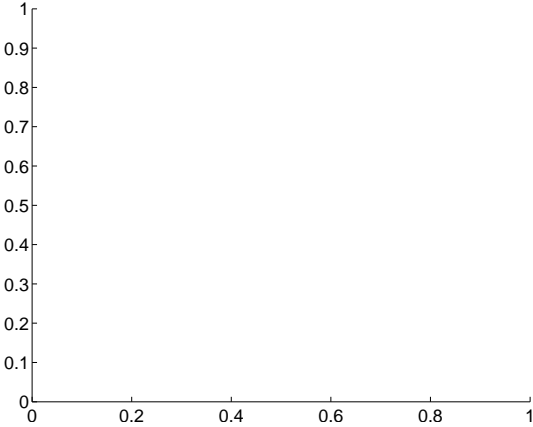
Q6 difference image



Q6 OOT image



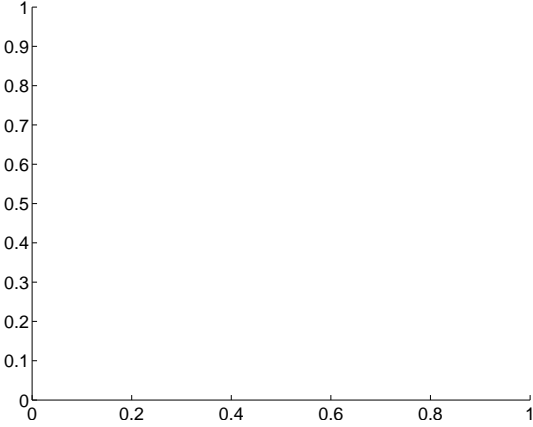
Q7 no difference image



Q7 no OOT image



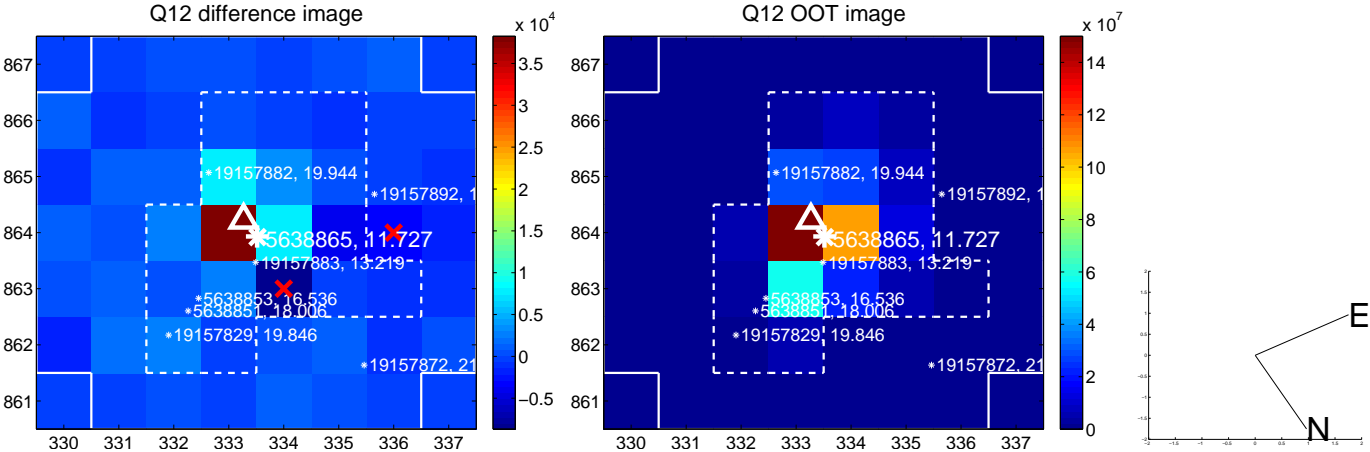
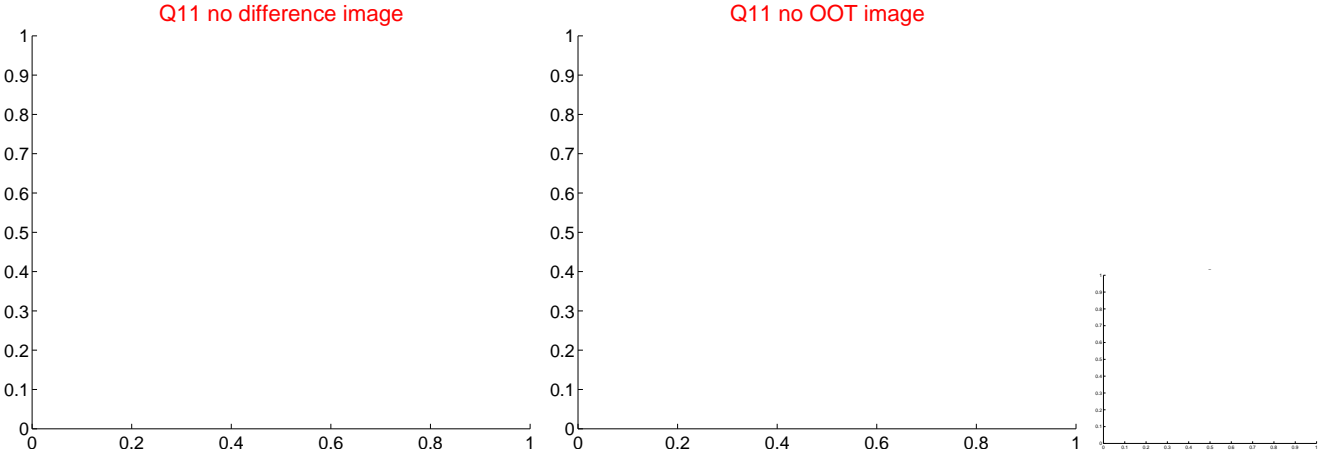
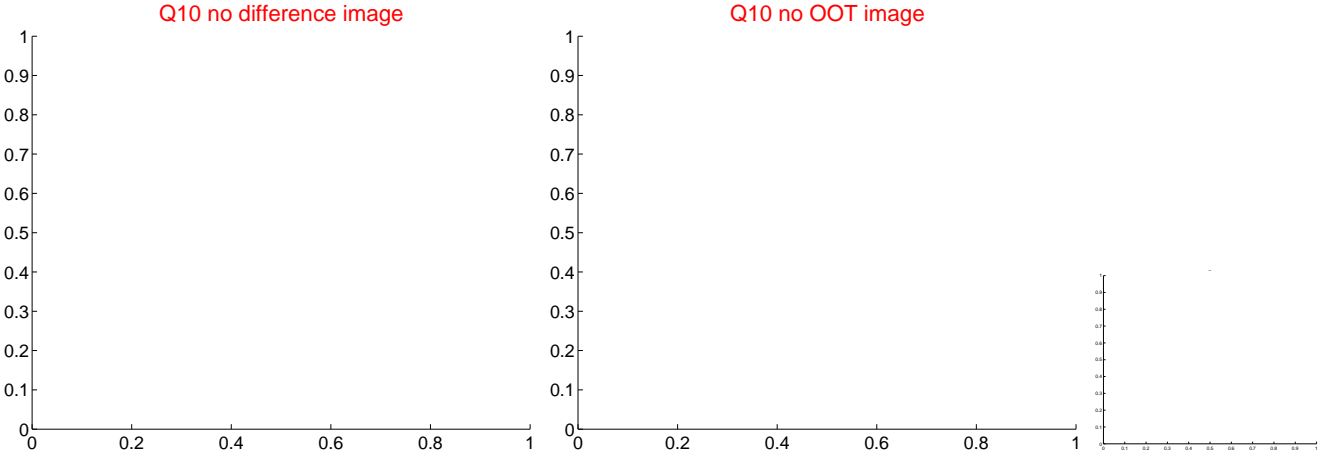
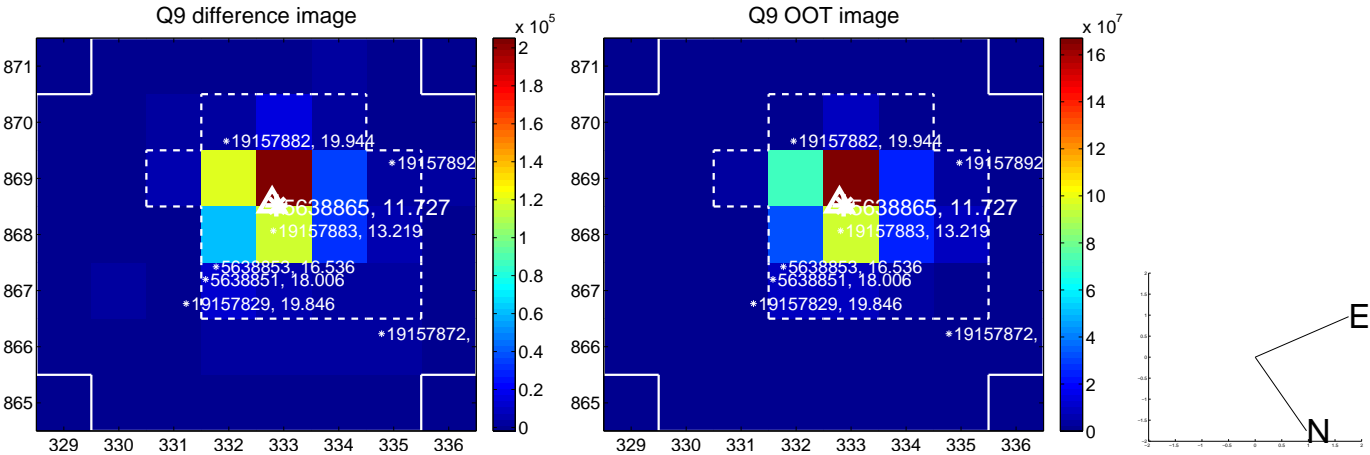
Q8 no difference image



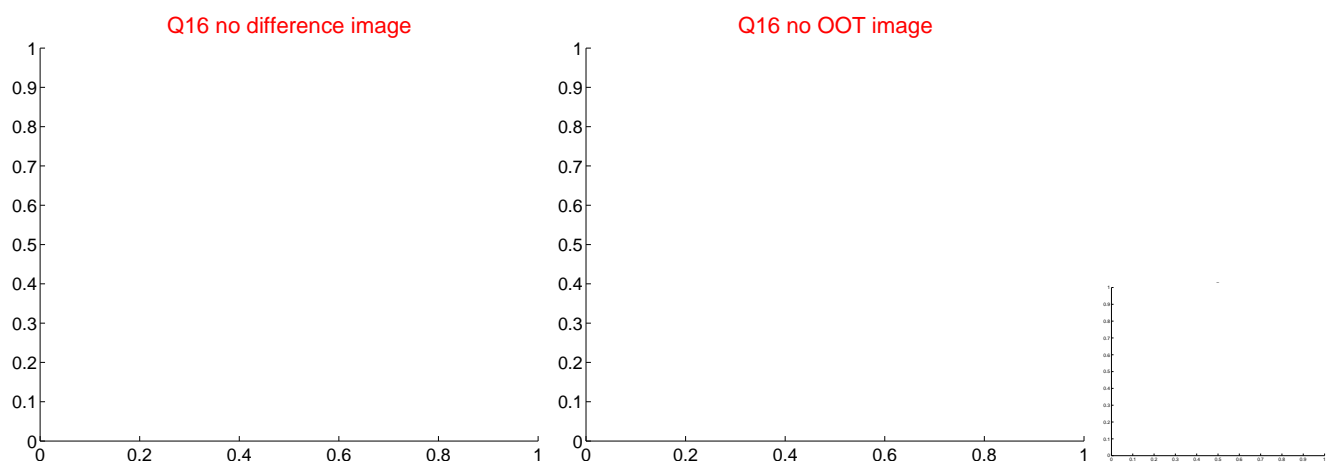
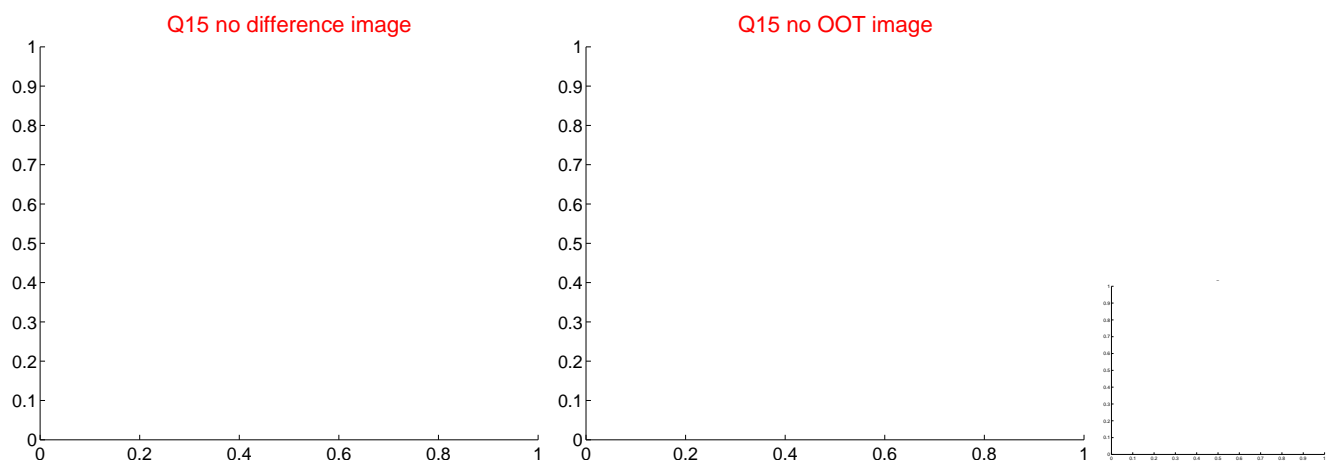
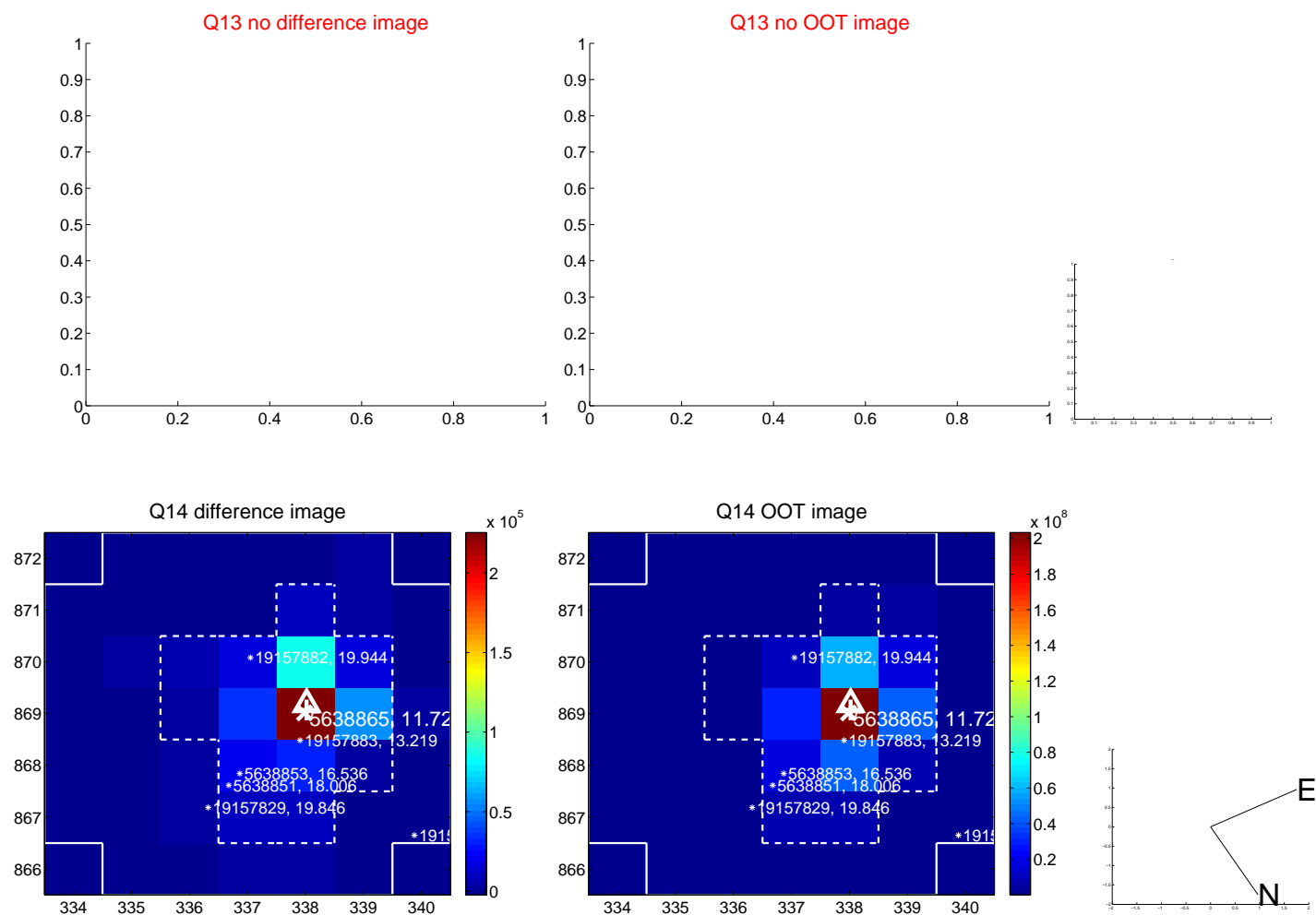
Q8 no OOT image



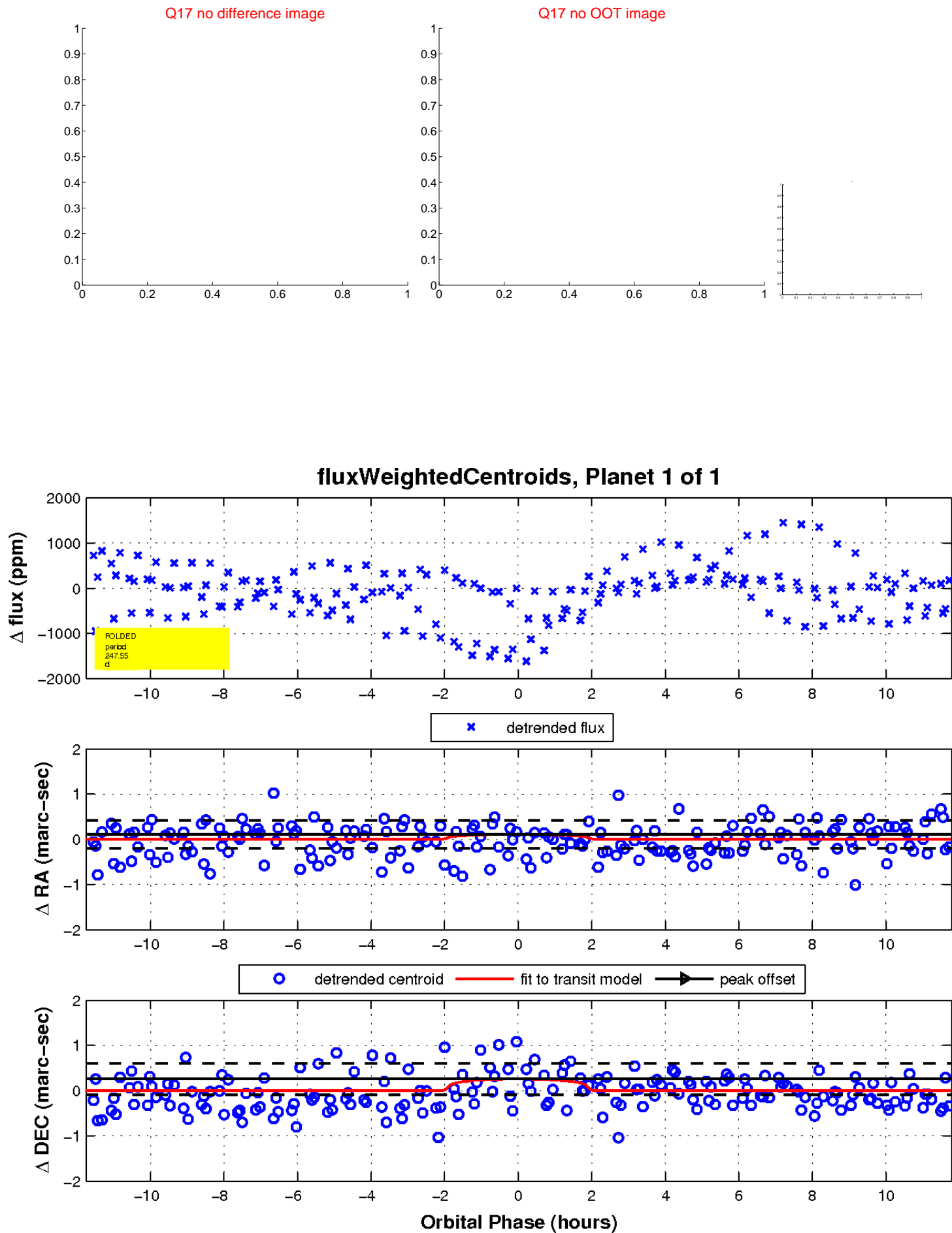
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

