

KIC 012306556

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})
012306556-01	OBS	No	375.518401	136.655774	203.6	3.180	7.7	8.0	2.16	5957	3.49	4.27

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012306556-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—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.

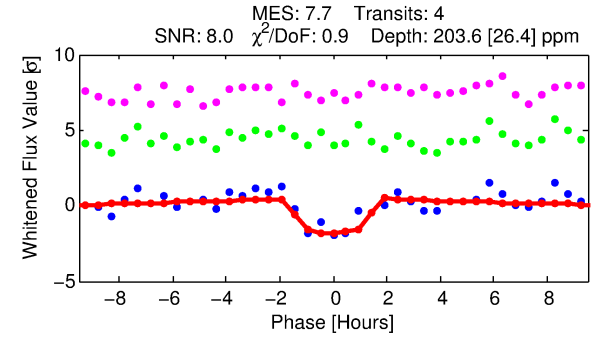
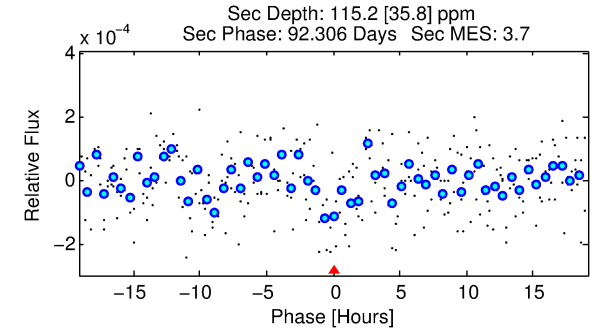
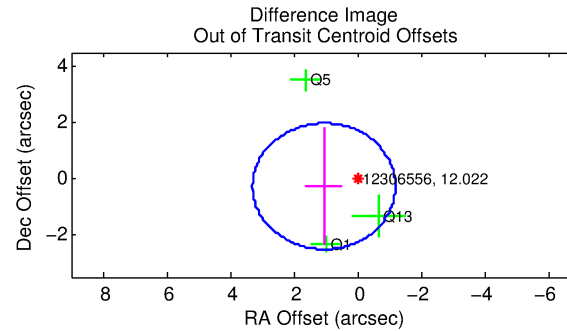
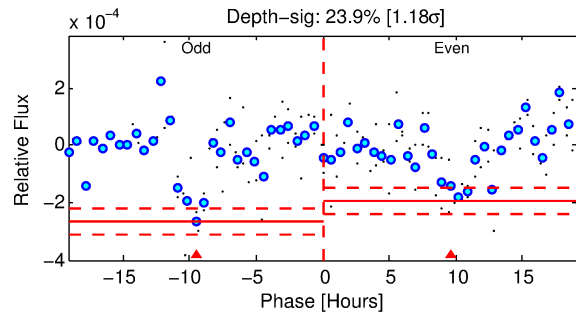
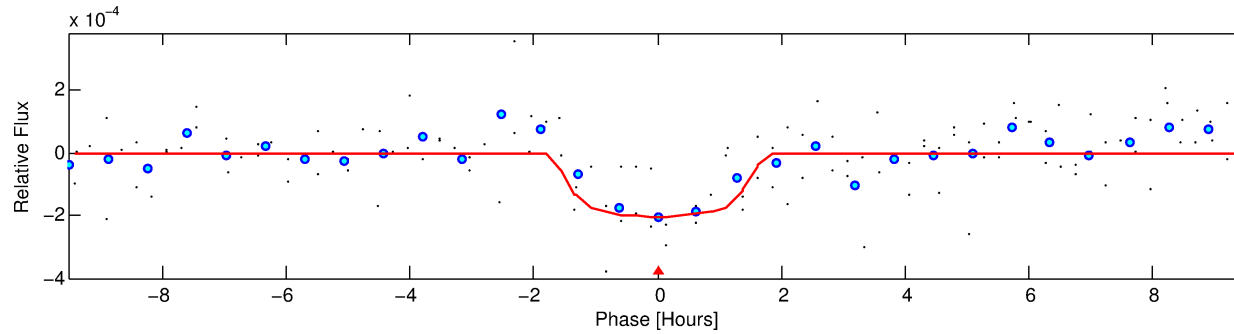
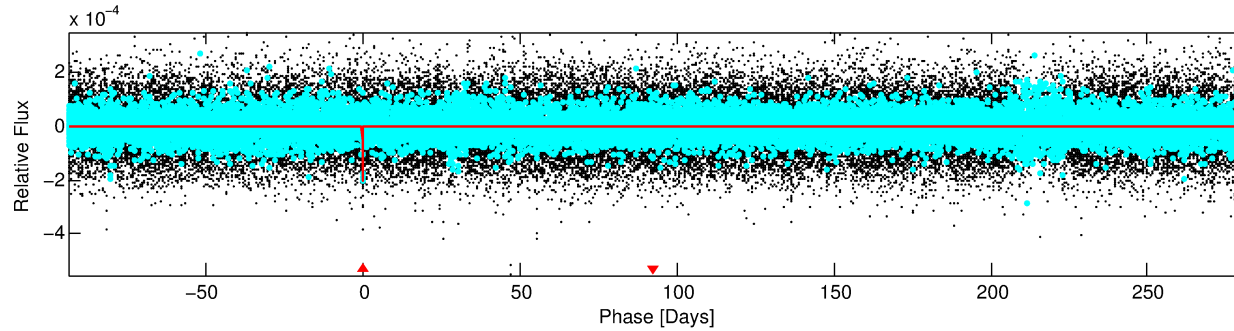
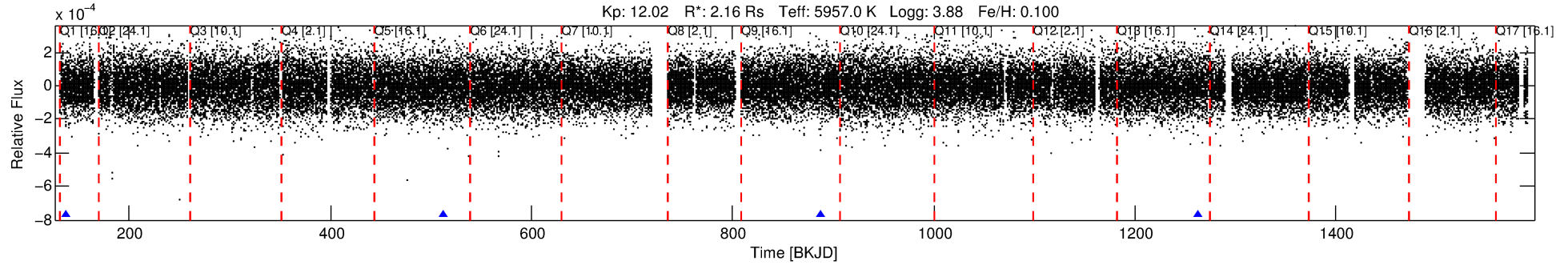
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012306556-01

No Significant Match Found

DV One-Page Summary

KIC: 12306556 Candidate: 1 of 1 Period: 375.518 d



DV Fit Results:

Period = 375.51840 [0.00369] d
Epoch = 136.6558 [0.0061] BKJD
Rp/R* = 0.0148 [0.0191]
a/R* = 509.97 [3218.79]
b = 0.84 [2.20]
Seff = 4.27 [2.15]
Teq = 367 [46] K
Rp = 3.49 [4.65] Re
a = 1.1087 [0.3459] AU
Ag = 6381.51 [16859.03] [0.38 σ]
Teffp = 5067 [3291] K [1.43 σ]

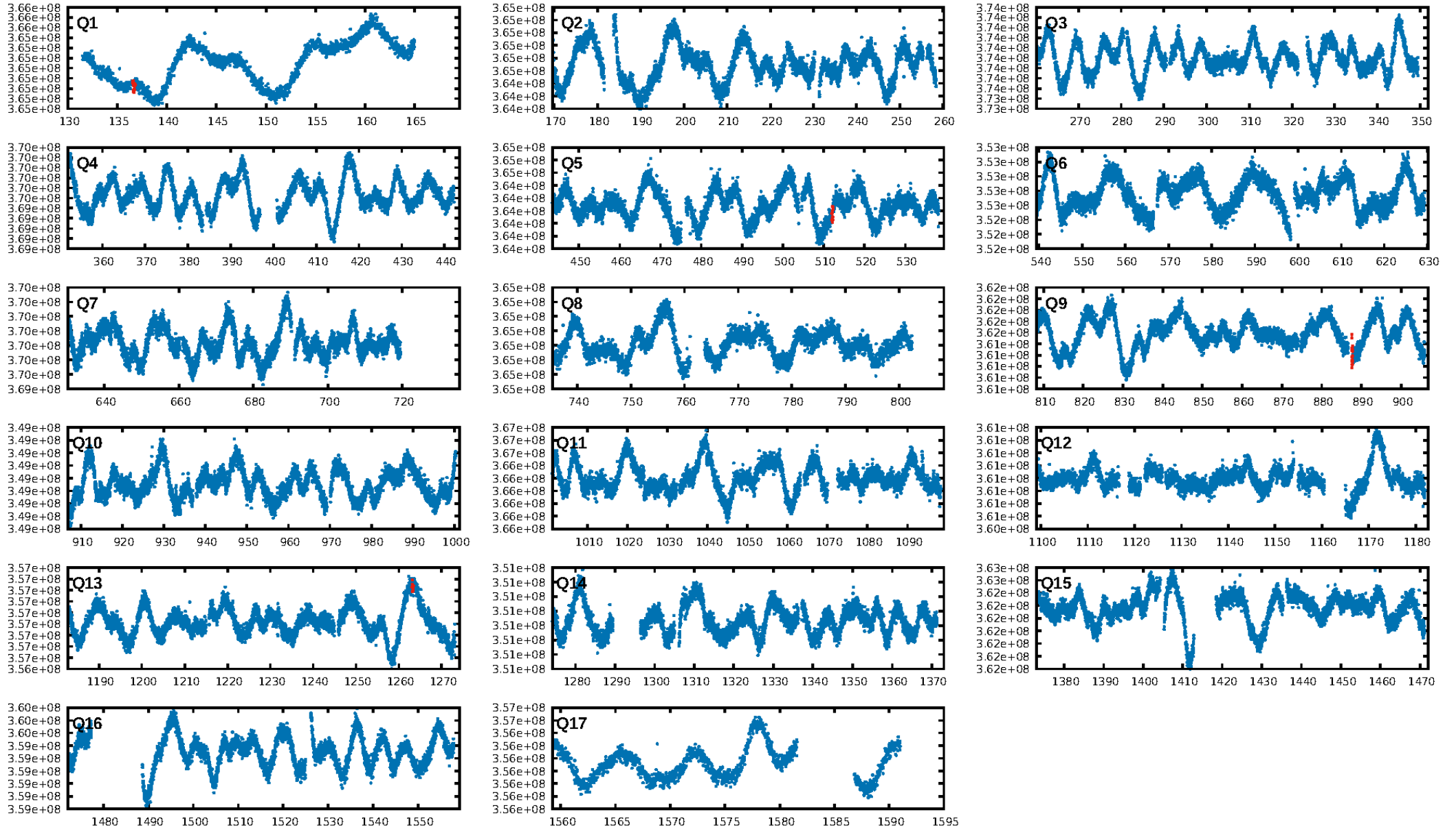
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 16.9%
ModelChiSquareGof-sig: 94.8%
Bootstrap-pfa: 5.52e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -4.887
Centroid-sig: 37.9%
Centroid-so: 1.851 arcsec [1.38 σ]
OotOffset-rm: 1.084 arcsec [1.45 σ]
KicOffset-rm: 1.080 arcsec [1.35 σ]
OotOffset-st: 0/0/0/3 [3]
KicOffset-st: 0/0/0/3 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

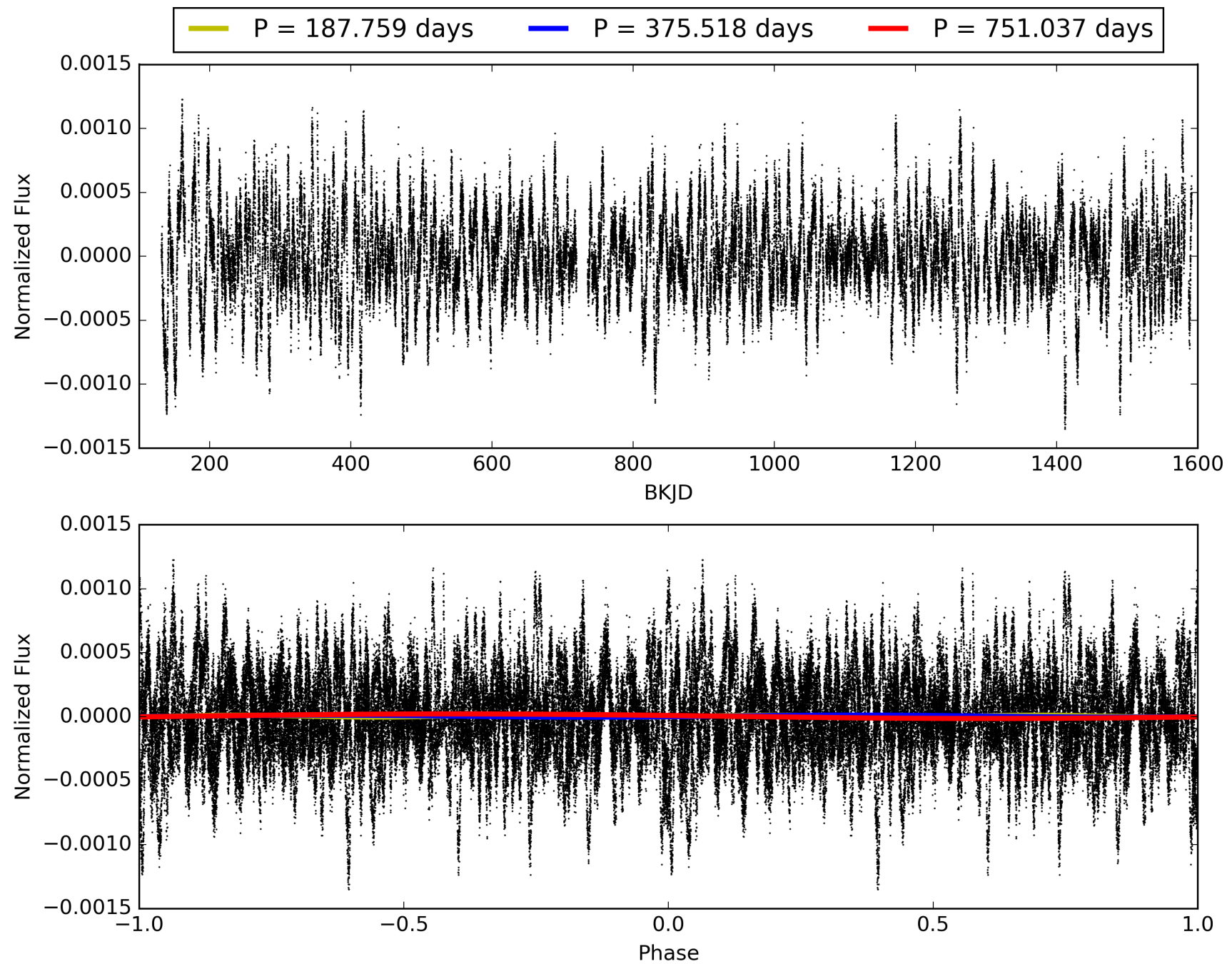
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:15:07 Z

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

TCE 012306556-01, PDC Light Curves

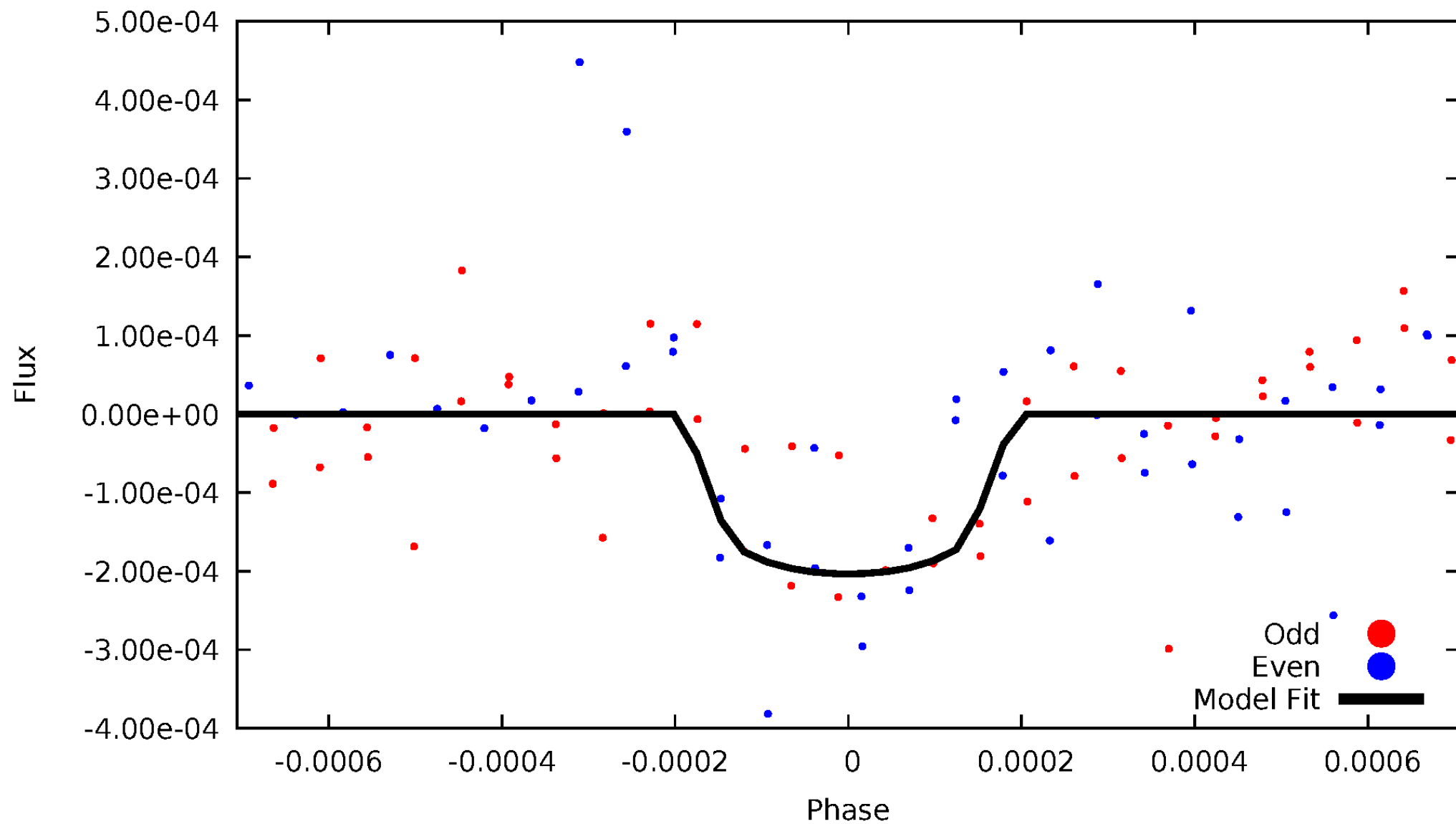


TCE 012306556-01



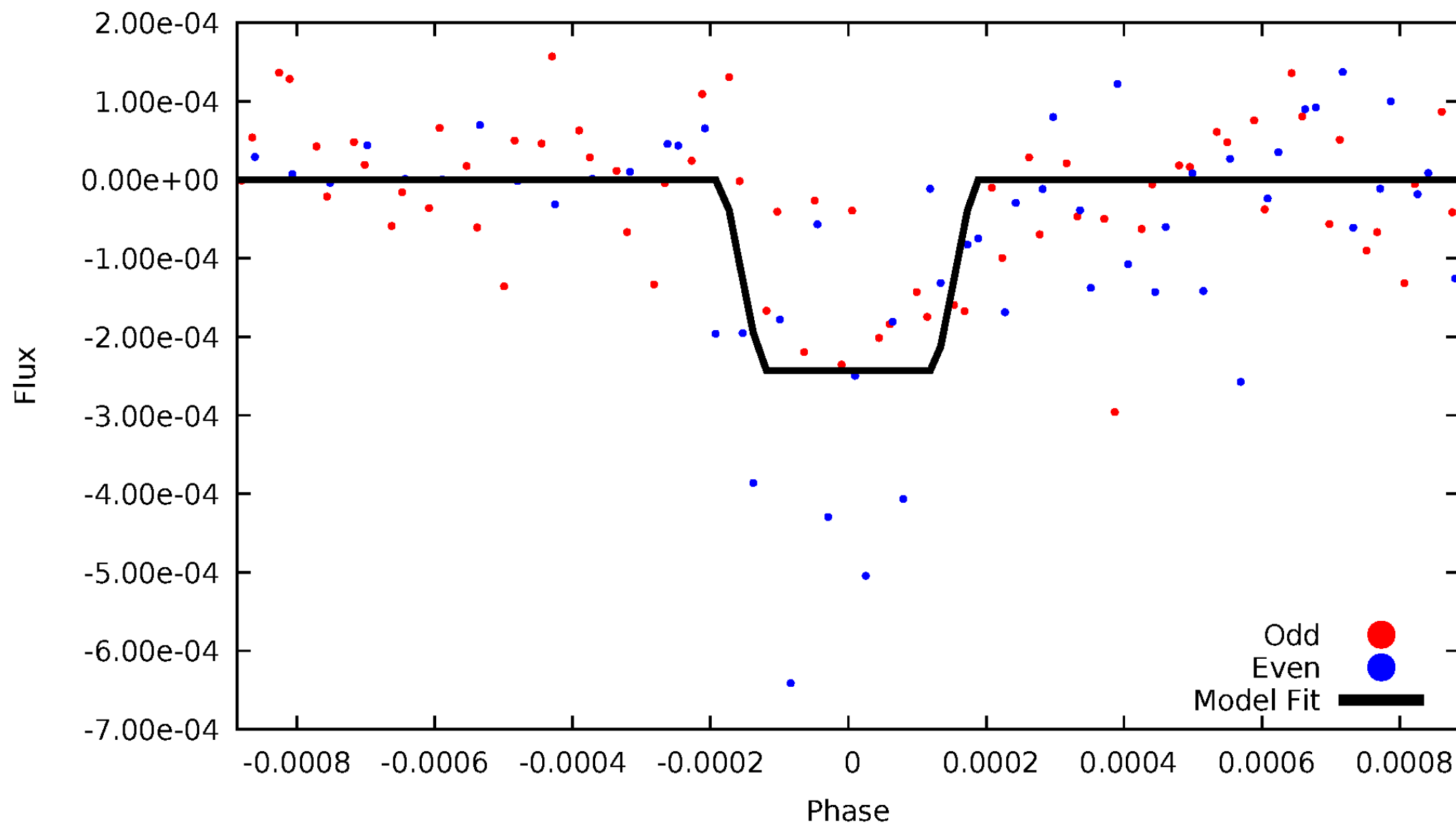
DV Odd/Even

TCE 012306556-01



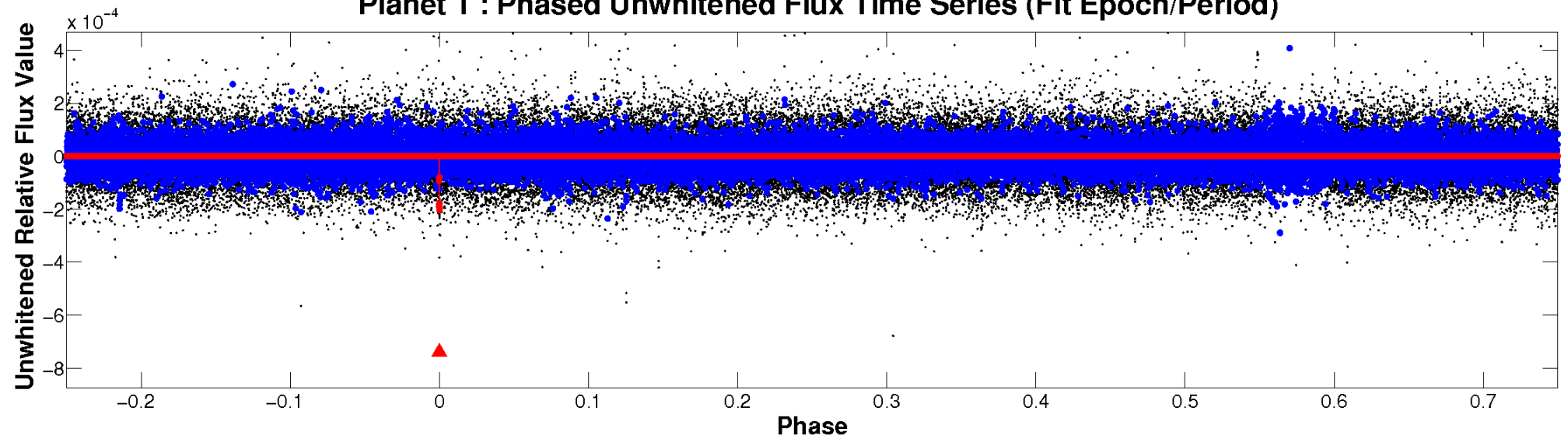
ALT Odd/Even

TCE 012306556-01

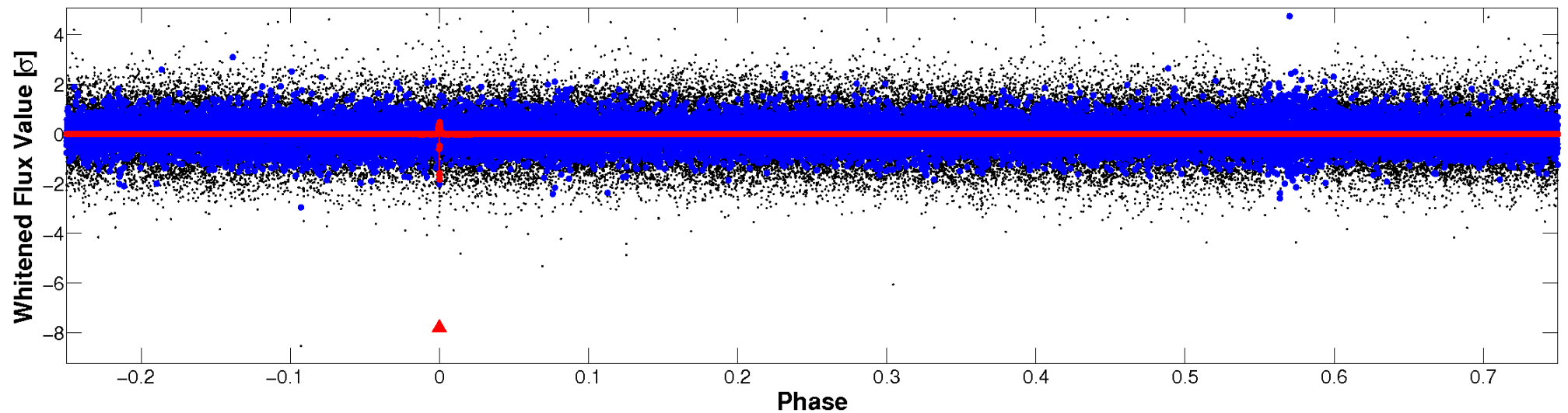


Non-Whitened Vs. Whitened Light Curve

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

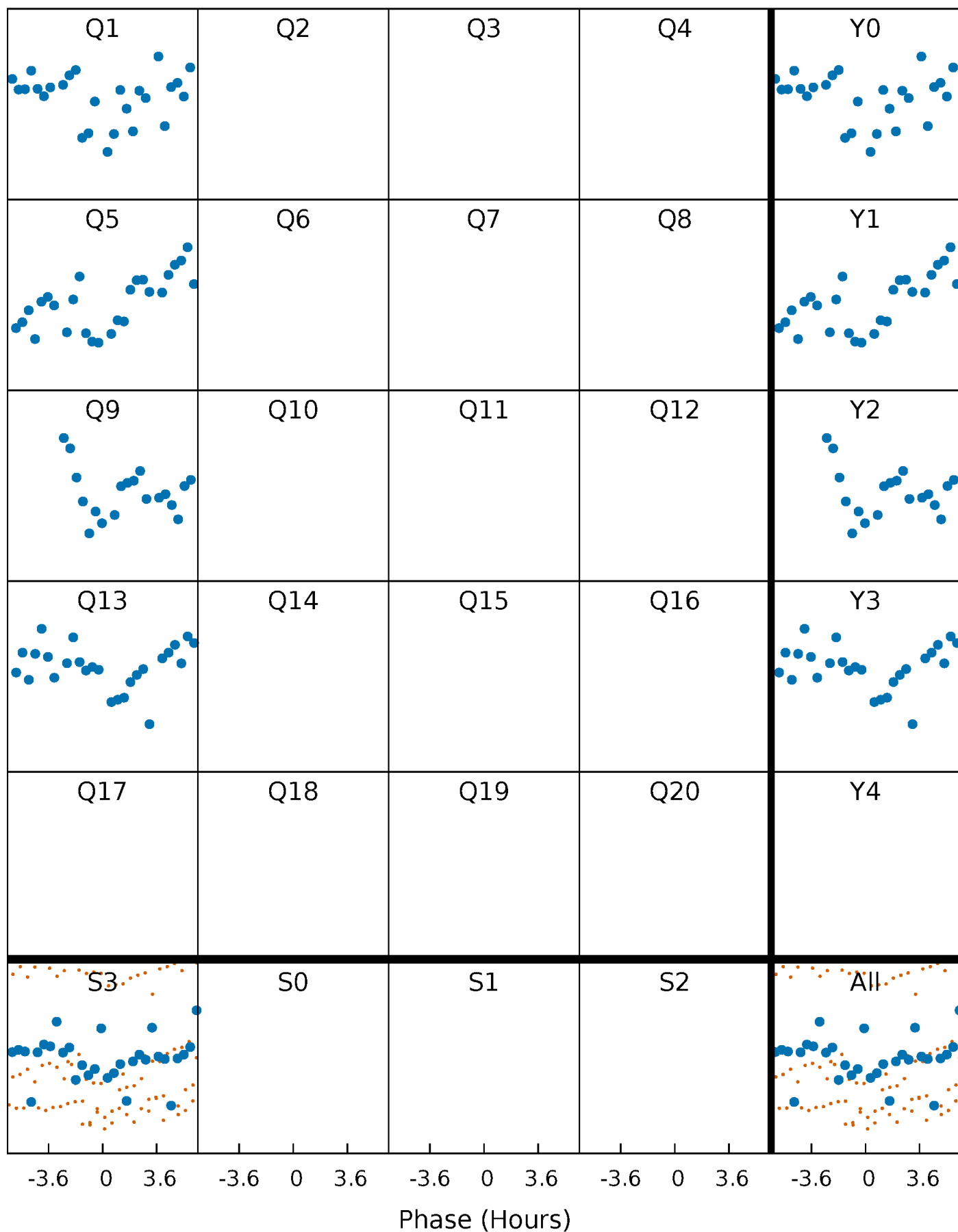


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



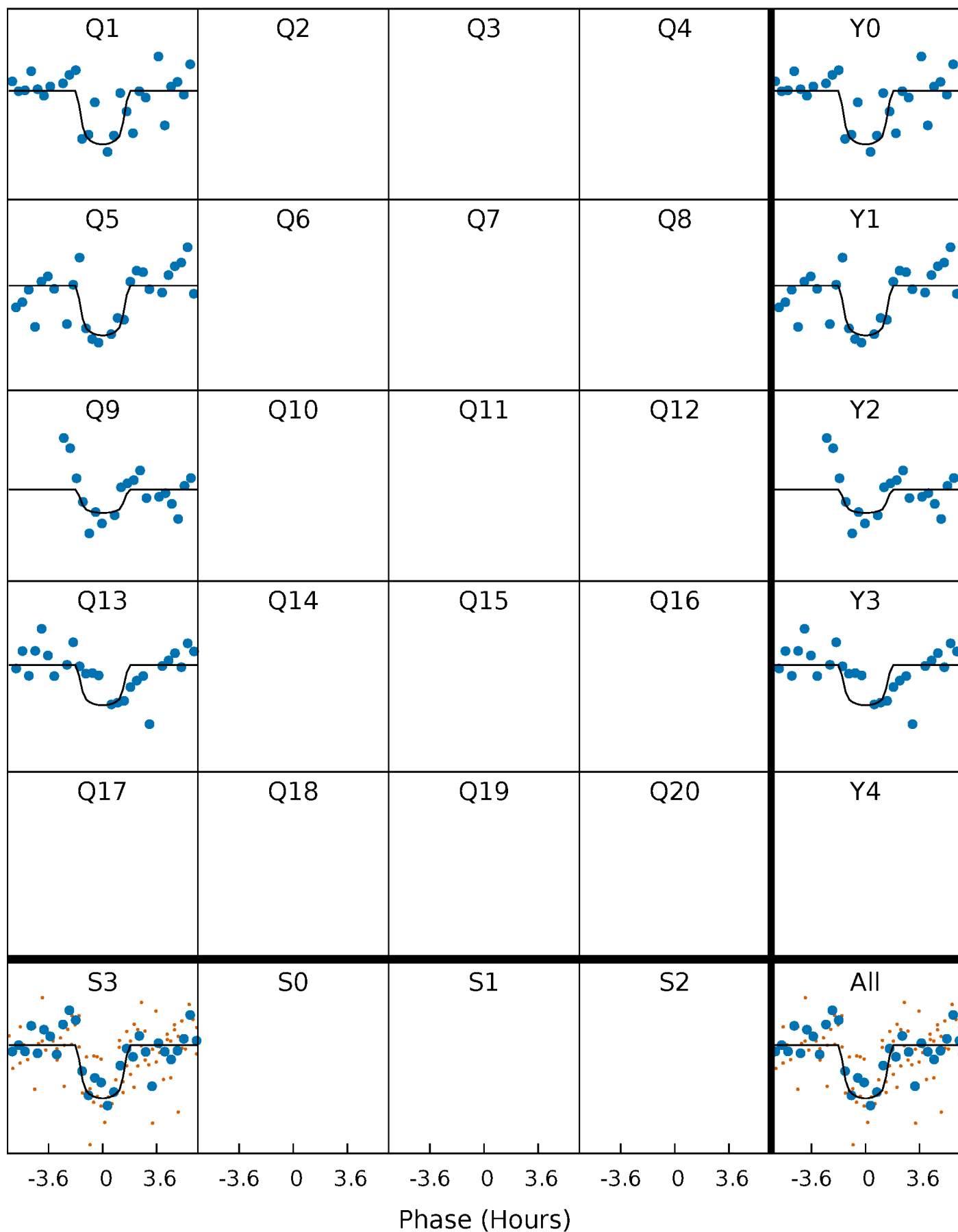
PDC Quarter-Phased Transit Curves

TCE 012306556-01 P=375.518401 Days $T_0=136.655774$ (BKJD)



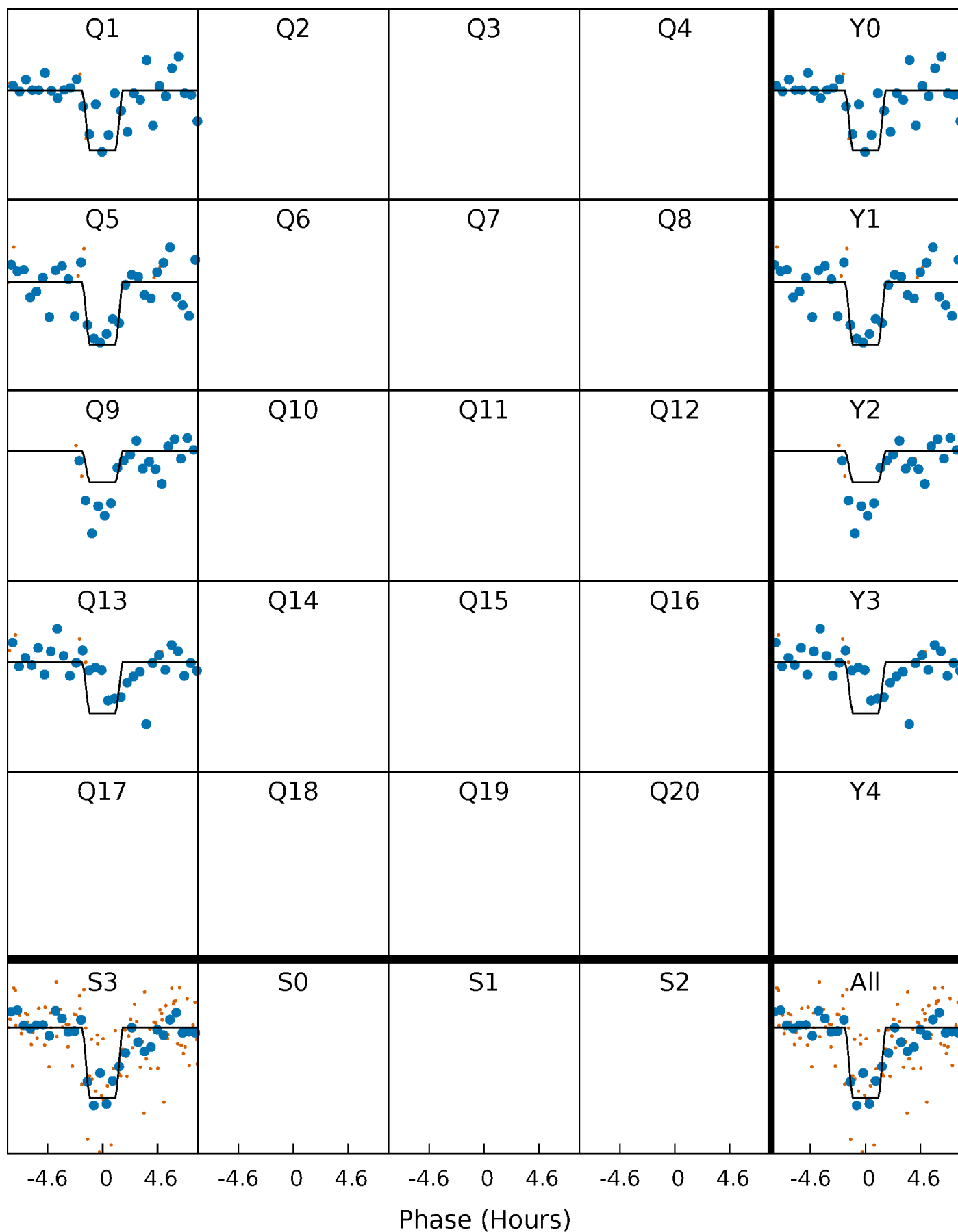
DV Quarter-Phased Transit Curves

TCE 012306556-01 P=375.518401 Days $T_0=136.655774$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

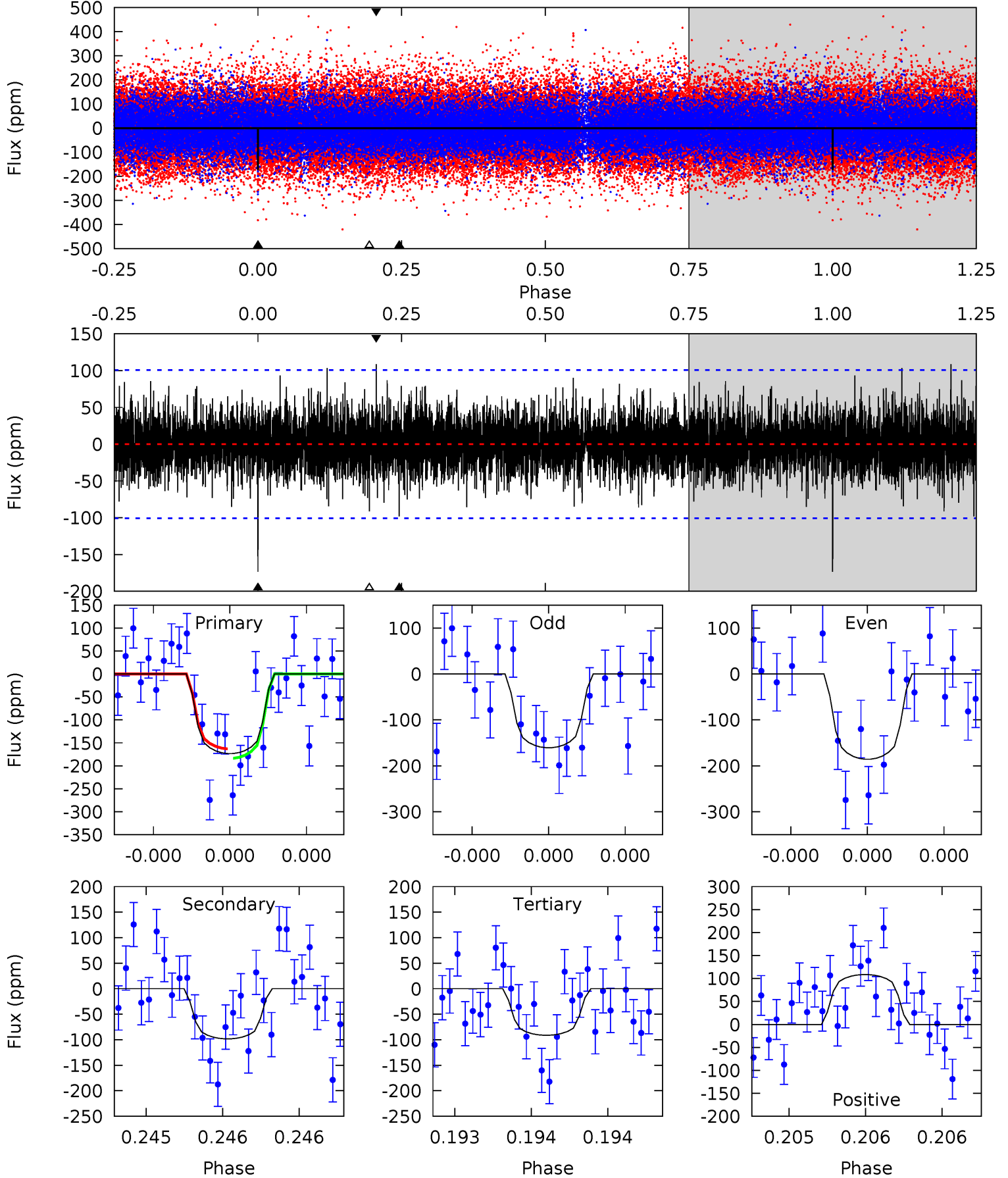
TCE 012306556-01 P=375.515689 Days $T_0=136.657764$ (BKJD)



DV Model-Shift Uniqueness Test

012306556-01, P = 375.518401 Days, E = 136.655774 Days

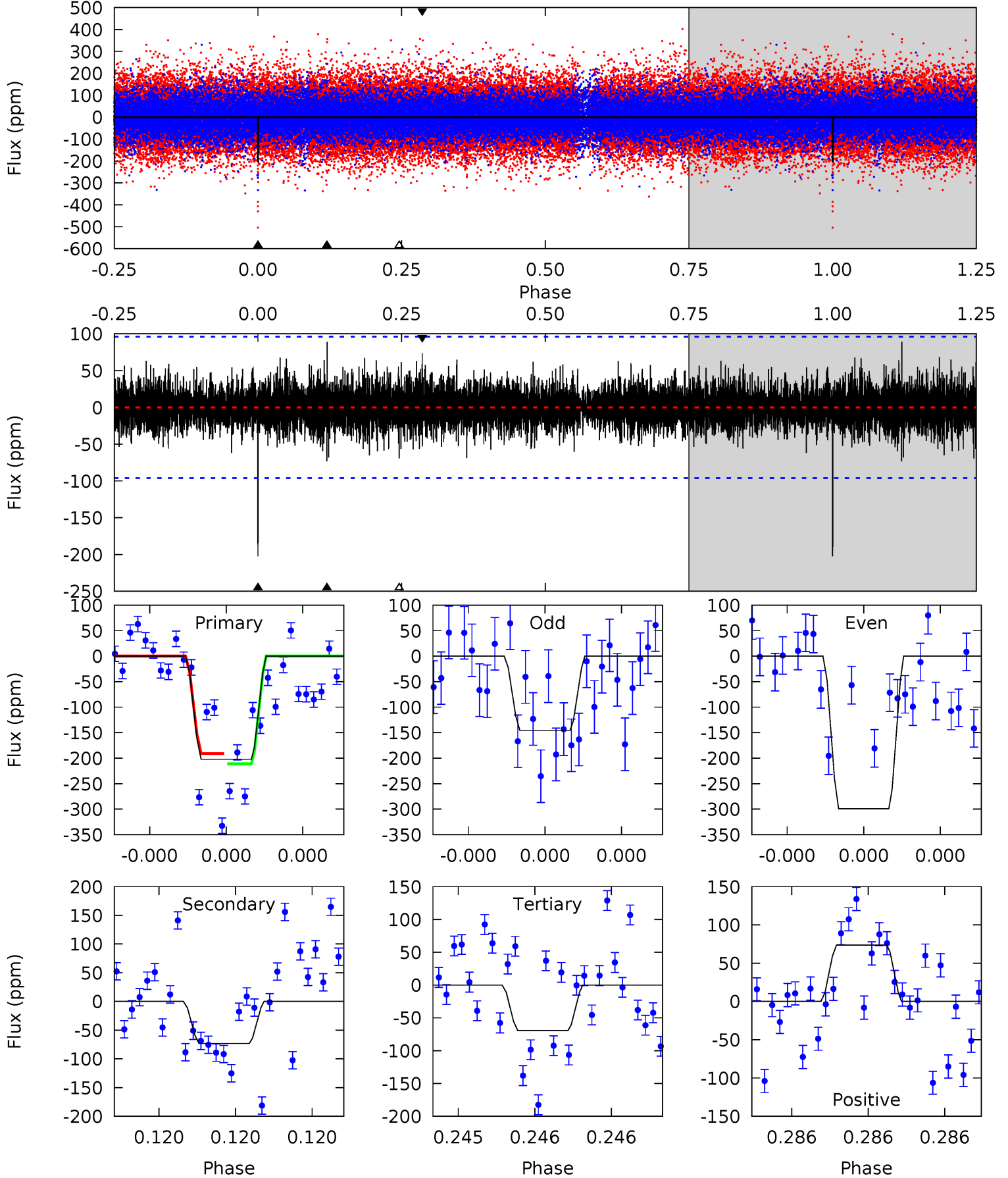
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.68	5.50	5.10	6.06	5.63	3.57	1.40	4.58	3.62	0.39	-0.57	0.70	1.00	0.39	0.58



Alt Model-Shift Uniqueness Test

012306556-01, P = 375.515689 Days, E = 136.657764 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	4.28	4.06	4.32	5.63	3.57	1.08	7.78	7.52	0.22	-0.04	4.59	1.29	0.31	0.58



Stellar Parameters For KIC 012306556

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5957^{+163}_{-163}	$3.880^{+0.285}_{-0.095}$	$0.100^{+0.250}_{-0.250}$	$2.158^{+0.388}_{-0.720}$	$1.286^{+0.194}_{-0.237}$	$0.180^{+0.365}_{-0.056}$
	+3%/-3%	+7%/-2%	+250%/-250%	+18%/-33%	+15%/-18%	+202%/-31%
Source	PHO1	FLK73	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 012306556-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-98 ± 18	$4.35^{+3.89}_{-2.92}$	503^{+30}_{-46}	4367^{+3071}_{-828}	3262^{+30812}_{-2293}
Alt.	-73 ± 17	$4.63^{+4.10}_{-3.00}$	503^{+30}_{-46}	4071^{+2205}_{-761}	2304^{+16899}_{-1672}

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

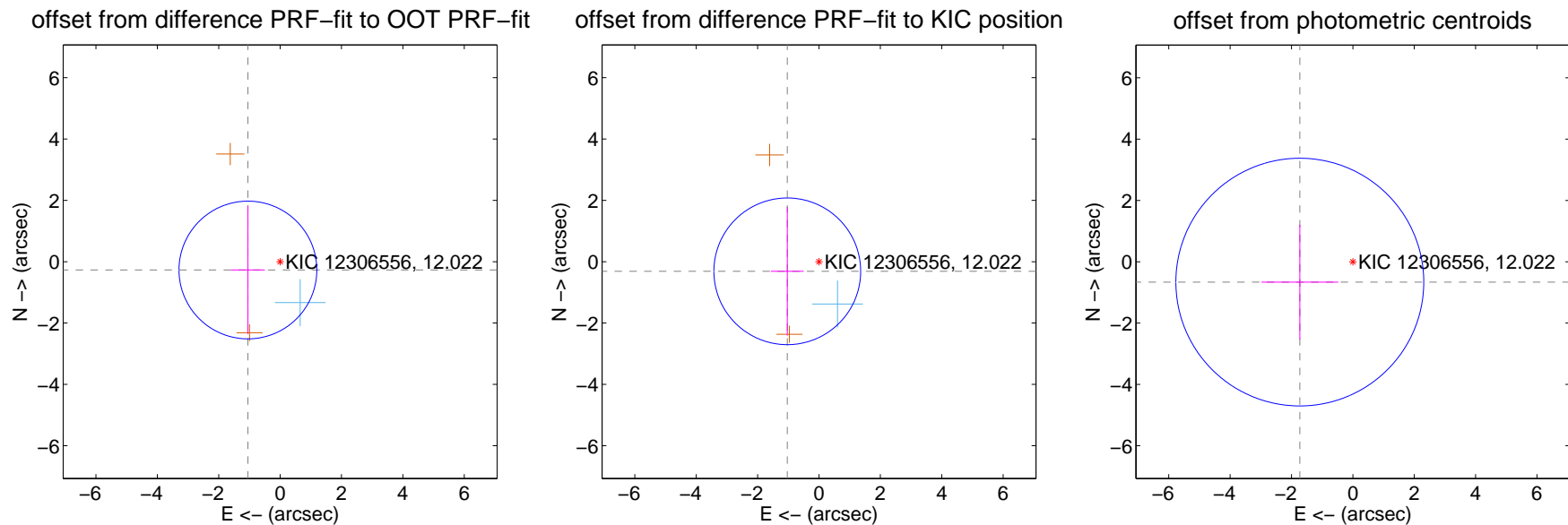
DV Centroid Data

Supplemental centroid analysis for 012306556-01. Kepler magnitude: 12.02. Transit SNR 8.02

There are 1 quarters with good PRF difference image offsets

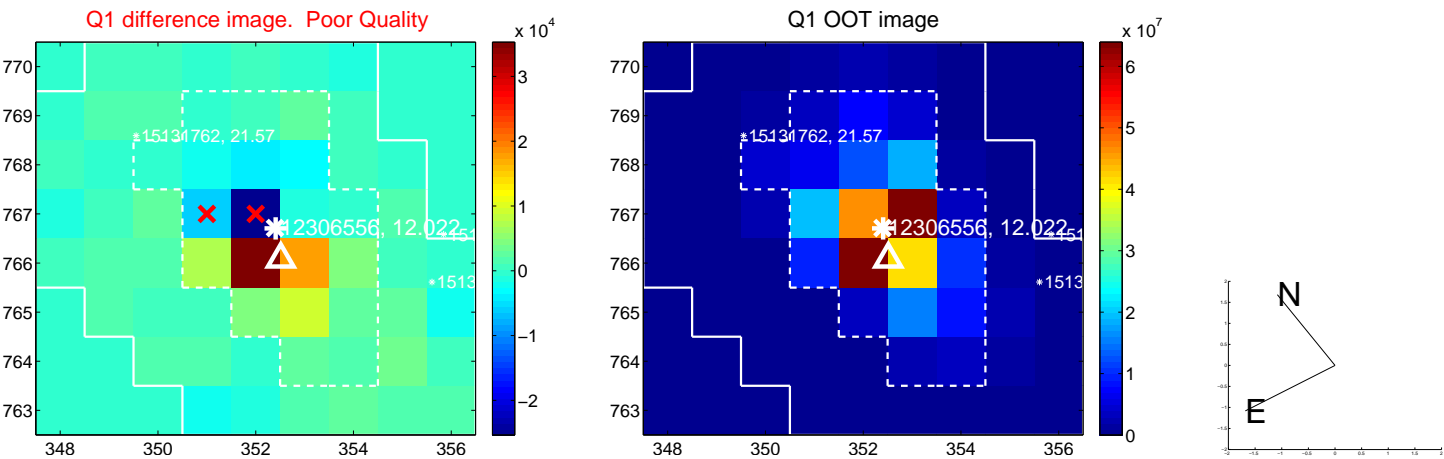
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.084 ± 0.748	1.45	1.049 ± 0.553	-0.271 ± 2.090
PRF-fit source offset from KIC position	1.080 ± 0.797	1.35	1.033 ± 0.537	-0.314 ± 2.097
photometric centroid source offset	1.85 ± 1.35	1.38	1.73 ± 1.25	-0.66 ± 1.87

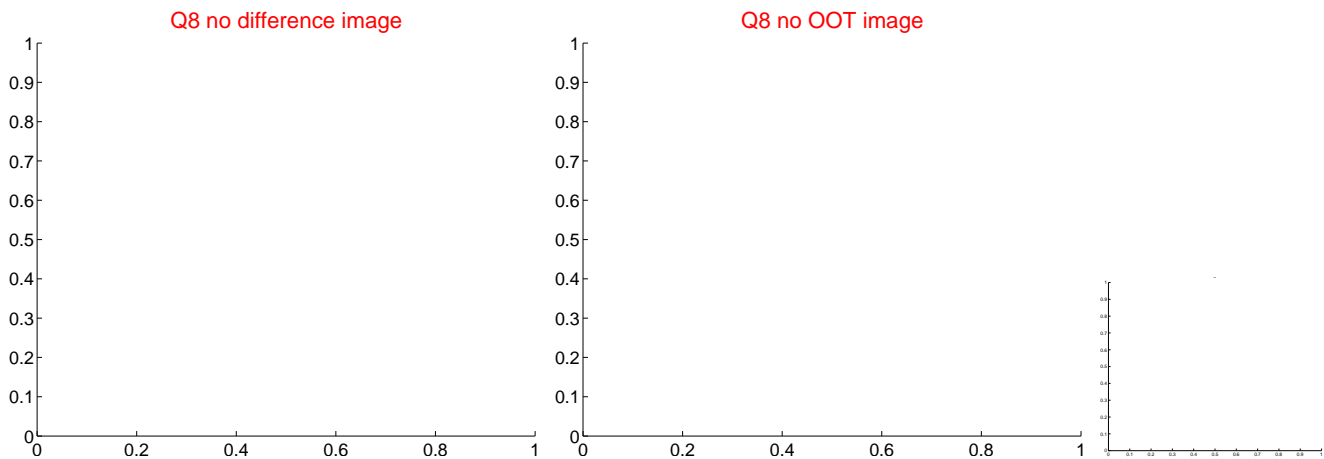
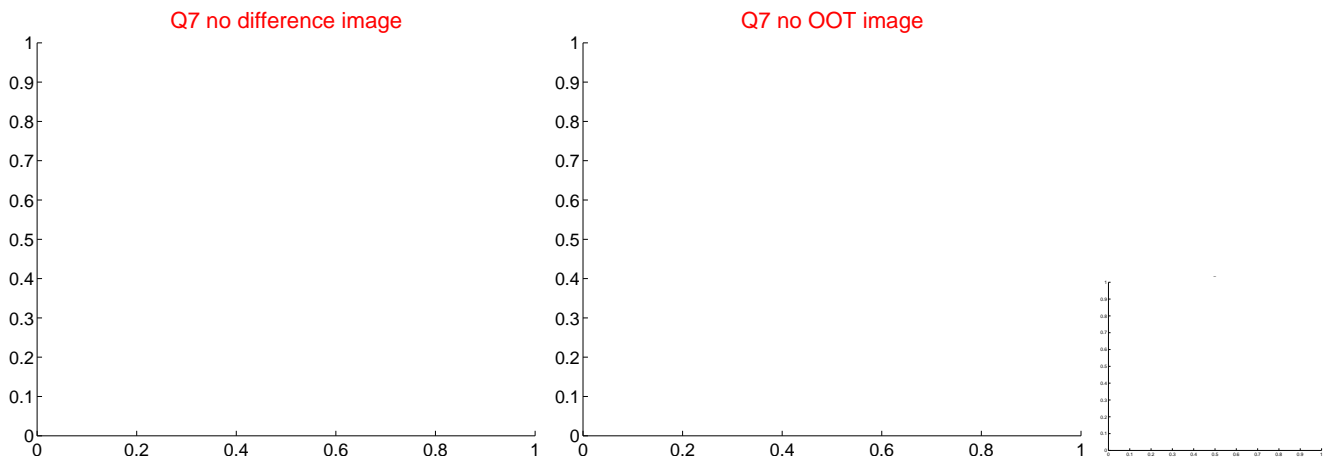
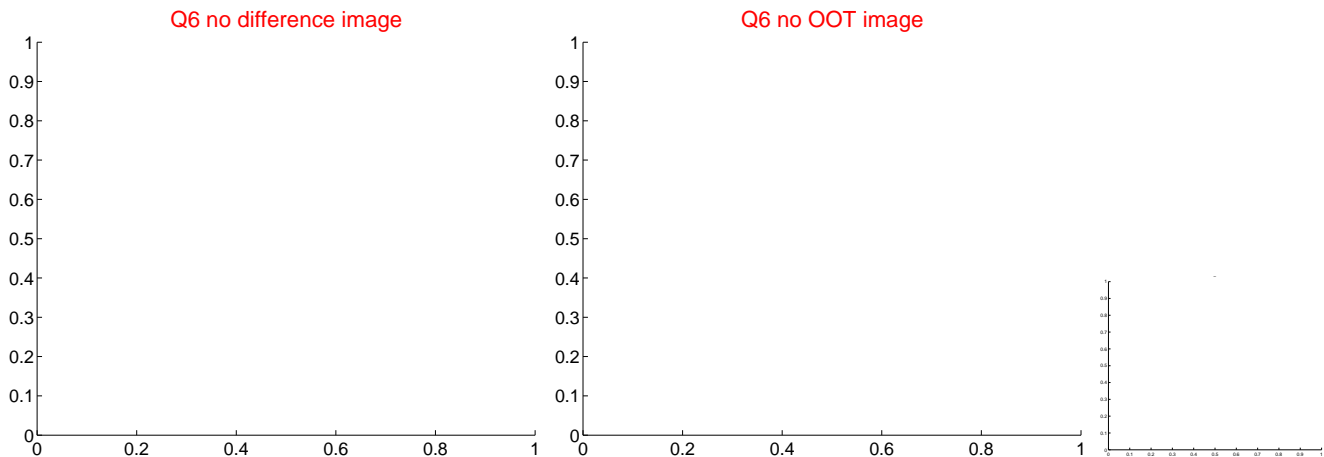
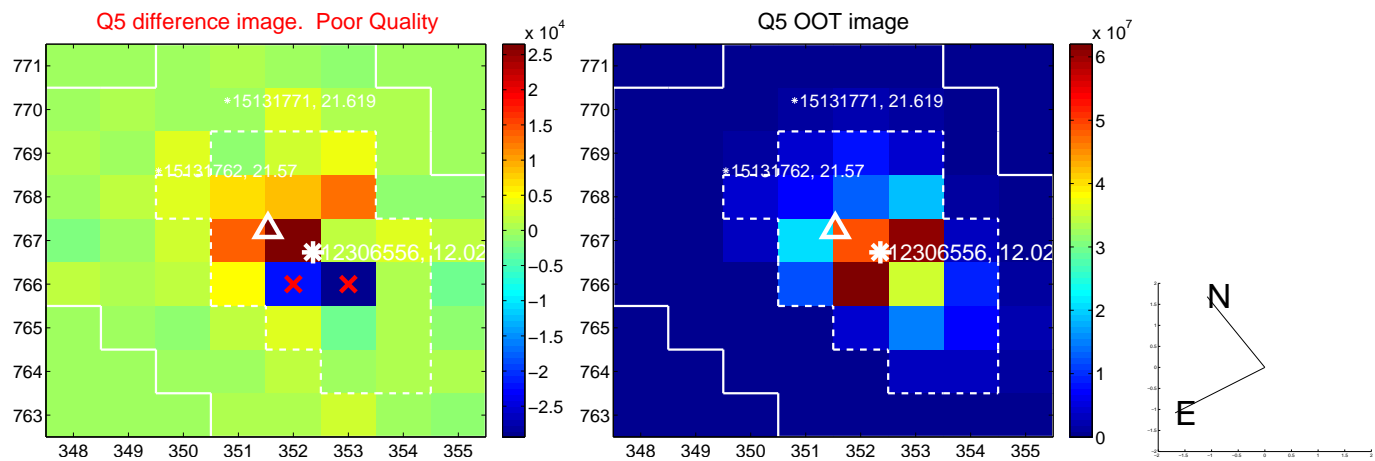


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



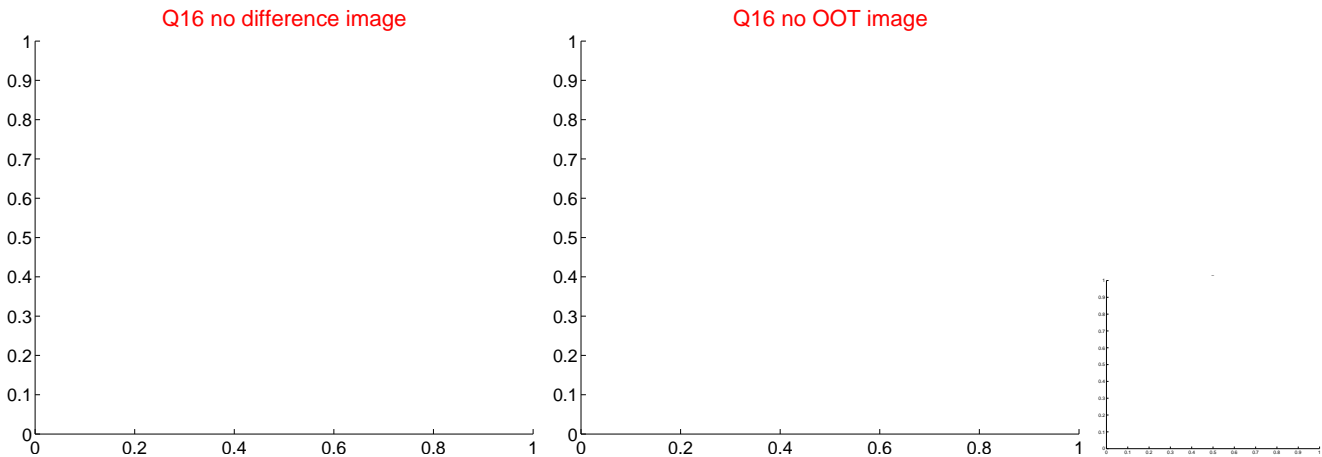
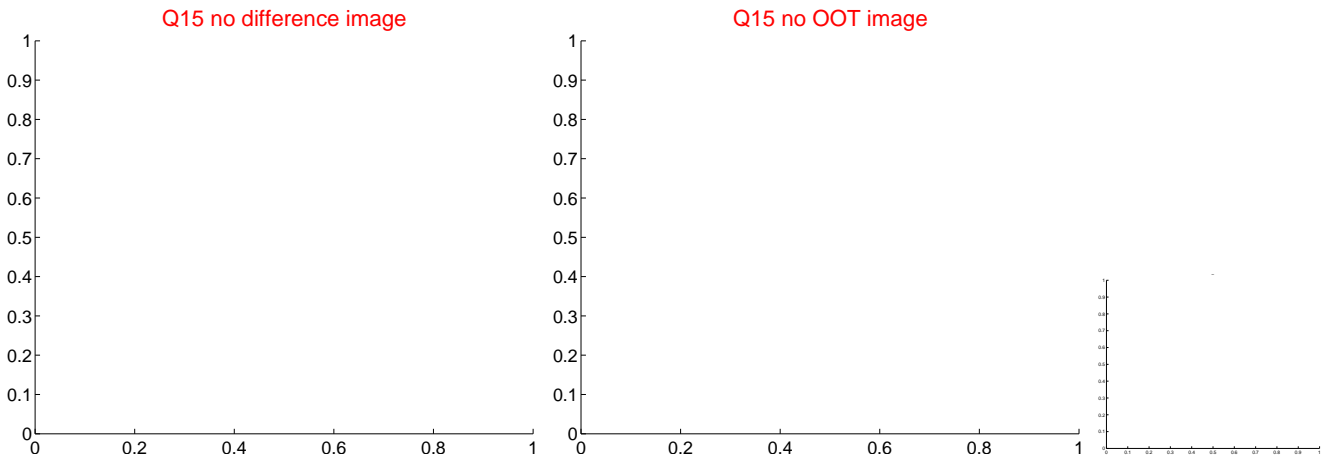
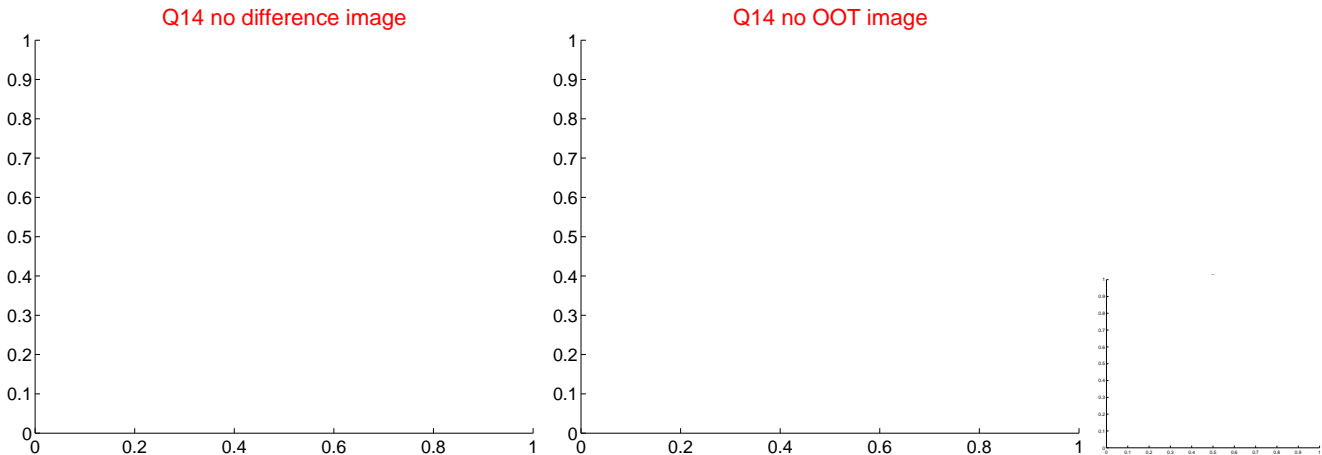
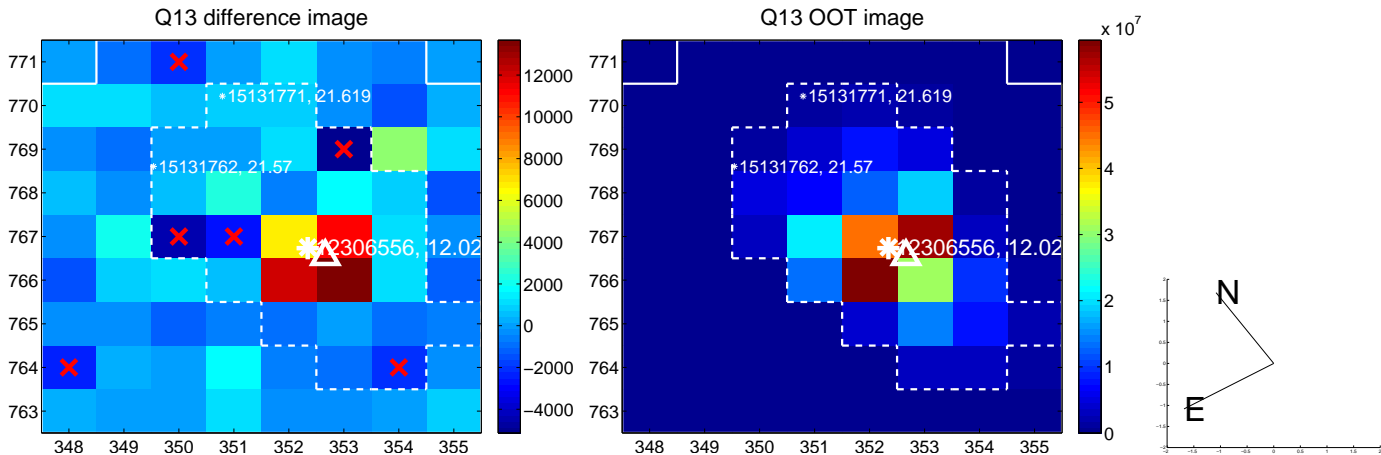
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



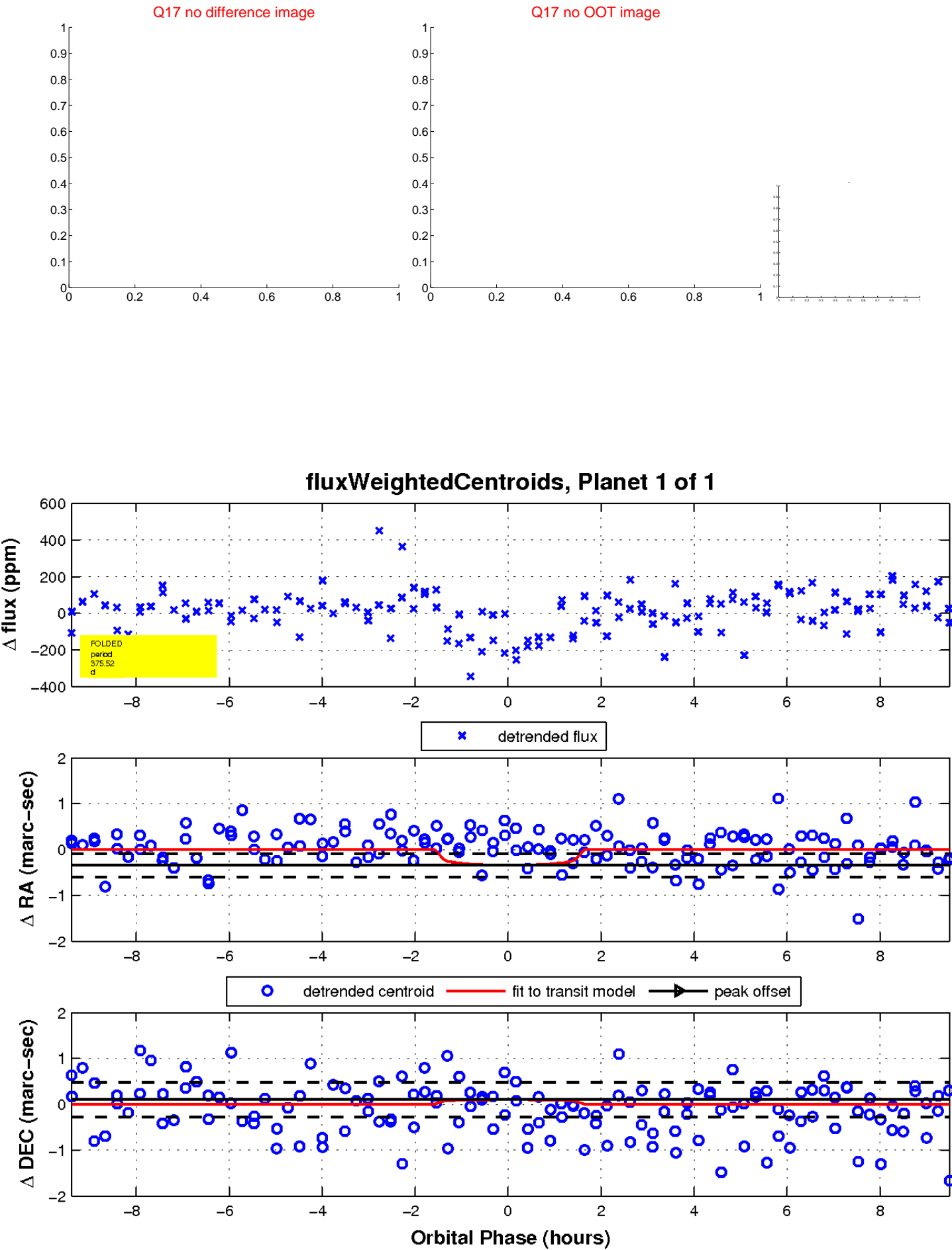
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

