

KIC 009528341

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})
009528341-01	OBS	No	381.794215	273.730867	355.3	7.661	7.9	8.4	0.86	5779	1.74	0.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009528341-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—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.

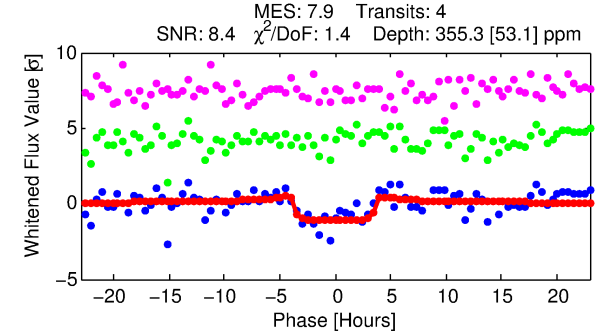
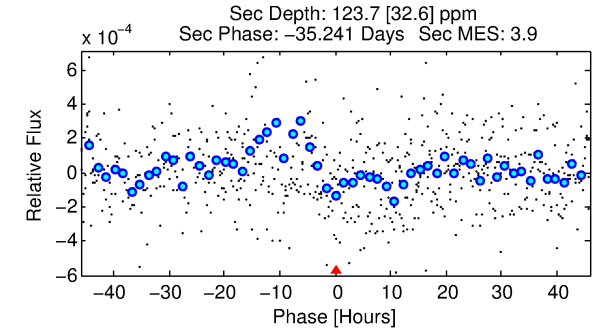
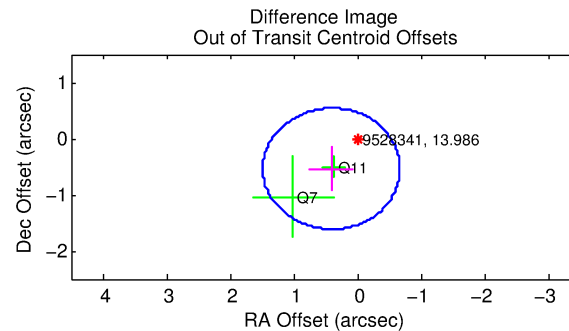
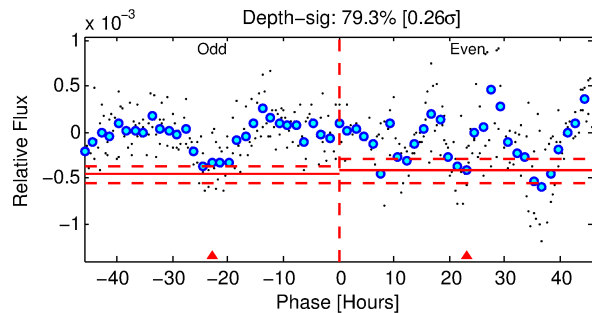
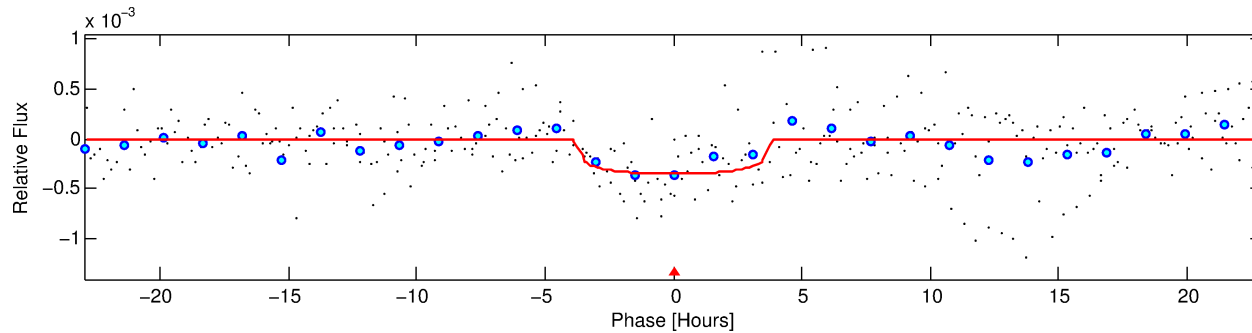
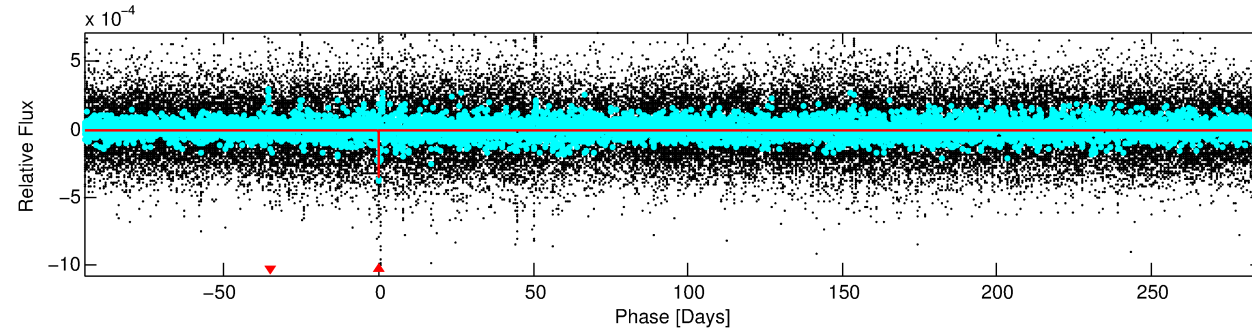
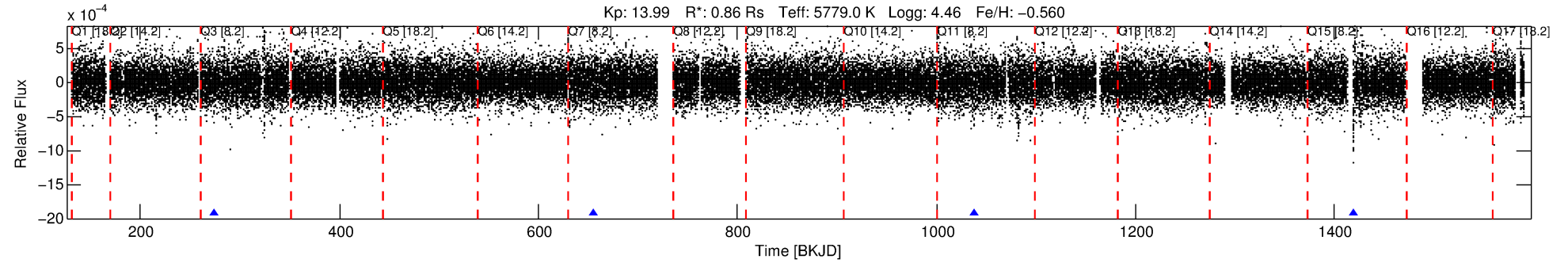
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009528341-01

No Significant Match Found

DV One-Page Summary

KIC: 9528341 Candidate: 1 of 1 Period: 381.794 d



DV Fit Results:

Period = 381.79422 [0.00823] d
Epoch = 273.7309 [0.0141] BKJD
Rp/R* = 0.0185 [0.0111]
a/R* = 278.04 [800.79]
b = 0.71 [2.02]
Seff = 0.82 [0.26]
Teq = 243 [20] K
Rp = 1.74 [1.12] Re
a = 0.9512 [0.1945] AU
Ag = 20356.74 [25800.98] [0.79 σ]
Teffp = 4480 [1384] K [3.06 σ]

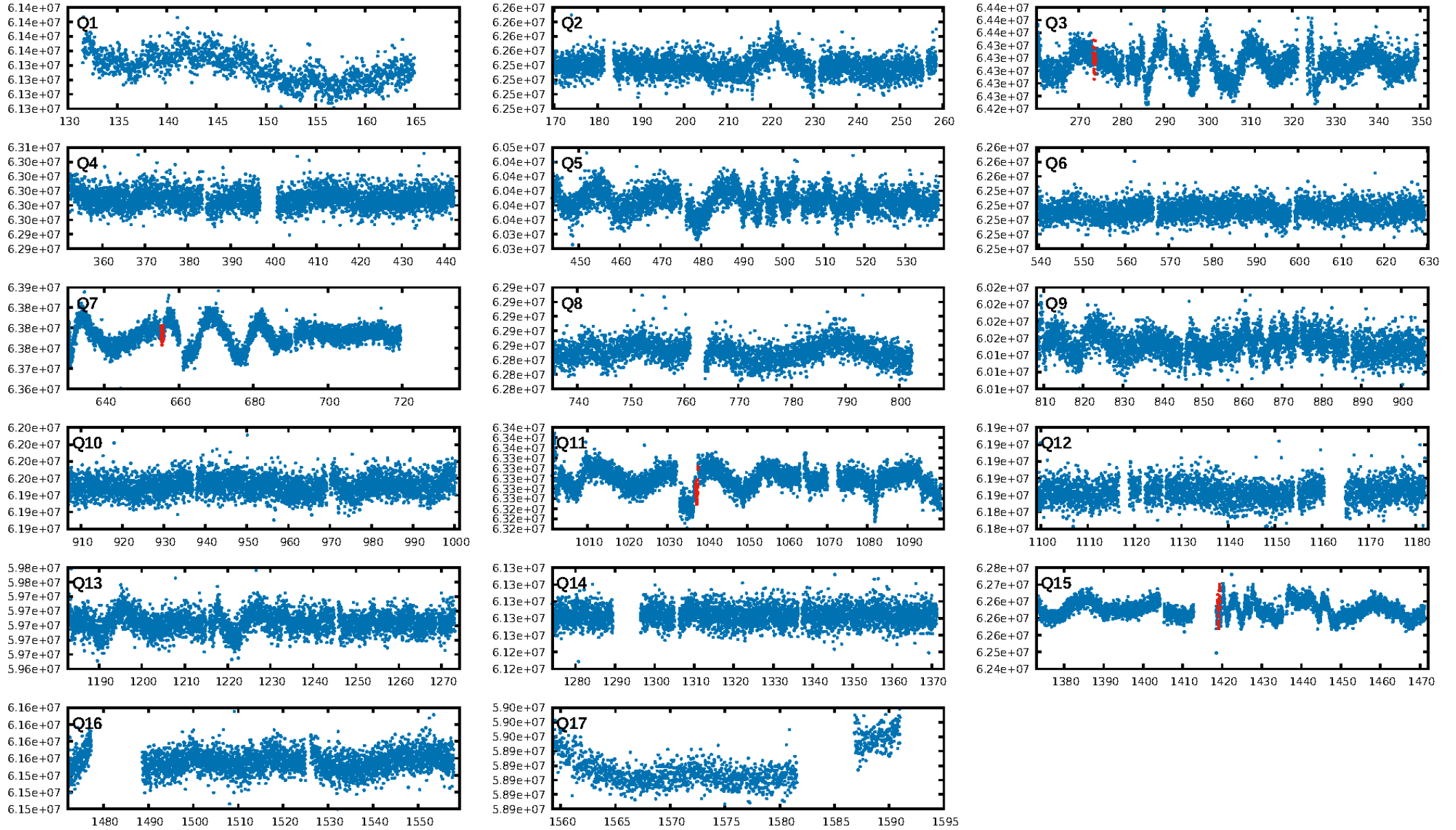
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 3.4%
ModelChiSquareGof-sig: 73.8%
Bootstrap-pfa: 1.17e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -157.7
Centroid-sig: 36.0%
Centroid-so: 1.268 arcsec [0.90 σ]
OotOffset-rm: 0.674 arcsec [1.88 σ]
KicOffset-rm: 0.886 arcsec [2.52 σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

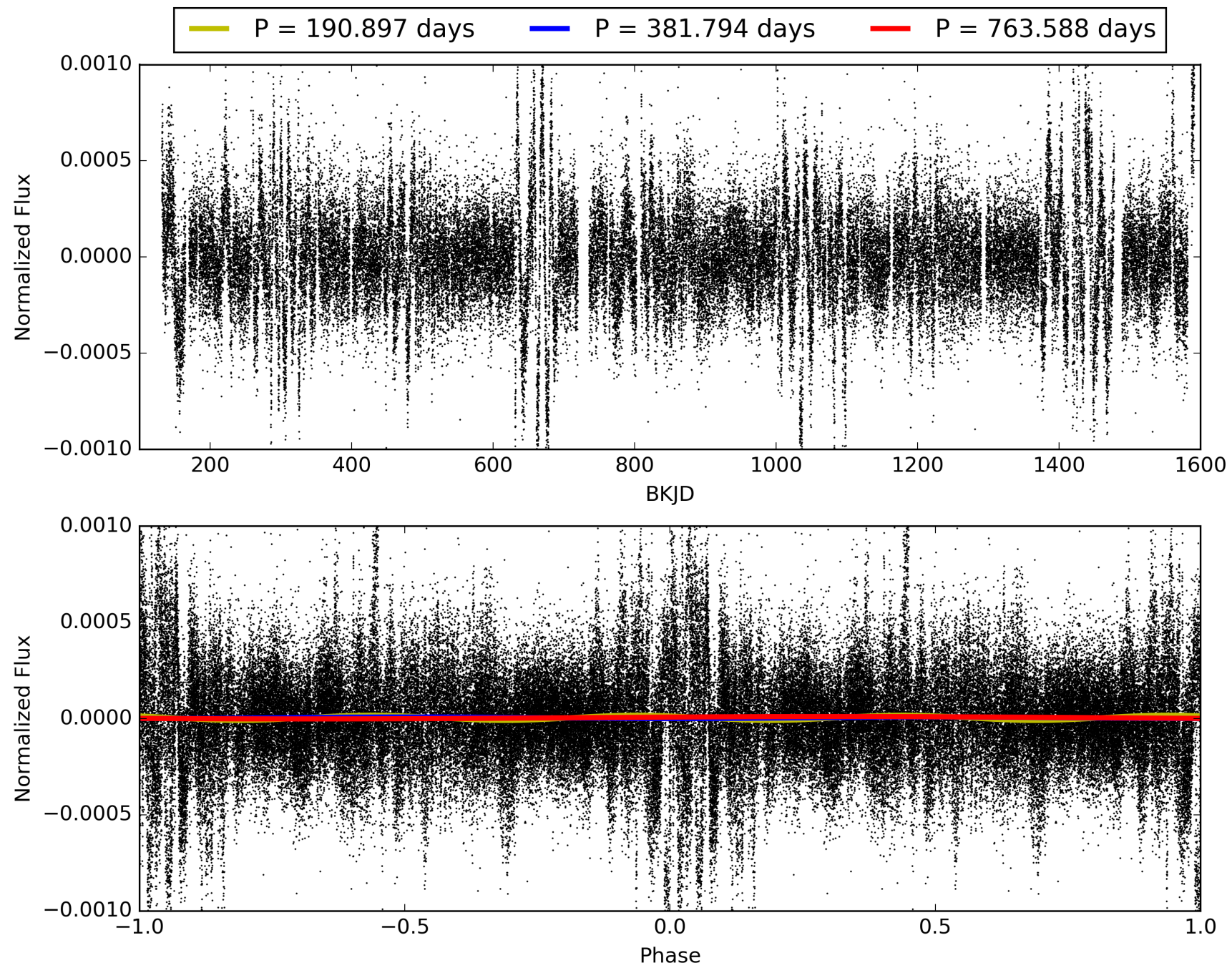
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:45:24 Z

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

TCE 009528341-01, PDC Light Curves

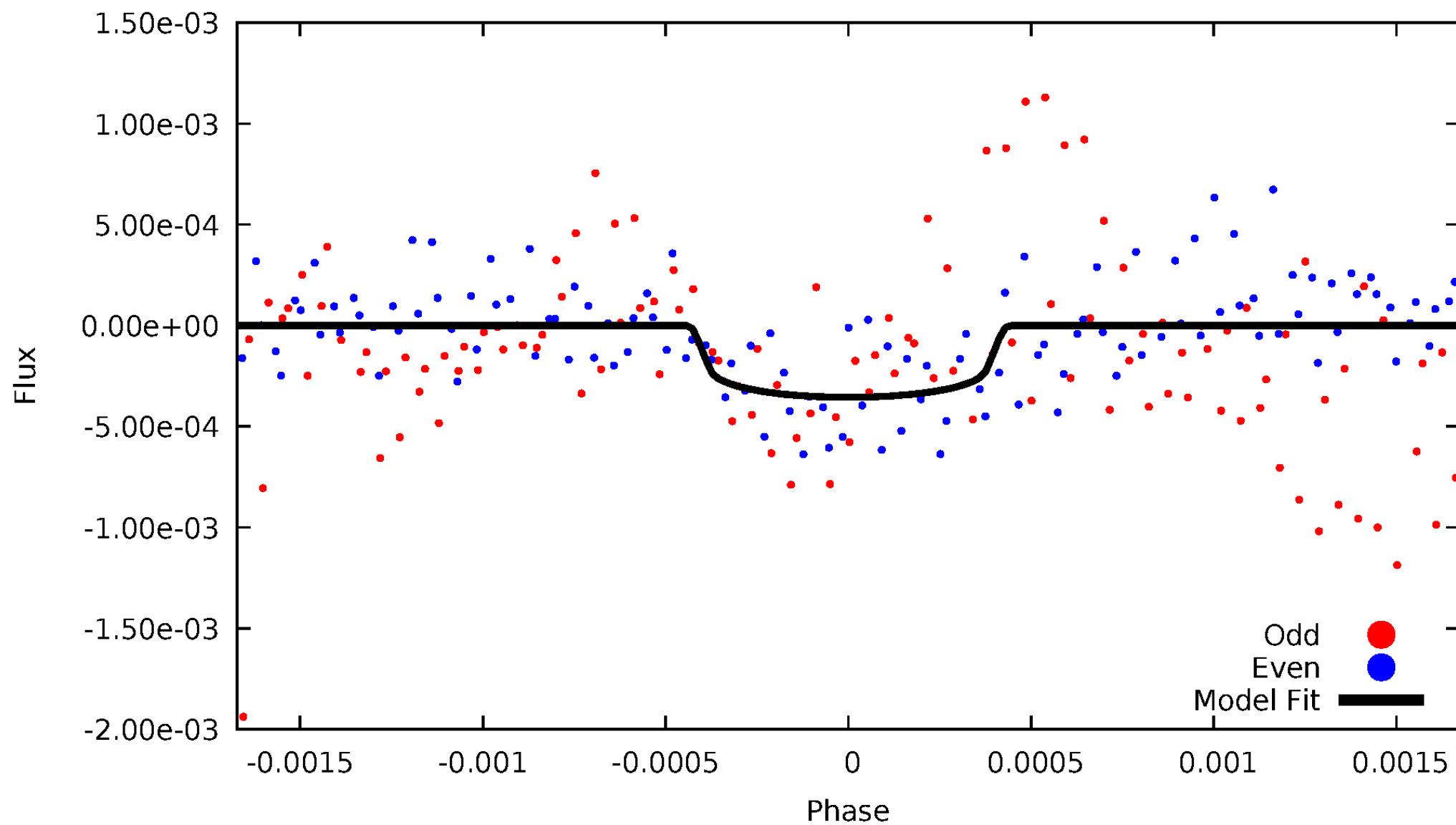


TCE 009528341-01



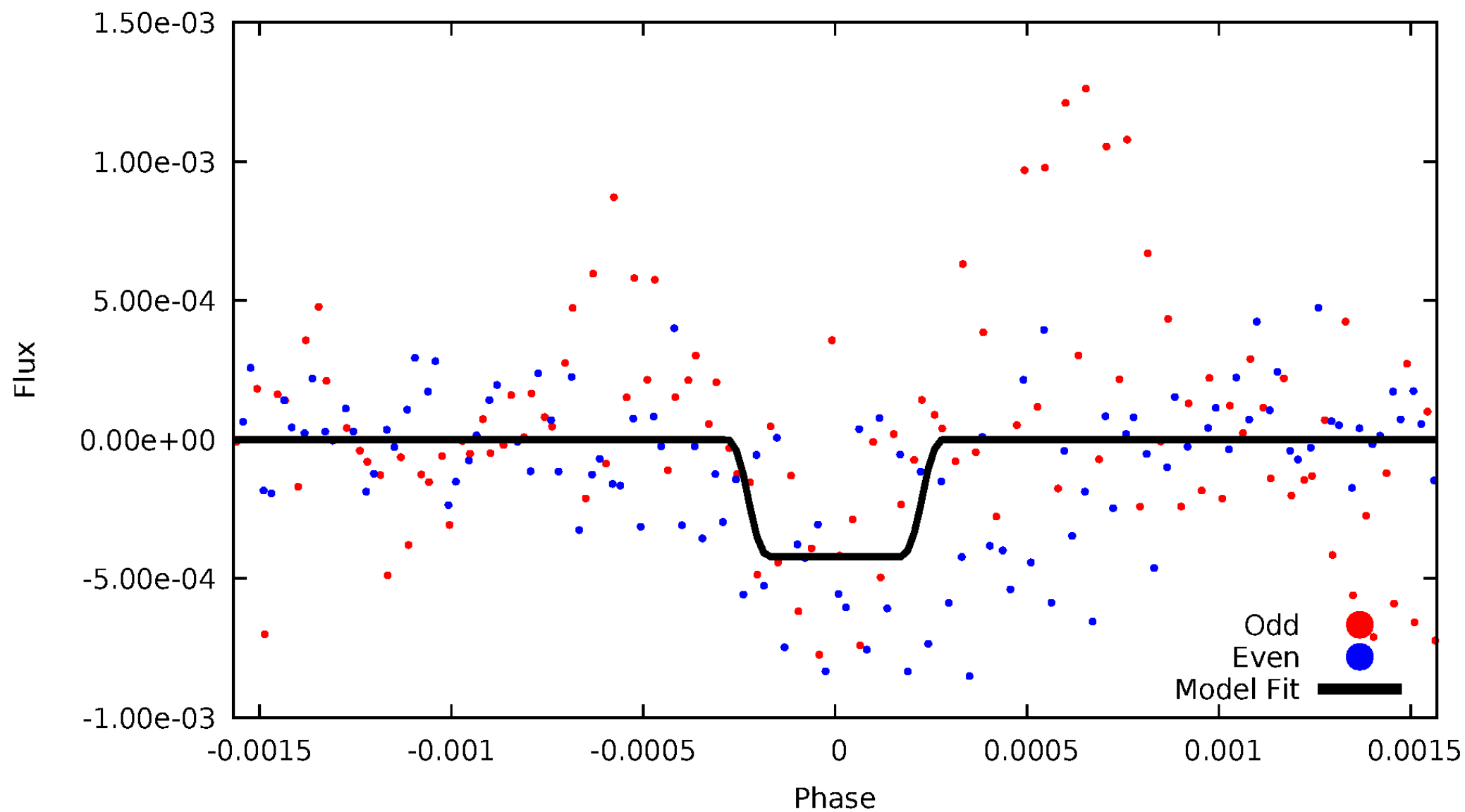
DV Odd/Even

TCE 009528341-01



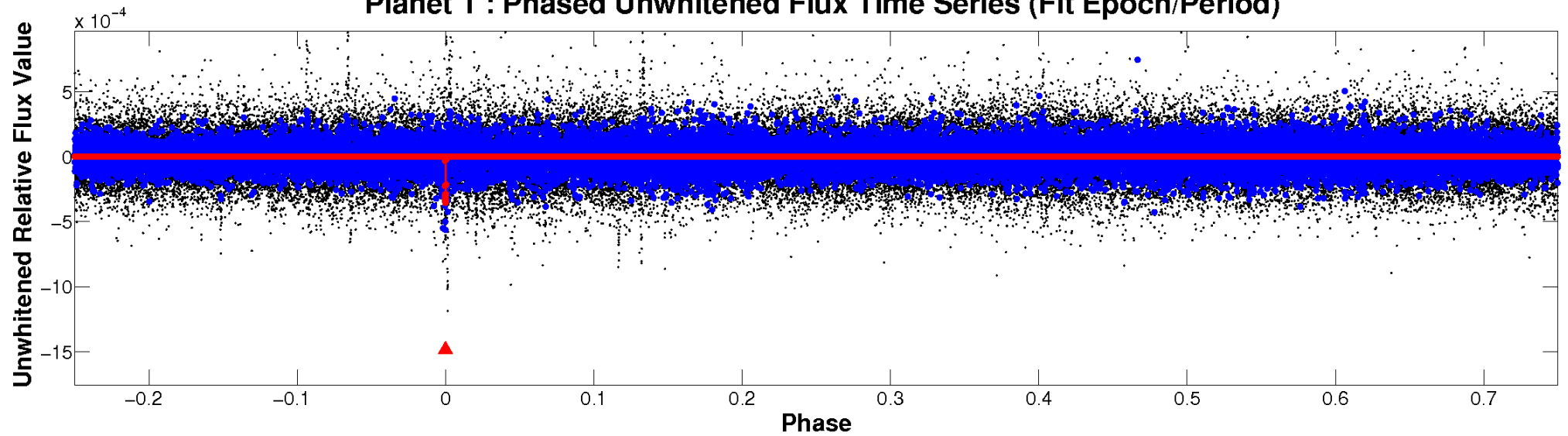
ALT Odd/Even

TCE 009528341-01

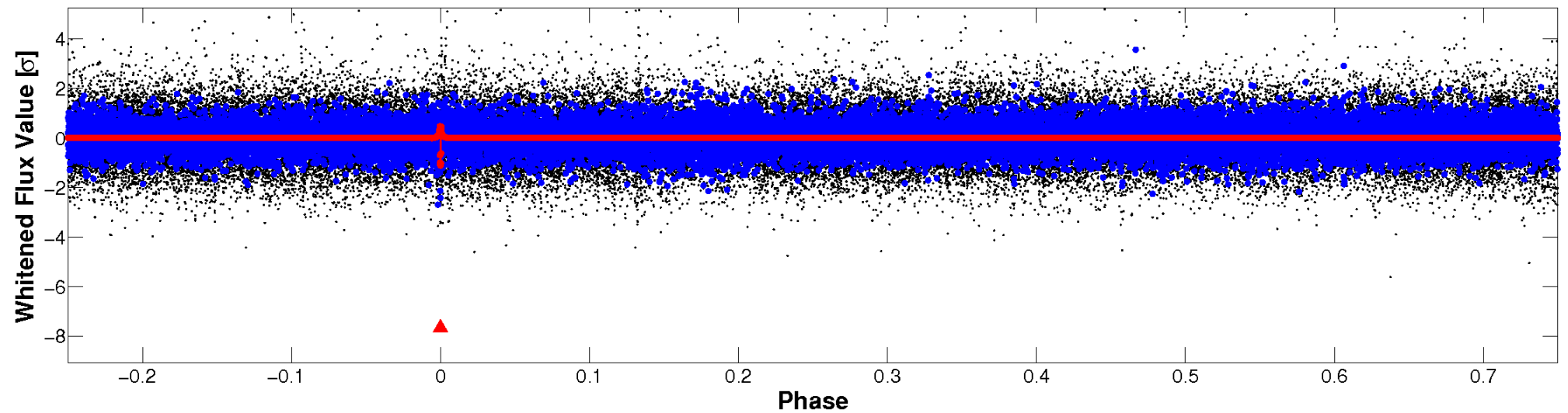


Non-Whitened Vs. Whitened Light Curve

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

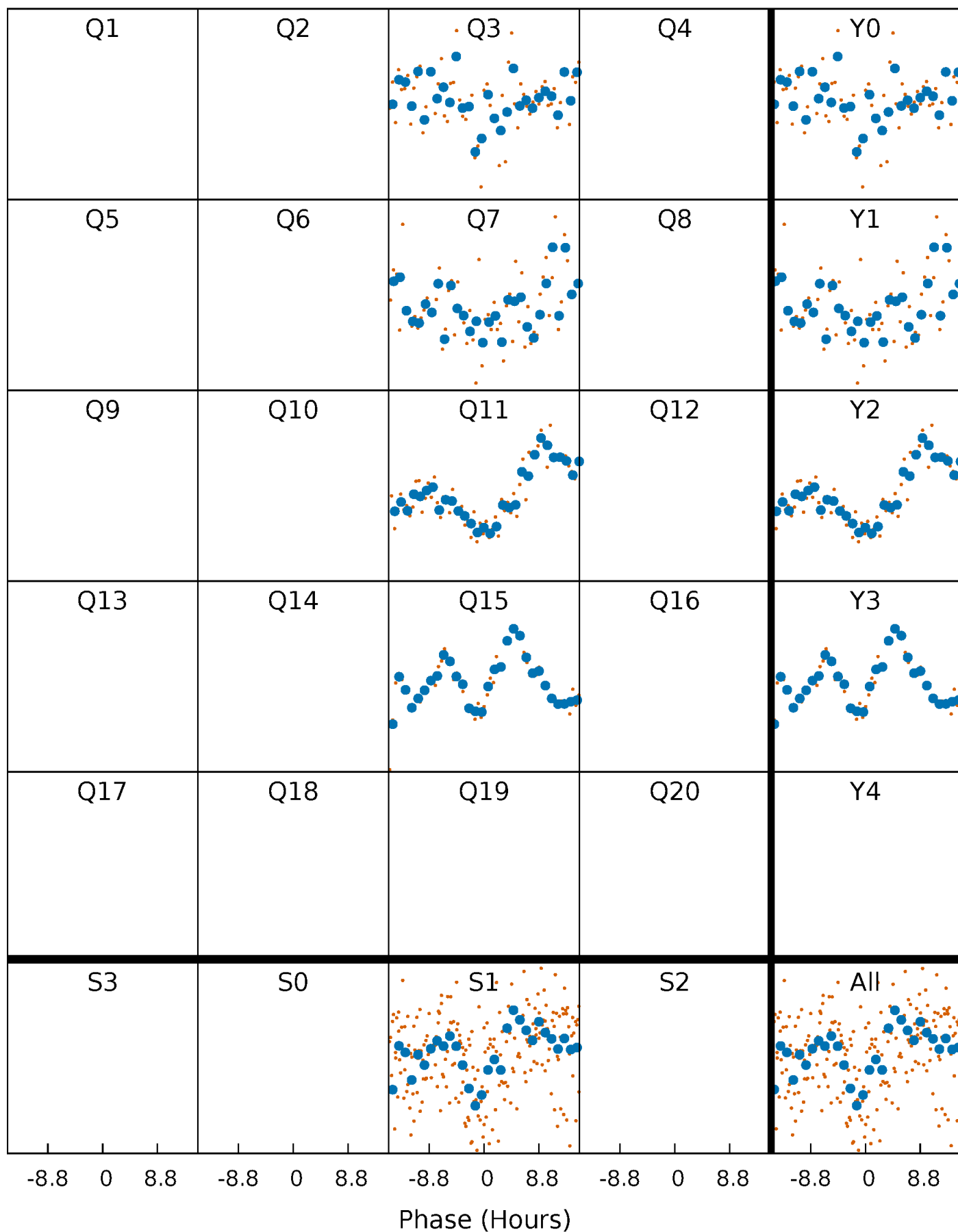


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



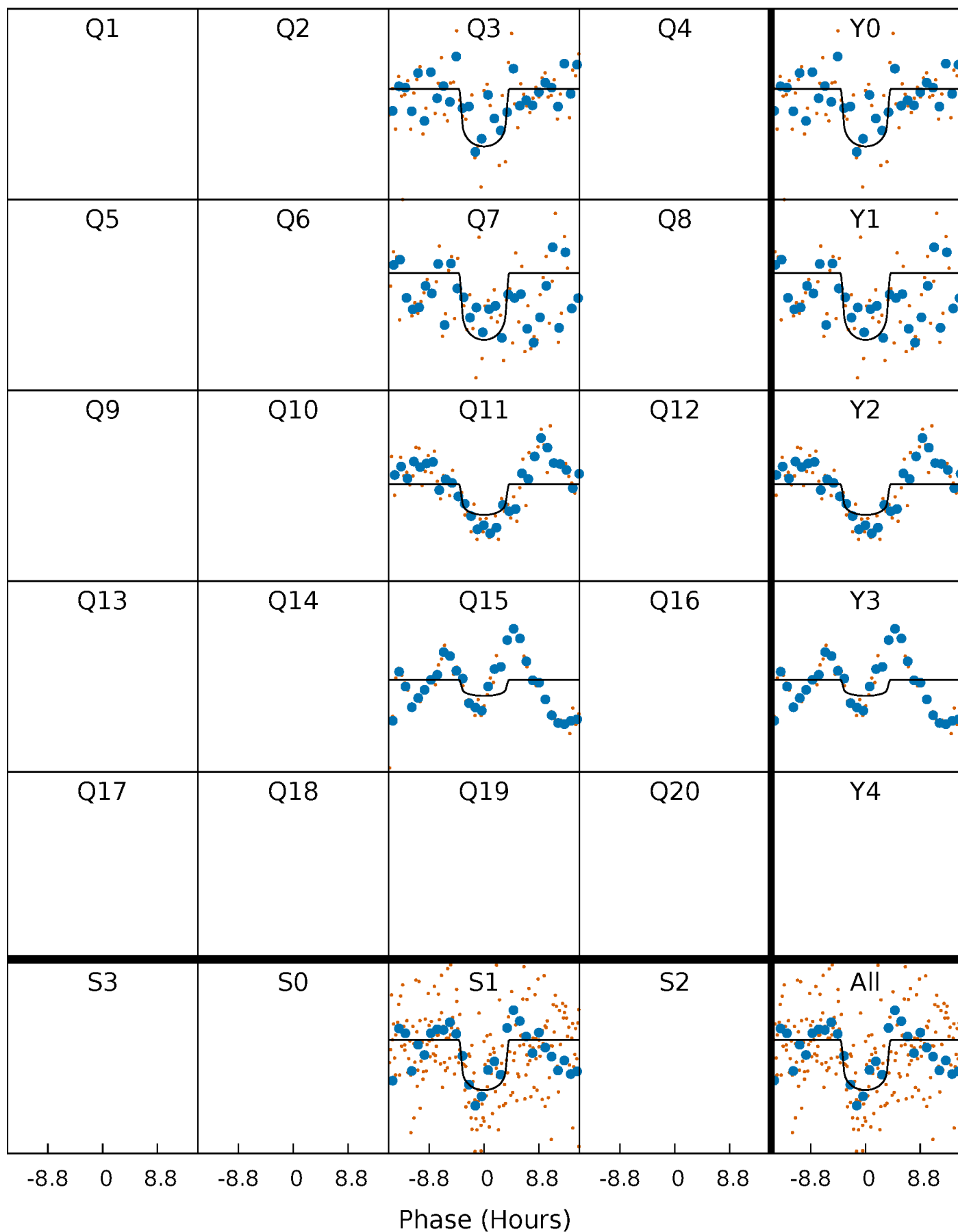
PDC Quarter-Phased Transit Curves

TCE 009528341-01 P=381.794216 Days $T_0=273.730867$ (BKJD)



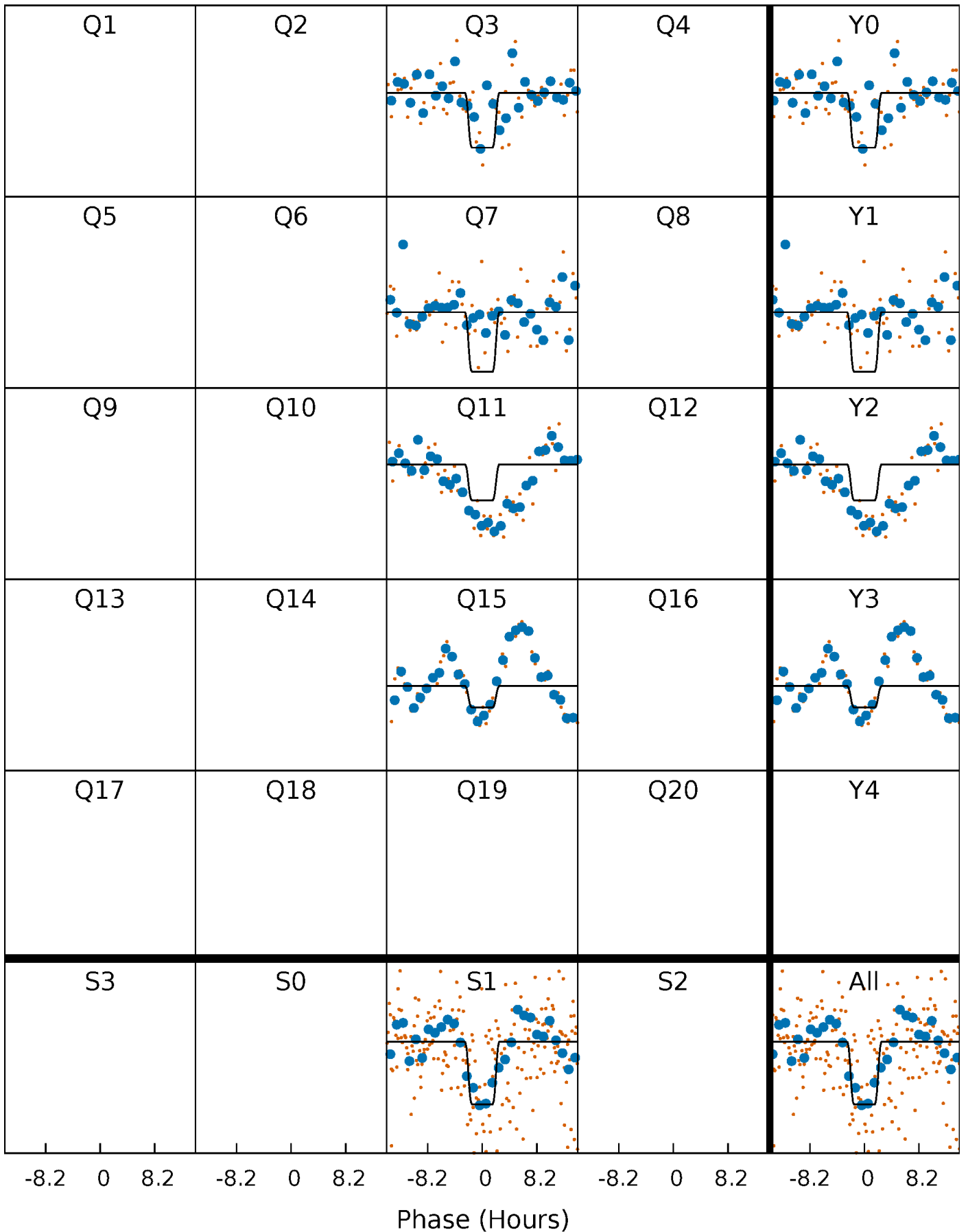
DV Quarter-Phased Transit Curves

TCE 009528341-01 P=381.794216 Days $T_0=273.730867$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

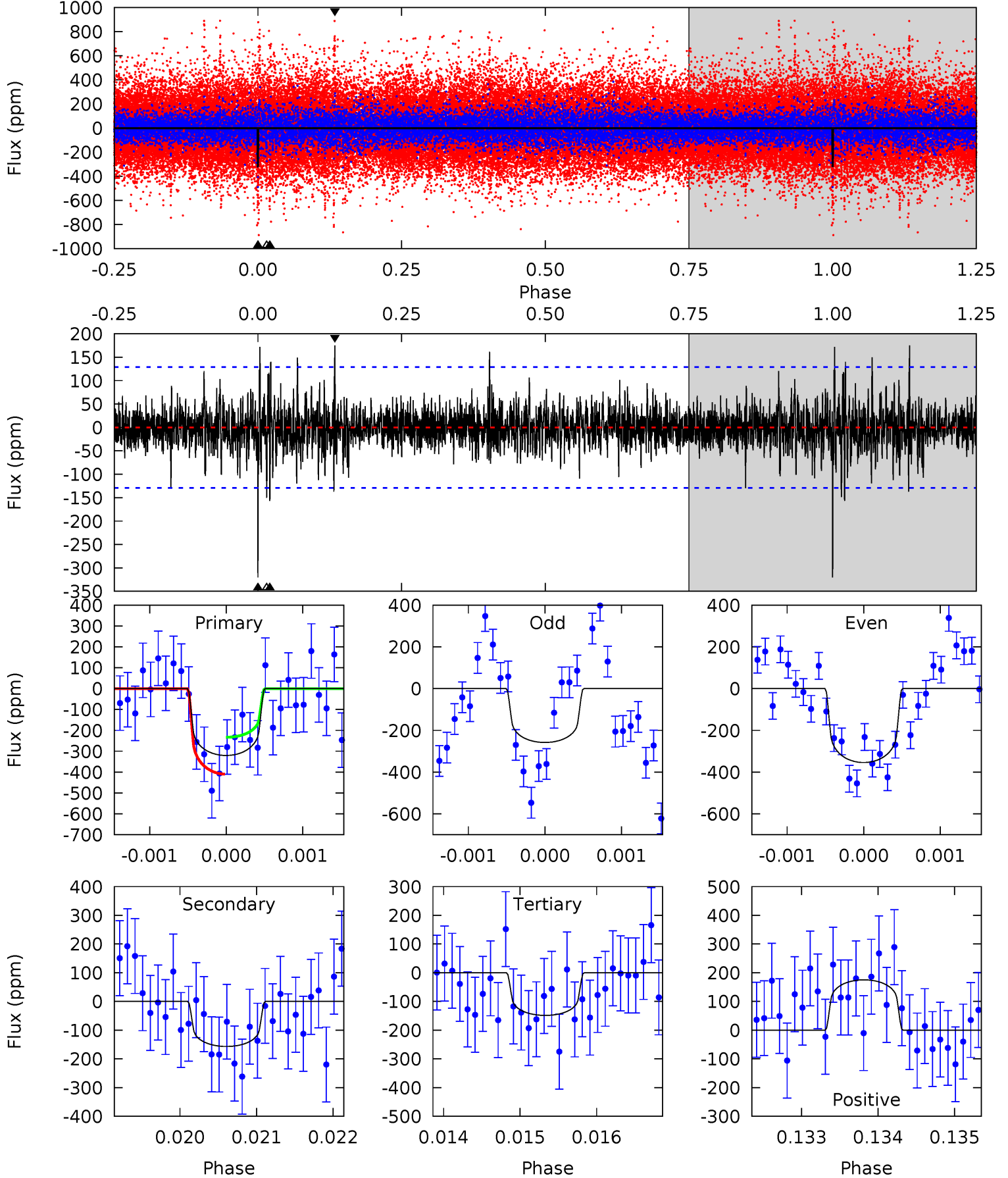
TCE 009528341-01 $P=381.787446$ Days $T_0=273.707132$ (BKJD)



DV Model-Shift Uniqueness Test

009528341-01, P = 381.794216 Days, E = 273.730867 Days

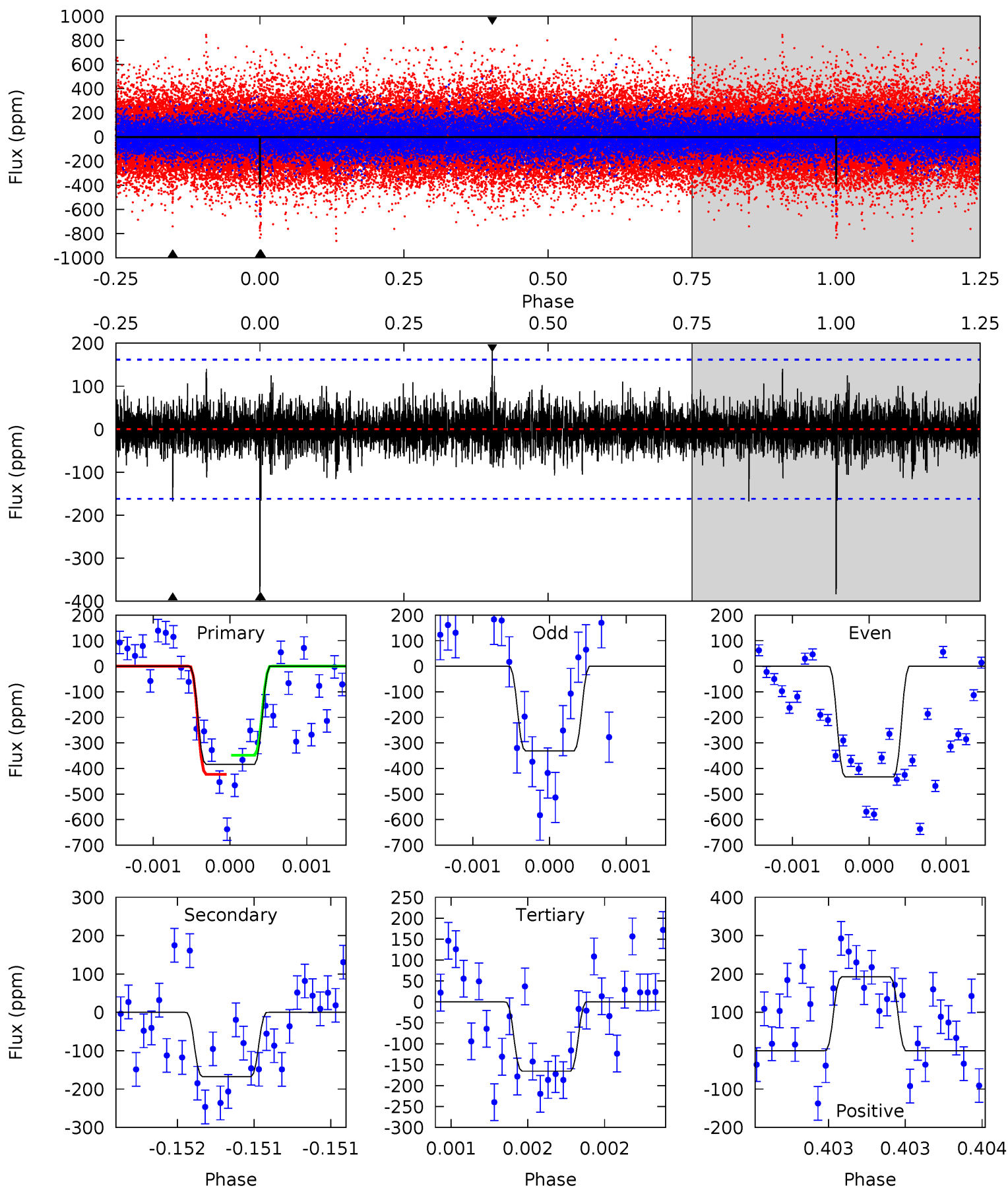
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.6	6.65	6.30	7.44	5.47	3.33	1.39	7.29	6.16	0.35	-0.79	2.04	1.19	0.35	3.75



Alt Model-Shift Uniqueness Test

009528341-01, P = 381.787446 Days, E = 273.707132 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	5.76	5.69	6.62	5.56	3.46	1.09	7.50	6.57	0.07	-0.86	1.76	1.07	0.33	0



Stellar Parameters For KIC 009528341

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5779^{+157}_{-157}	$4.464^{+0.112}_{-0.168}$	$-0.560^{+0.300}_{-0.300}$	$0.861^{+0.205}_{-0.110}$	$0.786^{+0.101}_{-0.054}$	$1.737^{+0.864}_{-0.796}$
	+3%/-3%	+3%/-4%	+54%/-54%	+24%/-13%	+13%/-7%	+50%/-46%
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 009528341-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-157 ± 24	$1.83^{+1.01}_{-0.97}$	341^{+21}_{-17}	4803^{+1992}_{-758}	23286^{+83491}_{-13841}
Alt.	-168 ± 29	$2.07^{+1.06}_{-1.01}$	341^{+21}_{-18}	4621^{+1541}_{-660}	19216^{+56967}_{-10930}

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

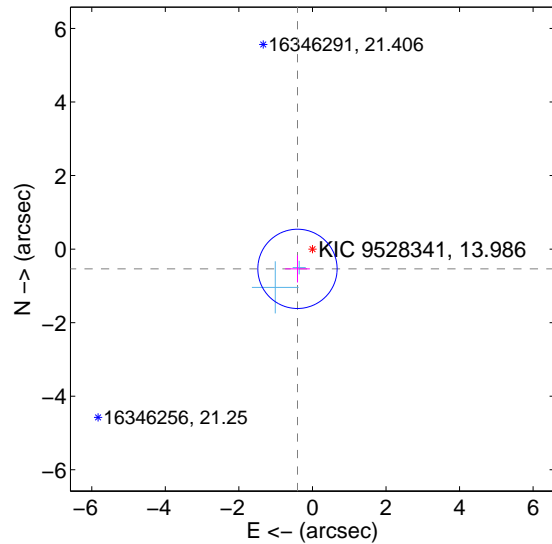
Supplemental centroid analysis for 009528341-01. Kepler magnitude: 13.99. Transit SNR 8.39

There are 2 quarters with good PRF difference image offsets

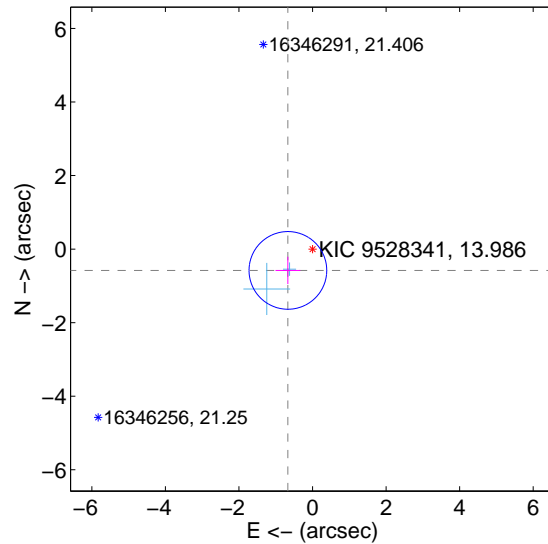
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.674 ± 0.359	1.88	0.407 ± 0.337	-0.537 ± 0.372
PRF-fit source offset from KIC position	0.886 ± 0.352	2.52	0.670 ± 0.337	-0.579 ± 0.372
photometric centroid source offset	1.27 ± 1.41	0.90	0.63 ± 1.32	-1.10 ± 1.43

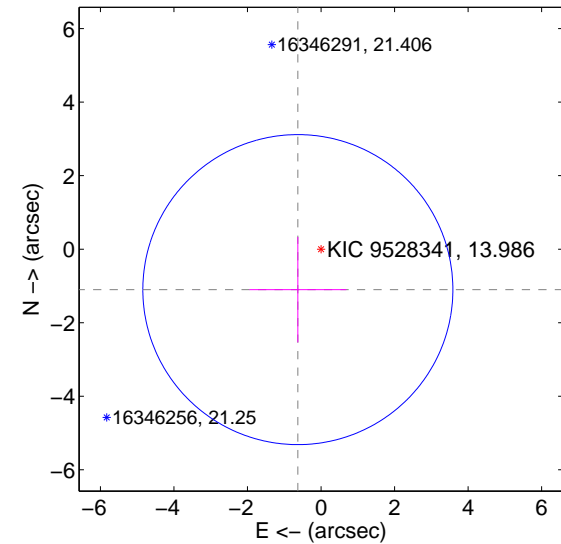
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

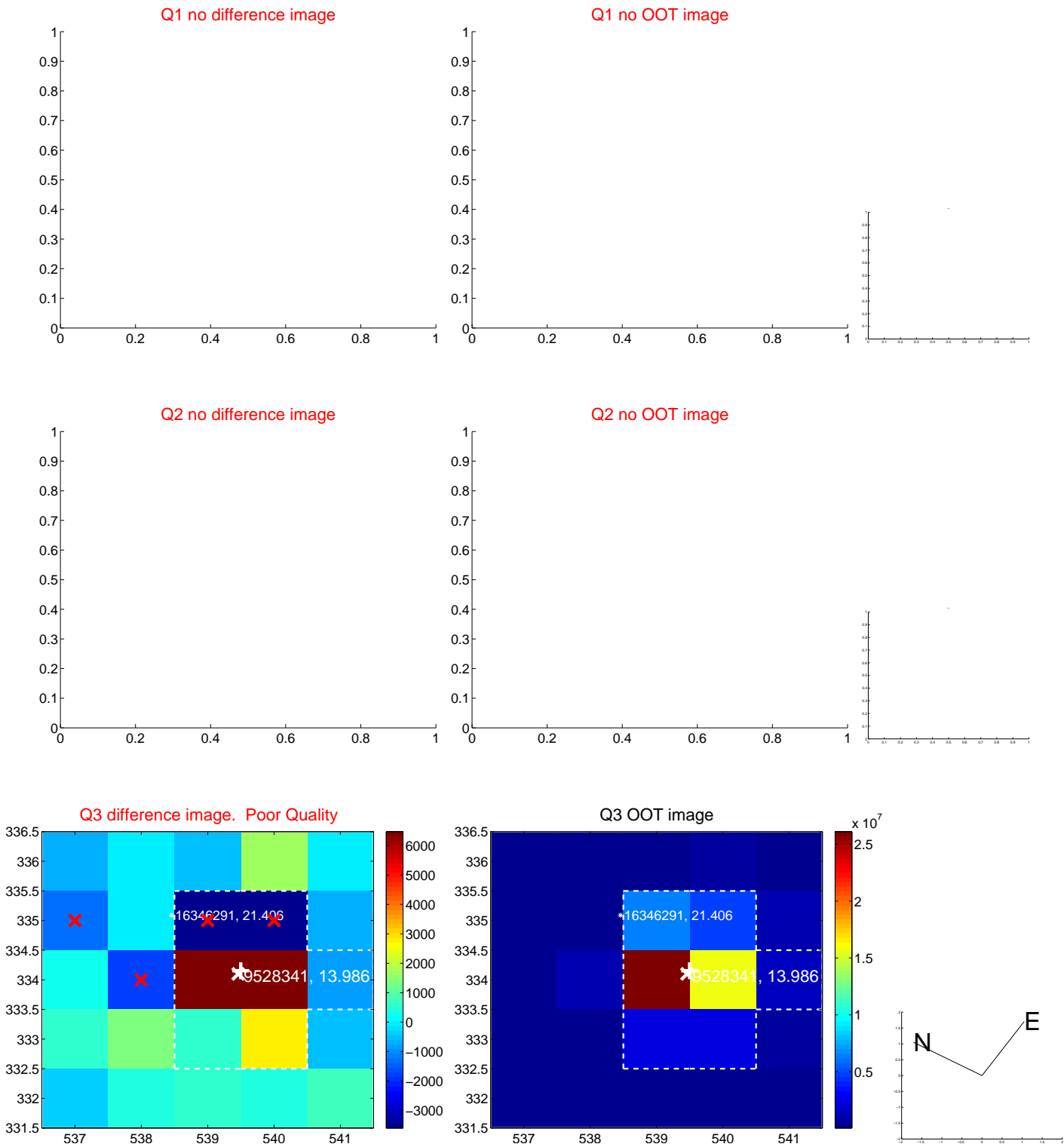


offset from photometric centroids

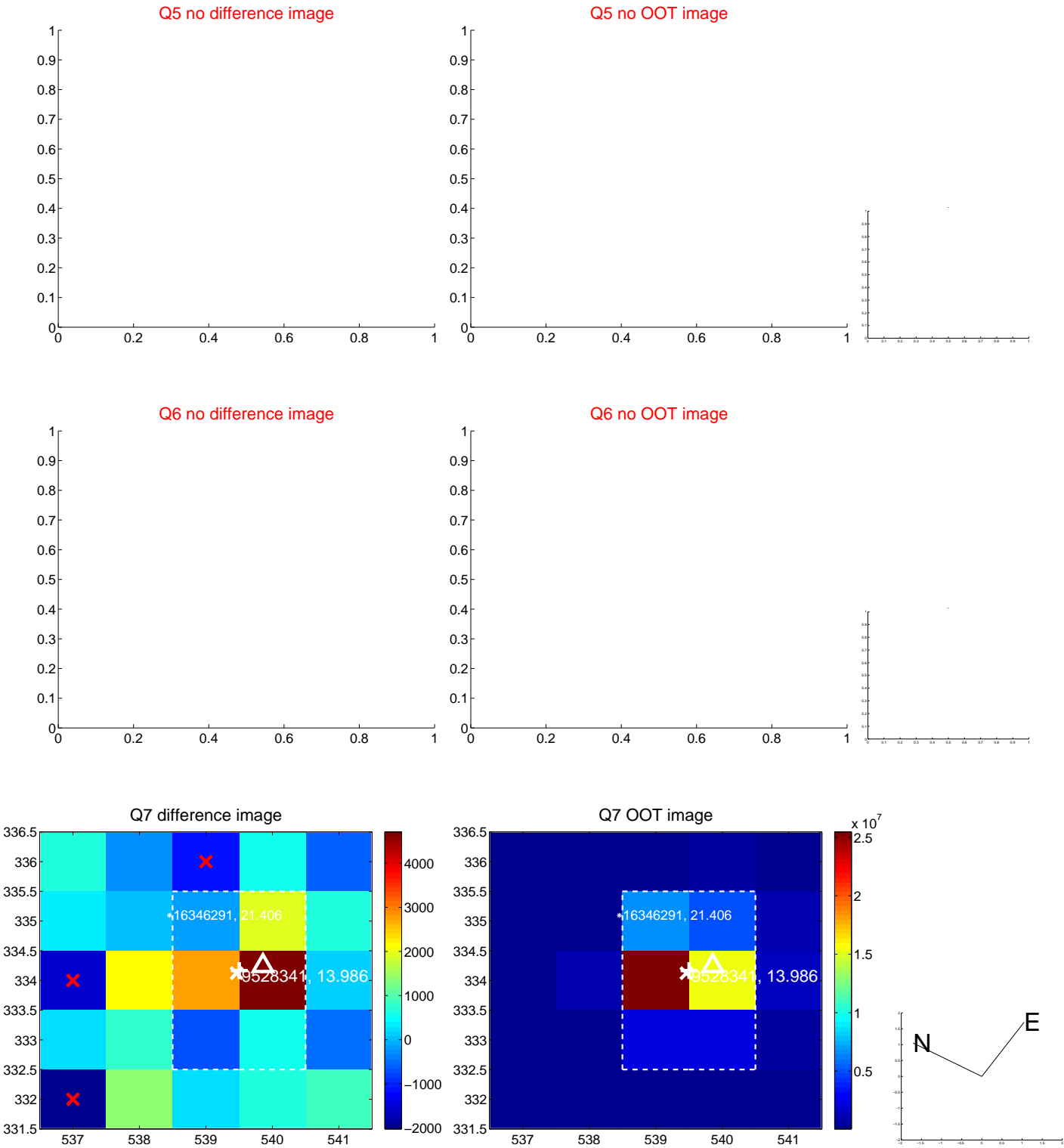


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

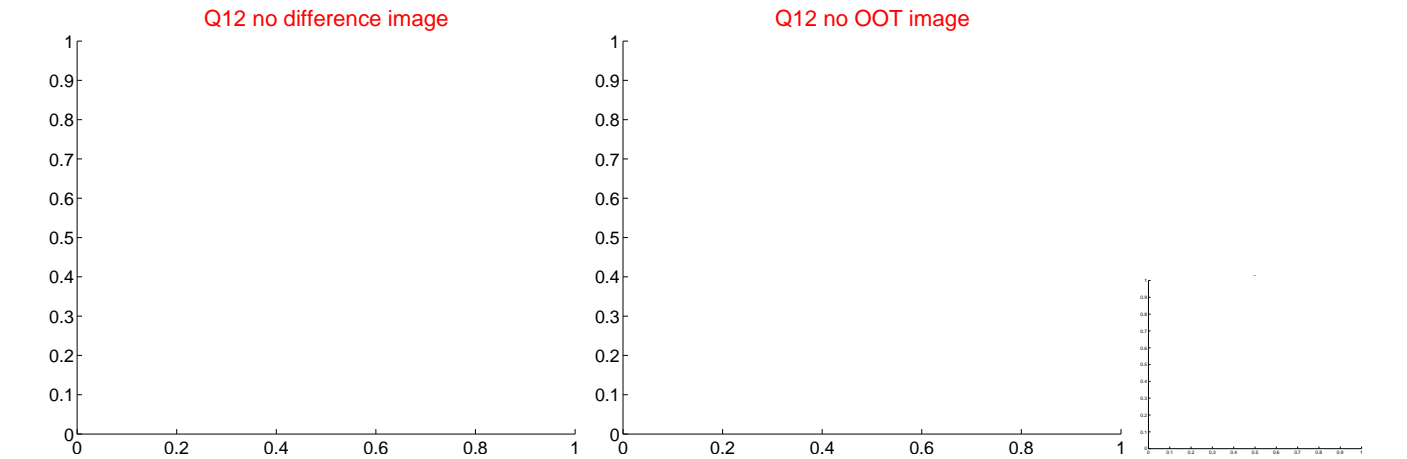
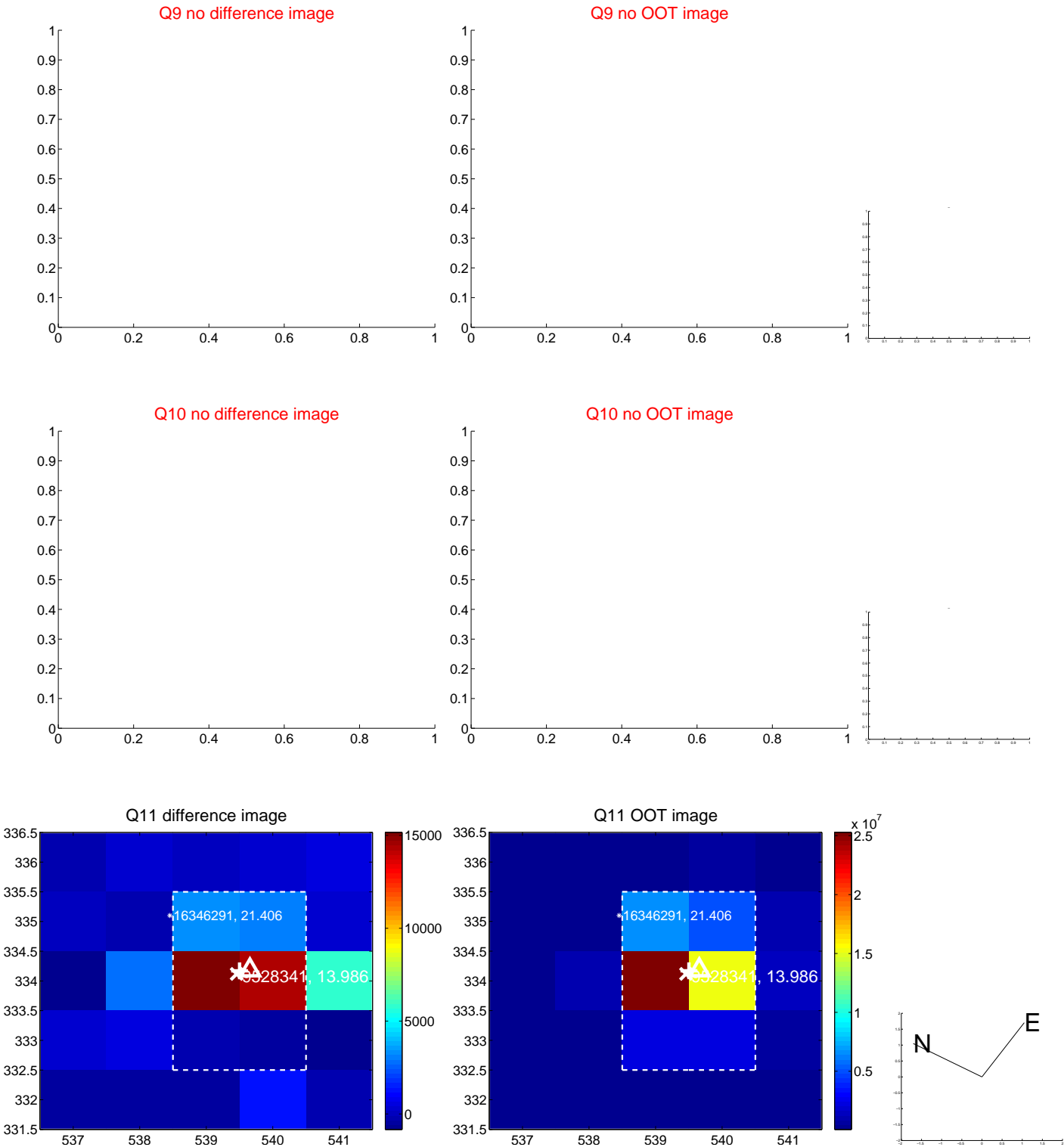
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



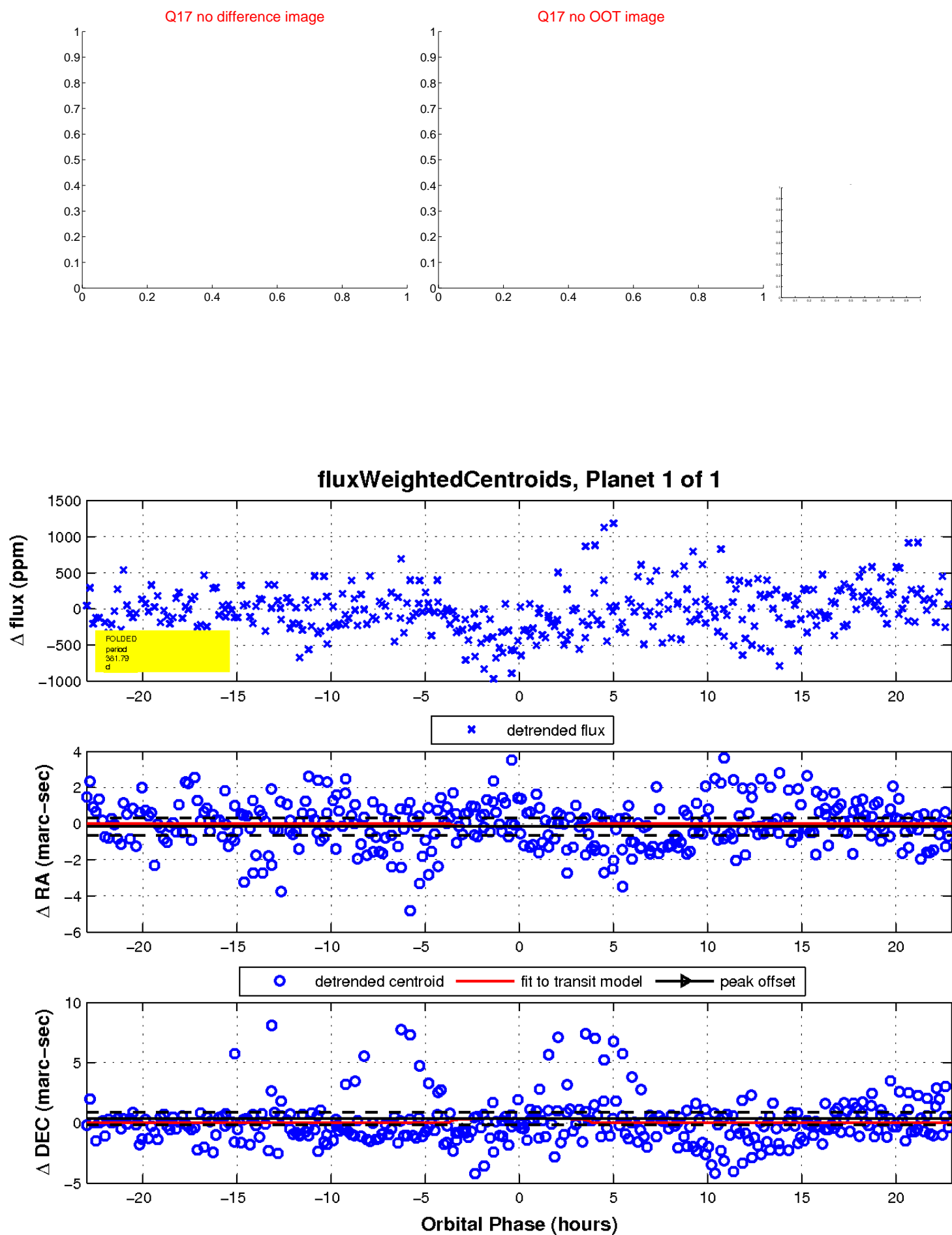
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

