

KIC 009528733

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})
009528733-01	OBS	No	371.088886	490.255008	425.8	24.259	7.9	8.5	0.97	6046	2.08	1.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009528733-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—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.

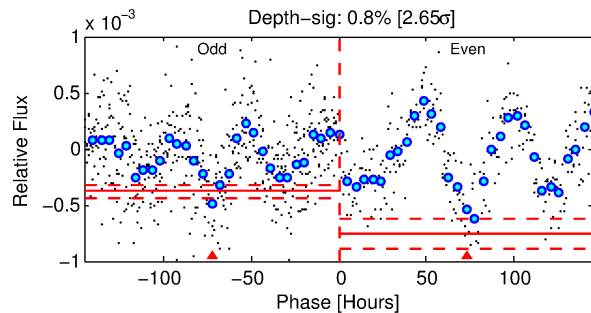
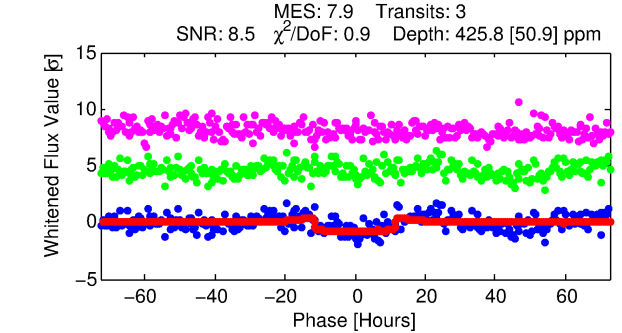
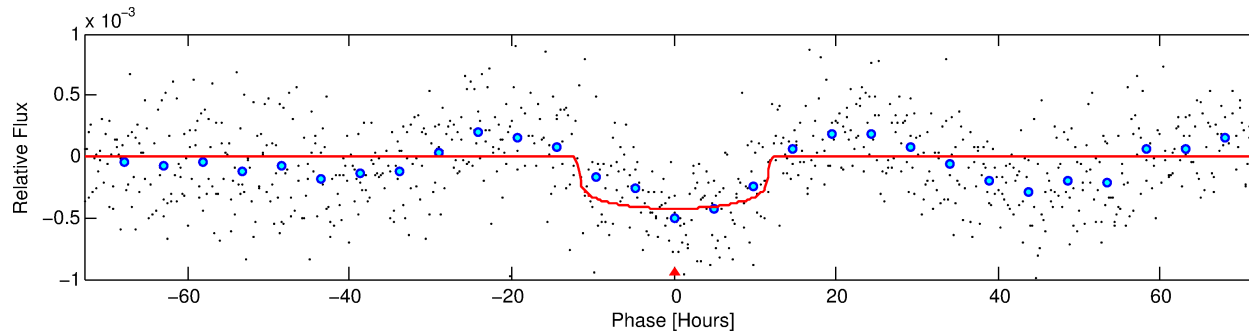
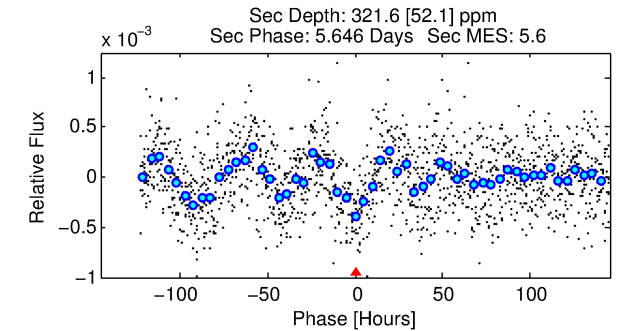
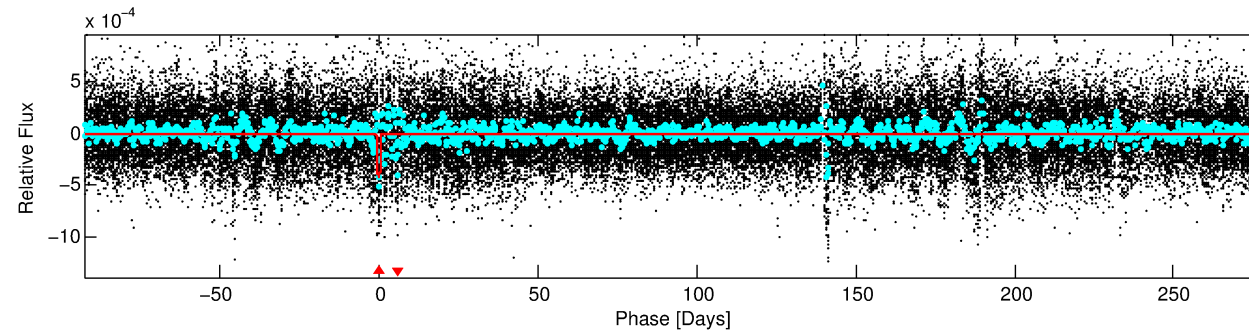
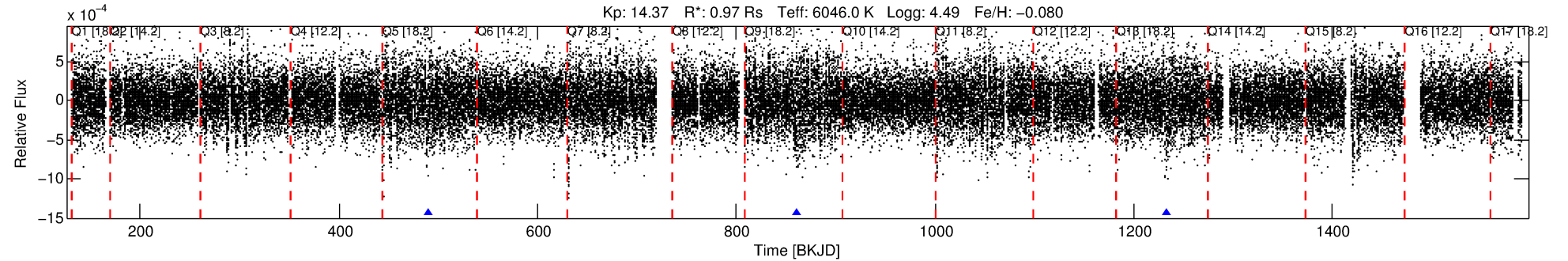
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009528733-01

No Significant Match Found

DV One-Page Summary

KIC: 9528733 Candidate: 1 of 1 Period: 371.089 d



DV Fit Results:

Period = 371.08889 [0.01702] d
Epoch = 490.2550 [0.0246] BKJD
Rp/R* = 0.0197 [0.0045]
a/R* = 98.05 [102.53]
b = 0.58 [1.21]
Seff = 1.07 [0.43]
Teq = 259 [26] K
Rp = 2.09 [0.80] Re
a = 1.0291 [0.2680] AU
Ag = 43095.14 [26621.40] [1.62 σ]
Teffp = 5775 [728] K [7.57 σ]

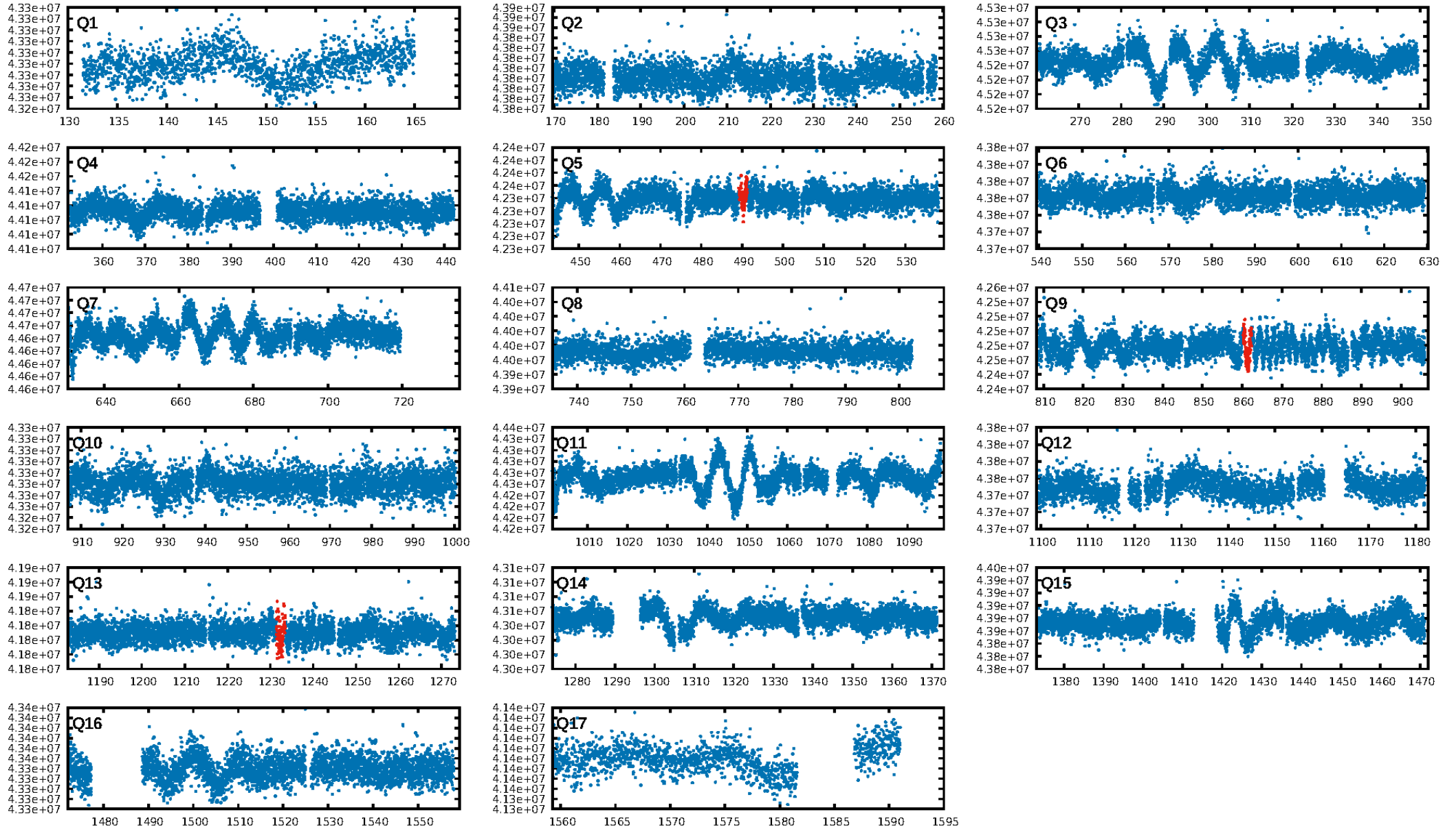
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 19.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.24e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.216
Centroid-sig: 22.5%
Centroid-so: 1.667 arcsec [1.25 σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [2/2]

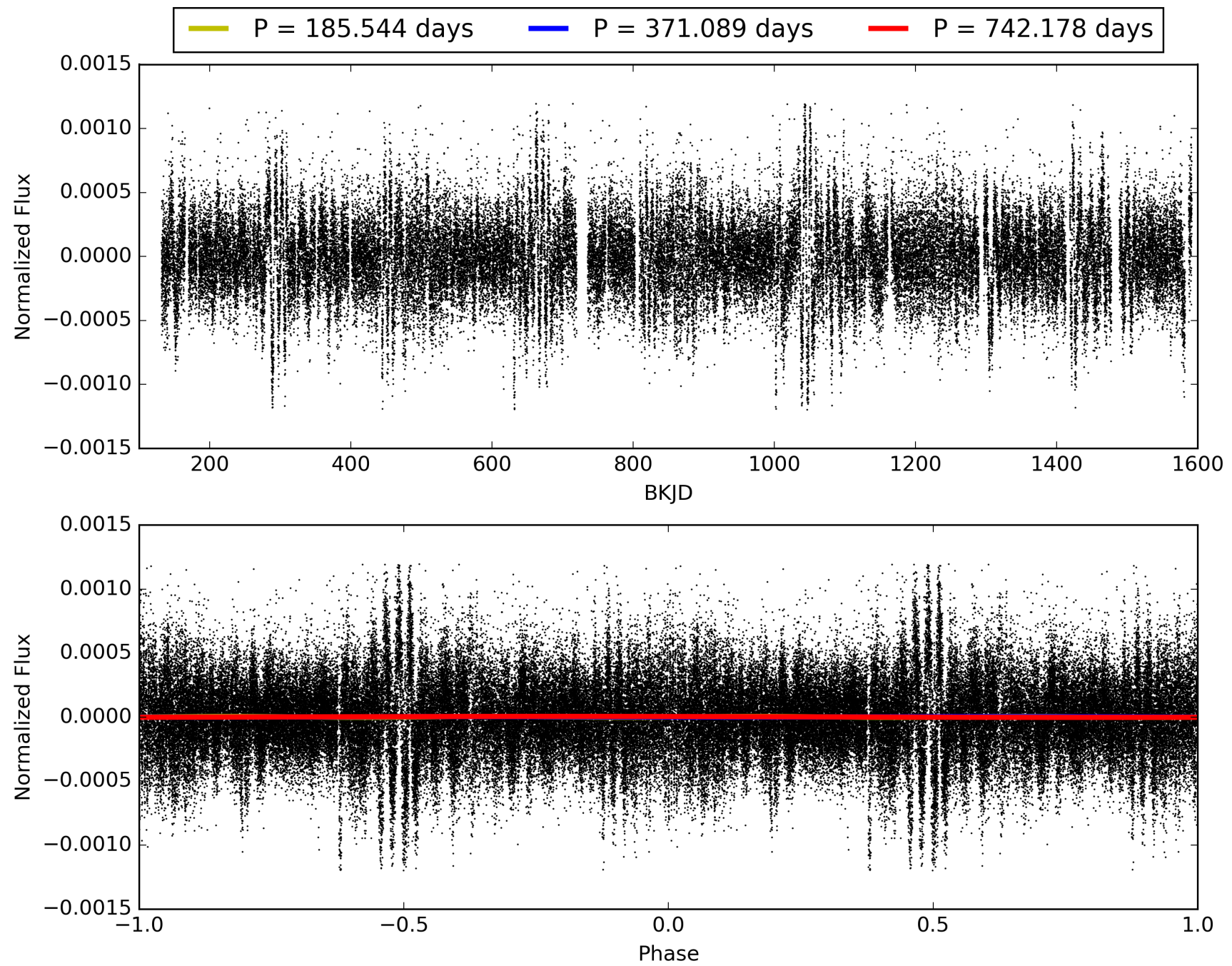
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:49:22 Z

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

TCE 009528733-01, PDC Light Curves

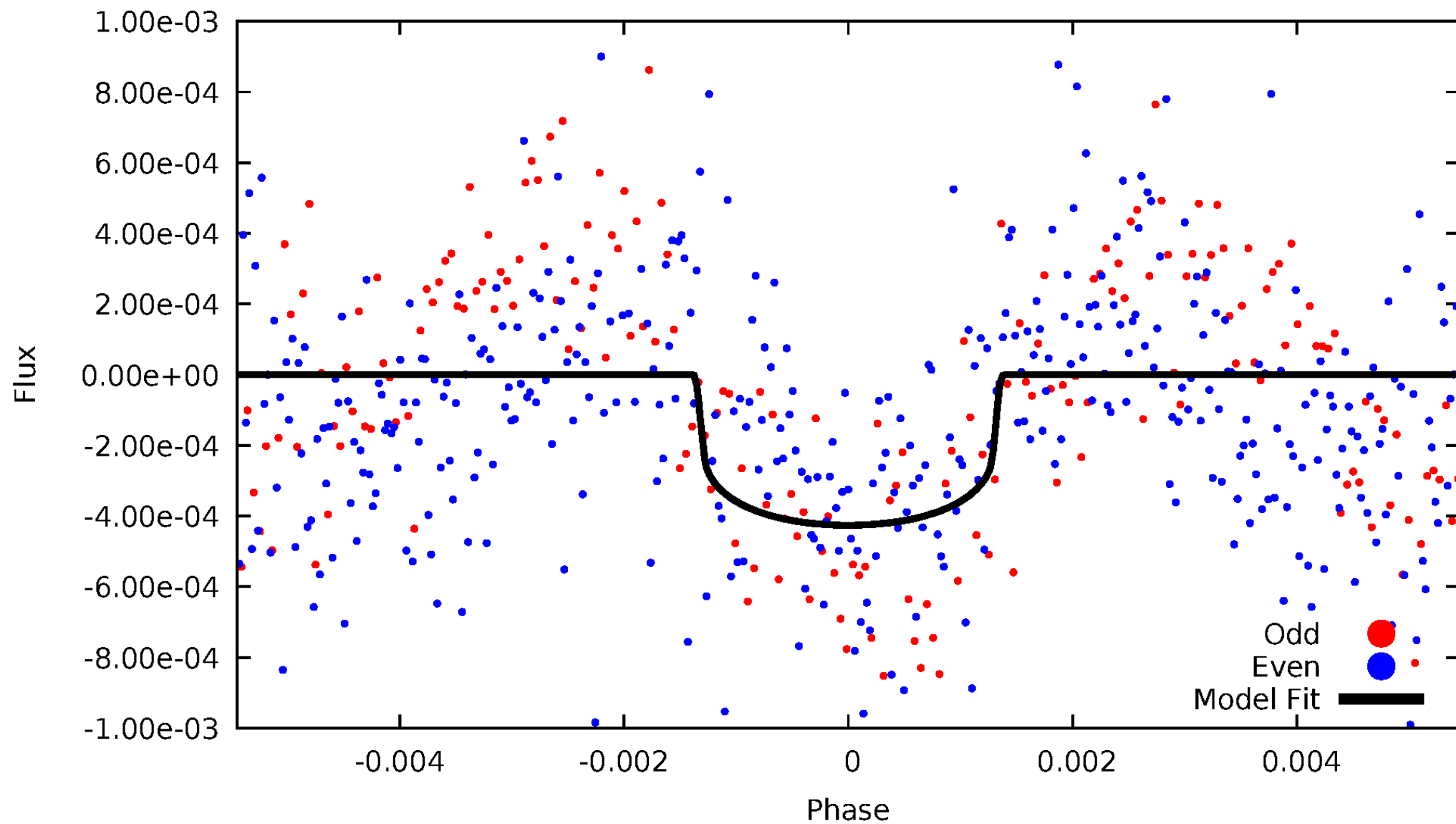


TCE 009528733-01



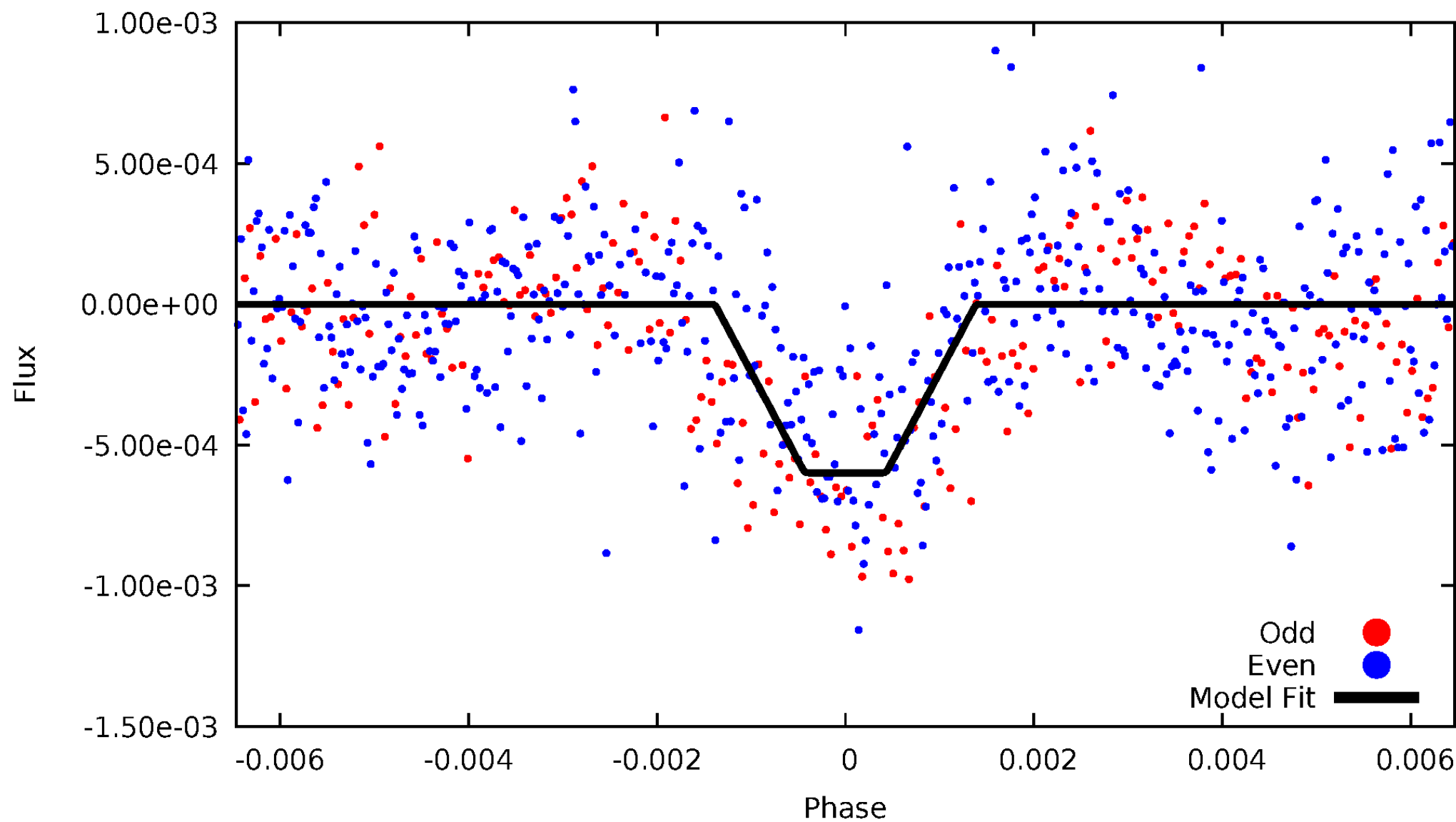
DV Odd/Even

TCE 009528733-01



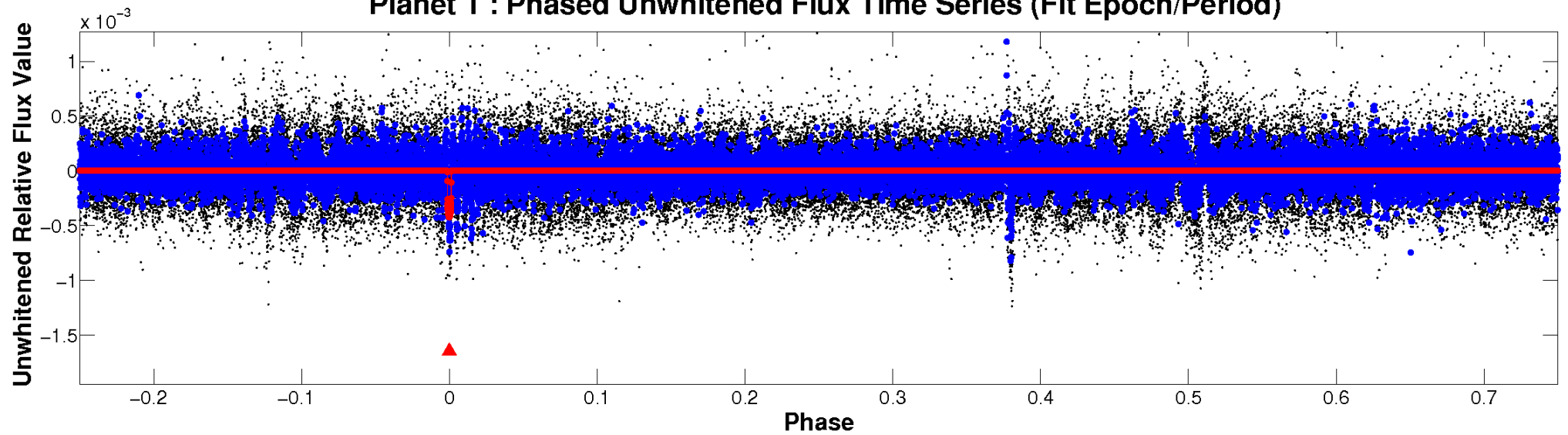
ALT Odd/Even

TCE 009528733-01

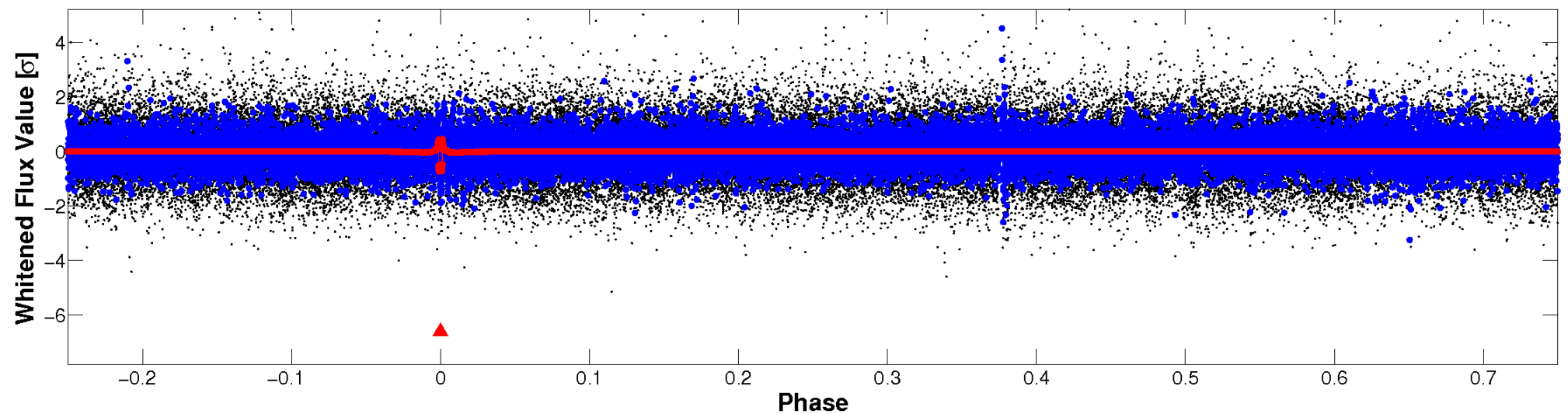


Non-Whitened Vs. Whitened Light Curve

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

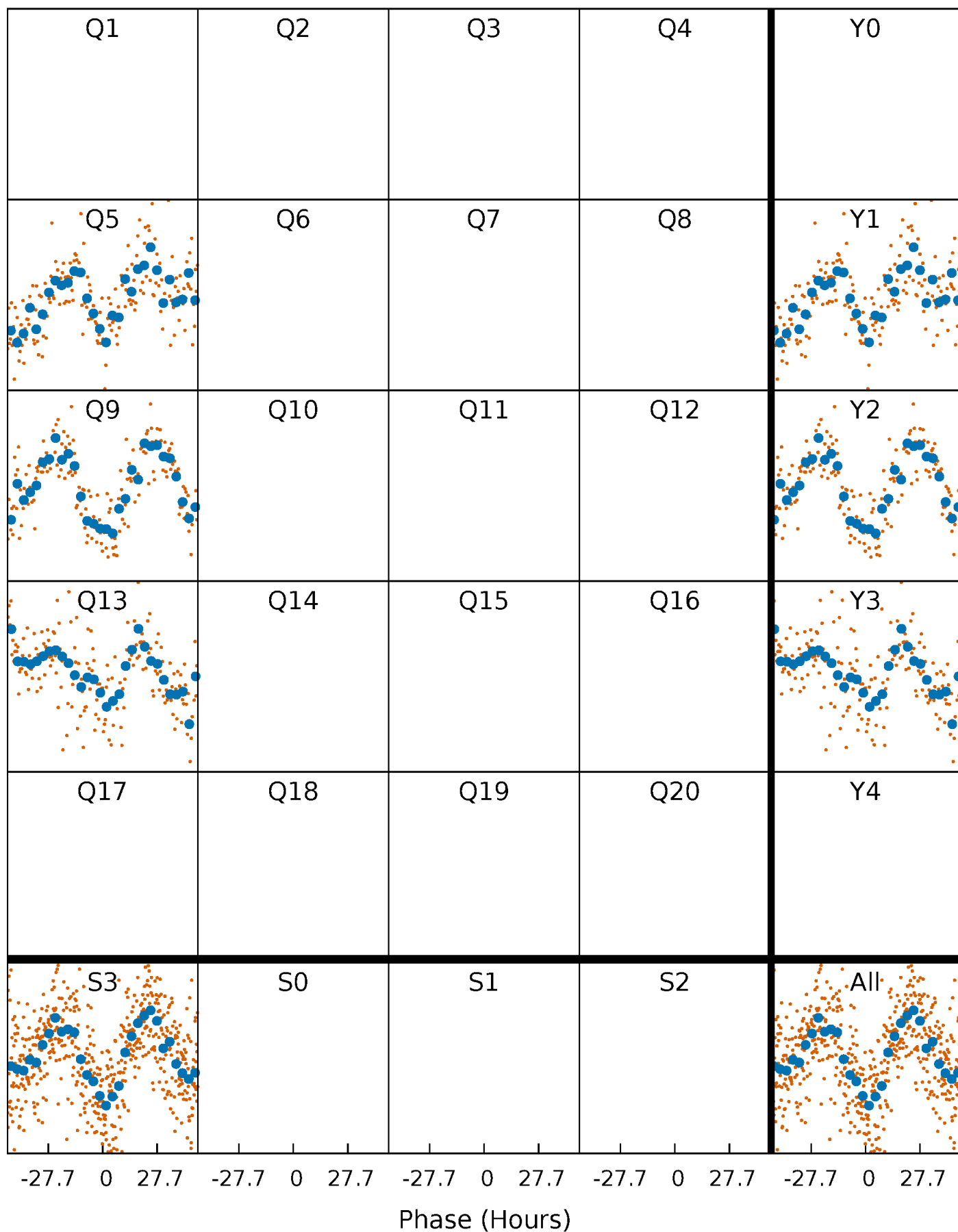


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



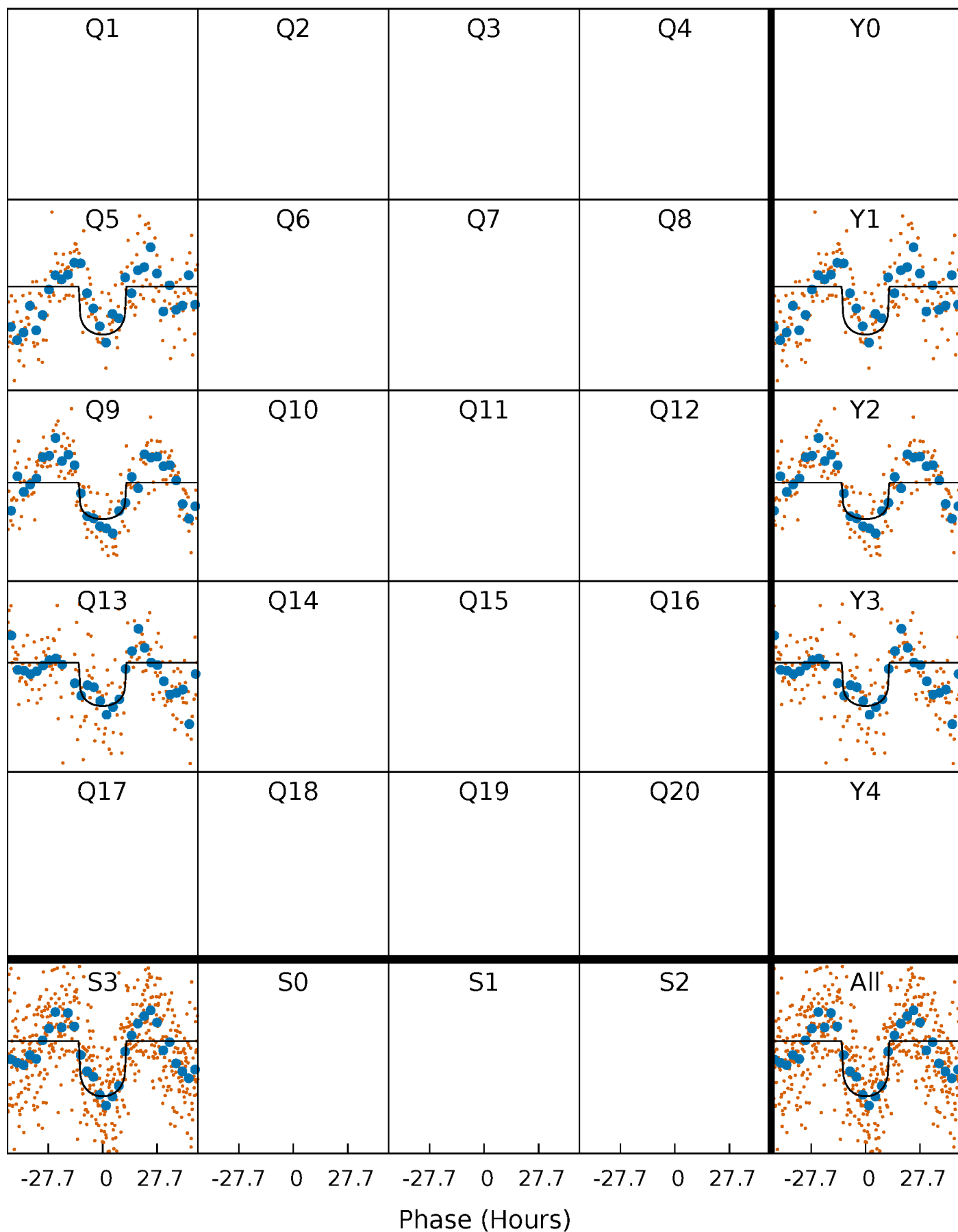
PDC Quarter-Phased Transit Curves

TCE 009528733-01 P=371.088887 Days $T_0=490.255008$ (BKJD)



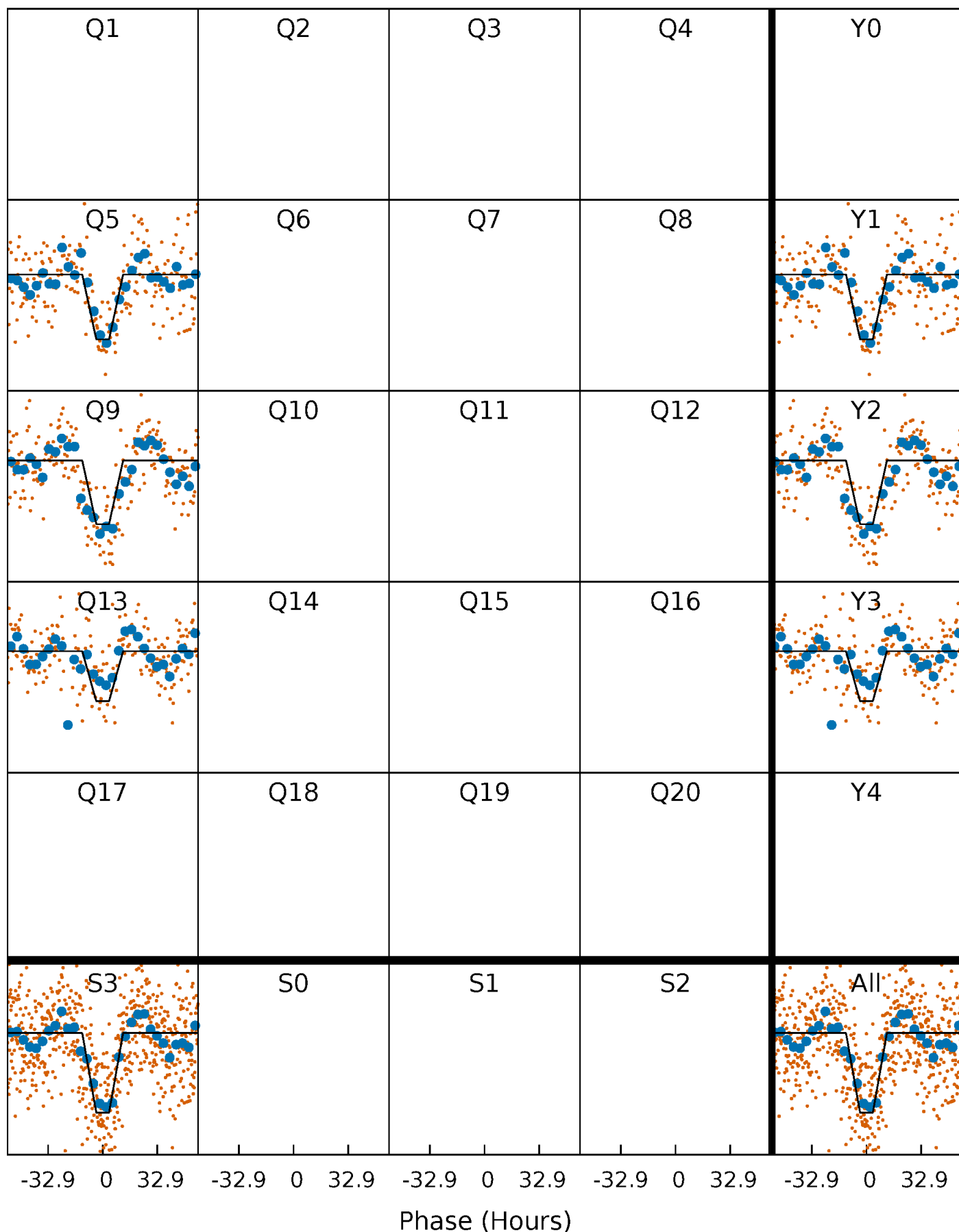
DV Quarter-Phased Transit Curves

TCE 009528733-01 $P=371.088887$ Days $T_0=490.255008$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

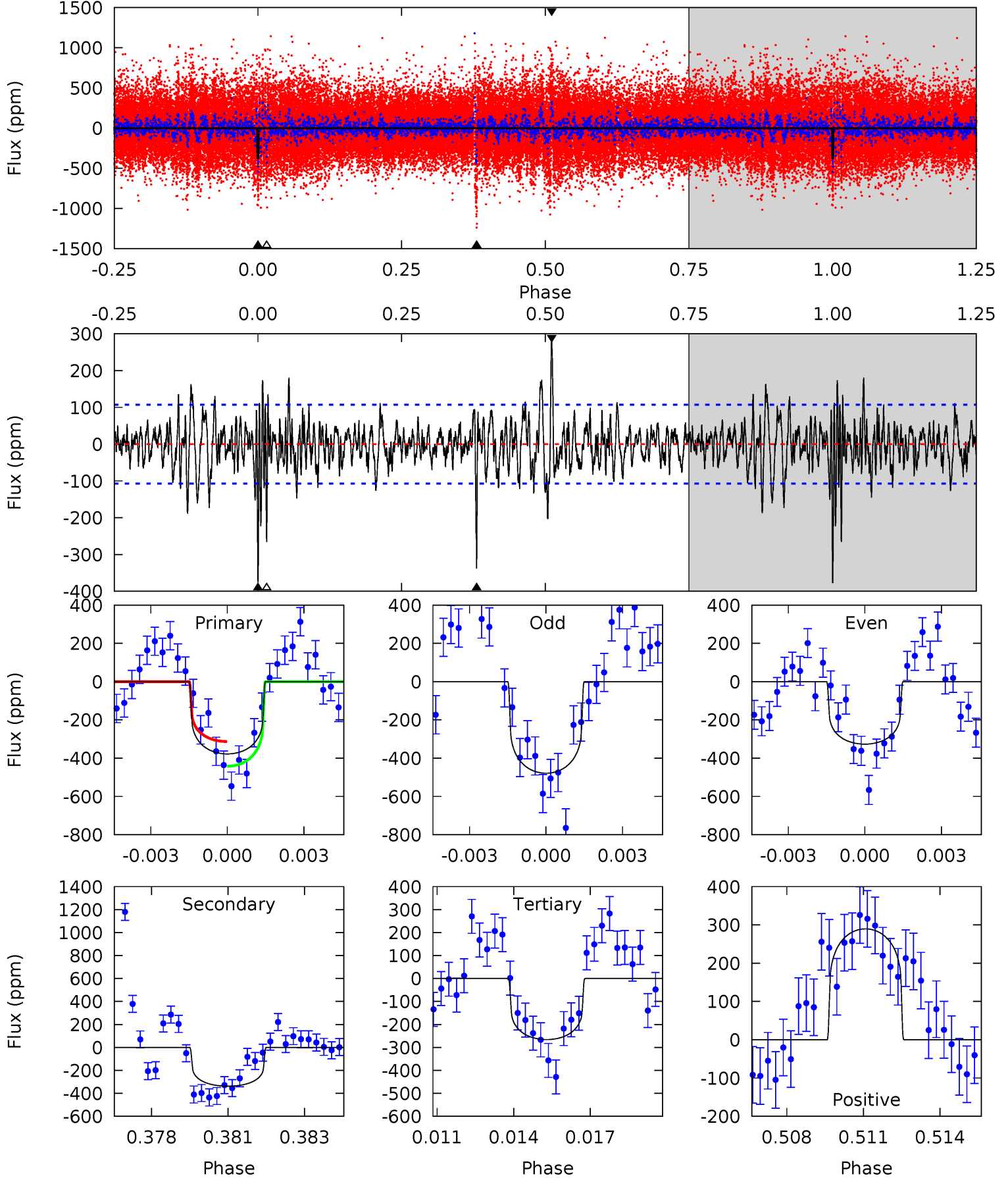
TCE 009528733-01 P=371.141562 Days $T_0=490.253635$ (BKJD)



DV Model-Shift Uniqueness Test

009528733-01, P = 371.088887 Days, E = 119.166121 Days

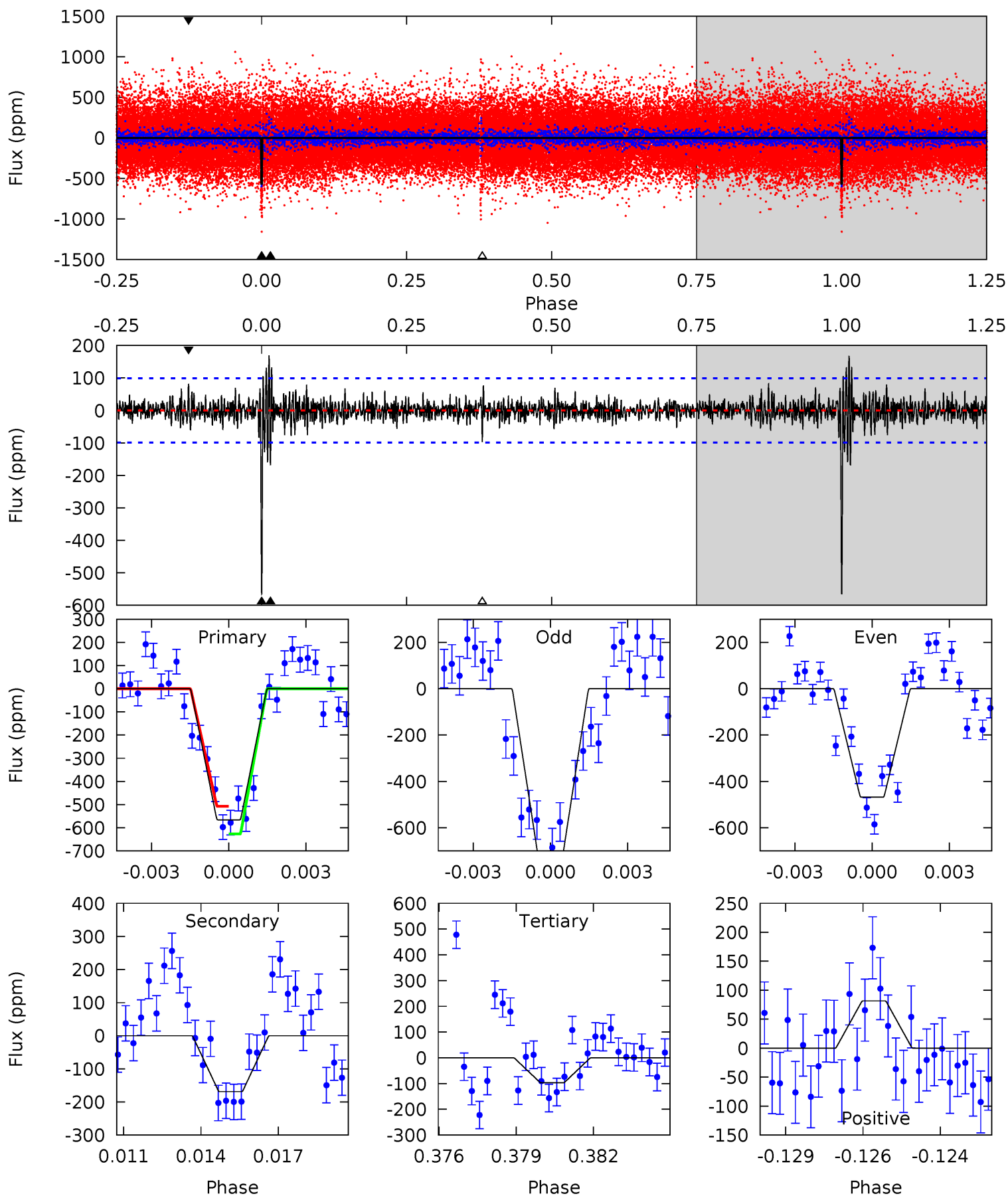
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.6	16.6	13.1	14.2	5.27	2.99	2.64	5.49	4.34	3.54	2.38	3.53	0.93	0.43	3.18



Alt Model-Shift Uniqueness Test

009528733-01, P = 371.141562 Days, E = 119.112073 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.1	8.97	5.16	4.34	5.26	2.99	1.19	24.9	25.7	3.81	4.63	6.76	0.98	0.23	3.16



Stellar Parameters For KIC 009528733

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6046^{+162}_{-198}	$4.486^{+0.052}_{-0.208}$	$-0.080^{+0.250}_{-0.350}$	$0.972^{+0.300}_{-0.100}$	$1.053^{+0.139}_{-0.139}$	$1.615^{+0.433}_{-0.817}$
	+3%/-3%	+1%/-5%	+312%/-438%	+31%/-10%	+13%/-13%	+27%/-51%
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 009528733-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-338 ± 20	$2.20^{+0.61}_{-0.54}$	369^{+26}_{-18}	5850^{+775}_{-595}	40085^{+30046}_{-15098}
Alt.	-169 ± 19	$2.69^{+0.66}_{-0.54}$	369^{+26}_{-17}	4582^{+414}_{-323}	13197^{+7507}_{-4544}

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

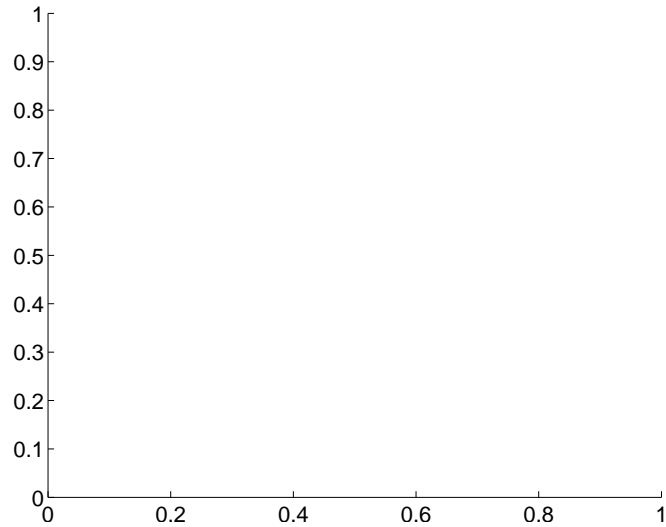
Supplemental centroid analysis for 009528733-01. Kepler magnitude: 14.37. Transit SNR 8.51

There are 0 quarters with good PRF difference image offsets

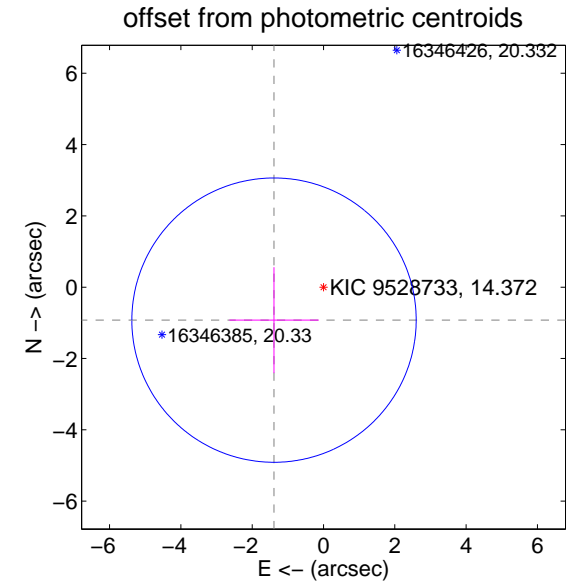
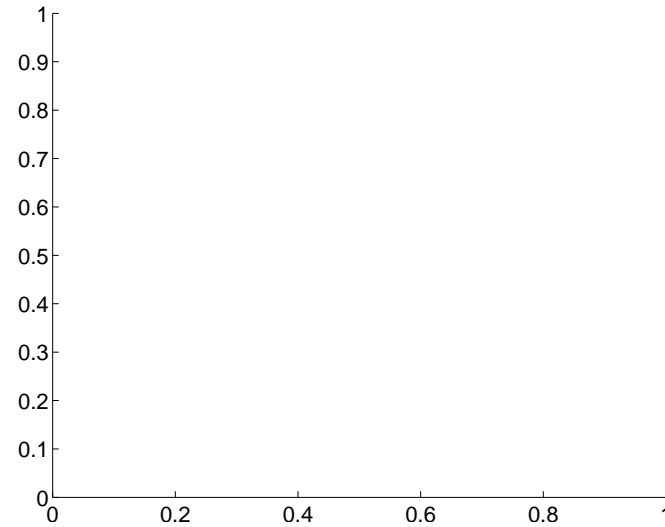
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	1.67 ± 1.33	1.25	1.39 ± 1.25	-0.92 ± 1.49

There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC

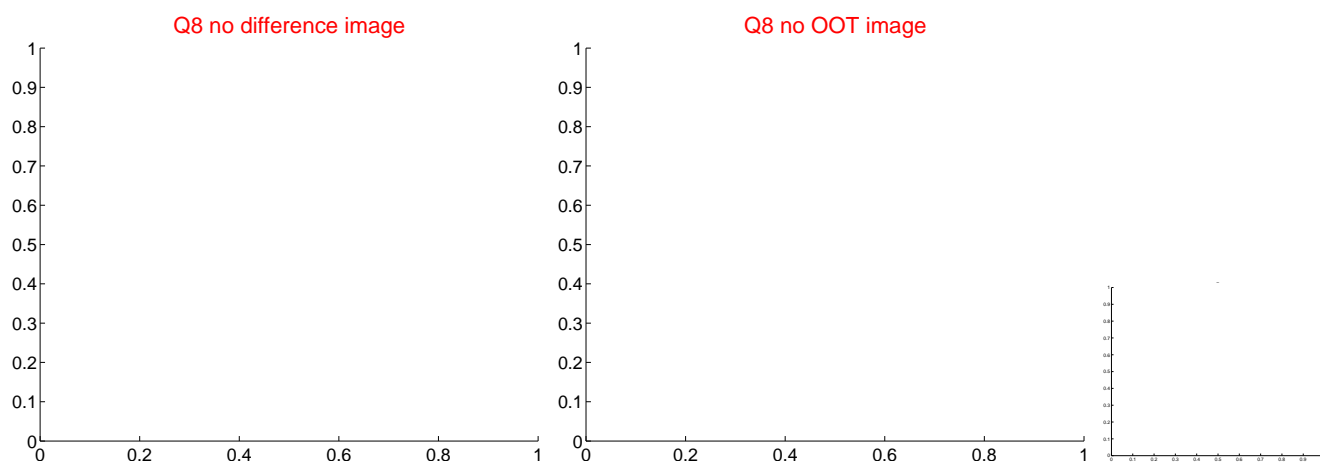
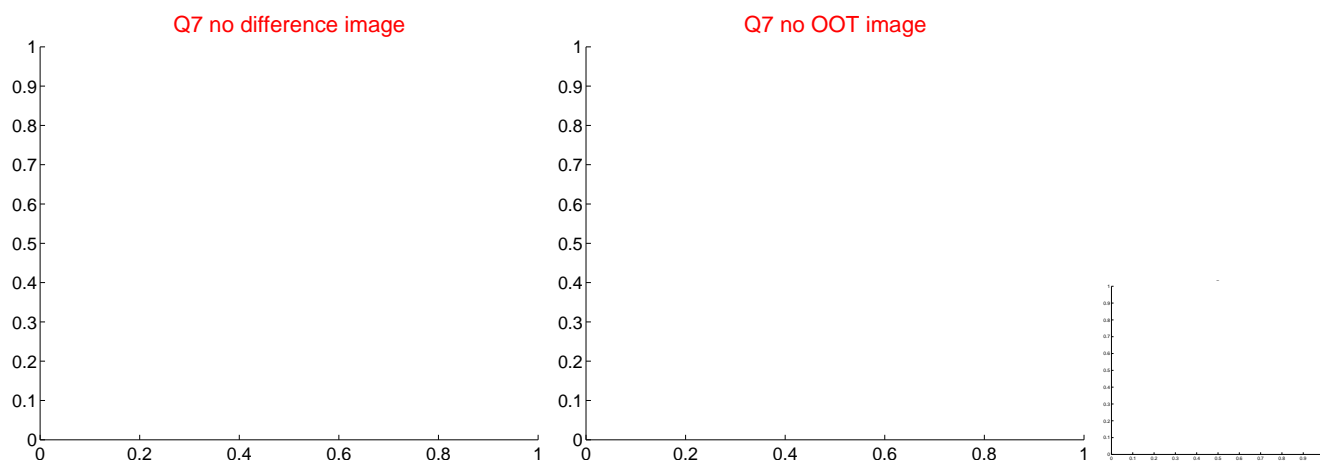
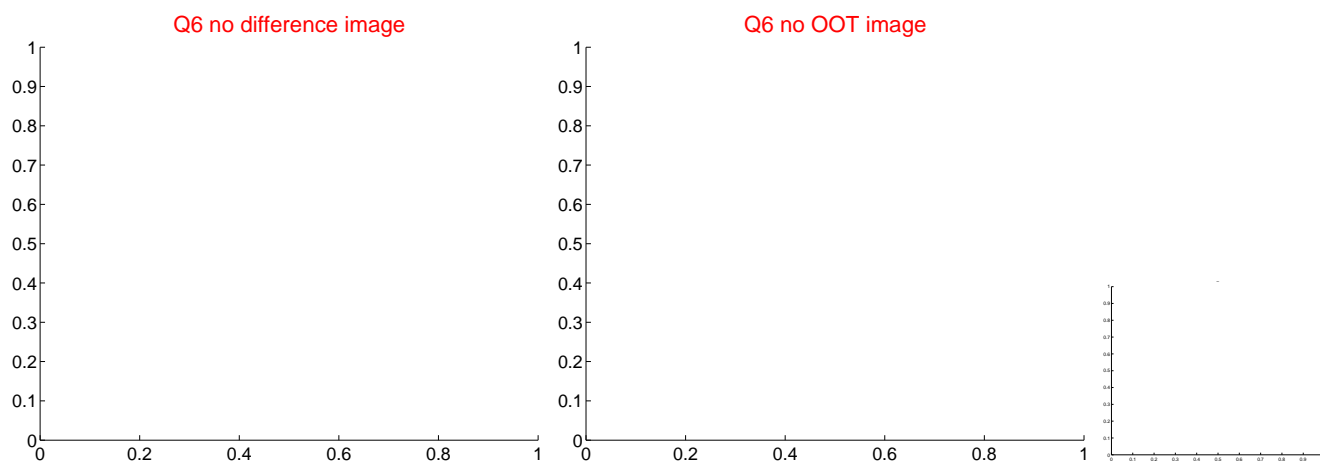
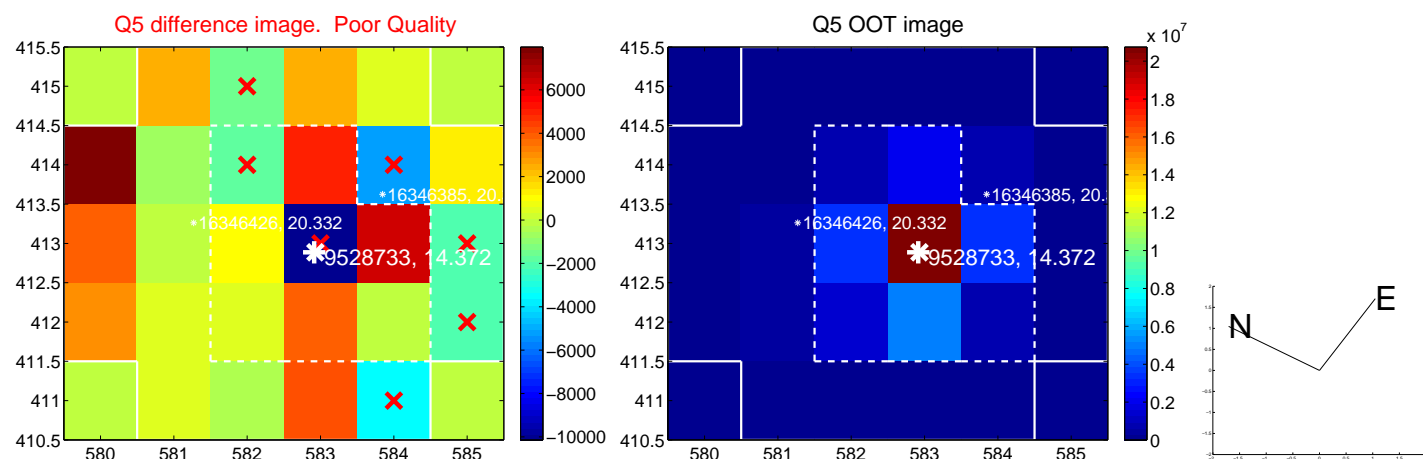


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

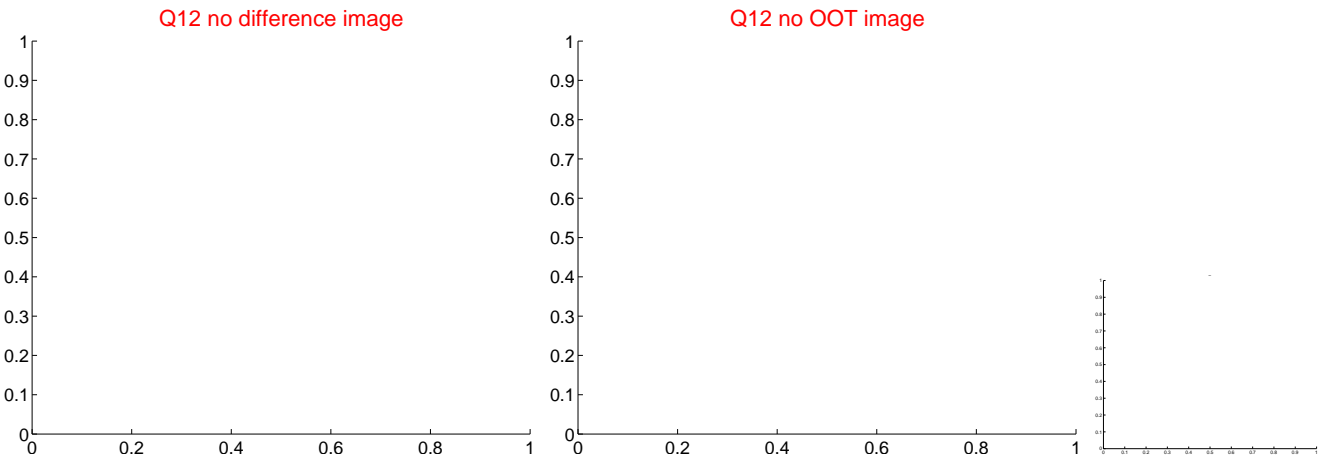
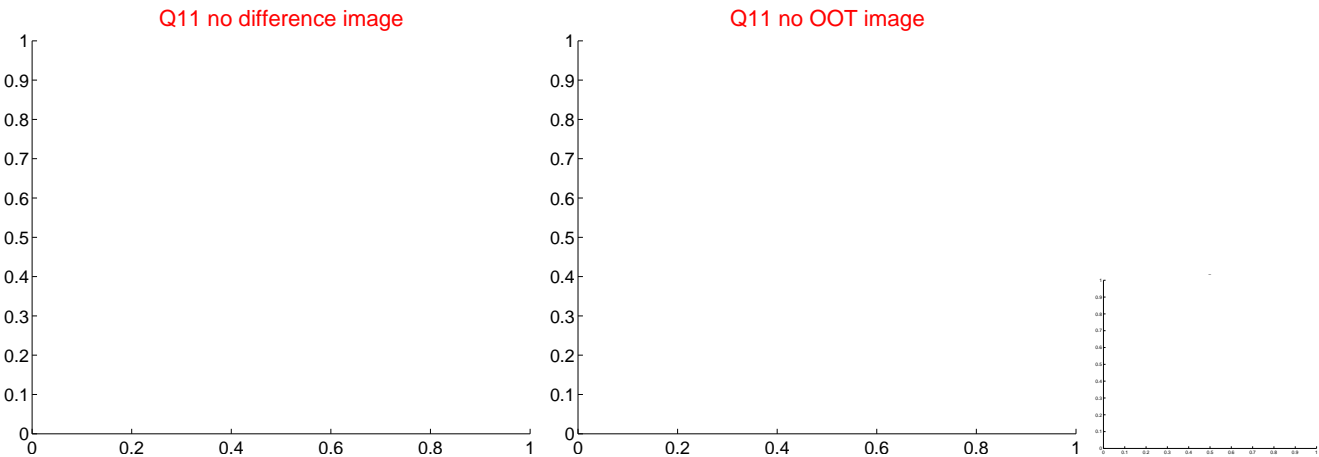
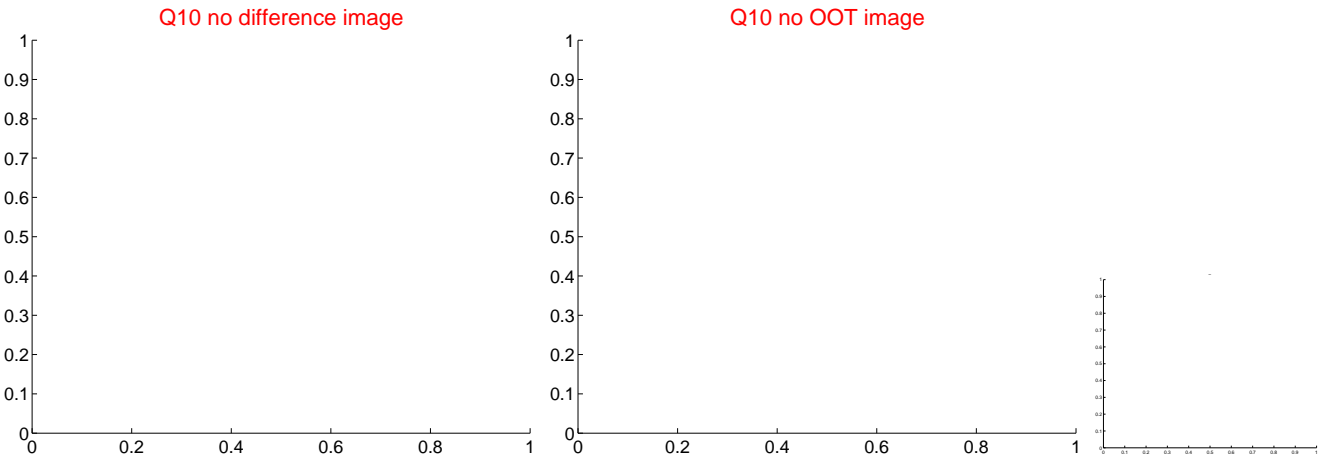
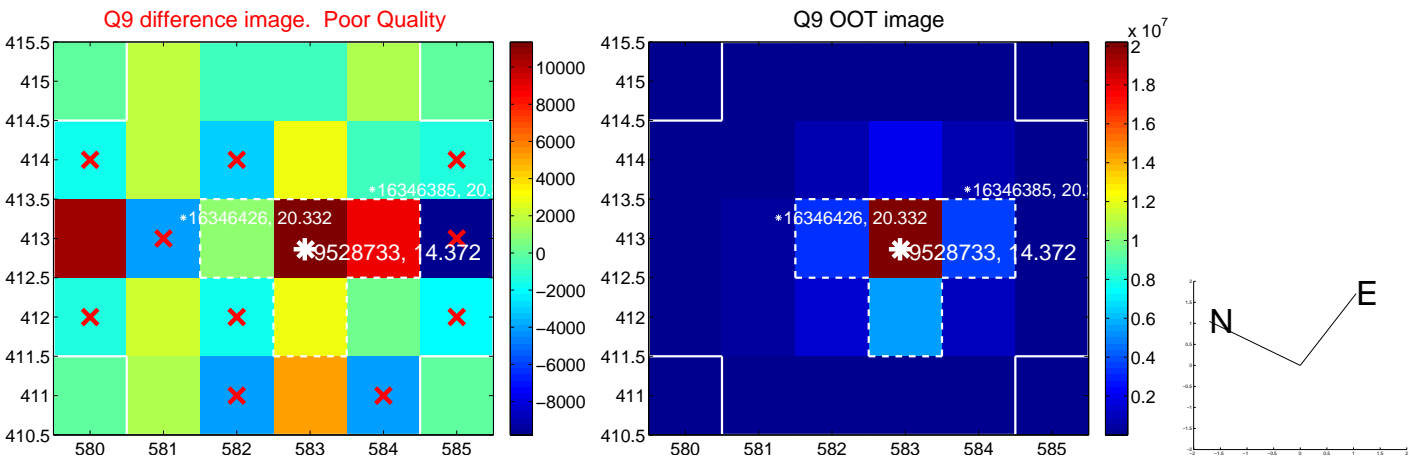
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



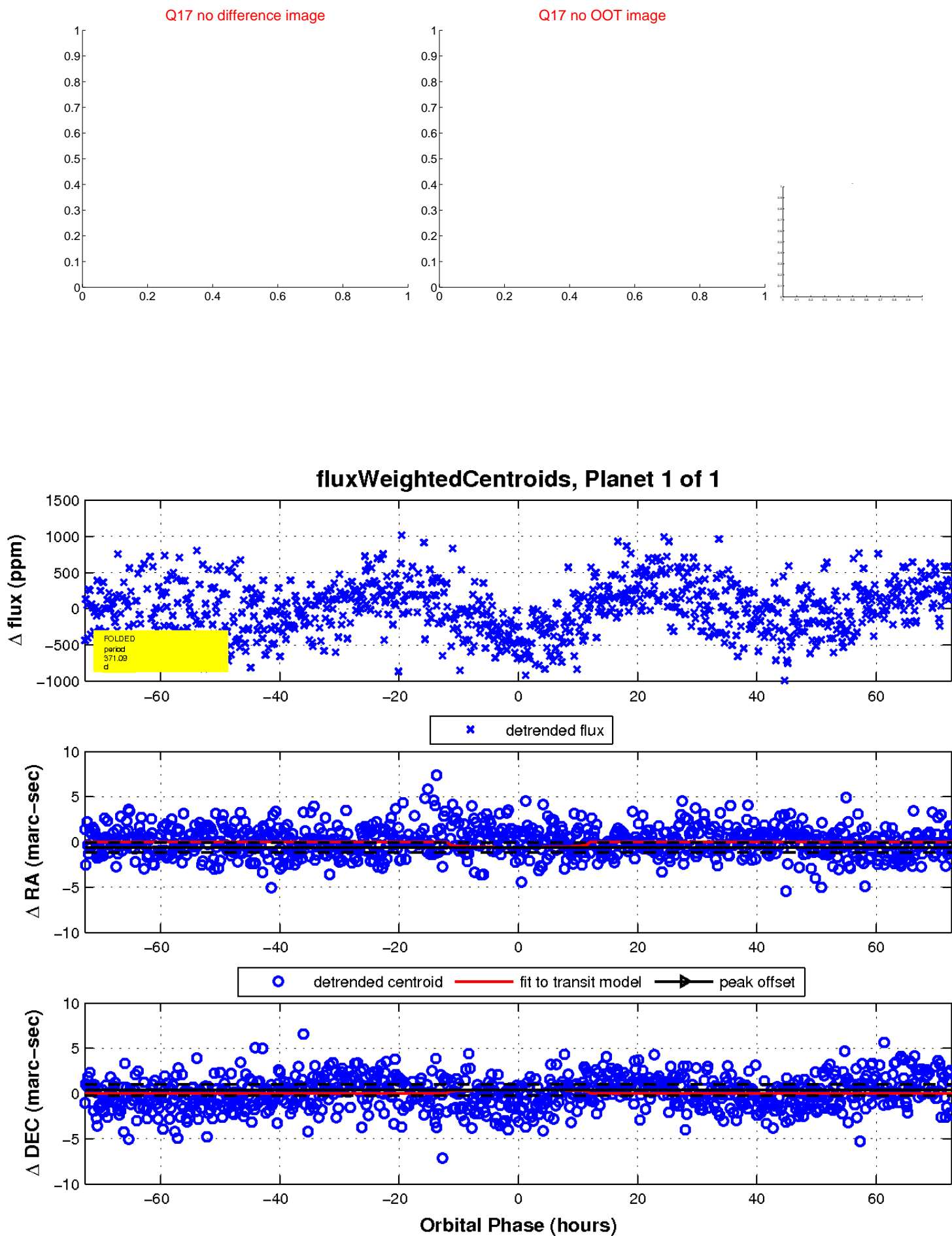
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

Declination

