

KIC 009428798

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})
009428798-01	OBS	No	599.620190	362.848170	105.4	17.269	9.0	8.7	2.31	8150	2.71	6.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009428798-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—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.

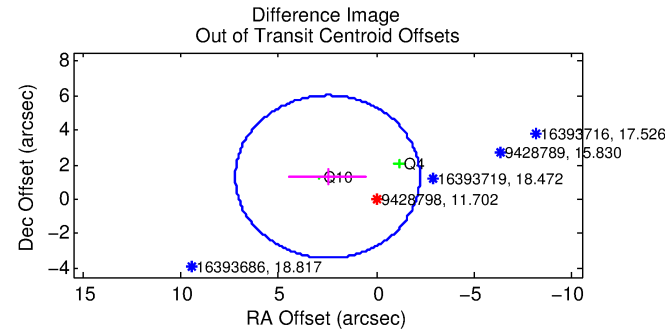
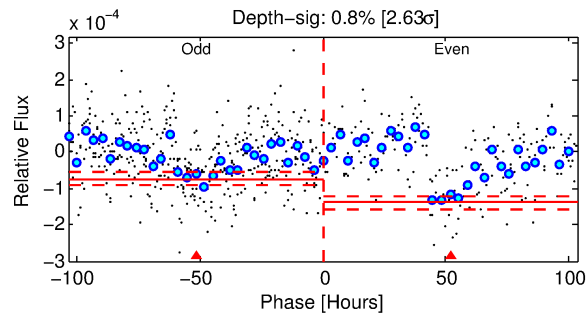
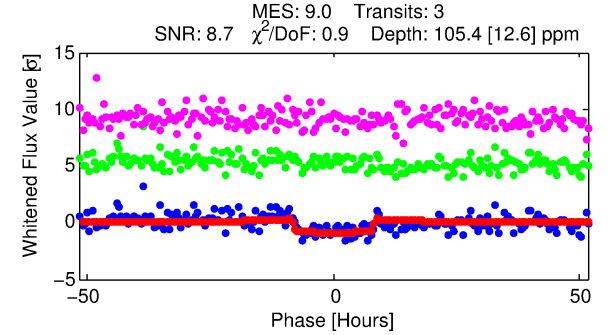
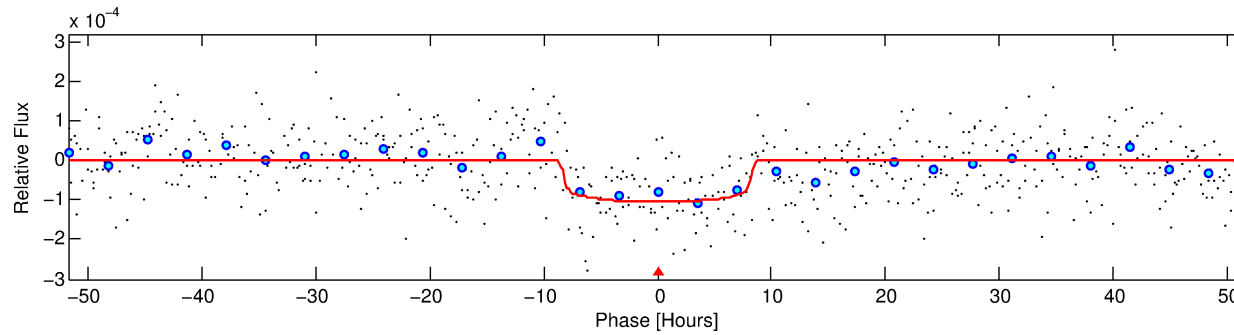
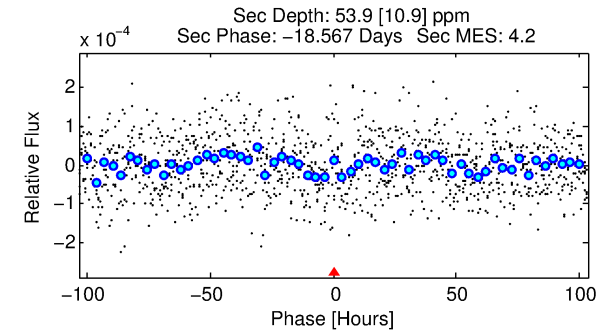
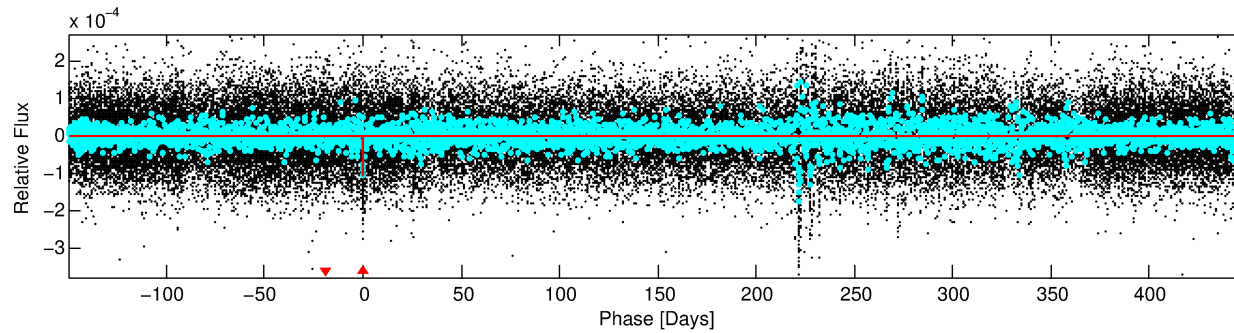
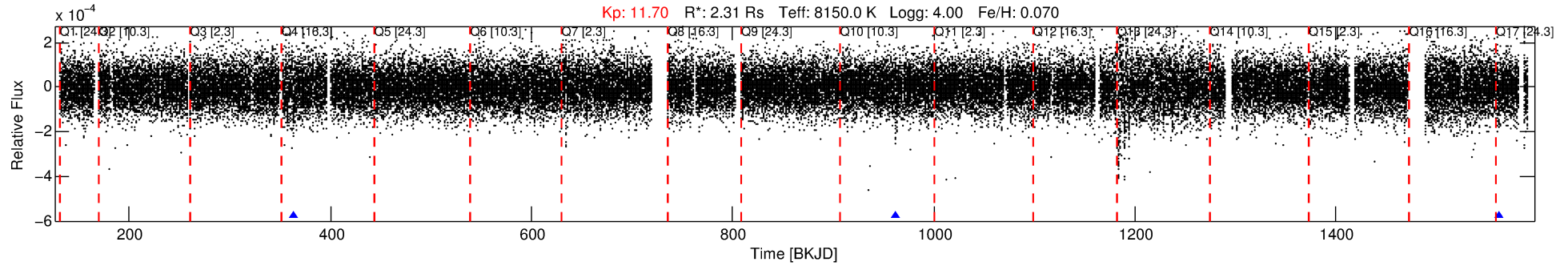
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009428798-01

No Significant Match Found

DV One-Page Summary

KIC: 9428798 Candidate: 1 of 1 Period: 599.620 d



DV Fit Results:

Period = 599.62019 [0.01474] d
Epoch = 362.8482 [0.0186] BKJD
Rp/R* = 0.0107 [0.0014]
a/R* = 135.60 [92.74]
b = 0.87 [0.19]
Seff = 6.95 [2.69]
Teq = 414 [40] K
Rp = 2.71 [0.88] Re
a = 1.7457 [0.4253] AU
Ag = 12292.13 [5834.67] [2.11σ]
Teffp = 6740 [629] K [10.03σ]

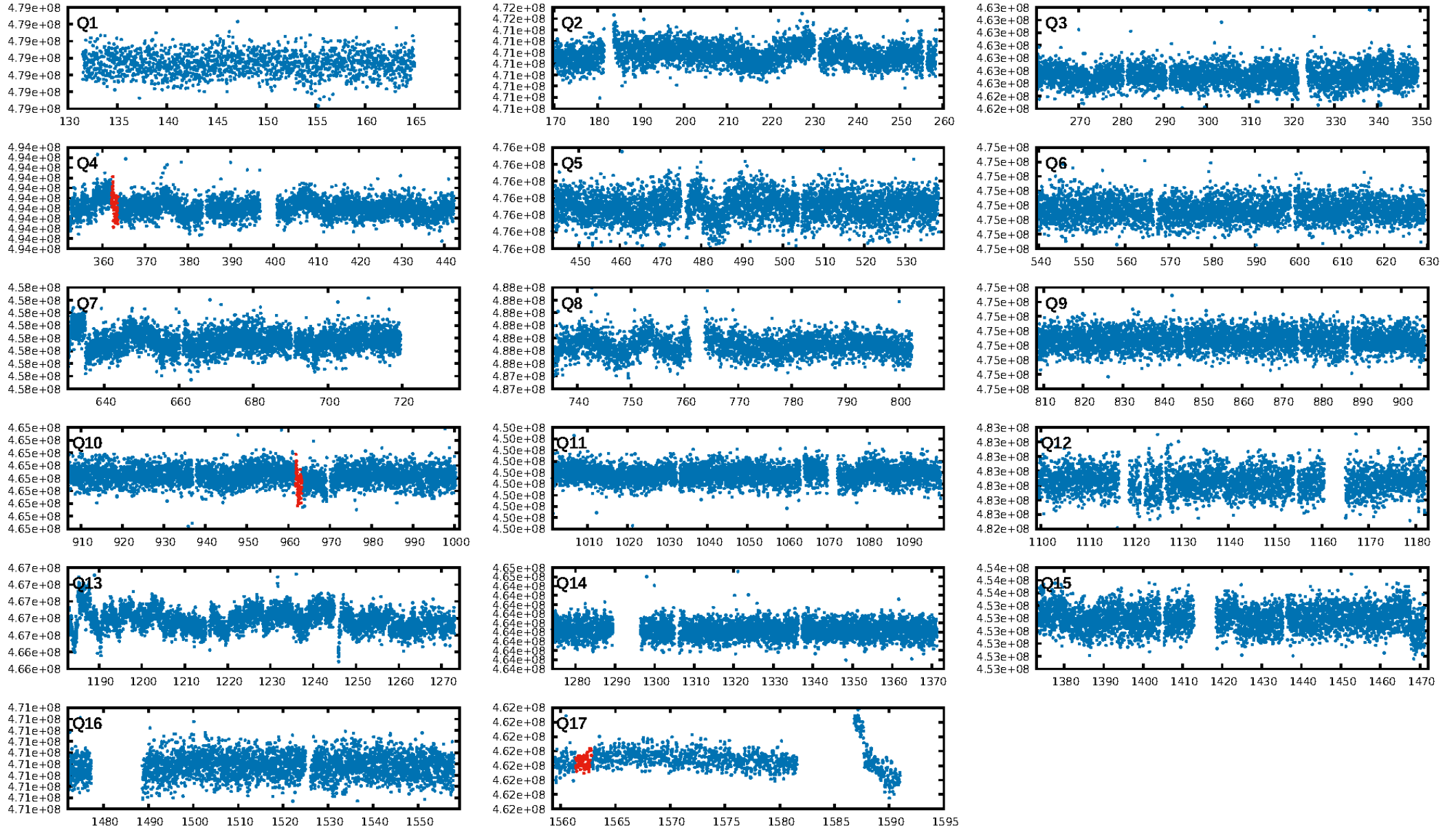
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 5.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.47e-13
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 6.586
Centroid-sig: 19.0%
Centroid-so: 2.599 arcsec [1.42σ]
OotOffset-rm: 2.817 arcsec [1.79σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-rm: 2.814 arcsec [2.06σ]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [2/2]

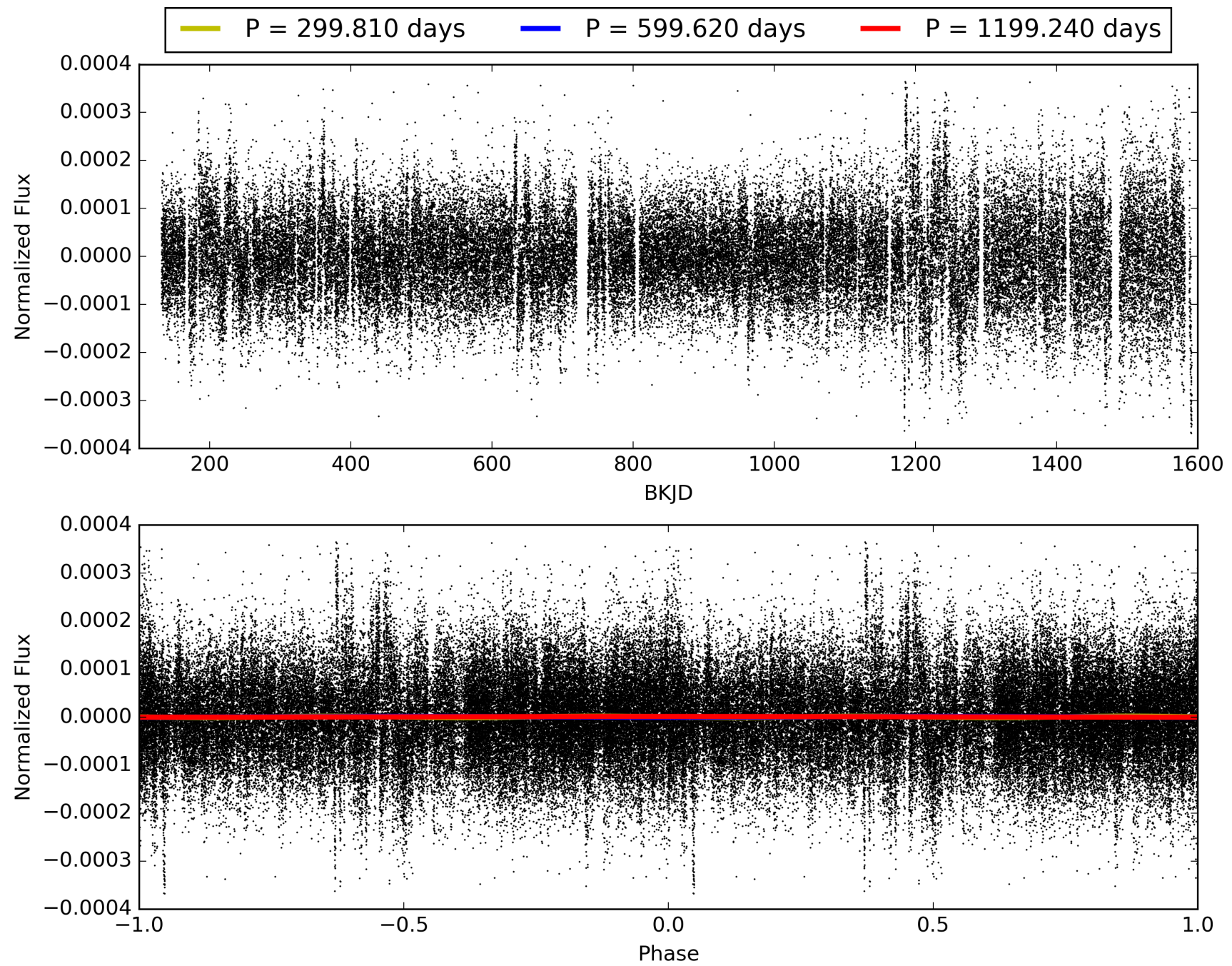
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:00:38 Z

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

TCE 009428798-01, PDC Light Curves

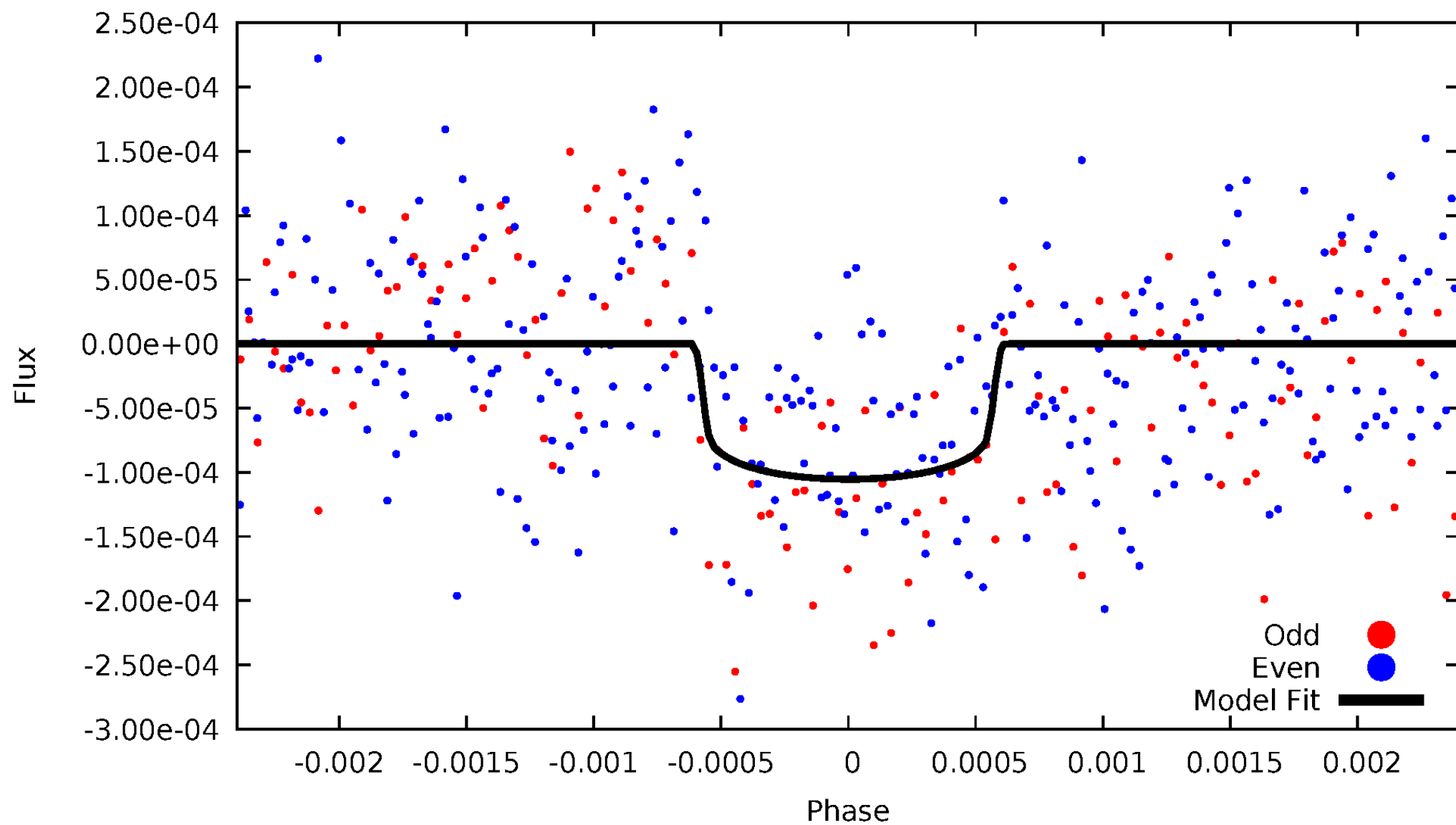


TCE 009428798-01



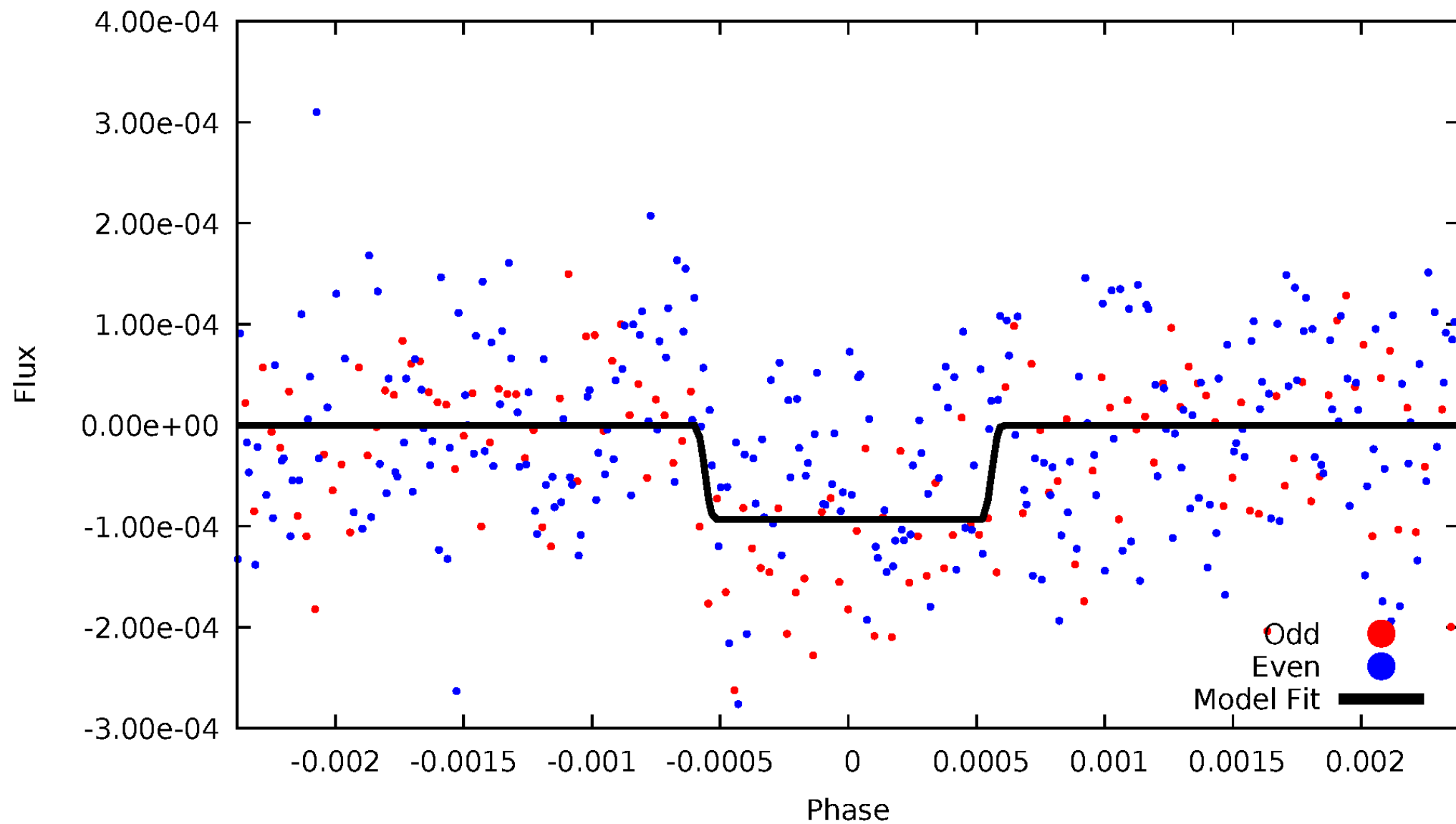
DV Odd/Even

TCE 009428798-01



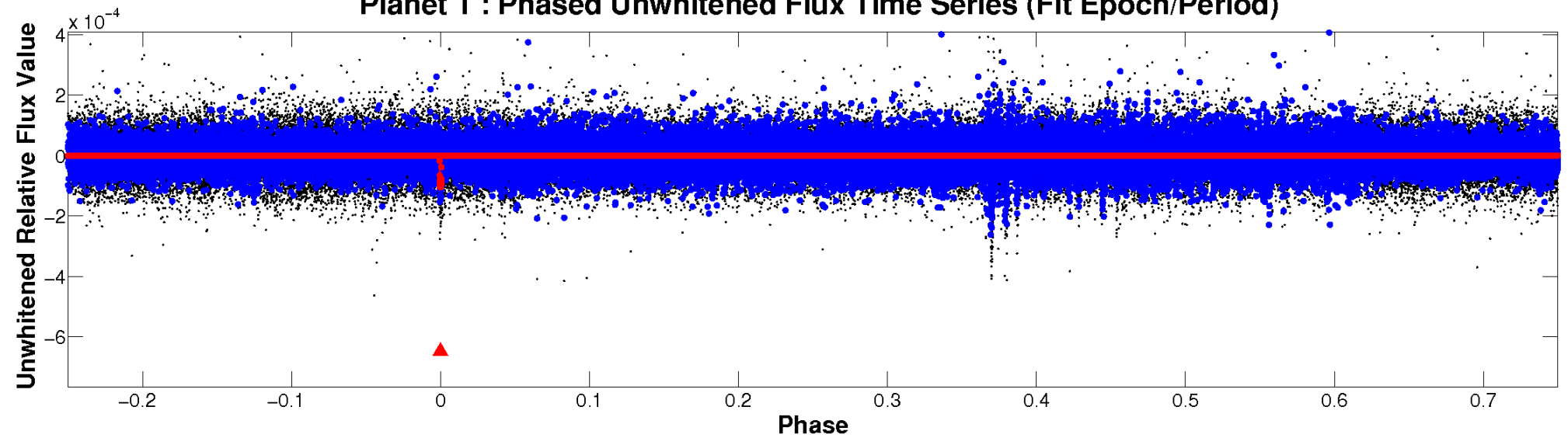
ALT Odd/Even

TCE 009428798-01

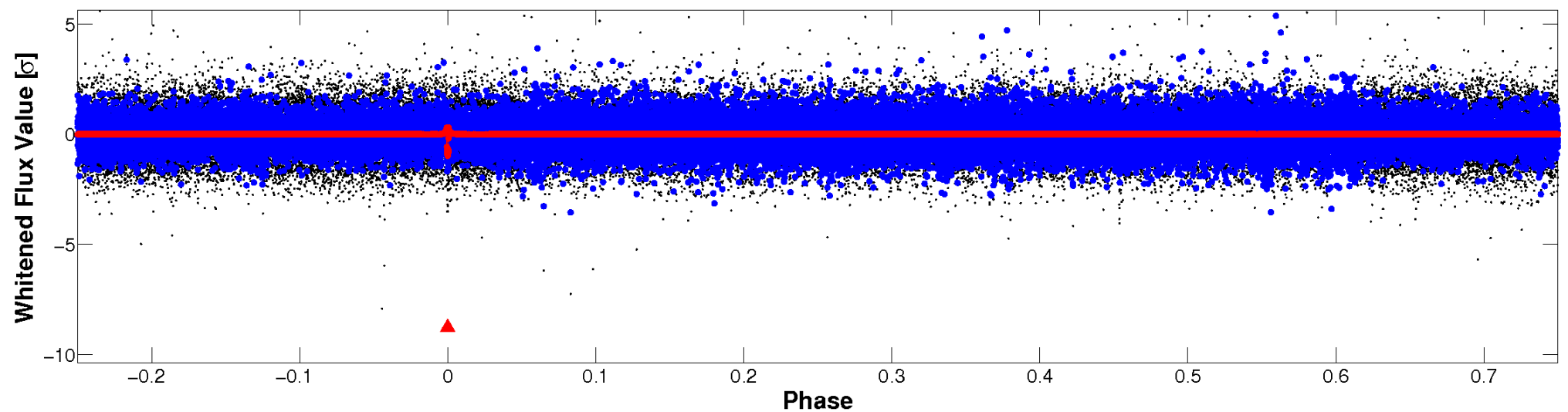


Non-Whitened Vs. Whitened Light Curve

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

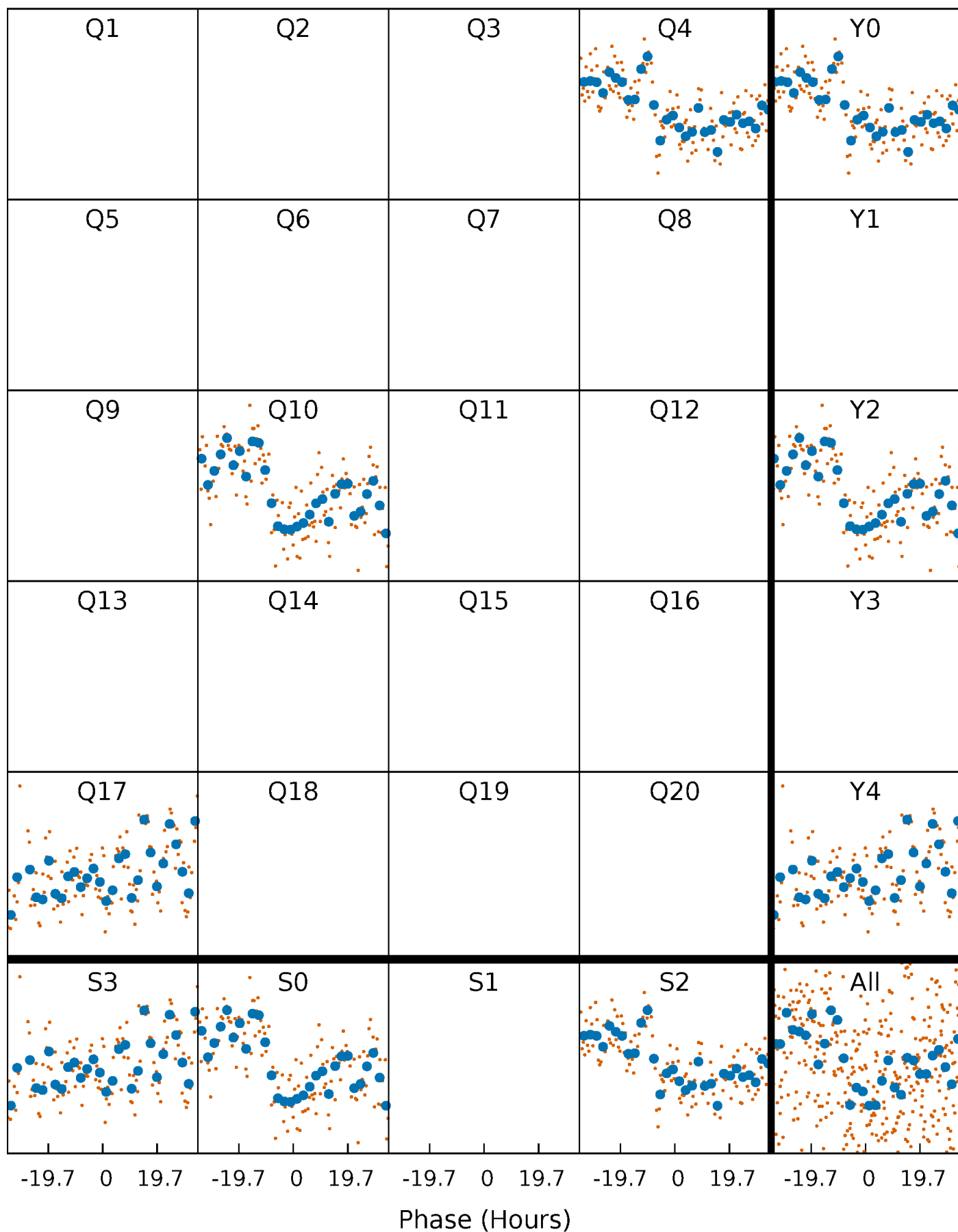


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 009428798-01 P=599.620190 Days $T_0=362.848170$ (BKJD)



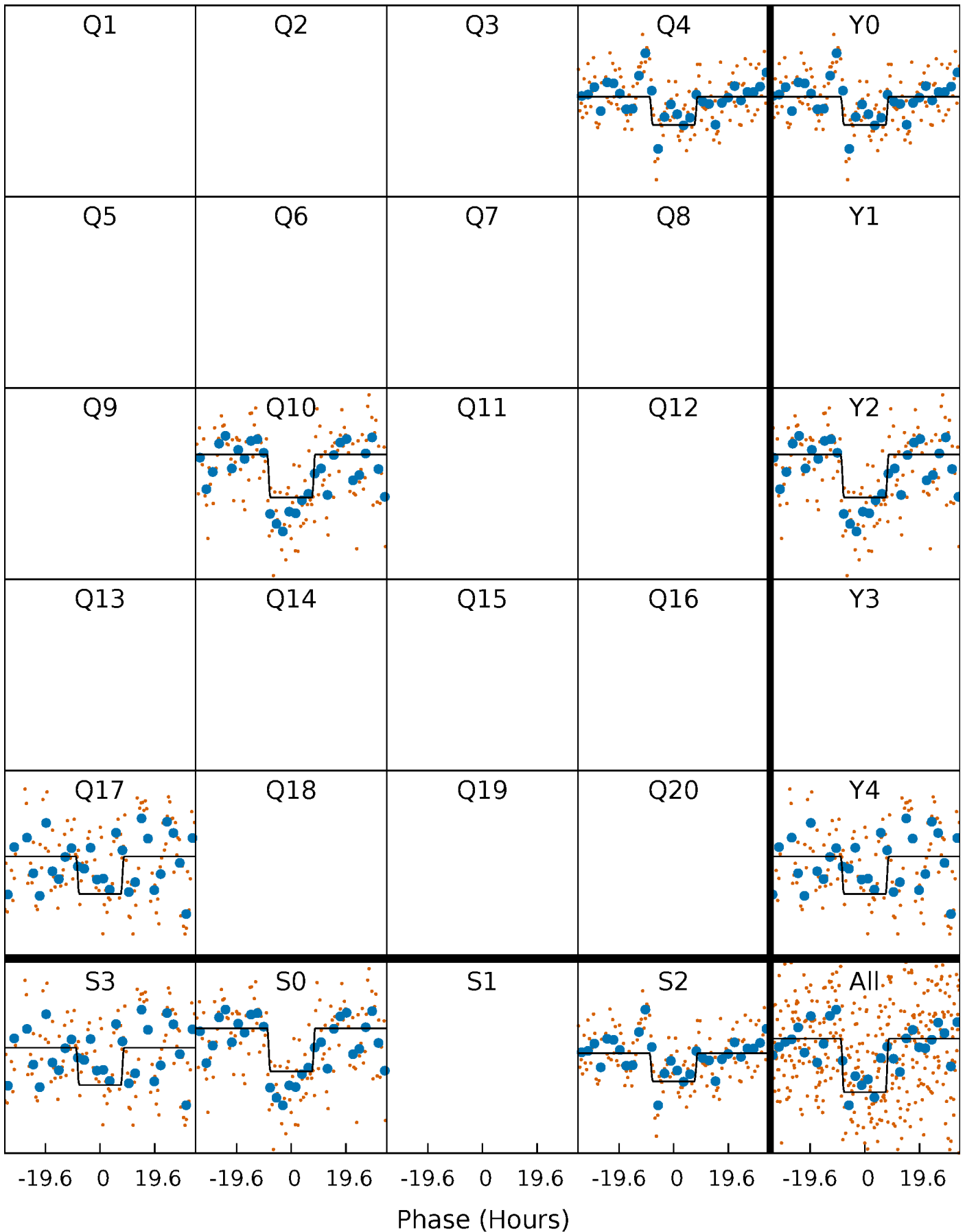
DV Quarter-Phased Transit Curves

TCE 009428798-01 P=599.620190 Days $T_0=362.848170$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

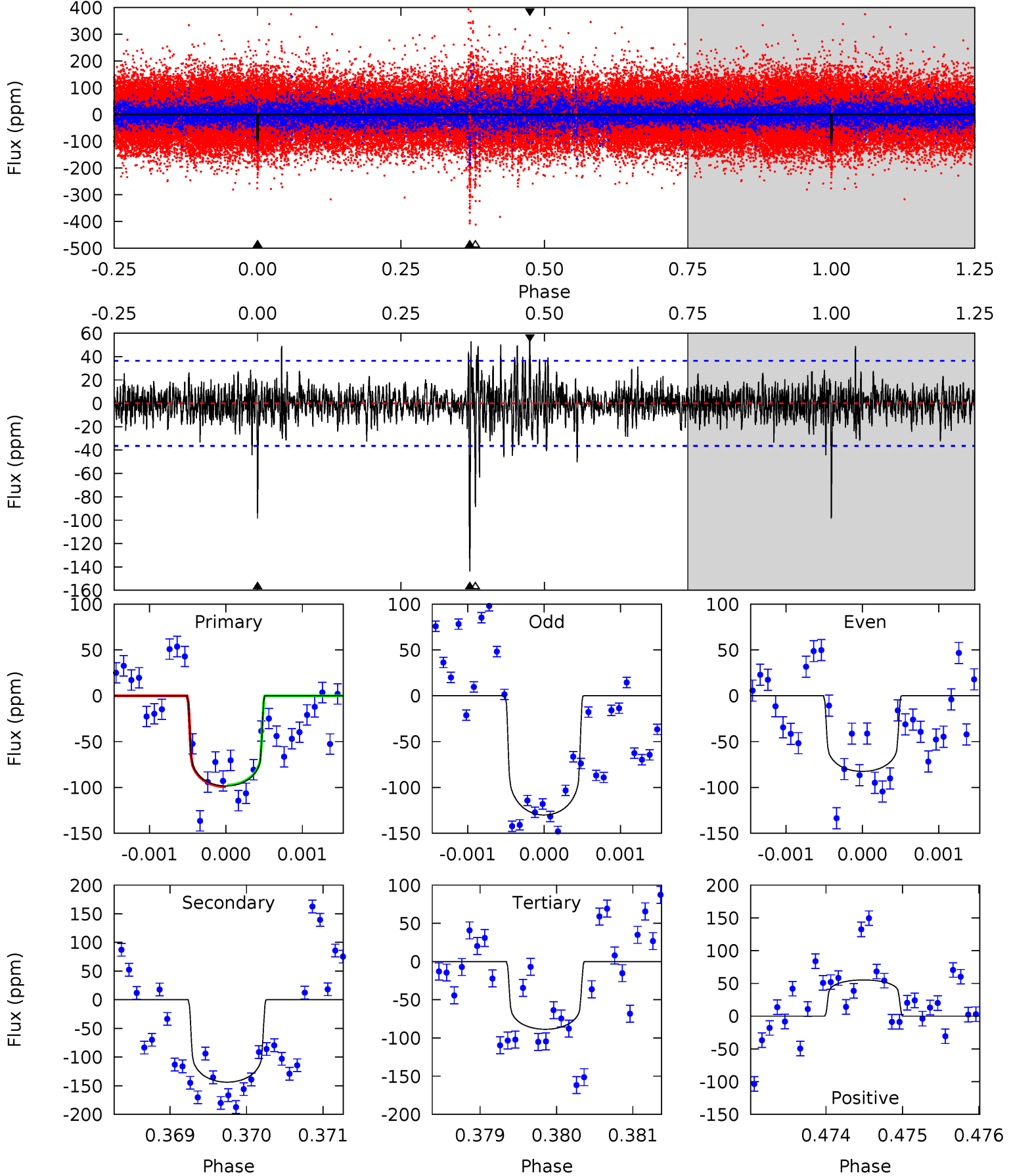
TCE 009428798-01 P=599.616007 Days $T_0=362.851543$ (BKJD)



DV Model-Shift Uniqueness Test

009428798-01, P = 599.620190 Days, E = 362.848170 Days

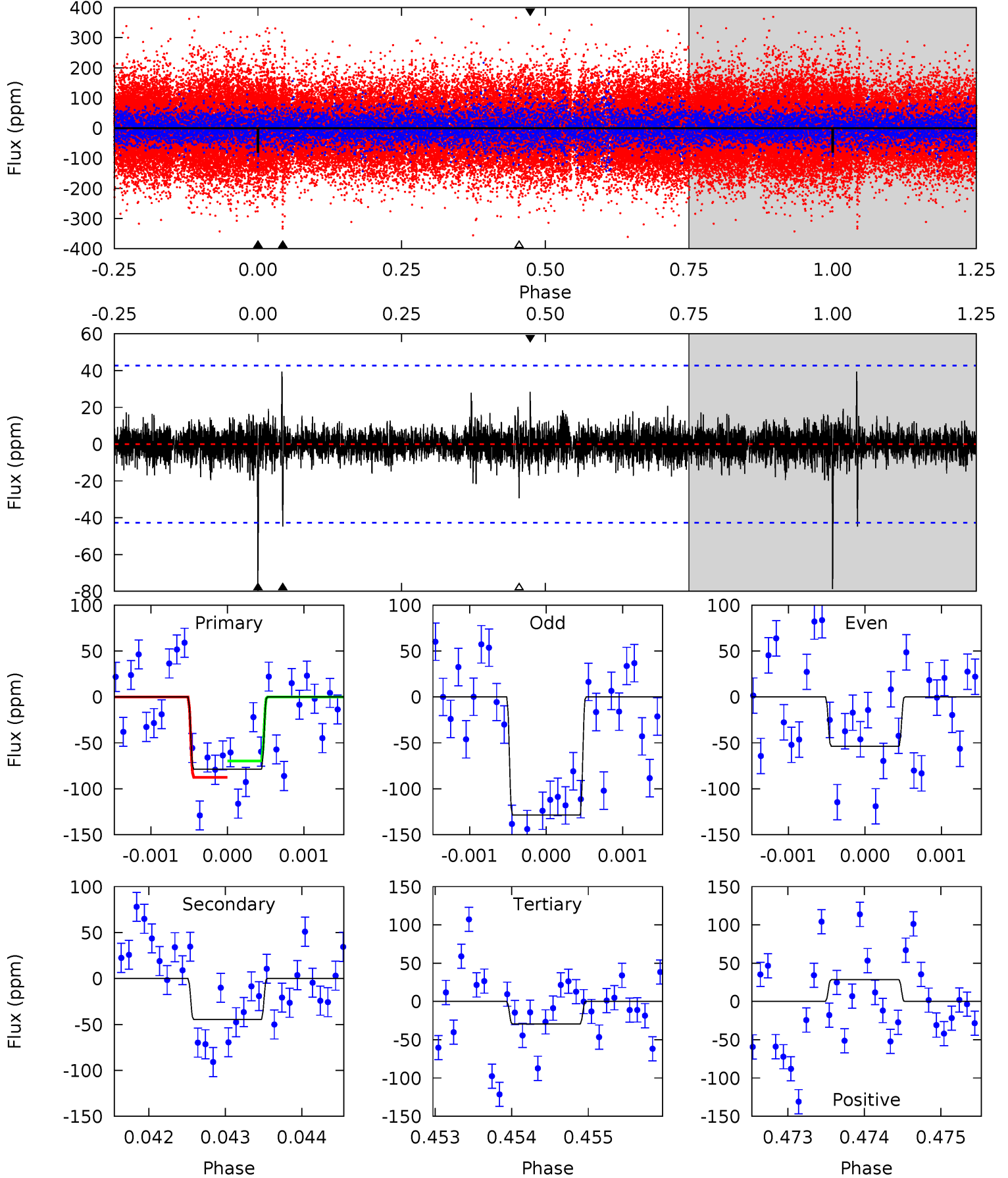
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.6	21.4	13.2	8.22	5.42	3.24	1.72	1.45	6.41	8.20	13.2	3.31	0.97	0.28	0.13



Alt Model-Shift Uniqueness Test

009428798-01, P = 599.616007 Days, E = 362.851543 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.00	5.67	3.73	3.61	5.42	3.25	0.70	6.26	6.39	1.94	2.07	4.62	0.98	0.33	1.13



Stellar Parameters For KIC 009428798

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8150^{+224}_{-365}	$4.004^{+0.182}_{-0.132}$	$0.070^{+0.250}_{-0.450}$	$2.315^{+0.480}_{-0.693}$	$1.971^{+0.284}_{-0.426}$	$0.224^{+0.246}_{-0.087}$
	+3%/-4%	+5%/-3%	+357%/-643%	+21%/-30%	+14%/-22%	+110%/-39%
Source	KIC0	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 009428798-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-144 ± 7	$2.68^{+0.53}_{-0.51}$	574^{+37}_{-40}	8721^{+920}_{-779}	33518^{+15753}_{-9674}
Alt.	-45 ± 8	$2.42^{+0.53}_{-0.45}$	574^{+38}_{-40}	6538^{+687}_{-565}	12562^{+6777}_{-4210}

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

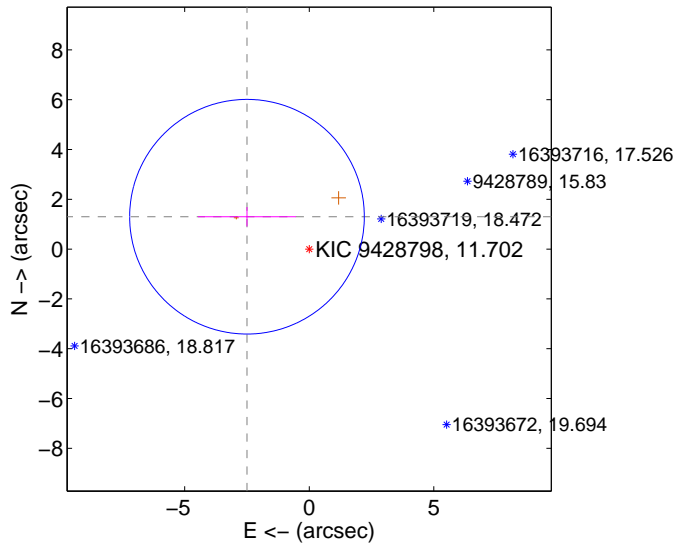
Supplemental centroid analysis for 009428798-01. **Kepler magnitude: 11.70.** Transit SNR 8.75

There are 0 quarters with good PRF difference image offsets

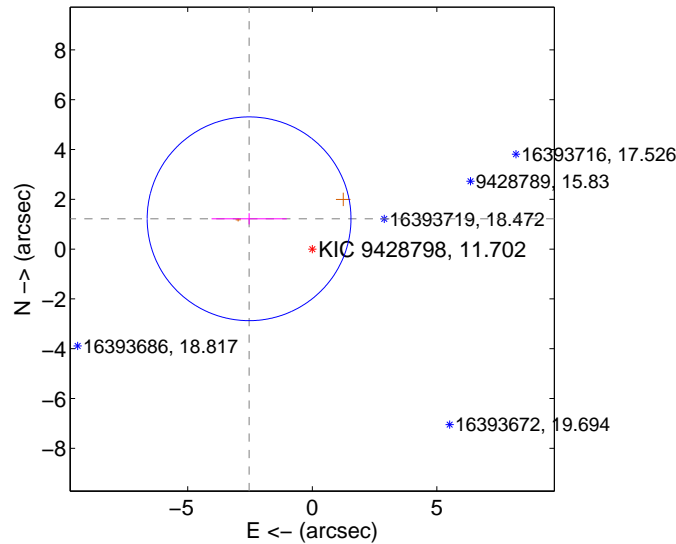
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.817 ± 1.570	1.79	2.499 ± 1.968	1.300 ± 0.388
PRF-fit source offset from KIC position	2.814 ± 1.363	2.06	2.537 ± 1.508	1.217 ± 0.226
photometric centroid source offset	2.60 ± 1.83	1.42	-2.59 ± 1.84	0.24 ± 1.33

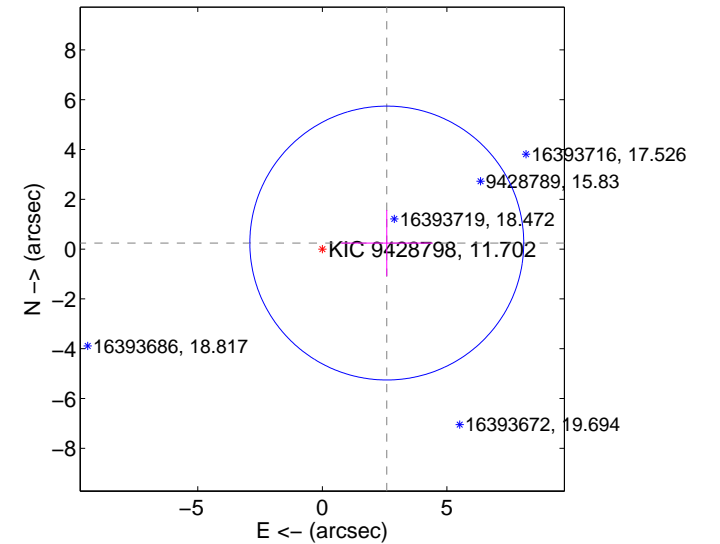
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

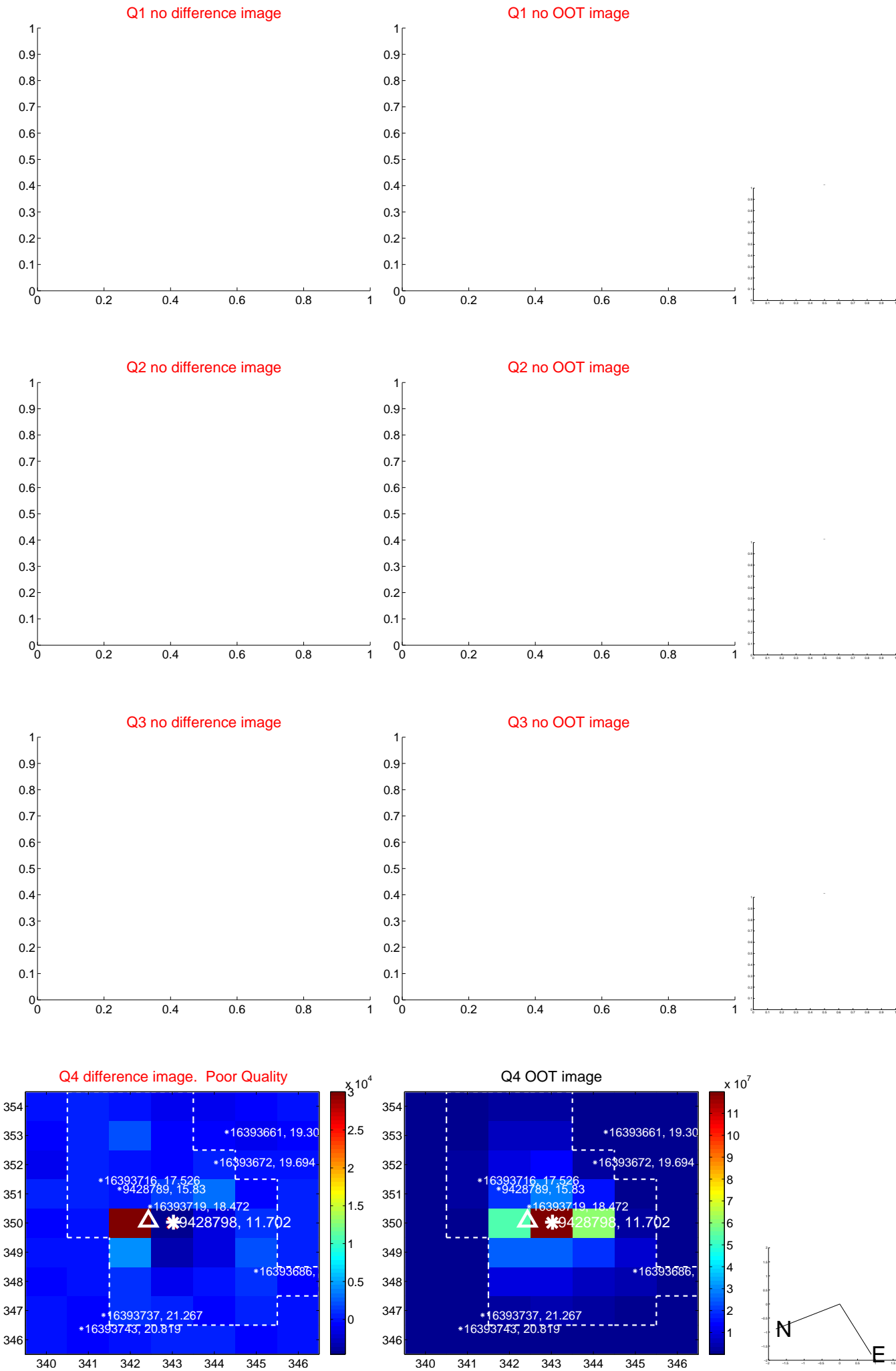


offset from photometric centroids



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.

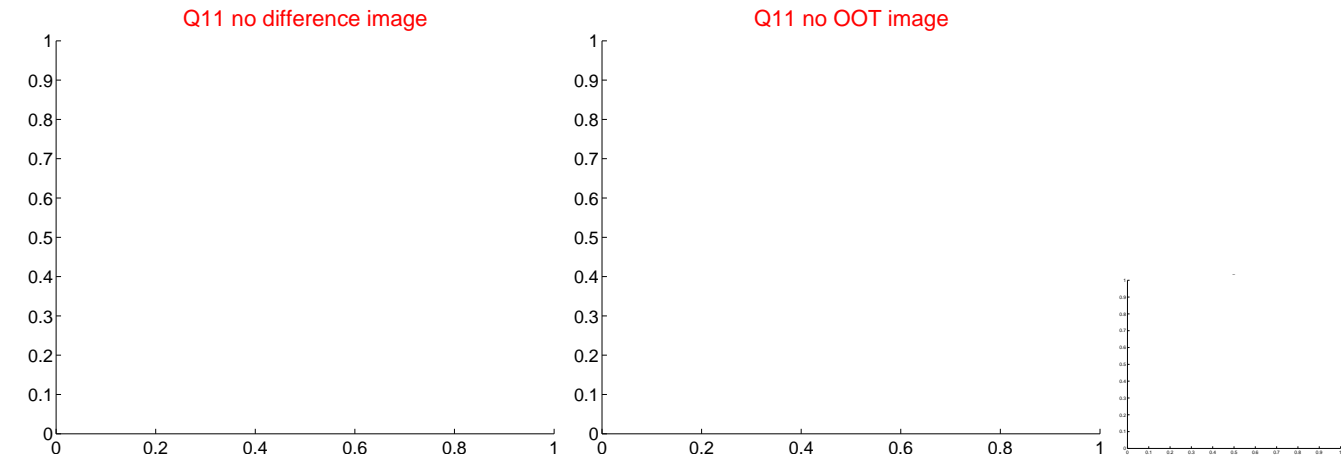
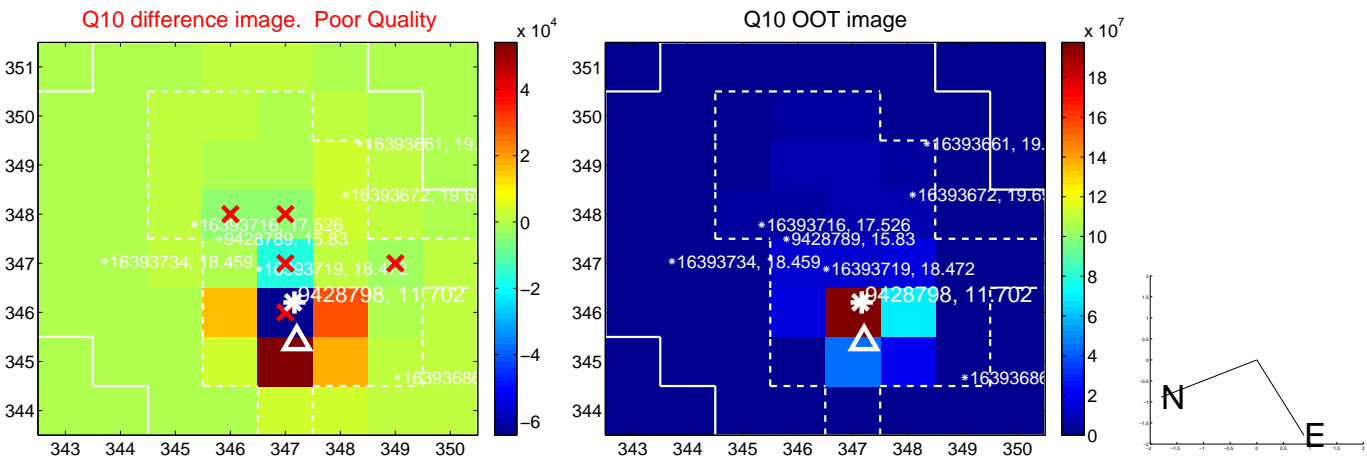
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



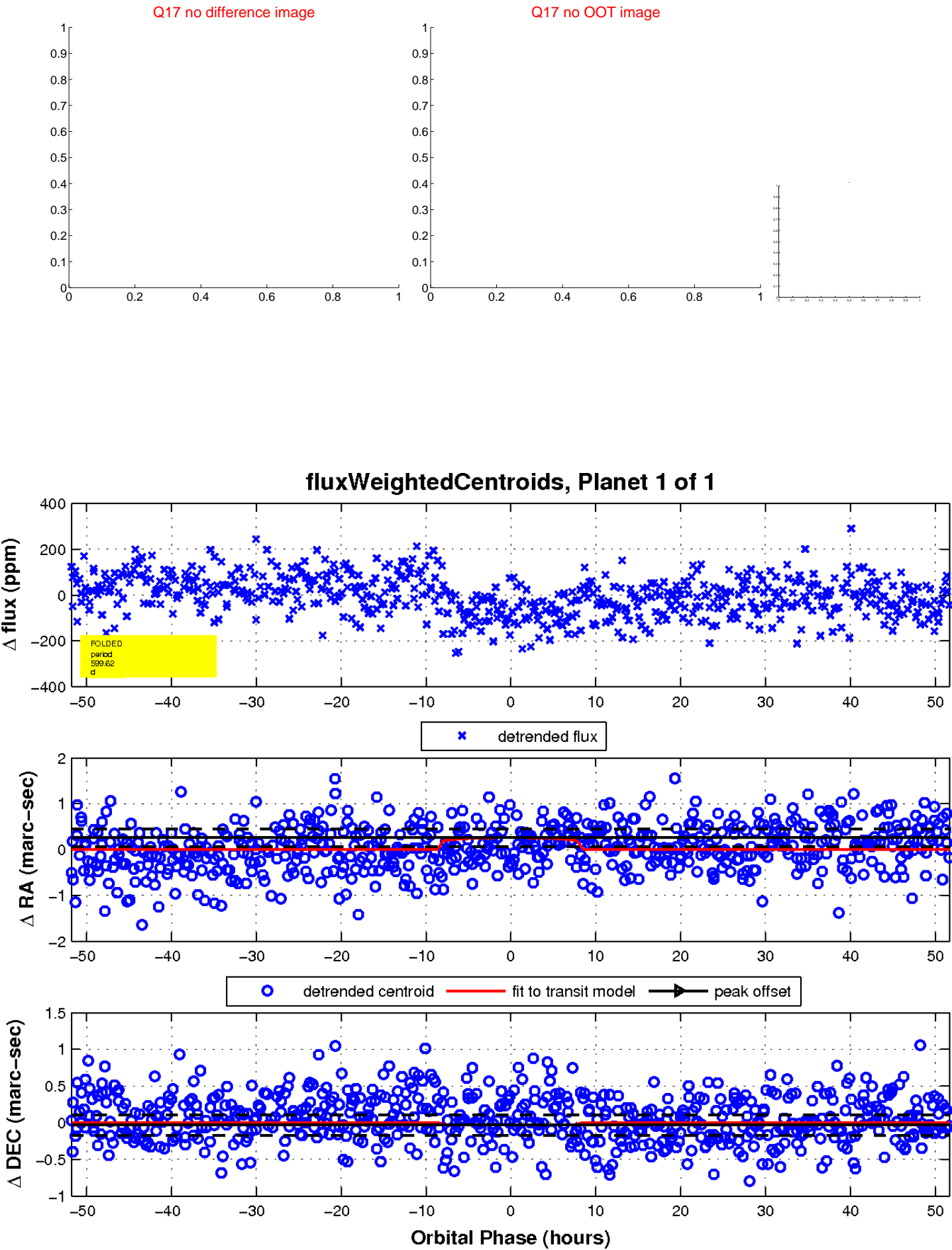
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

