

KIC 012349560

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})
012349560-01	OBS	5965.01	43.396953	153.930868	565.2	4.543	8.6	8.6	0.72	4871	1.83	5.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012349560-01	OBS	PC	0.37	0	0	0	0	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 012349560-01

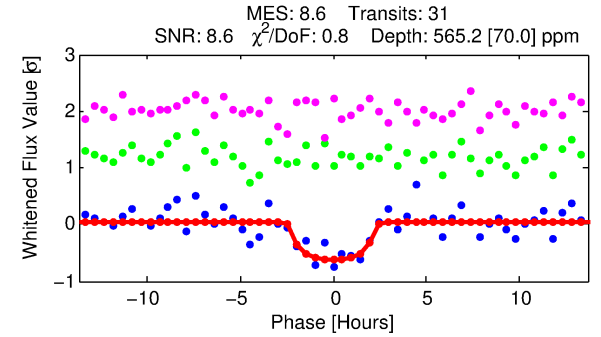
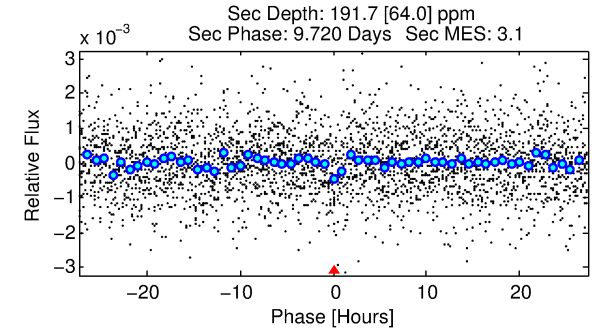
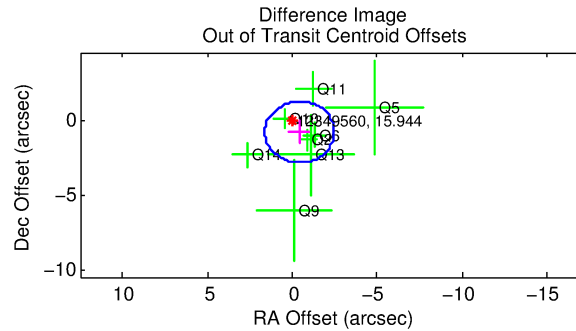
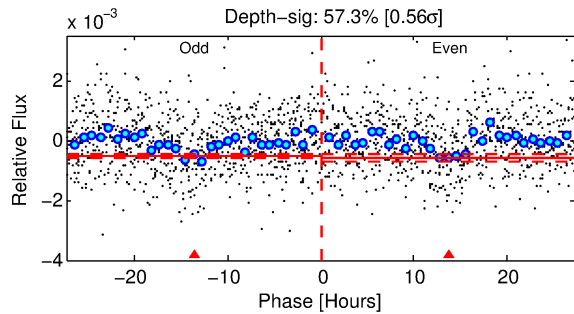
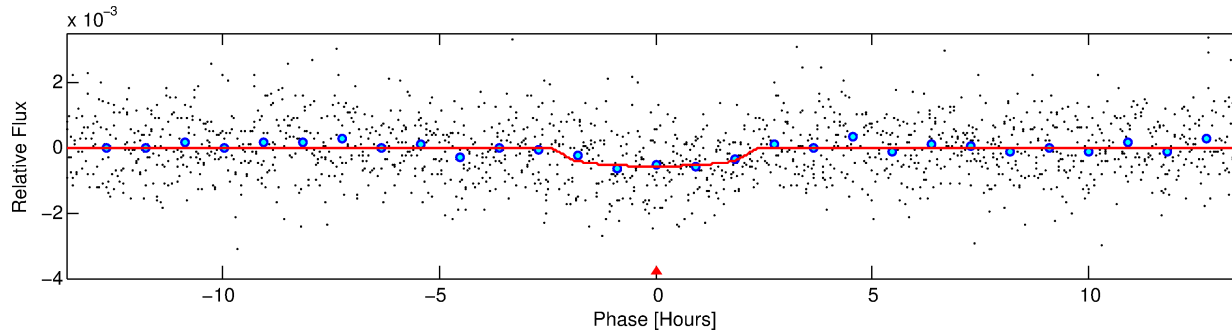
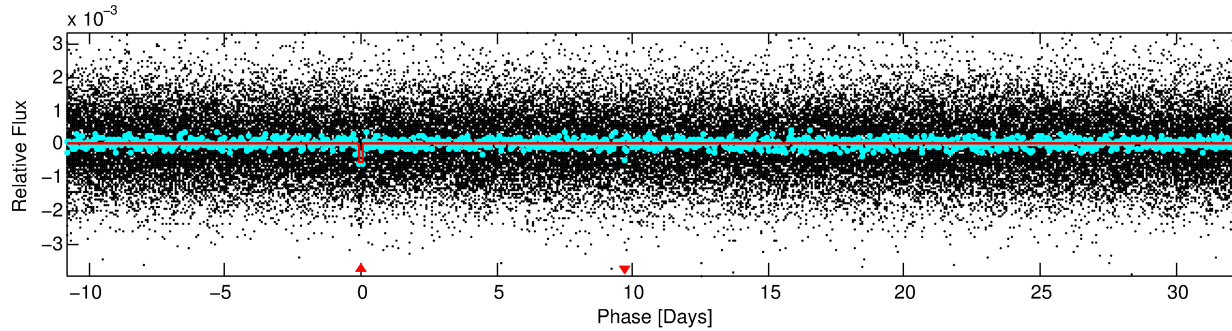
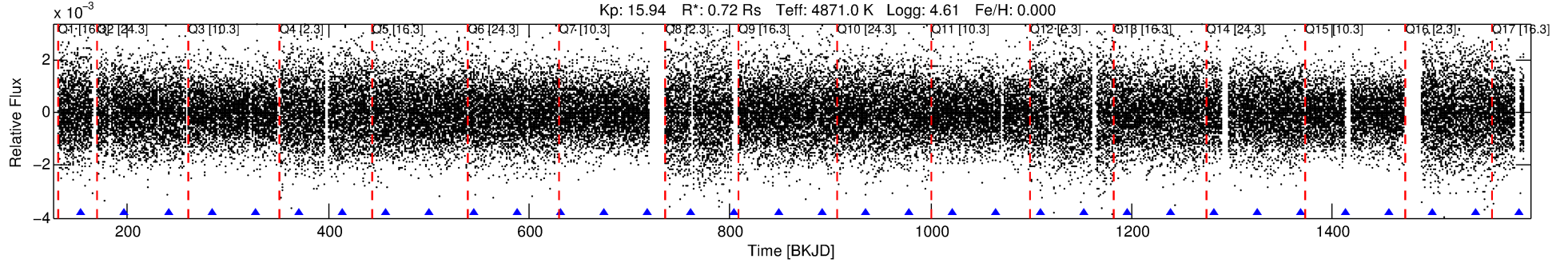
No Significant Match Found

DV One-Page Summary

KIC: 12349560 Candidate: 1 of 1 Period: 43.397 d

KOI: K05965.01 Corr: 0.907

Kp: 15.94 R*: 0.72 Rs Teff: 4871.0 K Logg: 4.61 Fe/H: 0.000



DV Fit Results:

Period = 43.39695 [0.00060] d
Epoch = 153.9309 [0.0113] BKJD
Rp/R* = 0.0231 [0.0312]
a/R* = 55.25 [249.10]
b = 0.69 [3.54]
Seff = 5.37 [0.91]
Teq = 388 [16] K
Rp = 1.83 [2.47] Re
a = 0.2223 [0.0174] AU
Ag = 1555.62 [4226.91] [0.37σ]
Teffp = 3768 [2561] K [1.32σ]

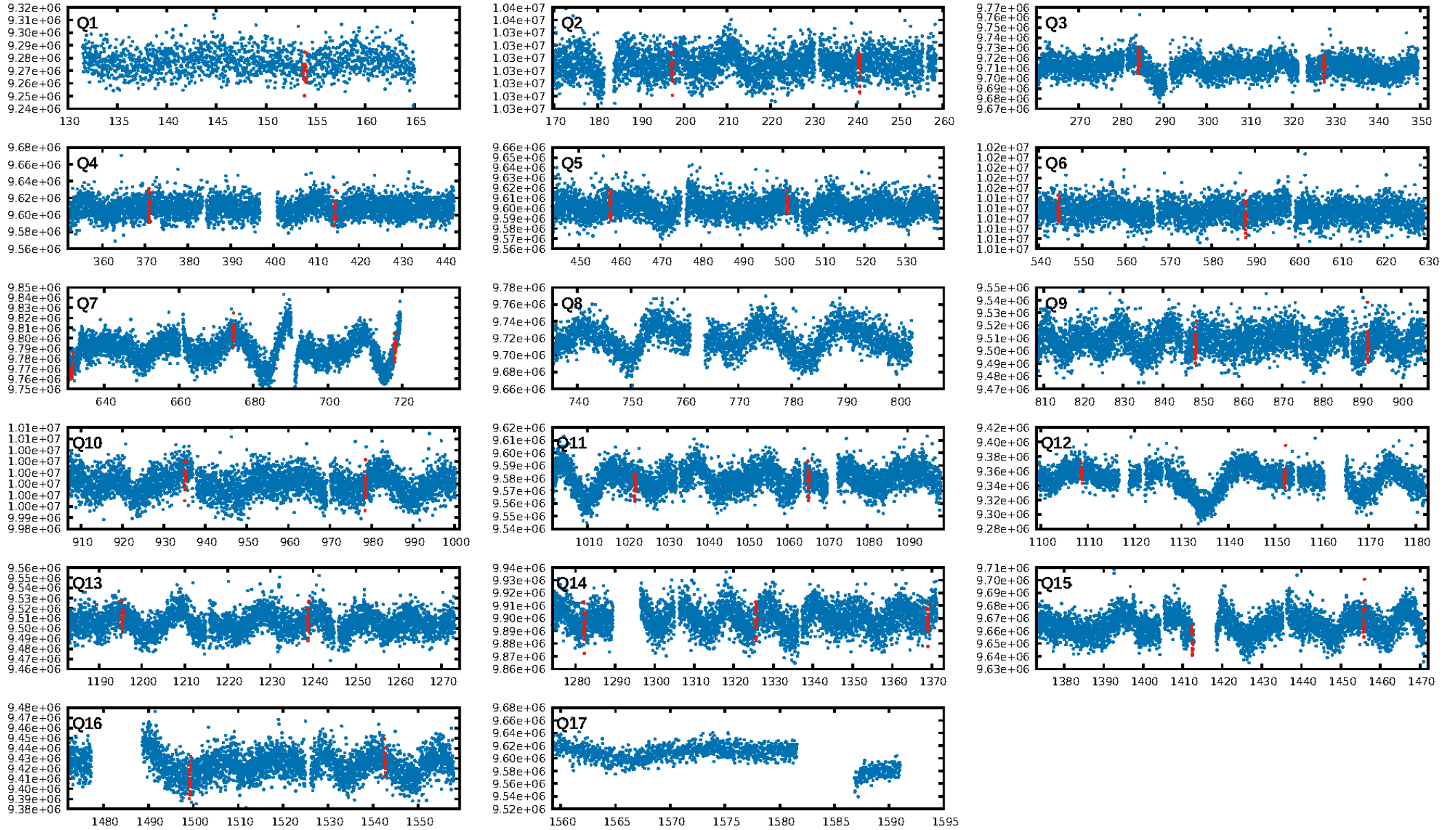
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 92.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.15e-17
RollingBand-fgt: 1.00 [30/30]
GhostDiagnostic-chr: 0.9478
Centroid-sig: 41.4%
Centroid-so: 2.144 arcsec [1.51σ]
OotOffset-rm: 0.936 arcsec [1.37σ]
KicOffset-rm: 0.685 arcsec [0.84σ]
OotOffset-st: 4/1/0/3 [8]
KicOffset-st: 4/1/0/3 [8]
DiffImageQuality-fgm: 0.38 [3/8]
DiffImageOverlap-fno: 1.00 [15/15]

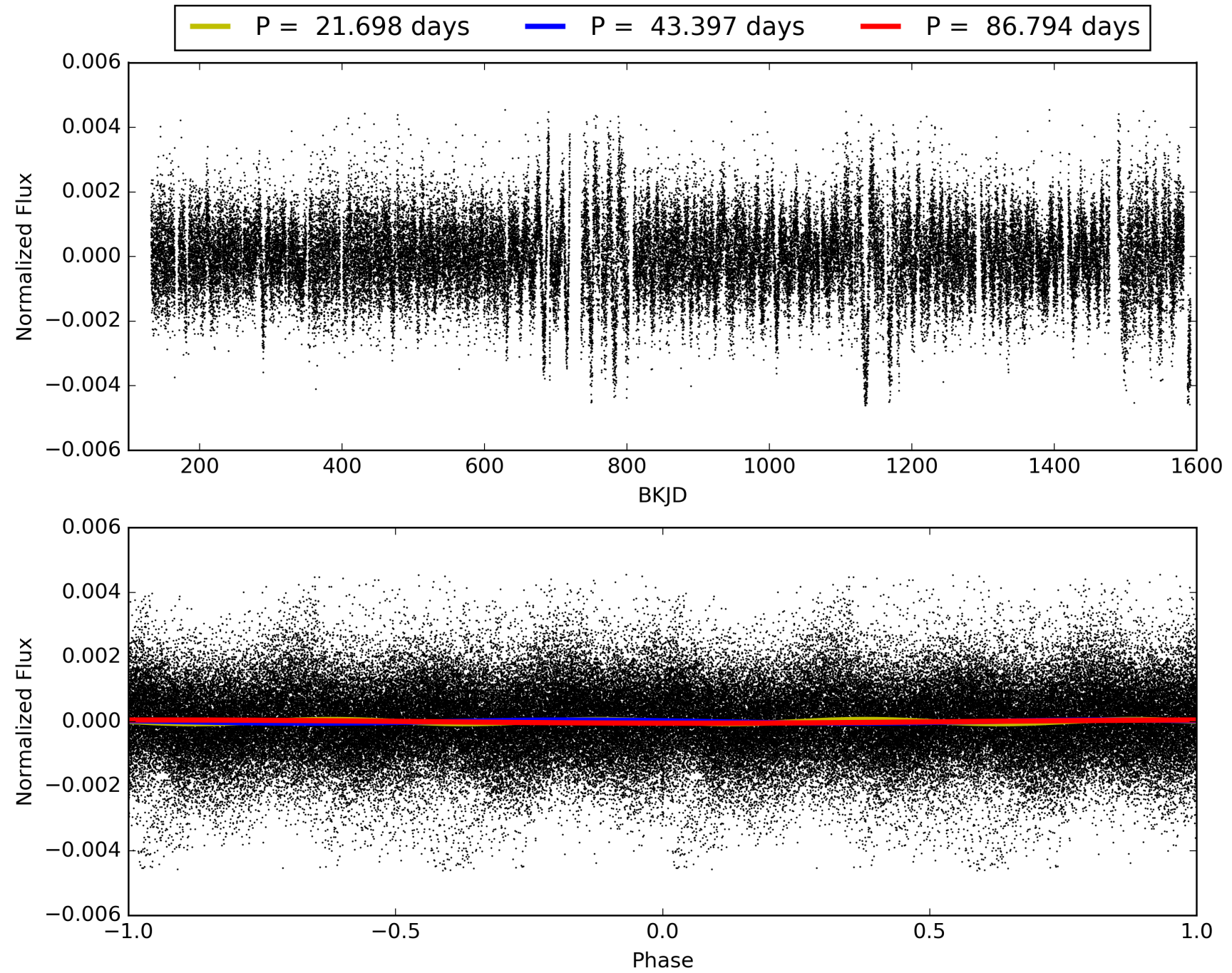
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 19:24:24 Z

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

TCE 012349560-01, PDC Light Curves

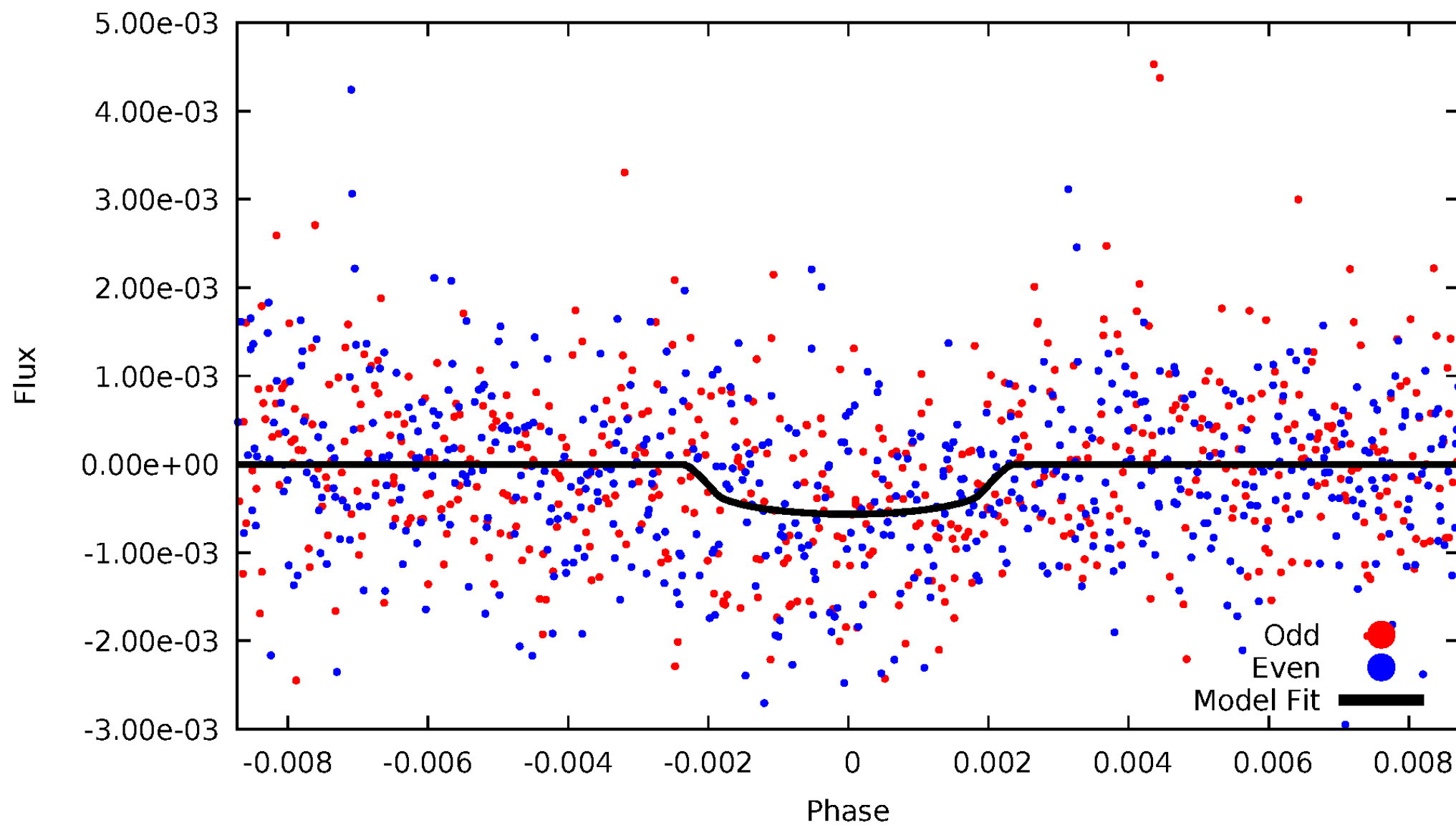


TCE 012349560-01



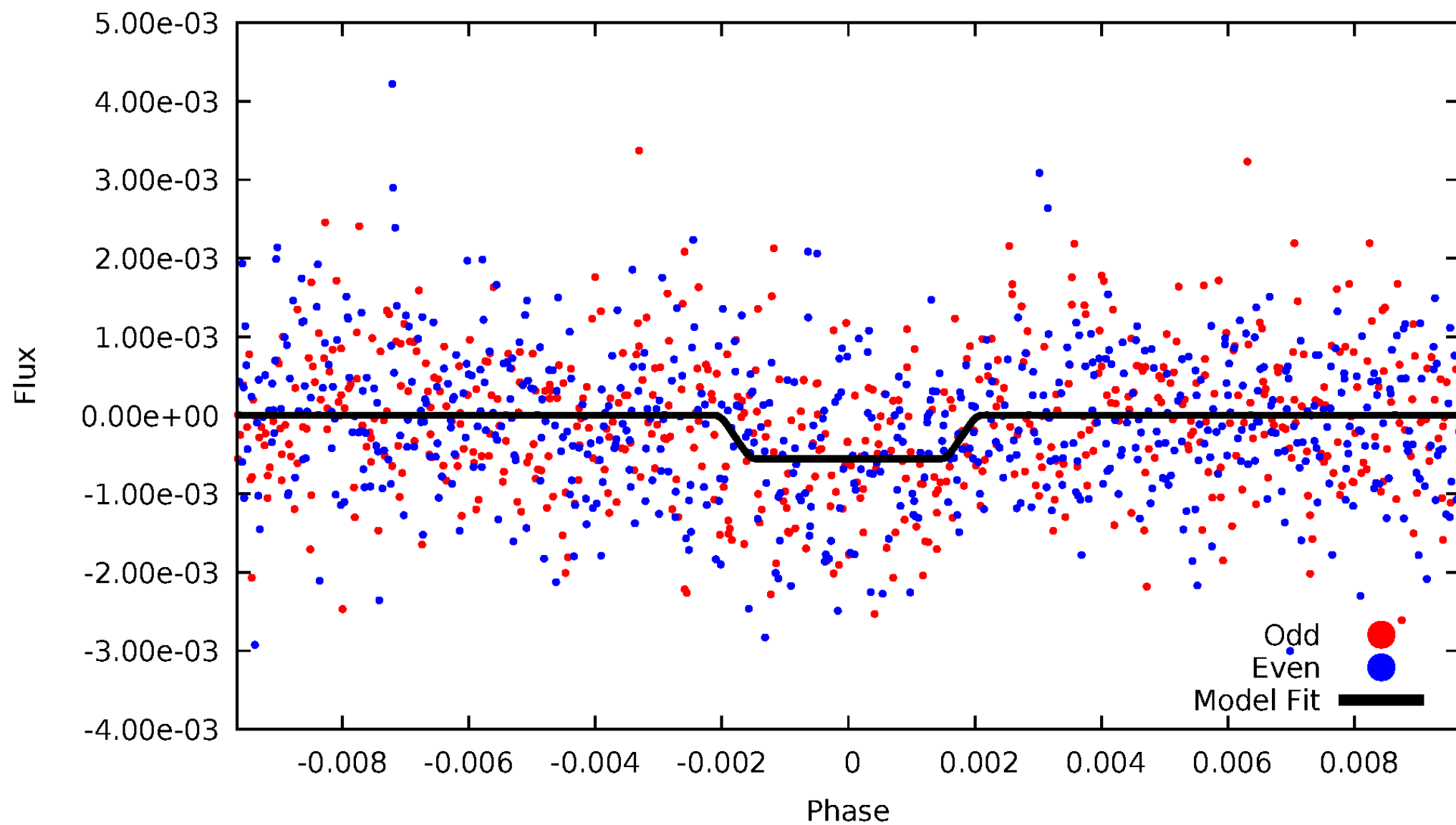
DV Odd/Even

TCE 012349560-01



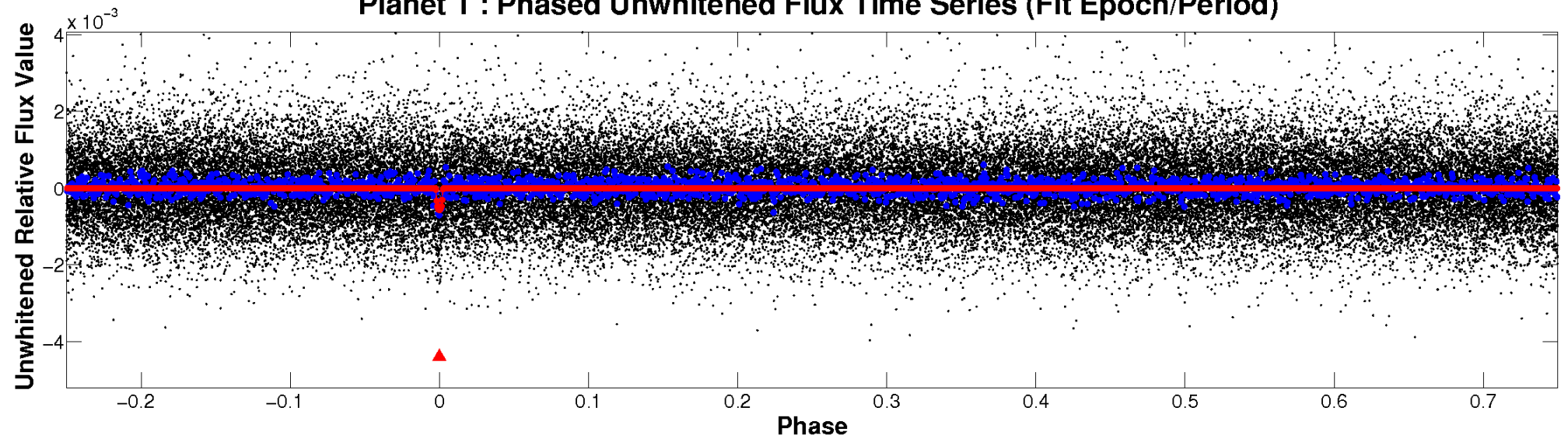
ALT Odd/Even

TCE 012349560-01

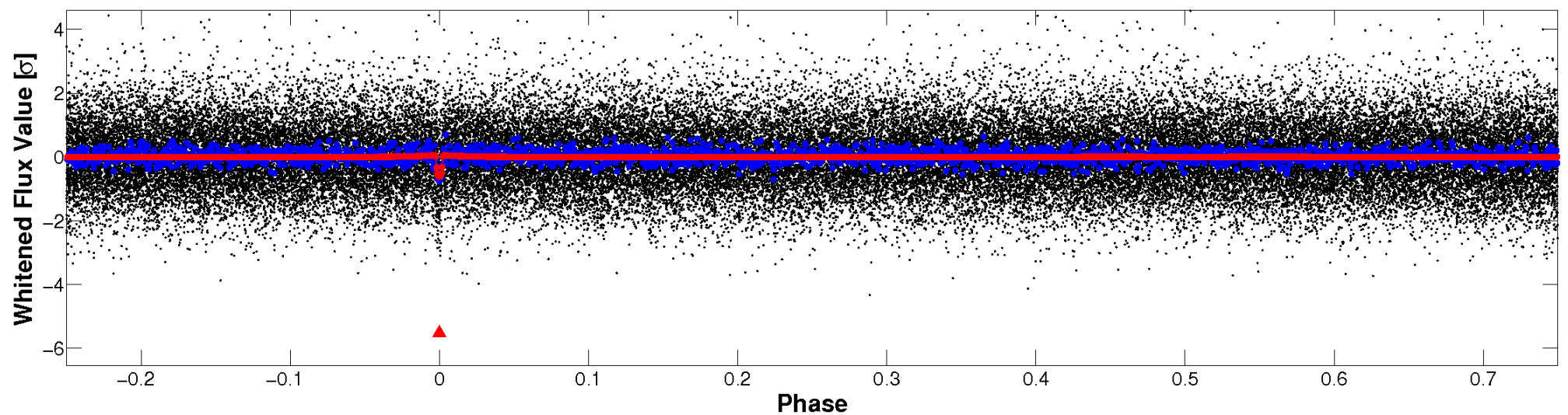


Non-Whitened Vs. Whitened Light Curve

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

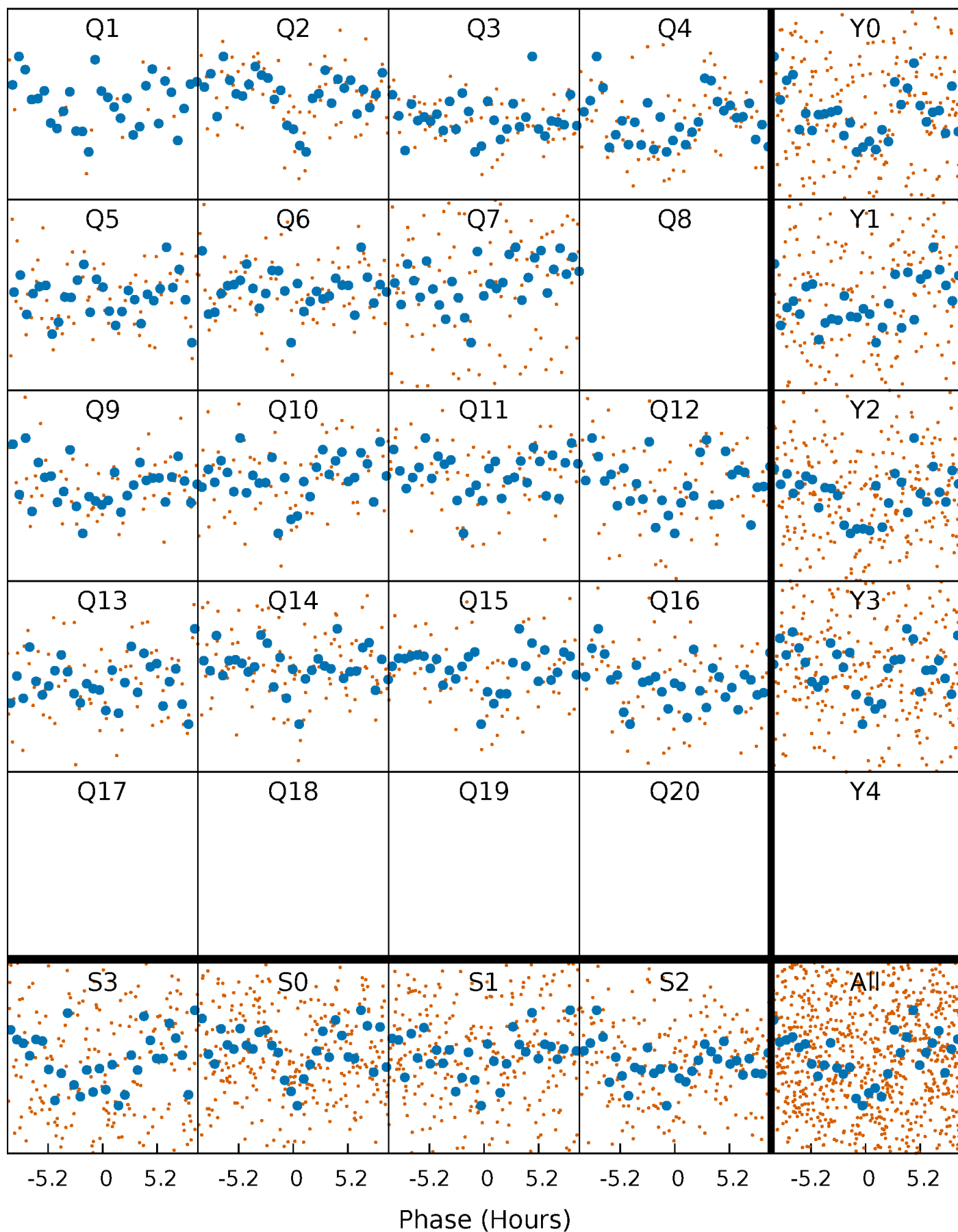


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



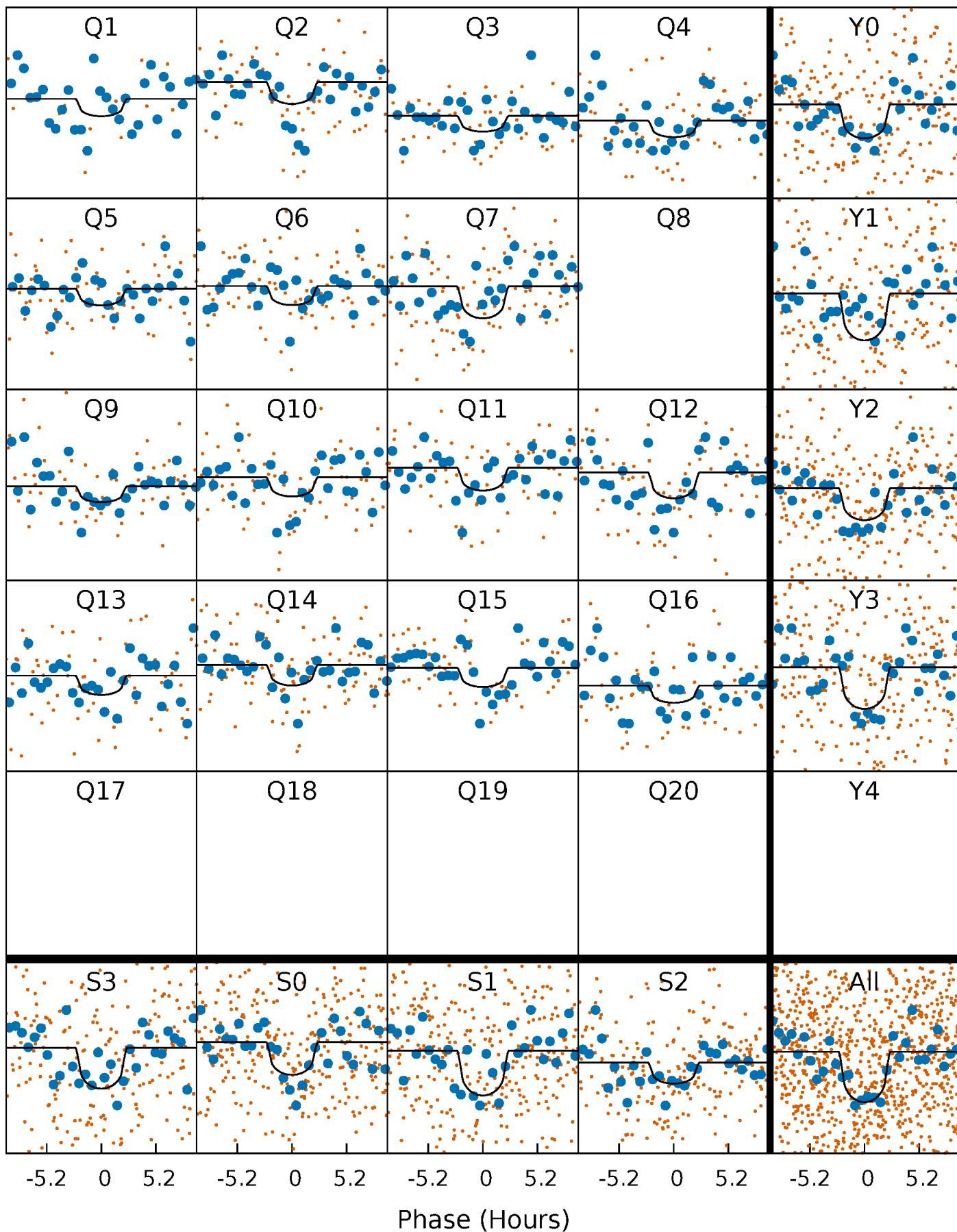
PDC Quarter-Phased Transit Curves

TCE 012349560-01 P= 43.396953 Days $T_0=153.930868$ (BKJD)



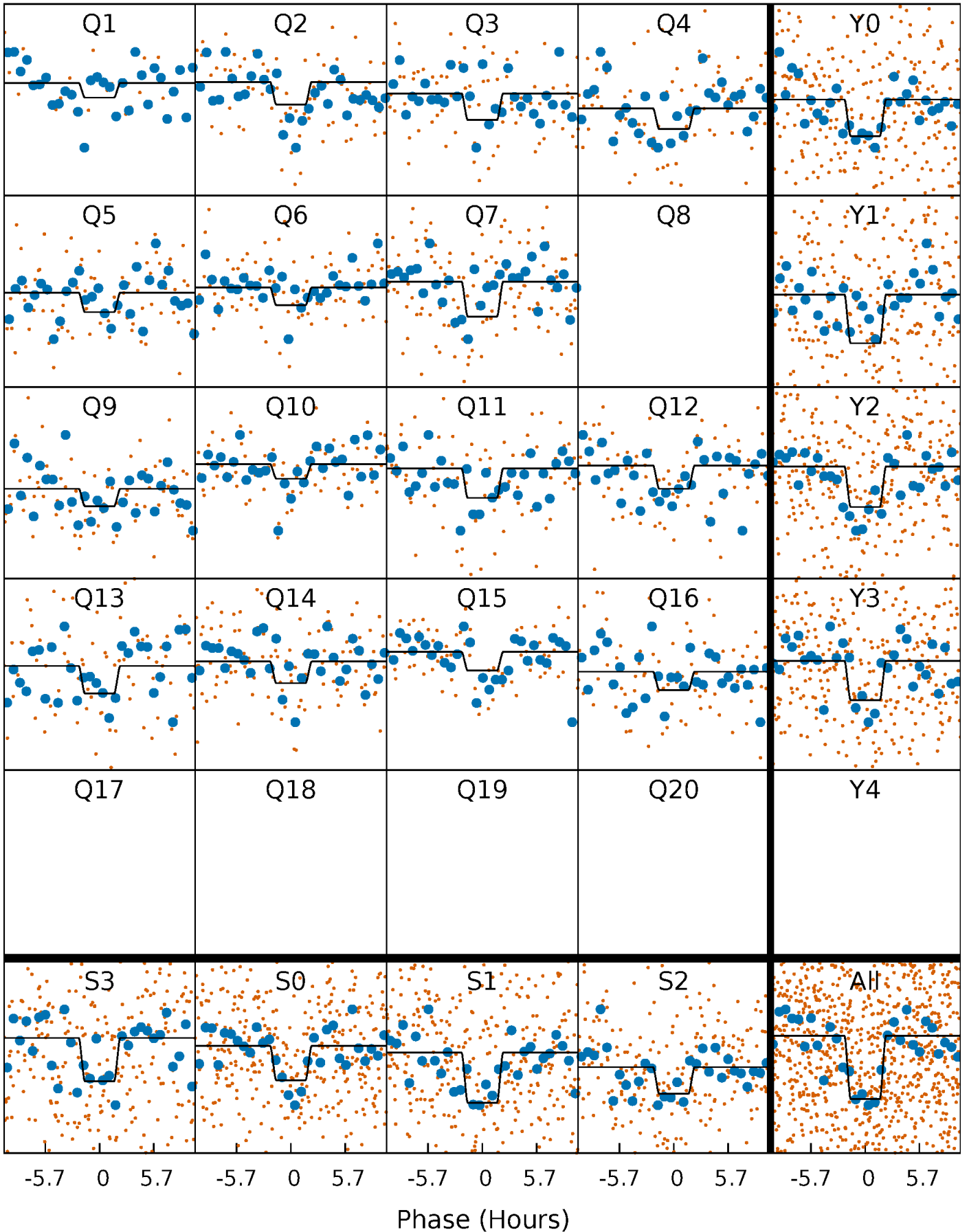
DV Quarter-Phased Transit Curves

TCE 012349560-01 P= 43.396953 Days $T_0=153.930868$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

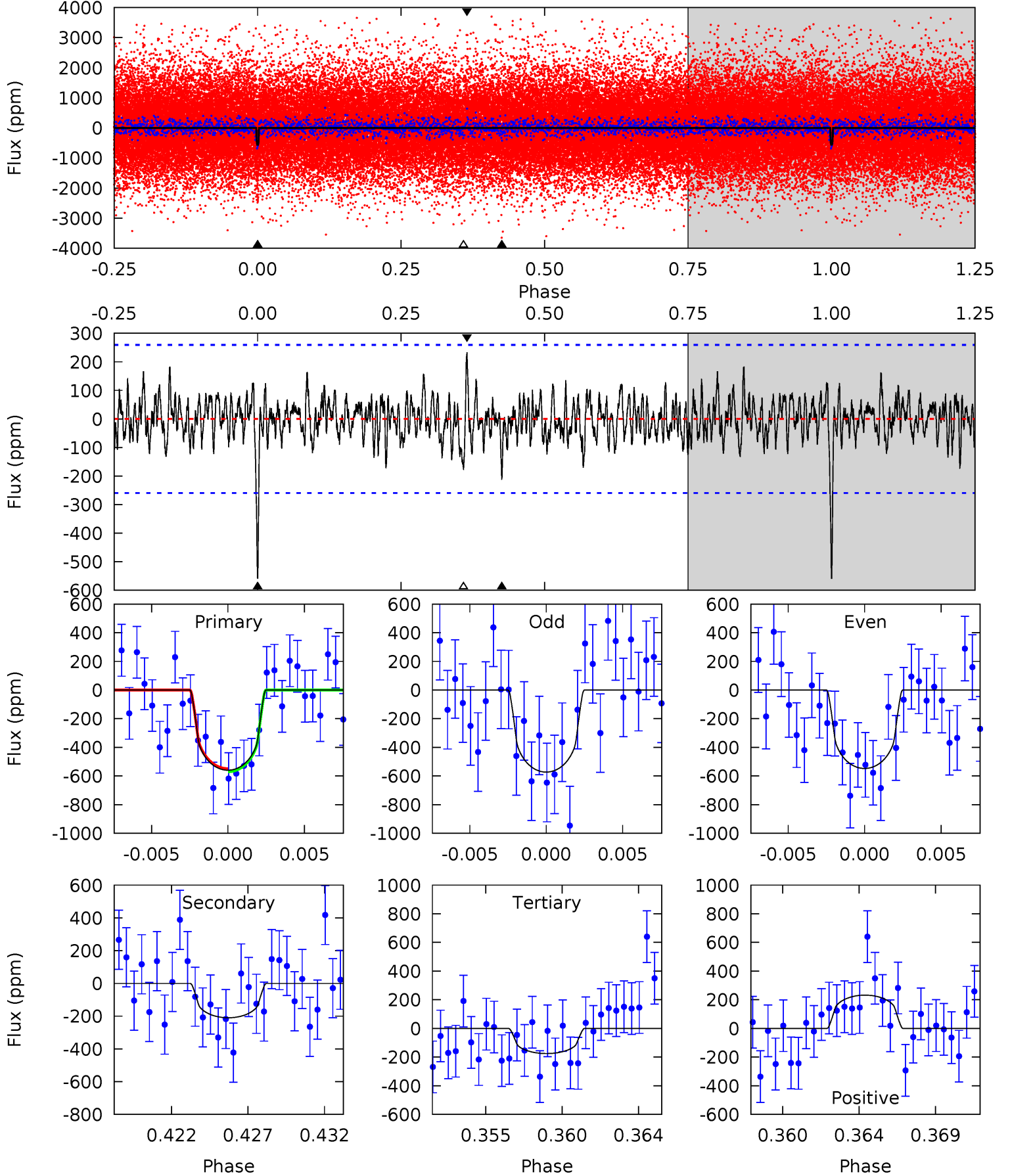
TCE 012349560-01 P= 43.396968 Days $T_0=153.935510$ (BKJD)



DV Model-Shift Uniqueness Test

012349560-01, $P = 43.396953$ Days, $E = 110.533915$ Days

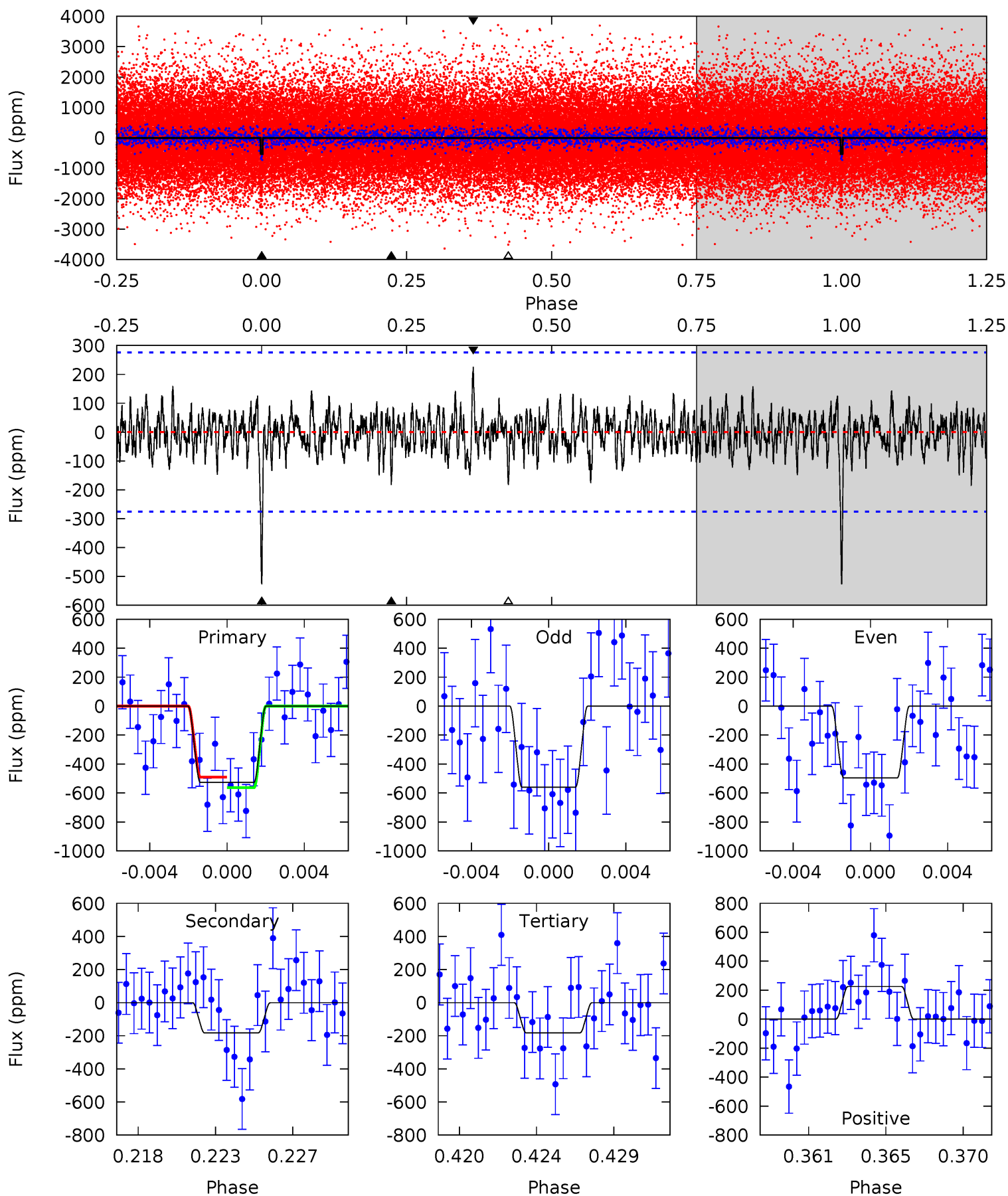
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	4.18	3.49	4.63	5.17	2.82	1.18	7.66	6.53	0.69	-0.44	0.25	0.94	0.29	0.21



Alt Model-Shift Uniqueness Test

012349560-01, P = 43.396968 Days, E = 110.538542 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.91	3.44	3.44	4.25	5.19	2.86	1.05	6.47	5.66	0.00	-0.81	0.60	1.00	0.30	0.69



Stellar Parameters For KIC 012349560

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4871^{+160}_{-160}	$4.608^{+0.032}_{-0.054}$	$0.000^{+0.300}_{-0.300}$	$0.725^{+0.072}_{-0.052}$	$0.778^{+0.059}_{-0.078}$	$2.878^{+0.460}_{-0.574}$
	+3%/-3%	+1%/-1%	+inf%/-inf%	+10%/-7%	+8%/-10%	+16%/-20%
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 012349560-01 / KOI 5965.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-210 ± 50	$2.52^{+2.15}_{-1.61}$	544^{+22}_{-19}	3638^{+1628}_{-622}	886^{+5700}_{-639}
Alt.	-183 ± 53	$2.58^{+2.12}_{-1.66}$	545^{+20}_{-20}	3538^{+1723}_{-610}	734^{+5231}_{-535}

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

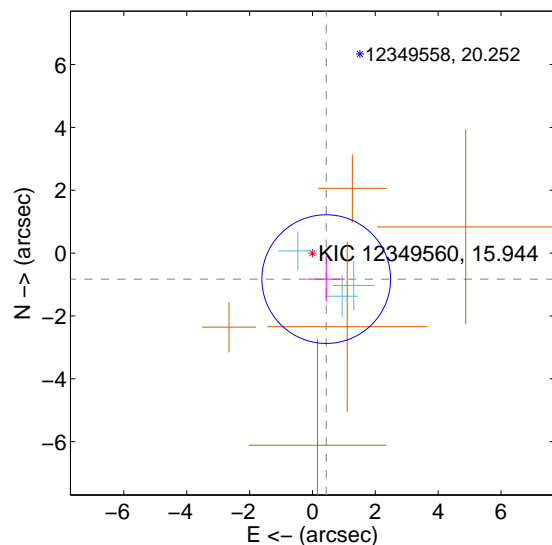
Supplemental centroid analysis for 012349560-01. Kepler magnitude: 15.94. Transit SNR 8.63

There are 3 quarters with good PRF difference image offsets

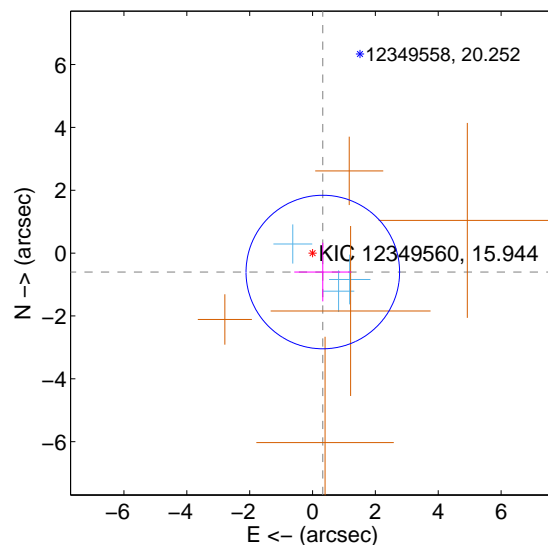
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.936 ± 0.682	1.37	-0.439 ± 0.592	-0.827 ± 0.705
PRF-fit source offset from KIC position	0.685 ± 0.814	0.84	-0.327 ± 0.909	-0.602 ± 0.932
photometric centroid source offset	2.14 ± 1.42	1.51	-1.91 ± 1.44	0.98 ± 1.36

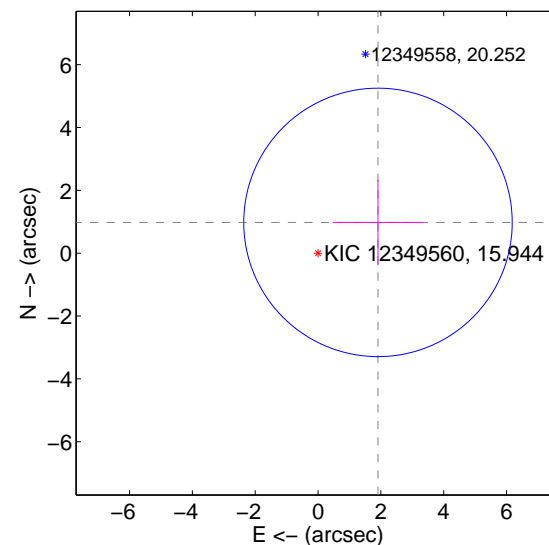
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

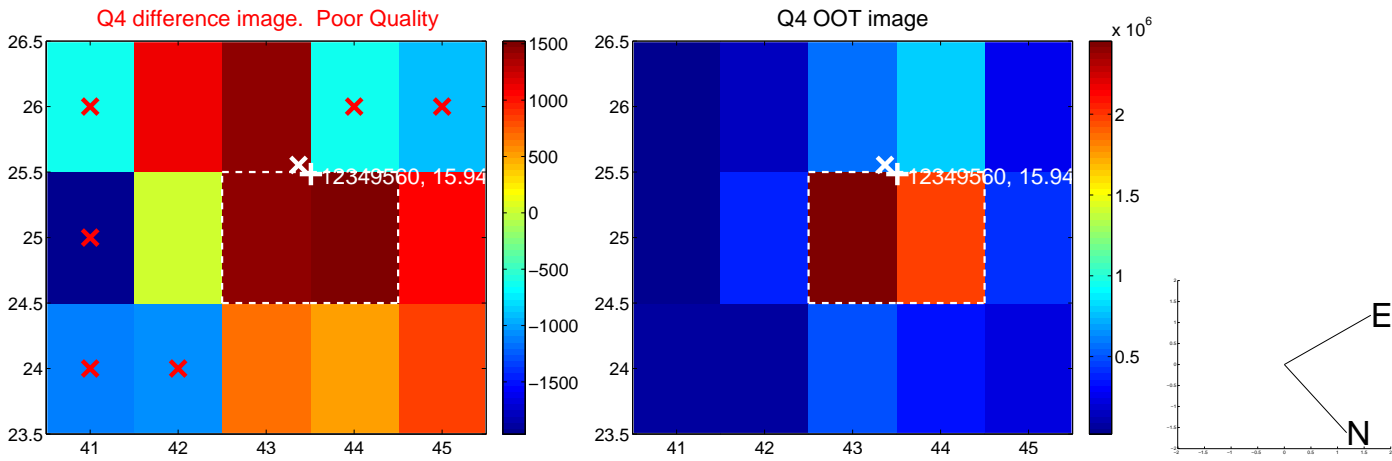
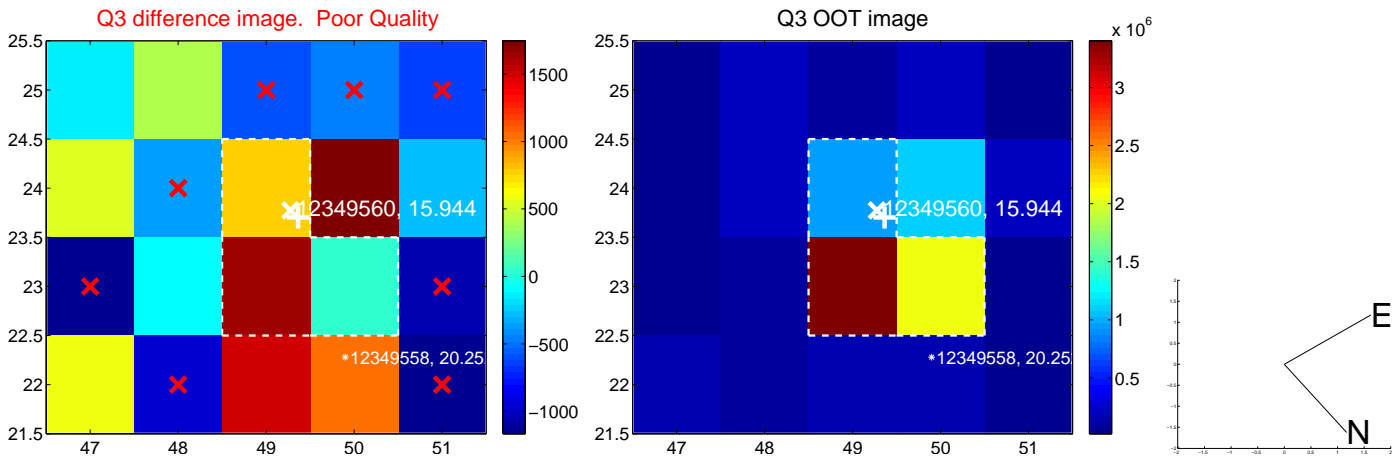
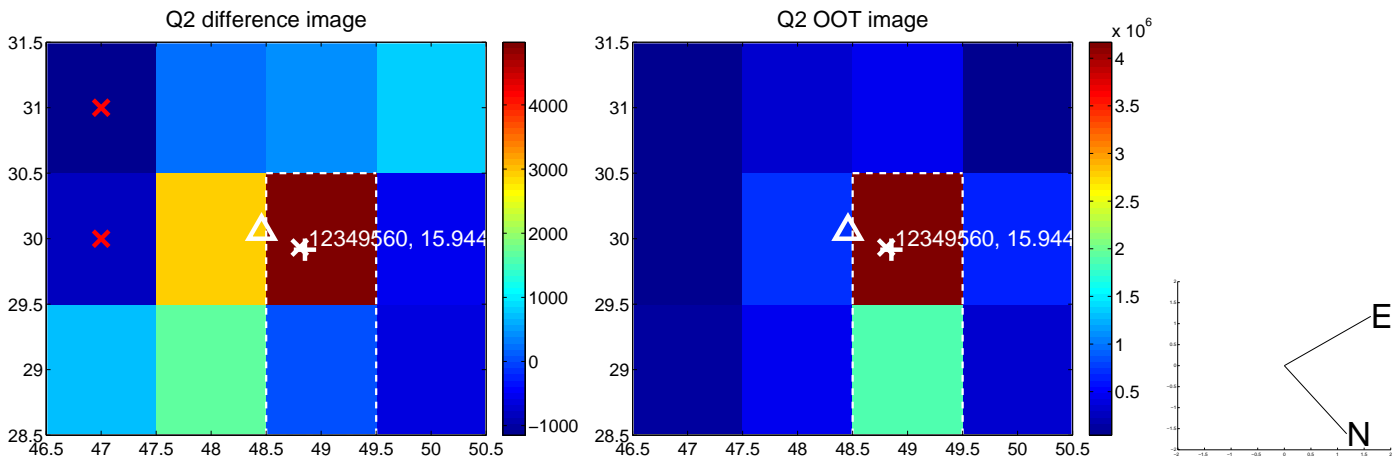
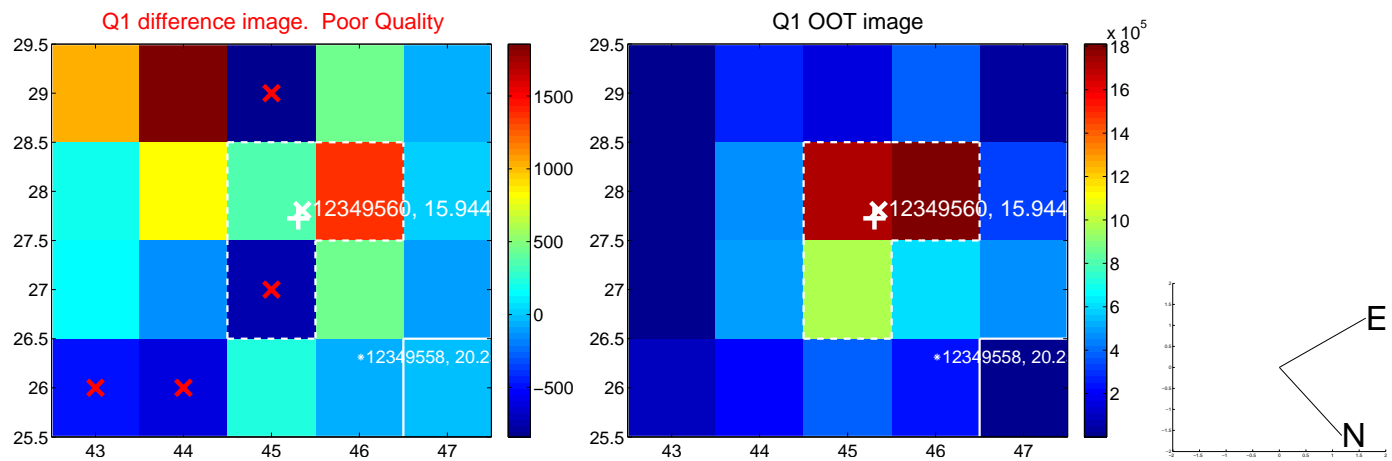


offset from photometric centroids

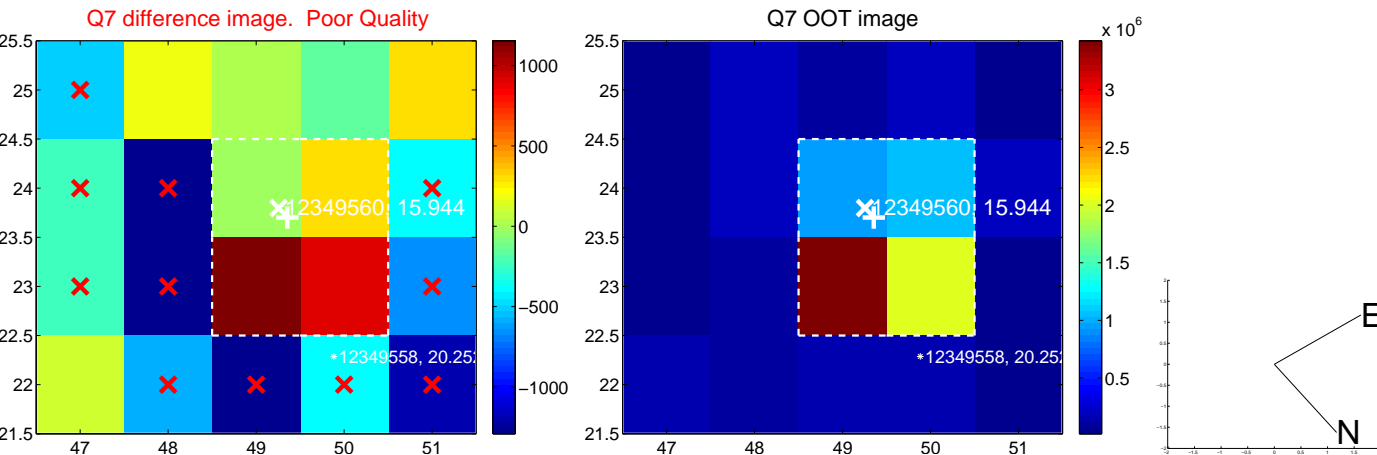
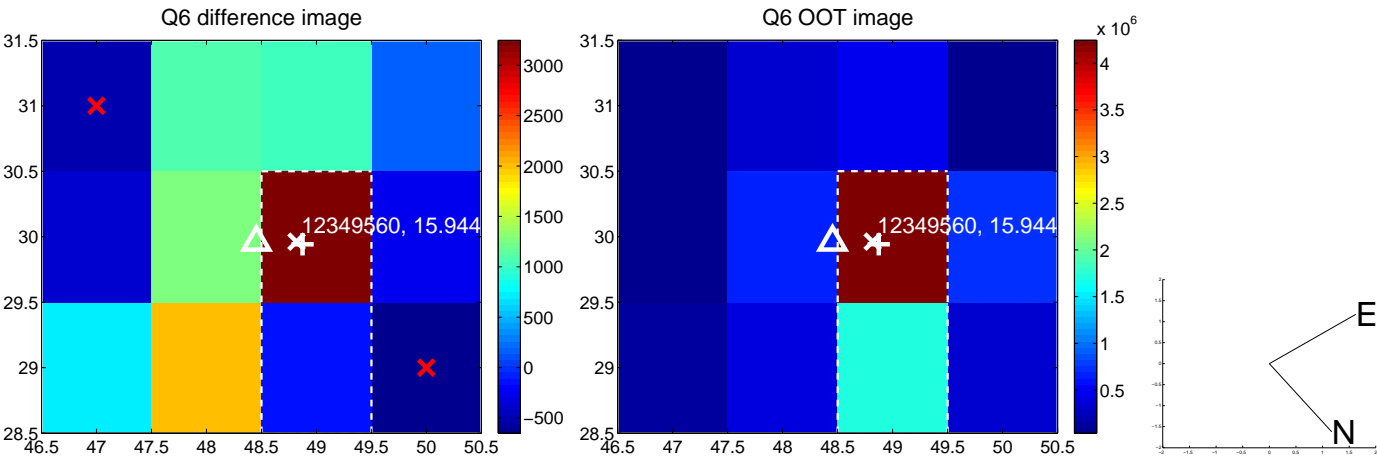
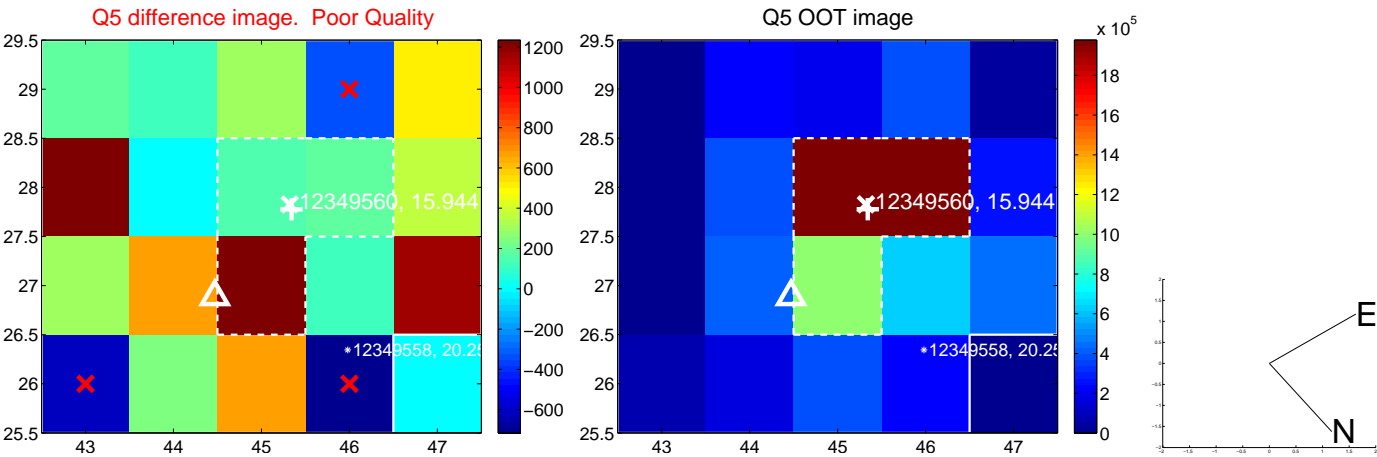


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

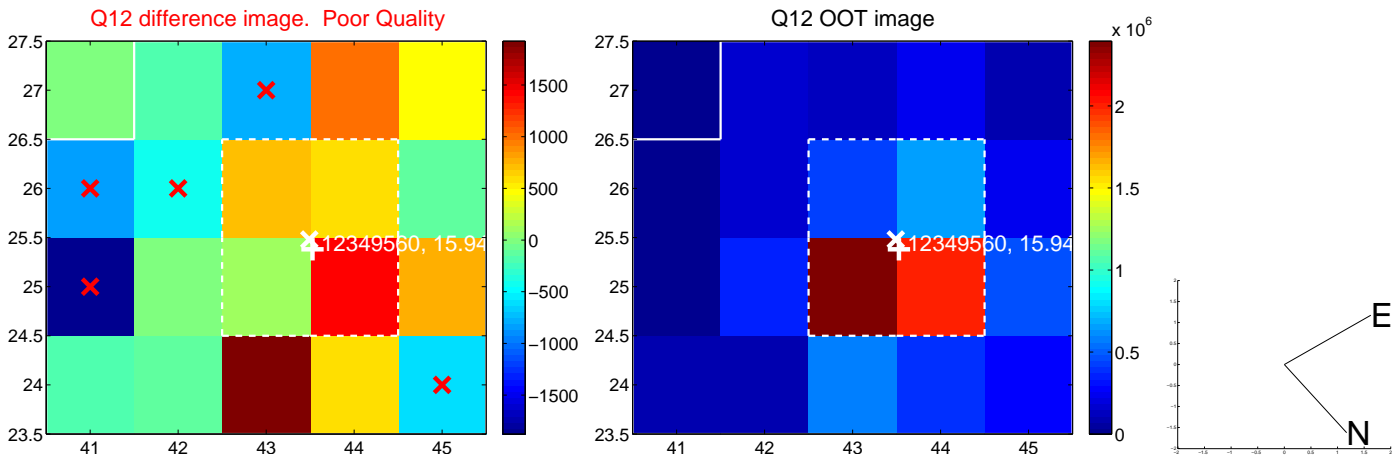
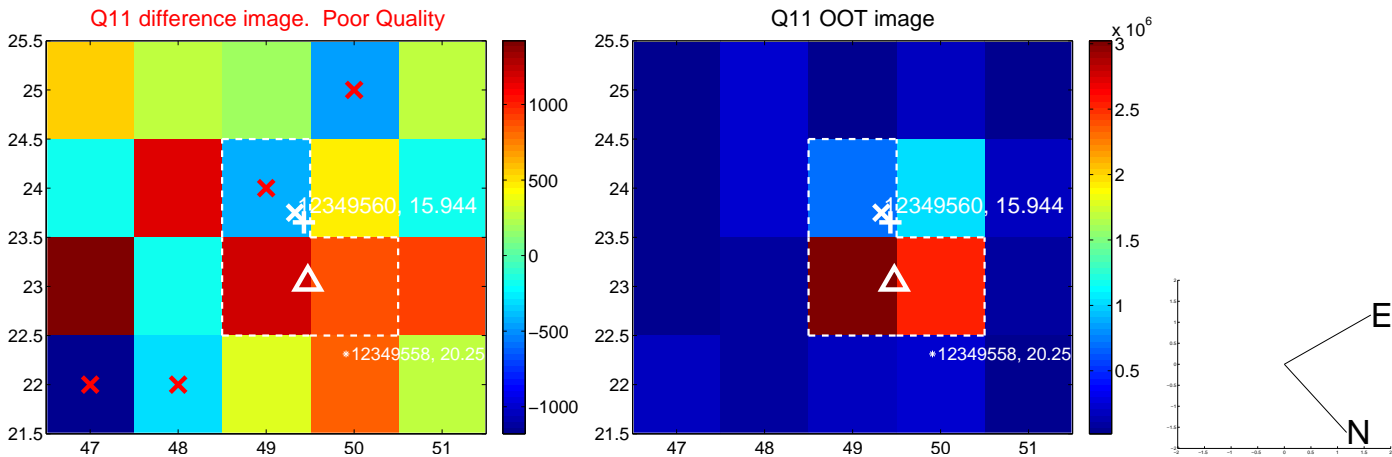
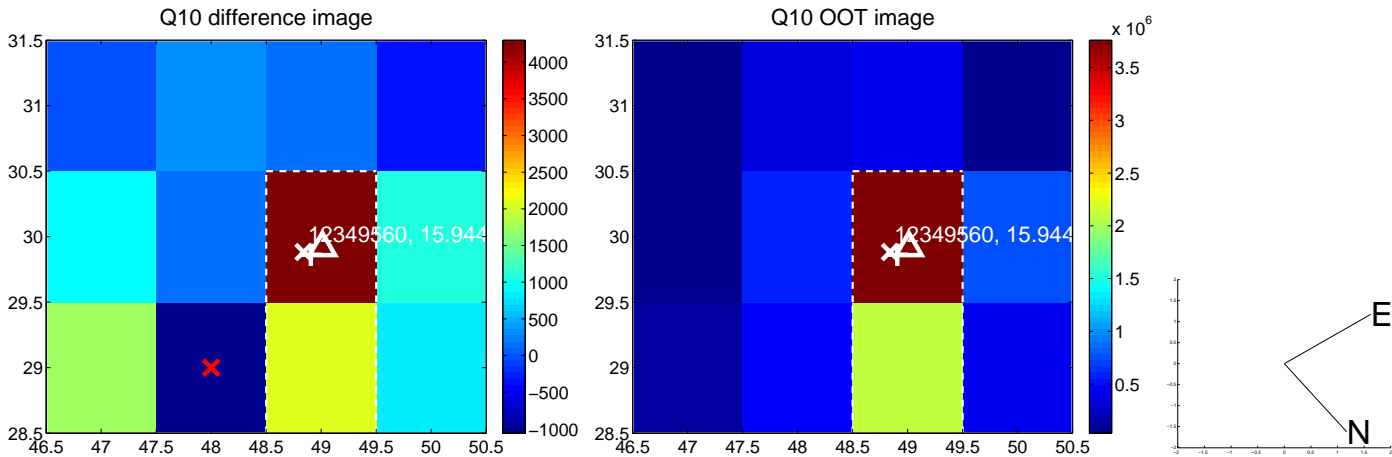
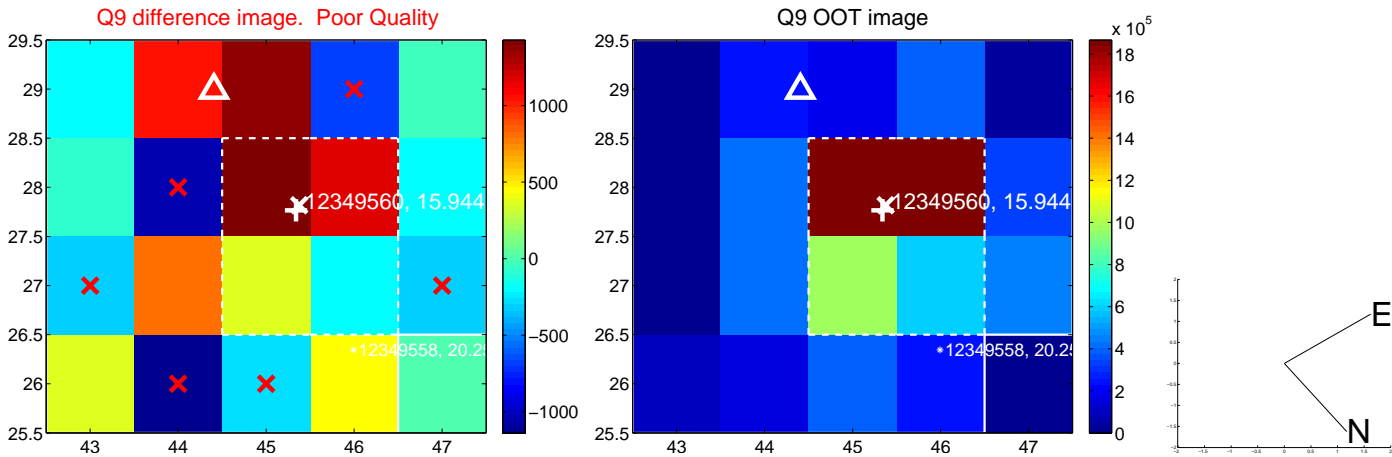
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



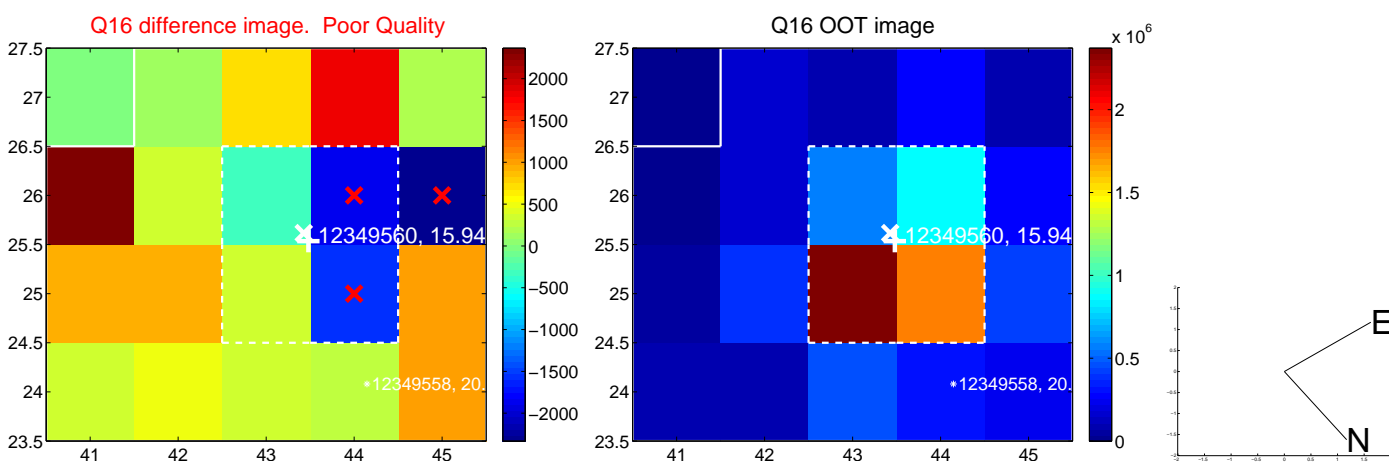
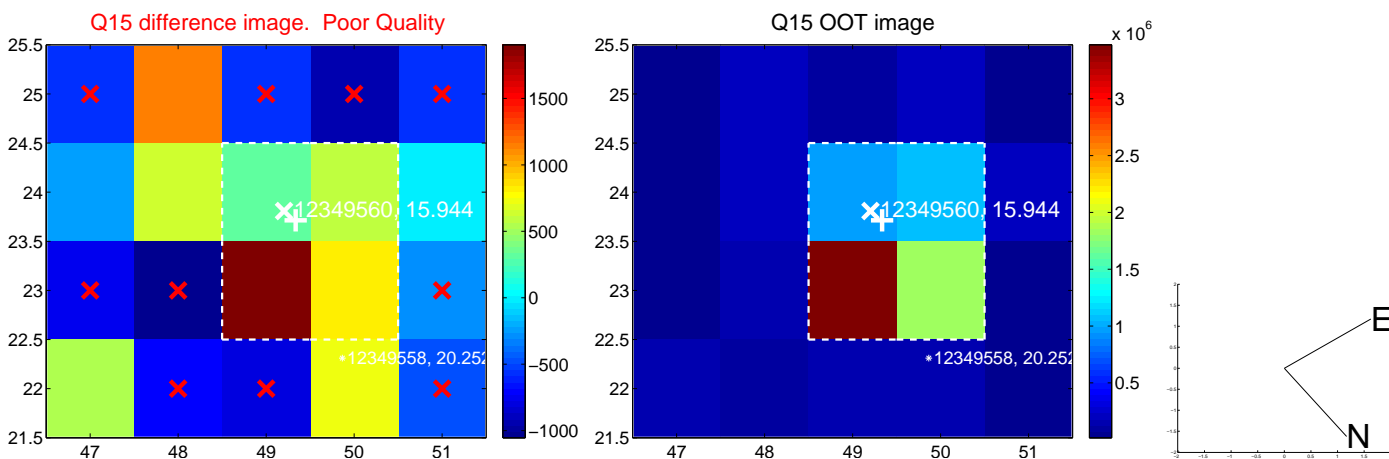
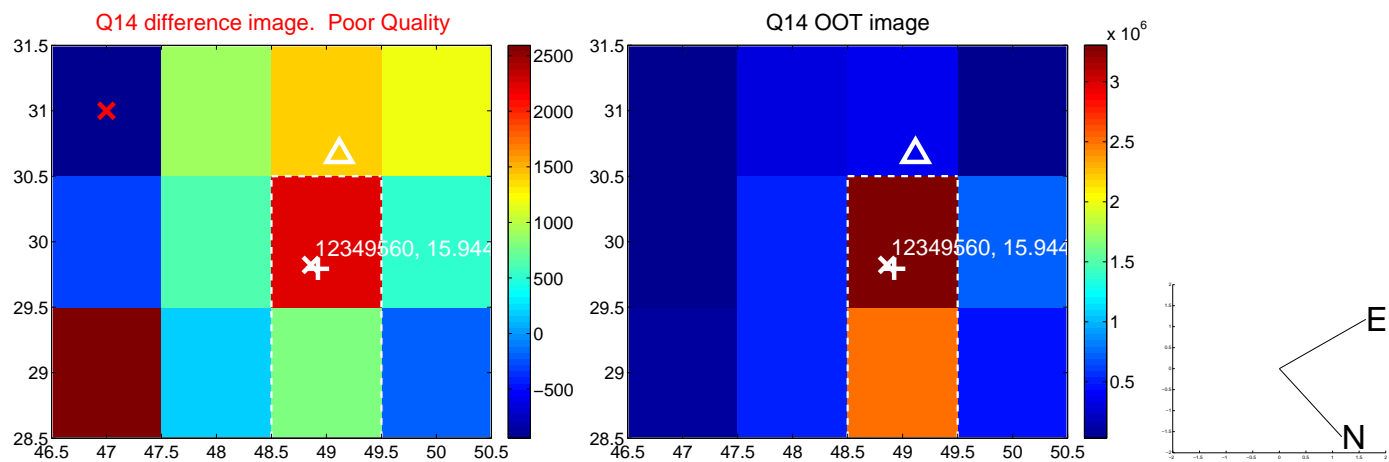
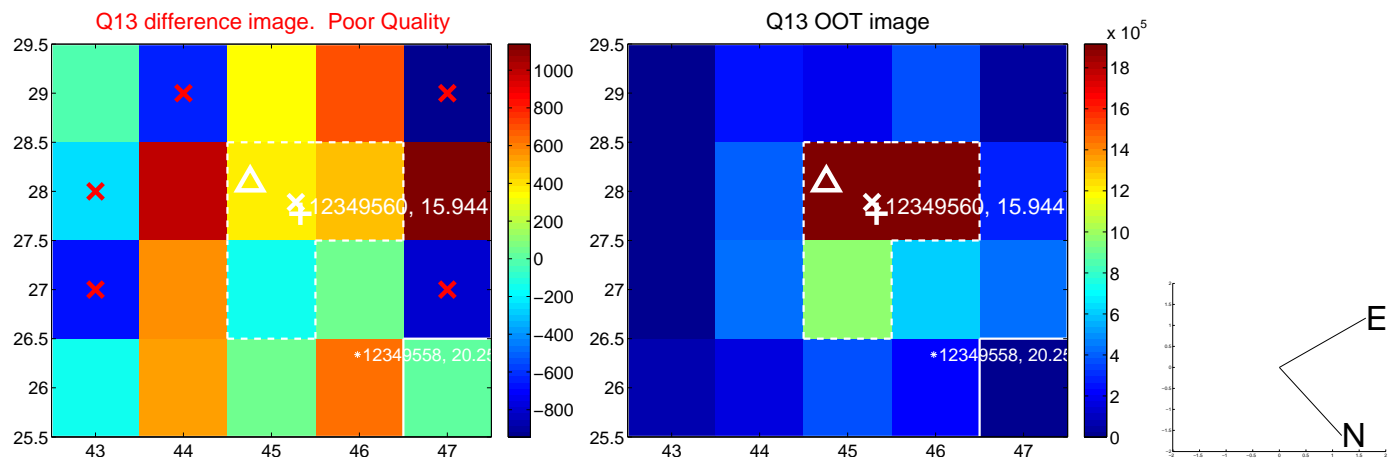
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



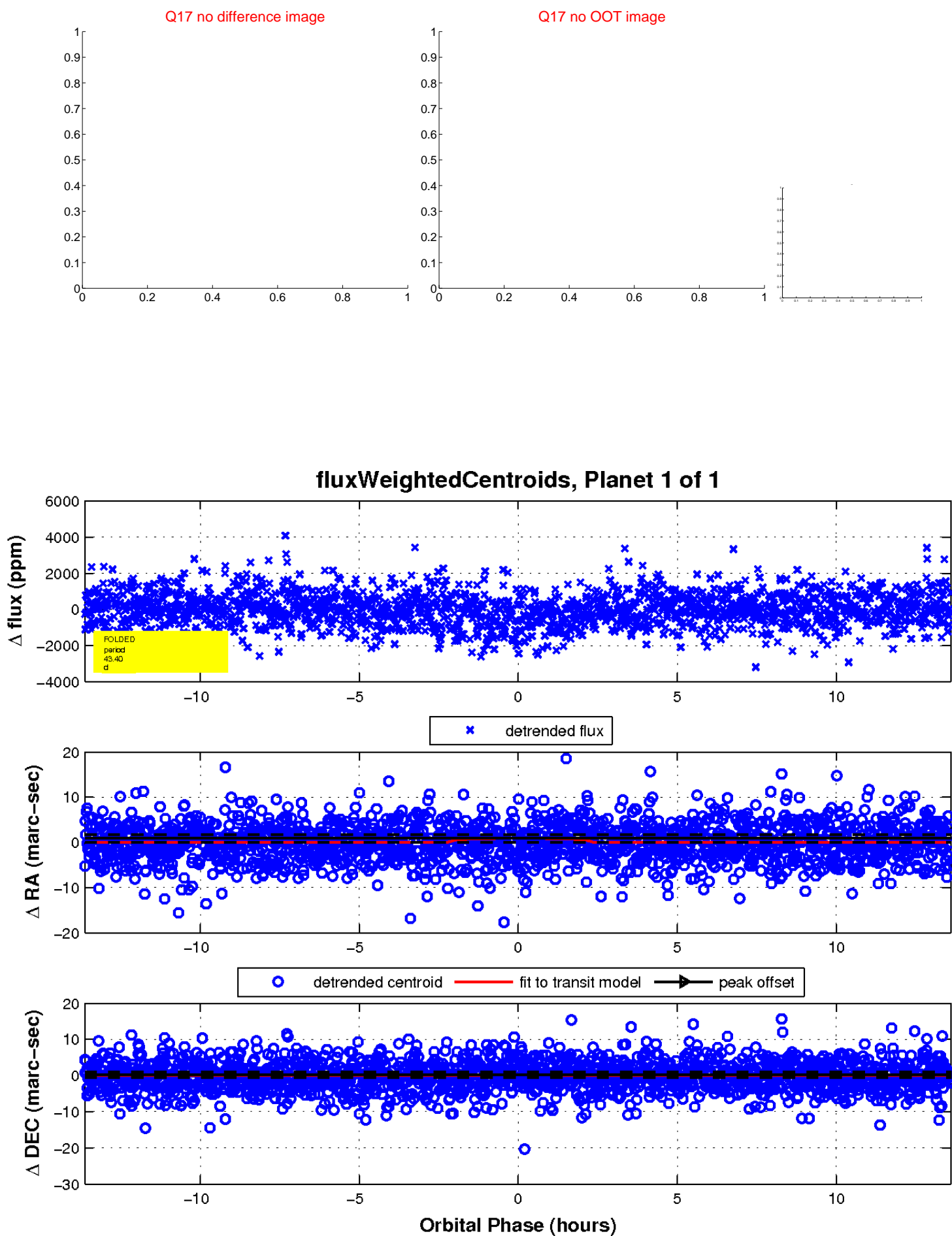
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

