

KIC 010028524

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})
010028524-01	OBS	No	17.105001	148.283360	64.8	31.946	7.7	12.1	1.44	6156	1.37	147.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010028524-01	OBS	FP	0.00	1	0	0	0	LPP_DV

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

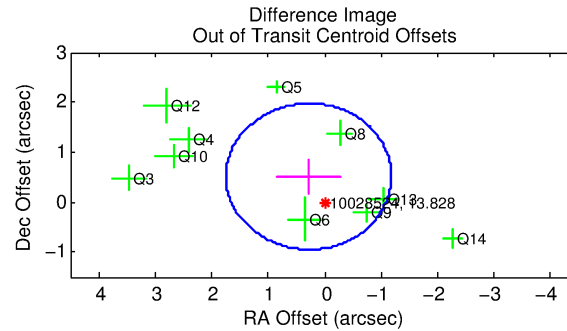
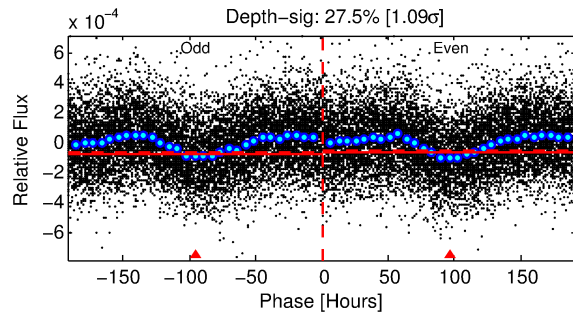
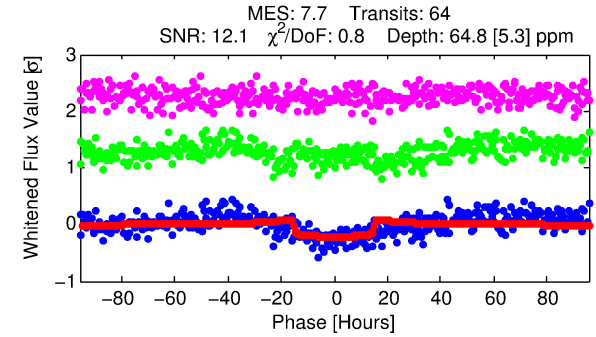
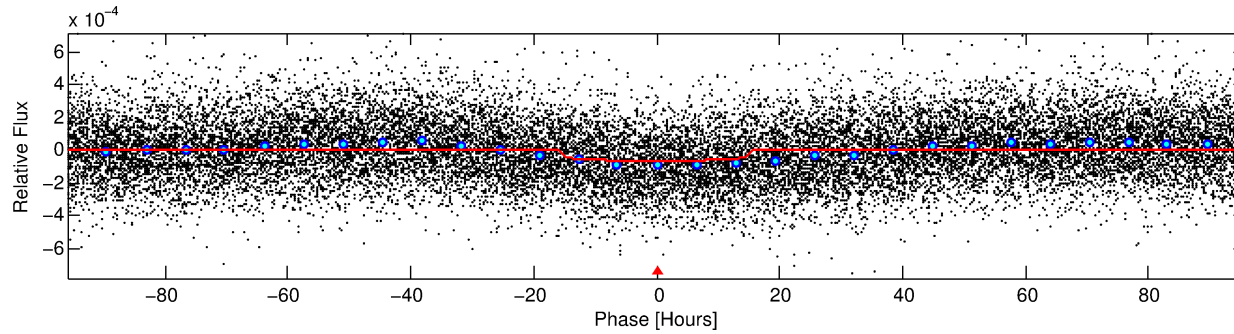
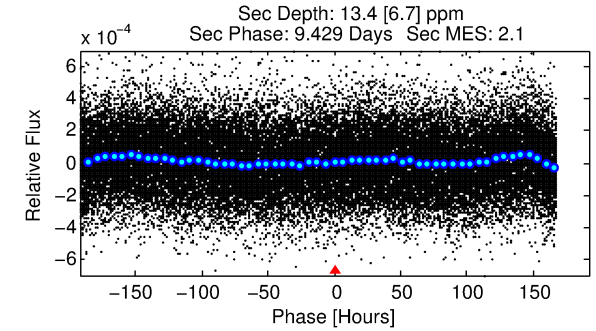
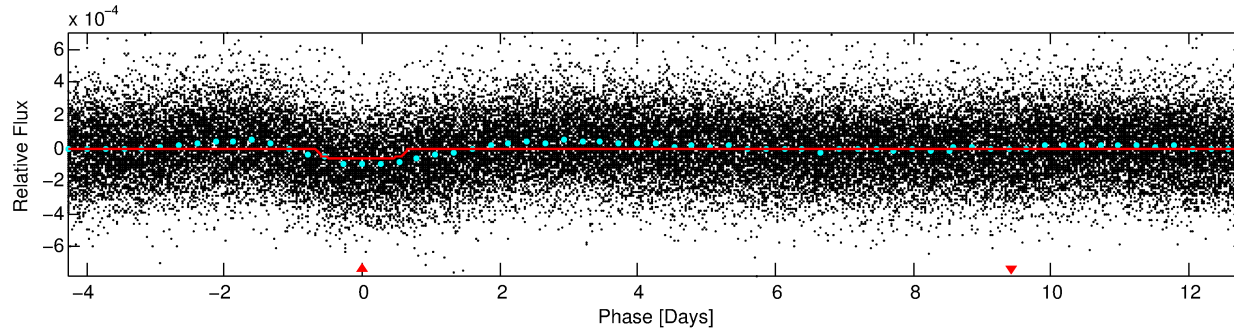
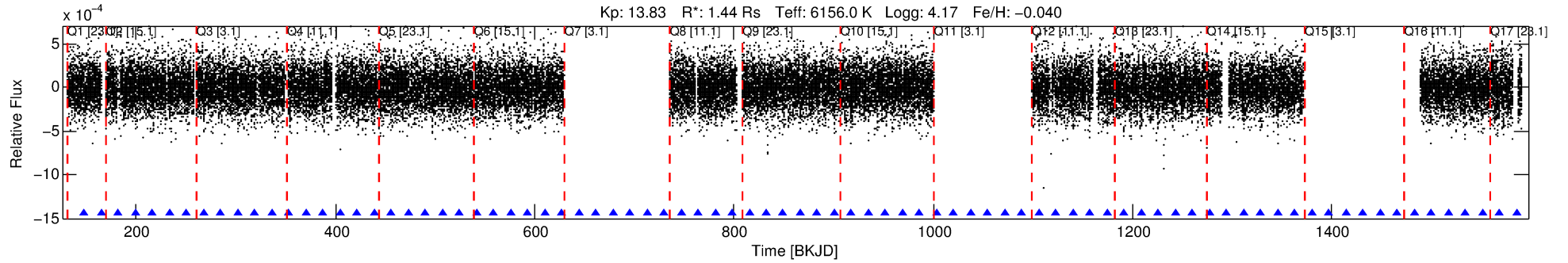
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010028524-01

No Significant Match Found

DV One-Page Summary

KIC: 10028524 Candidate: 1 of 1 Period: 17.105 d



DV Fit Results:

Period = 17.10500 [0.00056] d
Epoch = 148.2834 [0.0246] BKJD
Rp/R* = 0.0087 [0.0007]
a/R* = 2.05 [0.54]
b = 0.91 [0.07]
Seff = 147.79 [43.13]
Teff = 889 [65] K
Rp = 1.37 [0.28] Re
a = 0.1347 [0.0243] AU
Ag = 71.17 [42.29] [1.66σ]
Teffp = 3993 [522] K [5.90σ]

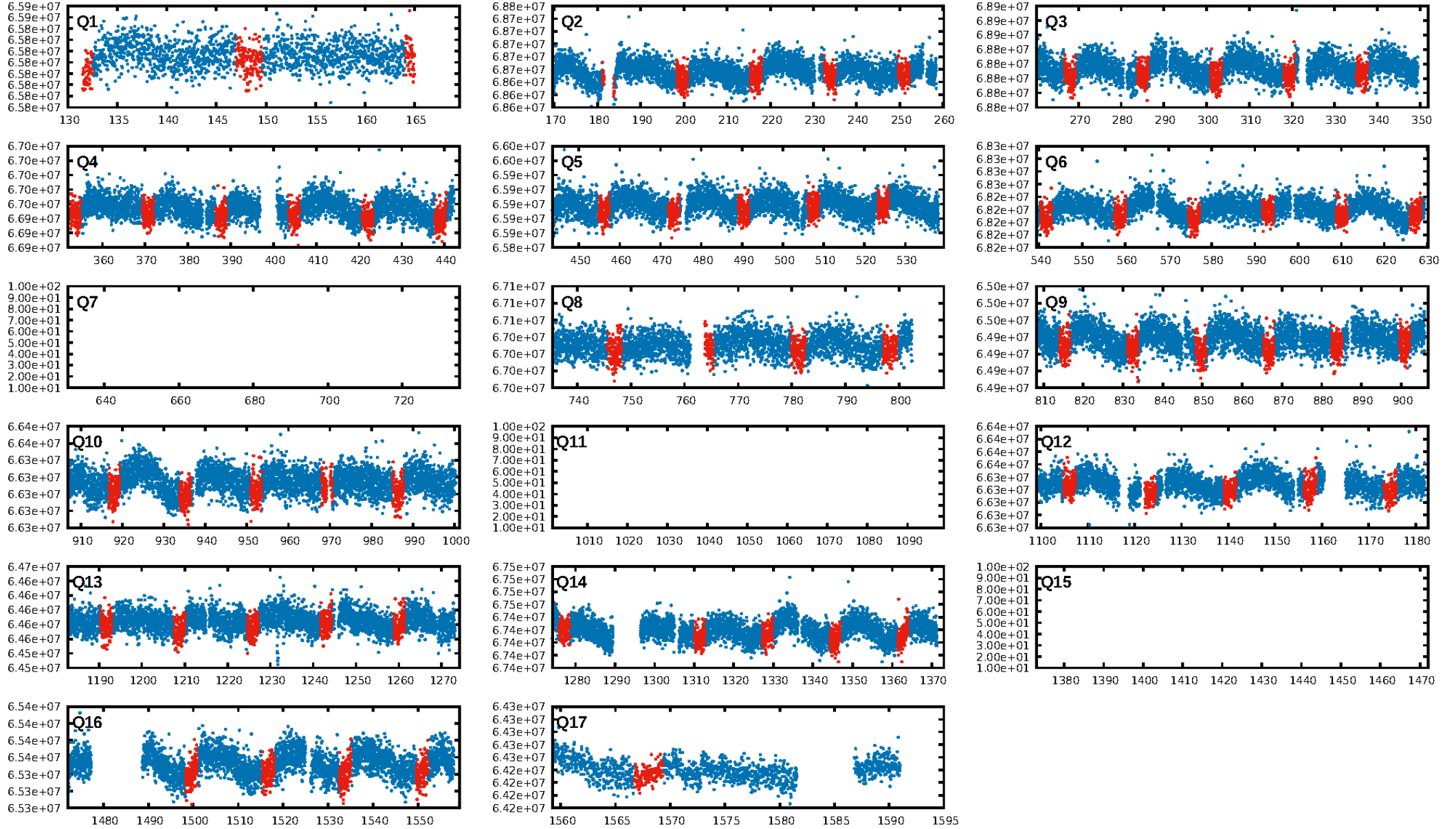
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.66e-14
RollingBand-fgt: 1.00 [60/60]
GhostDiagnostic-chr: 3.31
Centroid-sig: 2.1%
Centroid-so: 1.663 arcsec [1.96σ]
OotOffset-rm: 0.584 arcsec [1.20σ]
KicOffset-rm: 0.664 arcsec [1.47σ]
OotOffset-st: 3/1/3/3 [10]
KicOffset-st: 3/1/3/3 [10]
DiffImageQuality-fgm: 0.80 [8/10]
DiffImageOverlap-fno: 1.00 [13/13]

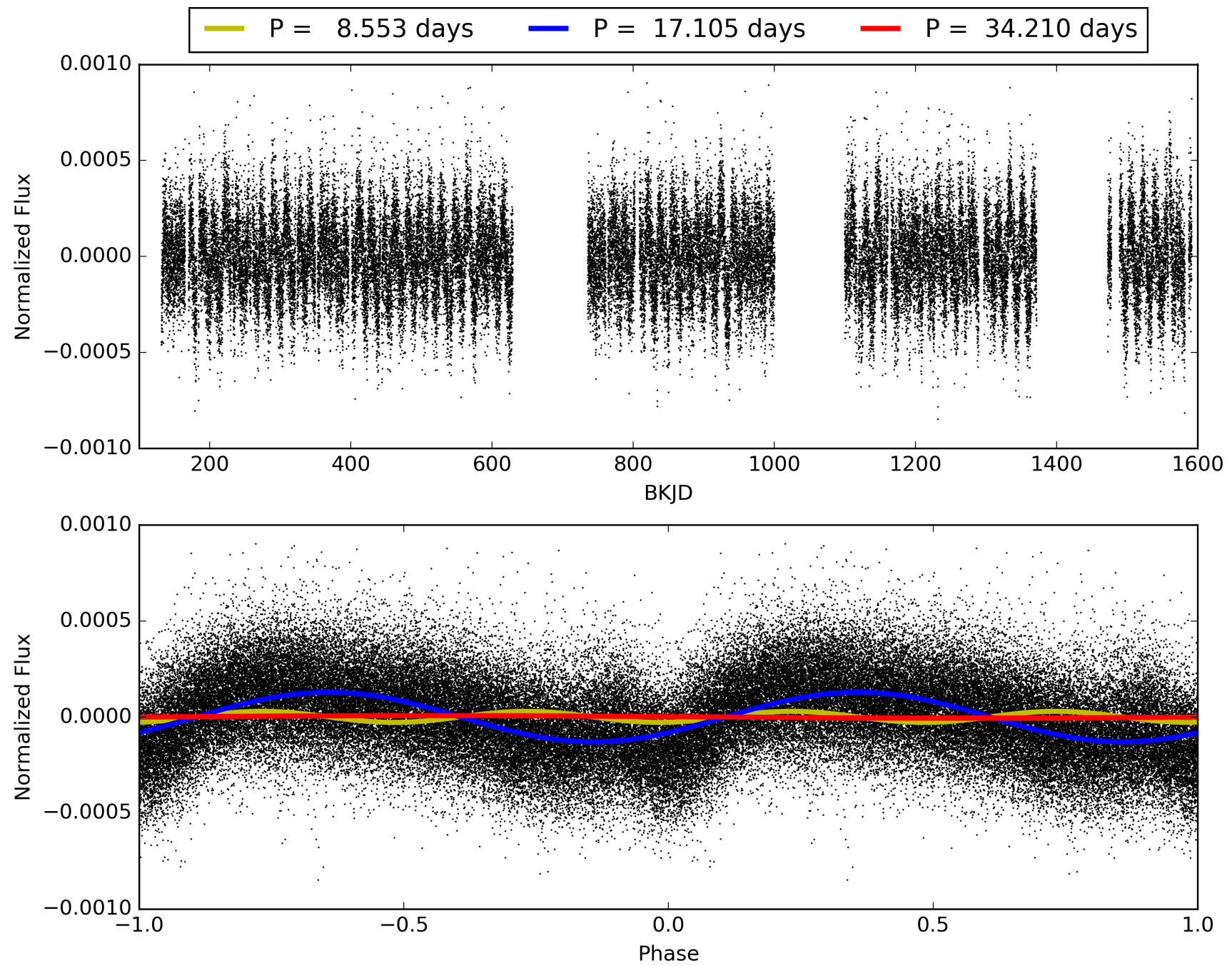
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:02:15 Z

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

TCE 010028524-01, PDC Light Curves

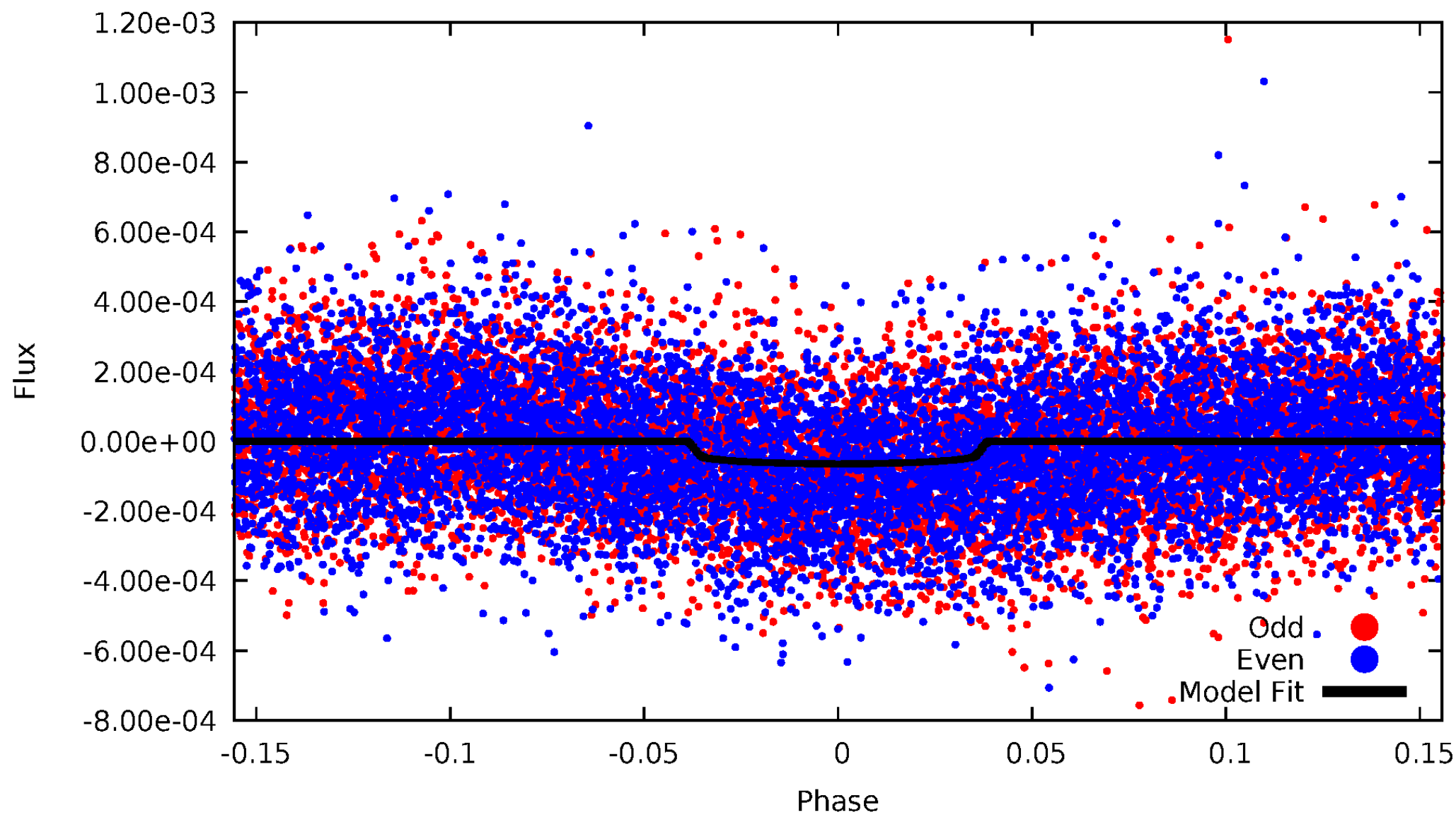


TCE 010028524-01



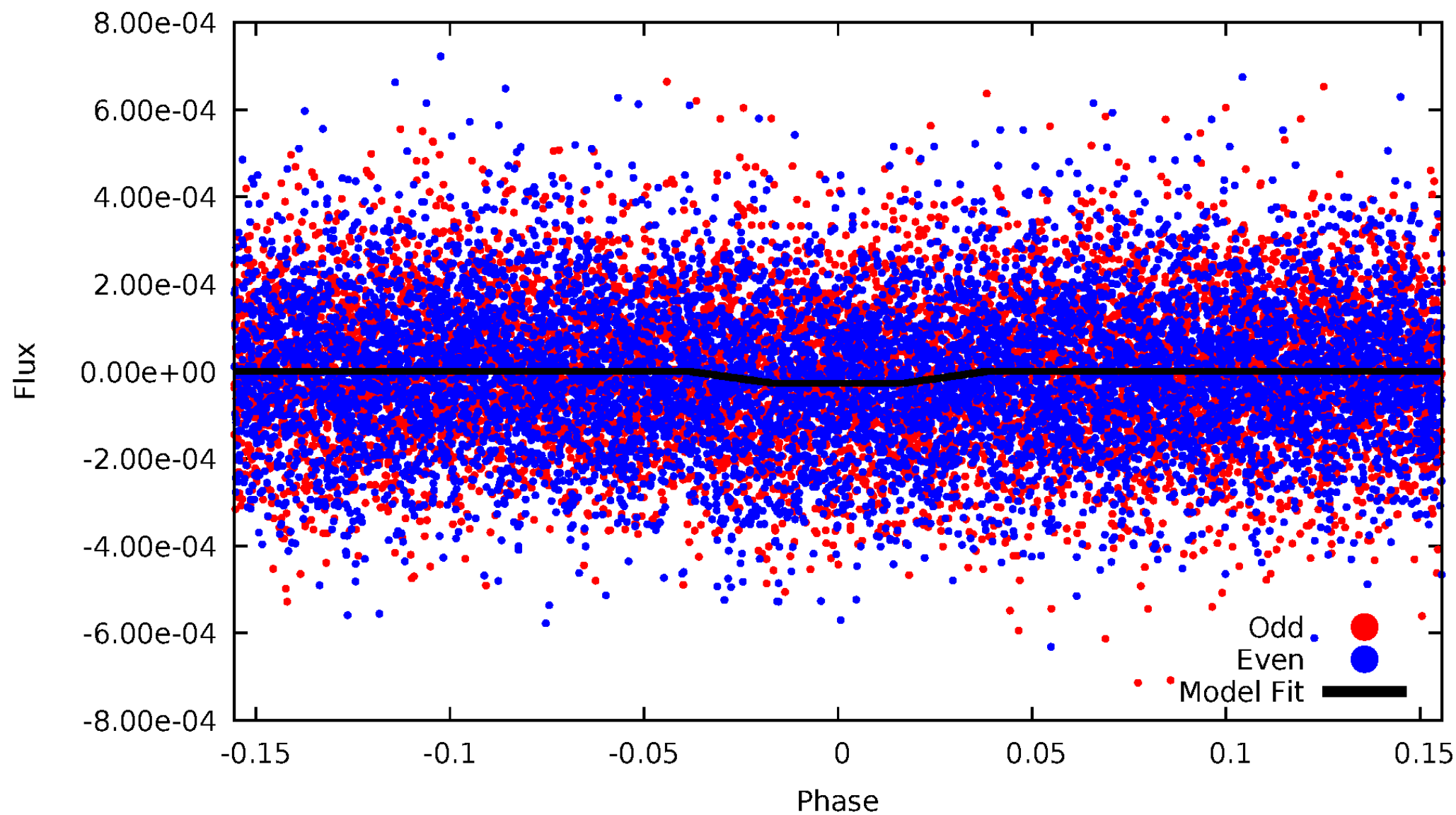
DV Odd/Even

TCE 010028524-01

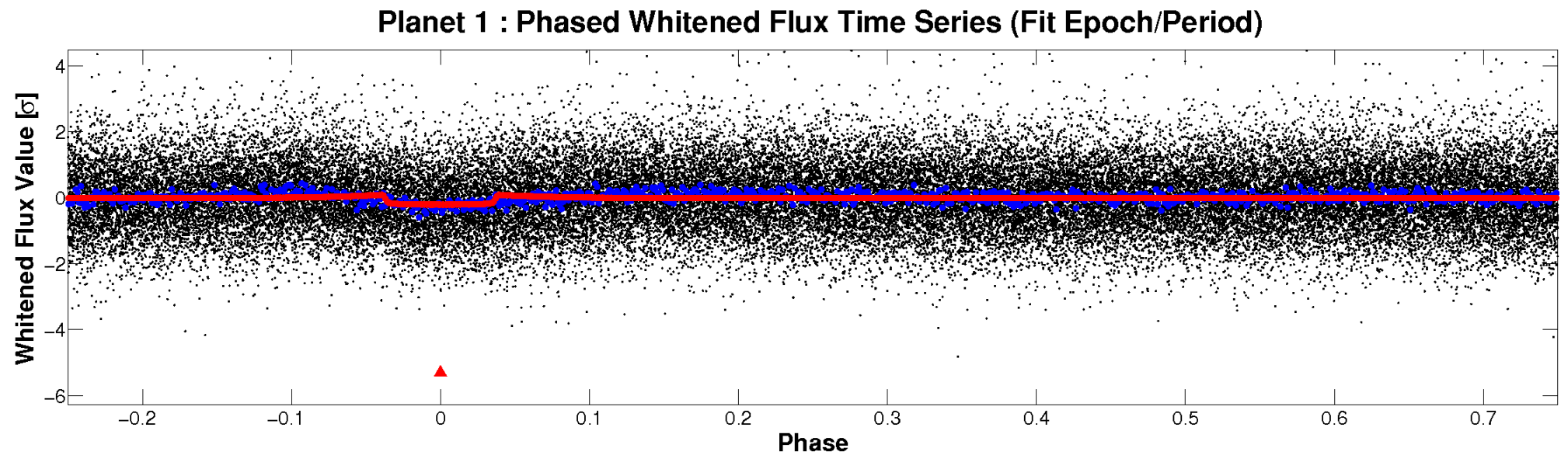
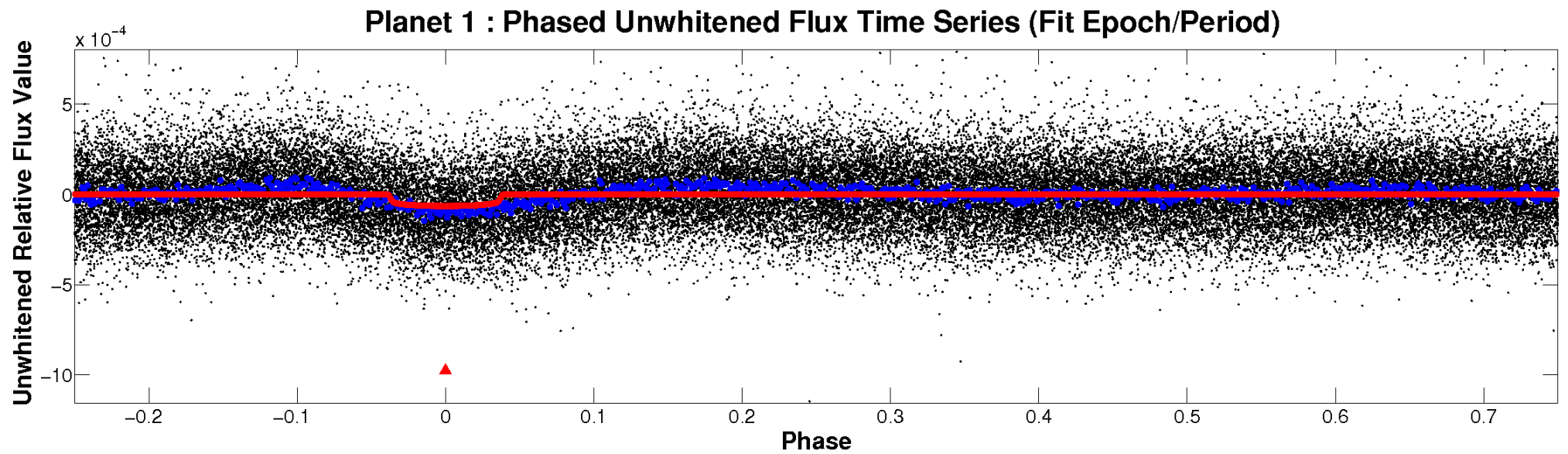


ALT Odd/Even

TCE 010028524-01

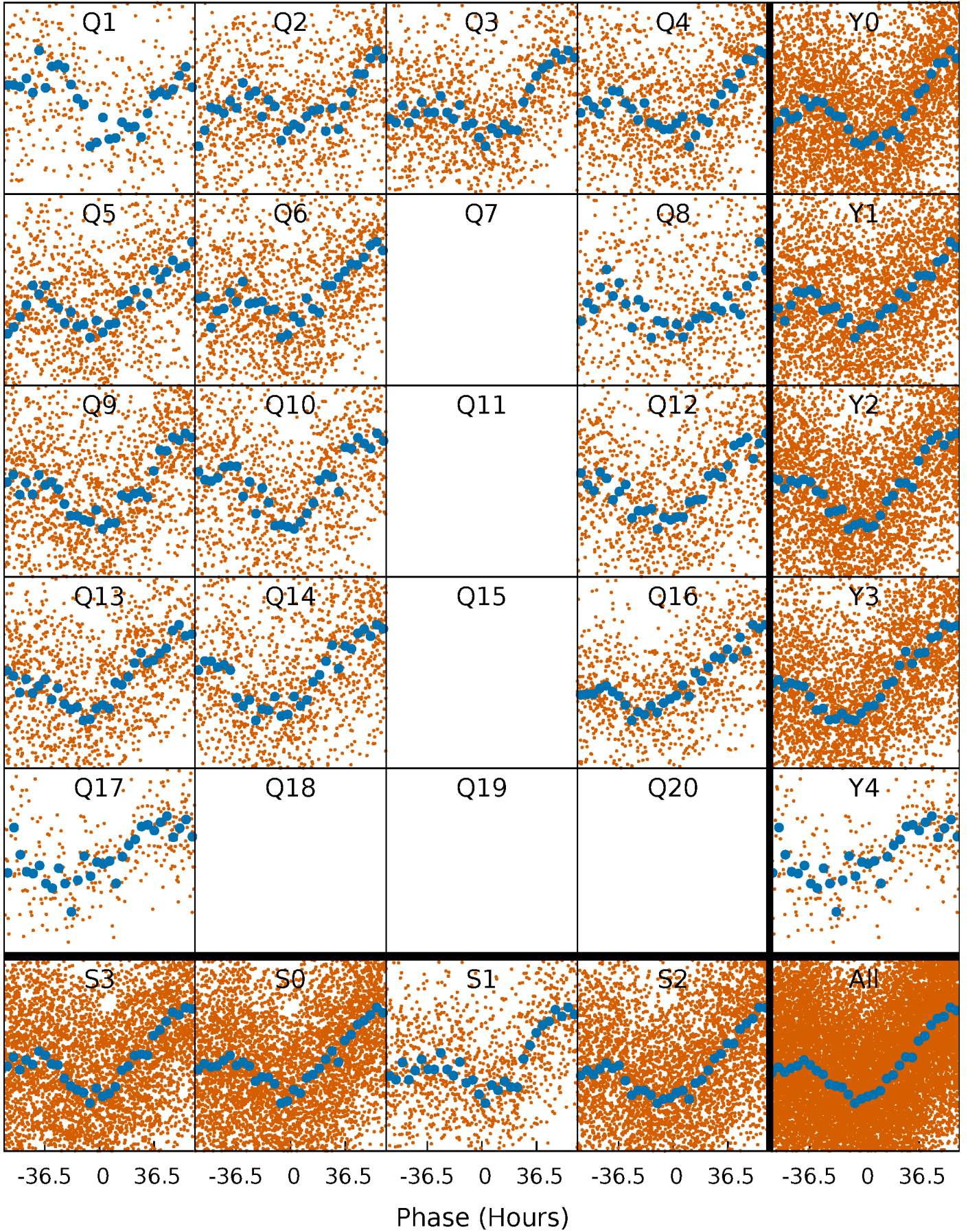


Non-Whitened Vs. Whitened Light Curve



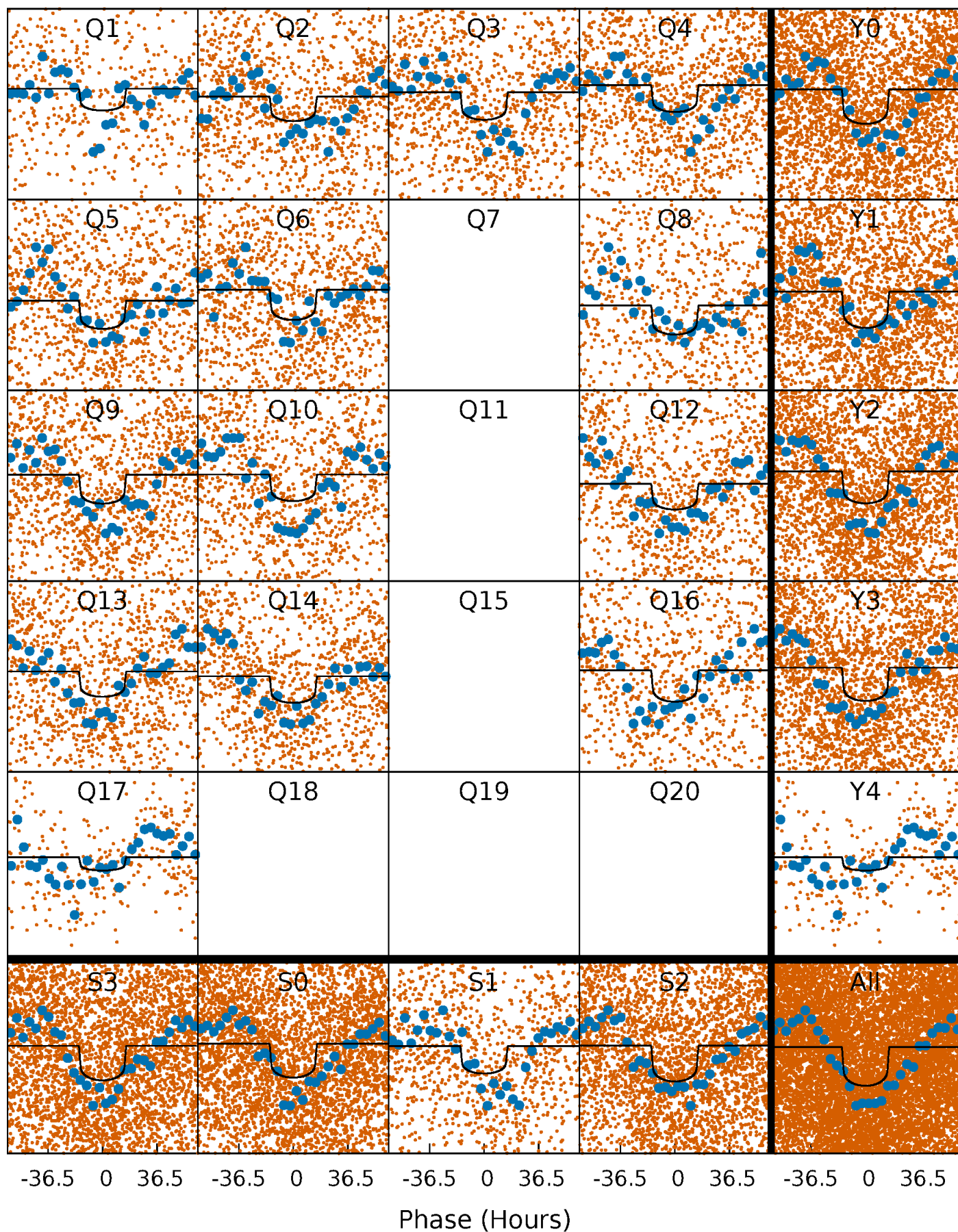
PDC Quarter-Phased Transit Curves

TCE 010028524-01 P= 17.105001 Days $T_0=148.283360$ (BKJD)



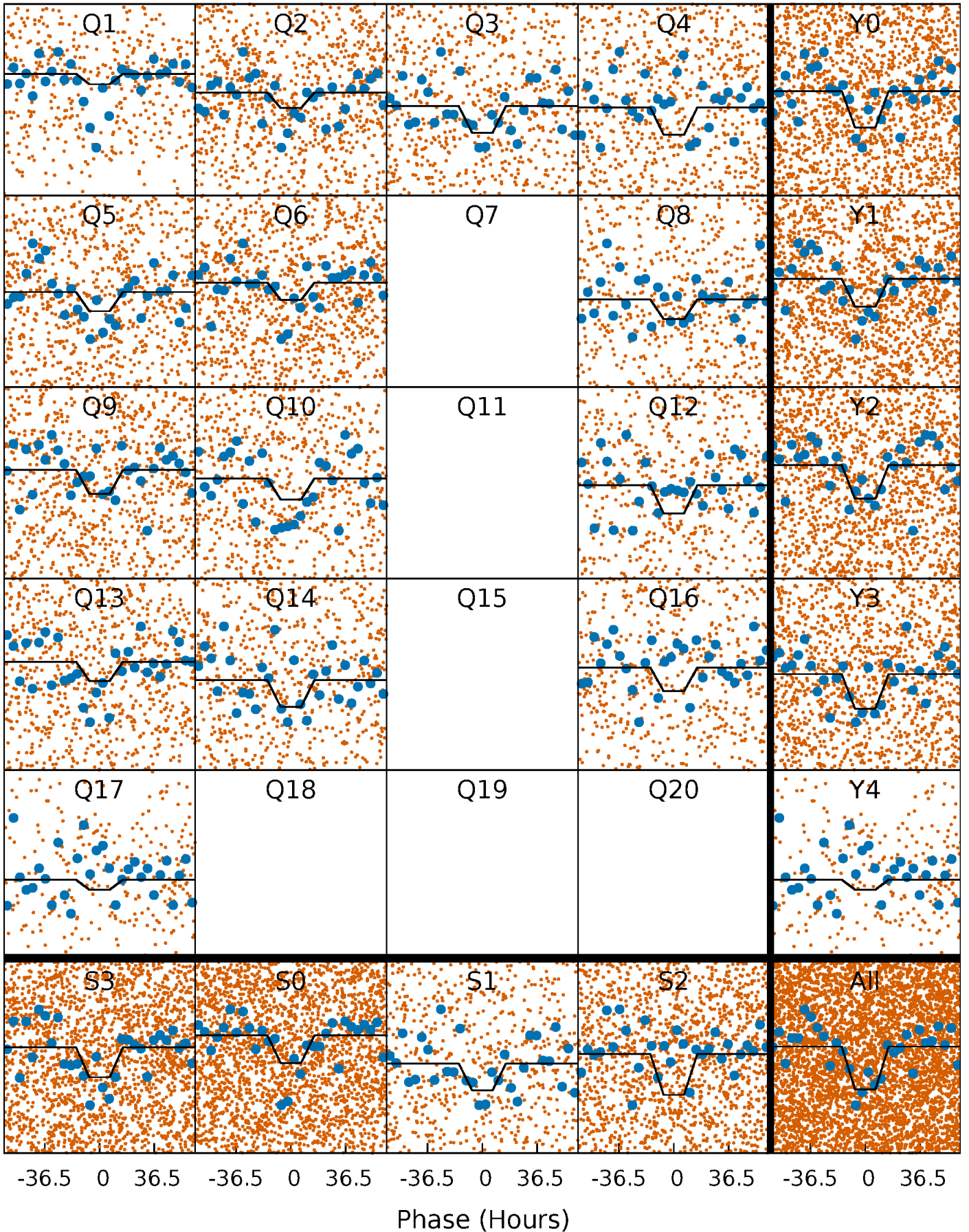
DV Quarter-Phased Transit Curves

TCE 010028524-01 P= 17.105001 Days $T_0=148.283360$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

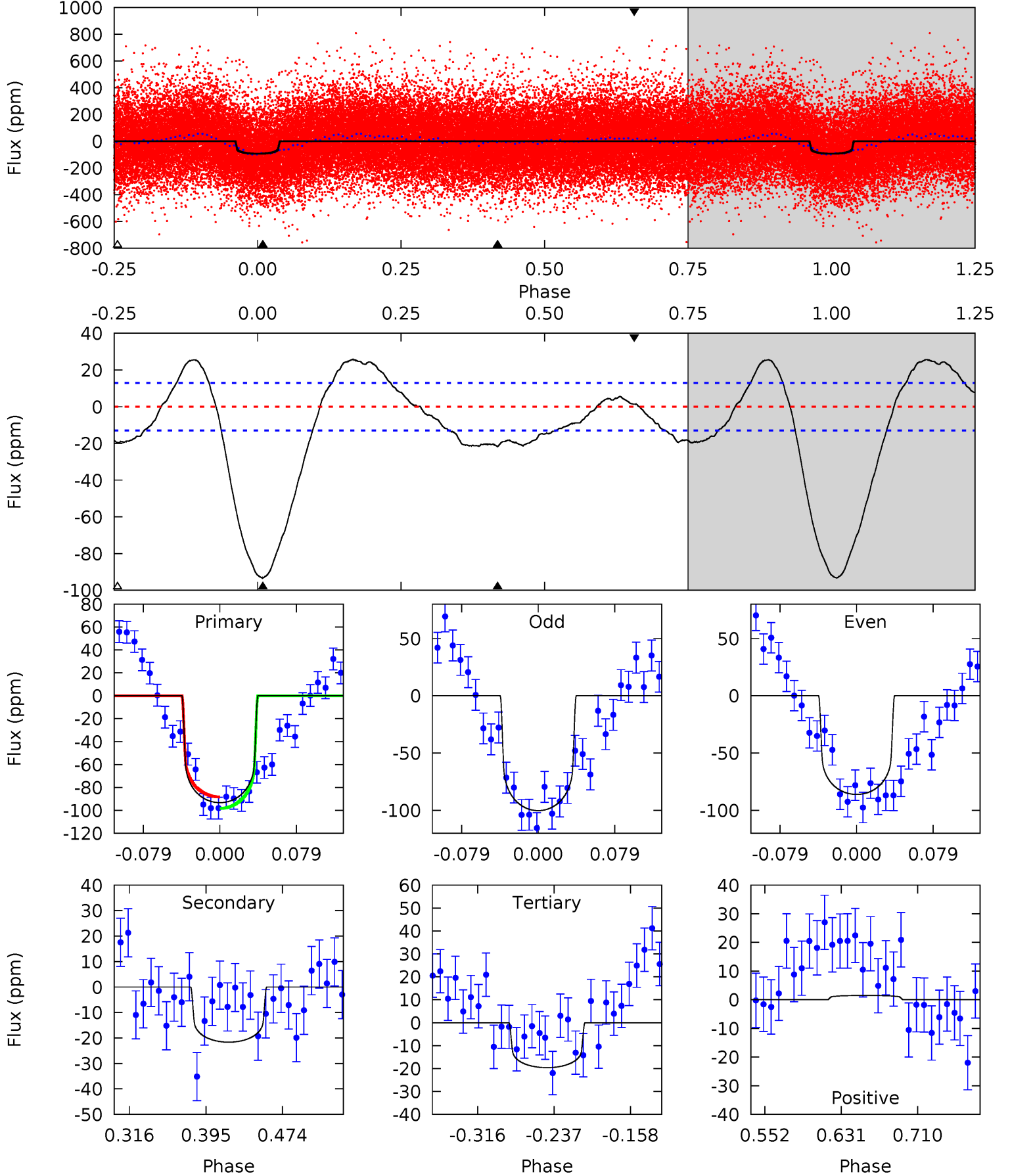
TCE 010028524-01 P= 17.105594 Days $T_0=148.267001$ (BKJD)



DV Model-Shift Uniqueness Test

010028524-01, P = 17.105001 Days, E = 131.178359 Days

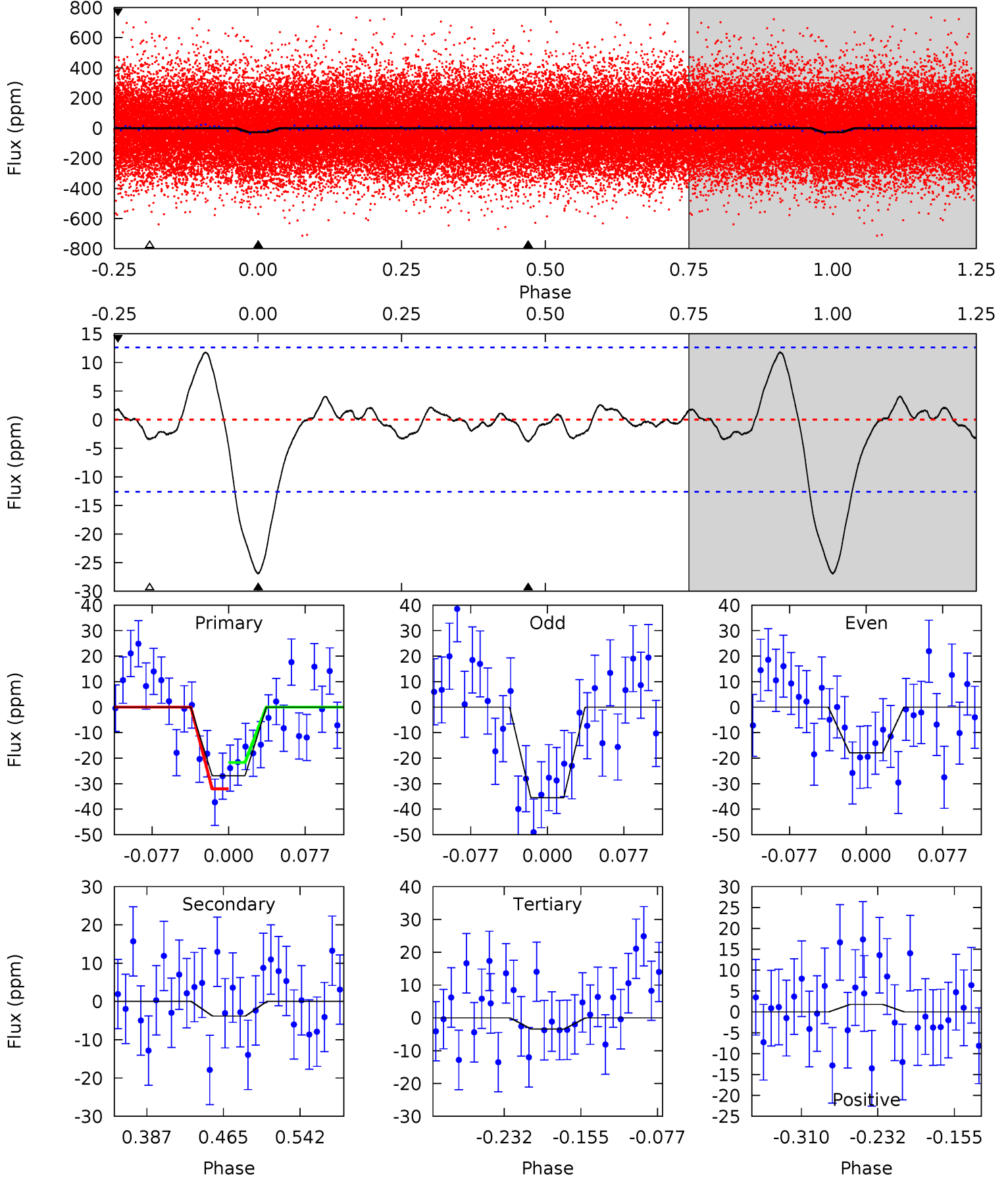
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.2	7.71	6.99	0.53	4.61	1.76	4.92	26.2	32.7	0.73	7.18	2.52	0.98	0.22	1.78



Alt Model-Shift Uniqueness Test

010028524-01, P = 17.105594 Days, E = 131.161407 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.83	1.40	1.25	0.65	4.62	1.77	1.04	8.58	9.17	0.15	0.74	3.23	1.01	0.30	1.90



Stellar Parameters For KIC 010028524

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6156^{+83}_{-83}	$4.166^{+0.168}_{-0.112}$	$-0.040^{+0.150}_{-0.150}$	$1.444^{+0.272}_{-0.272}$	$1.114^{+0.113}_{-0.082}$	$0.521^{+0.446}_{-0.176}$
	+1%/-1%	+4%/-3%	+375%/-375%	+19%/-19%	+10%/-7%	+86%/-34%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 010028524-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-22 ± 3	$1.36^{+0.18}_{-0.17}$	1235^{+59}_{-63}	4659^{+197}_{-201}	118^{+40}_{-29}
Alt.	-4 ± 3	$0.80^{+0.14}_{-0.13}$	1232^{+57}_{-66}	4039^{+505}_{-831}	55^{+55}_{-42}

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

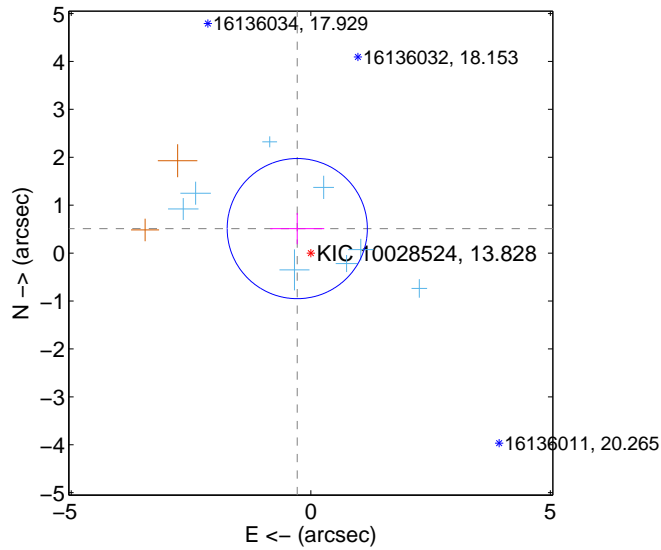
Supplemental centroid analysis for 010028524-01. Kepler magnitude: 13.83. Transit SNR 12.15

There are 8 quarters with good PRF difference image offsets

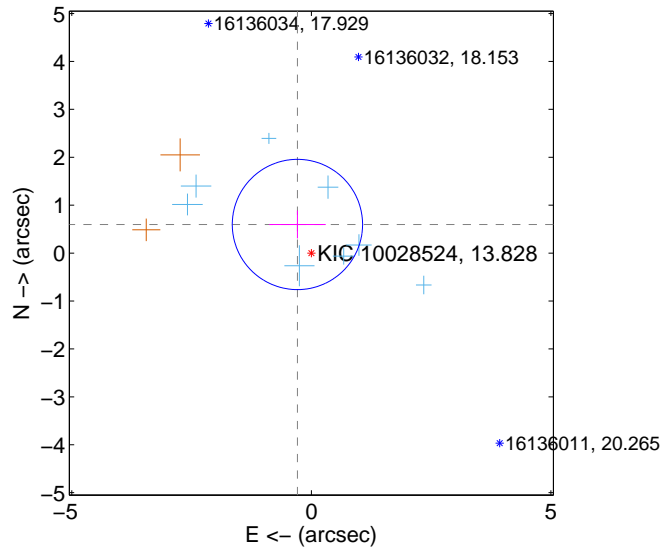
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.584 ± 0.488	1.20	0.282 ± 0.563	0.511 ± 0.326
PRF-fit source offset from KIC position	0.664 ± 0.453	1.47	0.291 ± 0.590	0.597 ± 0.290
photometric centroid source offset	1.66 ± 0.85	1.96	-1.23 ± 0.76	1.12 ± 0.95

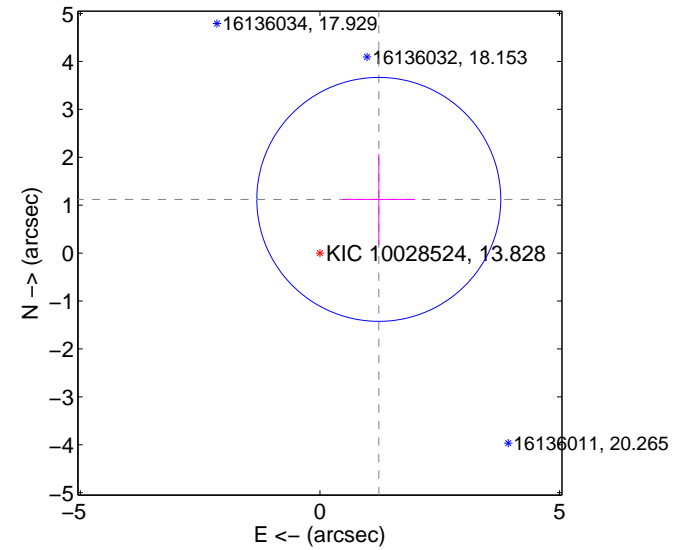
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

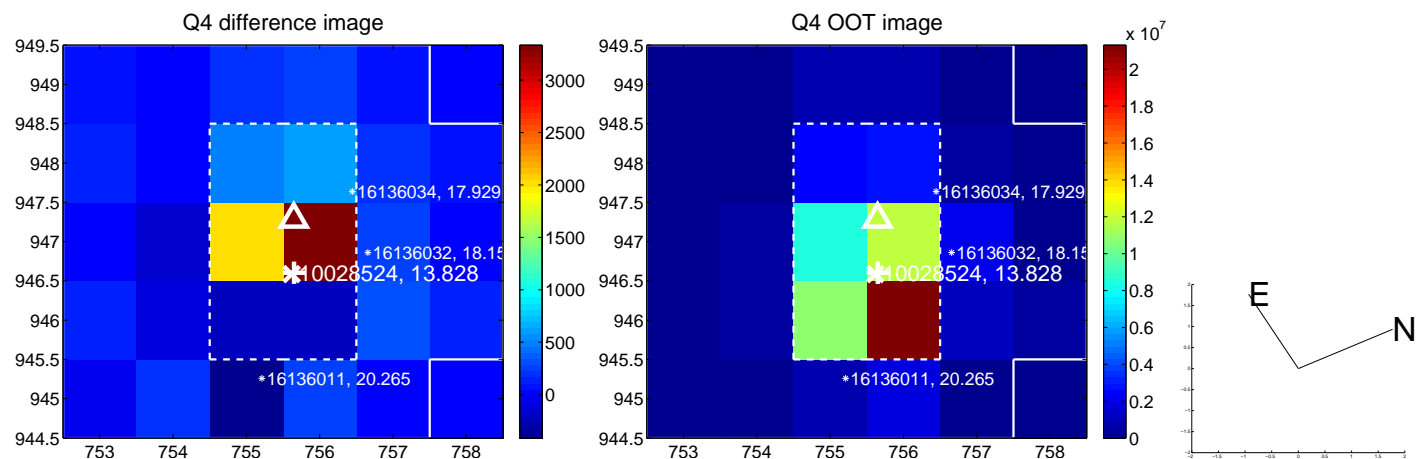
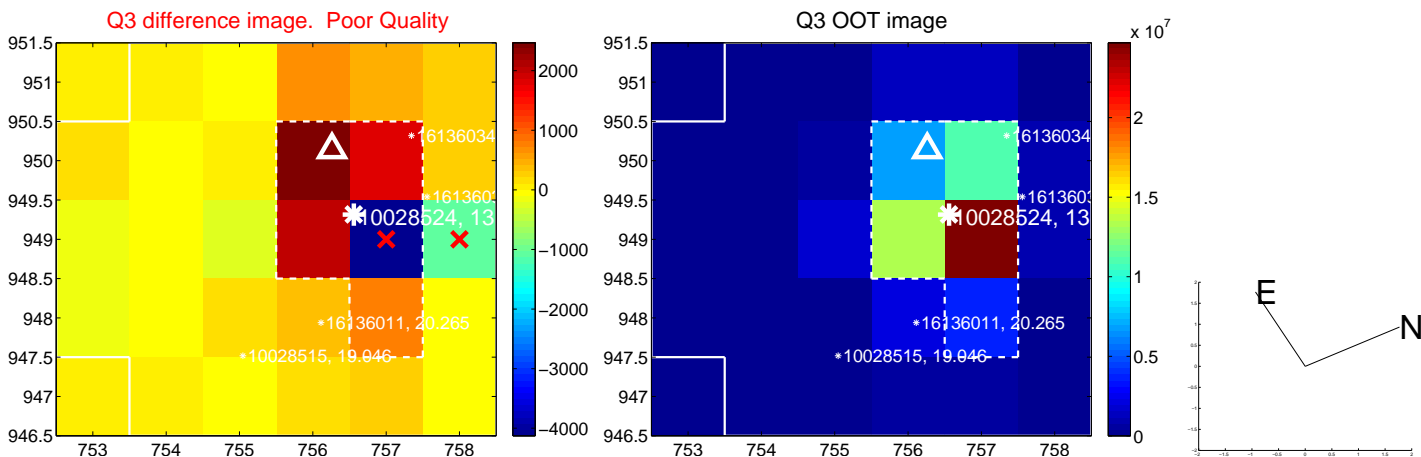
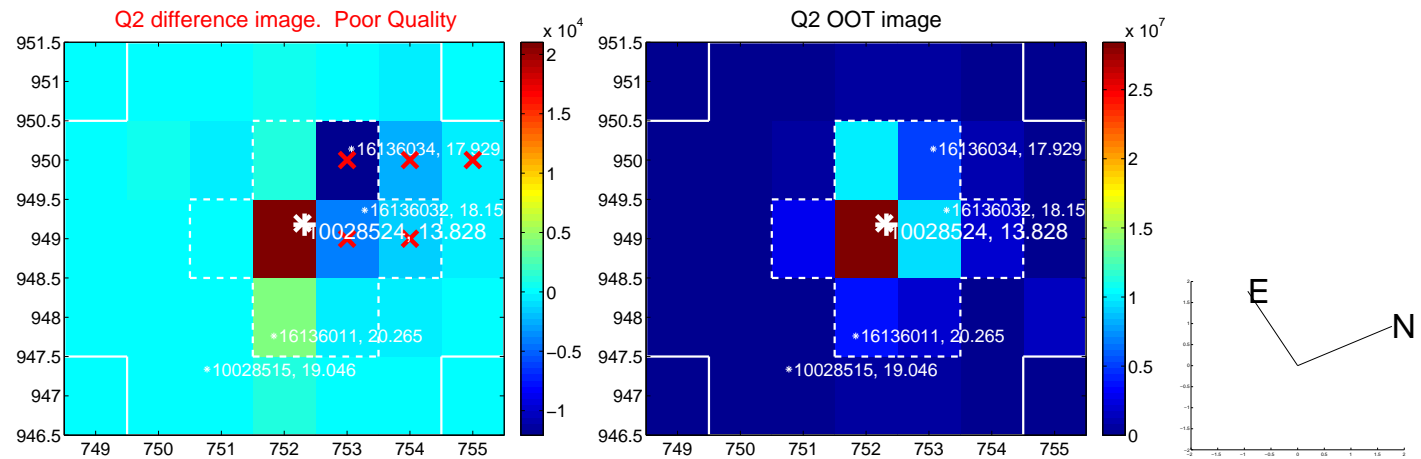
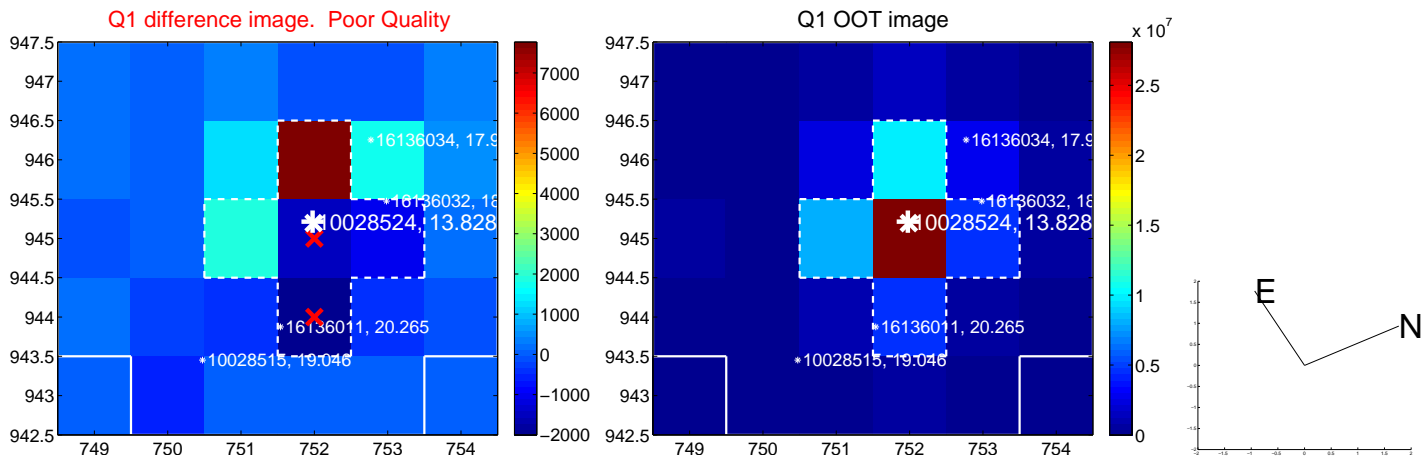


offset from photometric centroids

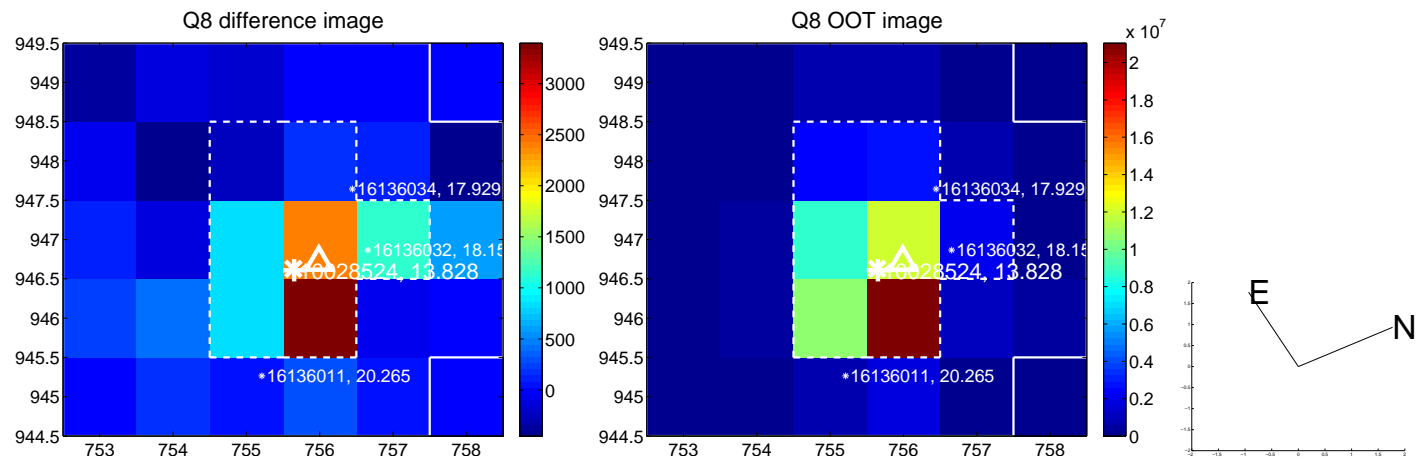
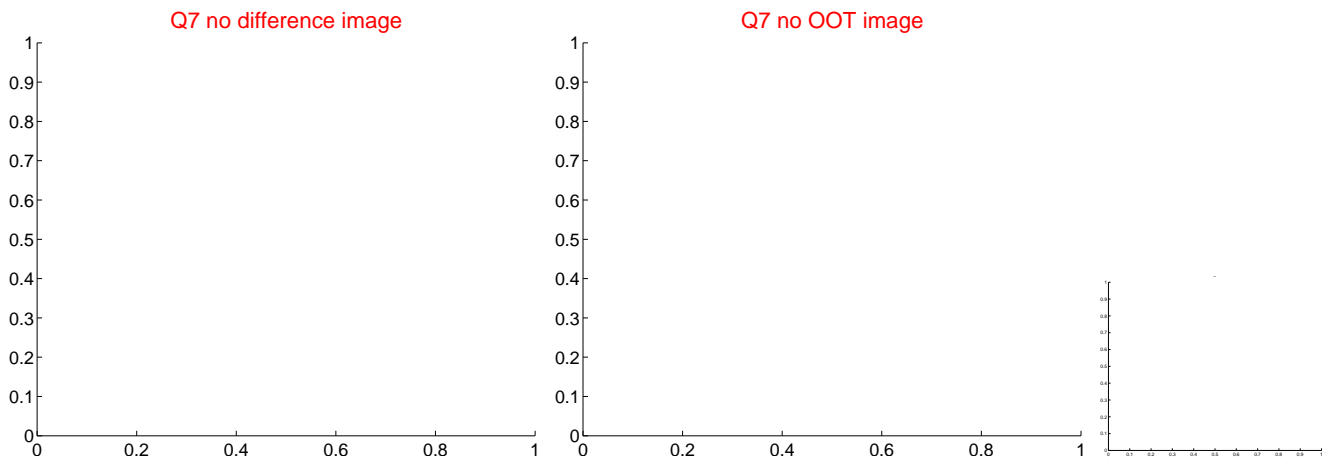
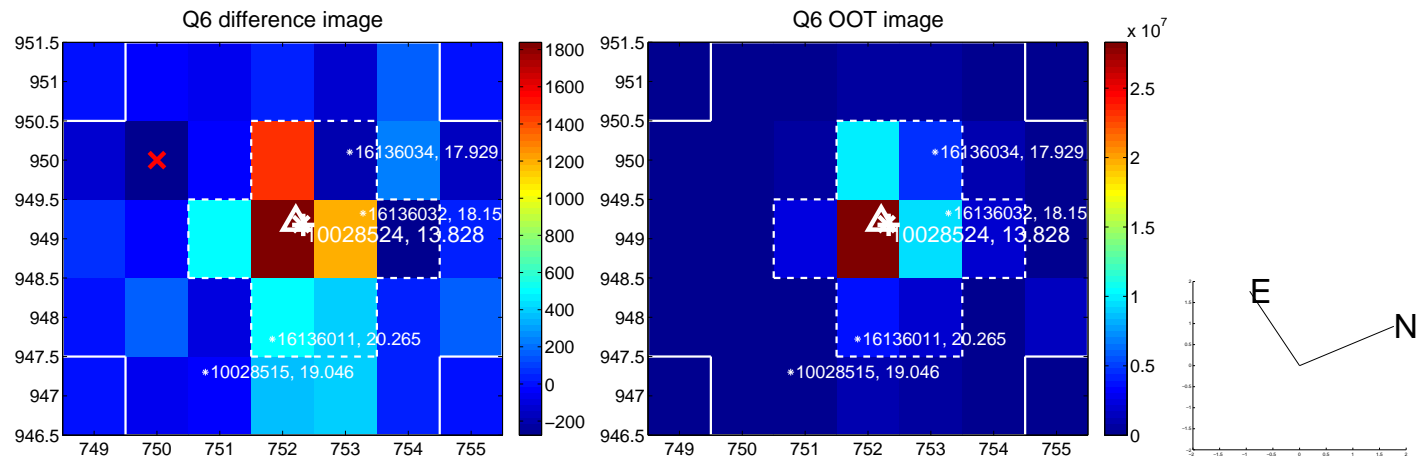
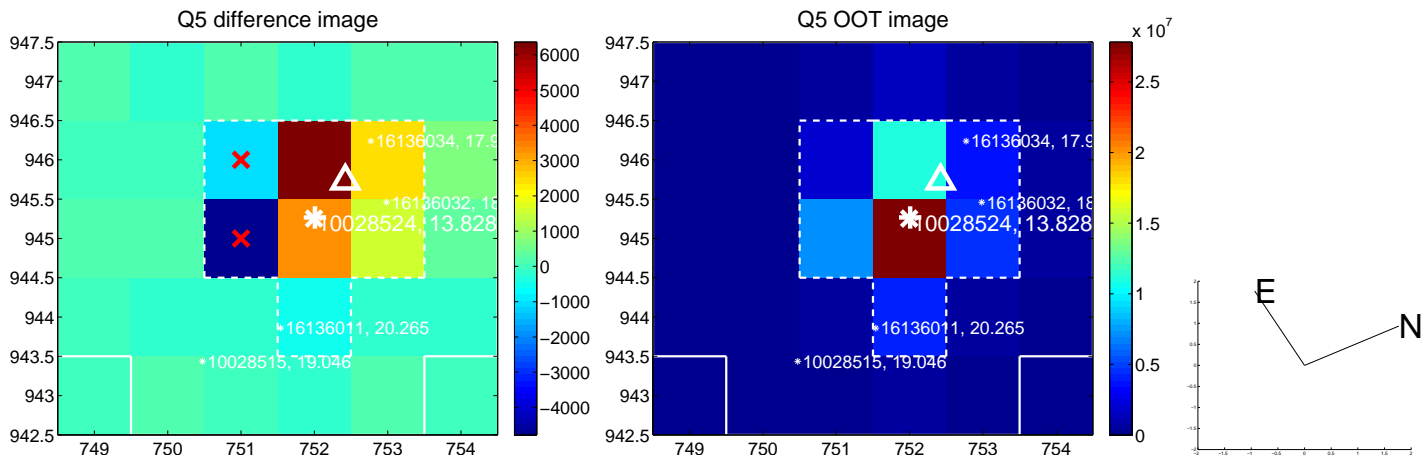


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

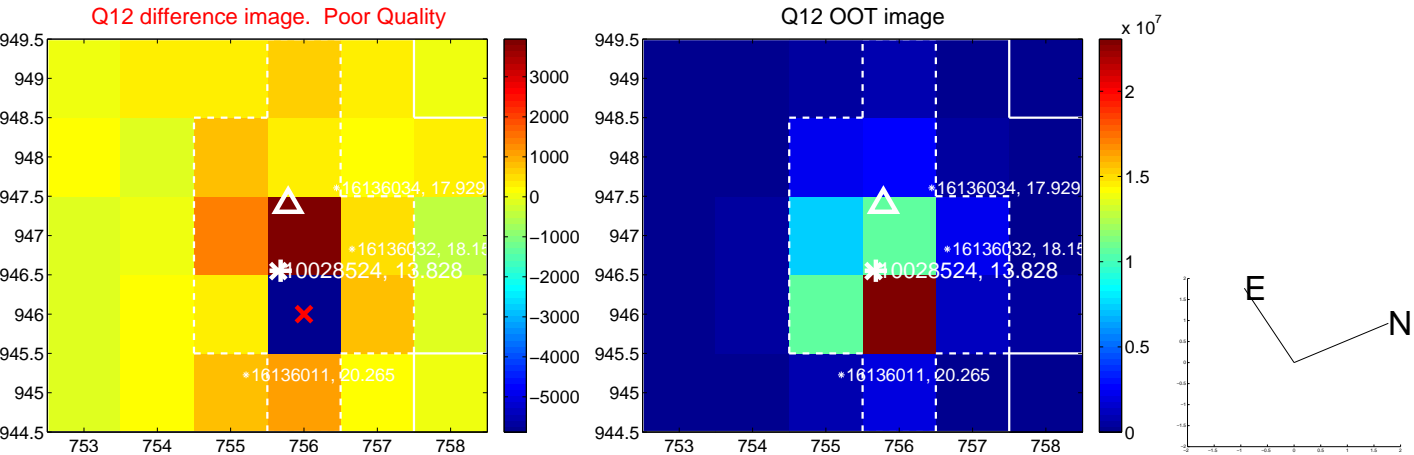
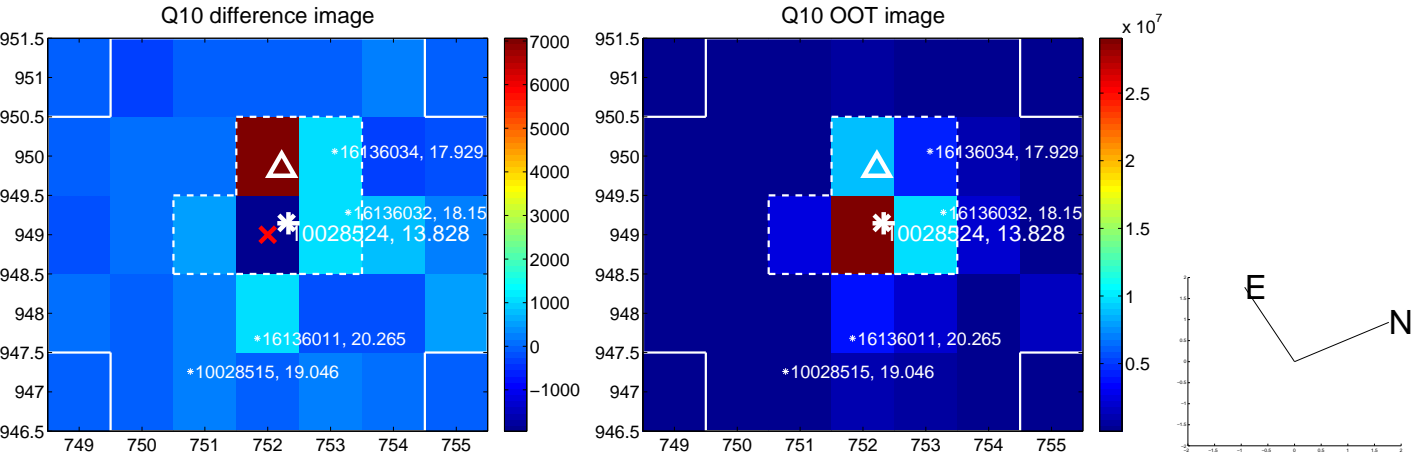
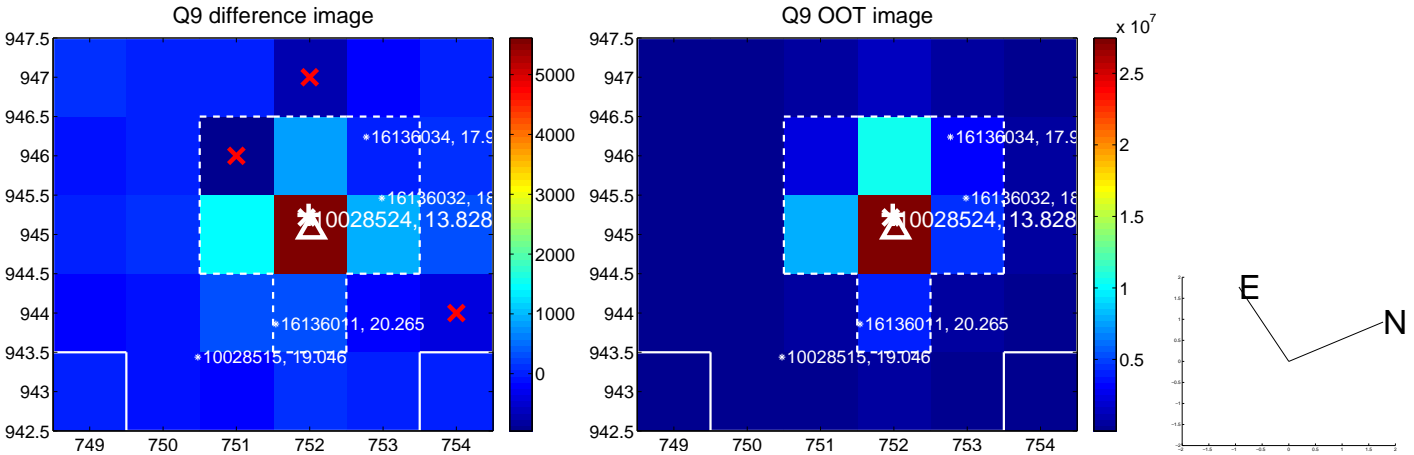
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



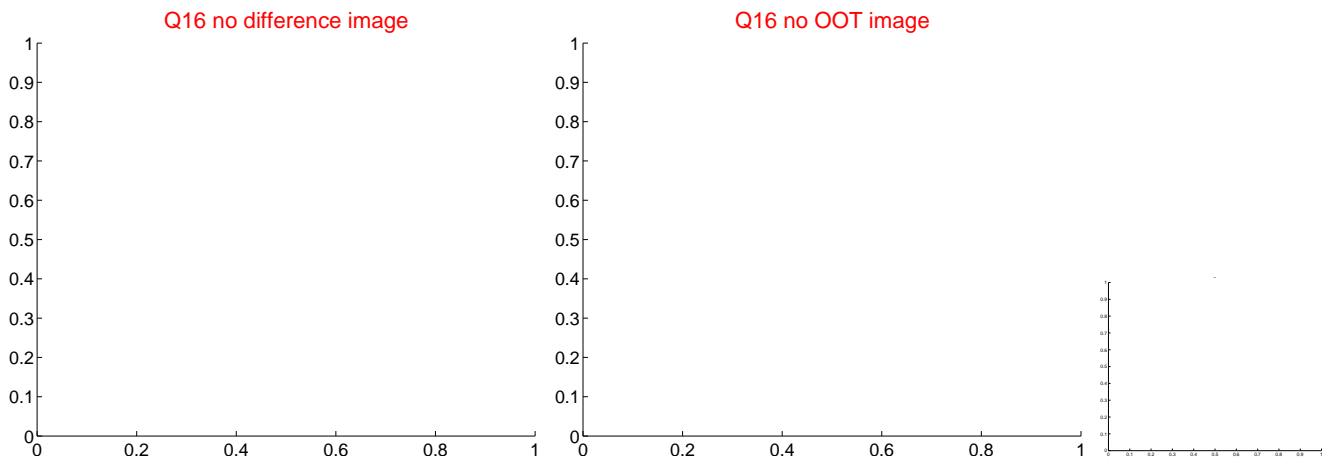
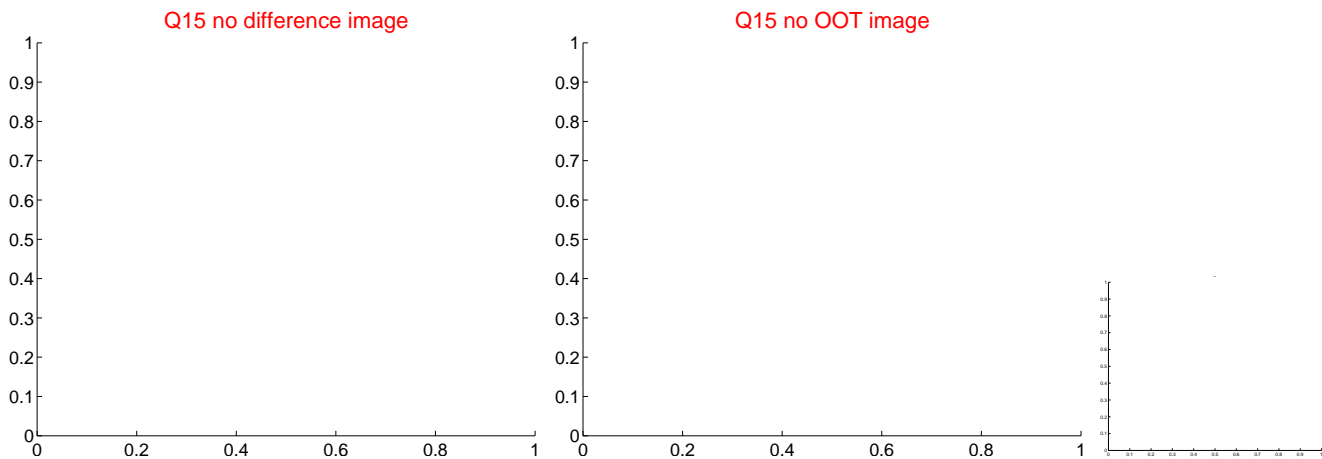
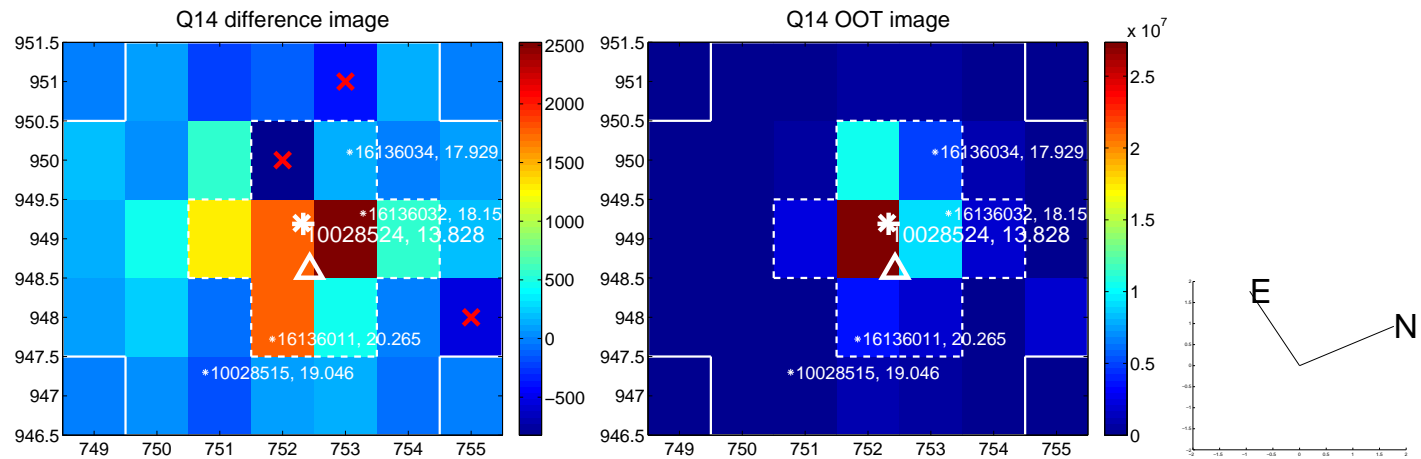
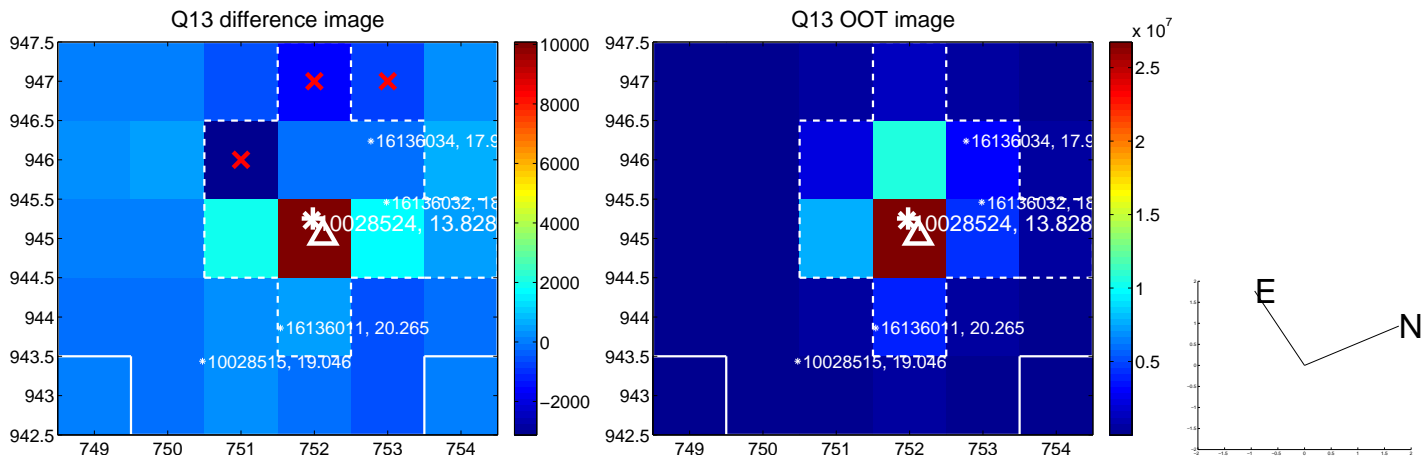
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



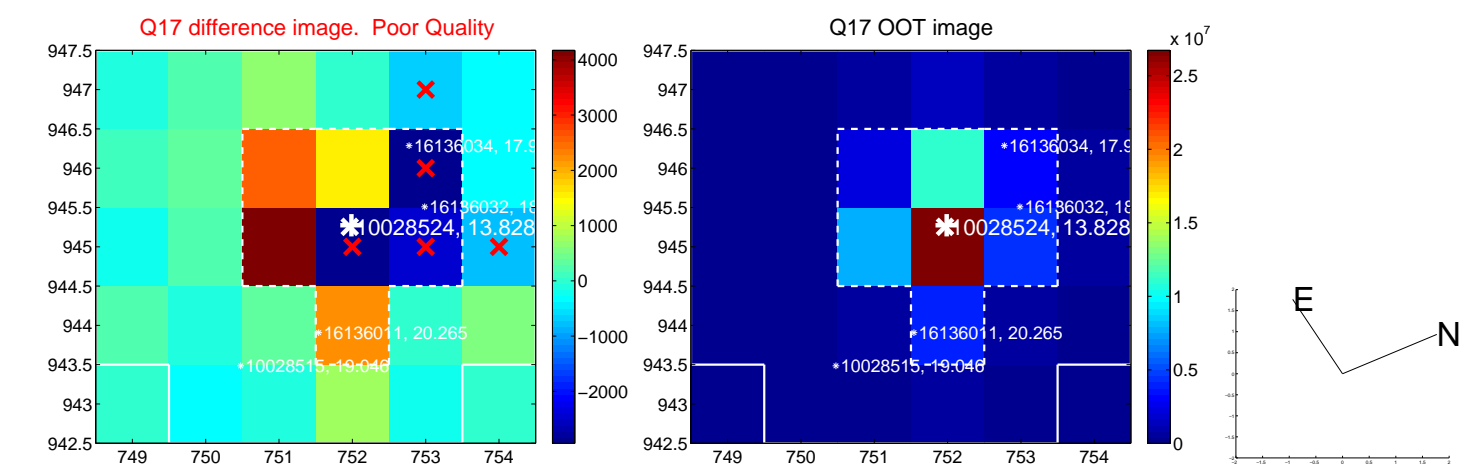
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



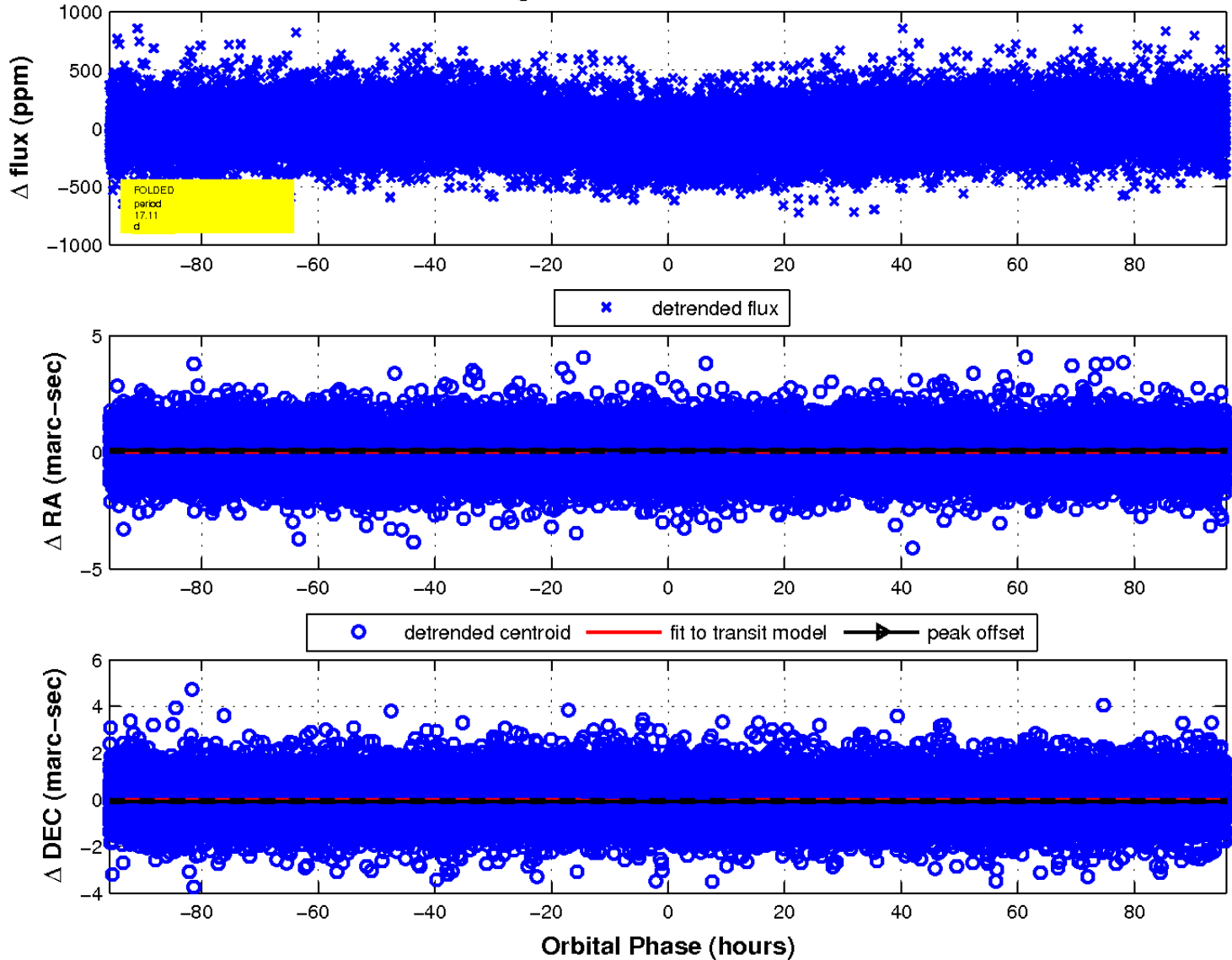
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

