

KIC 006441738

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})
006441738-01	OBS	1246.01	19.037290	148.549813	400.1	3.568	22.9	24.6	2.89	5248	6.83	288.53

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006441738-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS

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.

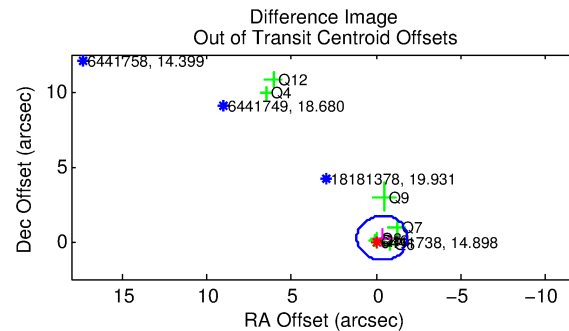
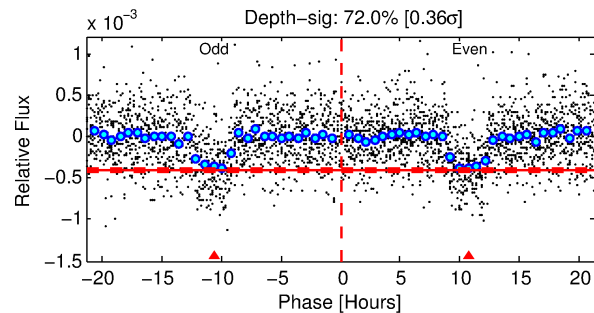
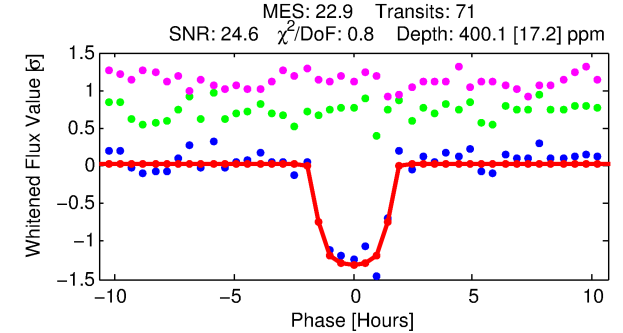
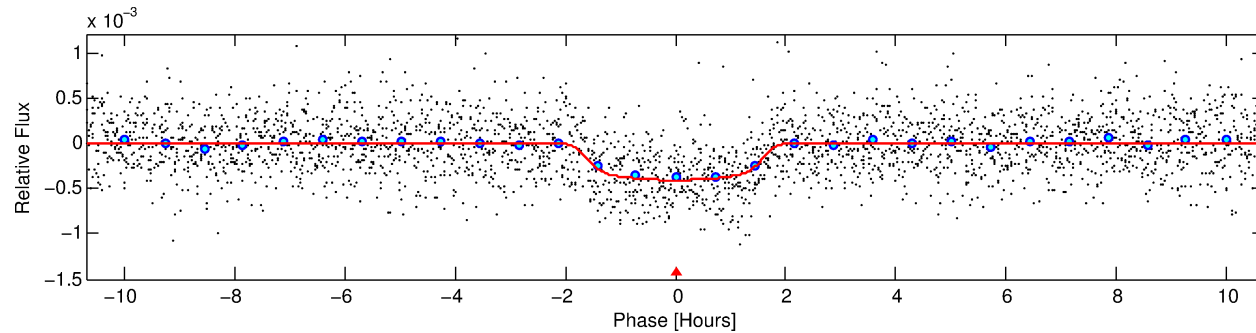
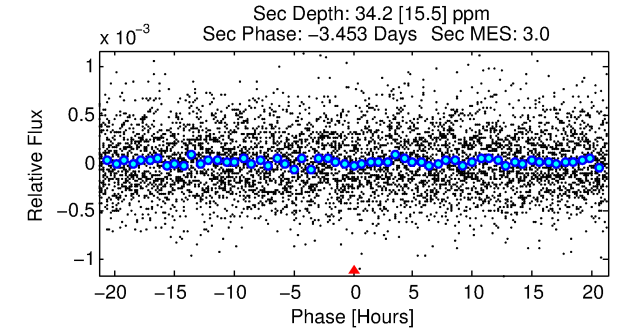
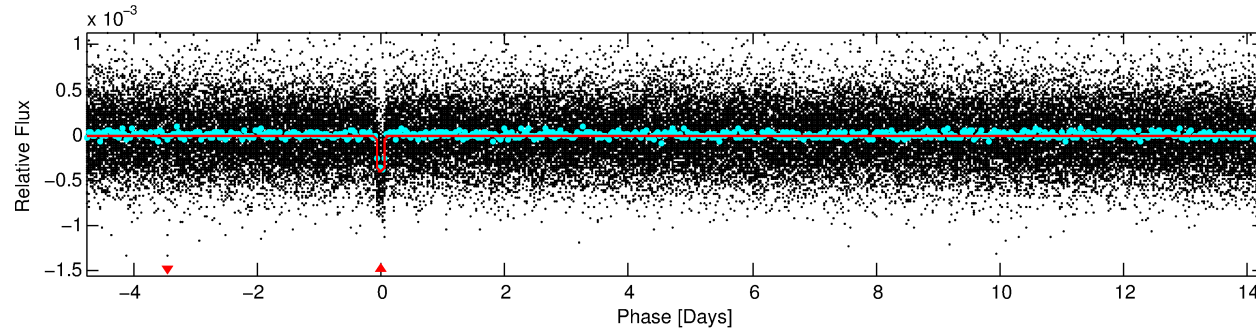
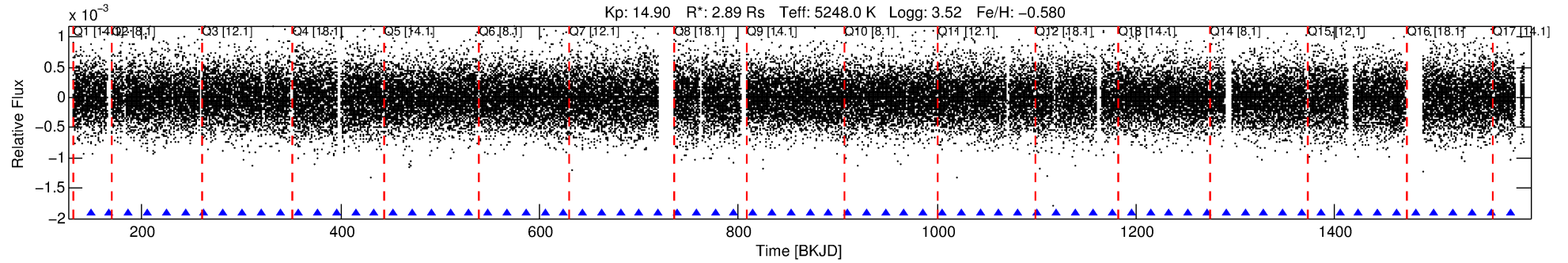
Ephemeris Match Information For 006441738-01

No Significant Match Found

DV One-Page Summary

KIC: 6441738 Candidate: 1 of 1 Period: 19.037 d

KOI: K01246.01 Corr: 0.981



DV Fit Results:

Period = 19.03729 [0.00008] d
Epoch = 148.5498 [0.0034] BKJD
Rp/R* = 0.0216 [0.0039]
a/R* = 20.74 [16.14]
b = 0.89 [0.19]
Seff = 288.53 [78.27]
Teq = 1051 [71] K
Rp = 6.83 [1.96] Re
a = 0.1404 [0.0260] AU
Ag = 7.96 [5.06] [1.38σ]
Teffp = 2729 [396] K [4.17σ]

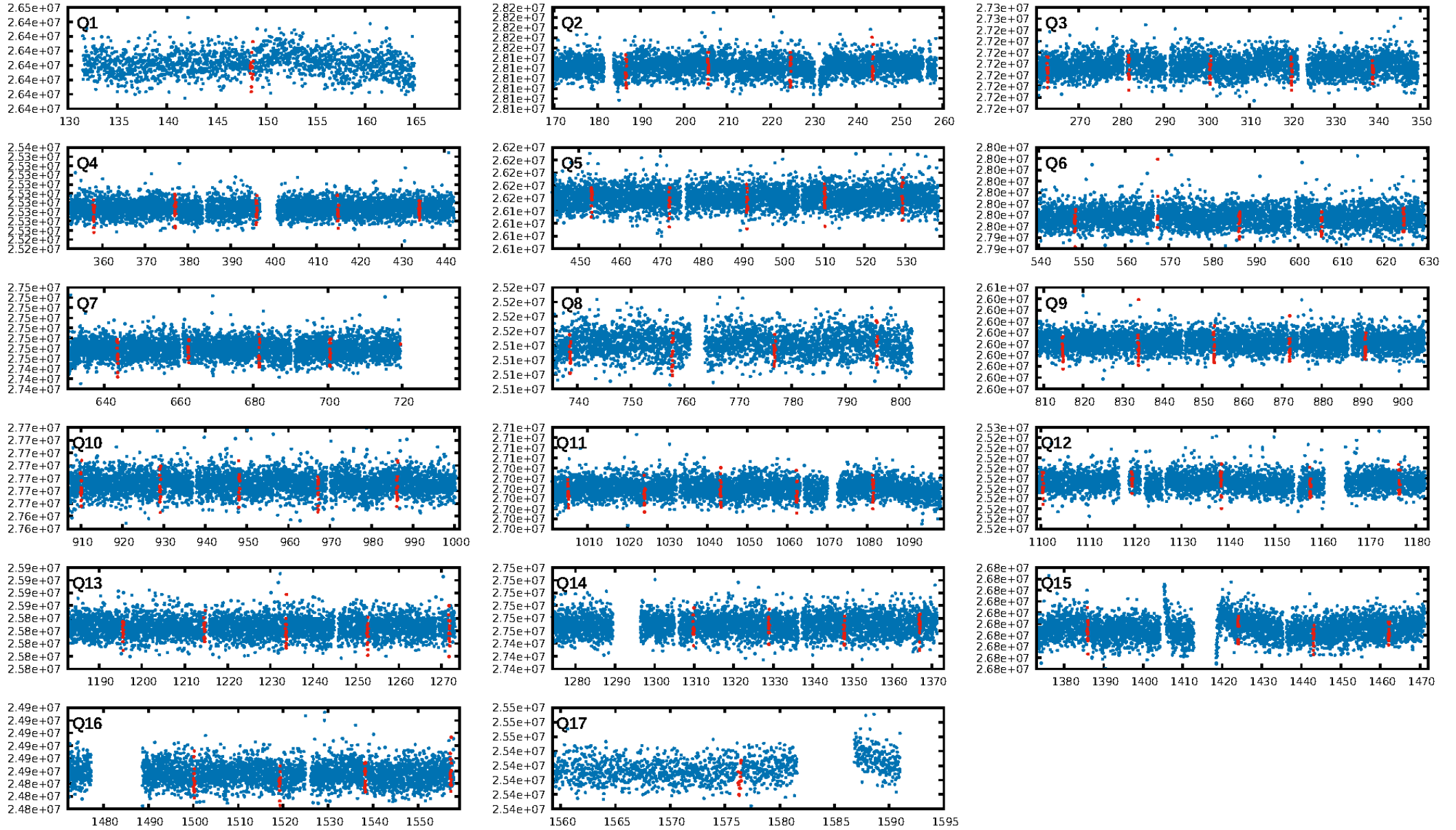
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.41e-113
RollingBand-fgt: 1.00 [69/69]
GhostDiagnostic-chr: -50
Centroid-sig: 0.0%
Centroid-so: 1.622 arcsec [2.97σ]
OotOffset-rm: 0.408 arcsec [0.82σ]
KicOffset-rm: 0.466 arcsec [1.54σ]
OotOffset-st: 3/2/2/1 [8]
KicOffset-st: 3/2/2/2 [9]
DiffImageQuality-fgm: 0.78 [7/9]
DiffImageOverlap-fno: 1.00 [17/17]

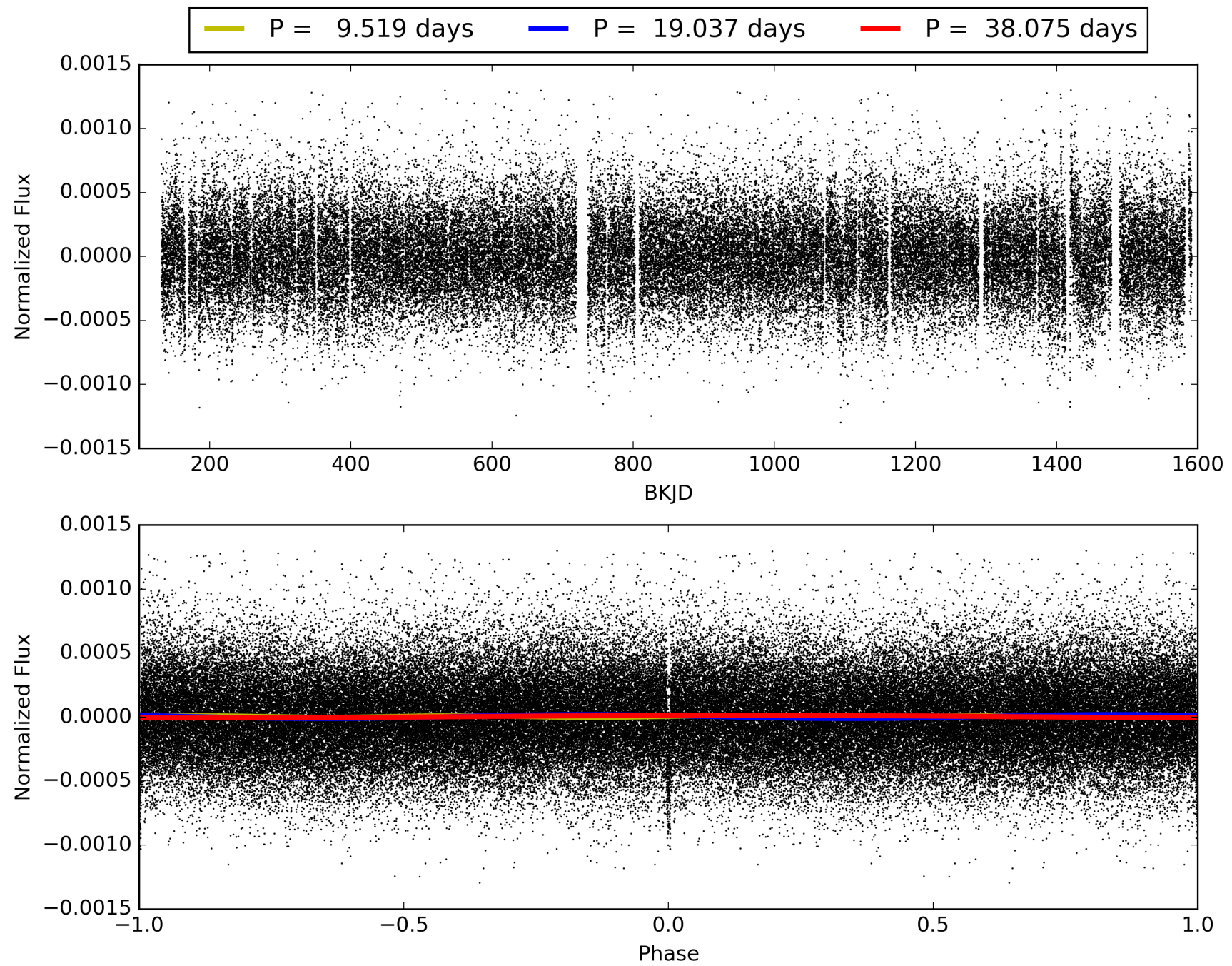
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 04:25:40 Z

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

TCE 006441738-01, PDC Light Curves

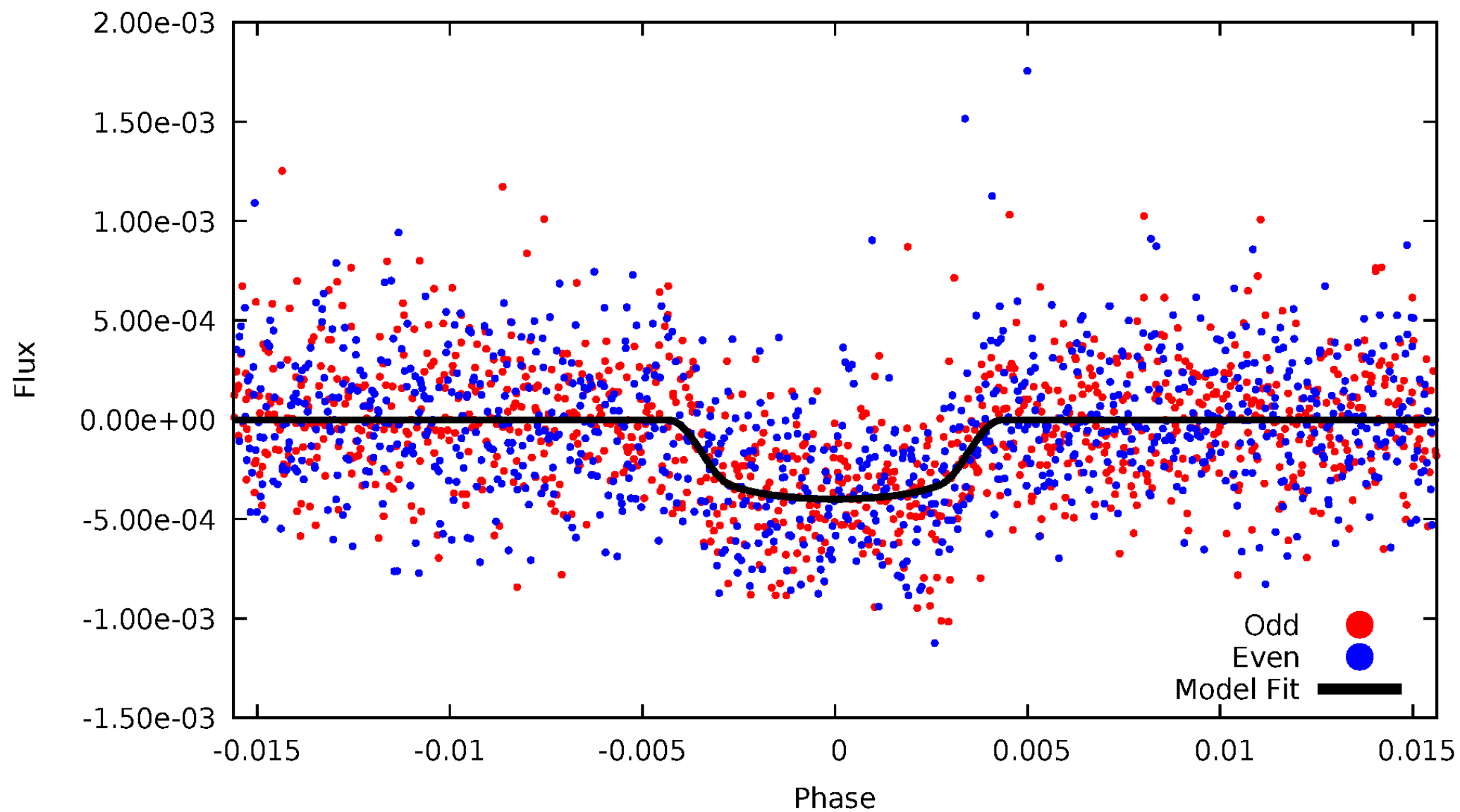


TCE 006441738-01



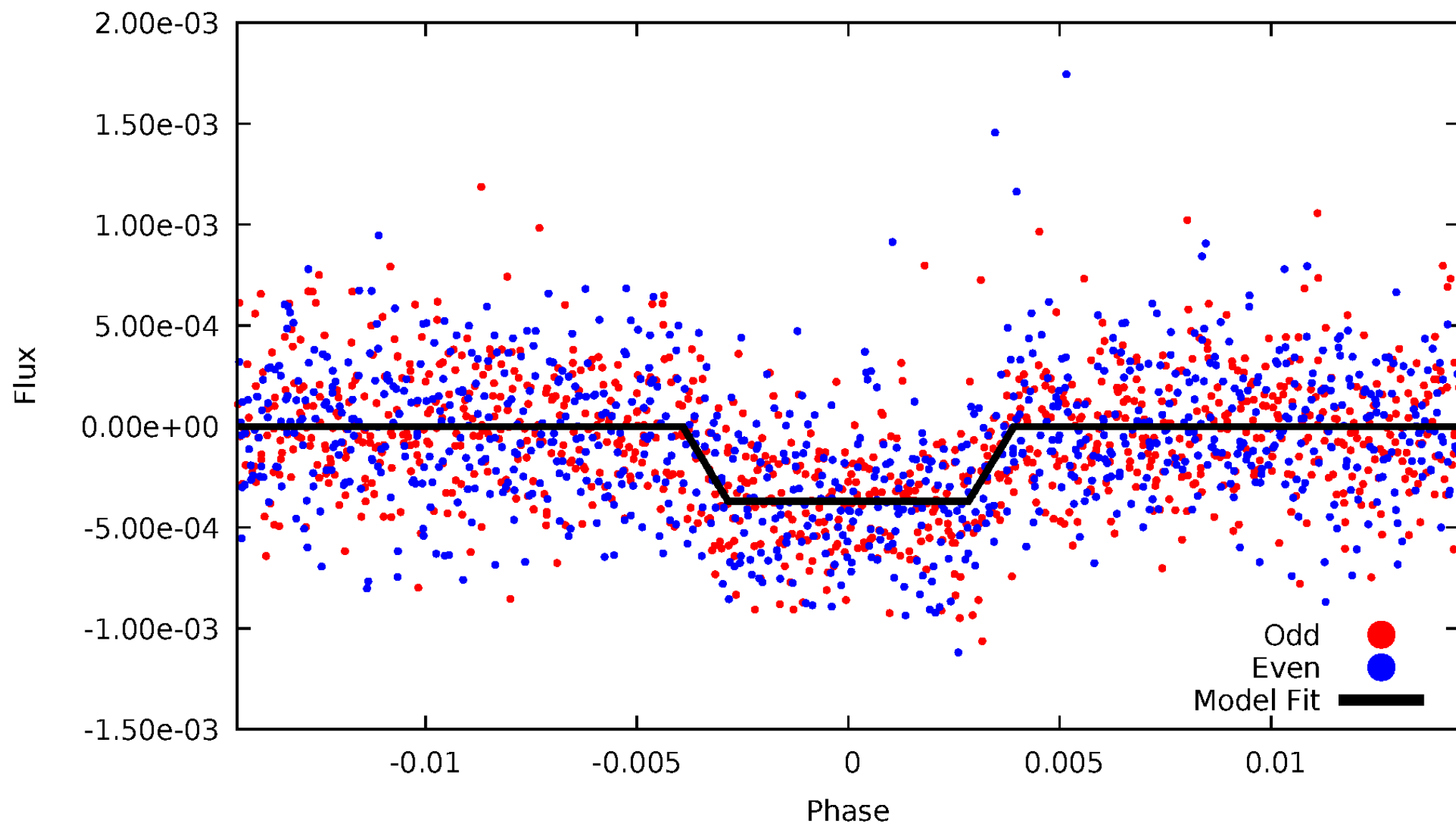
DV Odd/Even

TCE 006441738-01



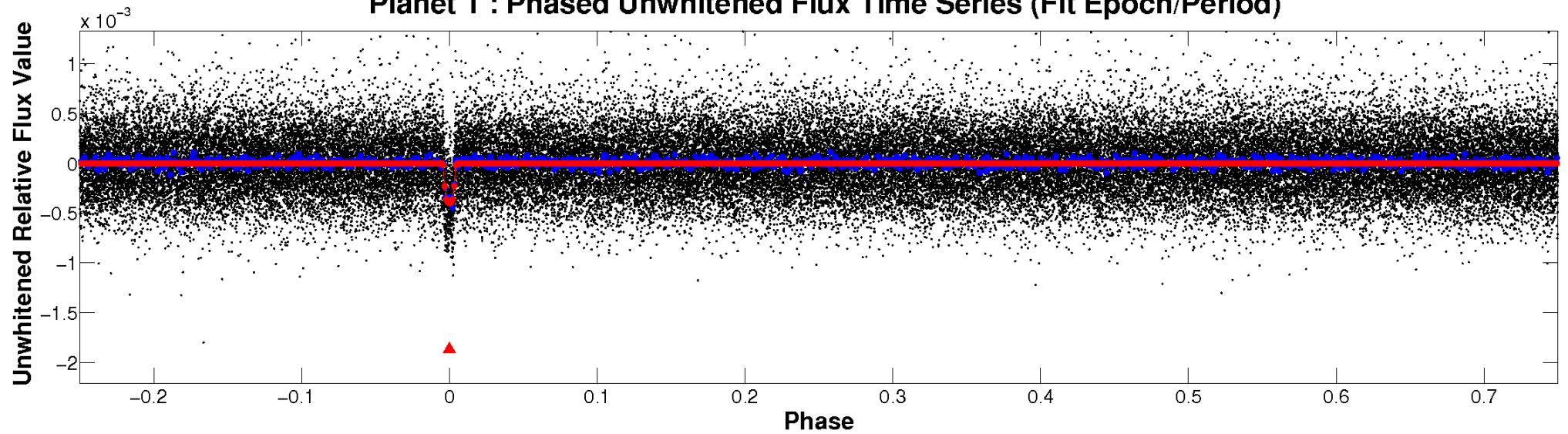
ALT Odd/Even

TCE 006441738-01

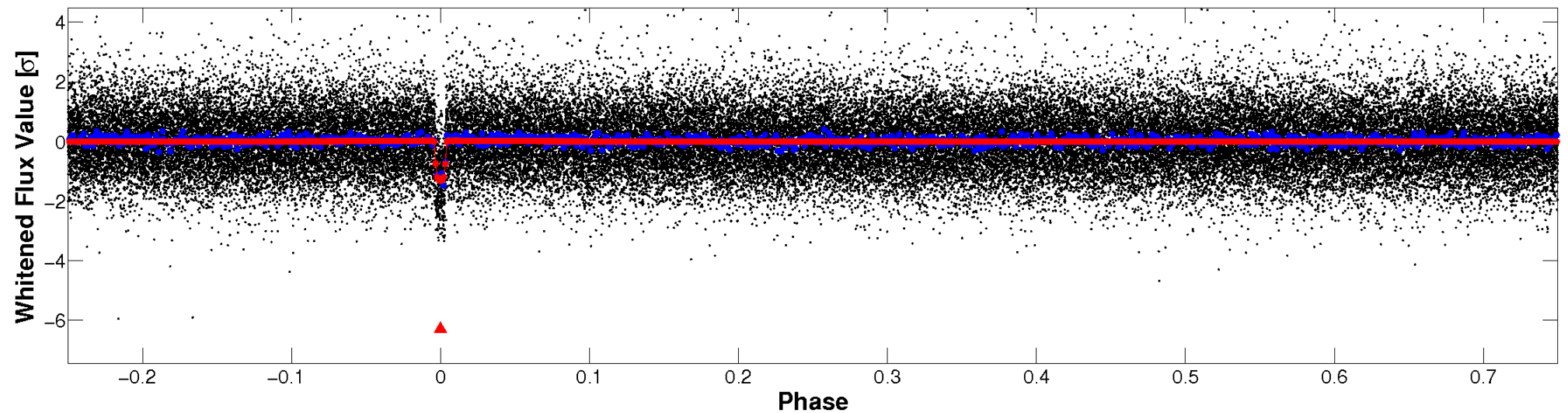


Non-Whitened Vs. Whitened Light Curve

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

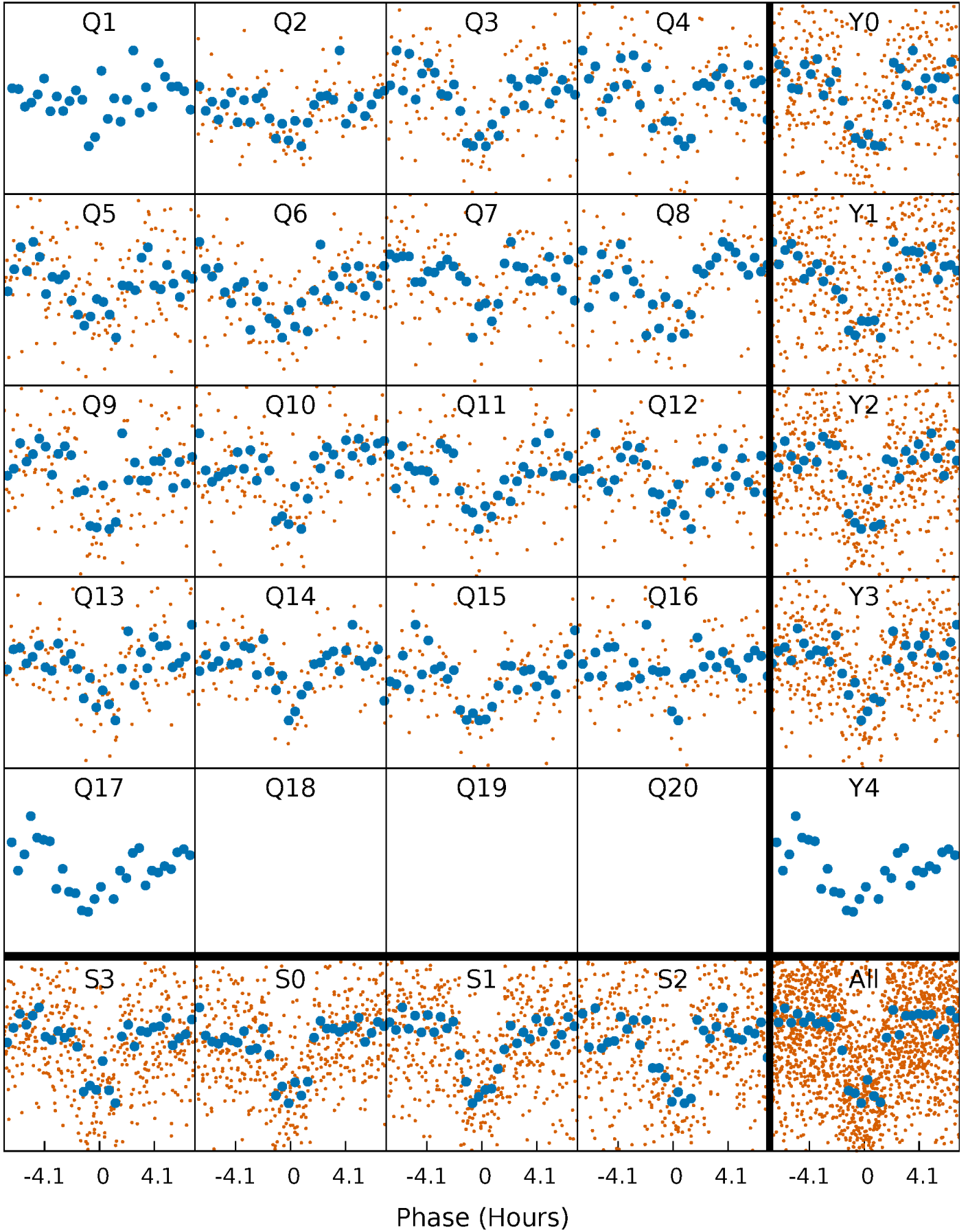


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



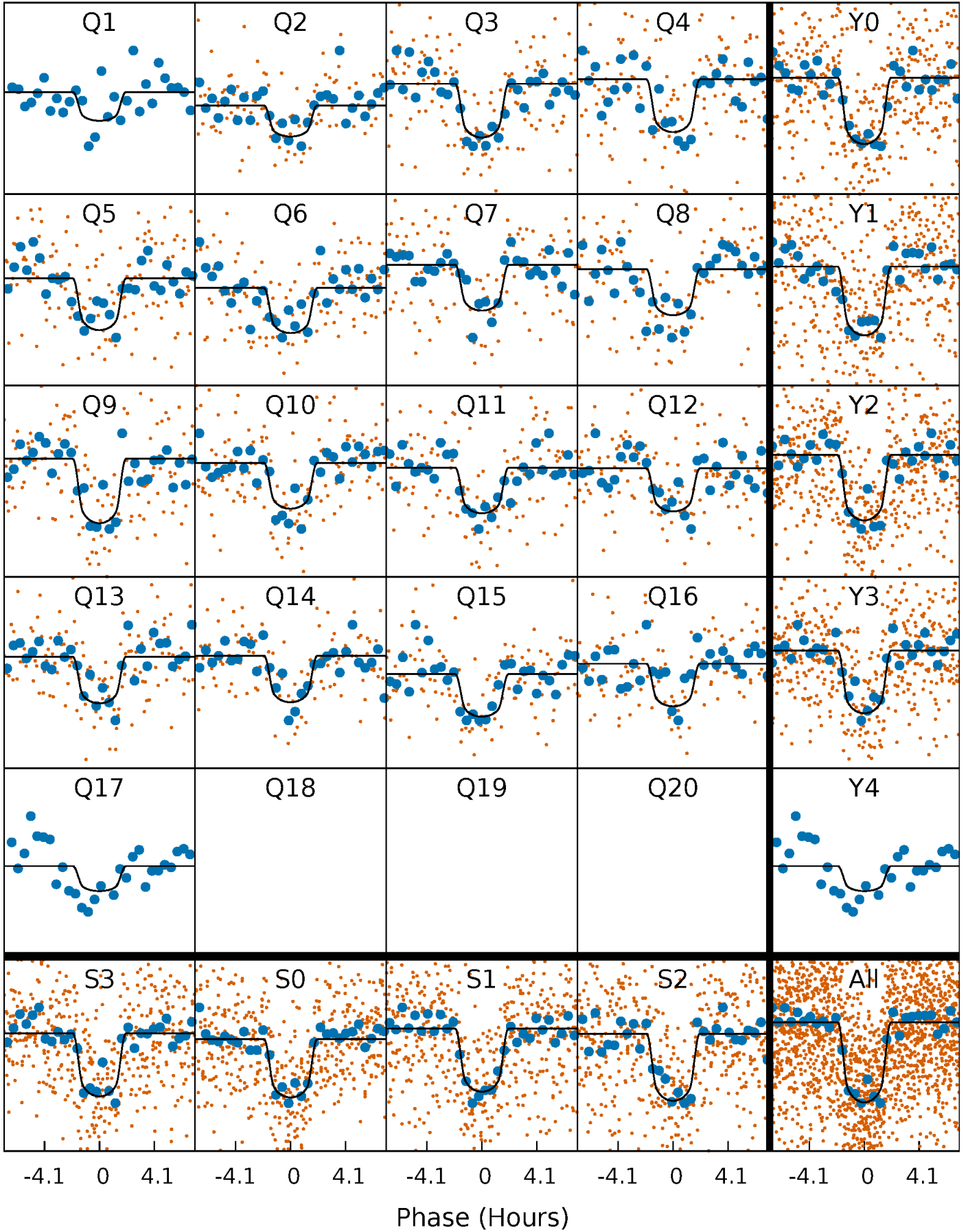
PDC Quarter-Phased Transit Curves

TCE 006441738-01 P= 19.037290 Days $T_0=148.549813$ (BKJD)



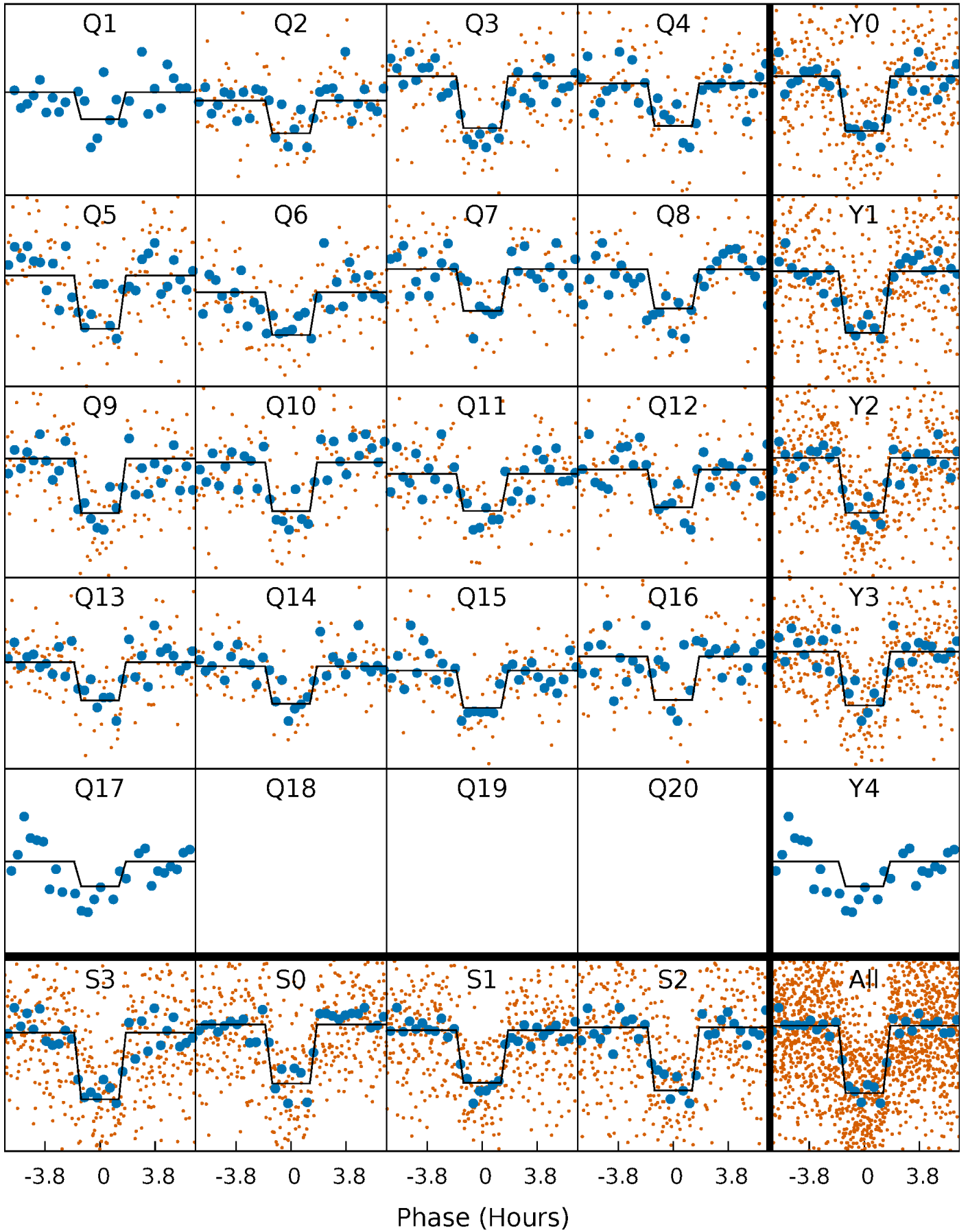
DV Quarter-Phased Transit Curves

TCE 006441738-01 P= 19.037290 Days $T_0=148.549813$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

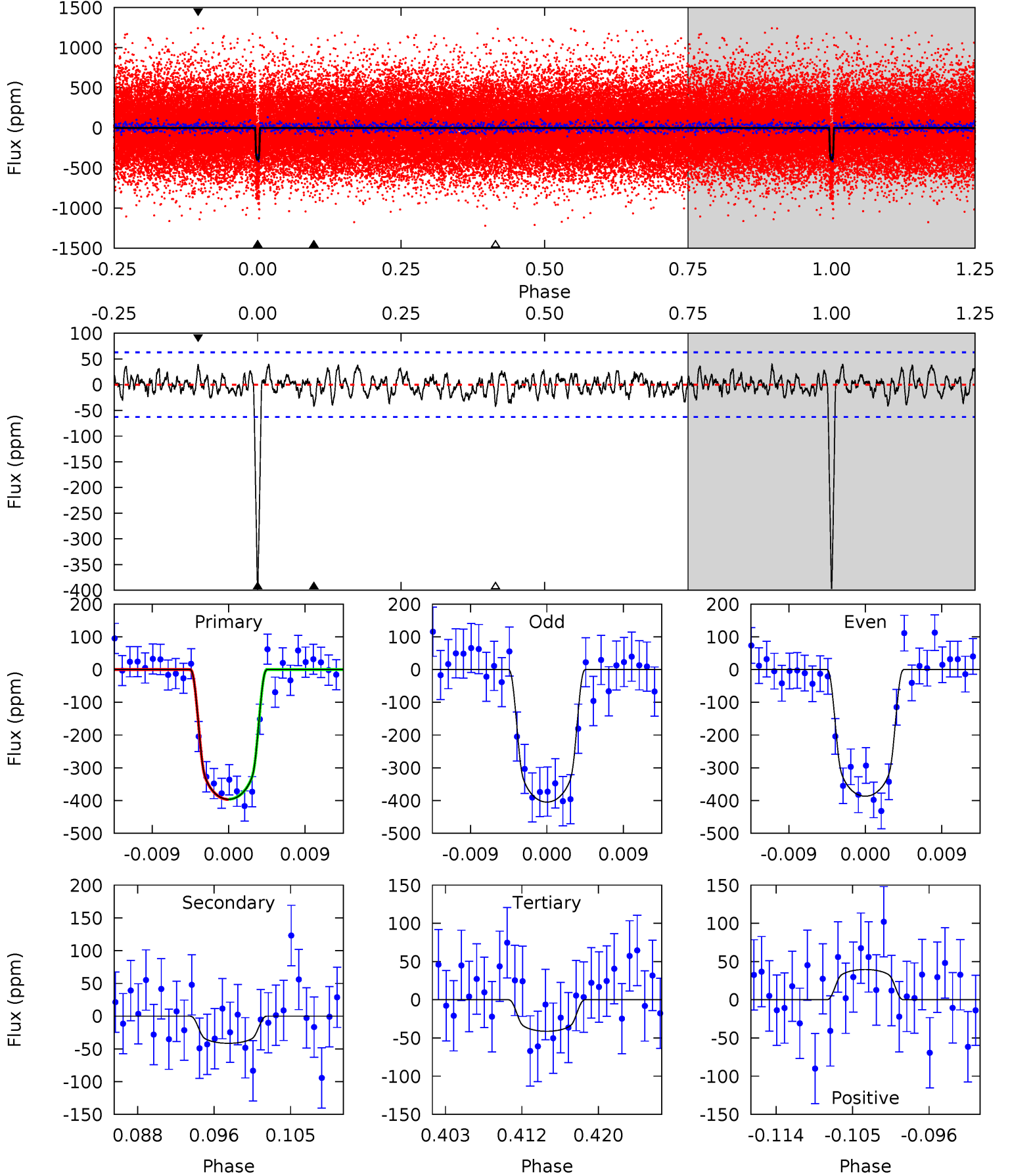
TCE 006441738-01 P= 19.037386 Days $T_0=148.544572$ (BKJD)



DV Model-Shift Uniqueness Test

006441738-01, P = 19.037290 Days, E = 129.512523 Days

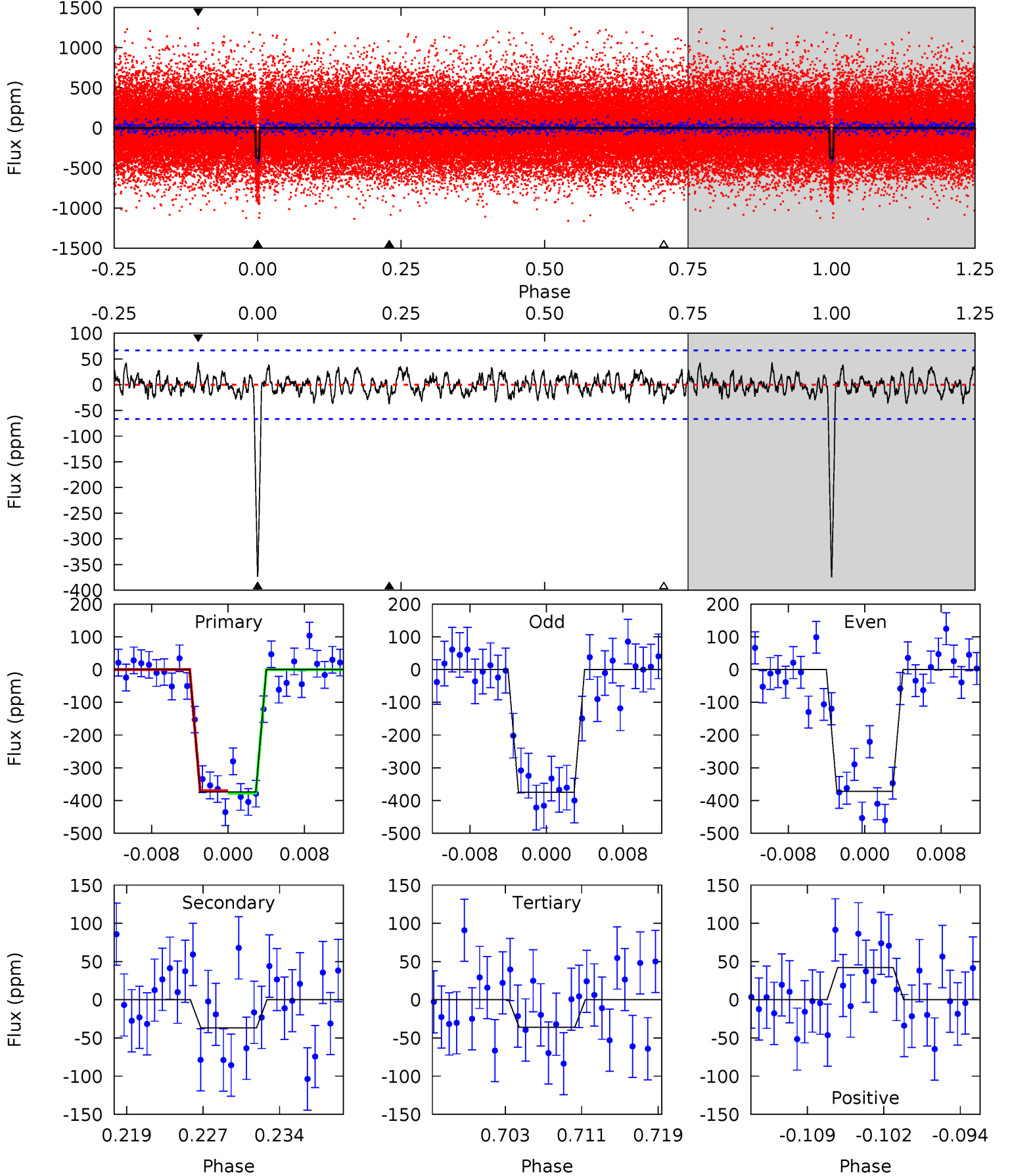
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.8	3.33	3.32	3.18	5.05	2.62	1.18	28.5	28.7	0.02	0.15	0.72	1.02	0.09	0.04



Alt Model-Shift Uniqueness Test

006441738-01, P = 19.037386 Days, E = 129.507186 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.4	2.80	2.73	3.19	5.07	2.66	1.11	25.6	25.2	0.07	-0.40	0.11	0.99	0.10	0.30



Stellar Parameters For KIC 006441738

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5248^{+68}_{-73}	$3.523^{+0.117}_{-0.143}$	$-0.580^{+0.150}_{-0.150}$	$2.892^{+0.648}_{-0.471}$	$1.017^{+0.197}_{-0.148}$	$0.059^{+0.032}_{-0.024}$
	+1%/-1%	+3%/-4%	+26%/-26%	+22%/-16%	+19%/-15%	+53%/-40%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 006441738-01 / KOI 1246.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-41 ± 12	$6.88^{+1.51}_{-1.44}$	1475^{+80}_{-64}	3352^{+269}_{-253}	$9.291^{+6.940}_{-3.824}$
Alt.	-37 ± 13	$6.10^{+1.56}_{-1.34}$	1472^{+83}_{-69}	3405^{+319}_{-298}	10^{+9}_{-5}

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

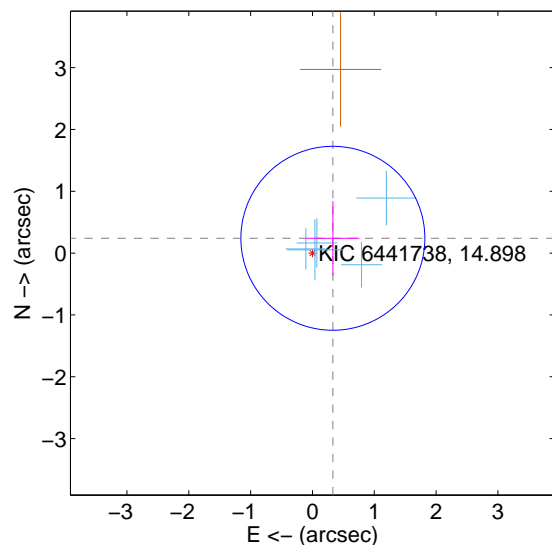
Supplemental centroid analysis for 006441738-01. Kepler magnitude: 14.90. Transit SNR 24.59

There are 7 quarters with good PRF difference image offsets

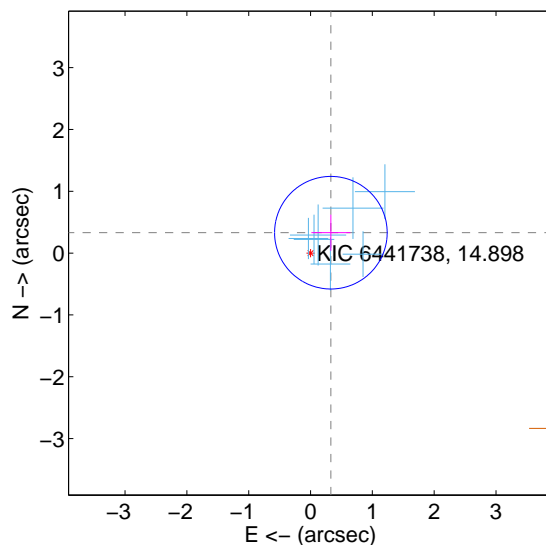
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.408 ± 0.496	0.82	-0.330 ± 0.429	0.239 ± 0.602
PRF-fit source offset from KIC position	0.466 ± 0.303	1.54	-0.329 ± 0.314	0.330 ± 0.292
photometric centroid source offset	1.62 ± 0.55	2.97	-0.34 ± 0.55	1.59 ± 0.55

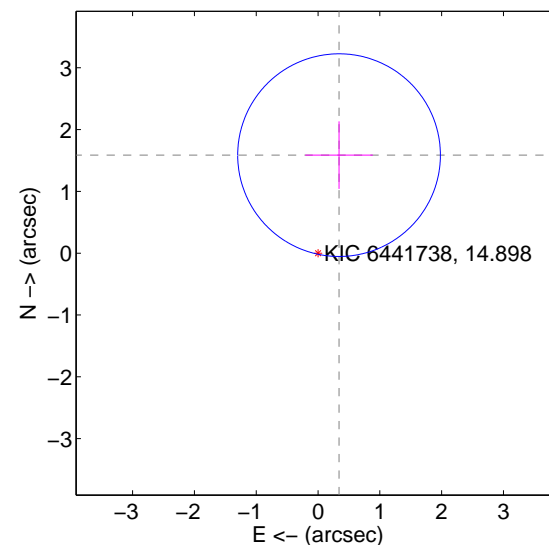
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

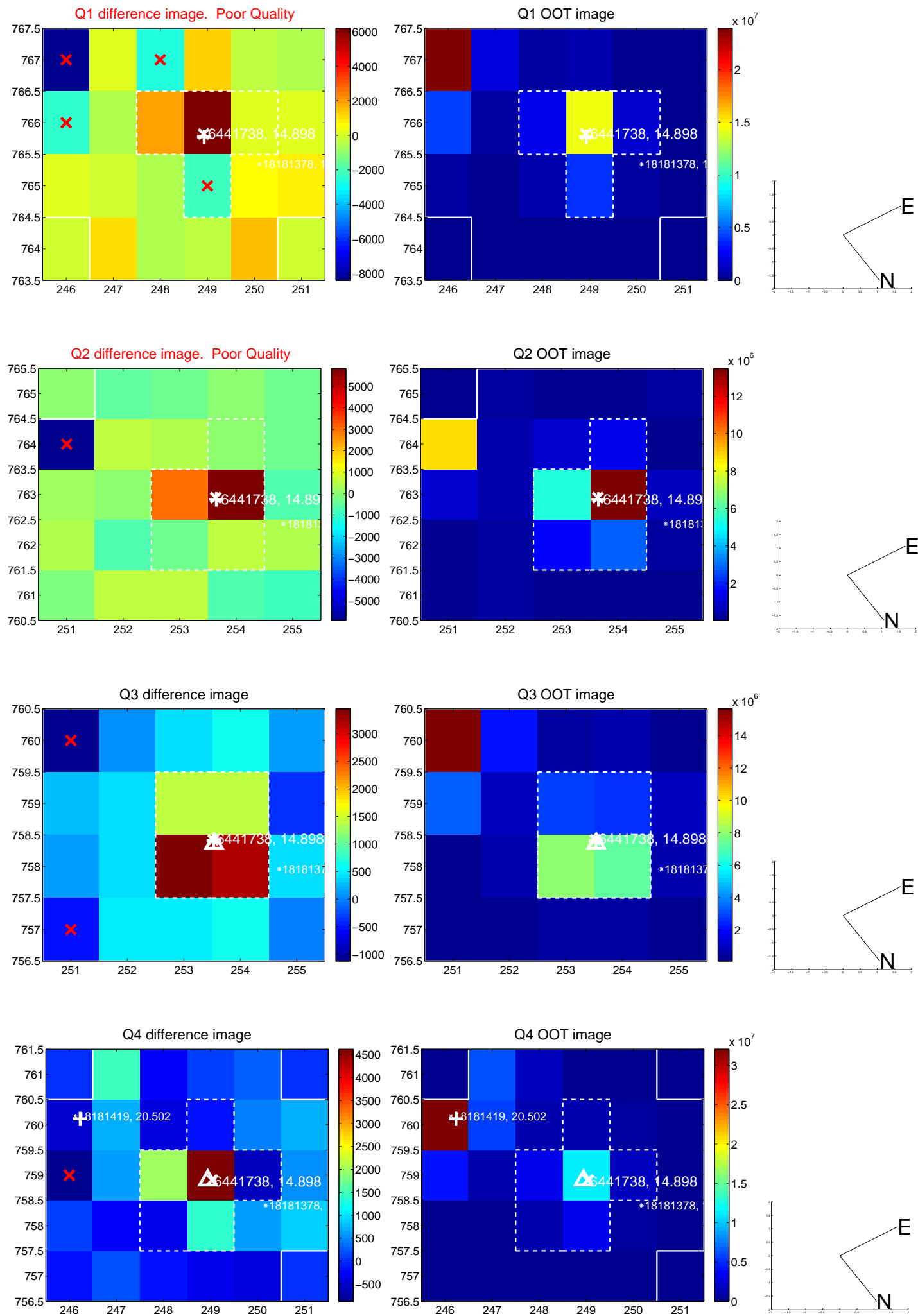


offset from photometric centroids

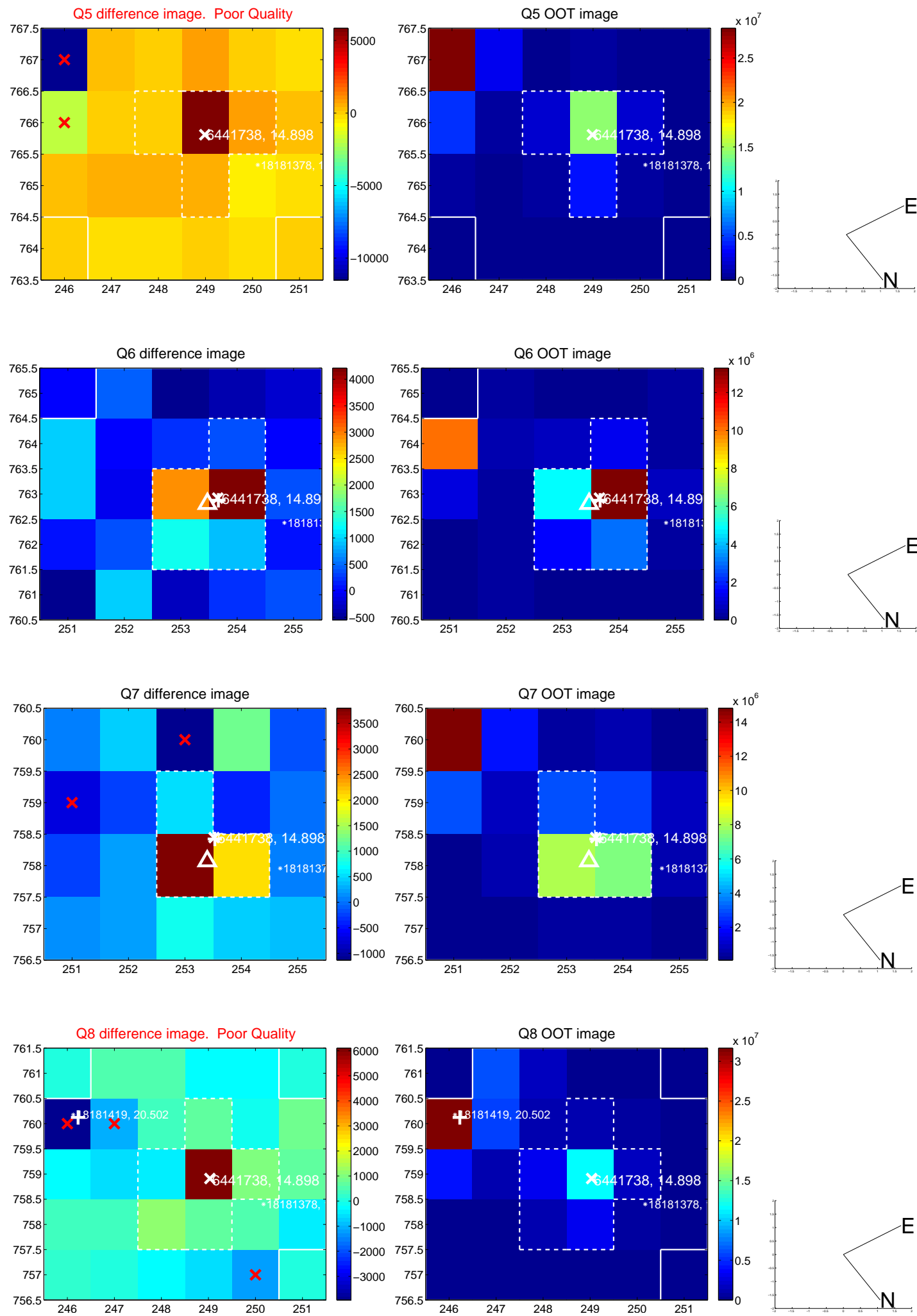


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

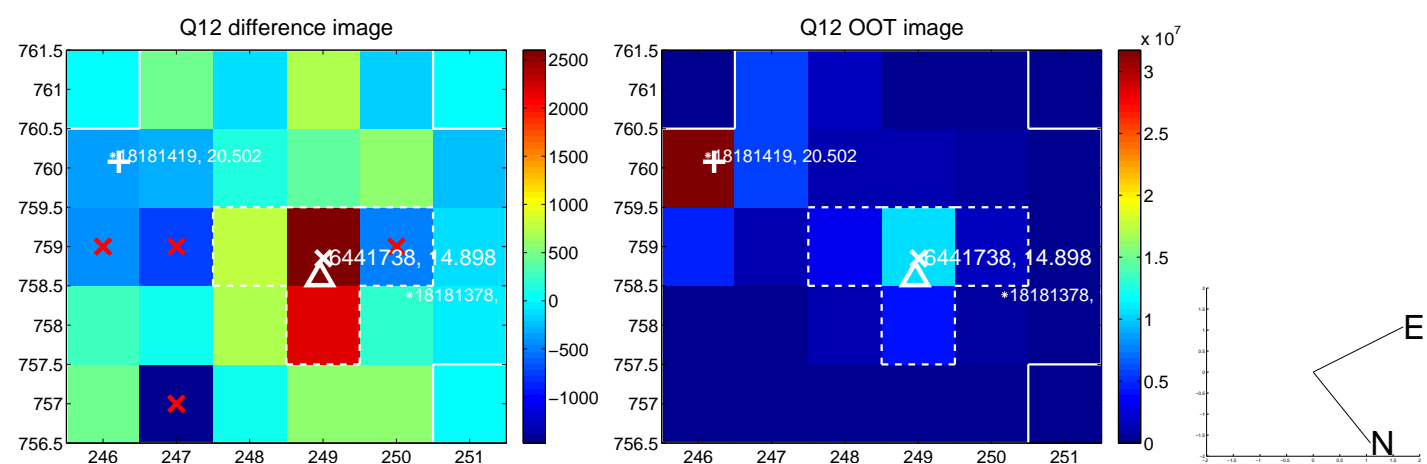
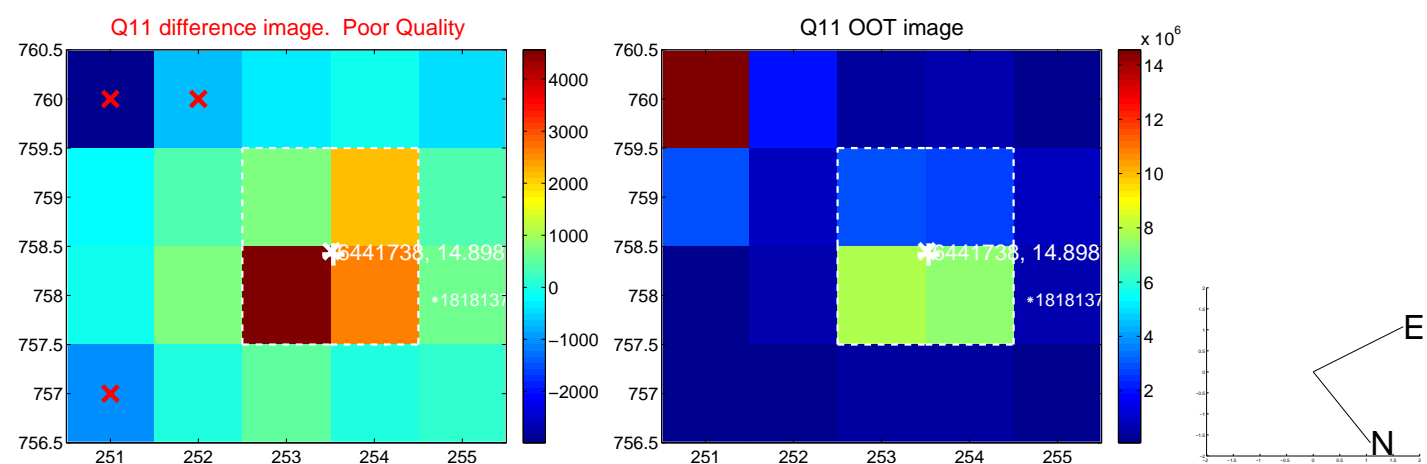
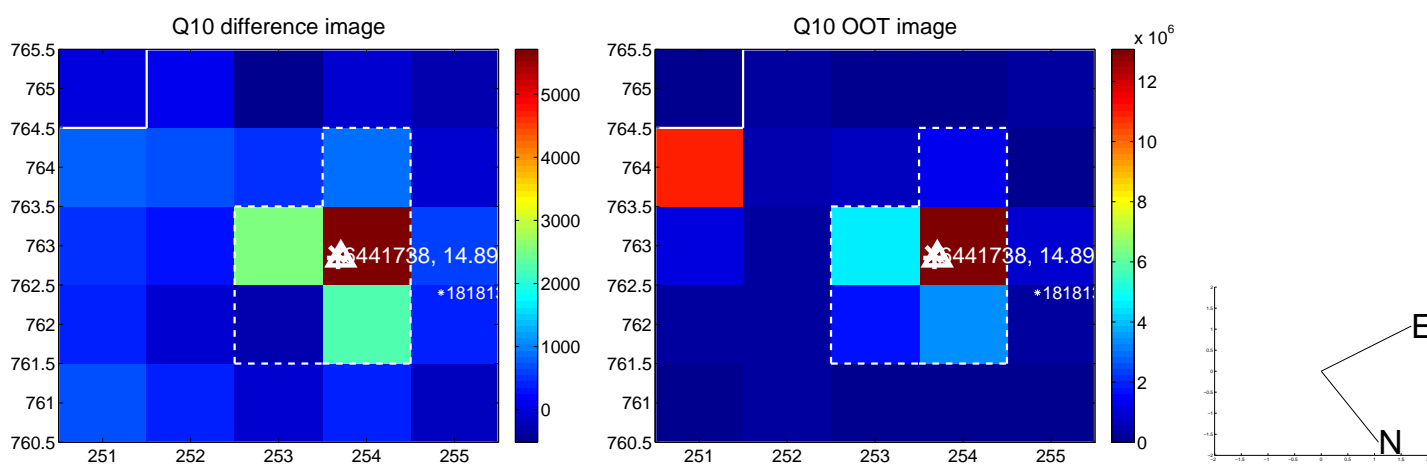
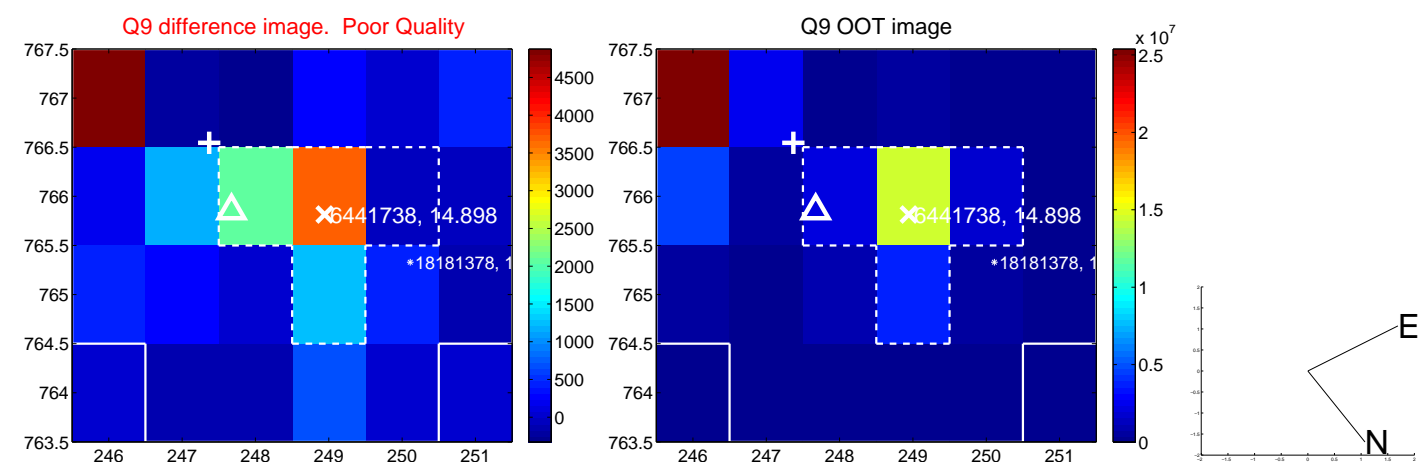
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



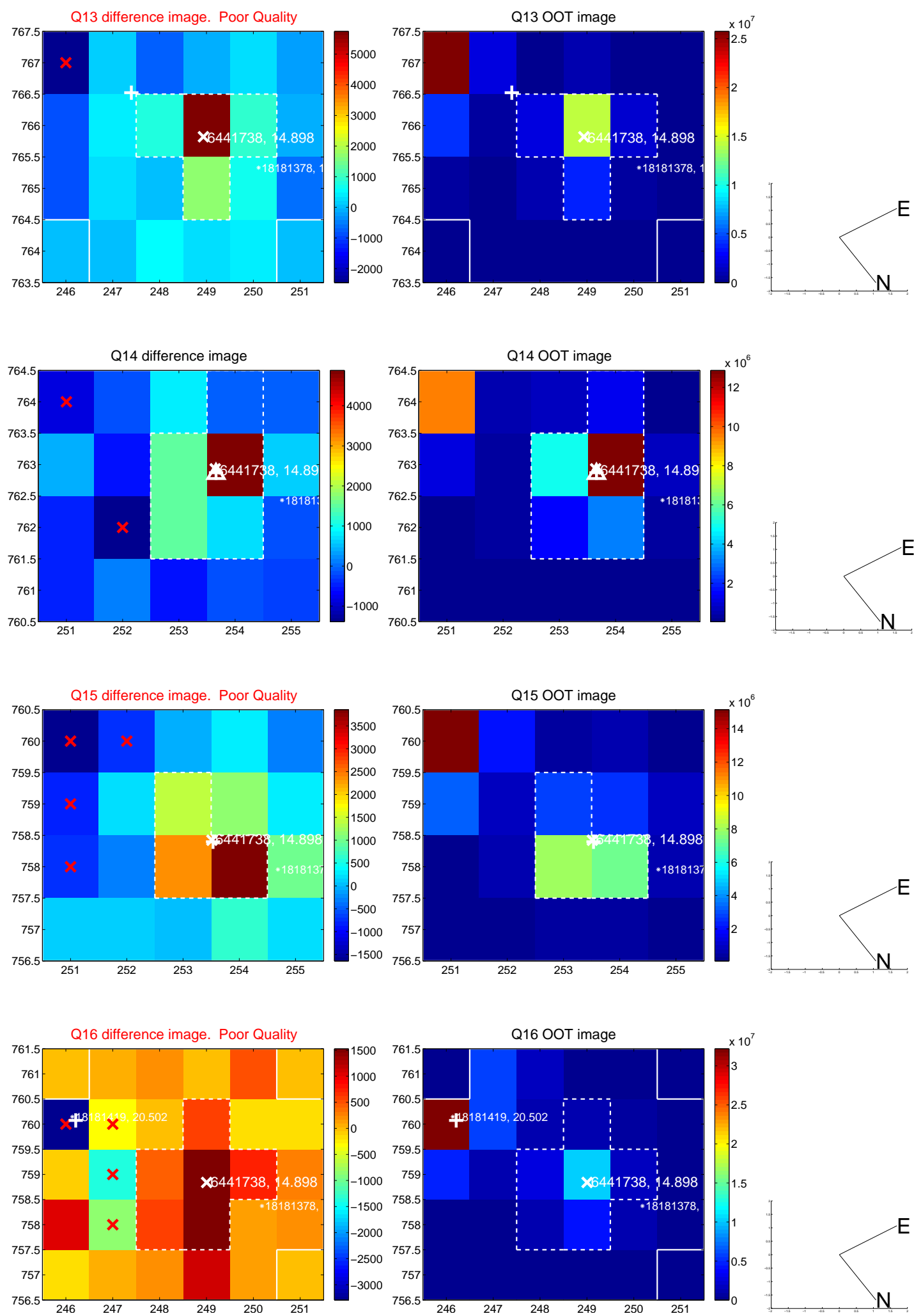
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



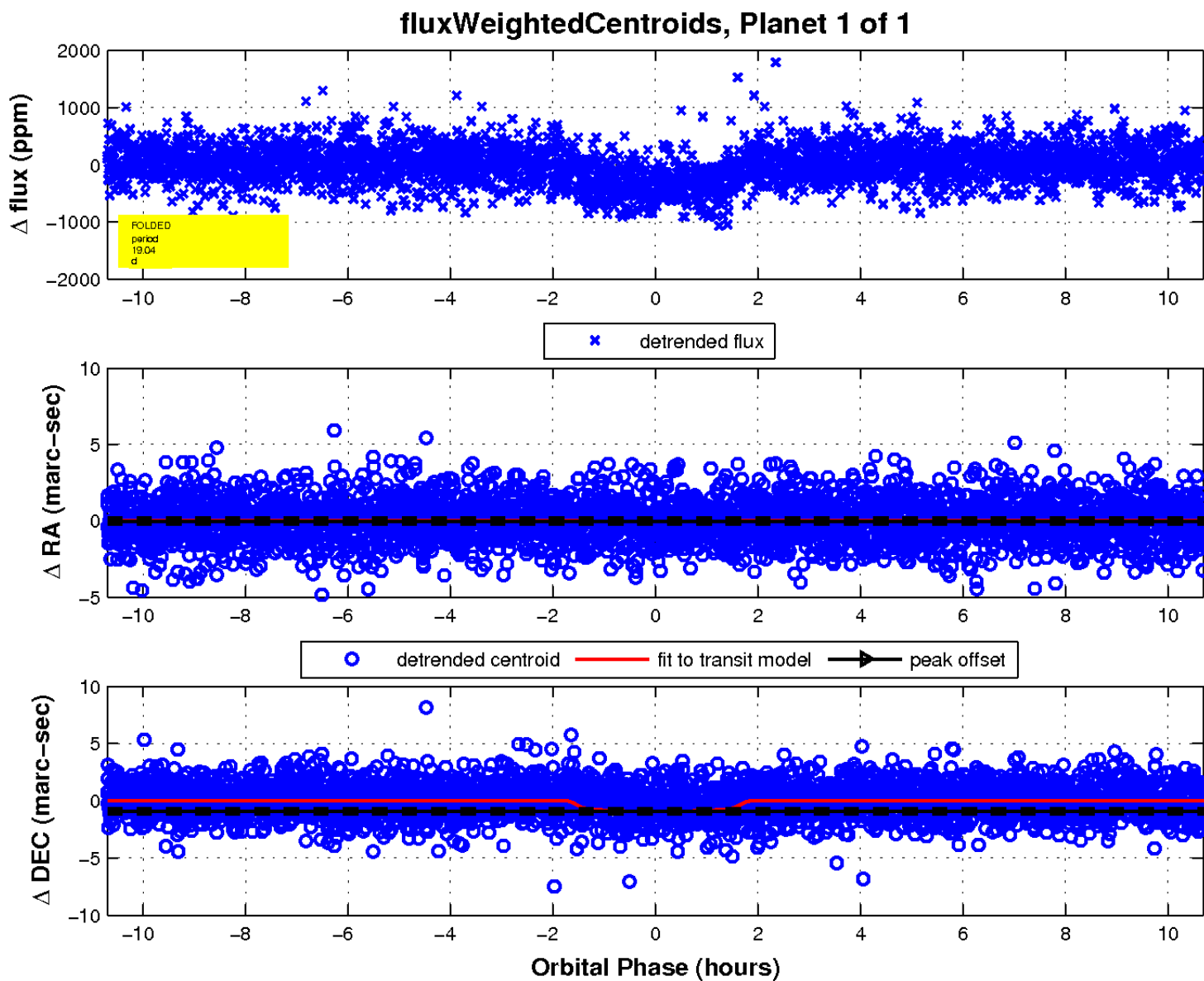
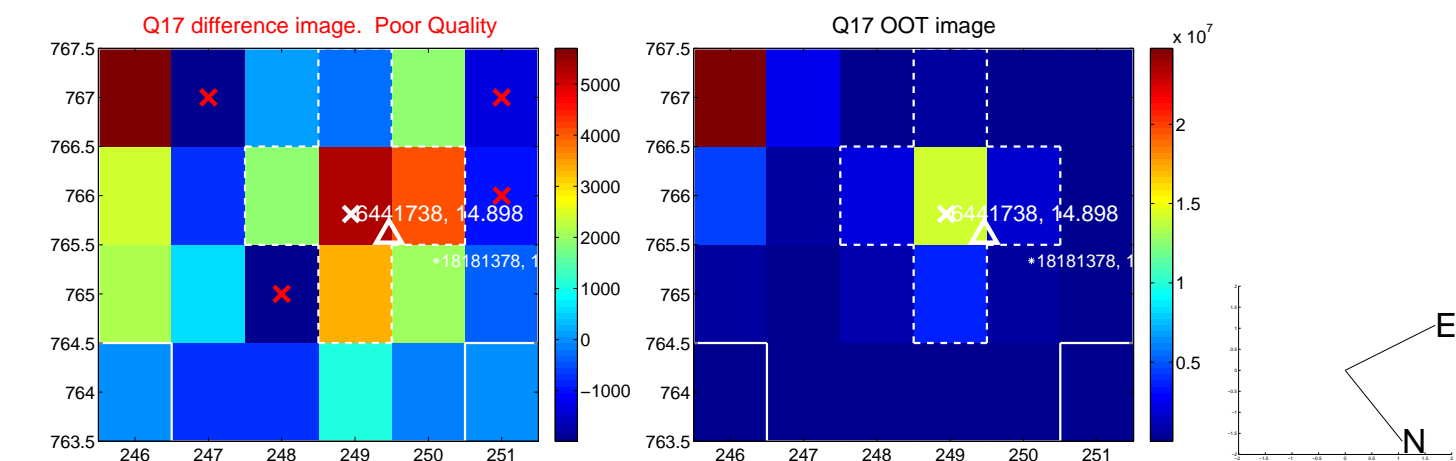
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

