

KIC 002441728

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})
002441728-01	OBS	1000.01	0.856890	131.963677	66.8	1.476	25.7	28.2	0.87	6021	0.84	2962.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002441728-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET—HALO_GHOST

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.

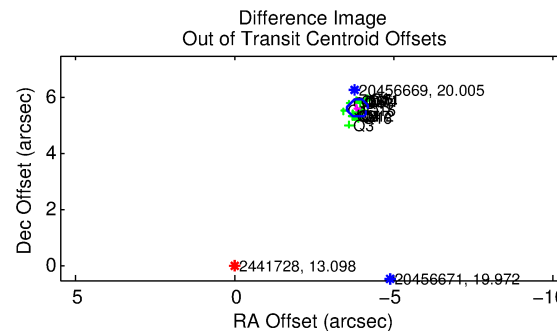
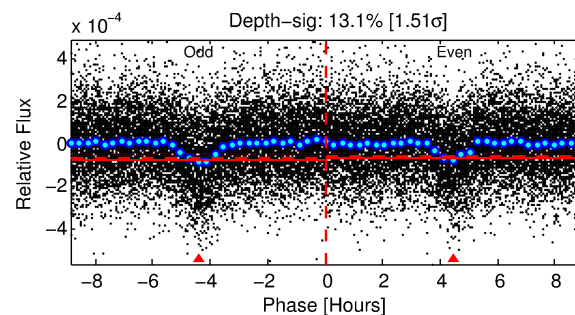
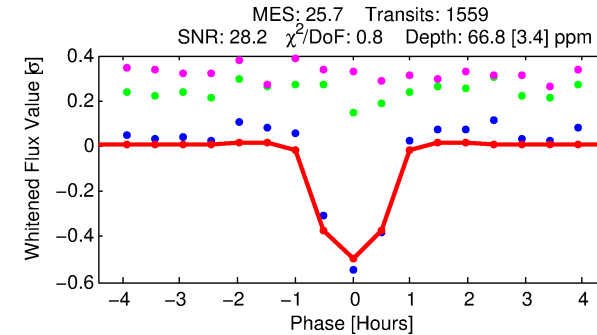
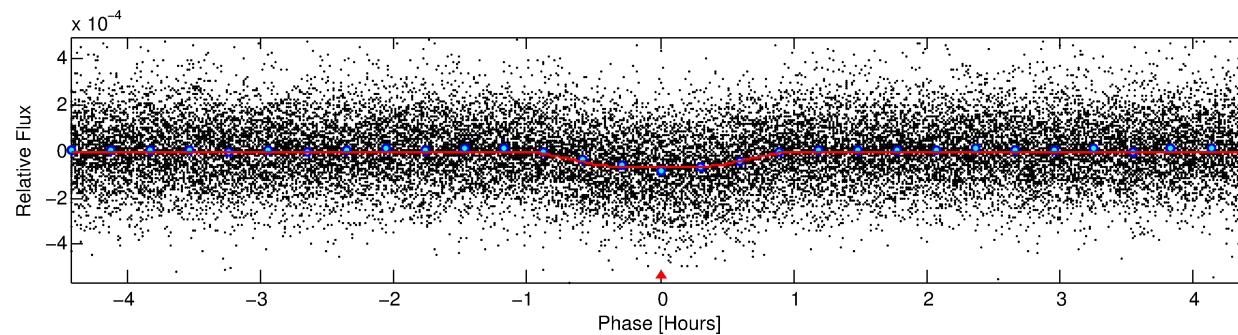
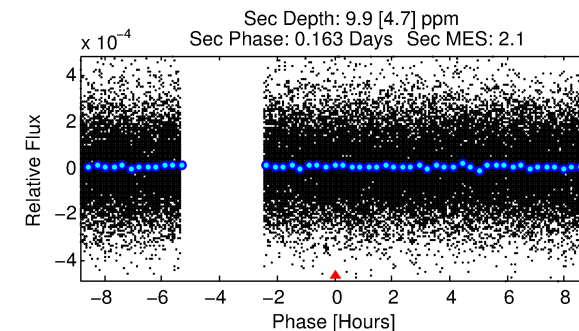
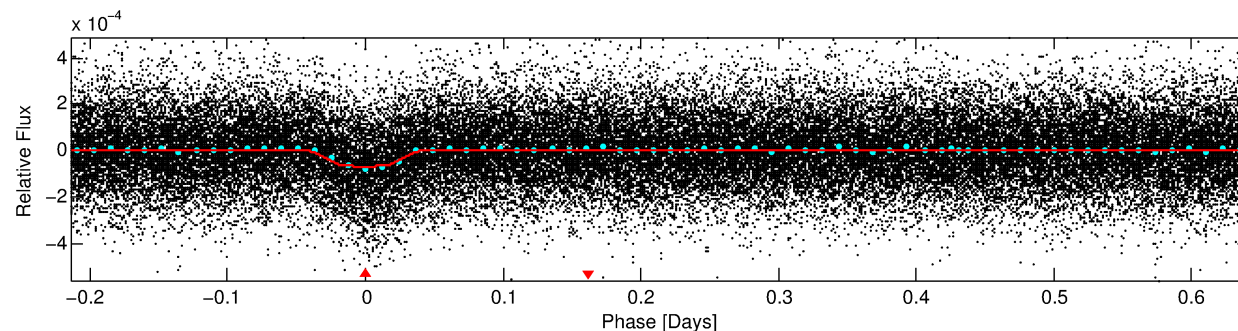
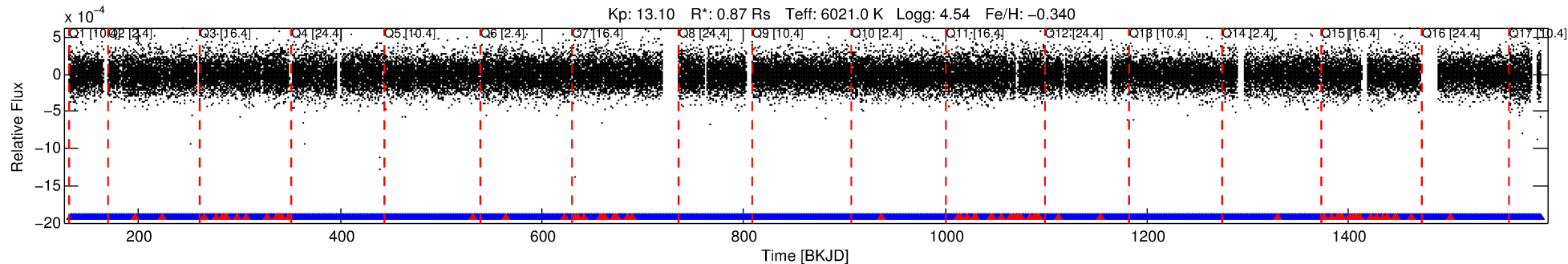
Ephemeris Match Information For 002441728-01

No Significant Match Found

DV One-Page Summary

KIC: 2441728 Candidate: 1 of 1 Period: 0.857 d
KOI: K01000.01 Corr: 0.932

Kp: 13.10 R*: 0.87 Rs Teff: 6021.0 K Logg: 4.54 Fe/H: -0.340



DV Fit Results:

Period = 0.85689 [0.00000] d
Epoch = 131.9637 [0.0008] BKJD
Rp/R* = 0.0088 [0.0021]
a/R* = 2.22 [2.25]
b = 0.90 [0.27]
Seff = 2962.63 [1182.38]
Teq = 1881 [188] K
Rp = 0.84 [0.32] Re
a = 0.0174 [0.0045] AU
Ag = 2.32 [1.81] [0.73σ]
Teffp = 3591 [615] K [2.66σ]

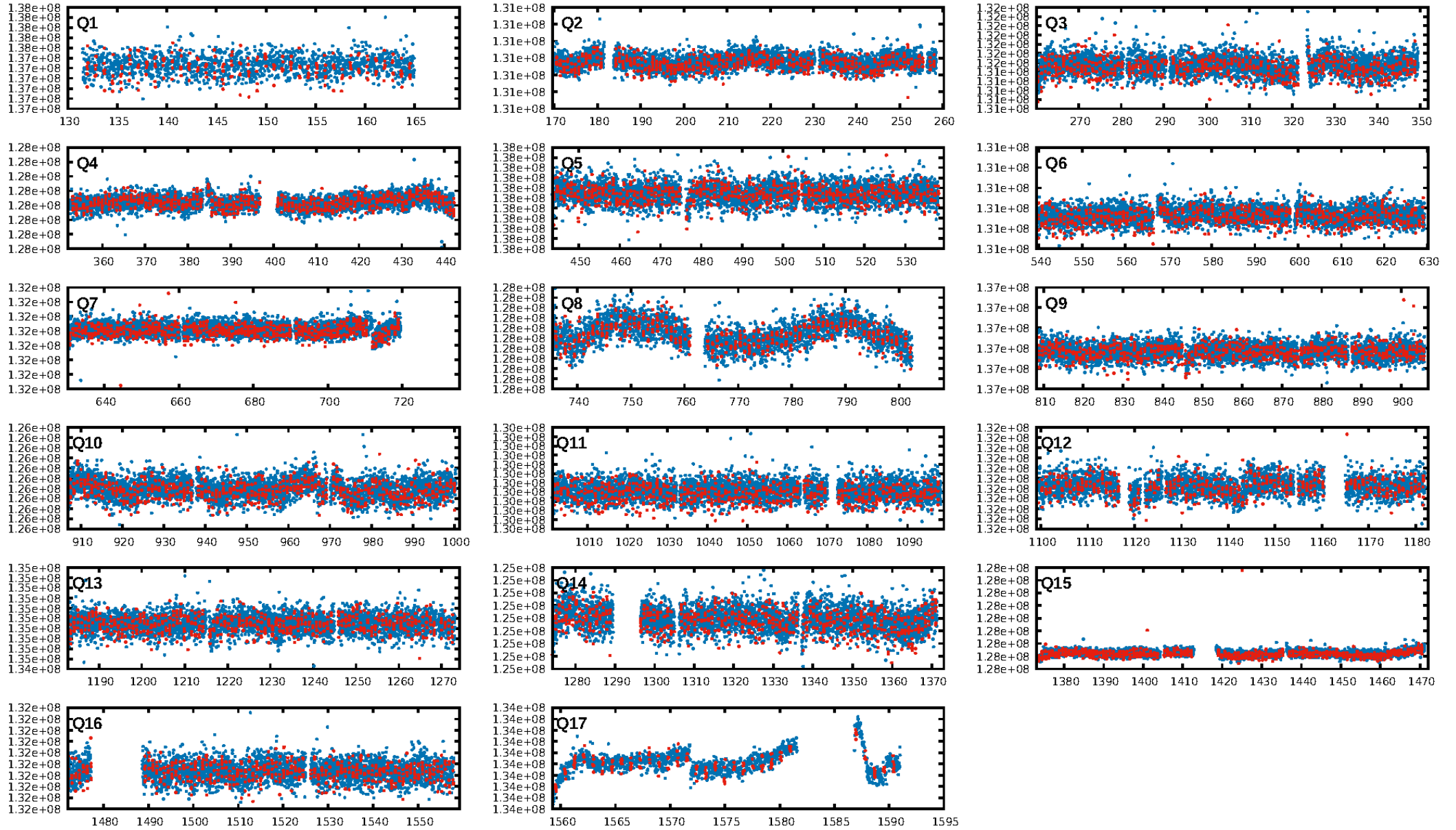
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.59e-134
RollingBand-fgt: 0.95 [1416/1489]
GhostDiagnostic-chr: 0.1719
Centroid-sig: 0.0%
Centroid-so: 11.362 arcsec [25.99σ]
OotOffset-rm: 6.815 arcsec [64.90σ]
KicOffset-rm: 7.029 arcsec [75.58σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

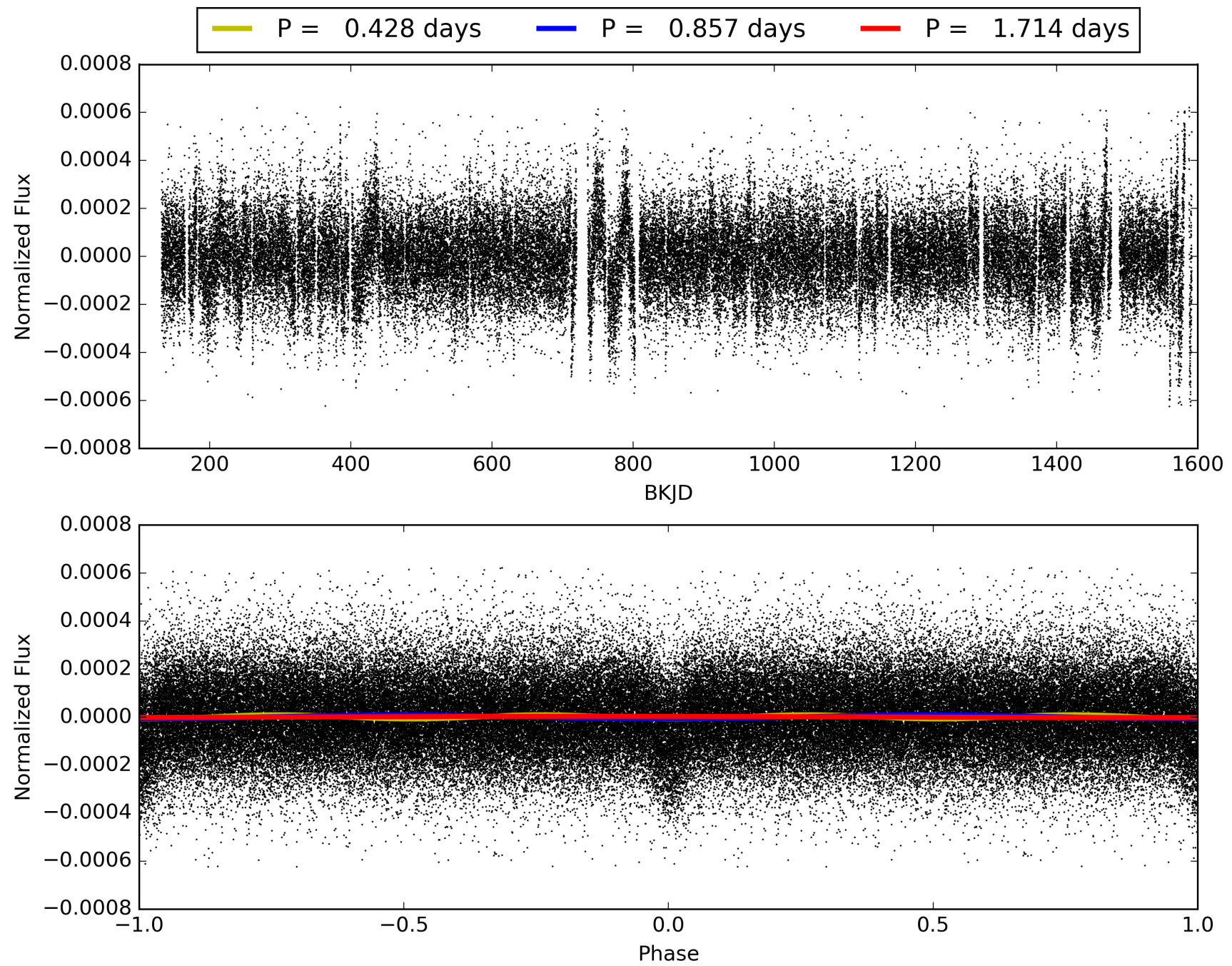
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 17:23:38 Z

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

TCE 002441728-01, PDC Light Curves

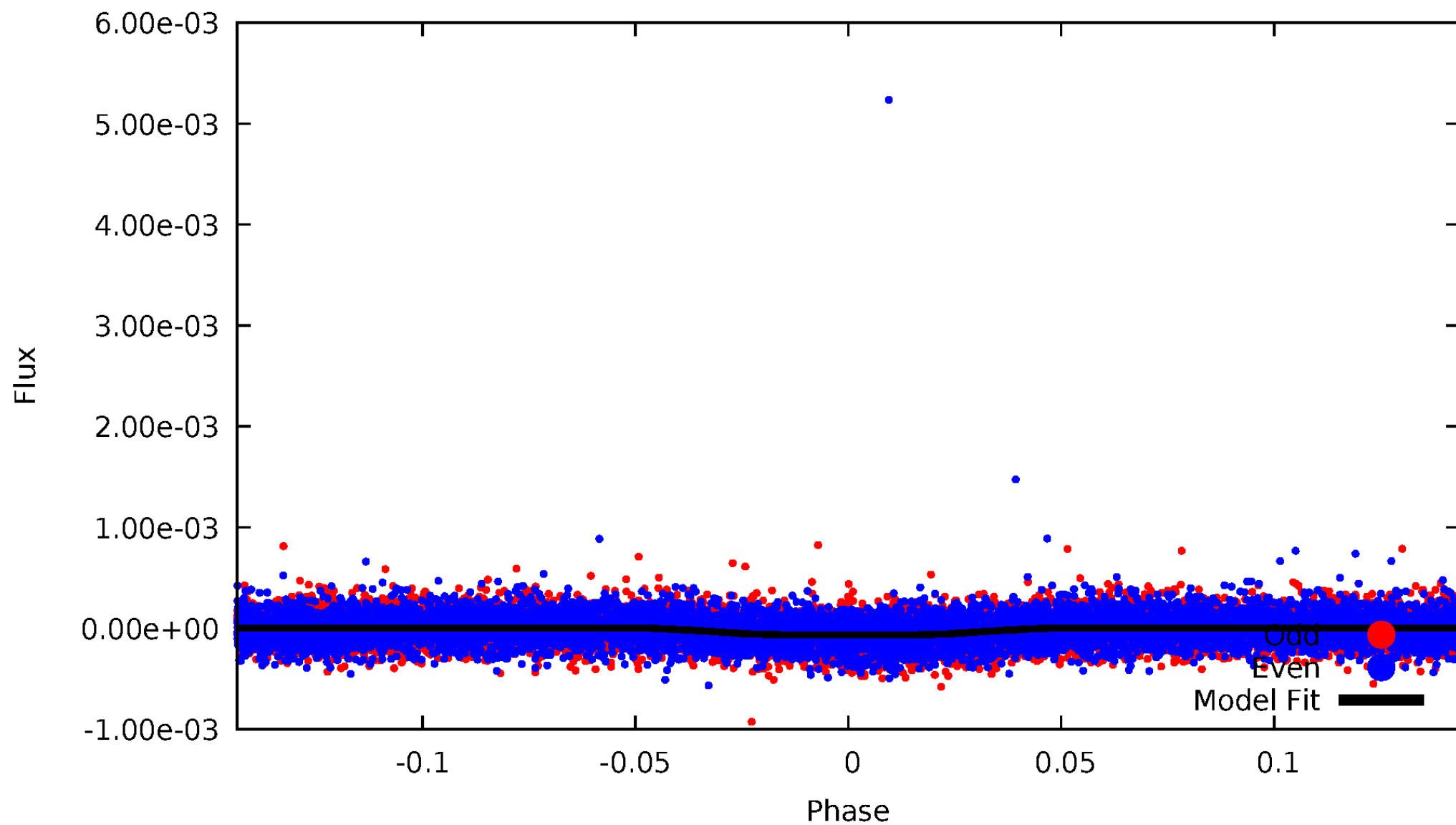


TCE 002441728-01



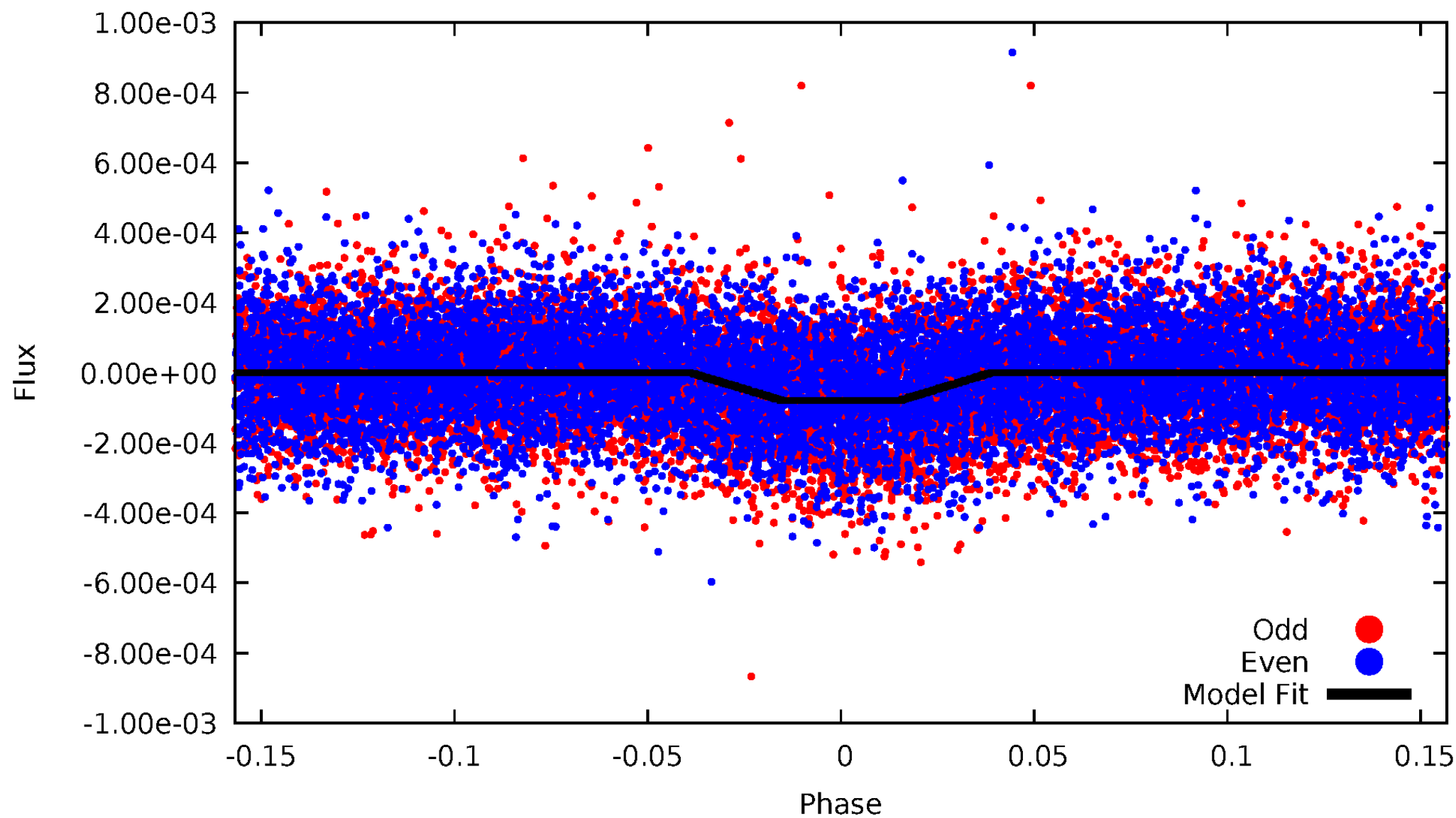
DV Odd/Even

TCE 002441728-01

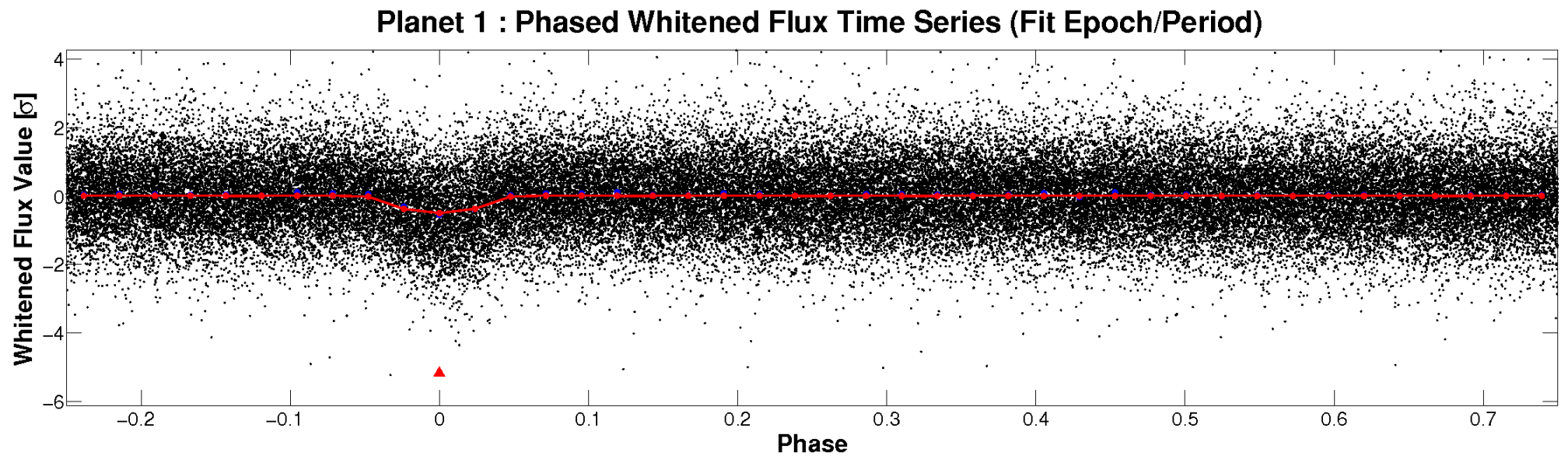
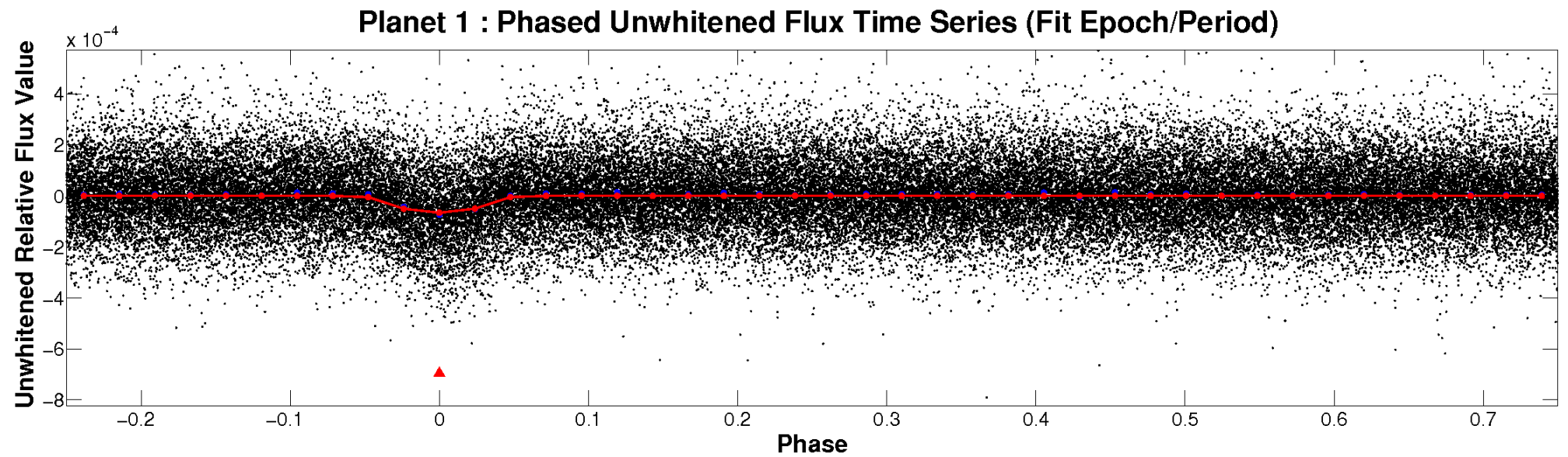


ALT Odd/Even

TCE 002441728-01

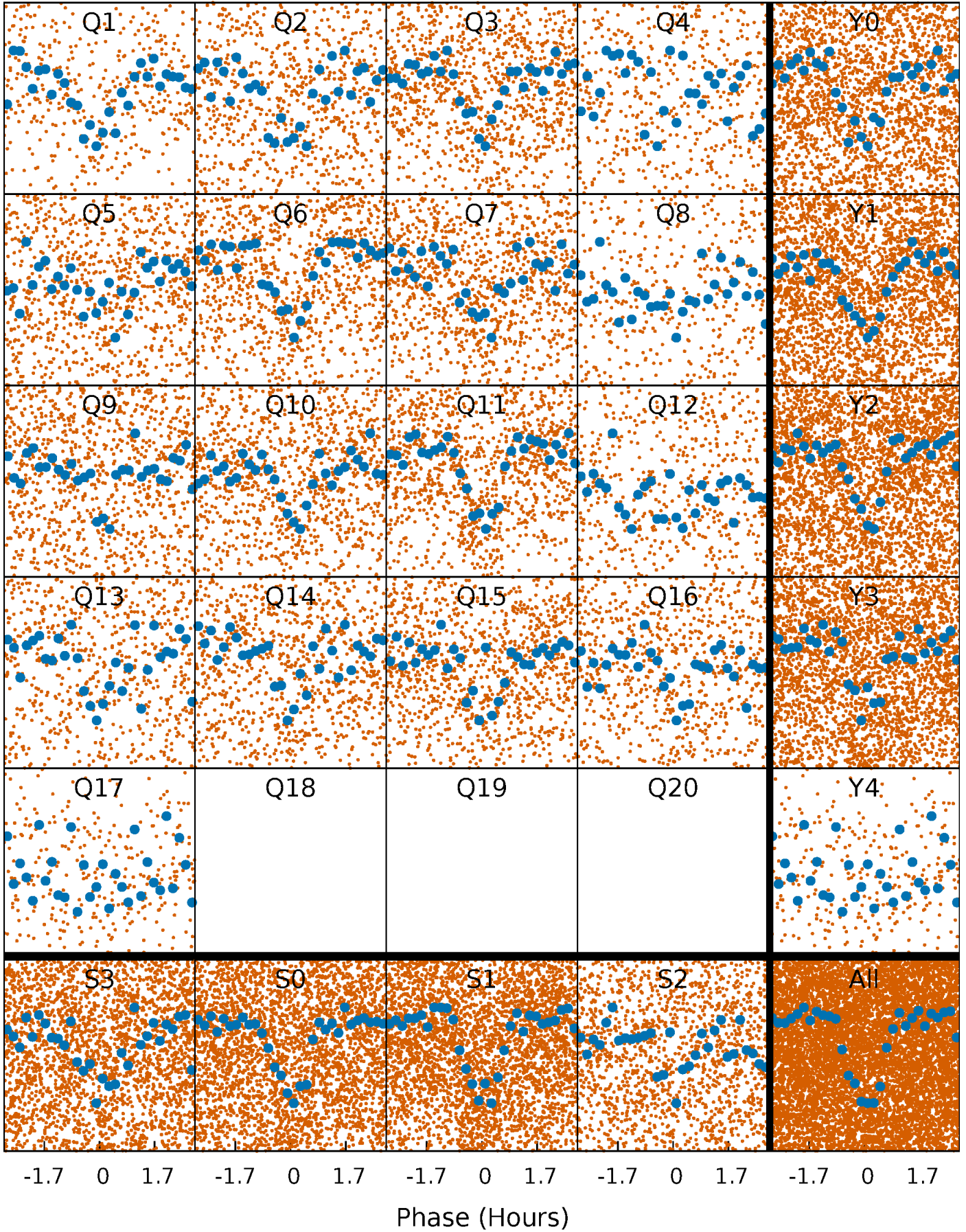


Non-Whitened Vs. Whitened Light Curve



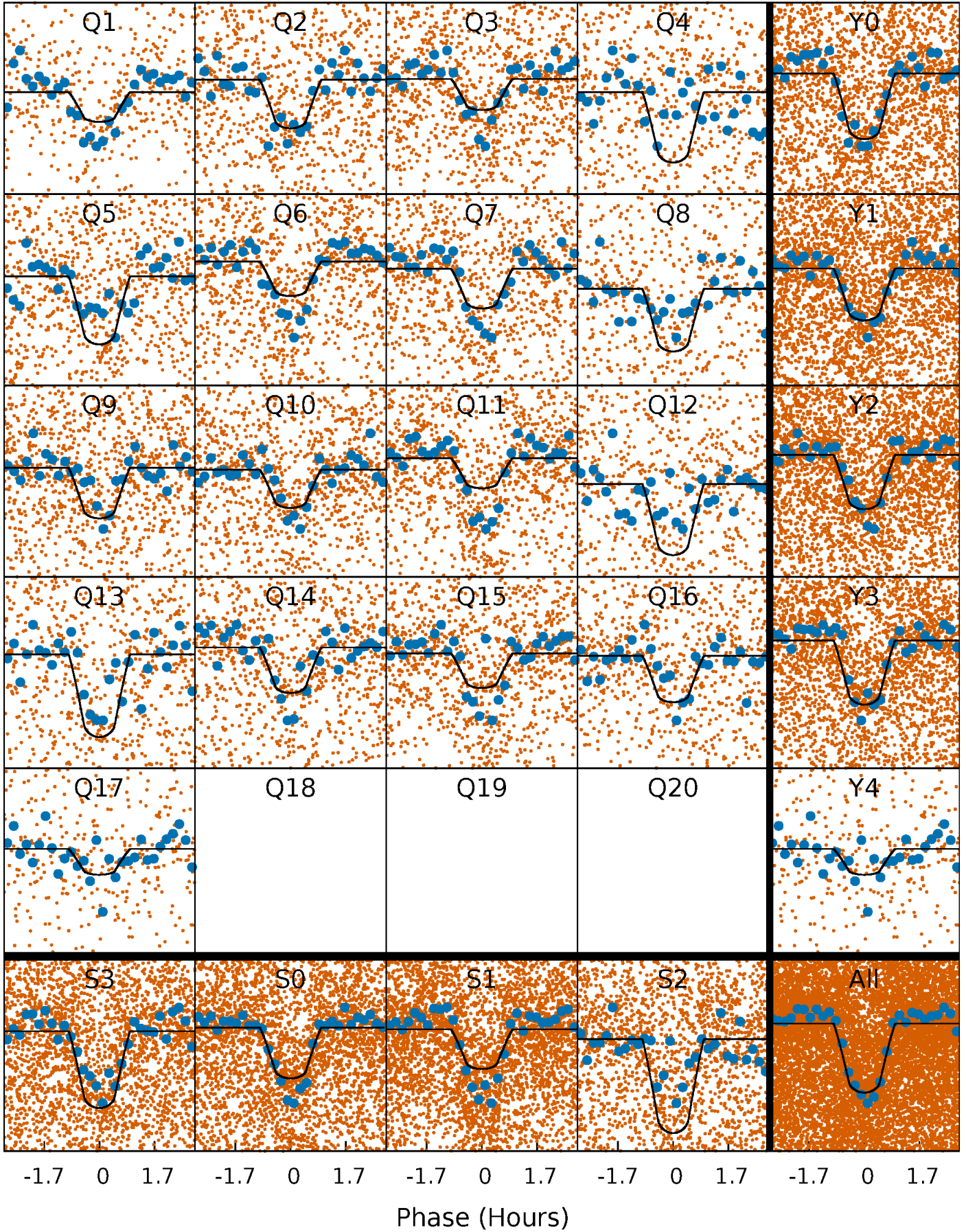
PDC Quarter-Phased Transit Curves

TCE 002441728-01 P= 0.856890 Days $T_0=131.963677$ (BKJD)



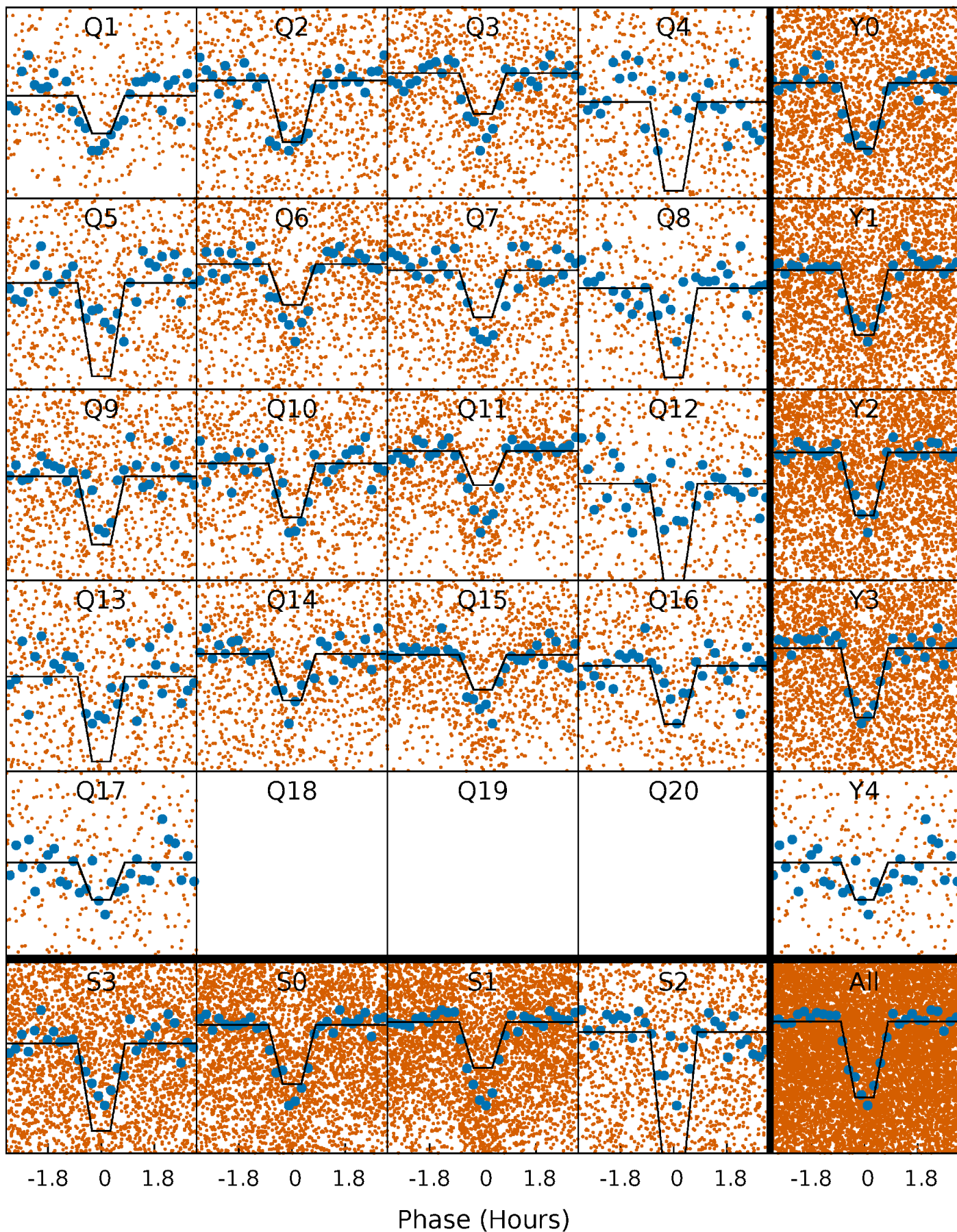
DV Quarter-Phased Transit Curves

TCE 002441728-01 P= 0.856890 Days $T_0=131.963677$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

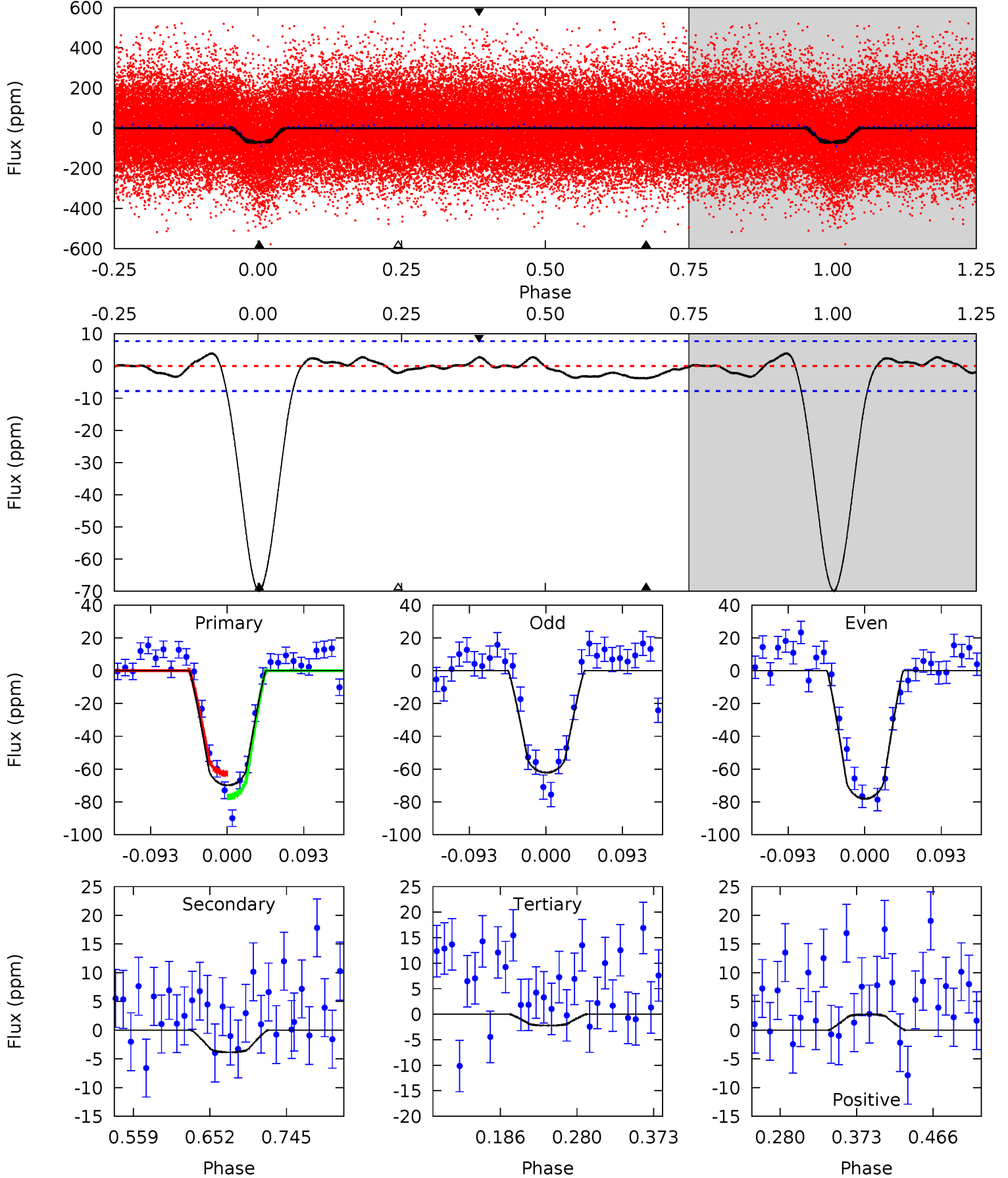
TCE 002441728-01 P= 0.856893 Days $T_0=131.963801$ (BKJD)



DV Model-Shift Uniqueness Test

002441728-01, P = 0.856890 Days, E = 131.106787 Days

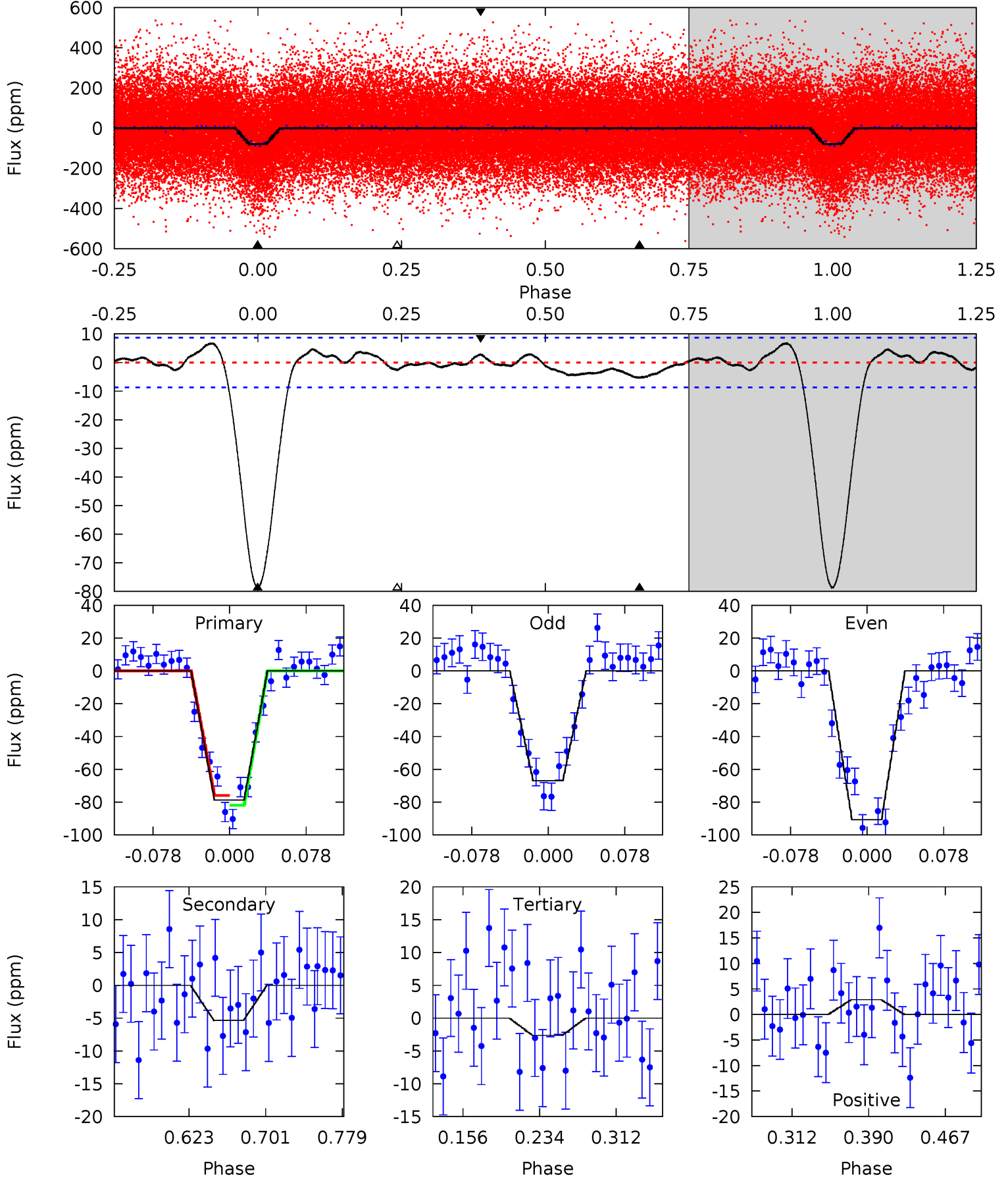
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.3	2.28	1.31	1.63	4.58	1.68	0.99	40.0	39.7	0.97	0.65	4.72	1.01	0.05	4.20



Alt Model-Shift Uniqueness Test

002441728-01, P = 0.856893 Days, E = 131.106908 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.9	2.84	1.40	1.55	4.62	1.76	1.24	40.5	40.3	1.44	1.30	6.34	1.03	0.08	1.61



Stellar Parameters For KIC 002441728

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6021^{+163}_{-163}	$4.537^{+0.037}_{-0.213}$	$-0.340^{+0.300}_{-0.300}$	$0.873^{+0.264}_{-0.083}$	$0.958^{+0.107}_{-0.119}$	$2.027^{+0.408}_{-1.052}$
	+3%/-3%	+1%/-5%	+88%/-88%	+30%/-10%	+11%/-12%	+20%/-52%
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 002441728-01 / KOI 1000.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-4 ± 2	$0.88^{+0.25}_{-0.22}$	2704^{+187}_{-117}	3157^{+482}_{-631}	$0.812^{+0.828}_{-0.412}$
Alt.	-5 ± 2	$0.89^{+0.27}_{-0.20}$	2695^{+196}_{-120}	3346^{+464}_{-436}	$1.077^{+0.929}_{-0.513}$

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 $A_{\text{obs}} \gg 1.0$

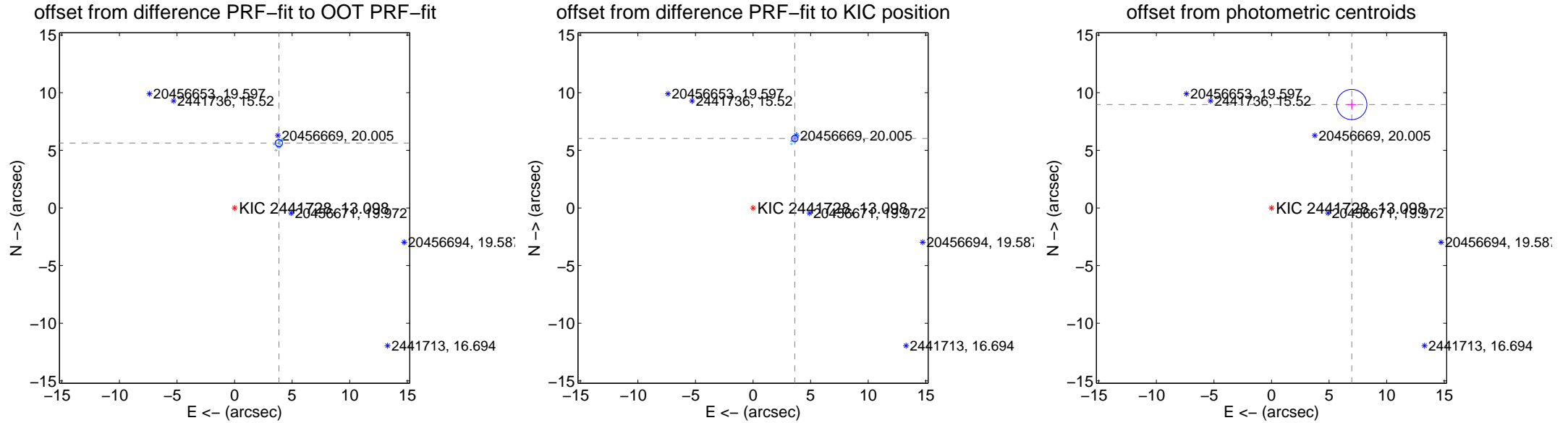
DV Centroid Data

Supplemental centroid analysis for 002441728-01. Kepler magnitude: 13.10. Transit SNR 28.21

There are 16 quarters with good PRF difference image offsets

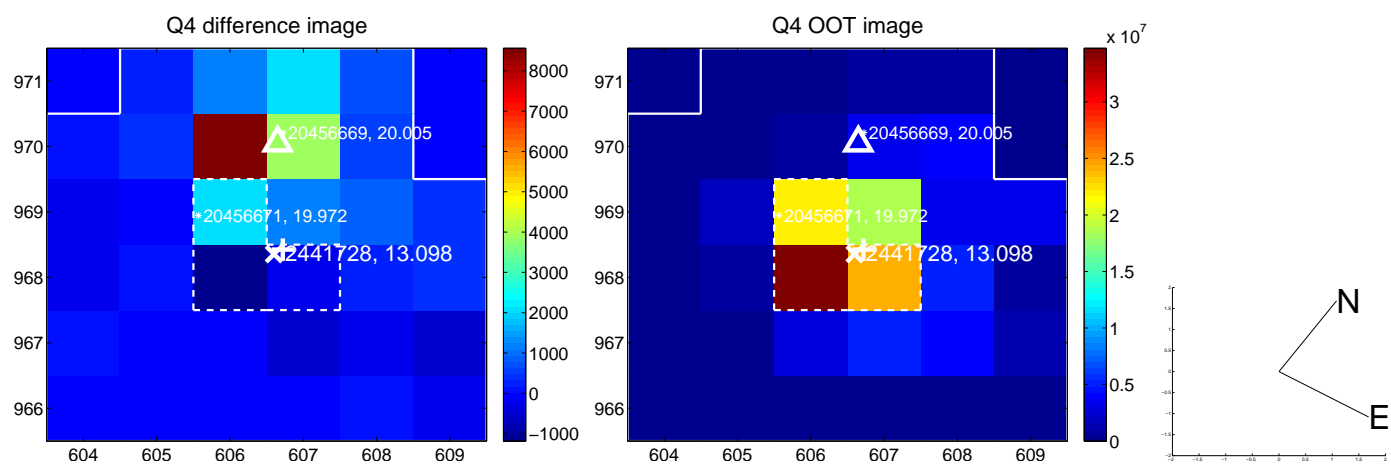
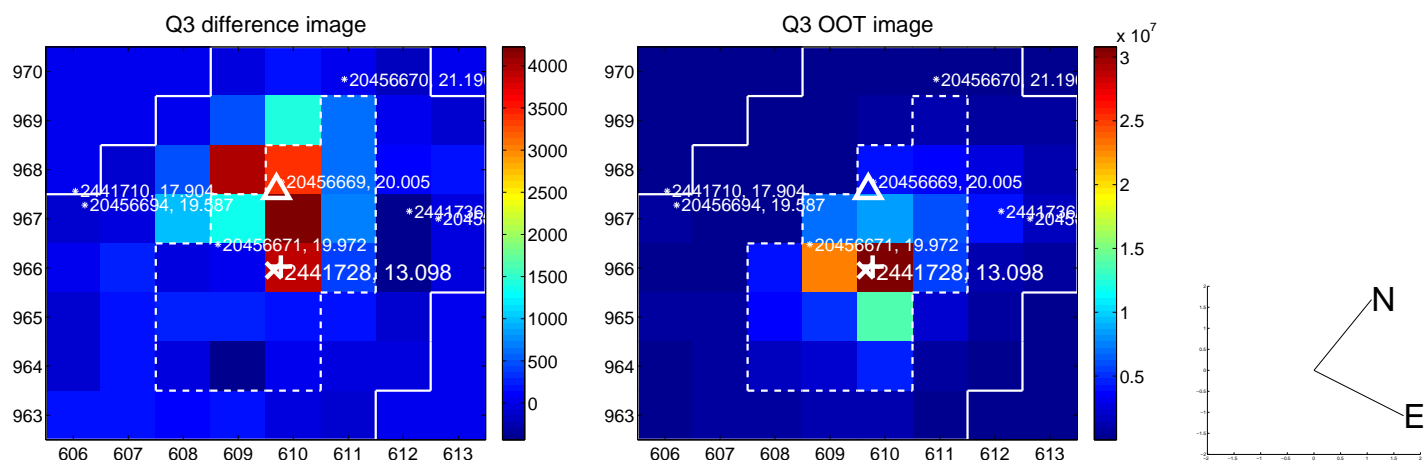
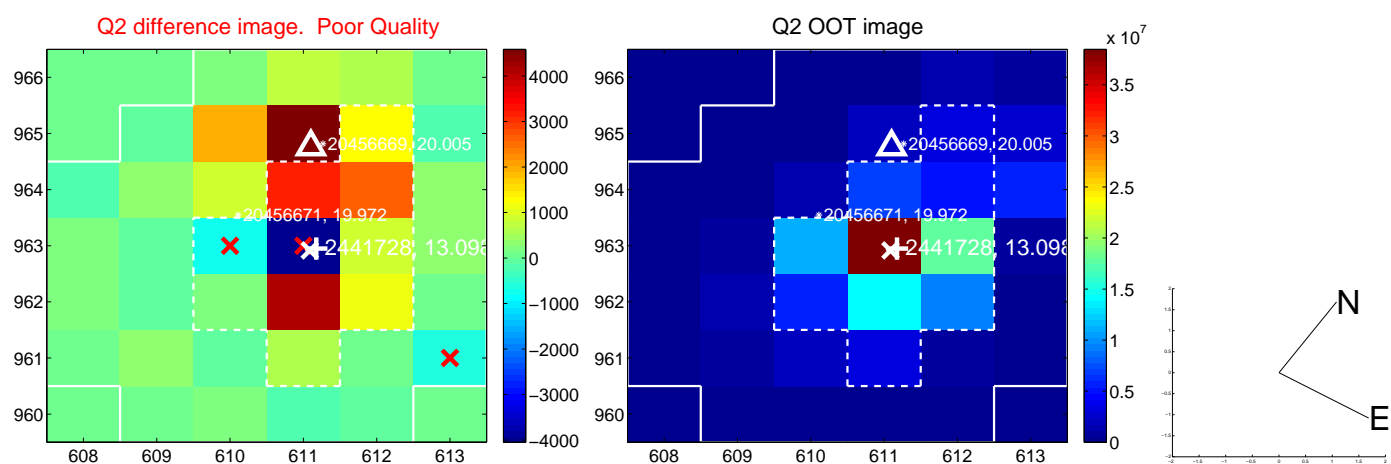
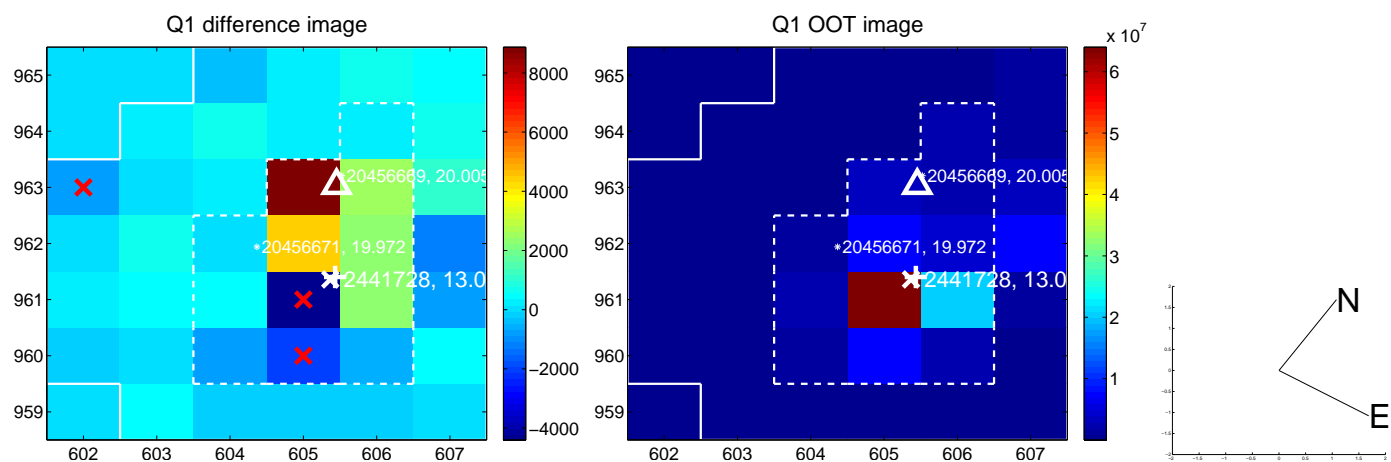
The direct PRF centroid is offset from the target star catalog position by about 0.47 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.815 \pm 0.105	64.90	-3.852 \pm 0.085	5.622 \pm 0.099
PRF-fit source offset from KIC position	7.029 \pm 0.093	75.58	-3.621 \pm 0.079	6.024 \pm 0.088
photometric centroid source offset	11.36 \pm 0.44	25.99	-6.97 \pm 0.40	8.97 \pm 0.46

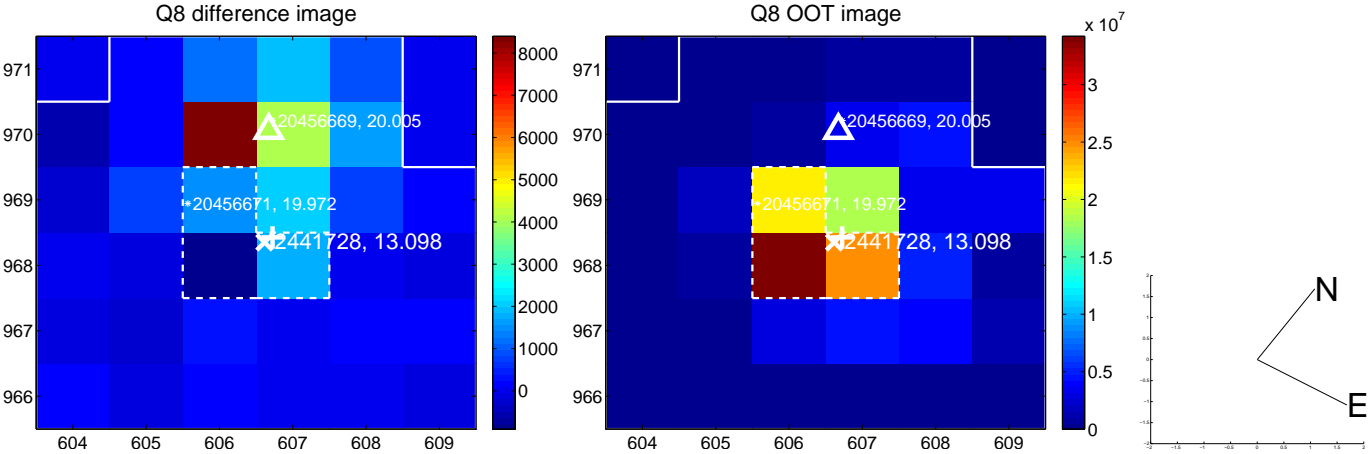
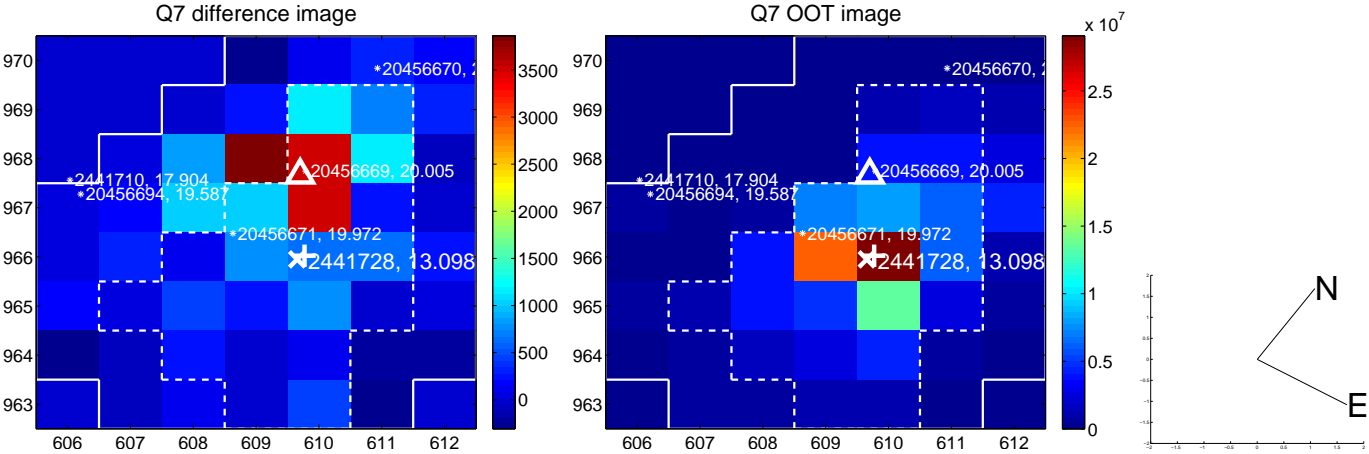
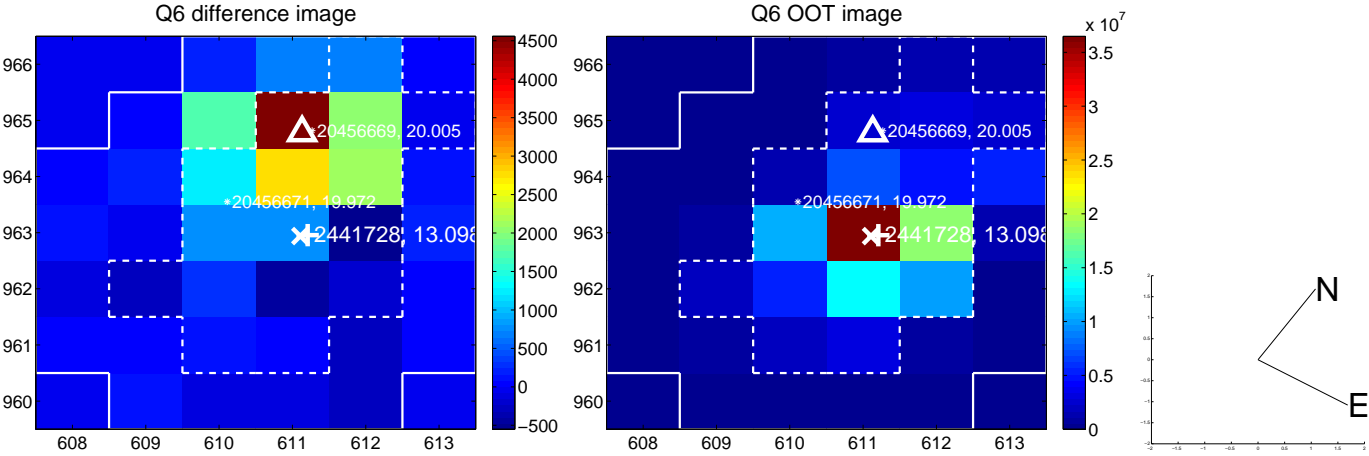
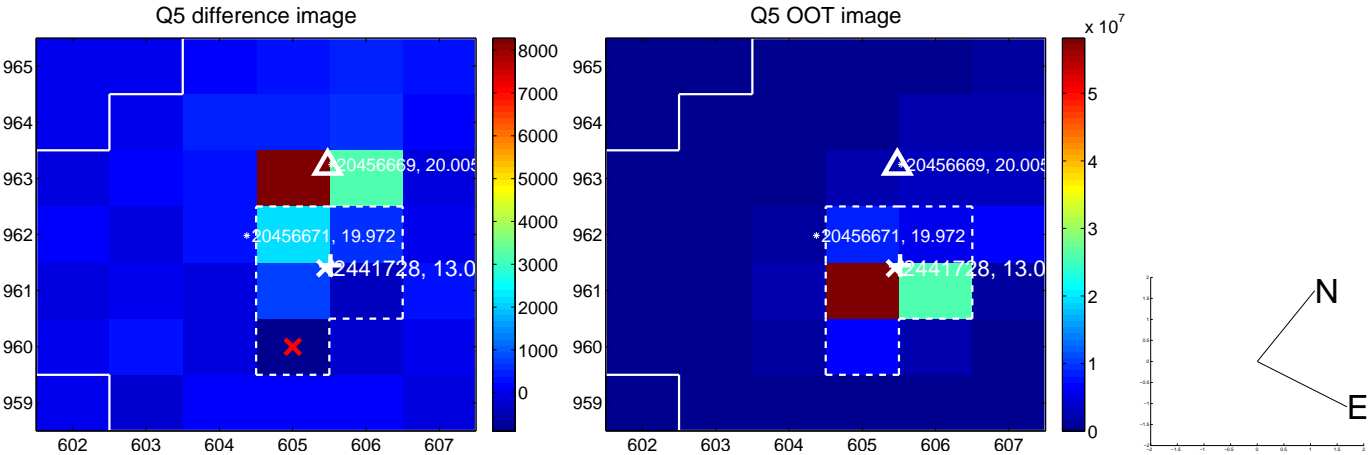


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

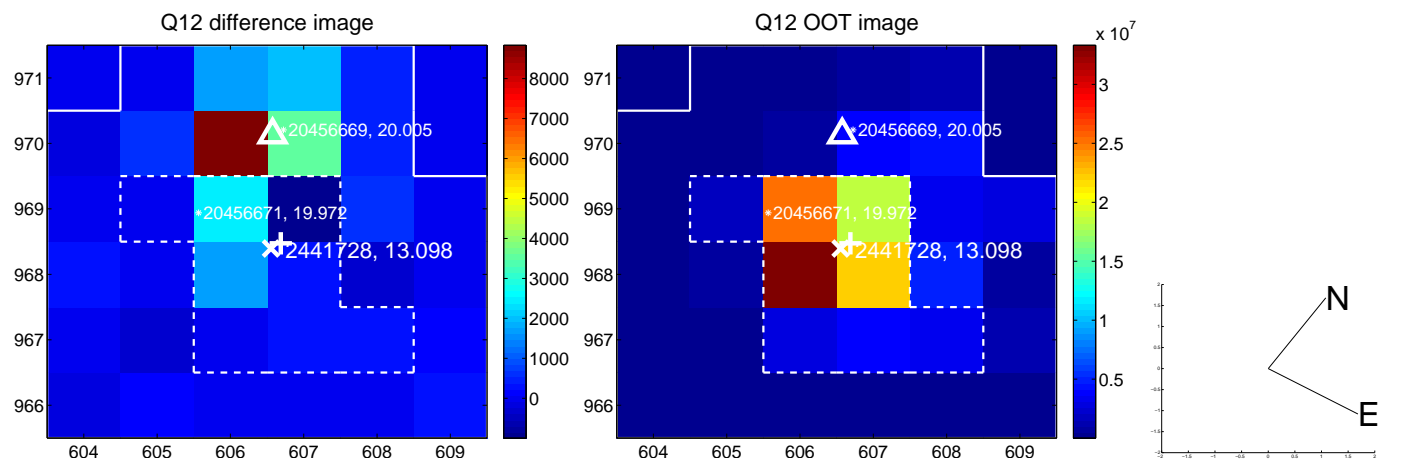
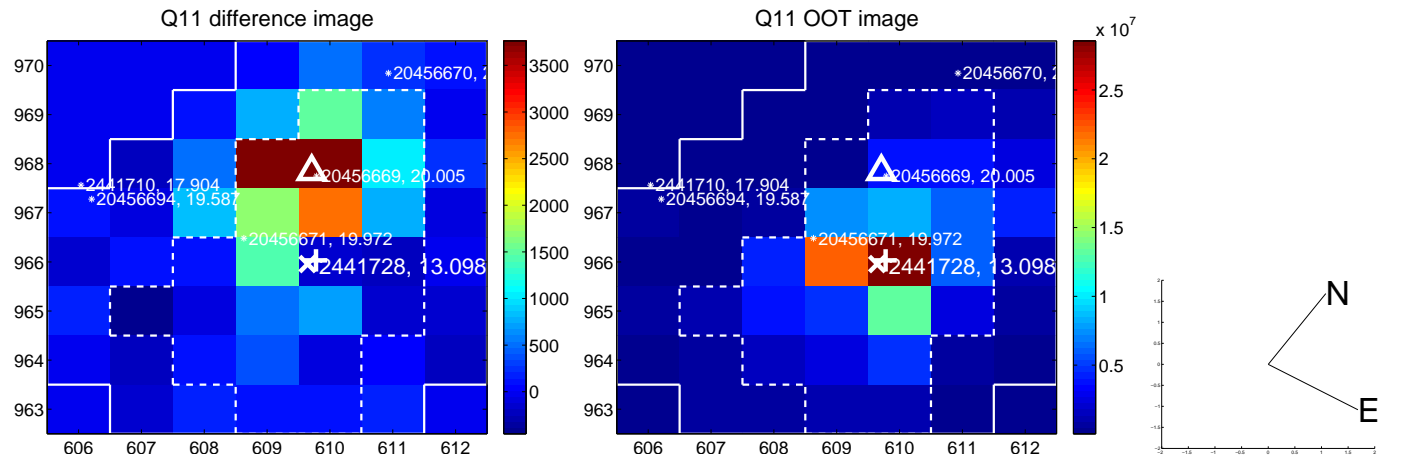
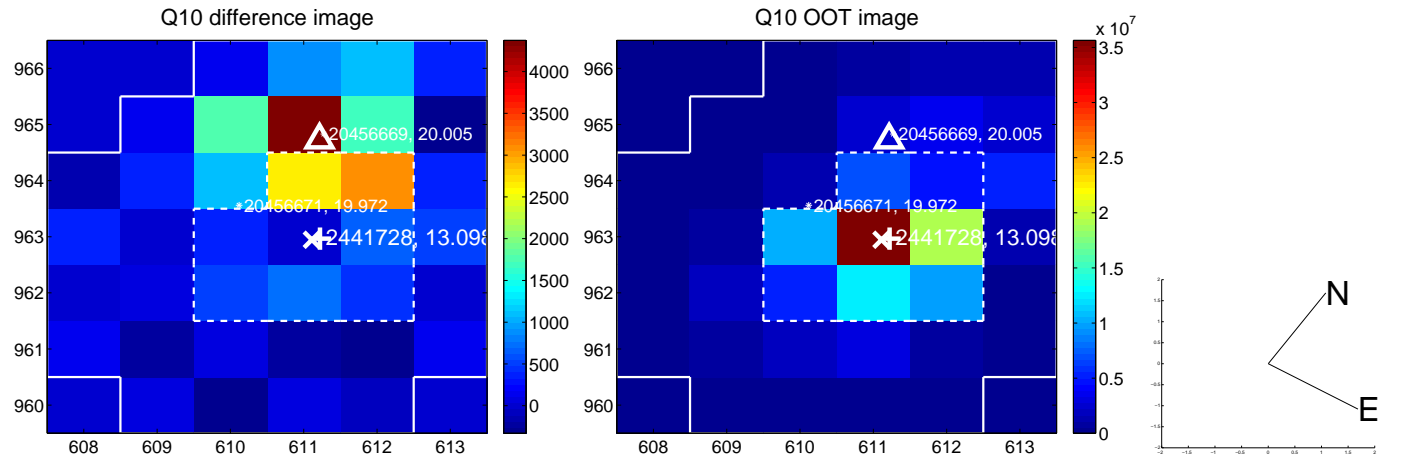
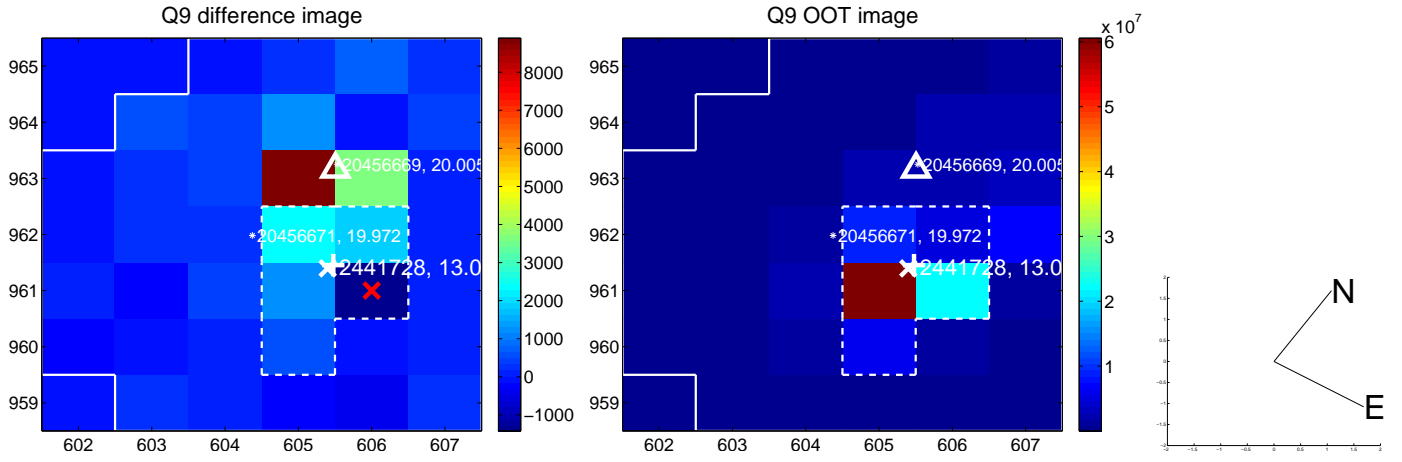
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



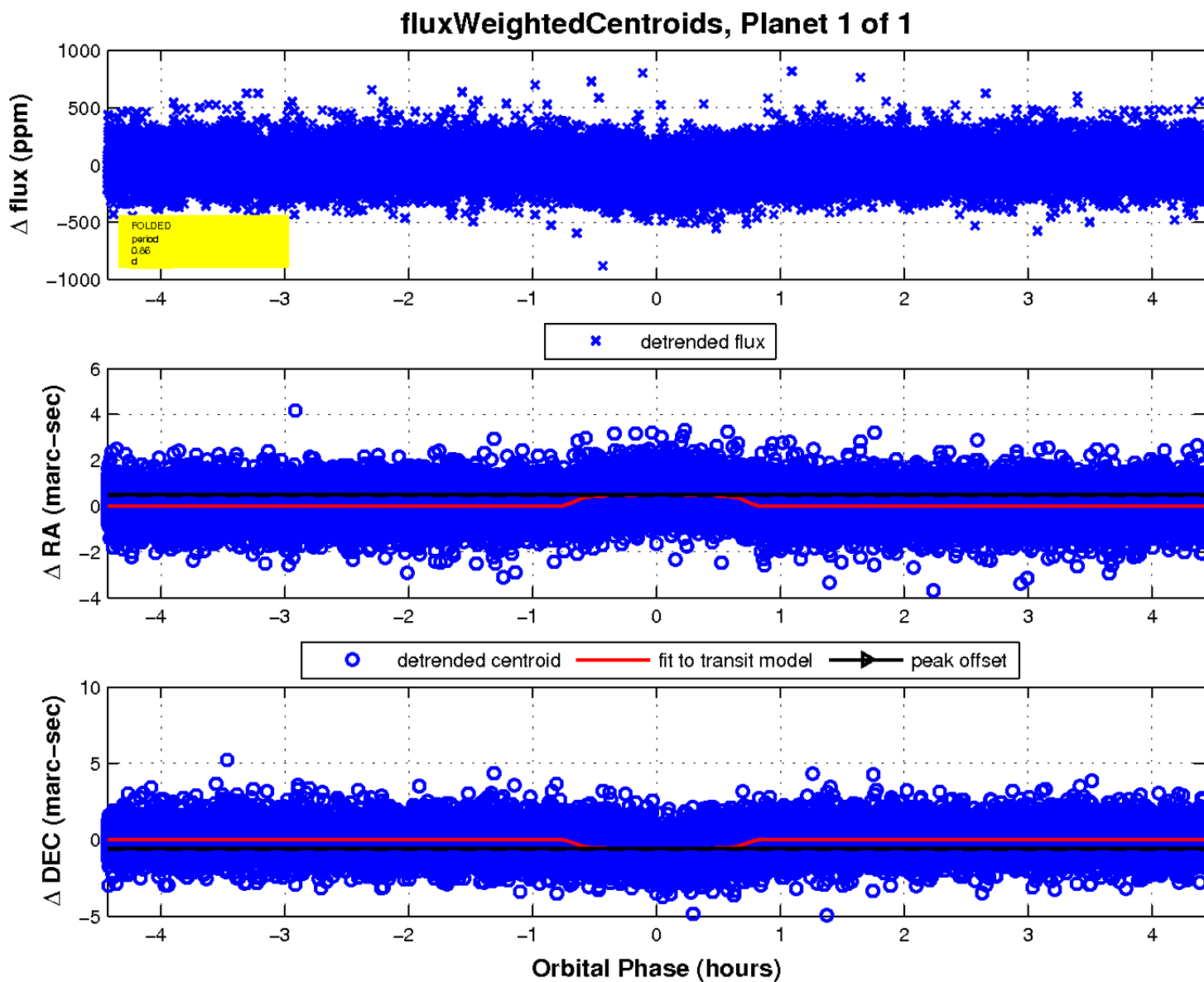
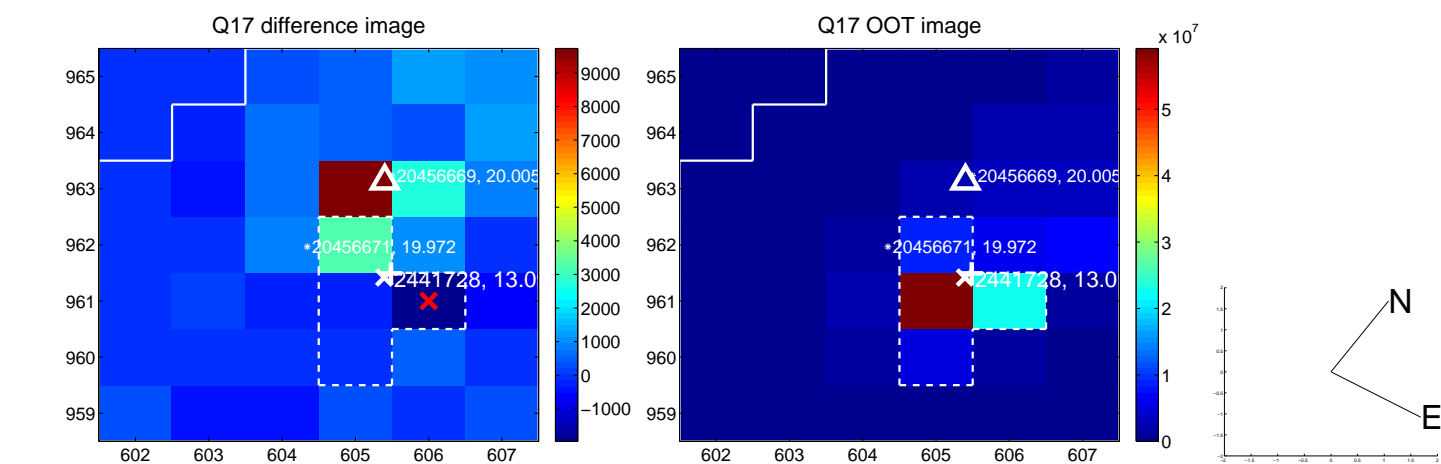
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

