

KIC 004552374

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})
004552374-01	OBS	No	0.711105	131.579529	52.5	2.401	11.5	10.1	1.60	6982	1.35	19897.60

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004552374-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT

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

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

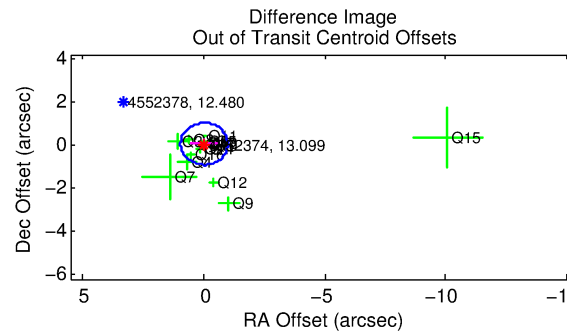
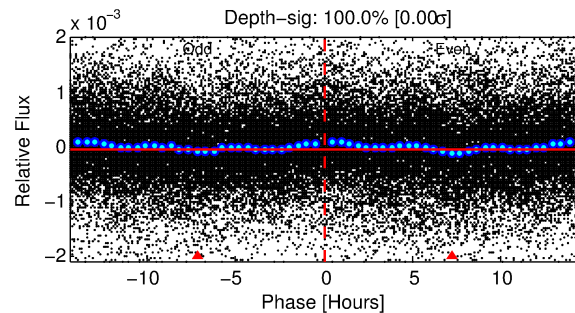
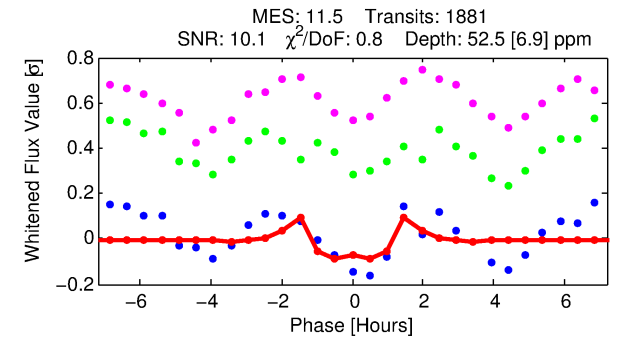
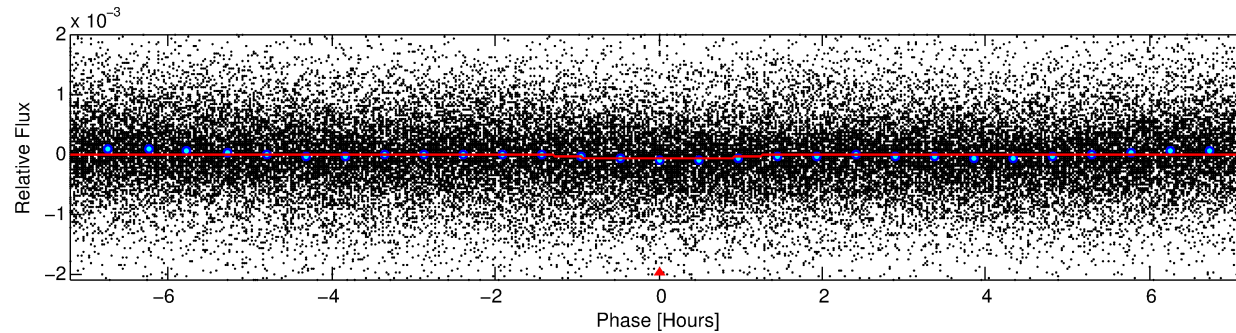
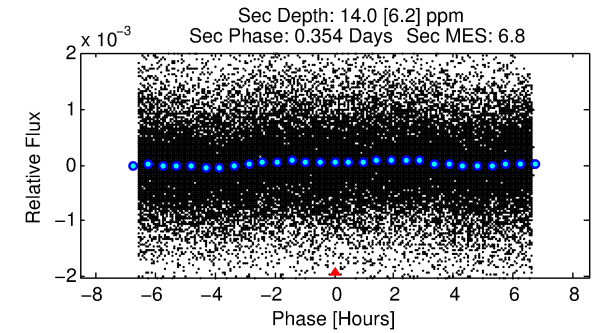
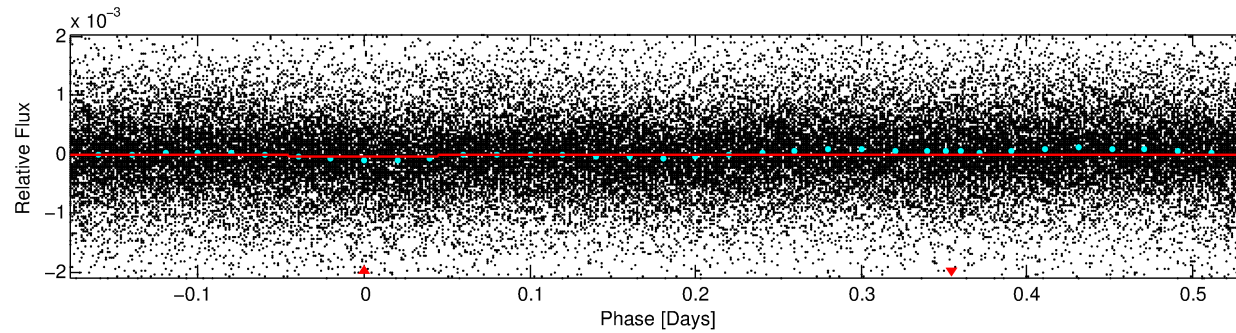
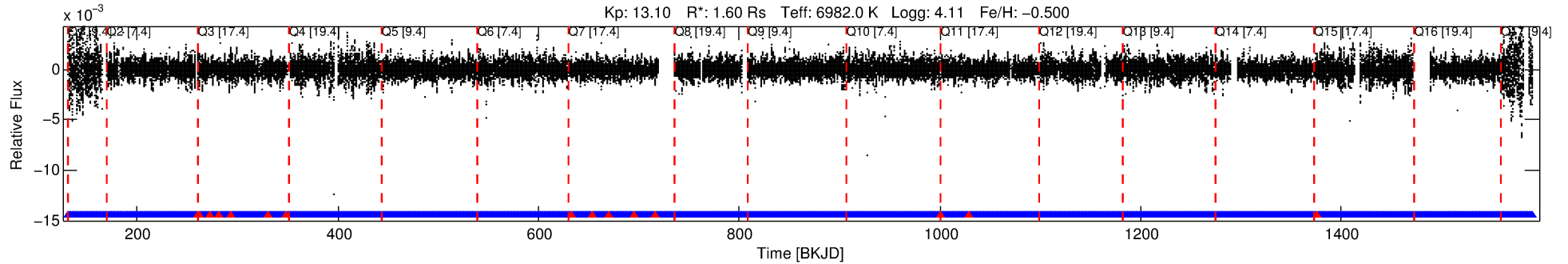
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004552374-01

No Significant Match Found

DV One-Page Summary

KIC: 4552374 Candidate: 1 of 1 Period: 0.711 d



DV Fit Results:

Period = 0.71111 [0.00001] d
Epoch = 131.5795 [0.0013] BKJD
Rp/R* = 0.0077 [0.0016]
a/R* = 1.39 [0.82]
b = 0.90 [0.26]
Seff = 19897.60 [8681.47]
Teq = 3028 [330] K
Rp = 1.35 [0.47] Re
a = 0.0165 [0.0043] AU
Ag = 1.16 [0.85] [0.19σ]
Teffp = 4858 [768] K [2.19σ]

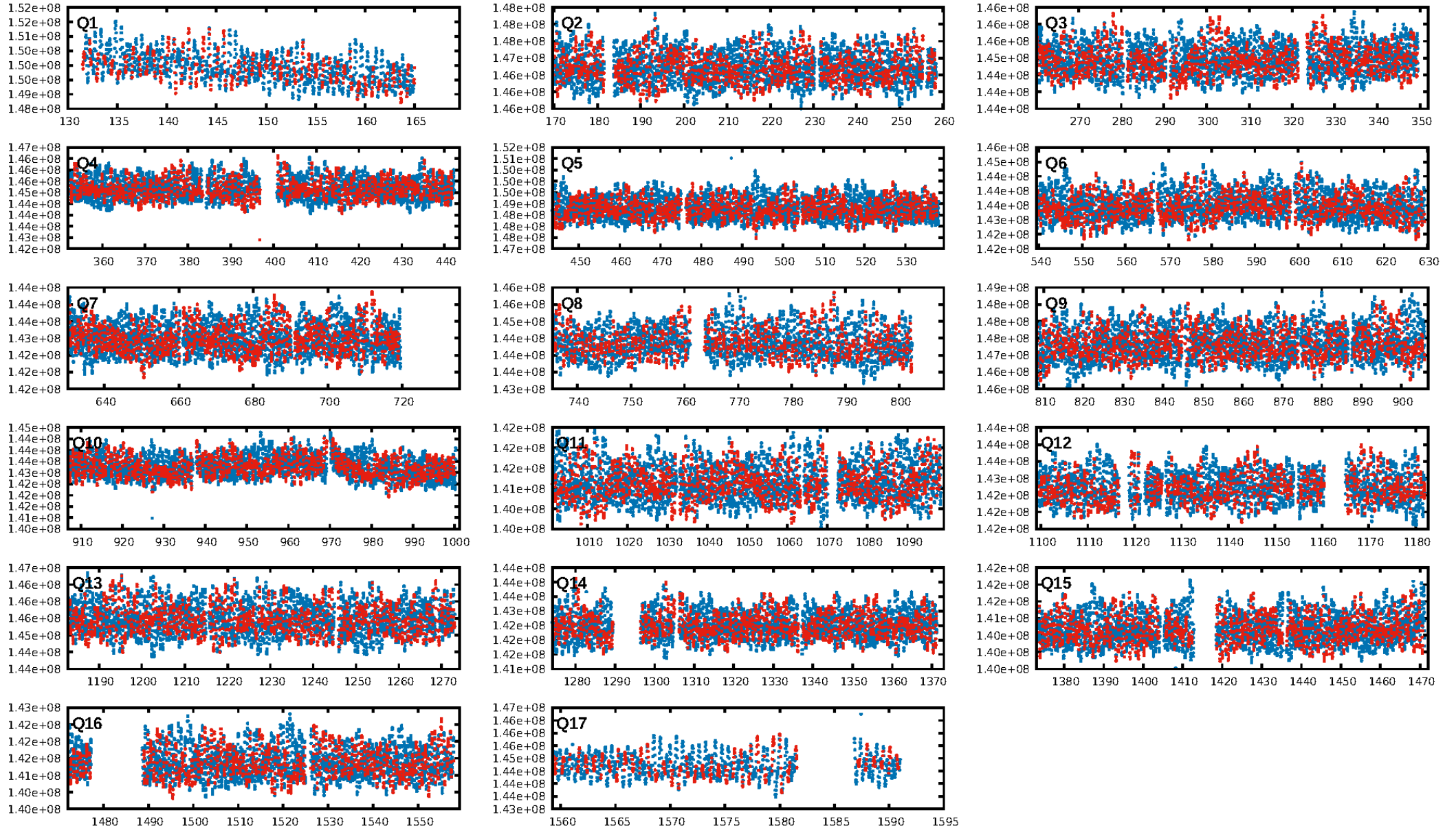
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 1.45e-27
RollingBand-fgt: 0.99 [1780/1796]
GhostDiagnostic-chr: 0.9244
Centroid-sig: 13.8%
Centroid-so: 0.342 arcsec [1.06σ]
OotOffset-rm: 0.066 arcsec [0.20σ]
KicOffset-rm: 0.092 arcsec [0.20σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.71 [12/17]
DiffImageOverlap-fno: 1.00 [17/17]

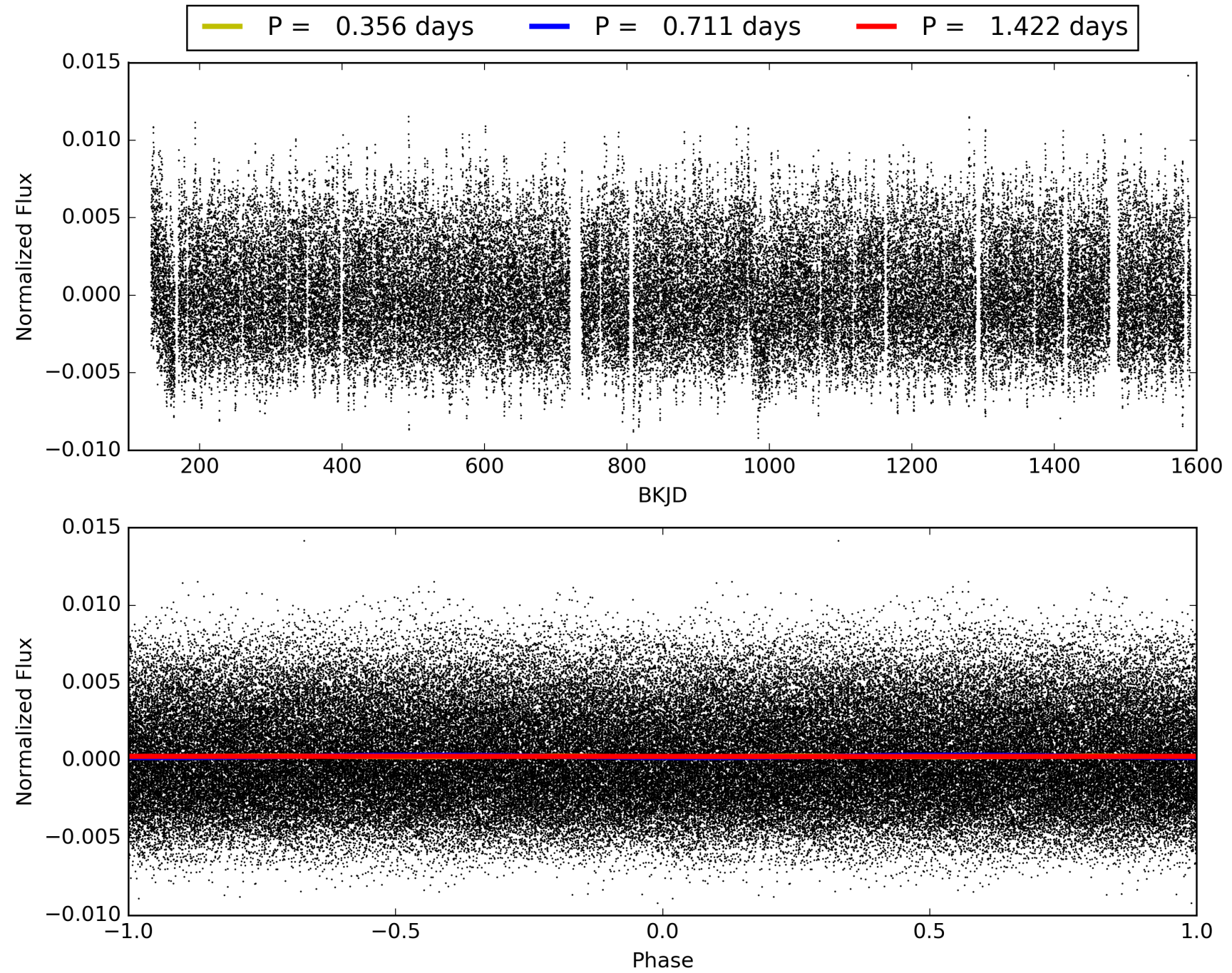
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:19:48 Z

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

TCE 004552374-01, PDC Light Curves

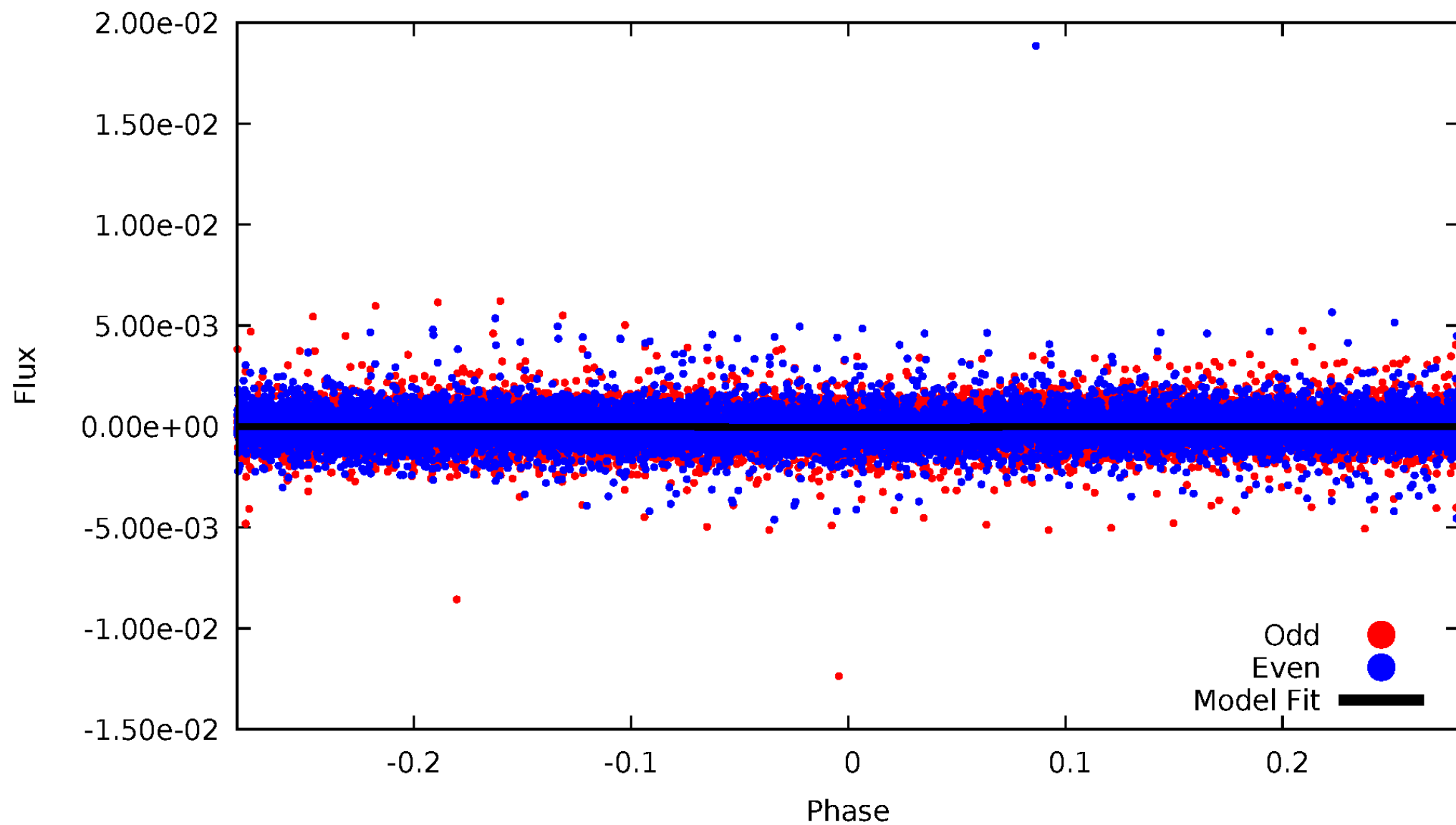


TCE 004552374-01



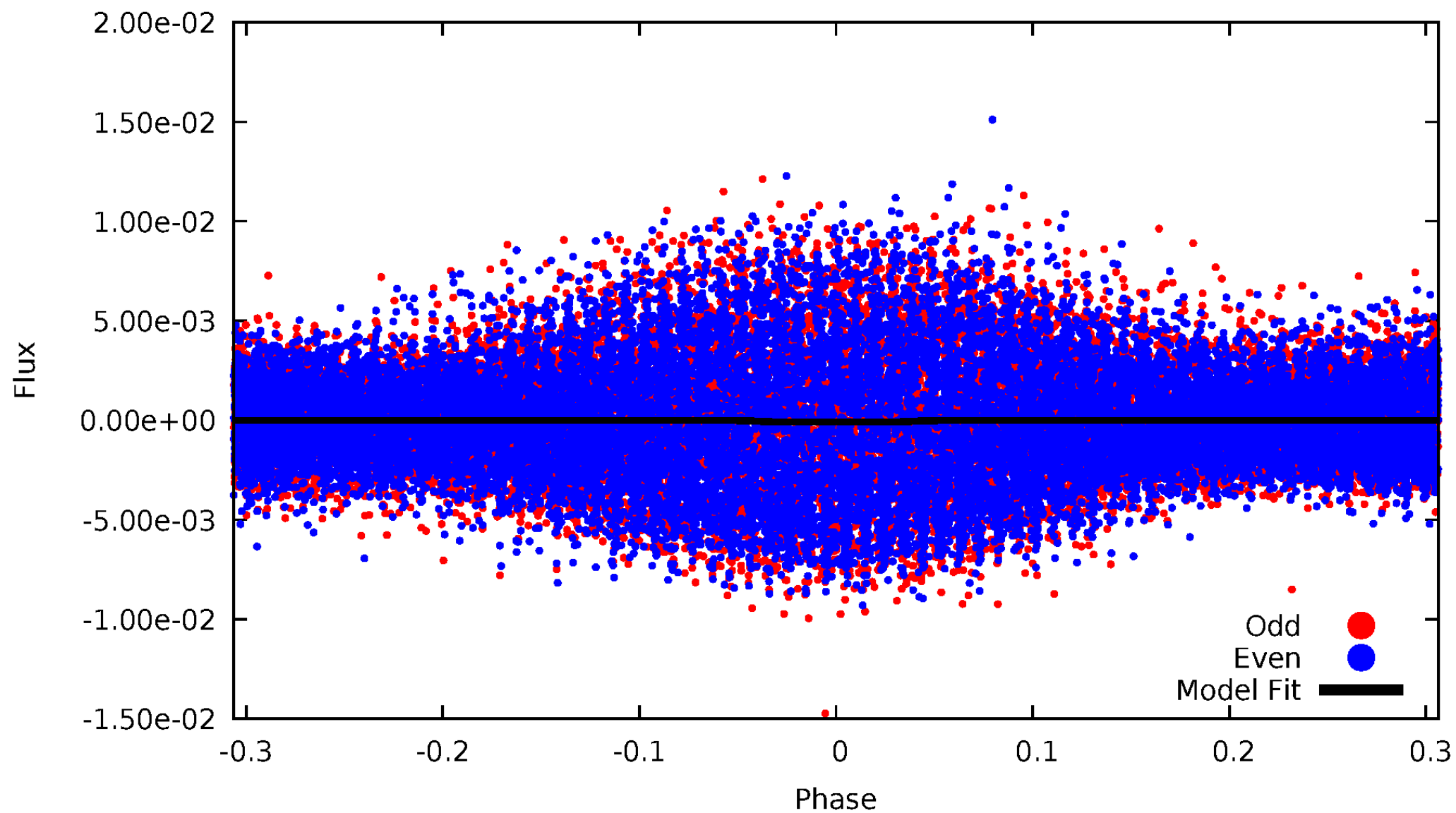
DV Odd/Even

TCE 004552374-01



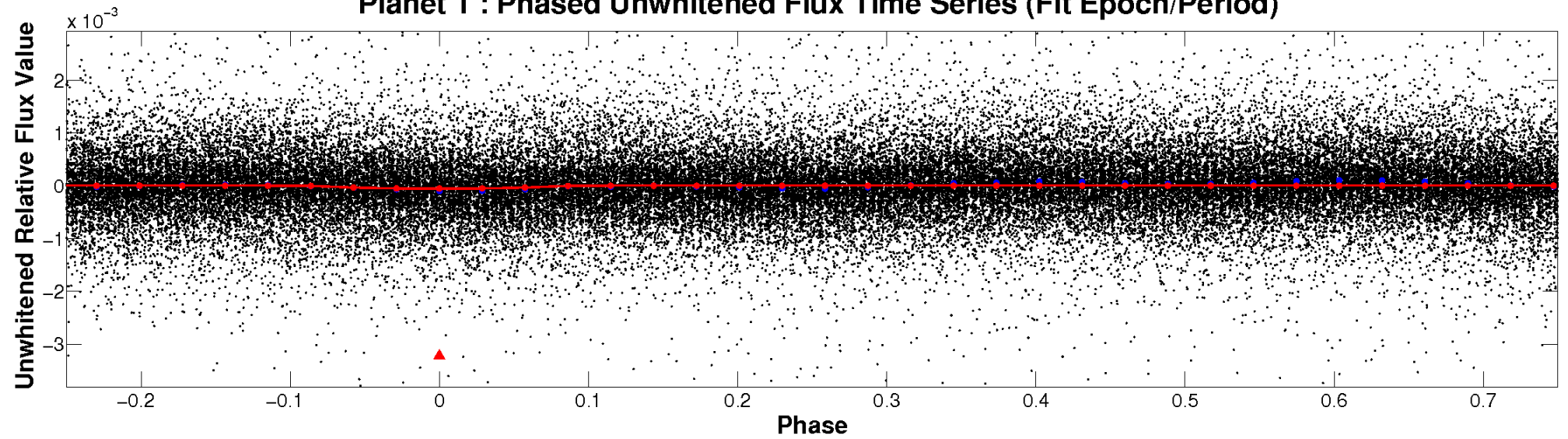
ALT Odd/Even

TCE 004552374-01

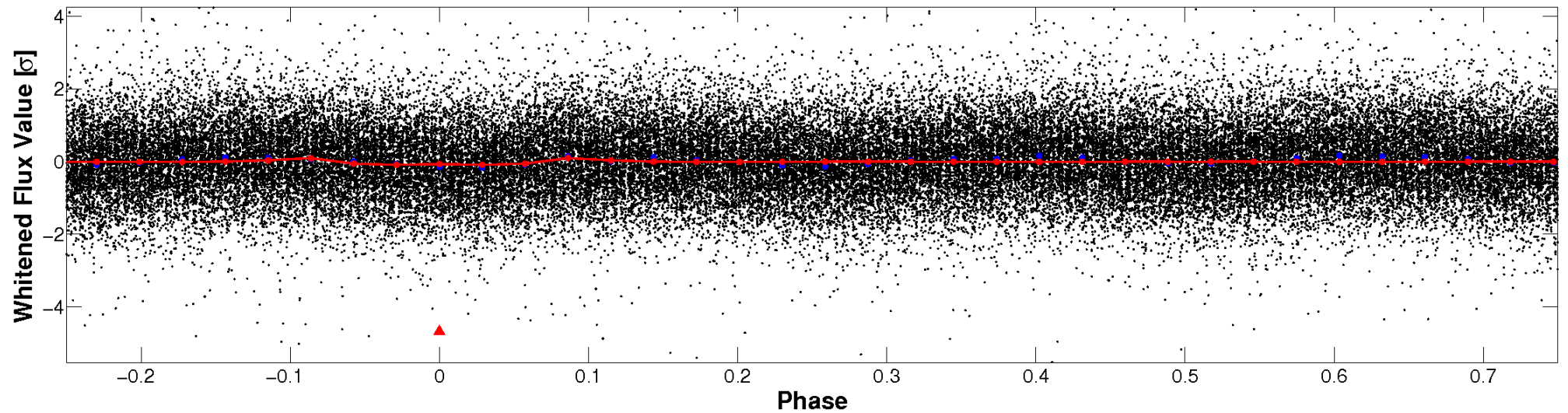


Non-Whitened Vs. Whitened Light Curve

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

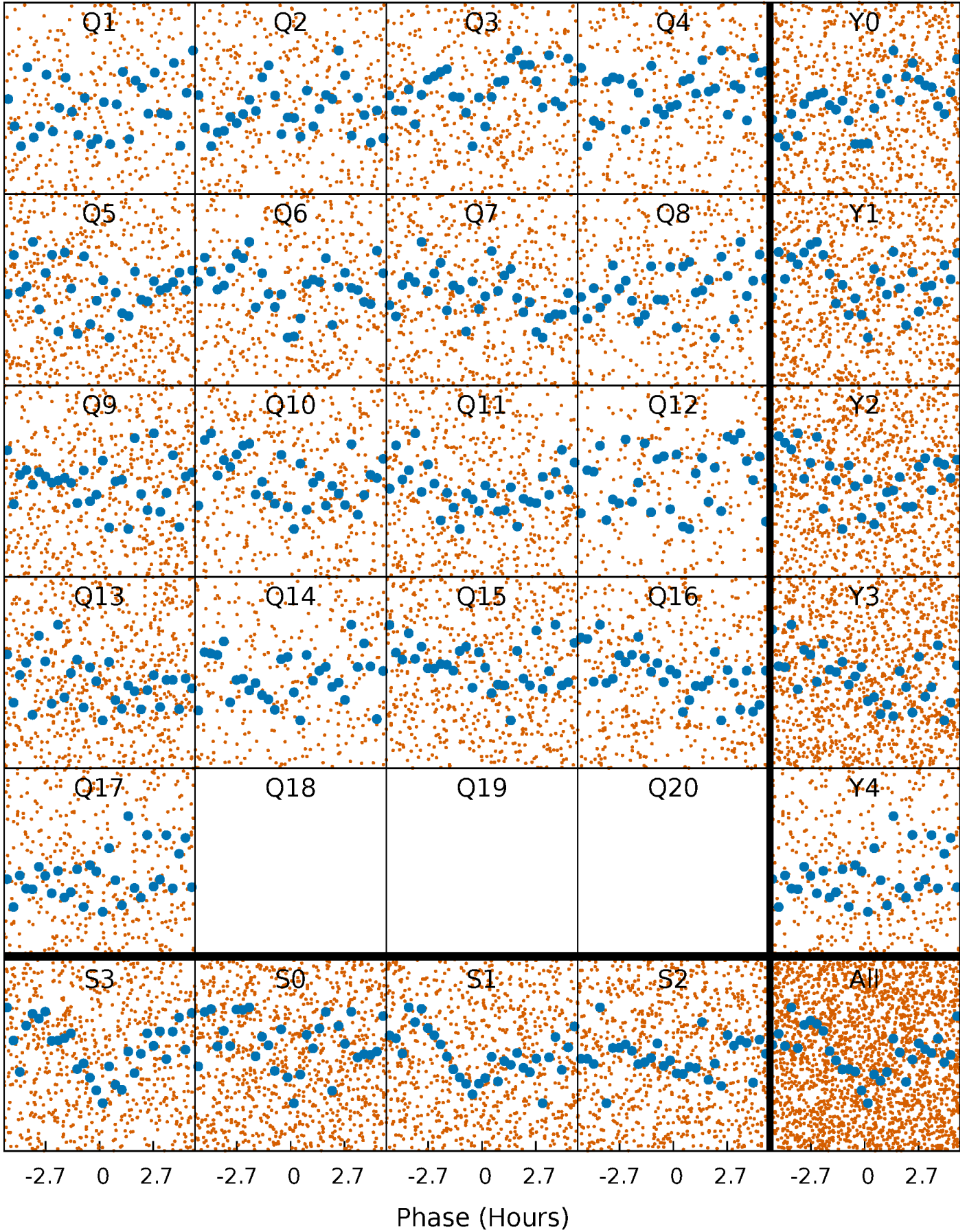


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



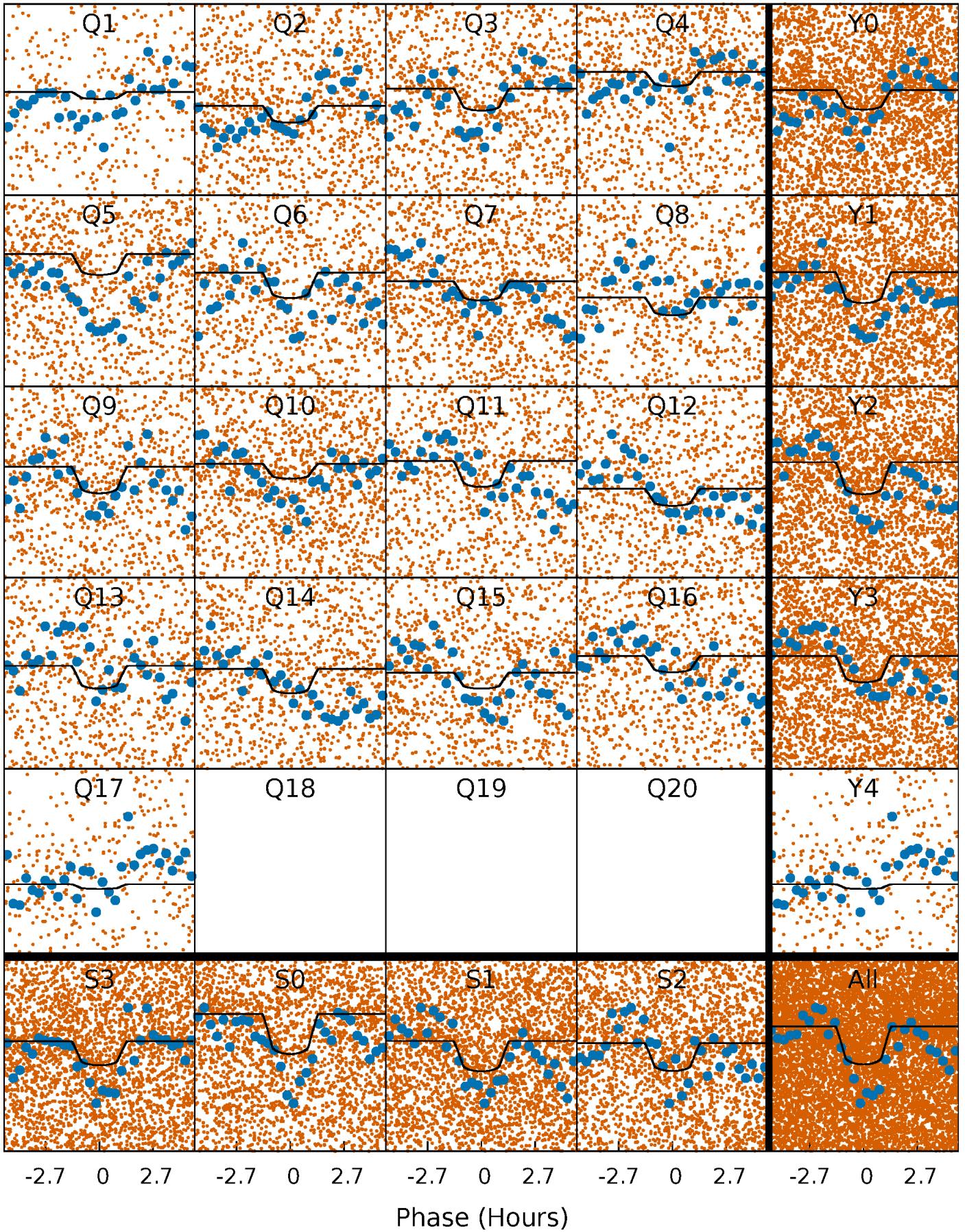
PDC Quarter-Phased Transit Curves

TCE 004552374-01 P= 0.711105 Days $T_0=131.579529$ (BKJD)



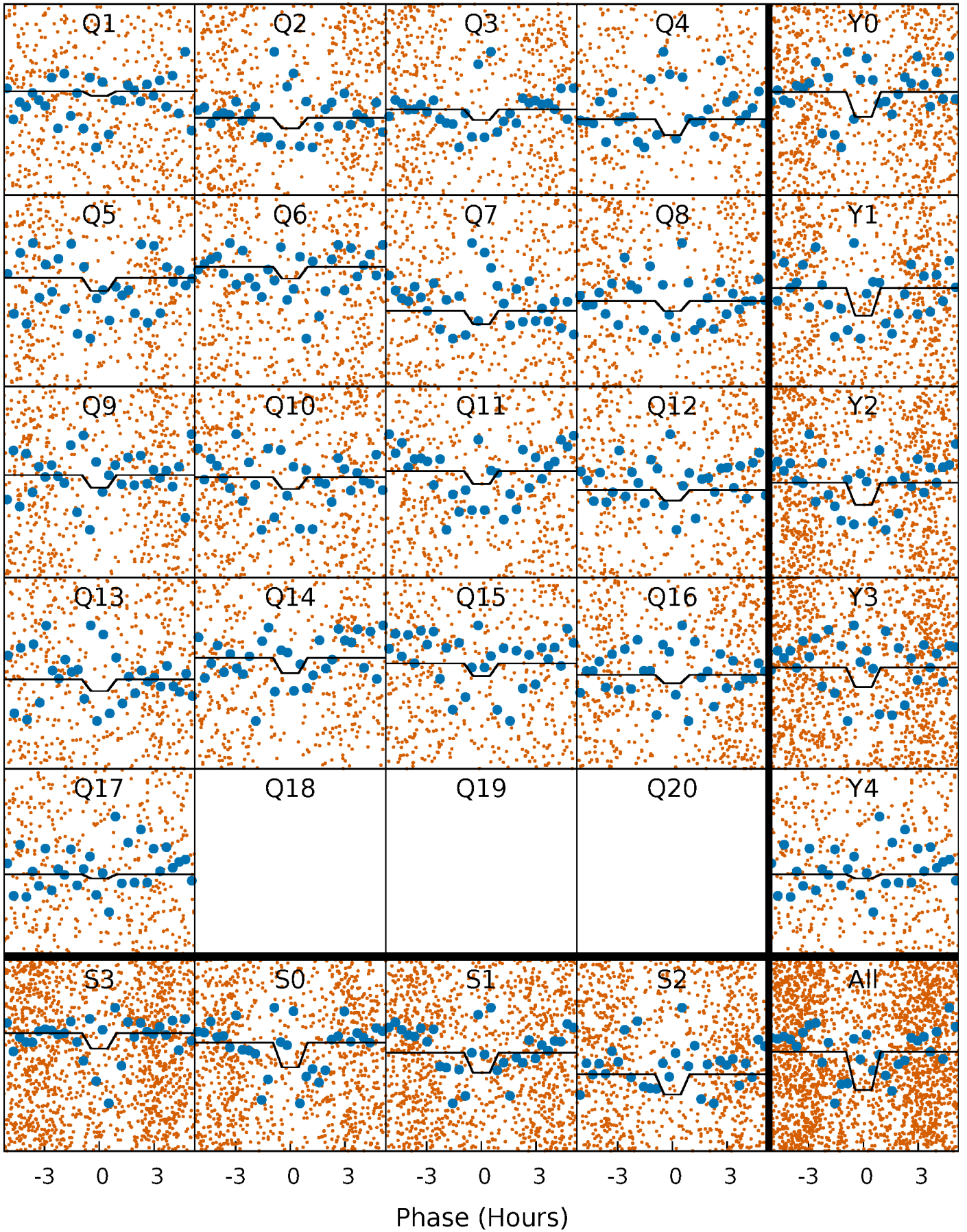
DV Quarter-Phased Transit Curves

TCE 004552374-01 P= 0.711105 Days $T_0=131.579529$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

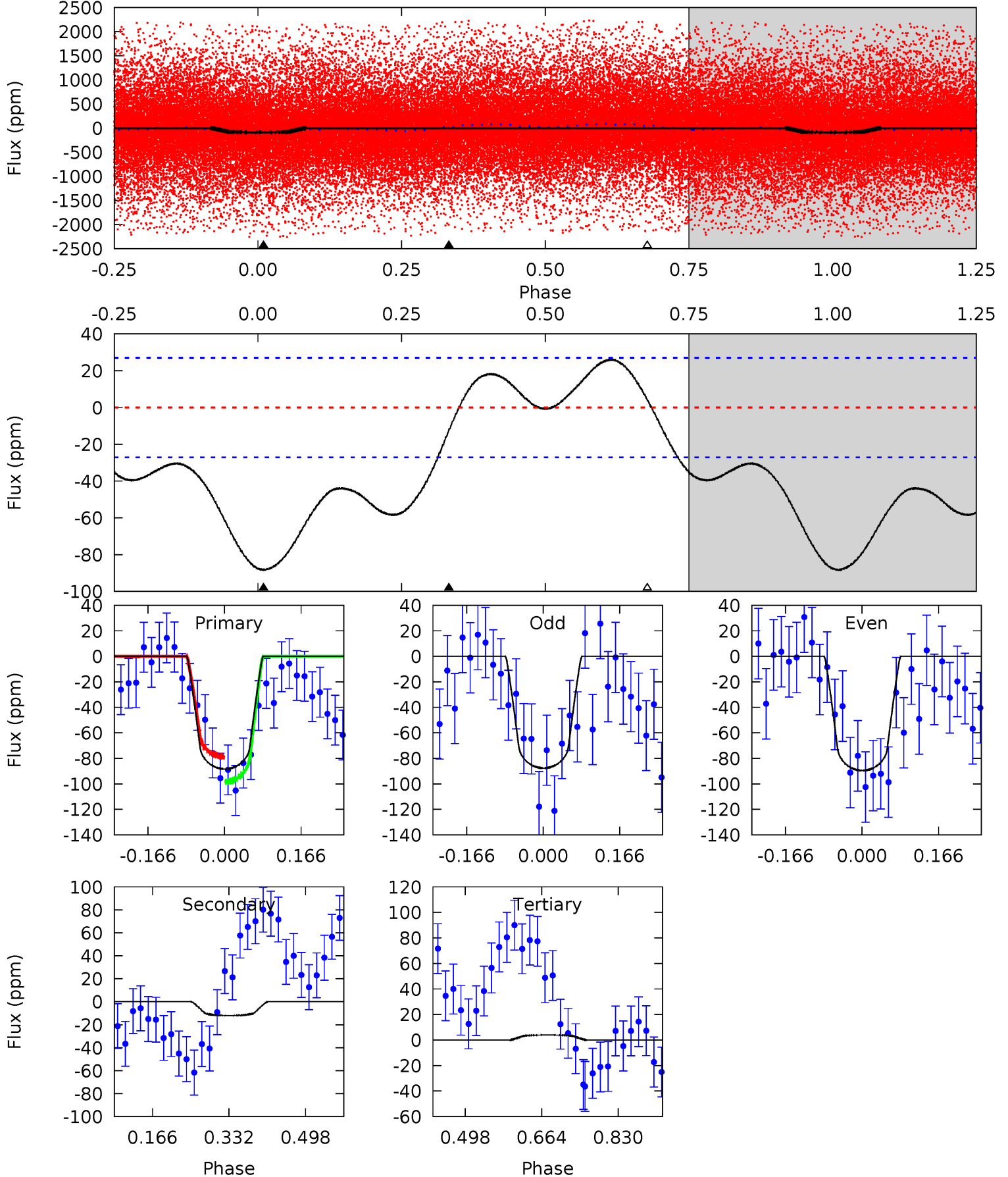
TCE 004552374-01 P= 0.711108 Days $T_0=131.579352$ (BKJD)



DV Model-Shift Uniqueness Test

004552374-01, P = 0.711105 Days, E = 130.868424 Days

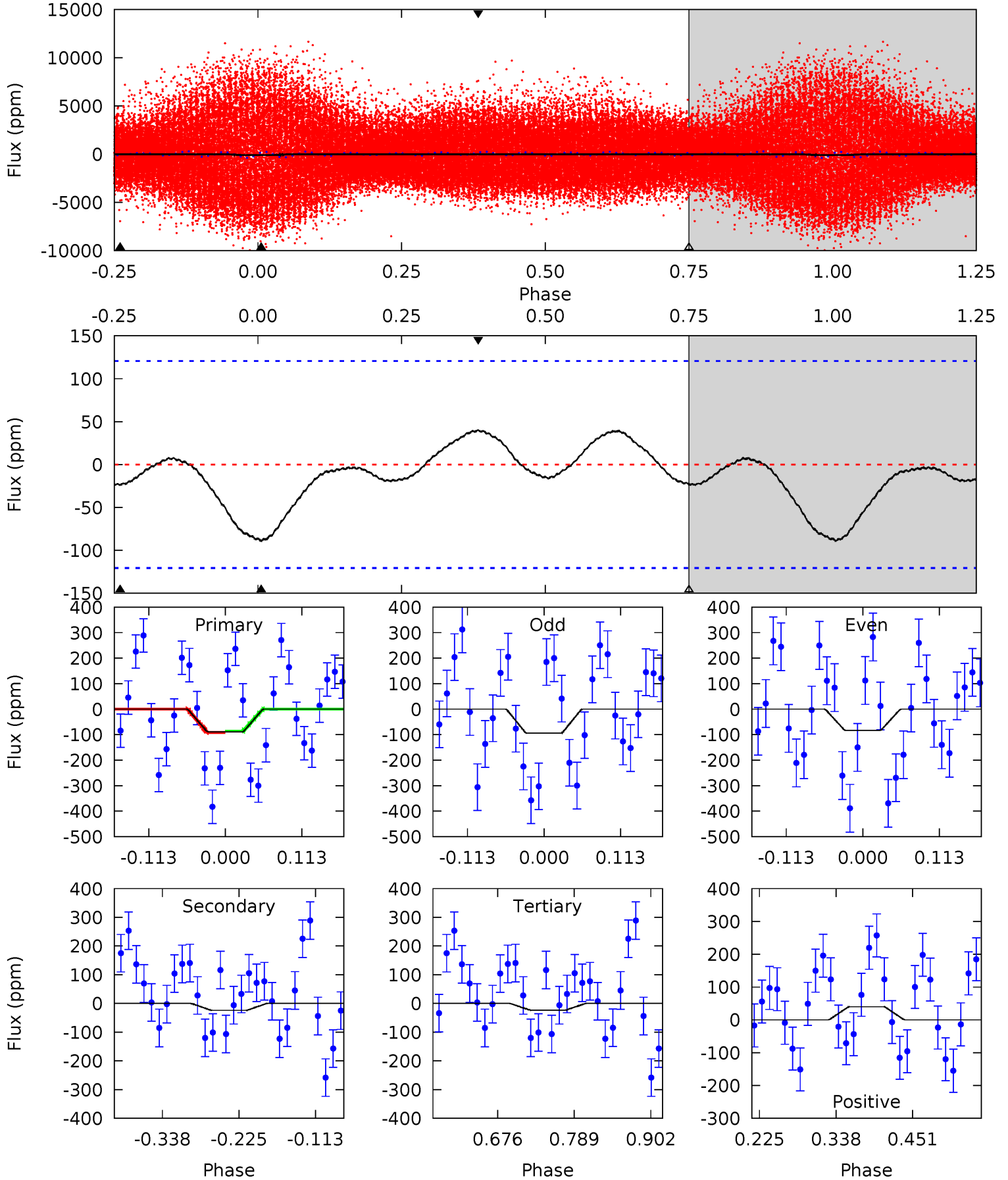
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	1.98	-0.64	0	4.46	1.38	3.92	15.2	14.5	2.62	1.98	0.16	1.09	0.23	1.67



Alt Model-Shift Uniqueness Test

004552374-01, P = 0.711108 Days, E = 130.868244 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.35	0.90	0.87	1.51	4.54	1.59	0.73	2.47	1.84	0.02	-0.61	0.20	0.32	0.31	0.11



Stellar Parameters For KIC 004552374

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6982^{+216}_{-288}	$4.107^{+0.234}_{-0.156}$	$-0.500^{+0.250}_{-0.300}$	$1.599^{+0.443}_{-0.443}$	$1.193^{+0.189}_{-0.154}$	$0.411^{+0.519}_{-0.185}$
	+3%/-4%	+6%/-4%	+50%/-60%	+28%/-28%	+16%/-13%	+126%/-45%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 004552374-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-12 ± 6	$1.32^{+0.37}_{-0.33}$	4230^{+315}_{-354}	4461^{+783}_{-1065}	$1.048^{+0.992}_{-0.608}$
Alt.	-24 ± 27	$1.61^{+0.38}_{-0.36}$	4177^{+328}_{-343}	4767^{+1142}_{-8643}	$1.332^{+1.972}_{-1.418}$

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 $A_{obs} \gg 1.0$

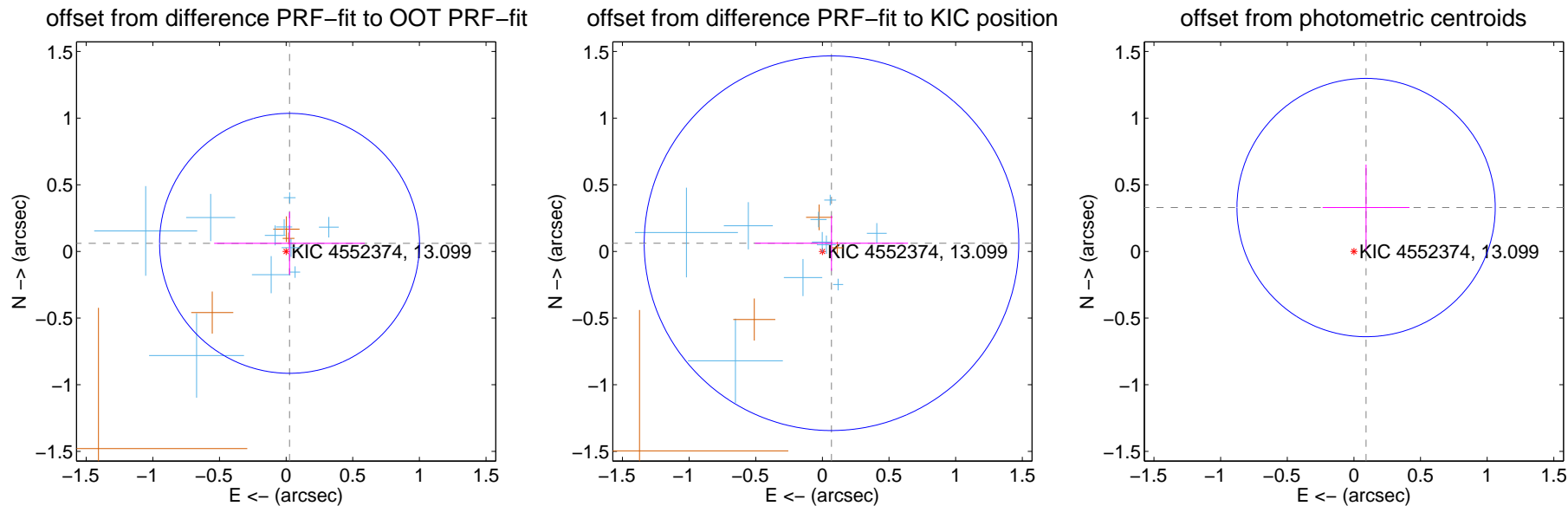
DV Centroid Data

Supplemental centroid analysis for 004552374-01. Kepler magnitude: 13.10. Transit SNR 10.15

There are 12 quarters with good PRF difference image offsets

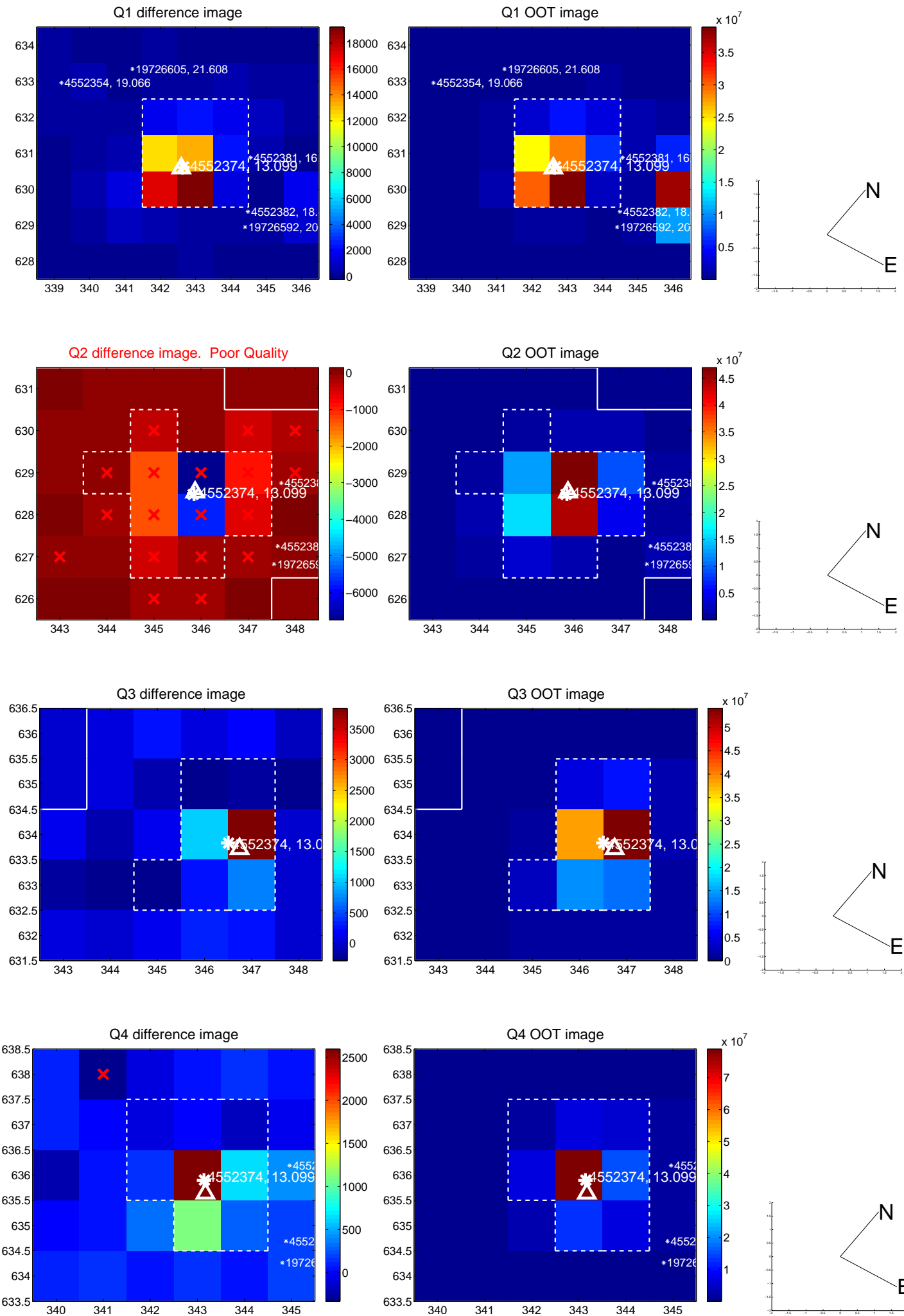
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.066 ± 0.325	0.20	-0.026 ± 0.565	0.061 ± 0.235
PRF-fit source offset from KIC position	0.092 ± 0.468	0.20	-0.068 ± 0.575	0.062 ± 0.207
photometric centroid source offset	0.34 ± 0.32	1.06	-0.09 ± 0.33	0.33 ± 0.32

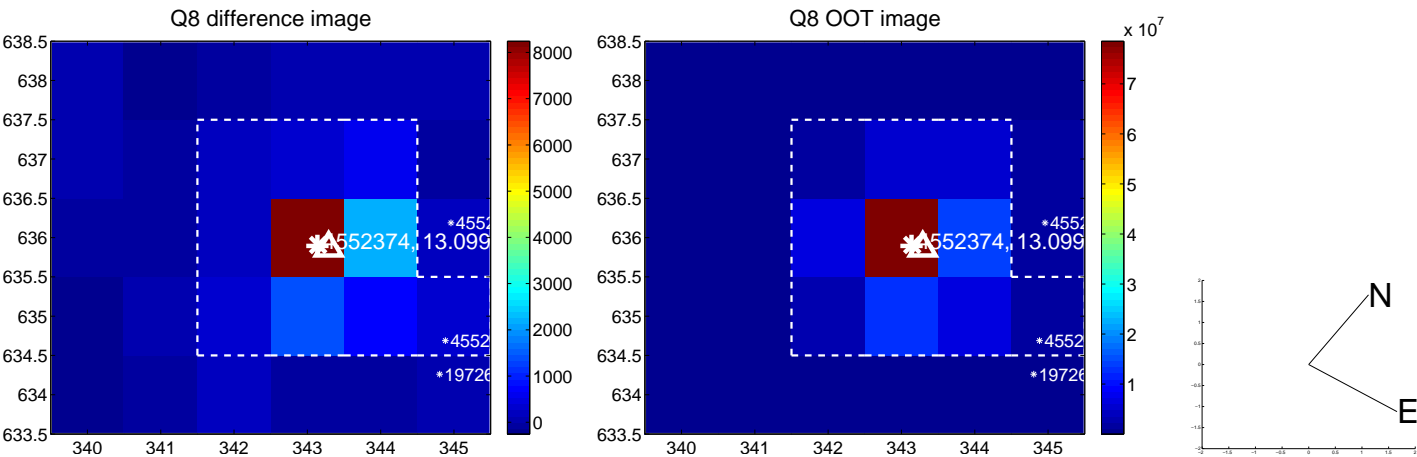
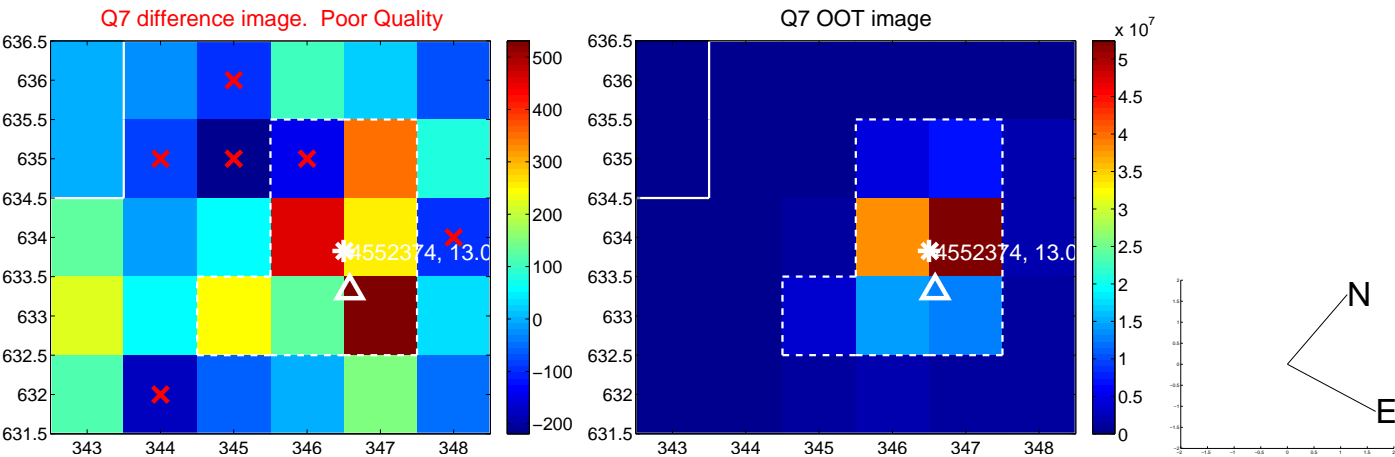
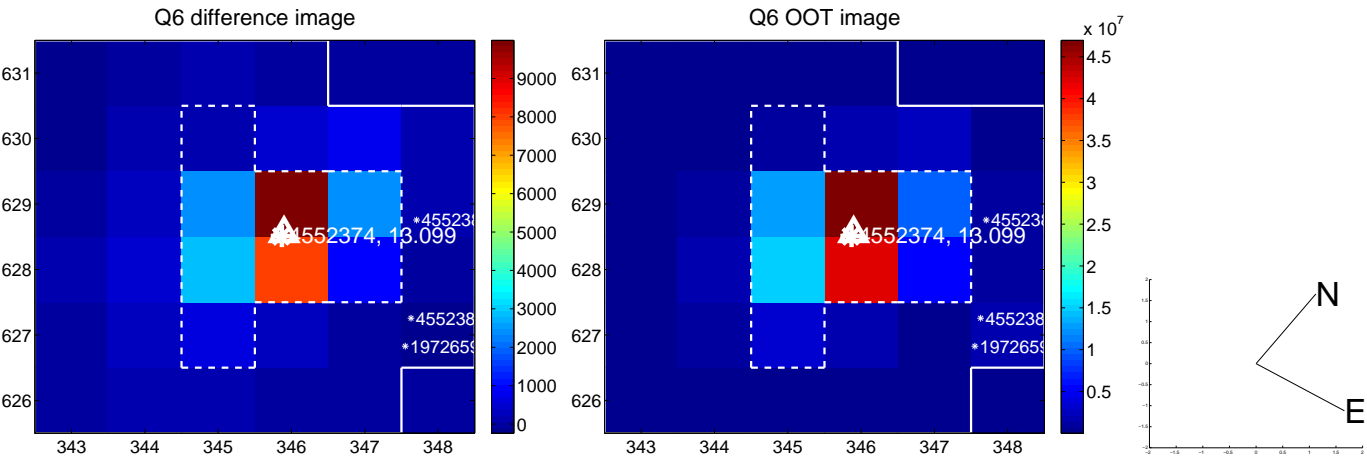
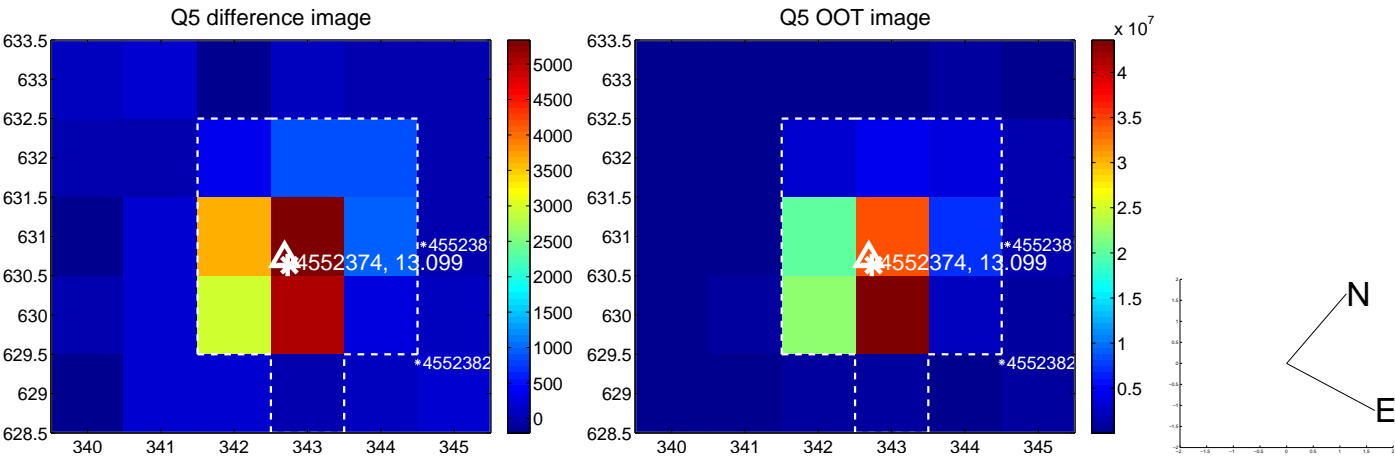


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

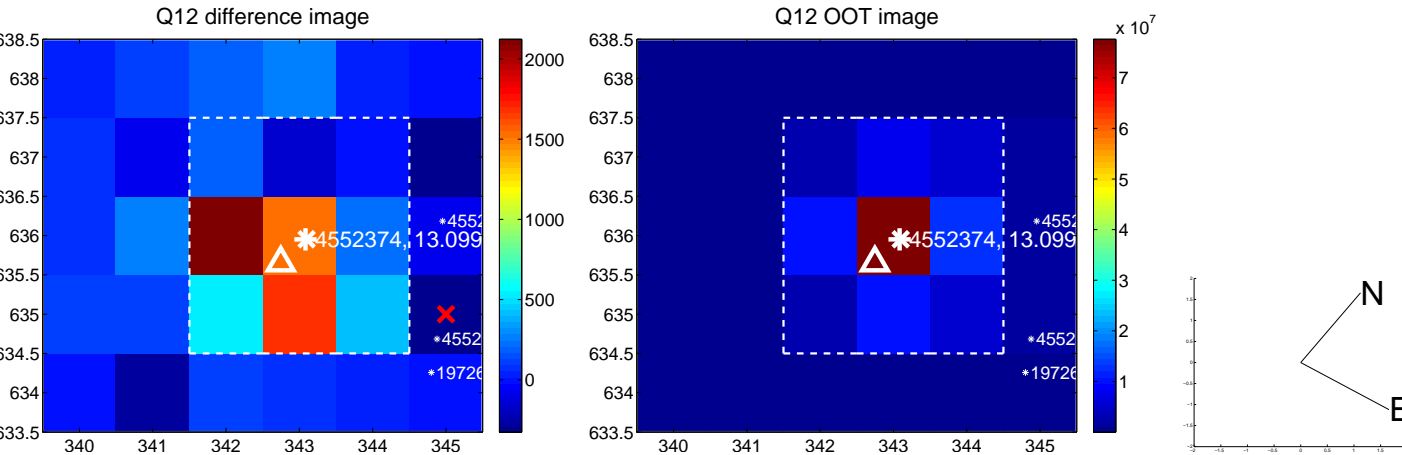
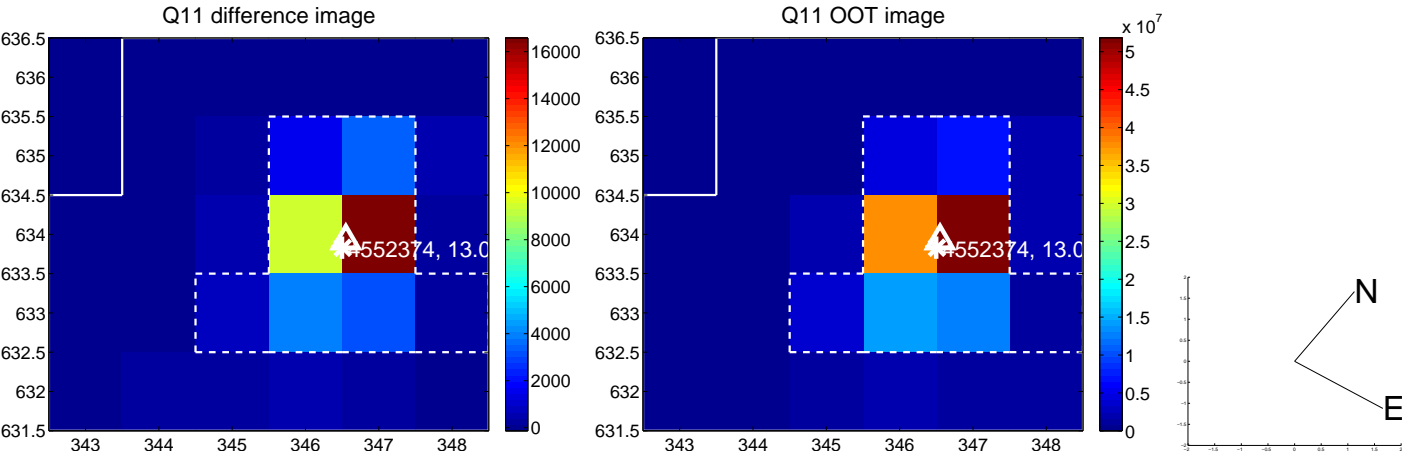
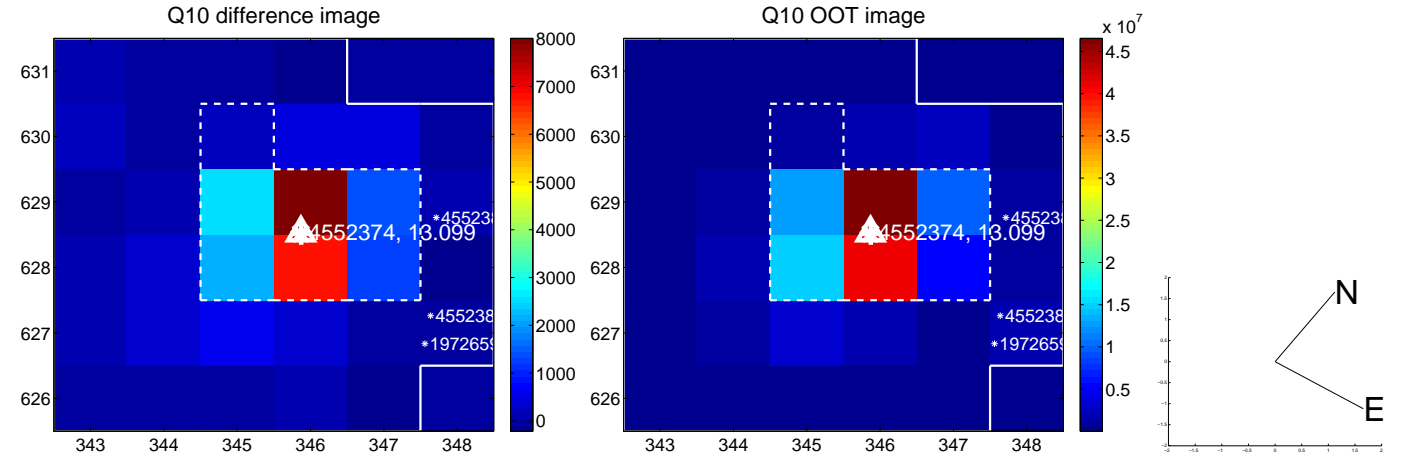
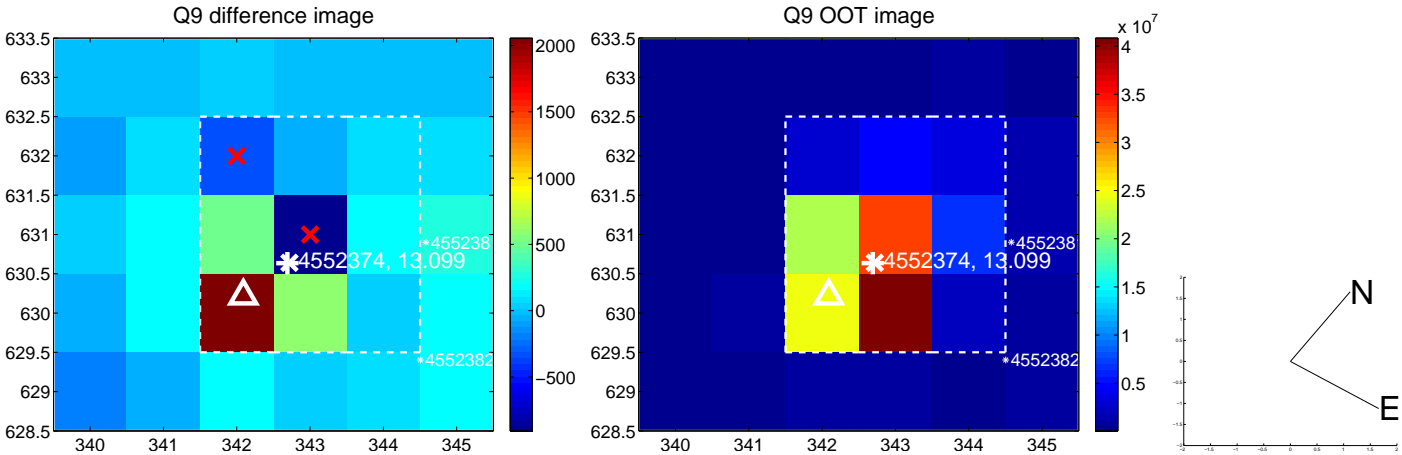
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



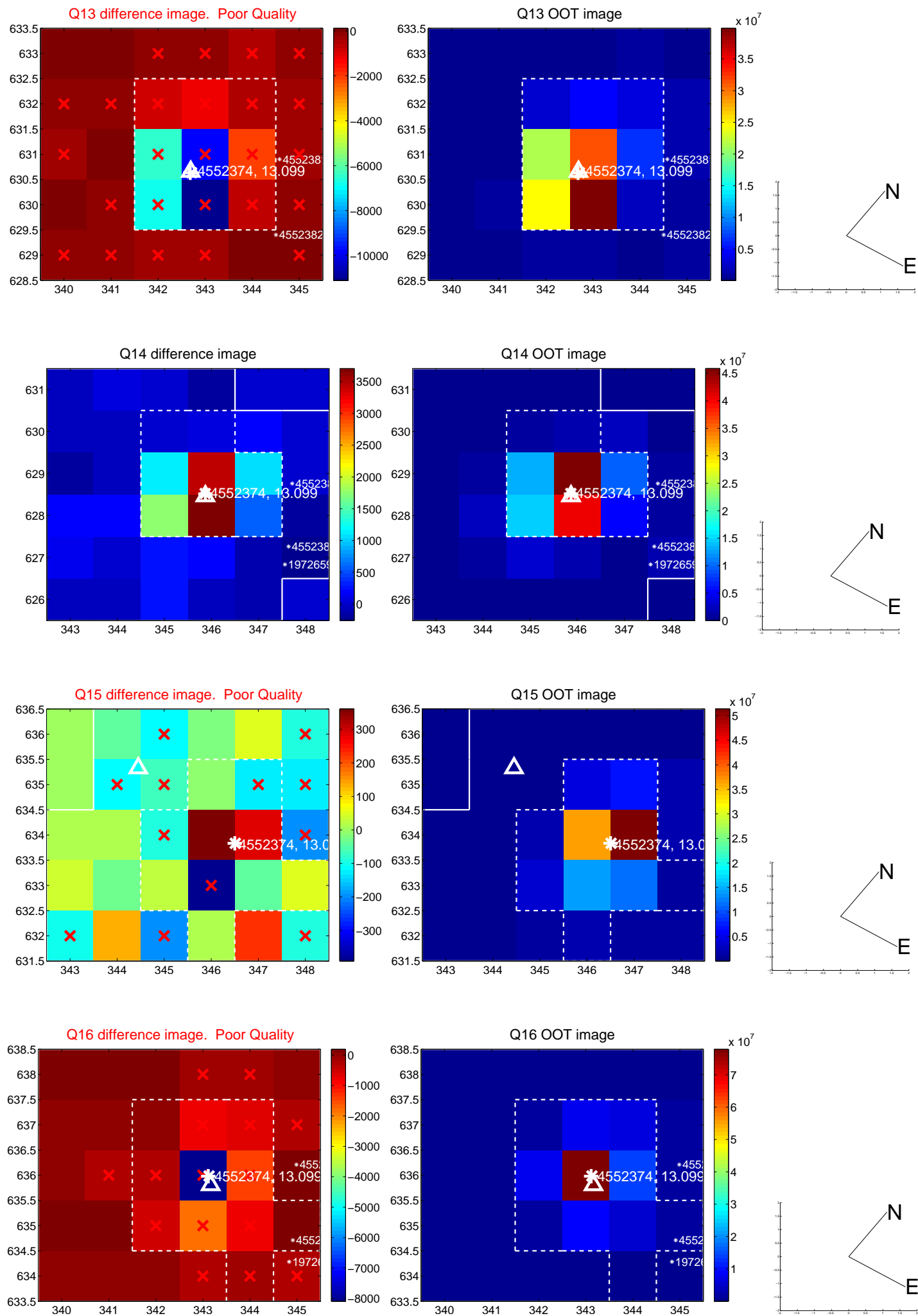
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



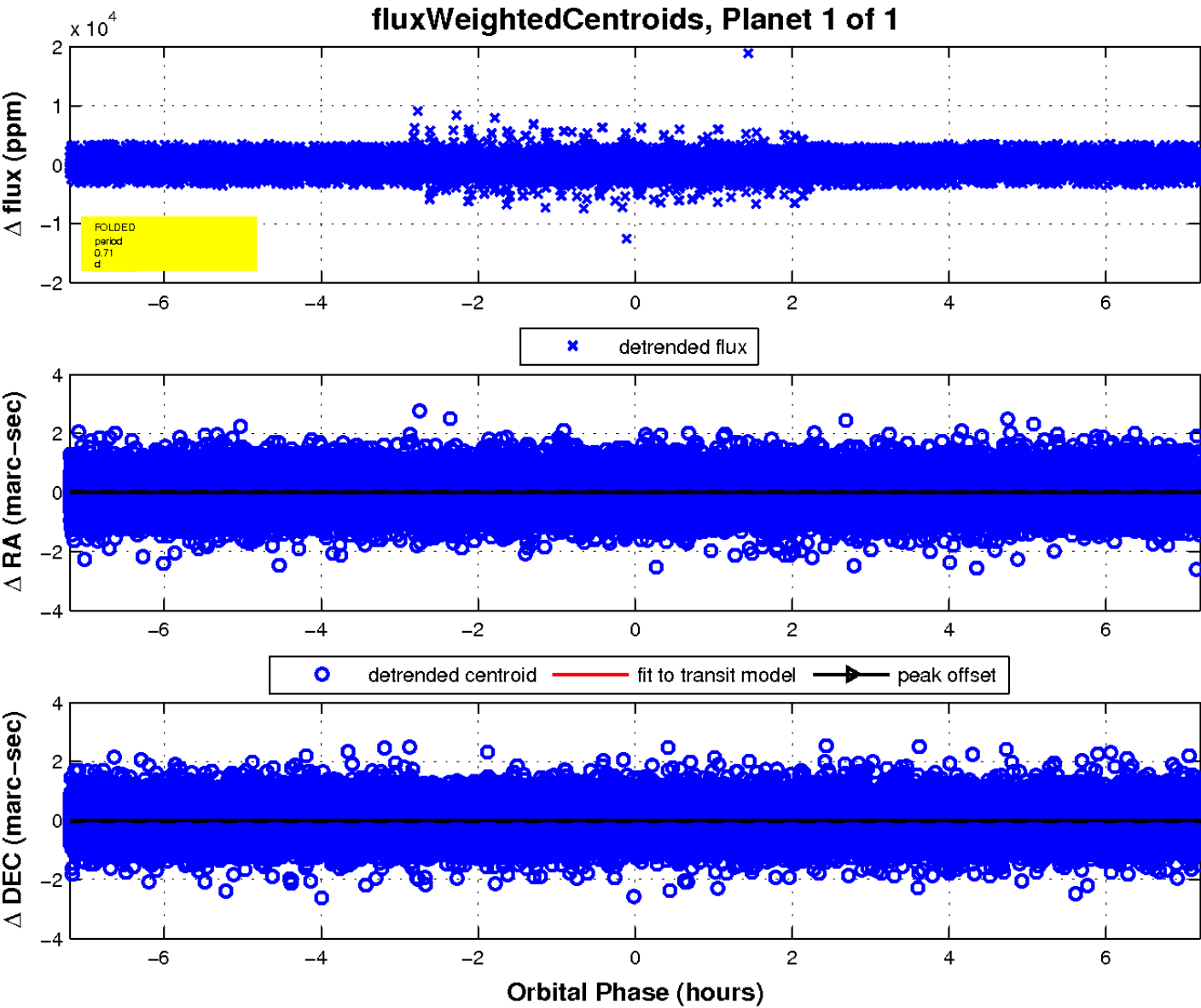
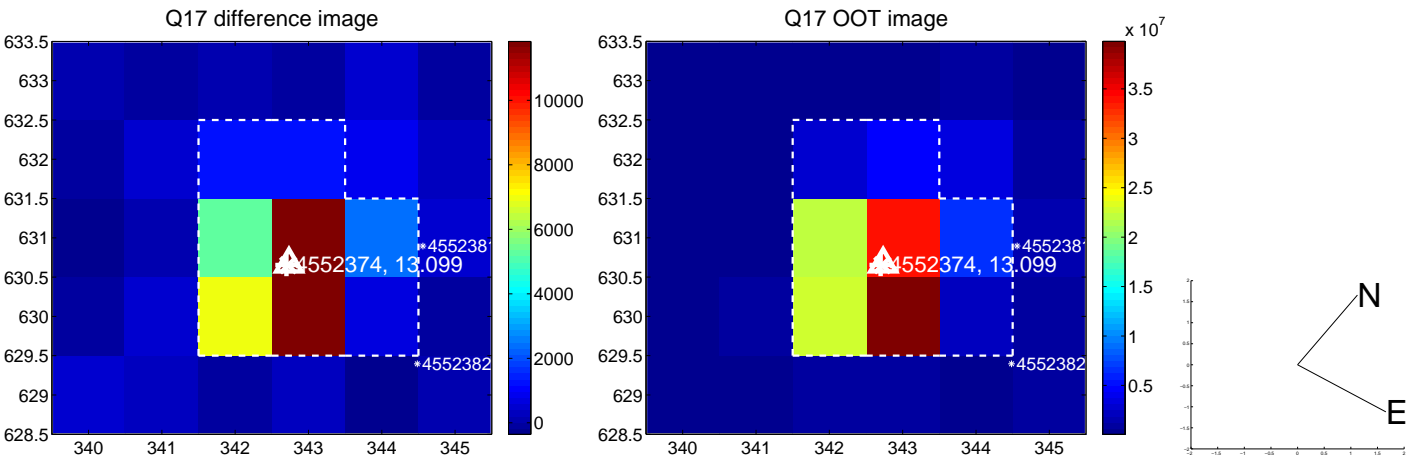
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

