

KIC 005437243

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})
005437243-01	OBS	No	4.294391	132.275762	14.1	22.677	7.7	4.5	4.44	6438	1.94	7395.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005437243-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL — LPP_DV — CENT_SATURATED

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

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

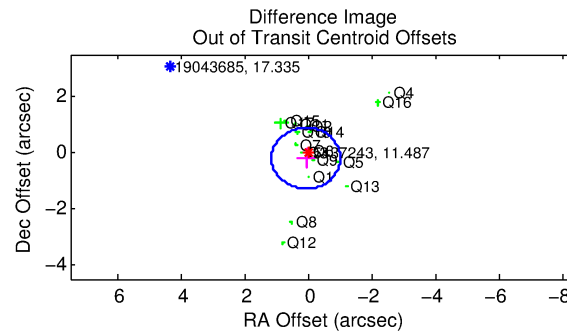
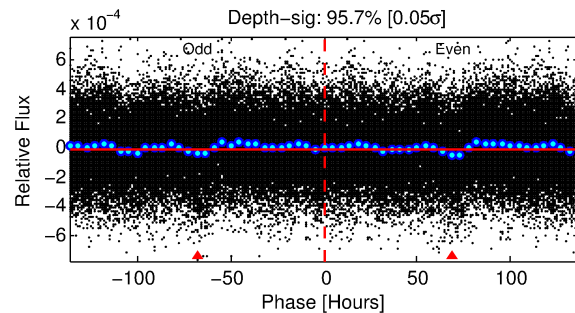
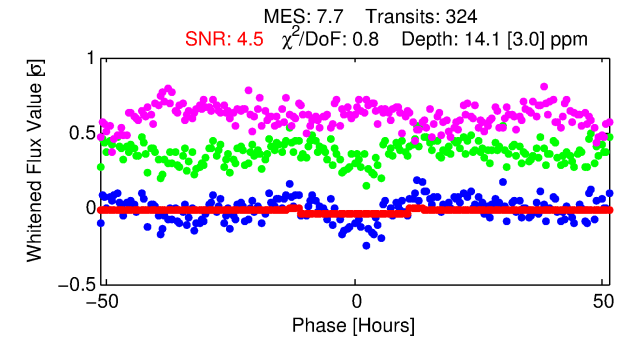
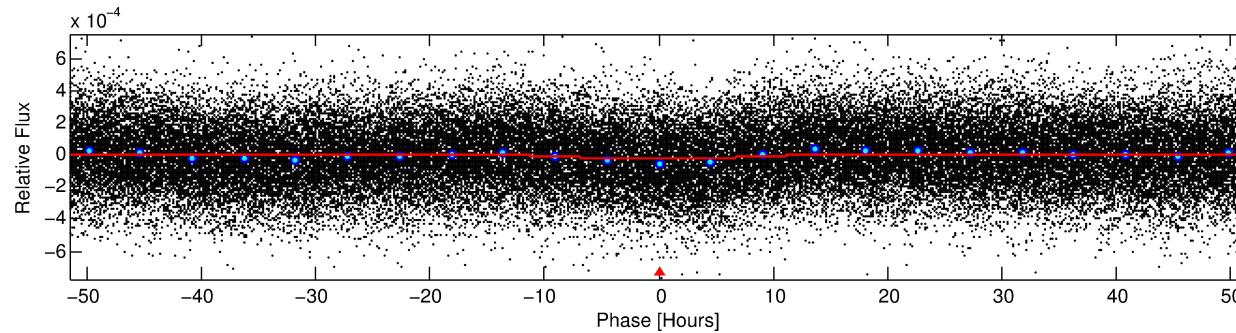
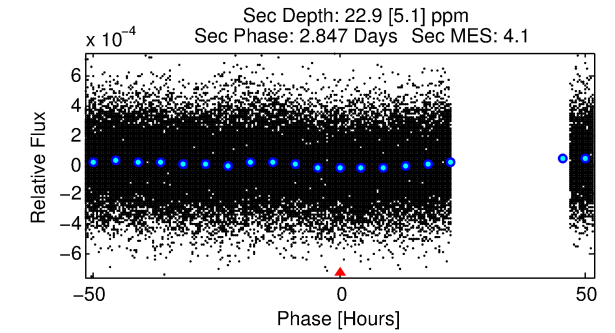
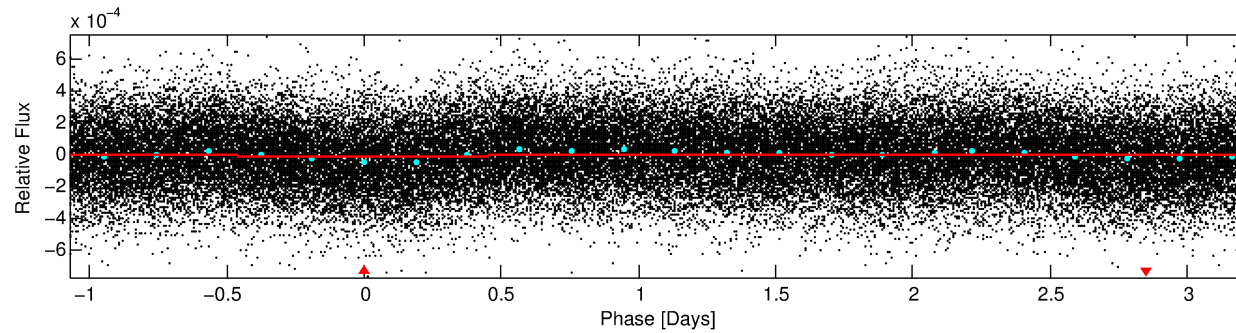
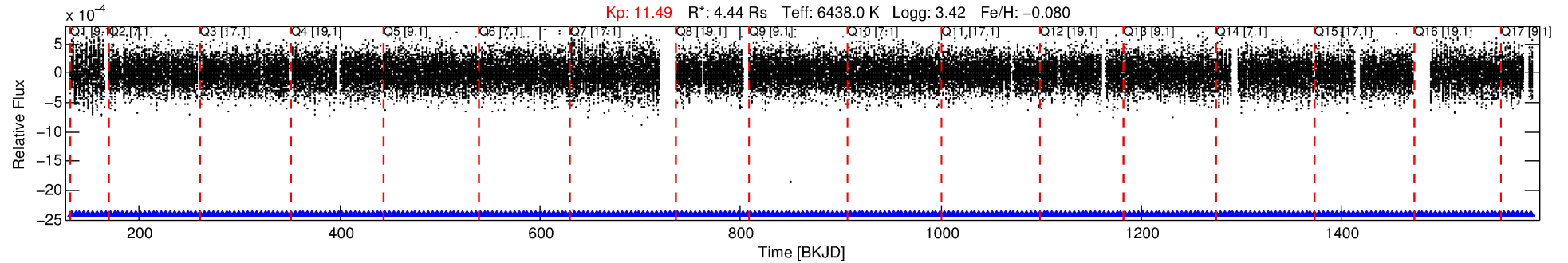
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005437243-01

No Significant Match Found

DV One-Page Summary

KIC: 5437243 Candidate: 1 of 1 Period: 4.294 d



DV Fit Results:

Period = 4.29439 [0.00016] d
Epoch = 132.2758 [0.0224] BKJD
Rp/R* = 0.0040 [0.0008]
a/R* = 1.14 [0.28]
b = 0.90 [0.23]
Seff = 7395.23 [4548.64]
Teq = 2365 [364] K
Rp = 1.94 [0.83] Re
a = 0.0641 [0.0239] AU
Ag = 13.67 [10.47] [1.21σ]
Teffp = 7030 [839] K [5.10σ]

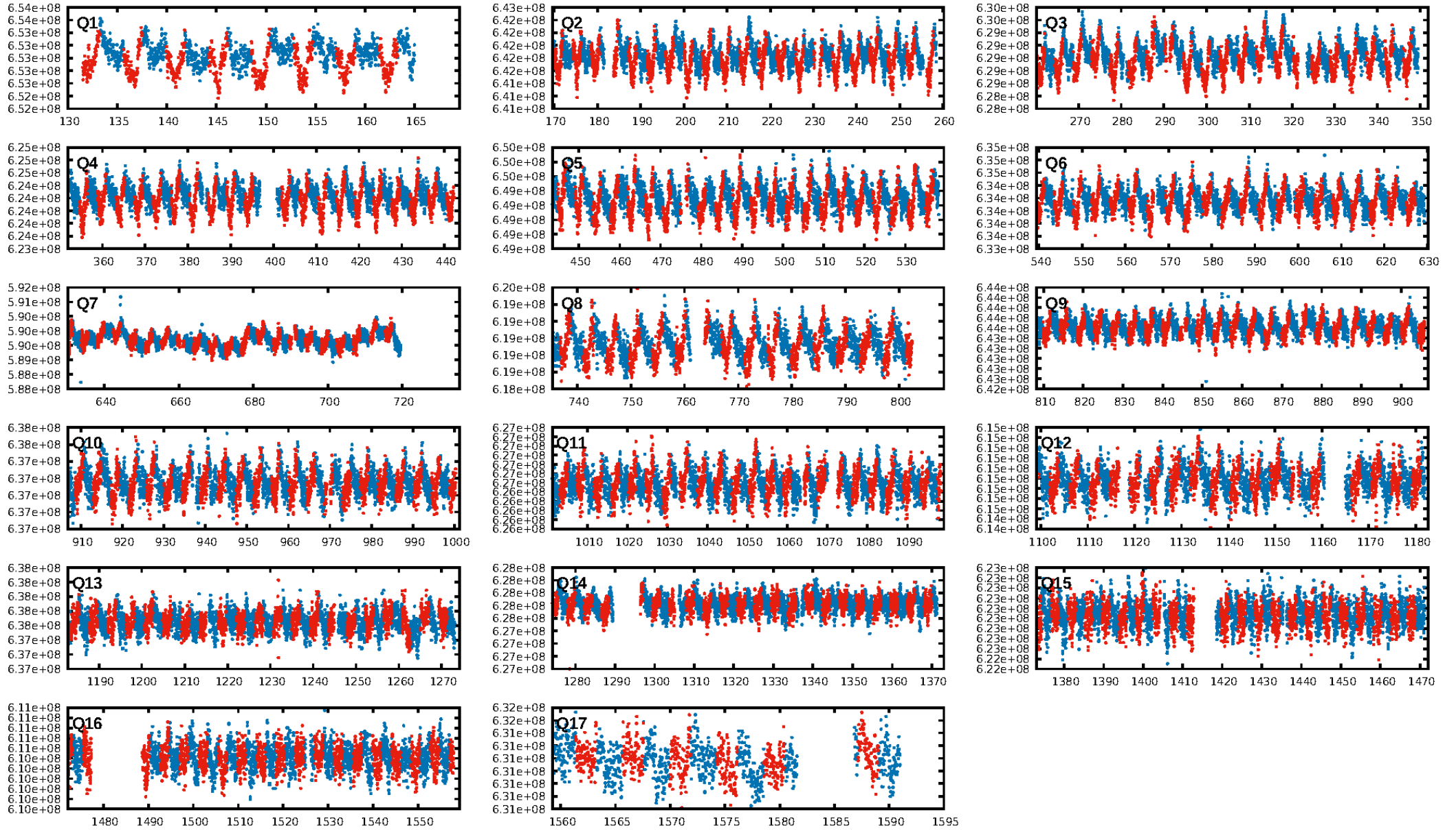
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.30e-13
RollingBand-fgt: 1.00 [310/310]
GhostDiagnostic-chr: 1.101
Centroid-sig: 9.9%
Centroid-so: 1.072 arcsec [1.39σ]
OotOffset-rm: 0.218 arcsec [0.60σ]
KicOffset-rm: 0.169 arcsec [0.67σ]
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]

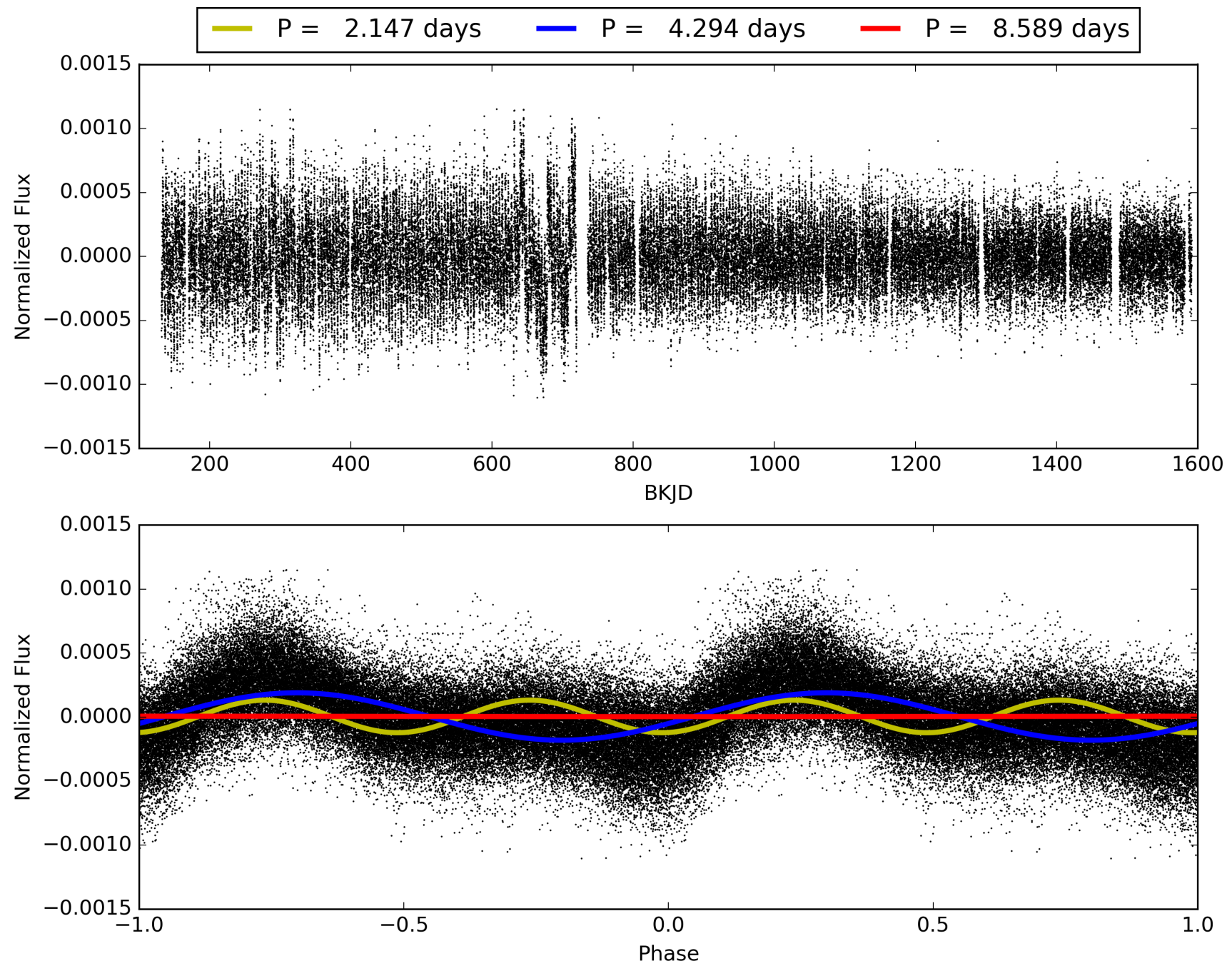
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:00:51 Z

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

TCE 005437243-01, PDC Light Curves

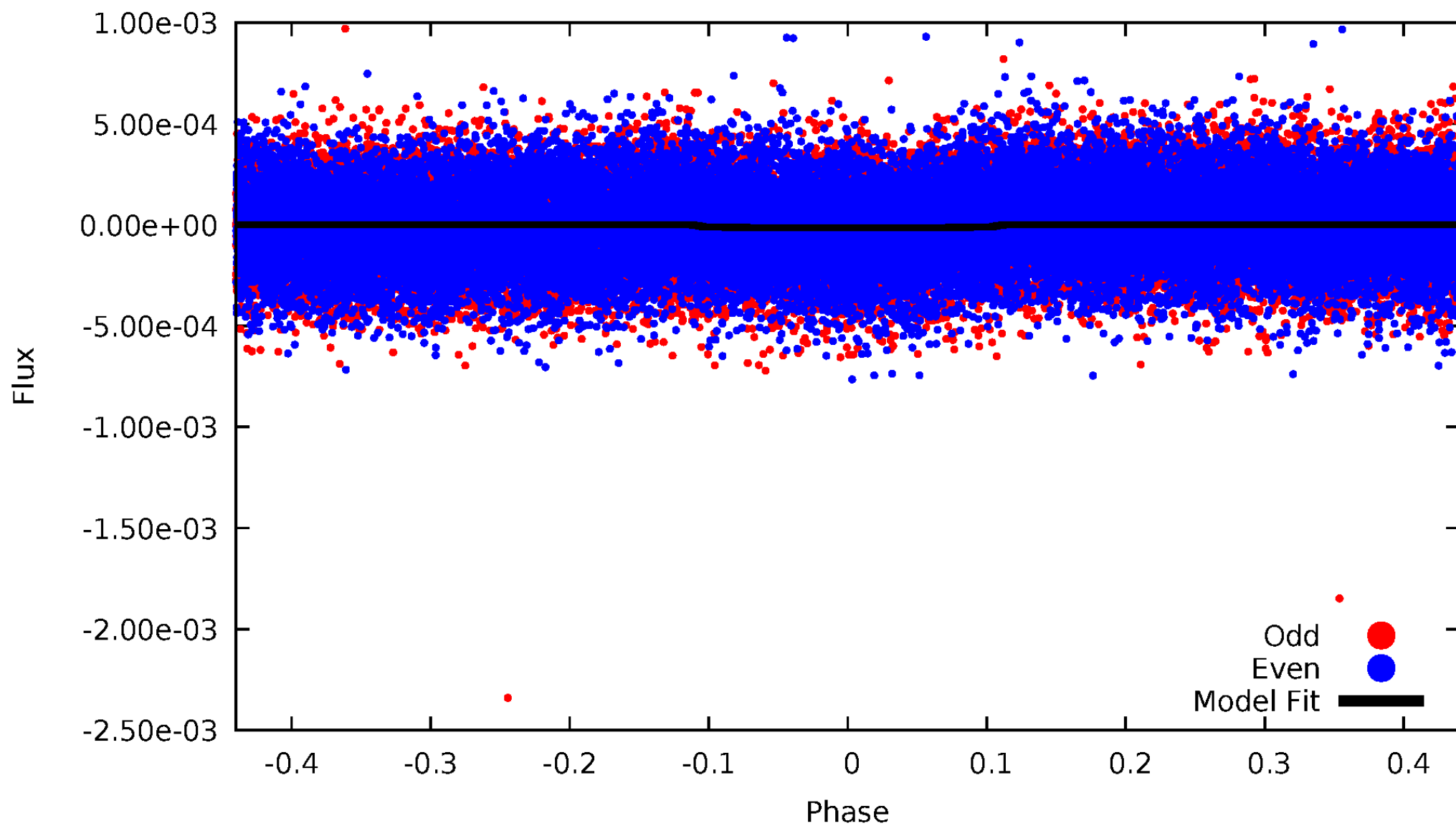


TCE 005437243-01



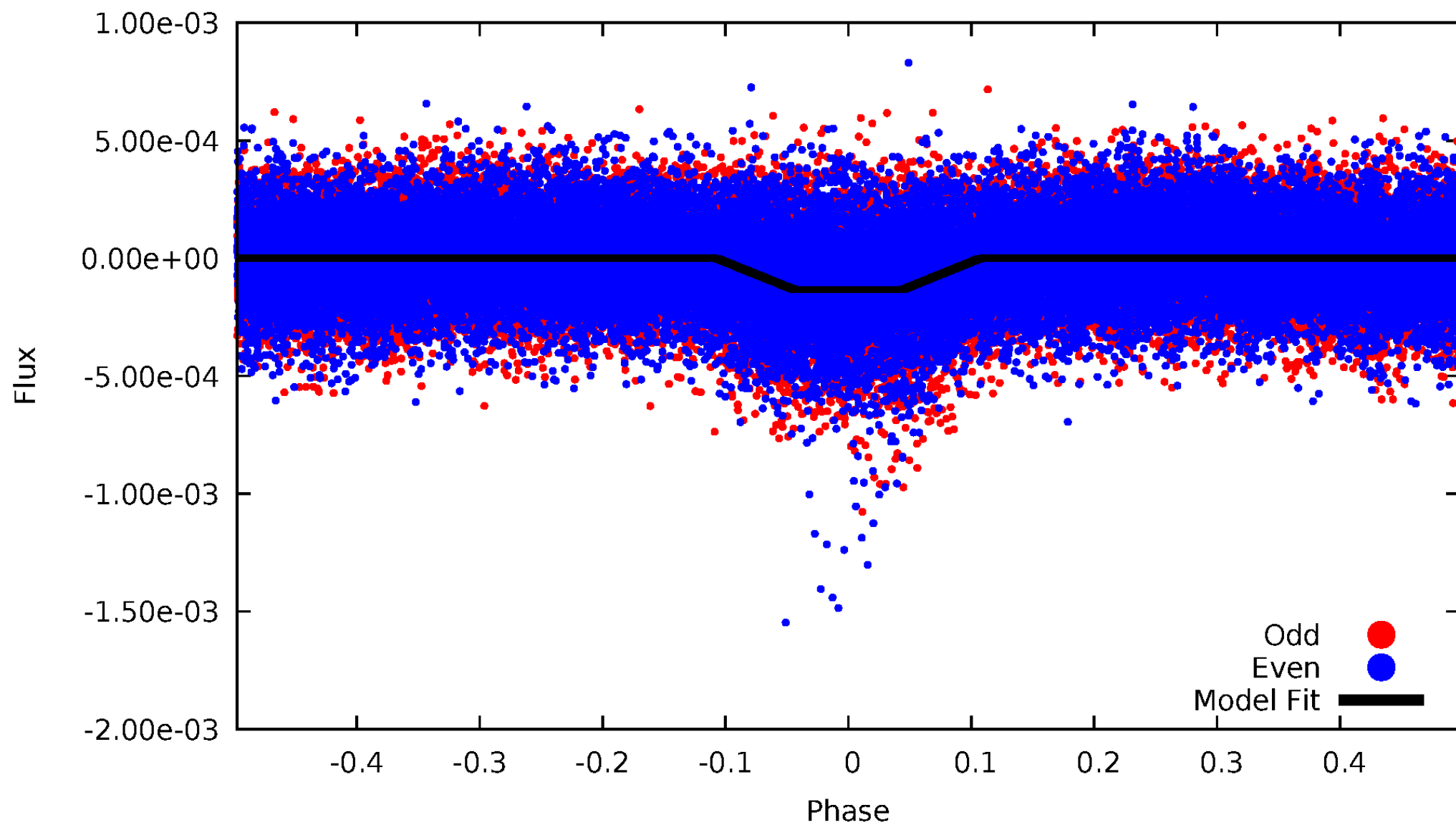
DV Odd/Even

TCE 005437243-01

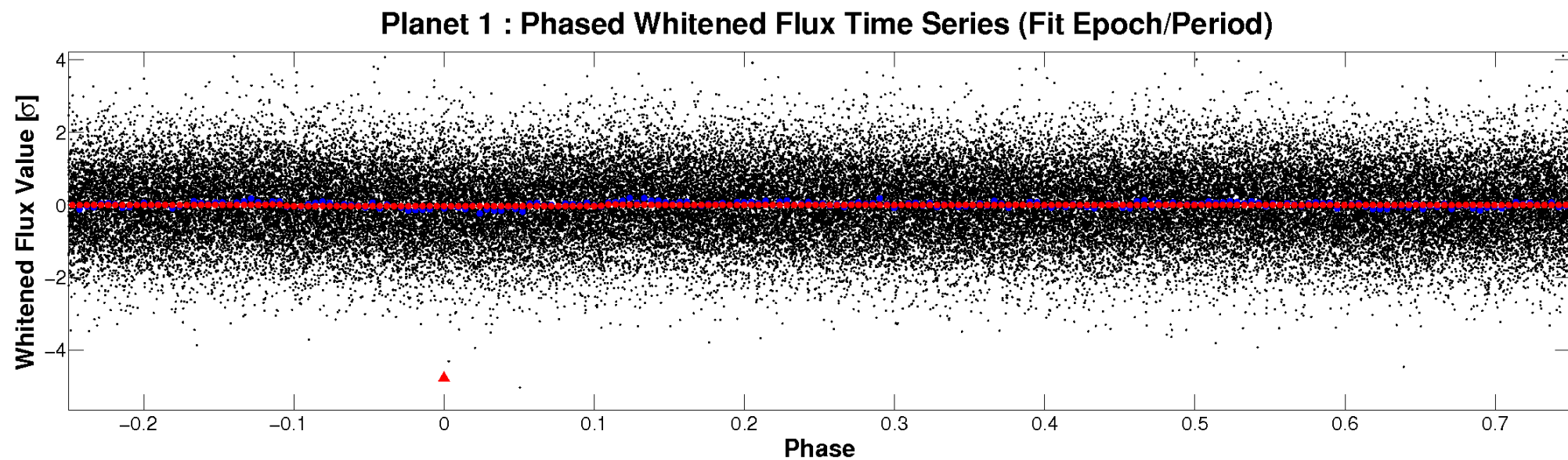
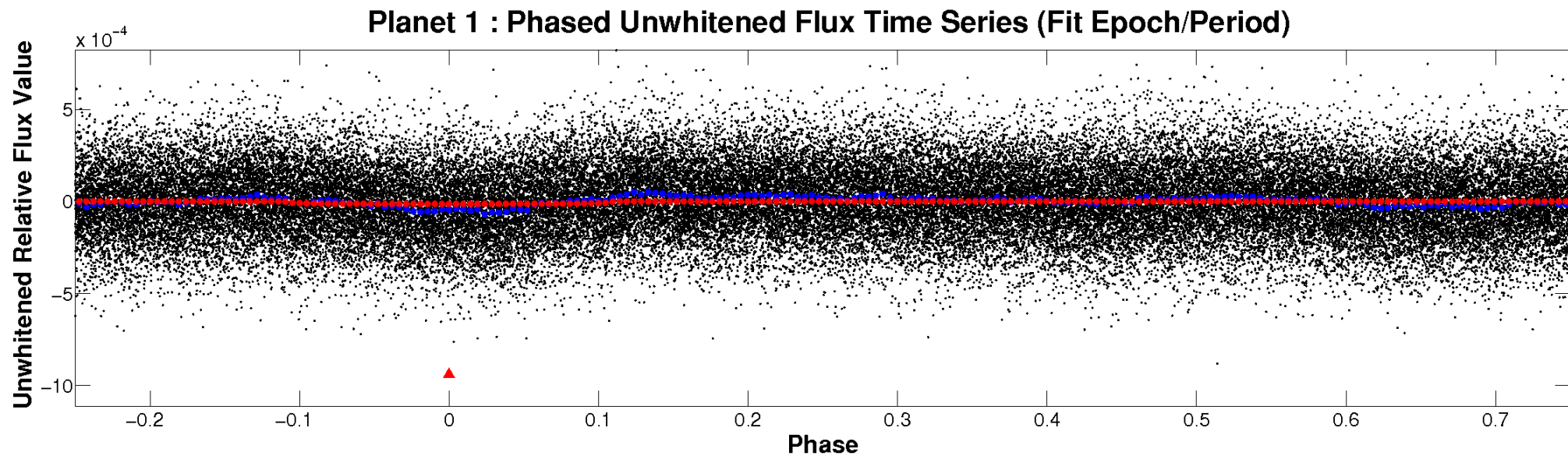


ALT Odd/Even

TCE 005437243-01

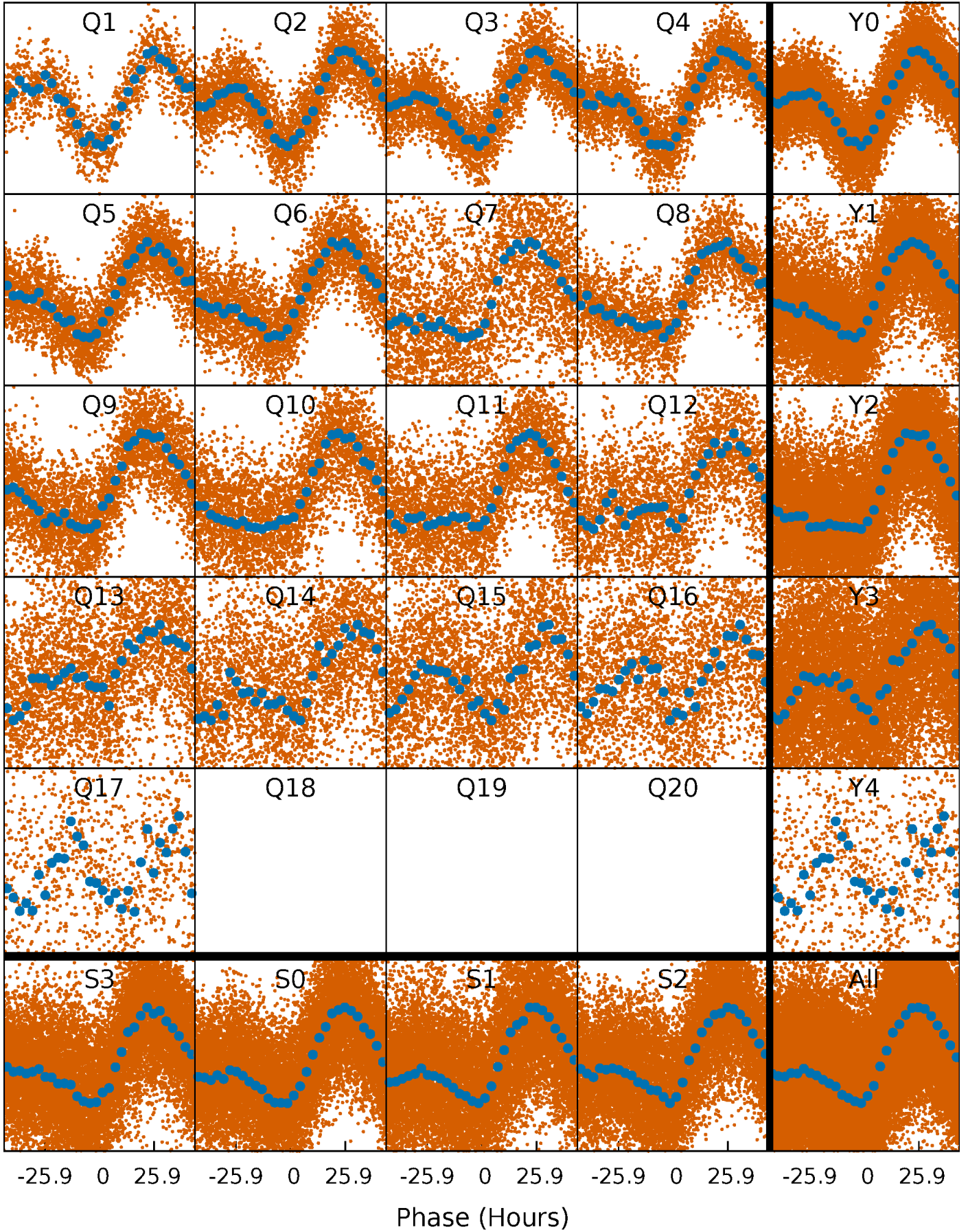


Non-Whitened Vs. Whitened Light Curve



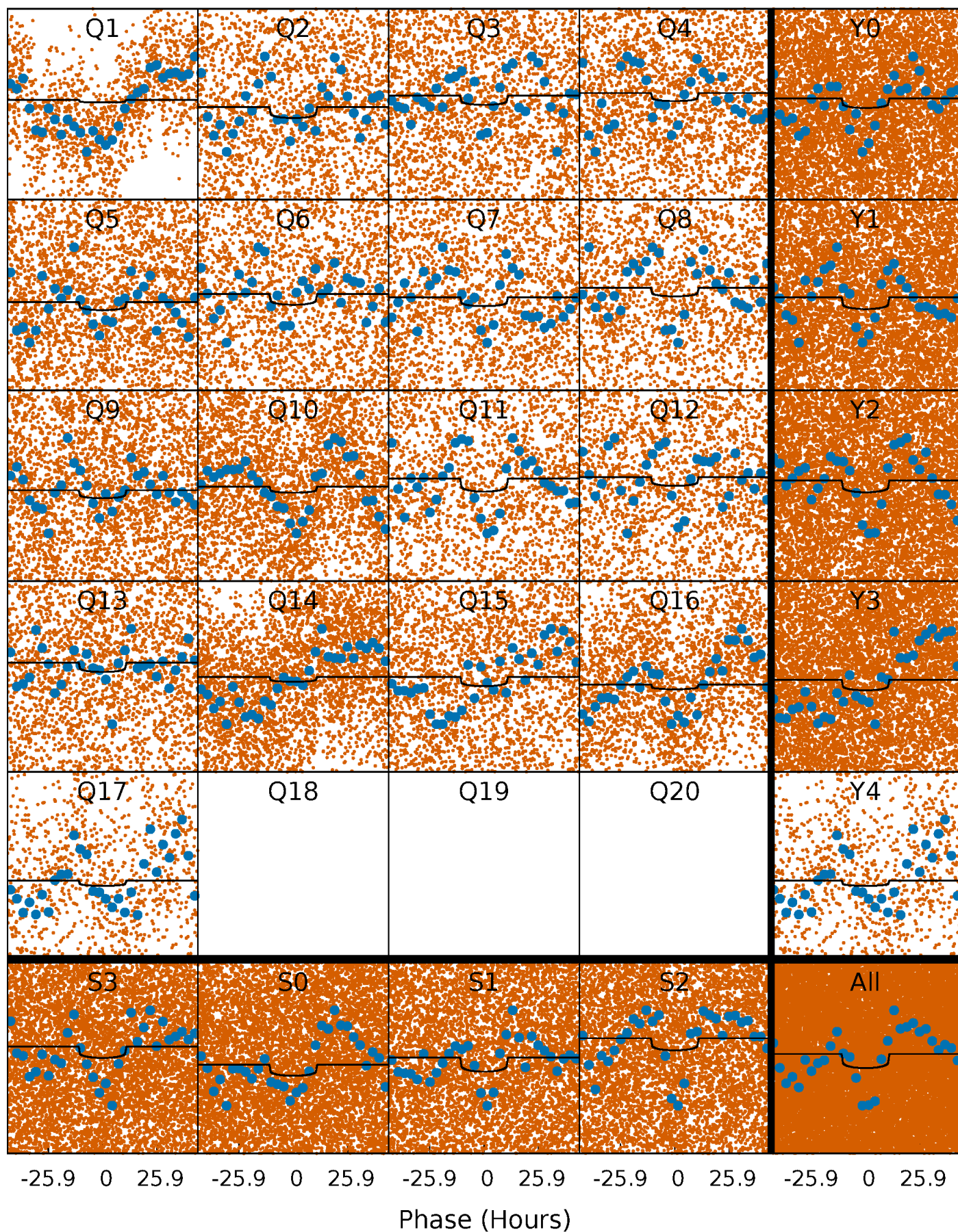
PDC Quarter-Phased Transit Curves

TCE 005437243-01 P= 4.294391 Days $T_0=132.275762$ (BKJD)



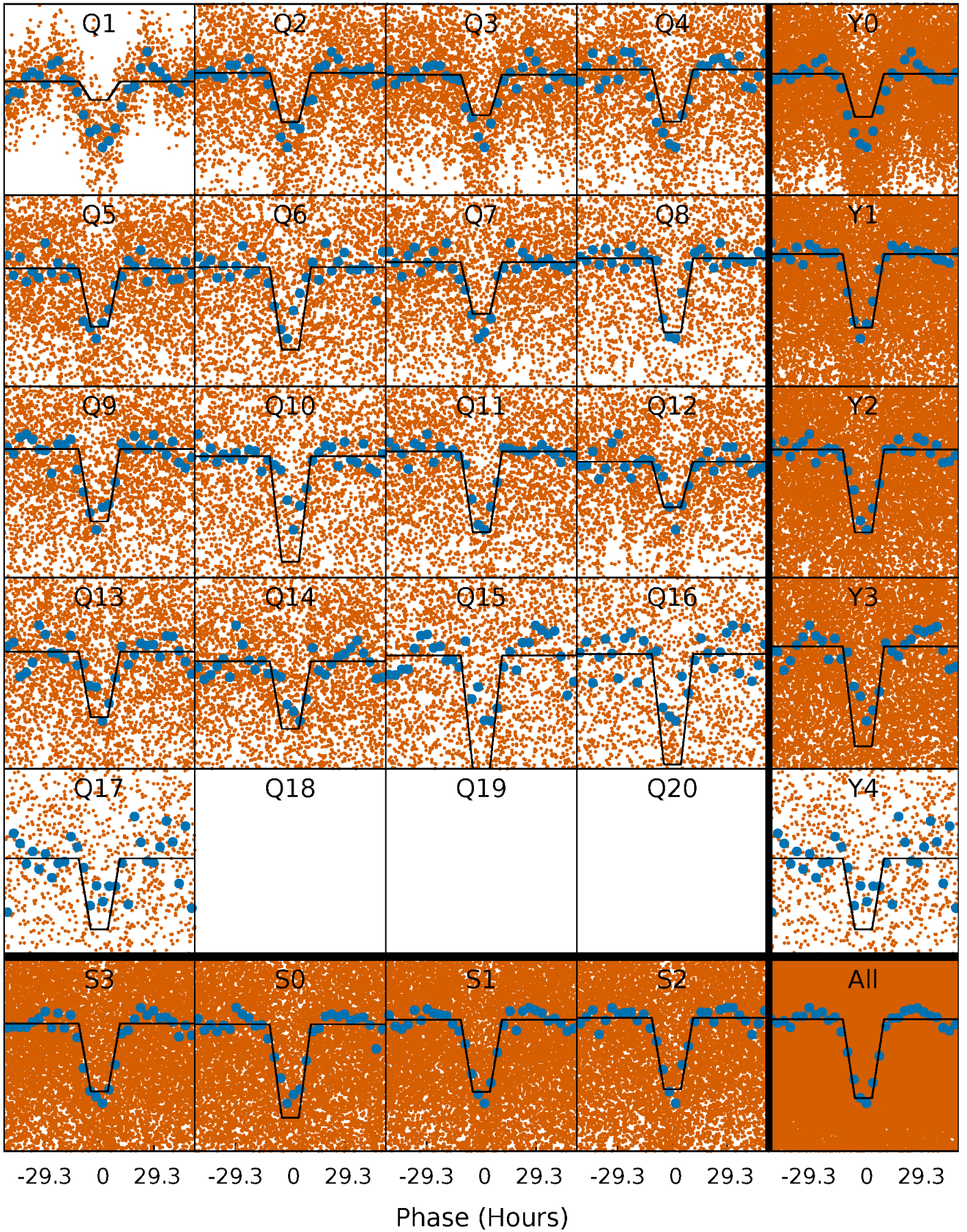
DV Quarter-Phased Transit Curves

TCE 005437243-01 P= 4.294391 Days $T_0=132.275762$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

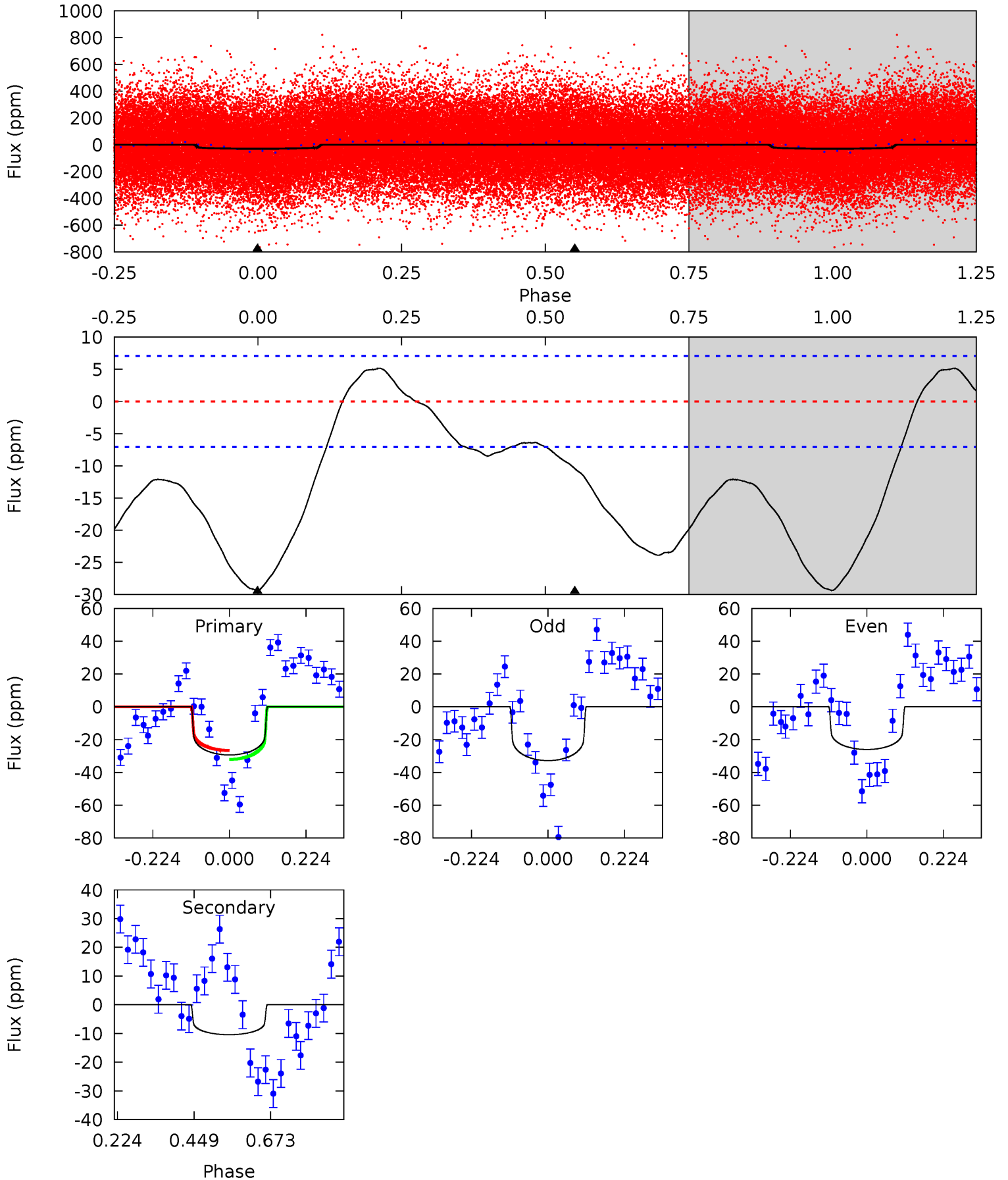
TCE 005437243-01 P= 4.294696 Days $T_0=132.229502$ (BKJD)



DV Model-Shift Uniqueness Test

005437243-01, P = 4.294391 Days, E = 127.981371 Days

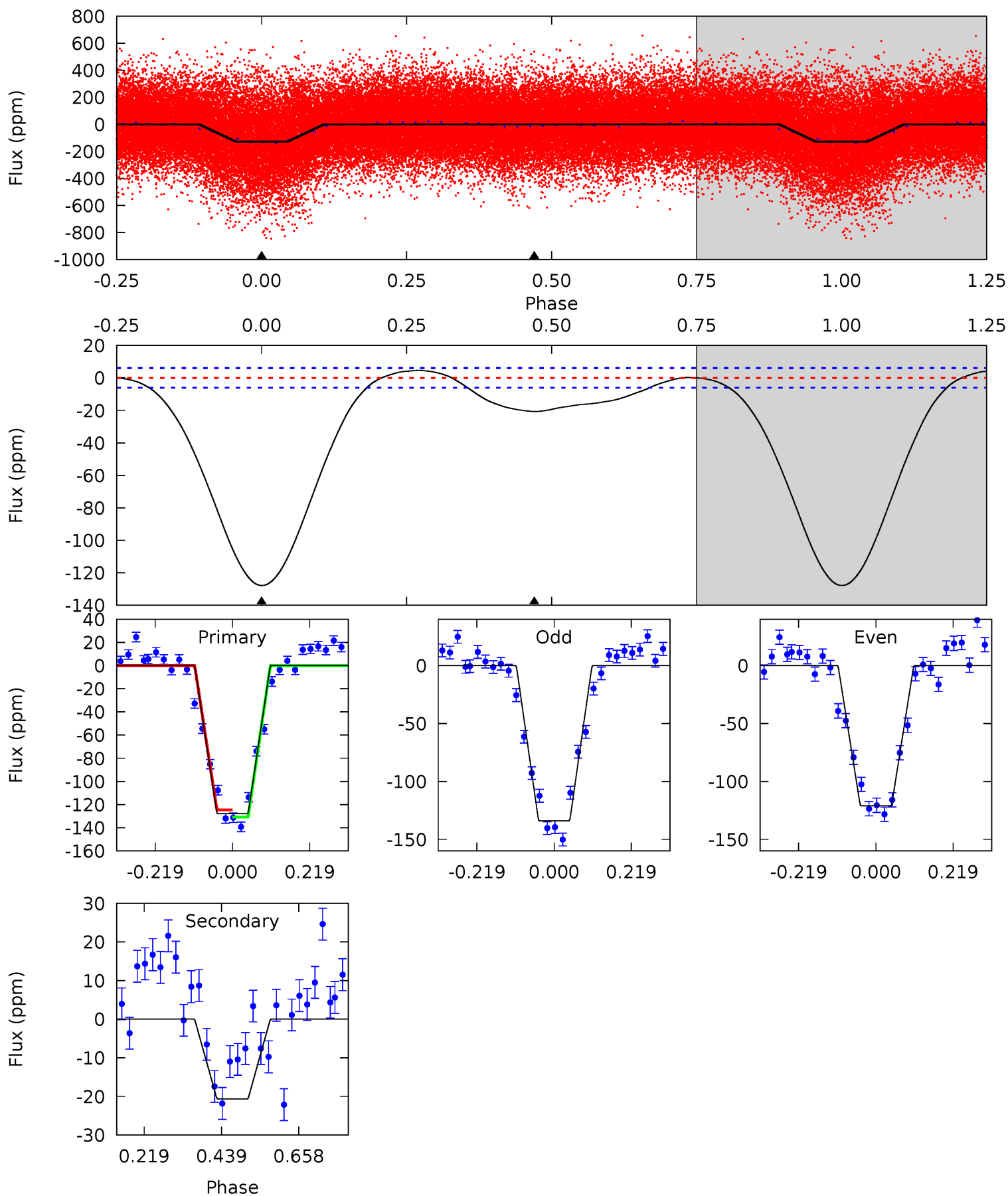
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.2	6.48	0	0	4.39	1.22	1.39	18.2	18.2	6.48	6.48	2.10	1.15	0.15	1.71



Alt Model-Shift Uniqueness Test

005437243-01, P = 4.294696 Days, E = 127.934806 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
92.6	14.9	0	0	4.40	1.23	1.38	92.6	92.6	14.9	14.9	4.63	1.07	0.04	2.18



Stellar Parameters For KIC 005437243

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6438^{+162}_{-162}	$3.422^{+0.360}_{-0.090}$	$-0.080^{+0.350}_{-0.250}$	$4.440^{+0.715}_{-1.669}$	$1.901^{+0.094}_{-0.376}$	$0.031^{+0.091}_{-0.008}$
	+3%/-3%	+11%/-3%	+438%/-312%	+16%/-38%	+5%/-20%	+299%/-27%
Source	PHO1	FLK73	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 005437243-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-10 ± 2	$1.78^{+0.48}_{-0.47}$	3229^{+193}_{-320}	5706^{+718}_{-554}	$7.302^{+5.853}_{-2.944}$
Alt.	-21 ± 1	$5.19^{+0.89}_{-1.06}$	3219^{+210}_{-334}	4131^{+171}_{-173}	$1.689^{+0.936}_{-0.441}$

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

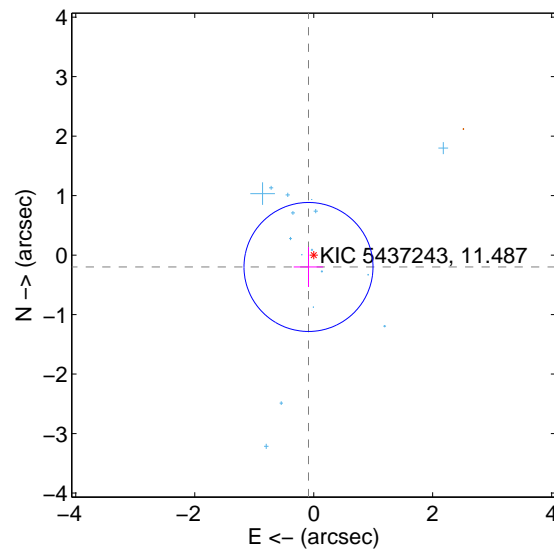
Supplemental centroid analysis for 005437243-01. **Kepler magnitude: 11.49.** Transit SNR 4.47

There are 16 quarters with good PRF difference image offsets

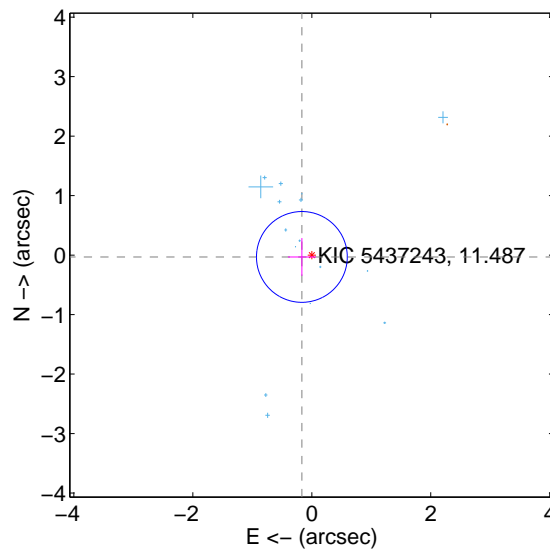
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.218 ± 0.361	0.60	0.088 ± 0.249	-0.200 ± 0.336
PRF-fit source offset from KIC position	0.169 ± 0.254	0.67	0.167 ± 0.235	-0.031 ± 0.317
photometric centroid source offset	1.07 ± 0.77	1.39	0.68 ± 0.74	0.83 ± 0.80

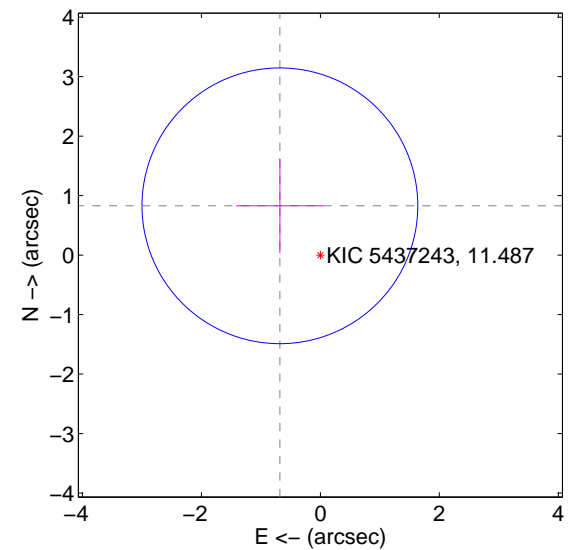
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

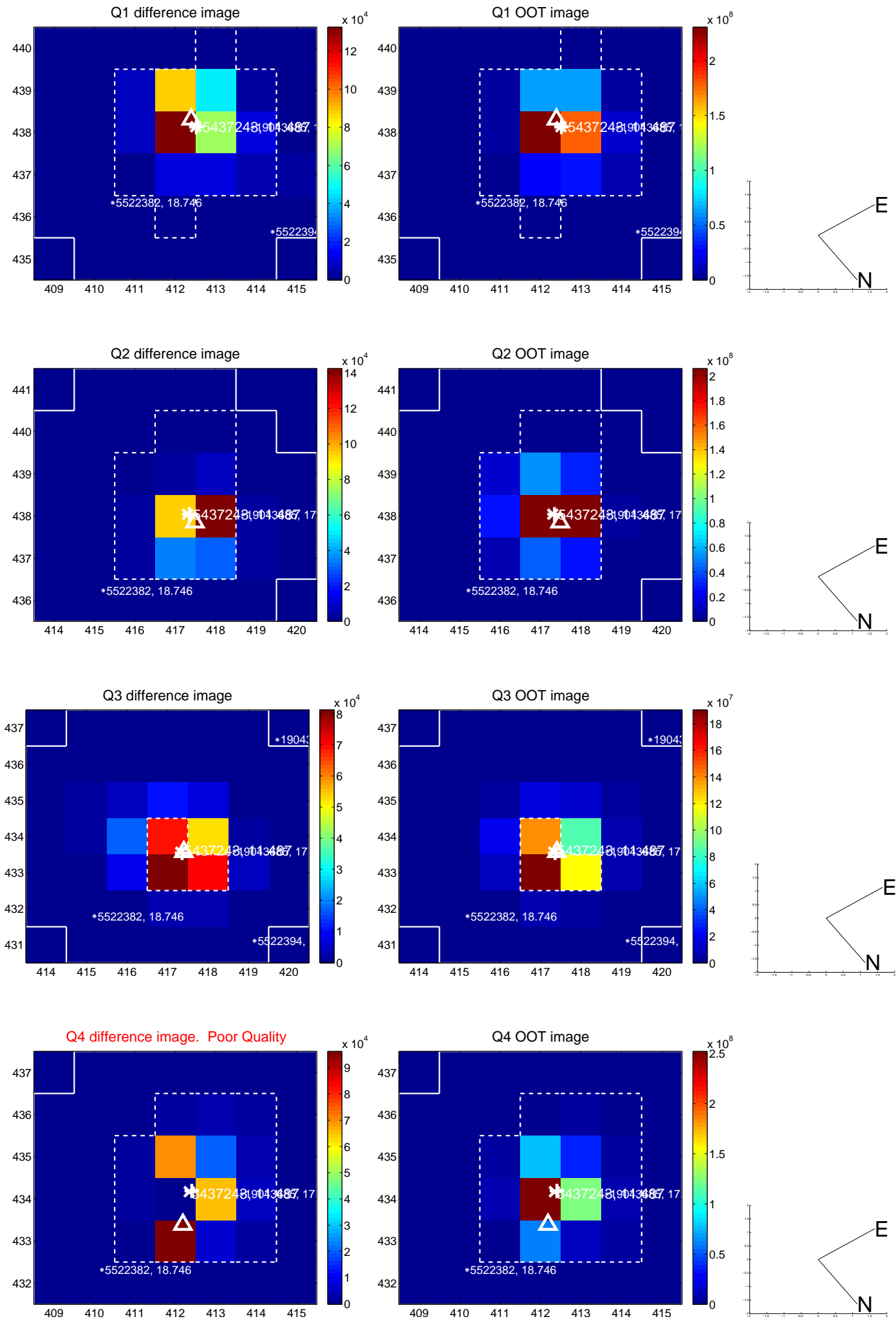


offset from photometric centroids

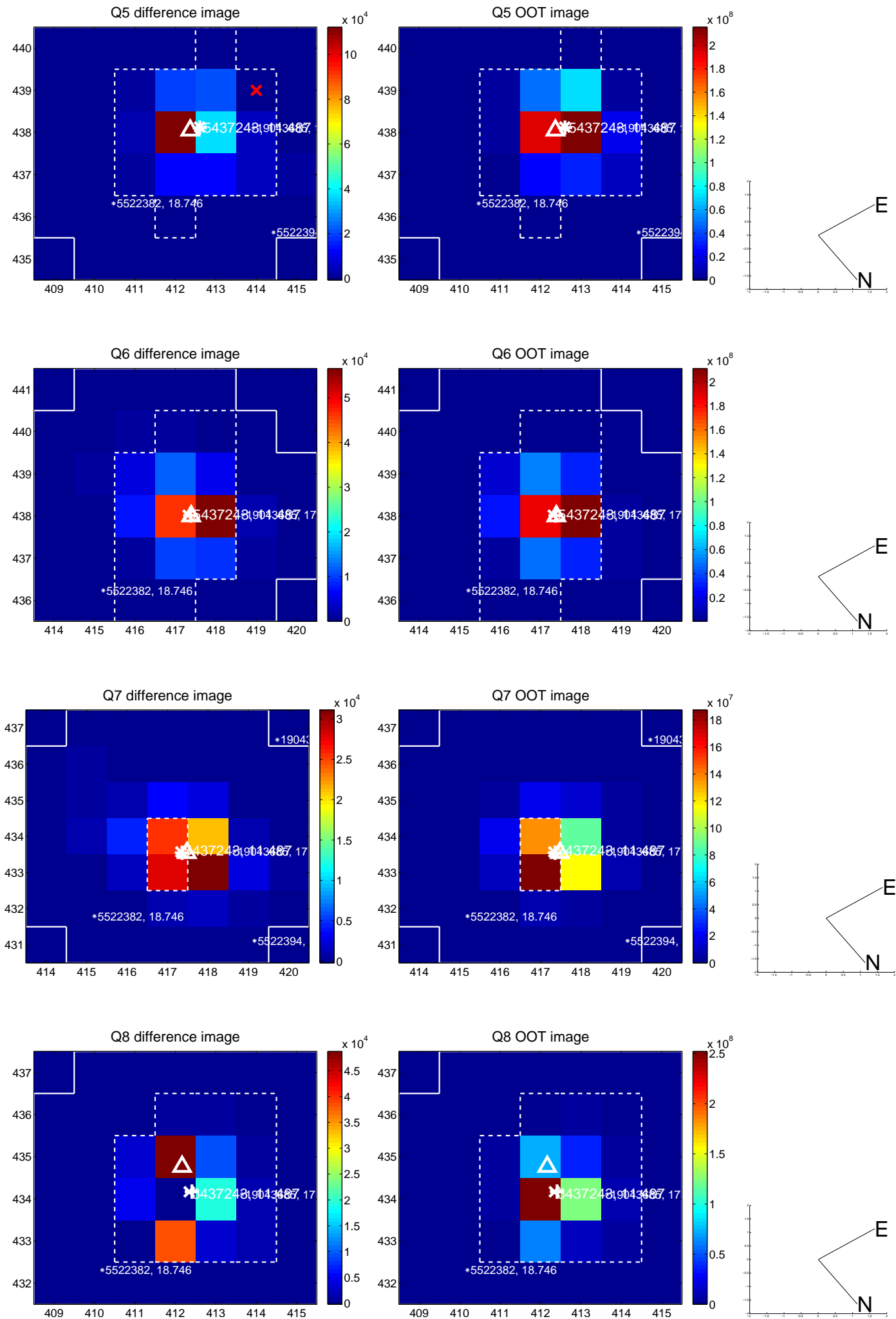


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

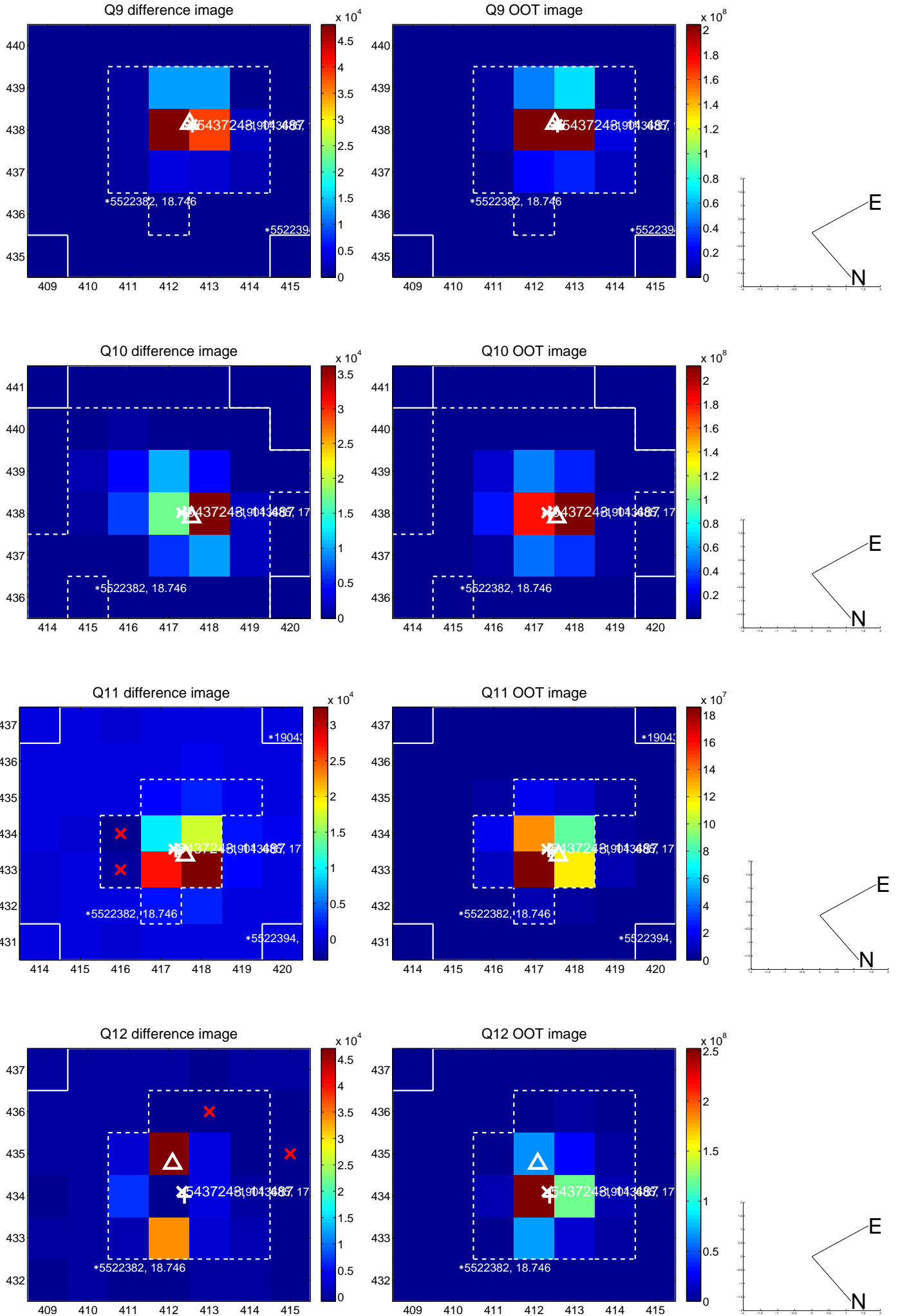
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



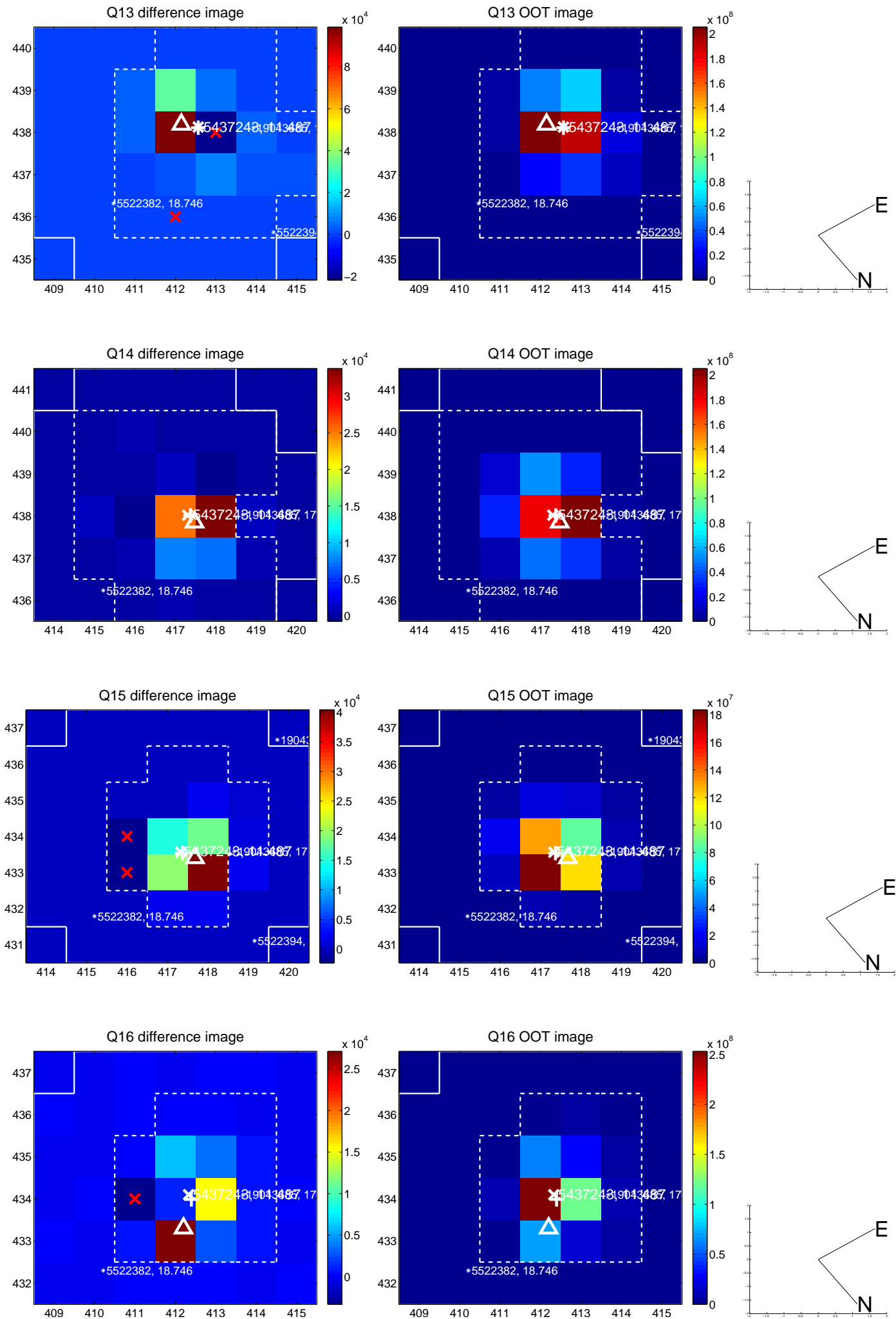
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



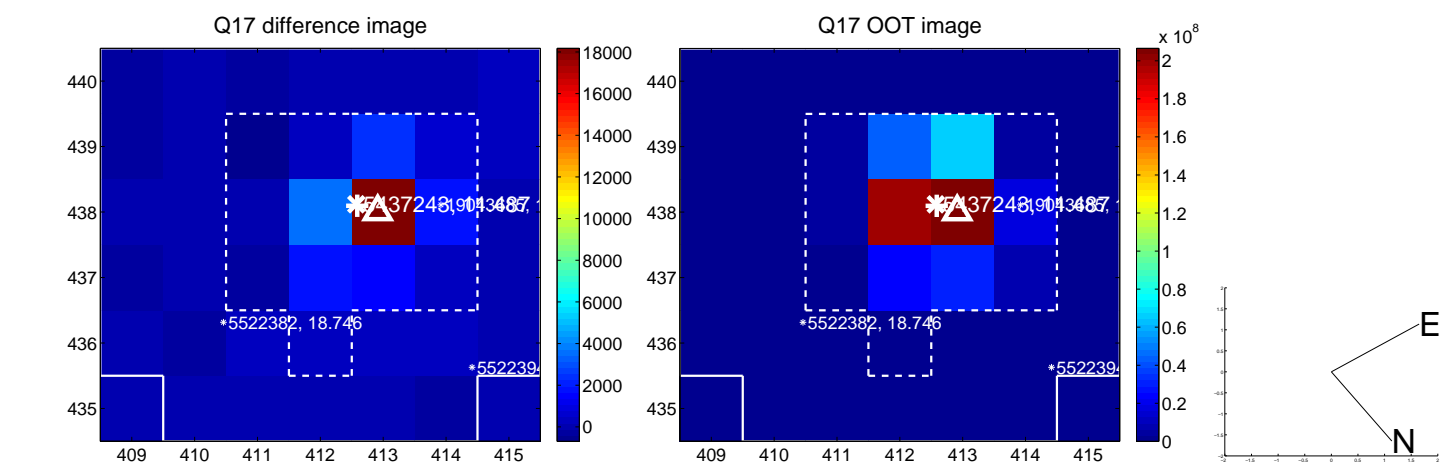
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



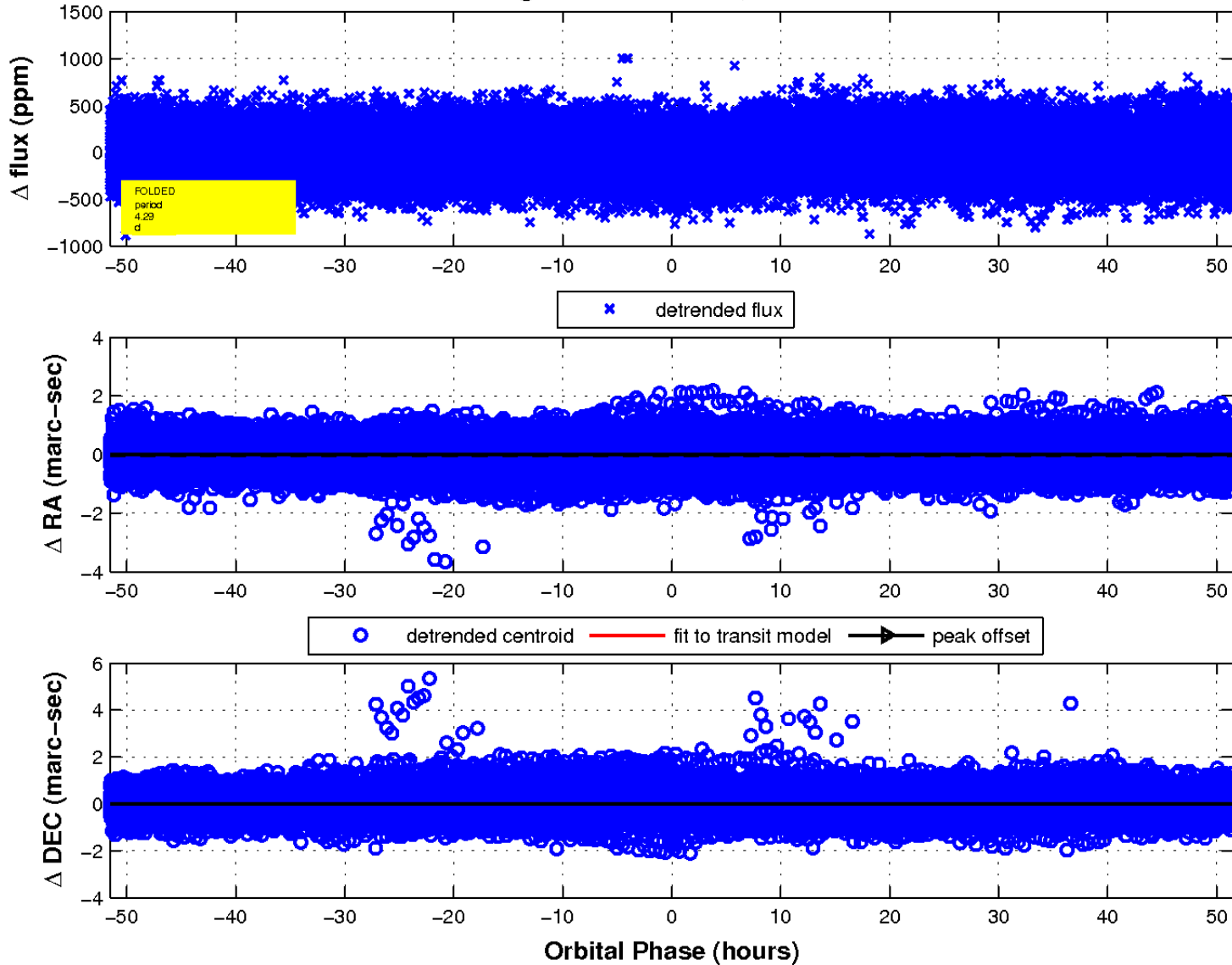
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

