

KIC 012470317

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})
012470317-01	OBS	No	0.757494	132.306410	192.1	4.650	14.1	11.6	3.25	8089	4.82	94396.60

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012470317-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—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.

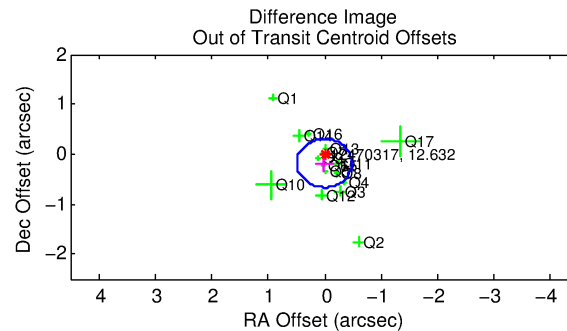
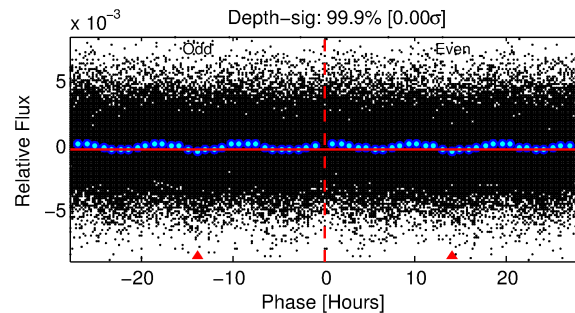
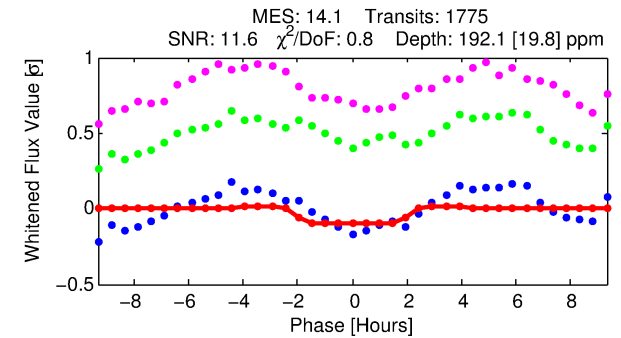
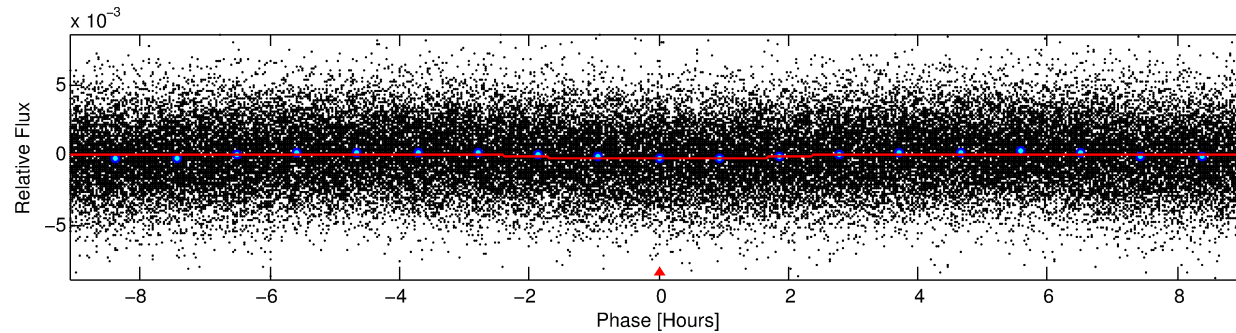
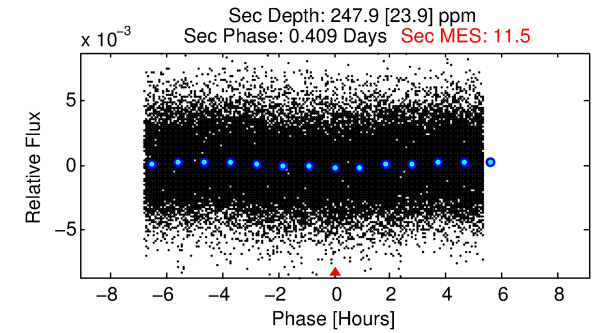
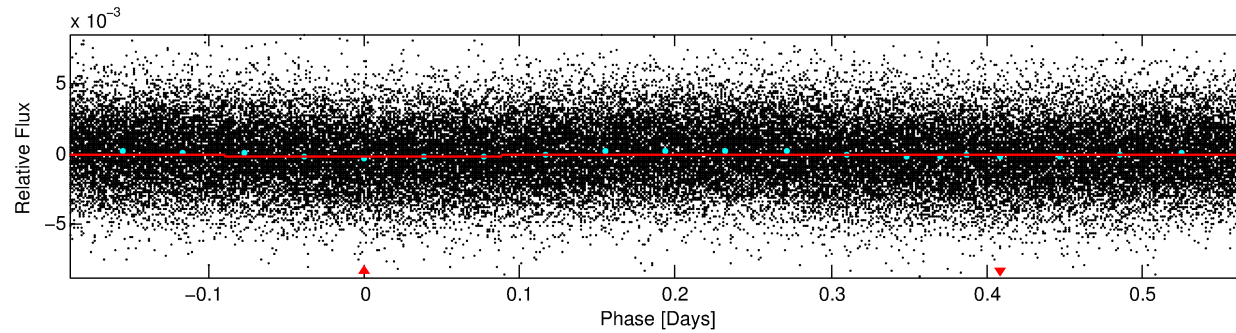
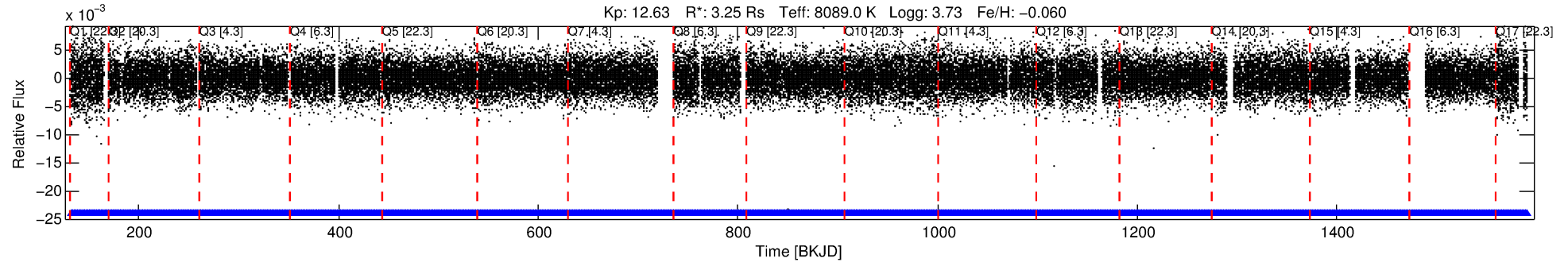
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012470317-01

No Significant Match Found

DV One-Page Summary

KIC: 12470317 Candidate: 1 of 1 Period: 0.757 d



DV Fit Results:

Period = 0.75749 [0.00001] d
Epoch = 132.3064 [0.0045] BKJD
Rp/R* = 0.0136 [0.0139]
a/R* = 1.24 [2.51]
b = 0.70 [4.36]
Seff = 94396.60 [70464.73]
Teq = 4470 [834] K
Rp = 4.82 [5.37] Re
a = 0.0207 [0.0093] AU
Ag = 2.51 [5.44] [0.28σ]
Teffp = 8700 [4451] K [0.93σ]

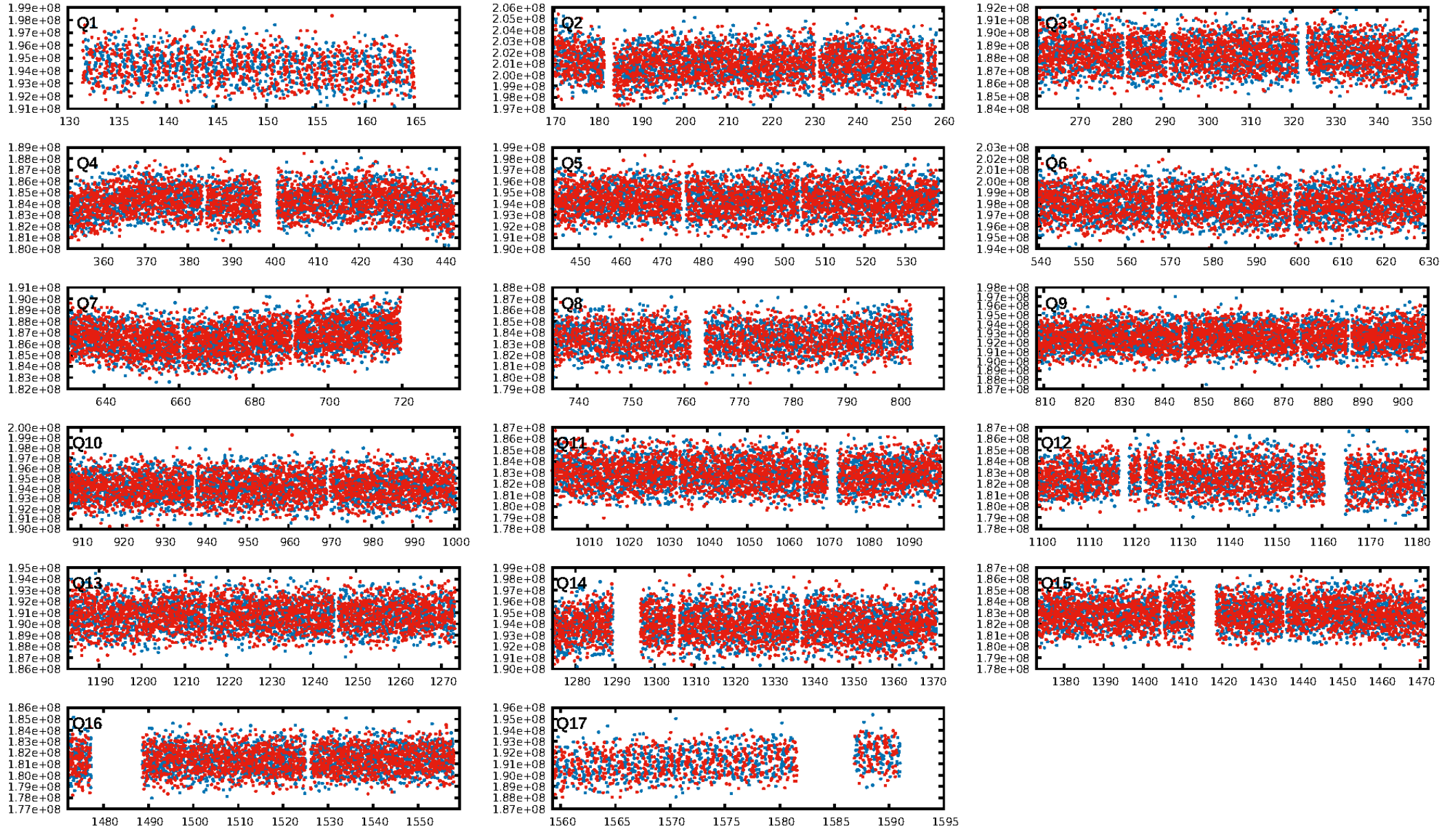
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.55e-32
RollingBand-fgt: 1.00 [1695/1695]
GhostDiagnostic-chr: 1.751
Centroid-sig: 0.0%
Centroid-so: 0.406 arcsec [4.59σ]
OotOffset-rm: 0.180 arcsec [1.11σ]
KicOffset-rm: 0.085 arcsec [0.69σ]
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]

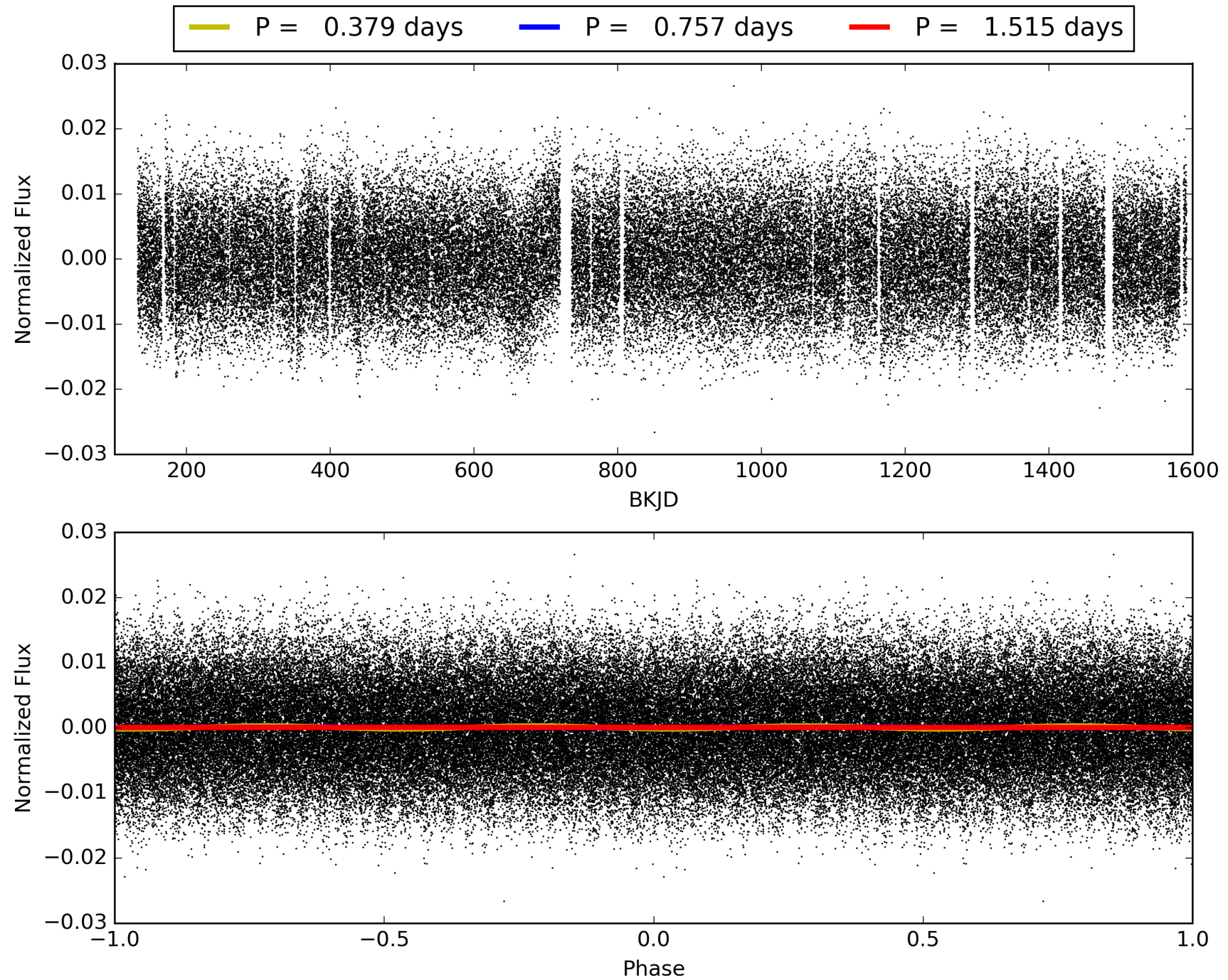
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 08:25:27 Z

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

TCE 012470317-01, PDC Light Curves

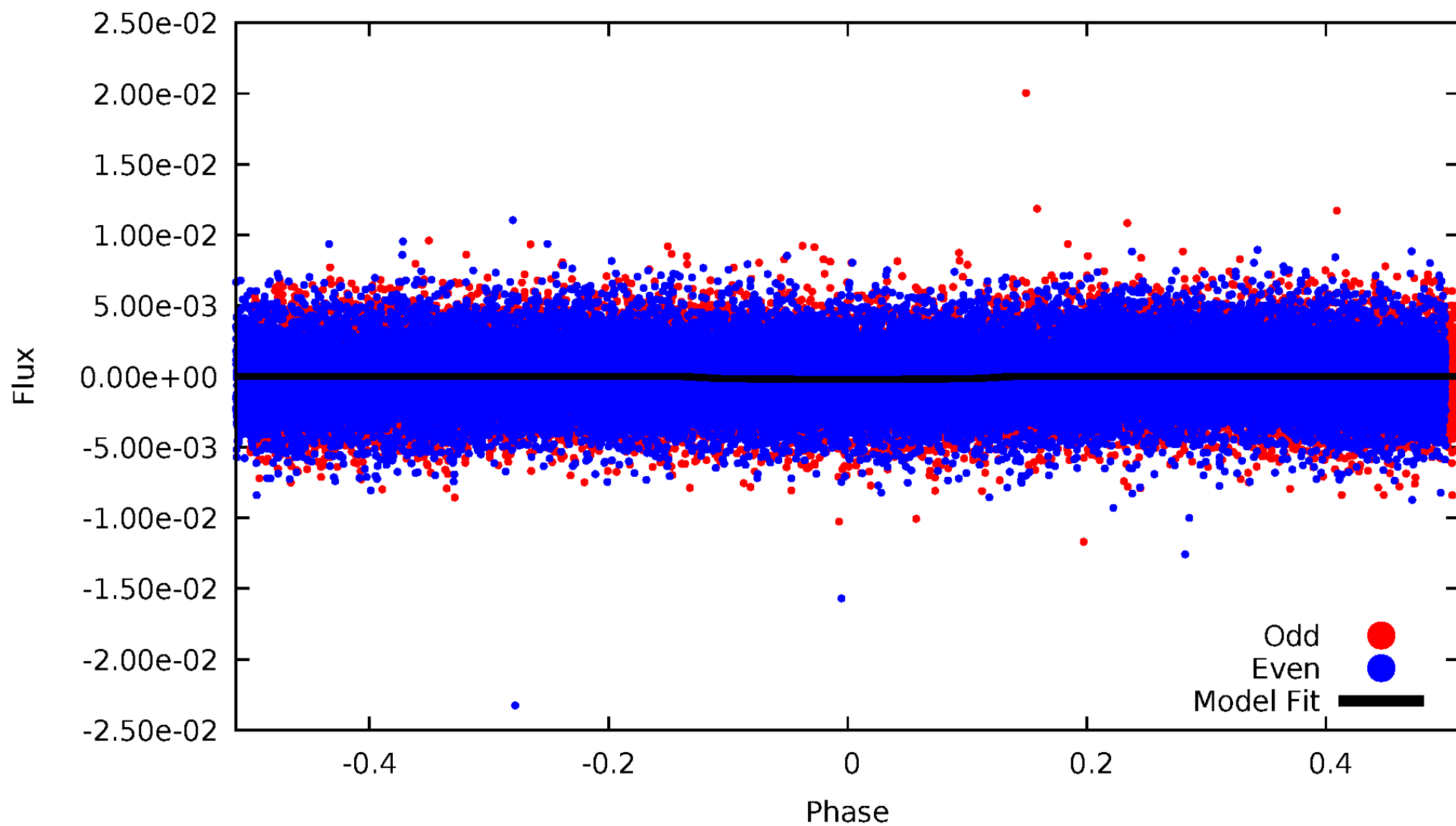


TCE 012470317-01



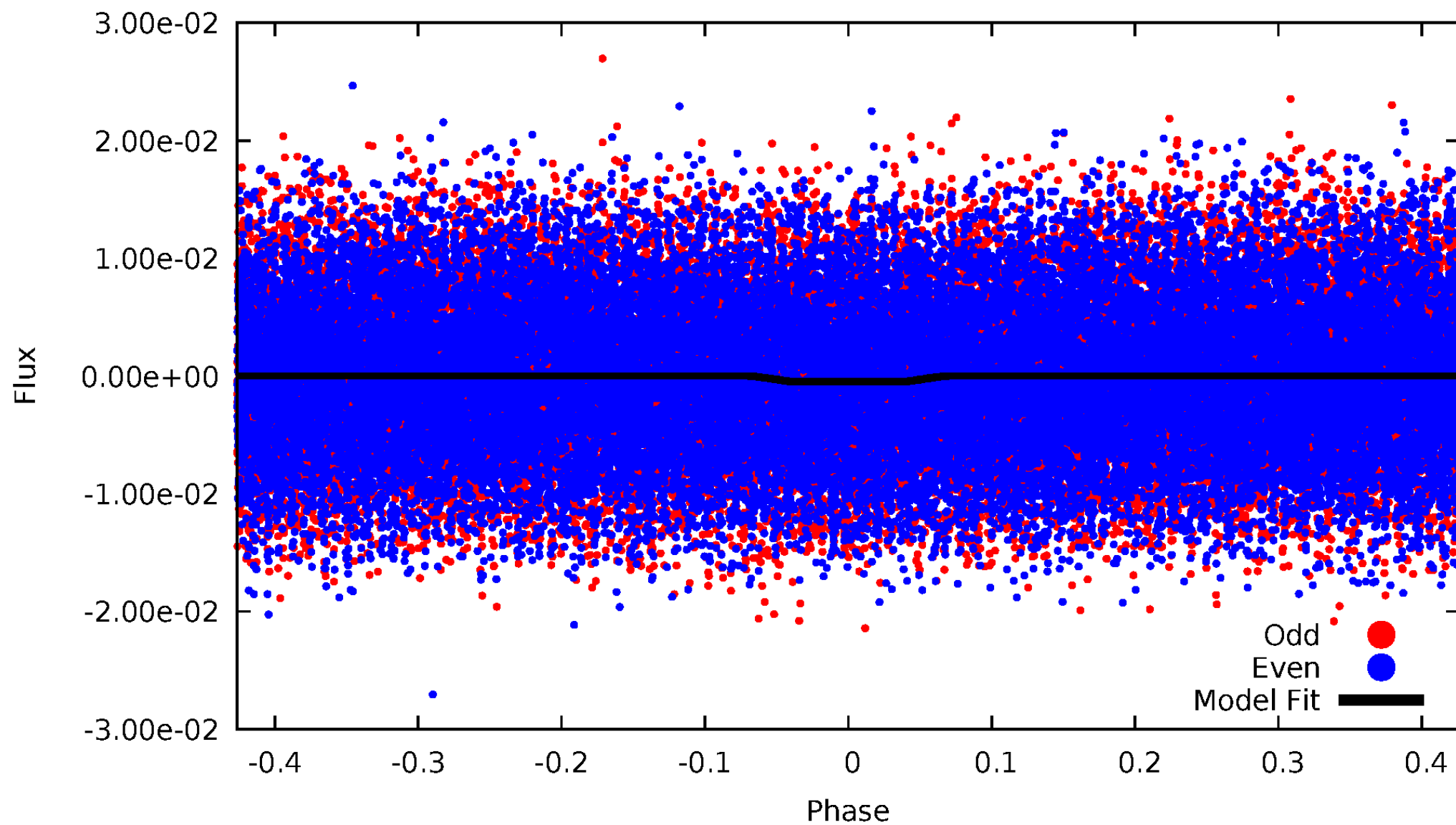
DV Odd/Even

TCE 012470317-01

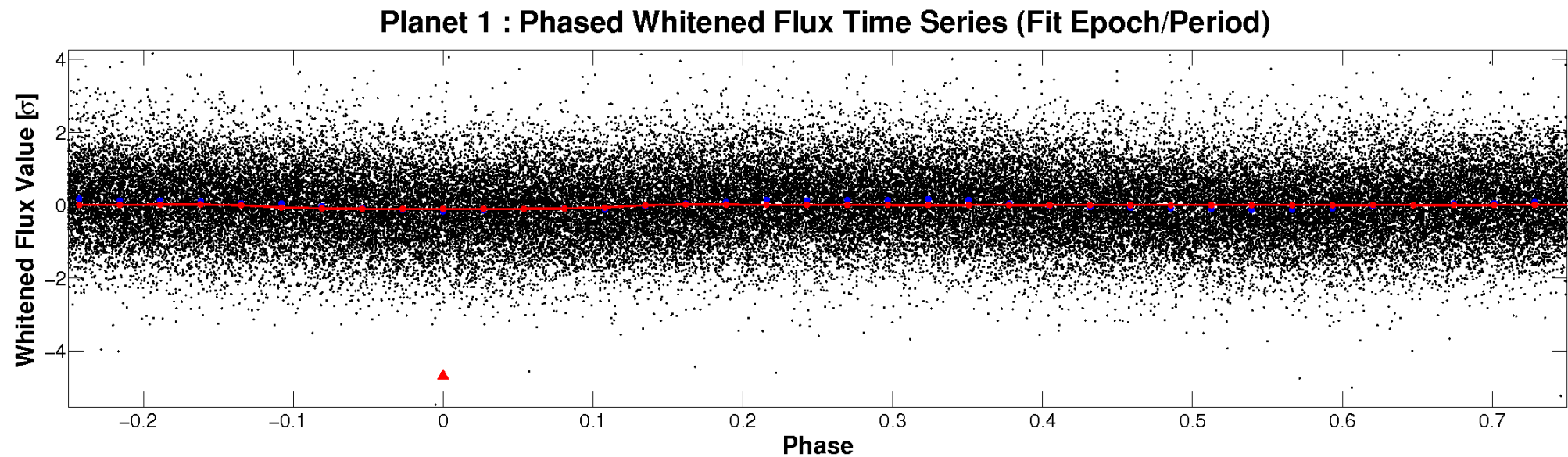
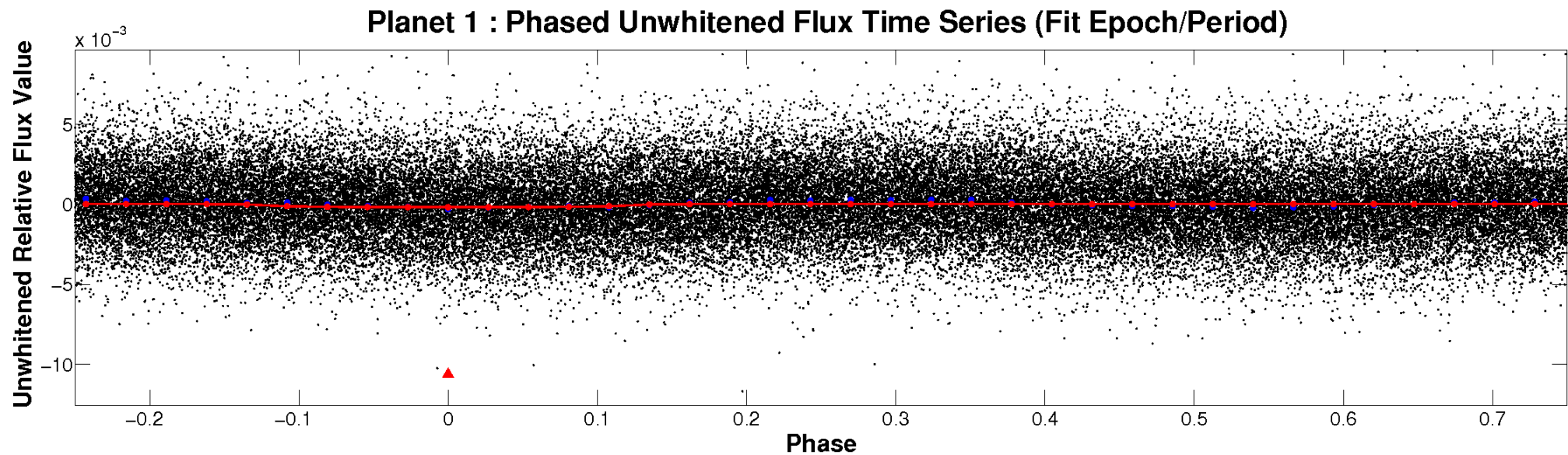


ALT Odd/Even

TCE 012470317-01

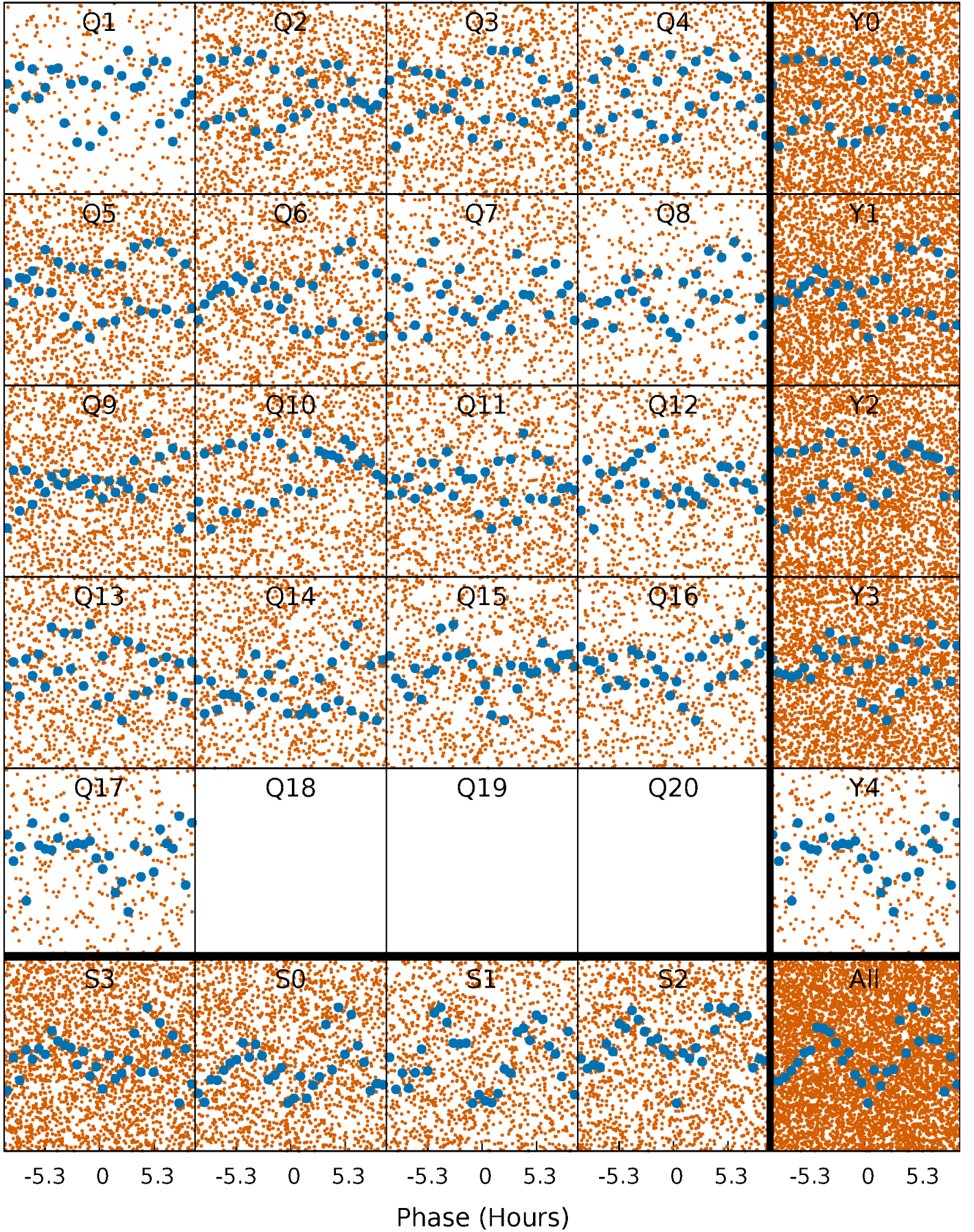


Non-Whitened Vs. Whitened Light Curve



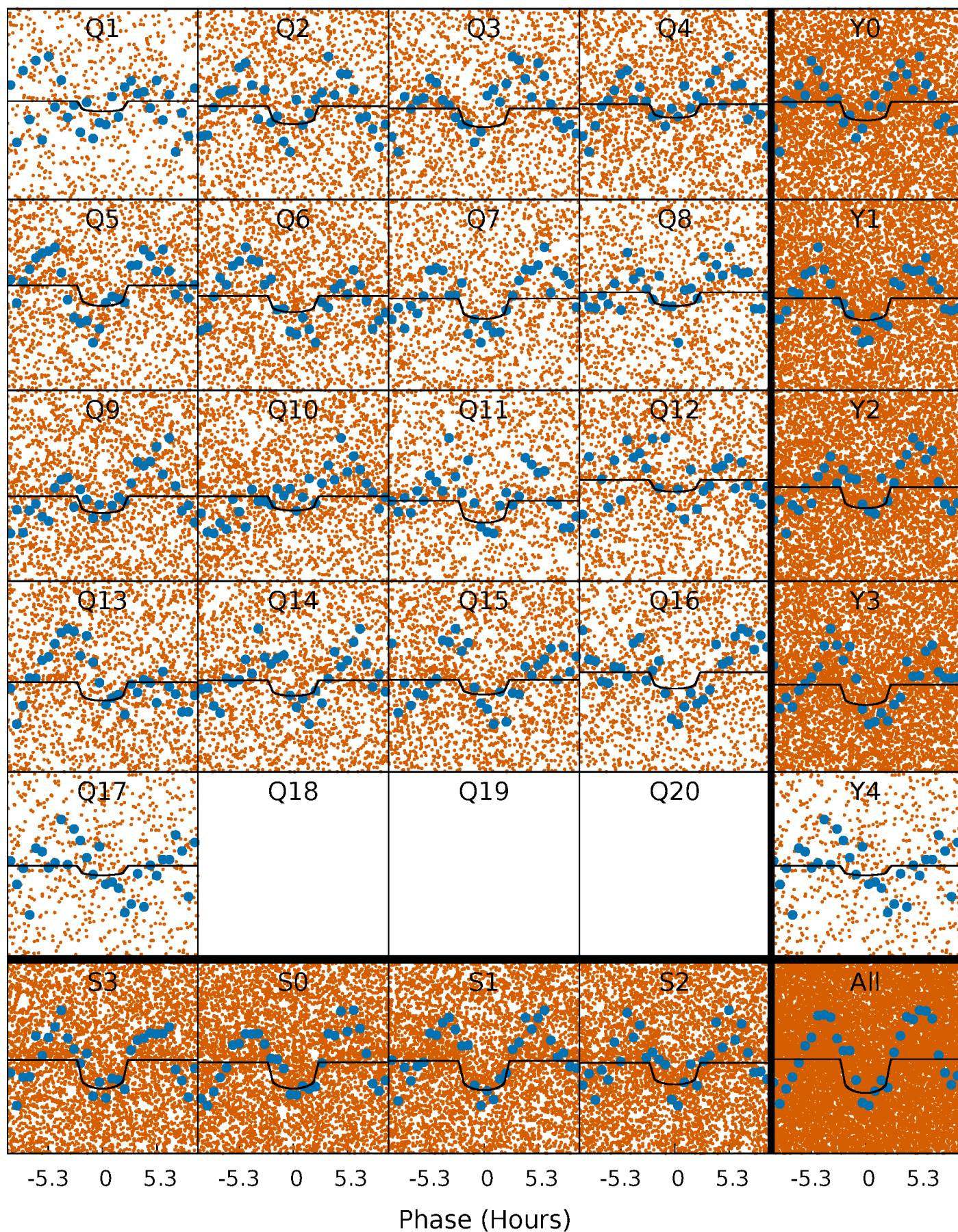
PDC Quarter-Phased Transit Curves

TCE 012470317-01 P= 0.757494 Days $T_0=132.306410$ (BKJD)



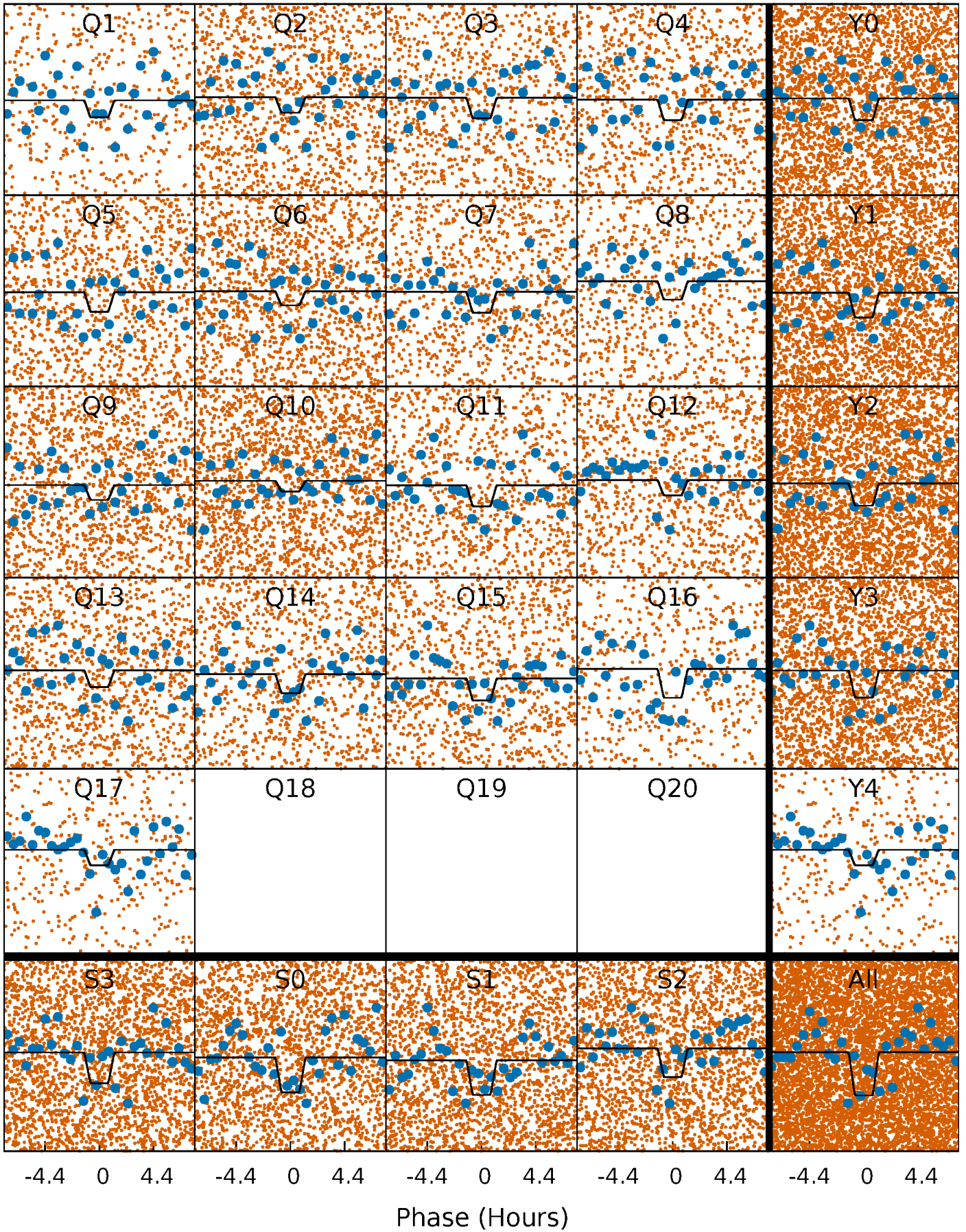
DV Quarter-Phased Transit Curves

TCE 012470317-01 P= 0.757494 Days $T_0=132.306410$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

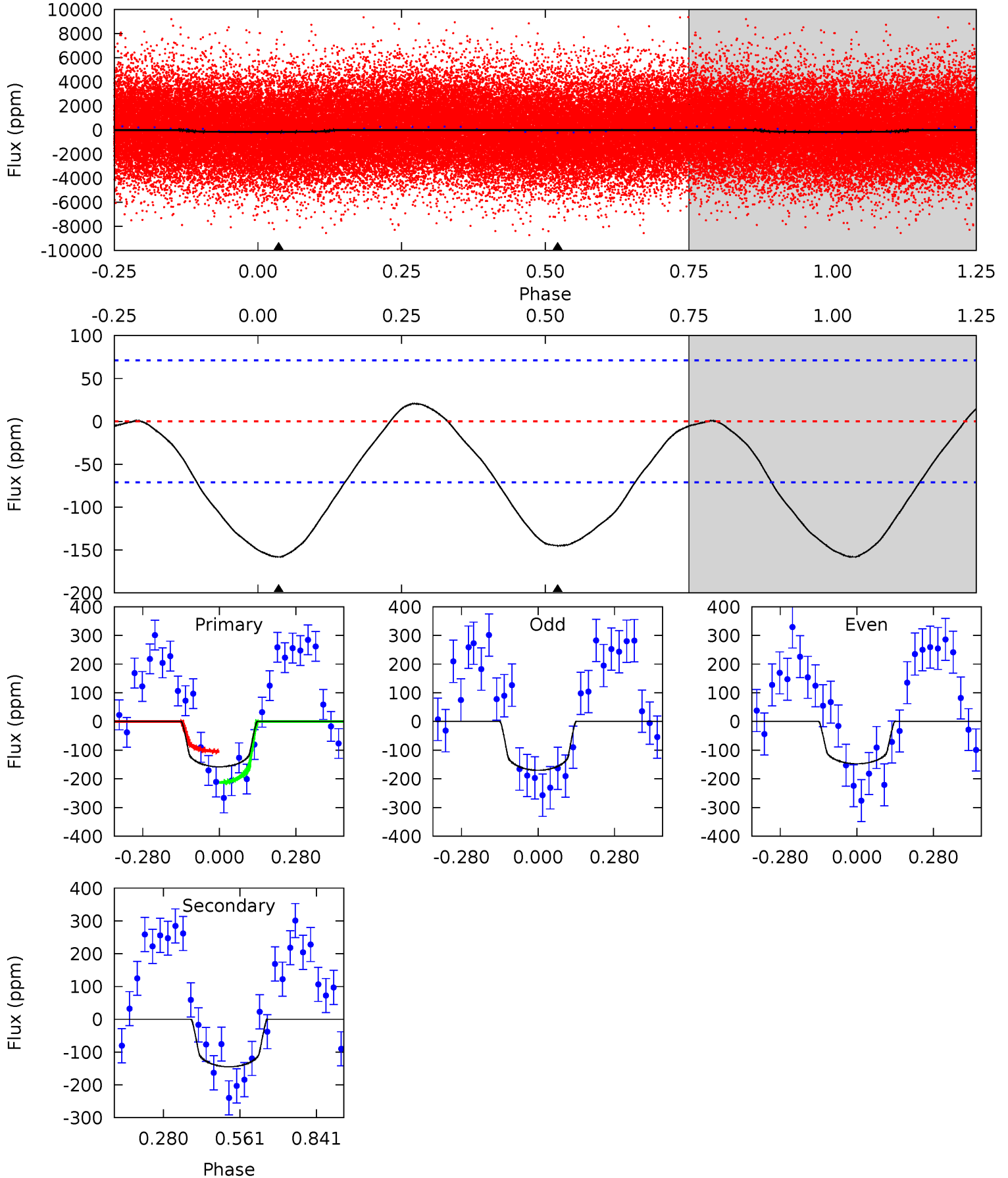
TCE 012470317-01 P= 0.757558 Days $T_0=132.254712$ (BKJD)



DV Model-Shift Uniqueness Test

012470317-01, P = 0.757494 Days, E = 130.791422 Days

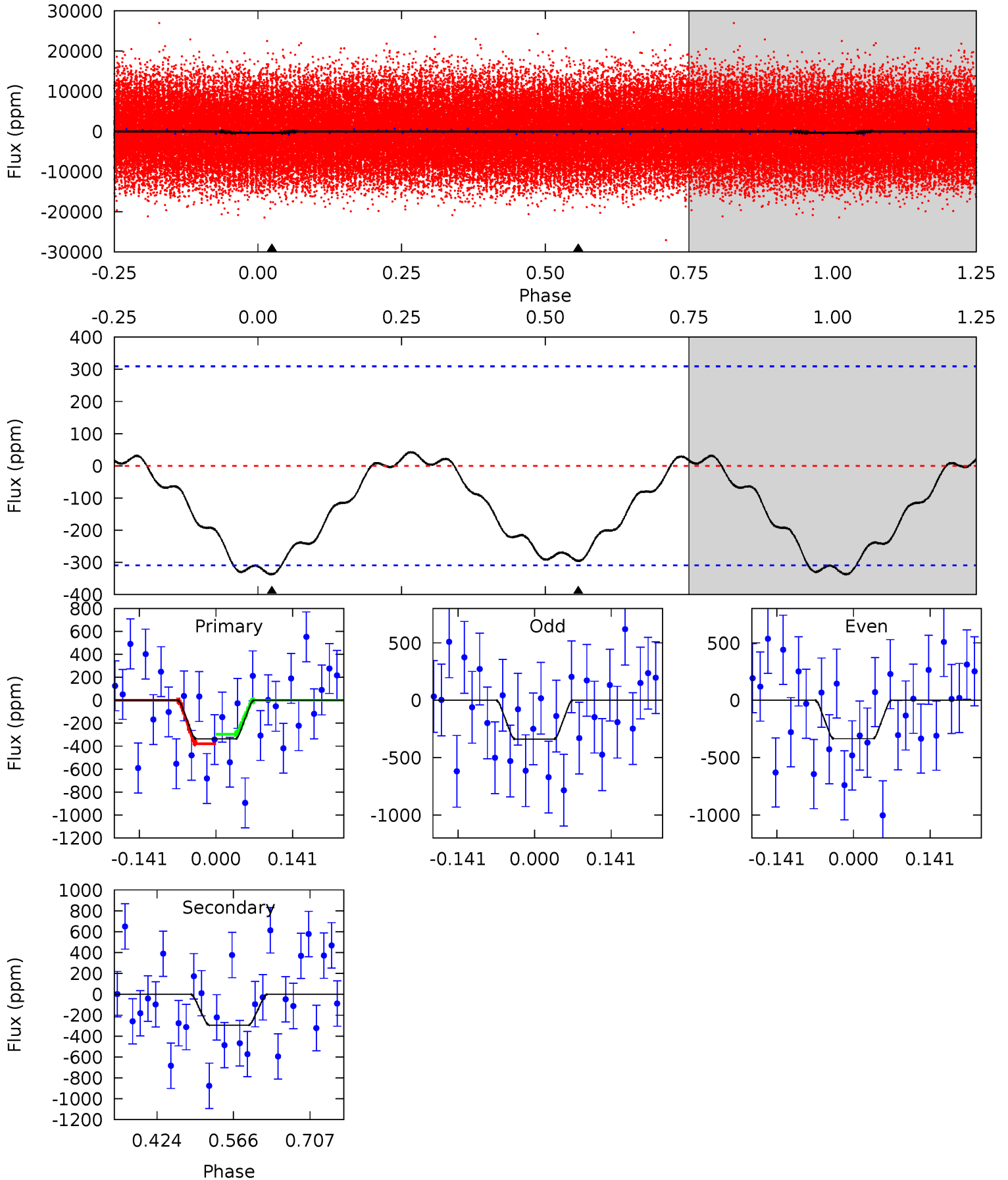
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.66	8.86	0	0	4.34	1.08	0.64	9.66	9.66	8.86	8.86	0.69	1.00	0.12	3.30



Alt Model-Shift Uniqueness Test

012470317-01, P = 0.757558 Days, E = 131.497154 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.90	4.29	0	0	4.49	1.47	0.72	4.90	4.90	4.29	4.29	0.02	1.00	0.11	0.60



Stellar Parameters For KIC 012470317

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8089^{+224}_{-336}	$3.729^{+0.432}_{-0.108}$	$-0.060^{+0.250}_{-0.350}$	$3.247^{+0.786}_{-1.460}$	$2.061^{+0.335}_{-0.503}$	$0.085^{+0.320}_{-0.029}$
	+3%/-4%	+12%/-3%	+417%/-583%	+24%/-45%	+16%/-24%	+378%/-35%
Source	KIC0	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 012470317-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-145 ± 16	$5.17^{+4.37}_{-3.09}$	6047^{+493}_{-685}	6165^{+5777}_{-2403}	$1.208^{+6.252}_{-0.832}$
Alt.	-295 ± 69	$7.34^{+4.44}_{-4.09}$	6049^{+468}_{-671}	6356^{+4345}_{-1852}	$1.309^{+4.769}_{-0.820}$

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 $A_{obs} \gg 1.0$

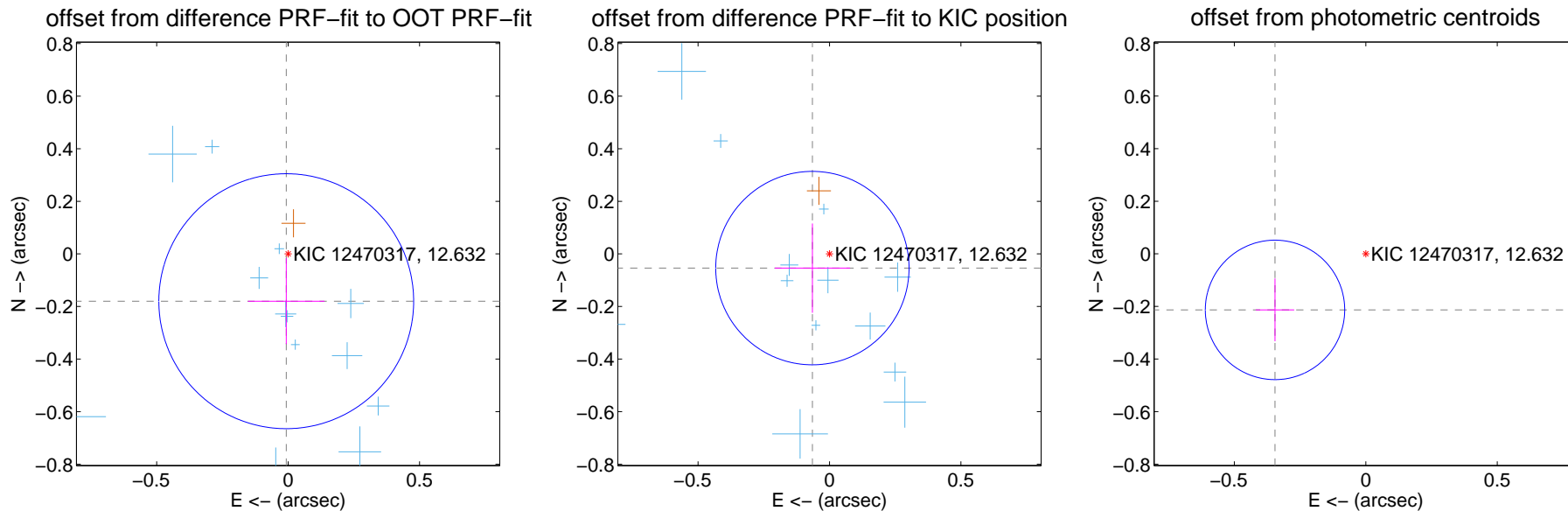
DV Centroid Data

Supplemental centroid analysis for 012470317-01. Kepler magnitude: 12.63. Transit SNR 11.59

There are 16 quarters with good PRF difference image offsets

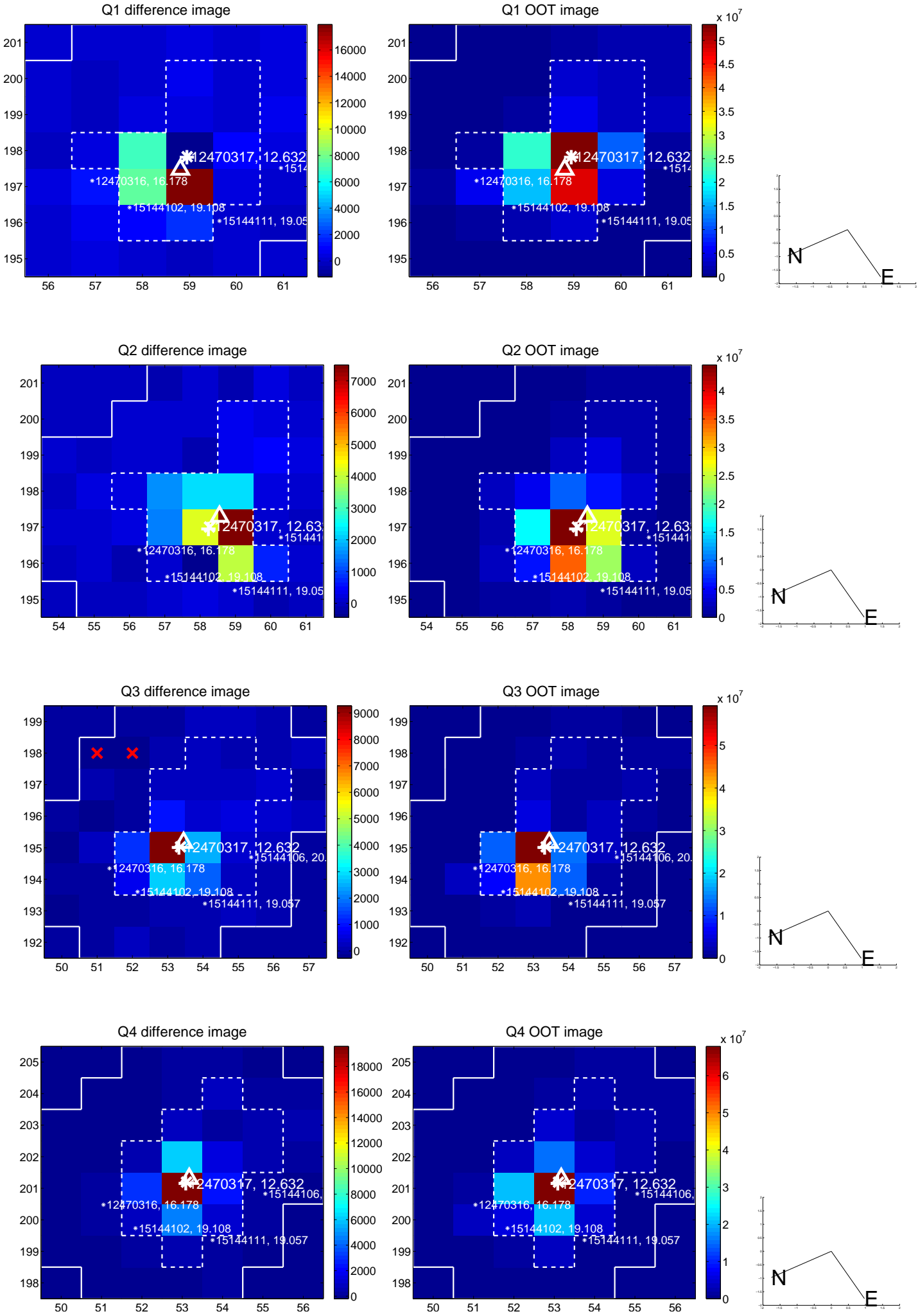
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.180 ± 0.162	1.11	0.007 ± 0.145	-0.180 ± 0.163
PRF-fit source offset from KIC position	0.085 ± 0.123	0.69	0.065 ± 0.143	-0.054 ± 0.170
photometric centroid source offset	0.41 ± 0.09	4.59	0.35 ± 0.07	-0.21 ± 0.12

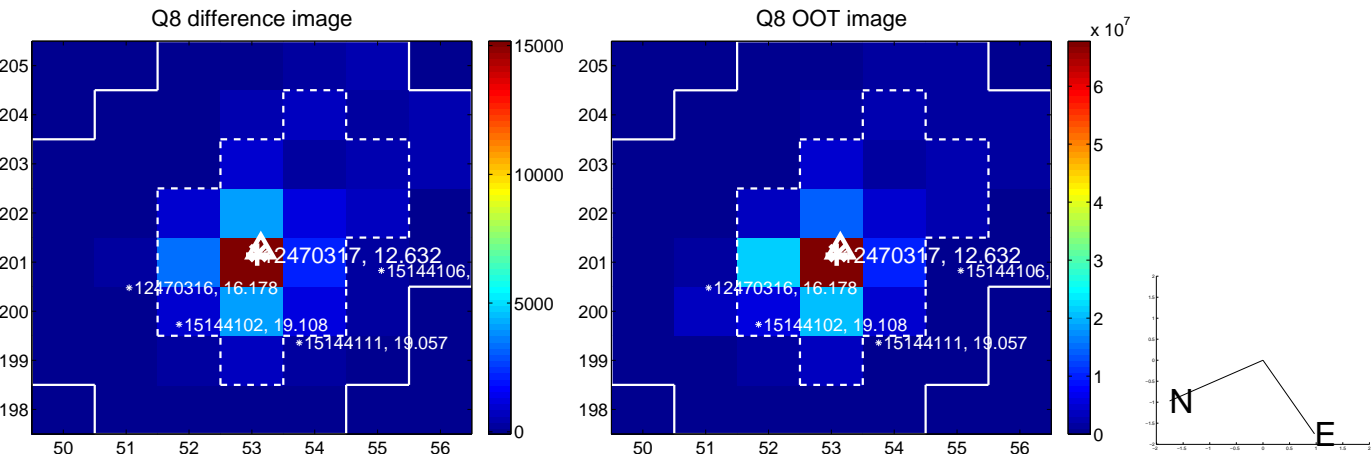
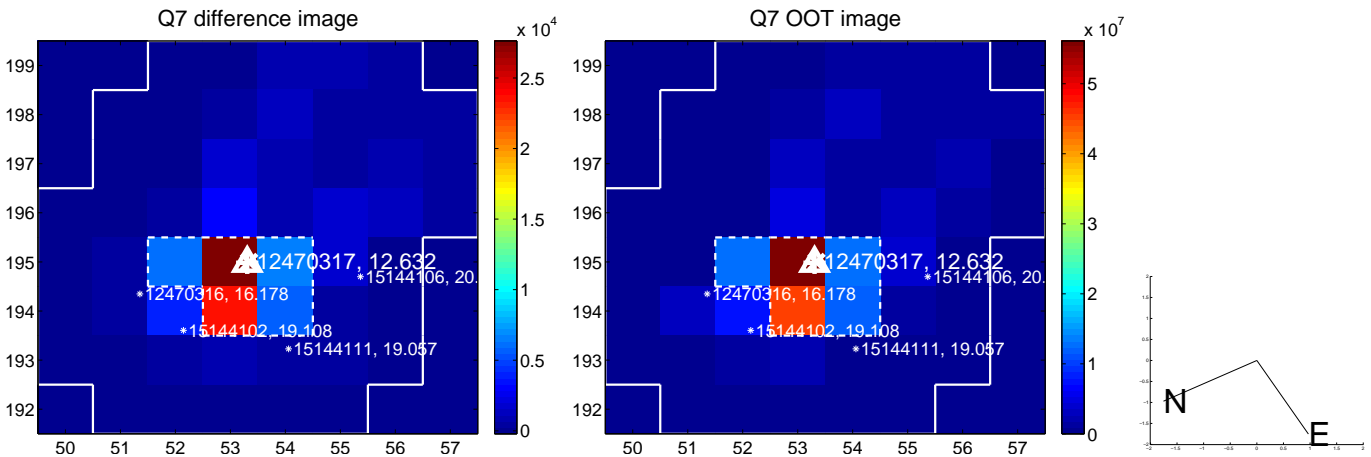
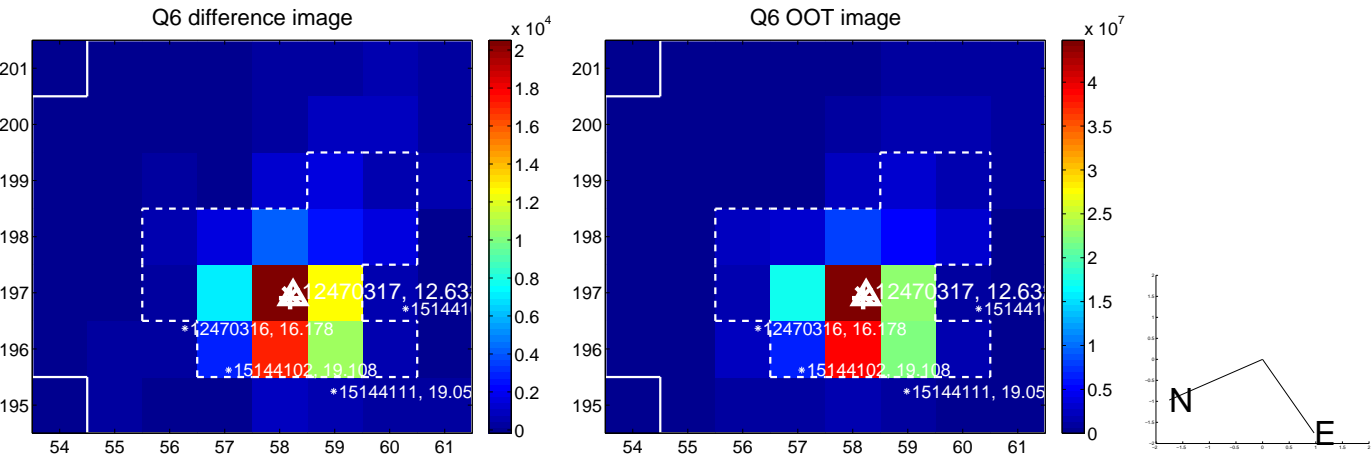
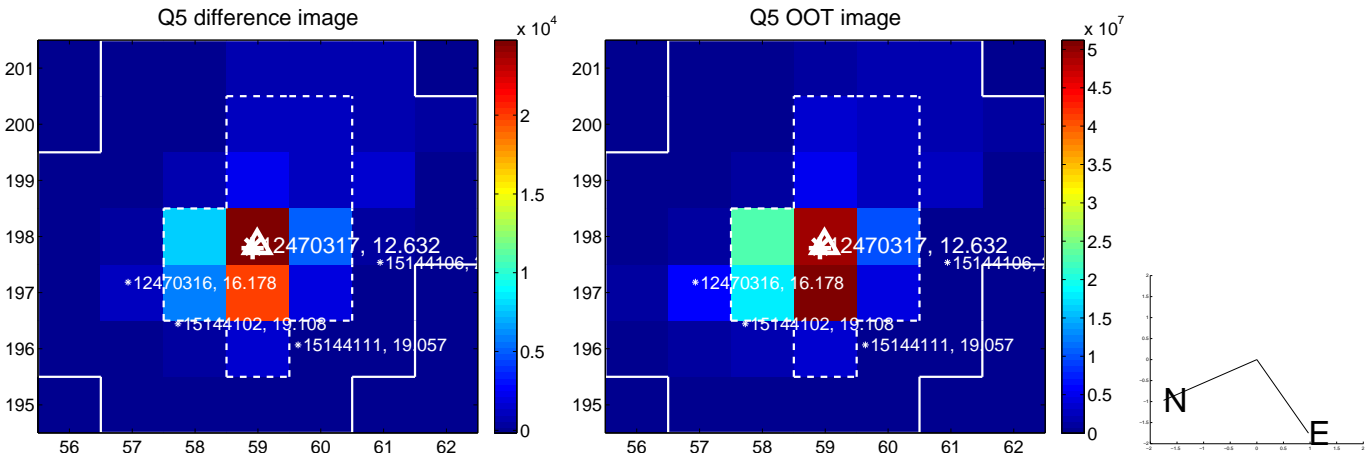


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

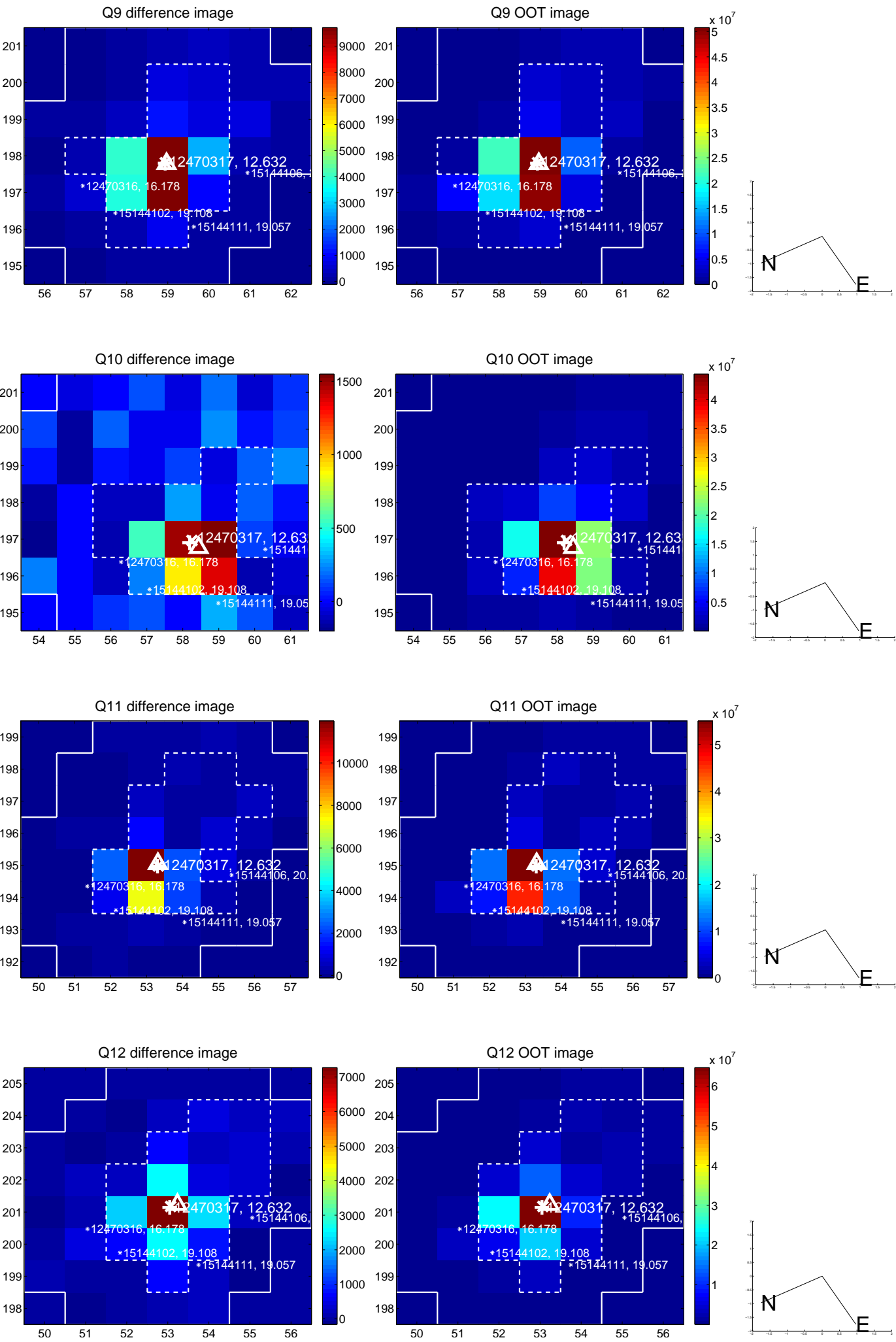
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



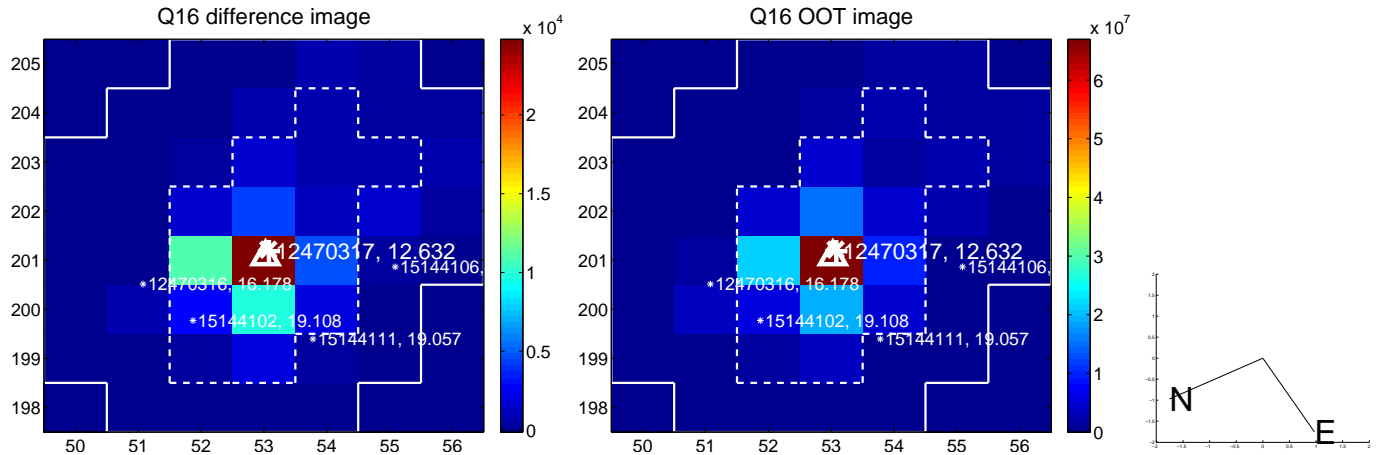
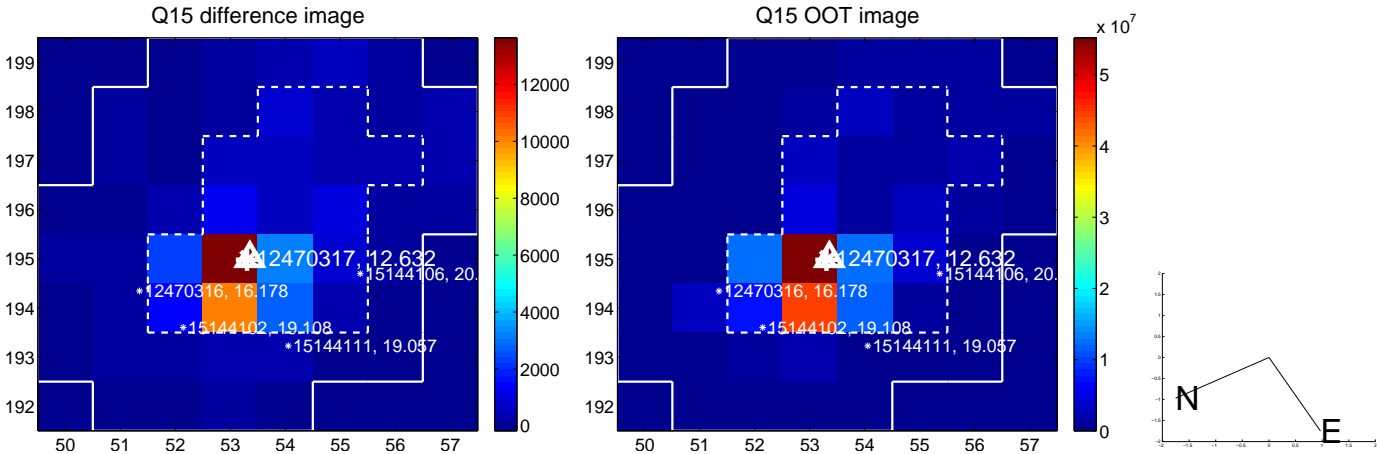
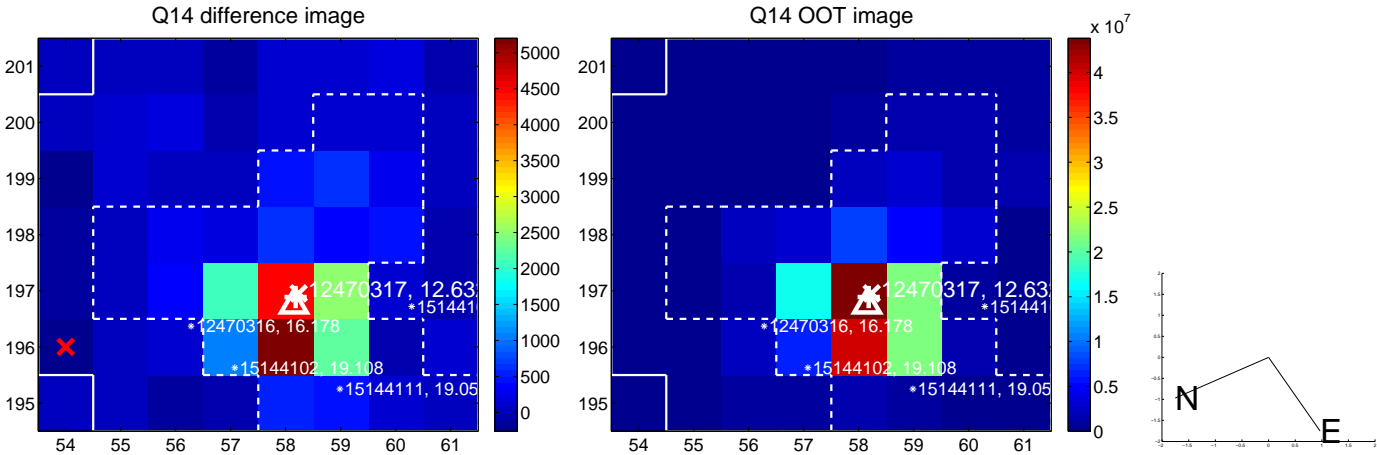
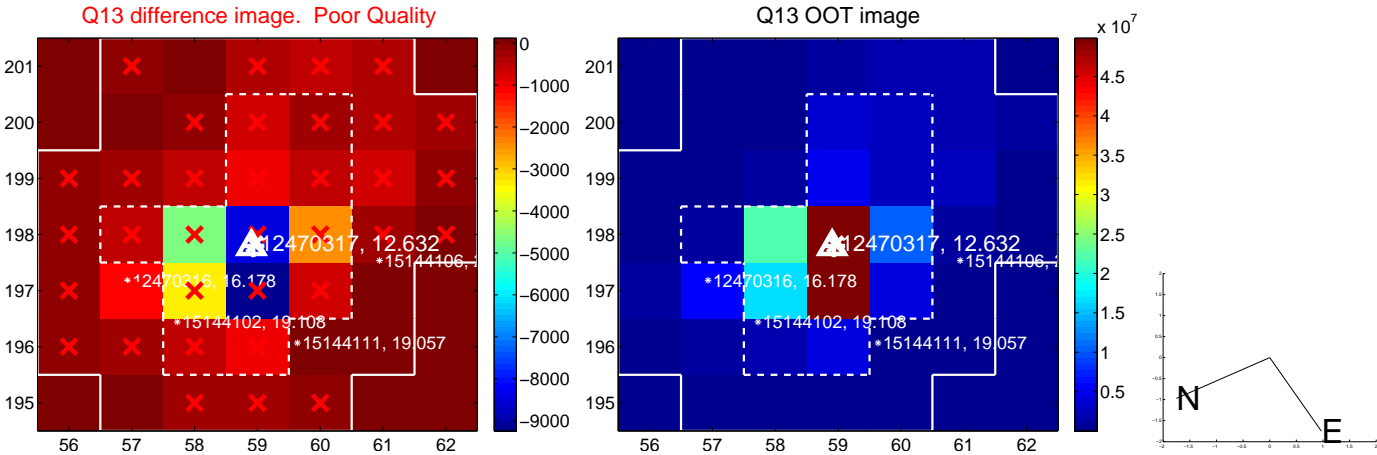
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



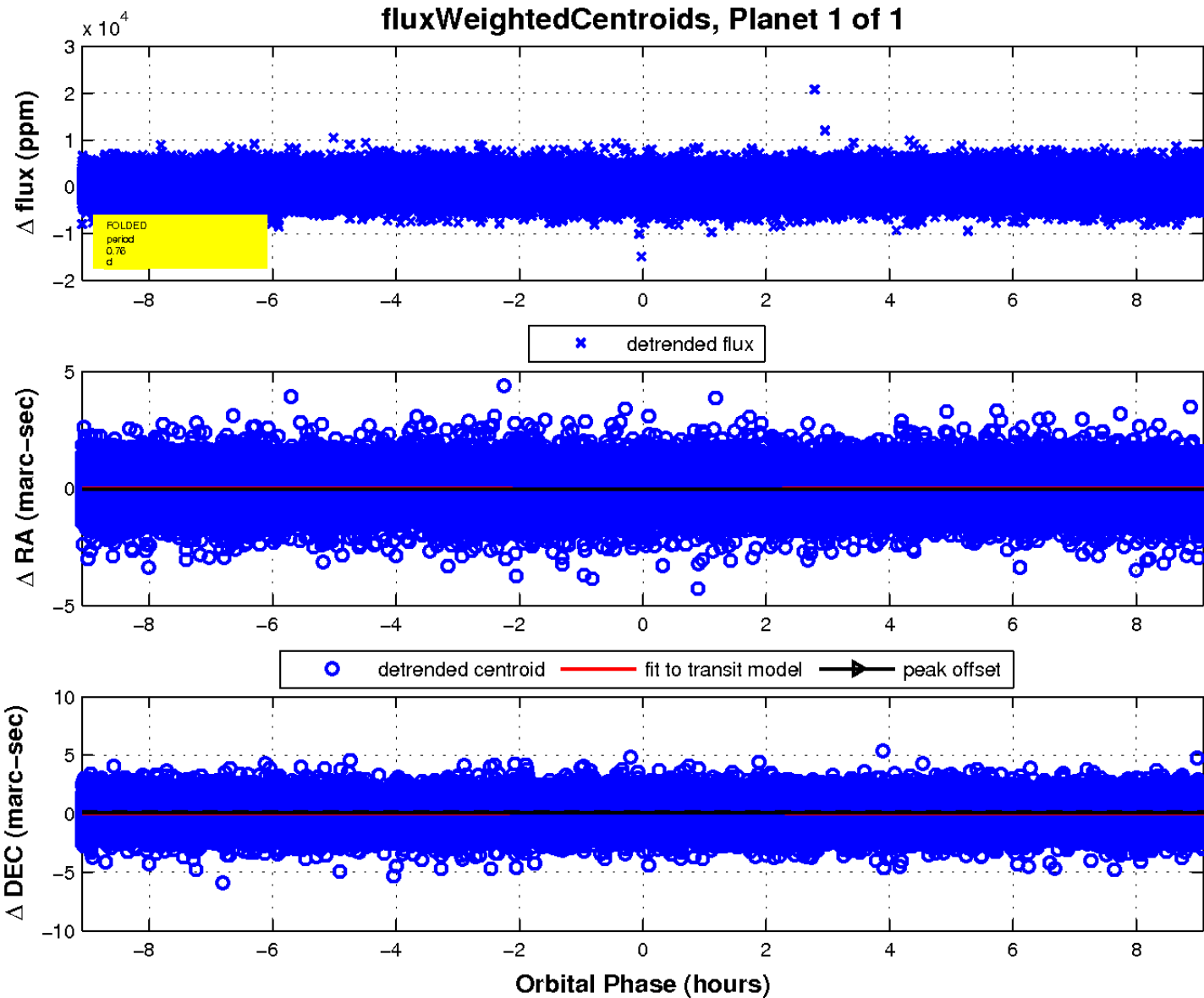
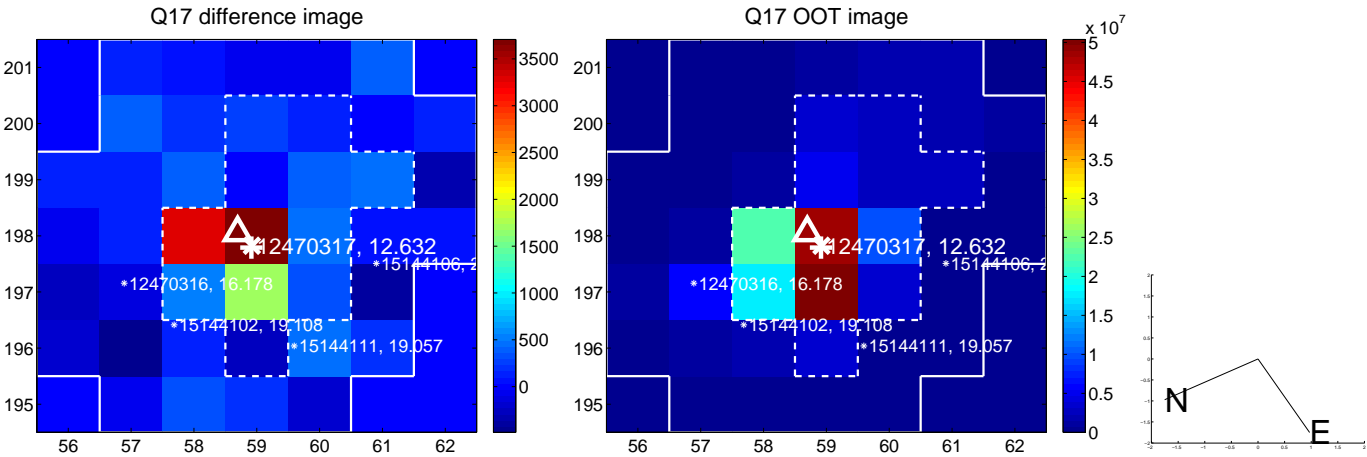
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white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

