

KIC 003542573

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})
003542573-01	OBS	6338.01	3.471400	133.750897	91706.8	5.075	16176.8	11187.8	1.69	6026	75.06	1395.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003542573-01	OBS	FP	0.00	0	1	0	1	MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—EPHEM_MATCH

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 003542573-01

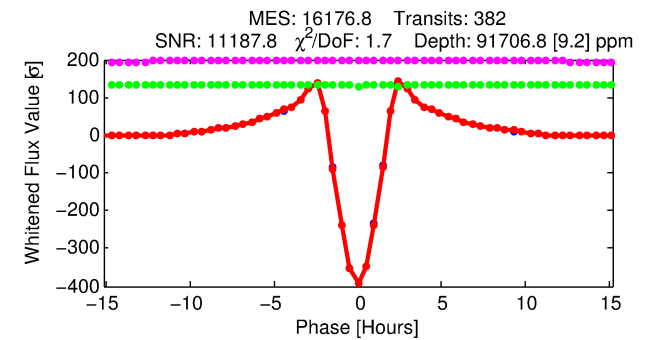
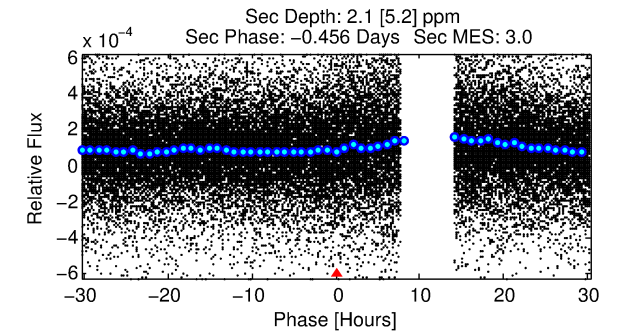
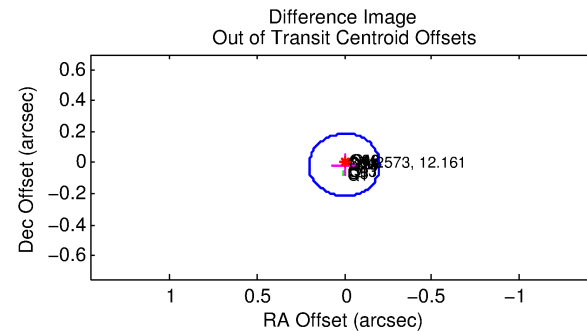
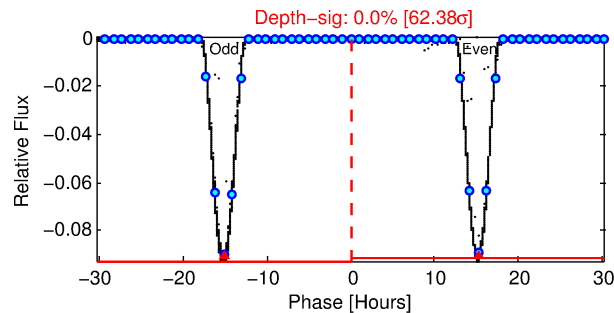
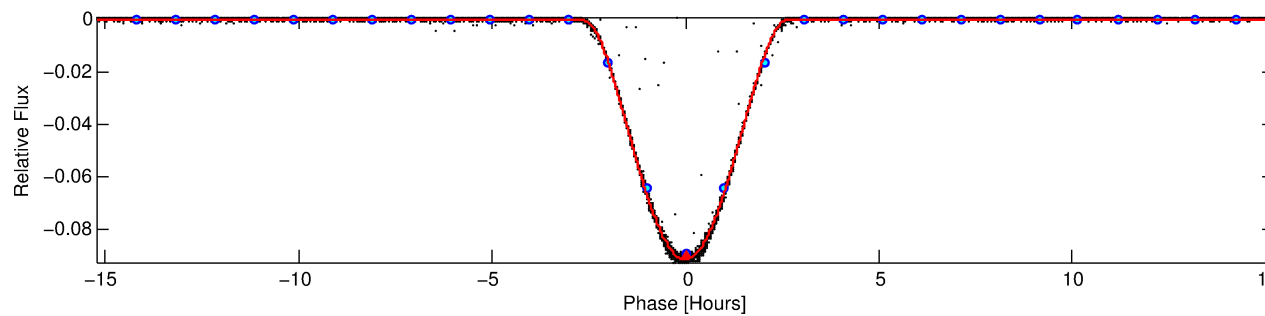
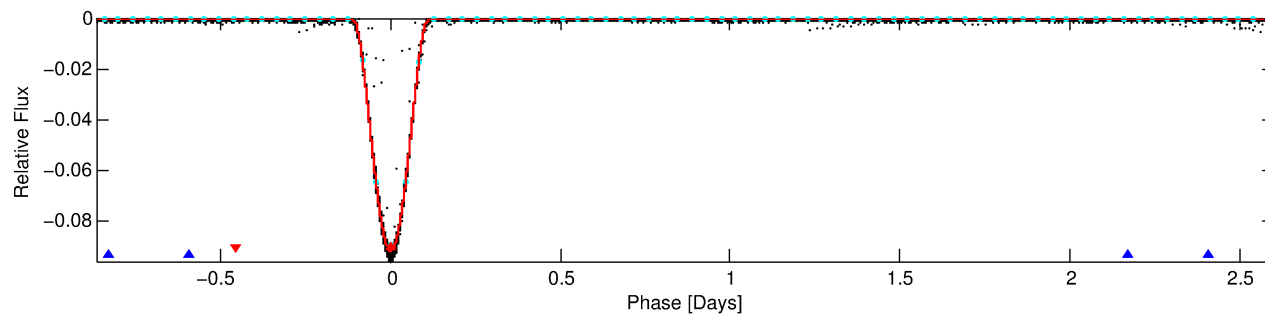
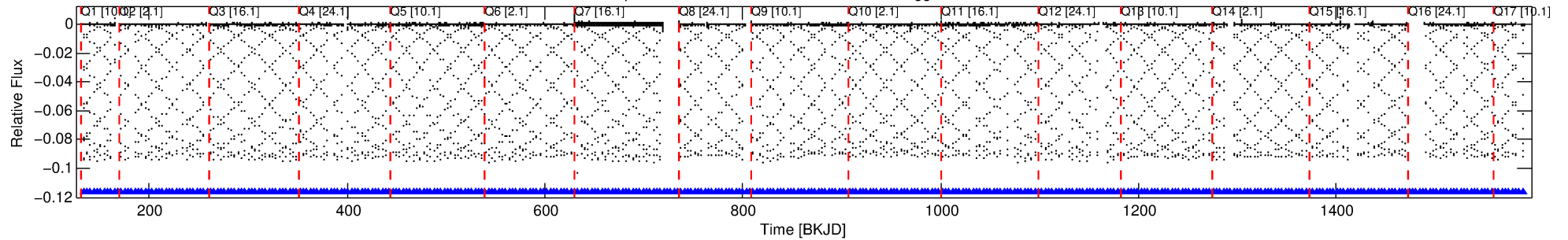
TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	Δ Row	Δ Col	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ_P	σ_T
003542573-01	3542573	003542574-01	3542574	1:1	10.0	2	-1	19.03	12.16	3.20	Direct-PRF	1	0.29	0.59

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 3542573 Candidate: 1 of 2 Period: 3.471 d
KOI: K06338.01 Corr: 0.999

Kp: 12.16 R*: 1.69 Rs Teff: 6026.0 K Logg: 4.10 Fe/H: 0.280



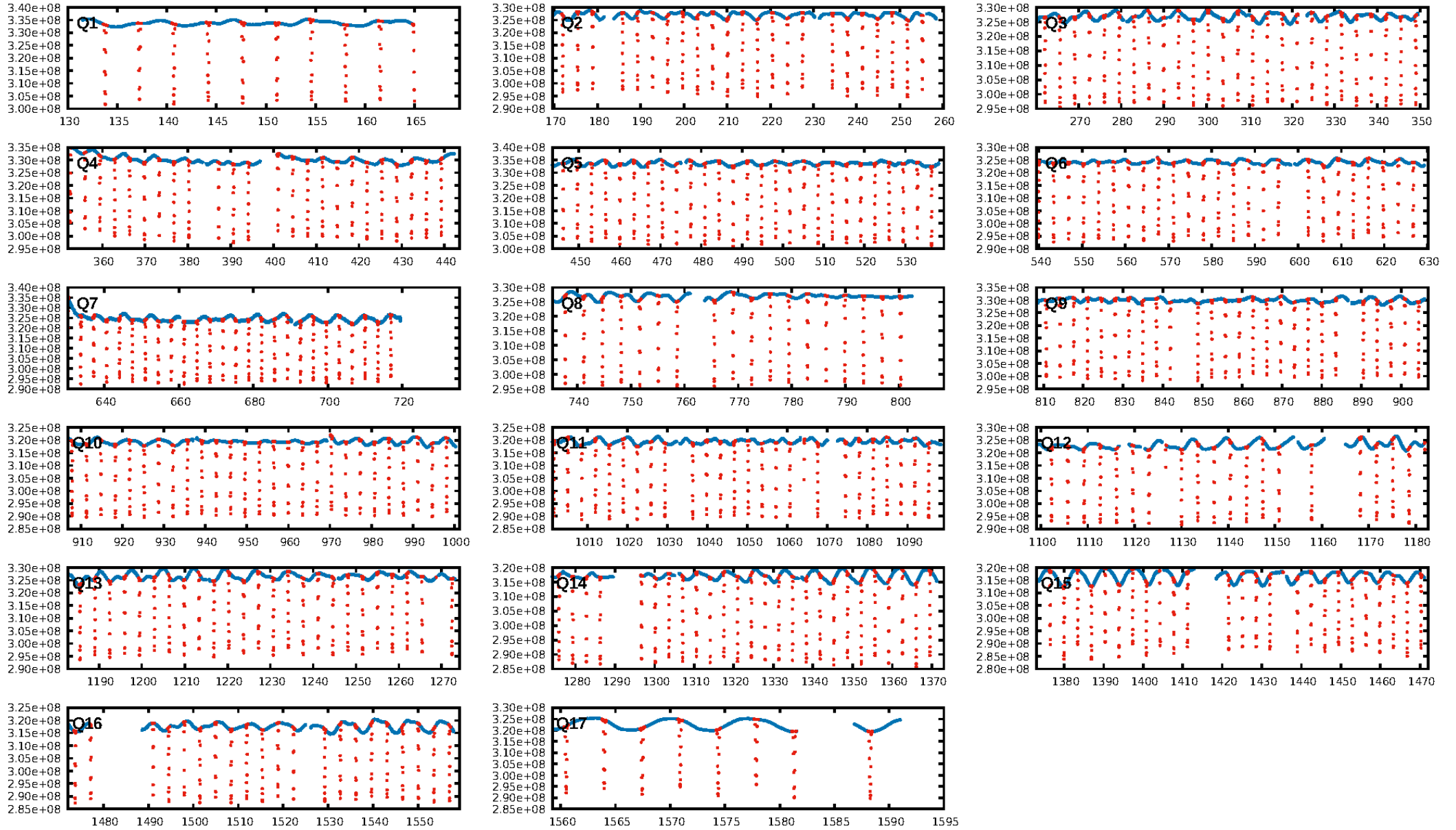
DV Fit Results:

Period = 3.47140 [0.00000] d
Epoch = 133.7509 [0.0000] BKJD
Rp/R* = 0.4073 [0.0020]
a/R* = 5.72 [0.00]
b = 0.91 [0.00]
Seff = 1395.59 [660.82]
Teff = 1559 [184] K
Rp = 75.06 [25.16] Re
a = 0.0491 [0.0147] AU
Ag = 0.00 [0.00] [-802.04σ]
Teffp = 357 [227] K [-4.11σ]

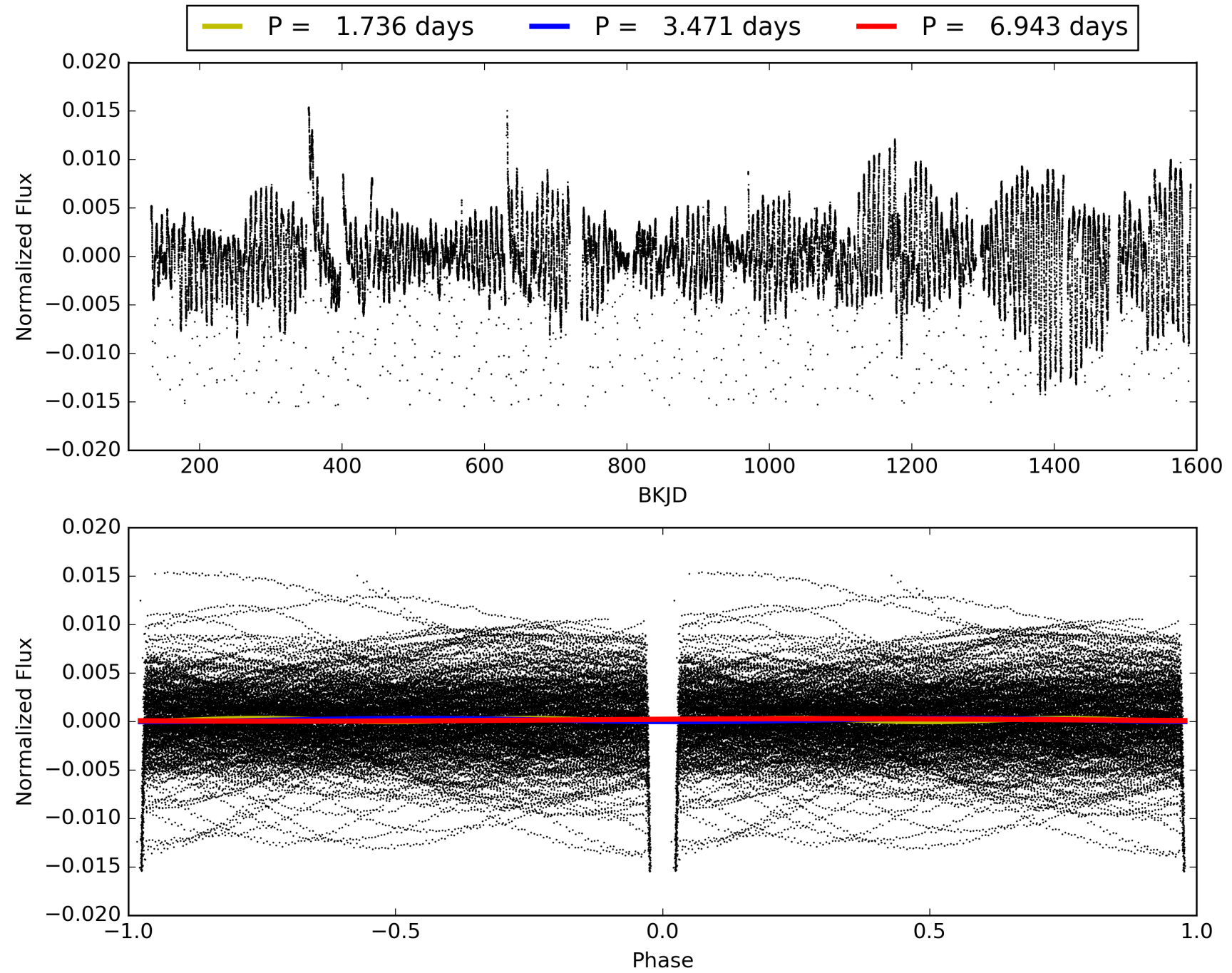
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [1355.80σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [364/364]
GhostDiagnostic-chr: 2.684
Centroid-sig: 0.0%
Centroid-so: 0.106 arcsec [313.39σ]
OotOffset-rm: 0.014 arcsec [0.21σ]
KicOffset-rm: 0.141 arcsec [2.08σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 003542573-01, PDC Light Curves

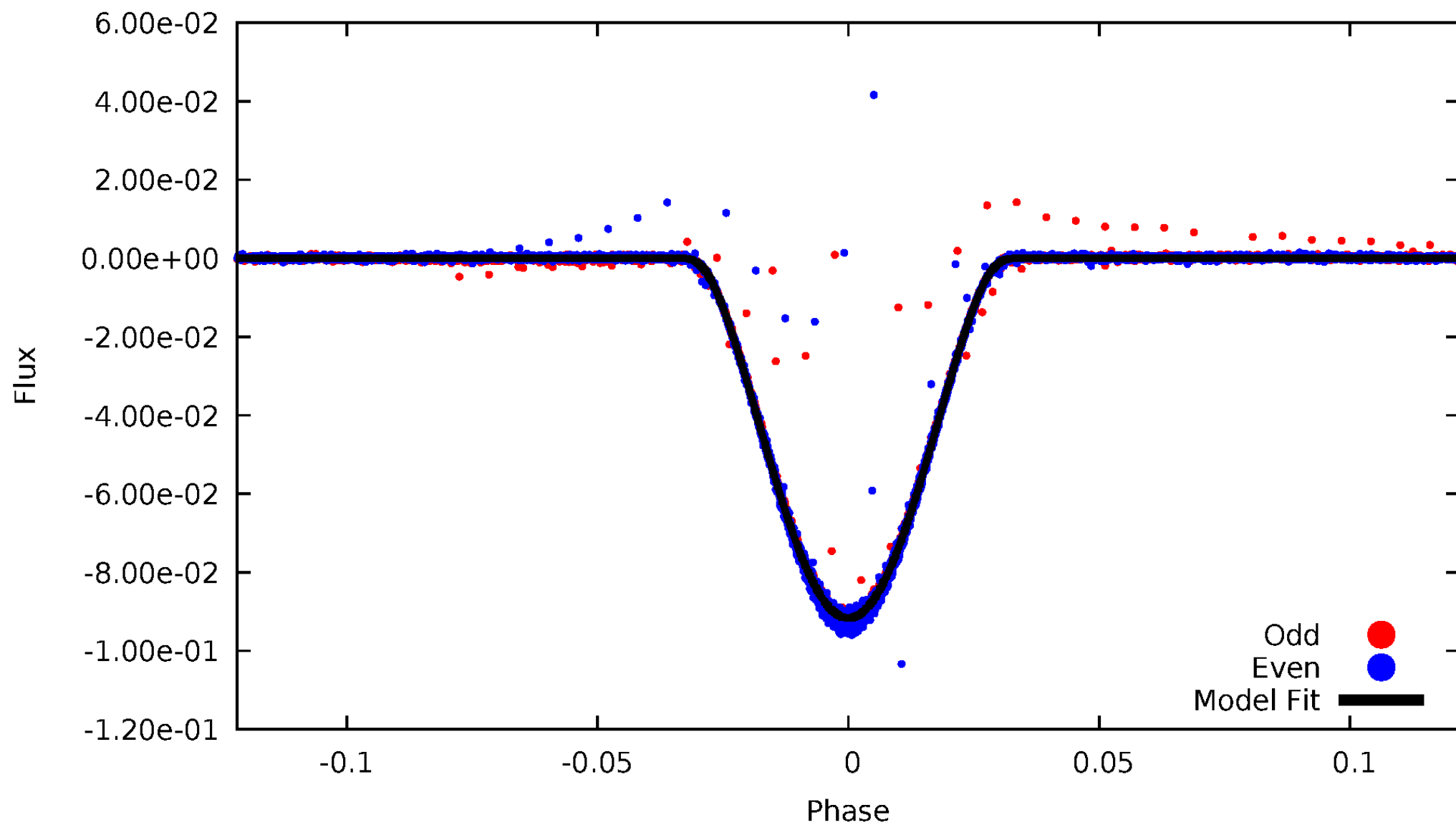


TCE 003542573-01



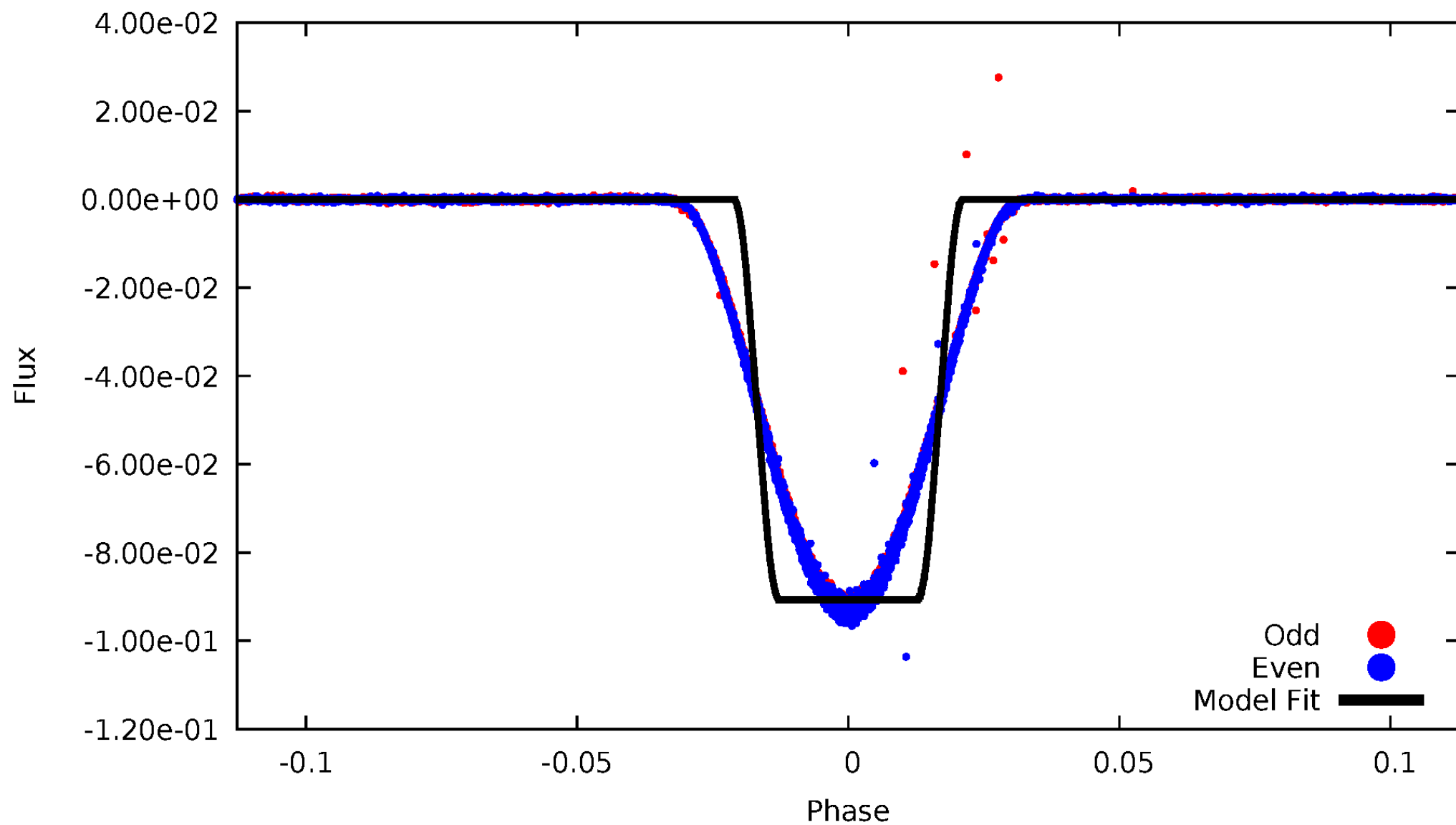
DV Odd/Even

TCE 003542573-01



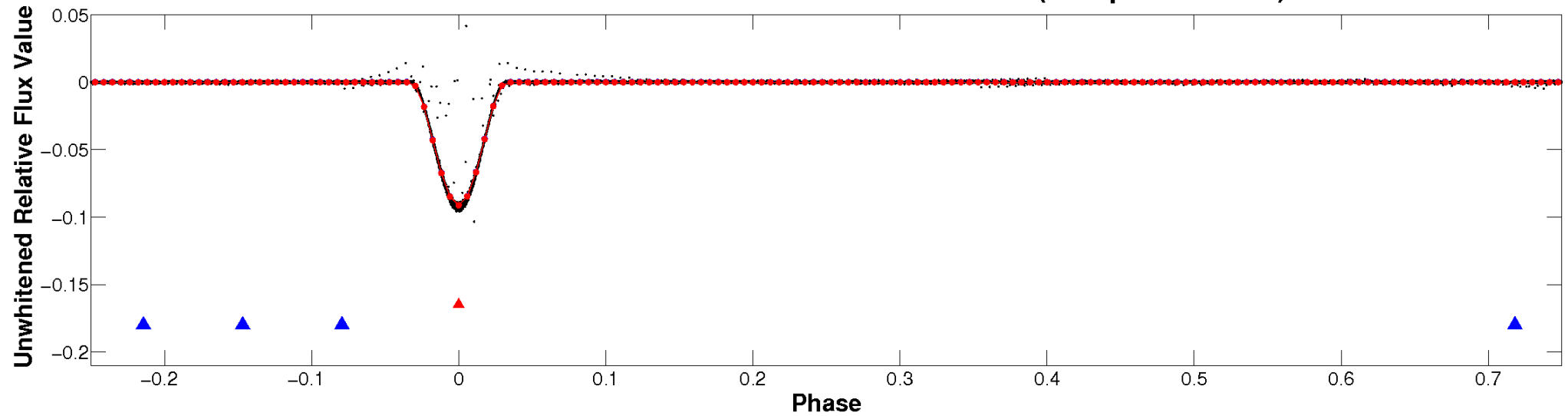
ALT Odd/Even

TCE 003542573-01

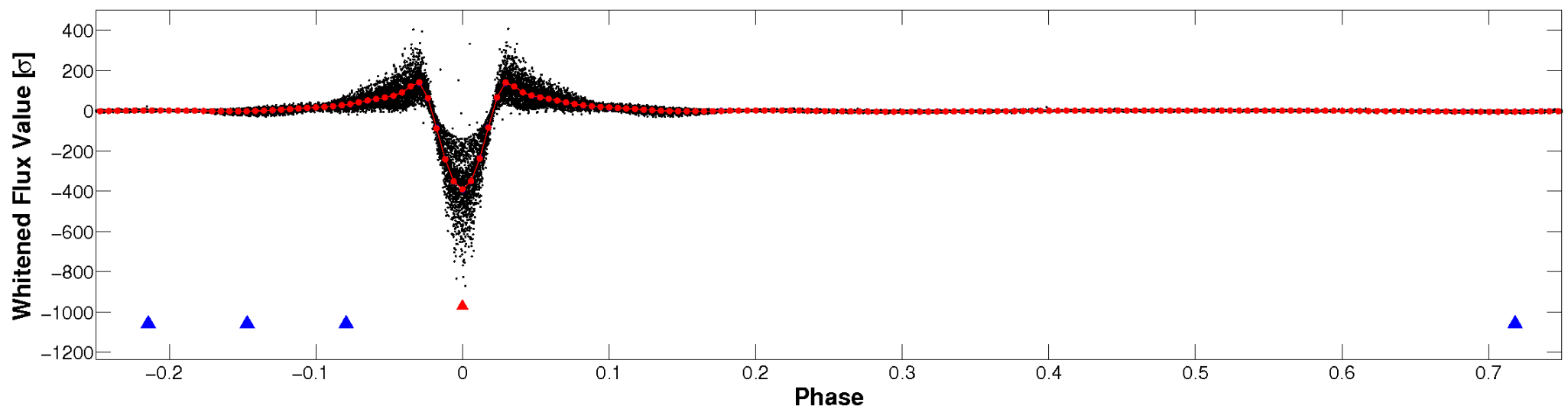


Non-Whitened Vs. Whitened Light Curve

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

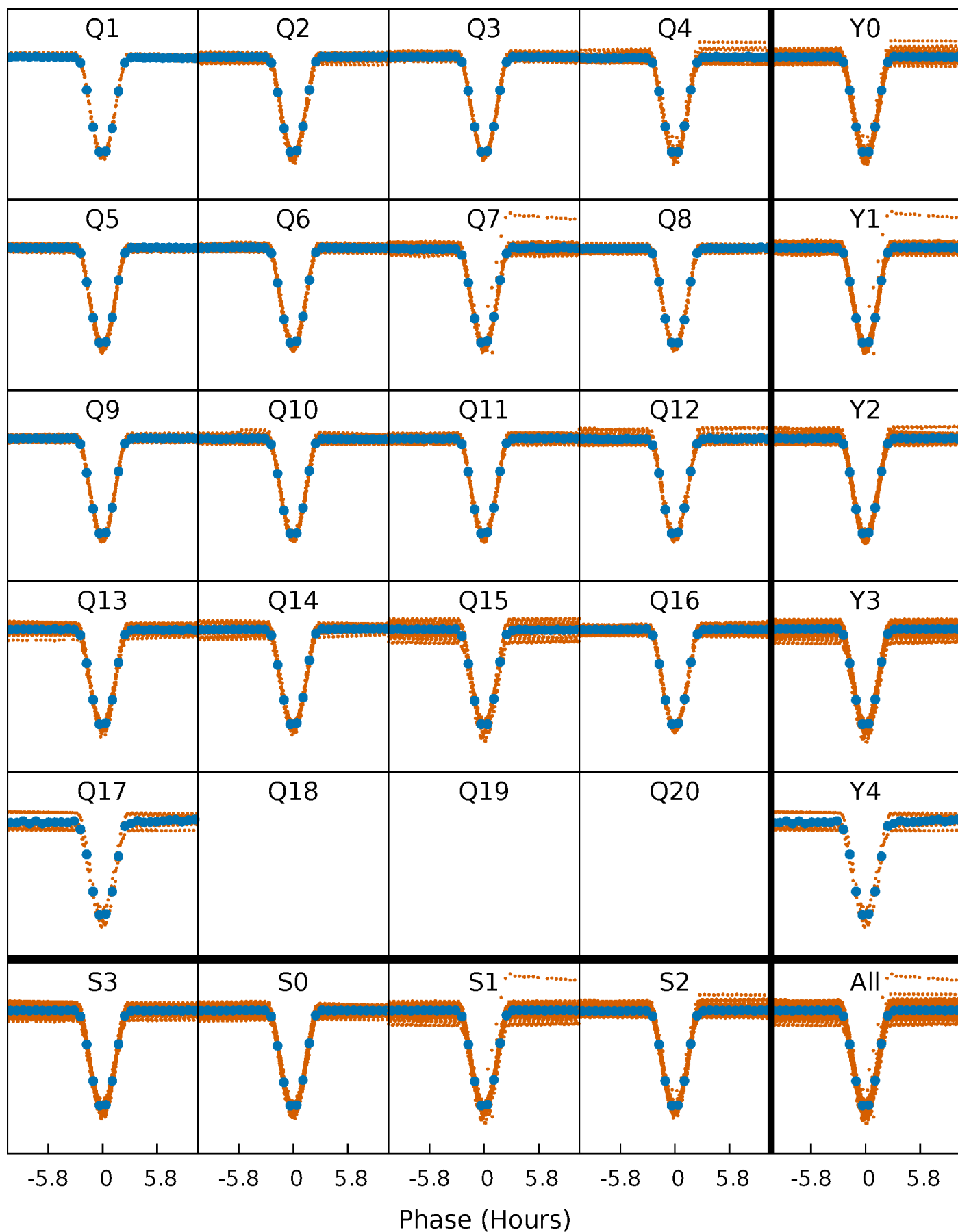


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



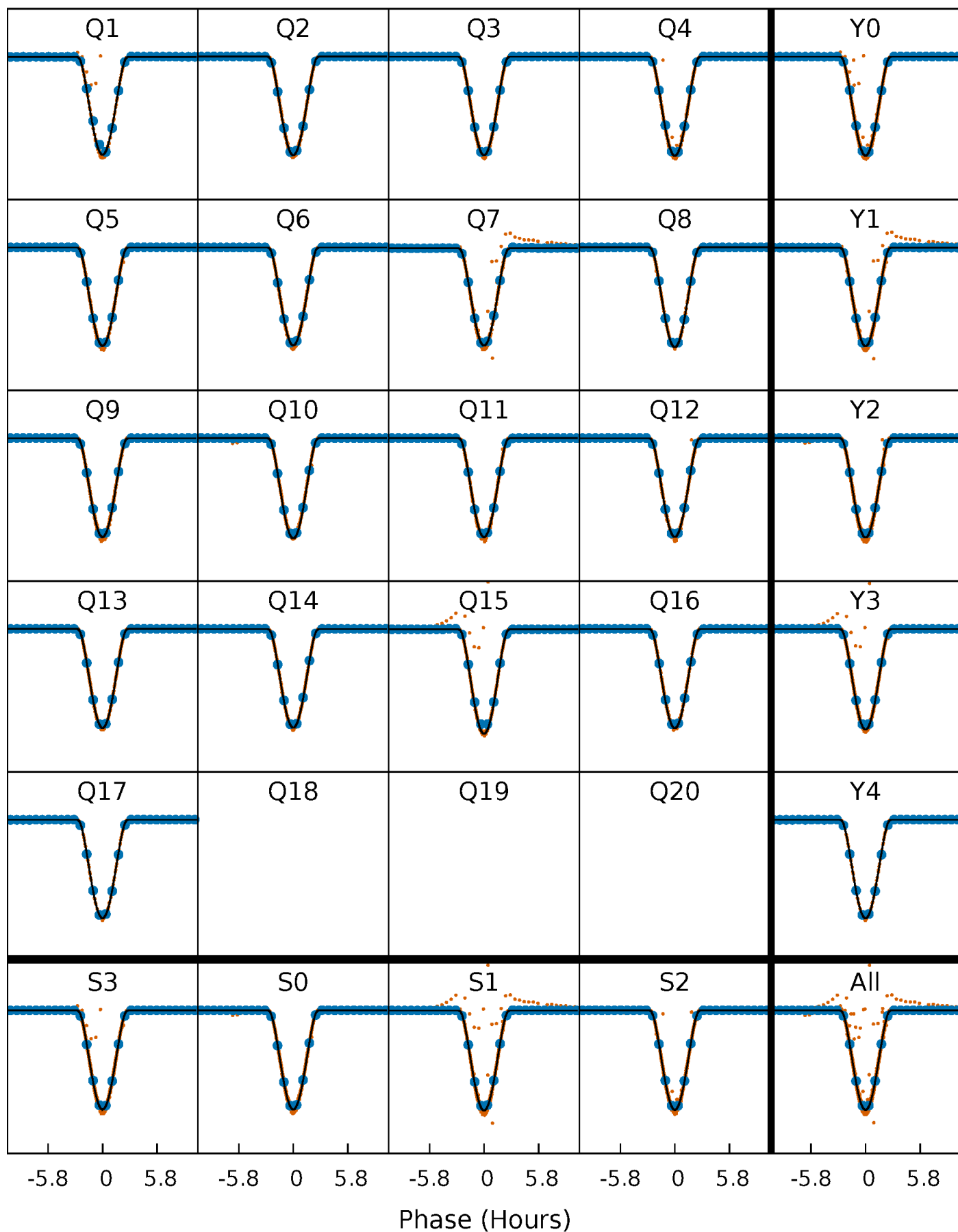
PDC Quarter-Phased Transit Curves

TCE 003542573-01 P= 3.471400 Days $T_0=133.750897$ (BKJD)



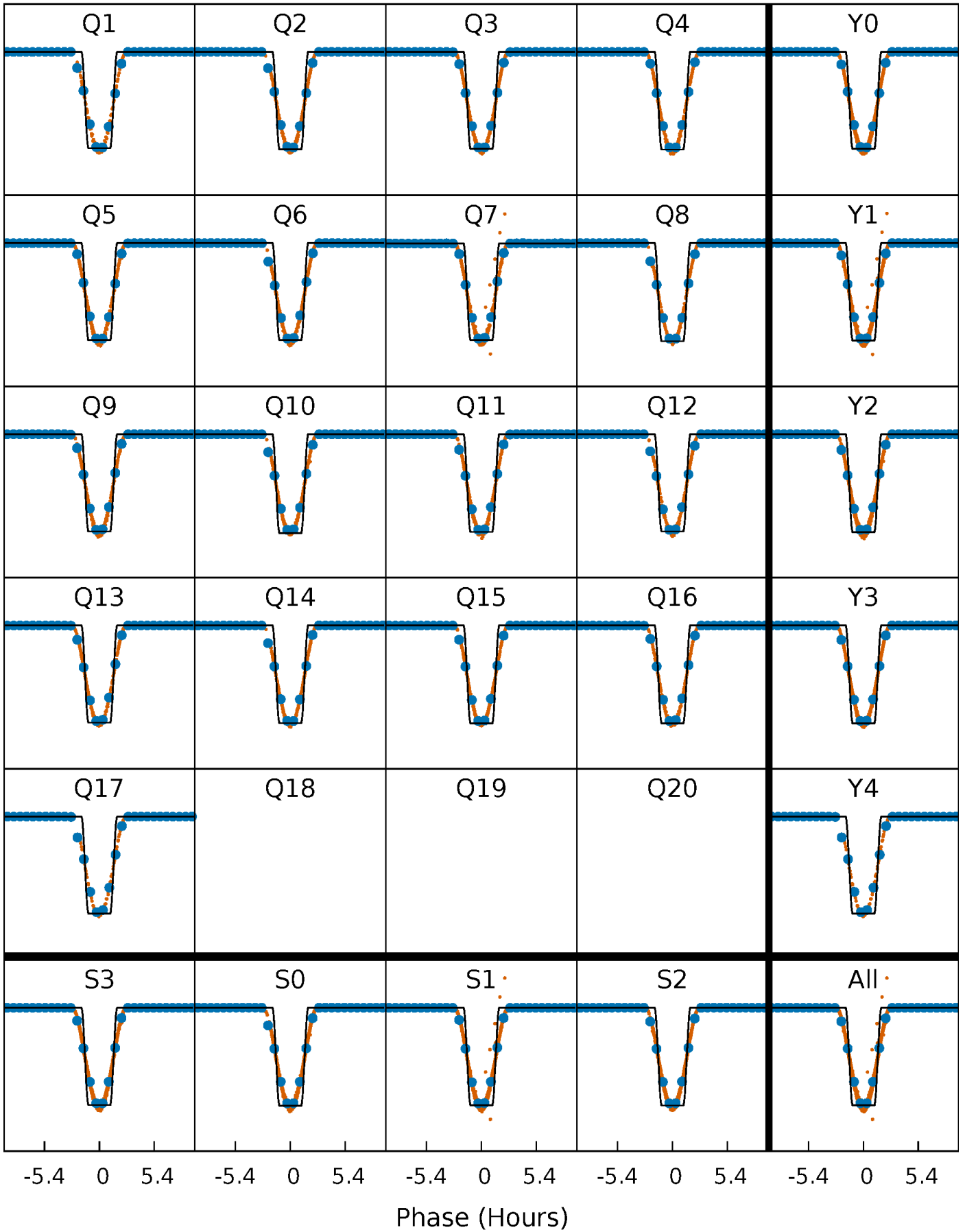
DV Quarter-Phased Transit Curves

TCE 003542573-01 P= 3.471400 Days $T_0=133.750897$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

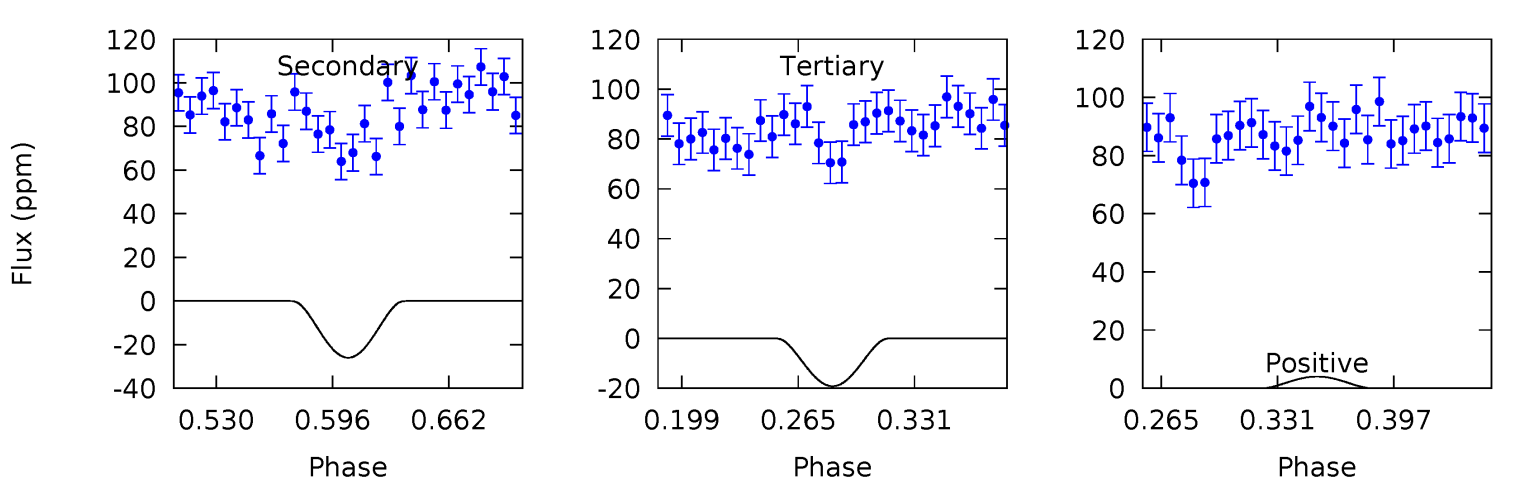
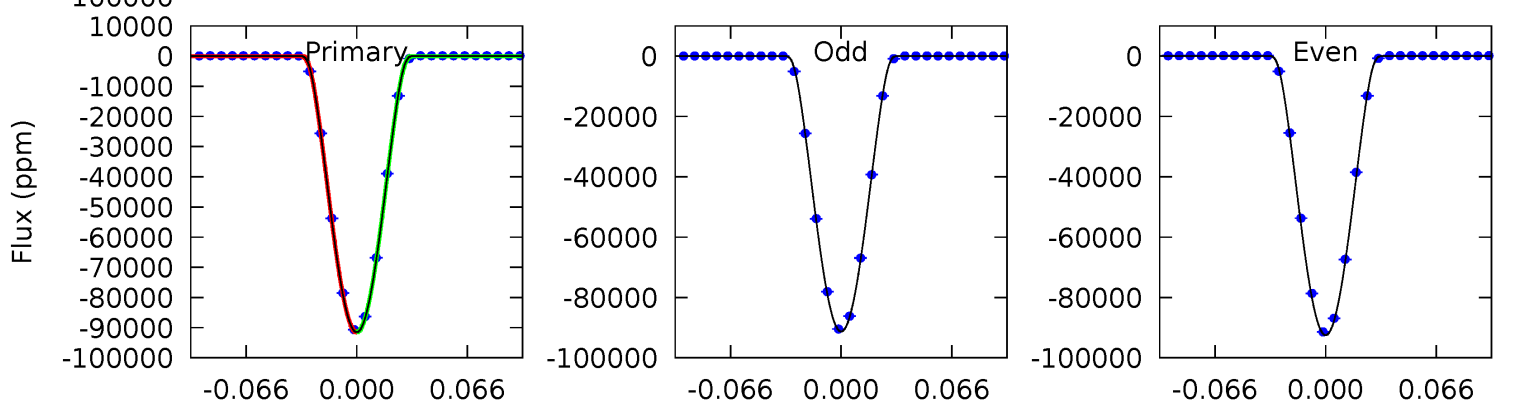
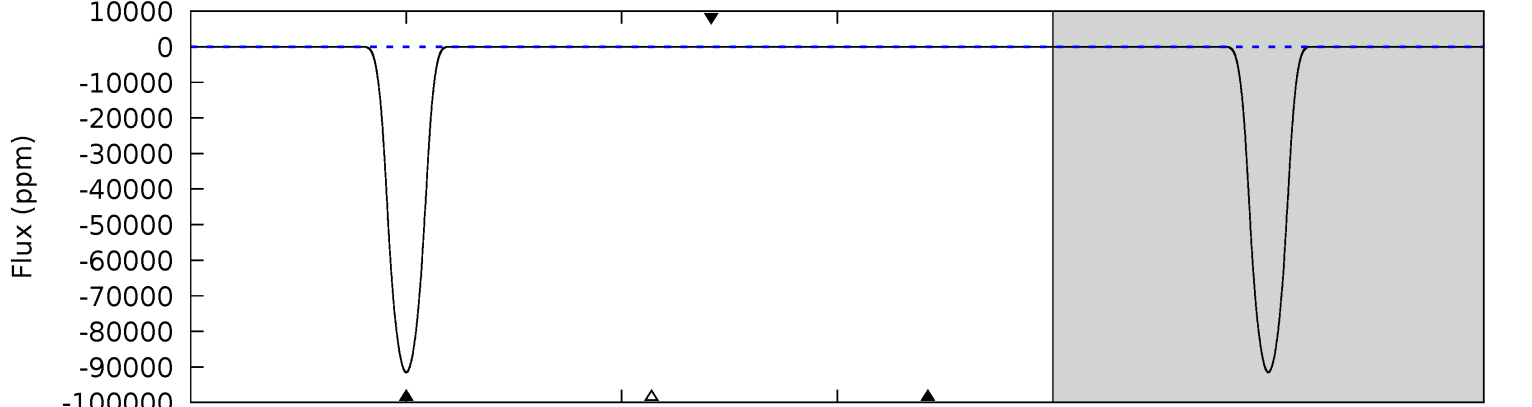
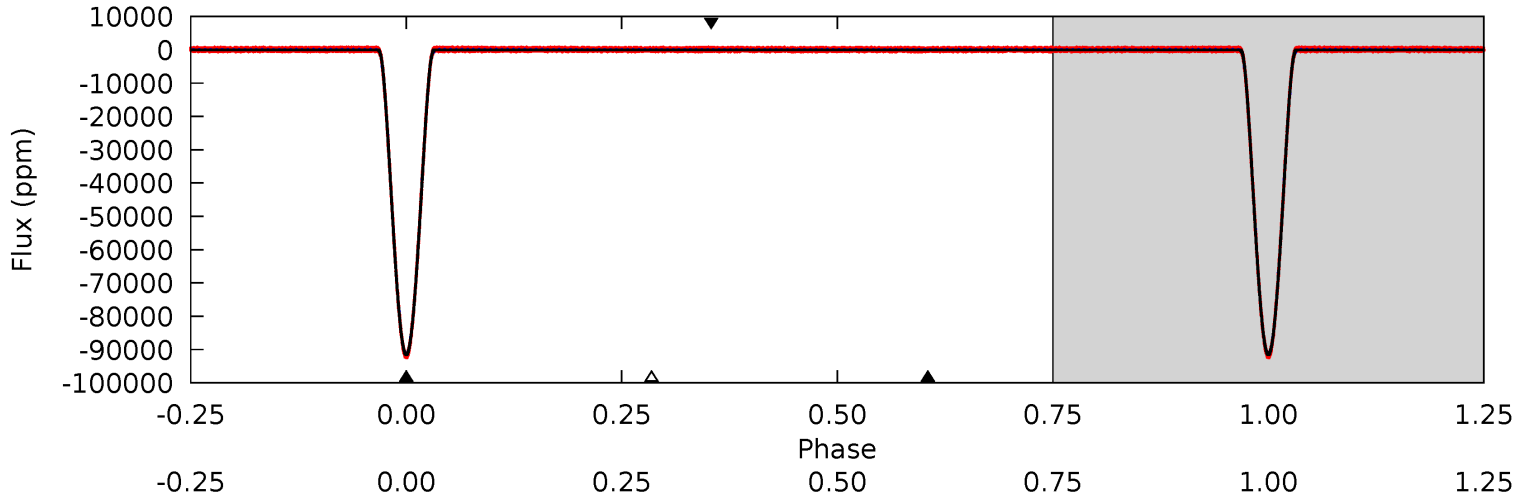
TCE 003542573-01 P= 3.471402 Days $T_0=133.750489$ (BKJD)



DV Model-Shift Uniqueness Test

003542573-01, P = 3.471400 Days, E = 130.279497 Days

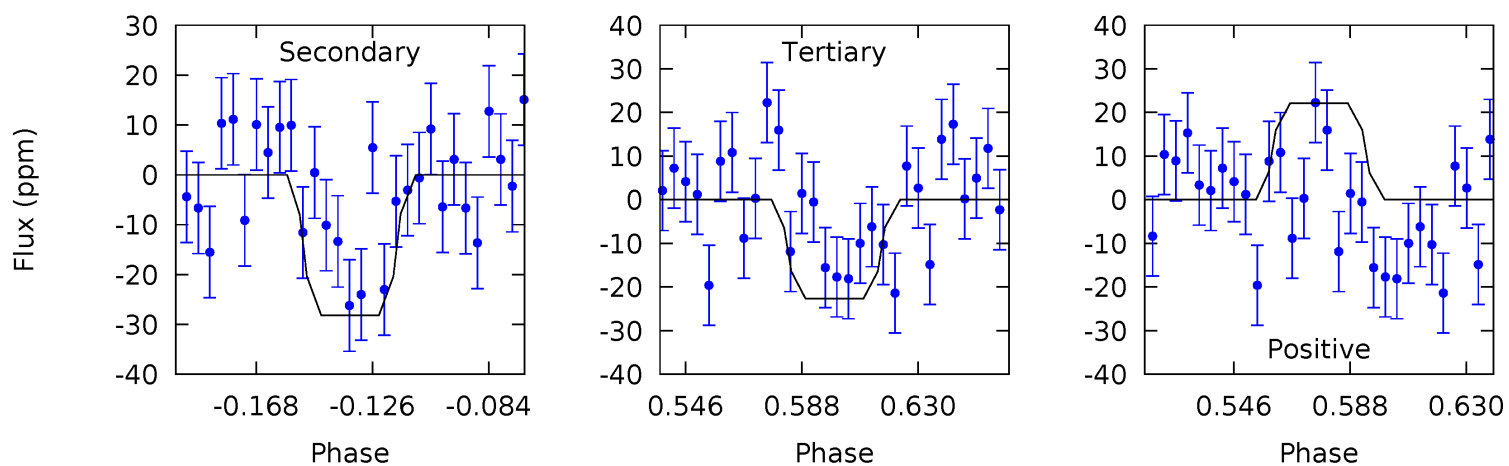
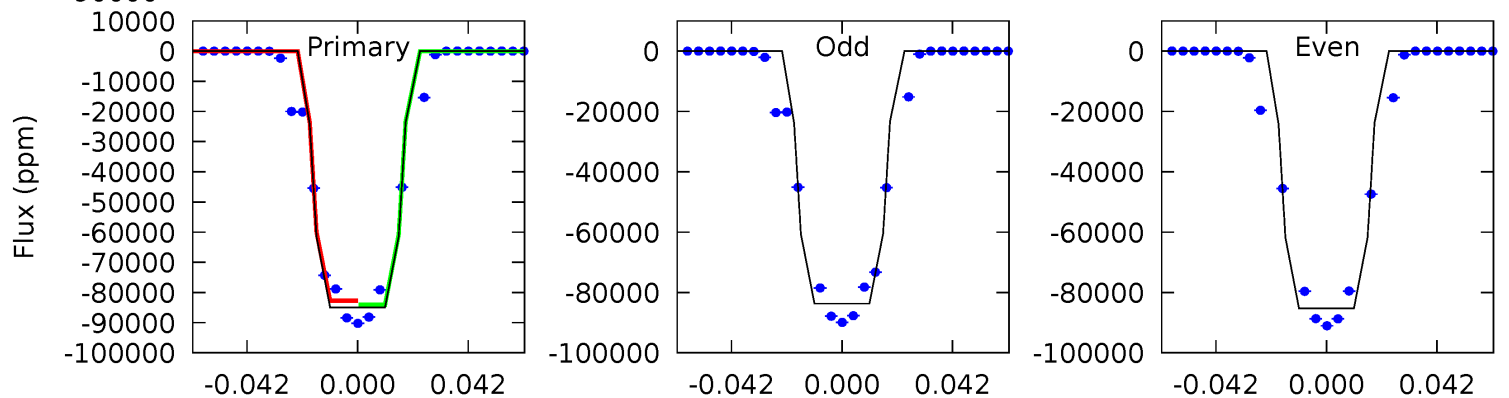
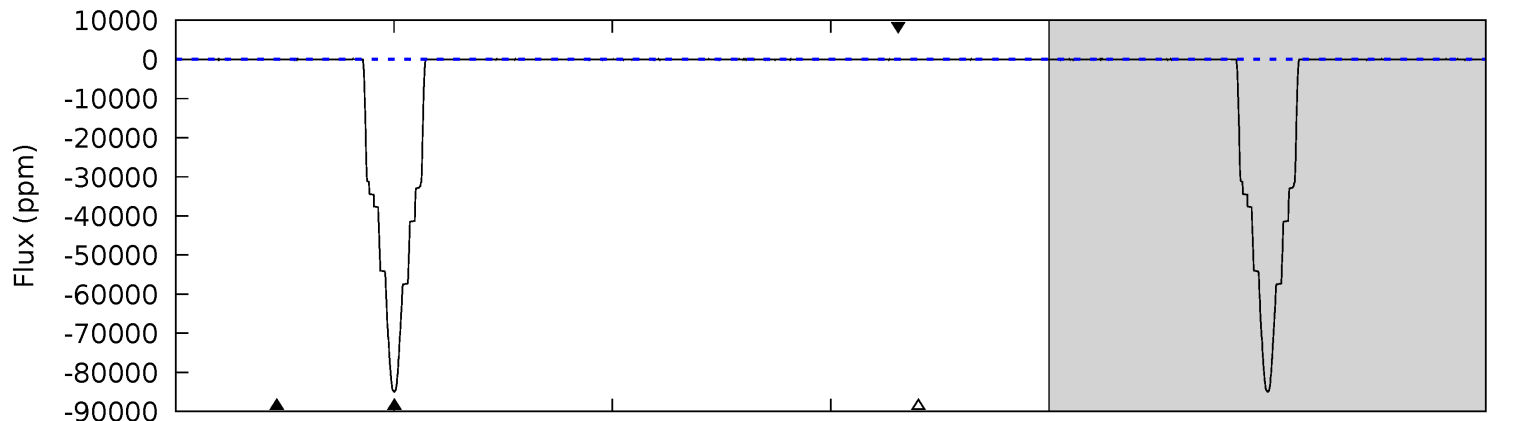
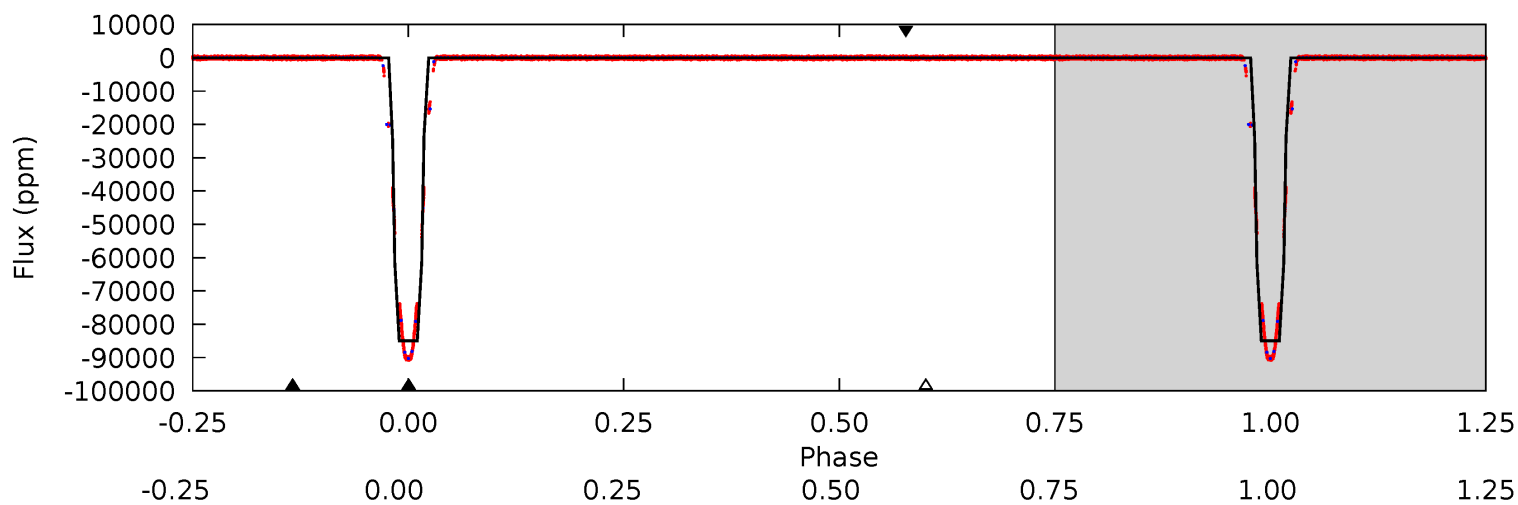
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23416	6.66	4.91	1.03	4.65	1.84	4.11	23411	23415	1.74	5.63	155.1	0.99	0.00	6.10



Alt Model-Shift Uniqueness Test

003542573-01, P = 3.471402 Days, E = 130.279087 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13445	4.46	3.59	3.50	4.74	2.03	1.45	13441	13441	0.87	0.96	128.9	1.00	0.00	96.7



Stellar Parameters For KIC 003542573

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6026^{+181}_{-199}	$4.101^{+0.258}_{-0.172}$	$0.280^{+0.150}_{-0.300}$	$1.689^{+0.463}_{-0.566}$	$1.315^{+0.171}_{-0.235}$	$0.385^{+0.686}_{-0.176}$
	+3%/-3%	+6%/-4%	+54%/-107%	+27%/-34%	+13%/-18%	+178%/-46%
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 003542573-01 / KOI 6338.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-26 ± 4	$74.33^{+12.28}_{-12.95}$	2167^{+178}_{-187}	-2590^{+116}_{-107}	$0.006^{+0.003}_{-0.002}$
Alt.	-28 ± 6	$55.30^{+8.52}_{-9.84}$	2164^{+176}_{-190}	-2582^{+118}_{-109}	$0.012^{+0.006}_{-0.004}$

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 $A_{obs} \gg 1.0$

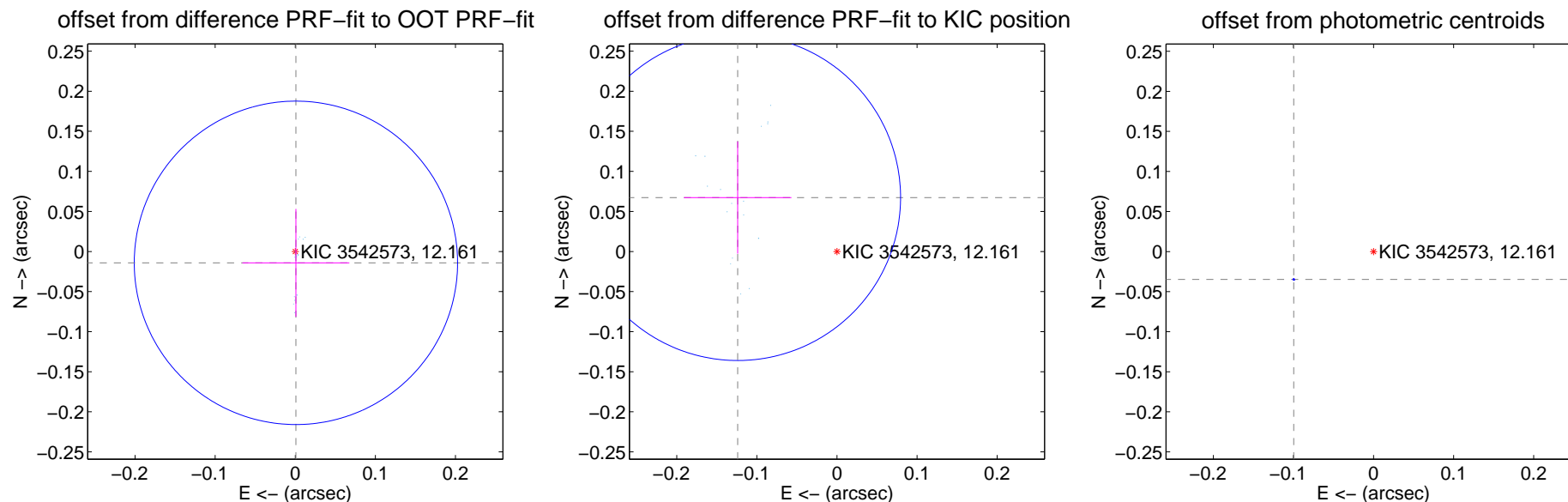
DV Centroid Data

Supplemental centroid analysis for 003542573-01. Kepler magnitude: 12.16. Transit SNR 11187.83

There are 17 quarters with good PRF difference image offsets

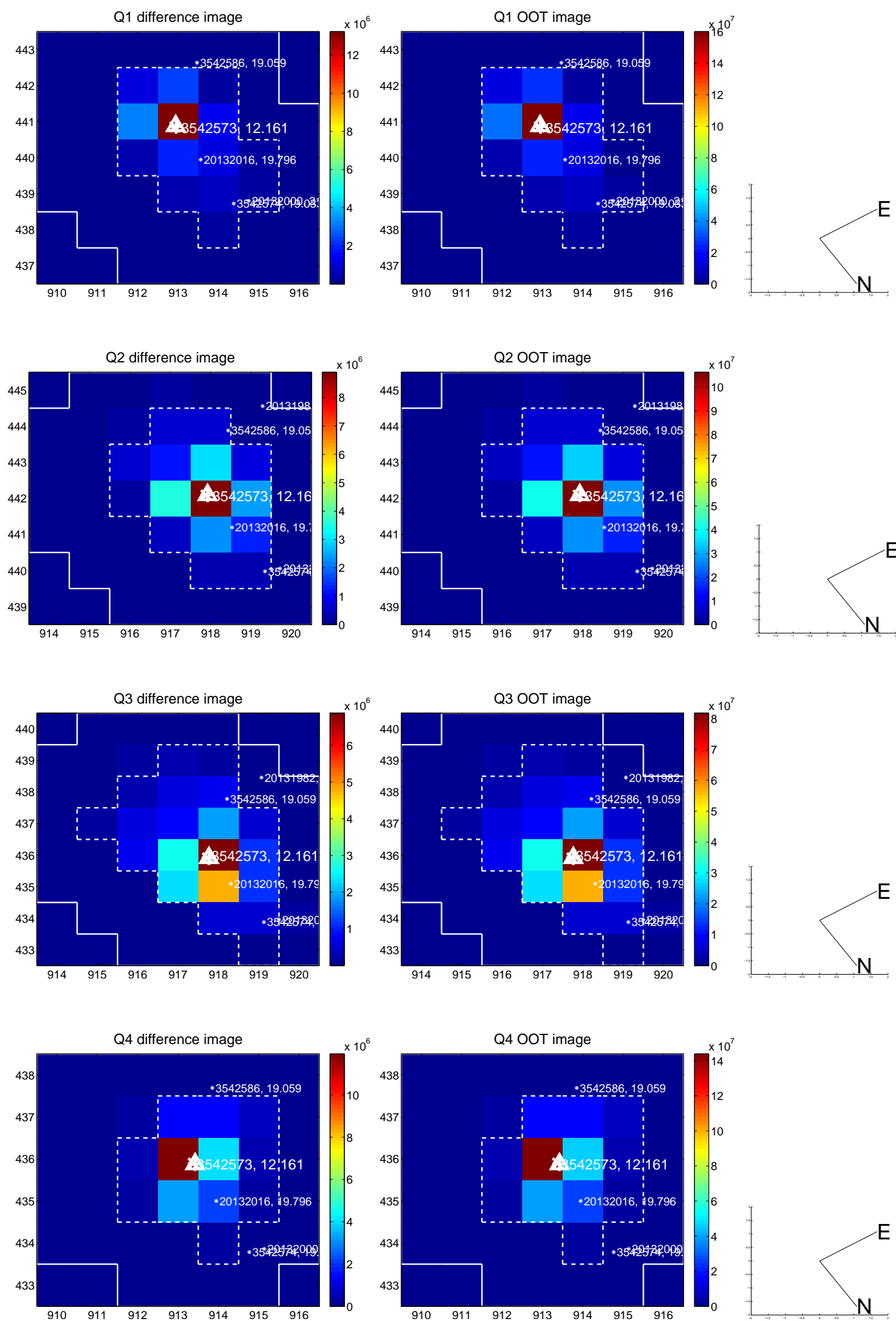
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.014 ± 0.067	0.21	-0.001 ± 0.067	-0.014 ± 0.067
PRF-fit source offset from KIC position	0.141 ± 0.068	2.08	0.124 ± 0.067	0.067 ± 0.070
photometric centroid source offset	0.11 ± 0.00	313.39	0.10 ± 0.00	-0.03 ± 0.00

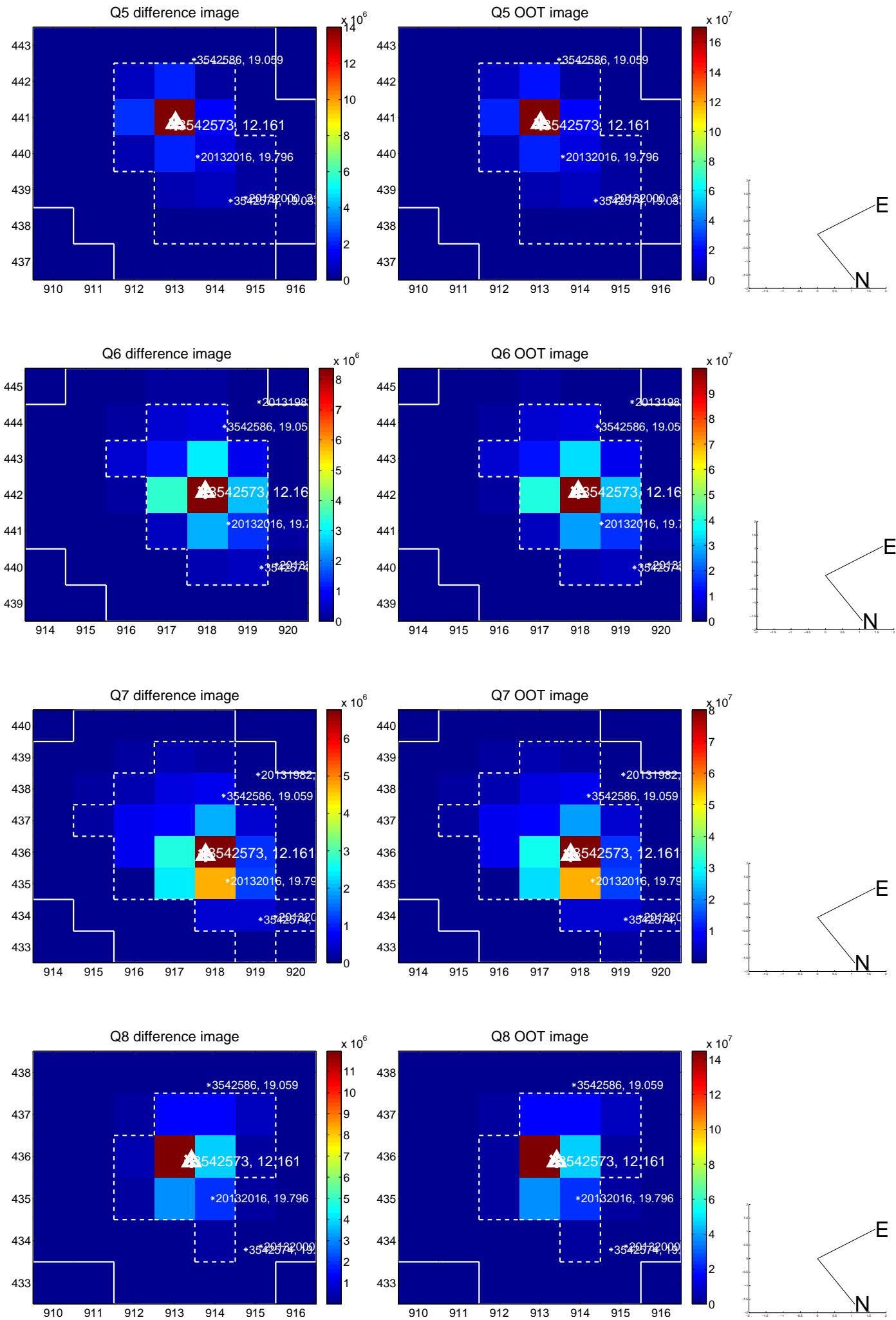


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

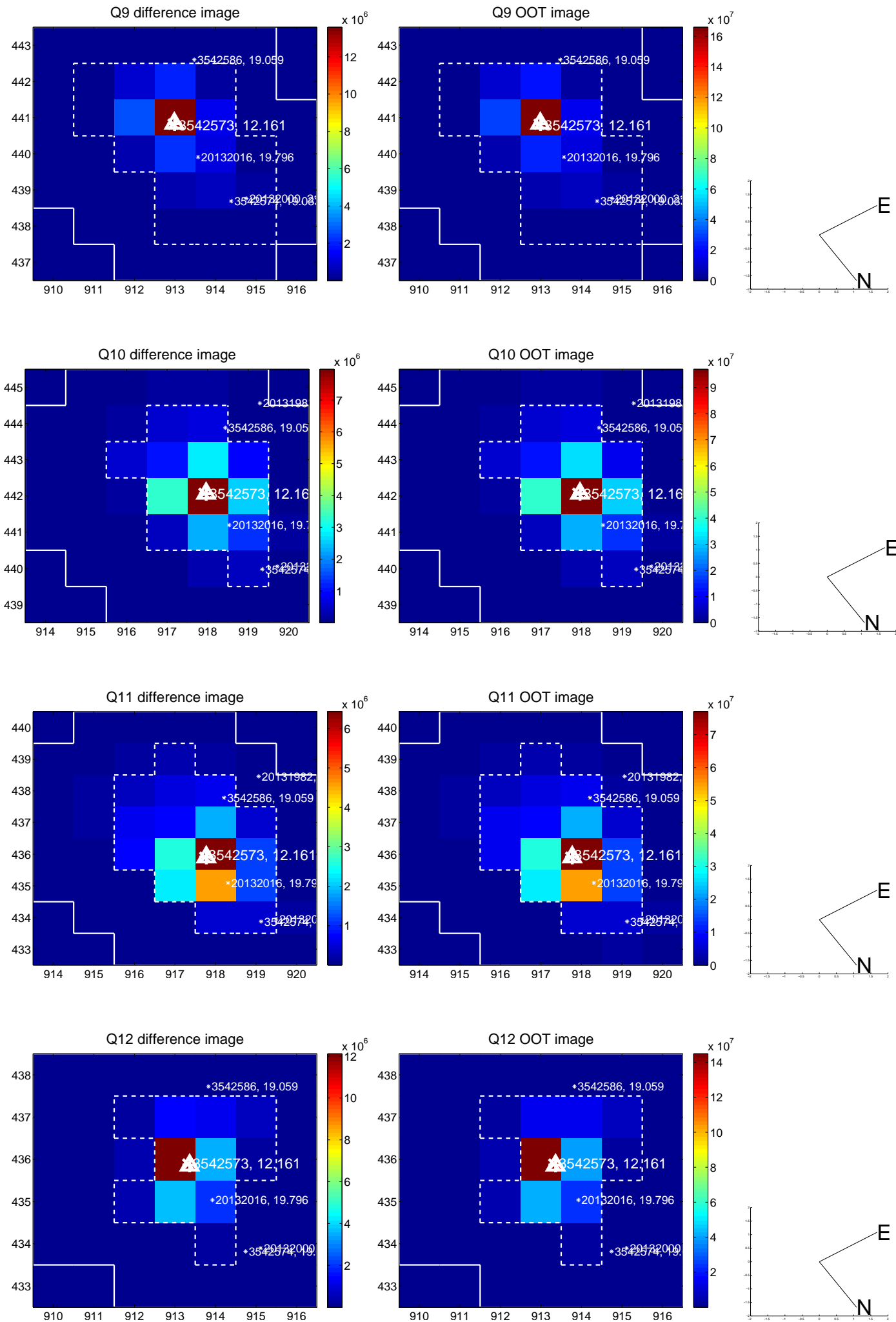
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



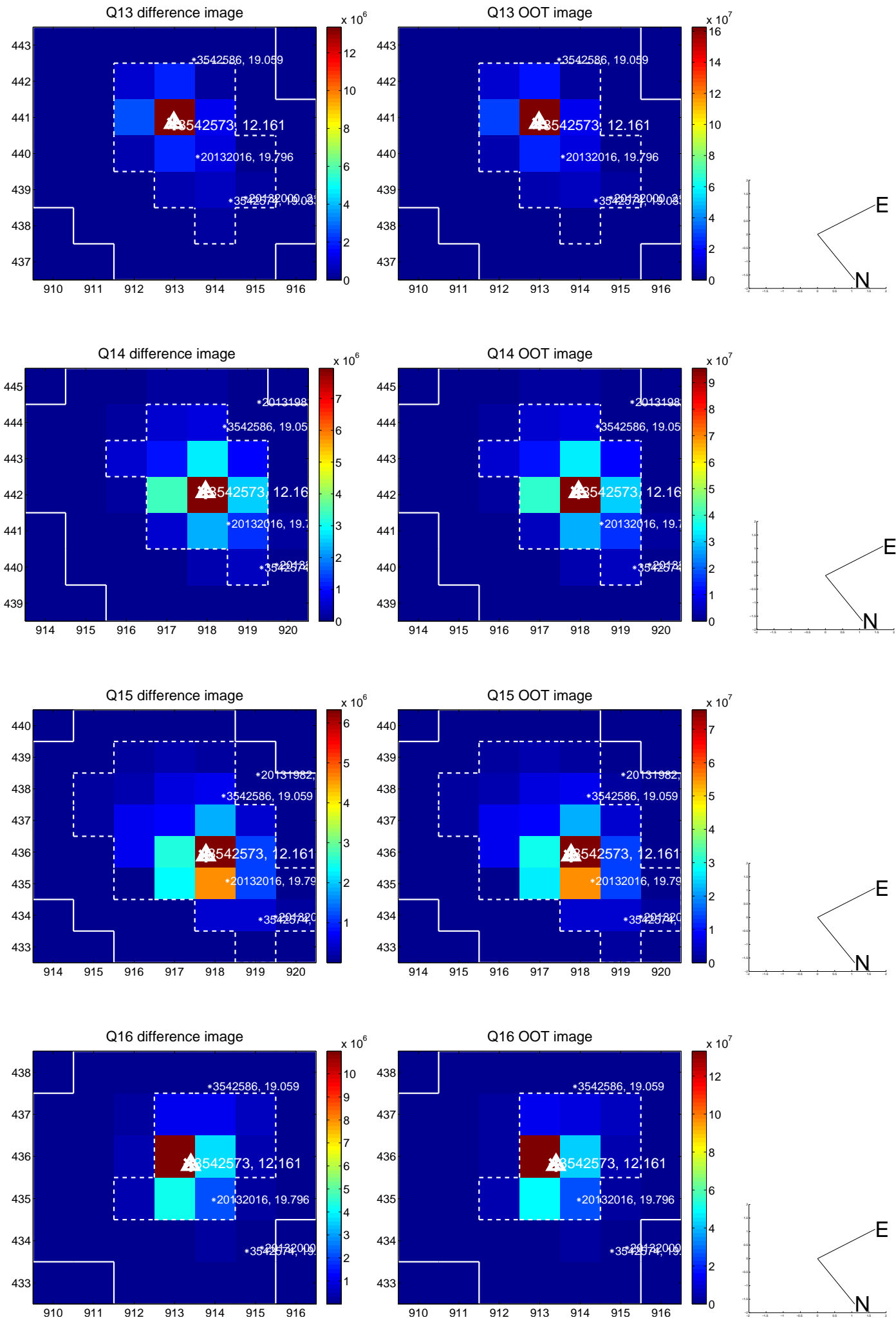
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



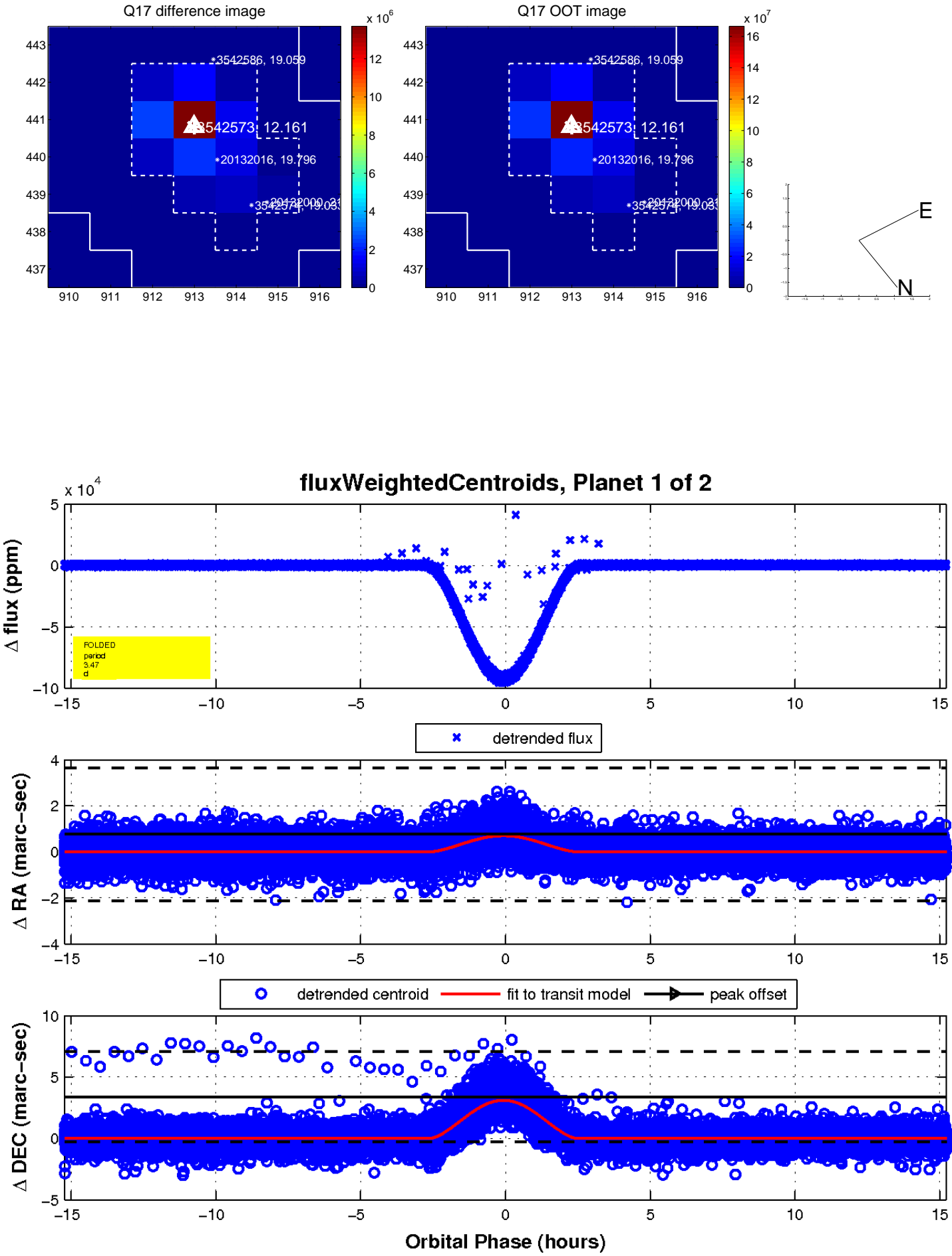
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

