

KIC 005636648

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
005636648-01	OBS	1565.01	0.933484	132.104701	328.2	0.703	8.8	25.5	0.86	5791	1.88	2191.53

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005636648-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—CENT_RESOLVED_OFFSET—HALO_GHOST—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 005636648-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
005636648-01	5636648	3817.01	5636642	1:1	6.3	1	2	16.43	15.33	48.14	Direct-PRF	0	0.50	0.24

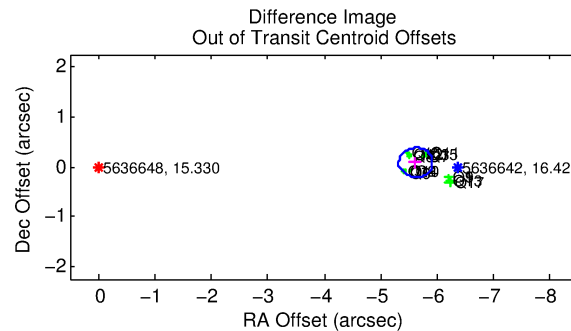
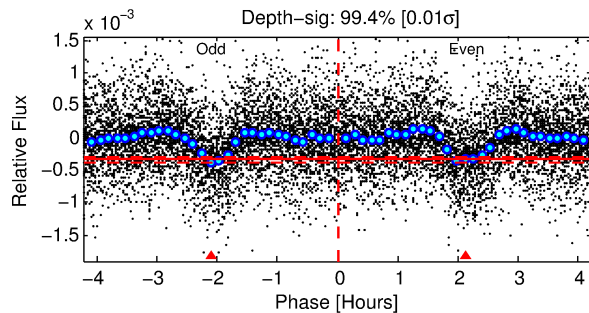
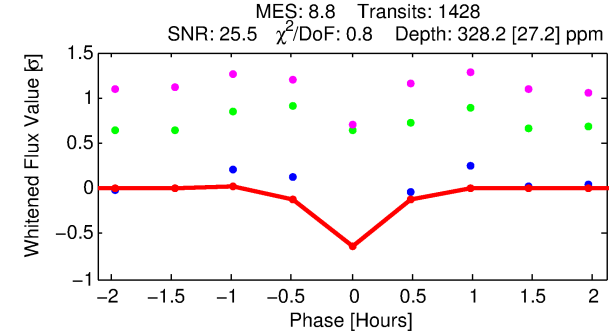
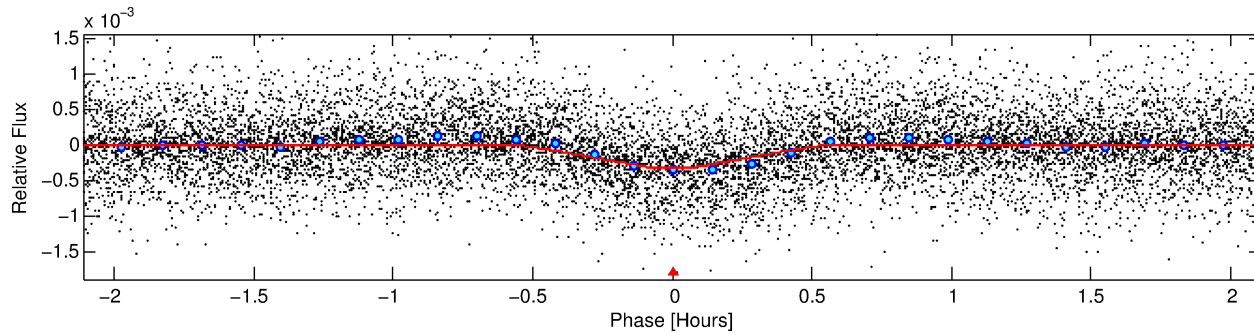
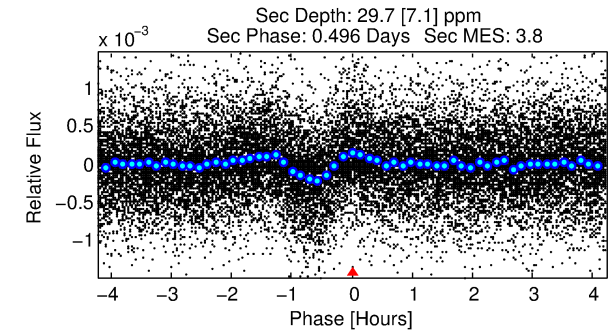
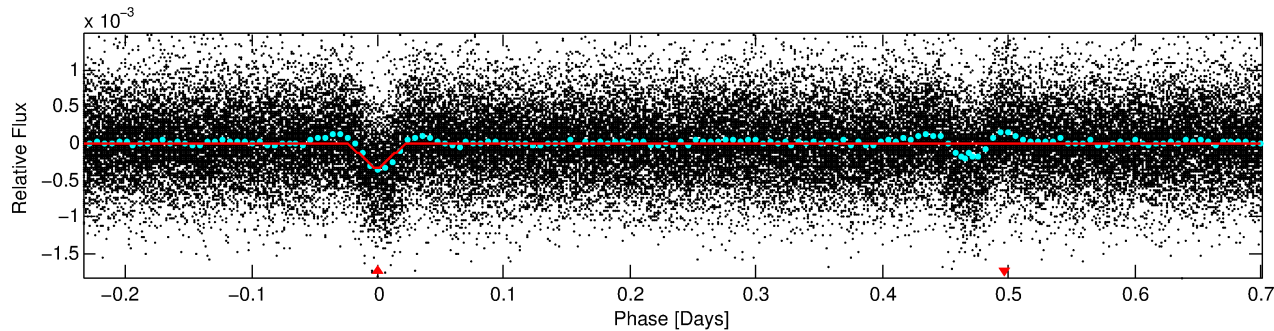
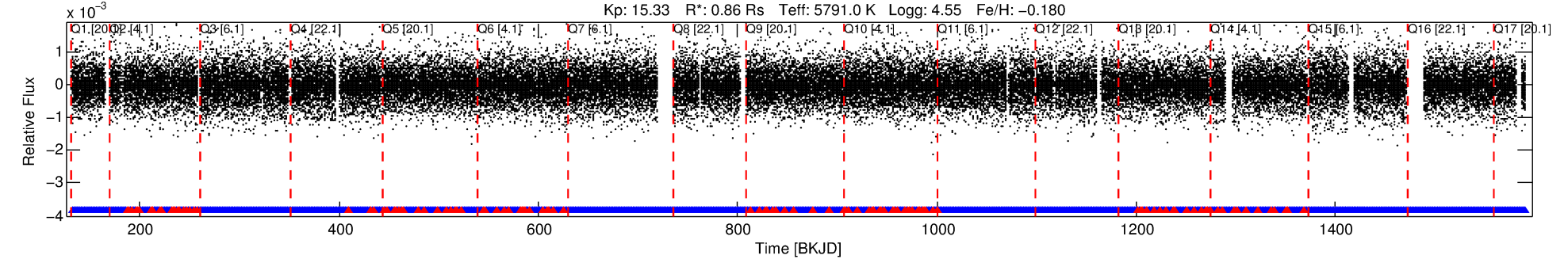
Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant σ_P < 5.0 and σ_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: 5636648 Candidate: 1 of 1 Period: 0.933 d

KOI: K01565 Corr: No Ephemeris Match

Kp: 15.33 R*: 0.86 Rs Teff: 5791.0 K Logg: 4.55 Fe/H: -0.180



DV Fit Results:

Period = 0.93348 [0.00000] d
Epoch = 132.1047 [0.0005] BKJD
Rp/R* = 0.0202 [0.0073]
a/R* = 4.95 [8.15]
b = 0.90 [0.37]
Seff = 2191.53 [848.17]
Teq = 1745 [169] K
Rp = 1.88 [0.87] Re
a = 0.0184 [0.0046] AU
Ag = 1.55 [1.31] [0.42σ]
Teffp = 3011 [580] K [2.10σ]

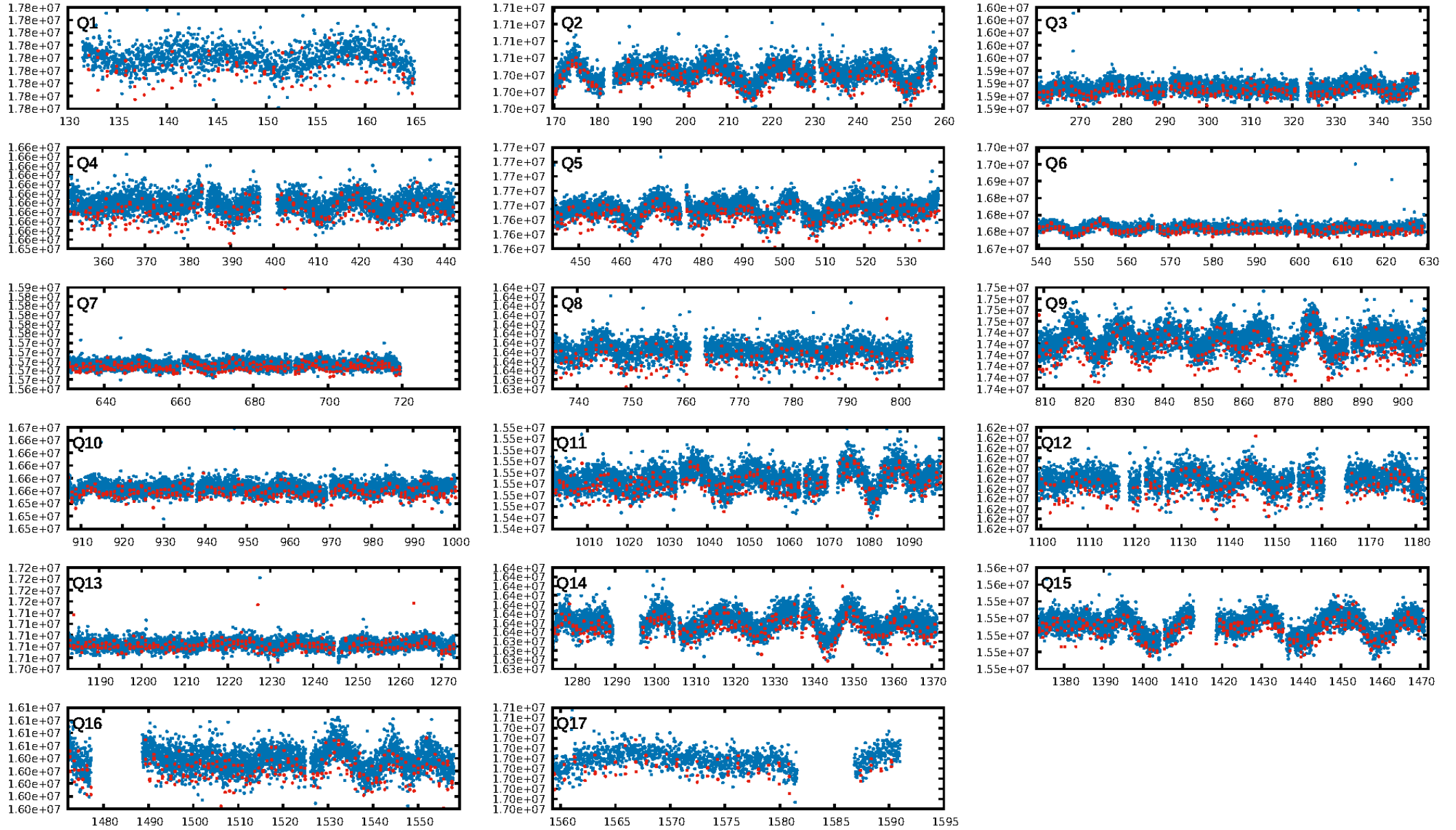
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.24e-19
RollingBand-fgt: 0.91 [1245/1364]
GhostDiagnostic-chr: -0.2298
Centroid-sig: 0.0%
Centroid-so: 33.615 arcsec [81.03σ]
OotOffset-rm: 5.619 arcsec [56.40σ]
KicOffset-rm: 6.427 arcsec [92.86σ]
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]

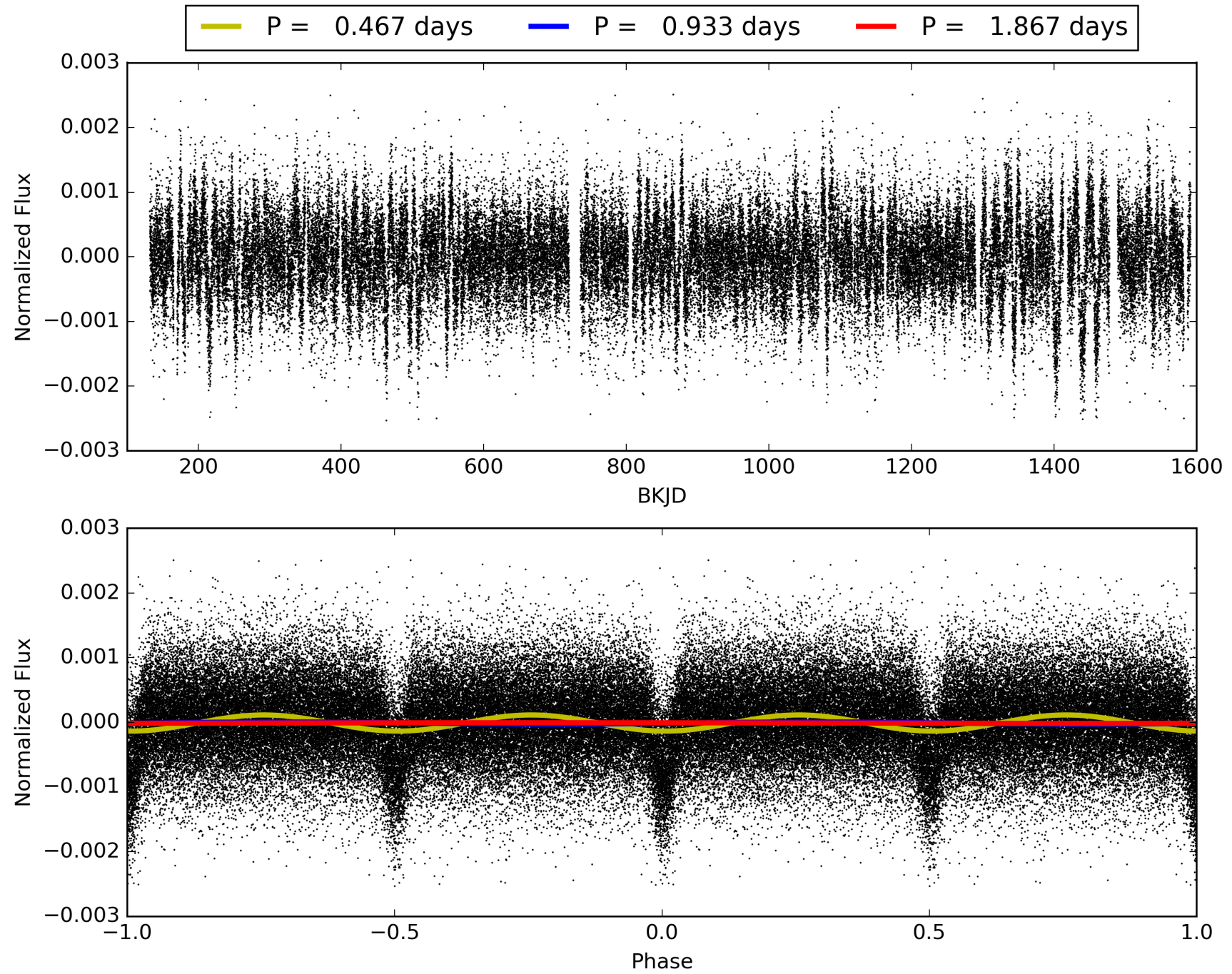
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:49:57 Z

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

TCE 005636648-01, PDC Light Curves

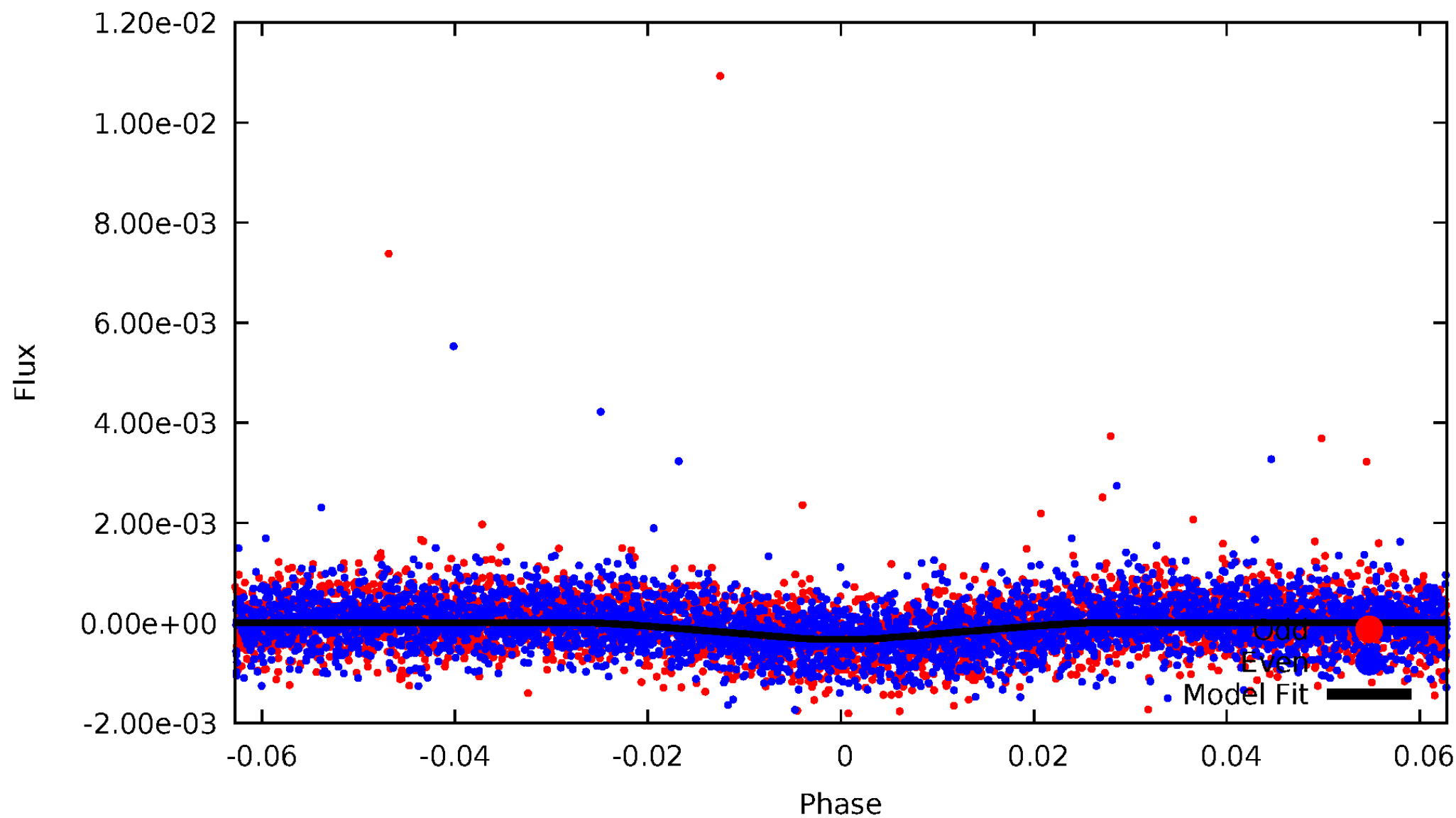


TCE 005636648-01



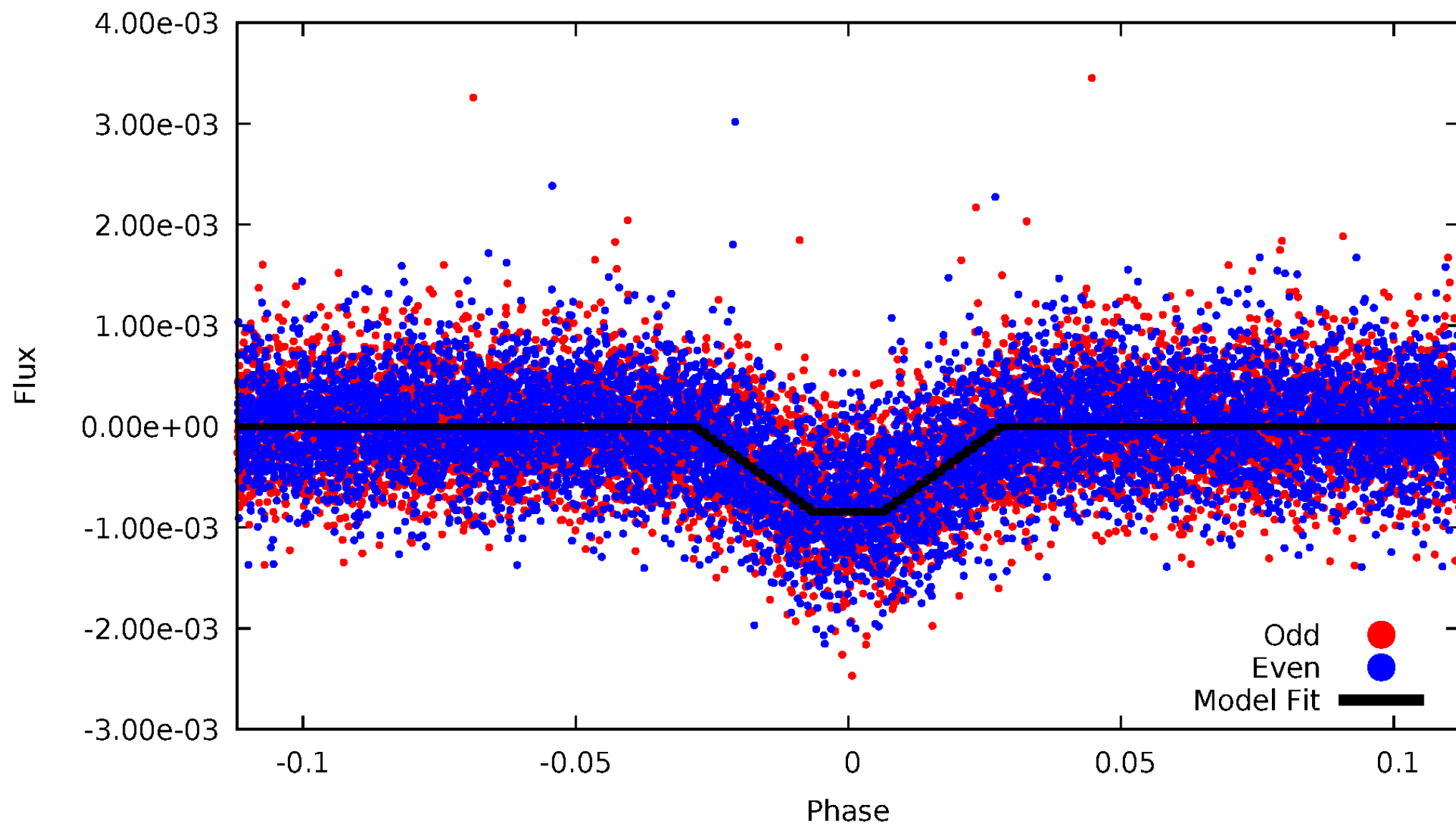
DV Odd/Even

TCE 005636648-01



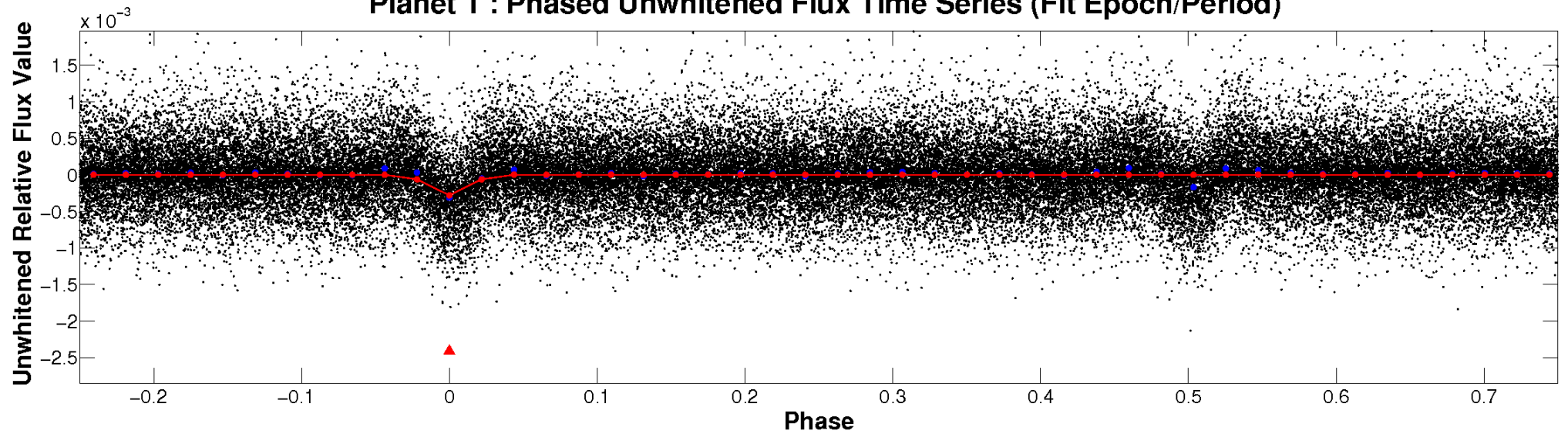
ALT Odd/Even

TCE 005636648-01

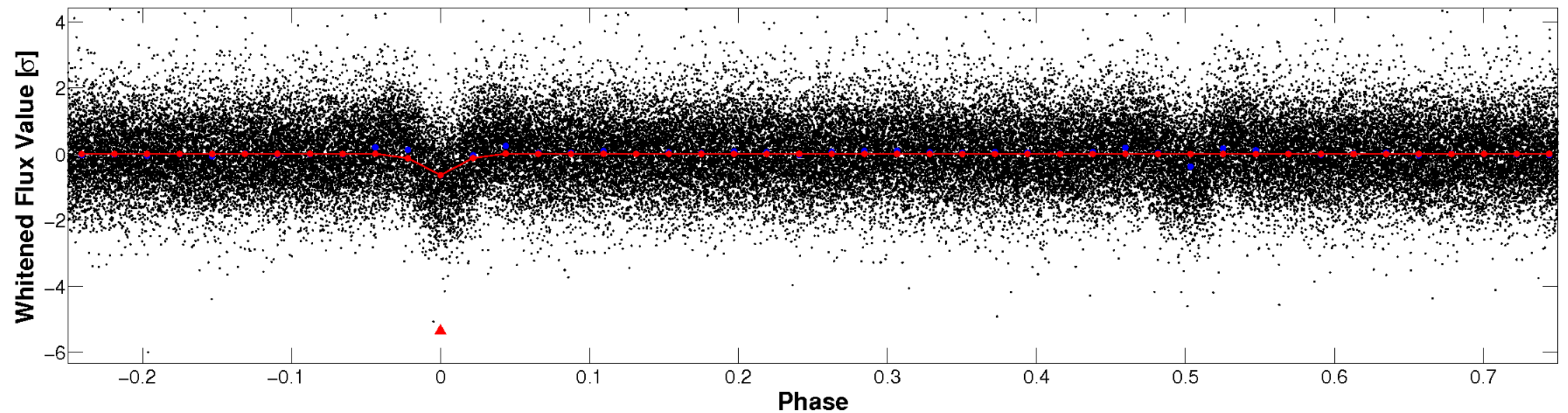


Non-Whitened Vs. Whitened Light Curve

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

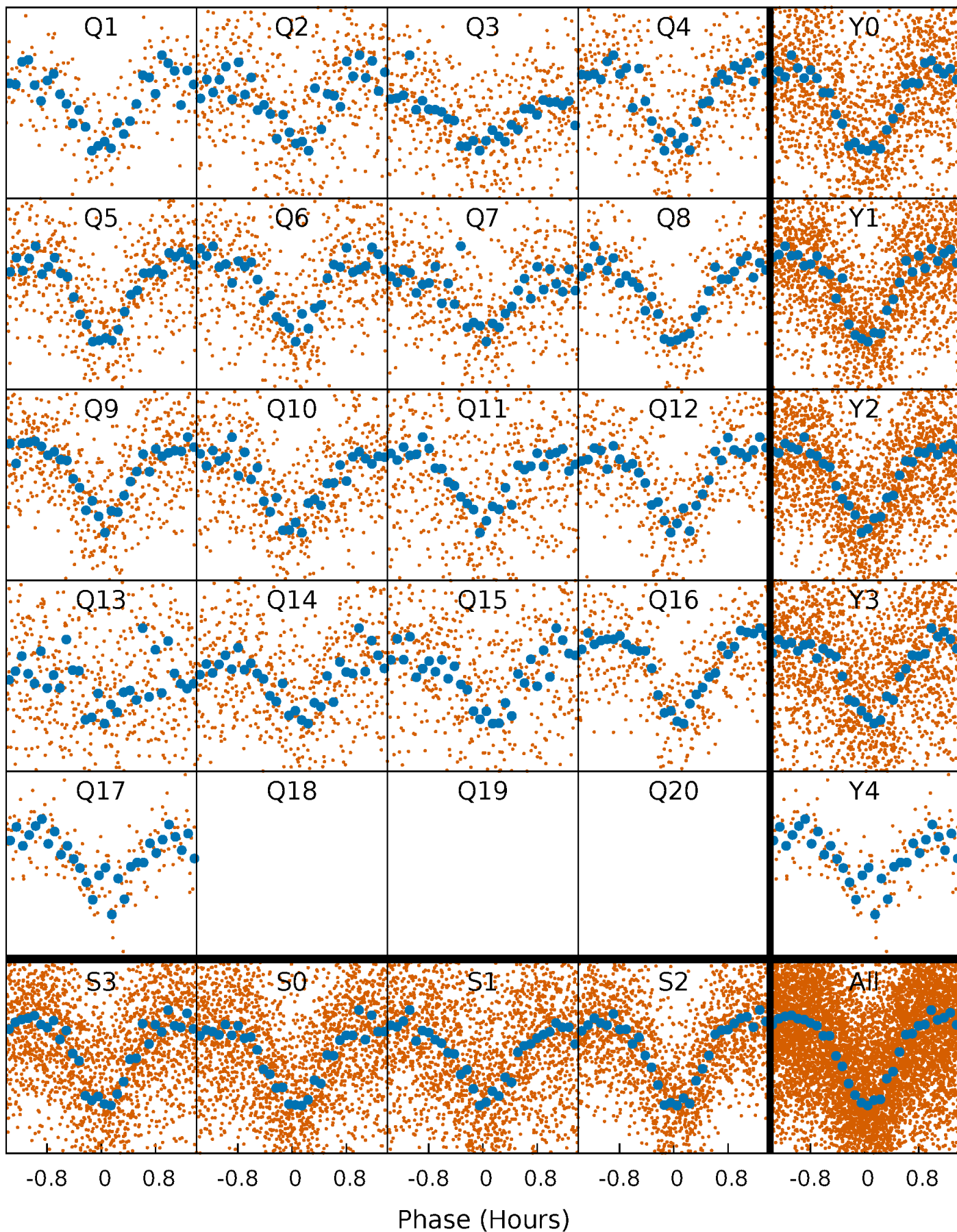


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



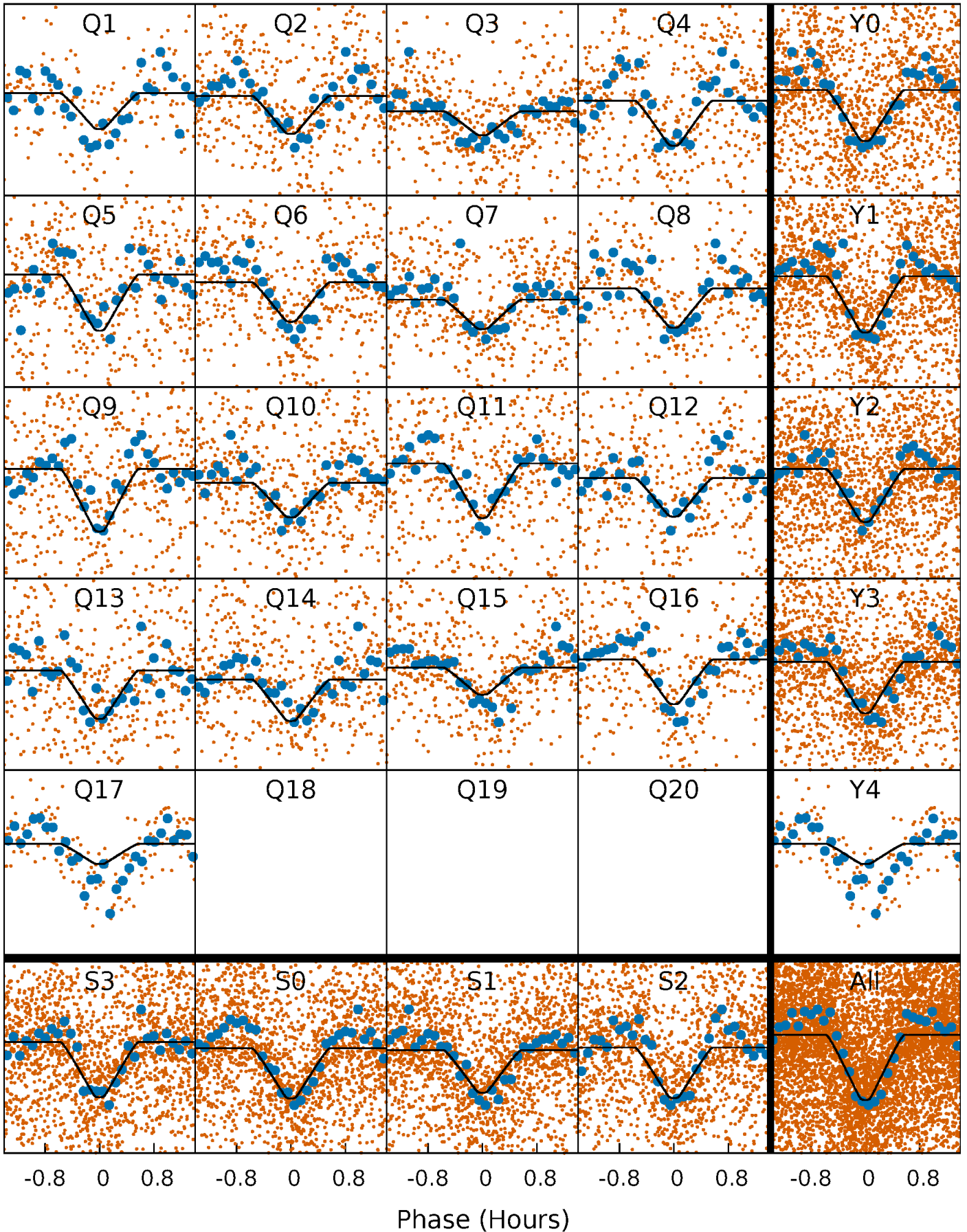
PDC Quarter-Phased Transit Curves

TCE 005636648-01 P= 0.933484 Days $T_0=132.104701$ (BKJD)



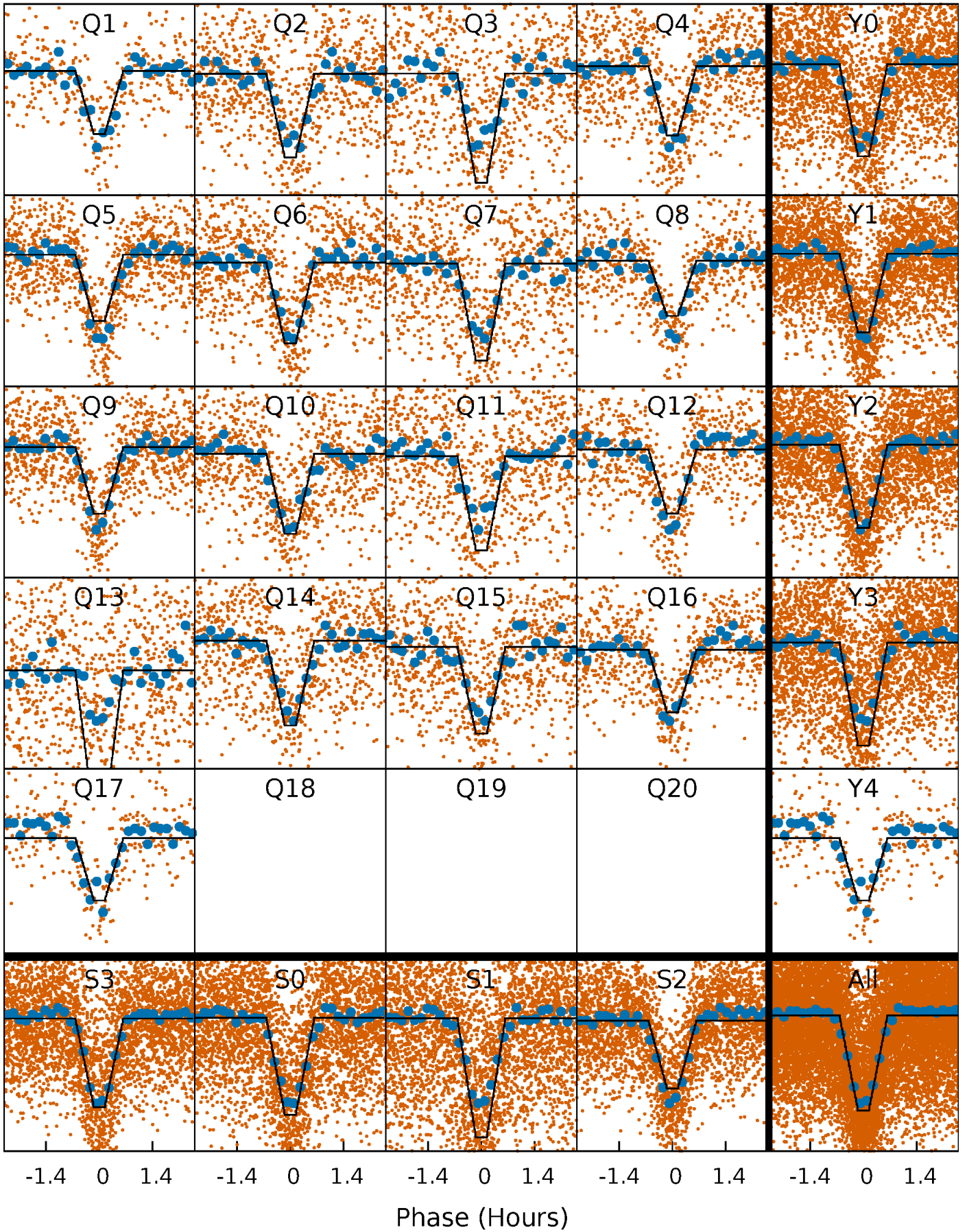
DV Quarter-Phased Transit Curves

TCE 005636648-01 P= 0.933484 Days $T_0=132.104701$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

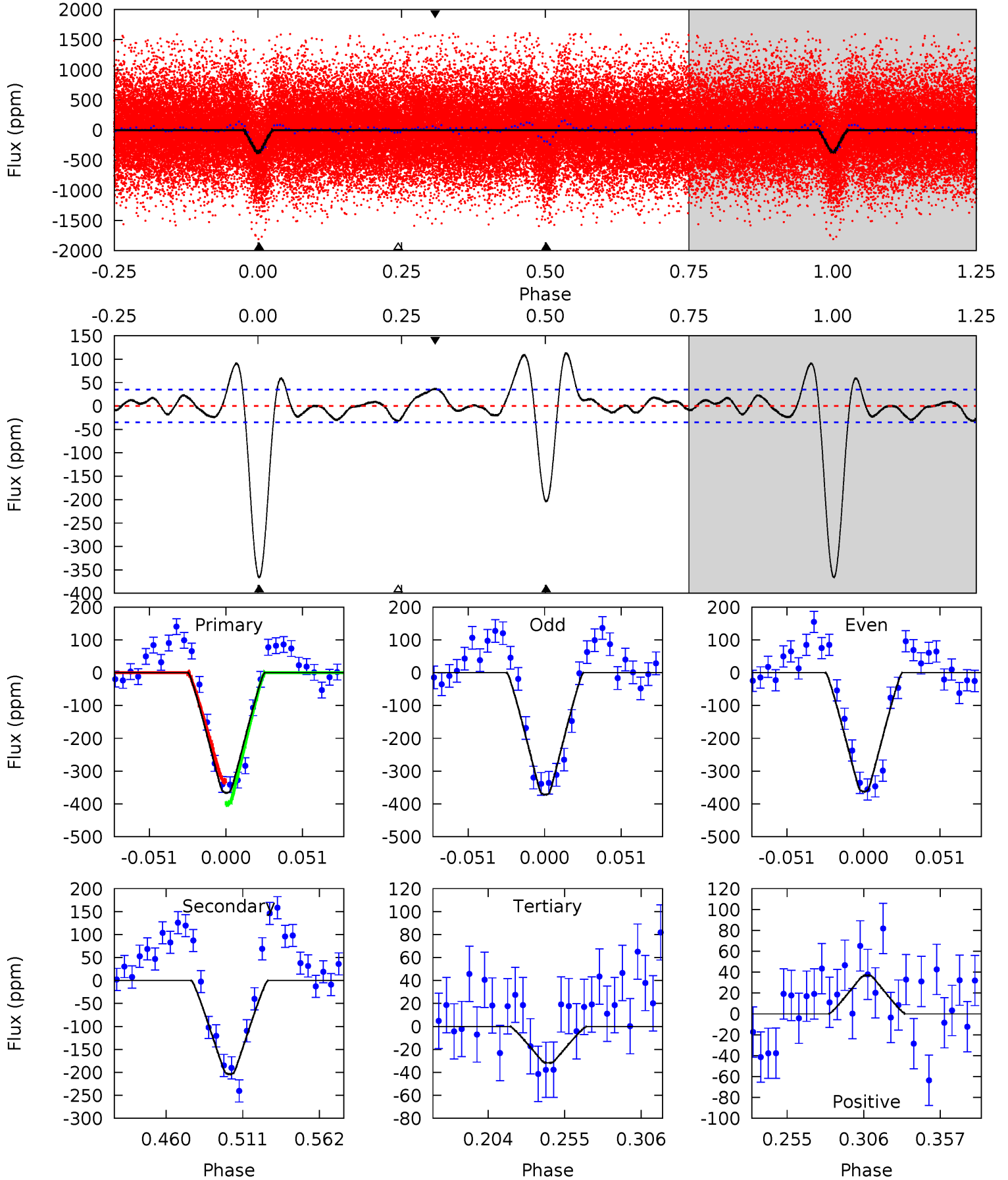
TCE 005636648-01 P= 0.933490 Days $T_0=132.102523$ (BKJD)



DV Model-Shift Uniqueness Test

005636648-01, P = 0.933484 Days, E = 131.171217 Days

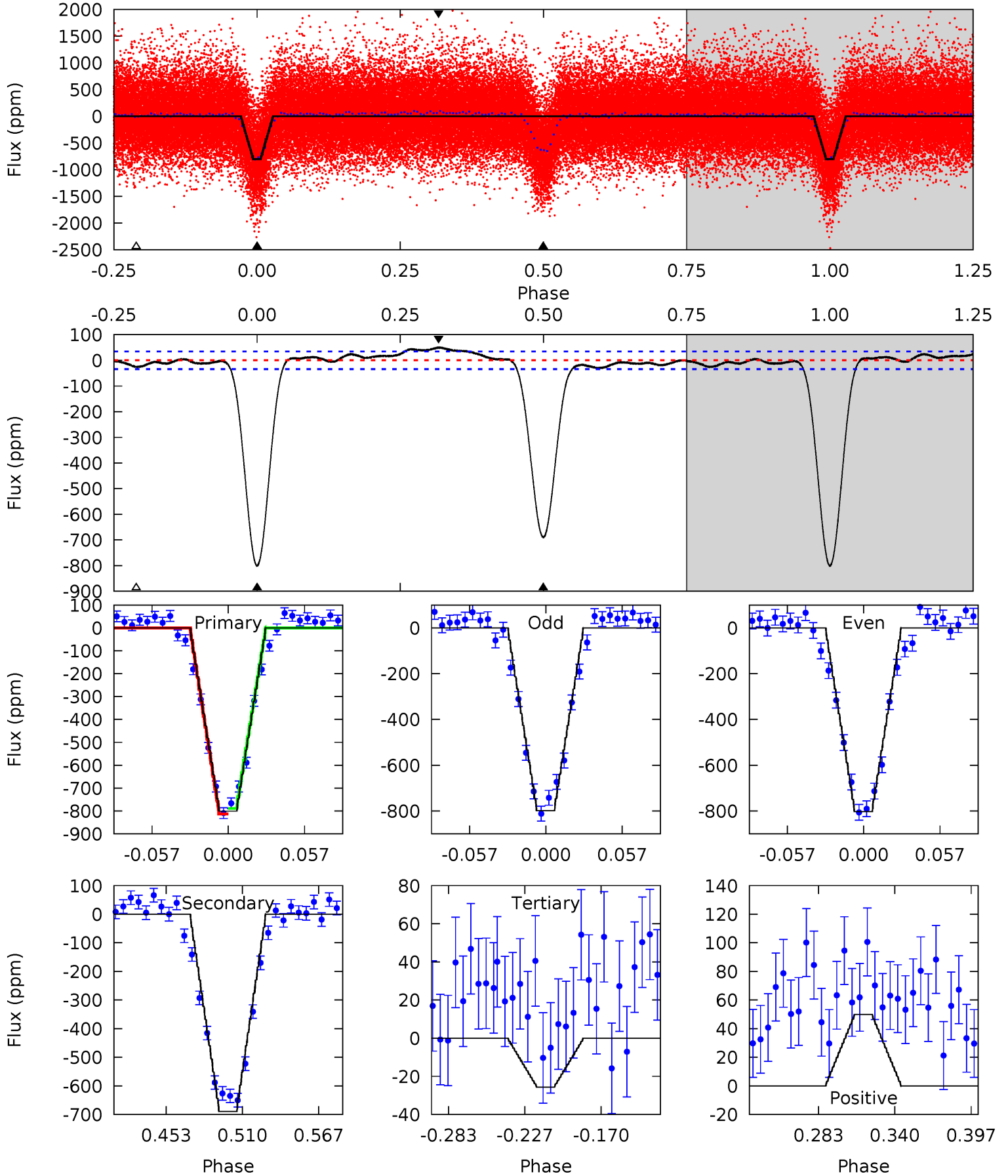
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
49.2	27.4	4.28	4.96	4.70	1.95	2.24	44.9	44.3	23.2	22.5	0.62	1.06	0.24	4.61



Alt Model-Shift Uniqueness Test

005636648-01, P = 0.933490 Days, E = 131.169033 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
108.3	93.2	3.46	6.74	4.68	1.91	2.76	104.8	101.6	89.8	86.5	0.26	0.99	0.06	1.64



Stellar Parameters For KIC 005636648

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5791^{+155}_{-172}	$4.549^{+0.036}_{-0.204}$	$-0.180^{+0.300}_{-0.300}$	$0.856^{+0.249}_{-0.083}$	$0.946^{+0.109}_{-0.120}$	$2.127^{+0.421}_{-1.096}$
	+3%/-3%	+1%/-4%	+167%/-167%	+29%/-10%	+12%/-13%	+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 005636648-01 / KOI 1565.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-204 ± 7	$2.01^{+0.73}_{-0.71}$	2501^{+165}_{-110}	4926^{+1056}_{-600}	$9.222^{+12.745}_{-4.258}$
Alt.	-689 ± 7	$2.84^{+0.78}_{-0.71}$	2500^{+163}_{-115}	5505^{+849}_{-538}	15^{+12}_{-6}

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

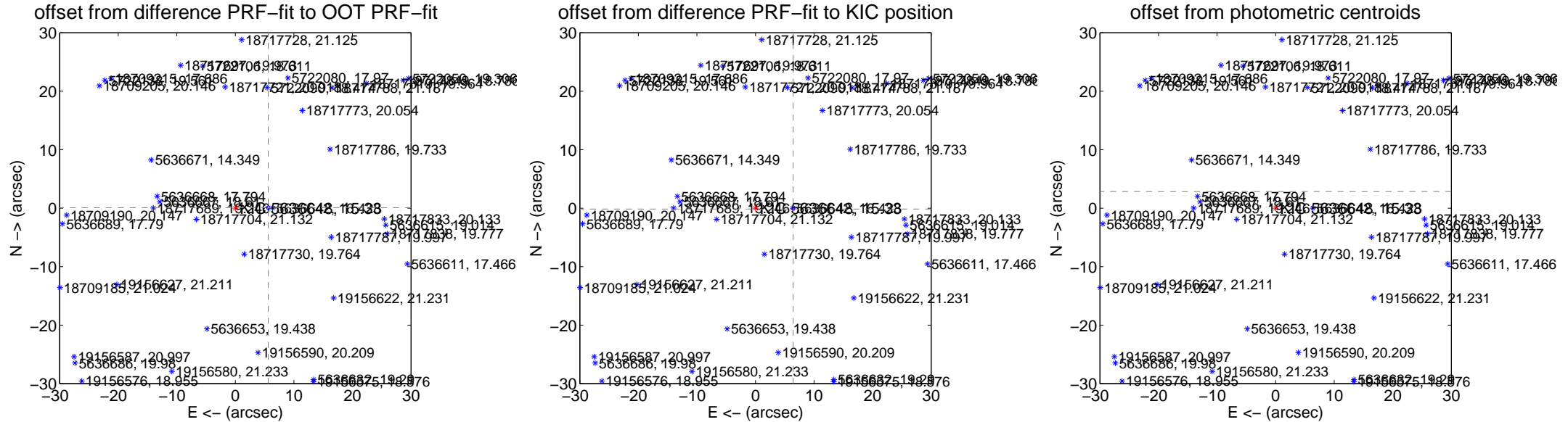
DV Centroid Data

Supplemental centroid analysis for 005636648-01. Kepler magnitude: 15.33. Transit SNR 25.50

There are 17 quarters with good PRF difference image offsets

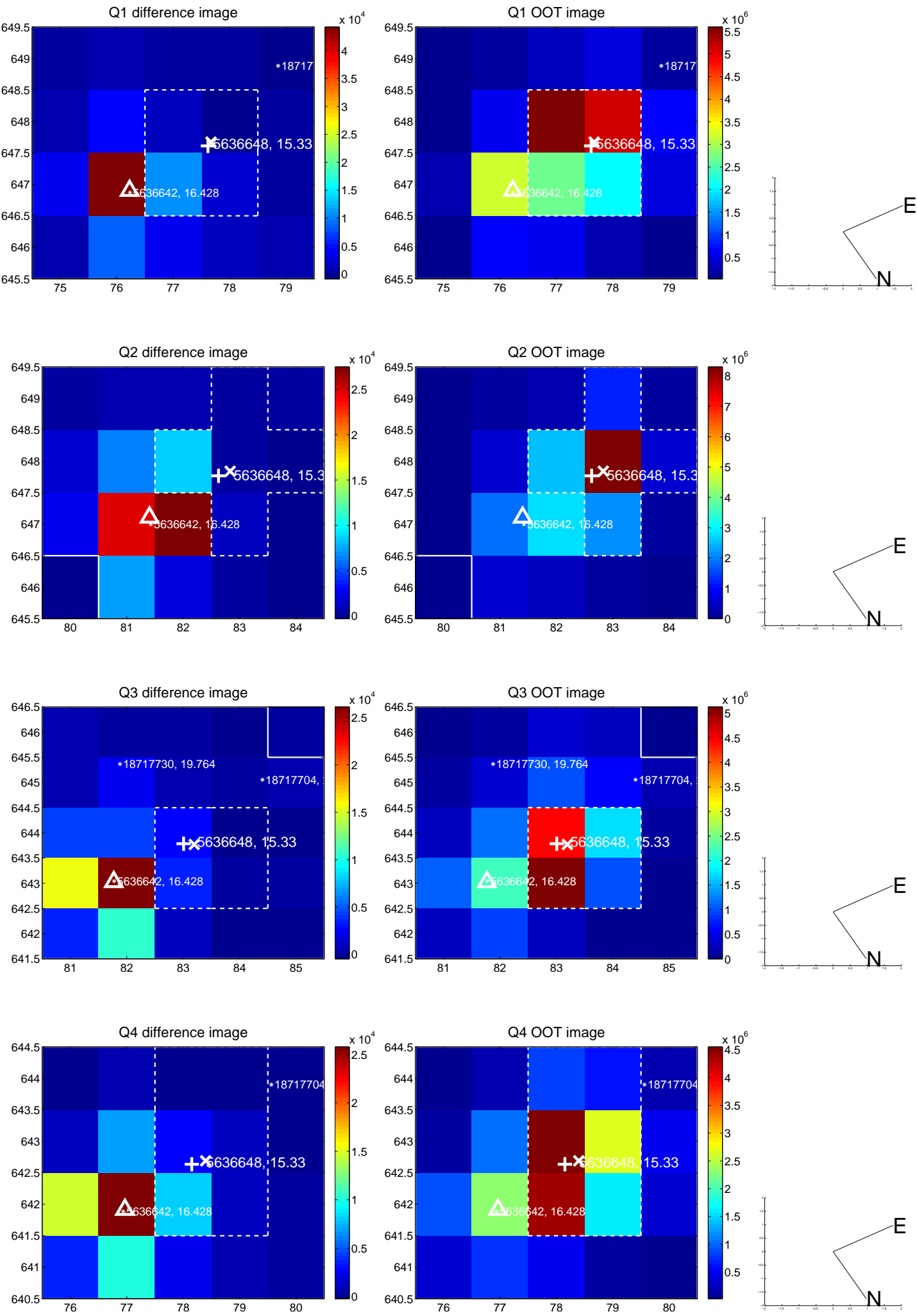
The direct PRF centroid is offset from the target star catalog position by about 0.42 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.619 ± 0.100	56.40	-5.619 ± 0.100	0.082 ± 0.084
PRF-fit source offset from KIC position	6.427 ± 0.069	92.86	-6.425 ± 0.069	-0.152 ± 0.069
photometric centroid source offset	33.61 ± 0.41	81.03	-33.49 ± 0.42	2.83 ± 0.36

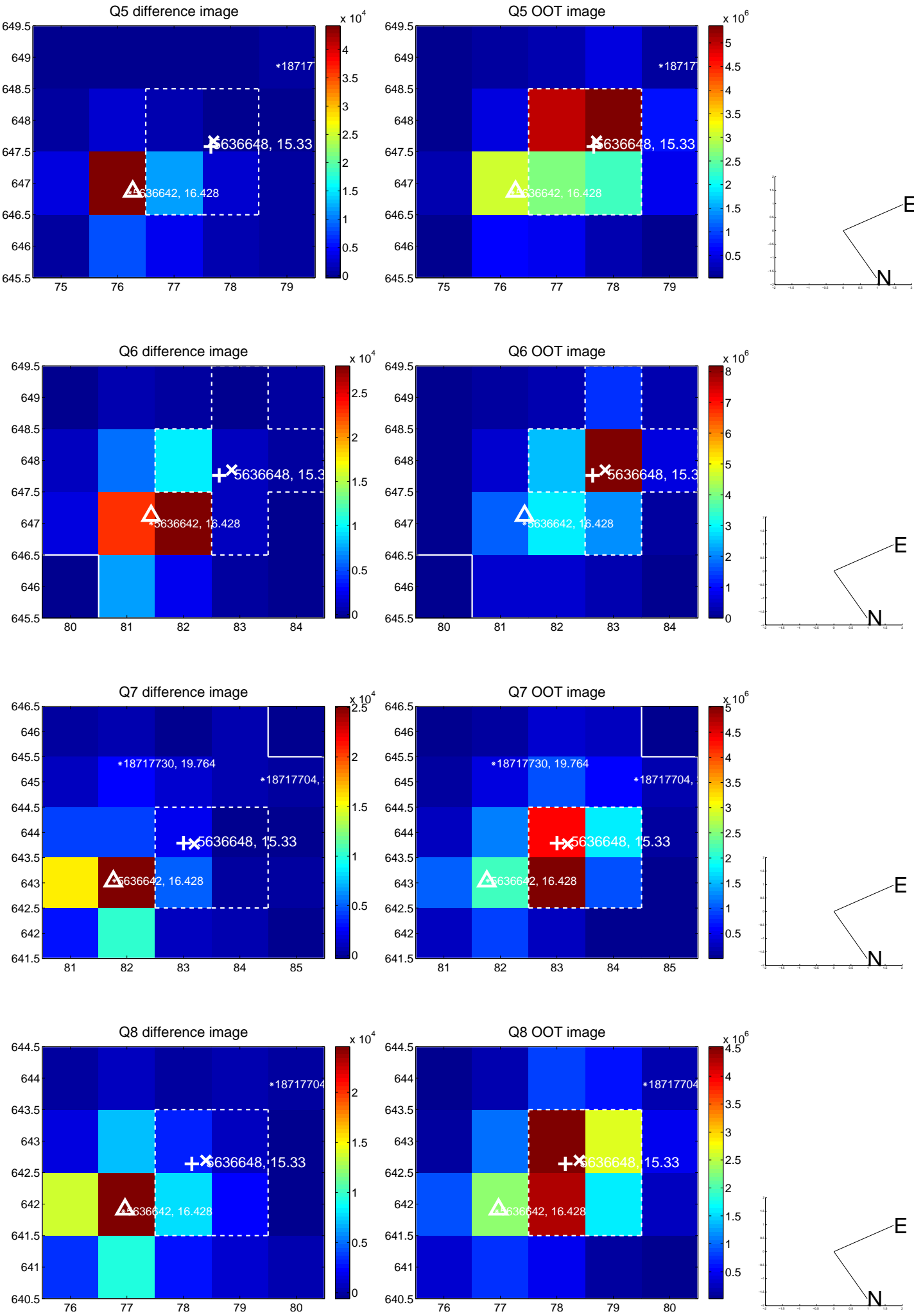


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000 are from the UKIRT catalog.

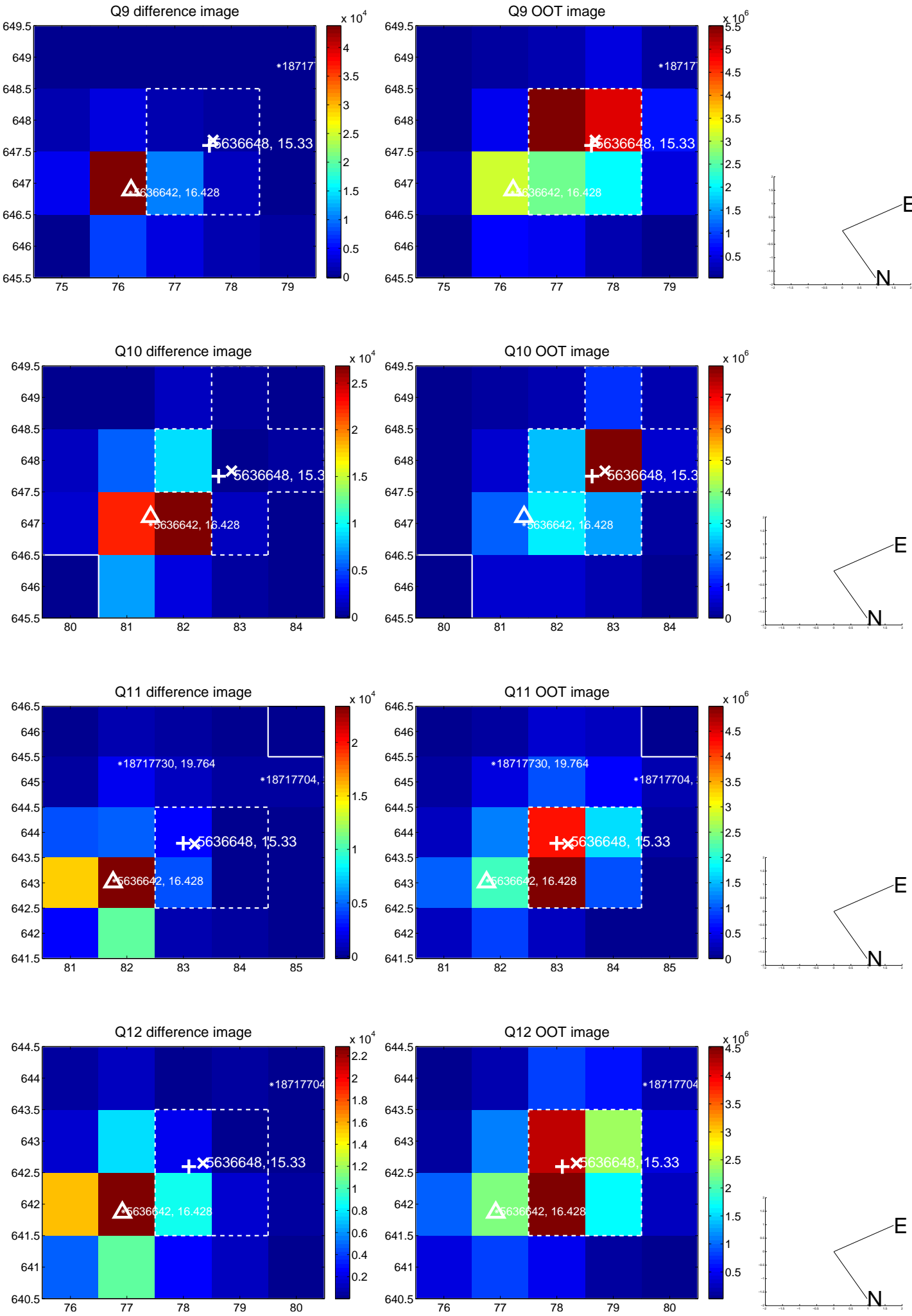
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



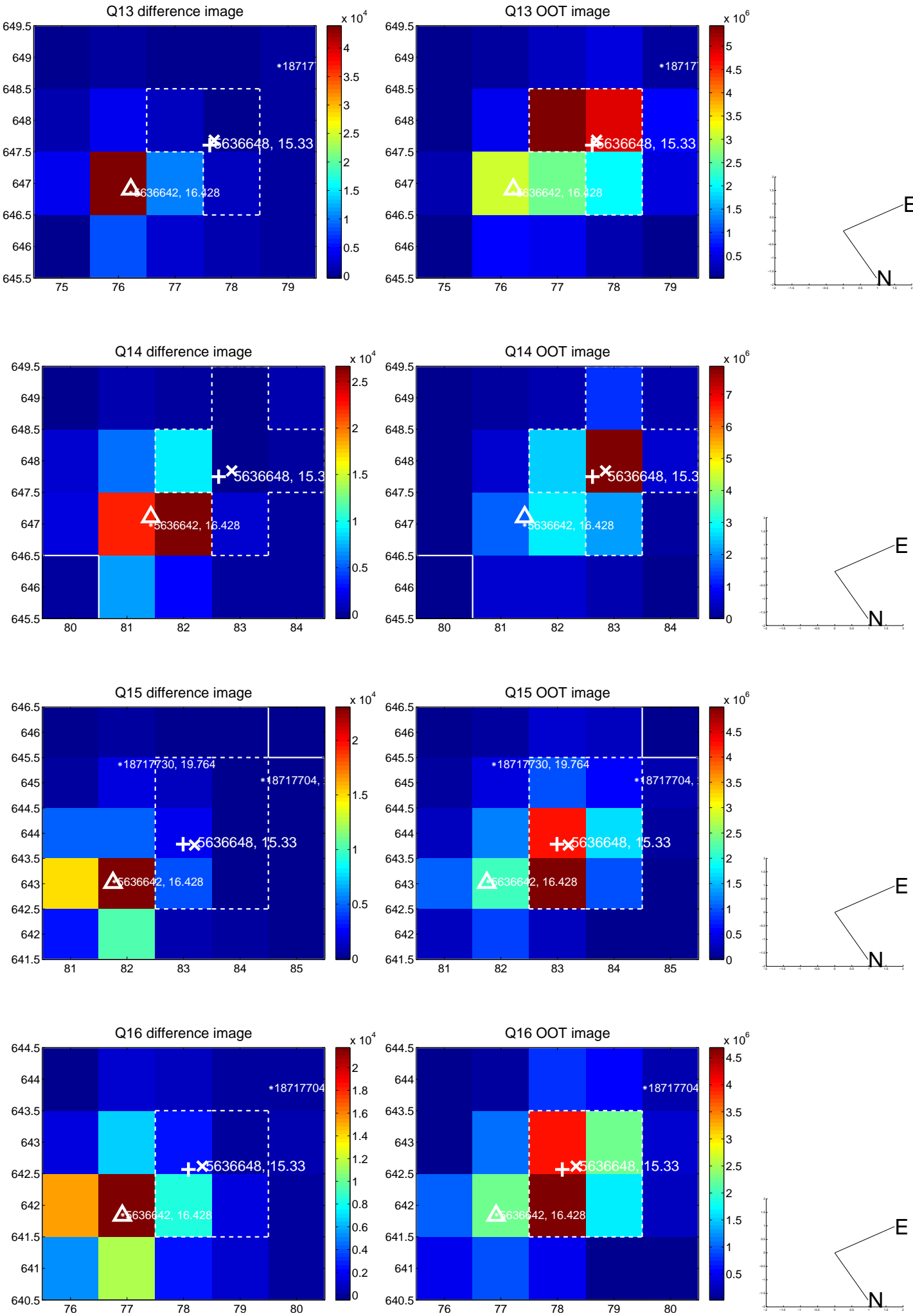
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



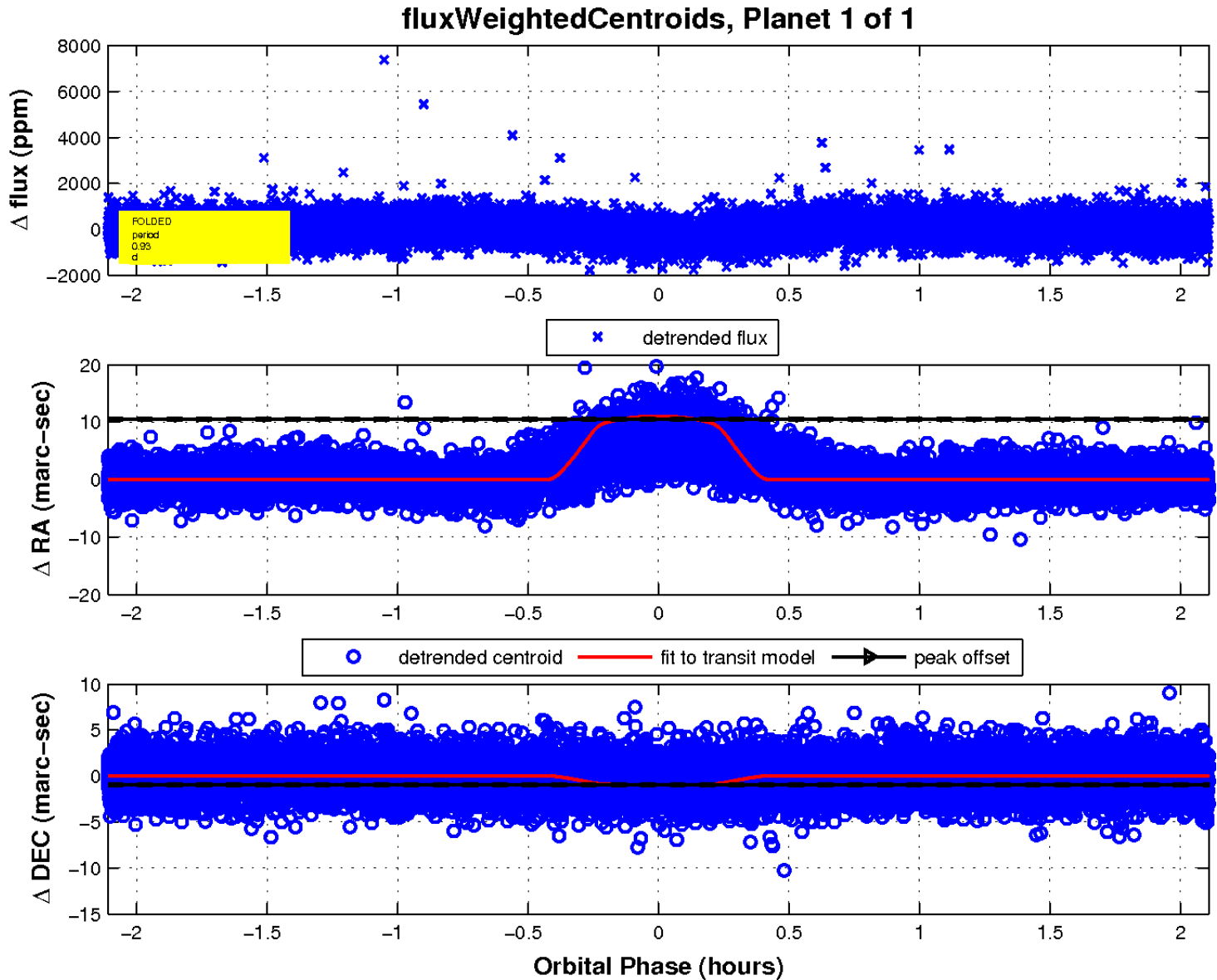
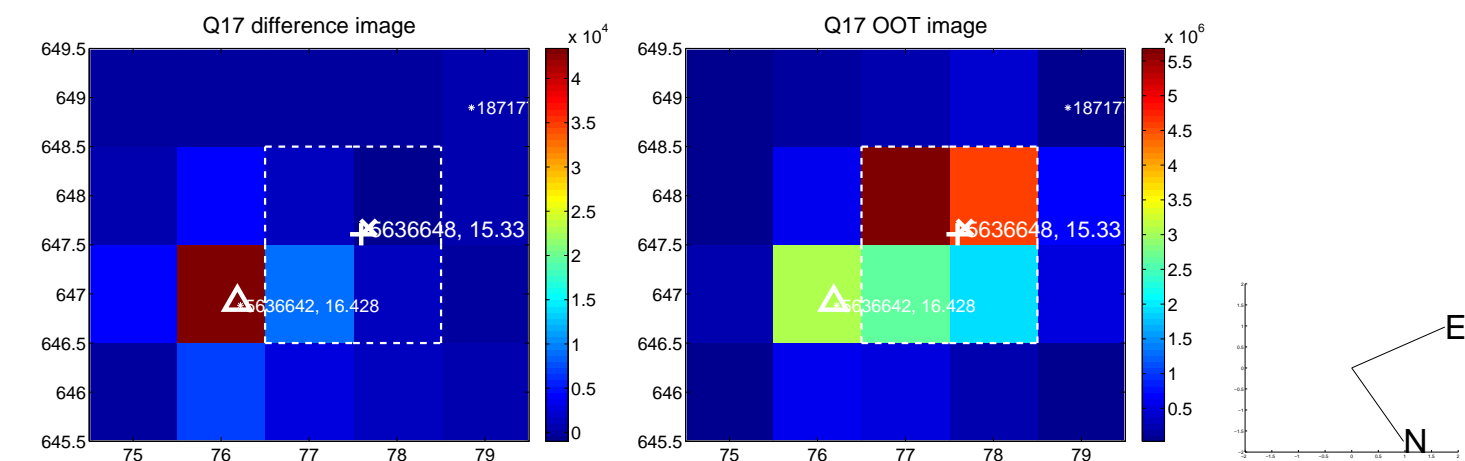
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UKIRT Image

Declination

