

KIC 007938499

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})
007938499-01	OBS	5448.01	7.227031	136.176515	190.5	20.697	17.5	20.3	0.61	4347	1.76	31.25

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007938499-01	OBS	FP	0.00	1	0	1	1	LPP_DV—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.

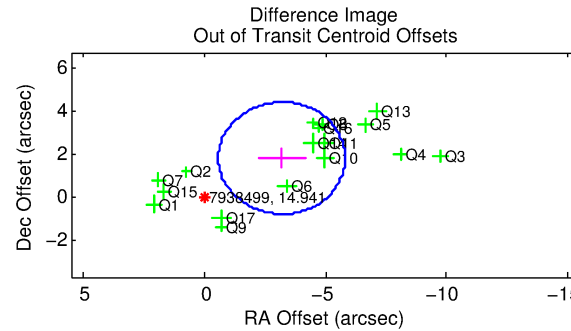
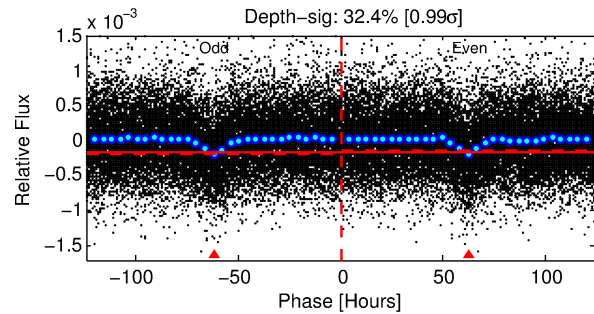
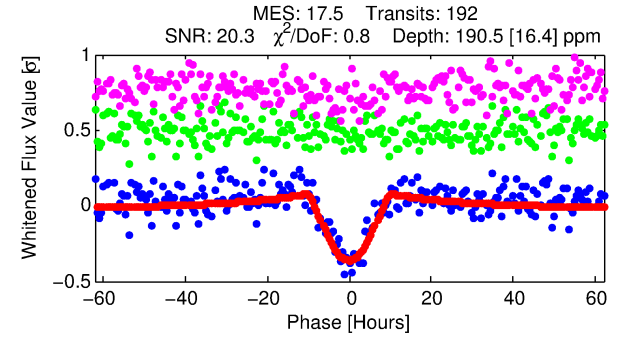
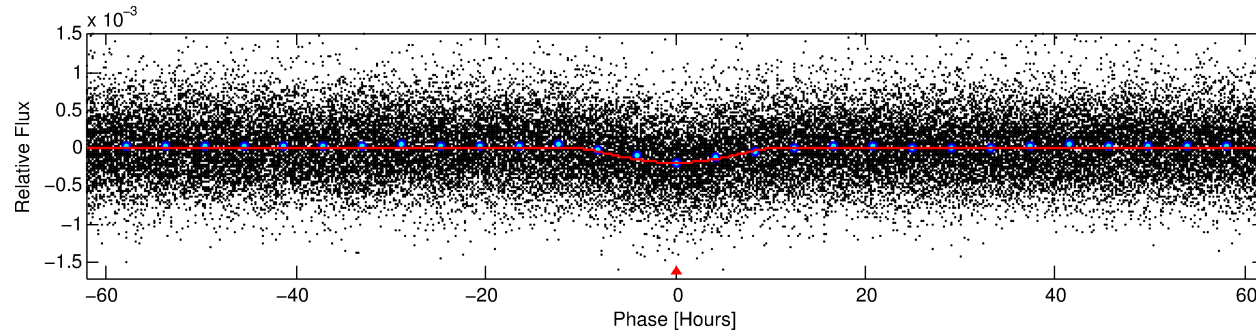
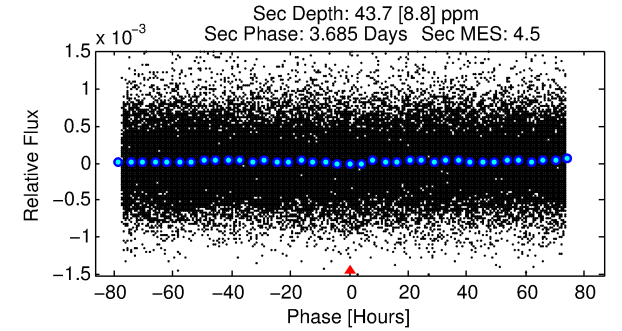
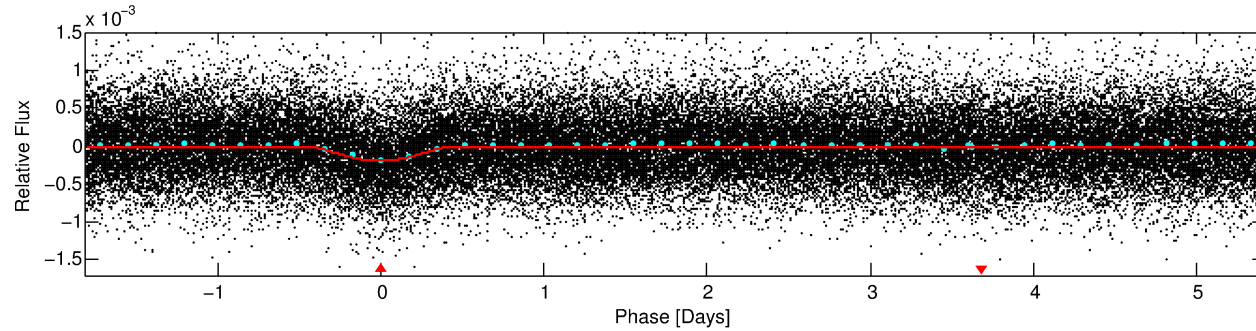
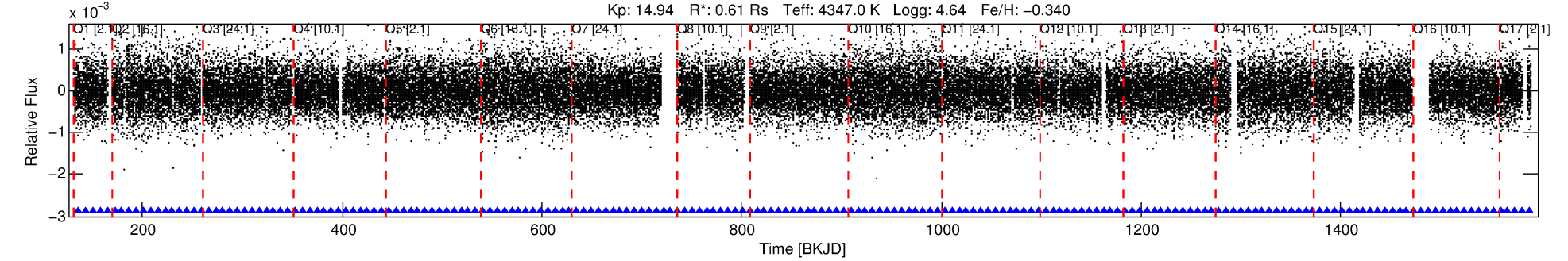
Ephemeris Match Information For 007938499-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist (\prime)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
007938499-01	7938499	V481-Lyr-pri	7938468	1:1	71.3	-1	18	13.27	14.94	3941.10	Direct-PRF	0	1.88	0.18

Notes: $P_1:P_2$ 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. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 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: 7938499 Candidate: 1 of 1 Period: 7.227 d
KOI: K05448.01 Corr: 0.773



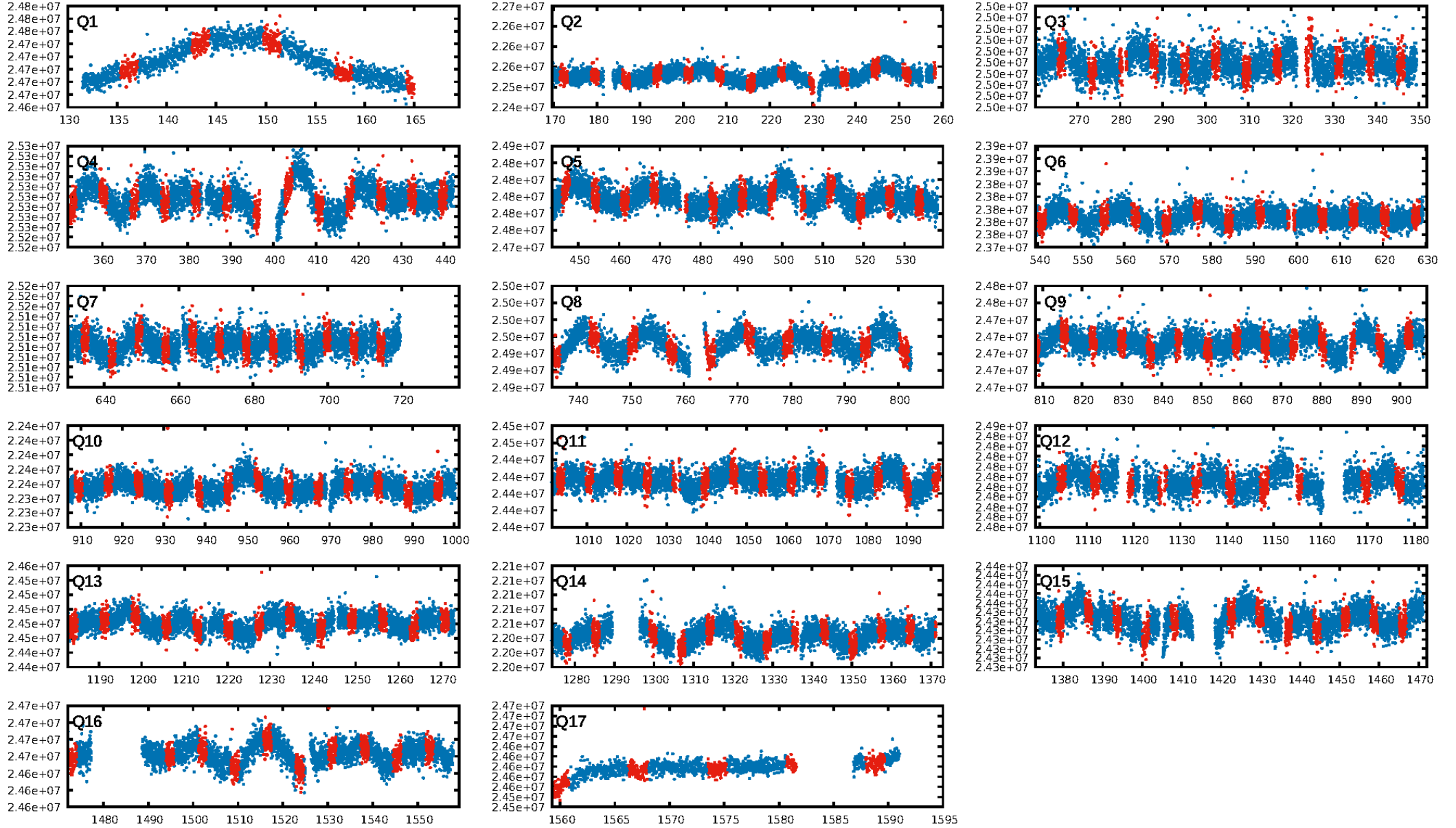
DV Fit Results:

Period = 7.22703 [0.00018] d
Epoch = 136.1765 [0.0208] BKJD
Rp/R* = 0.0265 [0.0342]
a/R* = 1.19 [0.08]
b = 1.00 [0.05]
Seff = 31.25 [4.98]
Teq = 603 [24] K
Rp = 1.76 [2.28] Re
a = 0.0616 [0.0048] AU
Ag = 29.48 [76.38] [0.37σ]
Teffp = 2172 [1407] K [1.11σ]

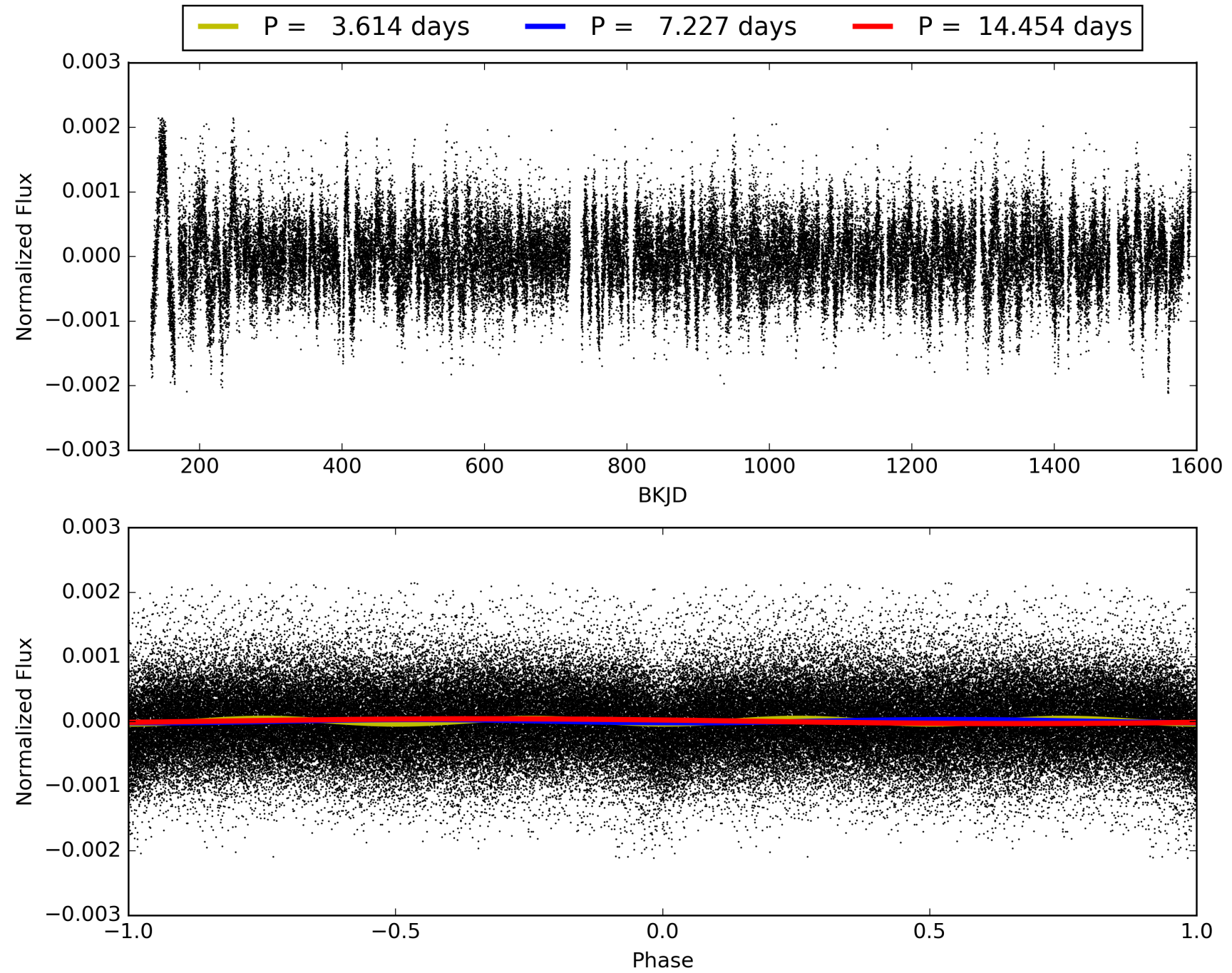
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.11e-76
RollingBand-fgt: 1.00 [182/182]
GhostDiagnostic-chr: 0.03676
Centroid-sig: 0.0%
Centroid-so: 2.446 arcsec [4.58σ]
OotOffset-rm: 3.673 arcsec [4.21σ]
KicOffset-rm: 3.734 arcsec [4.21σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.12 [2/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007938499-01, PDC Light Curves

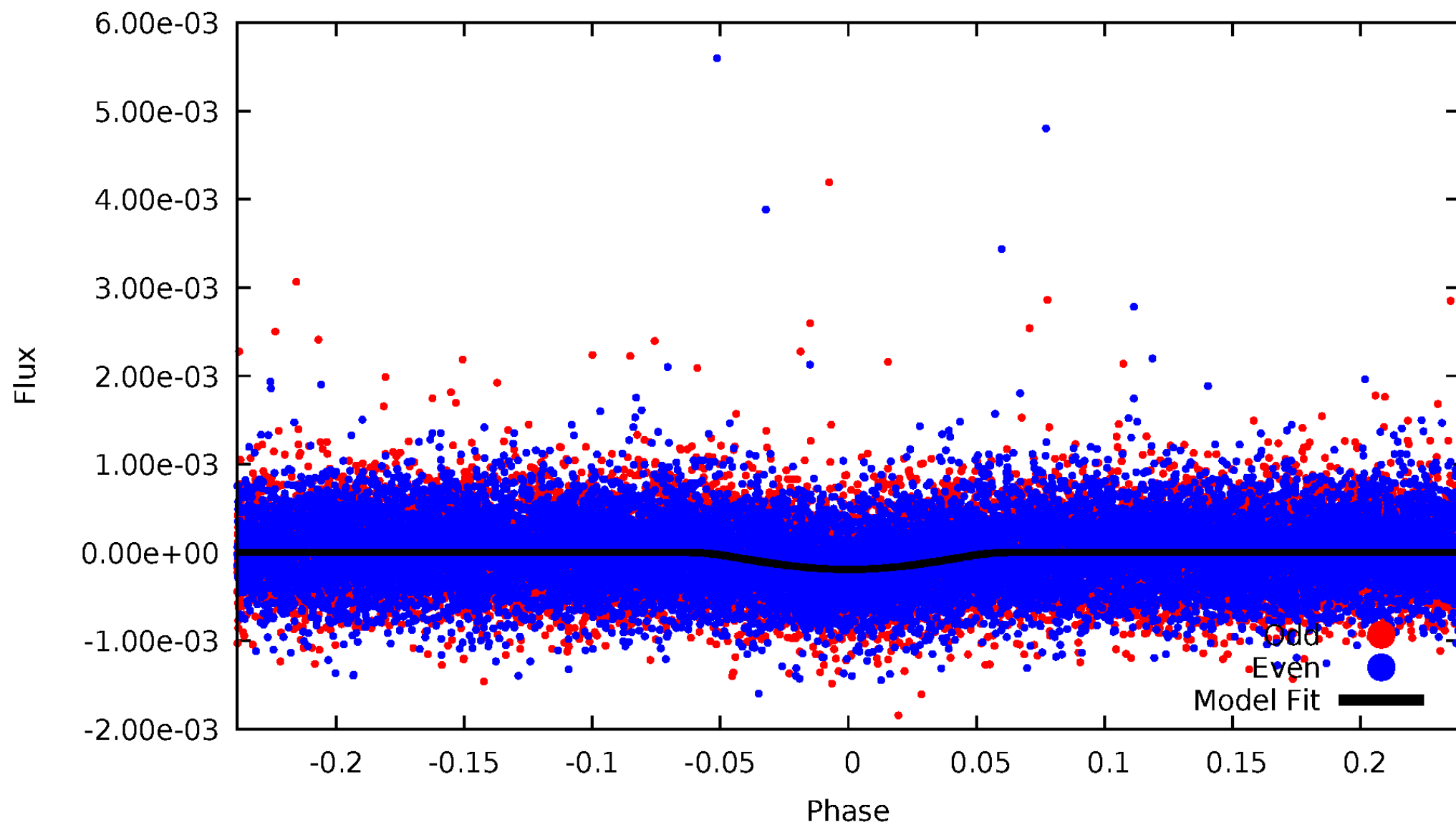


TCE 007938499-01



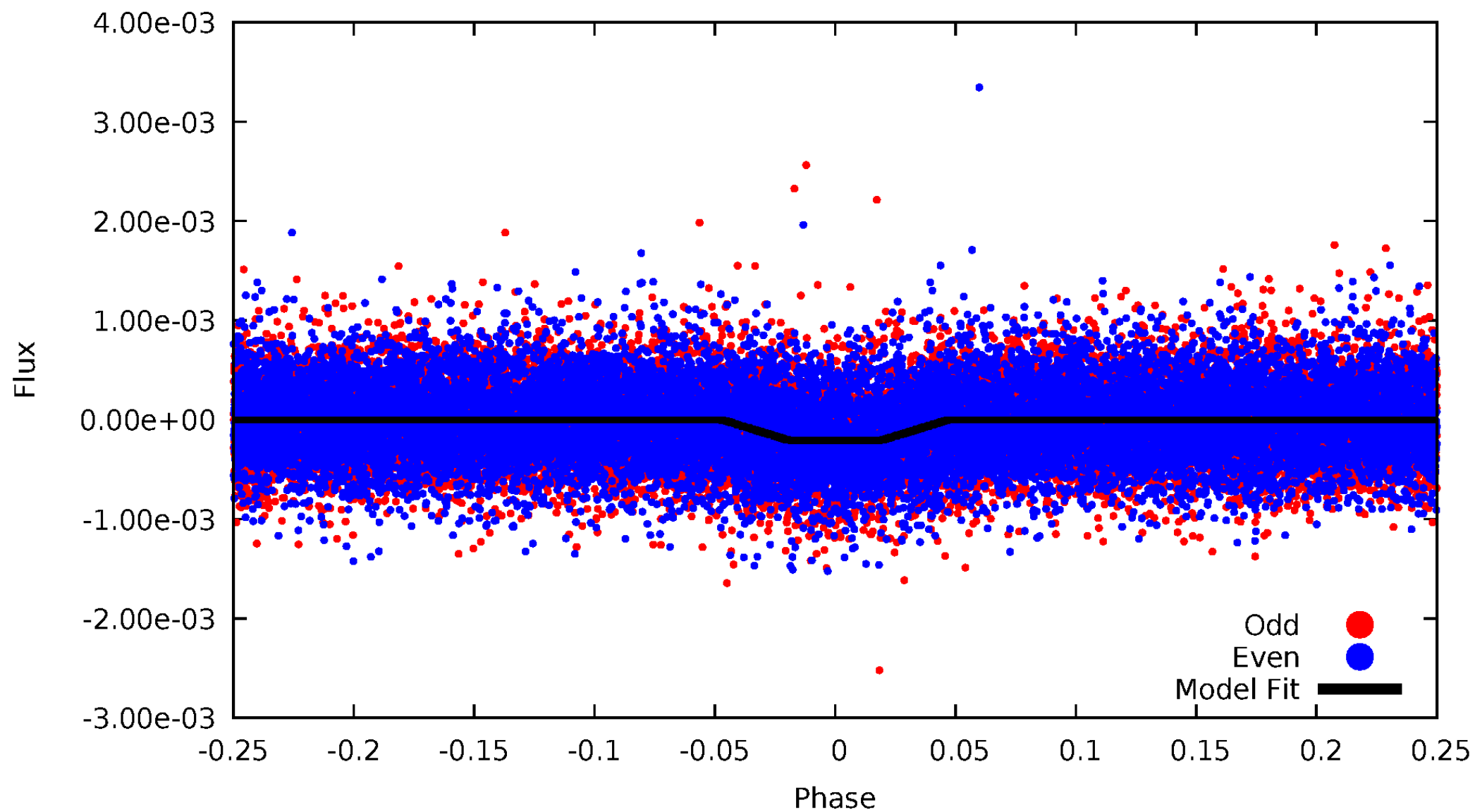
DV Odd/Even

TCE 007938499-01



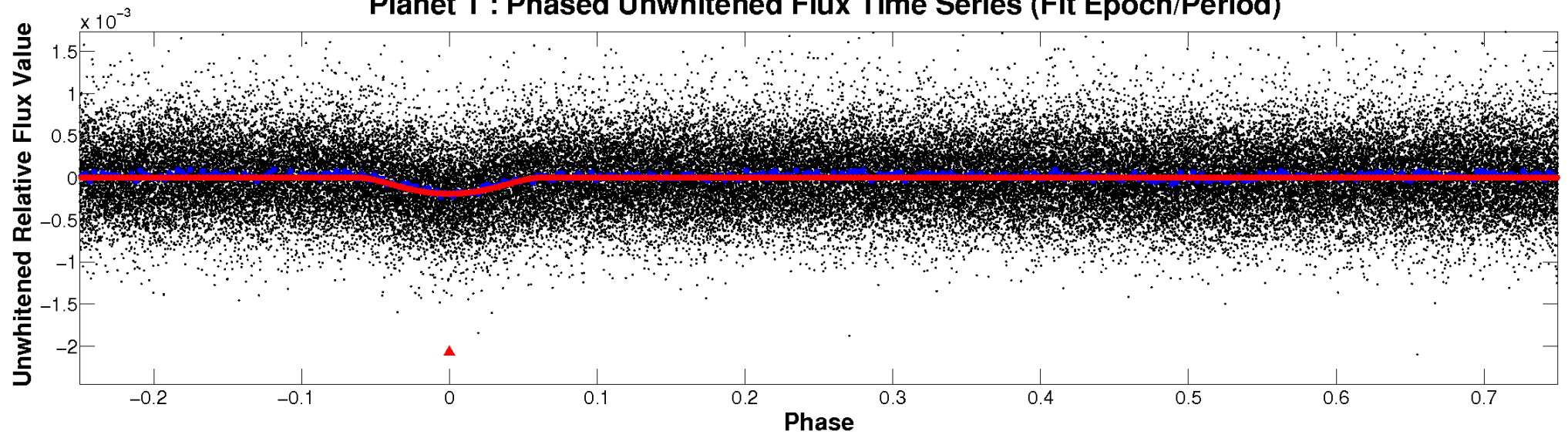
ALT Odd/Even

TCE 007938499-01

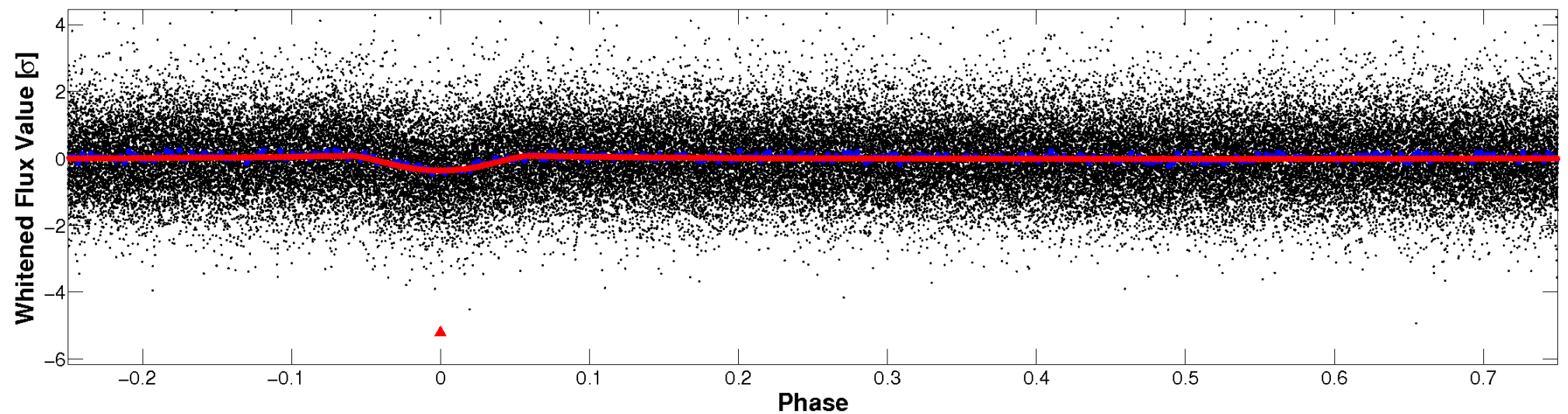


Non-Whitened Vs. Whitened Light Curve

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

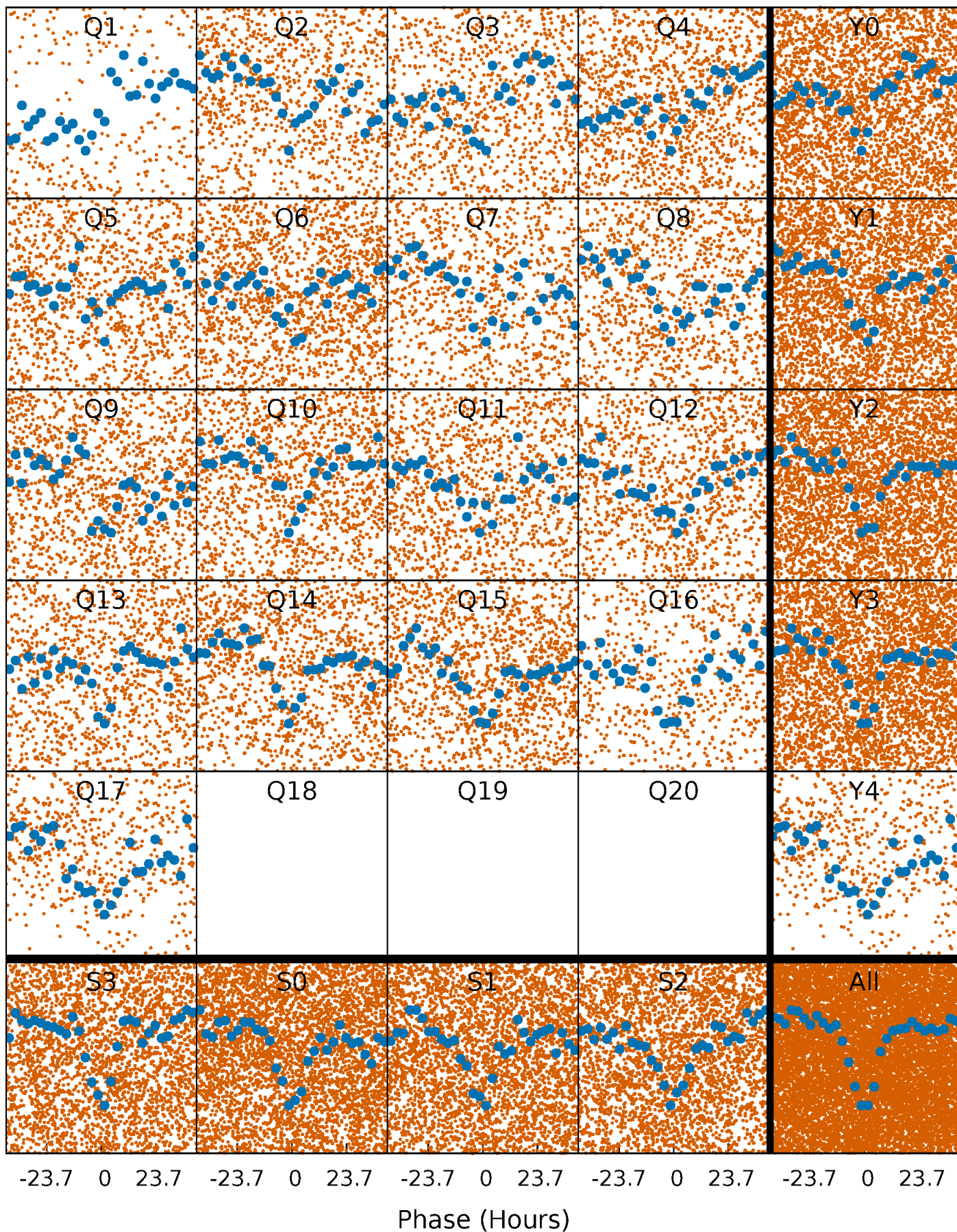


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



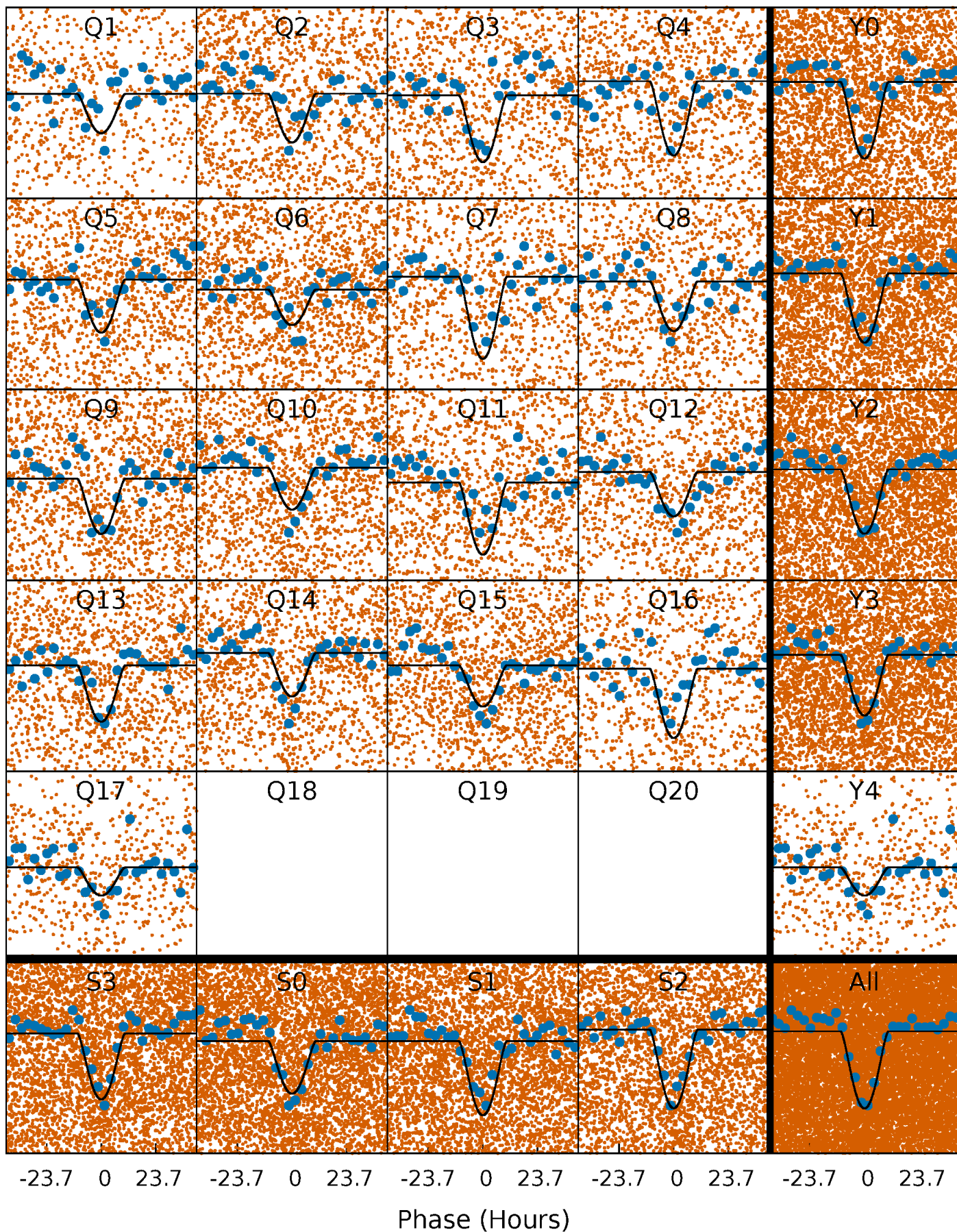
PDC Quarter-Phased Transit Curves

TCE 007938499-01 P= 7.227031 Days $T_0=136.176515$ (BKJD)



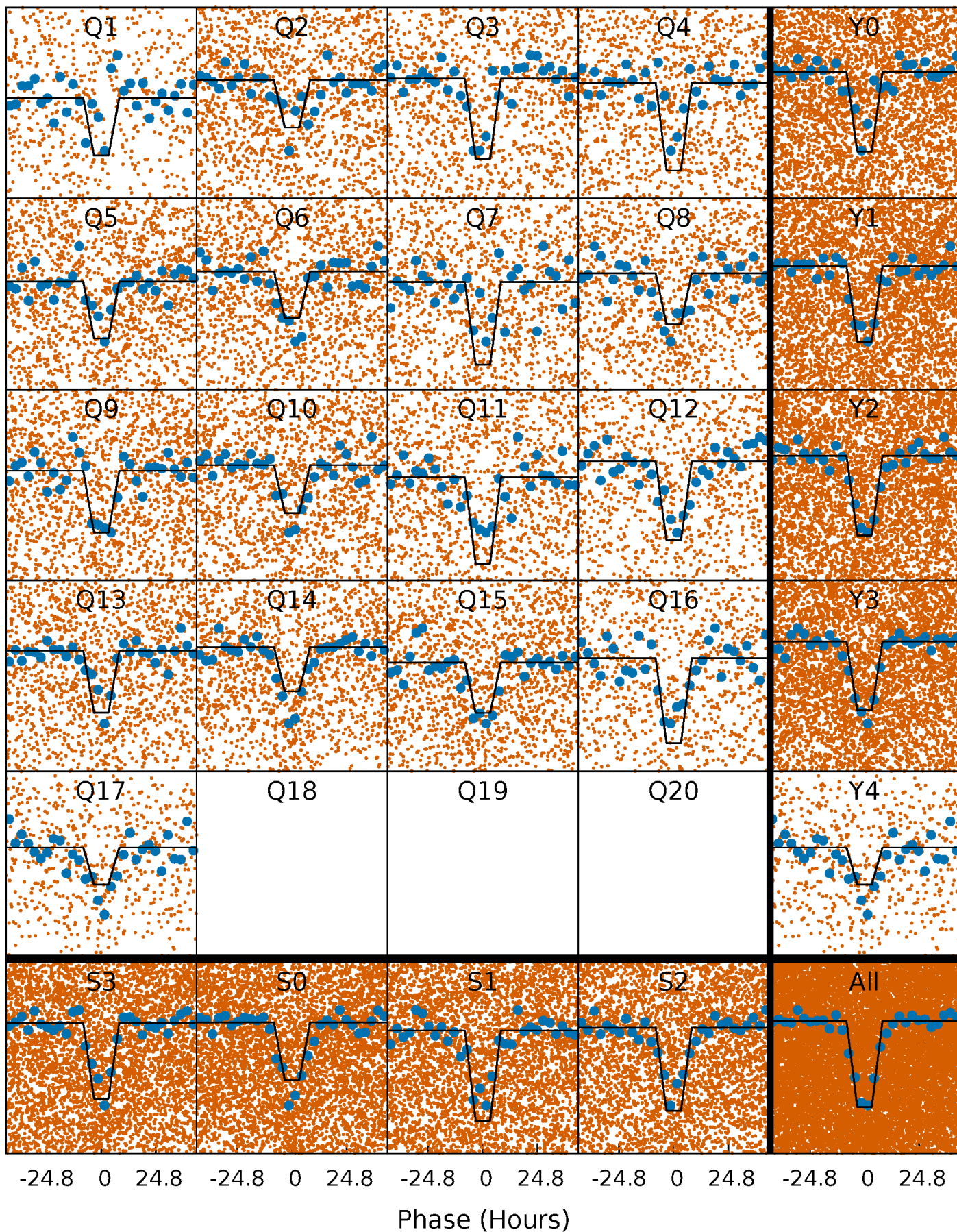
DV Quarter-Phased Transit Curves

TCE 007938499-01 P= 7.227031 Days $T_0=136.176515$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

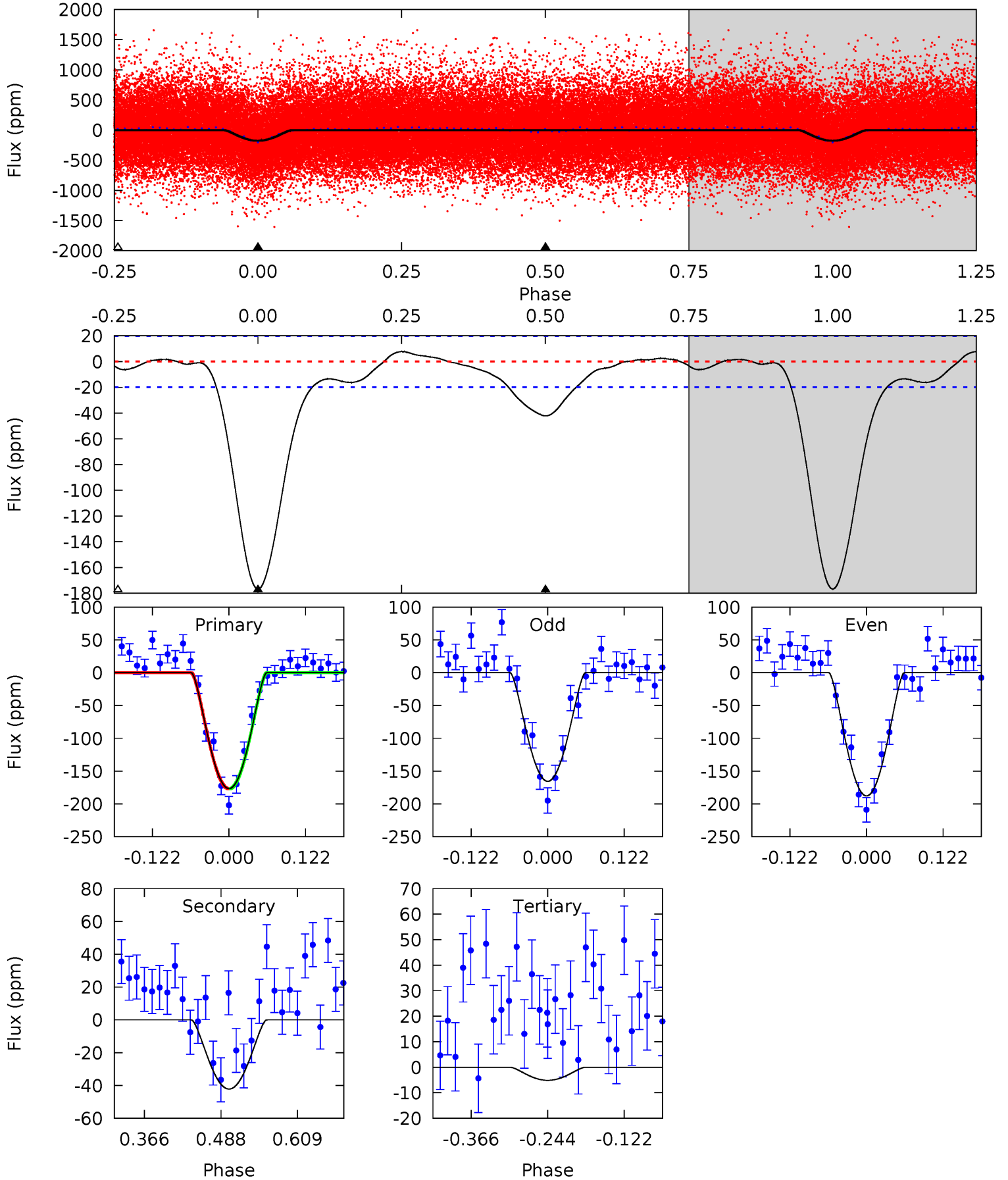
TCE 007938499-01 P= 7.226839 Days $T_0=136.187438$ (BKJD)



DV Model-Shift Uniqueness Test

007938499-01, P = 7.227031 Days, E = 128.949484 Days

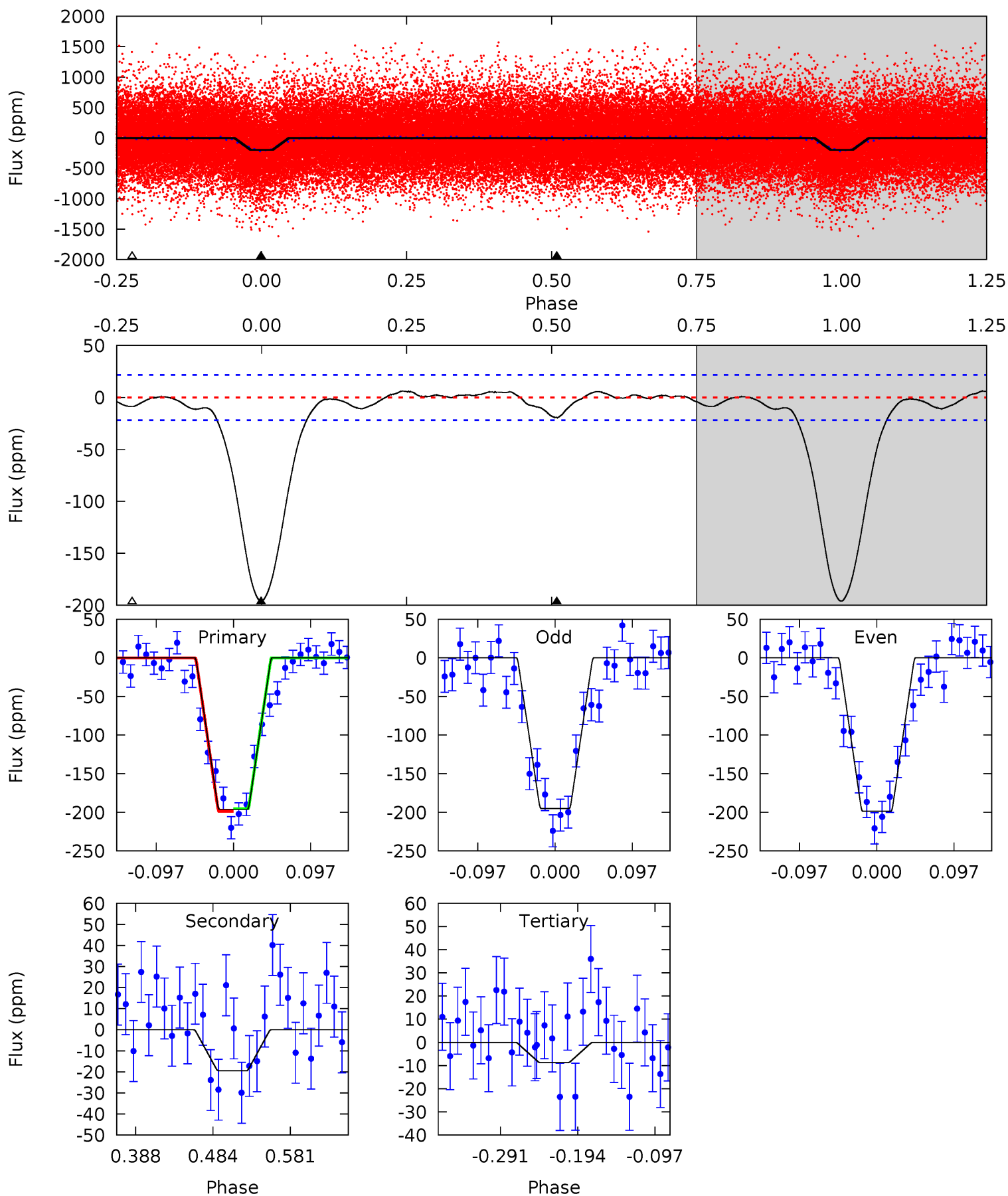
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
40.2	9.60	1.17	0	4.52	1.55	1.40	39.0	40.2	8.43	9.60	2.54	1.13	0.04	0.03



Alt Model-Shift Uniqueness Test

007938499-01, P = 7.226839 Days, E = 128.960599 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.1	4.08	1.82	0	4.57	1.66	0.94	39.2	41.1	2.25	4.08	0.39	1.01	0.03	0.35



Stellar Parameters For KIC 007938499

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4347^{+118}_{-131}	$4.645^{+0.052}_{-0.024}$	$-0.340^{+0.300}_{-0.300}$	$0.609^{+0.045}_{-0.061}$	$0.597^{+0.065}_{-0.053}$	$3.733^{+0.935}_{-0.423}$
	+3%/-3%	+1%/-1%	+88%/-88%	+7%/-10%	+11%/-9%	+25%/-11%
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 007938499-01 / KOI 5448.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-42 ± 4	$2.50^{+1.92}_{-1.60}$	836^{+26}_{-29}	2545^{+805}_{-338}	15^{+101}_{-10}
Alt.	-19 ± 5	$1.96^{+1.81}_{-1.35}$	837^{+28}_{-28}	2449^{+893}_{-369}	11^{+94}_{-8}

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

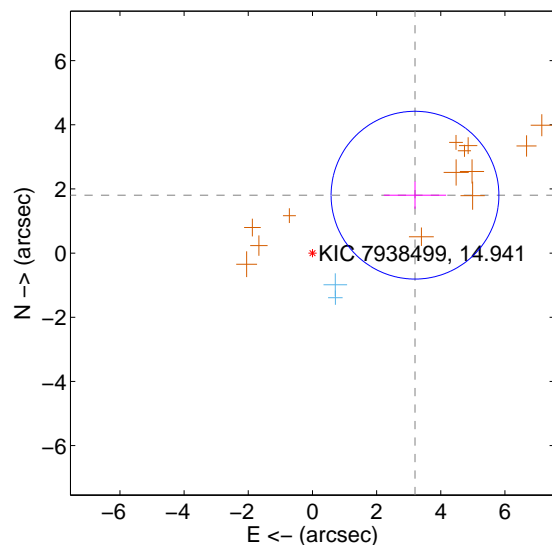
Supplemental centroid analysis for 007938499-01. Kepler magnitude: 14.94. Transit SNR 20.27

There are 2 quarters with good PRF difference image offsets

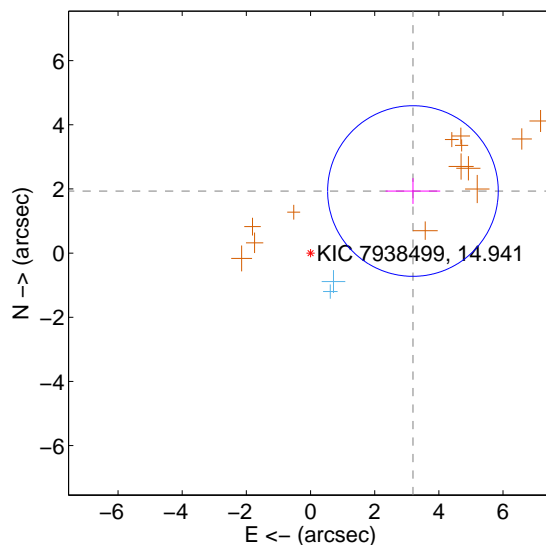
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.673 ± 0.872	4.21	-3.198 ± 0.972	1.806 ± 0.427
PRF-fit source offset from KIC position	3.734 ± 0.887	4.21	-3.194 ± 0.852	1.936 ± 0.402
photometric centroid source offset	2.45 ± 0.53	4.58	-2.27 ± 0.54	0.91 ± 0.51

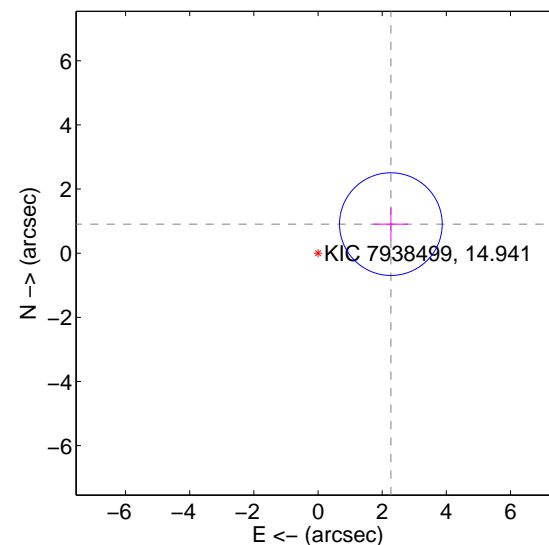
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

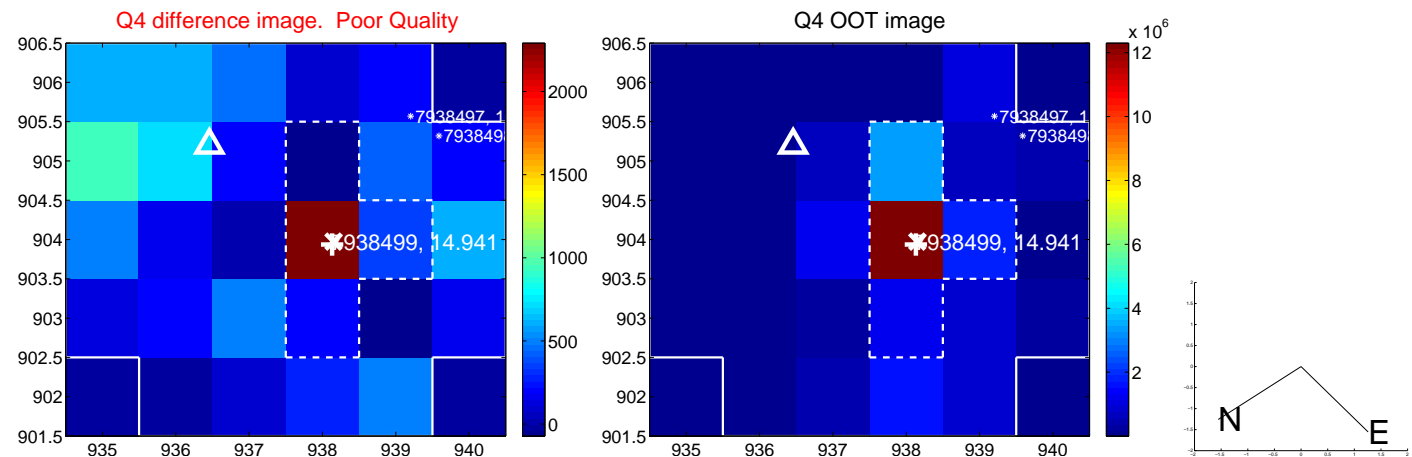
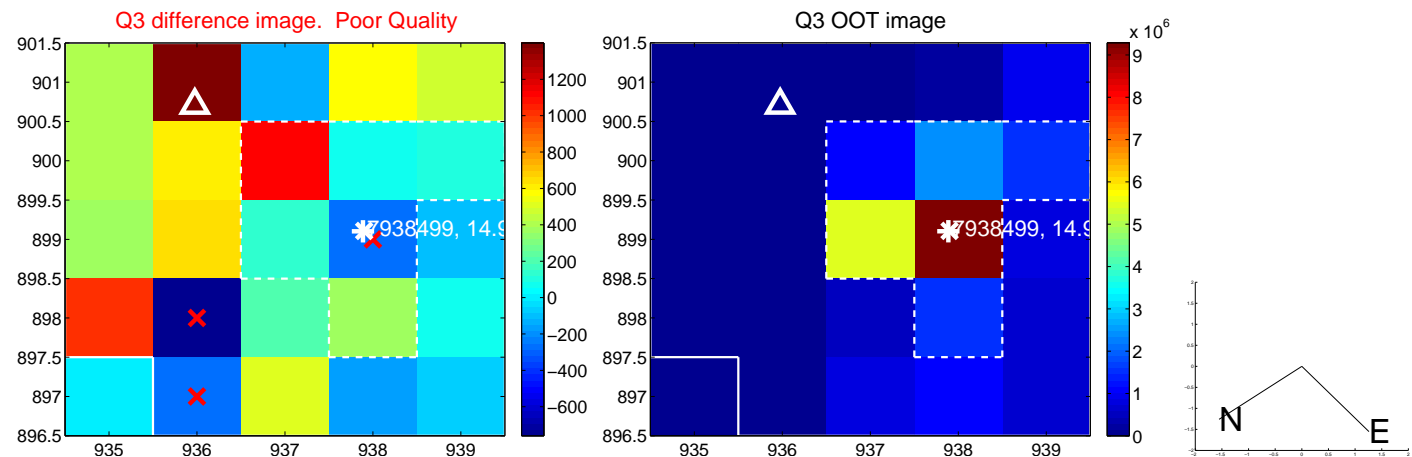
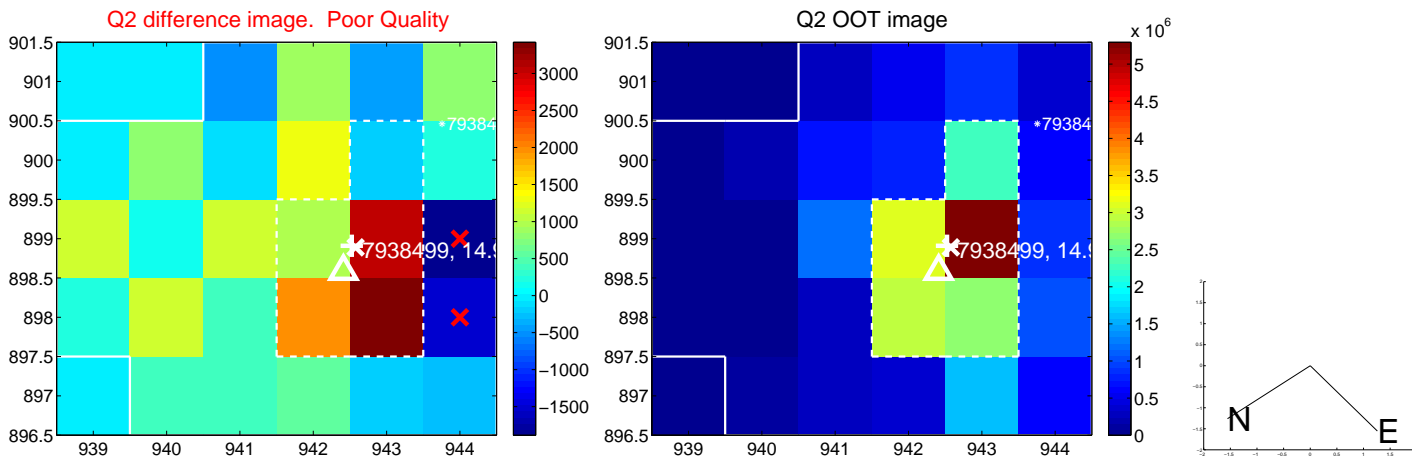
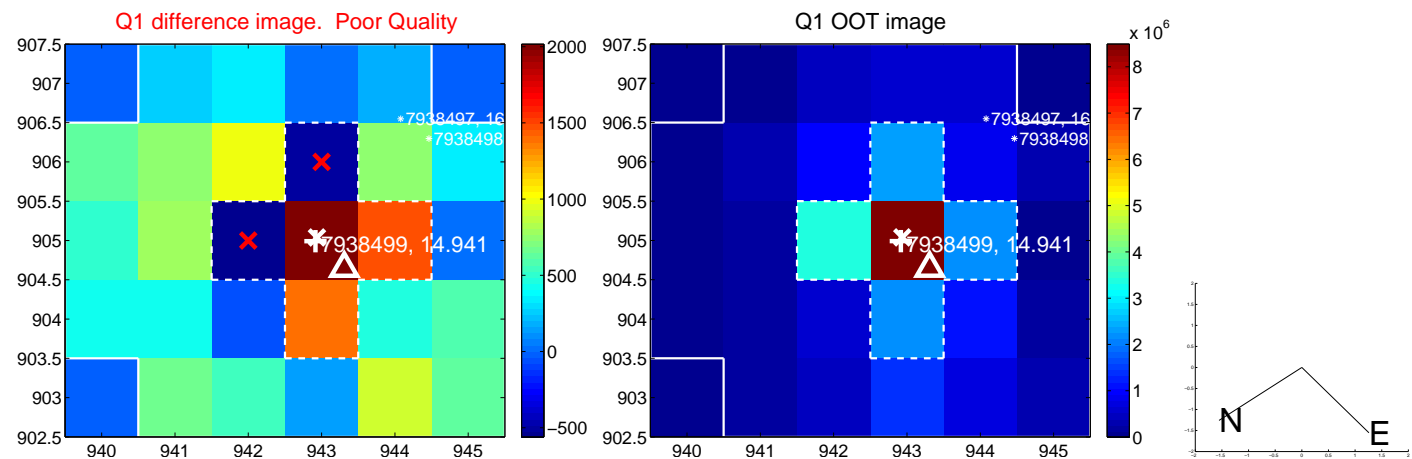


offset from photometric centroids

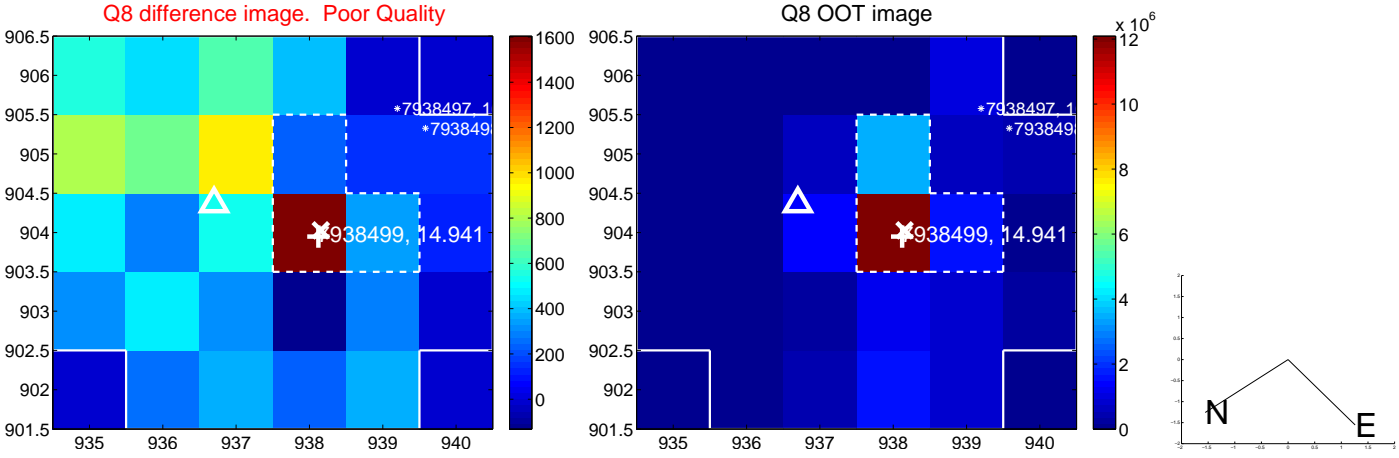
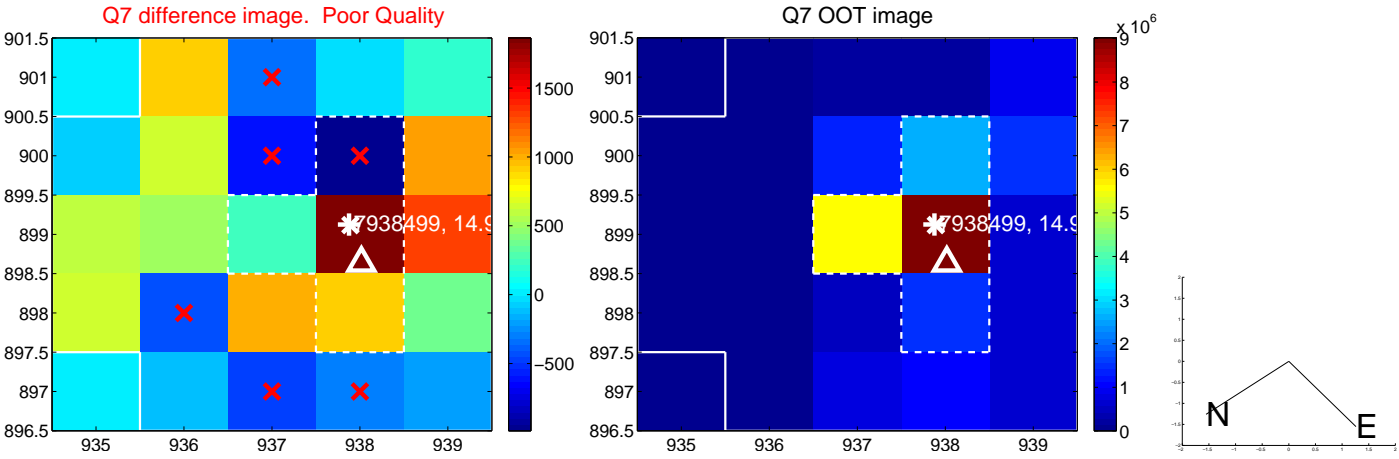
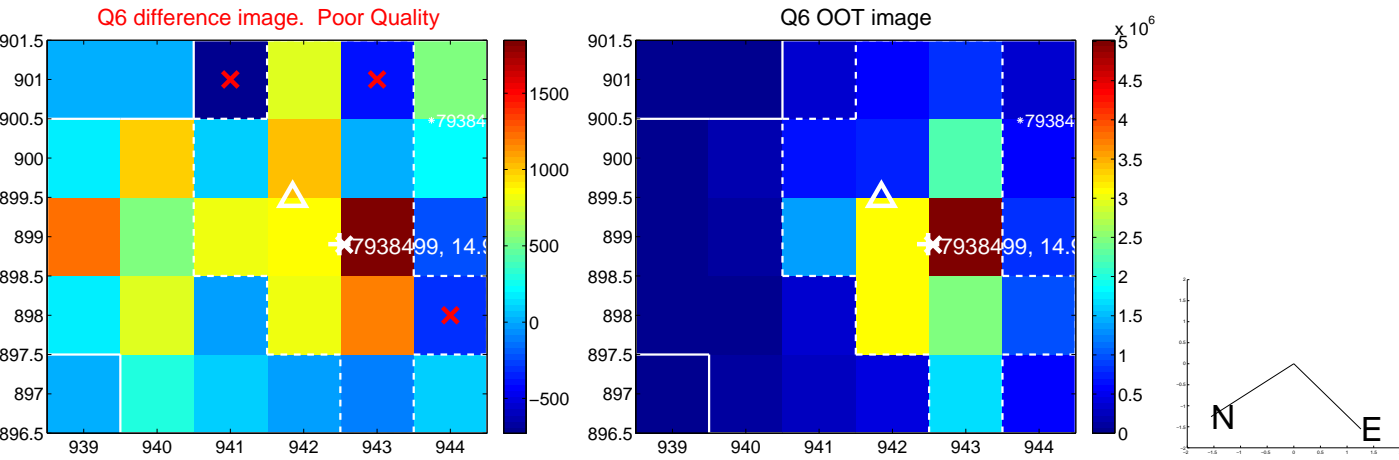
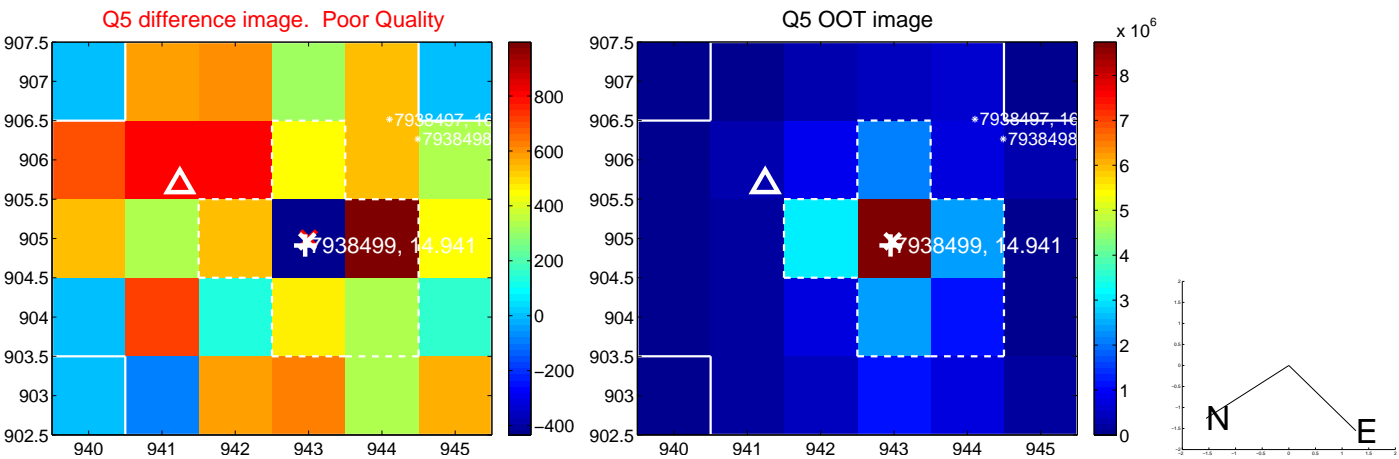


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

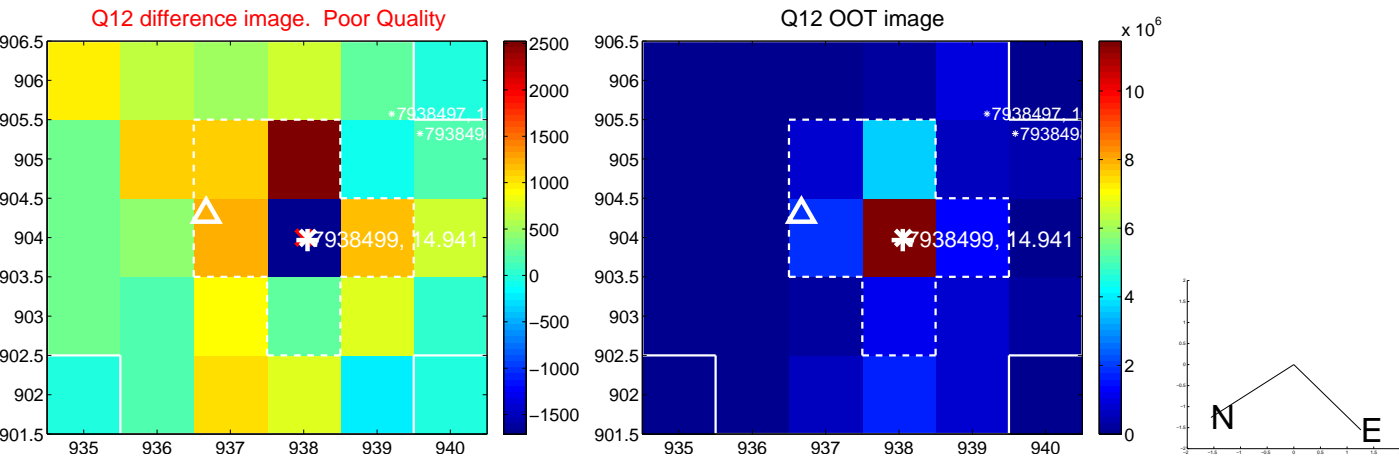
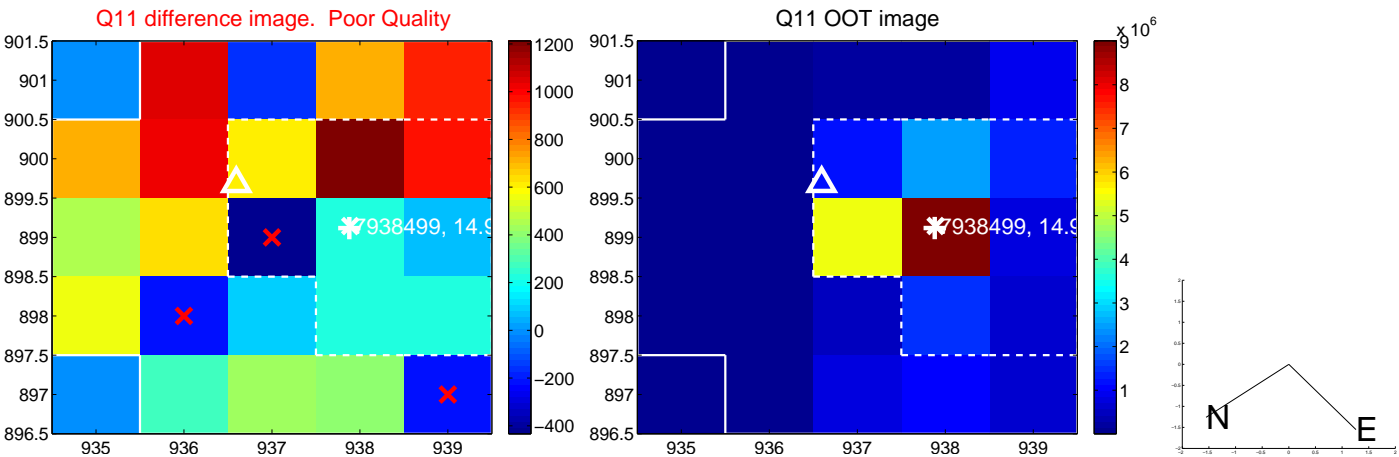
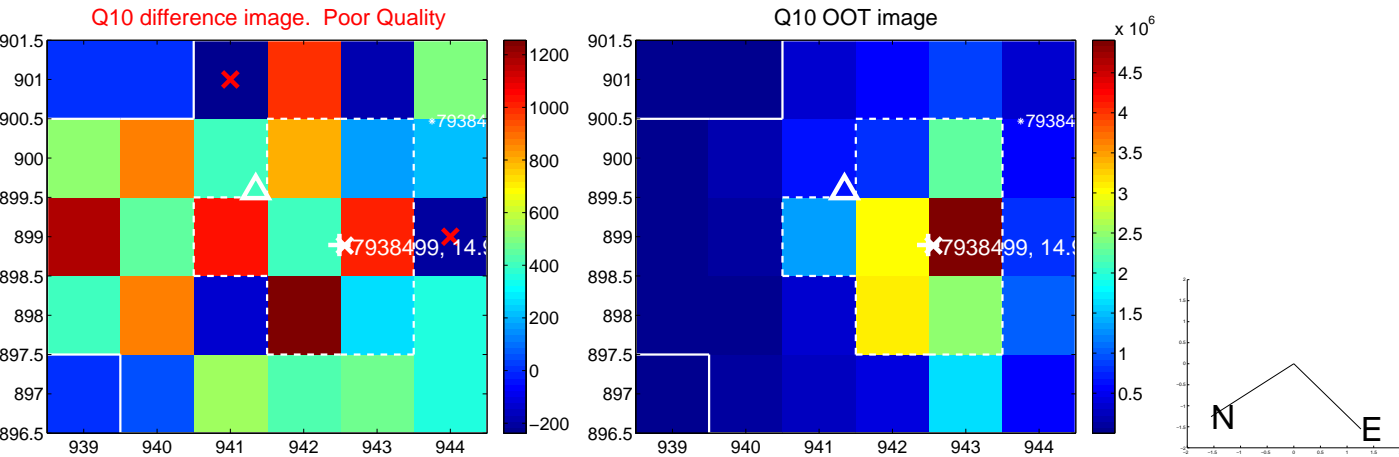
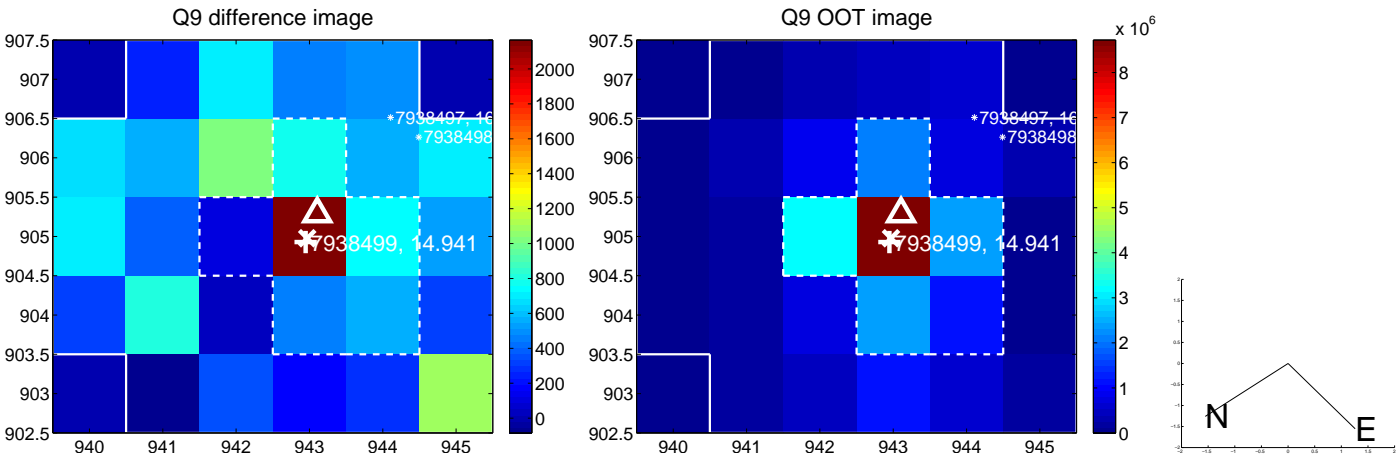
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



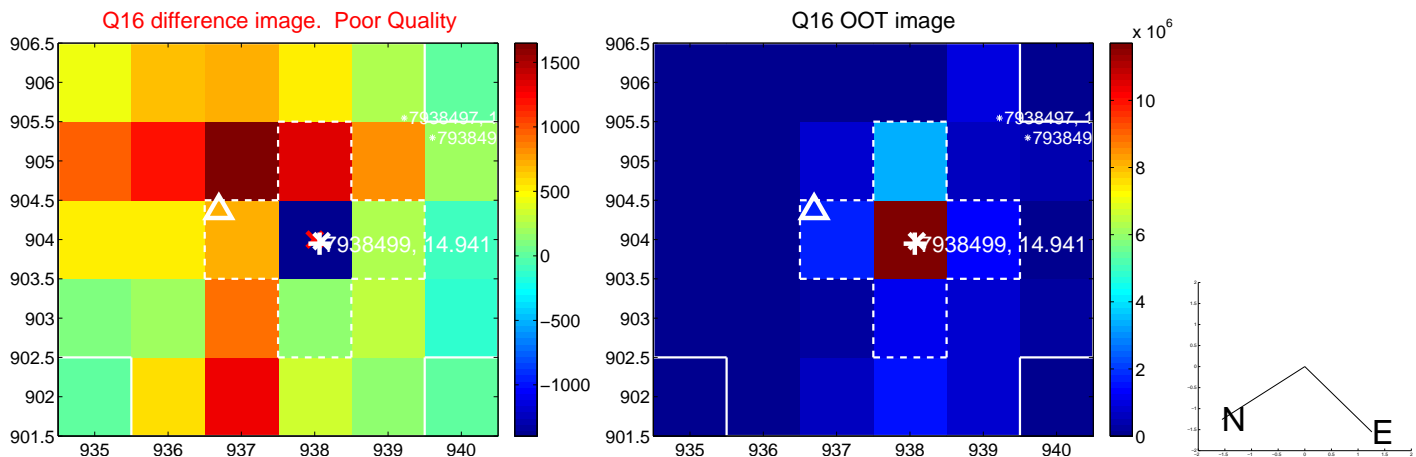
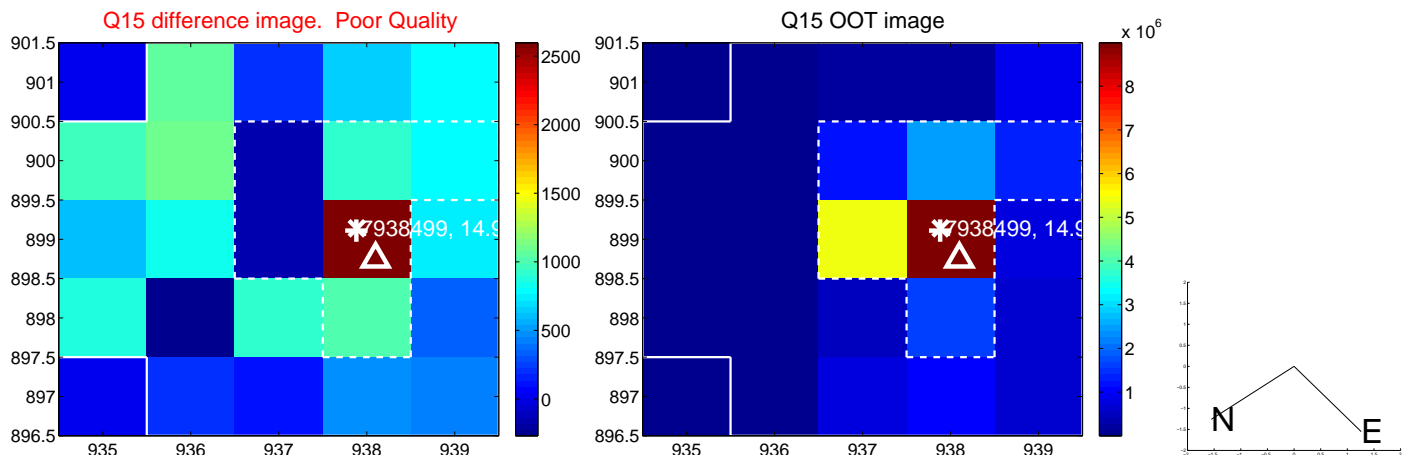
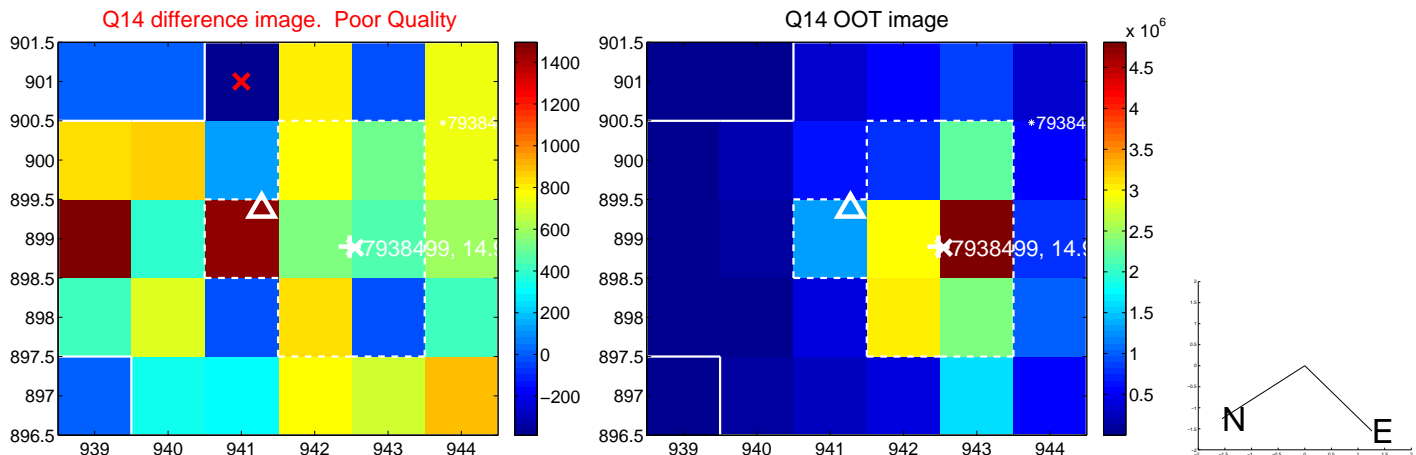
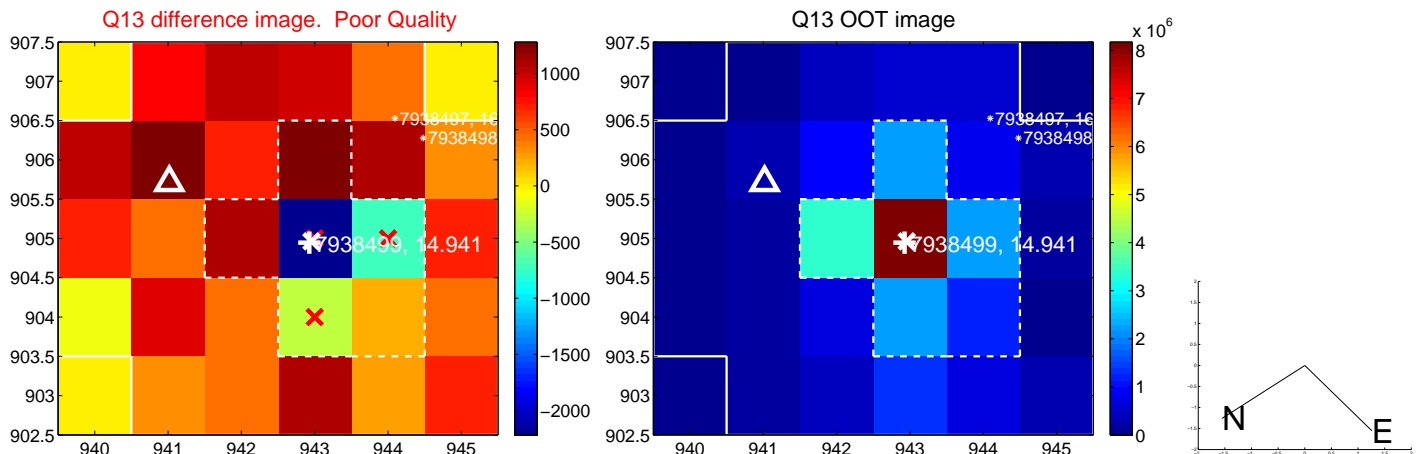
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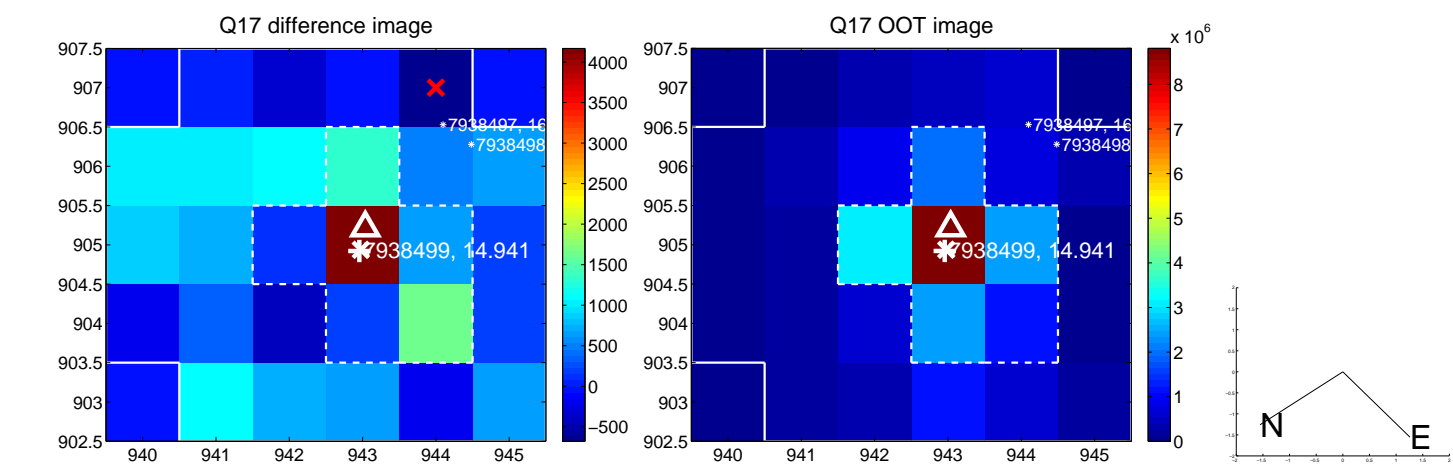
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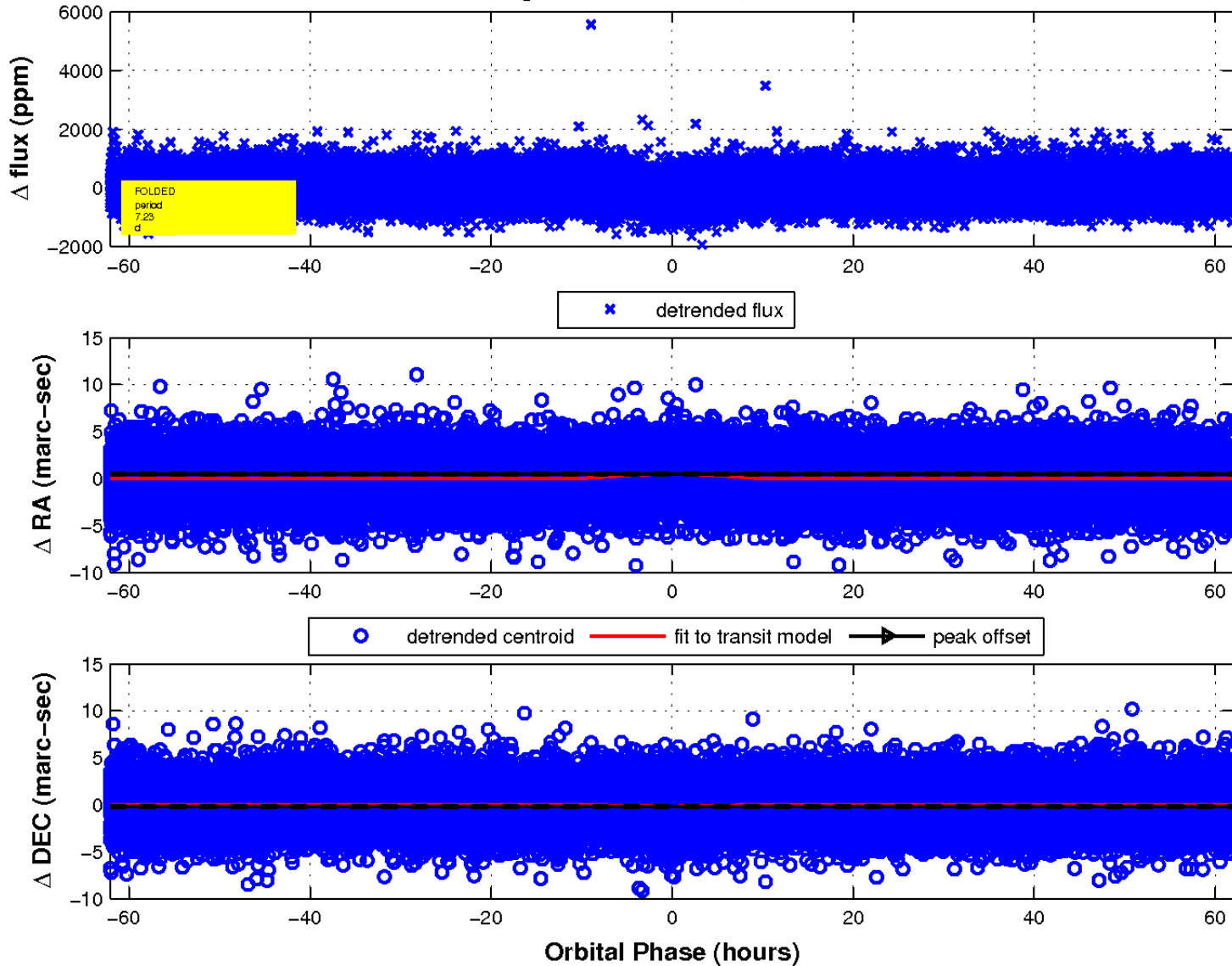
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

