

KIC 005529738

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})
005529738-01	OBS	2518.01	0.759711	131.821412	37.1	3.314	21.6	11.4	1.12	6386	0.69	6405.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005529738-01	OBS	FP	0.00	0	0	0	1	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 005529738-01

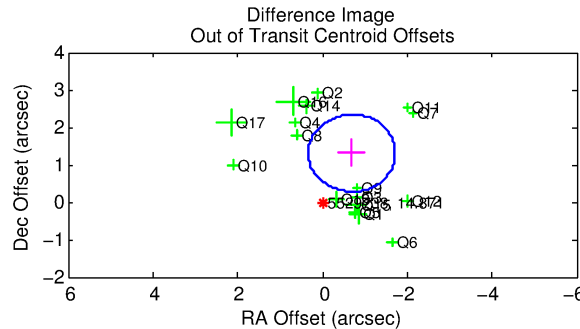
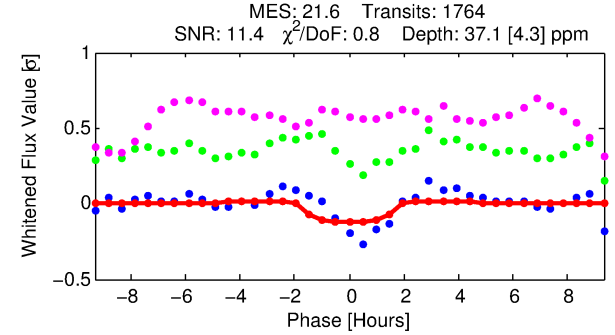
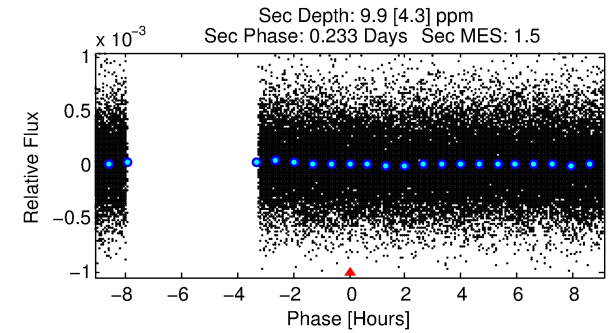
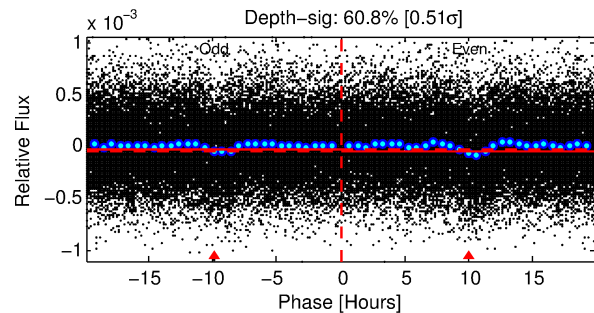
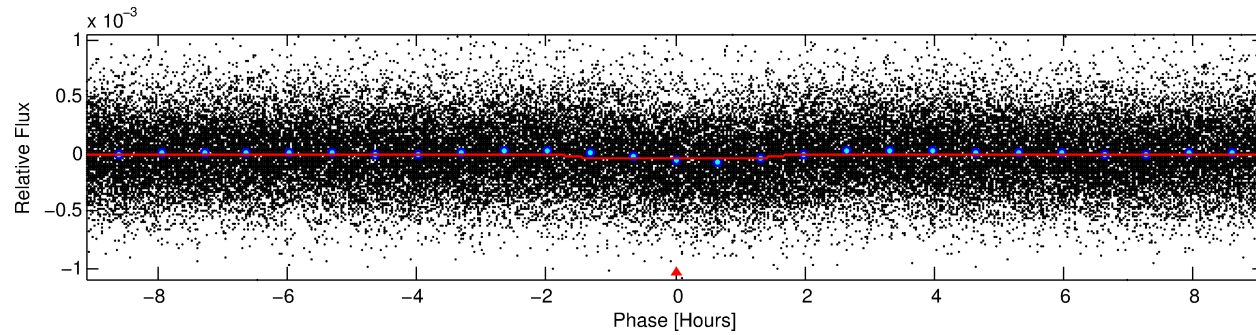
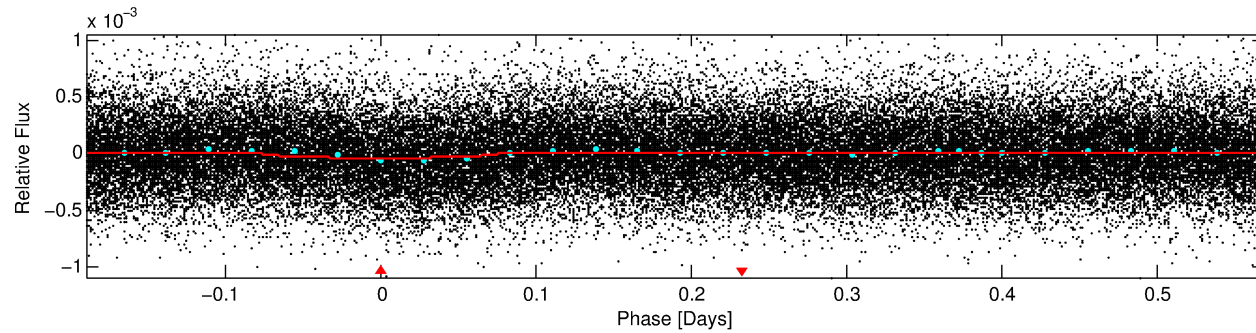
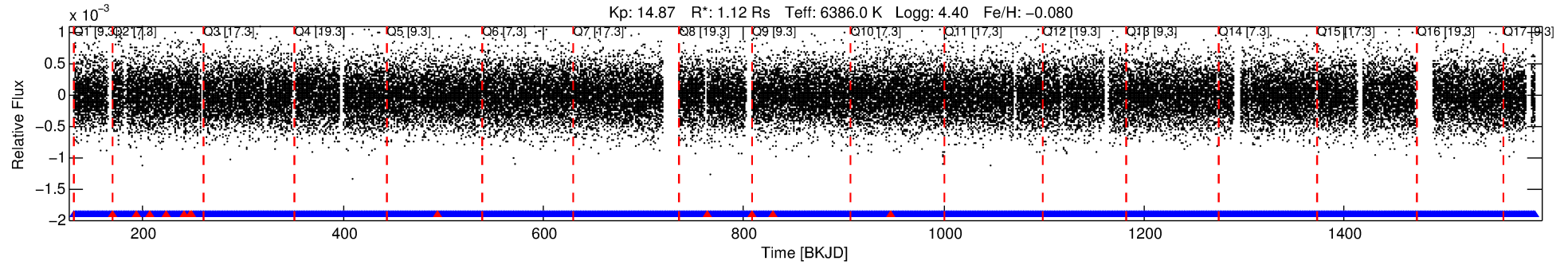
TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
005529738-01	5529738	005444491-01	5444491	1:1	76.2	19	1	14.92	14.87	0.54	Direct-PRF	1	0.99	0.14

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: 5529738 Candidate: 1 of 1 Period: 0.760 d
KOI: K02518.01 Corr: 0.779

Kp: 14.87 R*: 1.12 Rs Teff: 6386.0 K Logg: 4.40 Fe/H: -0.080



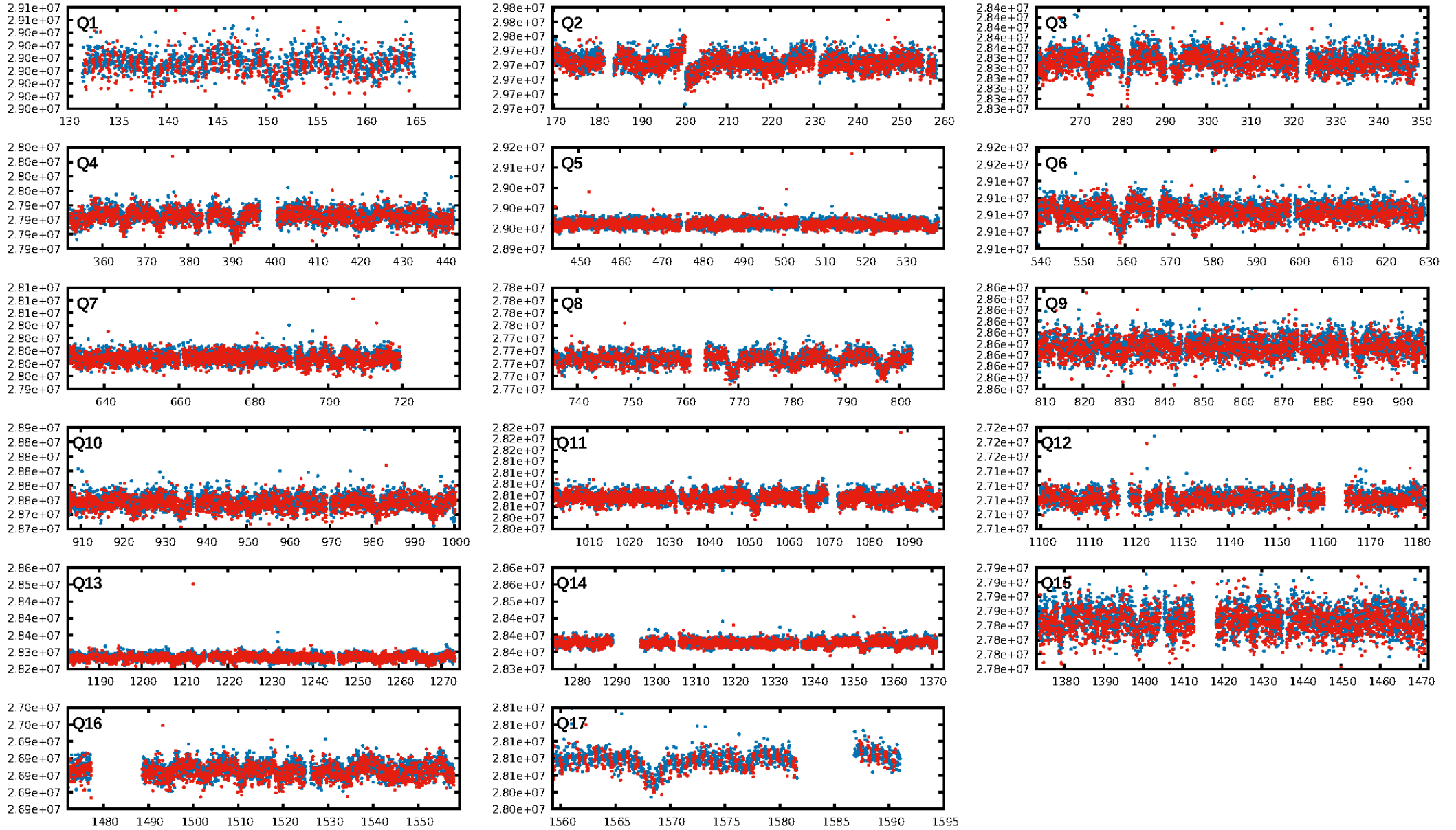
DV Fit Results:

Period = 0.75971 [0.00001] d
Epoch = 131.8214 [0.0034] BKJD
Rp/R* = 0.0056 [0.0066]
a/R* = 1.86 [7.96]
b = 0.08 [71.25]
Seff = 6405.19 [2383.18]
Teff = 2281 [212] K
Rp = 0.69 [0.83] Re
a = 0.0171 [0.0041] AU
Ag = 3.38 [8.14] [0.29σ]
Teffp = 4781 [2856] K [0.87σ]

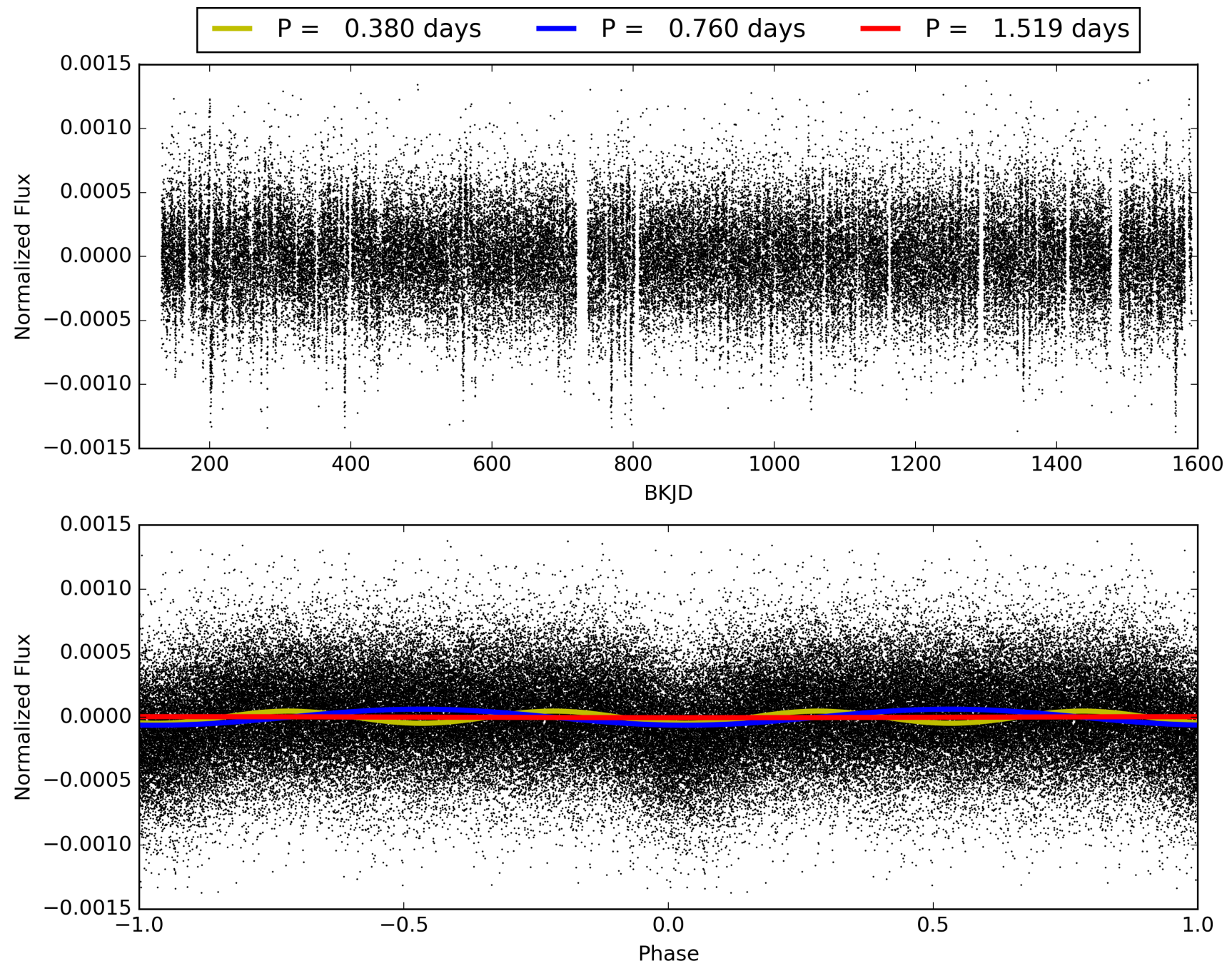
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.01e-81
RollingBand-fgt: 0.99 [1672/1685]
GhostDiagnostic-chr: 1.949
Centroid-sig: 0.0%
Centroid-so: 7.154 arcsec [6.47σ]
OotOffset-rm: 1.480 arcsec [4.32σ]
KicOffset-rm: 1.465 arcsec [4.25σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005529738-01, PDC Light Curves

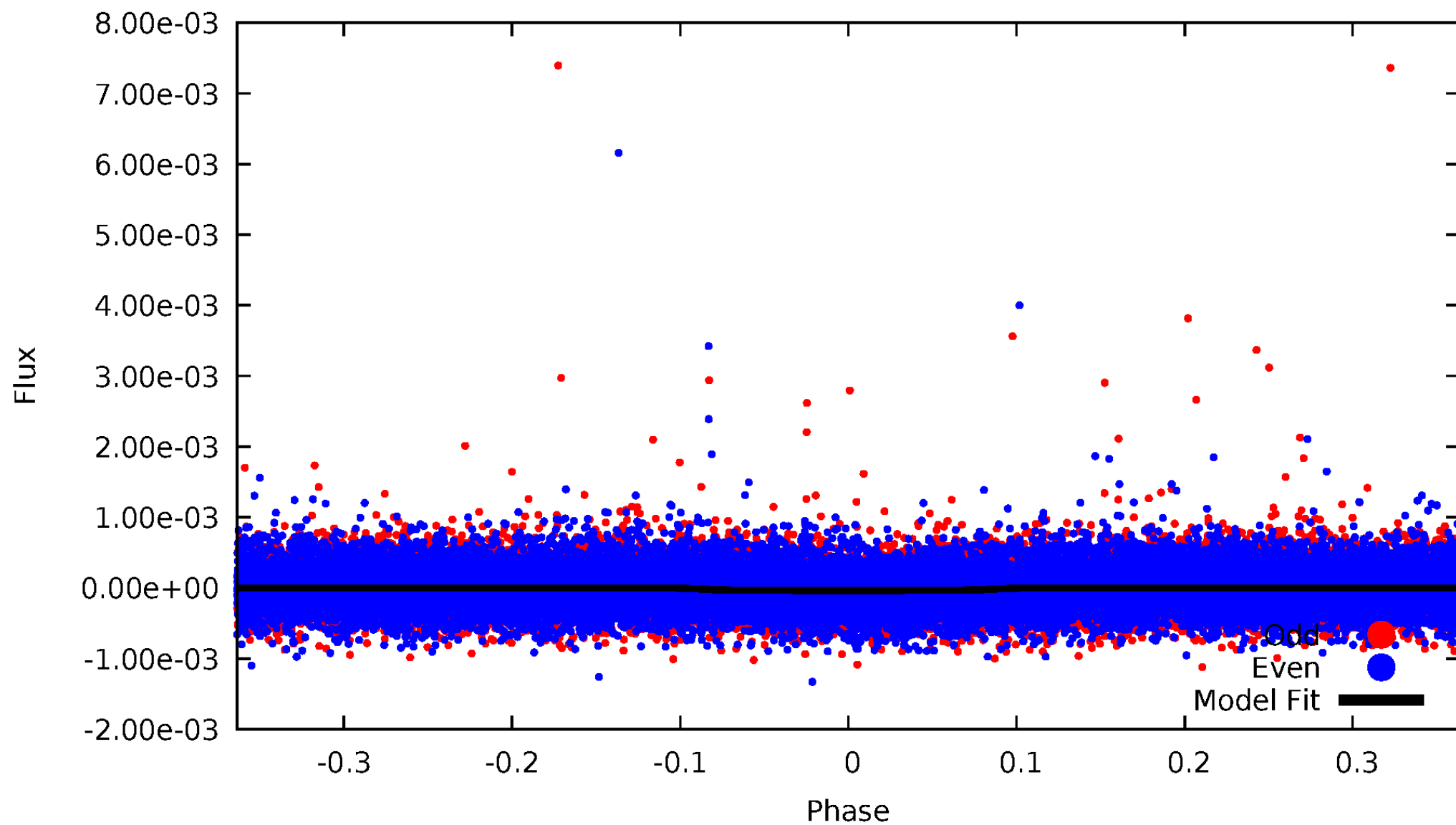


TCE 005529738-01



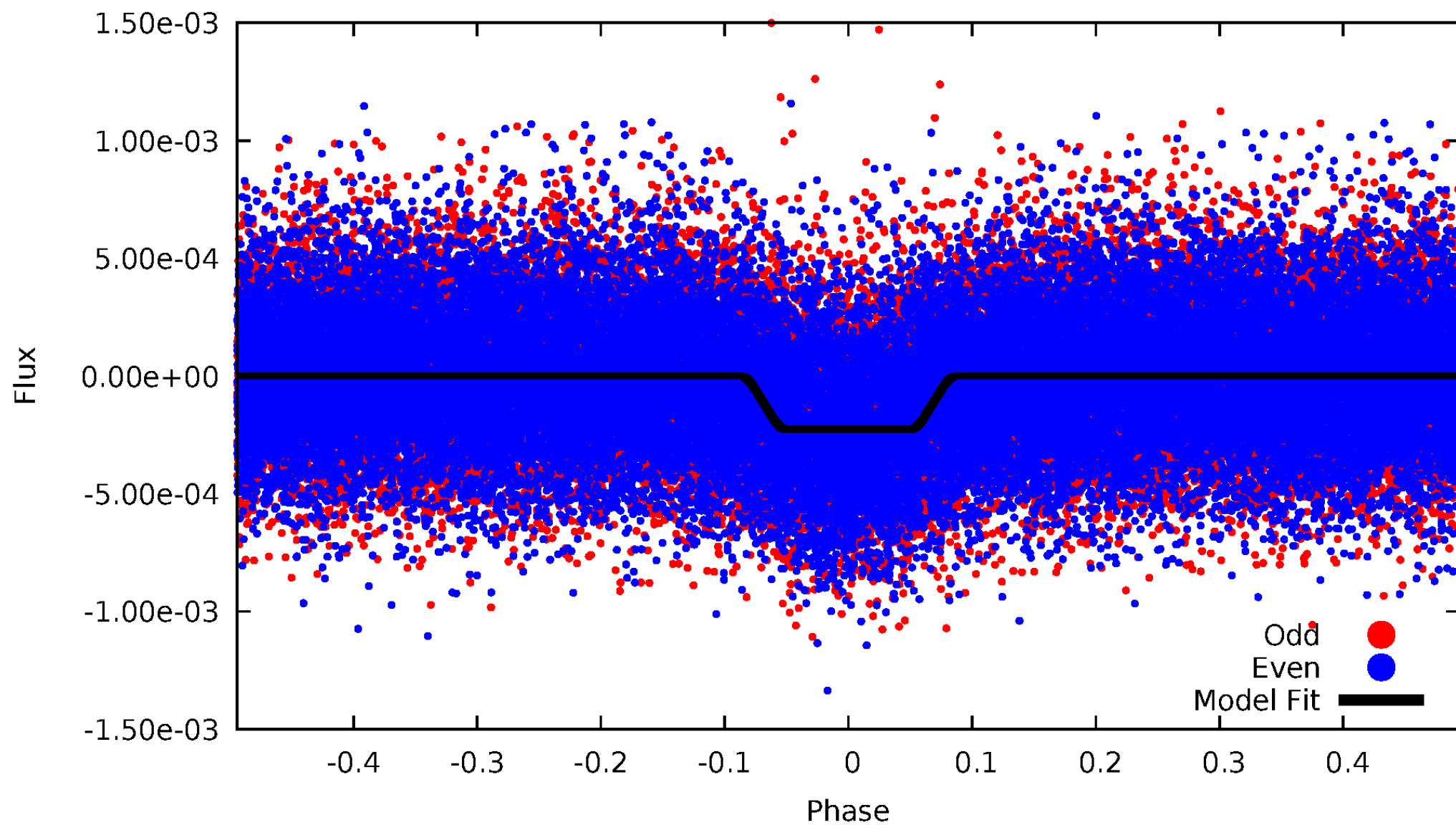
DV Odd/Even

TCE 005529738-01

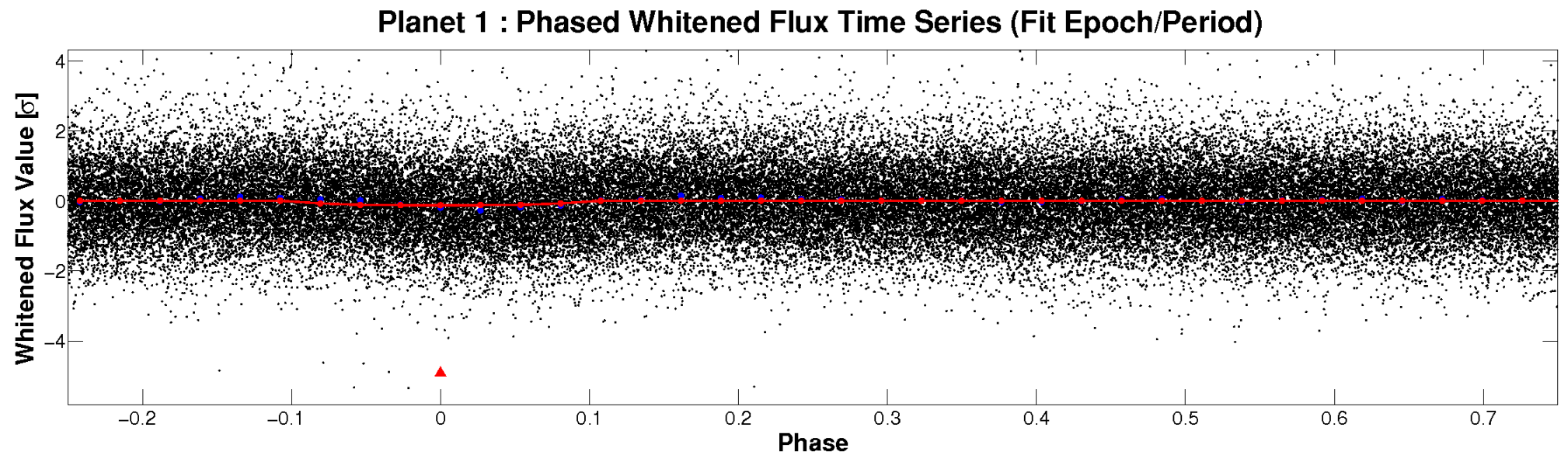
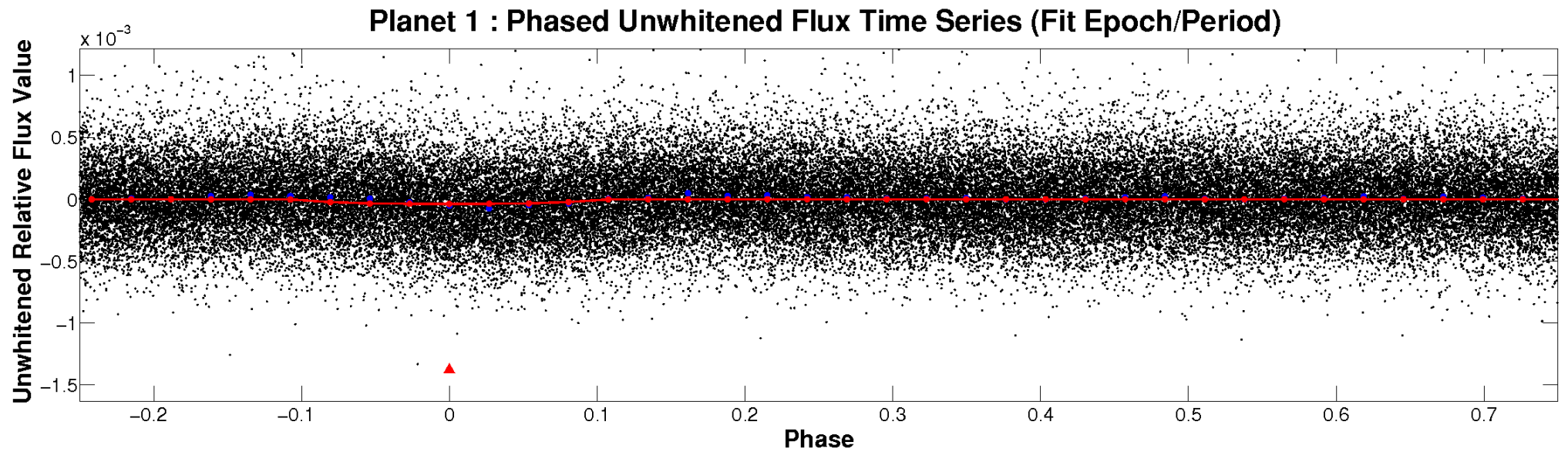


ALT Odd/Even

TCE 005529738-01

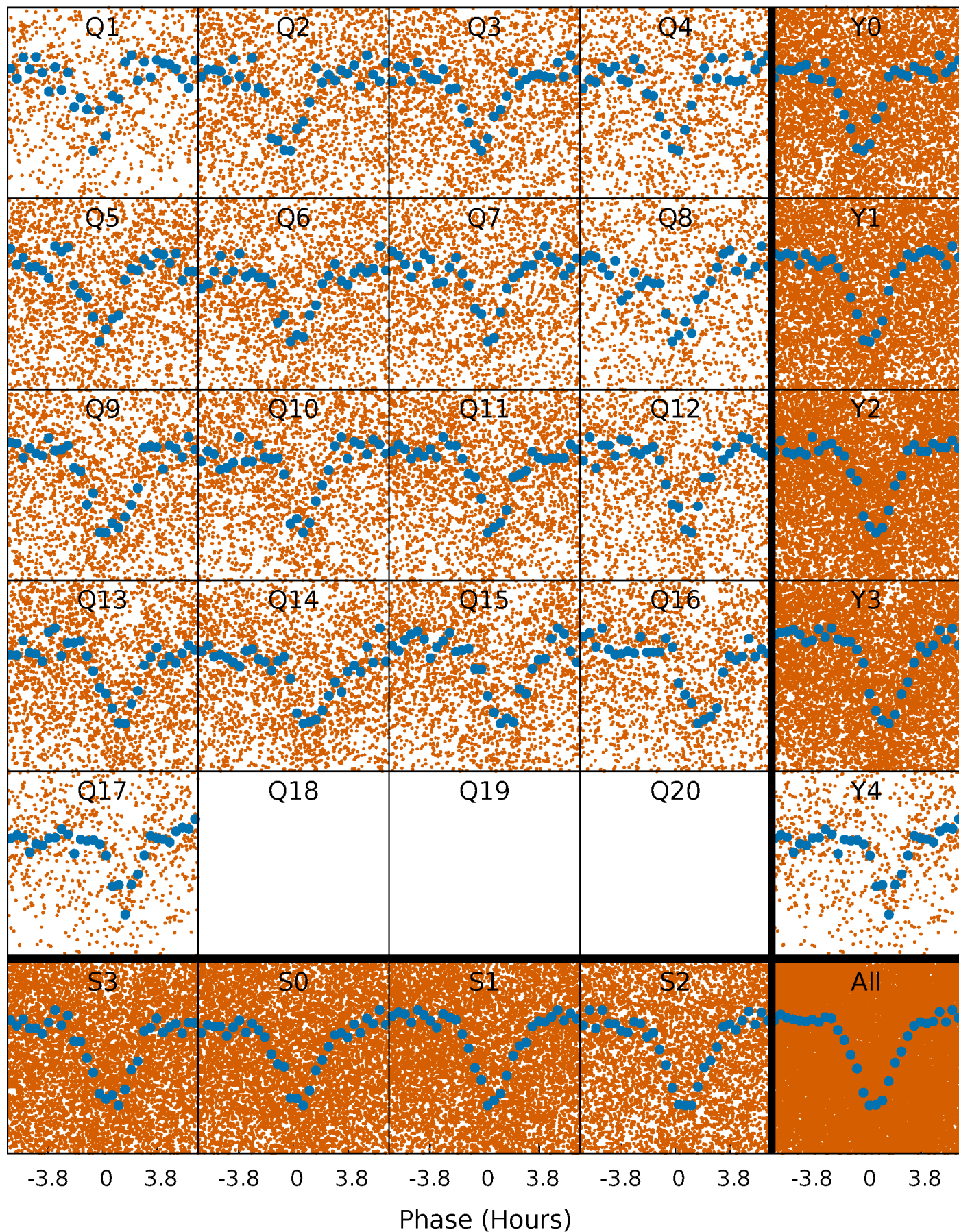


Non-Whitened Vs. Whitened Light Curve



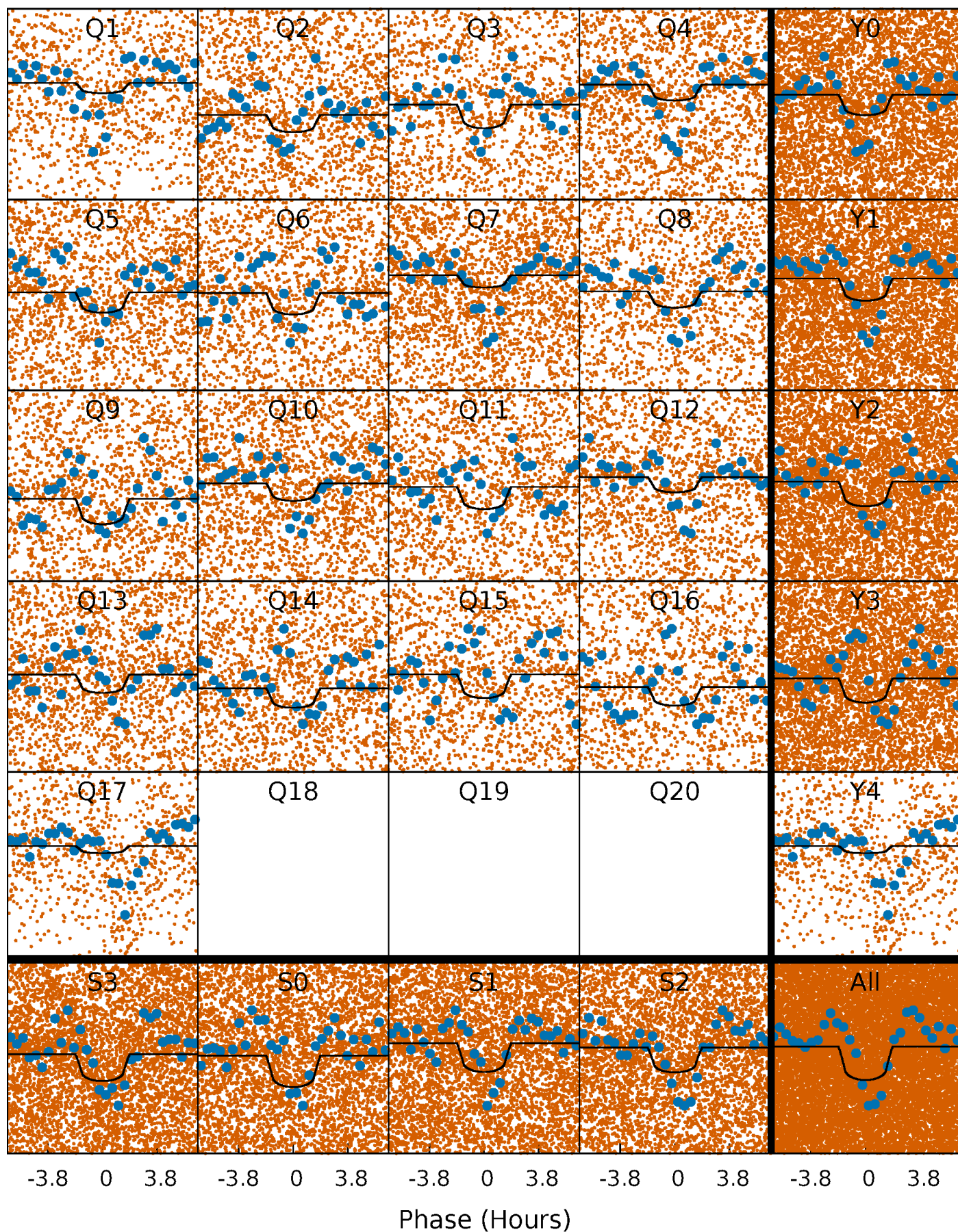
PDC Quarter-Phased Transit Curves

TCE 005529738-01 P= 0.759711 Days $T_0=131.821412$ (BKJD)



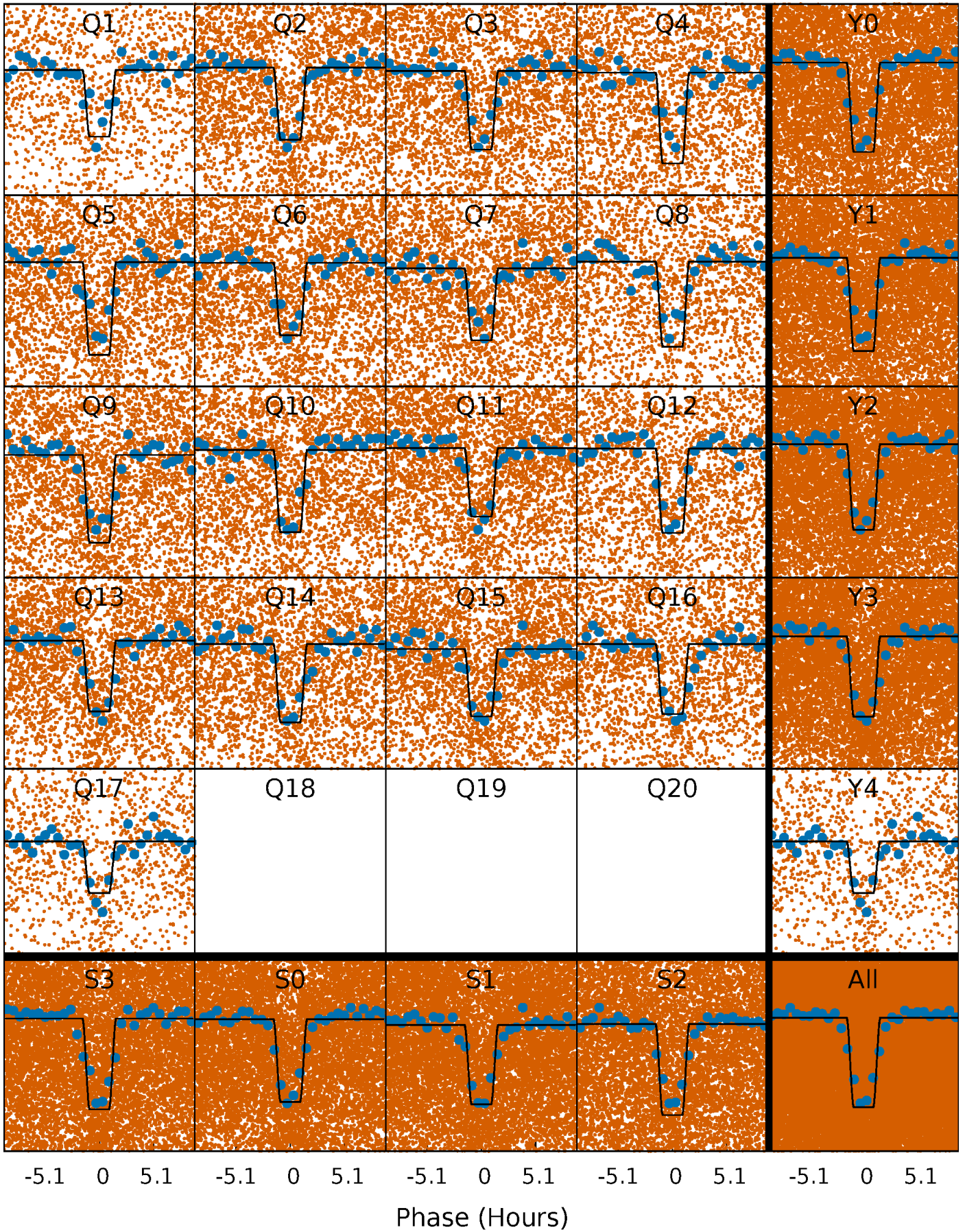
DV Quarter-Phased Transit Curves

TCE 005529738-01 P= 0.759711 Days $T_0=131.821412$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

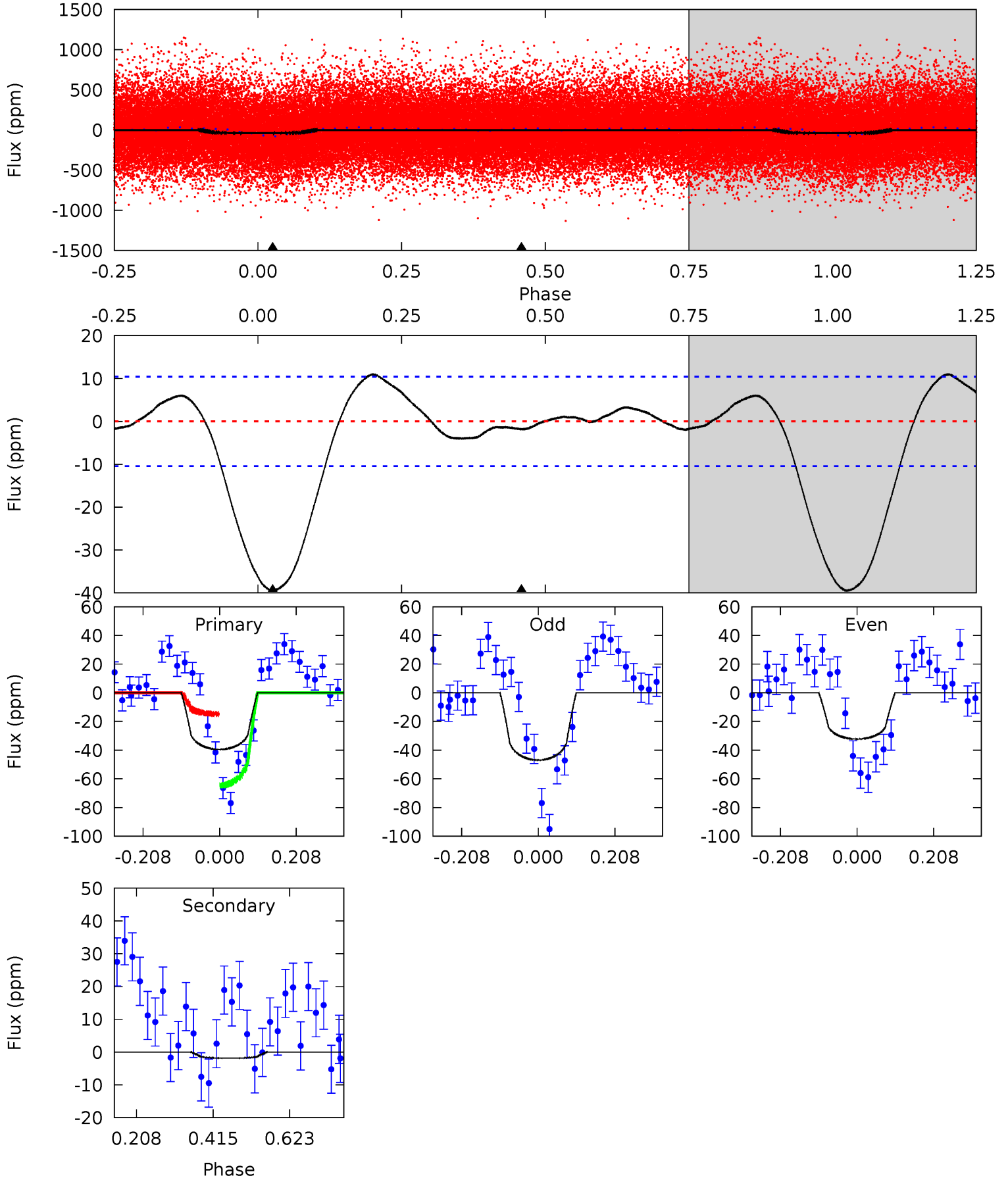
TCE 005529738-01 P= 0.759755 Days $T_0=131.801689$ (BKJD)



DV Model-Shift Uniqueness Test

005529738-01, P = 0.759711 Days, E = 131.061701 Days

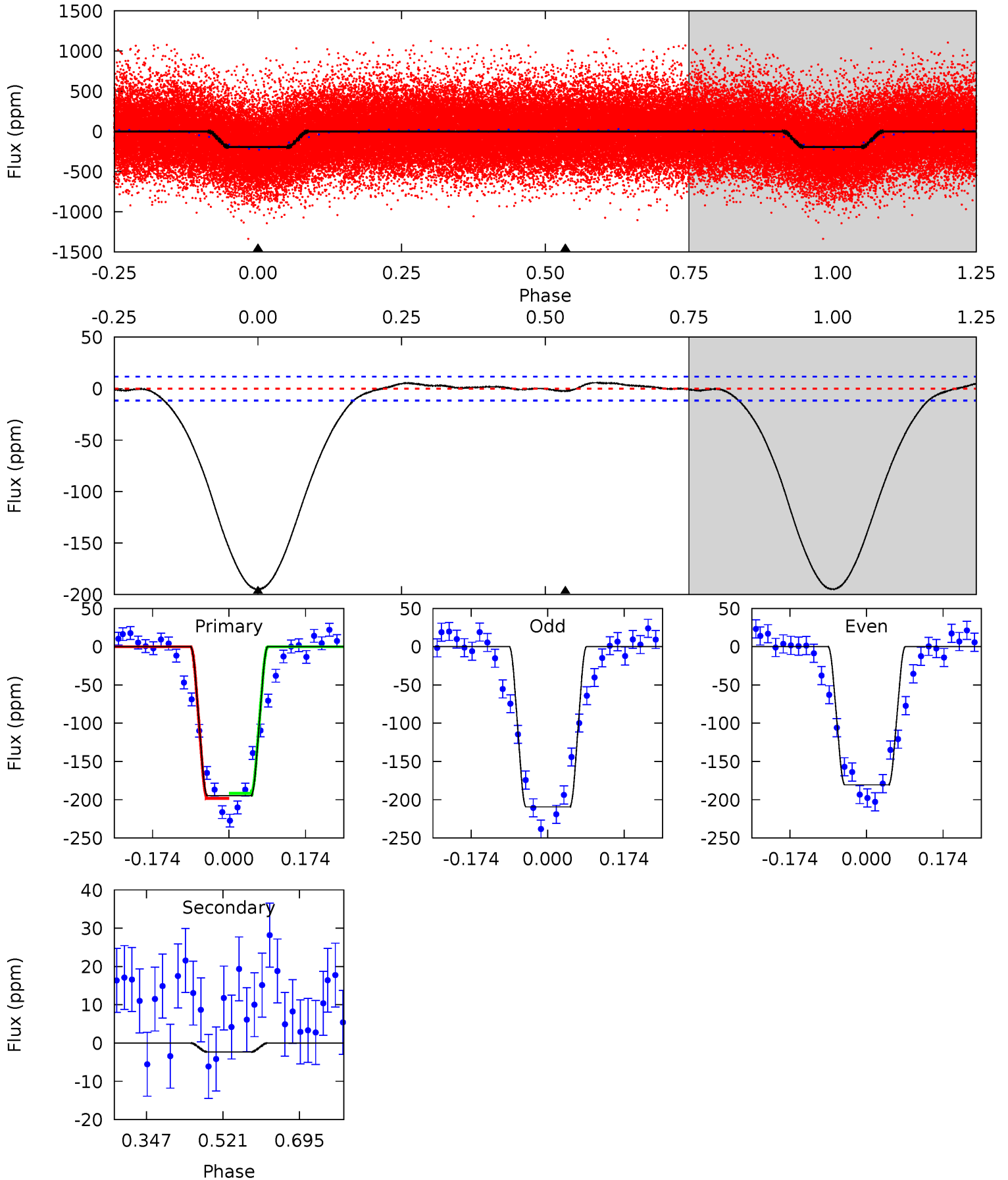
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.7	0.79	0	0	4.41	1.26	1.13	16.7	16.7	0.79	0.79	3.09	0.91	0.22	10.4



Alt Model-Shift Uniqueness Test

005529738-01, P = 0.759755 Days, E = 131.041934 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
74.4	0.88	0	0	4.45	1.36	1.12	74.4	74.4	0.88	0.88	5.51	1.01	0.03	1.26



Stellar Parameters For KIC 005529738

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6386^{+173}_{-211}	$4.402^{+0.062}_{-0.188}$	$-0.080^{+0.250}_{-0.300}$	$1.123^{+0.327}_{-0.140}$	$1.161^{+0.157}_{-0.157}$	$1.154^{+0.384}_{-0.595}$
	+3%/-3%	+1%/-4%	+312%/-375%	+29%/-12%	+14%/-14%	+33%/-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 005529738-01 / KOI 2518.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2 ± 2	$0.92^{+0.74}_{-0.60}$	3237^{+219}_{-162}	-2563^{+7179}_{-862}	$0.242^{+2.419}_{-0.324}$
Alt.	-2 ± 3	$1.95^{+0.96}_{-0.83}$	3244^{+223}_{-159}	-3078^{+5527}_{-237}	$0.084^{+0.258}_{-0.101}$

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

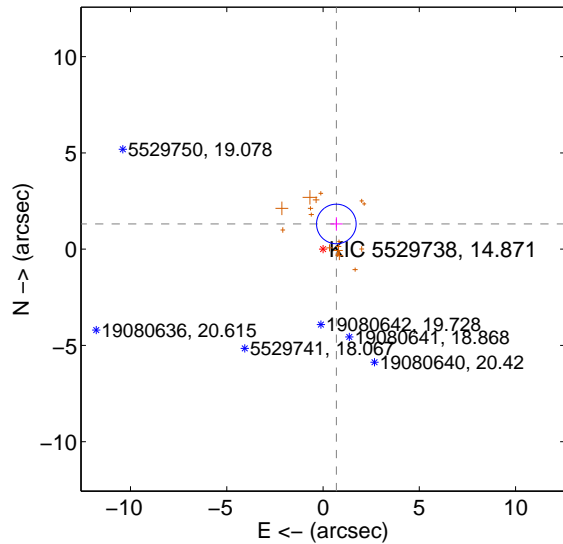
Supplemental centroid analysis for 005529738-01. Kepler magnitude: 14.87. Transit SNR 11.40

There are 0 quarters with good PRF difference image offsets

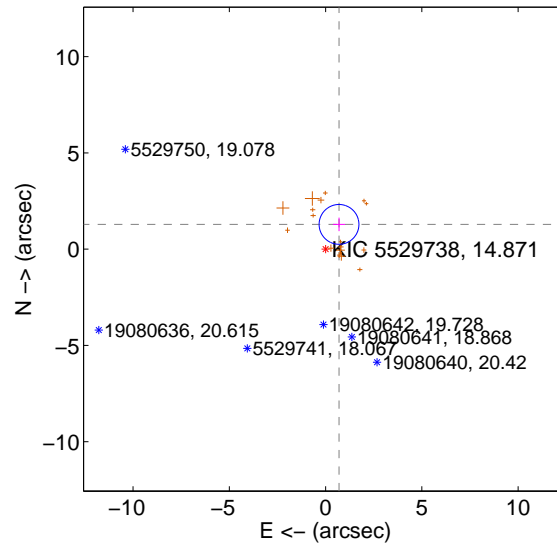
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.480 ± 0.343	4.32	-0.691 ± 0.315	1.309 ± 0.350
PRF-fit source offset from KIC position	1.465 ± 0.345	4.25	-0.698 ± 0.316	1.288 ± 0.353
photometric centroid source offset	7.15 ± 1.11	6.47	-6.76 ± 1.11	2.34 ± 1.07

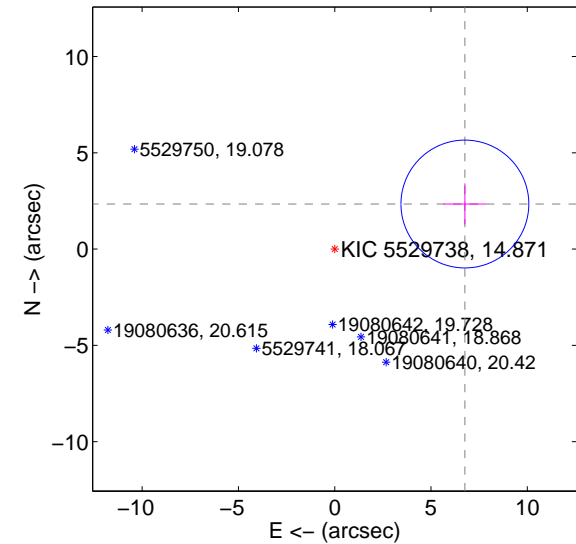
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

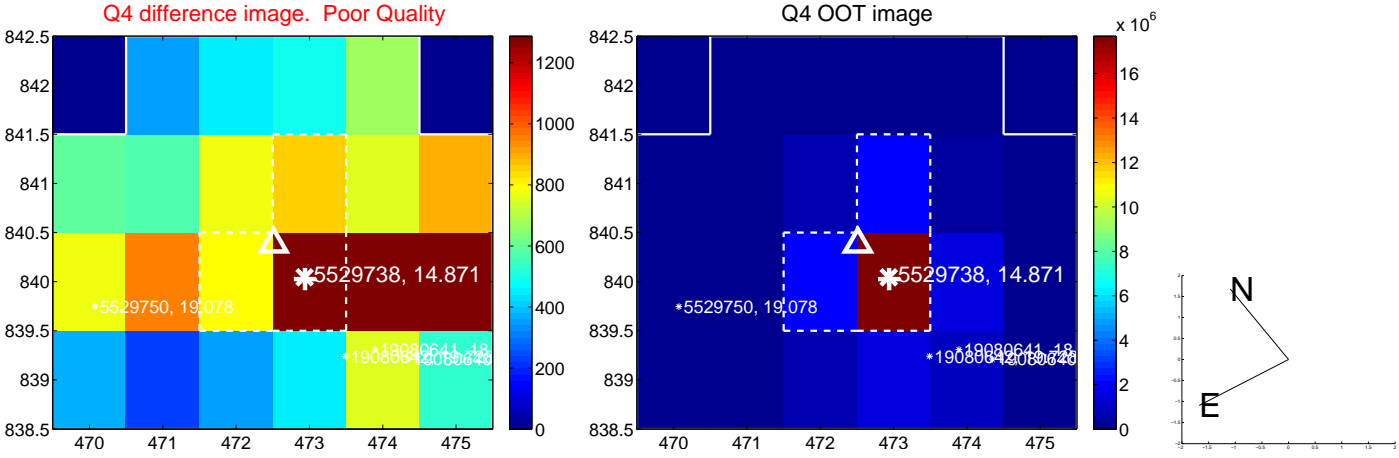
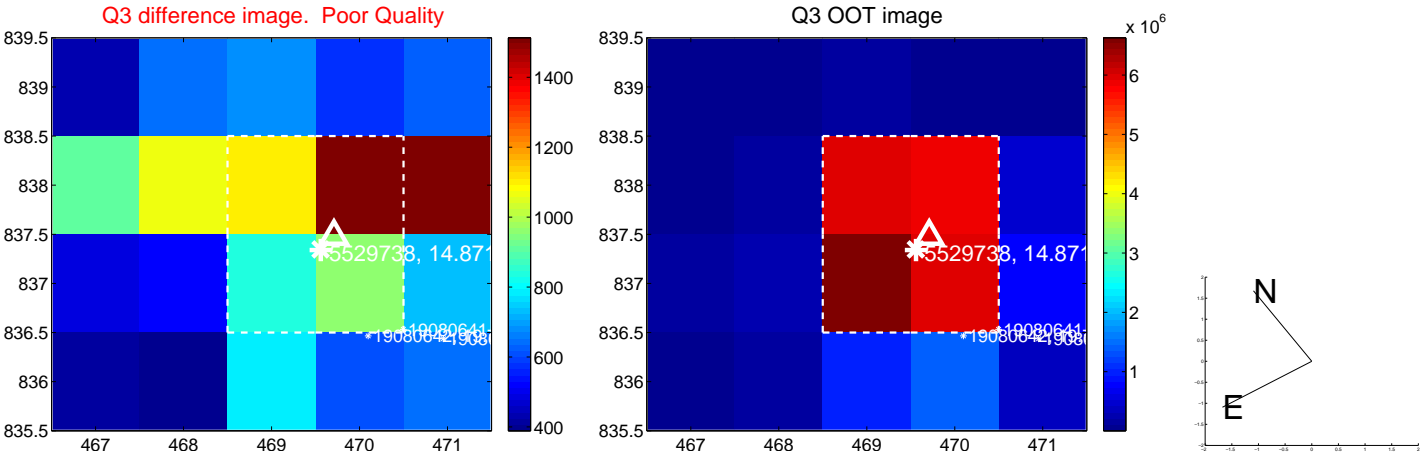
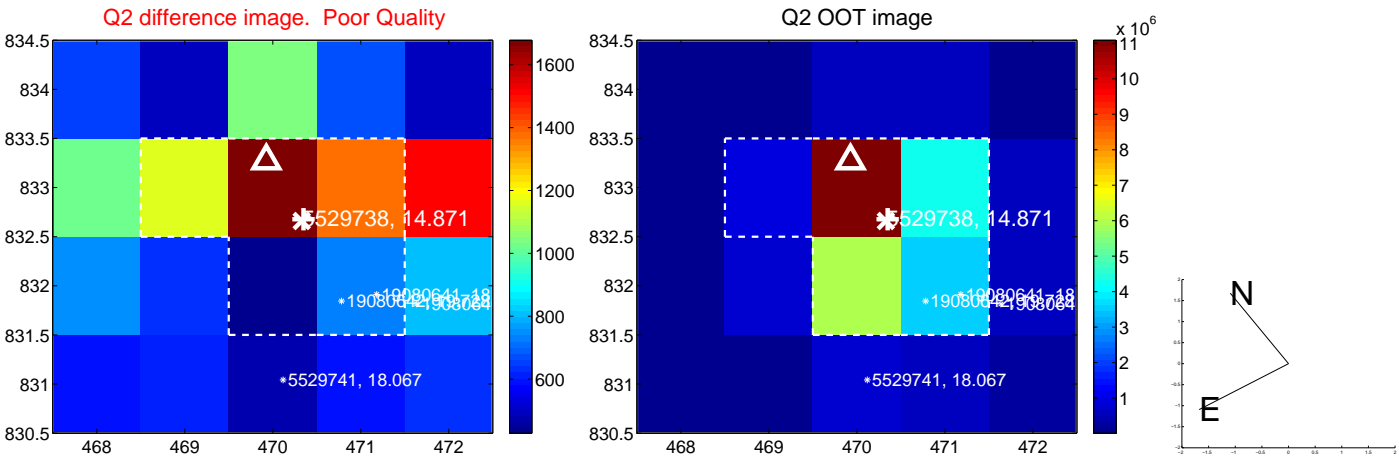
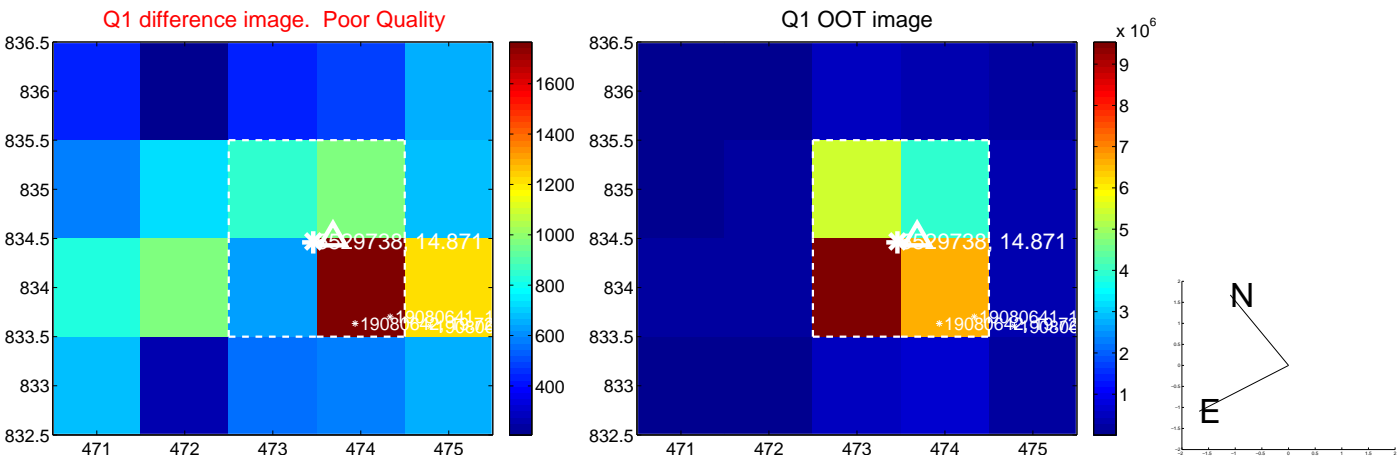


offset from photometric centroids

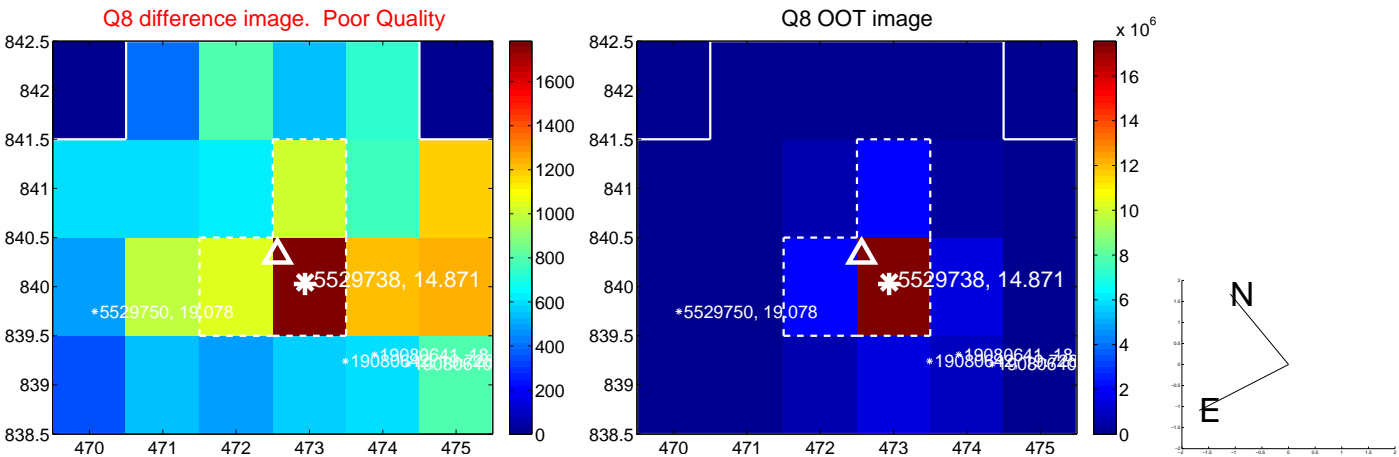
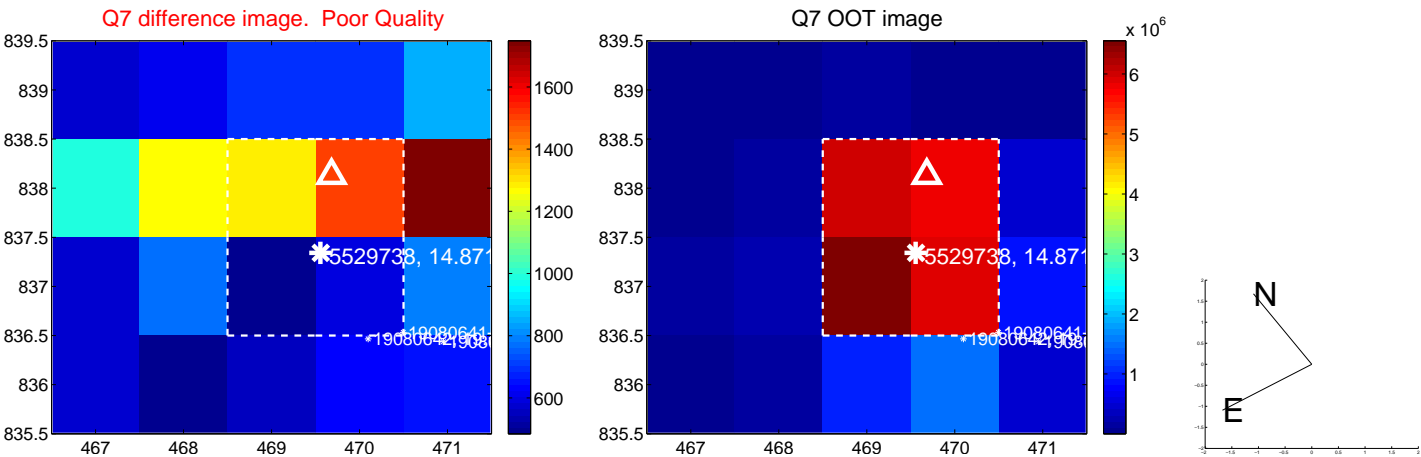
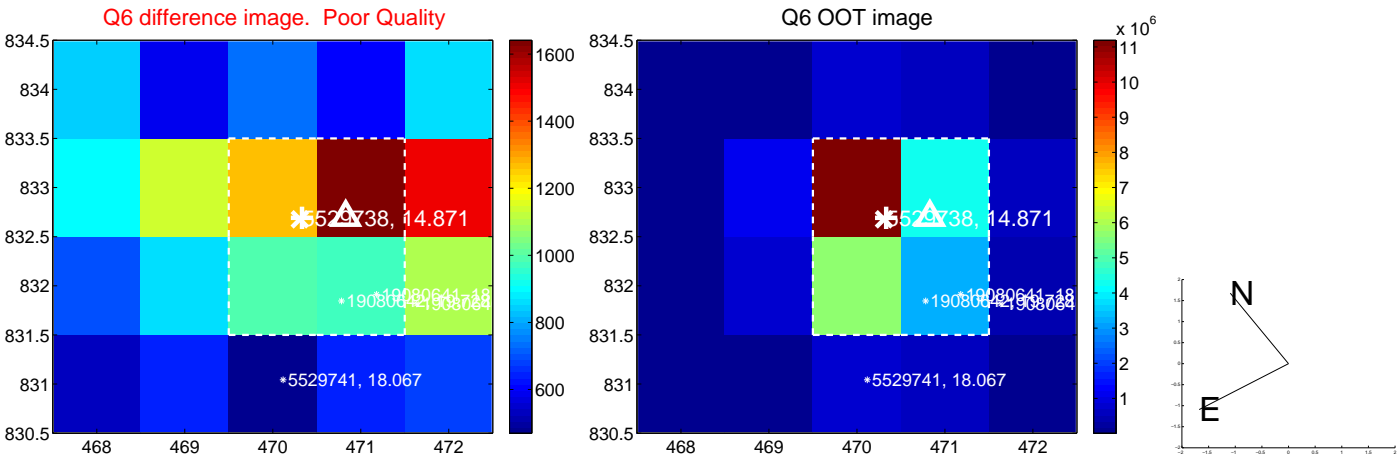
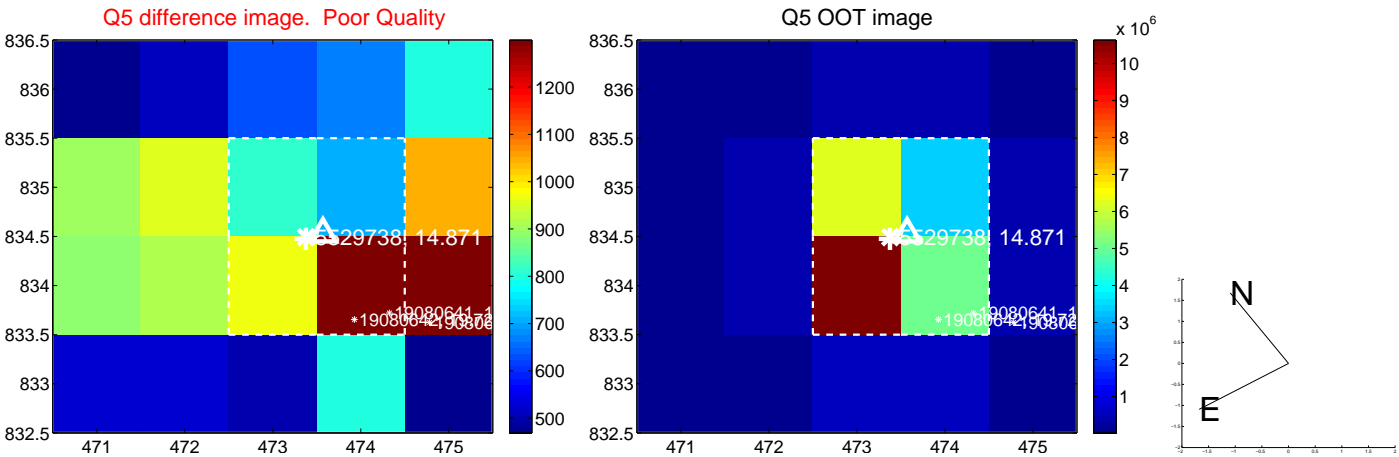


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

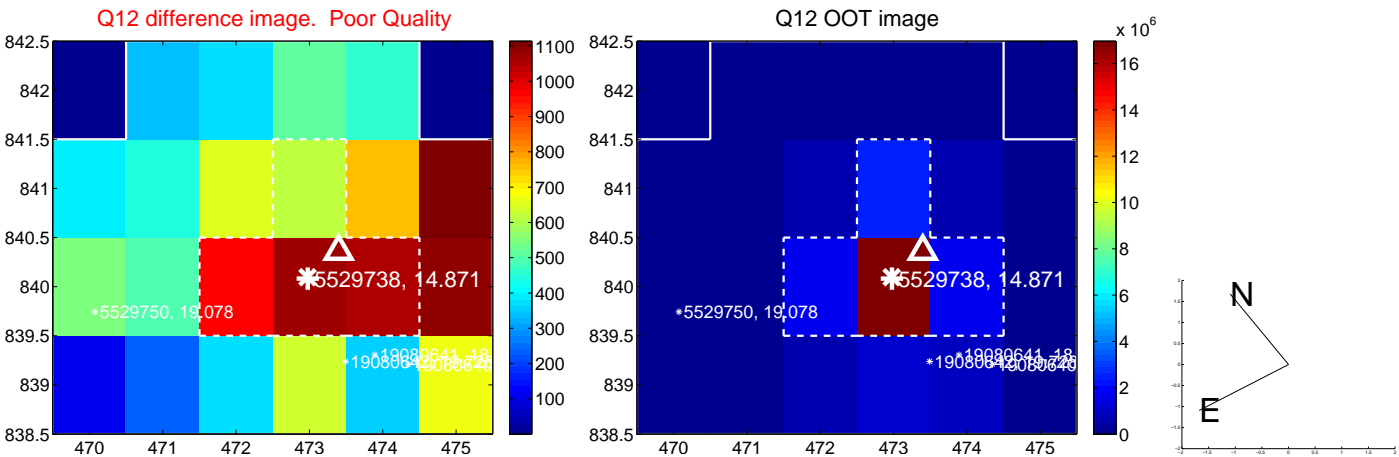
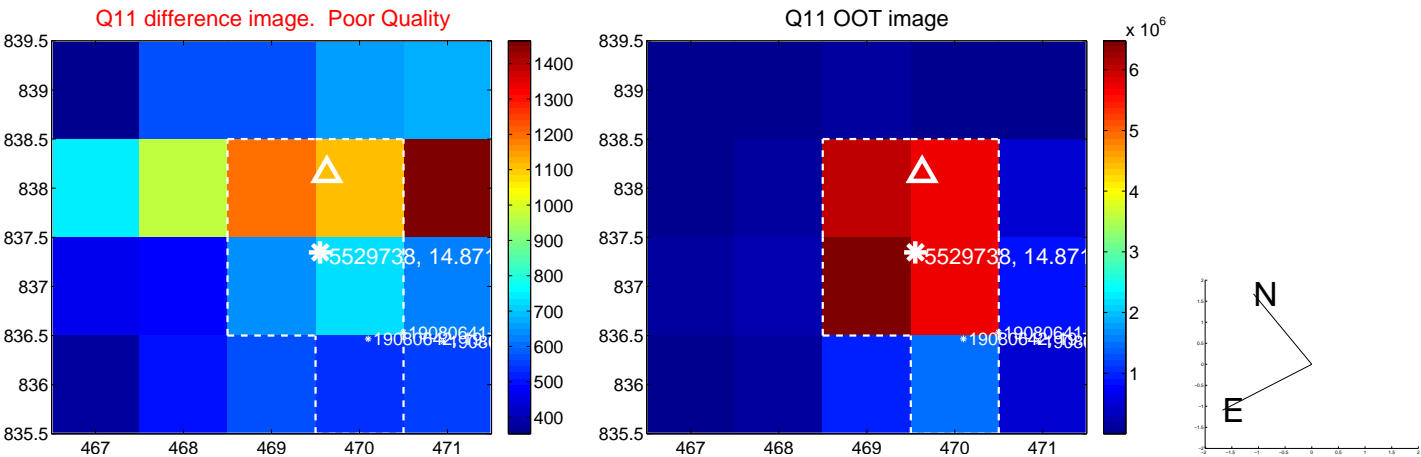
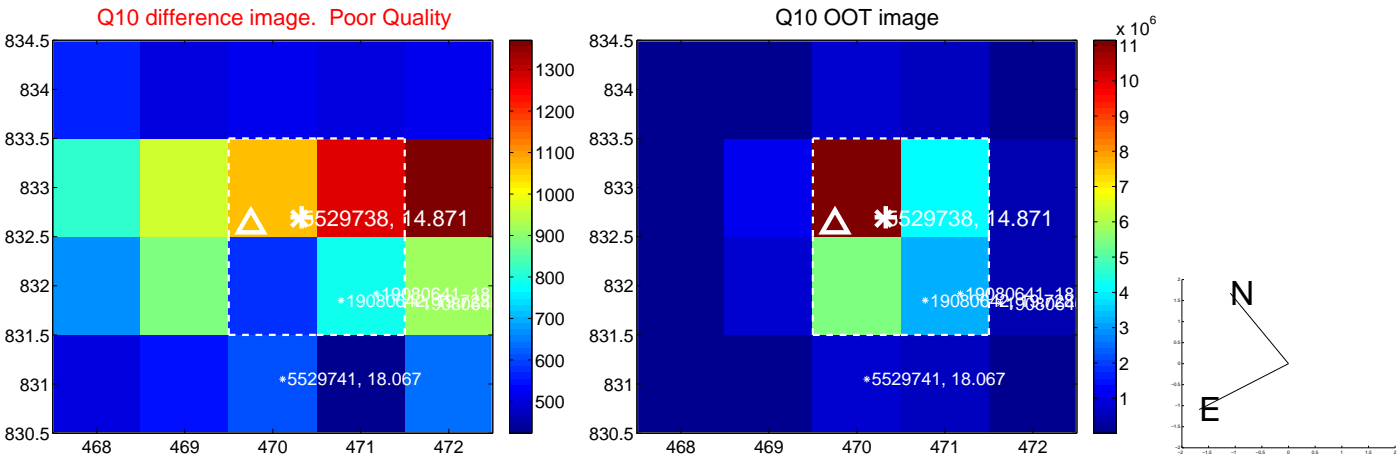
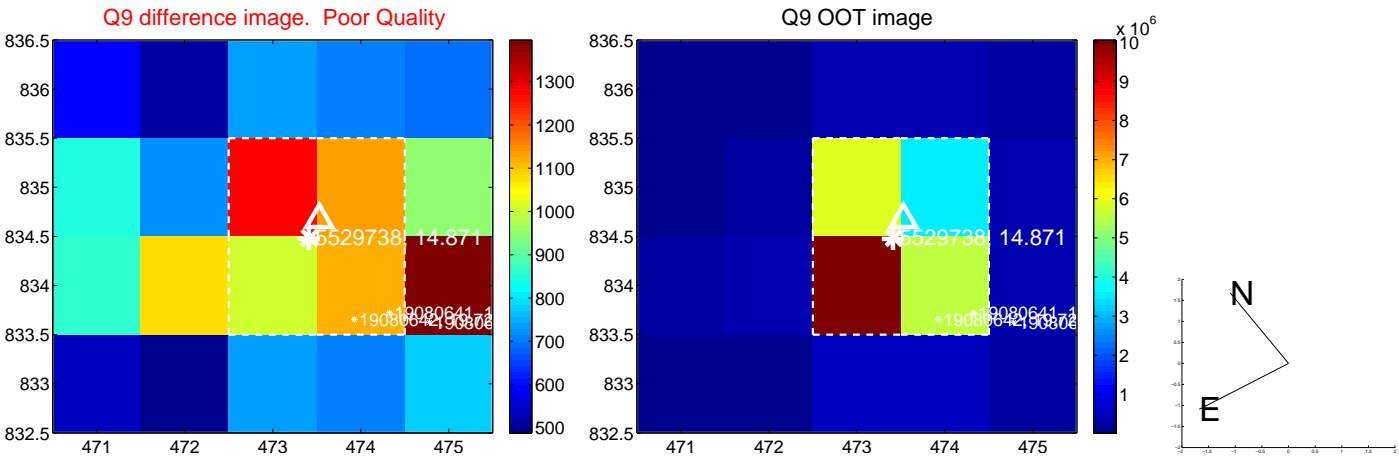
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



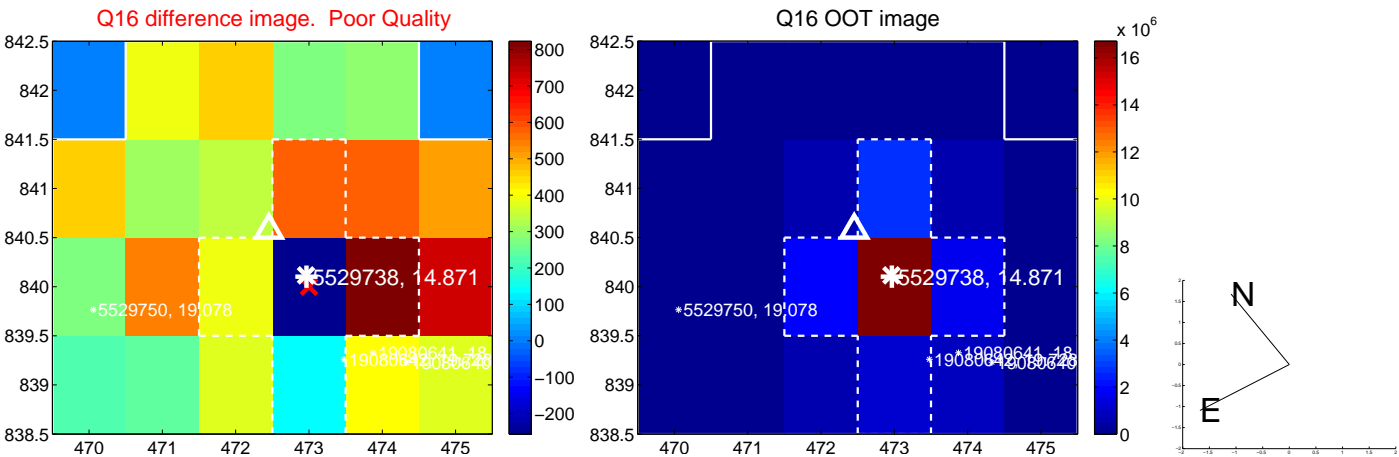
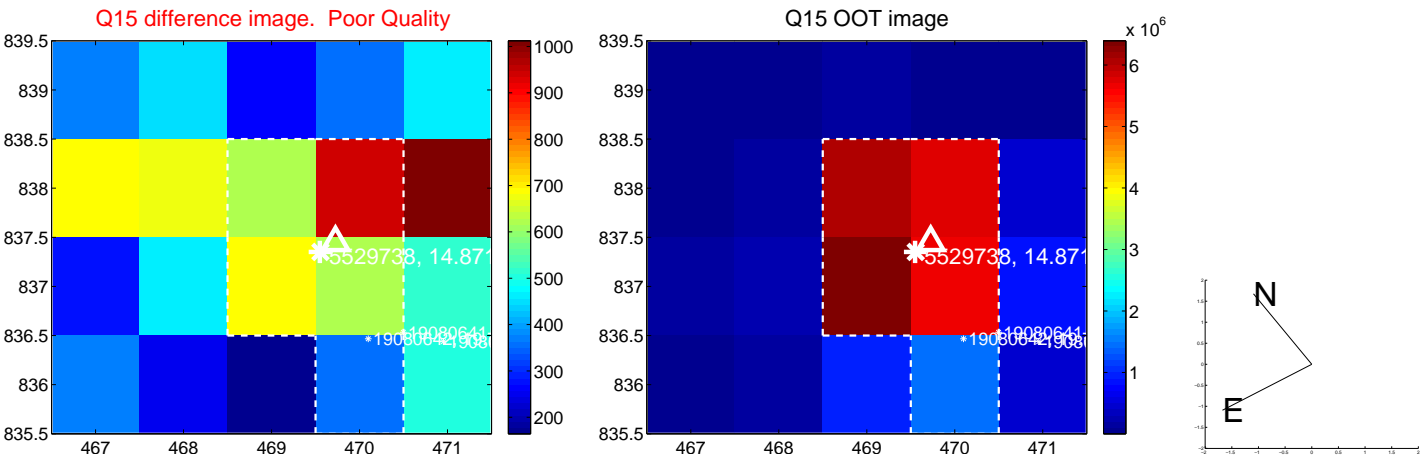
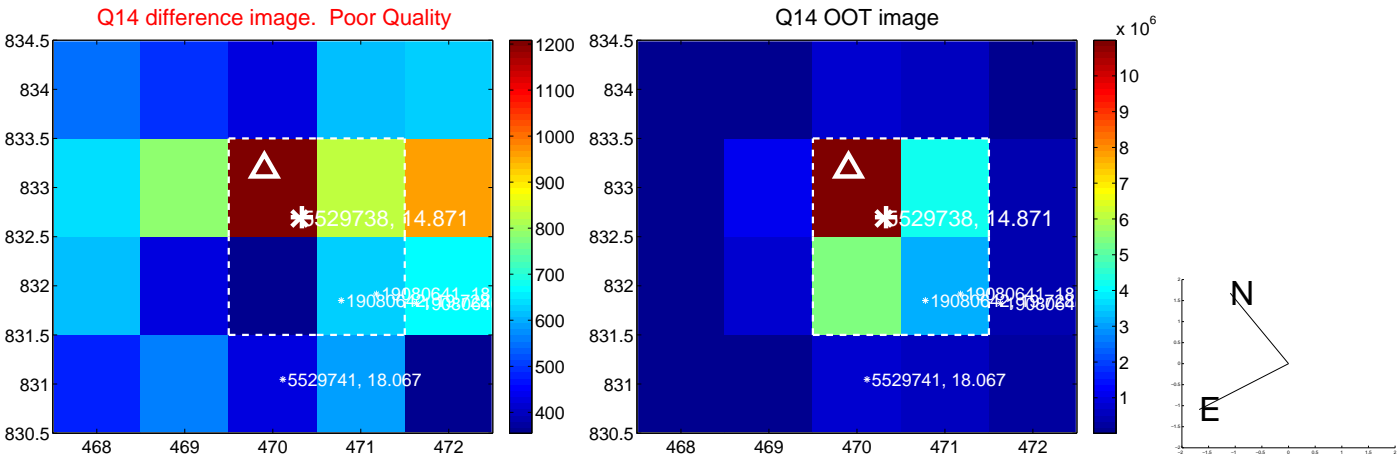
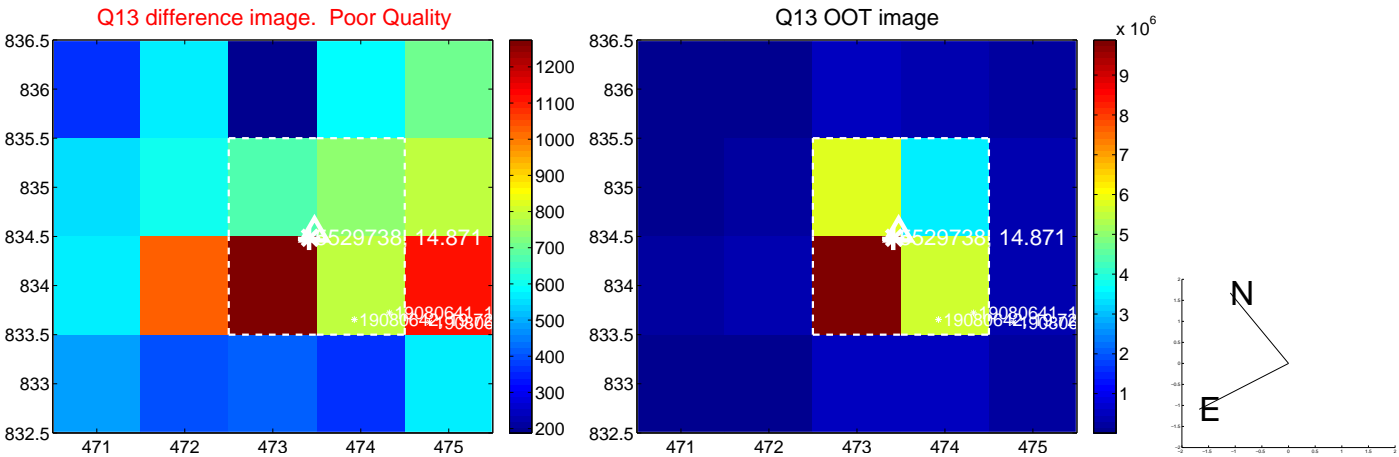
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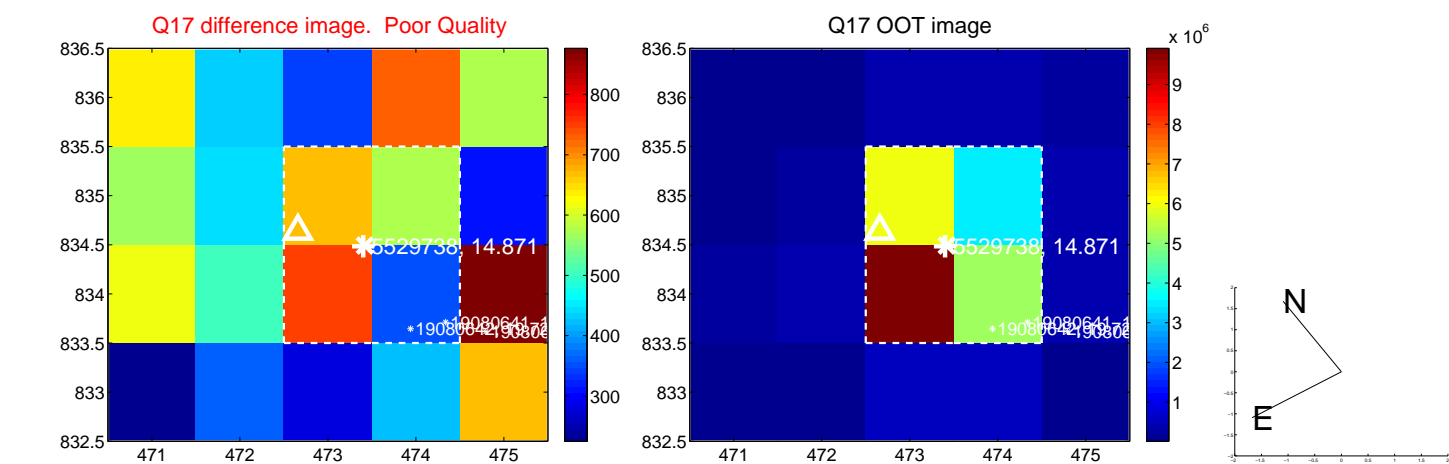
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



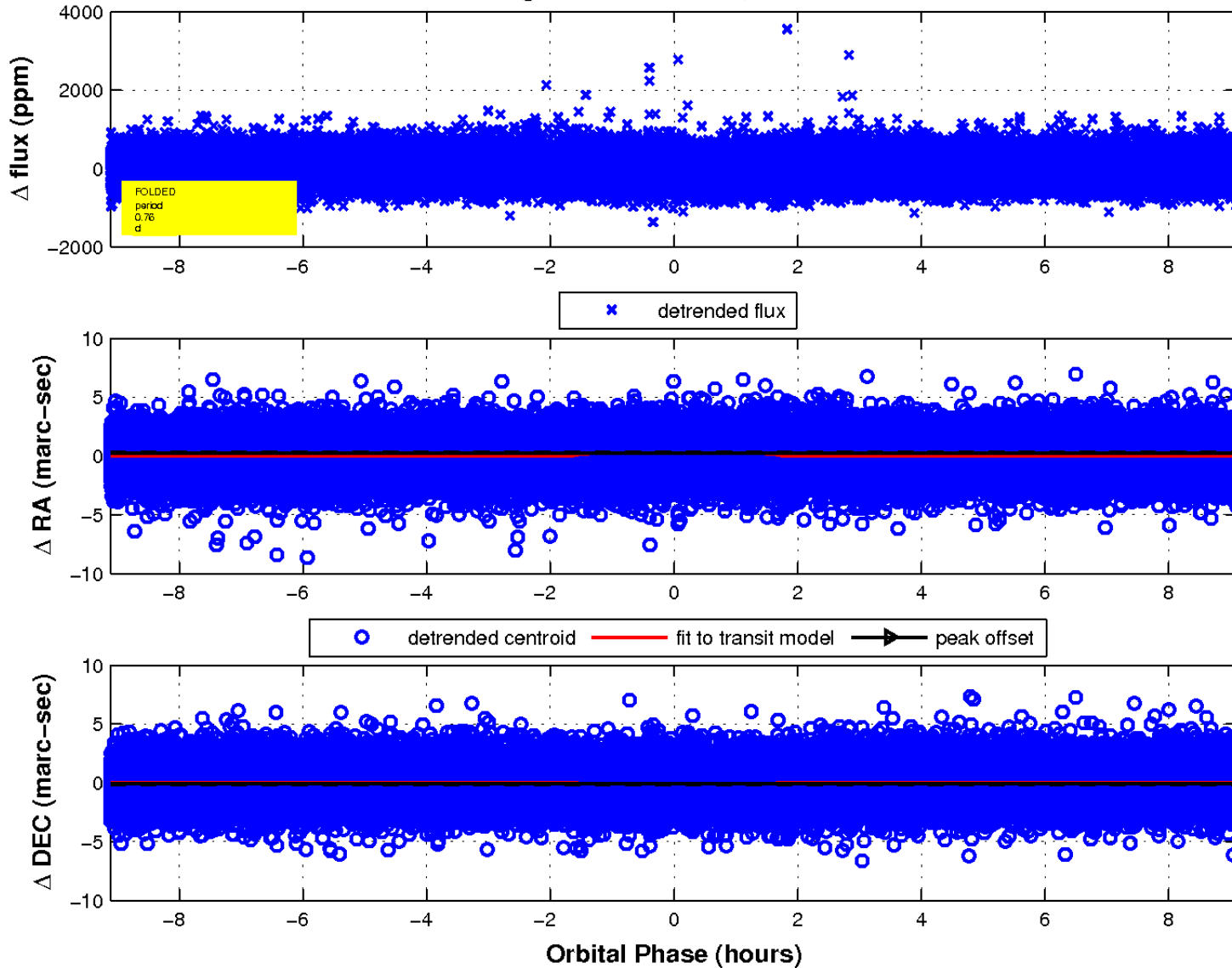
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

