

KIC 006123381

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})
006123381-01	OBS	No	0.525967	131.632128	49.5	1.843	9.0	5.8	0.84	5573	0.71	3906.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006123381-01	OBS	FP	0.00	1	0	0	1	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—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.

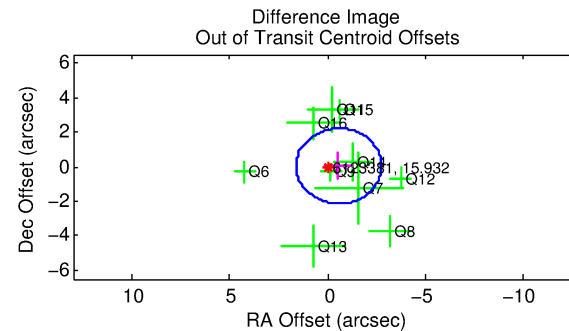
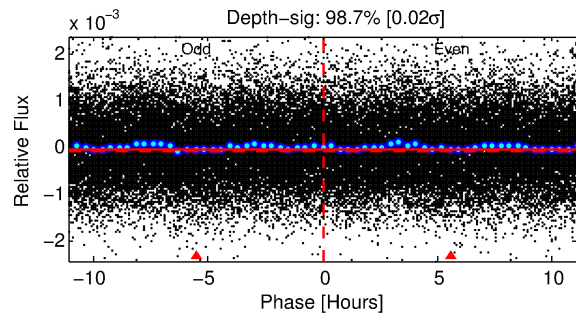
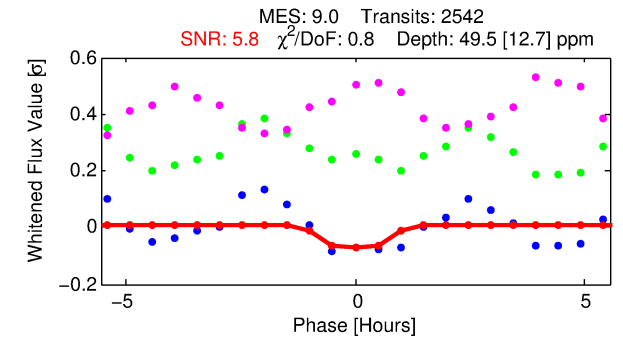
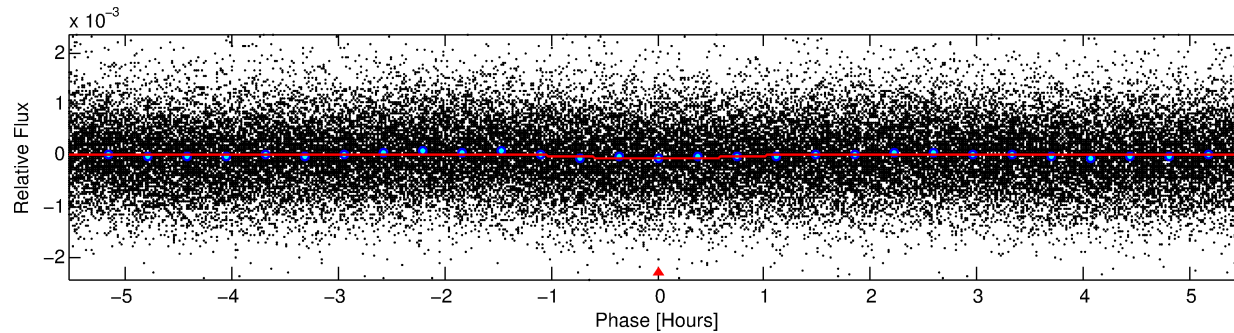
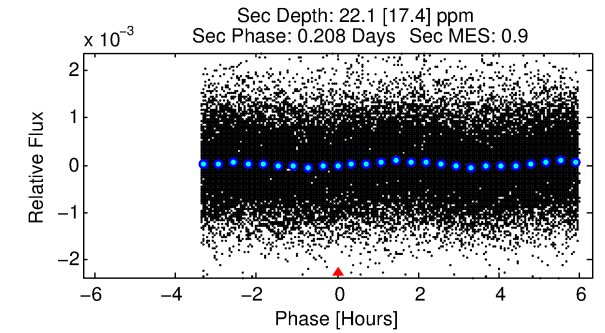
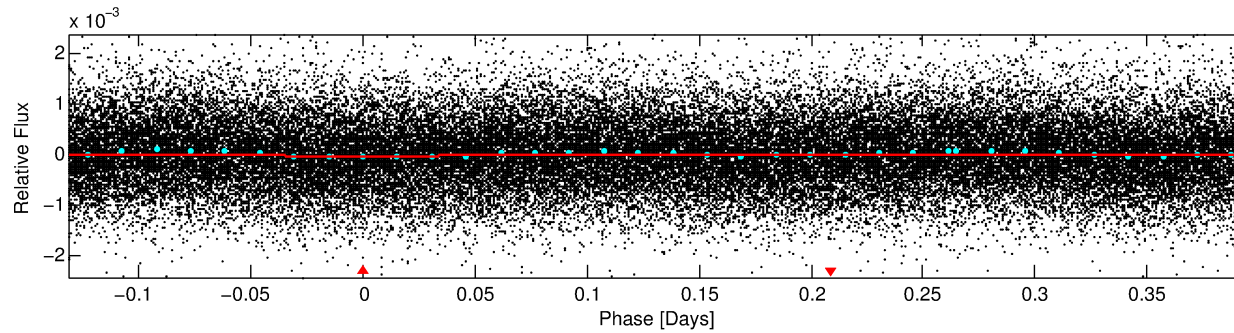
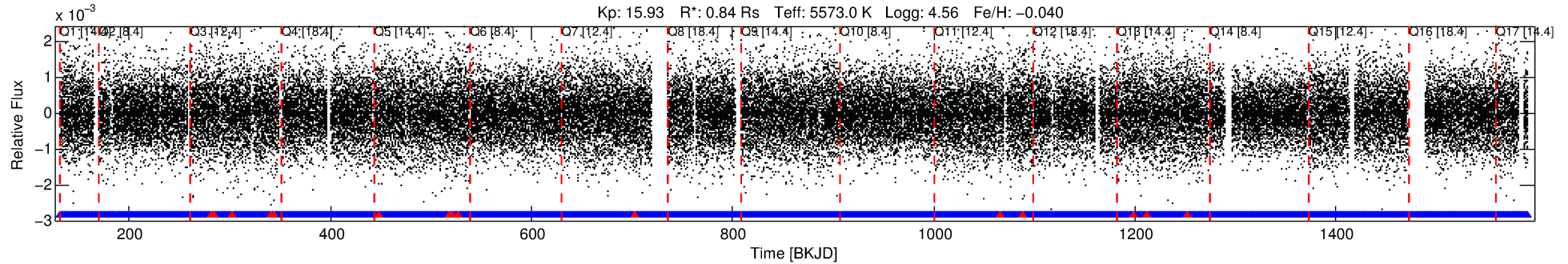
Ephemeris Match Information For 006123381-01

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
006123381-01	6123381	006204758-01	6204758	1:1	102.0	-25	-4	15.15	15.93	1.14	Col-Anomaly	1	0.11	1.47

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: 6123381 Candidate: 1 of 1 Period: 0.526 d



DV Fit Results:

Period = 0.52597 [0.00002] d
Epoch = 131.6321 [0.0043] BKJD
Rp/R* = 0.0077 [0.0096]
a/R* = 1.36 [3.58]
b = 0.90 [1.24]
Seff = 3906.74 [1282.72]
Teq = 2016 [165] K
Rp = 0.71 [0.89] Re
a = 0.0125 [0.0026] AU
Ag = 3.79 [9.91] [0.28σ]
Teff = 4349 [2828] K [0.82σ]

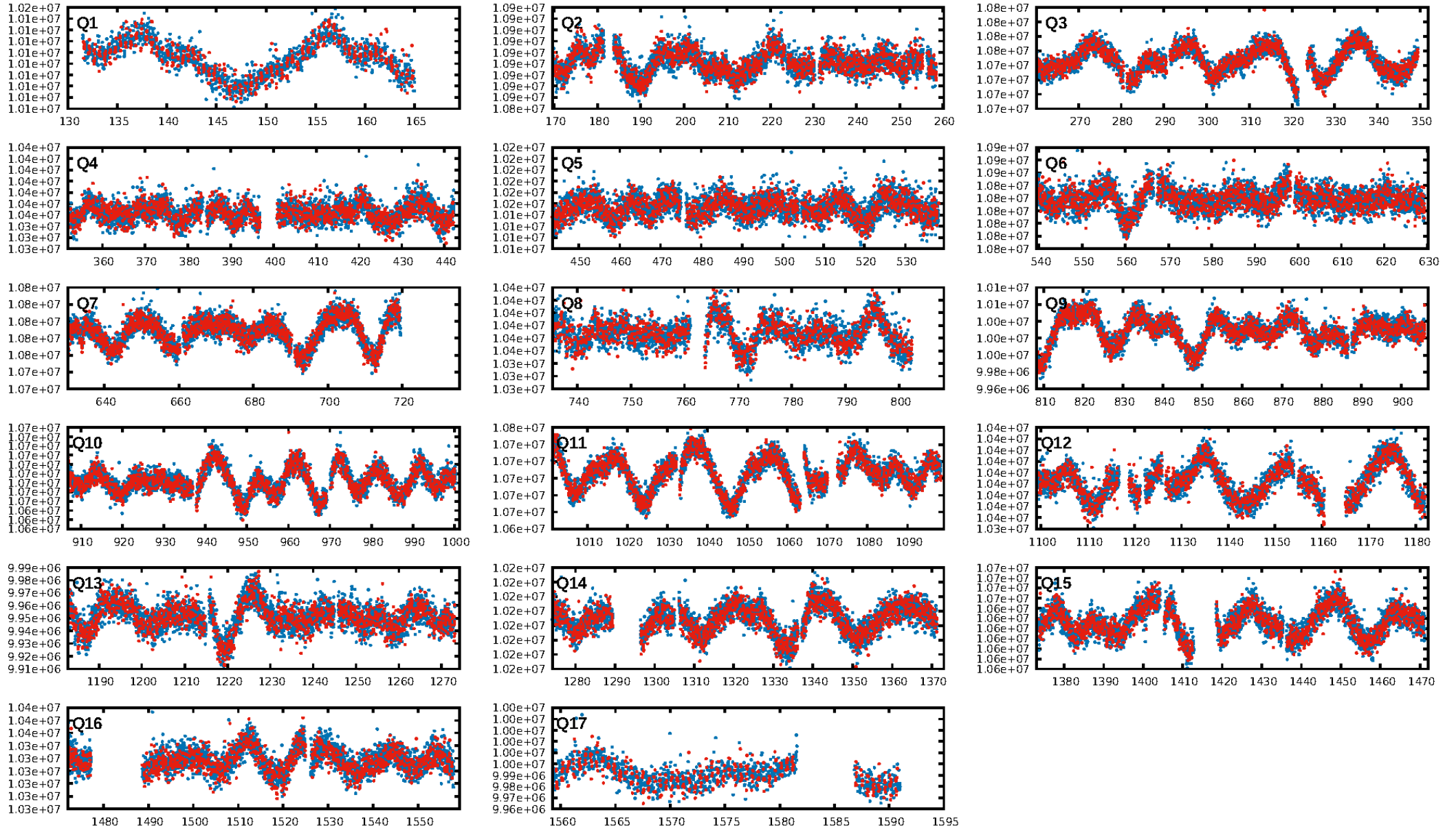
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.69e-20
RollingBand-fgt: 0.99 [2412/2428]
GhostDiagnostic-chr: 0.8908
Centroid-sig: 43.8%
Centroid-so: 1.413 arcsec [0.72σ]
OotOffset-rm: 0.570 arcsec [0.78σ]
KicOffset-rm: 0.532 arcsec [0.79σ]
OotOffset-st: 2/3/3/2 [10]
KicOffset-st: 2/3/3/2 [10]
DiffImageQuality-fgm: 0.10 [1/10]
DiffImageOverlap-fno: 1.00 [17/17]

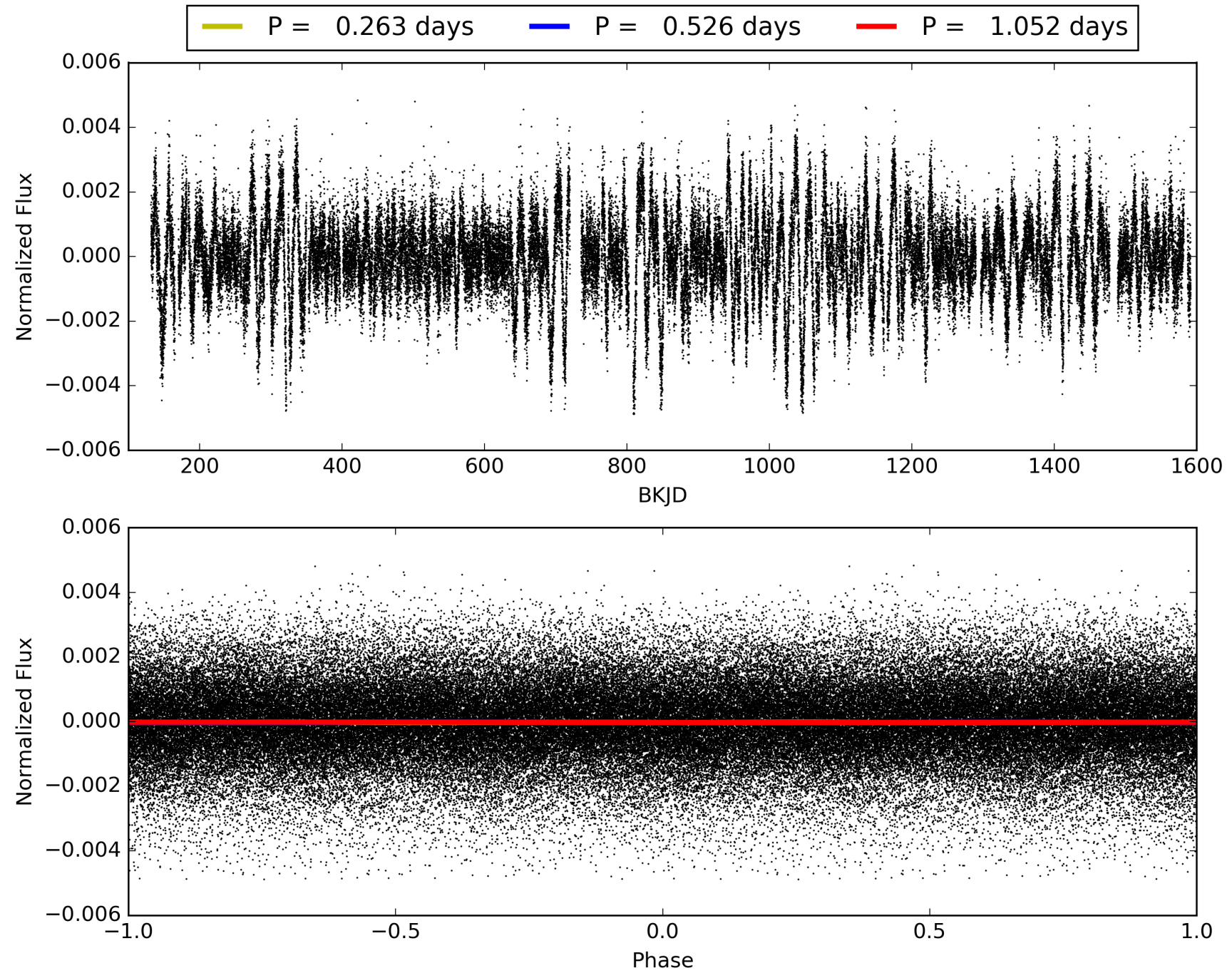
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:25:13 Z

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

TCE 006123381-01, PDC Light Curves

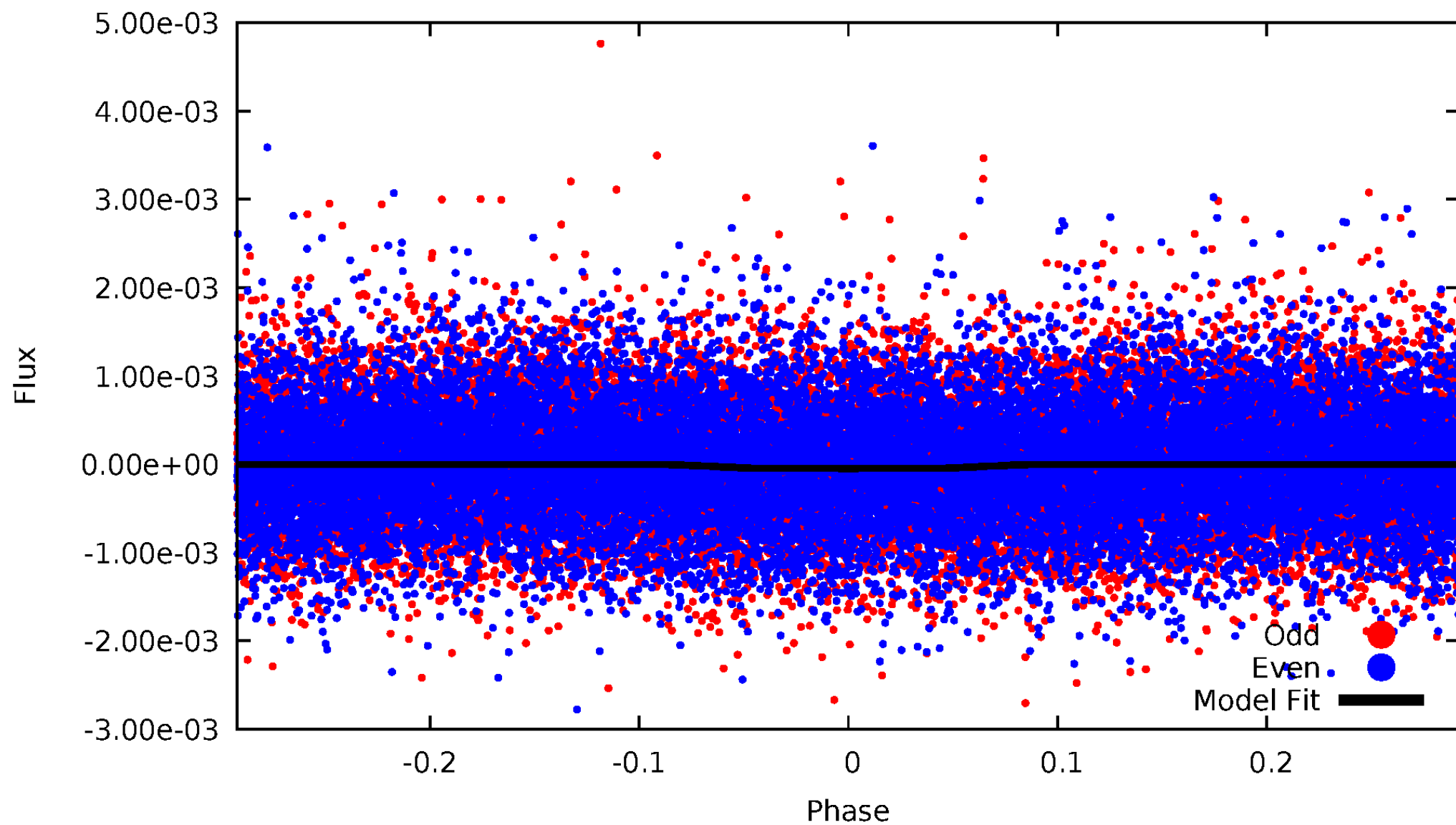


TCE 006123381-01



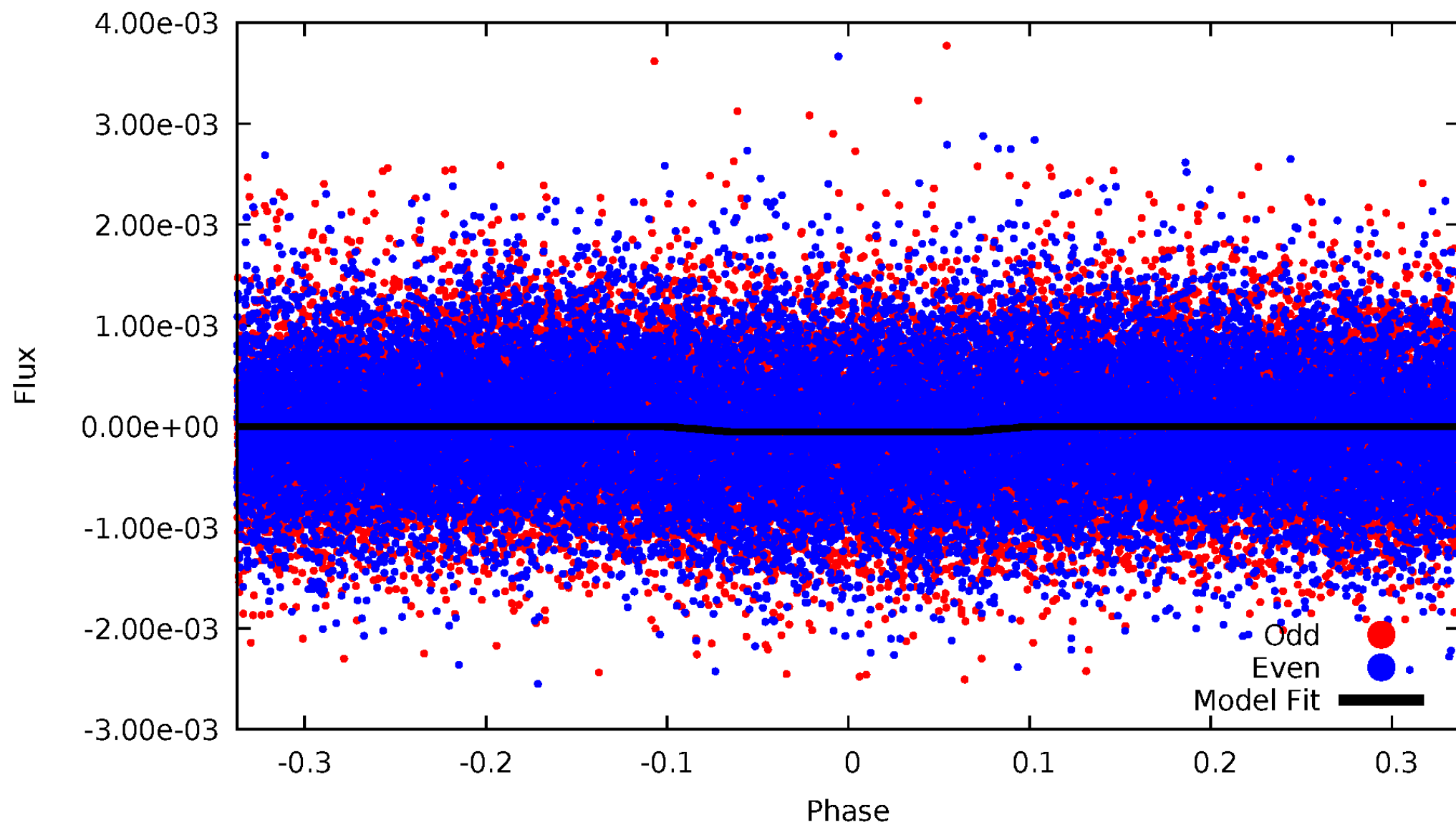
DV Odd/Even

TCE 006123381-01

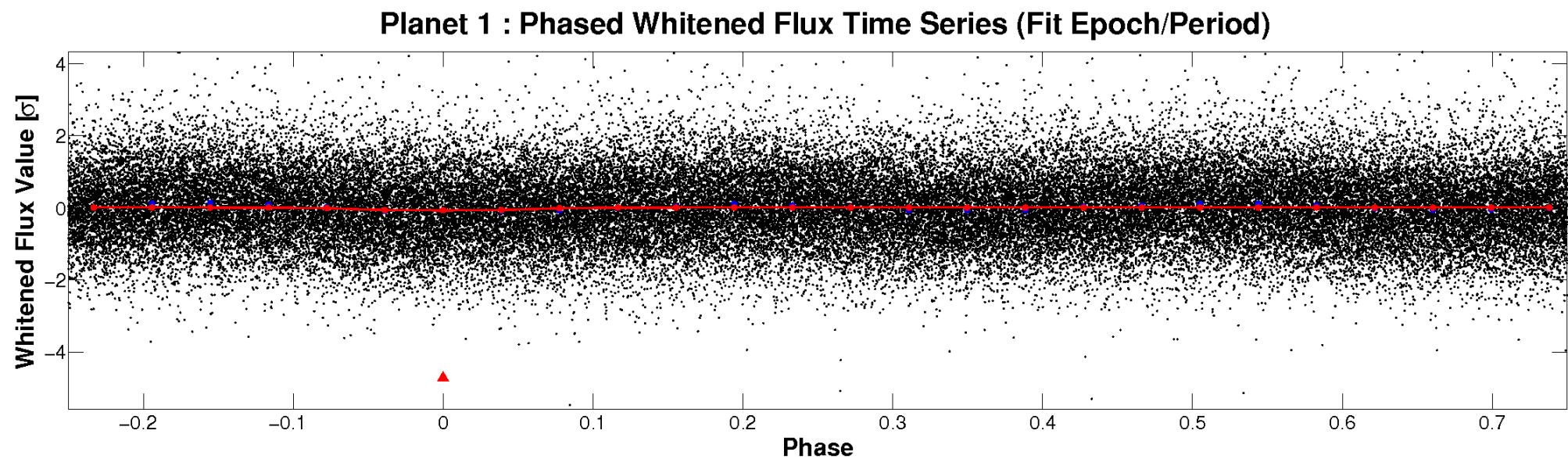
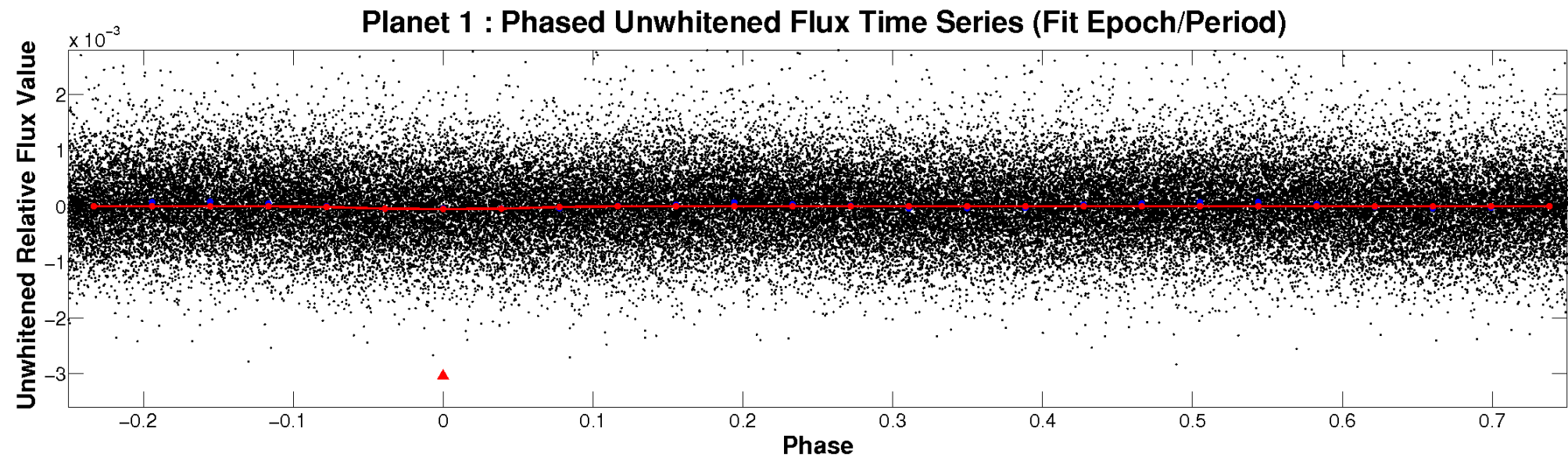


ALT Odd/Even

TCE 006123381-01

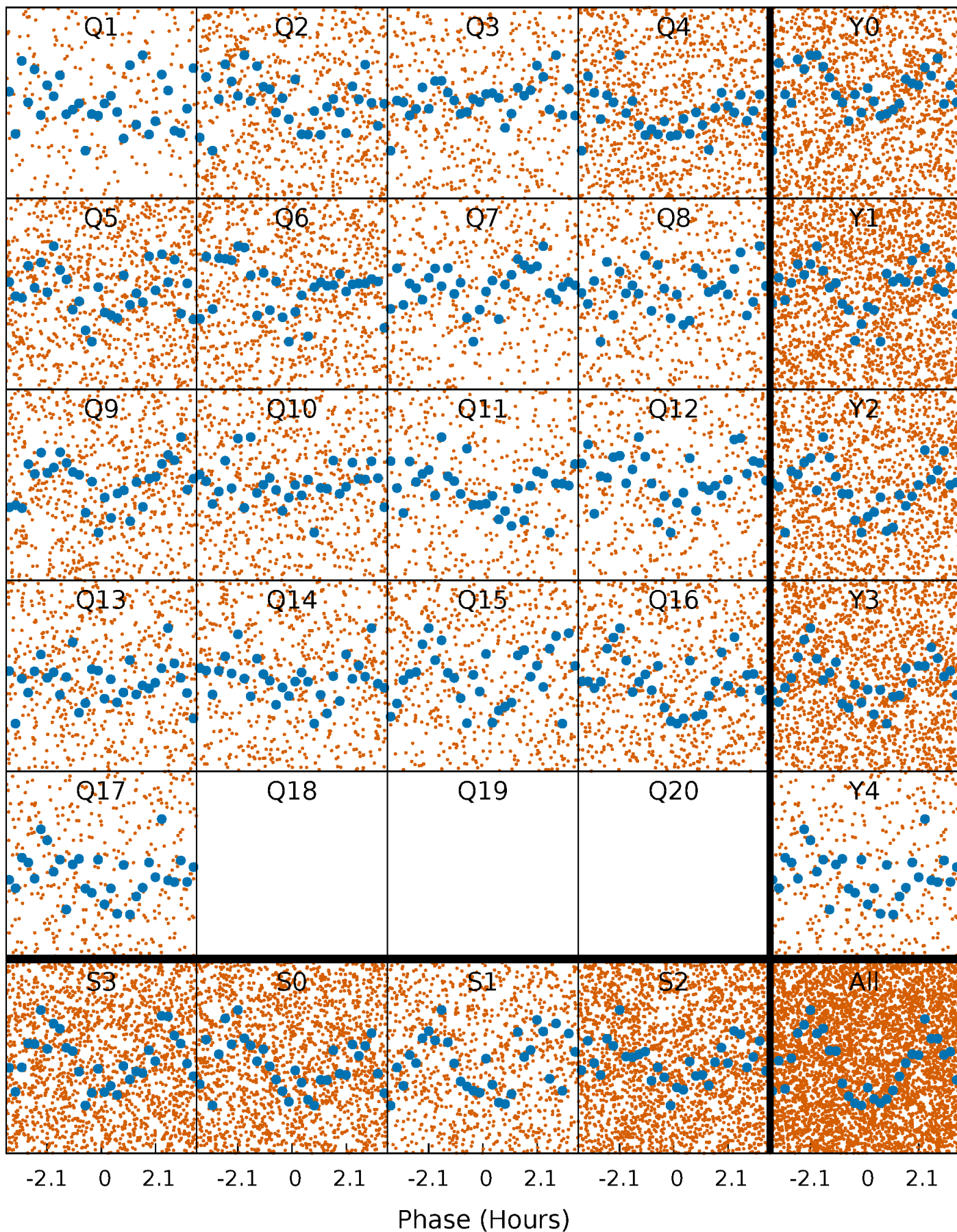


Non-Whitened Vs. Whitened Light Curve



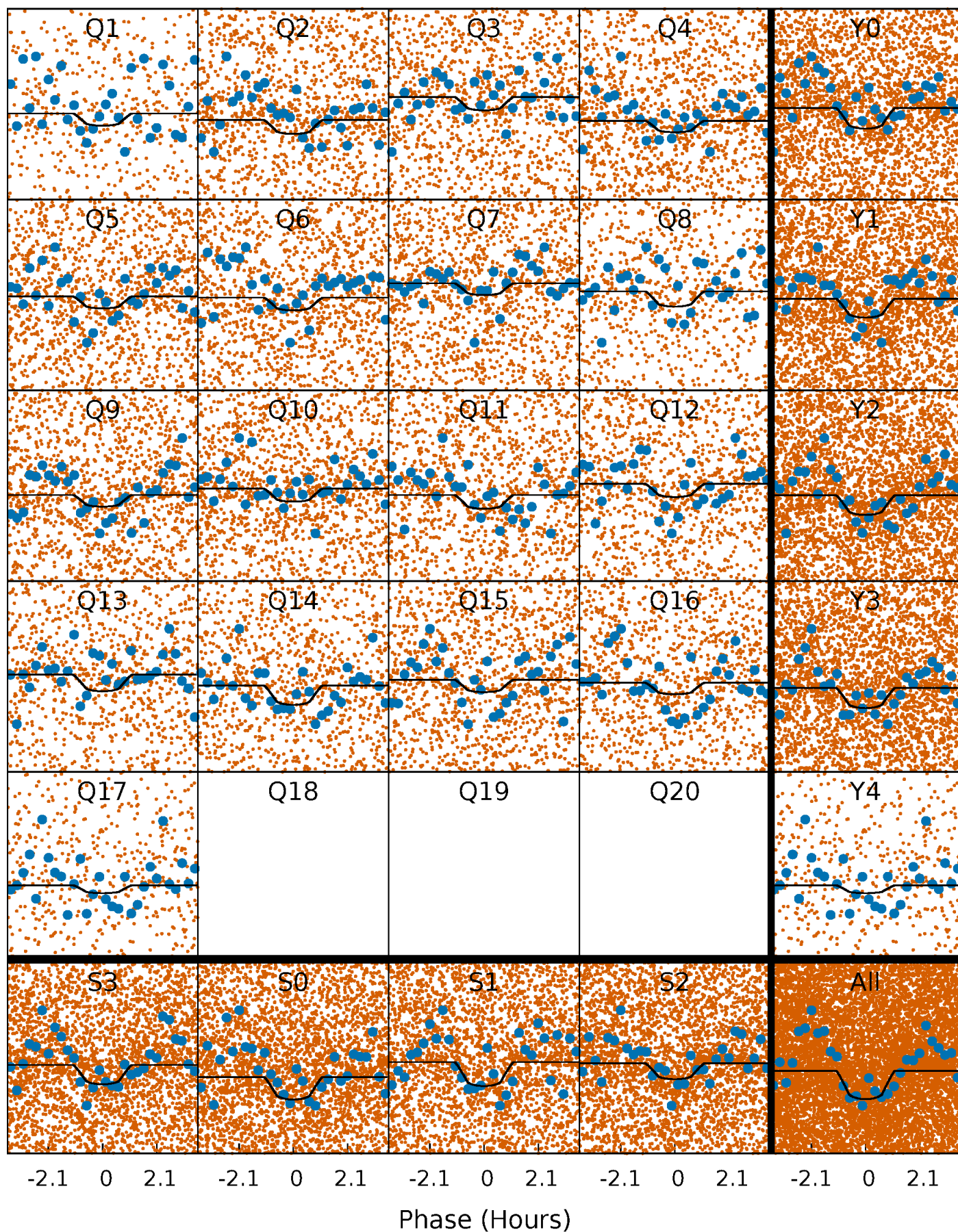
PDC Quarter-Phased Transit Curves

TCE 006123381-01 P= 0.525967 Days $T_0=131.632128$ (BKJD)



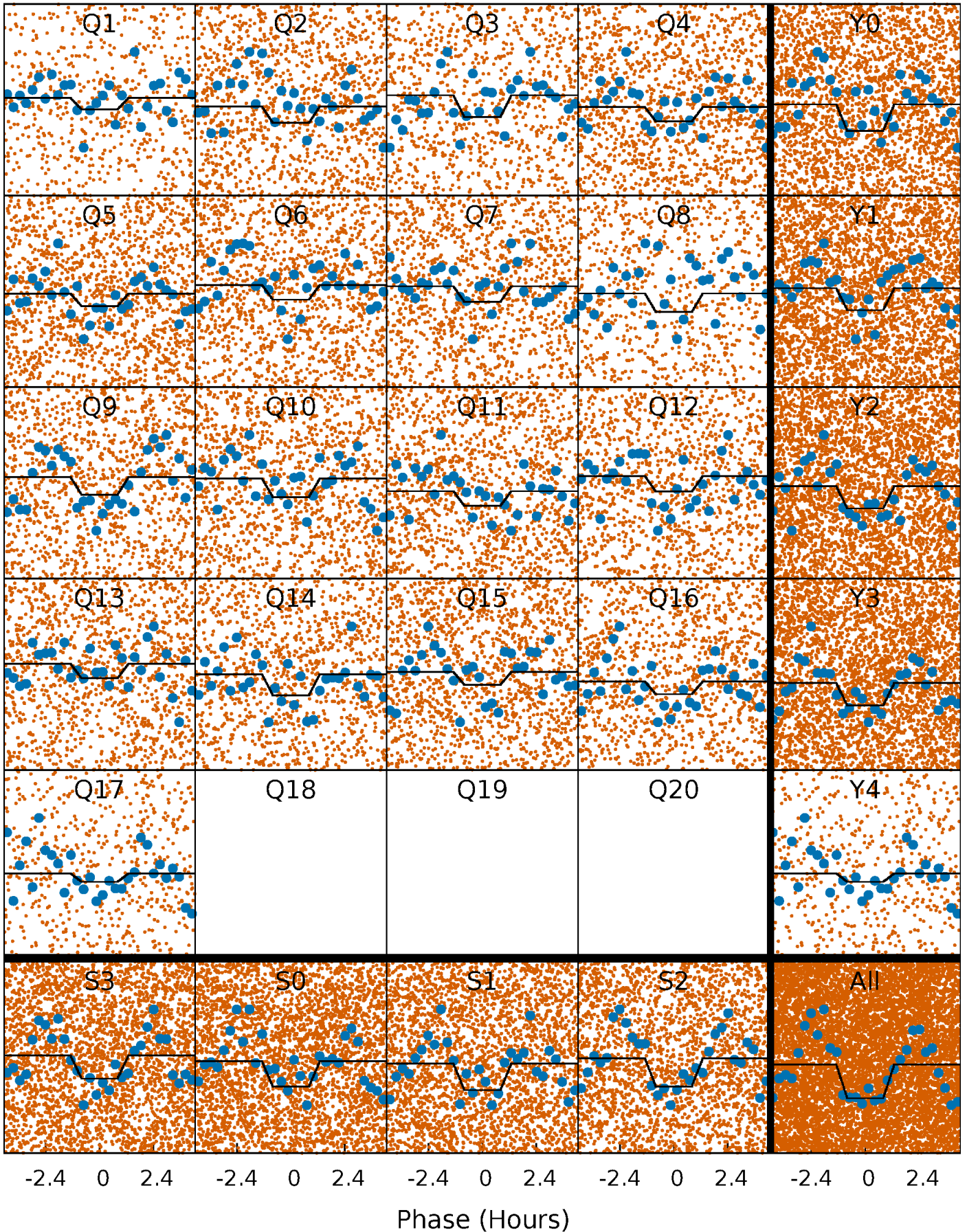
DV Quarter-Phased Transit Curves

TCE 006123381-01 P= 0.525967 Days $T_0=131.632128$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

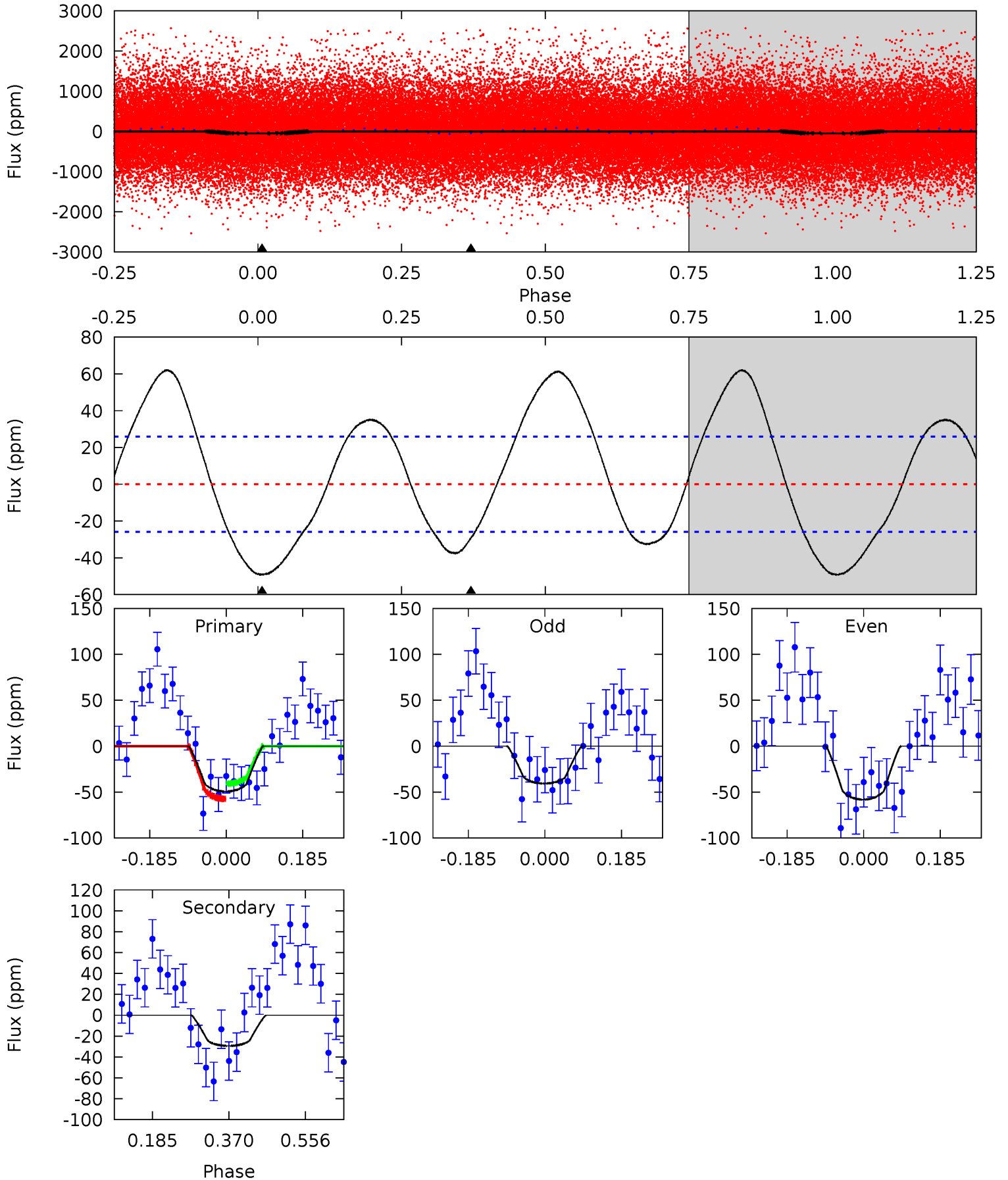
TCE 006123381-01 P= 0.525973 Days $T_0=131.631806$ (BKJD)



DV Model-Shift Uniqueness Test

006123381-01, P = 0.525967 Days, E = 131.106161 Days

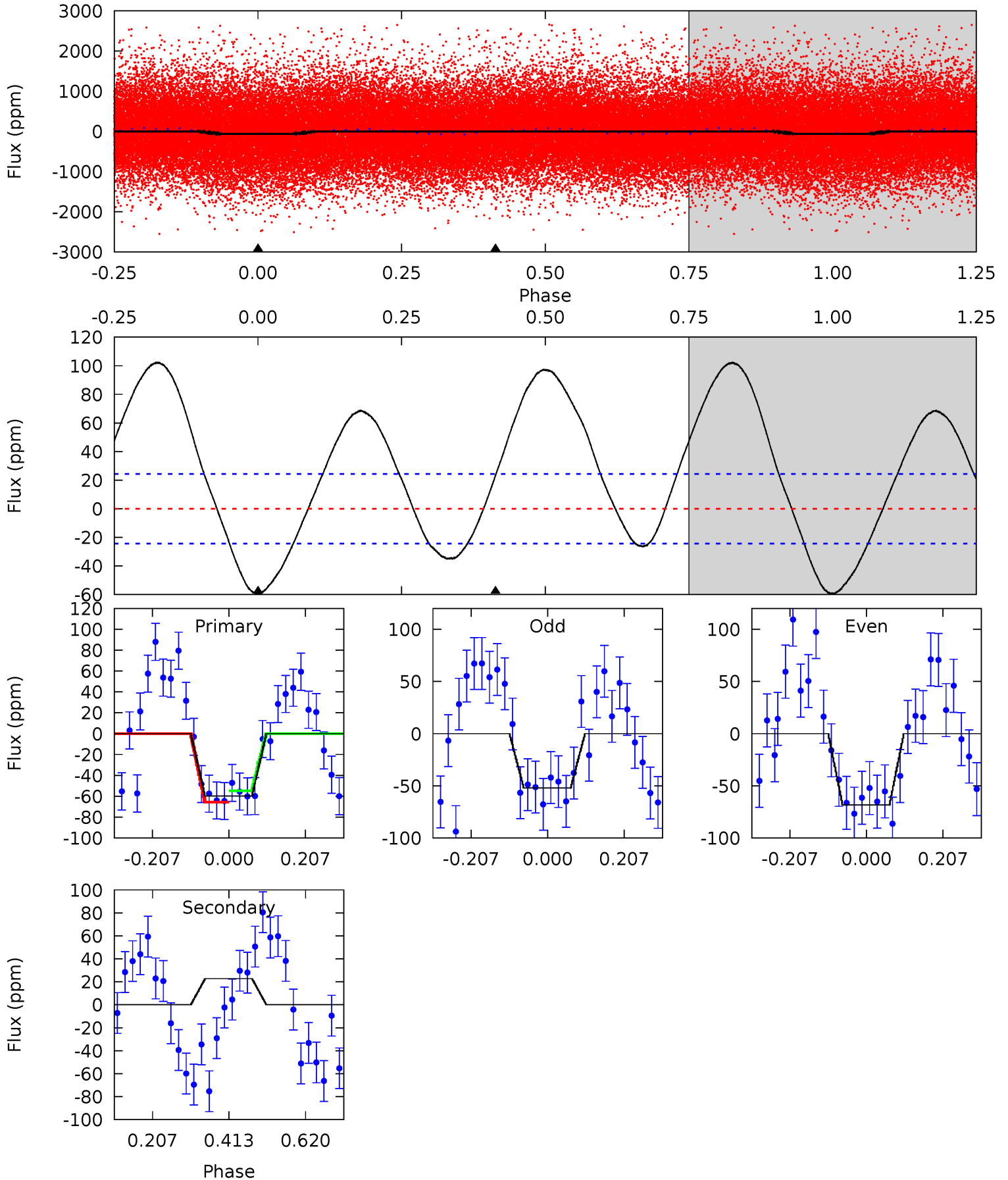
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.46	5.04	0	0	4.43	1.32	4.94	8.46	8.46	5.04	5.04	1.50	0.94	0.56	1.43



Alt Model-Shift Uniqueness Test

006123381-01, P = 0.525973 Days, E = 131.105833 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	-4.12	0	0	4.41	1.26	6.77	10.8	10.8	-4.12	-4.12	1.46	1.06	0.63	0.97



Stellar Parameters For KIC 006123381

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5573^{+149}_{-166}	$4.562^{+0.030}_{-0.170}$	$-0.040^{+0.300}_{-0.300}$	$0.839^{+0.201}_{-0.067}$	$0.939^{+0.081}_{-0.112}$	$2.238^{+0.371}_{-1.029}$
	+3%/-3%	+1%/-4%	+750%/-750%	+24%/-8%	+9%/-12%	+17%/-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 006123381-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-29 ± 6	$0.94^{+0.89}_{-0.60}$	2886^{+166}_{-118}	4213^{+2414}_{-1033}	$2.689^{+16.268}_{-1.985}$
Alt.	23 ± 6	$0.95^{+0.88}_{-0.65}$	2882^{+157}_{-125}	-4236^{+690}_{-2318}	$-2.076^{+1.510}_{-15.321}$

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

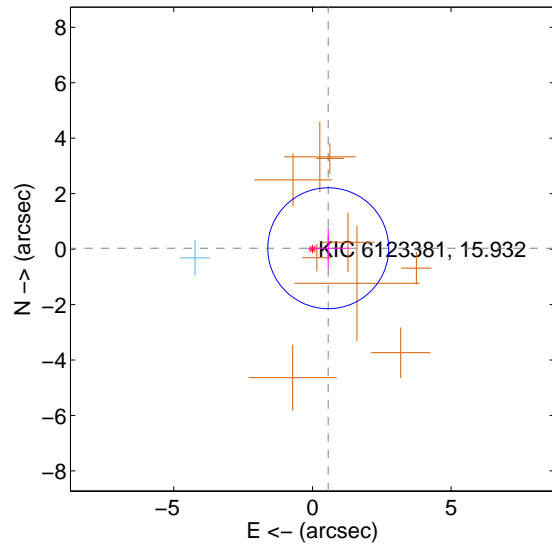
Supplemental centroid analysis for 006123381-01. Kepler magnitude: 15.93. Transit SNR 5.76

There are 1 quarters with good PRF difference image offsets

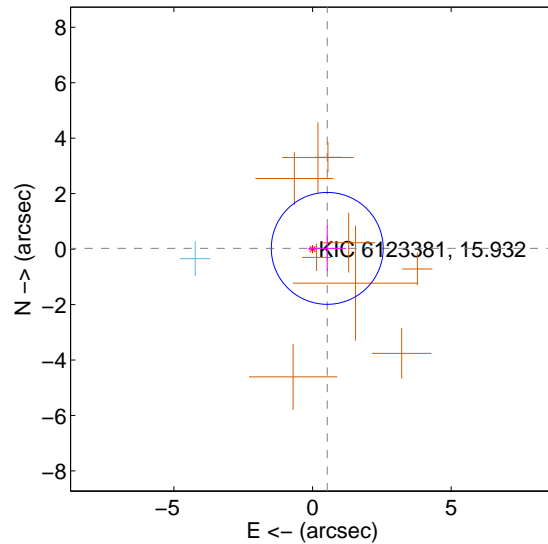
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.570 ± 0.727	0.78	-0.570 ± 0.736	0.031 ± 0.731
PRF-fit source offset from KIC position	0.532 ± 0.673	0.79	-0.531 ± 0.682	0.026 ± 0.816
photometric centroid source offset	1.41 ± 1.95	0.72	-0.39 ± 2.26	-1.36 ± 1.93

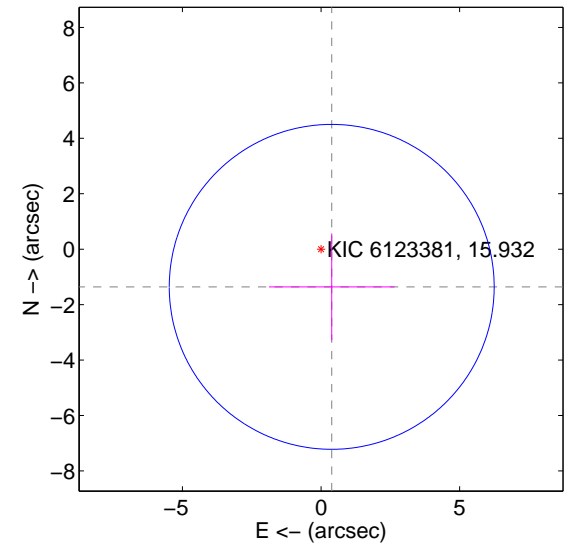
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

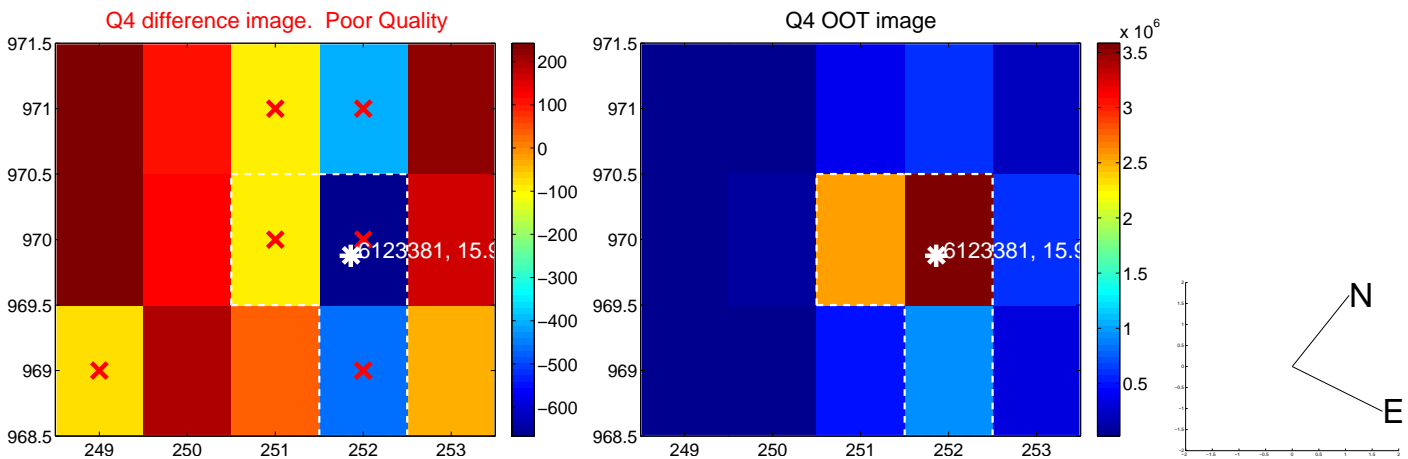
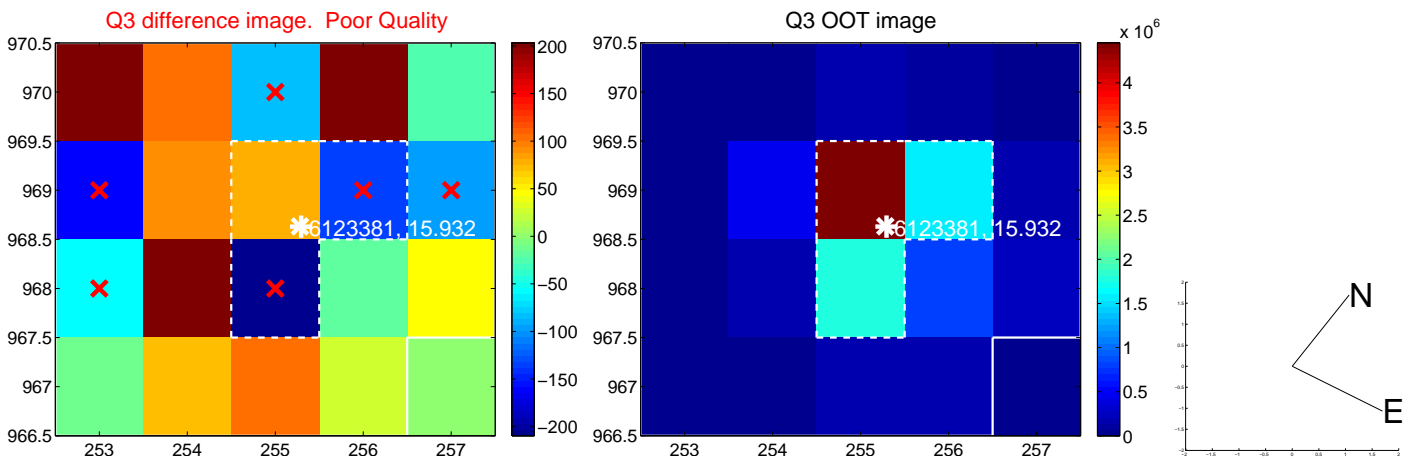
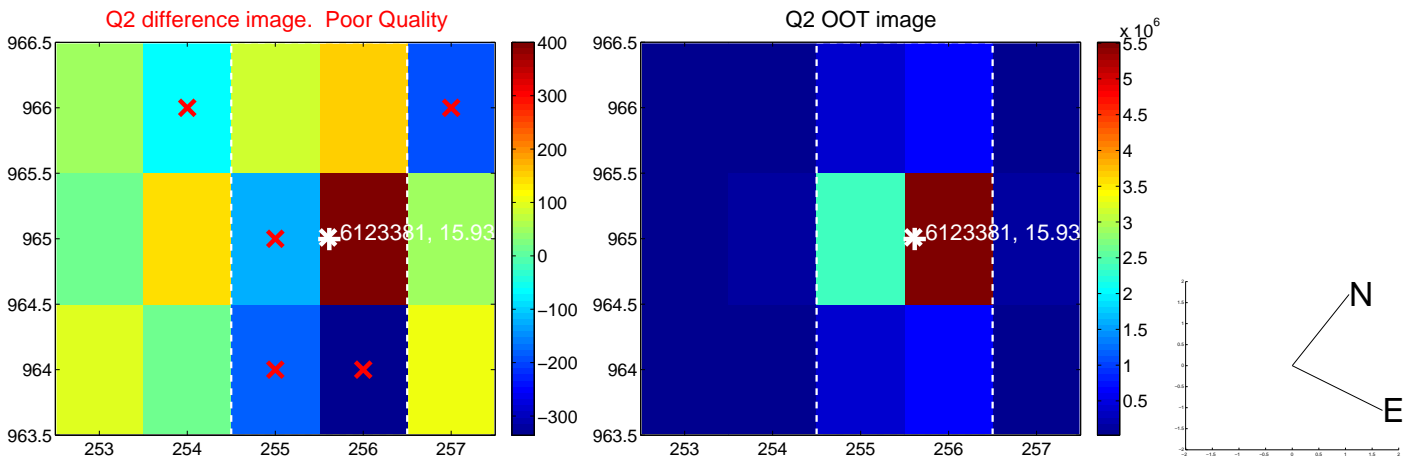
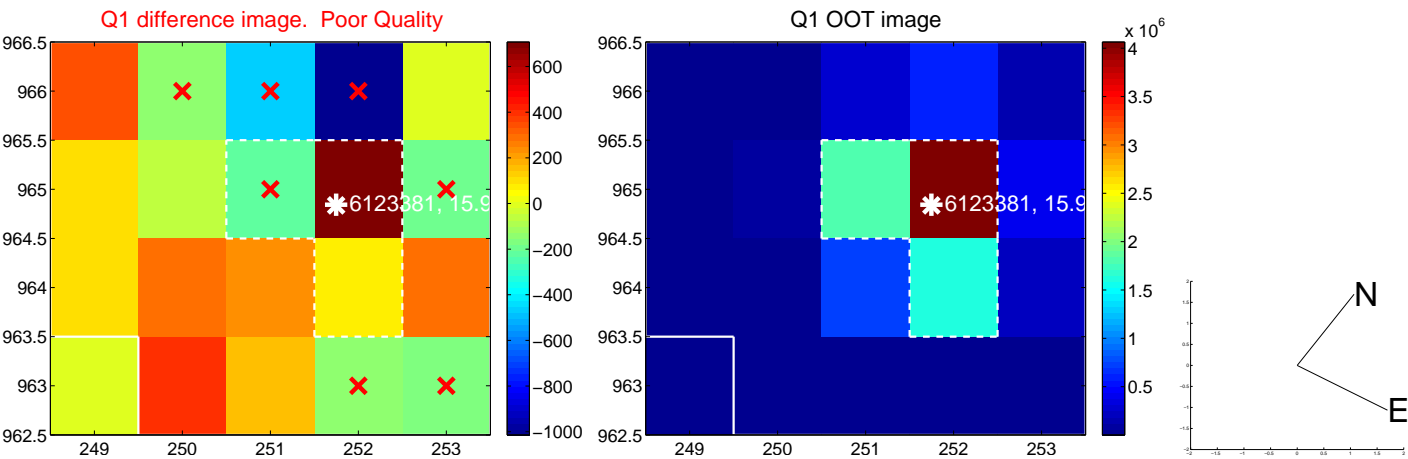


offset from photometric centroids

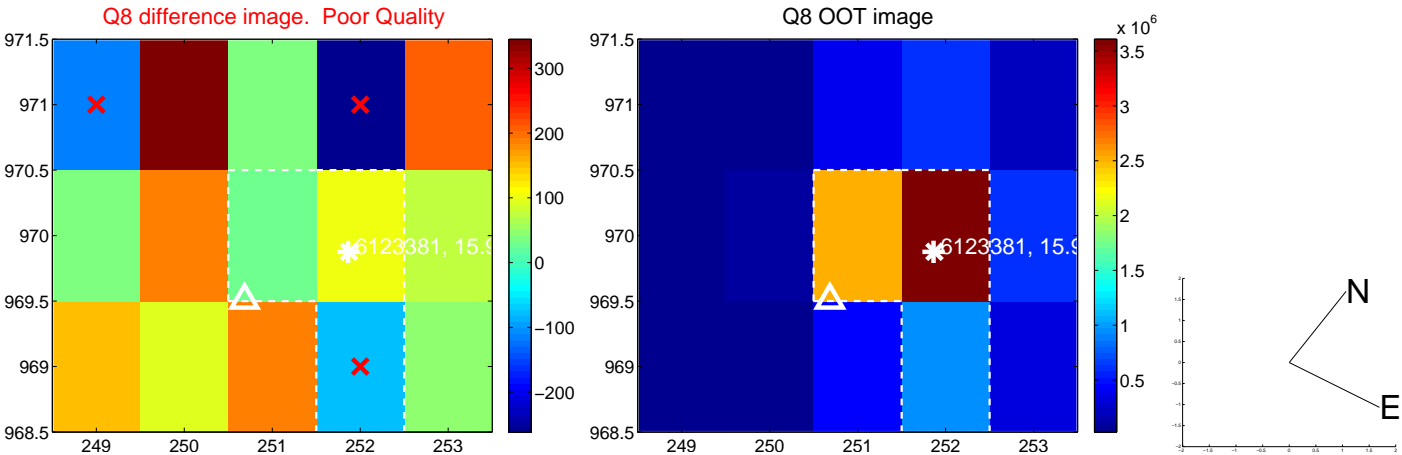
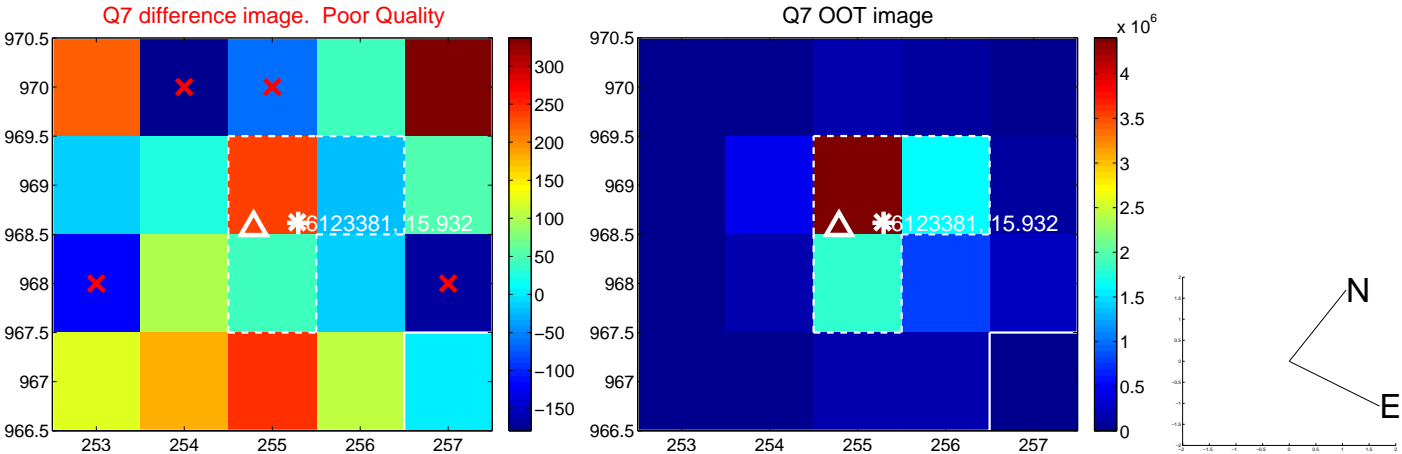
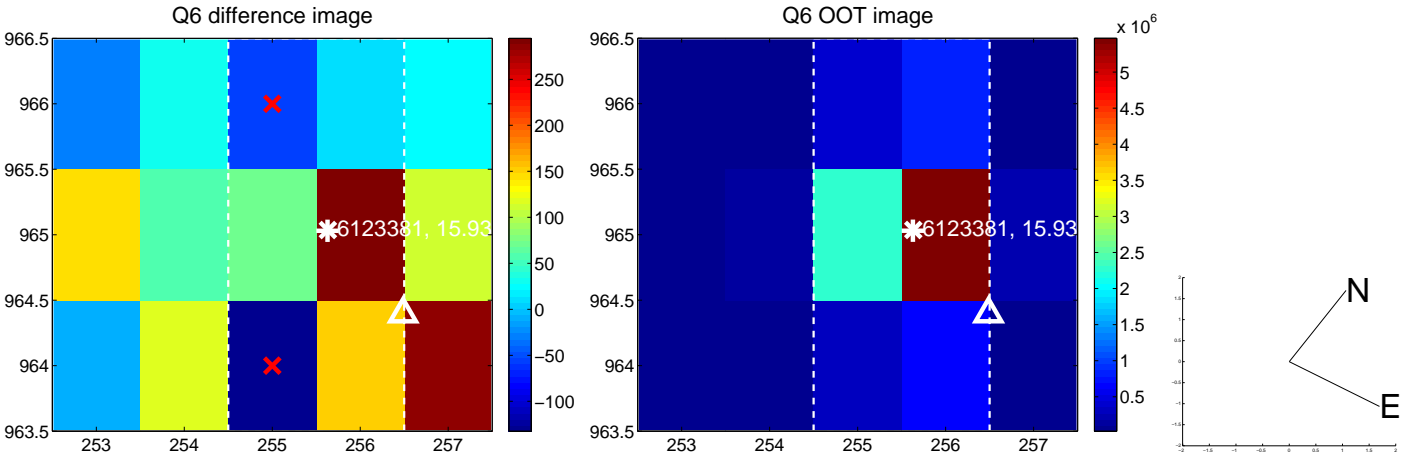
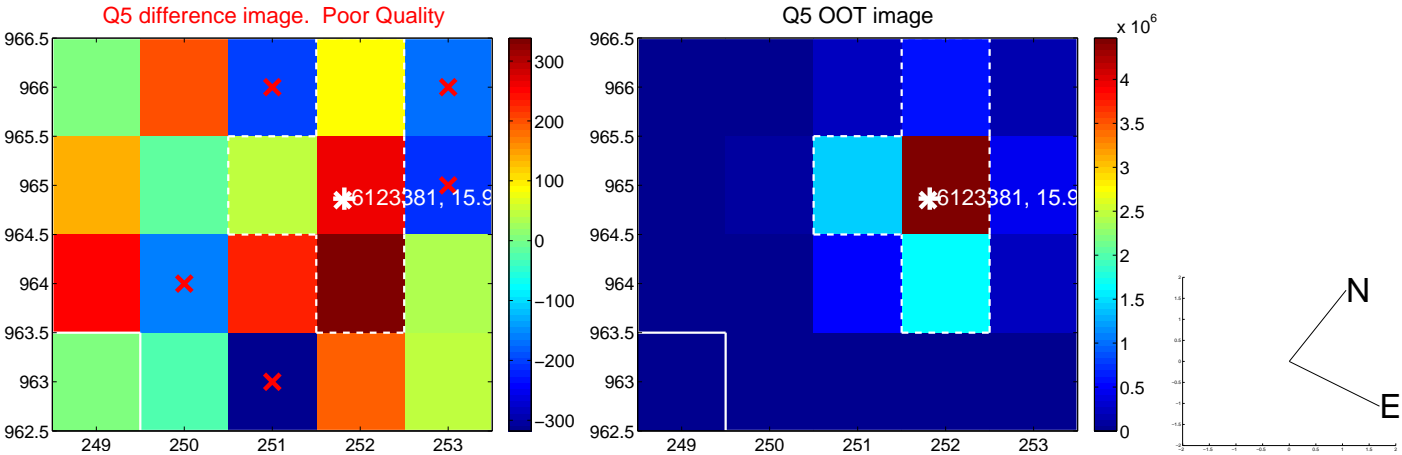


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

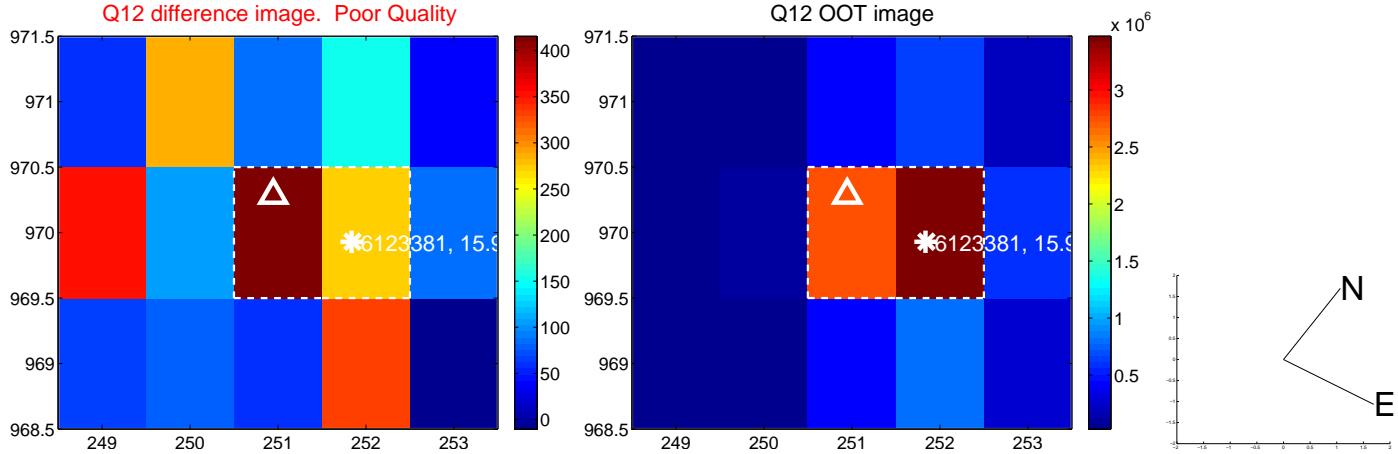
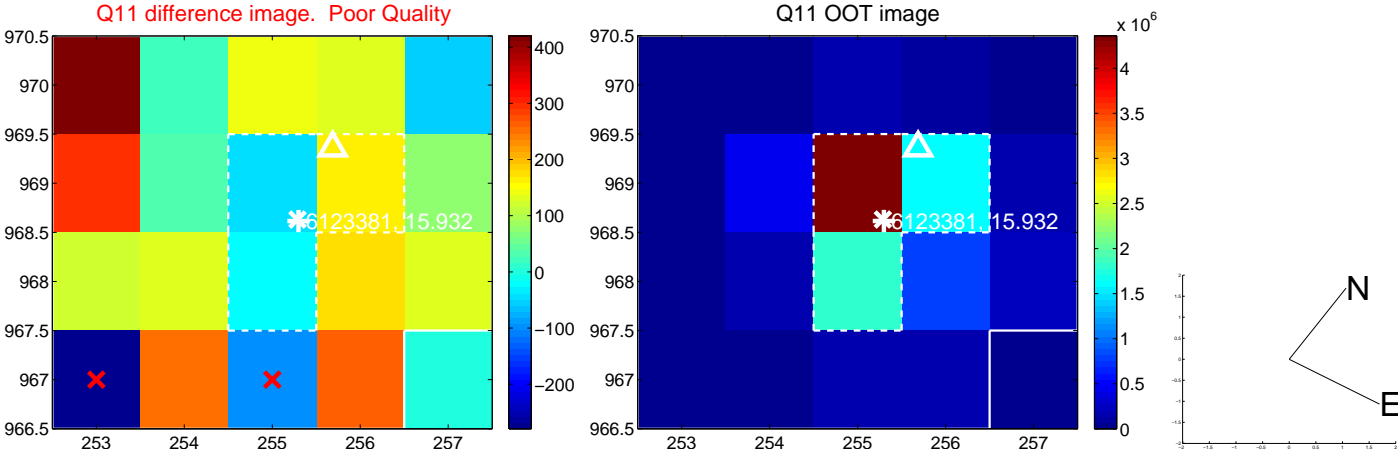
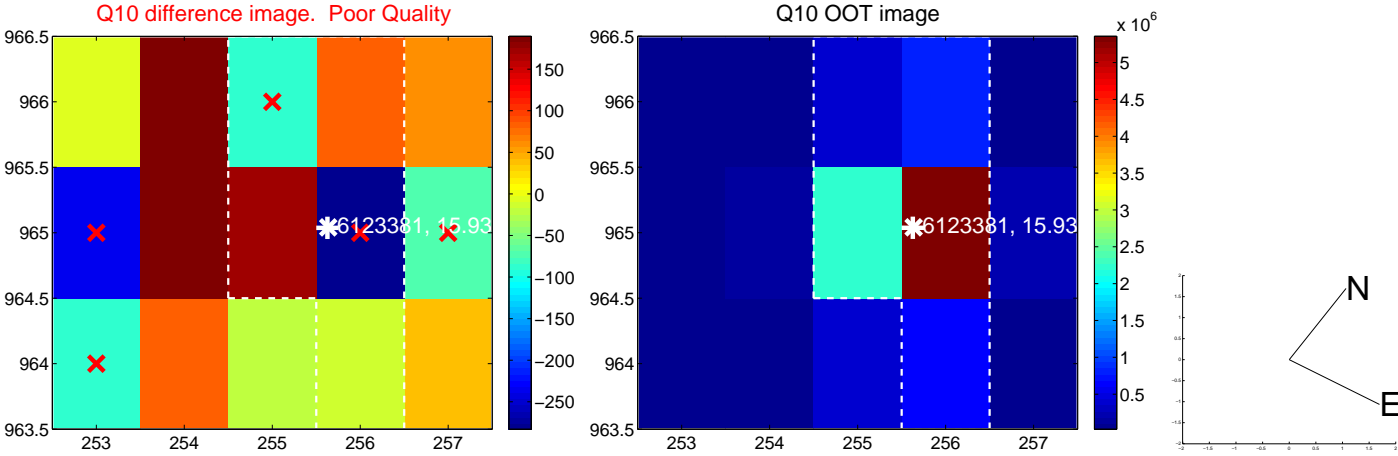
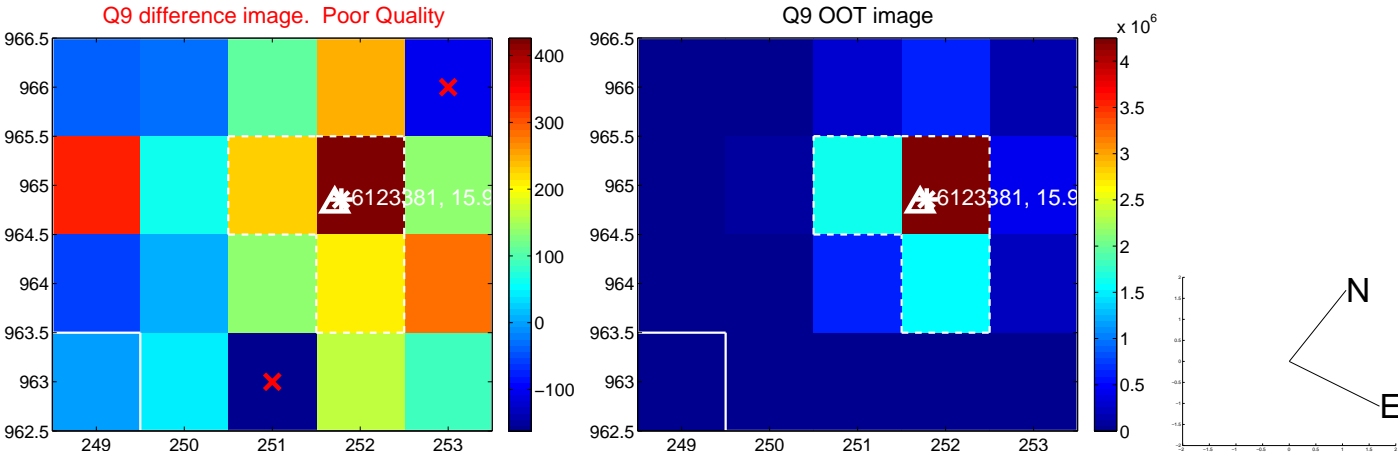
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



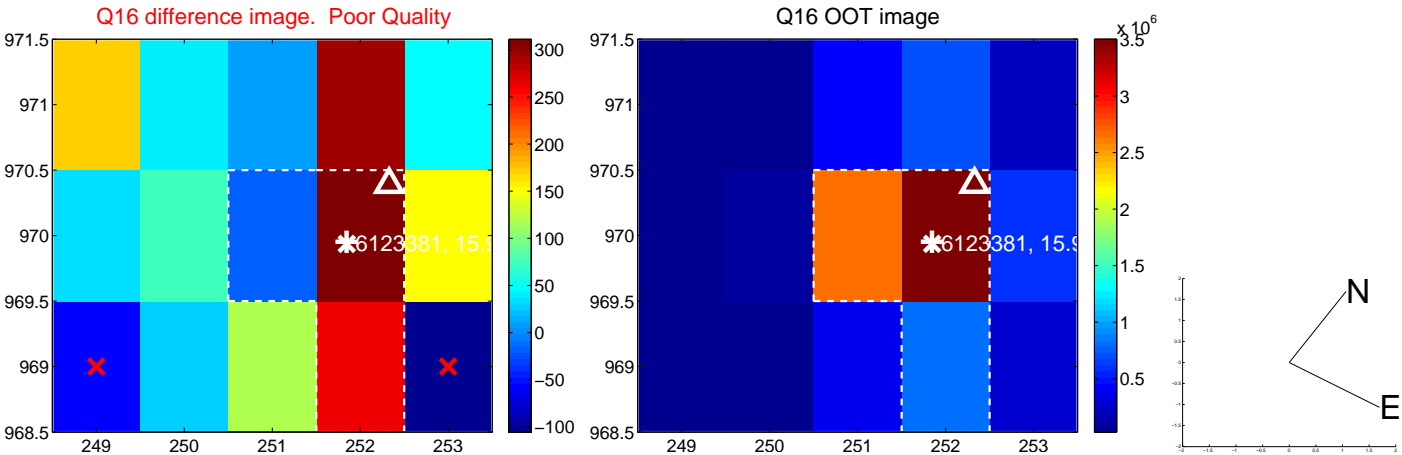
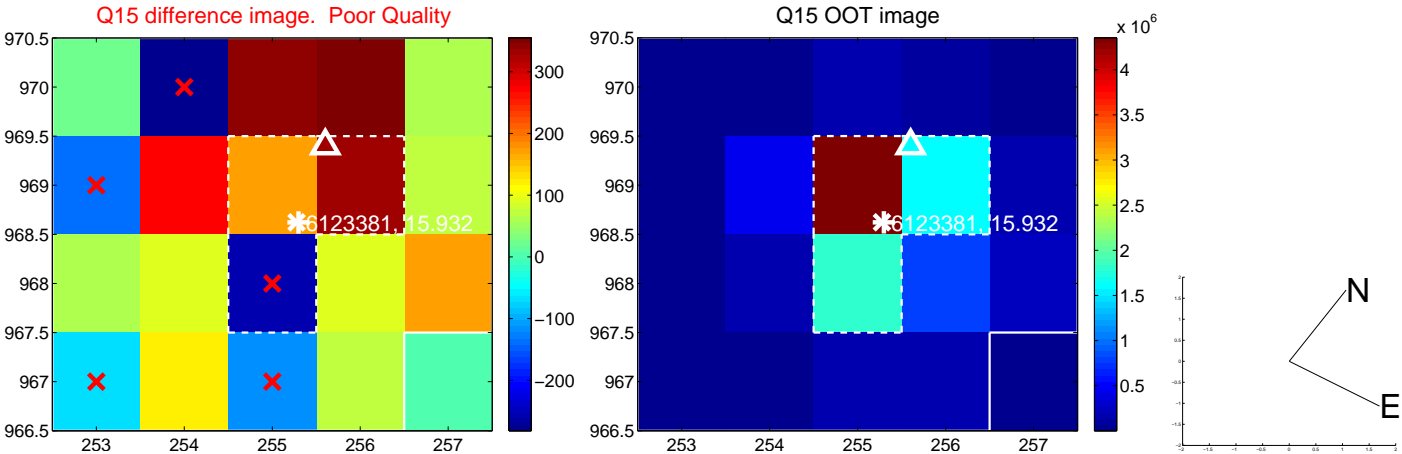
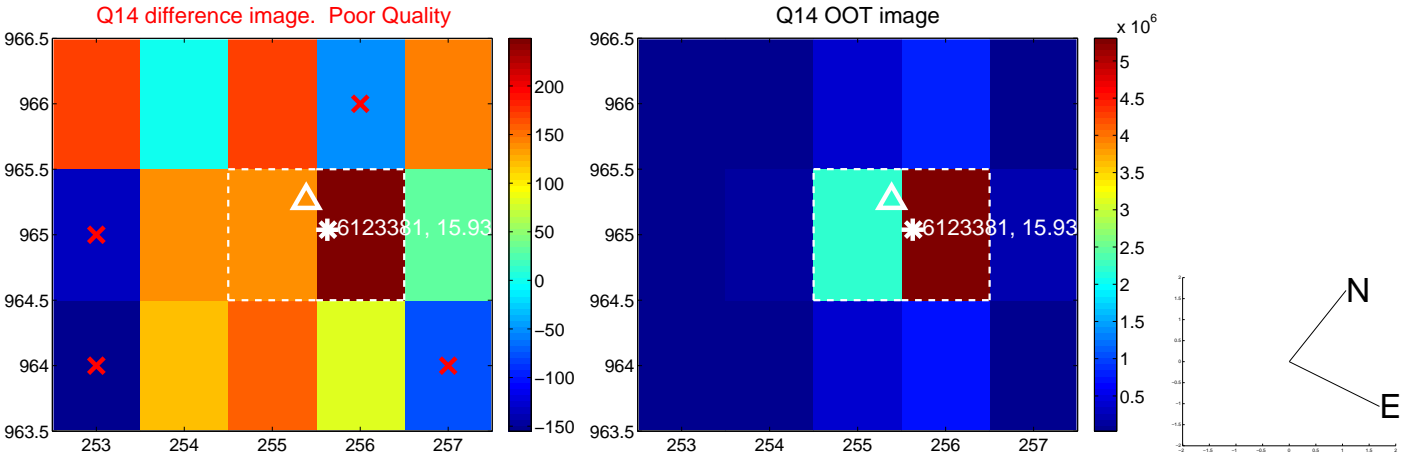
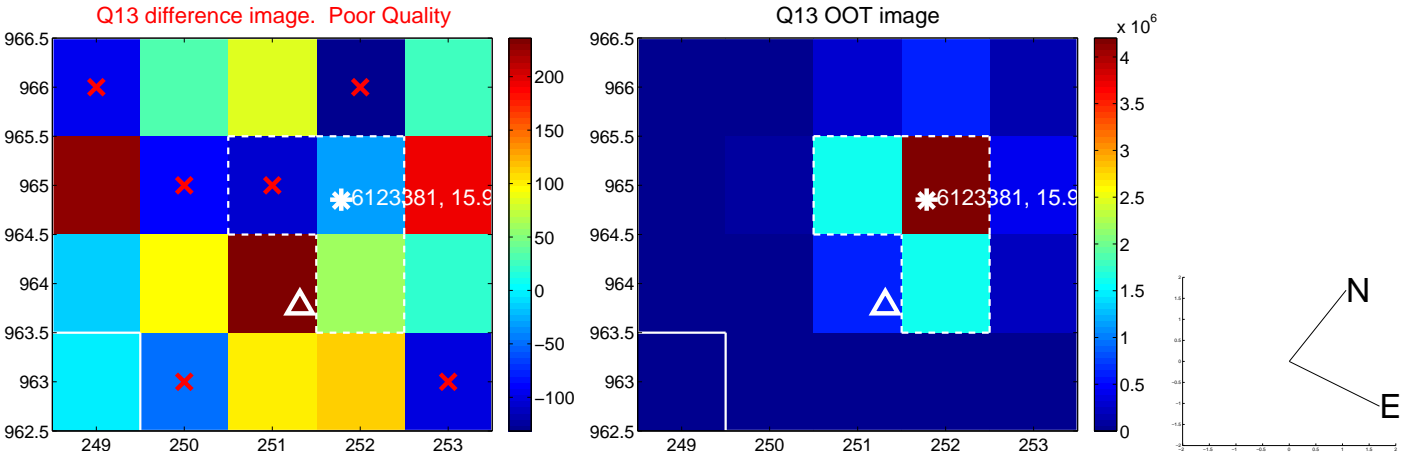
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



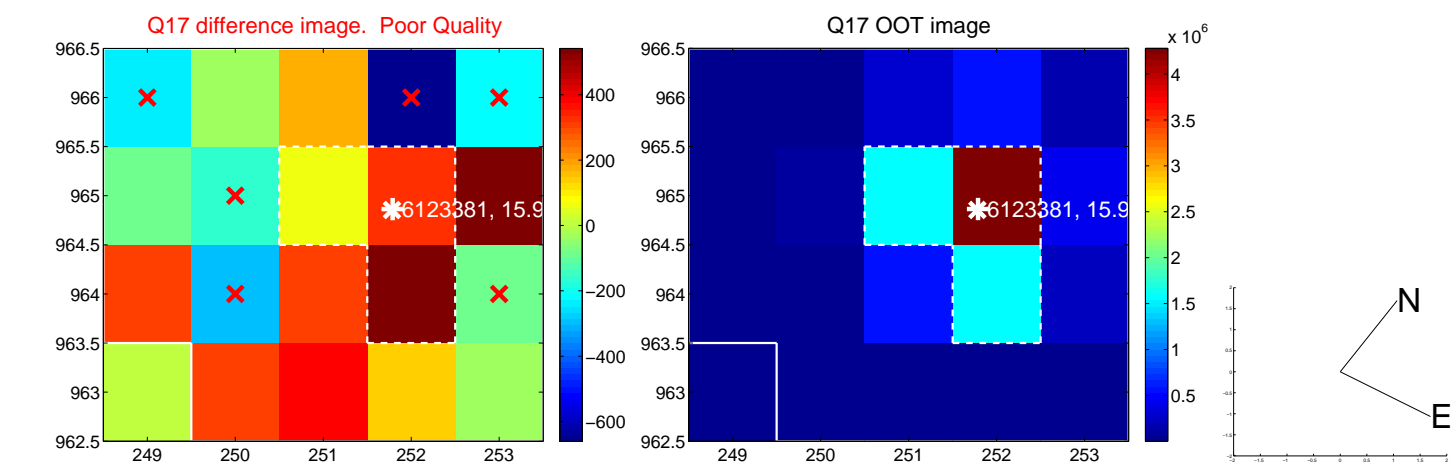
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



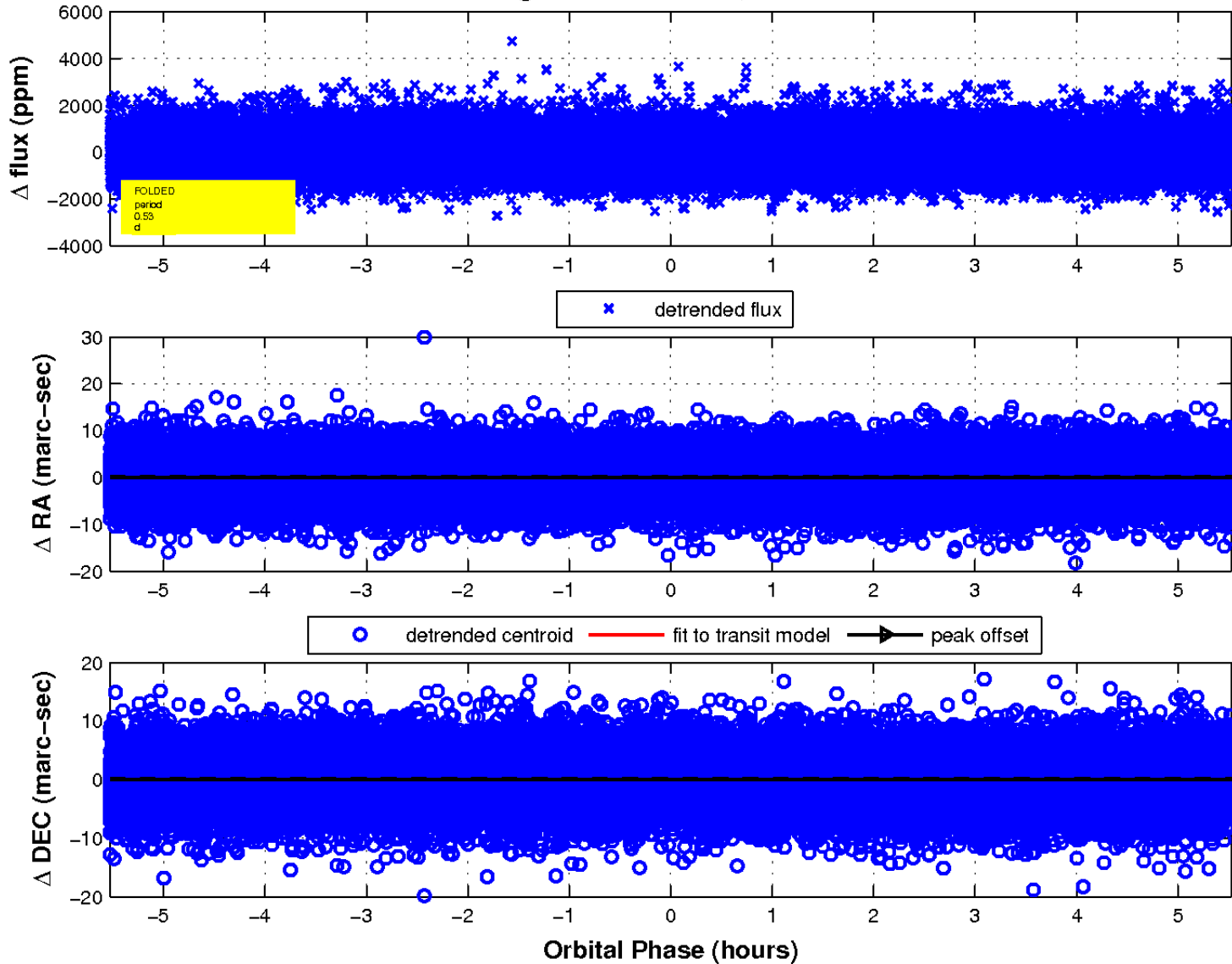
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

