

KIC 009157030

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})
009157030-01	OBS	5628.01	24.909310	155.382295	338.4	3.839	8.9	9.4	0.69	4810	1.38	9.91

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009157030-01	OBS	PC	0.87	0	0	0	0	CENT_KIC_POS

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.

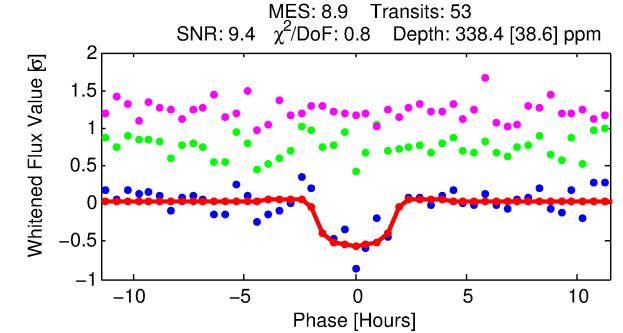
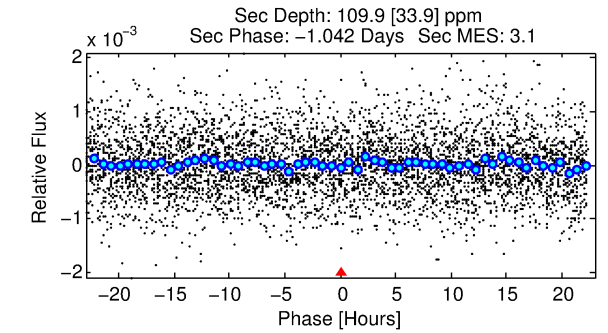
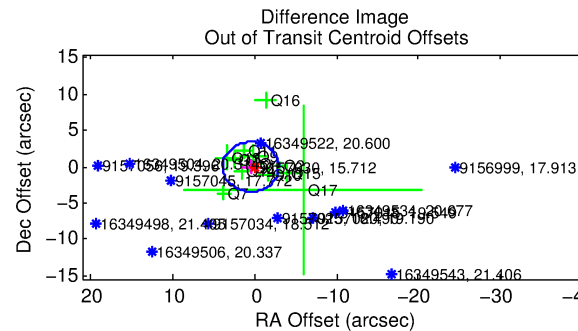
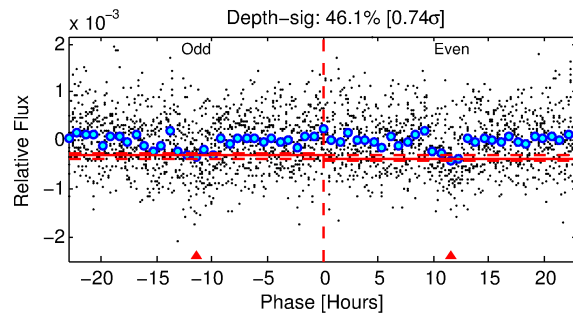
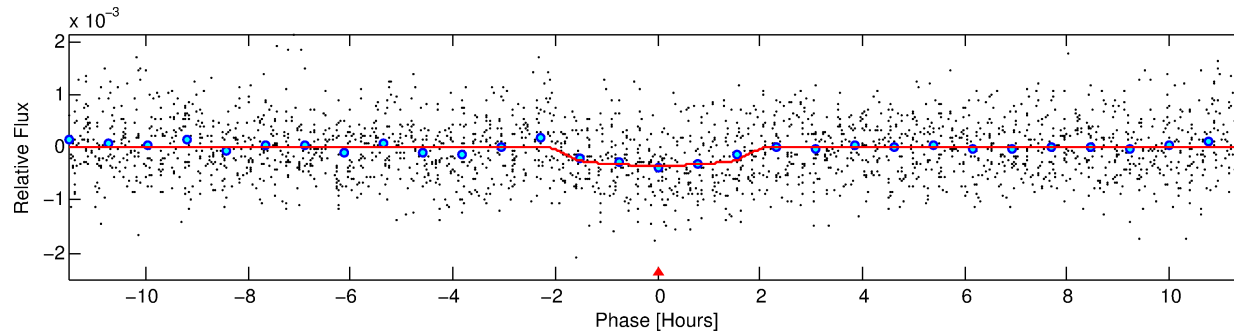
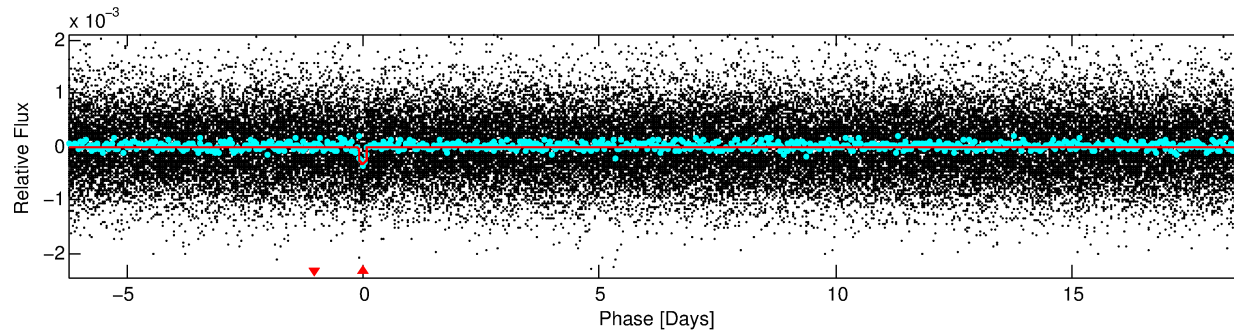
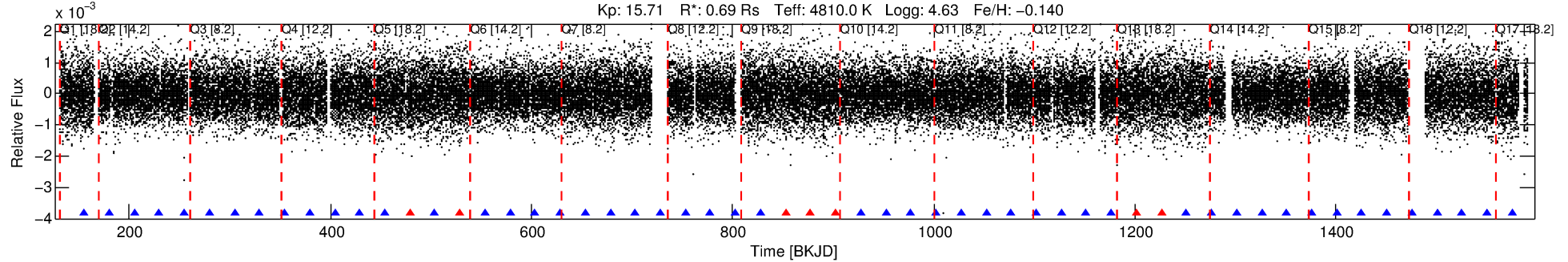
Ephemeris Match Information For 009157030-01

No Significant Match Found

DV One-Page Summary

KIC: 9157030 Candidate: 1 of 1 Period: 24.909 d
KOI: K05628.01 Corr: 0.960

Kp: 15.71 R*: 0.69 Rs Teff: 4810.0 K Logg: 4.63 Fe/H: -0.140



DV Fit Results:

Period = 24.90931 [0.00027] d
Epoch = 155.3823 [0.0088] BKJD
Rp/R* = 0.0184 [0.0216]
a/R* = 34.16 [136.75]
b = 0.75 [2.40]
Seff = 9.91 [1.64]
Teq = 452 [19] K
Rp = 1.38 [1.62] Re
a = 0.1507 [0.0126] AU
Ag = 725.95 [1722.27] [0.42σ]
Teffp = 3631 [2154] K [1.48σ]

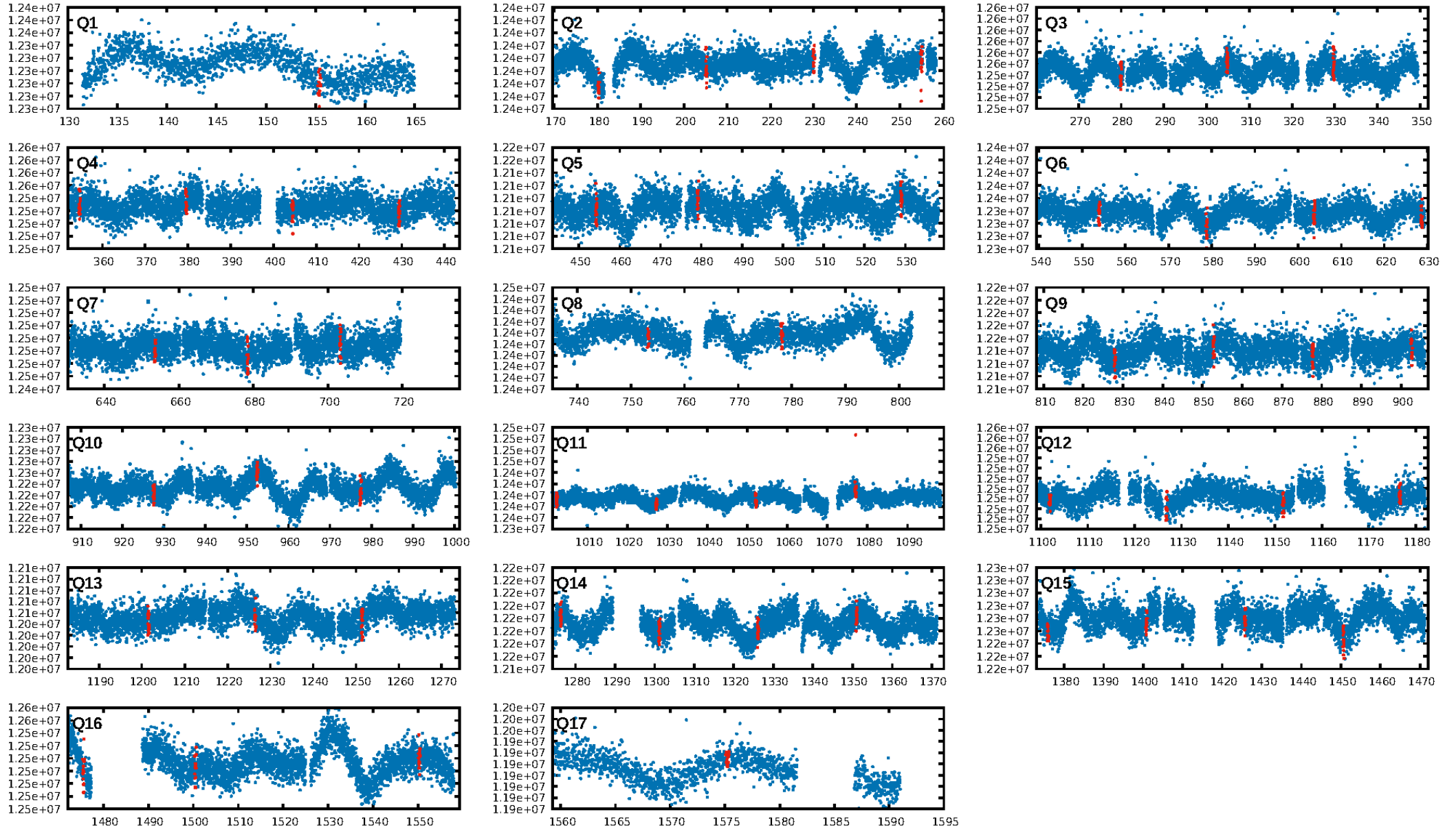
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.11e-18
RollingBand-fgt: 0.86 [44/51]
GhostDiagnostic-chr: 0.8468
Centroid-sig: 7.5%
Centroid-so: 0.890 arcsec [0.63σ]
OotOffset-rm: 0.473 arcsec [0.41σ]
OotOffset-st: 4/3/2/4 [13]
KicOffset-rm: 0.544 arcsec [0.54σ]
KicOffset-st: 4/3/2/4 [13]
DiffImageQuality-fgm: 0.23 [3/13]
DiffImageOverlap-fno: 1.00 [17/17]

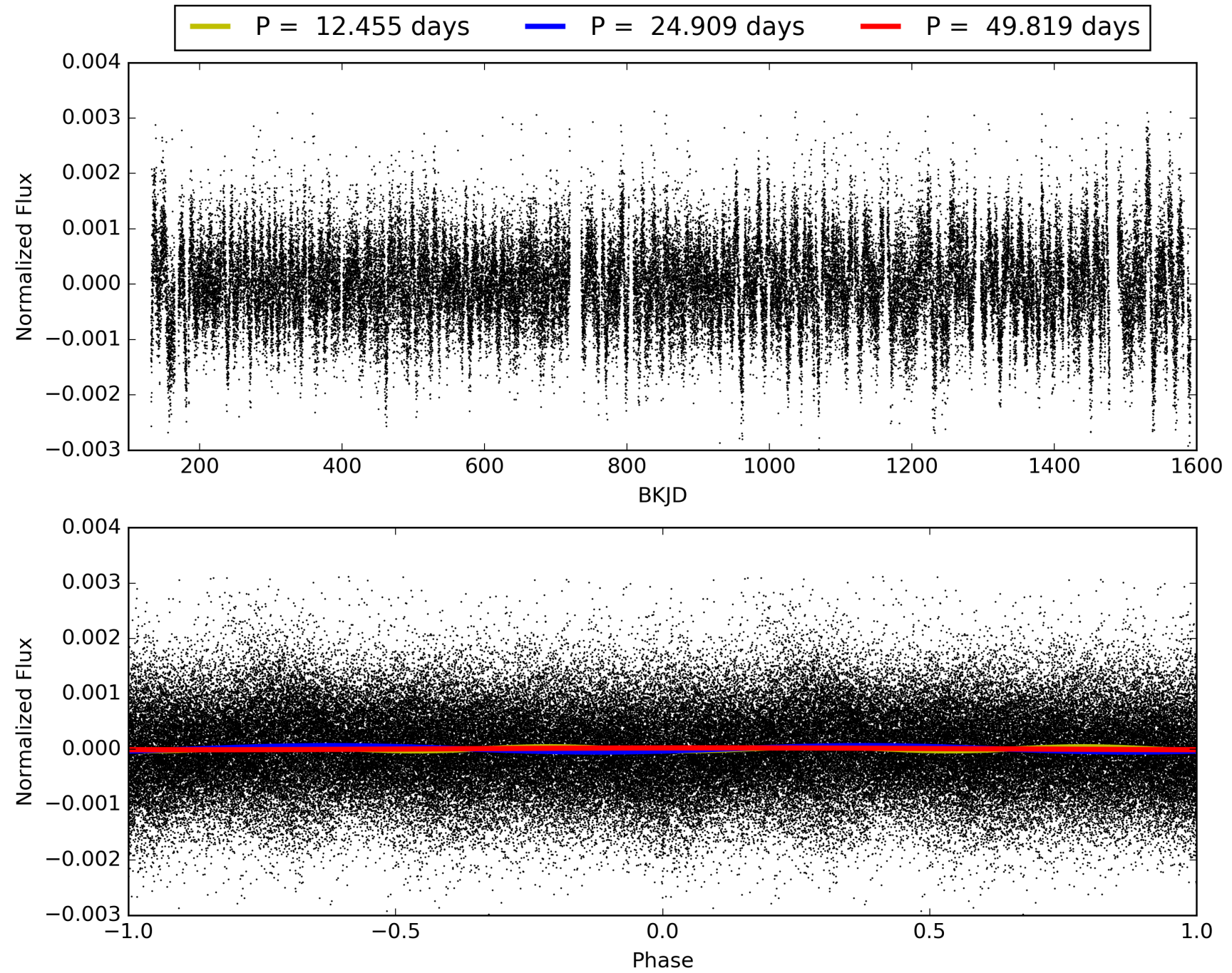
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 11:37:15 Z

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

TCE 009157030-01, PDC Light Curves

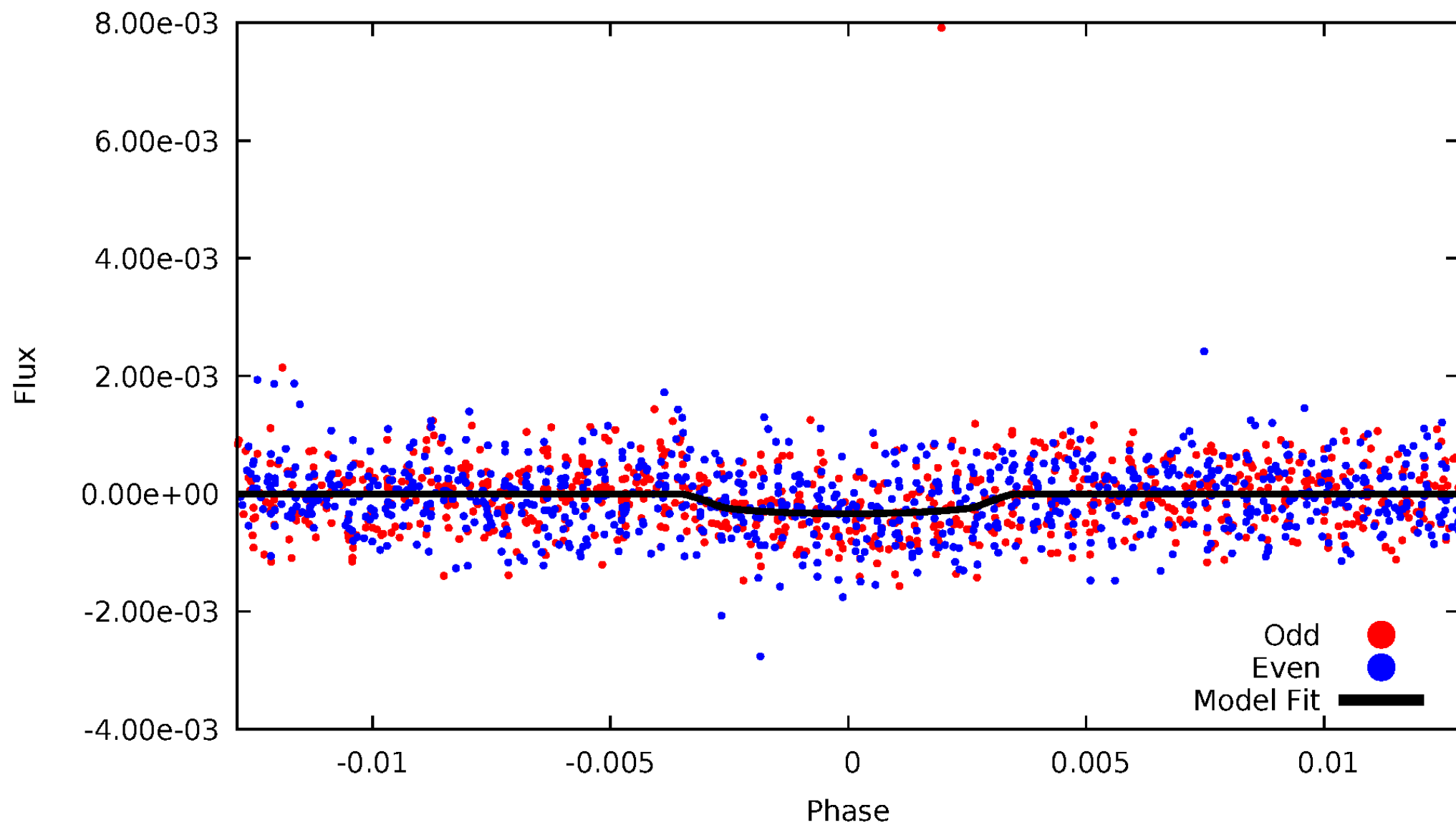


TCE 009157030-01



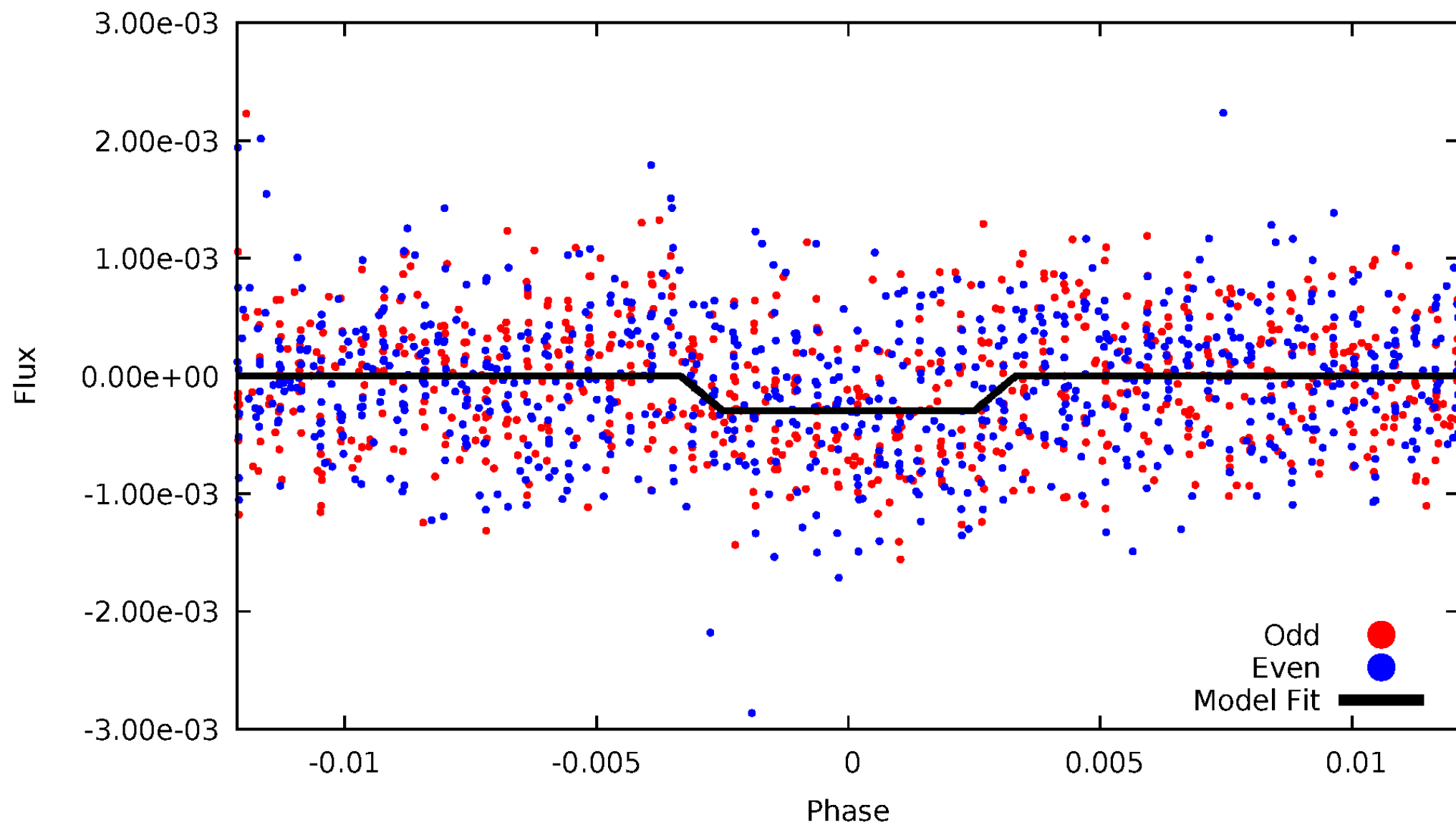
DV Odd/Even

TCE 009157030-01

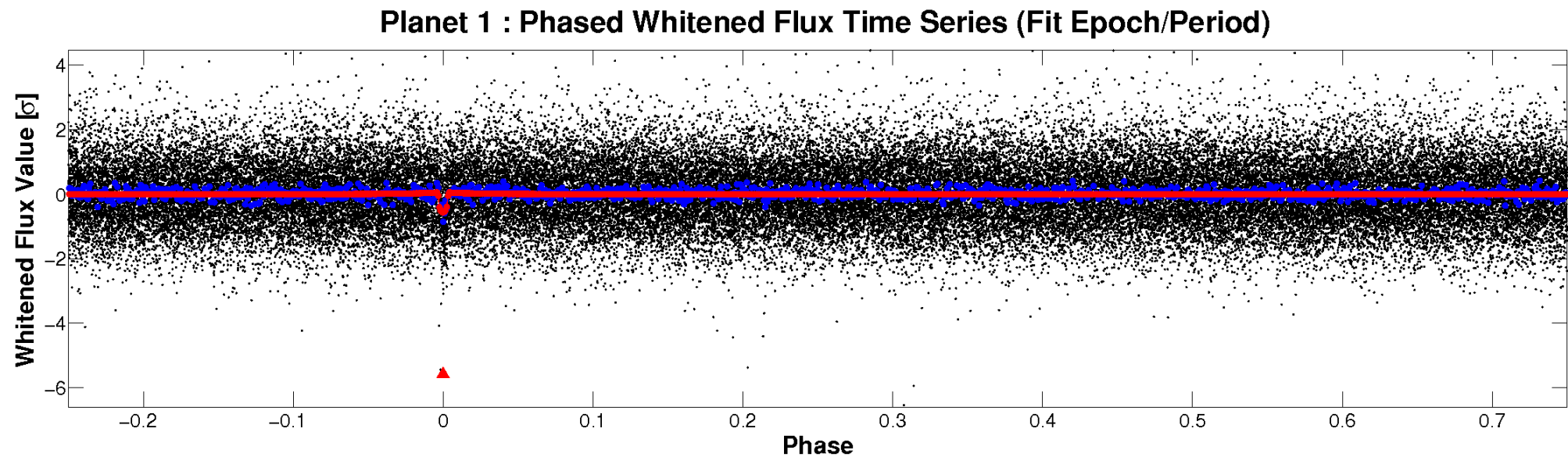
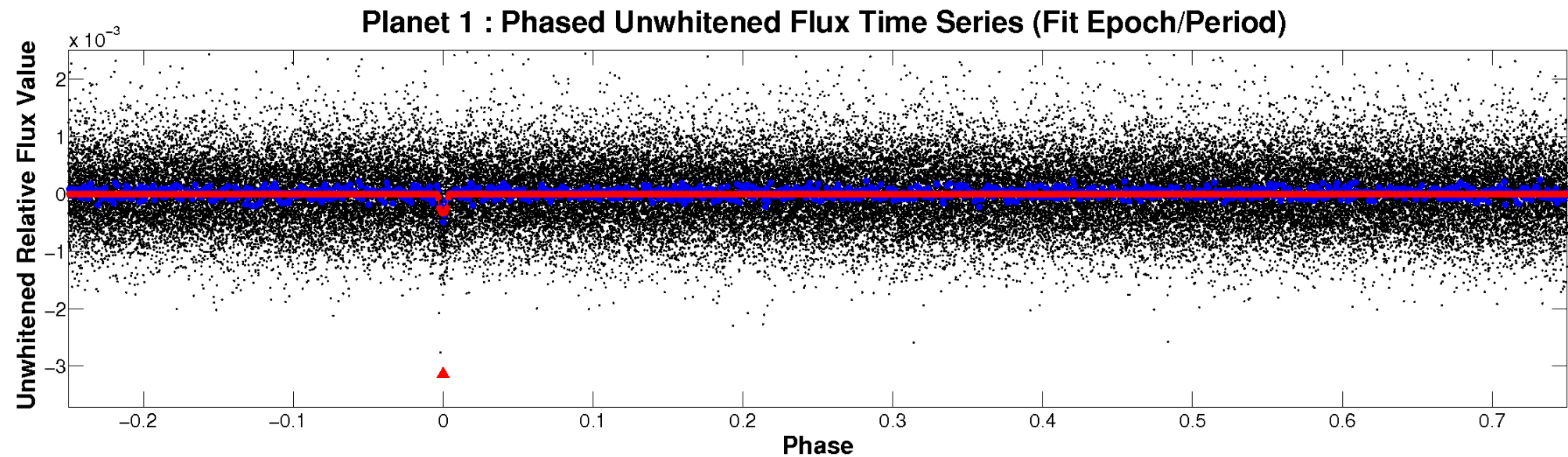


ALT Odd/Even

TCE 009157030-01

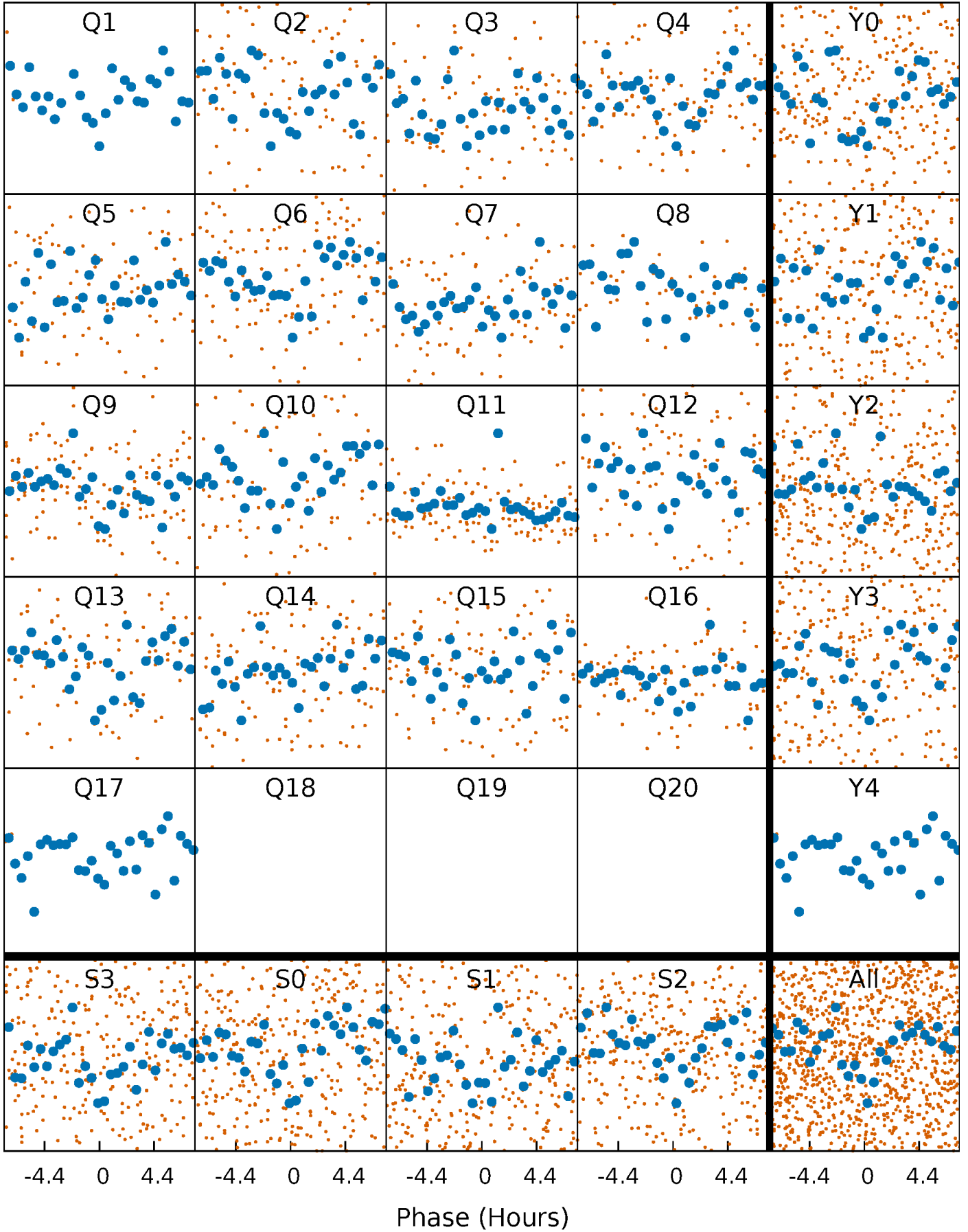


Non-Whitened Vs. Whitened Light Curve



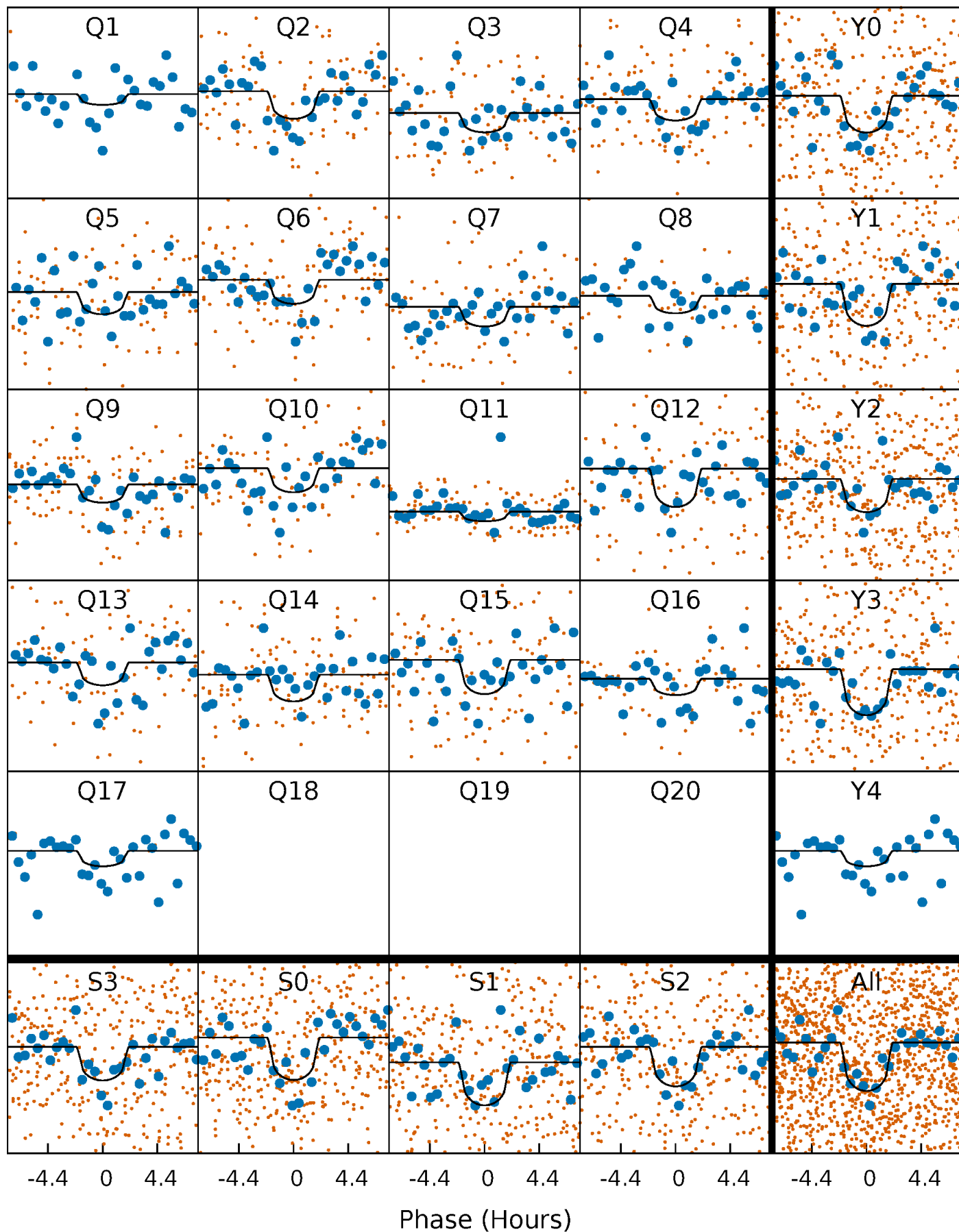
PDC Quarter-Phased Transit Curves

TCE 009157030-01 P= 24.909310 Days $T_0=155.382295$ (BKJD)



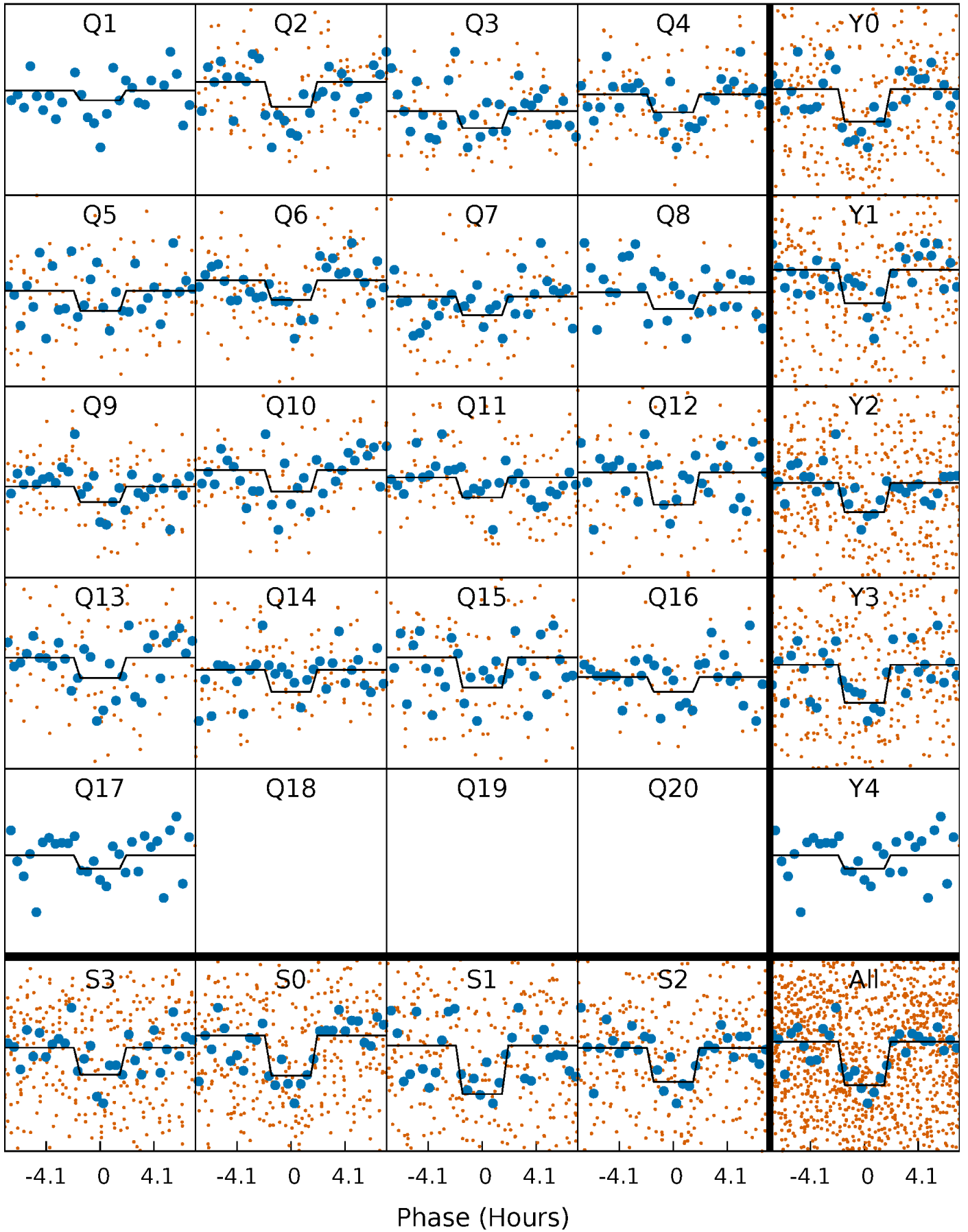
DV Quarter-Phased Transit Curves

TCE 009157030-01 P= 24.909310 Days $T_0=155.382295$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

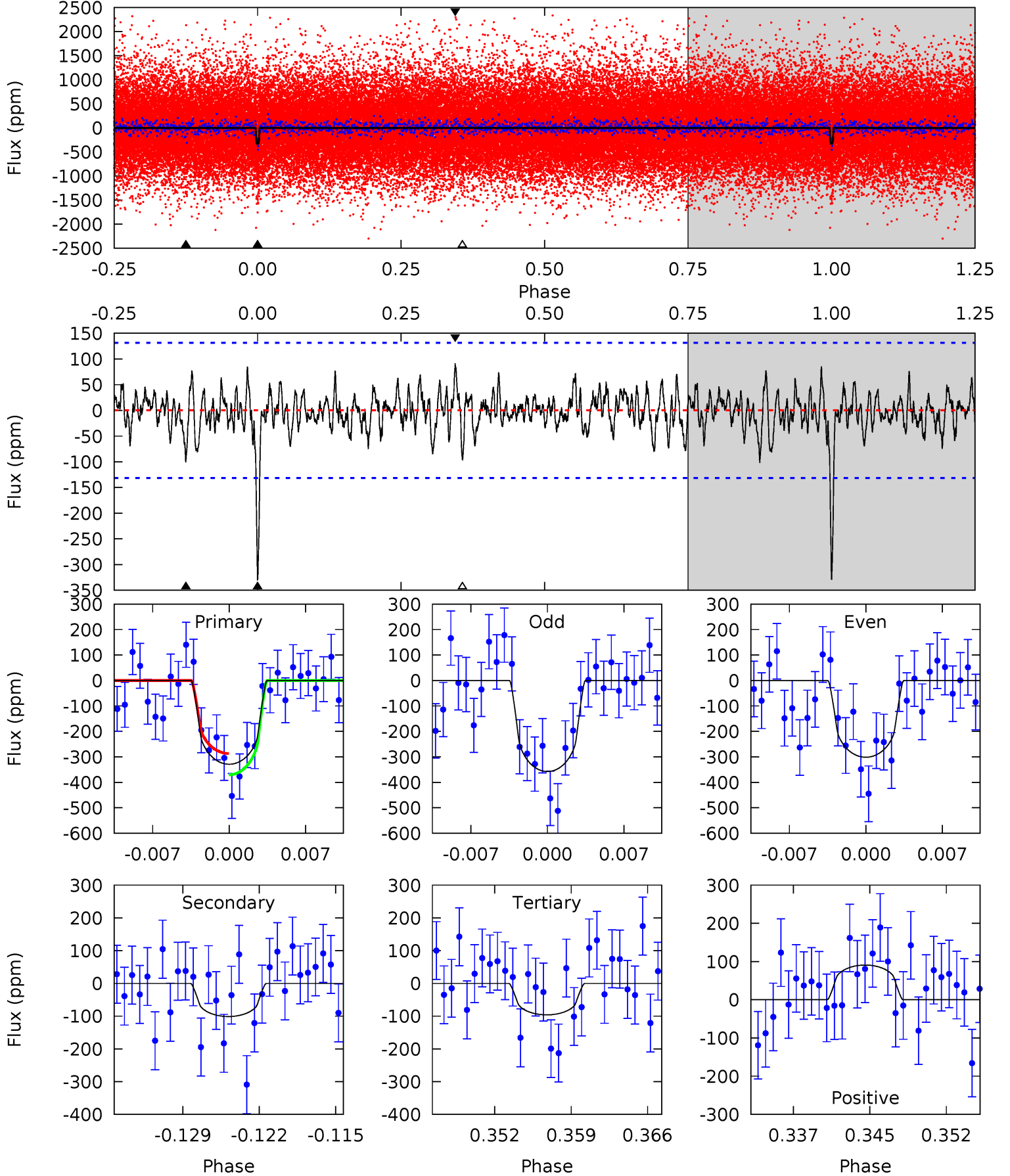
TCE 009157030-01 P= 24.909249 Days $T_0=155.384317$ (BKJD)



DV Model-Shift Uniqueness Test

009157030-01, P = 24.909310 Days, E = 130.472985 Days

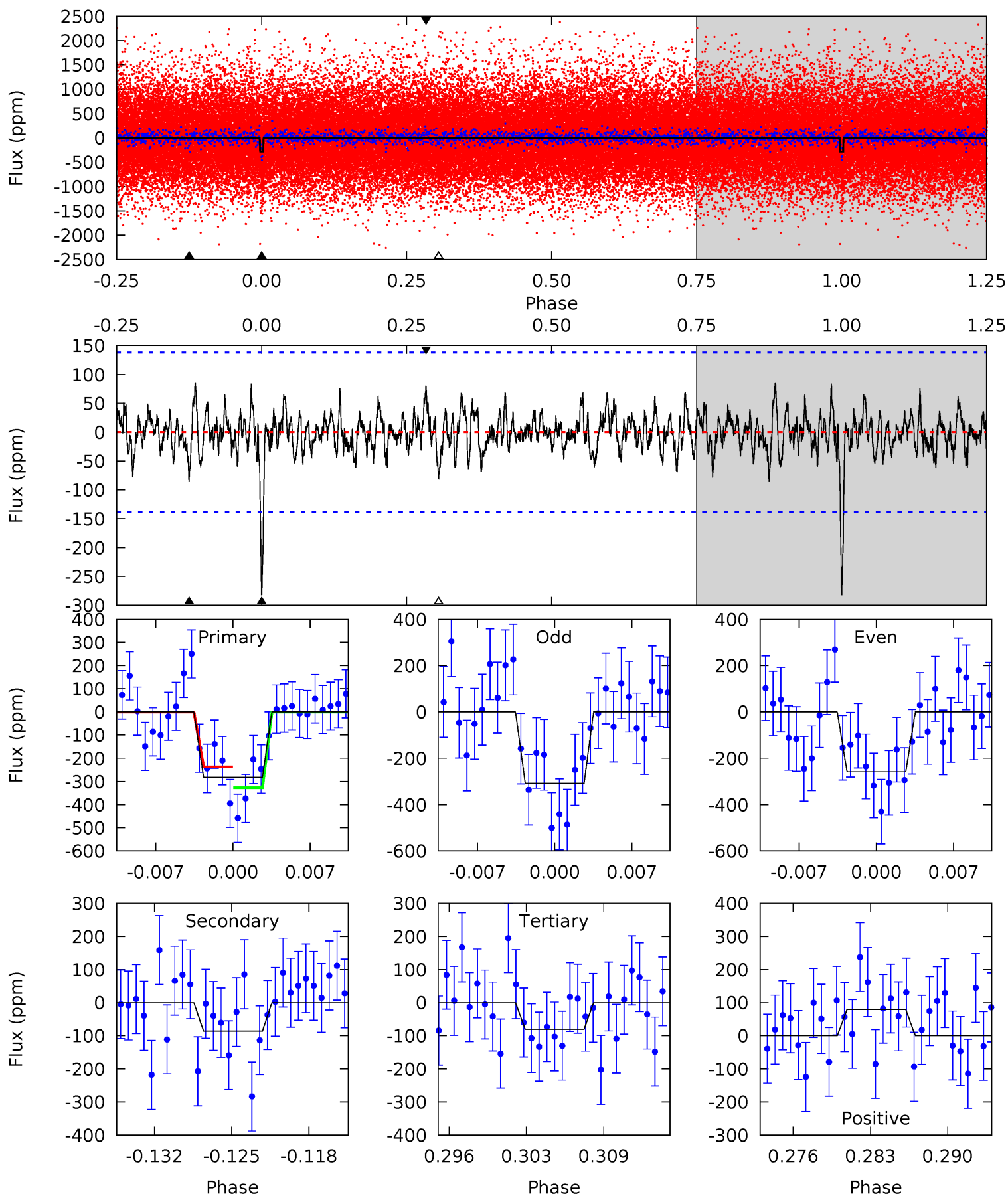
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	3.92	3.72	3.52	5.09	2.69	1.15	9.01	9.22	0.19	0.40	1.09	1.02	0.22	1.62



Alt Model-Shift Uniqueness Test

009157030-01, P = 24.909249 Days, E = 130.475068 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.4	3.19	2.98	2.93	5.11	2.72	1.01	7.47	7.52	0.21	0.26	0.92	1.03	0.23	1.66



Stellar Parameters For KIC 009157030

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4810^{+146}_{-146}	$4.633^{+0.028}_{-0.056}$	$-0.140^{+0.300}_{-0.300}$	$0.685^{+0.074}_{-0.049}$	$0.751^{+0.061}_{-0.075}$	$3.294^{+0.484}_{-0.690}$
	+3%/-3%	+1%/-1%	+214%/-214%	+11%/-7%	+8%/-10%	+15%/-21%
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 009157030-01 / KOI 5628.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-101 ± 26	$1.79^{+1.48}_{-1.15}$	636^{+24}_{-20}	3504^{+1625}_{-553}	379^{+2467}_{-264}
Alt.	-86 ± 27	$1.84^{+1.37}_{-1.15}$	637^{+21}_{-22}	3387^{+1420}_{-556}	307^{+1933}_{-220}

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

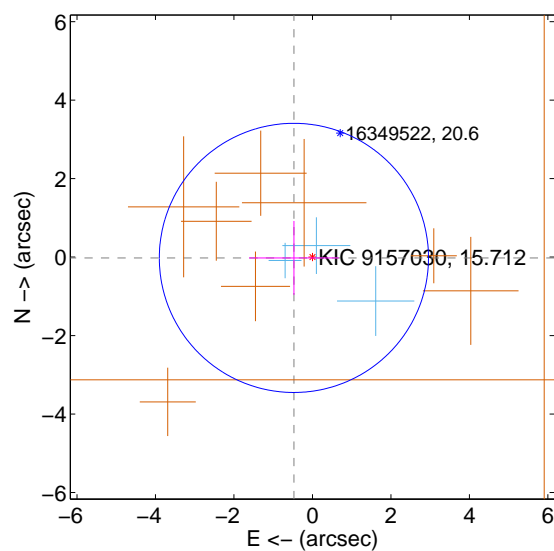
Supplemental centroid analysis for 009157030-01. Kepler magnitude: 15.71. Transit SNR 9.38

There are 3 quarters with good PRF difference image offsets

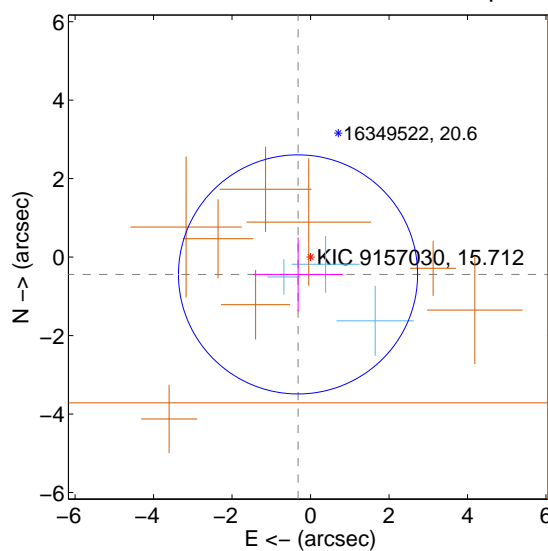
The direct PRF centroid is offset from the target star catalog position by about 0.60 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.473 ± 1.144	0.41	0.473 ± 1.144	-0.021 ± 0.943
PRF-fit source offset from KIC position	0.544 ± 1.016	0.54	0.318 ± 1.144	-0.441 ± 0.943
photometric centroid source offset	0.89 ± 1.42	0.63	0.53 ± 1.41	0.71 ± 1.42

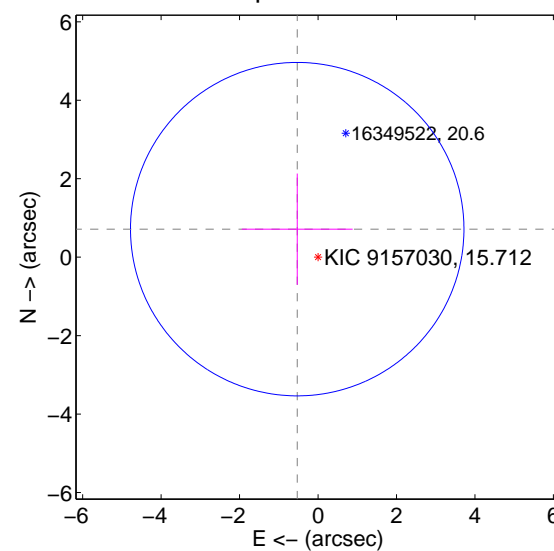
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

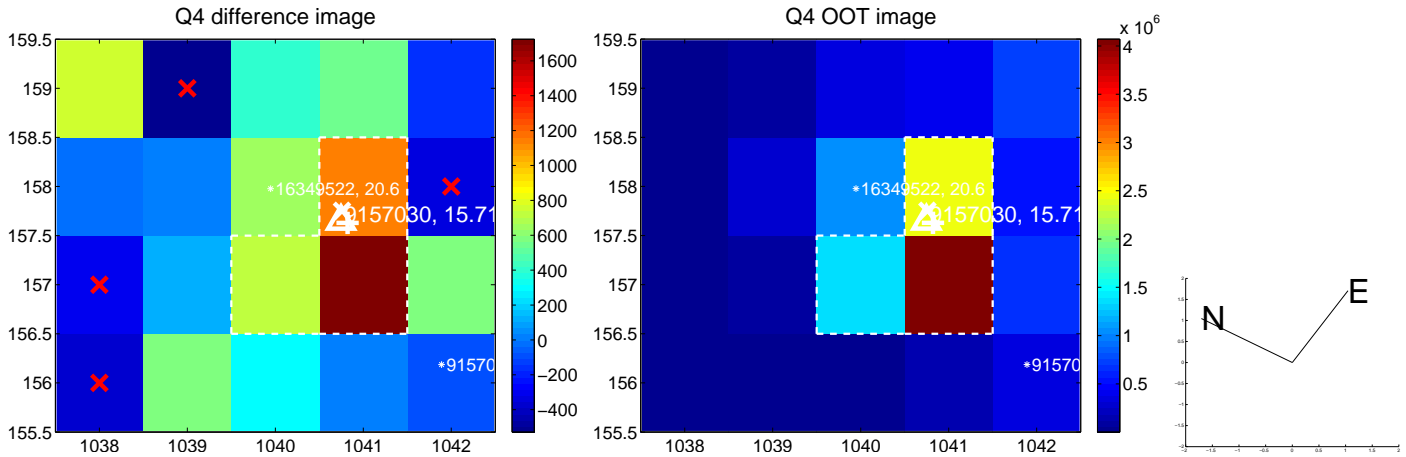
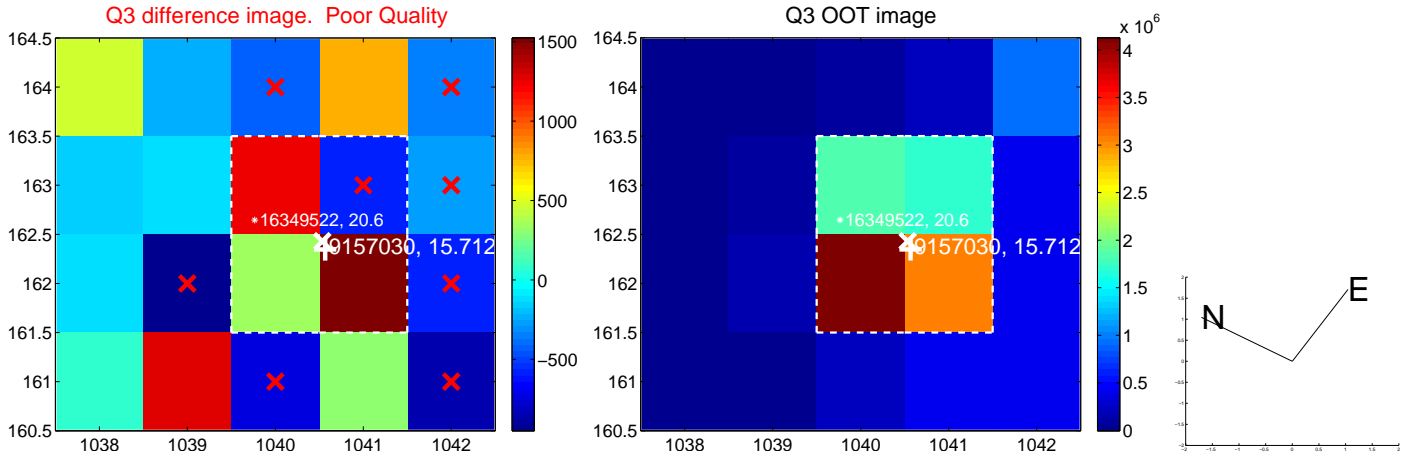
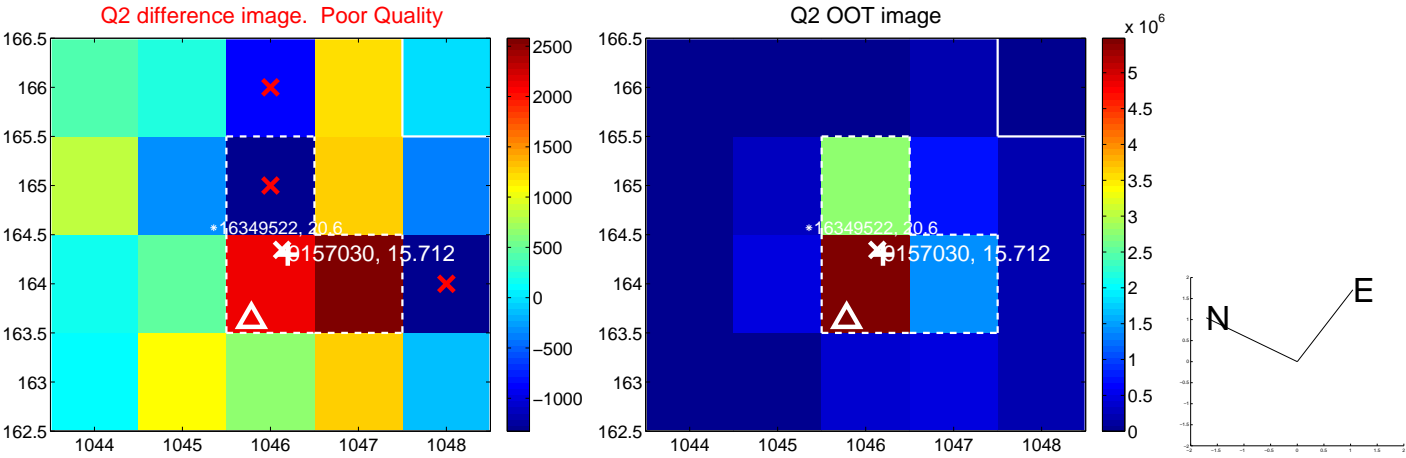
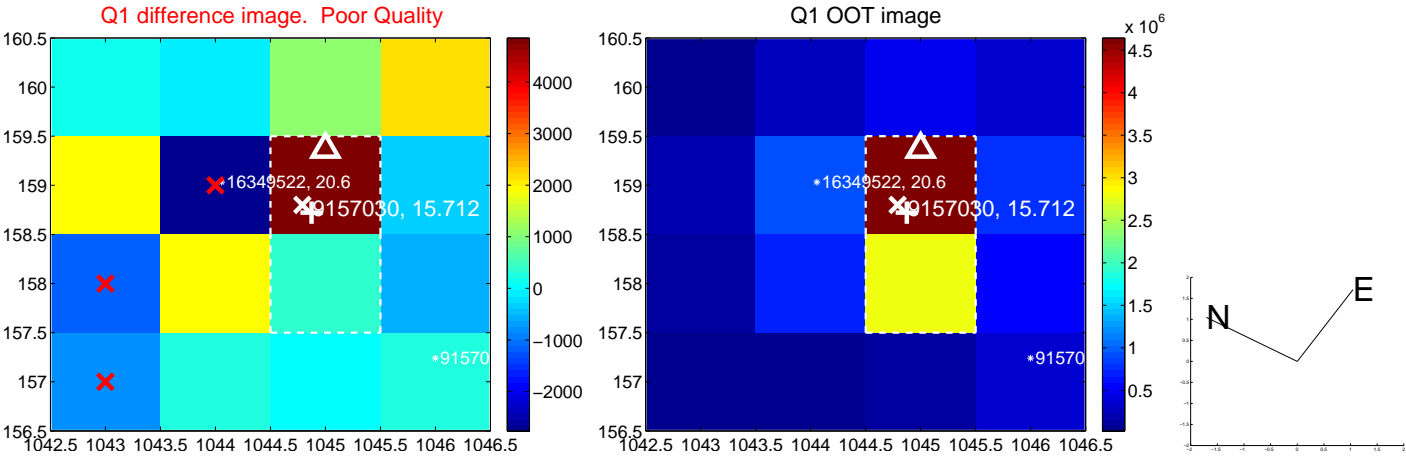


offset from photometric centroids

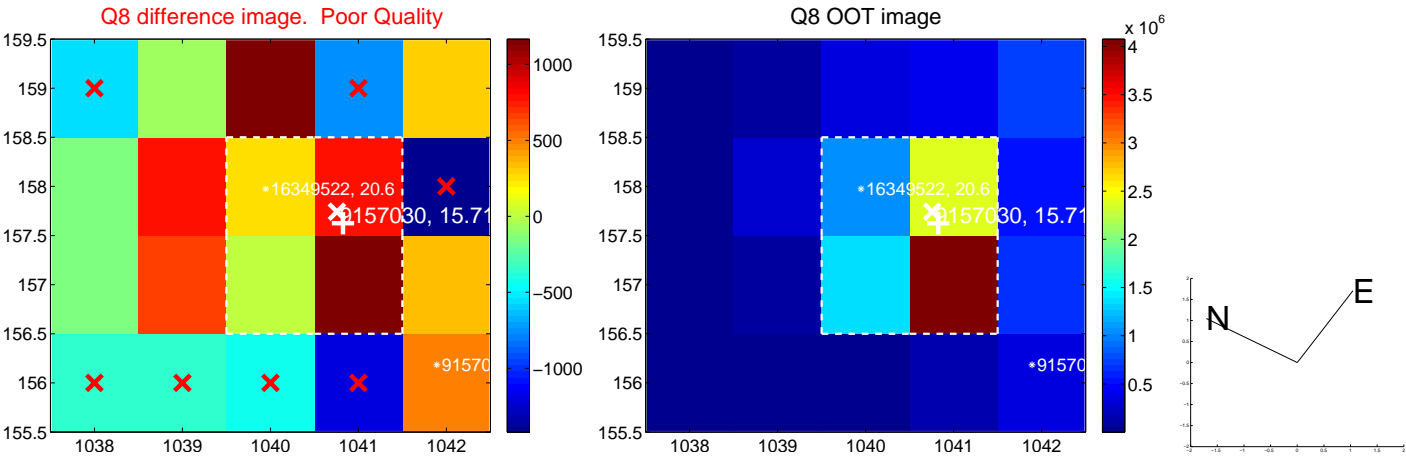
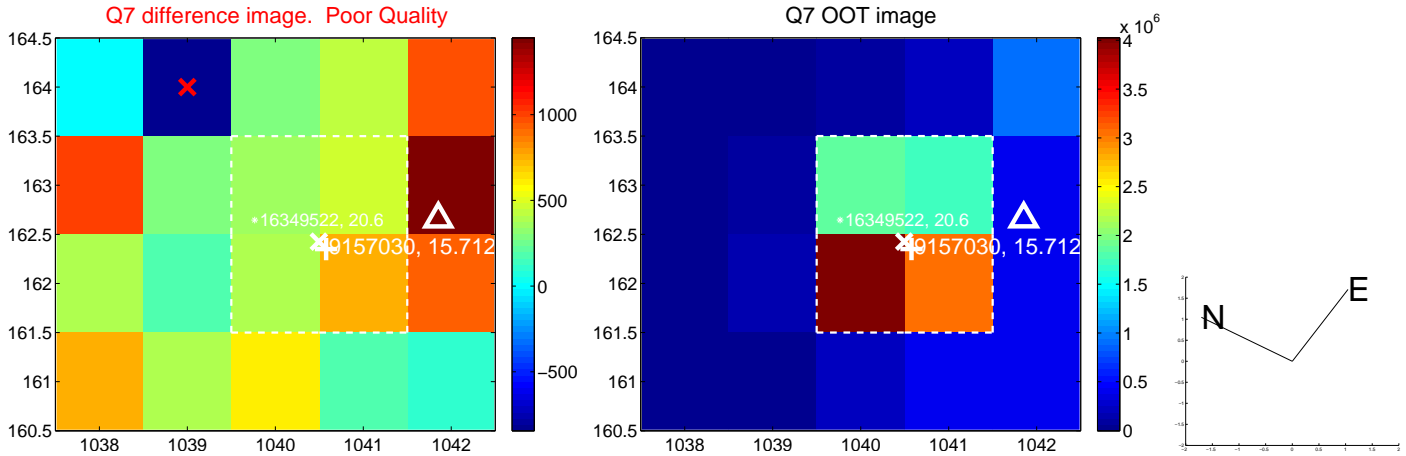
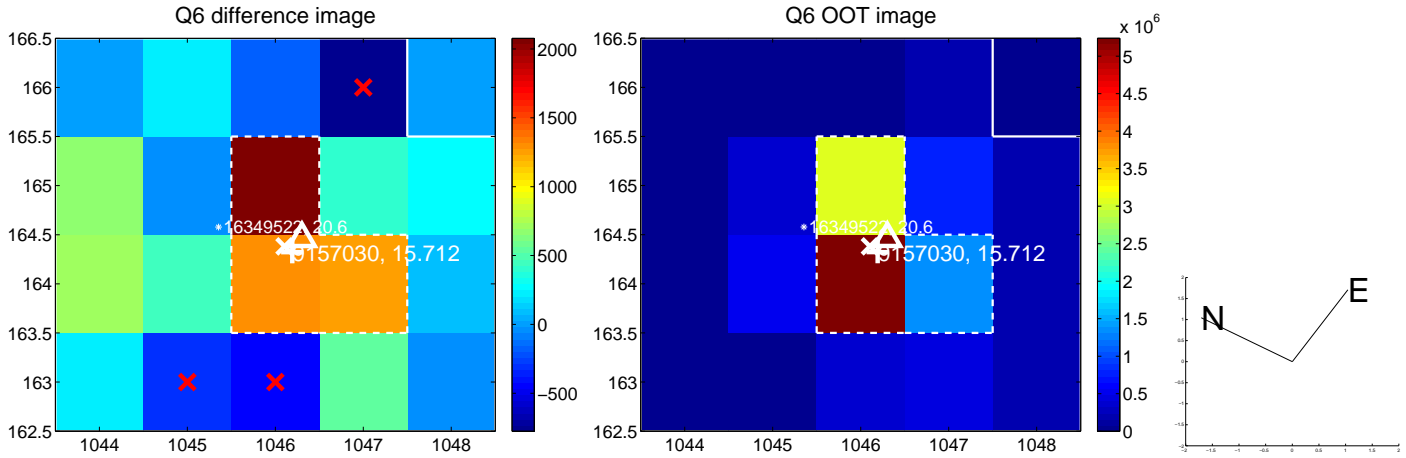
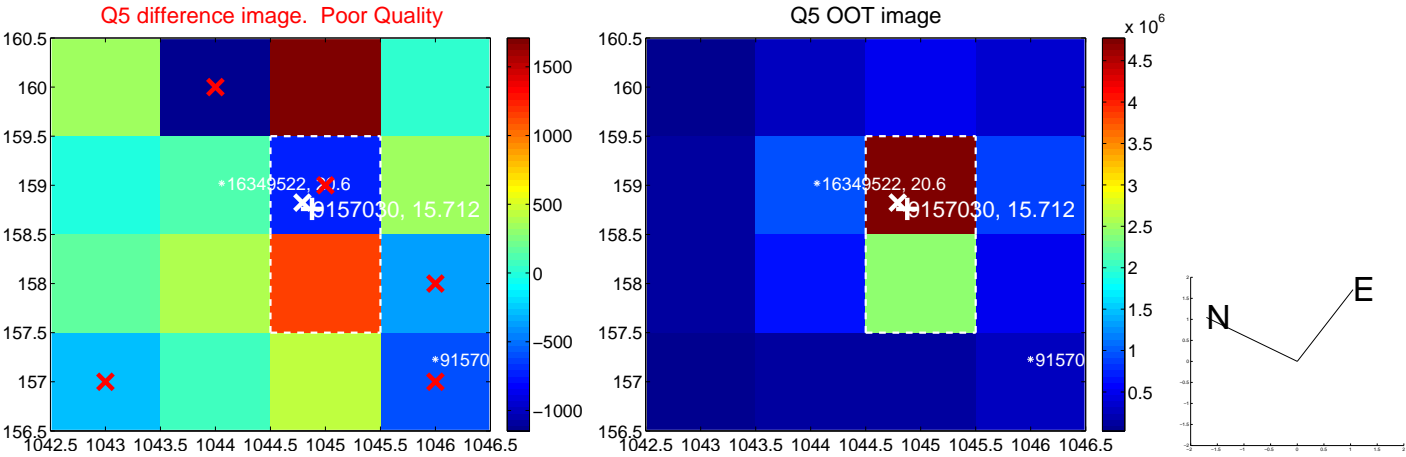


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

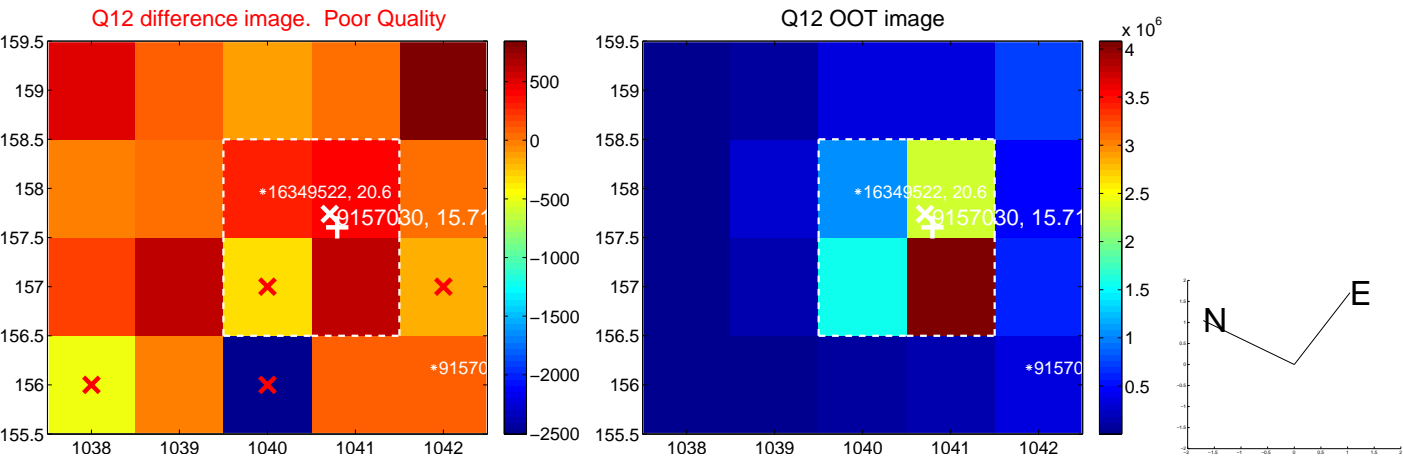
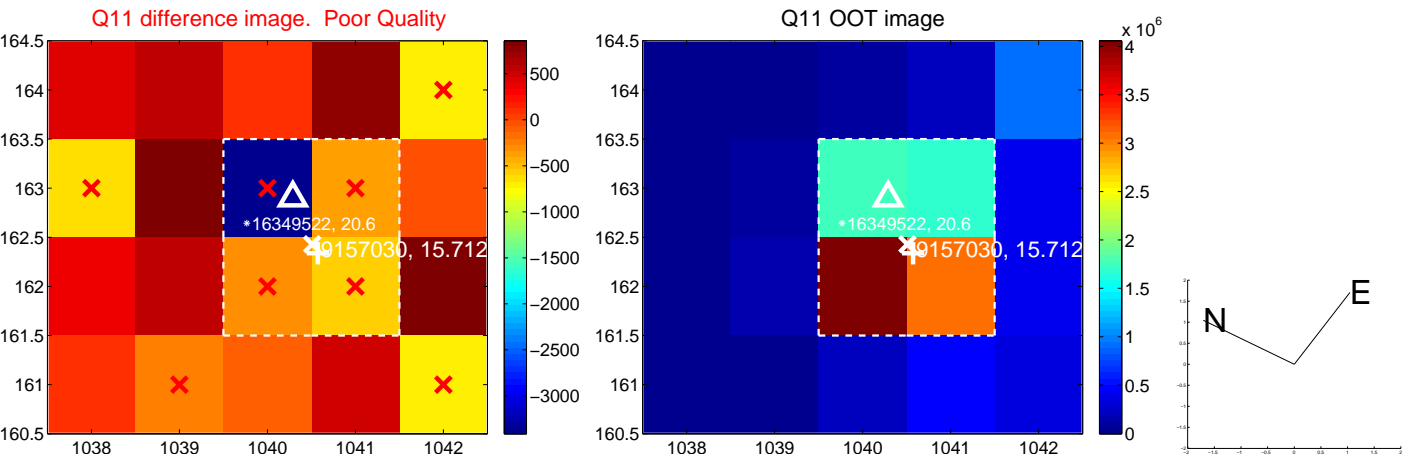
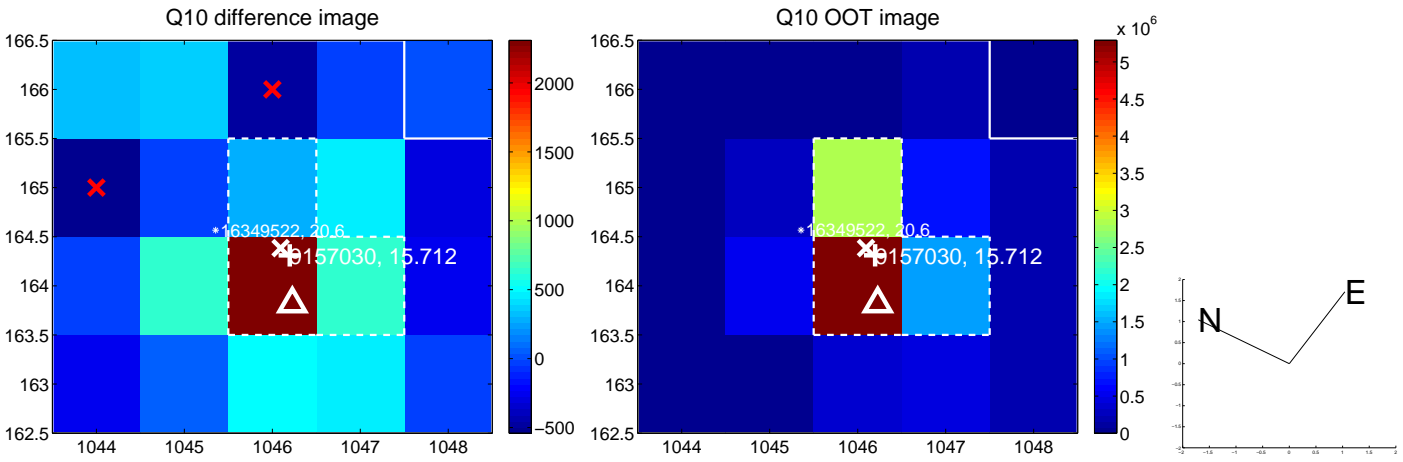
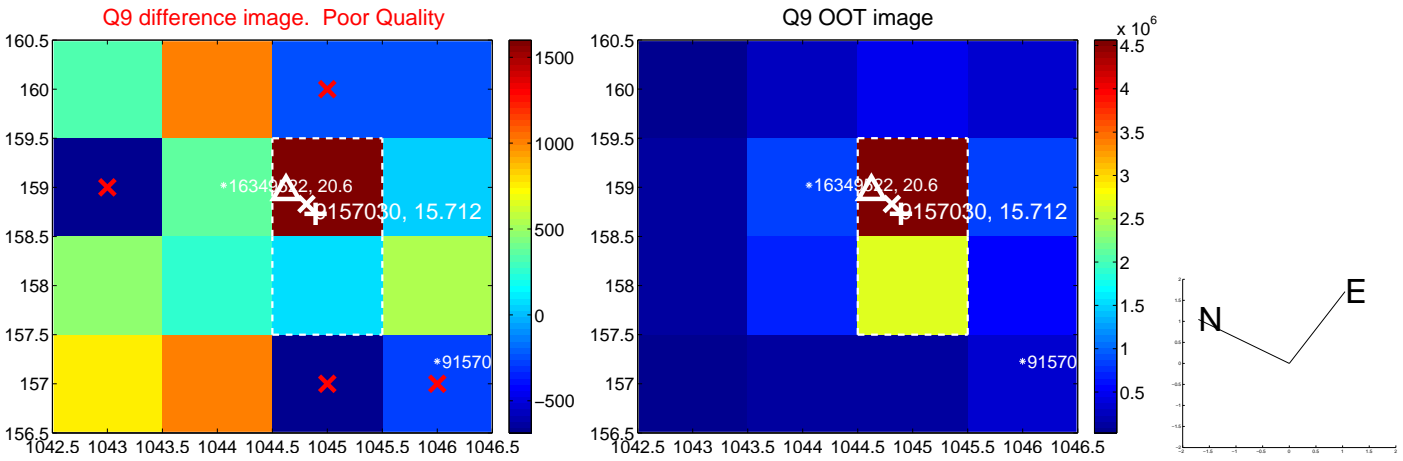
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



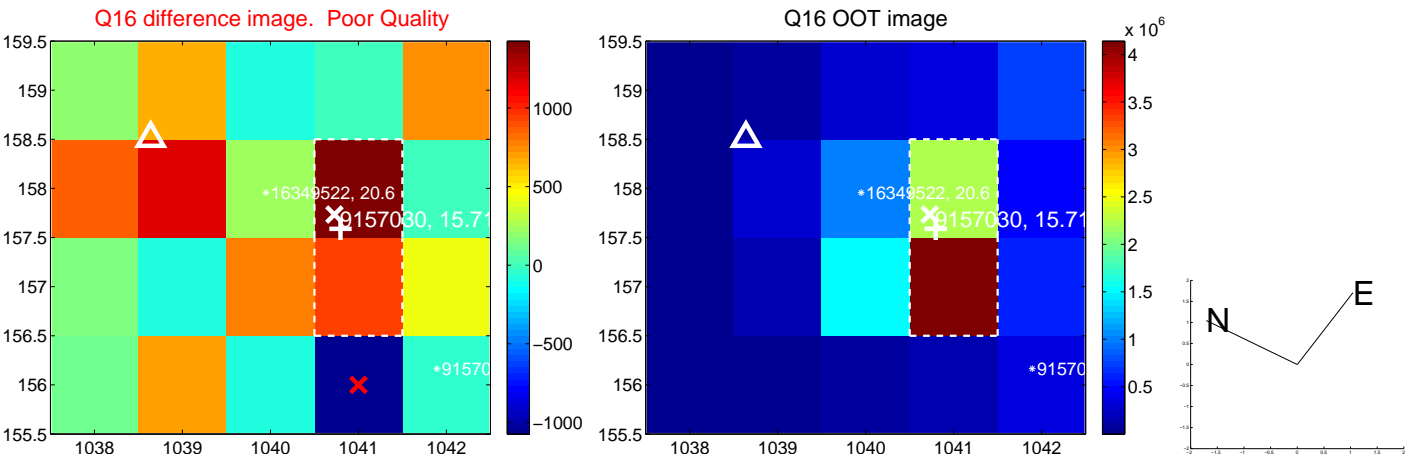
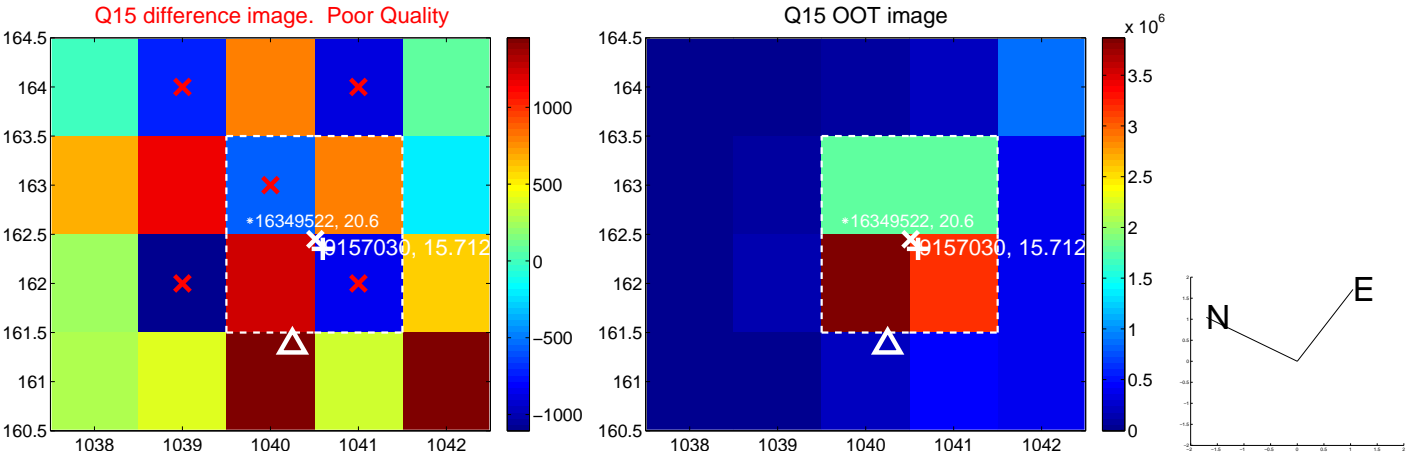
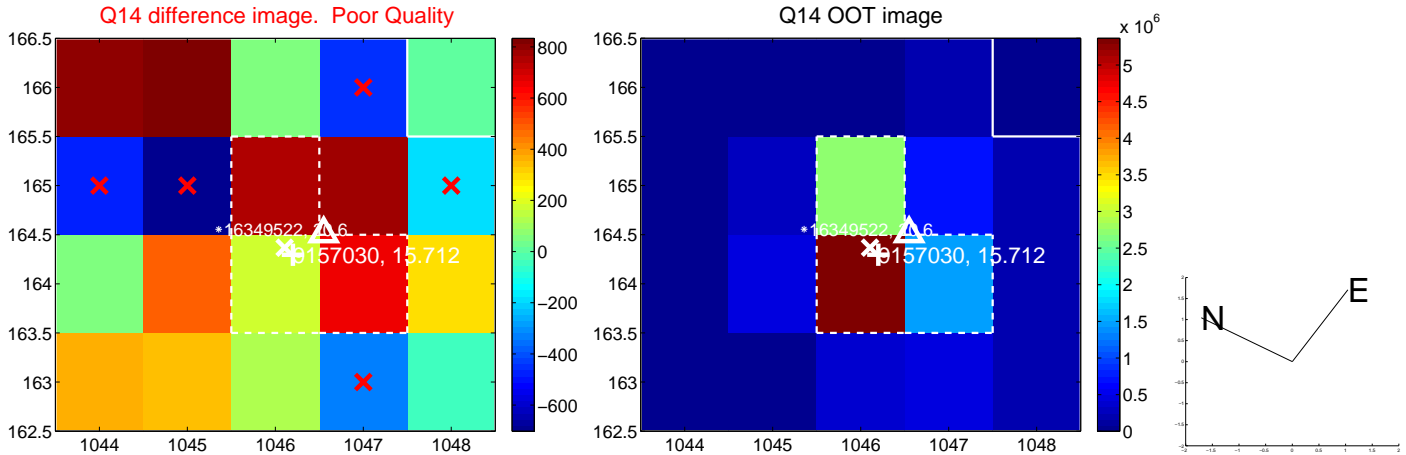
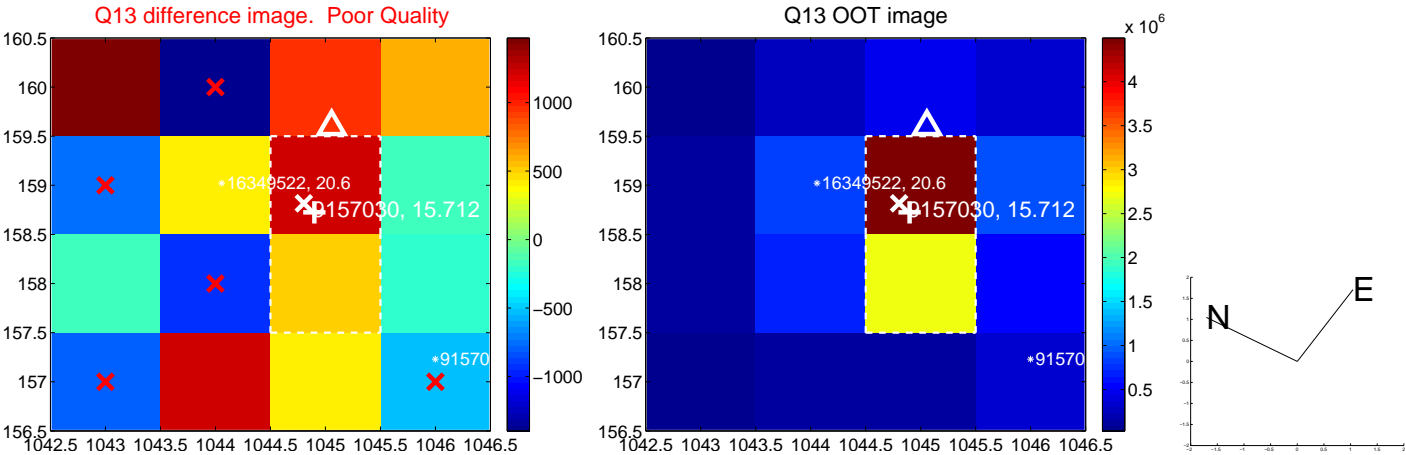
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



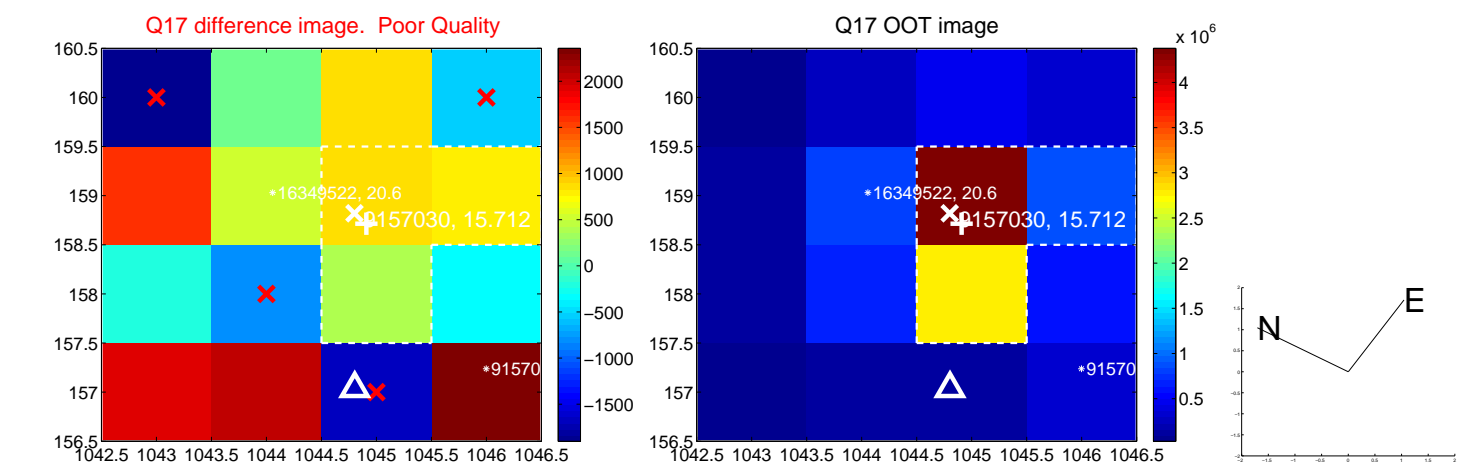
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



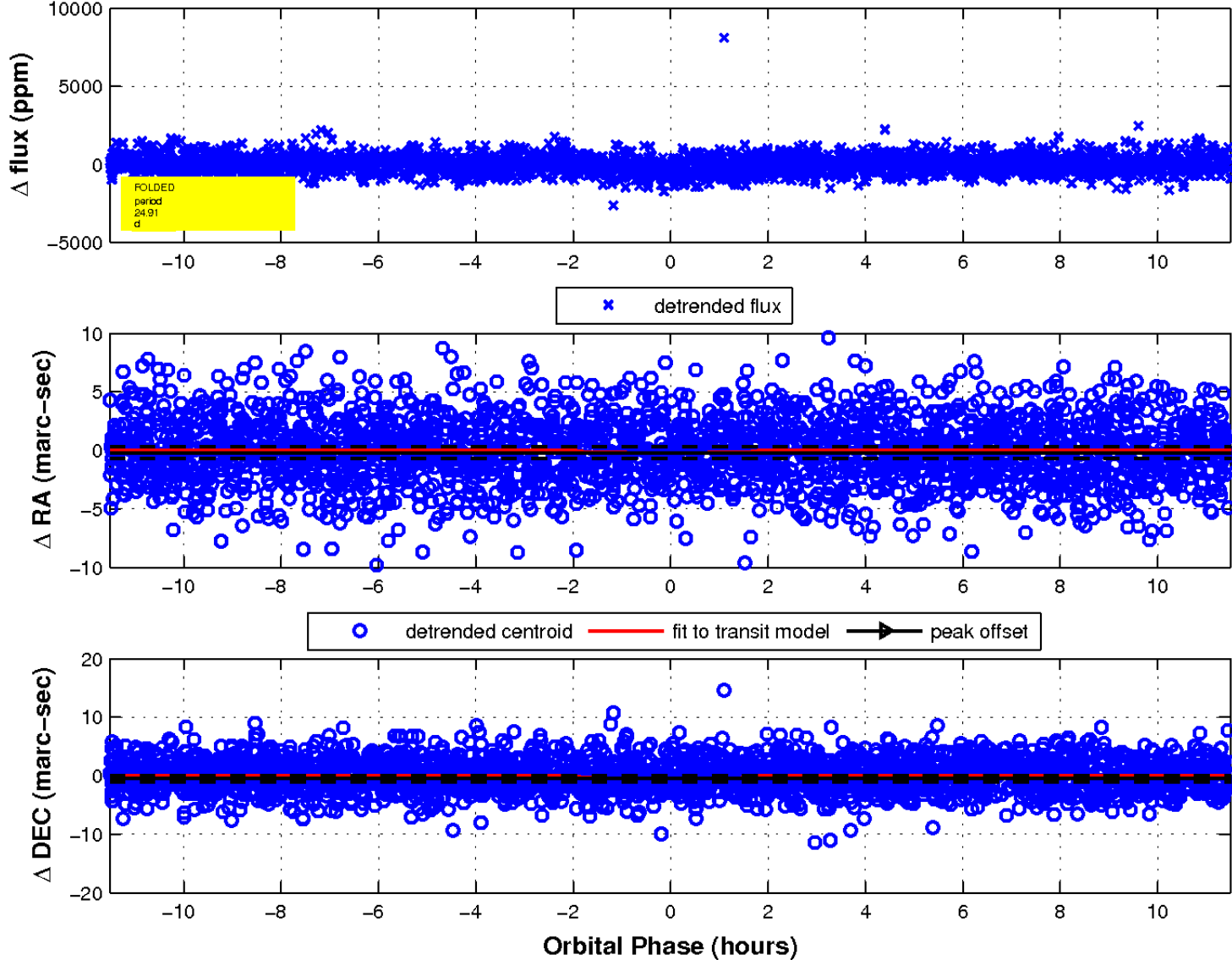
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

