

KIC 009226339

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})
009226339-01	OBS	3477.01	21.462442	132.203207	100.9	4.370	11.1	11.4	1.21	5806	1.38	64.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009226339-01	OBS	FP	0.00	0	0	1	0	CENT_UNRESOLVED_OFFSET

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

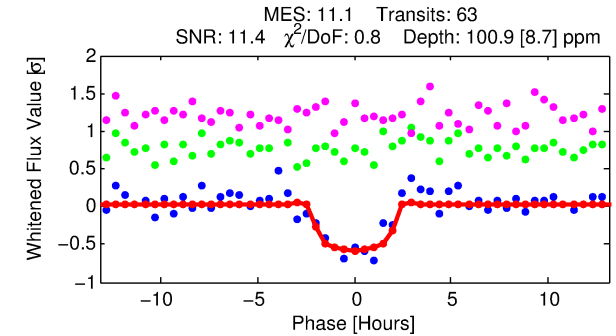
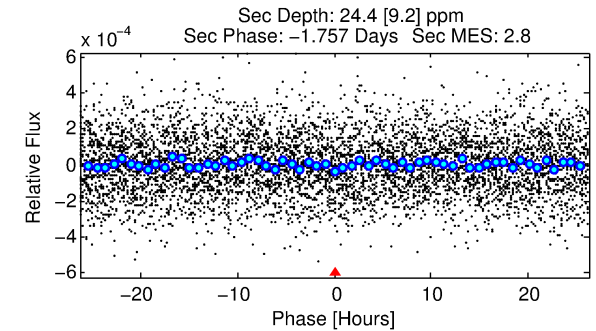
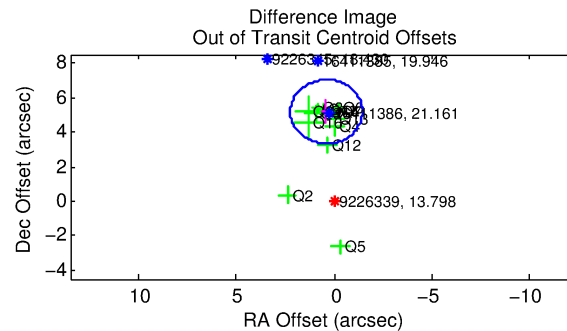
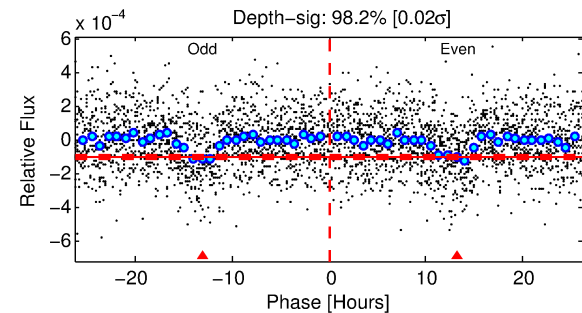
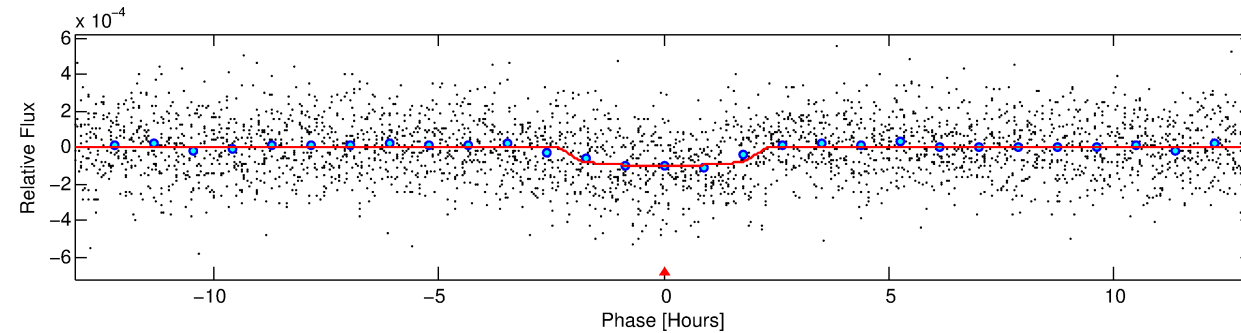
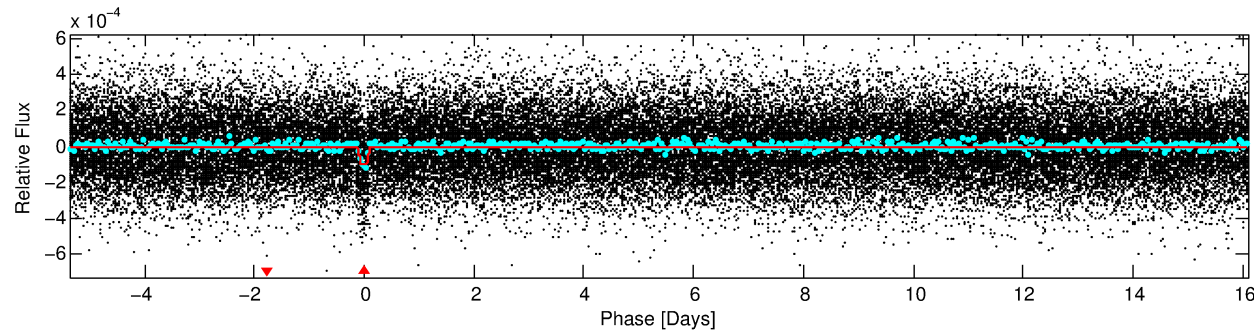
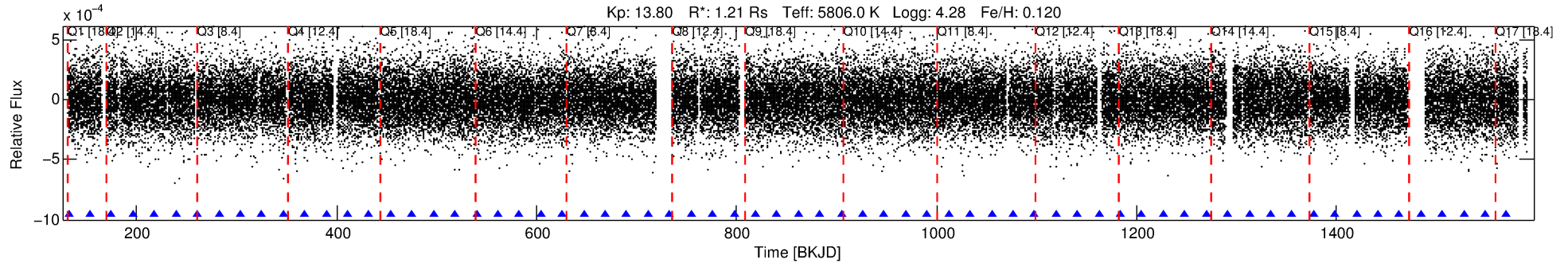
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009226339-01

No Significant Match Found

DV One-Page Summary

KIC: 9226339 Candidate: 1 of 1 Period: 21.462 d
KOI: K03477.01 Corr: 0.870



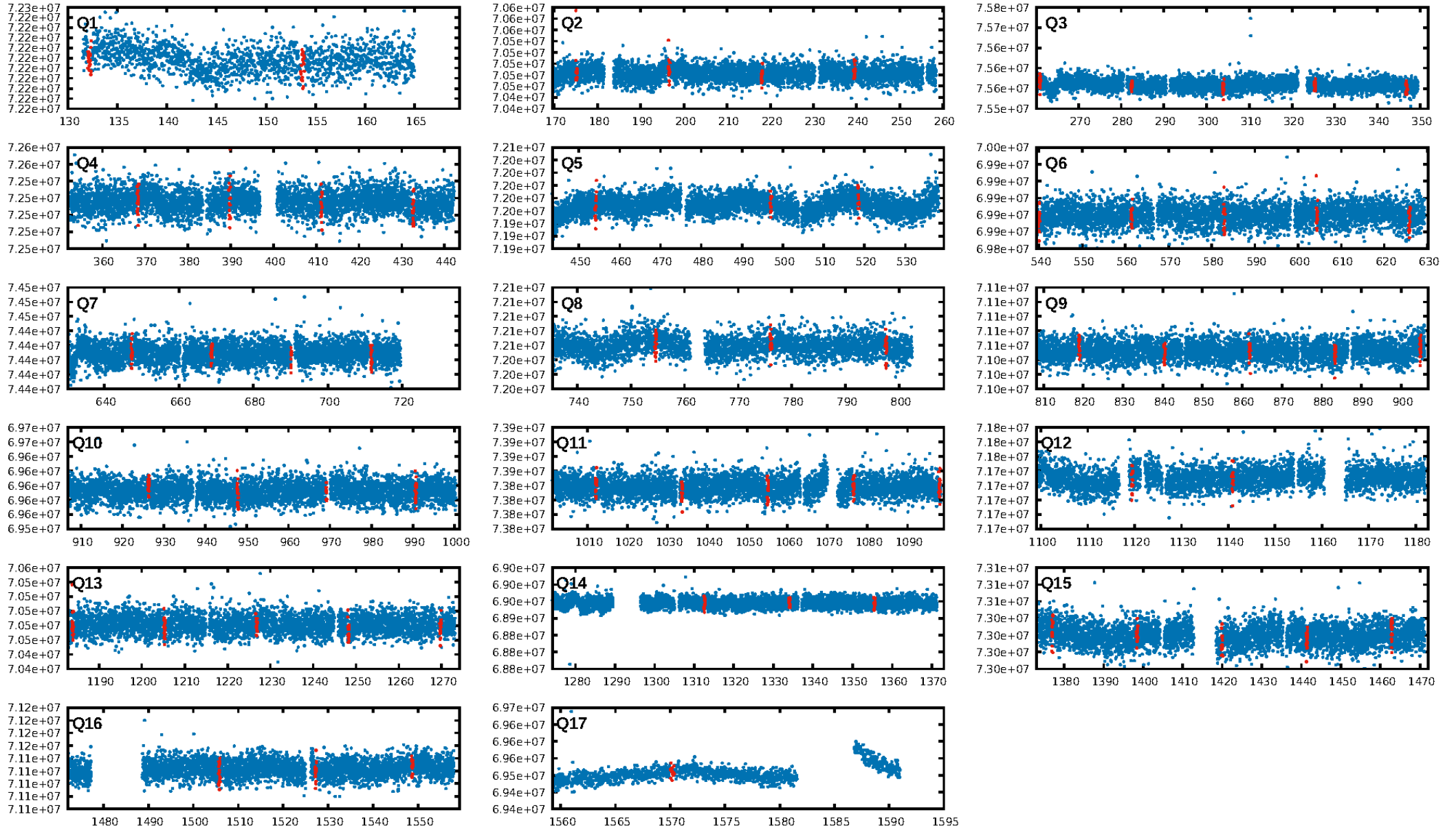
DV Fit Results:

Period = 21.46244 [0.00019] d
Epoch = 132.2032 [0.0073] BKJD
Rp/R* = 0.0104 [0.0062]
a/R* = 21.34 [57.99]
b = 0.84 [1.00]
Seff = 64.28 [15.60]
Teq = 722 [44] K
Rp = 1.38 [0.84] Re
a = 0.1527 [0.0225] AU
Ag = 164.69 [207.89] [0.79 σ]
Teffp = 3999 [1244] K [2.63 σ]

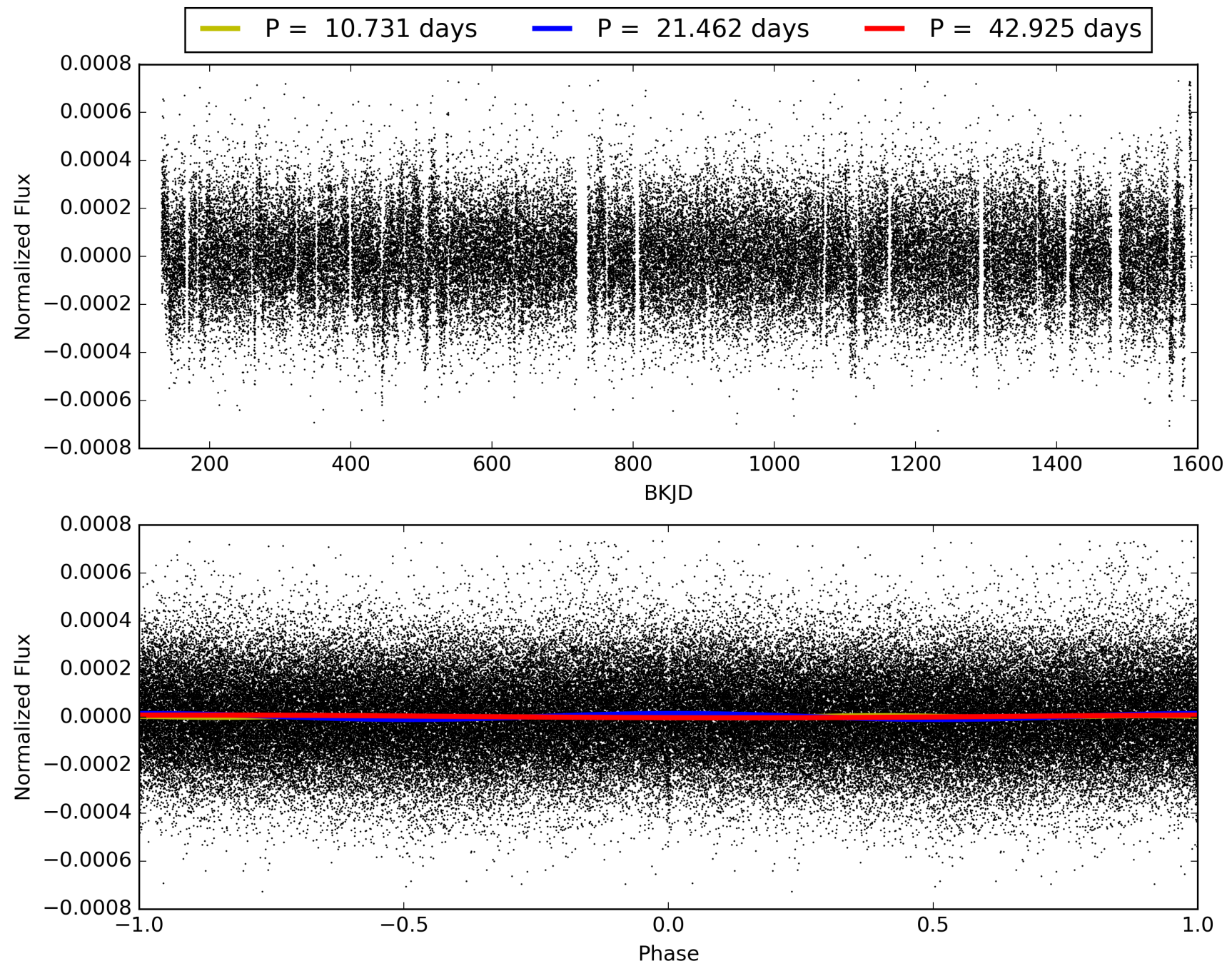
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 34.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.59e-28
RollingBand-fgt: 1.00 [60/60]
GhostDiagnostic-chr: 1.137
Centroid-sig: 0.0%
Centroid-so: 7.131 arcsec [6.05 σ]
OotOffset-rm: 5.201 arcsec [8.46 σ]
KicOffset-rm: 5.195 arcsec [8.66 σ]
OotOffset-st: 3/3/4/3 [13]
KicOffset-st: 3/3/4/3 [13]
DiffImageQuality-fgm: 0.92 [12/13]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 009226339-01, PDC Light Curves

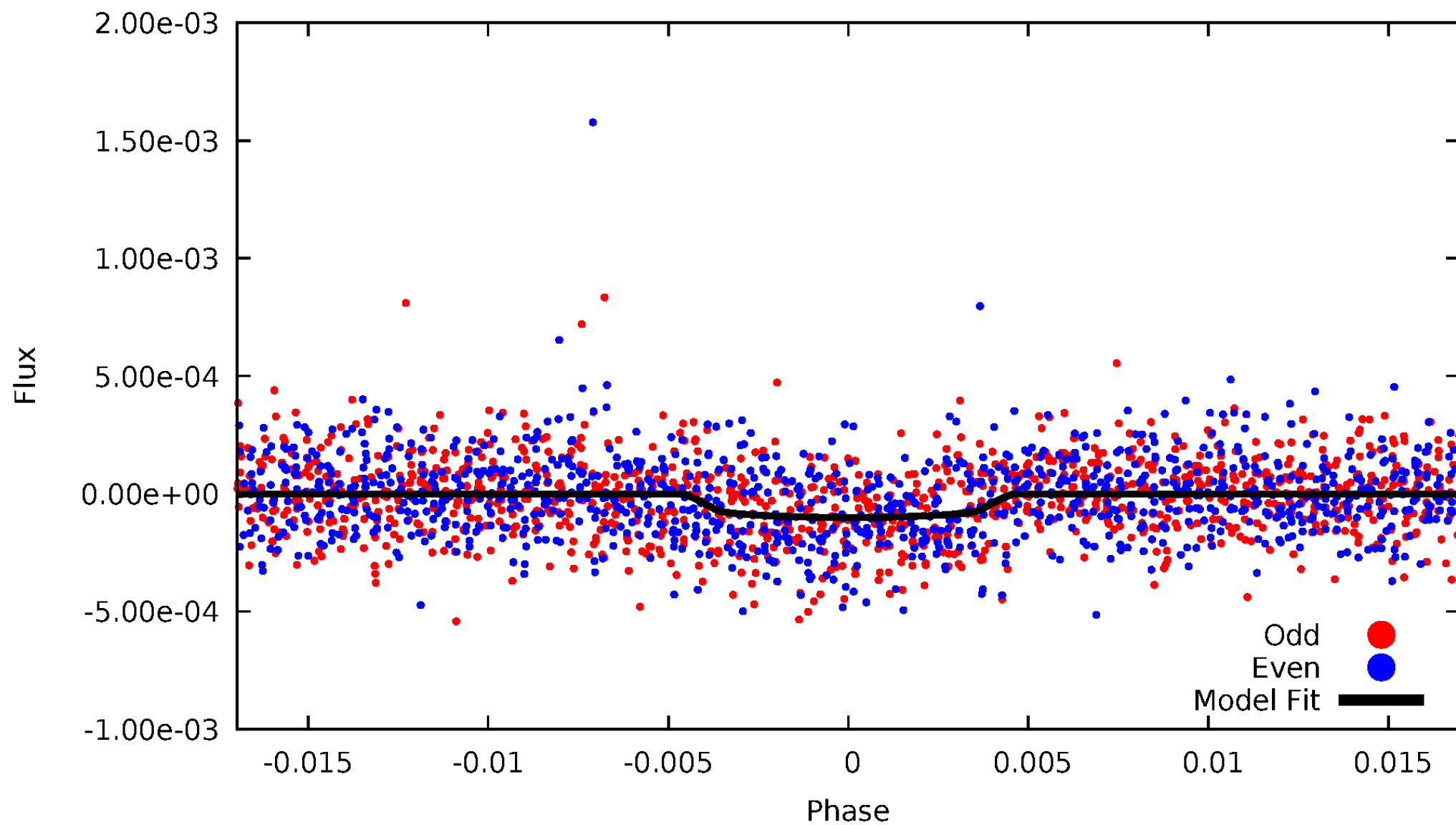


TCE 009226339-01



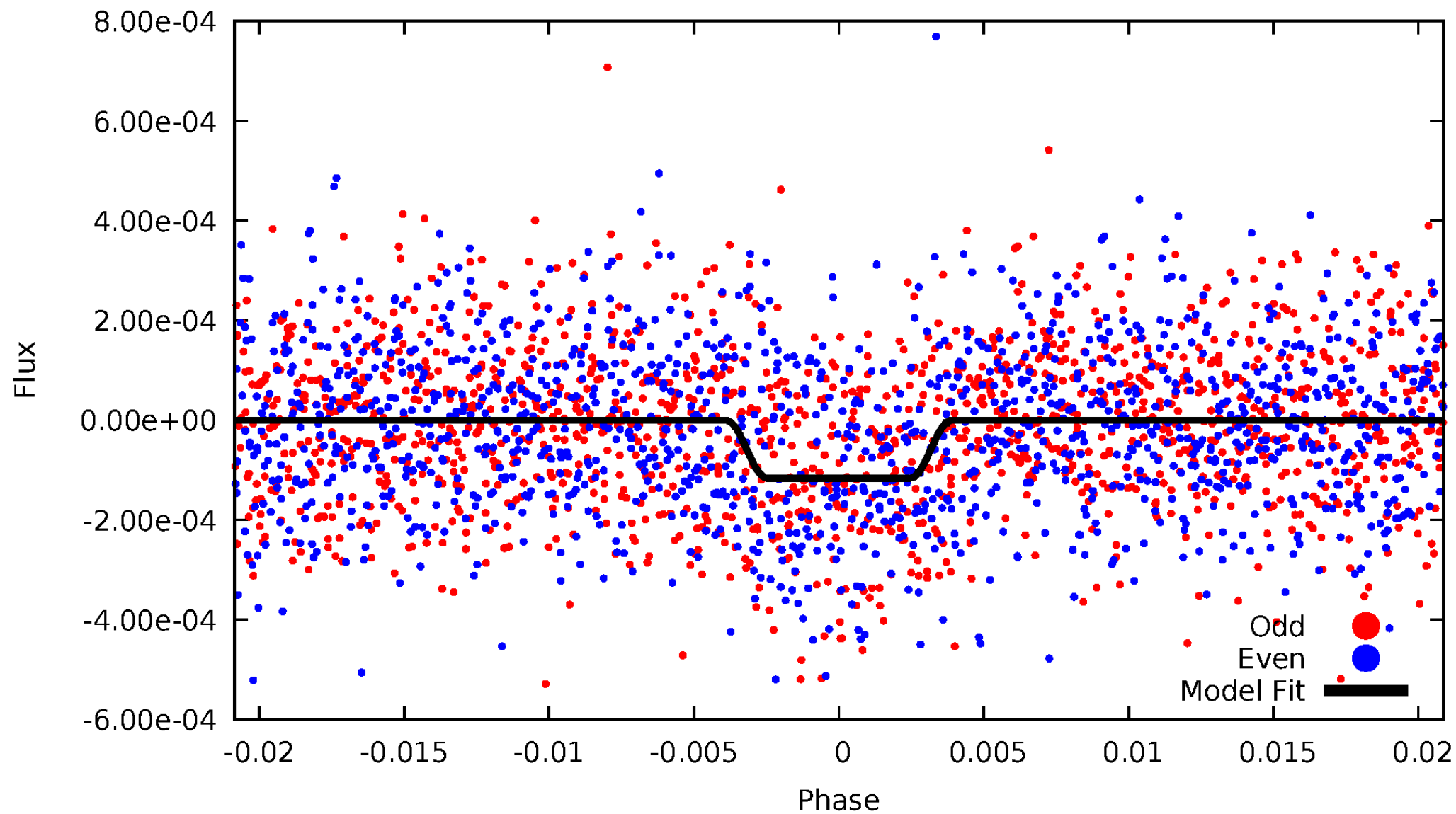
DV Odd/Even

TCE 009226339-01



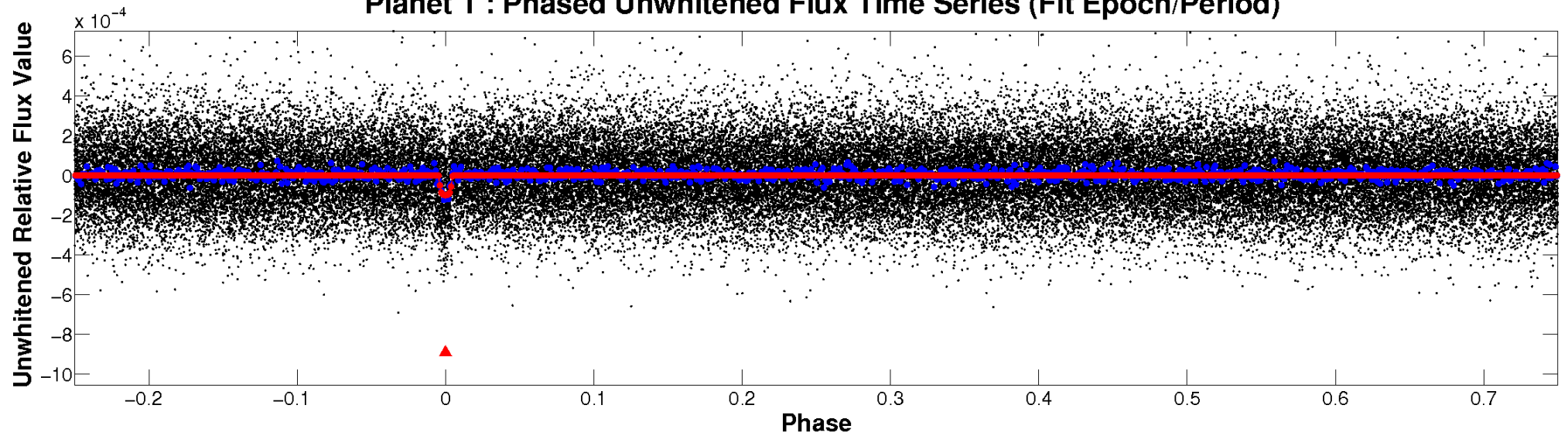
ALT Odd/Even

TCE 009226339-01

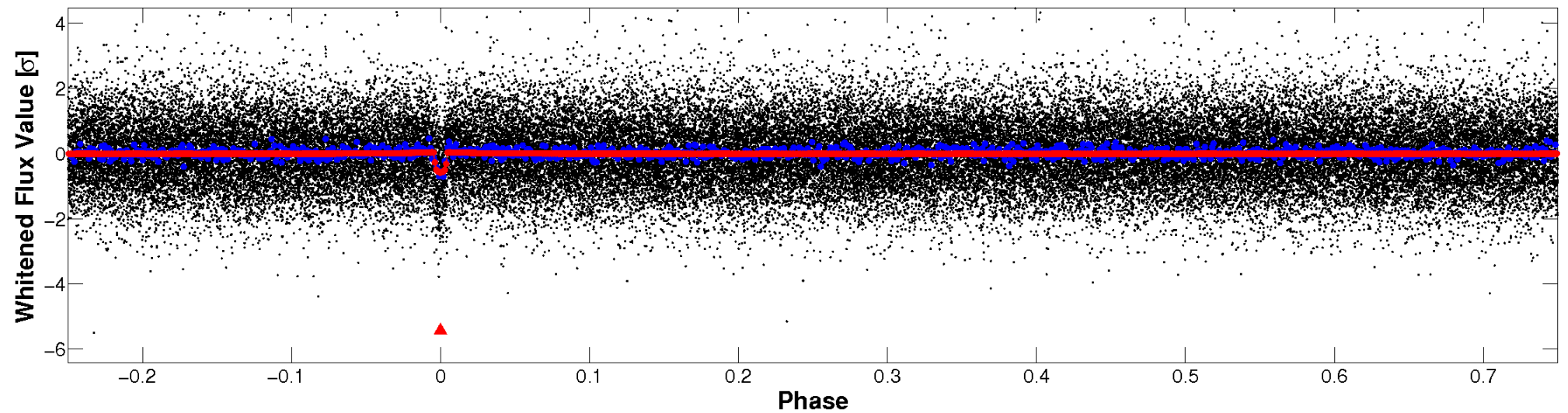


Non-Whitened Vs. Whitened Light Curve

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

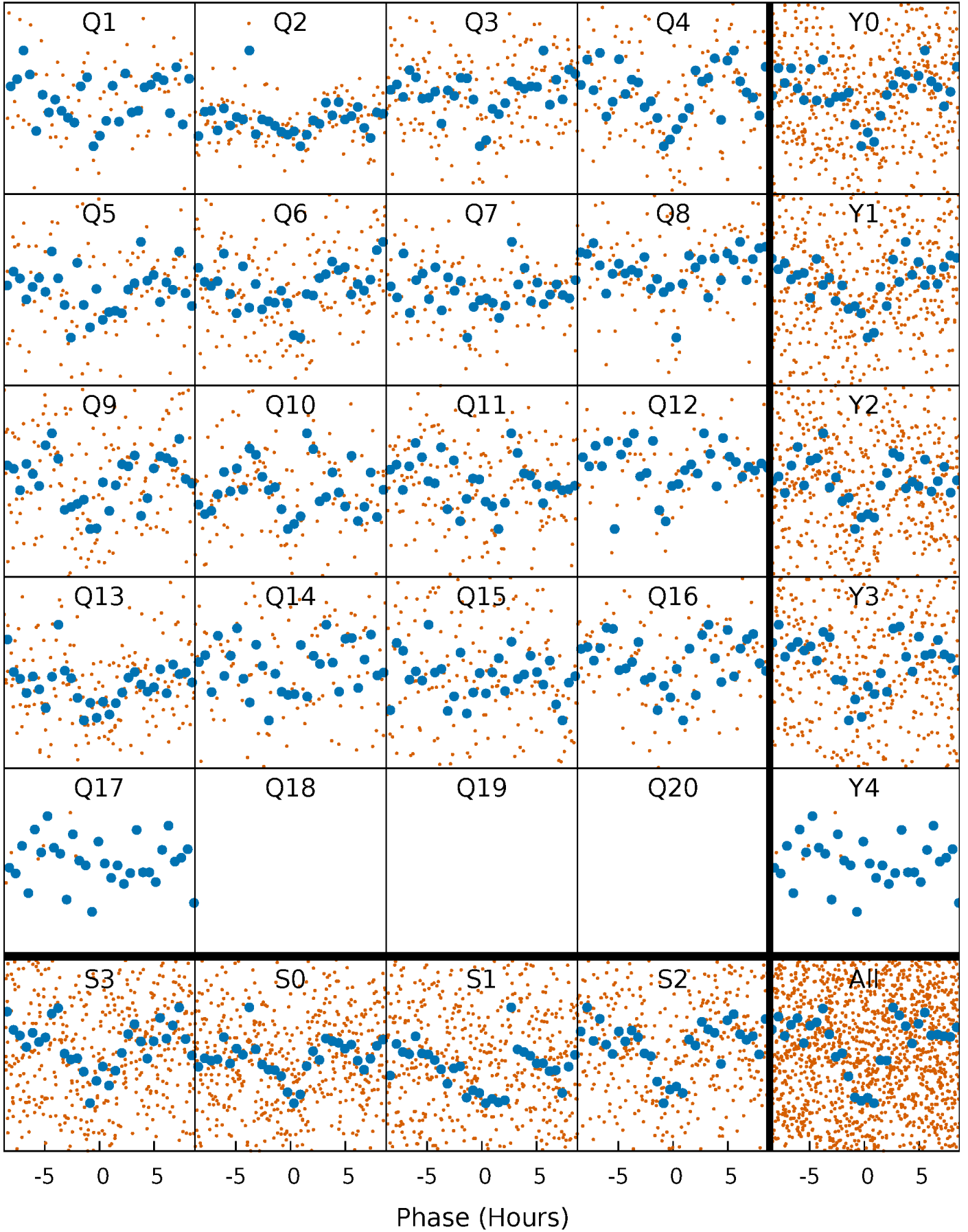


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



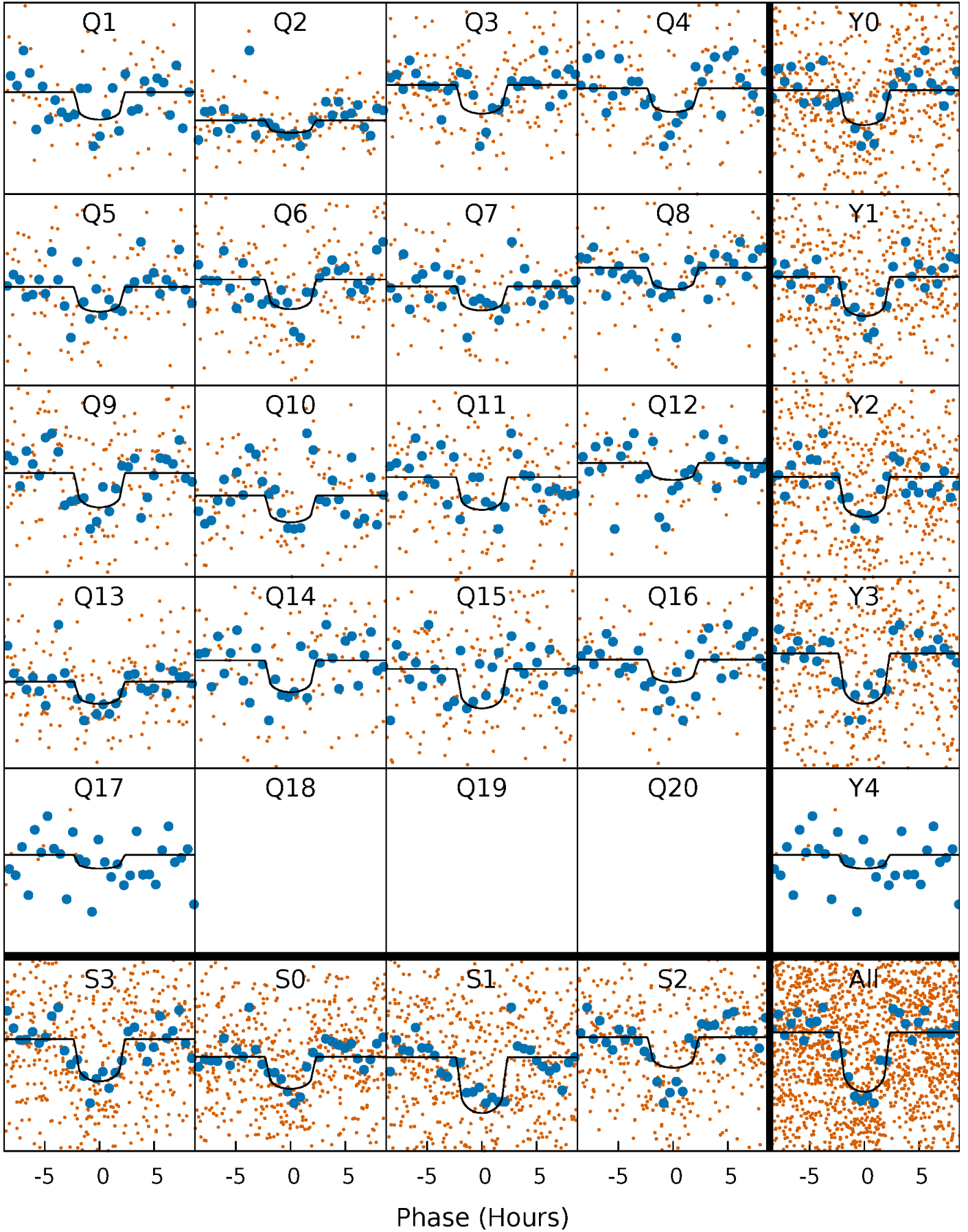
PDC Quarter-Phased Transit Curves

TCE 009226339-01 P= 21.462442 Days $T_0=132.203207$ (BKJD)



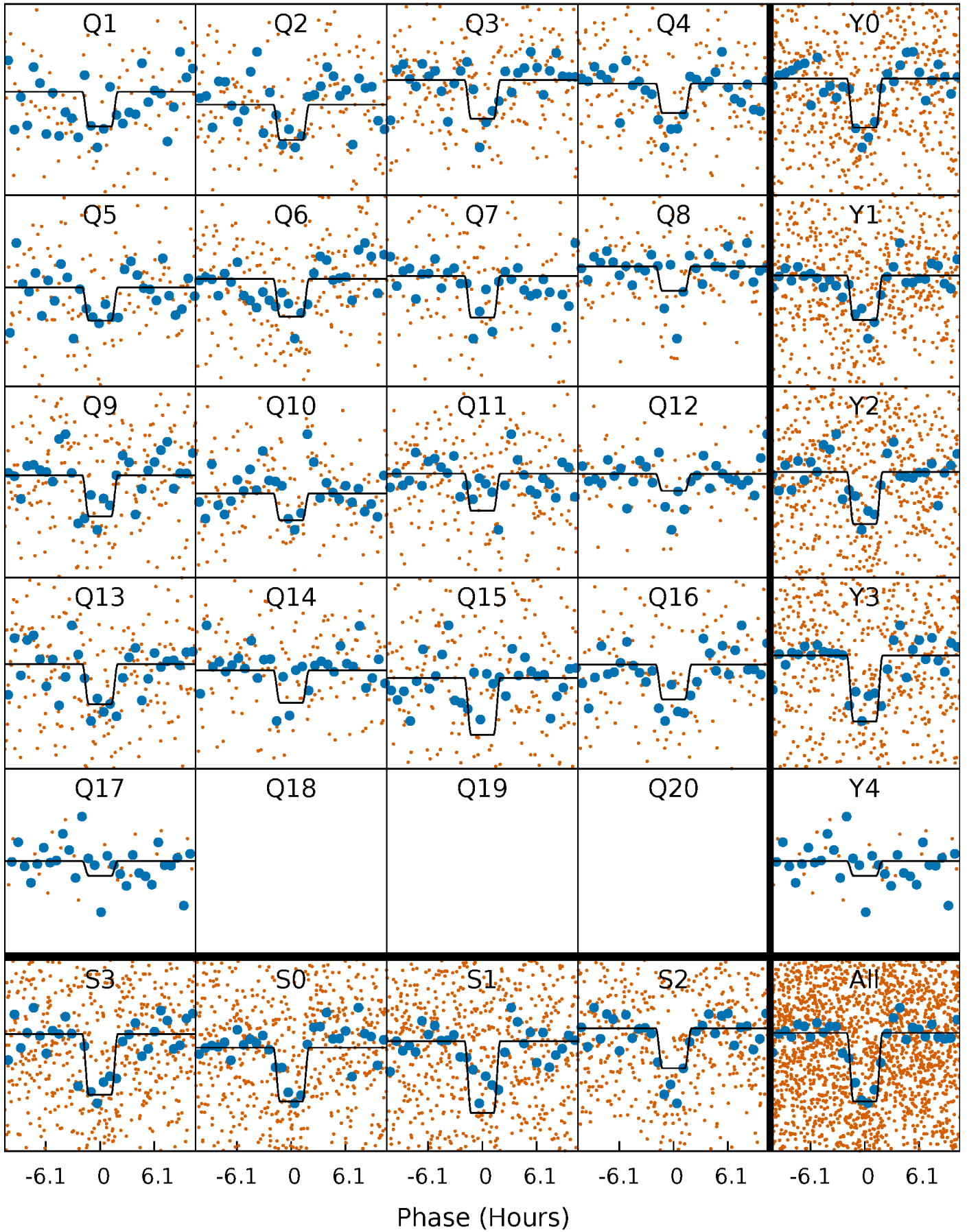
DV Quarter-Phased Transit Curves

TCE 009226339-01 P= 21.462442 Days $T_0=132.203207$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

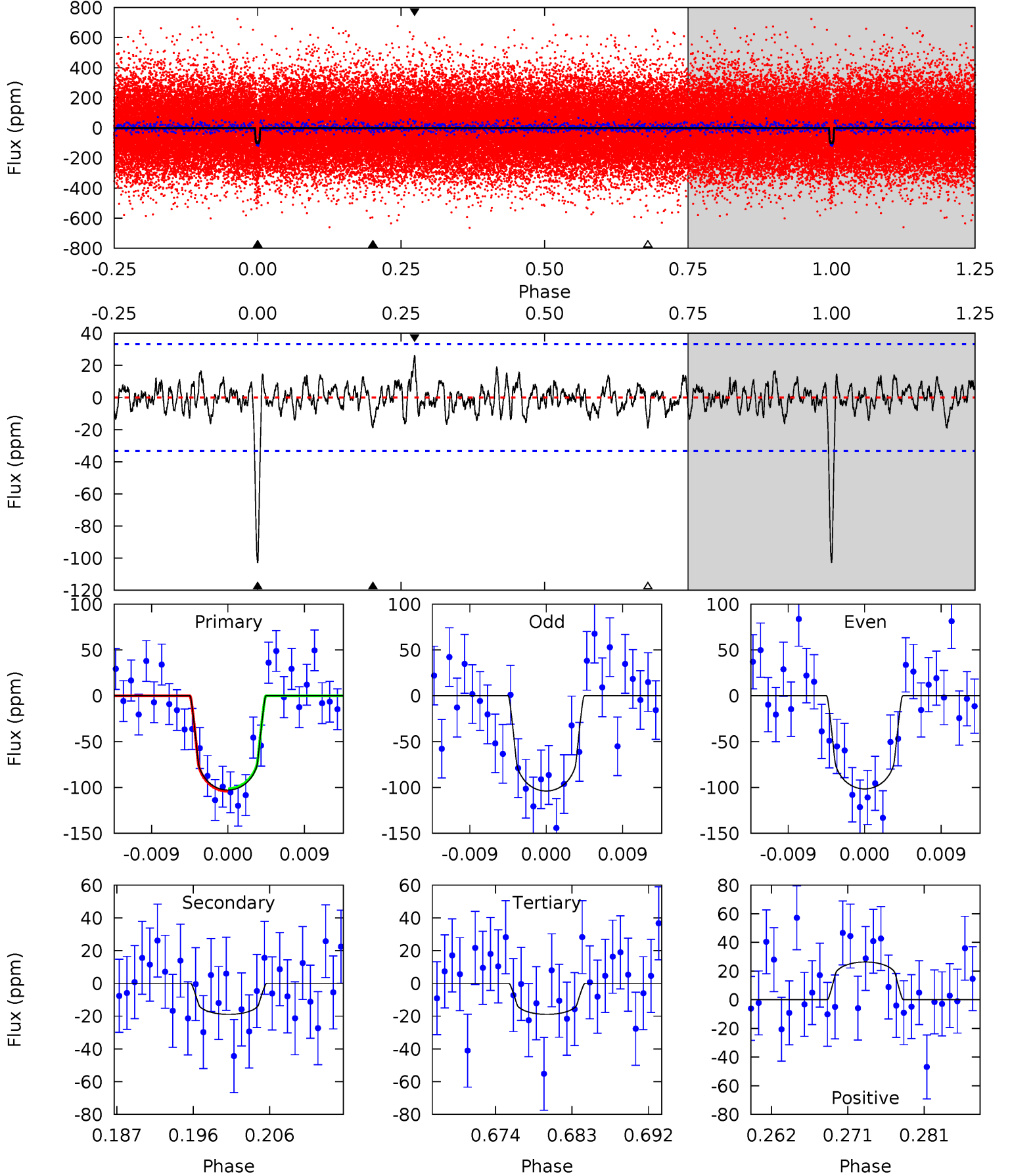
TCE 009226339-01 P= 21.461788 Days $T_0=132.217437$ (BKJD)



DV Model-Shift Uniqueness Test

009226339-01, P = 21.462442 Days, E = 110.740765 Days

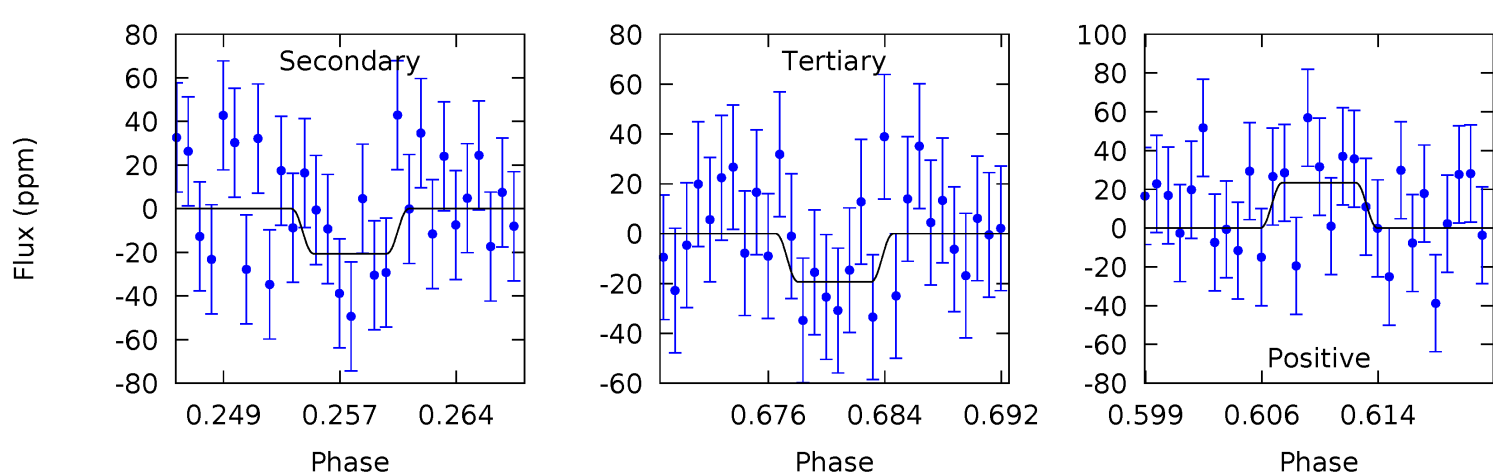
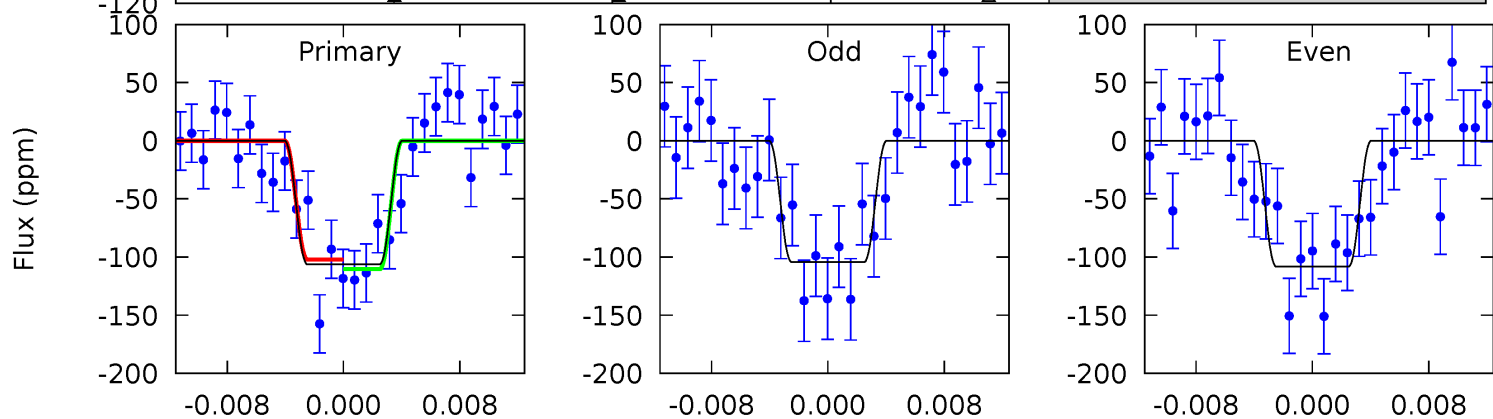
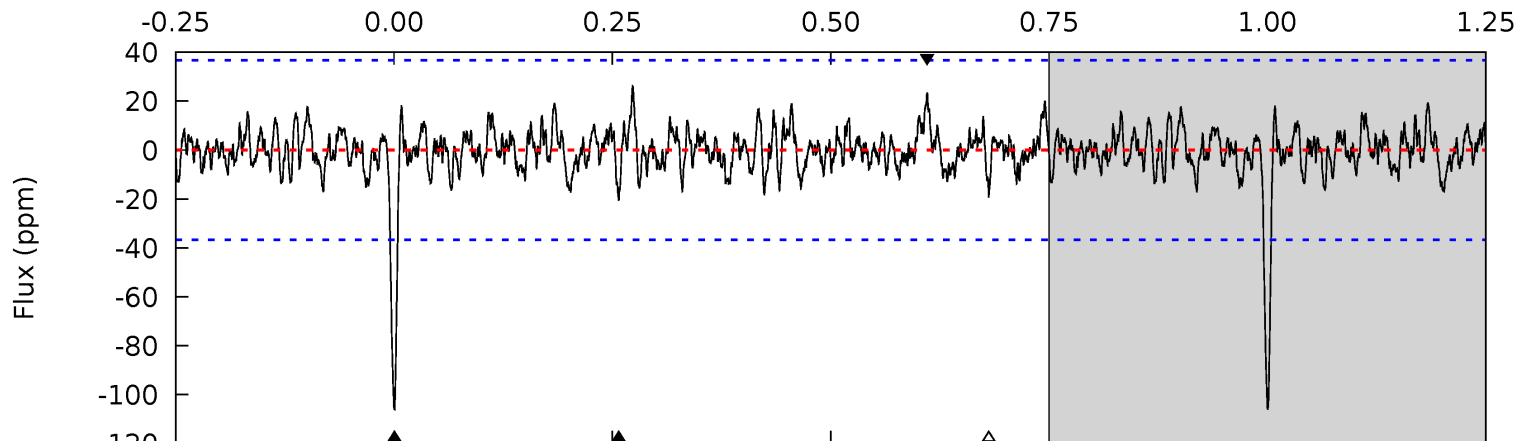
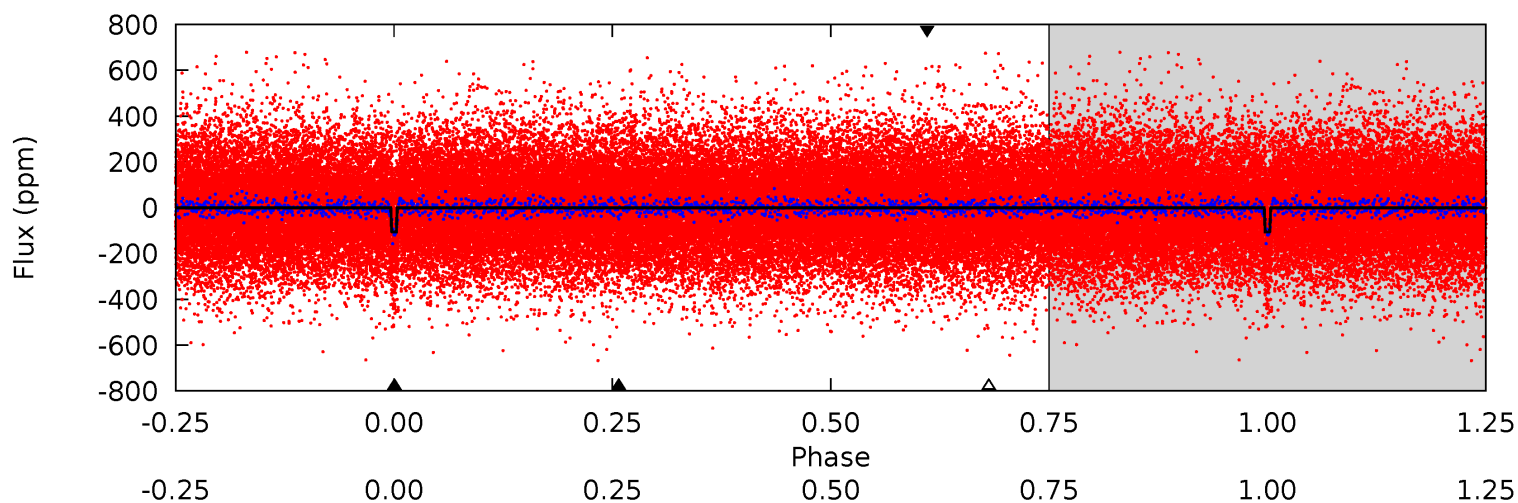
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.5	2.86	2.86	3.99	5.04	2.60	1.00	12.7	11.6	0.00	-1.12	0.17	0.91	0.20	0.20



Alt Model-Shift Uniqueness Test

009226339-01, $P = 21.461788$ Days, $E = 110.755649$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.7	2.85	2.67	3.25	5.07	2.66	0.97	12.0	11.4	0.18	-0.40	0.26	0.95	0.20	0.58



Stellar Parameters For KIC 009226339

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5806^{+105}_{-117}	$4.283^{+0.132}_{-0.108}$	$0.120^{+0.150}_{-0.150}$	$1.213^{+0.194}_{-0.175}$	$1.028^{+0.086}_{-0.070}$	$0.811^{+0.507}_{-0.264}$
	+2%/-2%	+3%/-3%	+125%/-125%	+16%/-14%	+8%/-7%	+63%/-33%
Source	SPE12	SPE12	SPE12	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 009226339-01 / KOI 3477.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-19 ± 7	$1.42^{+0.80}_{-0.76}$	1007^{+45}_{-48}	3991^{+1468}_{-602}	118^{+444}_{-73}
Alt.	-21 ± 7	$1.45^{+0.85}_{-0.71}$	1005^{+48}_{-46}	4004^{+1249}_{-611}	128^{+366}_{-83}

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

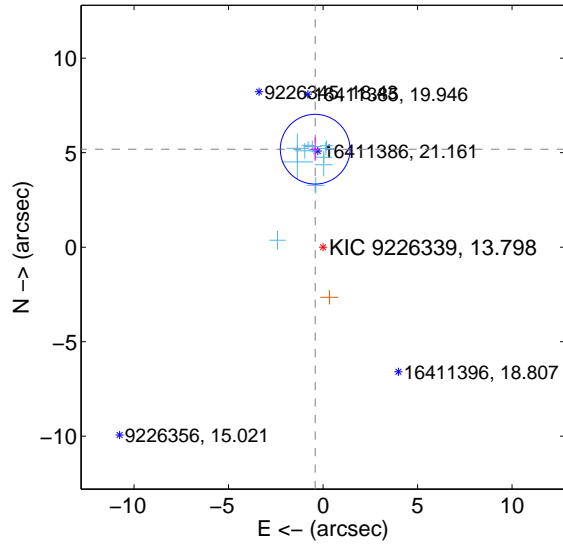
Supplemental centroid analysis for 009226339-01. Kepler magnitude: 13.80. Transit SNR 11.40

There are 12 quarters with good PRF difference image offsets

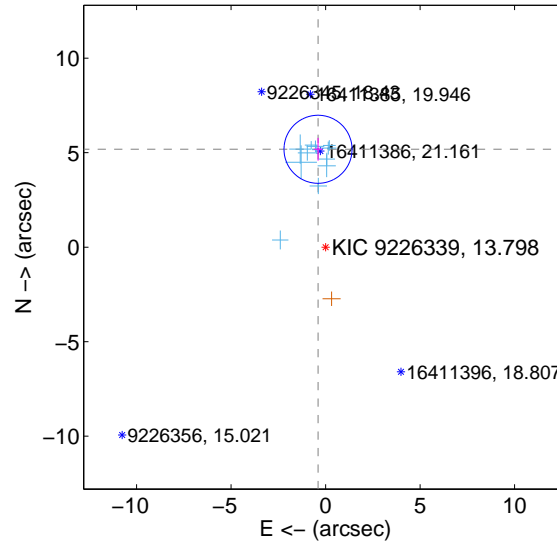
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.201 ± 0.615	8.46	0.417 ± 0.215	5.184 ± 0.615
PRF-fit source offset from KIC position	5.195 ± 0.600	8.66	0.400 ± 0.225	5.179 ± 0.603
photometric centroid source offset	7.13 ± 1.18	6.05	-0.55 ± 1.13	7.11 ± 1.18

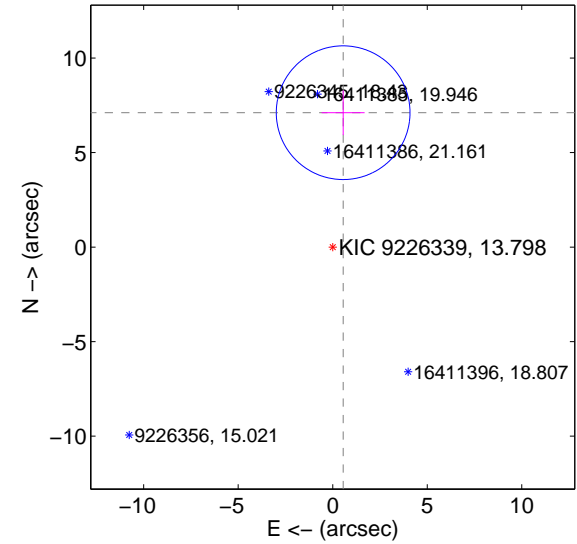
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

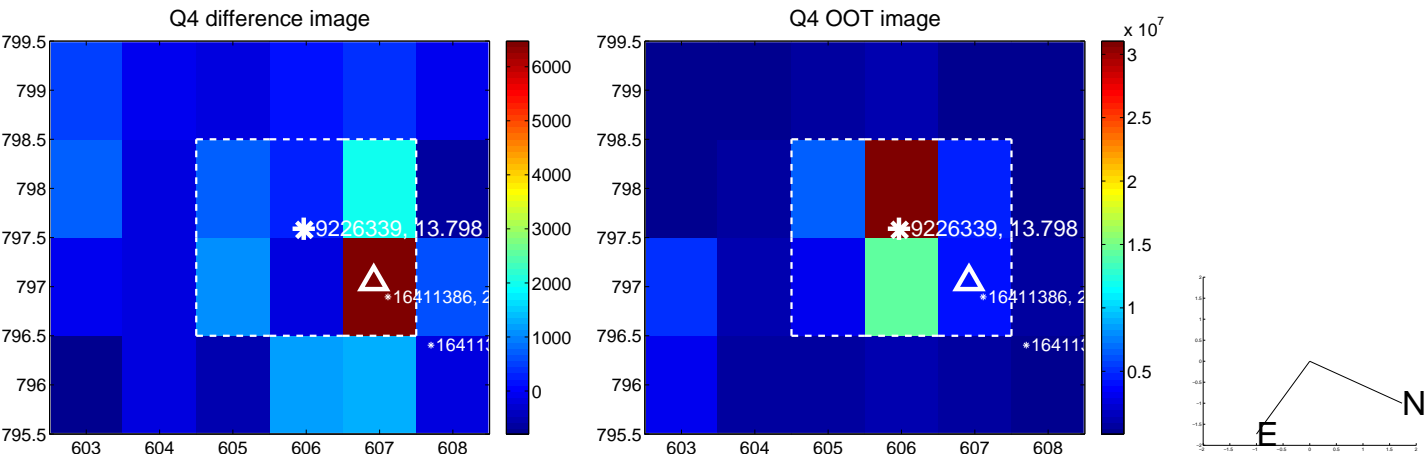
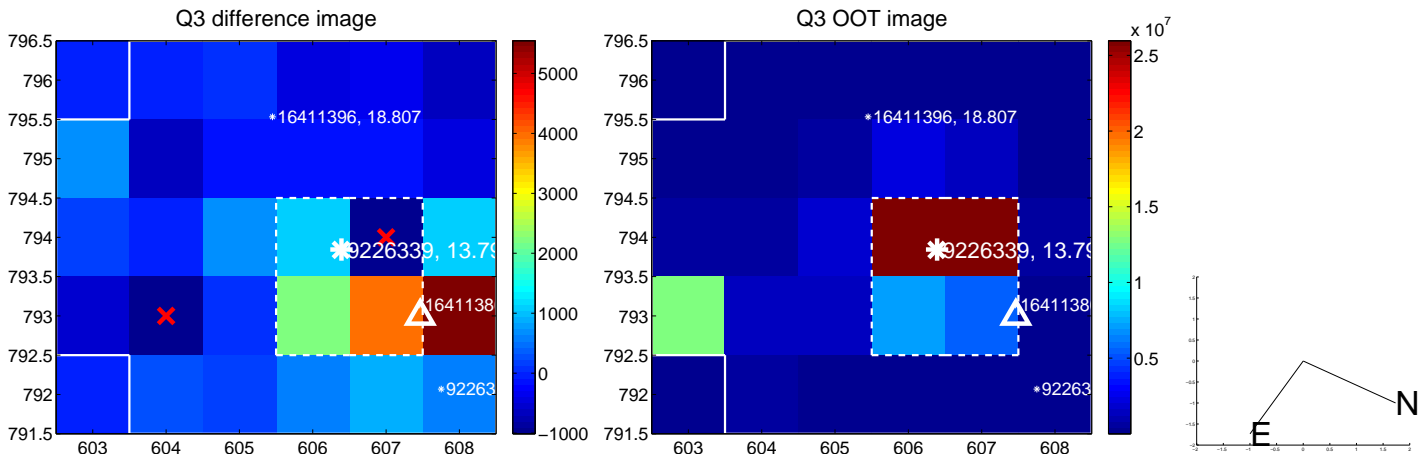
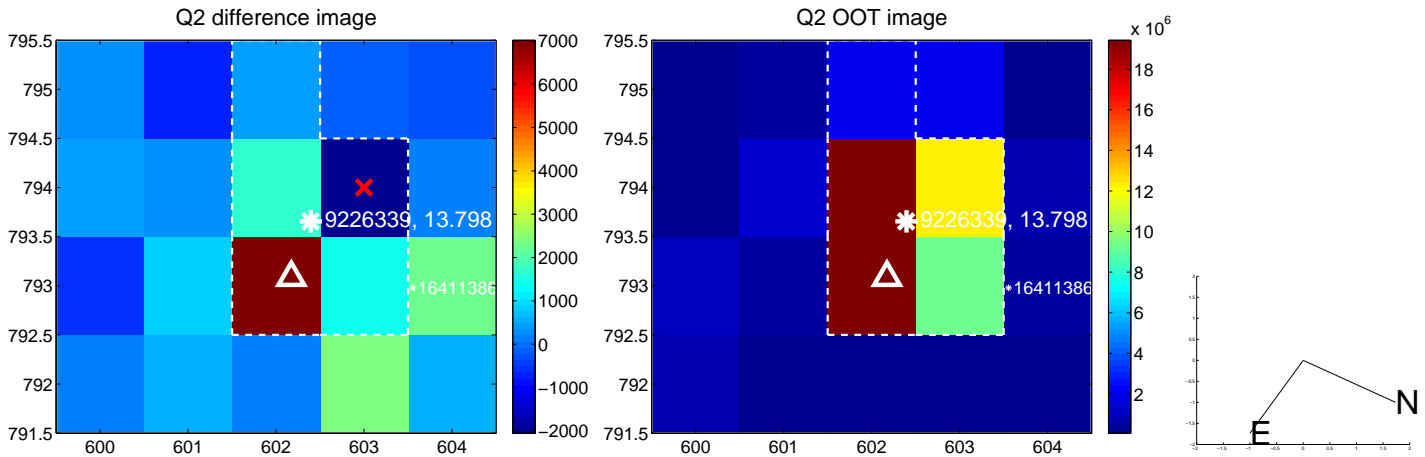
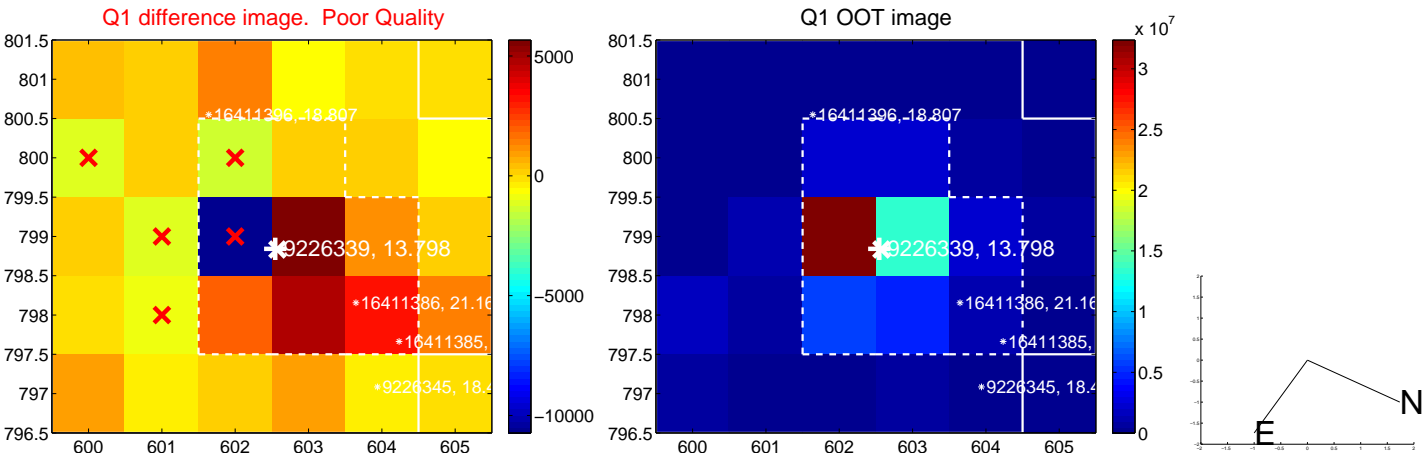


offset from photometric centroids

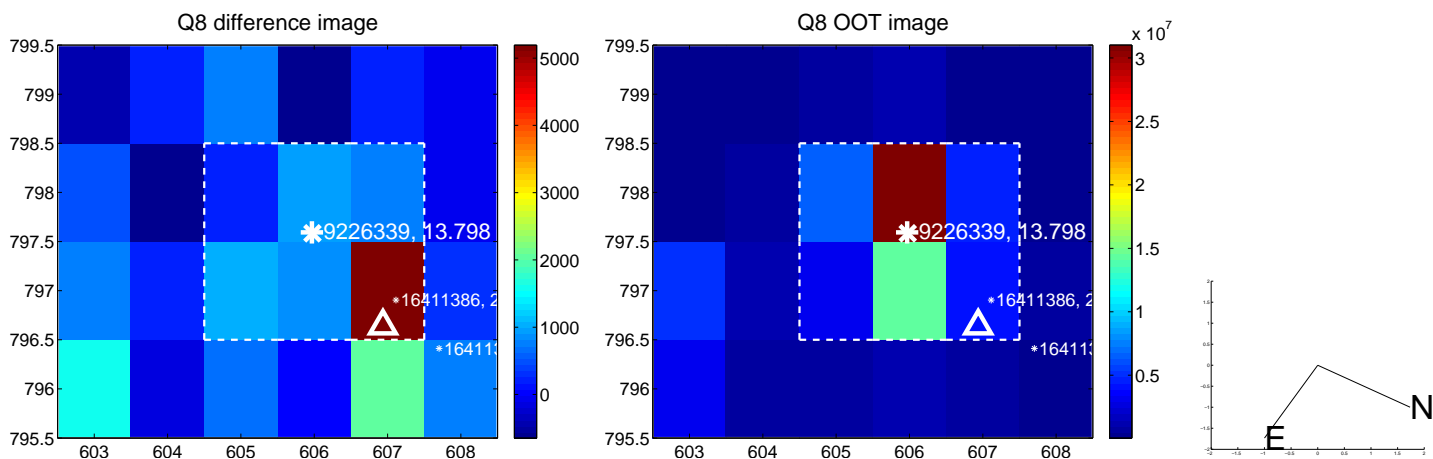
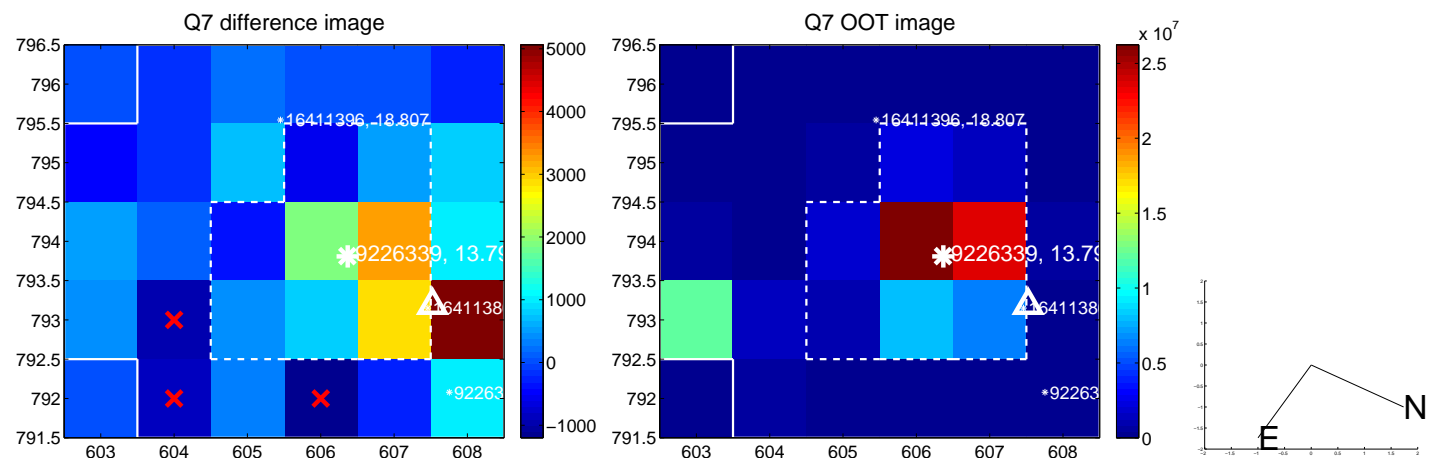
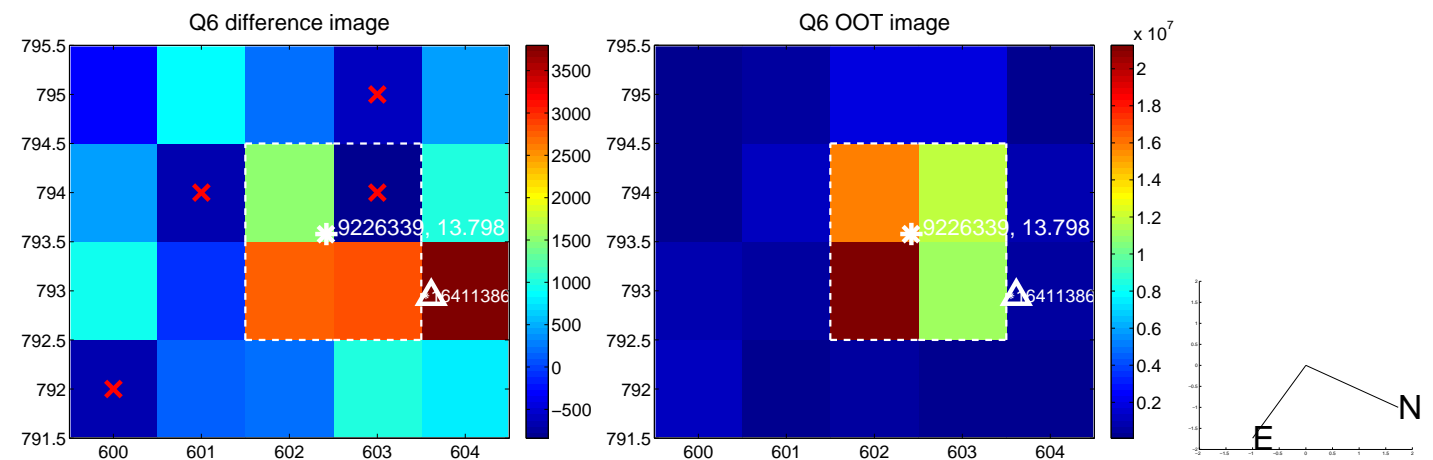
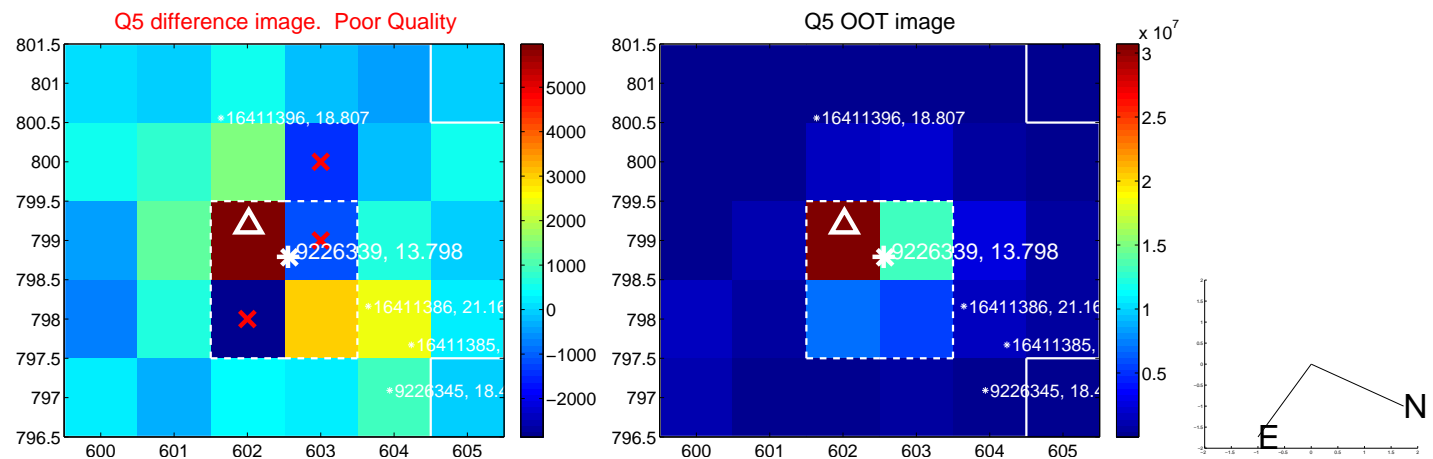


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

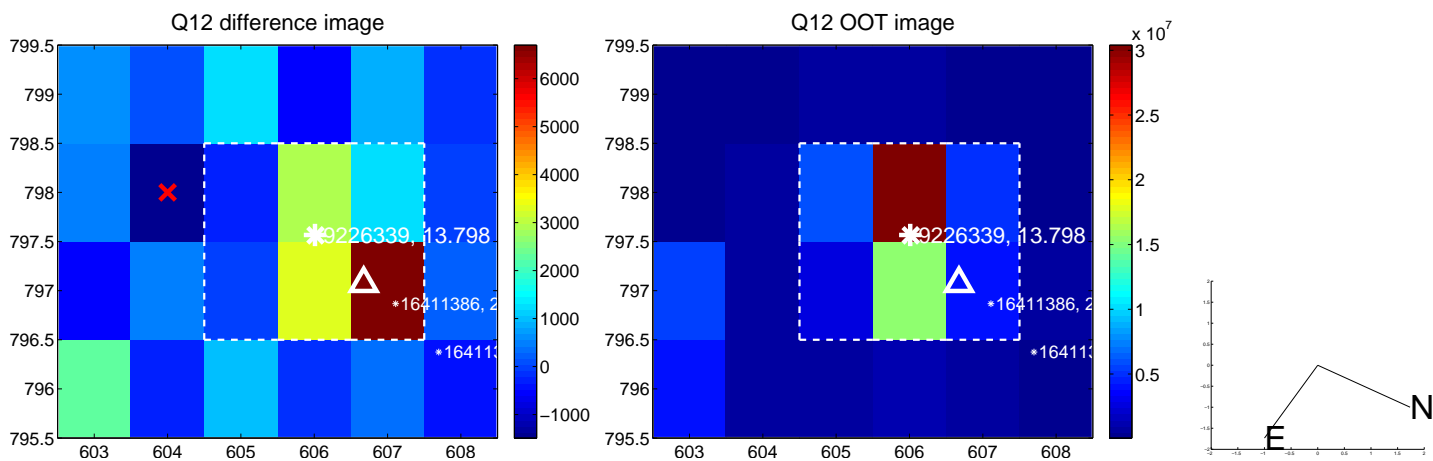
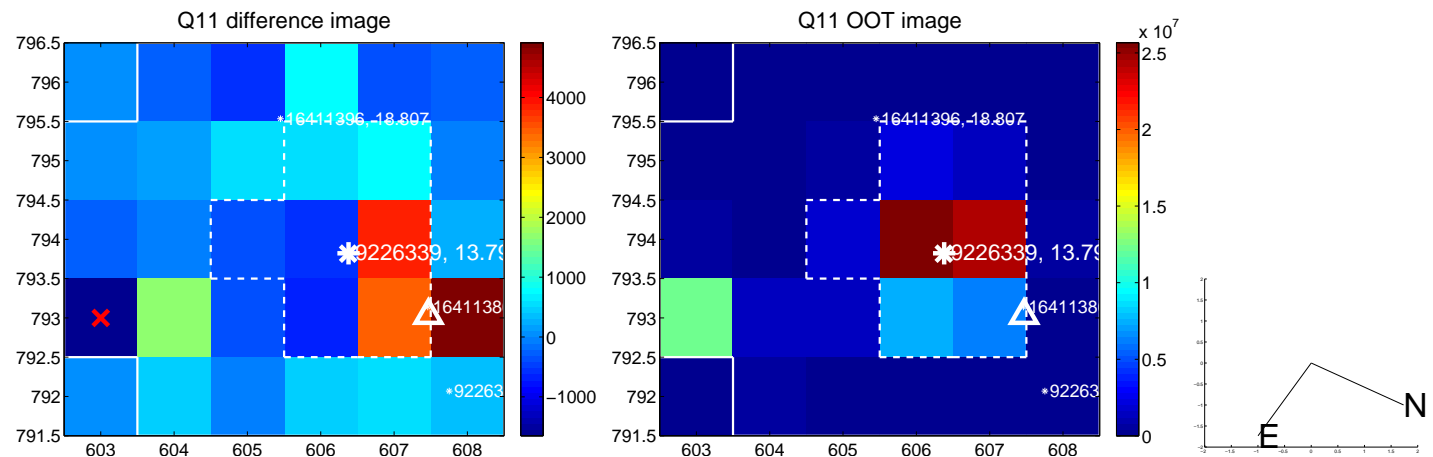
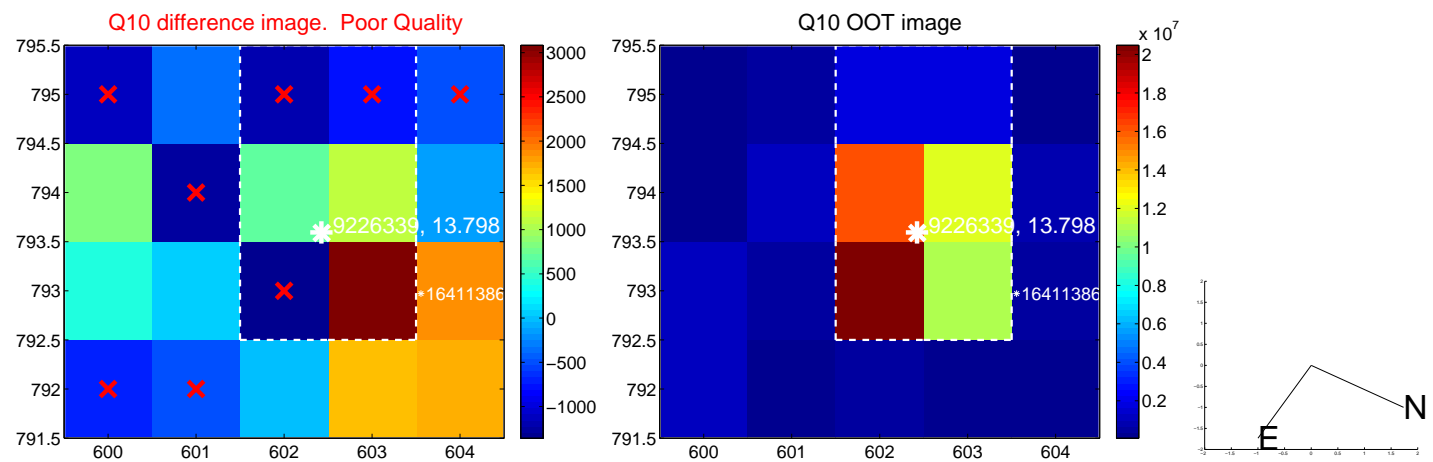
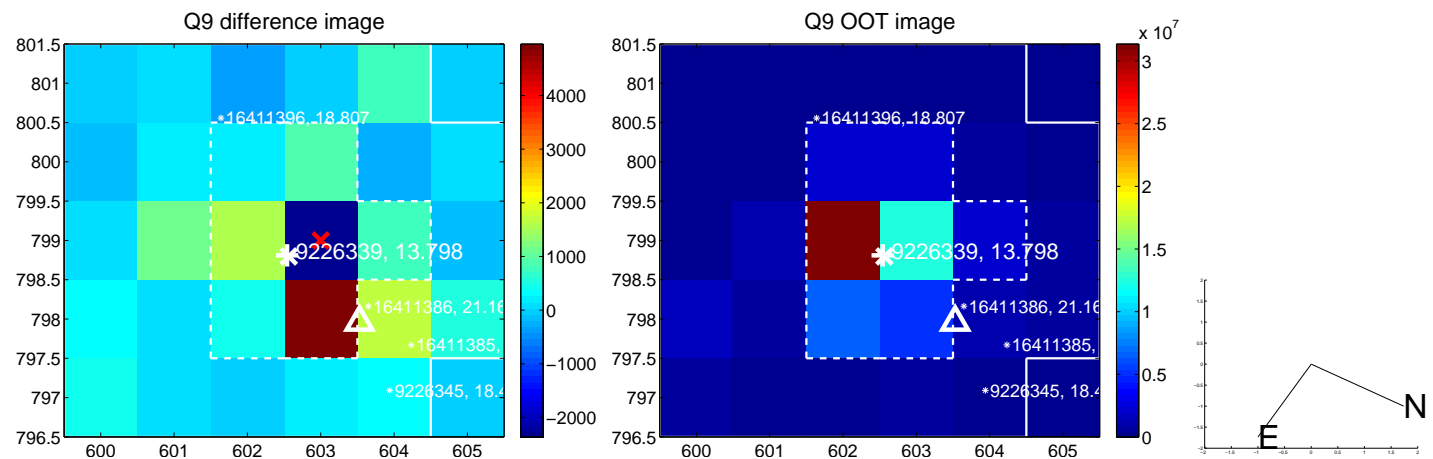
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



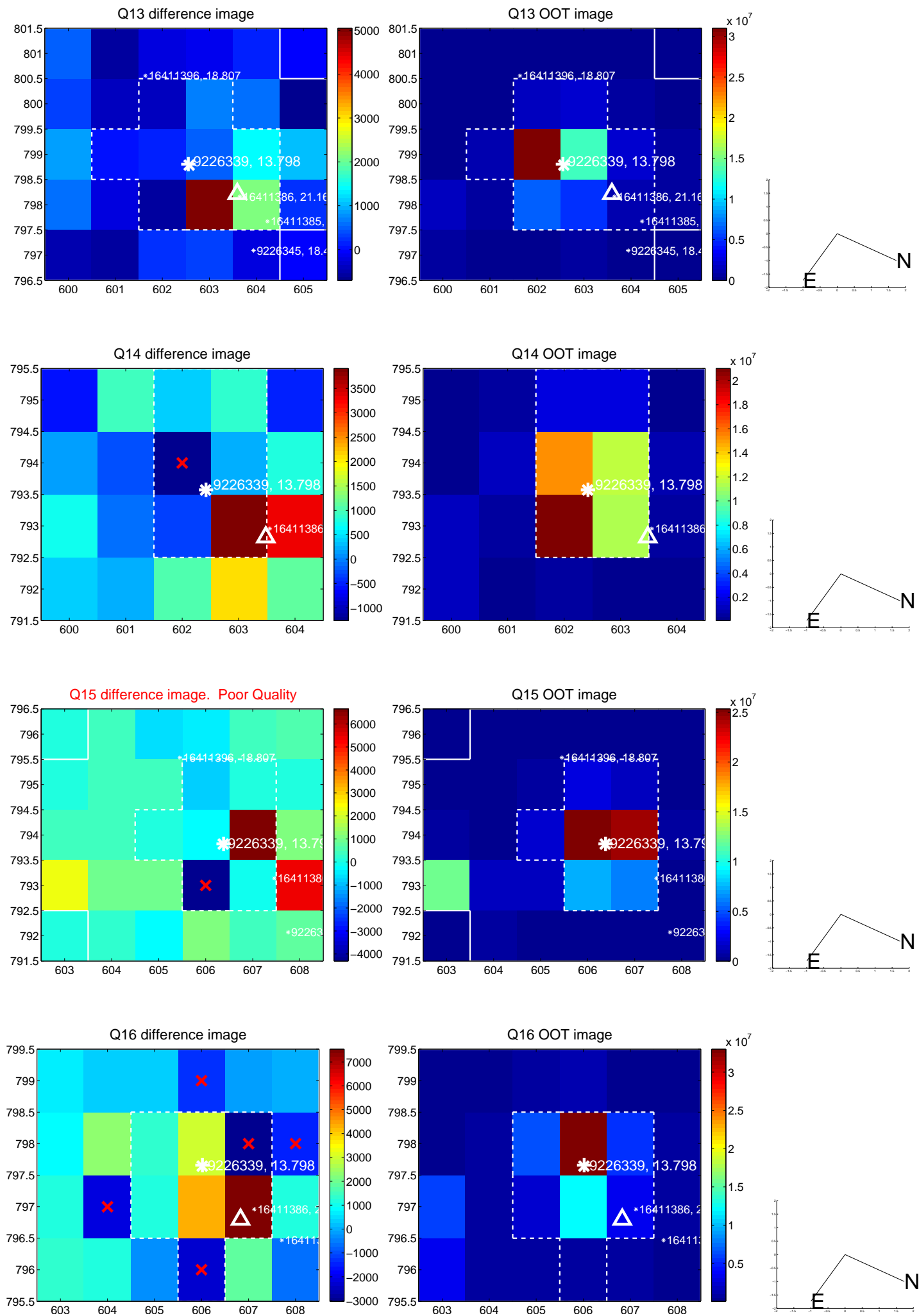
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



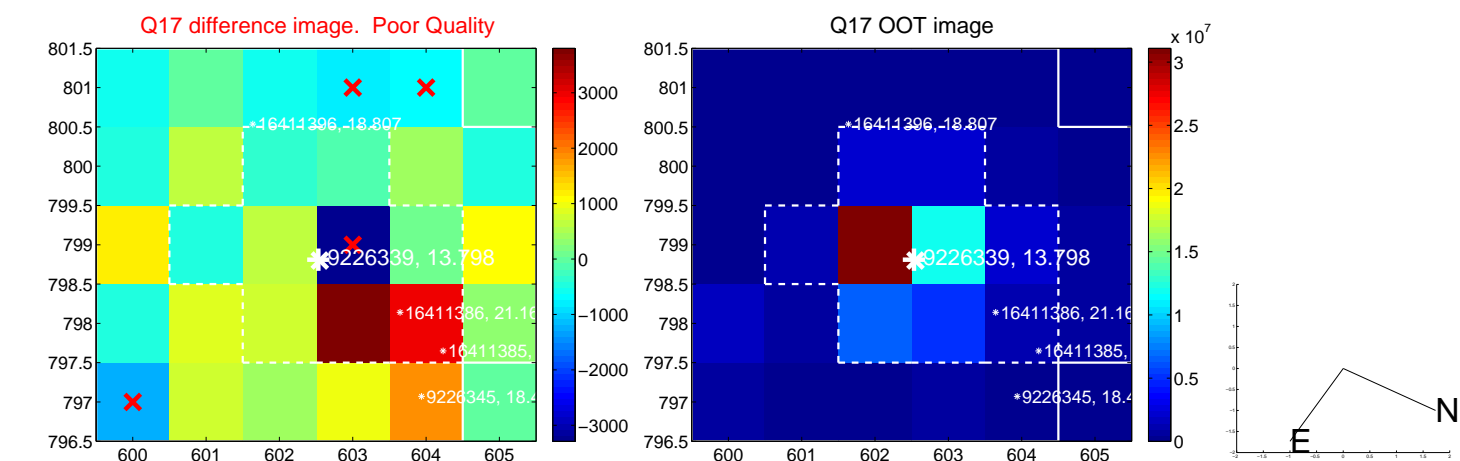
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



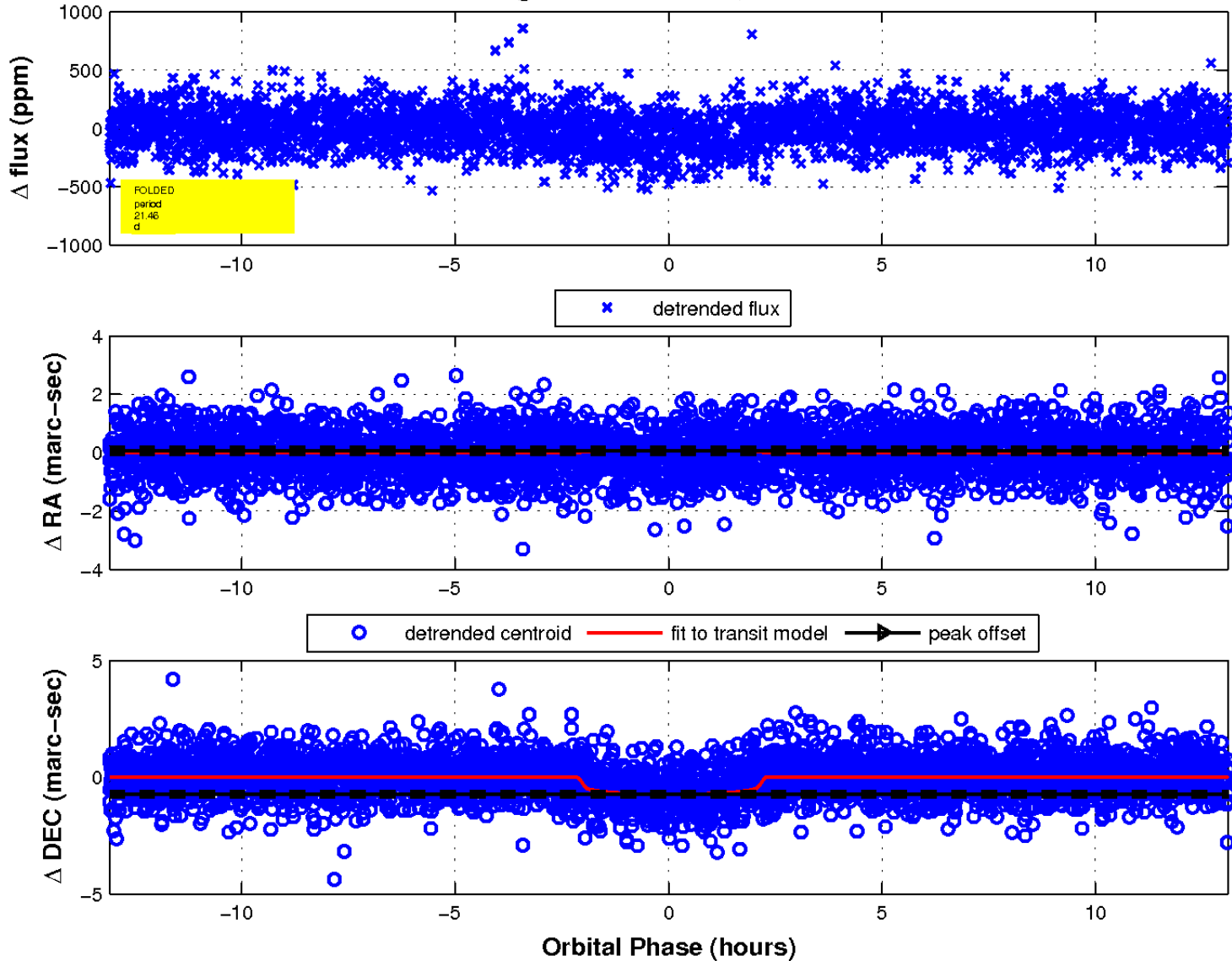
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

