

KIC 006043538

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})
006043538-01	OBS	7759.01	6.225328	133.089516	104.7	4.356	7.9	8.5	1.73	6263	2.04	853.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006043538-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

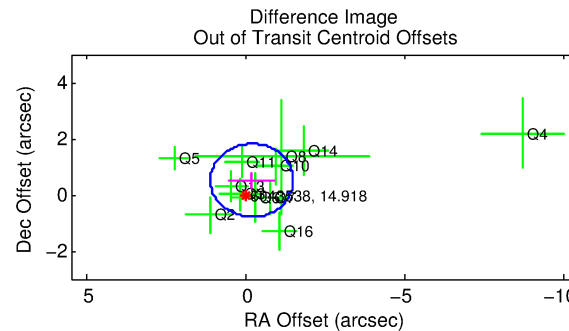
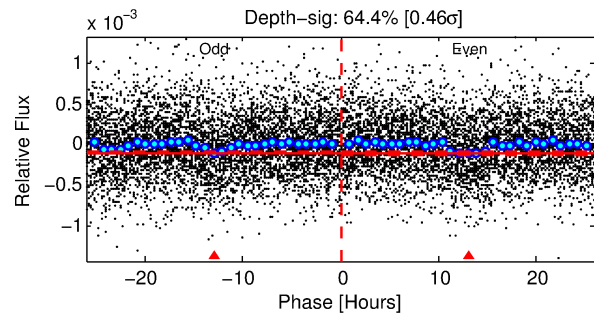
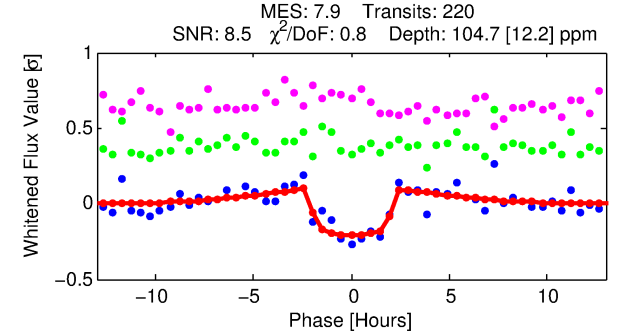
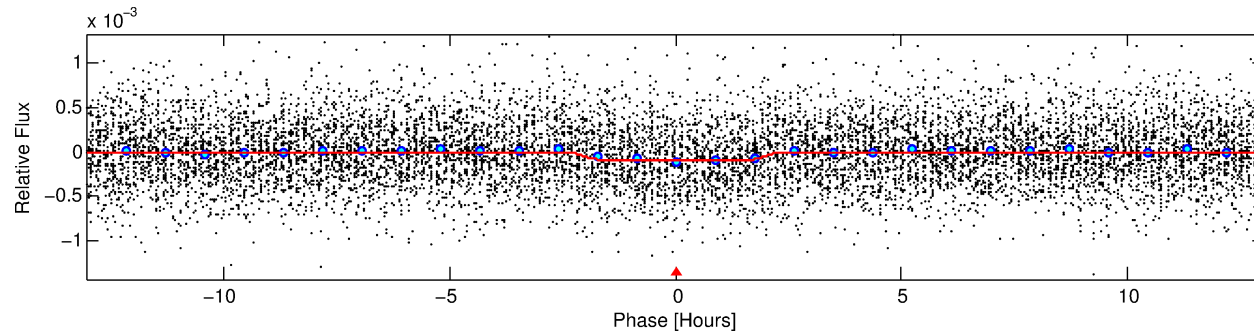
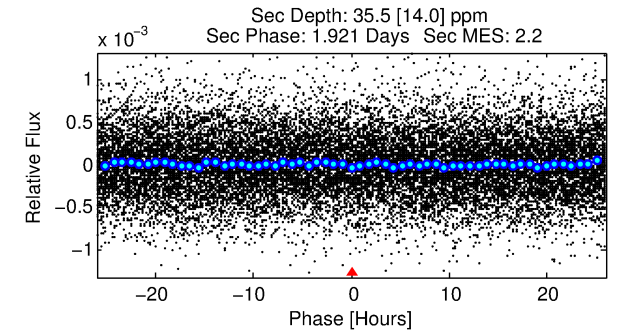
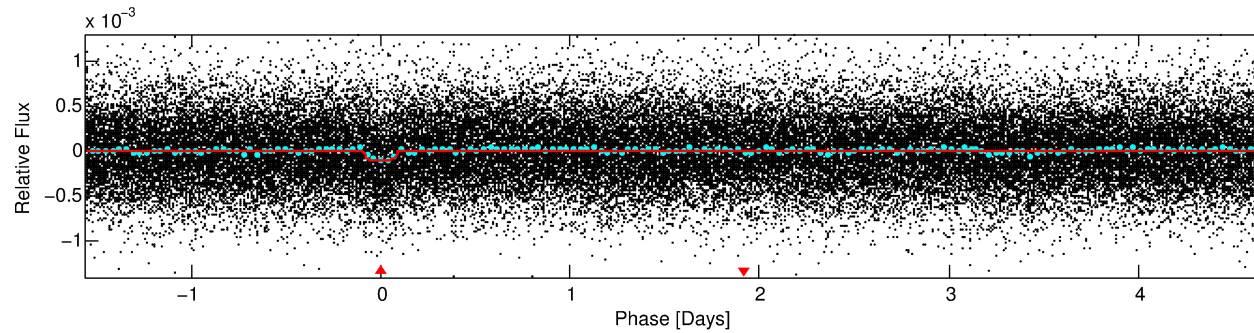
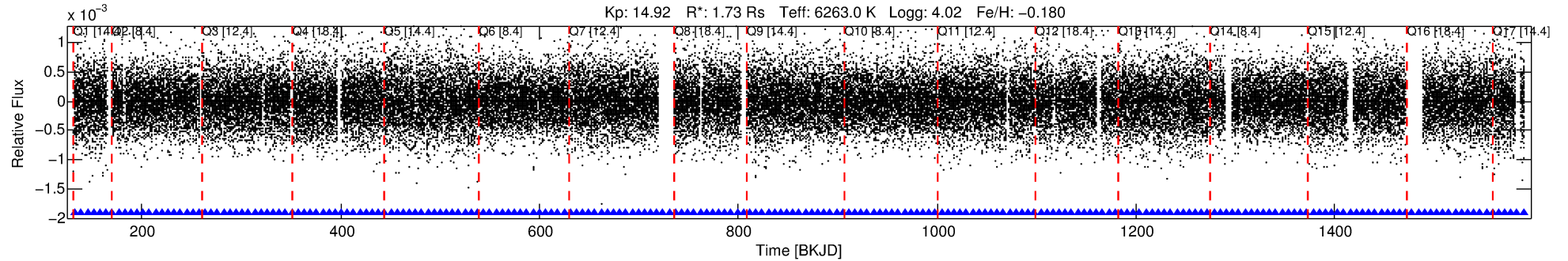
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006043538-01

No Significant Match Found

DV One-Page Summary

KIC: 6043538 Candidate: 1 of 1 Period: 6.225 d



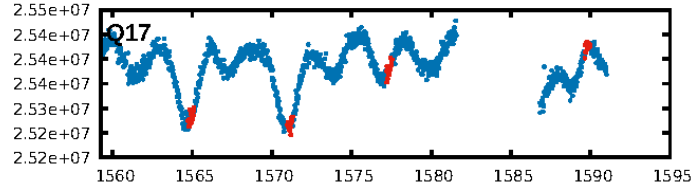
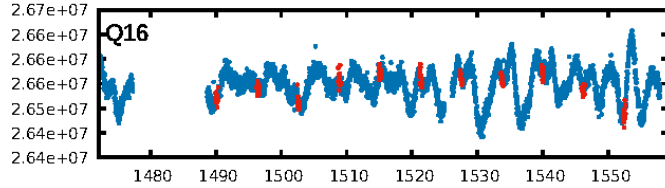
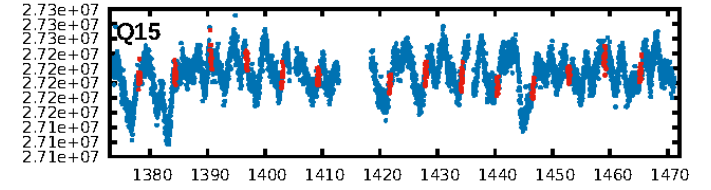
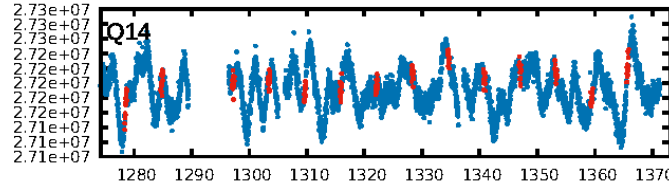
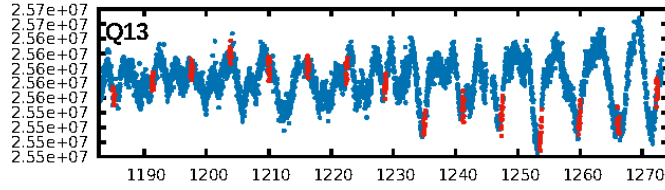
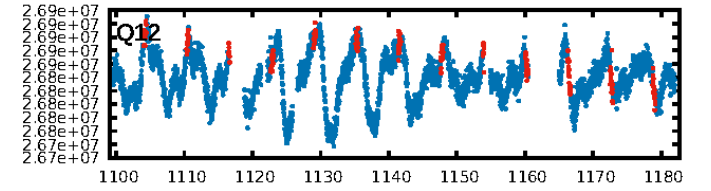
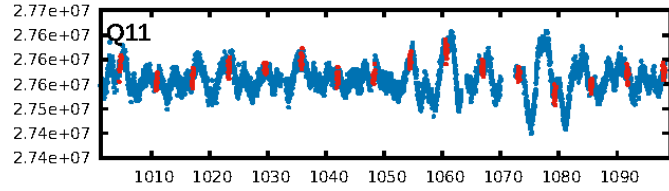
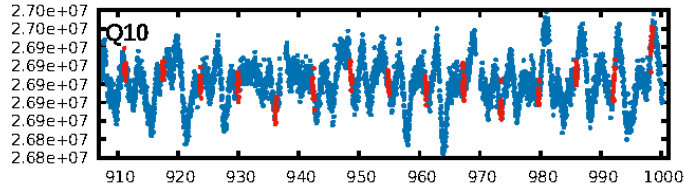
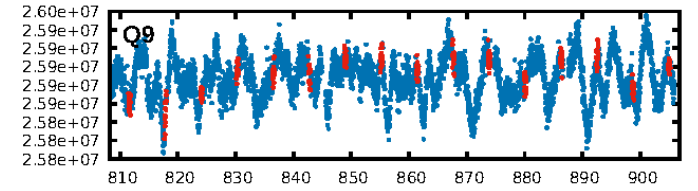
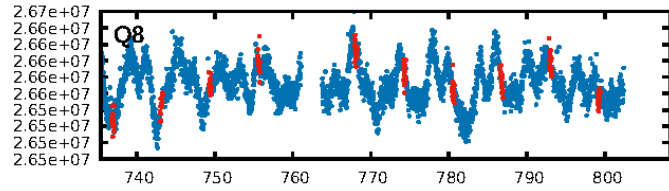
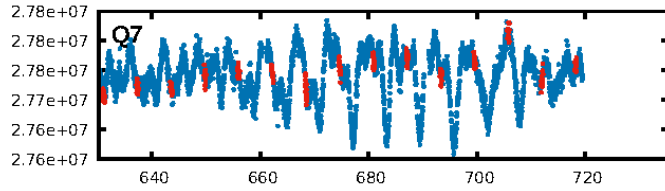
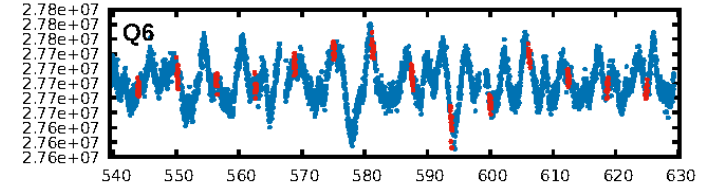
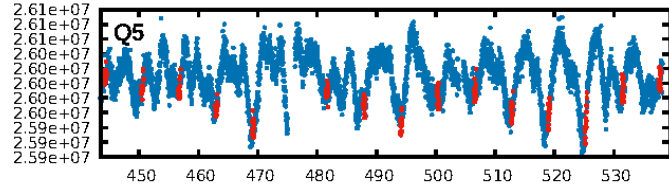
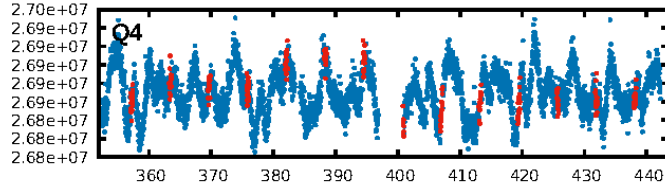
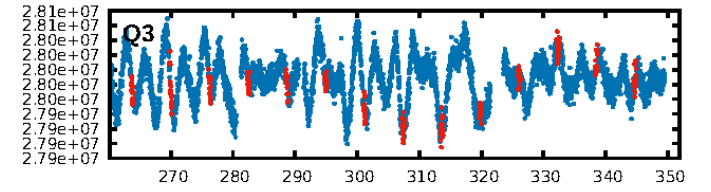
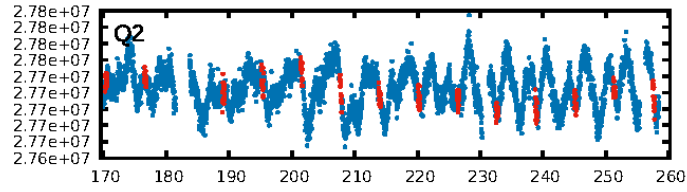
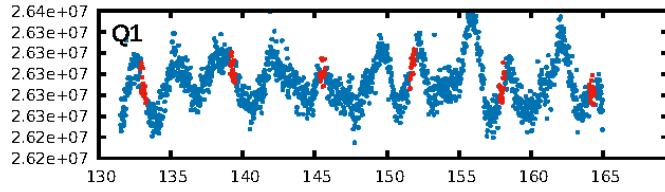
DV Fit Results:

Period = 6.22533 [0.00005] d
Epoch = 133.0895 [0.0063] BKJD
Rp/R* = 0.0108 [0.0049]
a/R* = 5.53 [13.25]
b = 0.88 [0.65]
Seff = 853.43 [290.18]
Teff = 1378 [117] K
Rp = 2.04 [1.04] Re
a = 0.0694 [0.0147] AU
Ag = 22.63 [23.76] [0.91σ]
Teffp = 4647 [1158] K [2.81σ]

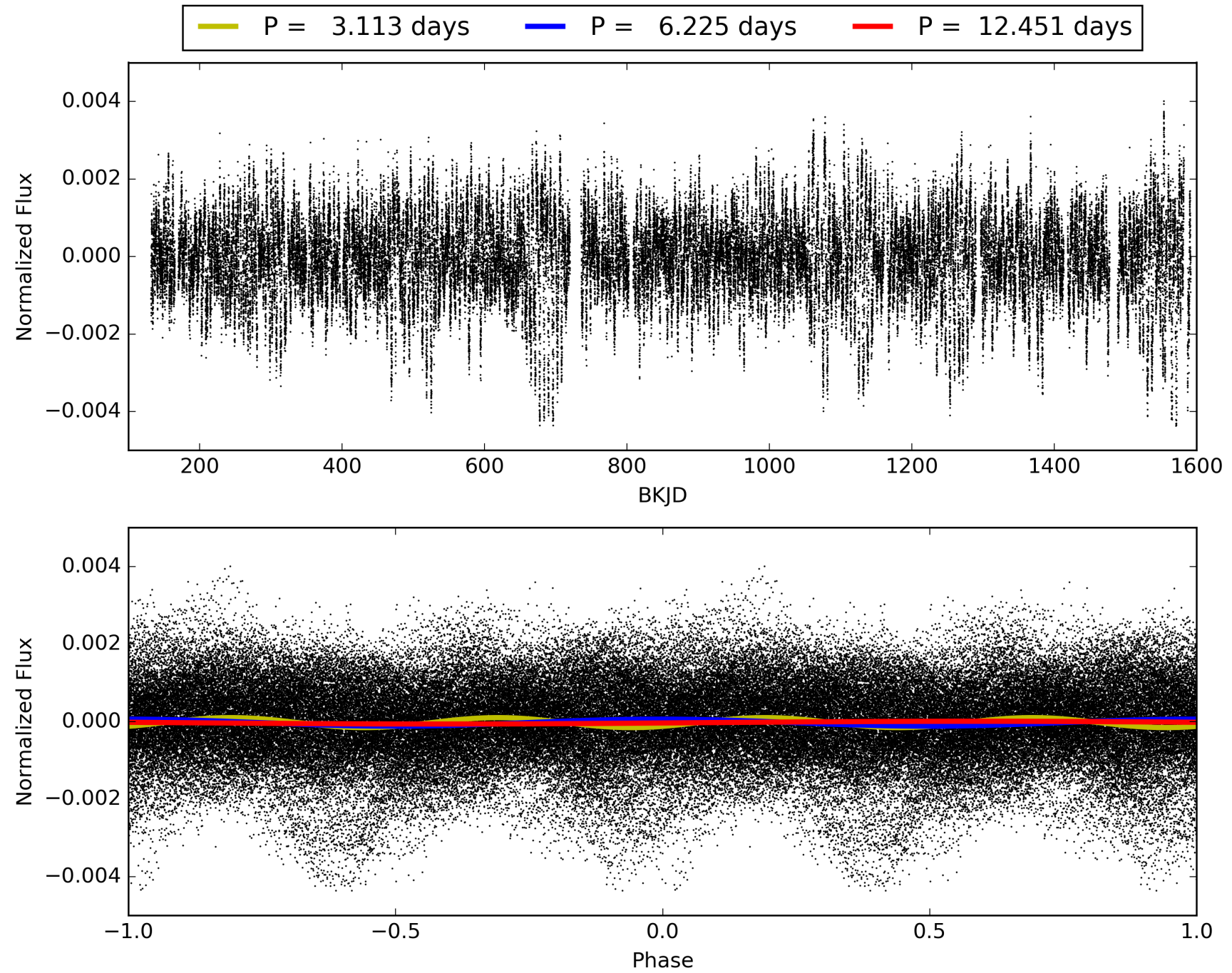
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.88e-16
RollingBand-fgt: 1.00 [210/210]
GhostDiagnostic-chr: 1.244
Centroid-sig: 70.3%
Centroid-so: 0.504 arcsec [0.43σ]
OotOffset-rm: 0.544 arcsec [1.25σ]
KicOffset-rm: 0.647 arcsec [1.59σ]
OotOffset-st: 4/3/3/2 [12]
KicOffset-st: 4/3/3/2 [12]
DiffImageQuality-fgm: 0.58 [7/12]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 006043538-01, PDC Light Curves

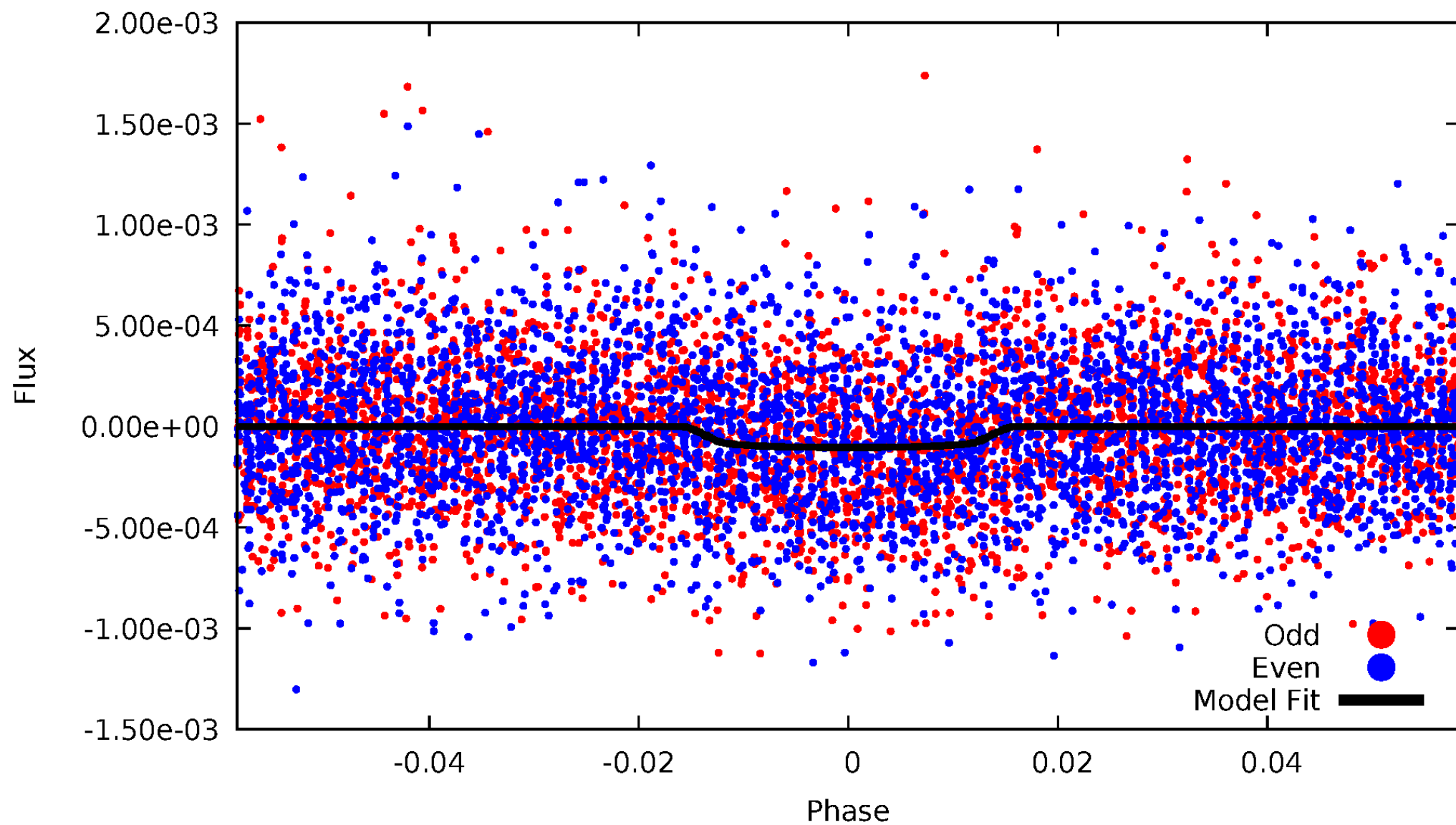


TCE 006043538-01



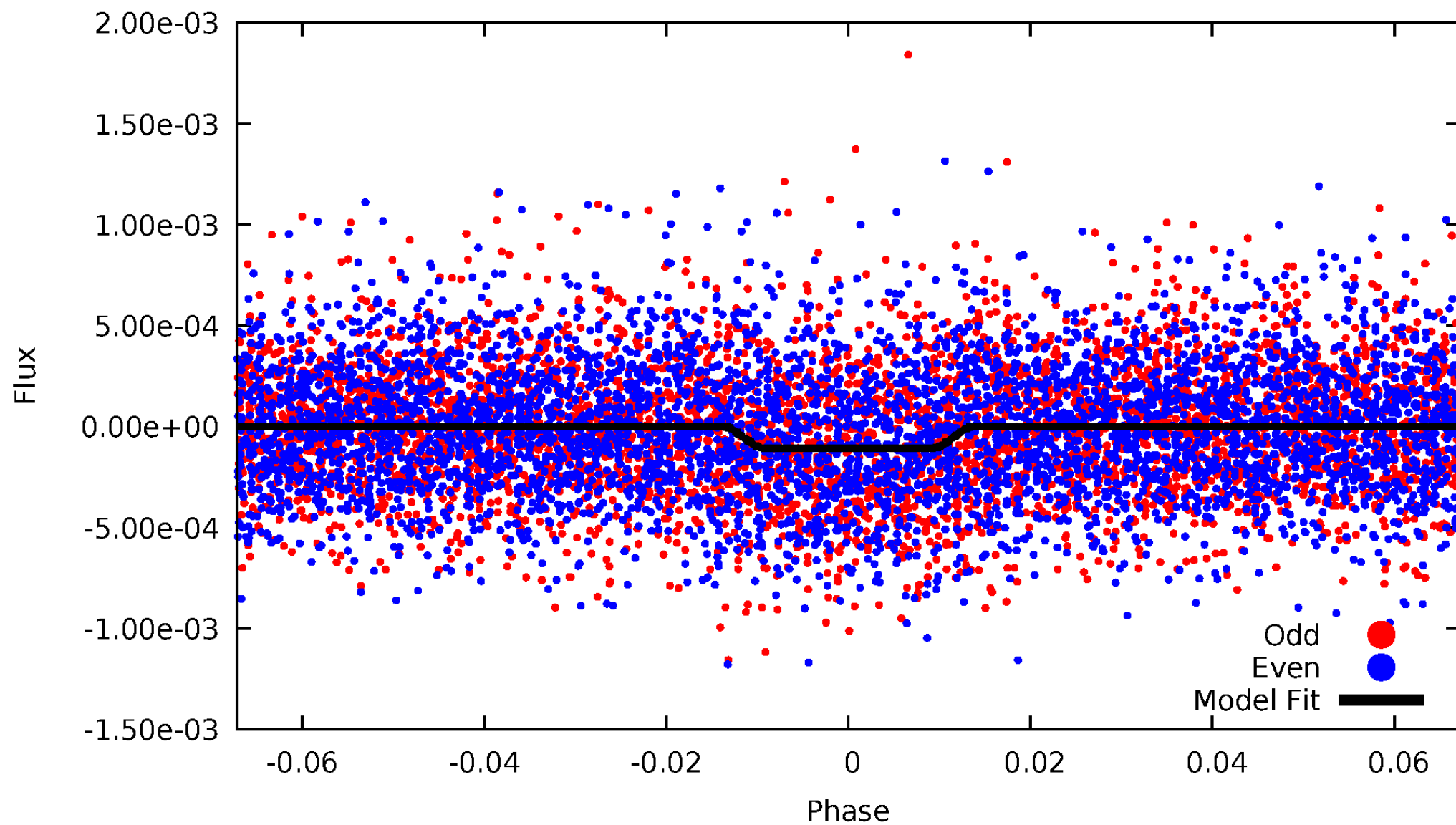
DV Odd/Even

TCE 006043538-01



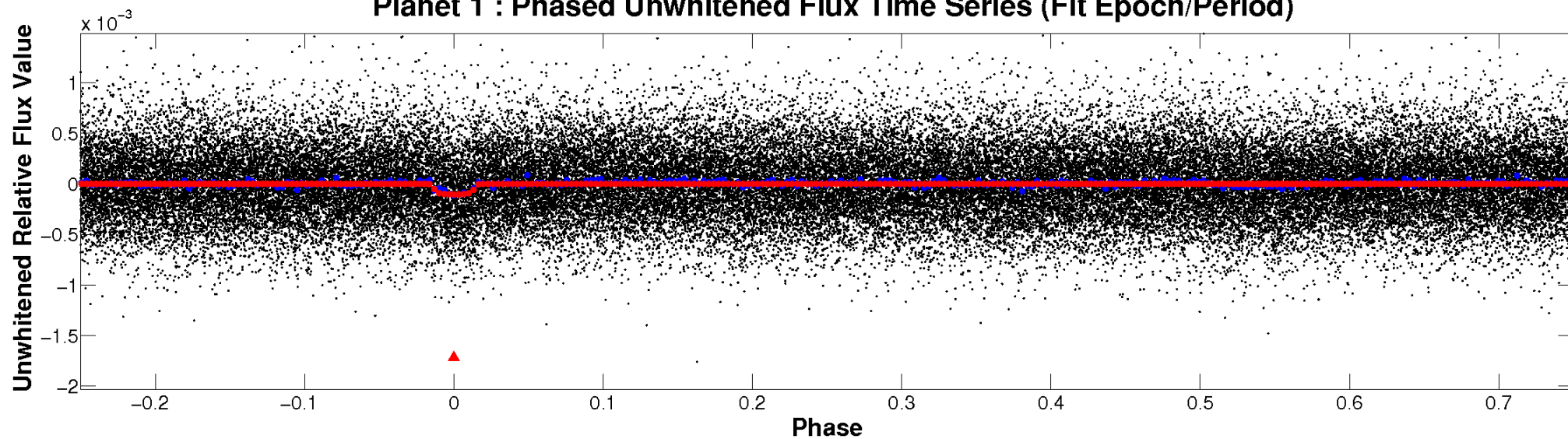
ALT Odd/Even

TCE 006043538-01

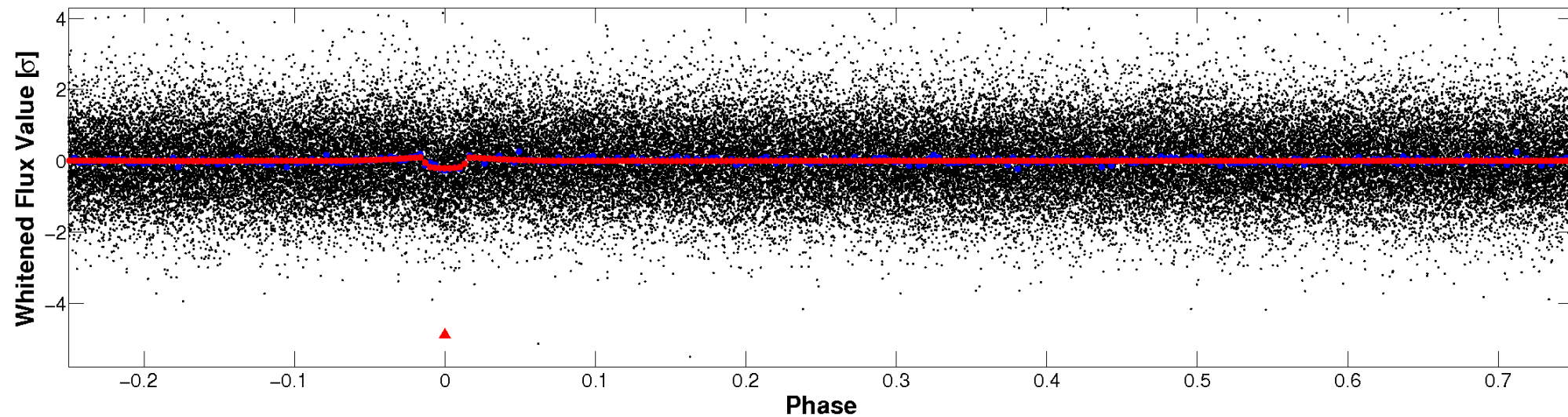


Non-Whitened Vs. Whitened Light Curve

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

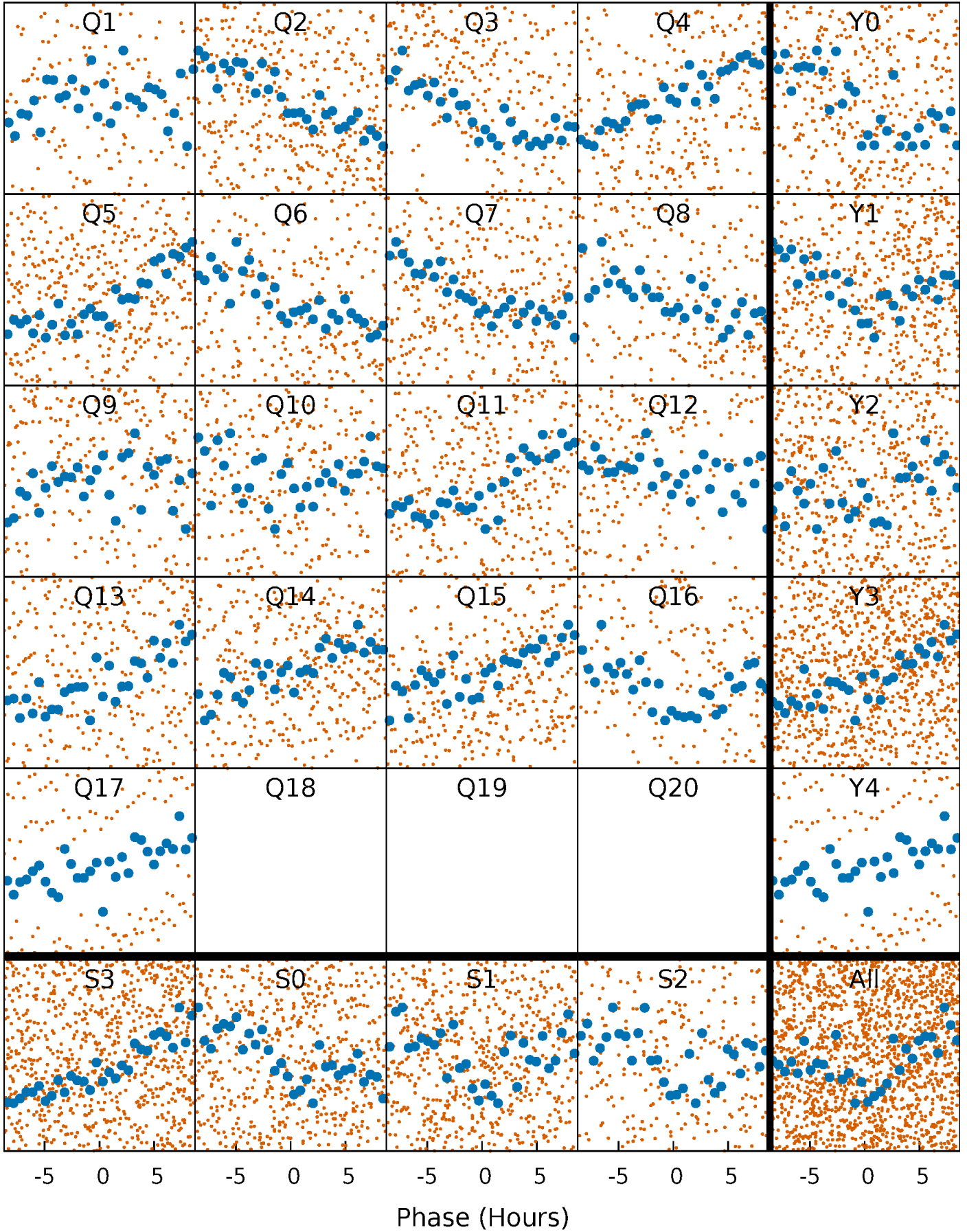


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



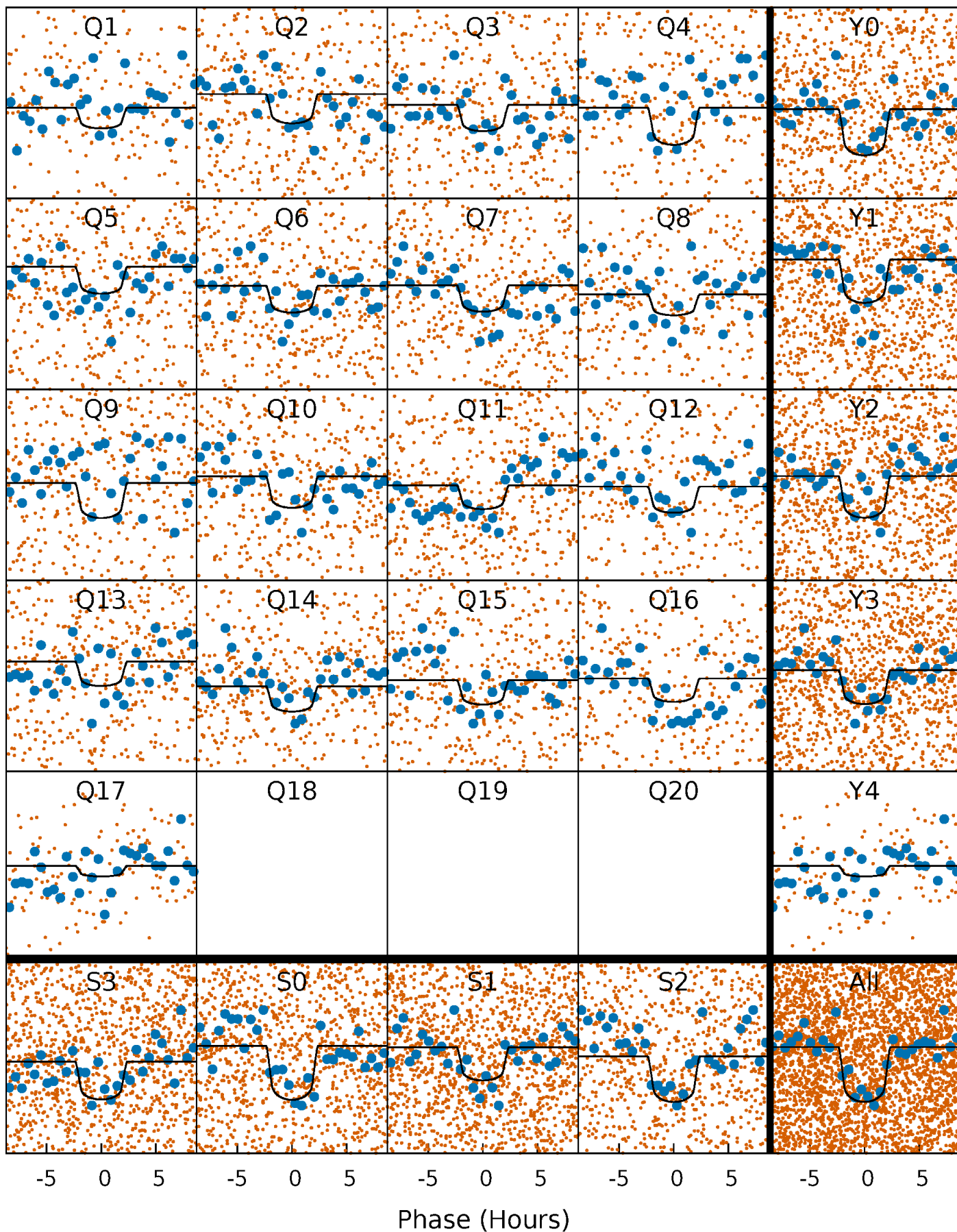
PDC Quarter-Phased Transit Curves

TCE 006043538-01 P= 6.225328 Days $T_0=133.089517$ (BKJD)



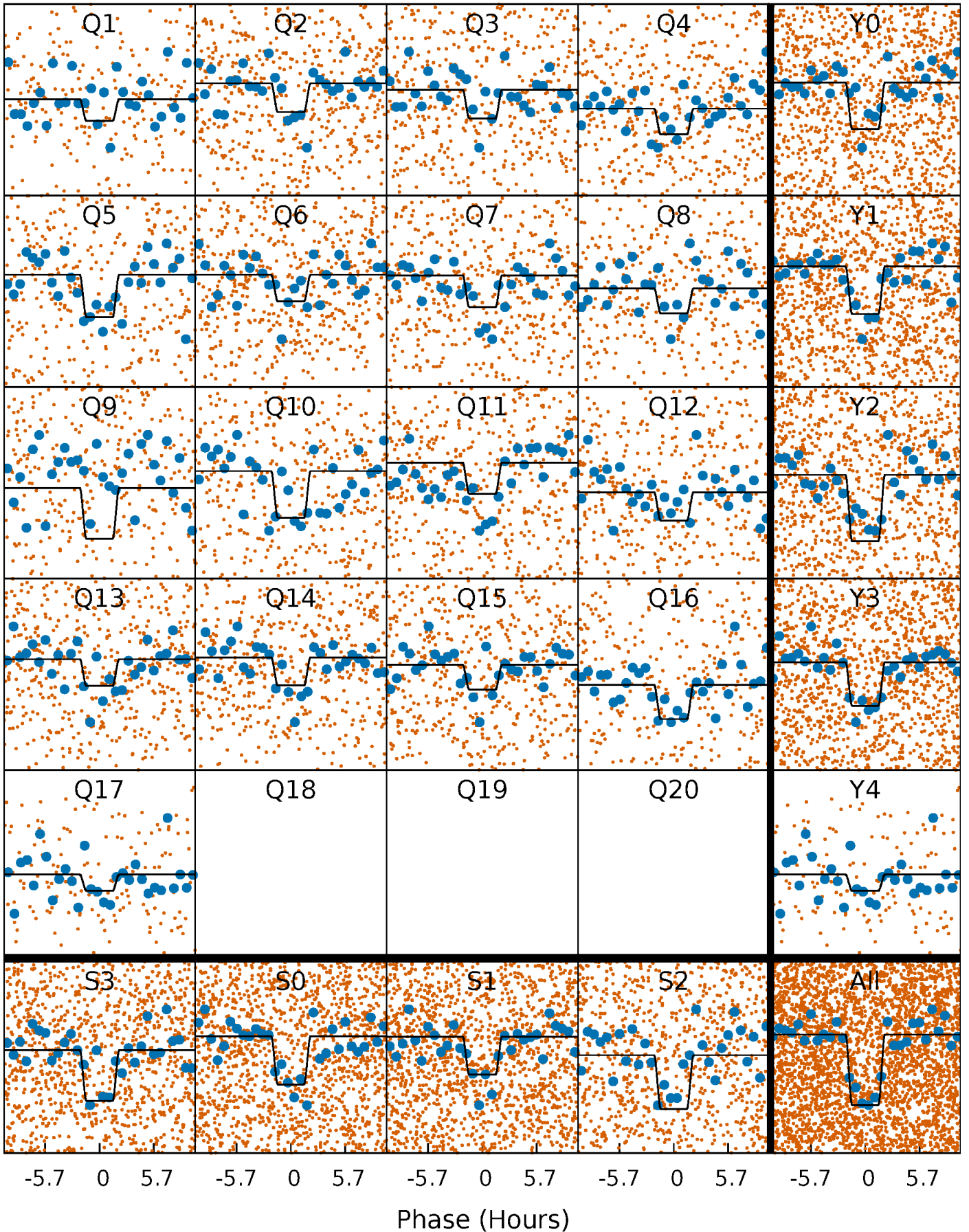
DV Quarter-Phased Transit Curves

TCE 006043538-01 P= 6.225328 Days $T_0=133.089517$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

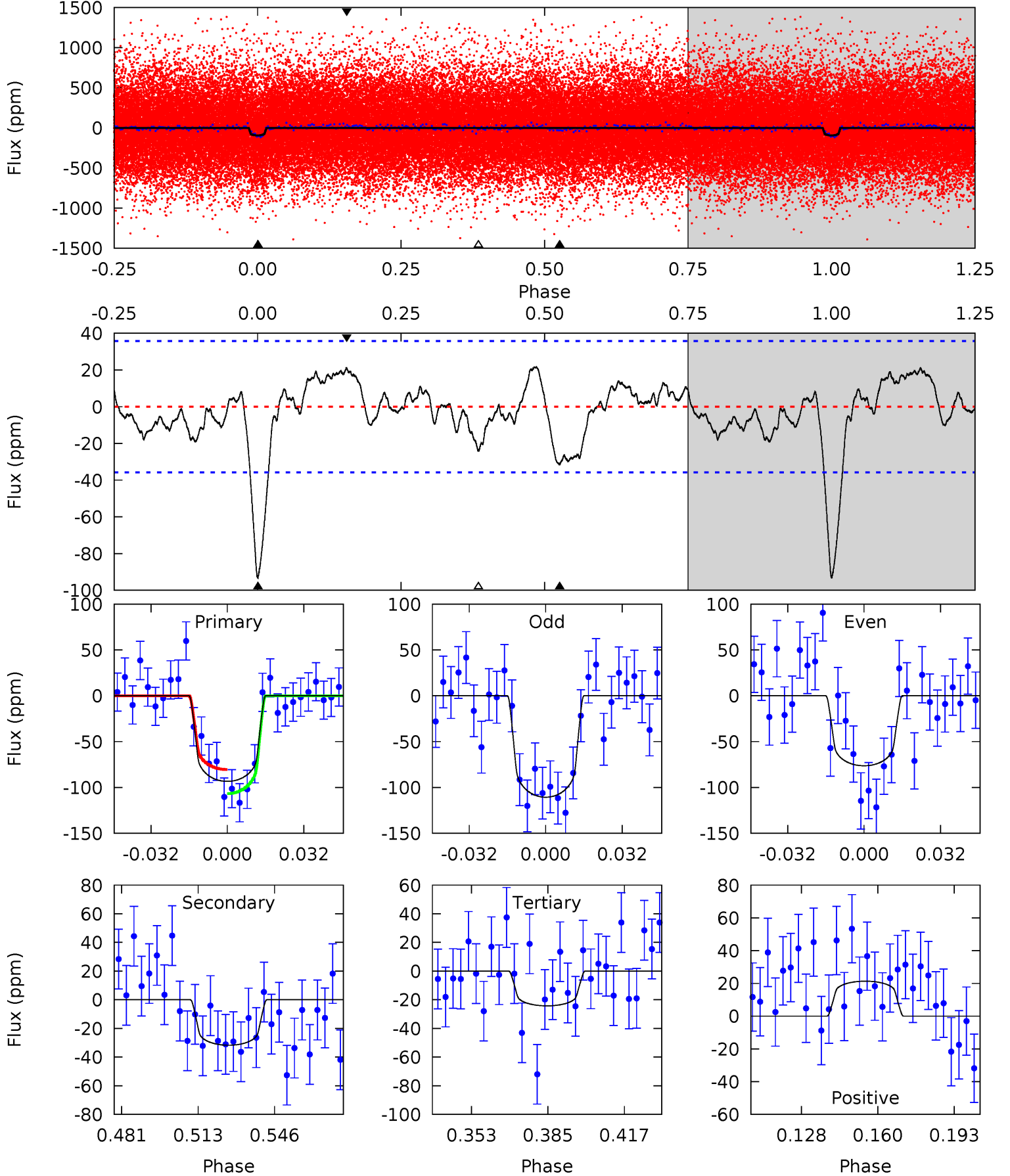
TCE 006043538-01 P= 6.225311 Days $T_0=133.096956$ (BKJD)



DV Model-Shift Uniqueness Test

006043538-01, P = 6.225328 Days, E = 126.864189 Days

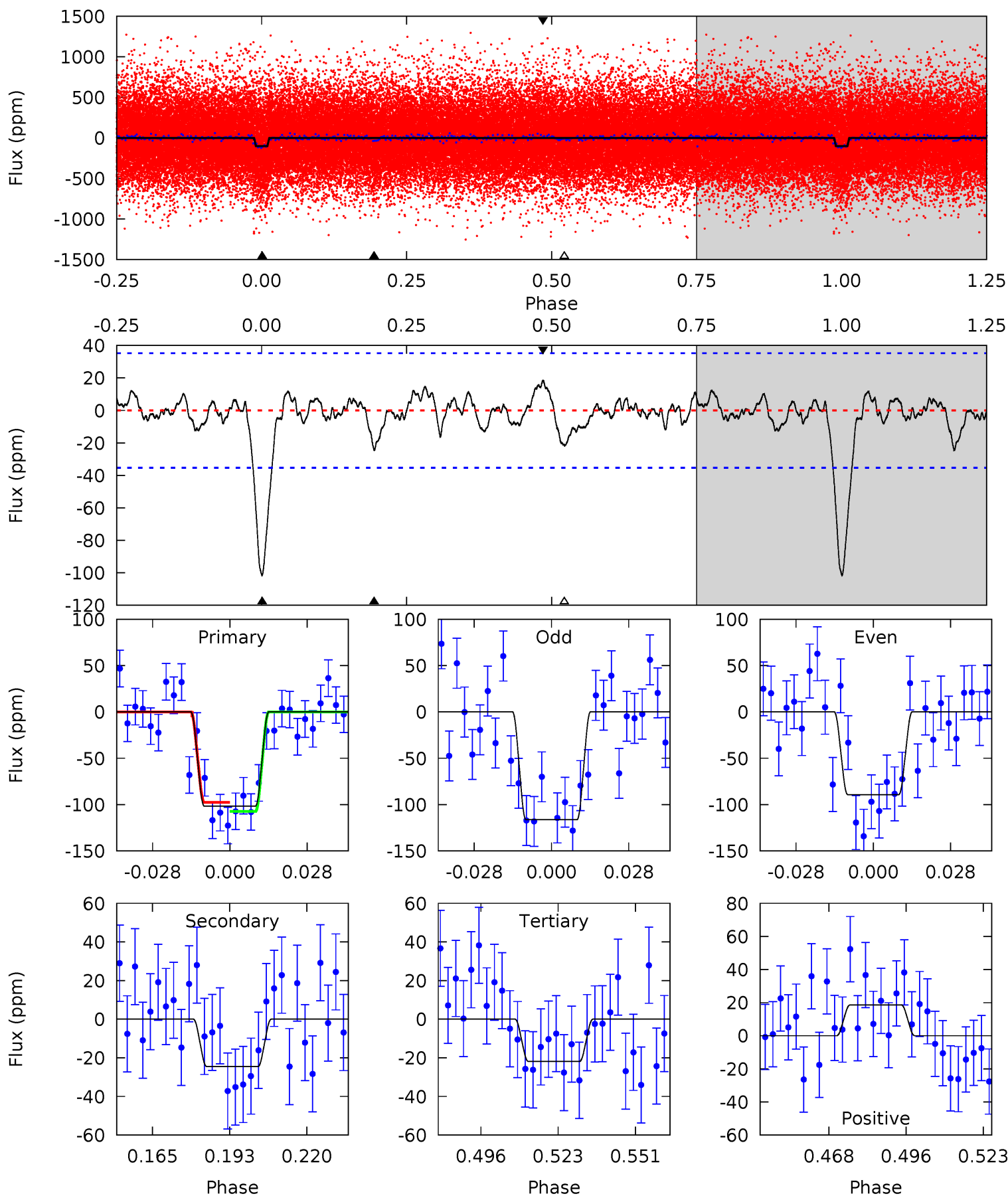
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	4.26	3.25	2.86	4.80	2.14	1.38	9.28	9.67	1.01	1.40	2.30	0.77	0.19	1.76



Alt Model-Shift Uniqueness Test

006043538-01, P = 6.225311 Days, E = 126.871645 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	3.36	3.00	2.55	4.83	2.20	0.96	10.9	11.4	0.36	0.81	1.84	0.89	0.15	0.67



Stellar Parameters For KIC 006043538

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6263^{+82}_{-75}	$4.024^{+0.196}_{-0.084}$	$-0.180^{+0.150}_{-0.150}$	$1.726^{+0.258}_{-0.387}$	$1.147^{+0.137}_{-0.112}$	$0.314^{+0.301}_{-0.084}$
	+1%/-1%	+5%/-2%	+83%/-83%	+15%/-22%	+12%/-10%	+96%/-27%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 006043538-01 / KOI 7759.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-32 ± 7	$1.99^{+1.01}_{-0.93}$	1910^{+80}_{-110}	4605^{+1651}_{-644}	21^{+56}_{-12}
Alt.	-25 ± 7	$1.92^{+0.89}_{-0.92}$	1909^{+79}_{-118}	4463^{+1594}_{-645}	18^{+51}_{-11}

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 $A_{\text{obs}} \gg 1.0$

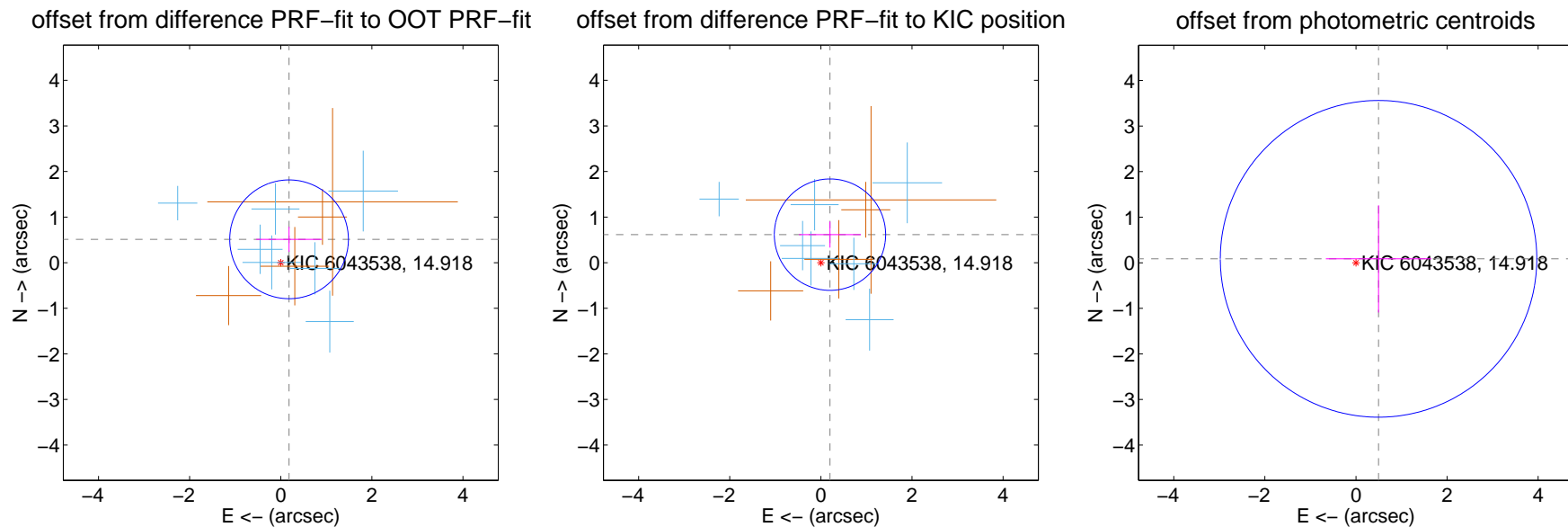
DV Centroid Data

Supplemental centroid analysis for 006043538-01. Kepler magnitude: 14.92. Transit SNR 8.53

There are 7 quarters with good PRF difference image offsets

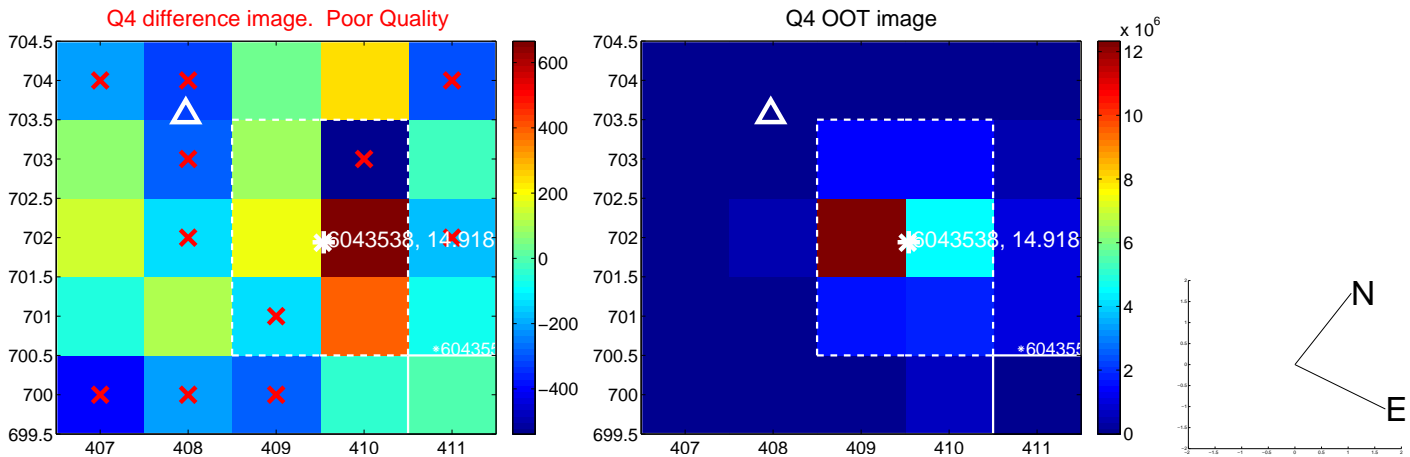
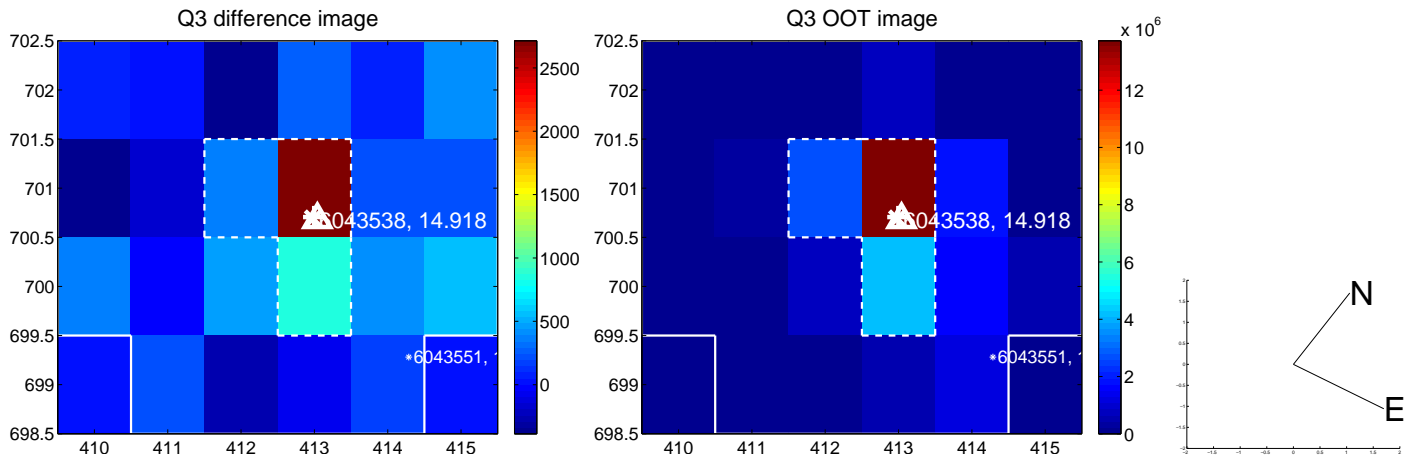
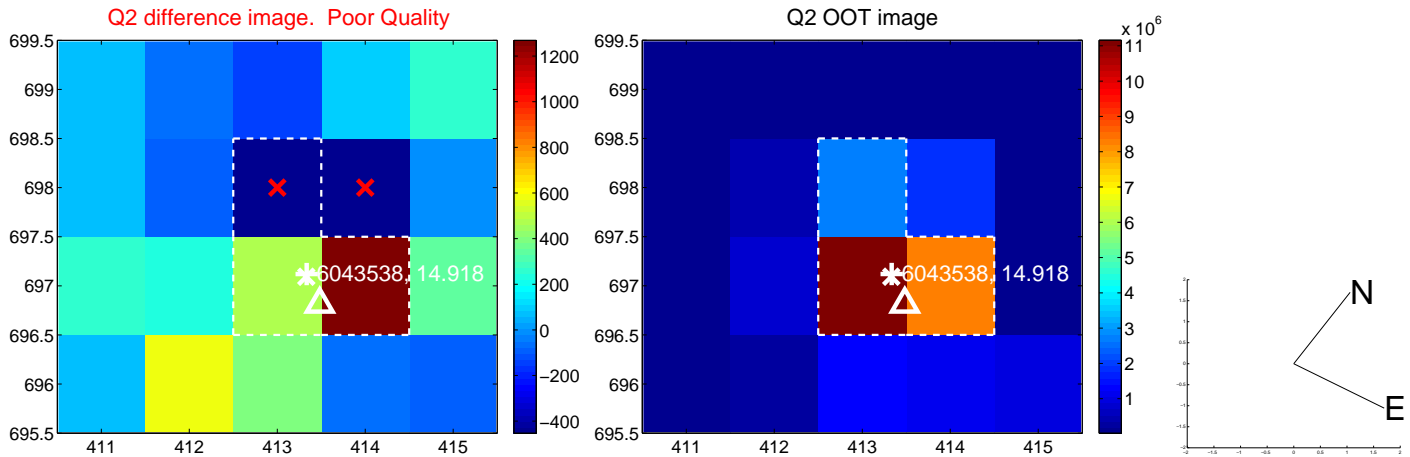
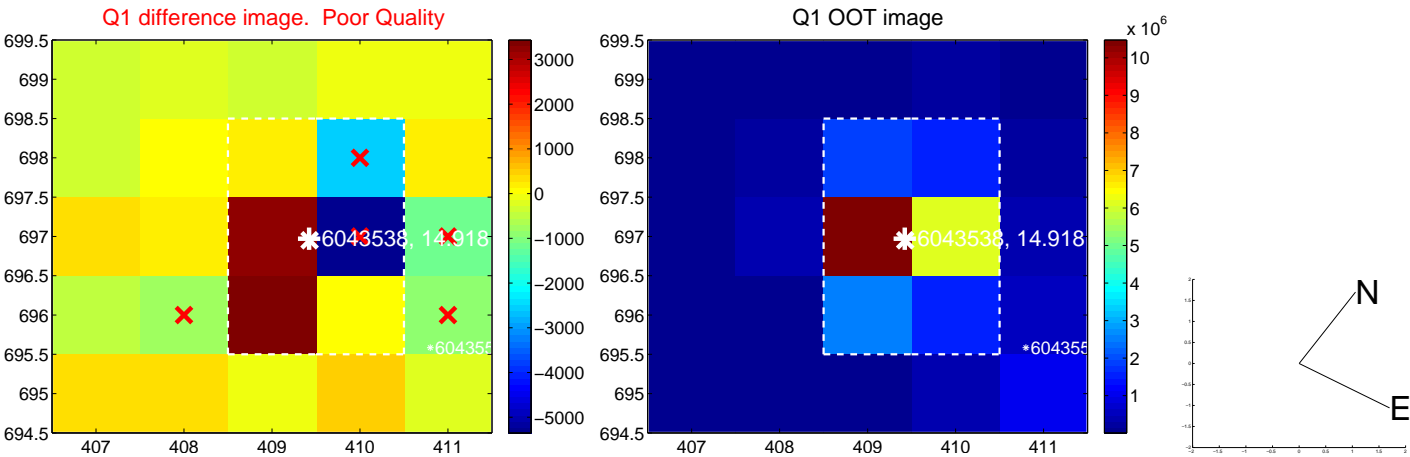
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.544 ± 0.434	1.25	-0.183 ± 0.722	0.513 ± 0.274
PRF-fit source offset from KIC position	0.647 ± 0.407	1.59	-0.200 ± 0.681	0.615 ± 0.284
photometric centroid source offset	0.50 ± 1.16	0.43	-0.50 ± 1.16	0.09 ± 1.18

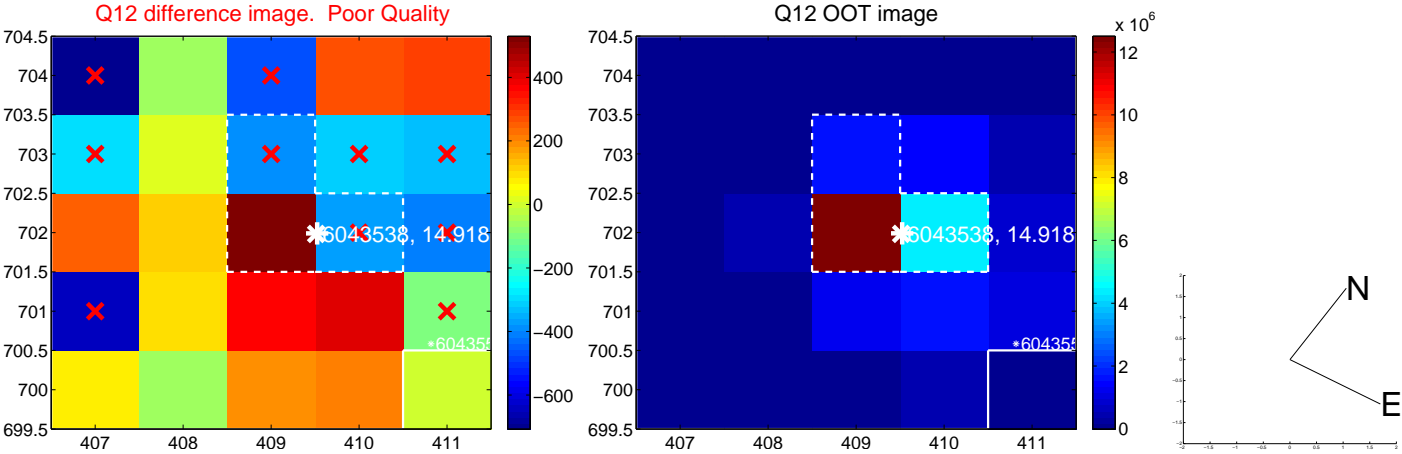
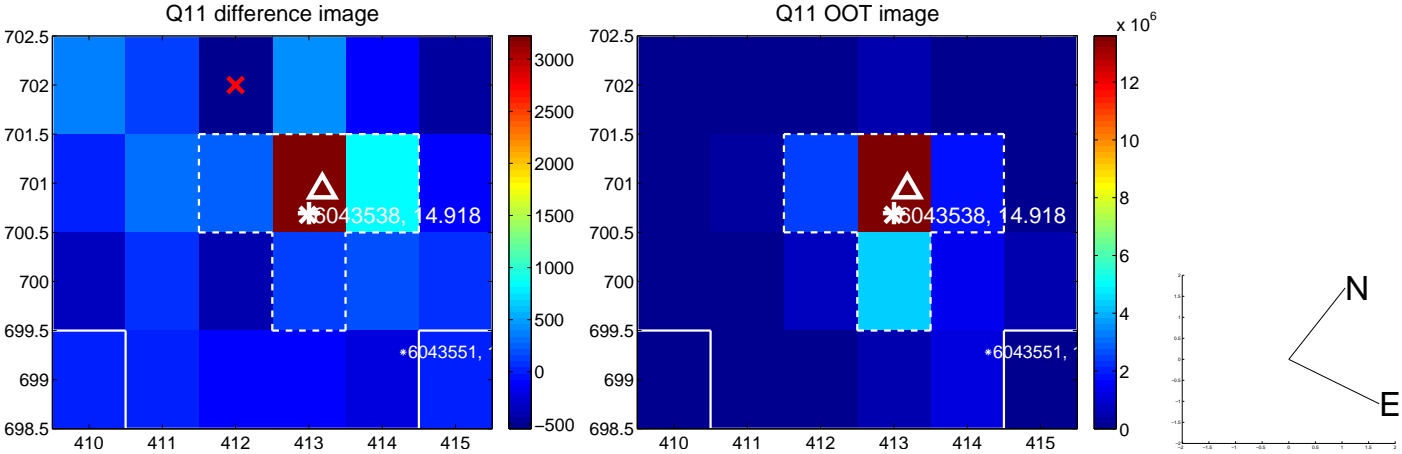
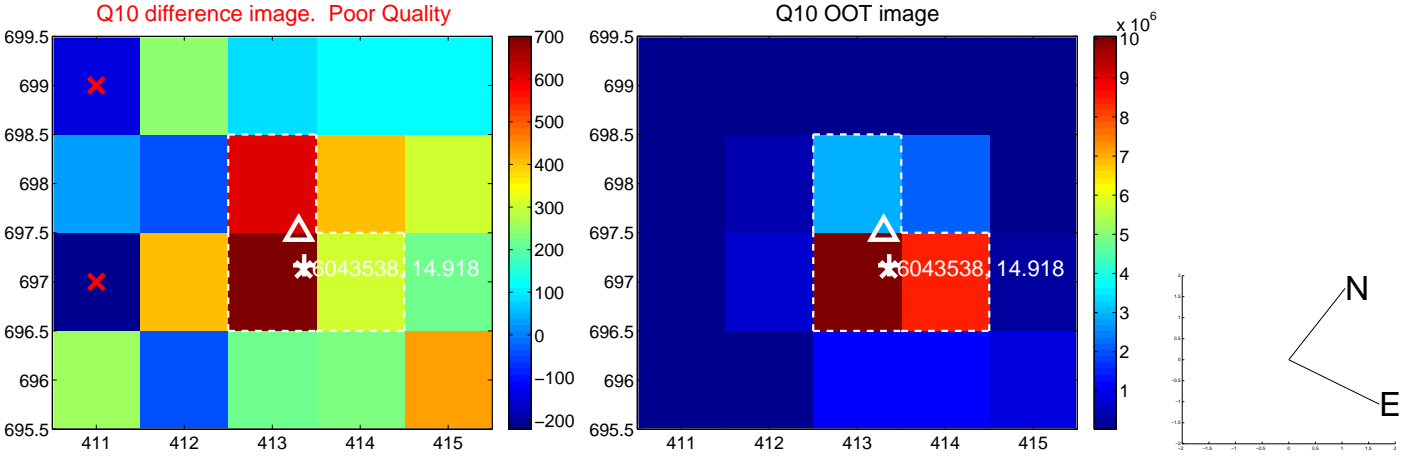
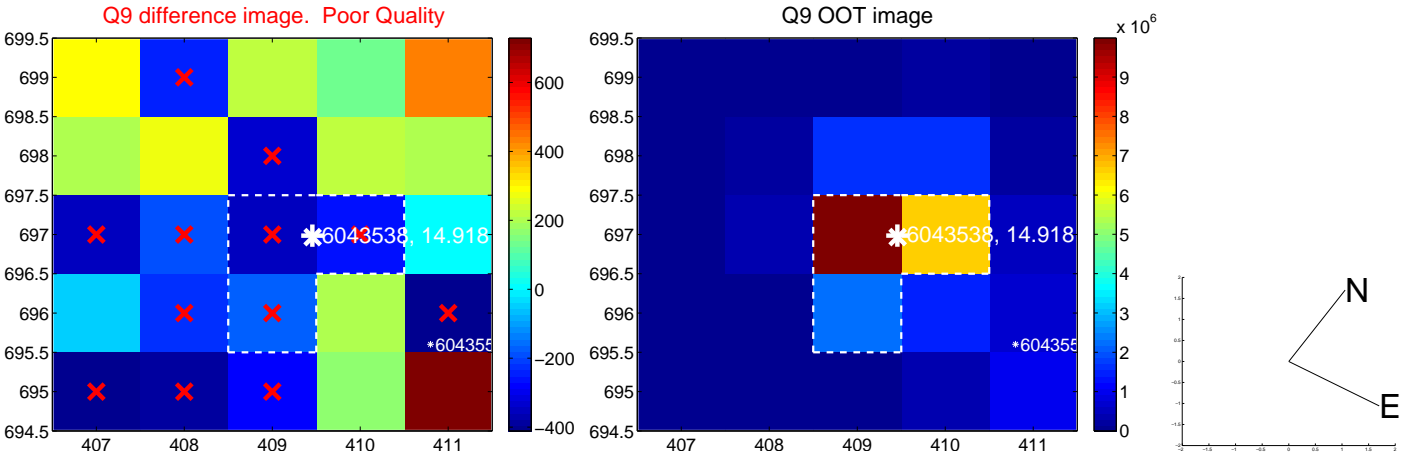


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

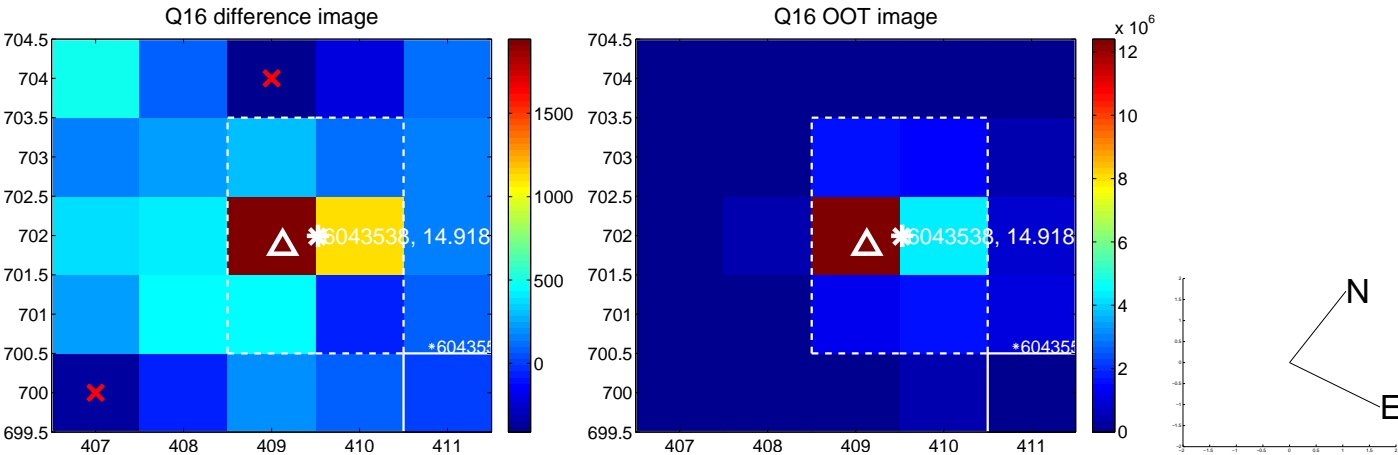
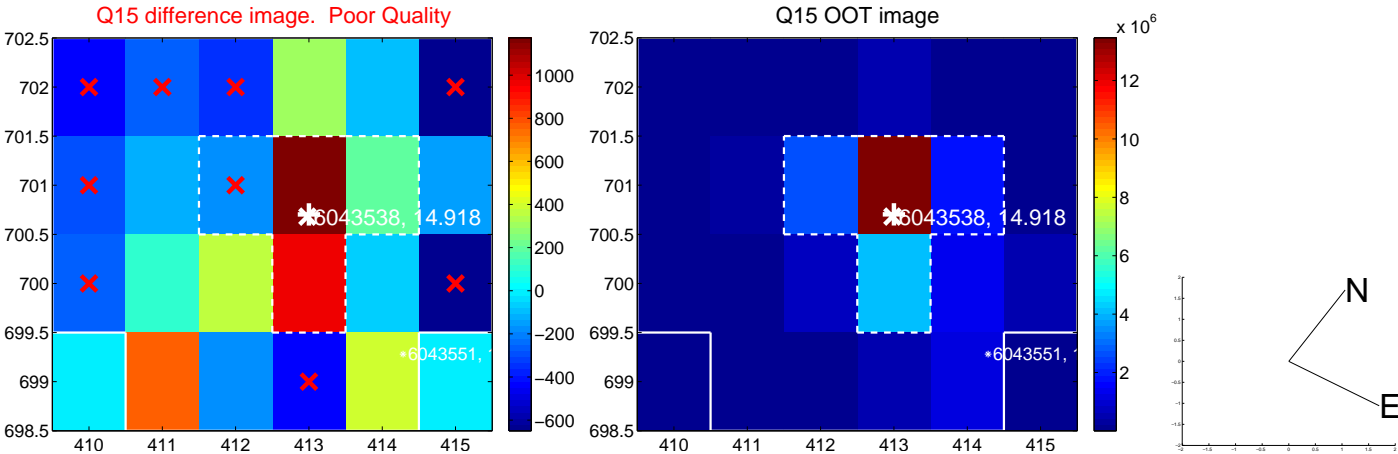
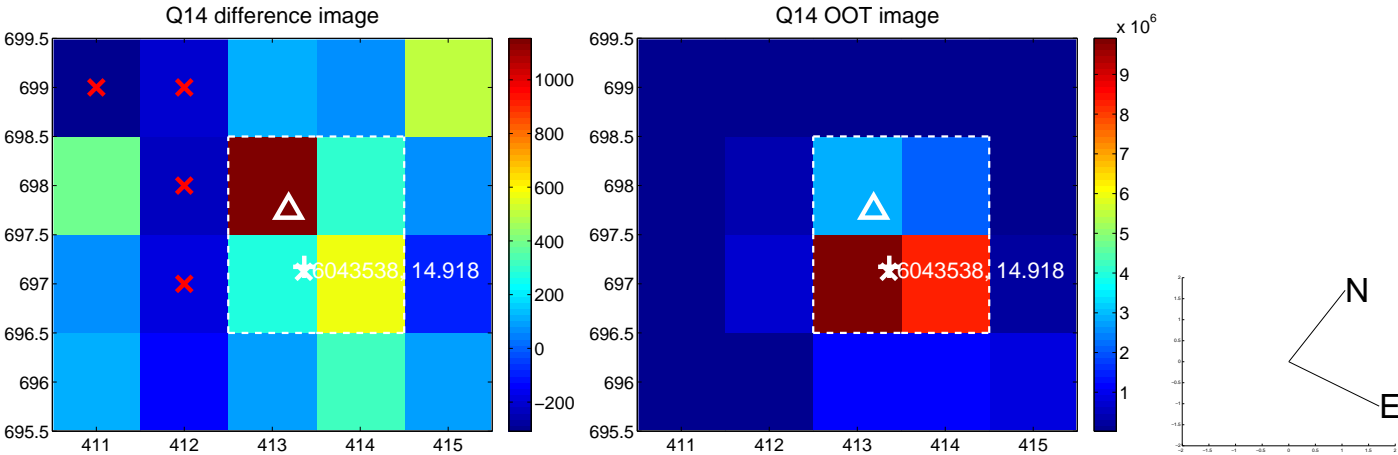
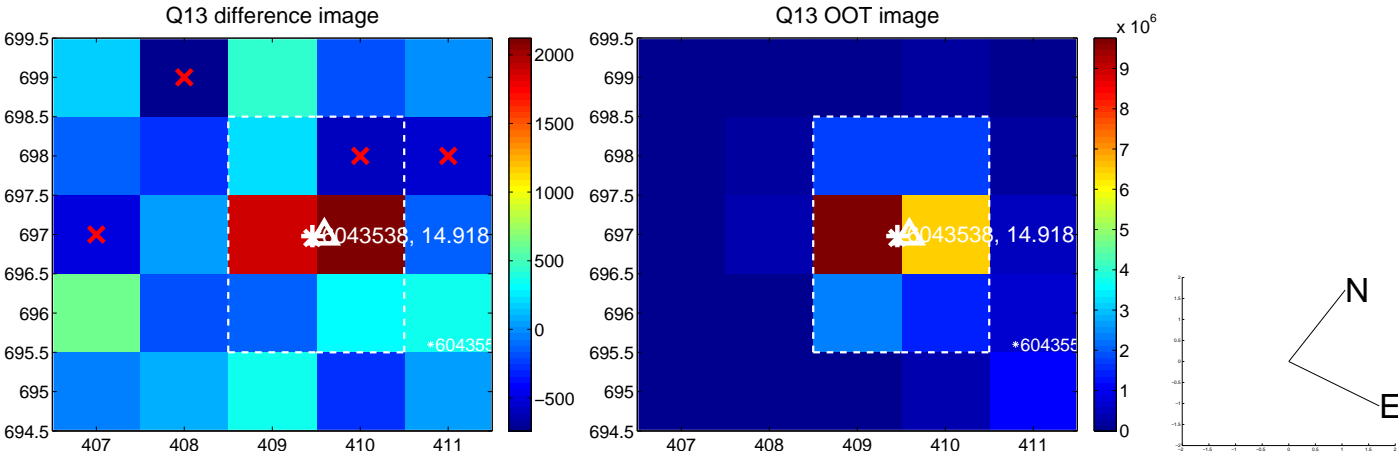
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



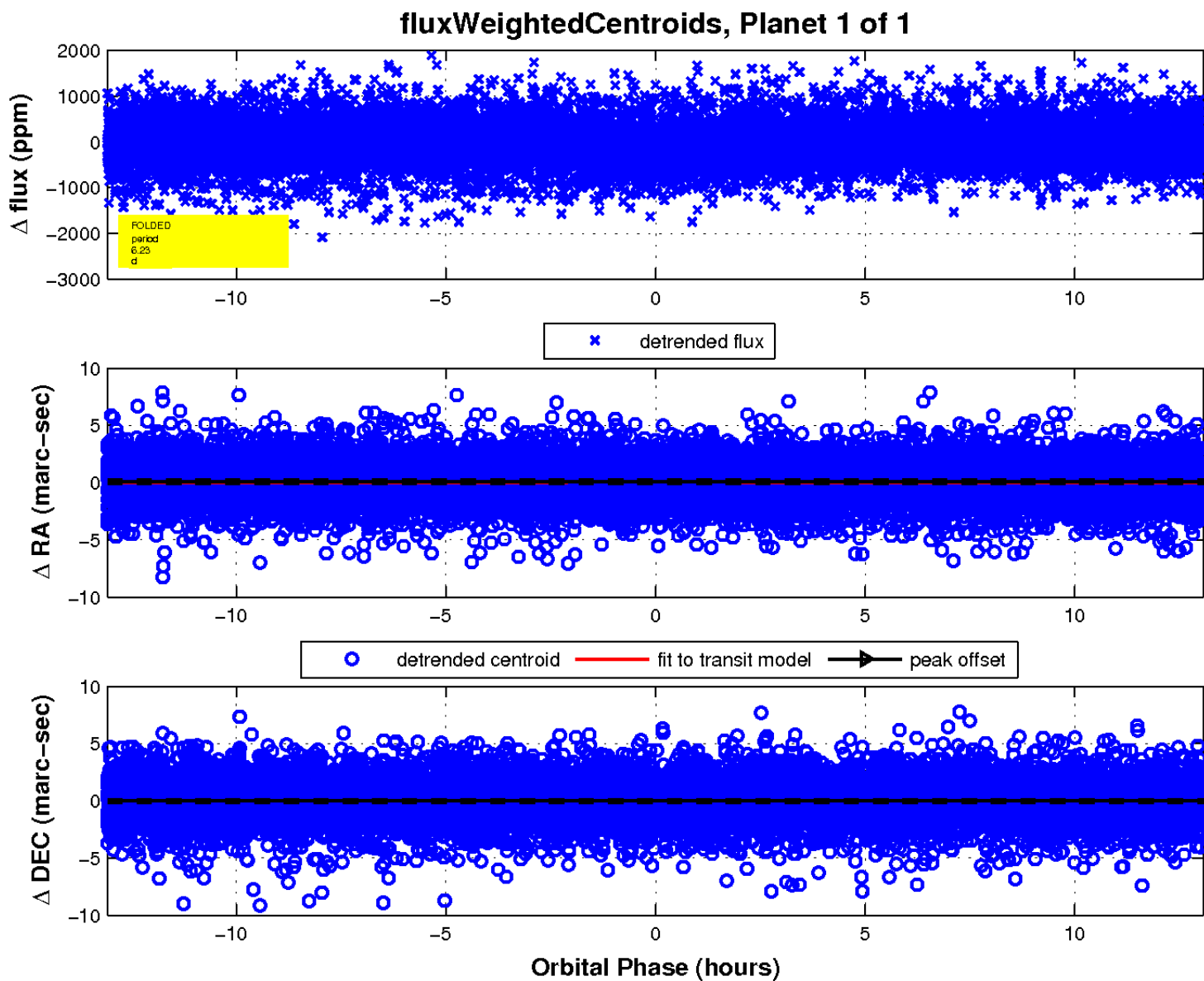
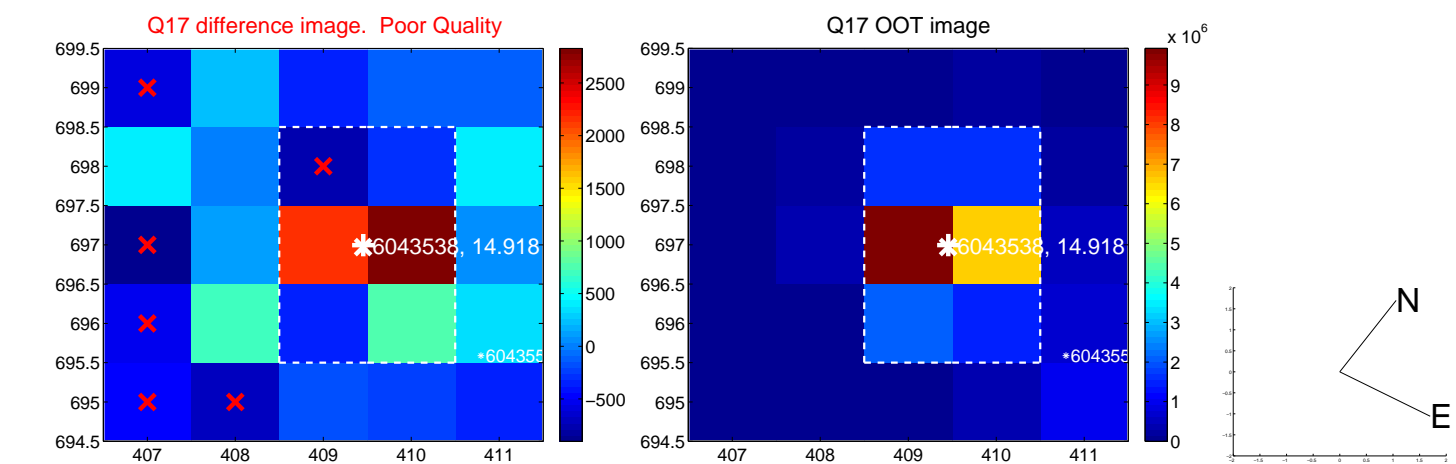
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

