

KIC 011154102

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
011154102-01	OBS	No	0.529644	132.040709	3919.8	2.193	2363.2	397.4	0.92	5880	6.71	5445.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011154102-01	OBS	FP	0.00	1	0	1	1	LPP_DV—LPP_ALT—CENT_RESOLVED_OFFSET—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.

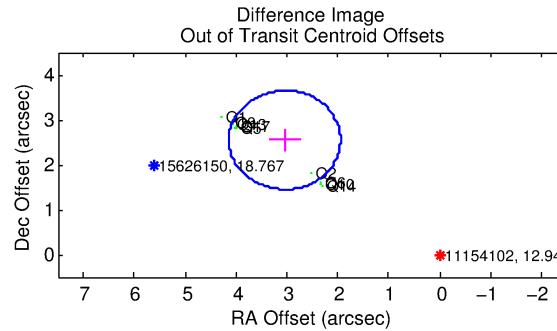
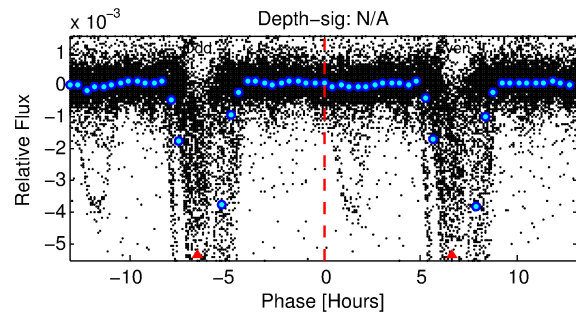
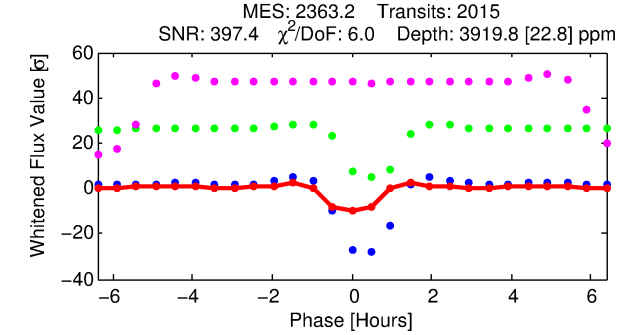
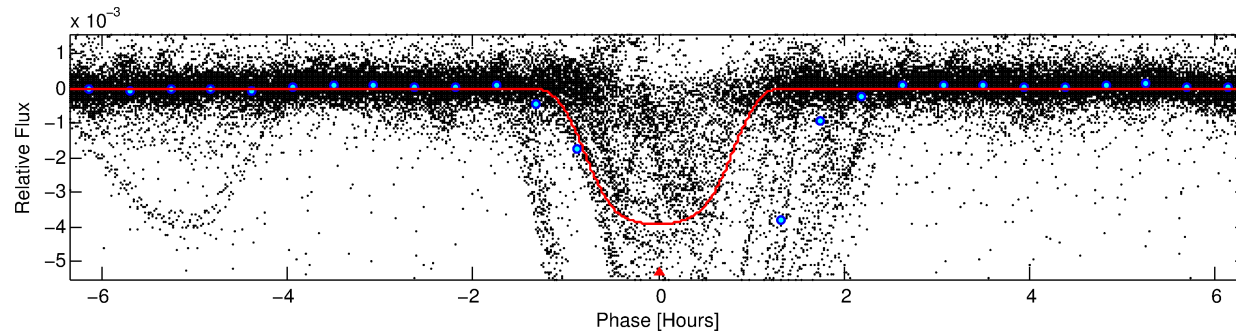
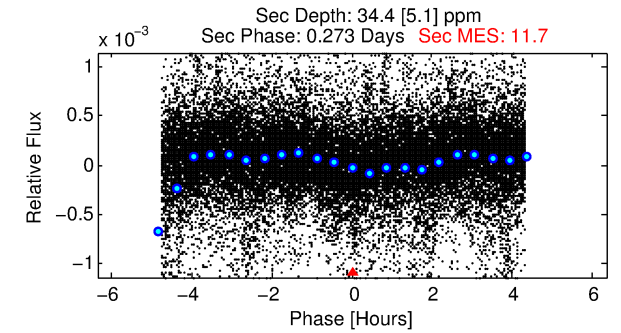
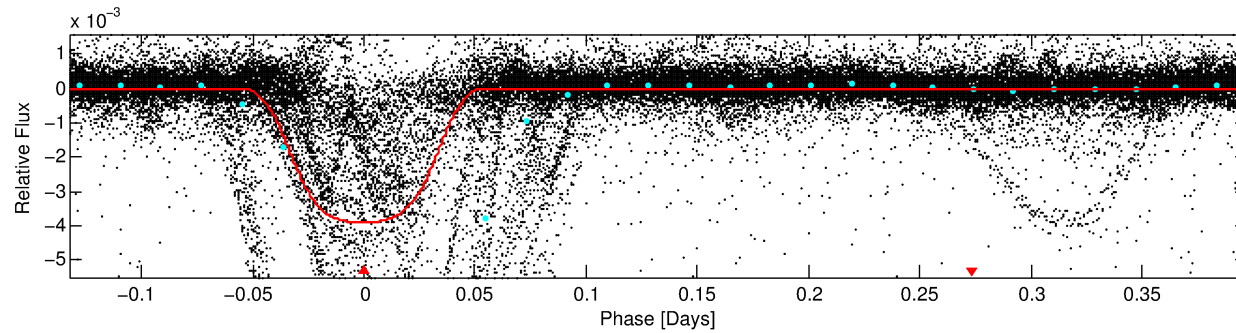
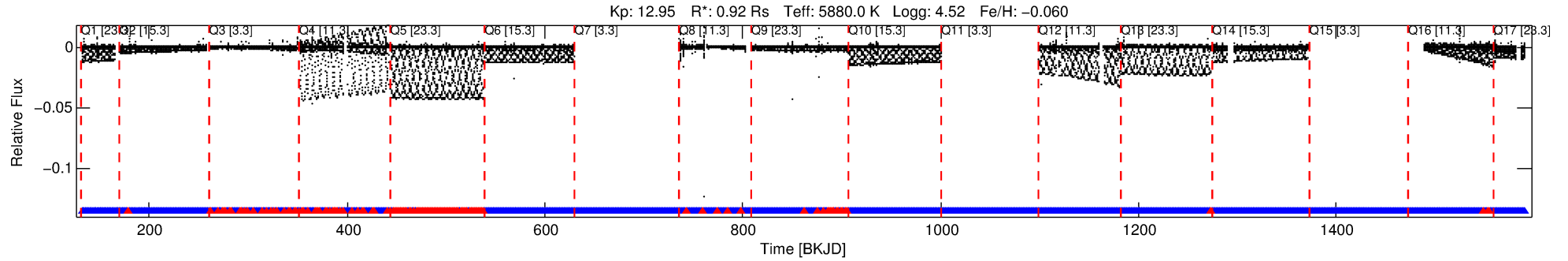
Ephemeris Match Information For 011154102-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
011154102-01	11154102	011154110-pri	11154110	1:1	8.6	3	0	13.37	12.95	74.41	Direct-PRF	0	4.40	1.27

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ 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 σ_P < 5.0 and σ_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: 11154102 Candidate: 1 of 1 Period: 0.530 d



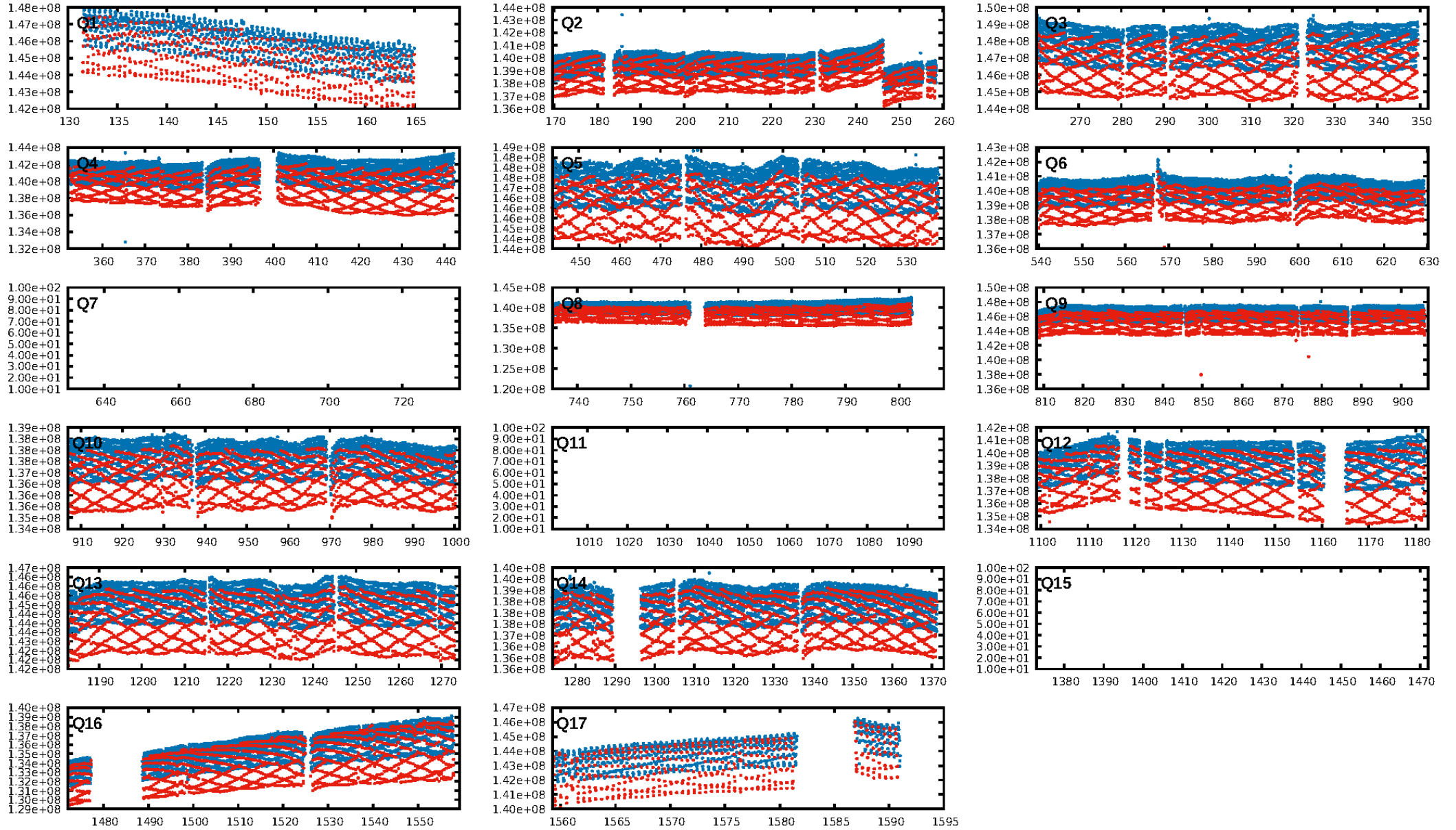
DV Fit Results:

Period = 0.52964 [0.00000] d
Epoch = 132.0407 [0.0001] BKJD
Rp/R* = 0.0671 [0.0003]
a/R* = 1.47 [0.01]
b = 0.88 [0.00]
Seff = 5445.08 [2193.44]
Teff = 2190 [221] K
Rp = 6.71 [2.06] Re
a = 0.0129 [0.0034] AU
Ag = 0.07 [0.03] [-32.46σ]
Teffp = 1738 [83] K [-1.92σ]

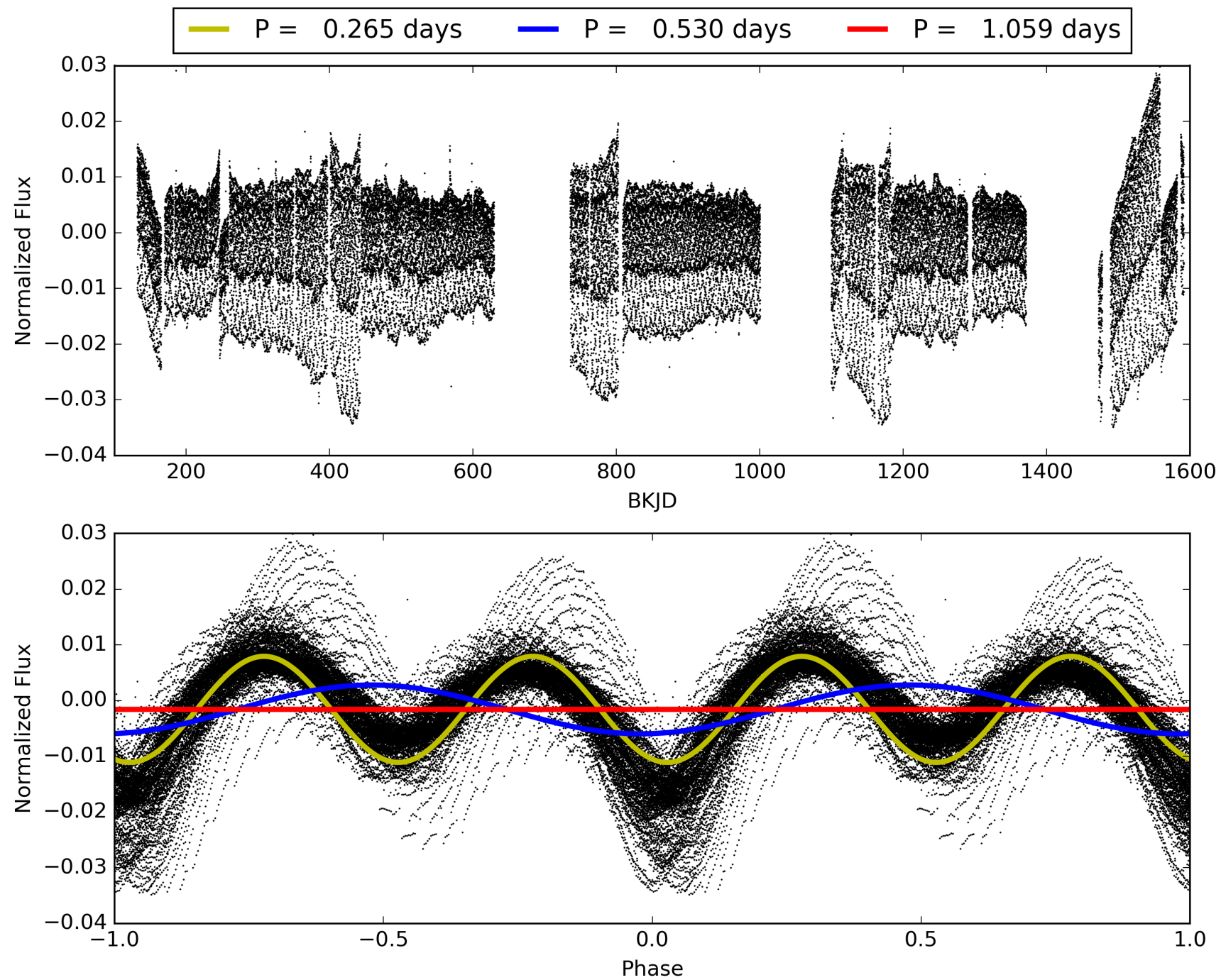
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.89 [1695/1901]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 3.969 arcsec [10.83σ]
KicOffset-rm: 4.535 arcsec [19.06σ]
OotOffset-st: 4/0/0/5 [9]
KicOffset-st: 4/0/0/5 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 011154102-01, PDC Light Curves

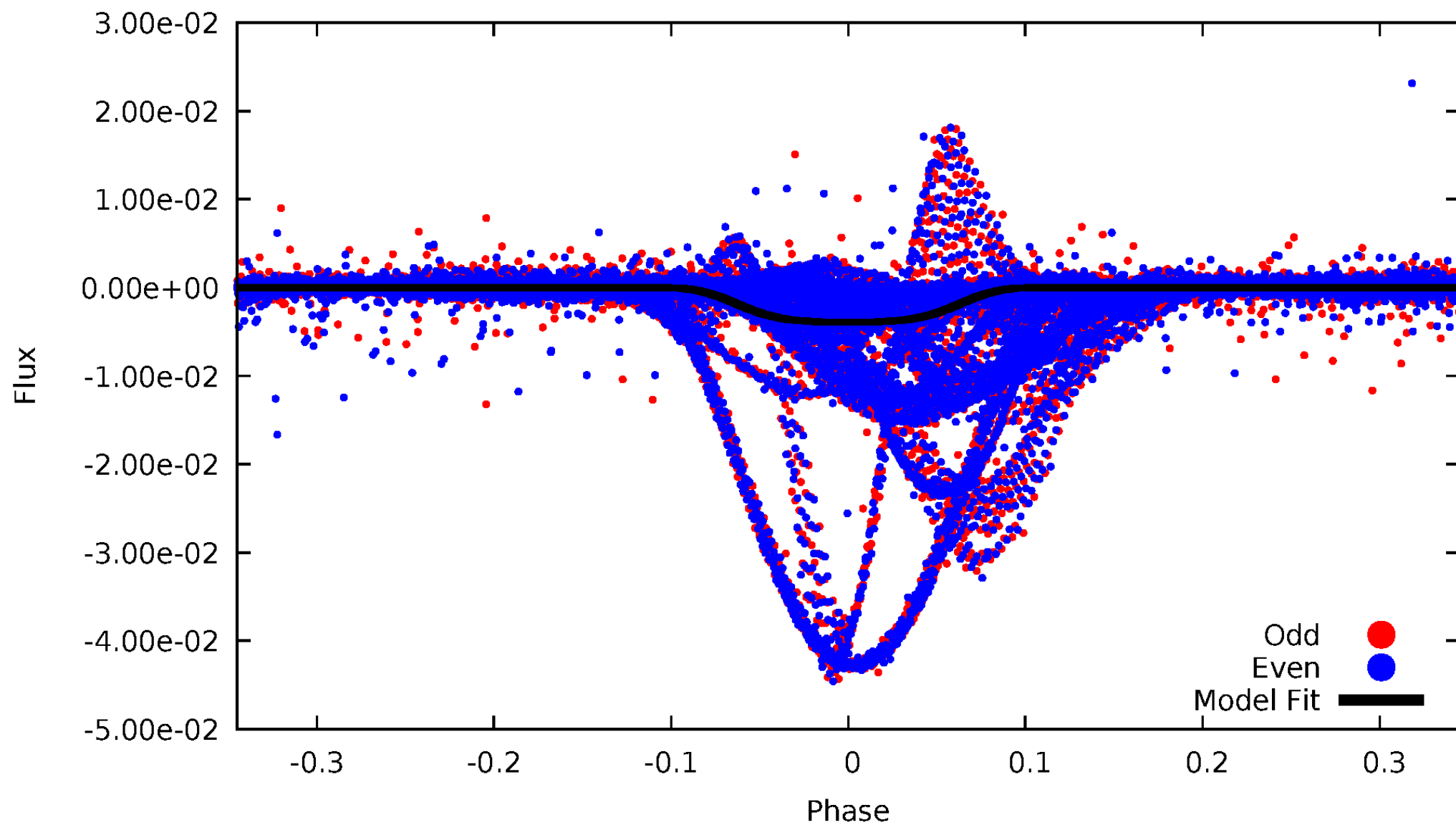


TCE 011154102-01



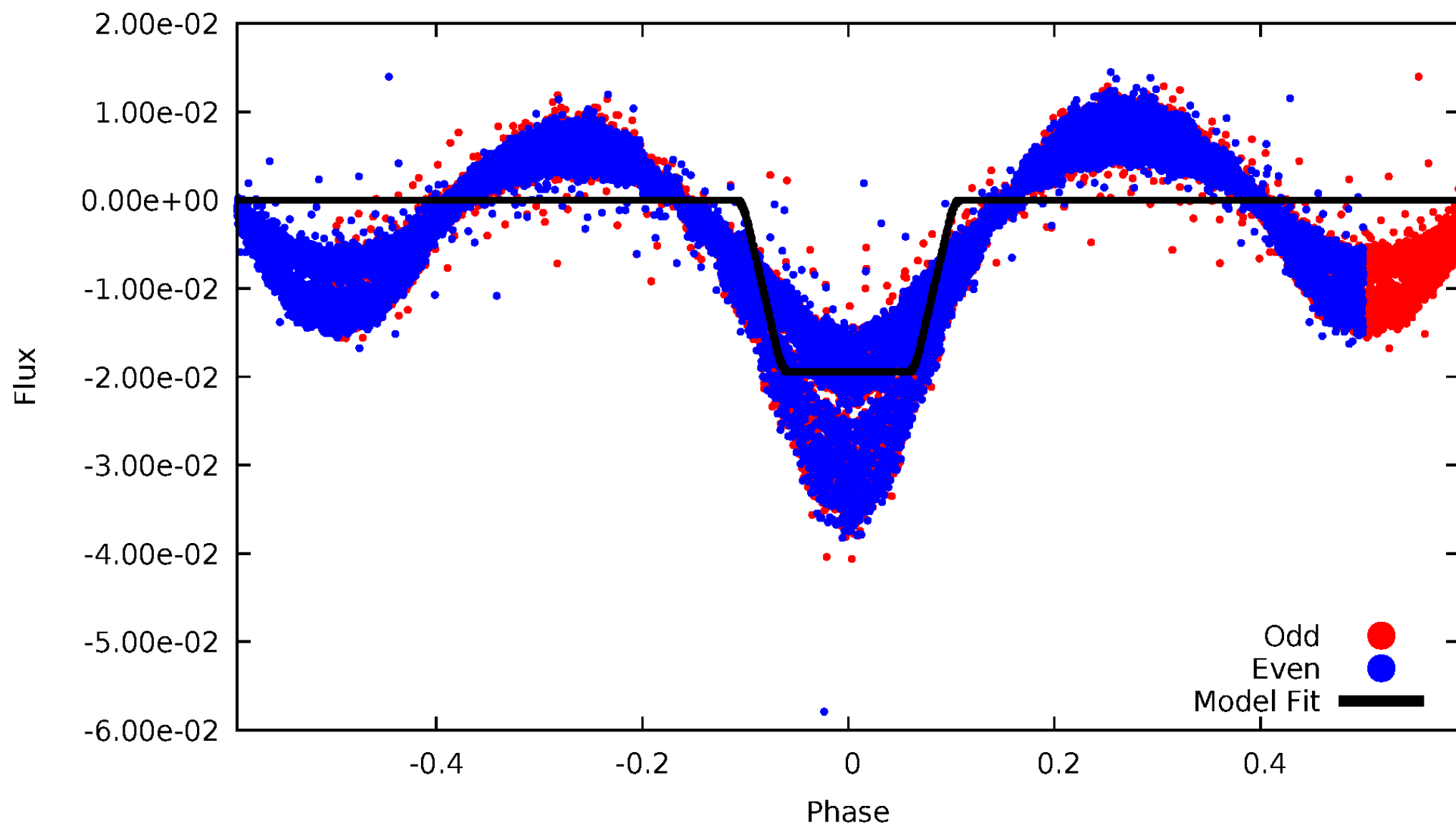
DV Odd/Even

TCE 011154102-01



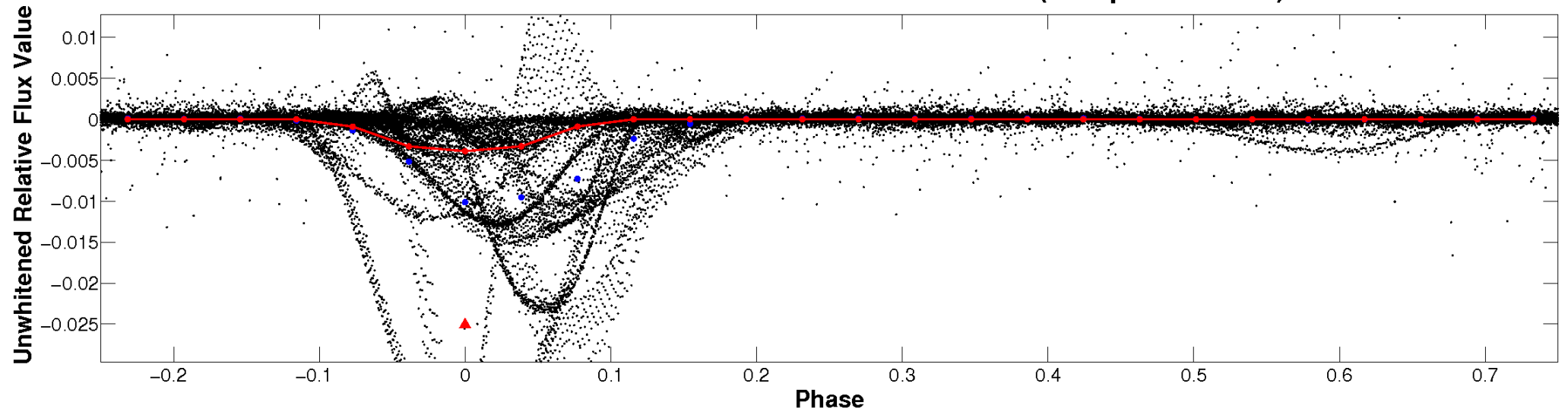
ALT Odd/Even

TCE 011154102-01

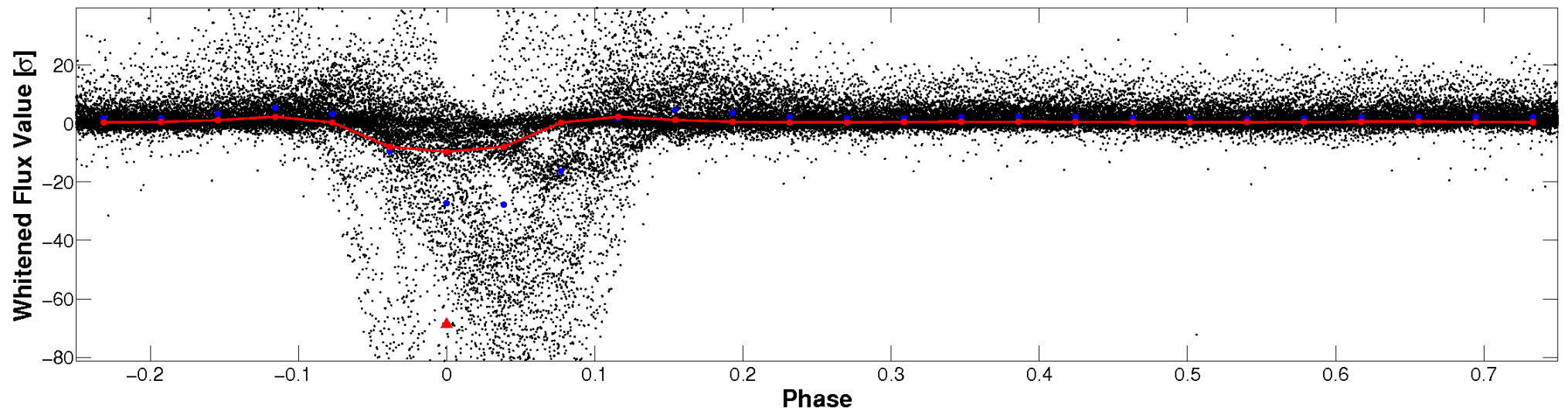


Non-Whitened Vs. Whitened Light Curve

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

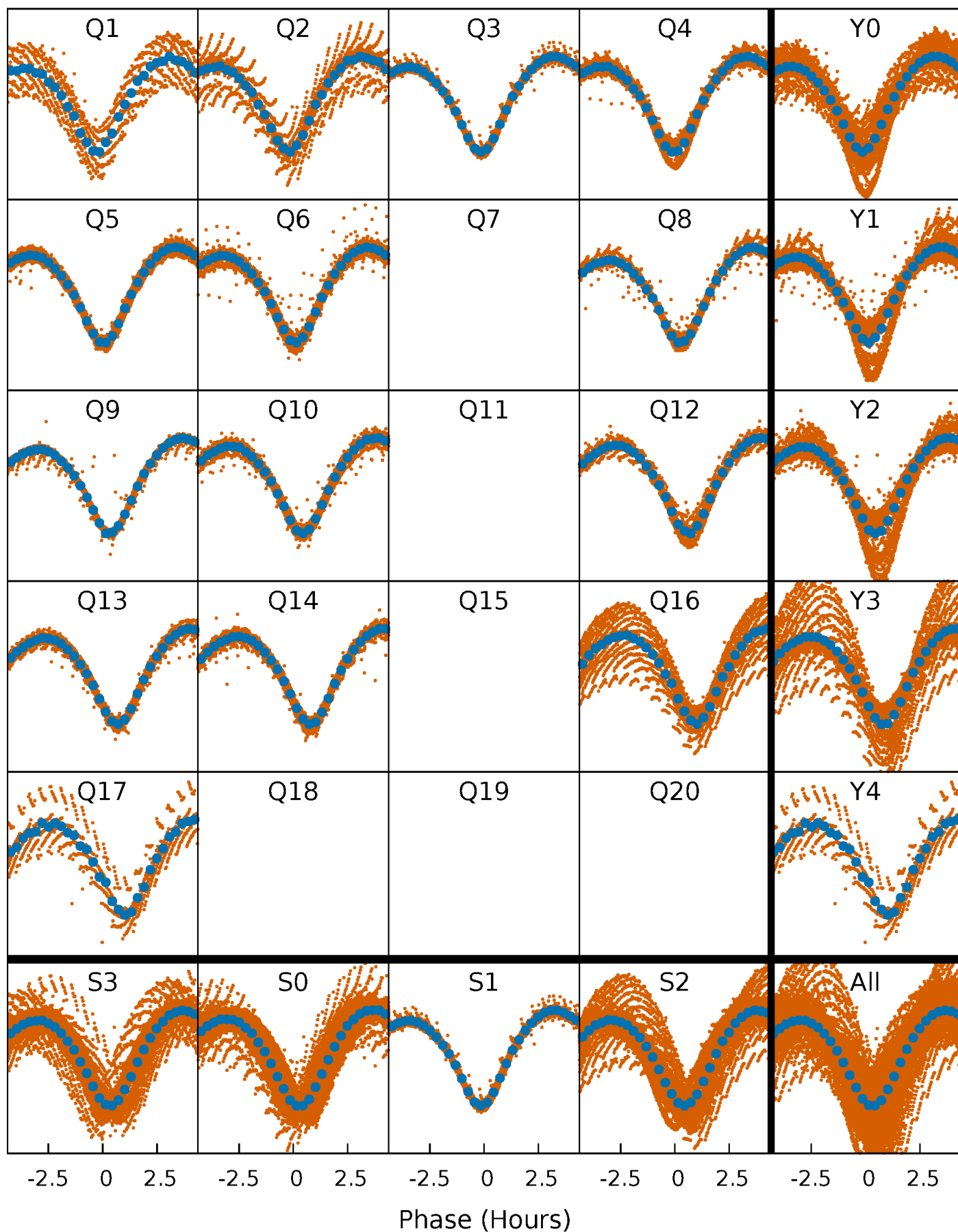


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



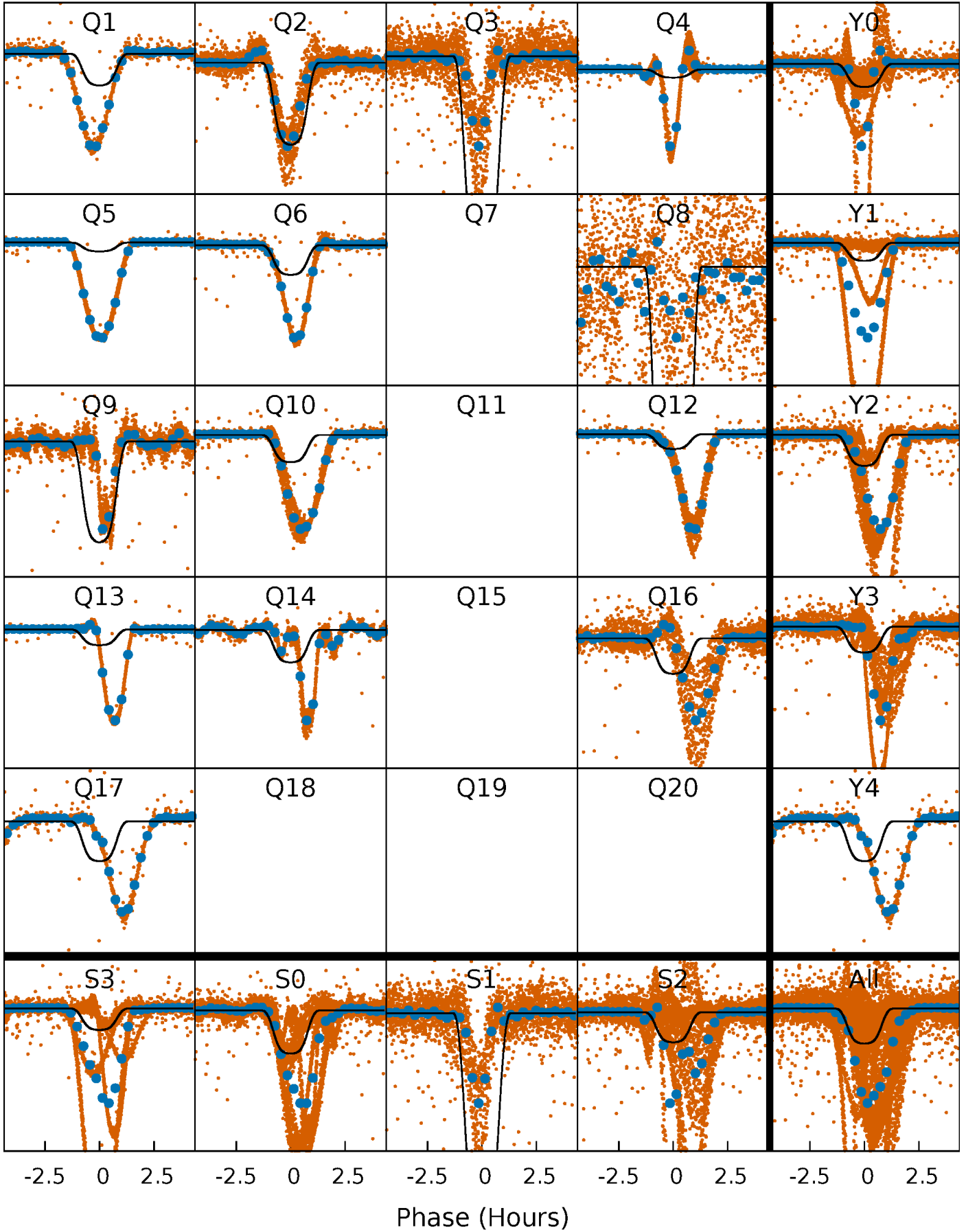
PDC Quarter-Phased Transit Curves

TCE 011154102-01 P= 0.529644 Days $T_0=132.040708$ (BKJD)



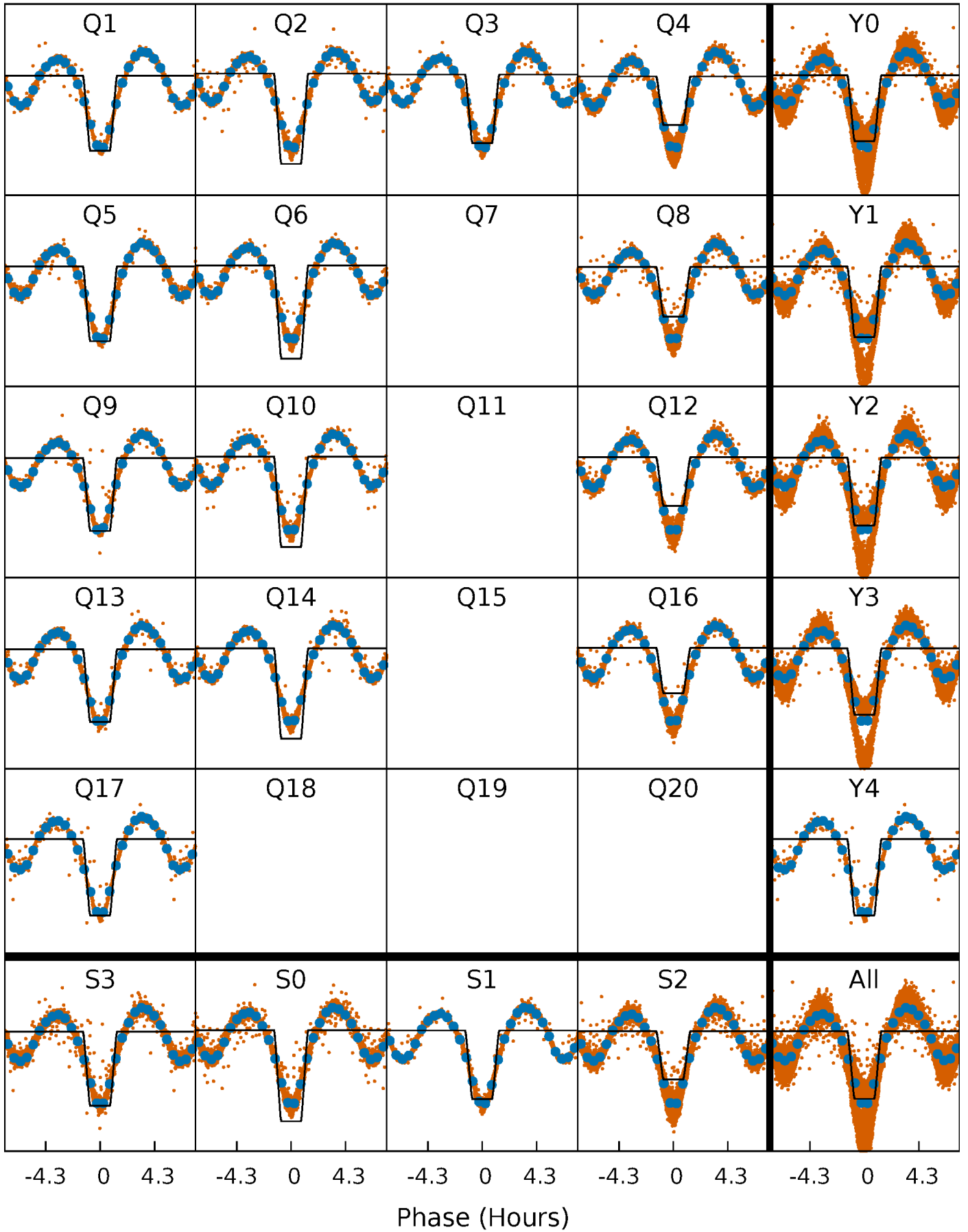
DV Quarter-Phased Transit Curves

TCE 011154102-01 P= 0.529644 Days $T_0=132.040708$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

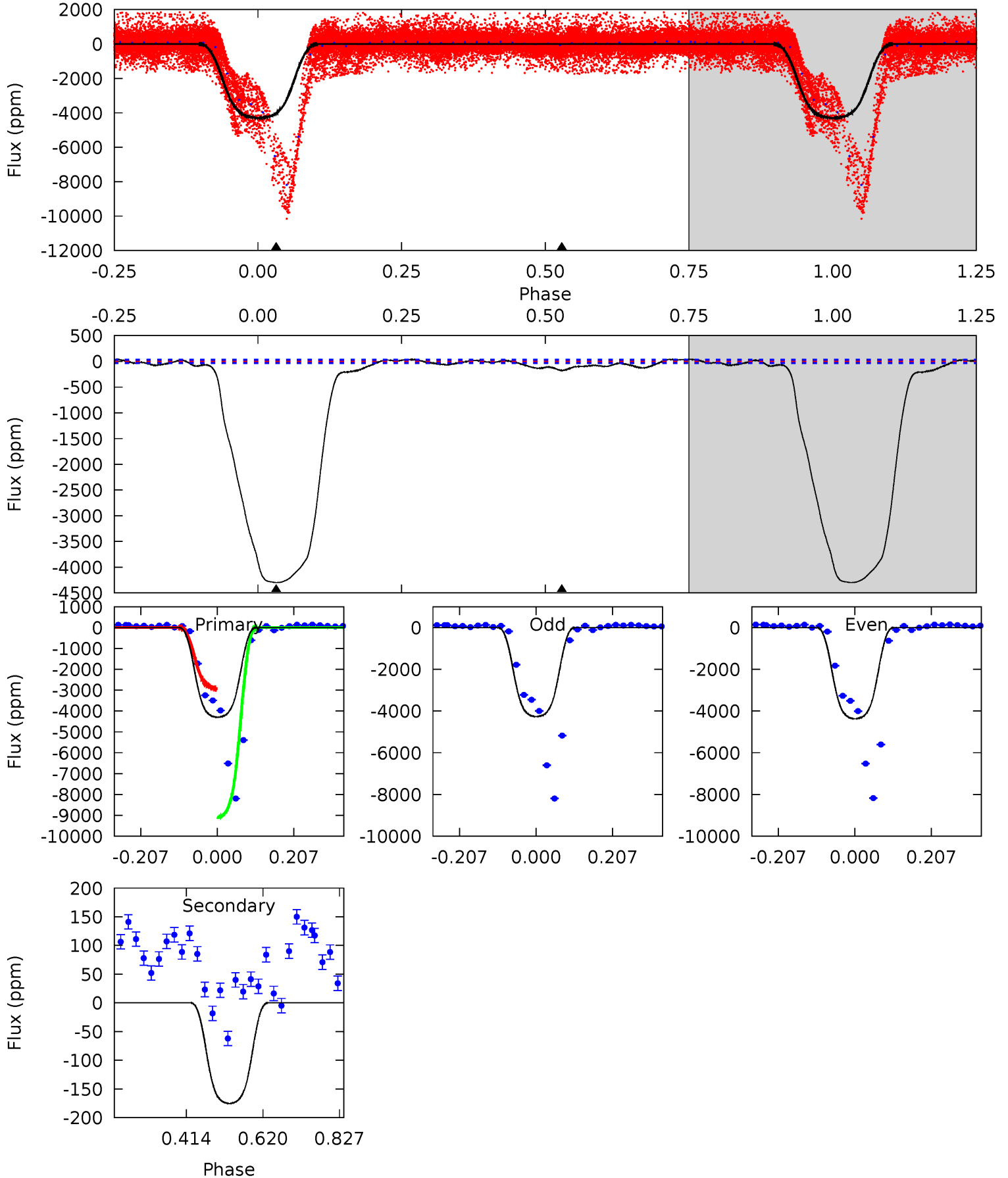
TCE 011154102-01 P= 0.529665 Days $T_0=132.026623$ (BKJD)



DV Model-Shift Uniqueness Test

011154102-01, P = 0.529644 Days, E = 131.511064 Days

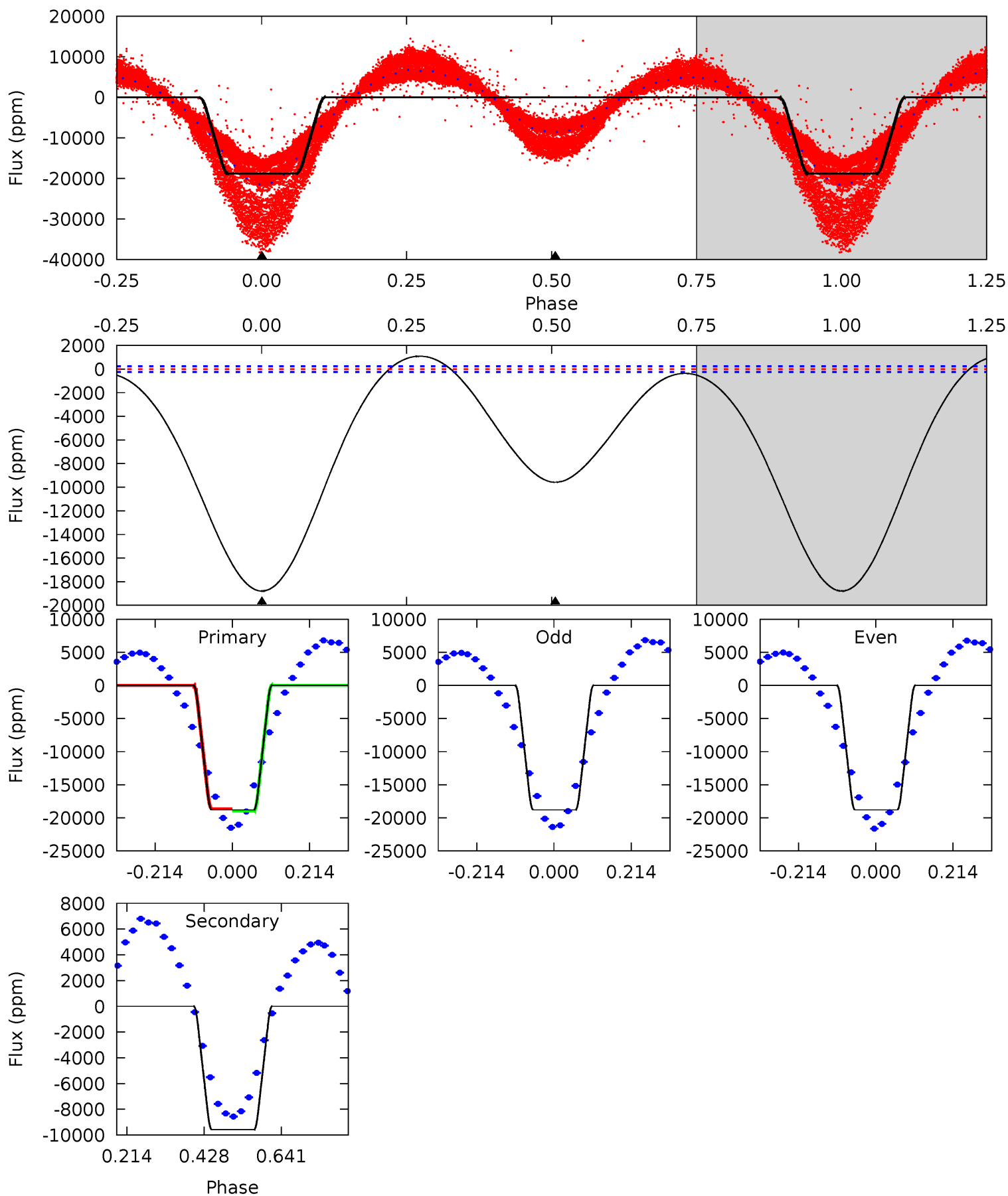
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
598.2	24.4	0	0	4.41	1.26	4.82	598.2	598.2	24.4	24.4	7.10	1.13	0.01	0



Alt Model-Shift Uniqueness Test

011154102-01, P = 0.529665 Days, E = 131.496958 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
333.0	169.7	0	0	4.40	1.24	14.4	333.0	333.0	169.7	169.7	0.03	1.10	0.06	3.26



Stellar Parameters For KIC 011154102

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5880^{+158}_{-176}	$4.518^{+0.037}_{-0.212}$	$-0.060^{+0.250}_{-0.300}$	$0.917^{+0.282}_{-0.094}$	$1.010^{+0.127}_{-0.127}$	$1.844^{+0.392}_{-1.041}$
	+3%/-3%	+1%/-5%	+417%/-500%	+31%/-10%	+13%/-13%	+21%/-56%
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 011154102-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-175 ± 7	$6.95^{+1.13}_{-0.54}$	3136^{+212}_{-128}	2286^{+290}_{-4865}	$0.325^{+0.048}_{-0.078}$
Alt.	-9581 ± 56	$14.45^{+2.56}_{-1.16}$	3137^{+233}_{-135}	4937^{+111}_{-139}	$4.171^{+0.528}_{-1.049}$

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

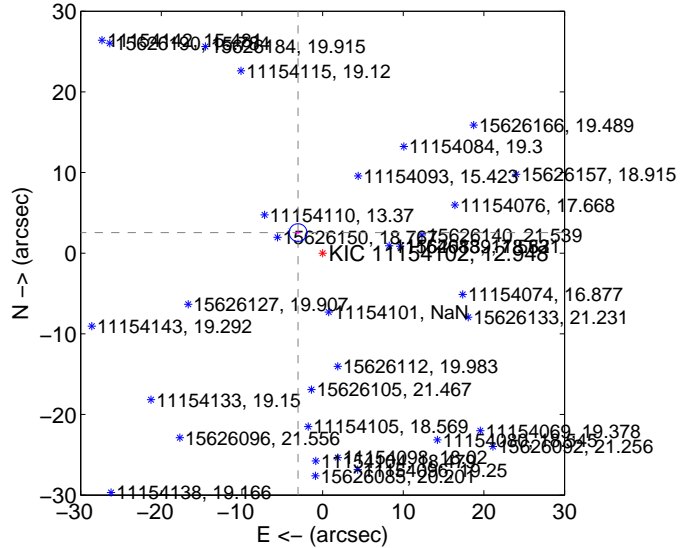
Supplemental centroid analysis for 011154102-01. Kepler magnitude: 12.95. Transit SNR 397.37

There are 9 quarters with good PRF difference image offsets

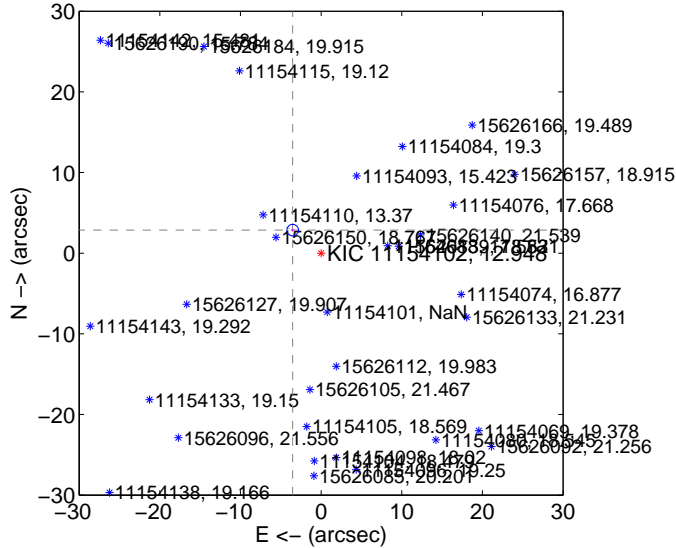
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.969 \pm 0.366	10.83	3.043 \pm 0.297	2.548 \pm 0.226
PRF-fit source offset from KIC position	4.535 \pm 0.238	19.06	3.521 \pm 0.193	2.857 \pm 0.154
photometric centroid source offset	—	—	—	—

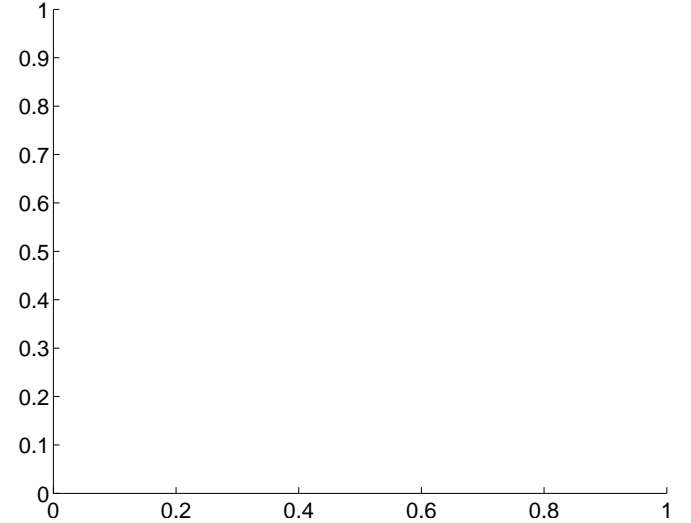
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

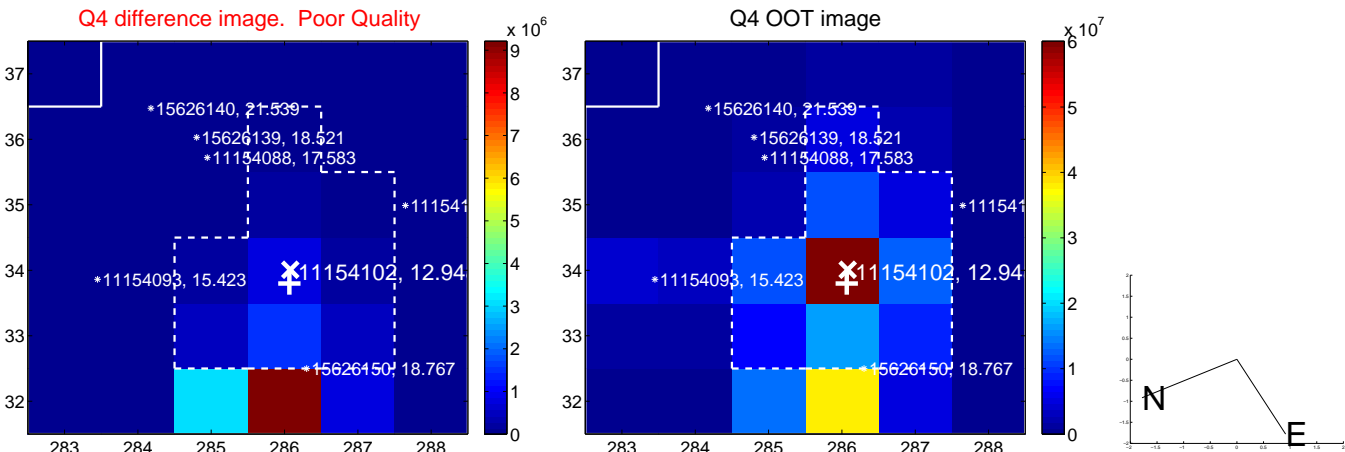
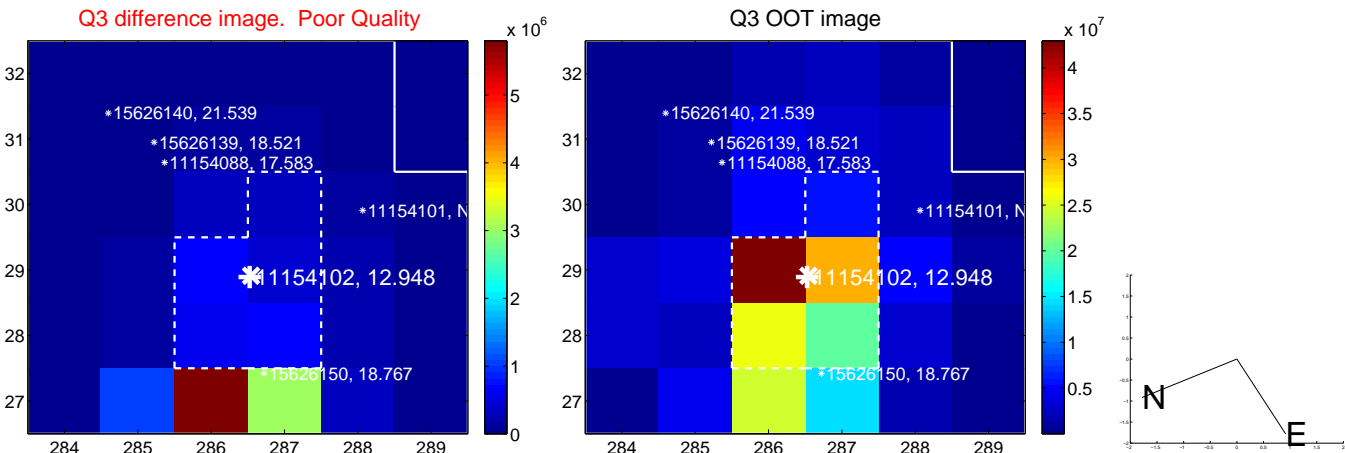
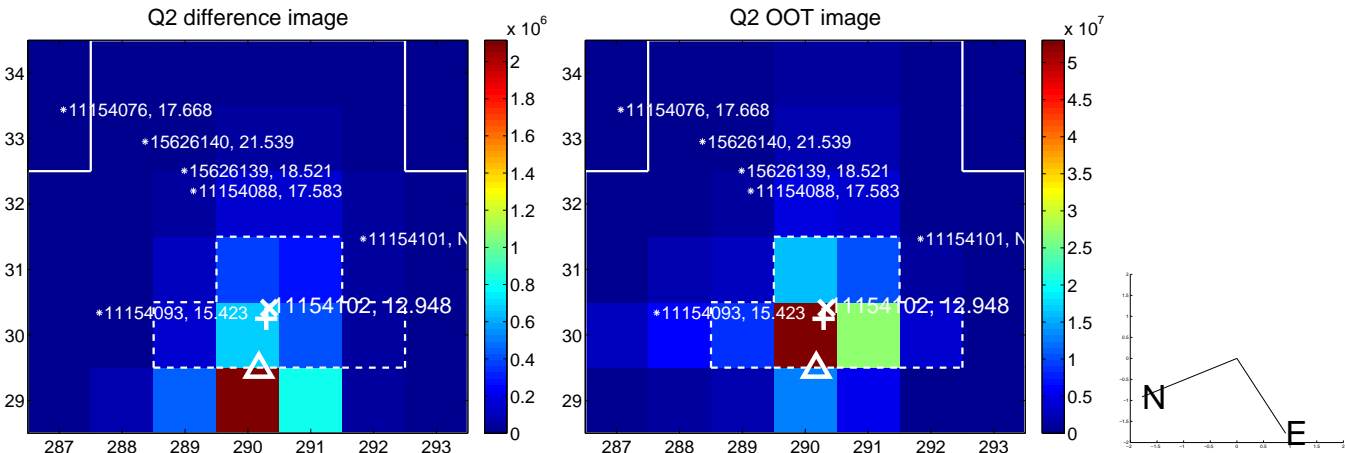
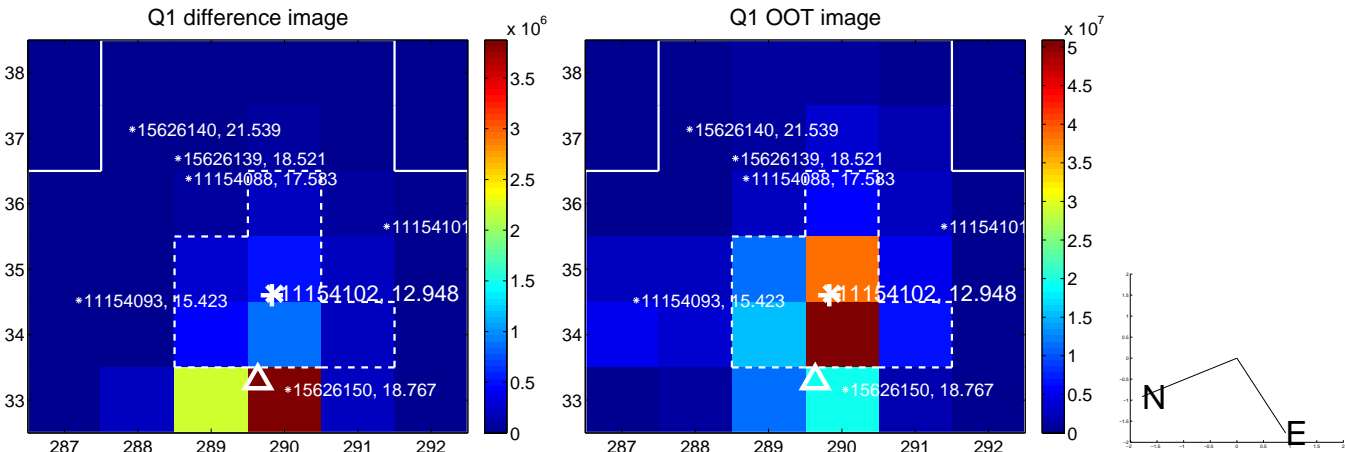


There are no photometric centroids

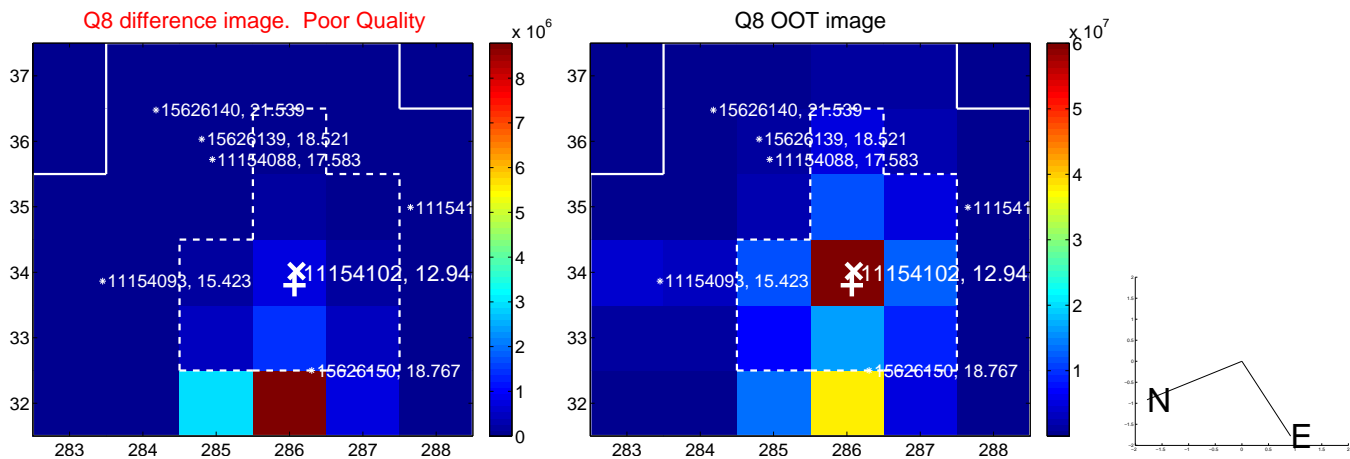
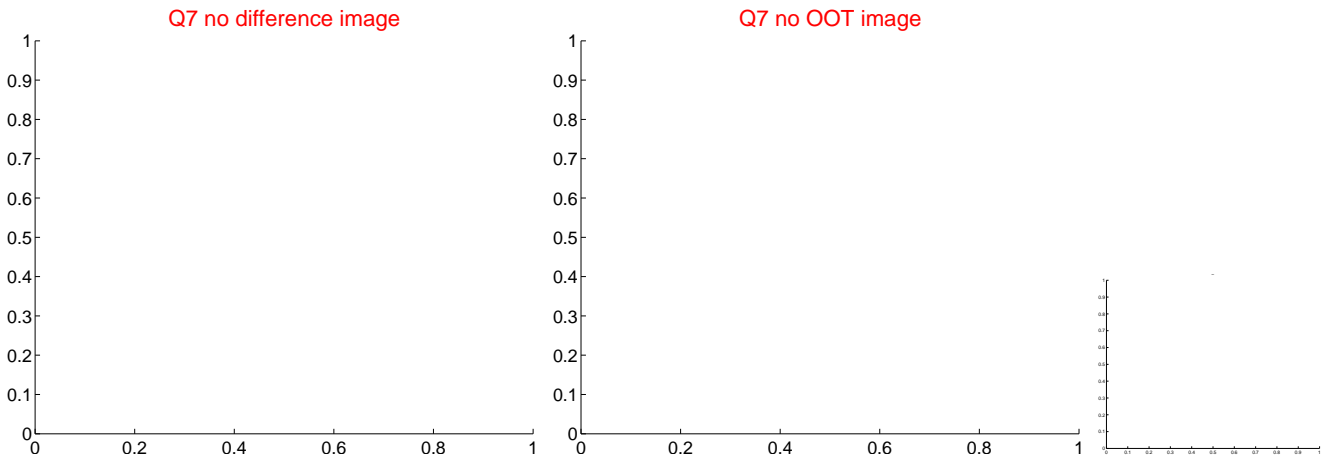
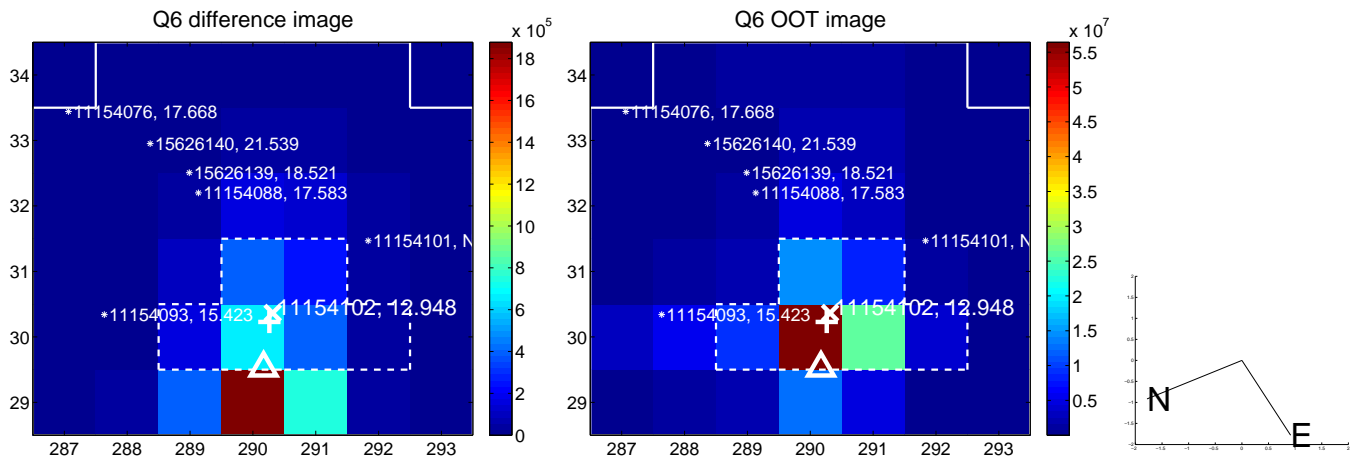
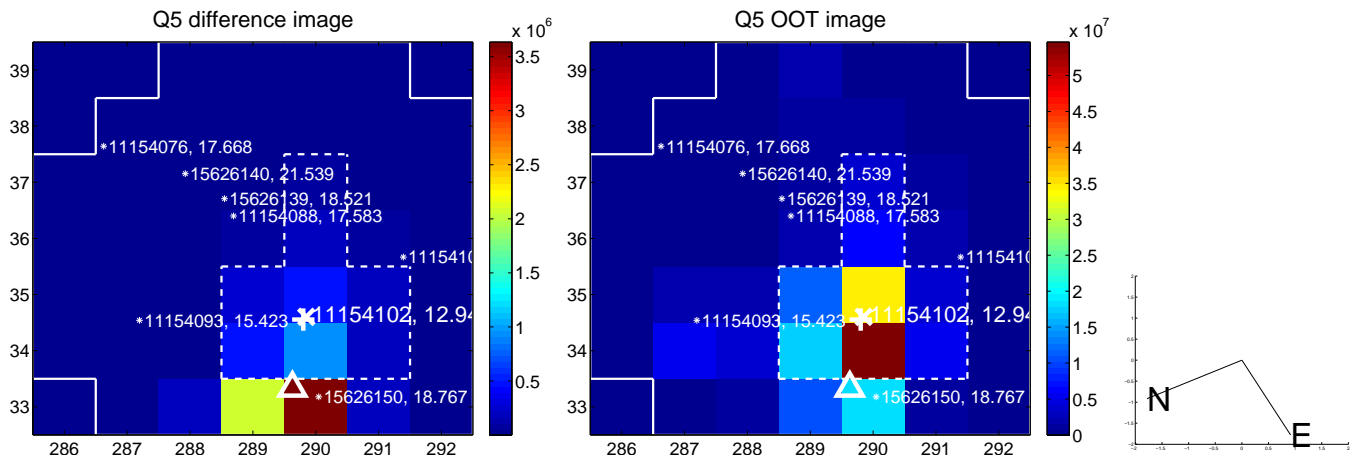


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

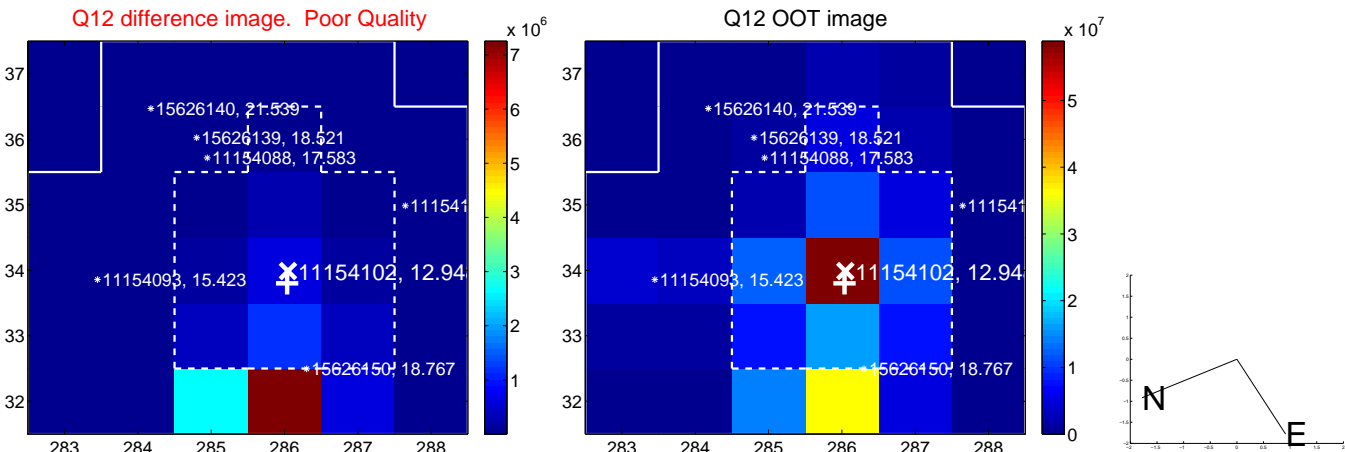
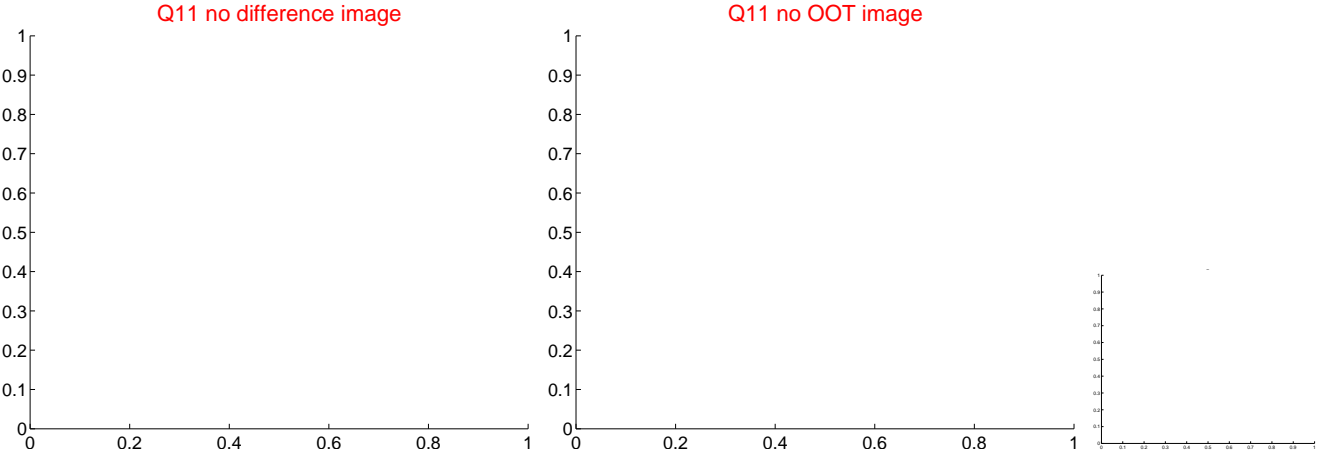
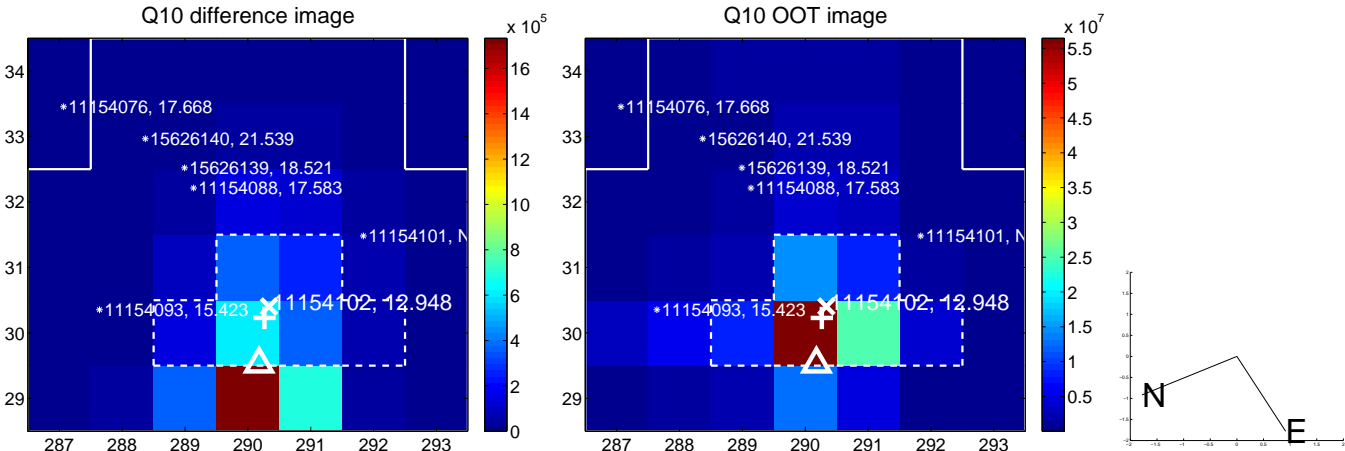
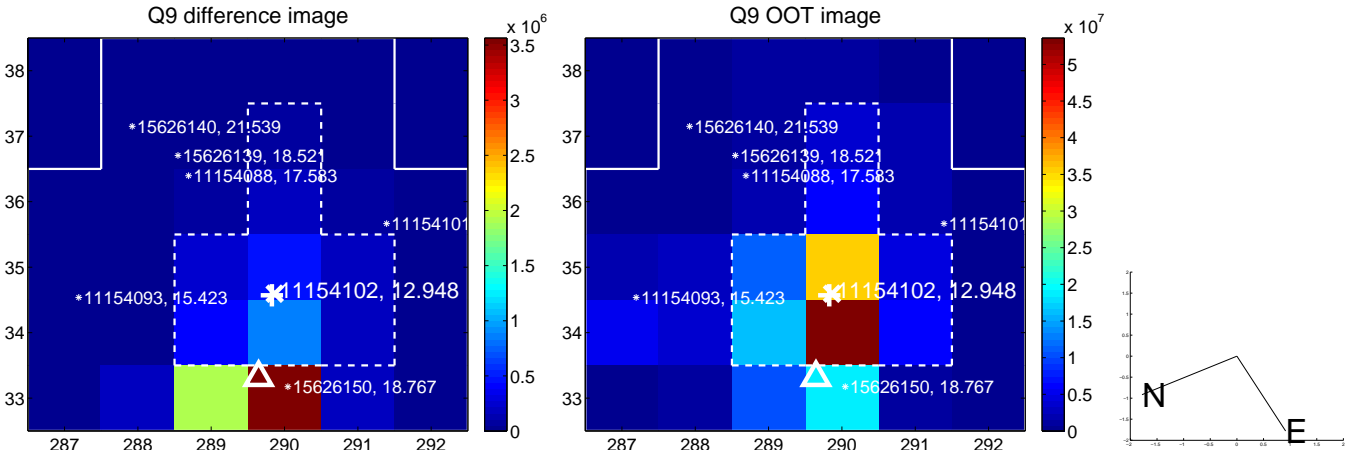
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



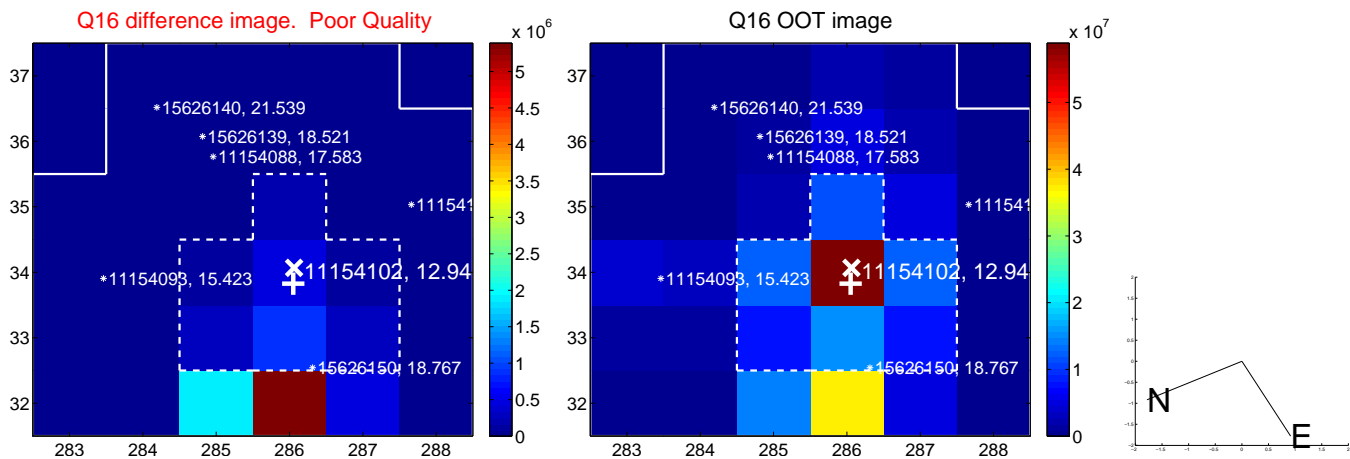
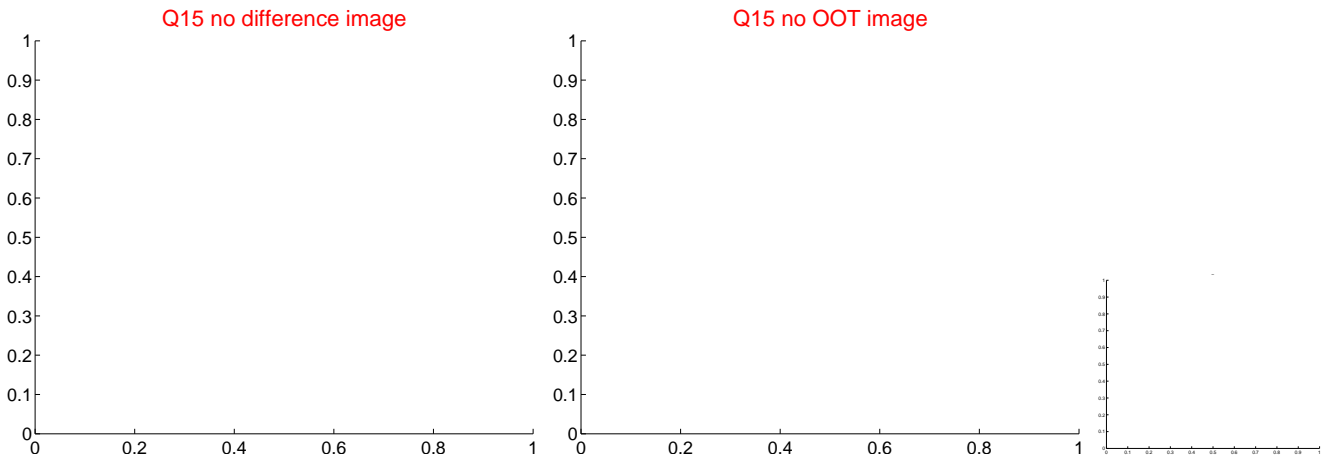
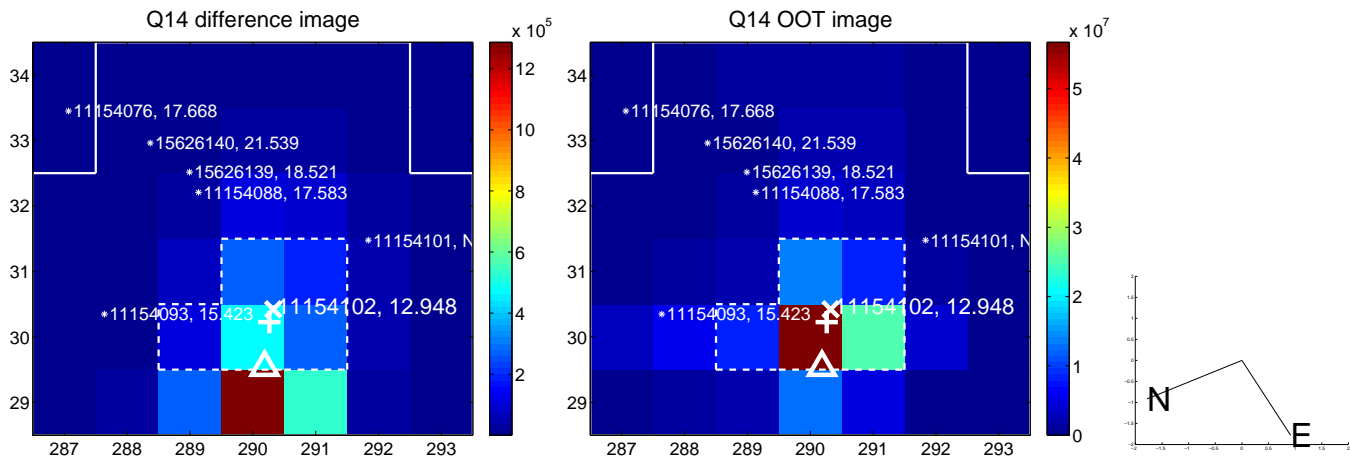
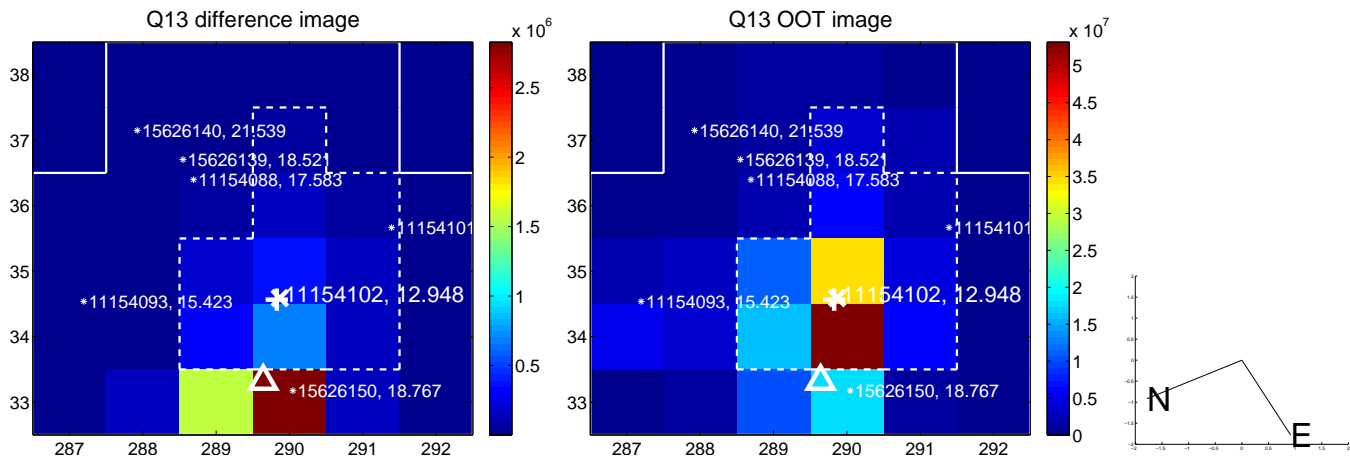
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



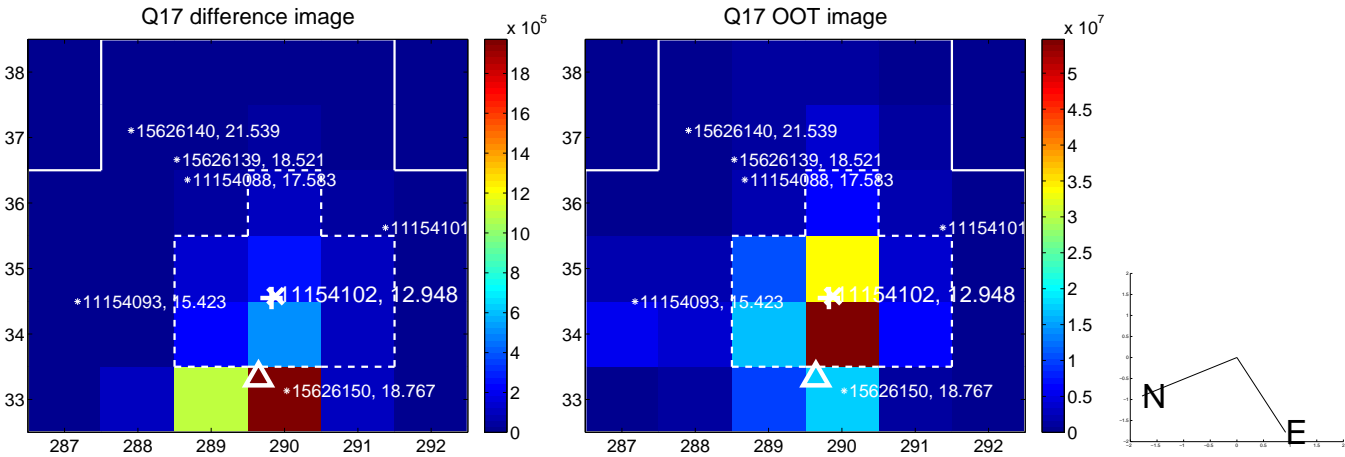
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



folded centroid time series figure for this object.

UKIRT Image

Declination

