

KIC 006146838

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})
006146838-01	OBS	6668.01	27.467233	143.672075	70204.9	4.199	5153.0	3212.2	0.74	5503	28.97	18.25

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006146838-01	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED

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.

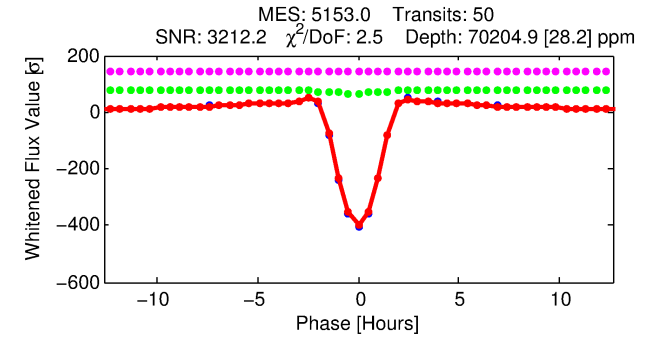
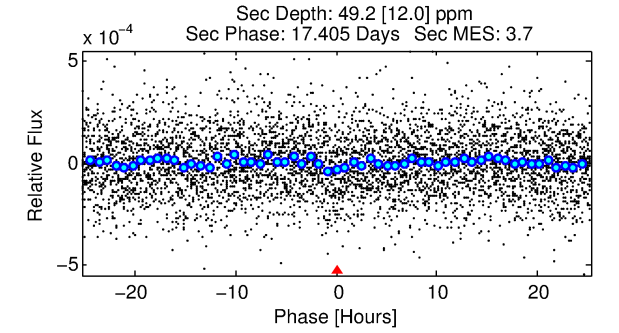
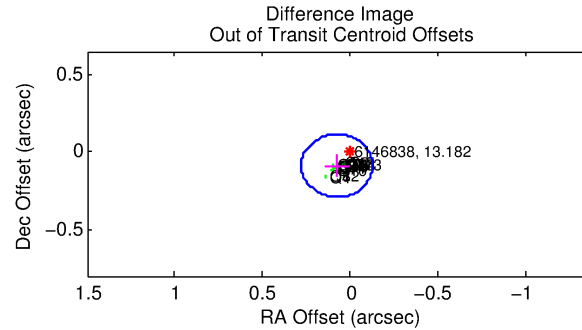
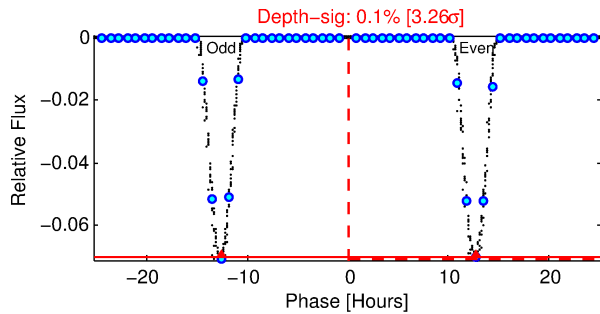
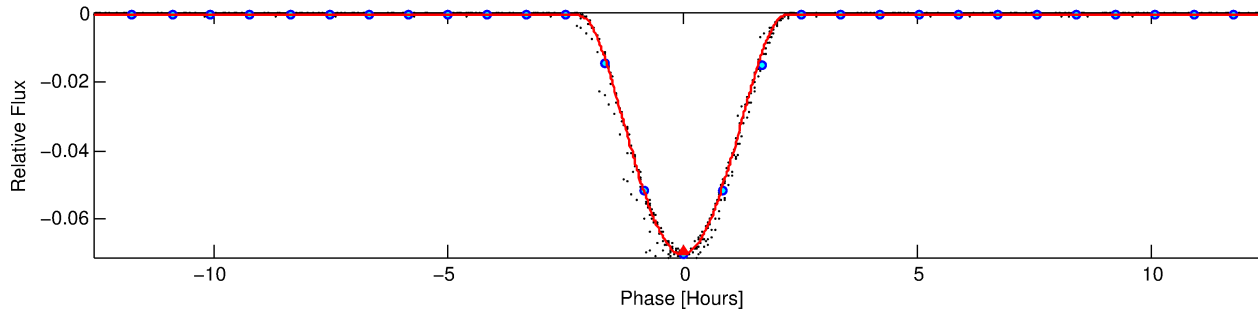
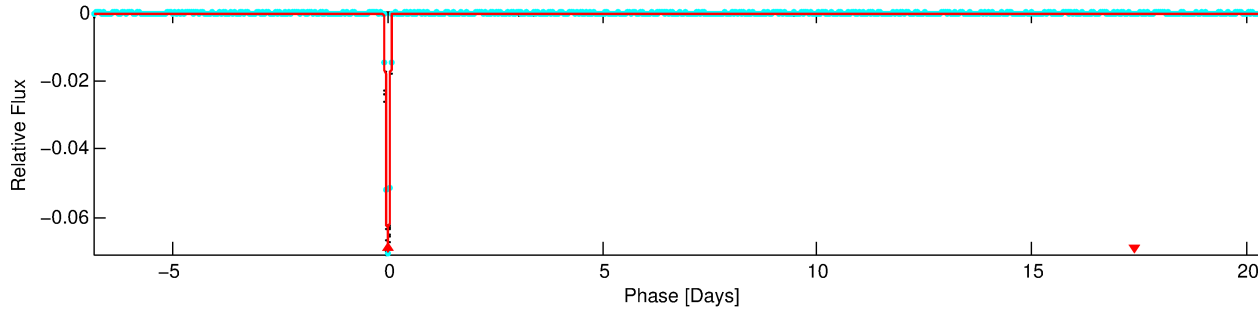
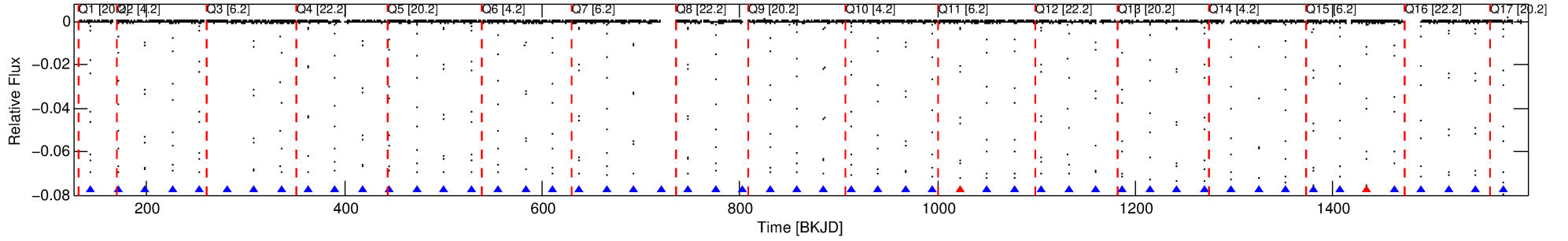
Ephemeris Match Information For 006146838-01

No Significant Match Found

DV One-Page Summary

KIC: 6146838 Candidate: 1 of 1 Period: 27.467 d
KOI: K06668.01 Corr: 0.997

Kp: 13.18 R*: 0.74 Rs Teff: 5503.0 K Logg: 4.54 Fe/H: -0.740



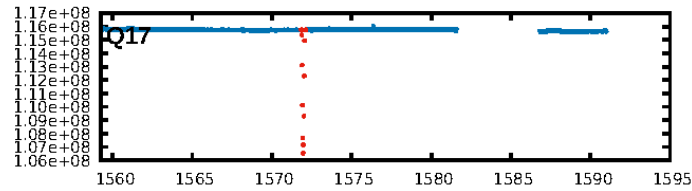
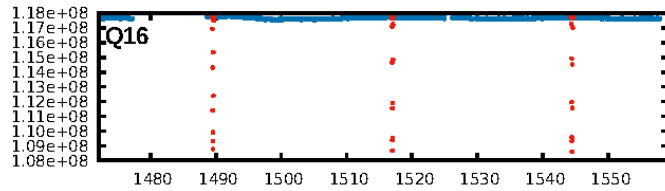
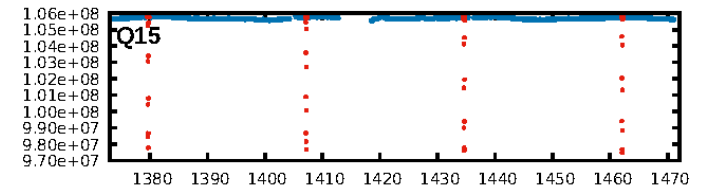
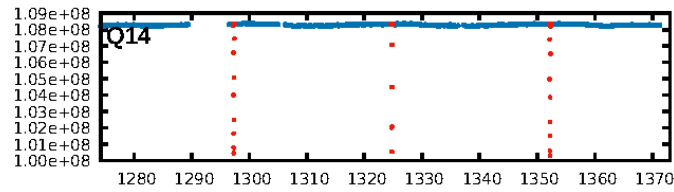
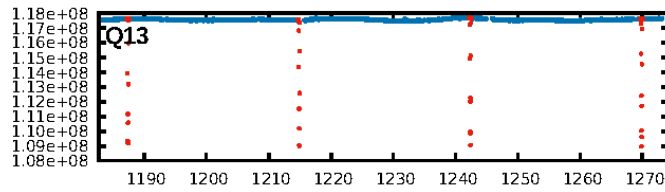
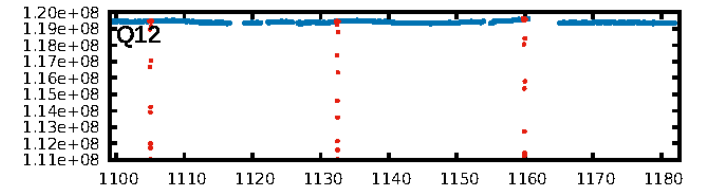
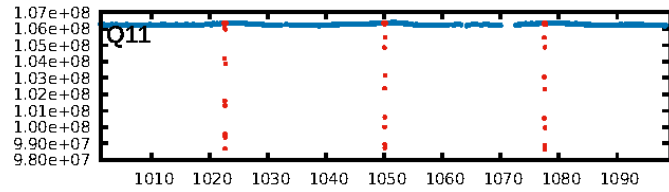
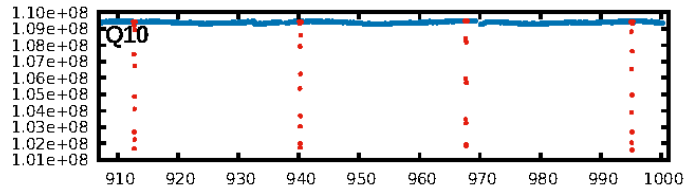
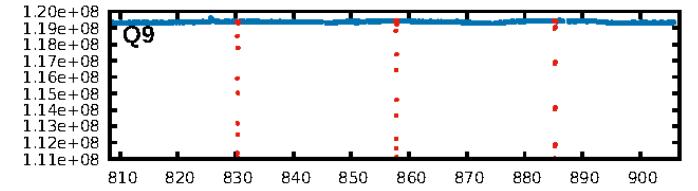
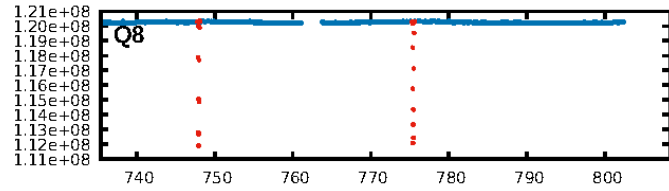
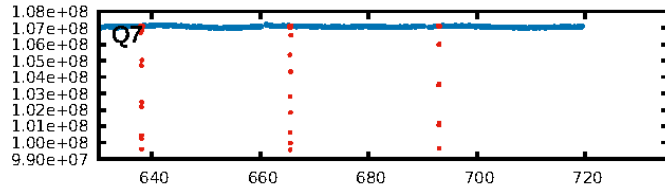
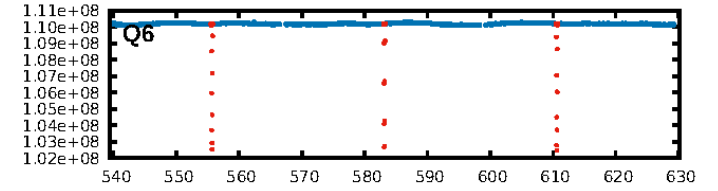
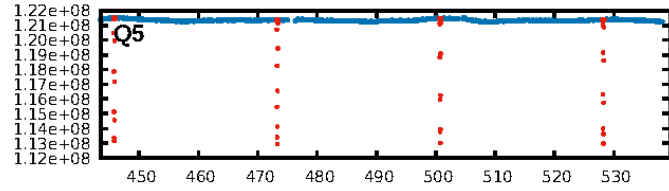
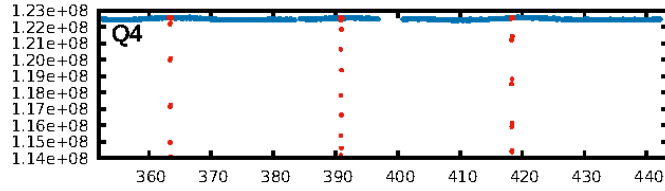
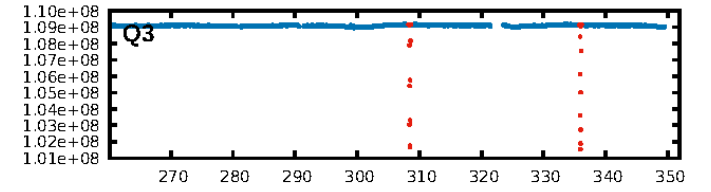
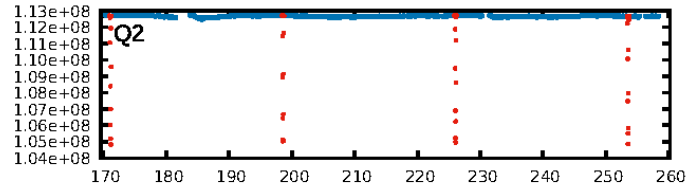
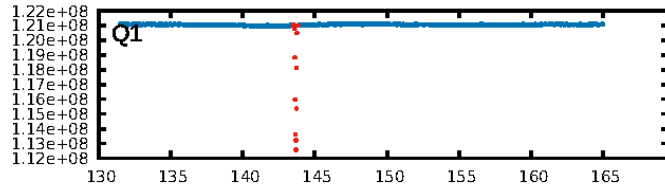
DV Fit Results:

Period = 27.46723 [0.00000] d
Epoch = 143.6721 [0.0000] BKJD
Rp/R* = 0.3577 [0.0076]
a/R* = 50.00 [0.04]
b = 0.92 [0.01]
Seff = 18.24 [4.00]
Teq = 527 [29] K
Rp = 28.97 [3.88] Re
a = 0.1575 [0.0188] AU
Ag = 0.80 [0.25] [-0.81σ]
Teffp = 771 [53] K [4.03σ]

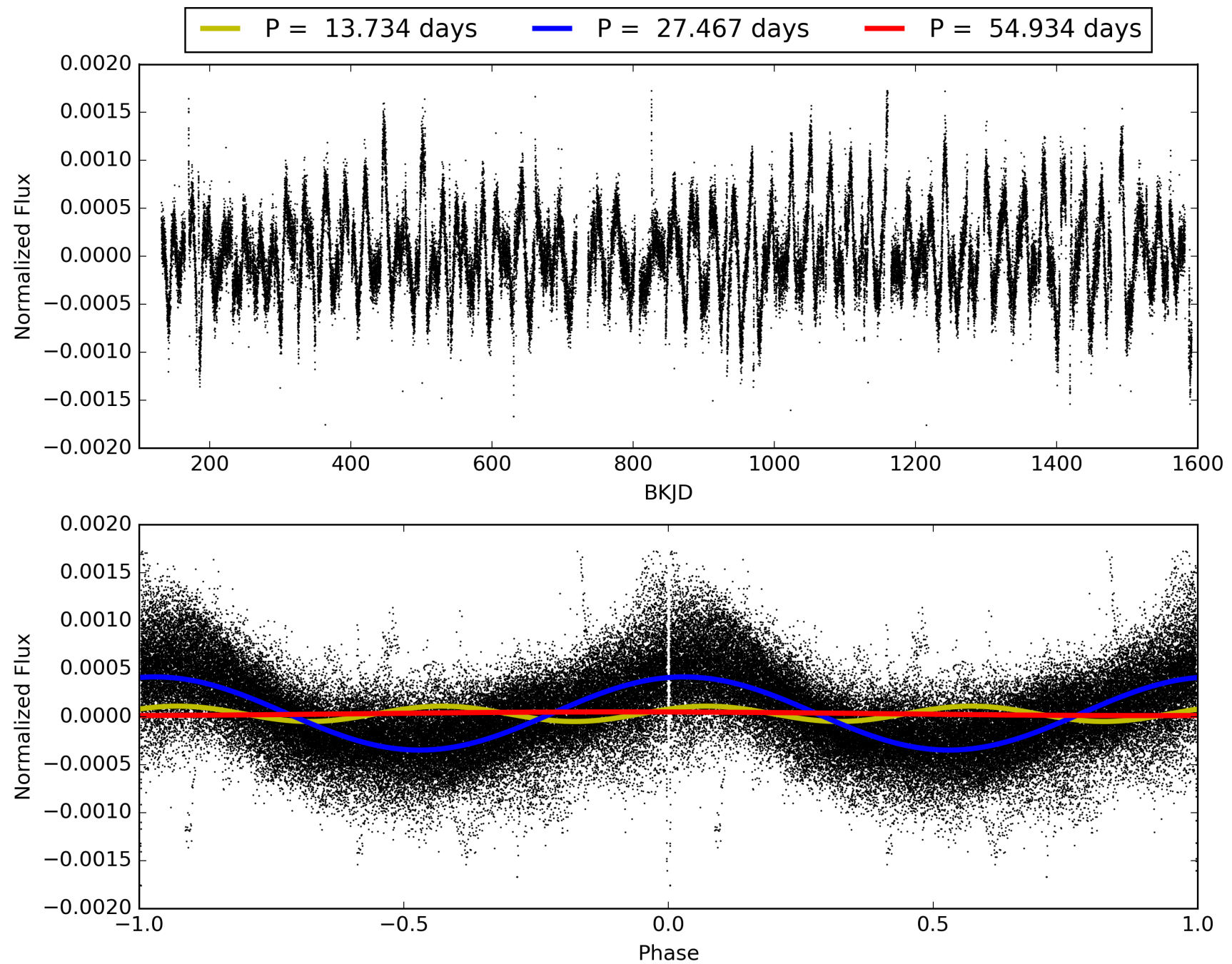
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.96 [46/48]
GhostDiagnostic-chr: 3.796
Centroid-sig: 0.0%
Centroid-so: 0.173 arcsec [79.07σ]
OotOffset-rm: 0.117 arcsec [1.73σ]
KicOffset-rm: 0.185 arcsec [2.75σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 006146838-01, PDC Light Curves

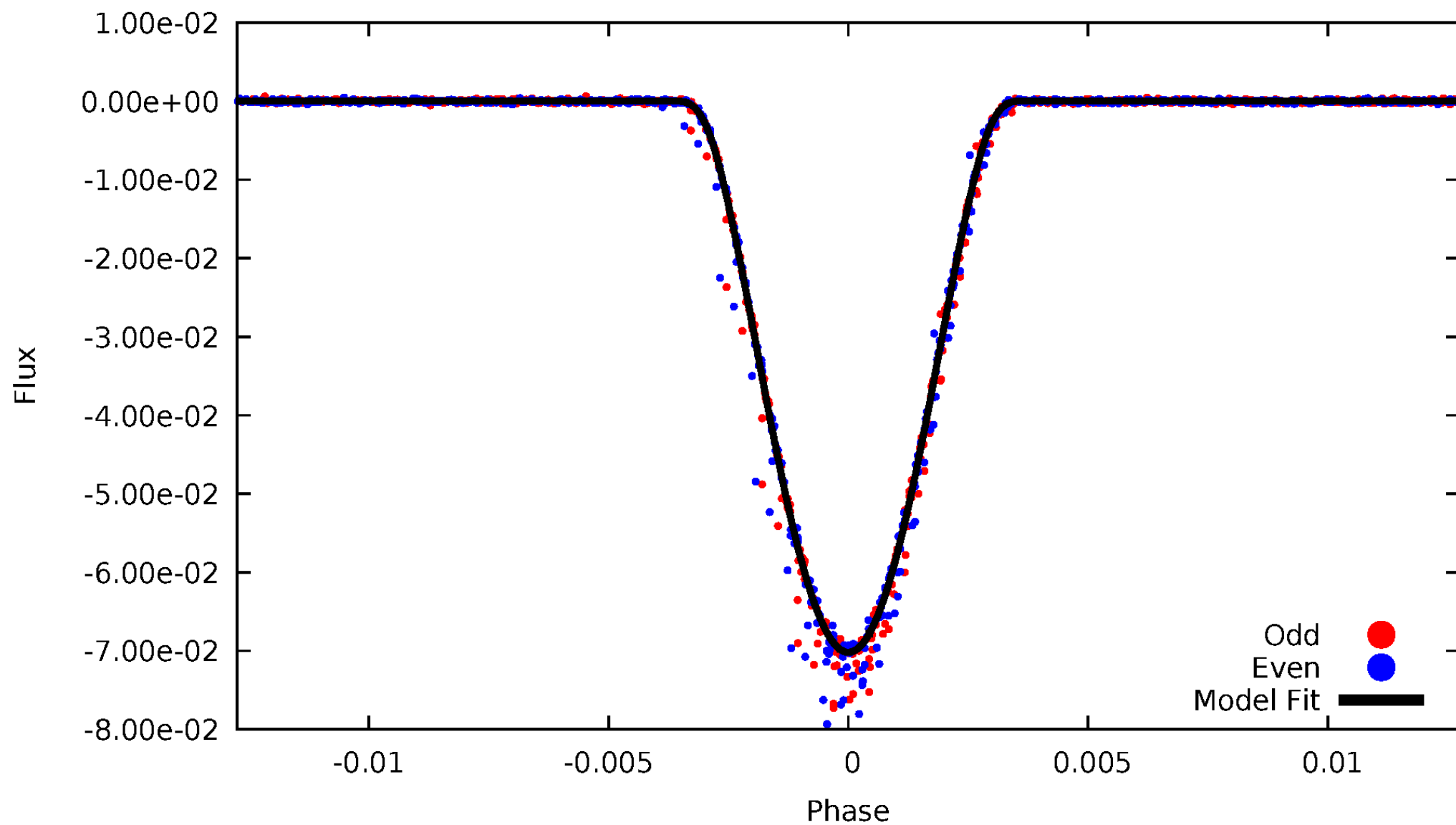


TCE 006146838-01



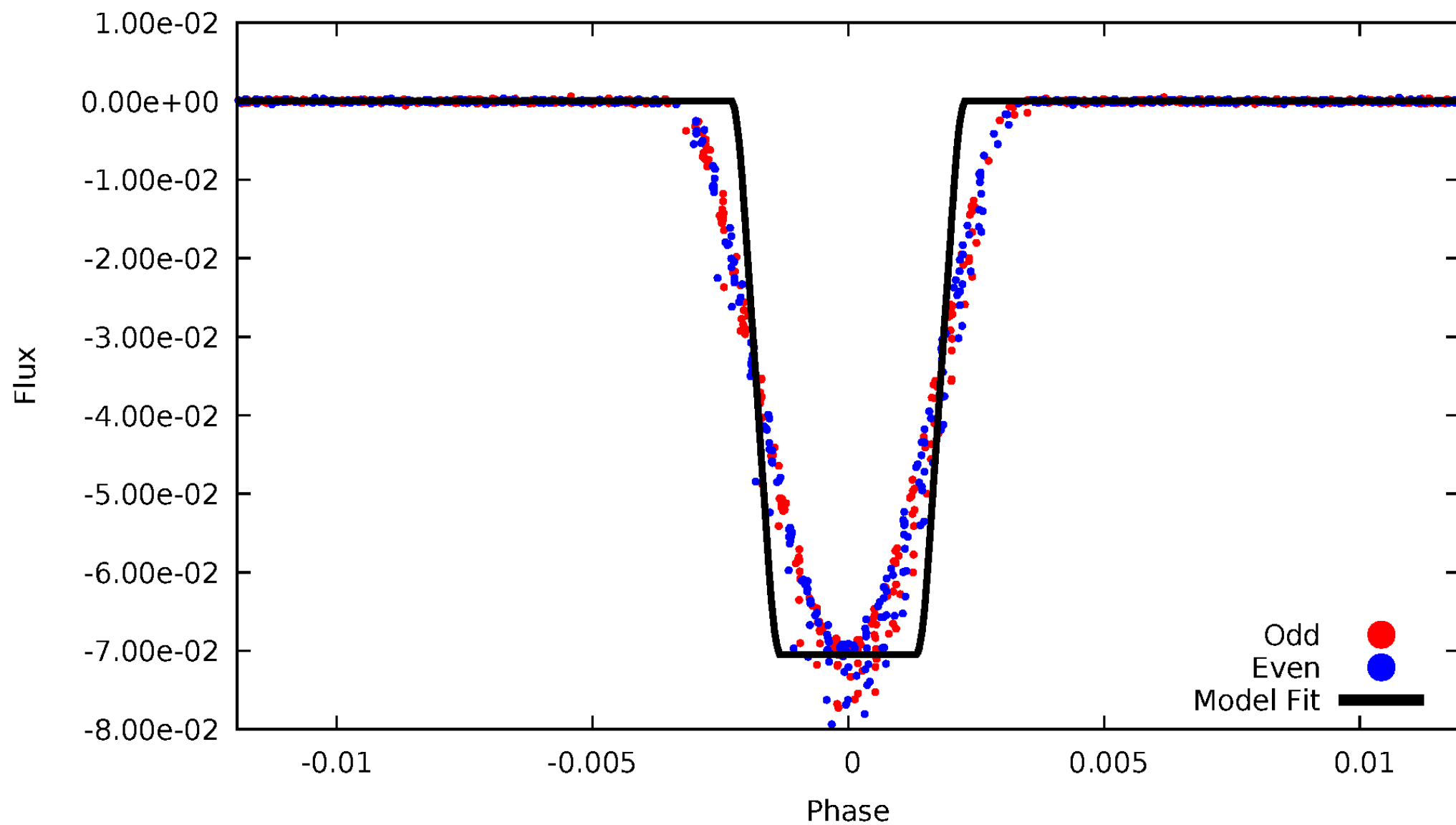
DV Odd/Even

TCE 006146838-01



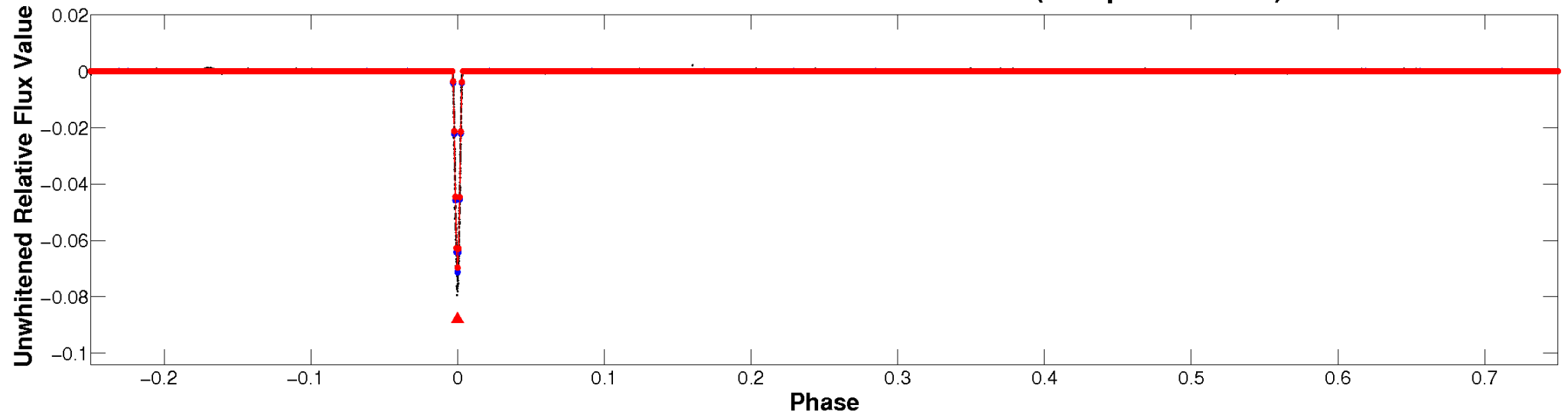
ALT Odd/Even

TCE 006146838-01

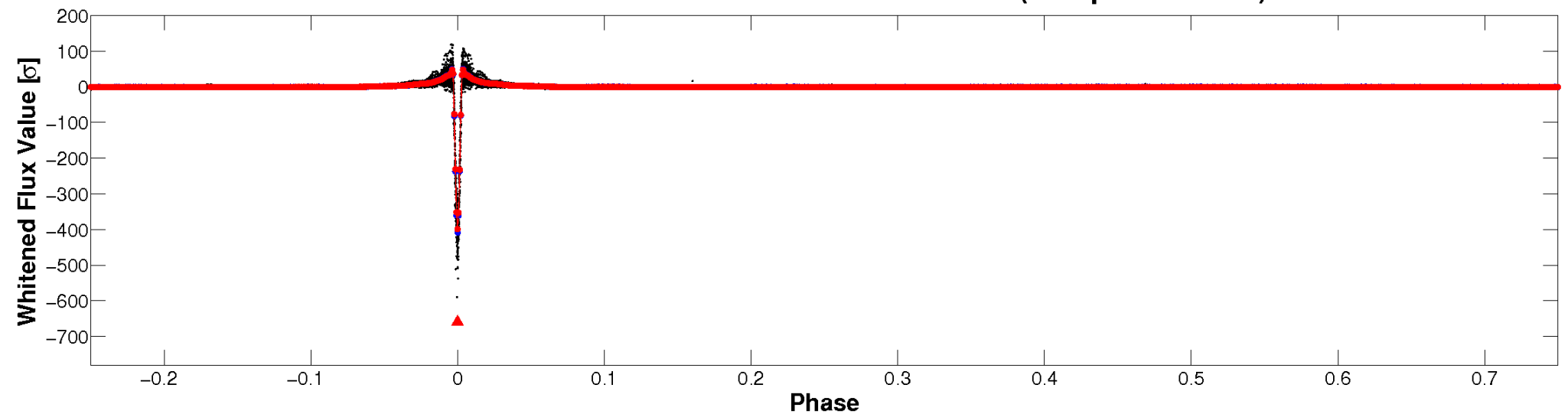


Non-Whitened Vs. Whitened Light Curve

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

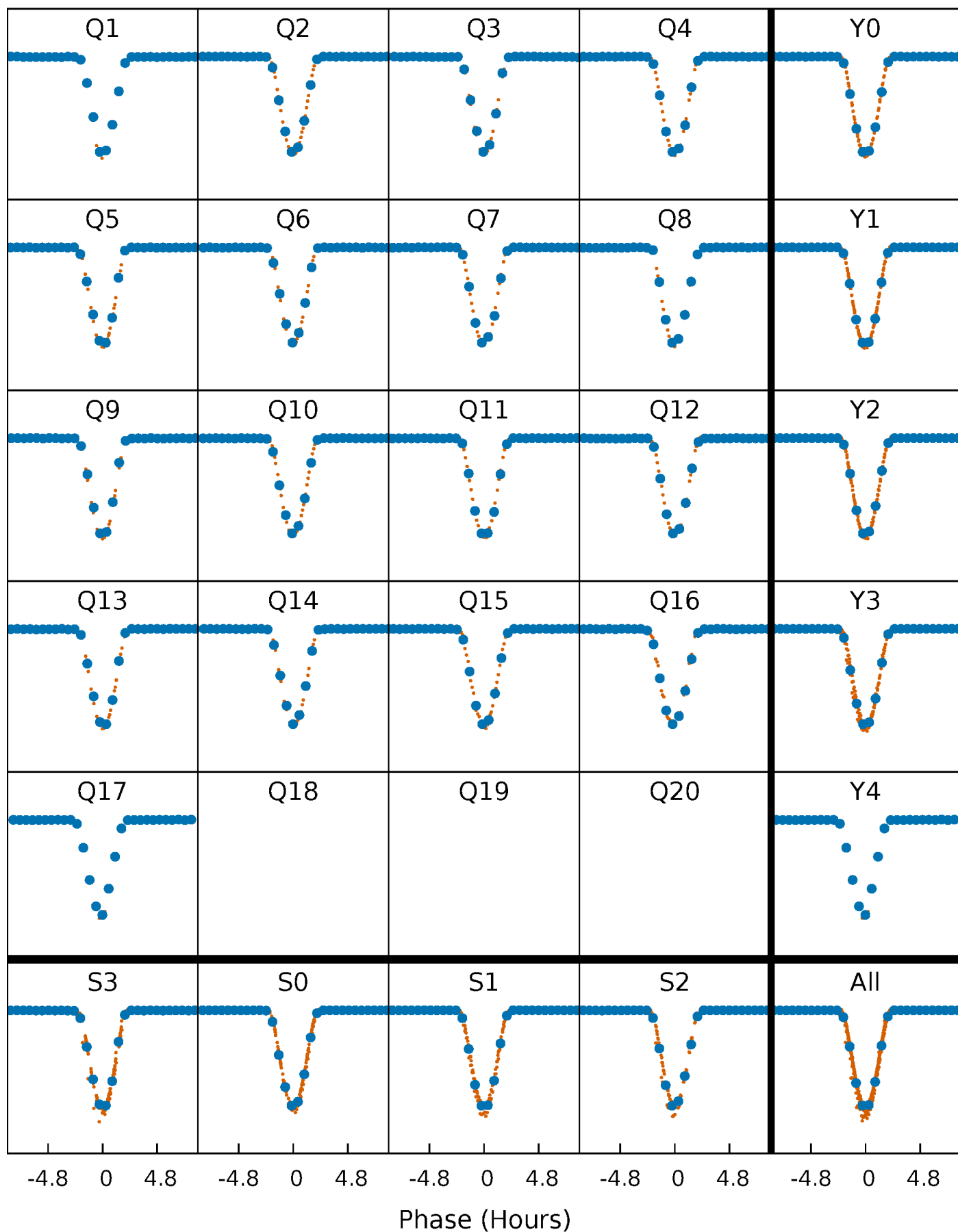


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



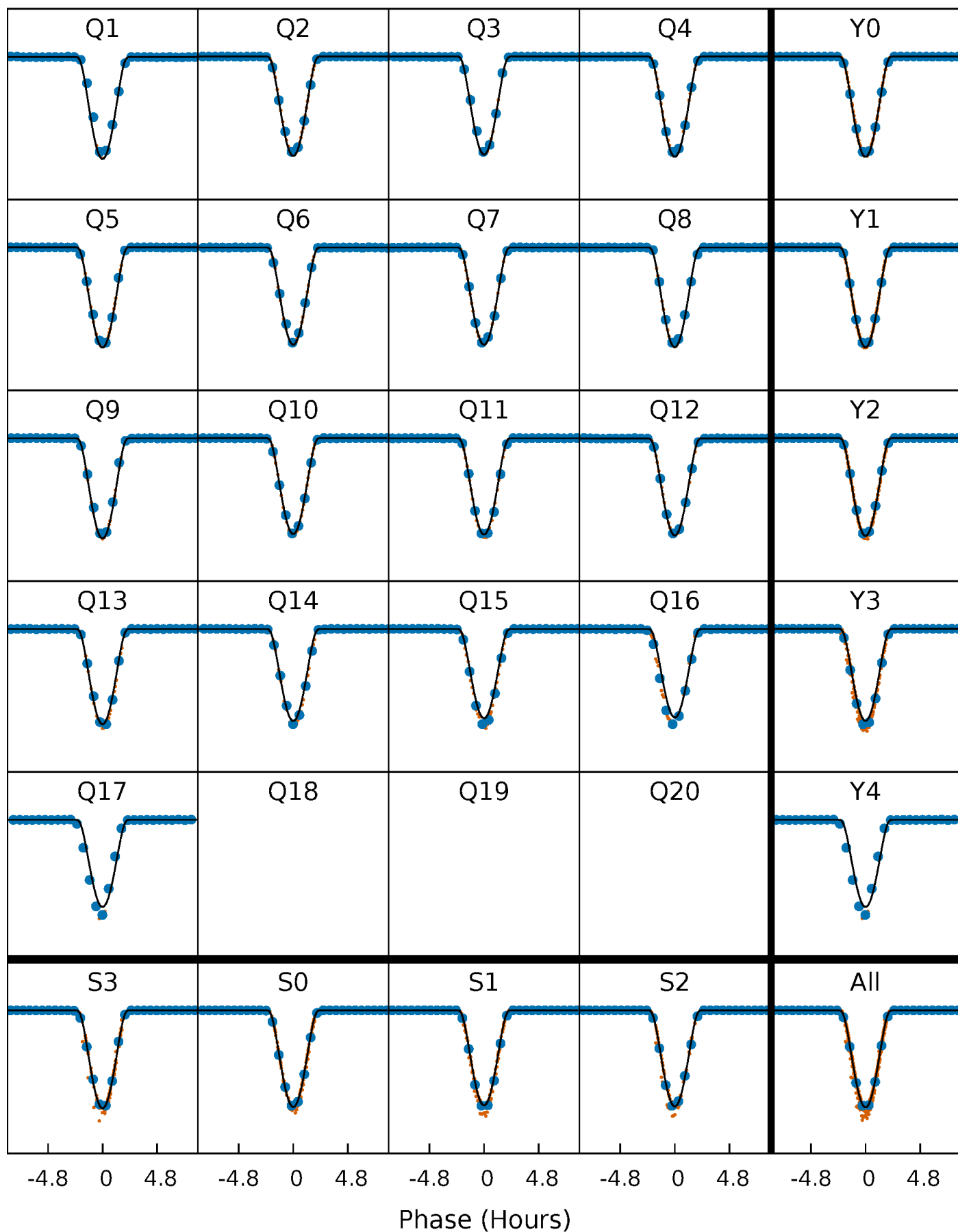
PDC Quarter-Phased Transit Curves

TCE 006146838-01 P= 27.467233 Days $T_0=143.672075$ (BKJD)



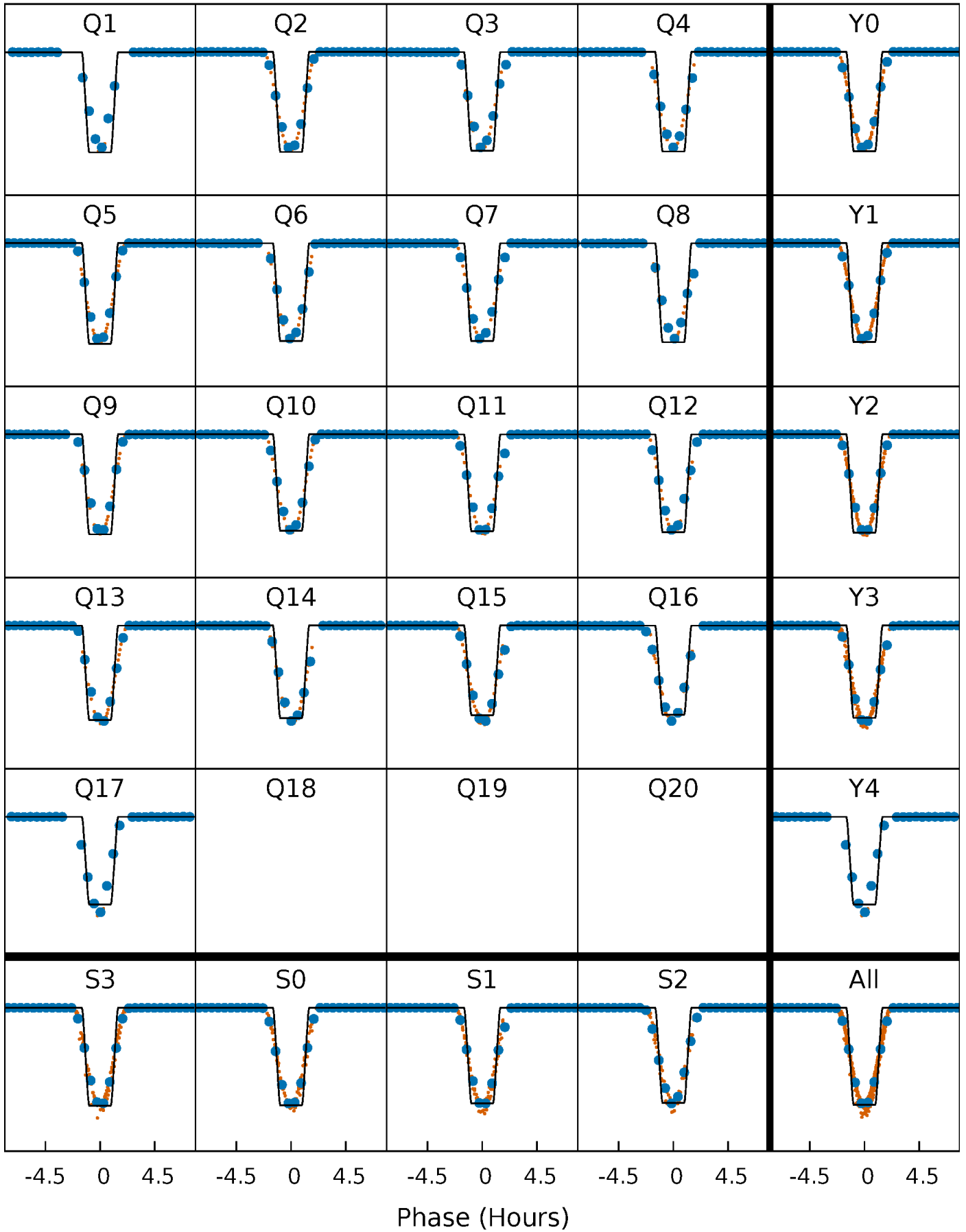
DV Quarter-Phased Transit Curves

TCE 006146838-01 P= 27.467233 Days $T_0=143.672075$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

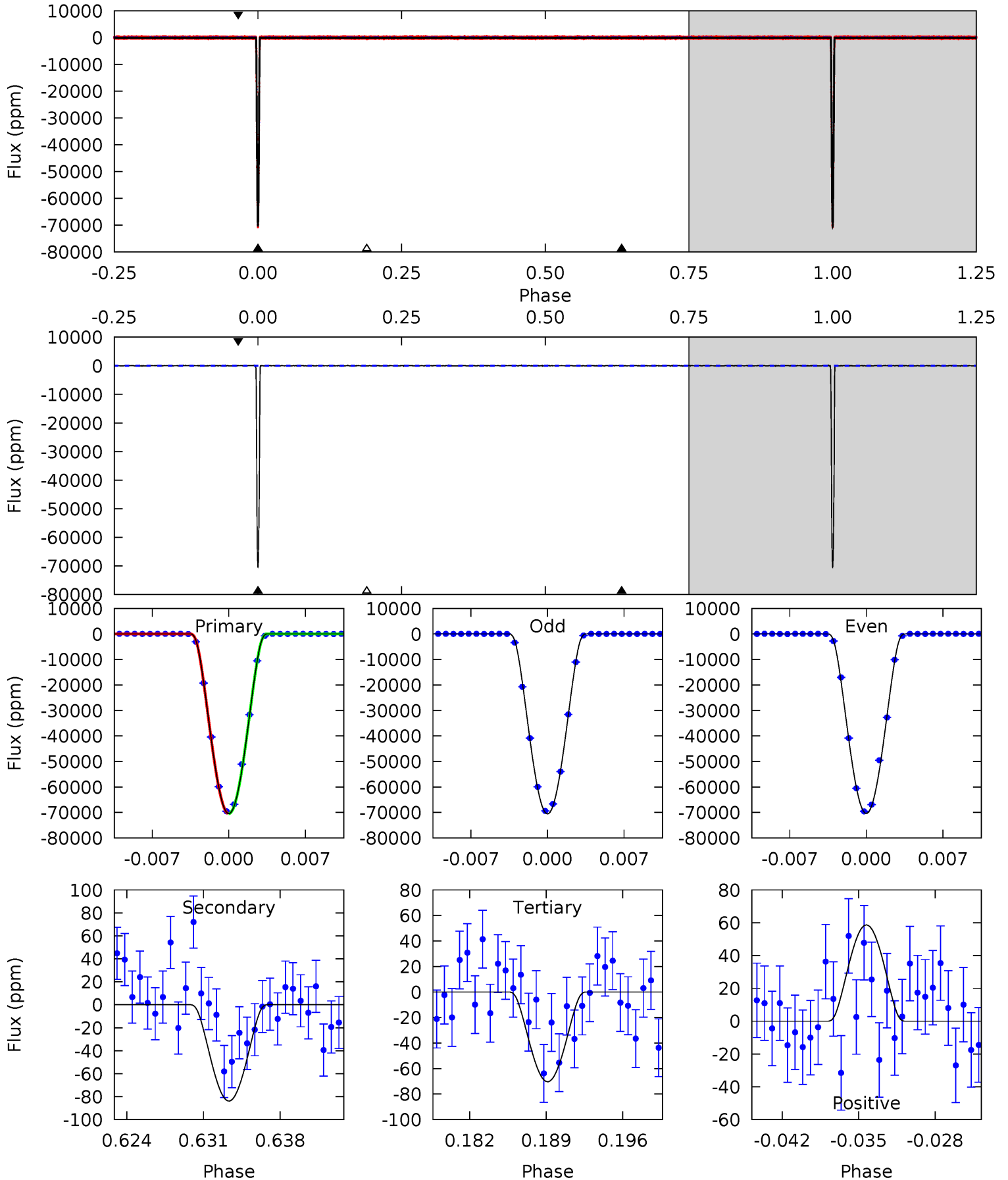
TCE 006146838-01 P= 27.467112 Days $T_0=143.675126$ (BKJD)



DV Model-Shift Uniqueness Test

006146838-01, P = 27.467233 Days, E = 116.204842 Days

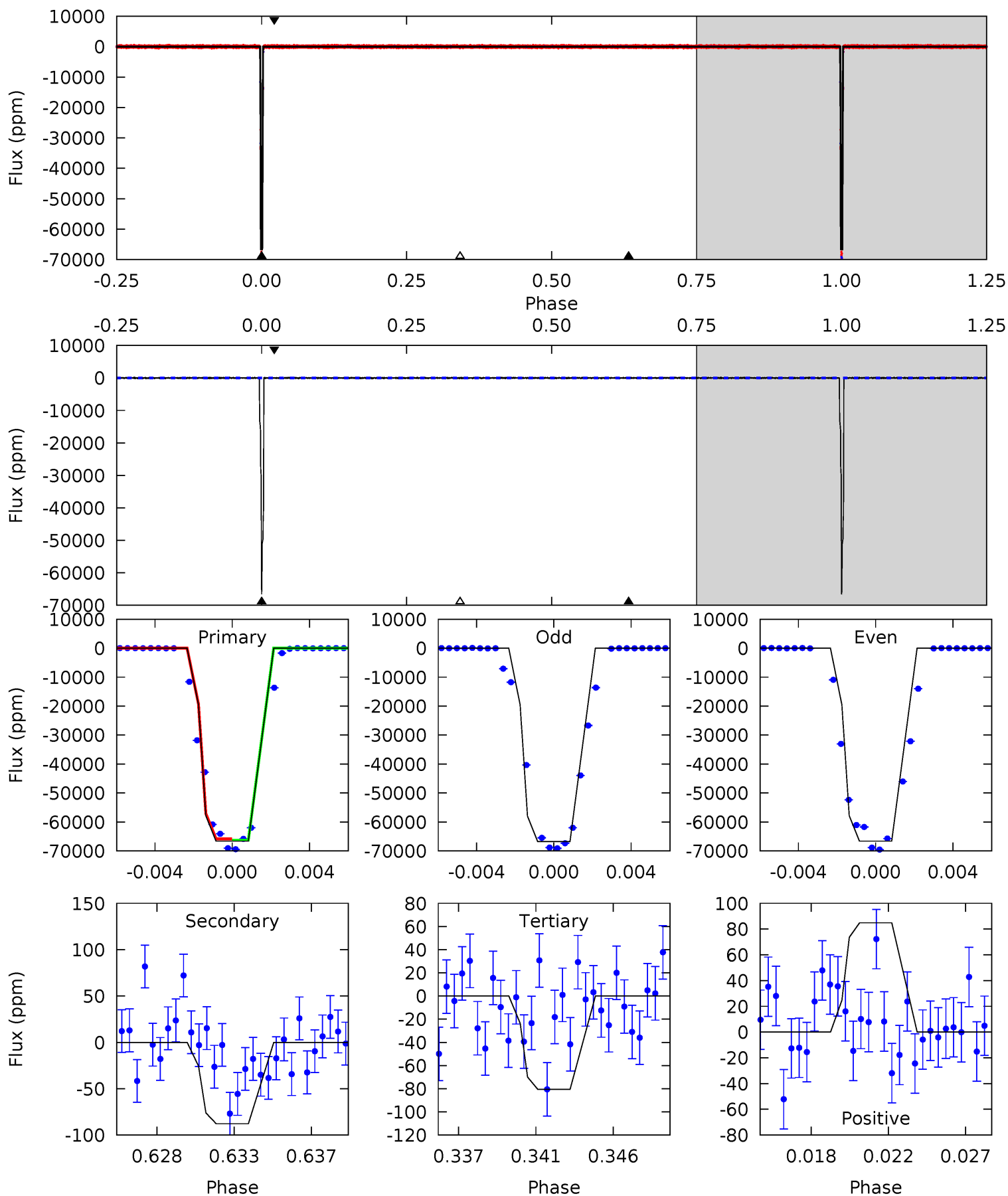
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7092	8.44	7.08	5.91	5.09	2.70	2.22	7085	7087	1.36	2.53	8.30	1.02	0.00	0



Alt Model-Shift Uniqueness Test

006146838-01, P = 27.467112 Days, E = 116.208014 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3095	4.08	3.75	3.94	5.18	2.84	1.09	3091	3091	0.33	0.14	4.63	1.01	0.00	0



Stellar Parameters For KIC 006146838

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5503^{+165}_{-148}	$4.536^{+0.105}_{-0.095}$	$-0.740^{+0.300}_{-0.300}$	$0.742^{+0.098}_{-0.081}$	$0.690^{+0.093}_{-0.029}$	$2.380^{+0.949}_{-0.679}$
	+3%/-3%	+2%/-2%	+41%/-41%	+13%/-11%	+13%/-4%	+40%/-29%
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 006146838-01 / KOI 6668.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-84 ± 10	$29.27^{+2.24}_{-2.07}$	735^{+32}_{-31}	1854^{+35}_{-38}	$1.372^{+0.269}_{-0.244}$
Alt.	-88 ± 22	$21.50^{+1.88}_{-1.56}$	736^{+33}_{-34}	2005^{+59}_{-65}	$2.665^{+0.778}_{-0.710}$

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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

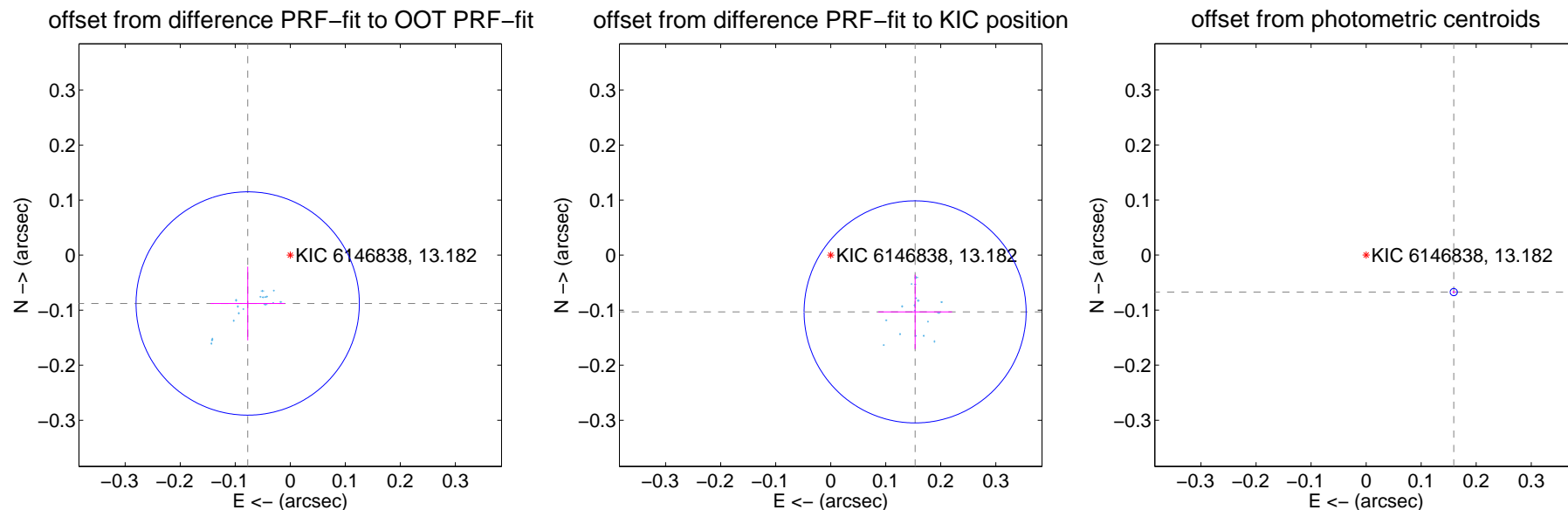
DV Centroid Data

Supplemental centroid analysis for 006146838-01. Kepler magnitude: 13.18. Transit SNR 3212.19

There are 17 quarters with good PRF difference image offsets

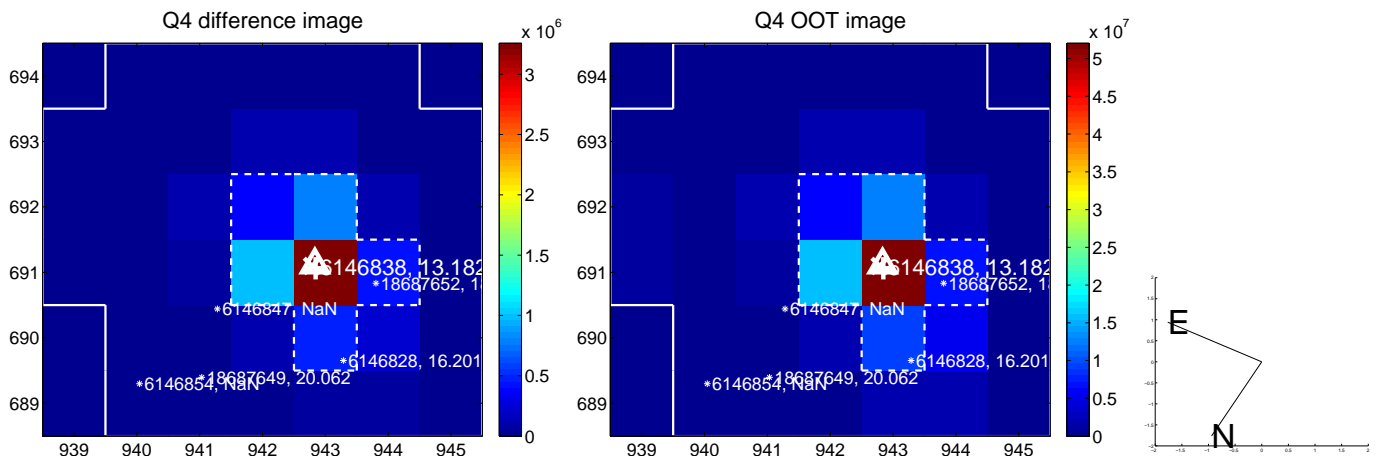
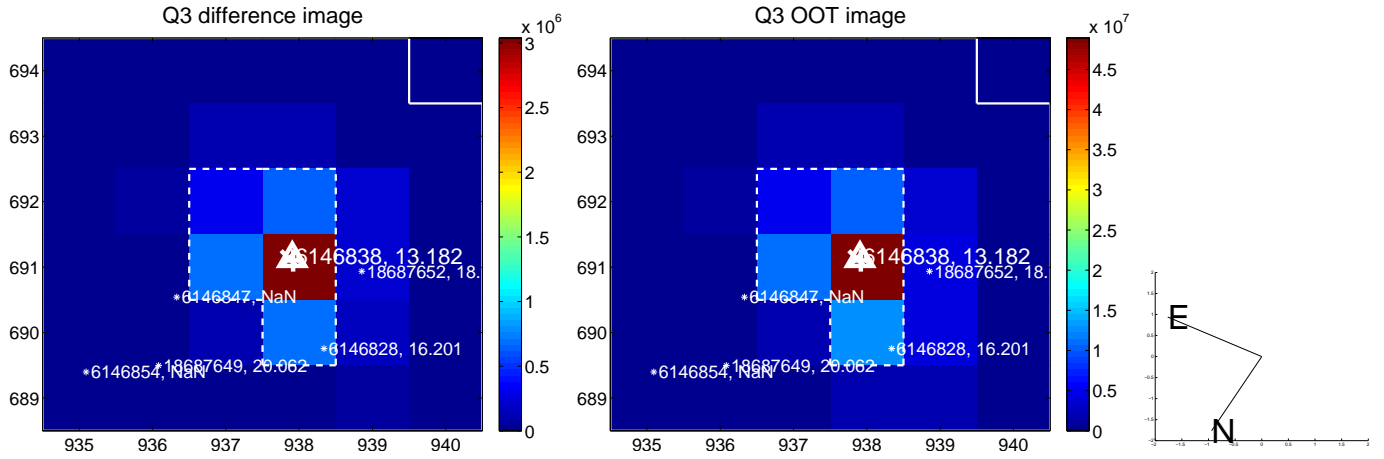
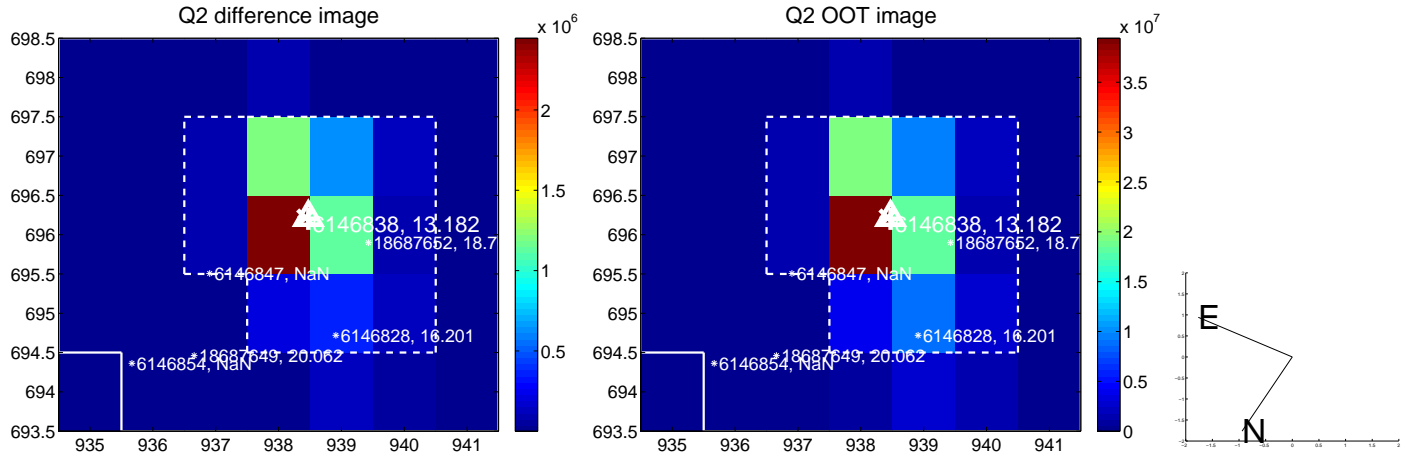
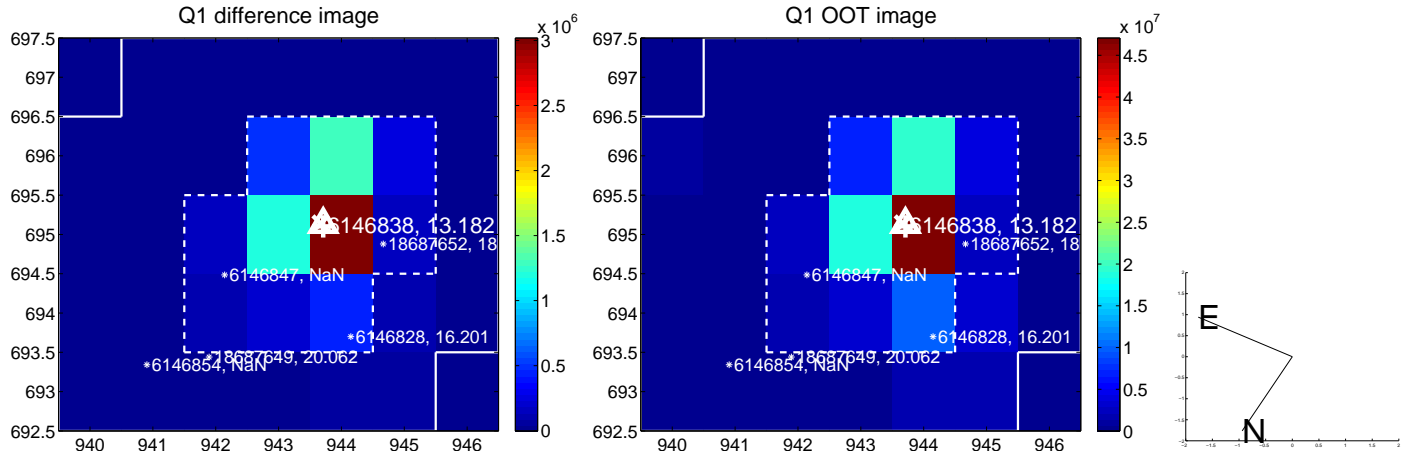
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.117 ± 0.068	1.73	0.077 ± 0.067	-0.088 ± 0.067
PRF-fit source offset from KIC position	0.185 ± 0.067	2.75	-0.153 ± 0.067	-0.103 ± 0.068
photometric centroid source offset	0.17 ± 0.00	79.07	-0.16 ± 0.00	-0.07 ± 0.00

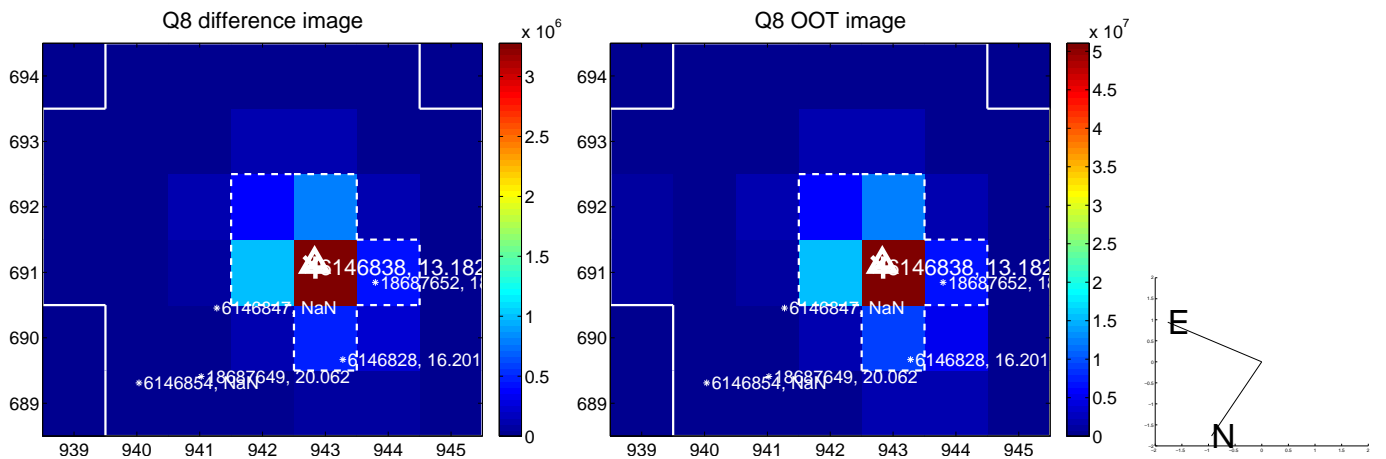
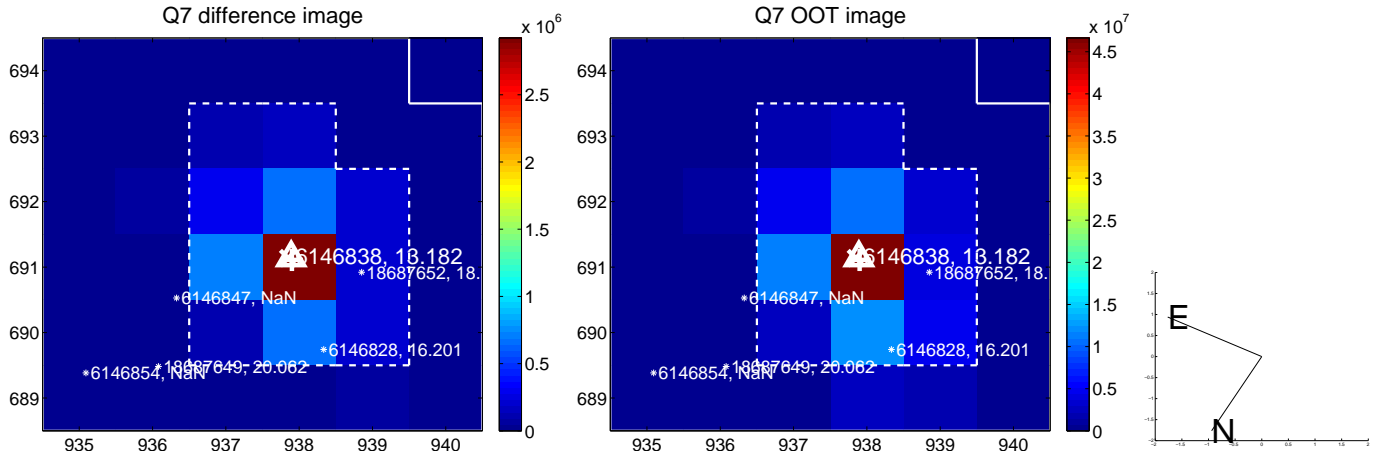
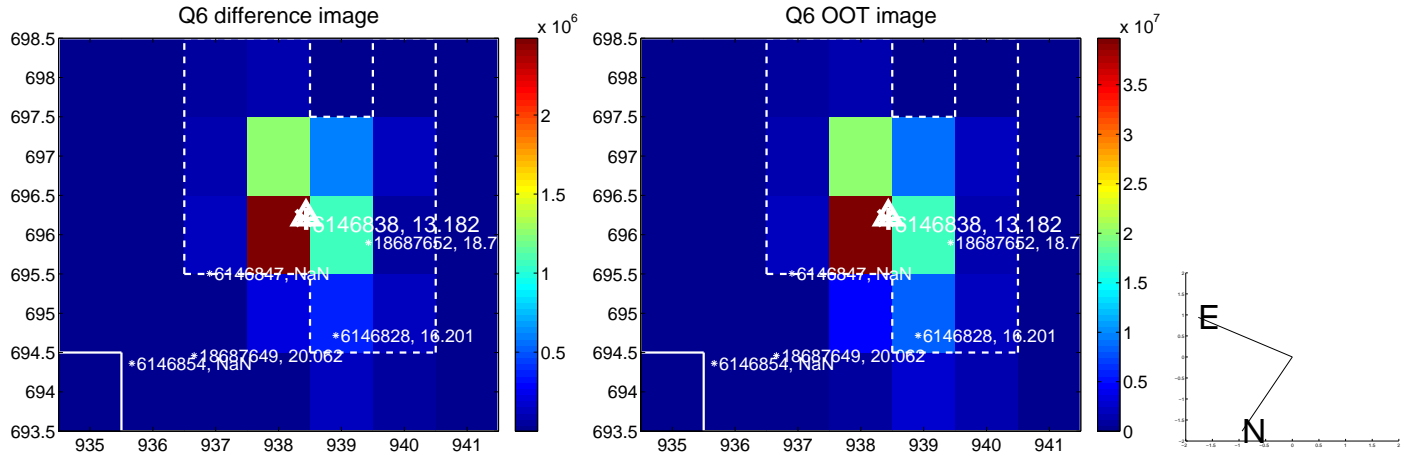
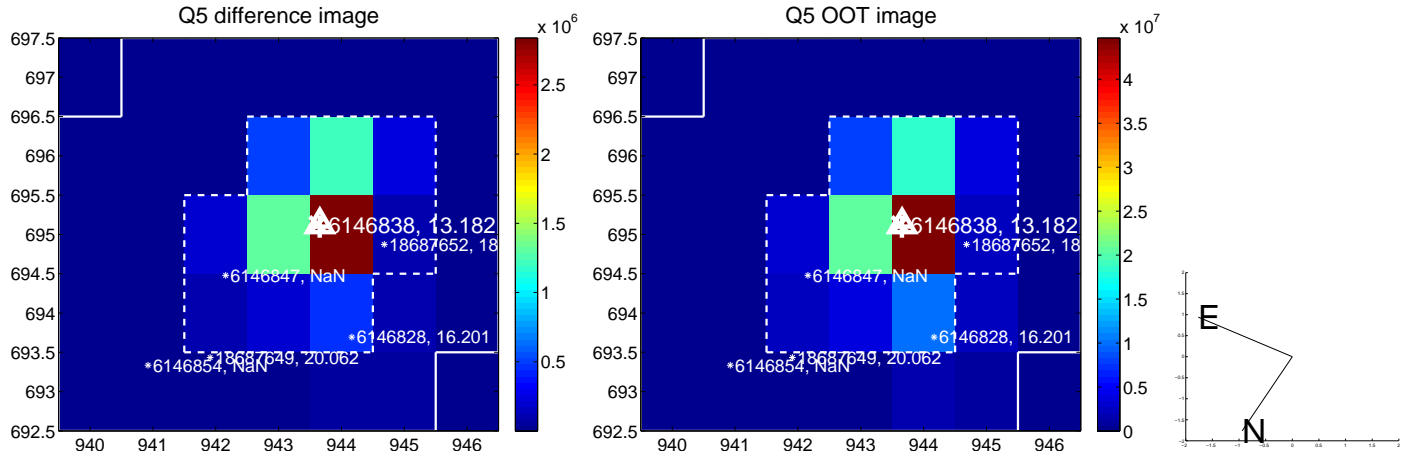


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

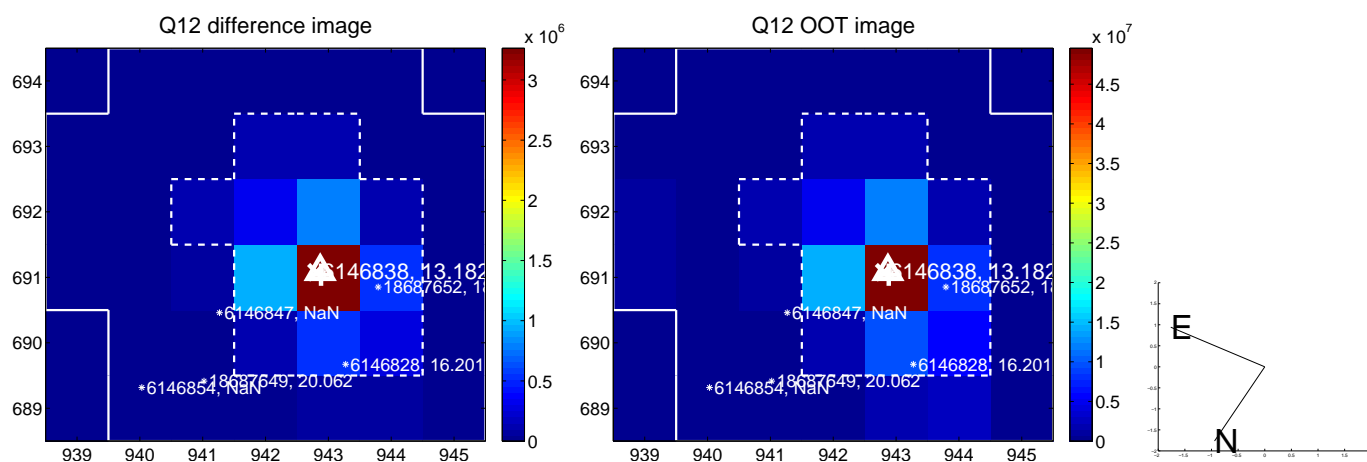
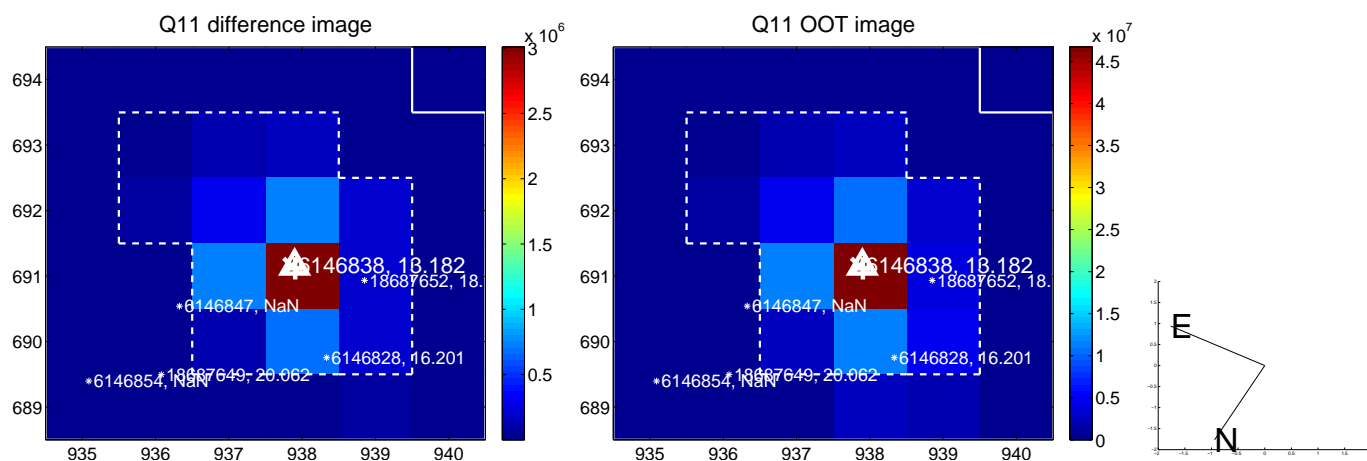
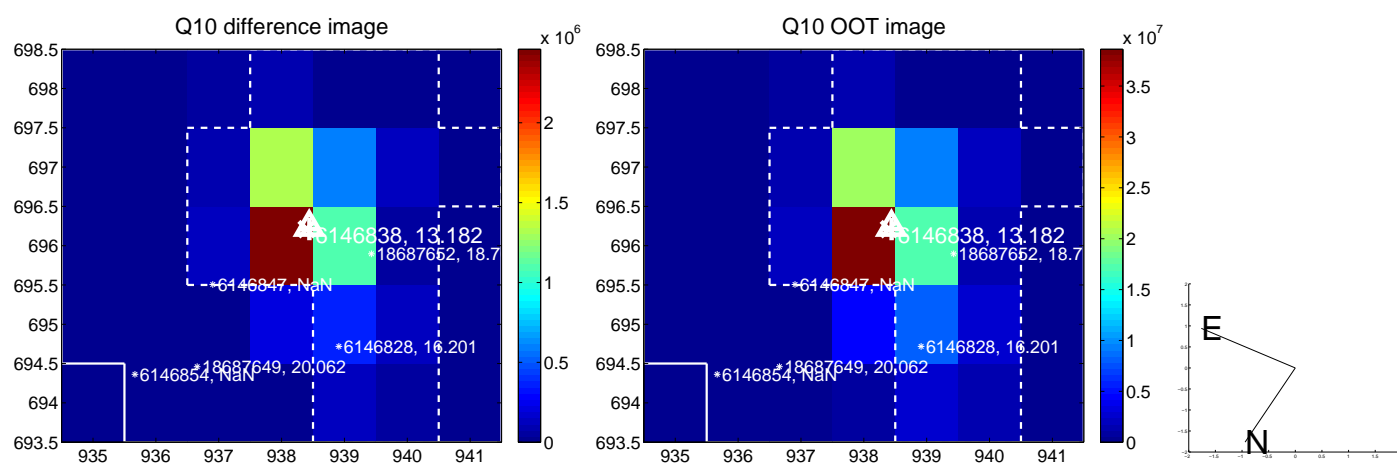
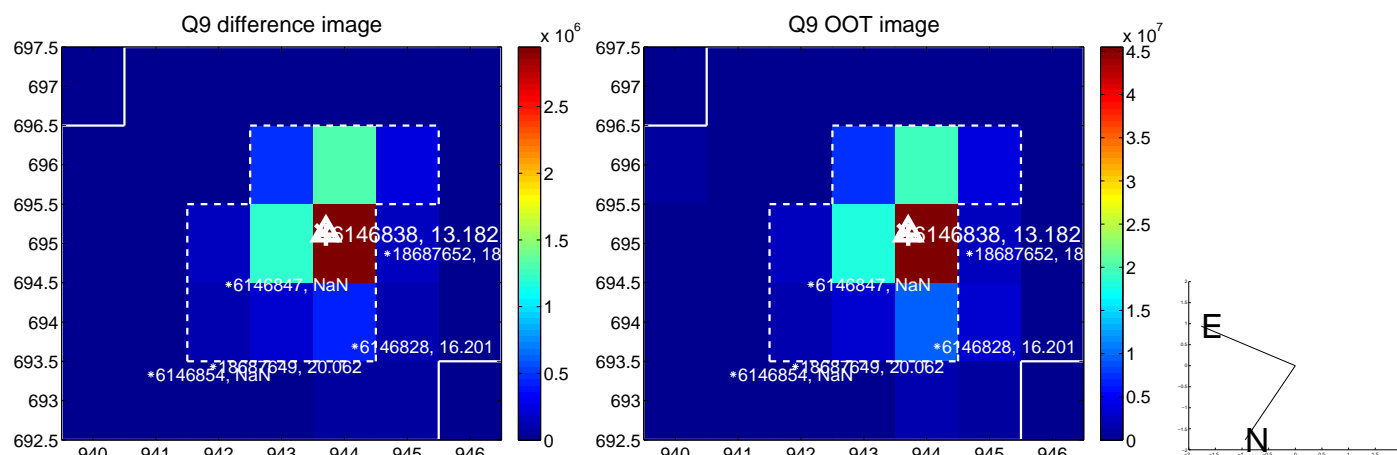
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



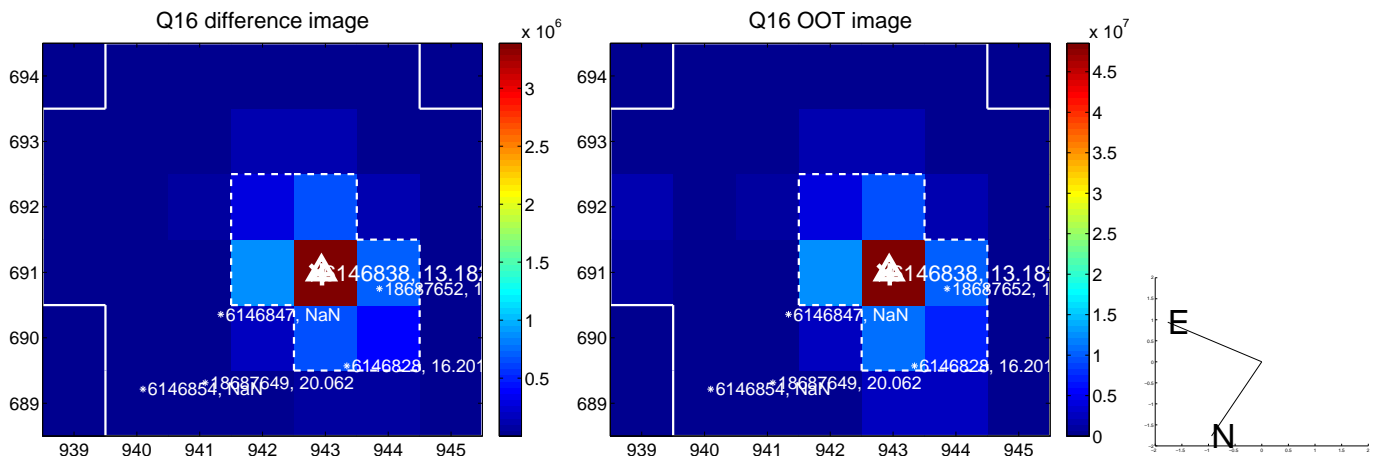
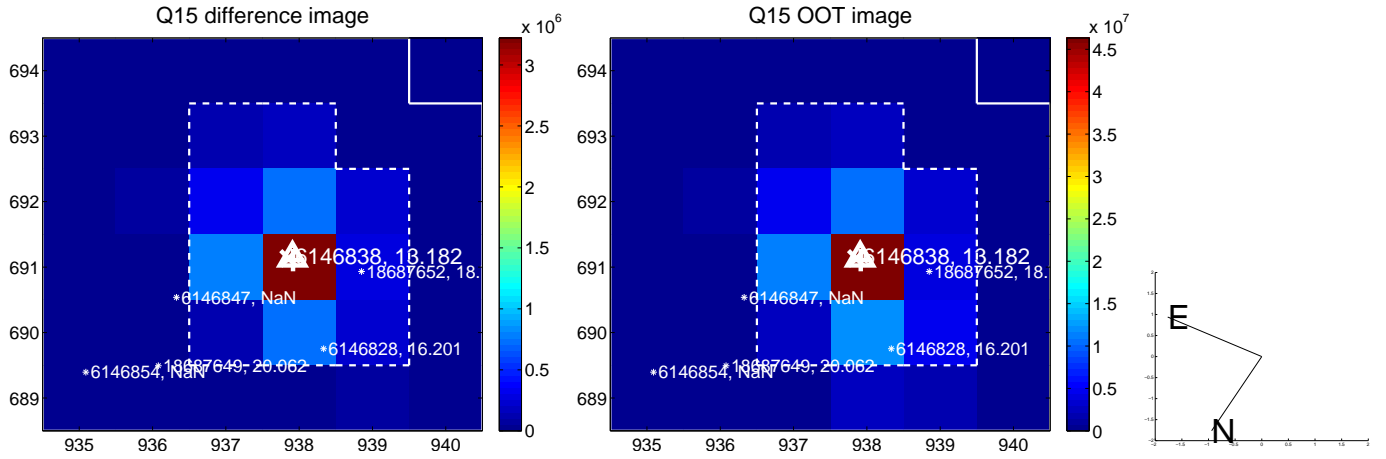
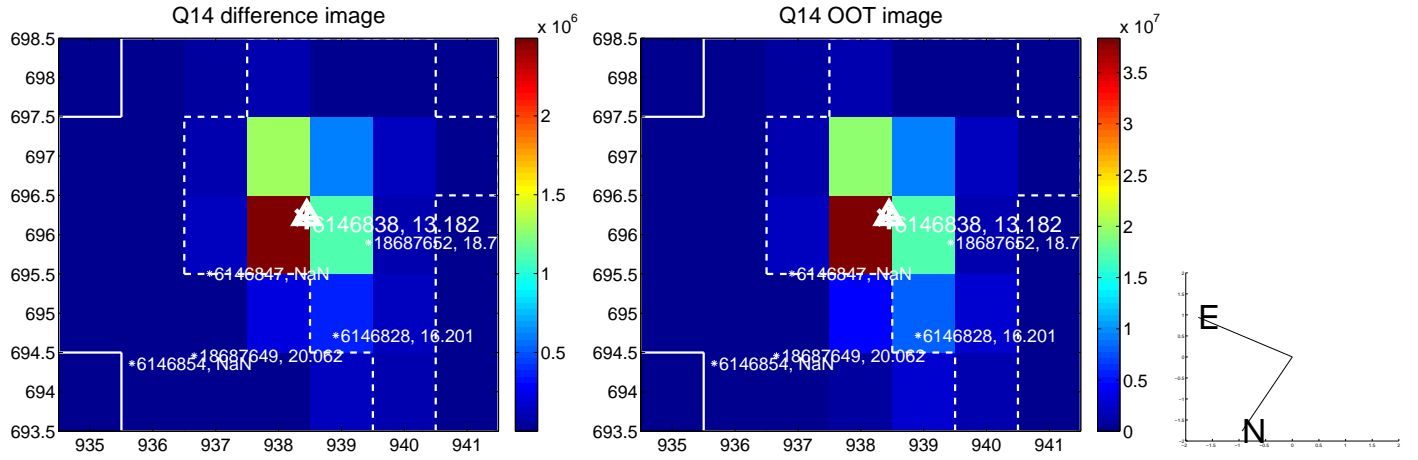
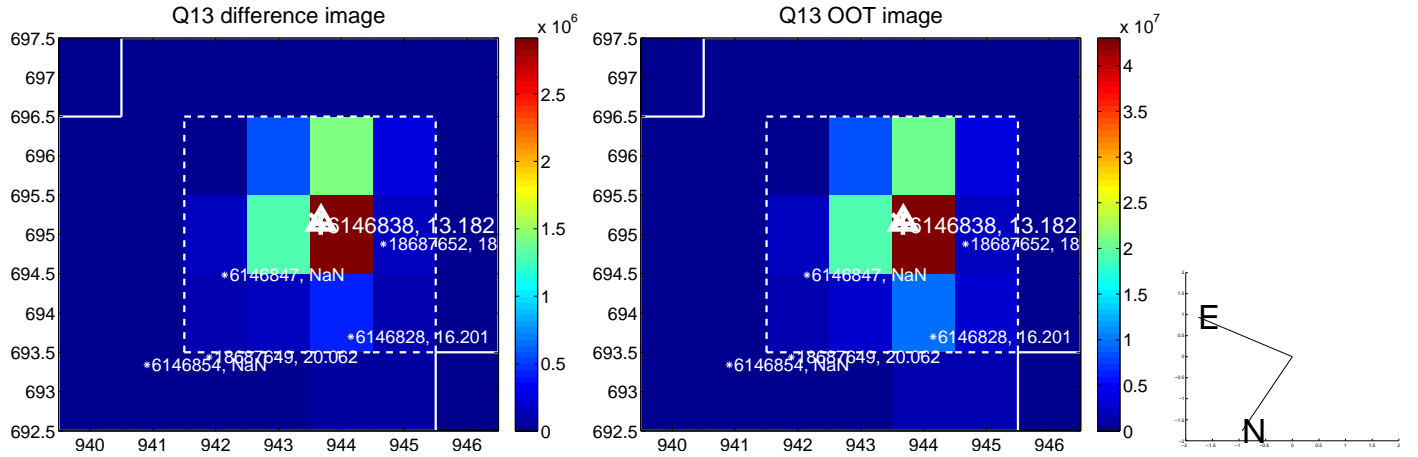
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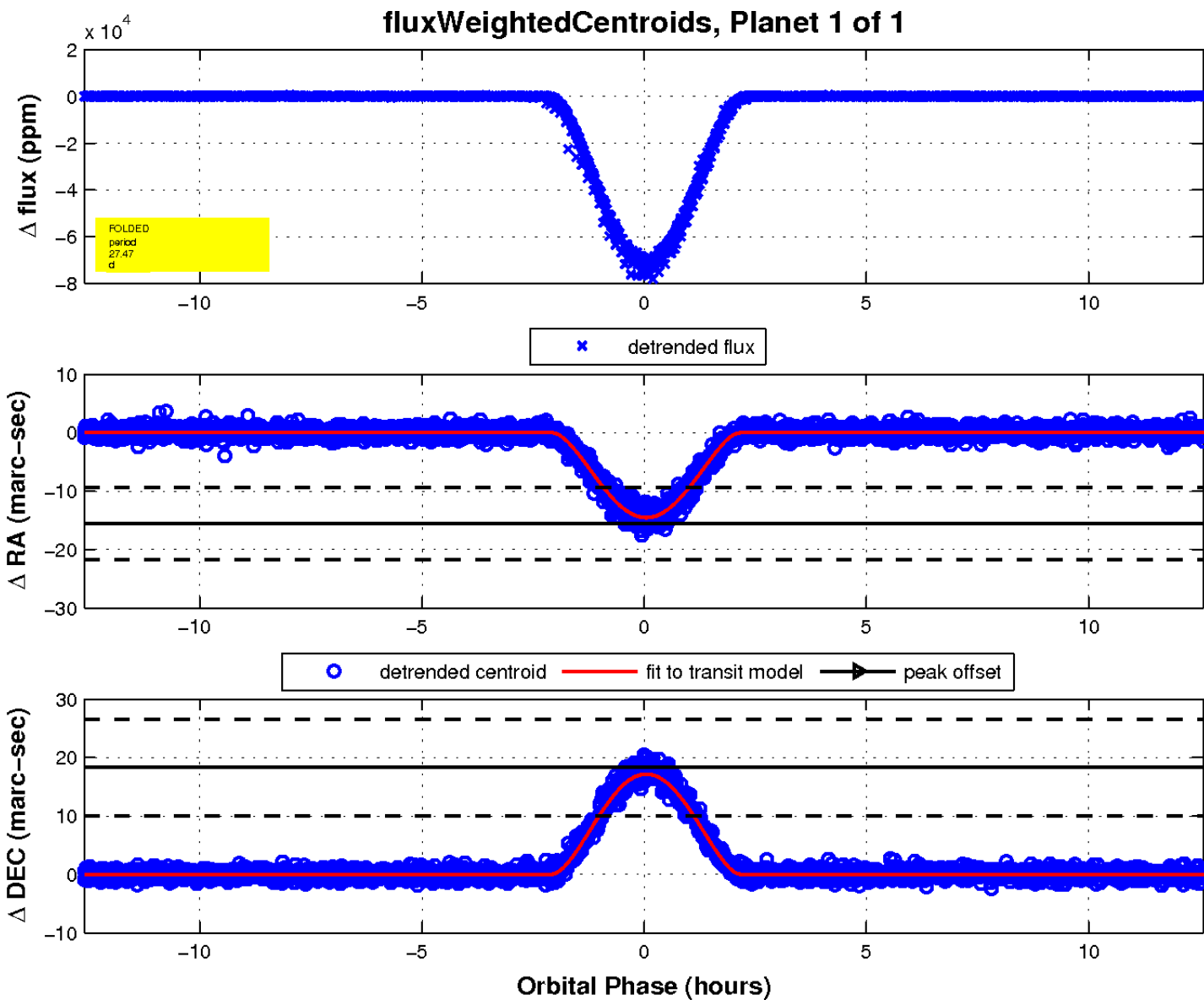
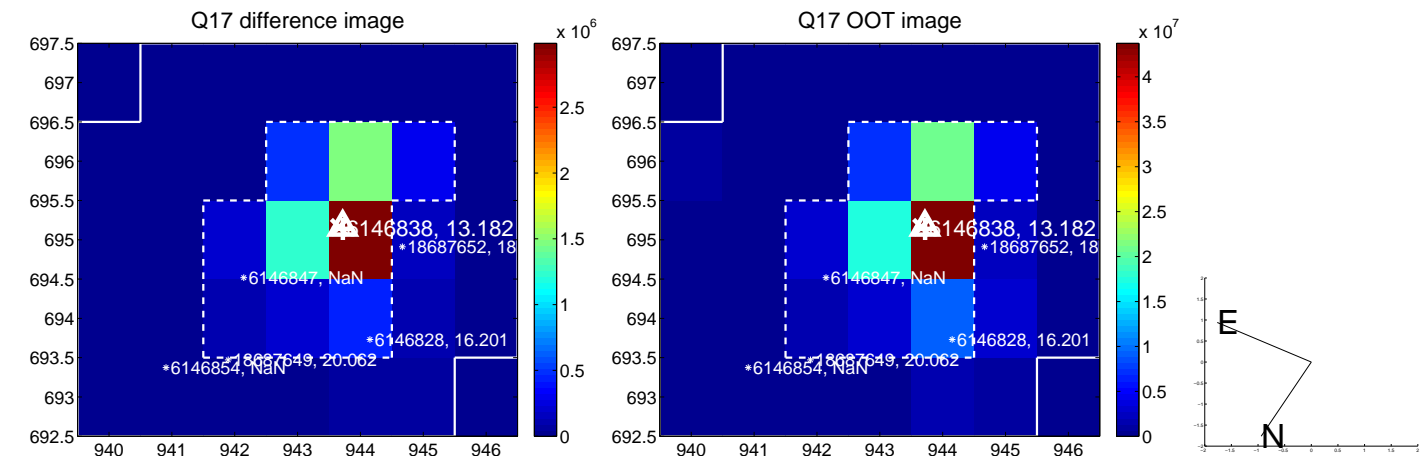
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

