

KIC 004840327

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})
004840327-01	OBS	5093.01	26.737139	146.847228	53471.3	4.691	5081.1	4691.7	1.16	5794	29.32	43.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004840327-01	OBS	FP	0.00	0	1	0	0	MOD_ODDEVEN_ALT

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 004840327-01

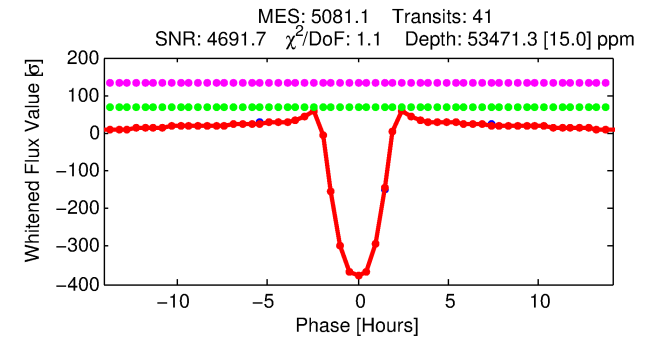
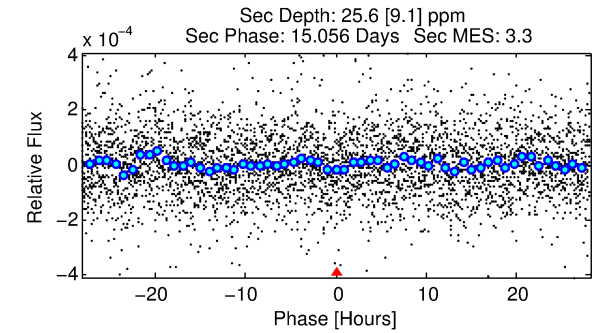
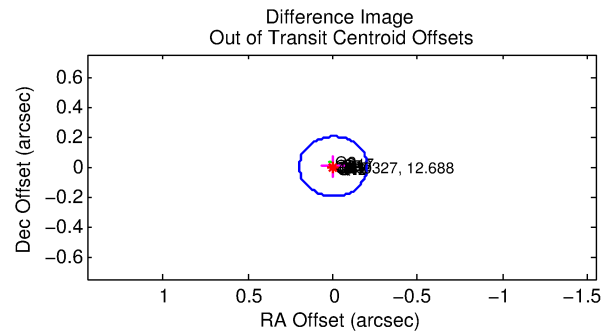
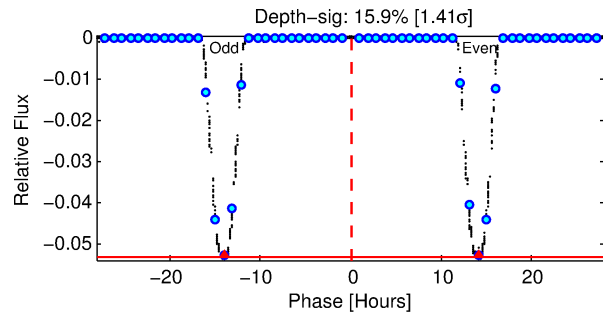
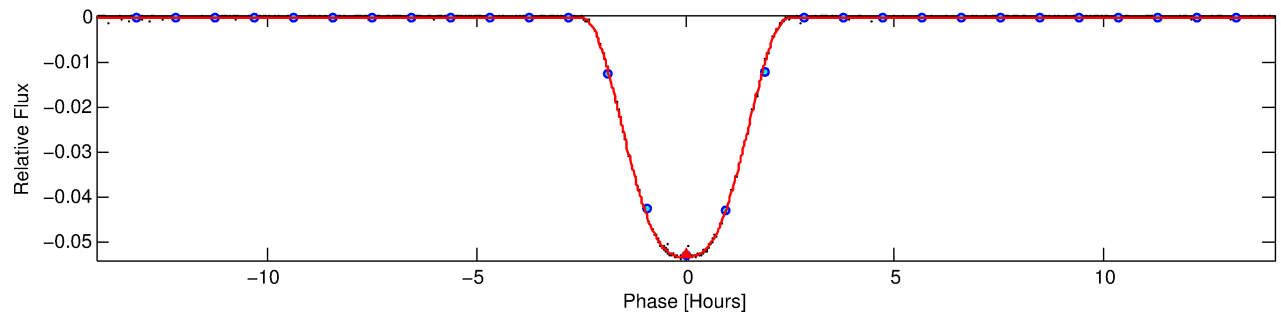
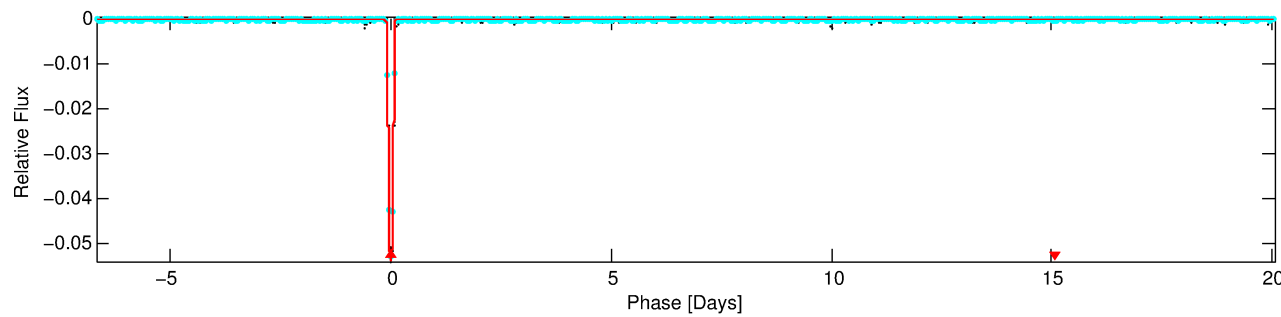
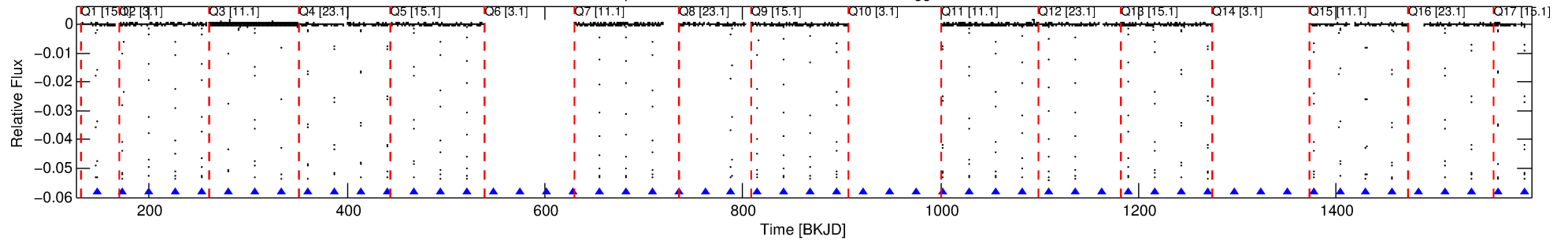
No Significant Match Found

DV One-Page Summary

KIC: 4840327 Candidate: 1 of 1 Period: 26.737 d

KOI: K05093.01 Corr: 0.997

Kp: 12.69 R*: 1.16 Rs Teff: 5794.0 K Logg: 4.32 Fe/H: 0.100



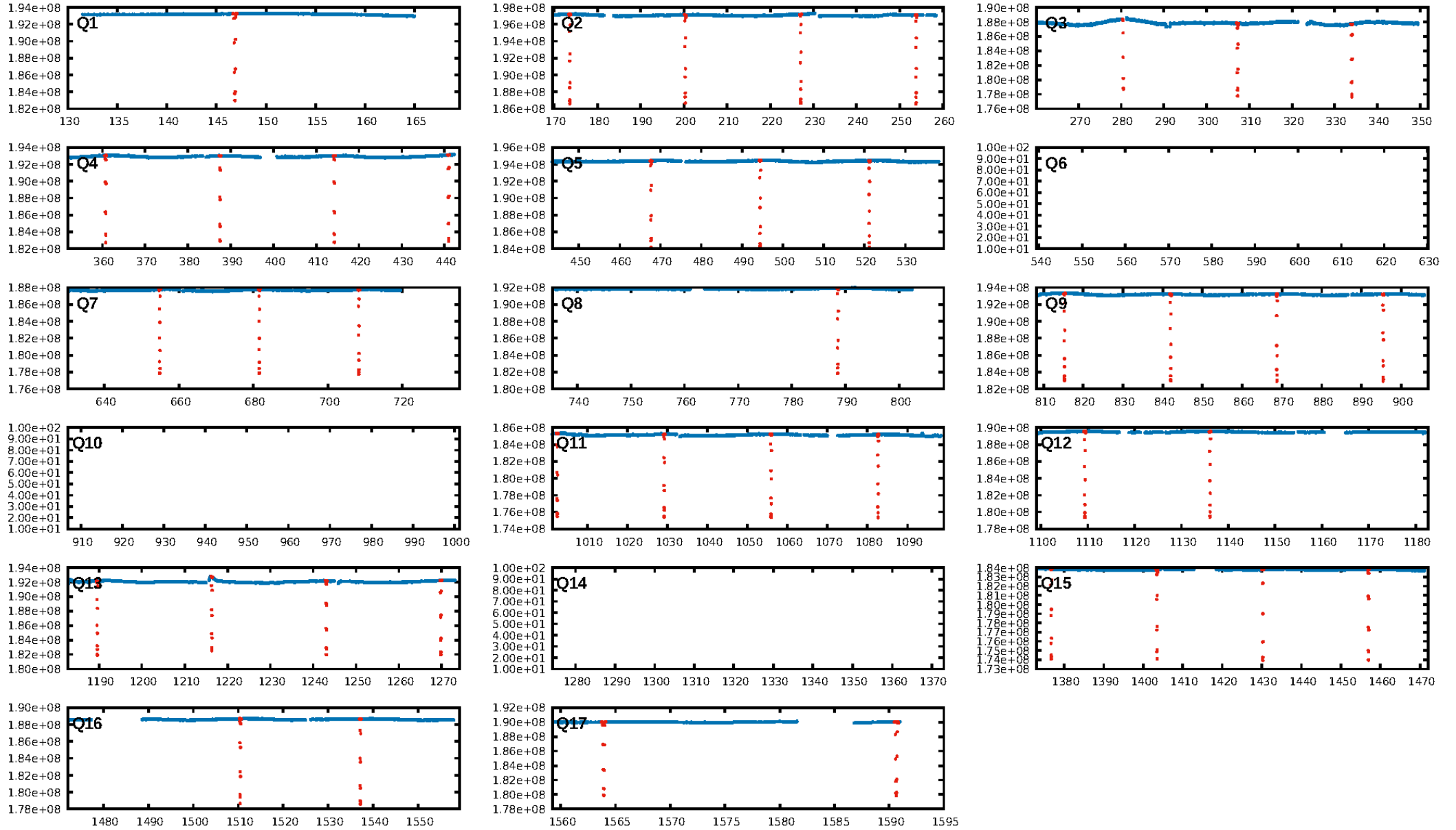
DV Fit Results:

Period = 26.73714 [0.00000] d
Epoch = 146.8472 [0.0000] BKJD
Rp/R* = 0.2326 [0.0001]
a/R* = 43.02 [0.01]
b = 0.74 [0.00]
Seff = 43.69 [9.39]
Teq = 656 [35] K
Rp = 29.32 [4.70] Re
a = 0.1756 [0.0243] AU
Ag = 0.50 [0.21] [-2.38σ]
Teffp = 854 [77] K [2.35σ]

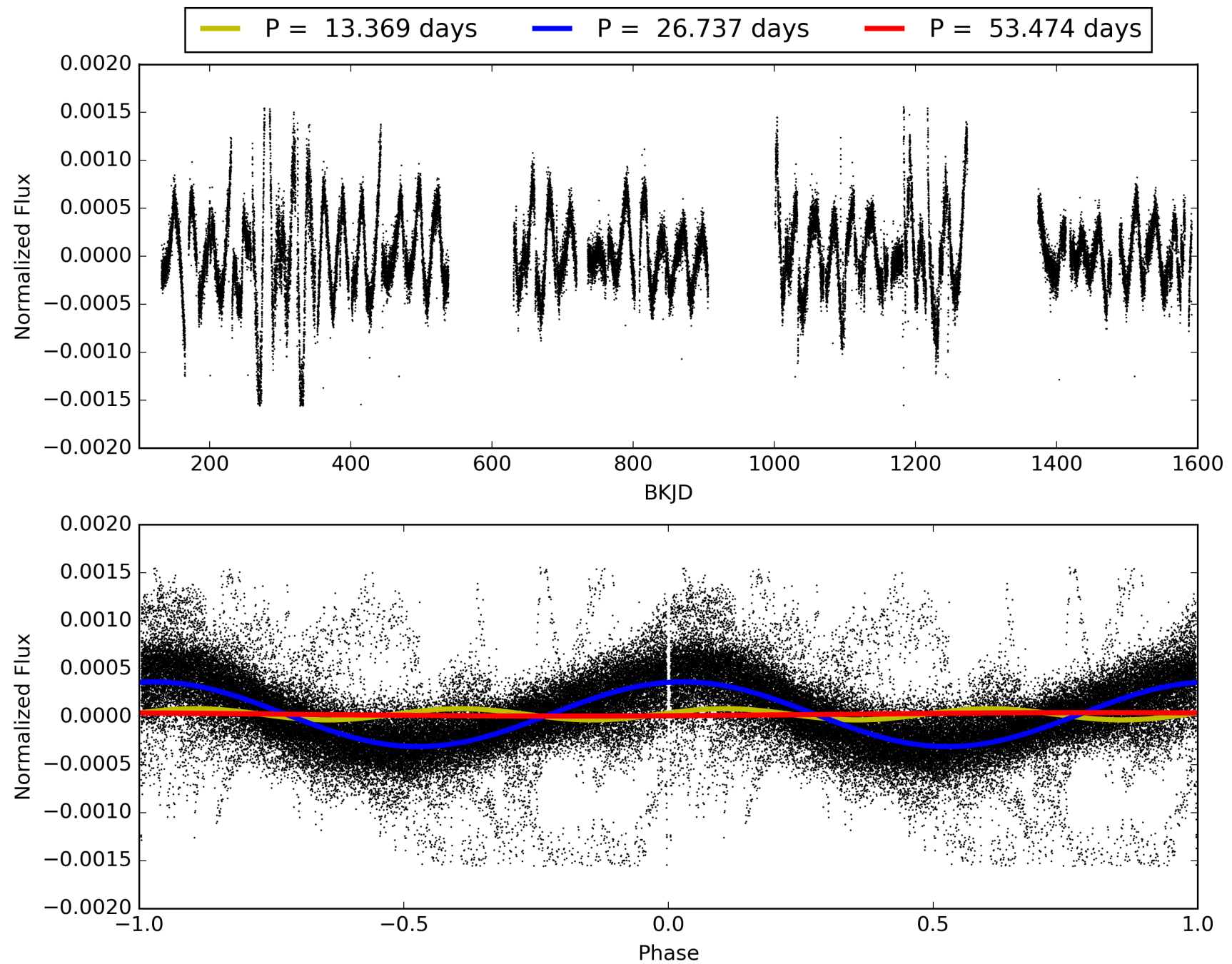
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [38/38]
GhostDiagnostic-chr: 8.255
Centroid-sig: 0.0%
Centroid-so: 0.197 arcsec [117.29σ]
OotOffset-rm: 0.002 arcsec [0.03σ]
KicOffset-rm: 0.180 arcsec [2.65σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 004840327-01, PDC Light Curves

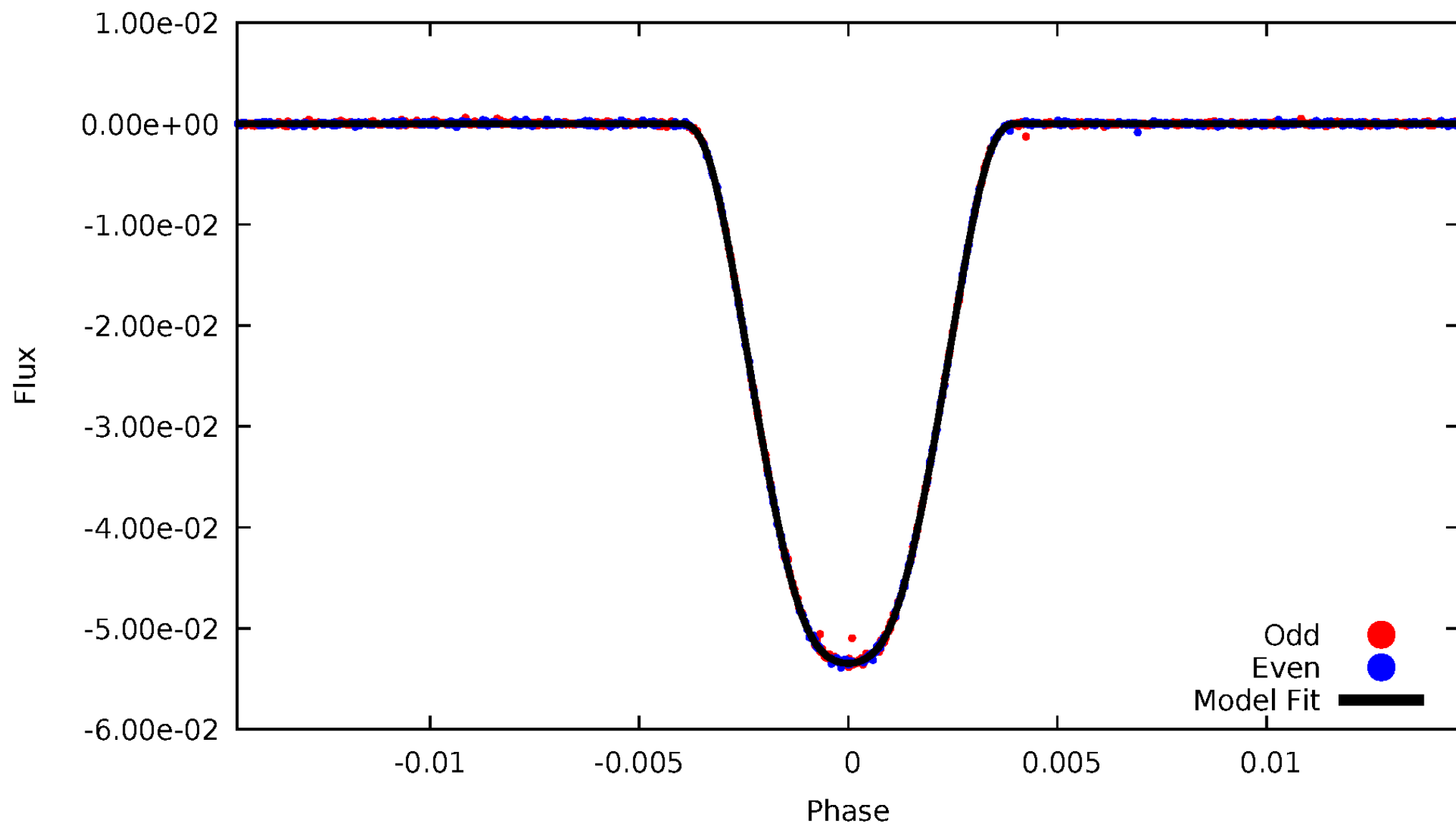


TCE 004840327-01



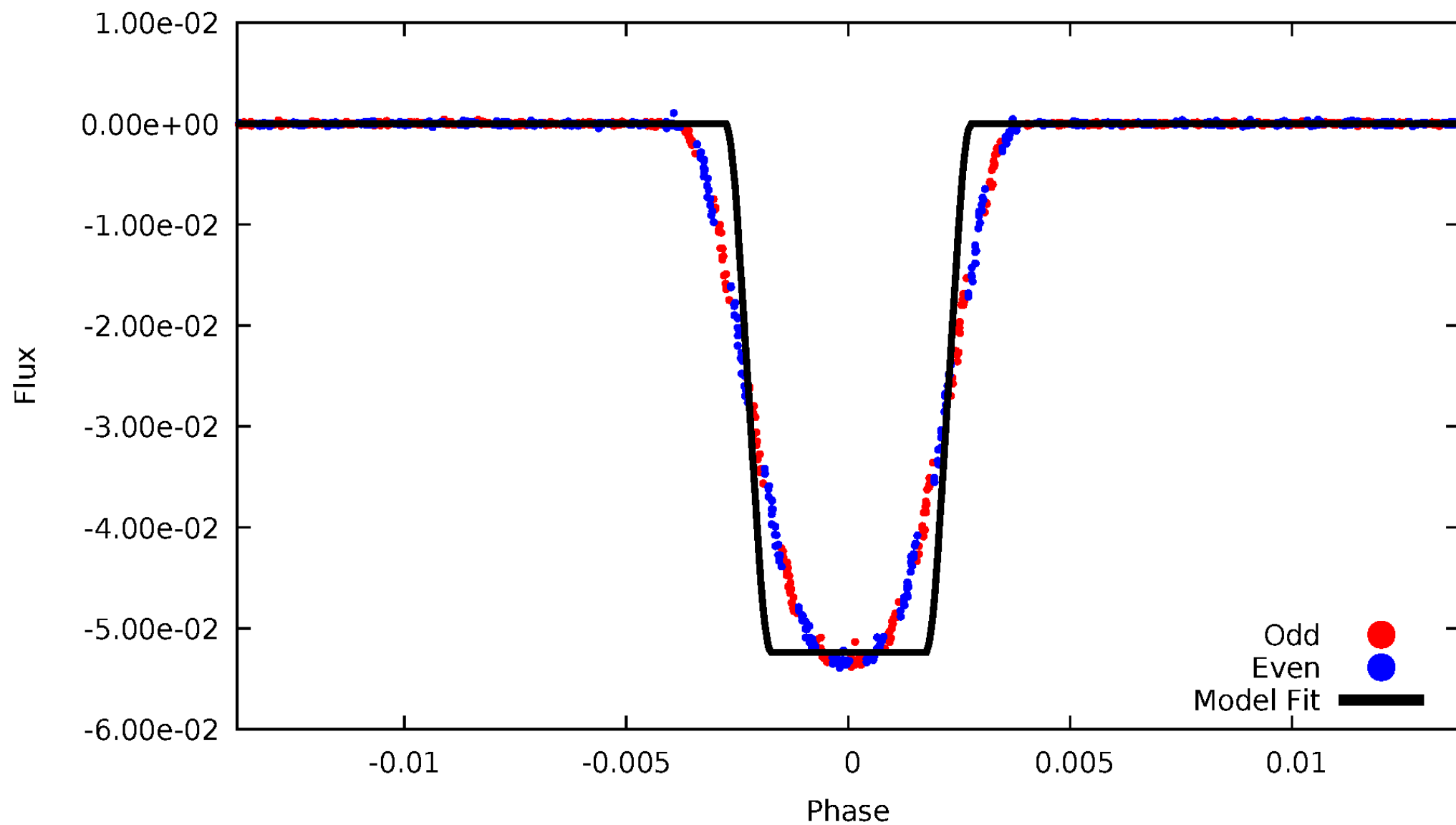
DV Odd/Even

TCE 004840327-01



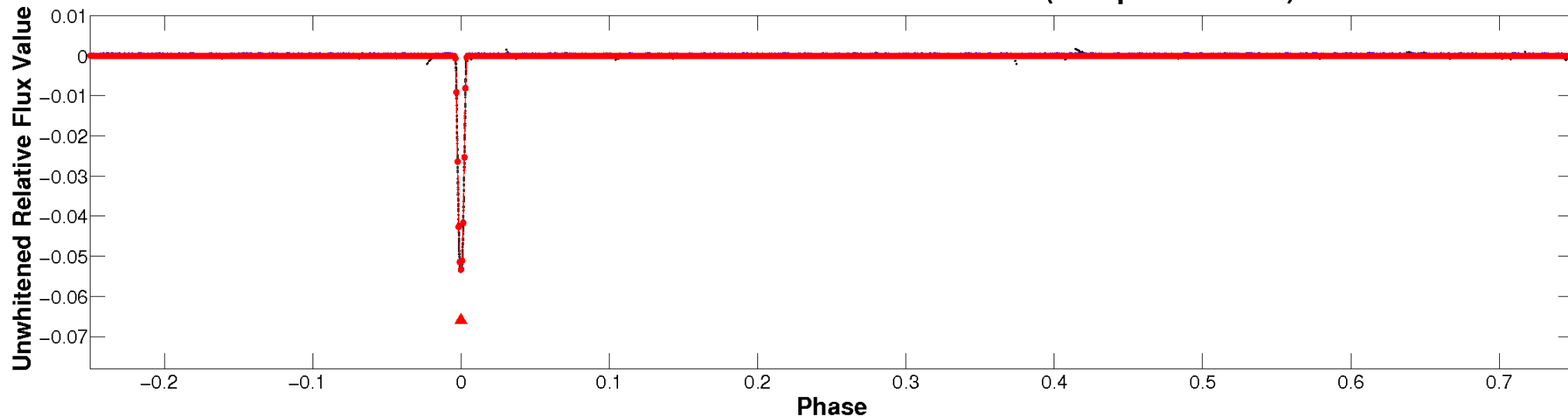
ALT Odd/Even

TCE 004840327-01

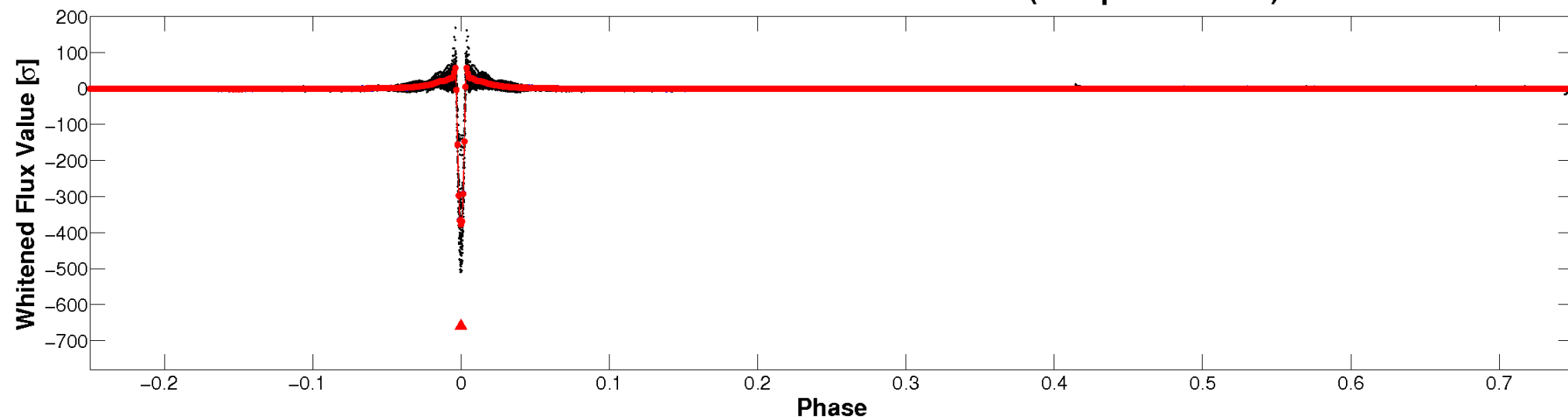


Non-Whitened Vs. Whitened Light Curve

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

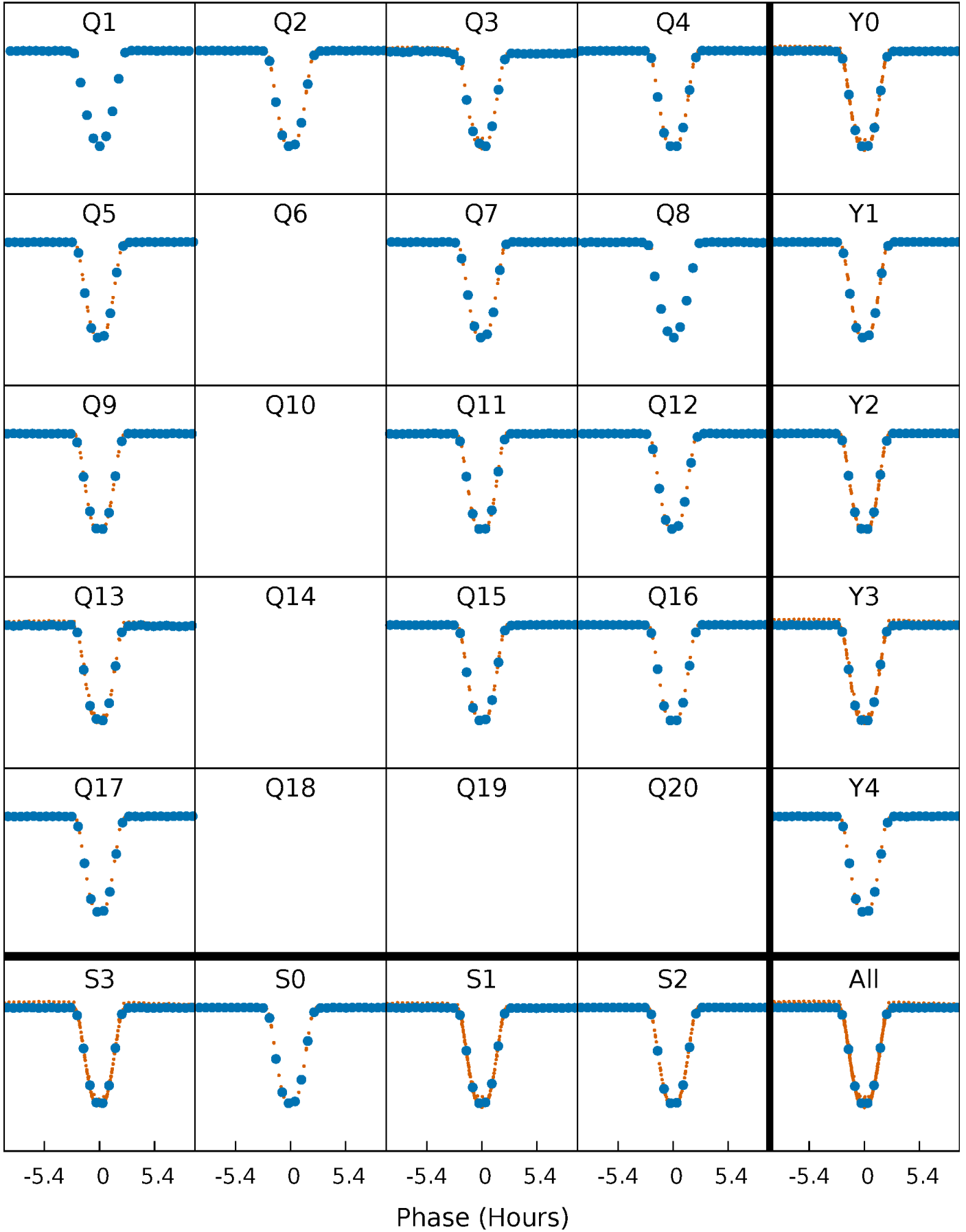


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



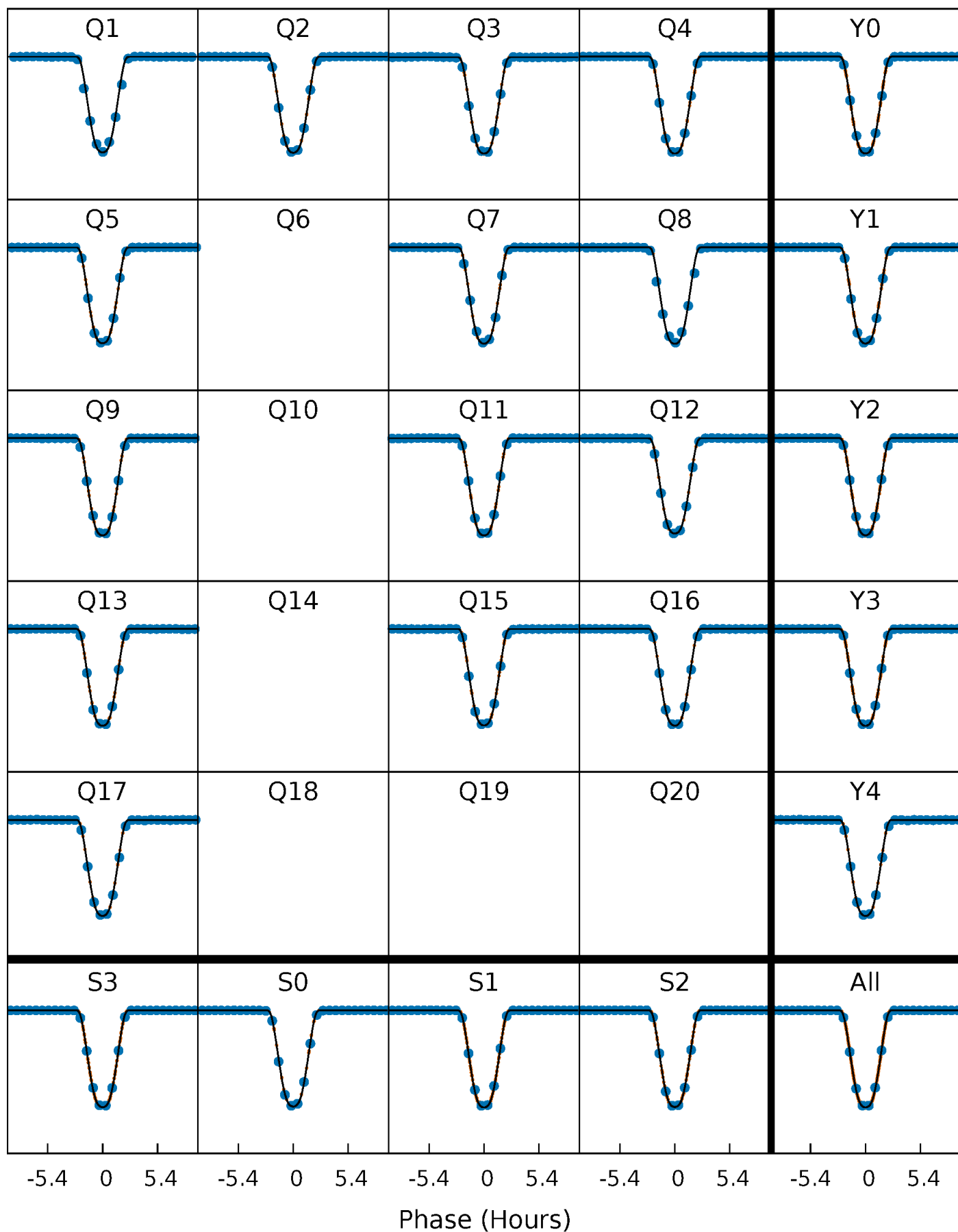
PDC Quarter-Phased Transit Curves

TCE 004840327-01 P= 26.737139 Days $T_0=146.847228$ (BKJD)



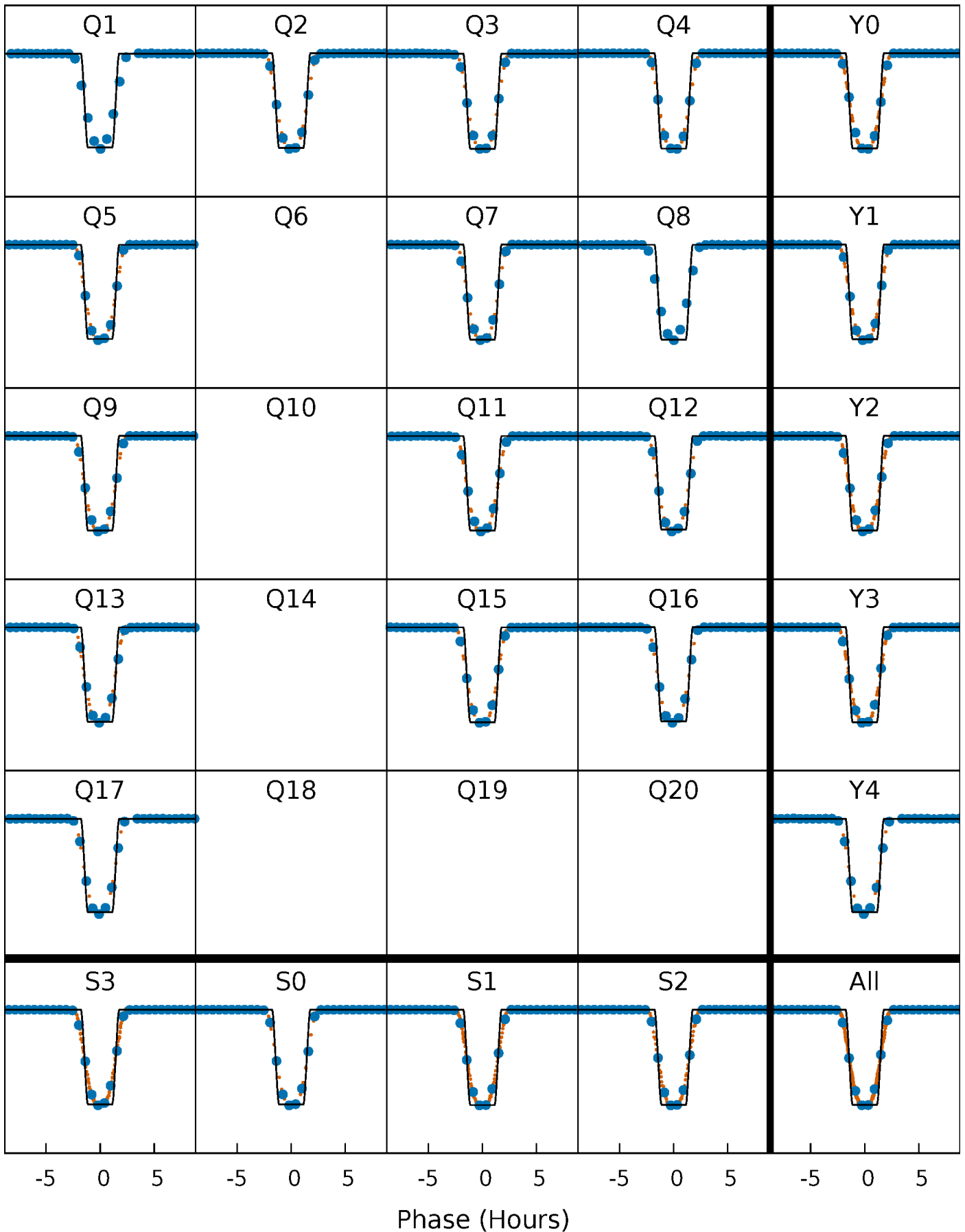
DV Quarter-Phased Transit Curves

TCE 004840327-01 P= 26.737139 Days $T_0=146.847228$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

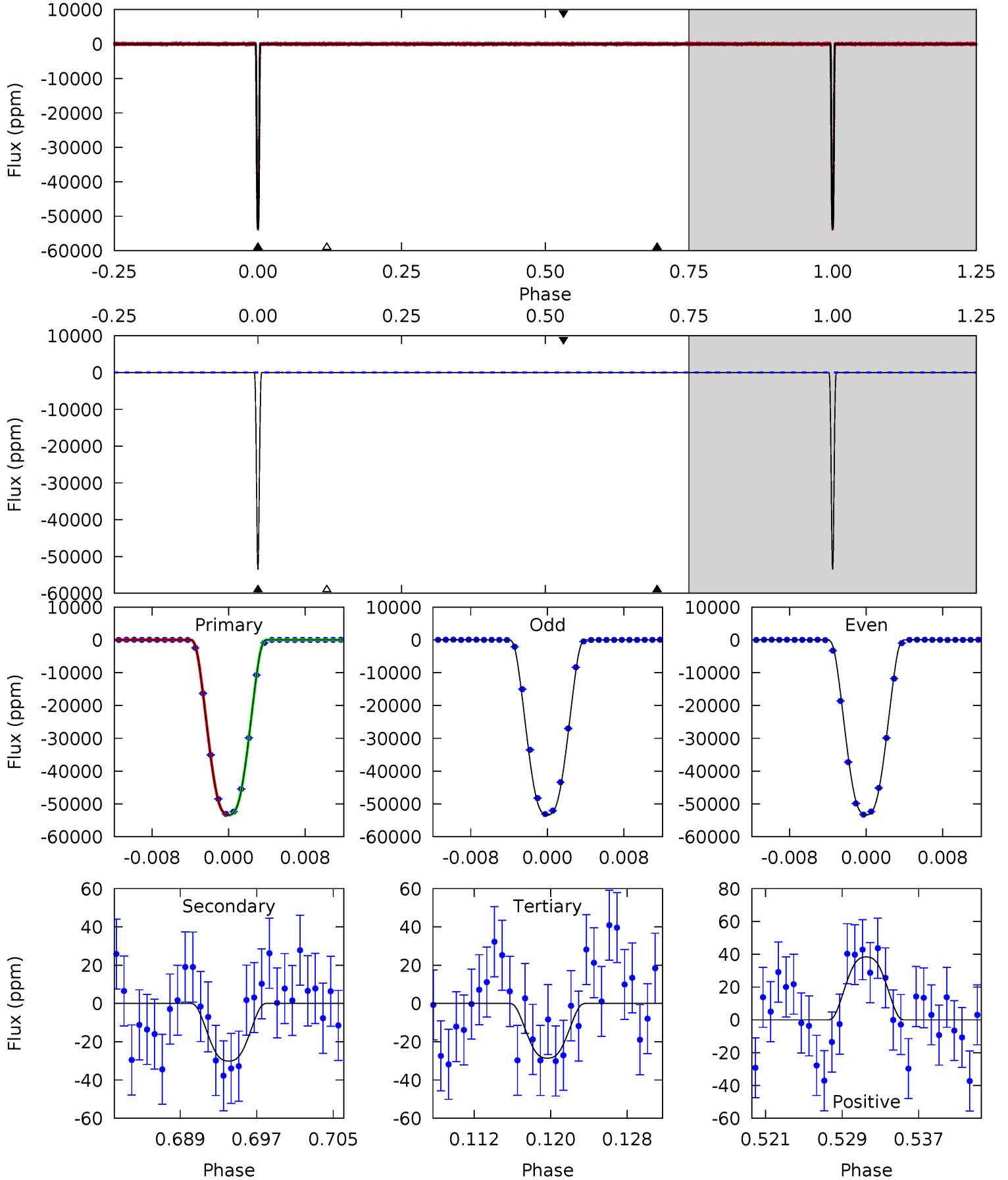
TCE 004840327-01 P= 26.737215 Days $T_0=146.845198$ (BKJD)



DV Model-Shift Uniqueness Test

004840327-01, P = 26.737139 Days, E = 120.110089 Days

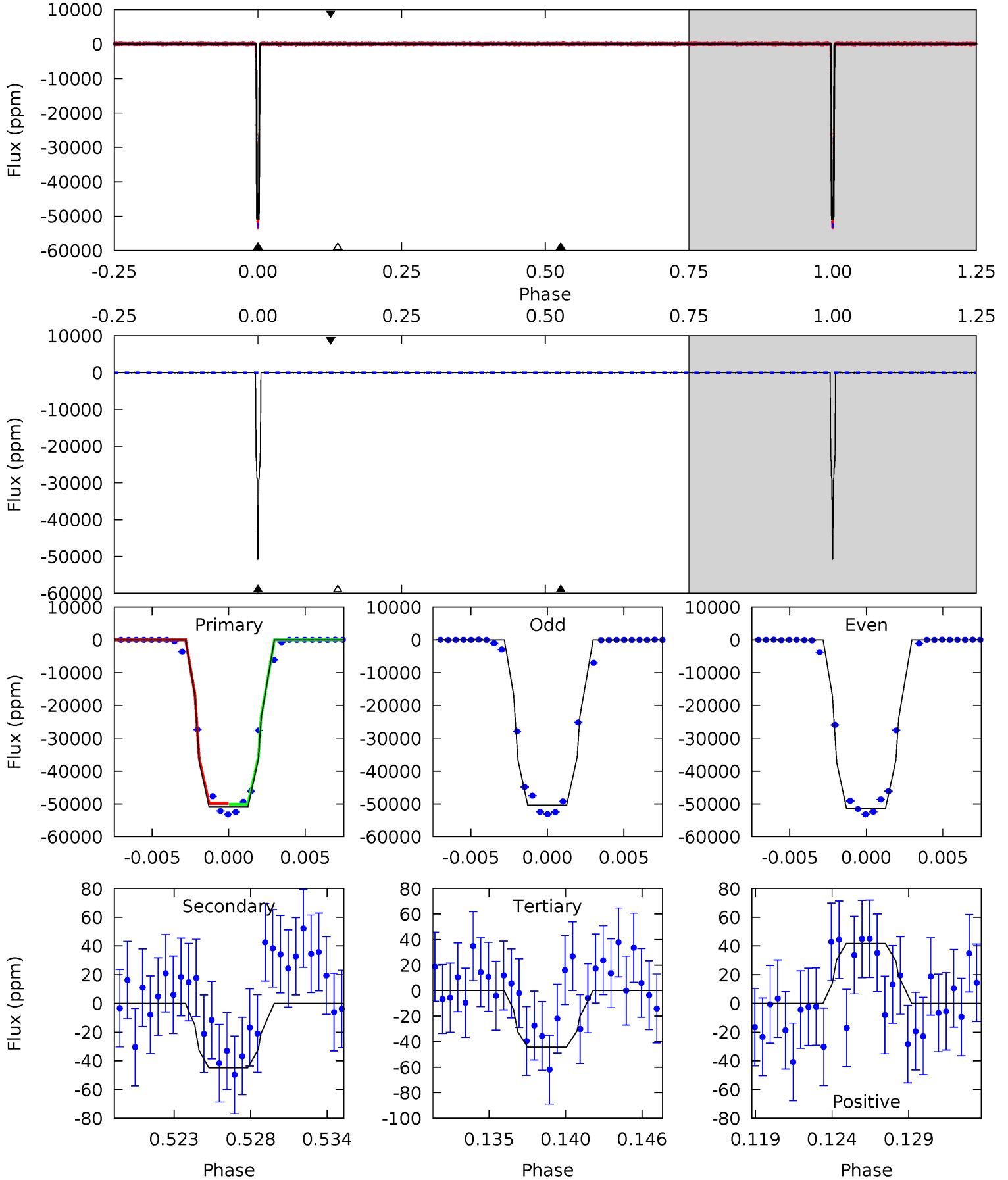
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9631	5.42	5.16	6.91	5.07	2.65	1.87	9626	9624	0.27	-1.49	2.47	1.00	0.00	1.93



Alt Model-Shift Uniqueness Test

004840327-01, P = 26.737215 Days, E = 120.107983 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5125	4.52	4.45	4.21	5.14	2.78	1.18	5120	5121	0.07	0.31	53.5	1.00	0.00	9.93



Stellar Parameters For KIC 004840327

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5794^{+78}_{-87}	$4.317^{+0.115}_{-0.115}$	$0.100^{+0.150}_{-0.150}$	$1.155^{+0.185}_{-0.151}$	$1.009^{+0.075}_{-0.063}$	$0.922^{+0.492}_{-0.321}$
	+1%/-2%	+3%/-3%	+150%/-150%	+16%/-13%	+7%/-6%	+53%/-35%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 004840327-01 / KOI 5093.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-30 ± 6	$29.30^{+2.81}_{-2.16}$	916^{+40}_{-38}	1784^{+60}_{-92}	$0.586^{+0.158}_{-0.137}$
Alt.	-45 ± 10	$28.81^{+2.55}_{-2.02}$	916^{+40}_{-36}	1915^{+58}_{-77}	$0.902^{+0.286}_{-0.227}$

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 $A_{obs} \gg 1.0$

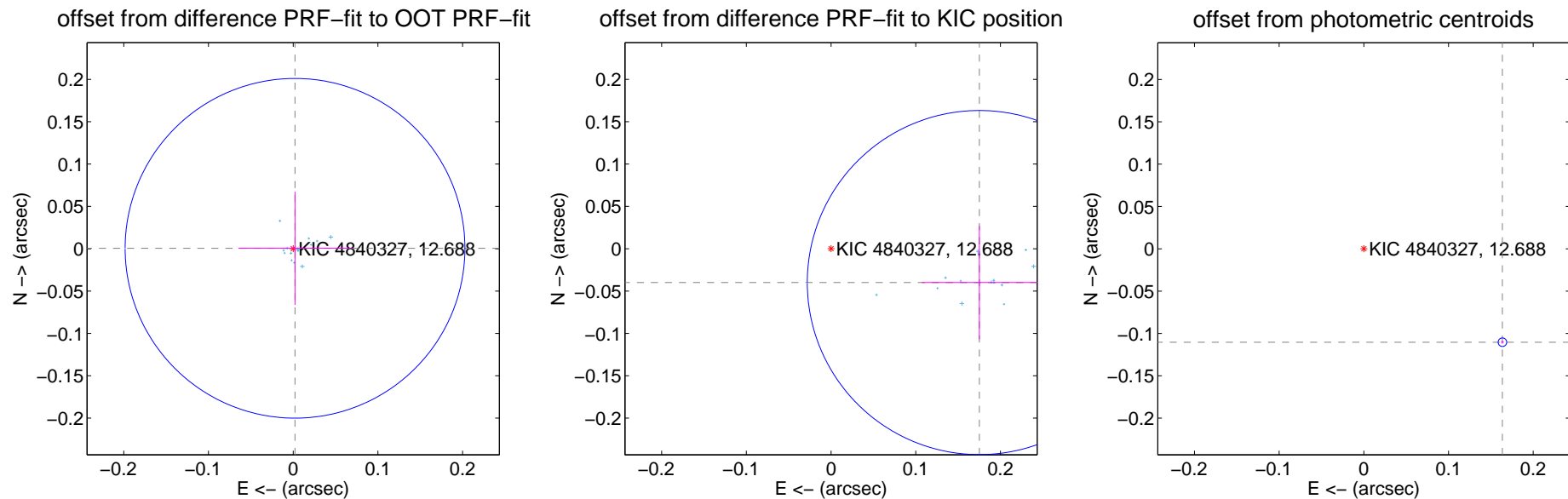
DV Centroid Data

Supplemental centroid analysis for 004840327-01. Kepler magnitude: 12.69. Transit SNR 4691.68

There are 14 quarters with good PRF difference image offsets

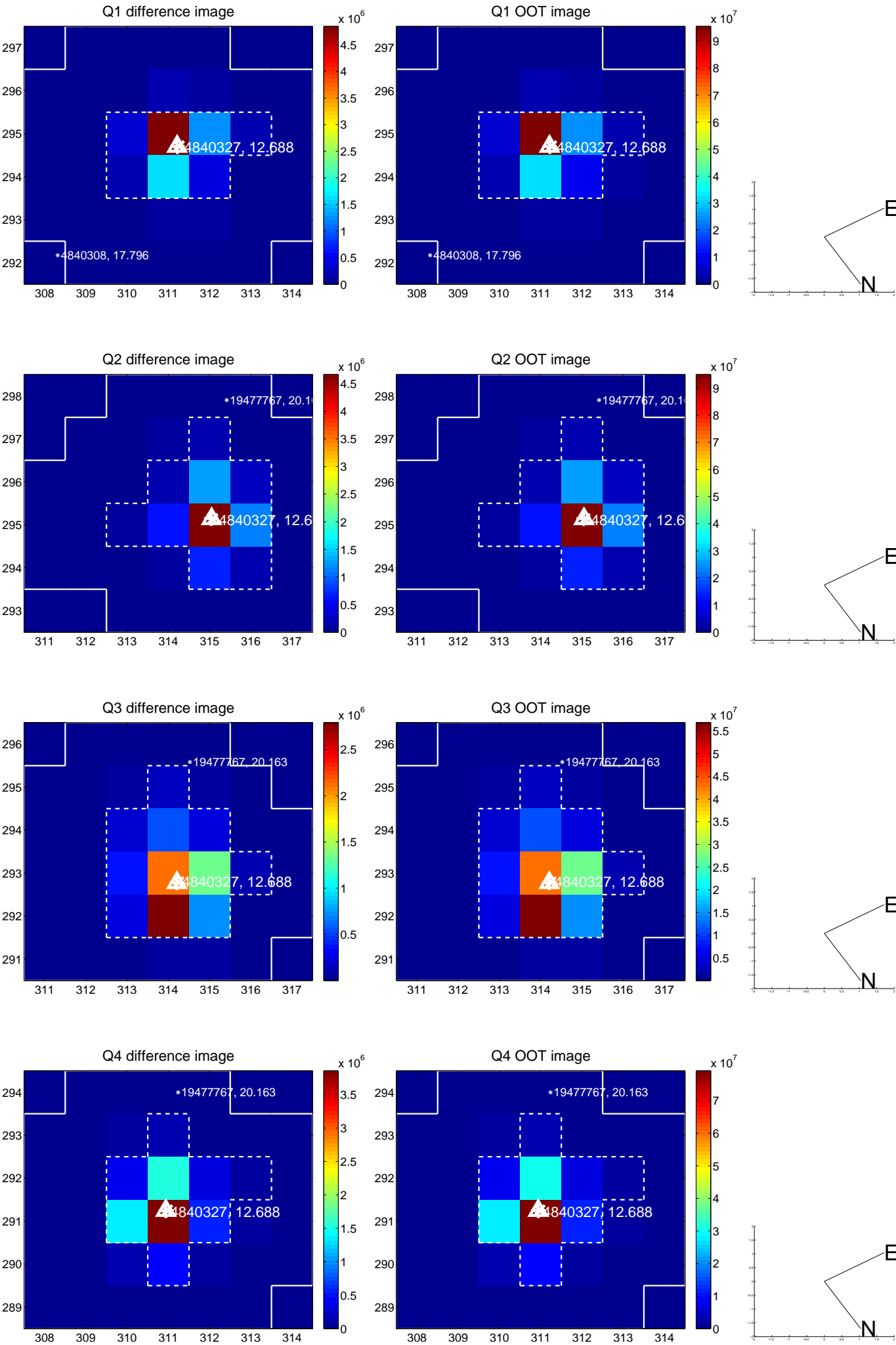
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.002 ± 0.067	0.03	-0.002 ± 0.067	0.001 ± 0.067
PRF-fit source offset from KIC position	0.180 ± 0.068	2.65	-0.175 ± 0.068	-0.040 ± 0.067
photometric centroid source offset	0.20 ± 0.00	117.29	-0.16 ± 0.00	-0.11 ± 0.00

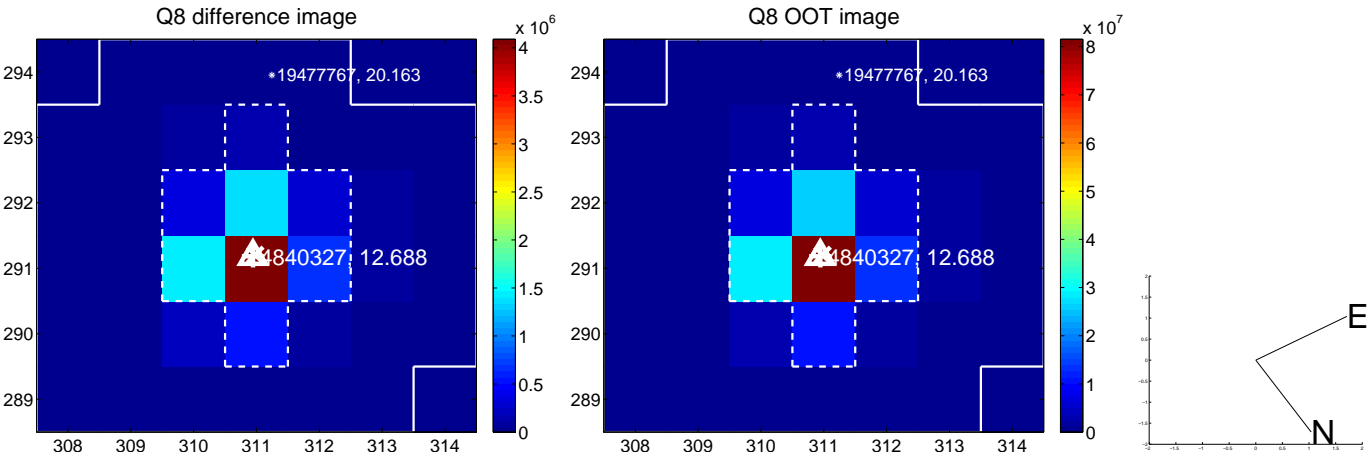
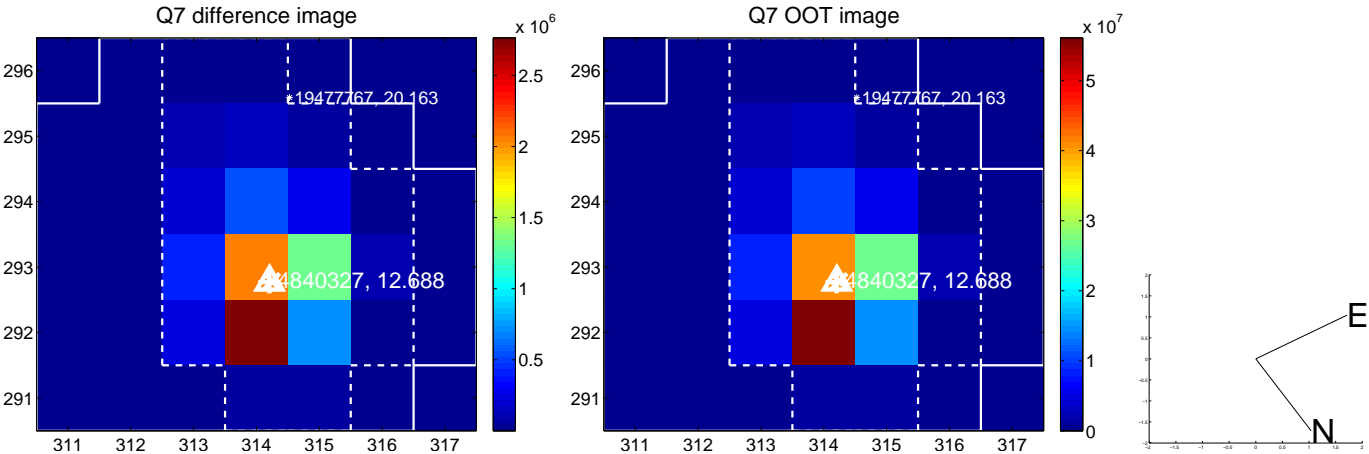
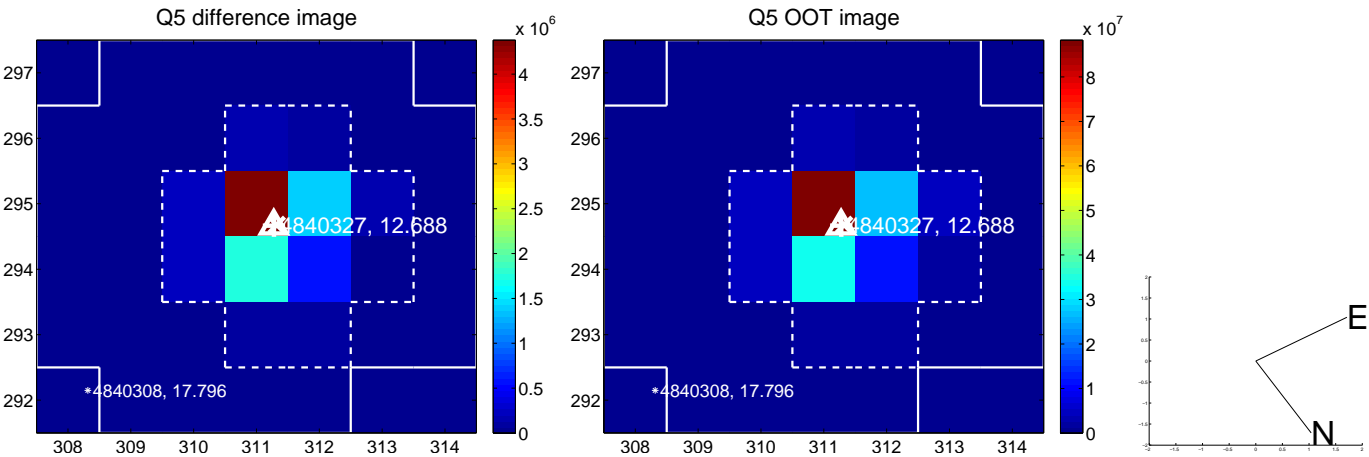


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

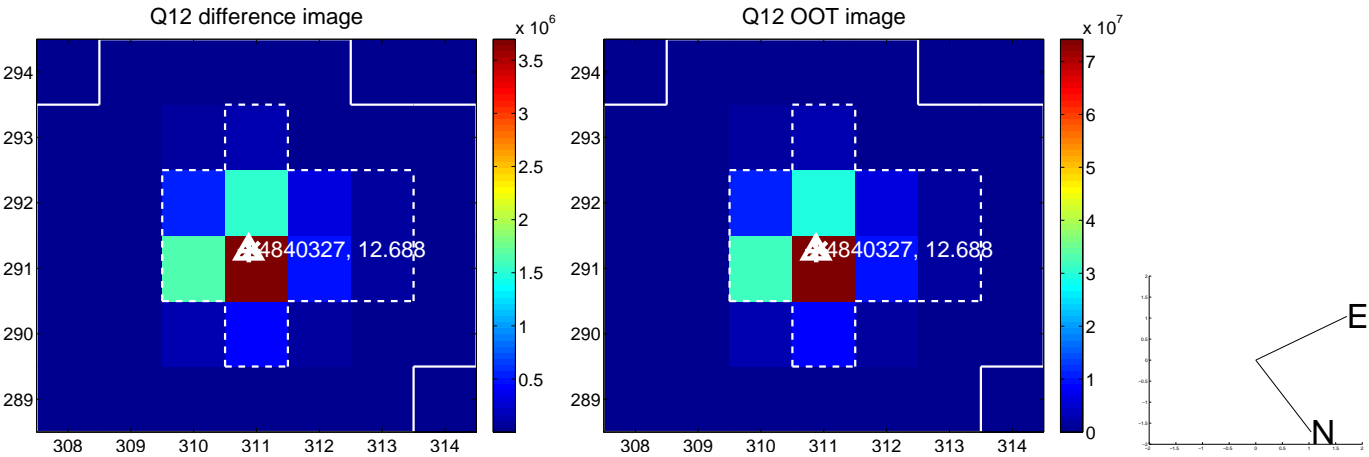
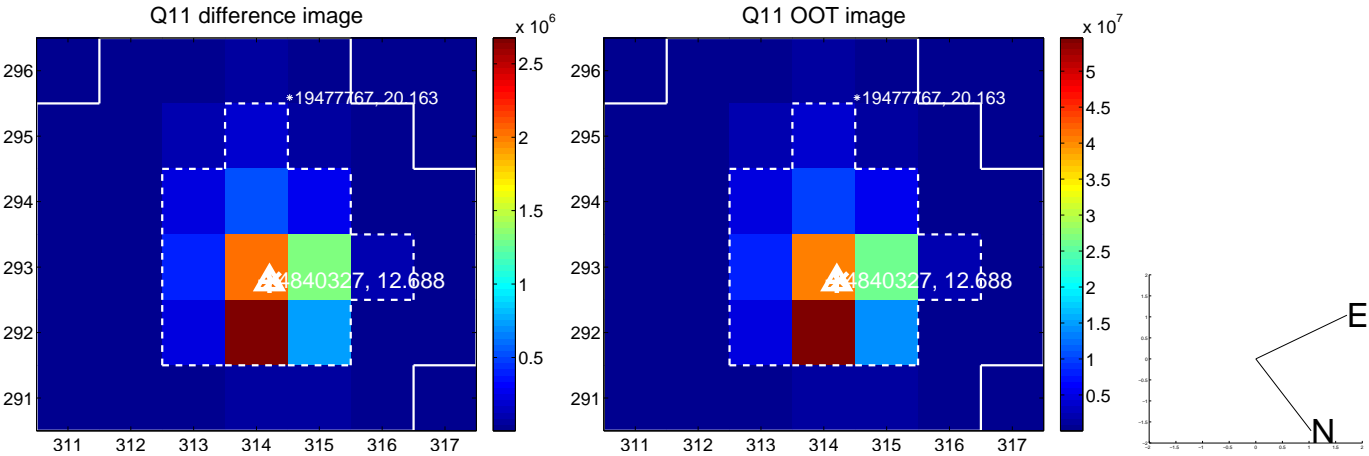
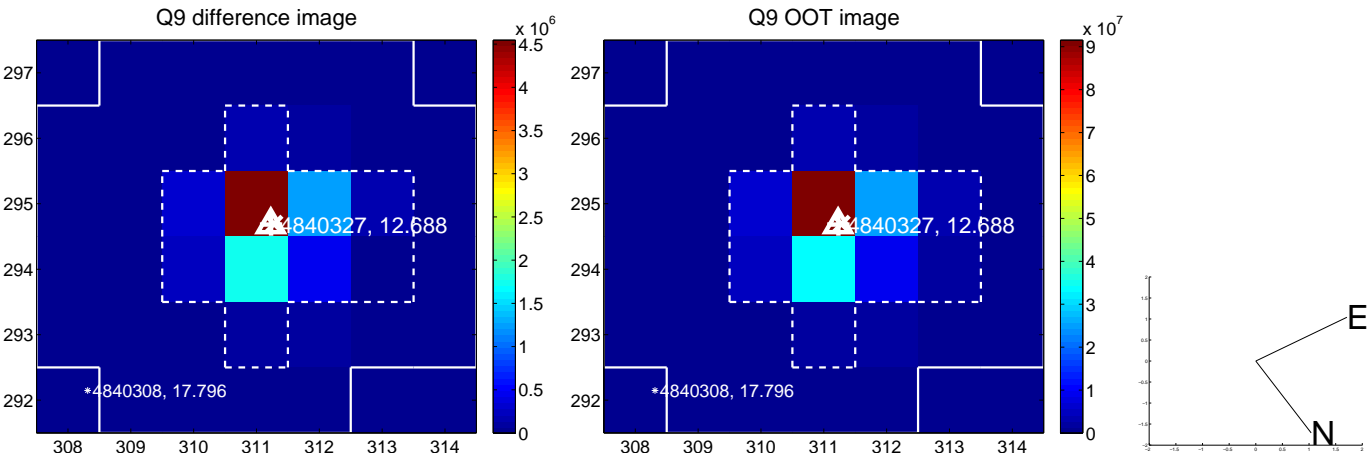
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



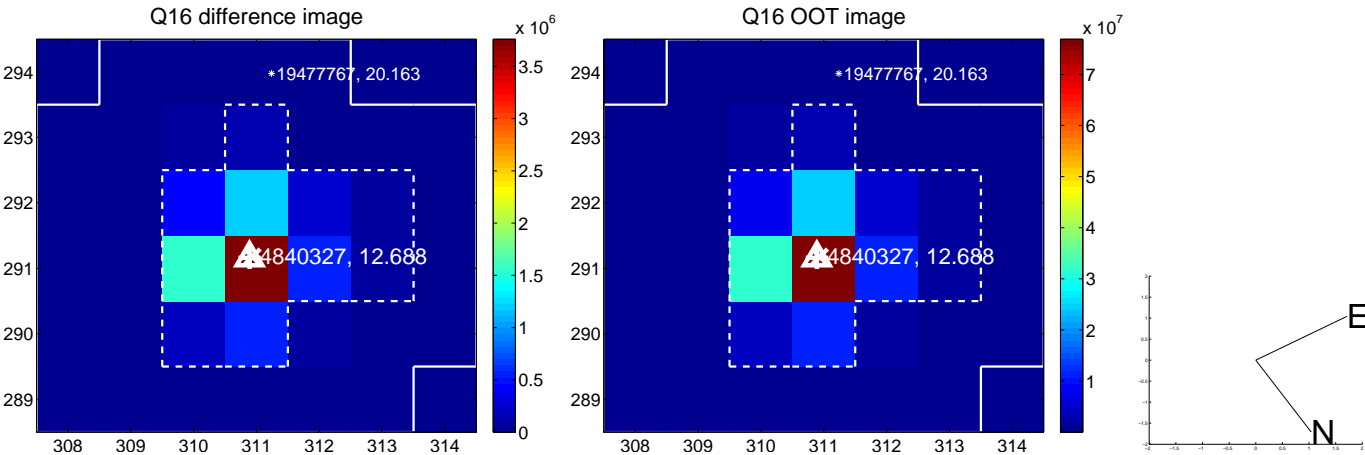
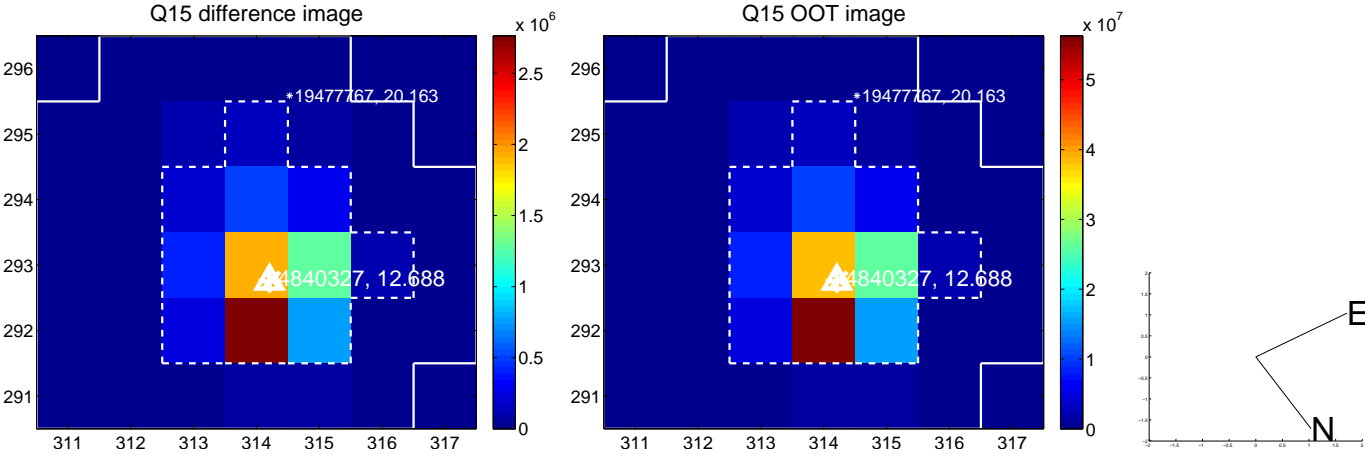
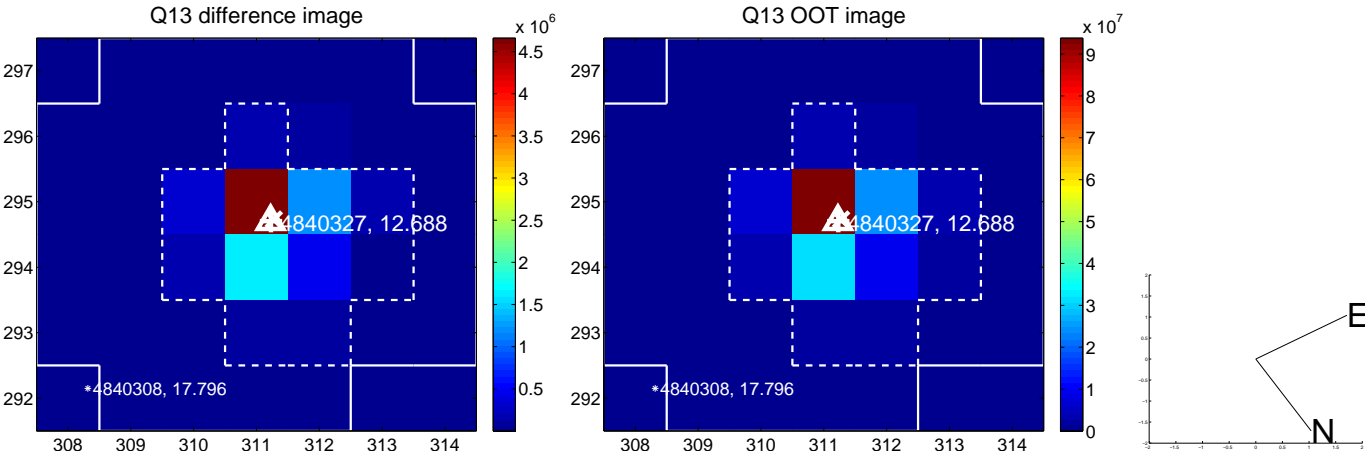
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



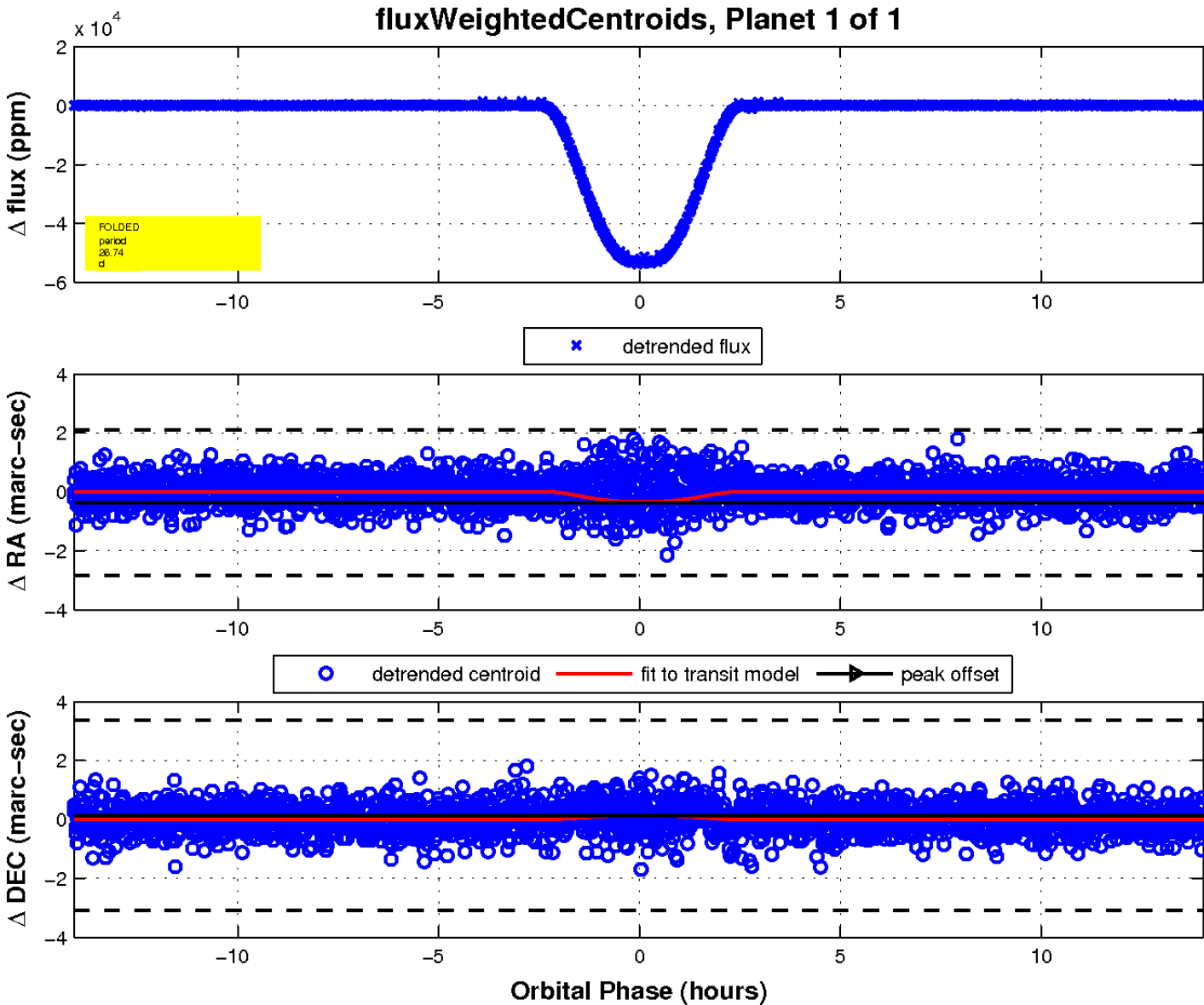
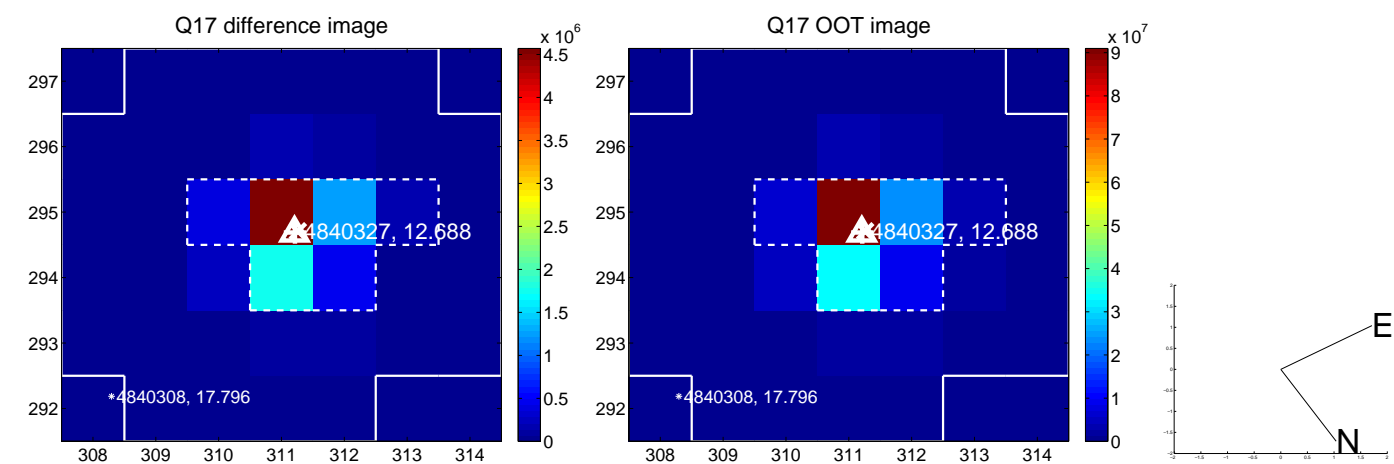
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

