

KIC 007025540

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})
007025540-01	OBS	3550.01	1.074113	131.690264	461812.5	2.961	13139.9	7484.1	0.67	4694	49.73	617.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007025540-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—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.

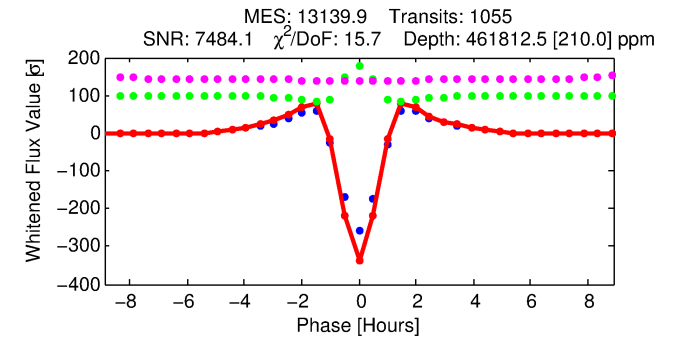
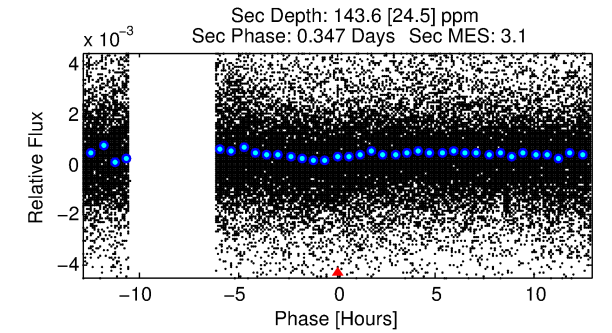
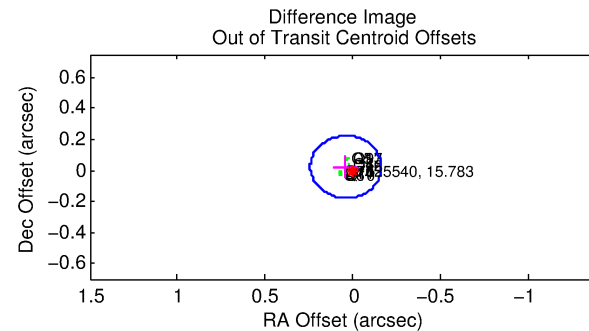
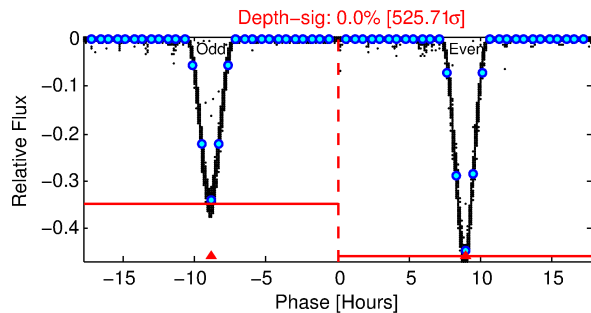
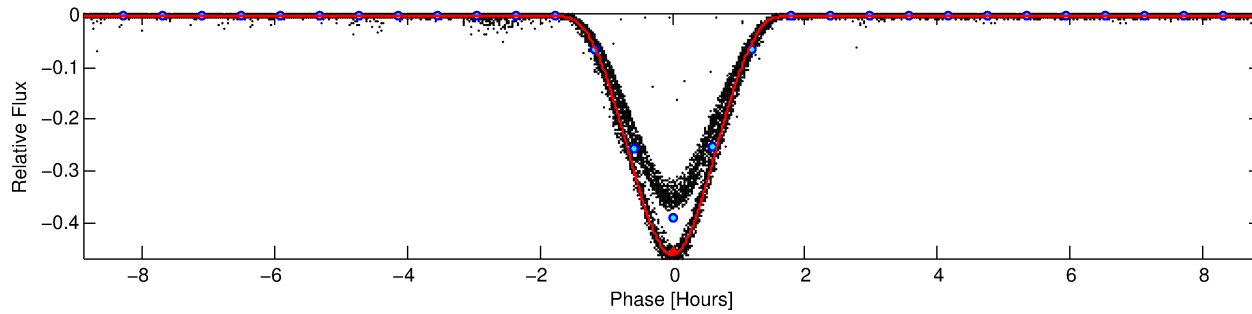
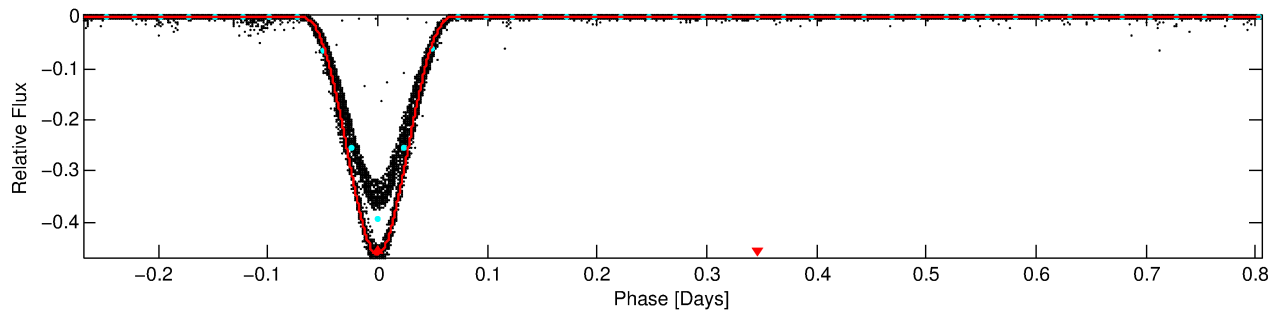
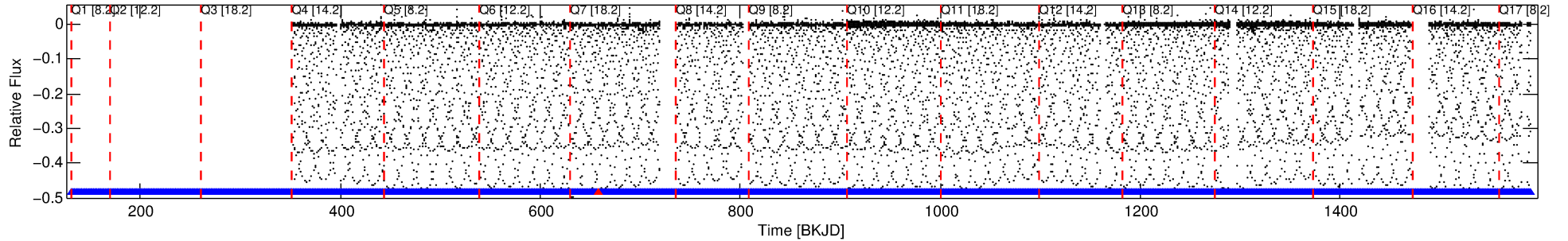
Ephemeris Match Information For 007025540-01

No Significant Match Found

DV One-Page Summary

KIC: 7025540 Candidate: 1 of 1 Period: 1.074 d
KOI: K03550 Corr: No Ephemeris Match

Kp: 15.78 R*: 0.67 Rs Teff: 4694.0 K Logg: 4.60 Fe/H: -0.280



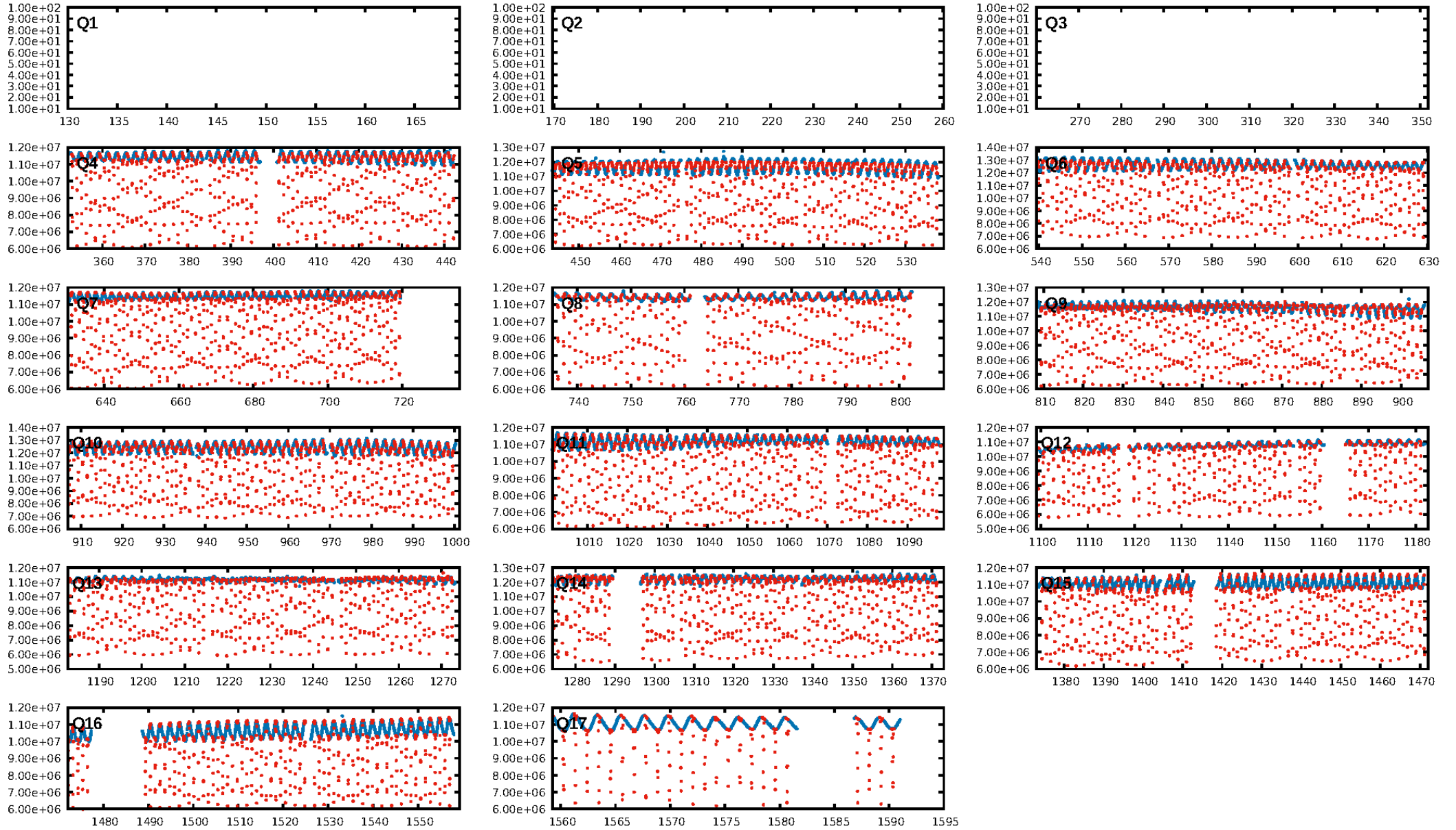
DV Fit Results:

Period = 1.07411 [0.00000] d
Epoch = 131.6903 [0.0000] BKJD
Rp/R* = 0.6781 [0.0093]
a/R* = 4.62 [0.02]
b = 0.42 [0.02]
Seff = 617.42 [111.91]
Teff = 1271 [58] K
Rp = 49.73 [4.86] Re
a = 0.0178 [0.0014] AU
Ag = 0.01 [0.00] [-473.79σ]
Teffp = 624 [35] K [-9.60σ]

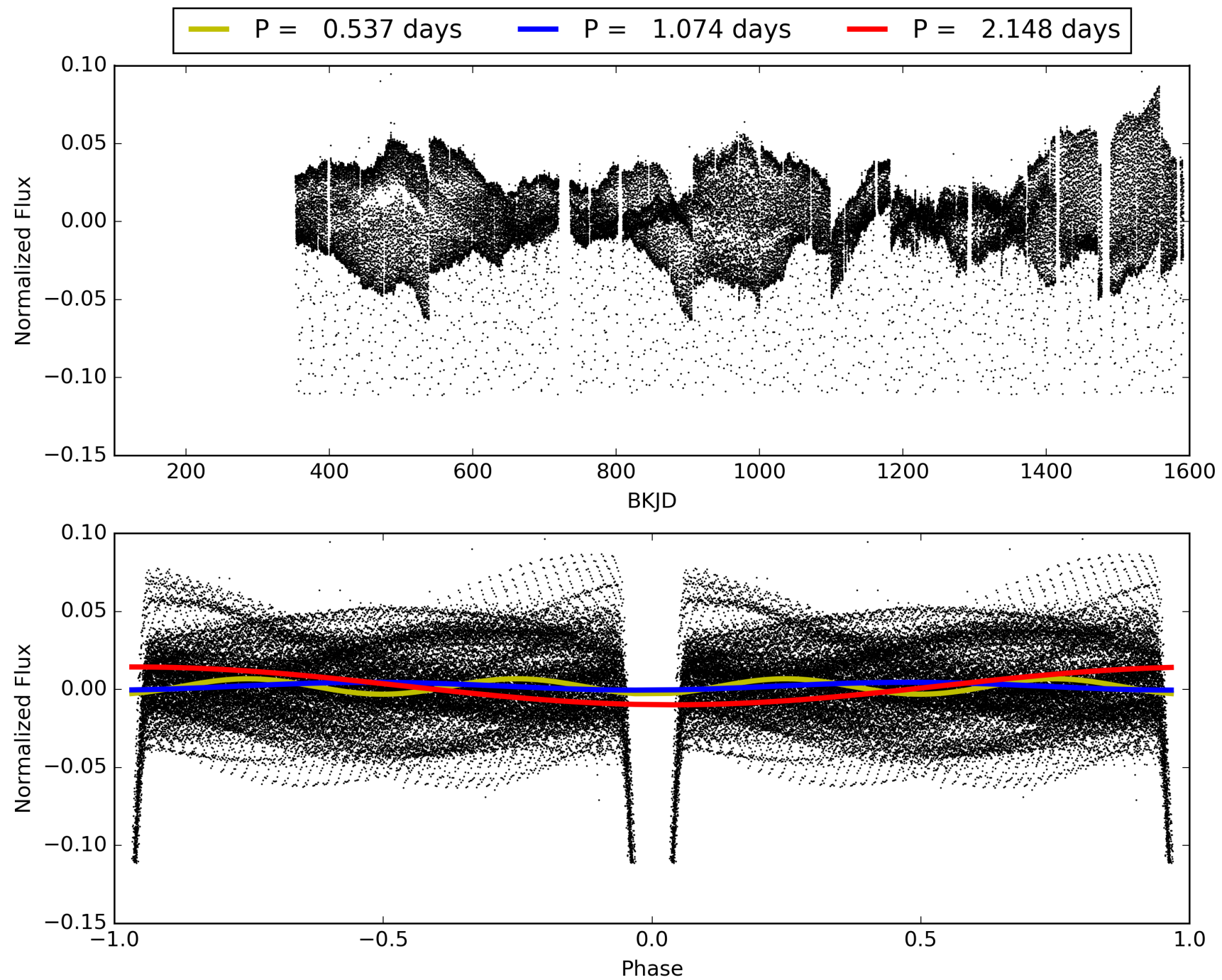
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [1029/1030]
GhostDiagnostic-chr: 2.165
Centroid-sig: N/A
Centroid-so: 0.095 arcsec [131.09σ]
OotOffset-rm: 0.047 arcsec [0.71σ]
KicOffset-rm: 0.075 arcsec [1.09σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 007025540-01, PDC Light Curves

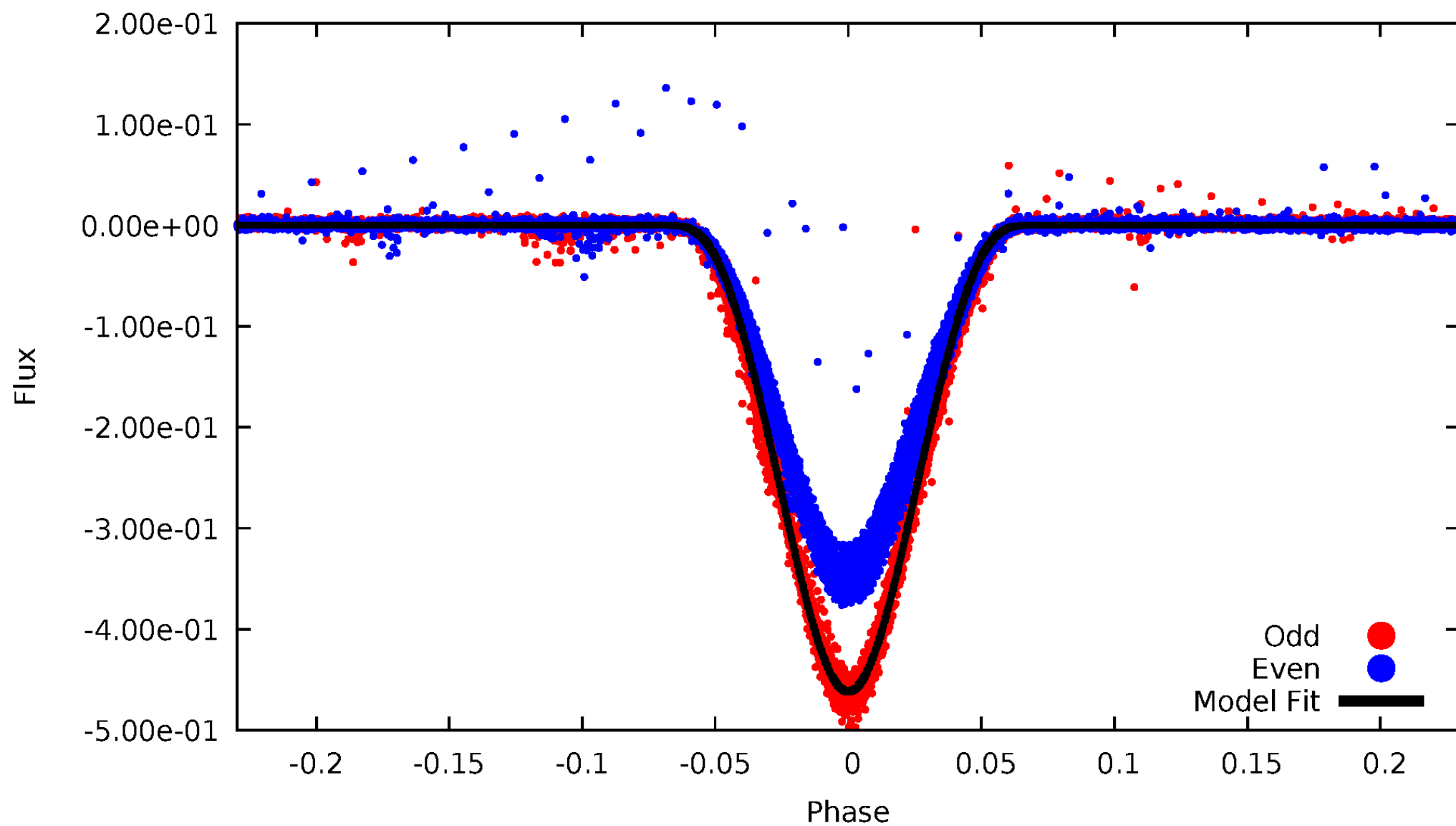


TCE 007025540-01



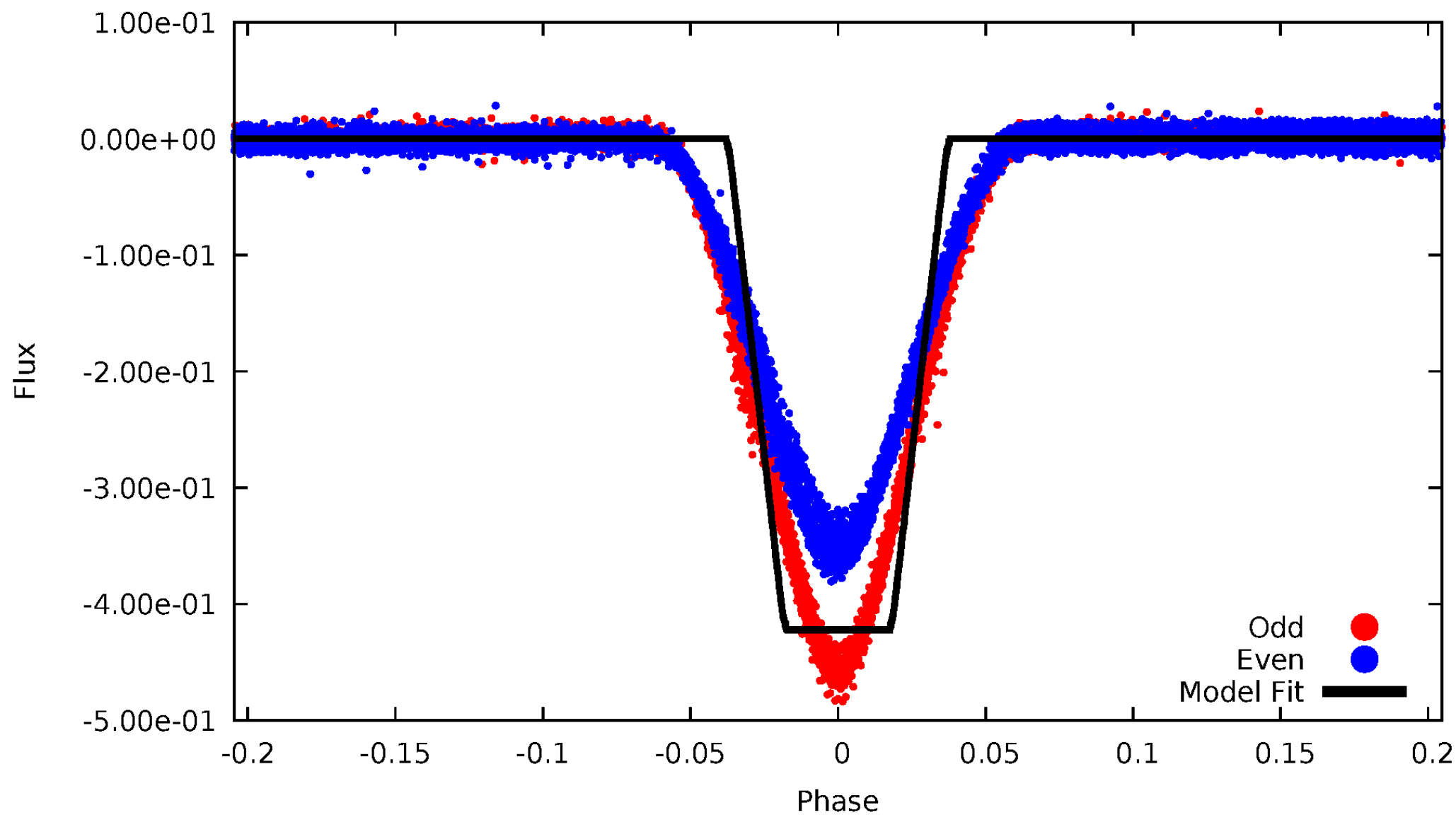
DV Odd/Even

TCE 007025540-01



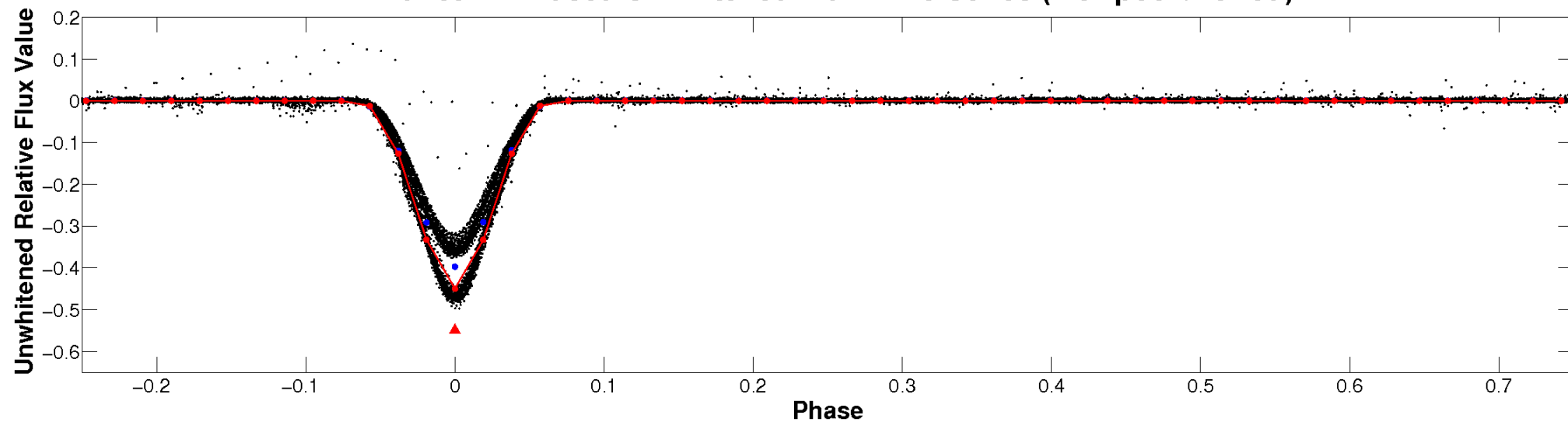
ALT Odd/Even

TCE 007025540-01

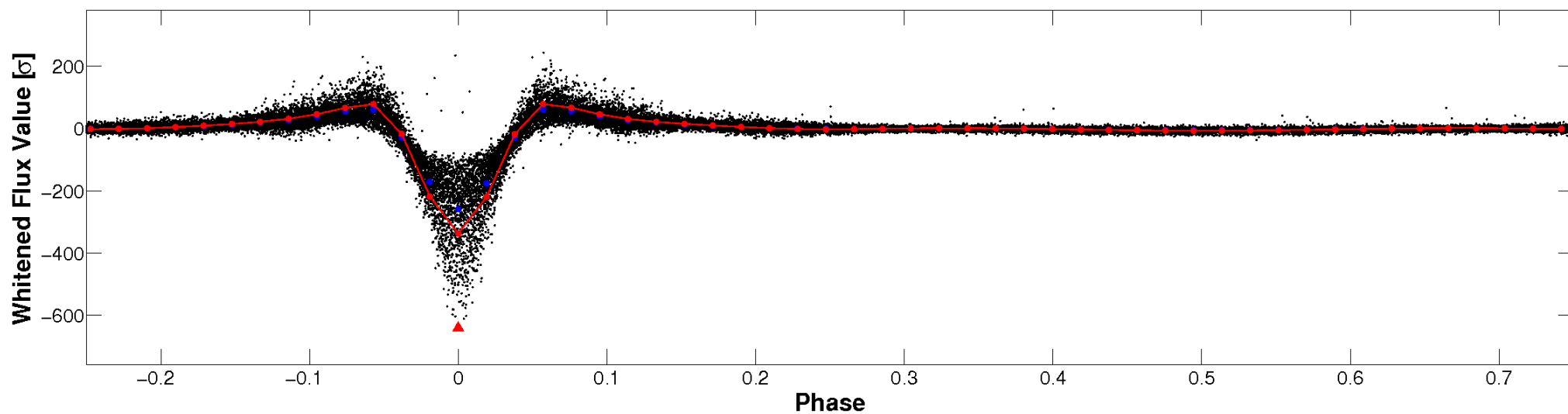


Non-Whitened Vs. Whitened Light Curve

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

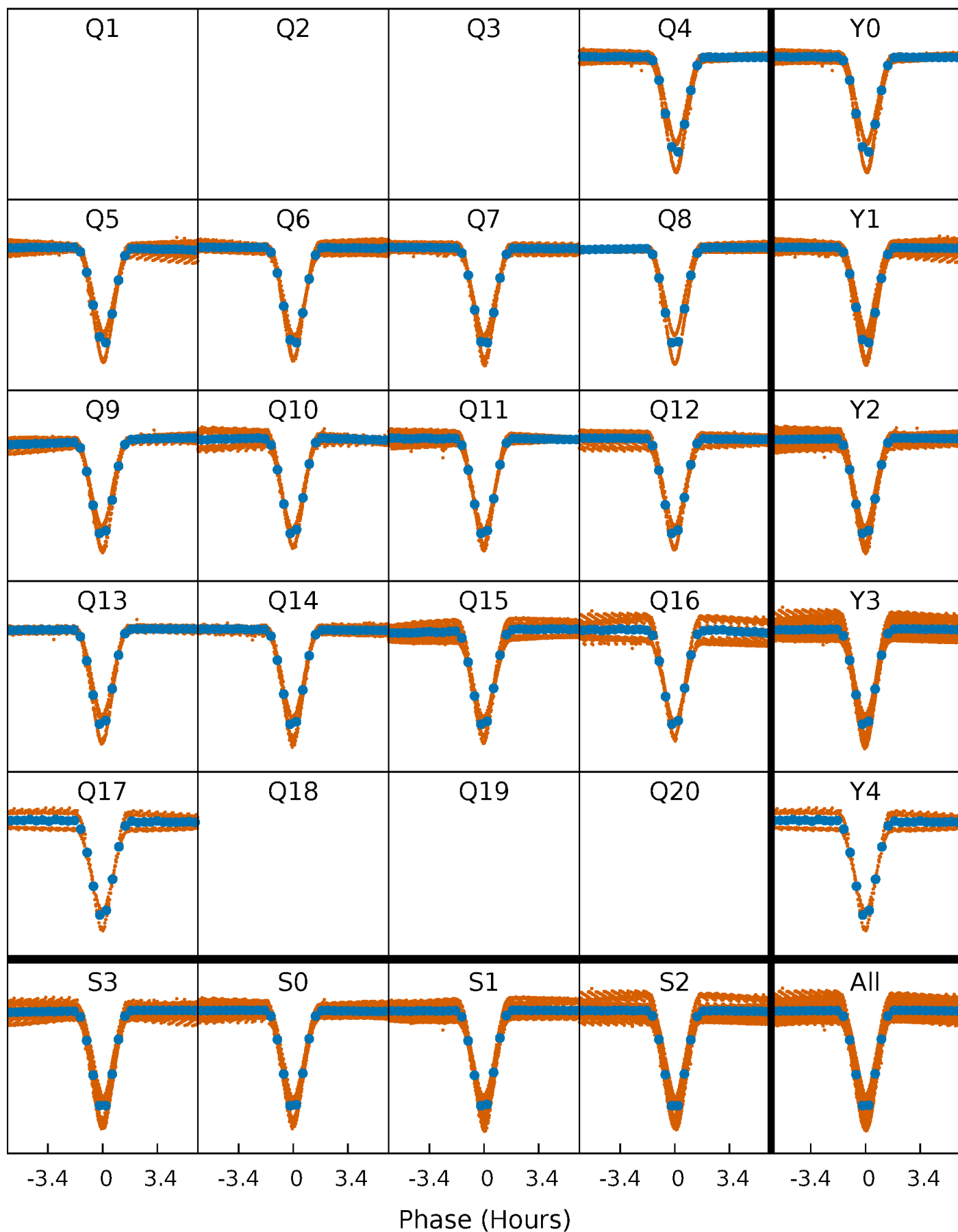


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



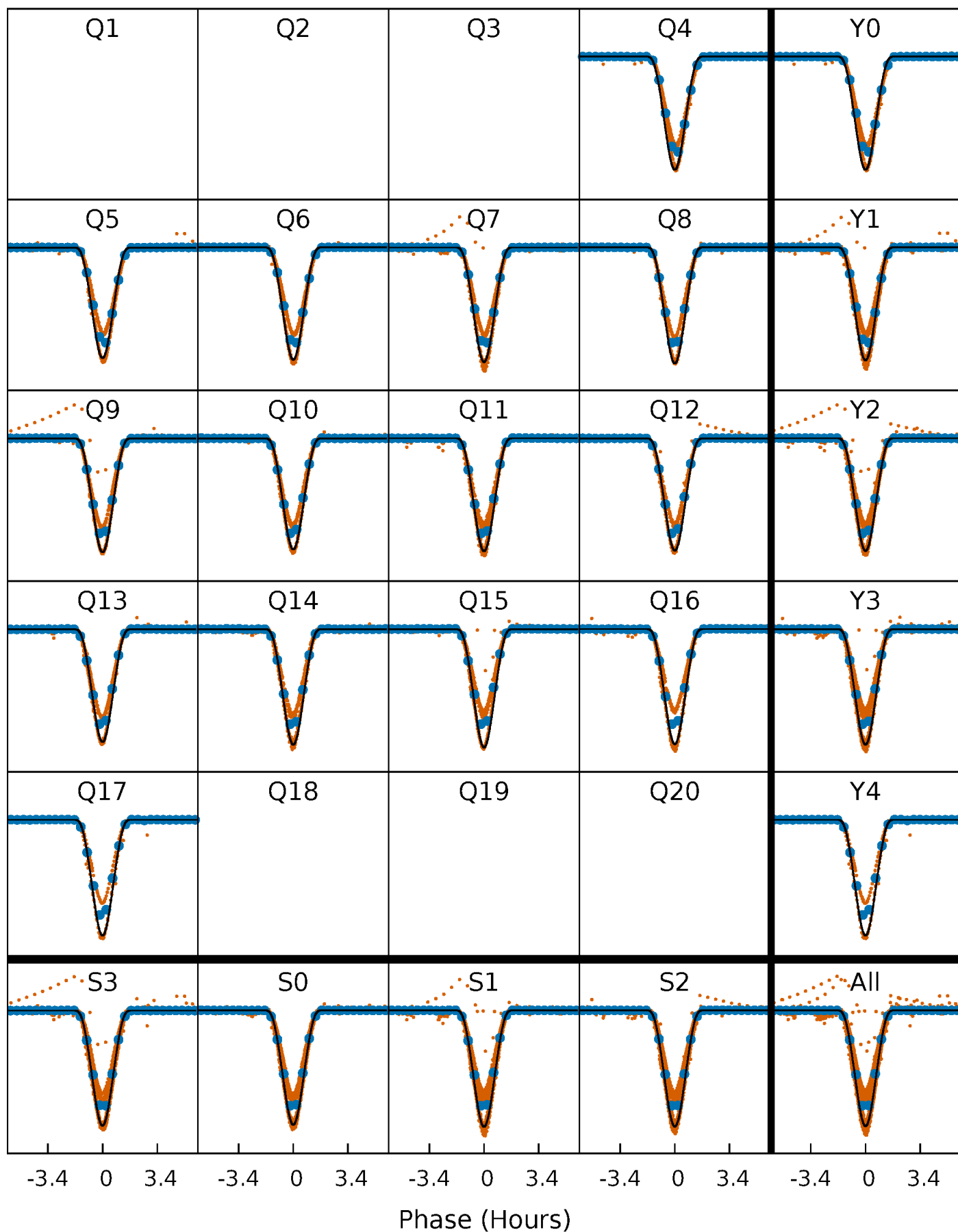
PDC Quarter-Phased Transit Curves

TCE 007025540-01 P= 1.074113 Days $T_0=131.690264$ (BKJD)



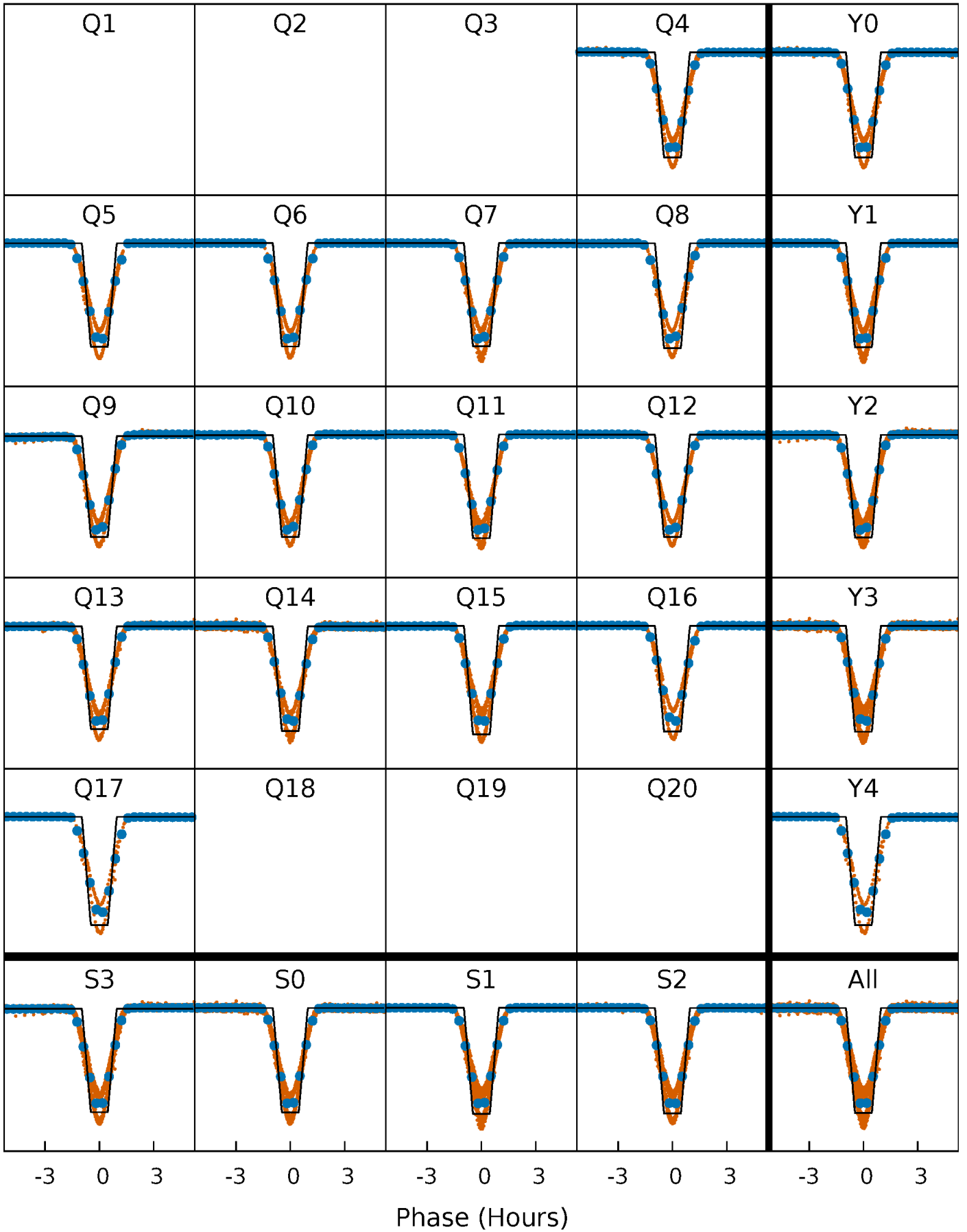
DV Quarter-Phased Transit Curves

TCE 007025540-01 P= 1.074113 Days $T_0=131.690264$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

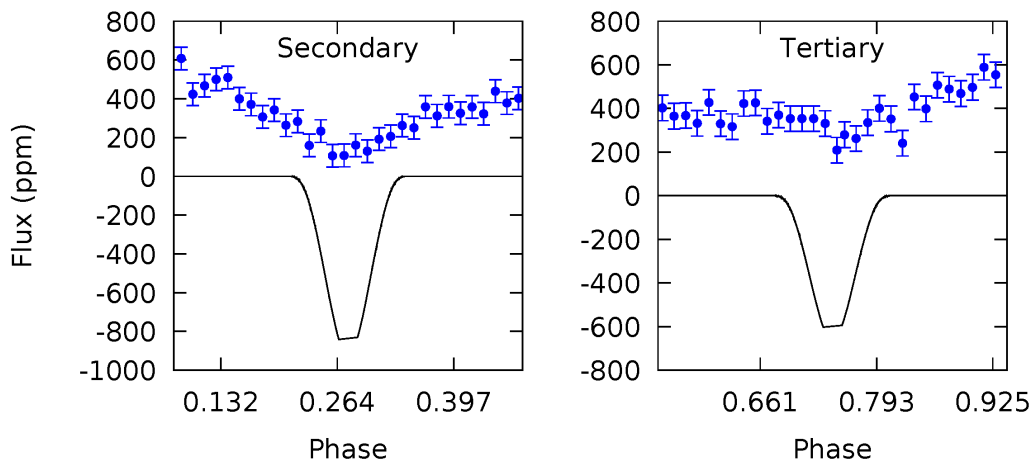
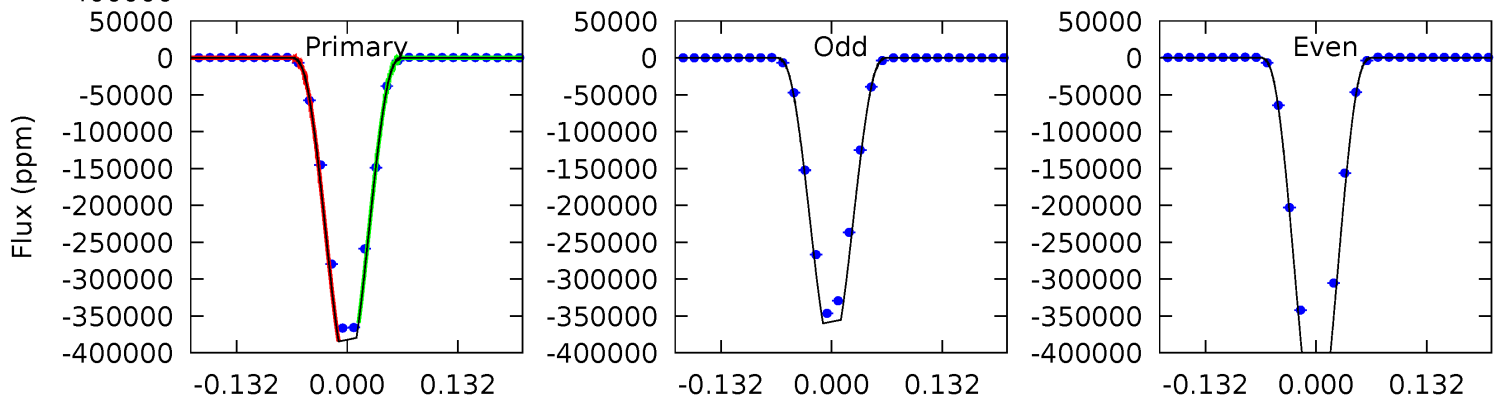
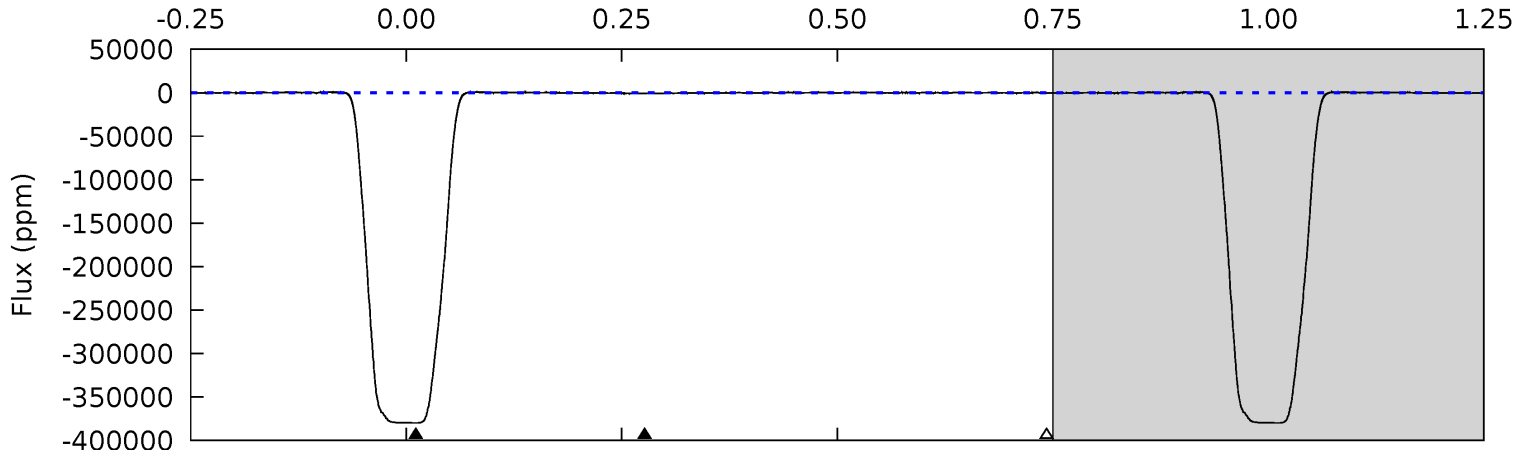
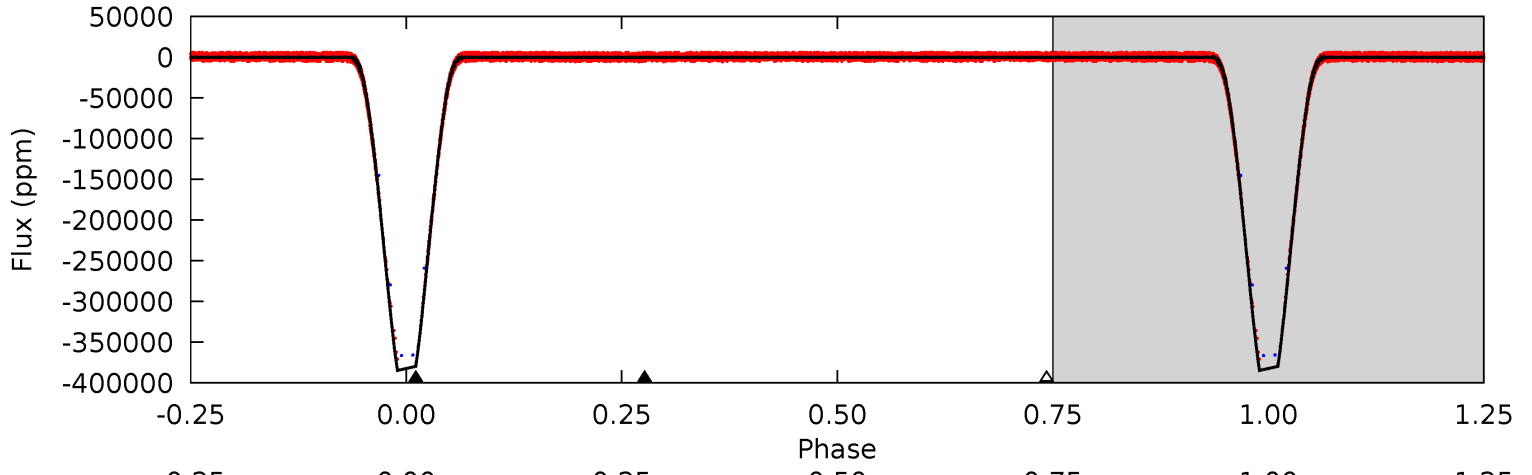
TCE 007025540-01 P= 1.074109 Days $T_0=131.693573$ (BKJD)



DV Model-Shift Uniqueness Test

007025540-01, P = 1.074113 Days, E = 131.690264 Days

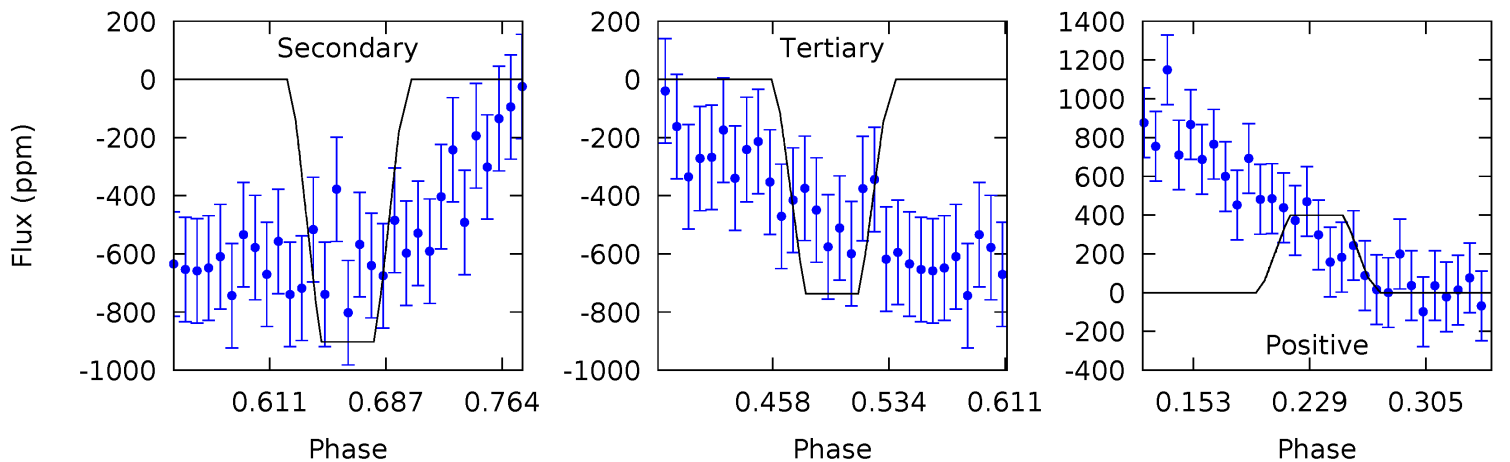
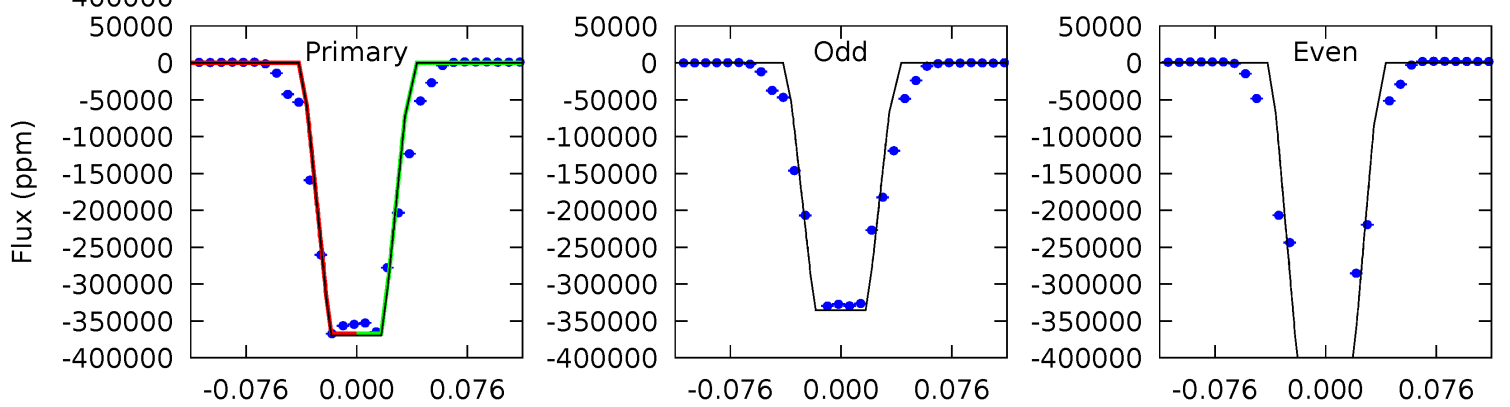
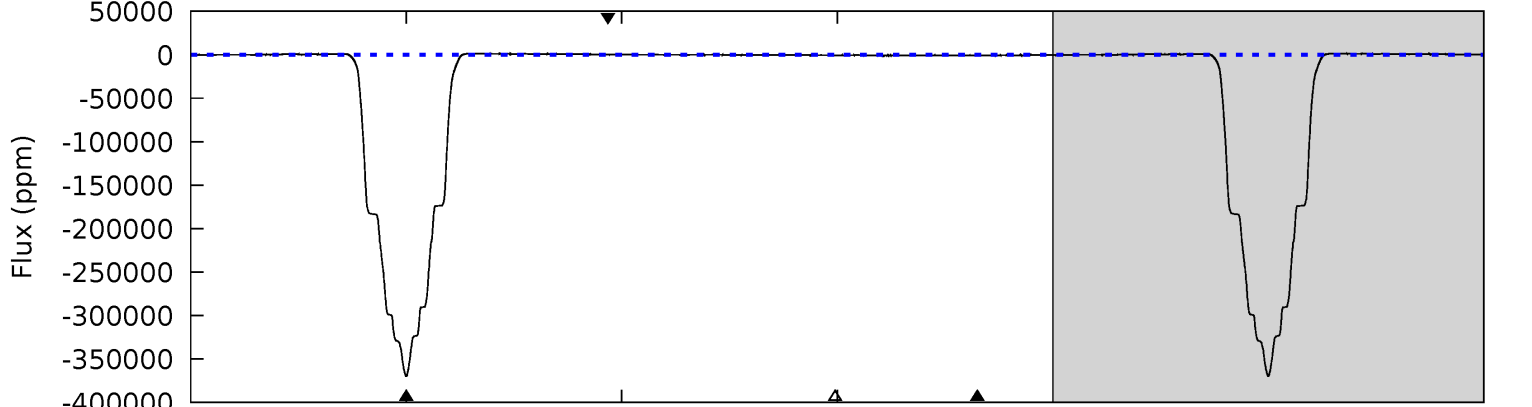
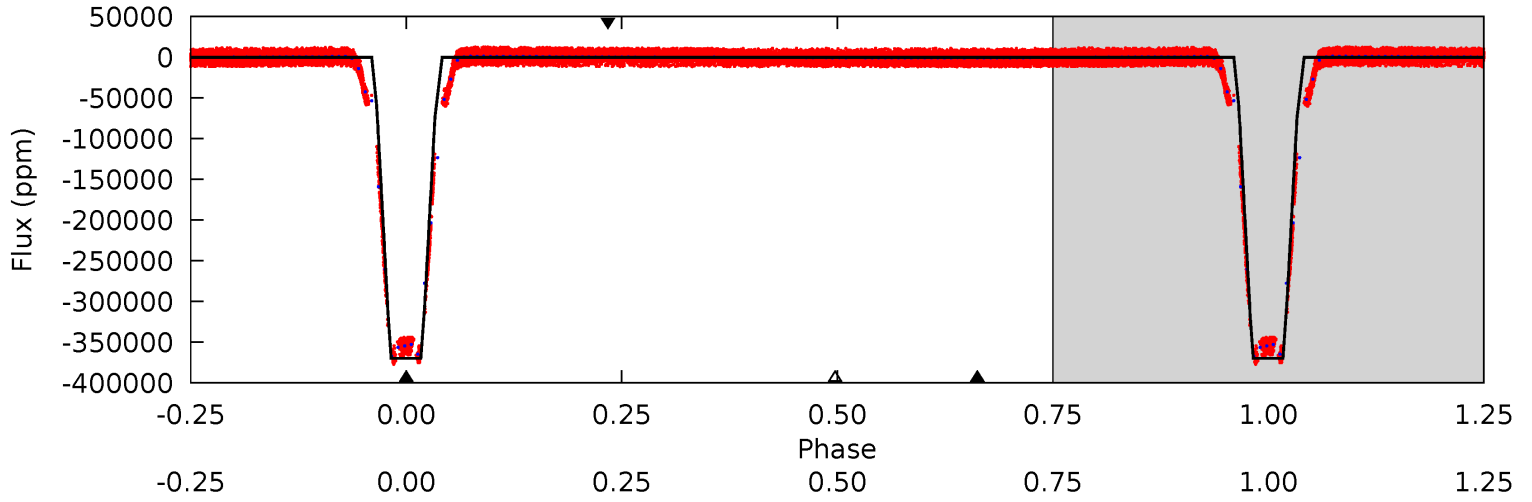
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11314	24.7	17.7	0	4.51	1.51	6.04	11296	11314	7.02	24.7	1966	1.02	0.00	0



Alt Model-Shift Uniqueness Test

007025540-01, P = 1.074109 Days, E = 131.693573 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2948	7.19	5.87	3.18	4.62	1.77	4.44	2942	2945	1.32	4.01	381.9	1.02	0.00	2.02



Stellar Parameters For KIC 007025540

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4694^{+168}_{-168}	$4.600^{+0.059}_{-0.032}$	$-0.280^{+0.300}_{-0.300}$	$0.672^{+0.053}_{-0.065}$	$0.657^{+0.080}_{-0.046}$	$3.043^{+0.822}_{-0.416}$
	+4%/-4%	+1%/-1%	+107%/-107%	+8%/-10%	+12%/-7%	+27%/-14%
Source	KIC0	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 007025540-01 / KOI 3550.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-830 ± 34	$49.69^{+2.43}_{-2.67}$	1766^{+72}_{-71}	-2261^{+51}_{-51}	$0.060^{+0.006}_{-0.005}$
Alt.	-902 ± 125	$47.71^{+2.19}_{-2.59}$	1768^{+71}_{-68}	-2251^{+53}_{-49}	$0.071^{+0.011}_{-0.011}$

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 $A_{obs} \gg 1.0$

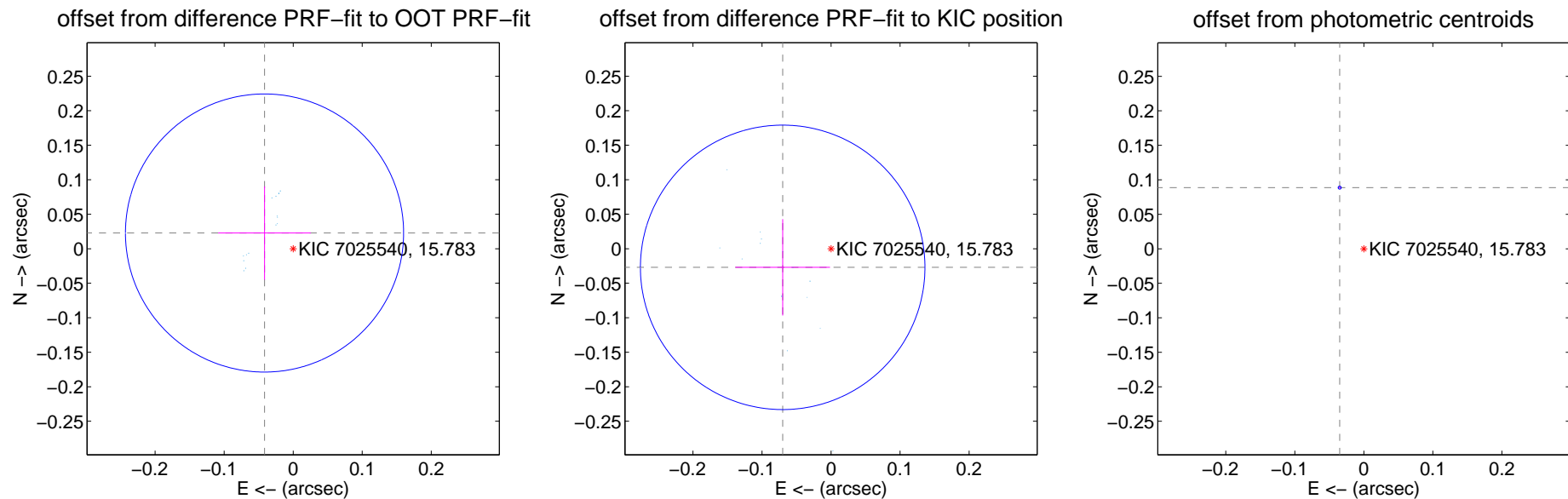
DV Centroid Data

Supplemental centroid analysis for 007025540-01. Kepler magnitude: 15.78. Transit SNR 7484.14

There are 14 quarters with good PRF difference image offsets

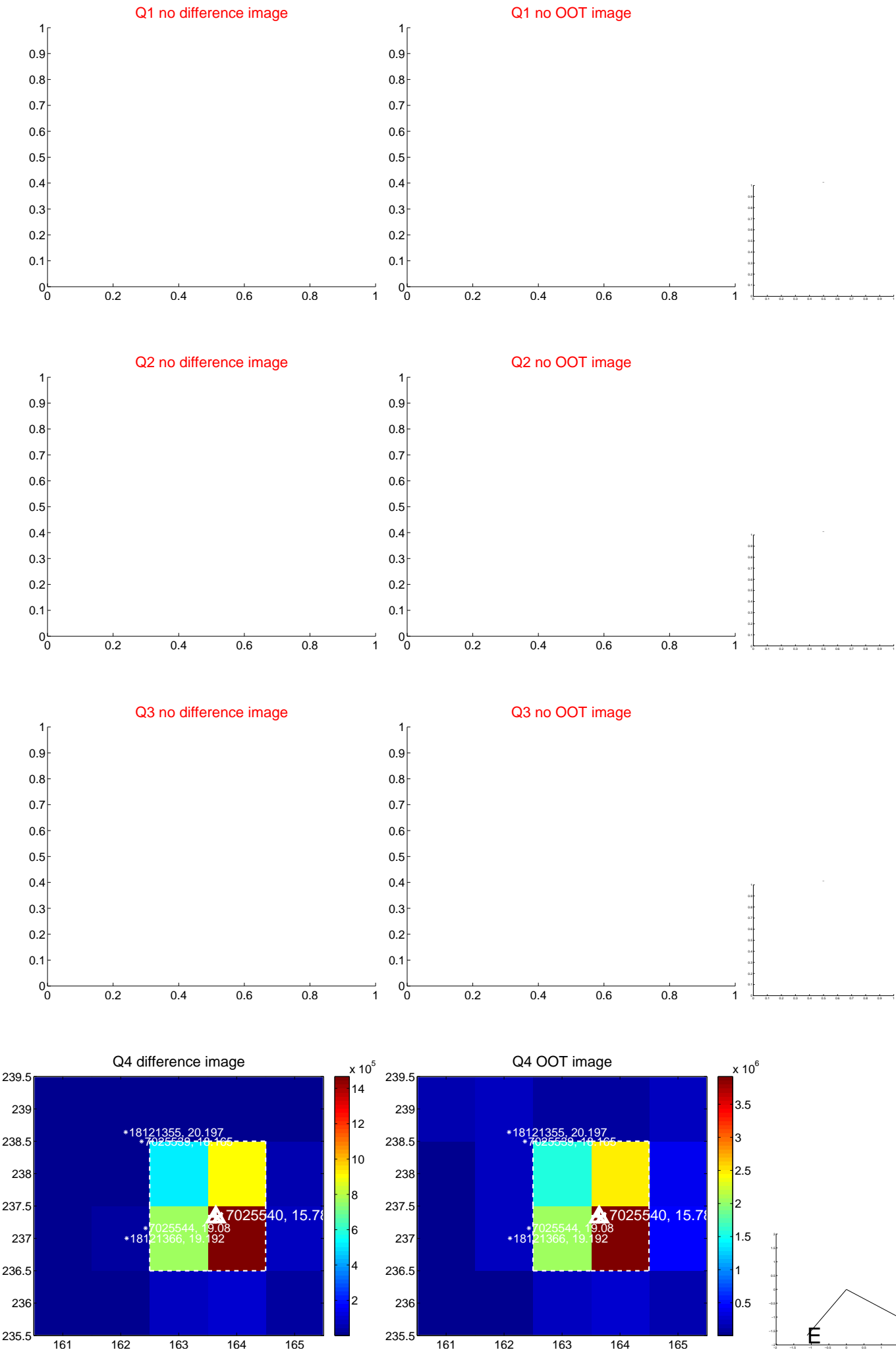
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.047 ± 0.067	0.71	0.042 ± 0.067	0.023 ± 0.068
PRF-fit source offset from KIC position	0.075 ± 0.069	1.09	0.070 ± 0.069	-0.027 ± 0.070
photometric centroid source offset	0.10 ± 0.00	131.09	0.04 ± 0.00	0.09 ± 0.00

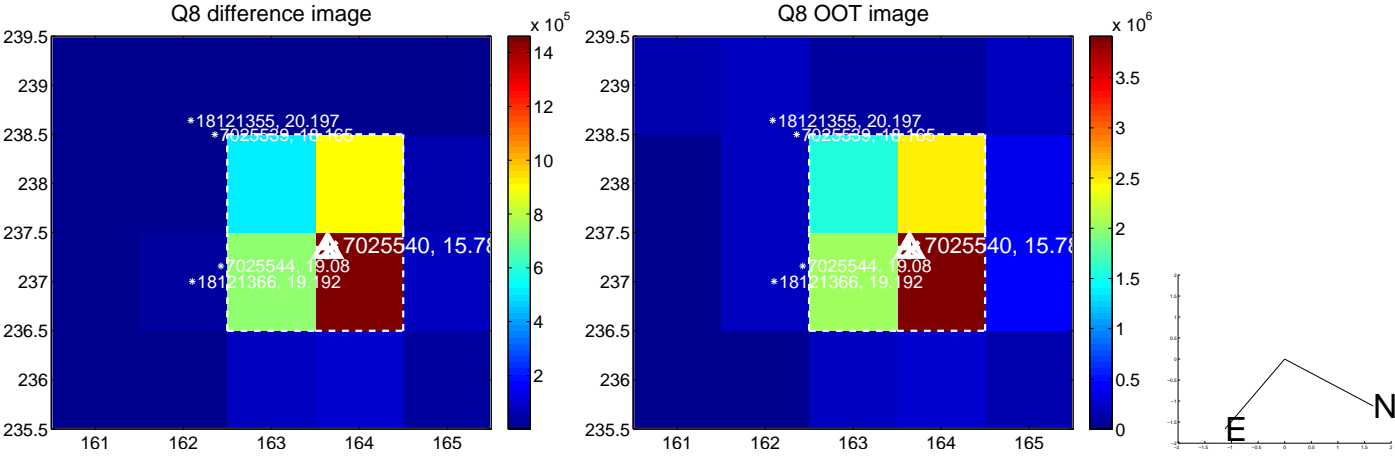
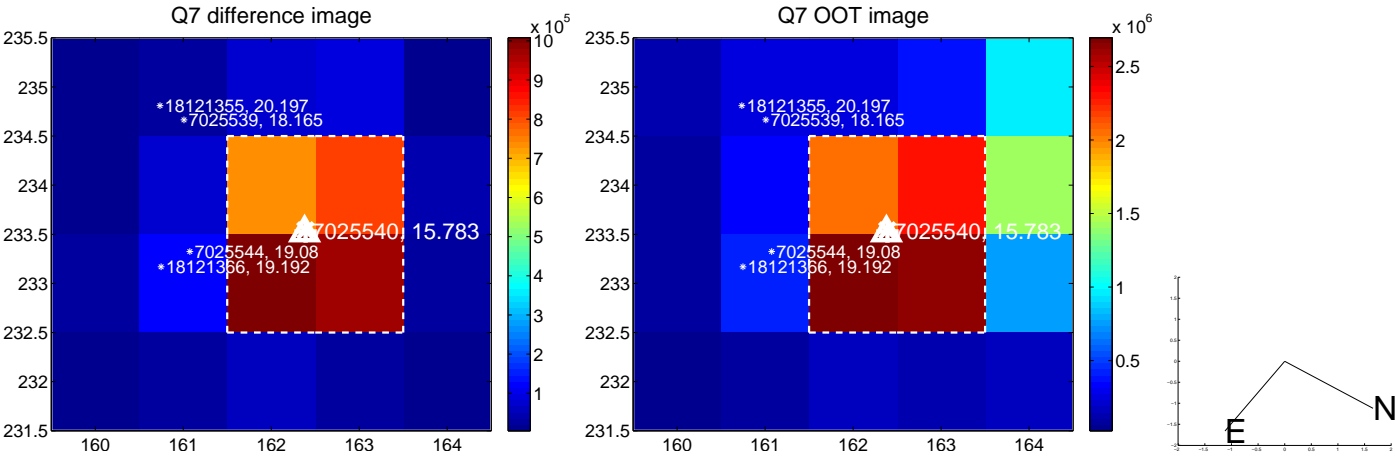
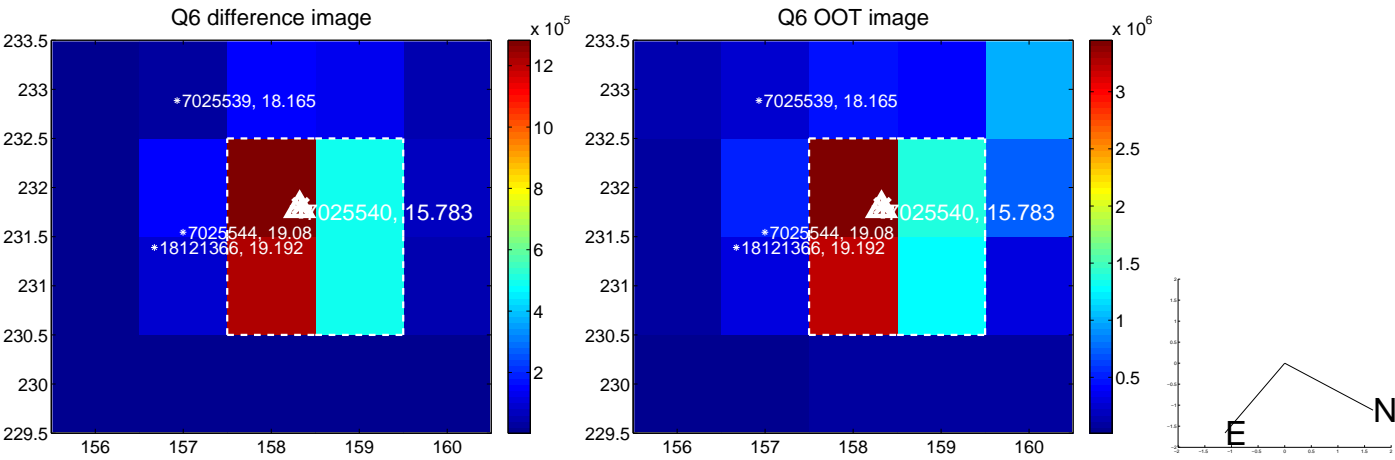
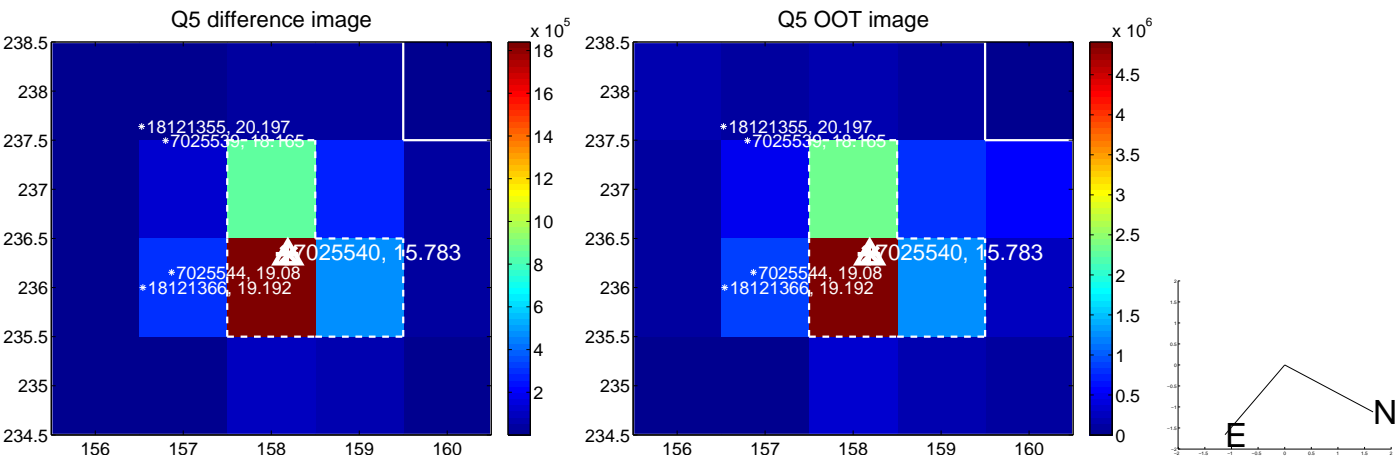


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

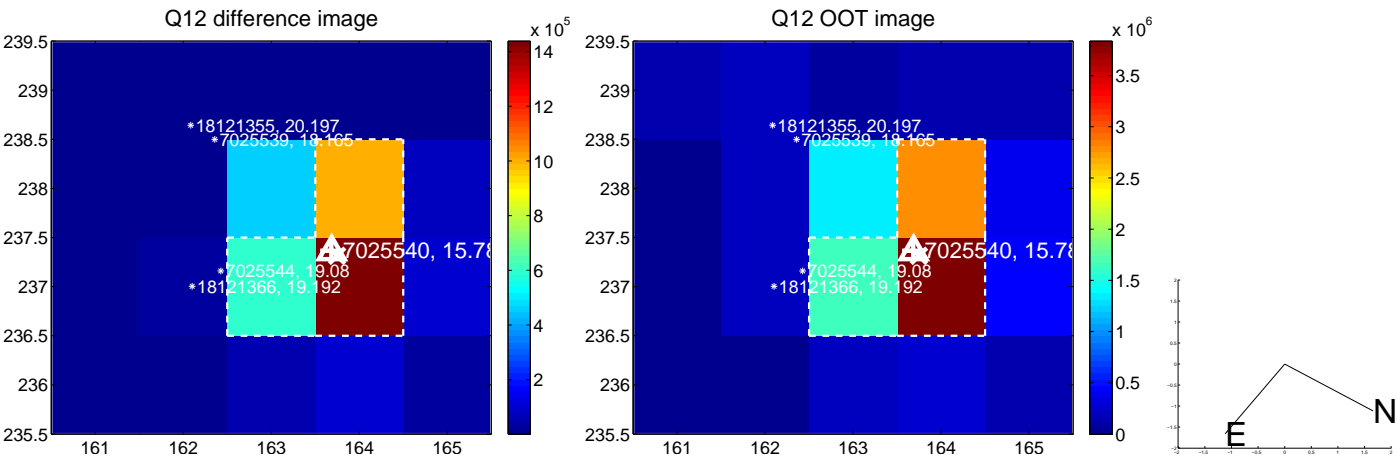
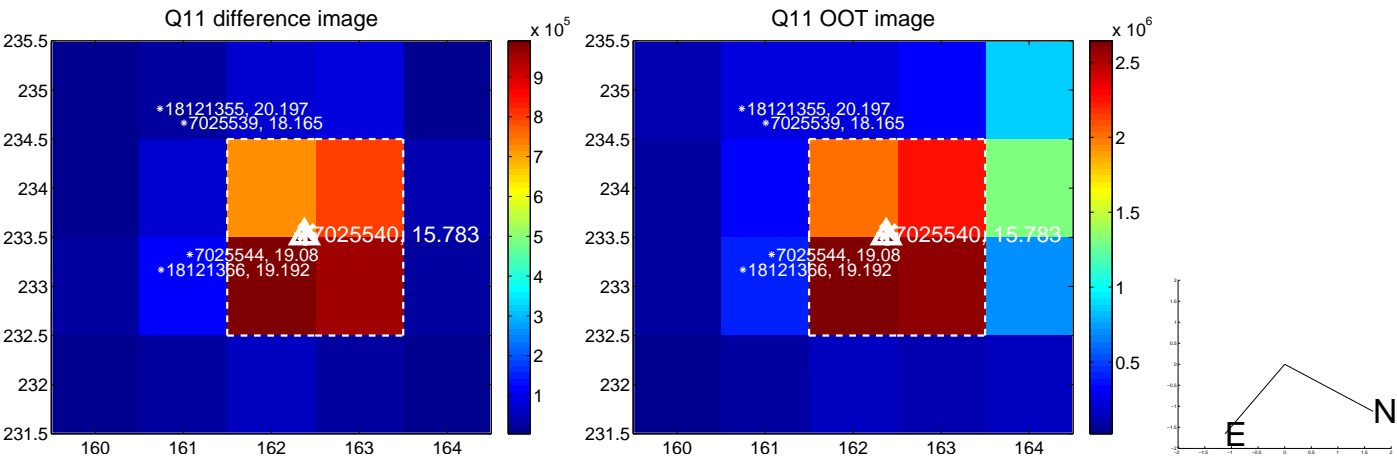
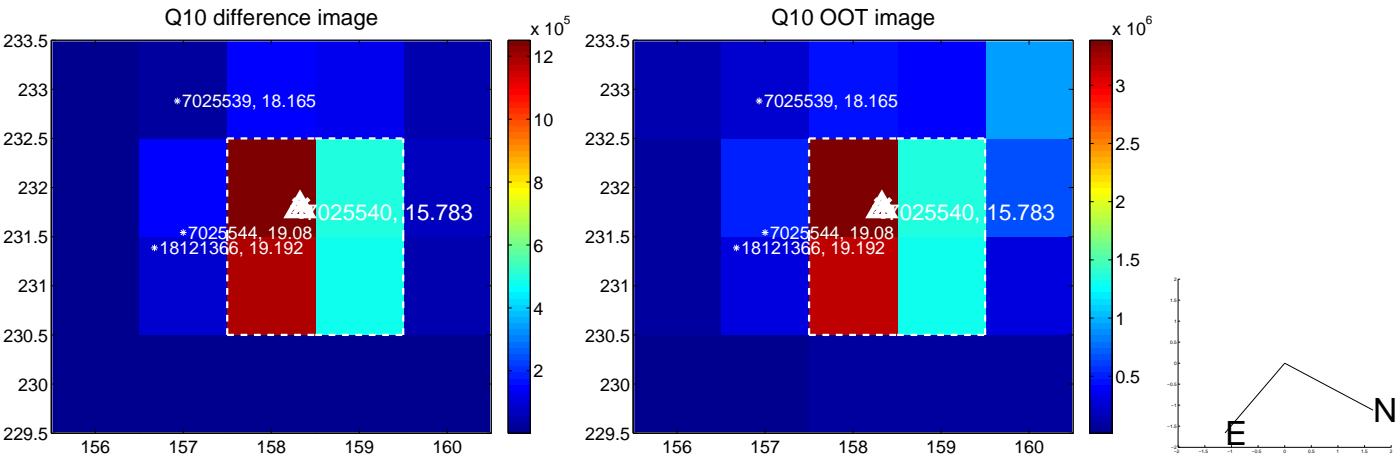
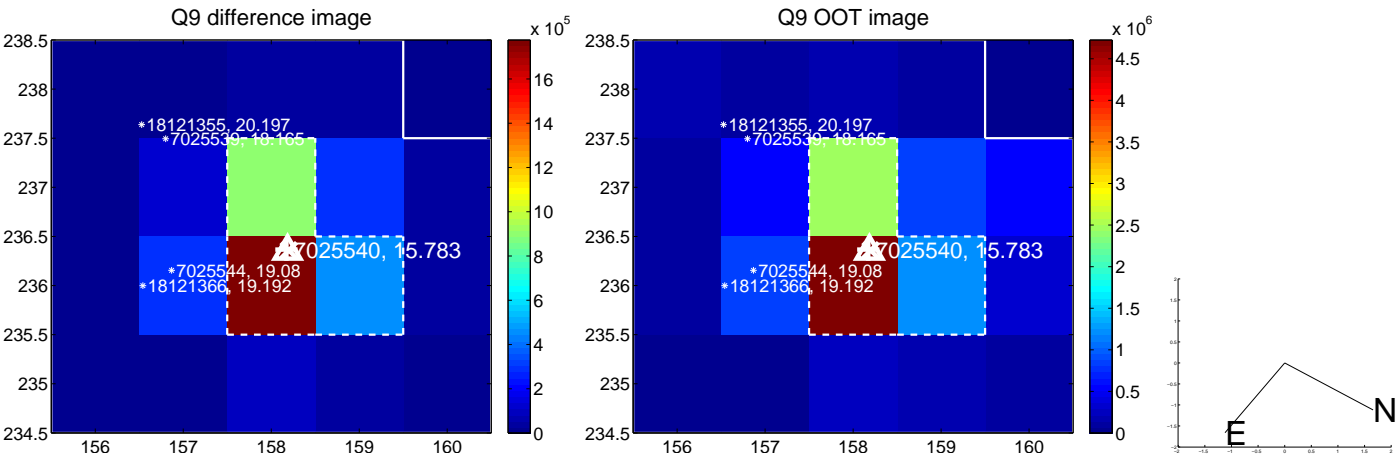
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



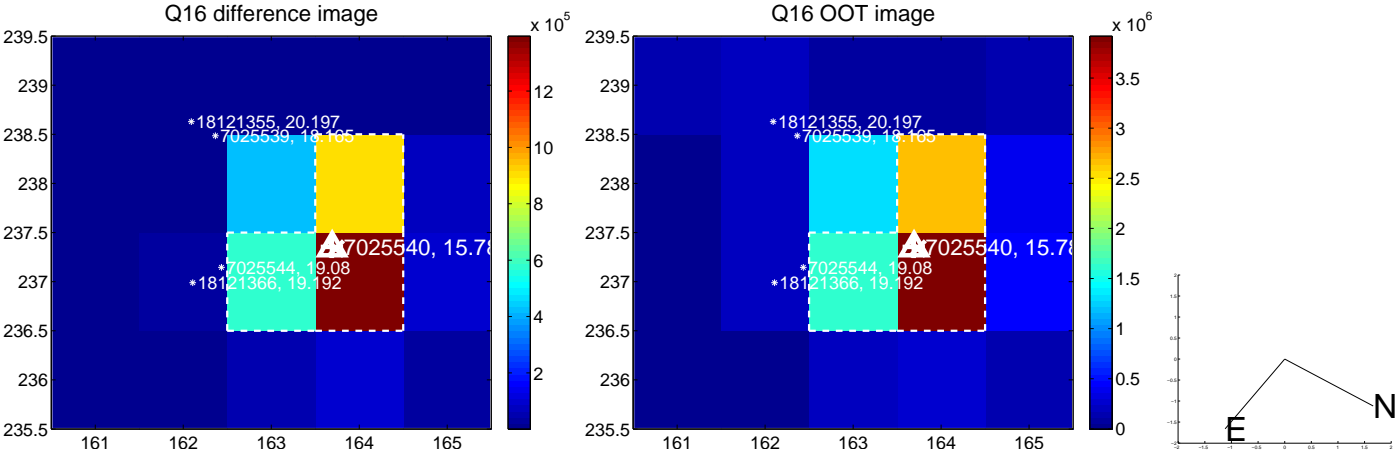
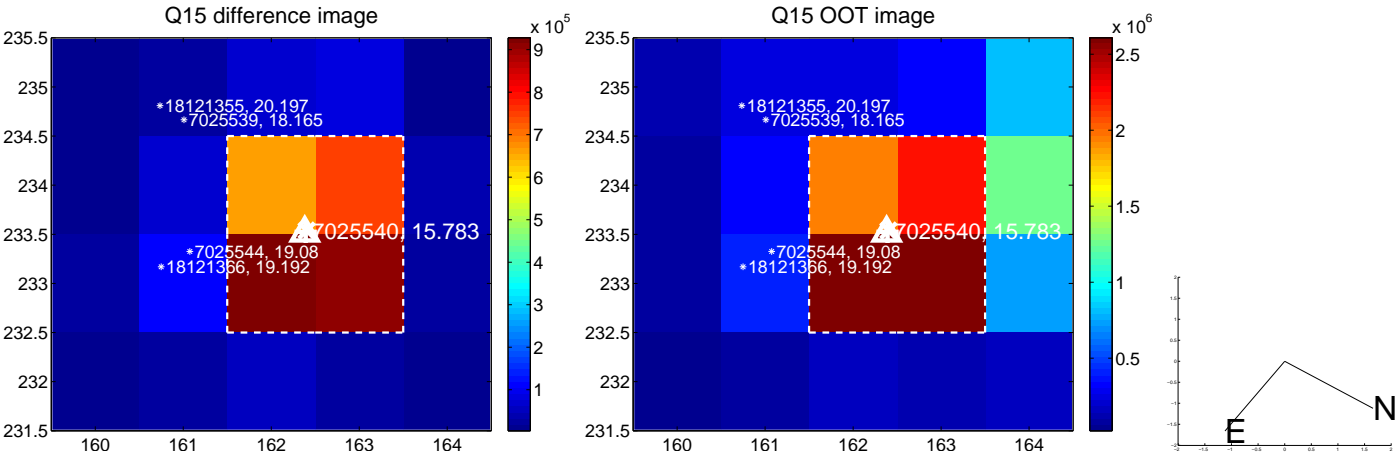
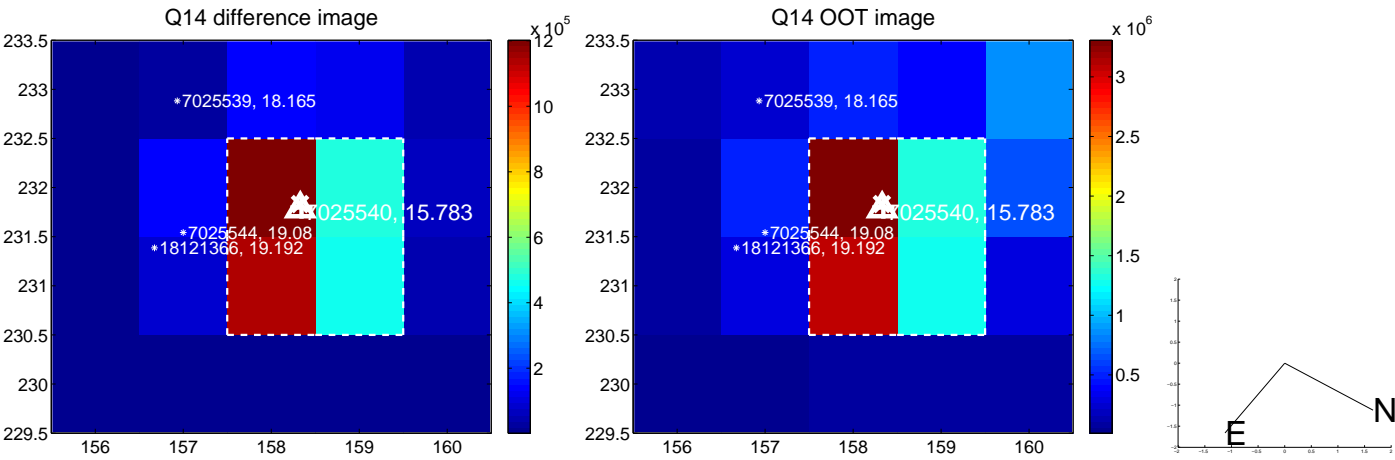
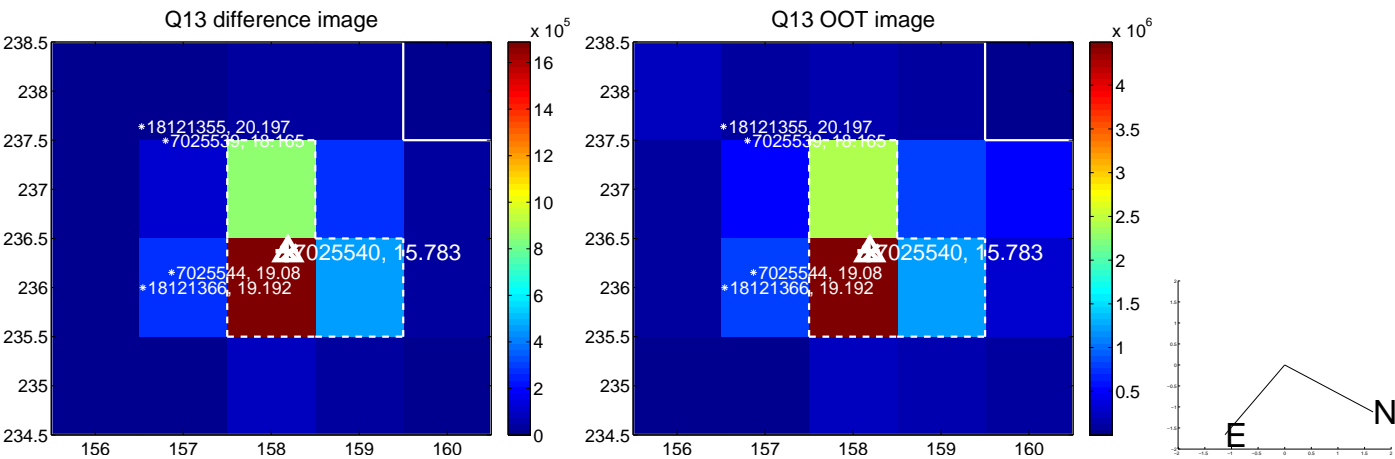
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



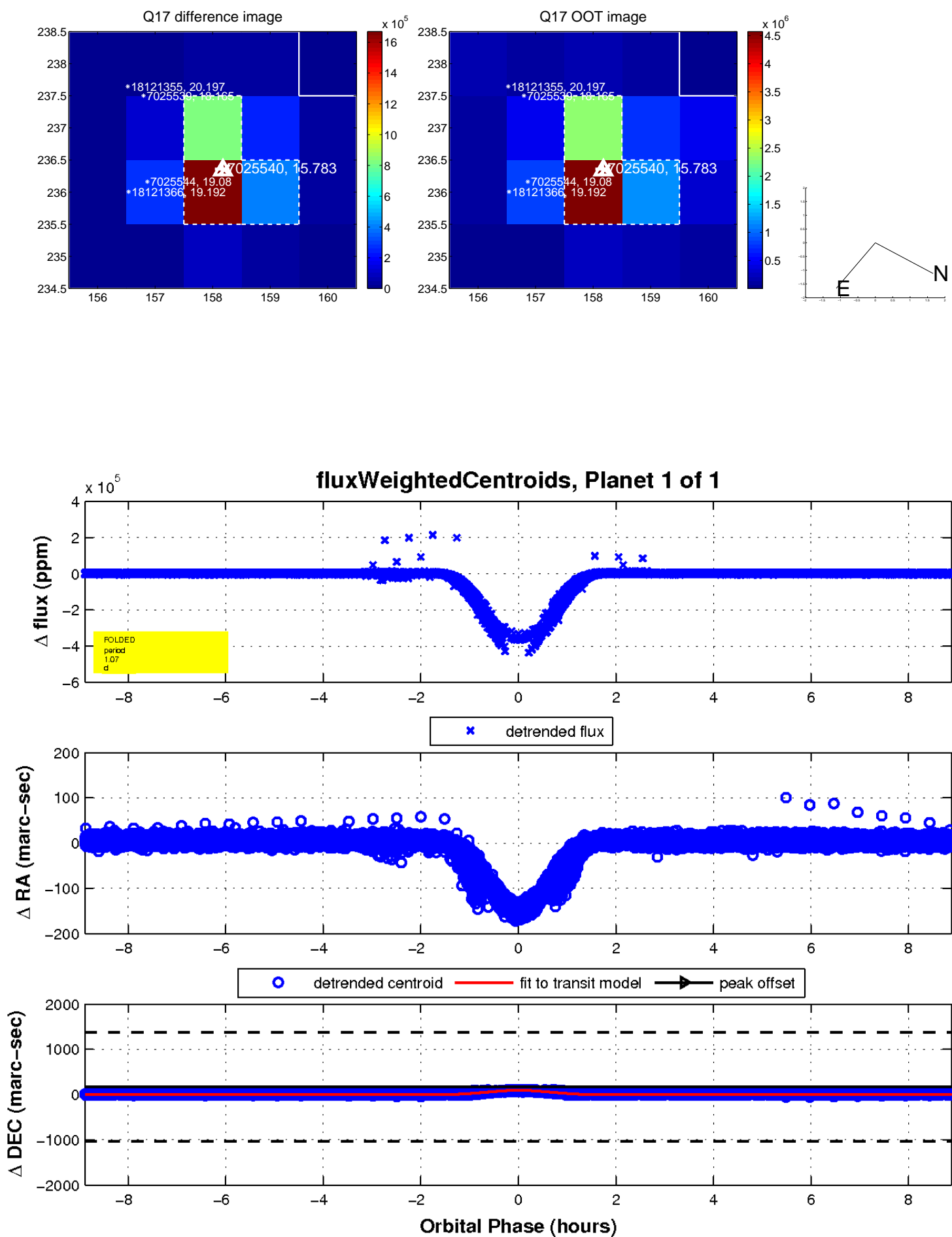
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

