

KIC 005021732

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})
005021732-01	OBS	6490.01	15.039466	144.137216	66922.1	5.391	2873.1	2317.0	1.18	6410	45.38	140.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005021732-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—CENT_KIC_POS

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.

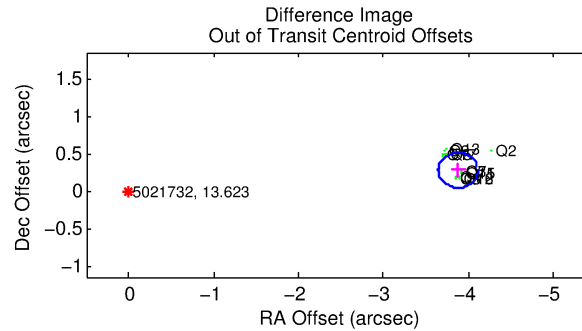
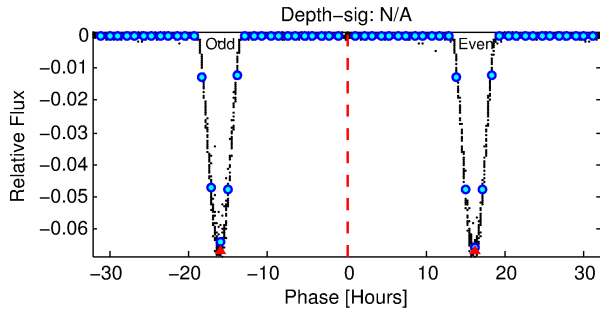
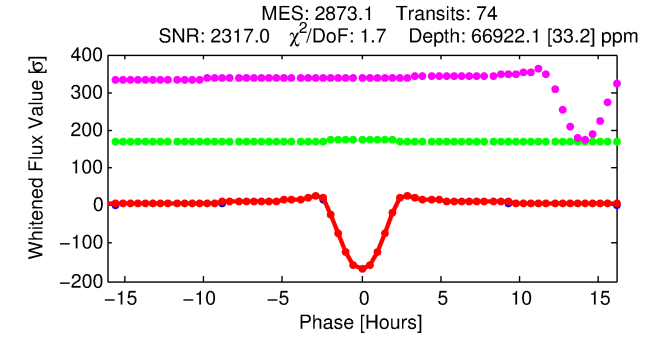
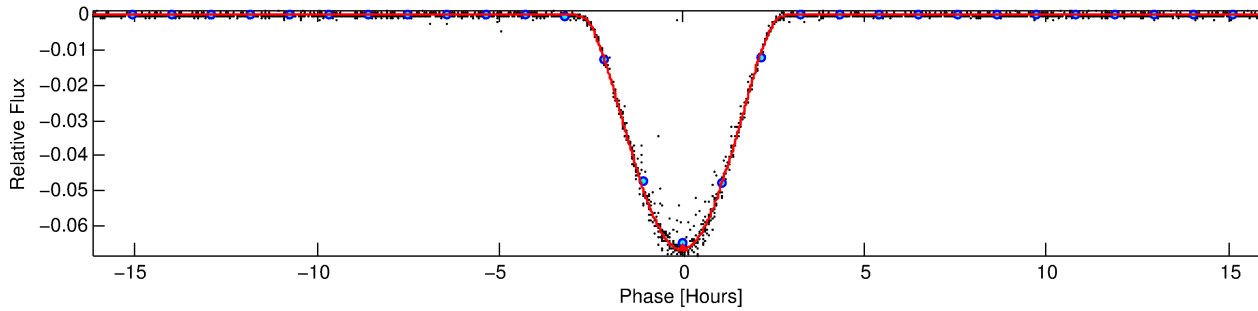
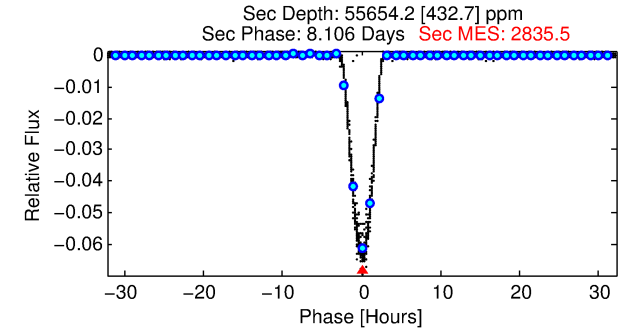
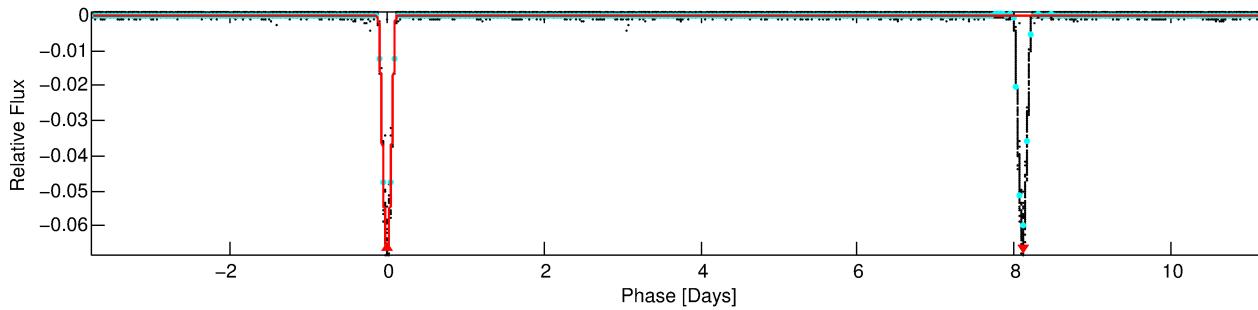
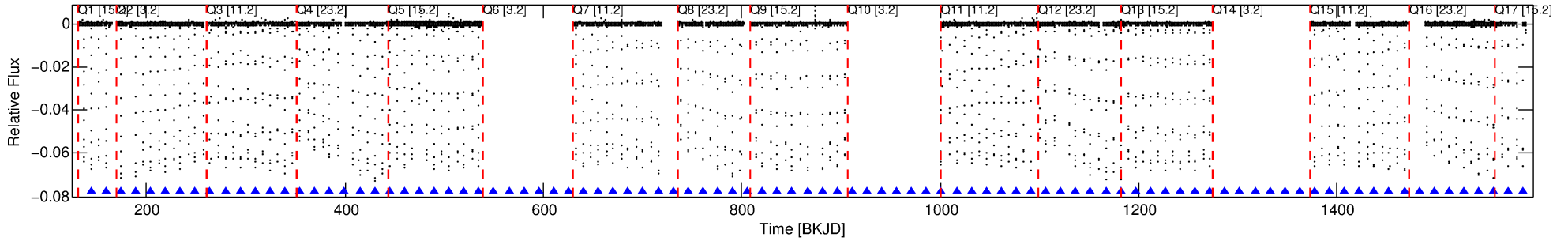
Ephemeris Match Information For 005021732-01

No Significant Match Found

DV One-Page Summary

KIC: 5021732 Candidate: 1 of 1 Period: 15.039 d
KOI: K06490.01 Corr: 0.999

Kp: 13.62 R*: 1.18 Rs Teff: 6410.0 K Logg: 4.33 Fe/H: -0.200



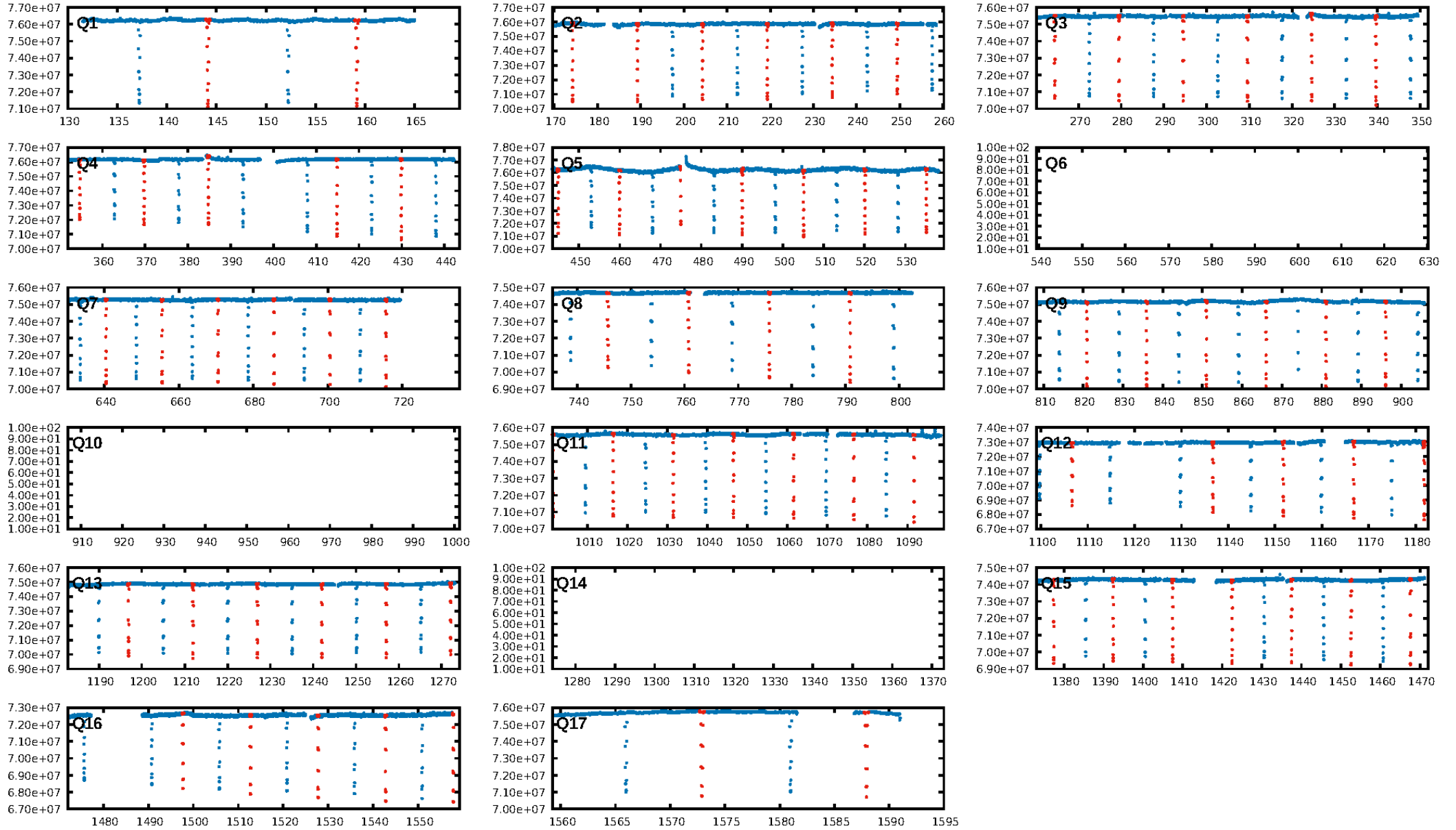
DV Fit Results:

Period = 15.03947 [0.00000] d
Epoch = 144.1372 [0.0001] BKJD
Rp/R* = 0.3530 [0.0080]
a/R* = 20.98 [0.02]
b = 0.93 [0.01]
Seff = 140.21 [54.57]
Teff = 877 [85] K
Rp = 45.38 [14.83] Re
a = 0.1224 [0.0323] AU
Ag = 222.61 [82.98] [2.67σ]
Teffp = 5240 [170] K [22.97σ]

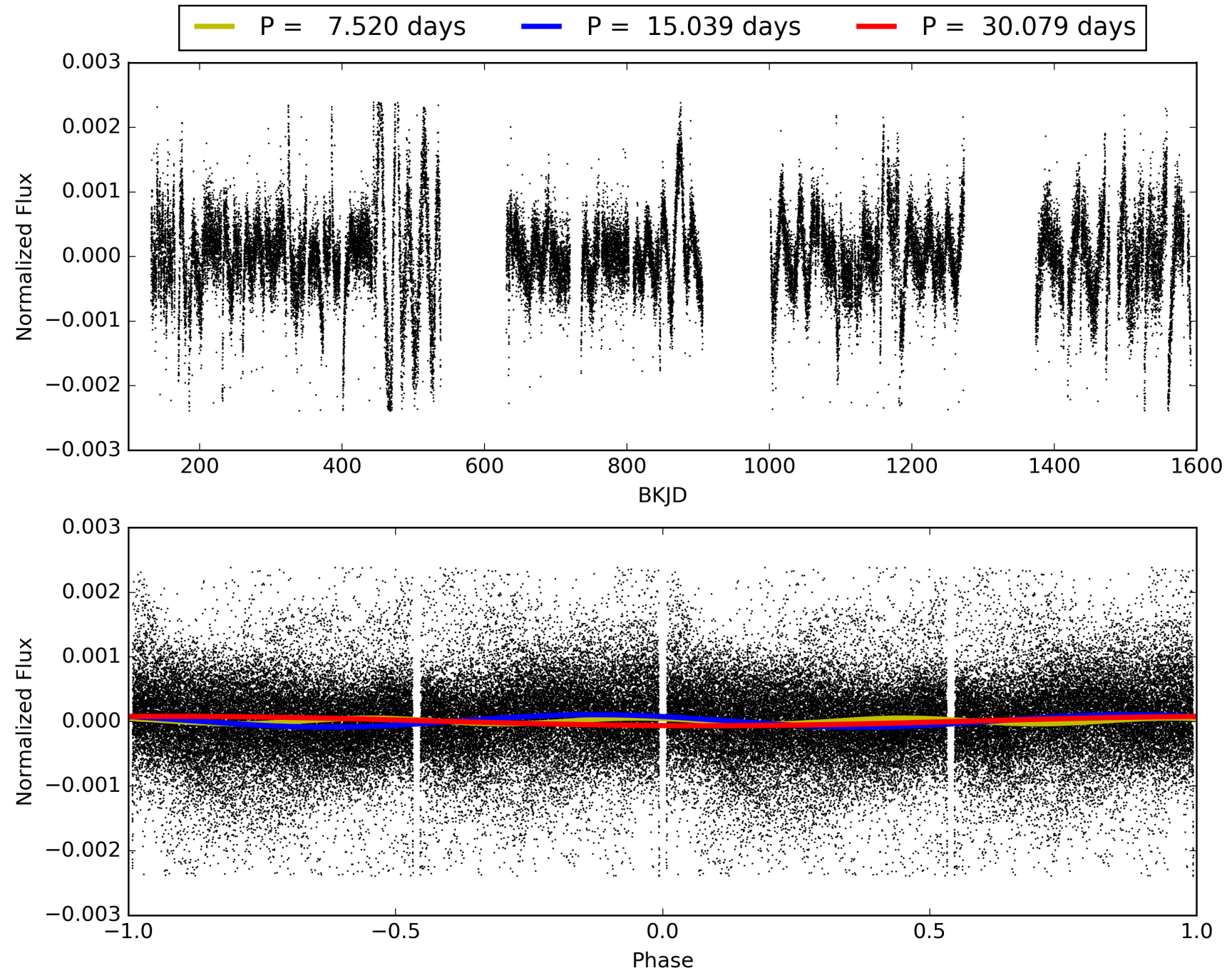
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [70/70]
GhostDiagnostic-chr: 1.806
Centroid-sig: 0.0%
Centroid-so: 2.157 arcsec [2776.14σ]
OotOffset-rm: 3.890 arcsec [50.05σ]
KicOffset-rm: 0.054 arcsec [0.77σ]
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 005021732-01, PDC Light Curves

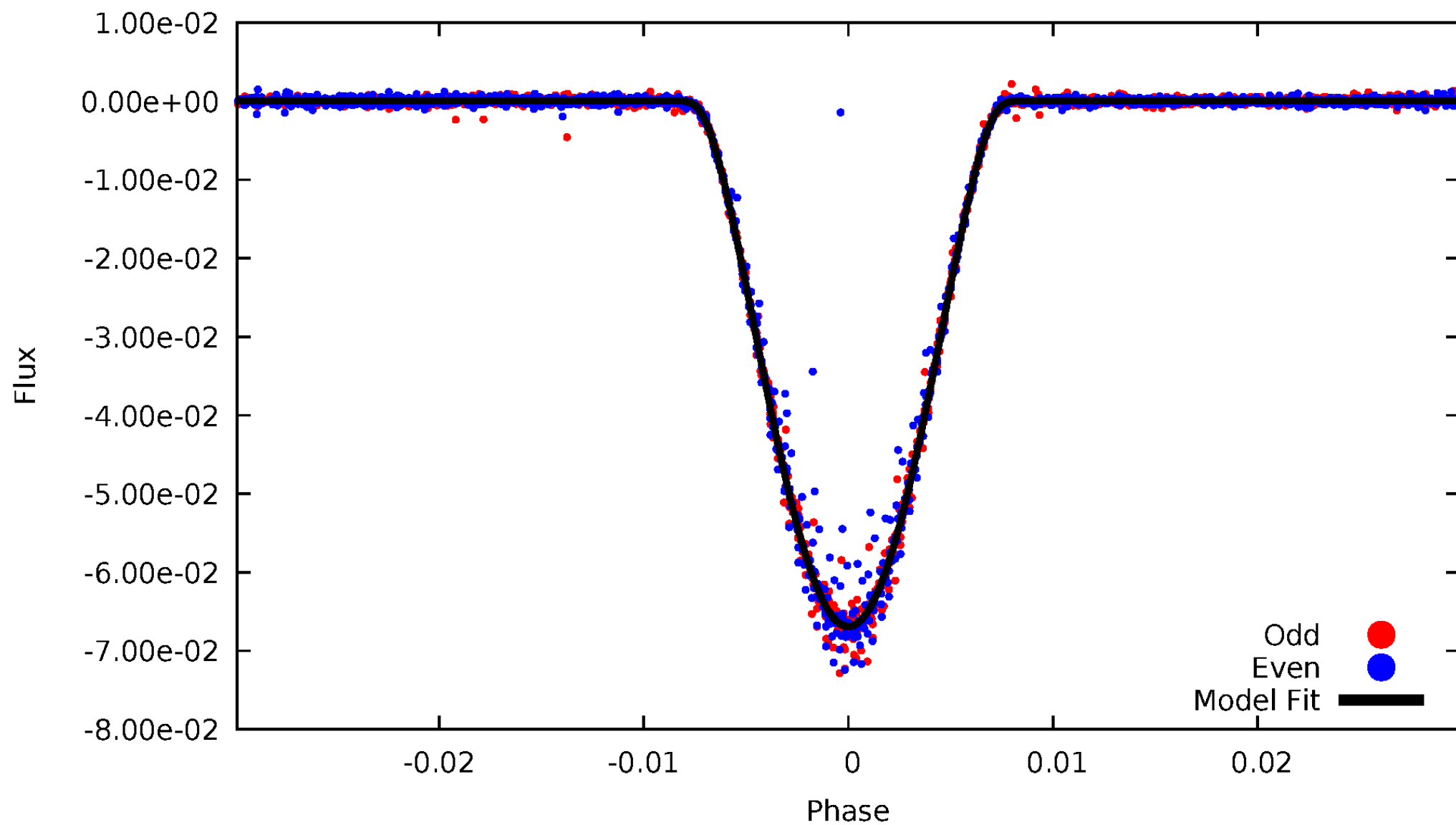


TCE 005021732-01



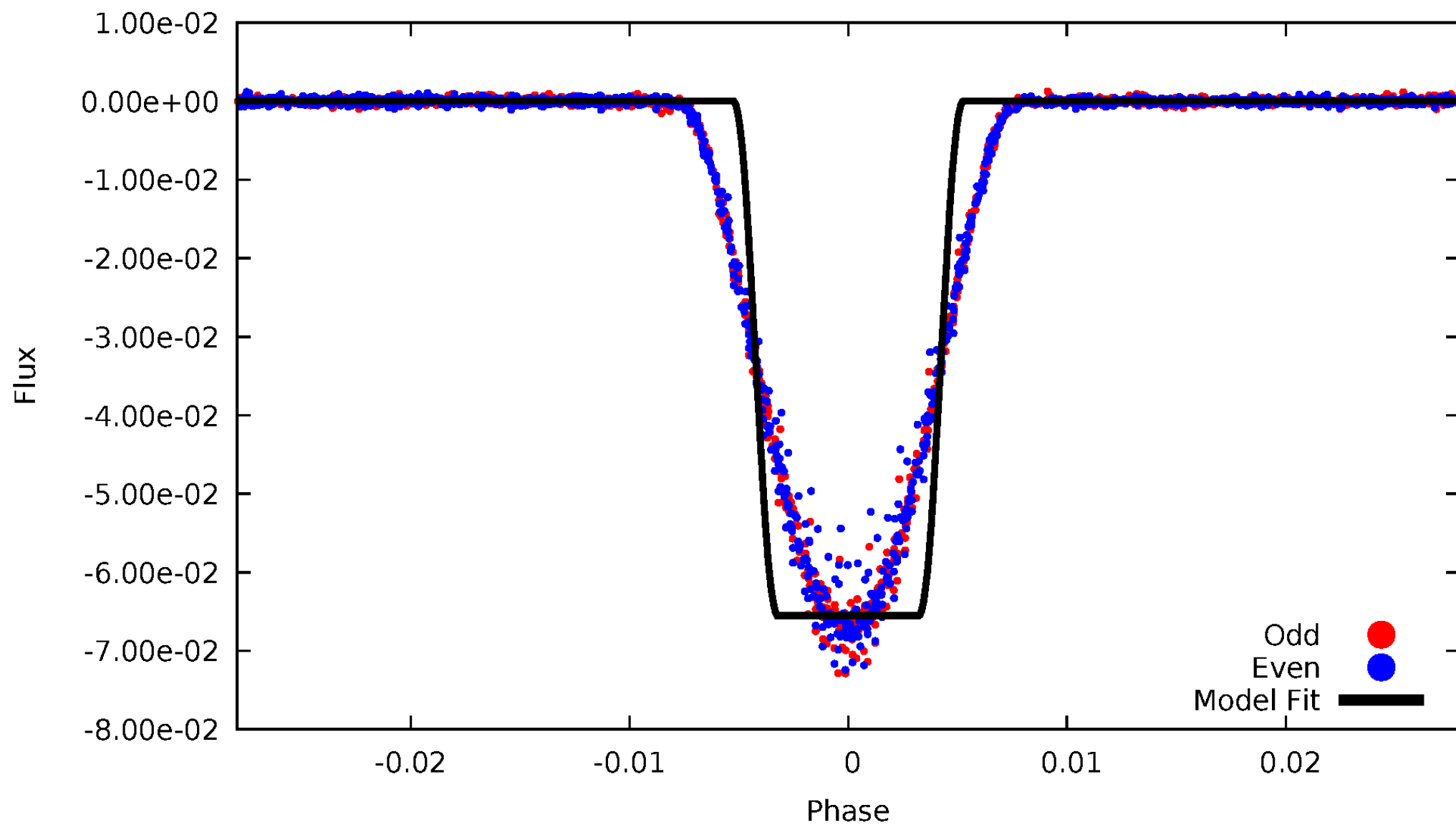
DV Odd/Even

TCE 005021732-01



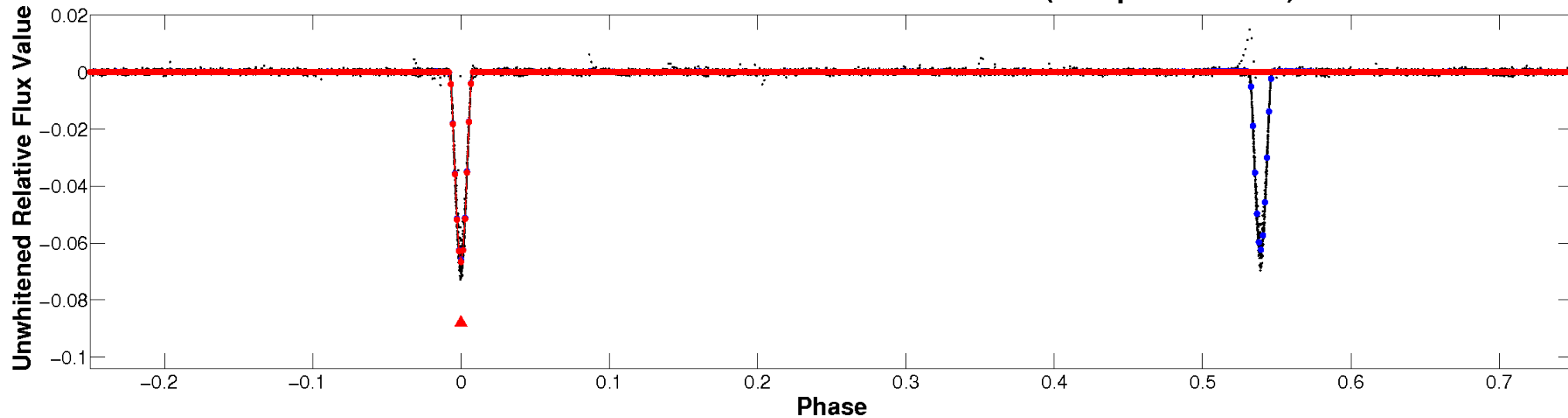
ALT Odd/Even

TCE 005021732-01

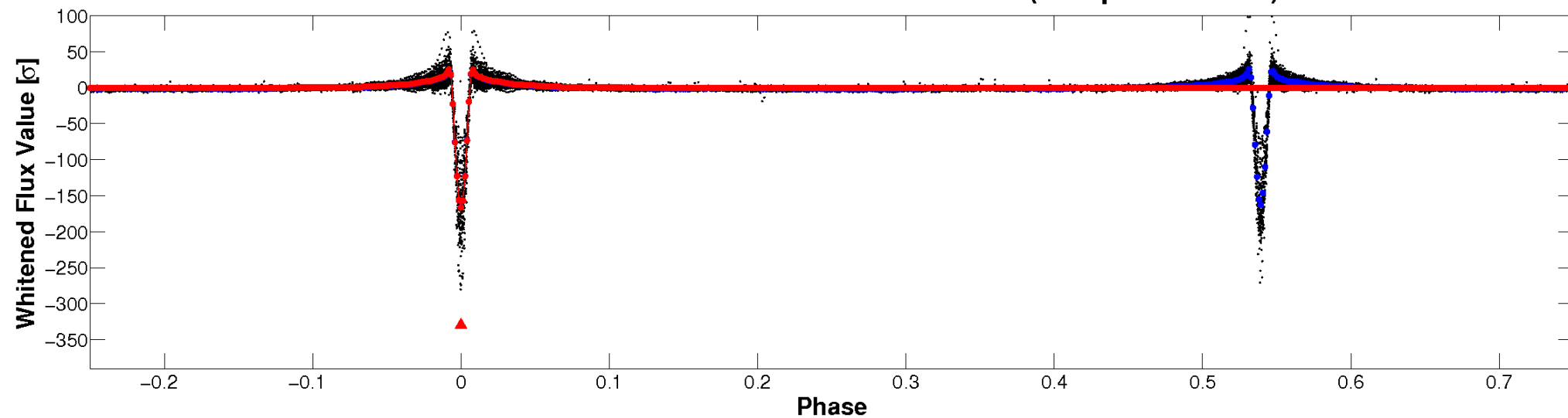


Non-Whitened Vs. Whitened Light Curve

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

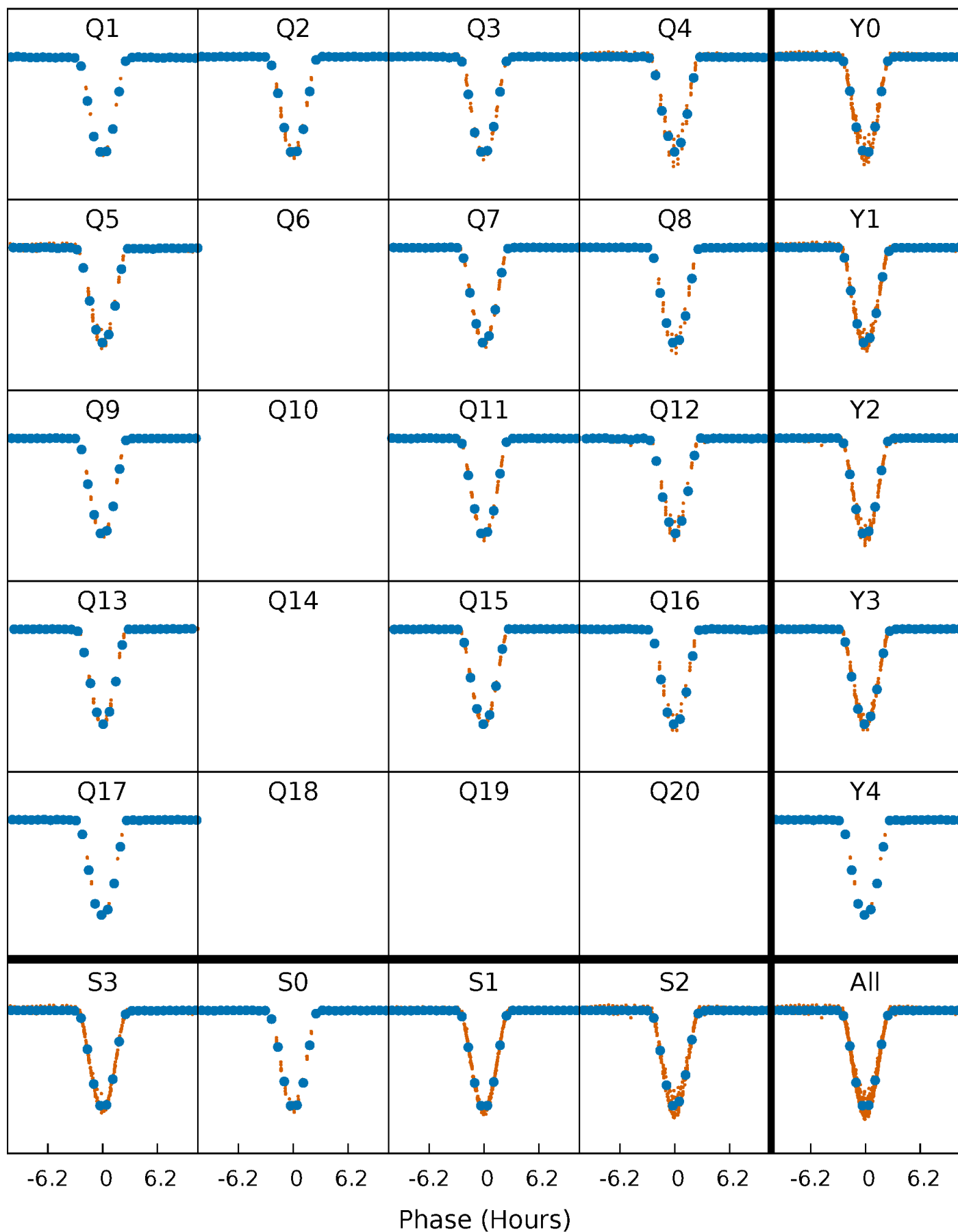


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



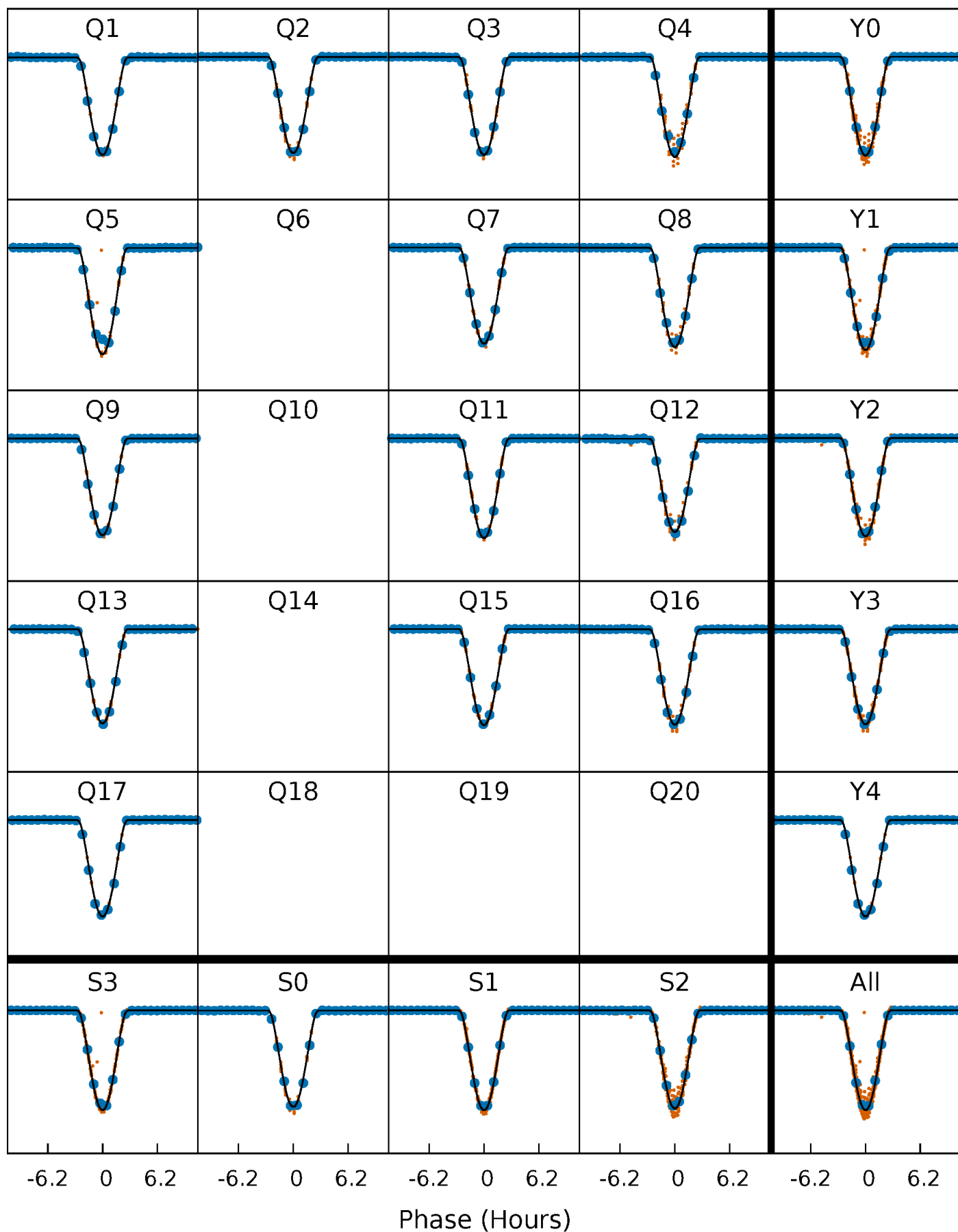
PDC Quarter-Phased Transit Curves

TCE 005021732-01 P= 15.039466 Days $T_0=144.137216$ (BKJD)



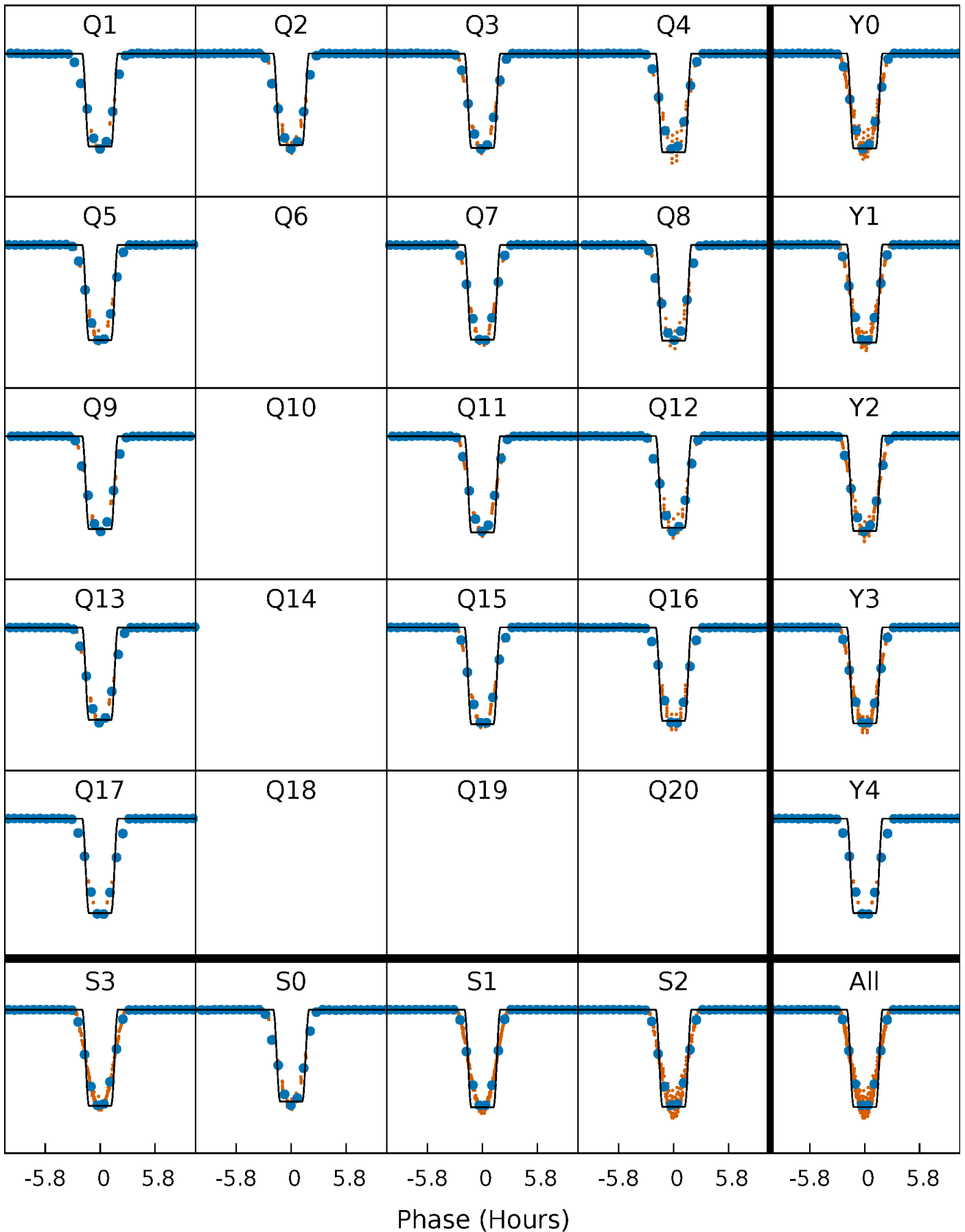
DV Quarter-Phased Transit Curves

TCE 005021732-01 P= 15.039466 Days $T_0=144.137216$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

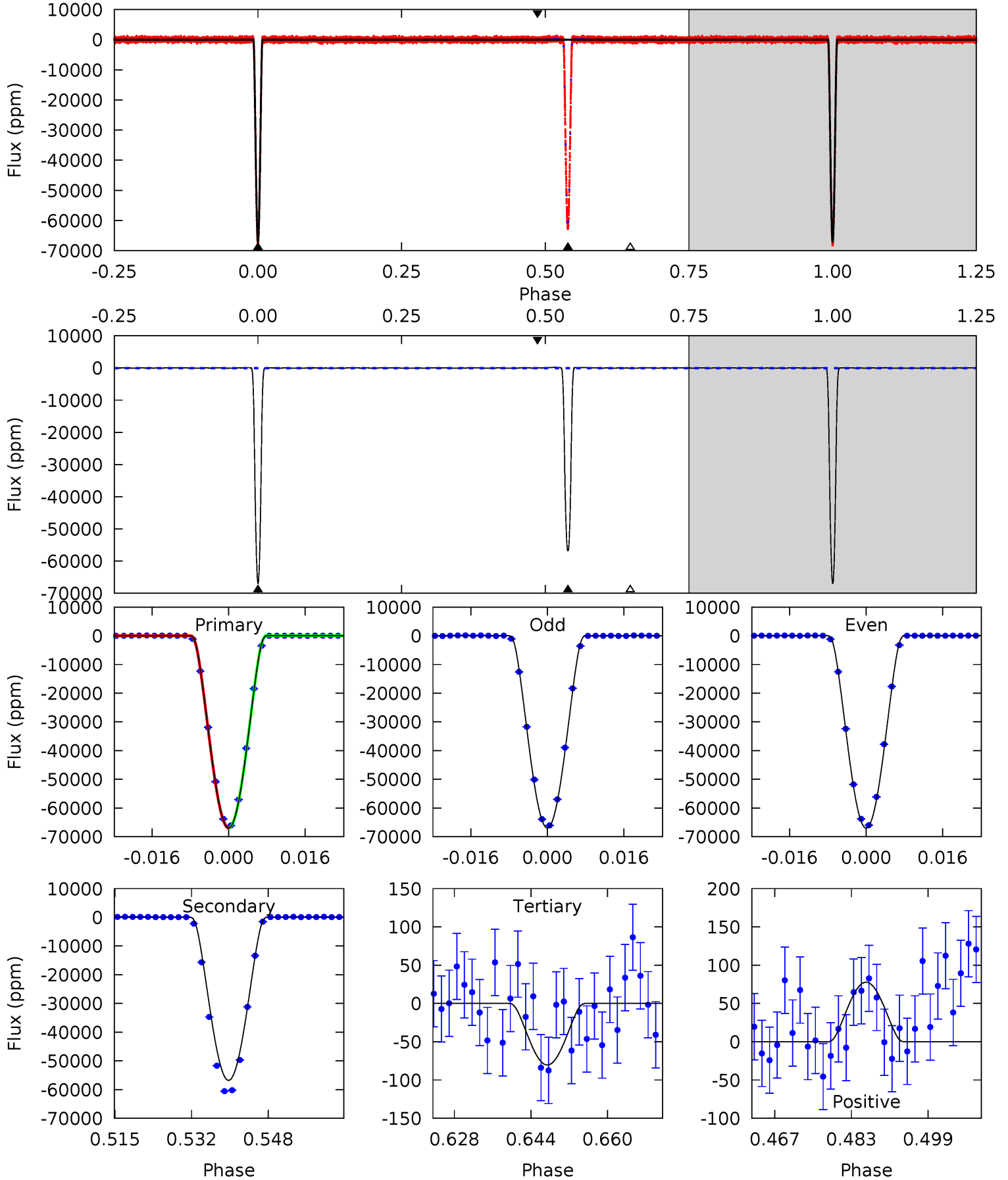
TCE 005021732-01 P= 15.039438 Days $T_0=144.138514$ (BKJD)



DV Model-Shift Uniqueness Test

005021732-01, P = 15.039466 Days, E = 129.097750 Days

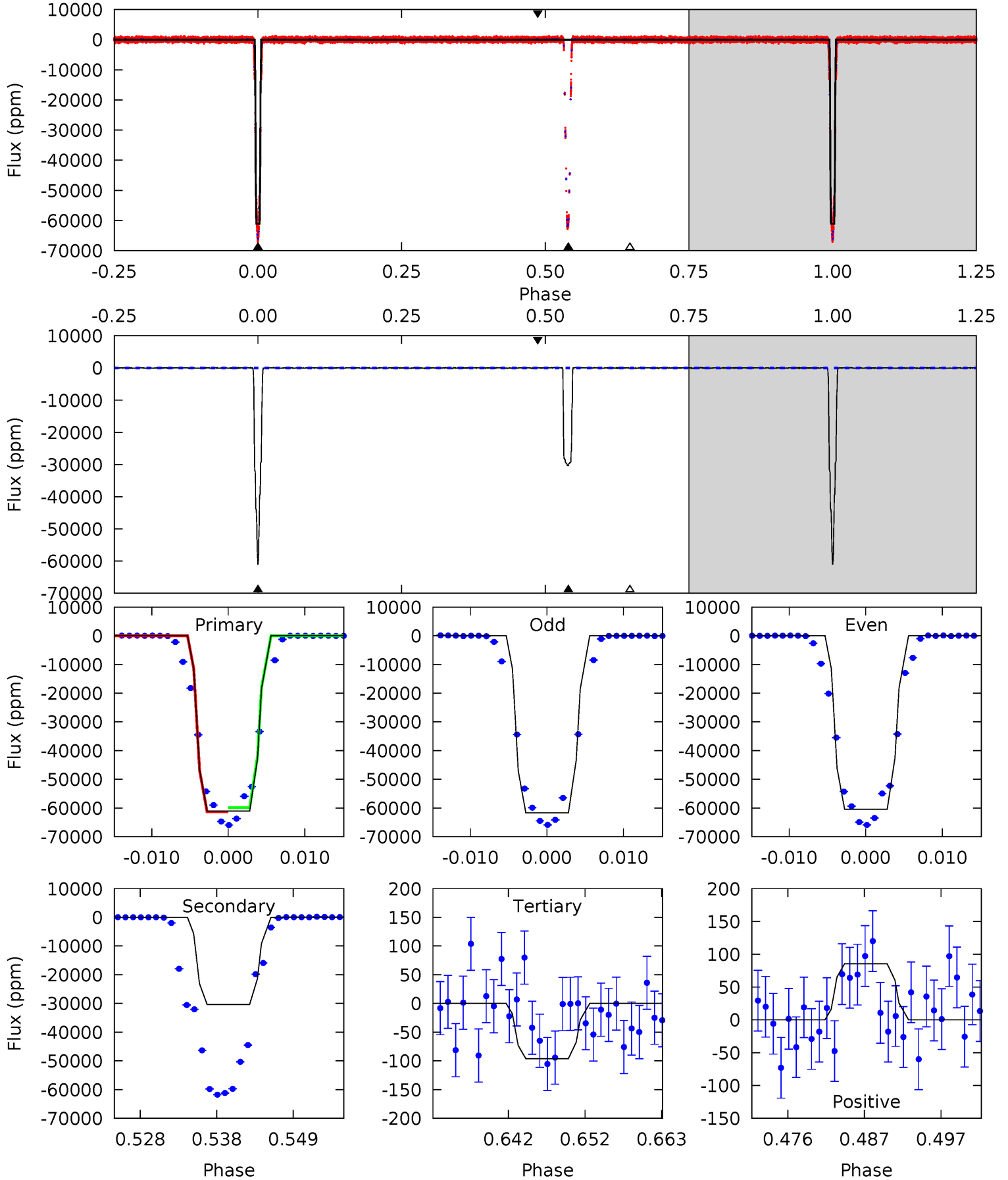
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5330	4518	6.40	6.19	4.93	2.41	3.46	5323	5323	4512	4512	2.78	0.99	0.00	2.82



Alt Model-Shift Uniqueness Test

005021732-01, P = 15.039438 Days, E = 129.099076 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2755	1369	4.34	3.86	5.02	2.56	1.36	2751	2751	1364	1365	26.8	1.00	0.00	4.39



Stellar Parameters For KIC 005021732

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6410^{+162}_{-194}	$4.329^{+0.105}_{-0.195}$	$-0.200^{+0.250}_{-0.300}$	$1.178^{+0.384}_{-0.179}$	$1.077^{+0.177}_{-0.118}$	$0.928^{+0.447}_{-0.485}$
	+3%/-3%	+2%/-5%	+125%/-150%	+33%/-15%	+16%/-11%	+48%/-52%
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 005021732-01 / KOI 6490.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-56776 ± 13	$46.04^{+8.32}_{-4.48}$	1242^{+94}_{-69}	5384^{+116}_{-142}	230^{+50}_{-59}
Alt.	-30344 ± 22	$33.50^{+6.02}_{-3.24}$	1240^{+91}_{-65}	5363^{+154}_{-169}	228^{+49}_{-57}

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

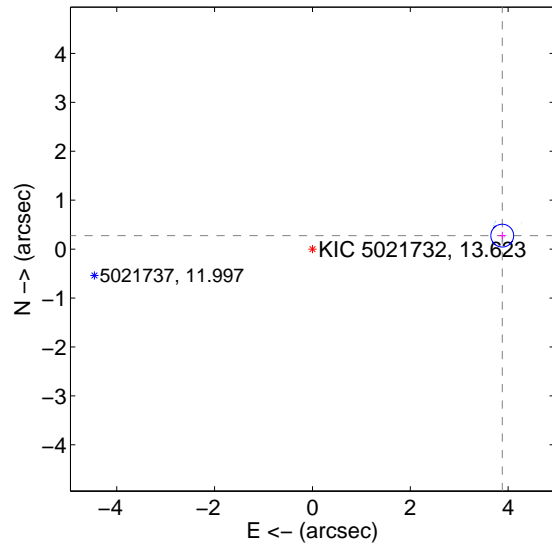
Supplemental centroid analysis for 005021732-01. Kepler magnitude: 13.62. Transit SNR 2317.03

There are 14 quarters with good PRF difference image offsets

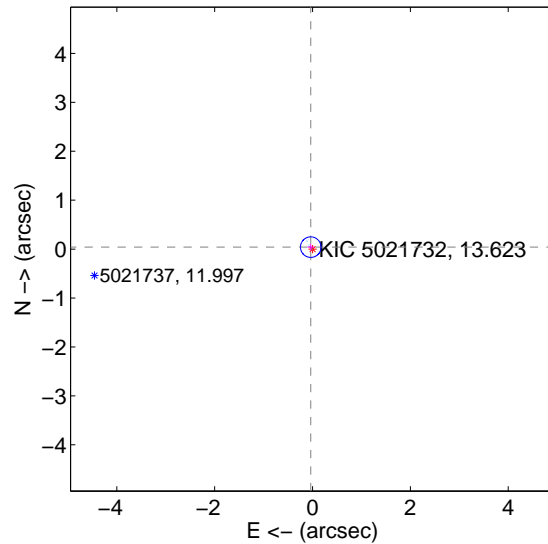
The OOT PRF centroid is offset from the target star catalog position by about 3.79 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.890 ± 0.078	50.05	-3.880 ± 0.078	0.275 ± 0.079
PRF-fit source offset from KIC position	0.054 ± 0.070	0.77	0.036 ± 0.068	0.040 ± 0.069
photometric centroid source offset	2.16 ± 0.00	2776.14	2.15 ± 0.00	-0.12 ± 0.00

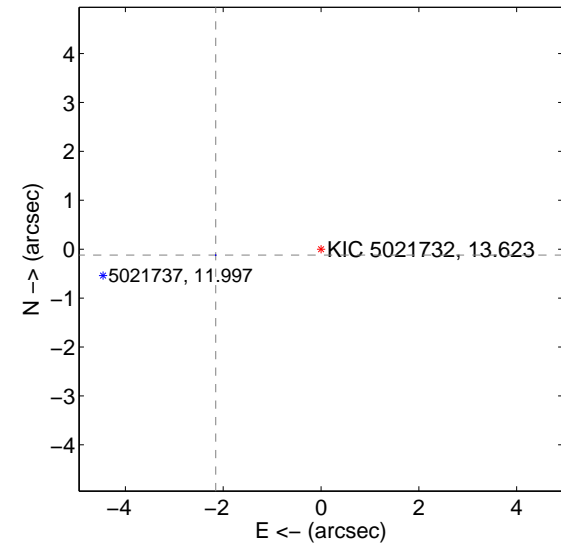
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

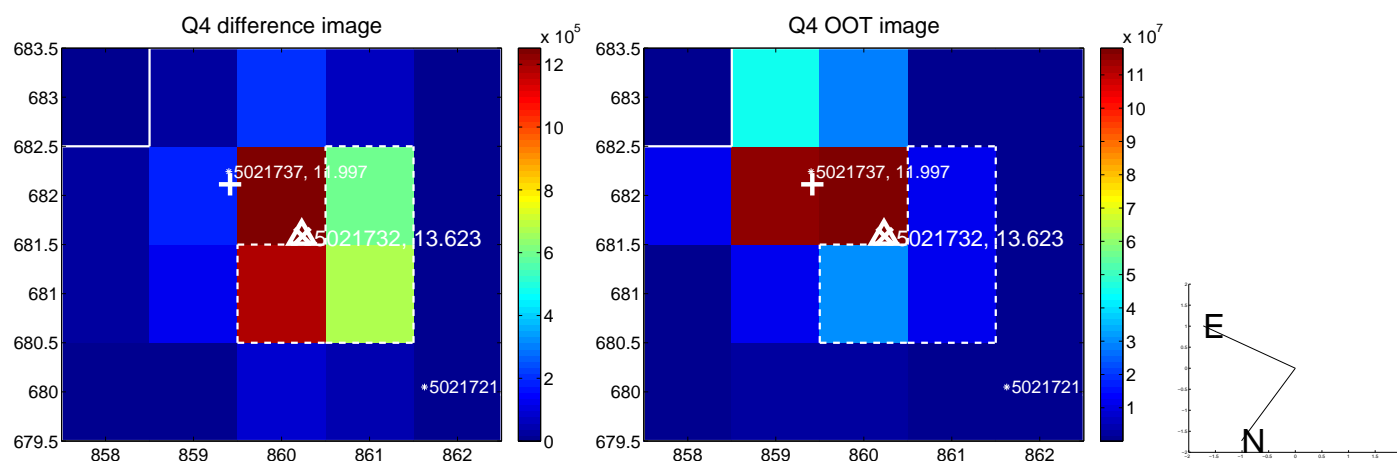
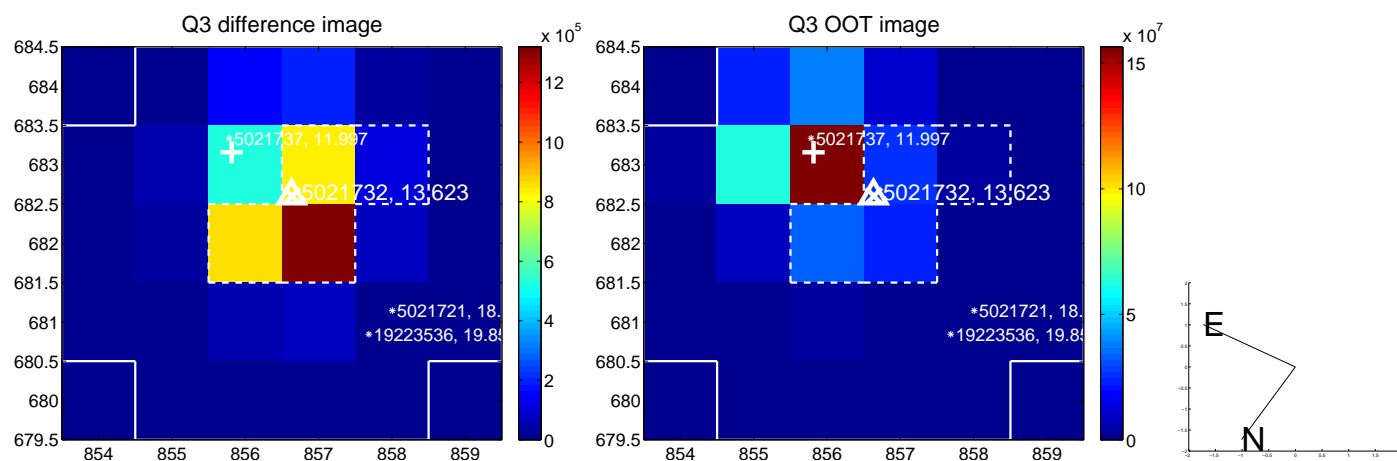
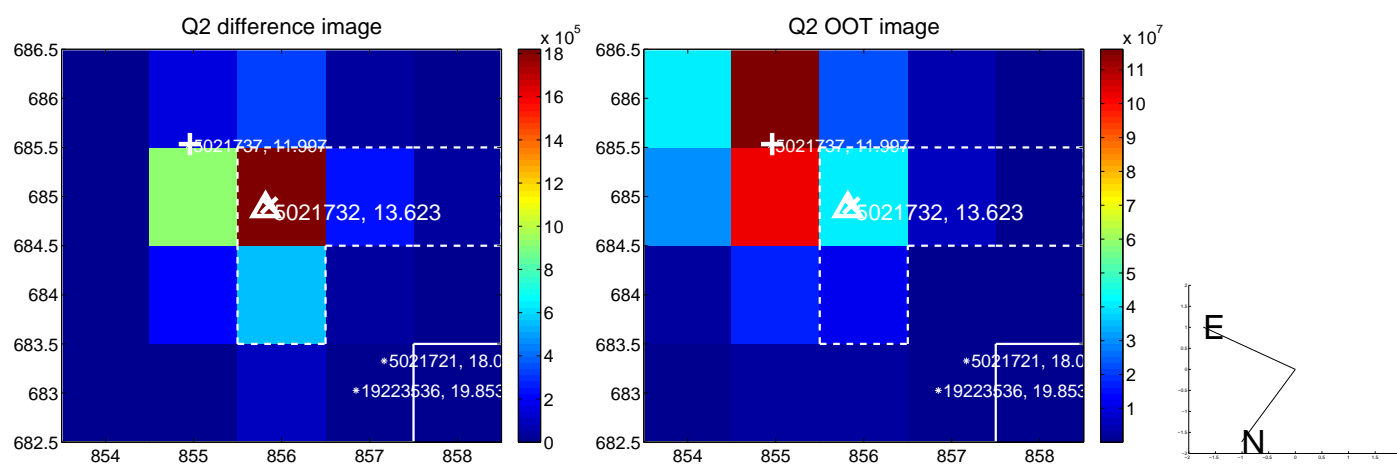
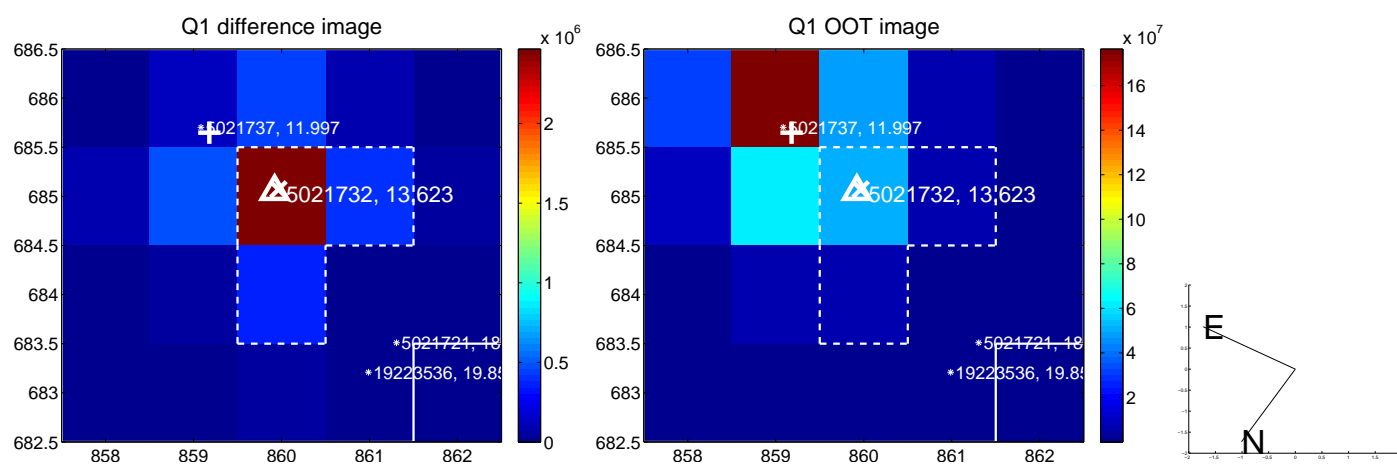


offset from photometric centroids

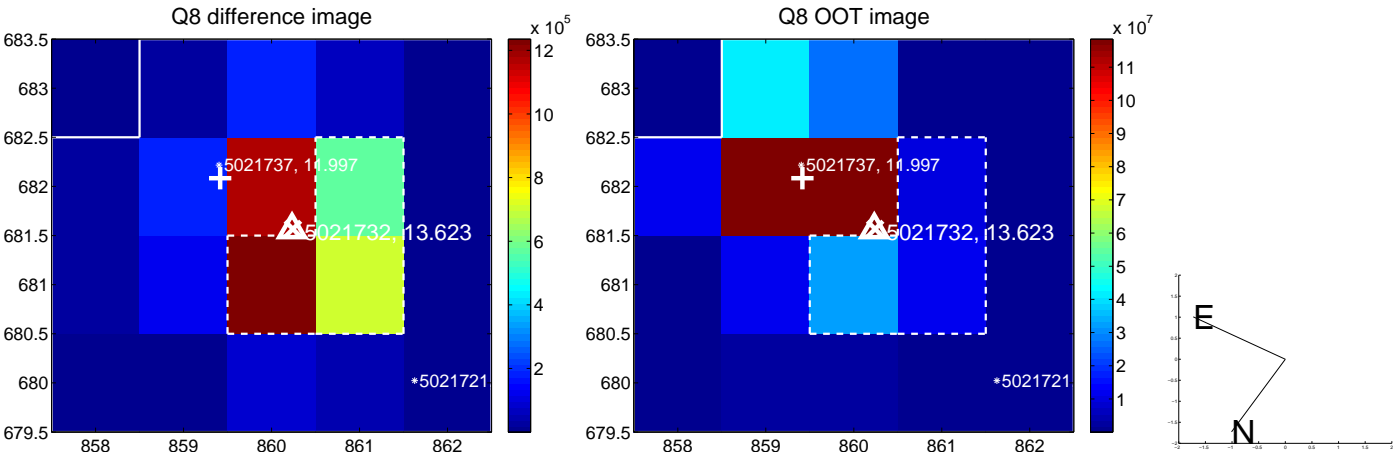
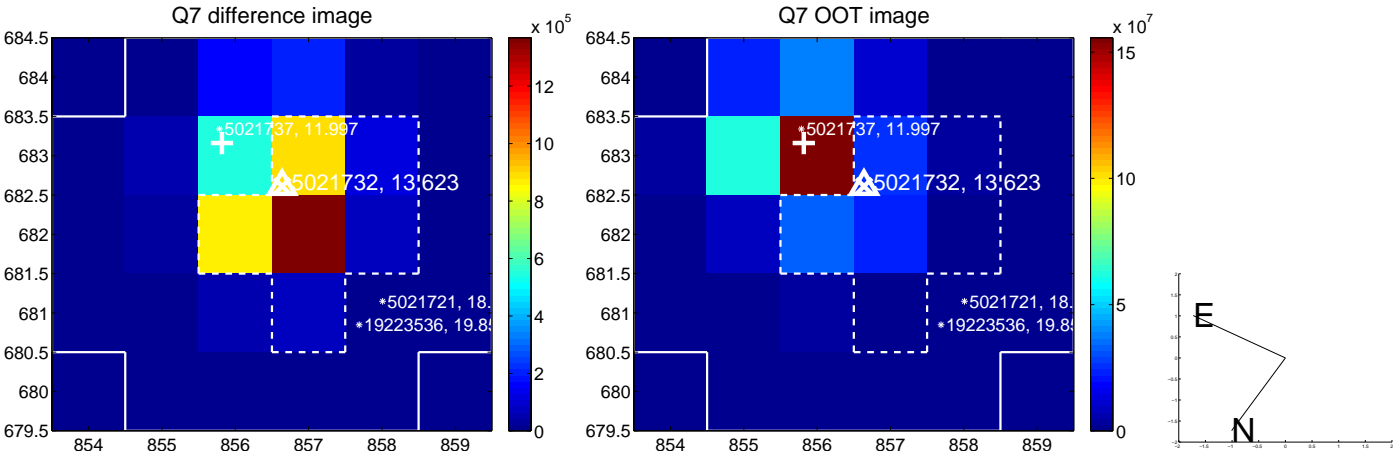
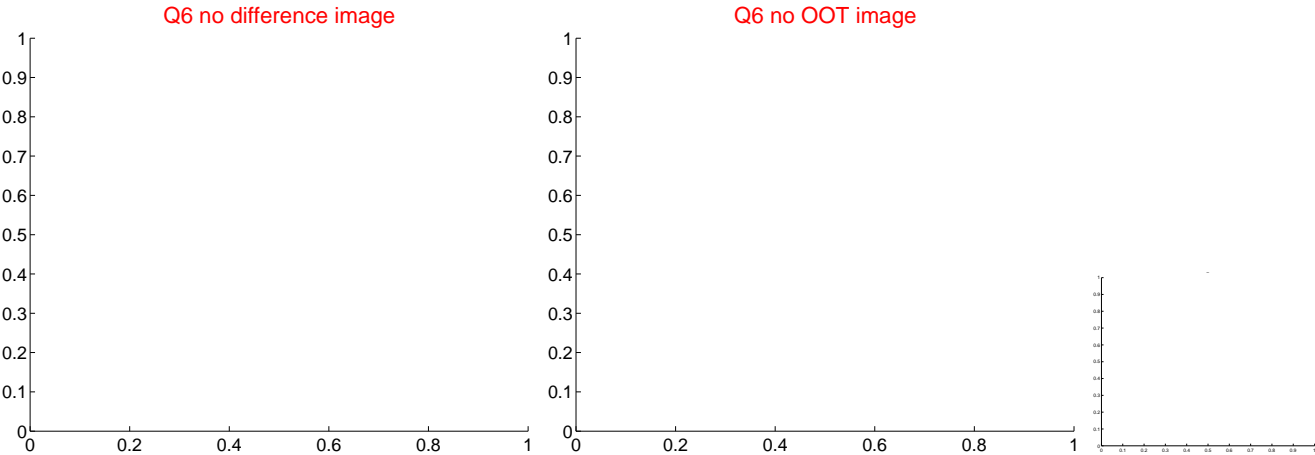
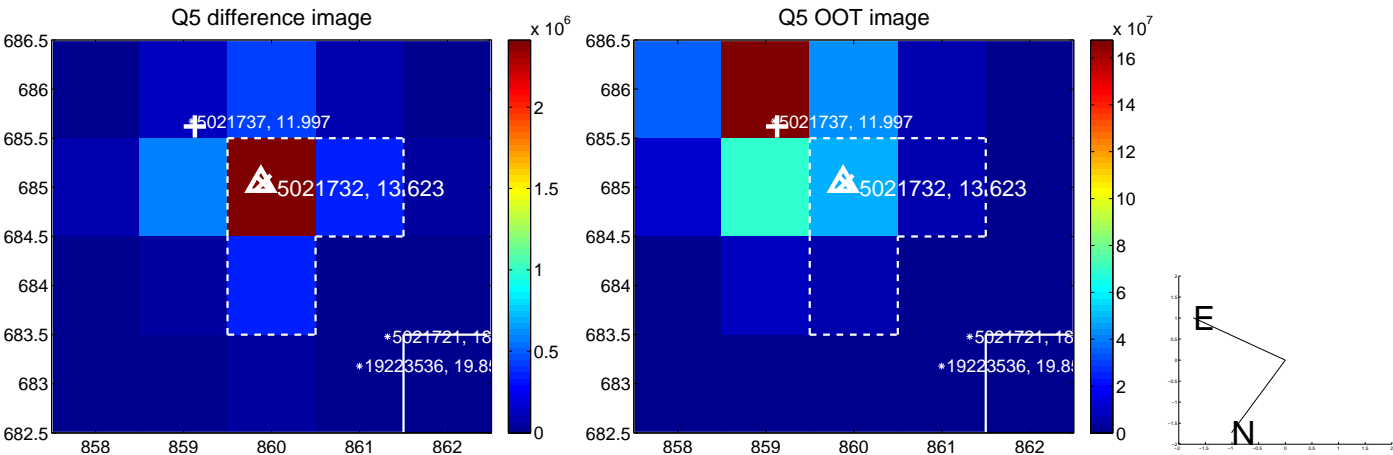


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

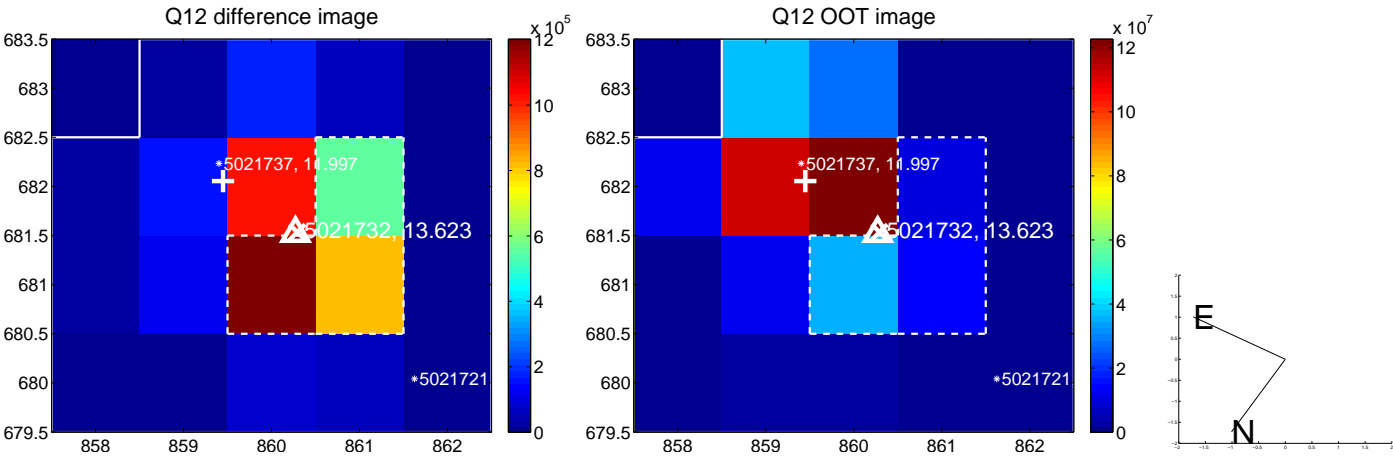
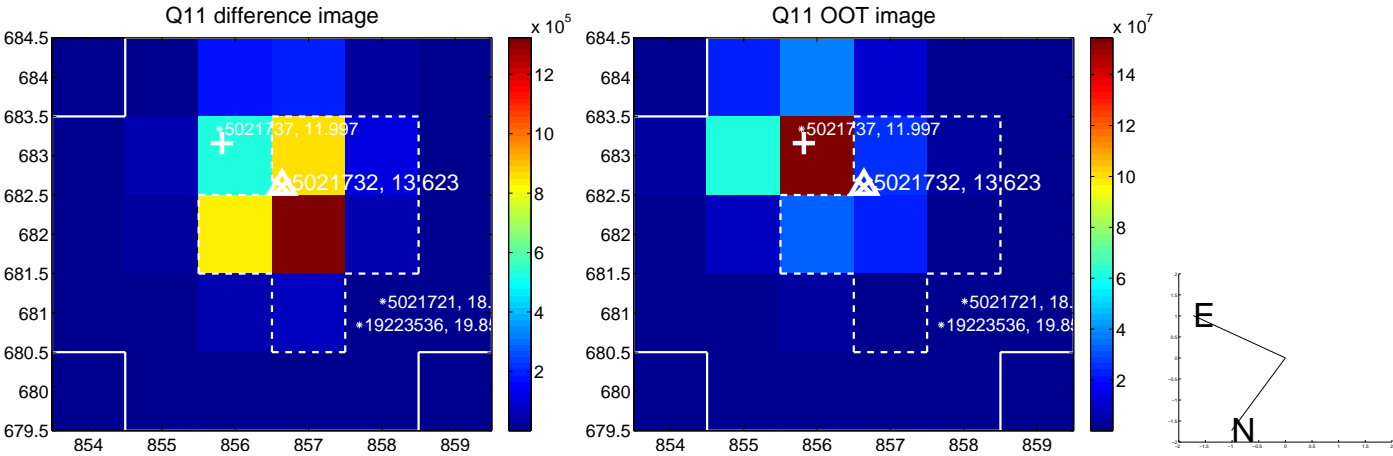
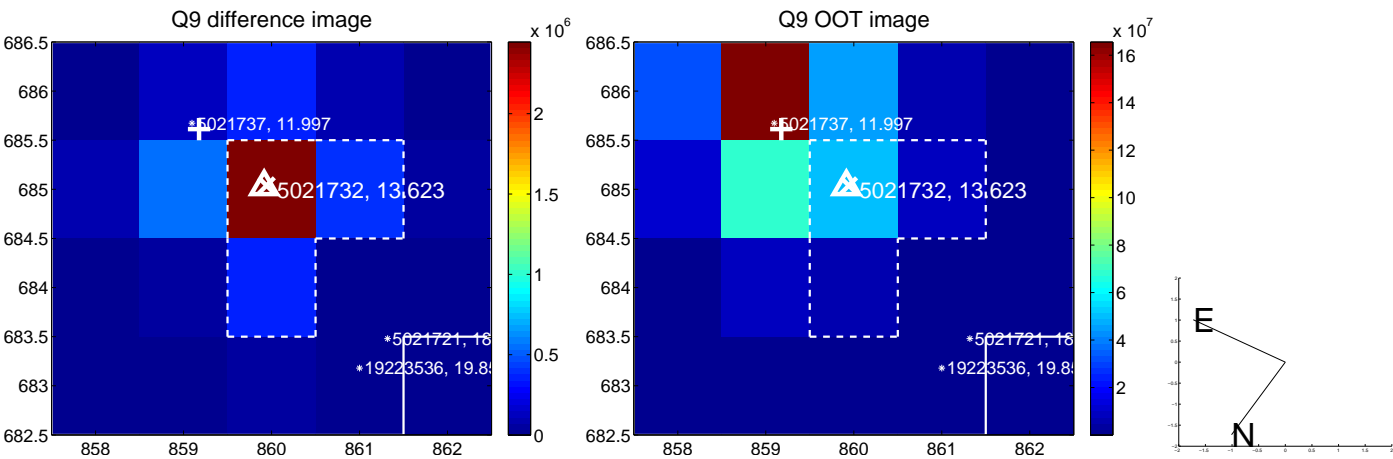
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



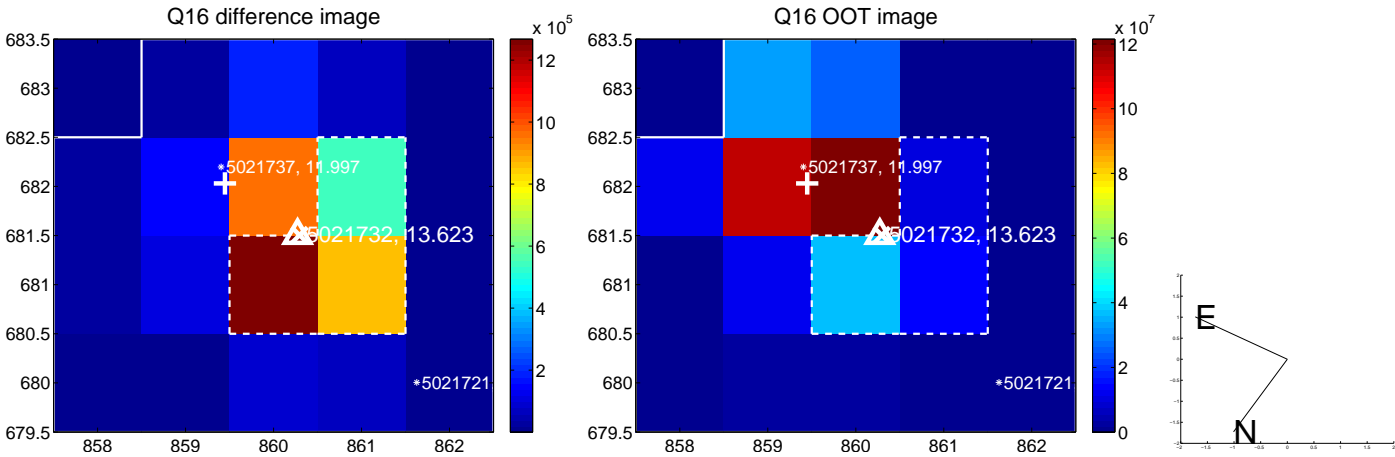
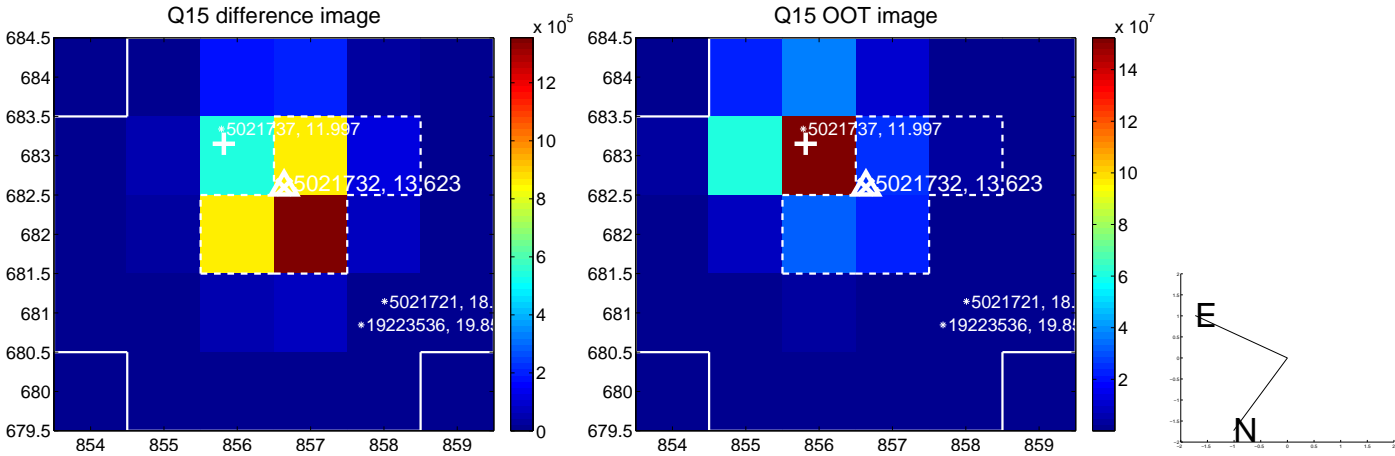
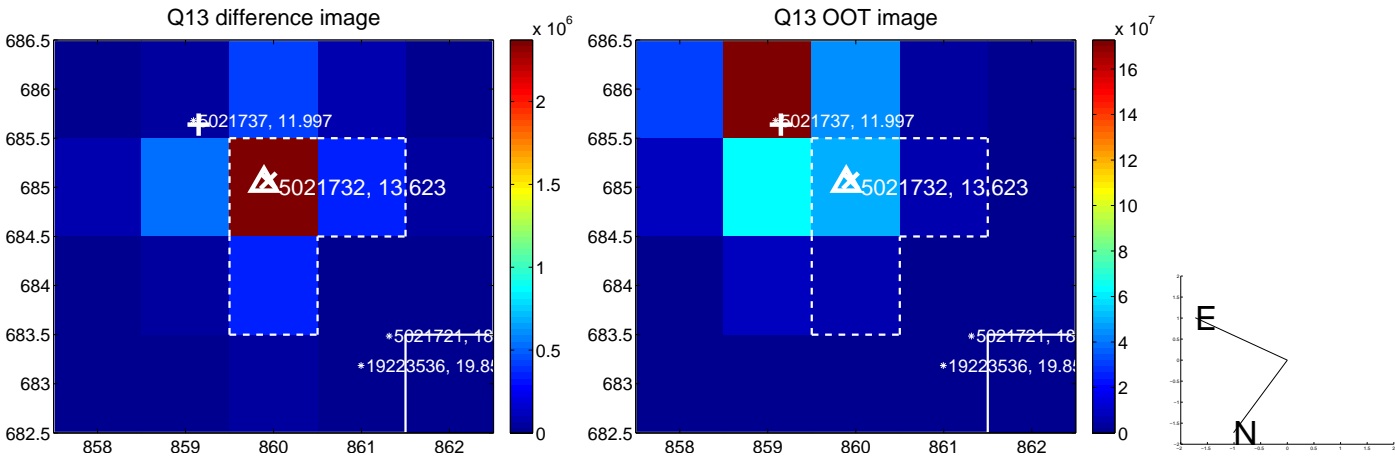
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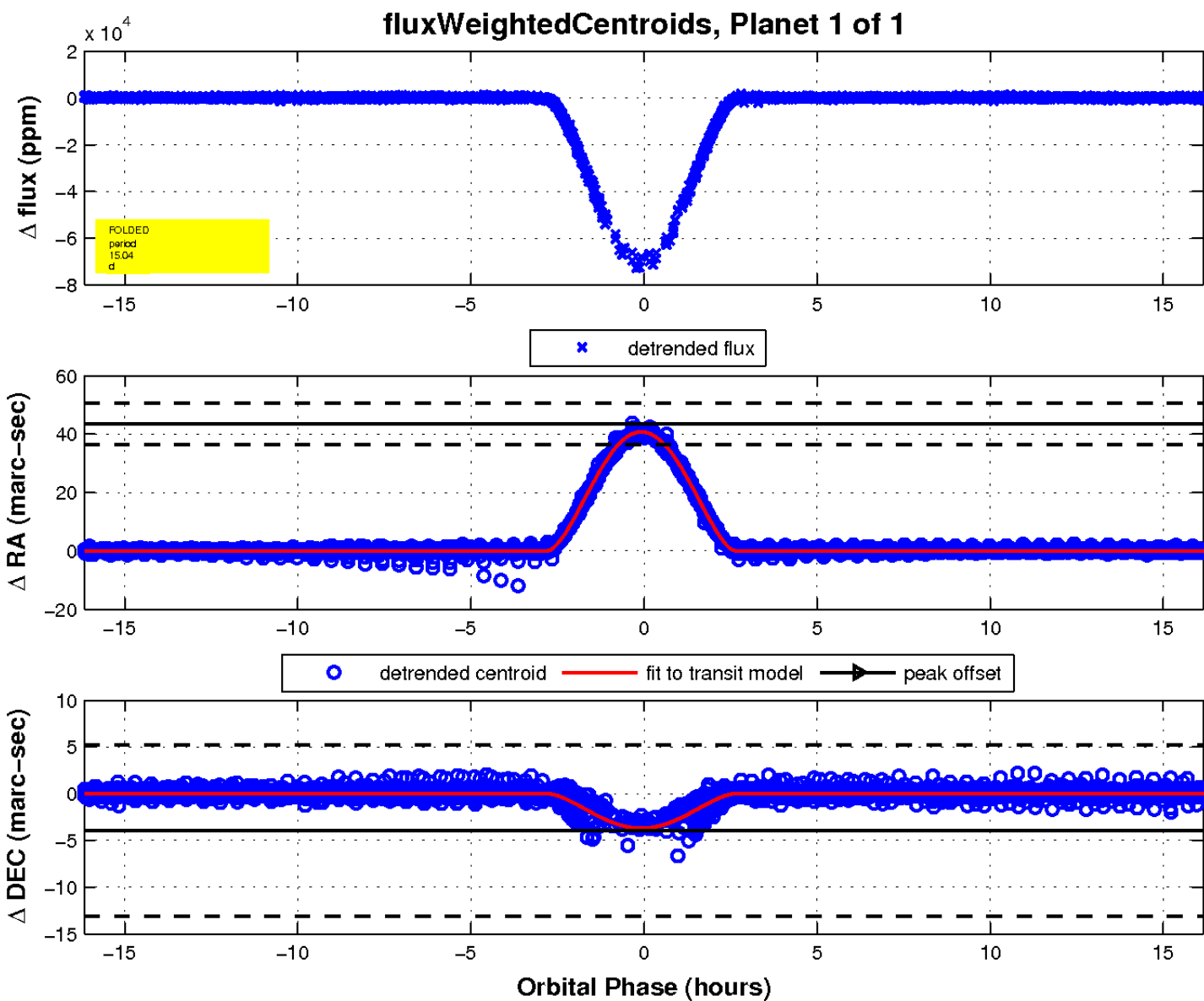
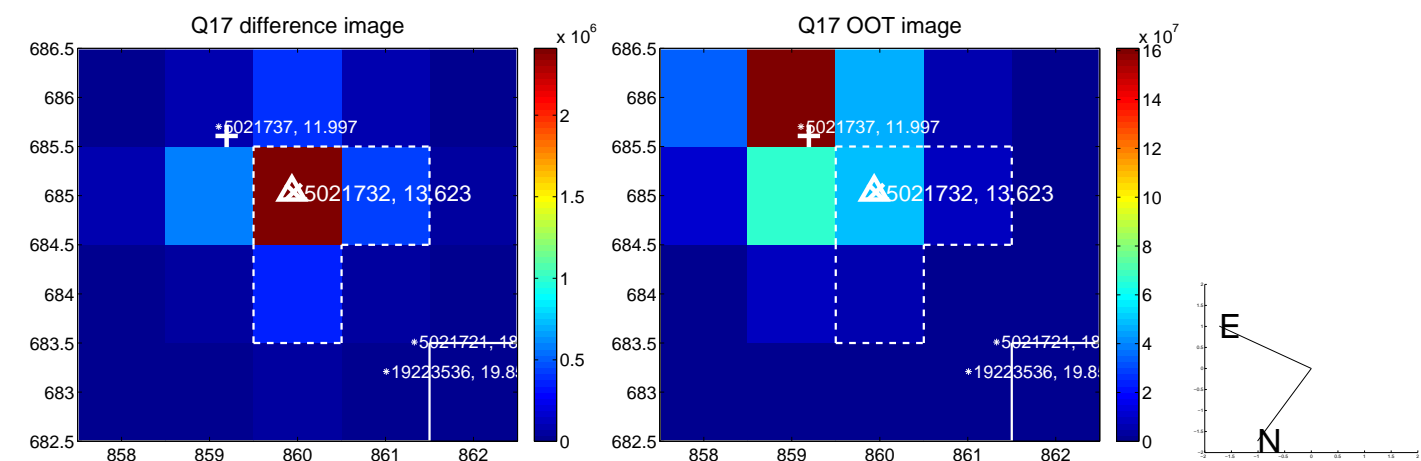
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

