

KIC 006025174

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})
006025174-01	OBS	5224.01	171.031031	301.733127	417.6	11.549	9.4	10.2	1.25	6123	2.71	4.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006025174-01	OBS	PC	0.83	0	0	0	0	CENT_FEW_DIFFS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

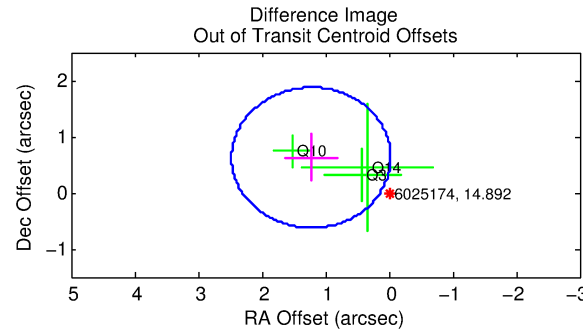
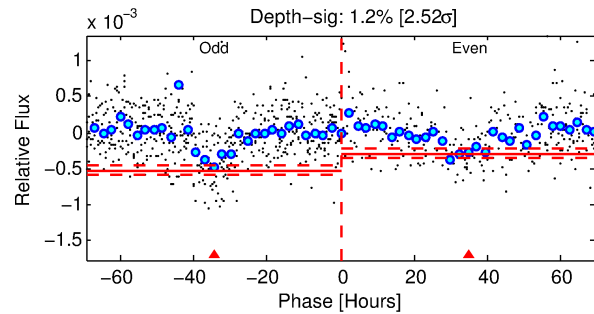
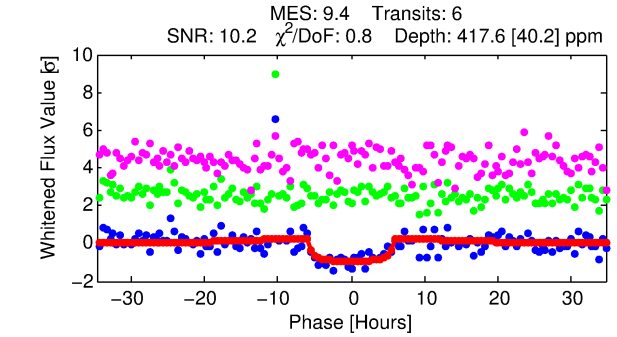
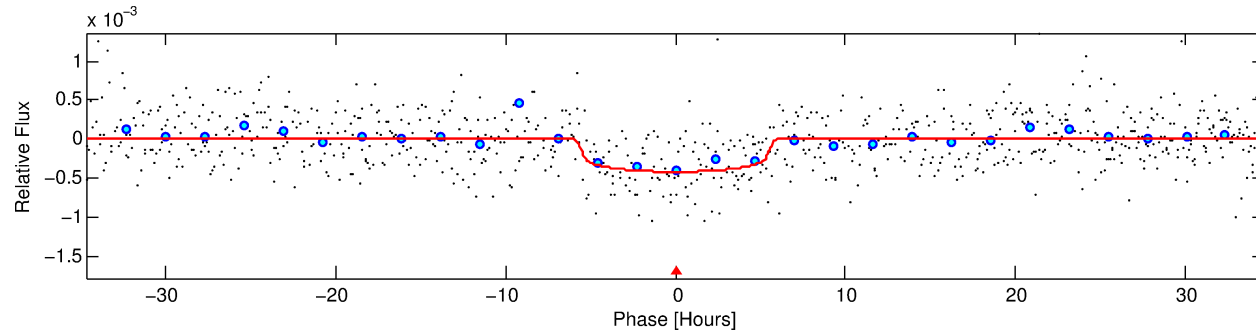
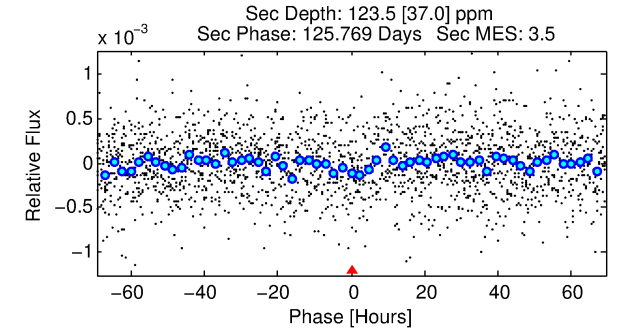
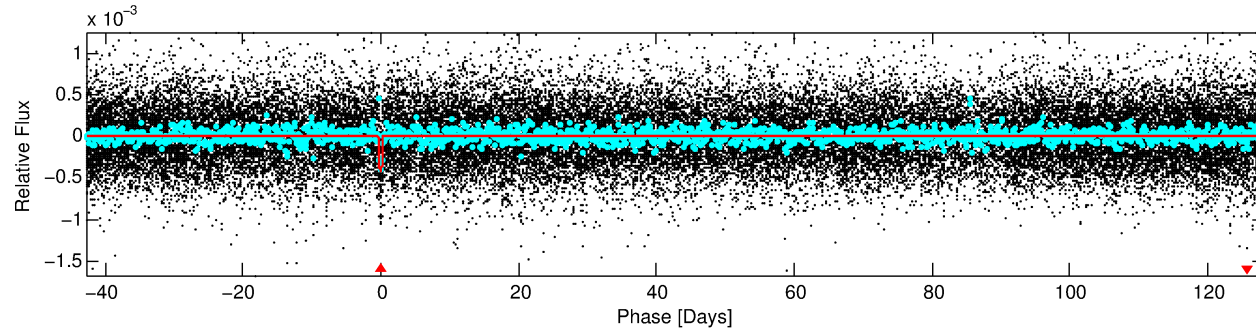
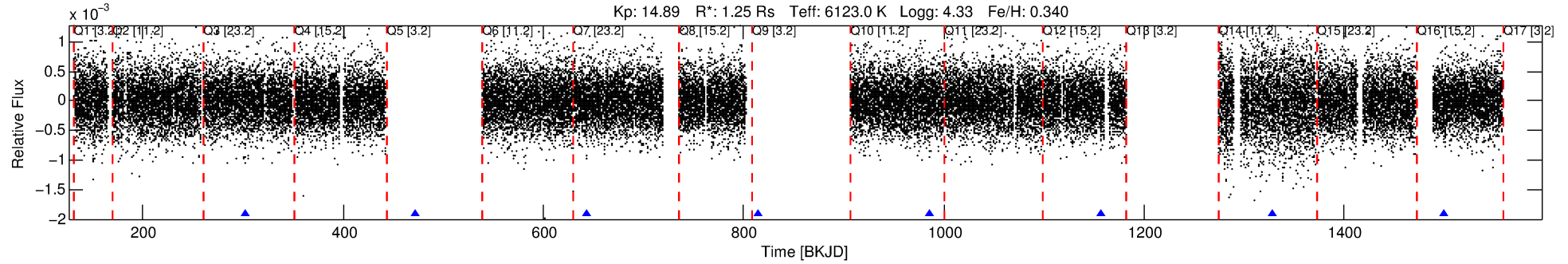
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006025174-01

No Significant Match Found

DV One-Page Summary

KIC: 6025174 Candidate: 1 of 1 Period: 171.031 d
KOI: K05224.01 Corr: 0.969



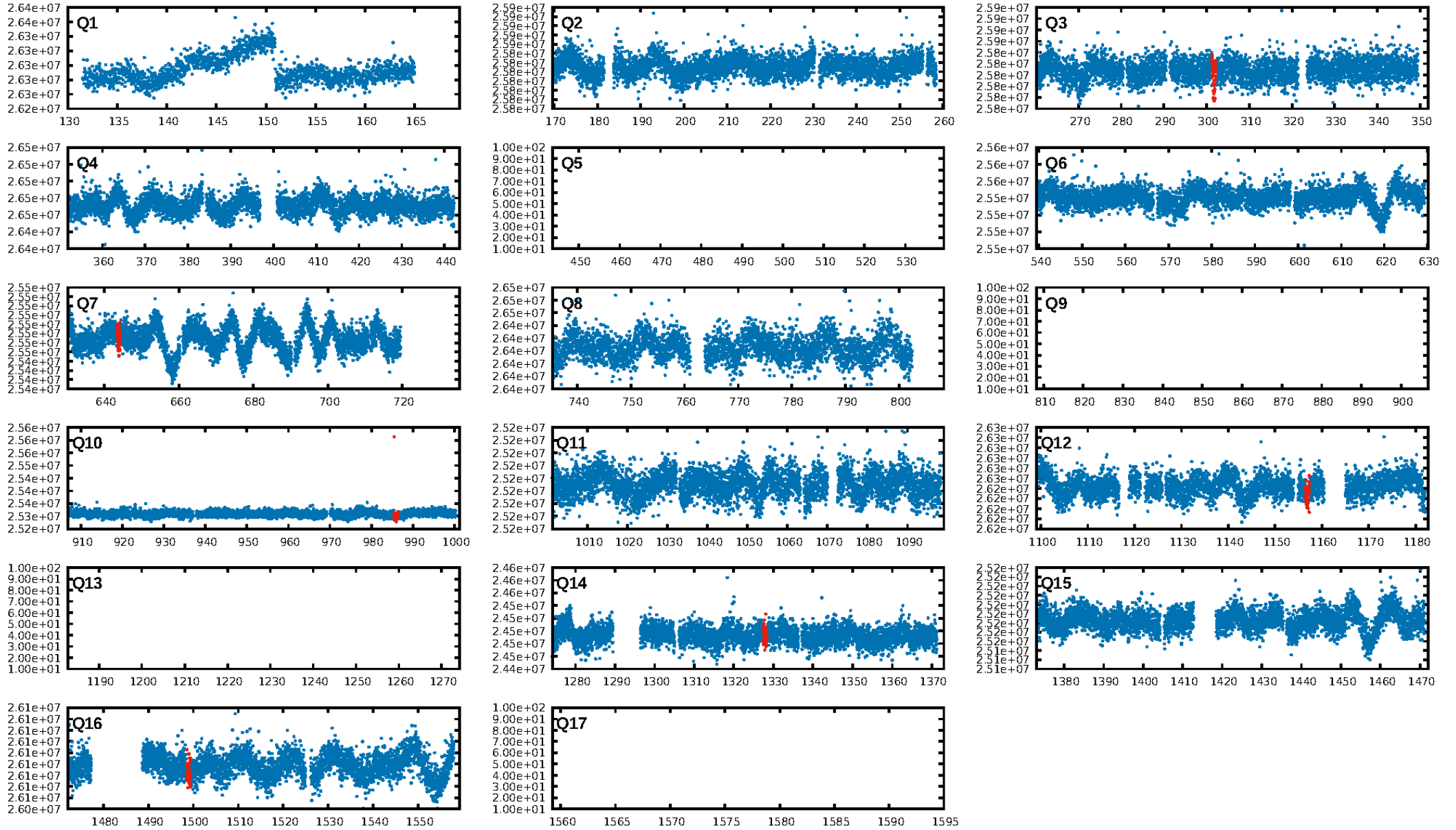
DV Fit Results:

Period = 171.03103 [0.00367] d
Epoch = 301.7331 [0.0146] BKJD
Rp/R* = 0.0199 [0.0087]
a/R* = 86.51 [174.44]
b = 0.67 [1.64]
Seff = 4.73 [1.05]
Teq = 376 [21] K
Rp = 2.71 [1.27] Re
a = 0.6459 [0.0933] AU
Ag = 3850.42 [3656.42] [1.05 σ]
Teffp = 4580 [1061] K [3.96 σ]

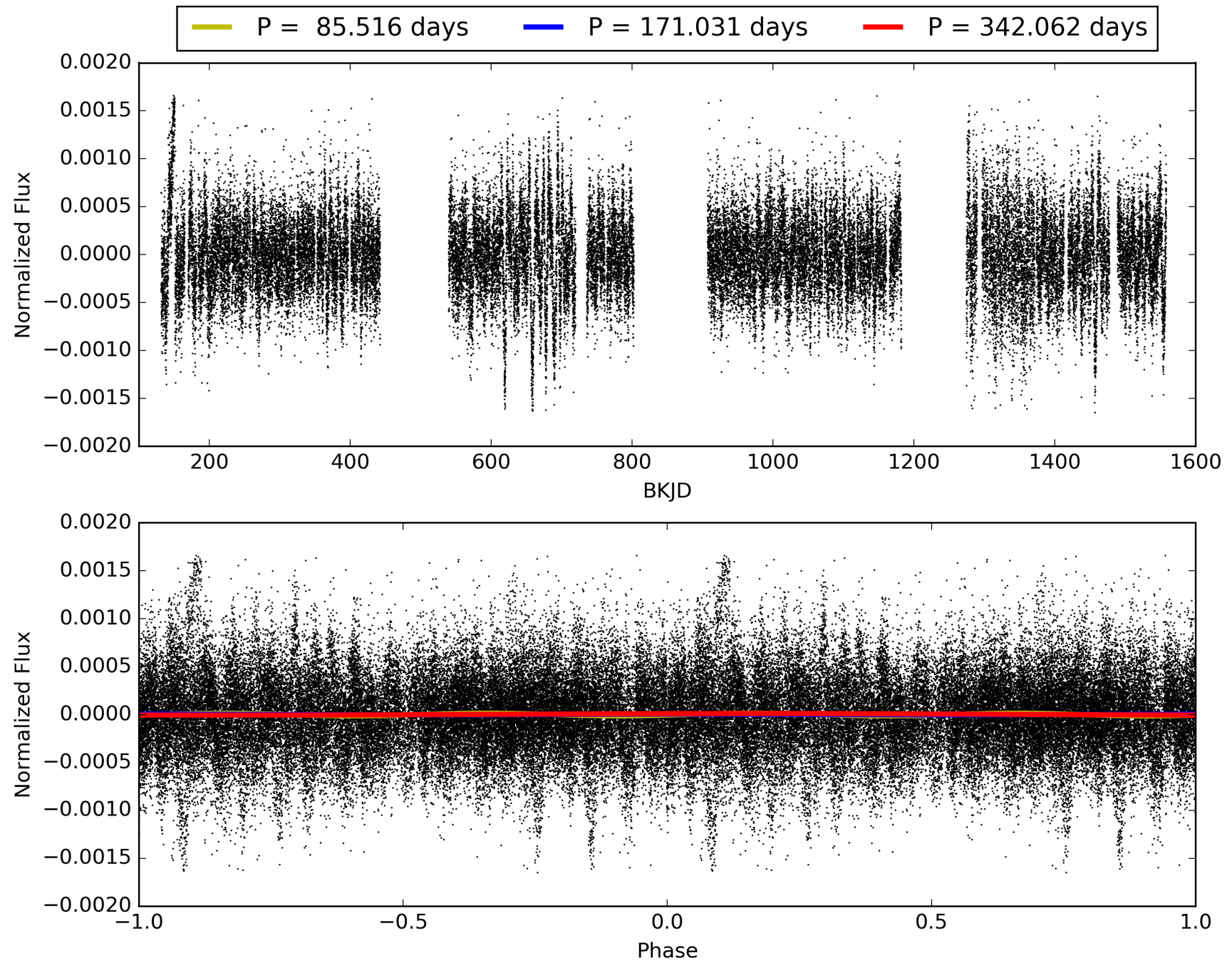
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 25.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.02e-20
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 8.29
Centroid-sig: 0.0%
Centroid-so: 3.170 arcsec [2.65 σ]
OotOffset-rm: 1.374 arcsec [3.30 σ]
KicOffset-rm: 1.336 arcsec [3.21 σ]
OotOffset-st: 2/1/0/0 [3]
KicOffset-st: 2/1/0/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [4/4]

TCE 006025174-01, PDC Light Curves

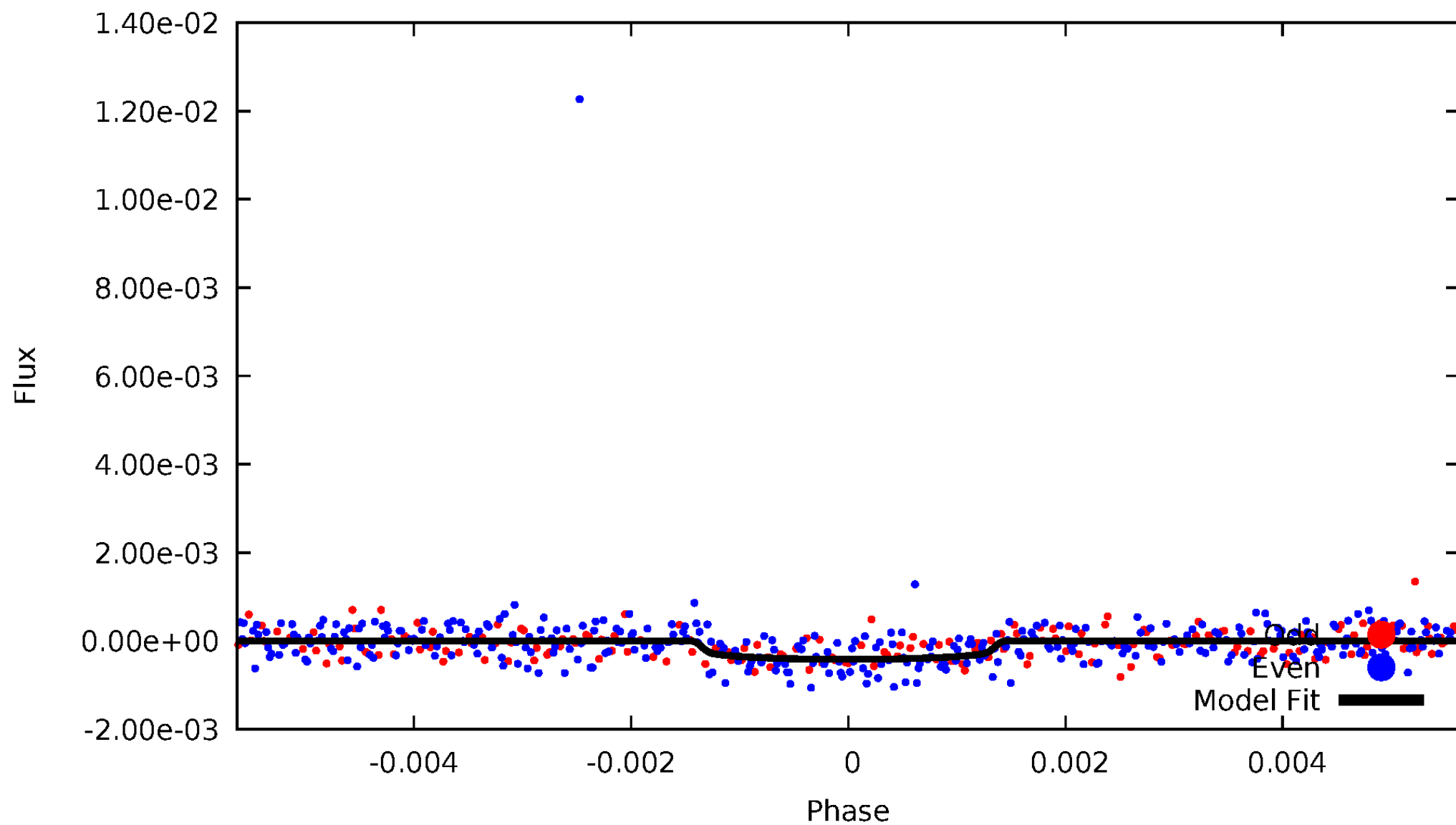


TCE 006025174-01



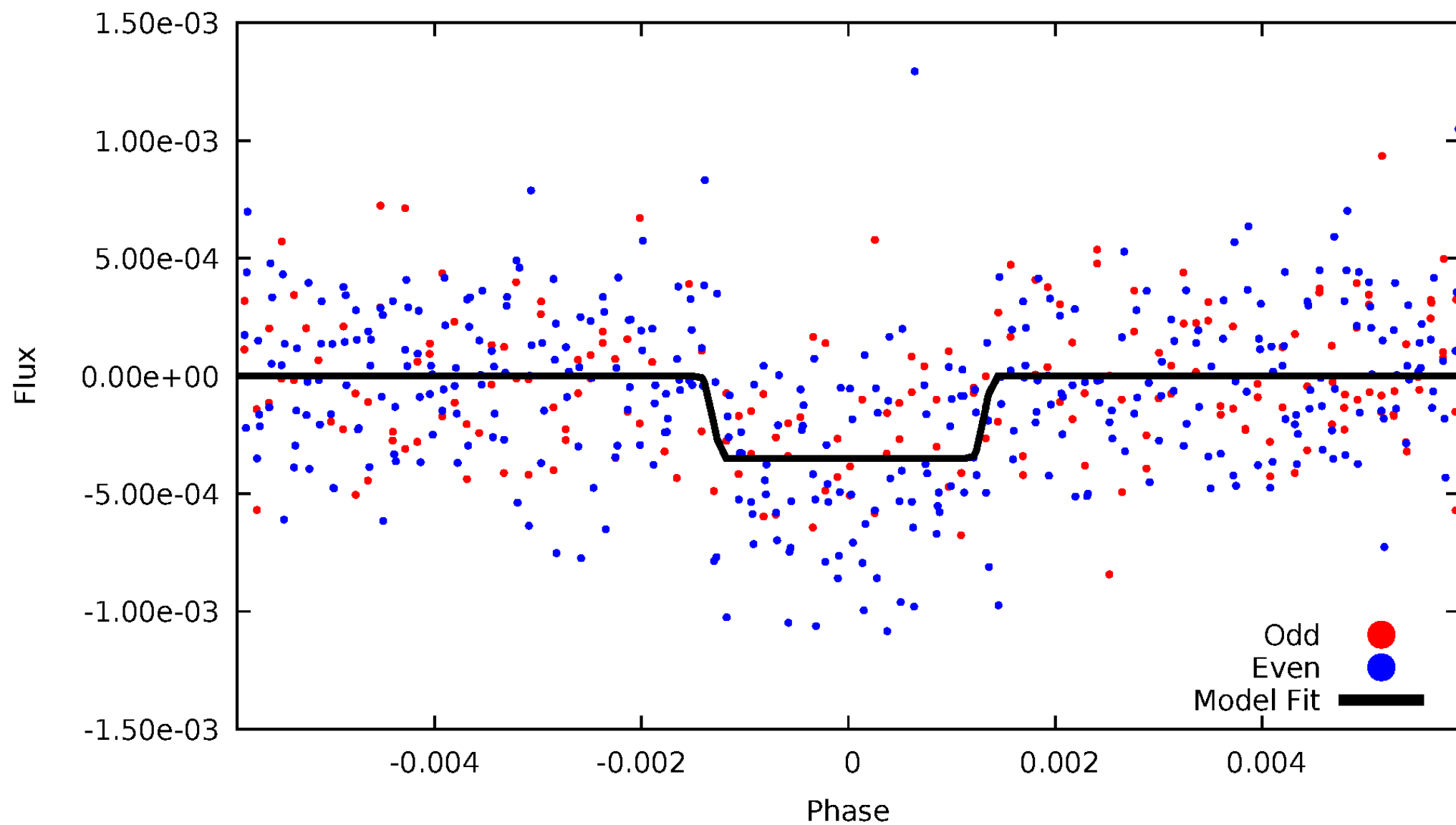
DV Odd/Even

TCE 006025174-01



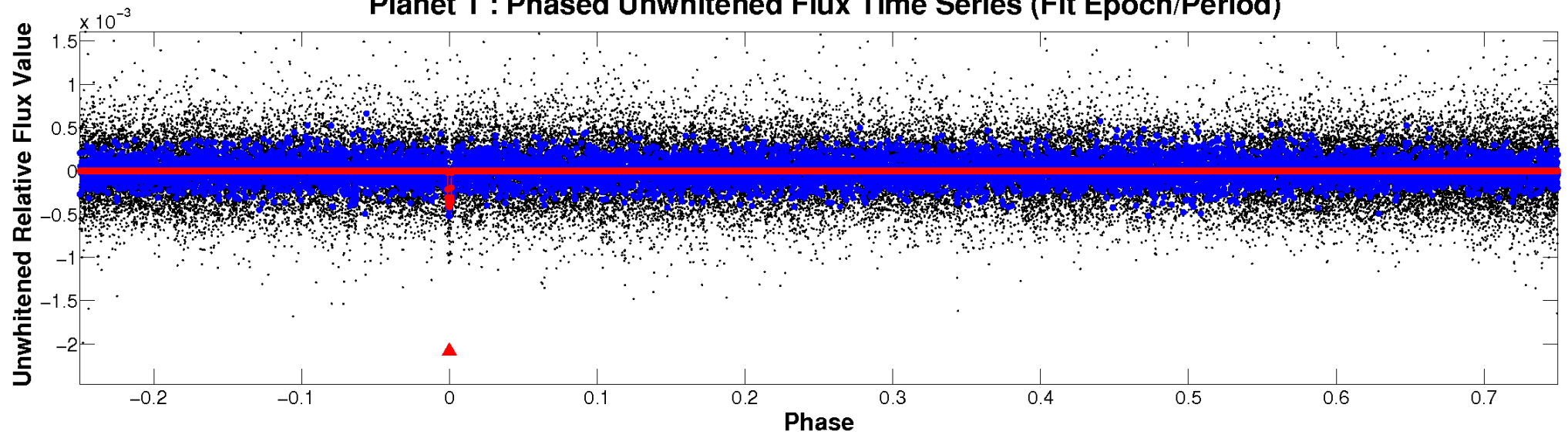
ALT Odd/Even

TCE 006025174-01

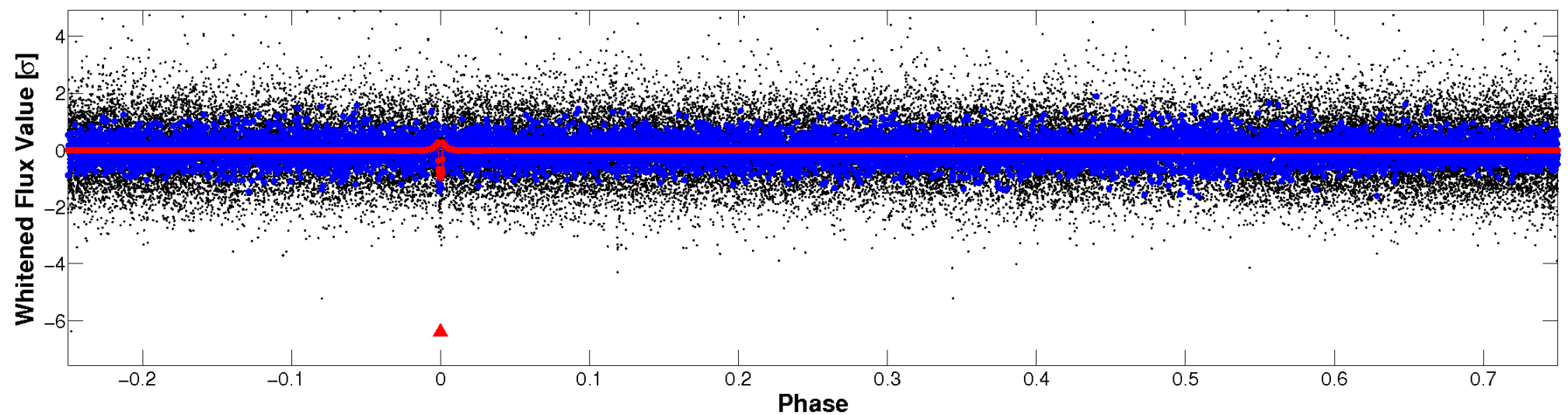


Non-Whitened Vs. Whitened Light Curve

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

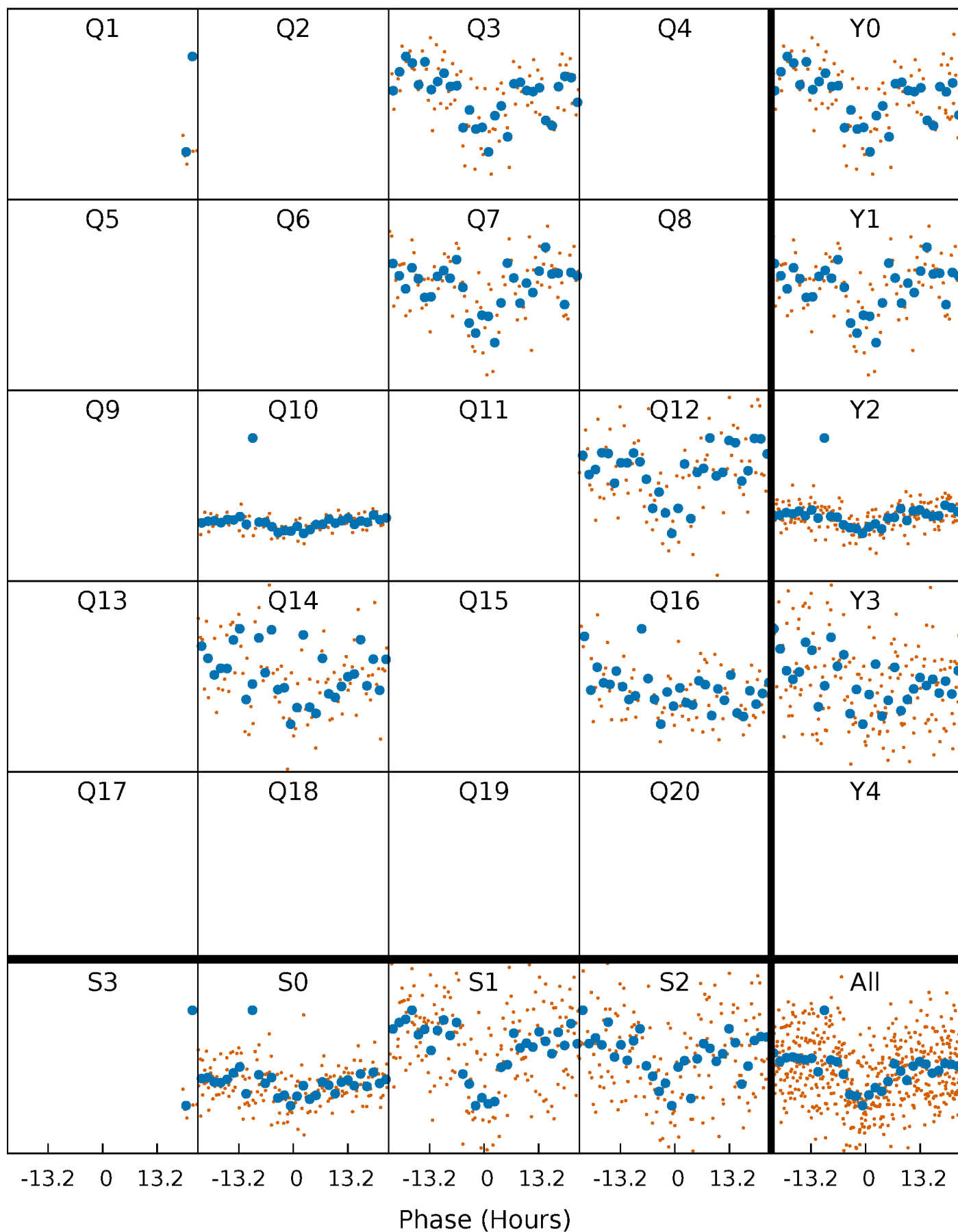


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



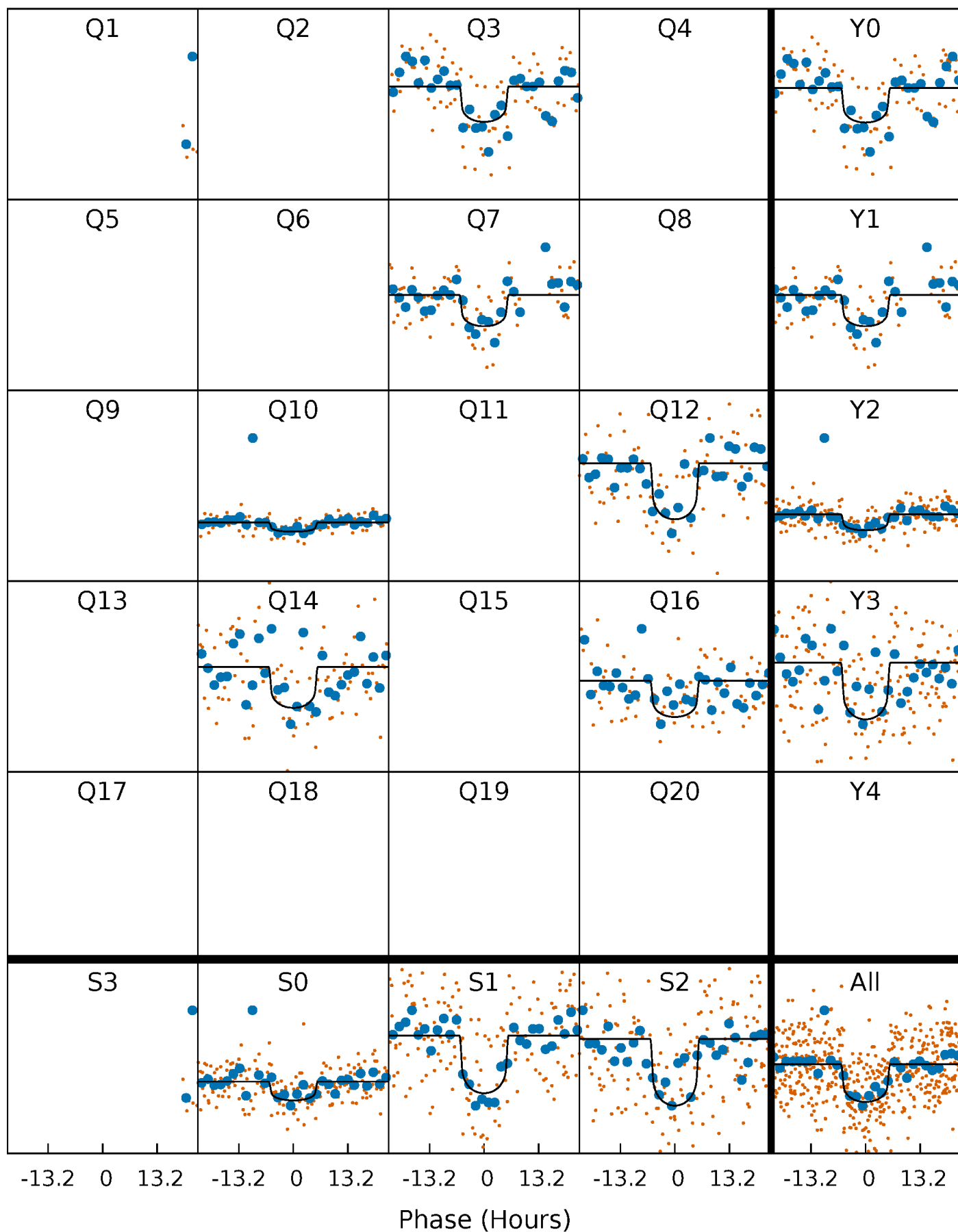
PDC Quarter-Phased Transit Curves

TCE 006025174-01 P=171.031031 Days $T_0=301.733127$ (BKJD)



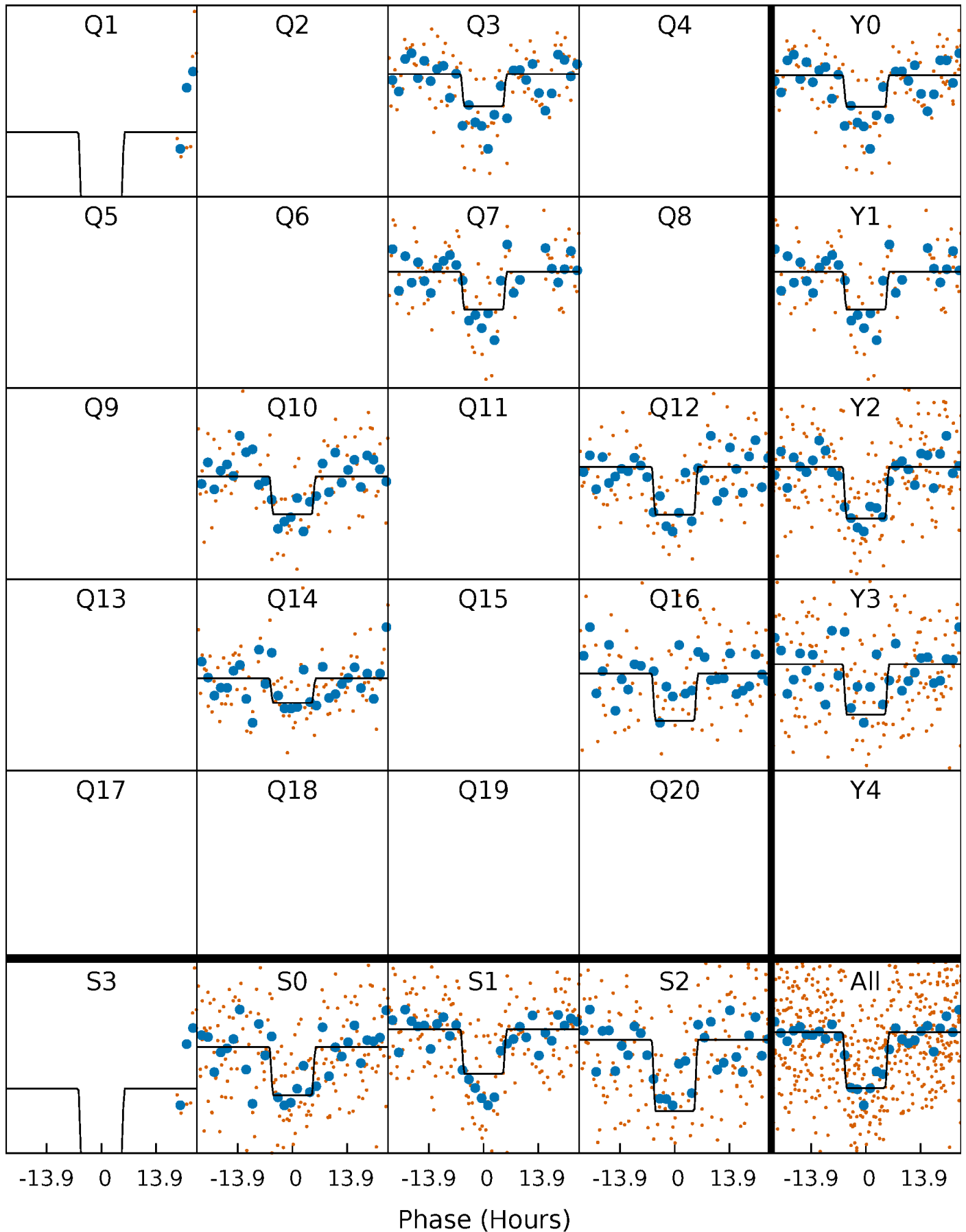
DV Quarter-Phased Transit Curves

TCE 006025174-01 P=171.031031 Days $T_0=301.733127$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

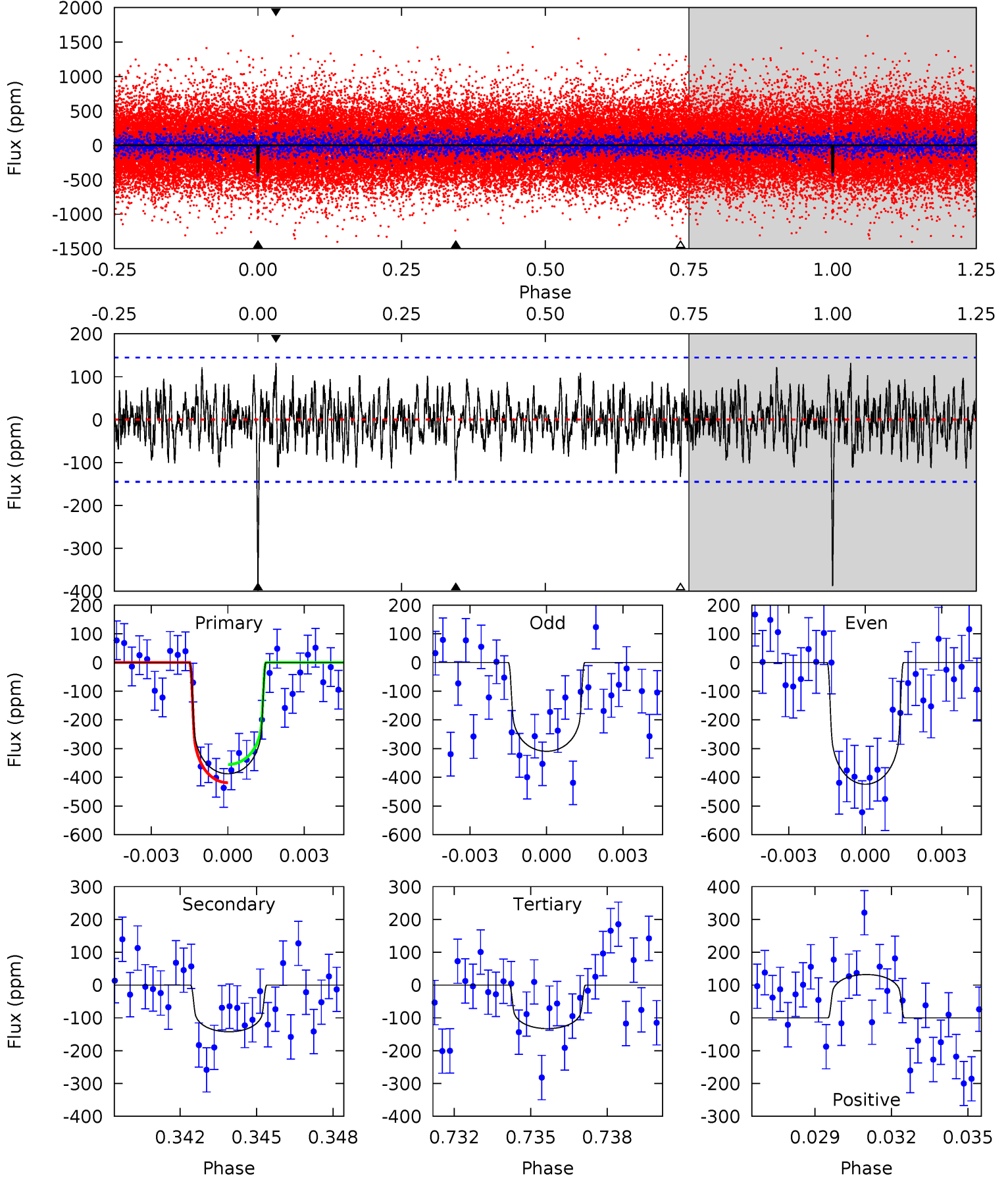
TCE 006025174-01 P=171.028897 Days $T_0=301.740906$ (BKJD)



DV Model-Shift Uniqueness Test

006025174-01, P = 171.031031 Days, E = 130.702096 Days

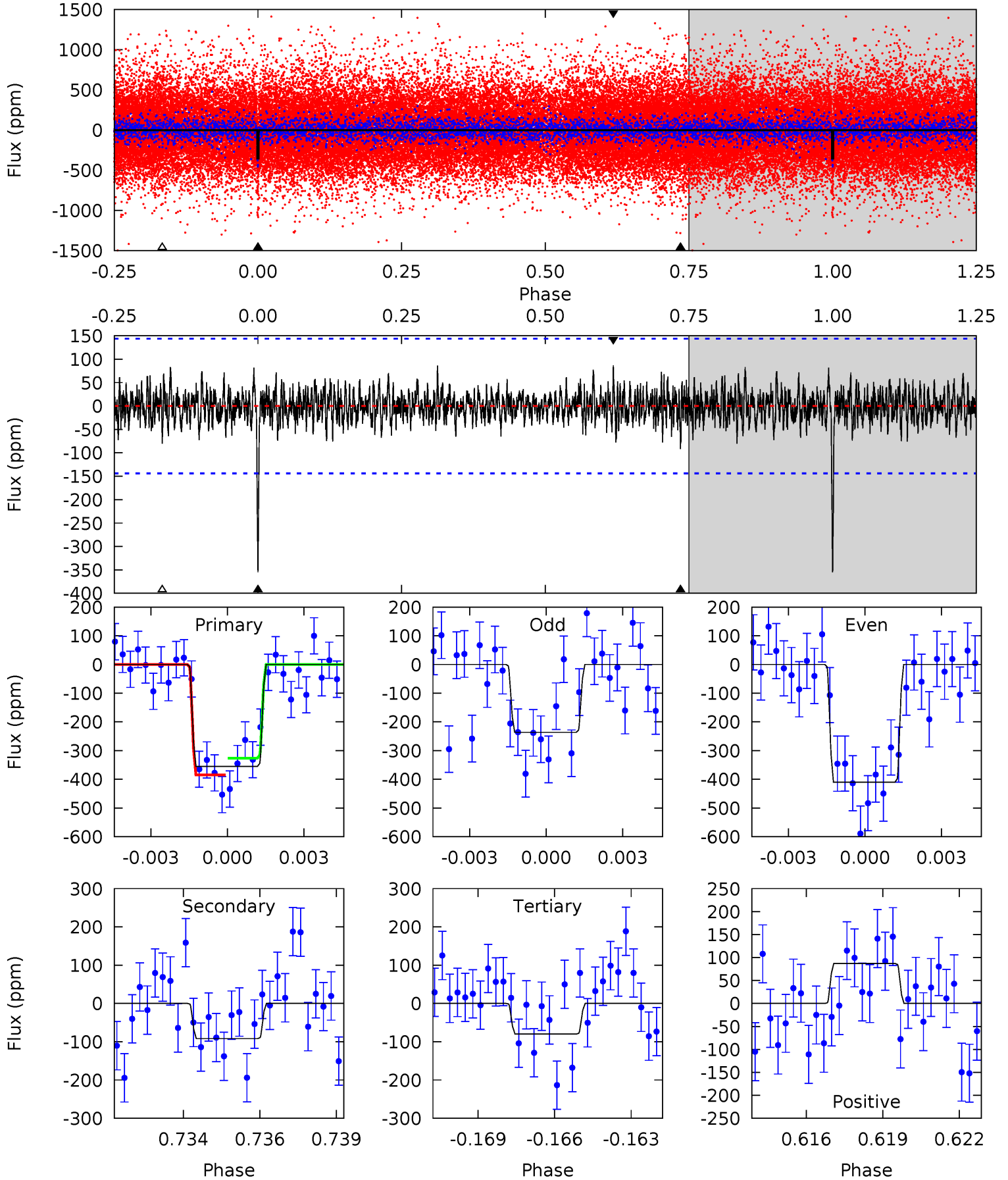
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.1	5.17	4.82	4.79	5.26	2.98	1.47	9.25	9.27	0.35	0.38	1.99	0.97	0.25	1.15



Alt Model-Shift Uniqueness Test

006025174-01, P = 171.028897 Days, E = 130.712009 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	3.36	2.93	3.19	5.26	2.98	0.92	10.1	9.81	0.43	0.18	3.01	0.94	0.20	1.07



Stellar Parameters For KIC 006025174

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6123^{+73}_{-85}	$4.332^{+0.051}_{-0.119}$	$0.340^{+0.100}_{-0.150}$	$1.252^{+0.210}_{-0.105}$	$1.229^{+0.068}_{-0.068}$	$0.883^{+0.181}_{-0.311}$
	+1%/-1%	+1%/-3%	+29%/-44%	+17%/-8%	+6%/-6%	+20%/-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 006025174-01 / KOI 5224.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-142 ± 28	$2.84^{+1.25}_{-1.13}$	530^{+22}_{-15}	4814^{+1295}_{-658}	4007^{+7529}_{-2169}
Alt.	-92 ± 27	$2.69^{+1.22}_{-1.24}$	528^{+22}_{-15}	4473^{+1315}_{-599}	2802^{+6609}_{-1519}

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

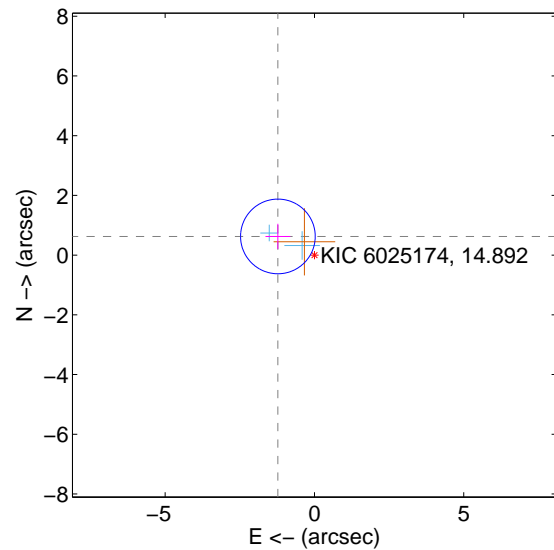
Supplemental centroid analysis for 006025174-01. Kepler magnitude: 14.89. Transit SNR 10.19

There are 2 quarters with good PRF difference image offsets

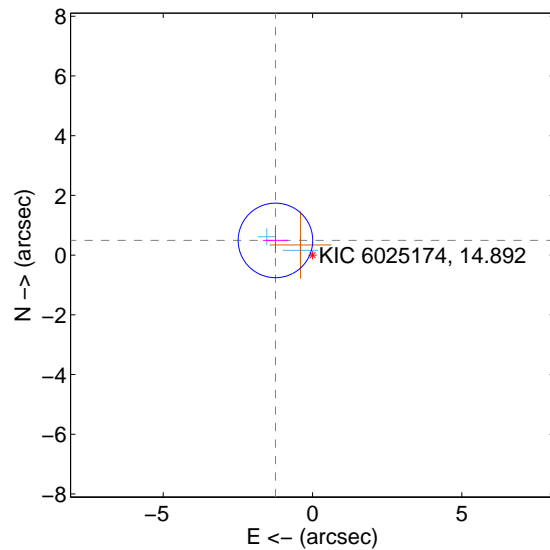
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.374 ± 0.417	3.30	1.224 ± 0.415	0.625 ± 0.424
PRF-fit source offset from KIC position	1.336 ± 0.416	3.21	1.242 ± 0.415	0.492 ± 0.424
photometric centroid source offset	3.17 ± 1.20	2.65	-1.27 ± 1.02	2.90 ± 1.23

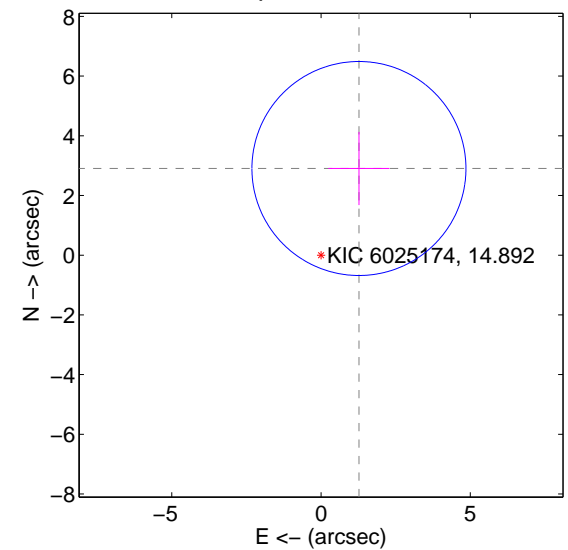
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

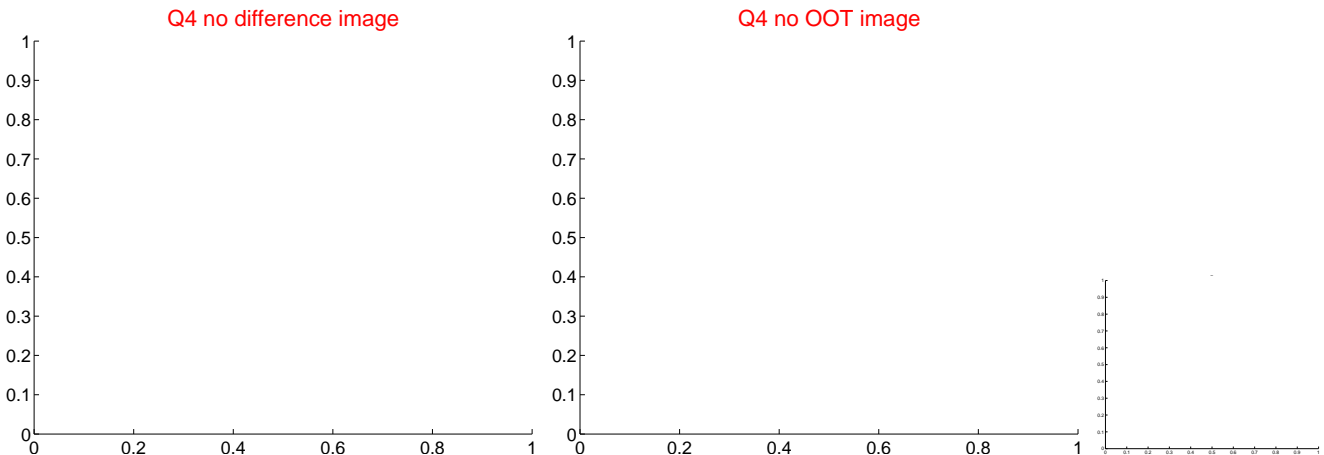
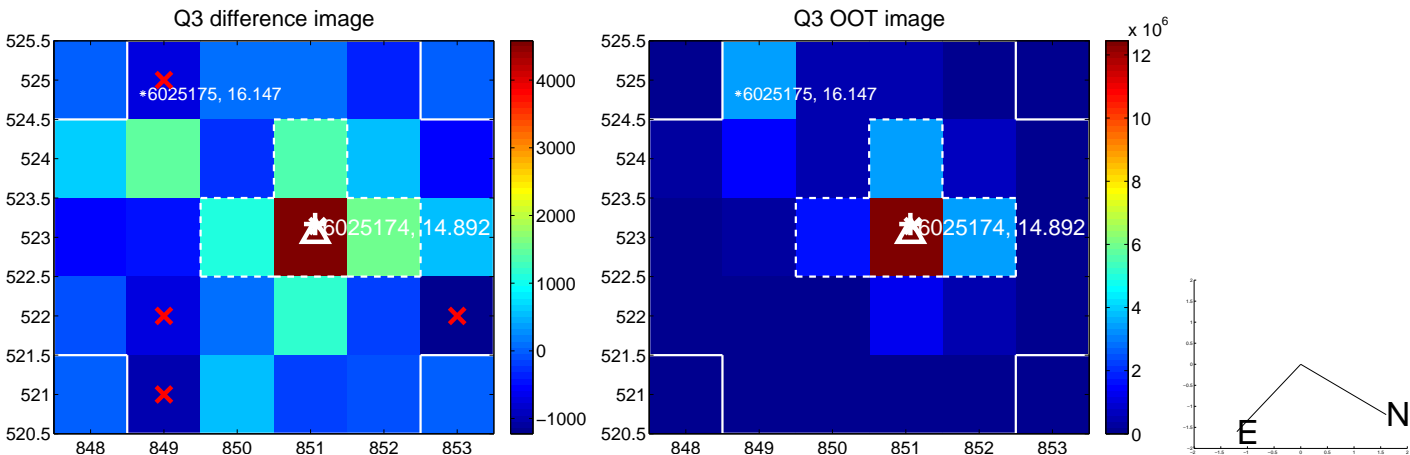
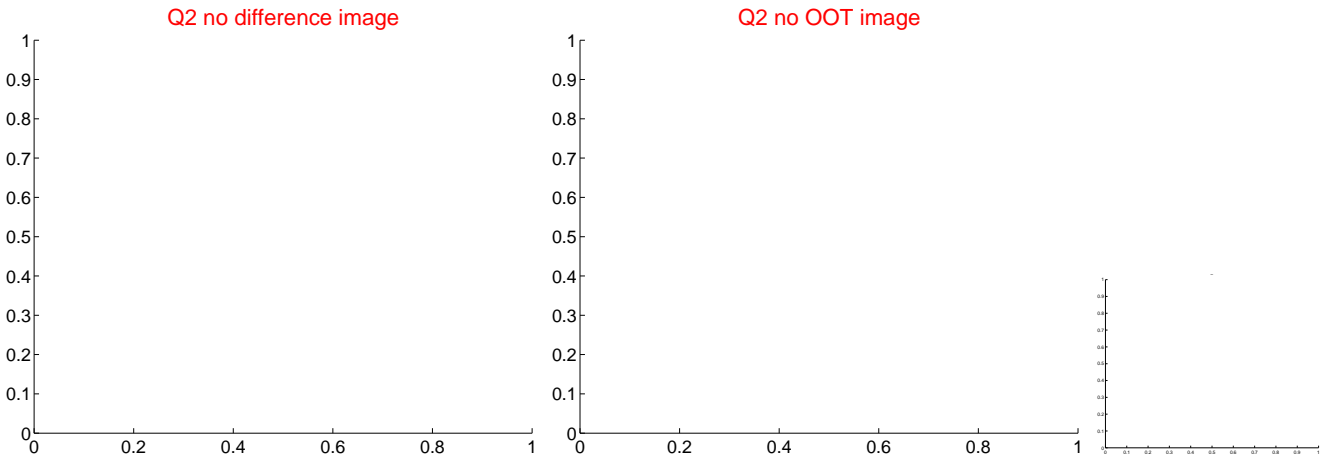
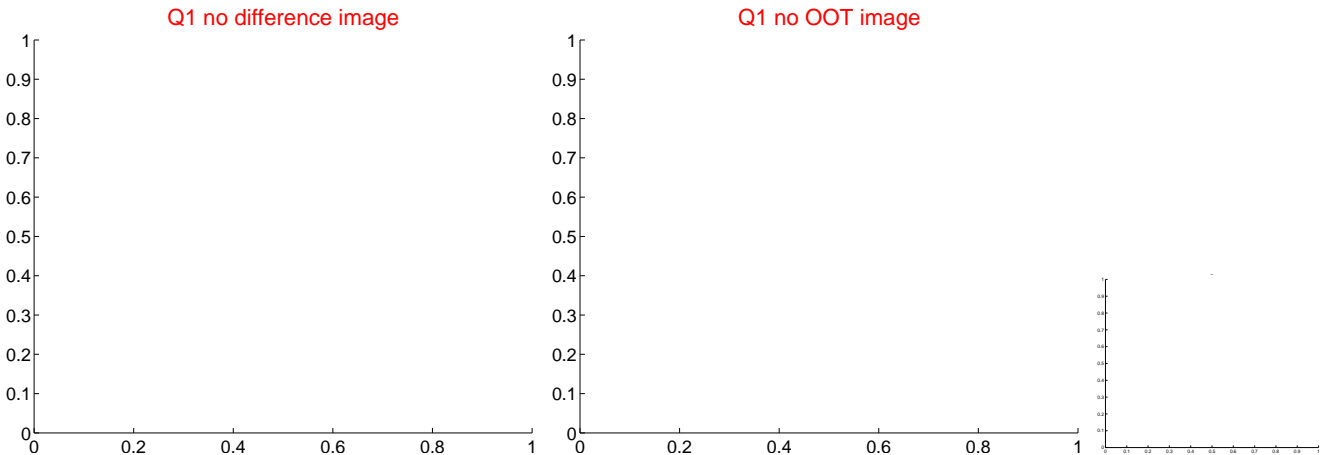


offset from photometric centroids



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.

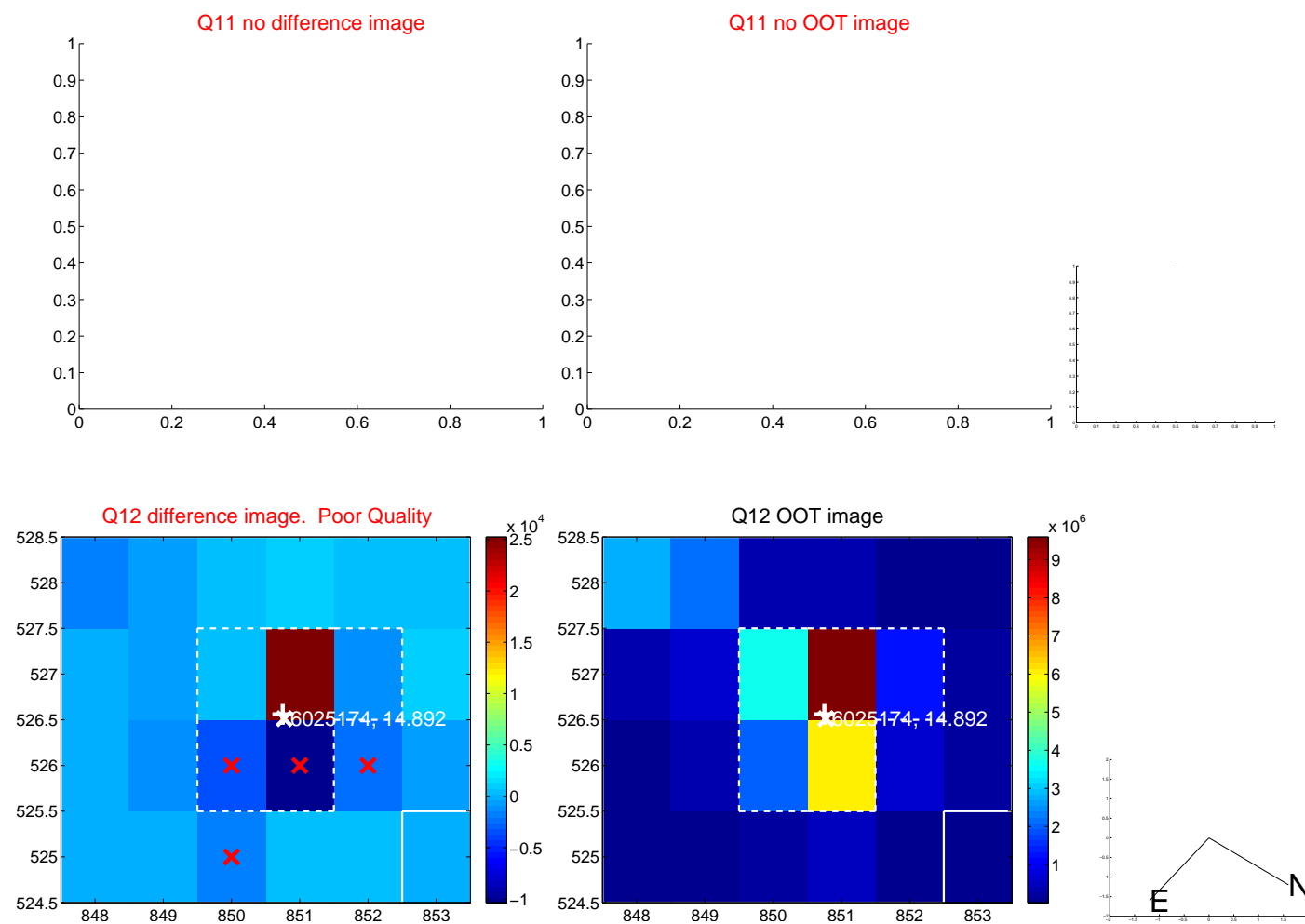
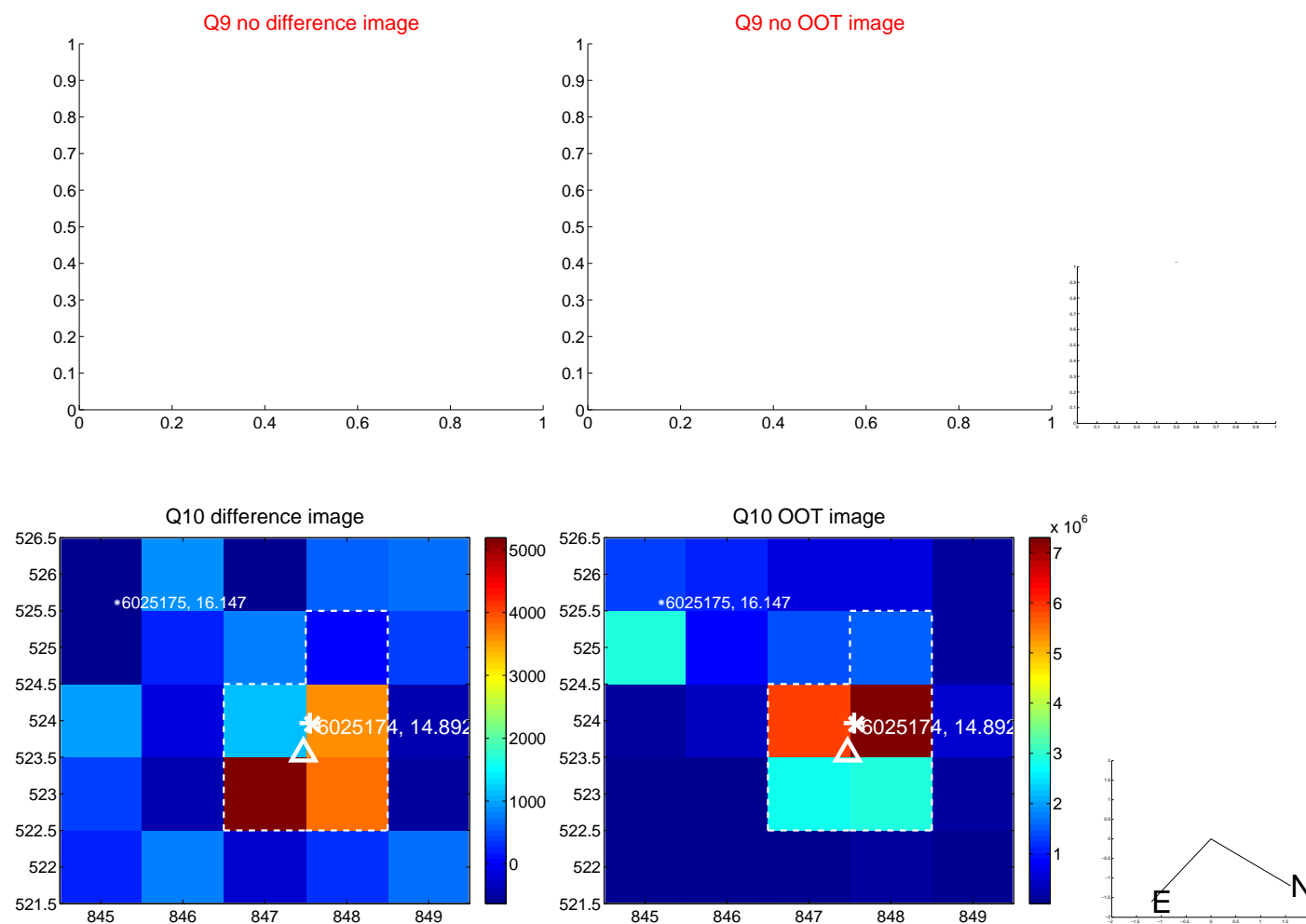
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



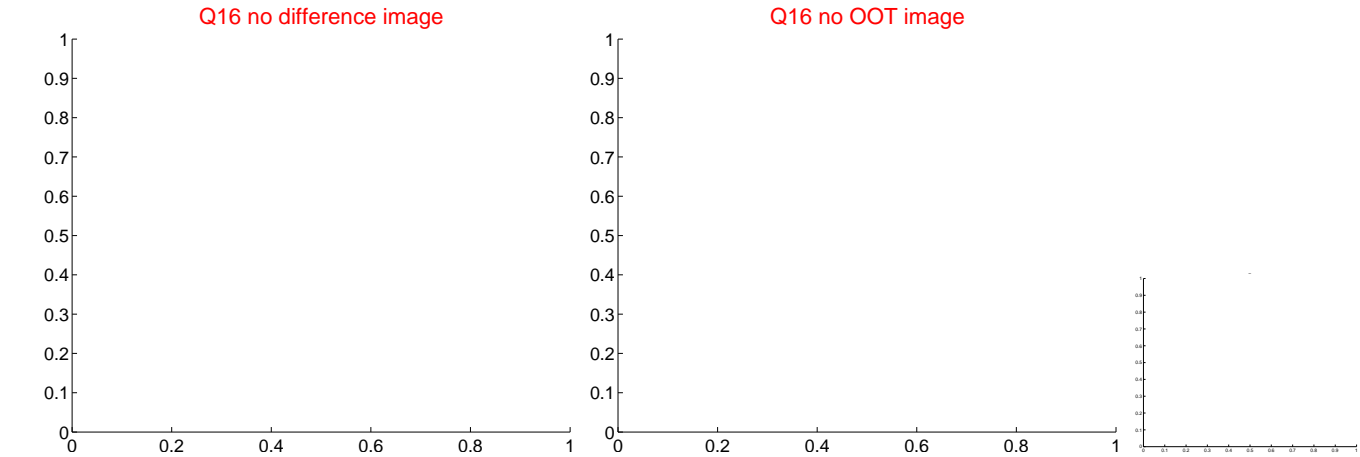
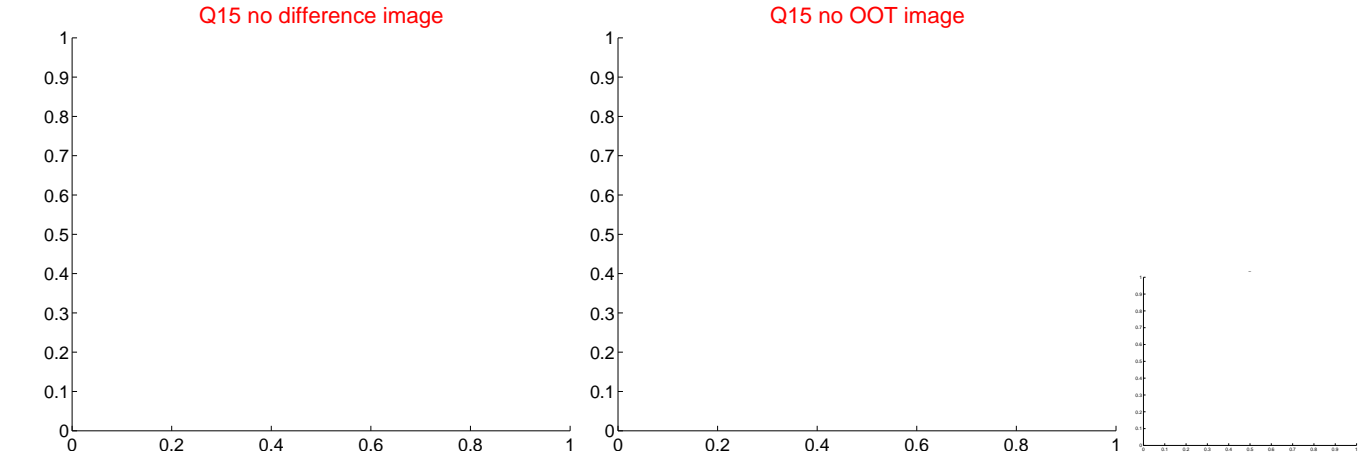
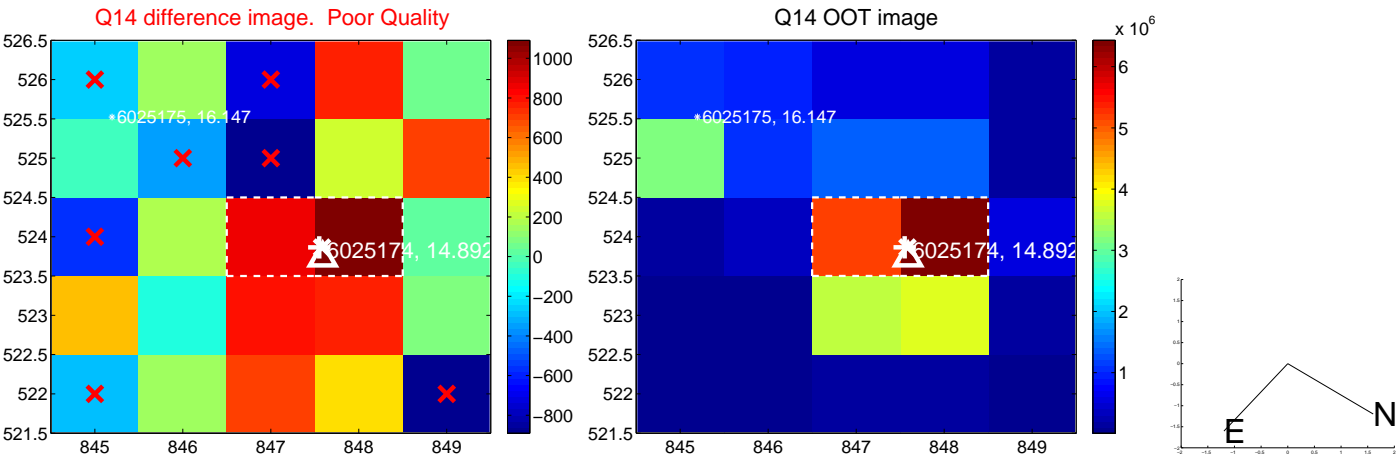
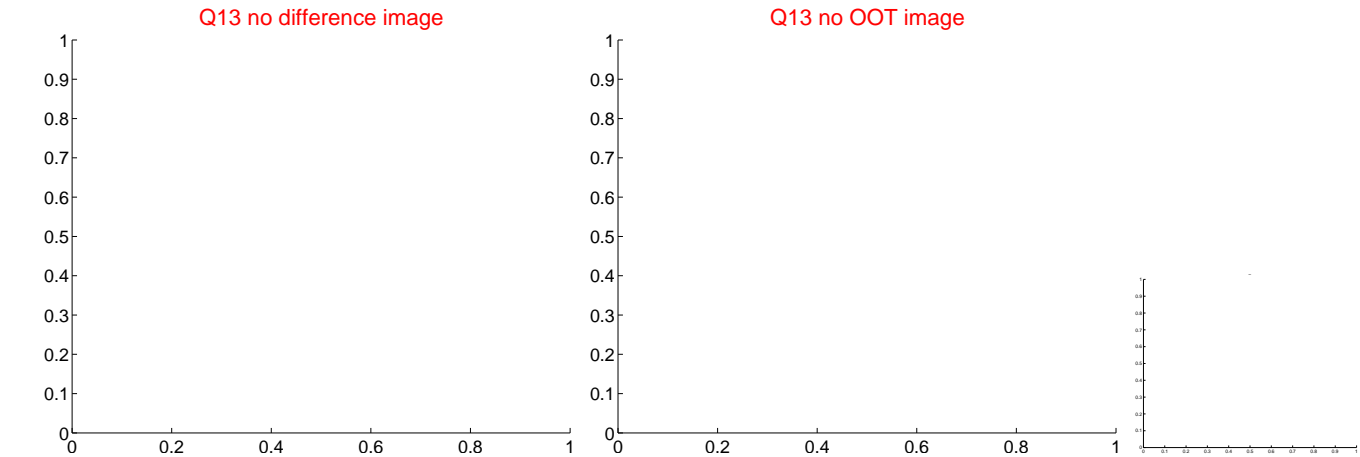
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



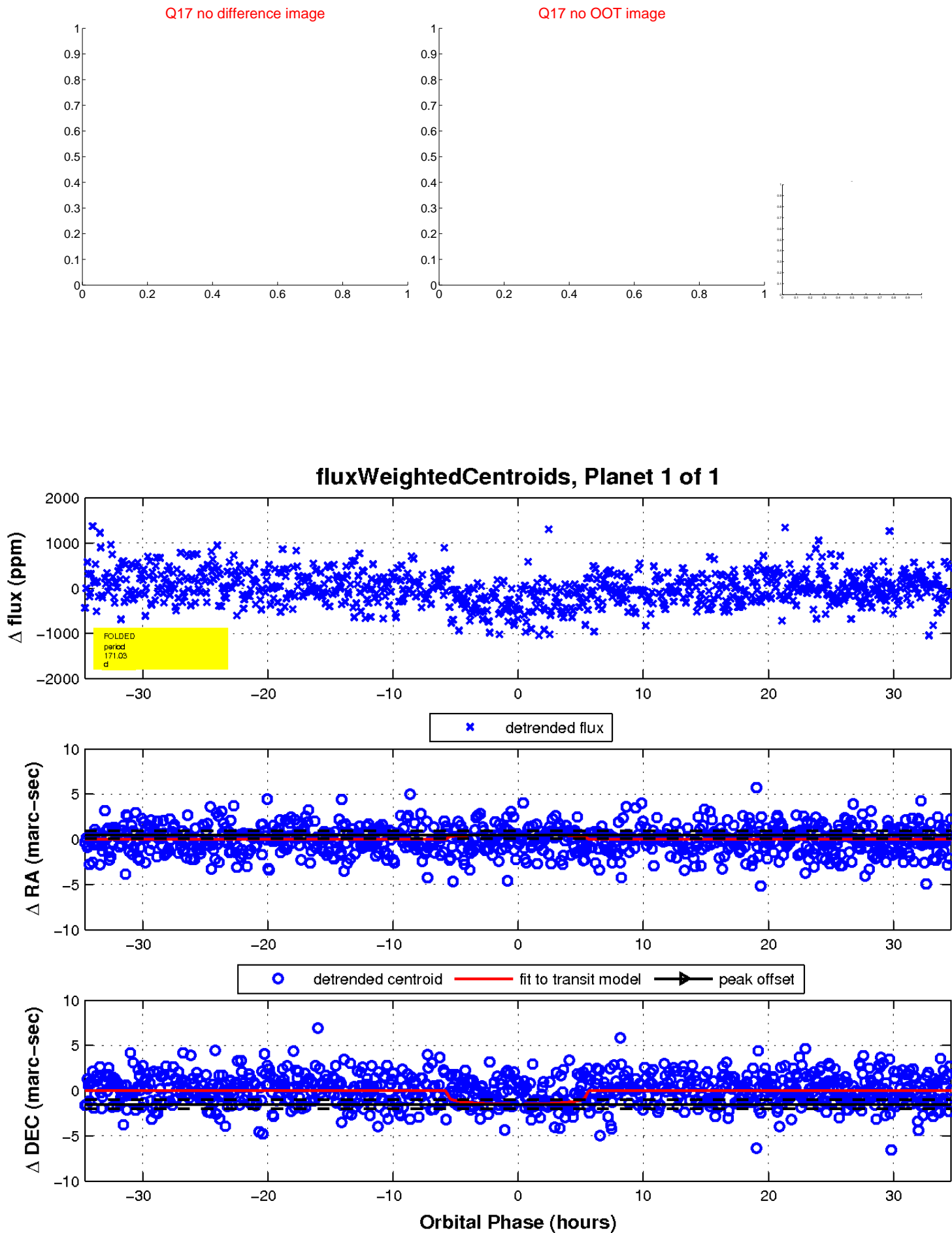
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

