

KIC 004844367

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})
004844367-01	OBS	4498.01	17.162443	148.617967	329.7	5.369	10.3	12.0	0.94	5729	2.65	48.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004844367-01	OBS	PC	0.98	0	0	0	0	NO_COMMENT

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.

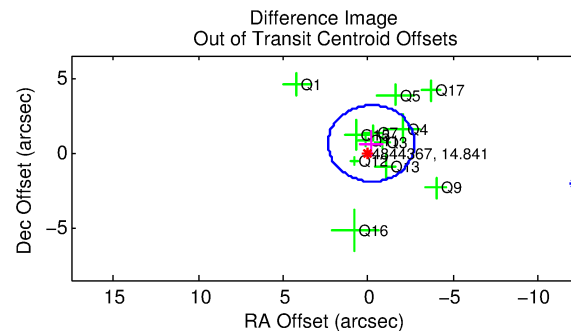
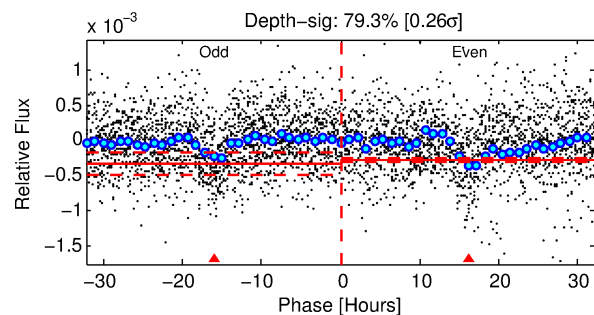
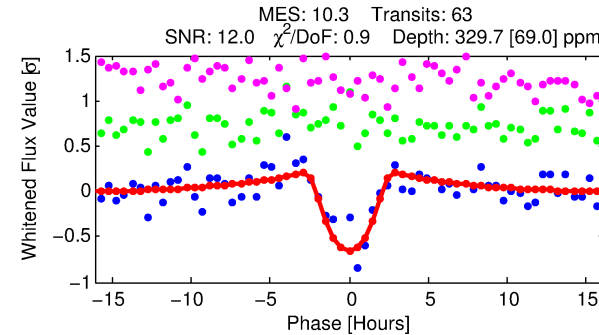
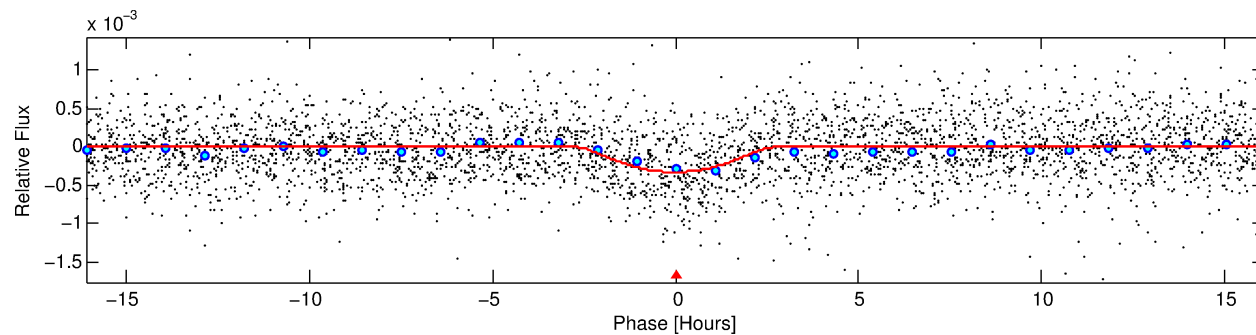
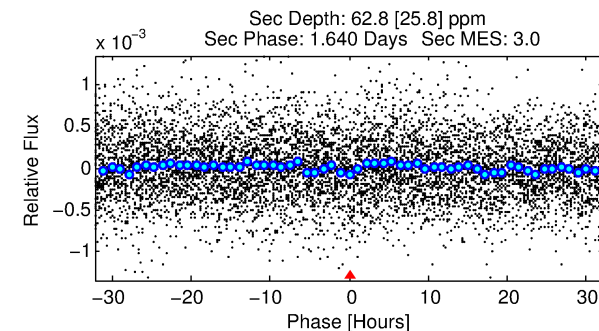
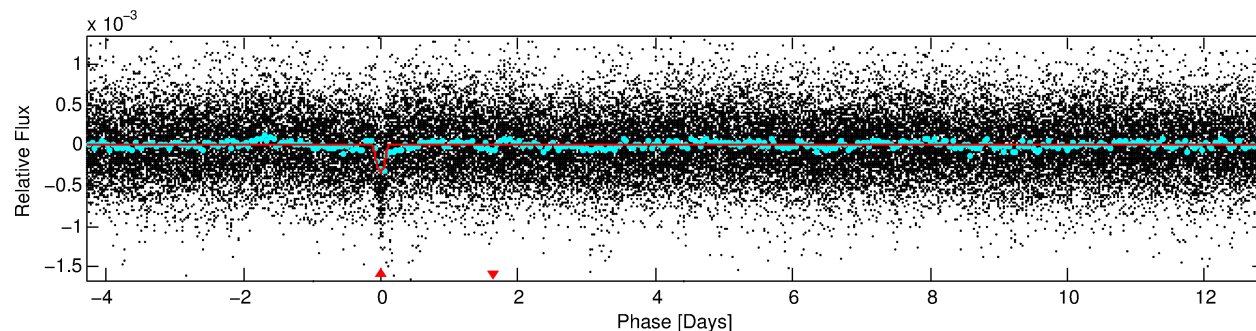
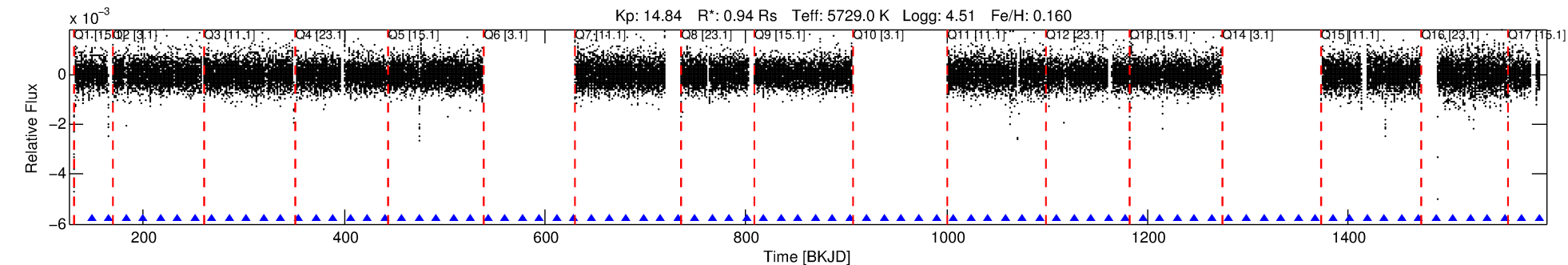
Ephemeris Match Information For 004844367-01

No Significant Match Found

DV One-Page Summary

KIC: 4844367 Candidate: 1 of 1 Period: 17.162 d

KOI: K04498.01 Corr: 0.861



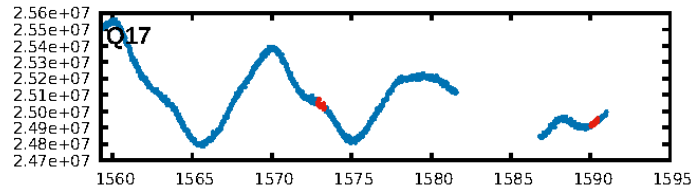
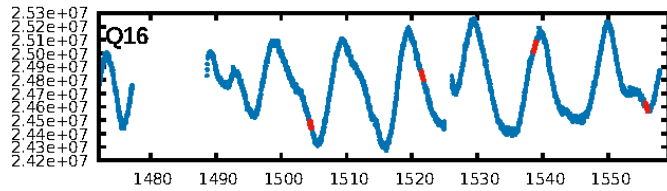
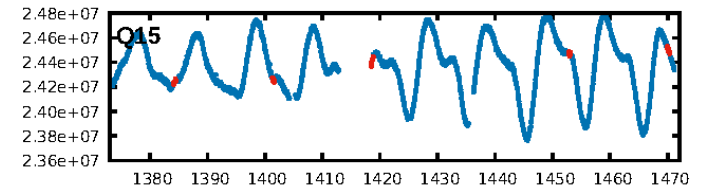
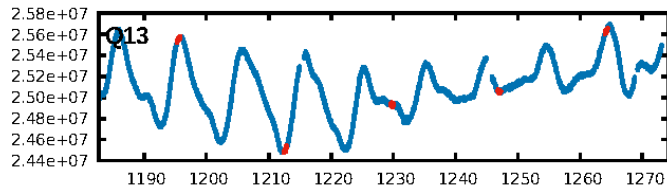
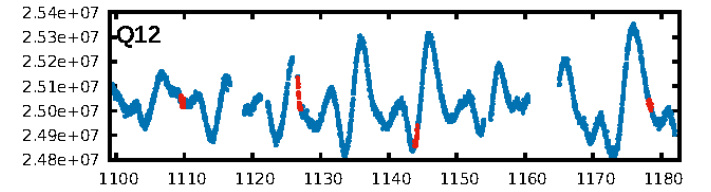
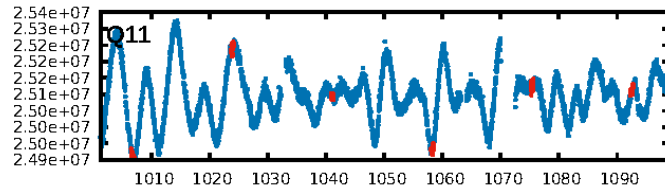
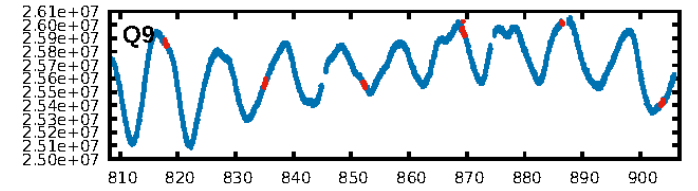
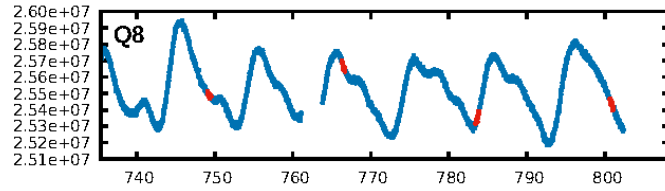
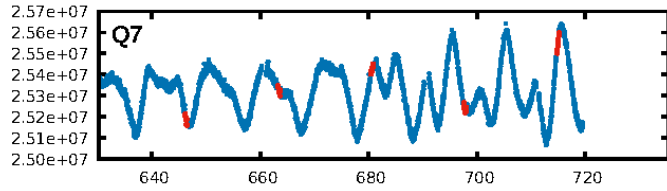
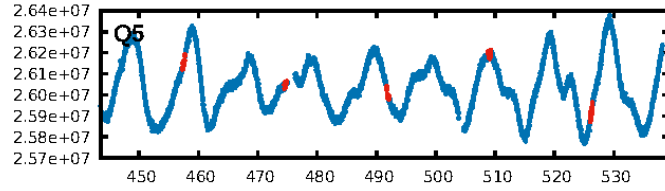
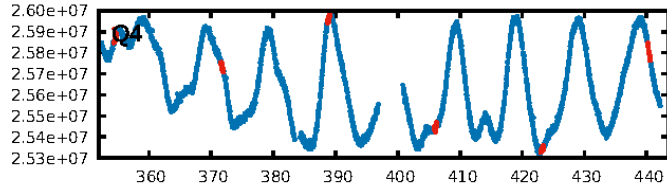
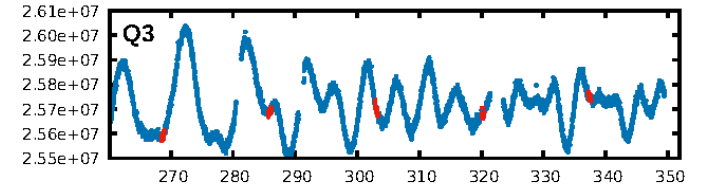
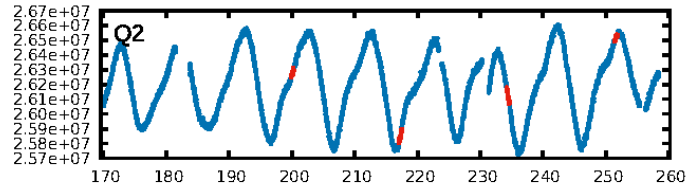
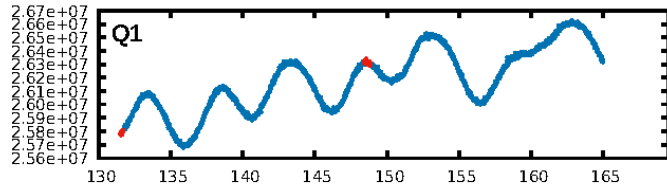
DV Fit Results:

Period = 17.16244 [0.00018] d
Epoch = 148.6180 [0.0084] BKJD
Rp/R* = 0.0258 [0.0174]
a/R* = 6.99 [2.16]
b = 0.99 [0.04]
Seff = 48.93 [9.10]
Teq = 674 [31] K
Rp = 2.65 [1.81] Re
a = 0.1319 [0.0149] AU
Ag = 85.73 [121.68] [0.70σ]
Teffp = 3173 [1118] K [2.23σ]

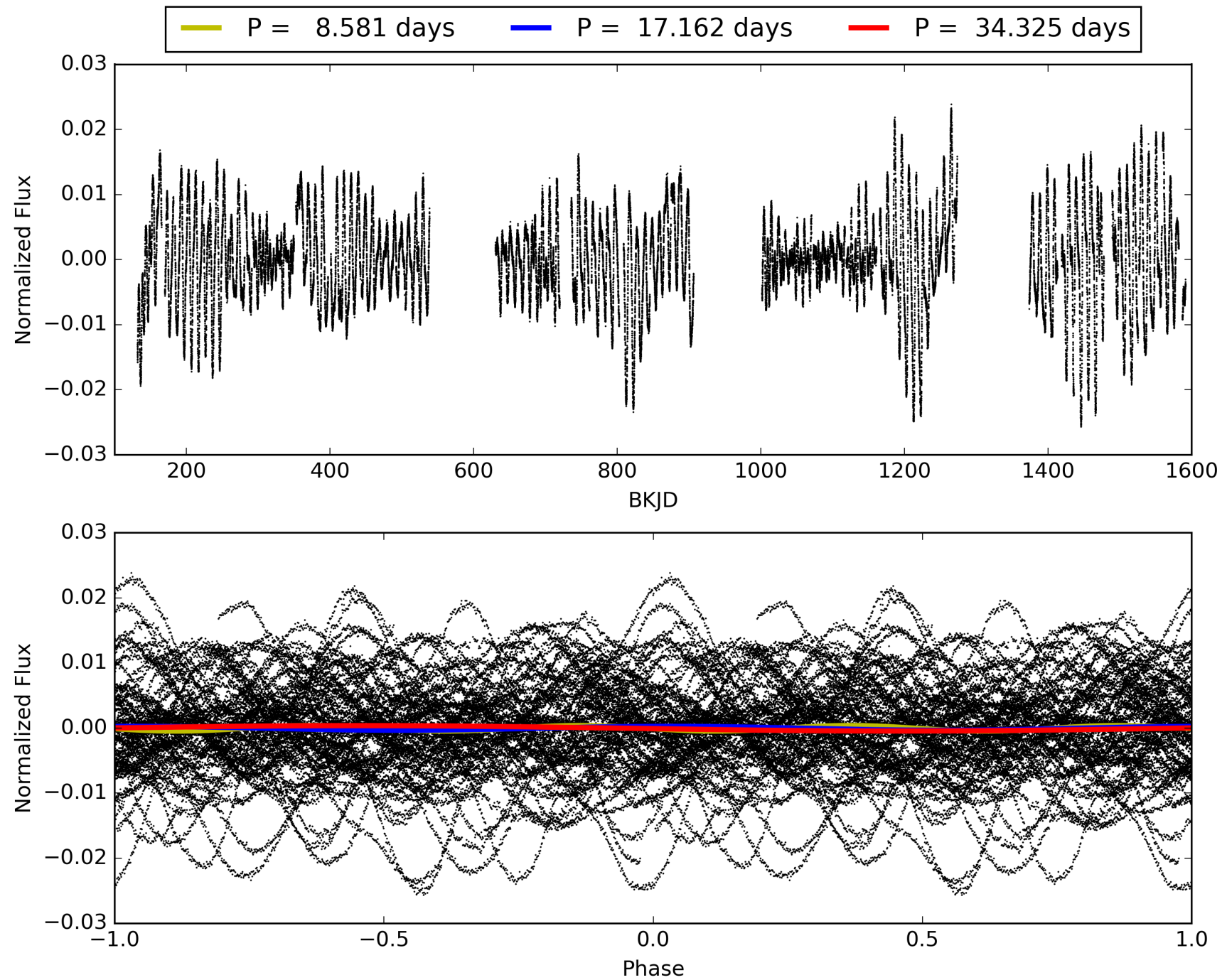
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 80.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.97e-23
RollingBand-fgt: 1.00 [59/59]
GhostDiagnostic-chr: 1.114
Centroid-sig: 10.0%
Centroid-so: 1.167 arcsec [1.37σ]
OotOffset-rm: 0.655 arcsec [0.77σ]
KicOffset-rm: 0.583 arcsec [0.79σ]
OotOffset-st: 0/4/3/5 [12]
KicOffset-st: 0/4/3/5 [12]
DiffImageQuality-fgm: 0.50 [6/12]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 004844367-01, PDC Light Curves

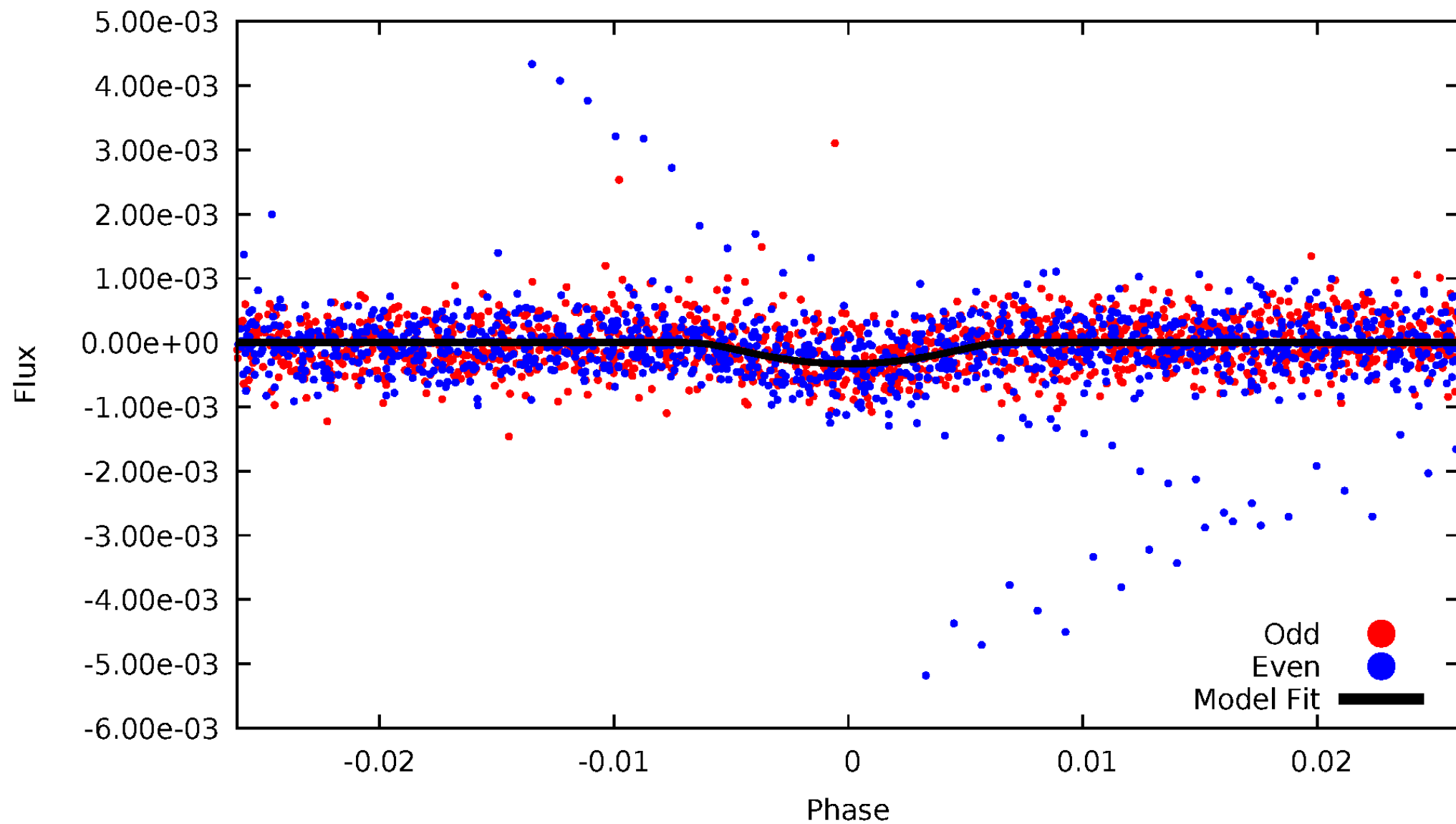


TCE 004844367-01



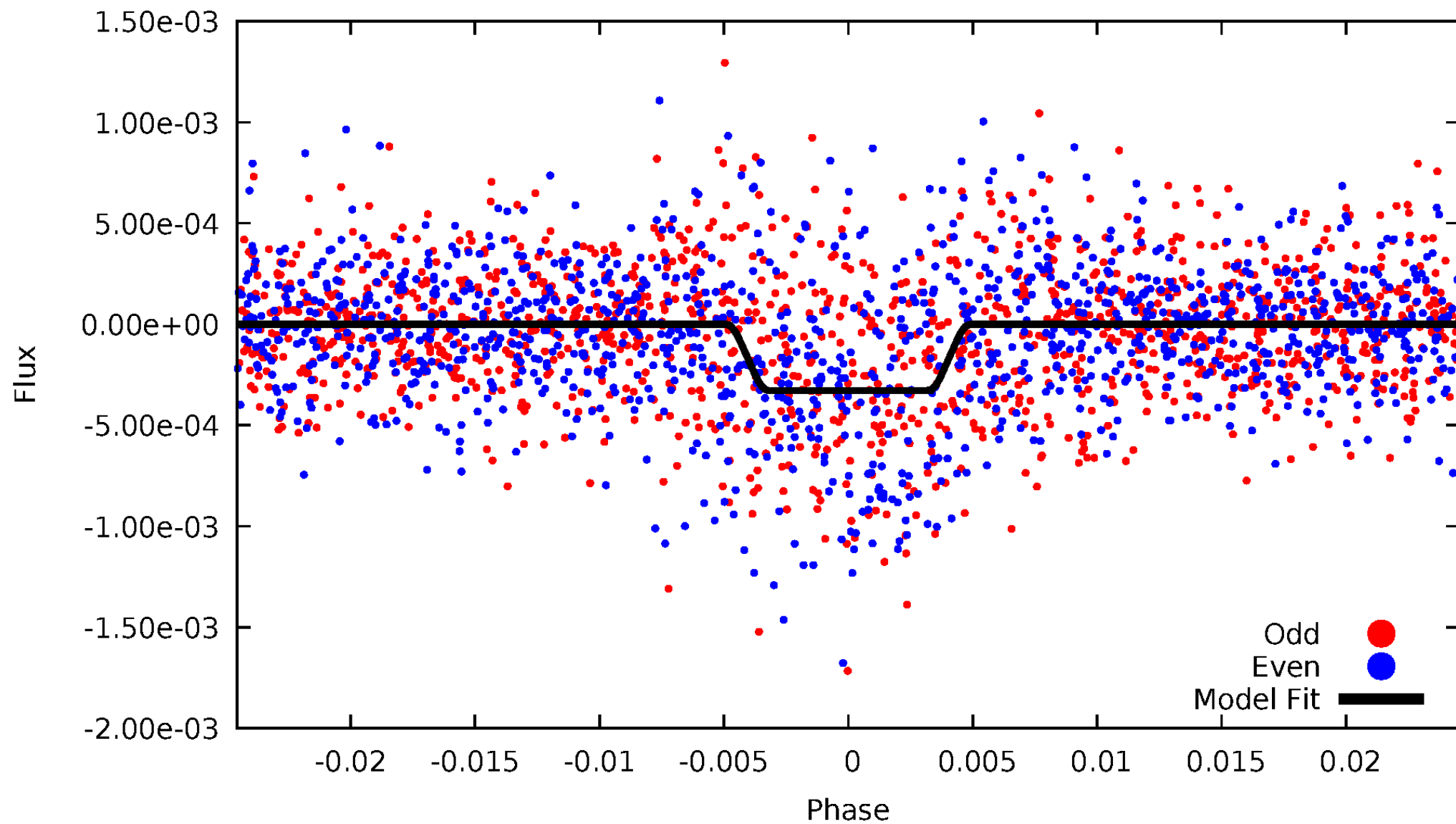
DV Odd/Even

TCE 004844367-01



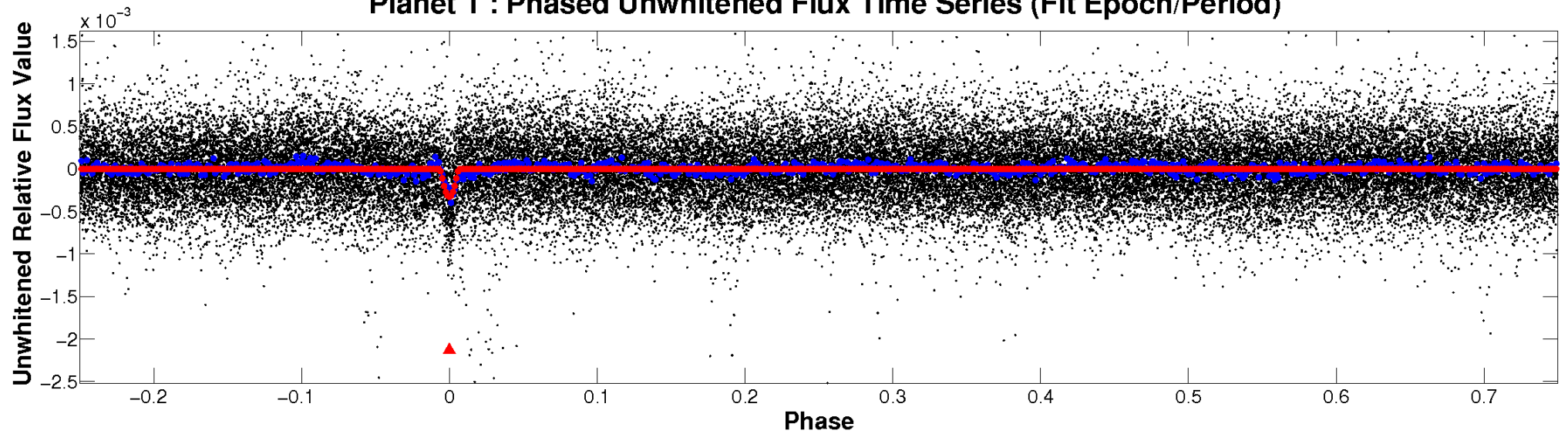
ALT Odd/Even

TCE 004844367-01

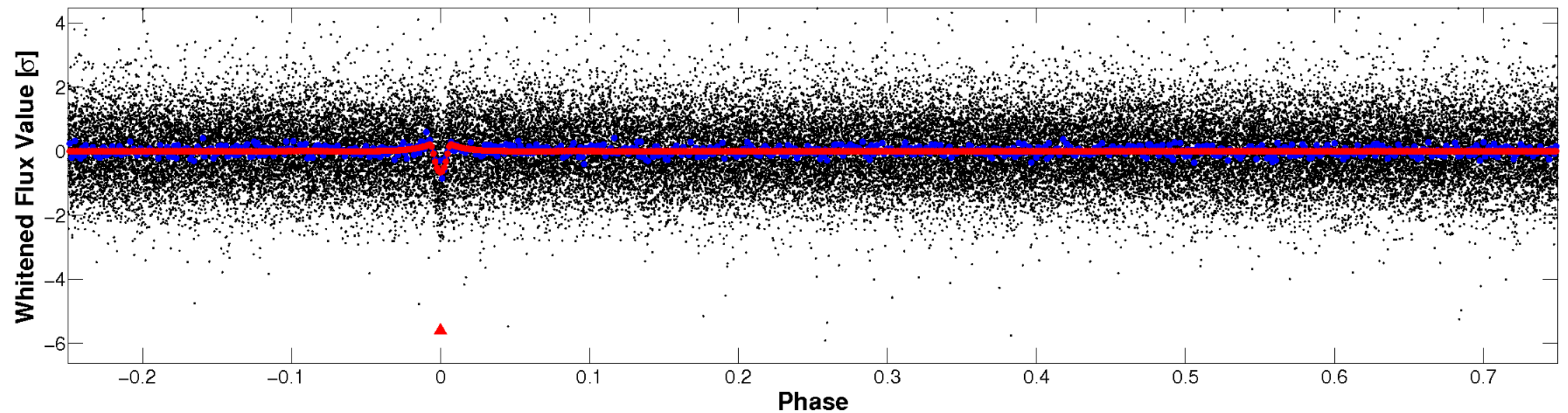


Non-Whitened Vs. Whitened Light Curve

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

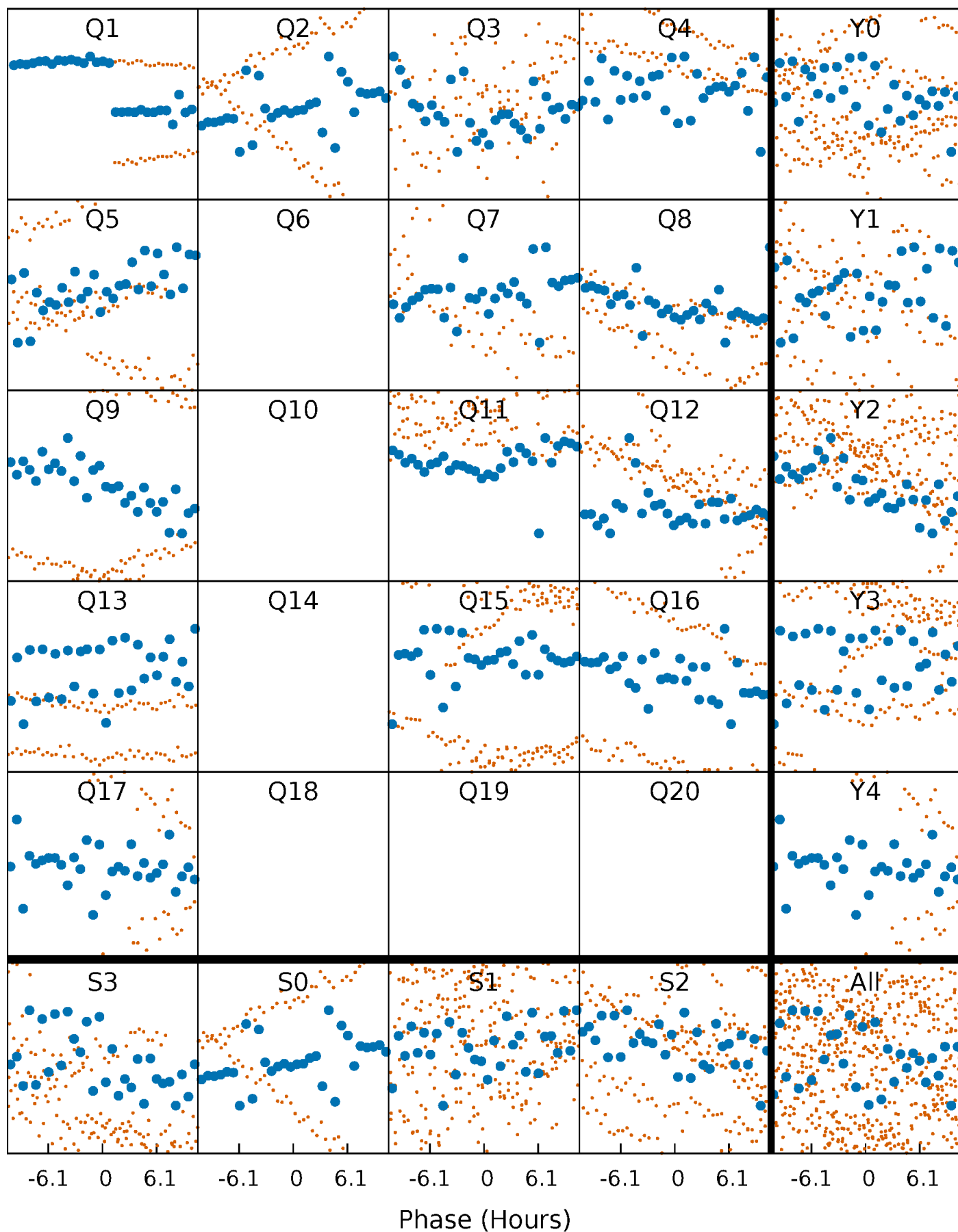


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



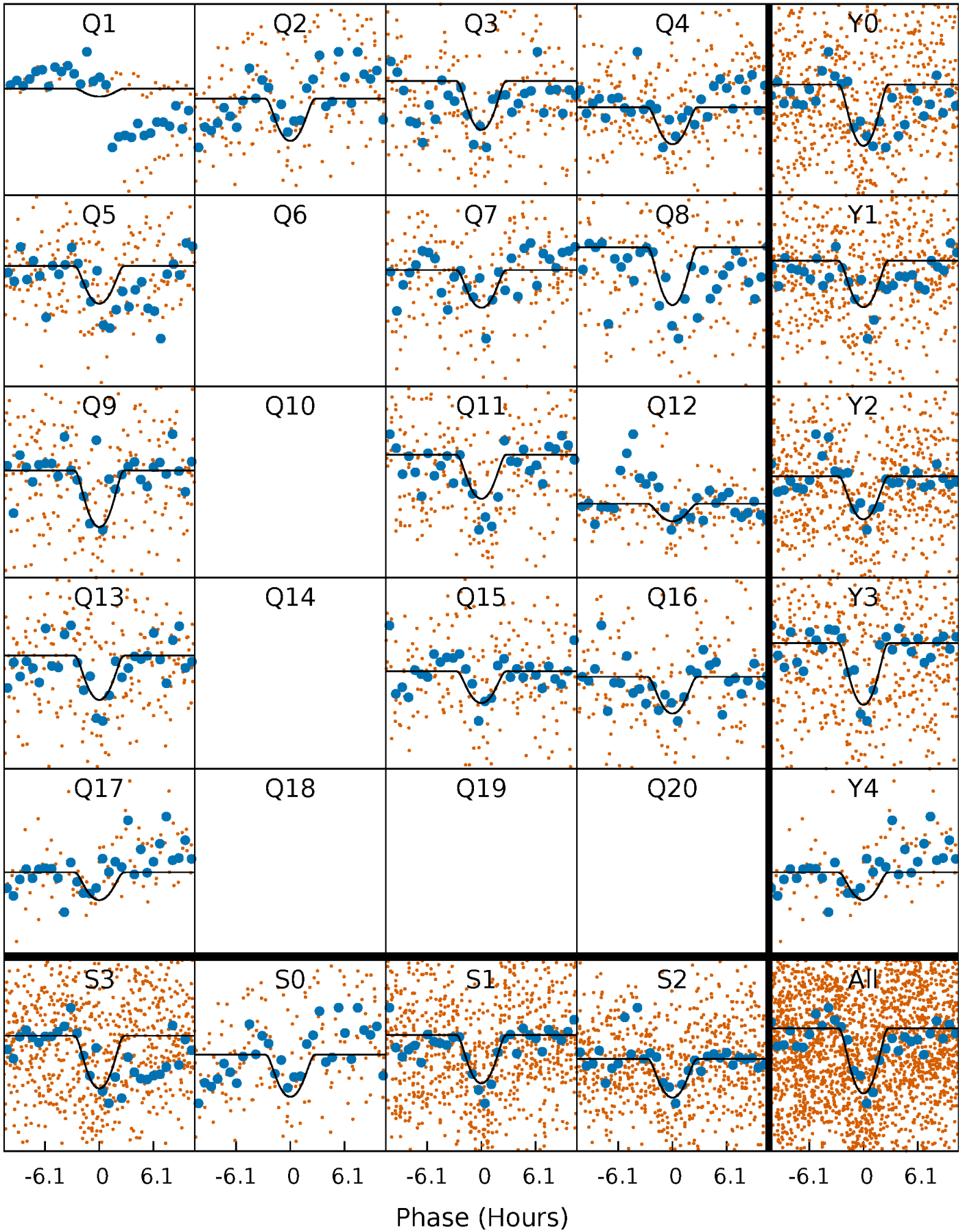
PDC Quarter-Phased Transit Curves

TCE 004844367-01 P= 17.162443 Days $T_0=148.617967$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 004844367-01 P= 17.162443 Days $T_0=148.617967$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

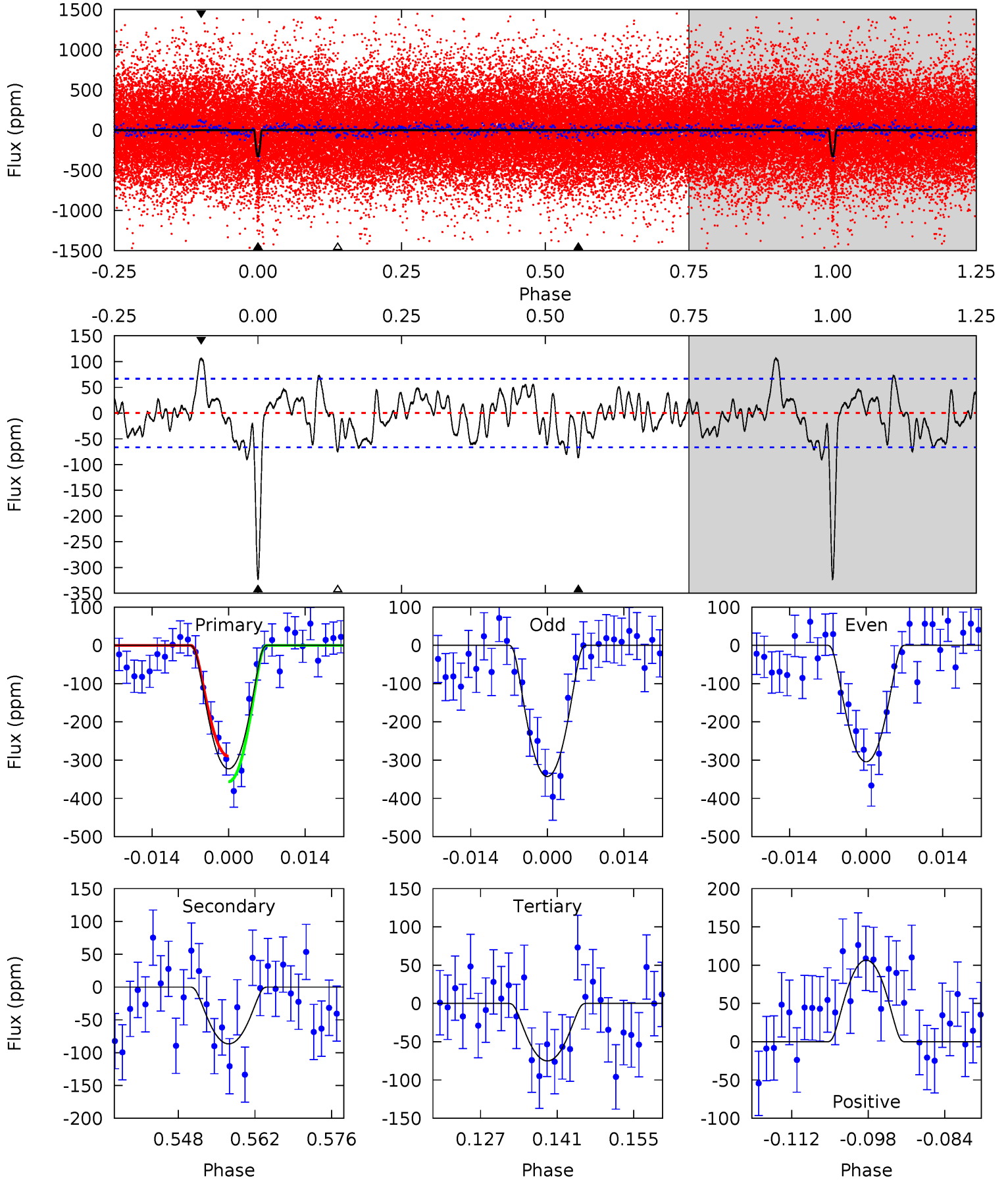
TCE 004844367-01 P= 17.162308 Days $T_0=148.616178$ (BKJD)



DV Model-Shift Uniqueness Test

004844367-01, P = 17.162443 Days, E = 131.455524 Days

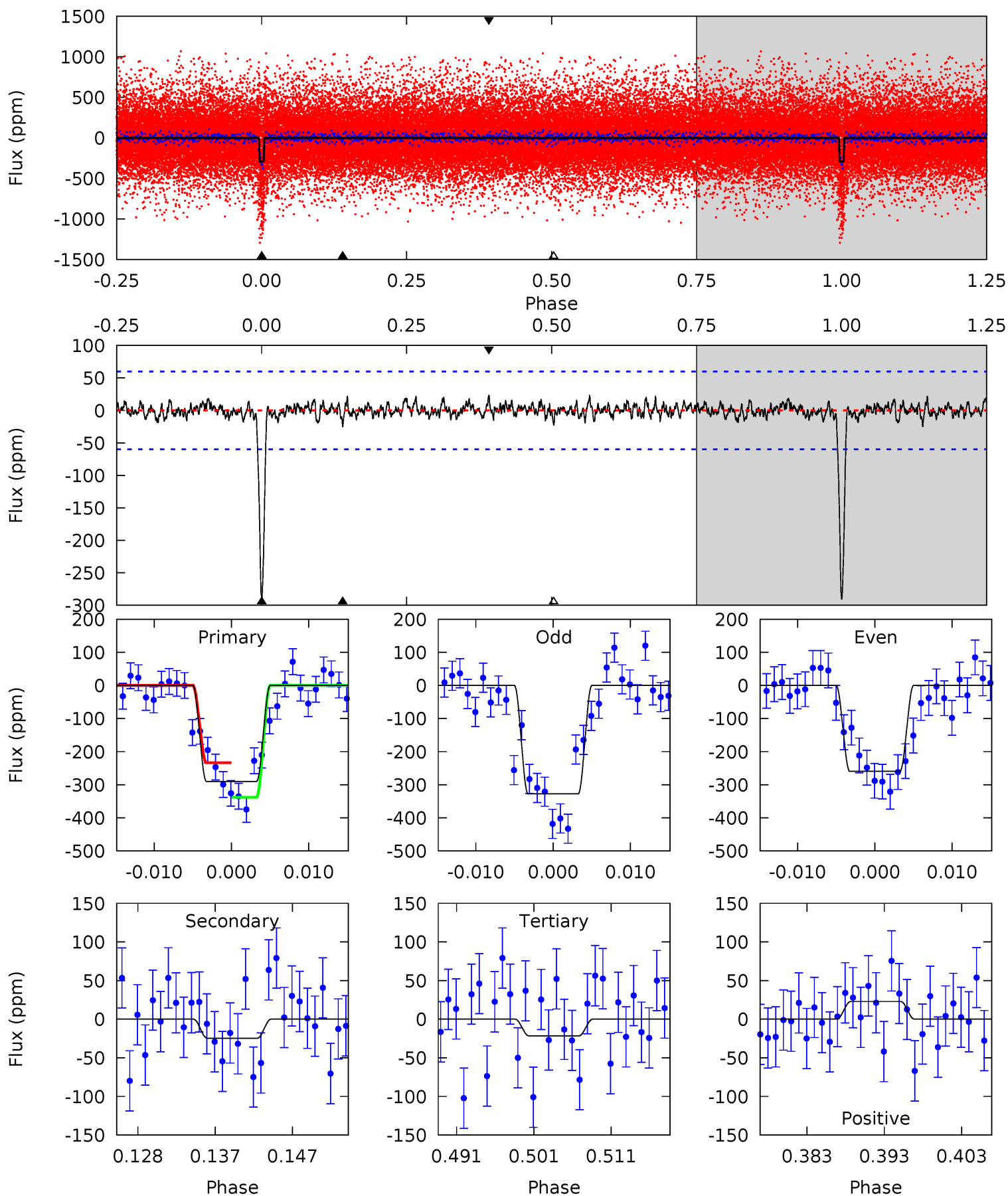
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.1	6.45	5.59	7.95	4.96	2.46	2.53	18.5	16.1	0.86	-1.49	1.43	1.35	0.25	2.50



Alt Model-Shift Uniqueness Test

004844367-01, P = 17.162308 Days, E = 131.453870 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.3	2.07	1.81	1.92	5.03	2.58	0.61	22.5	22.4	0.26	0.15	2.86	1.16	0.07	4.36



Stellar Parameters For KIC 004844367

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5729^{+77}_{-85}	$4.509^{+0.024}_{-0.102}$	$0.160^{+0.150}_{-0.150}$	$0.939^{+0.114}_{-0.045}$	$1.037^{+0.043}_{-0.074}$	$1.767^{+0.206}_{-0.526}$
	+1%/-1%	+1%/-2%	+94%/-94%	+12%/-5%	+4%/-7%	+12%/-30%
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 004844367-01 / KOI 4498.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-87 ± 13	$2.93^{+1.76}_{-1.61}$	951^{+33}_{-21}	3692^{+1333}_{-503}	95^{+398}_{-59}
Alt.	-25 ± 12	$2.17^{+1.68}_{-1.34}$	952^{+32}_{-22}	3304^{+1314}_{-579}	47^{+273}_{-35}

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

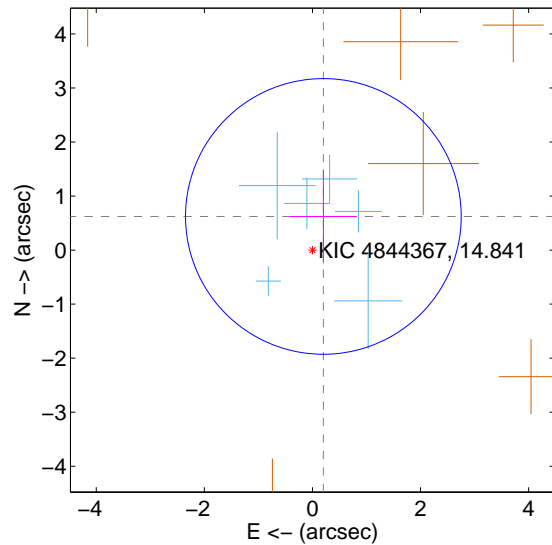
Supplemental centroid analysis for 004844367-01. Kepler magnitude: 14.84. Transit SNR 11.96

There are 6 quarters with good PRF difference image offsets

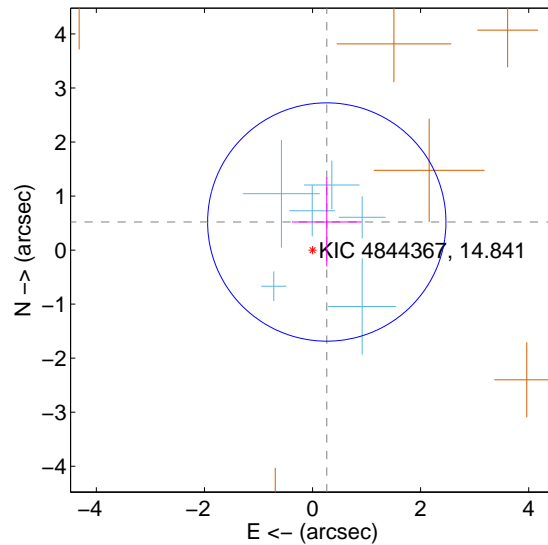
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.655 ± 0.850	0.77	-0.202 ± 0.618	0.623 ± 0.869
PRF-fit source offset from KIC position	0.583 ± 0.735	0.79	-0.264 ± 0.646	0.519 ± 0.822
photometric centroid source offset	1.17 ± 0.85	1.37	1.13 ± 0.86	-0.29 ± 0.82

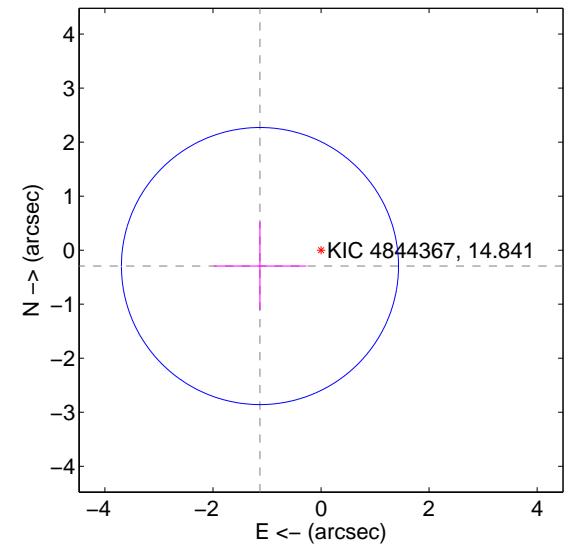
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

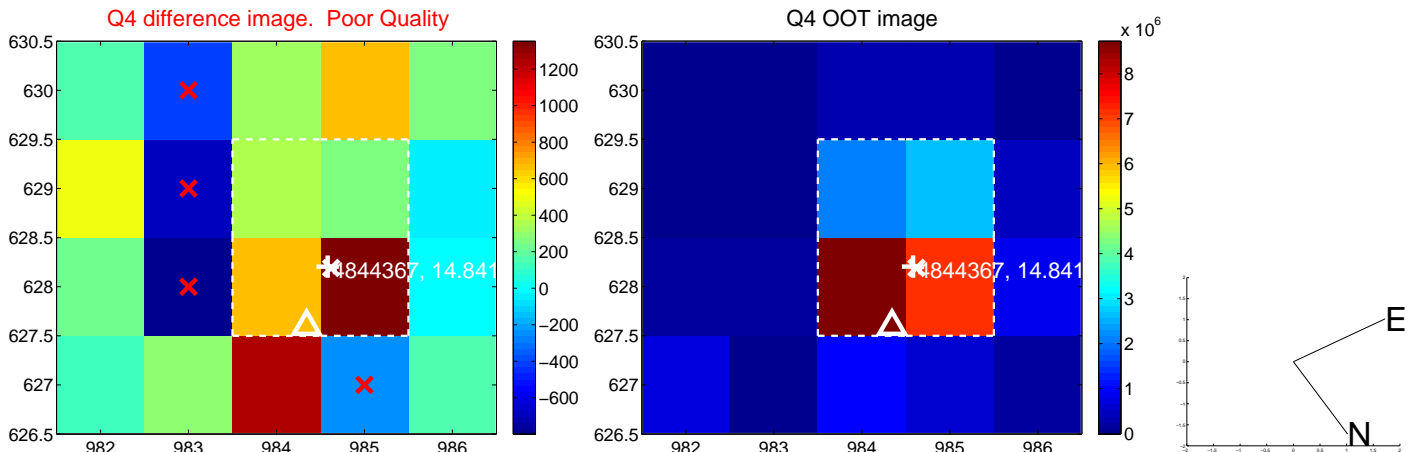
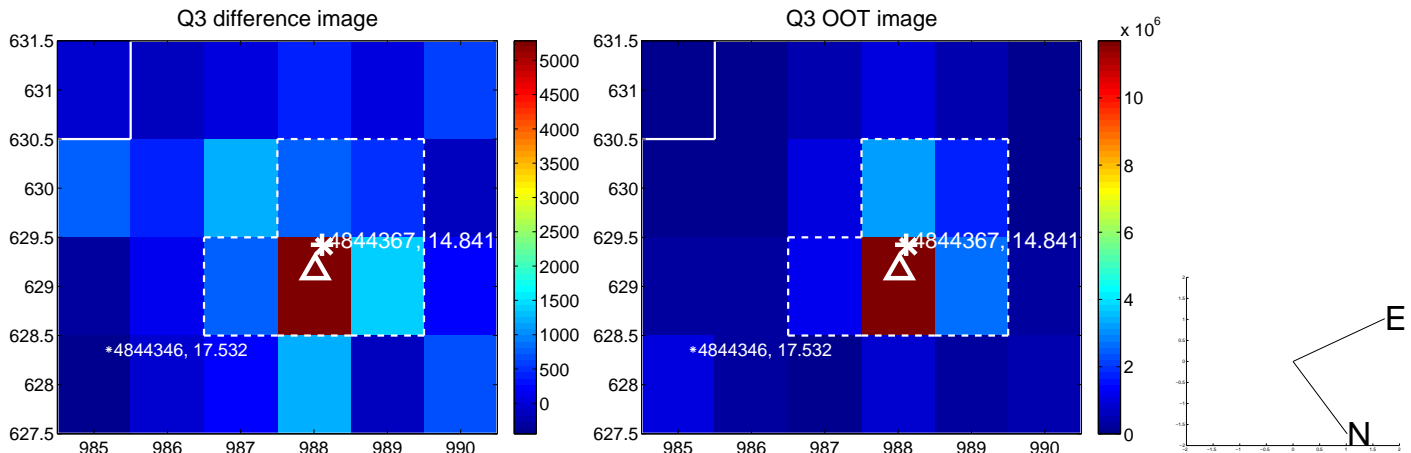
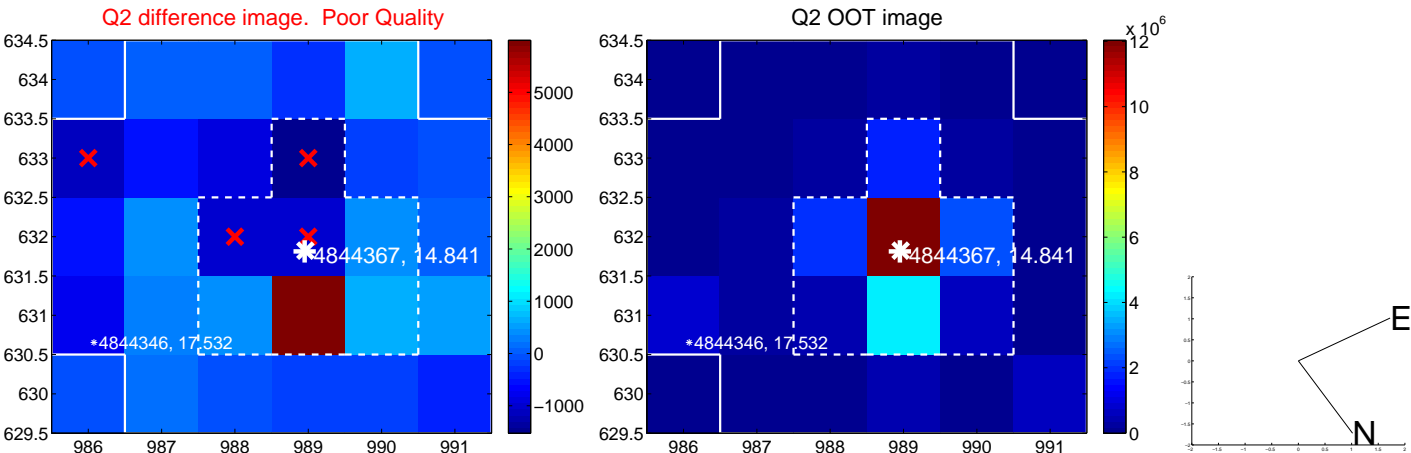
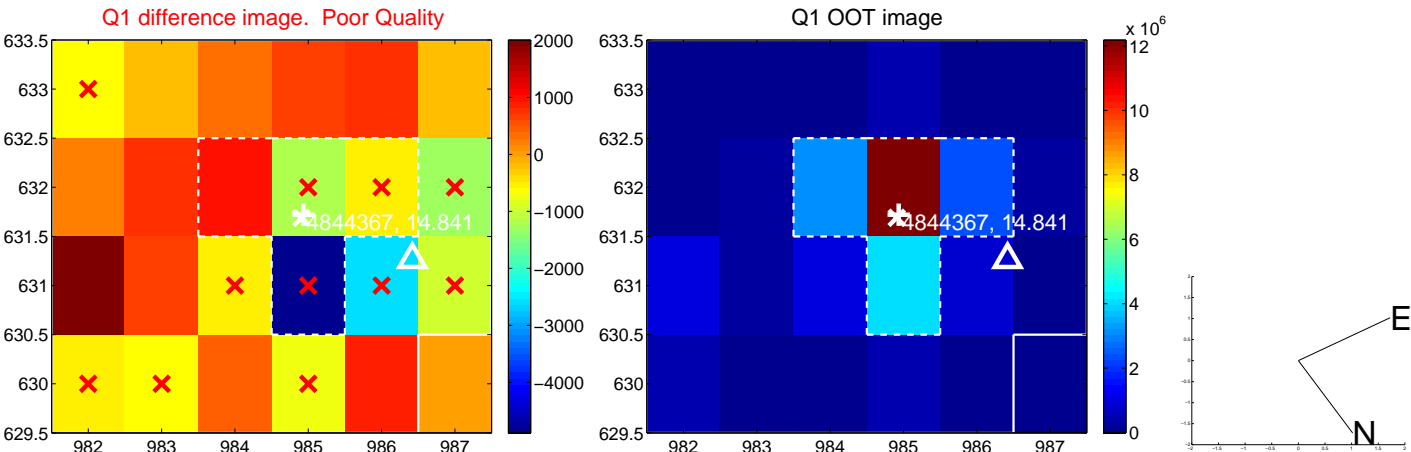


offset from photometric centroids

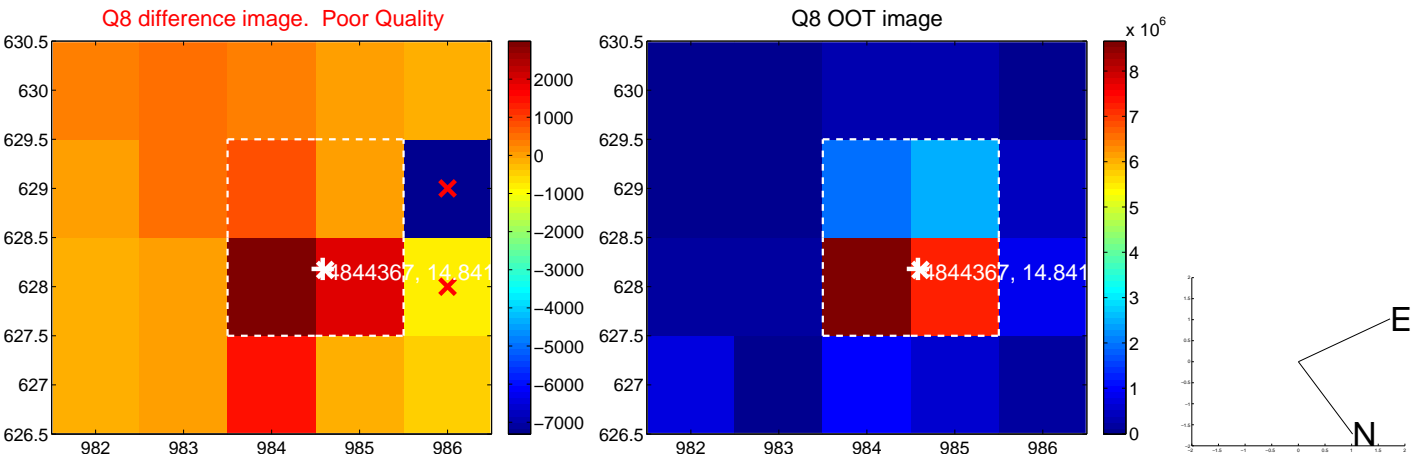
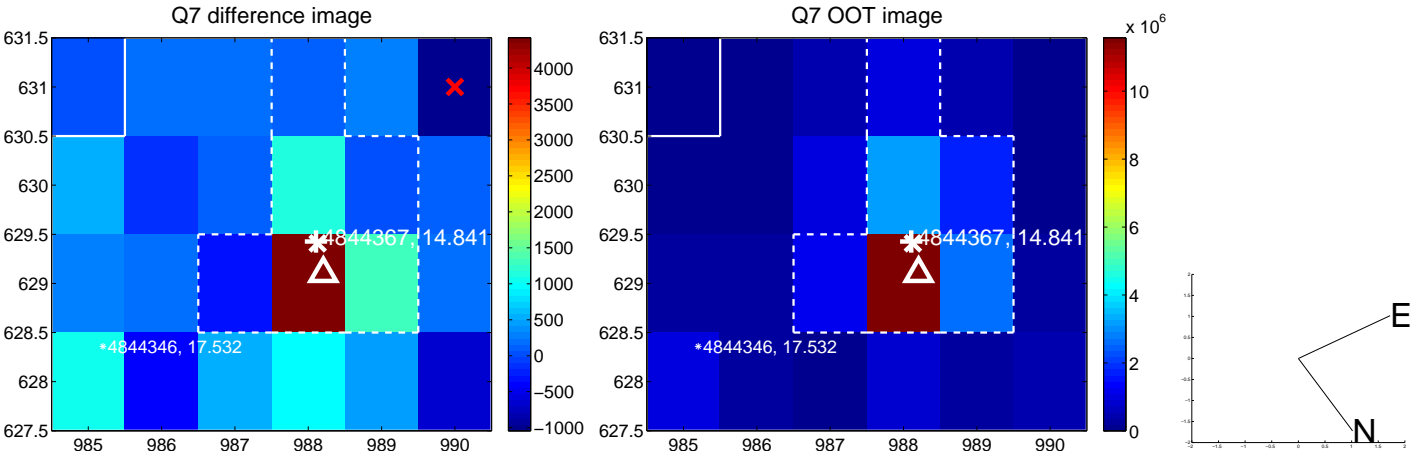
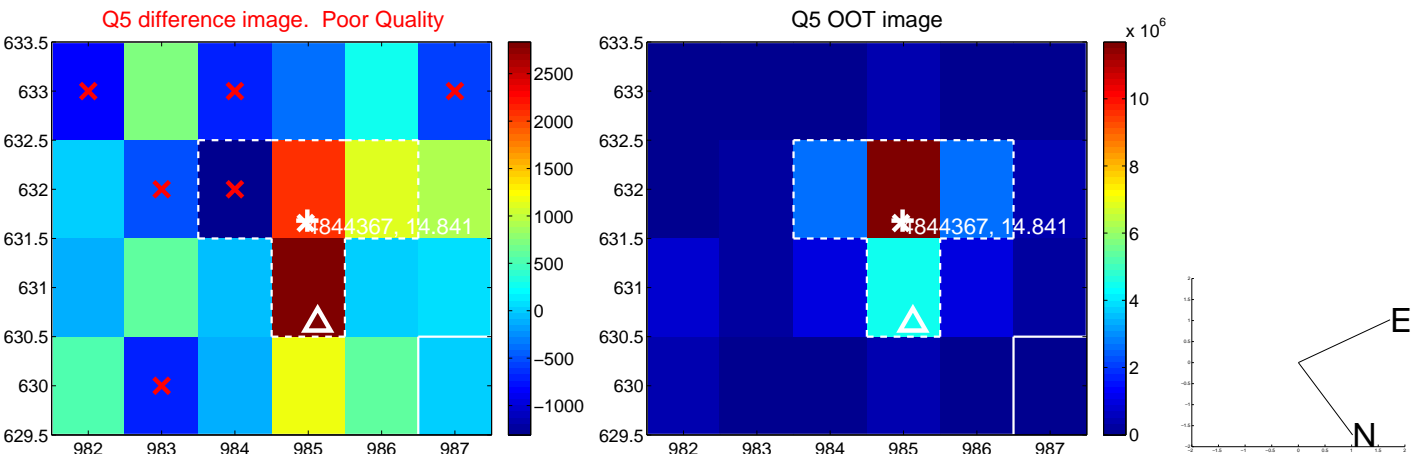


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

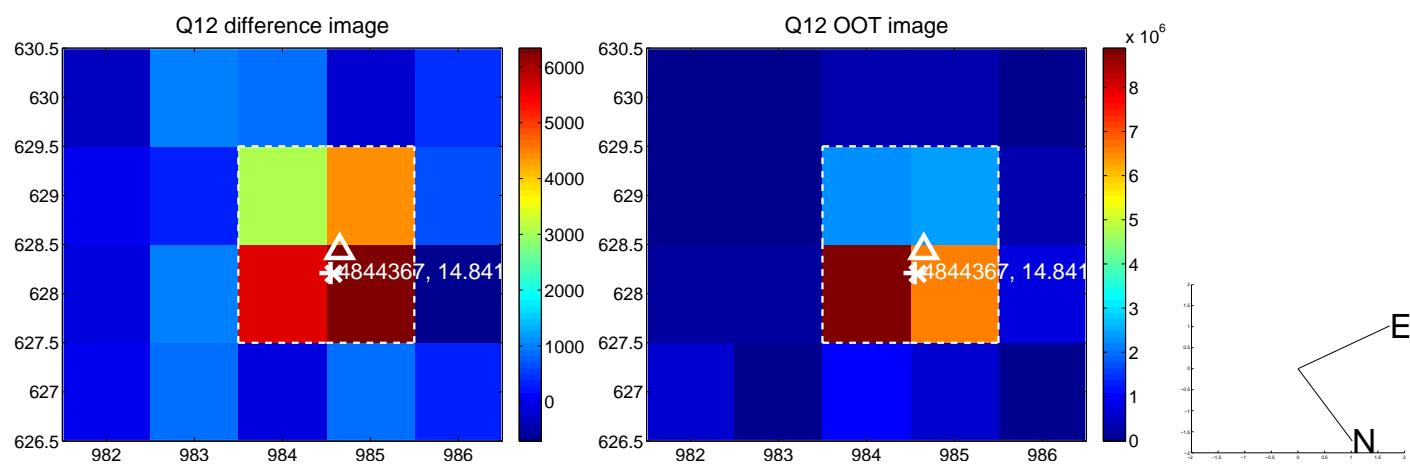
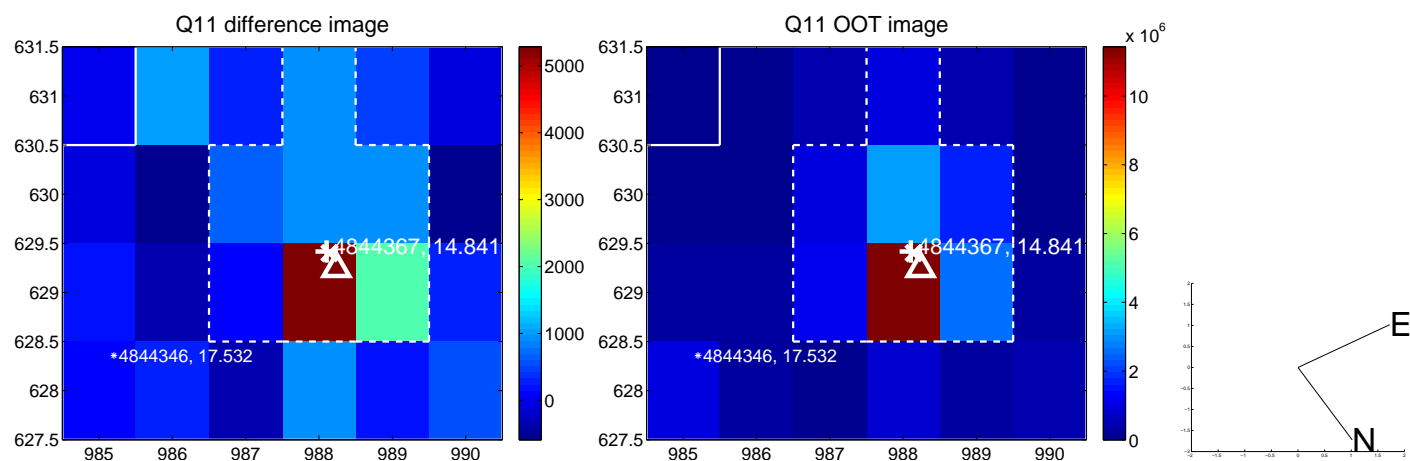
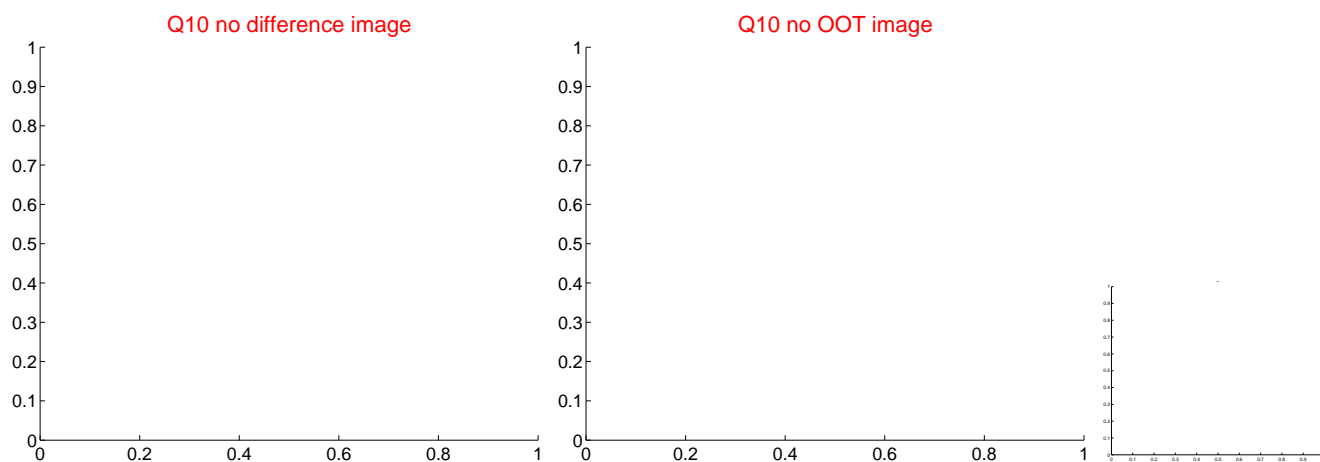
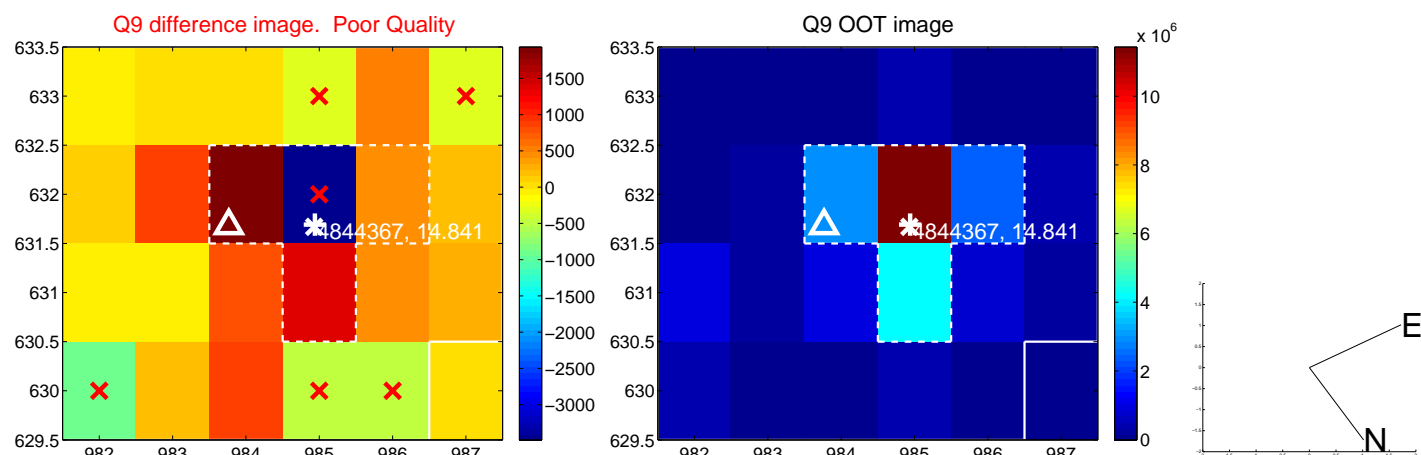
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



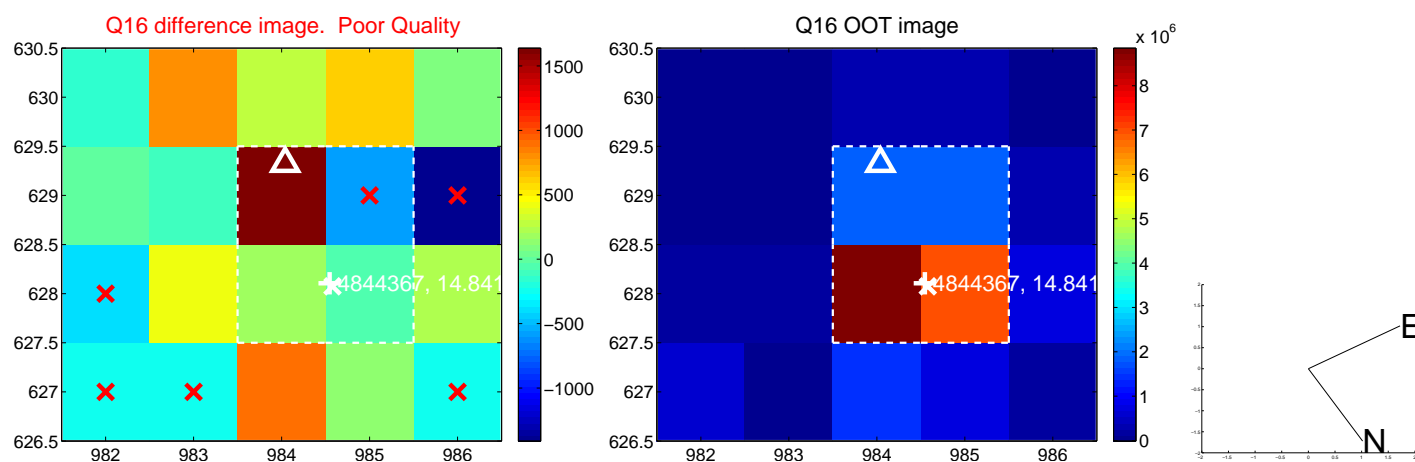
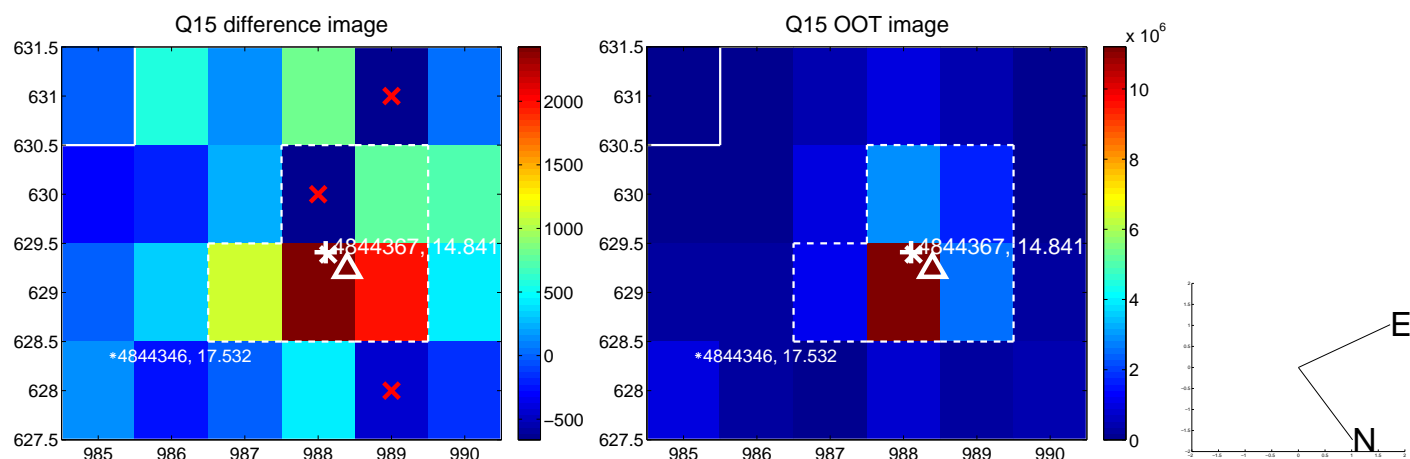
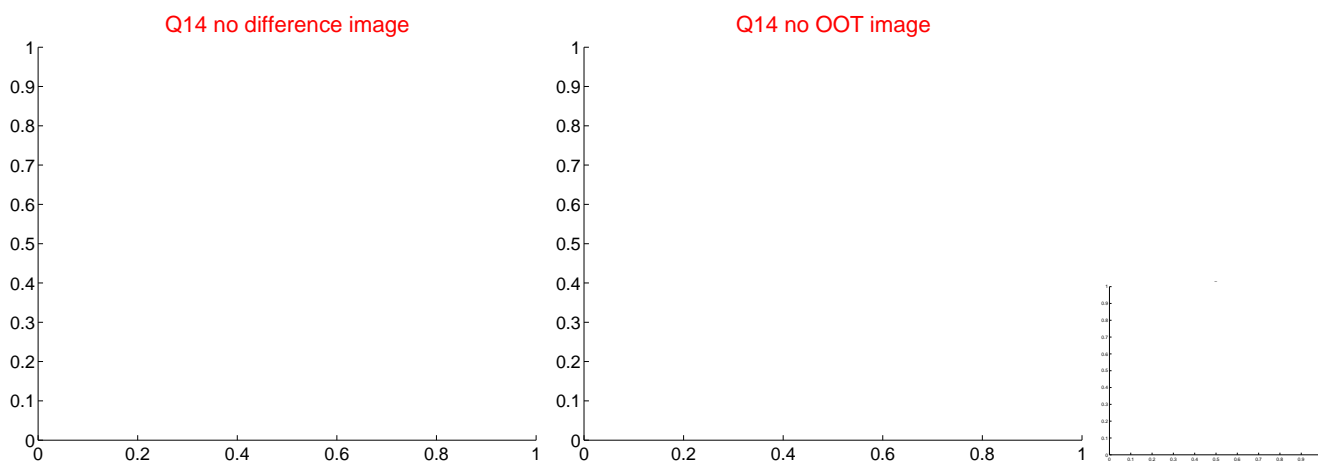
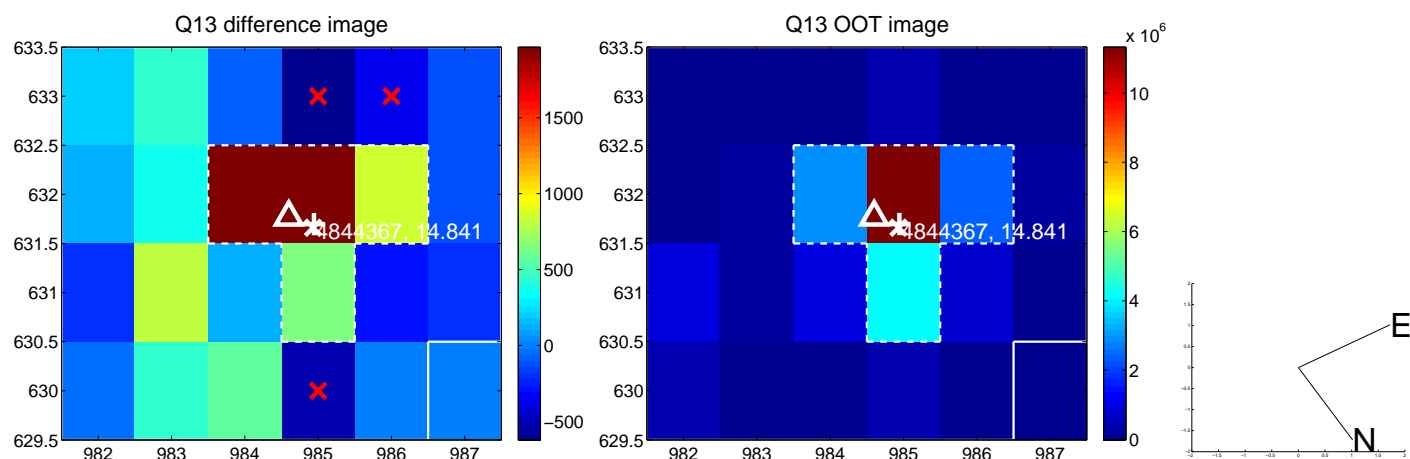
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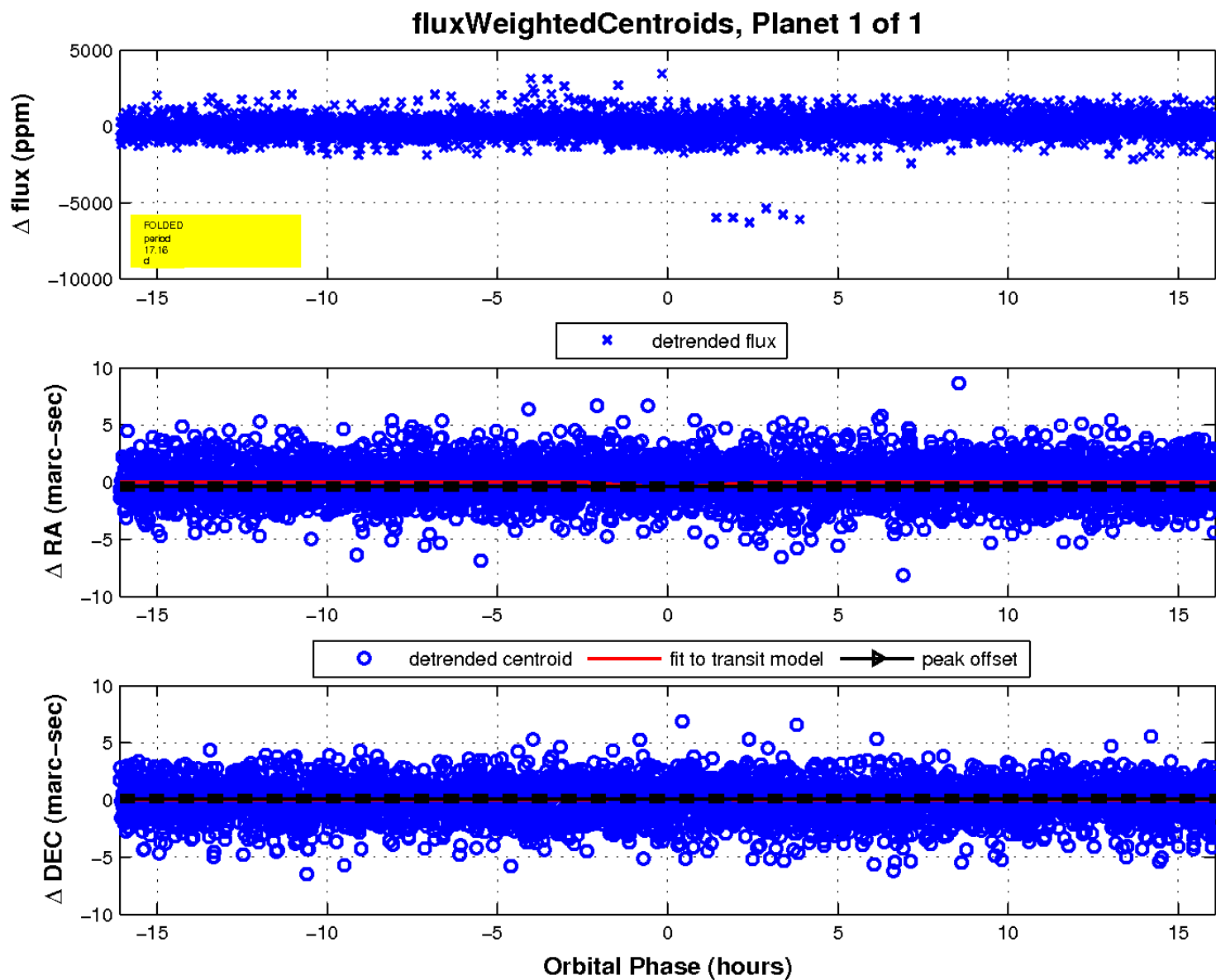
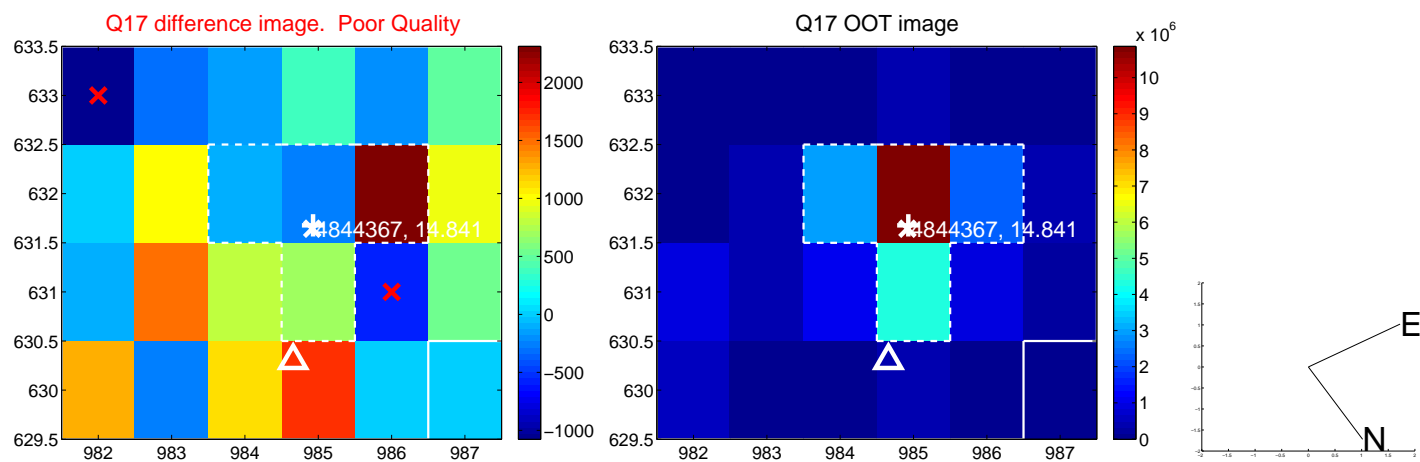
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UKIRT Image

Declination

