

KIC 008492101

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})
008492101-01	OBS	4437.01	4.059380	133.200138	107.8	3.136	16.1	16.7	1.66	5051	2.10	666.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008492101-01	OBS	FP	0.00	0	0	0	1	CENT_KIC_POS—EPHEM_MATCH

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.

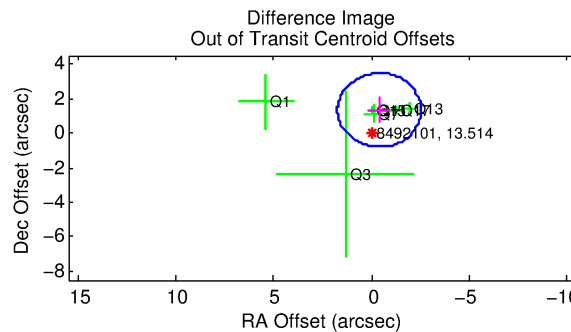
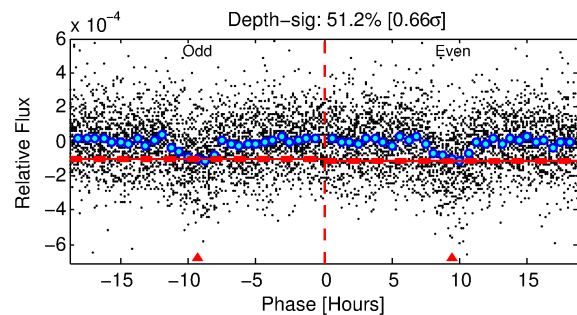
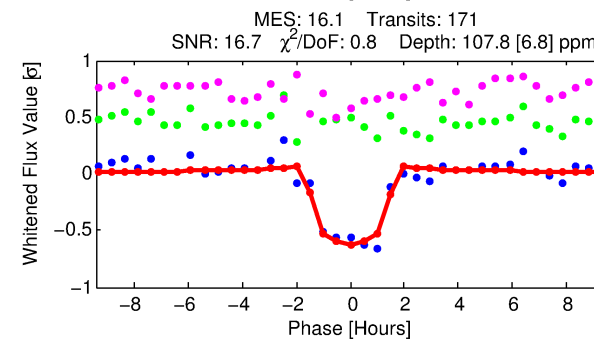
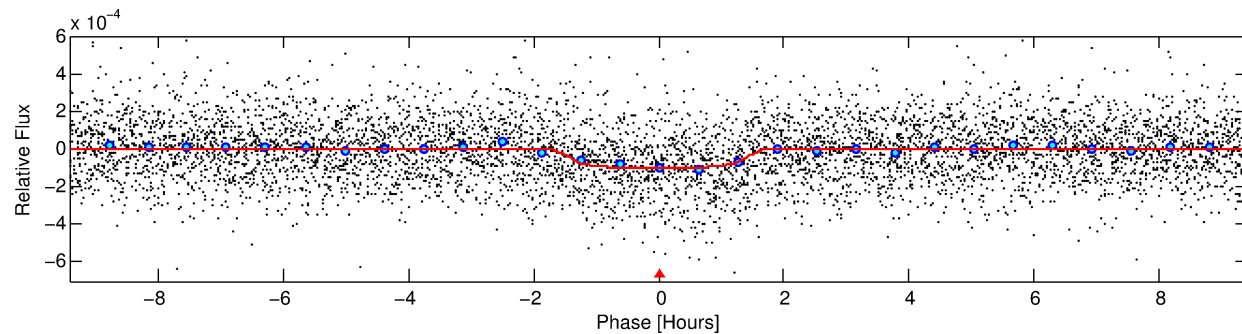
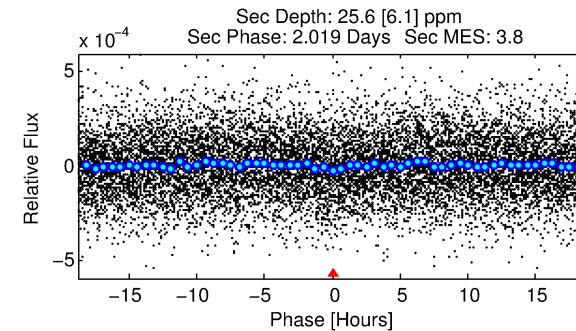
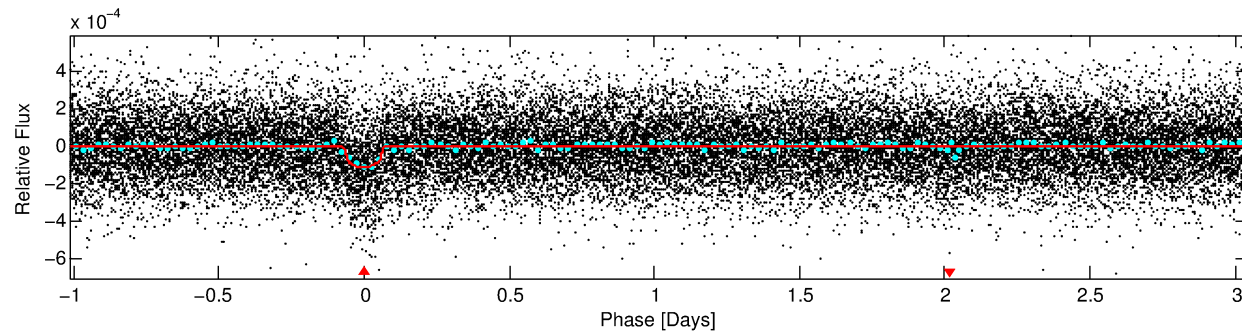
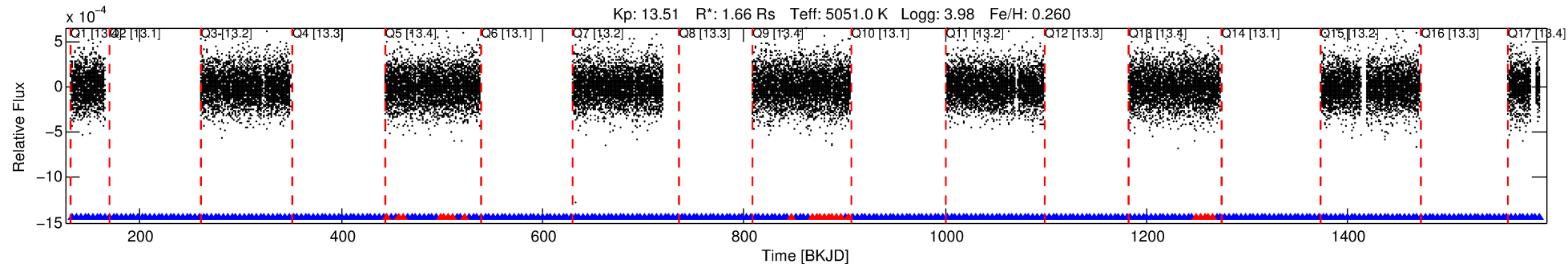
Ephemeris Match Information For 008492101-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist ($''$)	Δ Row	Δ Col	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ_P	σ_T
008492101-01	8492101	008621026-pri	8621026	1:1	951.1	0	239	13.37	13.51	2324.10	Col-Anomaly	0	0.66	0.55

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 8492101 Candidate: 1 of 1 Period: 4.059 d
KOI: K04437.01 Corr: 0.945



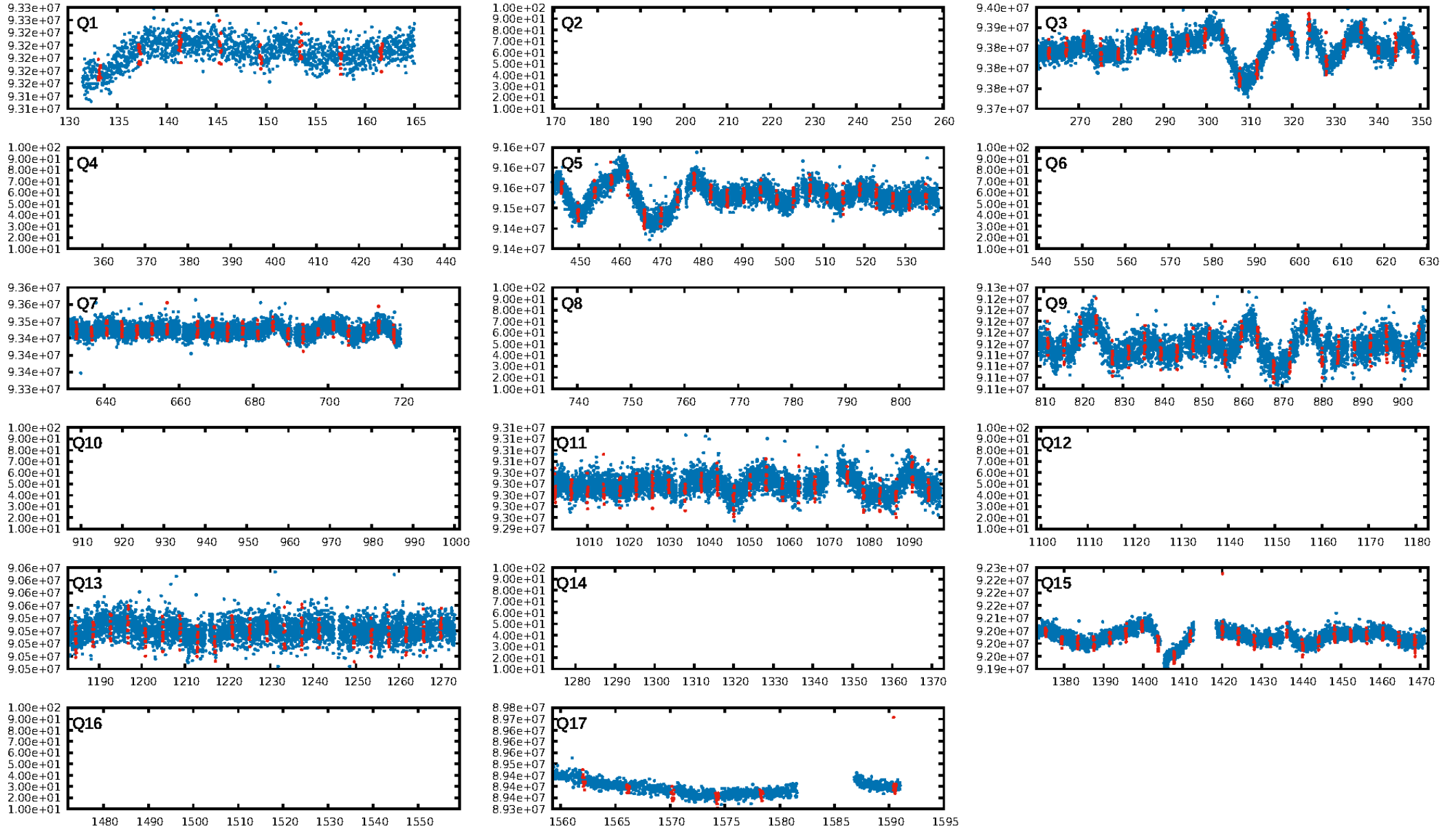
DV Fit Results:

Period = 4.05938 [0.00002] d
Epoch = 133.2001 [0.0030] BKJD
Rp/R* = 0.0116 [0.0049]
a/R* = 4.65 [7.55]
b = 0.90 [0.37]
Seff = 666.28 [637.22]
Teq = 1296 [310] K
Rp = 2.10 [1.41] Re
a = 0.0490 [0.0274] AU
Ag = 7.67 [9.89] [0.67σ]
Teffp = 3333 [742] K [2.53σ]

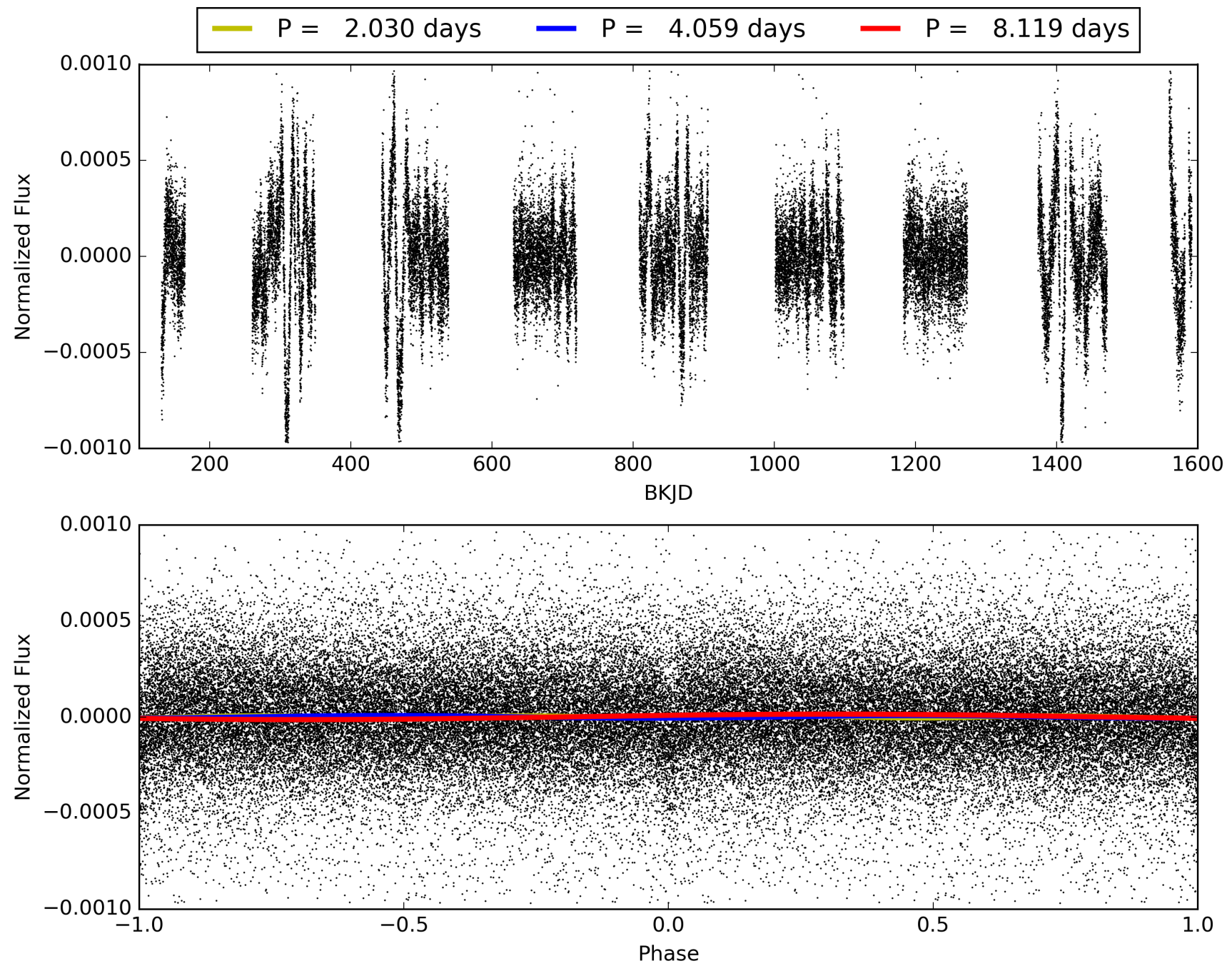
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 12.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.20e-55
RollingBand-fgt: 0.85 [134/157]
GhostDiagnostic-chr: -5.183
Centroid-sig: 0.2%
Centroid-so: 2.517 arcsec [3.18σ]
OotOffset-rm: 1.387 arcsec [1.95σ]
KicOffset-rm: 2.034 arcsec [2.84σ]
OotOffset-st: 0/4/0/3 [7]
KicOffset-st: 0/4/0/3 [7]
DiffImageQuality-fgm: 0.71 [5/7]
DiffImageOverlap-fno: 1.00 [9/9]

TCE 008492101-01, PDC Light Curves

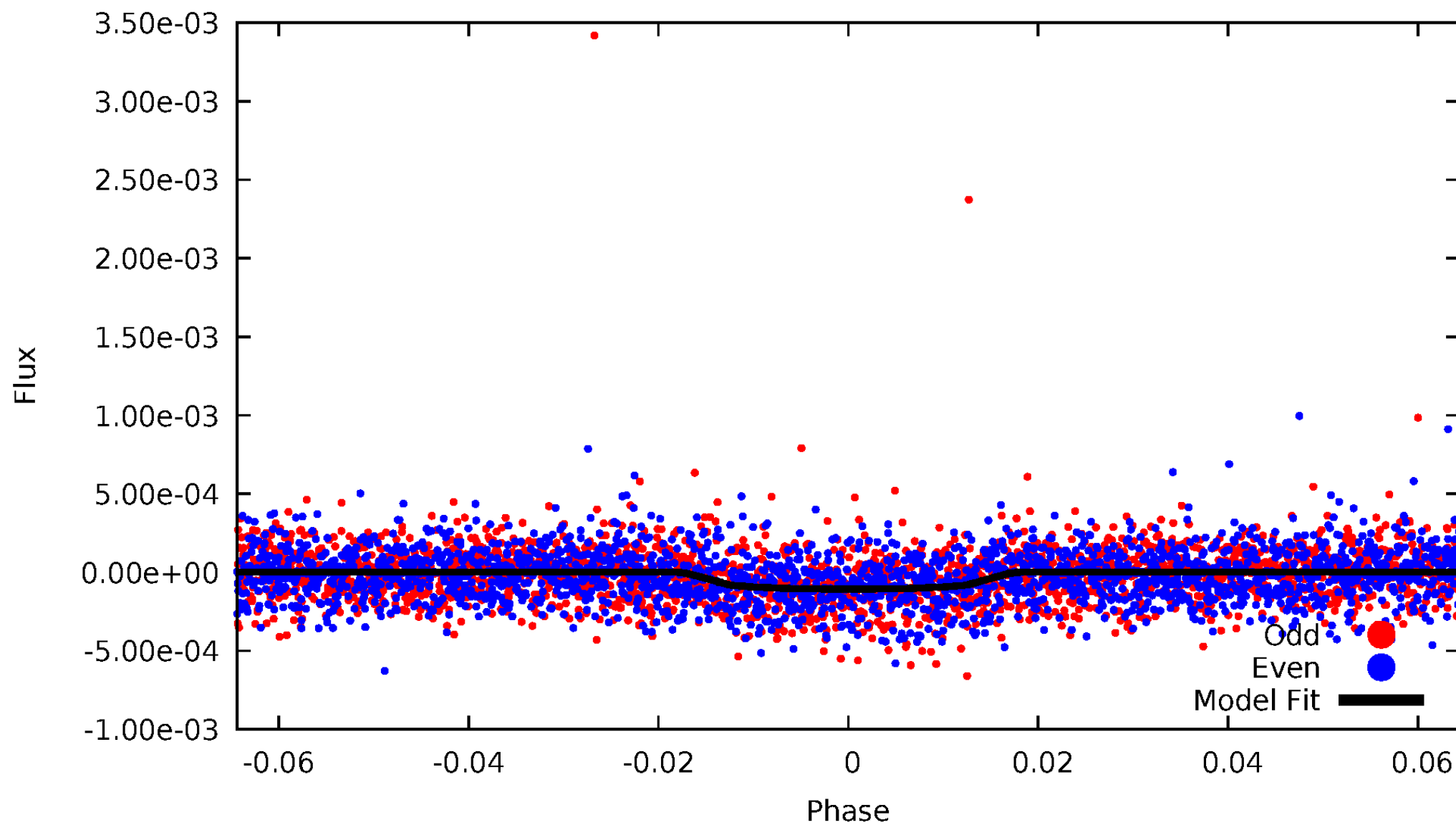


TCE 008492101-01



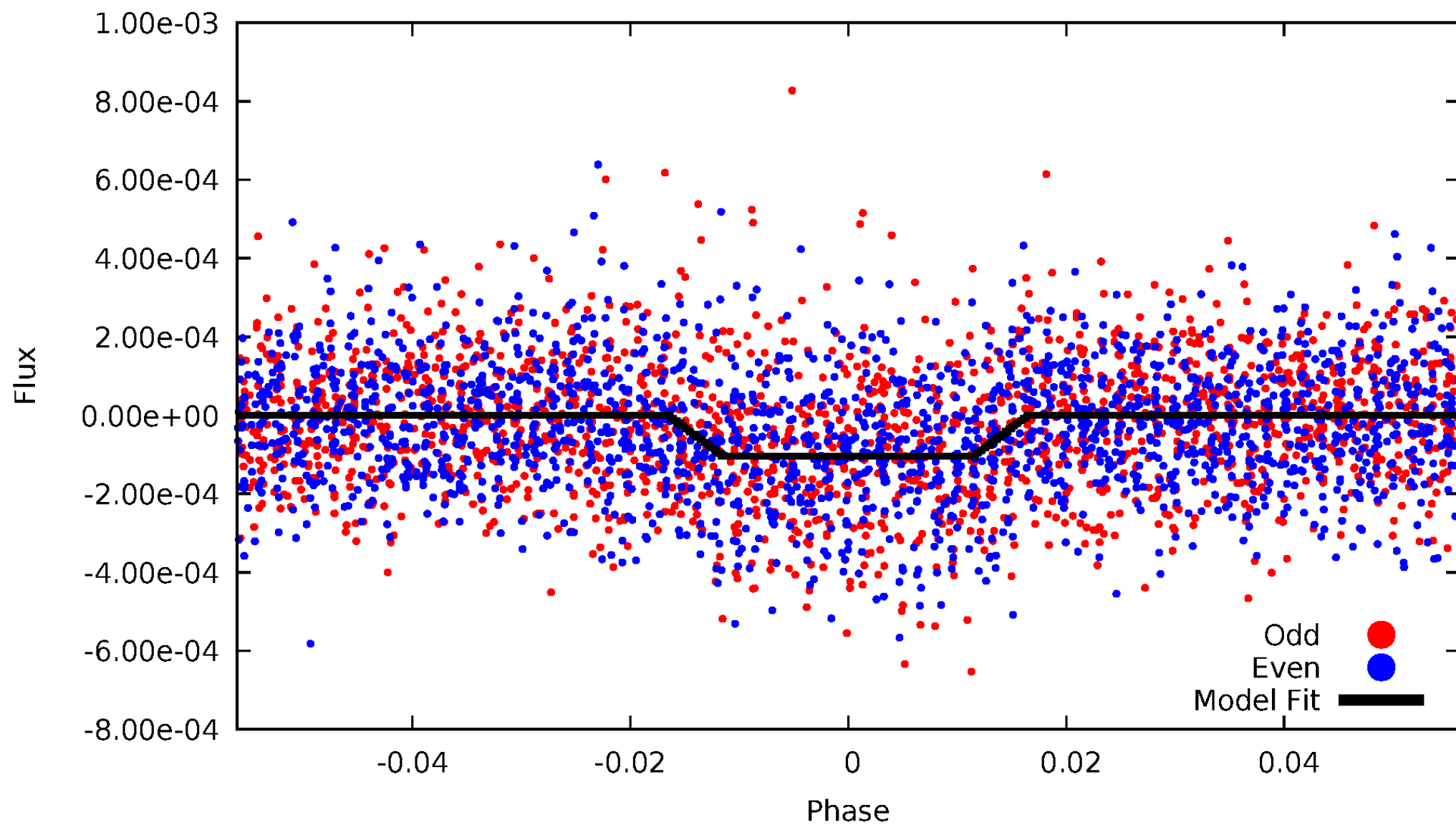
DV Odd/Even

TCE 008492101-01

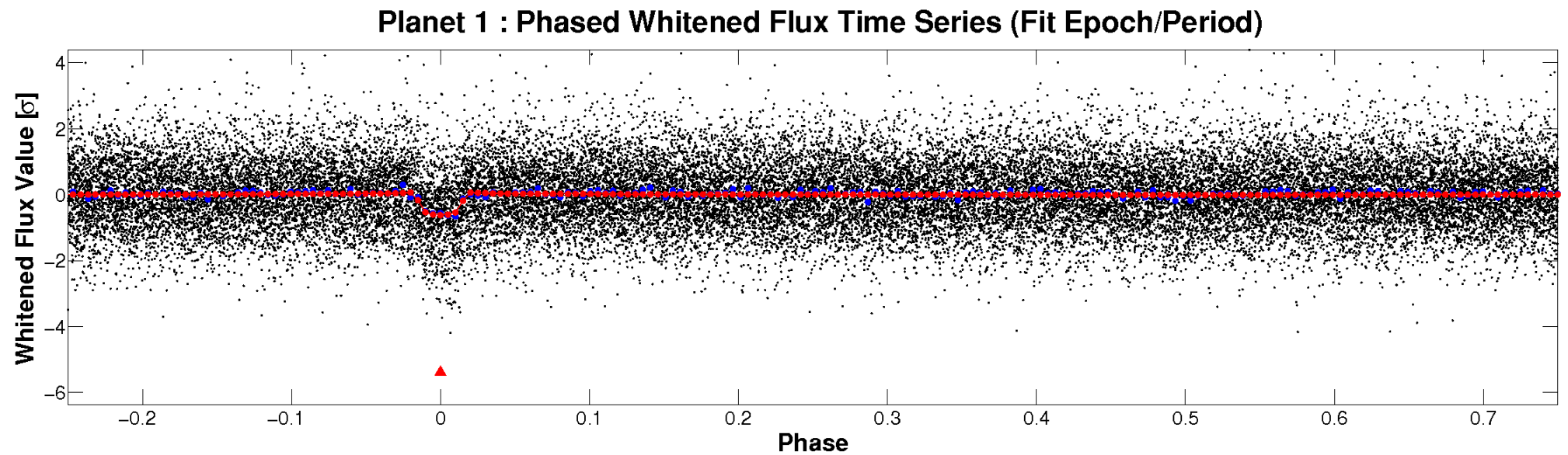
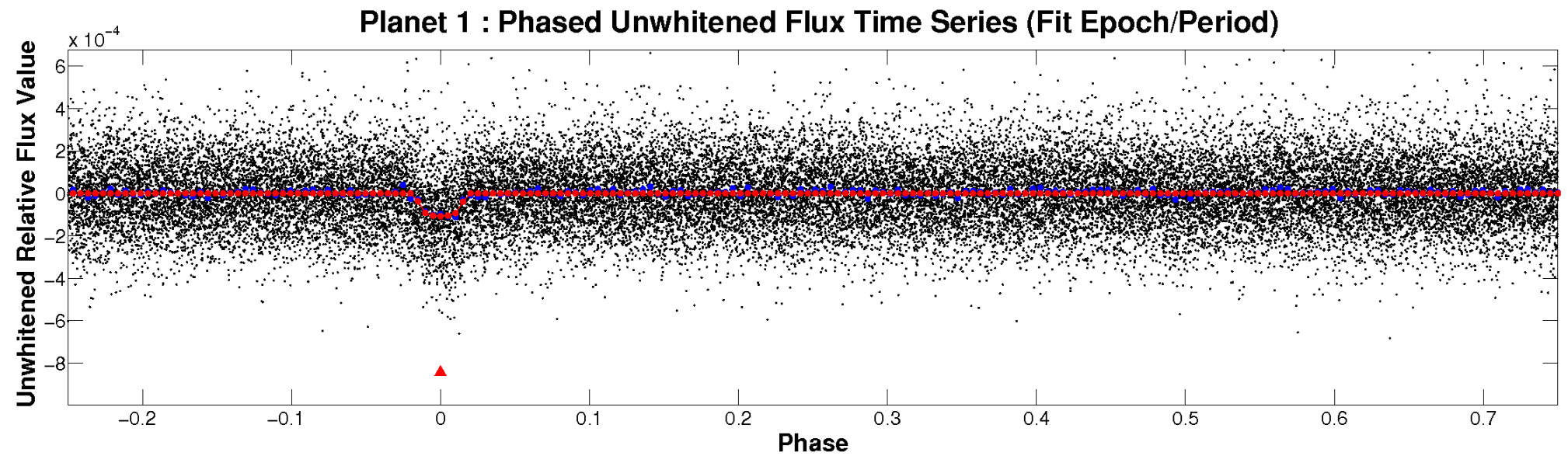


ALT Odd/Even

TCE 008492101-01

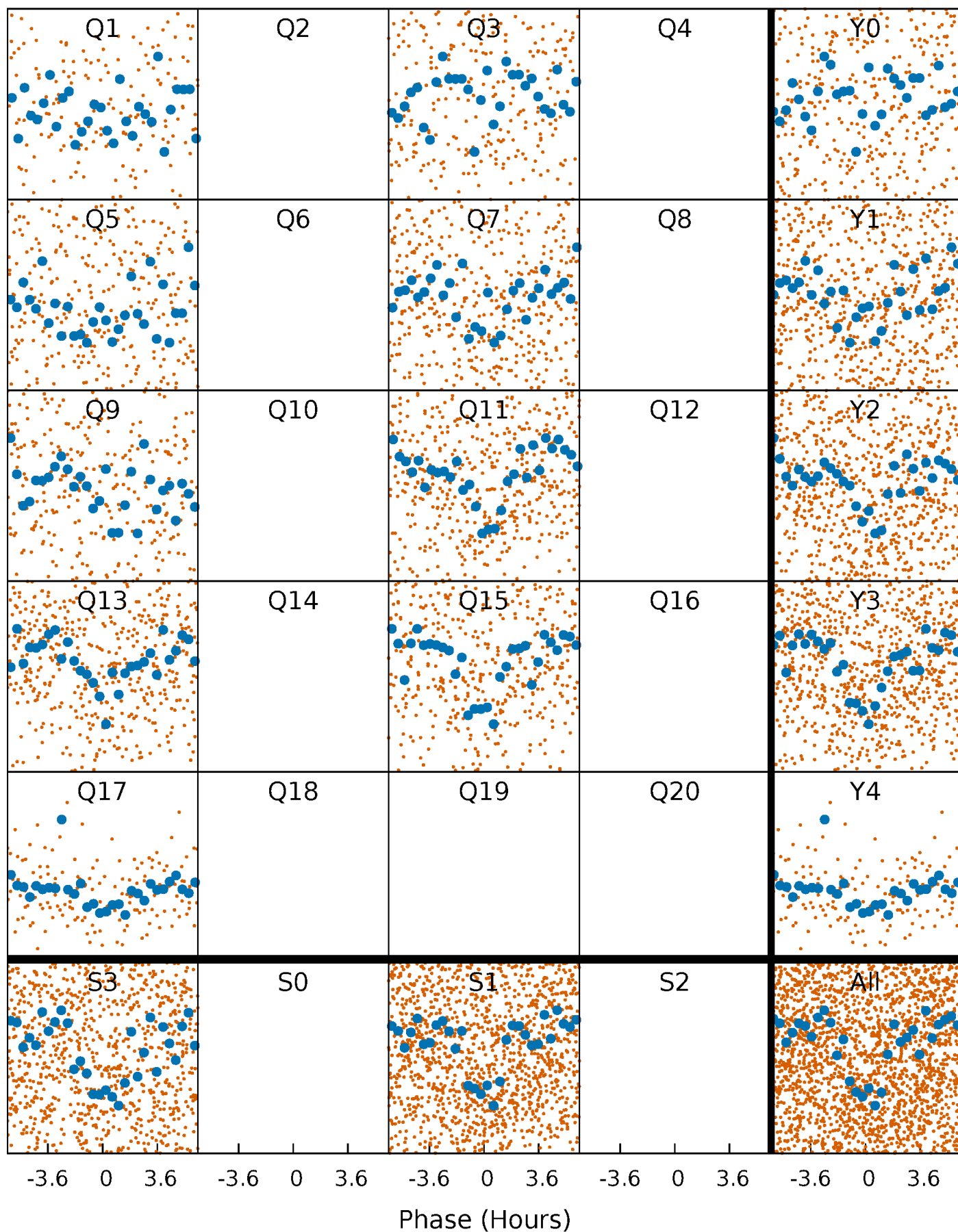


Non-Whitened Vs. Whitened Light Curve



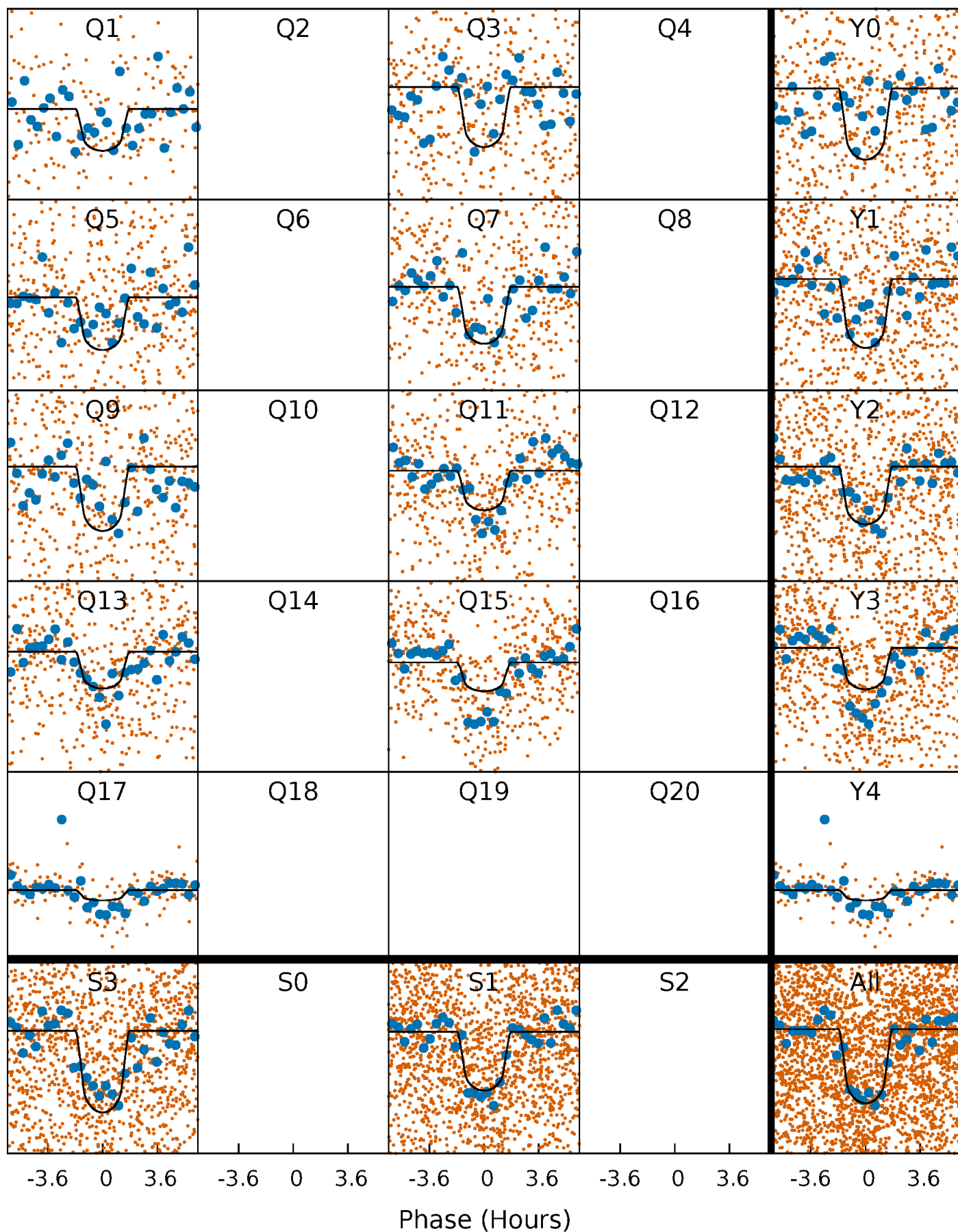
PDC Quarter-Phased Transit Curves

TCE 008492101-01 P= 4.059380 Days $T_0=133.200138$ (BKJD)



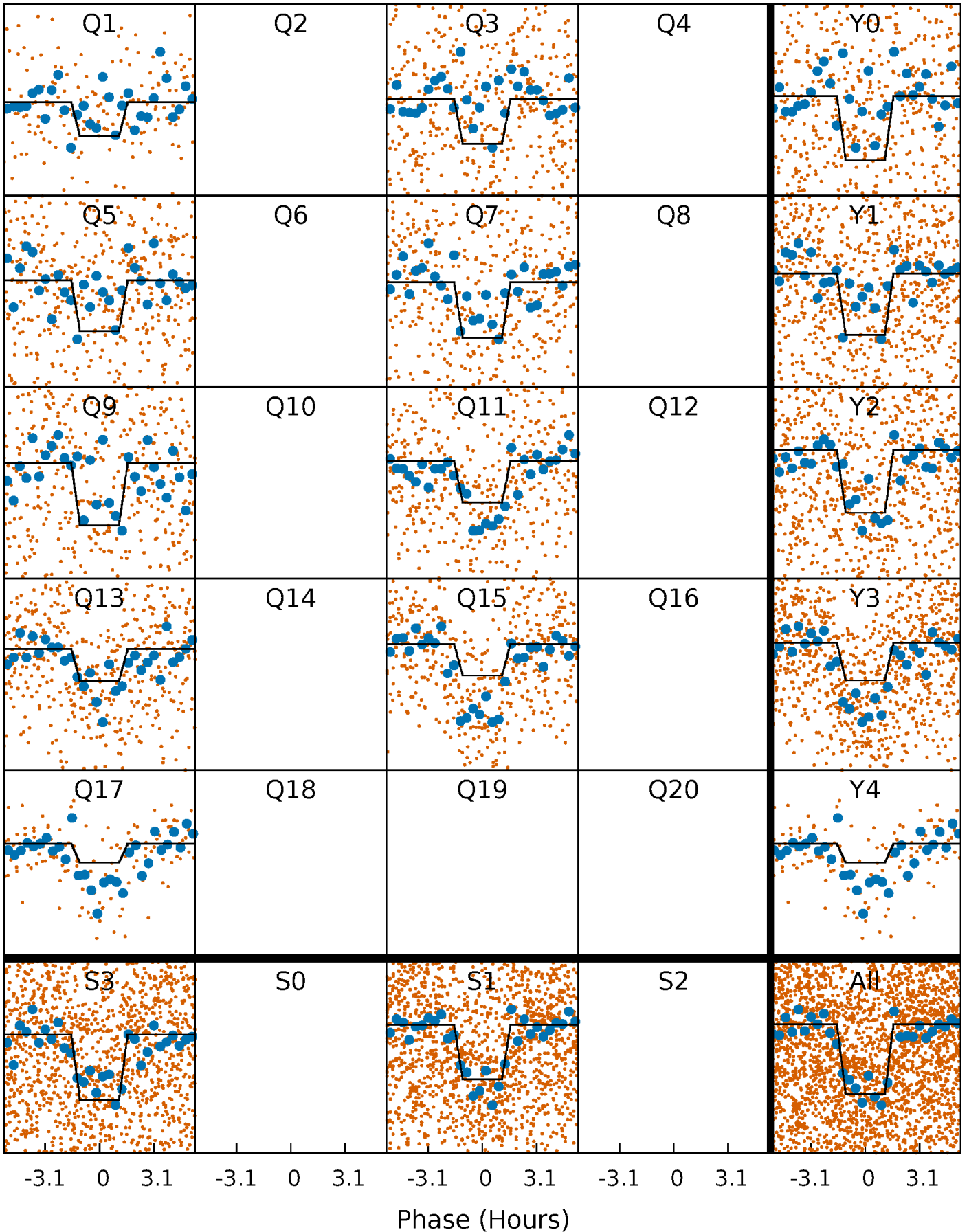
DV Quarter-Phased Transit Curves

TCE 008492101-01 P= 4.059380 Days $T_0=133.200138$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

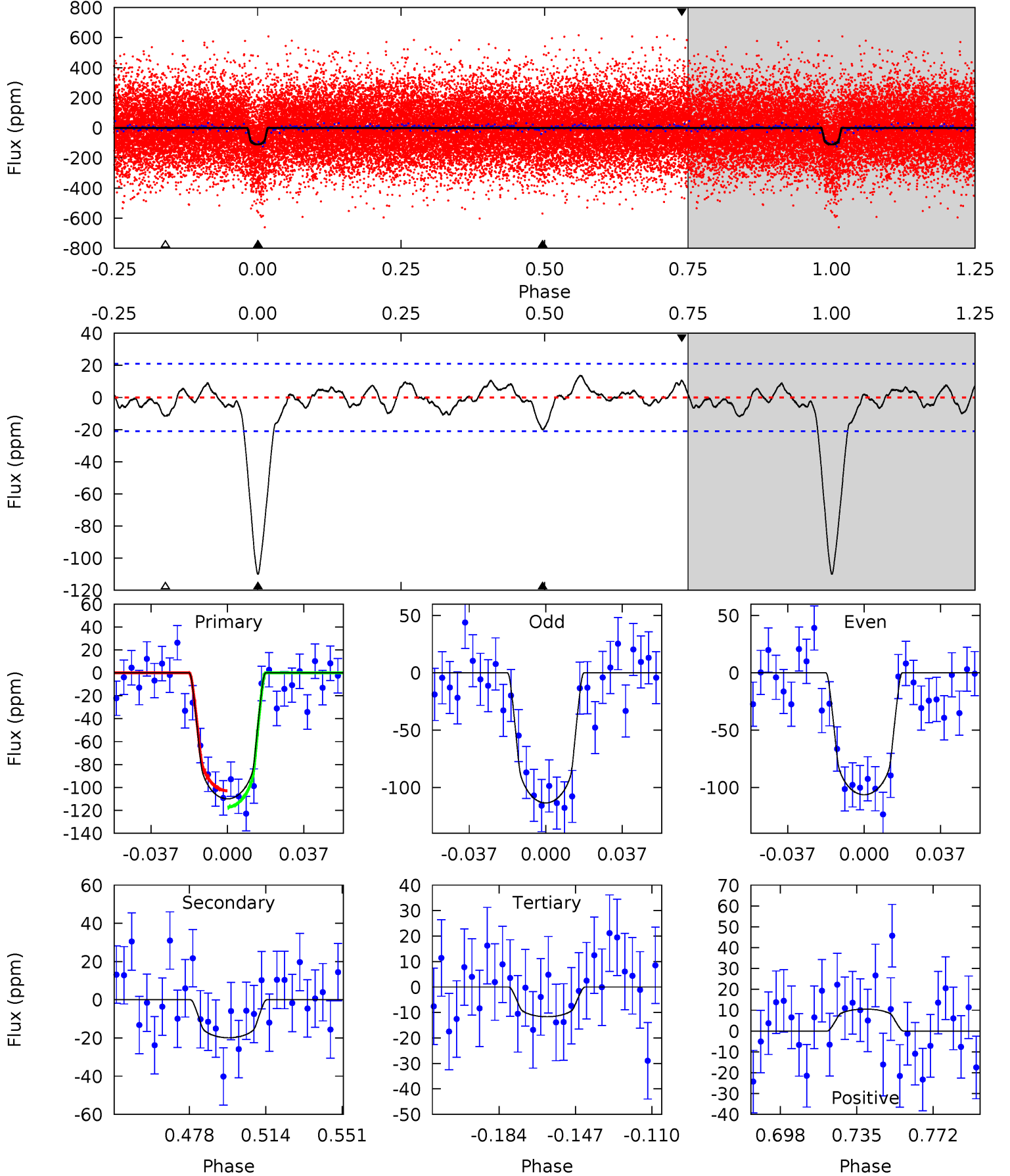
TCE 008492101-01 P= 4.059400 Days $T_0=133.198280$ (BKJD)



DV Model-Shift Uniqueness Test

008492101-01, P = 4.059380 Days, E = 129.140758 Days

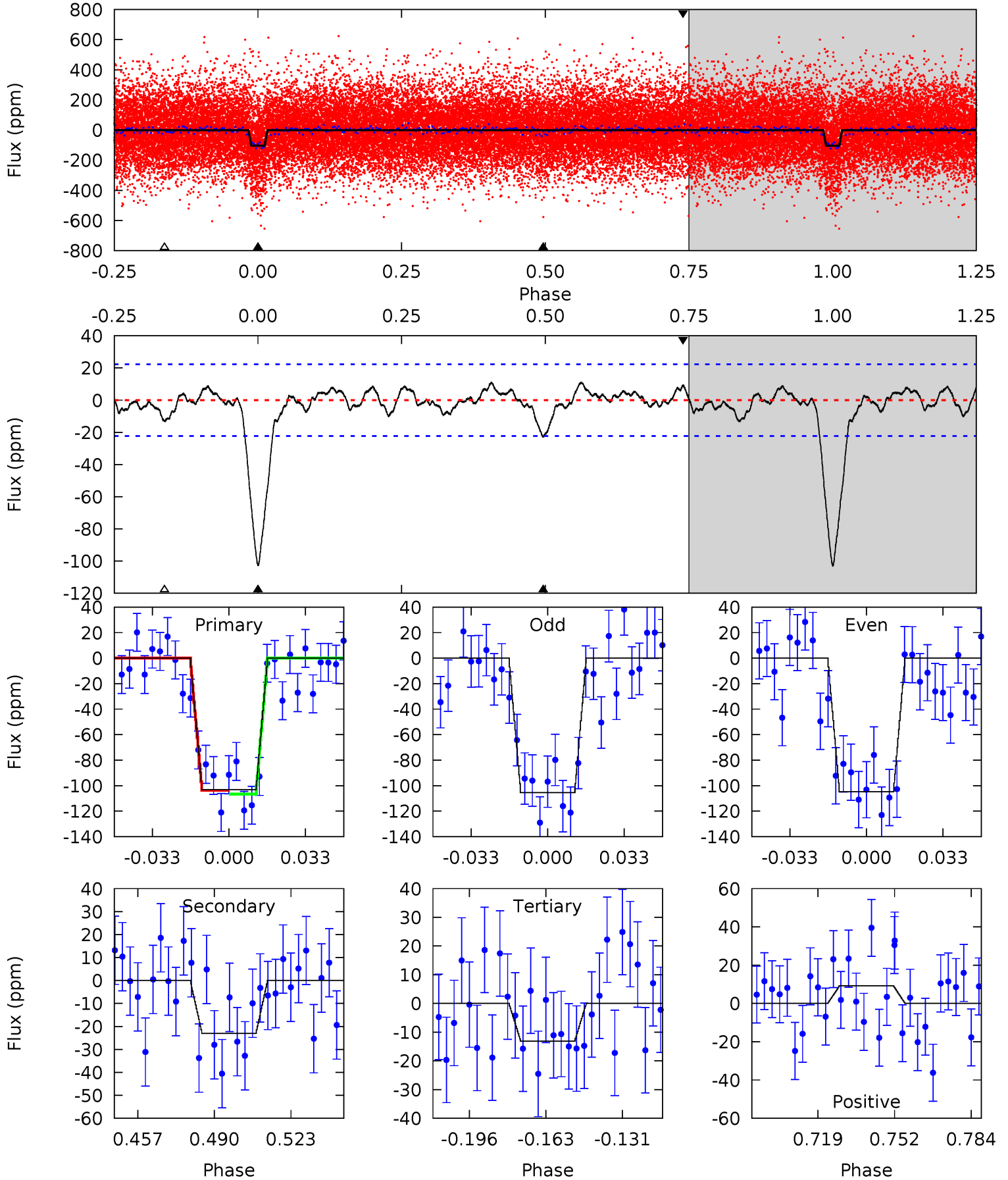
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.0	4.52	2.65	2.39	4.77	2.09	1.19	22.3	22.6	1.87	2.13	0.82	0.93	0.11	1.62



Alt Model-Shift Uniqueness Test

008492101-01, P = 4.059400 Days, E = 129.138880 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.2	4.96	2.83	1.99	4.79	2.14	1.05	19.3	20.2	2.13	2.97	0.08	0.99	0.10	0.31



Stellar Parameters For KIC 008492101

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5051^{+192}_{-174}	$3.978^{+0.572}_{-0.308}$	$0.260^{+0.200}_{-0.300}$	$1.655^{+0.862}_{-0.862}$	$0.949^{+0.150}_{-0.135}$	$0.295^{+2.223}_{-0.183}$
	+4%/-3%	+14%/-8%	+77%/-115%	+52%/-52%	+16%/-14%	+754%/-62%
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 008492101-01 / KOI 4437.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-20 ± 4	$2.01^{+1.15}_{-0.92}$	1802^{+245}_{-267}	3530^{+740}_{-453}	$6.612^{+15.401}_{-4.128}$
Alt.	-23 ± 5	$1.79^{+1.12}_{-0.86}$	1792^{+253}_{-259}	3733^{+986}_{-473}	$9.526^{+26.300}_{-5.965}$

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 $A_{obs} \gg 1.0$

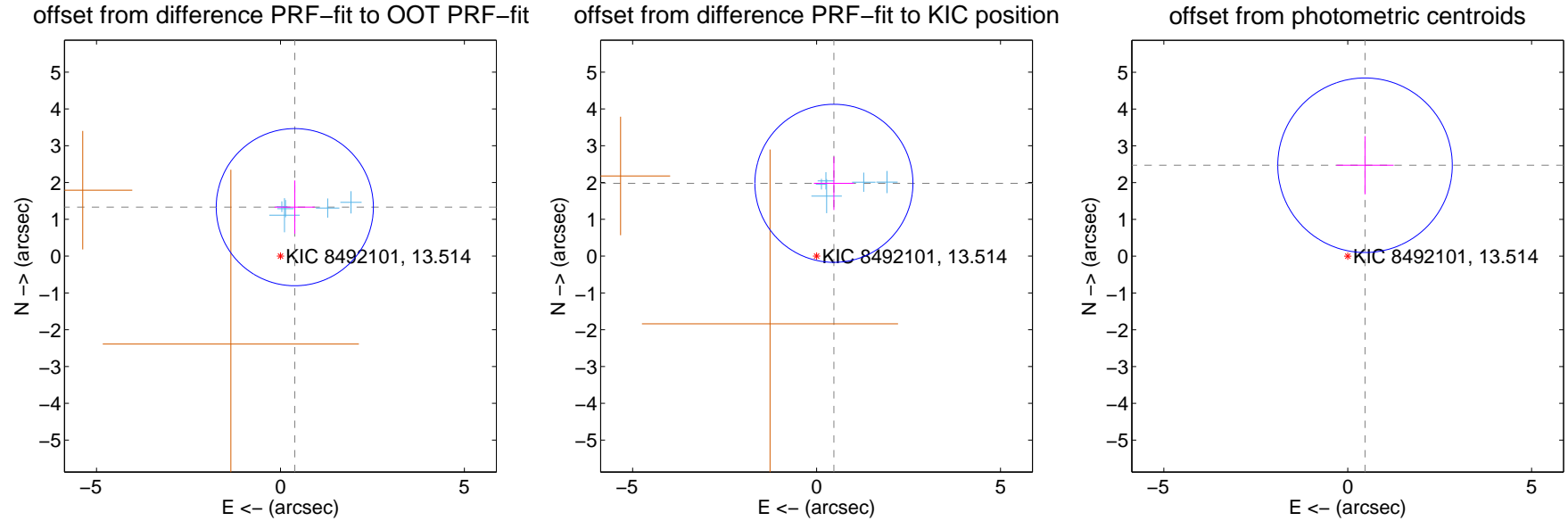
DV Centroid Data

Supplemental centroid analysis for 008492101-01. Kepler magnitude: 13.51. Transit SNR 16.73

There are 5 quarters with good PRF difference image offsets

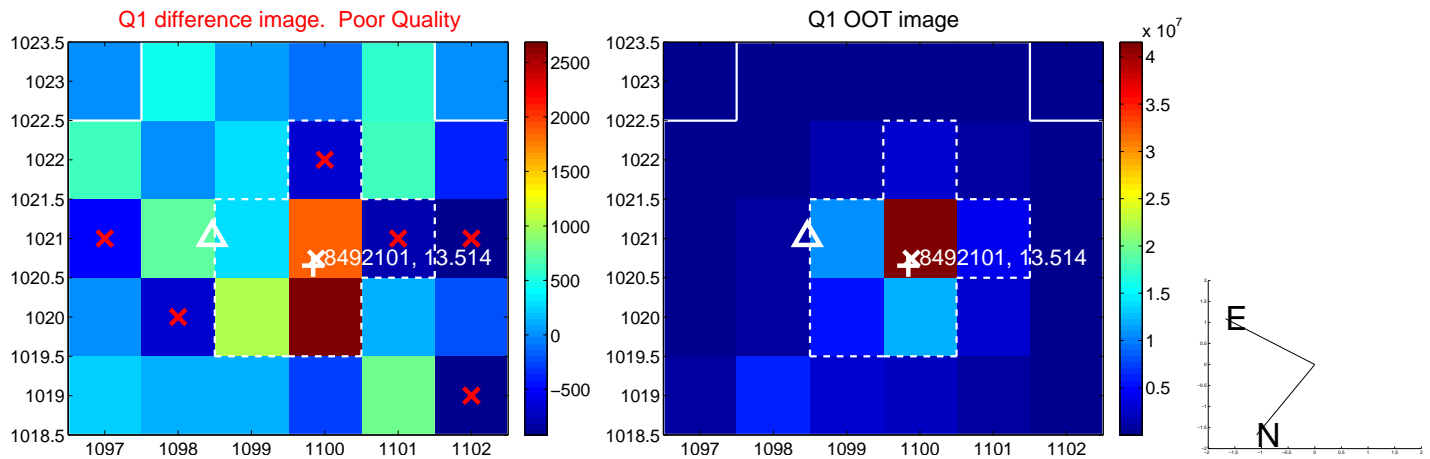
The direct PRF centroid is offset from the target star catalog position by about 0.70 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.387 ± 0.712	1.95	-0.390 ± 0.546	1.331 ± 0.725
PRF-fit source offset from KIC position	2.034 ± 0.716	2.84	-0.471 ± 0.546	1.979 ± 0.725
photometric centroid source offset	2.52 ± 0.79	3.18	-0.47 ± 0.78	2.47 ± 0.79

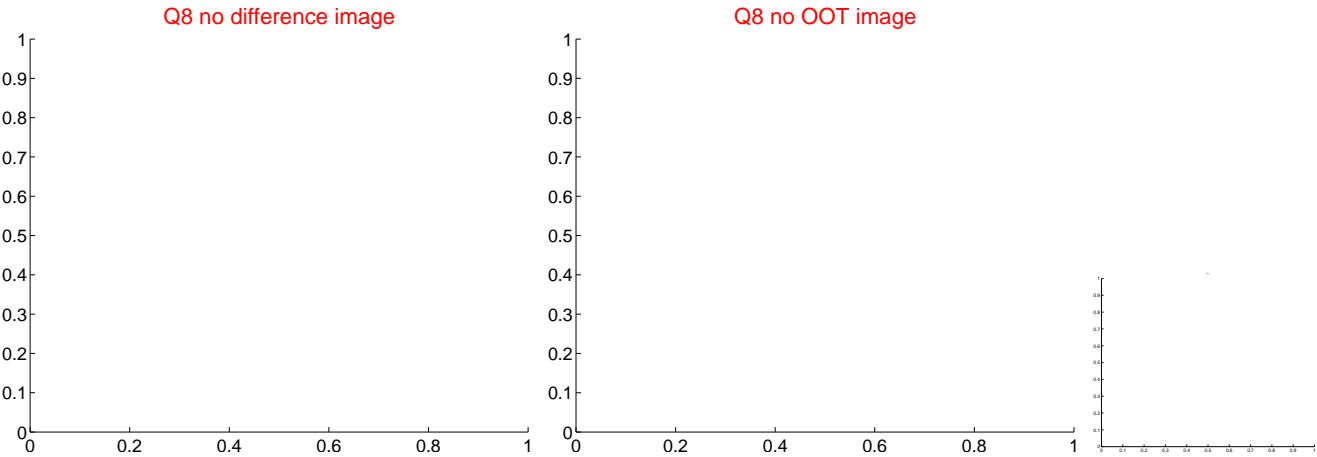
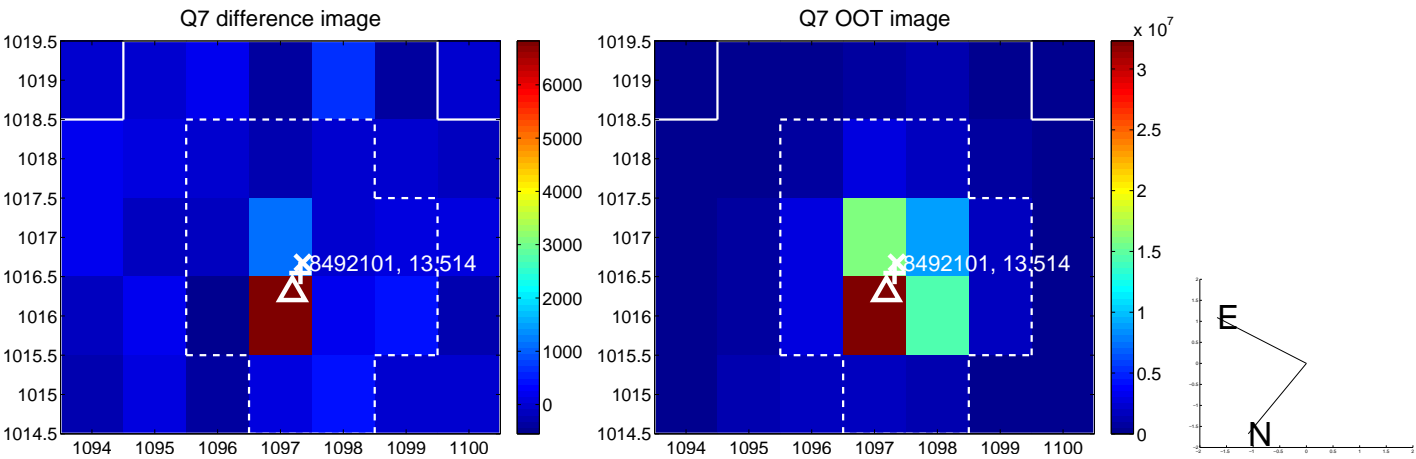
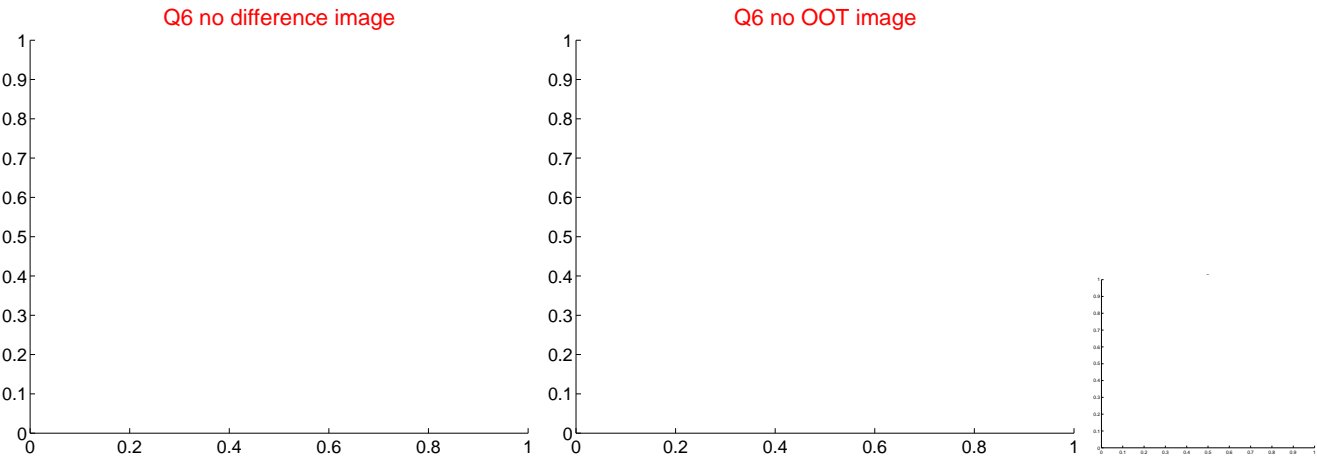
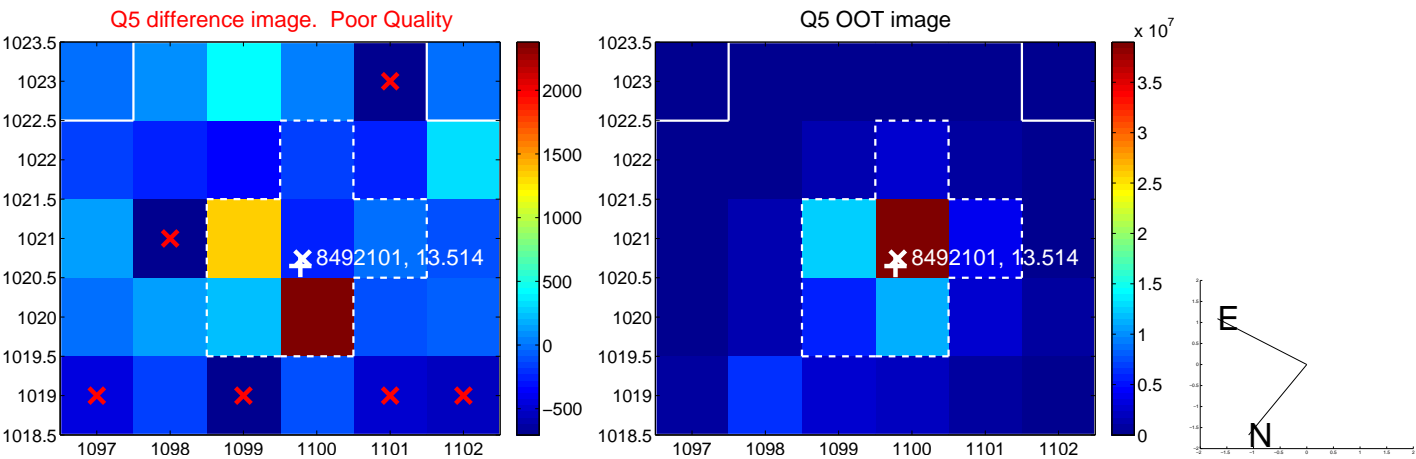


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

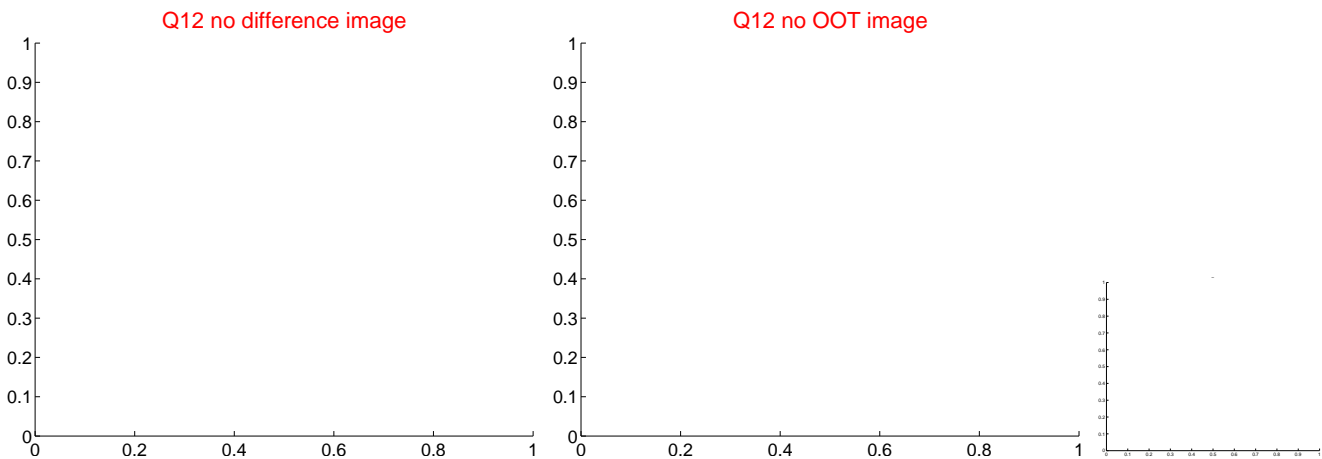
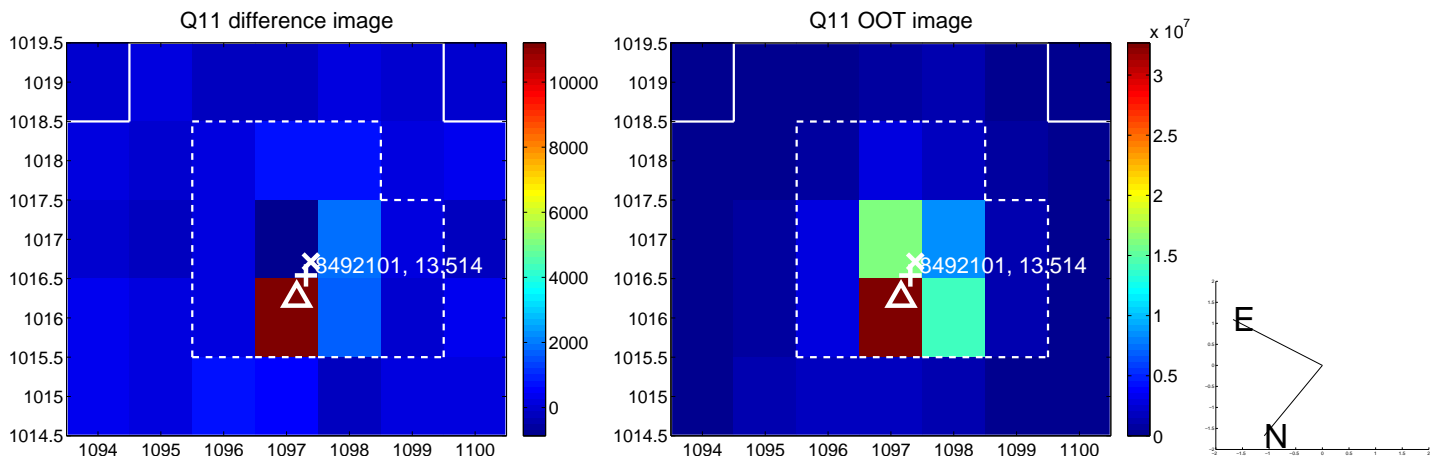
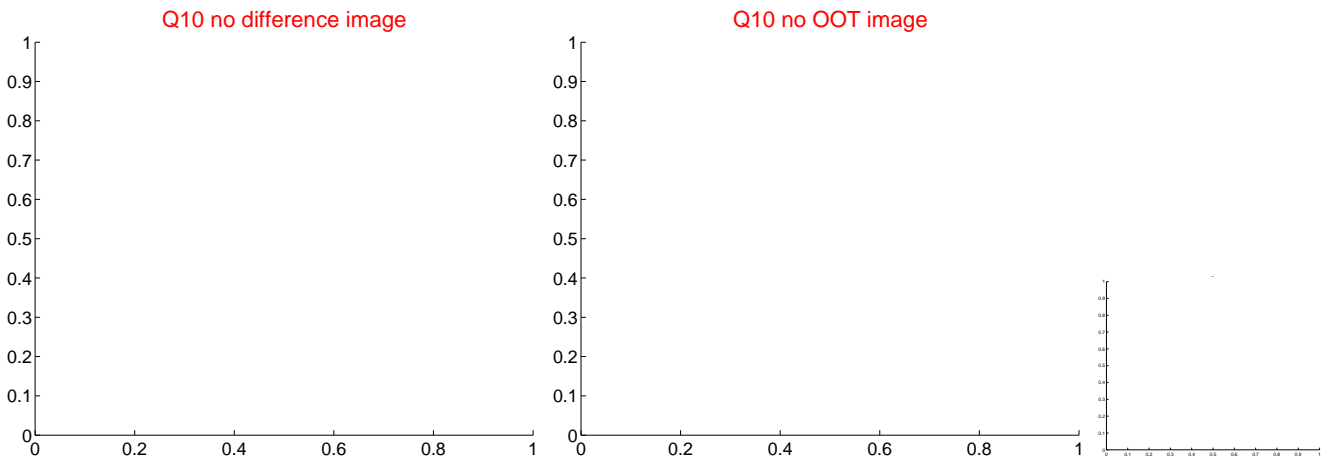
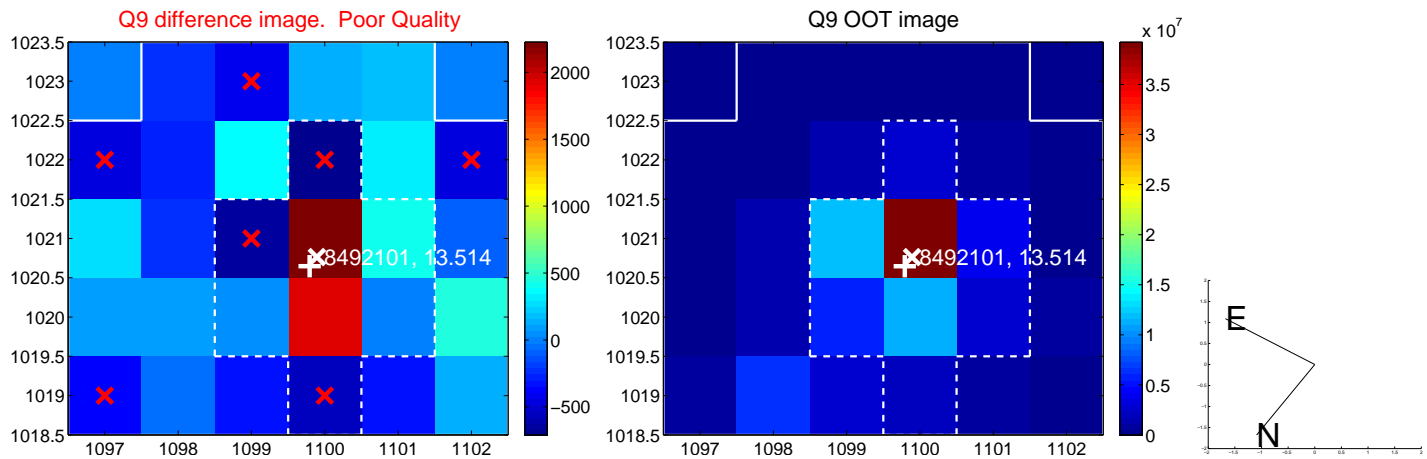
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



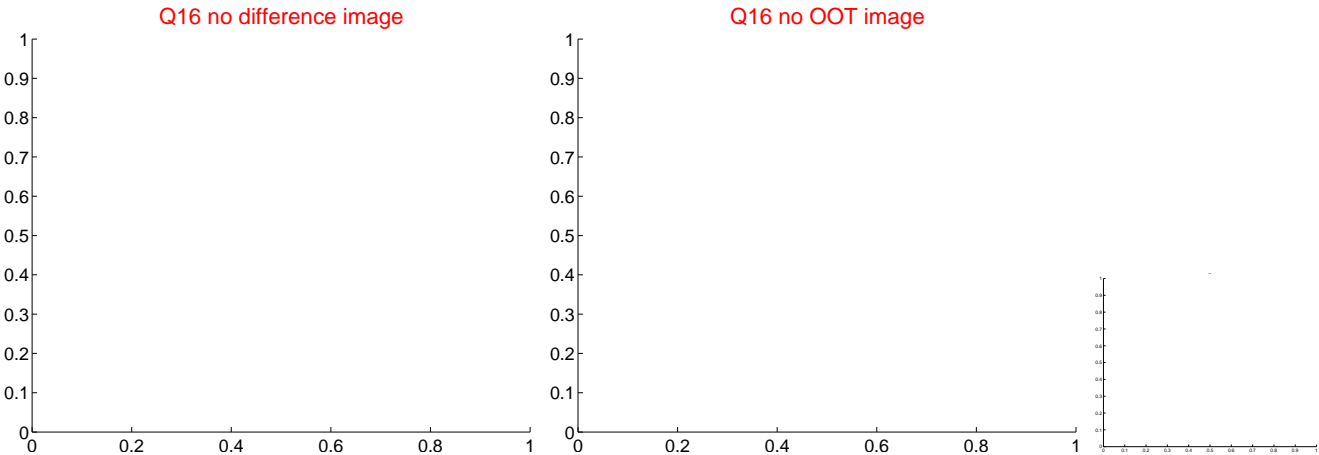
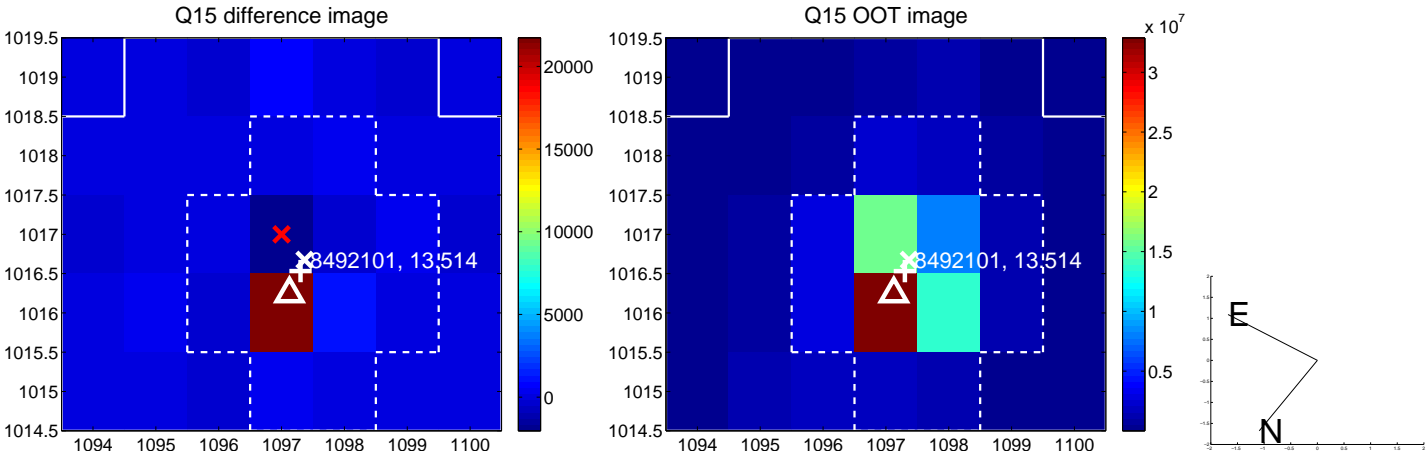
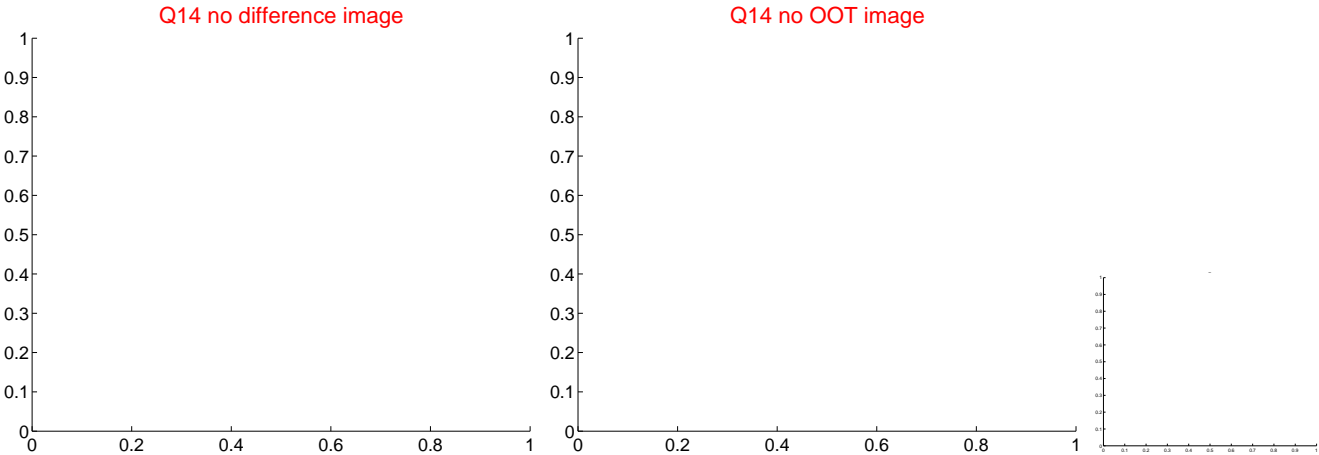
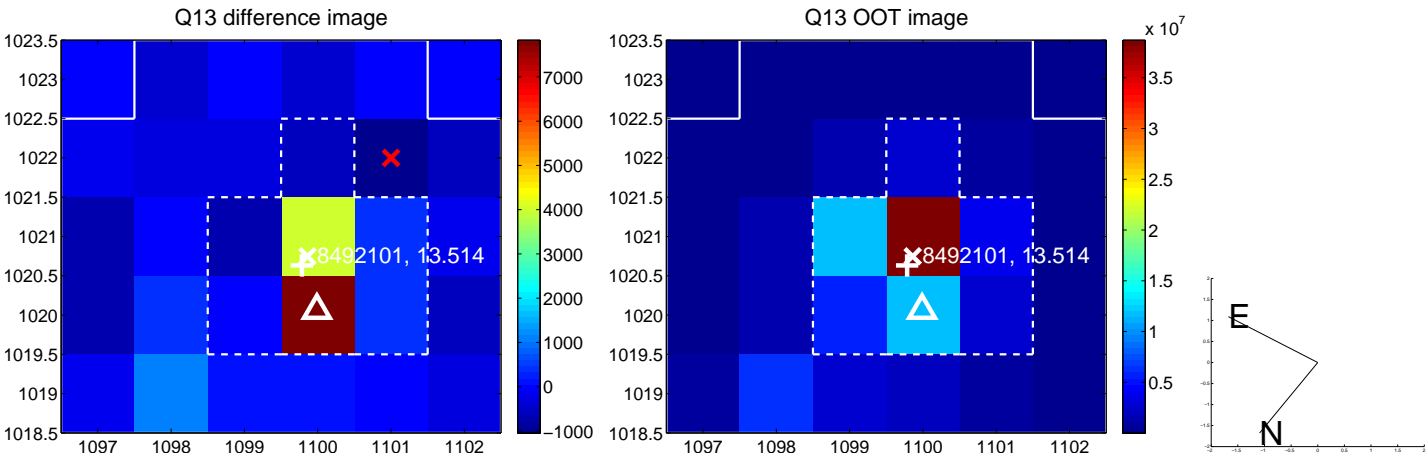
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



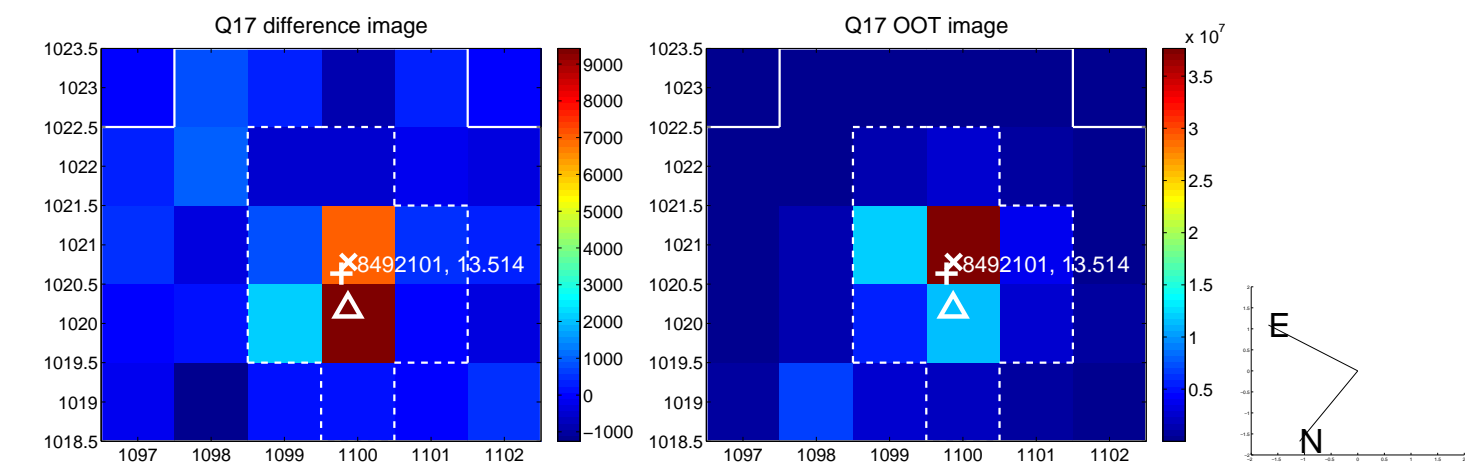
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



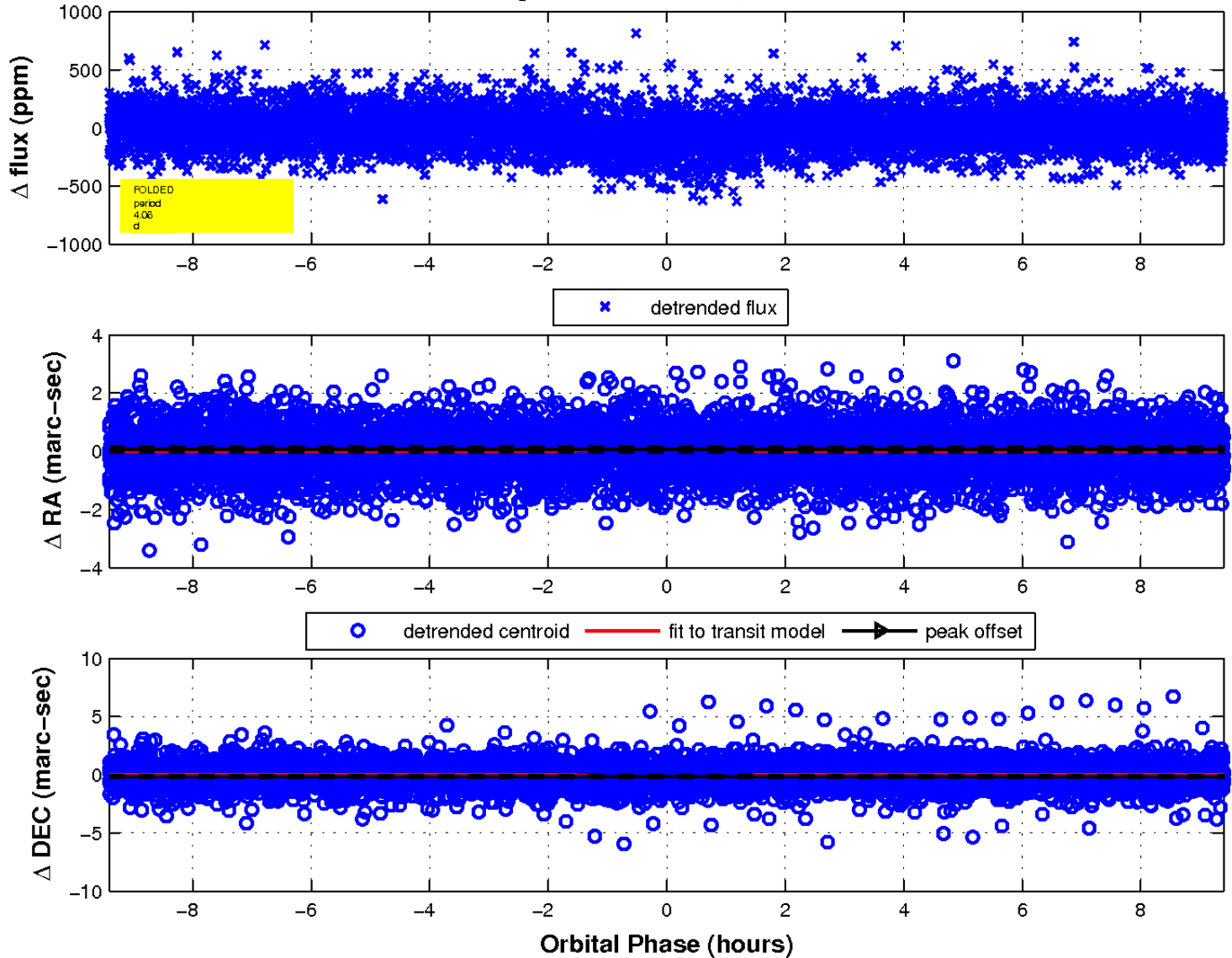
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

