

KIC 010621666

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})
010621666-01	OBS	1636.01	2.618374	134.055621	167.1	3.590	19.4	21.5	0.82	5912	1.26	569.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010621666-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_ALT—CENT_RESOLVED_OFFSET—HALO_GHOST—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.

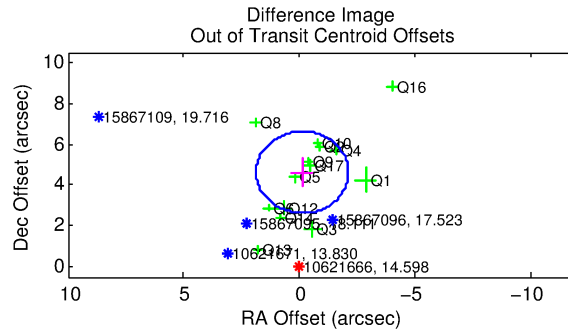
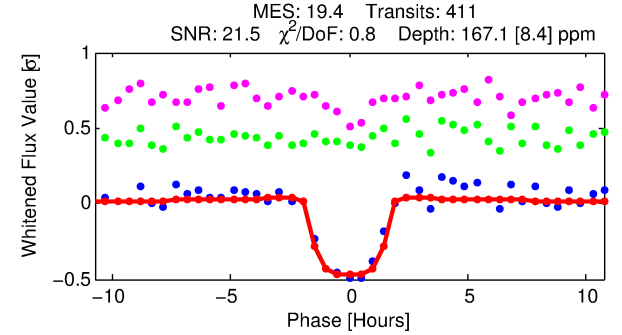
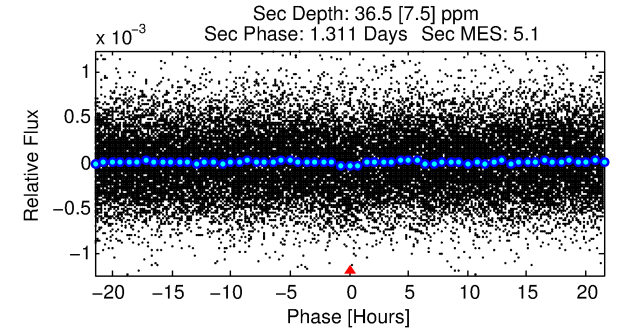
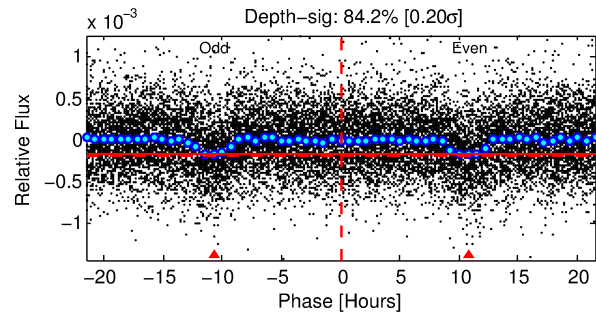
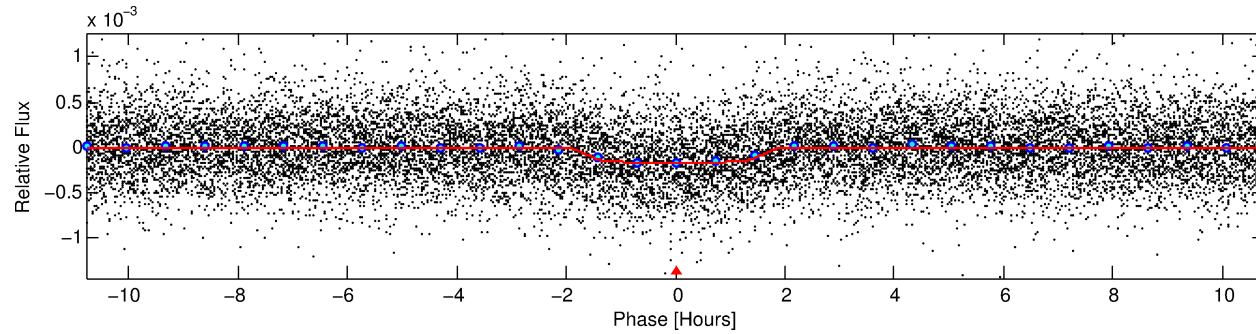
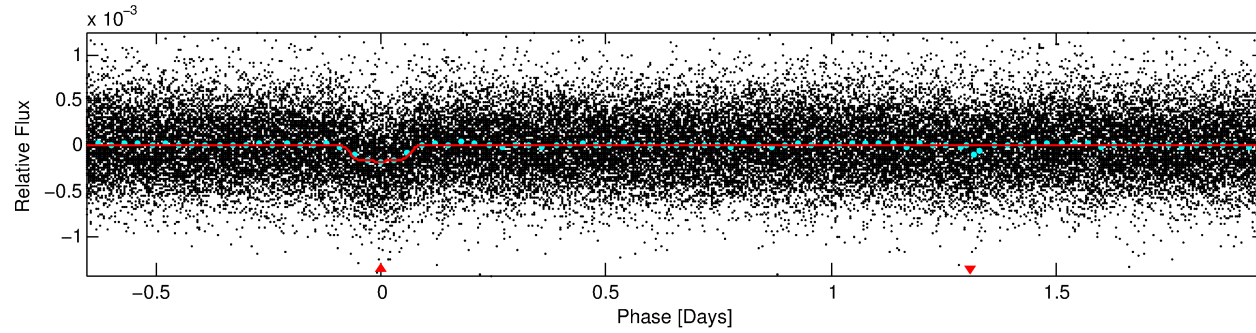
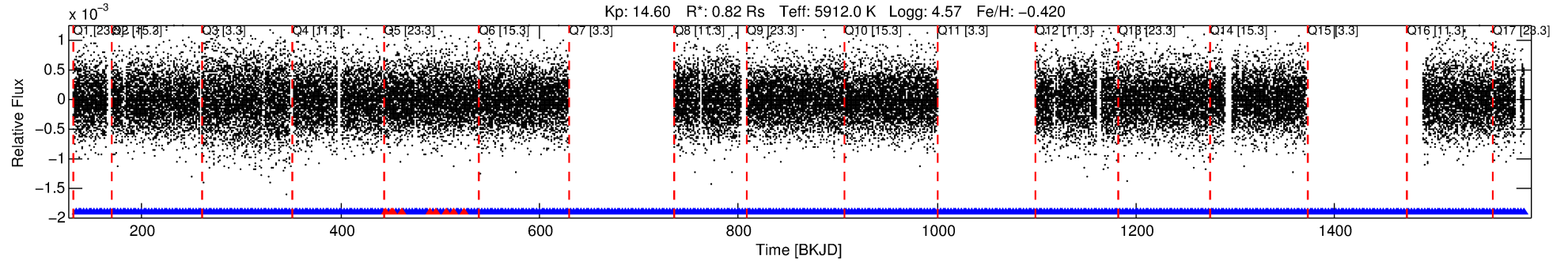
Ephemeris Match Information For 010621666-01

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
010621666-01	10621666	7363.01	10686876	1:1	56.6	0	14	11.73	14.60	1387.40	Direct-PRF	0	0.99	0.57

Notes: $P_1:P_2$ 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. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 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: 10621666 Candidate: 1 of 1 Period: 2.618 d
KOI: K01636.01 Corr: 0.956



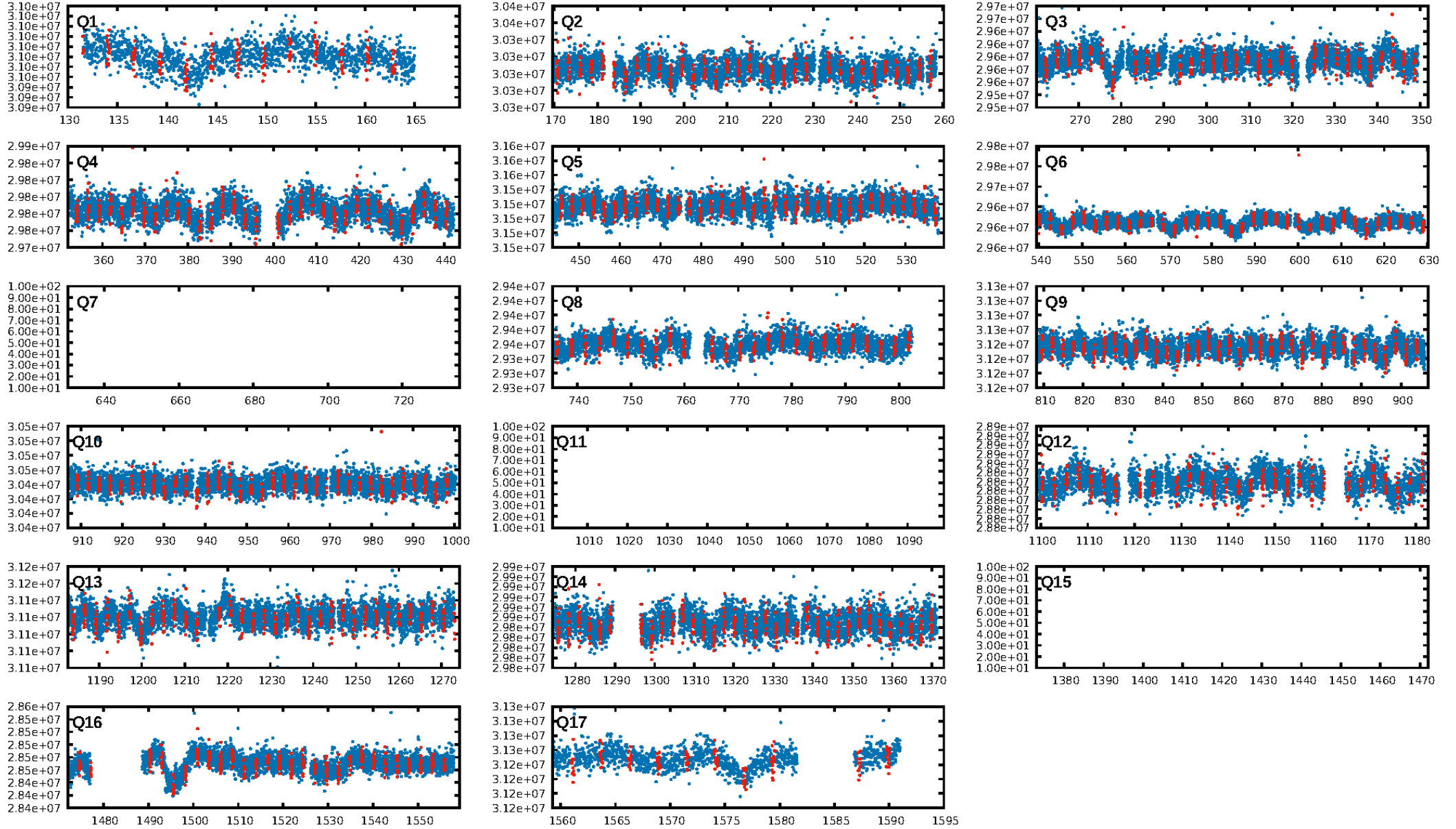
DV Fit Results:

Period = 2.61837 [0.00001] d
Epoch = 134.0556 [0.0022] BKJD
Rp/R* = 0.0141 [0.0025]
a/R* = 2.65 [2.09]
b = 0.91 [0.17]
Seff = 569.73 [201.86]
Teff = 1246 [110] K
Rp = 1.26 [0.40] Re
a = 0.0359 [0.0081] AU
Ag = 16.26 [8.56] [1.78 σ]
Teffp = 3868 [410] K [6.17 σ]

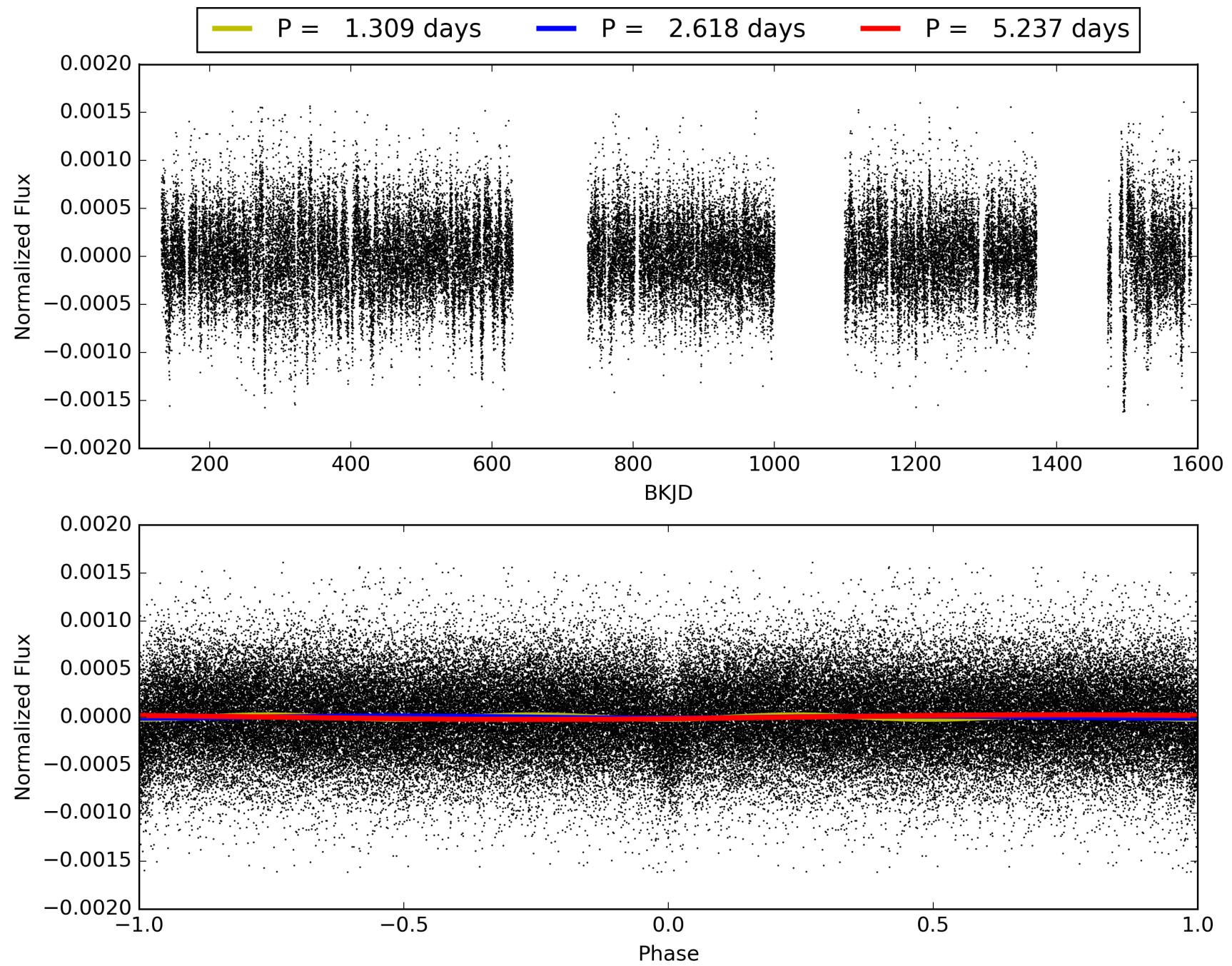
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.81e-80
RollingBand-fgt: 0.98 [379/388]
GhostDiagnostic-chr: 0.08184
Centroid-sig: 2.2%
Centroid-so: 1.331 arcsec [2.05 σ]
OotOffset-rm: 4.627 arcsec [6.95 σ]
KicOffset-rm: 4.875 arcsec [7.31 σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 0.00 [0/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 010621666-01, PDC Light Curves

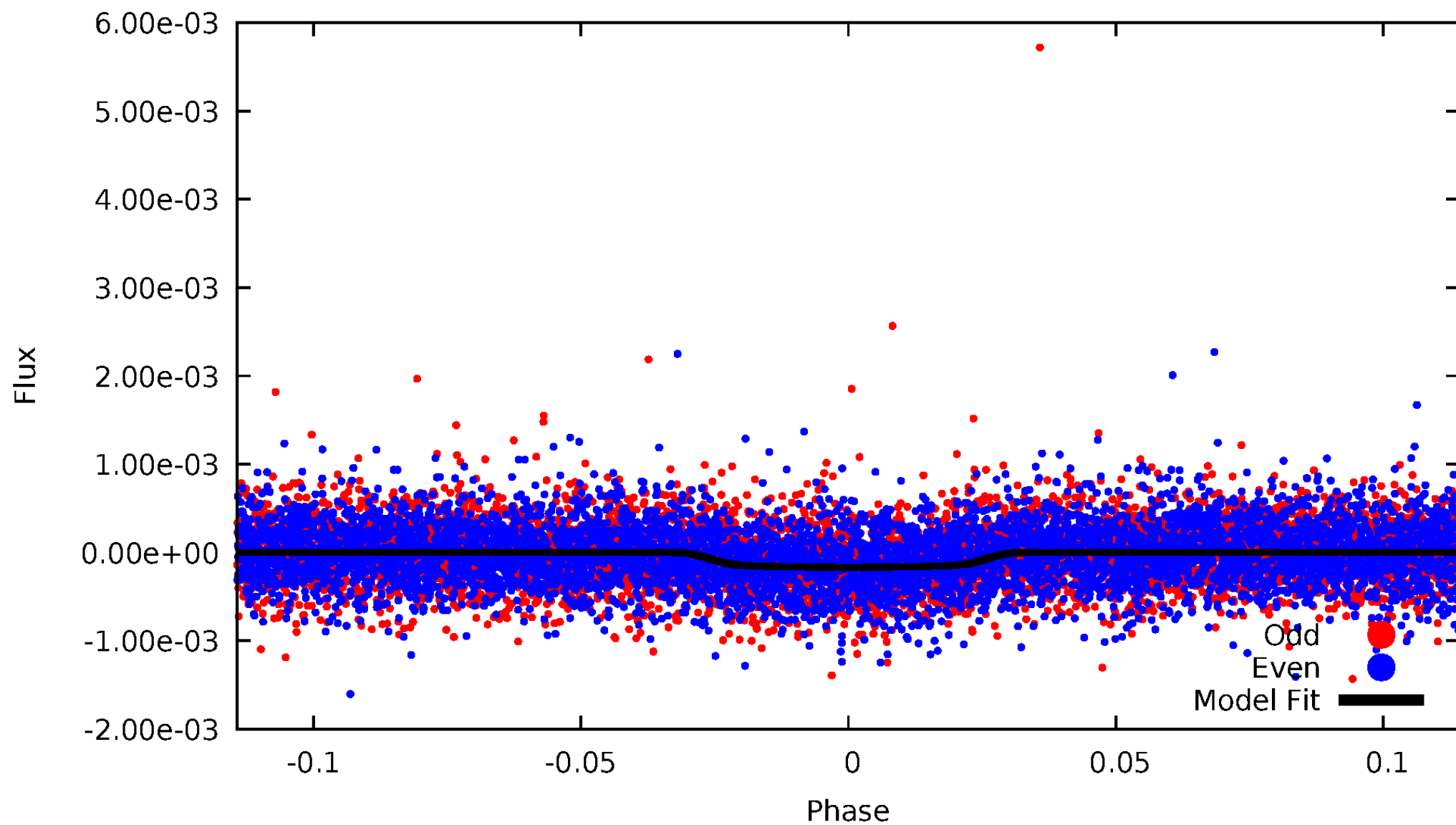


TCE 010621666-01



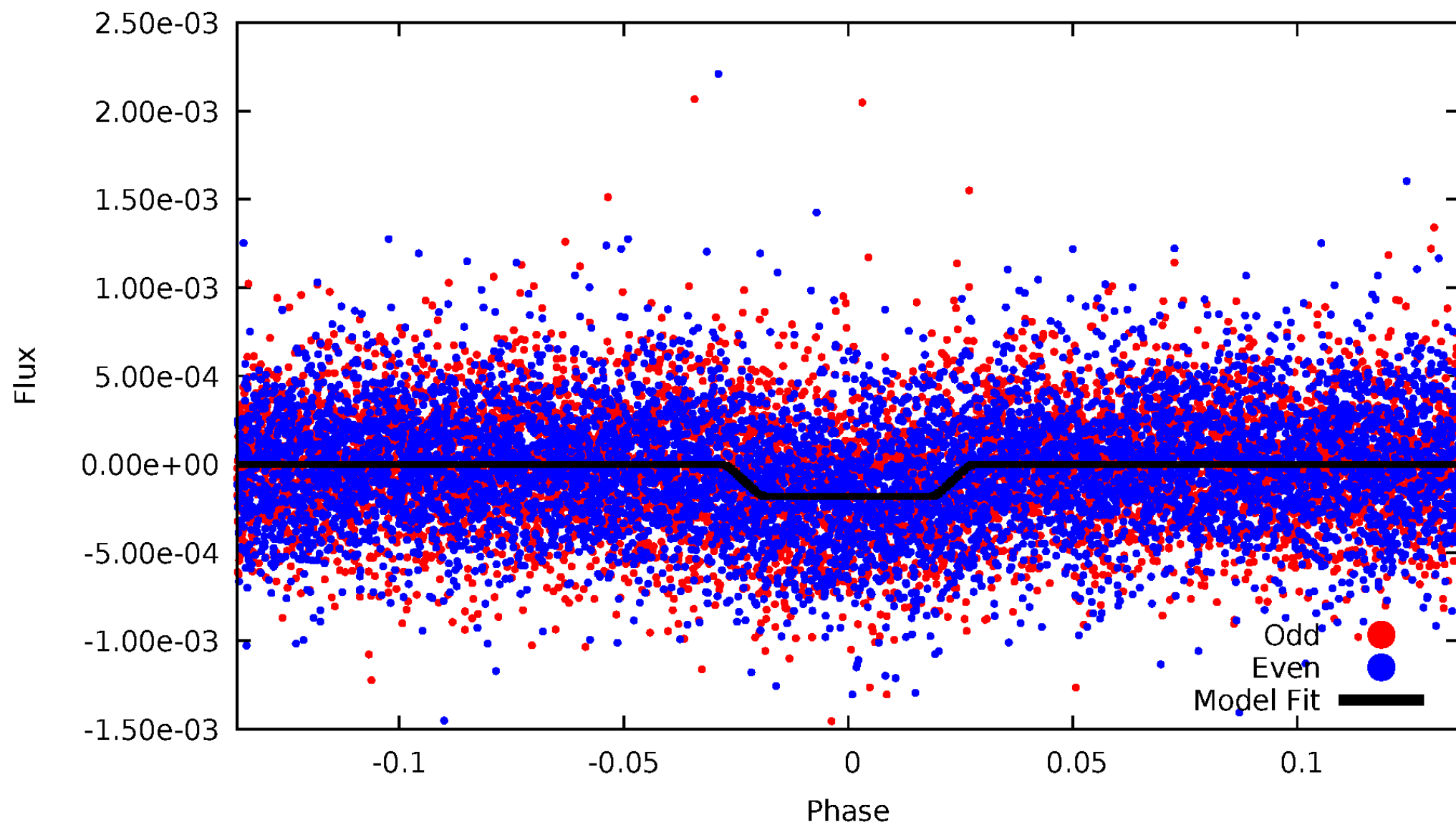
DV Odd/Even

TCE 010621666-01



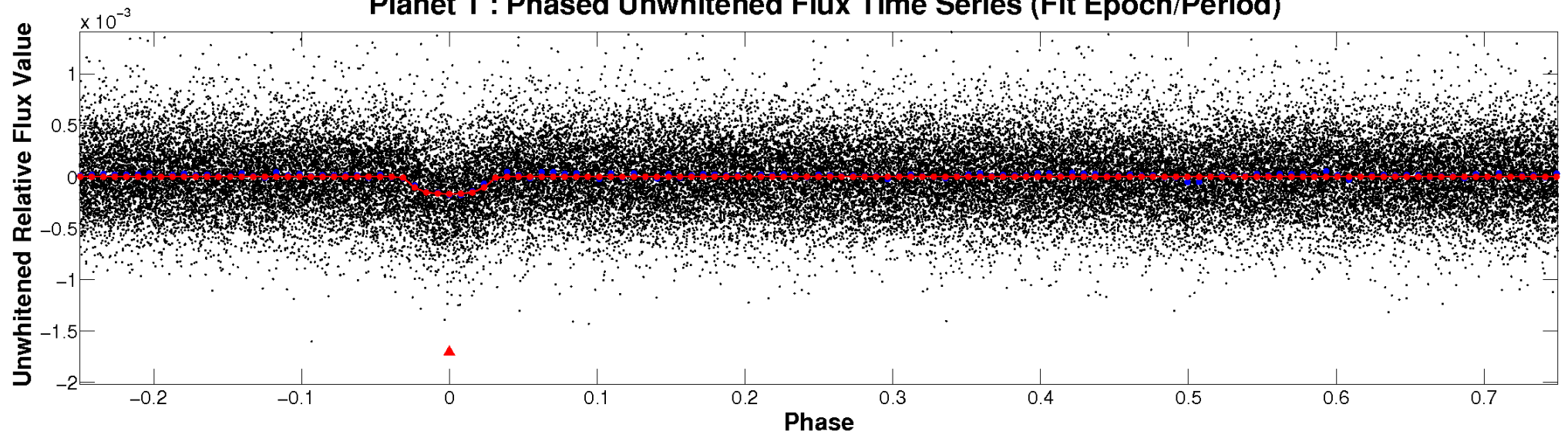
ALT Odd/Even

TCE 010621666-01

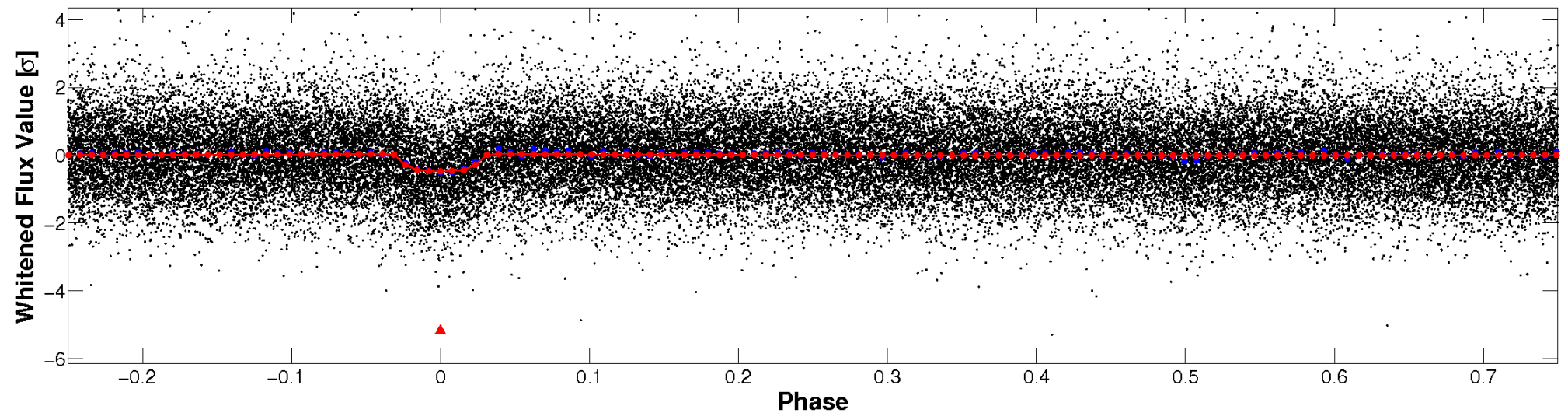


Non-Whitened Vs. Whitened Light Curve

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

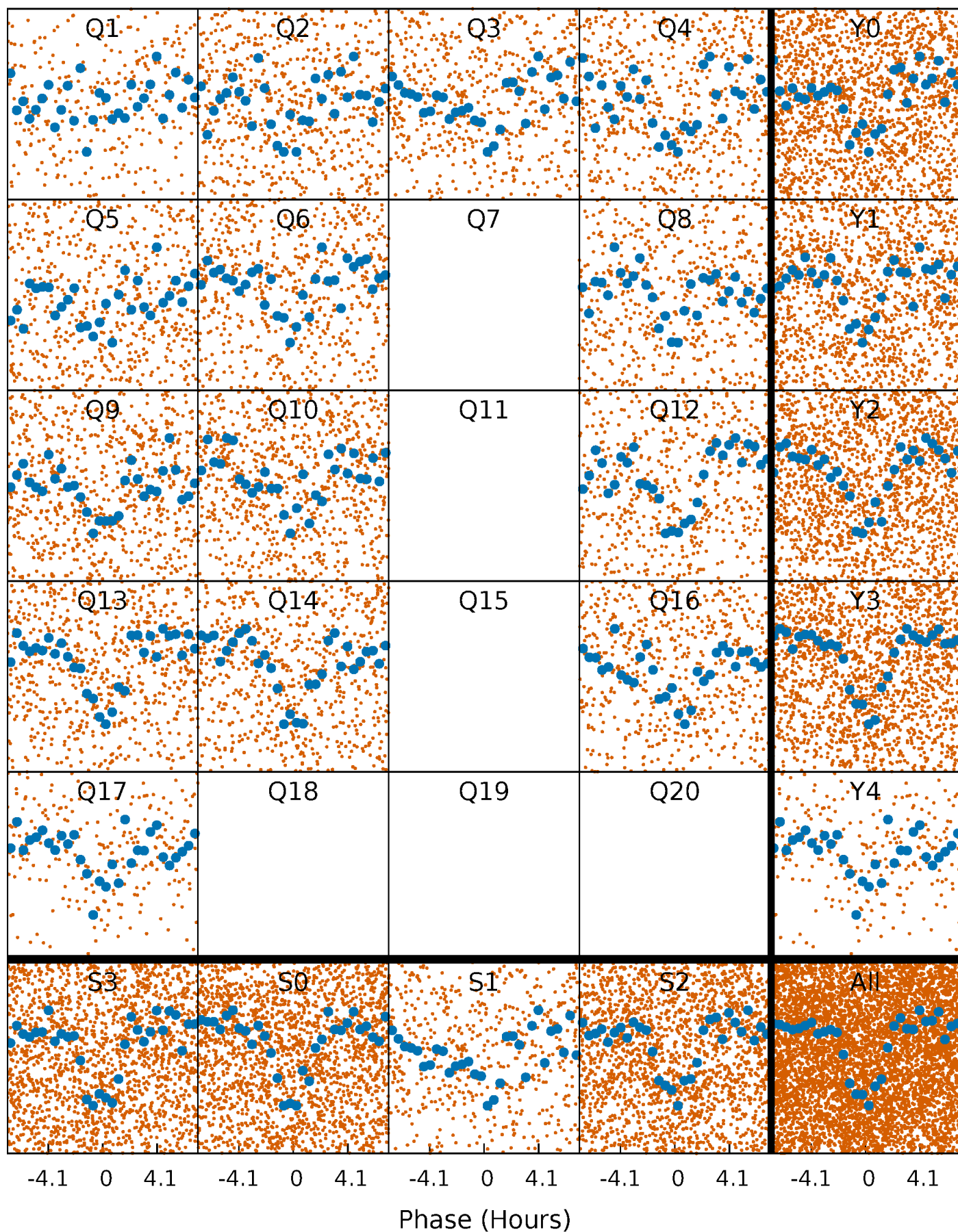


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



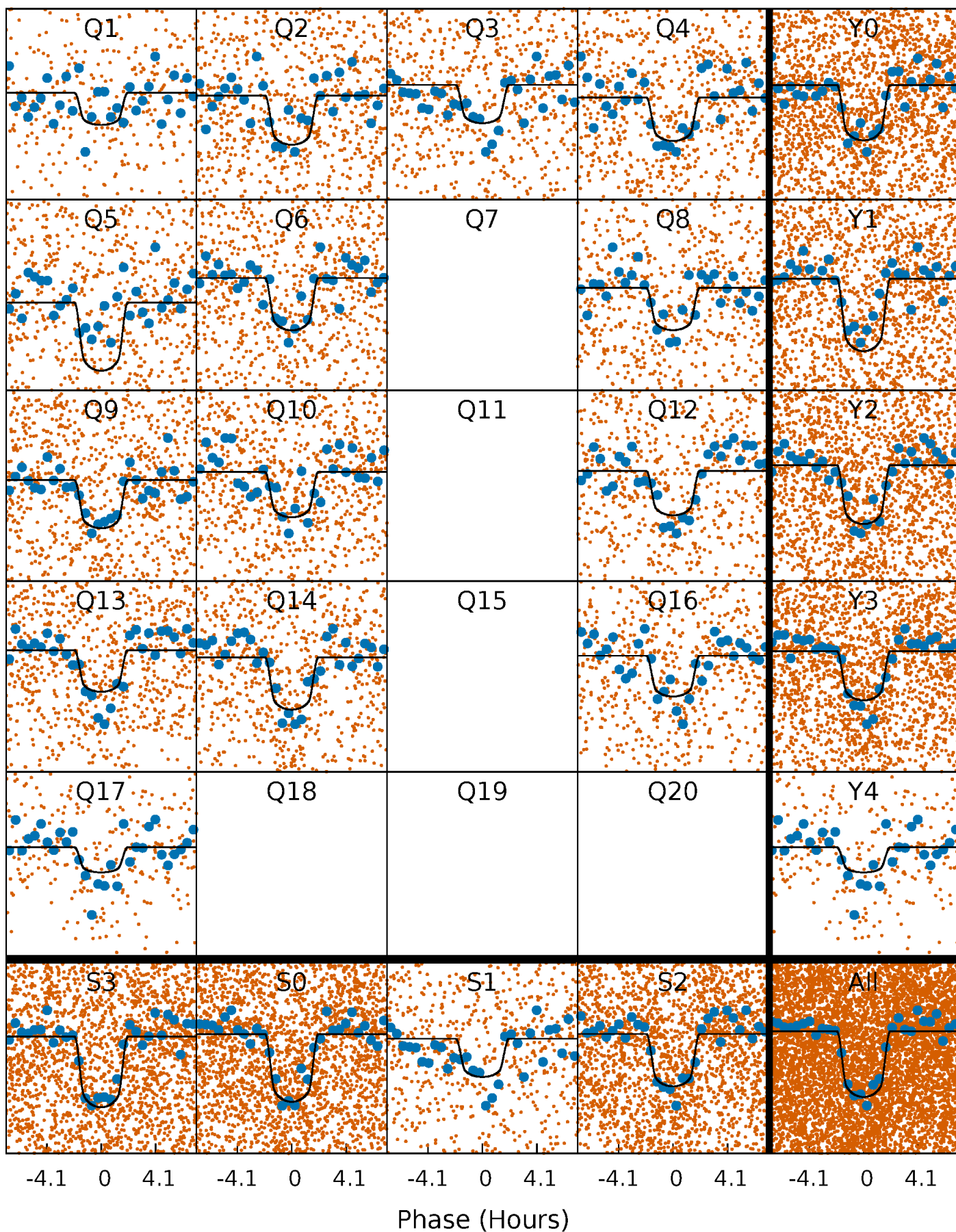
PDC Quarter-Phased Transit Curves

TCE 010621666-01 P= 2.618374 Days $T_0=134.055621$ (BKJD)



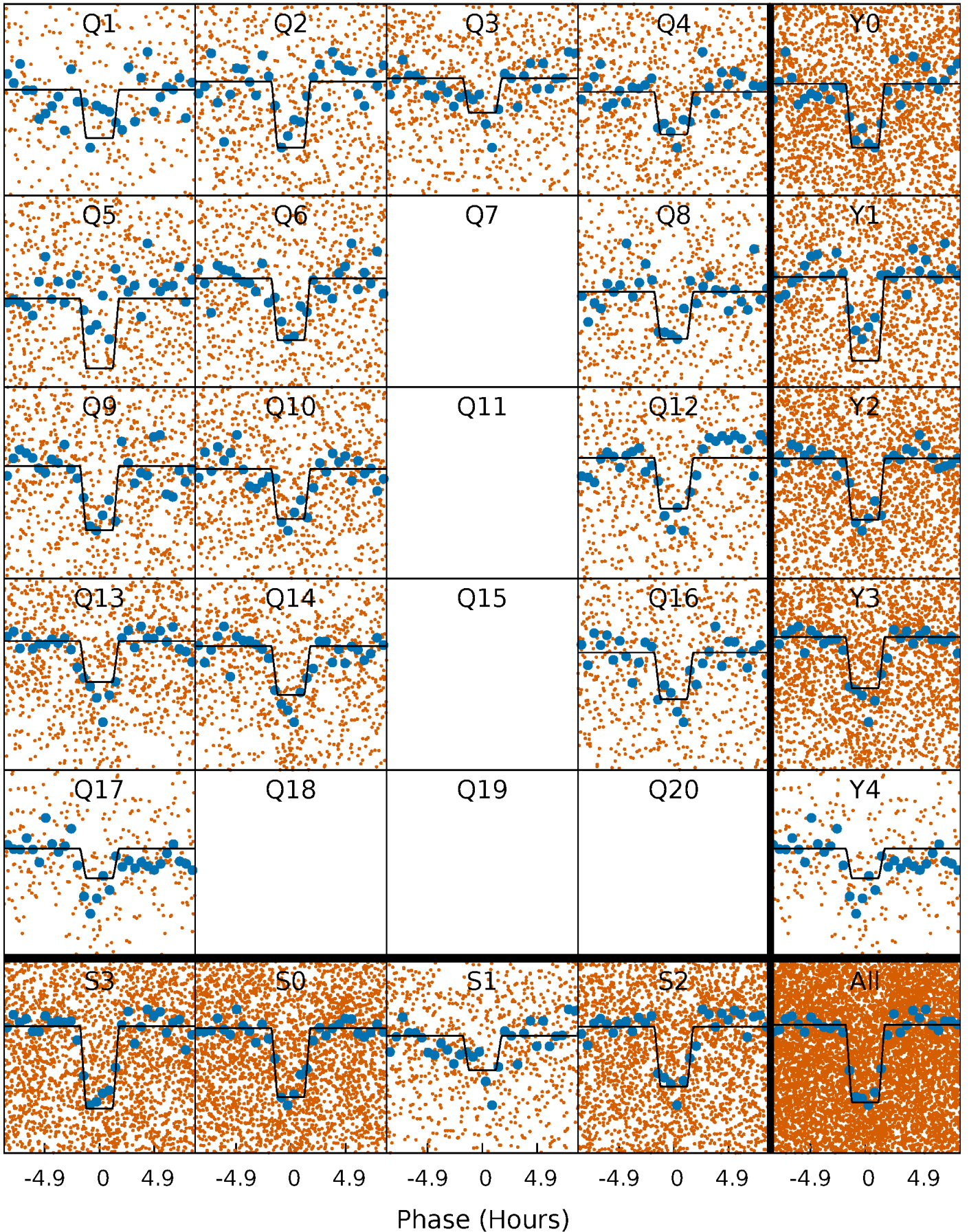
DV Quarter-Phased Transit Curves

TCE 010621666-01 P= 2.618374 Days $T_0=134.055621$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

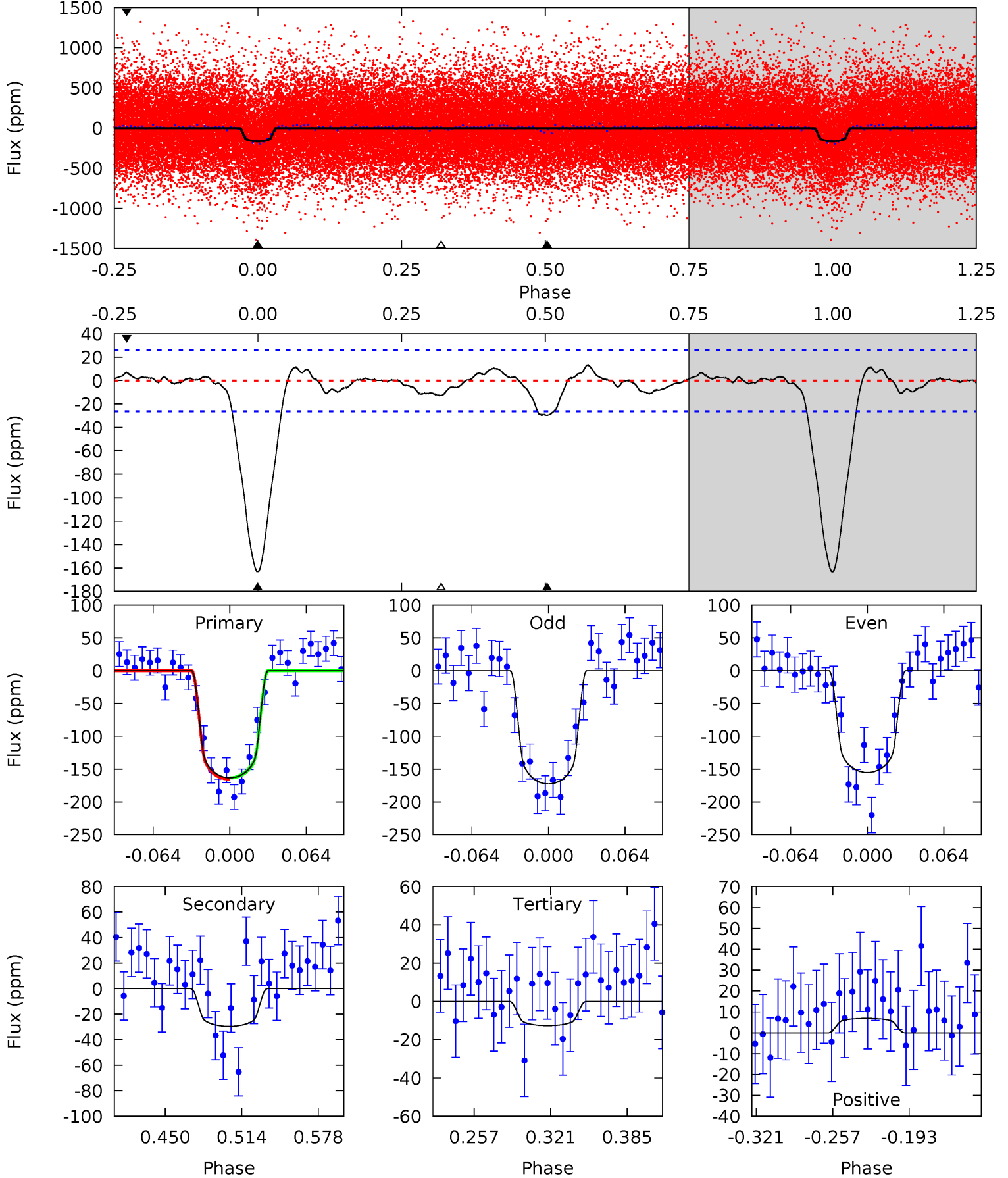
TCE 010621666-01 P= 2.618404 Days $T_0=134.045046$ (BKJD)



DV Model-Shift Uniqueness Test

010621666-01, P = 2.618374 Days, E = 131.437247 Days

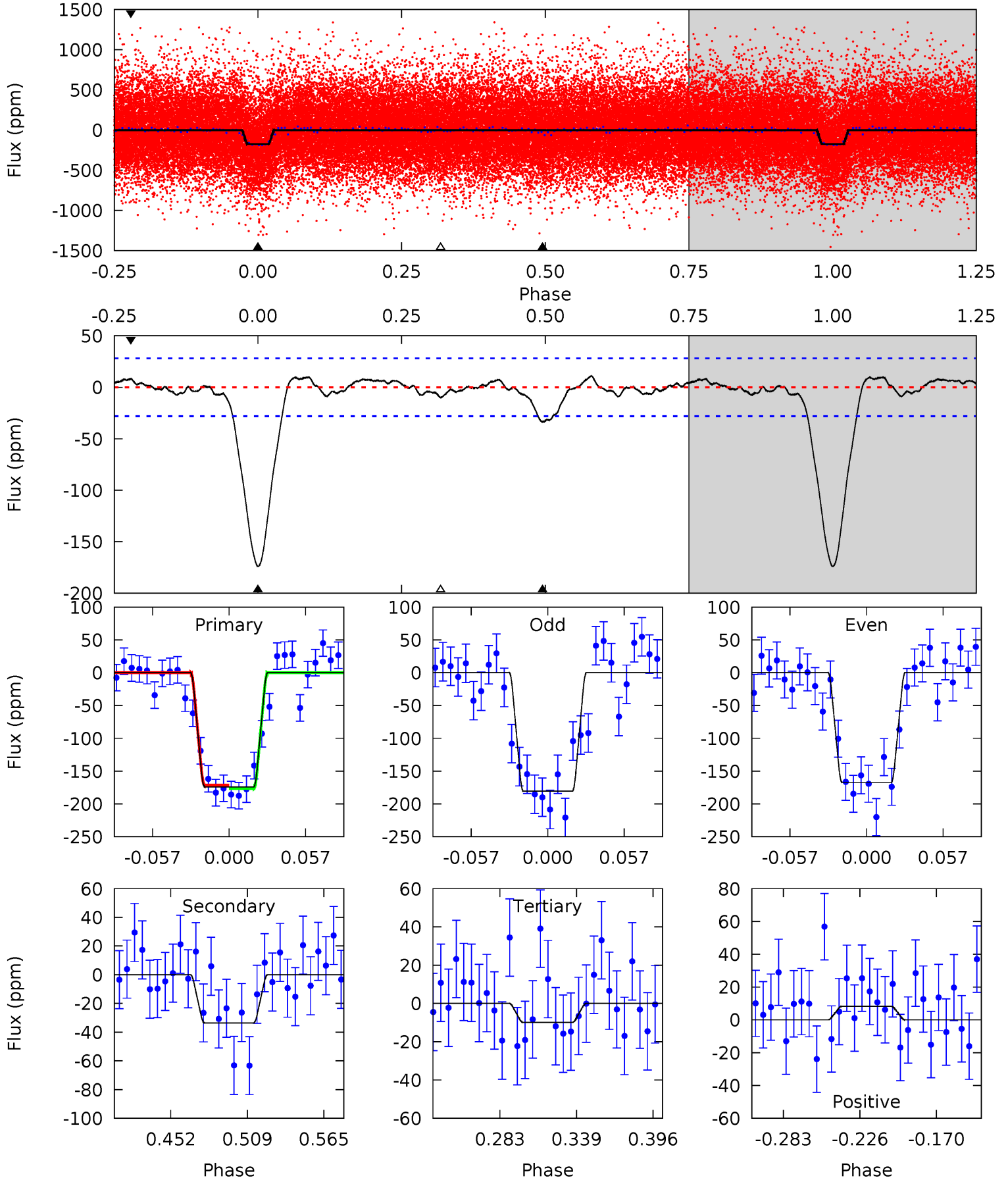
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.0	5.25	2.25	1.22	4.66	1.85	1.03	26.7	27.8	3.00	4.02	1.55	0.99	0.08	0.17



Alt Model-Shift Uniqueness Test

010621666-01, P = 2.618404 Days, E = 131.426642 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.1	5.61	1.65	1.38	4.68	1.91	0.83	27.4	27.7	3.96	4.23	1.09	1.01	0.06	0.44



Stellar Parameters For KIC 010621666

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5912^{+159}_{-177}	$4.566^{+0.035}_{-0.184}$	$-0.420^{+0.300}_{-0.300}$	$0.820^{+0.218}_{-0.073}$	$0.908^{+0.096}_{-0.106}$	$2.323^{+0.425}_{-1.132}$
	+3%/-3%	+1%/-4%	+71%/-71%	+27%/-9%	+11%/-12%	+18%/-49%
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 010621666-01 / KOI 1636.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-30 ± 6	$1.31^{+0.29}_{-0.26}$	1782^{+100}_{-78}	3952^{+367}_{-268}	12^{+7}_{-4}
Alt.	-34 ± 6	$1.28^{+0.27}_{-0.25}$	1781^{+118}_{-81}	4123^{+372}_{-299}	14^{+8}_{-5}

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

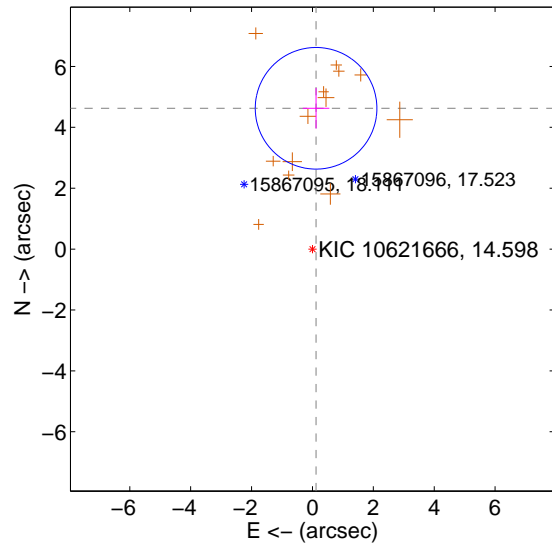
Supplemental centroid analysis for 010621666-01. Kepler magnitude: 14.60. Transit SNR 21.49

There are 0 quarters with good PRF difference image offsets

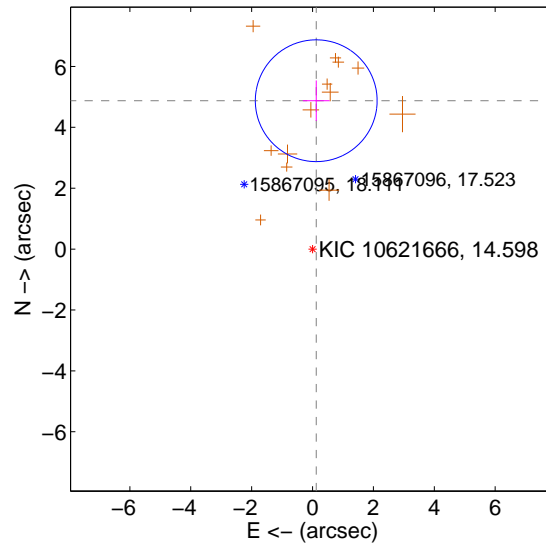
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.627 ± 0.666	6.95	-0.119 ± 0.435	4.625 ± 0.666
PRF-fit source offset from KIC position	4.875 ± 0.667	7.31	-0.121 ± 0.440	4.874 ± 0.667
photometric centroid source offset	1.33 ± 0.65	2.05	0.10 ± 0.62	1.33 ± 0.65

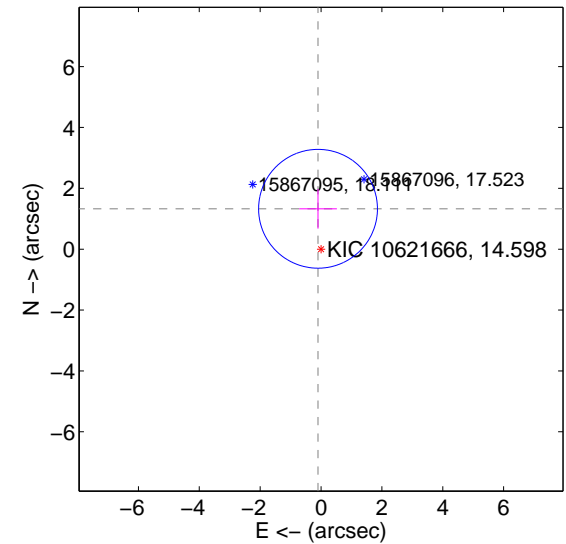
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

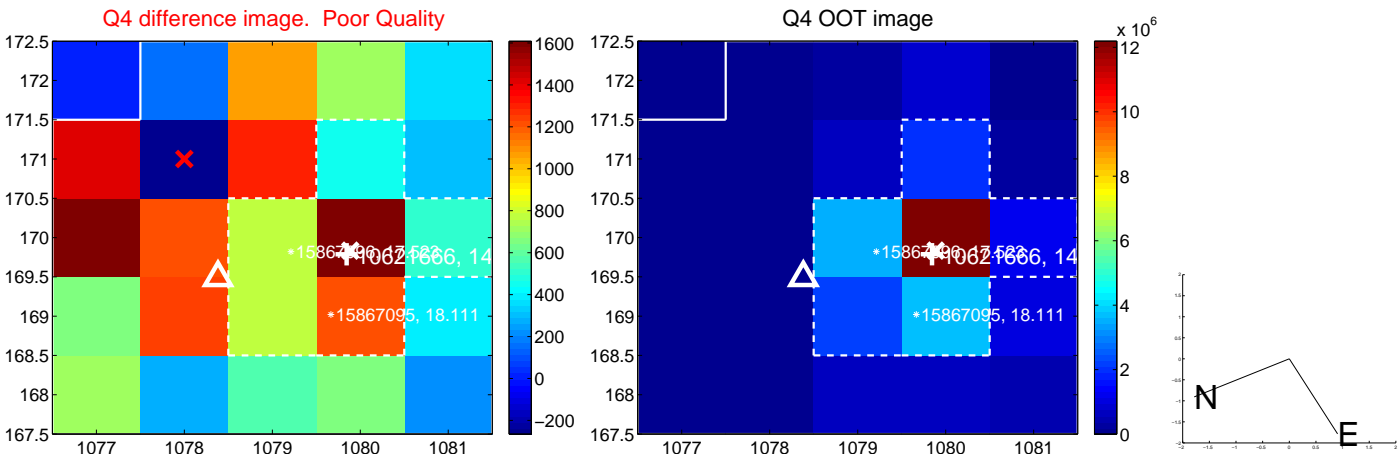
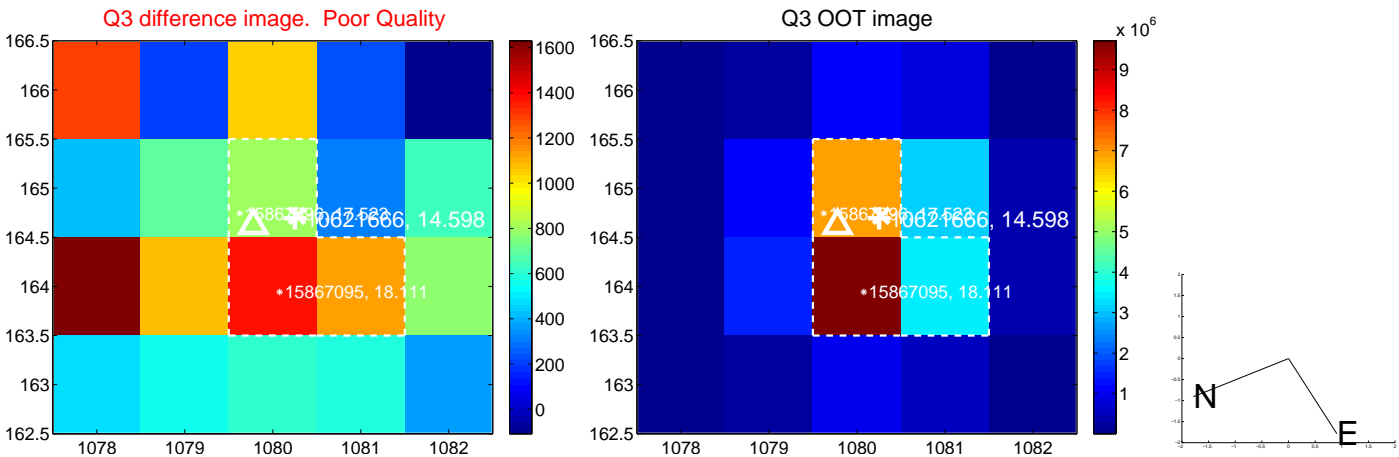
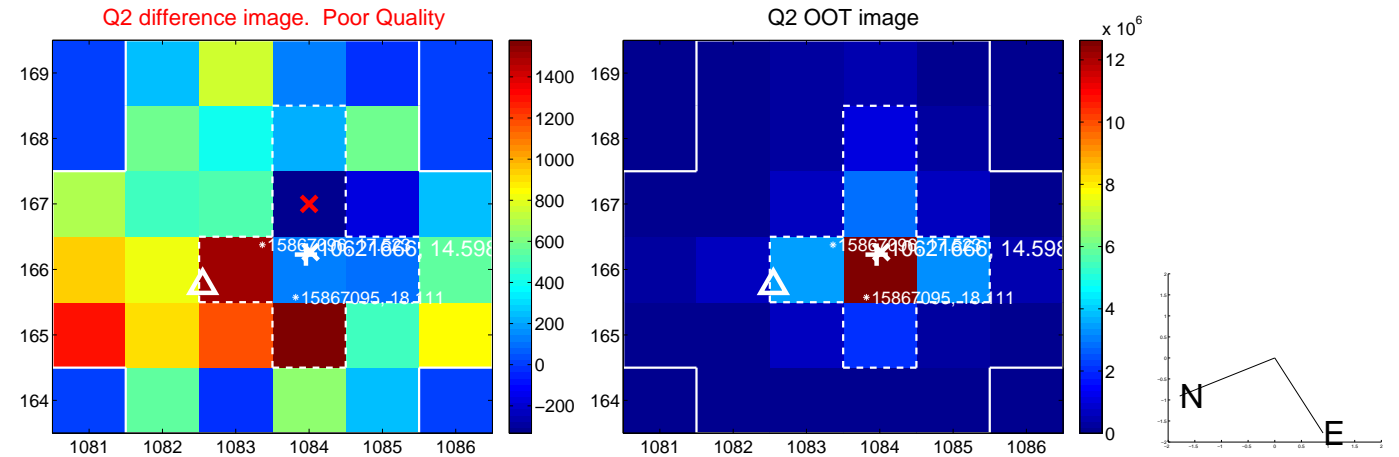
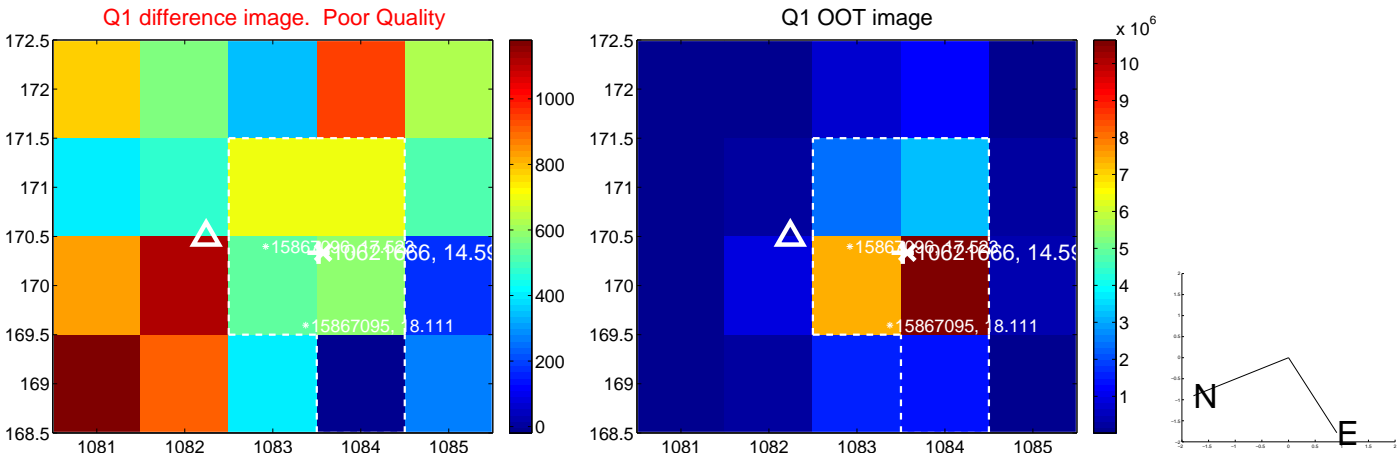


offset from photometric centroids

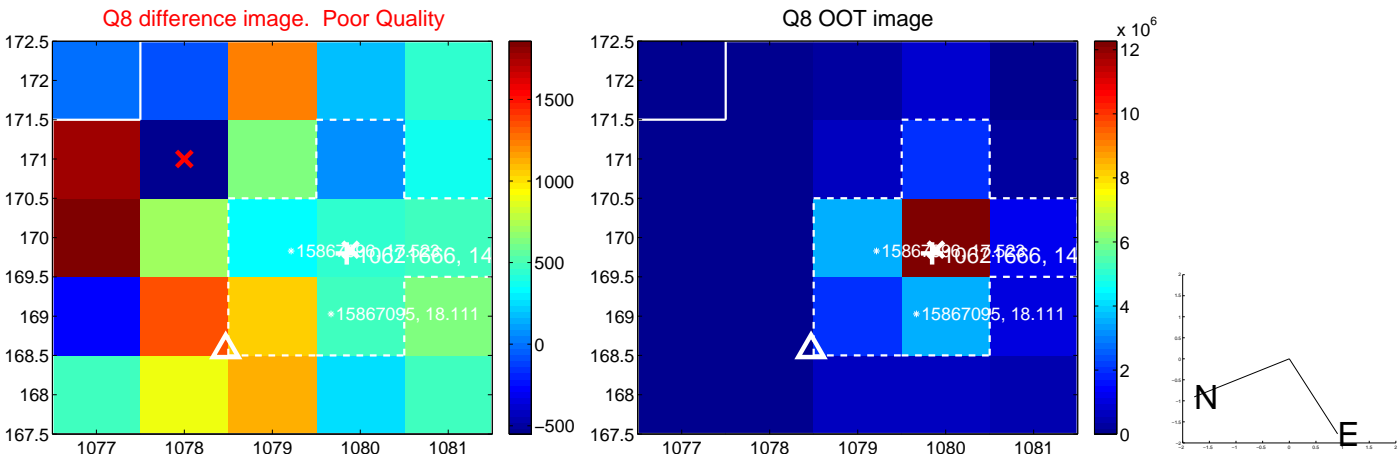
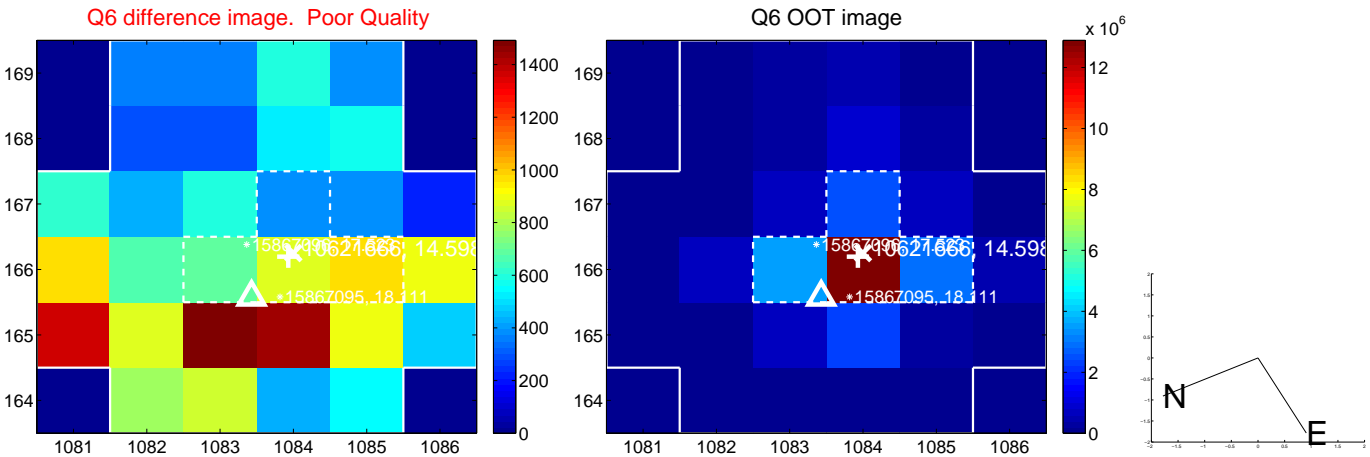
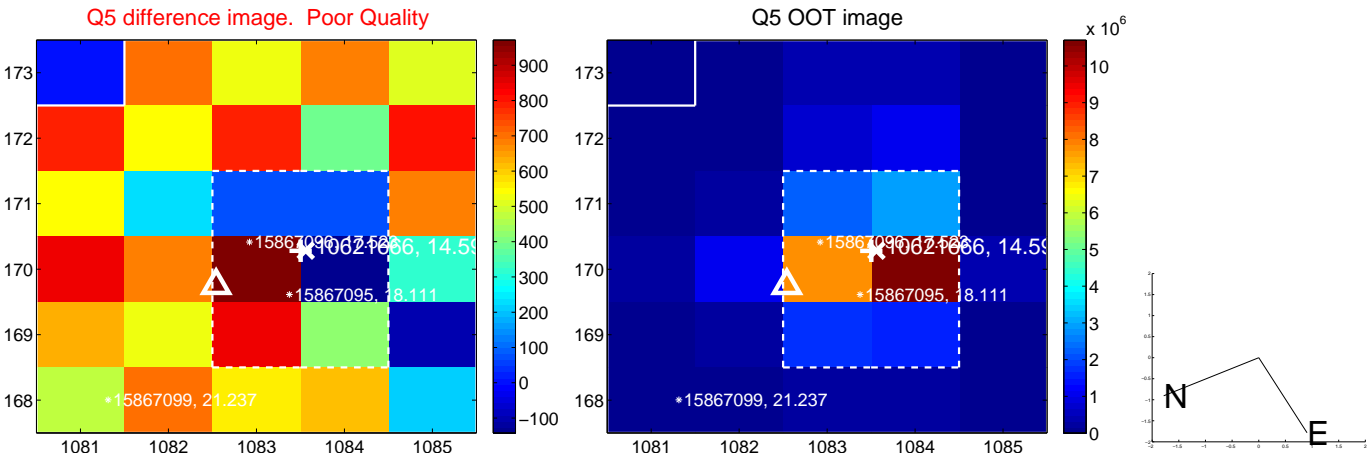


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

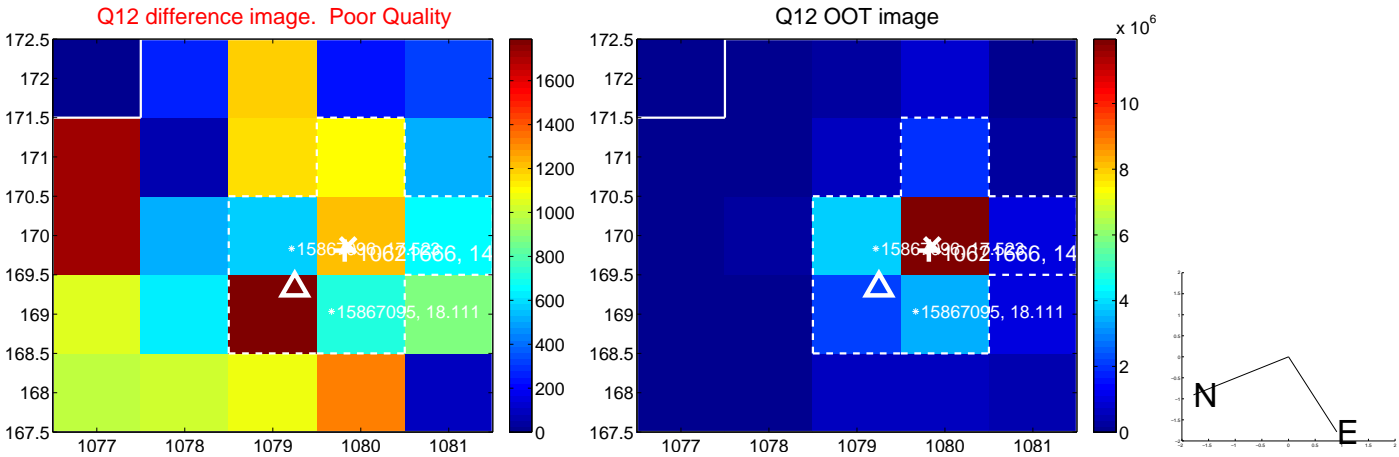
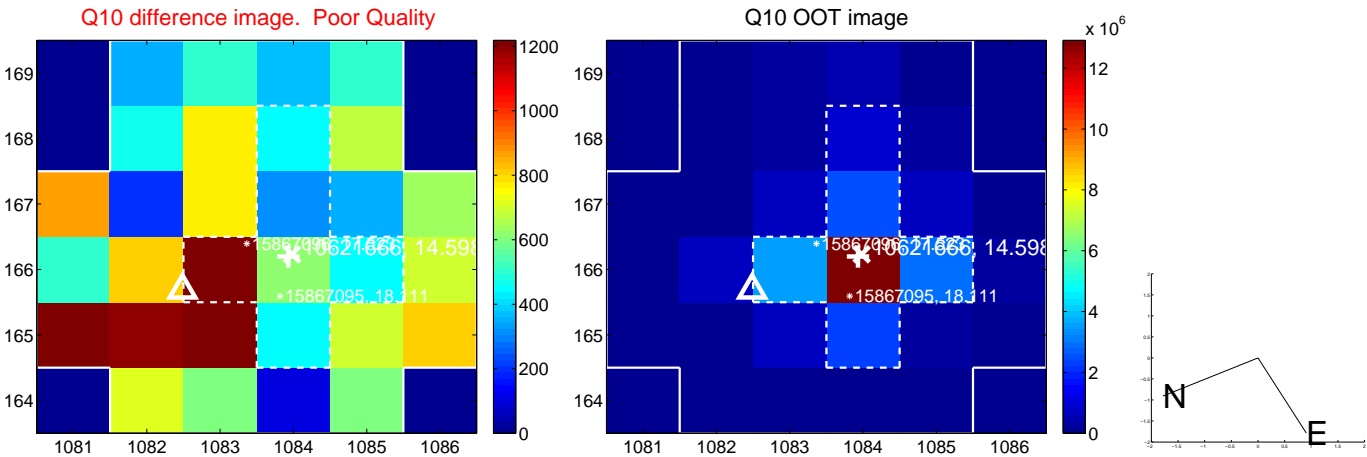
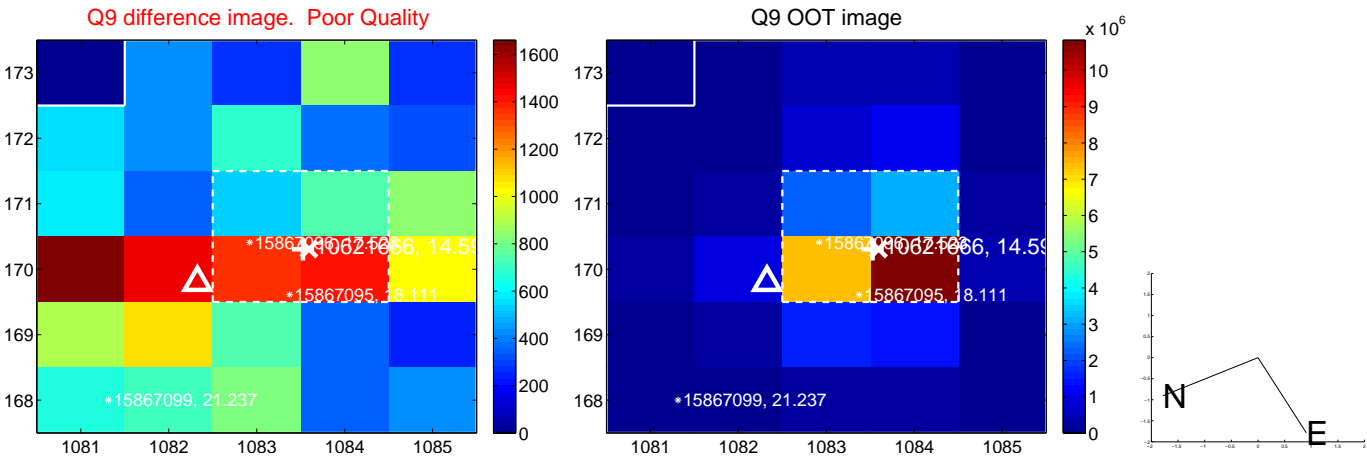
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



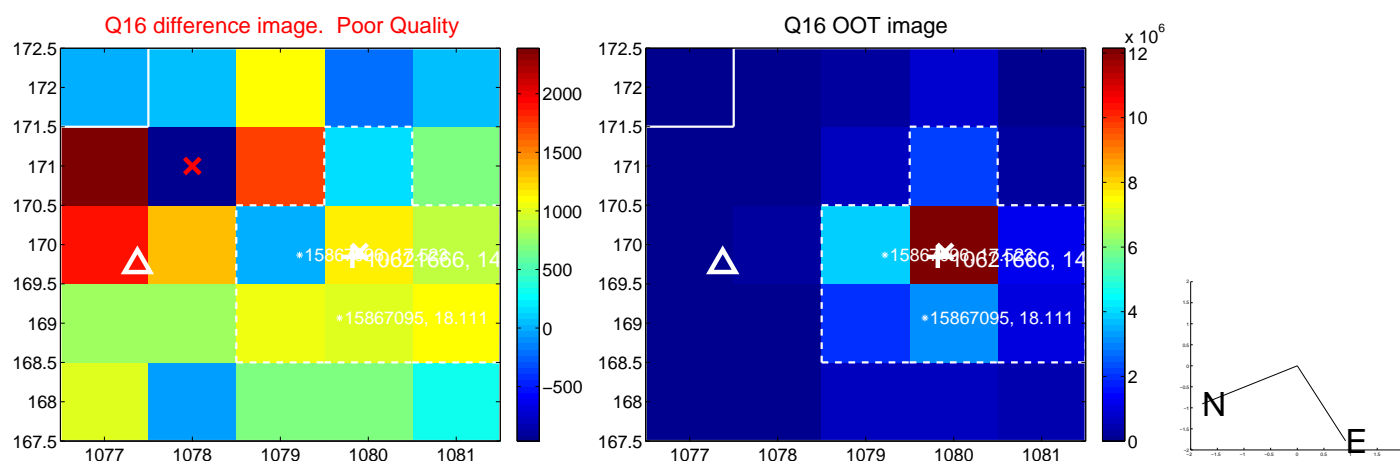
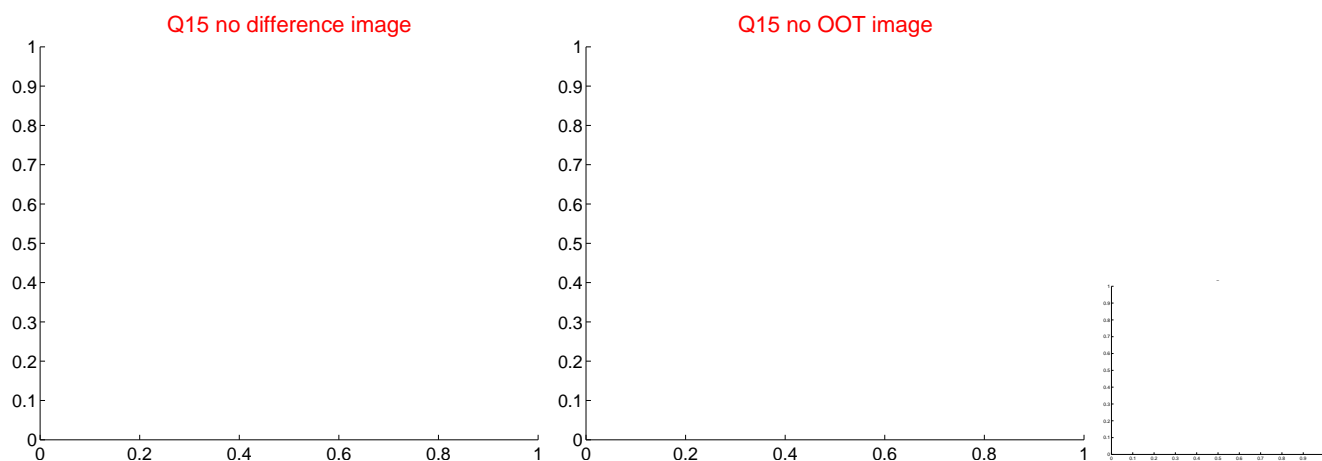
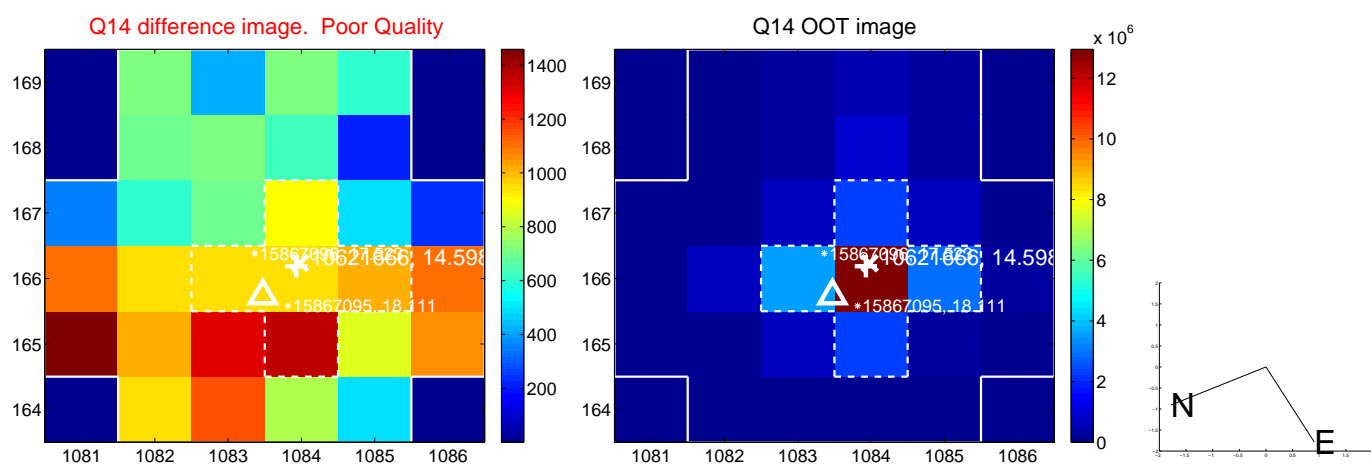
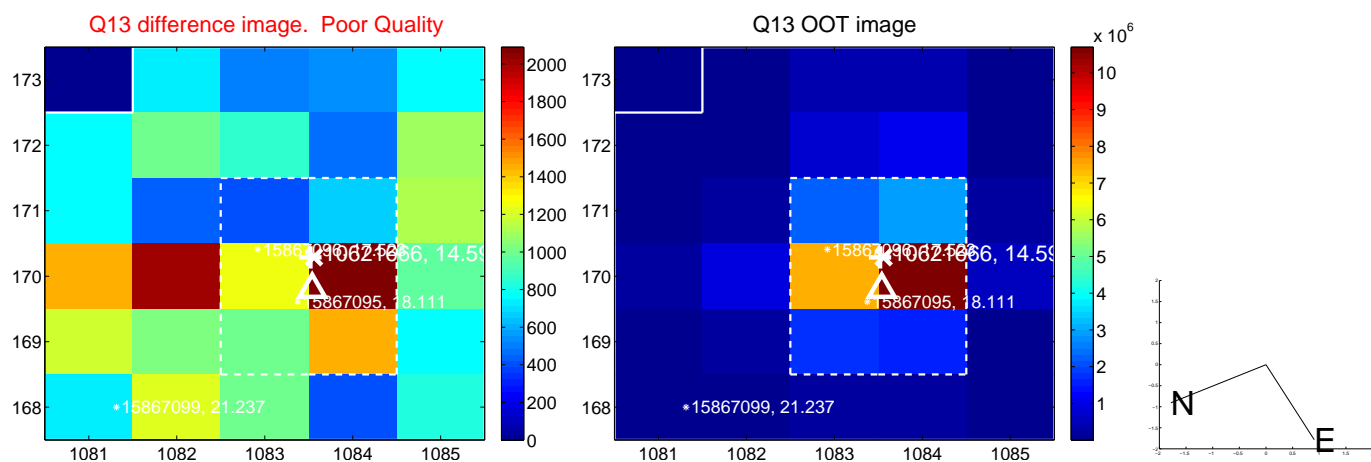
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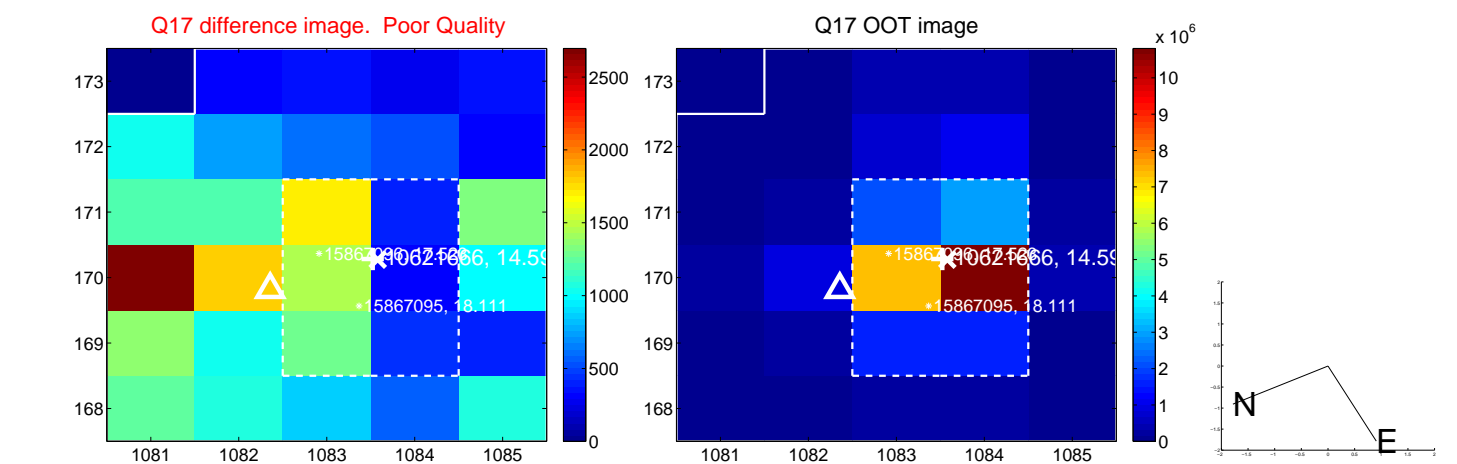
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



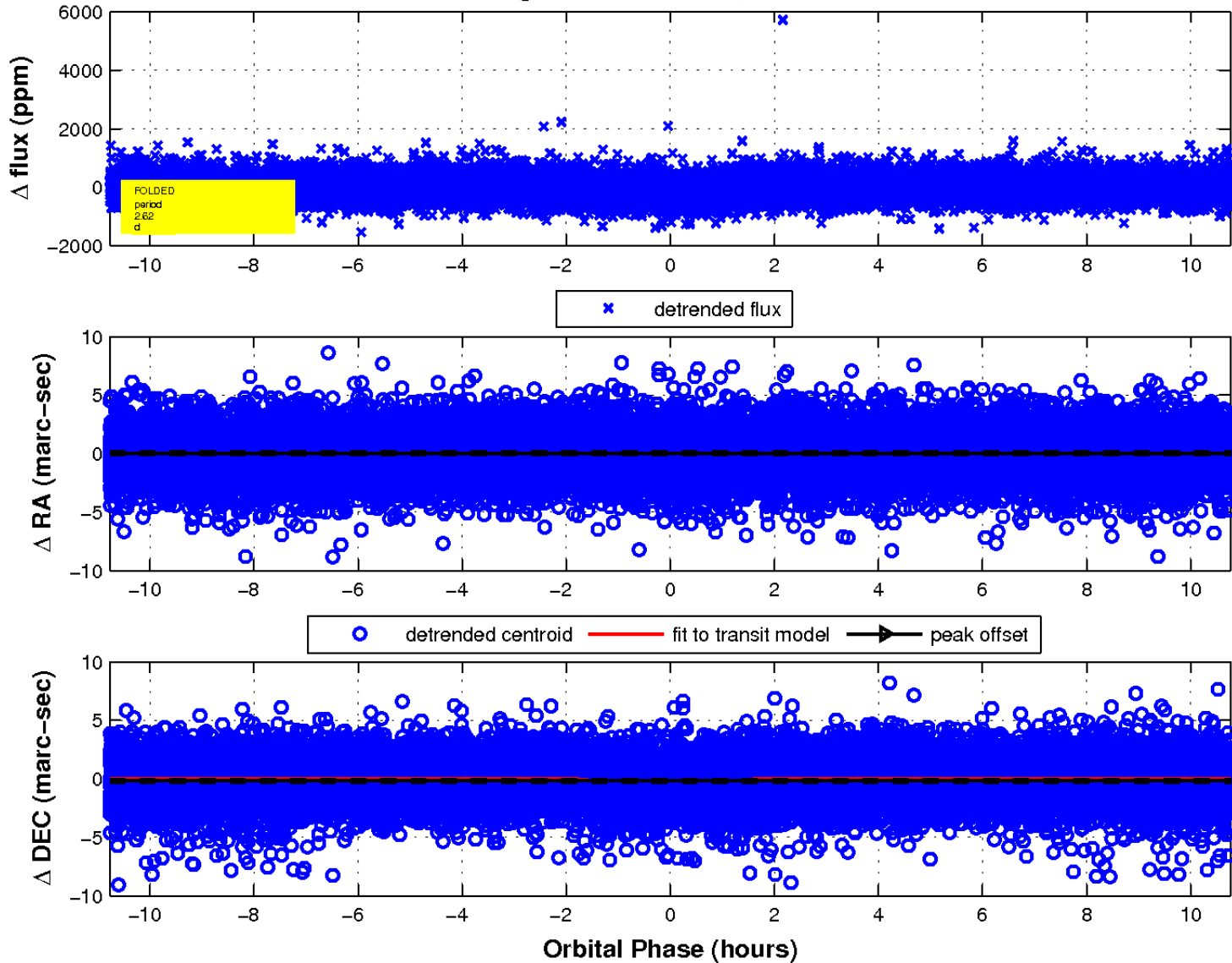
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

