

KIC 008620565

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})
008620565-01	OBS	1250.01	0.782086	131.654610	1035.3	1.786	417.6	57.0	0.99	6113	6.23	4346.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008620565-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—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 008620565-01

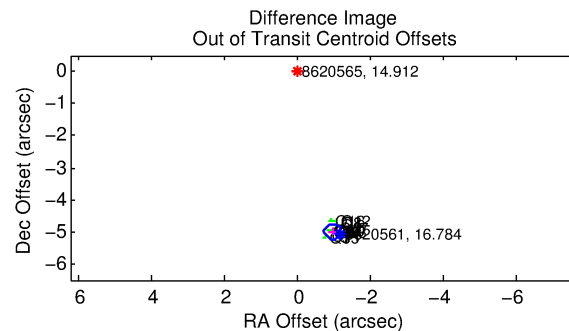
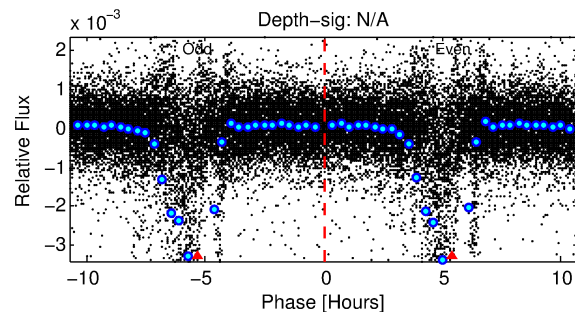
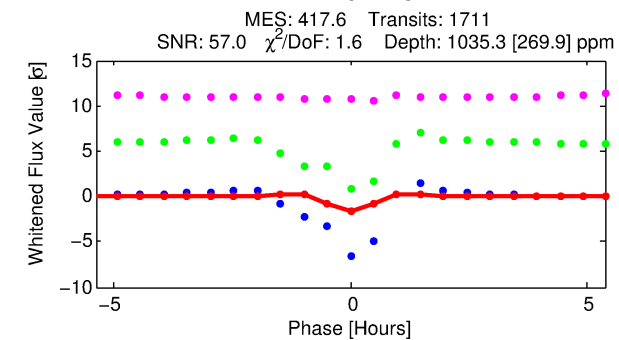
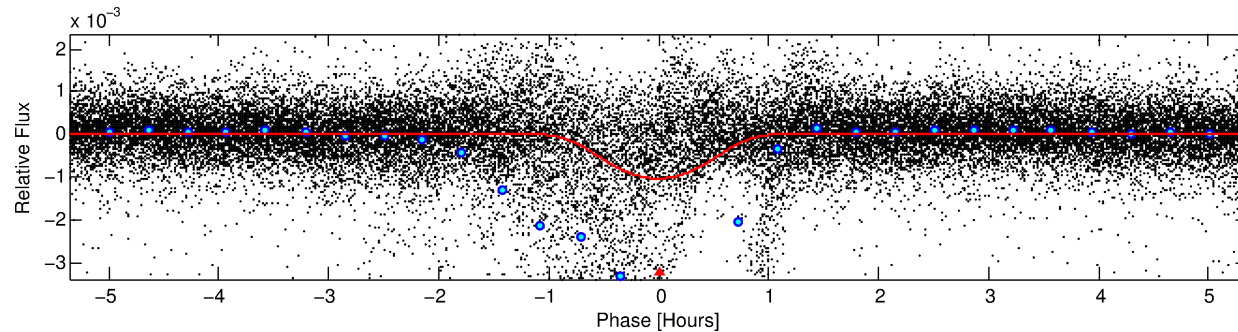
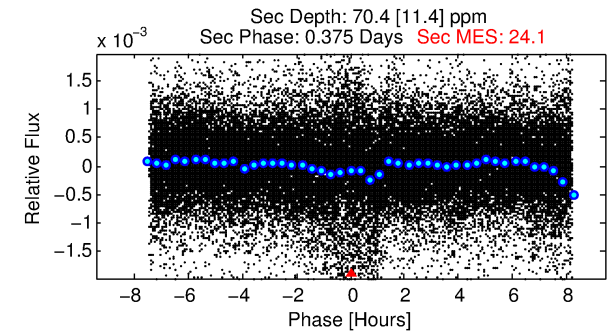
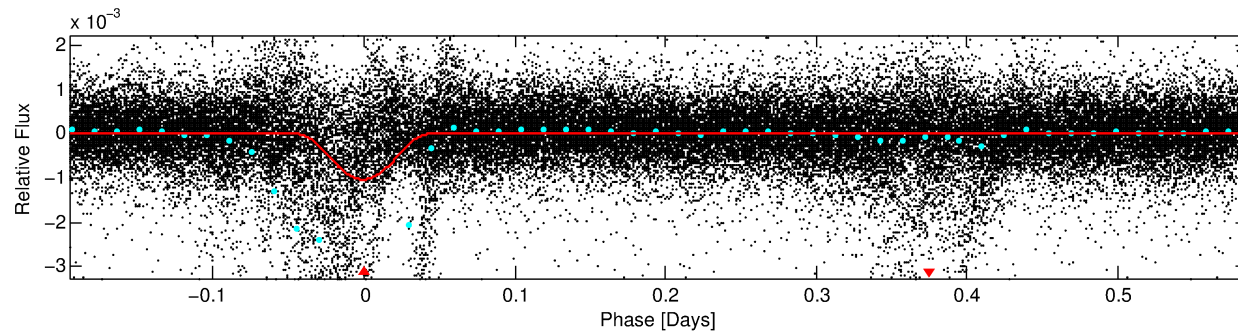
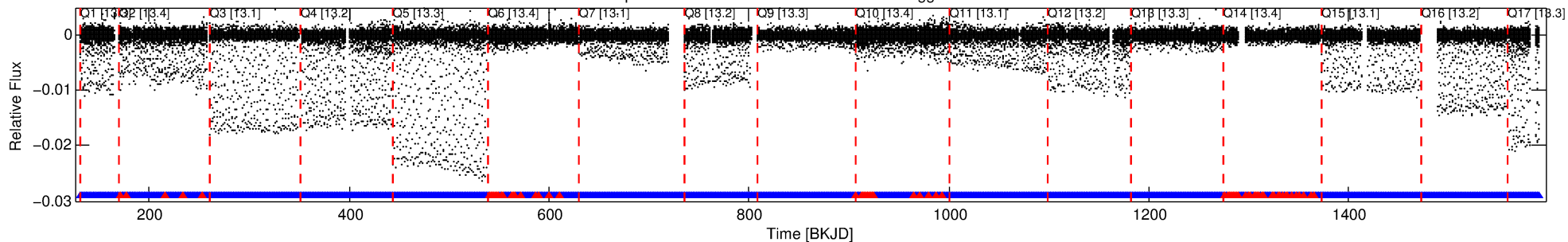
TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	Δ Row	Δ Col	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ_P	σ_T
008620565-01	8620565	008620561-01	8620561	1:1	5.2	0	-1	16.78	14.91	302.23	Direct-PRF	0	4.85	1.34

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: 8620565 Candidate: 1 of 1 Period: 0.782 d
KOI: K01250 Corr: No Ephemeris Match

Kp: 14.91 R*: 0.99 Rs Teff: 6113.0 K Logg: 4.46 Fe/H: -0.120



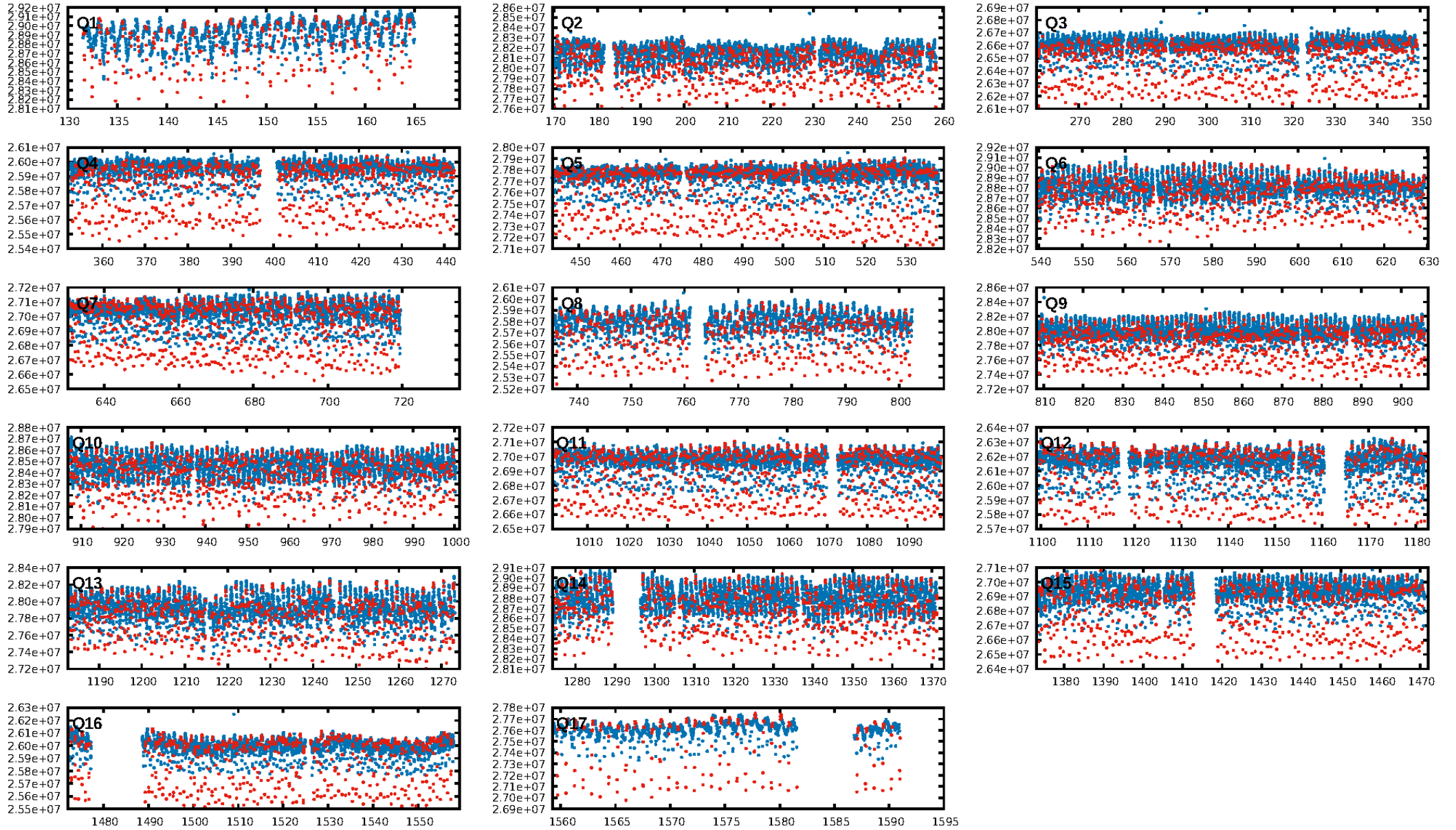
DV Fit Results:

Period = 0.78209 [0.00000] d
Epoch = 131.6546 [0.0003] BKJD
Rp/R* = 0.0574 [0.0557]
a/R* = 1.54 [0.15]
b = 1.00 [0.09]
Seff = 4346.31 [1864.99]
Teff = 2070 [222] K
Rp = 6.23 [6.39] Re
a = 0.0169 [0.0047] AU
Ag = 0.28 [0.57] [-1.27σ]
Teffp = 2337 [1140] K [0.23σ]

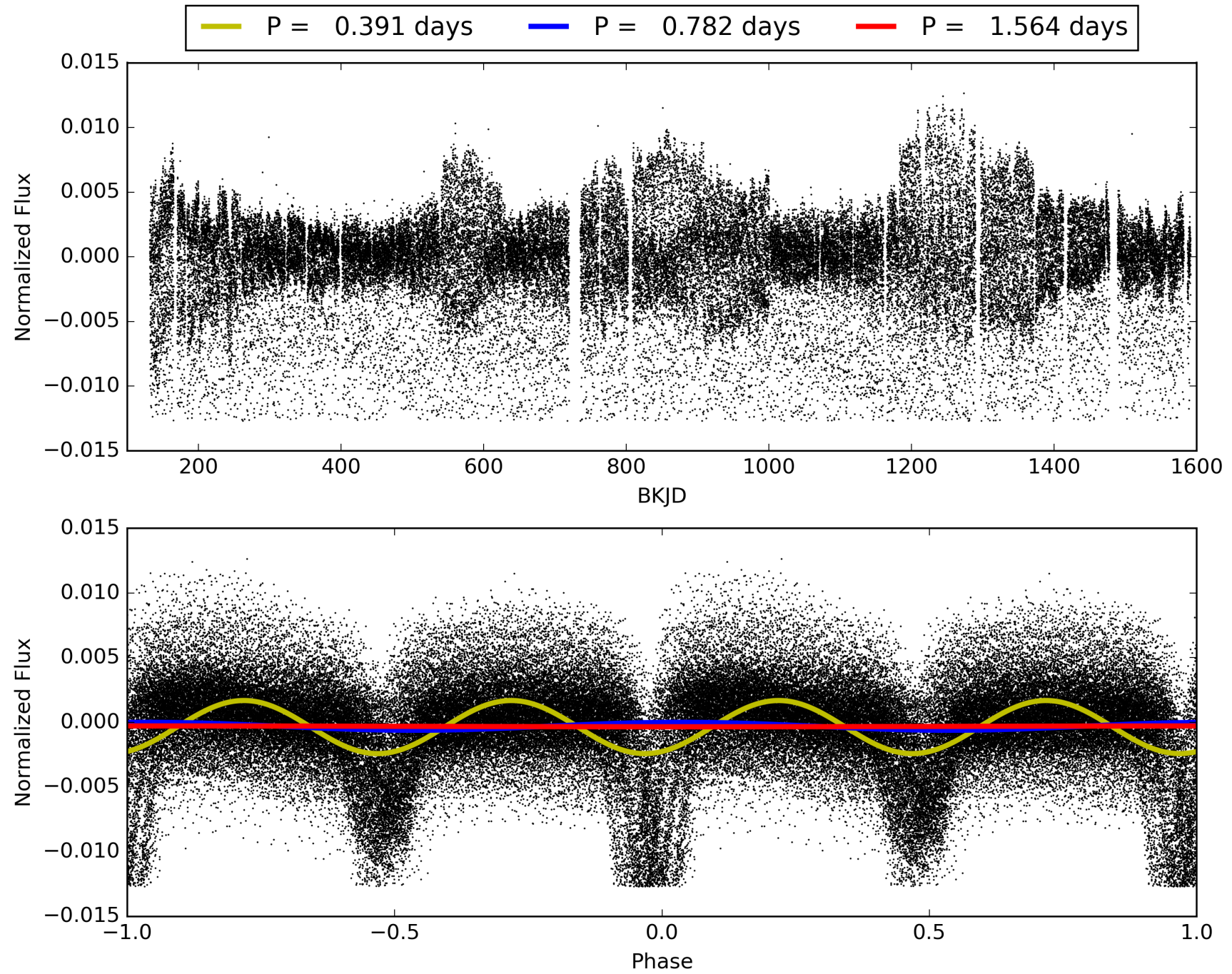
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.95 [1555/1634]
GhostDiagnostic-chr: -0.01036
Centroid-sig: 0.0%
Centroid-so: 110.496 arcsec [649.01σ]
OotOffset-rm: 5.088 arcsec [65.65σ]
KicOffset-rm: 5.197 arcsec [74.98σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.88 [15/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008620565-01, PDC Light Curves

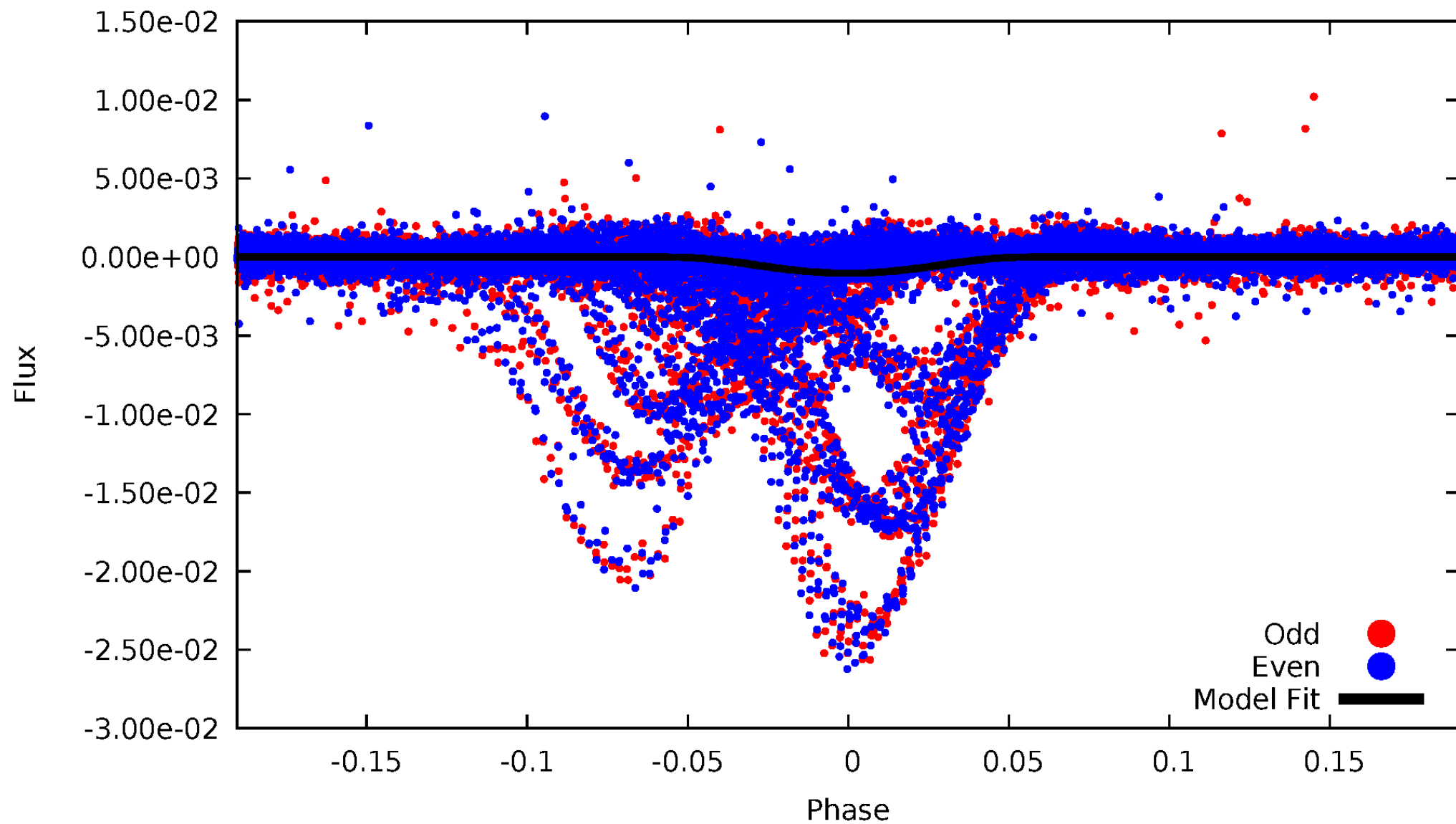


TCE 008620565-01



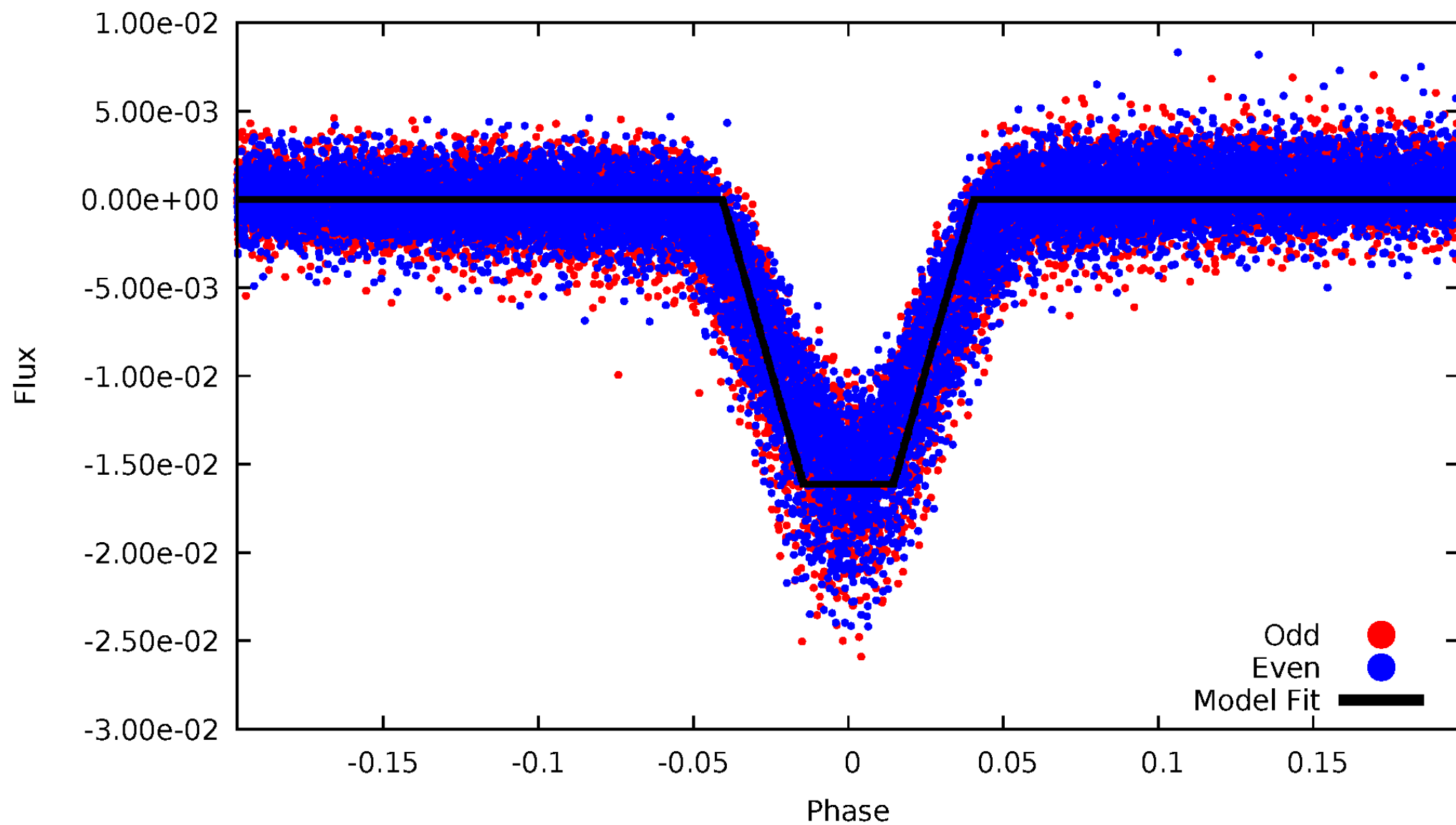
DV Odd/Even

TCE 008620565-01

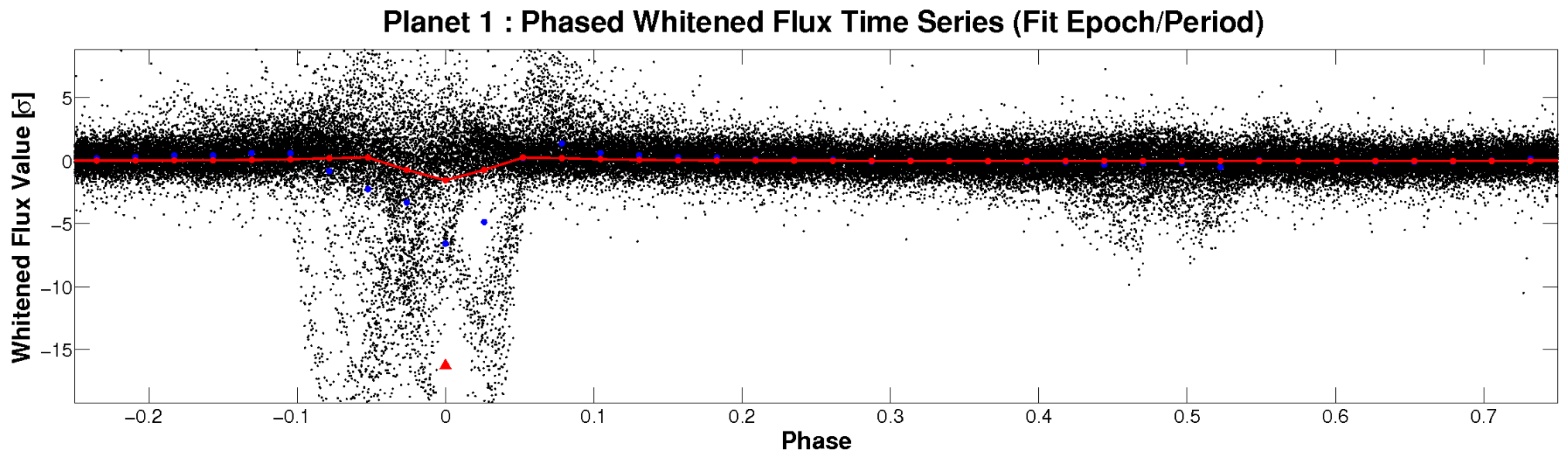
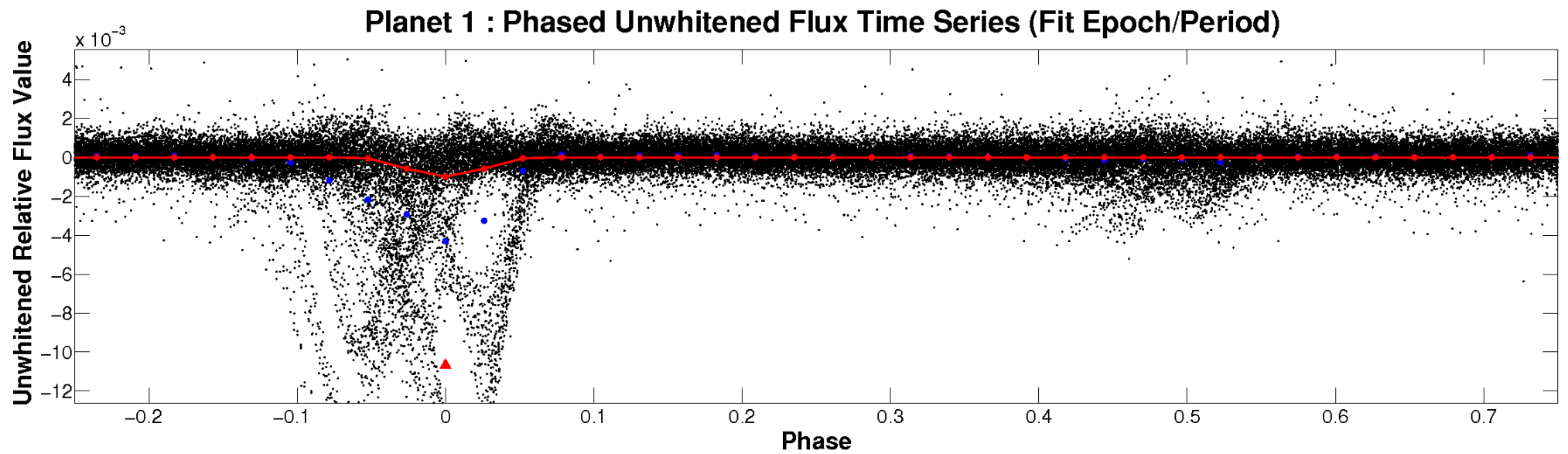


ALT Odd/Even

TCE 008620565-01

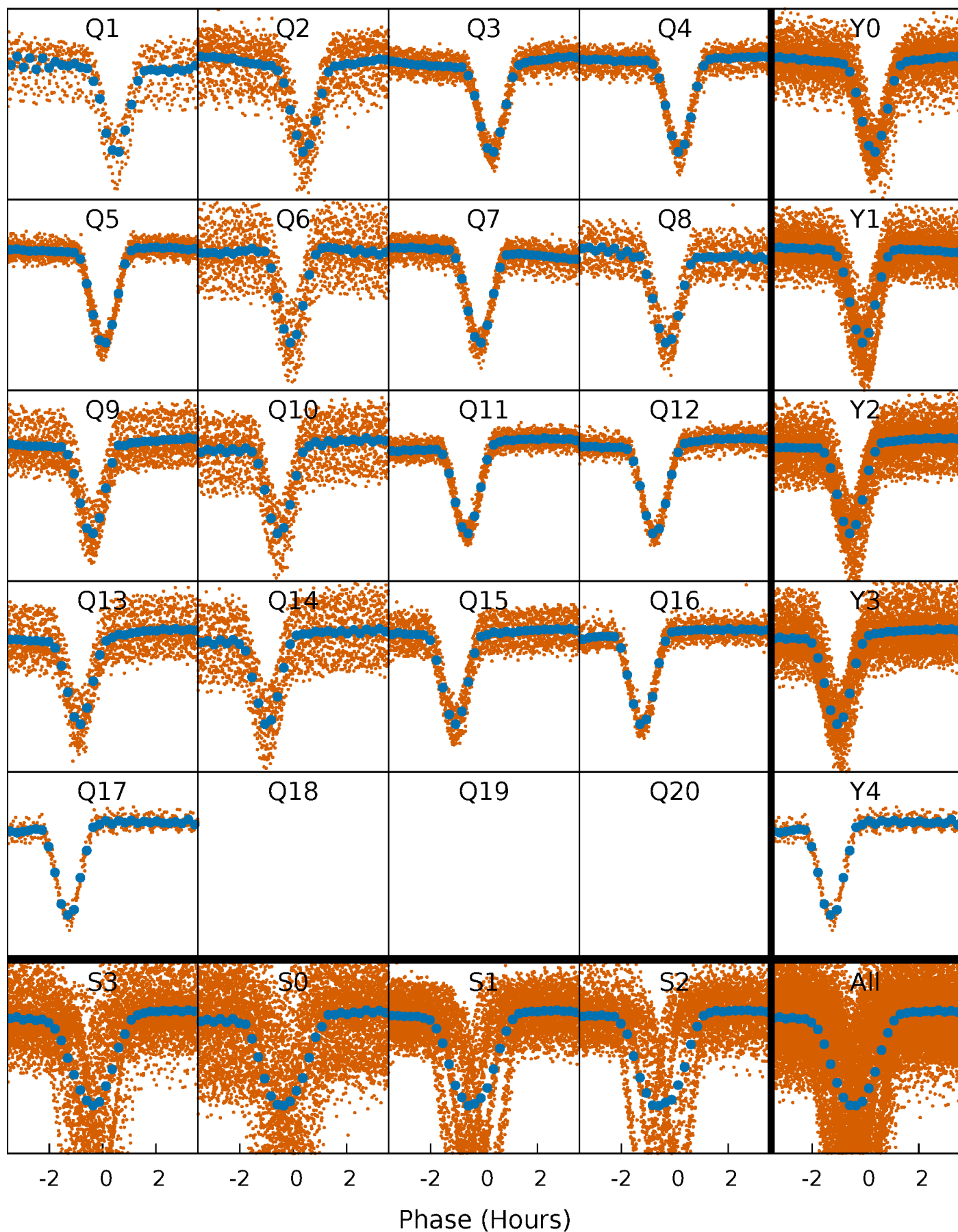


Non-Whitened Vs. Whitened Light Curve



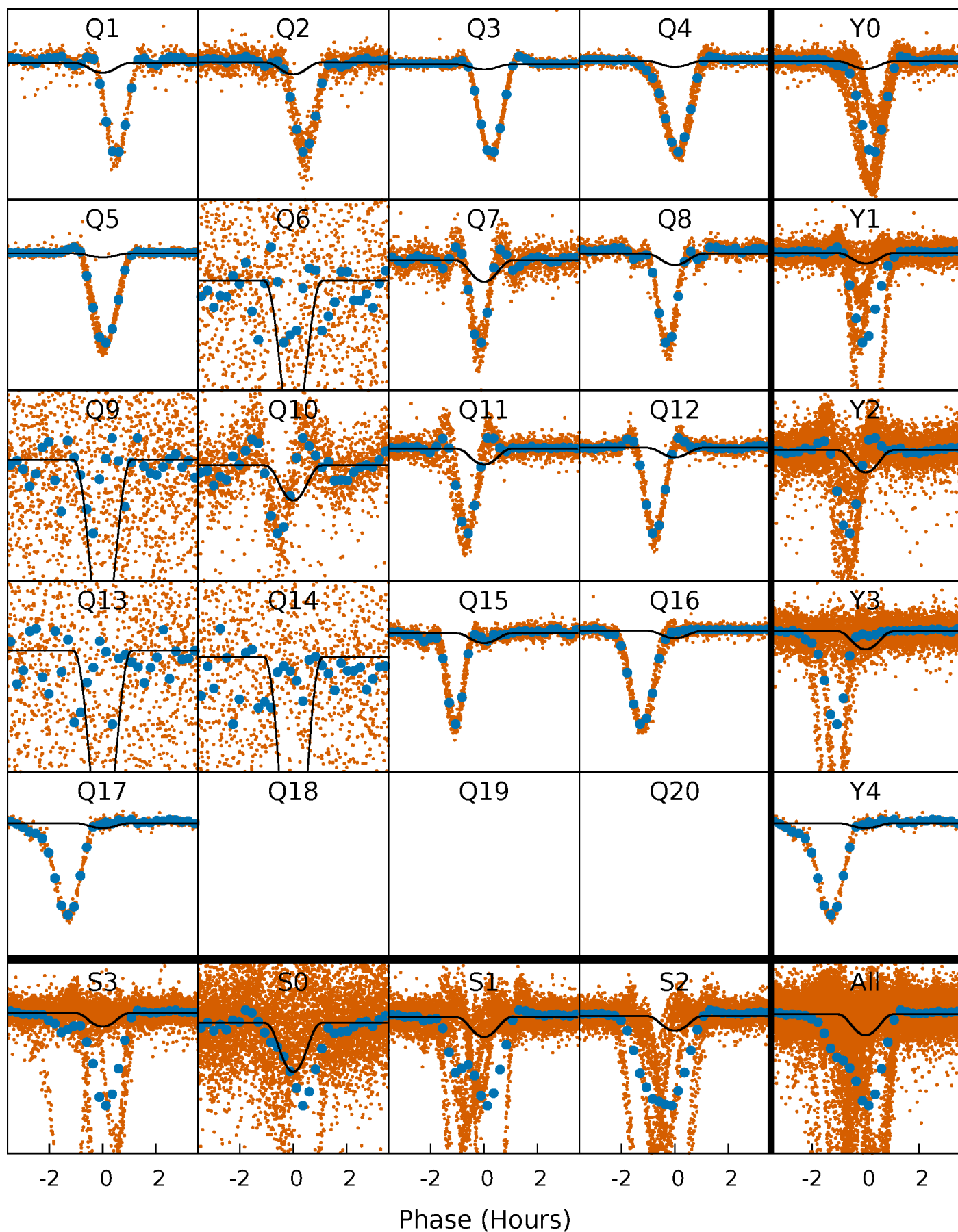
PDC Quarter-Phased Transit Curves

TCE 008620565-01 P= 0.782086 Days $T_0=131.654610$ (BKJD)



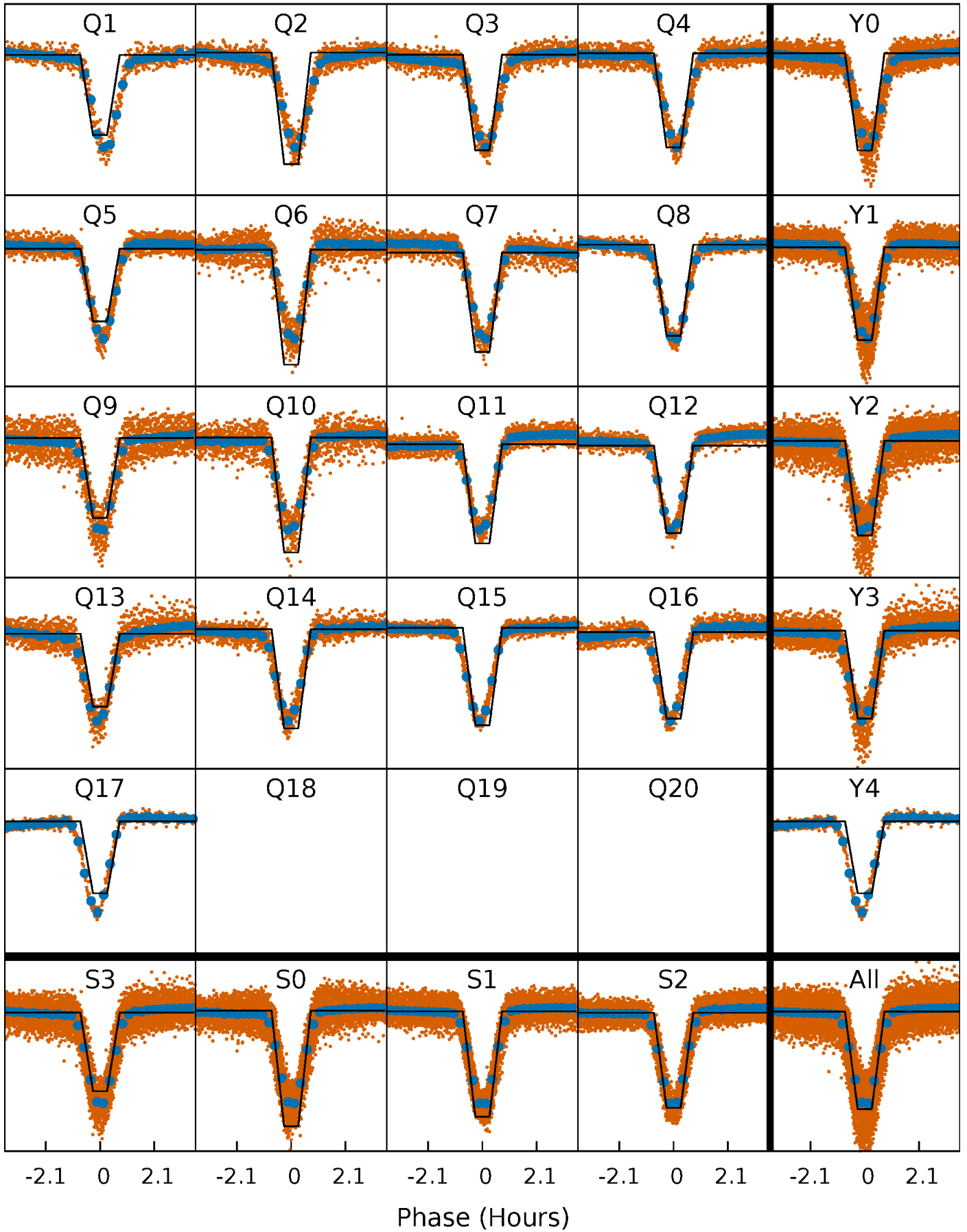
DV Quarter-Phased Transit Curves

TCE 008620565-01 P= 0.782086 Days $T_0=131.654610$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

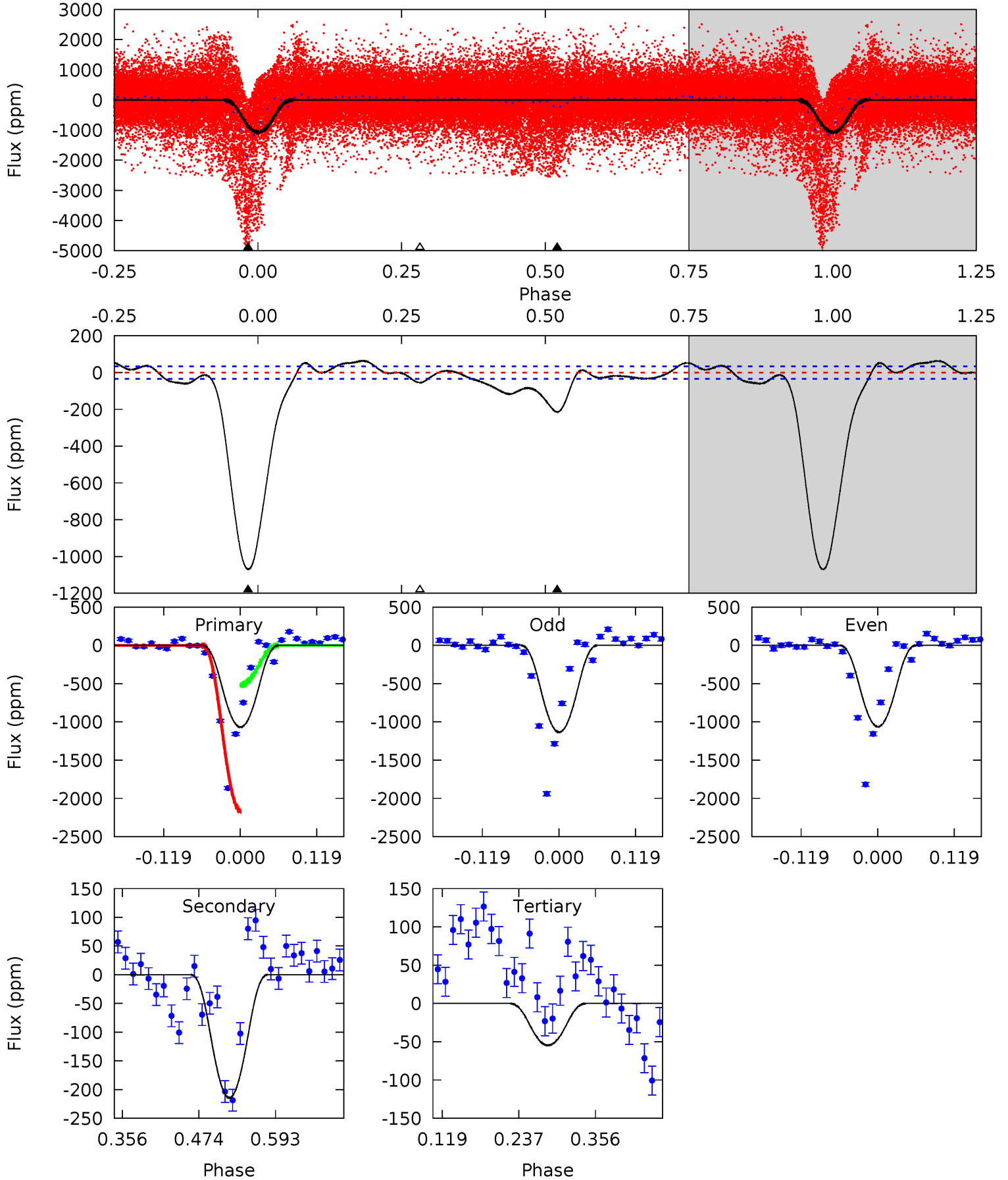
TCE 008620565-01 P= 0.782053 Days $T_0=131.668121$ (BKJD)



DV Model-Shift Uniqueness Test

008620565-01, P = 0.782086 Days, E = 130.872524 Days

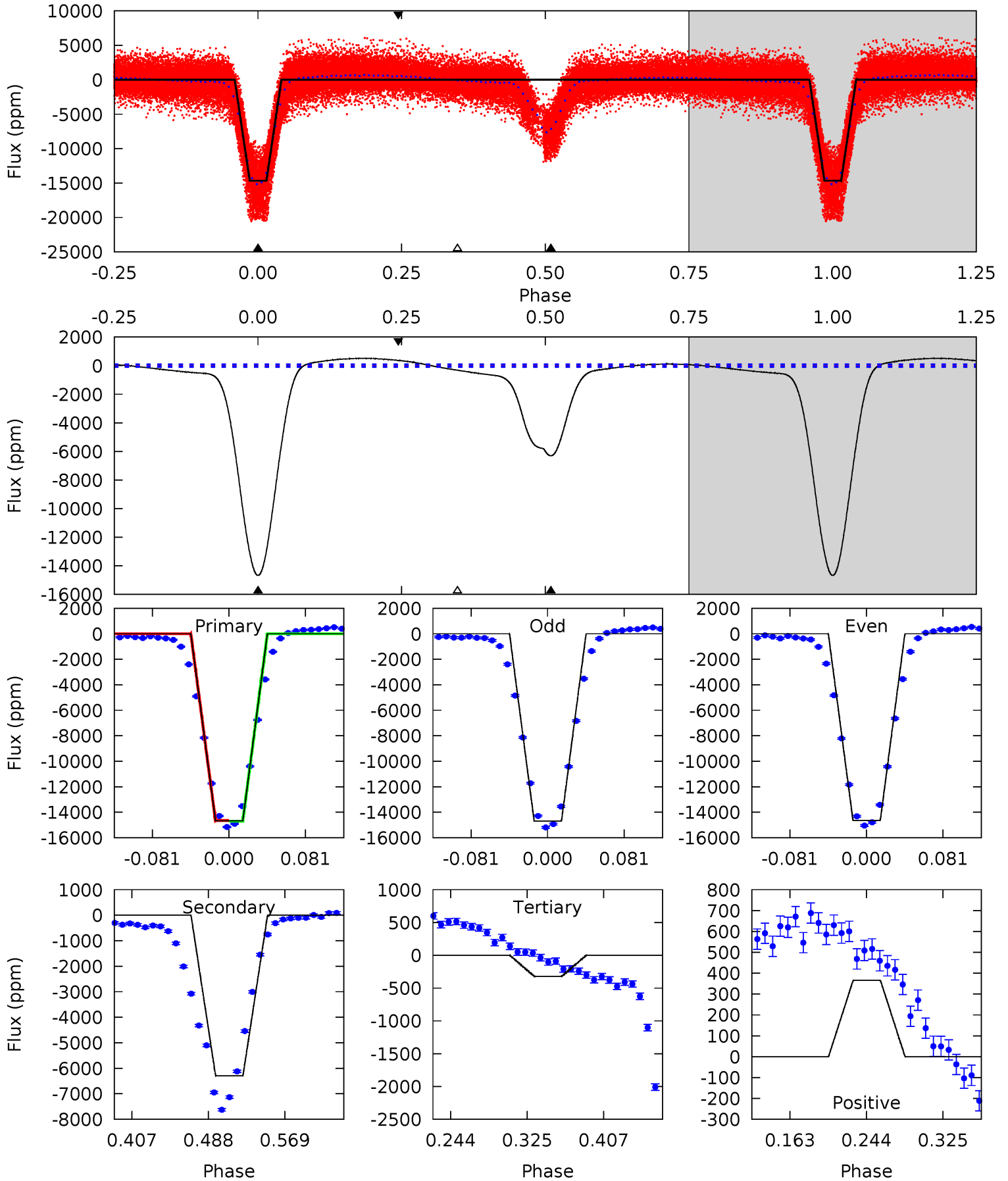
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
141.8	28.4	7.25	0	4.53	1.56	4.50	134.5	141.8	21.2	28.4	4.73	2.81	0.06	0



Alt Model-Shift Uniqueness Test

008620565-01, P = 0.782053 Days, E = 130.886068 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
809.9	347.8	17.7	20.2	4.61	1.74	19.0	792.2	789.8	330.1	327.6	1.38	1.02	0.03	1.64



Stellar Parameters For KIC 008620565

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6113^{+183}_{-201}	$4.463^{+0.056}_{-0.224}$	$-0.120^{+0.250}_{-0.300}$	$0.995^{+0.329}_{-0.110}$	$1.044^{+0.150}_{-0.137}$	$1.494^{+0.451}_{-0.815}$
	+3%/-3%	+1%/-5%	+208%/-250%	+33%/-11%	+14%/-13%	+30%/-55%
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 008620565-01 / KOI 1250.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-214 ± 8	$8.15^{+5.73}_{-4.94}$	2960^{+233}_{-154}	2892^{+1620}_{-5664}	$0.500^{+2.640}_{-0.332}$
Alt.	-6299 ± 18	$14.44^{+6.46}_{-6.26}$	2958^{+226}_{-150}	4914^{+1453}_{-763}	$4.766^{+9.515}_{-2.540}$

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 $A_{\text{obs}} \gg 1.0$

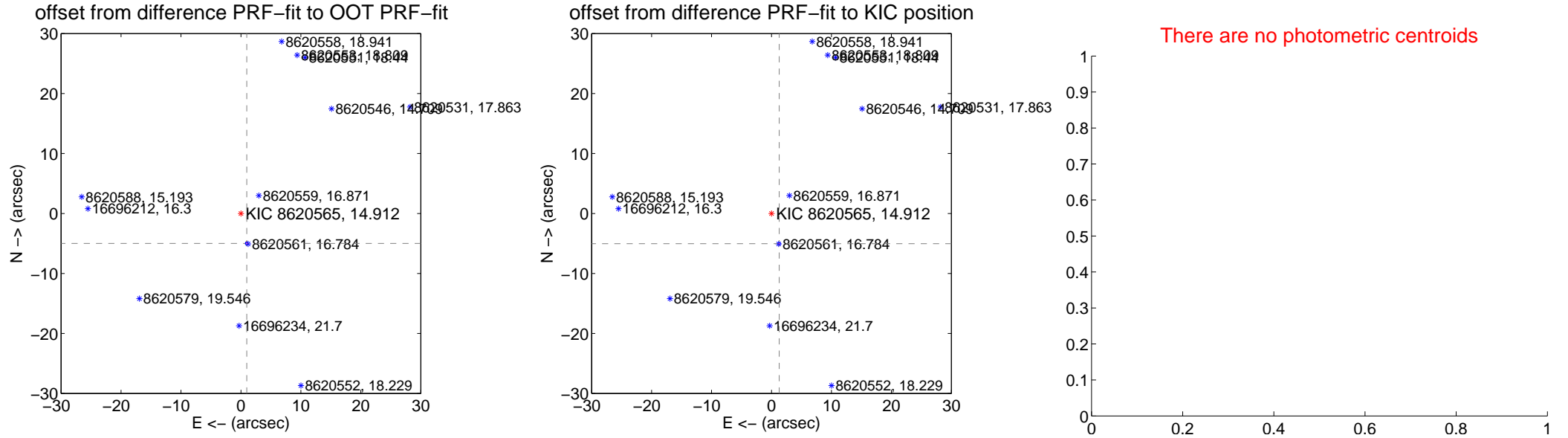
DV Centroid Data

Supplemental centroid analysis for 008620565-01. Kepler magnitude: 14.91. Transit SNR 57.03

There are 15 quarters with good PRF difference image offsets

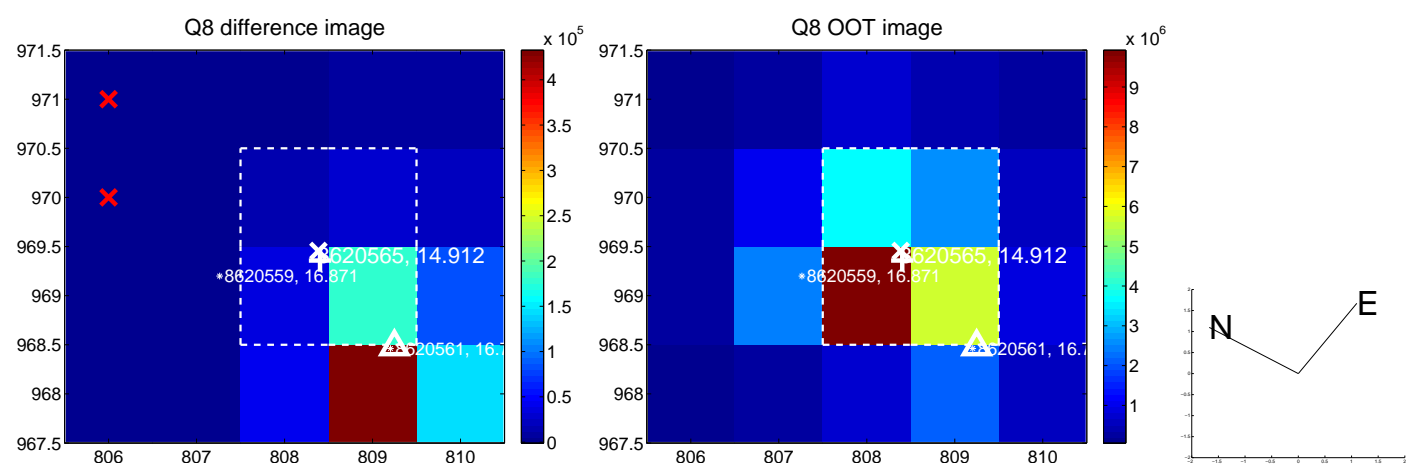
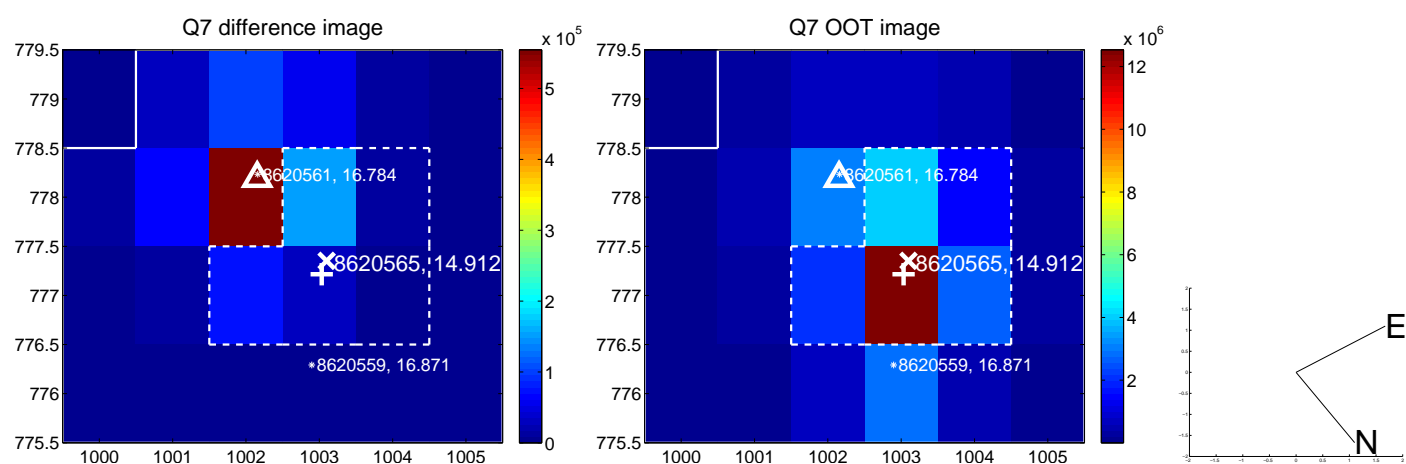
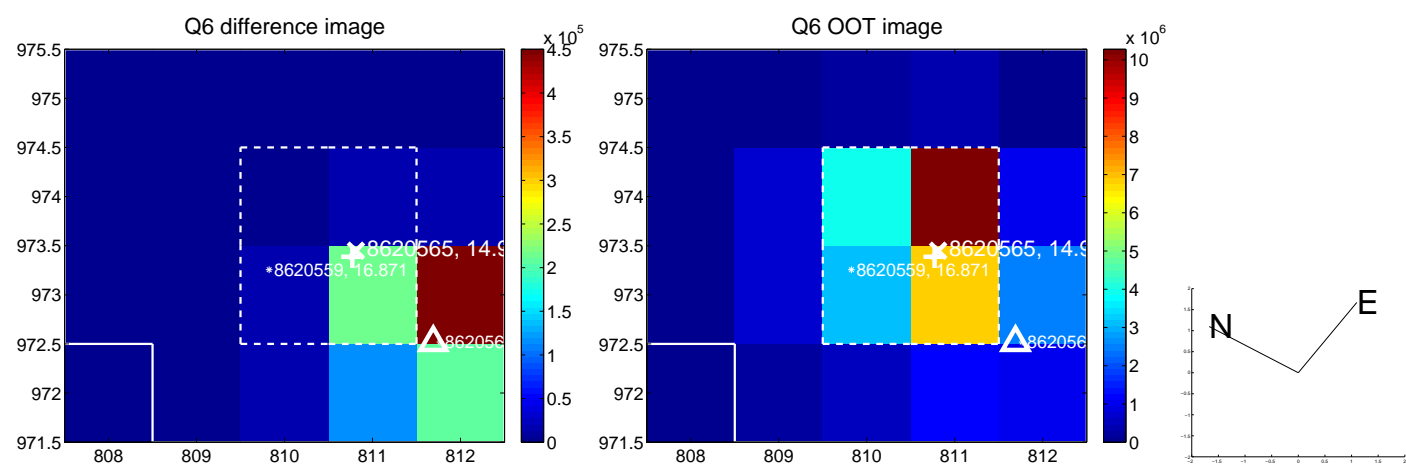
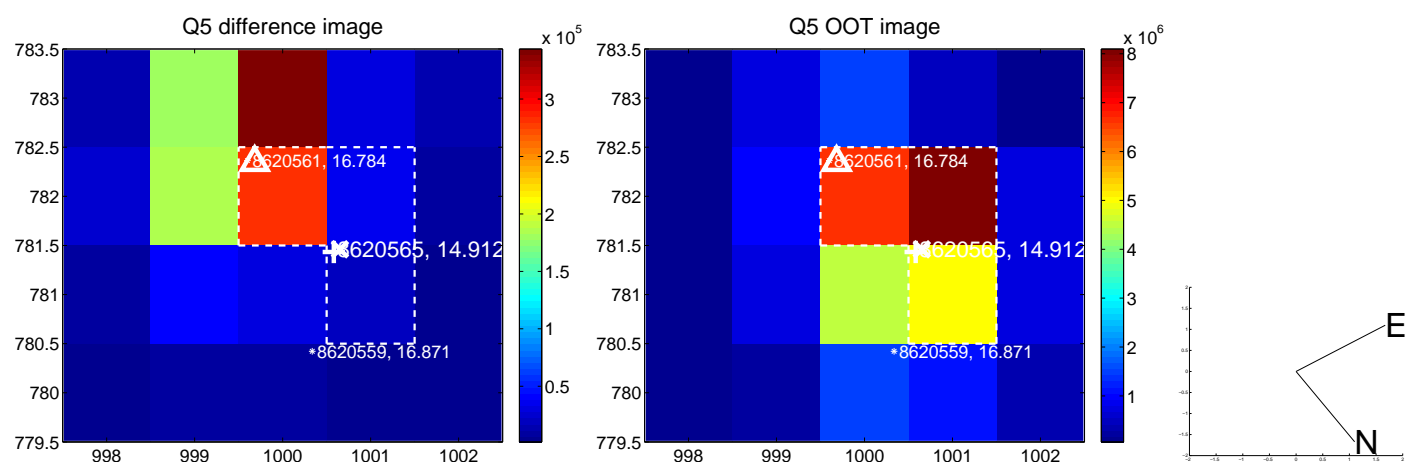
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.088 ± 0.077	65.65	-0.969 ± 0.072	-4.995 ± 0.080
PRF-fit source offset from KIC position	5.197 ± 0.069	74.98	-1.279 ± 0.068	-5.038 ± 0.070
photometric centroid source offset	—	—	—	—

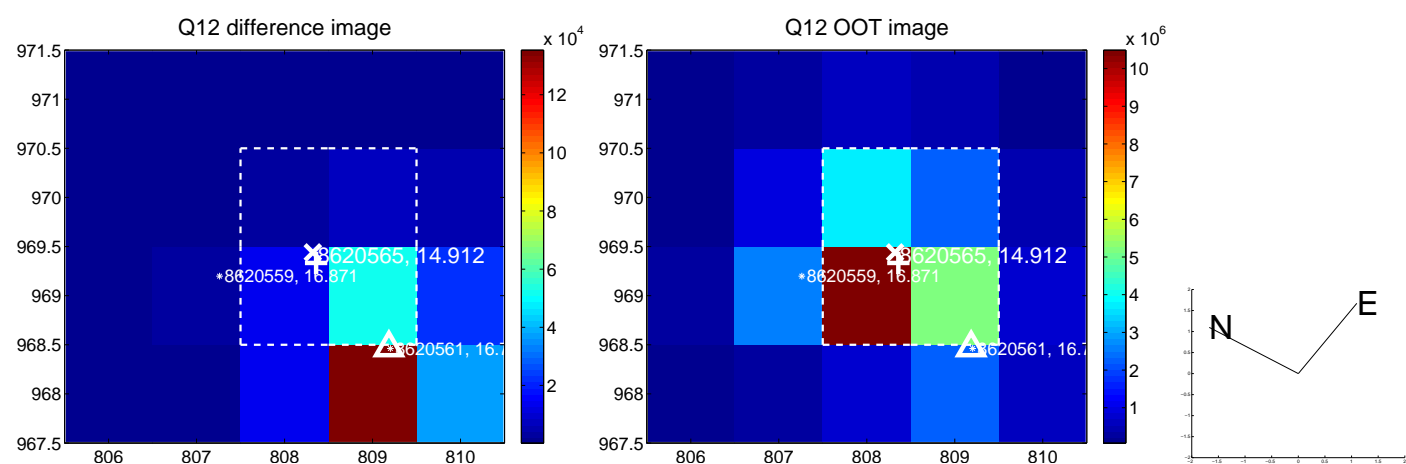
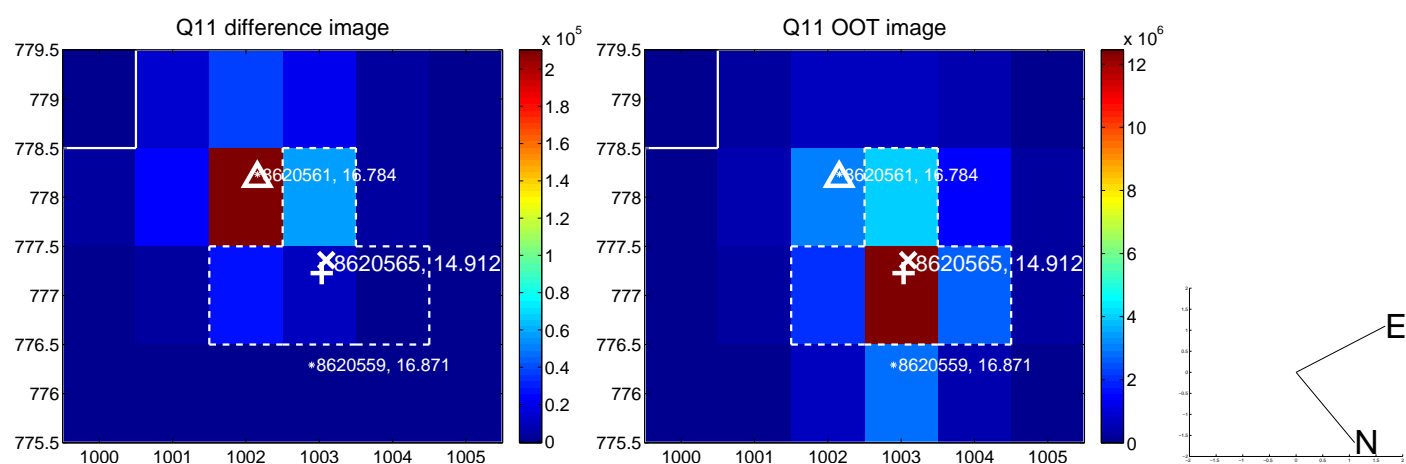
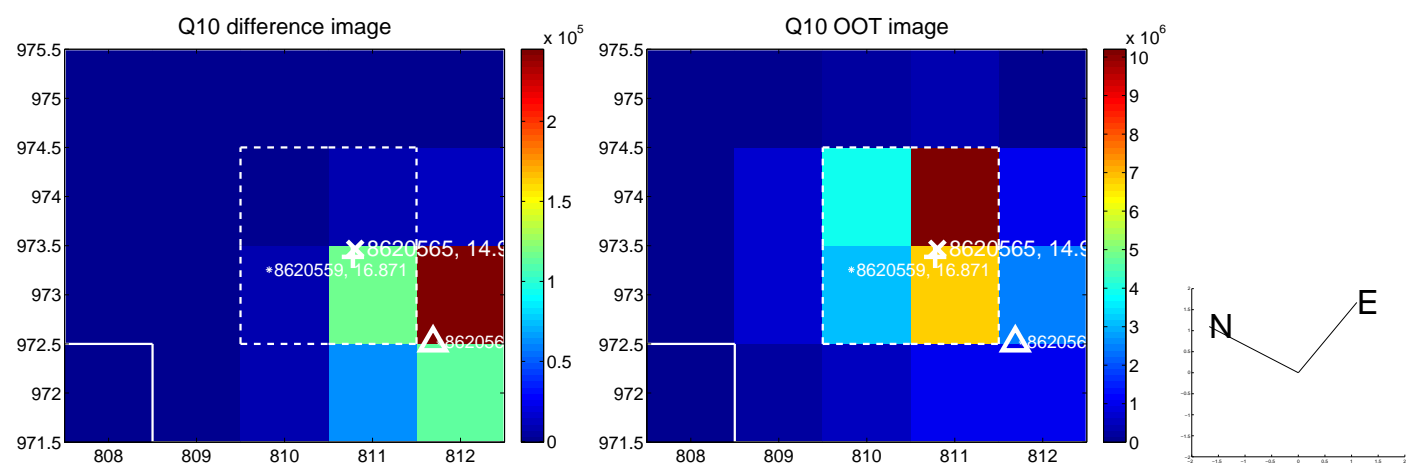
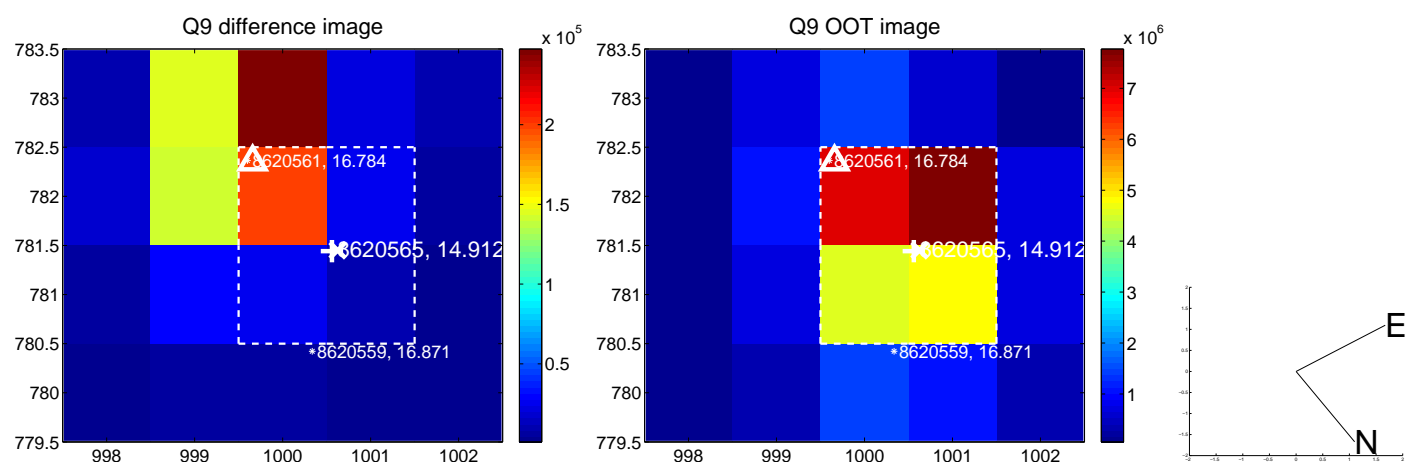


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

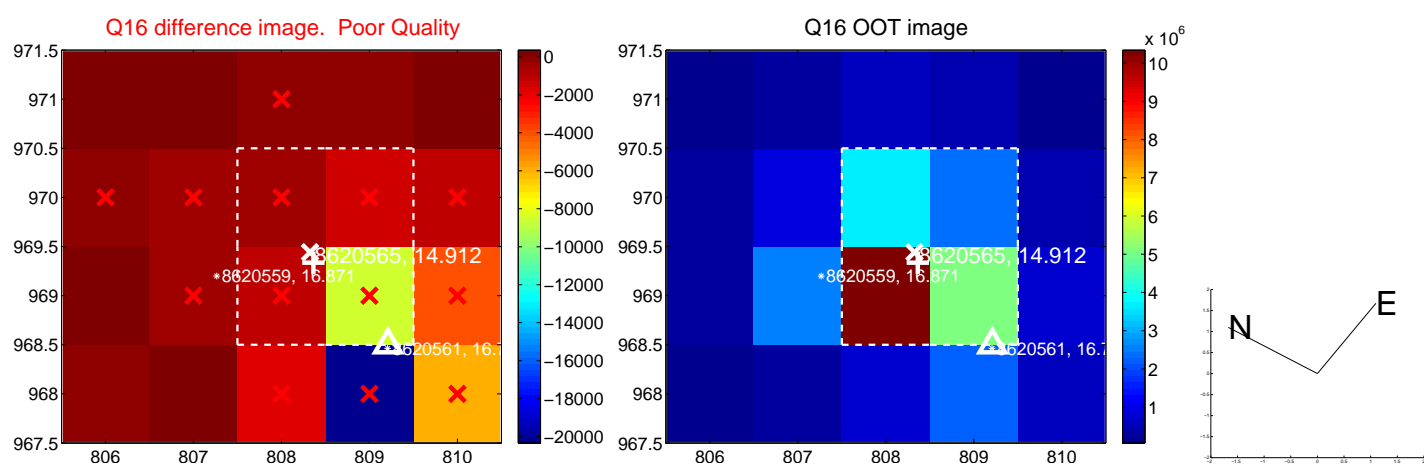
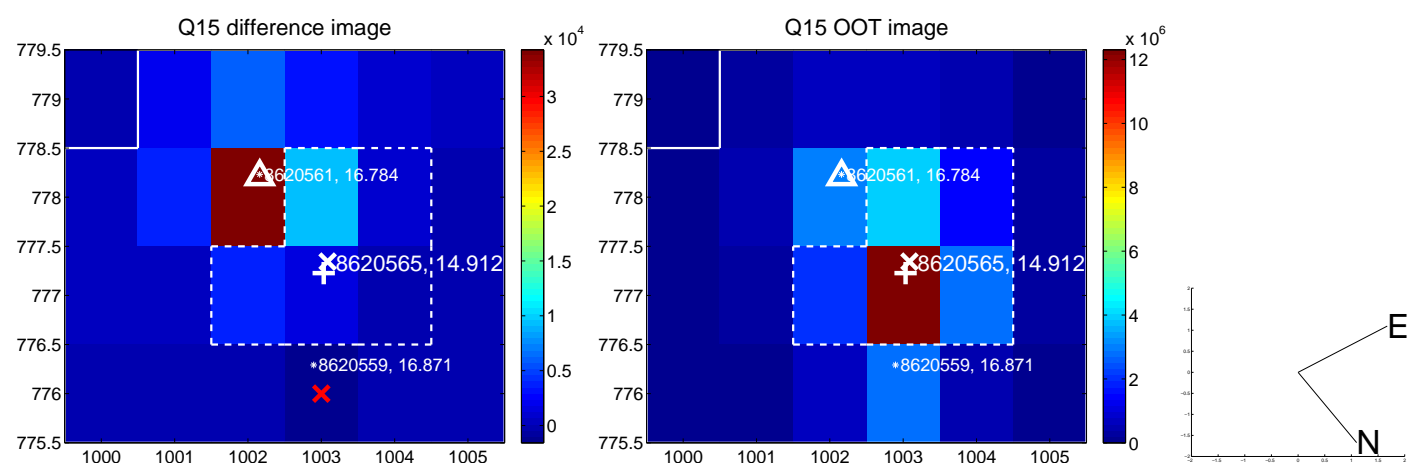
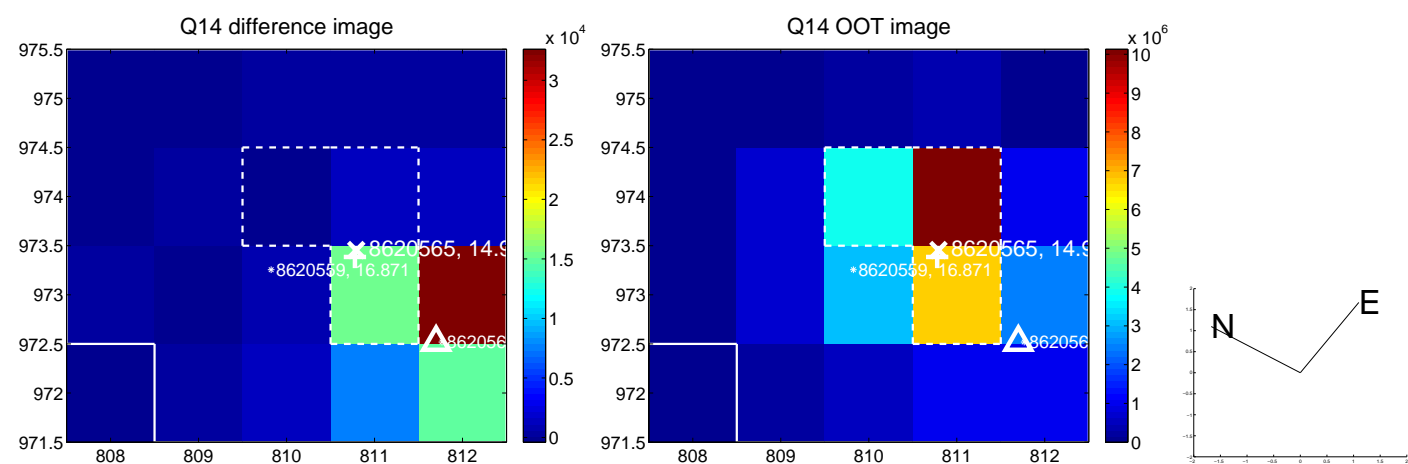
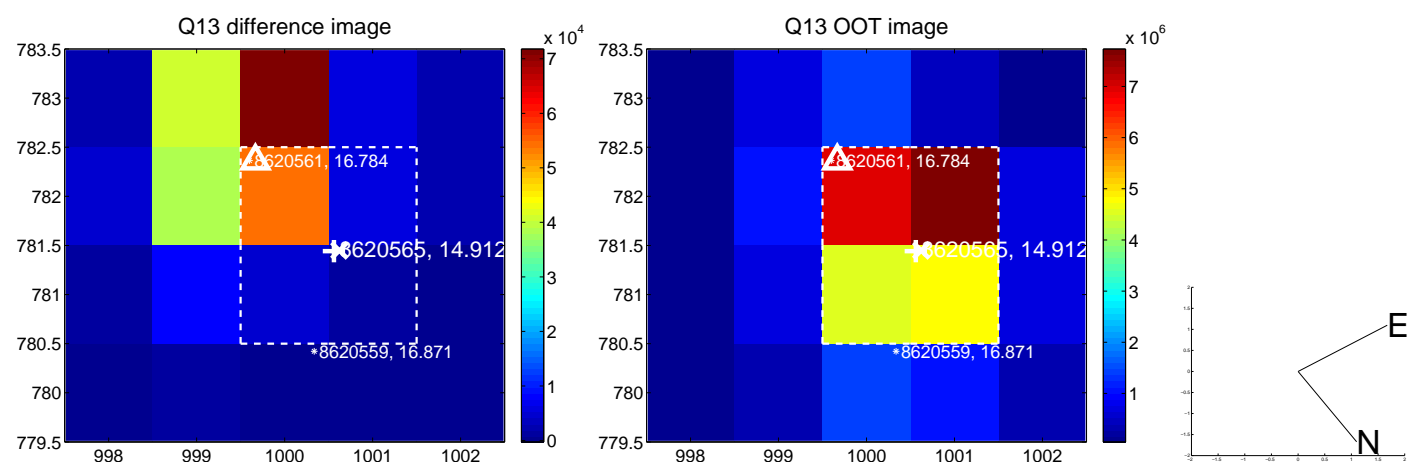
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

