

KIC 003556220

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
003556220-01	OBS	1213.01	0.796695	132.299697	40.1	2.391	19.1	16.2	1.33	5959	1.00	7869.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003556220-01	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.

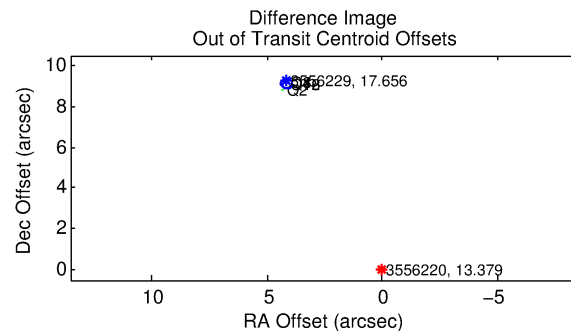
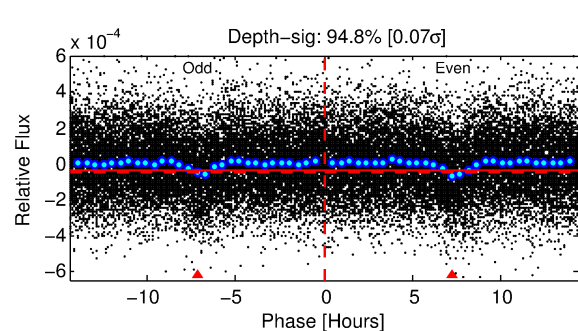
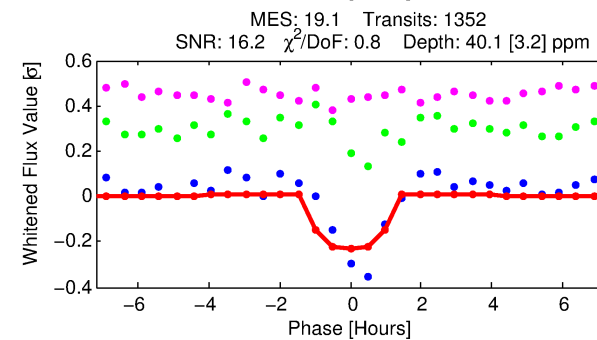
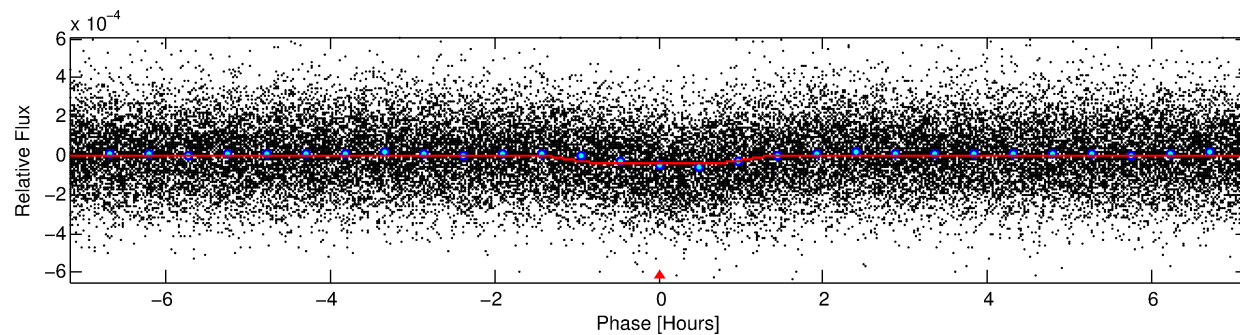
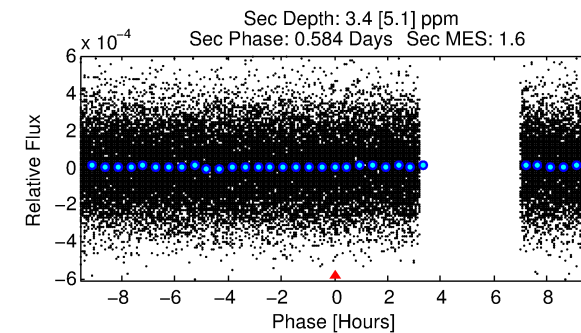
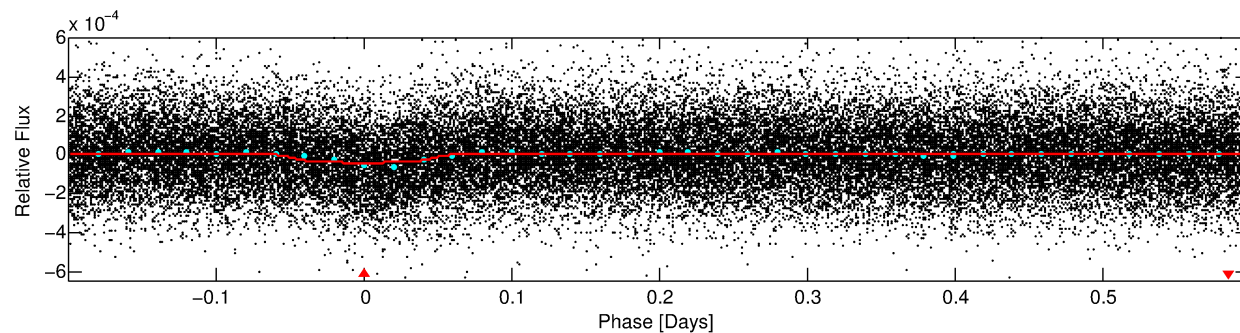
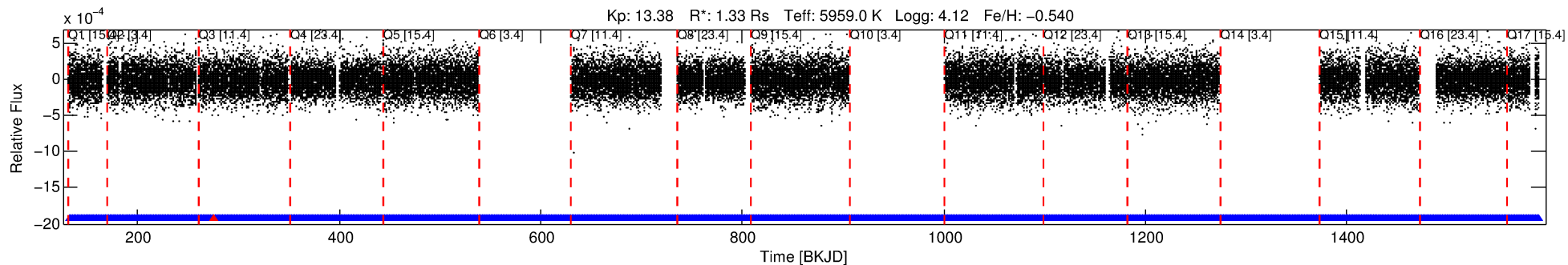
Ephemeris Match Information For 003556220-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
003556220-01	3556220	3899.01	3556229	1:1	10.1	-2	-2	17.66	13.38	5386.70	Direct-PRF	0	3.19	0.91

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol 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 σ_P < 5.0 and σ_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: 3556220 Candidate: 1 of 1 Period: 0.797 d
KOI: K01213.01 Corr: 0.857



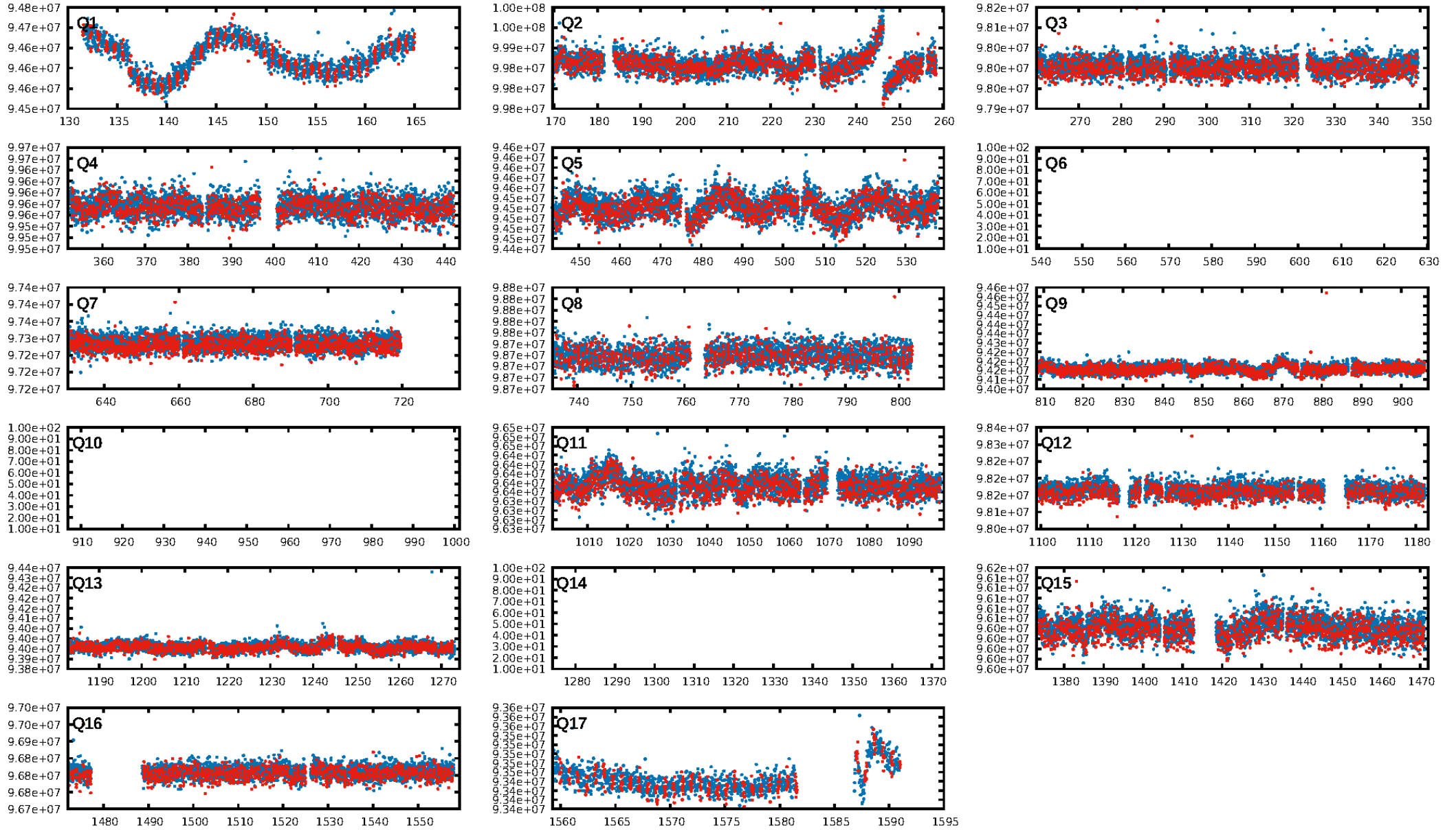
DV Fit Results:

Period = 0.79669 [0.00001] d
Epoch = 132.2997 [0.0019] BKJD
Rp/R* = 0.0068 [0.0020]
a/R* = 1.47 [1.23]
b = 0.90 [0.32]
Seff = 7869.90 [3096.79]
Teq = 2402 [236] K
Rp = 1.00 [0.37] Re
a = 0.0160 [0.0038] AU
Ag = 0.48 [0.80] [-0.65σ]
Teff = 3092 [1253] K [0.54σ]

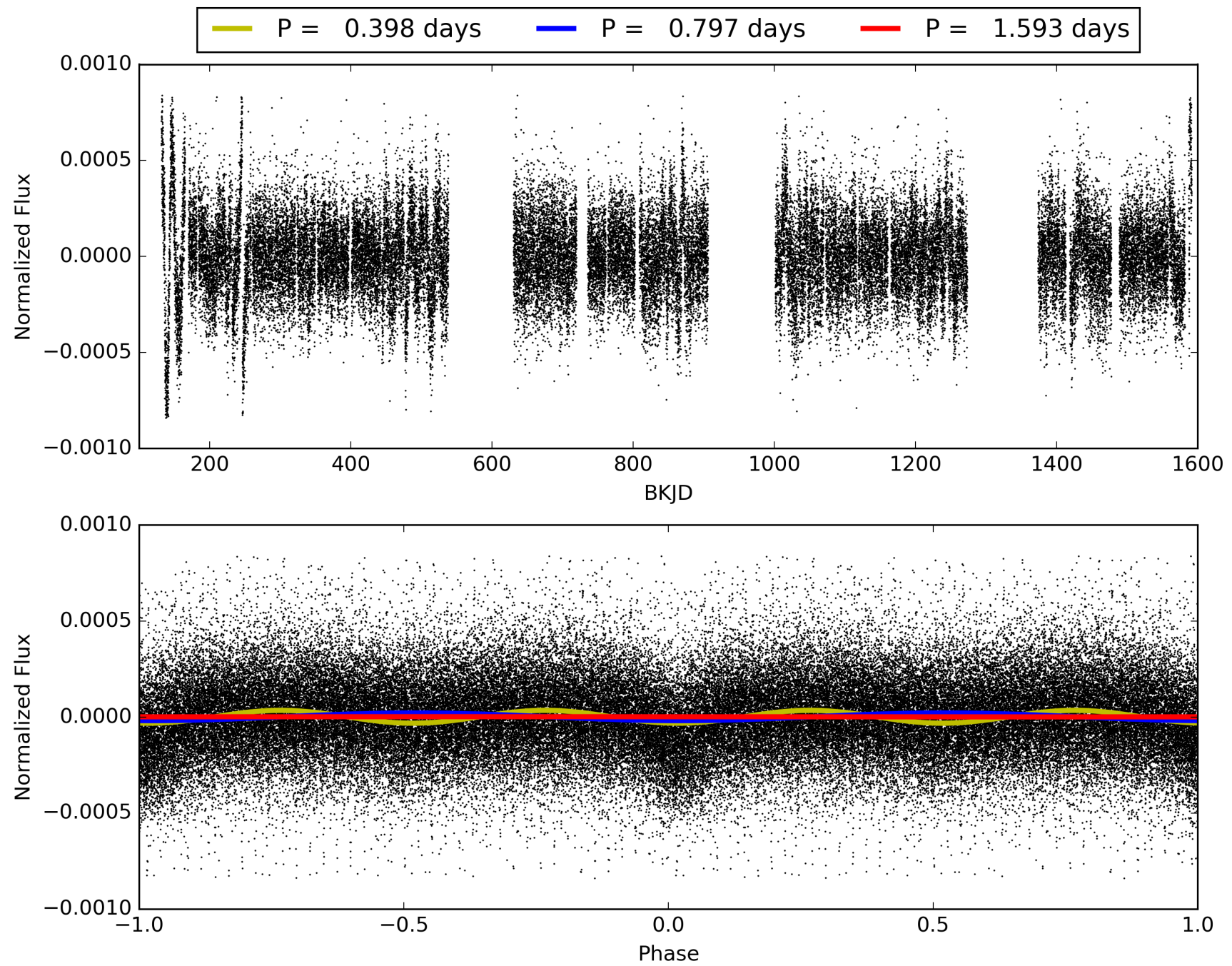
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.08e-73
RollingBand-fgt: 1.00 [1274/1275]
GhostDiagnostic-chr: -0.1553
Centroid-sig: 0.0%
Centroid-so: N/A
OotOffset-rm: 10.033 arcsec [130.64σ]
KicOffset-rm: 9.897 arcsec [107.09σ]
OotOffset-st: 1/0/4/0 [5]
KicOffset-st: 1/0/4/0 [5]
DiffImageQuality-fgm: 1.00 [5/5]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 003556220-01, PDC Light Curves

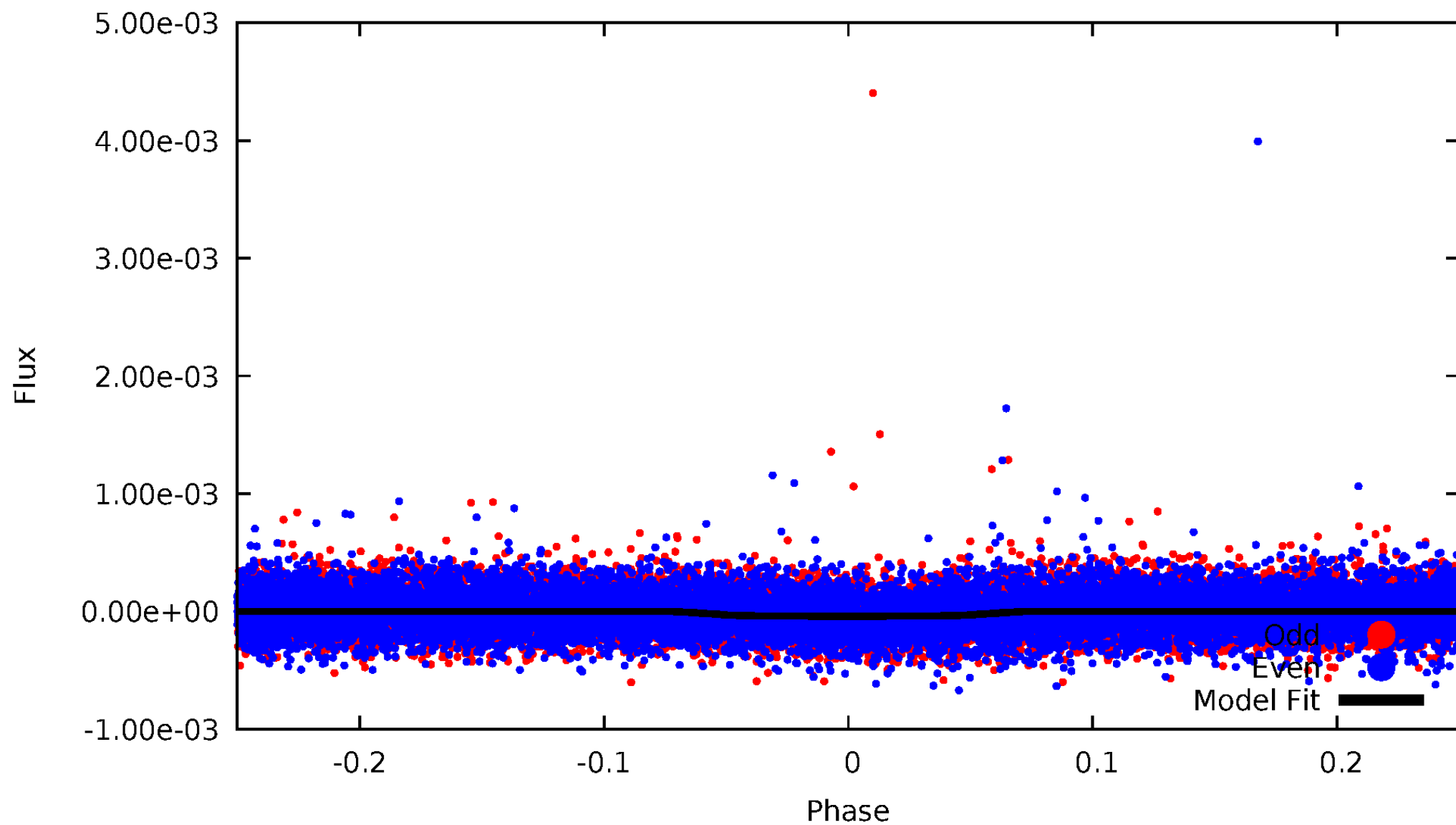


TCE 003556220-01



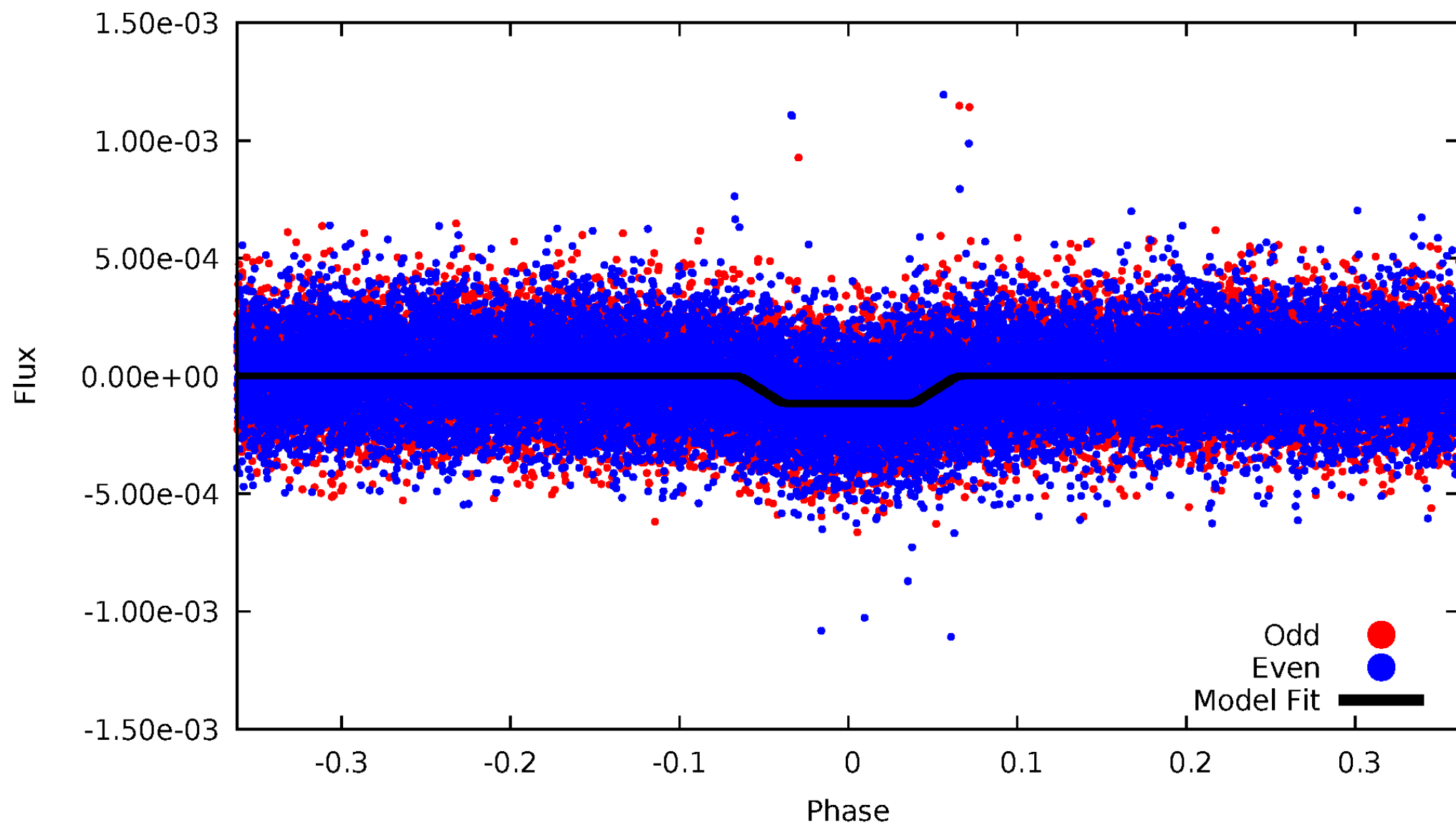
DV Odd/Even

TCE 003556220-01



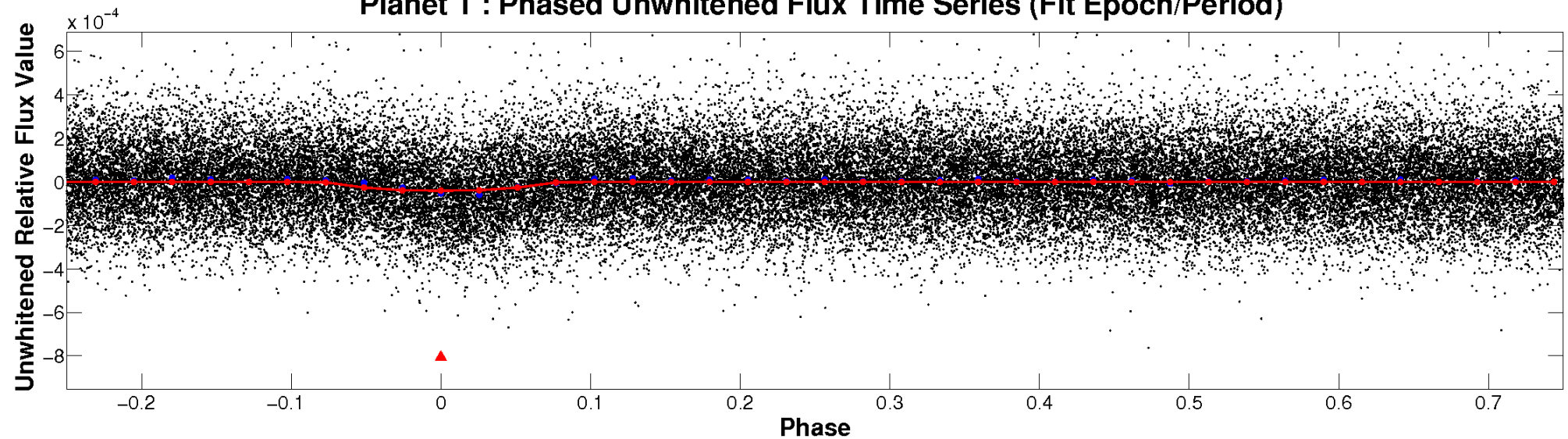
ALT Odd/Even

TCE 003556220-01

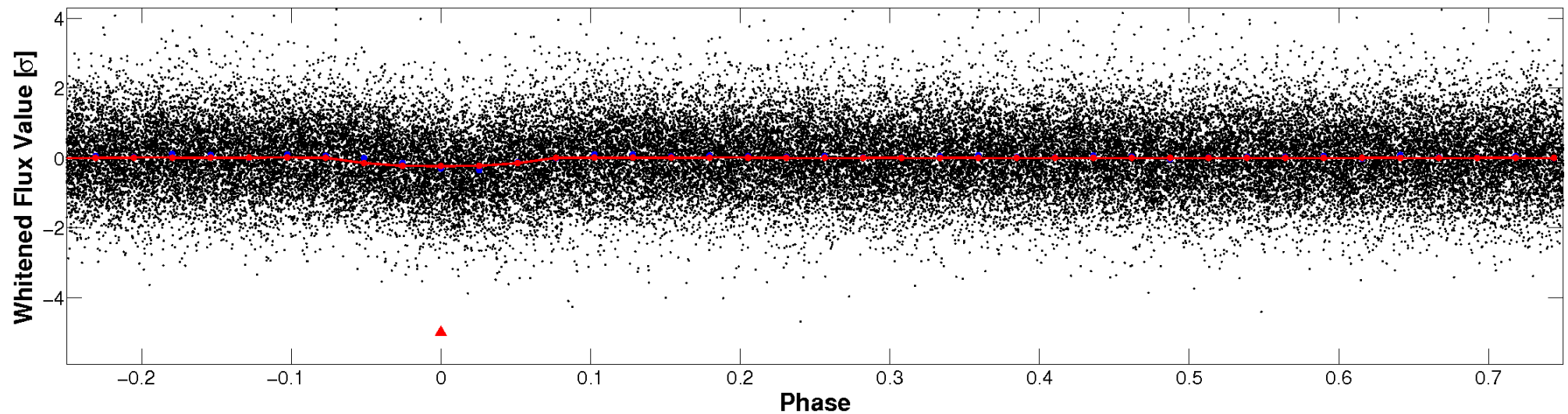


Non-Whitened Vs. Whitened Light Curve

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

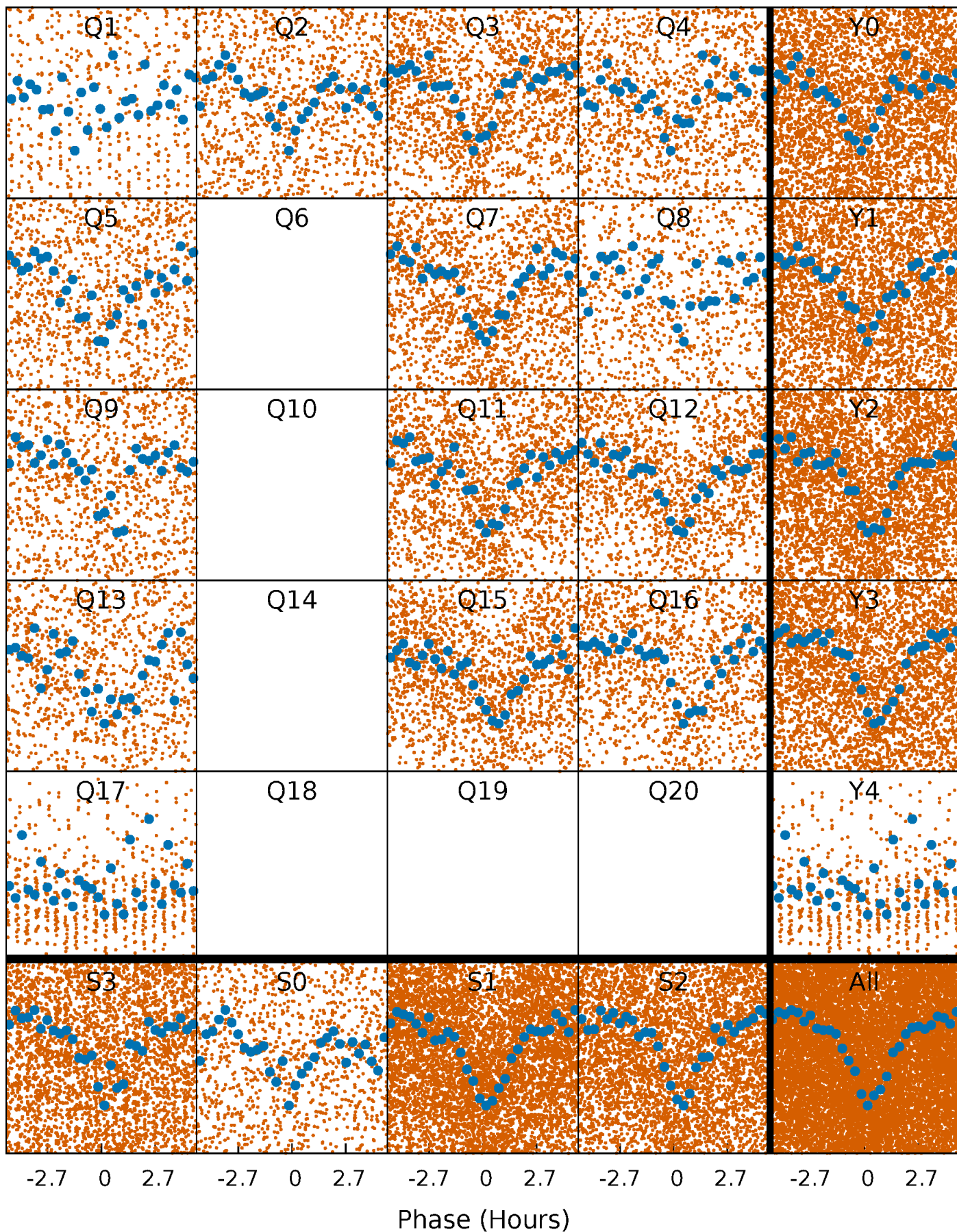


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



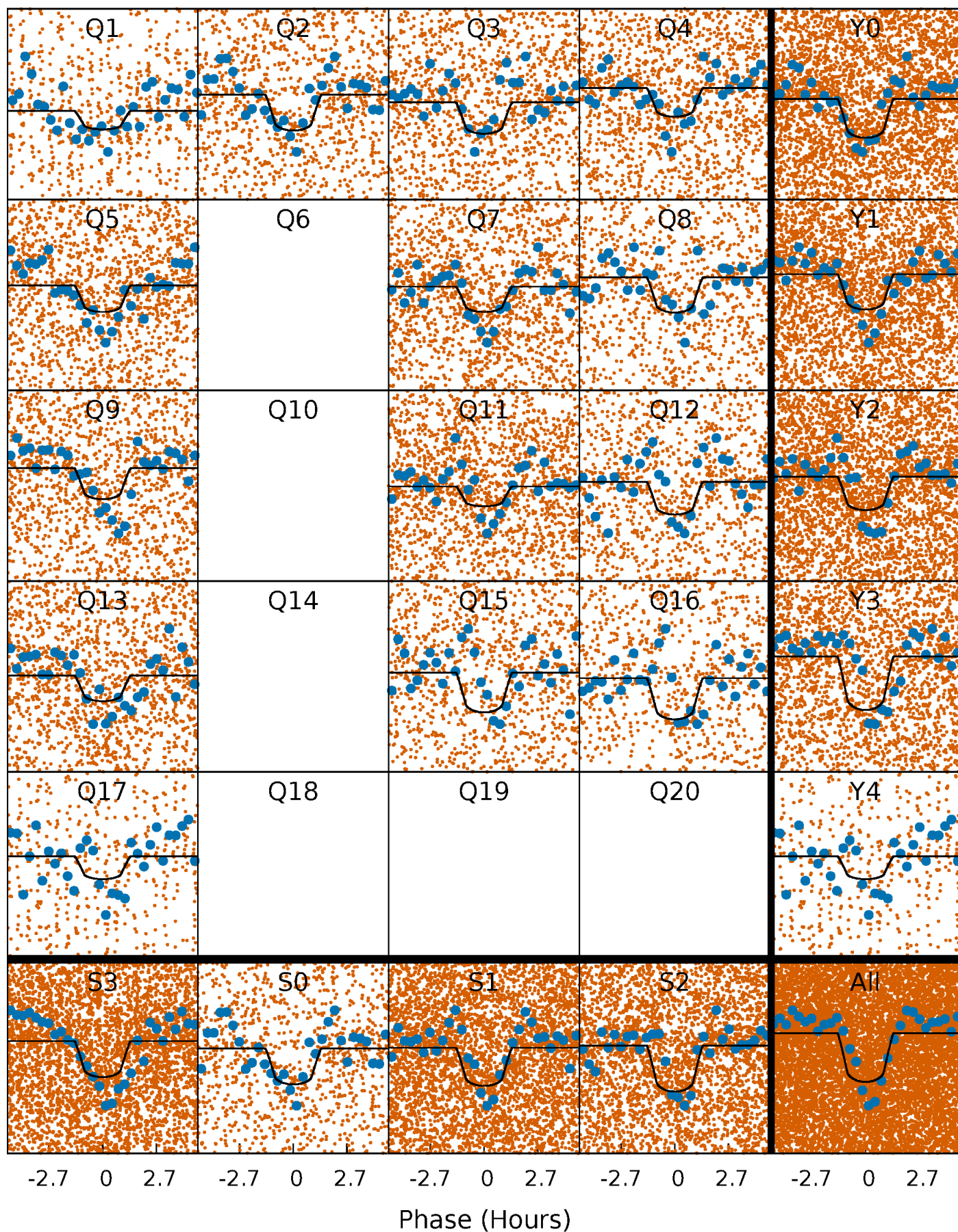
PDC Quarter-Phased Transit Curves

TCE 003556220-01 P= 0.796695 Days $T_0=132.299697$ (BKJD)



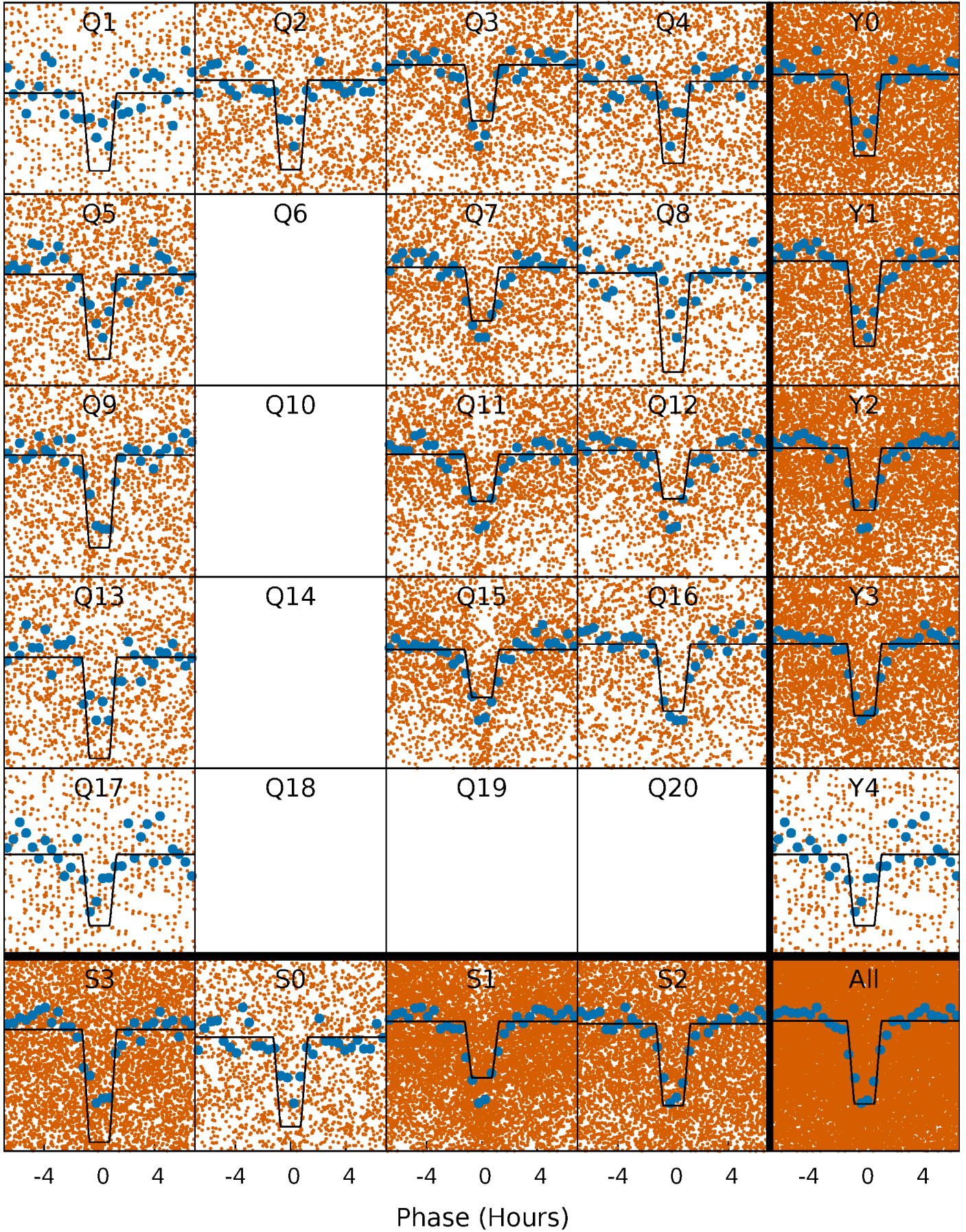
DV Quarter-Phased Transit Curves

TCE 003556220-01 P= 0.796695 Days $T_0=132.299697$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

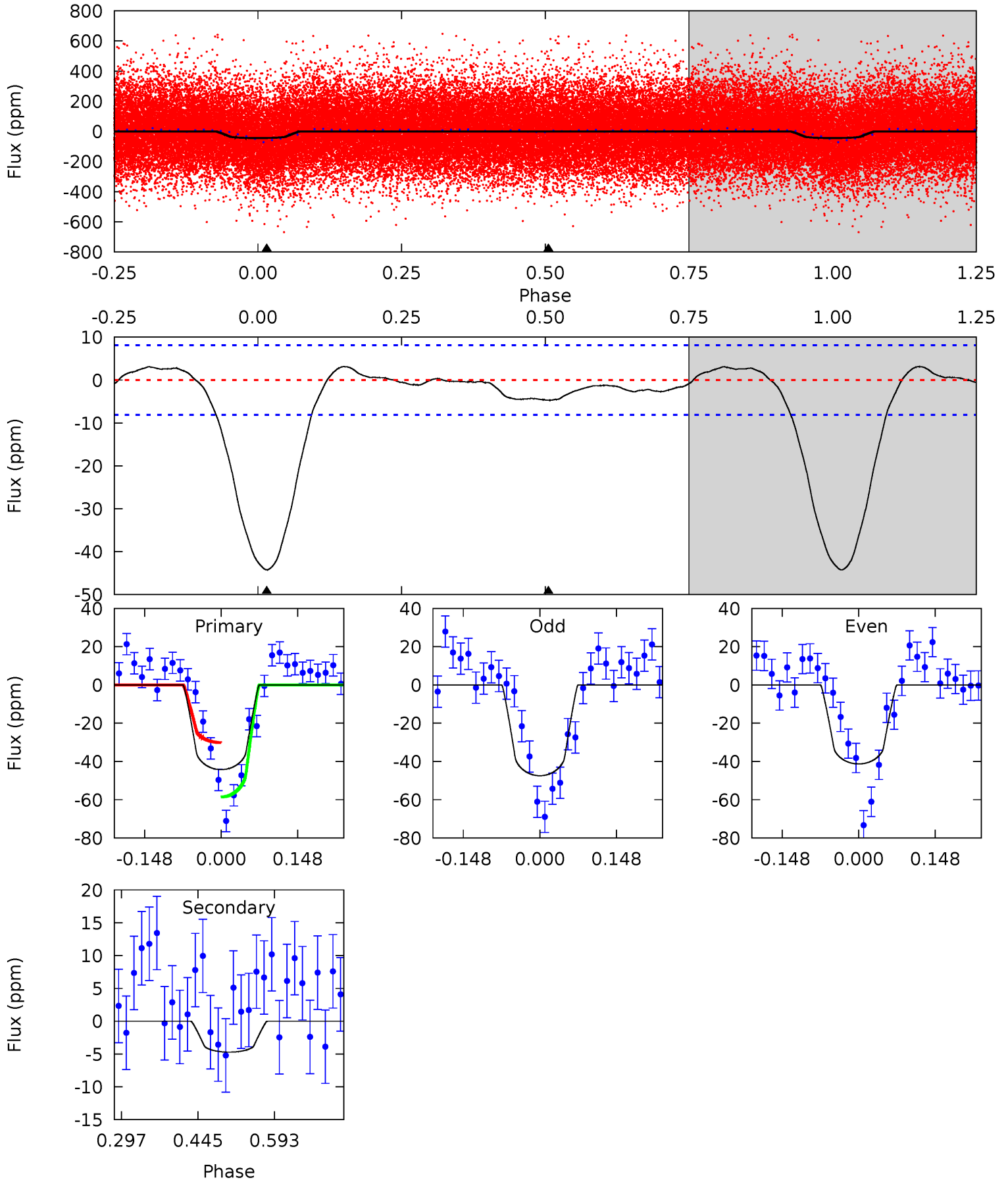
TCE 003556220-01 P= 0.796717 Days $T_0=132.290479$ (BKJD)



DV Model-Shift Uniqueness Test

003556220-01, P = 0.796695 Days, E = 131.503002 Days

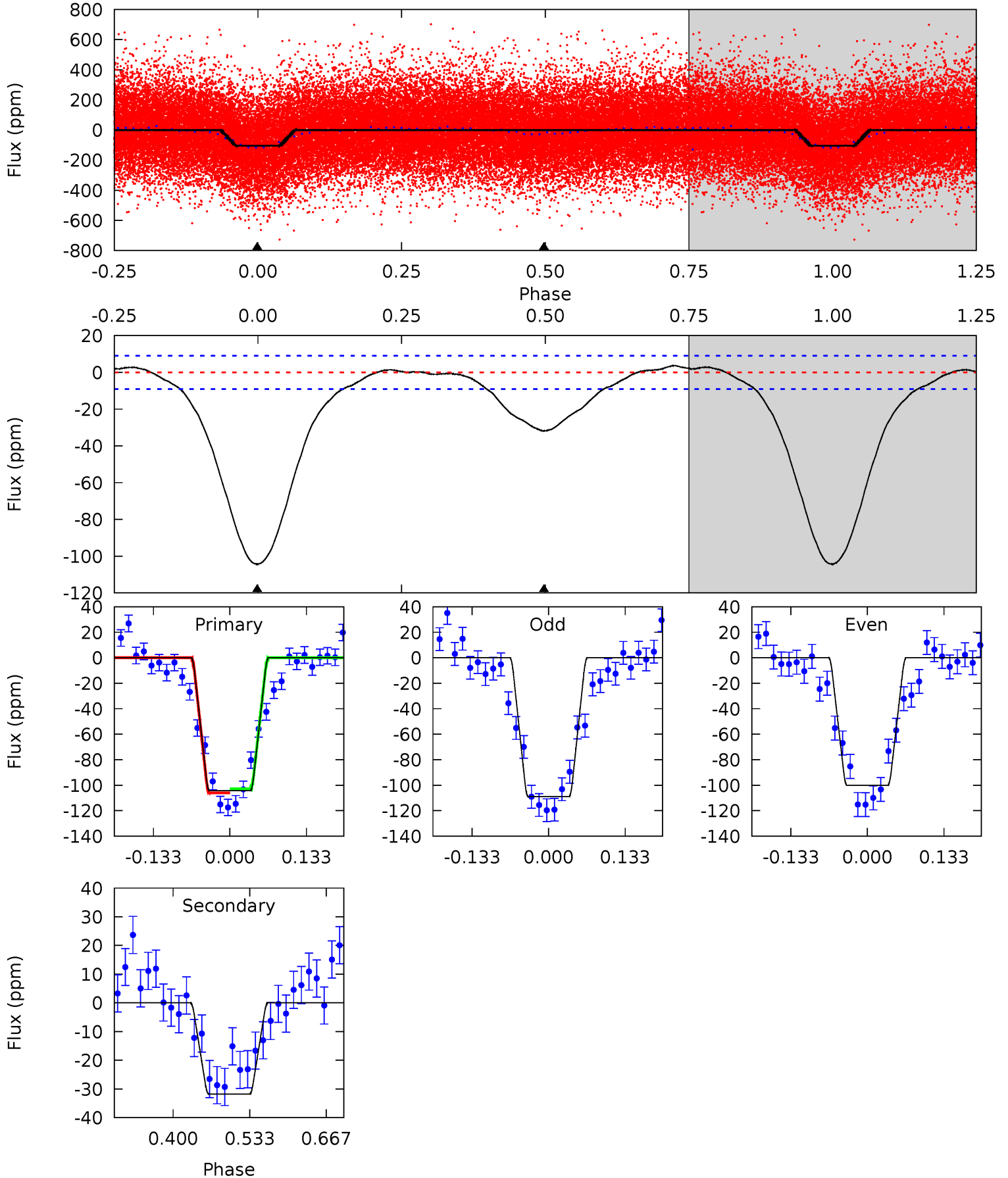
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.4	2.60	0	0	4.48	1.45	0.97	24.4	24.4	2.60	2.60	1.70	1.00	0.07	7.85



Alt Model-Shift Uniqueness Test

003556220-01, P = 0.796717 Days, E = 131.493762 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
51.7	15.7	0	0	4.50	1.50	1.70	51.7	51.7	15.7	15.7	2.20	1.01	0.03	0.79



Stellar Parameters For KIC 003556220

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5959^{+80}_{-71}	$4.121^{+0.231}_{-0.099}$	$-0.540^{+0.150}_{-0.100}$	$1.334^{+0.199}_{-0.324}$	$0.858^{+0.060}_{-0.050}$	$0.509^{+0.570}_{-0.170}$
	+1%/-1%	+6%/-2%	+28%/-19%	+15%/-24%	+7%/-6%	+112%/-33%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 003556220-01 / KOI 1213.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-5 ± 2	$0.96^{+0.32}_{-0.32}$	3322^{+146}_{-236}	3438^{+644}_{-1033}	$0.707^{+0.846}_{-0.376}$
Alt.	-32 ± 2	$1.53^{+0.34}_{-0.34}$	3322^{+162}_{-219}	4338^{+431}_{-313}	$1.948^{+1.258}_{-0.640}$

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 $A_{obs} \gg 1.0$

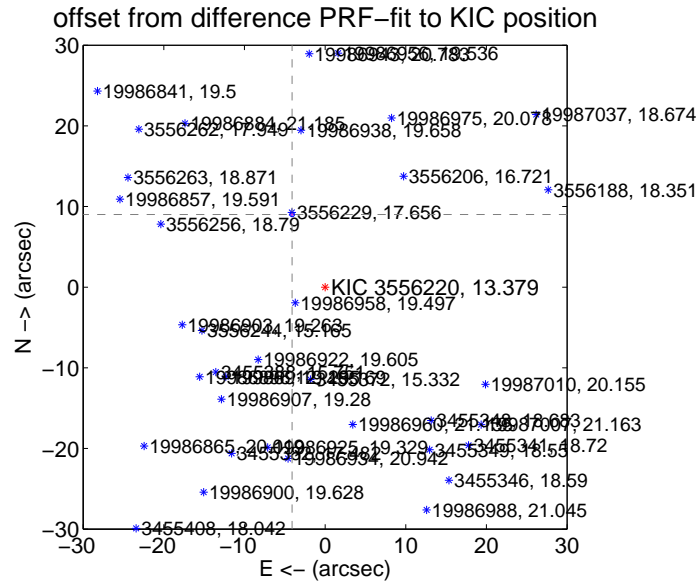
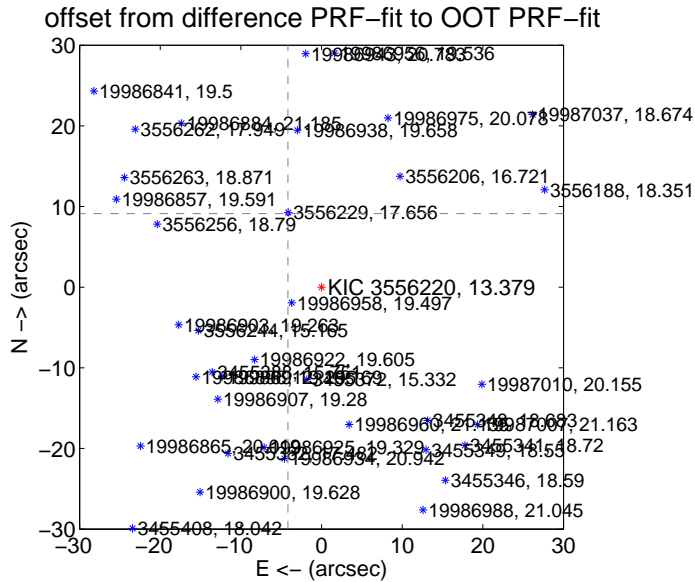
DV Centroid Data

Supplemental centroid analysis for 003556220-01. Kepler magnitude: 13.38. Transit SNR 16.22

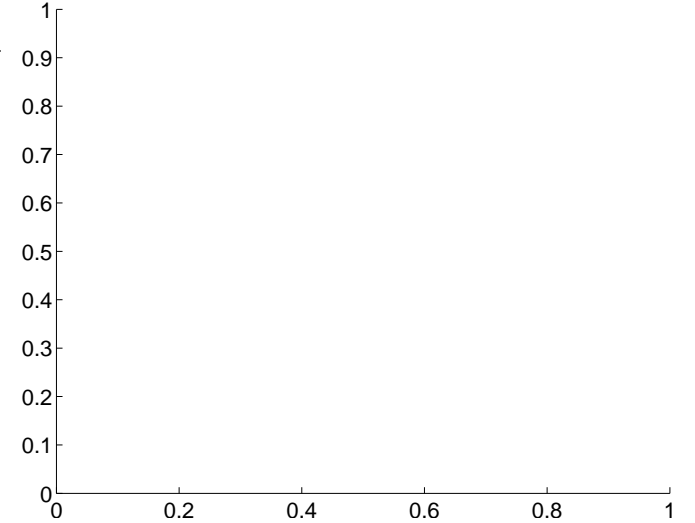
There are 5 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	10.033 \pm 0.077	130.64	4.165 \pm 0.073	9.127 \pm 0.087
PRF-fit source offset from KIC position	9.897 \pm 0.092	107.09	4.092 \pm 0.068	9.012 \pm 0.100
photometric centroid source offset	—	—	—	—

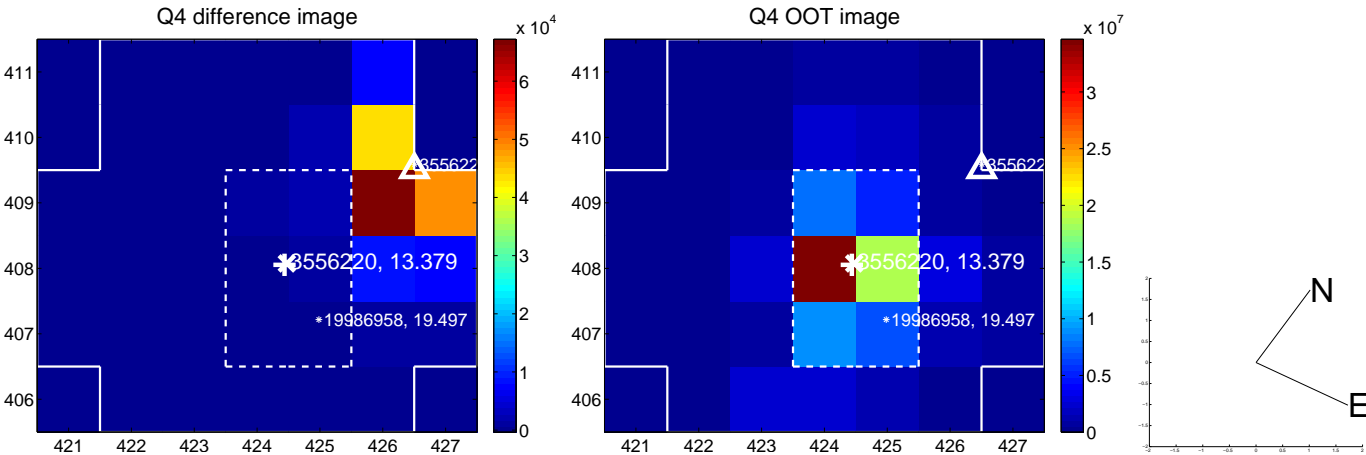
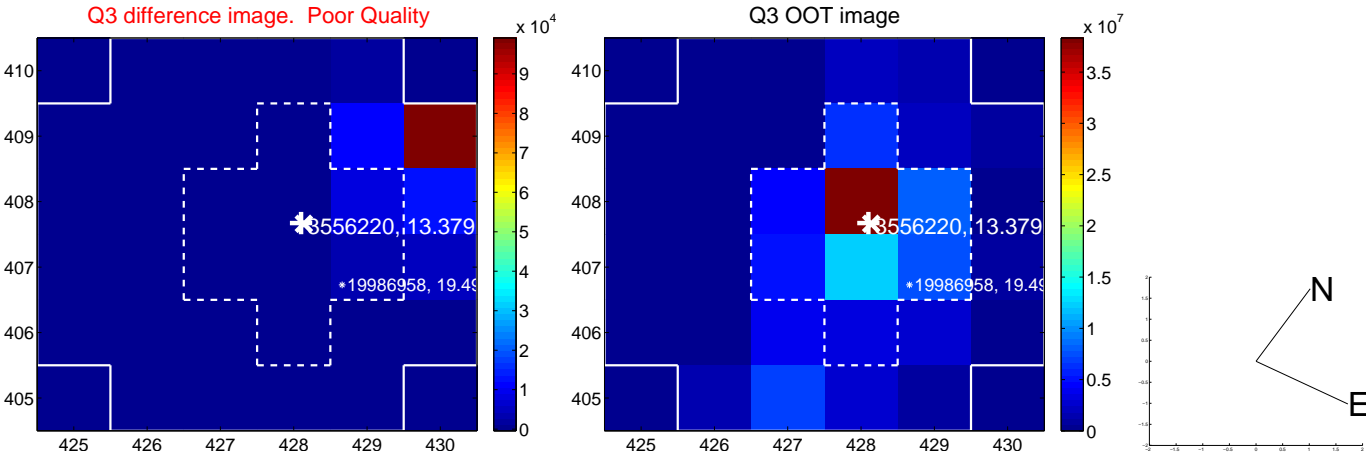
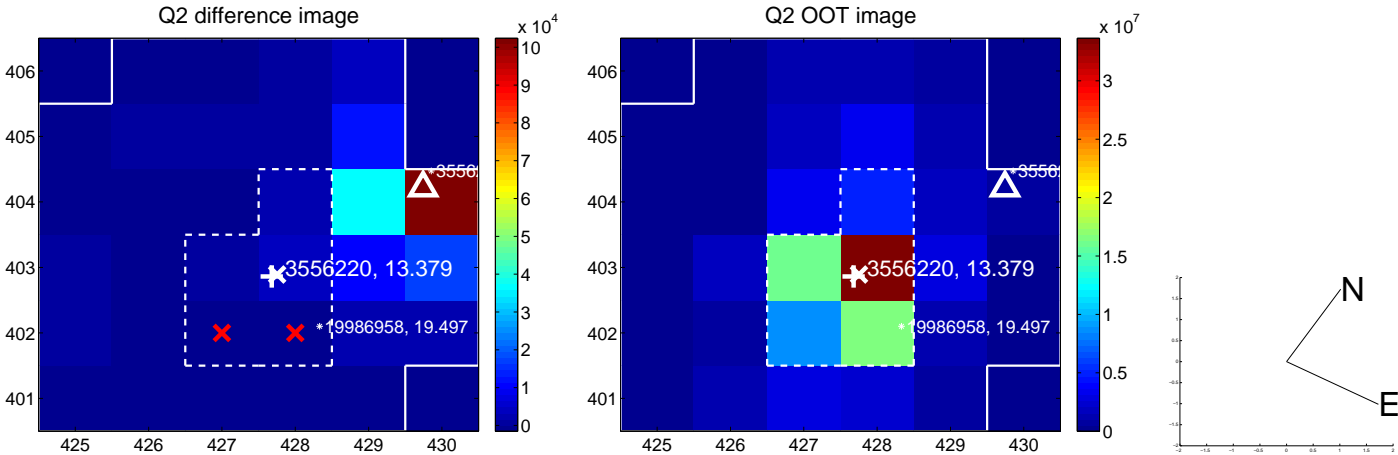
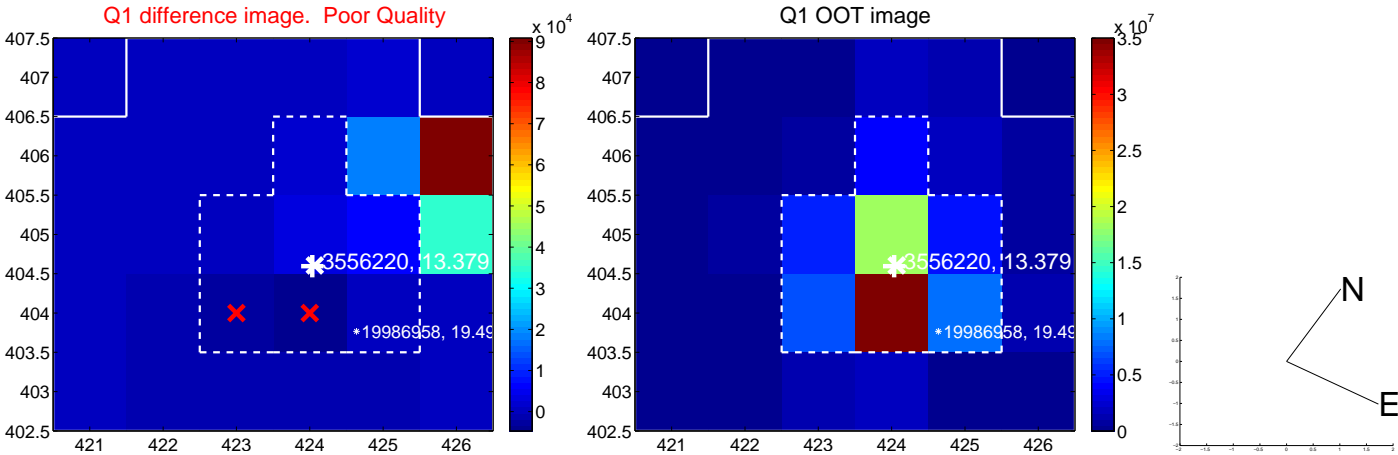


There are no photometric centroids

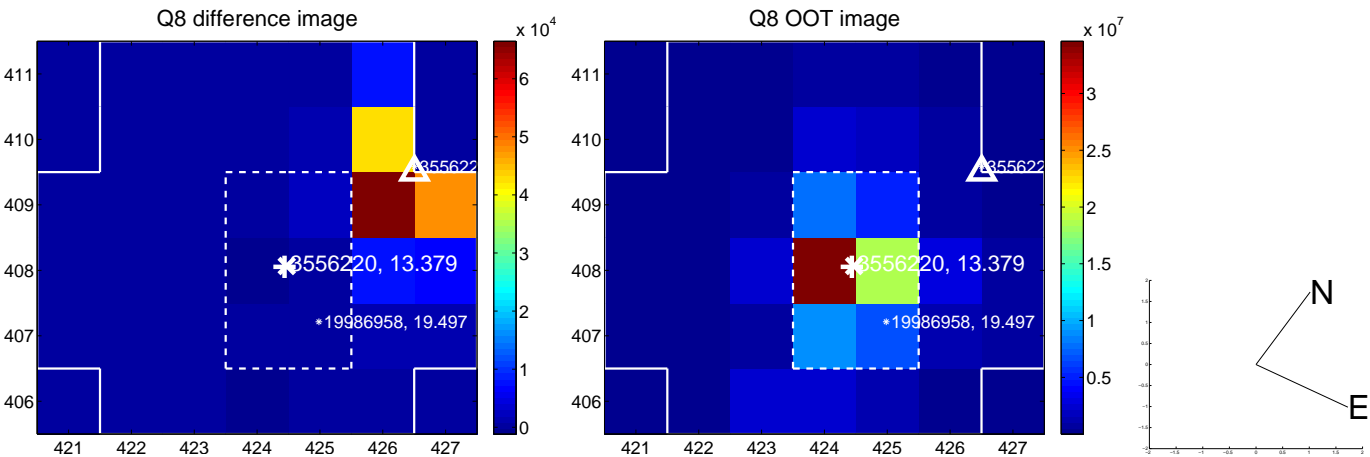
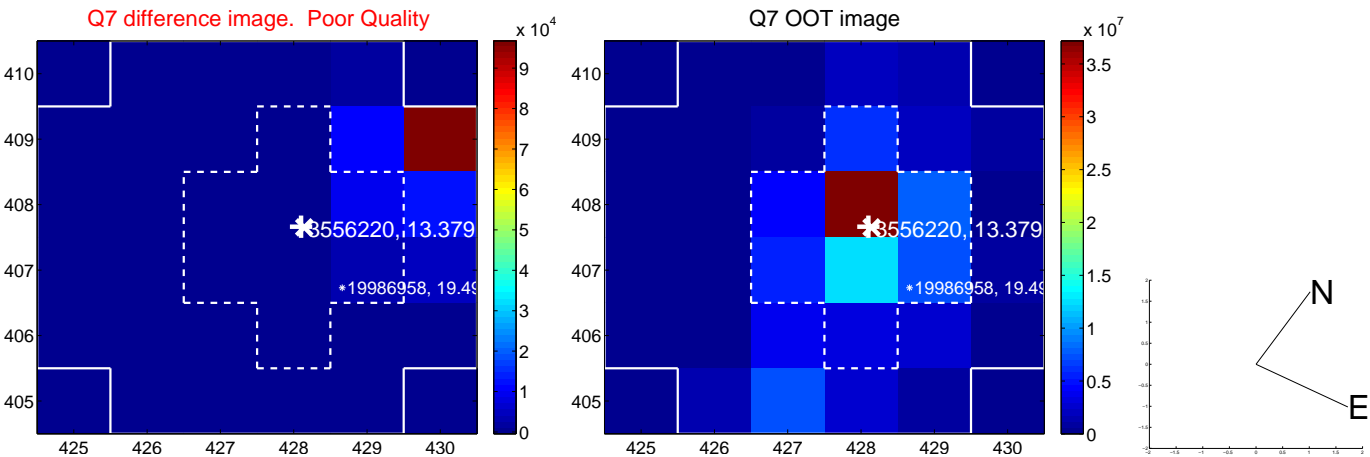
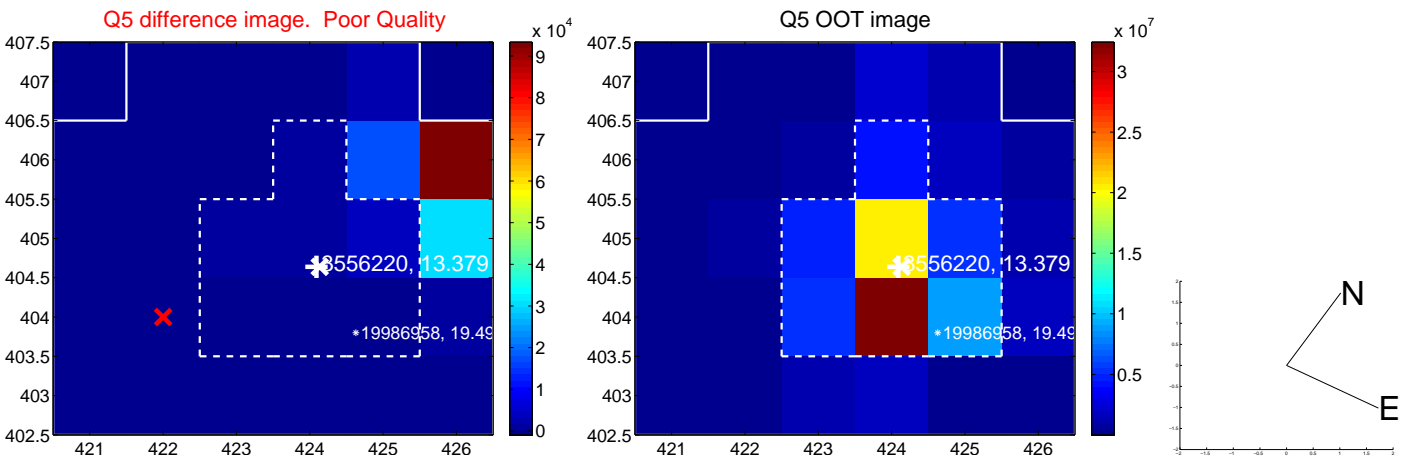


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

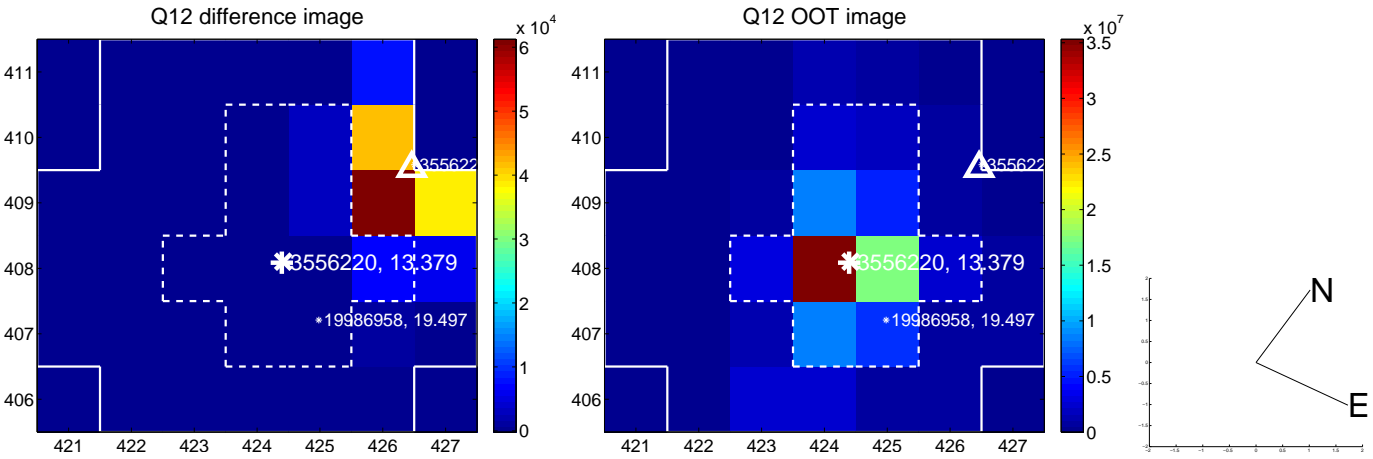
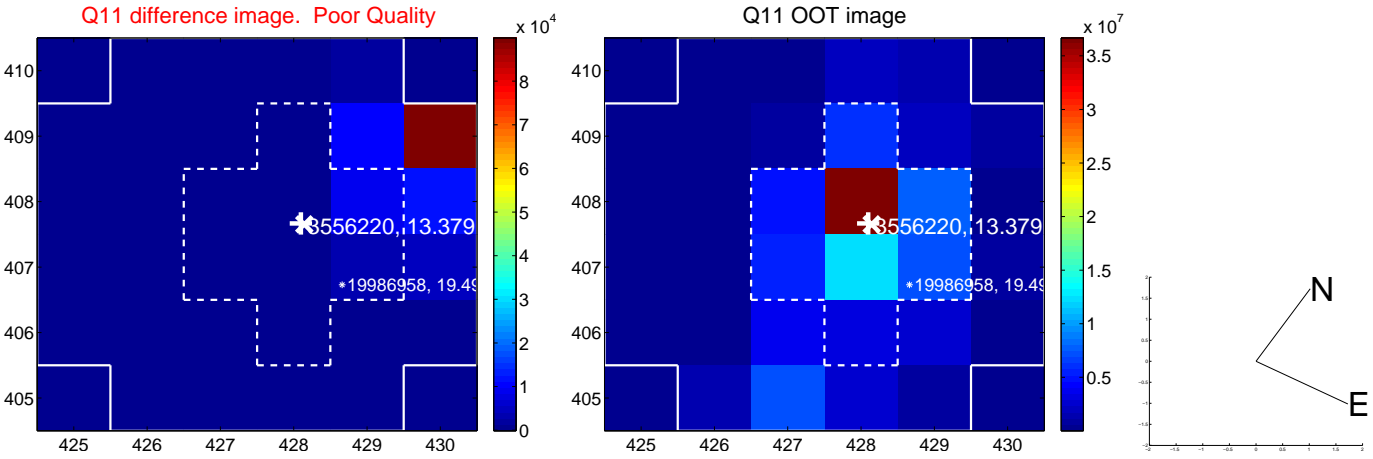
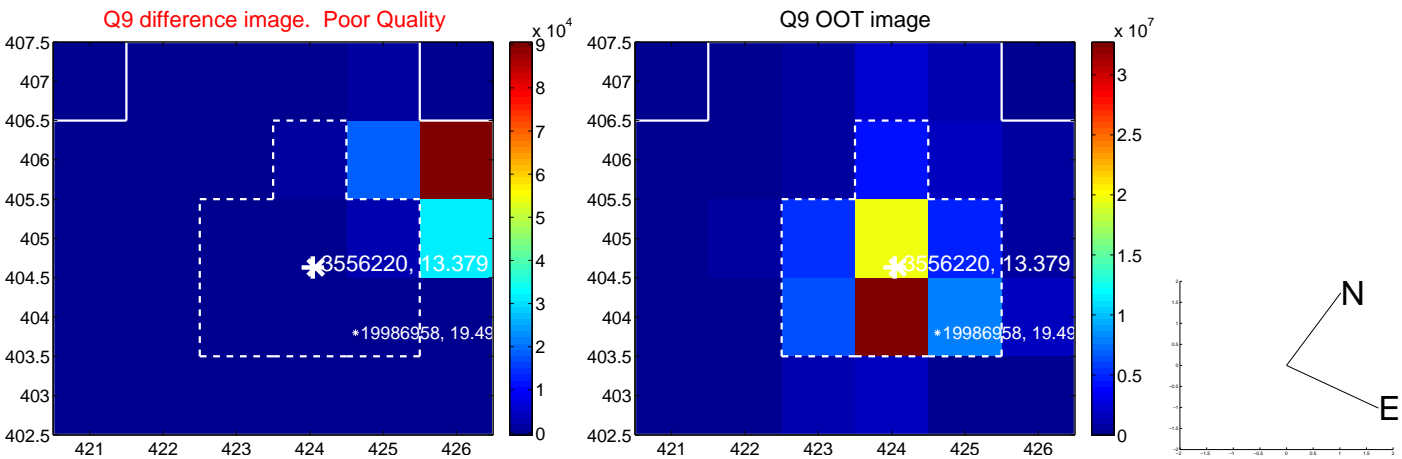
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



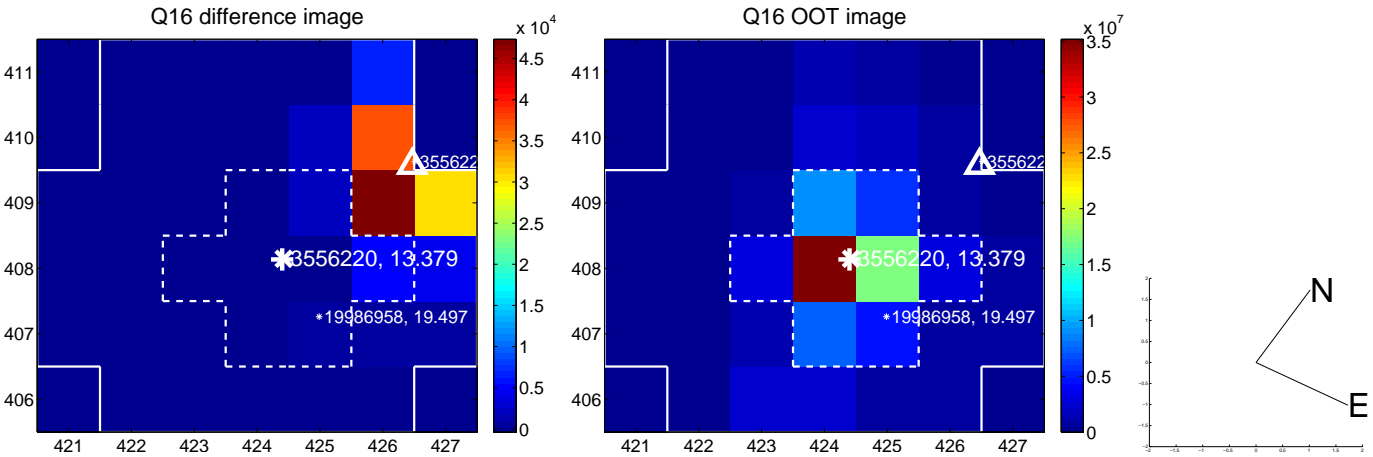
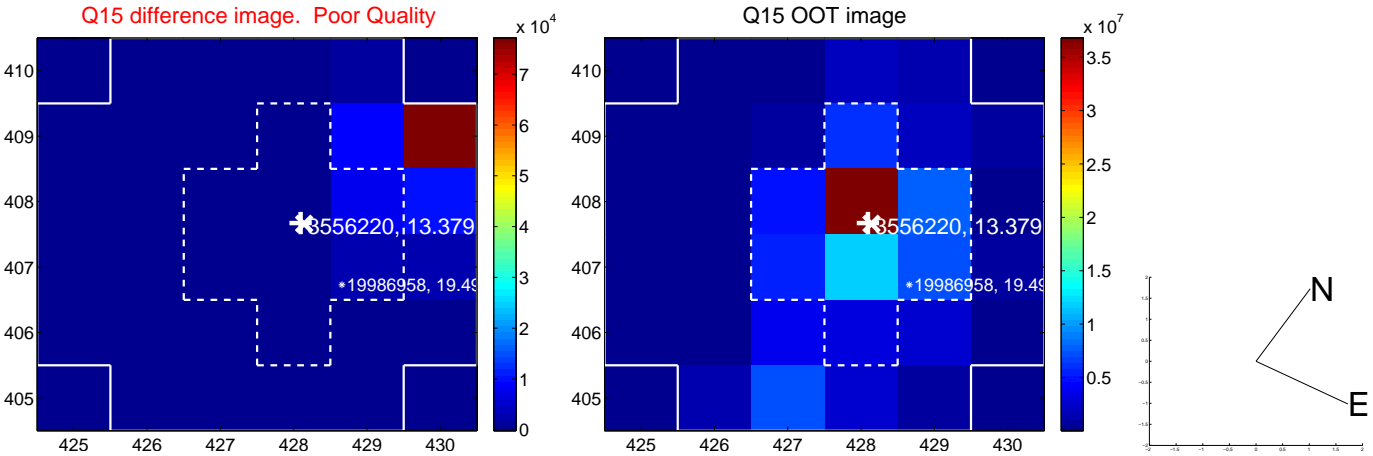
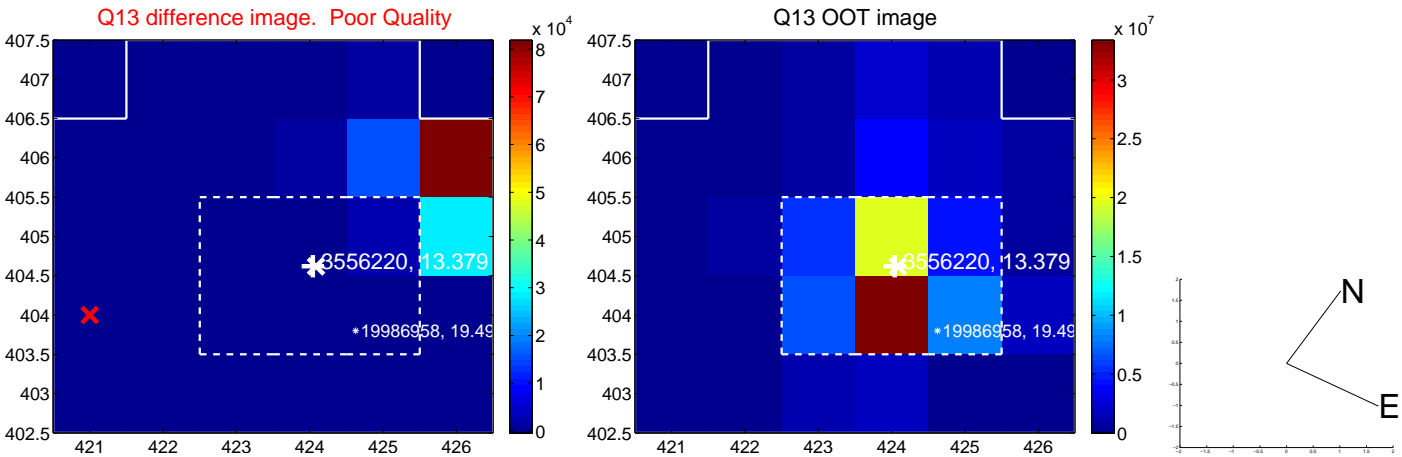
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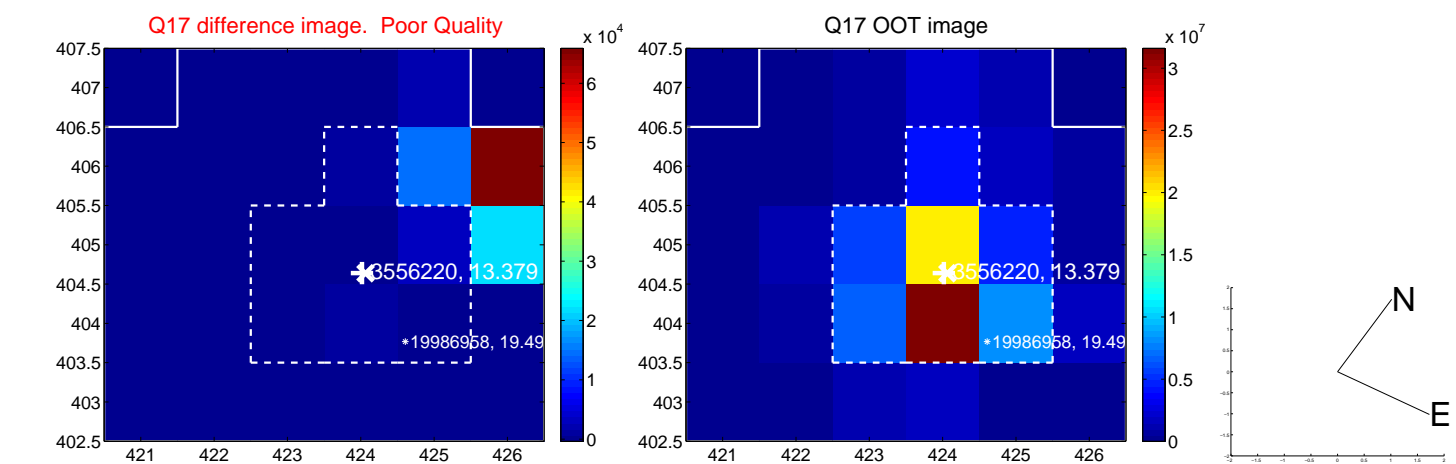
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



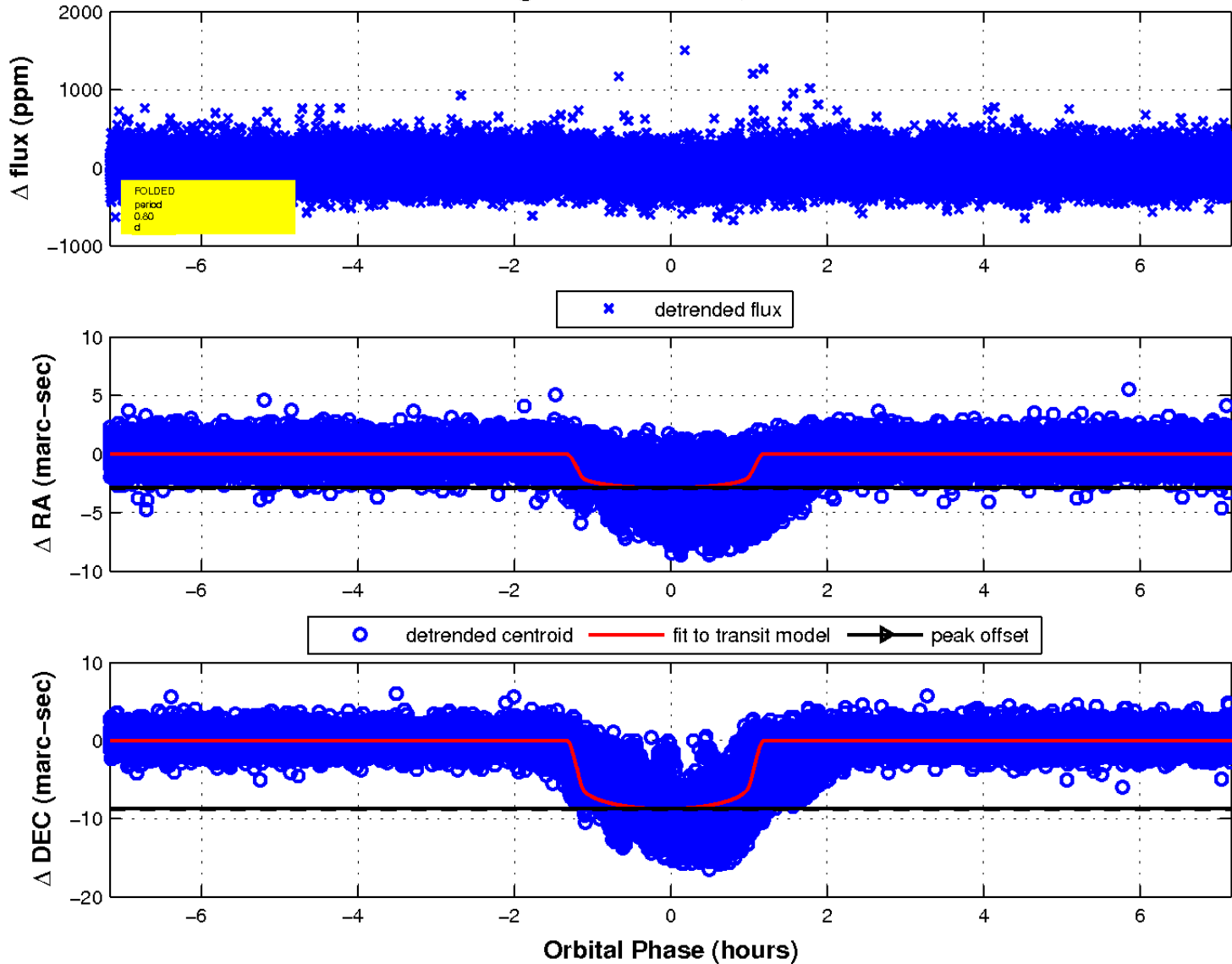
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

