

KIC 011855538

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 _⊕)
011855538-01	OBS	7485.01	2.521192	132.883794	35.2	2.714	9.3	9.1	1.87	6306	1.27	4177.81

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011855538-01	OBS	FP	0.00	0	0	0	1	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 011855538-01

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
011855538-01	11855538	012004679-pri	12004679	1:2	1115.0	280	1	13.23	12.23	13040.00	Col-Anomaly	0	2.75	1.51

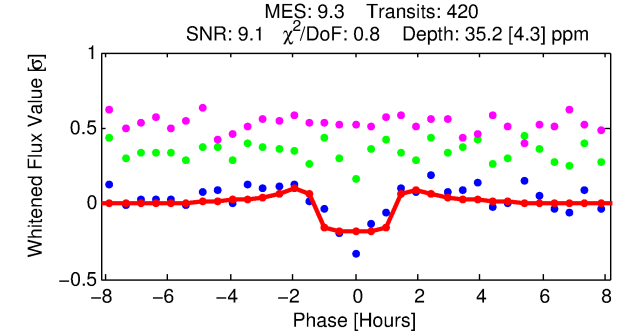
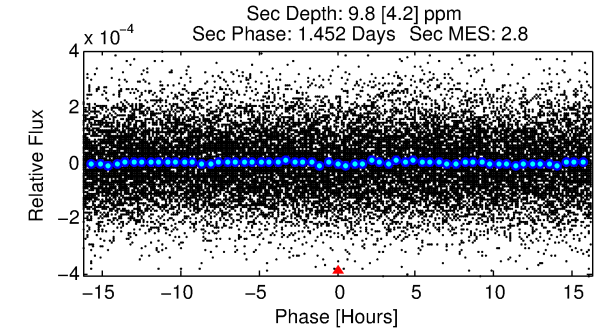
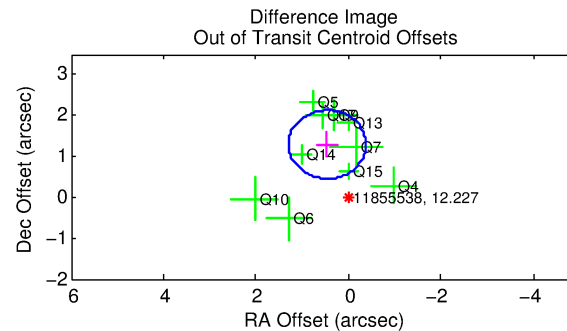
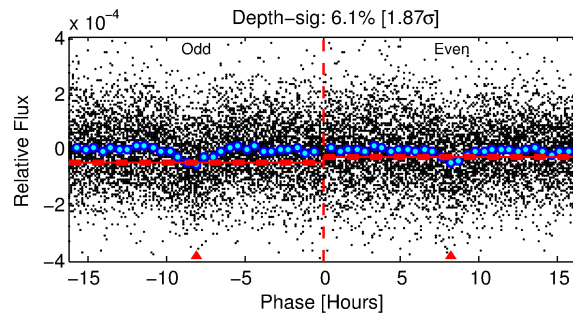
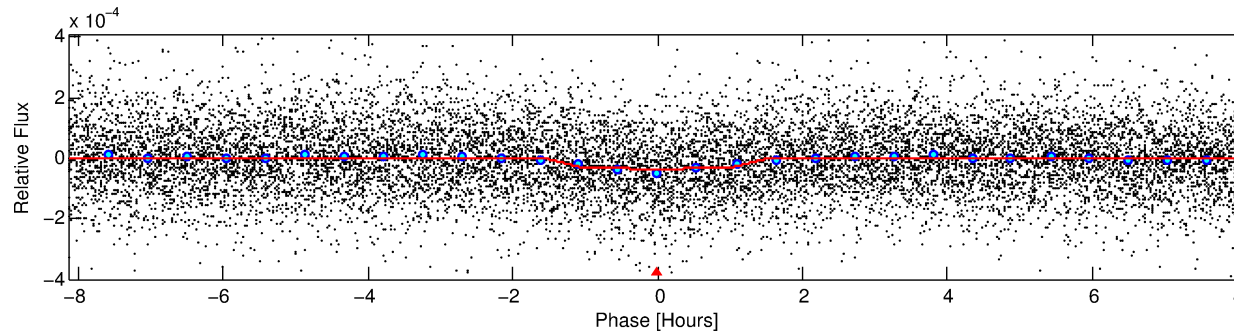
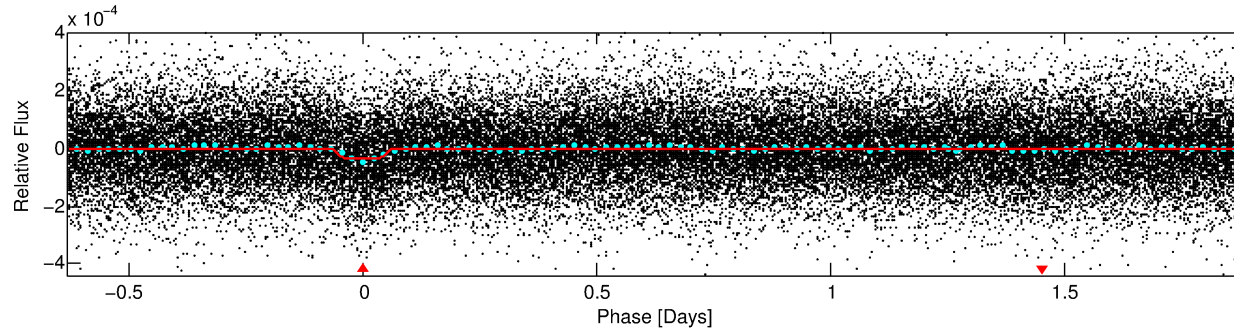
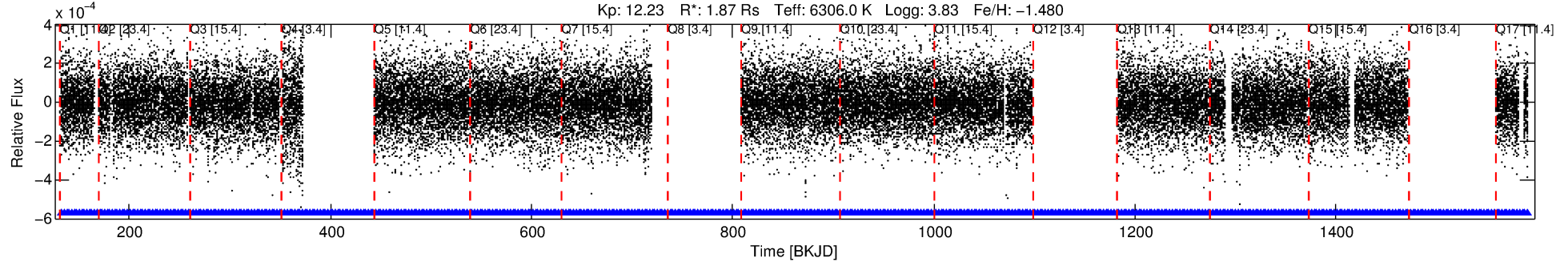
Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period 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: 11855538 Candidate: 1 of 1 Period: 2.521 d

KOI: K07485.01 Corr: 0.837

Kp: 12.23 R*: 1.87 Rs Teff: 6306.0 K Logg: 3.83 Fe/H: -1.480



DV Fit Results:

Period = 2.52119 [0.00001] d
Epoch = 132.8838 [0.0027] BKJD
Rp/R* = 0.0062 [0.0015]
a/R* = 3.72 [4.79]
b = 0.87 [0.40]
Seff = 4177.81 [2286.52]
Teq = 2050 [280] K
Rp = 1.27 [0.53] Re
a = 0.0345 [0.0114] AU
Ag = 3.99 [3.37] [0.89σ]
Teff = 4481 [744] K [3.06σ]

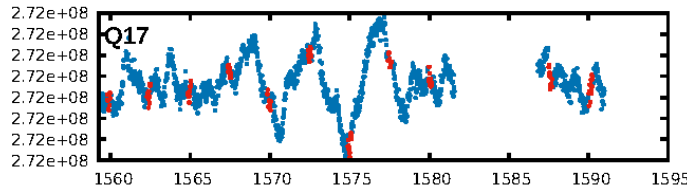
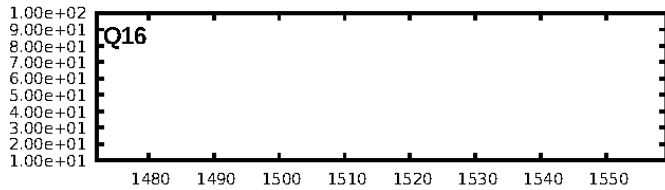
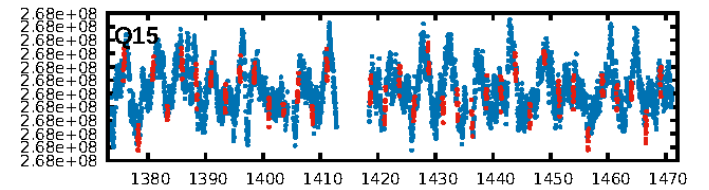
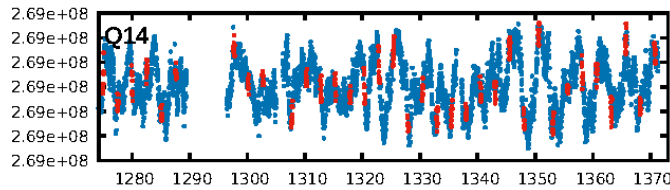
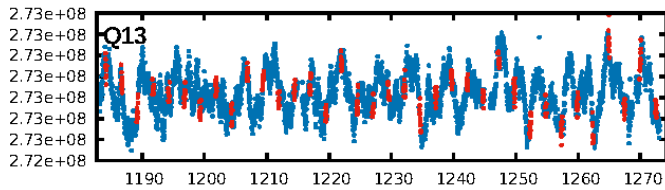
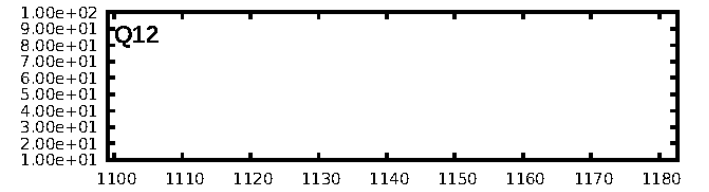
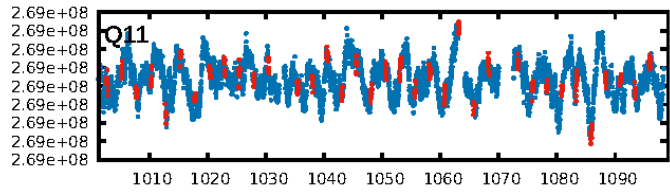
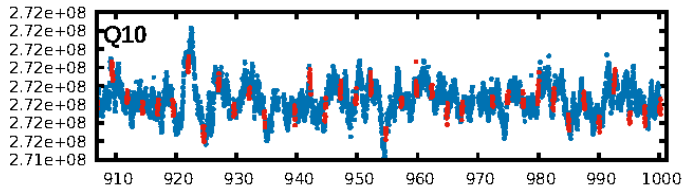
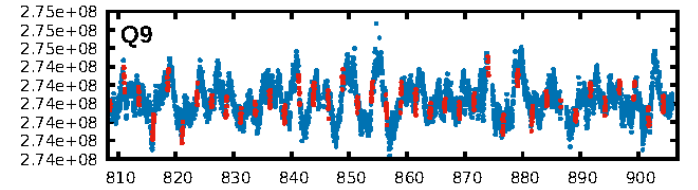
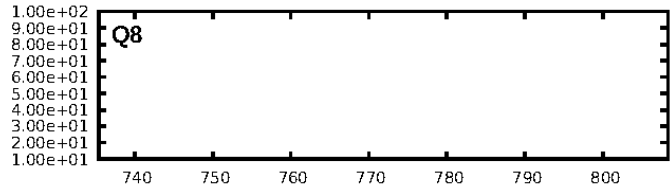
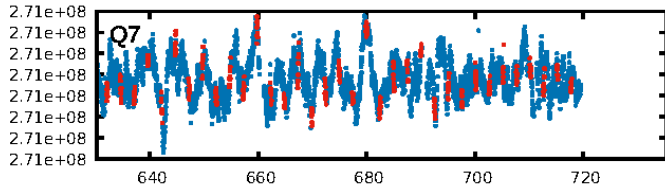
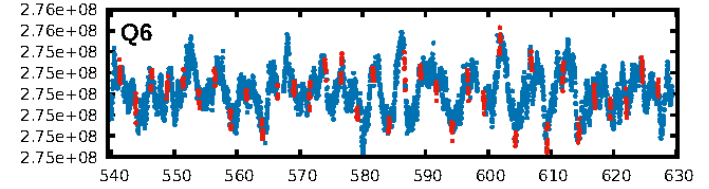
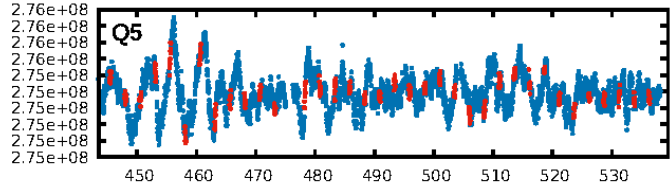
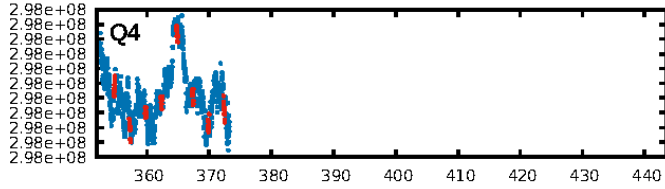
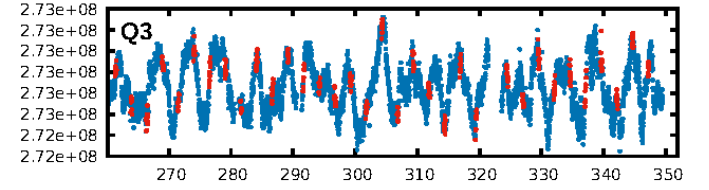
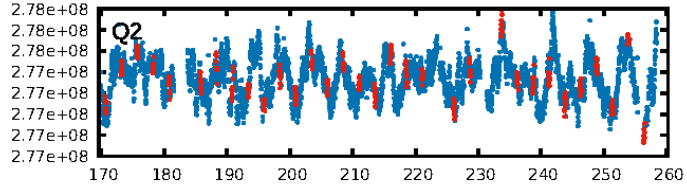
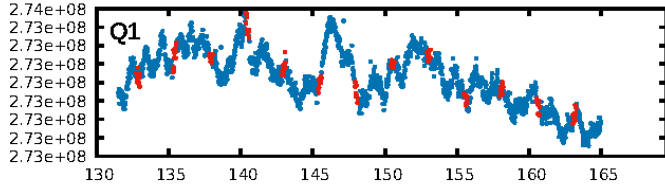
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.49e-19
RollingBand-fgt: 1.00 [388/388]
GhostDiagnostic-chr: -4.554
Centroid-sig: 0.1%
Centroid-so: 1.946 arcsec [2.22σ]
OotOffset-rm: 1.375 arcsec [4.93σ]
KicOffset-rm: 1.344 arcsec [4.48σ]
OotOffset-st: 3/2/1/4 [10]
KicOffset-st: 3/2/1/4 [10]
DiffImageQuality-fgm: 1.00 [10/10]
DiffImageOverlap-fno: 1.00 [14/14]

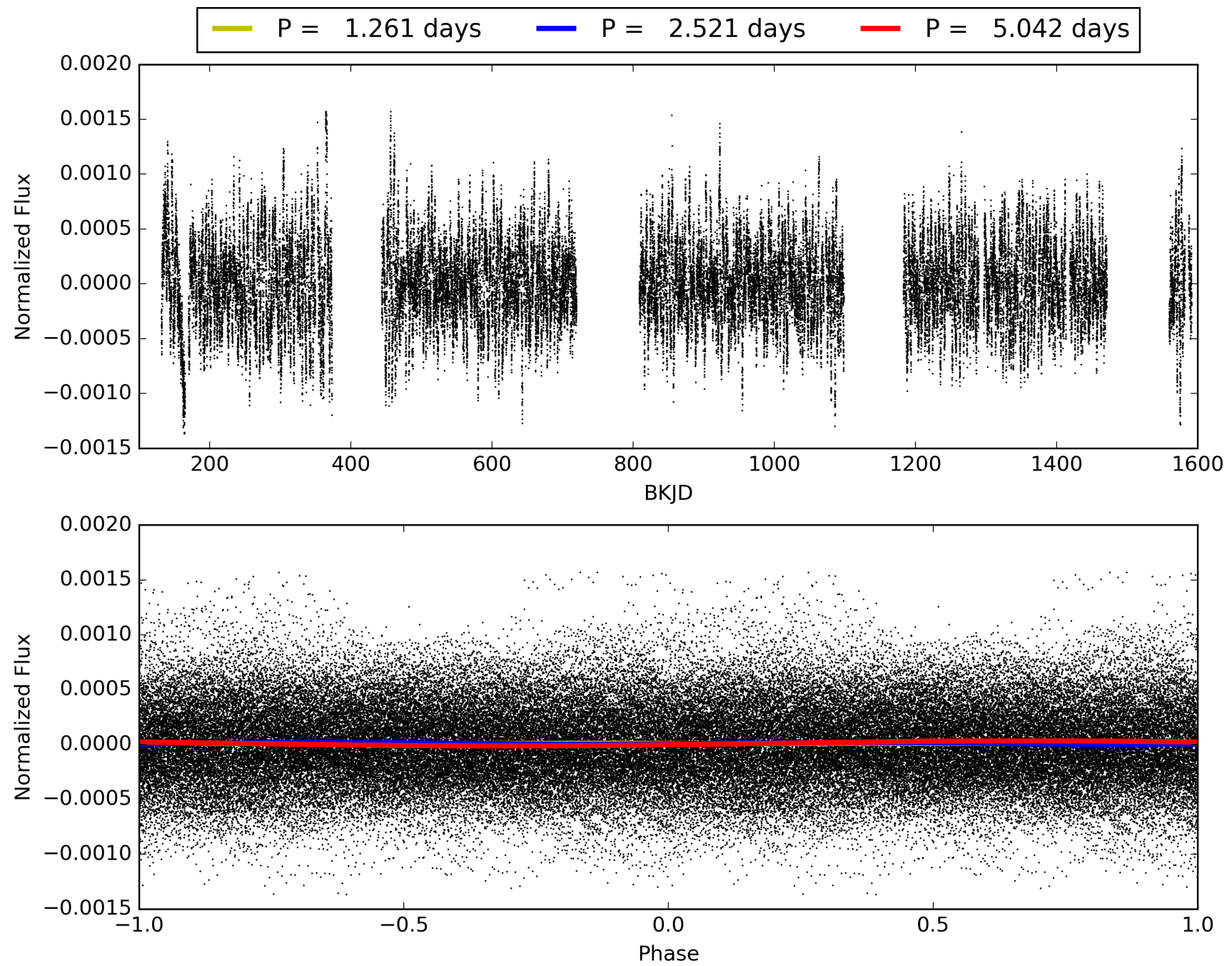
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 011855538-01, PDC Light Curves

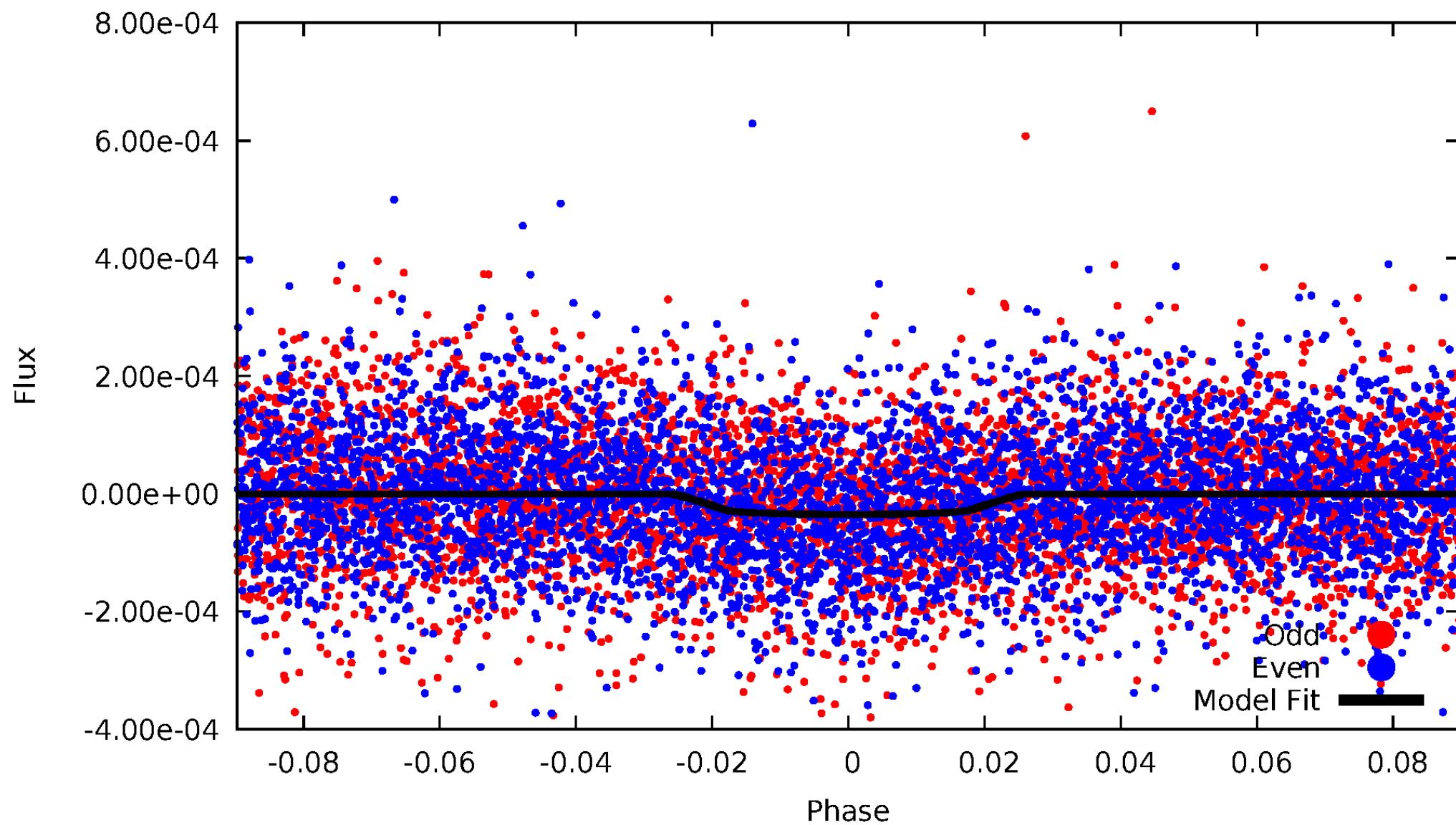


TCE 011855538-01



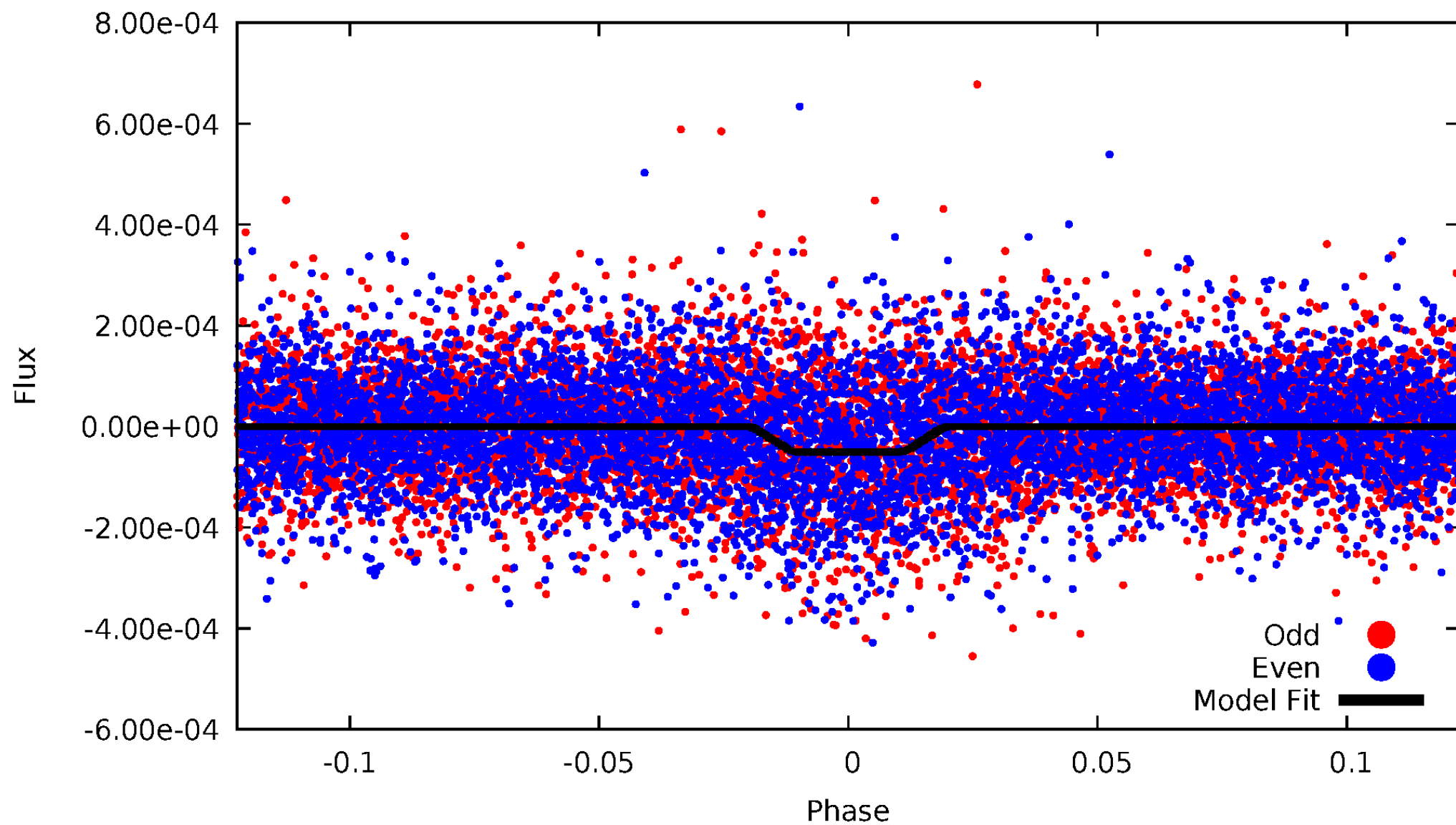
DV Odd/Even

TCE 01185538-01

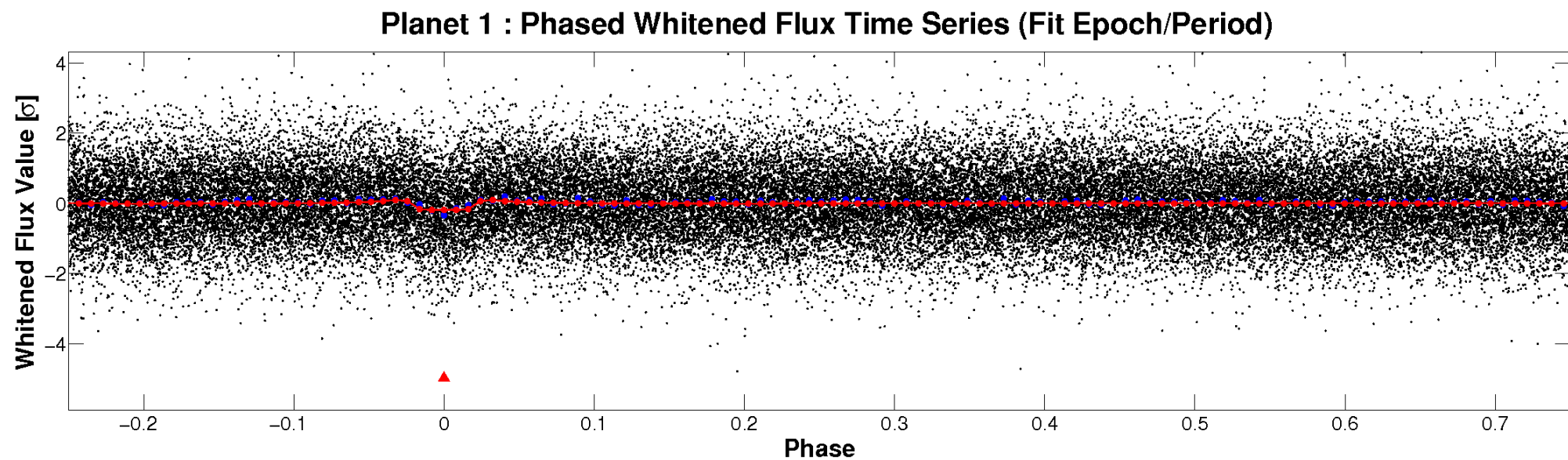
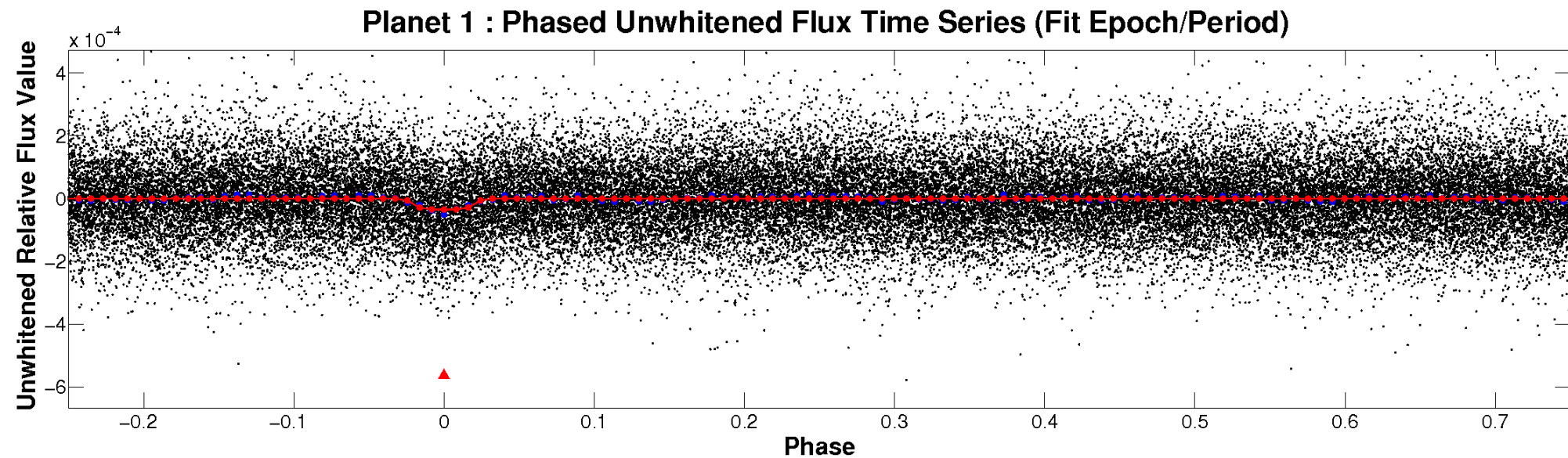


ALT Odd/Even

TCE 01185538-01

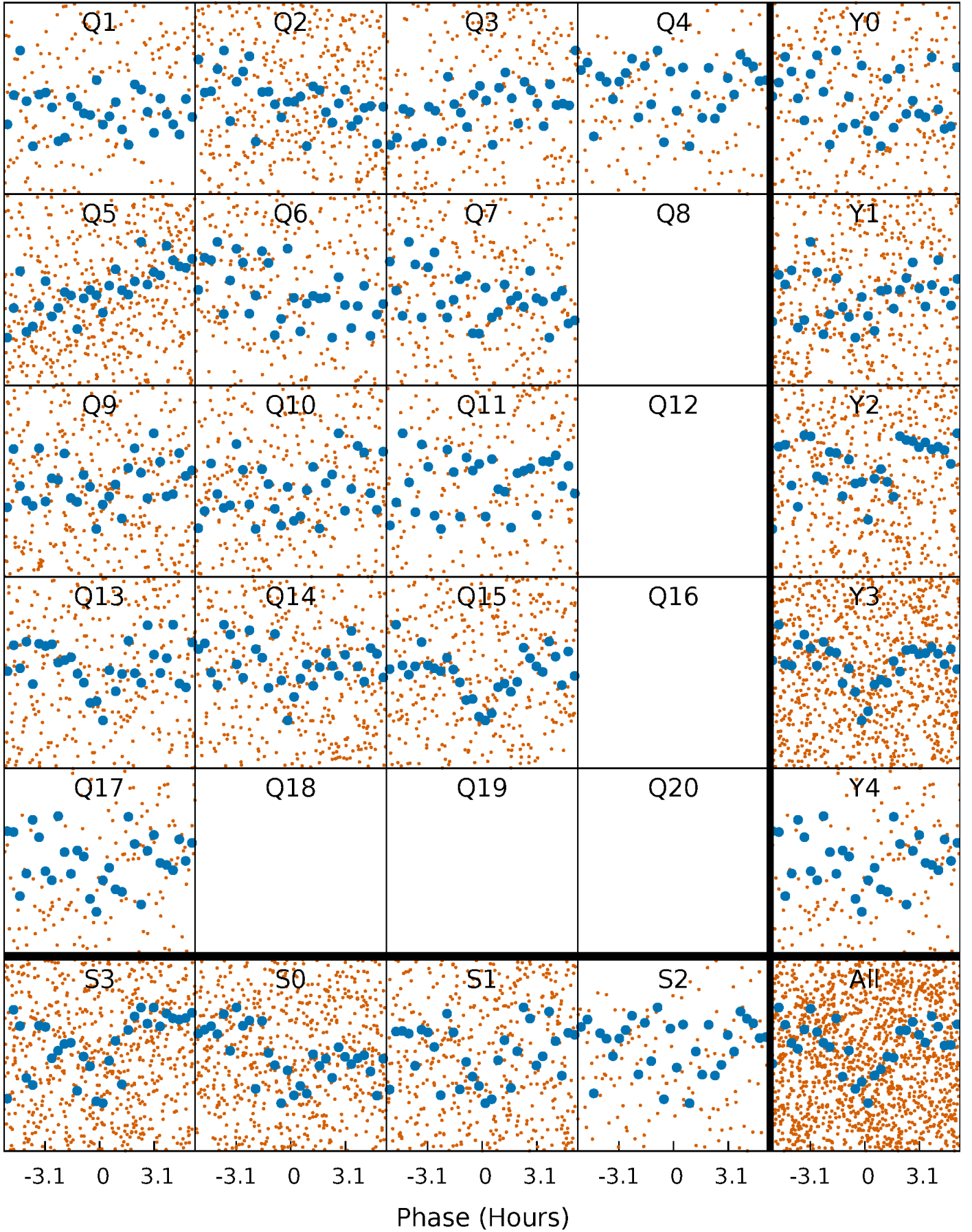


Non-Whitened Vs. Whitened Light Curve



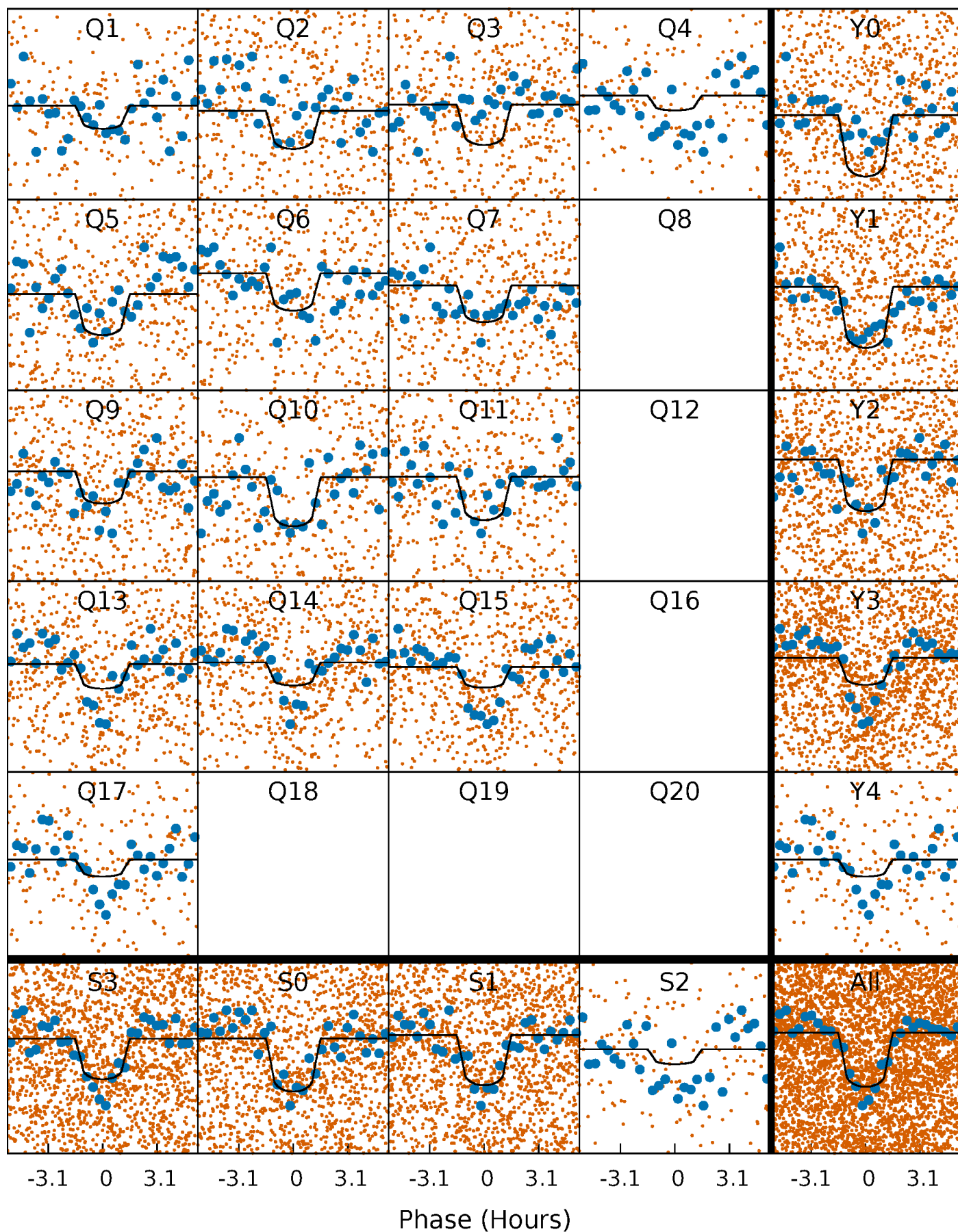
PDC Quarter-Phased Transit Curves

TCE 011855538-01 P= 2.521192 Days $T_0=132.883794$ (BKJD)



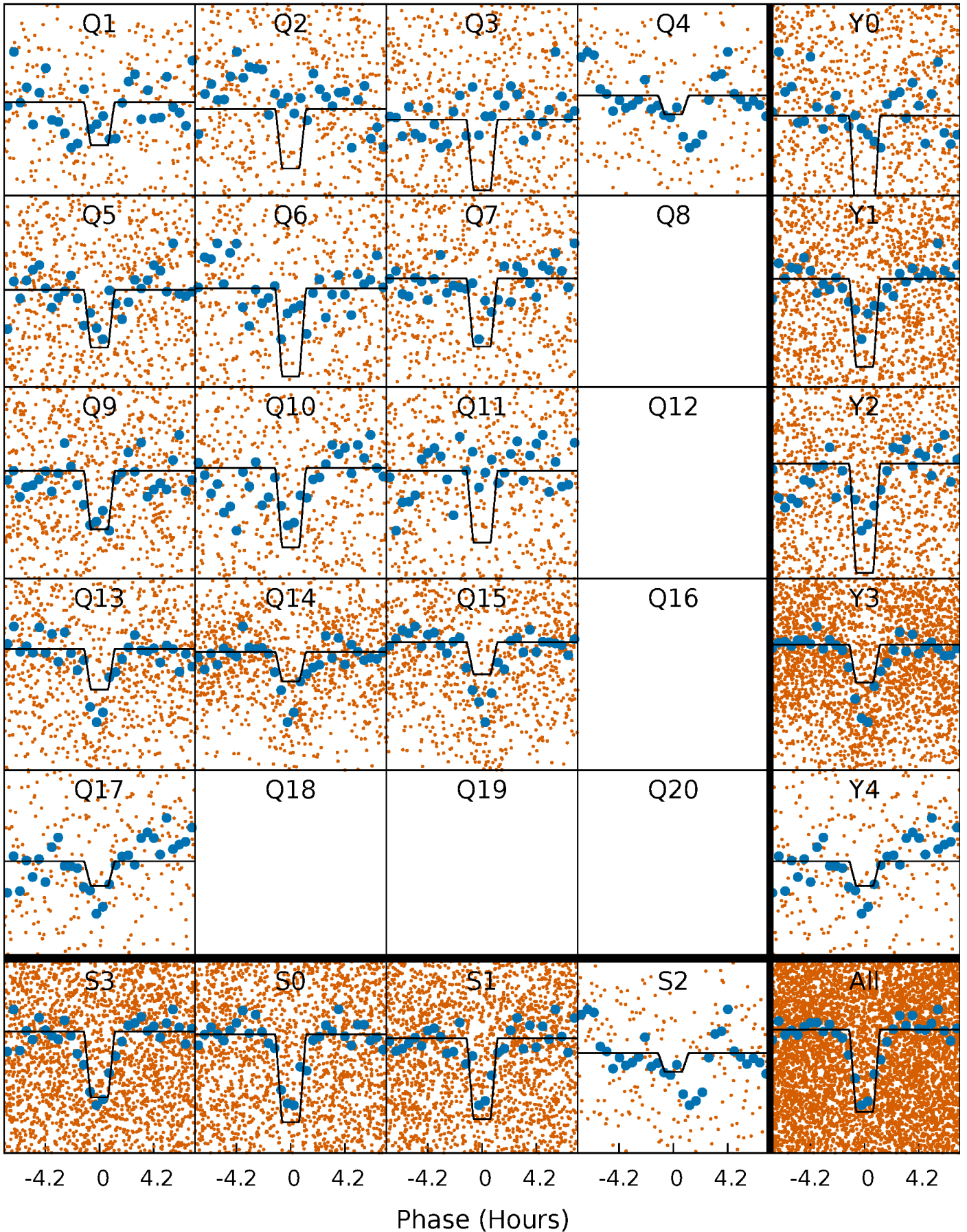
DV Quarter-Phased Transit Curves

TCE 011855538-01 P= 2.521192 Days $T_0=132.883794$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

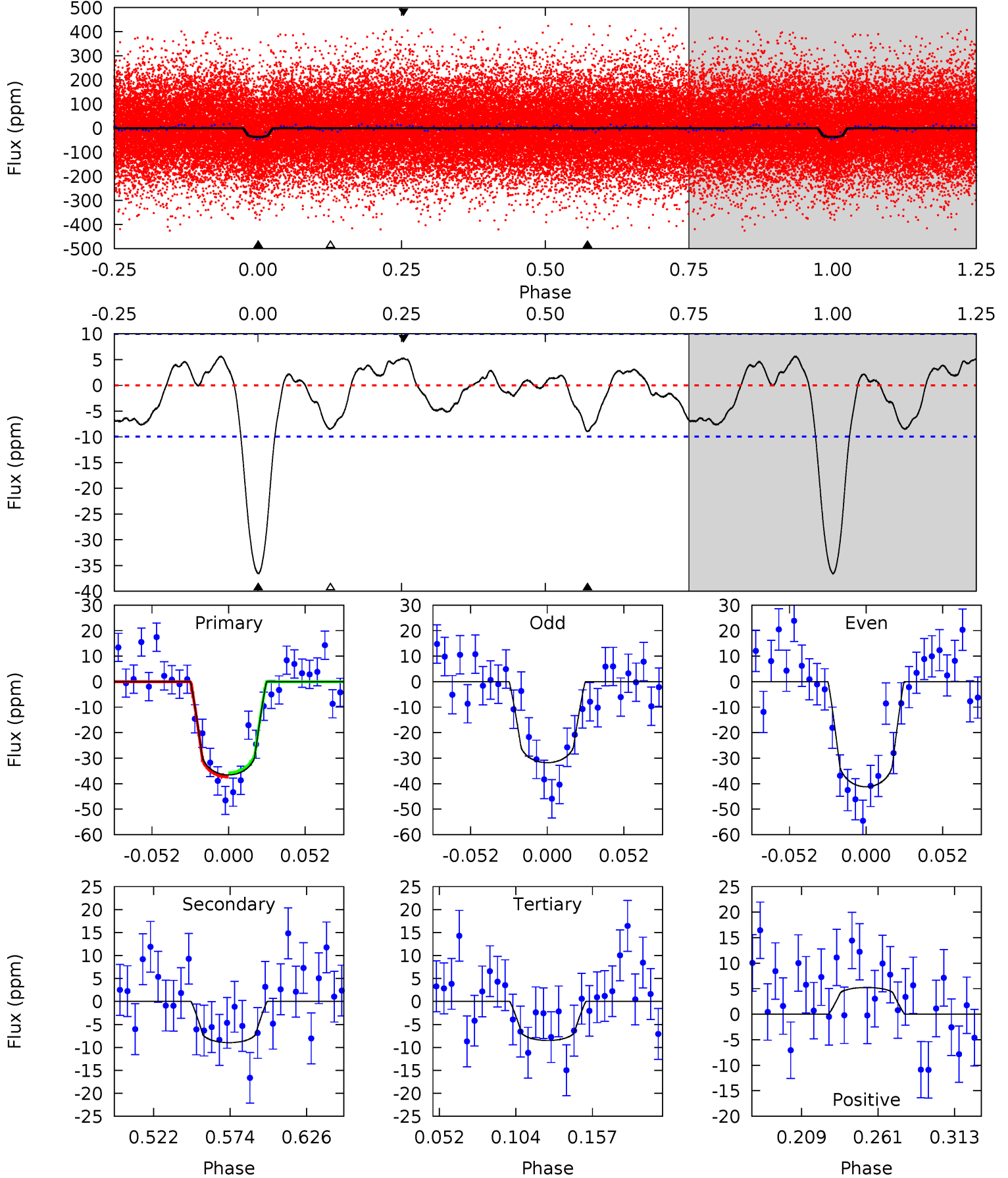
TCE 011855538-01 P= 2.521223 Days $T_0=132.870266$ (BKJD)



DV Model-Shift Uniqueness Test

01185538-01, P = 2.521192 Days, E = 130.362602 Days

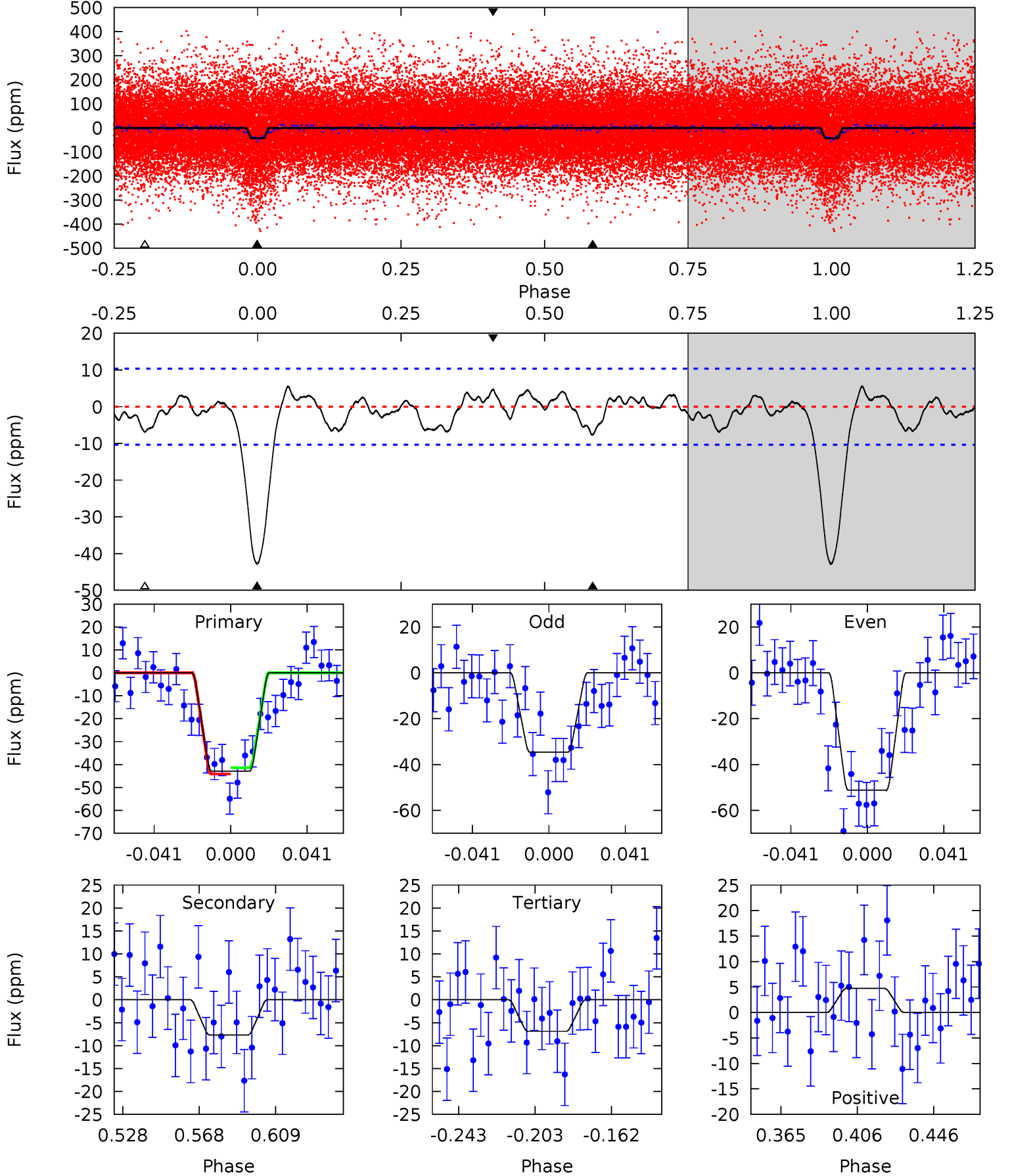
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.3	4.23	4.01	2.47	4.70	1.94	1.74	13.3	14.8	0.22	1.77	2.23	1.06	0.13	0.37



Alt Model-Shift Uniqueness Test

01185538-01, P = 2.521223 Days, E = 130.349043 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.6	3.51	3.16	2.16	4.75	2.05	1.36	16.5	17.5	0.36	1.35	3.80	1.20	0.11	0.63



Stellar Parameters For KIC 011855538

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6306^{+189}_{-142}	$3.828^{+0.315}_{-0.135}$	$-1.480^{+0.350}_{-0.250}$	$1.874^{+0.425}_{-0.637}$	$0.862^{+0.105}_{-0.086}$	$0.184^{+0.393}_{-0.070}$
	+3%/-2%	+8%/-4%	+24%/-17%	+23%/-34%	+12%/-10%	+213%/-38%
Source	PHO1	FLK73	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 011855538-01 / KOI 7485.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-9 ± 2	$1.22^{+0.36}_{-0.33}$	2844^{+192}_{-260}	4467^{+604}_{-440}	$3.894^{+3.648}_{-1.633}$
Alt.	-8 ± 2	$1.39^{+0.40}_{-0.37}$	2838^{+194}_{-267}	4108^{+493}_{-403}	$2.648^{+2.286}_{-1.205}$

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 $A_{obs} \gg 1.0$

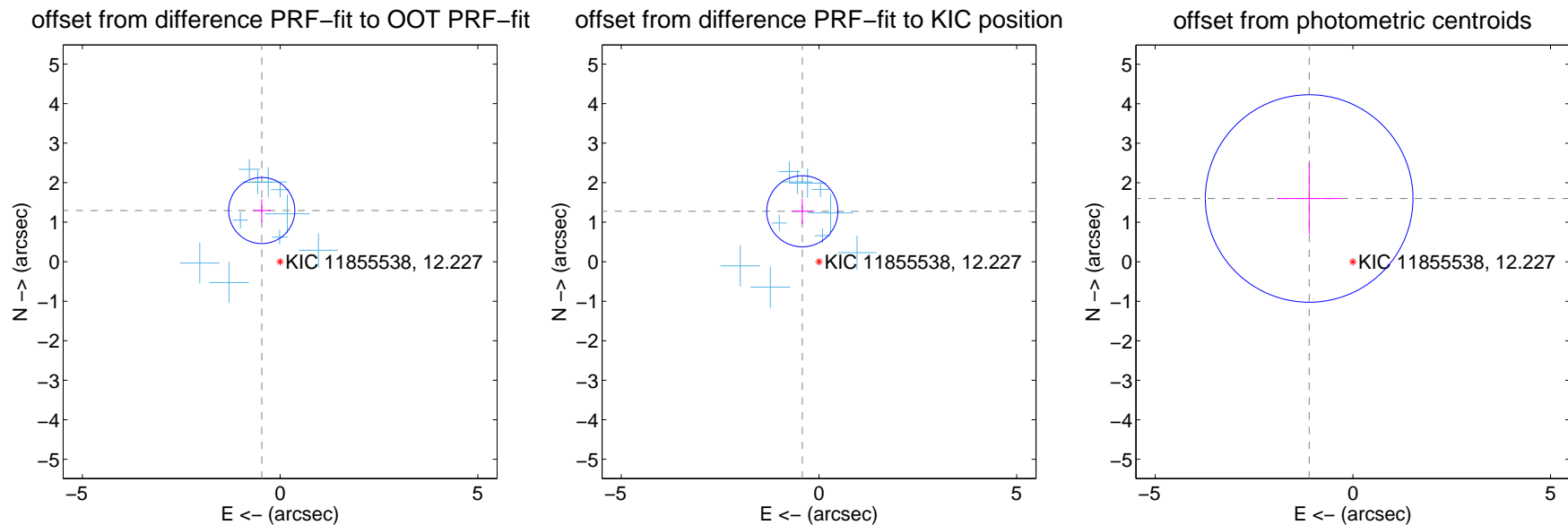
DV Centroid Data

Supplemental centroid analysis for 011855538-01. Kepler magnitude: 12.23. Transit SNR 9.11

There are 10 quarters with good PRF difference image offsets

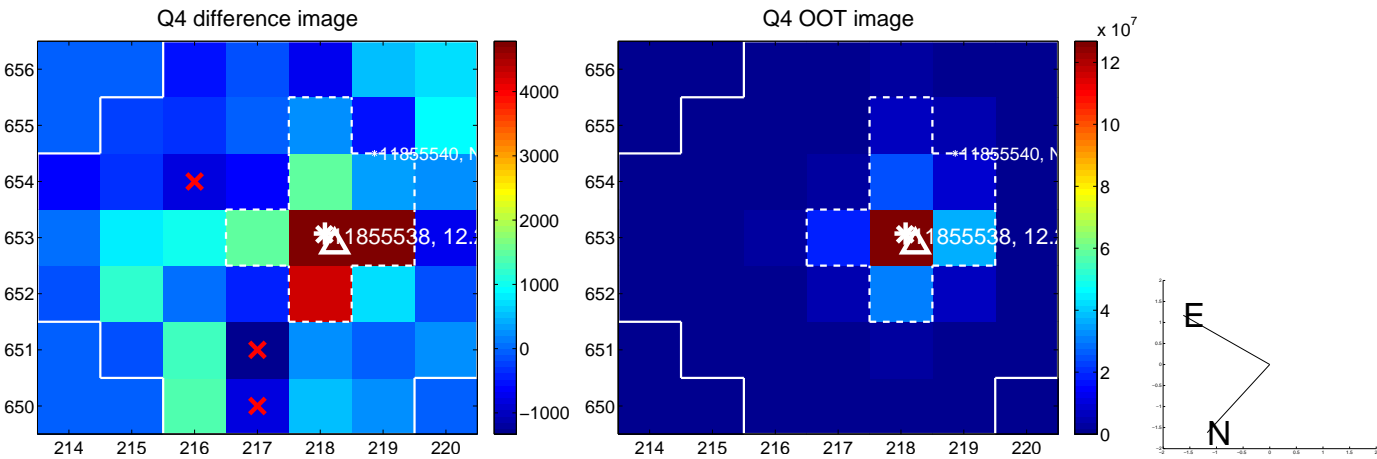
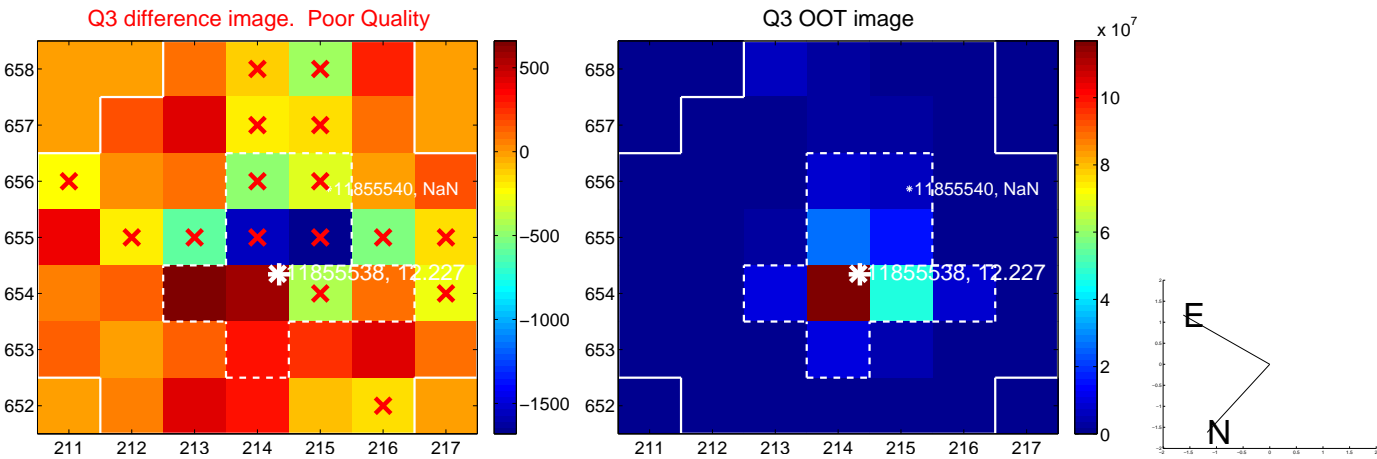
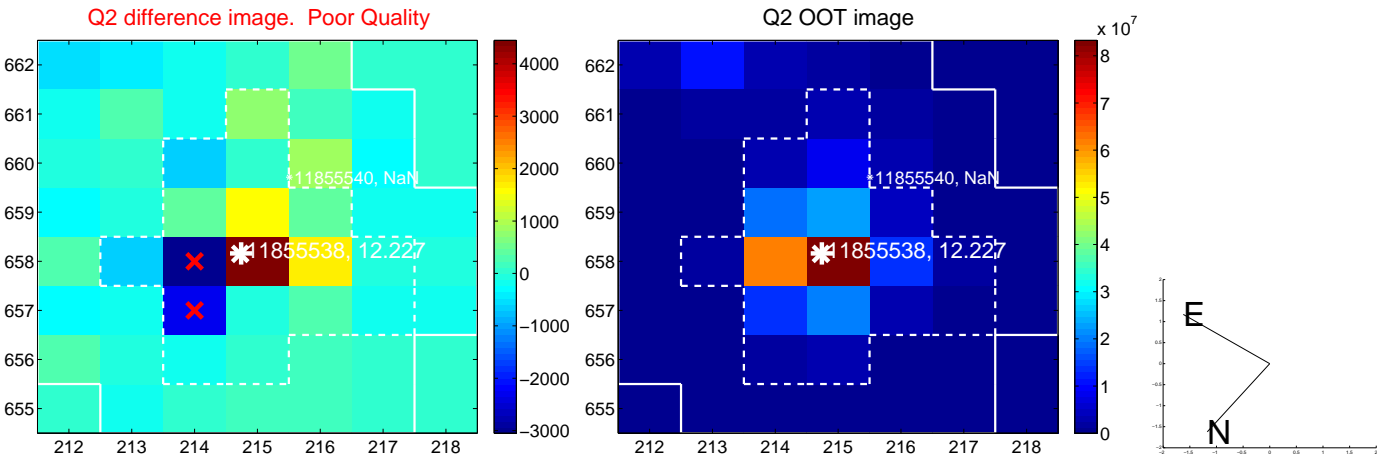
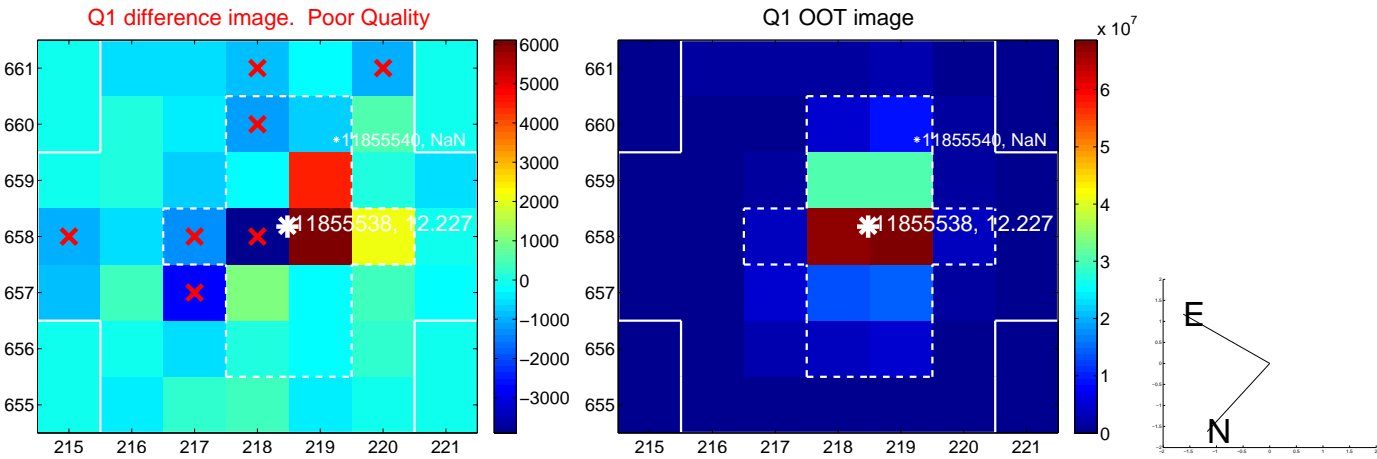
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.375 ± 0.279	4.93	0.465 ± 0.231	1.294 ± 0.284
PRF-fit source offset from KIC position	1.344 ± 0.300	4.48	0.422 ± 0.279	1.276 ± 0.319
photometric centroid source offset	1.95 ± 0.88	2.22	1.11 ± 0.82	1.60 ± 0.90

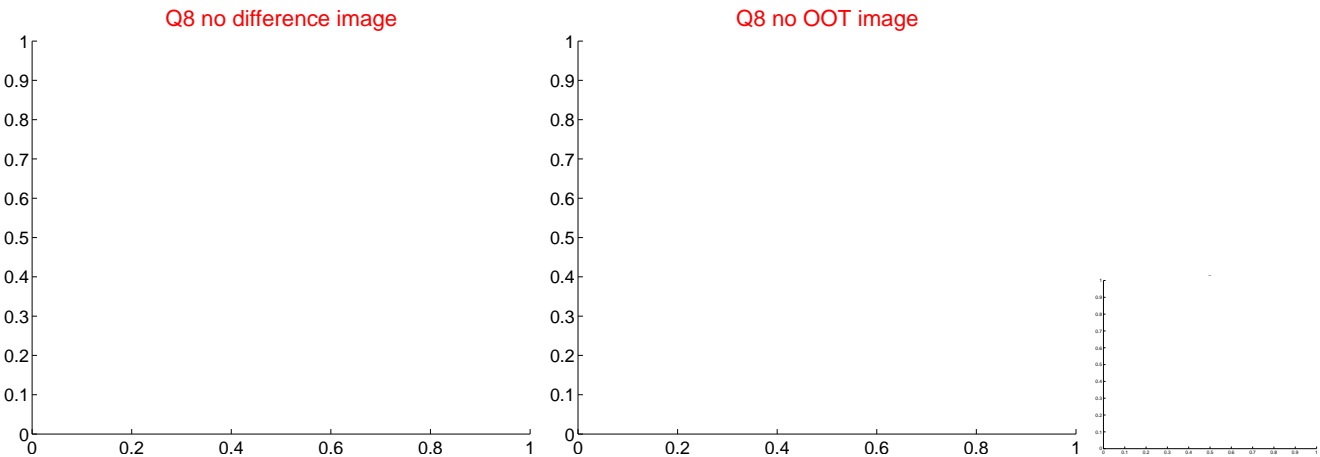
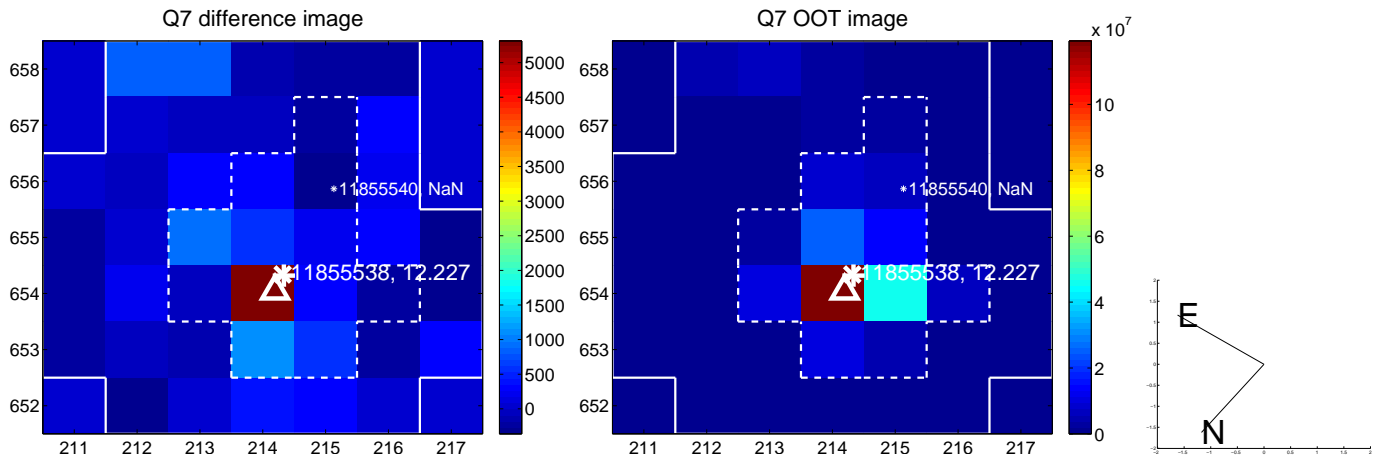
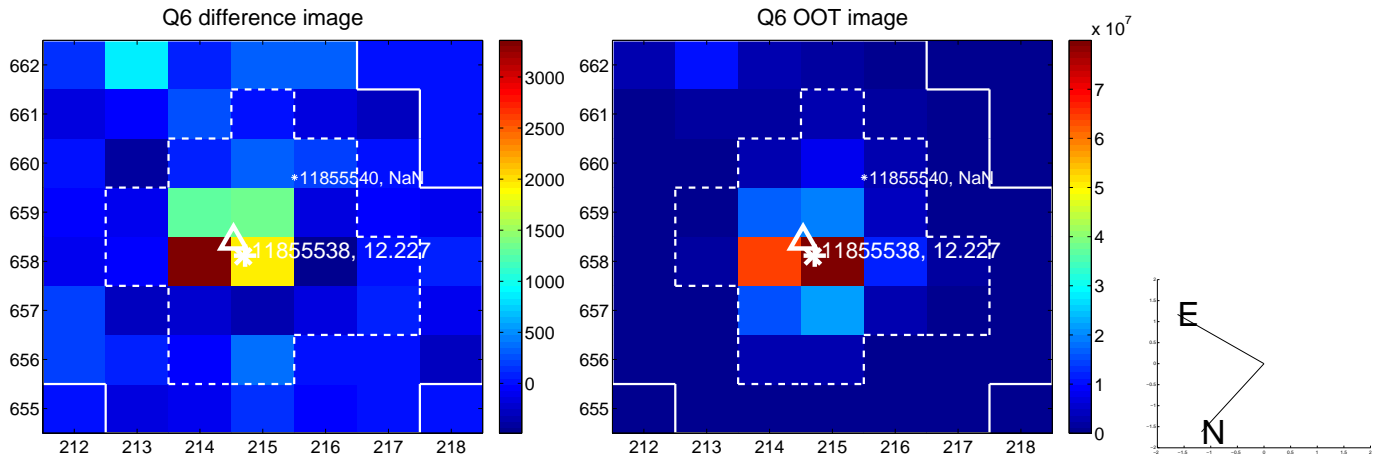
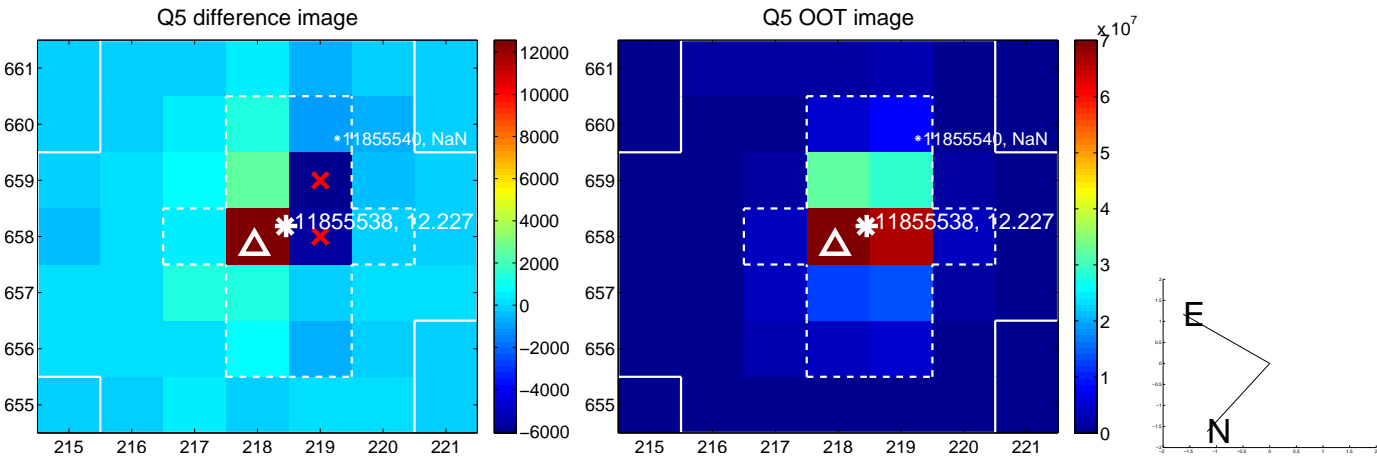


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

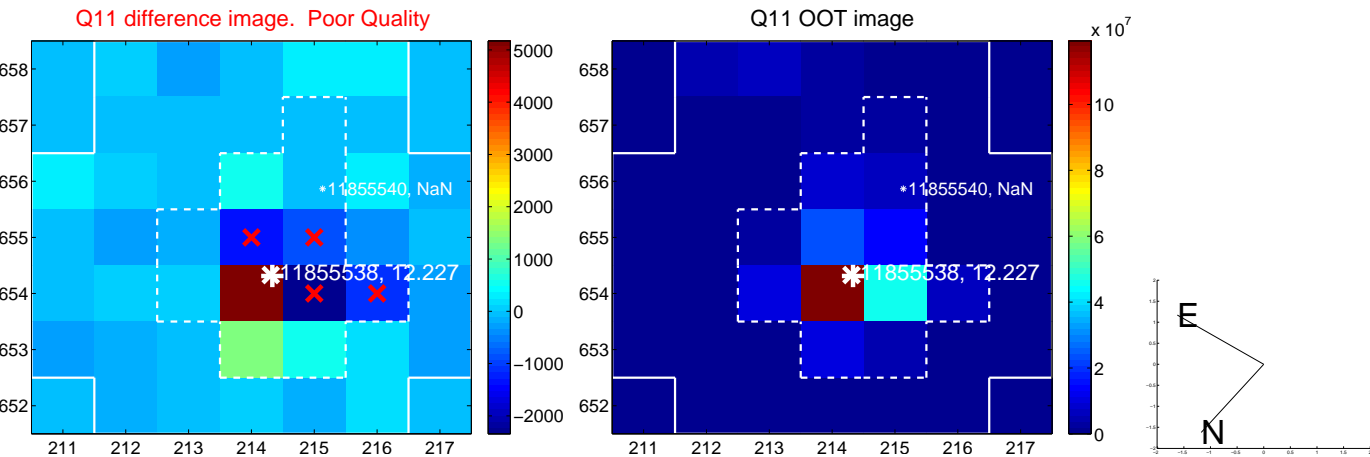
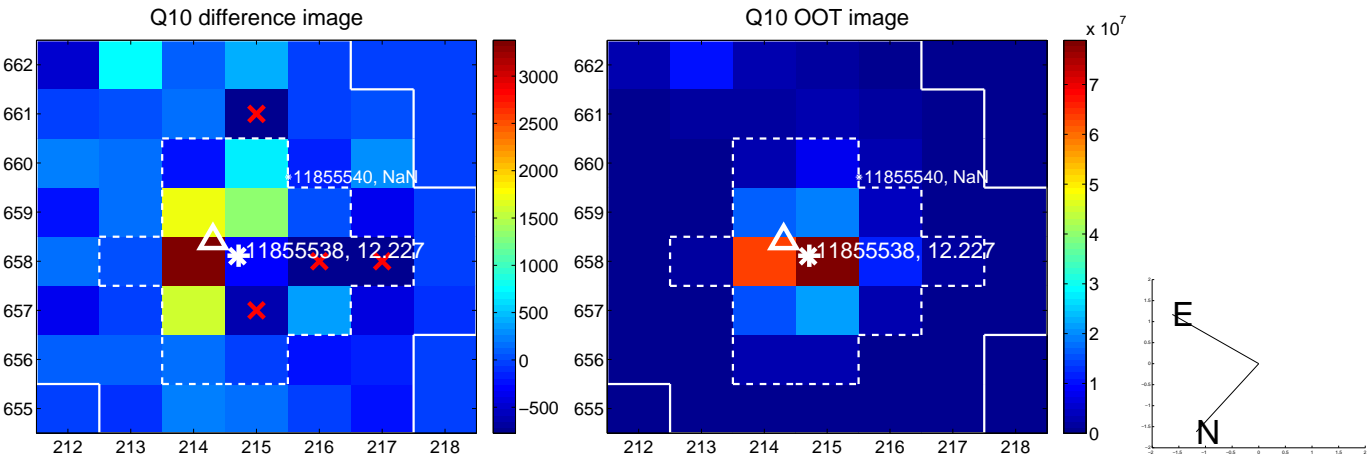
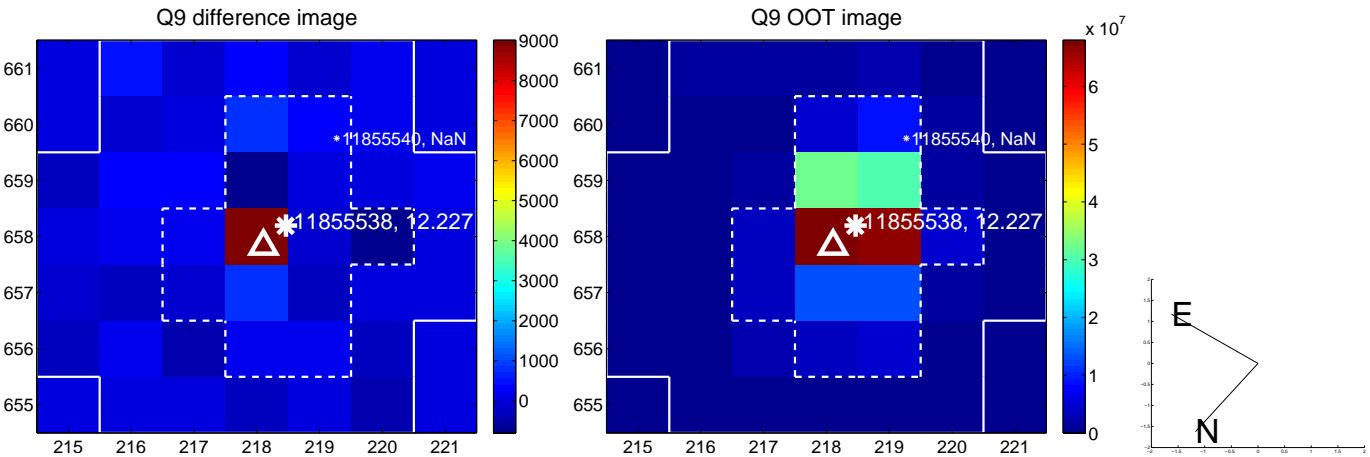
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



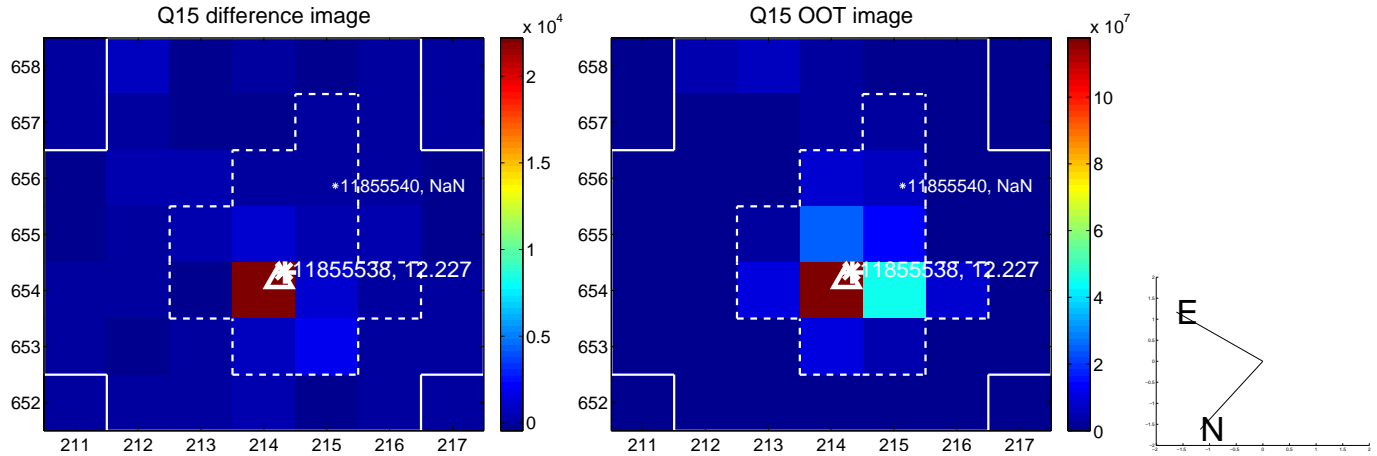
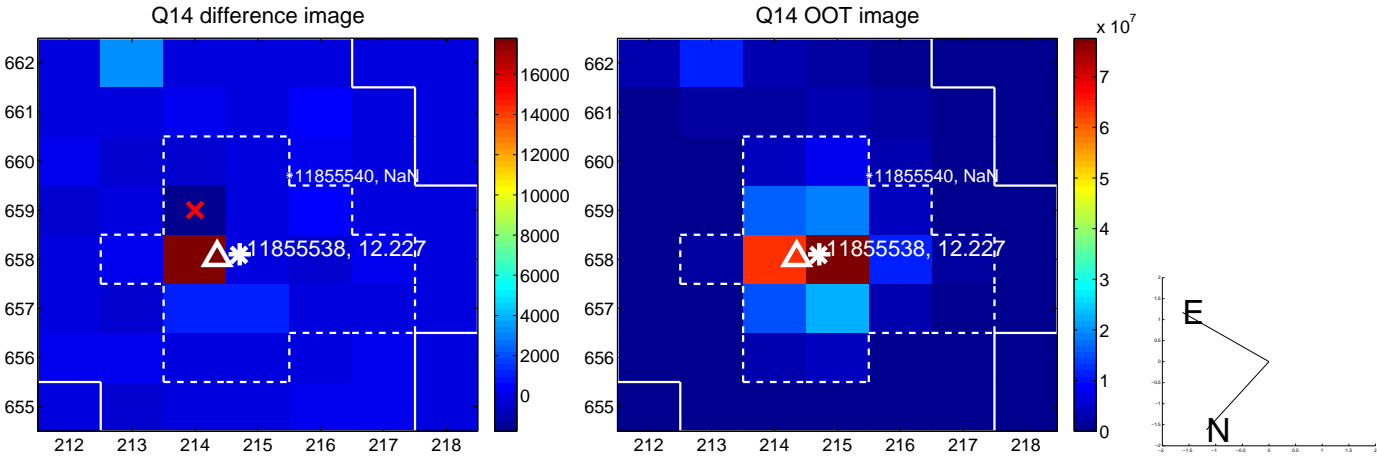
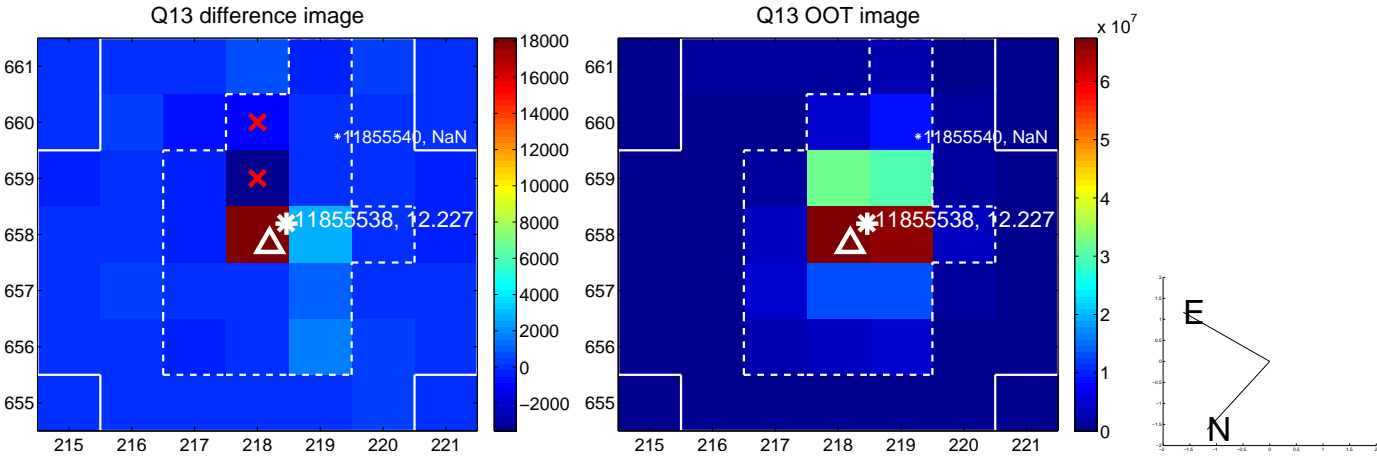
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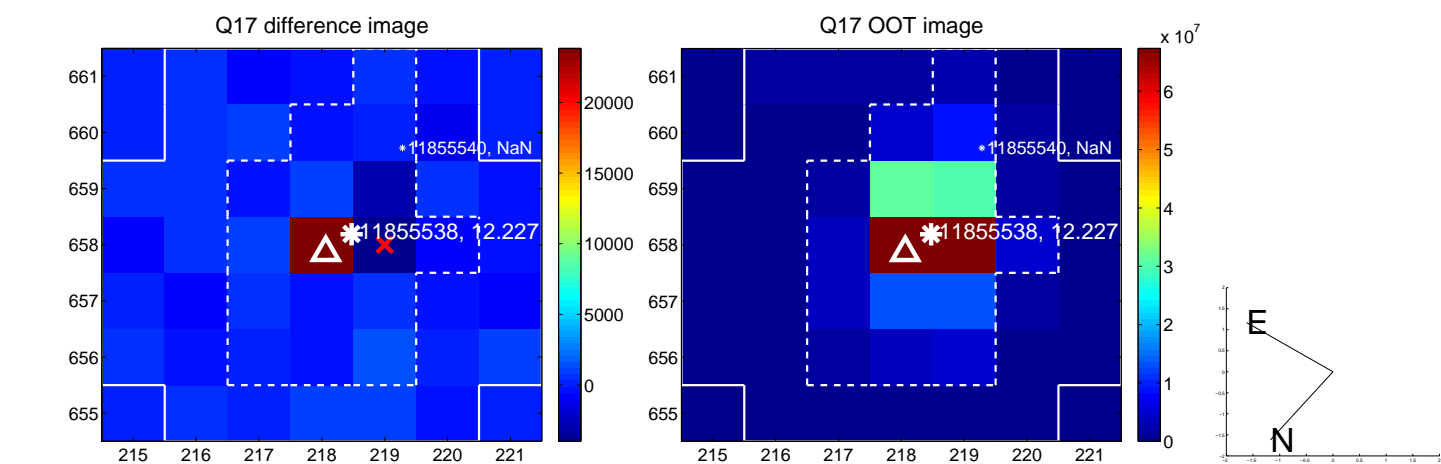
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



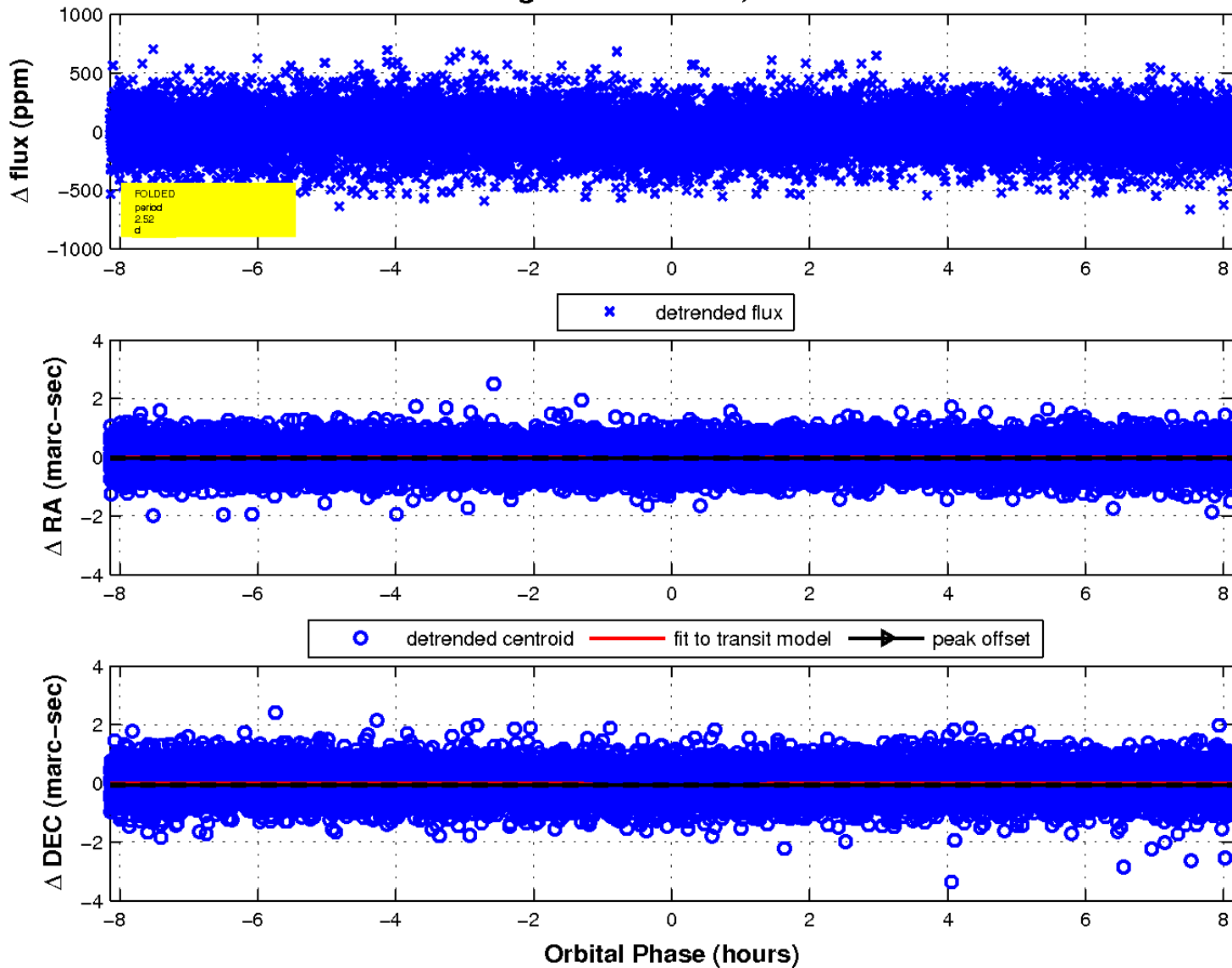
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

