

KIC 007032438

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})
007032438-01	OBS	No	0.566736	131.865899	19.5	3.661	11.1	4.1	0.81	5577	0.37	3400.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007032438-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_UNRESOLVED_OFFSET—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.

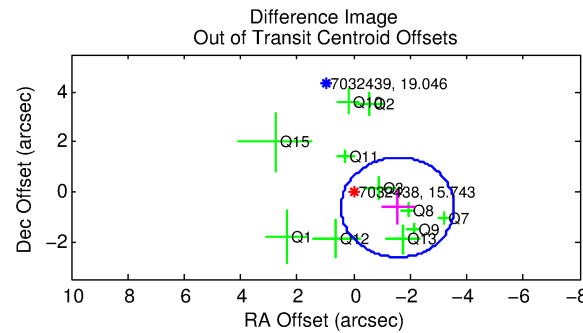
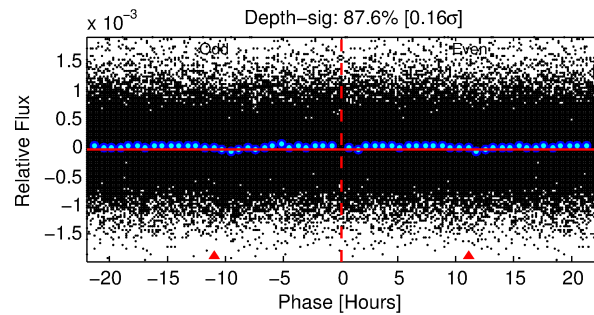
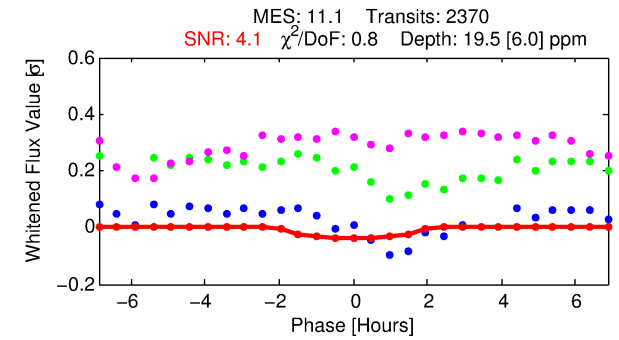
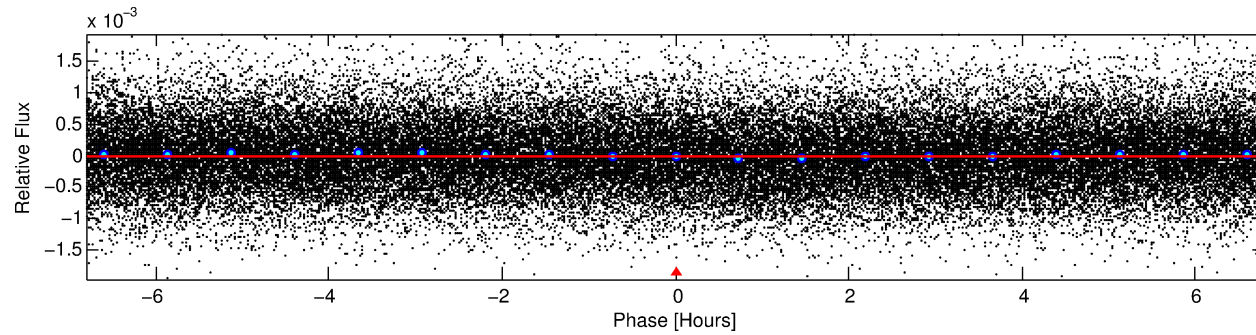
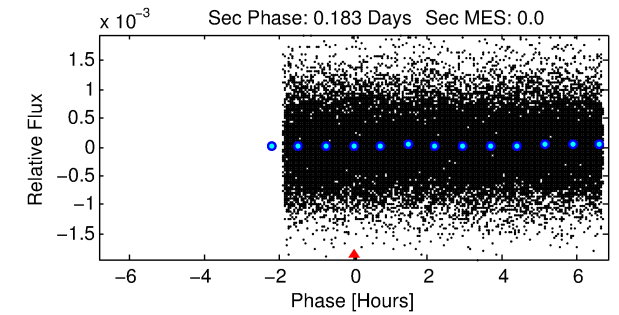
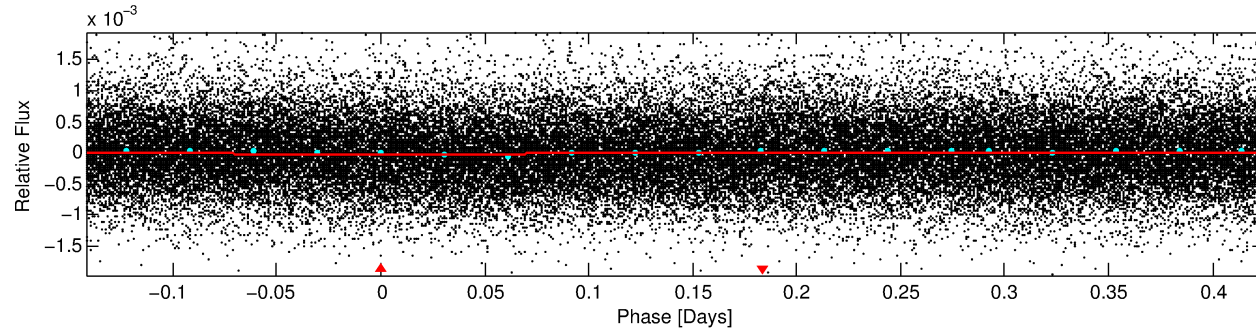
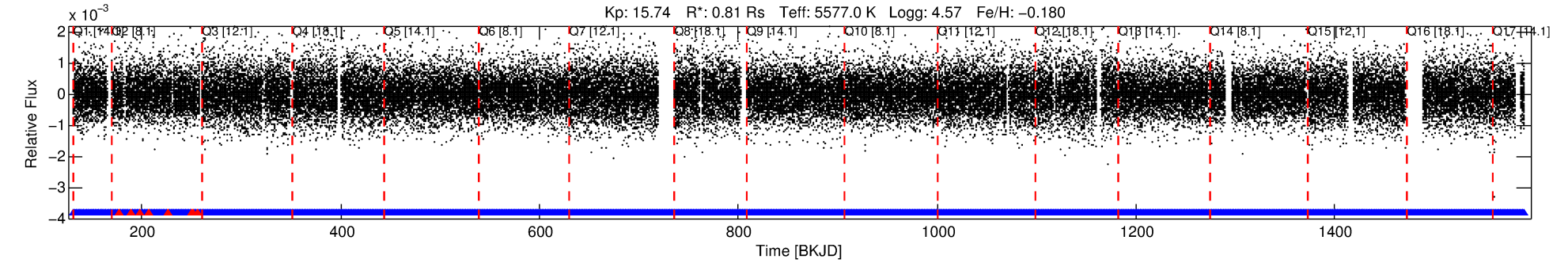
Ephemeris Match Information For 007032438-01

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
007032438-01	7032438	RR-Lyr-pri	7198959	1:1	782.4	183	-73	7.86	15.74	32805.00	Direct-PRF	0	2.37	21.73

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: 7032438 Candidate: 1 of 1 Period: 0.567 d



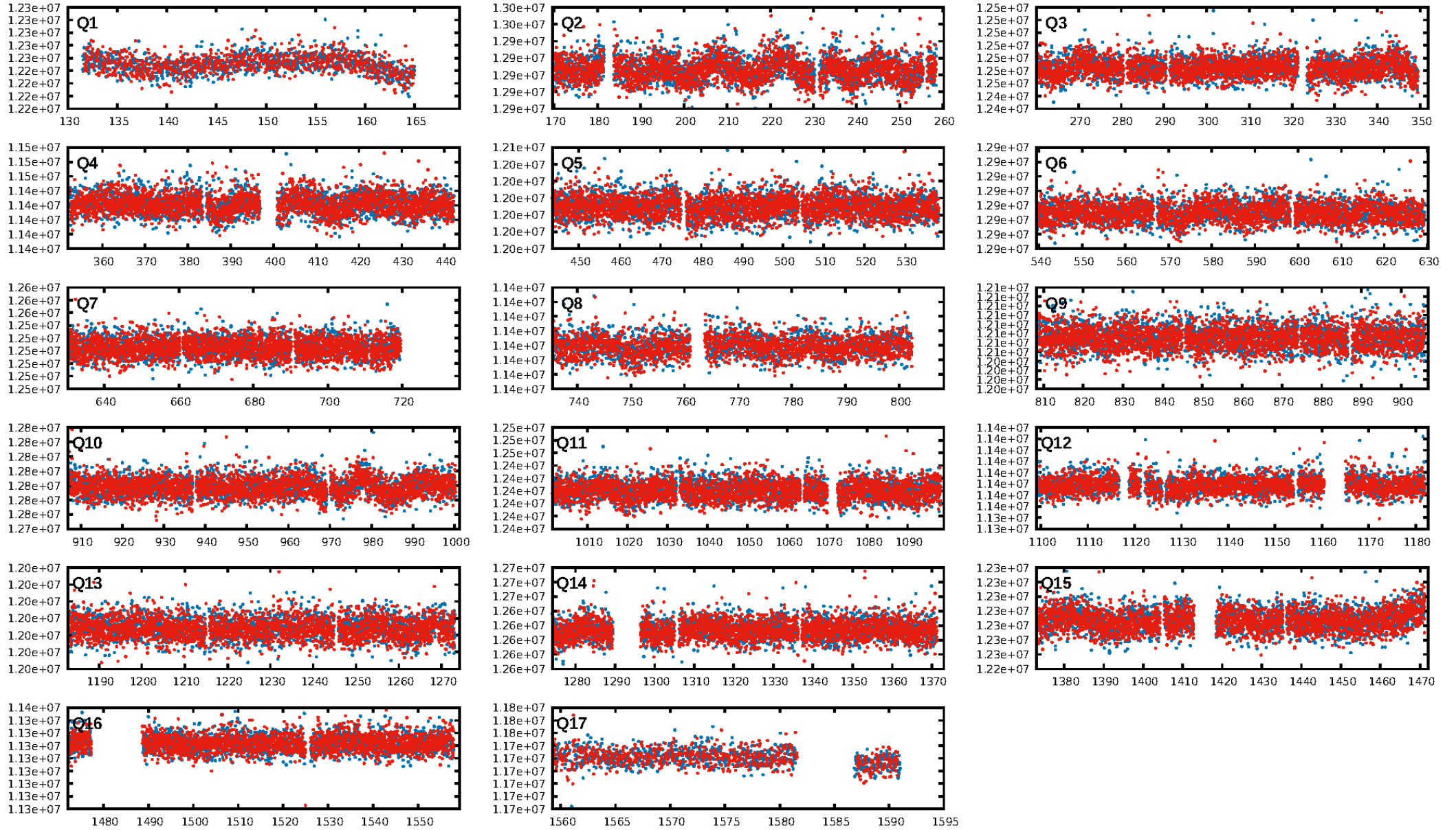
DV Fit Results:

Period = 0.56674 [0.00002] d
Epoch = 131.8659 [0.0109] BKJD
Rp/R* = 0.0042 [0.0080]
a/R* = 1.25 [3.61]
b = 0.56 [10.18]
Seff = 3400.92 [986.41]
Teff = 1947 [141] K
Rp = 0.37 [0.71] Re
a = 0.0129 [0.0024] AU
Ag = N/A
Teffp = N/A

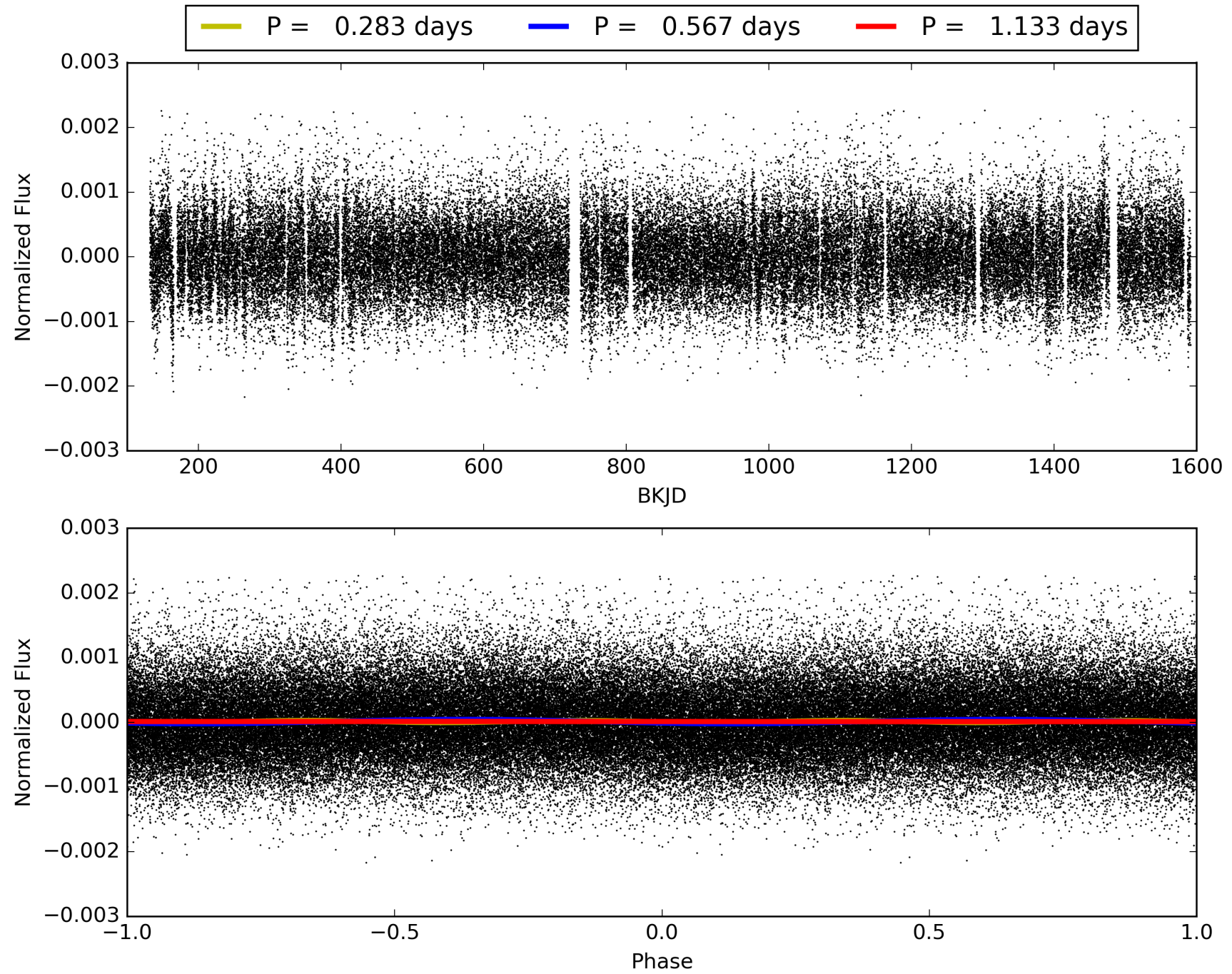
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.21e-22
RollingBand-fgt: 1.00 [2256/2264]
GhostDiagnostic-chr: 0.2626
Centroid-sig: 16.3%
Centroid-so: 4.832 arcsec [1.41σ]
OotOffset-rm: 1.677 arcsec [2.51σ]
KicOffset-rm: 1.793 arcsec [2.88σ]
OotOffset-st: 2/4/2/3 [11]
KicOffset-st: 2/4/2/3 [11]
DiffImageQuality-fgm: 0.18 [2/11]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007032438-01, PDC Light Curves

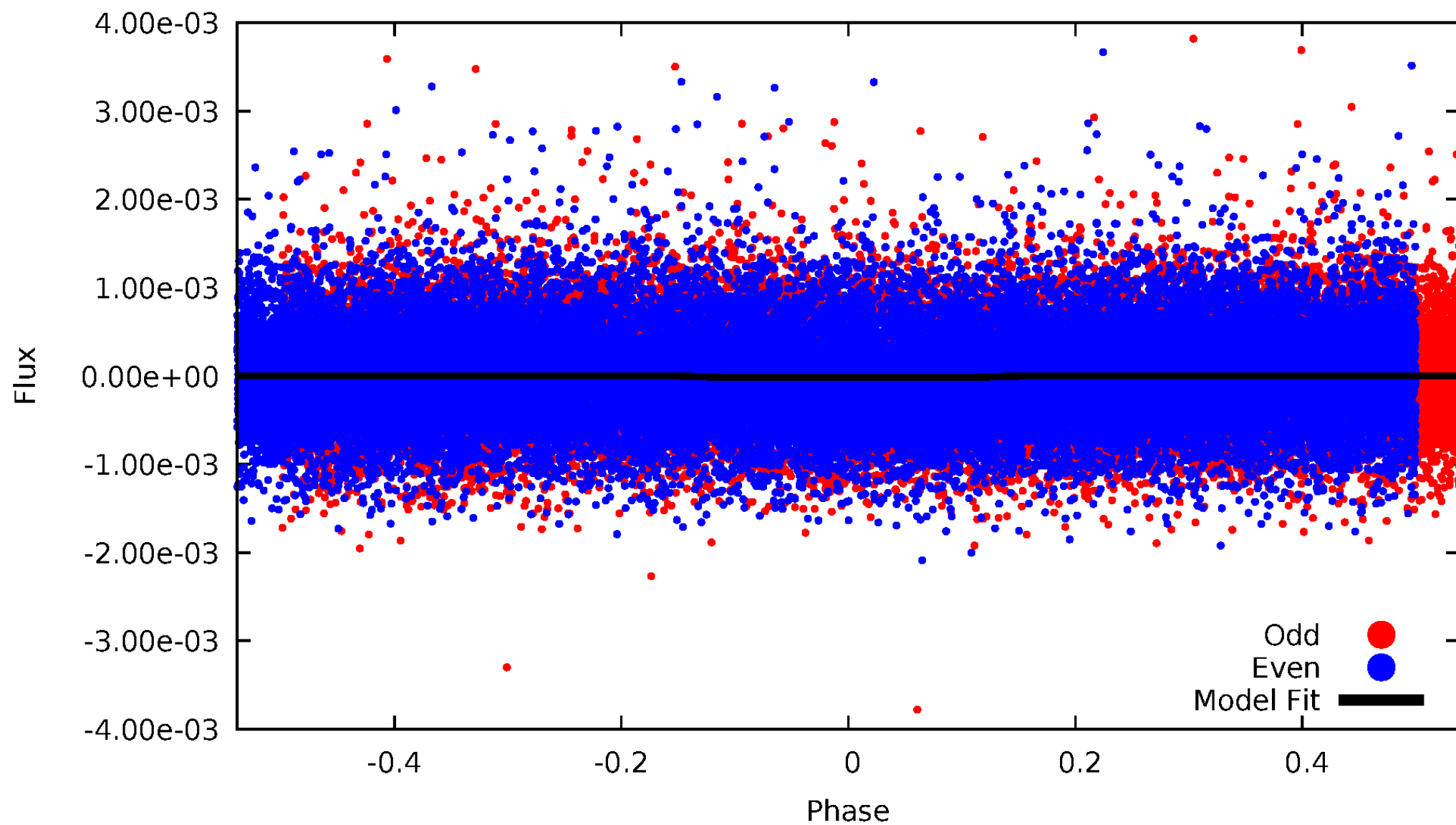


TCE 007032438-01



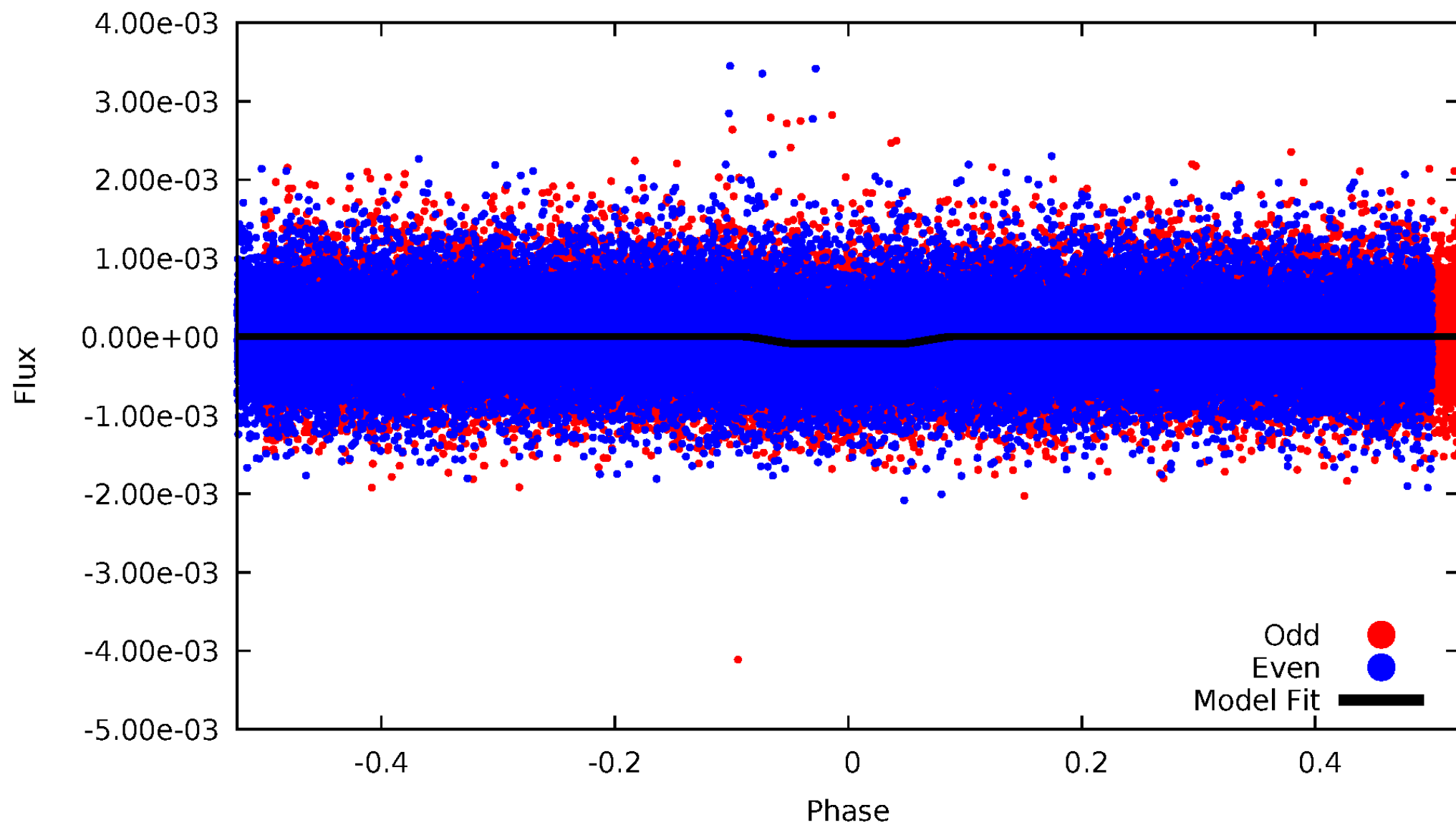
DV Odd/Even

TCE 007032438-01



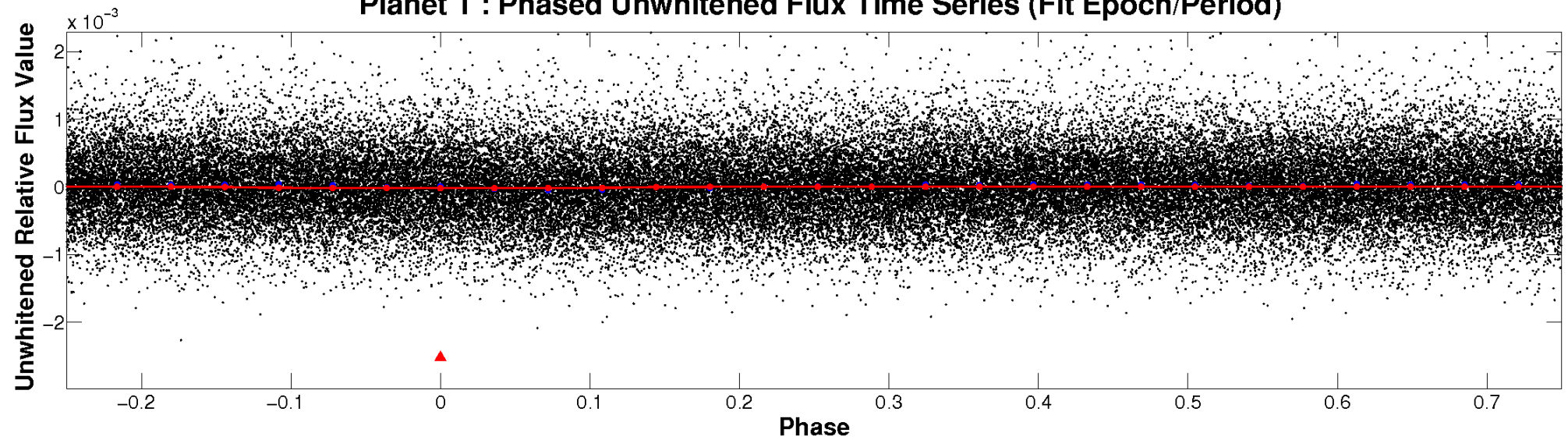
ALT Odd/Even

TCE 007032438-01

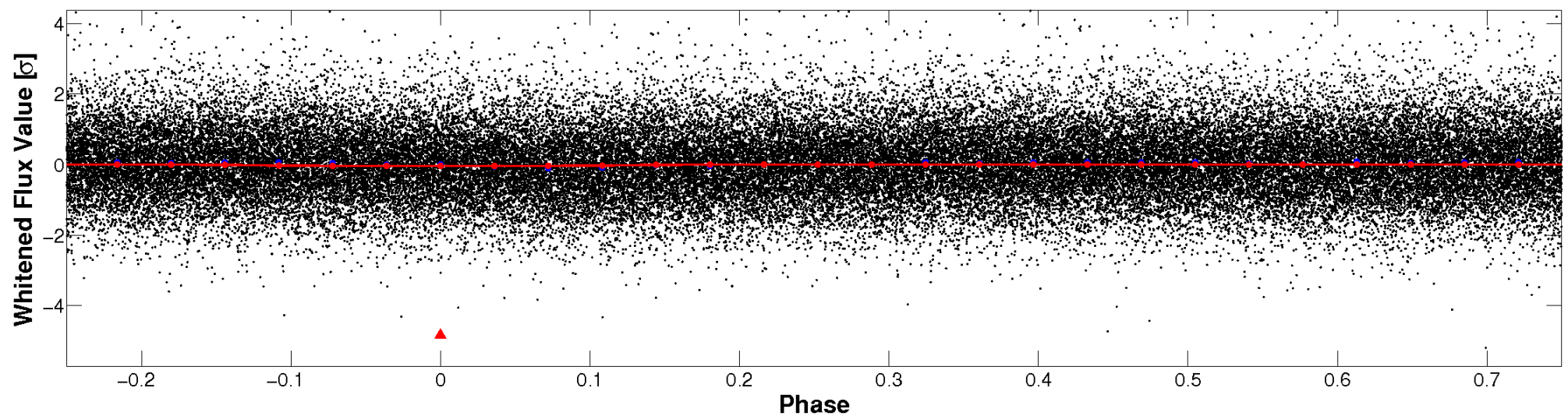


Non-Whitened Vs. Whitened Light Curve

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

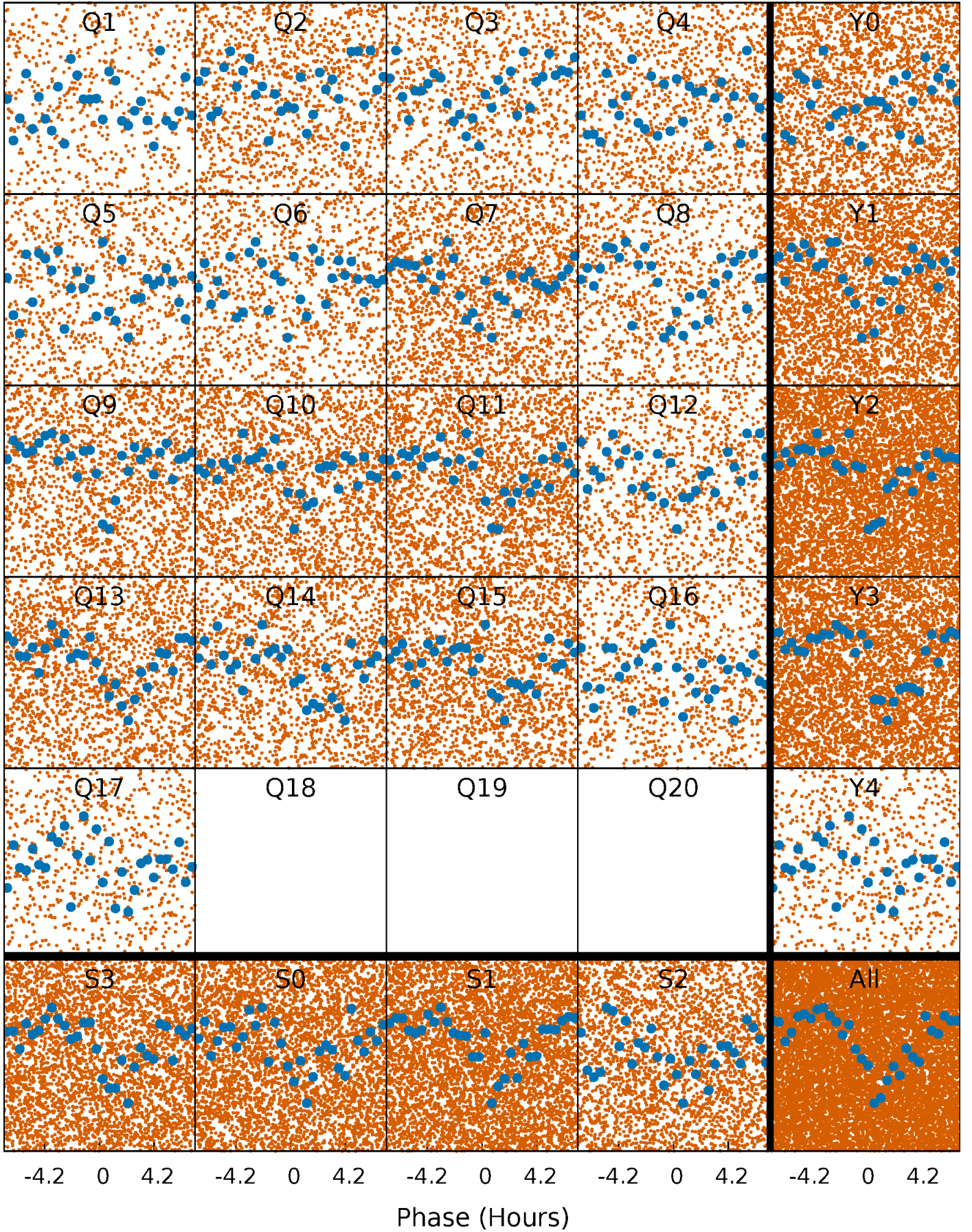


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



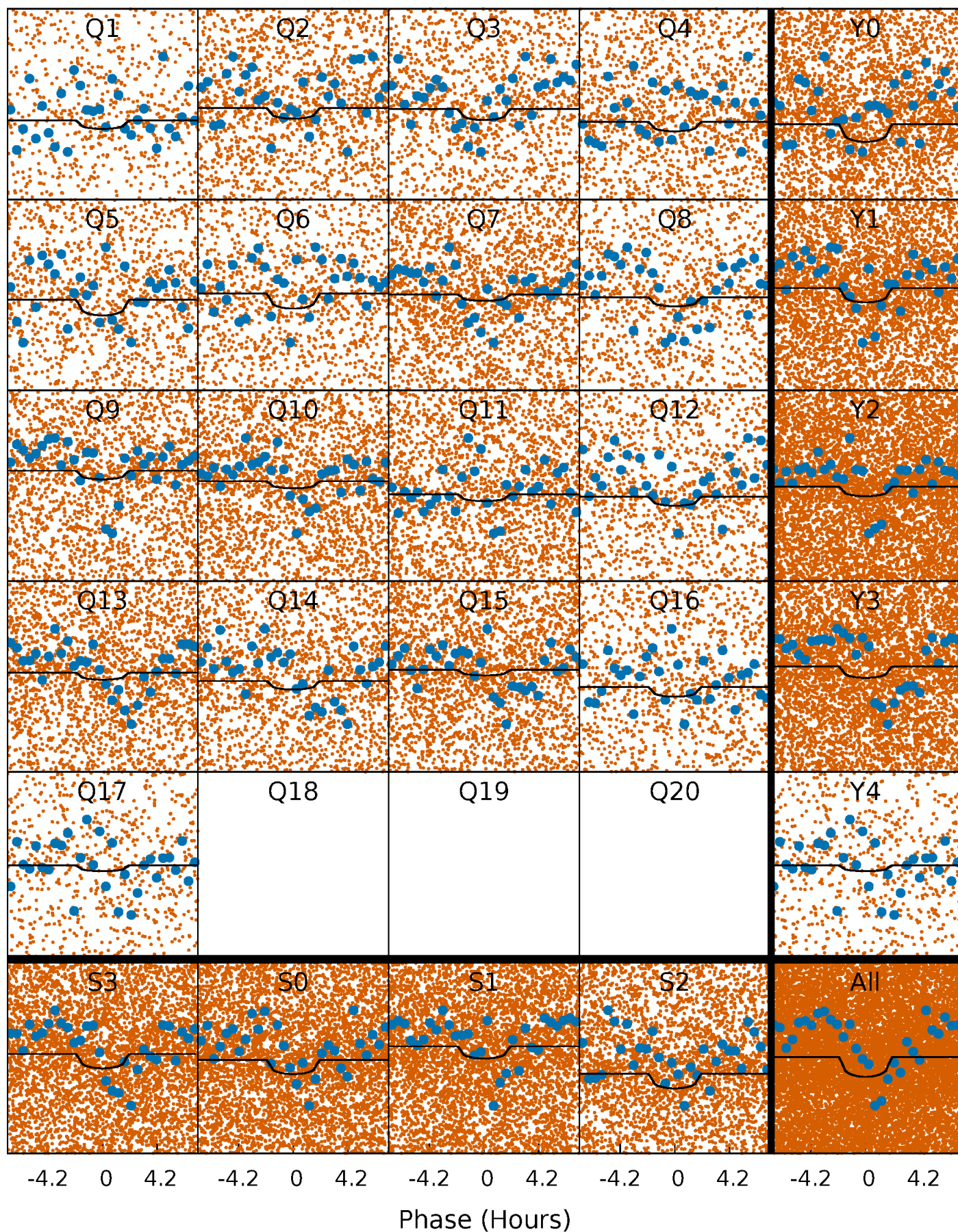
PDC Quarter-Phased Transit Curves

TCE 007032438-01 P= 0.566736 Days $T_0=131.865899$ (BKJD)



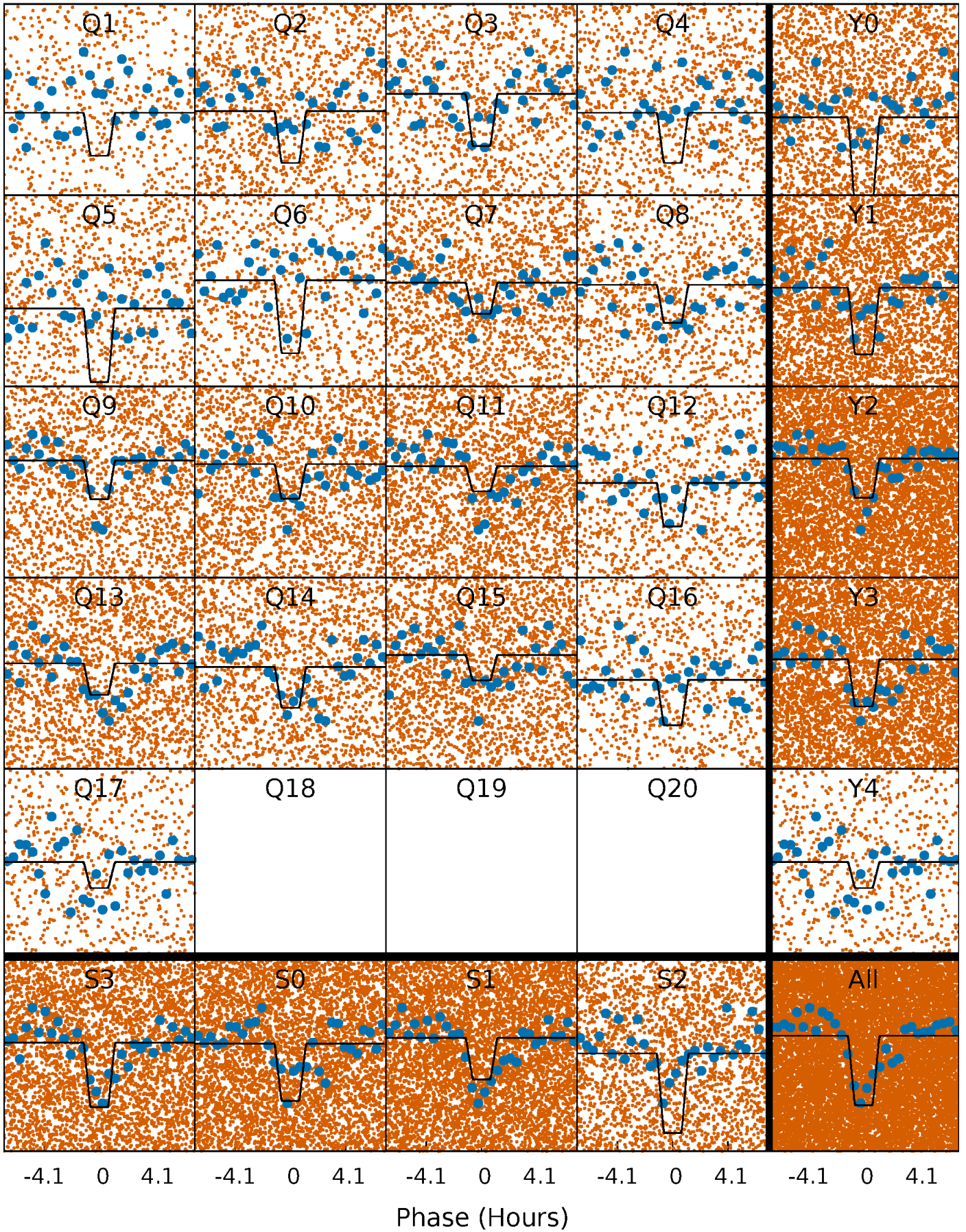
DV Quarter-Phased Transit Curves

TCE 007032438-01 P= 0.566736 Days $T_0=131.865899$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

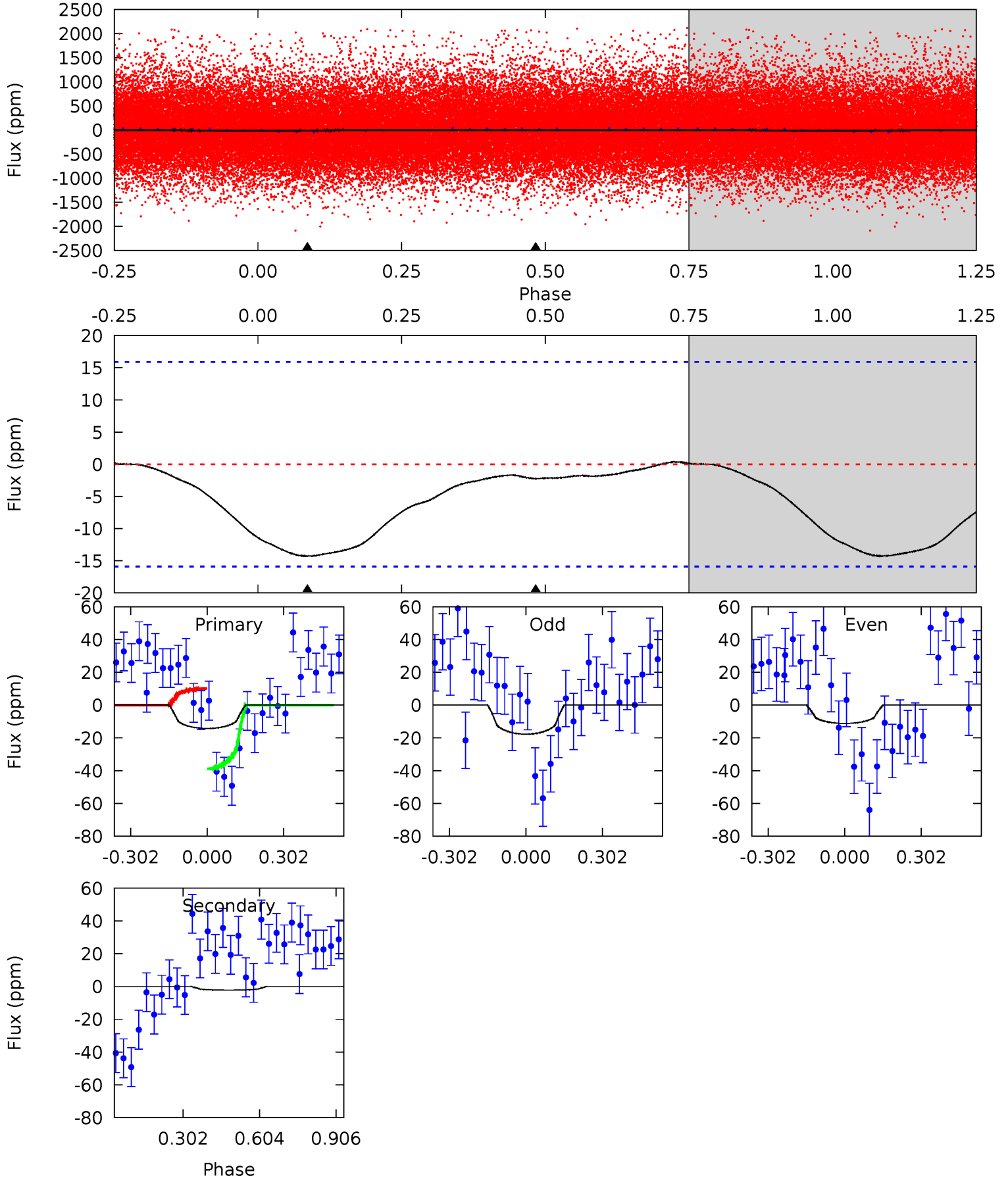
TCE 007032438-01 P= 0.566788 Days $T_0=131.825600$ (BKJD)



DV Model-Shift Uniqueness Test

007032438-01, P = 0.566736 Days, E = 131.299163 Days

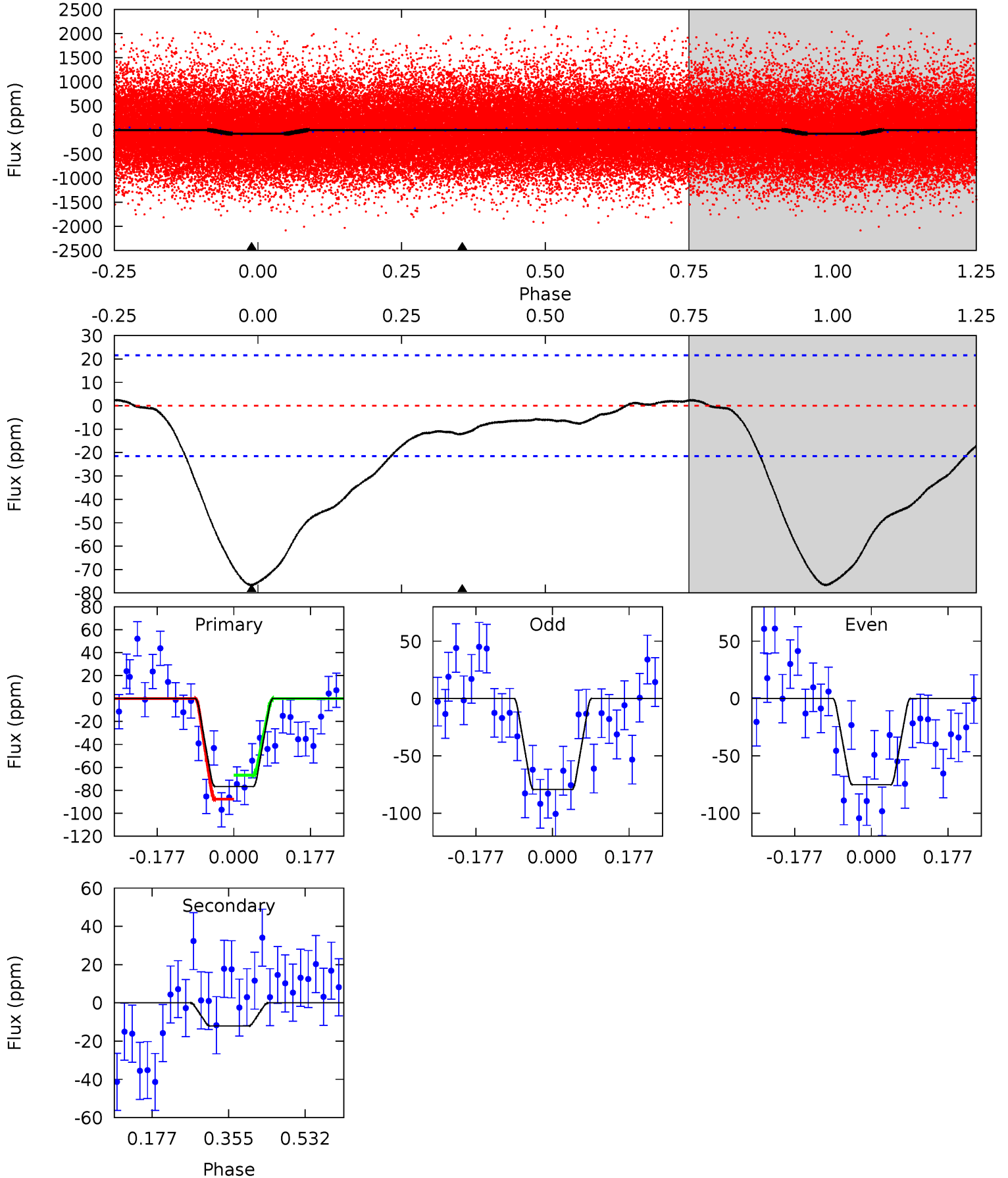
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.88	0.61	0	0	4.33	1.03	0.11	3.88	3.88	0.61	0.61	0.89	0.56	0.02	3.89



Alt Model-Shift Uniqueness Test

007032438-01, P = 0.566788 Days, E = 131.258812 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.8	2.49	0	0	4.44	1.35	1.51	15.8	15.8	2.49	2.49	0.43	0.93	0.03	2.17



Stellar Parameters For KIC 007032438

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5577^{+149}_{-166}	$4.573^{+0.036}_{-0.144}$	$-0.180^{+0.300}_{-0.300}$	$0.808^{+0.176}_{-0.063}$	$0.900^{+0.081}_{-0.102}$	$2.401^{+0.452}_{-1.019}$
	+3%/-3%	+1%/-3%	+167%/-167%	+22%/-8%	+9%/-11%	+19%/-42%
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 007032438-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2 ± 4	$0.69^{+0.60}_{-0.45}$	2761^{+141}_{-113}	-2229^{+6468}_{-945}	$0.272^{+3.118}_{-0.459}$
Alt.	-12 ± 5	$1.01^{+0.71}_{-0.62}$	2760^{+146}_{-105}	3344^{+1756}_{-5105}	$0.999^{+6.401}_{-0.702}$

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

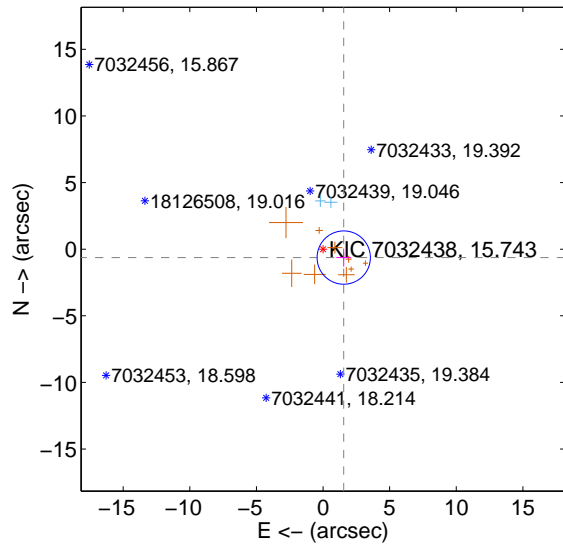
Supplemental centroid analysis for 007032438-01. Kepler magnitude: 15.74. Transit SNR 4.13

There are 2 quarters with good PRF difference image offsets

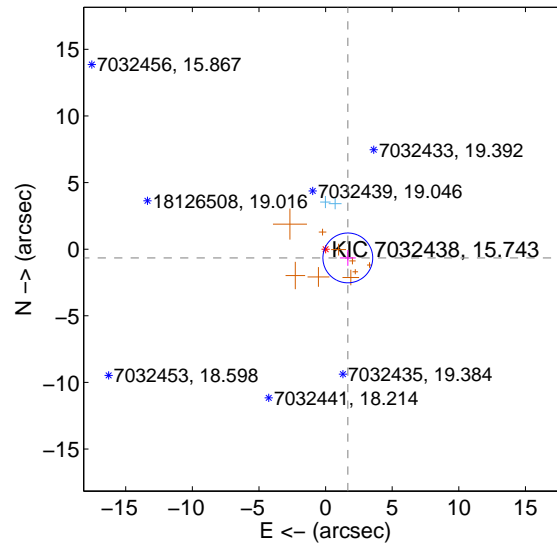
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.677 ± 0.667	2.51	-1.554 ± 0.560	-0.631 ± 0.676
PRF-fit source offset from KIC position	1.793 ± 0.623	2.88	-1.669 ± 0.598	-0.656 ± 0.591
photometric centroid source offset	4.83 ± 3.43	1.41	-4.37 ± 3.48	-2.07 ± 3.24

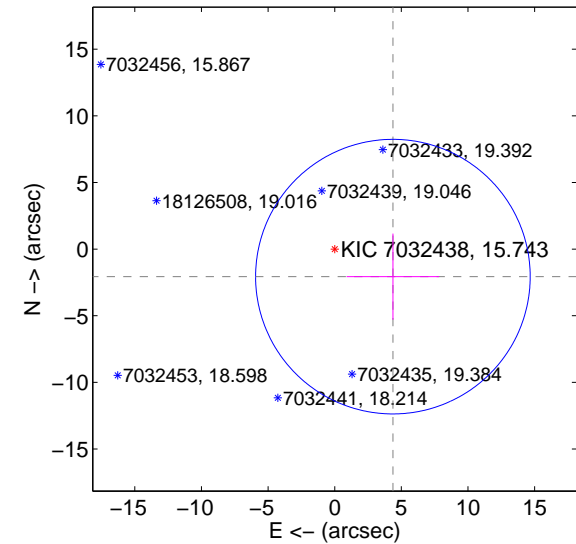
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

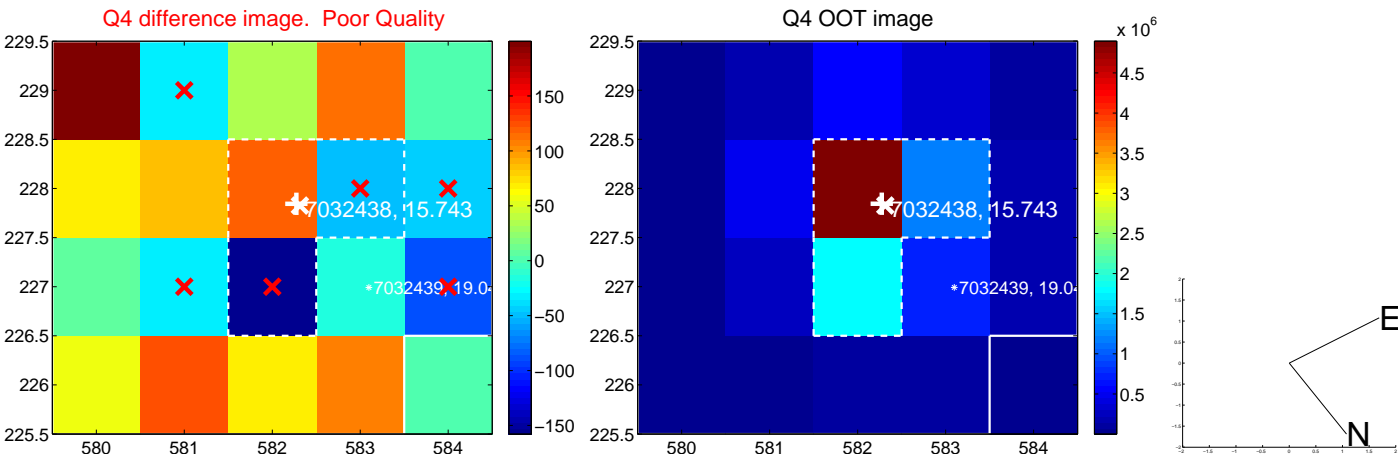
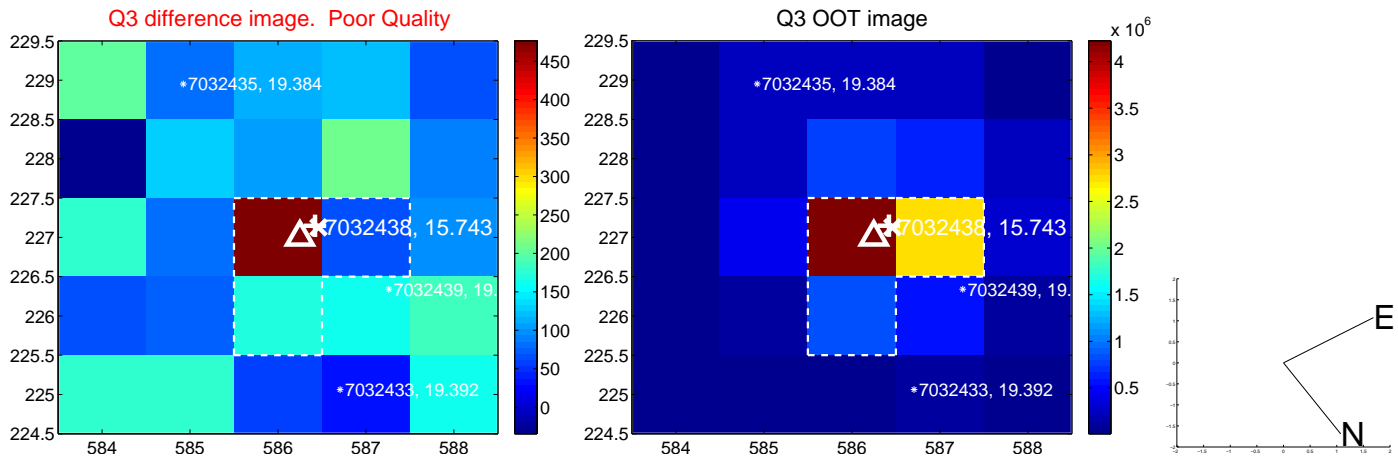
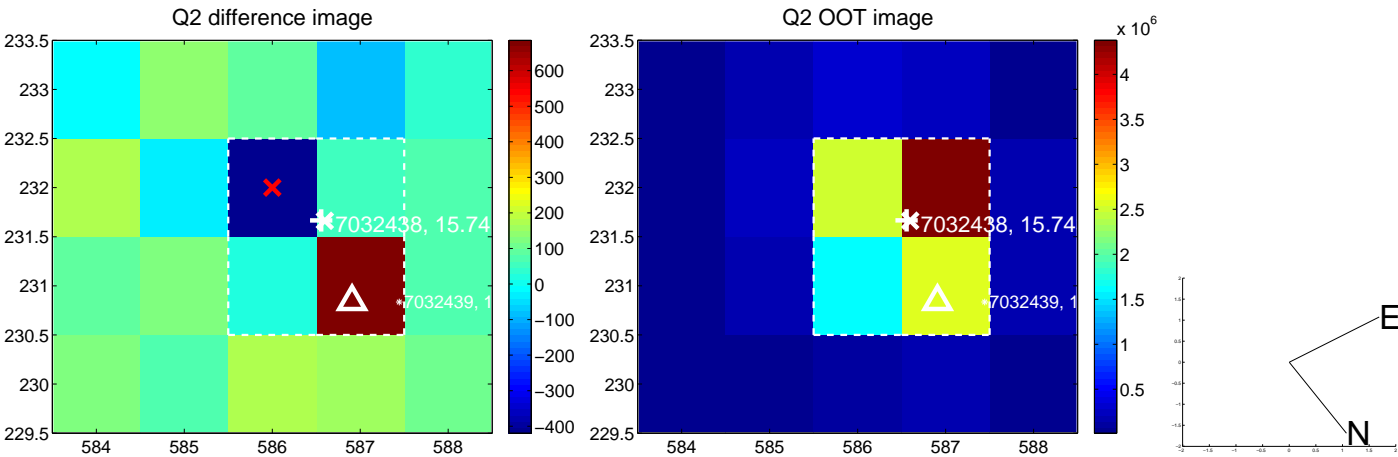
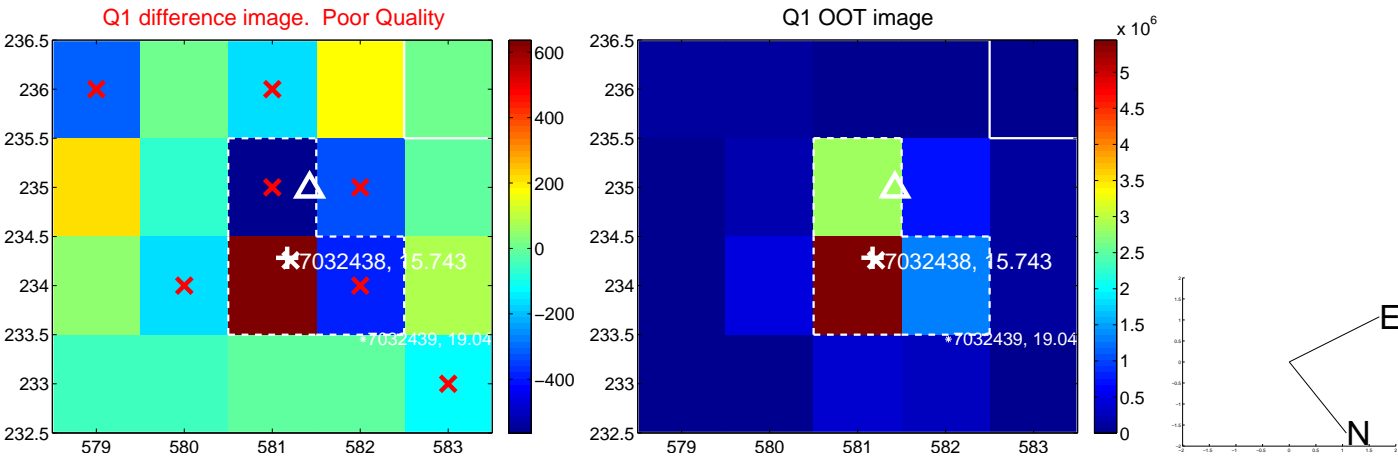


offset from photometric centroids

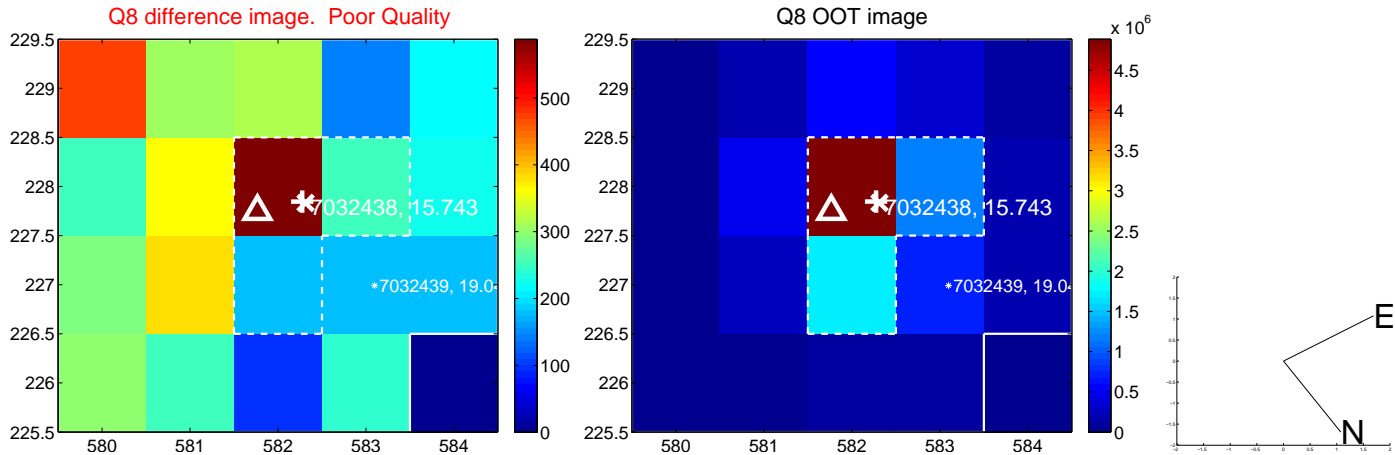
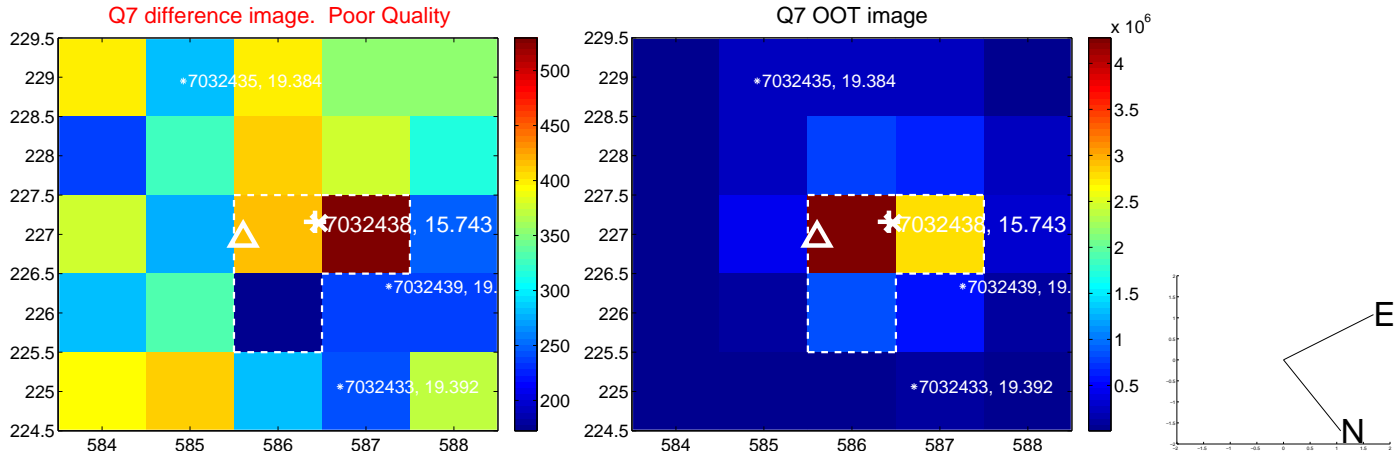
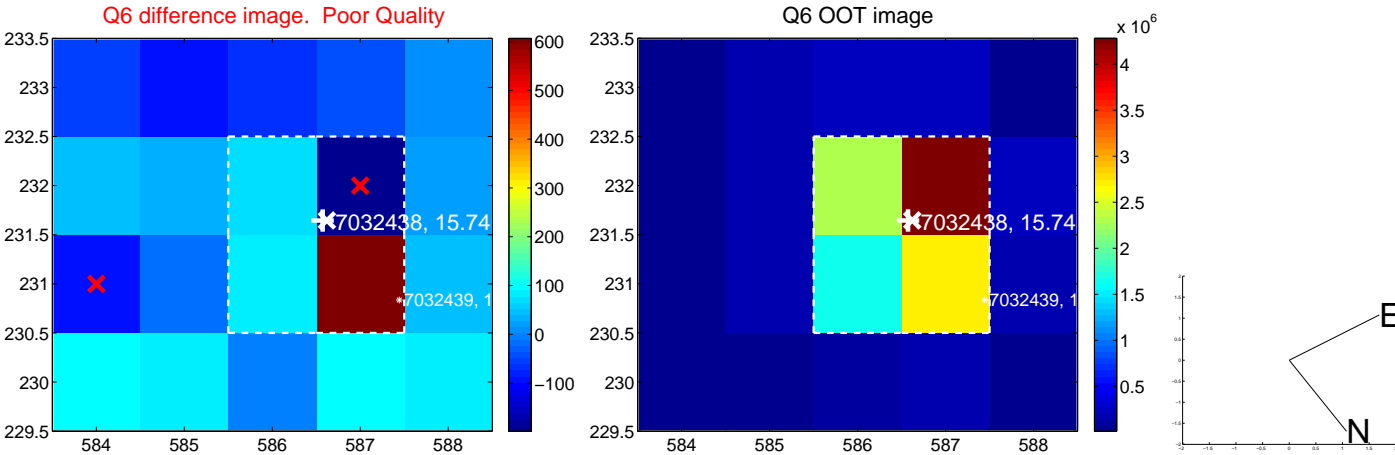
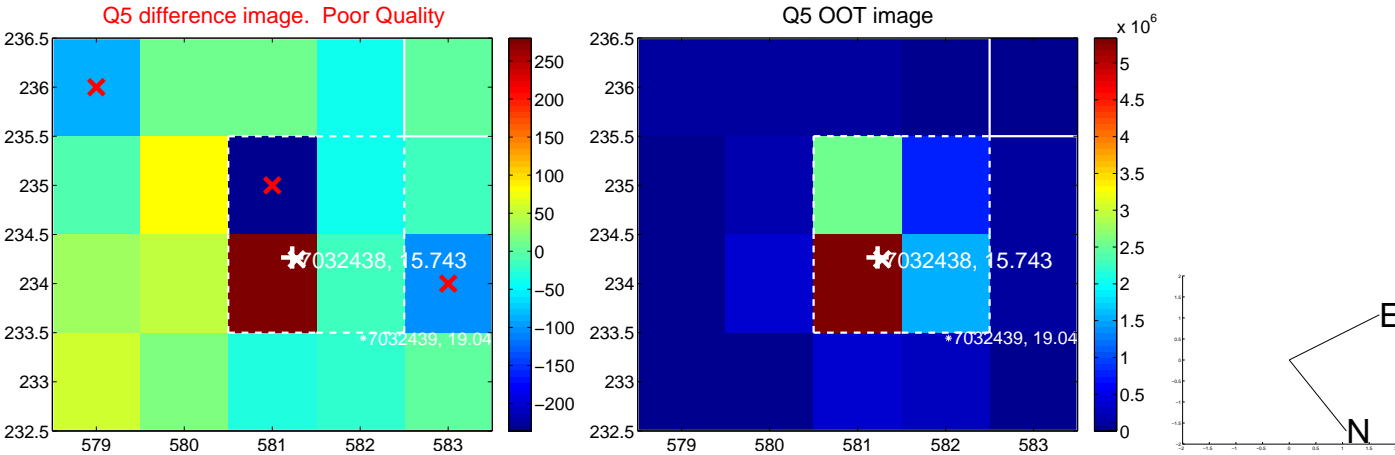


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

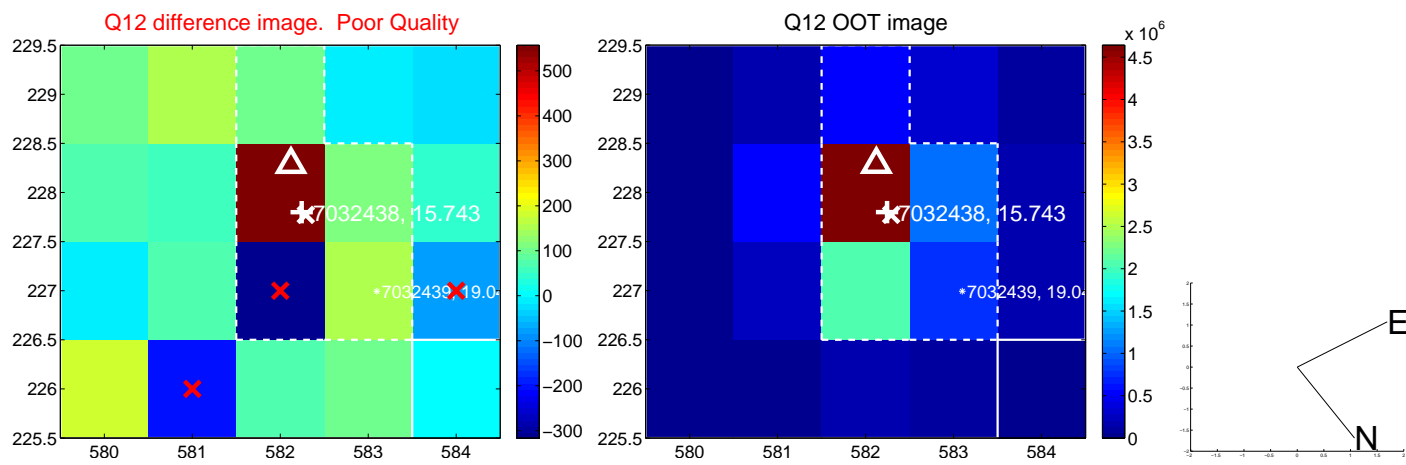
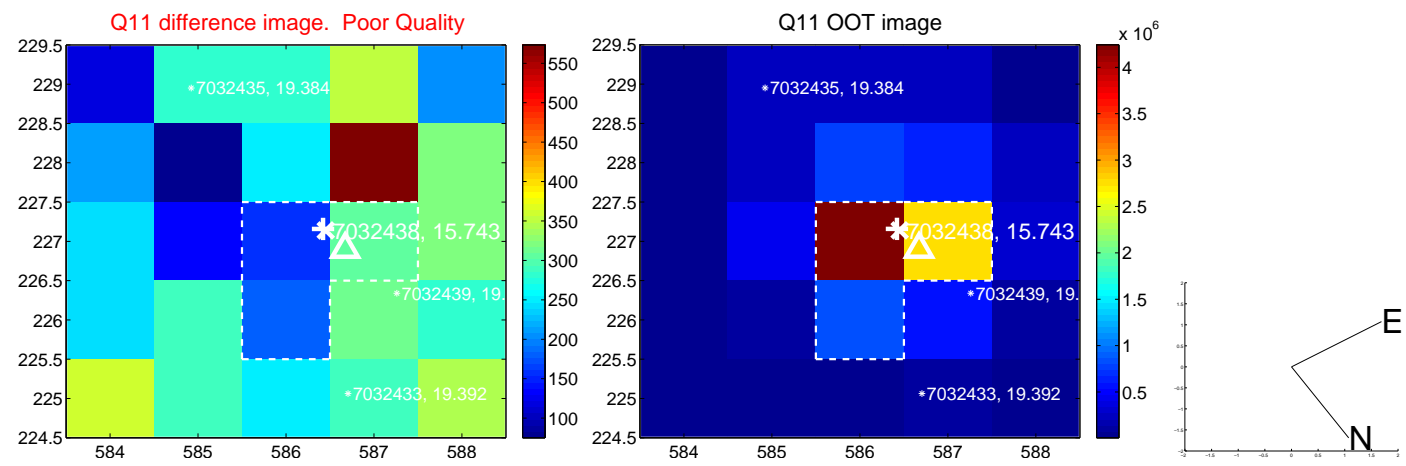
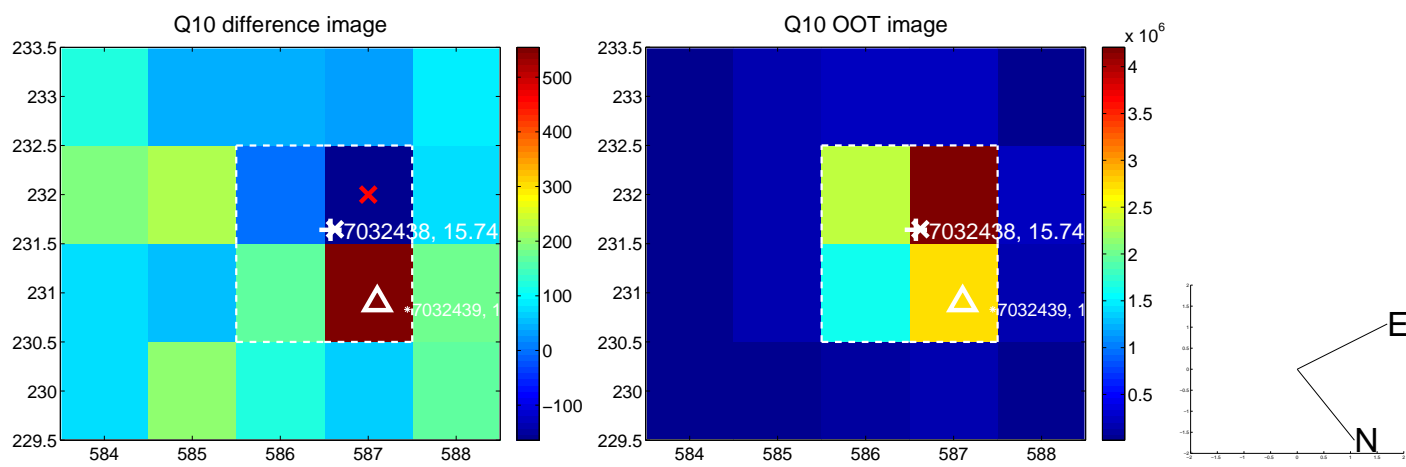
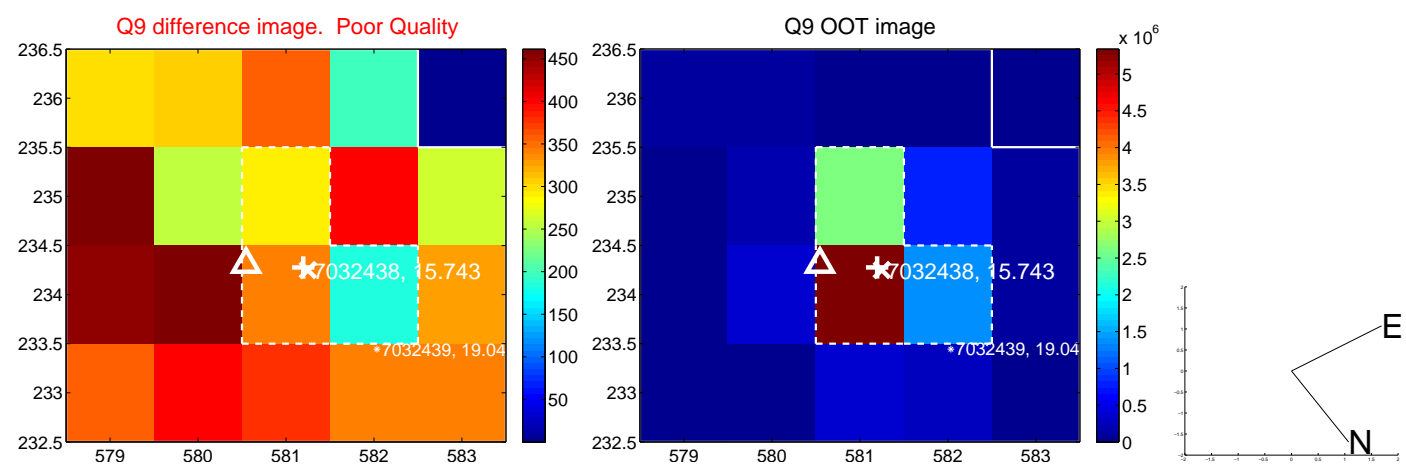
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



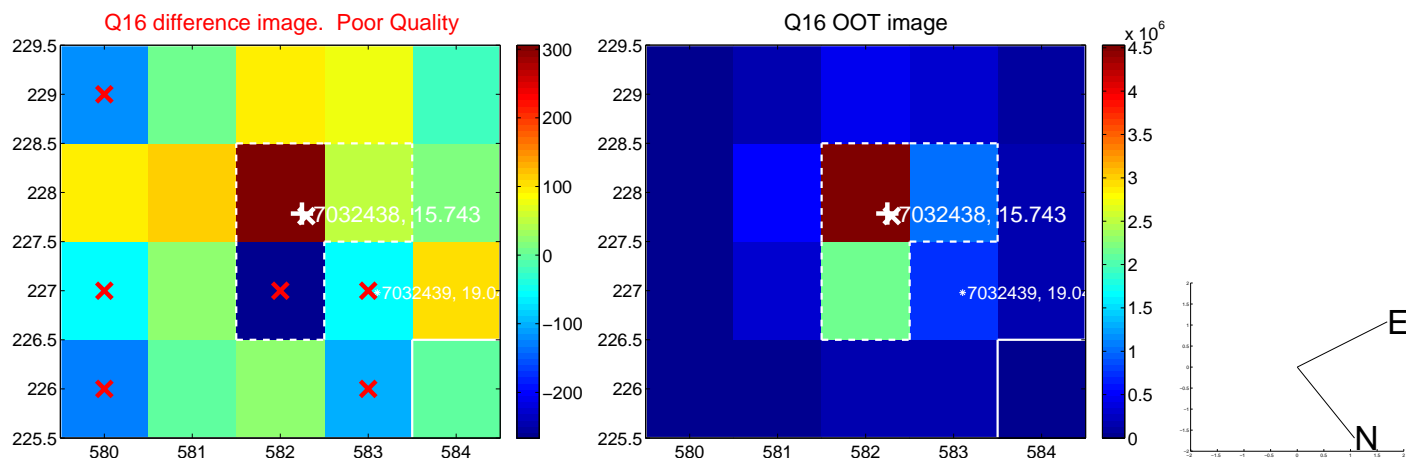
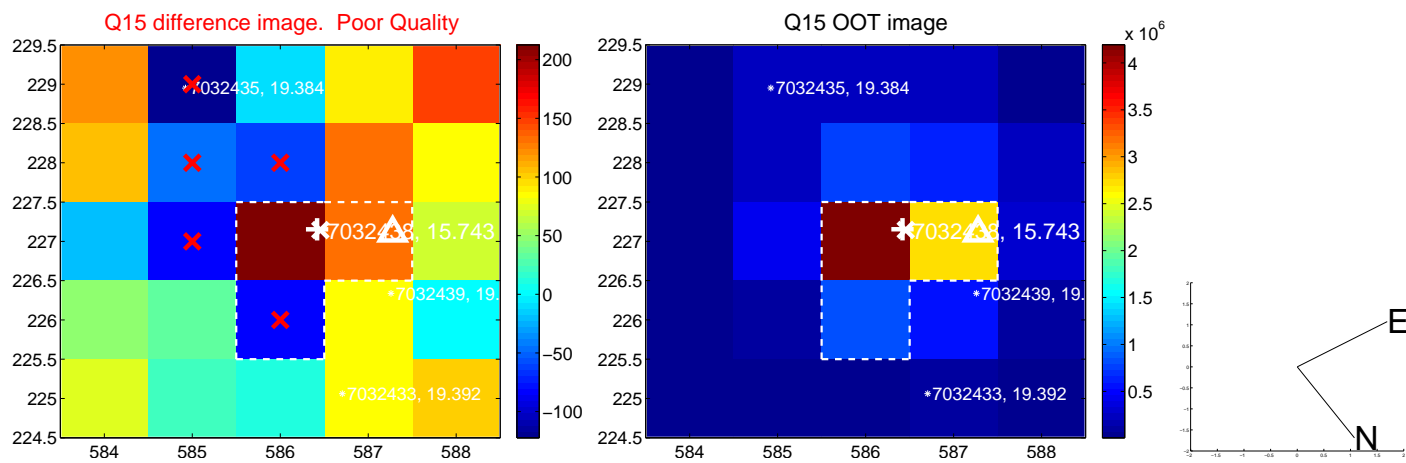
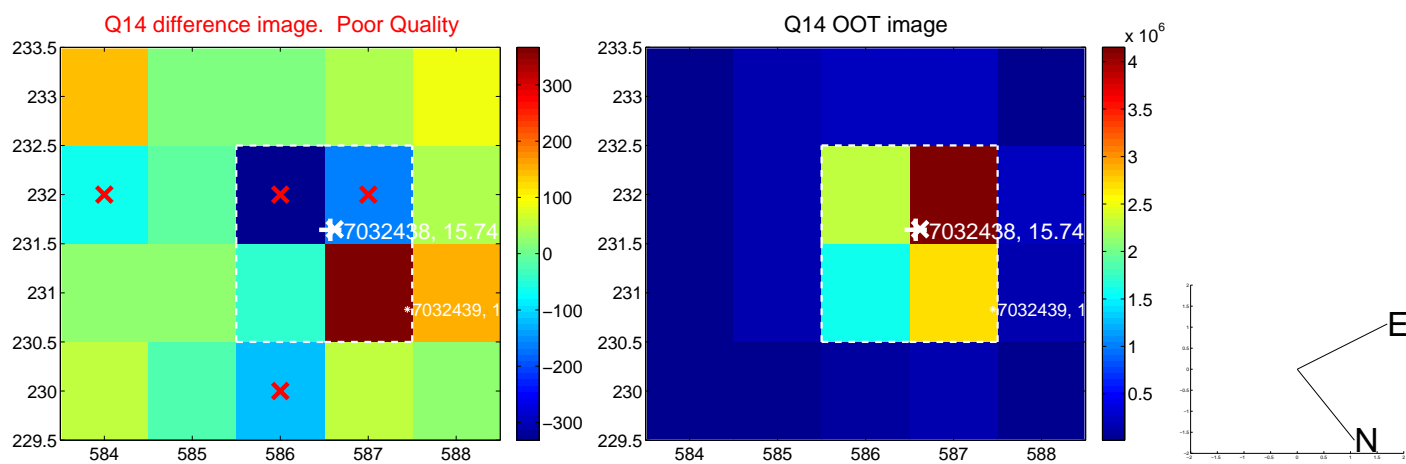
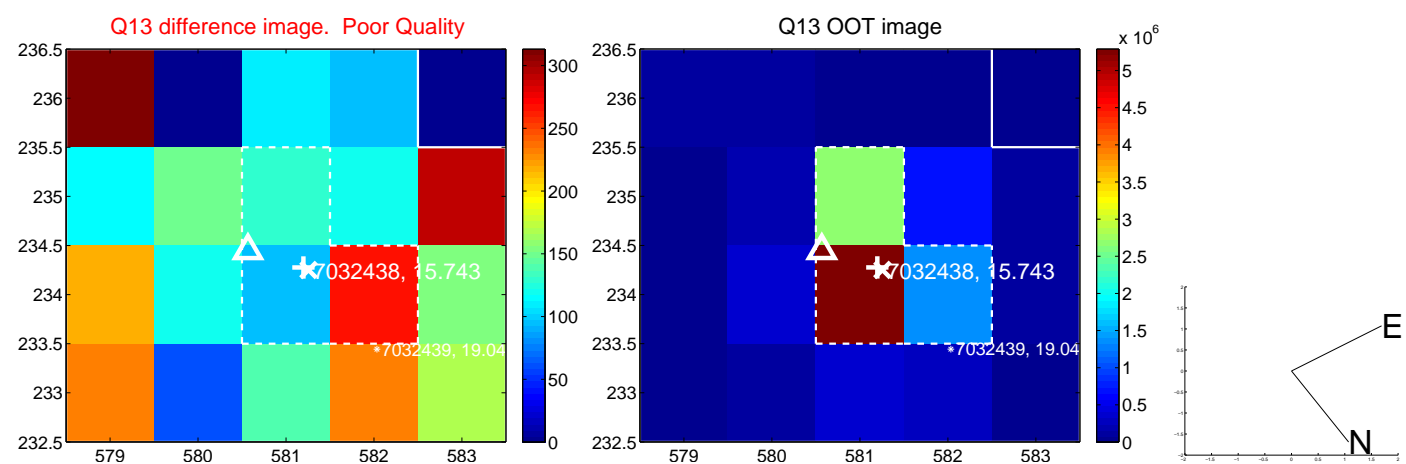
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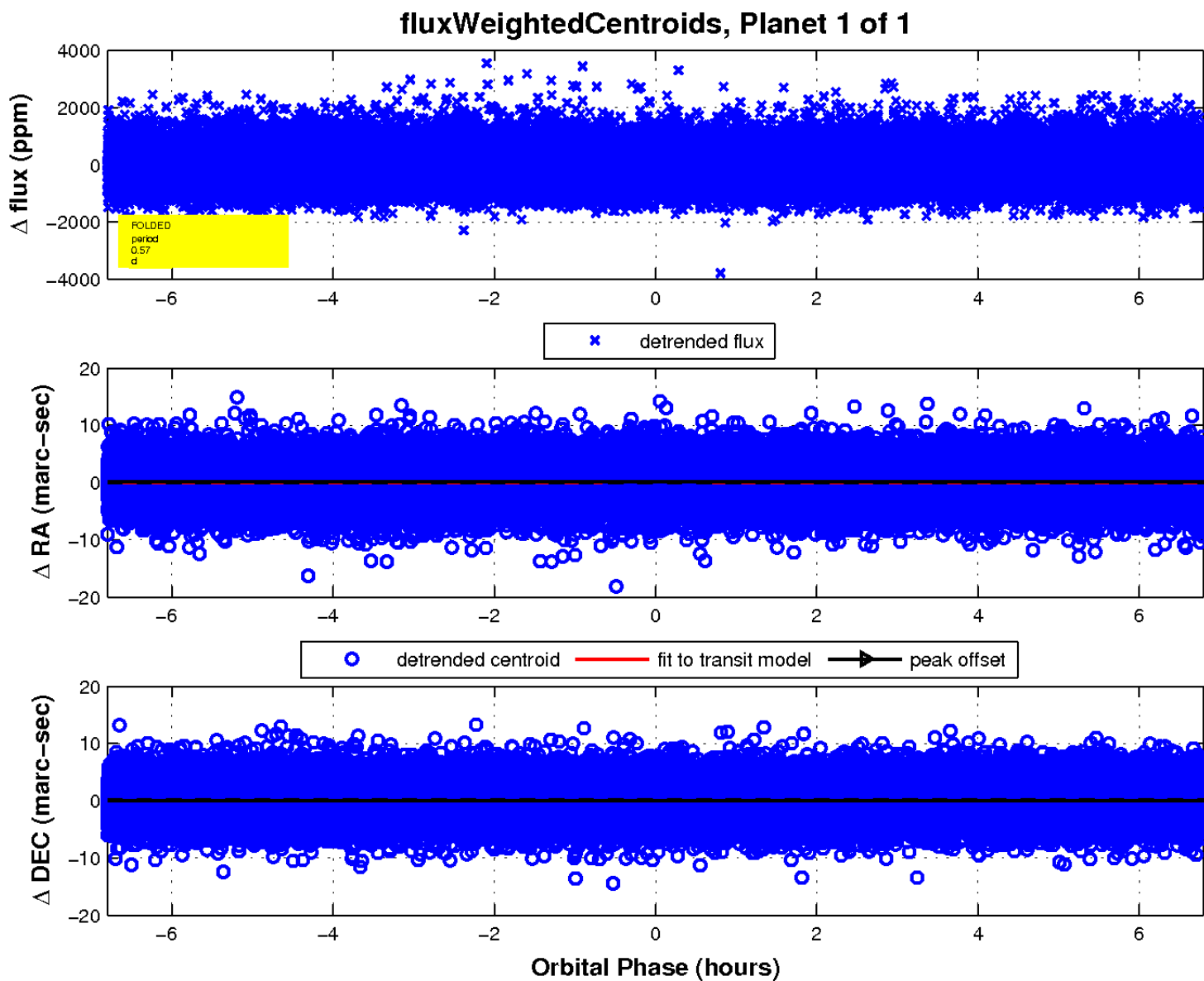
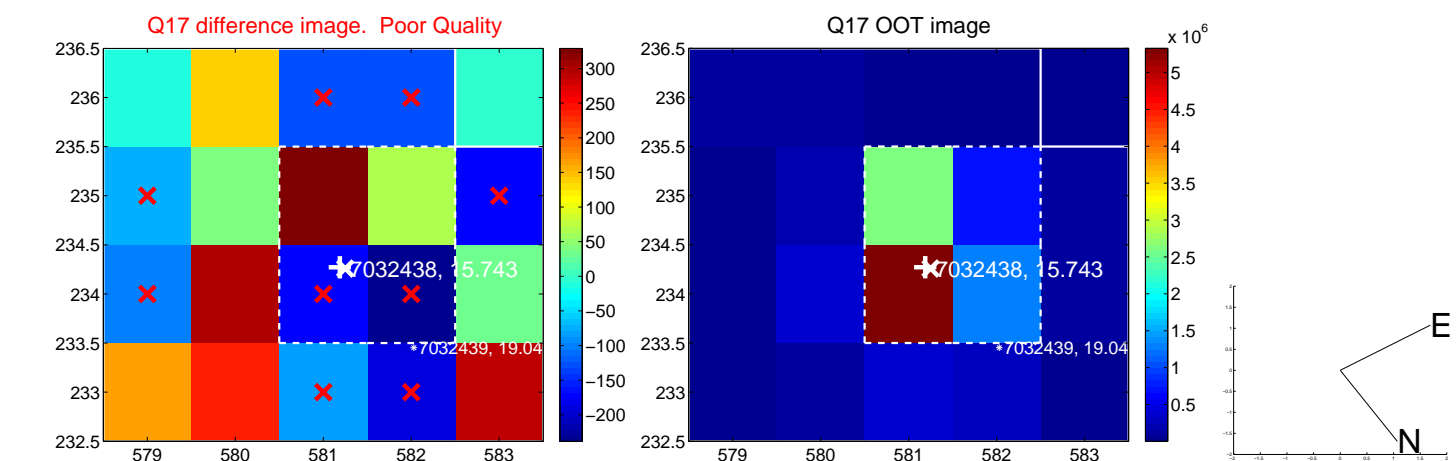
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

