

KIC 007031716

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})
007031716-01	OBS	No	0.566657	132.040602	0.4	2.855	11.9	0.2	1.03	6057	0.07	7344.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007031716-01	OBS	FP	0.00	1	0	0	1	LPP_DV—LPP_ALT—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.

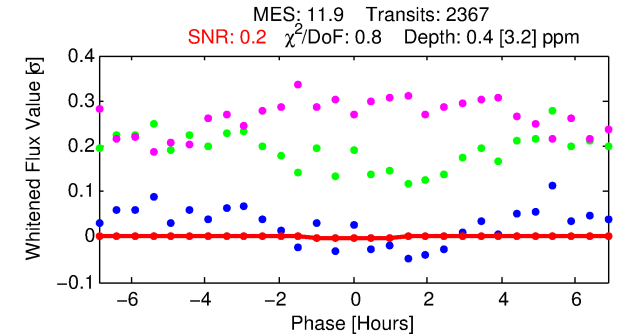
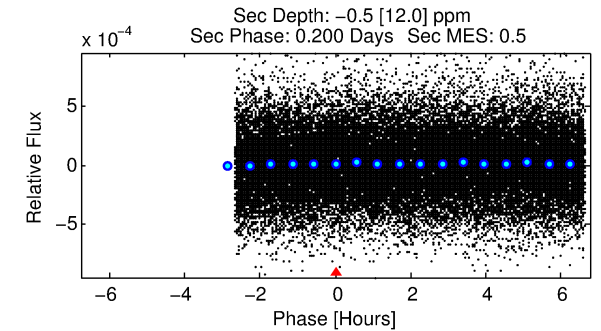
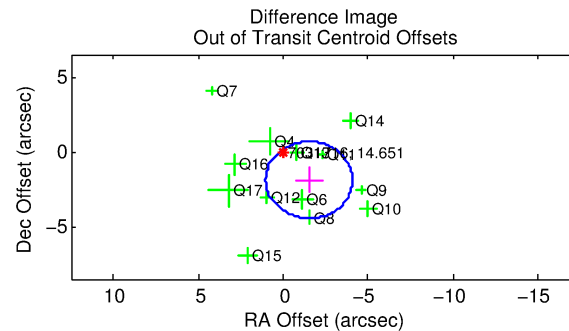
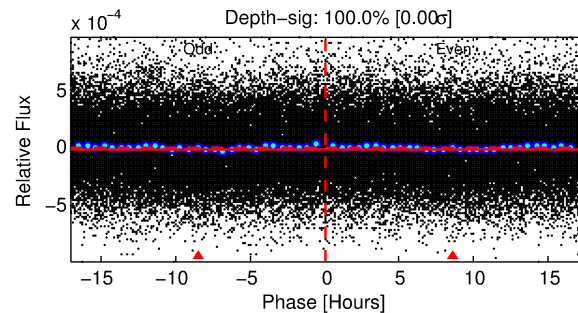
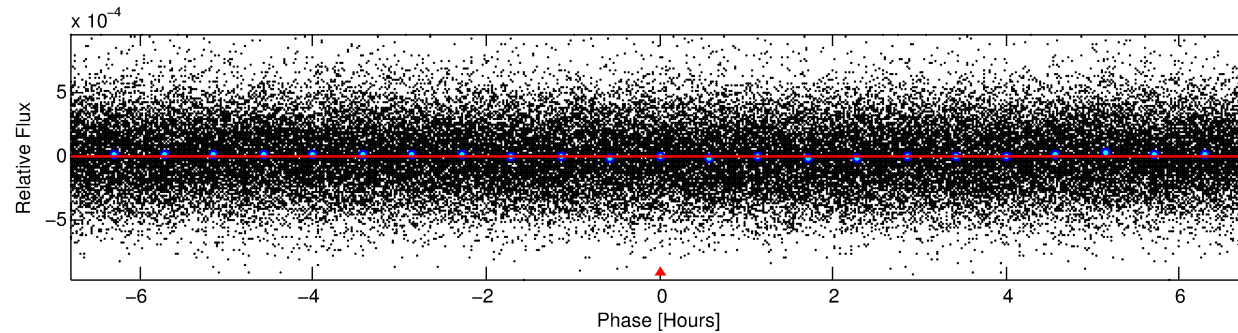
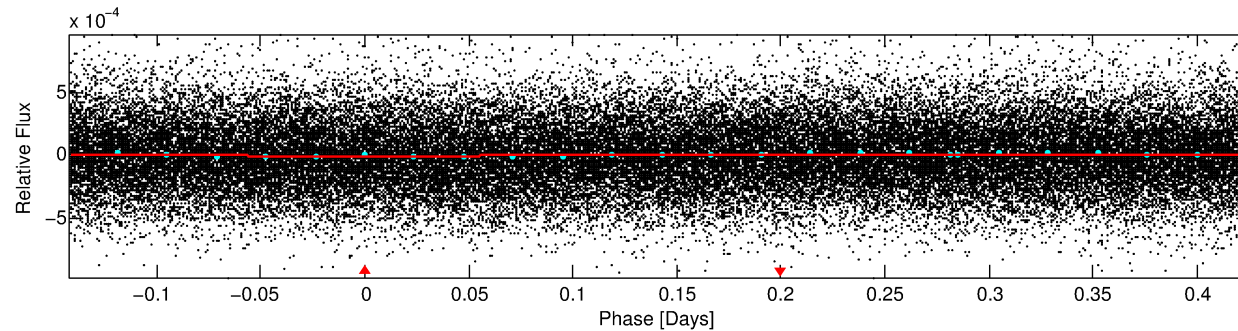
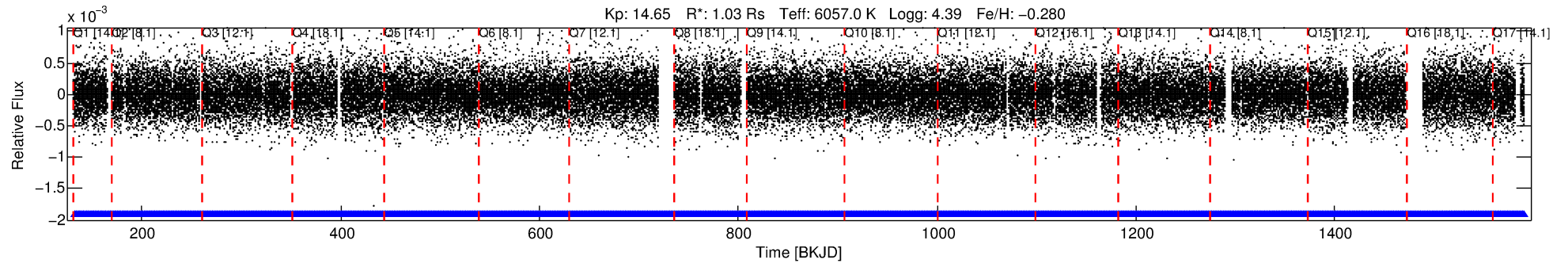
Ephemeris Match Information For 007031716-01

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
007031716-01	7031716	RR-Lyr-pri	7198959	1:1	991.6	119	-220	7.86	14.65	623300.00	Direct-PRF	0	2.09	6.12

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: 7031716 Candidate: 1 of 1 Period: 0.567 d



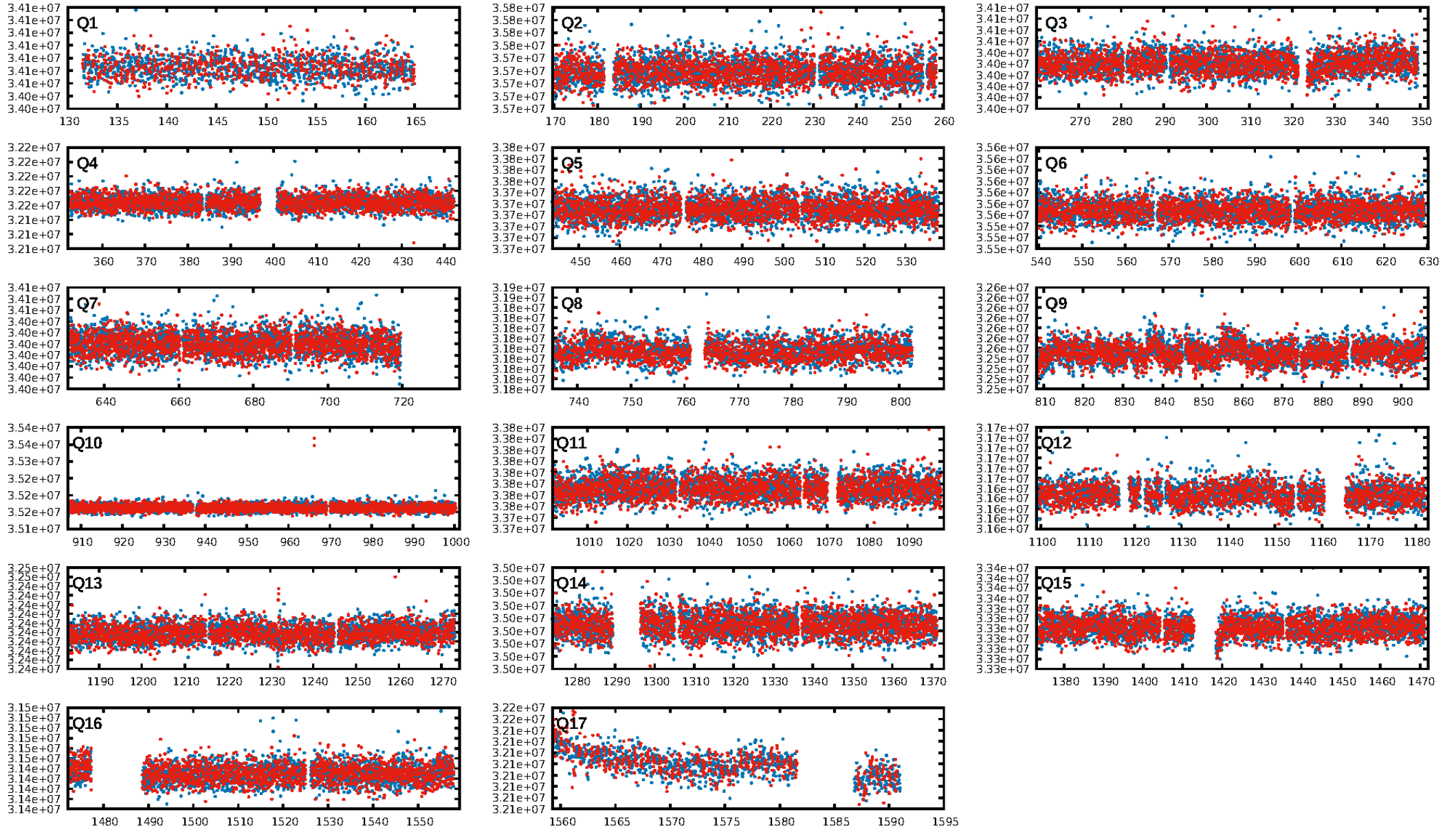
DV Fit Results:

Period = 0.56666 [0.00059] d
Epoch = 132.0406 [0.2157] BKJD
Rp/R* = 0.0006 [0.0027]
a/R* = 1.36 [6.67]
b = 0.70 [7.86]
Seff = 7344.30 [2865.55]
Teq = 2361 [230] K
Rp = 0.07 [0.31] Re
a = 0.0132 [0.0033] AU
Ag = N/A
Teffp = N/A

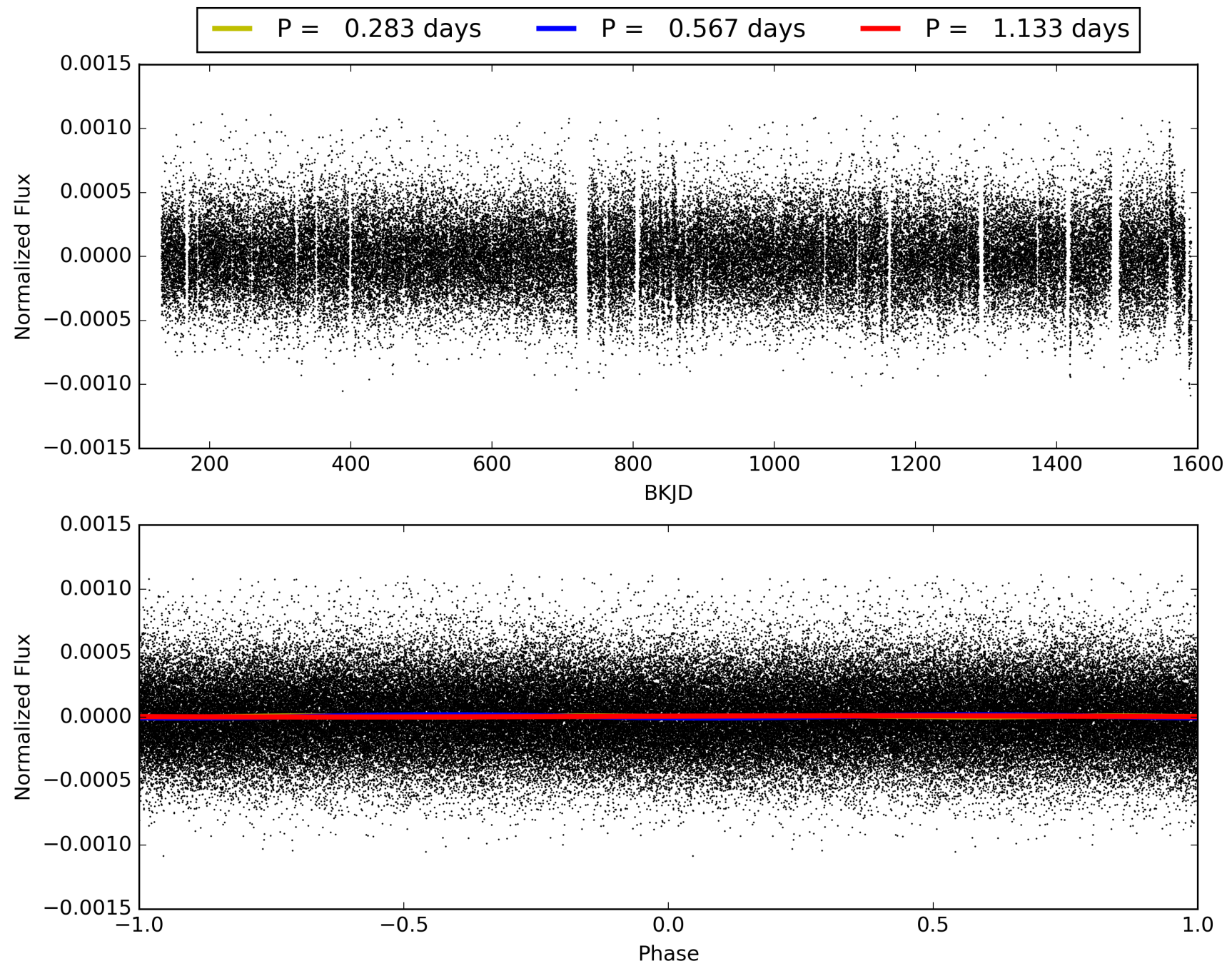
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.65e-29
RollingBand-fgt: 1.00 [2260/2260]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 2.430 arcsec [2.85σ]
KicOffset-rm: 2.069 arcsec [2.54σ]
OotOffset-st: 3/3/4/3 [13]
KicOffset-st: 3/3/4/3 [13]
DiffImageQuality-fgm: 0.08 [1/13]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007031716-01, PDC Light Curves

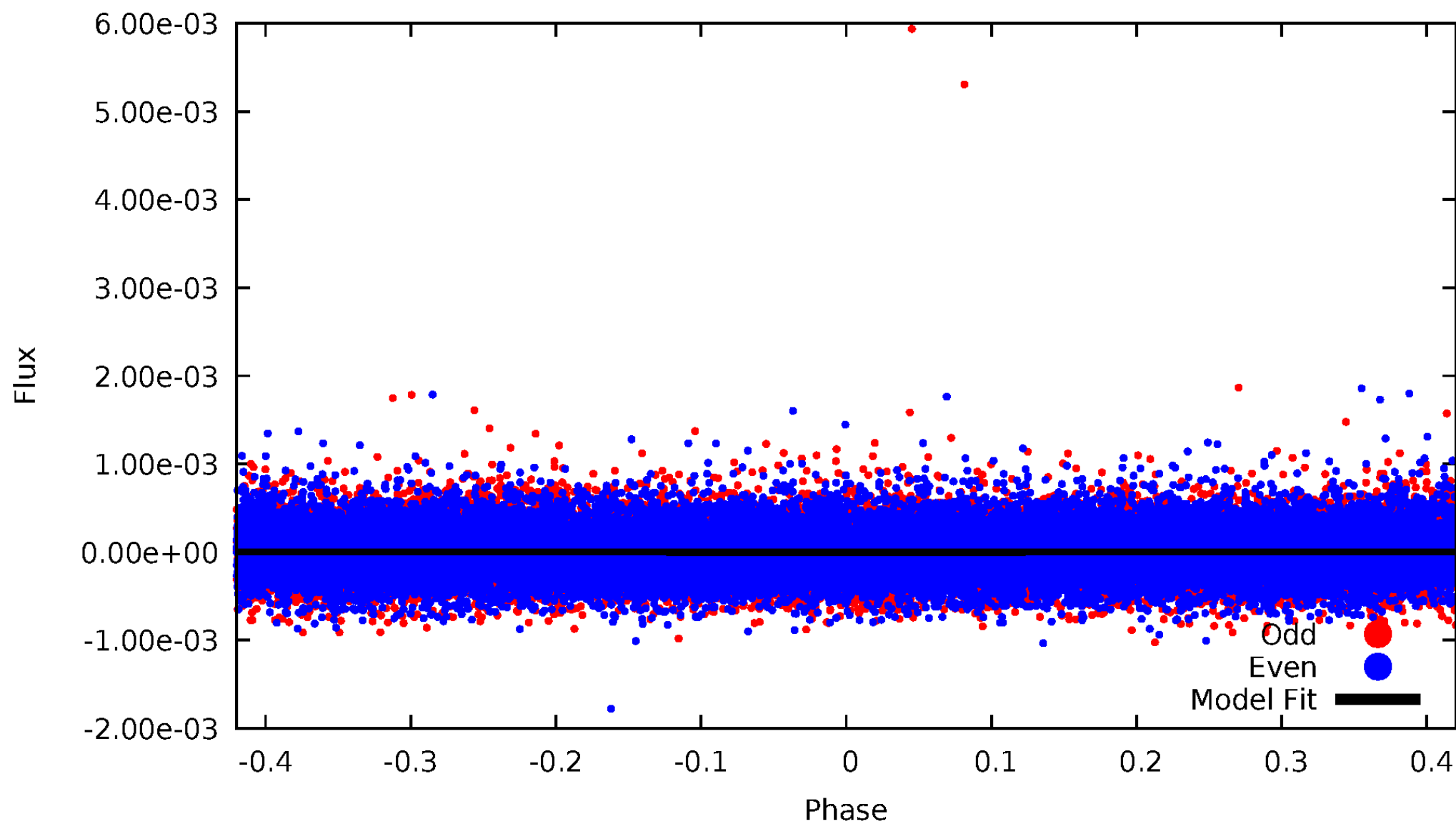


TCE 007031716-01



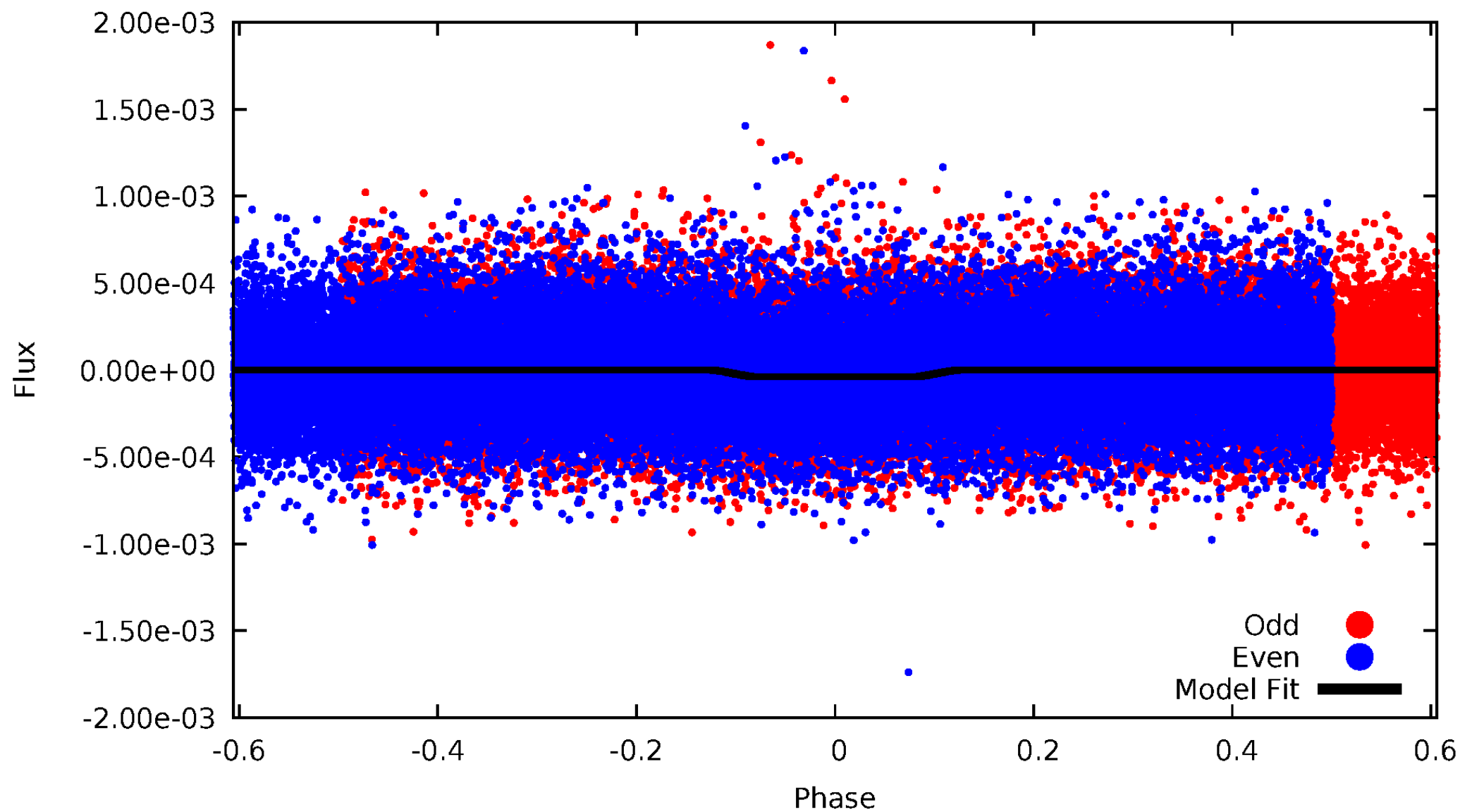
DV Odd/Even

TCE 007031716-01



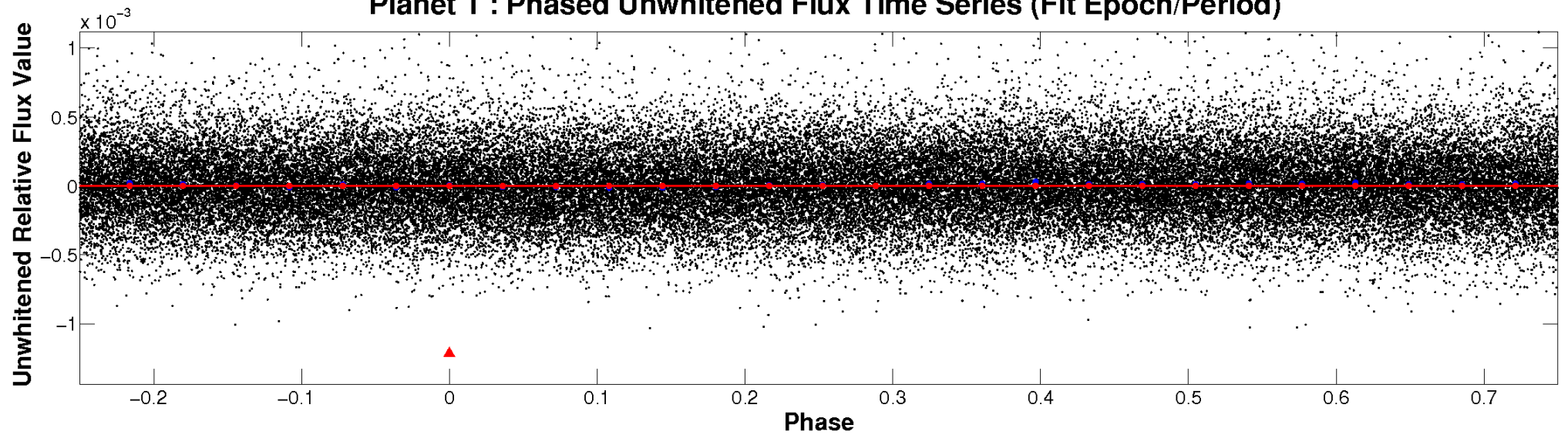
ALT Odd/Even

TCE 007031716-01

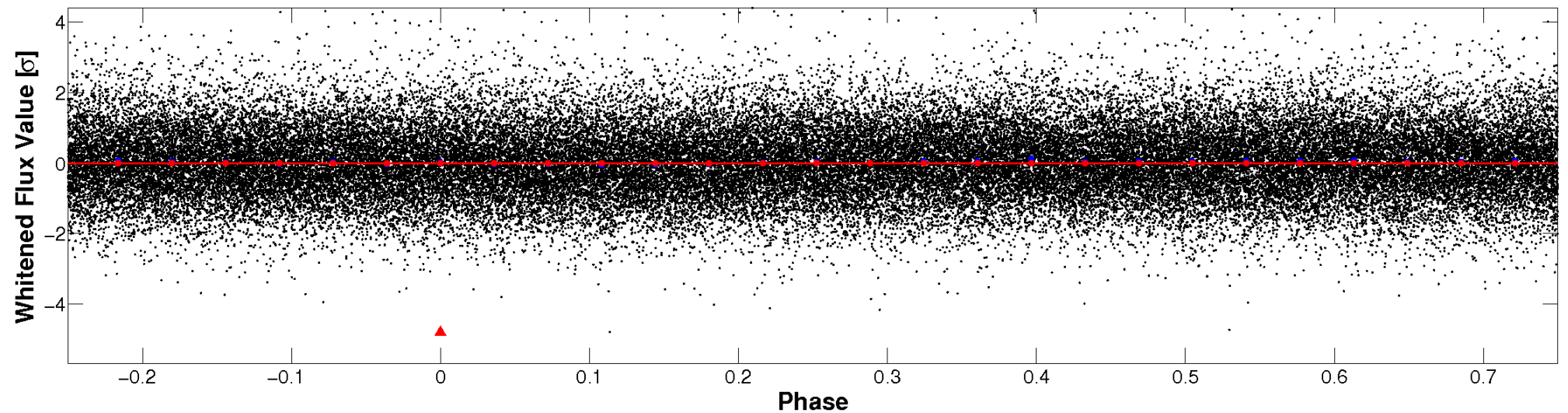


Non-Whitened Vs. Whitened Light Curve

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

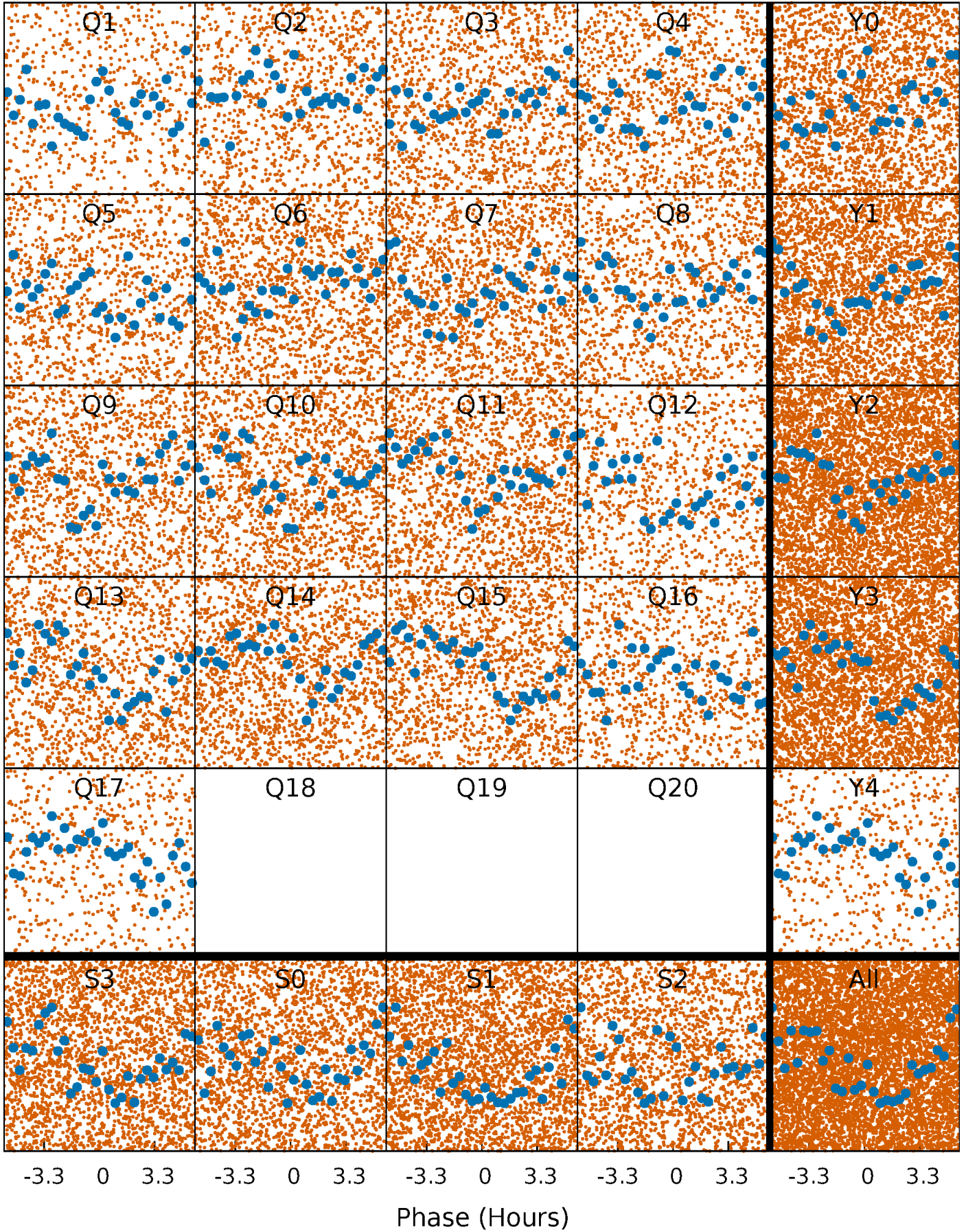


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



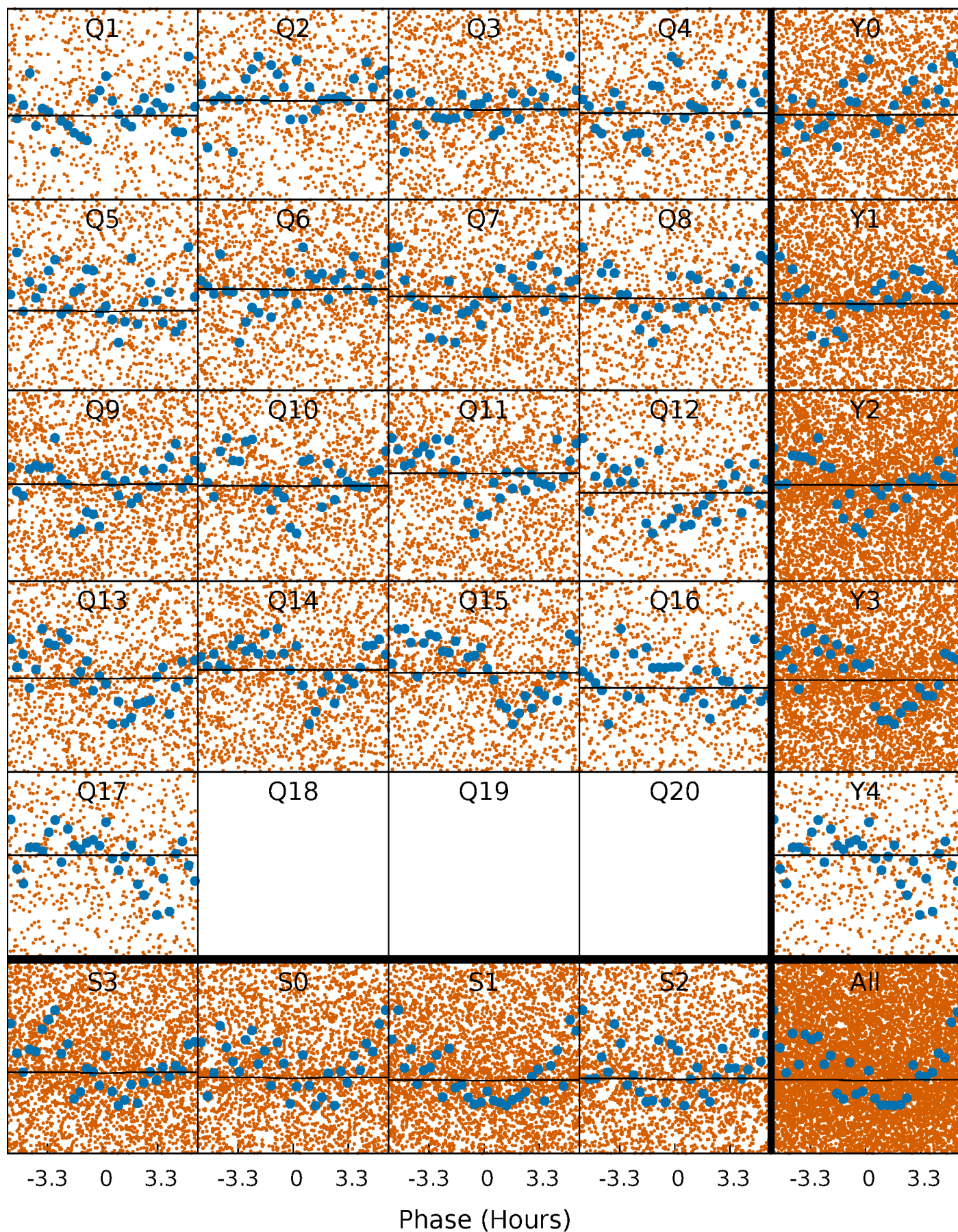
PDC Quarter-Phased Transit Curves

TCE 007031716-01 P= 0.566657 Days $T_0=132.040602$ (BKJD)



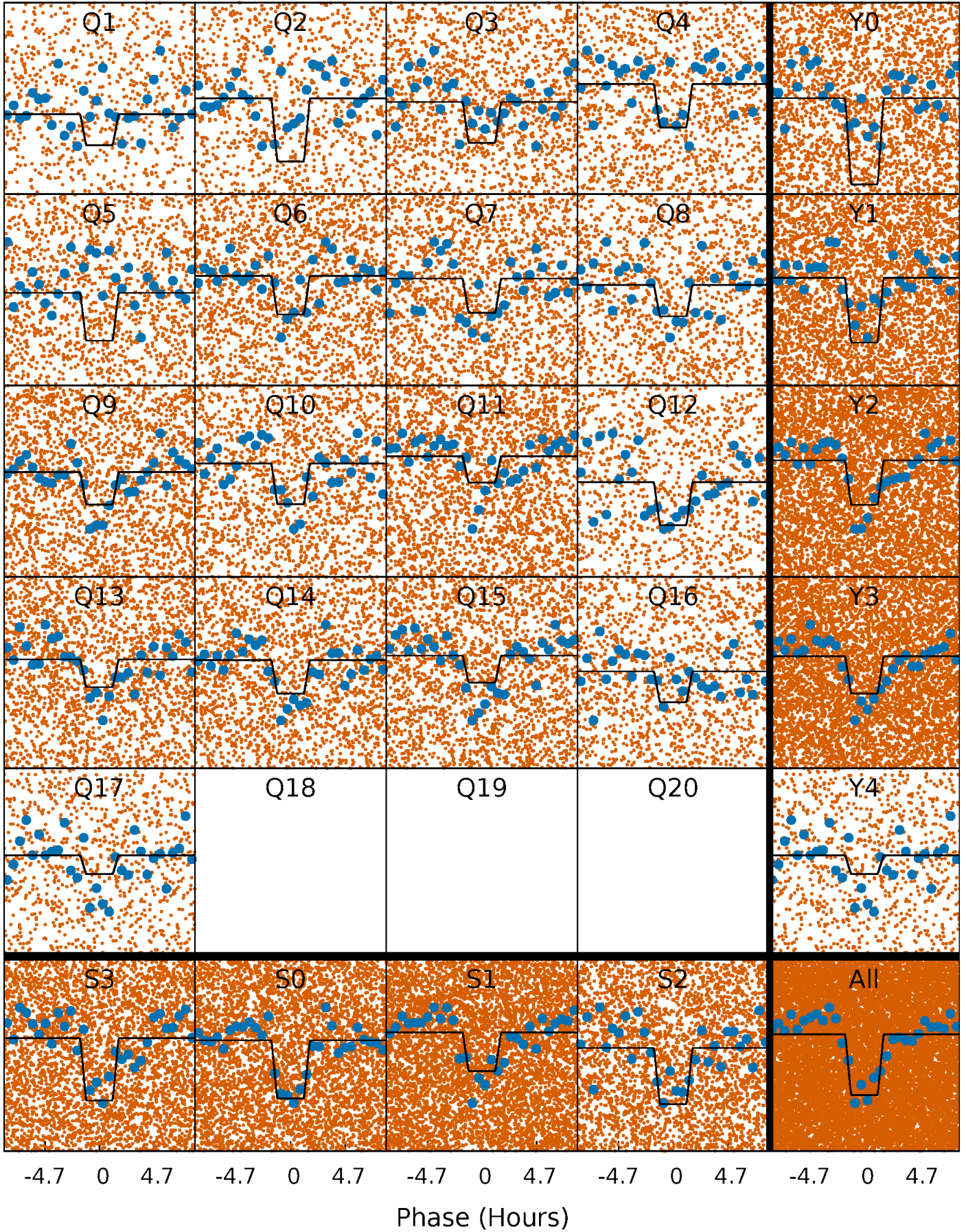
DV Quarter-Phased Transit Curves

TCE 007031716-01 P= 0.566657 Days $T_0=132.040602$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

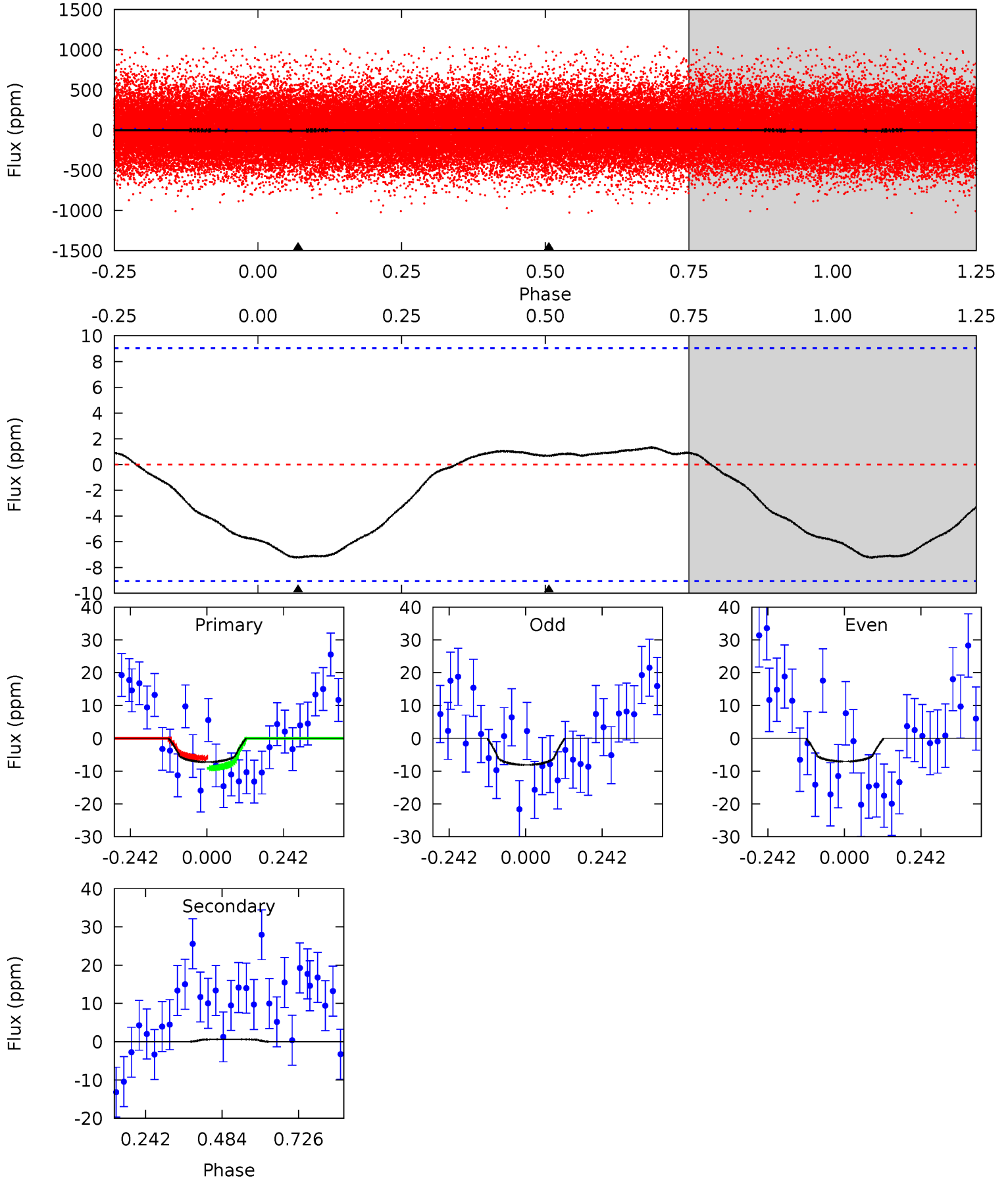
TCE 007031716-01 P= 0.566788 Days $T_0=131.837550$ (BKJD)



DV Model-Shift Uniqueness Test

007031716-01, P = 0.566657 Days, E = 131.473945 Days

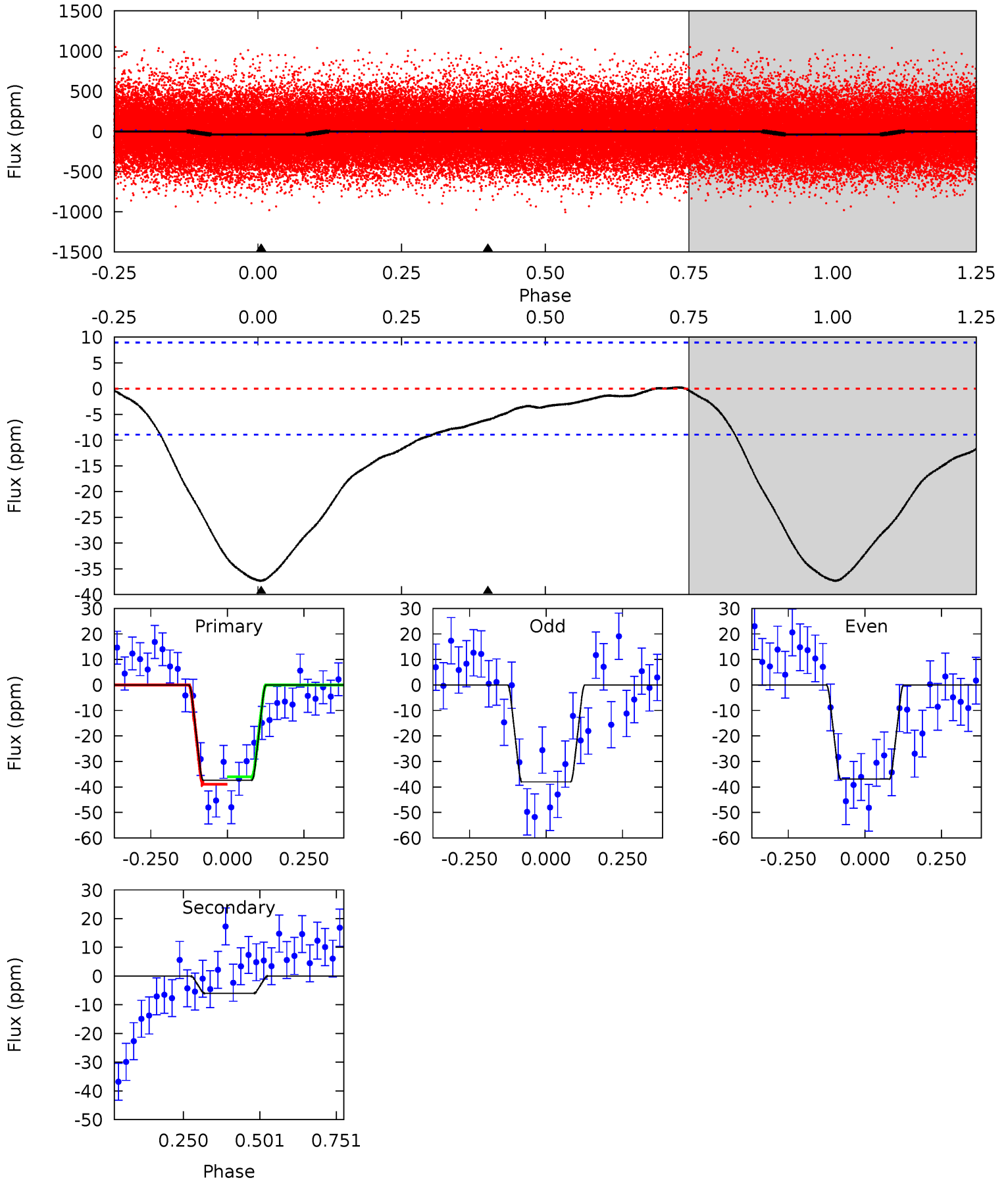
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.50	-0.32	0	0	4.38	1.17	0.38	3.50	3.50	-0.32	-0.32	0.25	0.48	0.16	0.75



Alt Model-Shift Uniqueness Test

007031716-01, P = 0.566788 Days, E = 131.270762 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.2	2.97	0	0	4.37	1.15	0.23	18.2	18.2	2.97	2.97	0.26	0.95	0.01	0.72



Stellar Parameters For KIC 007031716

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6057^{+181}_{-200}	$4.393^{+0.108}_{-0.201}$	$-0.280^{+0.300}_{-0.300}$	$1.032^{+0.308}_{-0.154}$	$0.960^{+0.142}_{-0.116}$	$1.232^{+0.688}_{-0.634}$
	+3%/-3%	+2%/-5%	+107%/-107%	+30%/-15%	+15%/-12%	+56%/-51%
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 007031716-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	1 ± 2	$0.26^{+0.24}_{-0.17}$	3347^{+272}_{-209}	-3784^{+8497}_{-2619}	$-0.408^{+2.960}_{-7.823}$
Alt.	-6 ± 2	$0.71^{+0.36}_{-0.29}$	3333^{+254}_{-195}	3865^{+1080}_{-852}	$1.092^{+2.277}_{-0.636}$

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 $A_{obs} \gg 1.0$

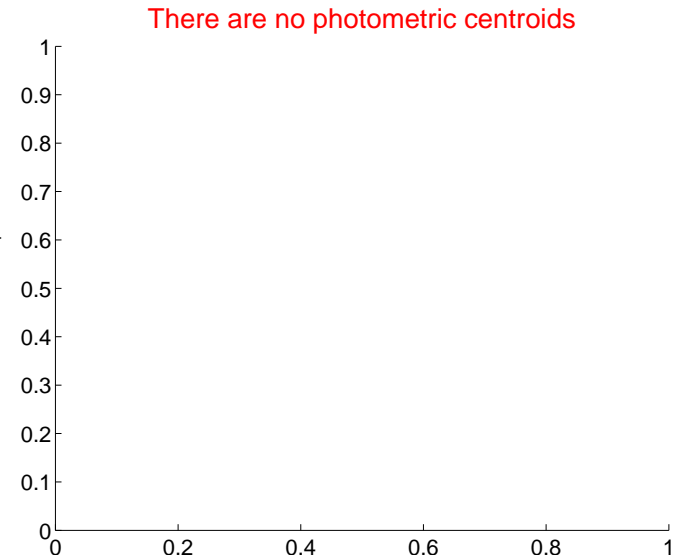
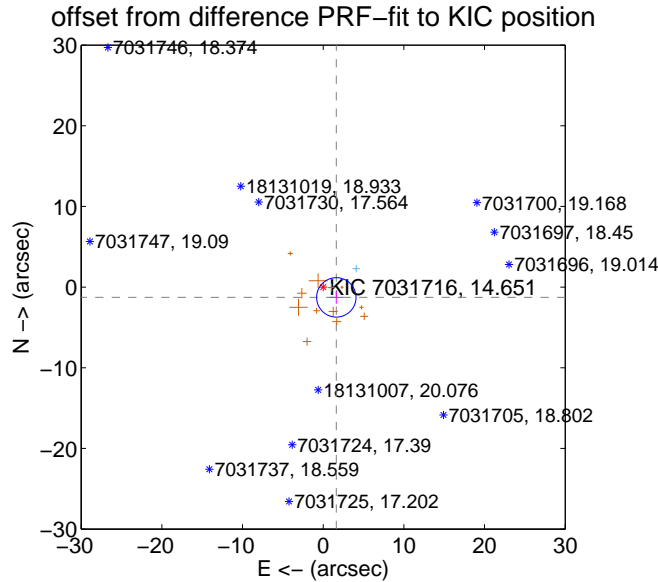
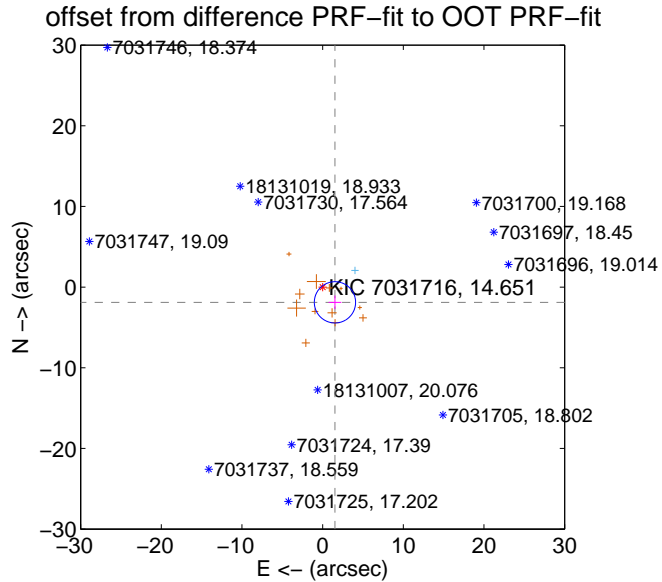
DV Centroid Data

Supplemental centroid analysis for 007031716-01. Kepler magnitude: 14.65. Transit SNR 0.17

There are 1 quarters with good PRF difference image offsets

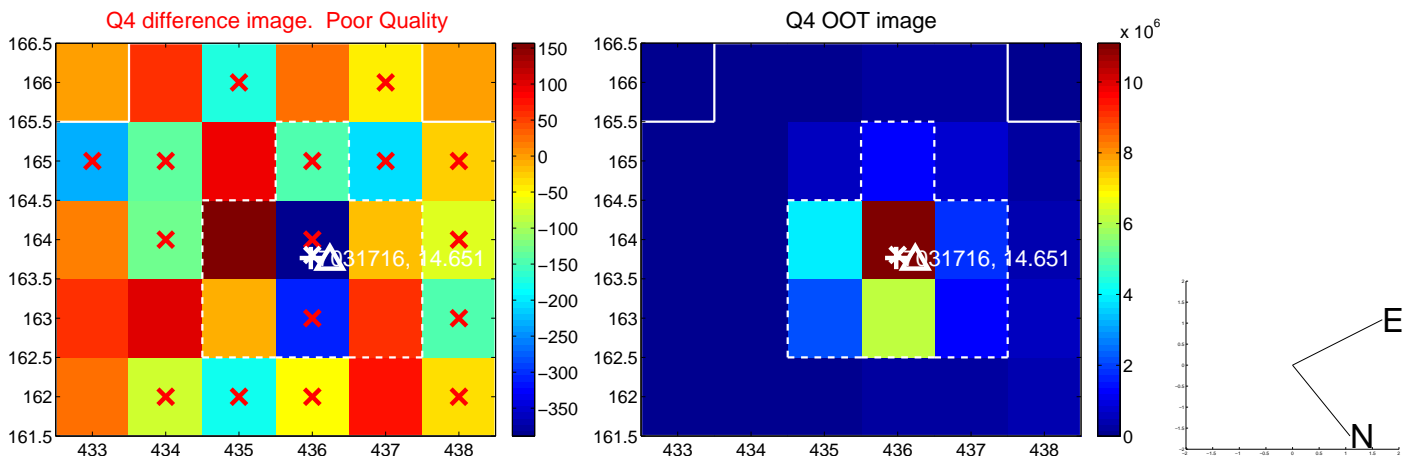
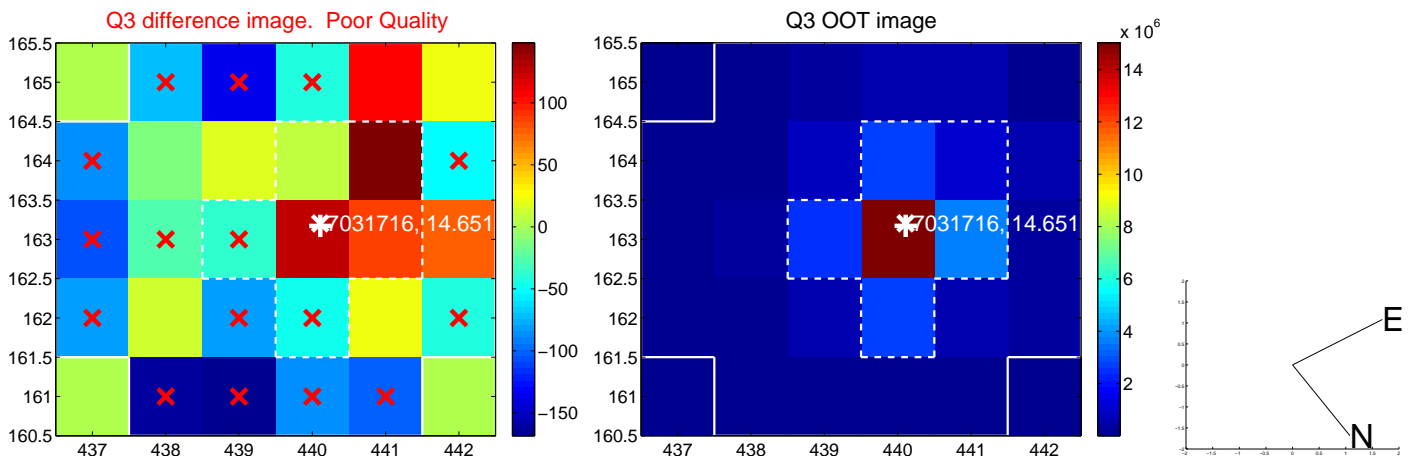
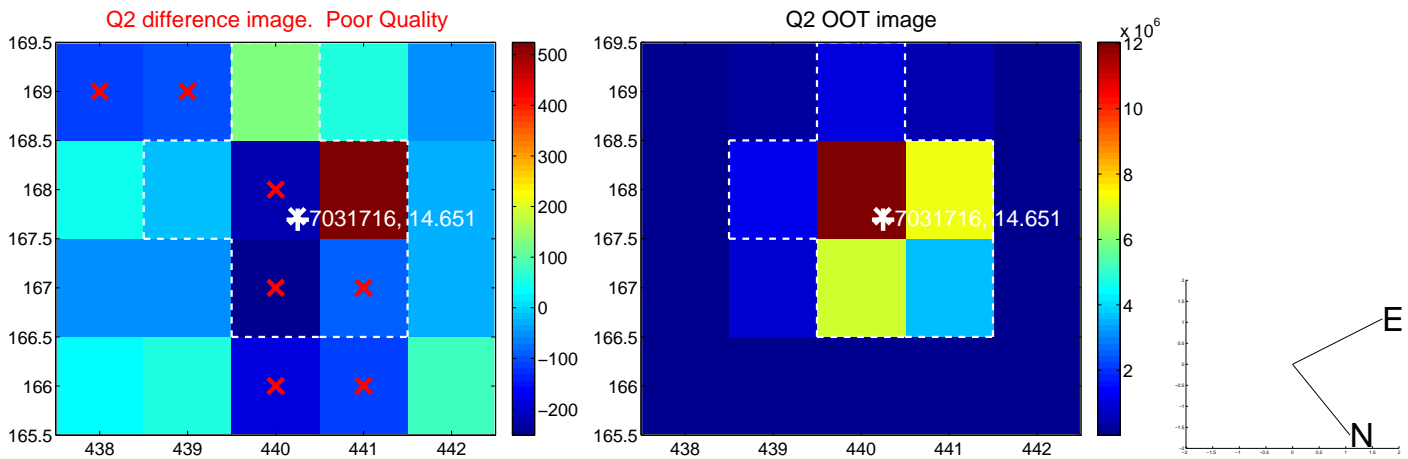
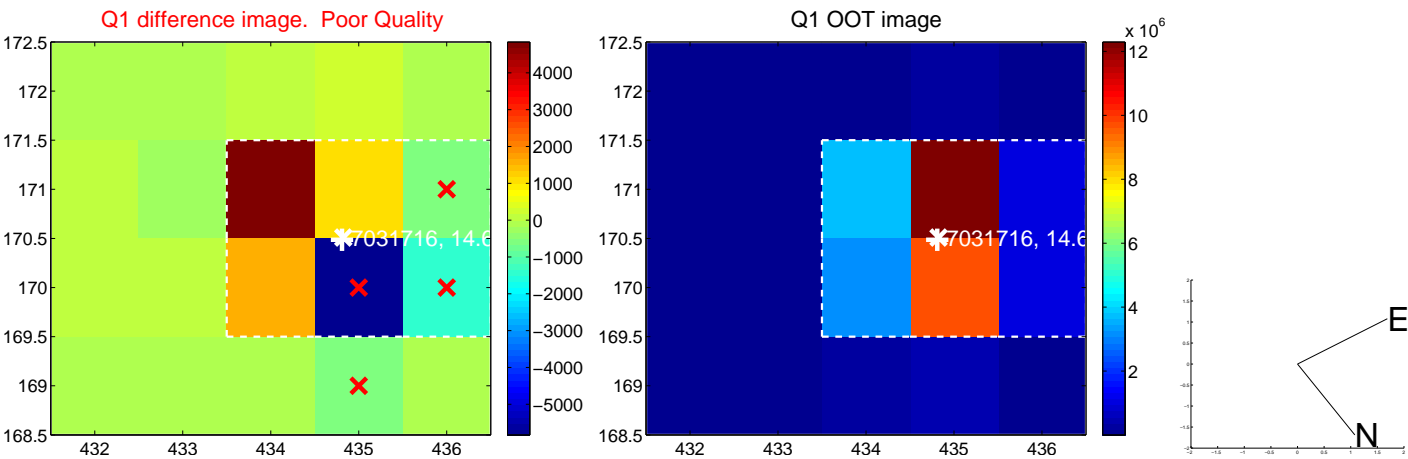
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.430 ± 0.853	2.85	-1.528 ± 0.787	-1.889 ± 0.849
PRF-fit source offset from KIC position	2.069 ± 0.814	2.54	-1.629 ± 0.831	-1.276 ± 0.785
photometric centroid source offset	—	—	—	—

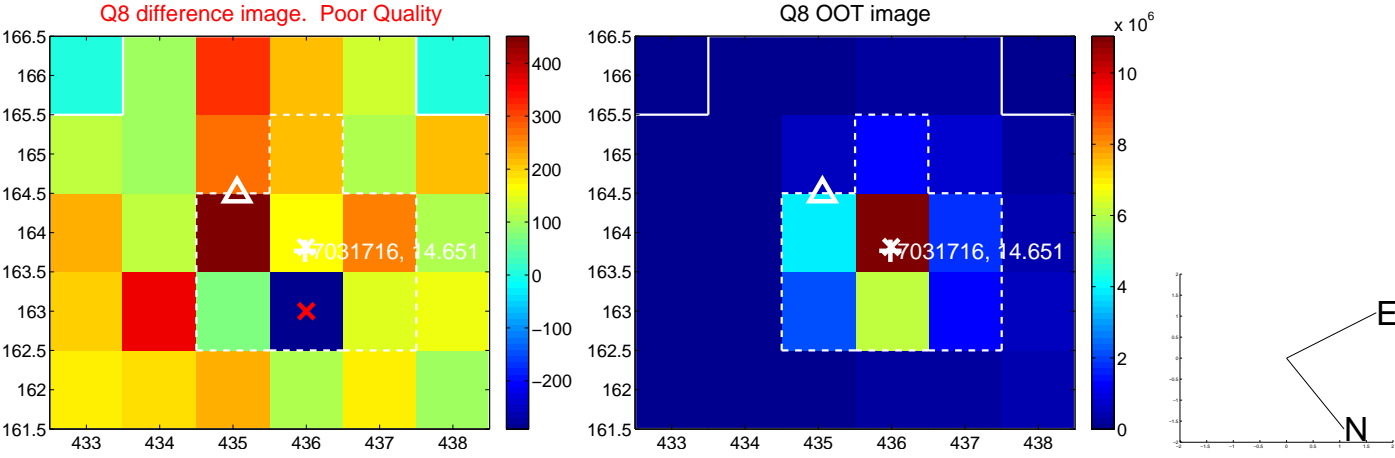
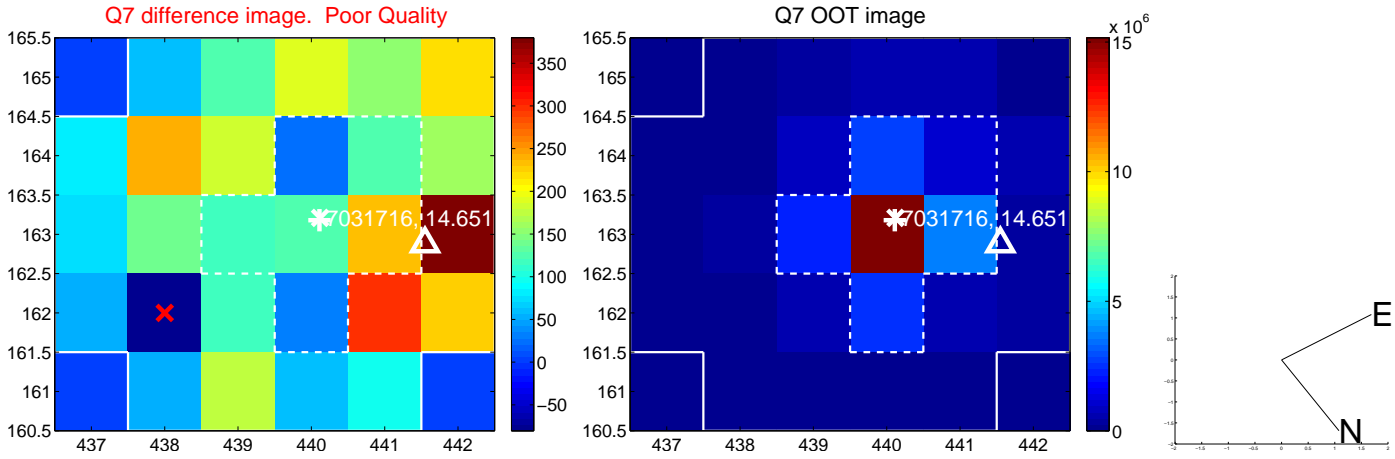
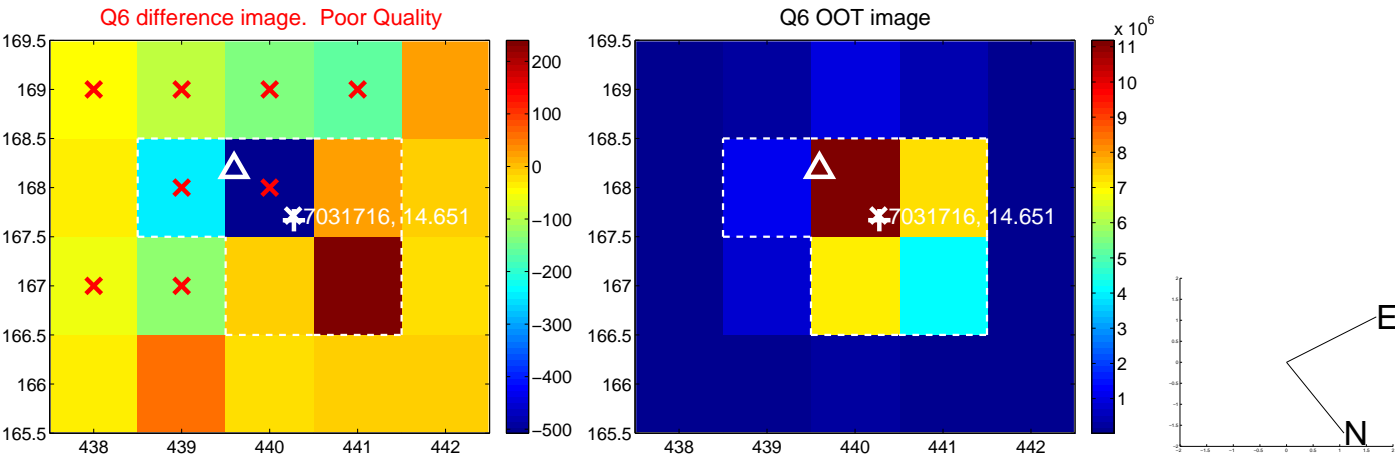
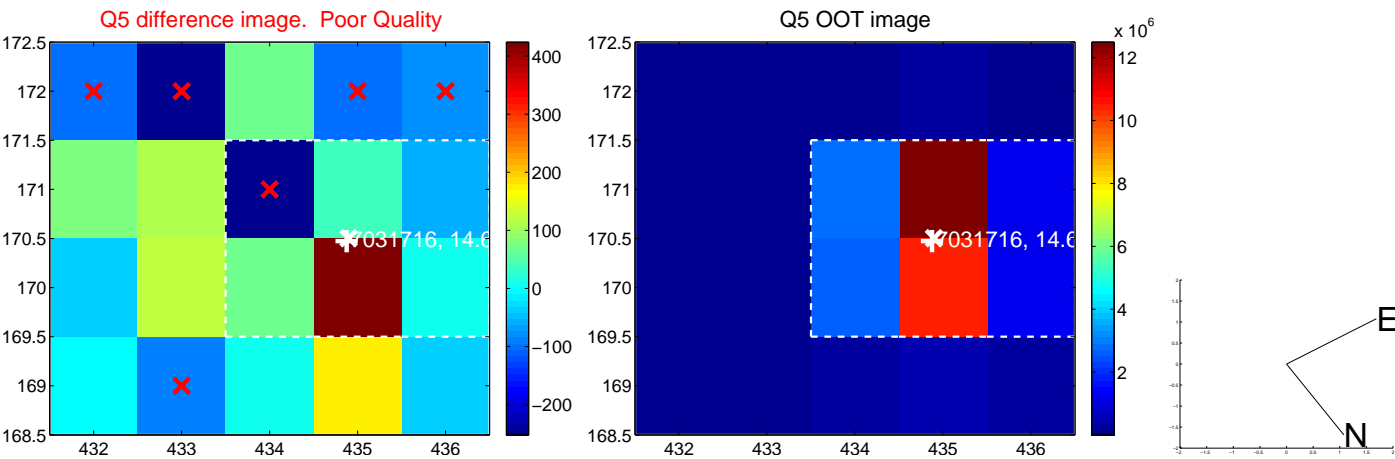


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

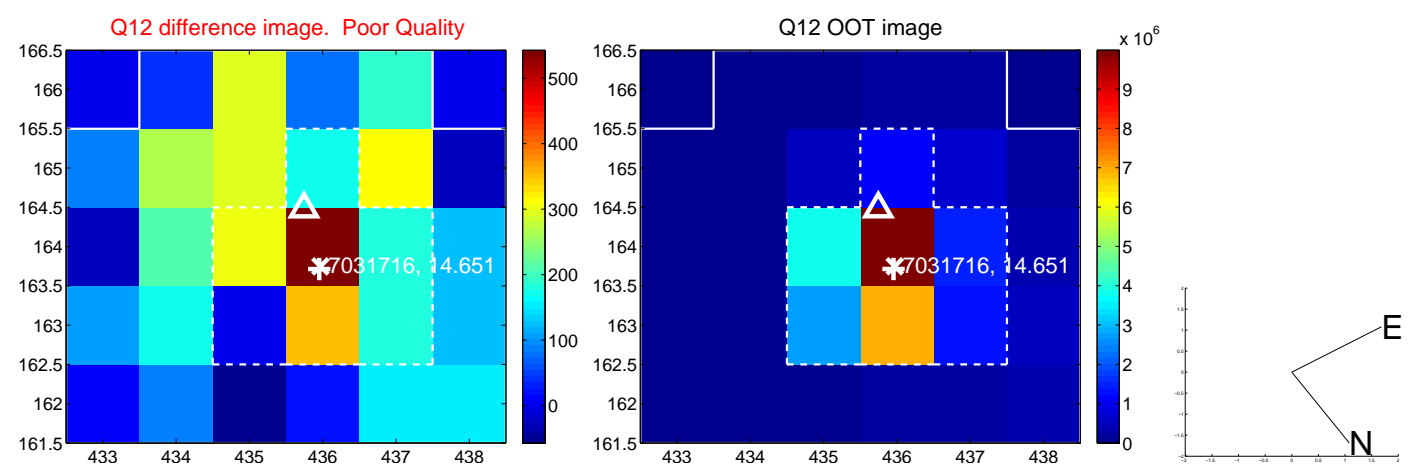
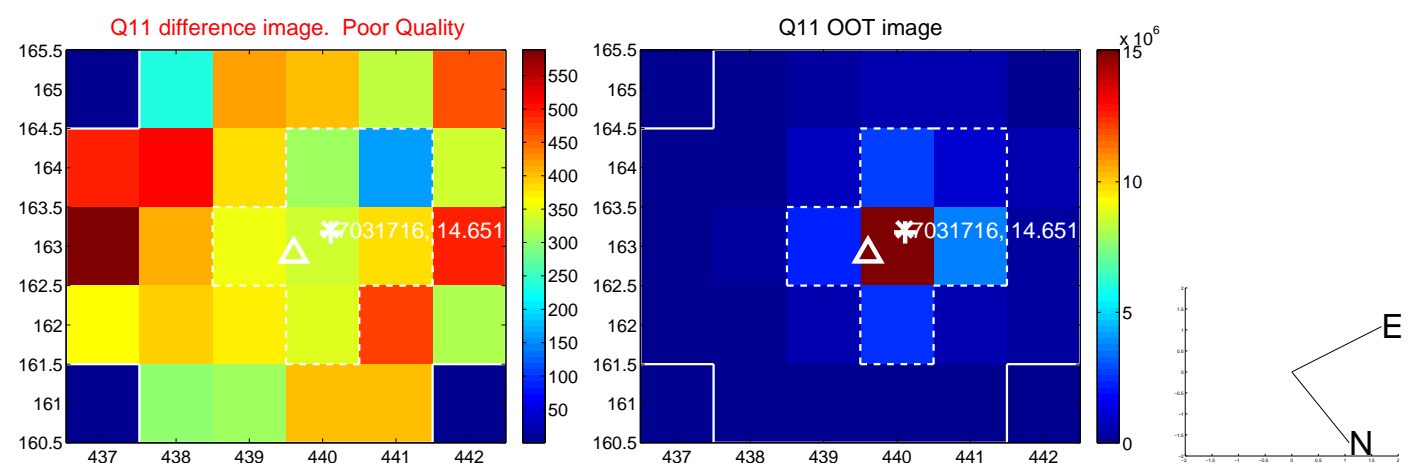
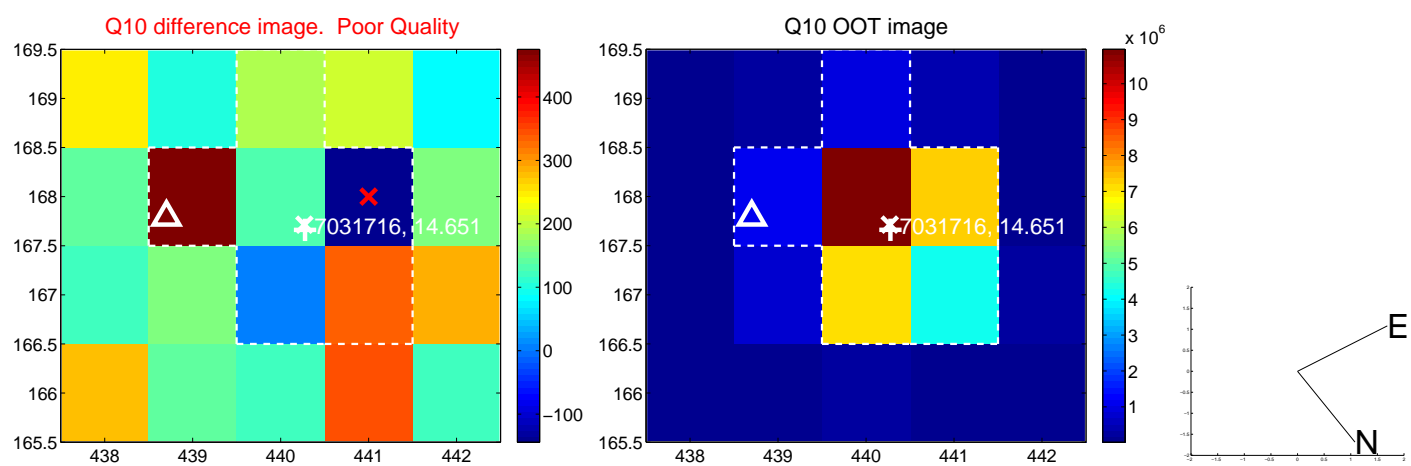
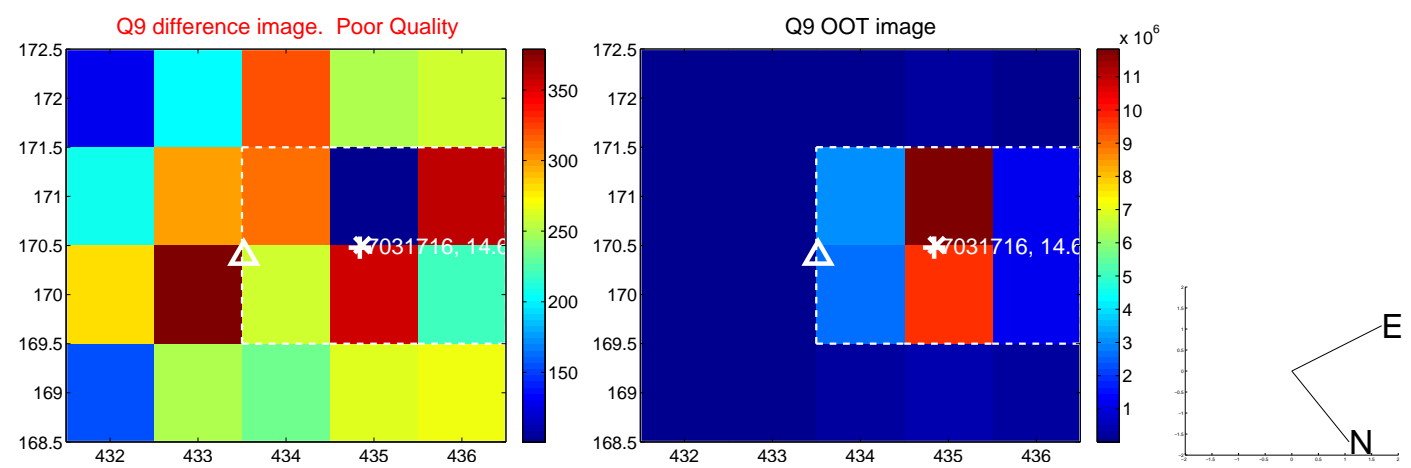
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



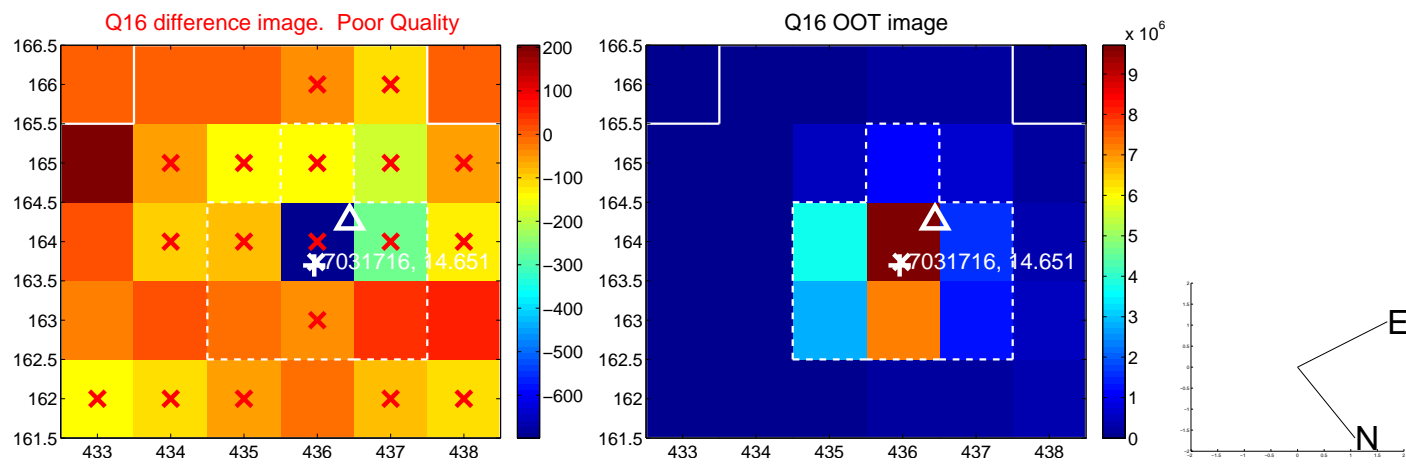
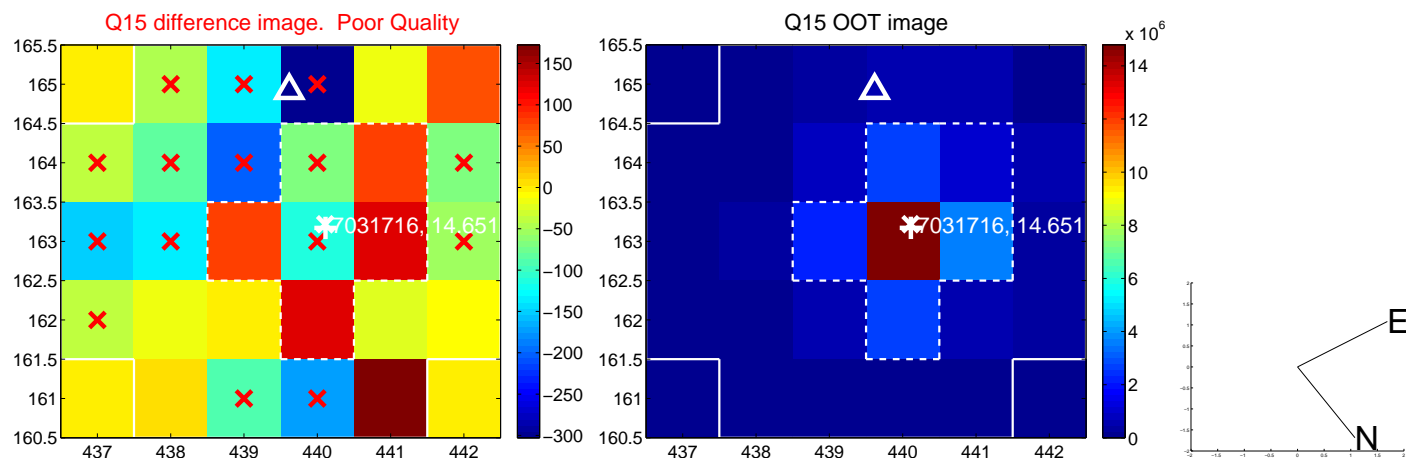
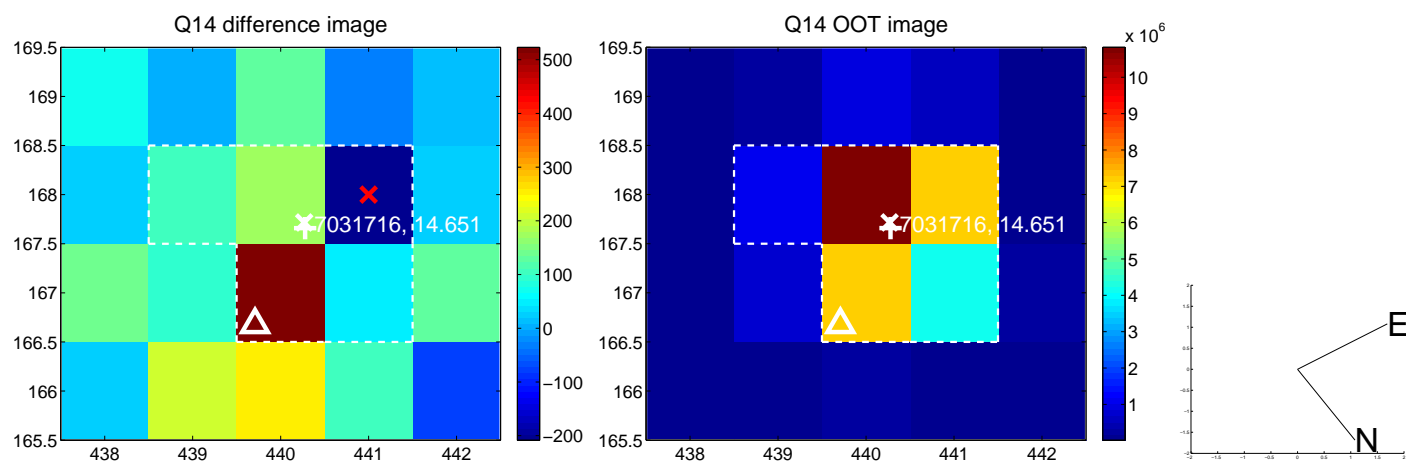
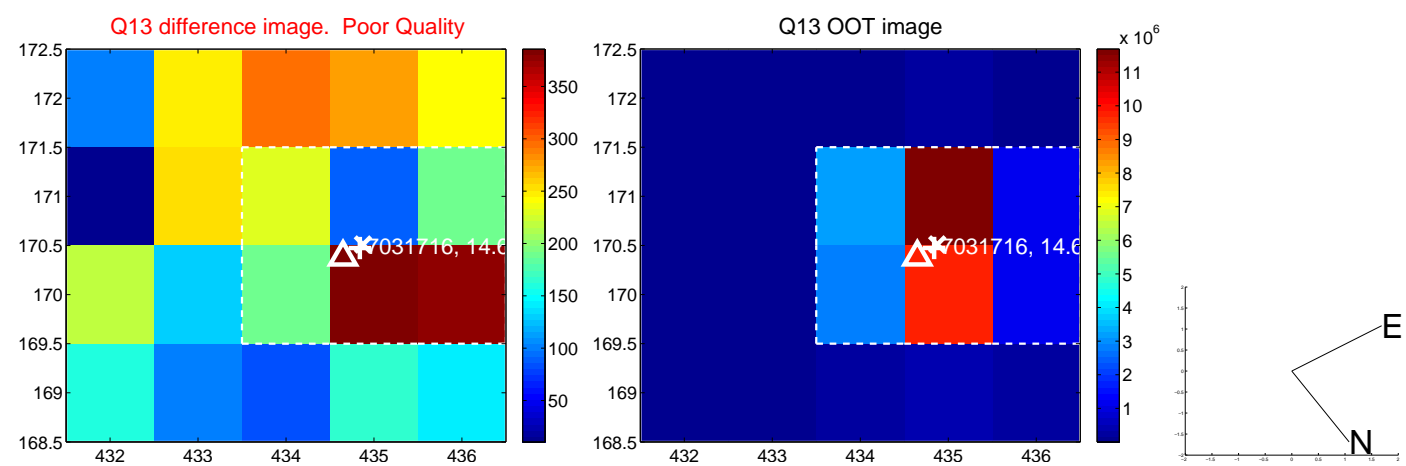
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



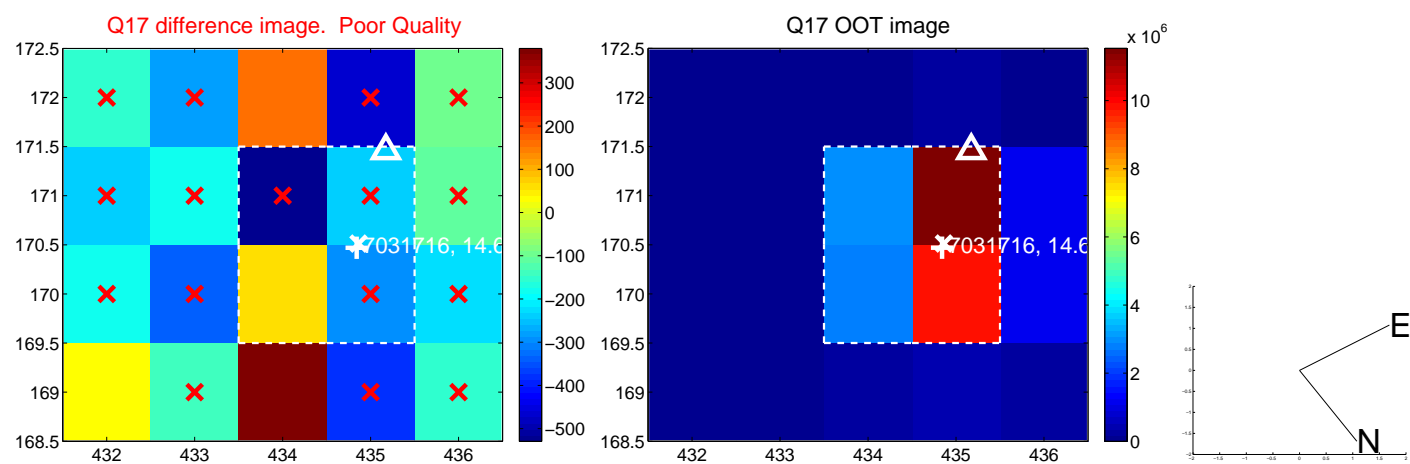
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



folded centroid time series figure for this object.



UKIRT Image

Declination

