

KIC 010815916

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})
010815916-01	OBS	4470.01	1.682083	132.127230	57.3	1.349	9.7	10.7	1.31	6495	1.17	3640.40

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010815916-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET

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.

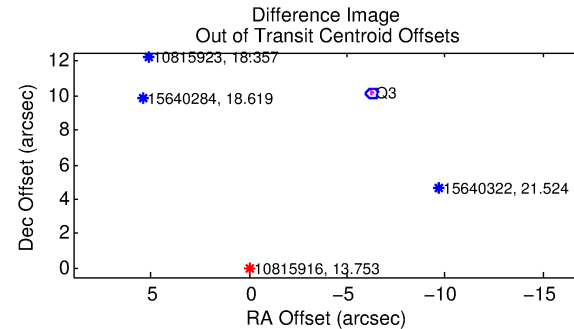
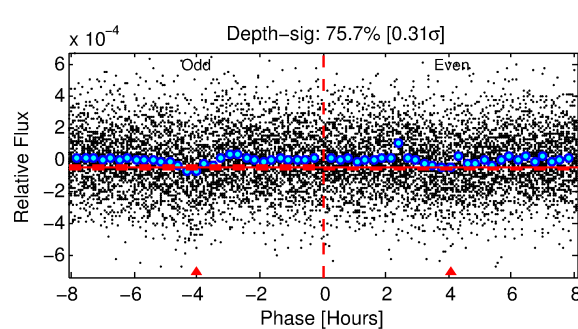
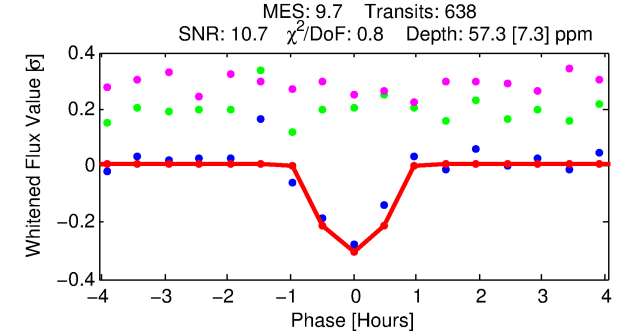
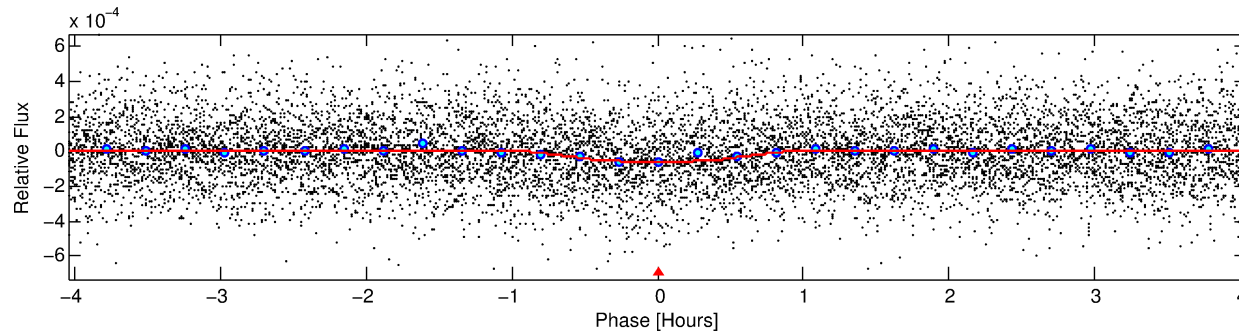
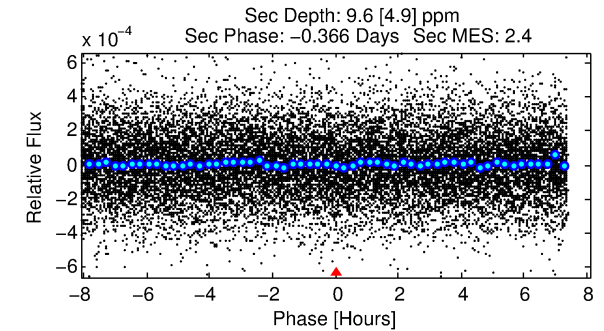
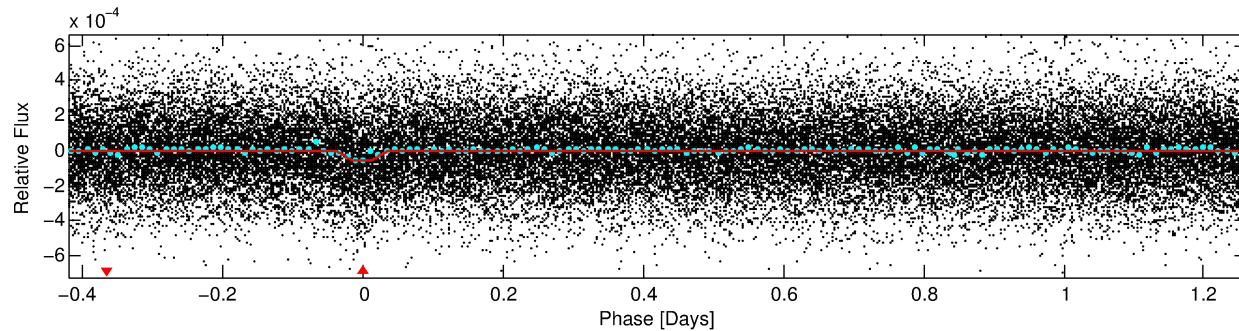
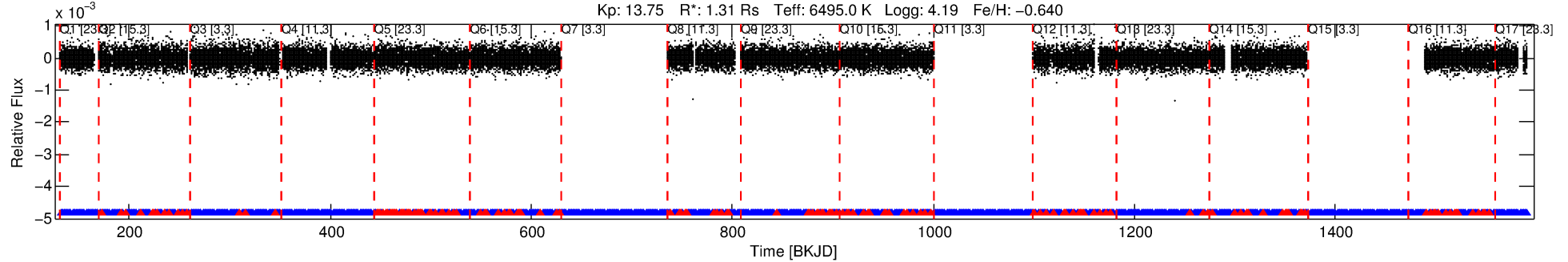
Ephemeris Match Information For 010815916-01

No Significant Match Found

DV One-Page Summary

KIC: 10815916 Candidate: 1 of 1 Period: 1.682 d
KOI: K04470.01 Corr: 0.903

Kp: 13.75 R*: 1.31 Rs Teff: 6495.0 K Logg: 4.19 Fe/H: -0.640



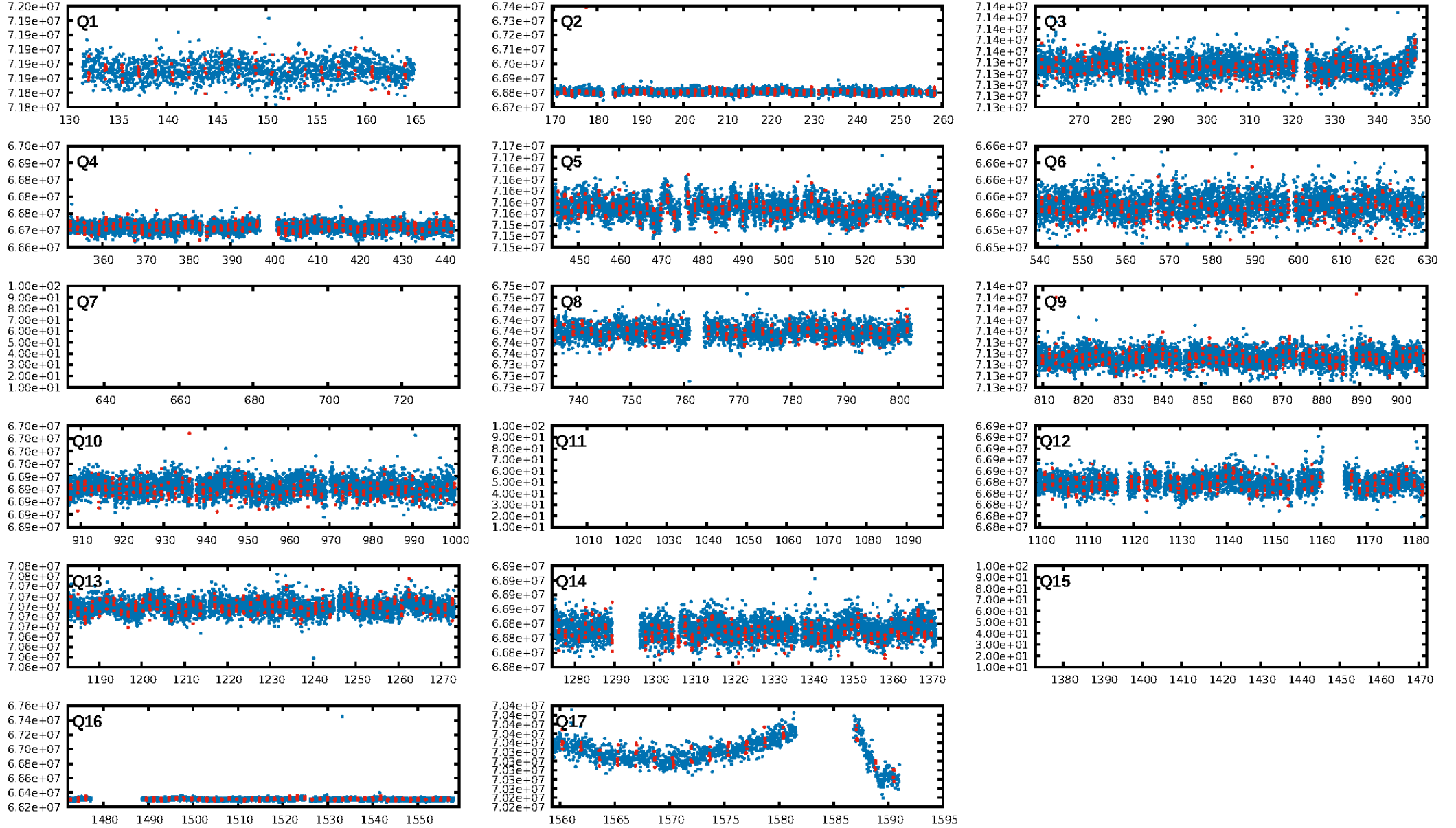
DV Fit Results:

Period = 1.68208 [0.00001] d
Epoch = 132.1272 [0.0021] BKJD
Rp/R* = 0.0082 [0.0041]
a/R* = 4.26 [11.75]
b = 0.91 [0.57]
Seff = 3640.40 [1494.35]
Teq = 1981 [203] K
Rp = 1.17 [0.66] Re
a = 0.0274 [0.0068] AU
Ag = 2.89 [3.42] [0.55σ]
Teffp = 3994 [1123] K [1.76σ]

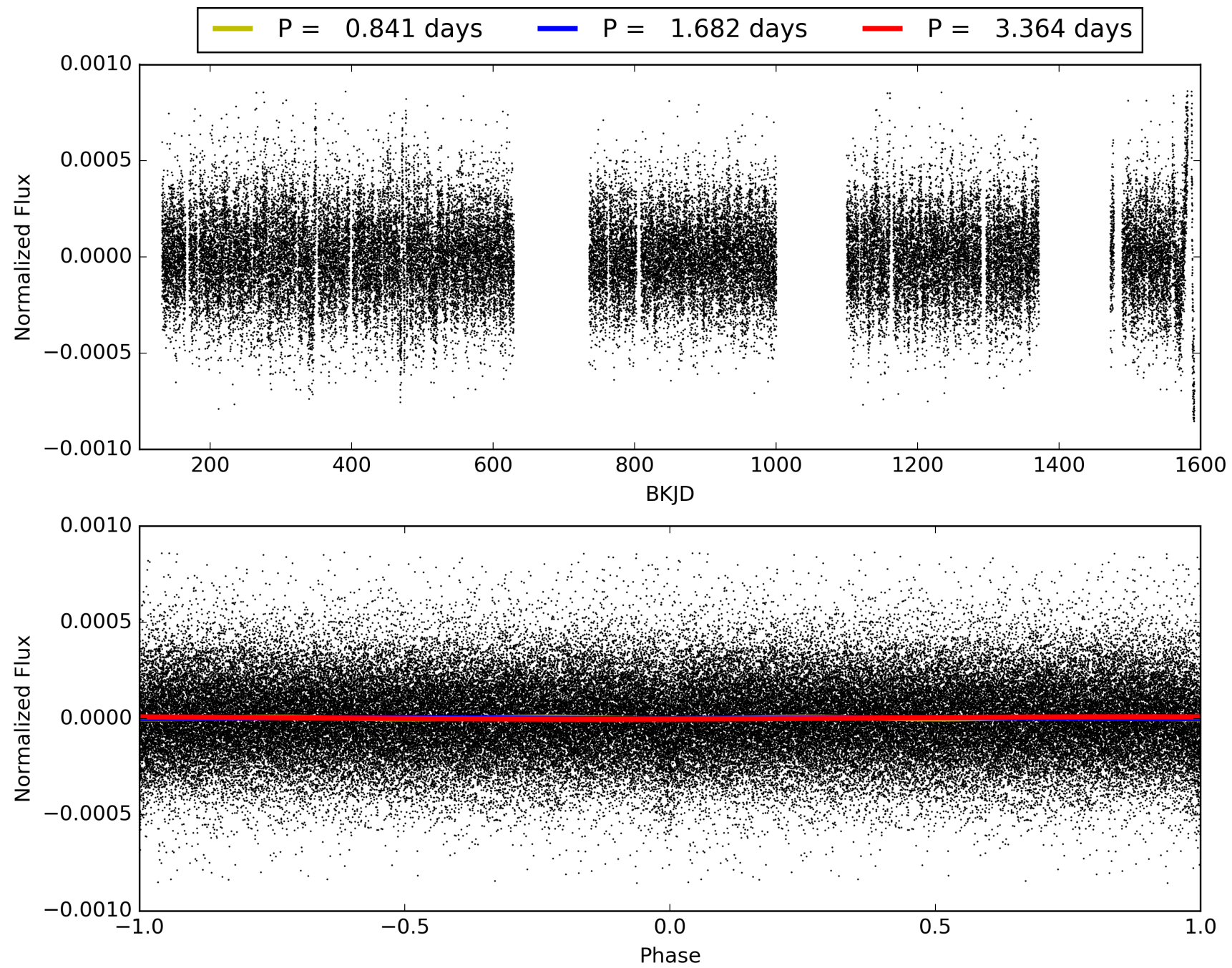
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.51e-21
RollingBand-fgt: 0.76 [460/602]
GhostDiagnostic-chr: -0.6859
Centroid-sig: 0.0%
Centroid-so: 19.606 arcsec [14.52σ]
OotOffset-rm: 11.915 arcsec [119.33σ]
KicOffset-rm: 11.810 arcsec [118.42σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 010815916-01, PDC Light Curves

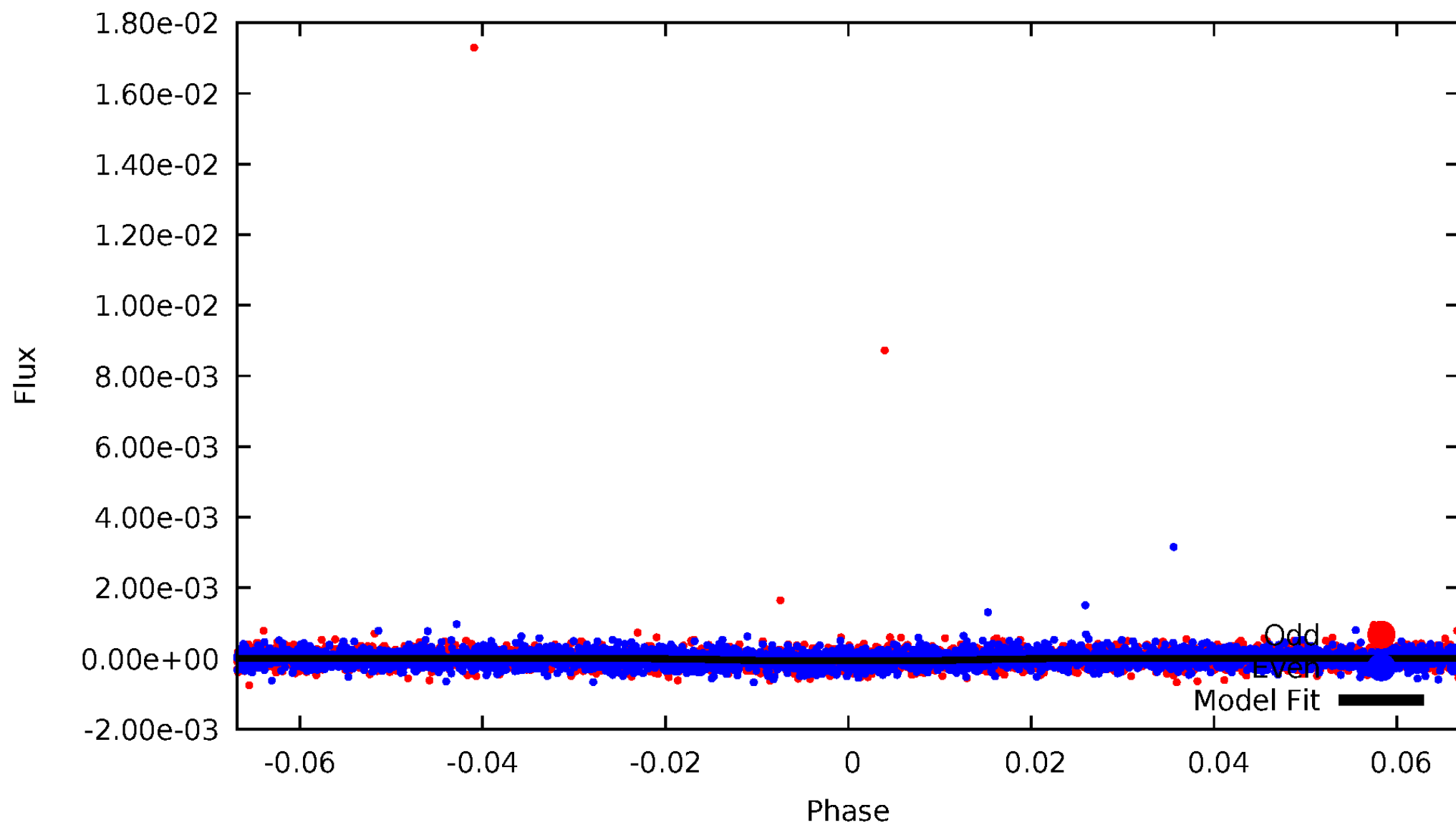


TCE 010815916-01



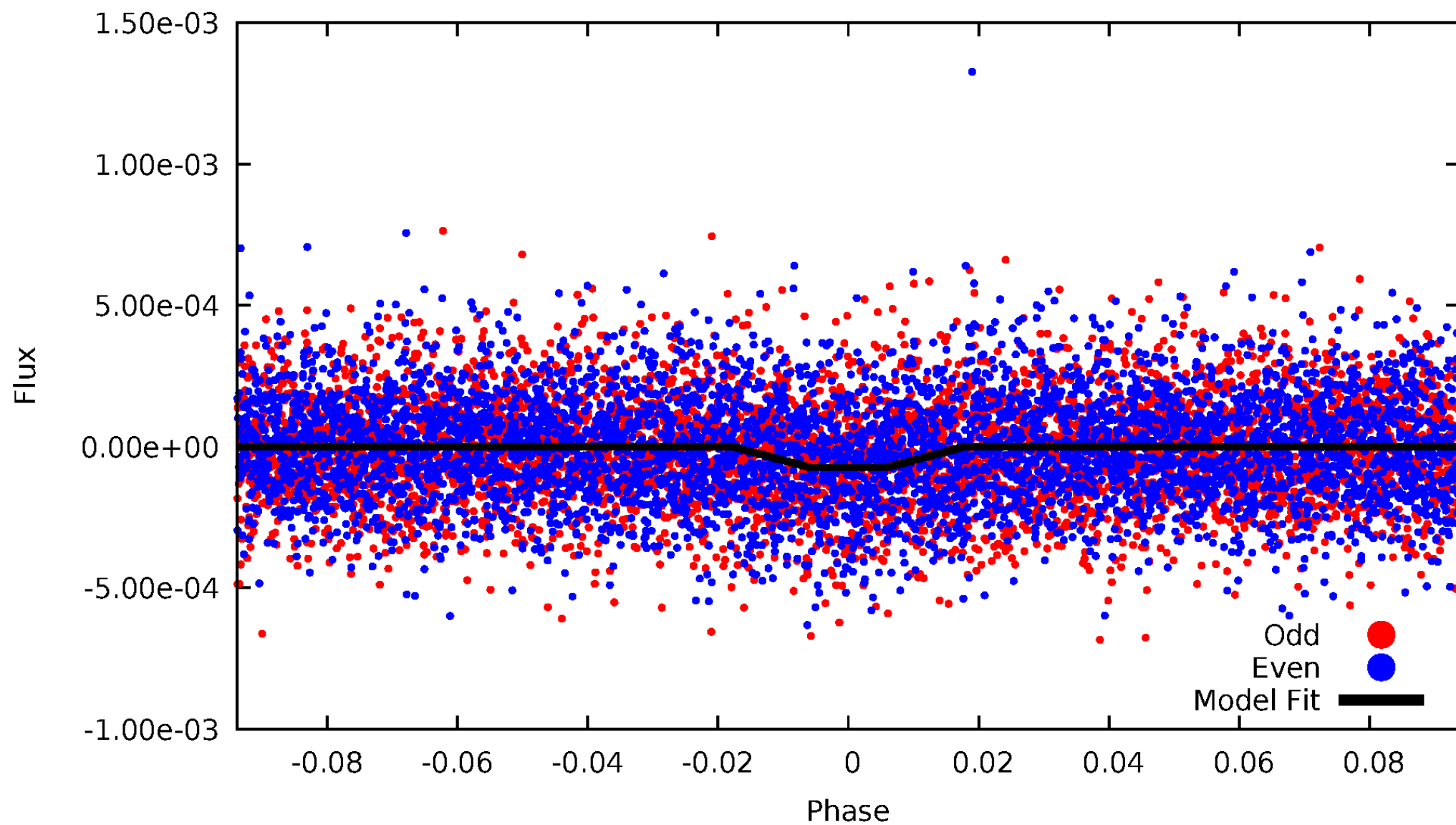
DV Odd/Even

TCE 010815916-01



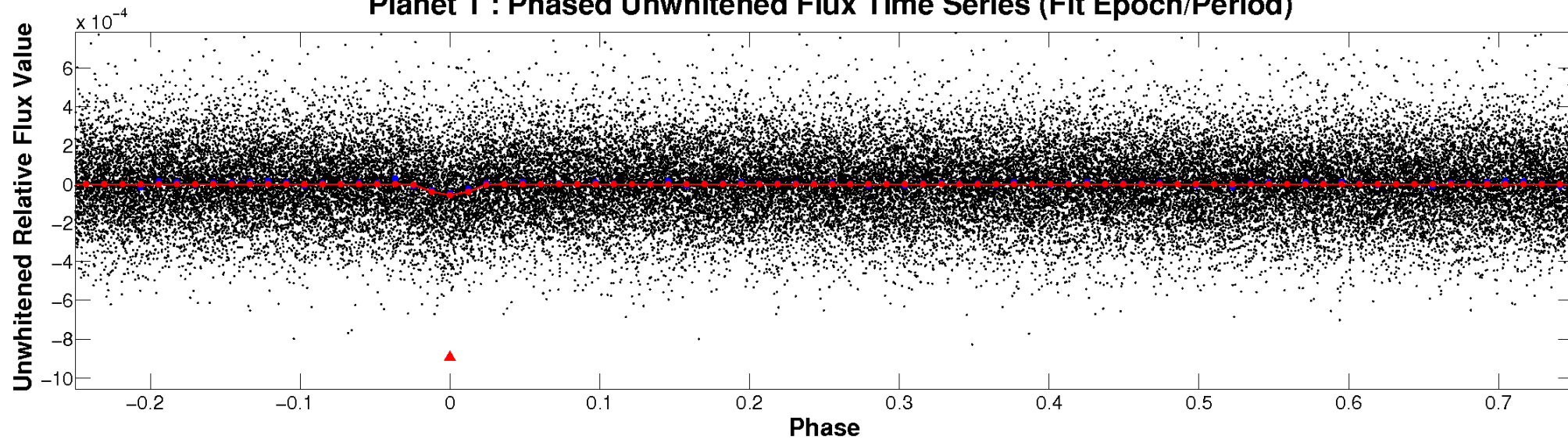
ALT Odd/Even

TCE 010815916-01

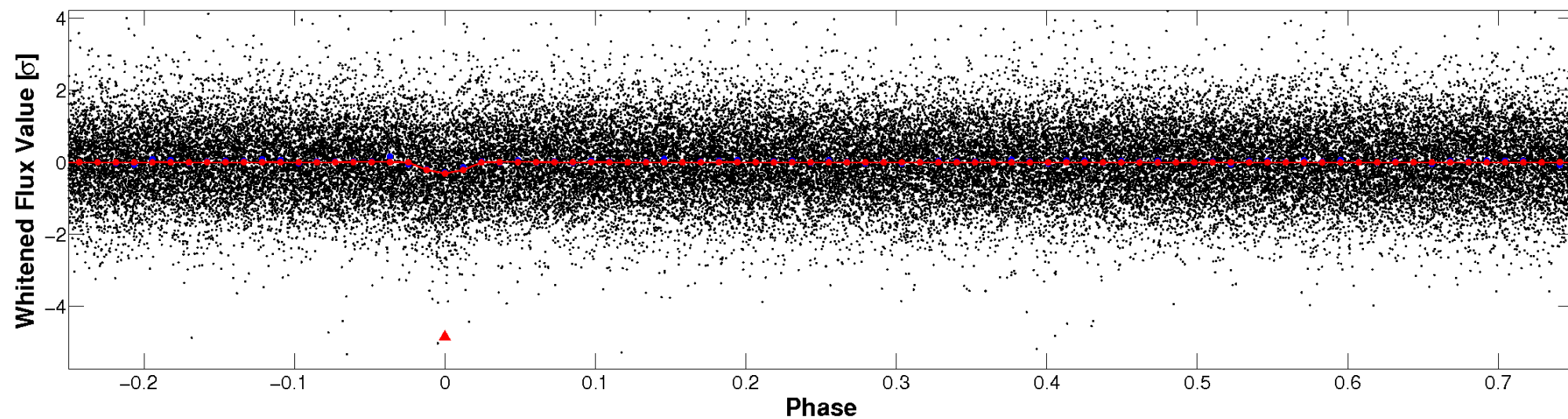


Non-Whitened Vs. Whitened Light Curve

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

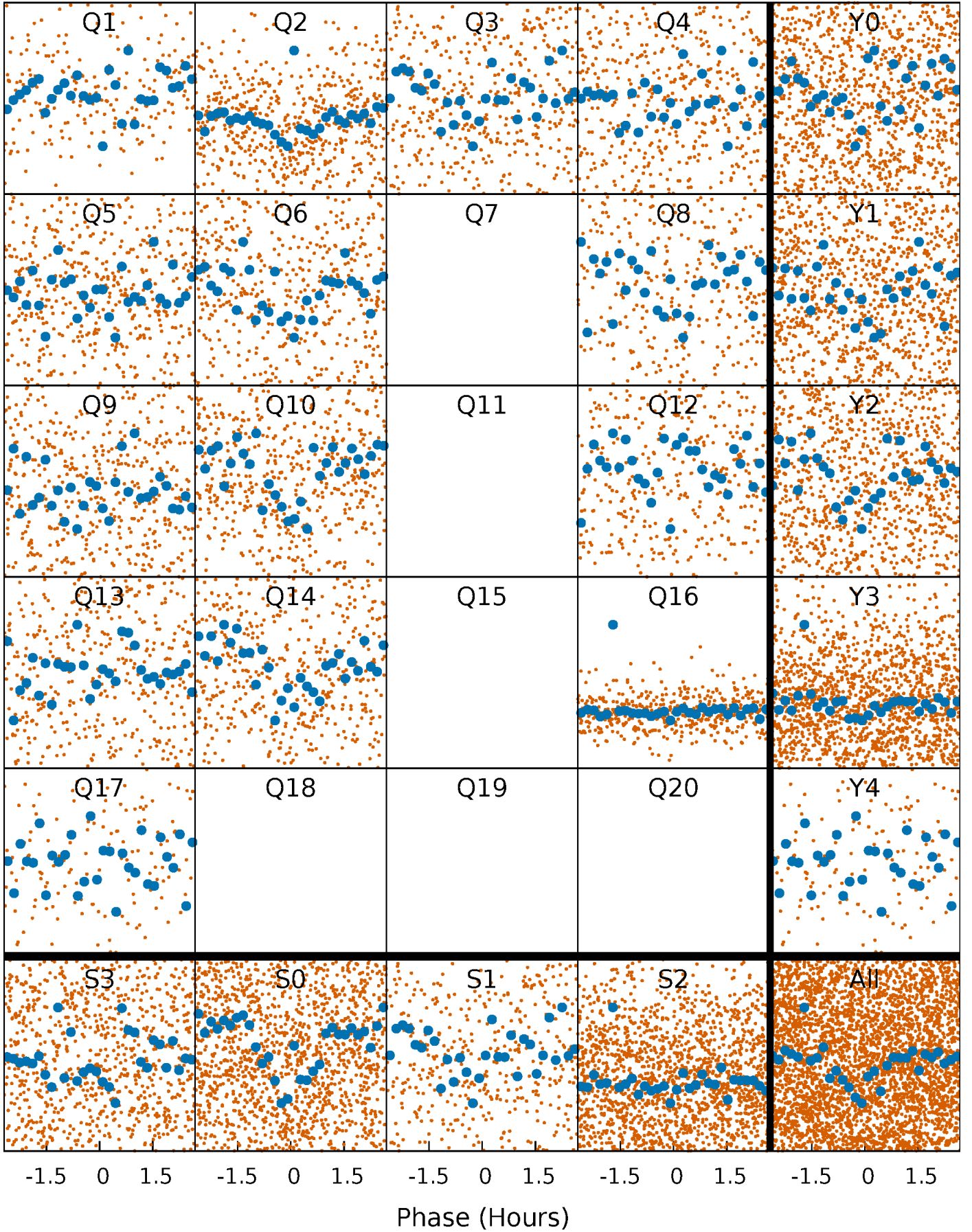


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



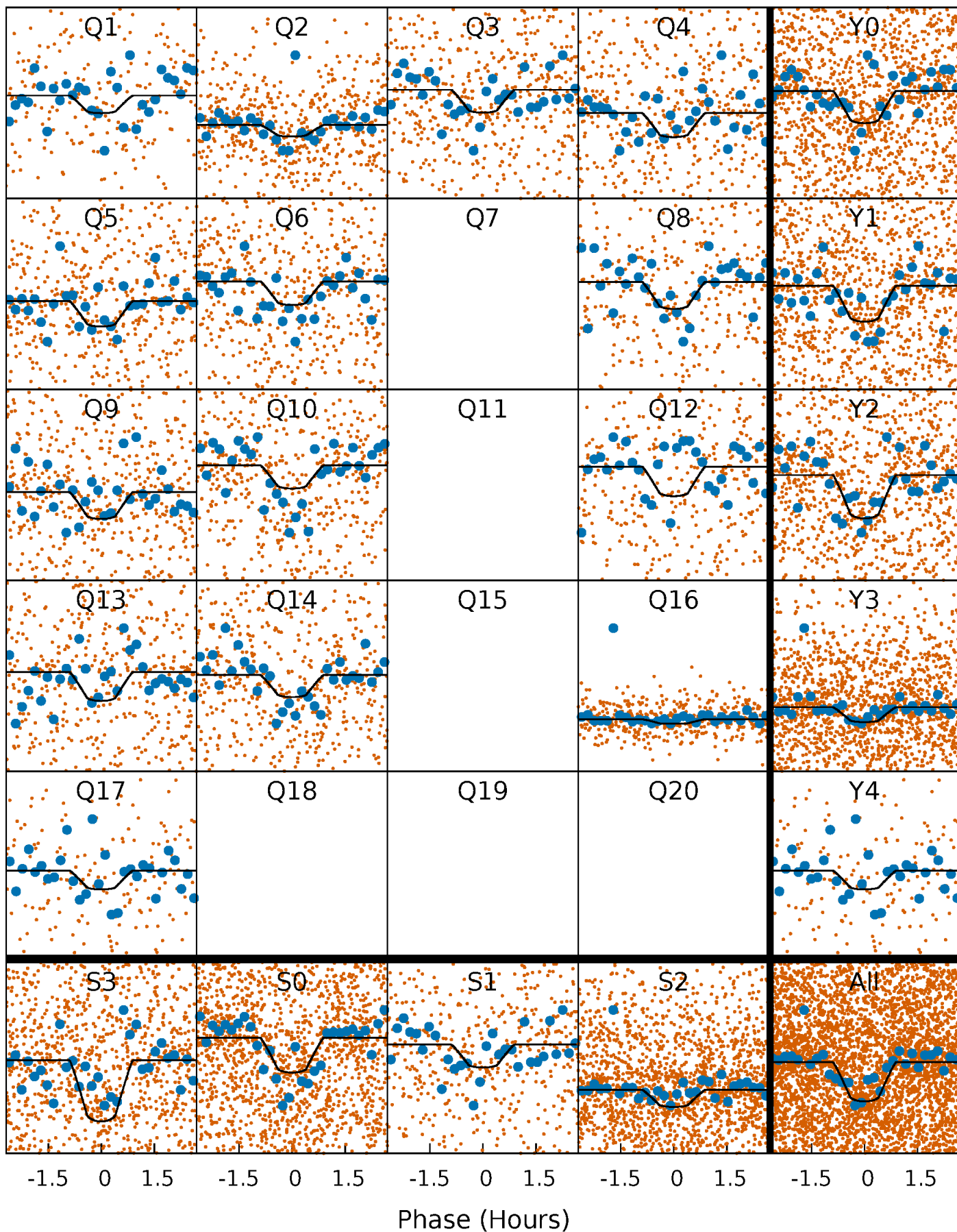
PDC Quarter-Phased Transit Curves

TCE 010815916-01 P= 1.682083 Days $T_0=132.127230$ (BKJD)



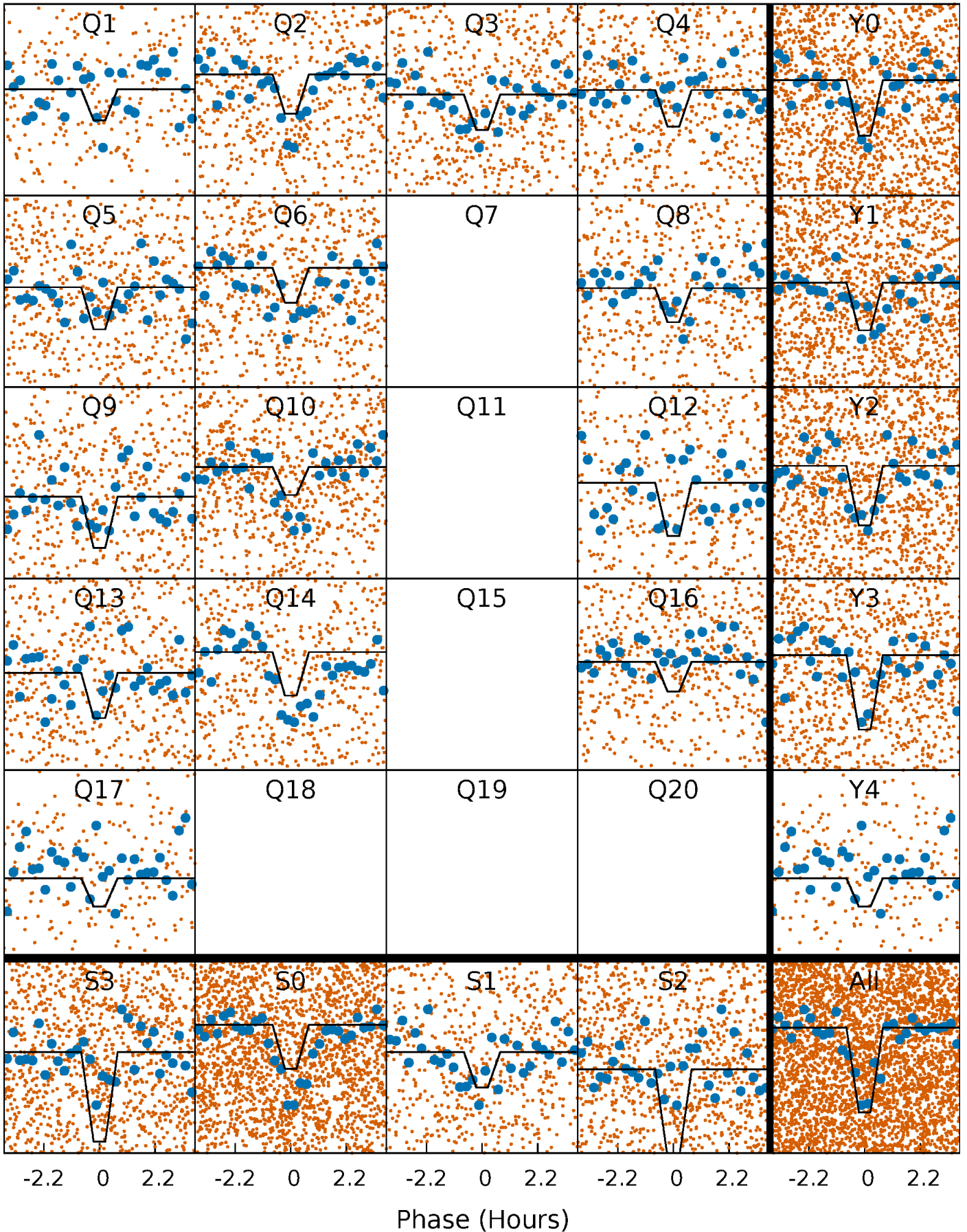
DV Quarter-Phased Transit Curves

TCE 010815916-01 P= 1.682083 Days $T_0=132.127230$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

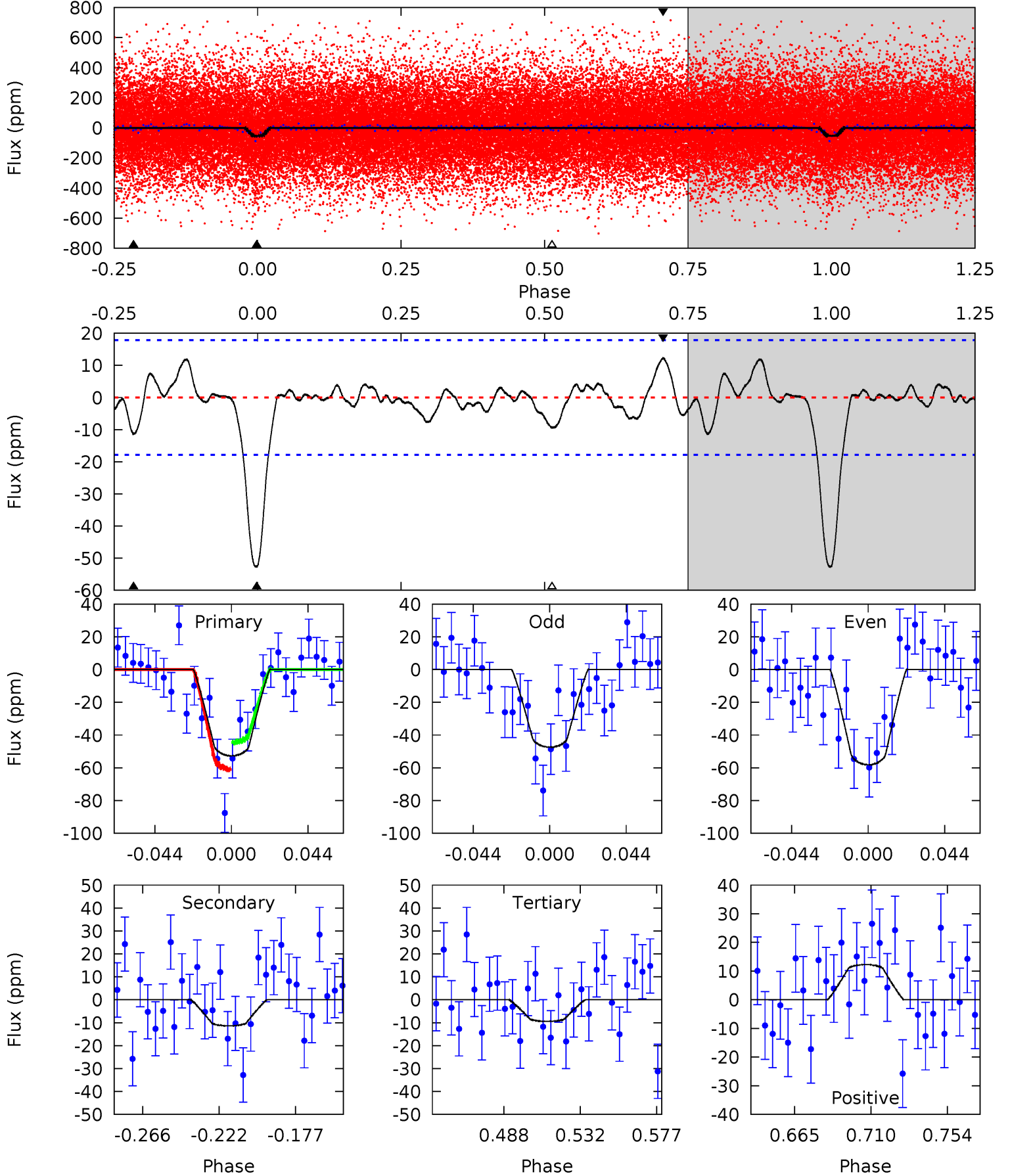
TCE 010815916-01 P= 1.682075 Days $T_0=132.124851$ (BKJD)



DV Model-Shift Uniqueness Test

010815916-01, P = 1.682083 Days, E = 130.445147 Days

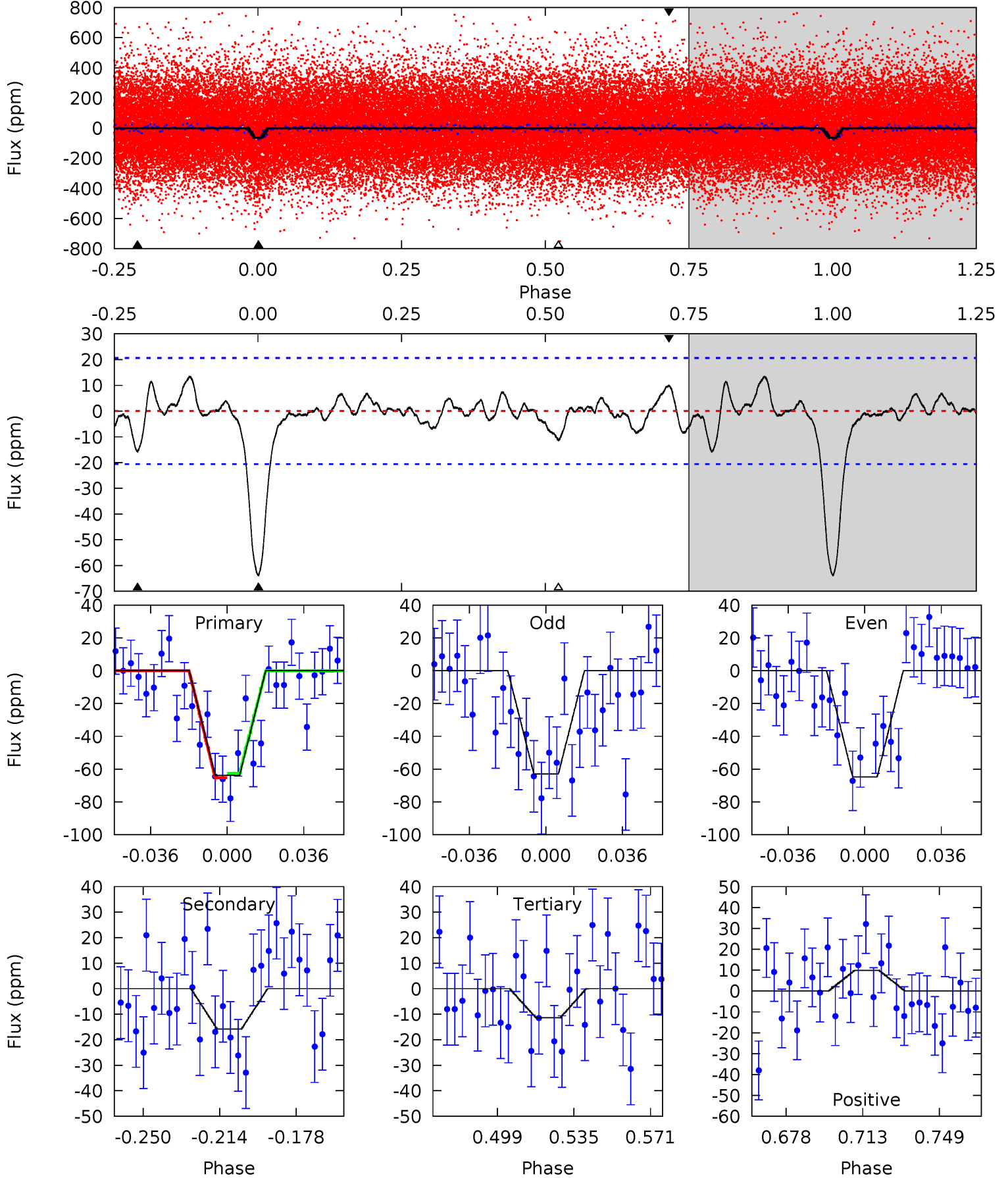
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.0	3.01	2.50	3.25	4.73	2.01	1.09	11.5	10.7	0.51	-0.24	1.42	0.86	0.19	2.20



Alt Model-Shift Uniqueness Test

010815916-01, P = 1.682075 Days, E = 130.442776 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.8	3.67	2.64	2.29	4.78	2.10	0.98	12.2	12.5	1.03	1.38	0.21	1.12	0.17	0.33



Stellar Parameters For KIC 010815916

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6495^{+156}_{-215}	$4.191^{+0.225}_{-0.164}$	$-0.640^{+0.300}_{-0.300}$	$1.311^{+0.350}_{-0.315}$	$0.972^{+0.134}_{-0.110}$	$0.608^{+0.845}_{-0.268}$
	+2%/-3%	+5%/-4%	+47%/-47%	+27%/-24%	+14%/-11%	+139%/-44%
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 010815916-01 / KOI 4470.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-11 ± 4	$1.18^{+0.60}_{-0.59}$	2753^{+193}_{-210}	4261^{+1421}_{-708}	$3.474^{+9.025}_{-2.129}$
Alt.	-16 ± 4	$1.22^{+0.57}_{-0.59}$	2738^{+215}_{-195}	4484^{+1549}_{-677}	$4.460^{+11.926}_{-2.570}$

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 $A_{obs} \gg 1.0$

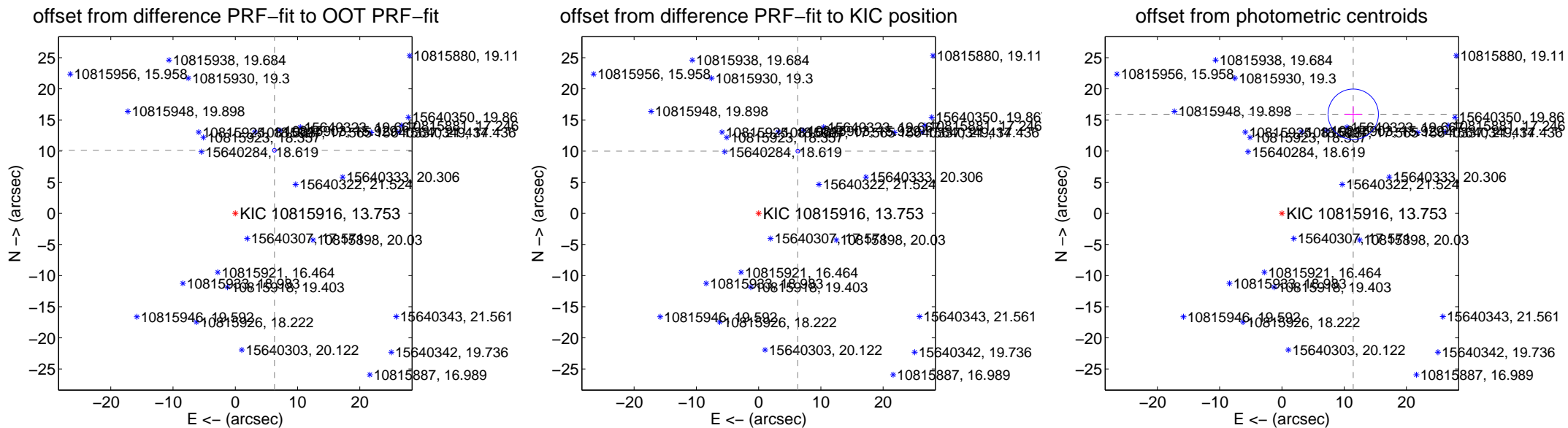
DV Centroid Data

Supplemental centroid analysis for 010815916-01. Kepler magnitude: 13.75. Transit SNR 10.71

There are 1 quarters with good PRF difference image offsets

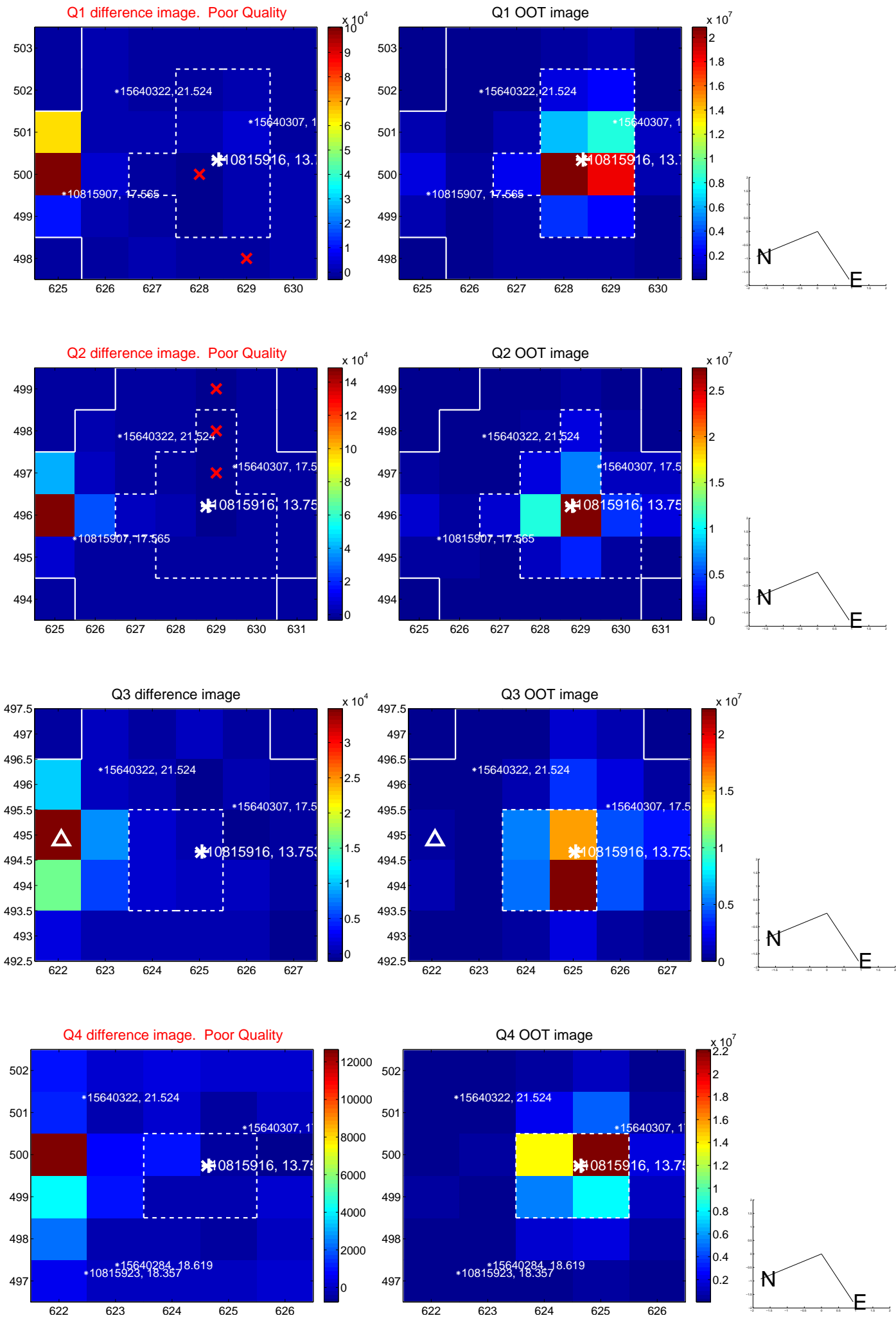
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	11.915 \pm 0.100	119.33	-6.287 \pm 0.083	10.121 \pm 0.106
PRF-fit source offset from KIC position	11.810 \pm 0.100	118.42	-6.293 \pm 0.083	9.994 \pm 0.106
photometric centroid source offset	19.61 \pm 1.35	14.52	-11.45 \pm 1.40	15.91 \pm 1.32

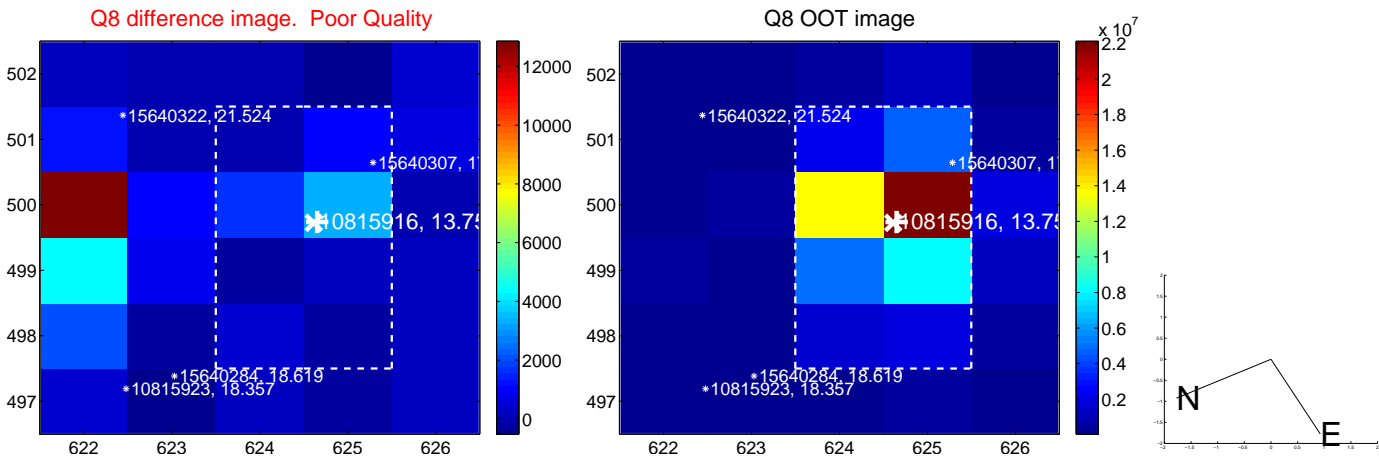
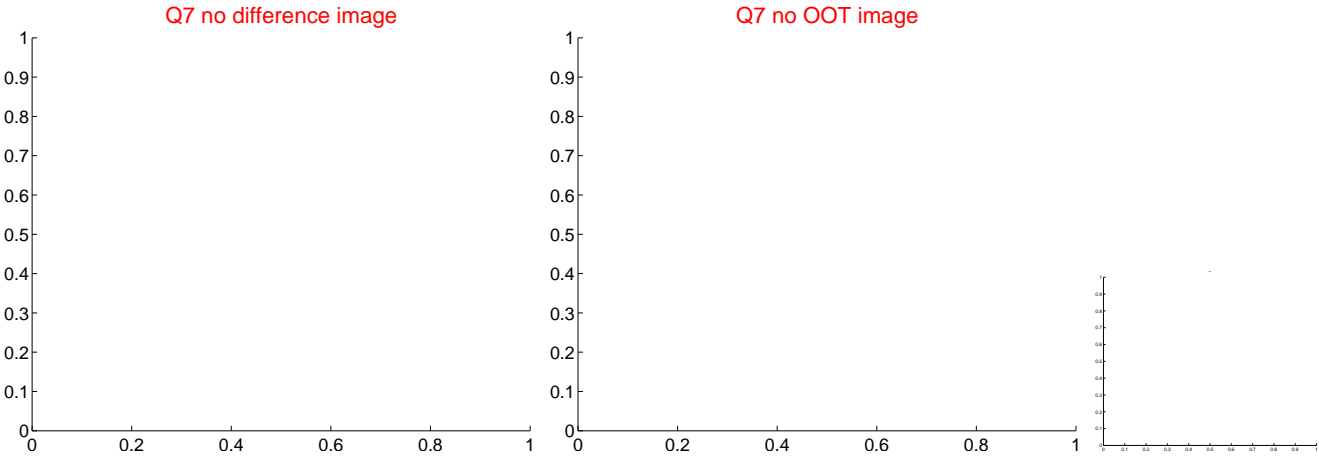
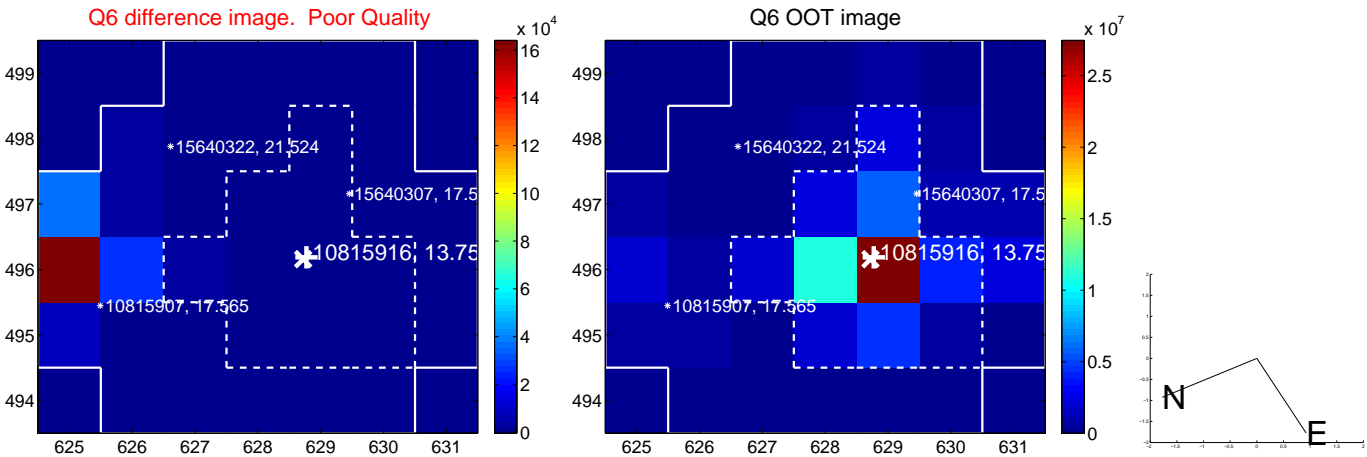
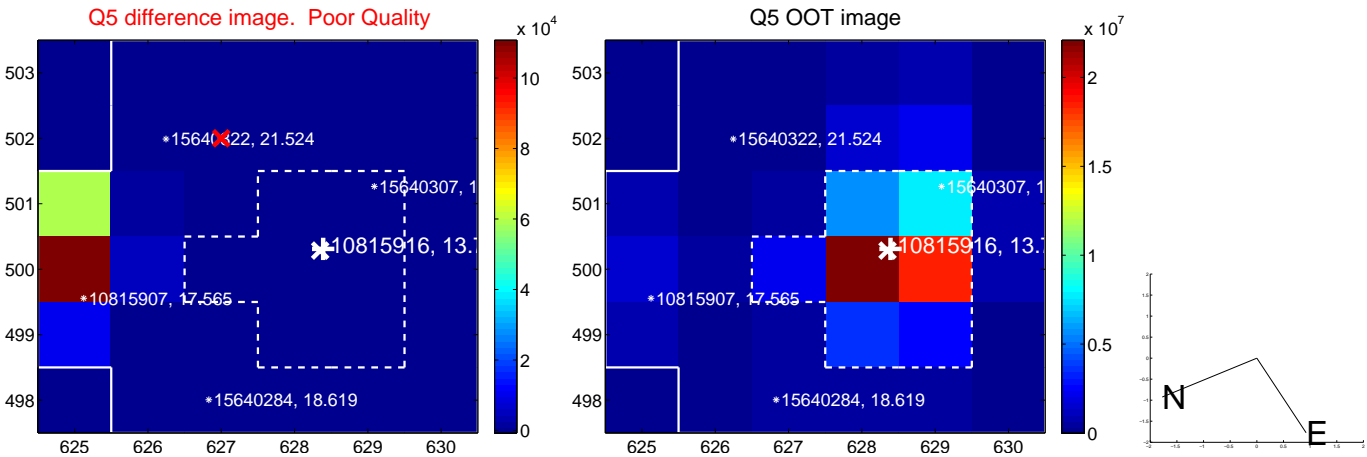


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

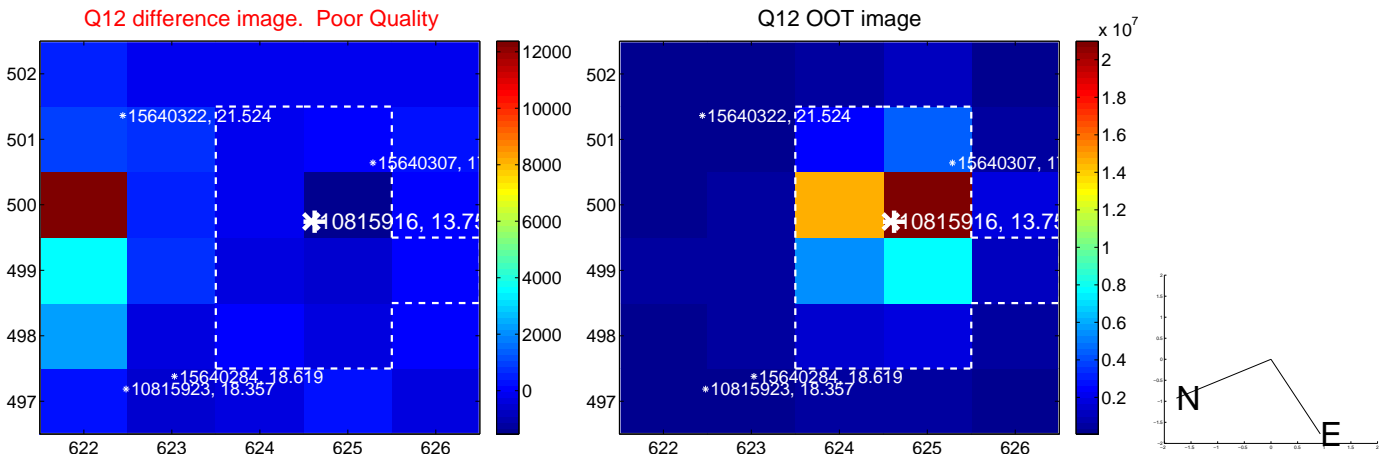
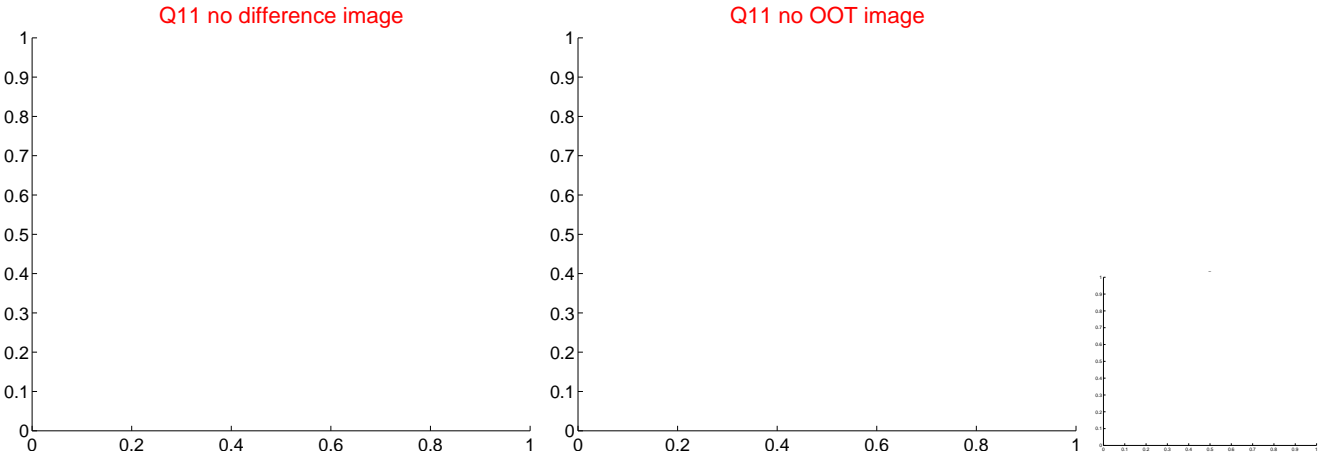
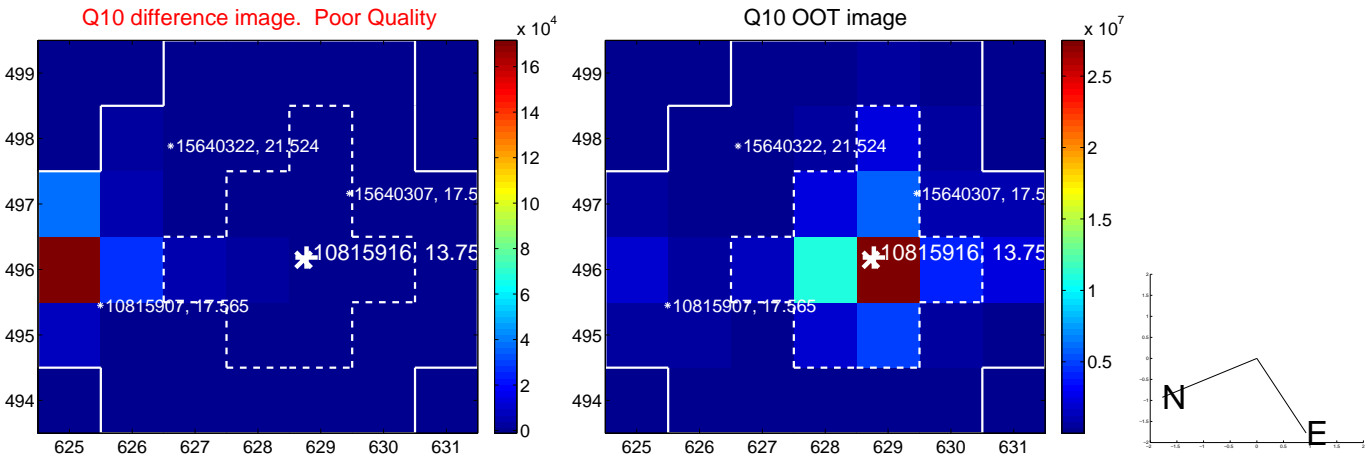
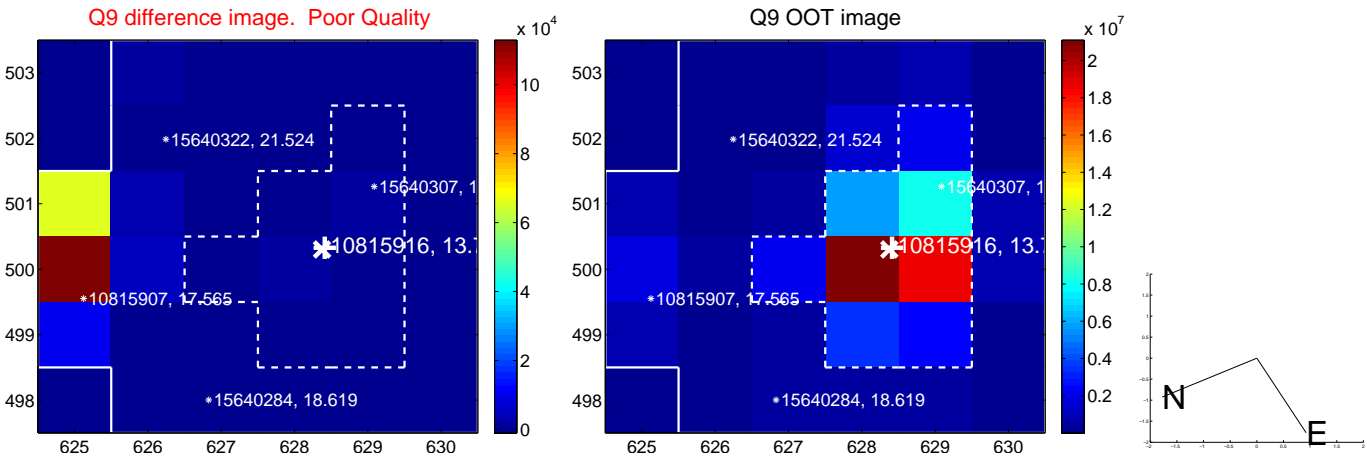
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



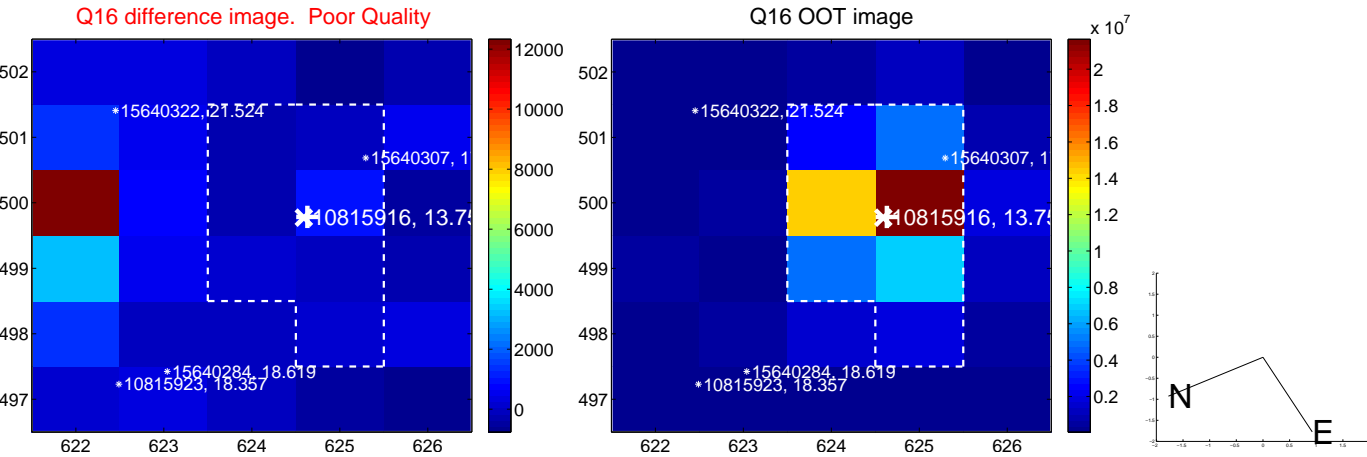
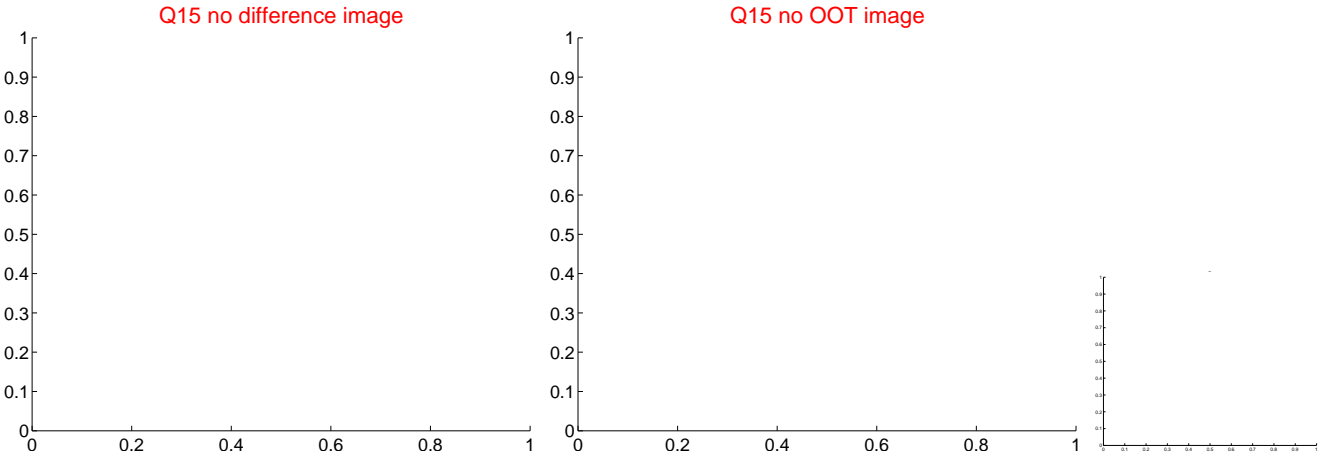
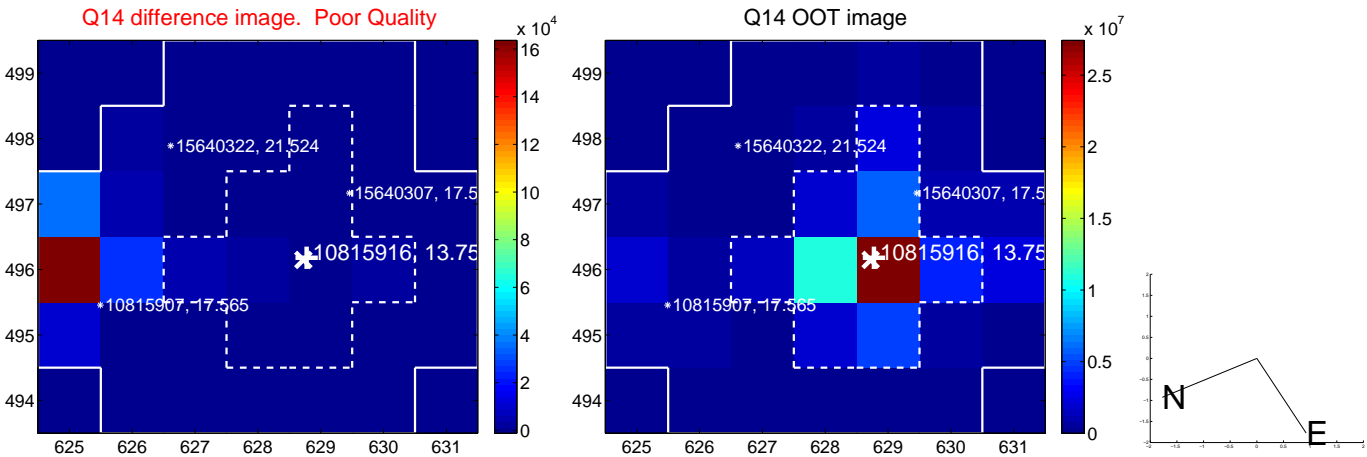
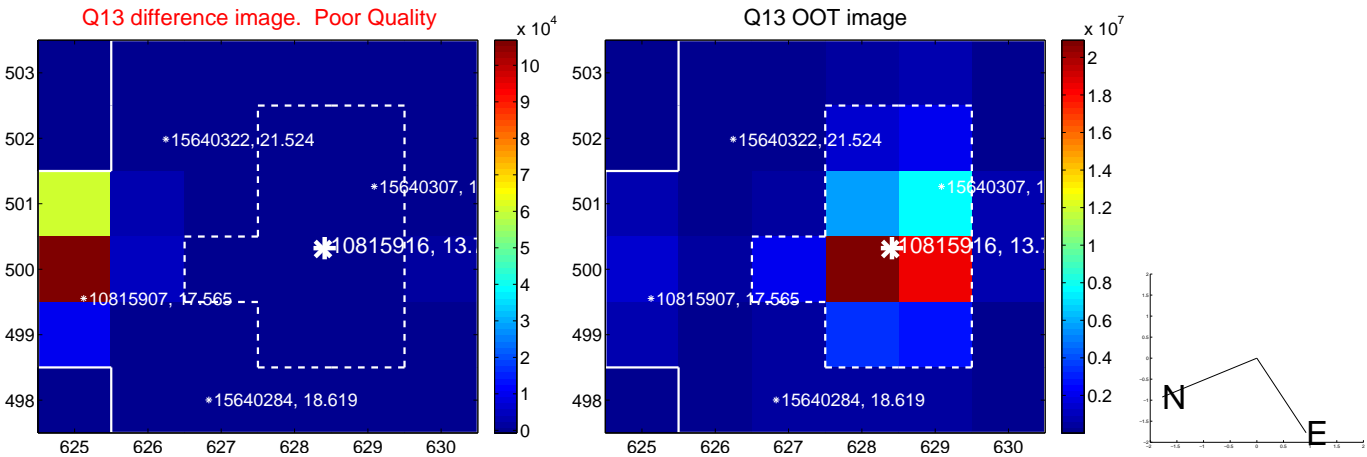
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



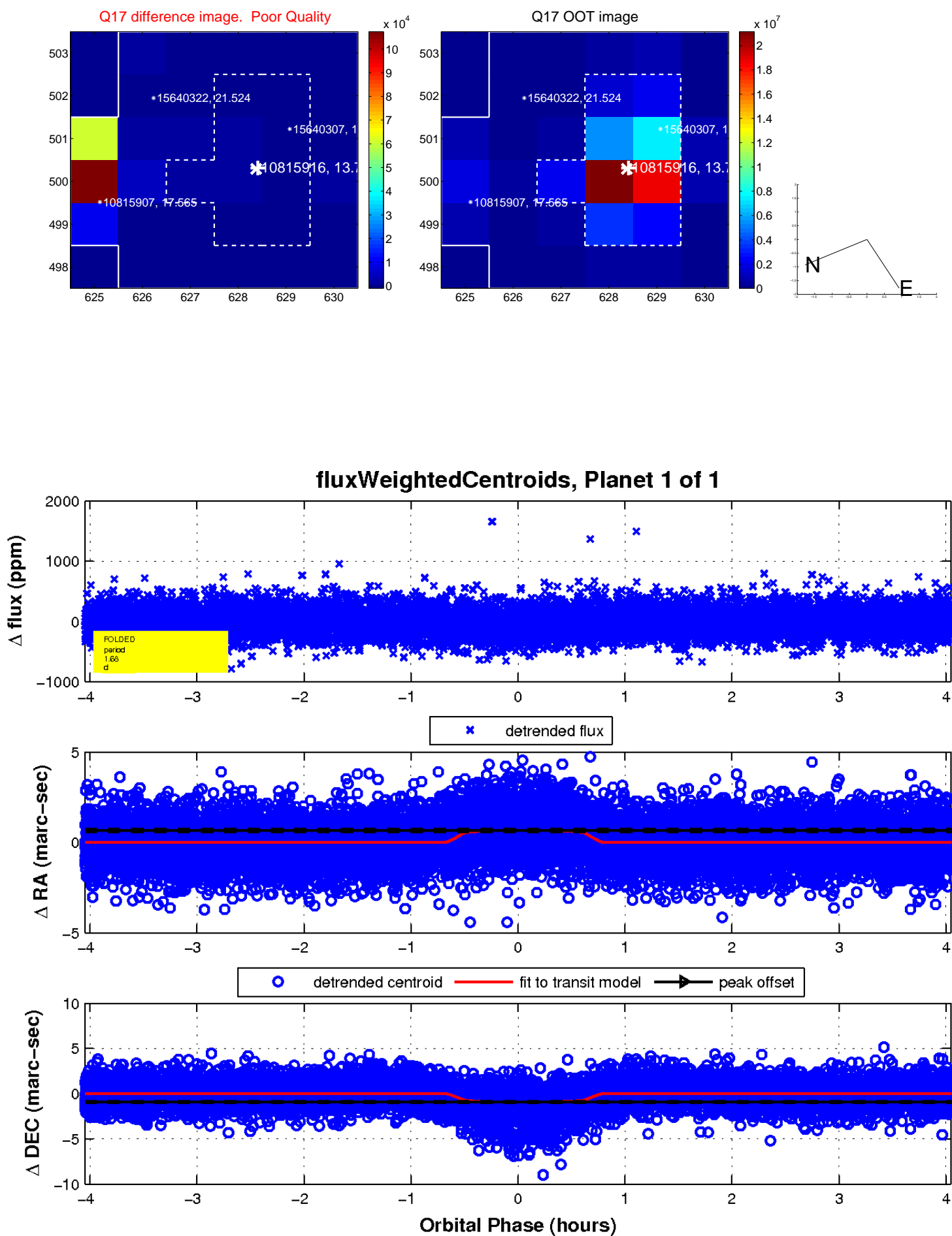
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

