

KIC 012216278

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})
012216278-01	OBS	2565.01	2.019463	132.936911	194.3	3.841	18.5	19.5	0.94	5884	1.57	989.13

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012216278-01	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 012216278-01

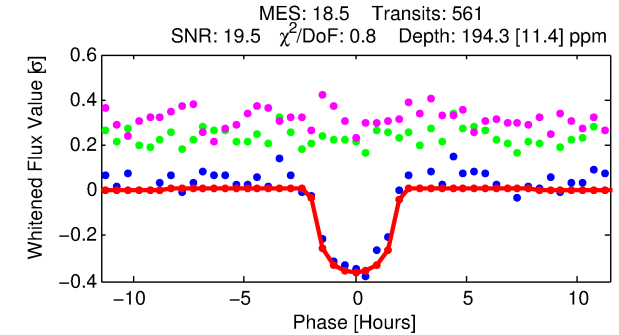
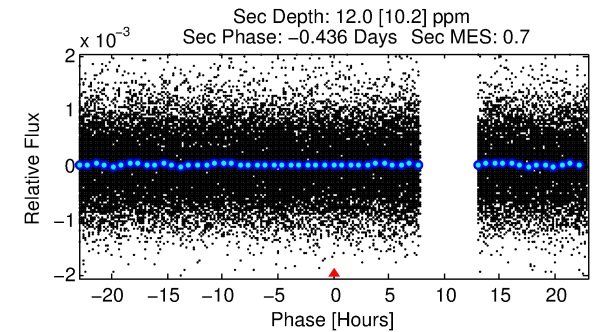
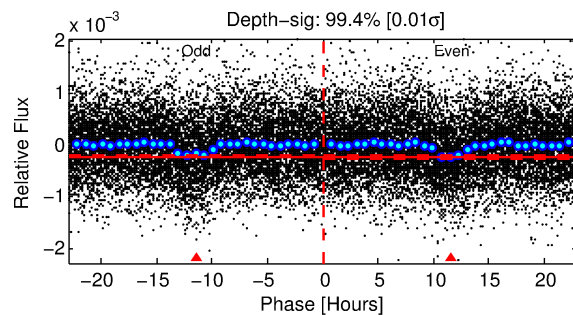
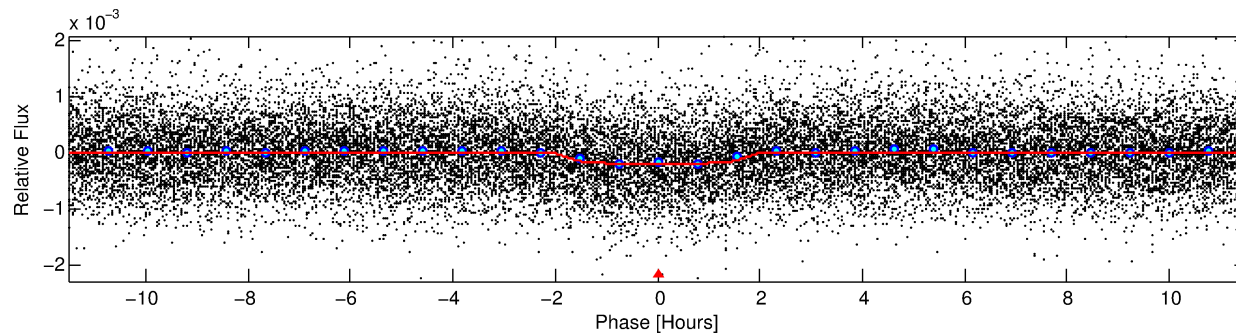
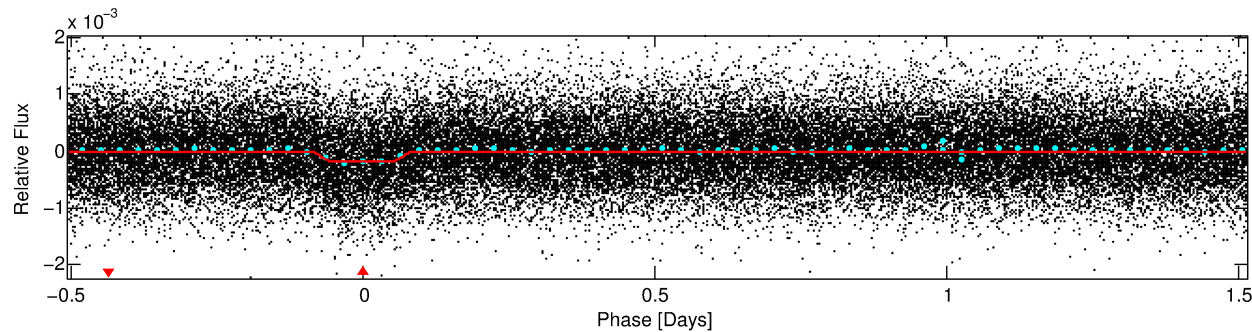
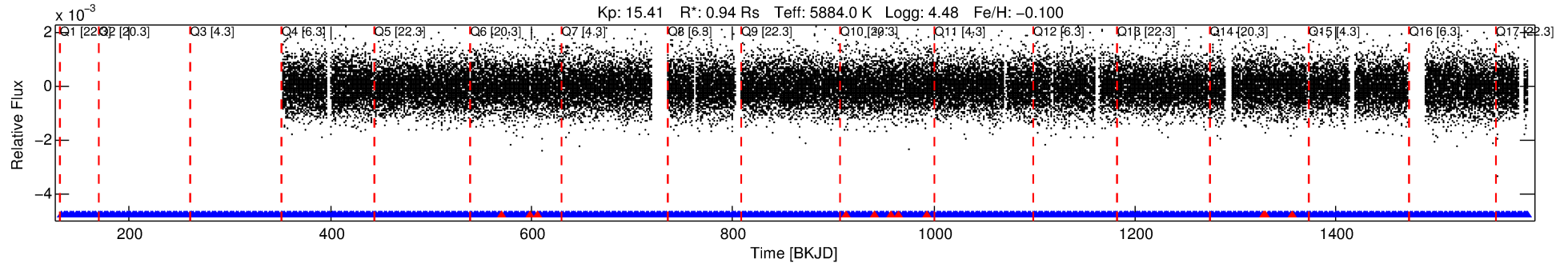
No Significant Match Found

DV One-Page Summary

KIC: 12216278 Candidate: 1 of 1 Period: 2.019 d

KOI: K02565.01 Corr: 0.972

Kp: 15.41 R*: 0.94 Rs Teff: 5884.0 K Logg: 4.48 Fe/H: -0.100



DV Fit Results:

Period = 2.01946 [0.00001] d
Epoch = 132.9369 [0.0028] BKJD
Rp/R* = 0.0152 [0.0032]
a/R* = 2.07 [1.65]
b = 0.91 [0.21]
Seff = 989.13 [381.40]
Teq = 1430 [138] K
Rp = 1.57 [0.57] Re
a = 0.0311 [0.0077] AU
Ag = 2.60 [2.63] [0.61σ]
Teffp = 2808 [671] K [2.01σ]

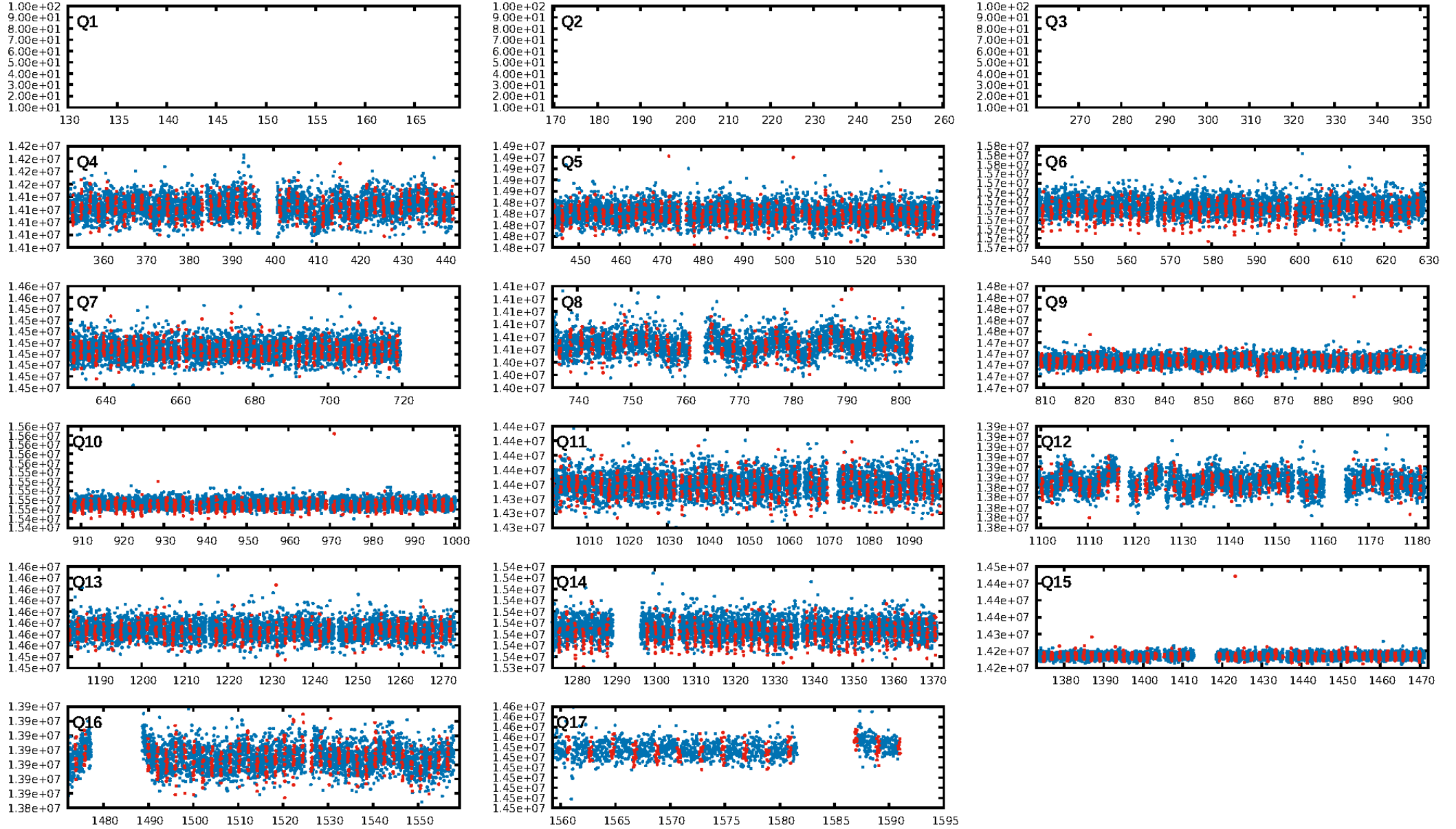
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.53e-75
RollingBand-fgt: 0.98 [536/547]
GhostDiagnostic-chr: -0.3607
Centroid-sig: 0.0%
Centroid-so: N/A
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 1.00 [14/14]

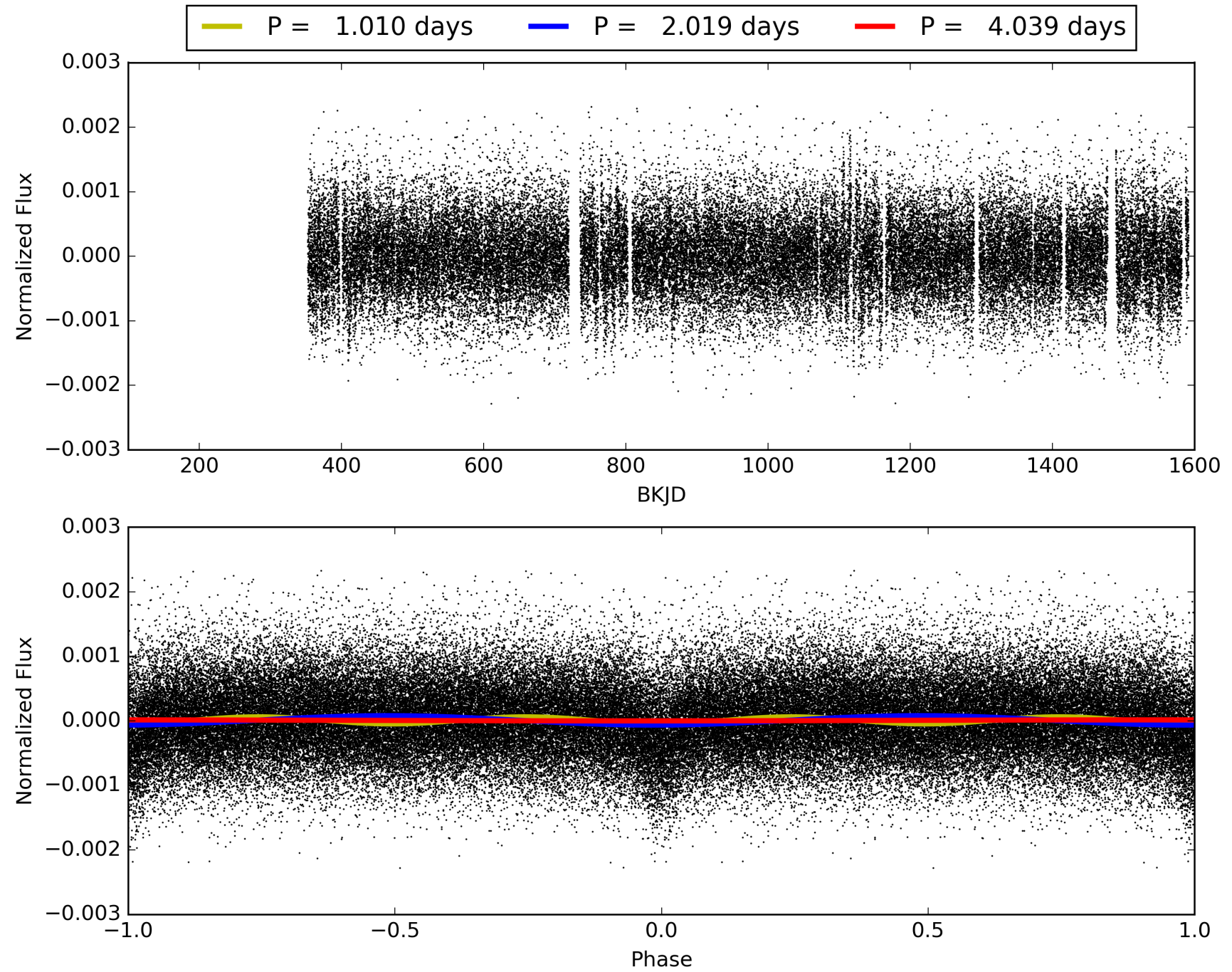
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 04:10:24 Z

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

TCE 012216278-01, PDC Light Curves

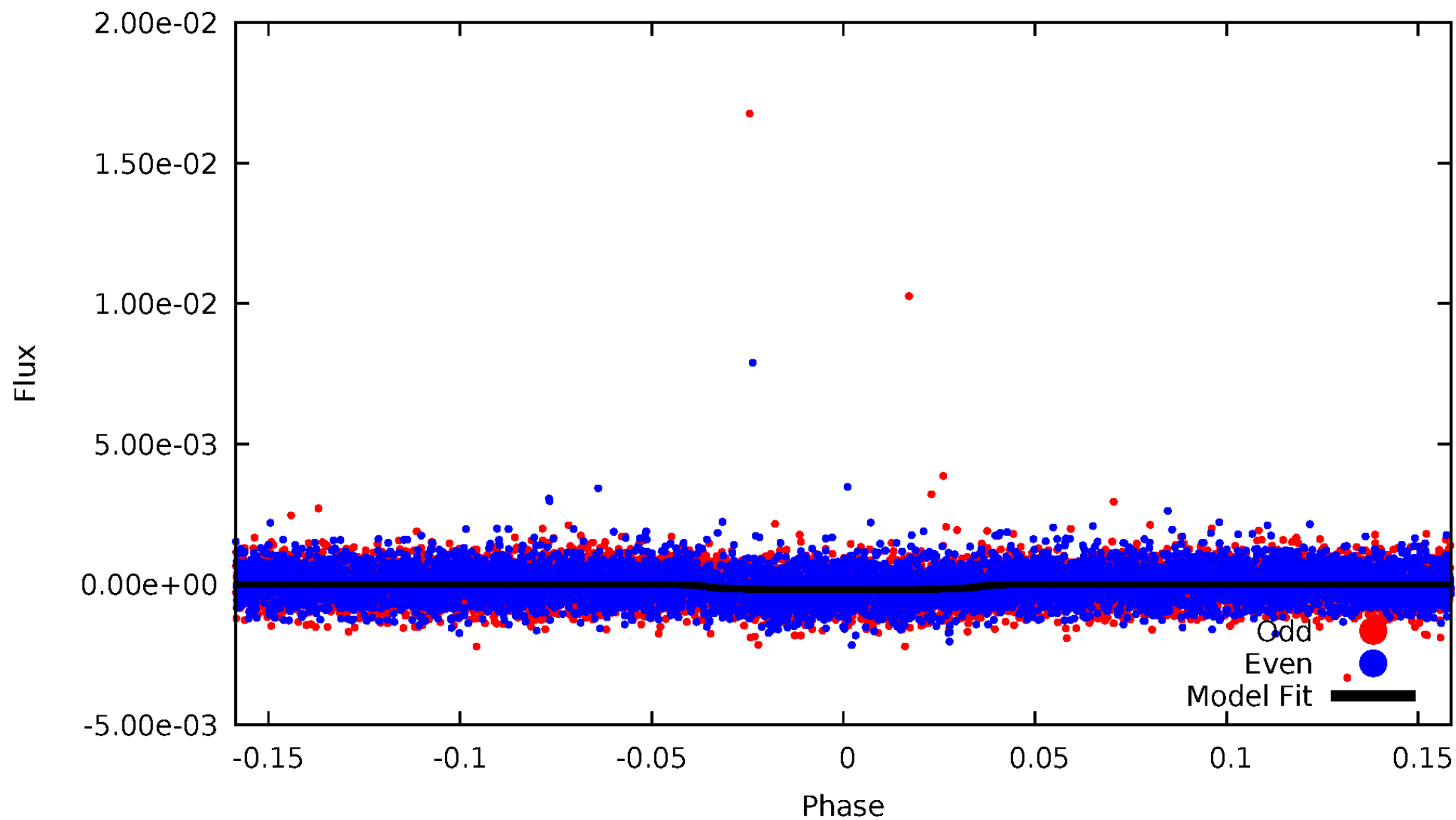


TCE 012216278-01



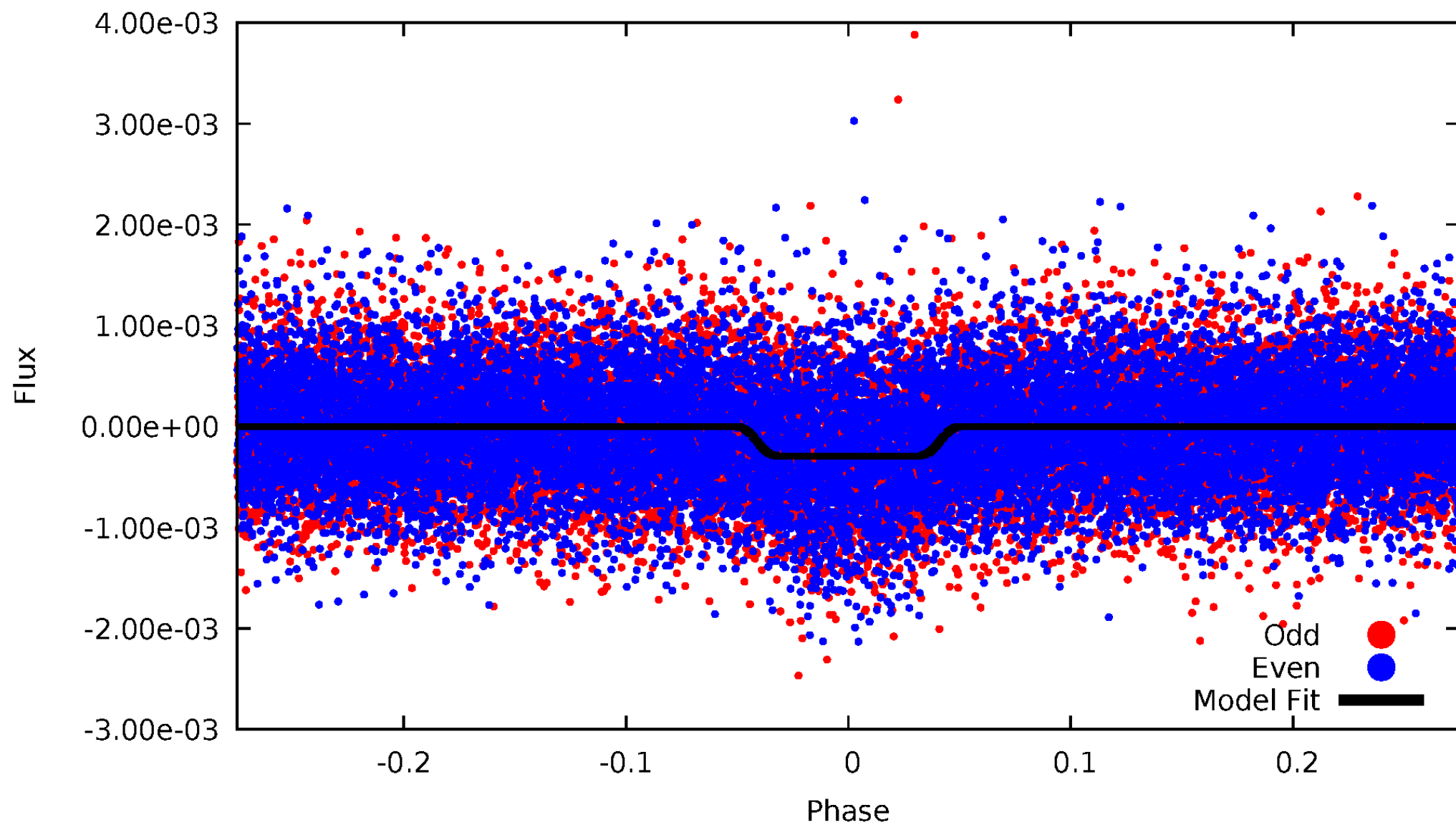
DV Odd/Even

TCE 012216278-01



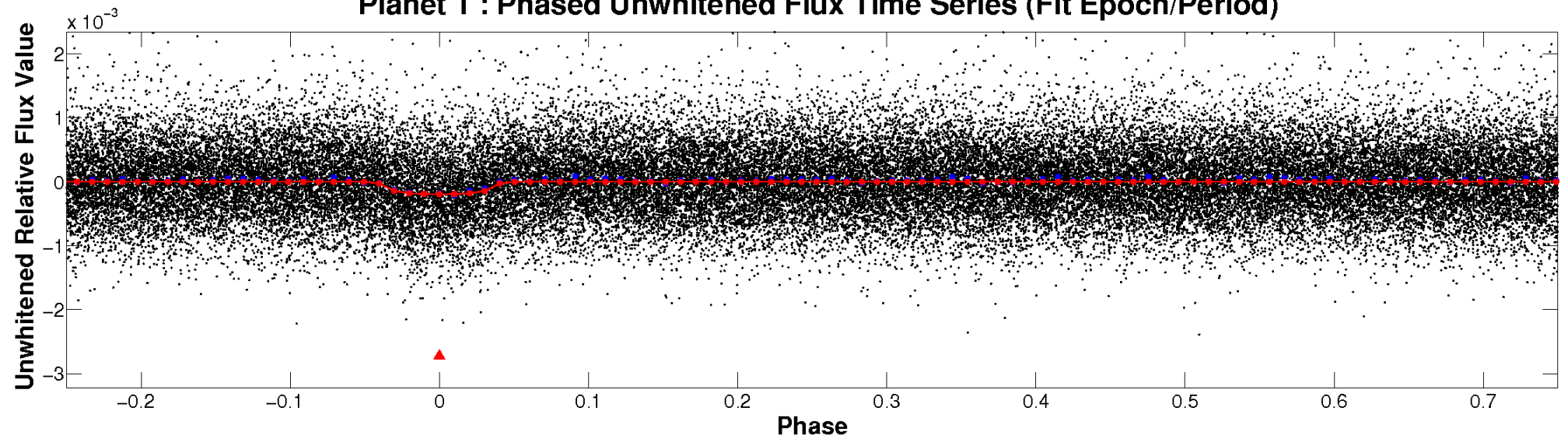
ALT Odd/Even

TCE 012216278-01

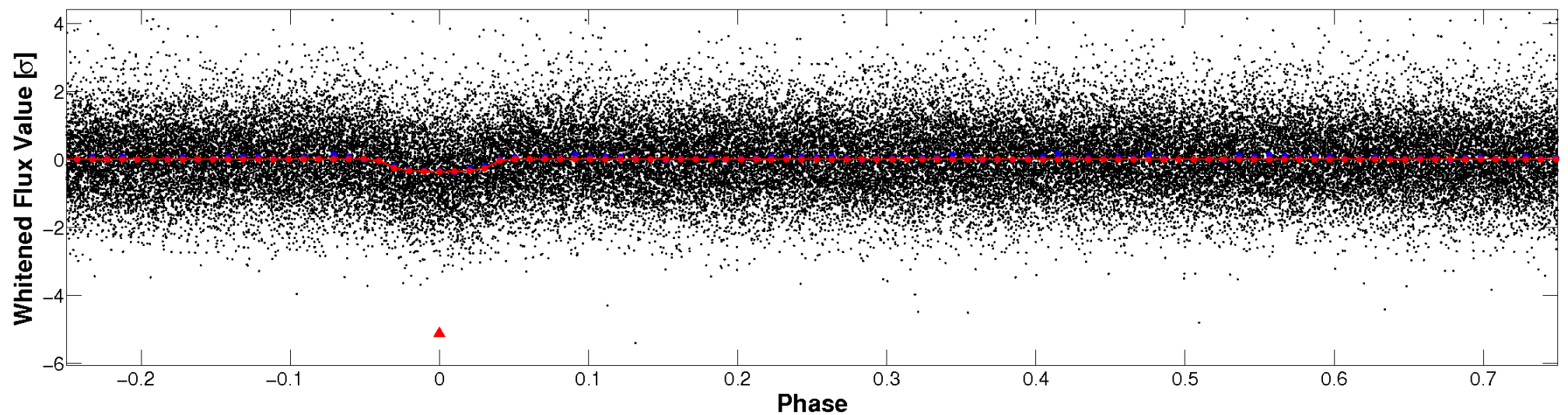


Non-Whitened Vs. Whitened Light Curve

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

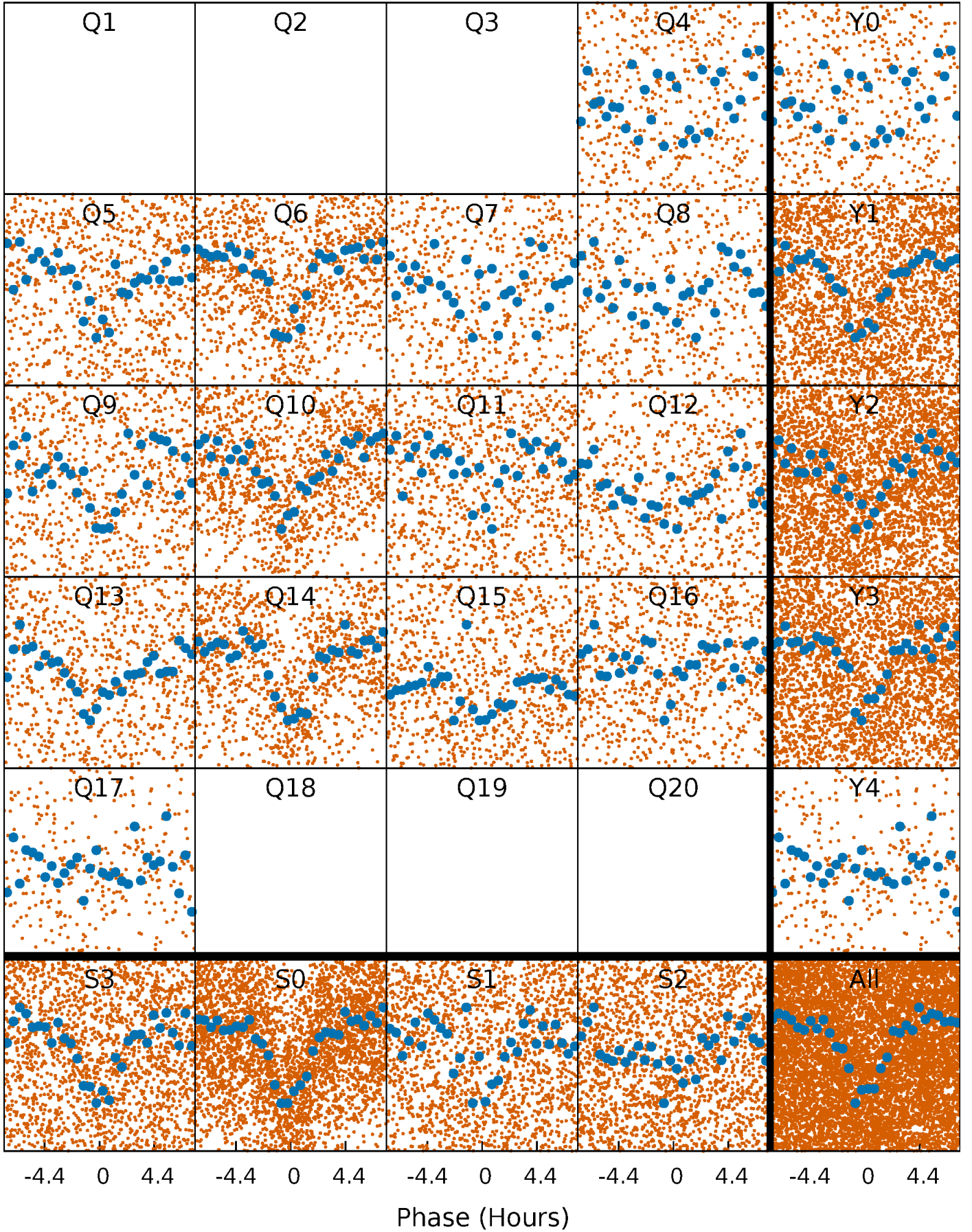


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



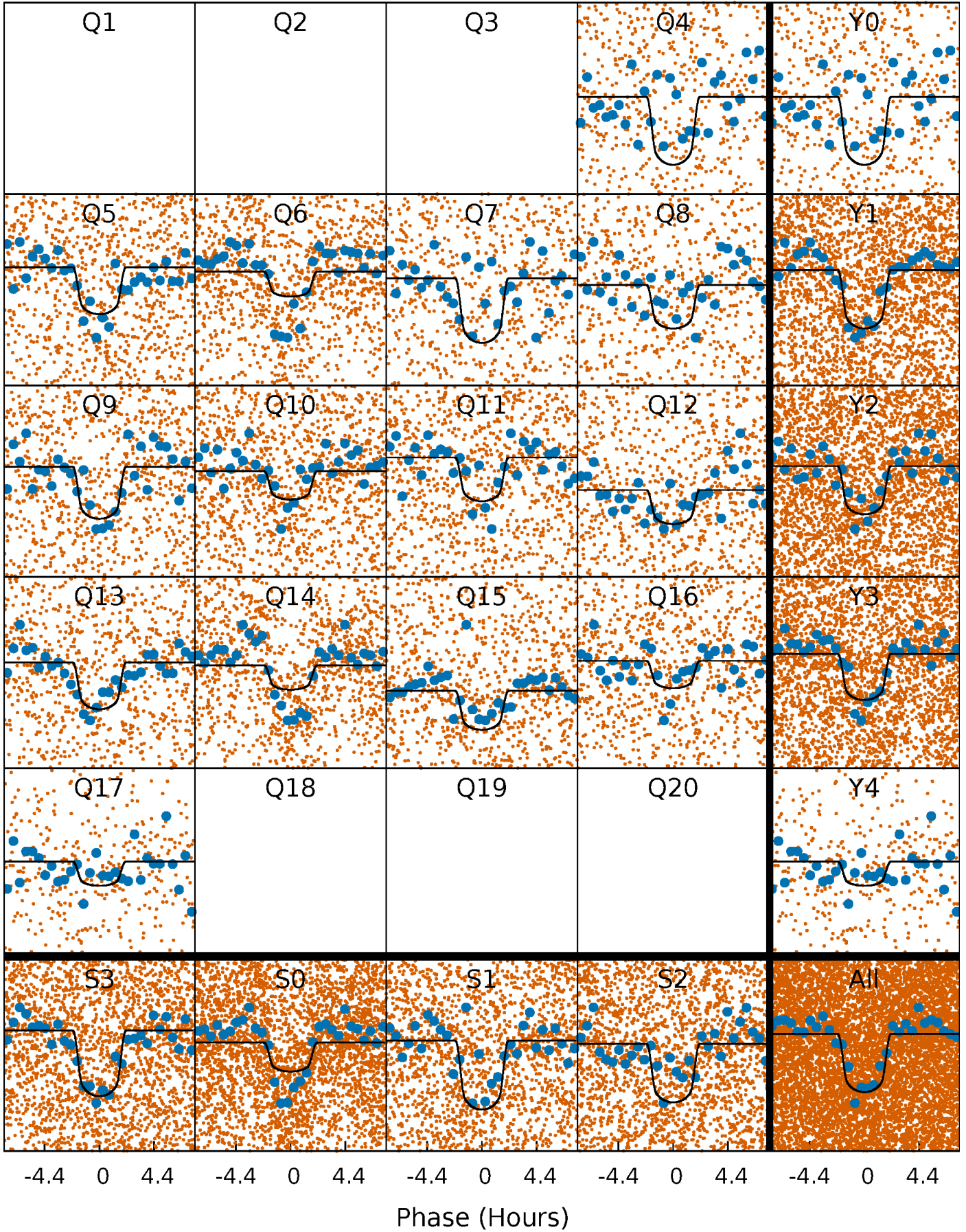
PDC Quarter-Phased Transit Curves

TCE 012216278-01 P= 2.019463 Days $T_0=132.936911$ (BKJD)



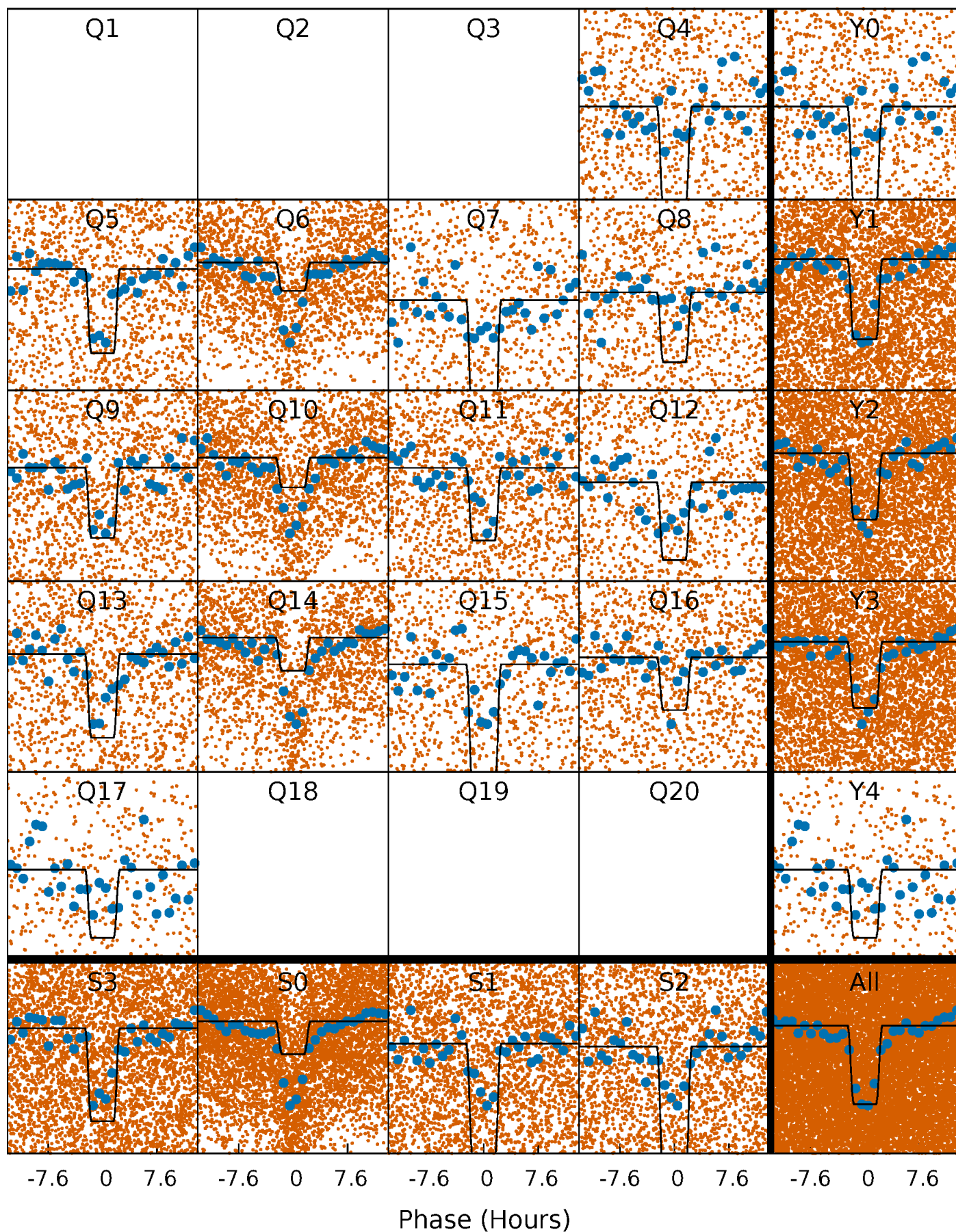
DV Quarter-Phased Transit Curves

TCE 012216278-01 P= 2.019463 Days $T_0=132.936911$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

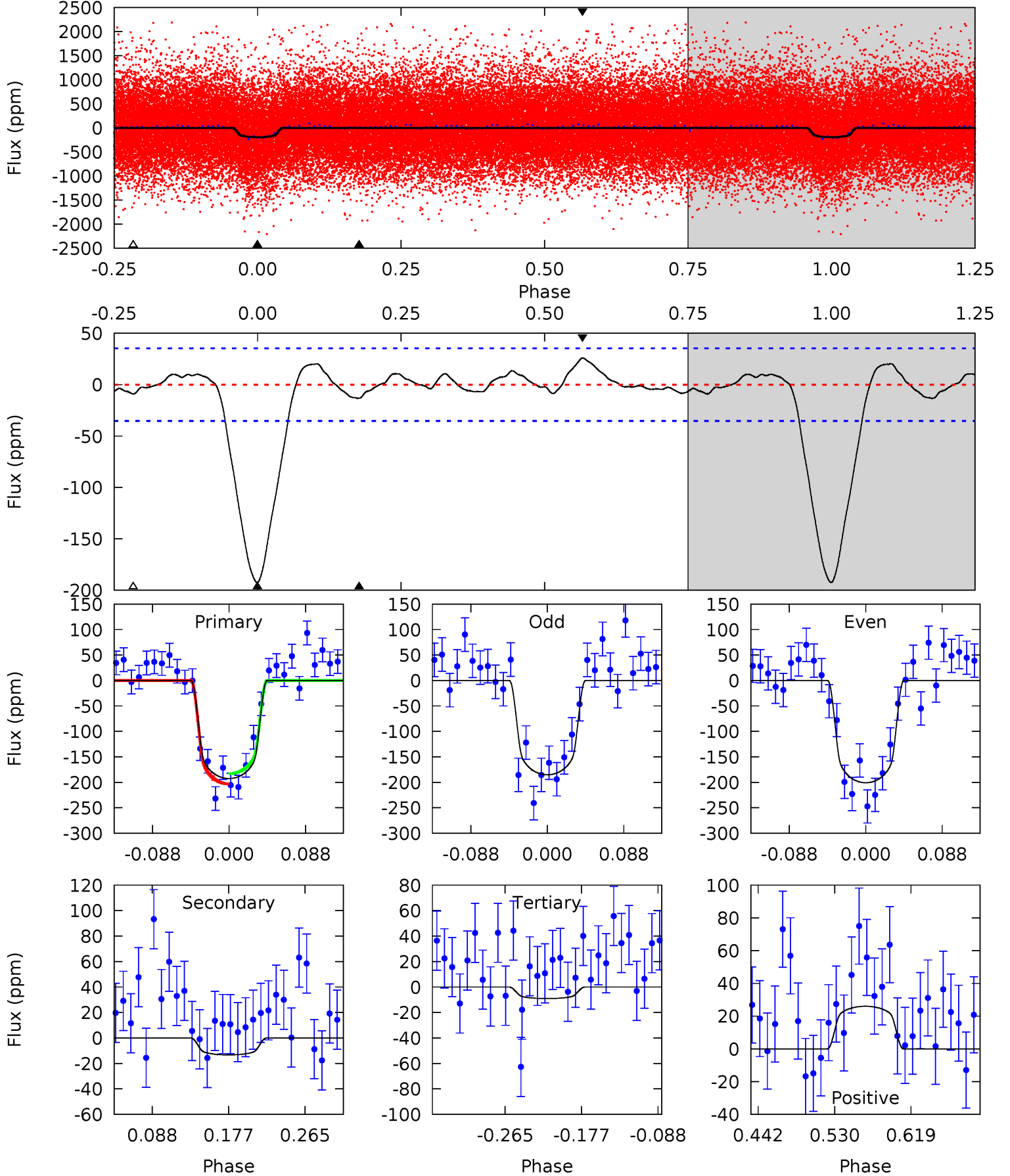
TCE 012216278-01 P= 2.019444 Days $T_0=132.941570$ (BKJD)



DV Model-Shift Uniqueness Test

012216278-01, P = 2.019463 Days, E = 132.936911 Days

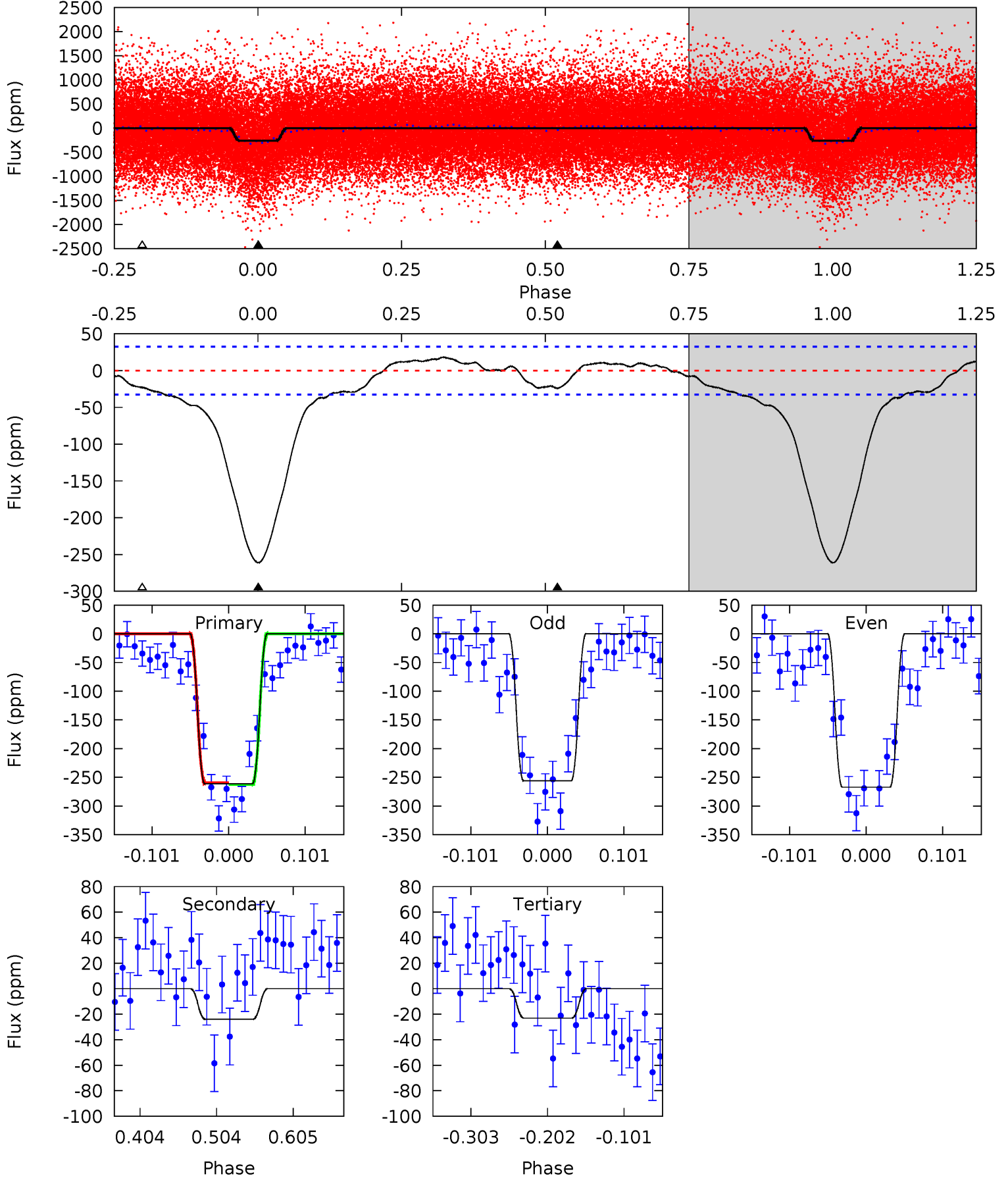
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.0	1.73	1.18	3.39	4.59	1.70	1.04	23.9	21.7	0.55	-1.66	1.02	0.94	0.12	1.30



Alt Model-Shift Uniqueness Test

012216278-01, P = 2.019444 Days, E = 132.941570 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.6	3.35	3.23	0	4.56	1.64	2.76	33.4	36.6	0.11	3.35	0.77	1.10	0.07	0.21



Stellar Parameters For KIC 012216278

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5884^{+184}_{-205}	$4.481^{+0.065}_{-0.195}$	$-0.100^{+0.300}_{-0.300}$	$0.944^{+0.282}_{-0.113}$	$0.985^{+0.127}_{-0.127}$	$1.650^{+0.466}_{-0.869}$
	+3%/-3%	+1%/-4%	+300%/-300%	+30%/-12%	+13%/-13%	+28%/-53%
Source	KIC0	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 012216278-01 / KOI 2565.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-13 ± 8	$1.65^{+0.37}_{-0.38}$	2025^{+148}_{-108}	3289^{+409}_{-539}	$2.420^{+2.369}_{-1.546}$
Alt.	-24 ± 7	$1.82^{+0.45}_{-0.38}$	2032^{+156}_{-112}	3534^{+325}_{-282}	$3.732^{+2.366}_{-1.589}$

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 $A_{\text{obs}} \gg 1.0$

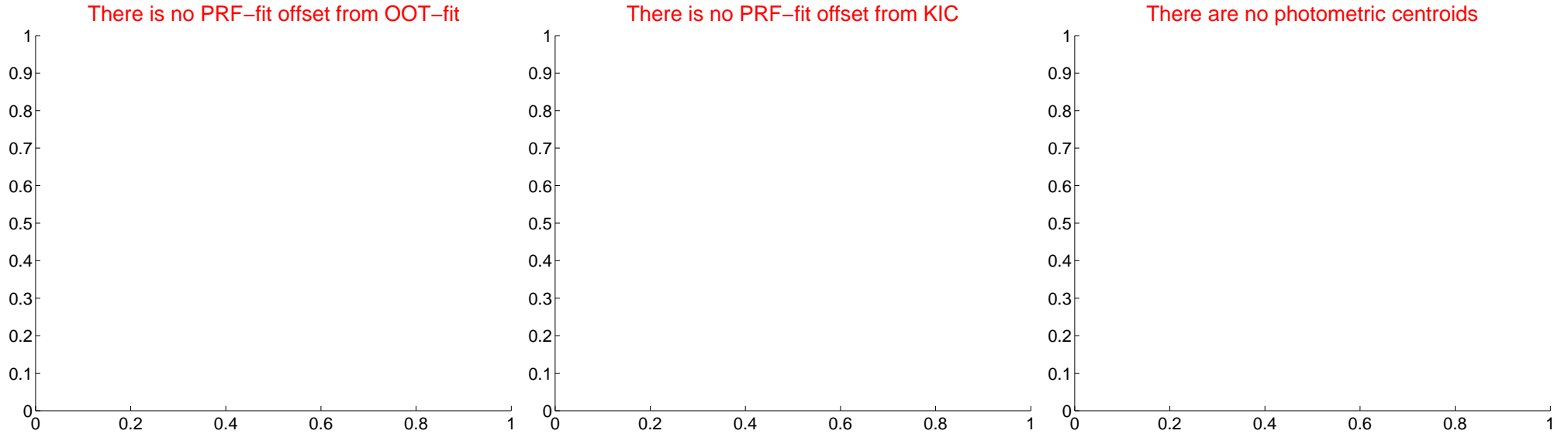
DV Centroid Data

Supplemental centroid analysis for 012216278-01. Kepler magnitude: 15.41. Transit SNR 19.48

There are 0 quarters with good PRF difference image offsets

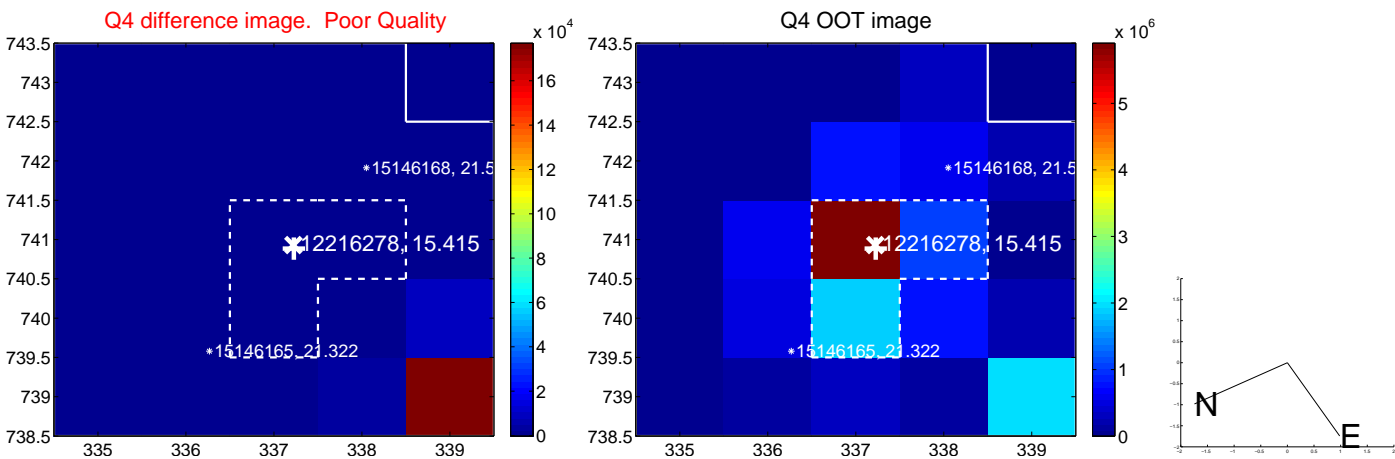
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	—	—	—	—

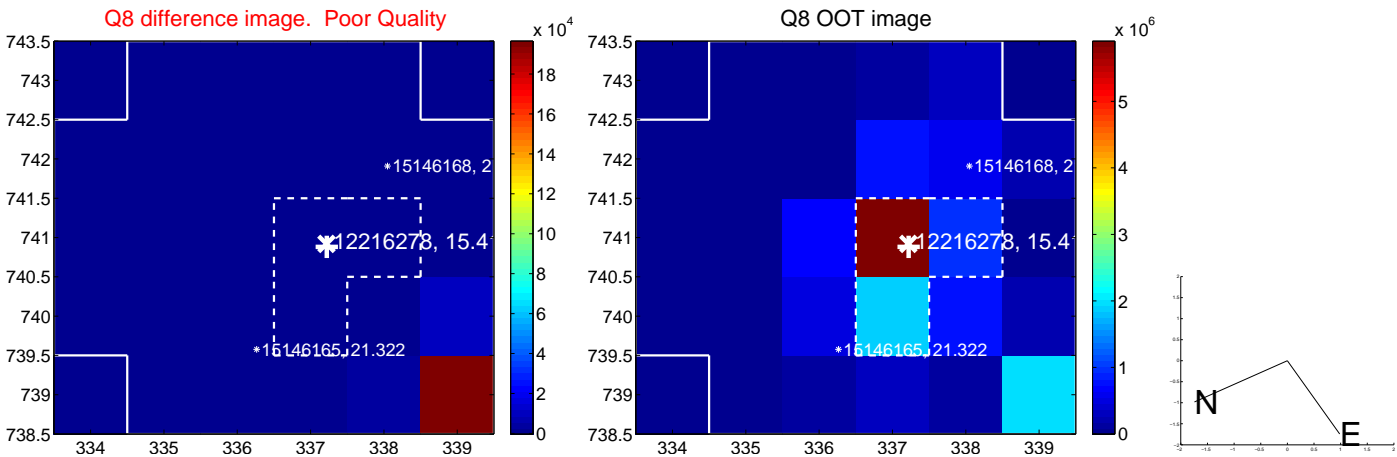
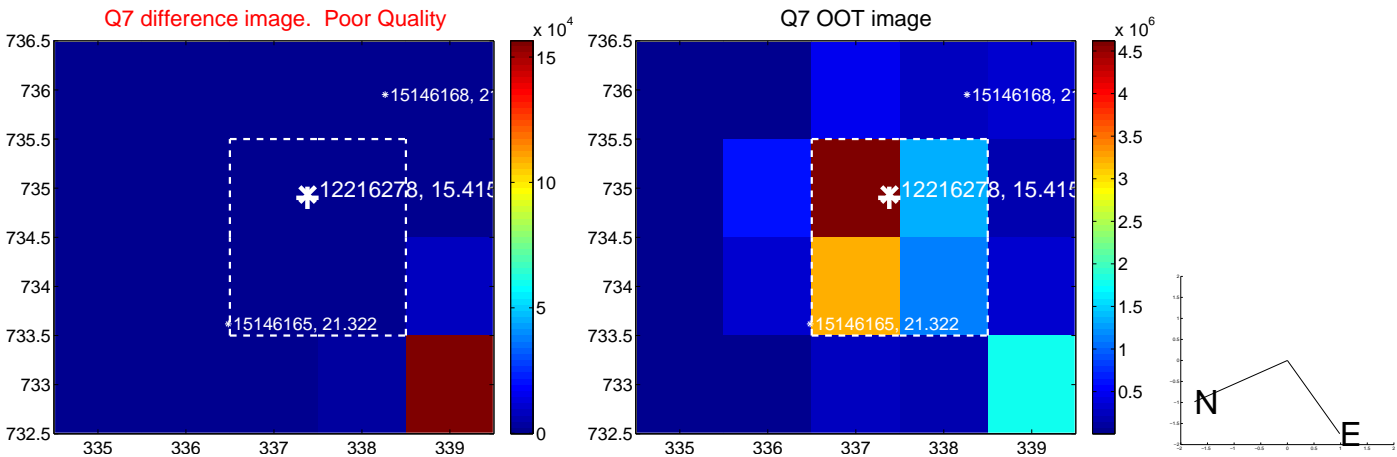
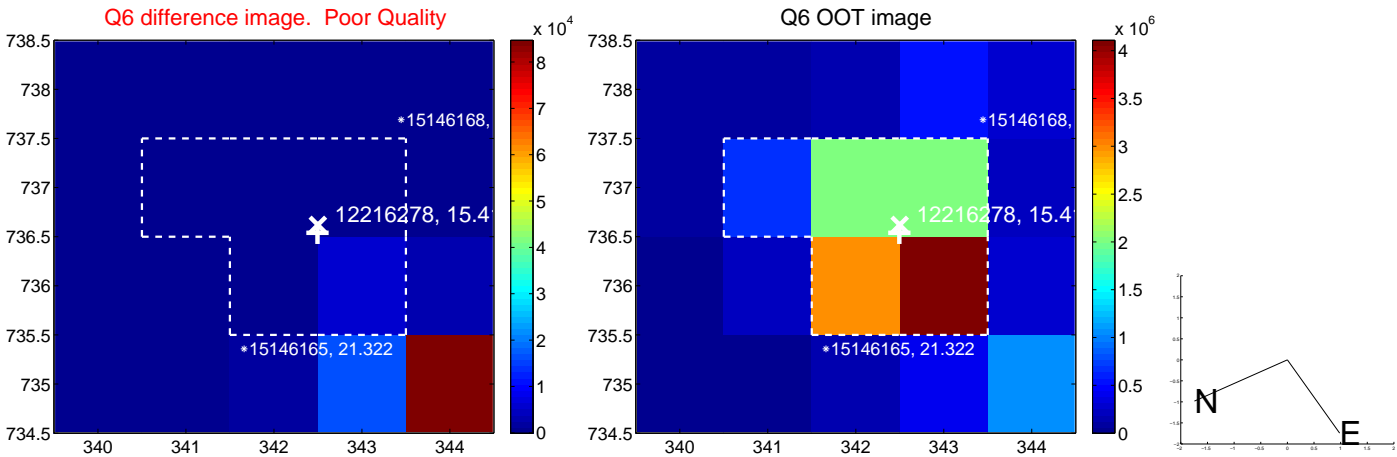
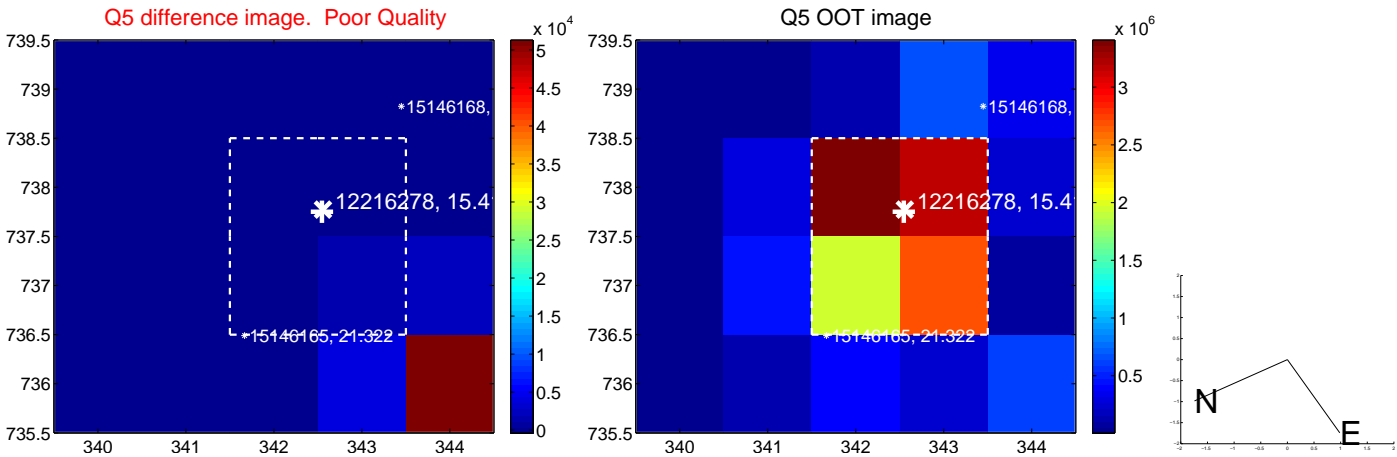


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

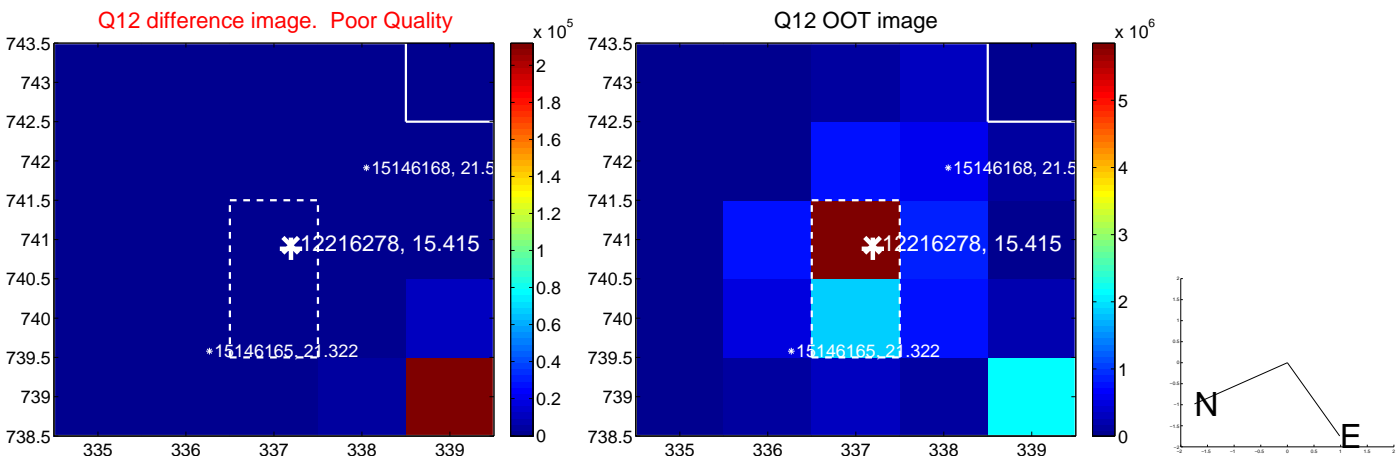
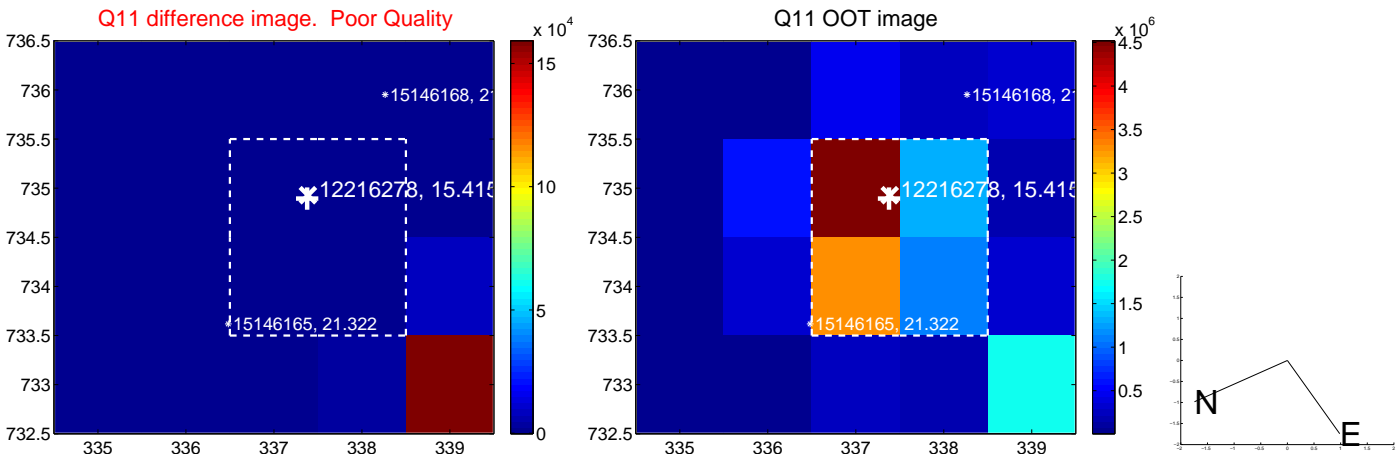
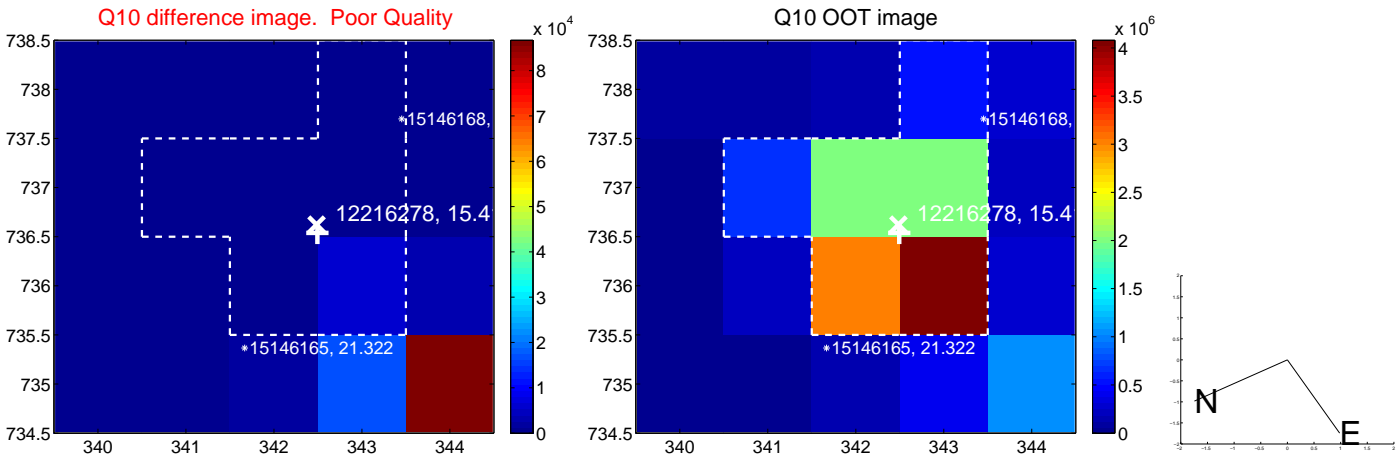
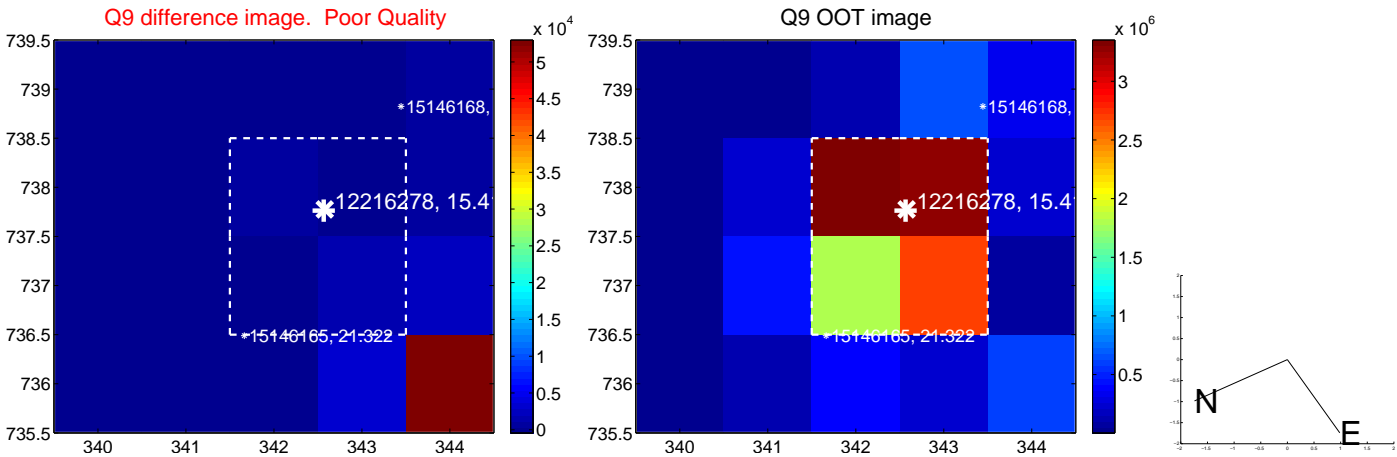
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



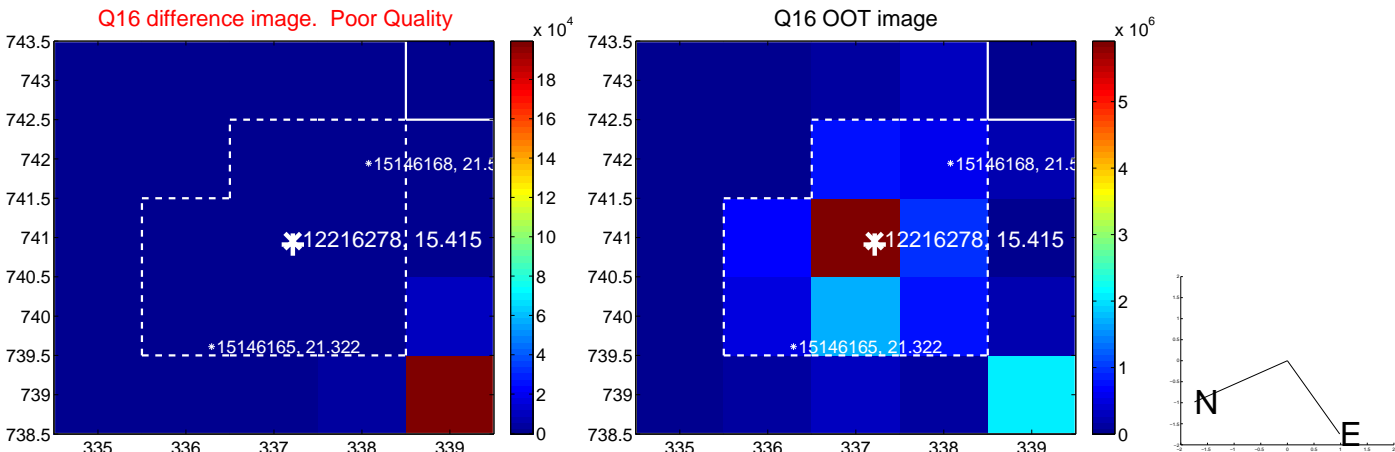
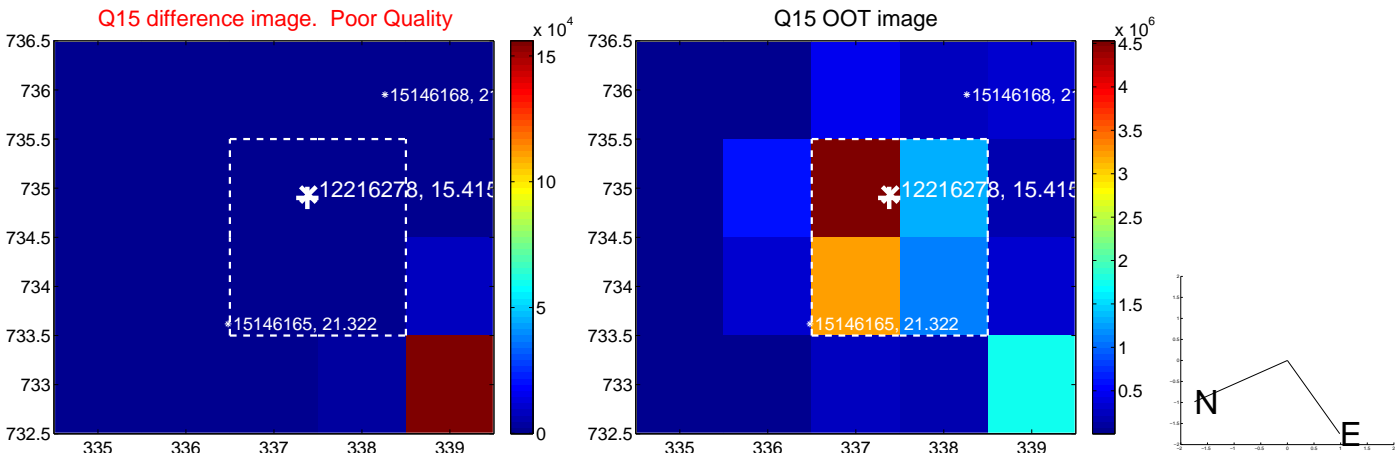
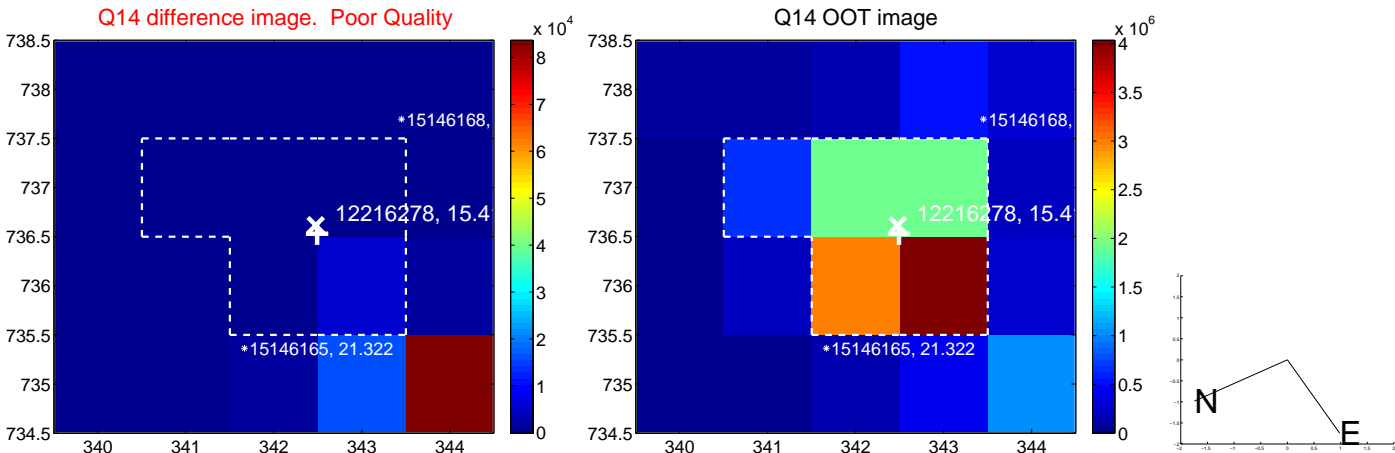
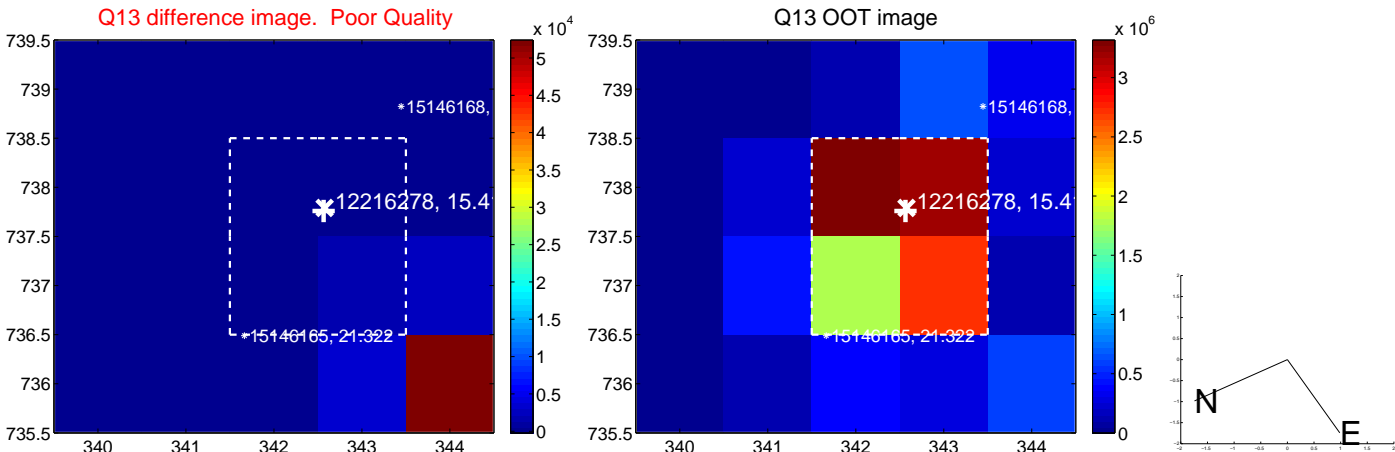
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



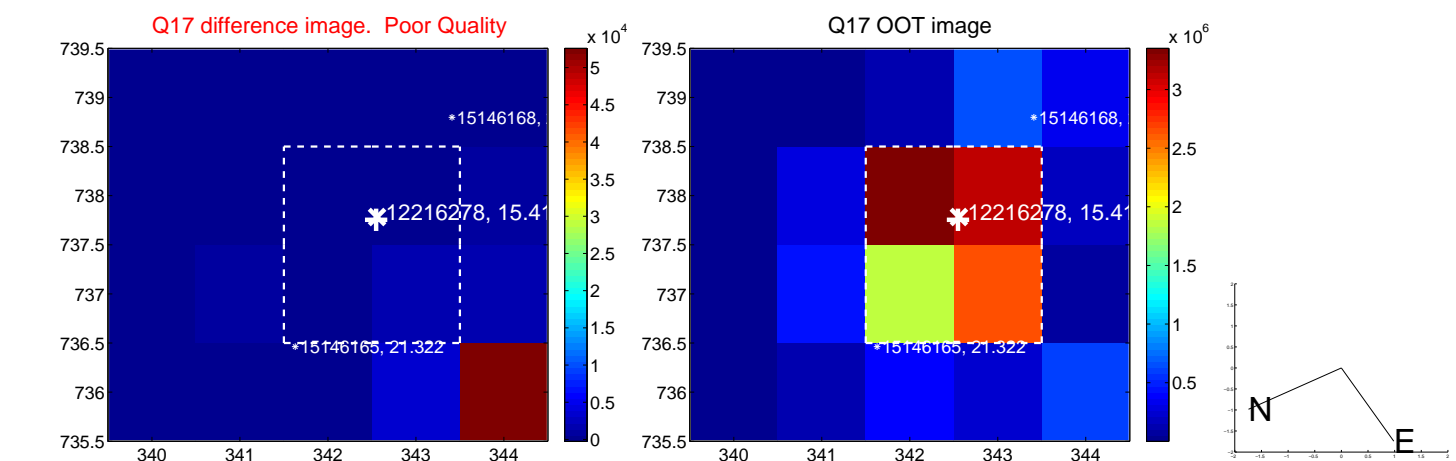
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



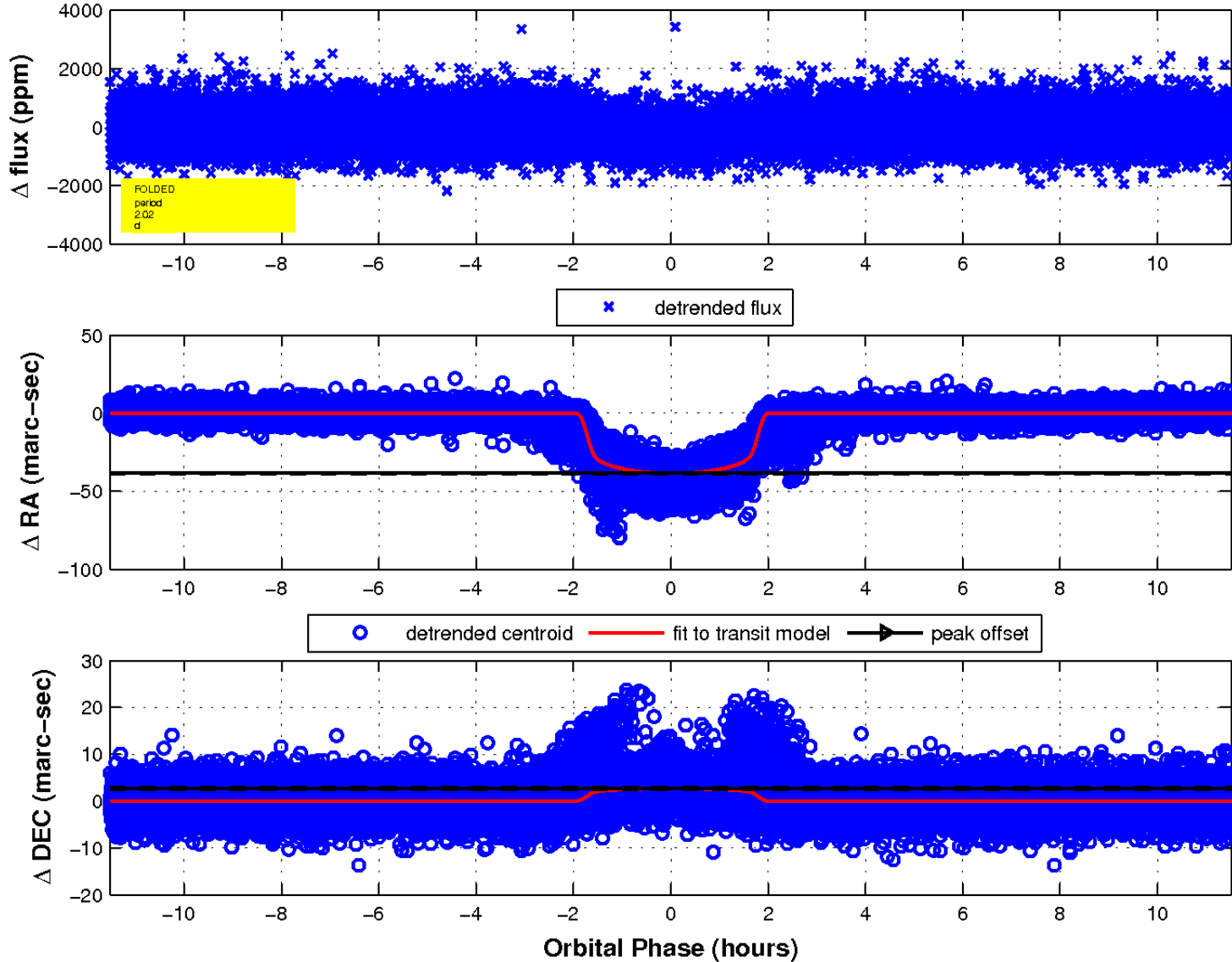
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

