

KIC 011616641

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})
011616641-01	OBS	No	7.293849	136.213039	61.1	29.569	8.9	12.7	0.67	5136	0.55	68.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011616641-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_FEW_DIFFS—HALO_GHOST—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.

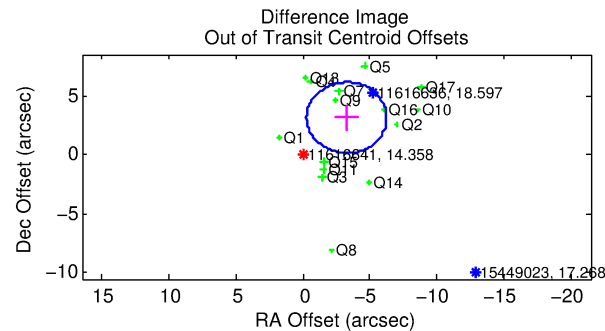
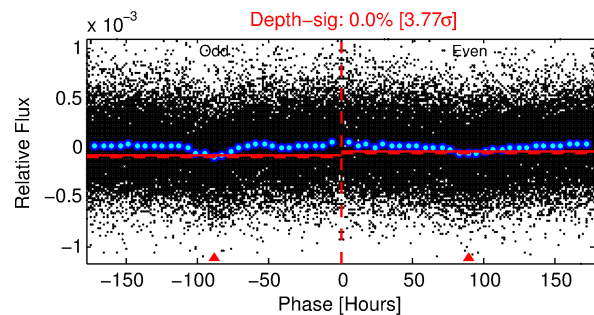
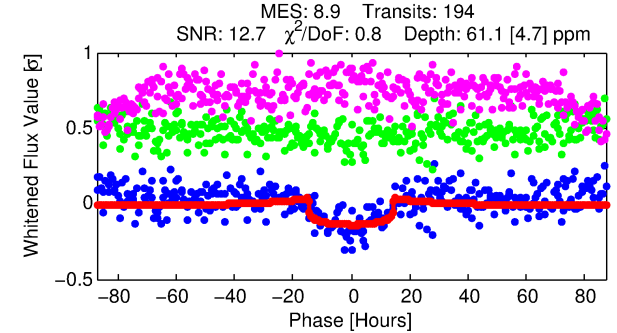
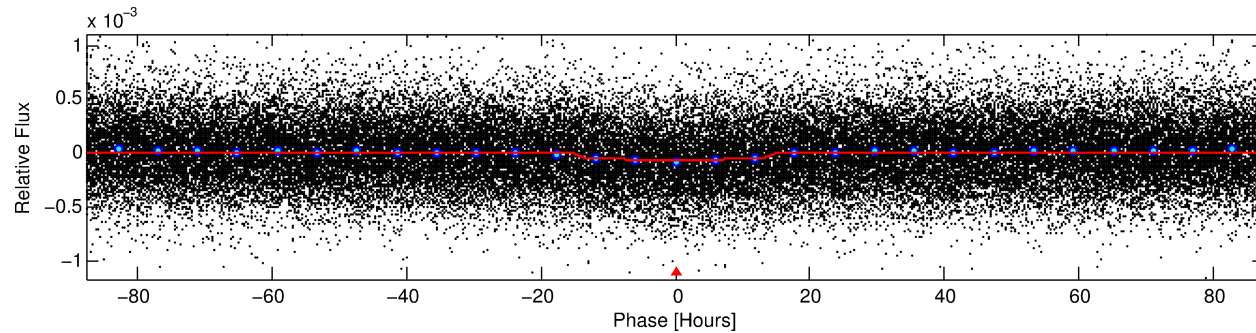
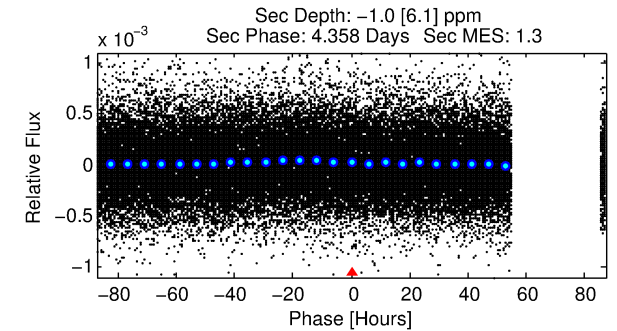
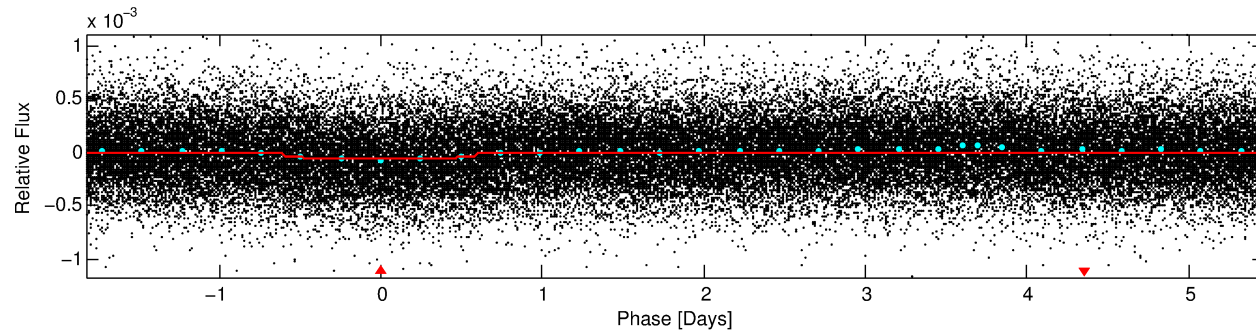
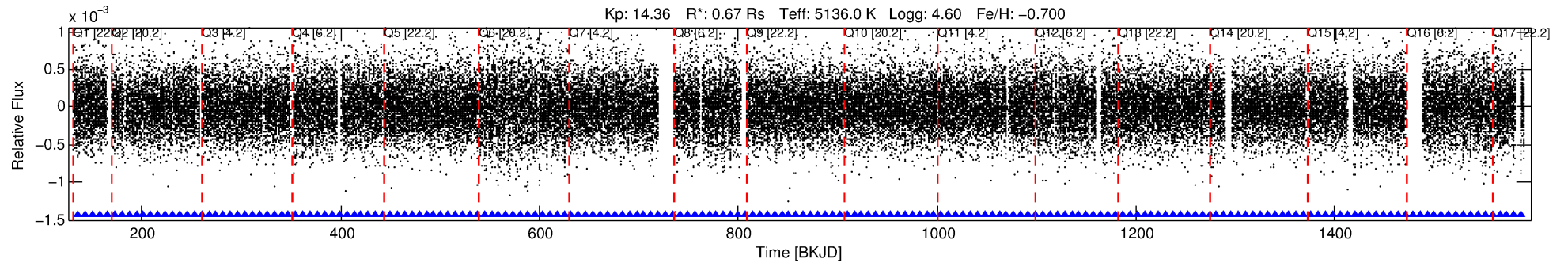
Ephemeris Match Information For 011616641-01

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
011616641-01	11616641	011616594-pri	11616594	1:2	77.1	2	20	11.17	14.36	5250.80	Direct-PRF	0	0.52	0.79

Notes: $P_1:P_2$ 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. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 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: 11616641 Candidate: 1 of 1 Period: 7.294 d



DV Fit Results:

Period = 7.29385 [0.00018] d
Epoch = 136.2130 [0.0191] BKJD
Rp/R* = 0.0076 [0.0020]
a/R* = 1.62 [1.08]
b = 0.68 [0.87]
Seff = 68.20 [12.04]
Teff = 733 [32] K
Rp = 0.55 [0.16] Re
a = 0.0637 [0.0056] AU
Ag = N/A
Teffp = N/A

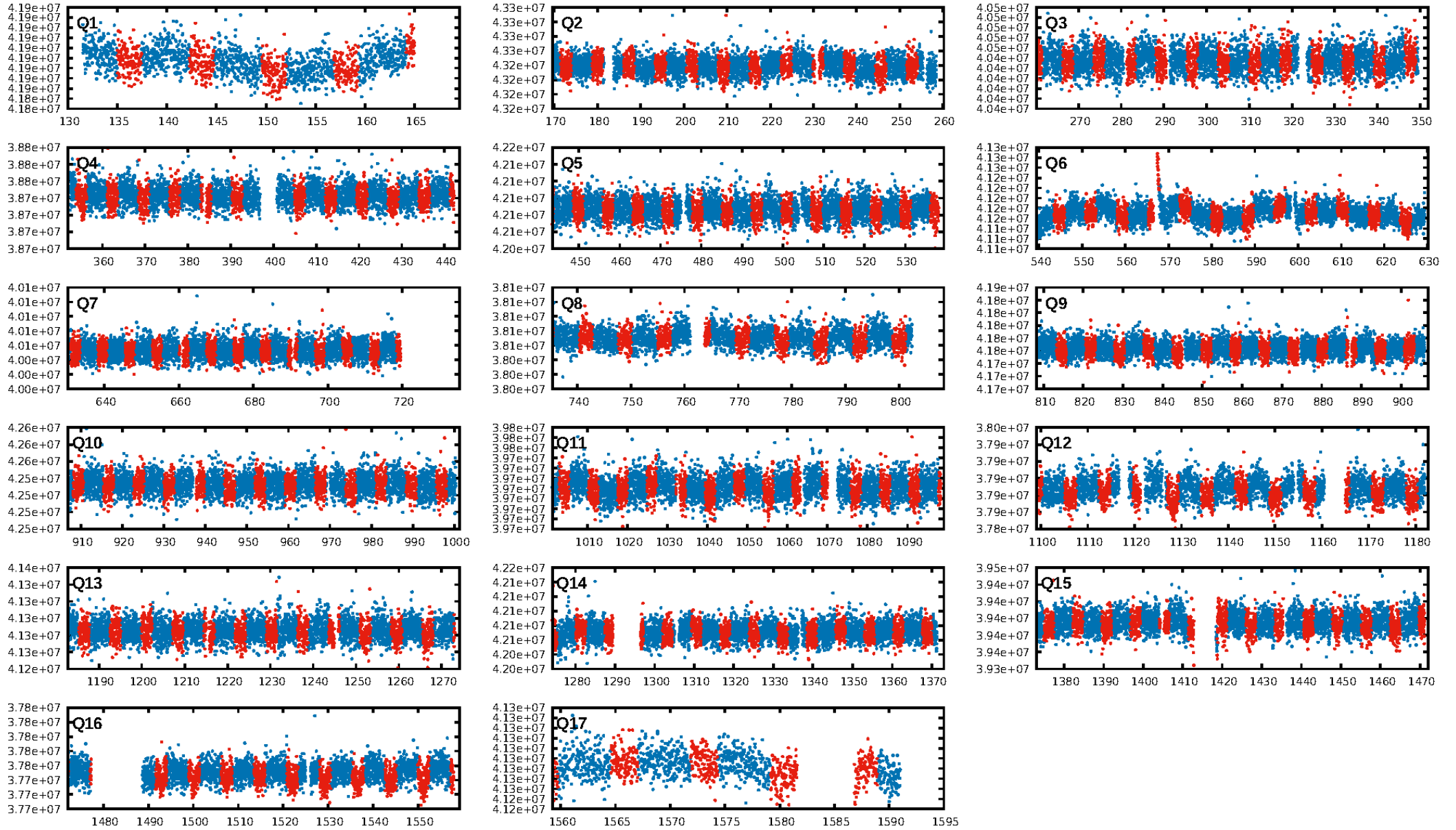
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 84.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.31e-20
RollingBand-fgt: 1.00 [185/185]
GhostDiagnostic-chr: 0.08323
Centroid-sig: 0.2%
Centroid-so: 2.389 arcsec [2.66σ]
OotOffset-rm: 4.522 arcsec [4.52σ]
KicOffset-rm: 4.556 arcsec [4.37σ]
OotOffset-st: 3/4/3/5 [15]
KicOffset-st: 3/4/3/5 [15]
DiffImageQuality-fgm: 0.00 [0/15]
DiffImageOverlap-fno: 1.00 [17/17]

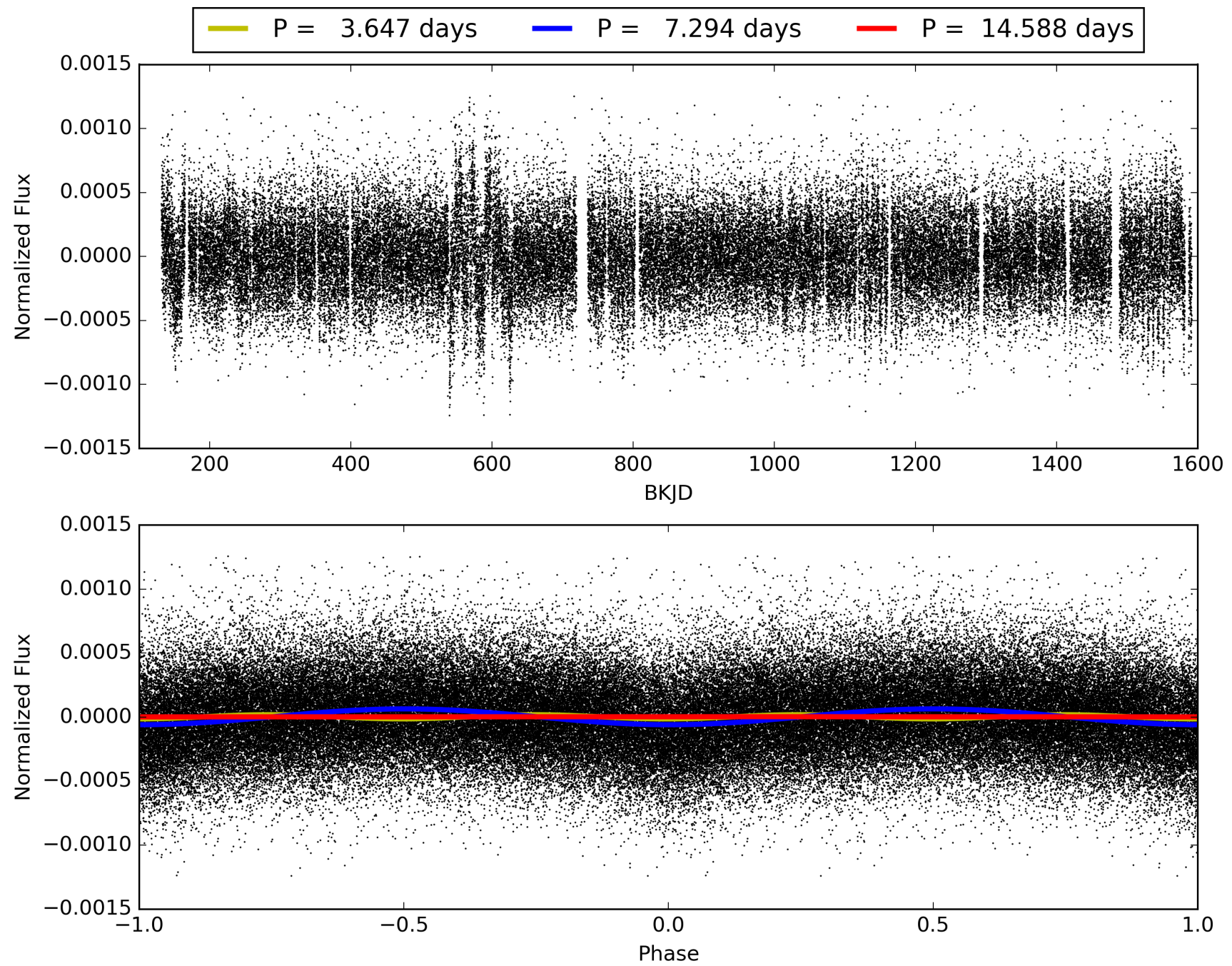
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:48:00 Z

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

TCE 011616641-01, PDC Light Curves

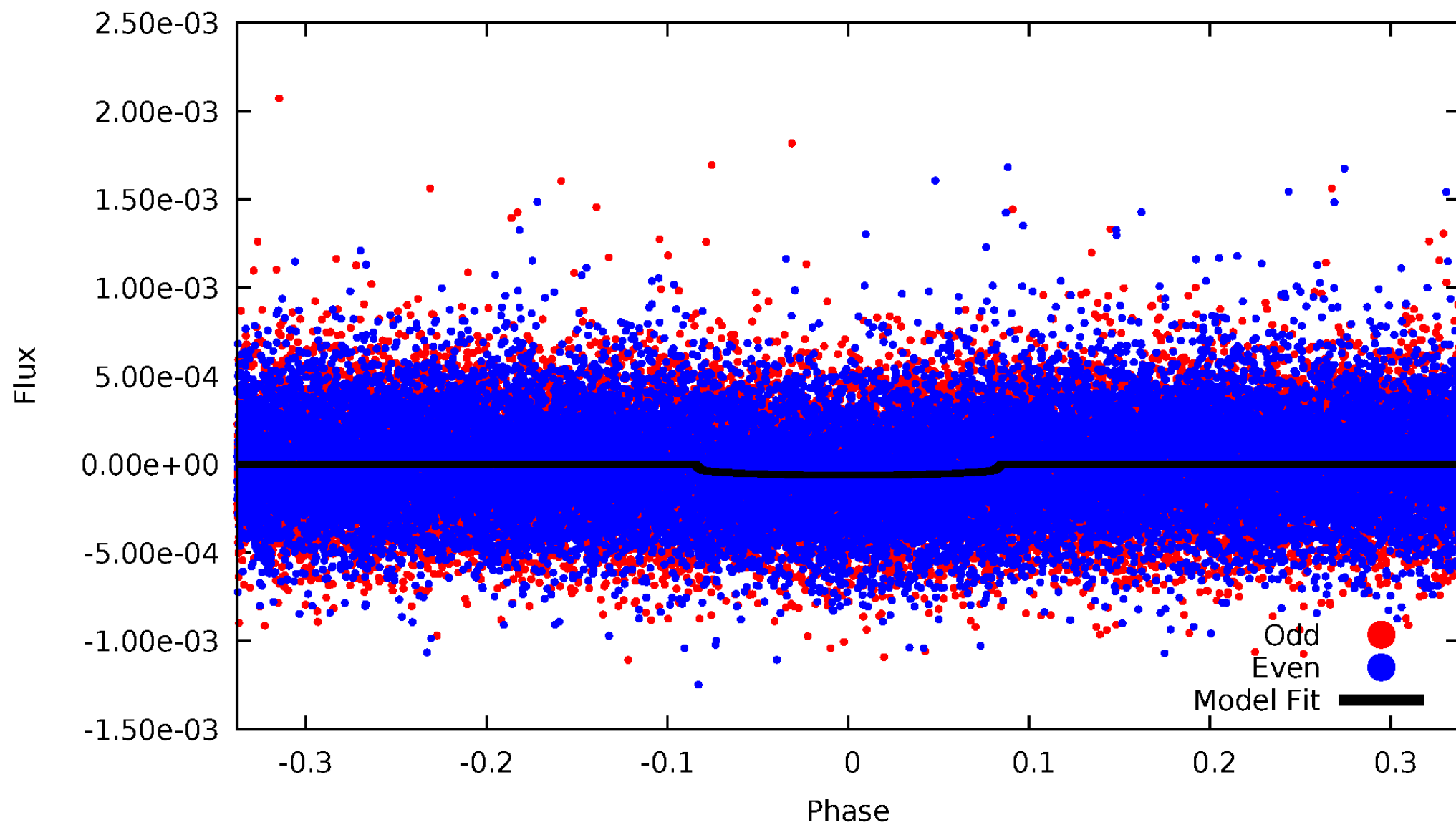


TCE 011616641-01



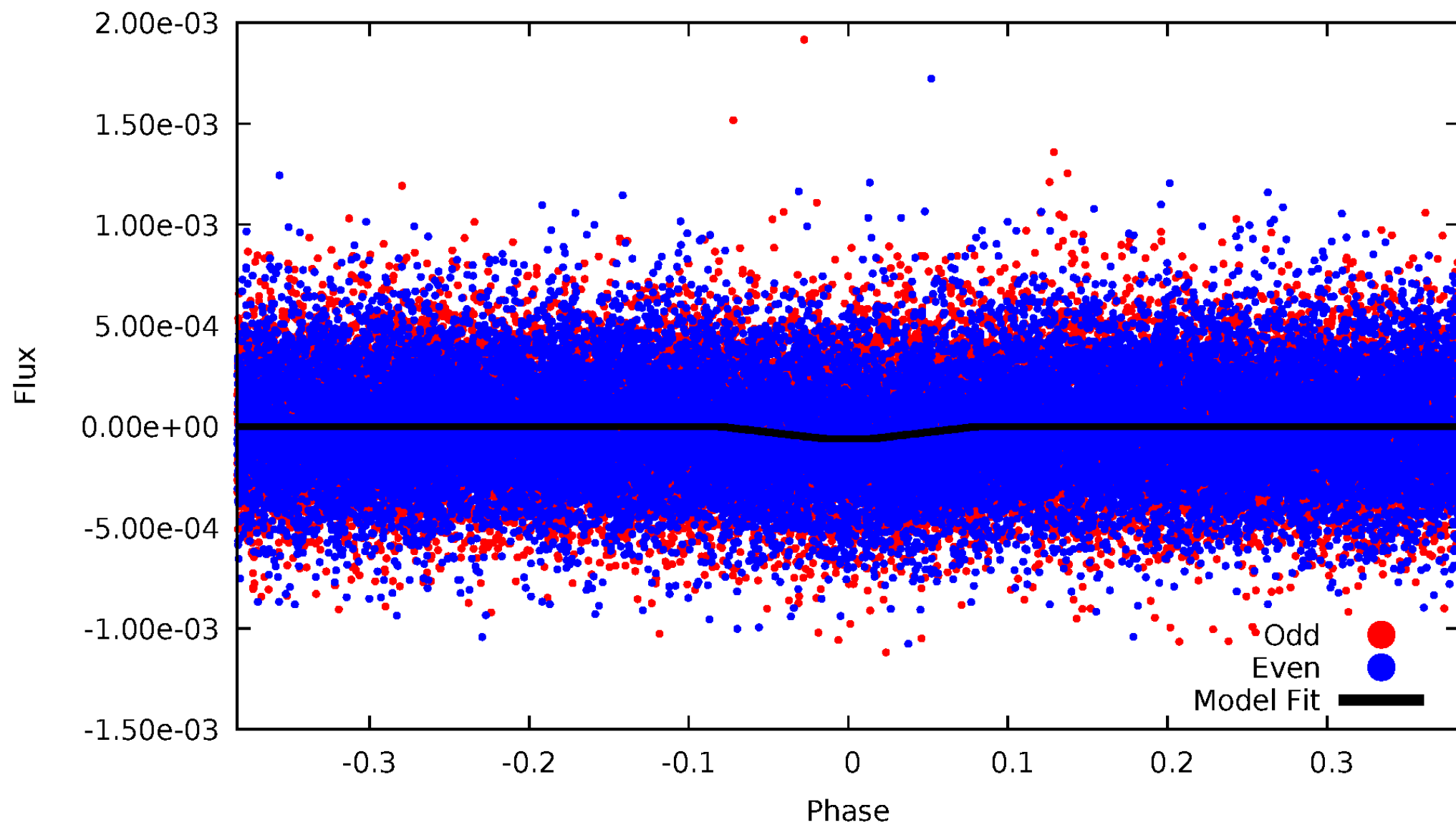
DV Odd/Even

TCE 011616641-01

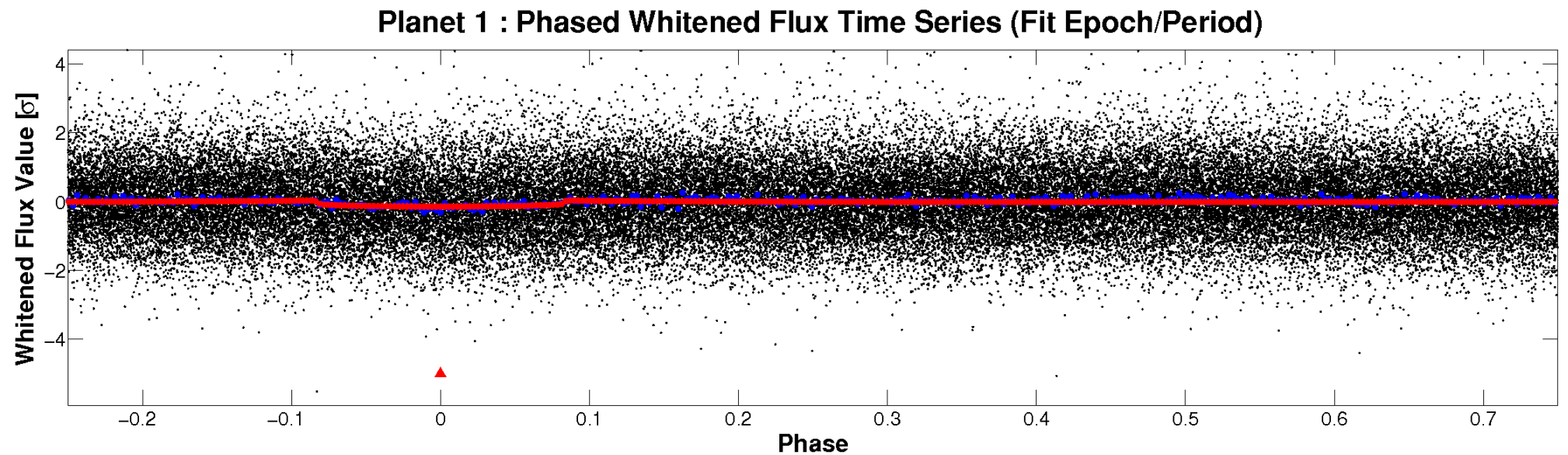
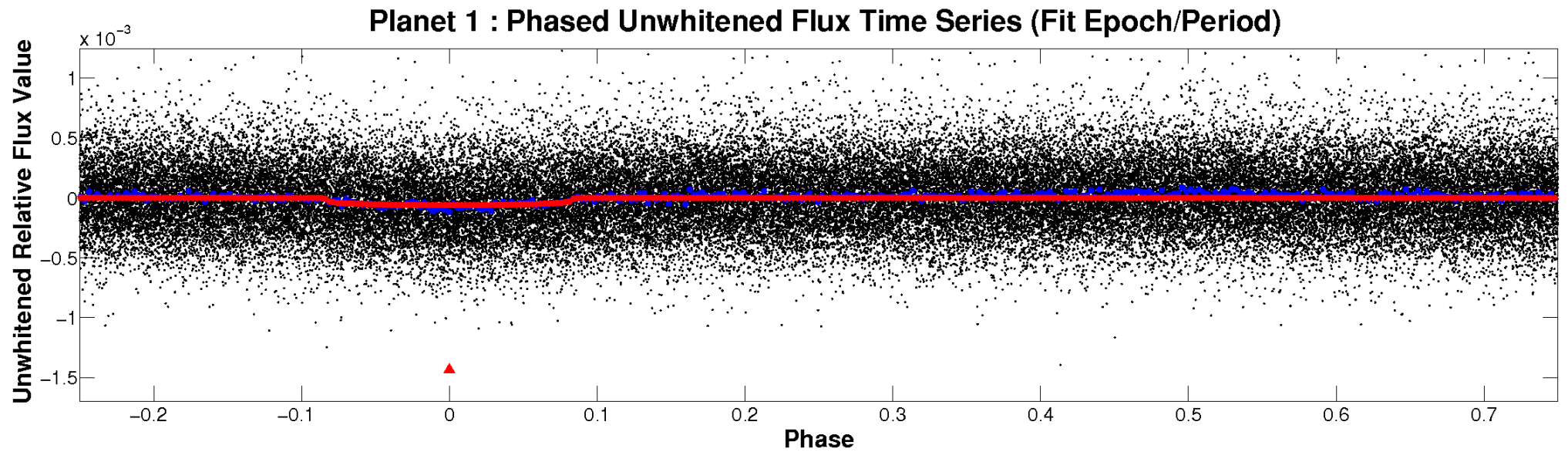


ALT Odd/Even

TCE 011616641-01

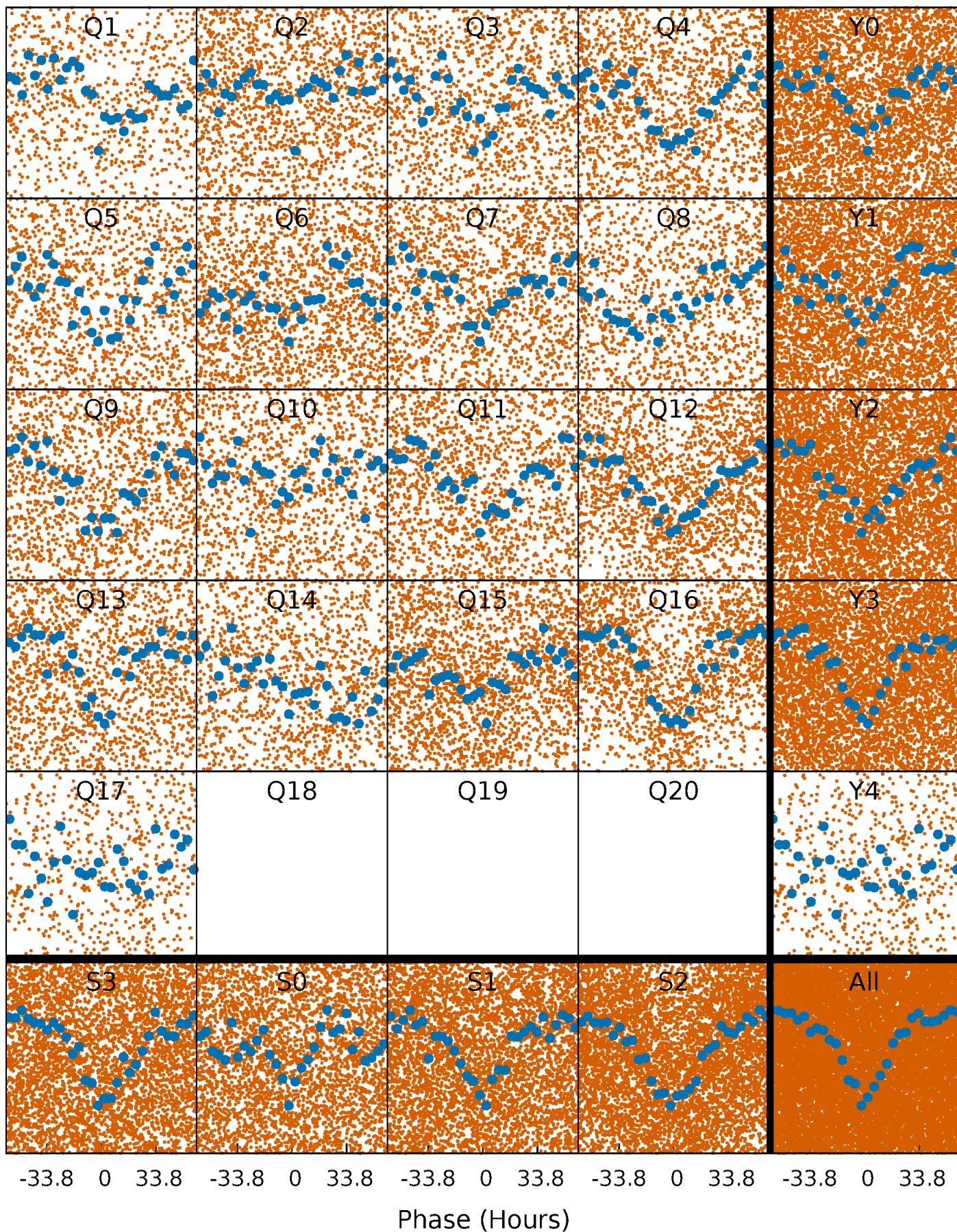


Non-Whitened Vs. Whitened Light Curve



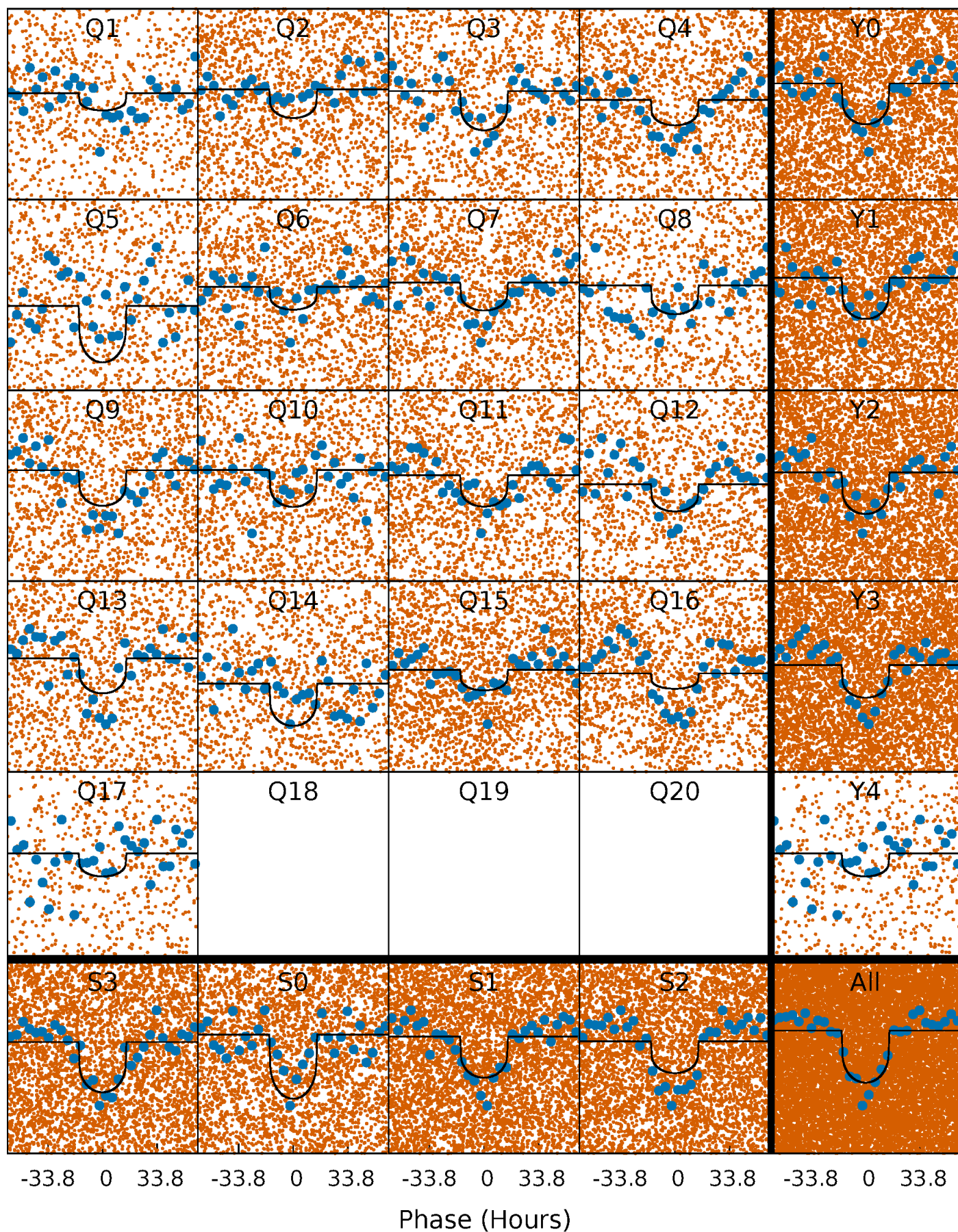
PDC Quarter-Phased Transit Curves

TCE 011616641-01 P= 7.293849 Days $T_0=136.213039$ (BKJD)



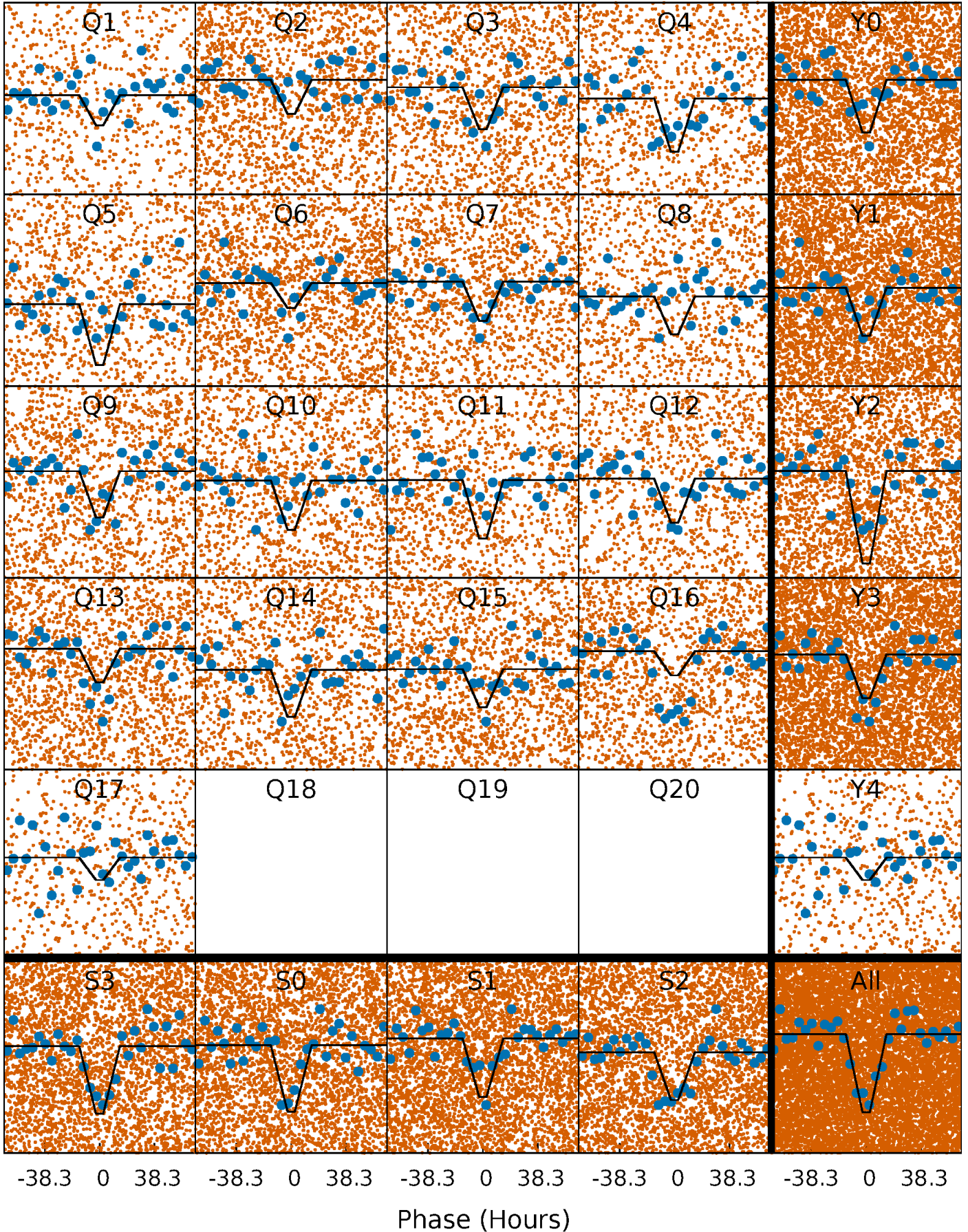
DV Quarter-Phased Transit Curves

TCE 011616641-01 P= 7.293849 Days $T_0=136.213039$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

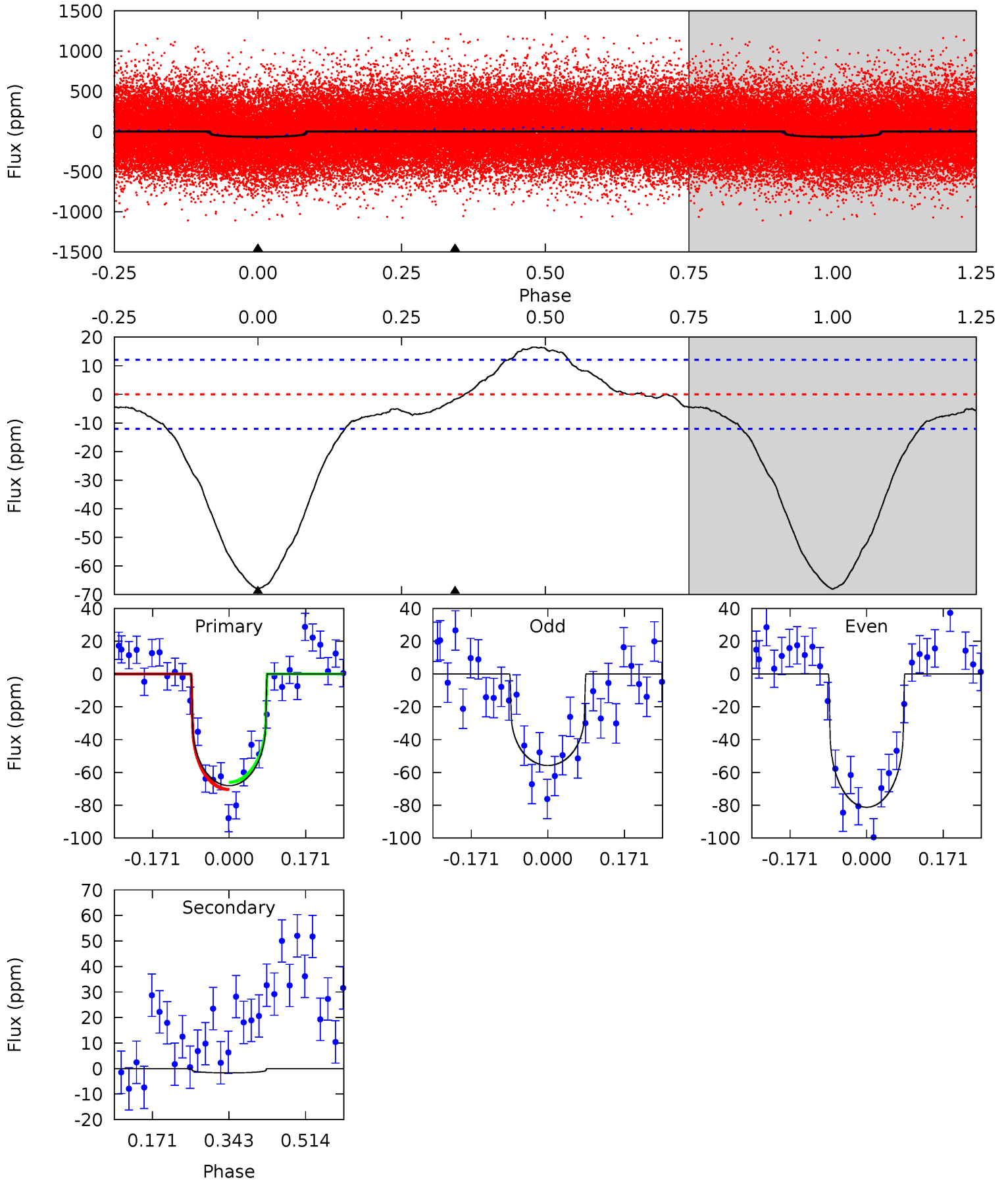
TCE 011616641-01 P= 7.293831 Days $T_0=136.188653$ (BKJD)



DV Model-Shift Uniqueness Test

011616641-01, P = 7.293849 Days, E = 128.919190 Days

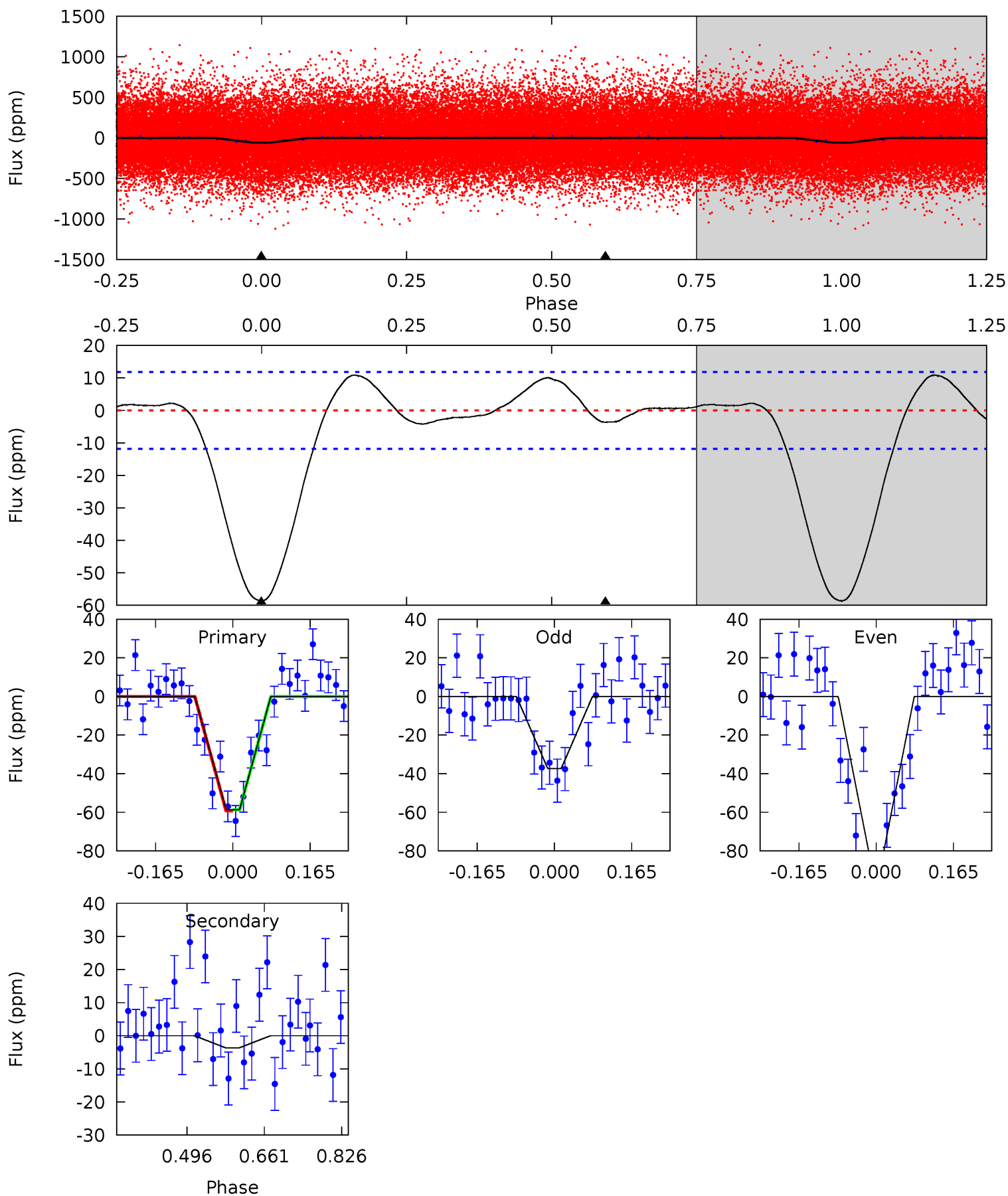
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.1	0.62	0	0	4.45	1.37	2.34	25.1	25.1	0.62	0.62	4.74	1.06	0.20	0.81



Alt Model-Shift Uniqueness Test

011616641-01, P = 7.293831 Days, E = 128.894822 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.1	1.38	0	0	4.46	1.39	1.42	22.1	22.1	1.38	1.38	8.47	1.18	0.16	0.12



Stellar Parameters For KIC 011616641

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5136^{+153}_{-153}	$4.602^{+0.072}_{-0.048}$	$-0.700^{+0.350}_{-0.300}$	$0.666^{+0.069}_{-0.062}$	$0.646^{+0.079}_{-0.031}$	$3.080^{+0.878}_{-0.571}$
	+3%/-3%	+2%/-1%	+50%/-43%	+10%/-9%	+12%/-5%	+29%/-19%
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 011616641-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2 ± 3	$0.56^{+0.15}_{-0.15}$	1020^{+38}_{-40}	2824^{+498}_{-5418}	12^{+27}_{-19}
Alt.	-4 ± 3	$0.58^{+0.14}_{-0.15}$	1017^{+37}_{-39}	3078^{+406}_{-551}	24^{+30}_{-18}

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

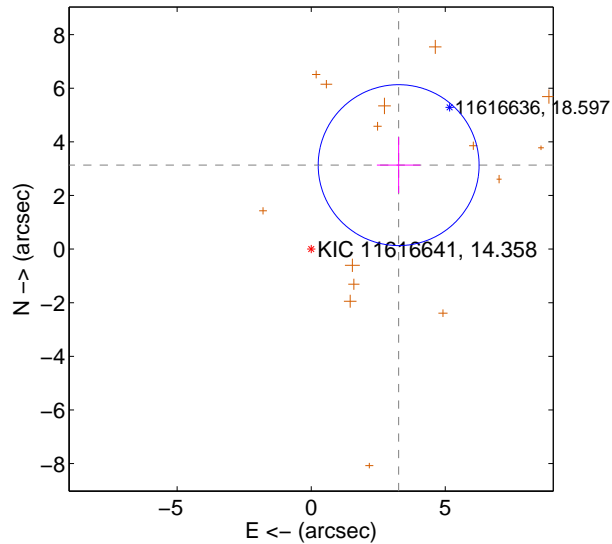
Supplemental centroid analysis for 011616641-01. Kepler magnitude: 14.36. Transit SNR 12.70

There are 0 quarters with good PRF difference image offsets

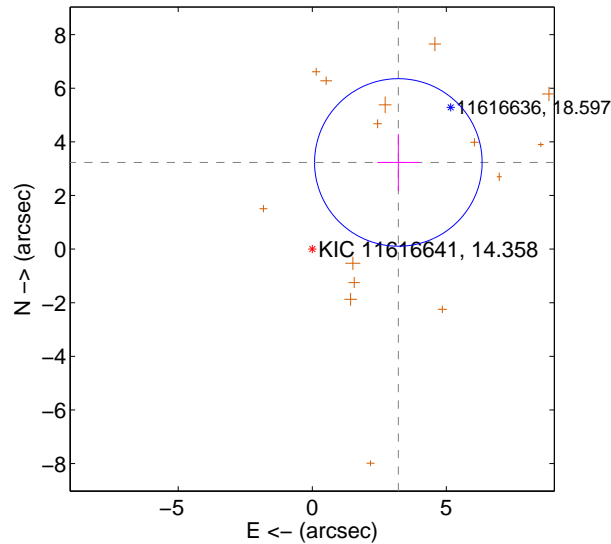
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.522 \pm 1.000	4.52	-3.262 \pm 0.810	3.132 \pm 1.043
PRF-fit source offset from KIC position	4.556 \pm 1.042	4.37	-3.210 \pm 0.786	3.232 \pm 1.060
photometric centroid source offset	2.39 \pm 0.90	2.66	-2.19 \pm 0.88	0.95 \pm 0.98

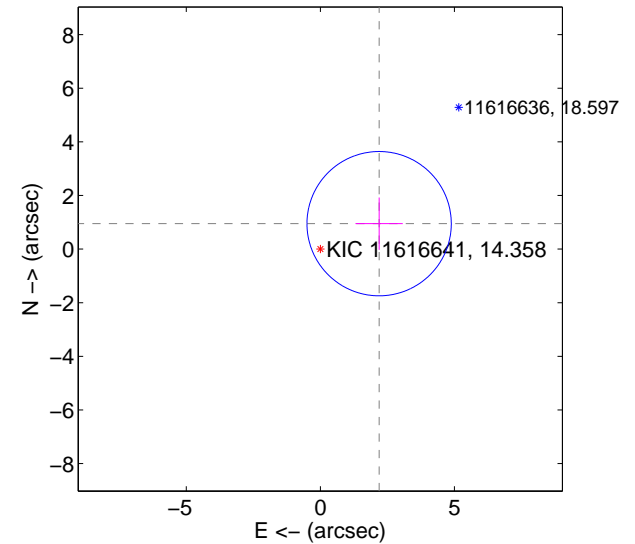
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

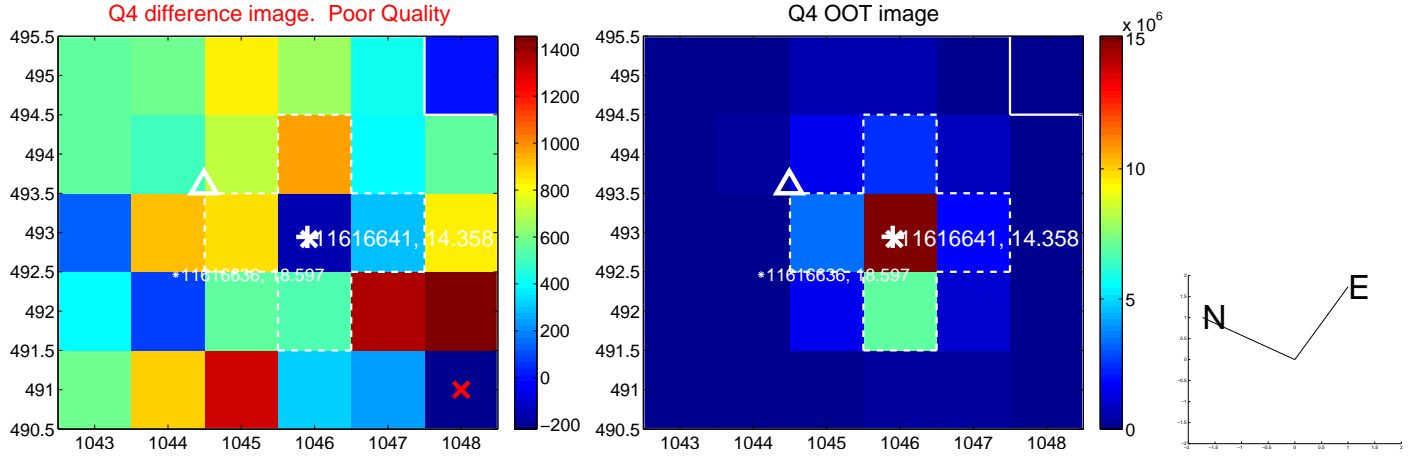
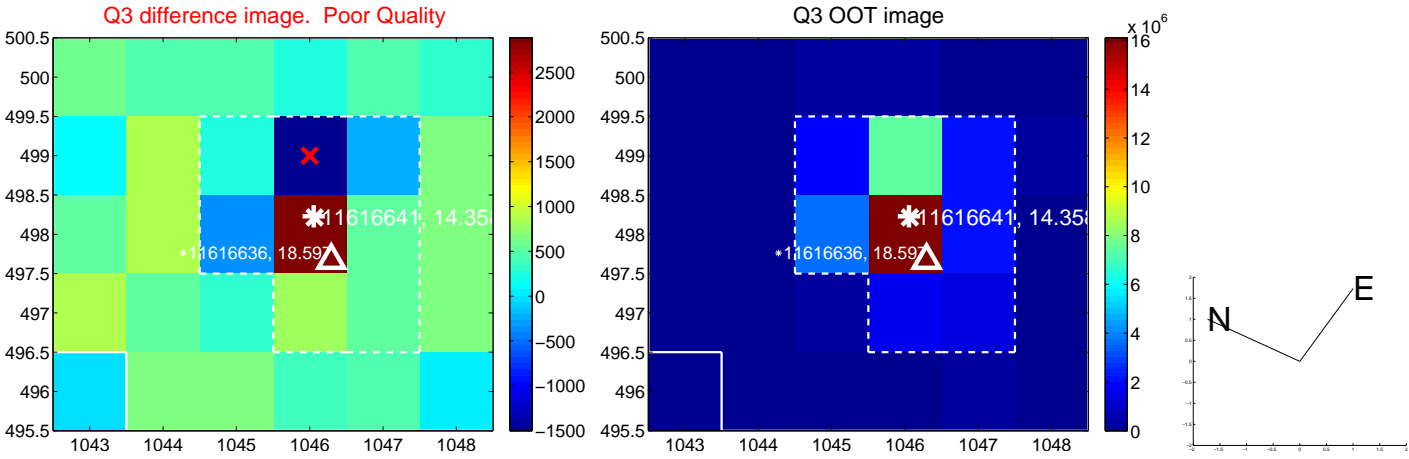
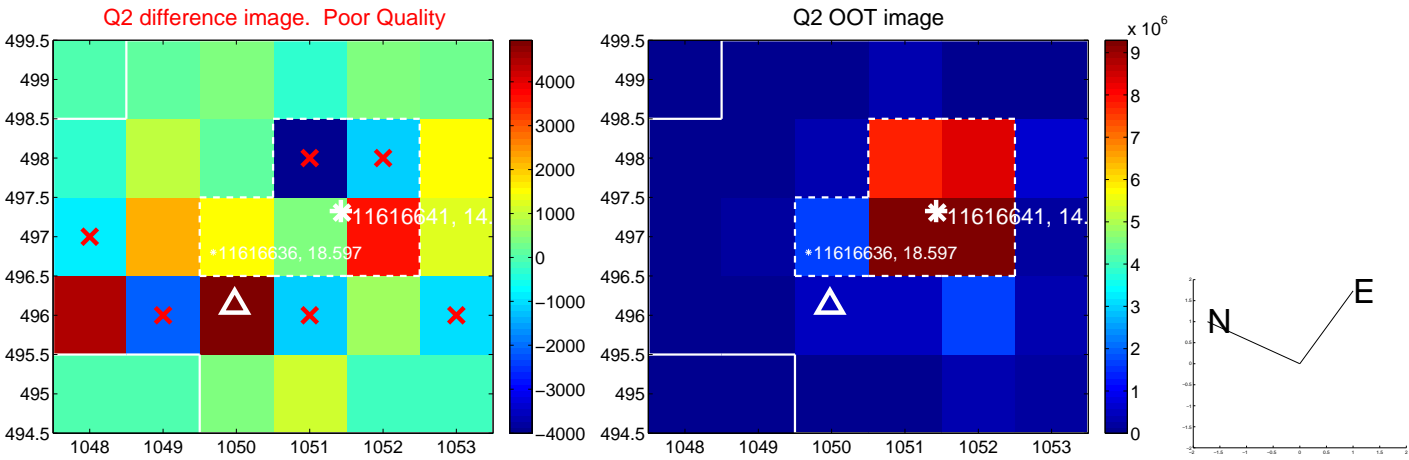
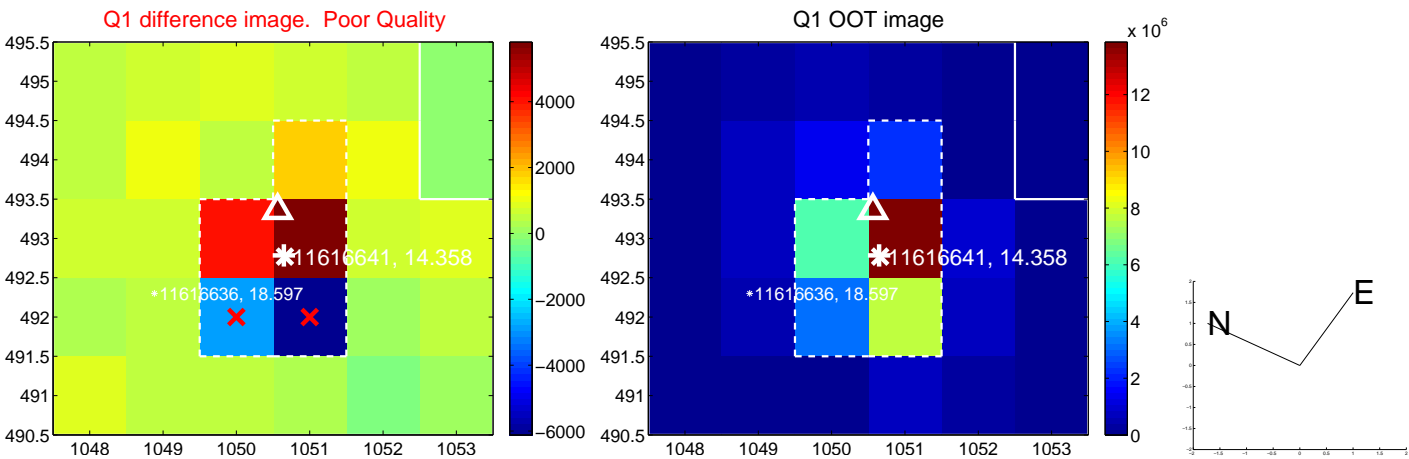


offset from photometric centroids

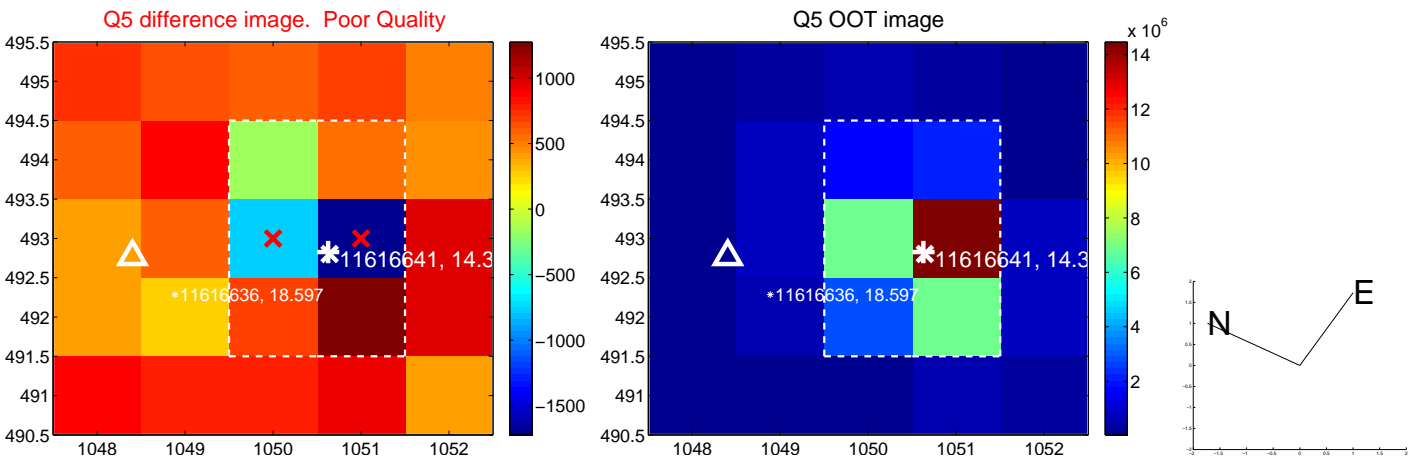


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

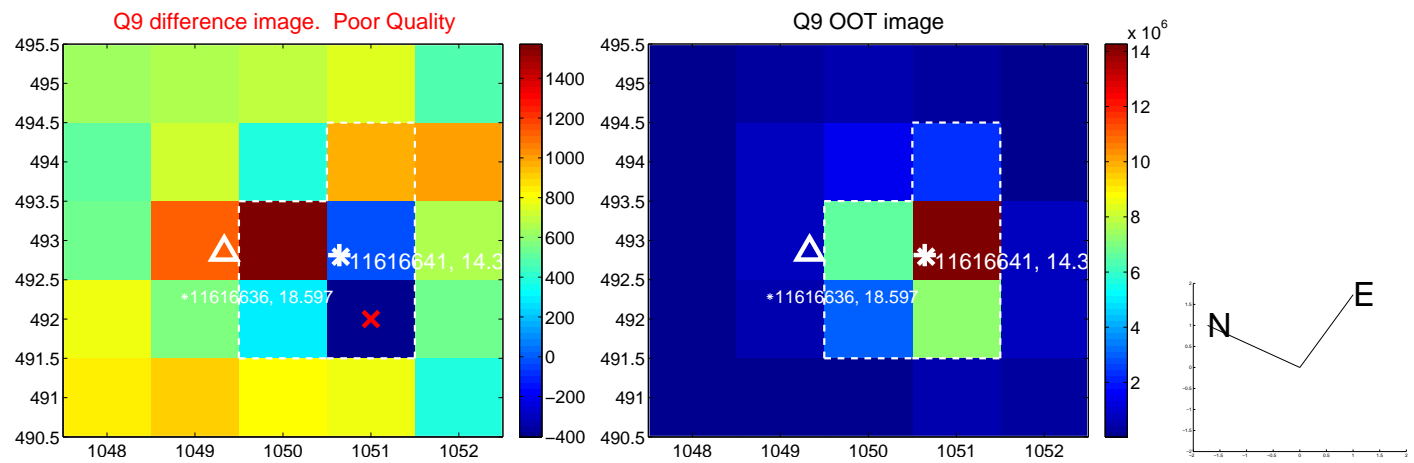
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



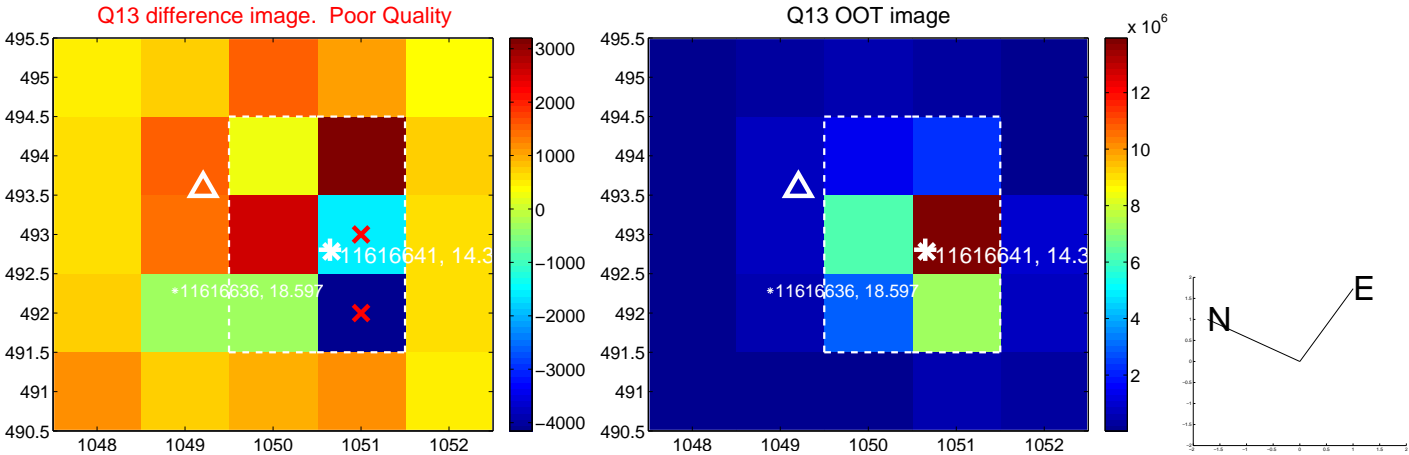
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



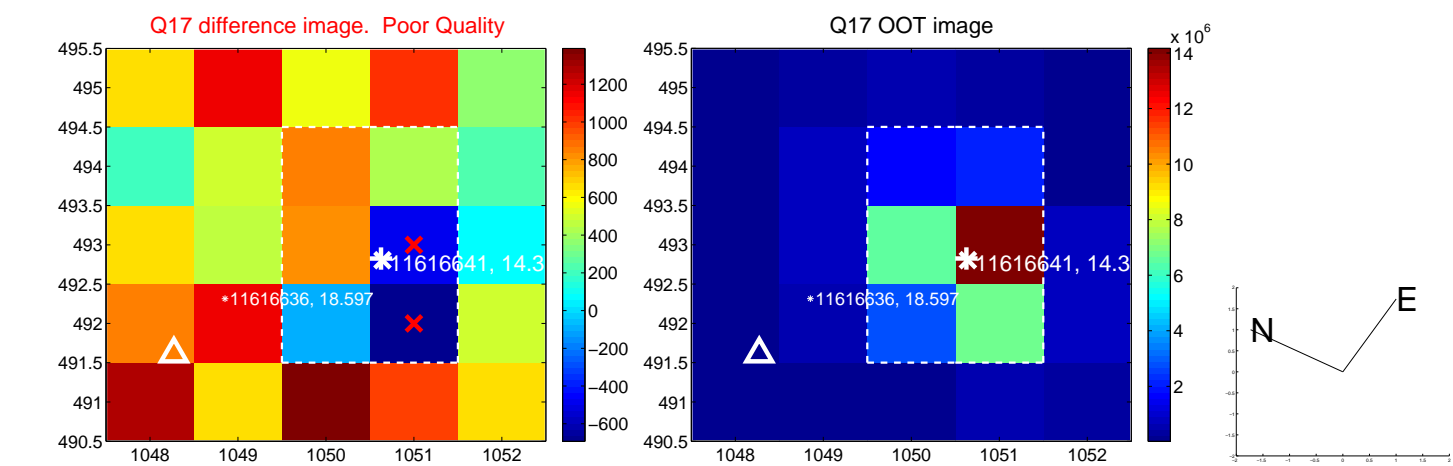
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



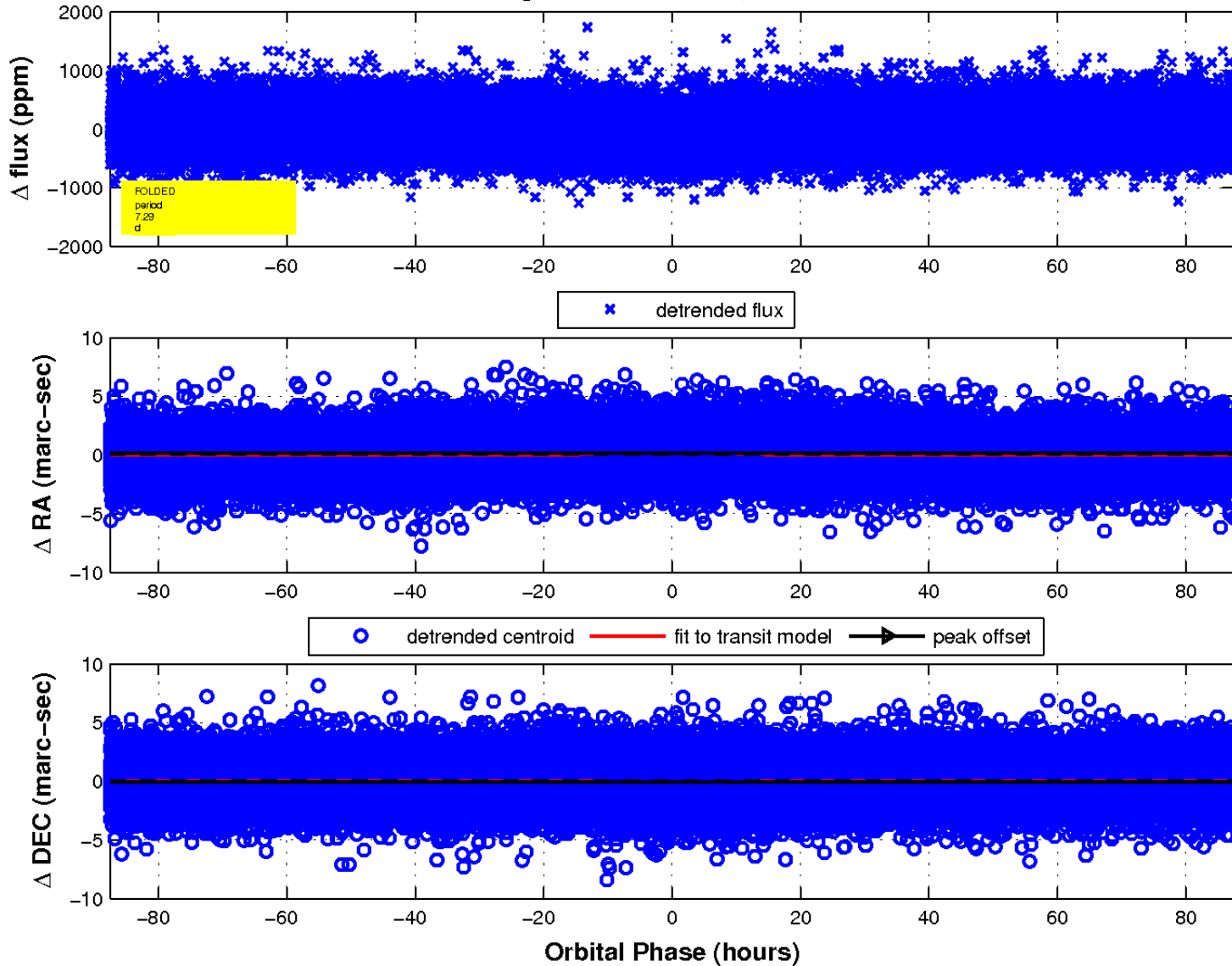
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

