

KIC 007878396

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})
007878396-01	OBS	No	0.704123	131.635326	10.8	5.533	11.4	8.5	2.59	7633	0.87	63000.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007878396-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

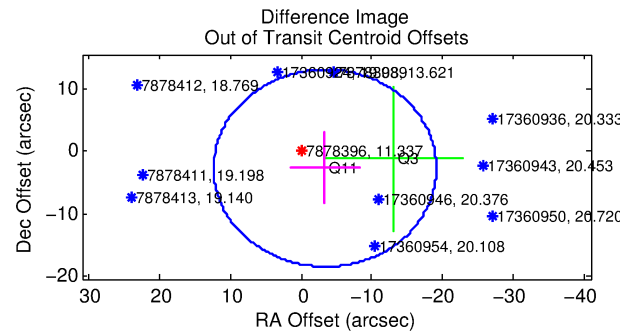
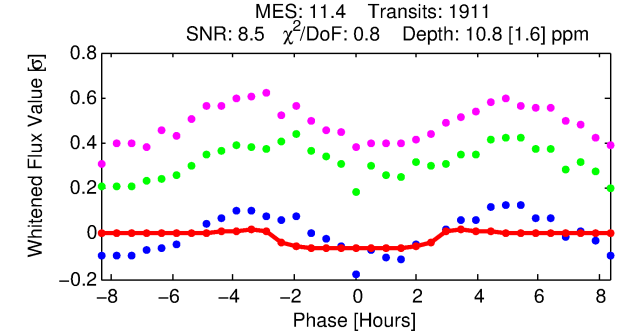
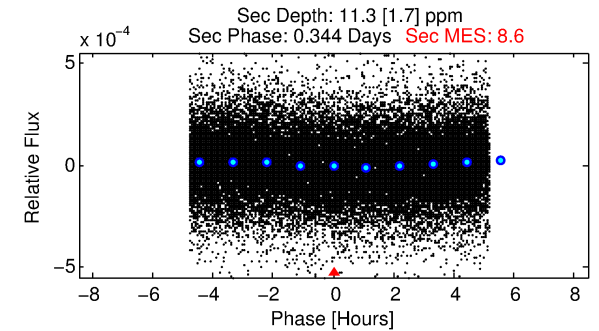
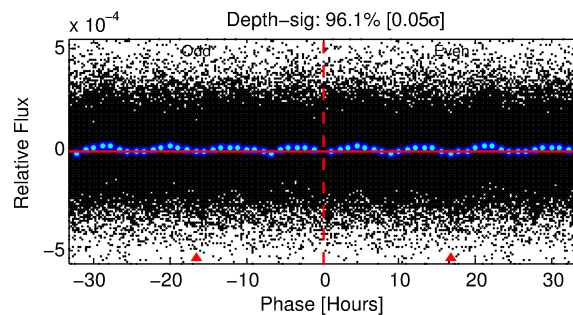
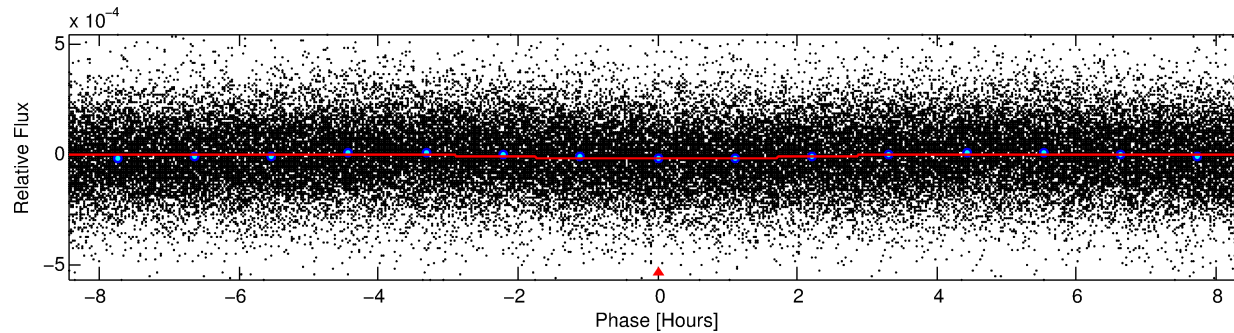
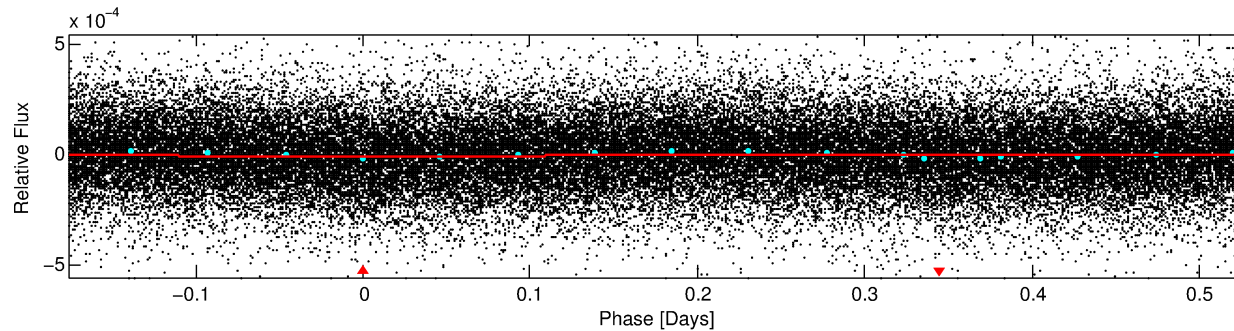
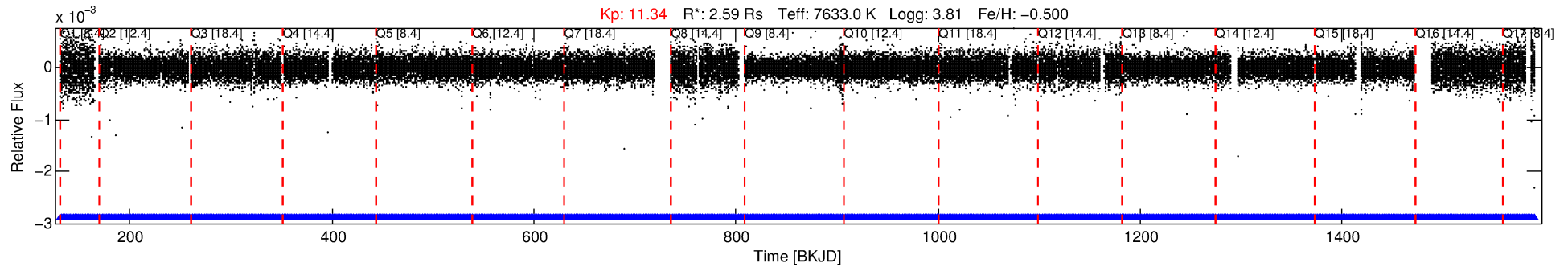
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007878396-01

No Significant Match Found

DV One-Page Summary

KIC: 7878396 Candidate: 1 of 1 Period: 0.704 d



DV Fit Results:

Period = 0.70412 [0.00001] d
Epoch = 131.6353 [0.0055] BKJD
Rp/R* = 0.0031 [0.0025]
a/R* = 1.16 [1.44]
b = 0.29 [15.56]
Seff = 63000.18 [47036.17]
Teq = 4040 [754] K
Rp = 0.87 [0.81] Re
a = 0.0180 [0.0080] AU
Ag = 2.65 [4.80] [0.34 σ]
Teffp = 7972 [3315] K [1.16 σ]

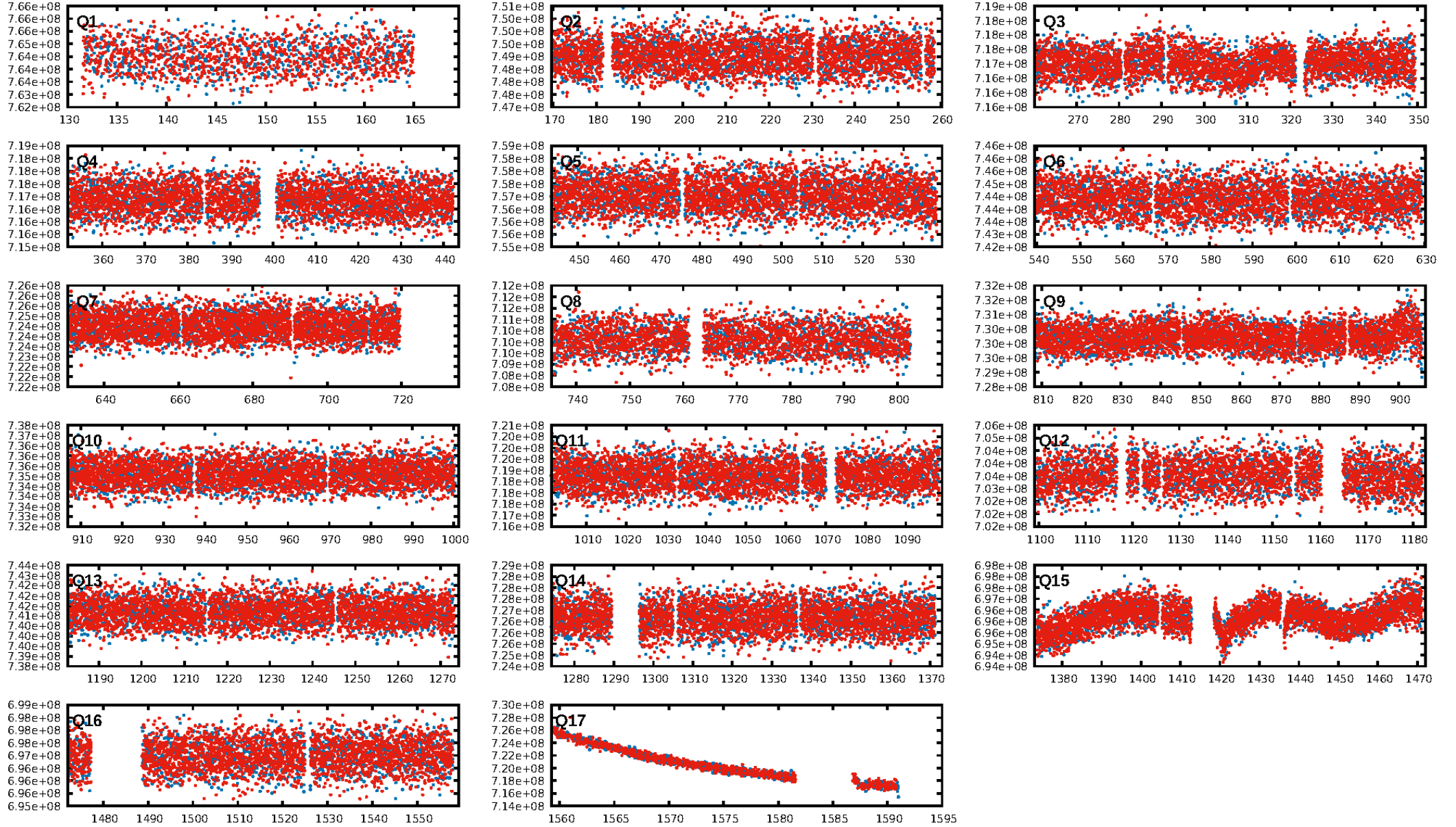
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1825/1825]
GhostDiagnostic-chr: 23.49
Centroid-sig: N/A
Centroid-so: 1.110 arcsec [1.32 σ]
OotOffset-rm: 4.348 arcsec [0.83 σ]
KicOffset-rm: 4.152 arcsec [0.79 σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [17/17]

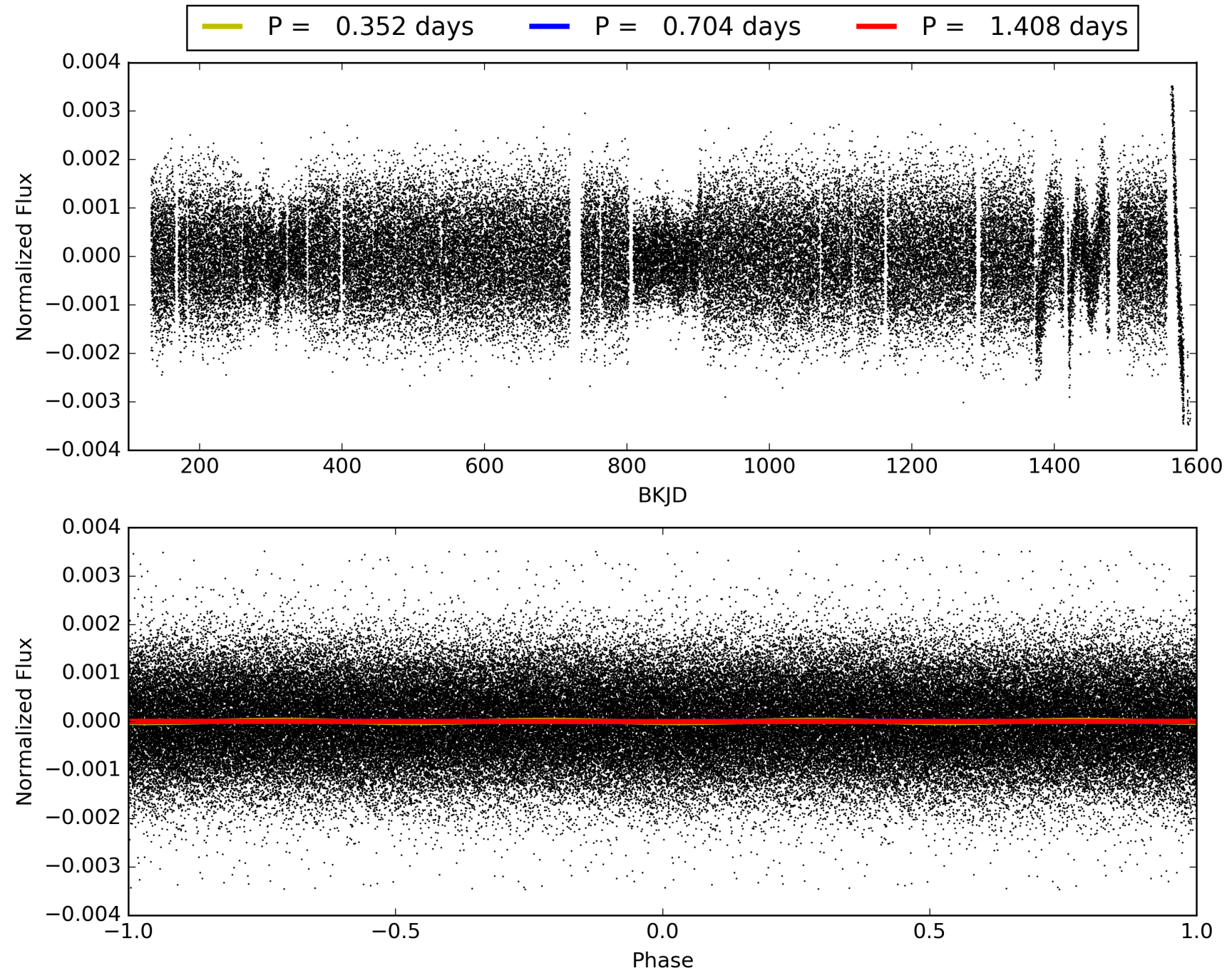
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 03:30:34 Z

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

TCE 007878396-01, PDC Light Curves

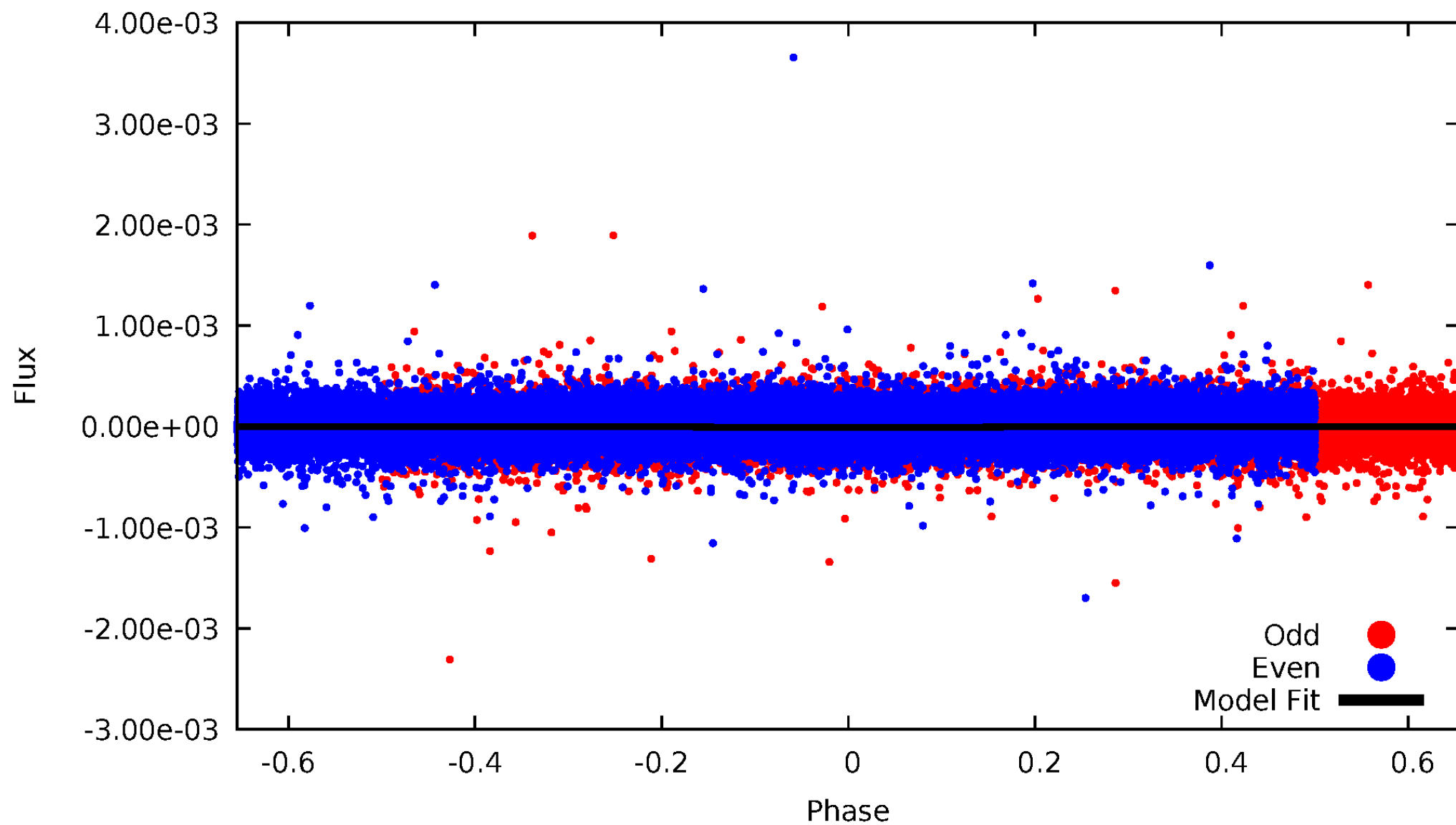


TCE 007878396-01



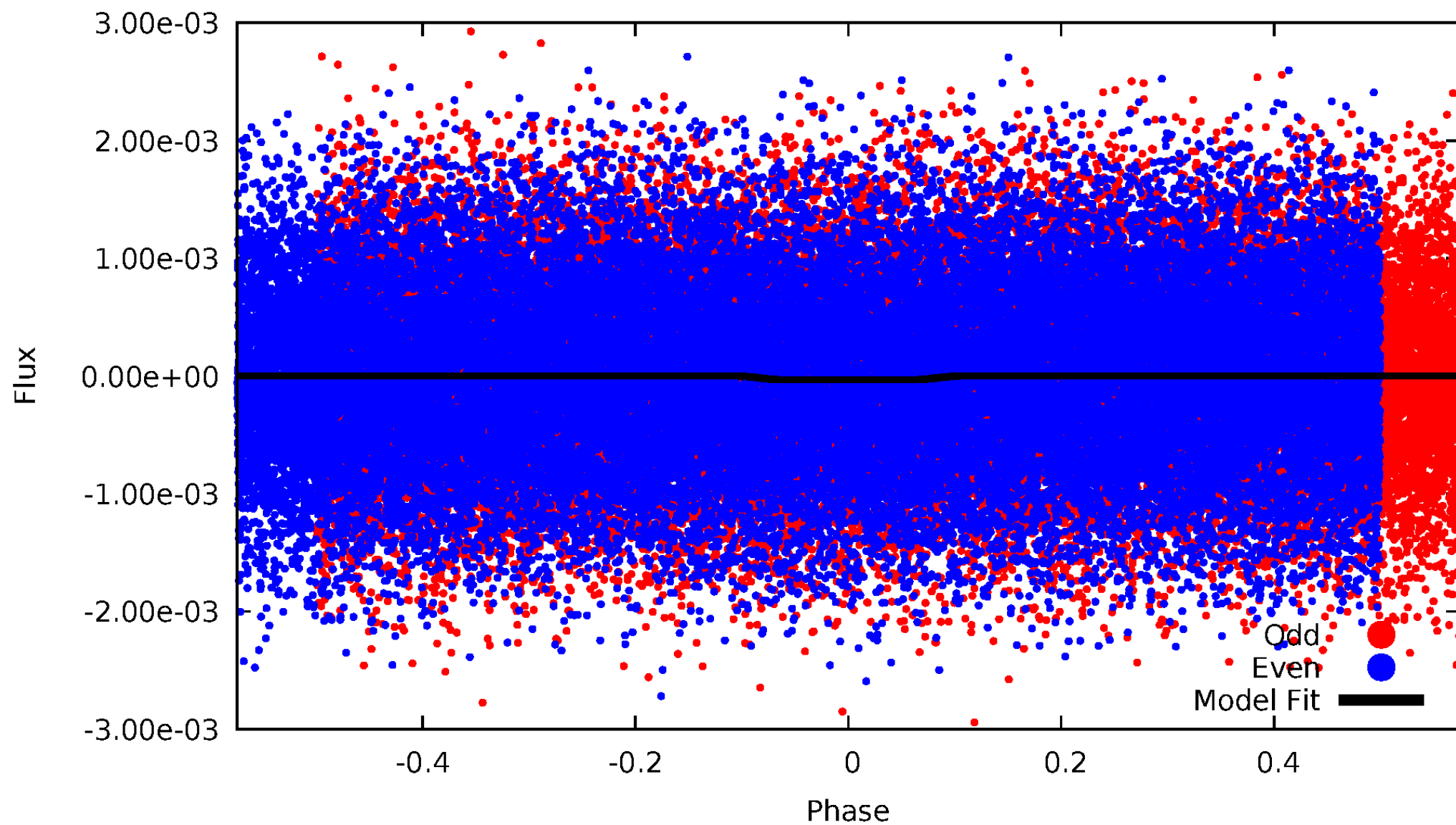
DV Odd/Even

TCE 007878396-01



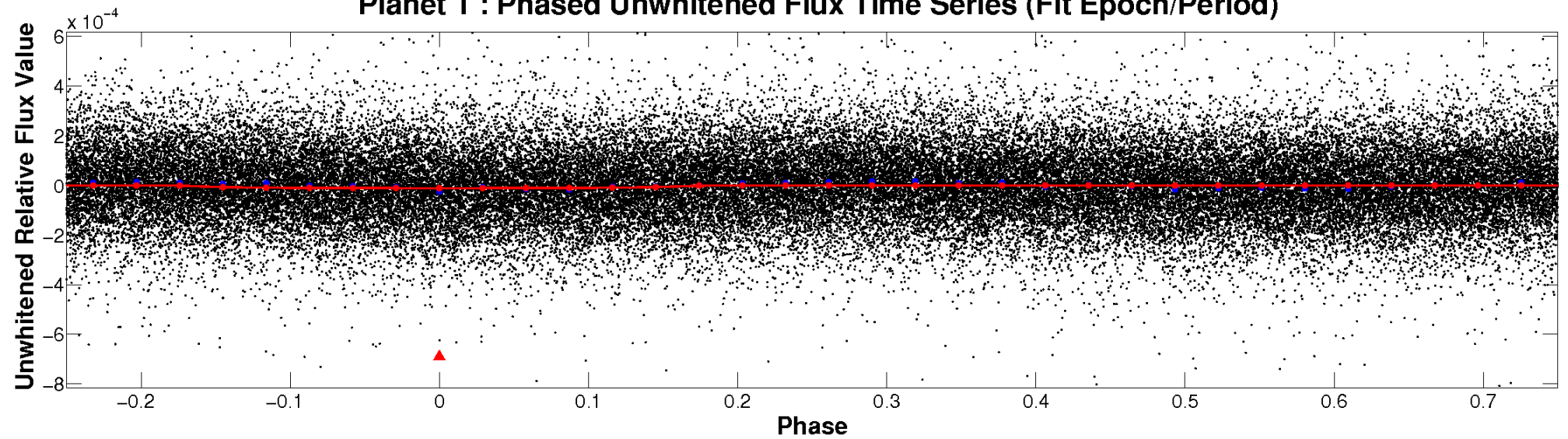
ALT Odd/Even

TCE 007878396-01

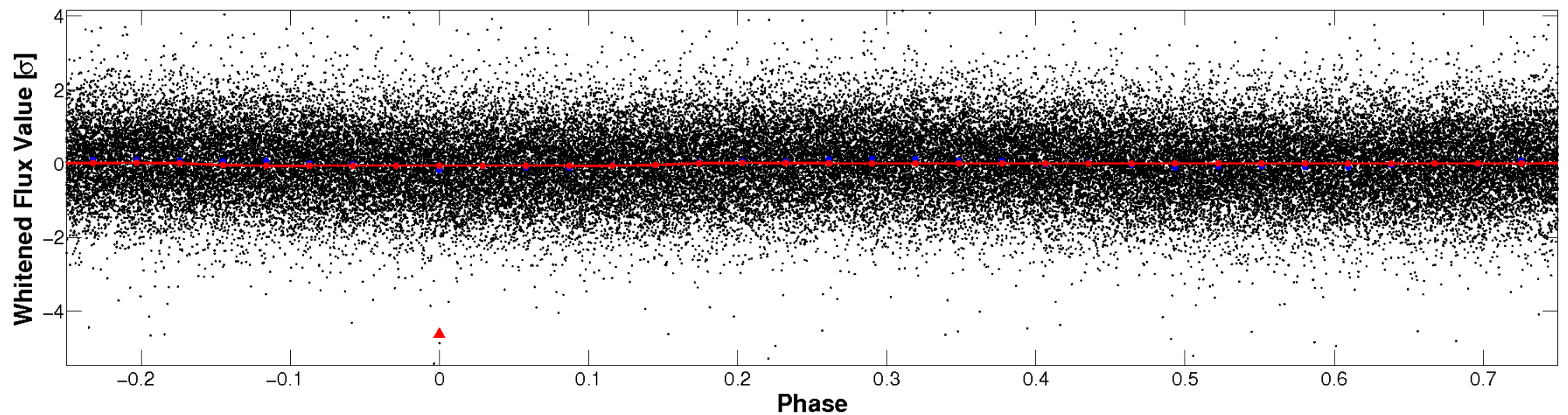


Non-Whitened Vs. Whitened Light Curve

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

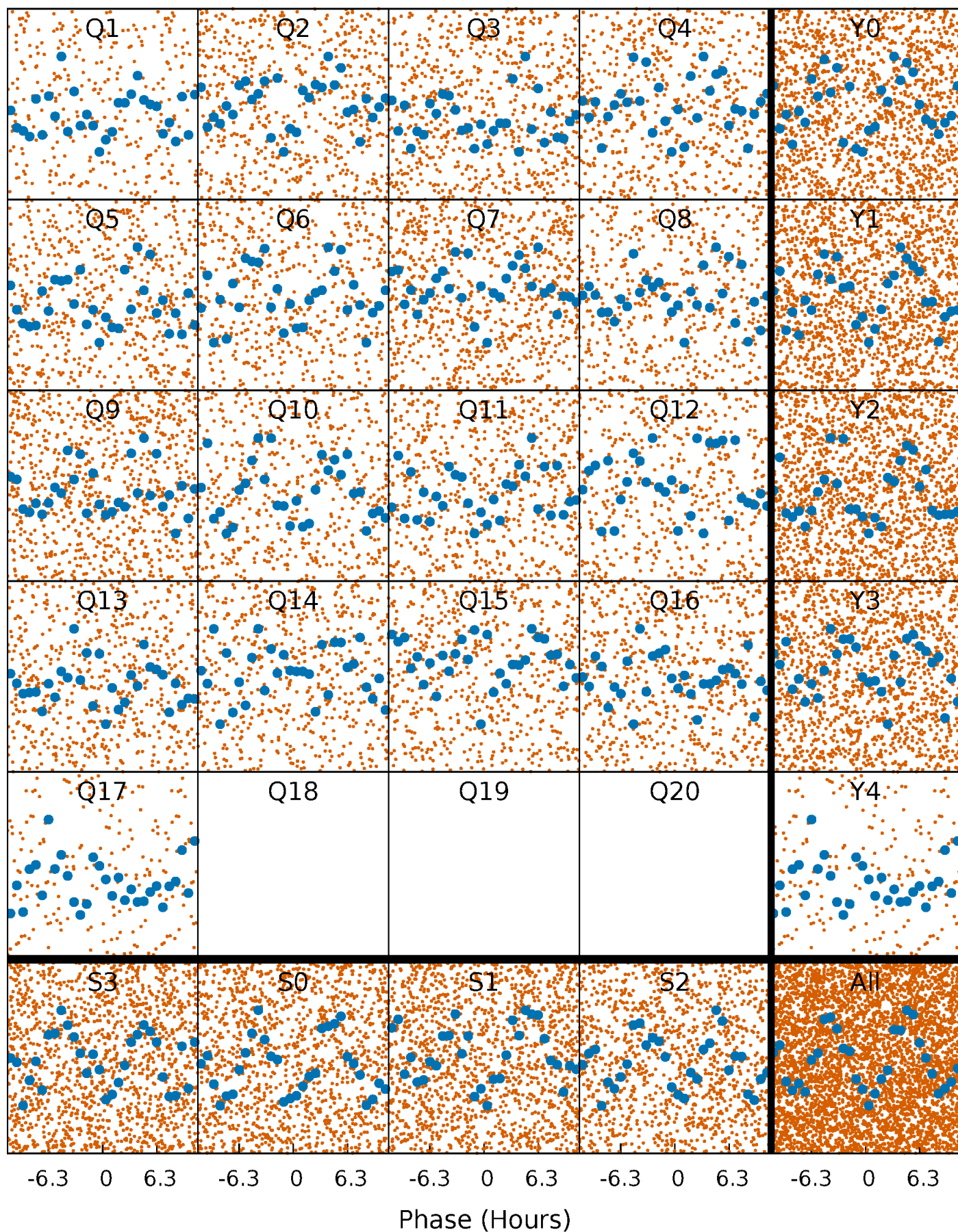


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



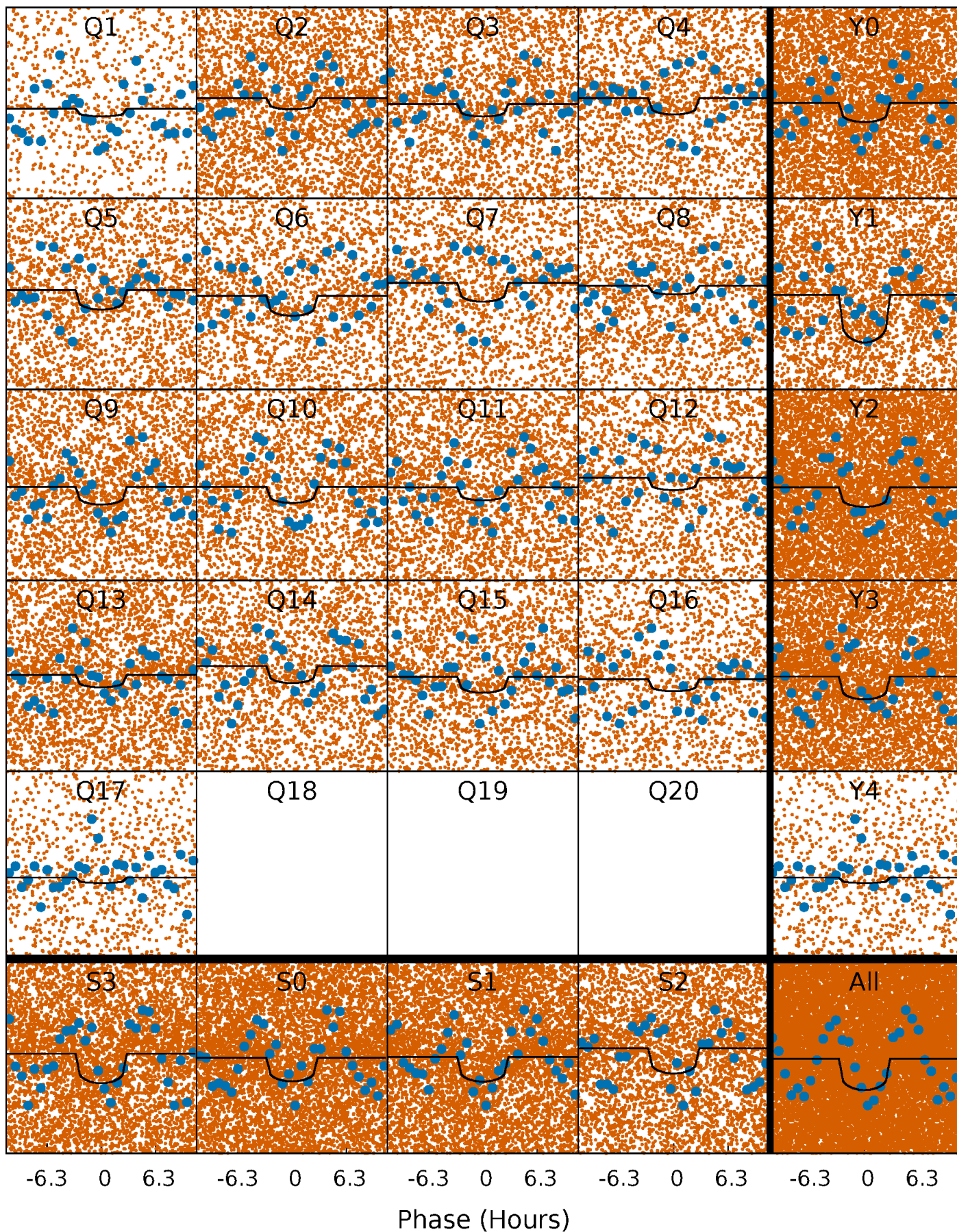
PDC Quarter-Phased Transit Curves

TCE 007878396-01 P= 0.704123 Days $T_0=131.635326$ (BKJD)



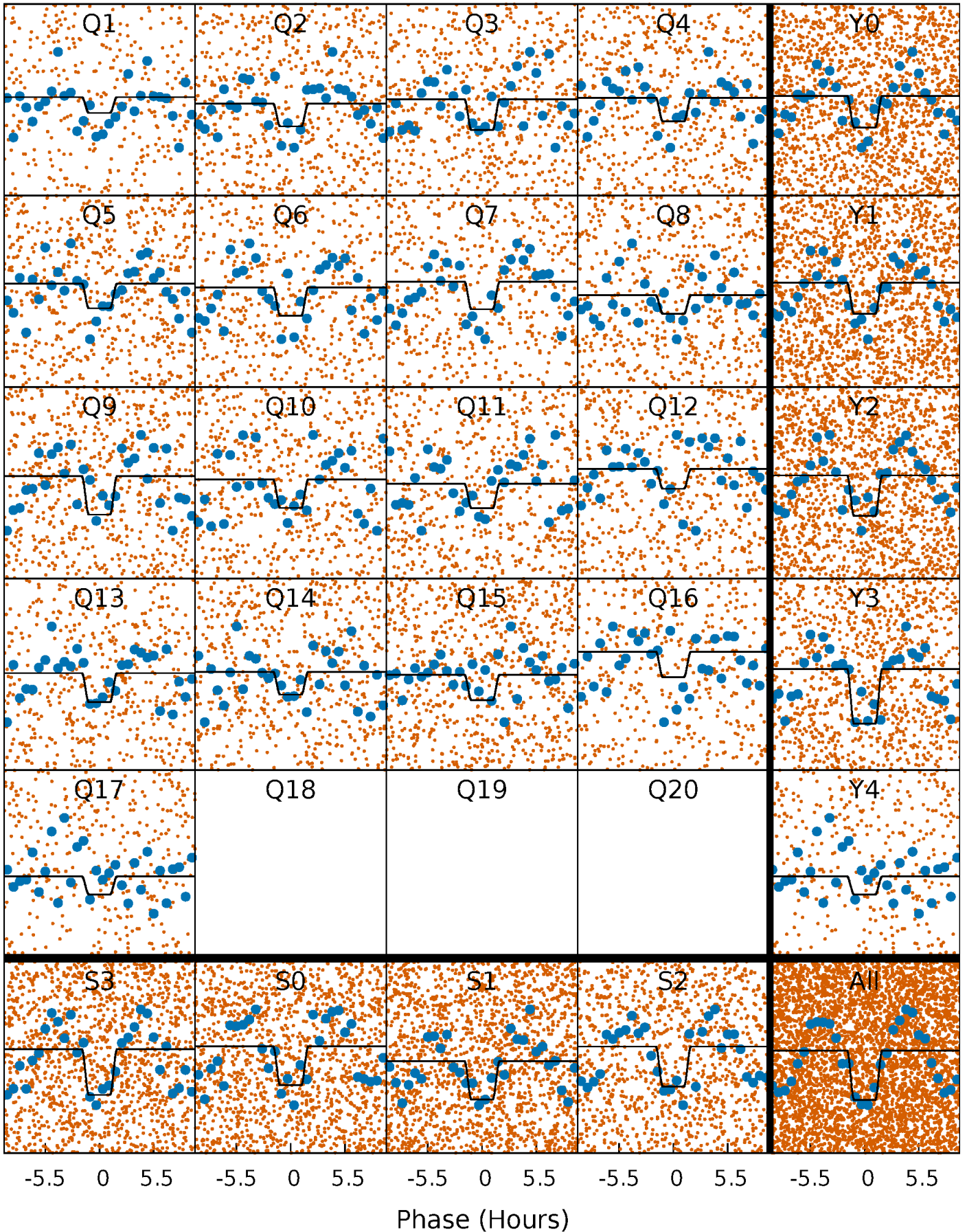
DV Quarter-Phased Transit Curves

TCE 007878396-01 P= 0.704123 Days $T_0=131.635326$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

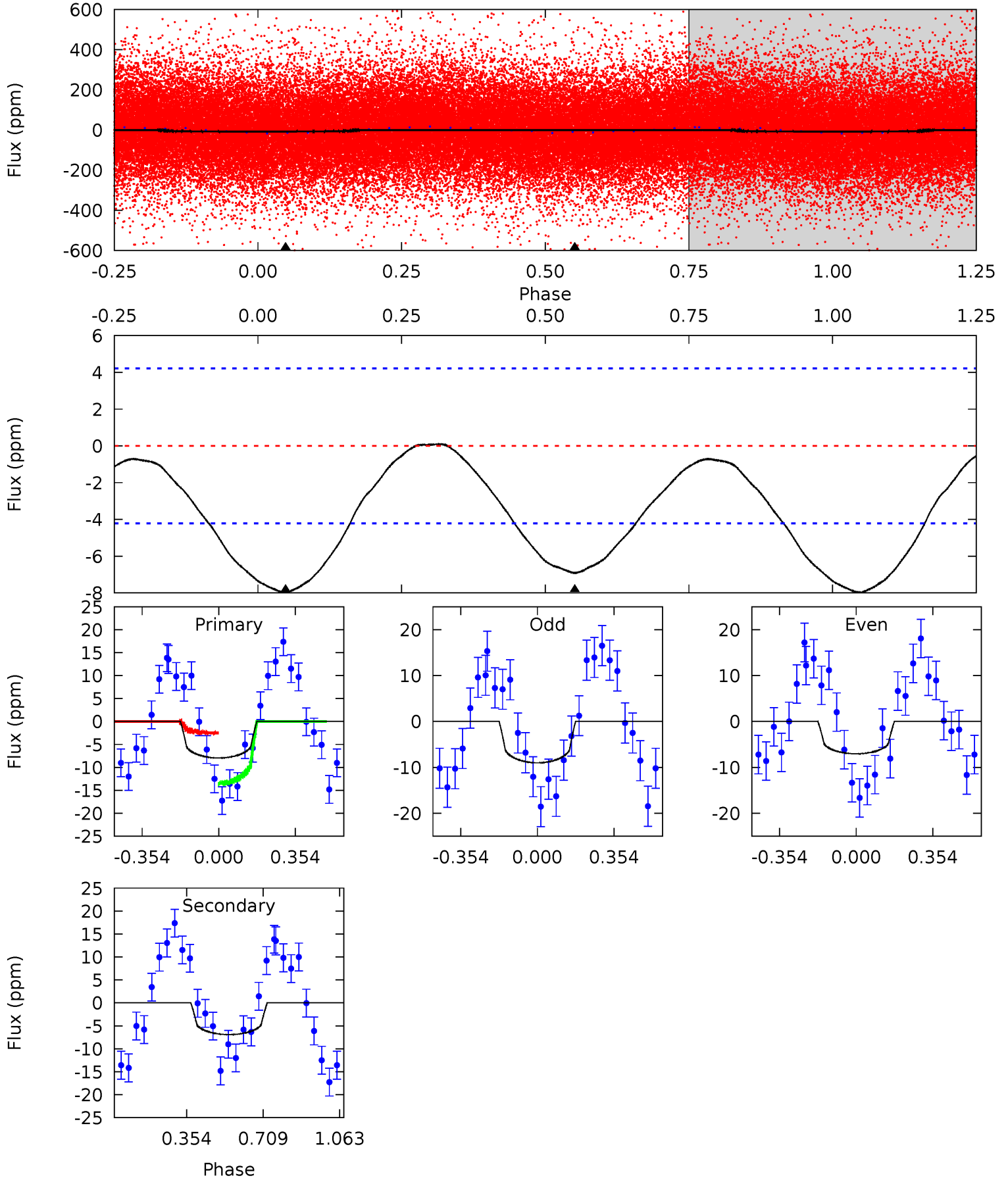
TCE 007878396-01 P= 0.704170 Days $T_0=131.614085$ (BKJD)



DV Model-Shift Uniqueness Test

007878396-01, P = 0.704123 Days, E = 130.931203 Days

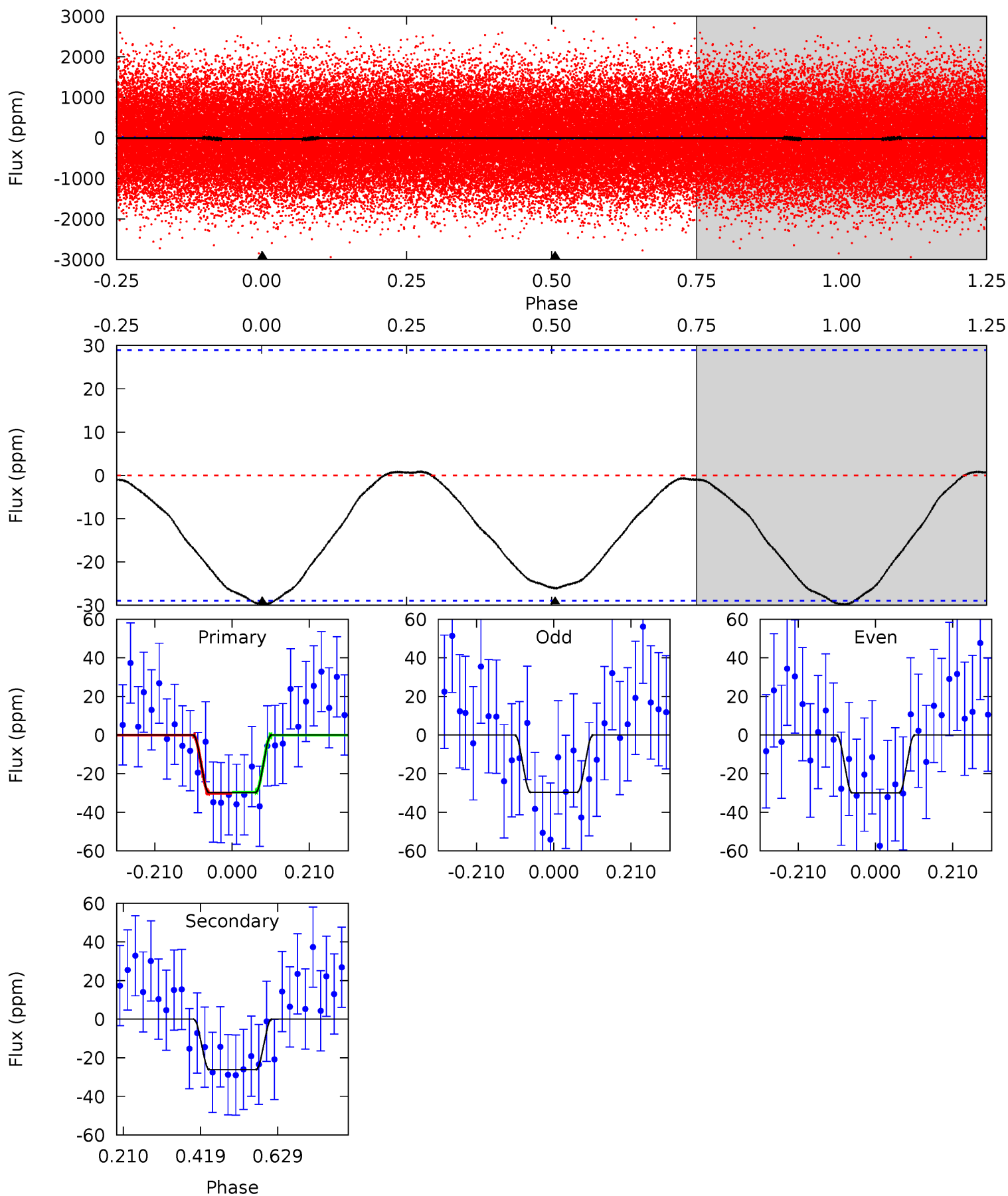
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.10	7.03	0	0	4.29	0.93	0.44	8.10	8.10	7.03	7.03	1.00	0.84	0.01	5.69



Alt Model-Shift Uniqueness Test

007878396-01, P = 0.704170 Days, E = 130.909915 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.54	3.98	0	0	4.41	1.25	0.18	4.54	4.54	3.98	3.98	0.03	1.10	0.03	0.04



Stellar Parameters For KIC 007878396

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7633^{+239}_{-319}	$3.806^{+0.433}_{-0.076}$	$-0.500^{+0.250}_{-0.300}$	$2.587^{+0.383}_{-1.149}$	$1.560^{+0.188}_{-0.323}$	$0.127^{+0.462}_{-0.041}$
	+3%/-4%	+11%/-2%	+50%/-60%	+15%/-44%	+12%/-21%	+364%/-32%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 007878396-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-7 ± 1	$0.84^{+0.59}_{-0.52}$	5449^{+391}_{-630}	6335^{+5506}_{-1841}	$1.740^{+10.208}_{-1.137}$
Alt.	-26 ± 7	$1.41^{+0.75}_{-0.68}$	5451^{+387}_{-624}	6823^{+4099}_{-1472}	$2.306^{+6.496}_{-1.378}$

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

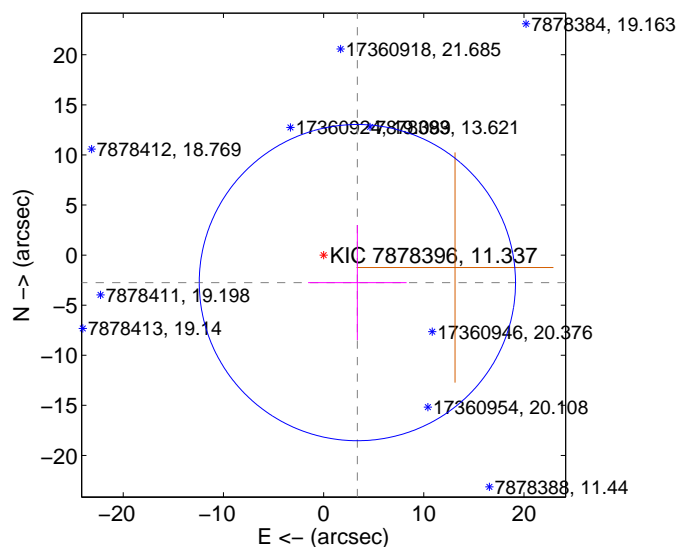
Supplemental centroid analysis for 007878396-01. **Kepler magnitude: 11.34.** Transit SNR 8.48

There are 1 quarters with good PRF difference image offsets

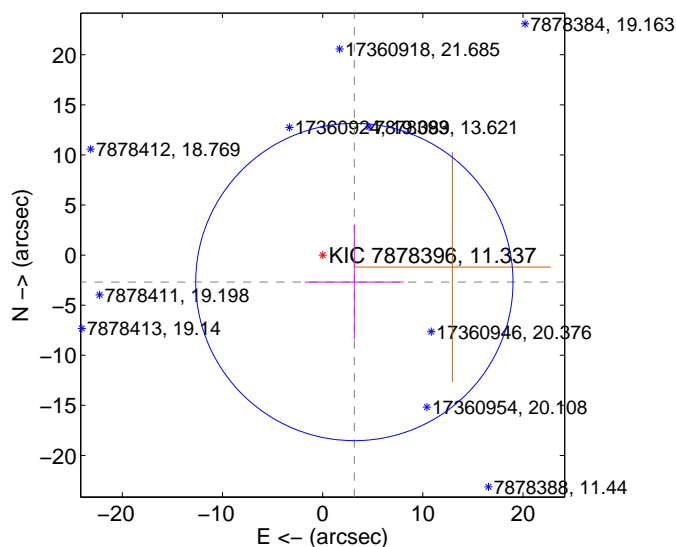
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.348 ± 5.261	0.83	-3.371 ± 4.915	-2.746 ± 5.743
PRF-fit source offset from KIC position	4.152 ± 5.278	0.79	-3.164 ± 4.915	-2.688 ± 5.743
photometric centroid source offset	1.11 ± 0.84	1.32	0.02 ± 0.85	-1.11 ± 0.84

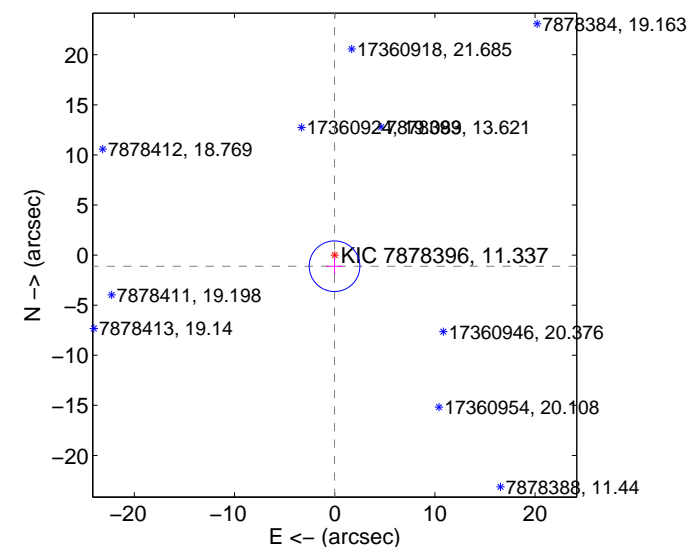
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

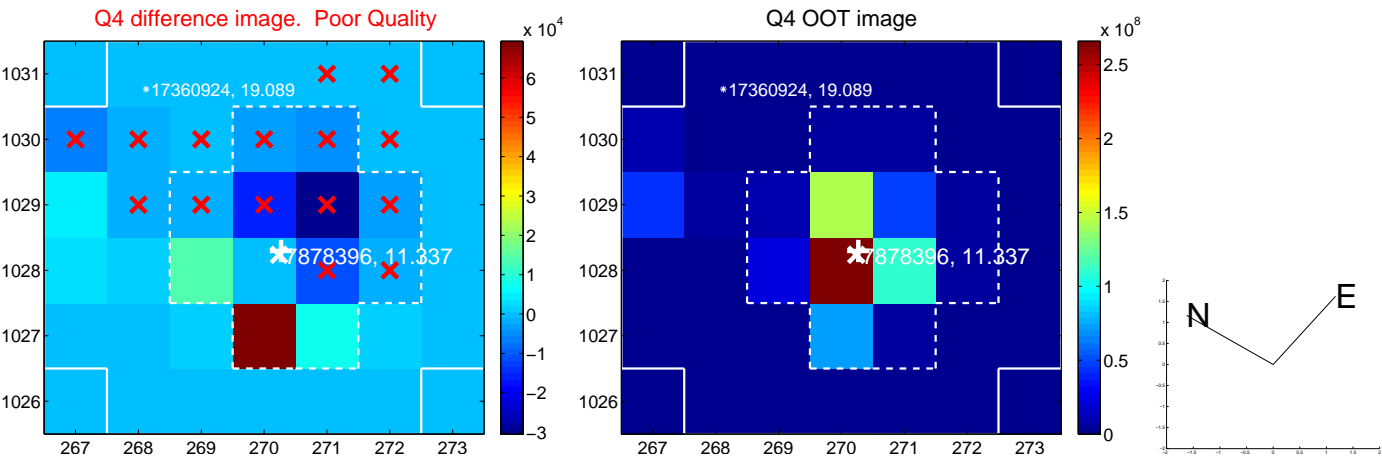
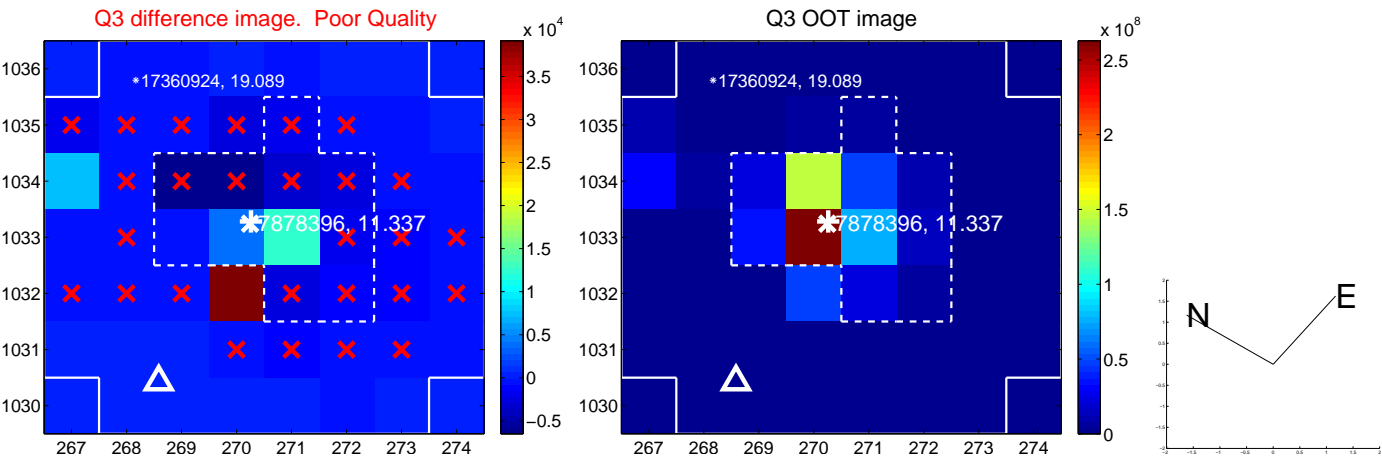
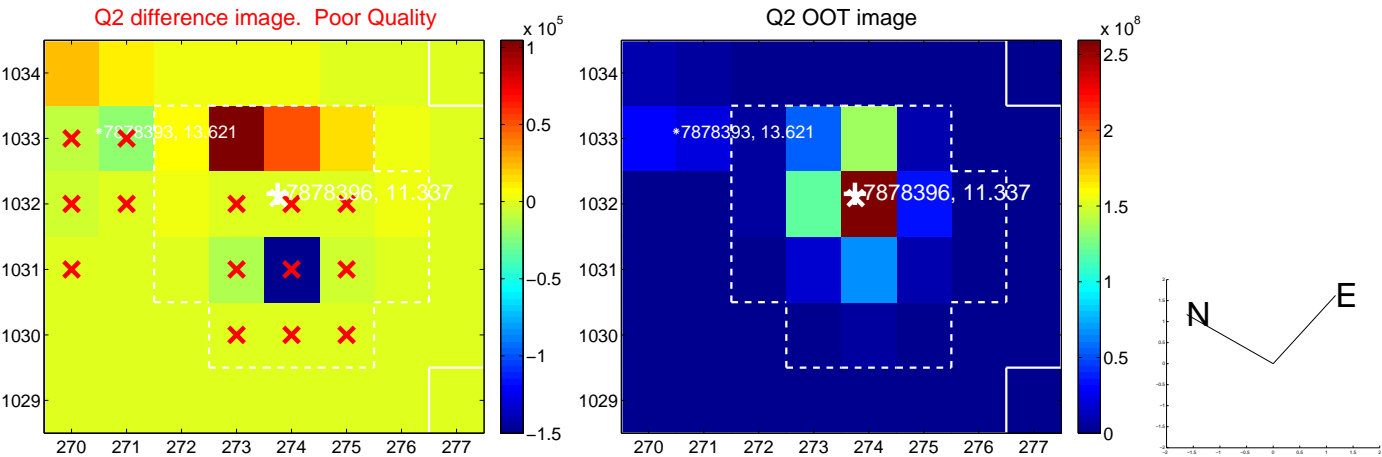
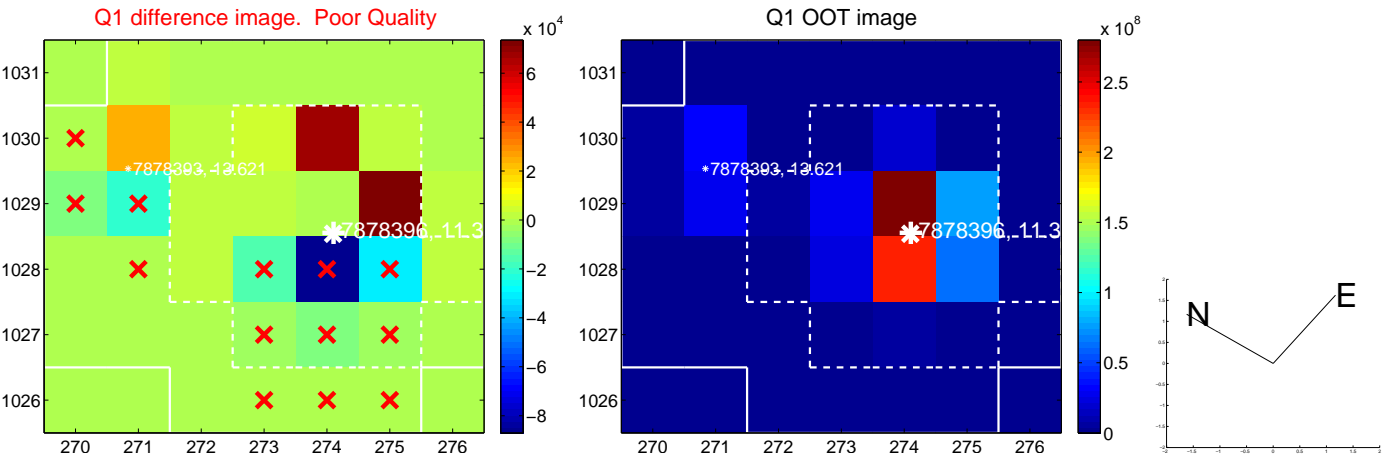


offset from photometric centroids

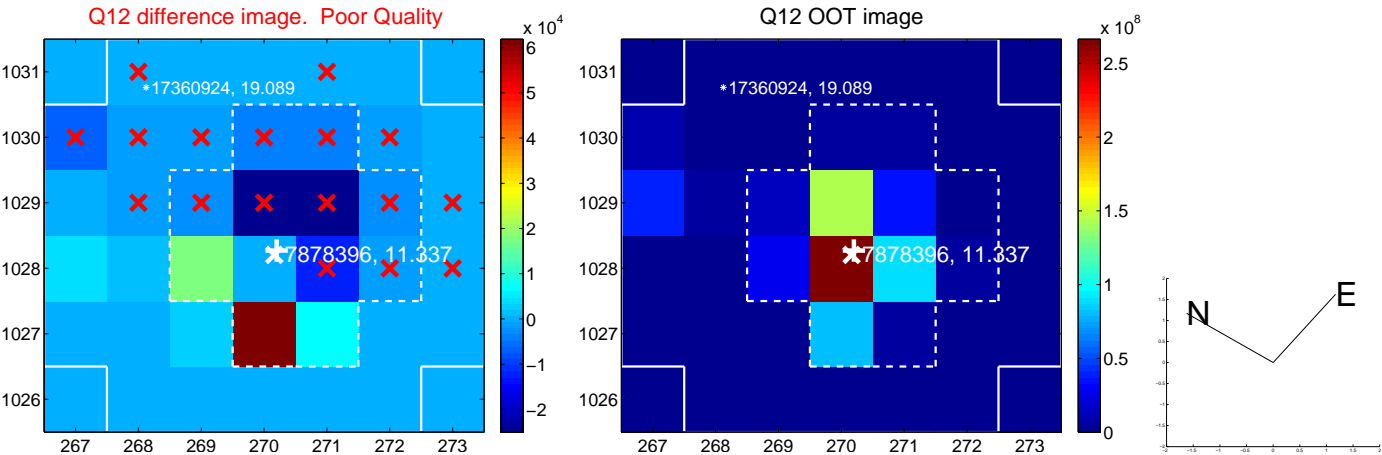
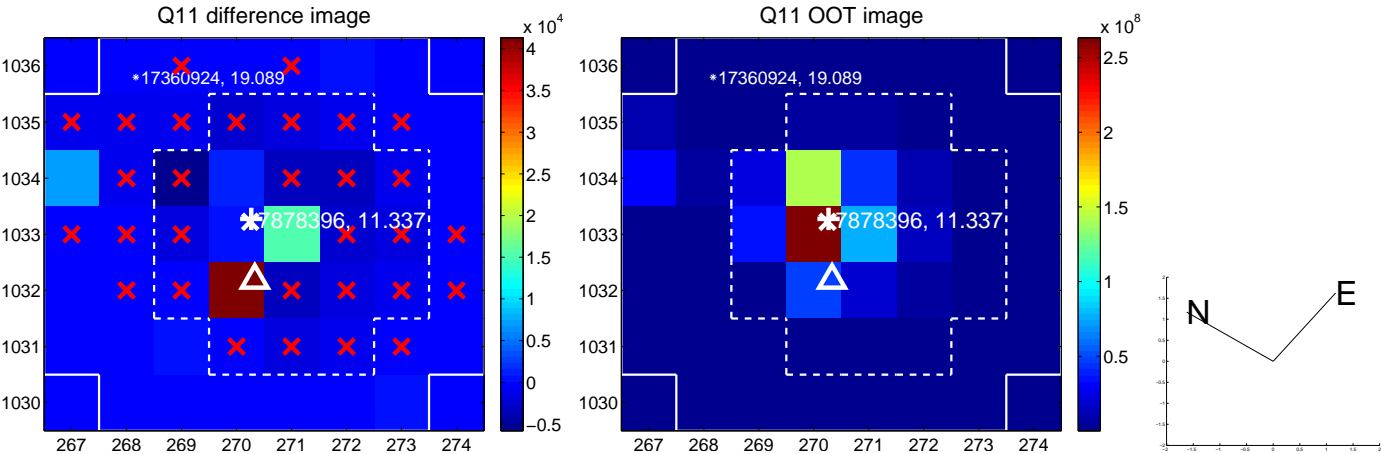
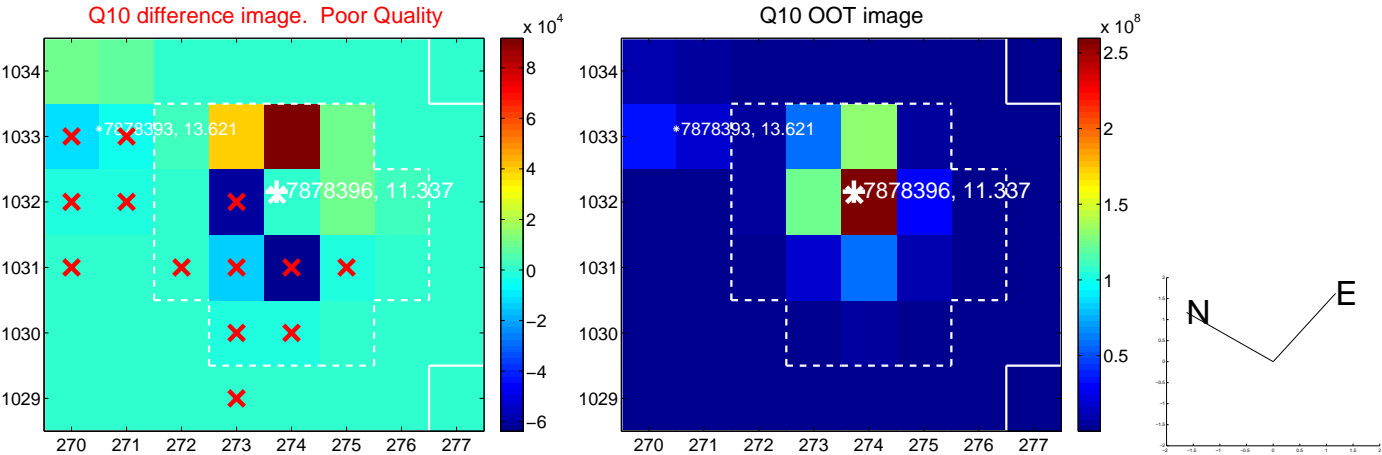
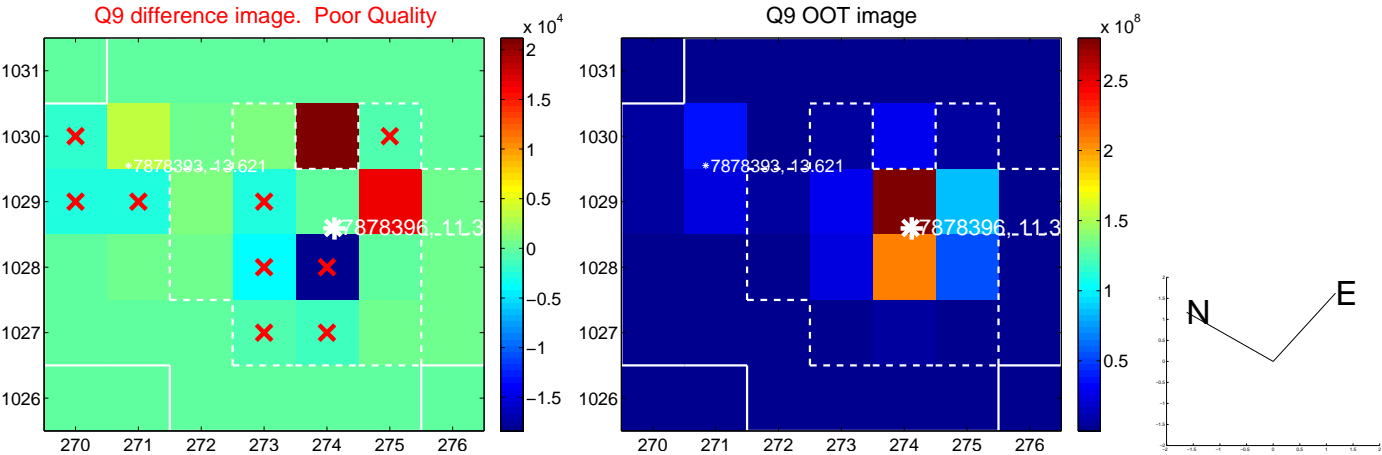


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

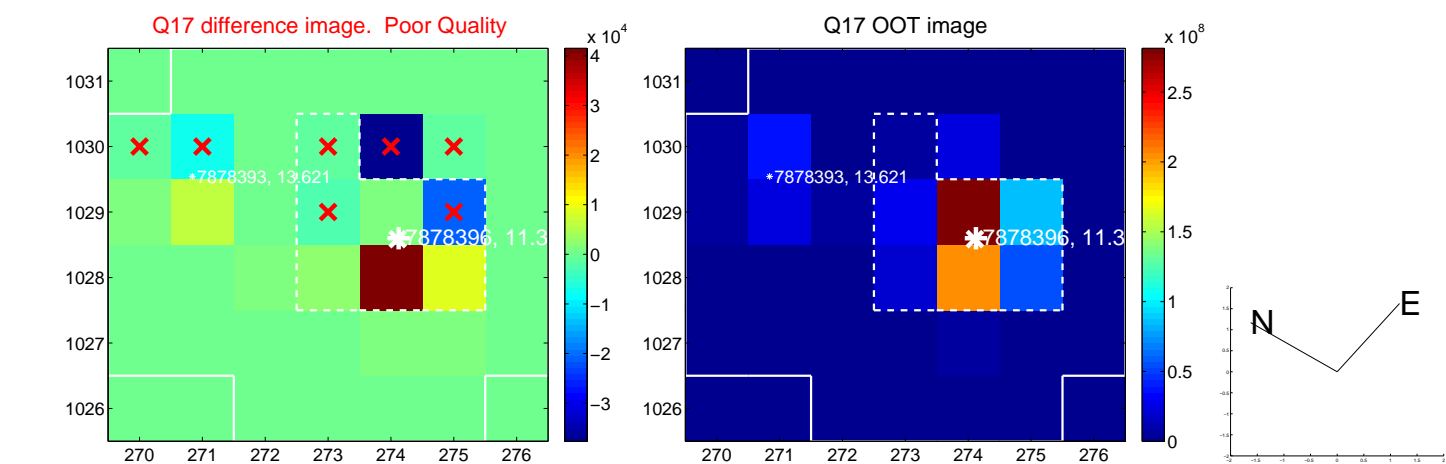
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



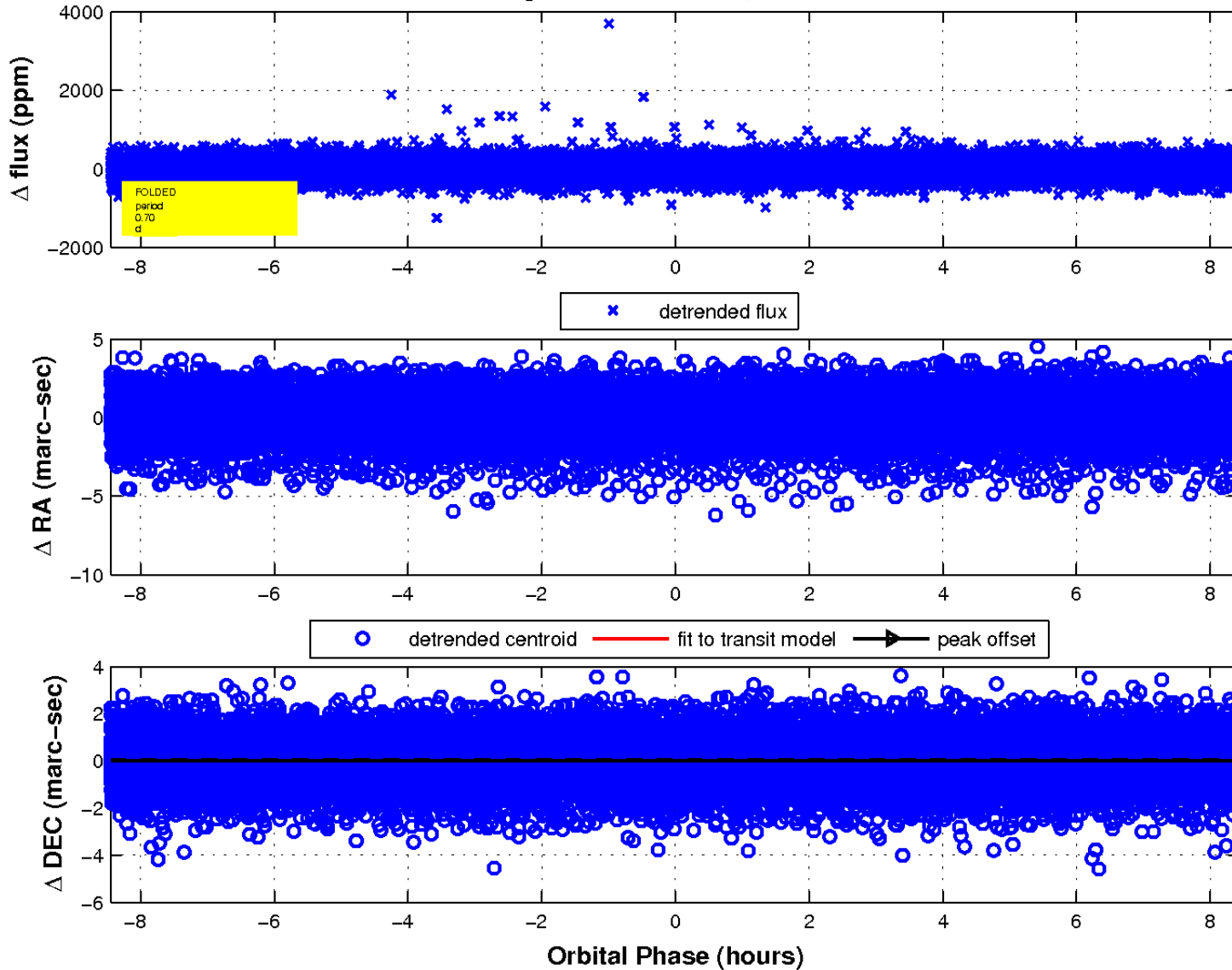
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

