

KIC 002555396

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})
002555396-01	OBS	No	40.952886	158.578489	2229.9	2.775	7.7	6.2	0.58	3761	2.78	1.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002555396-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—CENT_FEW_MEAS

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

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

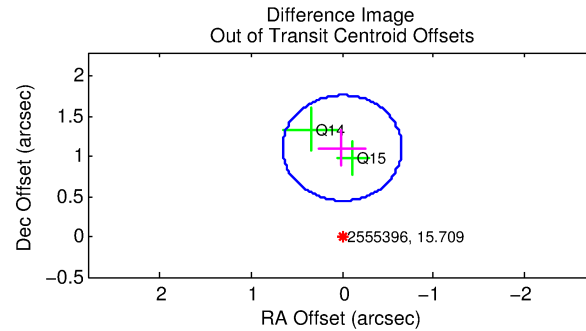
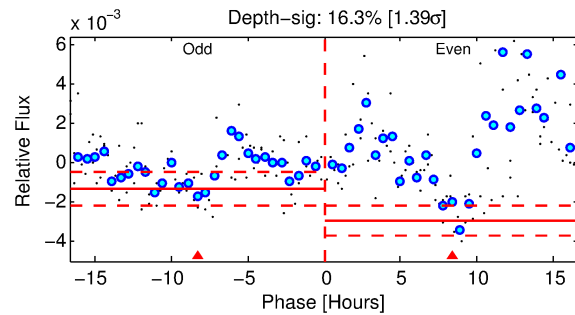
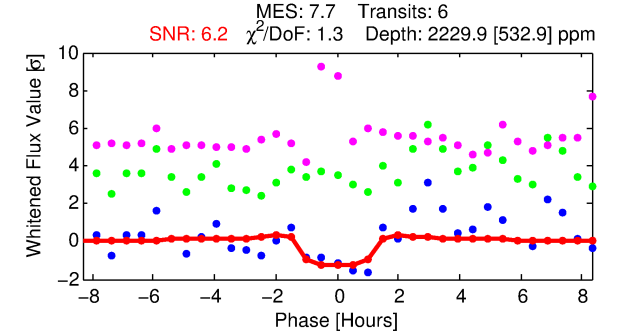
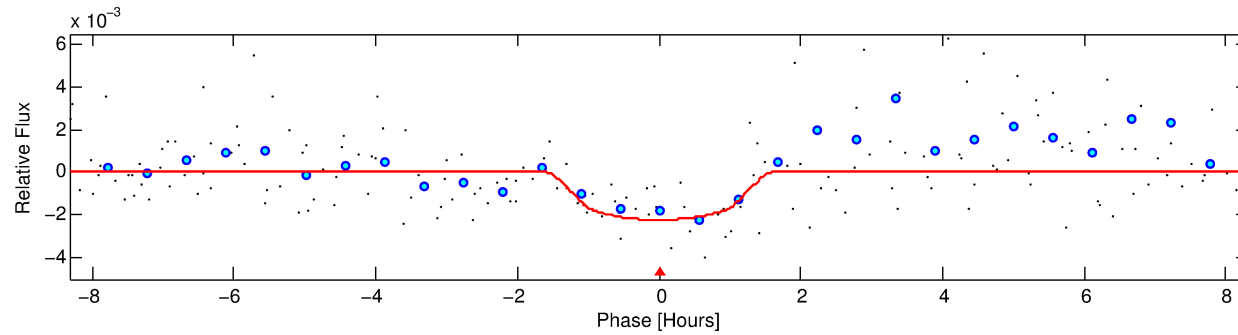
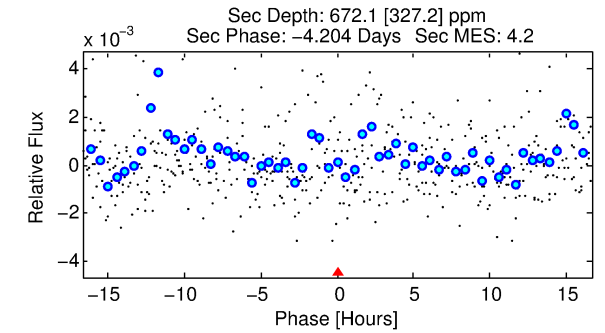
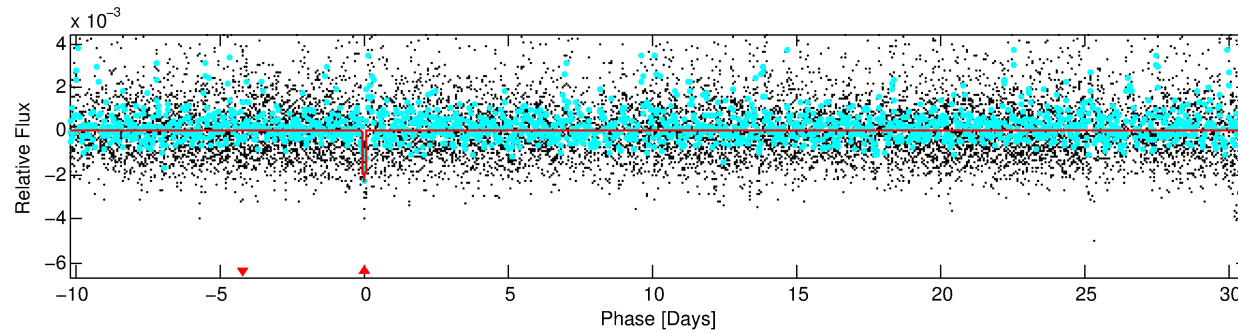
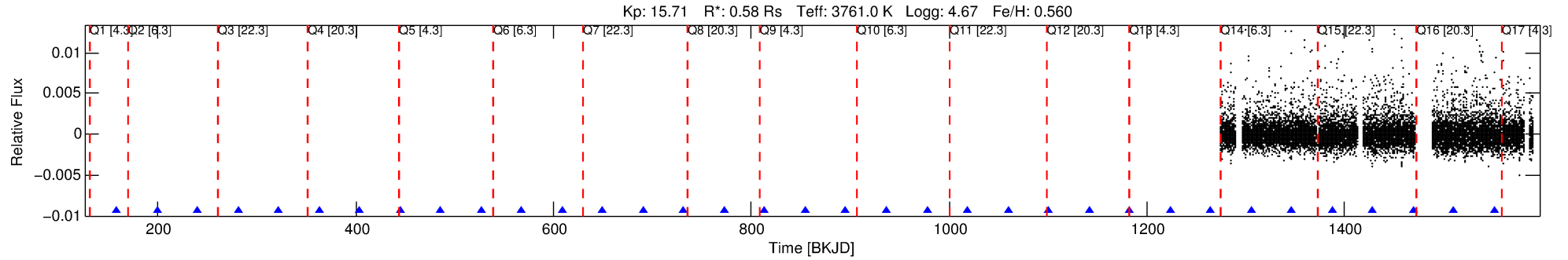
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002555396-01

No Significant Match Found

DV One-Page Summary

KIC: 2555396 Candidate: 1 of 1 Period: 40.953 d



DV Fit Results:

Period = 40.95289 [0.00286] d
Epoch = 158.5785 [0.0891] BKJD
Rp/R* = 0.0436 [0.1138]
a/R* = 102.89 [812.87]
b = 0.51 [11.95]
Seff = 1.62 [0.33]
Teq = 288 [15] K
Rp = 2.78 [7.26] Re
a = 0.1945 [0.0183] AU
Ag = 1812.37 [9510.53] [0.19σ]
Teff = 2901 [3806] K [0.69σ]

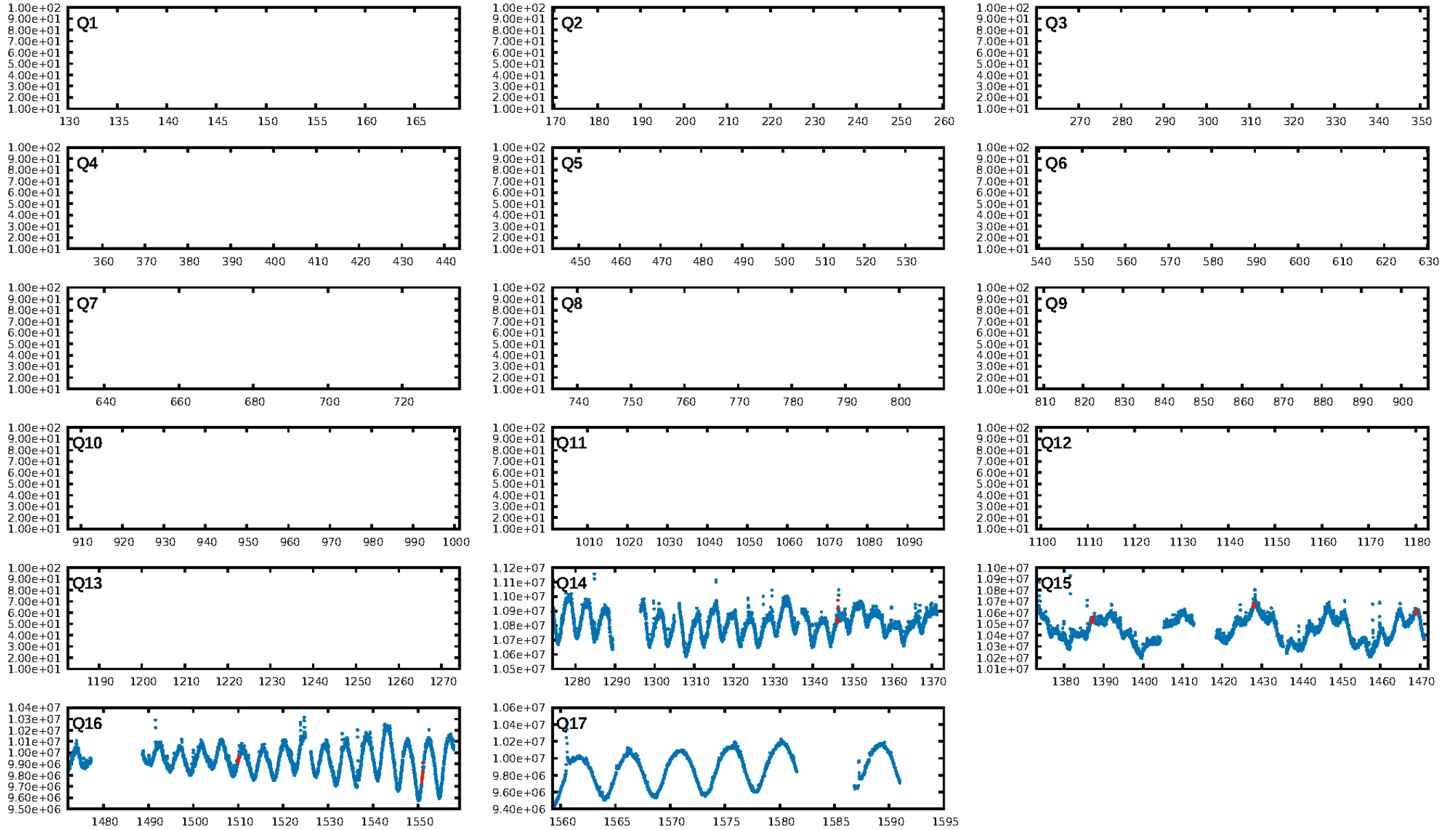
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 53.9%
ModelChiSquareGof-sig: 98.6%
Bootstrap-pfa: 5.67e-09
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -20.3
Centroid-sig: 20.2%
Centroid-so: 2.610 arcsec [2.77σ]
OotOffset-rm: 1.108 arcsec [5.06σ]
KicOffset-rm: 0.386 arcsec [0.86σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

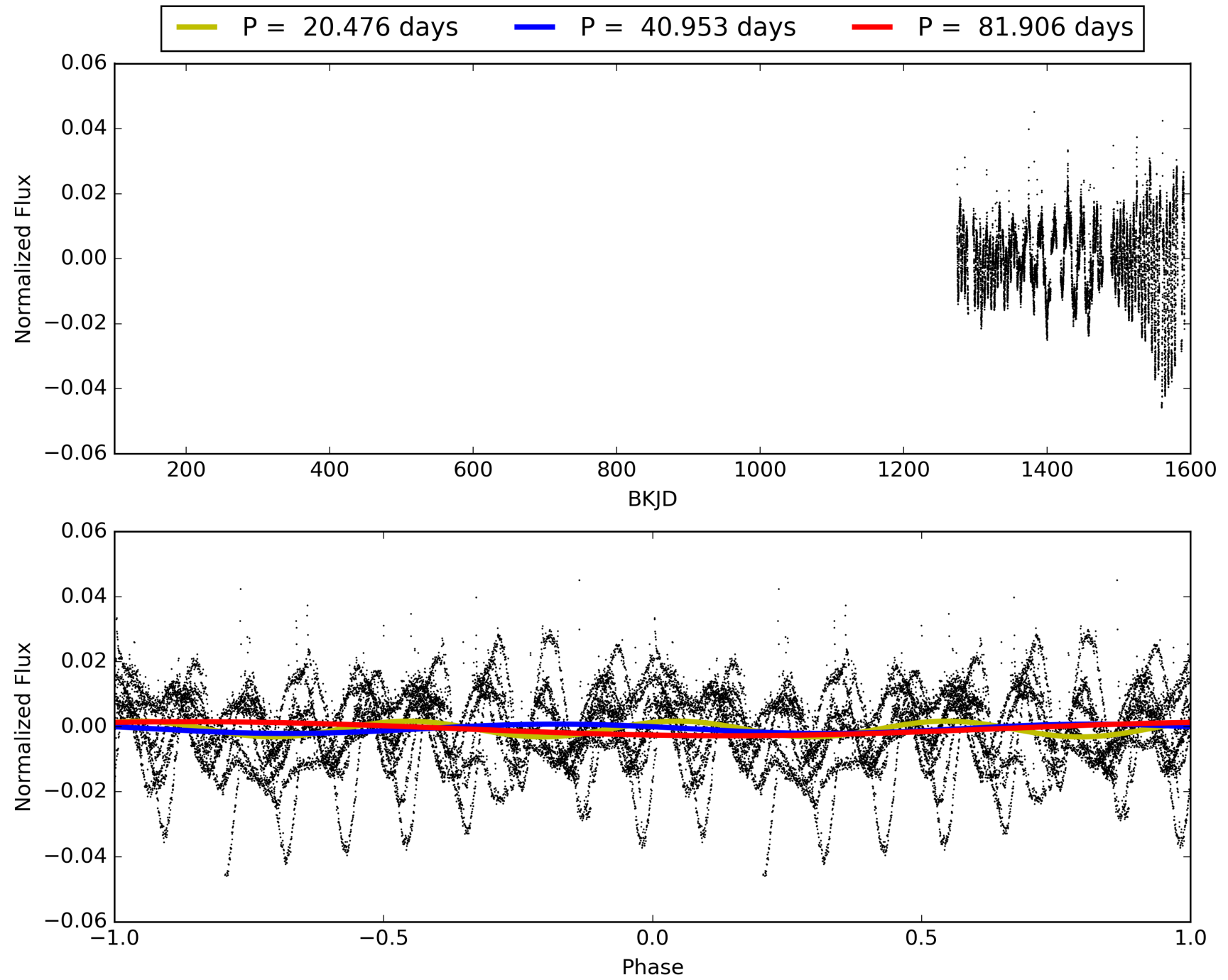
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:53:29 Z

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

TCE 002555396-01, PDC Light Curves

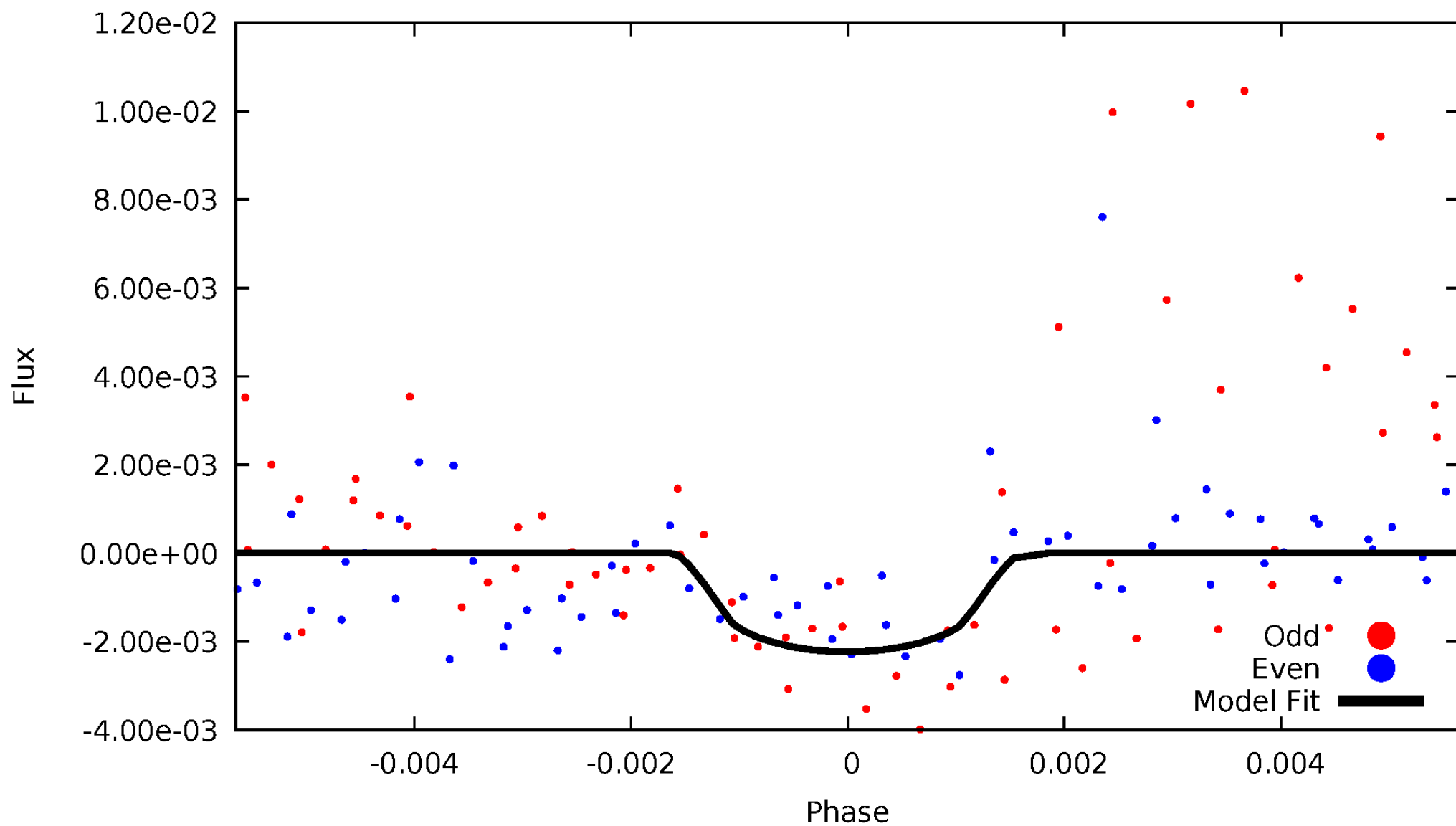


TCE 002555396-01



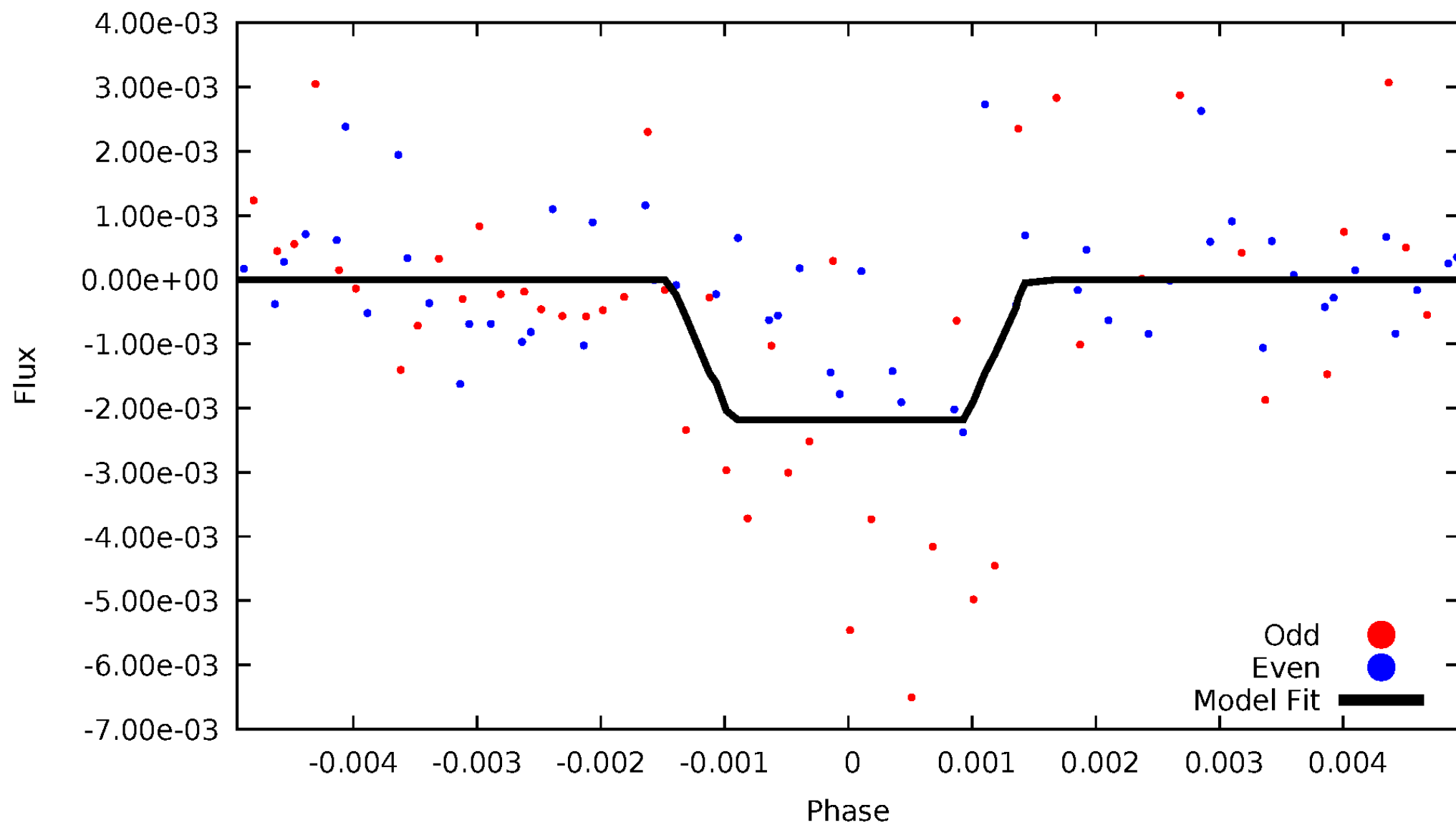
DV Odd/Even

TCE 002555396-01

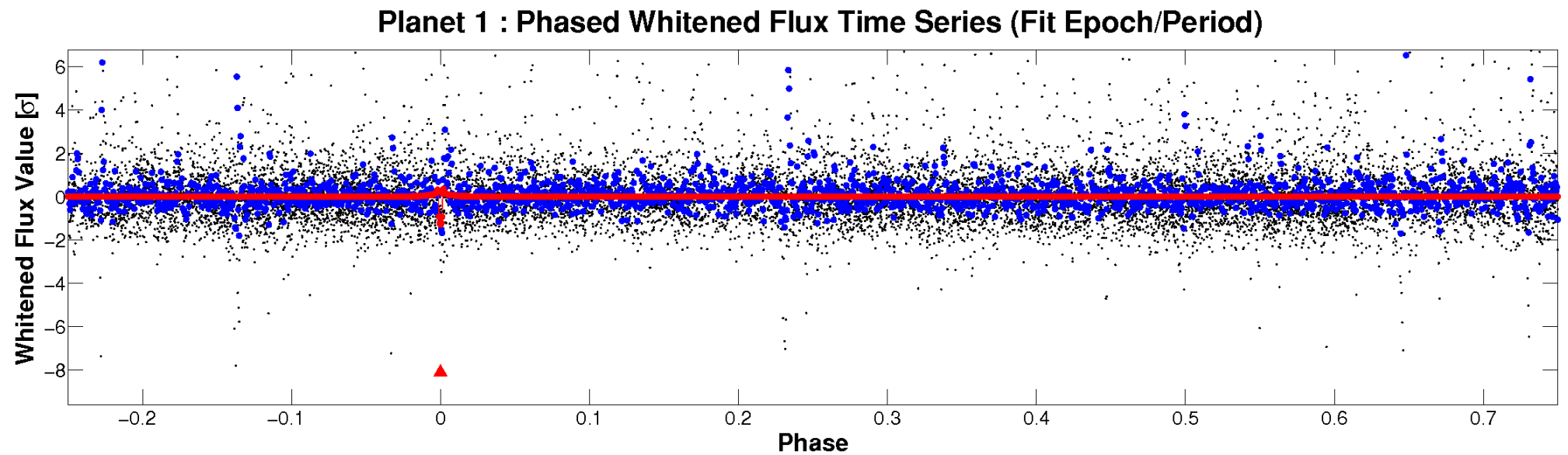
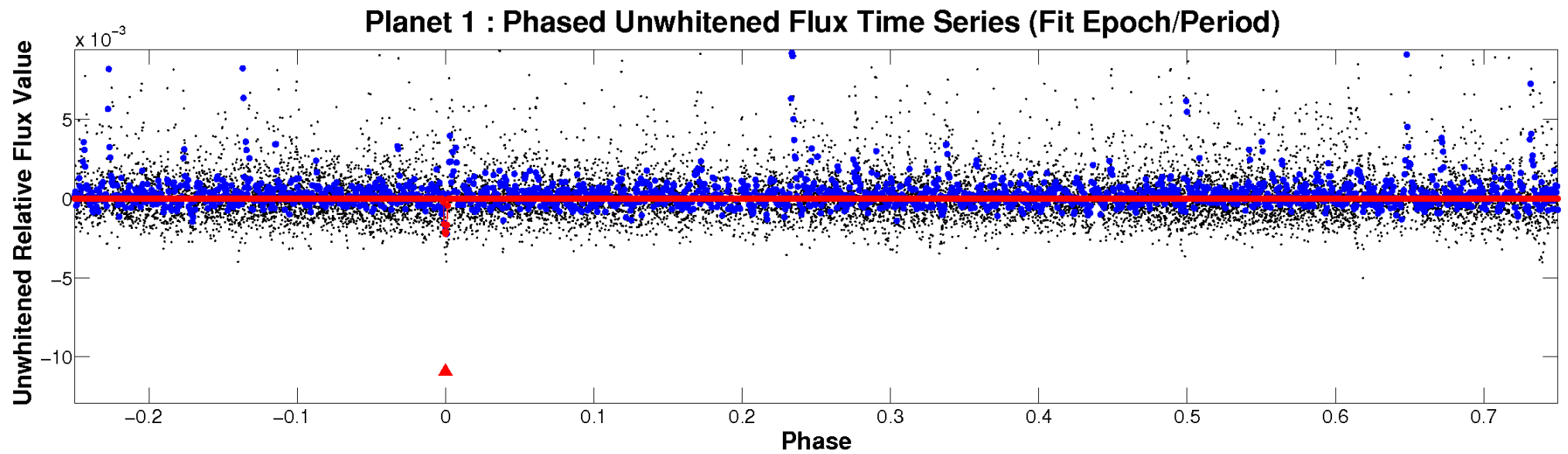


ALT Odd/Even

TCE 002555396-01

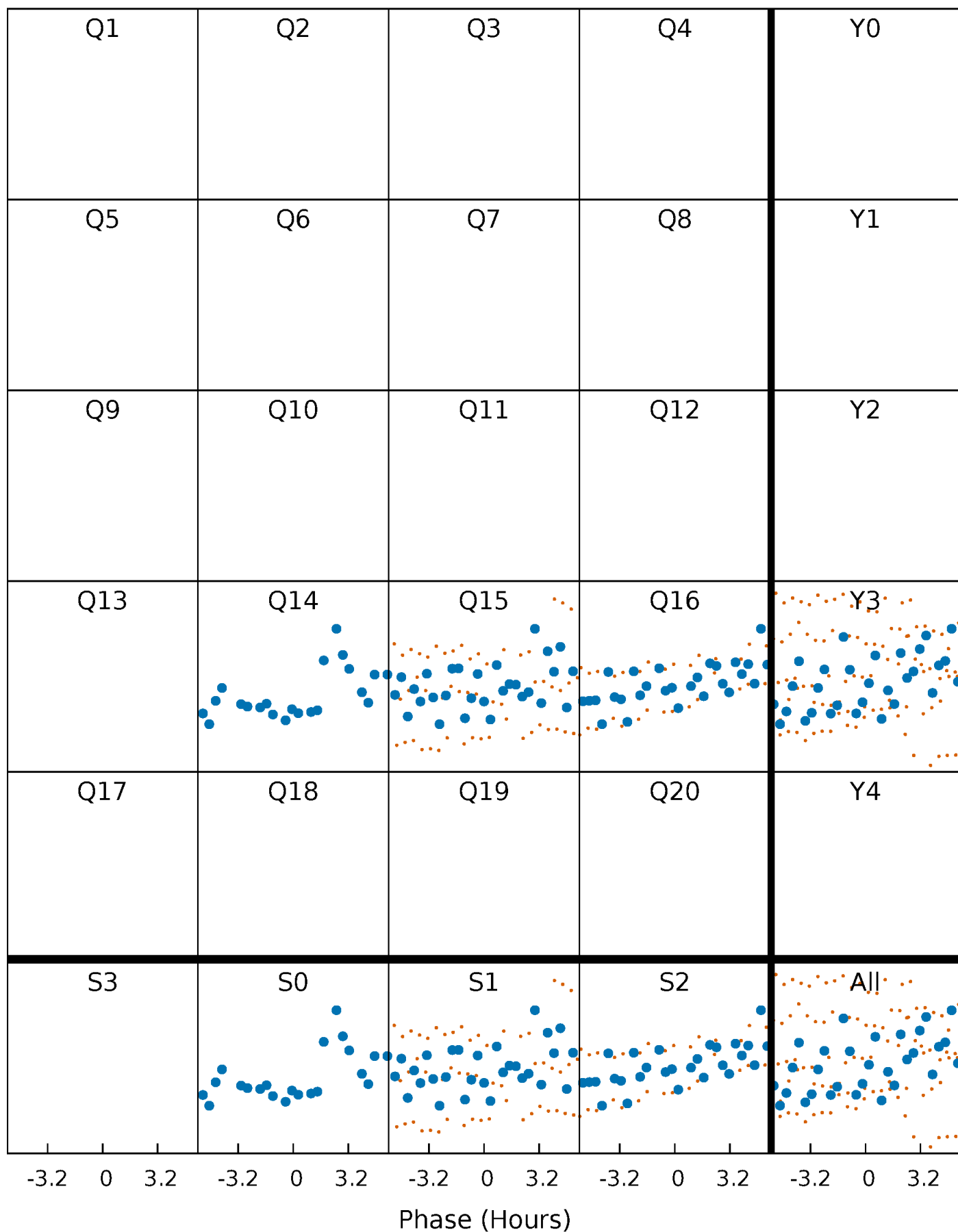


Non-Whitened Vs. Whitened Light Curve



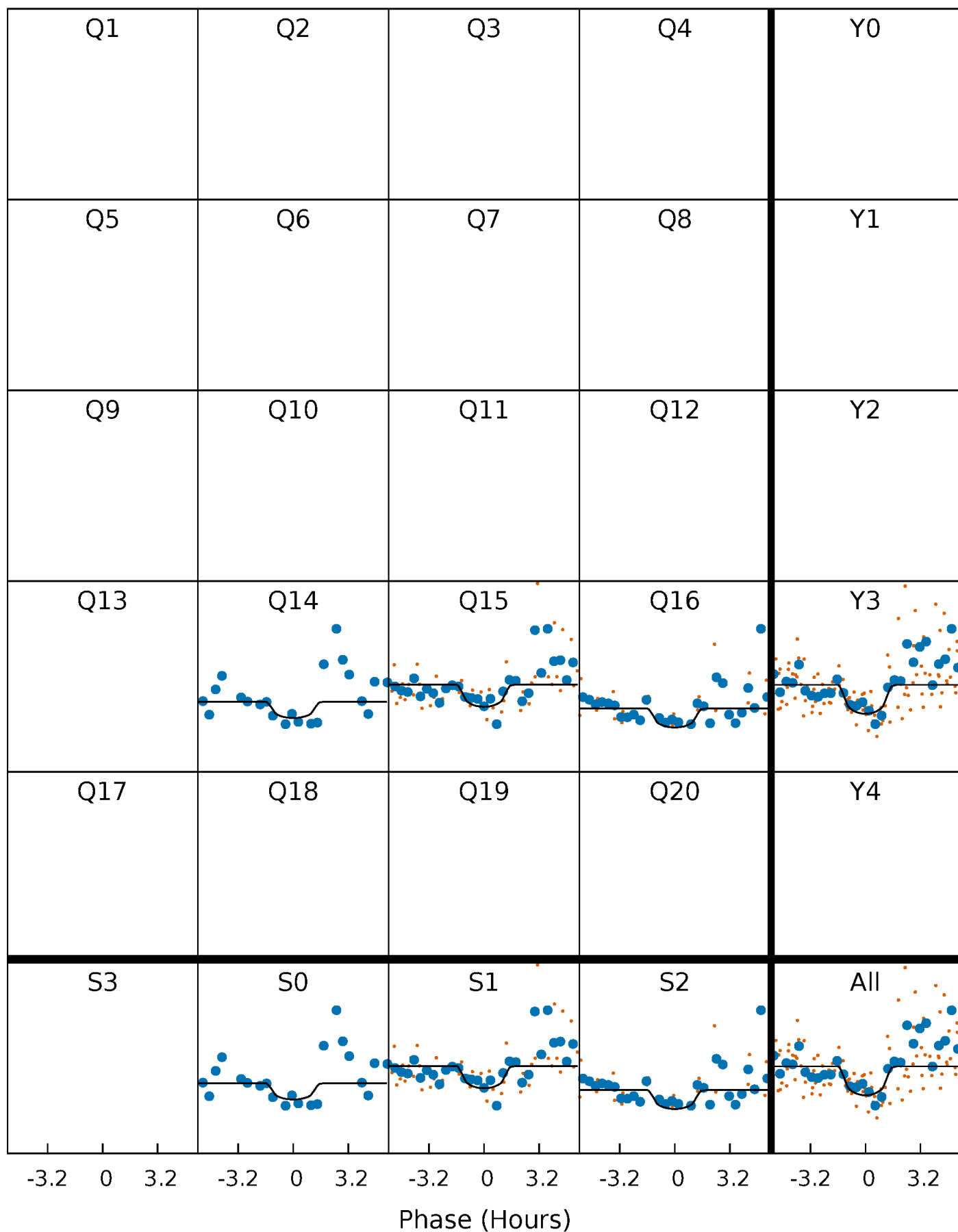
PDC Quarter-Phased Transit Curves

TCE 002555396-01 P= 40.952886 Days $T_0=158.578489$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 002555396-01 P= 40.952886 Days $T_0=158.578489$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

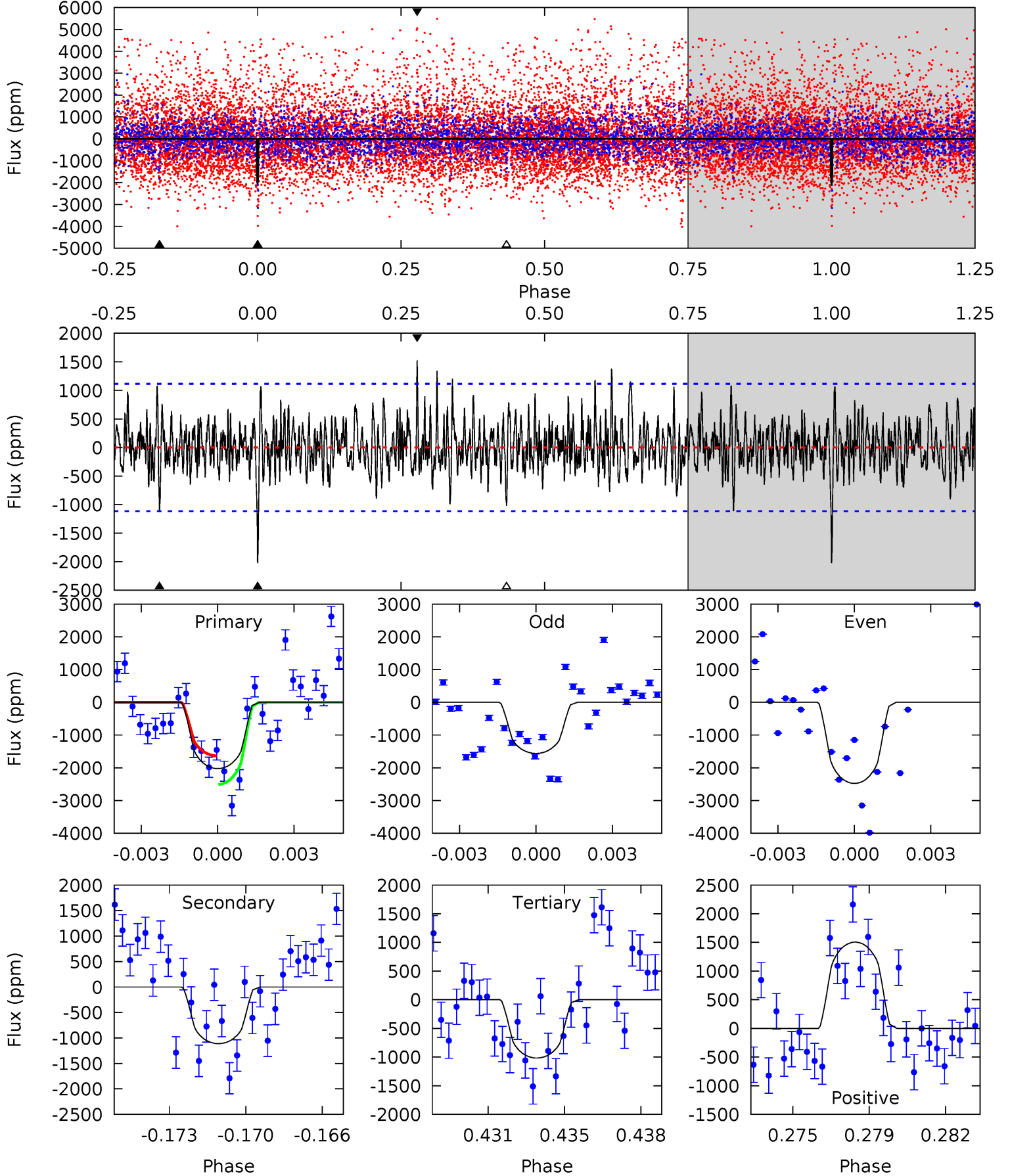
TCE 002555396-01 P= 40.950699 Days $T_0=158.652745$ (BKJD)



DV Model-Shift Uniqueness Test

002555396-01, P = 40.952886 Days, E = 158.578489 Days

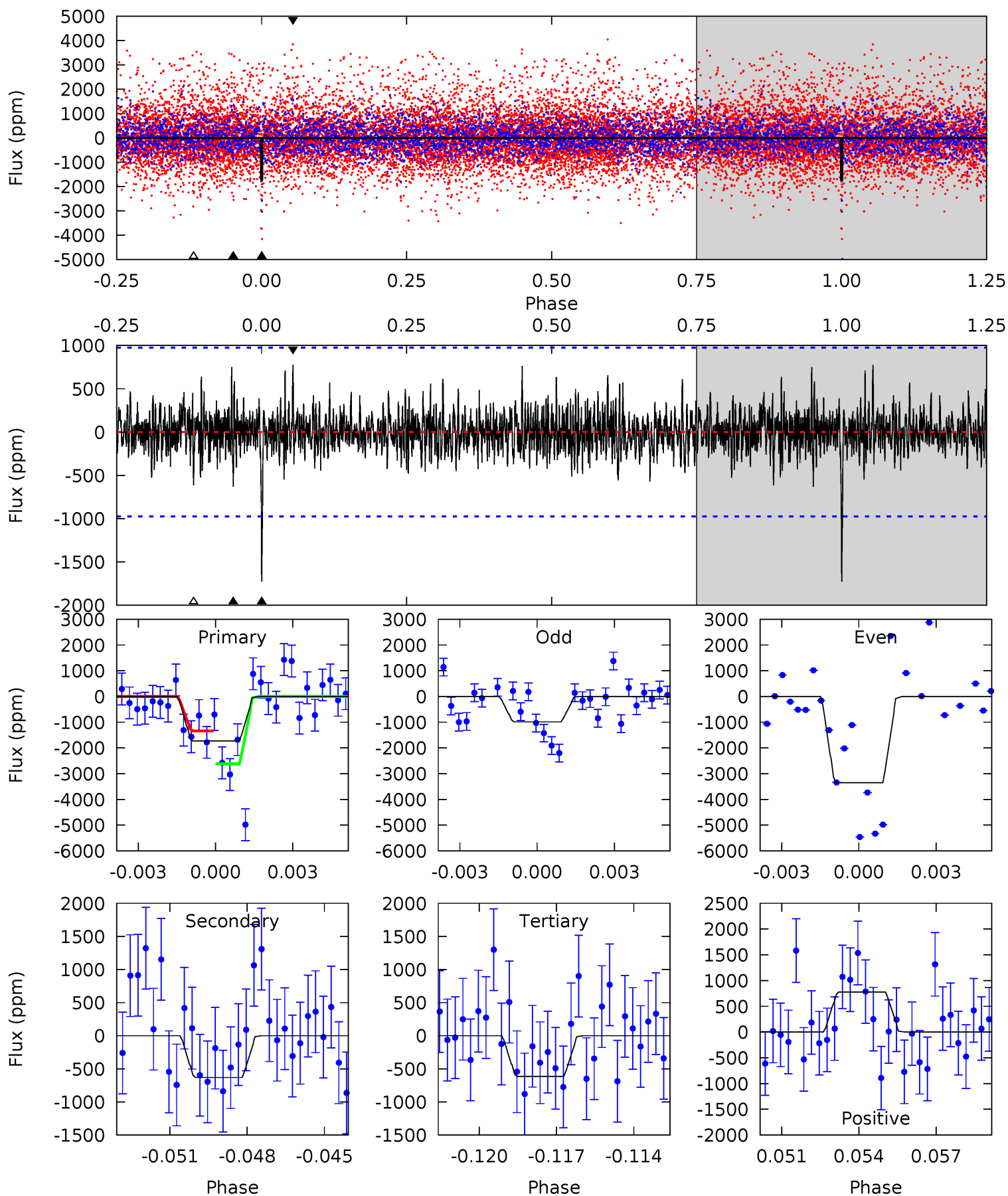
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.50	5.22	4.77	7.06	5.23	2.93	1.64	4.73	2.44	0.45	-1.85	2.11	0.99	0.43	2.09



Alt Model-Shift Uniqueness Test

002555396-01, P = 40.950699 Days, E = 158.652745 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.30	3.40	3.31	4.18	5.25	2.97	1.01	5.99	5.11	0.09	-0.79	6.49	1.29	0.31	3.53



Stellar Parameters For KIC 002555396

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3761^{+120}_{-147}	$4.672^{+0.067}_{-0.022}$	$0.560^{+0.050}_{-0.300}$	$0.584^{+0.032}_{-0.069}$	$0.585^{+0.040}_{-0.060}$	$4.126^{+1.311}_{-0.388}$
	+3%/-4%	+1%/-0%	+9%/-54%	+5%/-12%	+7%/-10%	+32%/-9%
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 002555396-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1112±213	$5.73^{+6.15}_{-3.80}$	396^{+16}_{-16}	2759^{+1093}_{-449}	701^{+5709}_{-543}
Alt.	-630±186	$5.98^{+5.64}_{-4.20}$	398^{+15}_{-17}	2564^{+1038}_{-388}	377^{+4091}_{-284}

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

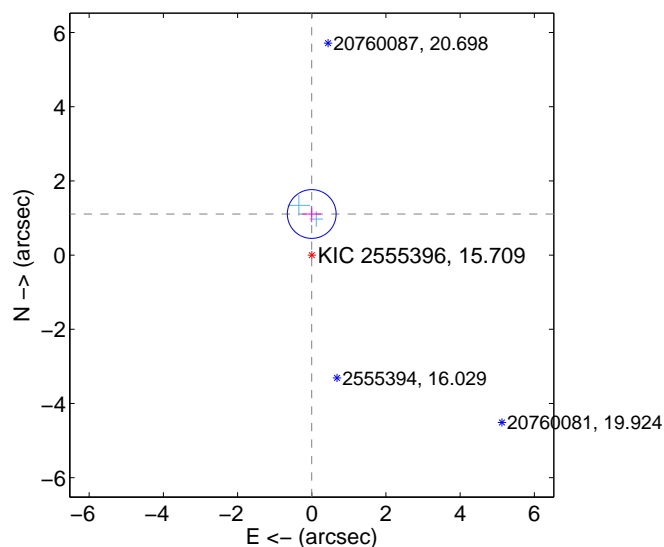
Supplemental centroid analysis for 002555396-01. Kepler magnitude: 15.71. Transit SNR 6.19

There are 2 quarters with good PRF difference image offsets

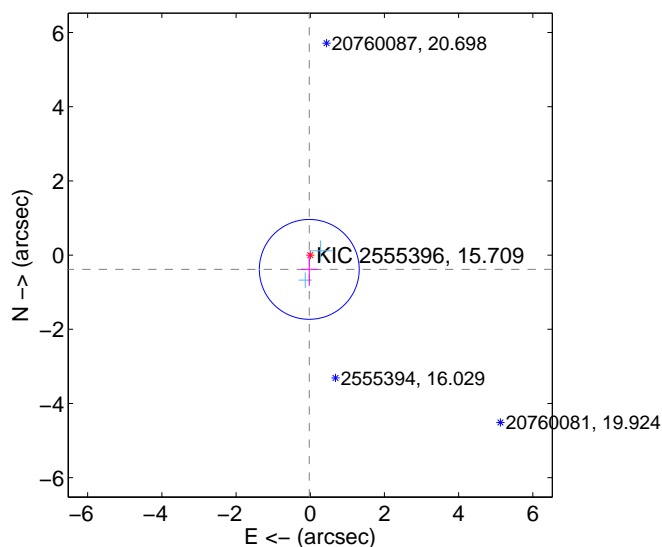
The direct PRF centroid is offset from the target star catalog position by about 1.67 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.108 ± 0.219	5.06	0.001 ± 0.250	1.108 ± 0.219
PRF-fit source offset from KIC position	0.386 ± 0.449	0.86	0.026 ± 0.222	-0.385 ± 0.449
photometric centroid source offset	2.61 ± 0.94	2.77	-2.06 ± 0.89	-1.60 ± 1.02

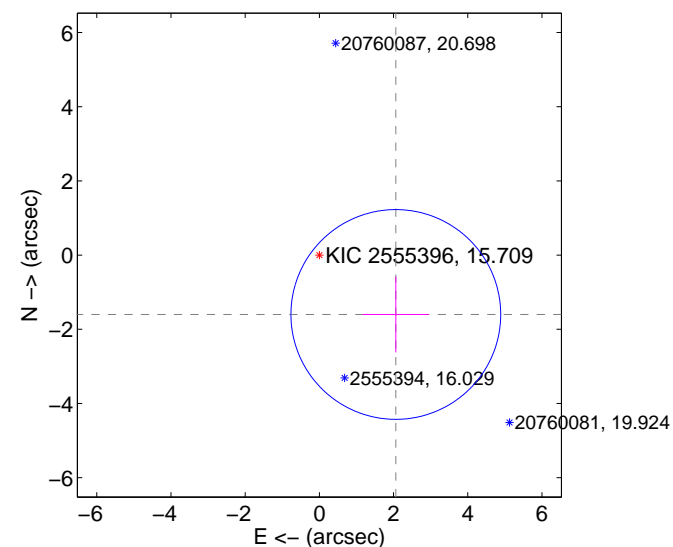
offset from difference PRF-fit to OOT PRF-fit



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.



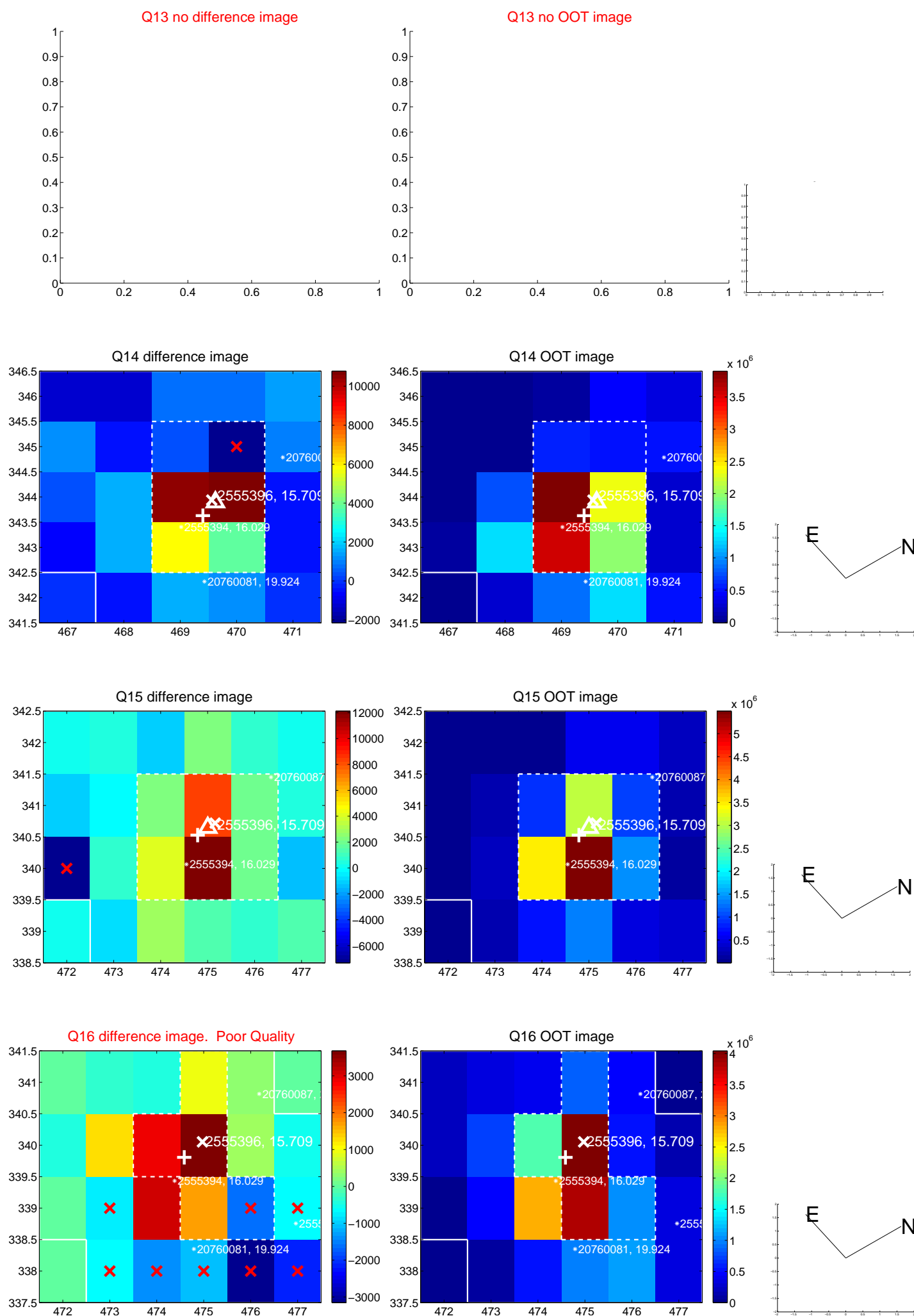
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



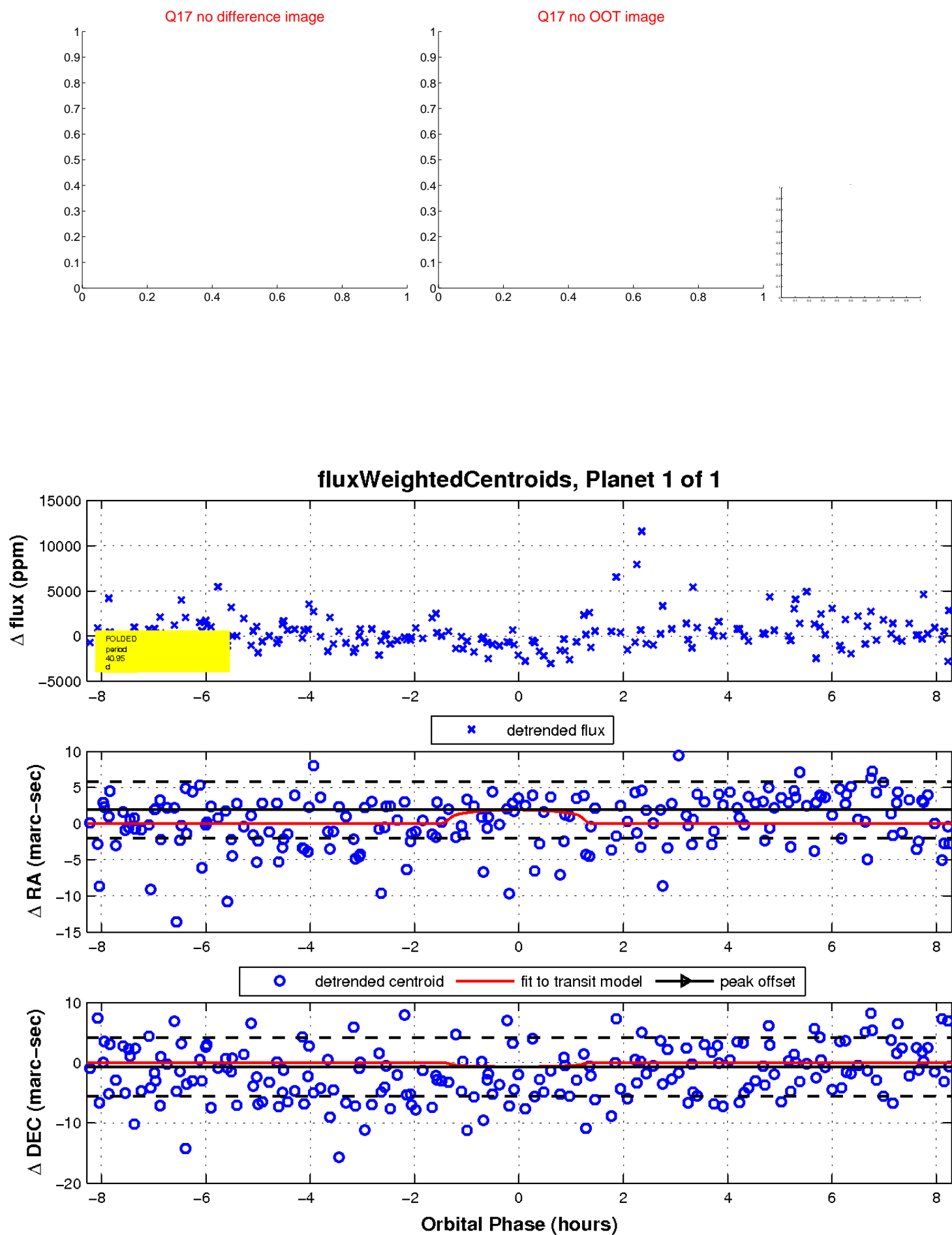
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UKIRT Image

Declination

