

KIC 006878408

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})
006878408-01	OBS	6786.01	455.643792	581.858269	1151.9	13.538	13.3	13.2	0.89	5883	3.38	0.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006878408-01	OBS	PC	0.56	0	0	0	0	CENT_FEW_DIFFS

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 006878408-01

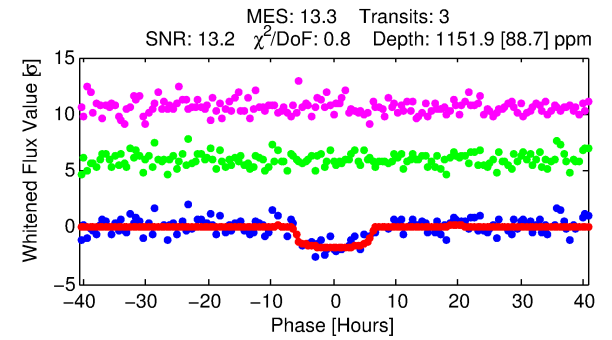
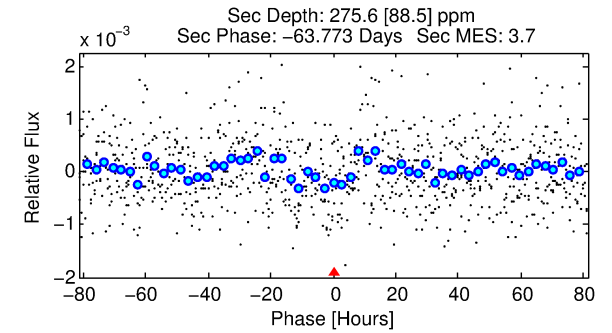
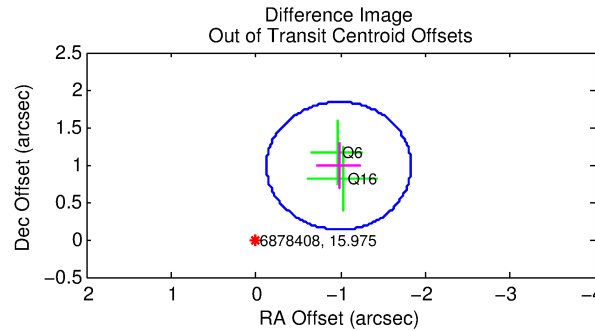
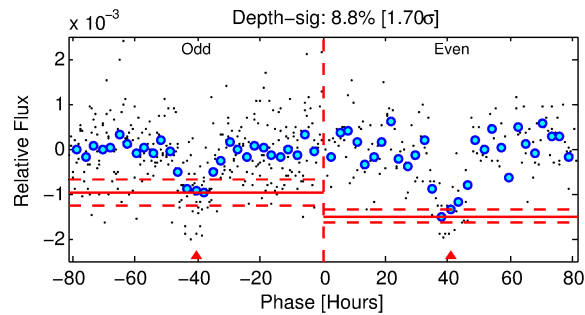
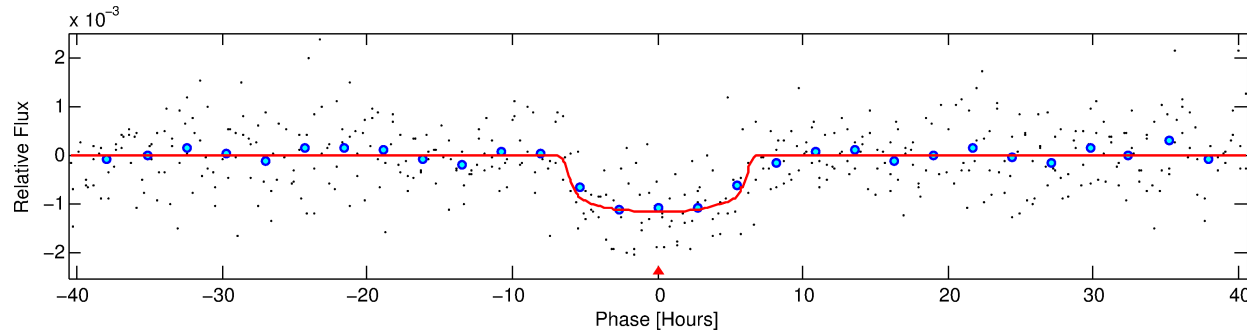
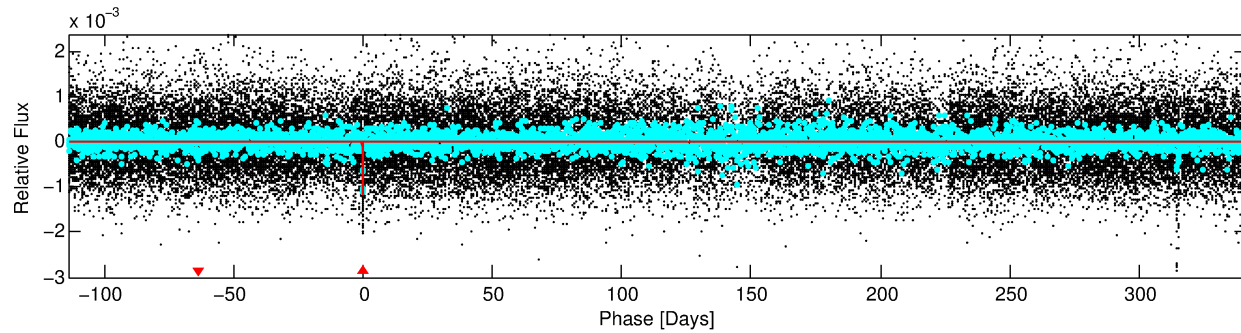
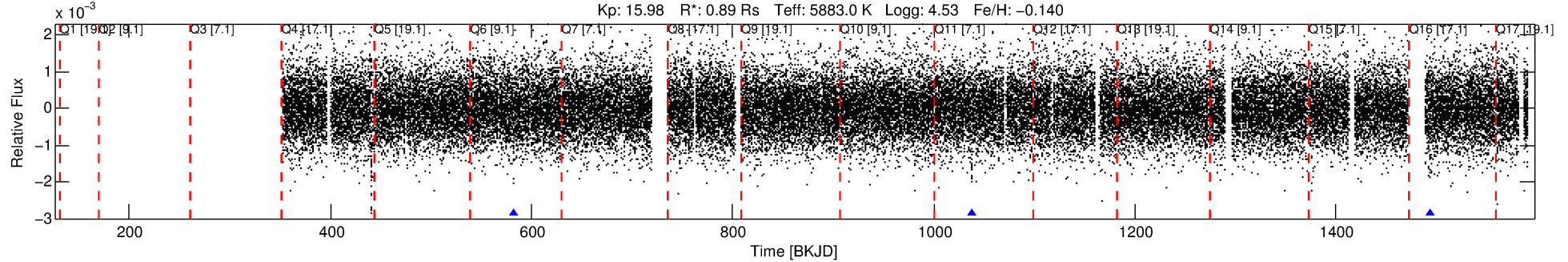
No Significant Match Found

DV One-Page Summary

KIC: 6878408 Candidate: 1 of 1 Period: 455.644 d

KOI: K06786.01 Corr: 0.984

Kp: 15.98 R*: 0.89 Rs Teff: 5883.0 K Logg: 4.53 Fe/H: -0.140



DV Fit Results:

Period = 455.64379 [0.01250] d
Epoch = 581.8583 [0.0154] BKJD
Rp/R* = 0.0347 [0.0042]
a/R* = 164.63 [86.95]
b = 0.81 [0.22]
Seff = 0.64 [0.25]
Teq = 228 [23] K
Rp = 3.38 [1.07] Re
a = 1.1526 [0.2876] AU
Ag = 17664.26 [9647.83] [1.83σ]
Teff = 4070 [434] K [8.84σ]

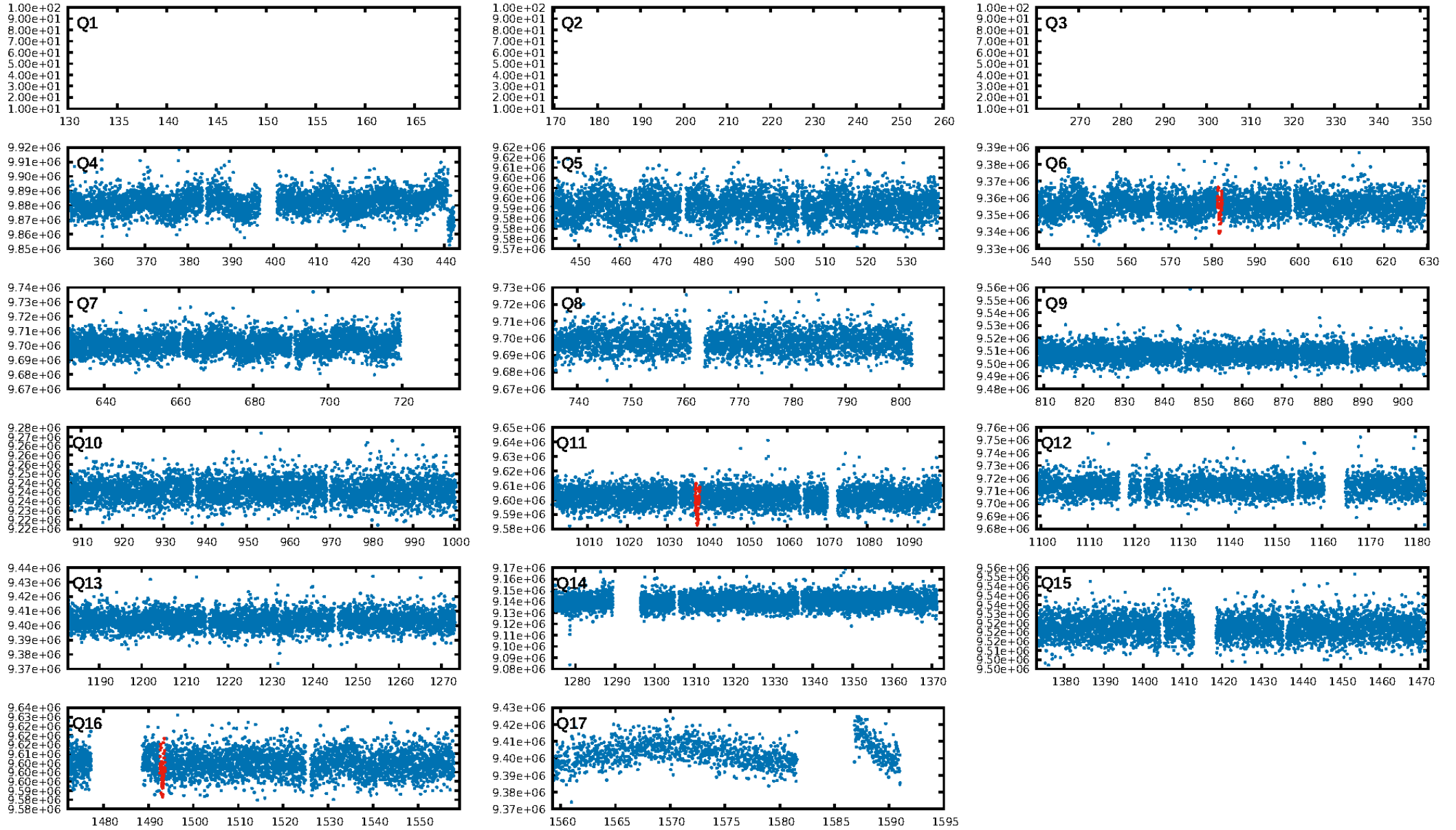
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.95e-39
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.422
Centroid-sig: 0.2%
Centroid-so: 1.664 arcsec [1.52σ]
OotOffset-rm: 1.388 arcsec [4.89σ]
KicOffset-rm: 1.271 arcsec [4.53σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

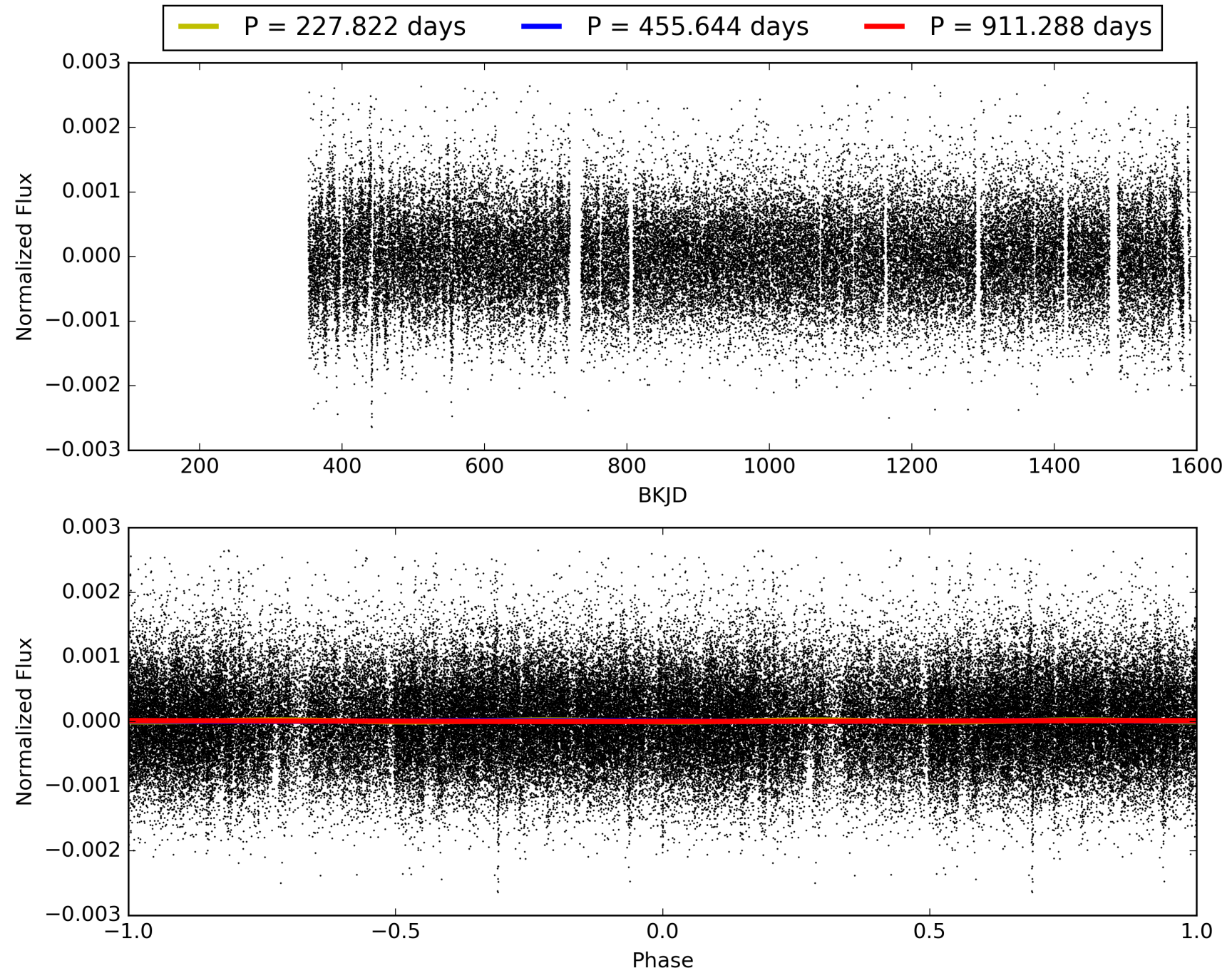
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:28:27 Z

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

TCE 006878408-01, PDC Light Curves

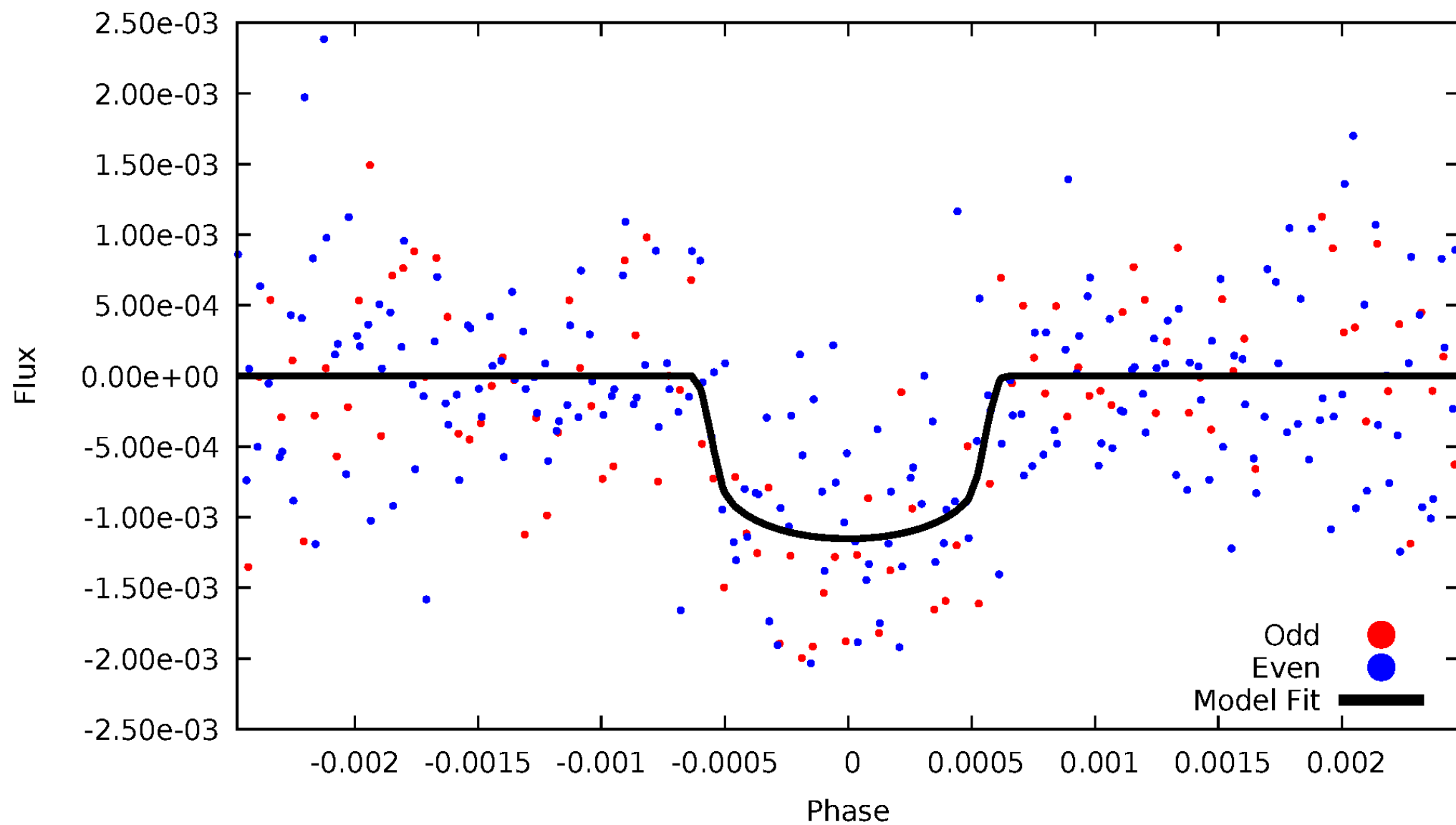


TCE 006878408-01



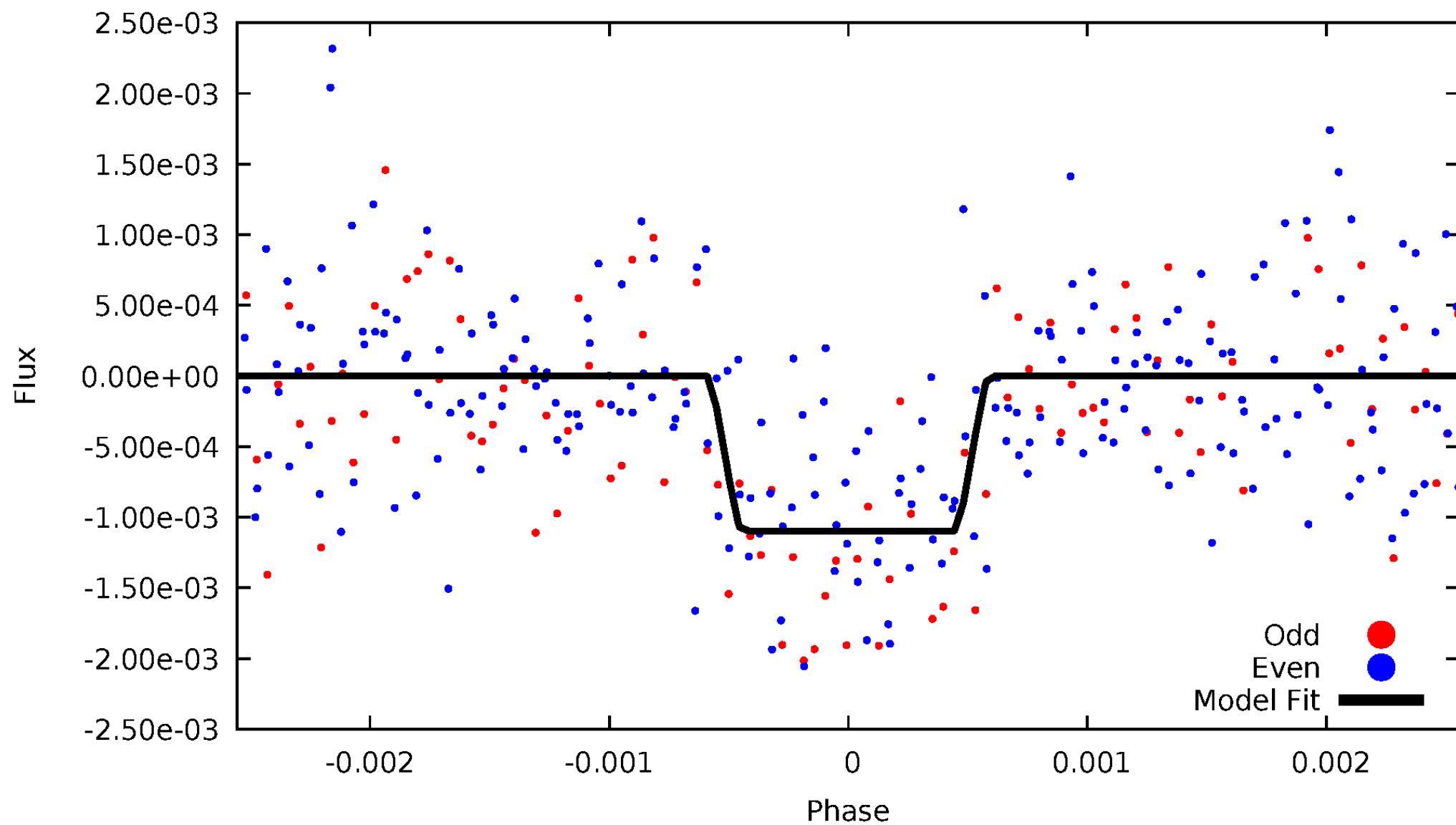
DV Odd/Even

TCE 006878408-01

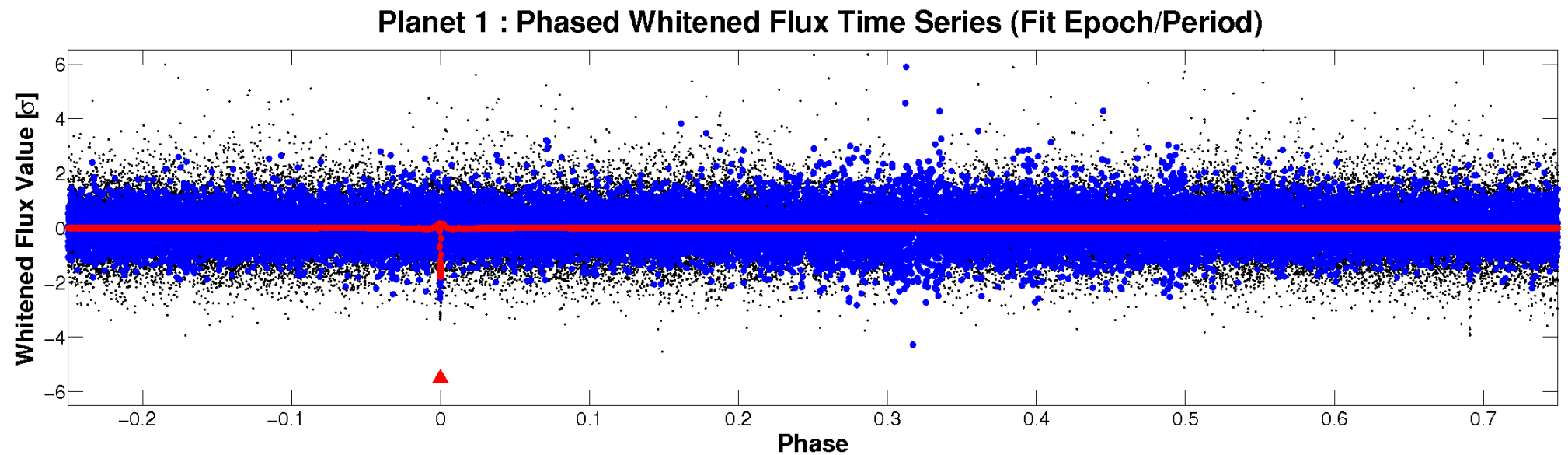
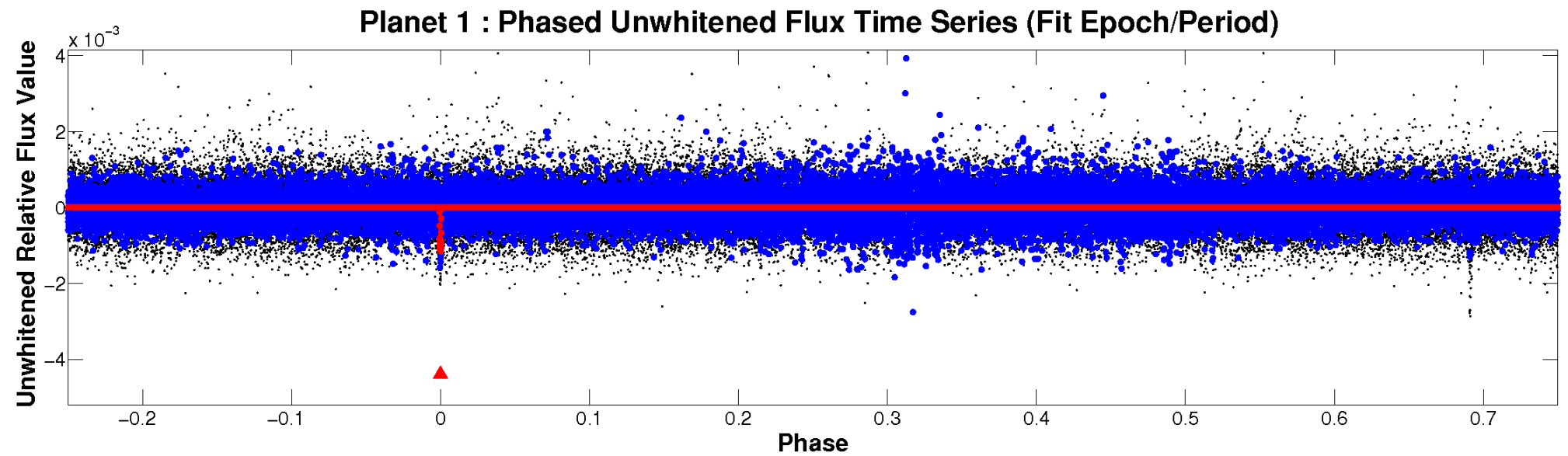


ALT Odd/Even

TCE 006878408-01

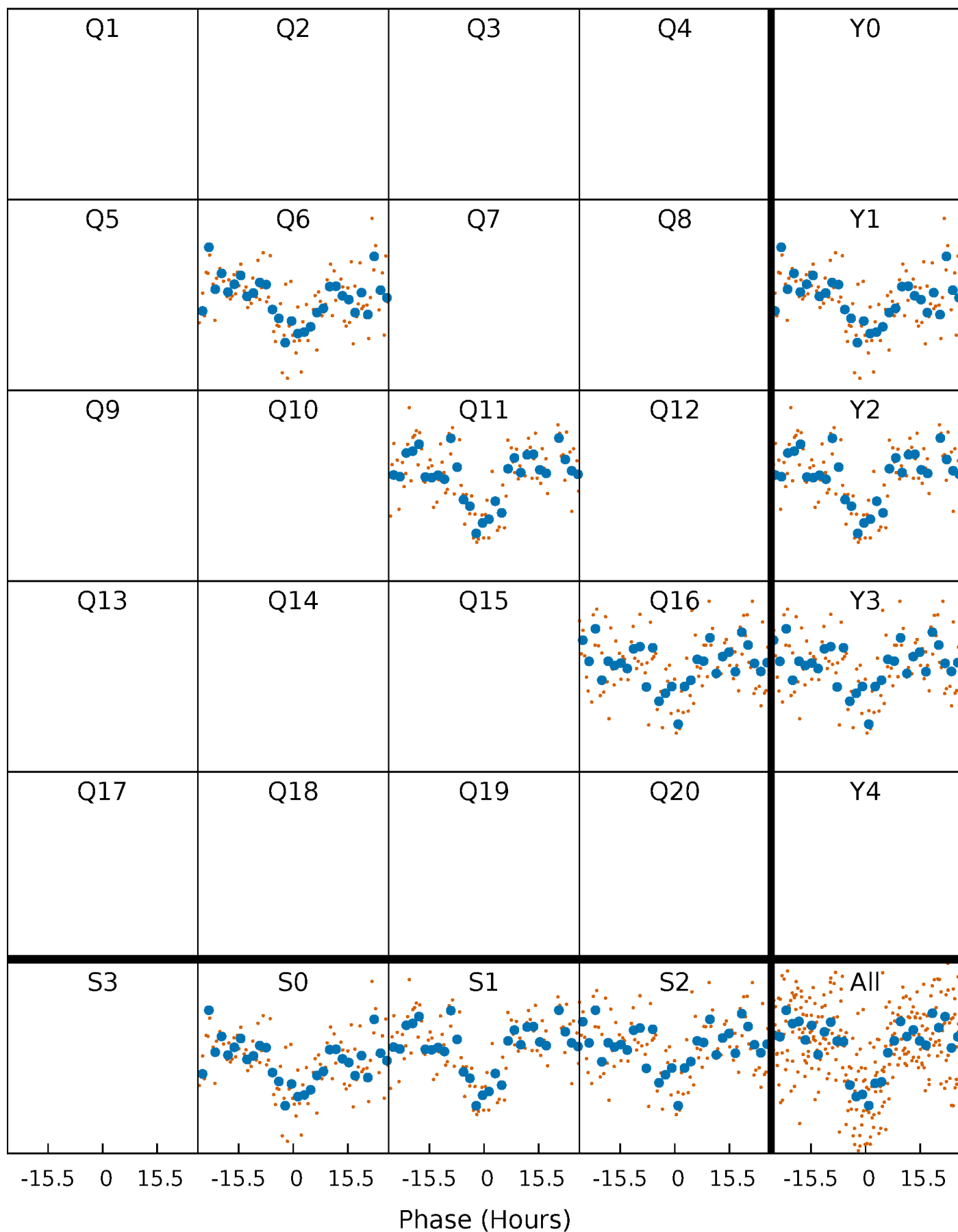


Non-Whitened Vs. Whitened Light Curve



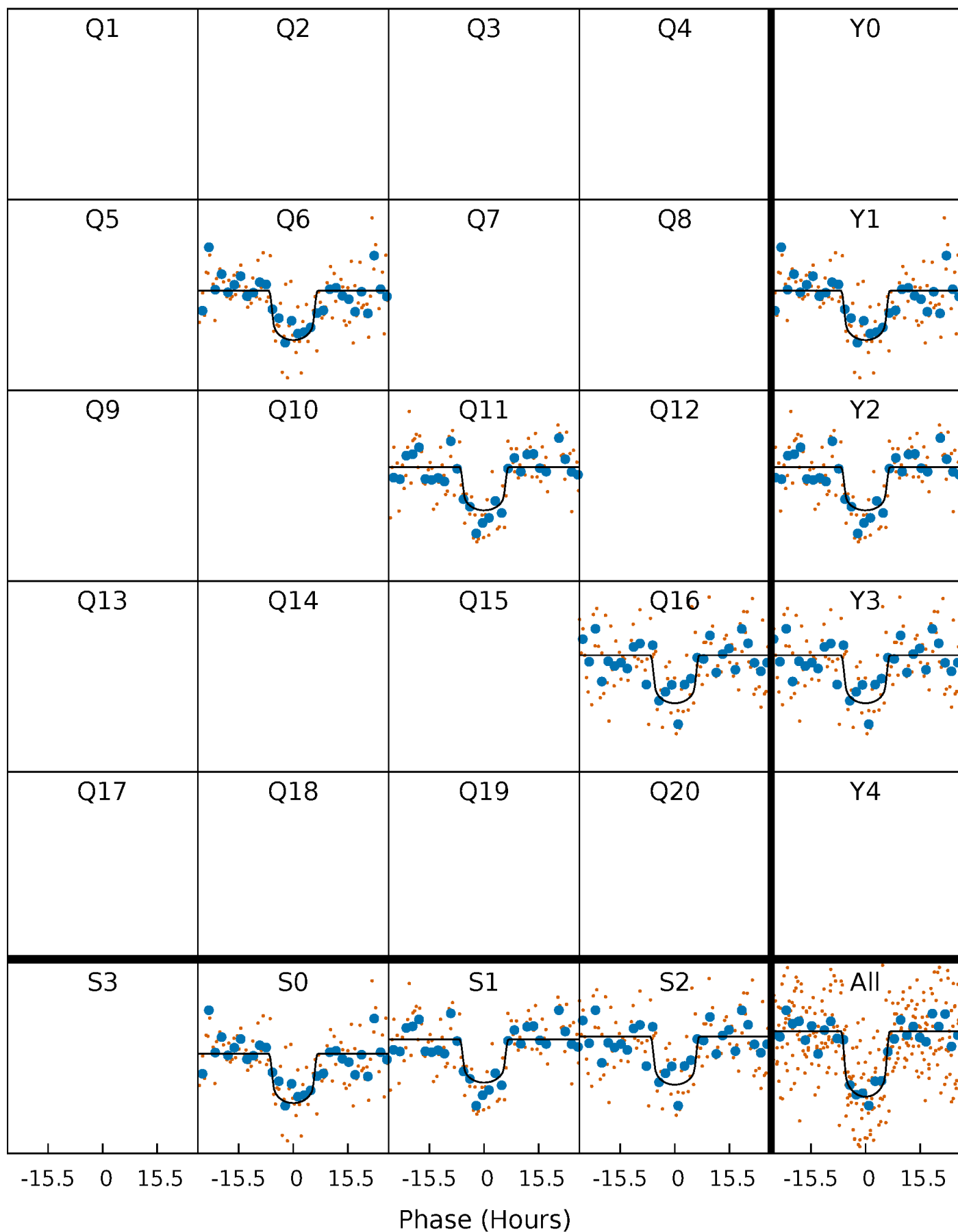
PDC Quarter-Phased Transit Curves

TCE 006878408-01 P=455.643792 Days $T_0=581.858269$ (BKJD)



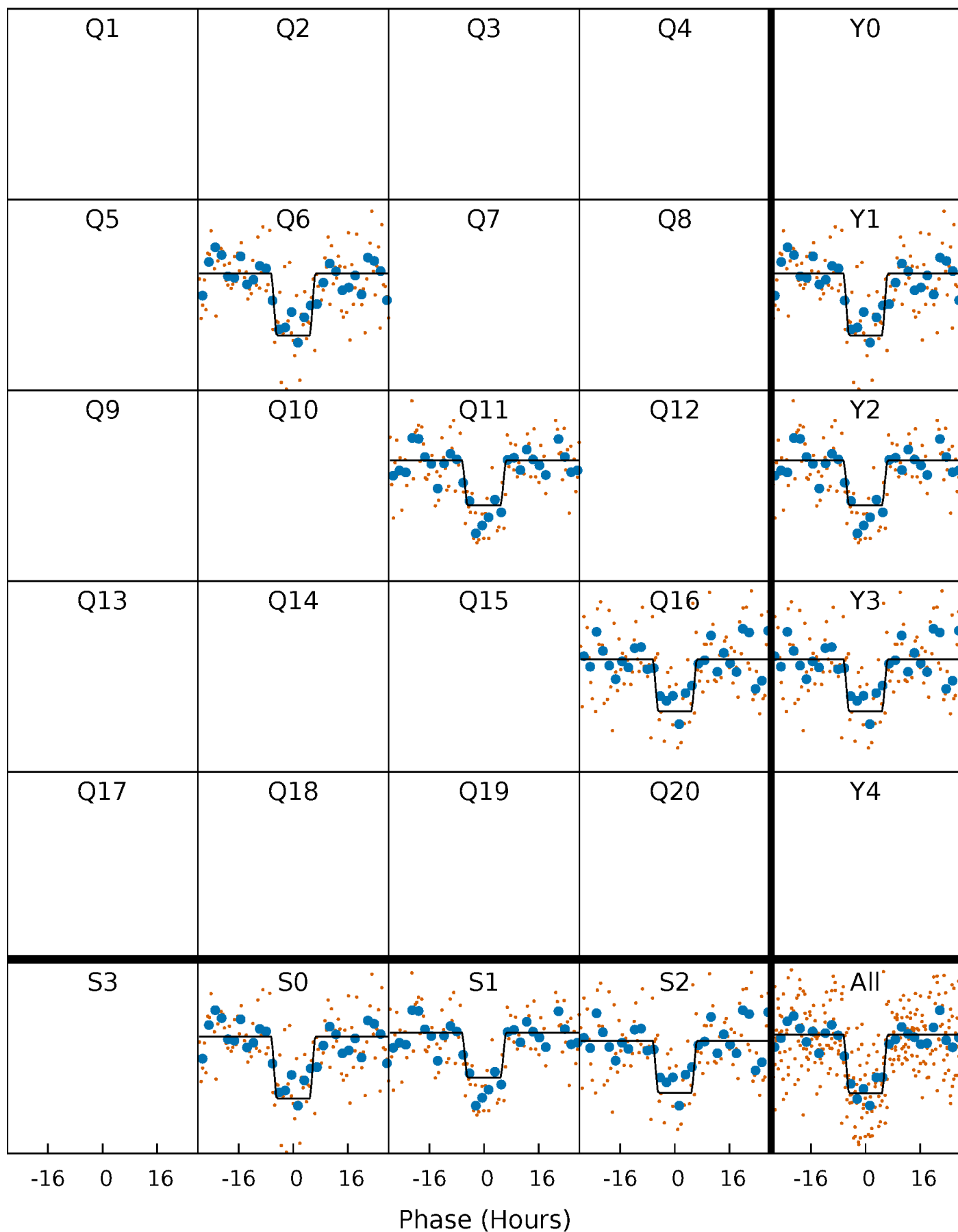
DV Quarter-Phased Transit Curves

TCE 006878408-01 P=455.643792 Days $T_0=581.858269$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

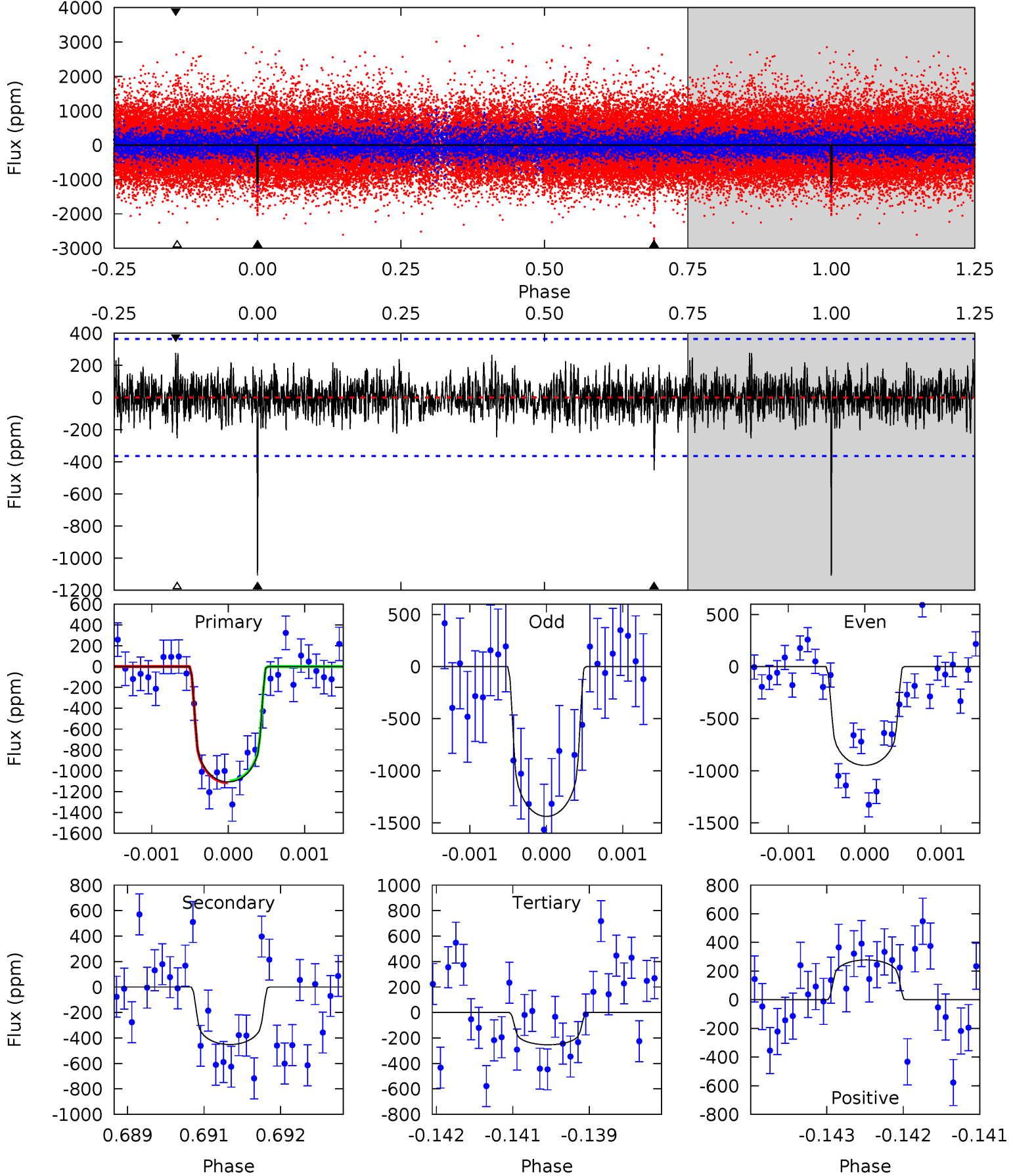
TCE 006878408-01 P=455.627521 Days $T_0=581.873266$ (BKJD)



DV Model-Shift Uniqueness Test

006878408-01, P = 455.643792 Days, E = 126.214477 Days

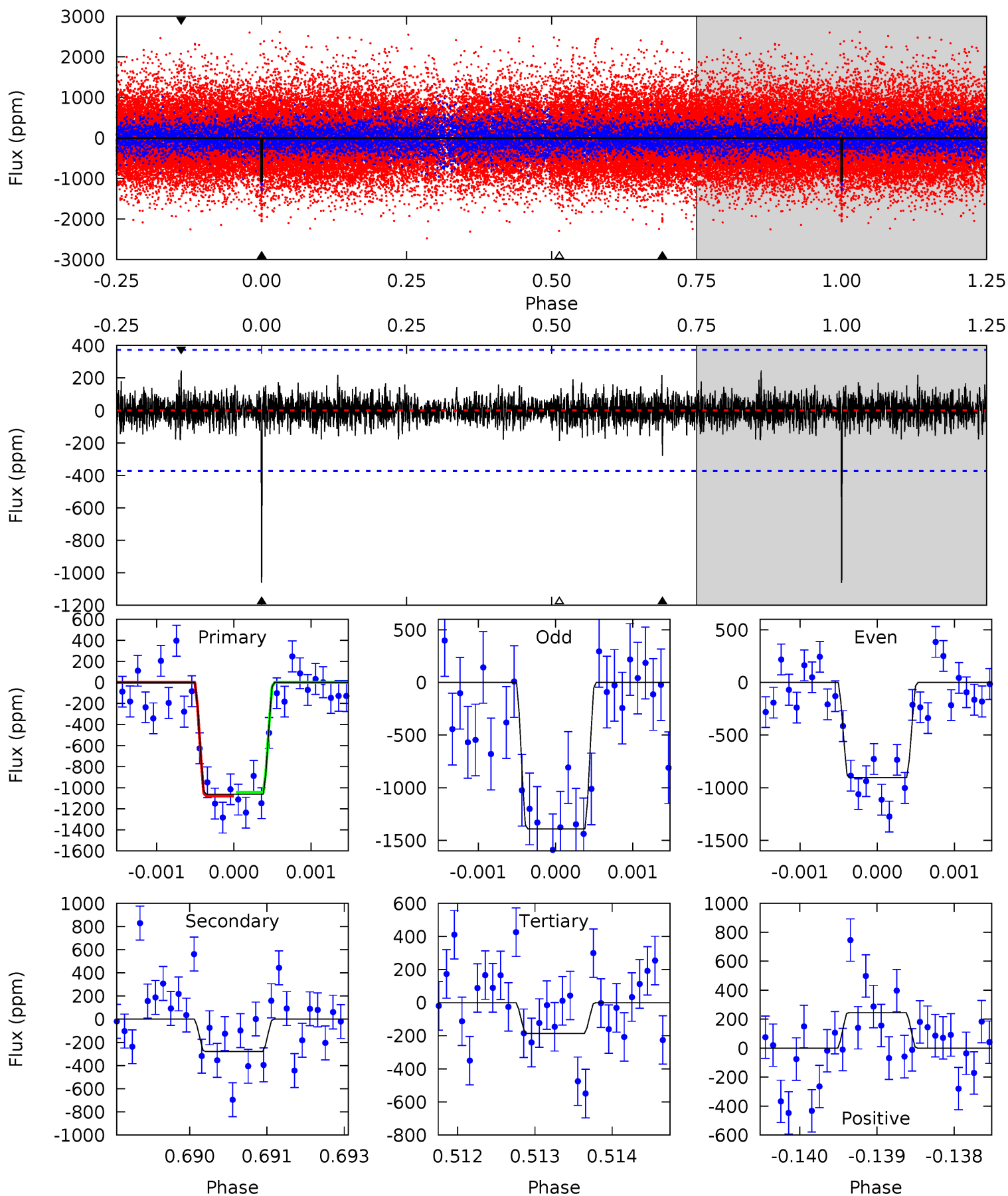
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.5	6.71	3.77	4.13	5.41	3.23	1.16	12.7	12.3	2.95	2.58	3.46	1.11	0.20	0.13



Alt Model-Shift Uniqueness Test

006878408-01, P = 455.627521 Days, E = 126.245745 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.4	4.05	2.70	3.56	5.42	3.25	0.81	12.7	11.9	1.35	0.49	3.34	1.12	0.19	0.26



Stellar Parameters For KIC 006878408

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5883^{+165}_{-206}	$4.530^{+0.048}_{-0.204}$	$-0.140^{+0.300}_{-0.300}$	$0.892^{+0.260}_{-0.087}$	$0.985^{+0.120}_{-0.132}$	$1.952^{+0.398}_{-1.026}$
	+3%/-4%	+1%/-5%	+214%/-214%	+29%/-10%	+12%/-13%	+20%/-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 006878408-01 / KOI 6786.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-452 ± 67	$3.53^{+0.59}_{-0.53}$	326^{+21}_{-16}	4713^{+321}_{-286}	26135^{+9695}_{-8153}
Alt.	-279 ± 69	$3.38^{+0.67}_{-0.51}$	328^{+23}_{-16}	4380^{+333}_{-312}	16839^{+8392}_{-5721}

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

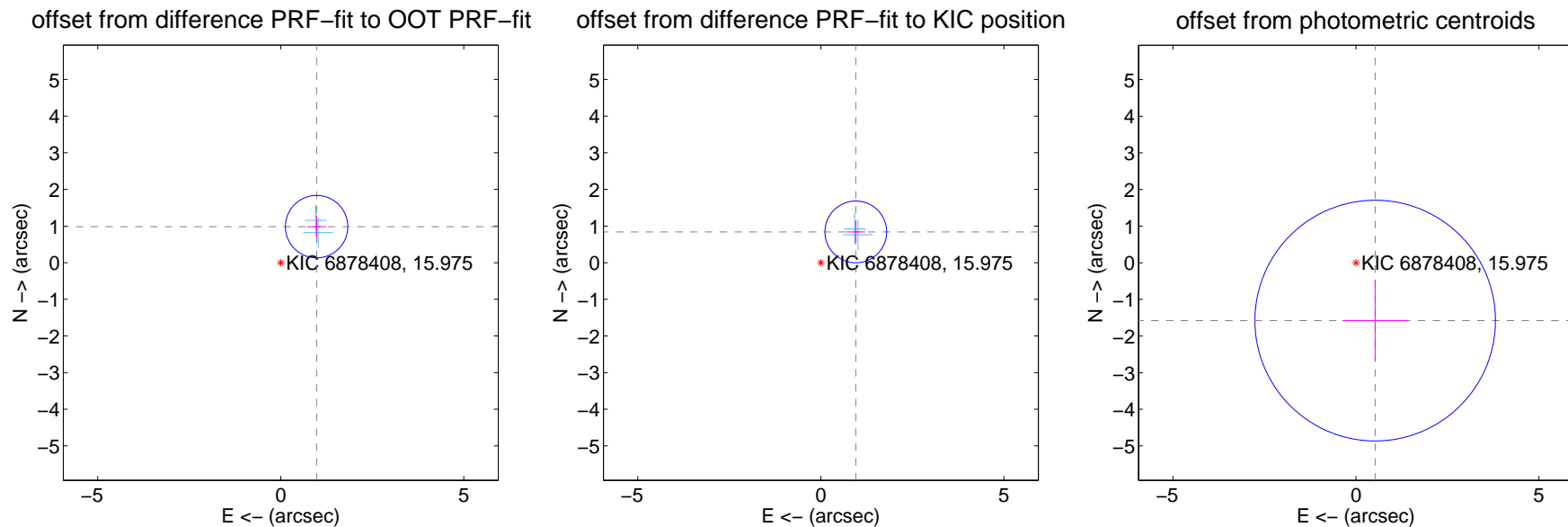
DV Centroid Data

Supplemental centroid analysis for 006878408-01. Kepler magnitude: 15.97. Transit SNR 13.24

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.388 ± 0.284	4.89	-0.979 ± 0.259	0.984 ± 0.307
PRF-fit source offset from KIC position	1.271 ± 0.281	4.53	-0.954 ± 0.259	0.840 ± 0.307
photometric centroid source offset	1.66 ± 1.10	1.52	-0.53 ± 0.90	-1.58 ± 1.11

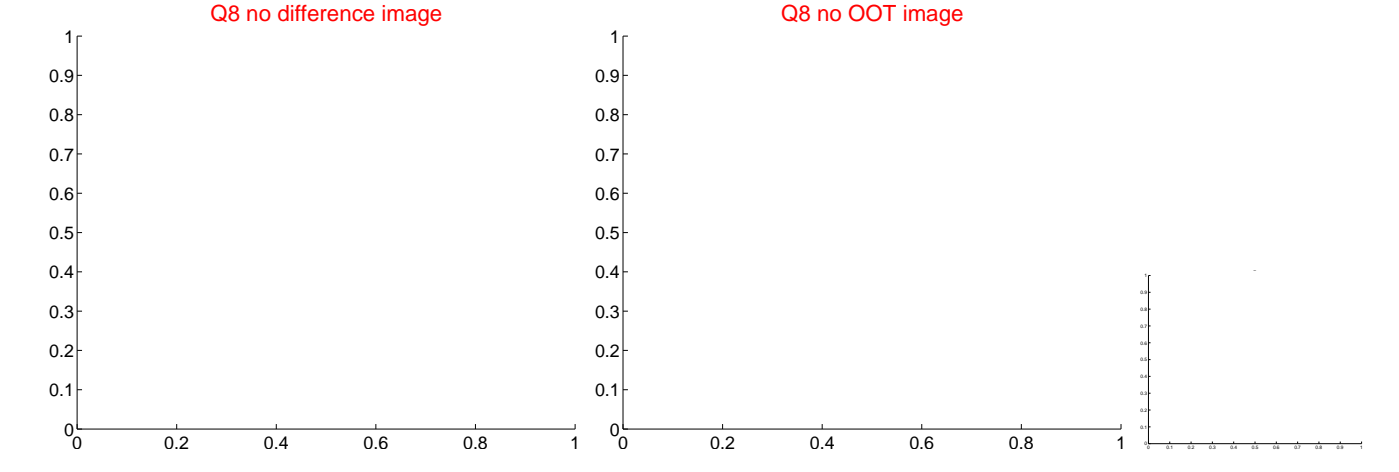
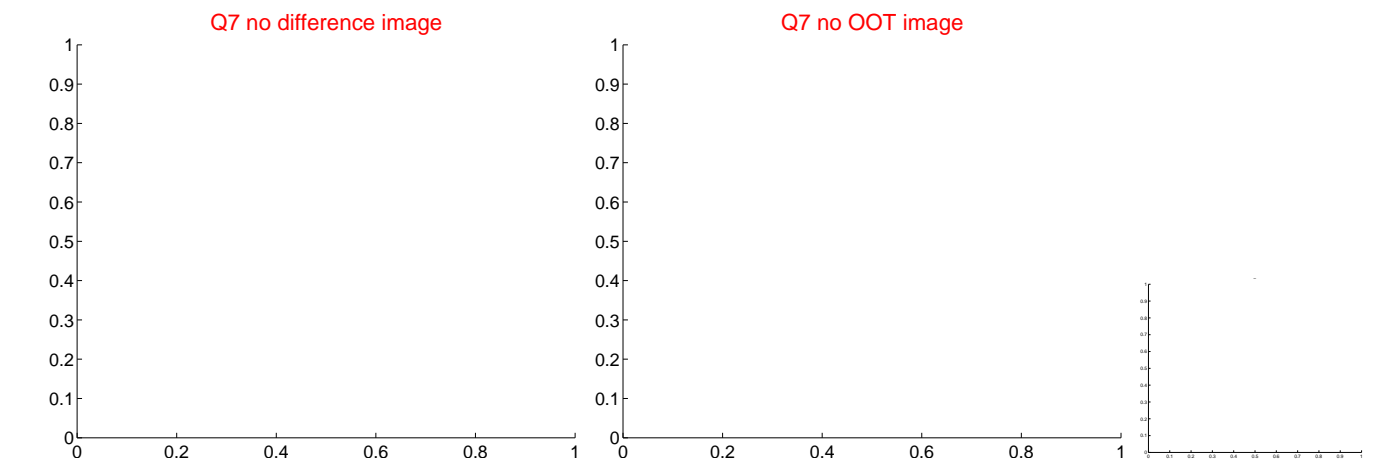
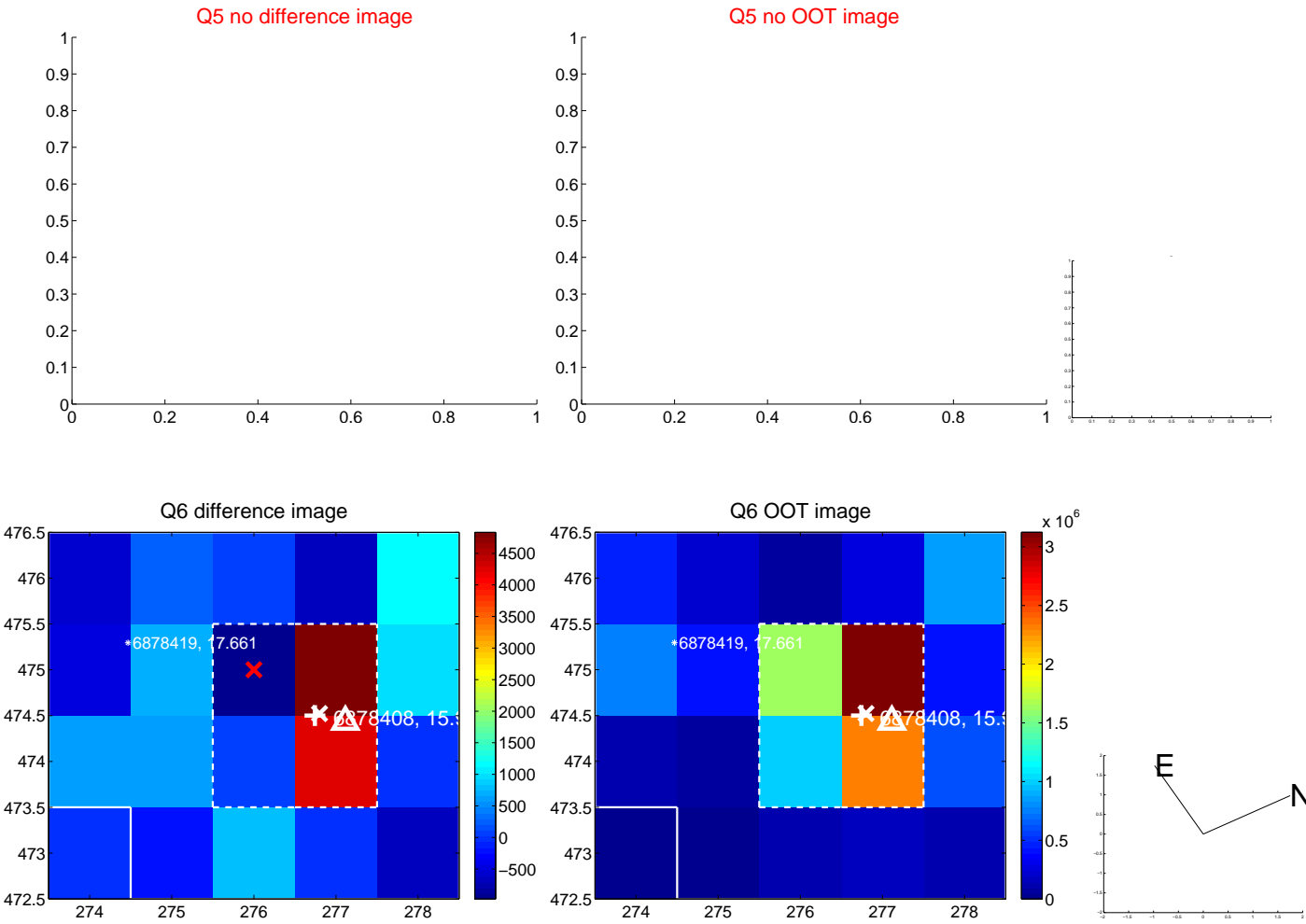


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



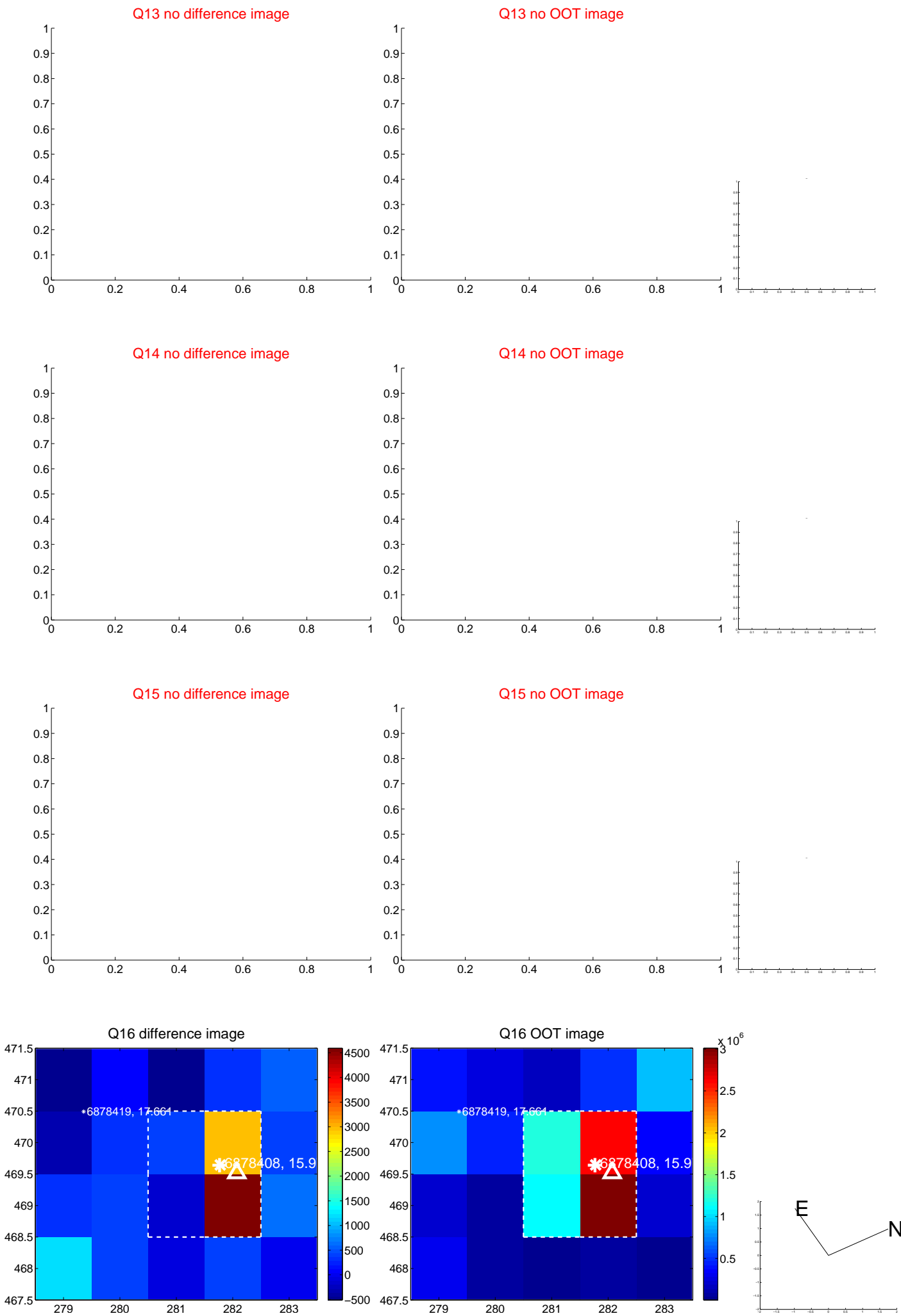
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



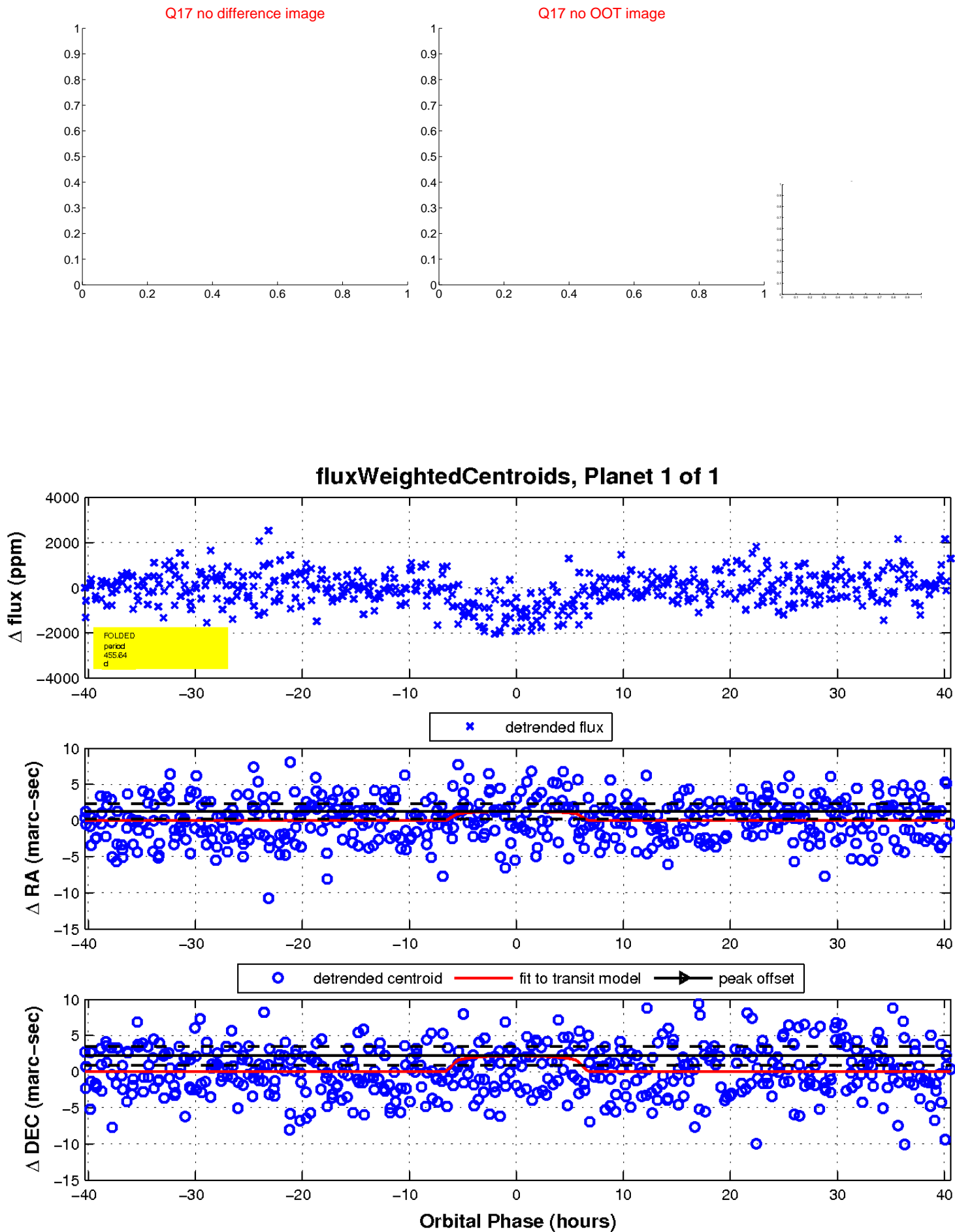
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: 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.



UKIRT Image

Declination

