

KIC 010005646

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})
010005646-01	OBS	No	378.583980	182.622491	169.3	16.846	9.2	9.3	1.02	6177	1.45	1.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010005646-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—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.

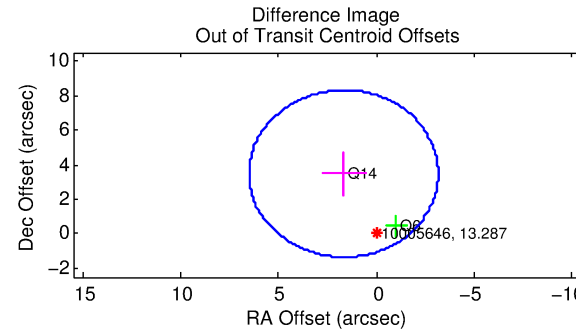
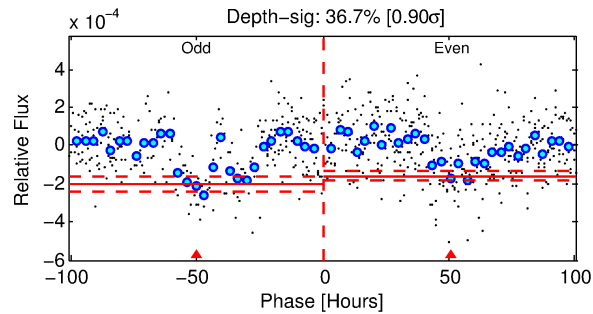
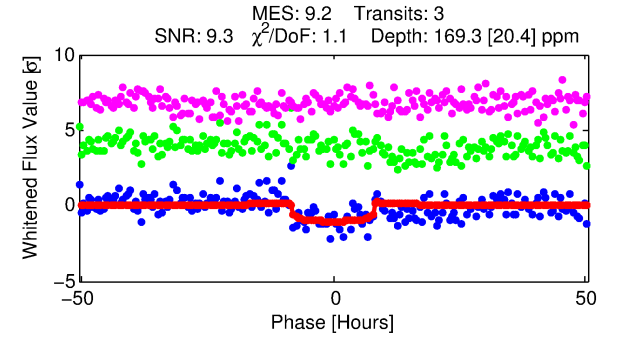
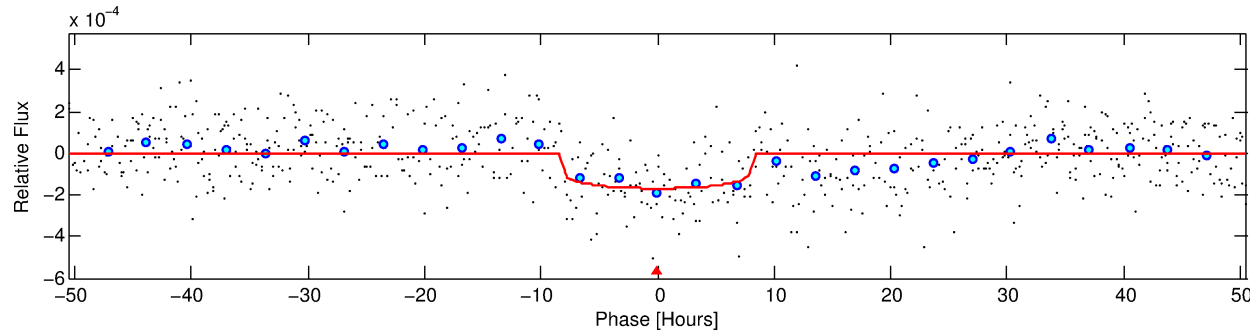
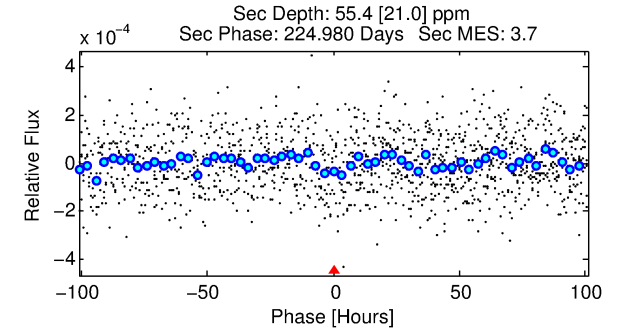
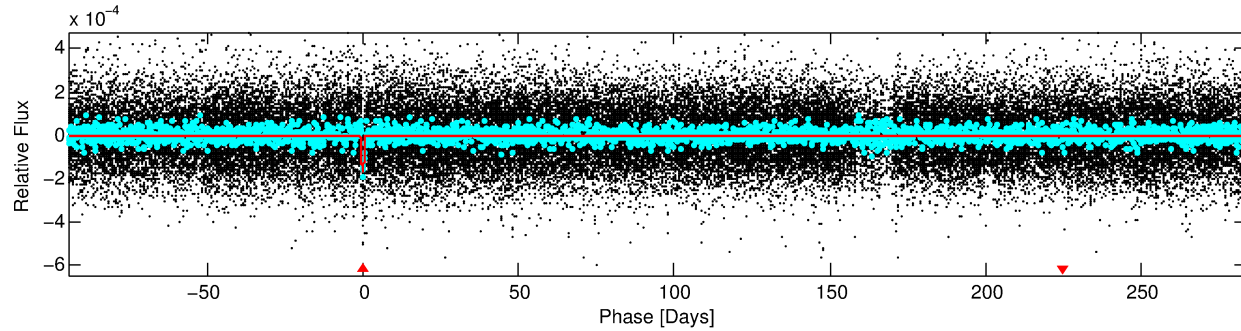
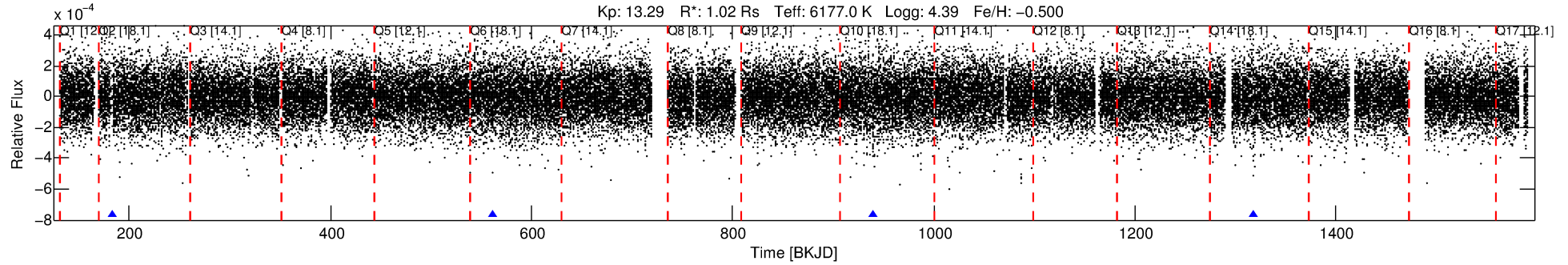
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010005646-01

No Significant Match Found

DV One-Page Summary

KIC: 10005646 Candidate: 1 of 1 Period: 378.584 d



DV Fit Results:

Period = 378.58398 [0.01566] d
Epoch = 182.6225 [0.0351] BKJD
Rp/R* = 0.0131 [0.0037]
a/R* = 111.96 [166.92]
b = 0.78 [0.77]
Seff = 1.36 [0.38]
Teq = 275 [19] K
Rp = 1.45 [0.51] Re
a = 0.9956 [0.1720] AU
Ag = 14423.89 [10534.47] [1.37σ]
Teff = 4664 [812] K [5.41σ]

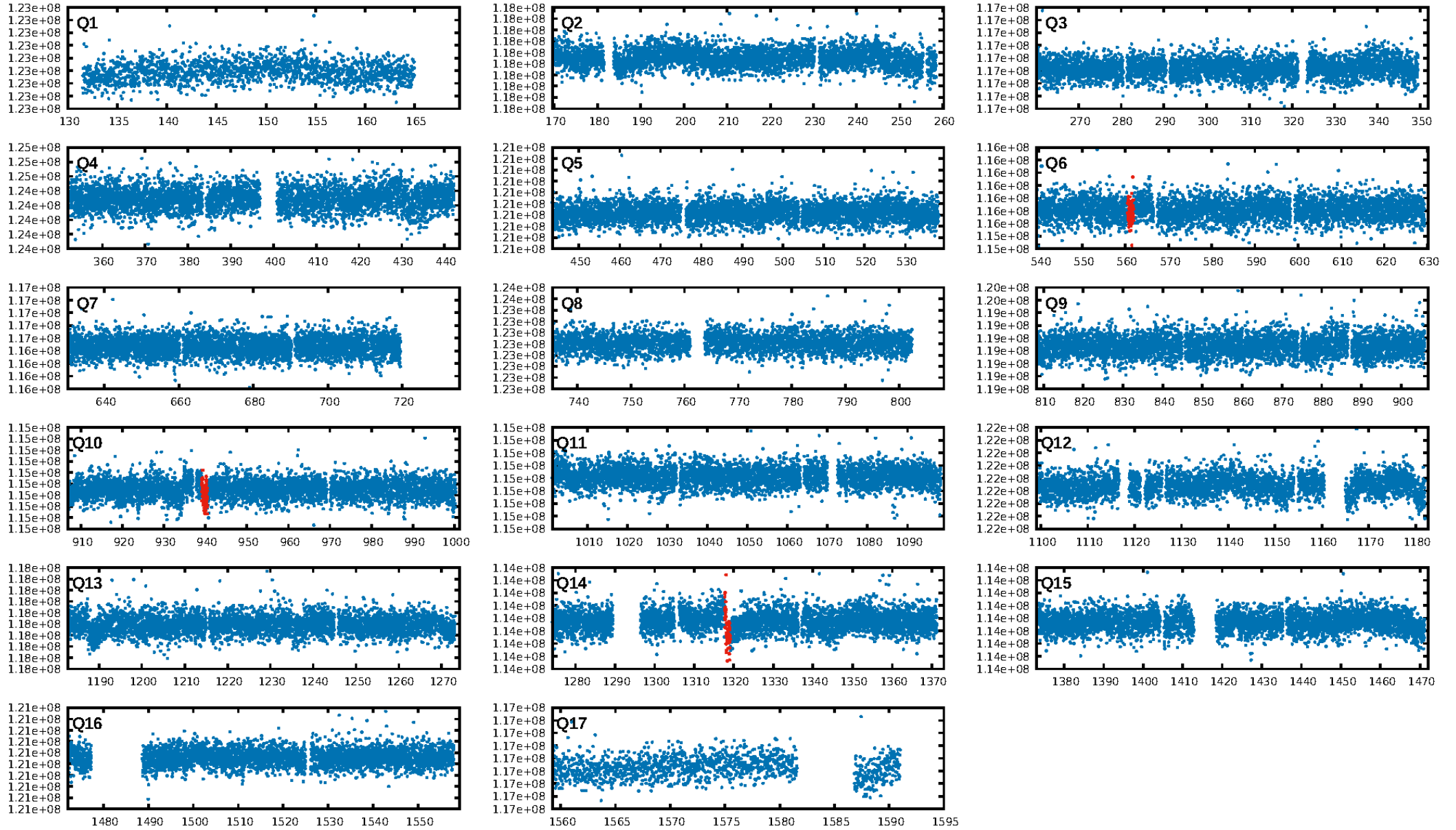
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.1%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 1.42e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.989
Centroid-sig: 0.5%
Centroid-so: 3.598 arcsec [2.09σ]
OotOffset-rm: 3.861 arcsec [2.40σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-rm: 3.507 arcsec [8.72σ]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

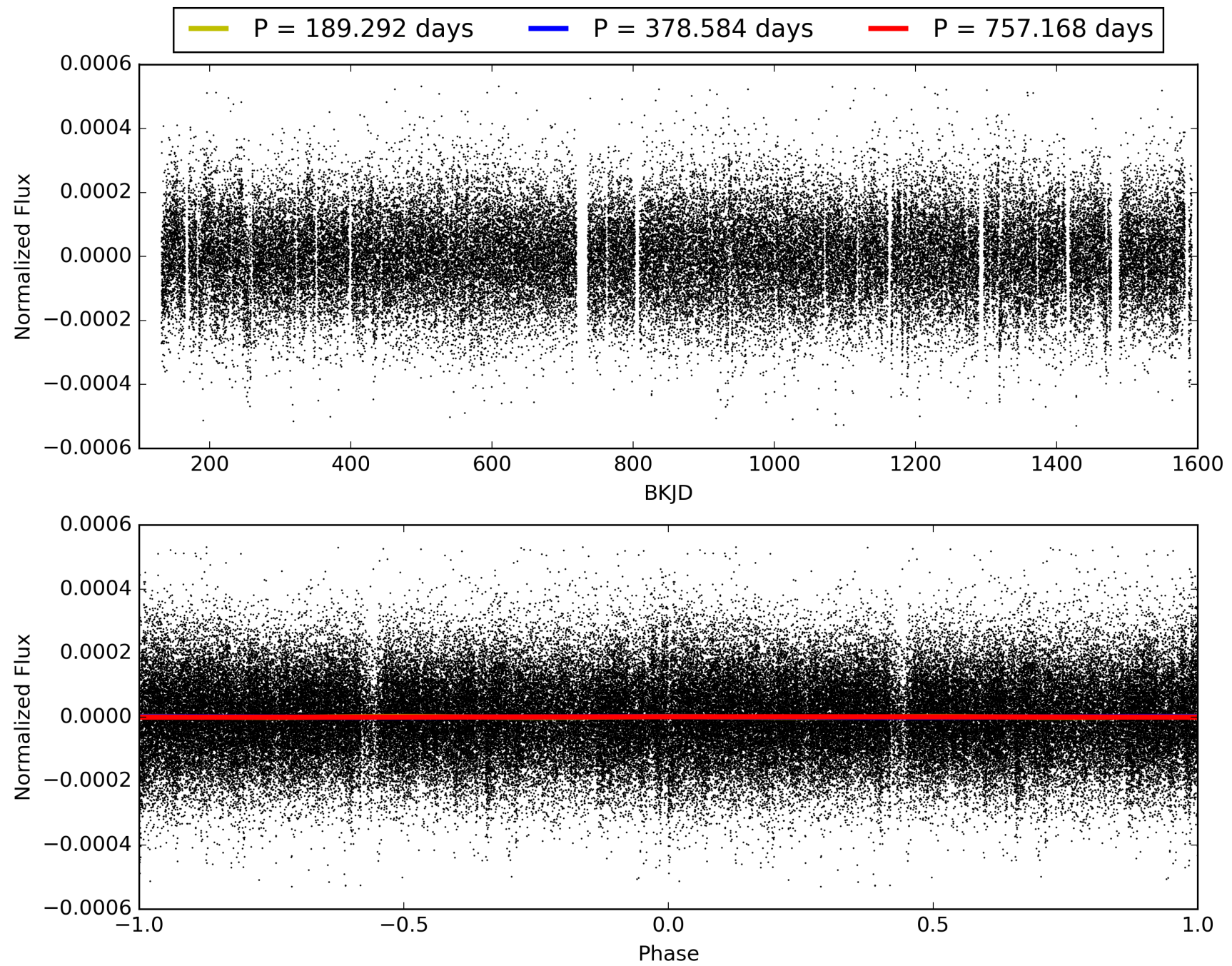
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:45:58 Z

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

TCE 010005646-01, PDC Light Curves

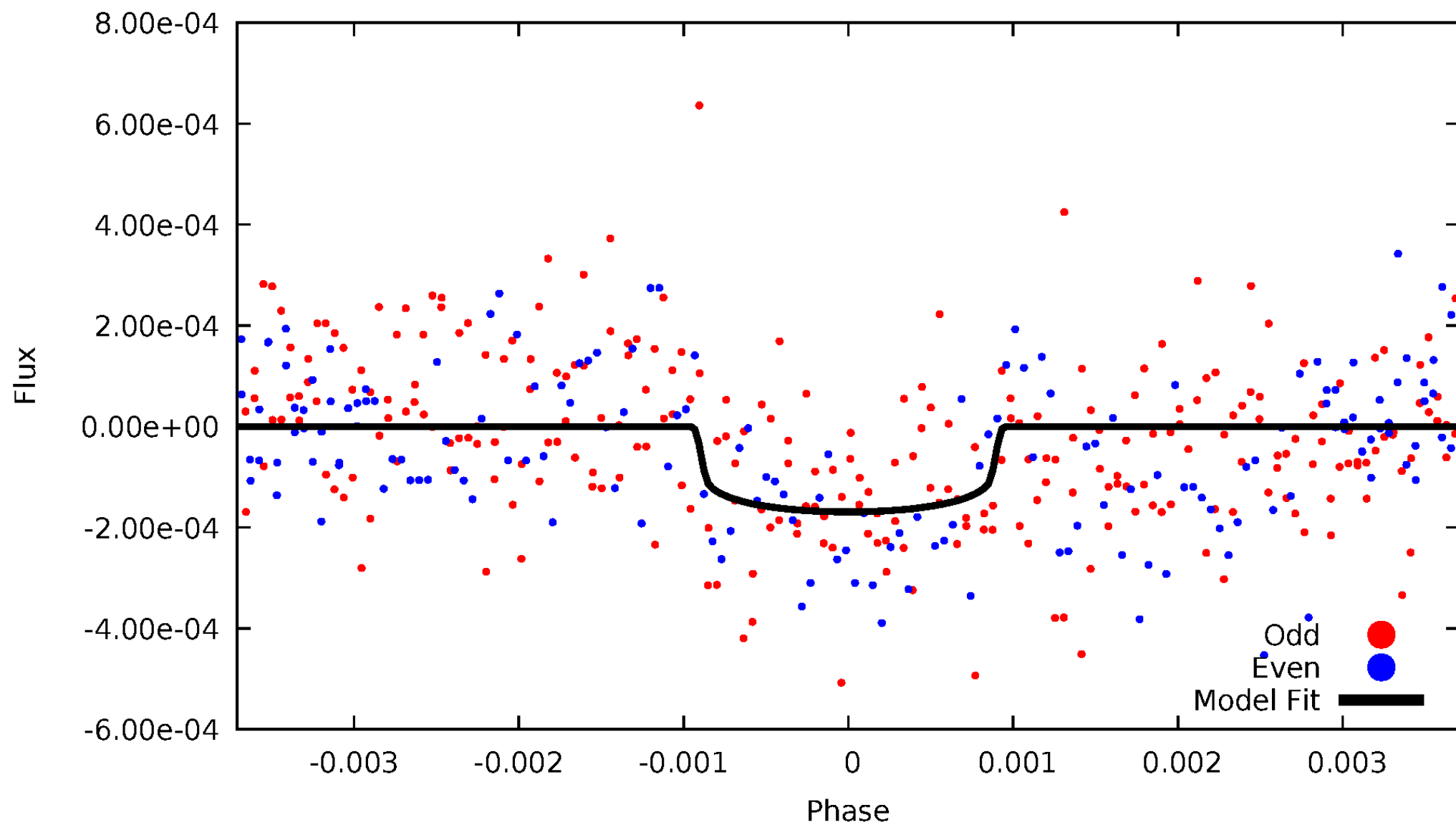


TCE 010005646-01



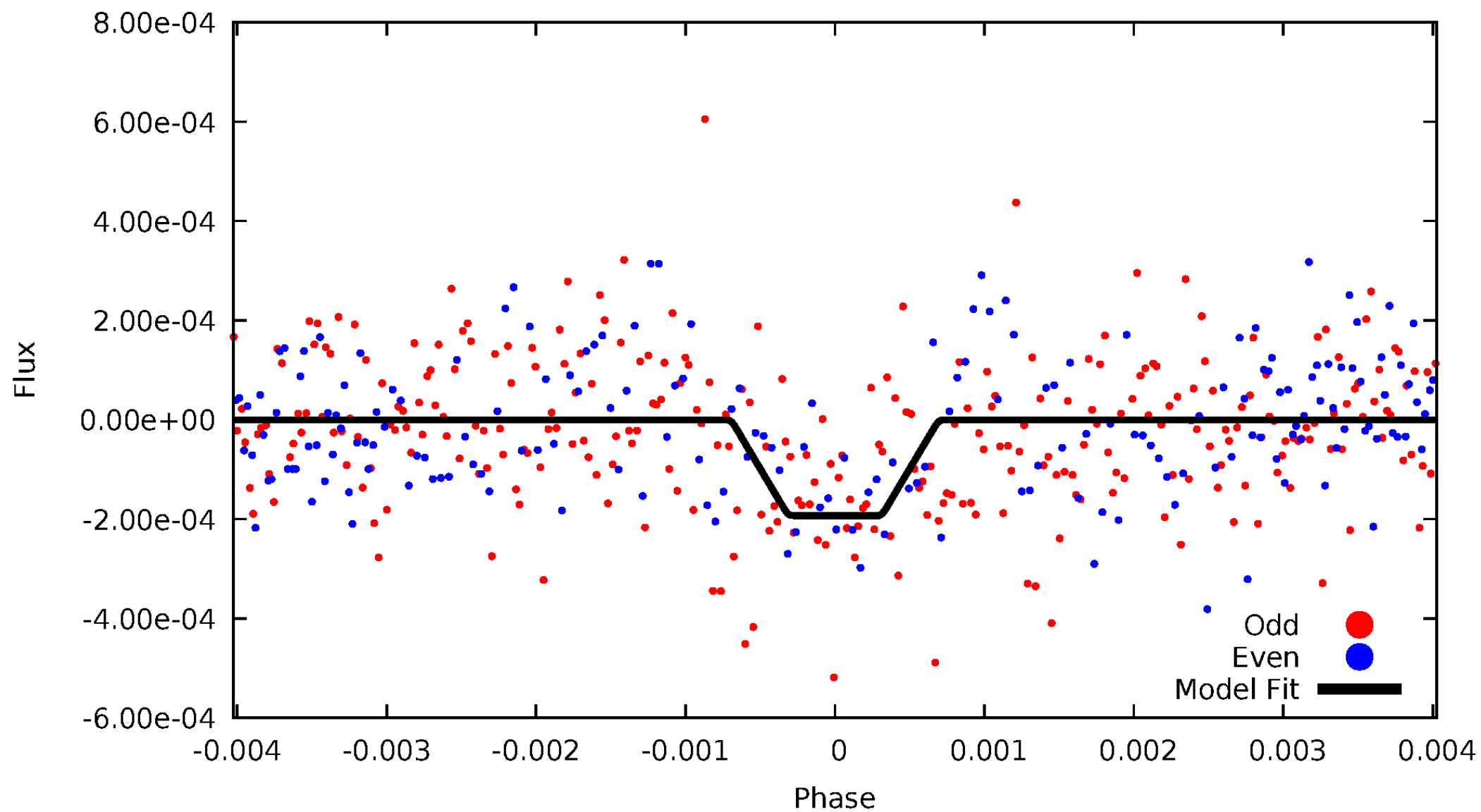
DV Odd/Even

TCE 010005646-01



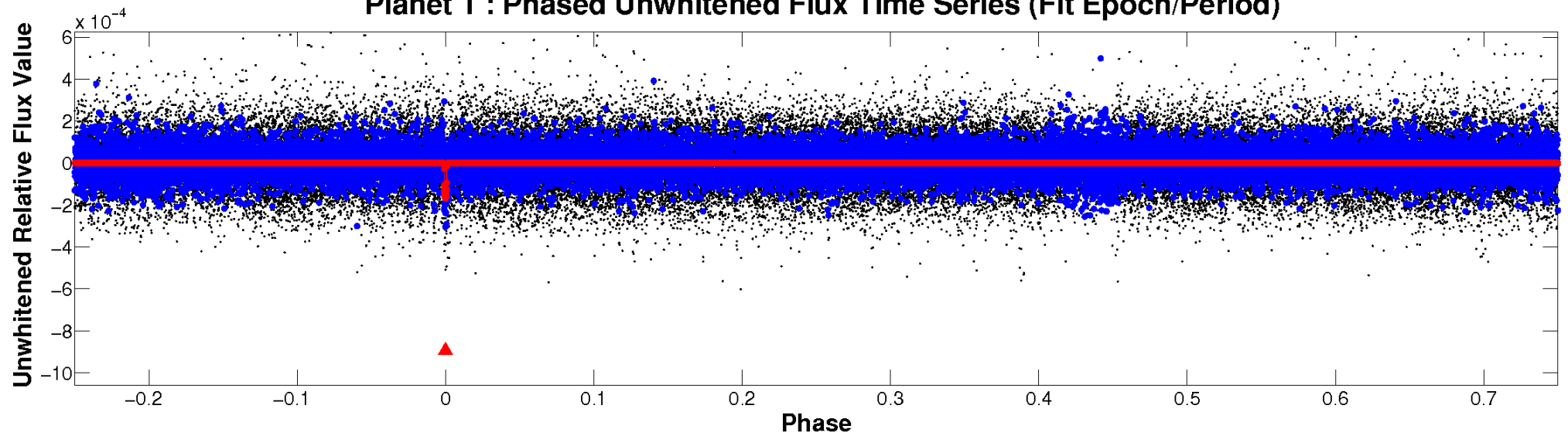
ALT Odd/Even

TCE 010005646-01

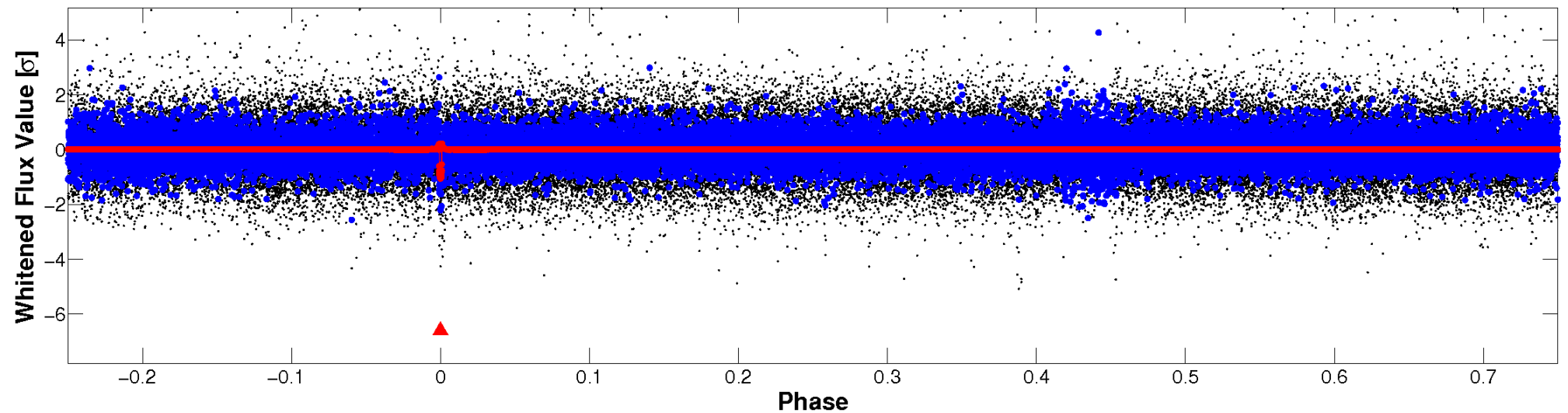


Non-Whitened Vs. Whitened Light Curve

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



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



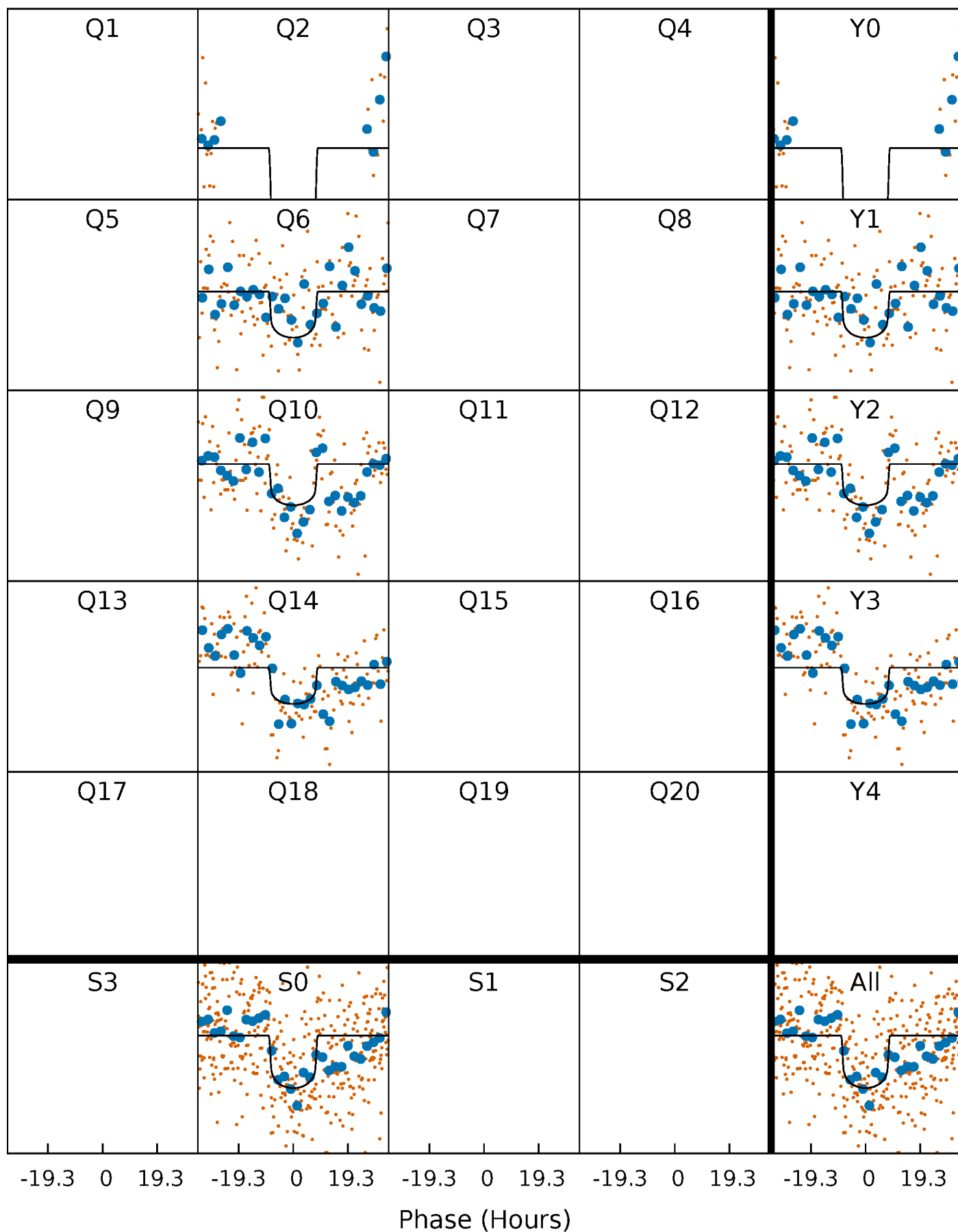
PDC Quarter-Phased Transit Curves

TCE 010005646-01 P=378.583980 Days $T_0=182.622491$ (BKJD)



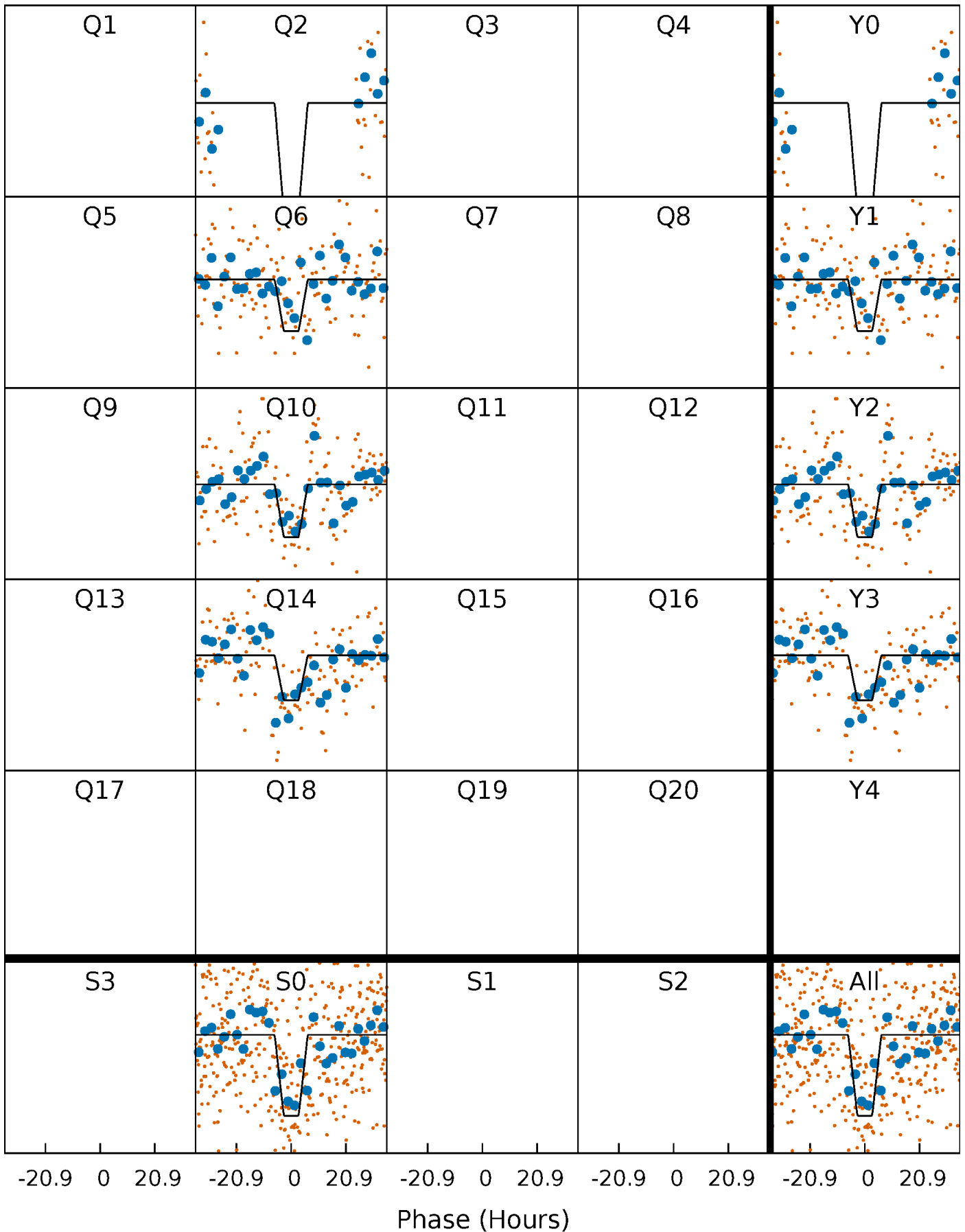
DV Quarter-Phased Transit Curves

TCE 010005646-01 P=378.583980 Days $T_0=182.622491$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

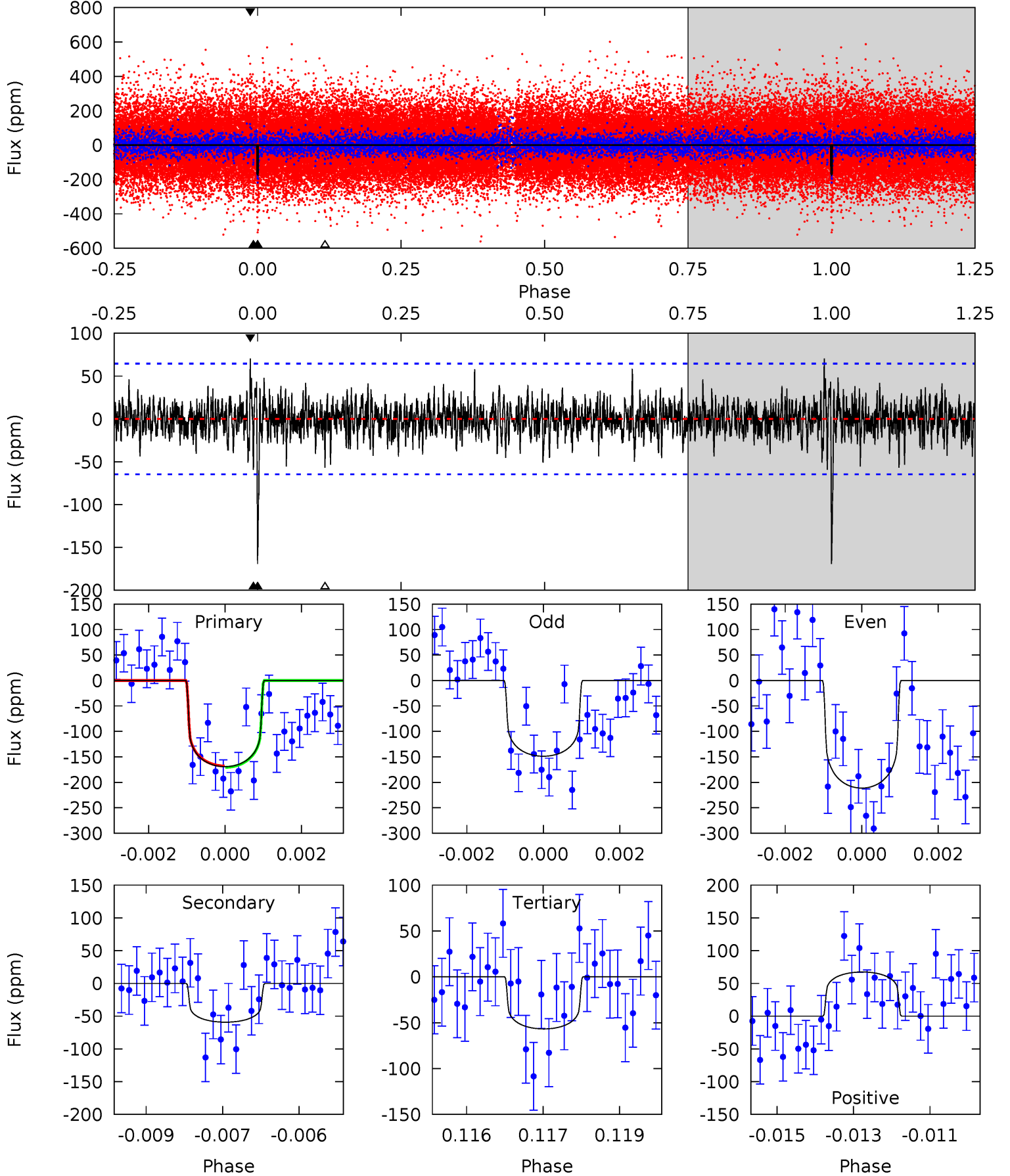
TCE 010005646-01 P=378.558944 Days $T_0=182.684640$ (BKJD)



DV Model-Shift Uniqueness Test

010005646-01, $P = 378.583980$ Days, $E = 182.622491$ Days

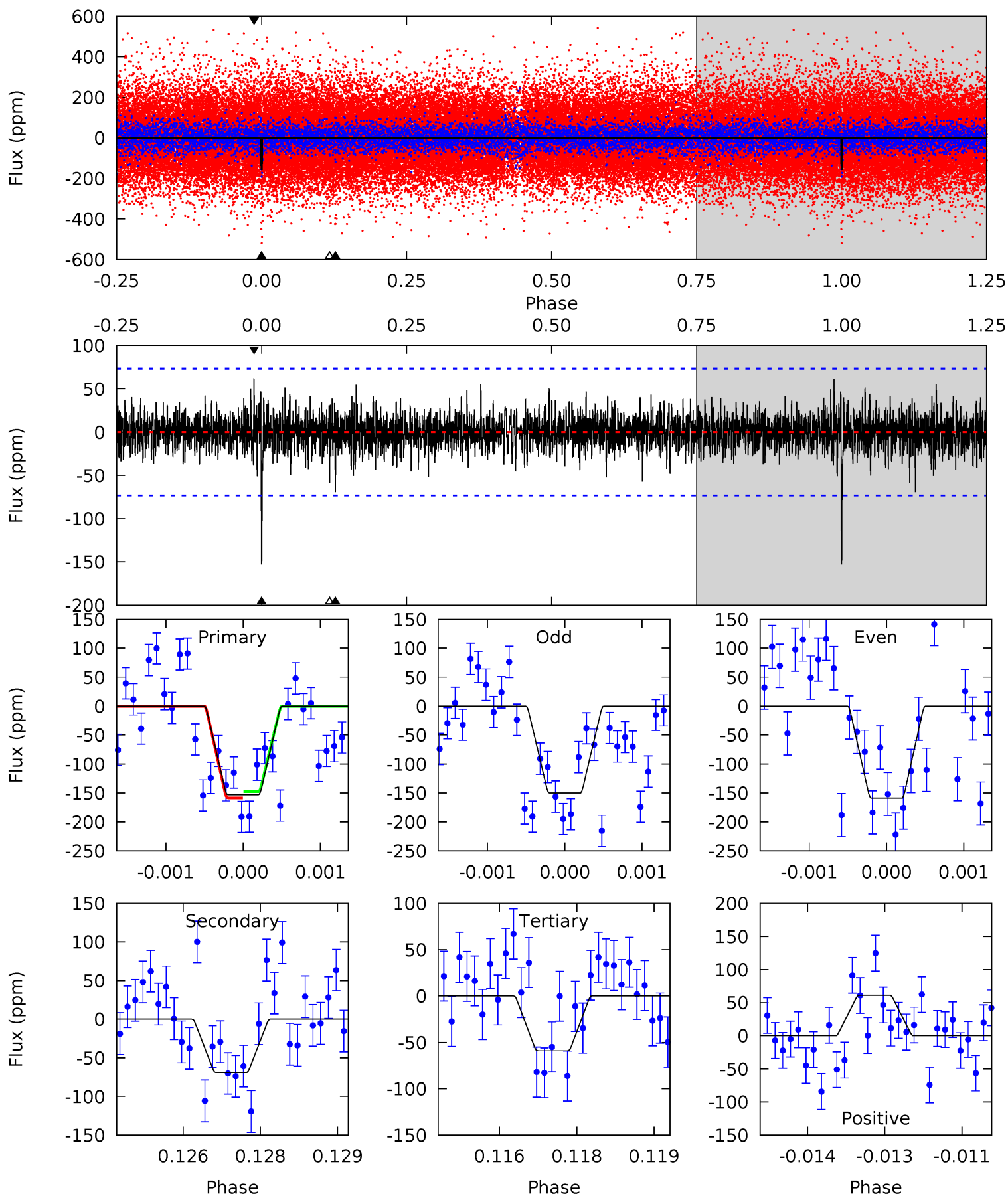
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.0	4.90	4.70	5.58	5.34	3.11	1.26	9.30	8.43	0.20	-0.67	2.42	0.82	0.29	0.11



Alt Model-Shift Uniqueness Test

010005646-01, $P = 378.558944$ Days, $E = 182.684640$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	5.08	4.34	4.50	5.39	3.19	1.12	6.90	6.74	0.74	0.58	0.30	0.96	0.29	0.40



Stellar Parameters For KIC 010005646

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6177^{+168}_{-187}	$4.387^{+0.112}_{-0.138}$	$-0.500^{+0.300}_{-0.300}$	$1.016^{+0.208}_{-0.139}$	$0.918^{+0.117}_{-0.098}$	$1.233^{+0.627}_{-0.491}$
	+3%/-3%	+3%/-3%	+60%/-60%	+20%/-14%	+13%/-11%	+51%/-40%
Source	PHO1	FLK73	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 010005646-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-59 ± 12	$1.45^{+0.42}_{-0.46}$	386^{+21}_{-20}	4858^{+866}_{-505}	15207^{+17766}_{-6343}
Alt.	-69 ± 14	$1.55^{+0.45}_{-0.43}$	385^{+23}_{-19}	4892^{+725}_{-509}	15987^{+14307}_{-7120}

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

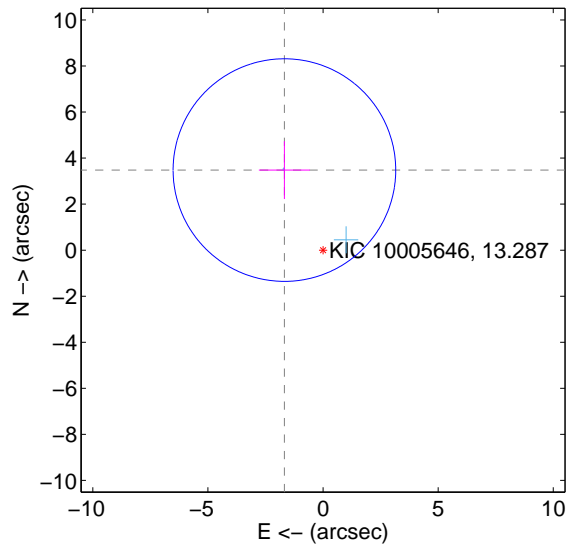
Supplemental centroid analysis for 010005646-01. Kepler magnitude: 13.29. Transit SNR 9.30

There are 2 quarters with good PRF difference image offsets

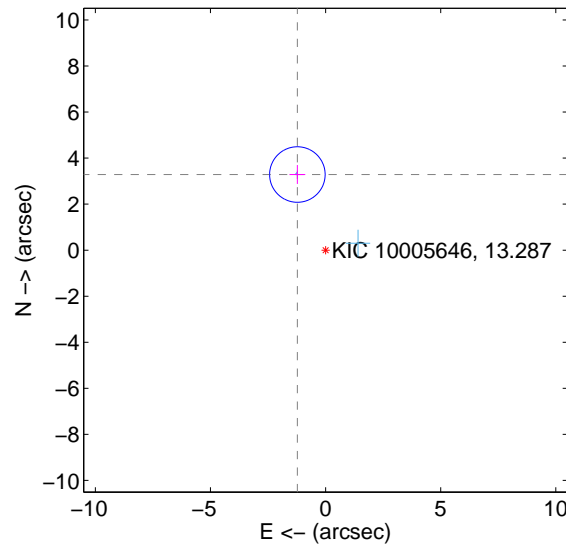
The direct PRF centroid is offset from the target star catalog position by about 0.49 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.861 ± 1.611	2.40	1.677 ± 1.109	3.478 ± 1.255
PRF-fit source offset from KIC position	3.507 ± 0.402	8.72	1.225 ± 0.345	3.286 ± 0.409
photometric centroid source offset	3.60 ± 1.72	2.09	3.45 ± 1.75	1.02 ± 1.32

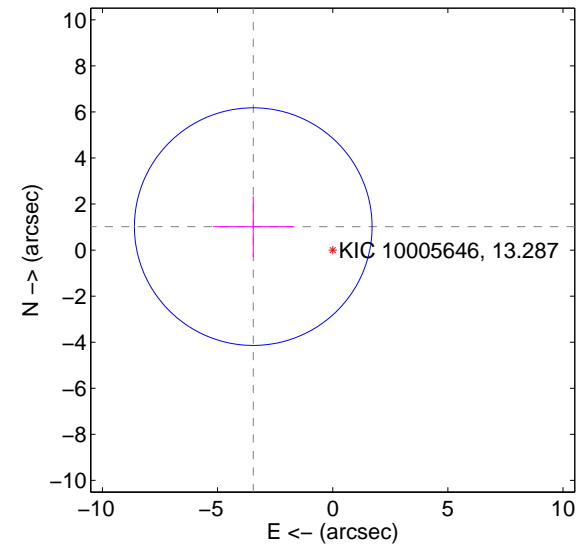
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

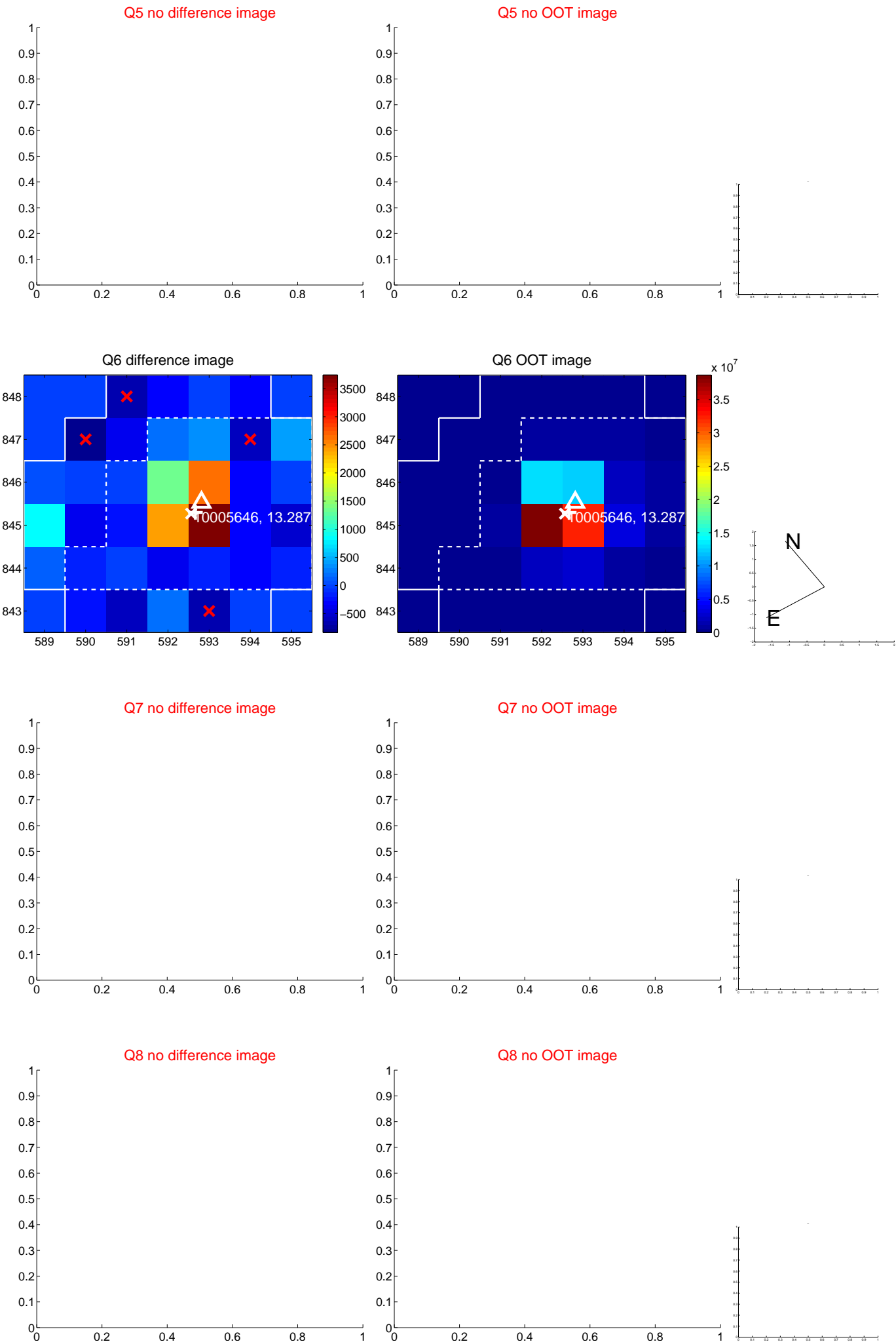


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



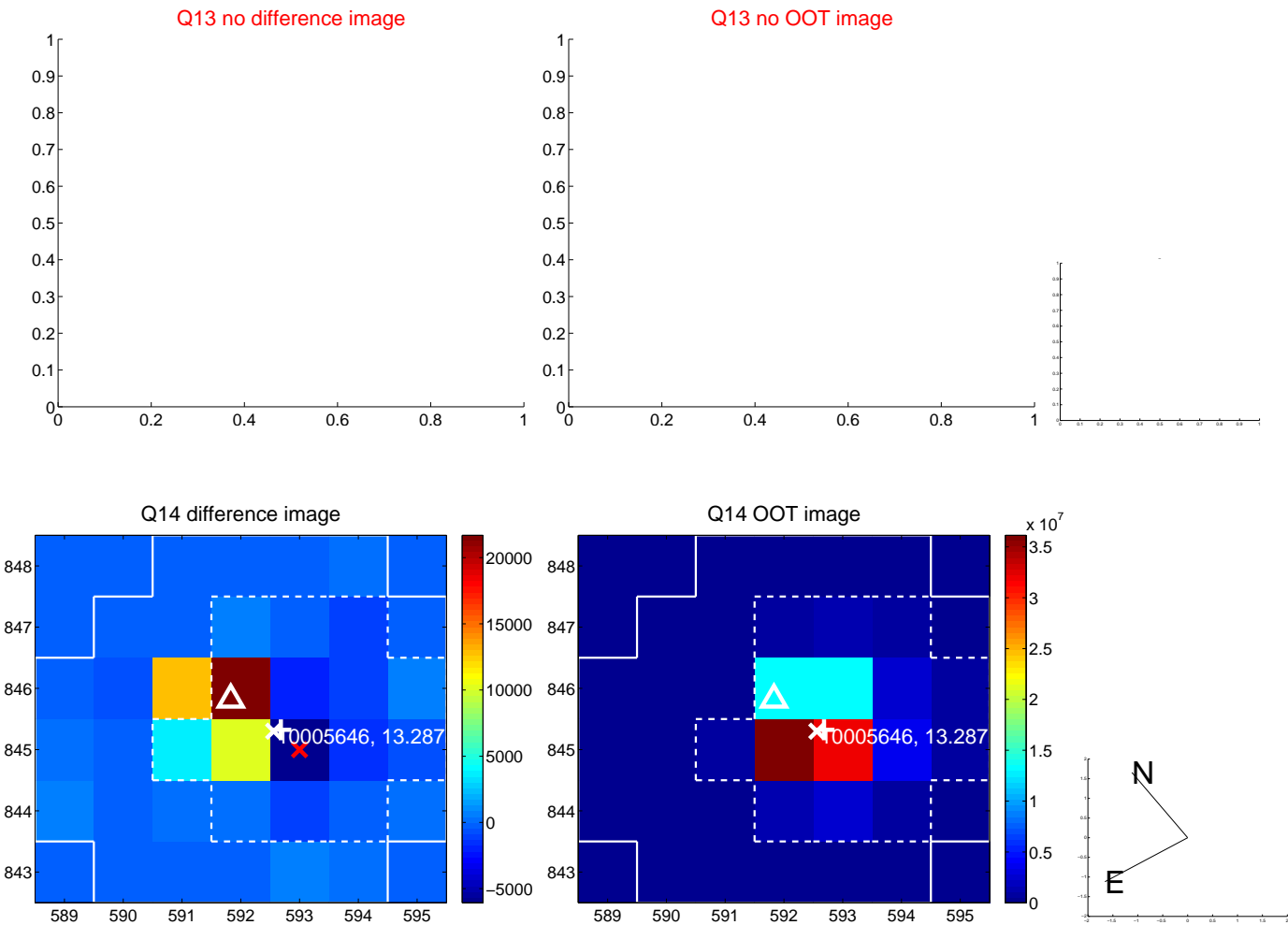
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



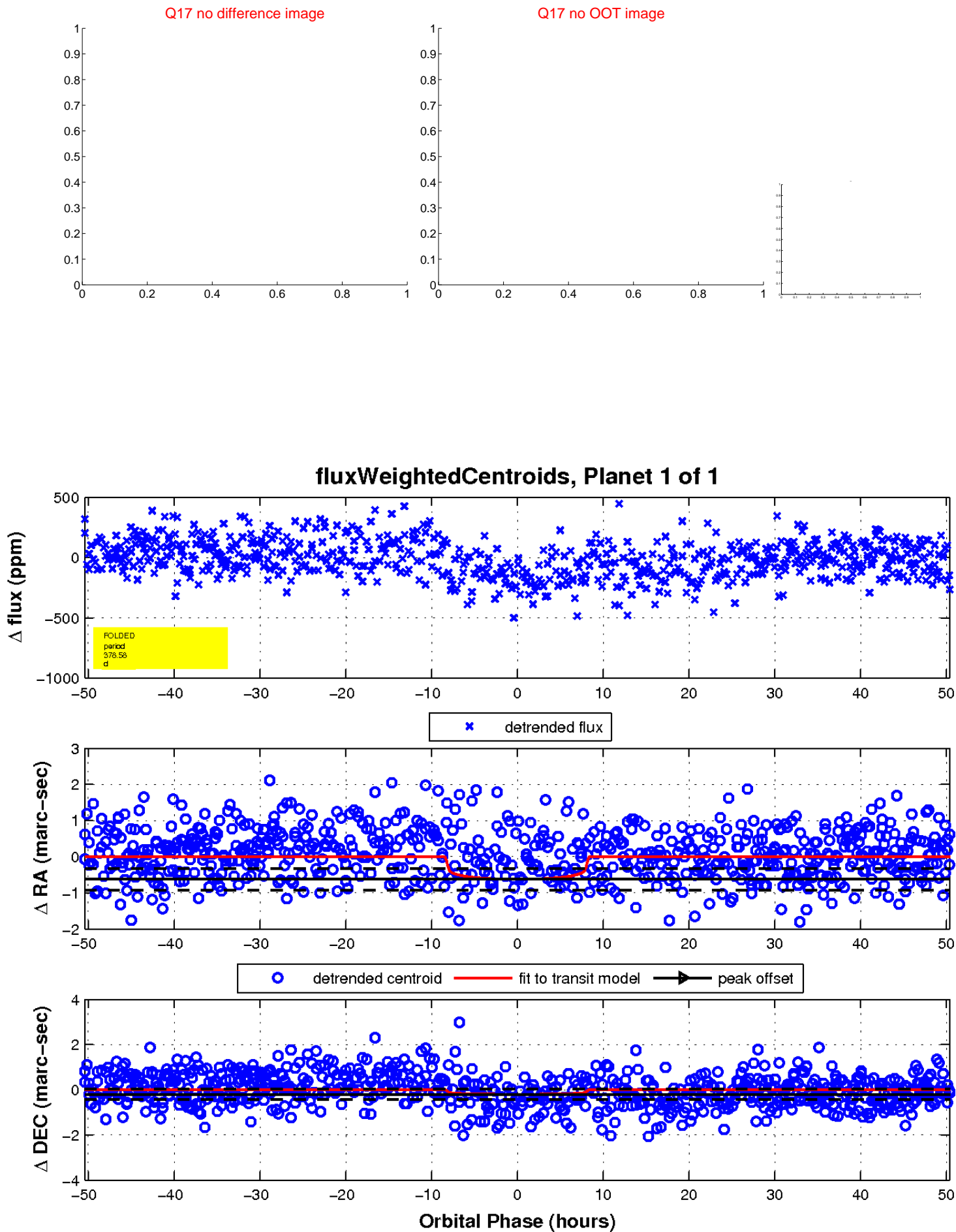
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

