

KIC 003631856

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})
003631856-01	OBS	No	6.887319	131.531072	164.1	15.321	7.2	7.4	1.29	5668	1.84	340.44

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003631856-01	OBS	FP	0.00	1	0	0	0	LPP_DV—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.

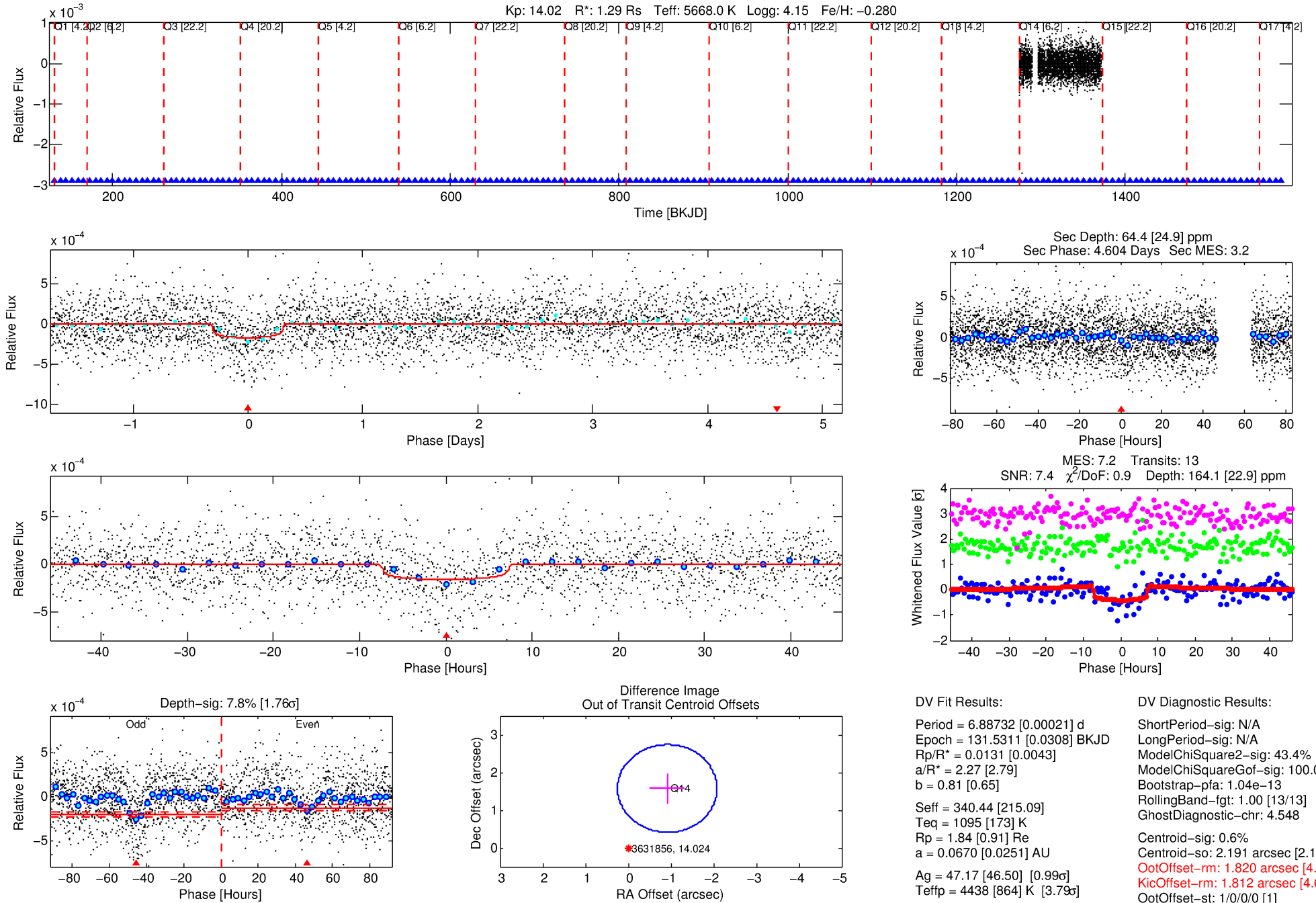
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003631856-01

No Significant Match Found

DV One-Page Summary

KIC: 3631856 Candidate: 1 of 1 Period: 6.887 d



DV Fit Results:

Period = 6.88732 [0.00021] d
 Epoch = 131.5311 [0.0308] BKJD
 Rp/R* = 0.0131 [0.0043]
 a/R* = 2.27 [2.79]
 b = 0.81 [0.65]
 Seff = 340.44 [215.09]
 Teq = 1095 [173] K
 Rp = 1.84 [0.91] Re
 a = 0.0670 [0.0251] AU
 Ag = 47.17 [46.50] [0.99 σ]
 Tefp = 4438 [864] K [3.79 σ]

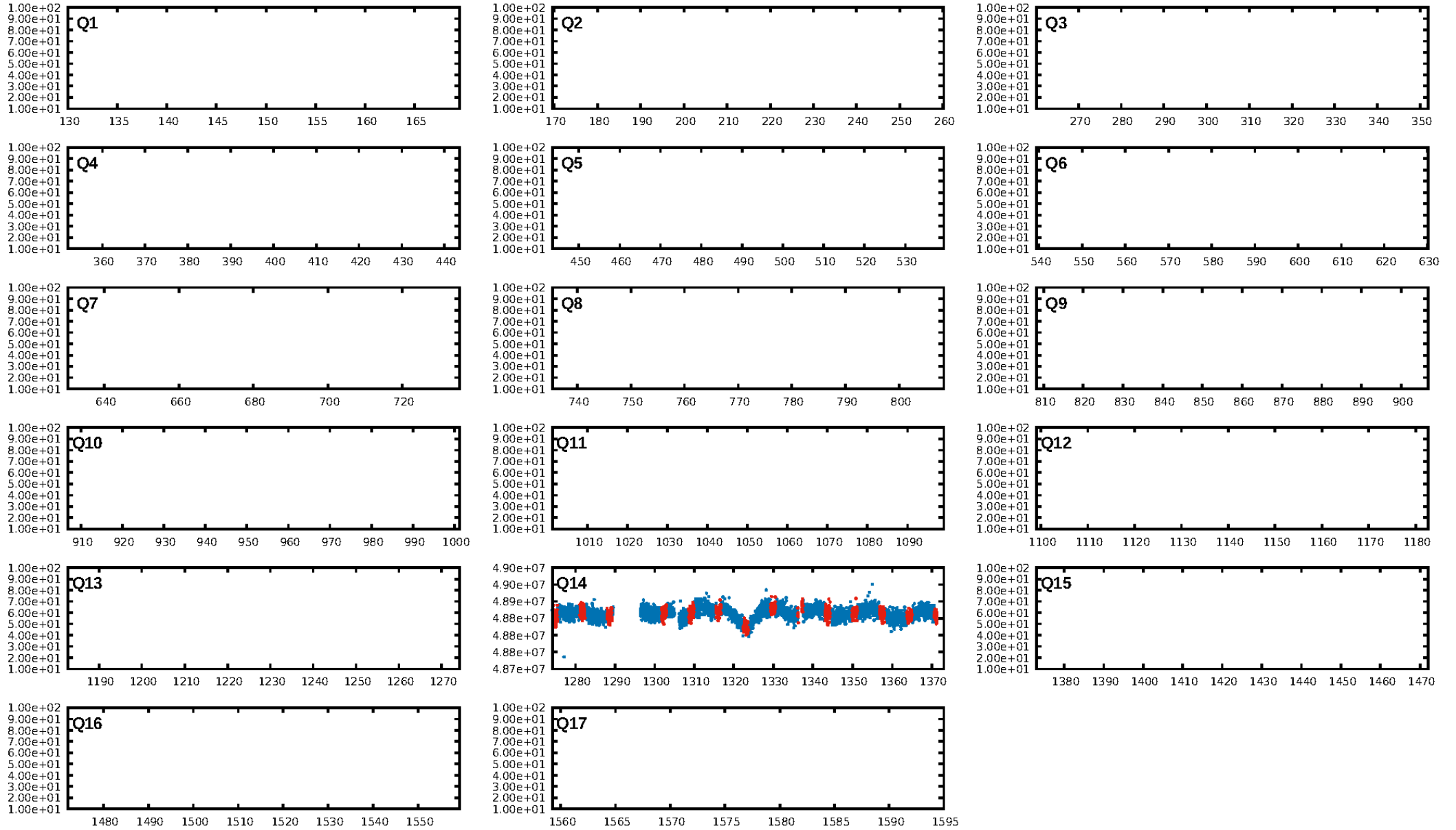
DV Diagnostic Results:

ShortPeriod-sig: N/A
 LongPeriod-sig: N/A
 ModelChiSquare2-sig: 43.4%
 ModelChiSquareGof-sig: 100.0%
 Bootstrap-pfa: 1.04e-13
 RollingBand-fgt: 1.00 [13/13]
 GhostDiagnostic-chr: 4.548
 Centroid-sig: 0.6%
 Centroid-so: 2.191 arcsec [2.14 σ]
 OotOffset-rm: 1.820 arcsec [4.69 σ]
 KicOffset-rm: 1.812 arcsec [4.68 σ]
 OotOffset-st: 1/0/0/0 [1]
 KicOffset-st: 1/0/0/0 [1]
 DiffImageQuality-fgm: 1.00 [1/1]
 DiffImageOverlap-fno: 1.00 [1/1]

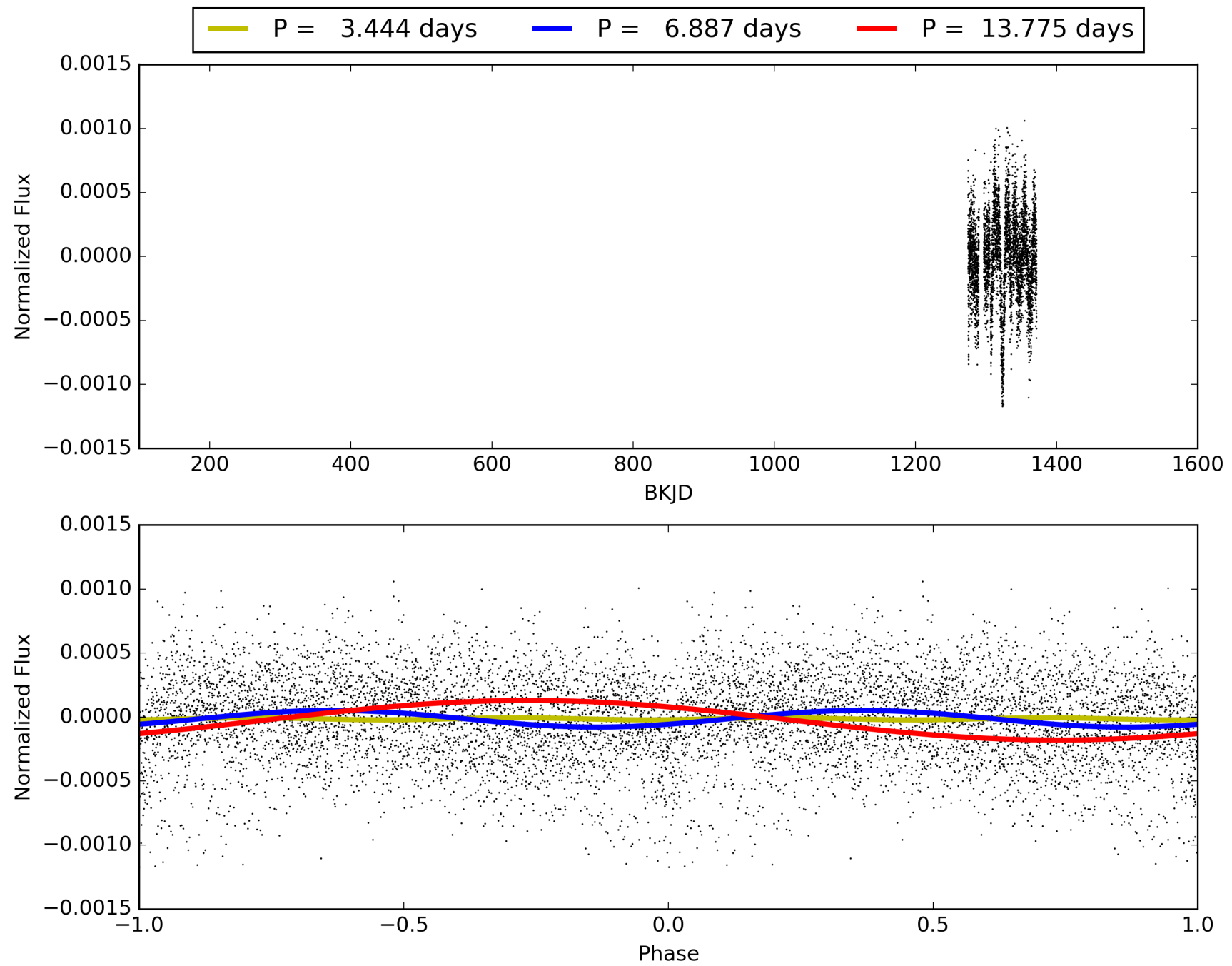
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:48:56 Z

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

TCE 003631856-01, PDC Light Curves

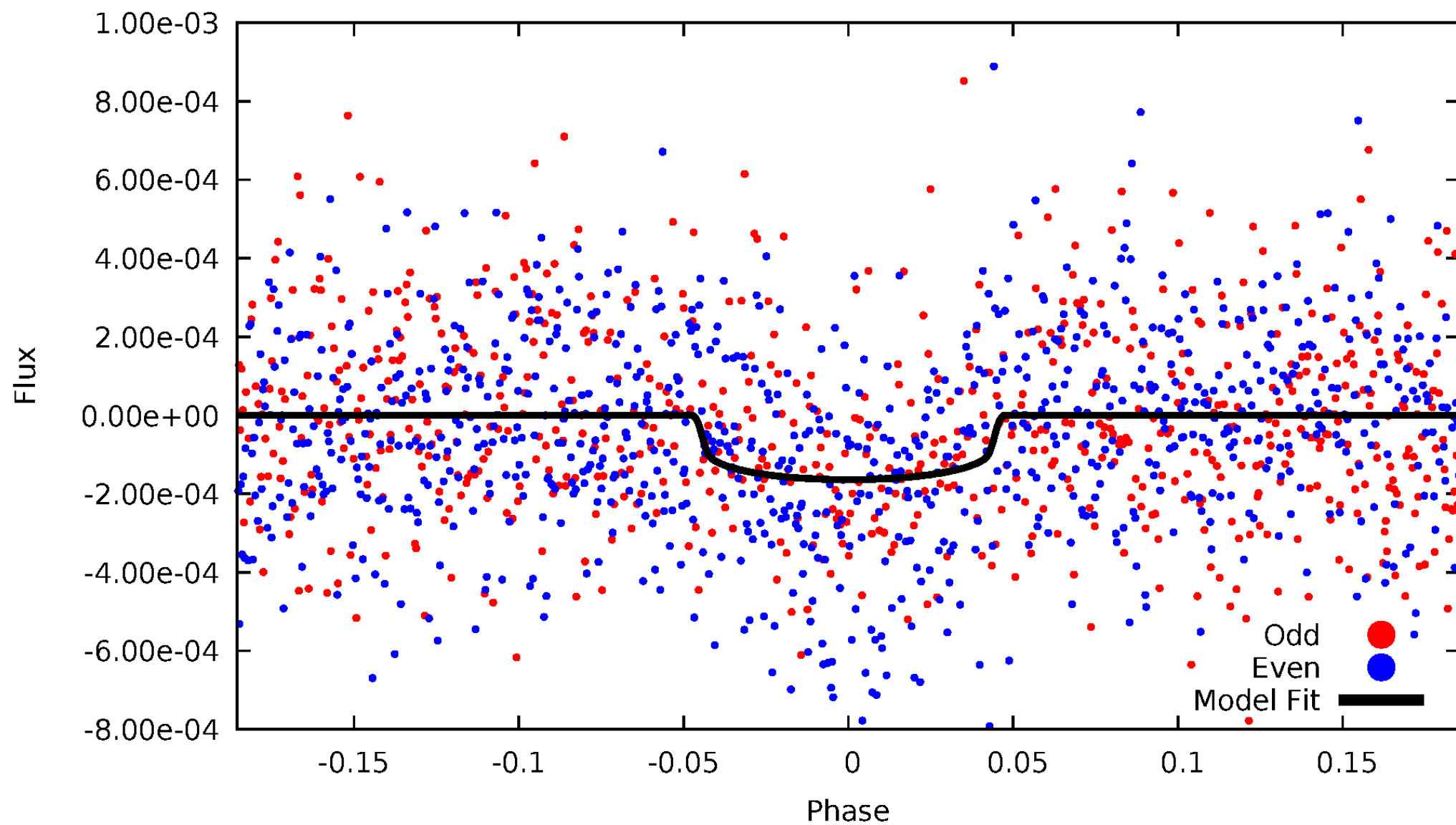


TCE 003631856-01



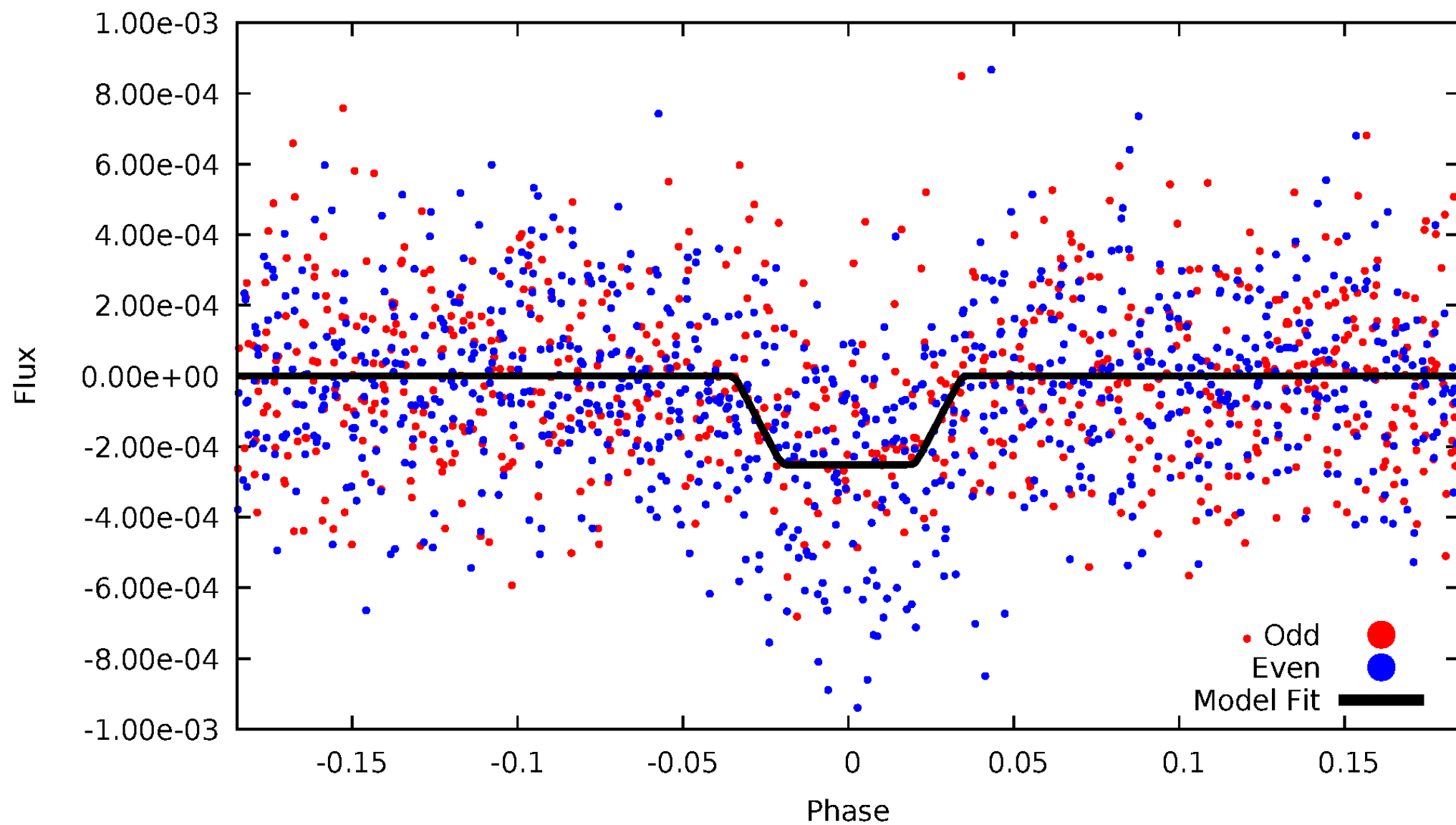
DV Odd/Even

TCE 003631856-01



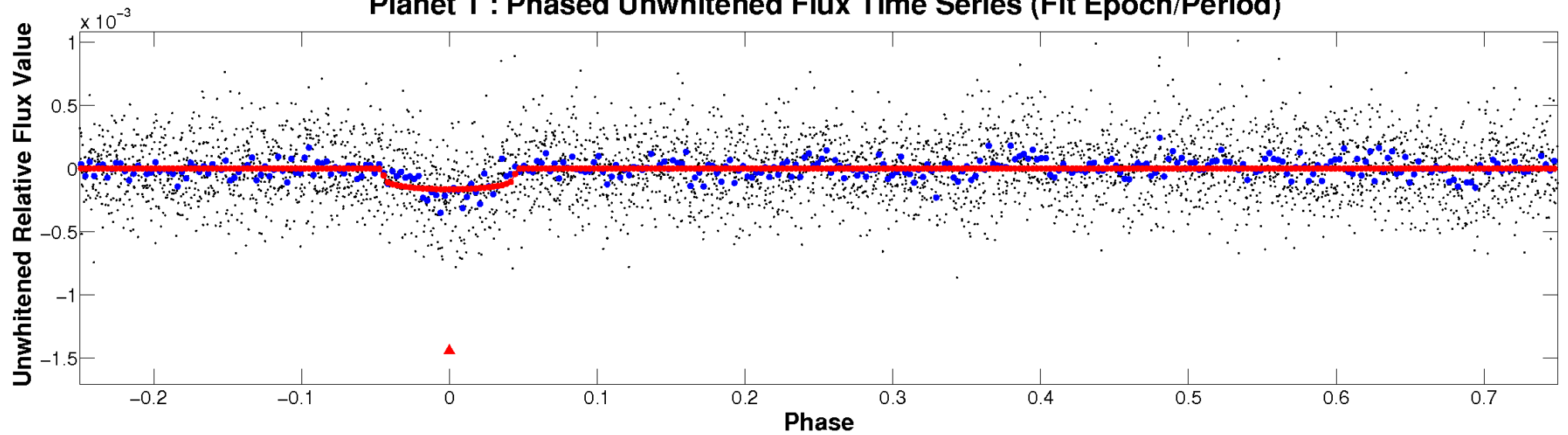
ALT Odd/Even

TCE 003631856-01

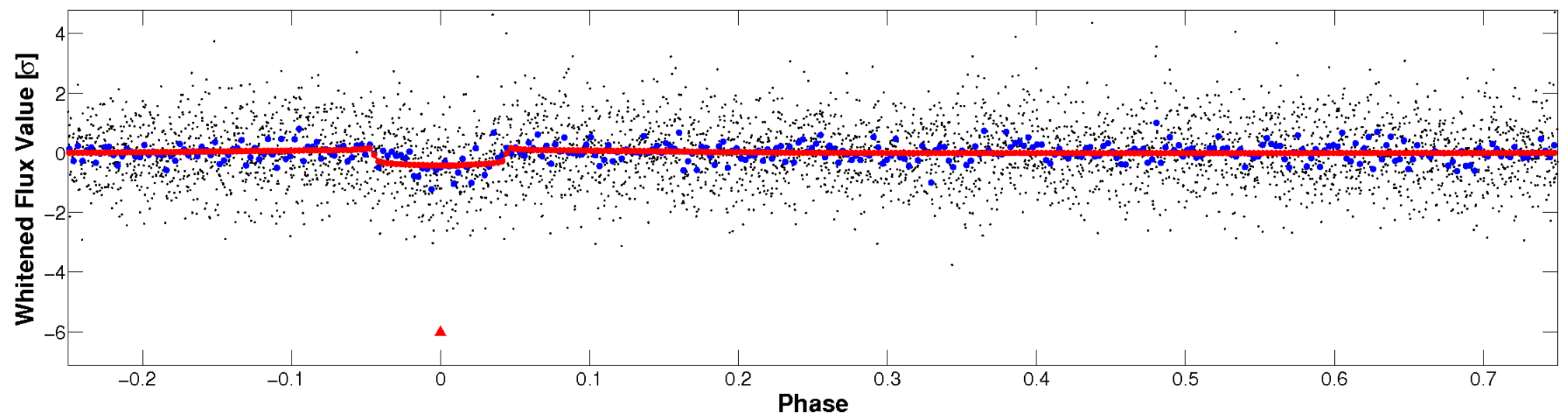


Non-Whitened Vs. Whitened Light Curve

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

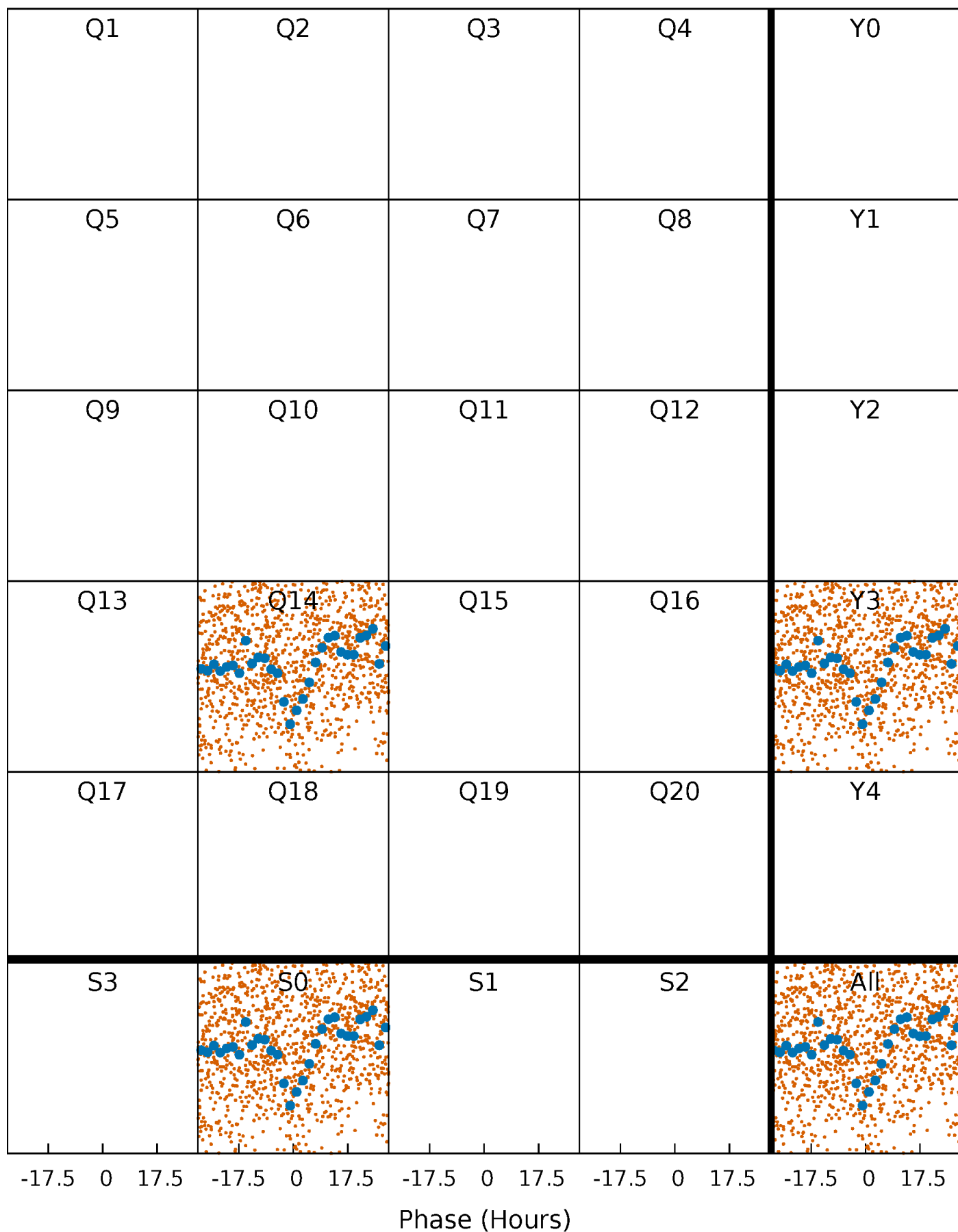


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



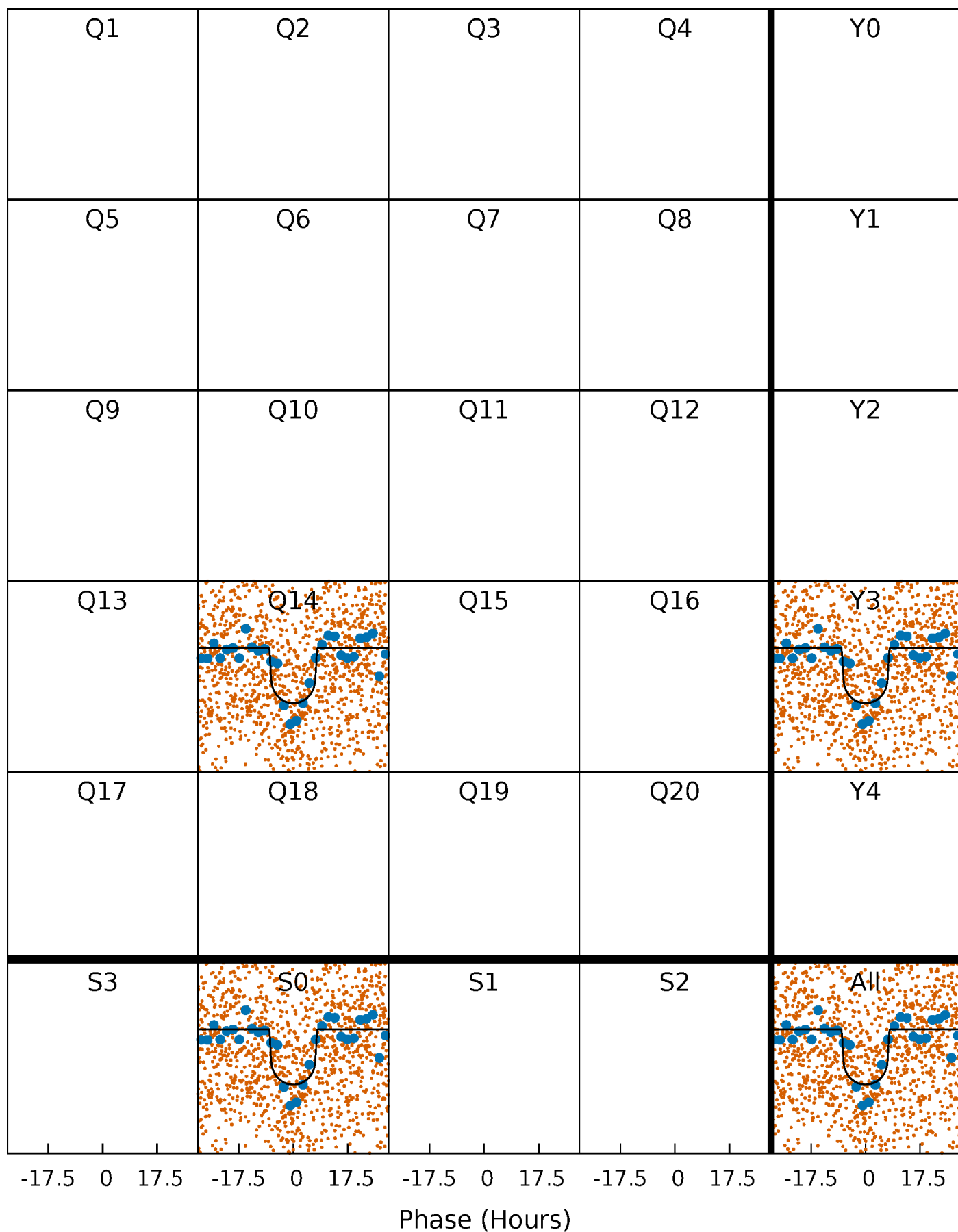
PDC Quarter-Phased Transit Curves

TCE 003631856-01 P= 6.887319 Days $T_0=131.531072$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 003631856-01 P= 6.887319 Days $T_0=131.531072$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

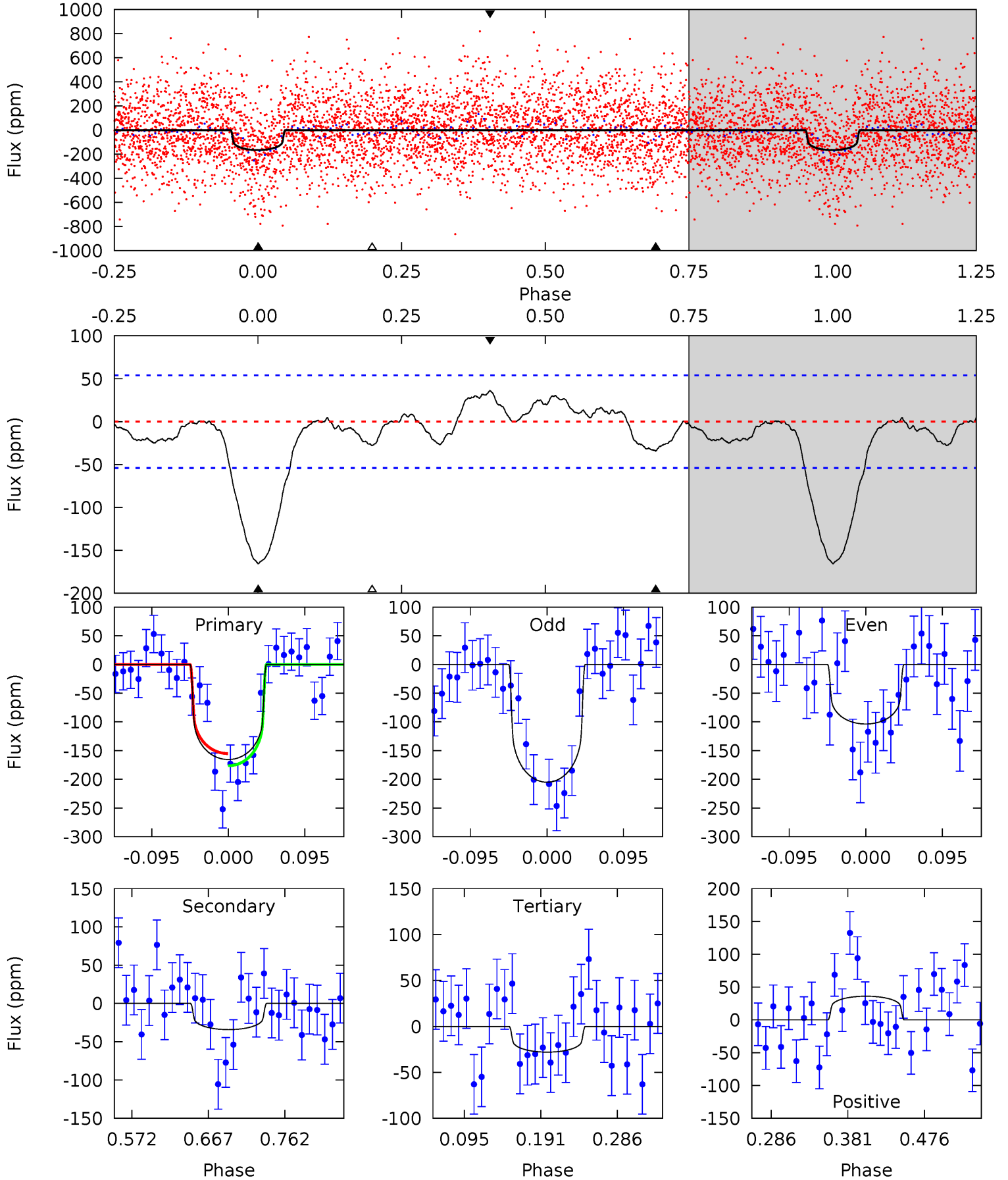
TCE 003631856-01 P= 6.886936 Days $T_0=131.604812$ (BKJD)



DV Model-Shift Uniqueness Test

003631856-01, P = 6.887319 Days, E = 131.531072 Days

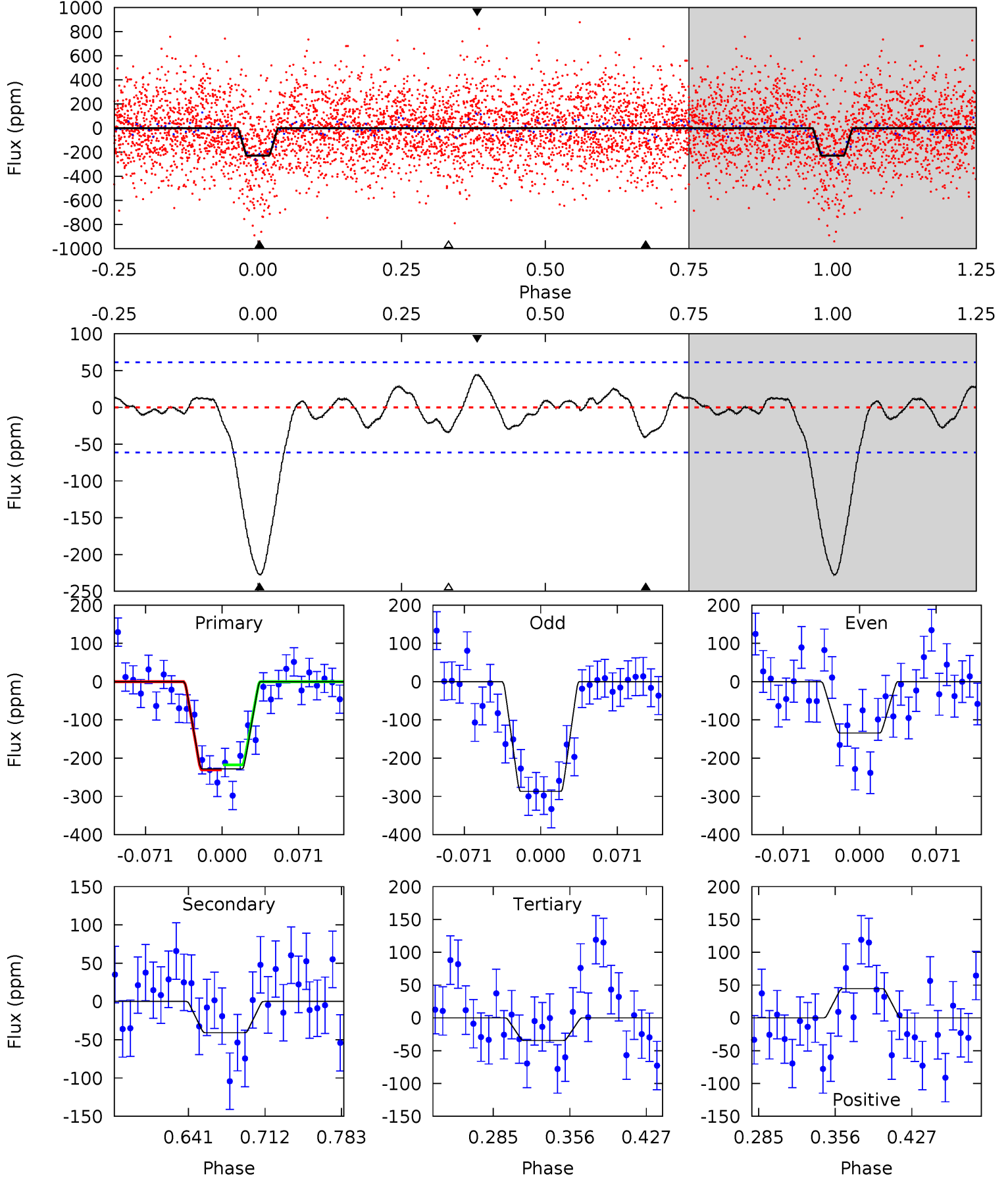
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.0	2.90	2.37	3.05	4.57	1.67	1.45	11.7	11.0	0.53	-0.16	4.17	1.15	0.18	0.90



Alt Model-Shift Uniqueness Test

003631856-01, P = 6.886936 Days, E = 131.604812 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.2	3.08	2.60	3.36	4.64	1.80	1.19	14.6	13.9	0.48	-0.27	5.62	1.14	0.16	0.50



Stellar Parameters For KIC 003631856

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5668^{+186}_{-186}	$4.147^{+0.370}_{-0.199}$	$-0.280^{+0.300}_{-0.250}$	$1.286^{+0.385}_{-0.470}$	$0.848^{+0.117}_{-0.078}$	$0.561^{+1.534}_{-0.289}$
	+3%/-3%	+9%/-5%	+107%/-89%	+30%/-37%	+14%/-9%	+273%/-51%
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 003631856-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-34 ± 12	$1.76^{+0.78}_{-0.65}$	1521^{+128}_{-160}	4026^{+769}_{-499}	26^{+41}_{-15}
Alt.	-41 ± 13	$2.17^{+0.82}_{-0.71}$	1524^{+136}_{-181}	3894^{+571}_{-397}	22^{+26}_{-12}

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

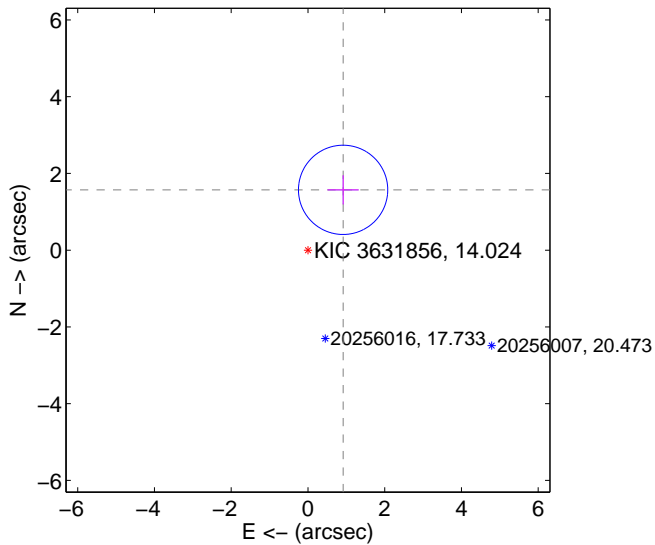
Supplemental centroid analysis for 003631856-01. Kepler magnitude: 14.02. Transit SNR 7.37

There are 1 quarters with good PRF difference image offsets

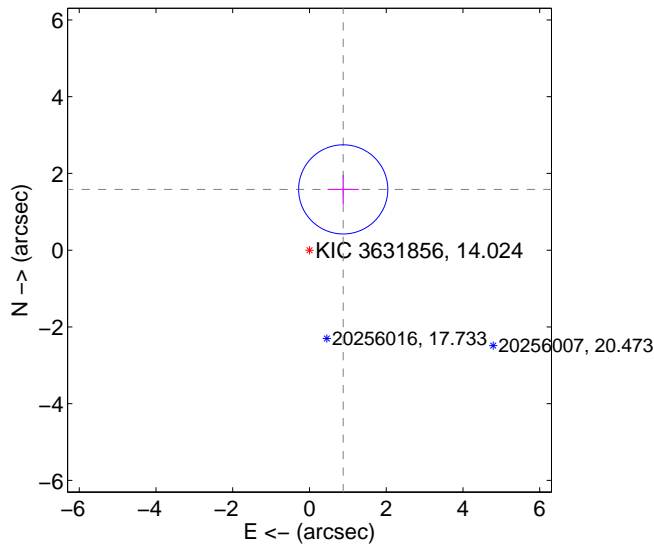
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.820 ± 0.388	4.69	-0.916 ± 0.407	1.572 ± 0.381
PRF-fit source offset from KIC position	1.812 ± 0.387	4.68	-0.880 ± 0.407	1.584 ± 0.381
photometric centroid source offset	2.19 ± 1.02	2.14	-1.06 ± 0.91	1.92 ± 1.05

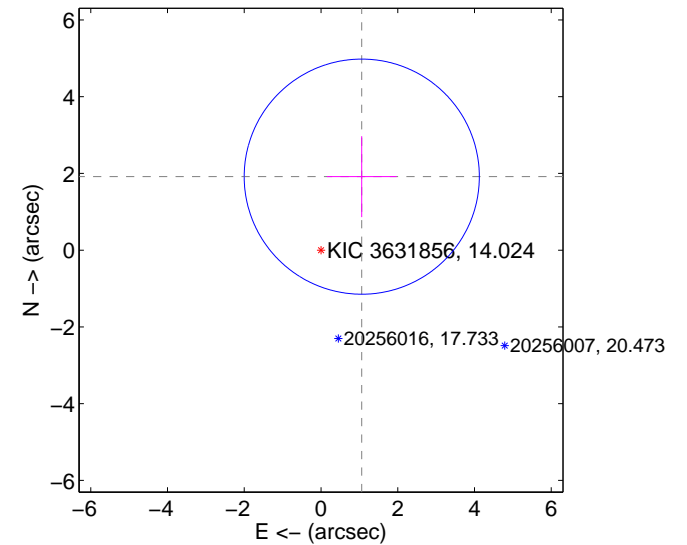
offset from difference PRF-fit to OOT PRF-fit



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.



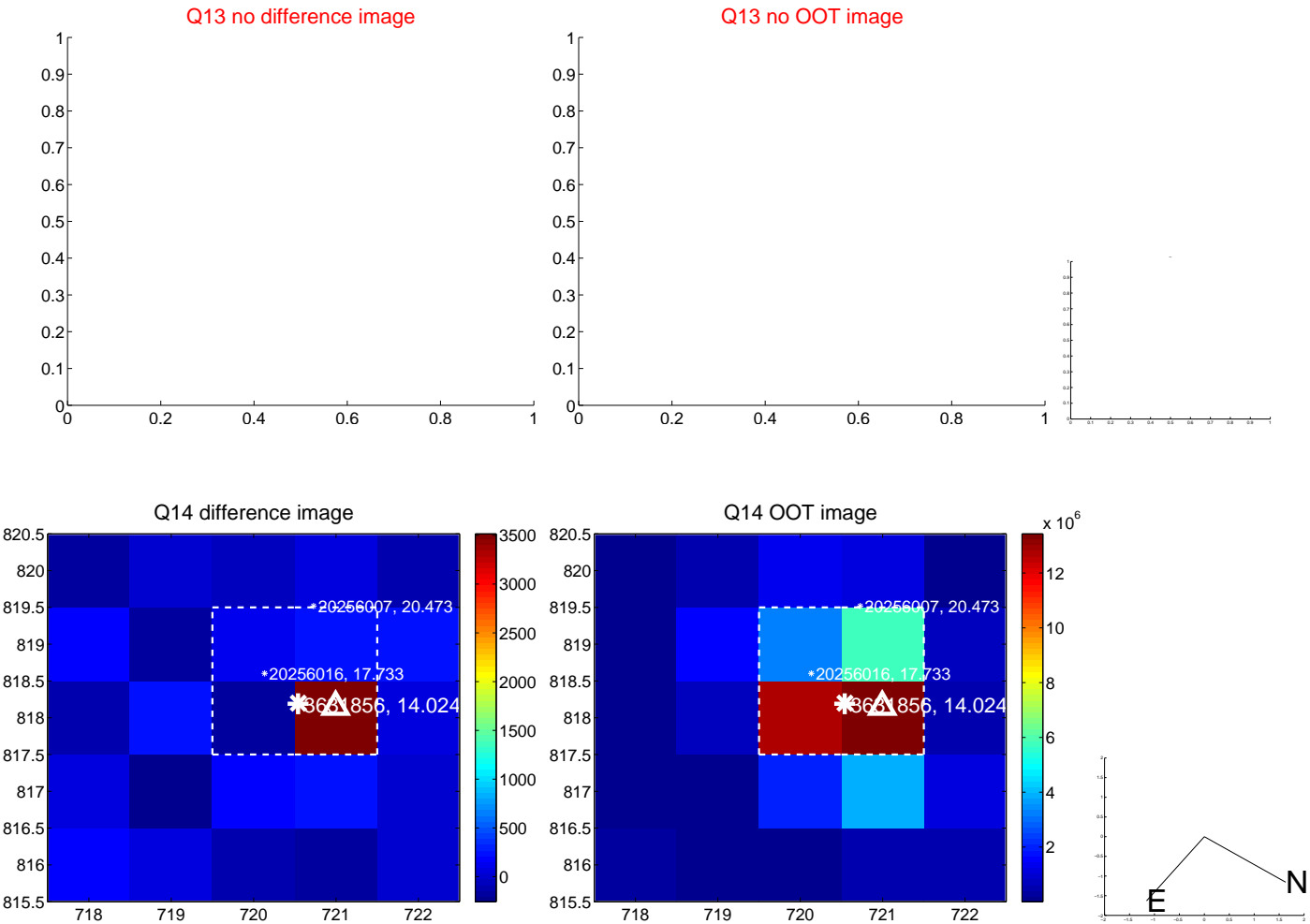
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



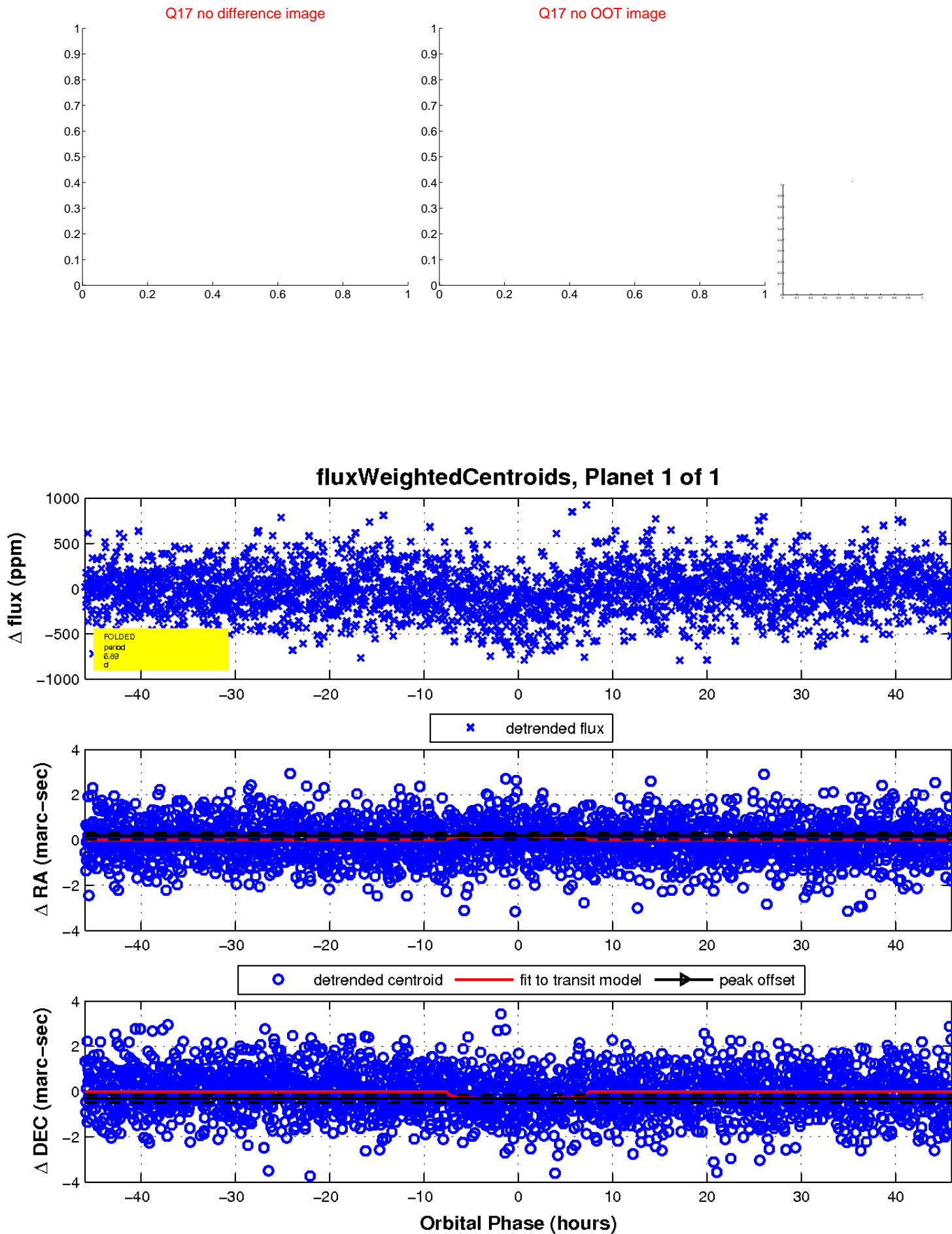
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

