

KIC 008607728

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})
008607728-01	OBS	No	458.605123	409.523308	427.4	4.899	11.2	7.4	0.20	3351	0.41	0.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008607728-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_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.

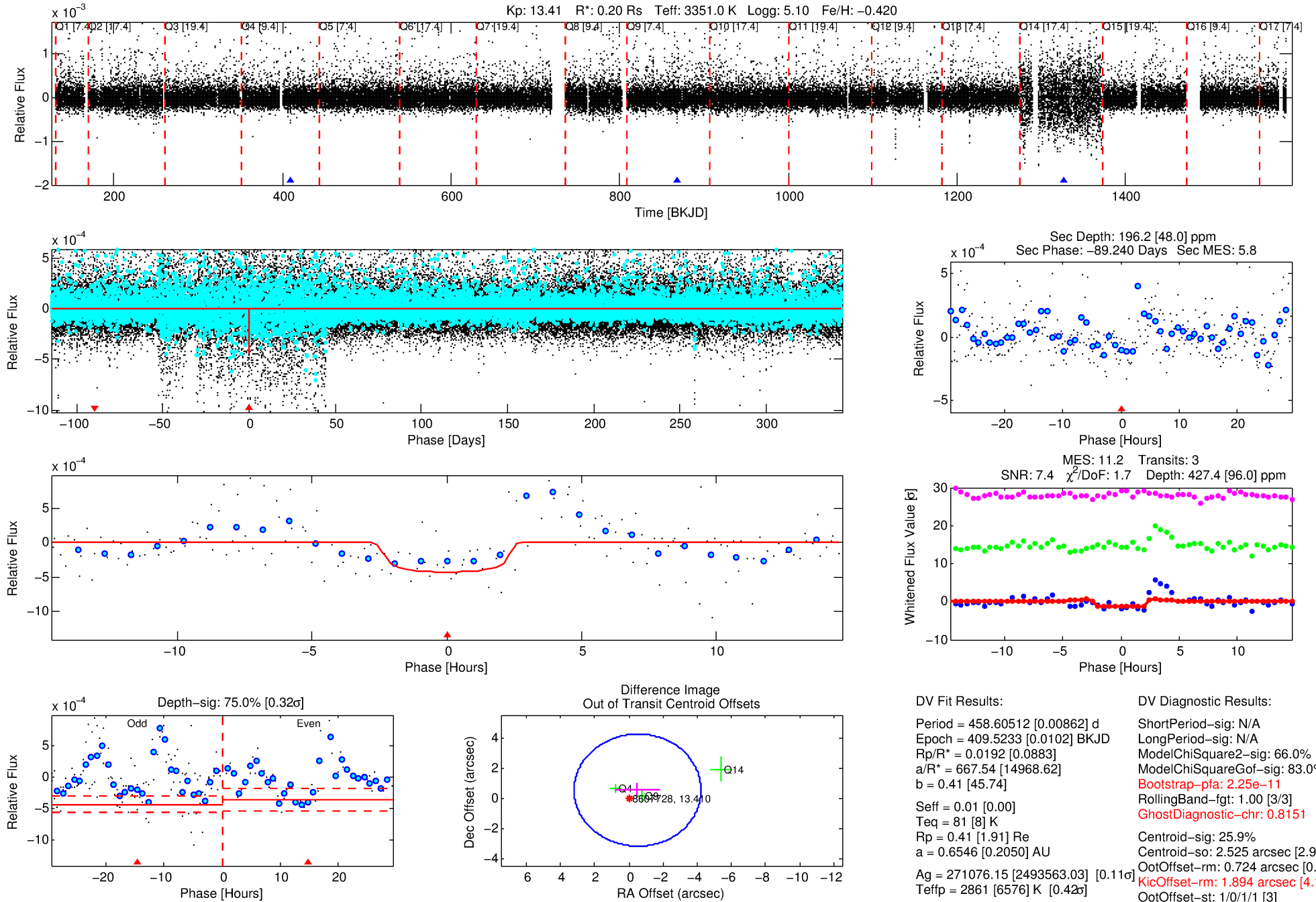
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008607728-01

No Significant Match Found

DV One-Page Summary

KIC: 8607728 Candidate: 1 of 1 Period: 458.605 d



DV Fit Results:

Period = 458.60512 [0.00862] d
Epoch = 409.5233 [0.0102] BKJD
Rp/R* = 0.0192 [0.0883]
a/R* = 667.54 [14968.62]
b = 0.41 [45.74]
Seff = 0.01 [0.00]
Teq = 81 [8] K
Rp = 0.41 [1.91] Re
a = 0.6546 [0.2050] AU
Ag = 271076.15 [2493563.03] [0.11σ]
Teffp = 2861 [6576] K [0.42σ]

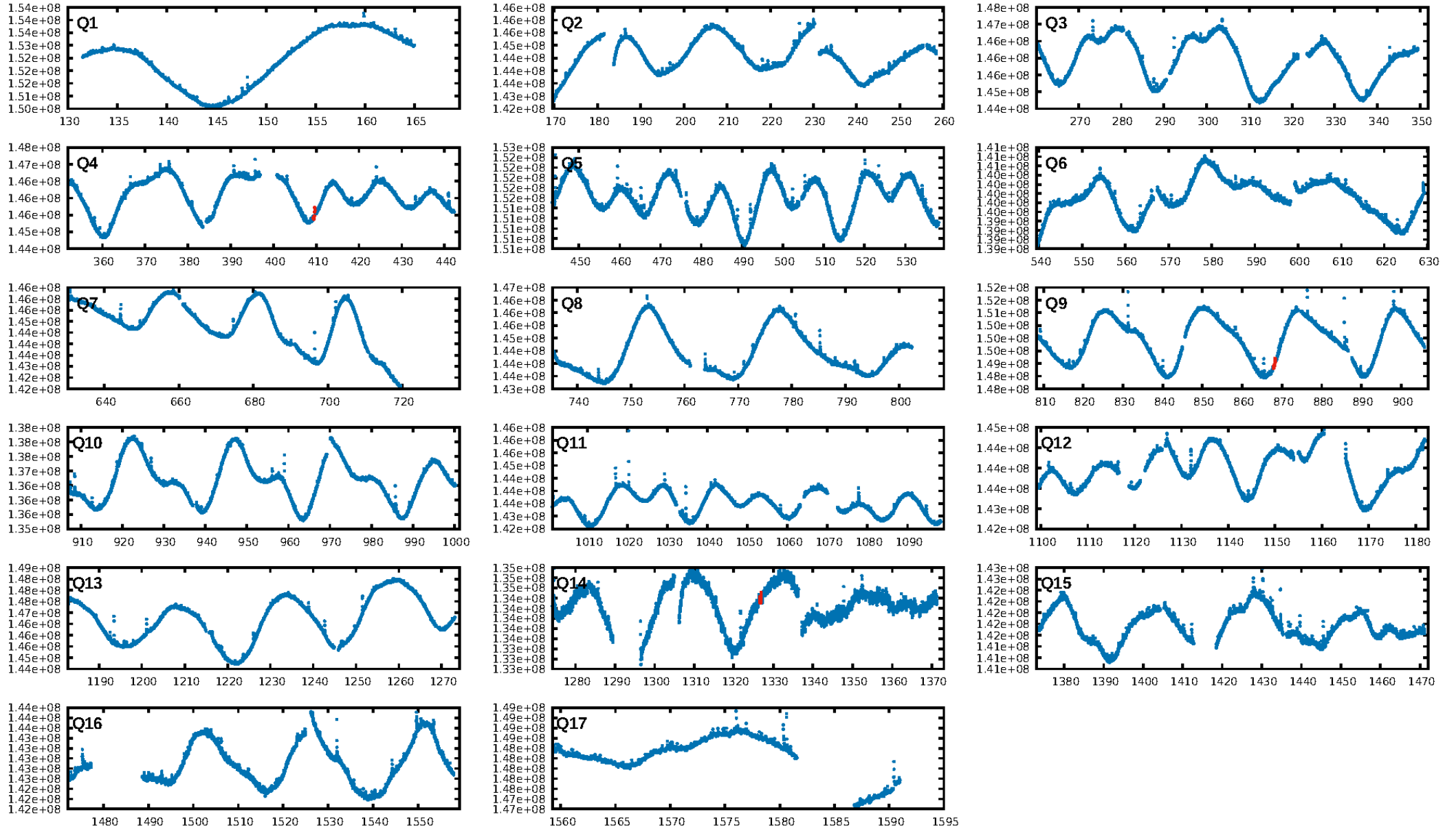
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 66.0%
ModelChiSquareGof-sig: 83.0%
Bootstrap-pfa: 2.25e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.8151
Centroid-sig: 25.9%
Centroid-so: 2.525 arcsec [2.93σ]
OotOffset-rm: 0.724 arcsec [0.58σ]
KicOffset-rm: 1.894 arcsec [4.16σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

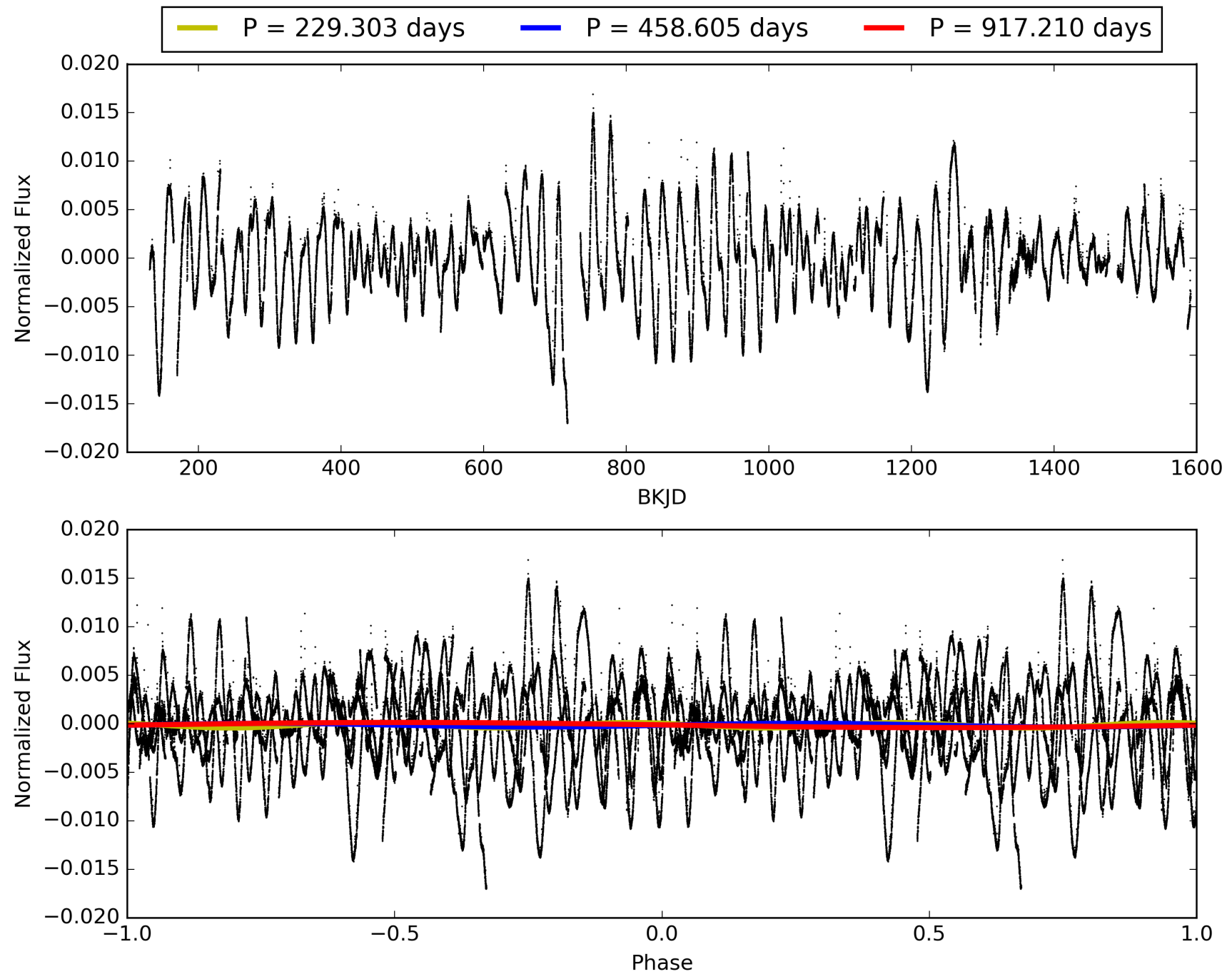
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 09:36:44 Z

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

TCE 008607728-01, PDC Light Curves

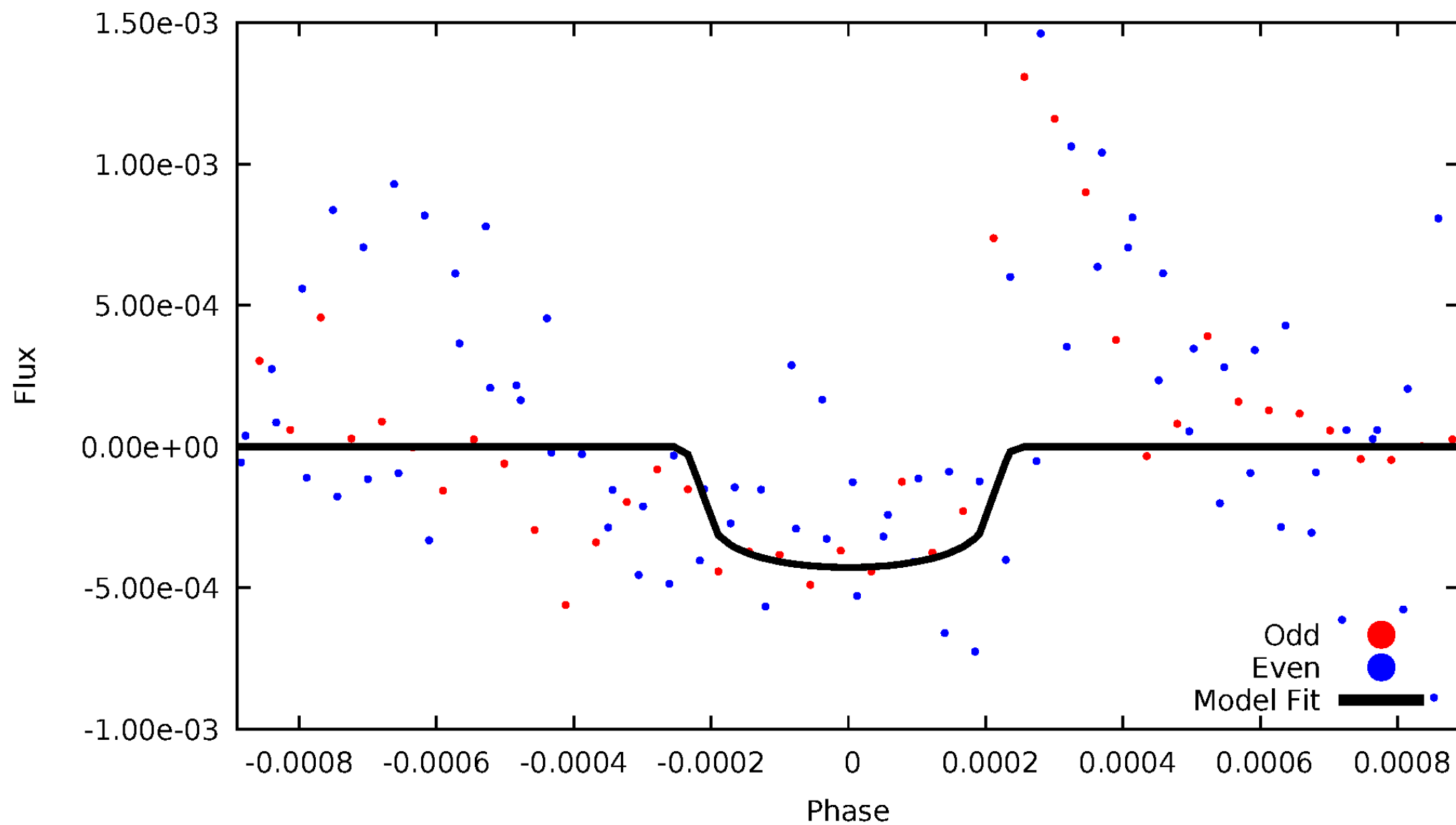


TCE 008607728-01



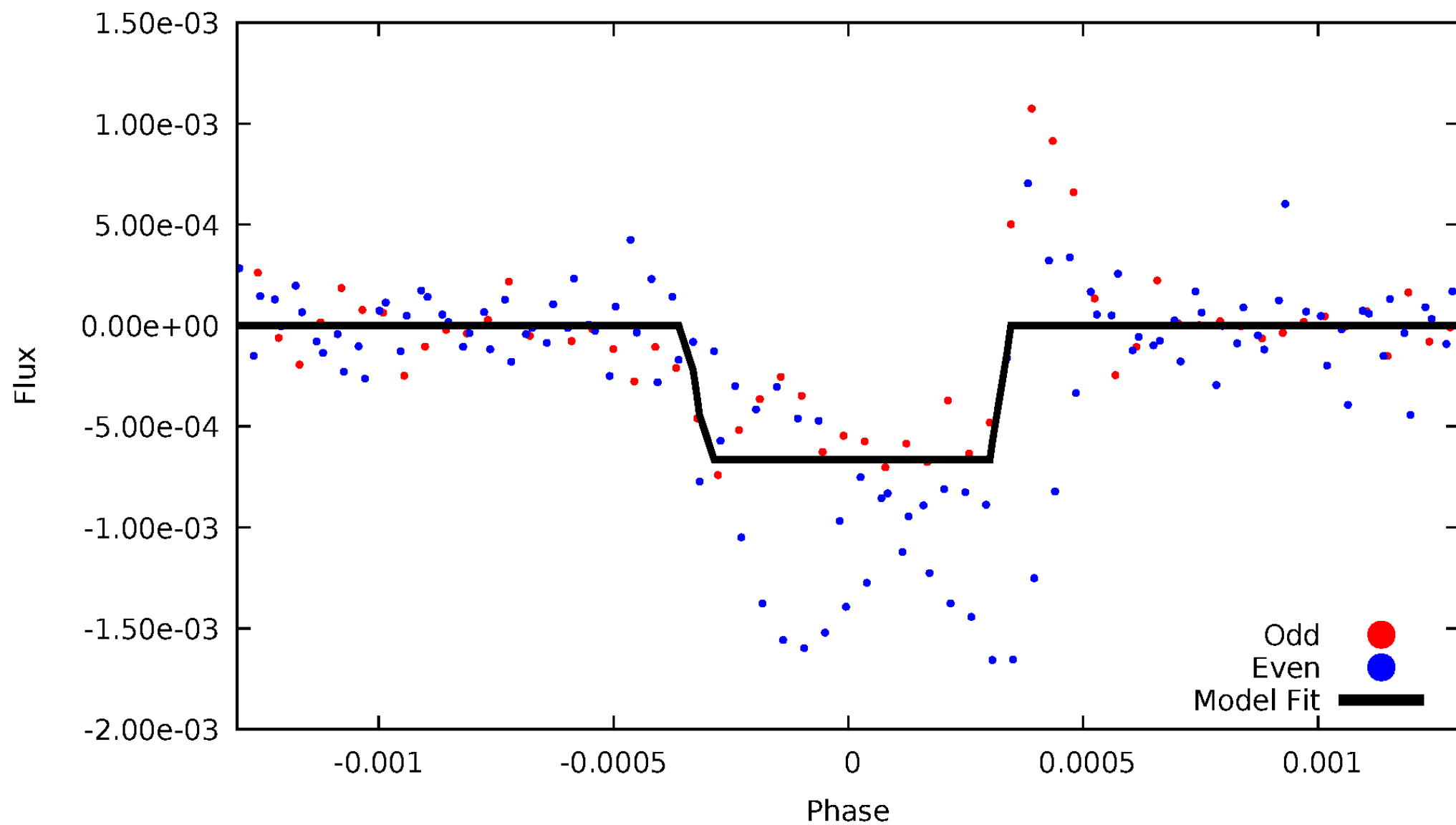
DV Odd/Even

TCE 008607728-01



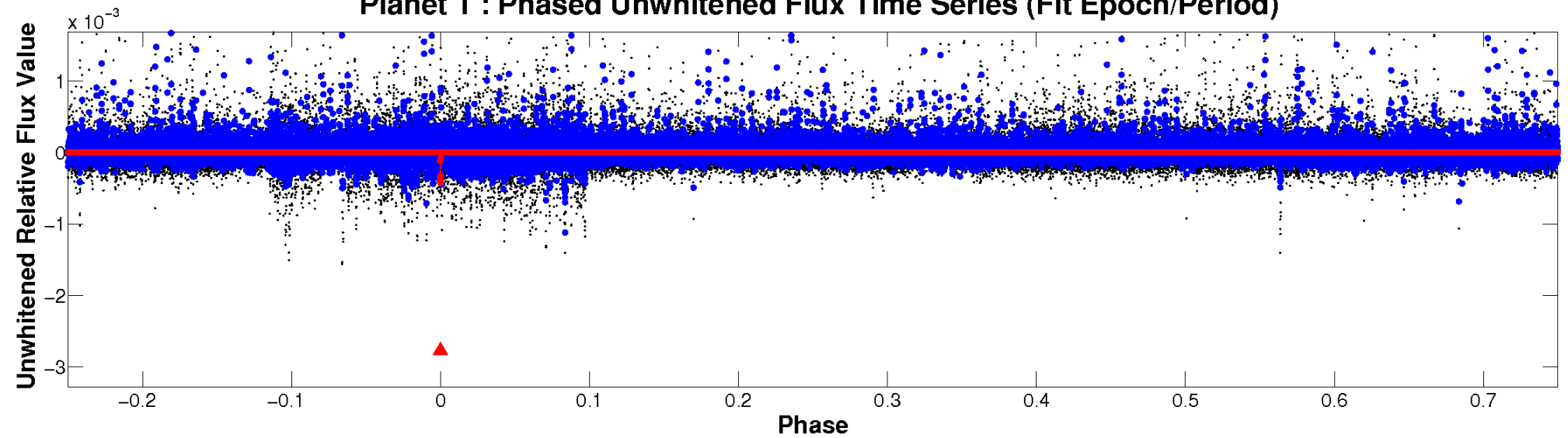
ALT Odd/Even

TCE 008607728-01

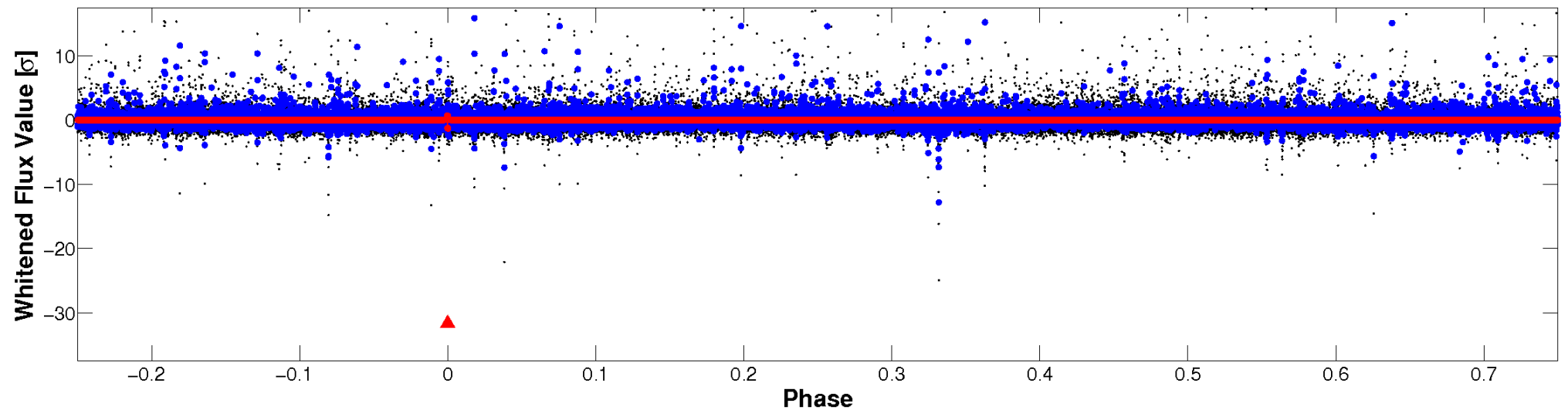


Non-Whitened Vs. Whitened Light Curve

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

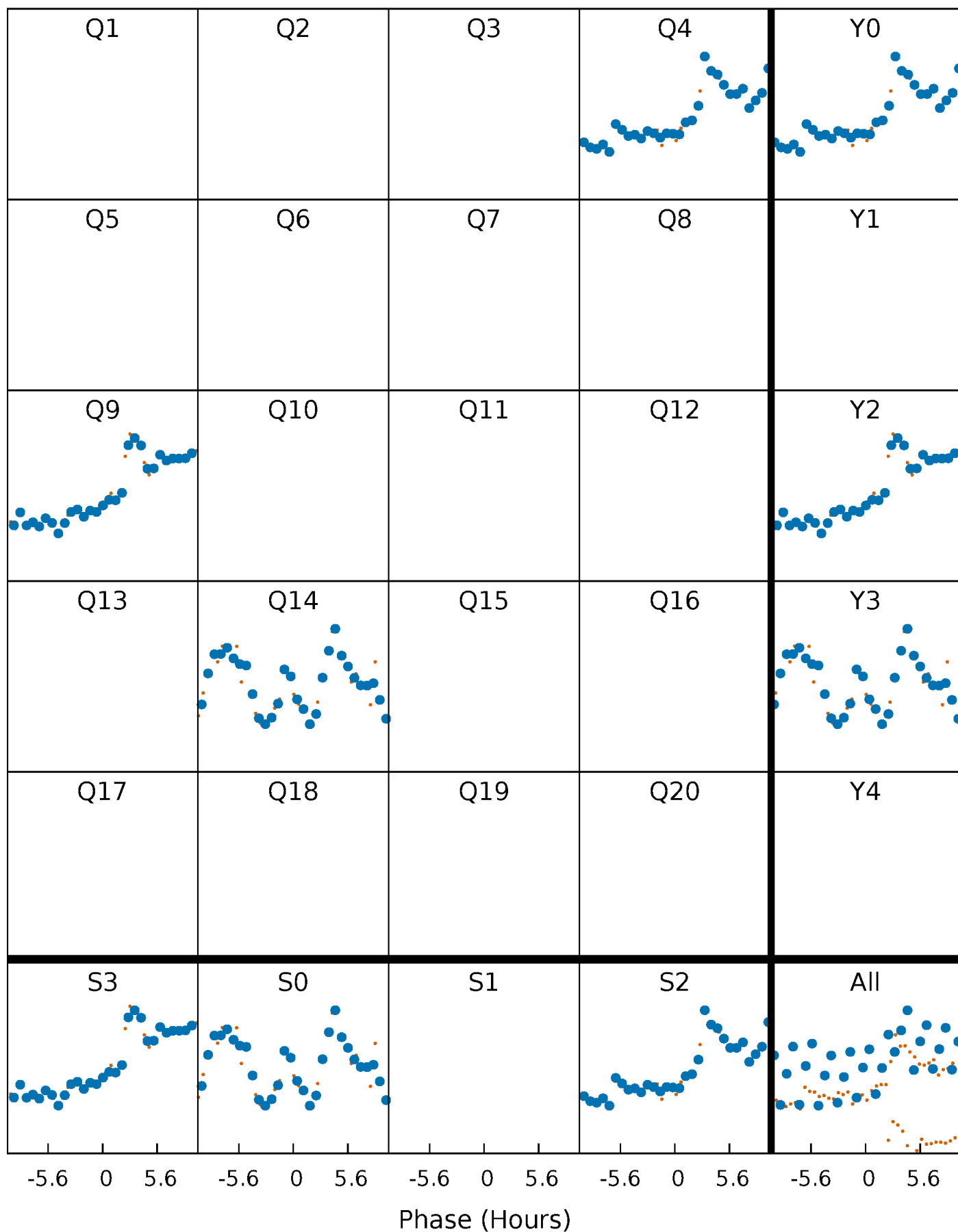


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



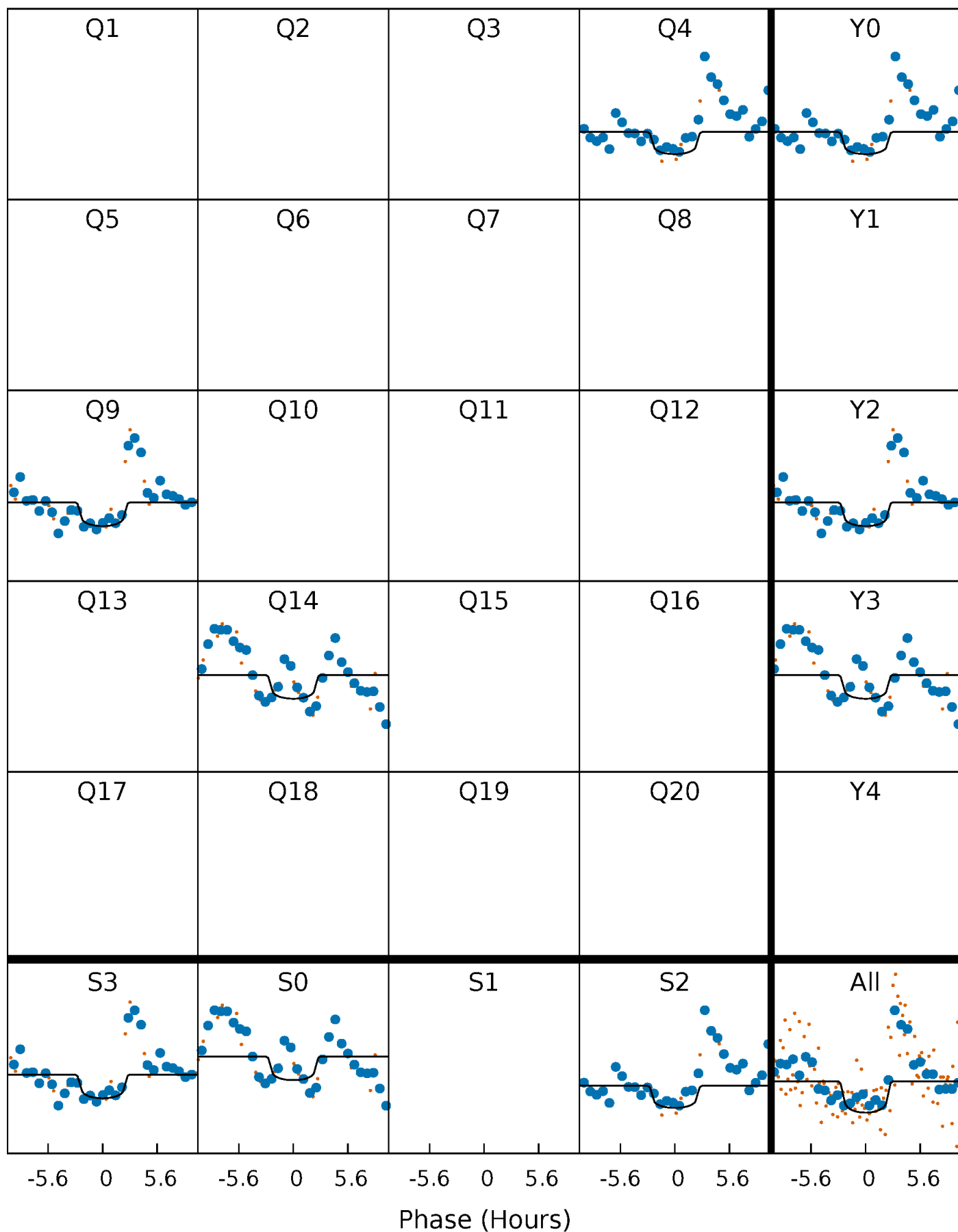
PDC Quarter-Phased Transit Curves

TCE 008607728-01 P=458.605123 Days $T_0=409.523308$ (BKJD)



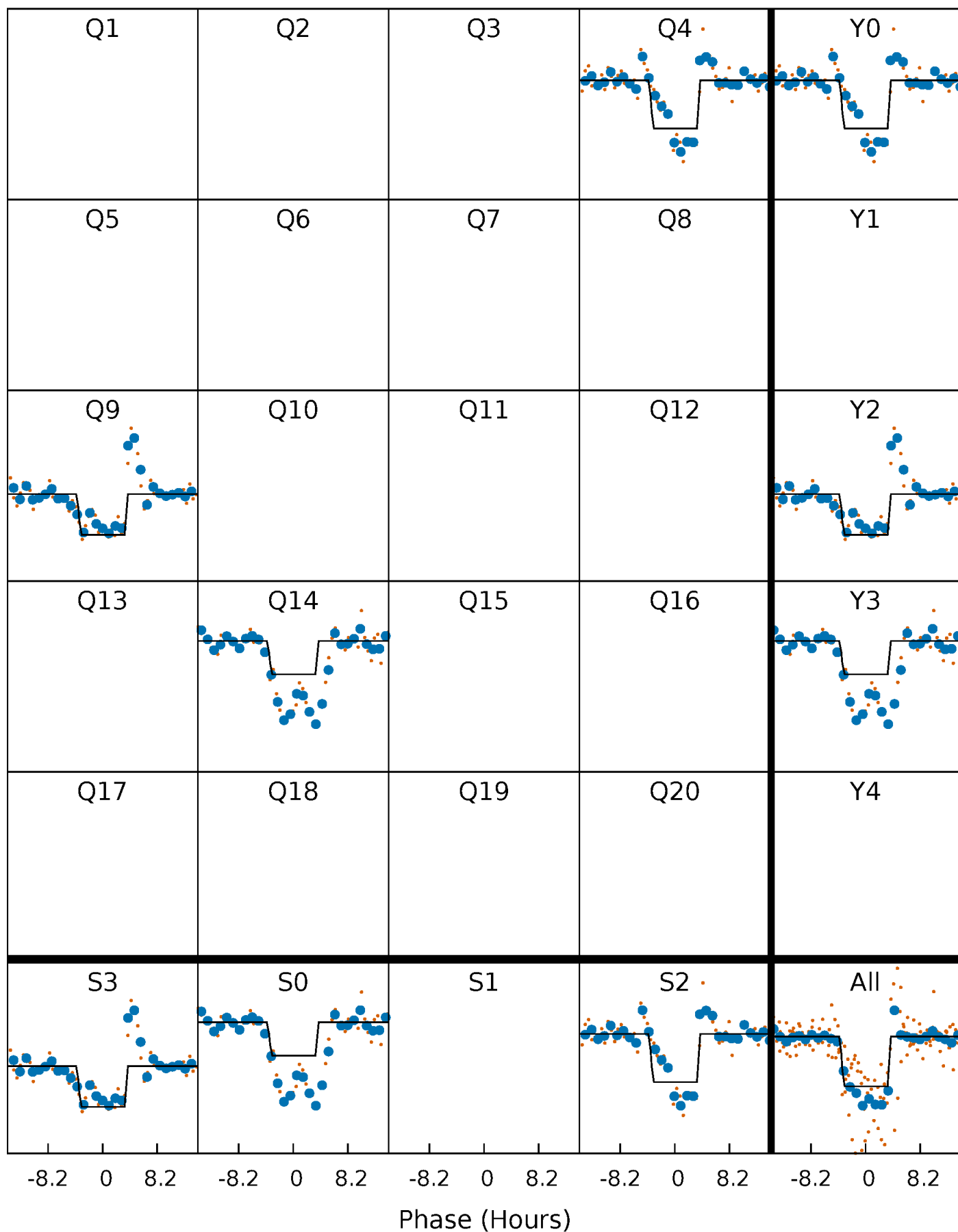
DV Quarter-Phased Transit Curves

TCE 008607728-01 P=458.605123 Days $T_0=409.523308$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

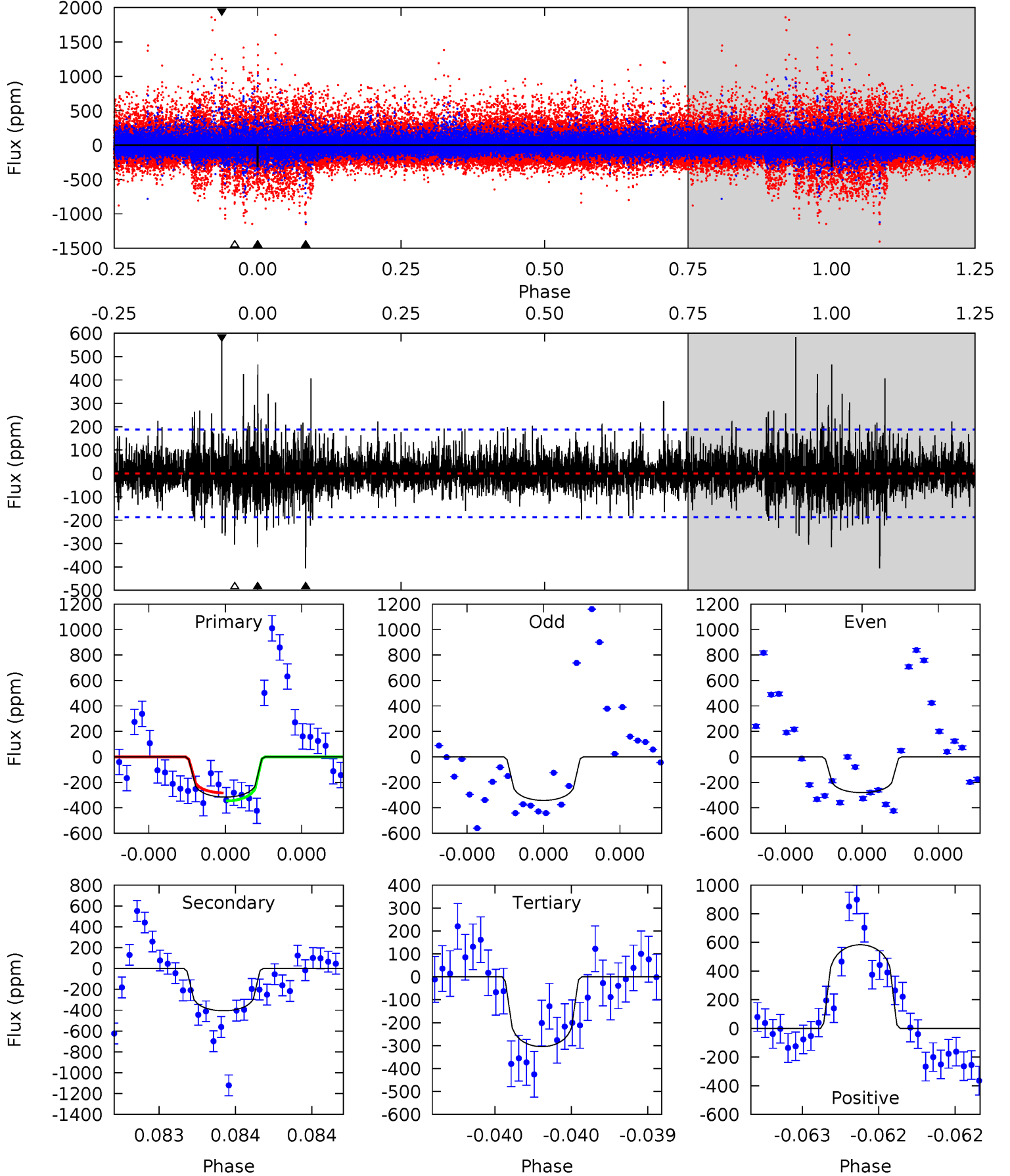
TCE 008607728-01 P=458.590387 Days $T_0=409.476396$ (BKJD)



DV Model-Shift Uniqueness Test

008607728-01, P = 458.605123 Days, E = 409.523308 Days

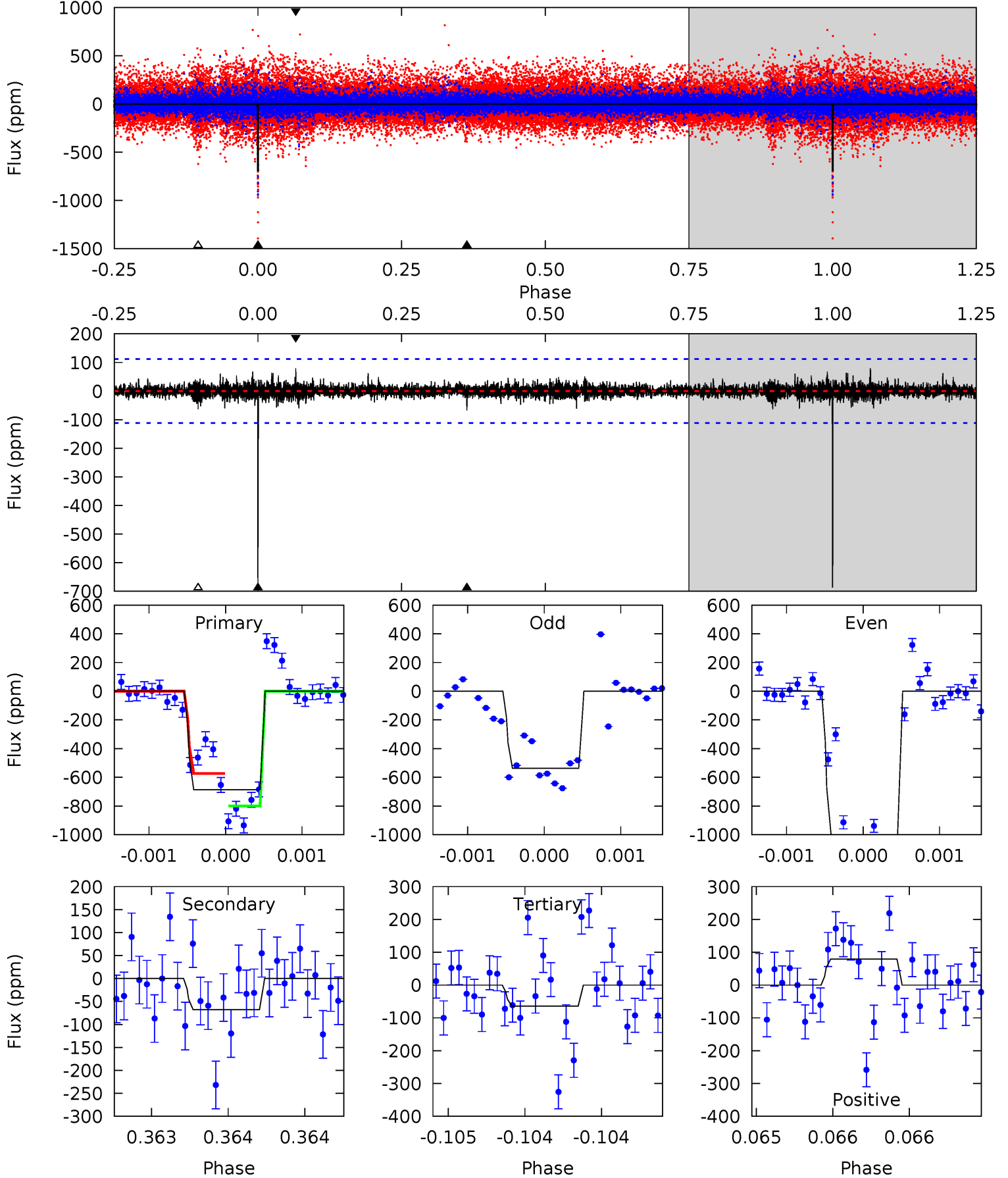
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.38	12.1	9.05	17.4	5.58	3.49	1.80	0.33	-7.97	3.00	-5.29	0.65	1.01	0.59	0.94



Alt Model-Shift Uniqueness Test

008607728-01, P = 458.590387 Days, E = 409.476396 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.0	3.36	3.16	3.90	5.52	3.40	0.57	30.8	30.1	0.19	-0.55	12.6	1.26	0.10	5.52



Stellar Parameters For KIC 008607728

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3351^{+118}_{-69}	$5.099^{+0.103}_{-0.126}$	$-0.420^{+0.300}_{-0.250}$	$0.197^{+0.088}_{-0.047}$	$0.178^{+0.106}_{-0.046}$	$32.650^{+22.470}_{-15.350}$
	+4%/-2%	+2%/-2%	+71%/-60%	+45%/-24%	+60%/-26%	+69%/-47%
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 008607728-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-406 ± 34	$1.46^{+1.52}_{-0.98}$	114^{+8}_{-6}	2441^{+856}_{-349}	$44323^{+383726}_{-33318}$
Alt.	-68 ± 20	$1.54^{+1.65}_{-1.09}$	114^{+8}_{-6}	1973^{+638}_{-254}	6726^{+71516}_{-5201}

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

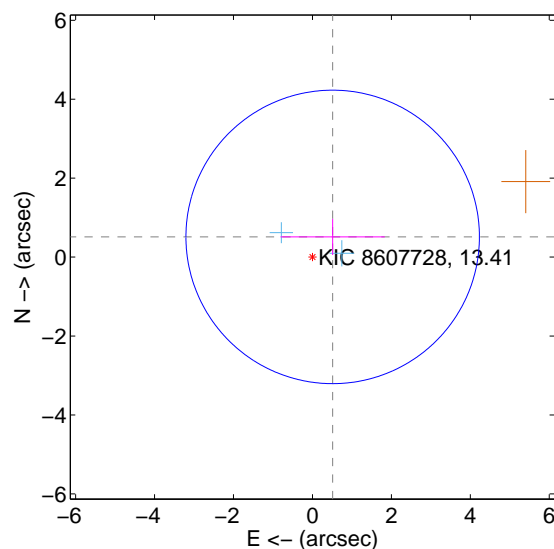
Supplemental centroid analysis for 008607728-01. Kepler magnitude: 13.41. Transit SNR 7.35

There are 2 quarters with good PRF difference image offsets

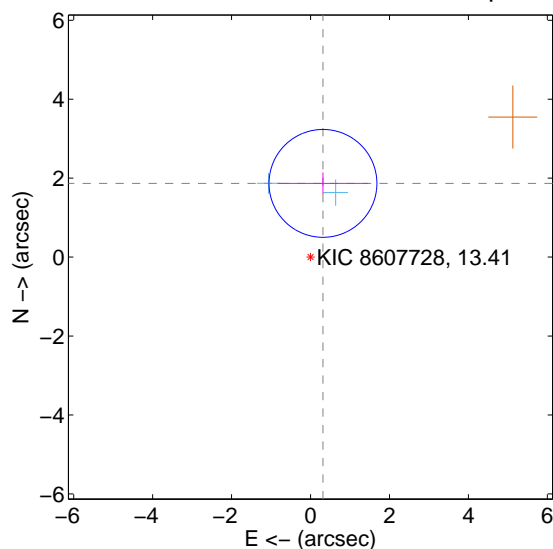
The direct PRF centroid is offset from the target star catalog position by about 1.66 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.724 ± 1.239	0.58	-0.513 ± 1.320	0.511 ± 0.458
PRF-fit source offset from KIC position	1.894 ± 0.455	4.16	-0.315 ± 1.151	1.868 ± 0.277
photometric centroid source offset	2.52 ± 0.86	2.93	-0.20 ± 0.78	2.52 ± 0.86

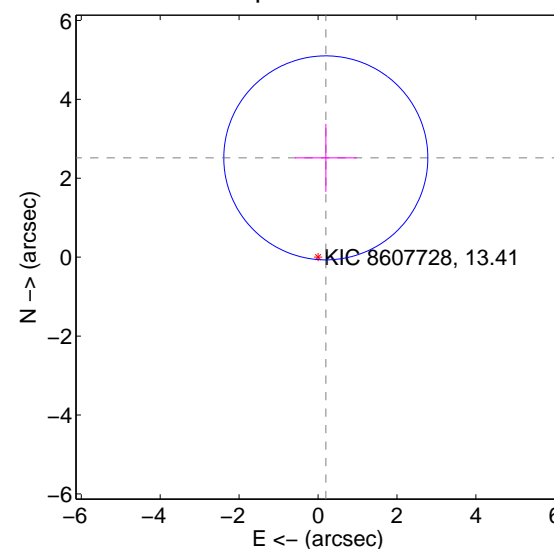
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

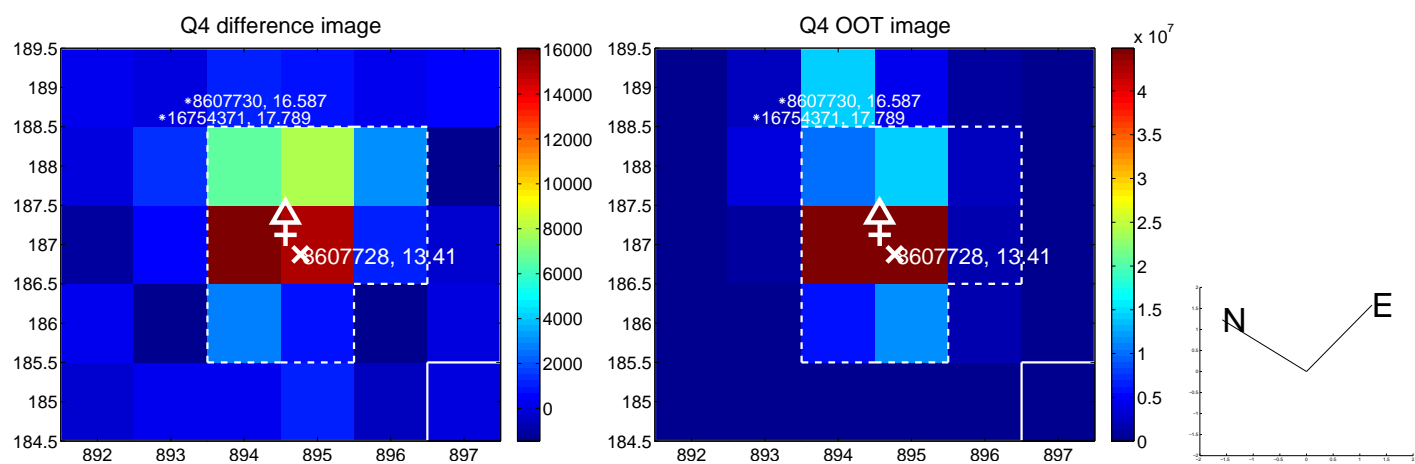


offset from photometric centroids



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.

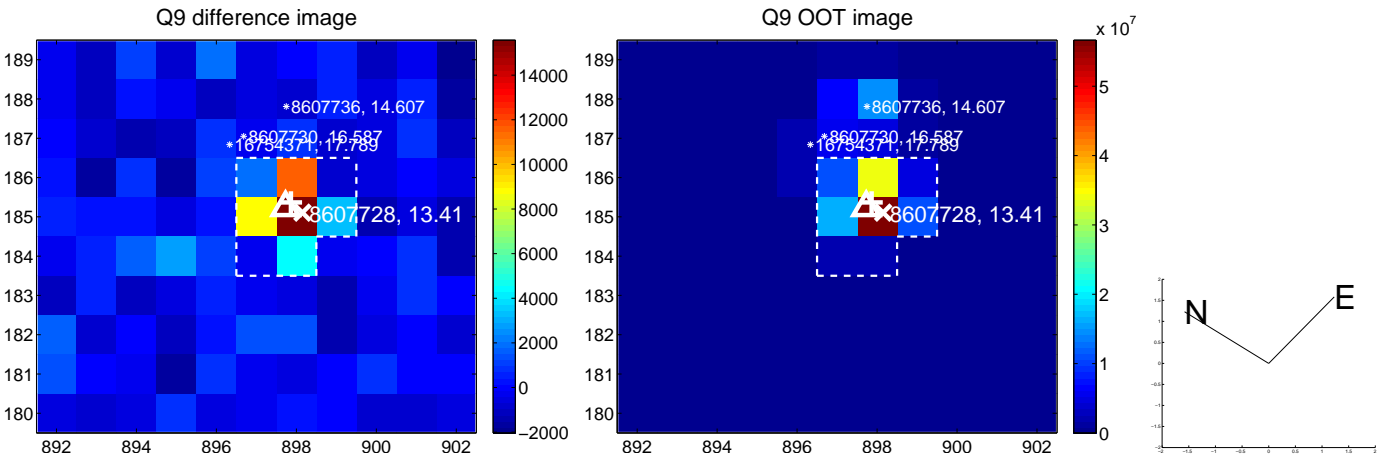
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



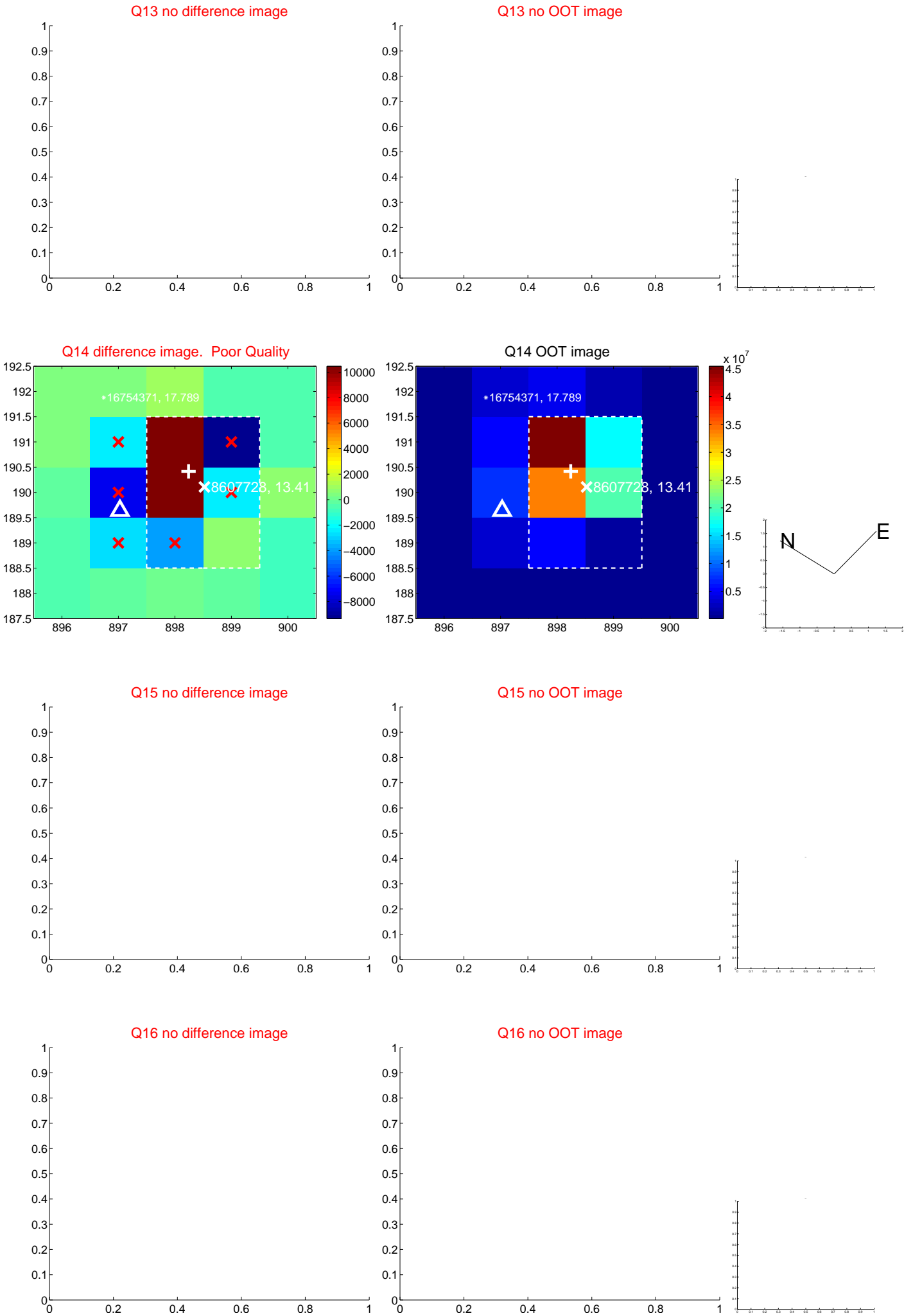
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



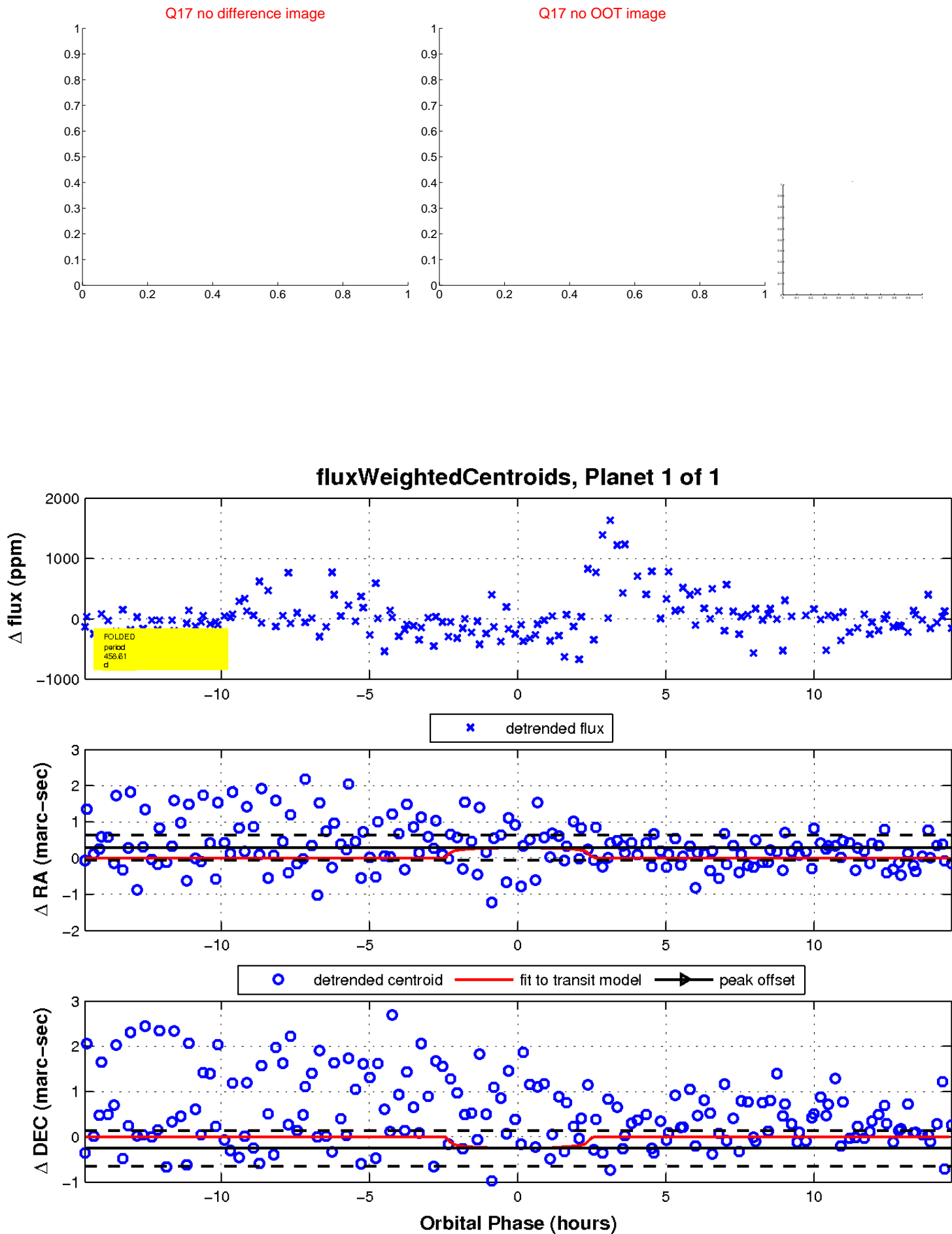
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

