

KIC 006140015

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
006140015-01	OBS	No	2.707506	131.855008	166.0	3.341	7.2	7.2	4.91	11053	7.23	96246.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006140015-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—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.

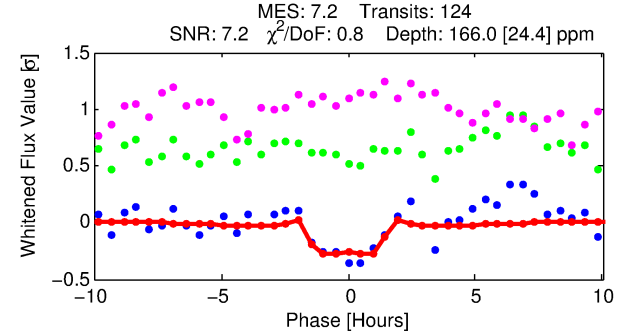
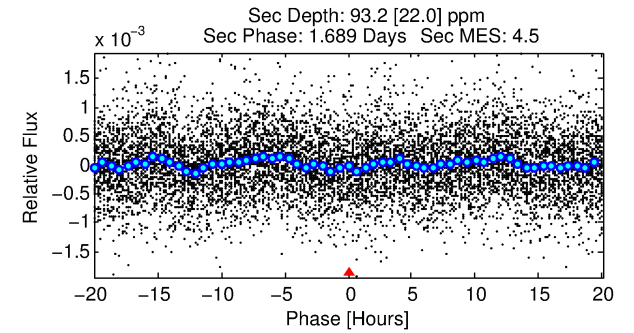
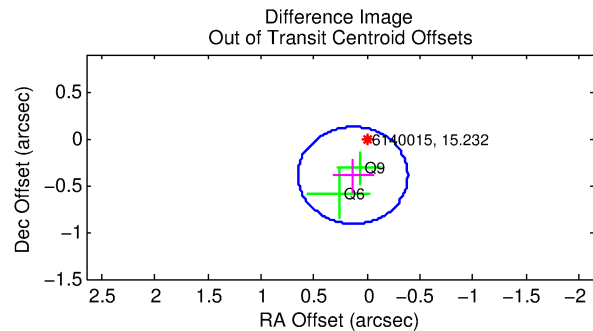
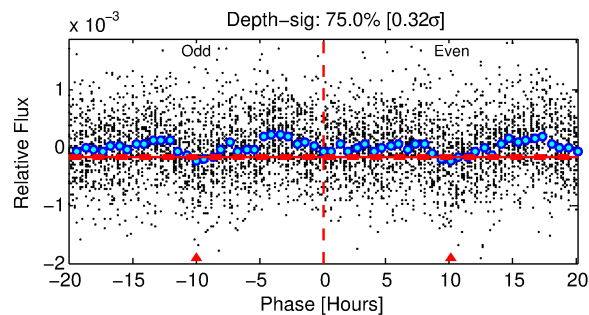
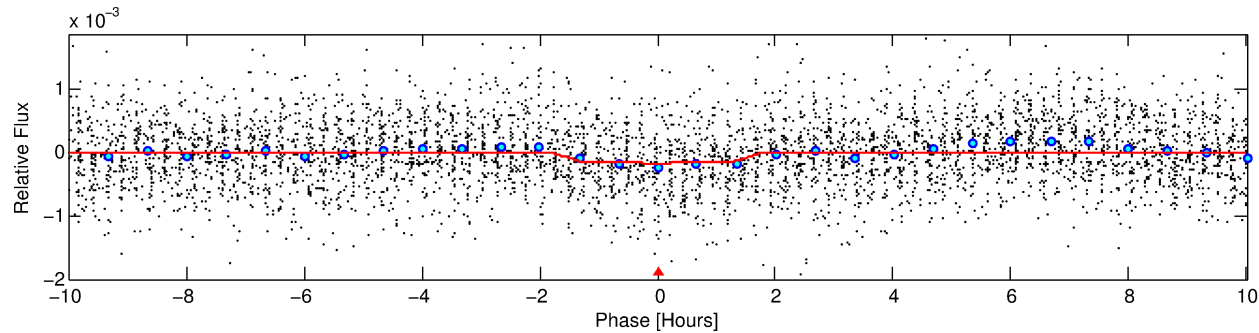
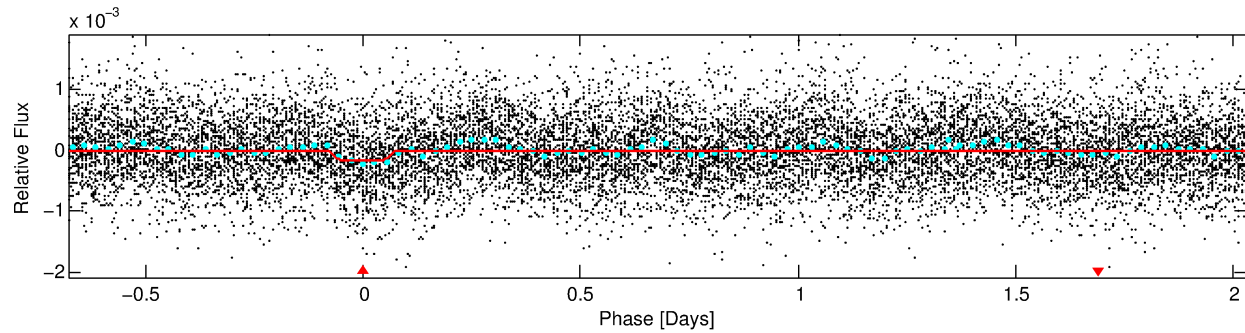
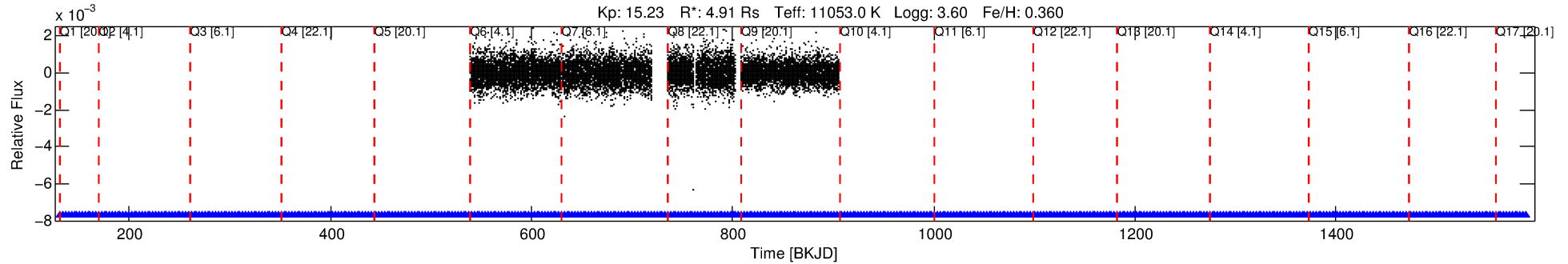
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006140015-01

No Significant Match Found

DV One-Page Summary

KIC: 6140015 Candidate: 1 of 1 Period: 2.708 d



DV Fit Results:

Period = 2.70751 [0.00004] d
Epoch = 131.8550 [0.0061] BKJD
Rp/R* = 0.0135 [0.0046]
a/R* = 3.03 [7.61]
b = 0.90 [0.60]
Seff = 96246.41 [87050.26]
Teq = 4491 [1016] K
Rp = 7.23 [4.22] Re
a = 0.0579 [0.0263] AU
Ag = 3.28 [3.36] [0.68σ]
Teffp = 9349 [2109] K [2.08σ]

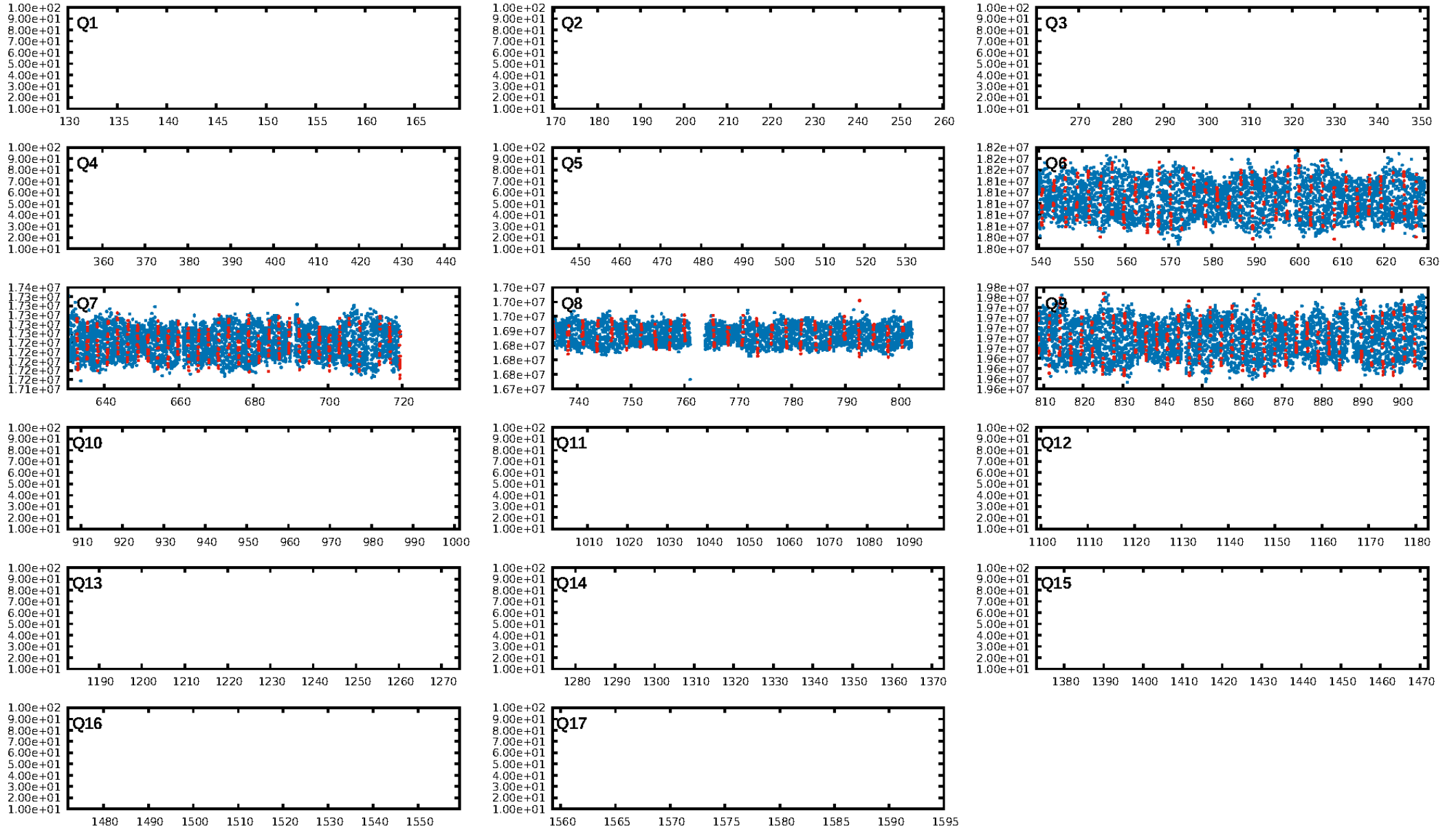
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.50e-14
RollingBand-fgt: 1.00 [124/124]
GhostDiagnostic-chr: 1.406
Centroid-sig: 0.3%
Centroid-so: 1.579 arcsec [1.32σ]
OotOffset-rm: 0.415 arcsec [2.40σ]
KicOffset-rm: 0.216 arcsec [1.23σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [4/4]

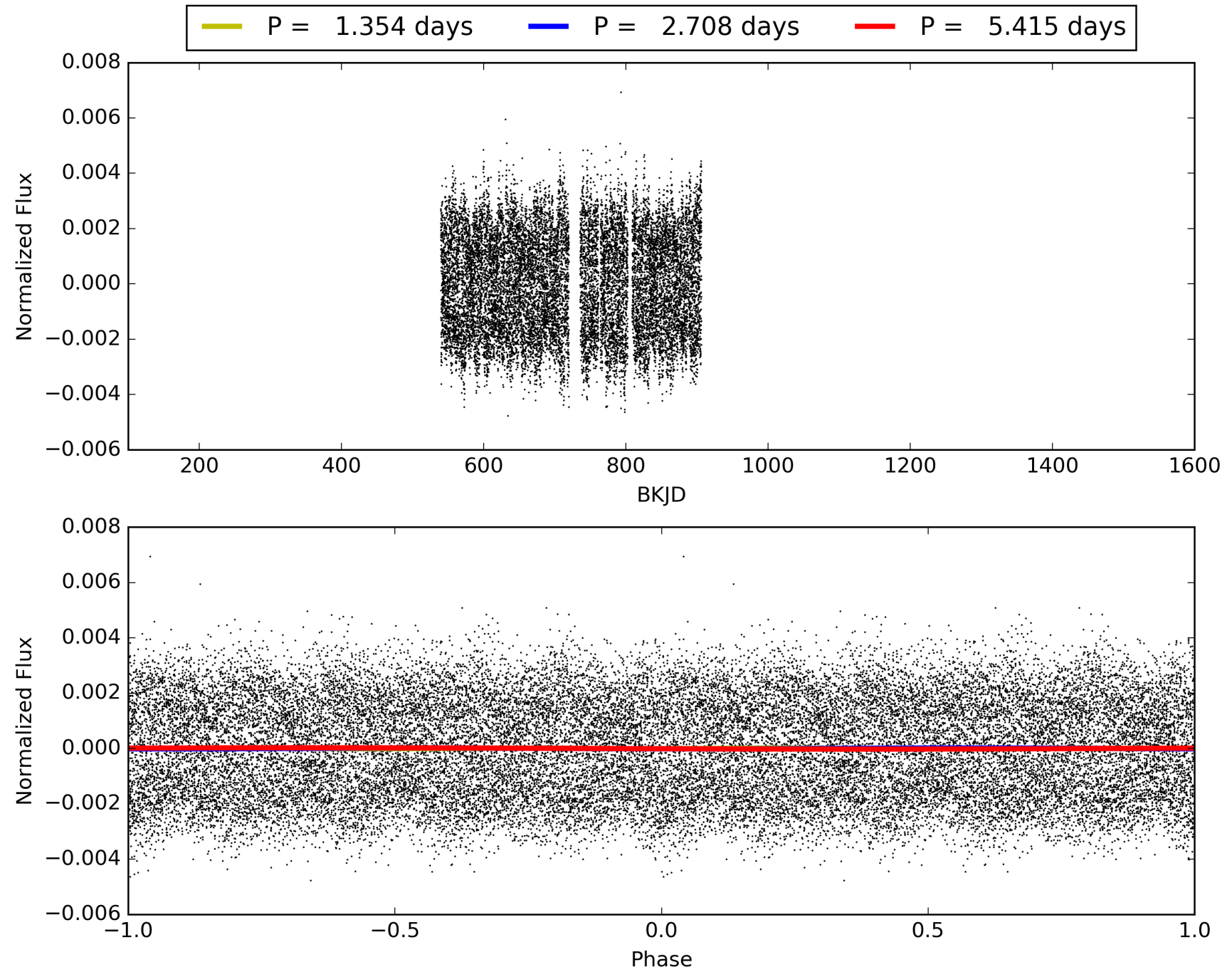
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:31:24 Z

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

TCE 006140015-01, PDC Light Curves

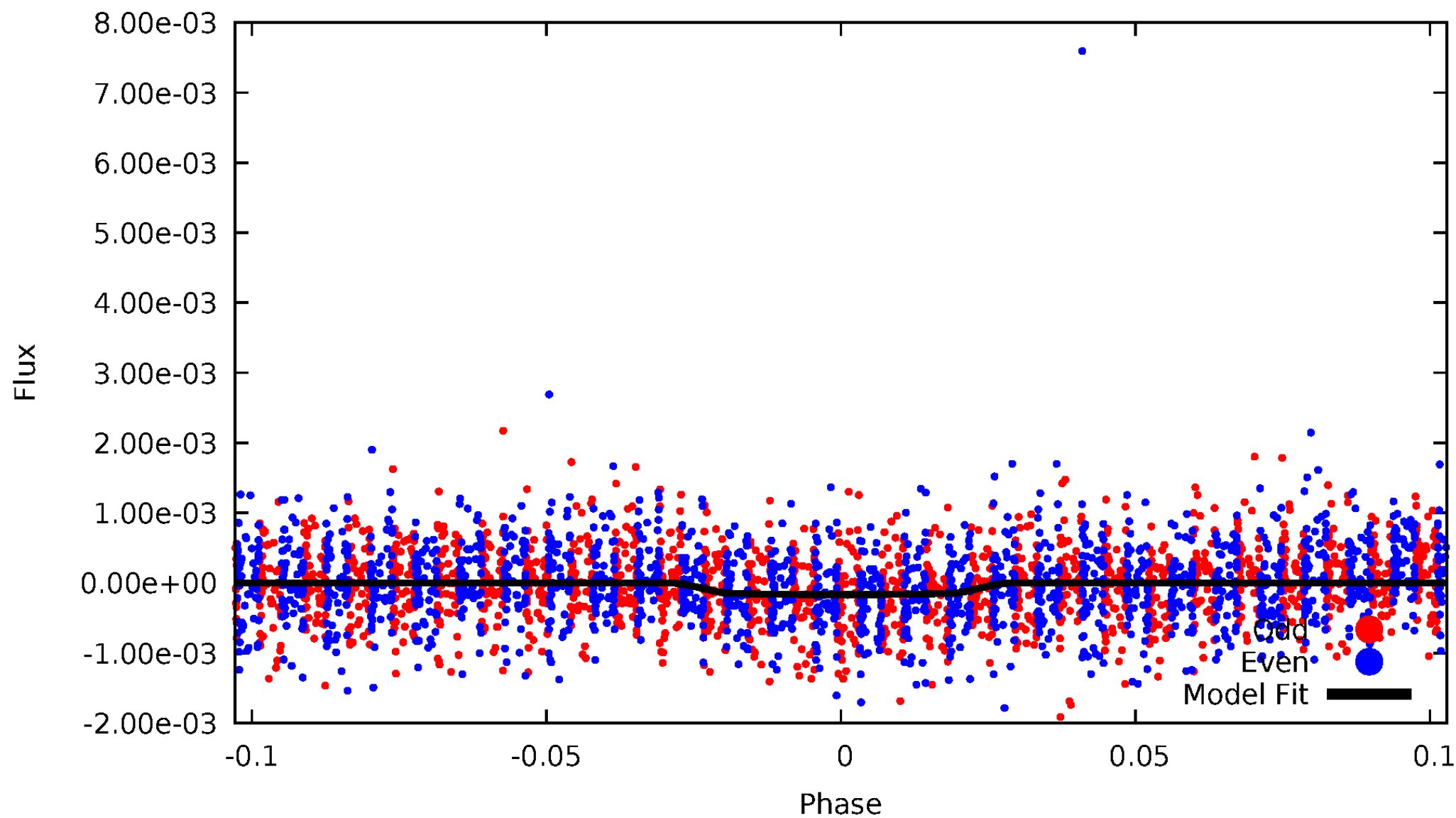


TCE 006140015-01



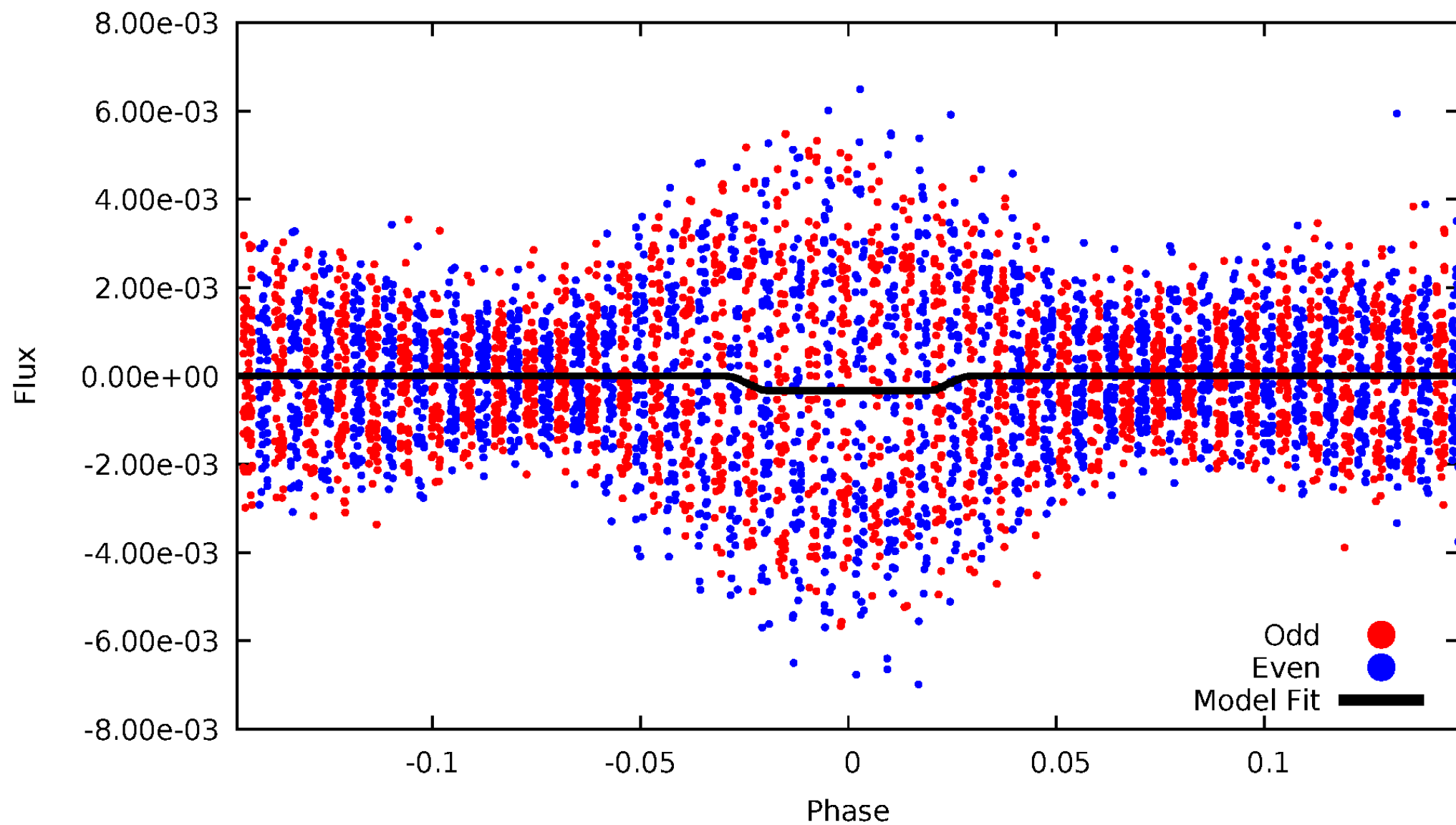
DV Odd/Even

TCE 006140015-01



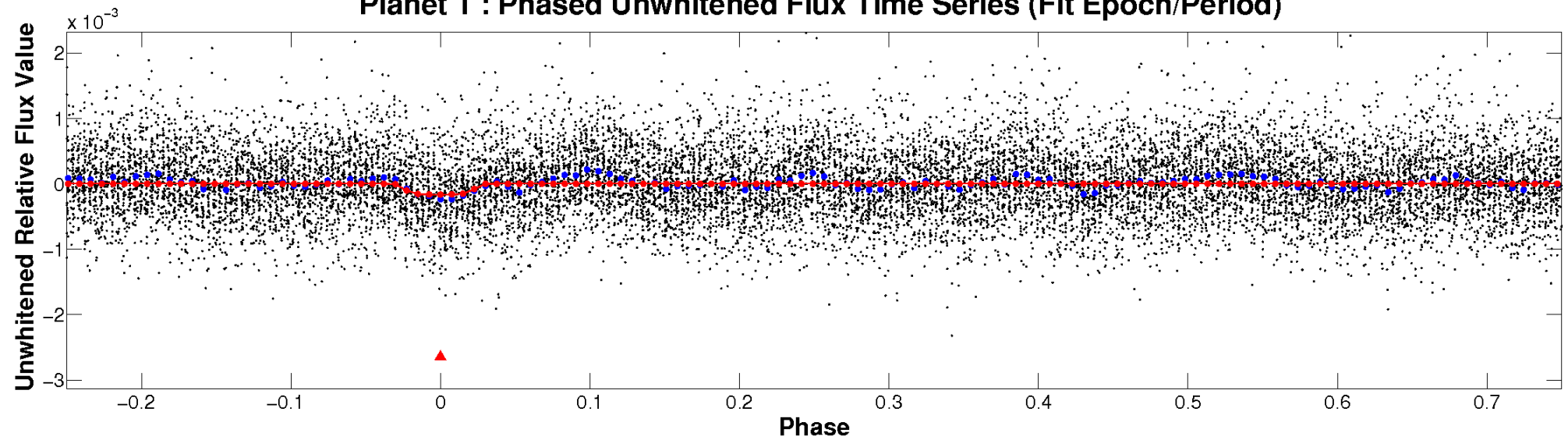
ALT Odd/Even

TCE 006140015-01

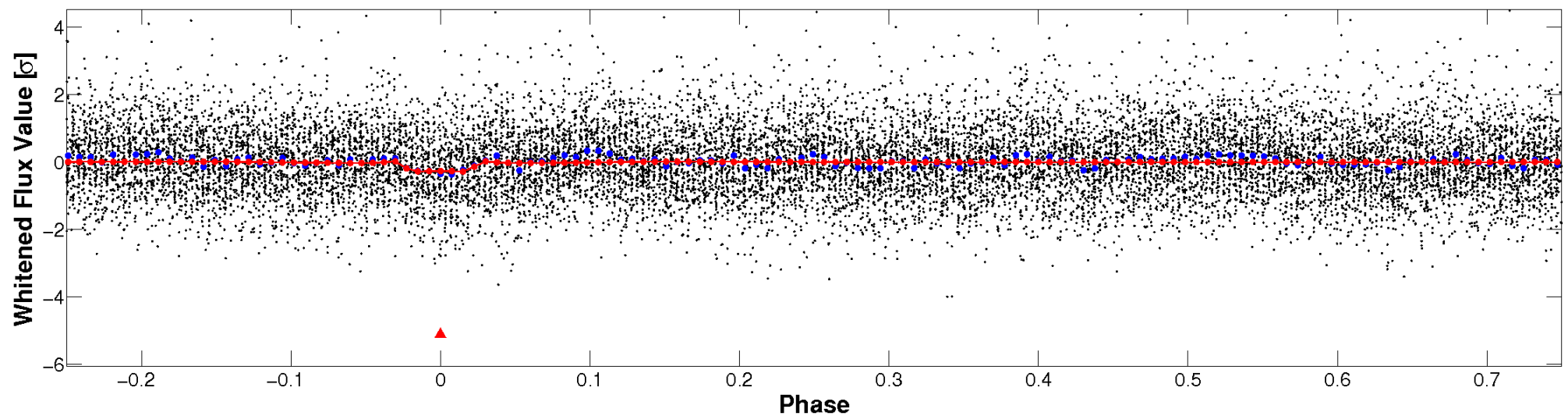


Non-Whitened Vs. Whitened Light Curve

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

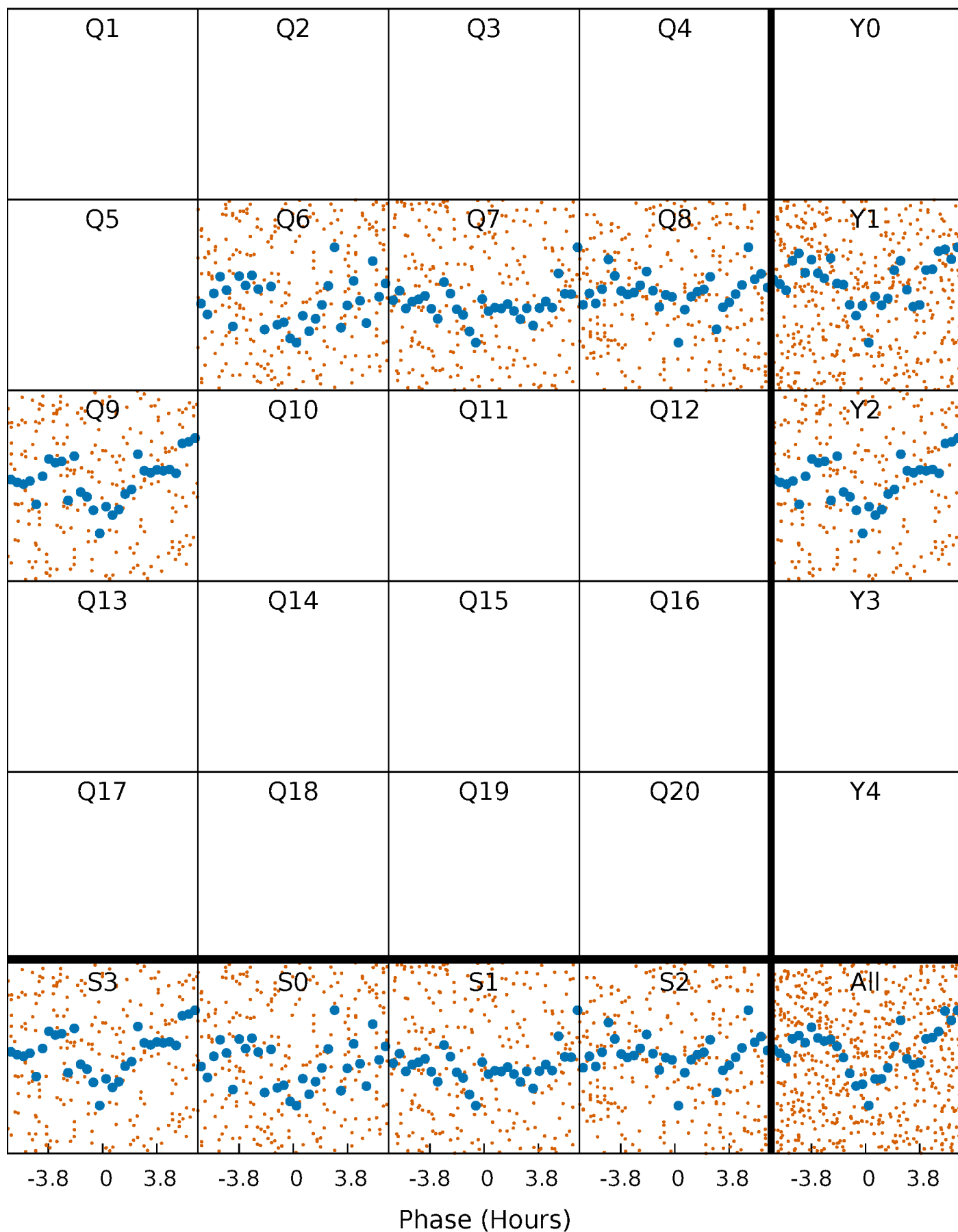


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



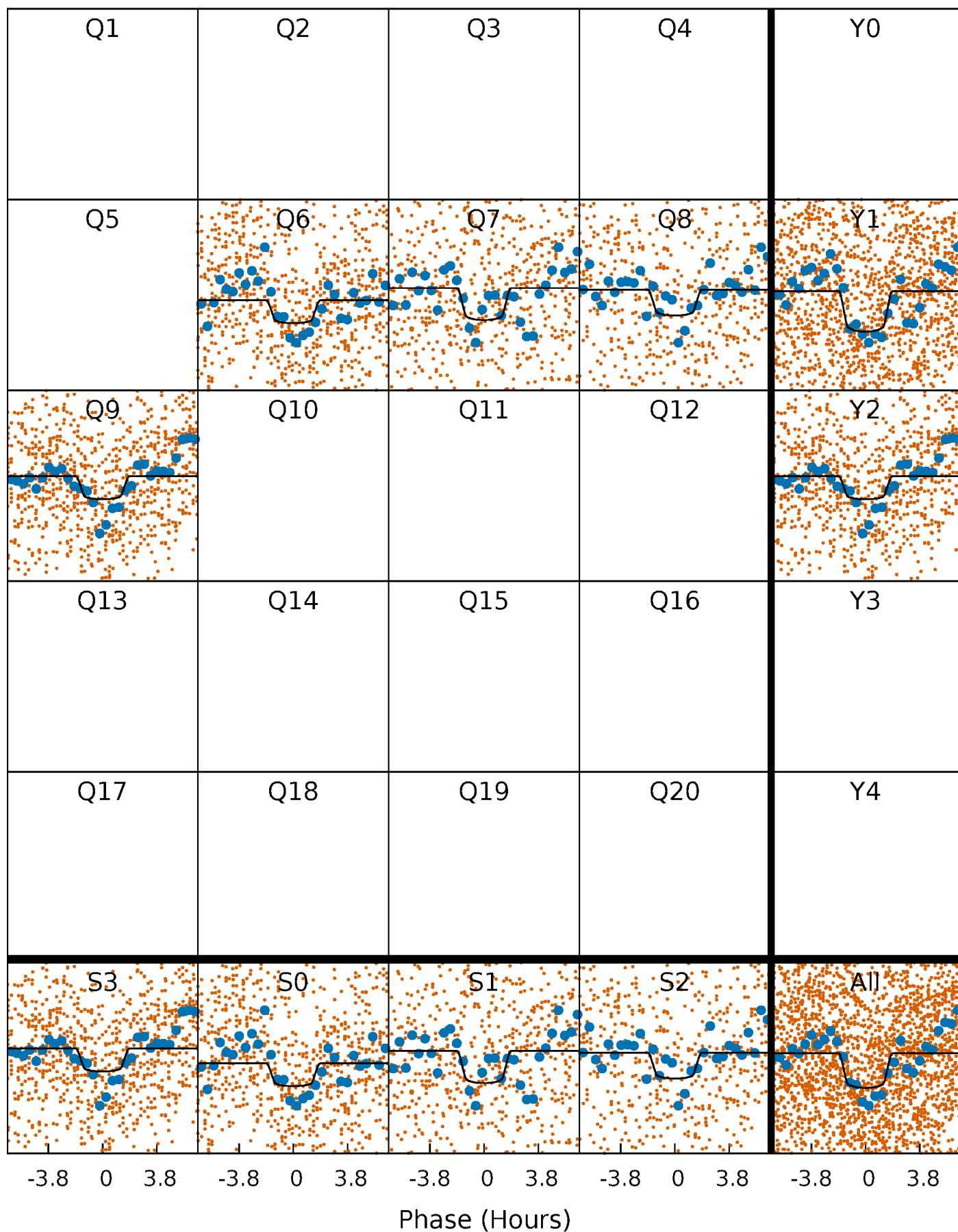
PDC Quarter-Phased Transit Curves

TCE 006140015-01 P= 2.707506 Days $T_0=131.855008$ (BKJD)



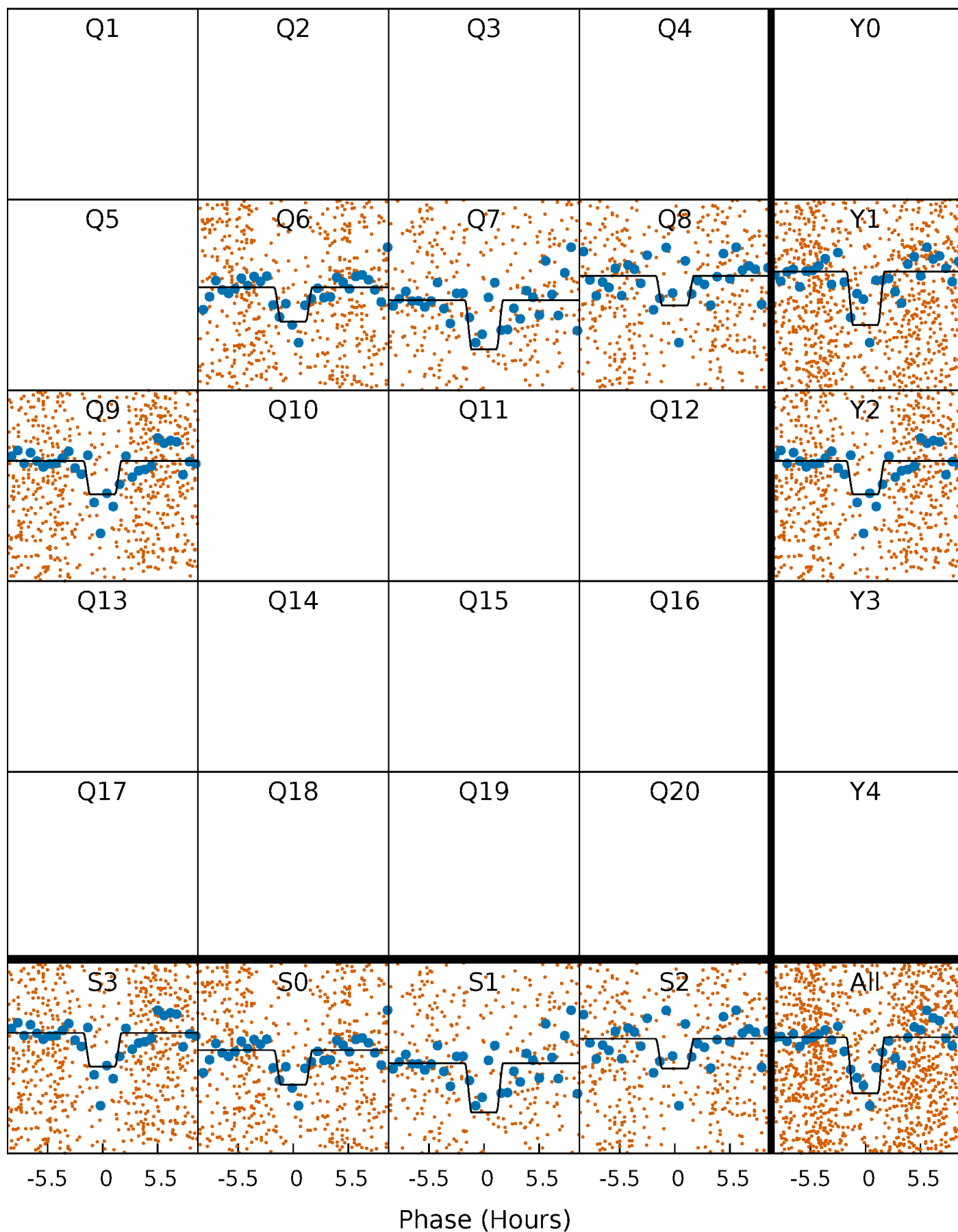
DV Quarter-Phased Transit Curves

TCE 006140015-01 P= 2.707506 Days $T_0=131.855008$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

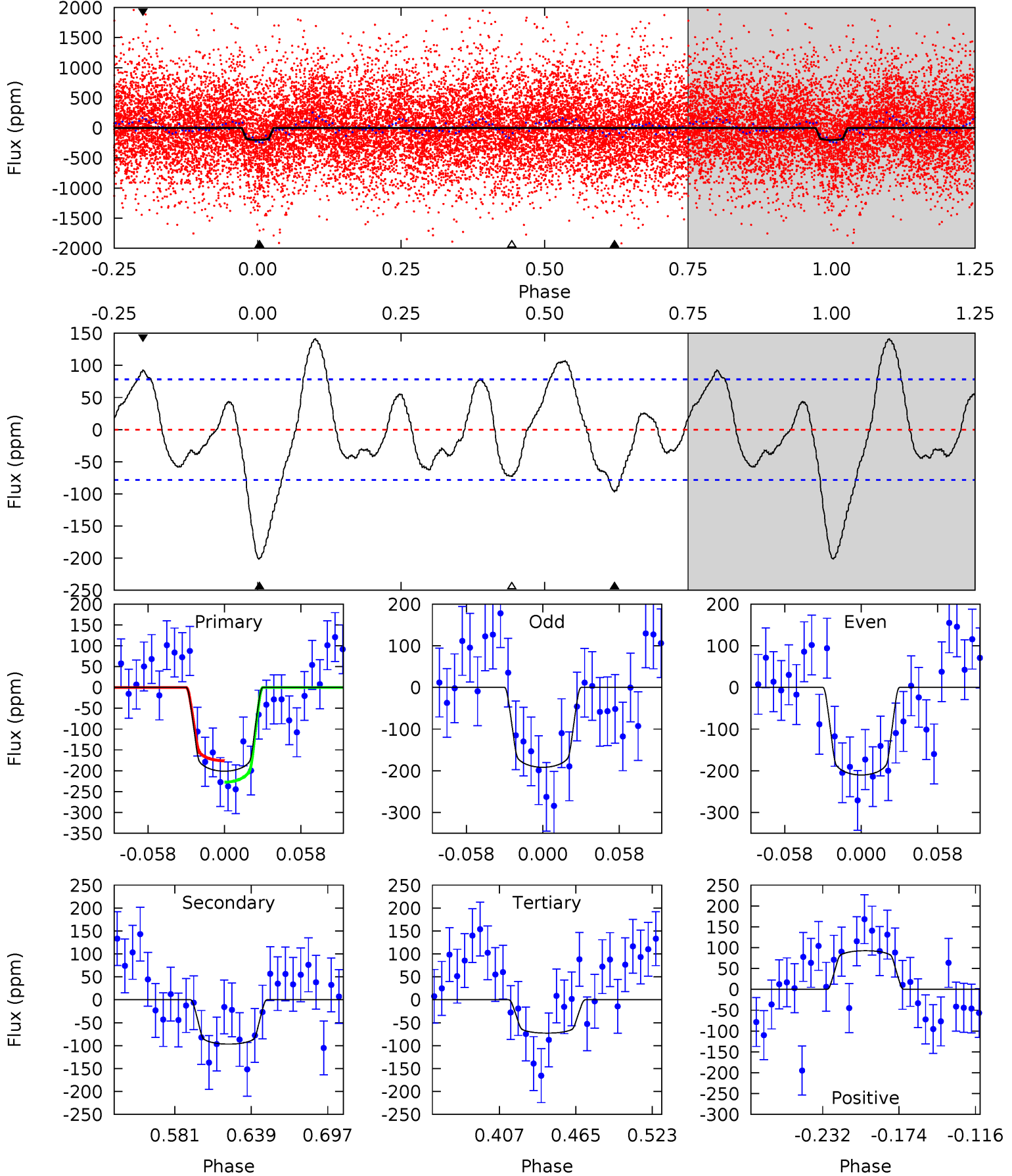
TCE 006140015-01 P= 2.707449 Days $T_0=131.872567$ (BKJD)



DV Model-Shift Uniqueness Test

006140015-01, P = 2.707506 Days, E = 131.855008 Days

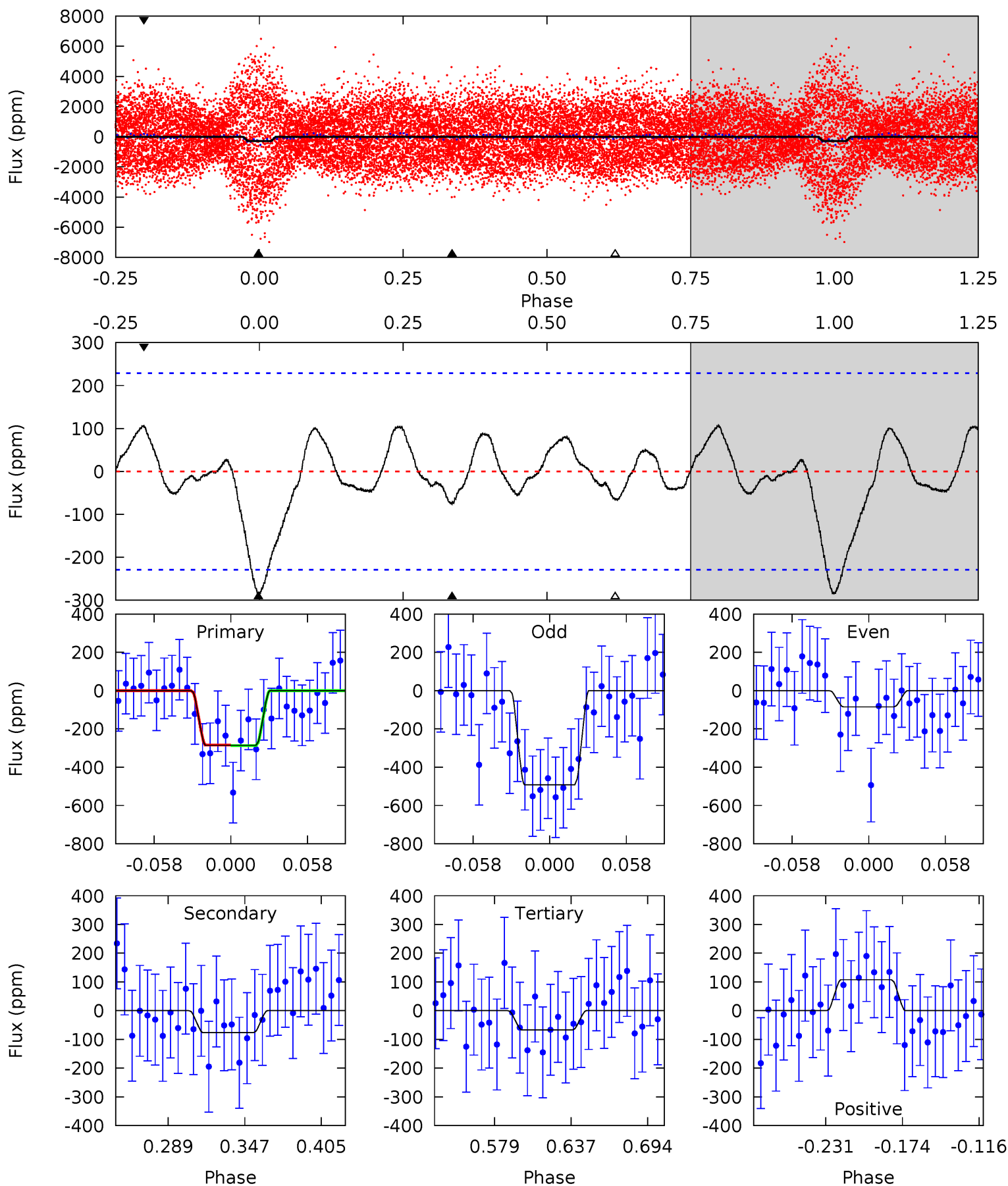
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	5.78	4.35	5.54	4.68	1.90	3.21	7.66	6.47	1.43	0.24	0.55	0.95	0.41	1.54



Alt Model-Shift Uniqueness Test

006140015-01, P = 2.707449 Days, E = 131.872567 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.84	1.57	1.38	2.20	4.68	1.90	0.95	4.46	3.64	0.19	-0.64	4.10	-1.52	0.27	0.03



Stellar Parameters For KIC 006140015

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	11053^{+280}_{-1495}	$3.603^{+0.425}_{-0.075}$	$0.360^{+0.050}_{-0.300}$	$4.909^{+0.410}_{-2.325}$	$3.520^{+0.070}_{-0.865}$	$0.042^{+0.167}_{-0.010}$
	+3%/-14%	+12%/-2%	+14%/-83%	+8%/-47%	+2%/-25%	+398%/-25%
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 006140015-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-97 ± 17	$6.33^{+2.66}_{-2.34}$	5863^{+590}_{-889}	8375^{+3007}_{-1690}	$4.276^{+6.273}_{-2.167}$
Alt.	-77 ± 49	$8.74^{+3.03}_{-2.76}$	5862^{+608}_{-889}	6235^{+1789}_{-2071}	$1.695^{+2.508}_{-1.203}$

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

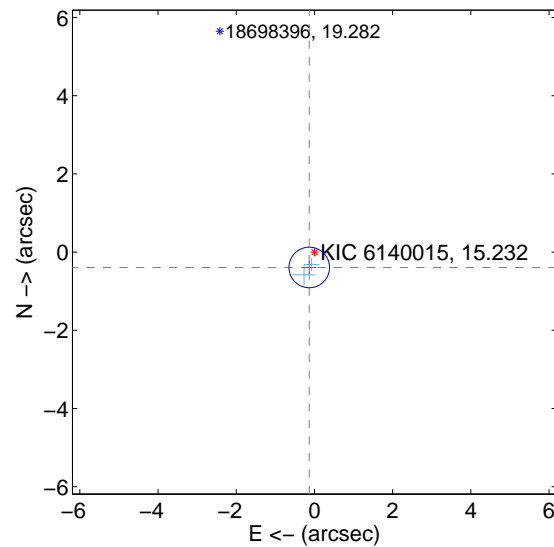
Supplemental centroid analysis for 006140015-01. Kepler magnitude: 15.23. Transit SNR 7.18

There are 2 quarters with good PRF difference image offsets

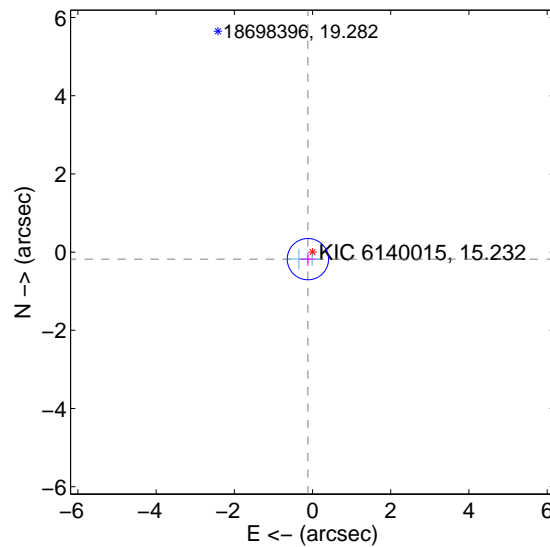
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.415 ± 0.173	2.40	0.133 ± 0.187	-0.393 ± 0.171
PRF-fit source offset from KIC position	0.216 ± 0.176	1.23	0.118 ± 0.187	-0.180 ± 0.171
photometric centroid source offset	1.58 ± 1.19	1.32	-1.33 ± 1.17	-0.85 ± 1.24

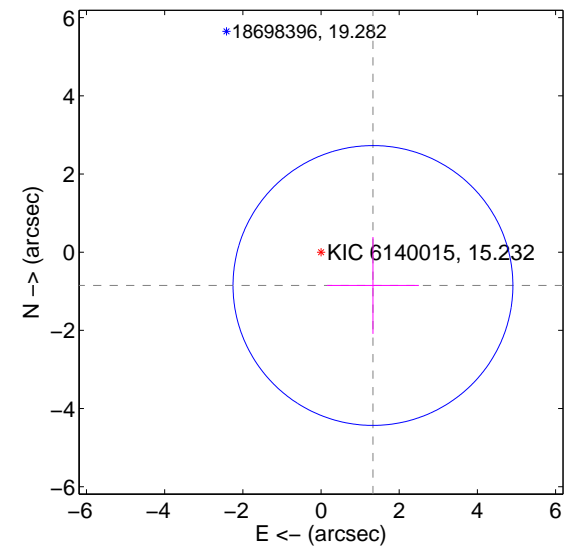
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

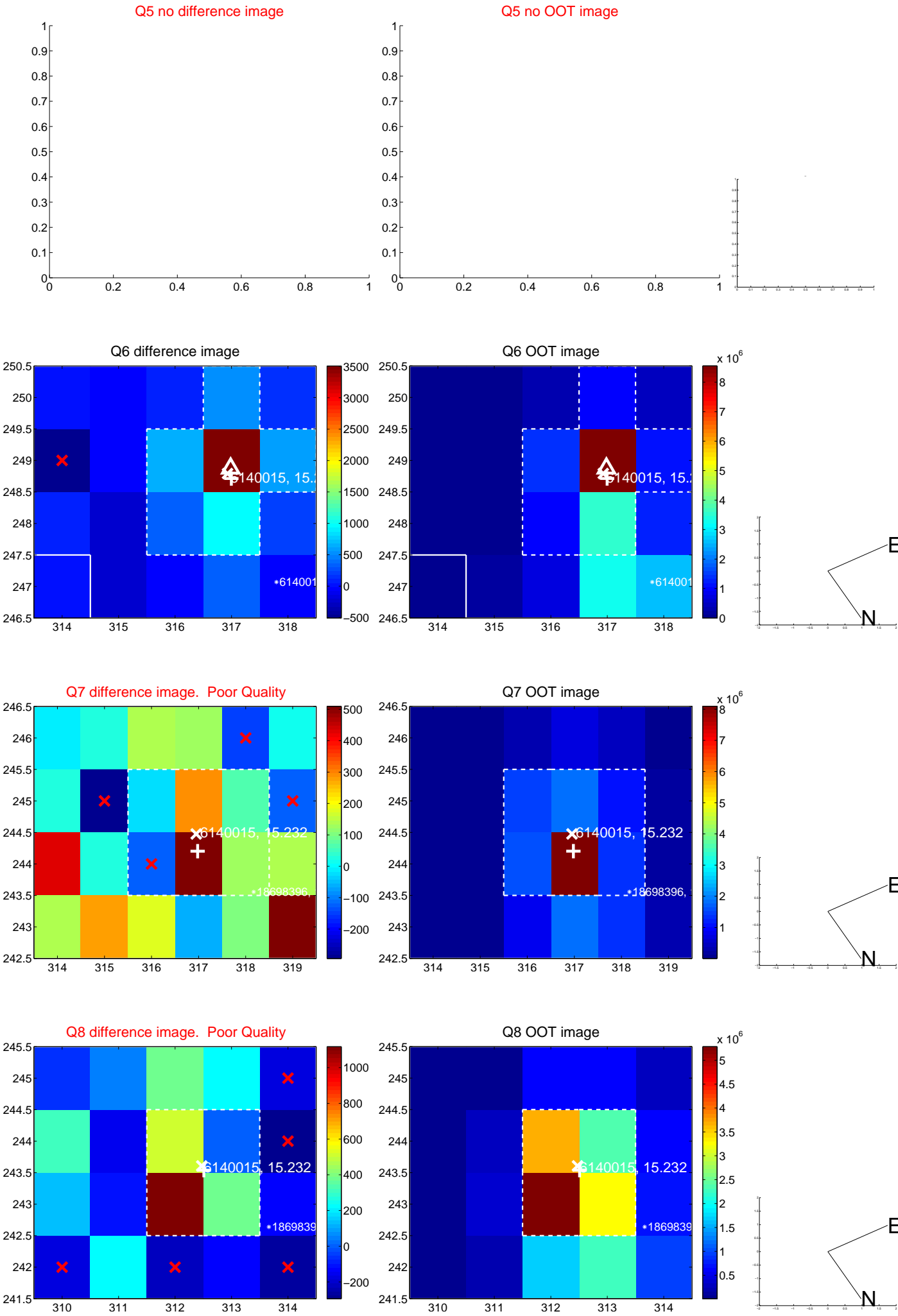


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

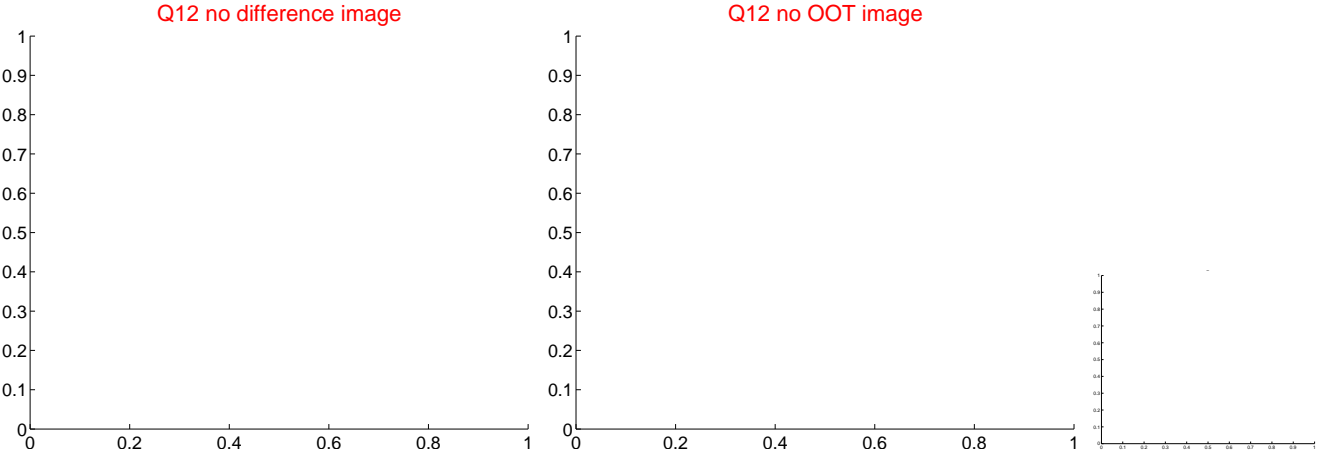
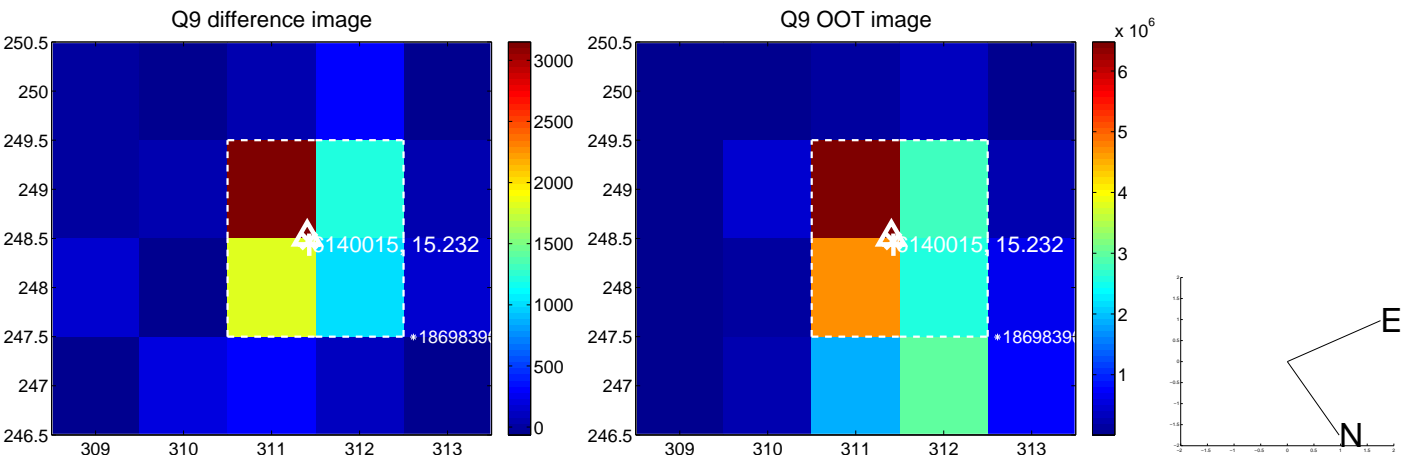
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



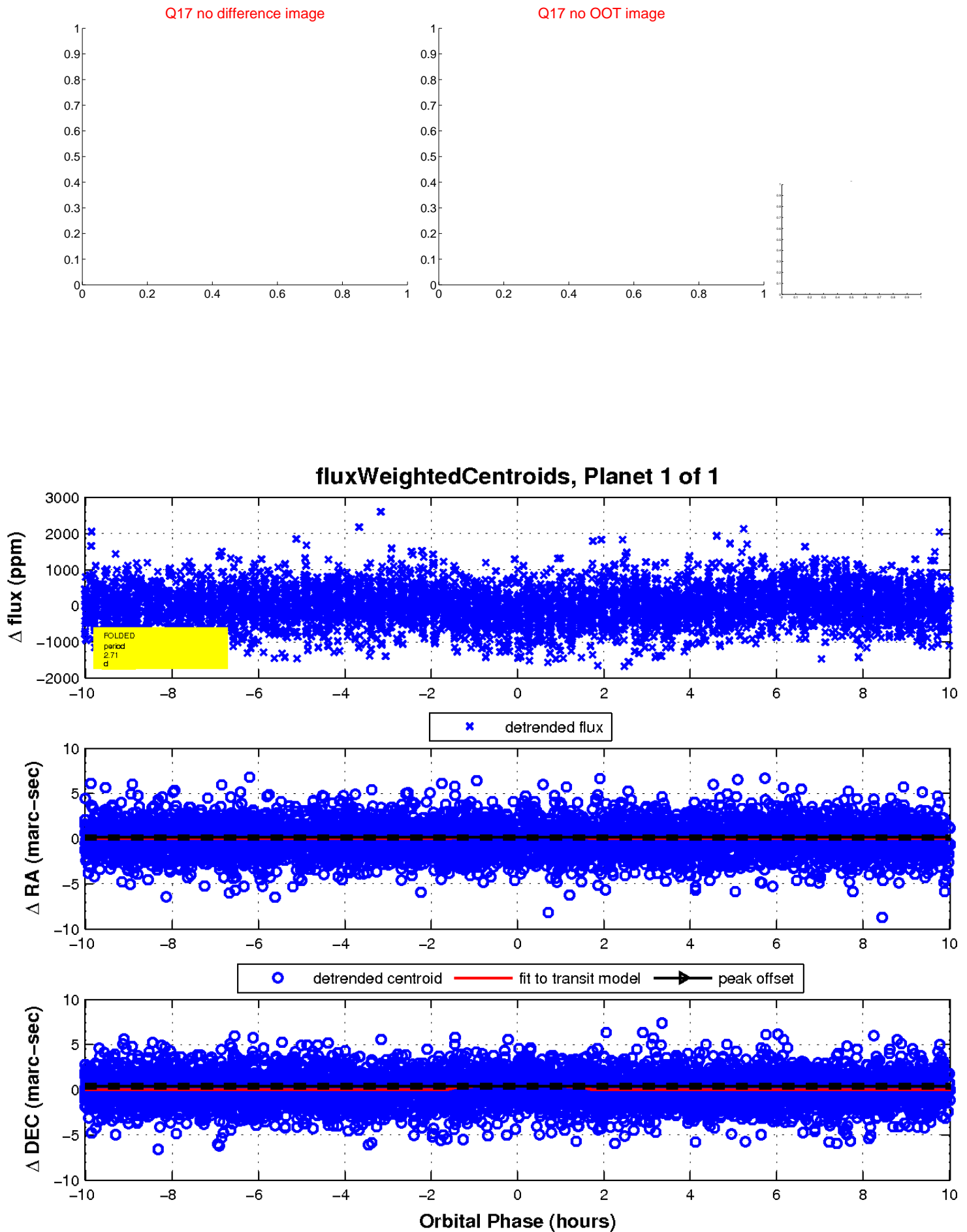
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

