

KIC 008307440

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})
008307440-01	OBS	No	457.904159	177.982331	350.0	11.928	9.9	7.8	1.04	6423	2.44	1.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008307440-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—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.

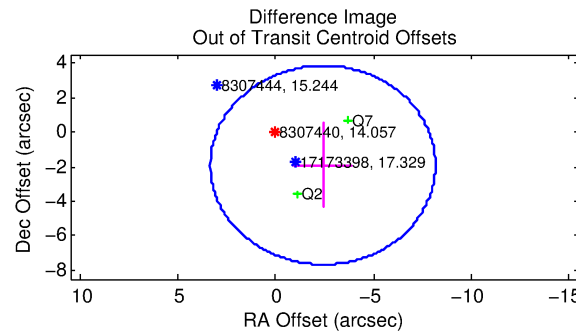
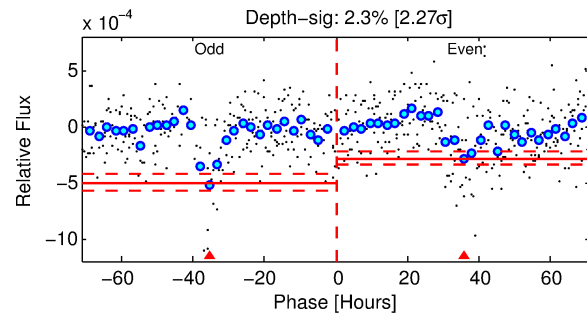
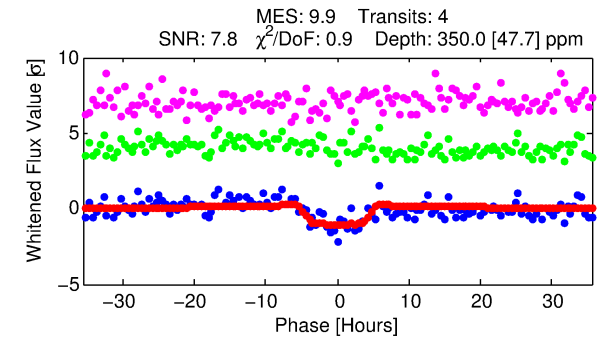
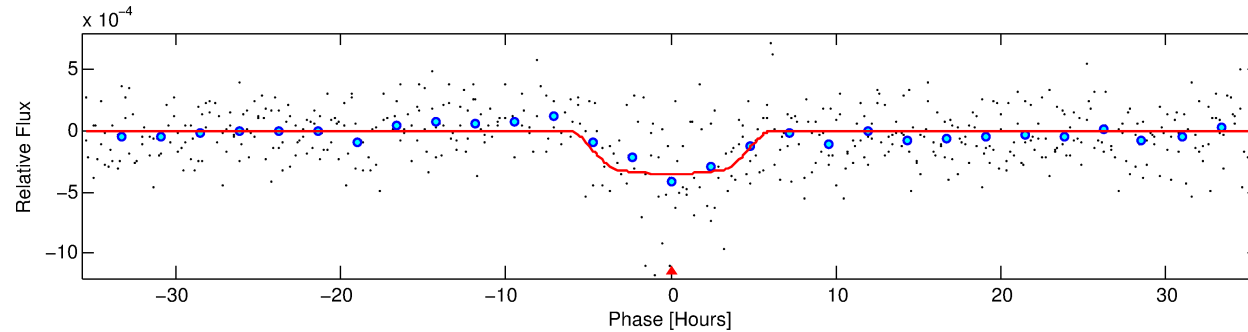
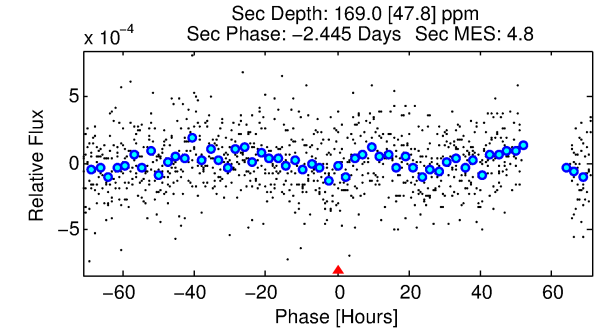
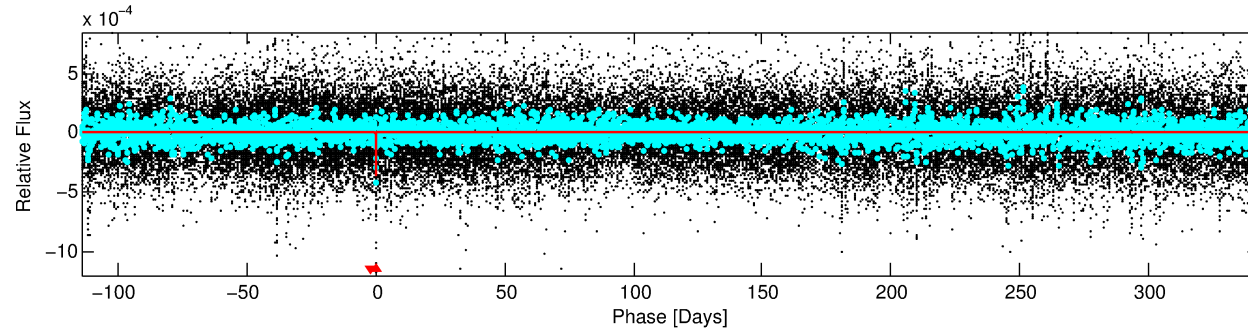
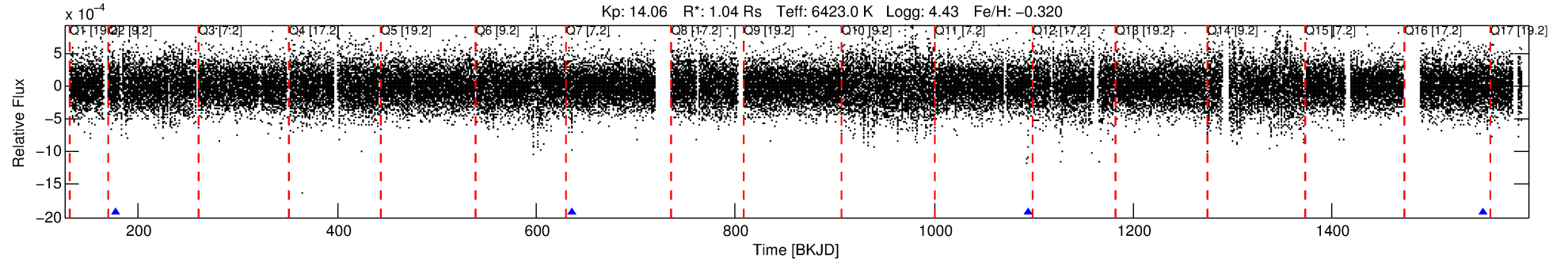
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008307440-01

No Significant Match Found

DV One-Page Summary

KIC: 8307440 Candidate: 1 of 1 Period: 457.904 d



DV Fit Results:

Period = 457.90416 [0.01260] d
Epoch = 177.9823 [0.0219] BKJD
Rp/R* = 0.0215 [0.0020]
a/R* = 104.22 [30.63]
b = 0.96 [0.03]
Seff = 1.17 [0.49]
Teff = 265 [28] K
Rp = 2.44 [0.84] Re
a = 1.1923 [0.3296] AU
Ag = 22126.72 [11578.07] [1.91σ]
Teffp = 4997 [454] K [10.41σ]

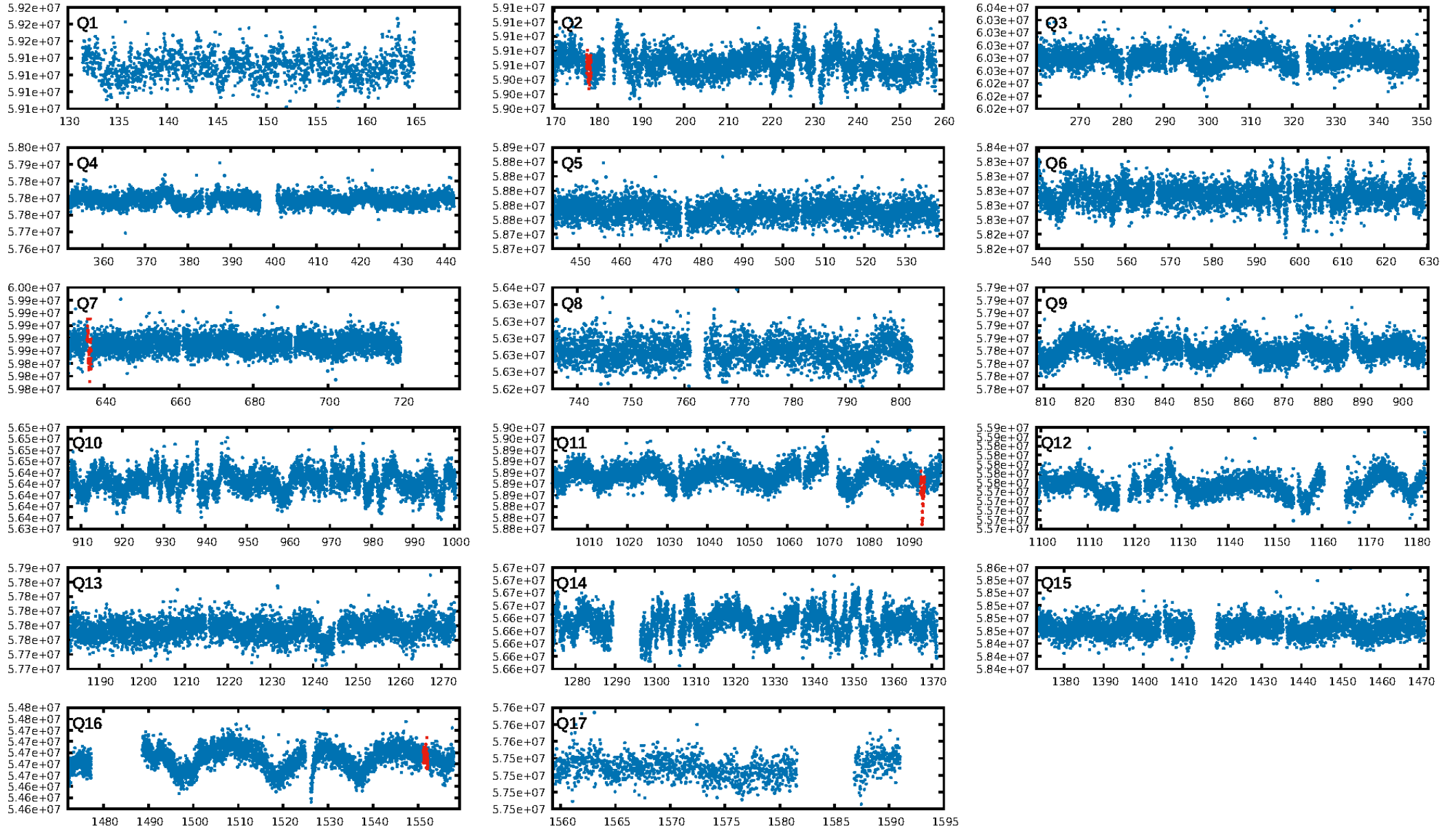
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 4.13e-15
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 10.34
Centroid-sig: 0.2%
Centroid-so: 3.045 arcsec [2.31σ]
OotOffset-rm: 3.075 arcsec [1.60σ]
KicOffset-rm: 1.870 arcsec [0.90σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

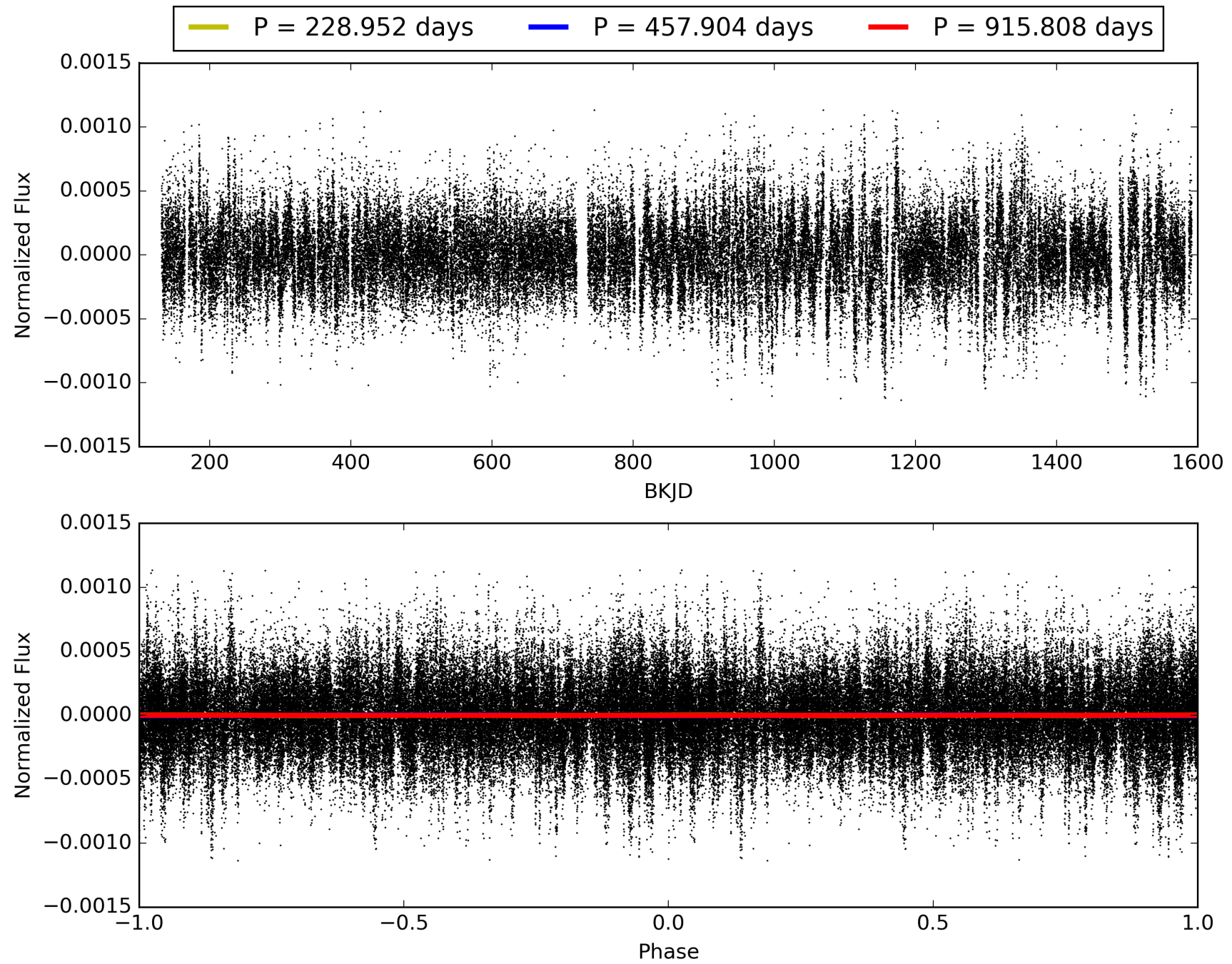
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 01:38:54 Z

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

TCE 008307440-01, PDC Light Curves

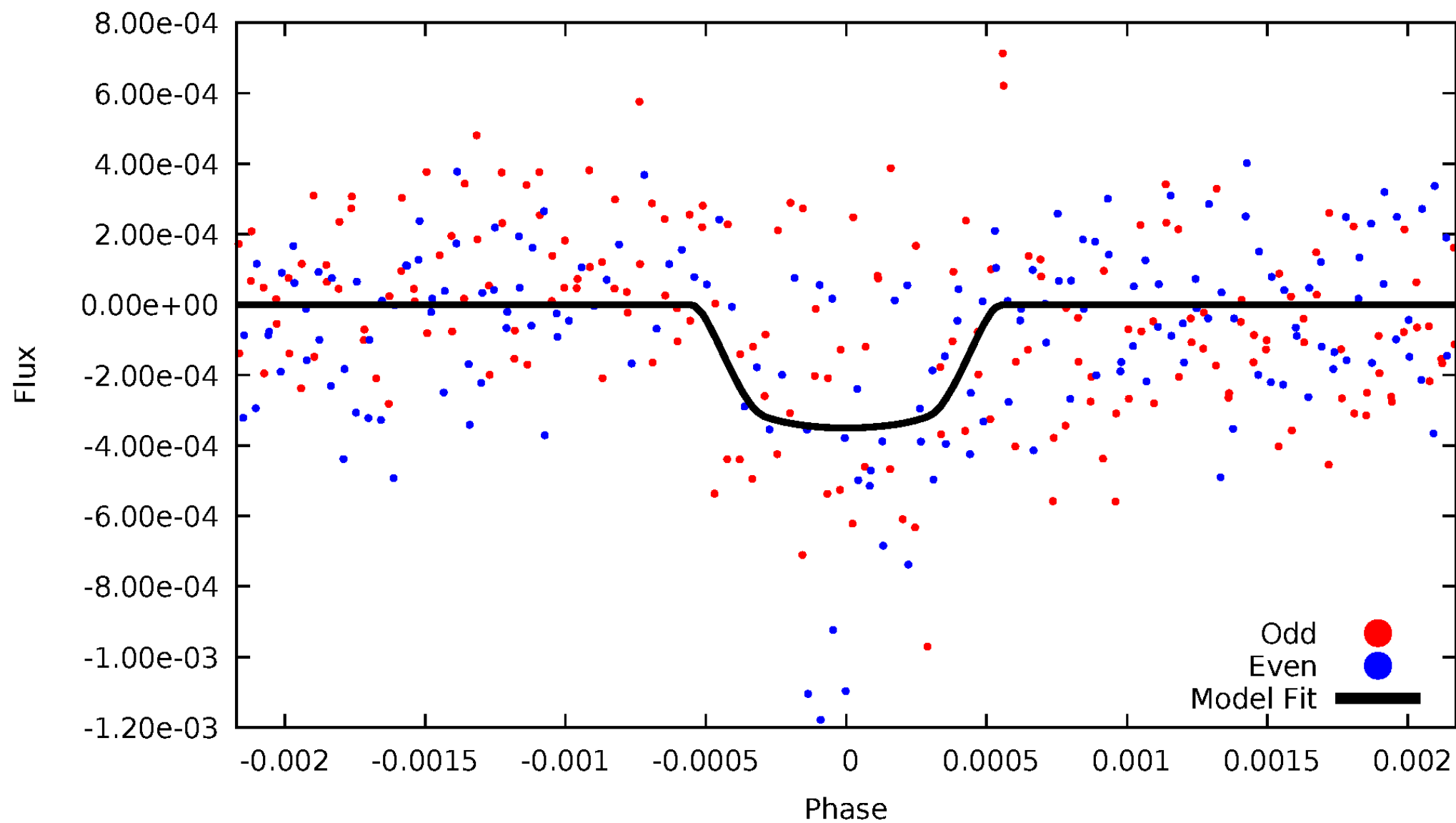


TCE 008307440-01



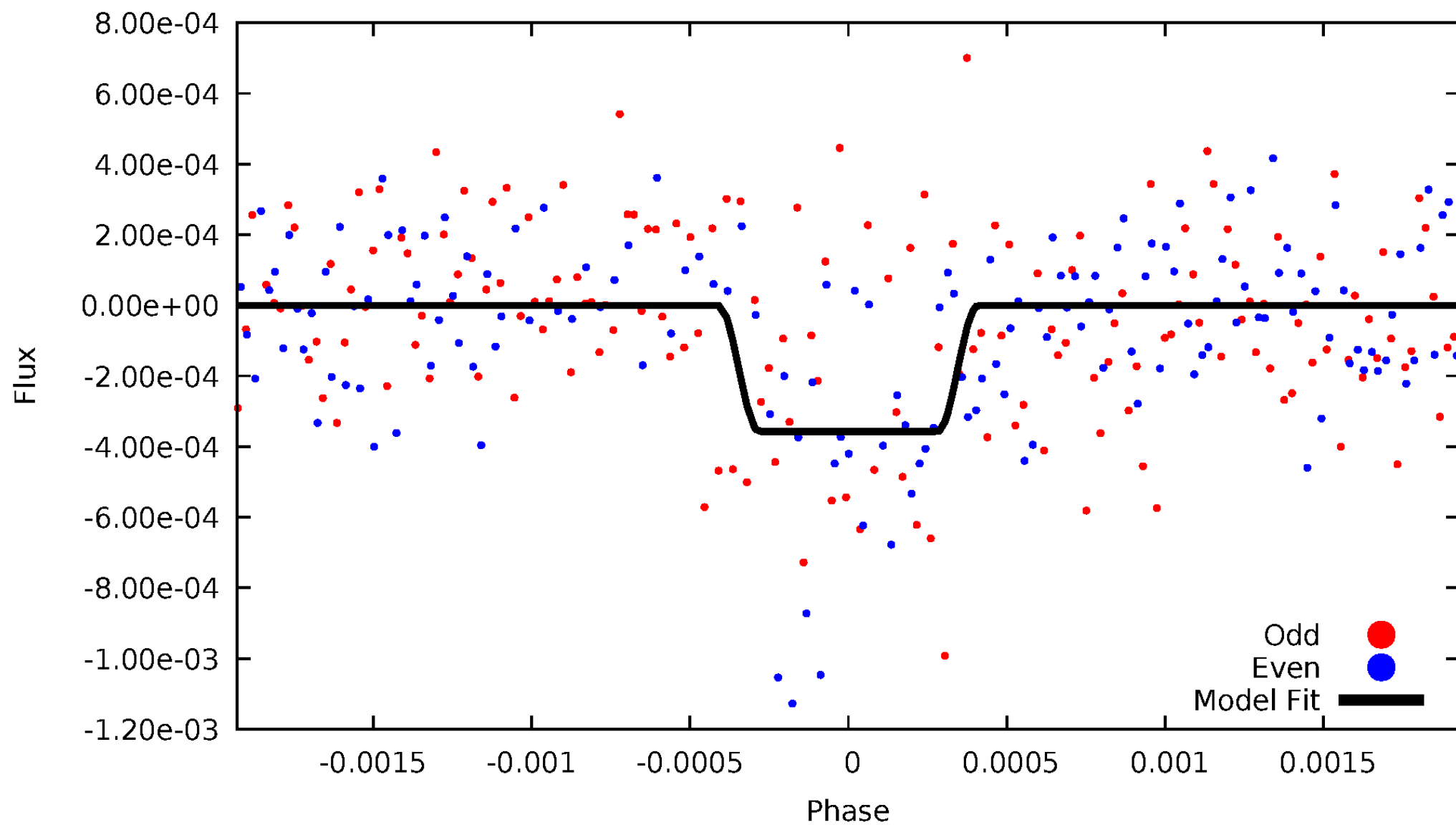
DV Odd/Even

TCE 008307440-01

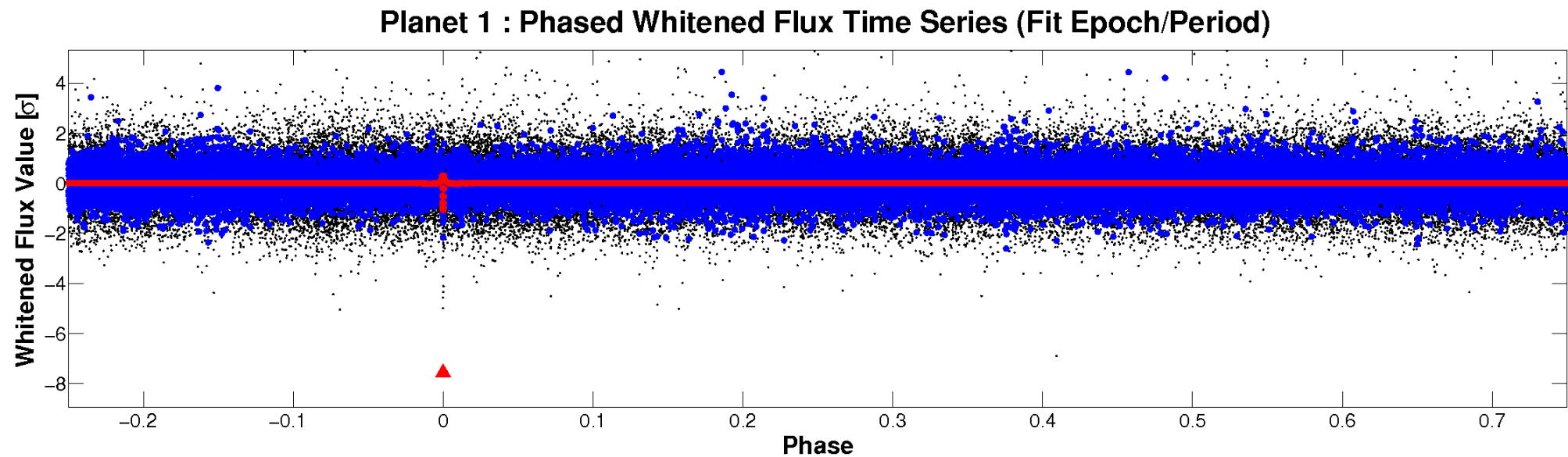
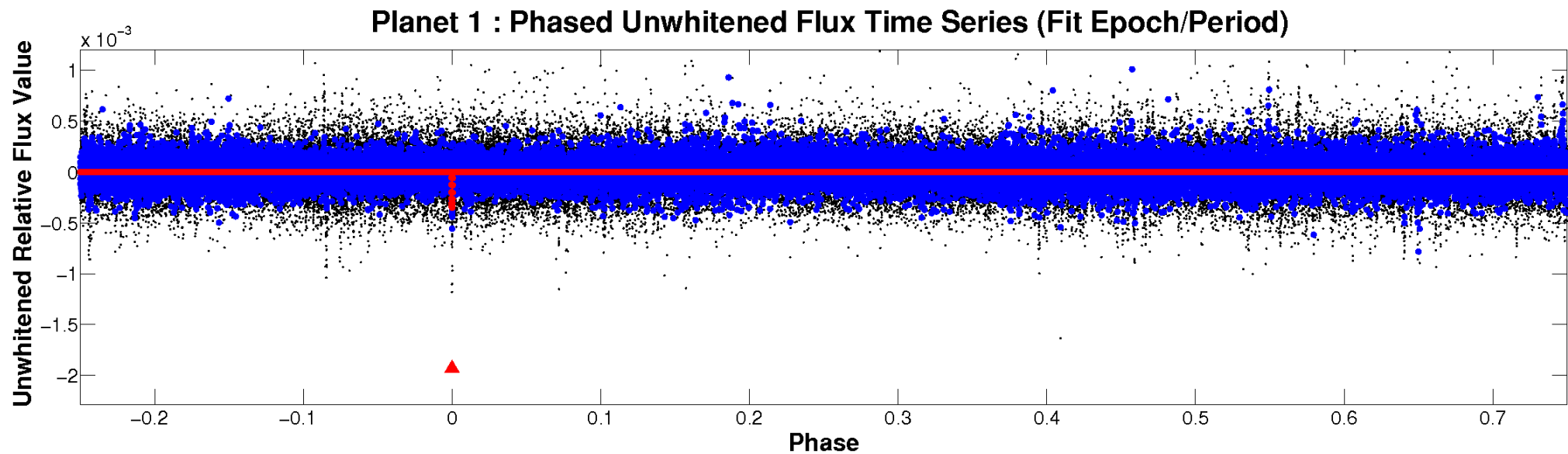


ALT Odd/Even

TCE 008307440-01

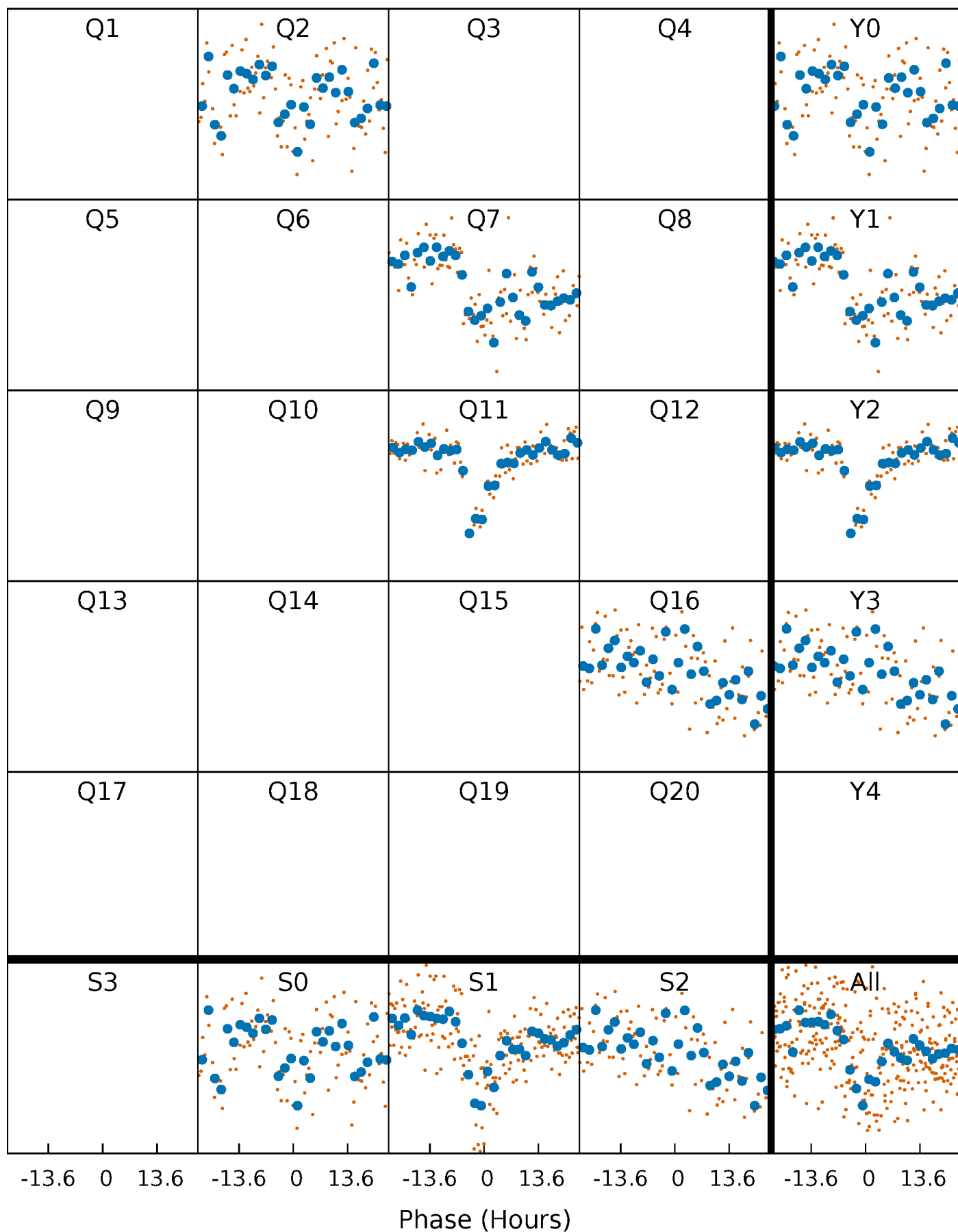


Non-Whitened Vs. Whitened Light Curve



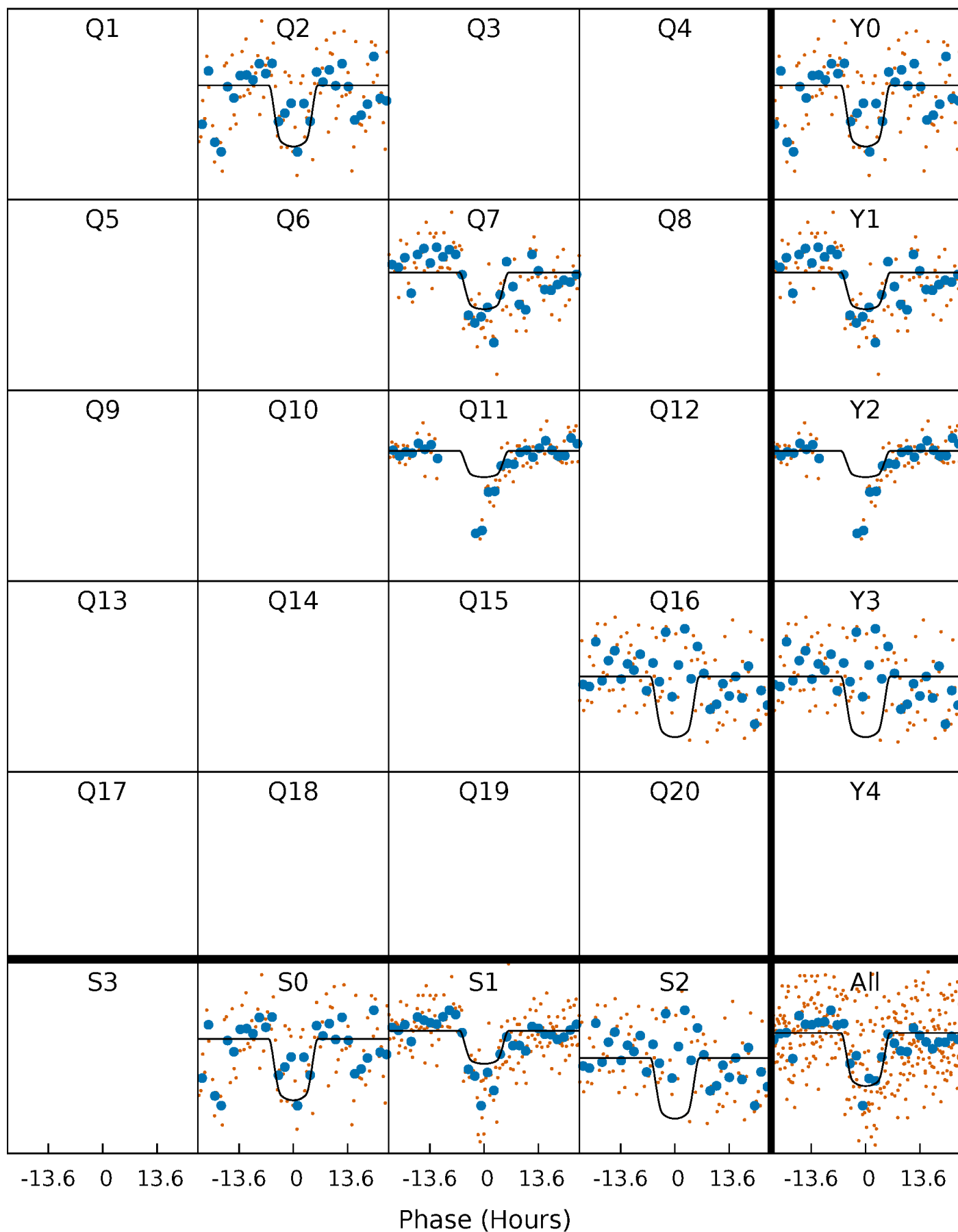
PDC Quarter-Phased Transit Curves

TCE 008307440-01 P=457.904159 Days $T_0=177.982330$ (BKJD)



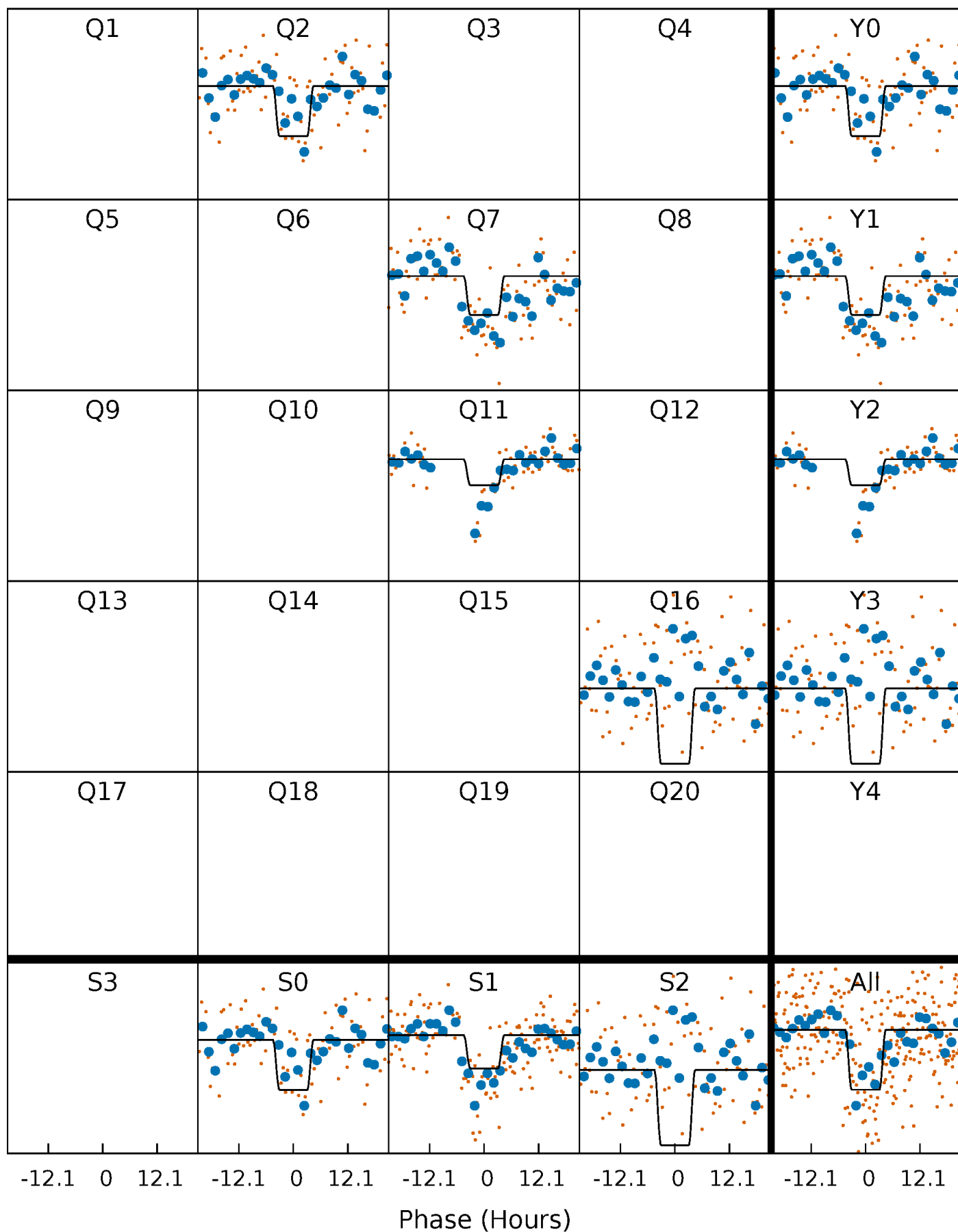
DV Quarter-Phased Transit Curves

TCE 008307440-01 P=457.904159 Days $T_0=177.982330$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

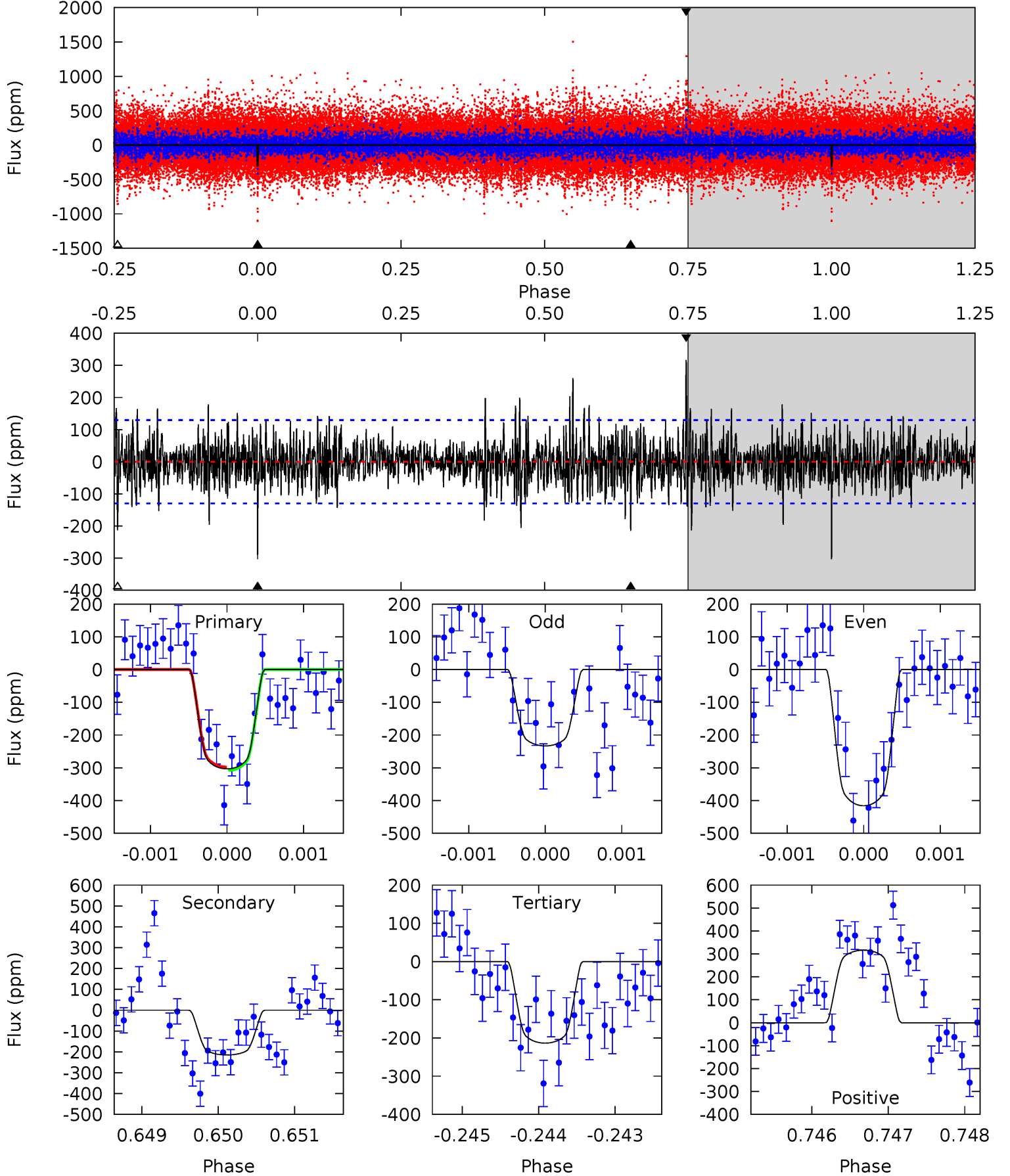
TCE 008307440-01 P=457.950135 Days $T_0=177.929498$ (BKJD)



DV Model-Shift Uniqueness Test

008307440-01, P = 457.904159 Days, E = 177.982330 Days

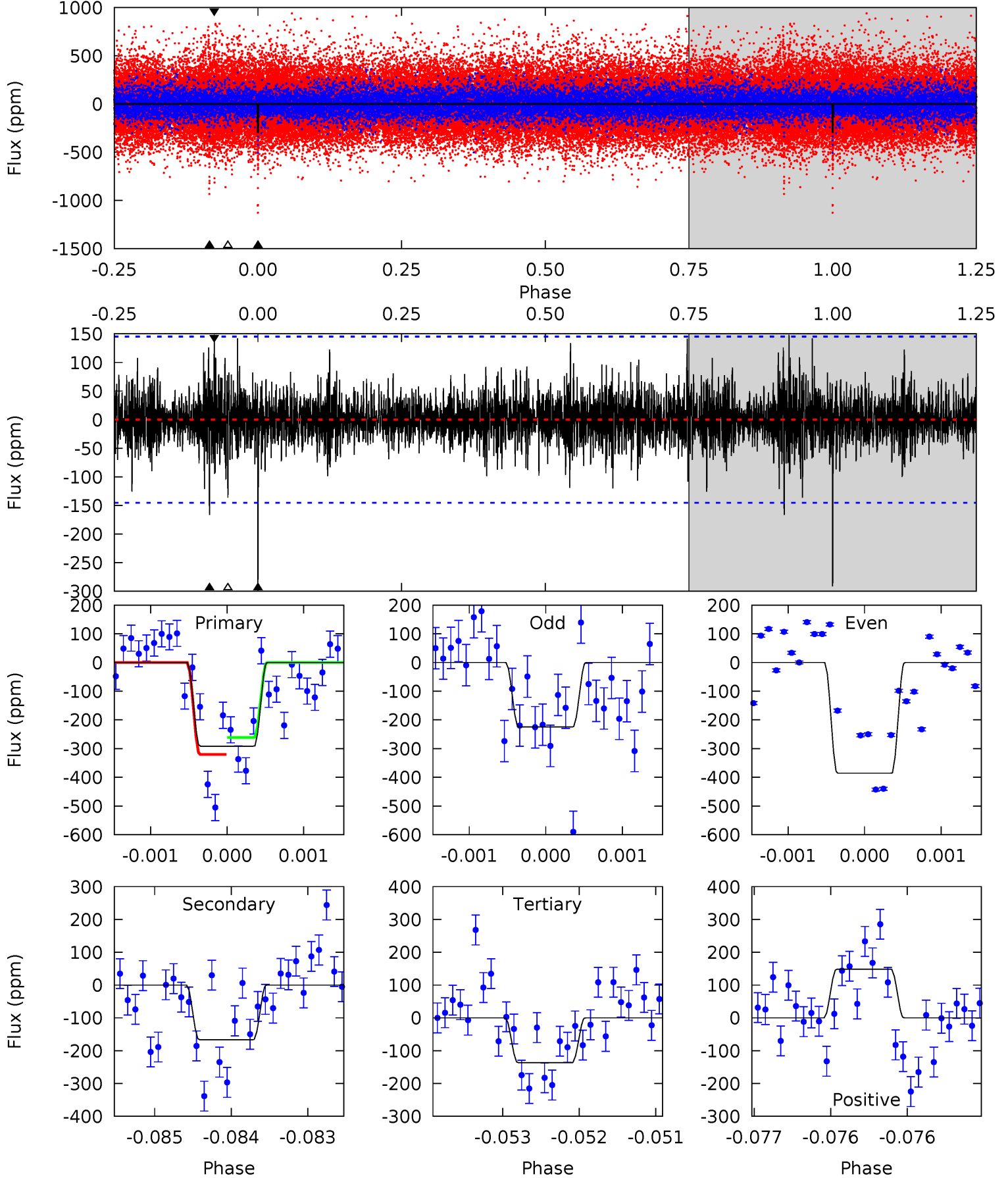
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	8.99	8.93	13.2	5.43	3.26	2.22	3.75	-0.54	0.06	-4.23	3.83	1.00	0.51	0.22



Alt Model-Shift Uniqueness Test

008307440-01, P = 457.950135 Days, E = 177.929498 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	6.29	5.16	5.61	5.49	3.36	1.21	5.86	5.41	1.14	0.68	3.10	0.88	0.34	1.12



Stellar Parameters For KIC 008307440

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6423^{+152}_{-209}	$4.434^{+0.067}_{-0.216}$	$-0.320^{+0.250}_{-0.300}$	$1.043^{+0.346}_{-0.115}$	$1.077^{+0.152}_{-0.137}$	$1.336^{+0.385}_{-0.710}$
	+2%/-3%	+2%/-5%	+78%/-94%	+33%/-11%	+14%/-13%	+29%/-53%
Source	PHO1	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 008307440-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-215 ± 24	$2.50^{+0.46}_{-0.31}$	375^{+31}_{-18}	5338^{+340}_{-286}	26201^{+8469}_{-7674}
Alt.	-166 ± 26	$2.24^{+0.43}_{-0.32}$	378^{+28}_{-20}	5331^{+355}_{-331}	25062^{+10252}_{-7676}

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

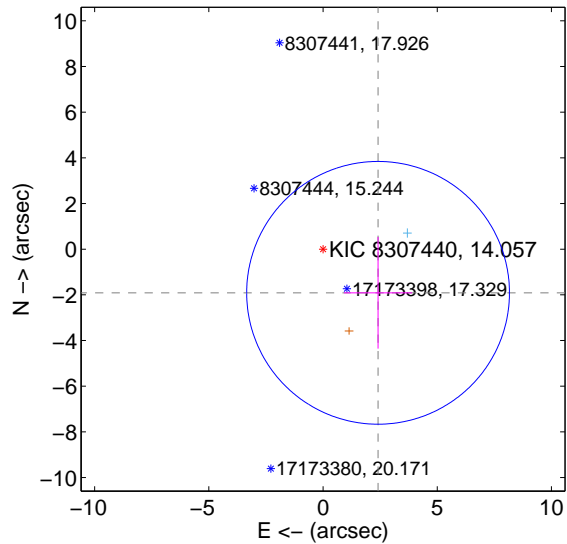
Supplemental centroid analysis for 008307440-01. Kepler magnitude: 14.06. Transit SNR 7.82

There are 1 quarters with good PRF difference image offsets

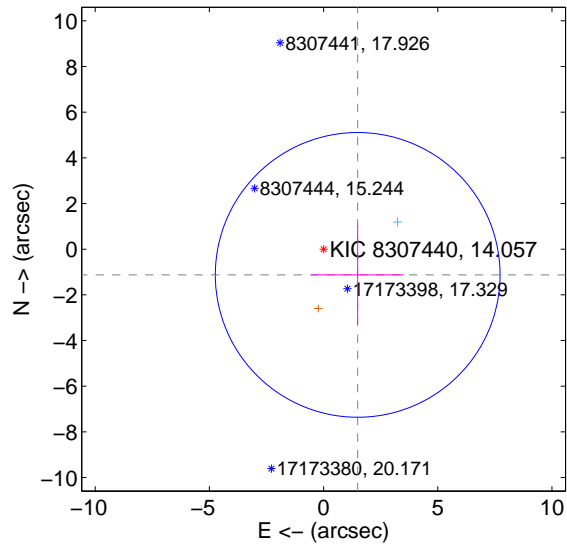
The direct PRF centroid is offset from the target star catalog position by about 0.66 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.075 ± 1.917	1.60	-2.409 ± 1.494	-1.912 ± 2.444
PRF-fit source offset from KIC position	1.870 ± 2.078	0.90	-1.493 ± 2.029	-1.126 ± 2.160
photometric centroid source offset	3.04 ± 1.32	2.31	-2.90 ± 1.32	0.94 ± 1.23

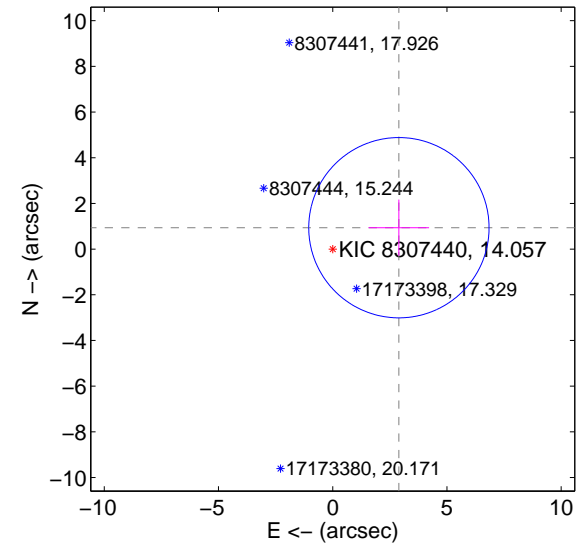
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

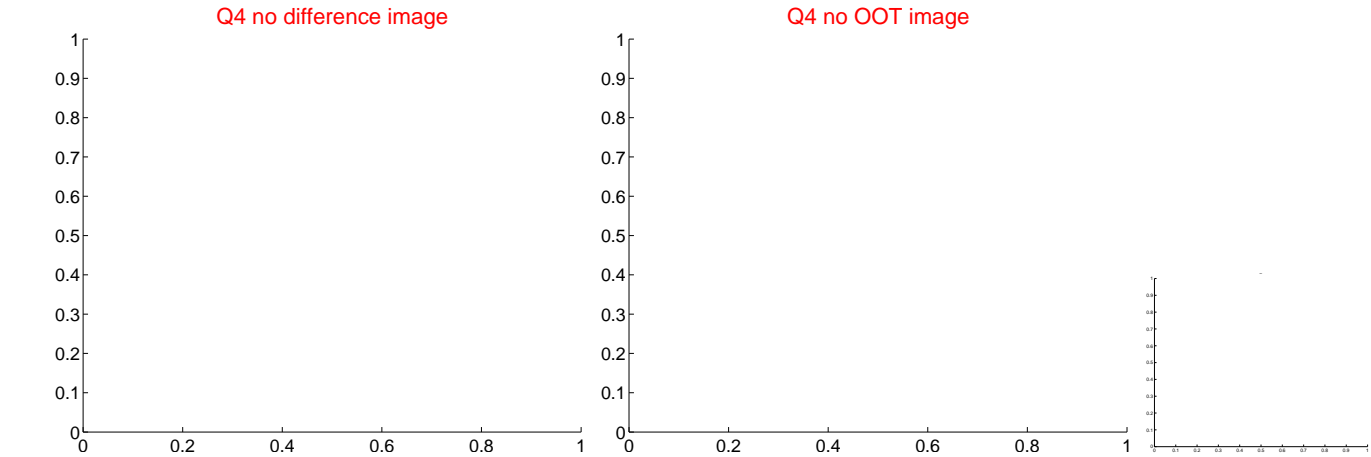
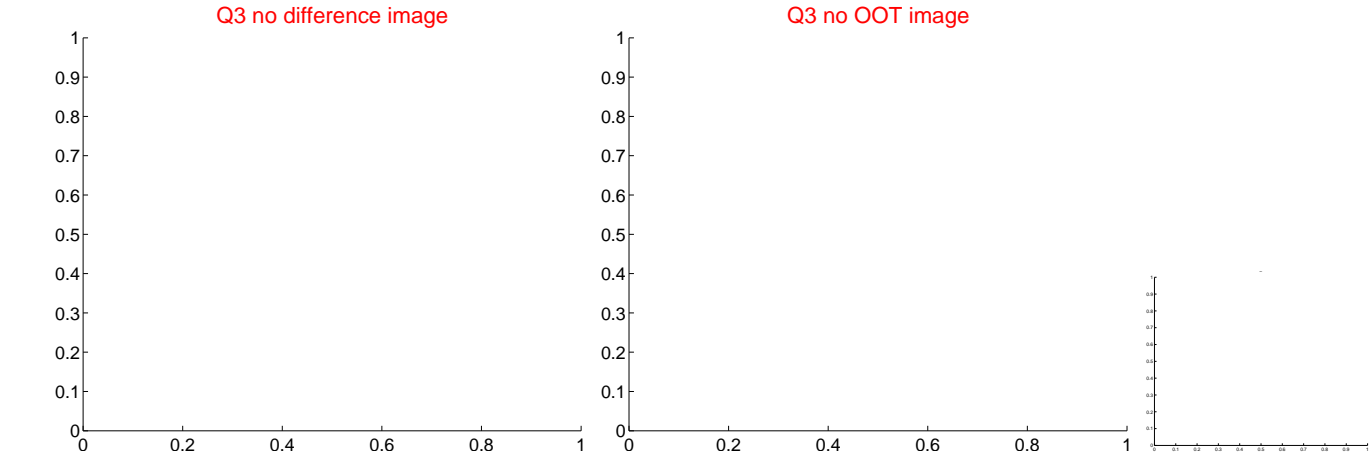
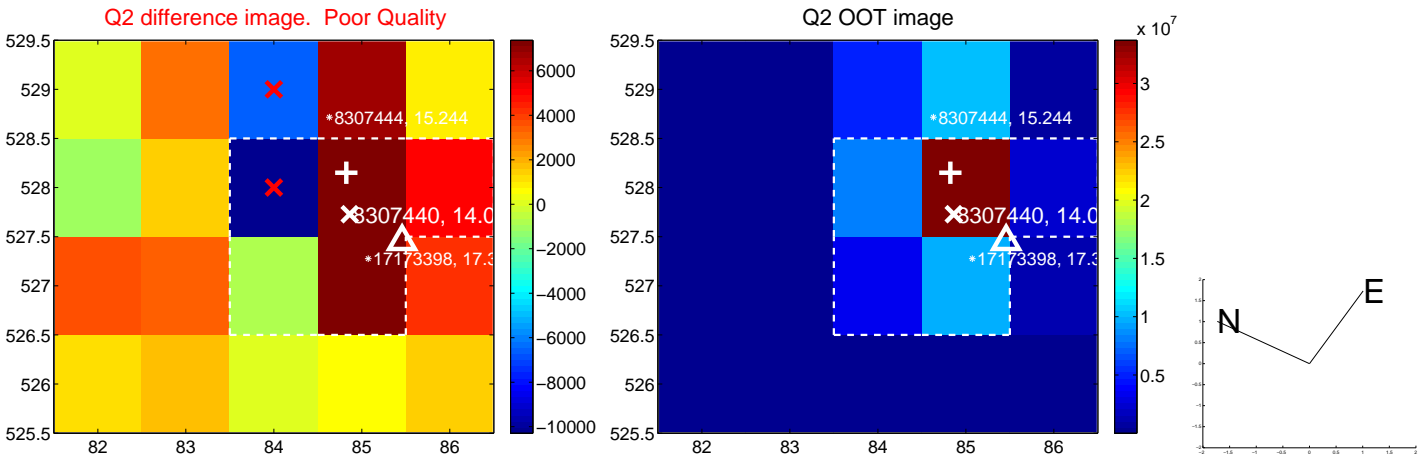
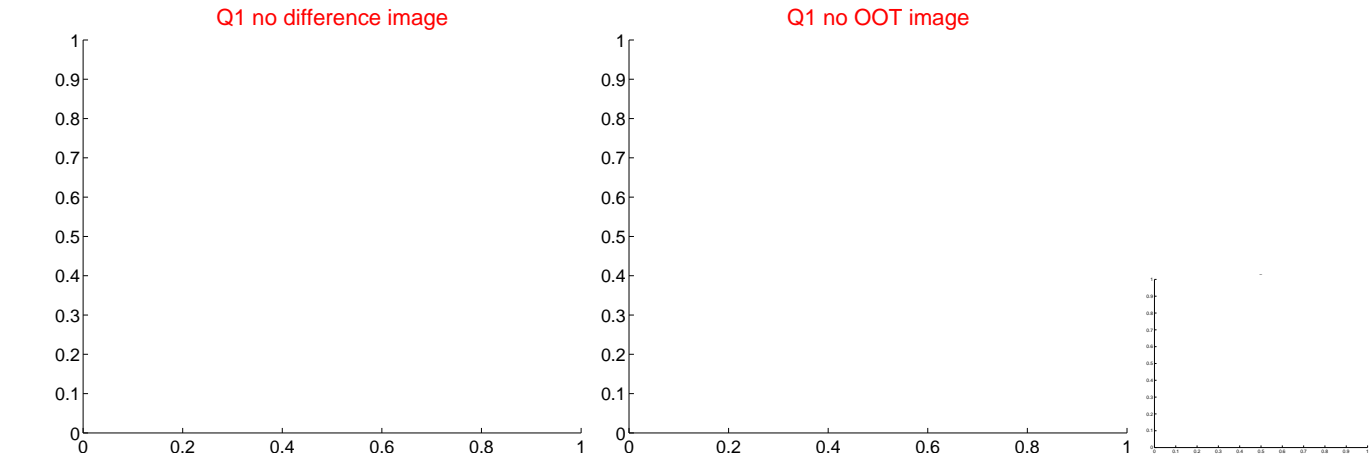


offset from photometric centroids

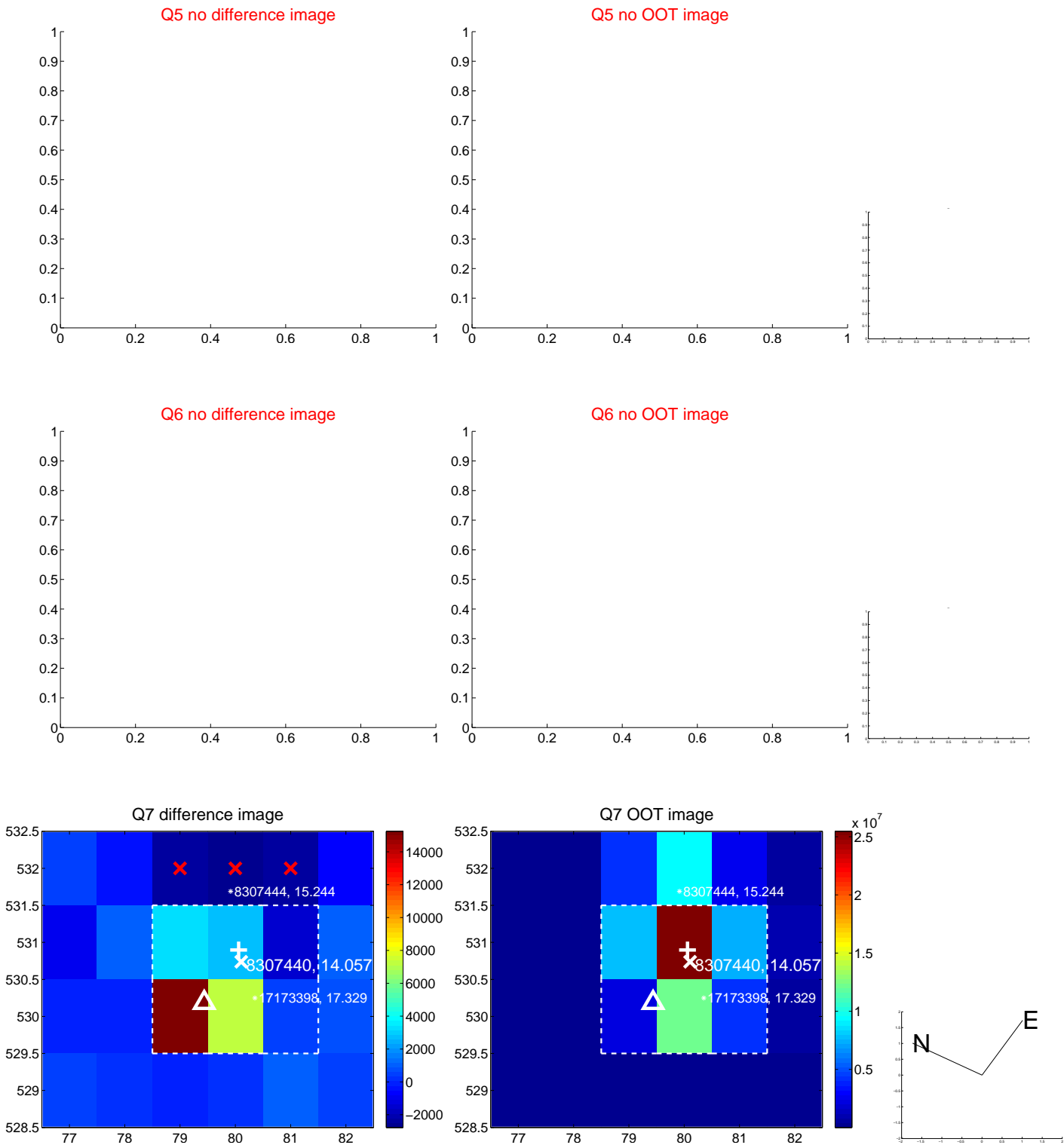


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



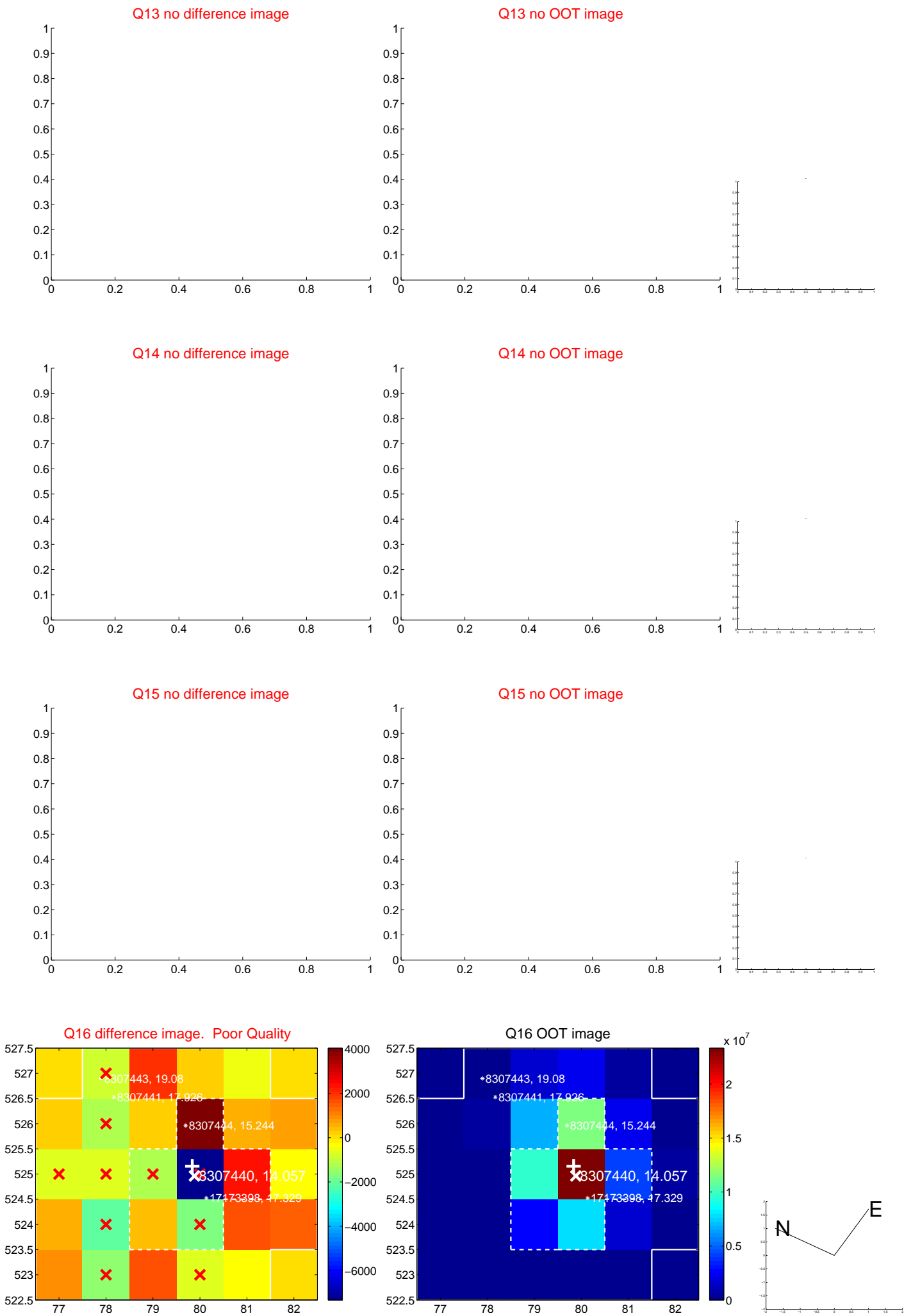
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



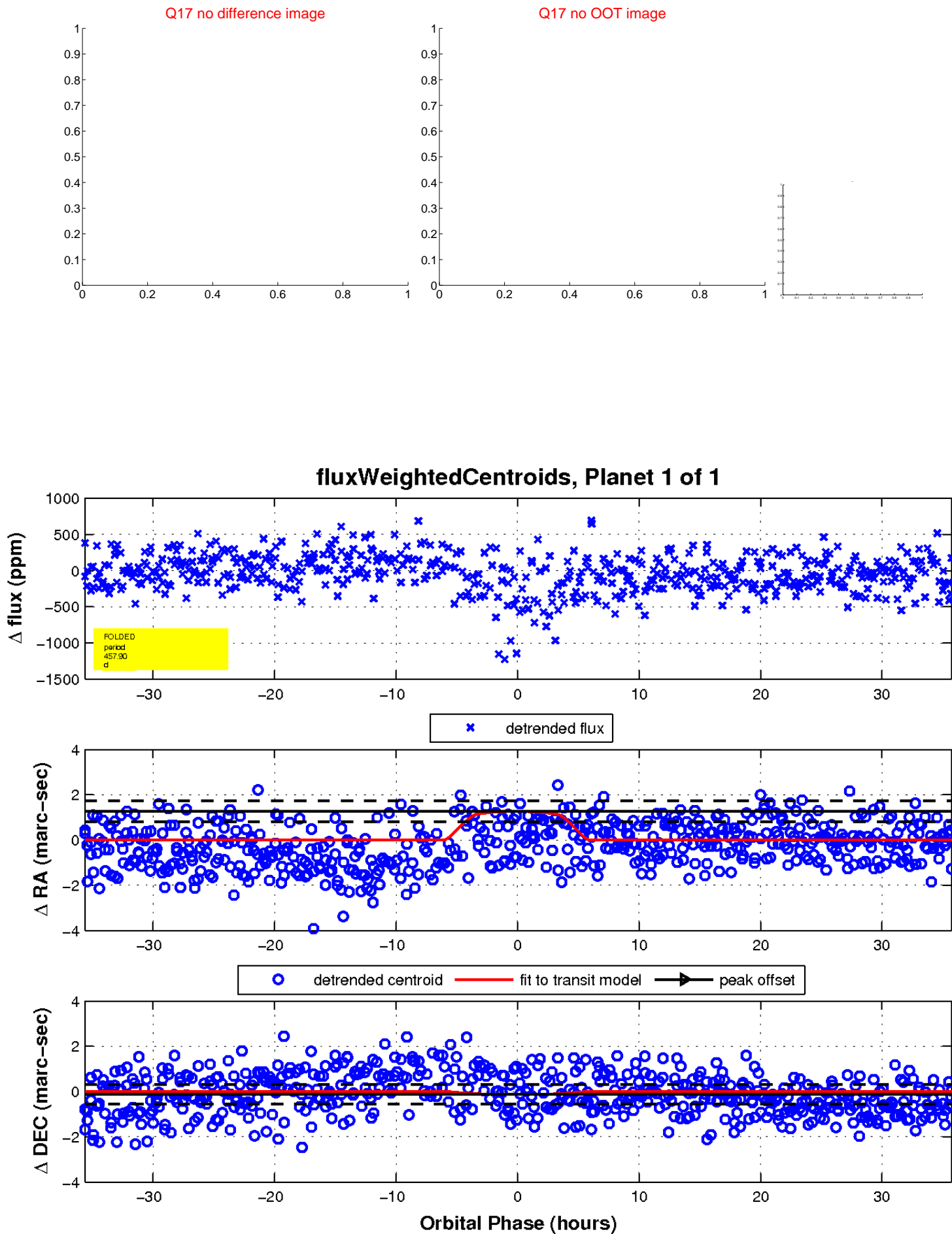
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

