

KIC 009886457

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})
009886457-01	OBS	No	330.366418	426.389312	306.2	5.381	10.8	7.2	1.07	6134	1.99	1.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009886457-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

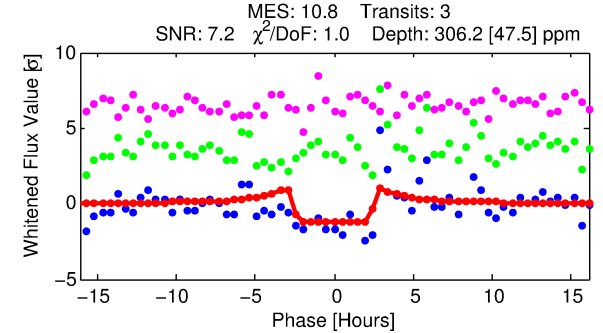
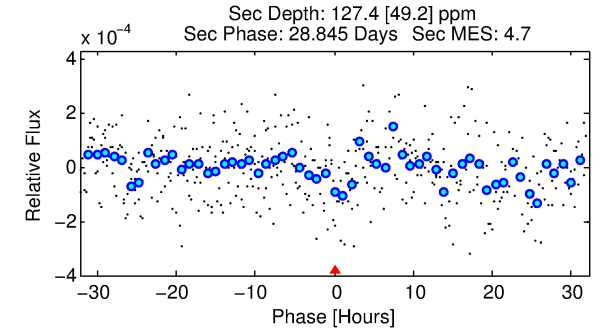
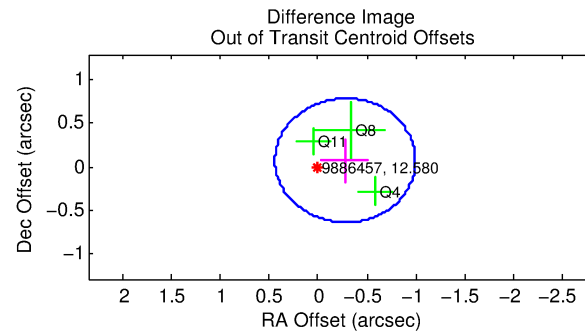
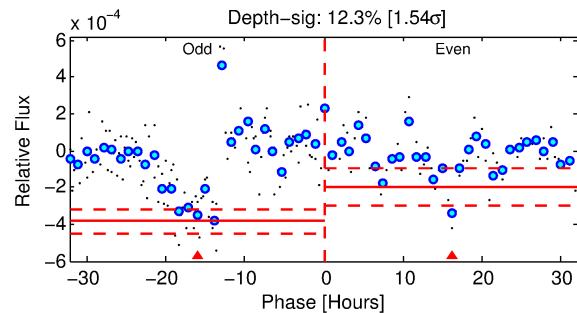
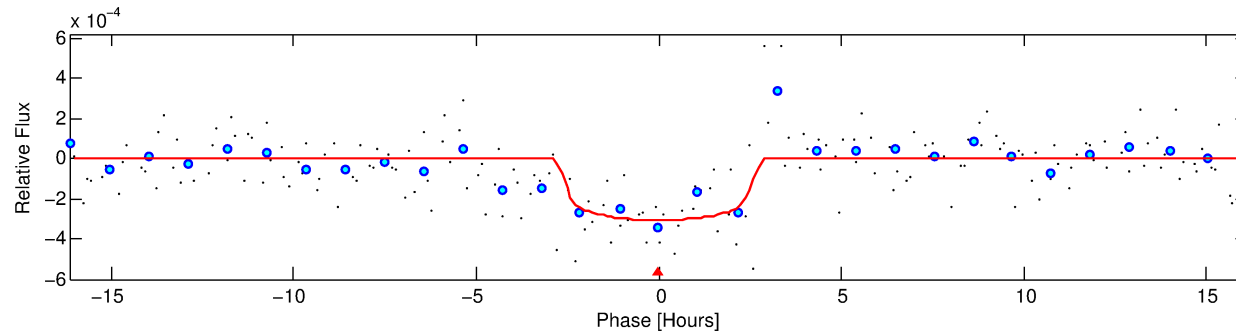
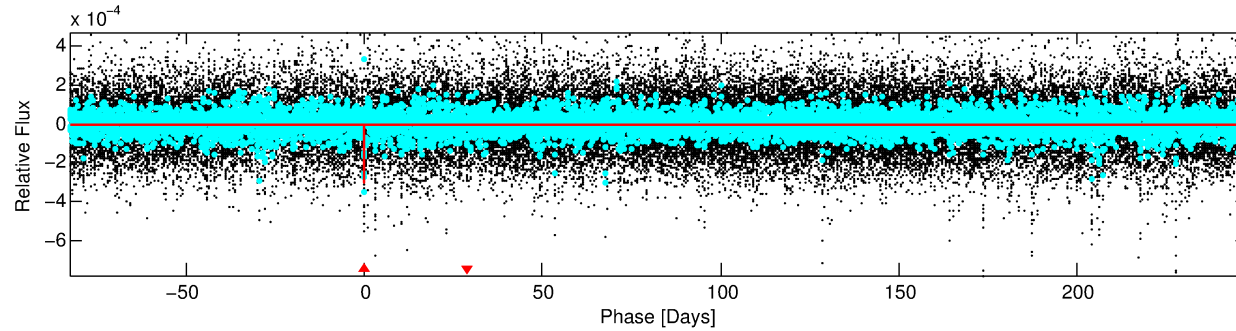
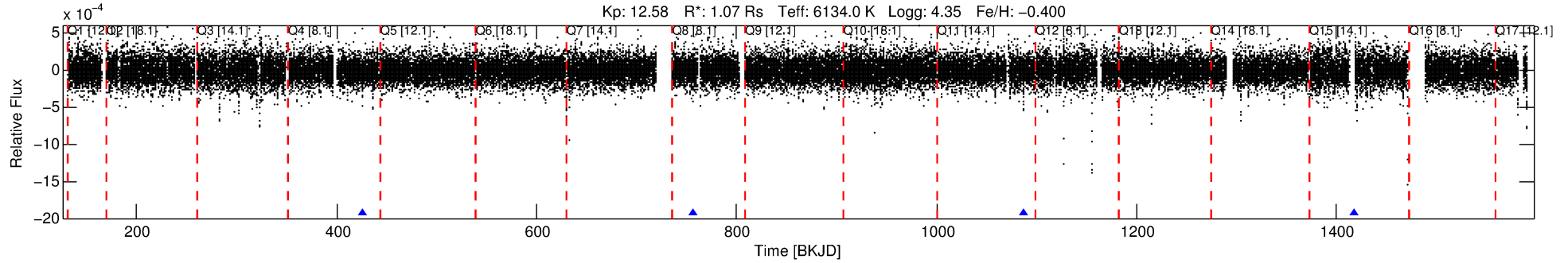
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009886457-01

No Significant Match Found

DV One-Page Summary

KIC: 9886457 Candidate: 1 of 1 Period: 330.366 d



DV Fit Results:

Period = 330.36642 [0.00646] d
Epoch = 426.3893 [0.0081] BKJD
Rp/R* = 0.0171 [0.0139]
a/R* = 351.94 [1461.23]
b = 0.69 [3.22]
Seff = 1.72 [0.63]
Teq = 292 [27] K
Rp = 1.99 [1.71] Re
a = 0.9152 [0.2105] AU
Ag = 14856.05 [25335.56] [0.59 σ]
Teffp = 4985 [2093] K [2.24 σ]

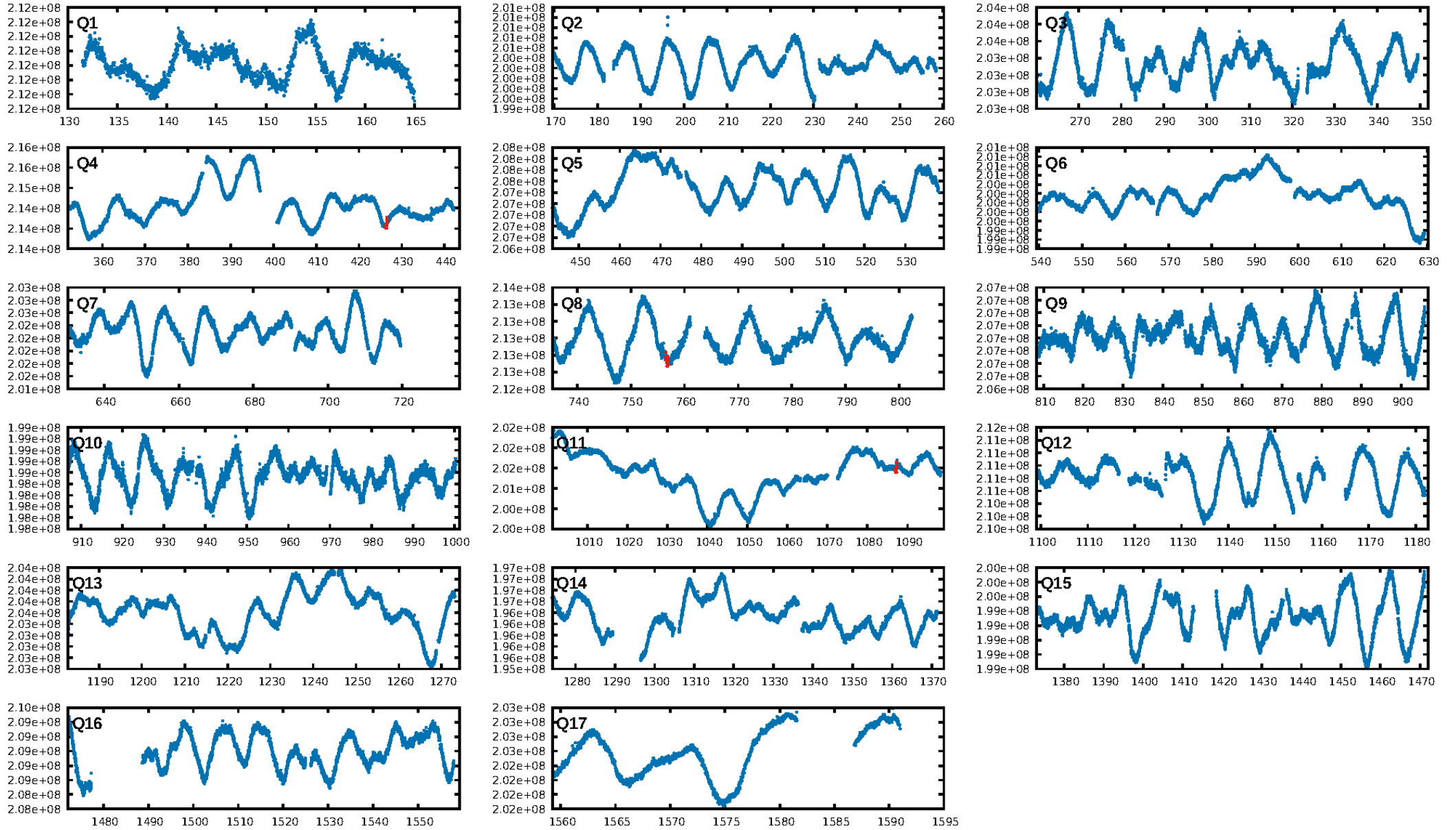
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 5.7%
ModelChiSquareGof-sig: 88.9%
Bootstrap-pfa: 1.40e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 19.16
Centroid-sig: 0.3%
Centroid-so: 1.383 arcsec [1.31 σ]
OotOffset-rm: 0.286 arcsec [1.19 σ]
KicOffset-rm: 0.281 arcsec [1.10 σ]
OotOffset-st: 0/1/2/0 [3]
KicOffset-st: 0/1/2/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

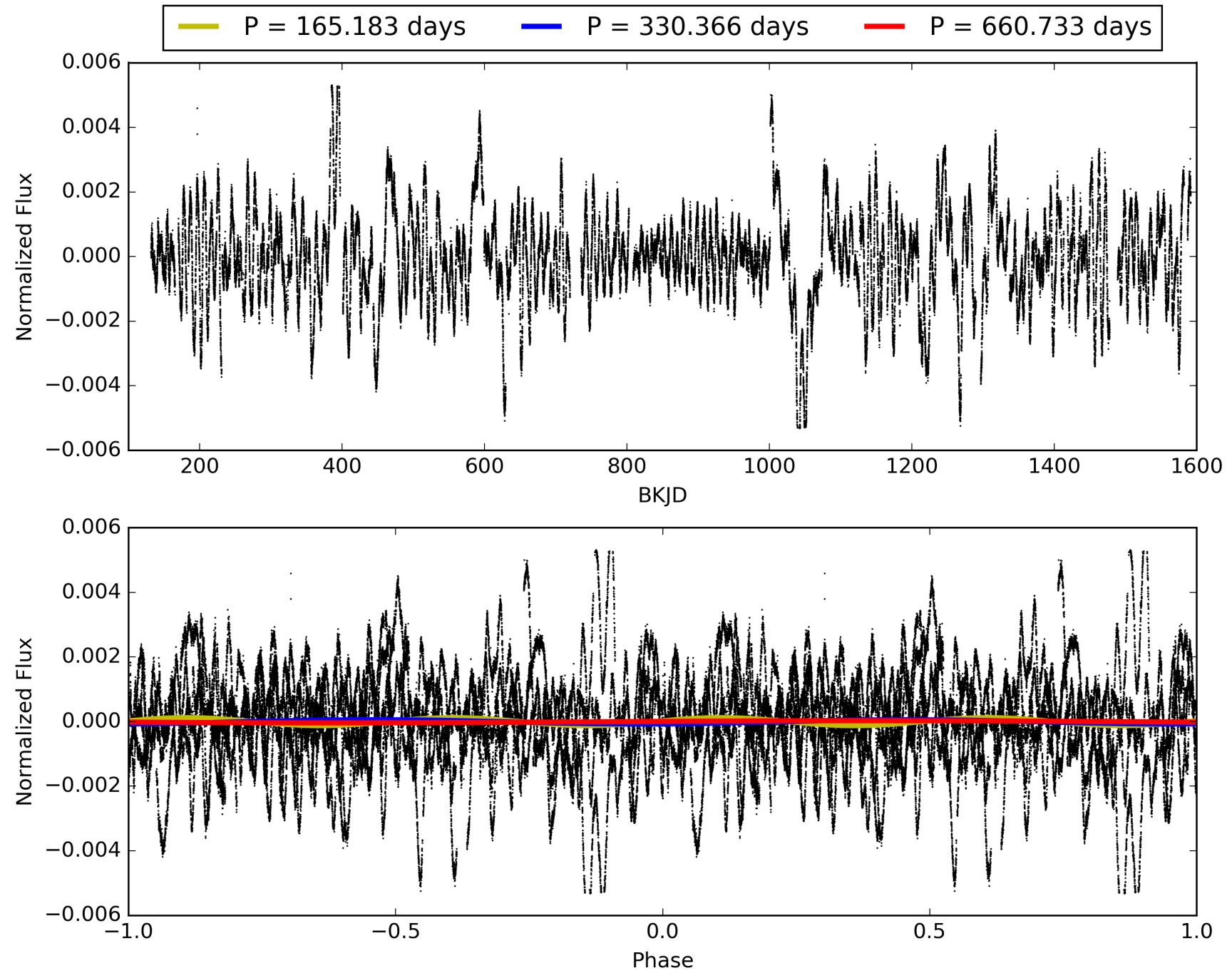
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:16:30 Z

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

TCE 009886457-01, PDC Light Curves

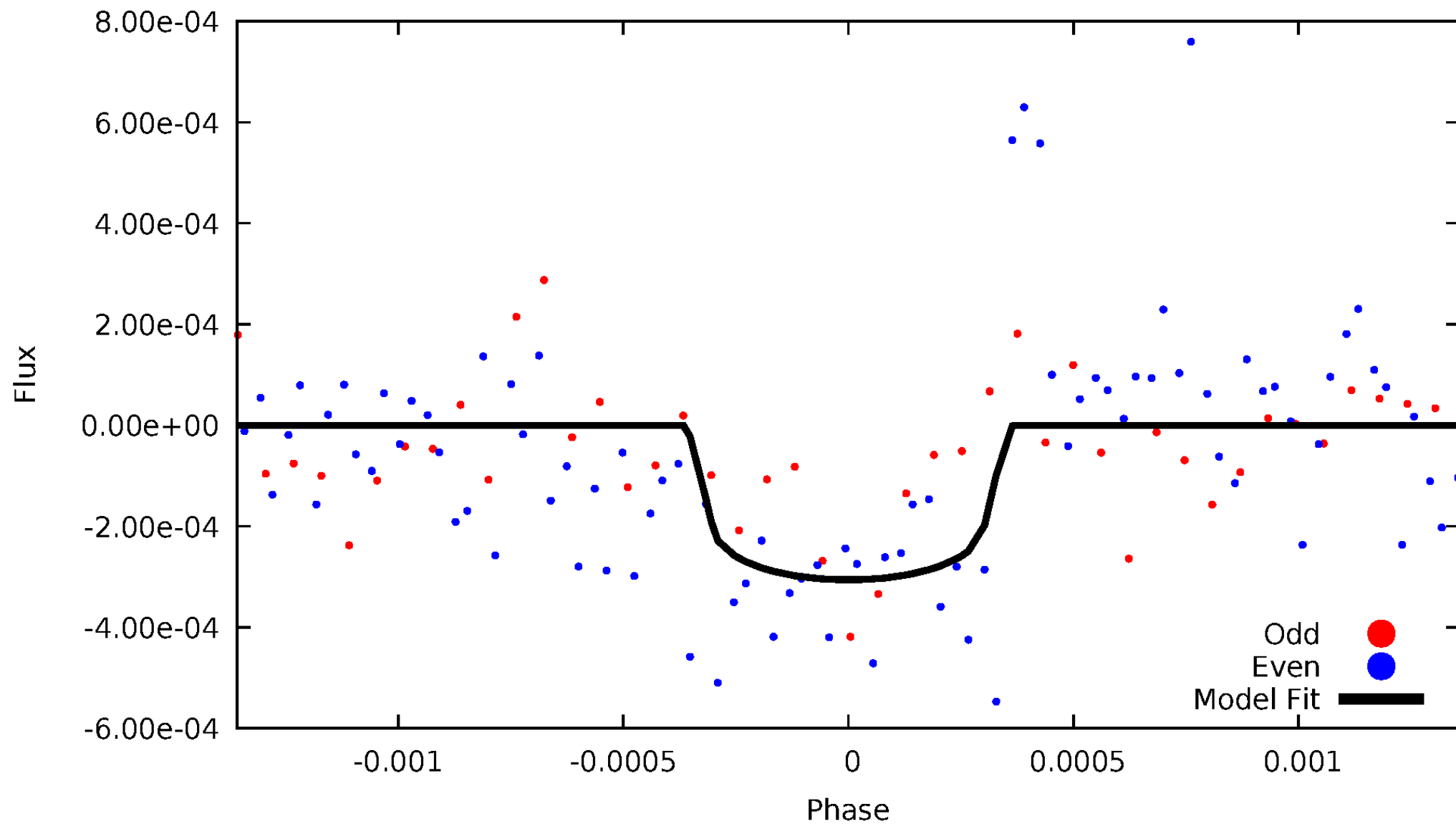


TCE 009886457-01



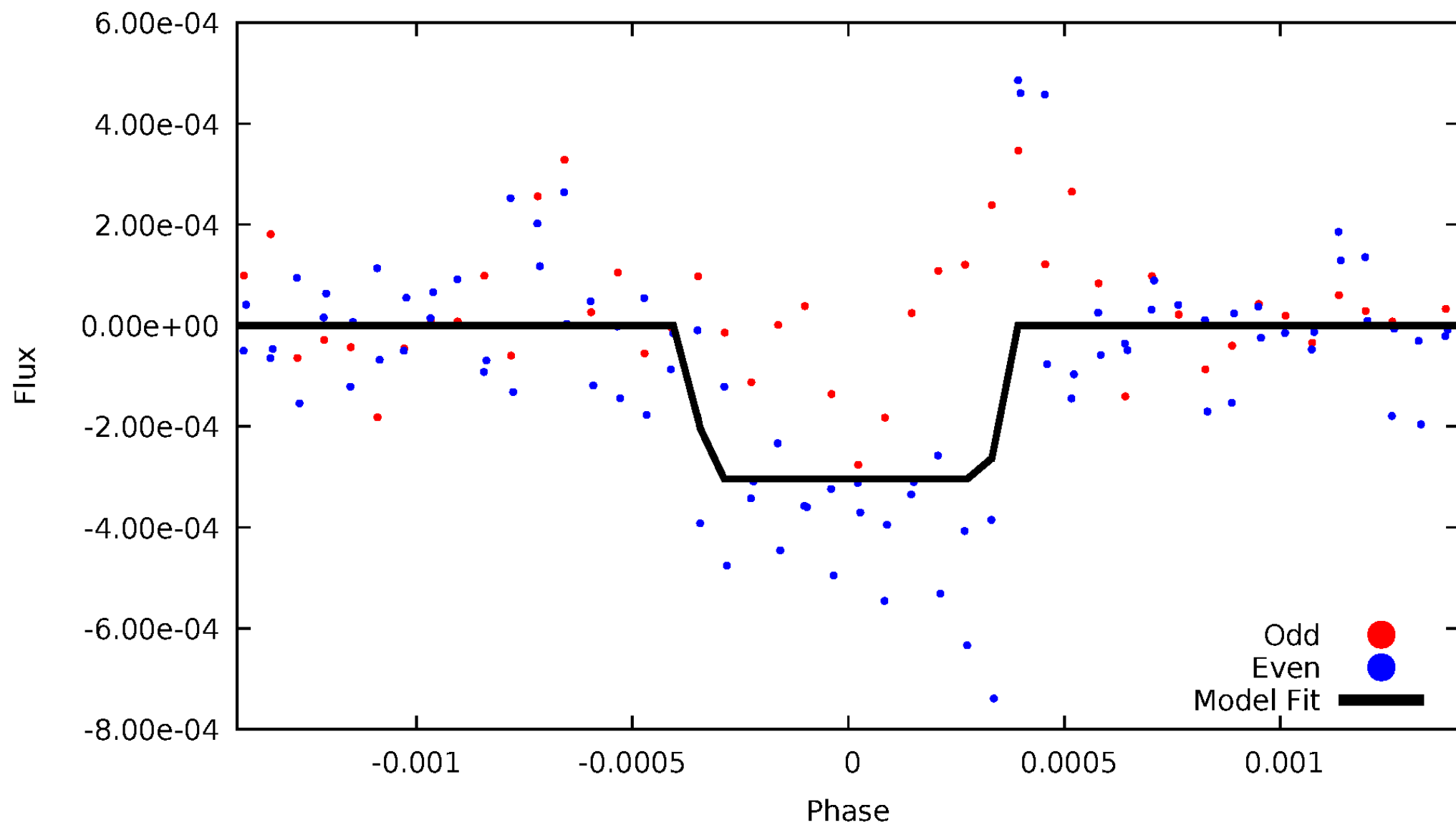
DV Odd/Even

TCE 009886457-01

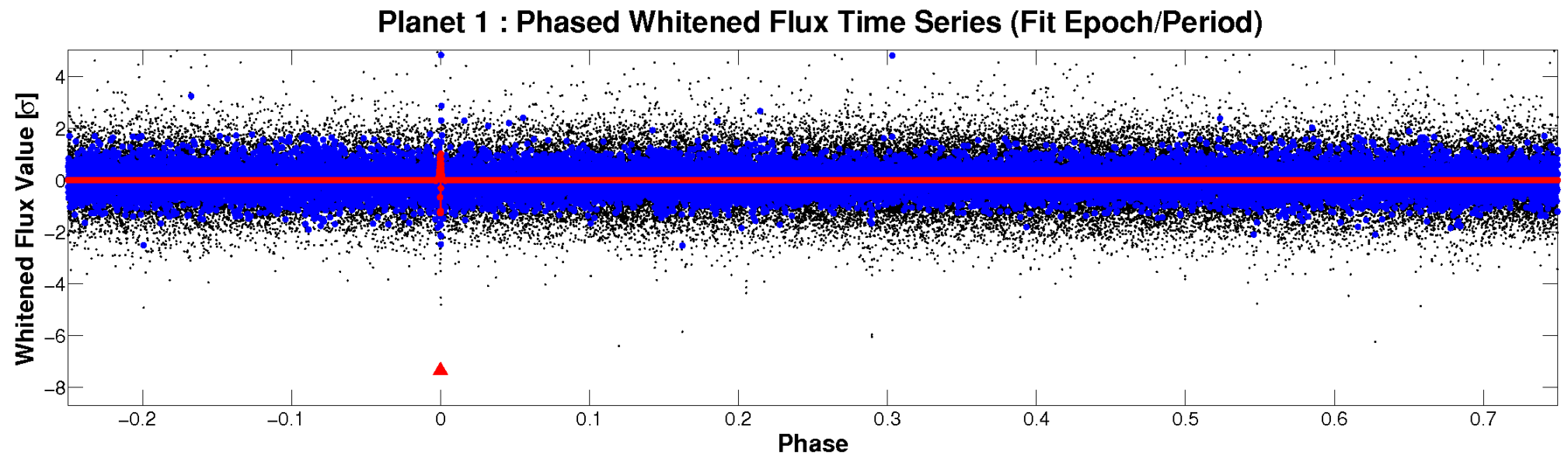
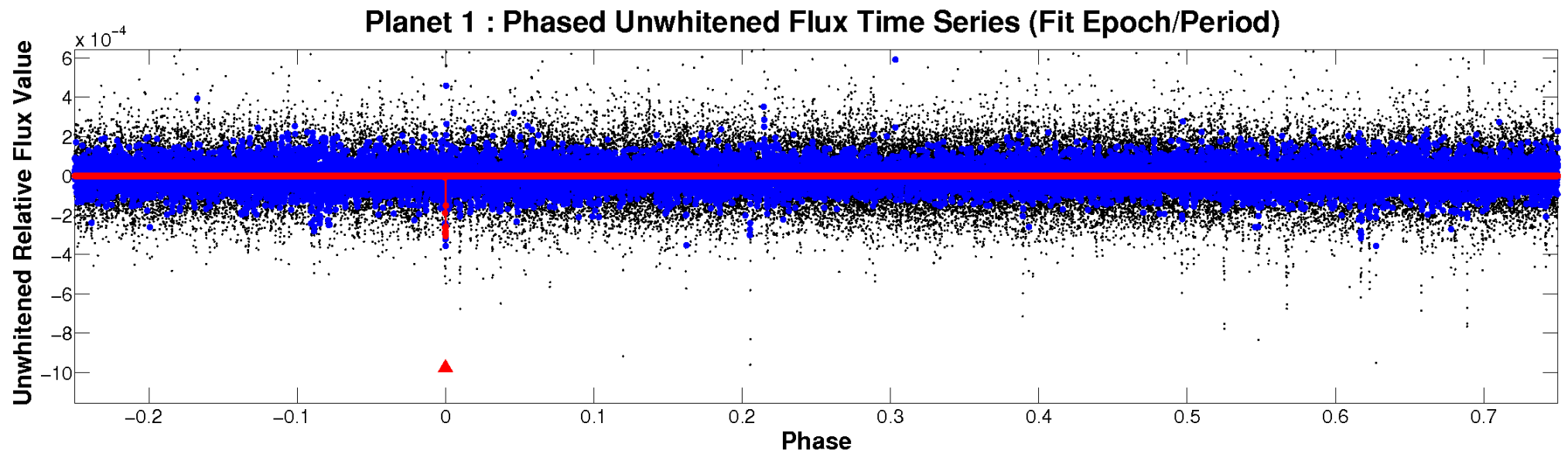


ALT Odd/Even

TCE 009886457-01

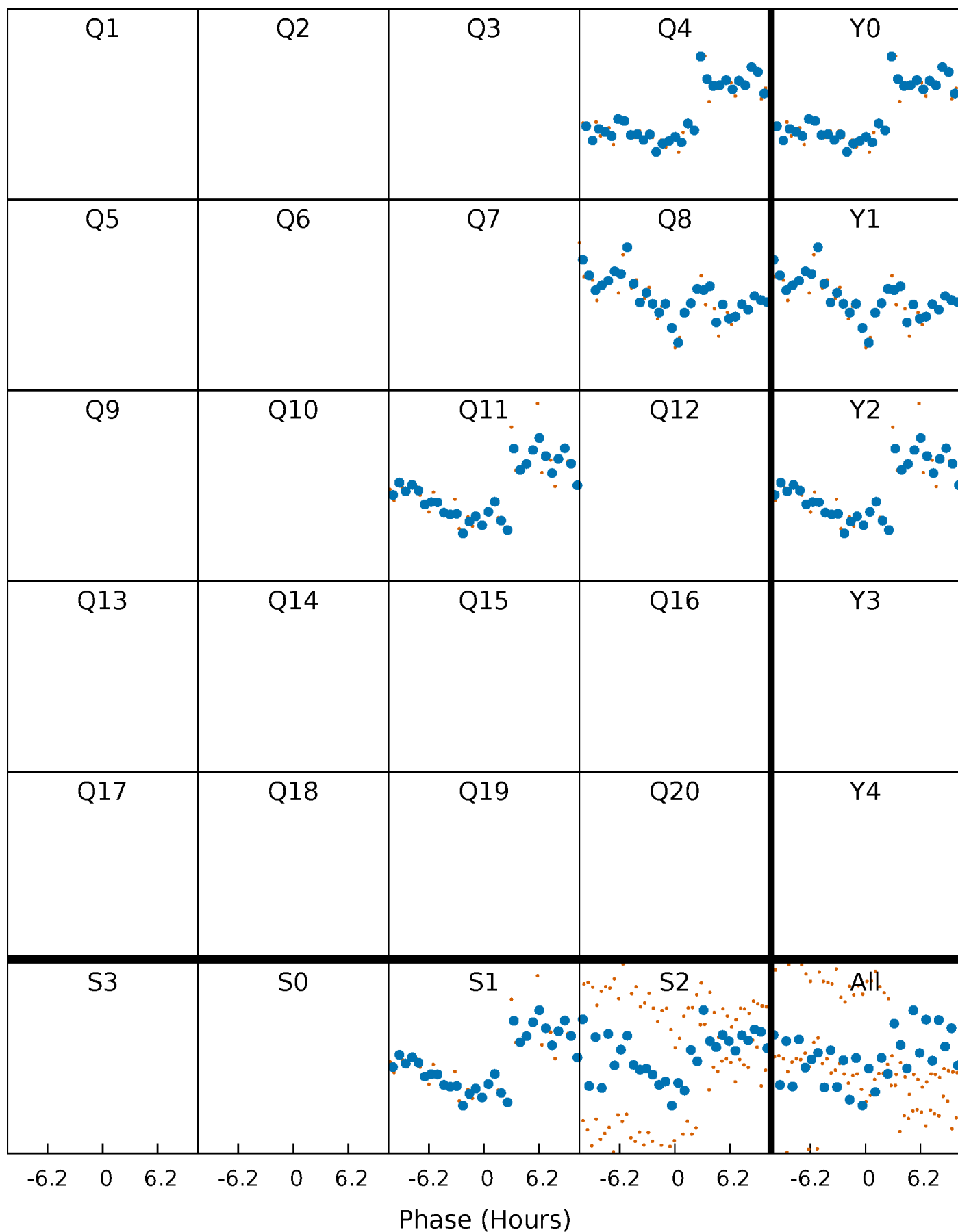


Non-Whitened Vs. Whitened Light Curve



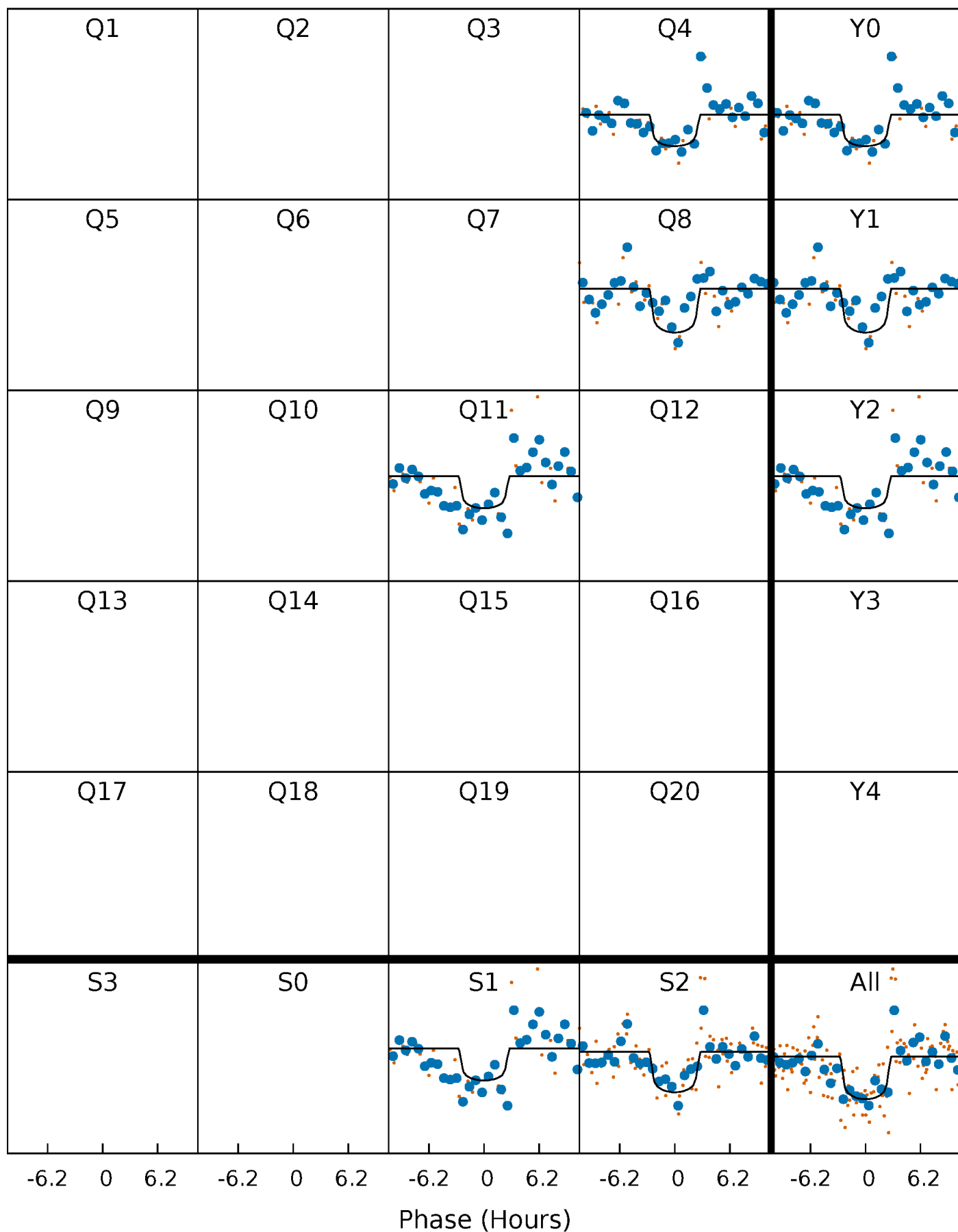
PDC Quarter-Phased Transit Curves

TCE 009886457-01 P=330.366418 Days $T_0=426.389312$ (BKJD)



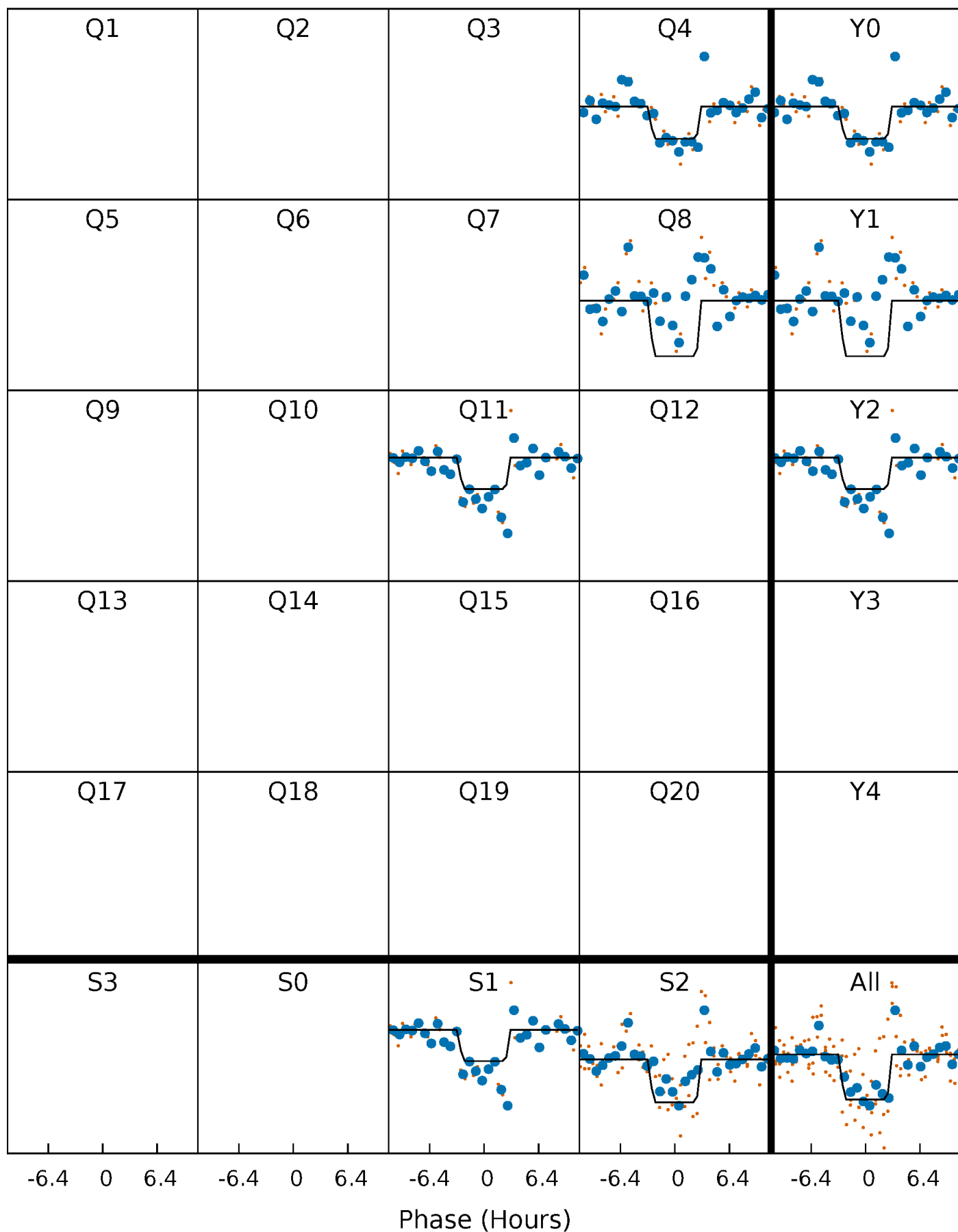
DV Quarter-Phased Transit Curves

TCE 009886457-01 $P=330.366418$ Days $T_0=426.389312$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

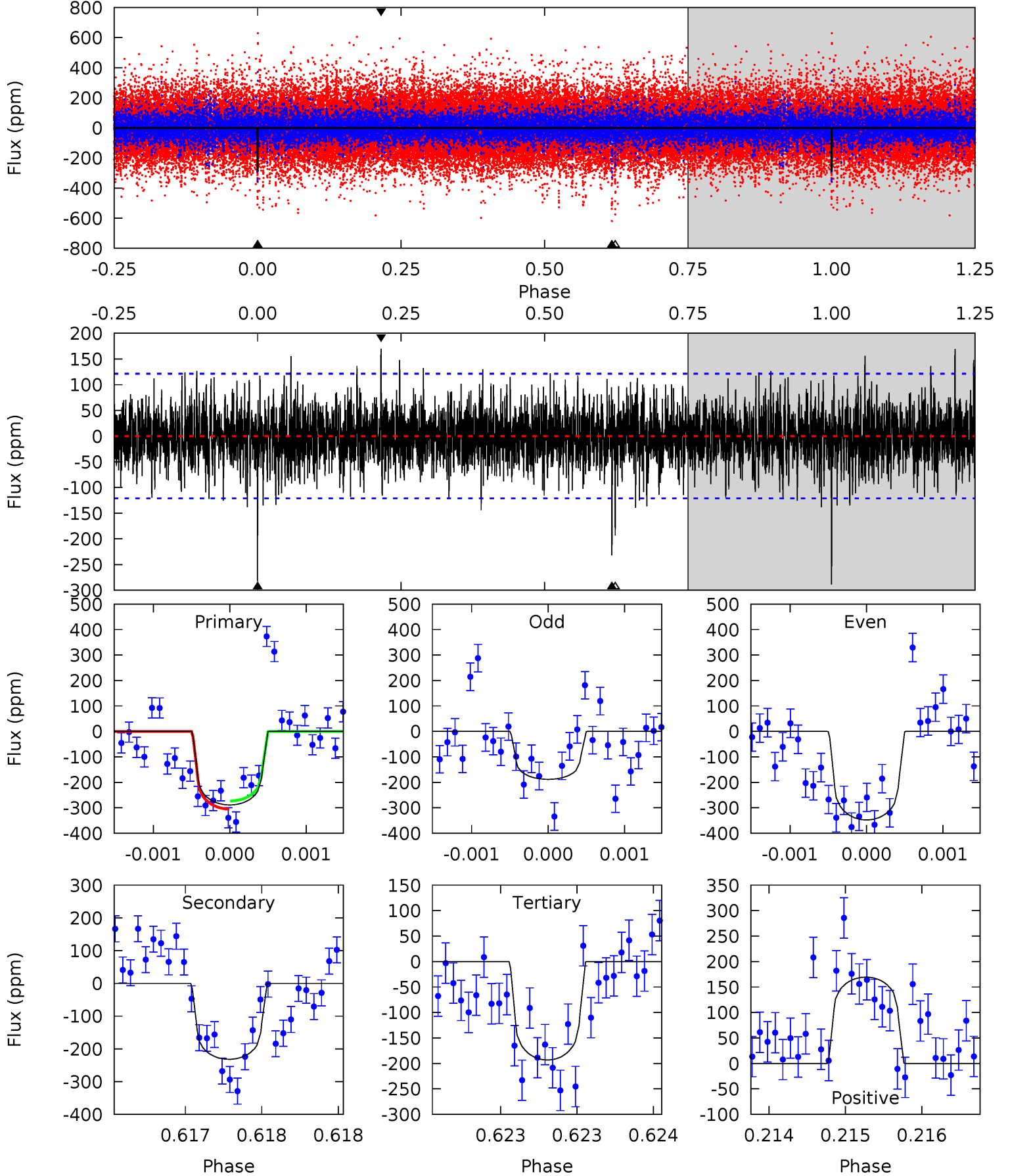
TCE 009886457-01 P=330.369798 Days $T_0=426.379844$ (BKJD)



DV Model-Shift Uniqueness Test

009886457-01, $P = 330.366418$ Days, $E = 96.022894$ Days

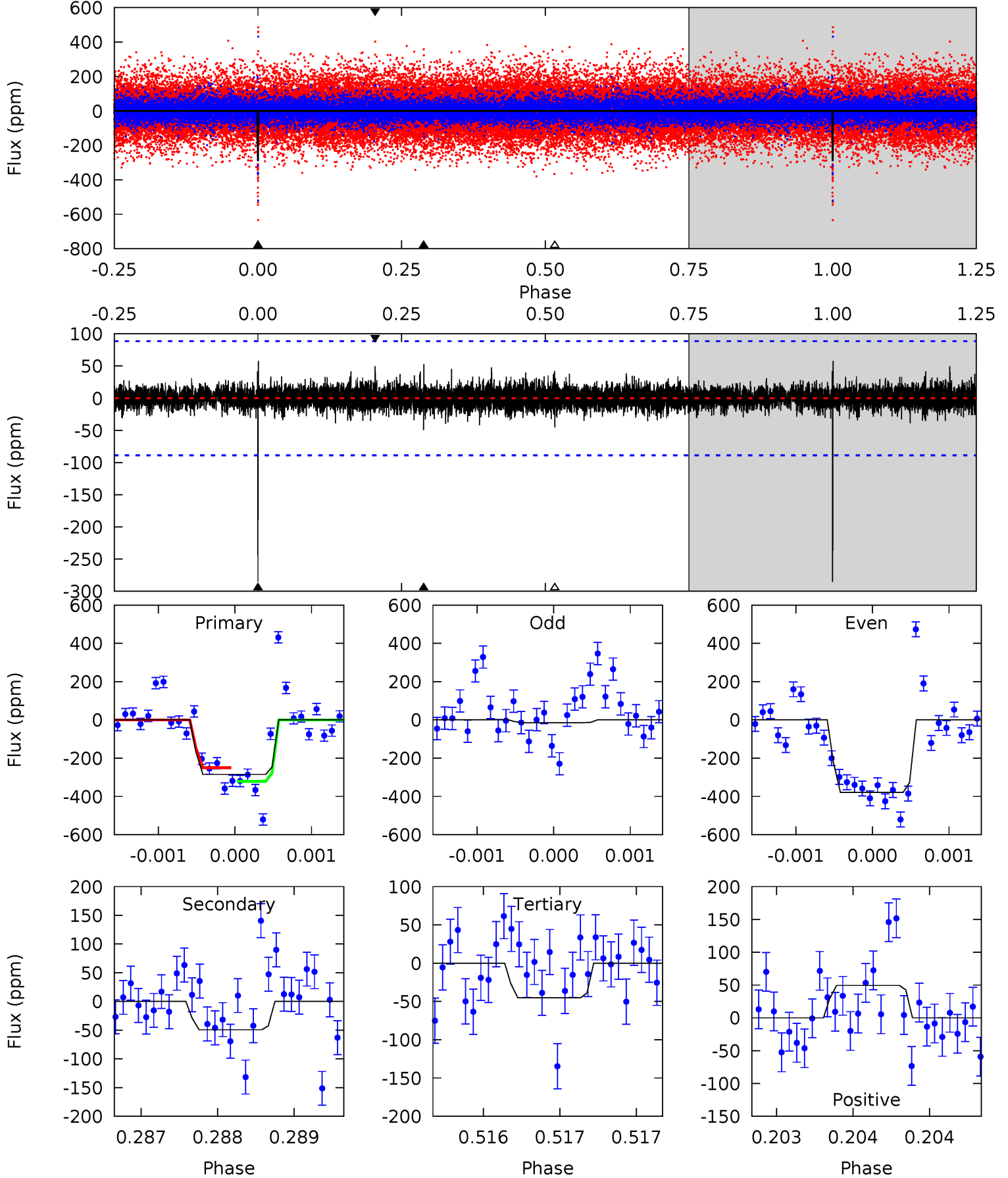
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.1	10.5	8.77	7.69	5.51	3.38	1.79	4.34	5.42	1.75	2.83	3.41	0.95	0.37	0.73



Alt Model-Shift Uniqueness Test

009886457-01, P = 330.369798 Days, E = 96.010046 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.7	3.06	2.81	3.07	5.52	3.40	0.63	14.9	14.7	0.25	-0.01	11.5	0.83	0.17	2.24



Stellar Parameters For KIC 009886457

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6134^{+193}_{-236}	$4.354^{+0.148}_{-0.181}$	$-0.400^{+0.300}_{-0.300}$	$1.066^{+0.293}_{-0.195}$	$0.937^{+0.139}_{-0.101}$	$1.088^{+0.776}_{-0.524}$
	+3%/-4%	+3%/-4%	+75%/-75%	+27%/-18%	+15%/-11%	+71%/-48%
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 009886457-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-232 ± 22	$2.32^{+1.52}_{-1.42}$	409^{+28}_{-25}	5433^{+3716}_{-1009}	$20246^{+109970}_{-13043}$
Alt.	-49 ± 16	$2.11^{+1.68}_{-1.26}$	409^{+30}_{-28}	4081^{+2005}_{-752}	4859^{+28492}_{-3455}

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 $A_{\text{obs}} \gg 1.0$

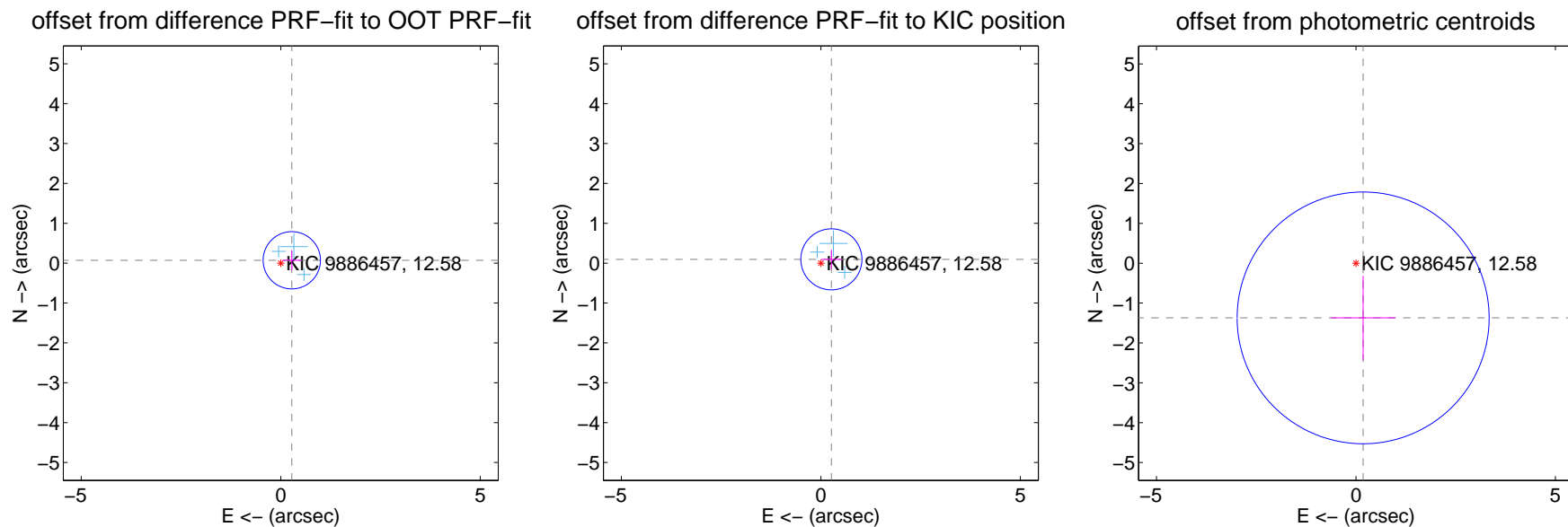
DV Centroid Data

Supplemental centroid analysis for 009886457-01. Kepler magnitude: 12.58. Transit SNR 7.22

There are 3 quarters with good PRF difference image offsets

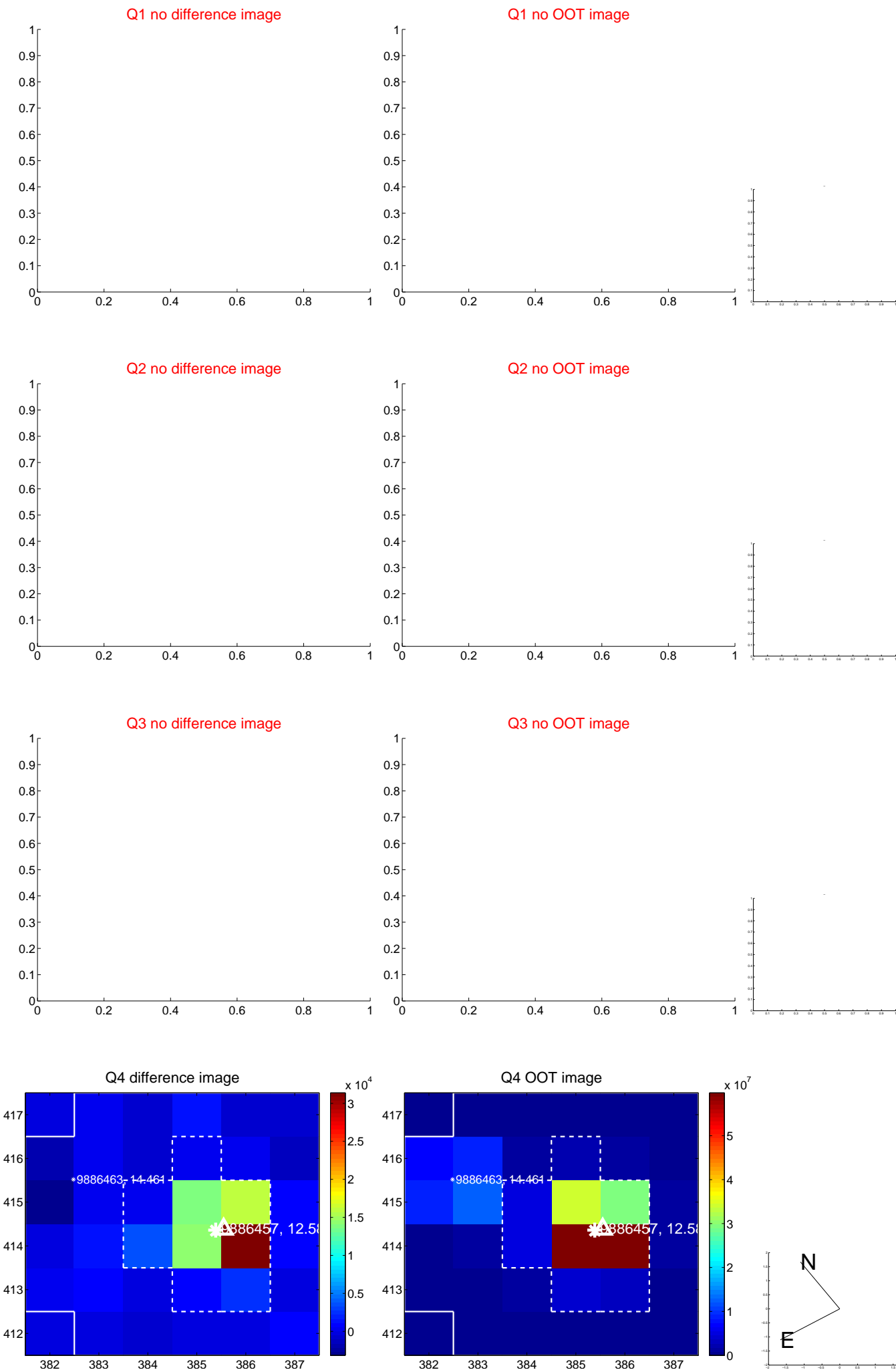
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.286 ± 0.239	1.19	-0.277 ± 0.239	0.072 ± 0.248
PRF-fit source offset from KIC position	0.281 ± 0.255	1.10	-0.264 ± 0.257	0.095 ± 0.242
photometric centroid source offset	1.38 ± 1.05	1.31	-0.18 ± 0.80	-1.37 ± 1.06

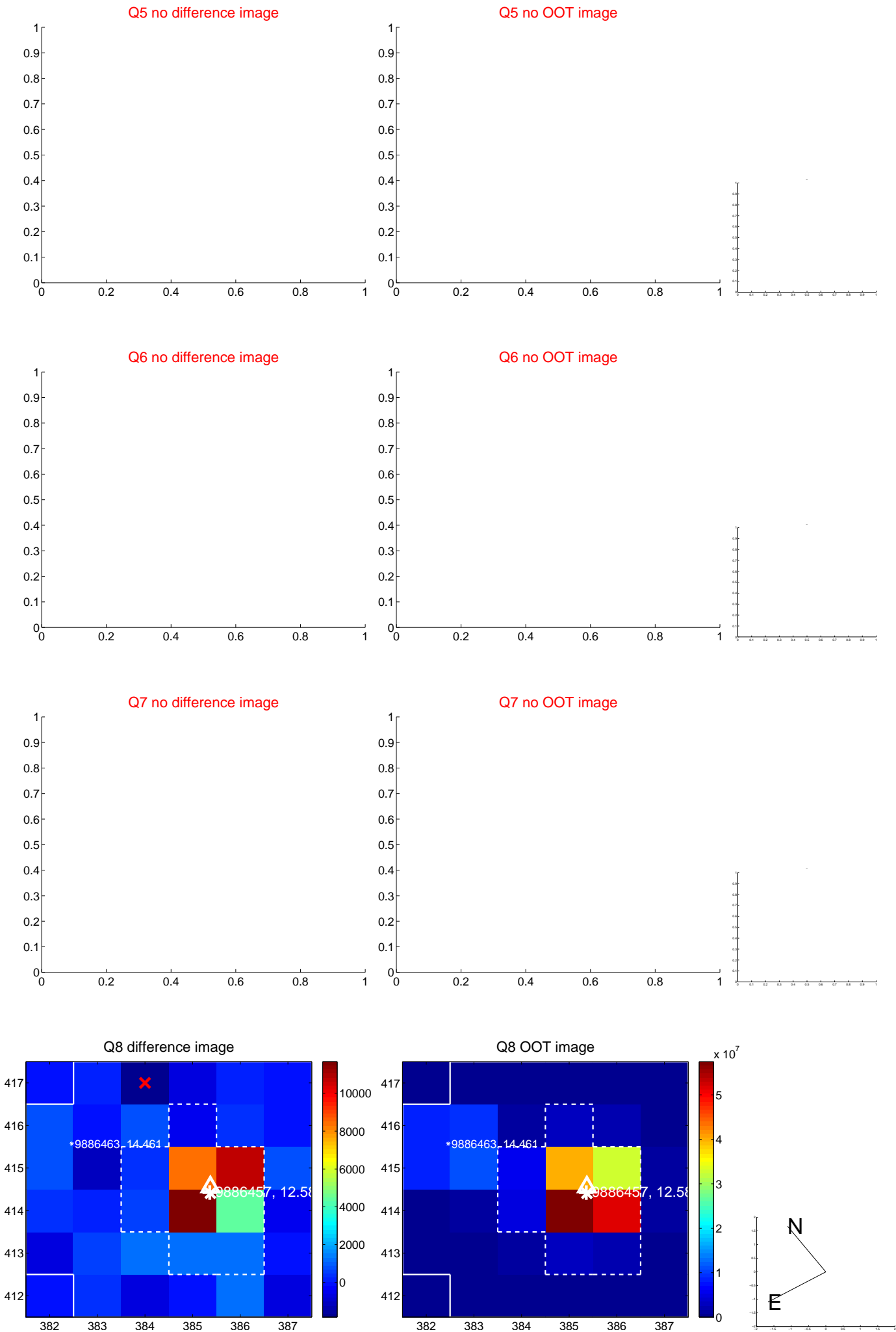


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



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

Q9 no difference image



Q9 no OOT image



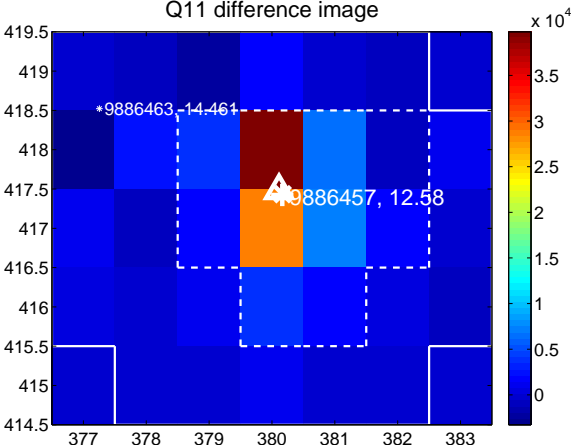
Q10 no difference image



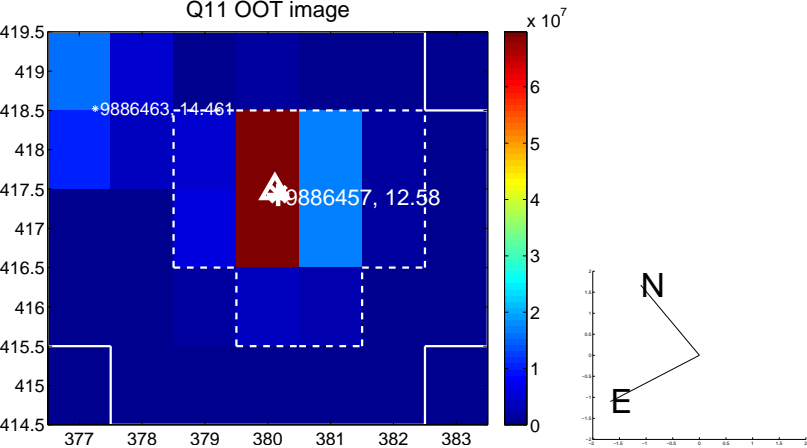
Q10 no OOT image



Q11 difference image



Q11 OOT image



Q12 no difference image



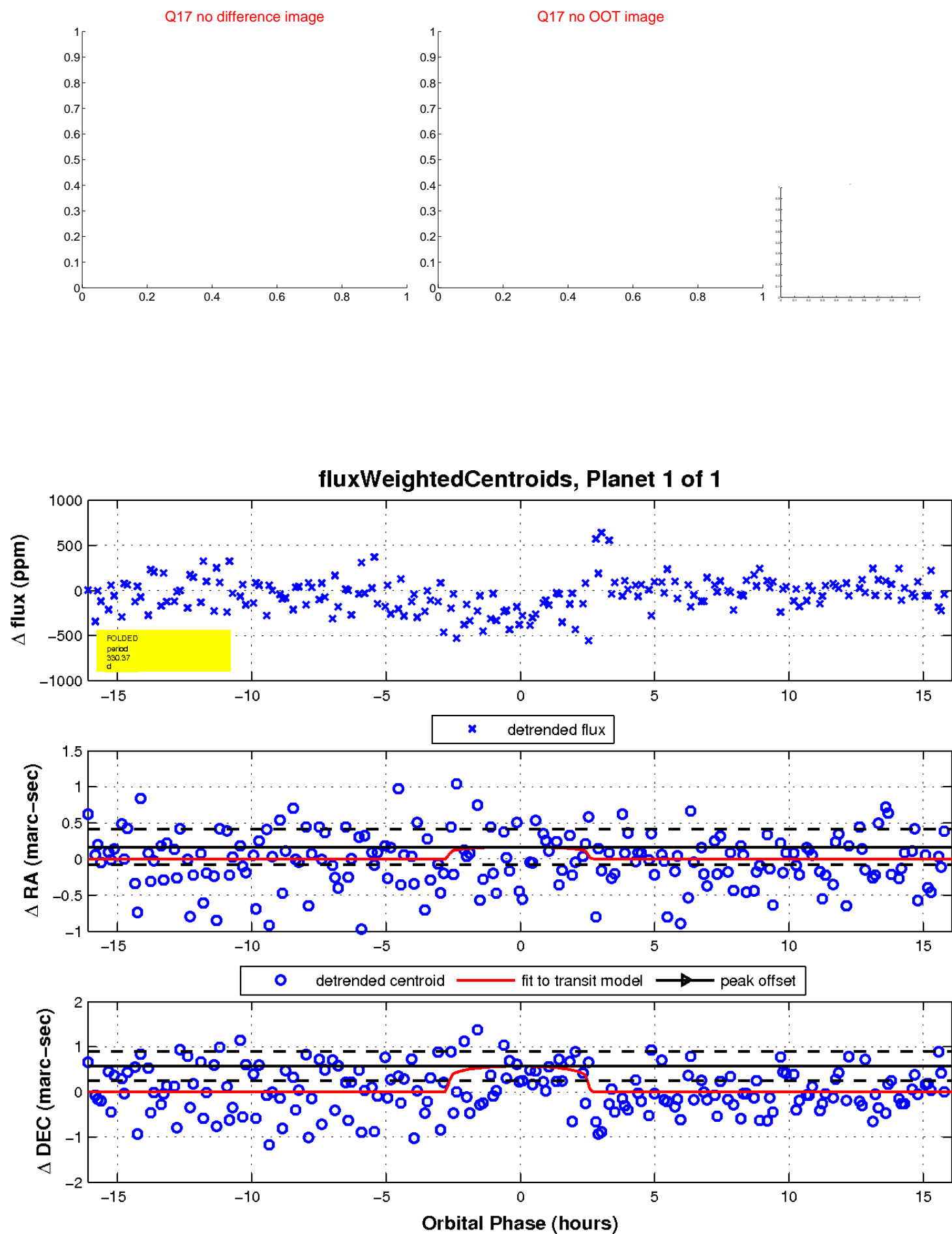
Q12 no OOT image



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.



UKIRT Image

Declination

