

KIC 007663109

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})
007663109-01	OBS	No	519.564193	472.921374	446.3	10.060	7.4	6.9	0.85	5750	1.95	0.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007663109-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—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.

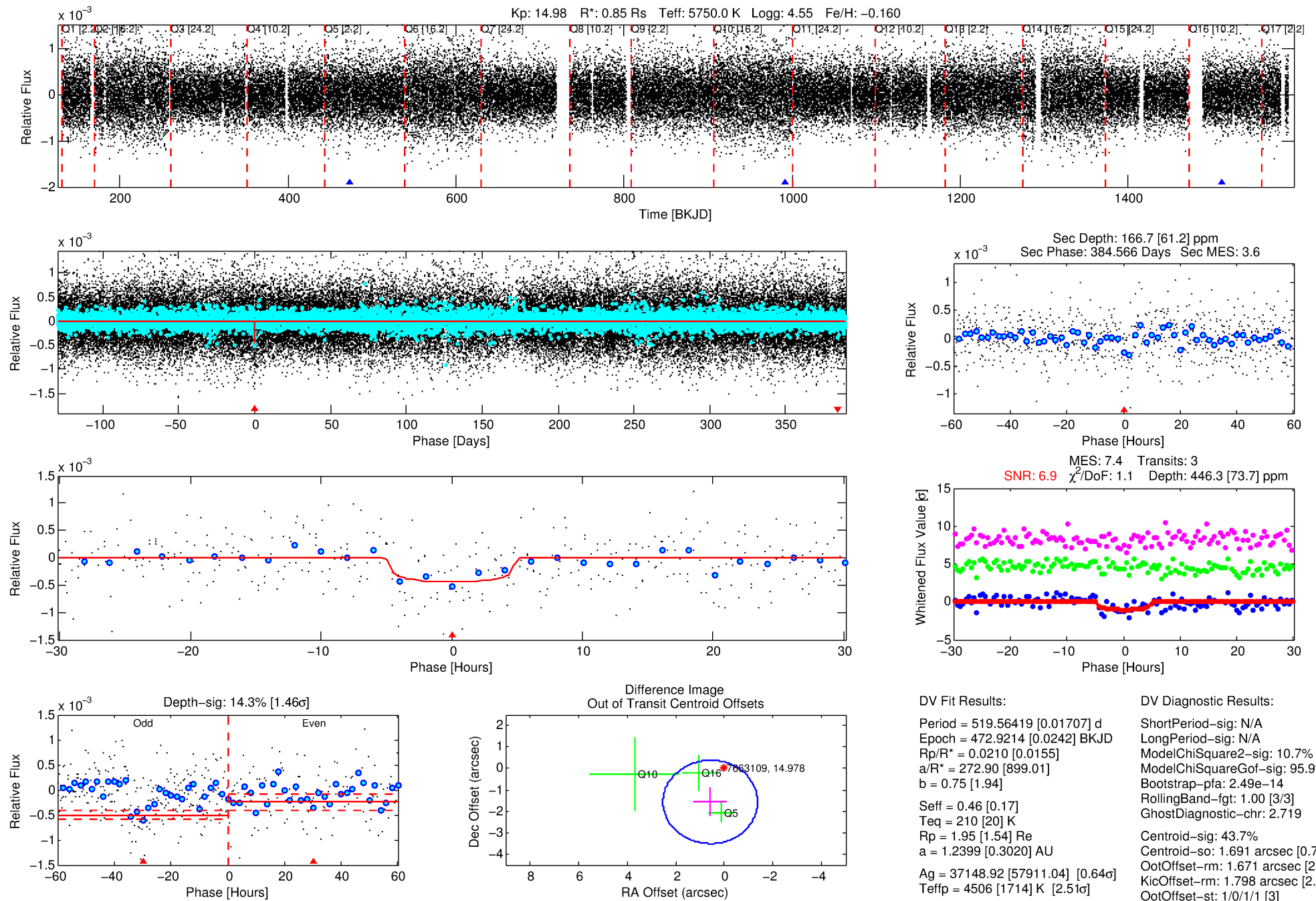
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007663109-01

No Significant Match Found

DV One-Page Summary

KIC: 7663109 Candidate: 1 of 1 Period: 519.564 d



DV Fit Results:

Period = 519.56419 [0.01707] d
Epoch = 472.9214 [0.0242] BKJD
Rp/R* = 0.0210 [0.0155]
a/R* = 272.90 [899.01]
b = 0.75 [1.94]
Seff = 0.46 [0.17]
Teq = 210 [20] K
Rp = 1.95 [1.54] Re
a = 1.2399 [0.3020] AU
Ag = 37148.92 [57911.04] [0.64 σ]
Teff = 4506 [1714] K [2.51 σ]

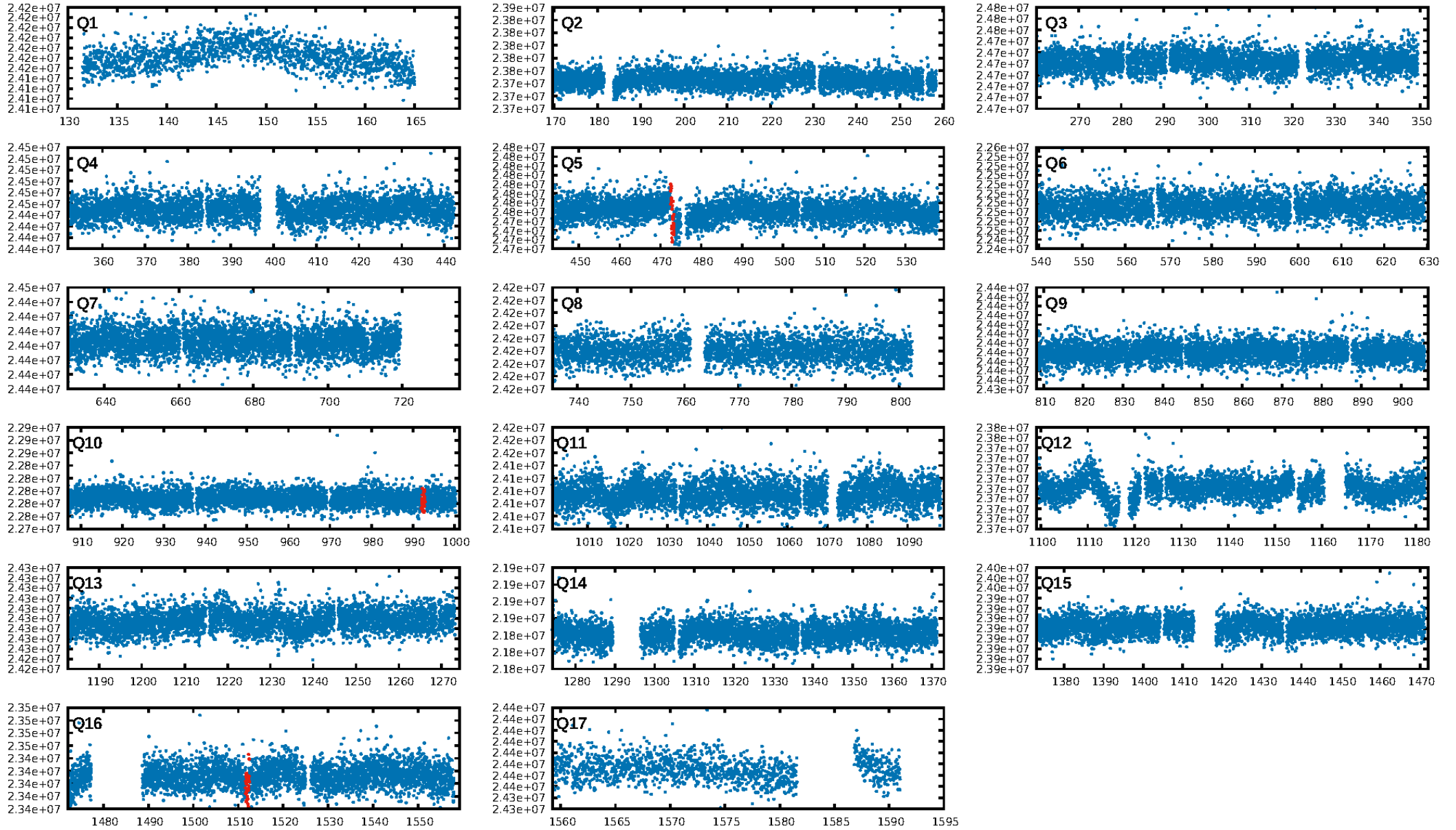
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 10.7%
ModelChiSquareGof-sig: 95.9%
Bootstrap-pfa: 2.49e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.719
Centroid-sig: 43.7%
Centroid-so: 1.691 arcsec [0.70 σ]
OotOffset-rm: 1.671 arcsec [2.58 σ]
KicOffset-rm: 1.798 arcsec [2.78 σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

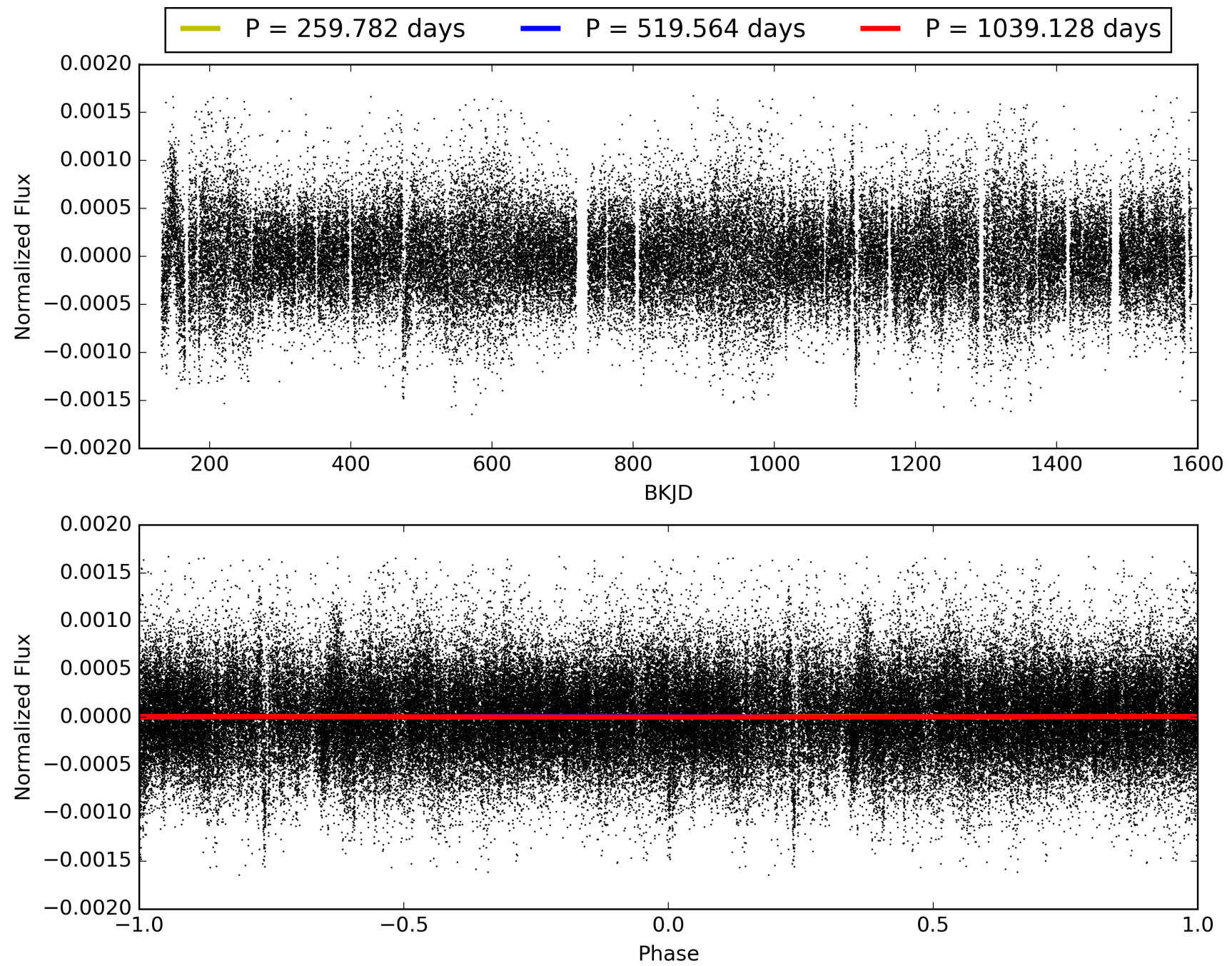
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:23:37 Z

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

TCE 007663109-01, PDC Light Curves

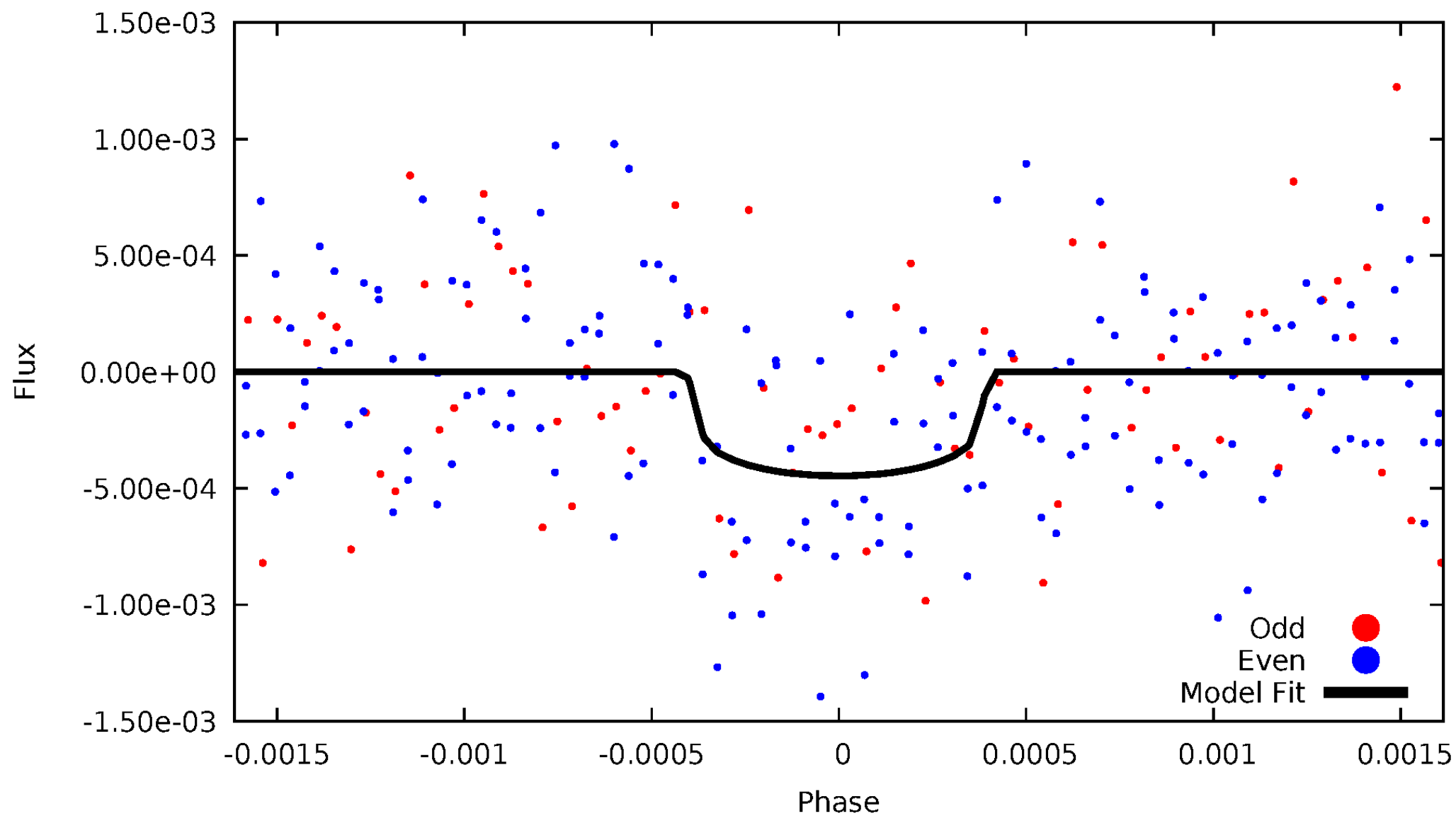


TCE 007663109-01



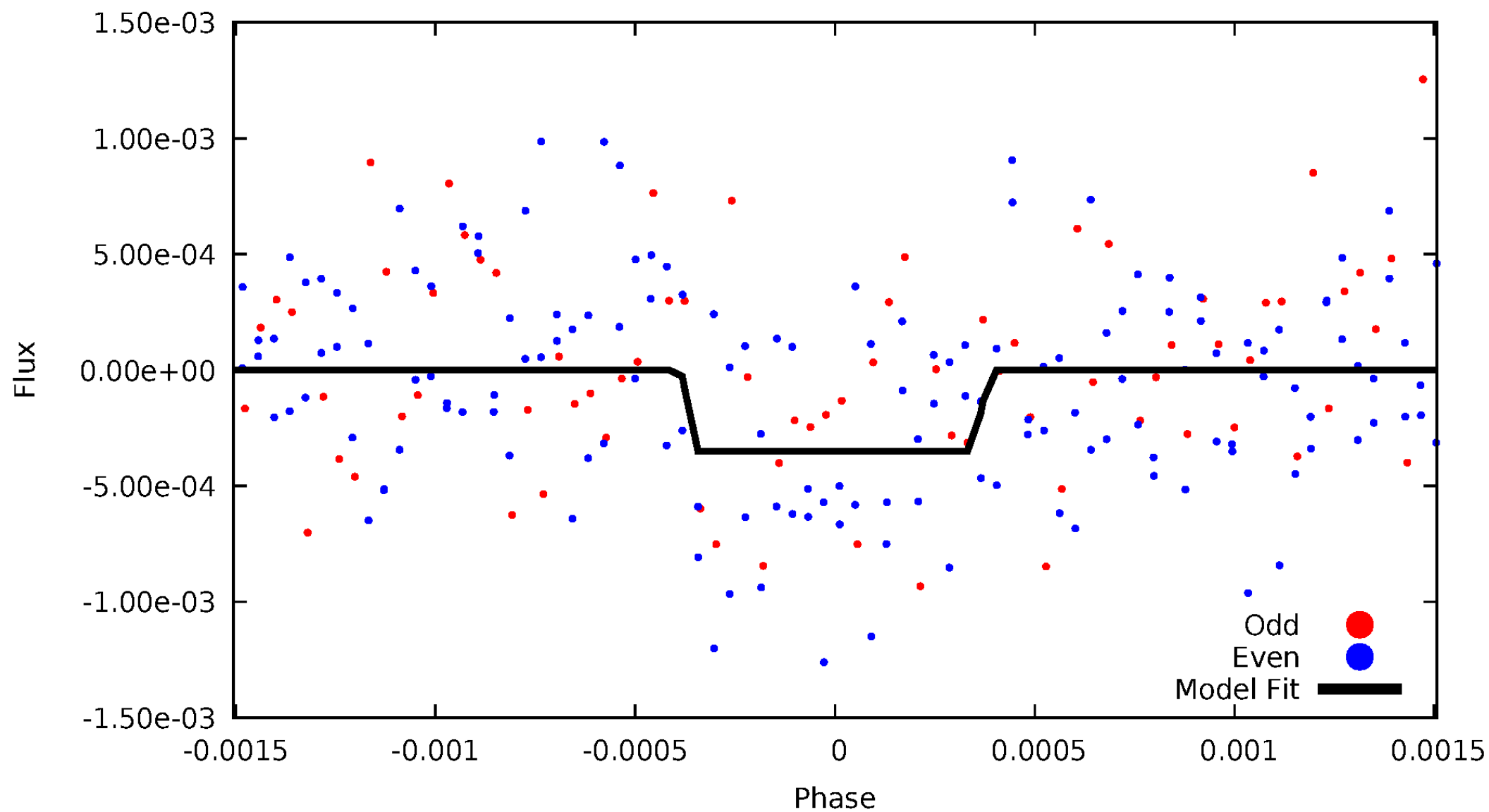
DV Odd/Even

TCE 007663109-01

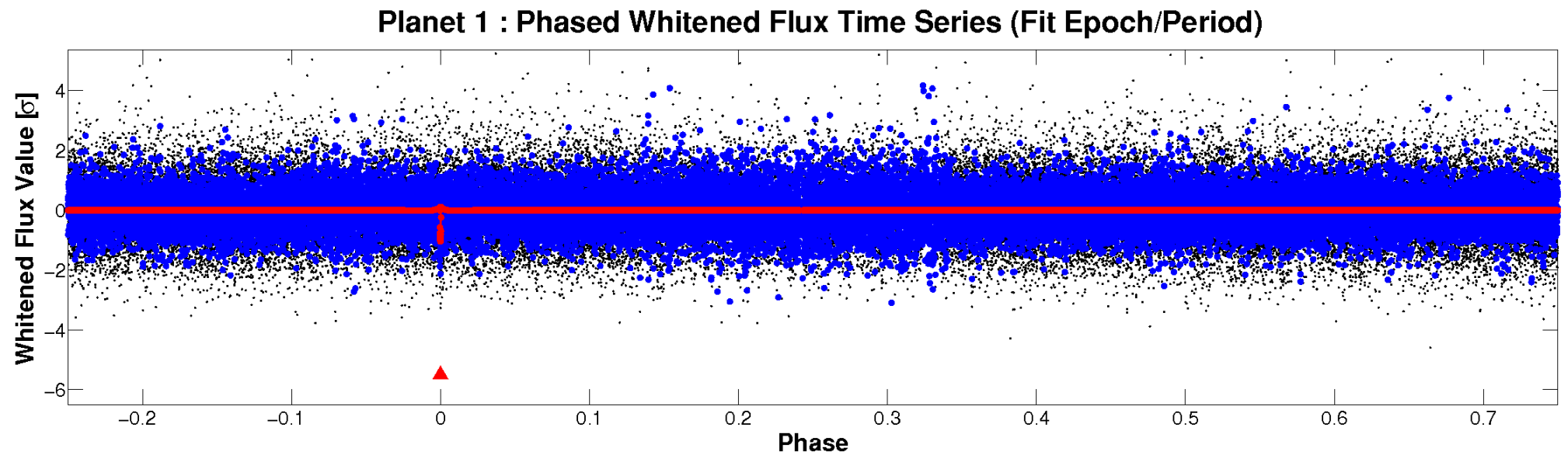
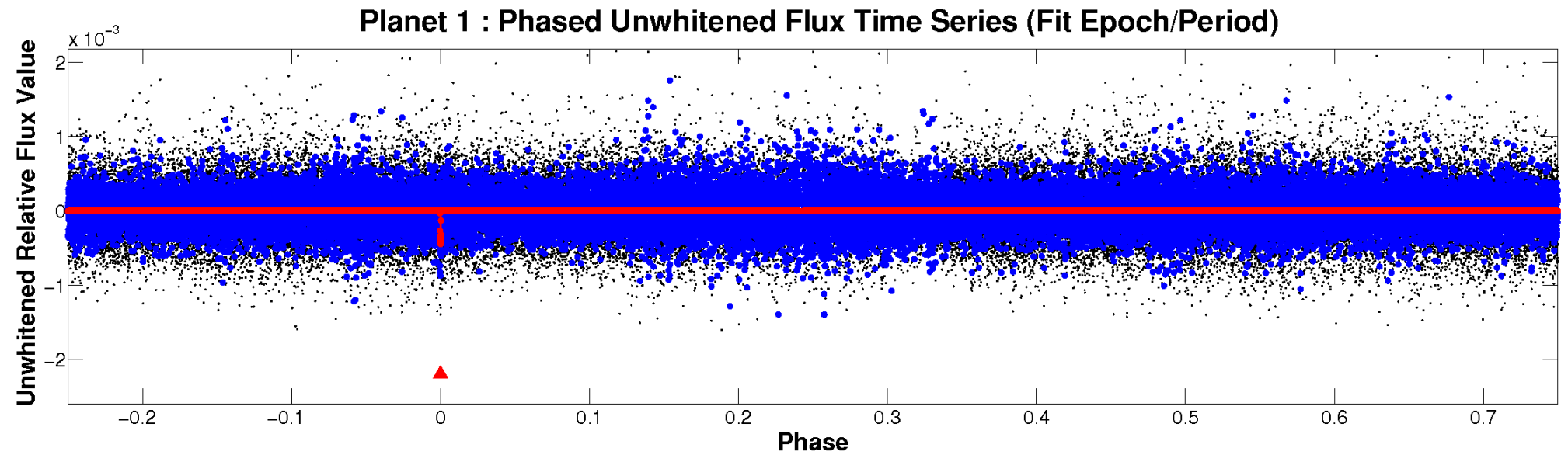


ALT Odd/Even

TCE 007663109-01

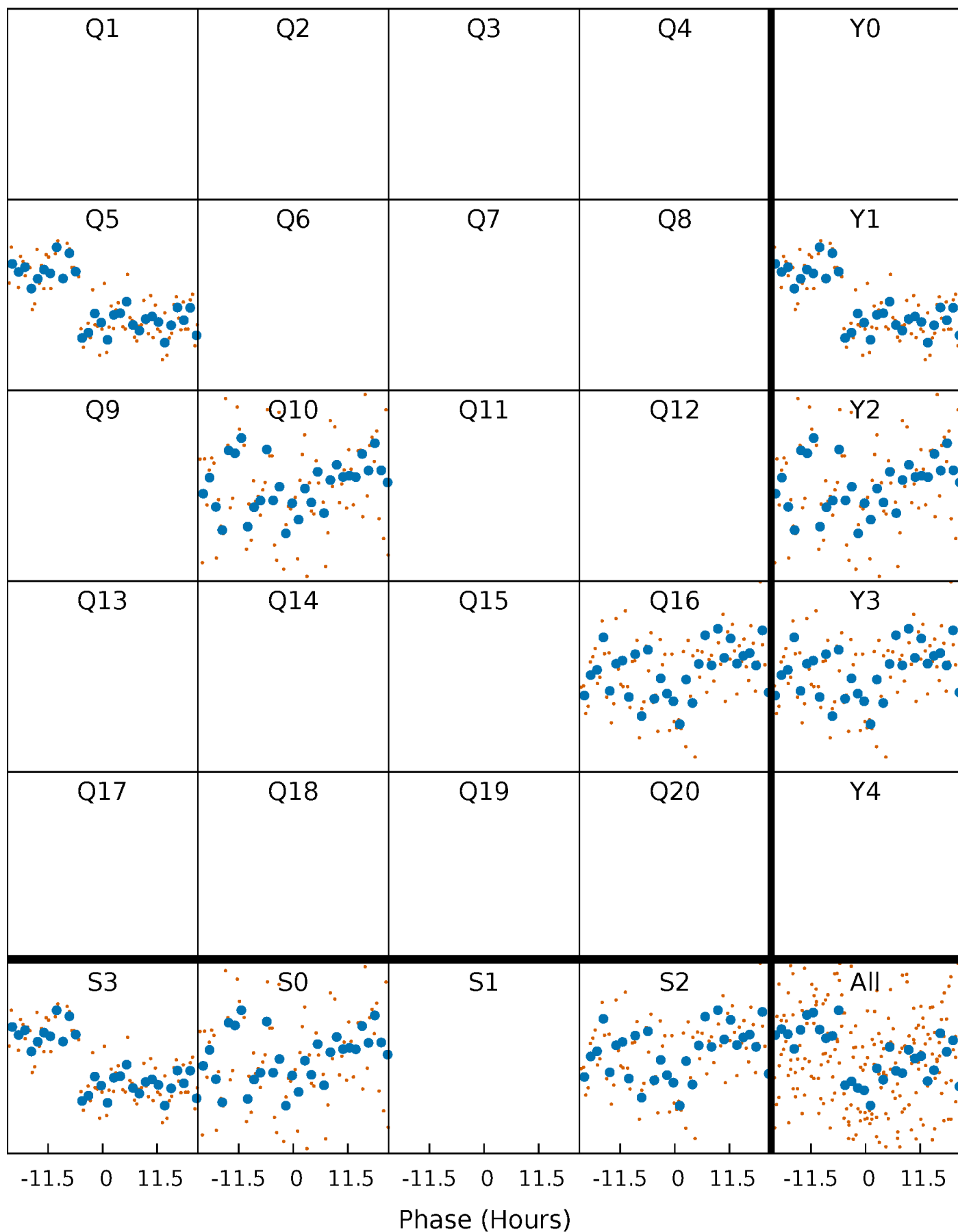


Non-Whitened Vs. Whitened Light Curve



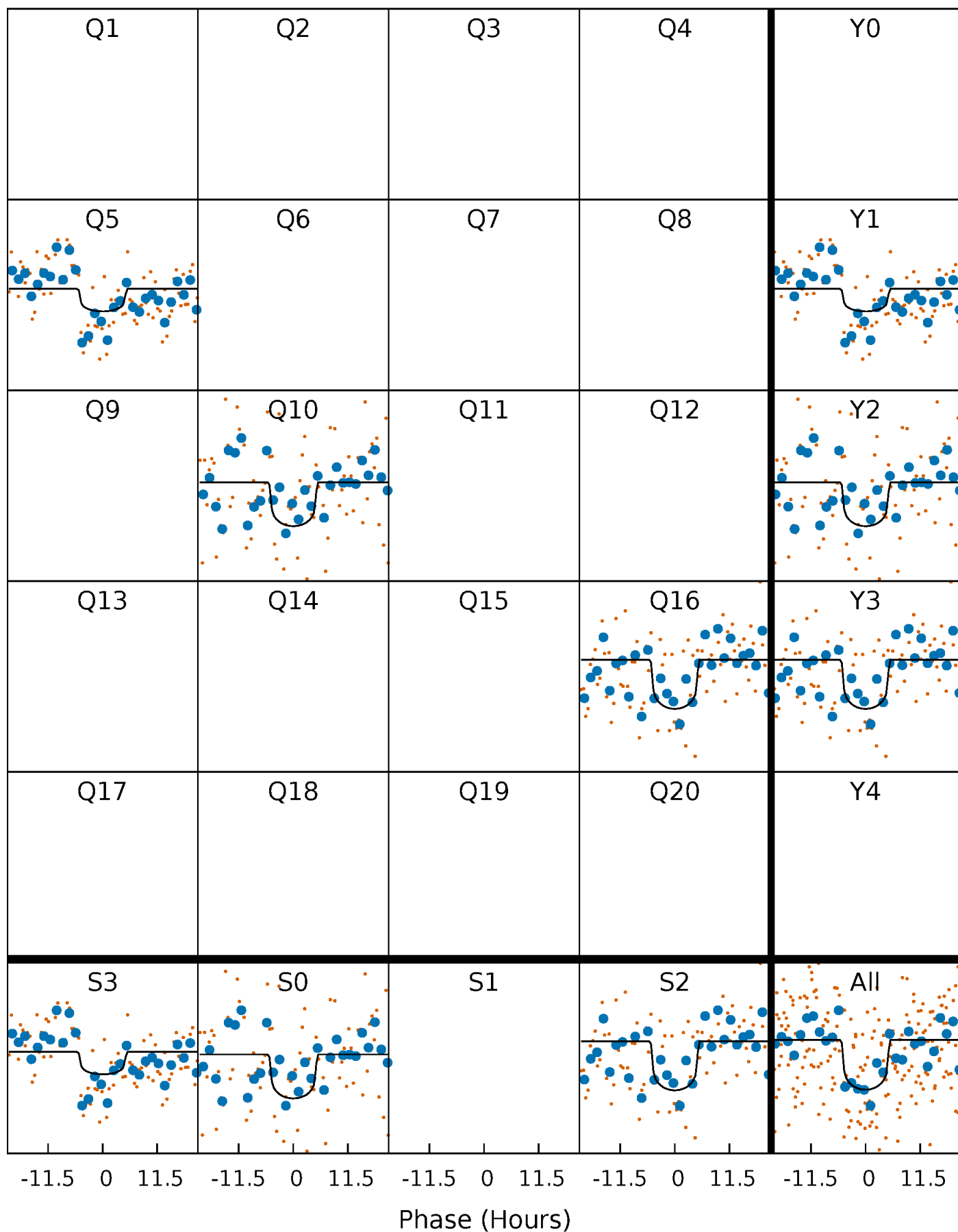
PDC Quarter-Phased Transit Curves

TCE 007663109-01 P=519.564193 Days $T_0=472.921374$ (BKJD)



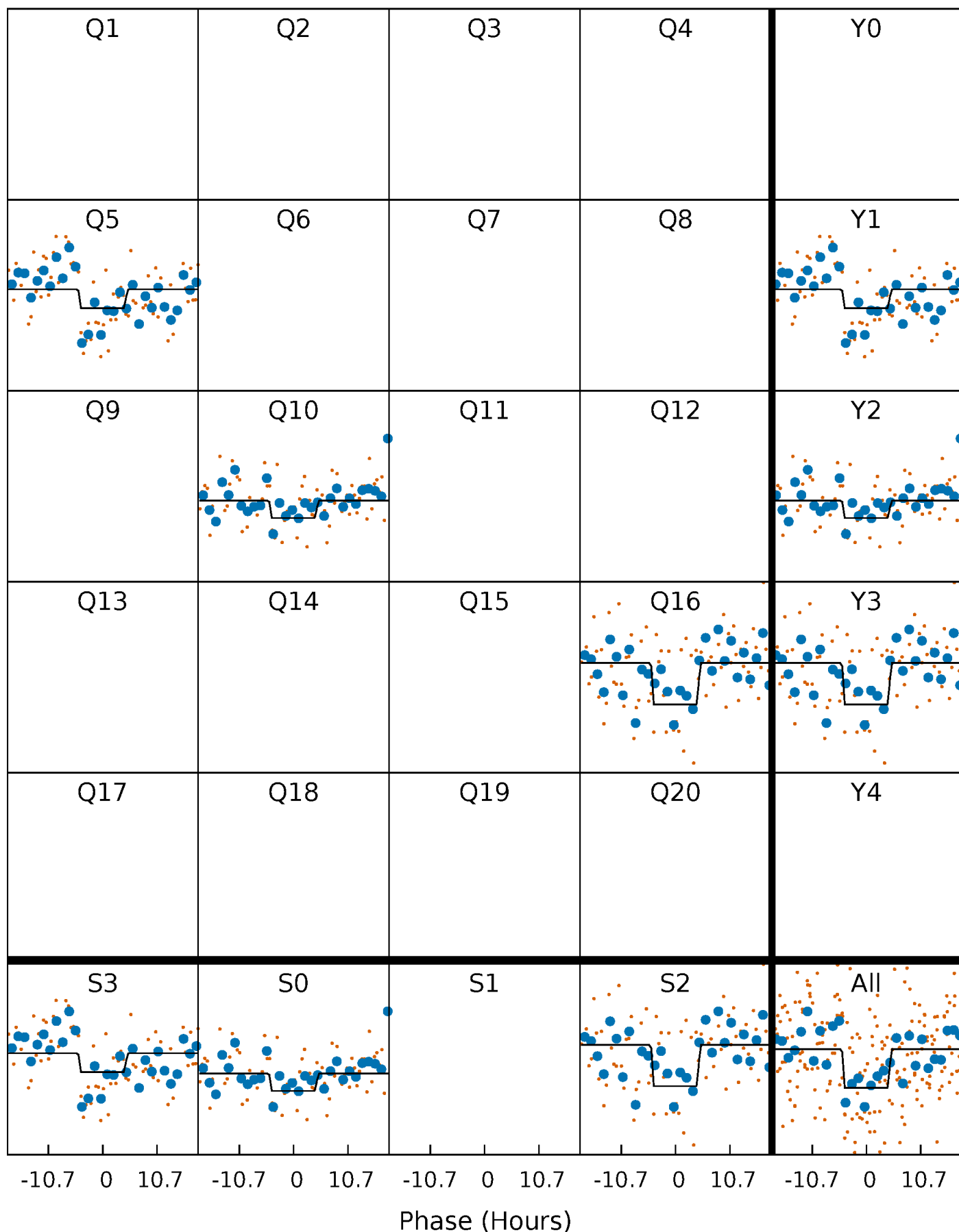
DV Quarter-Phased Transit Curves

TCE 007663109-01 P=519.564193 Days $T_0=472.921374$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

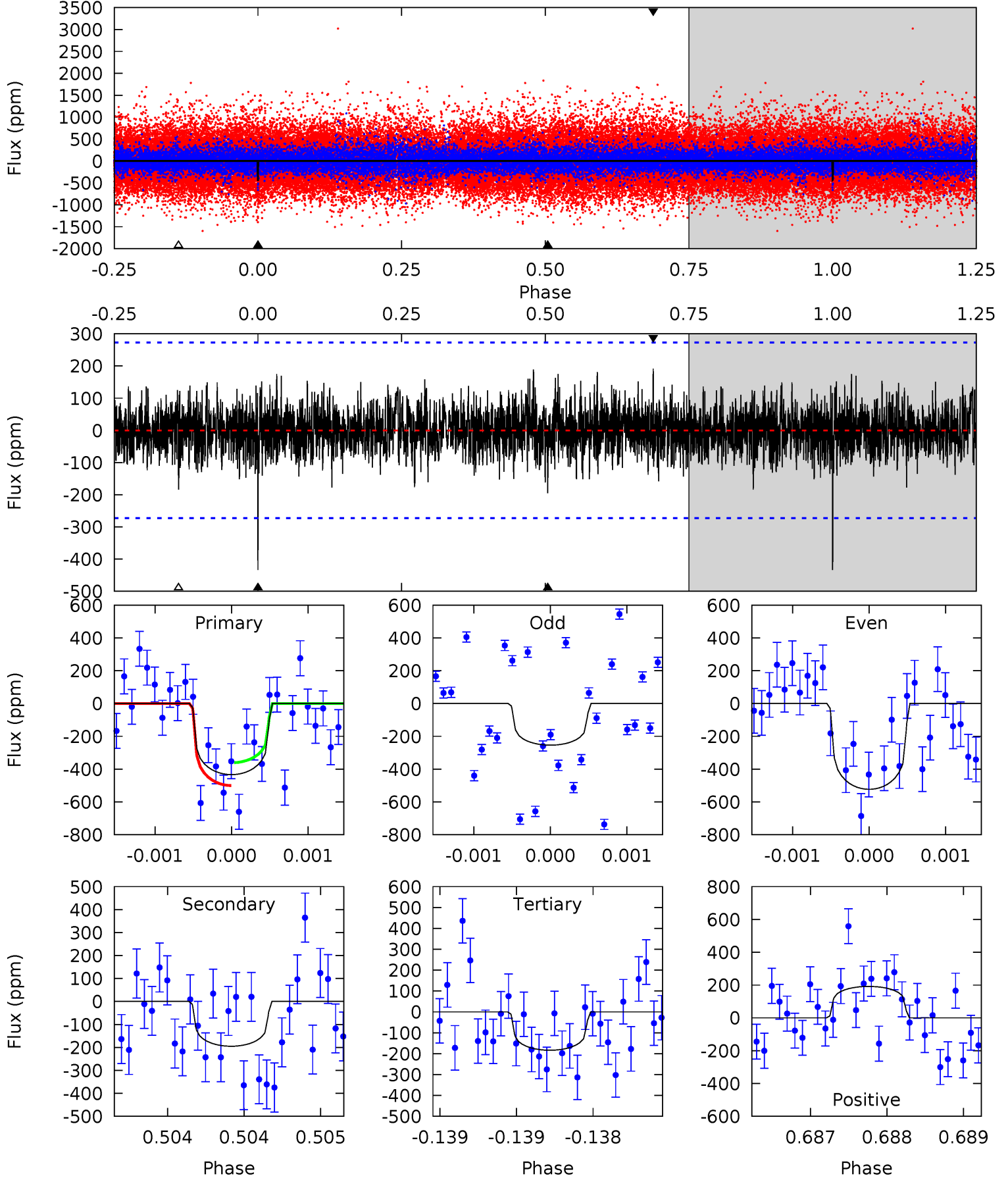
TCE 007663109-01 P=519.584564 Days $T_0=472.910336$ (BKJD)



DV Model-Shift Uniqueness Test

007663109-01, P = 519.564193 Days, E = 472.921374 Days

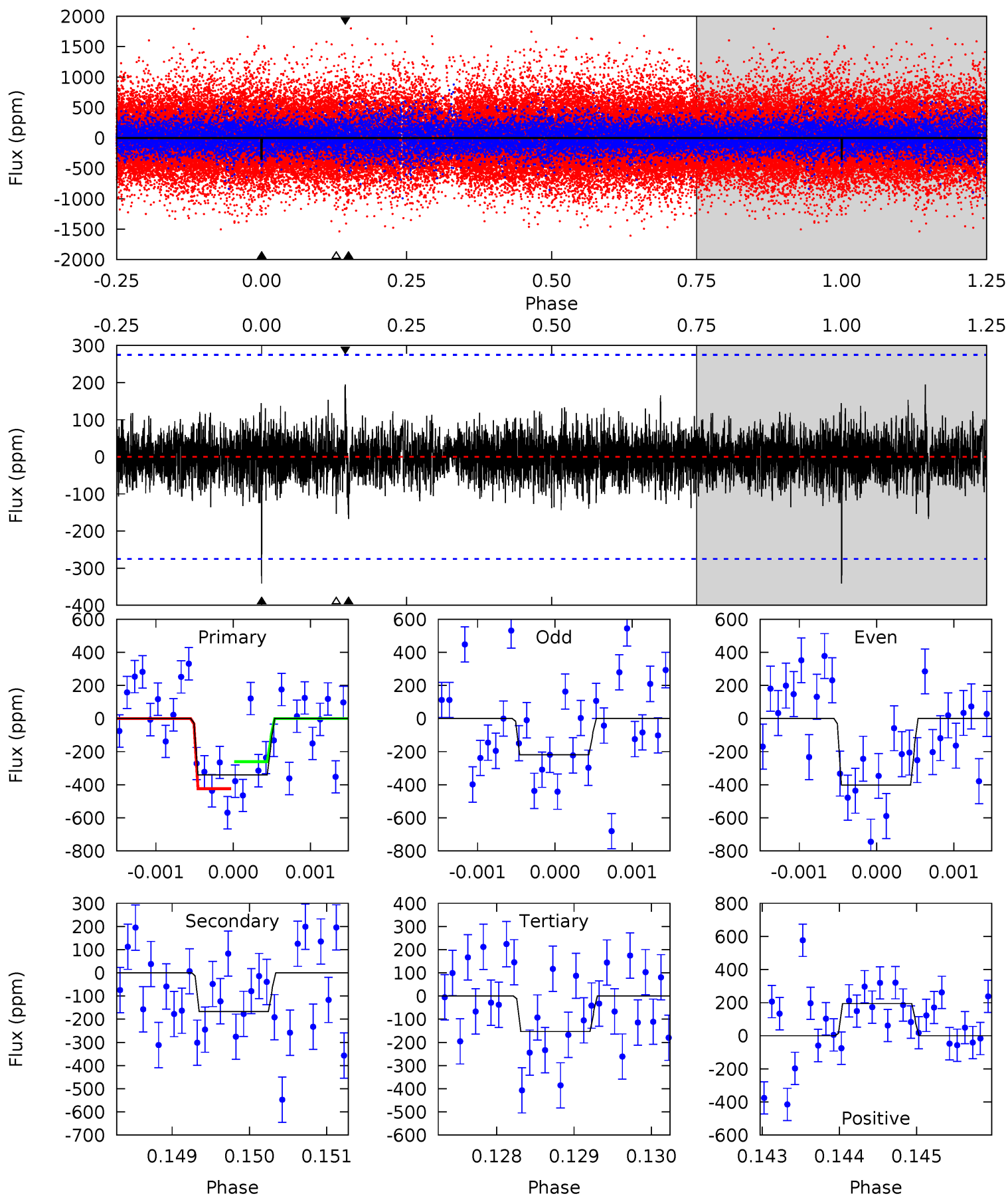
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.72	3.92	3.70	3.86	5.49	3.36	1.05	5.03	4.86	0.23	0.06	2.54	1.26	0.31	1.41



Alt Model-Shift Uniqueness Test

007663109-01, P = 519.584564 Days, E = 472.910336 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.83	3.34	3.07	3.89	5.50	3.37	0.83	3.76	2.94	0.27	-0.55	1.71	1.34	0.36	1.64



Stellar Parameters For KIC 007663109

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5750^{+155}_{-155}	$4.554^{+0.035}_{-0.196}$	$-0.160^{+0.300}_{-0.300}$	$0.849^{+0.244}_{-0.076}$	$0.945^{+0.100}_{-0.111}$	$2.174^{+0.420}_{-1.105}$
	+3%/-3%	+1%/-4%	+188%/-188%	+29%/-9%	+11%/-12%	+19%/-51%
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 007663109-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-195 ± 50	$2.20^{+1.49}_{-1.20}$	300^{+18}_{-12}	4652^{+2126}_{-817}	$32072^{+133569}_{-21006}$
Alt.	-167 ± 50	$2.09^{+1.33}_{-1.23}$	301^{+20}_{-13}	4583^{+2302}_{-802}	$31648^{+152749}_{-21337}$

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 $A_{obs} \gg 1.0$

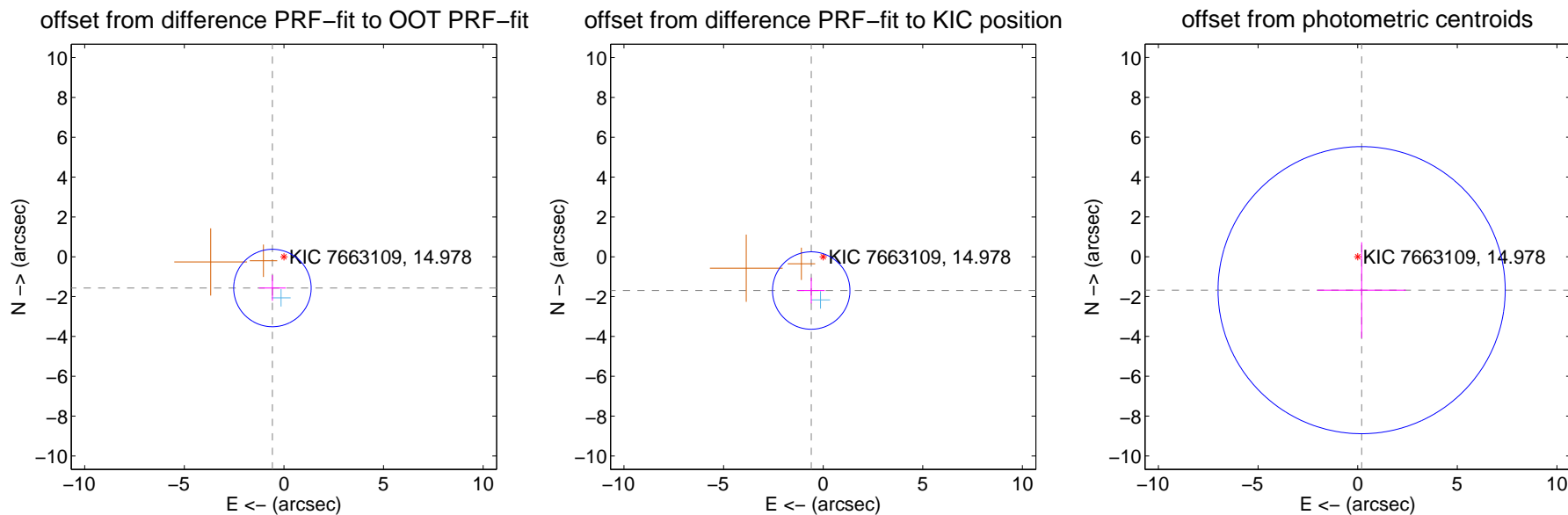
DV Centroid Data

Supplemental centroid analysis for 007663109-01. Kepler magnitude: 14.98. Transit SNR 6.91

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.671 ± 0.648	2.58	0.577 ± 0.673	-1.568 ± 0.645
PRF-fit source offset from KIC position	1.798 ± 0.648	2.78	0.600 ± 0.673	-1.695 ± 0.645
photometric centroid source offset	1.69 ± 2.40	0.70	-0.20 ± 2.22	-1.68 ± 2.40

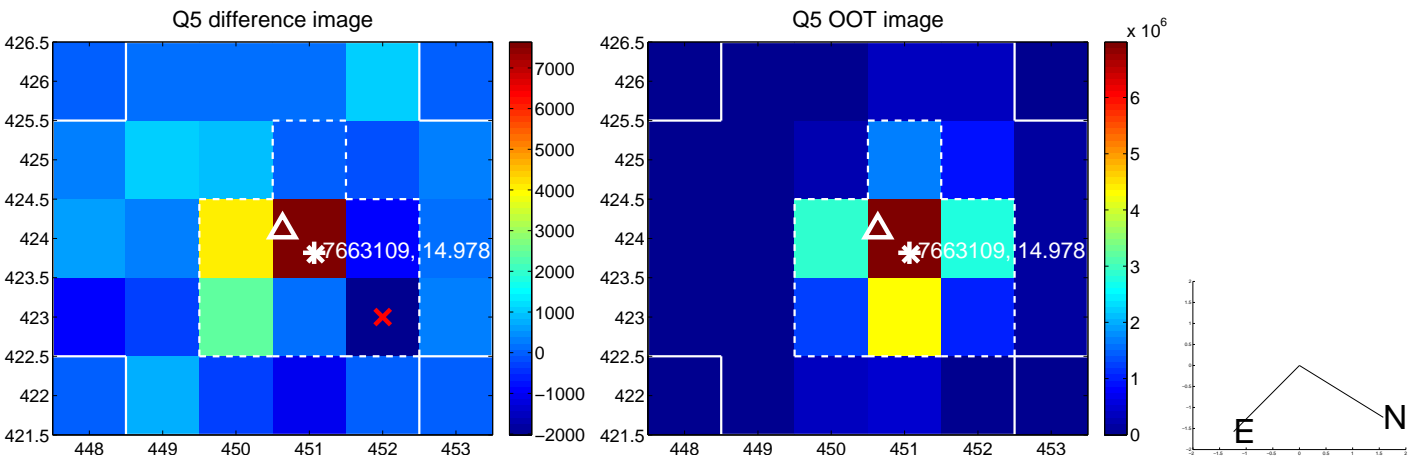


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

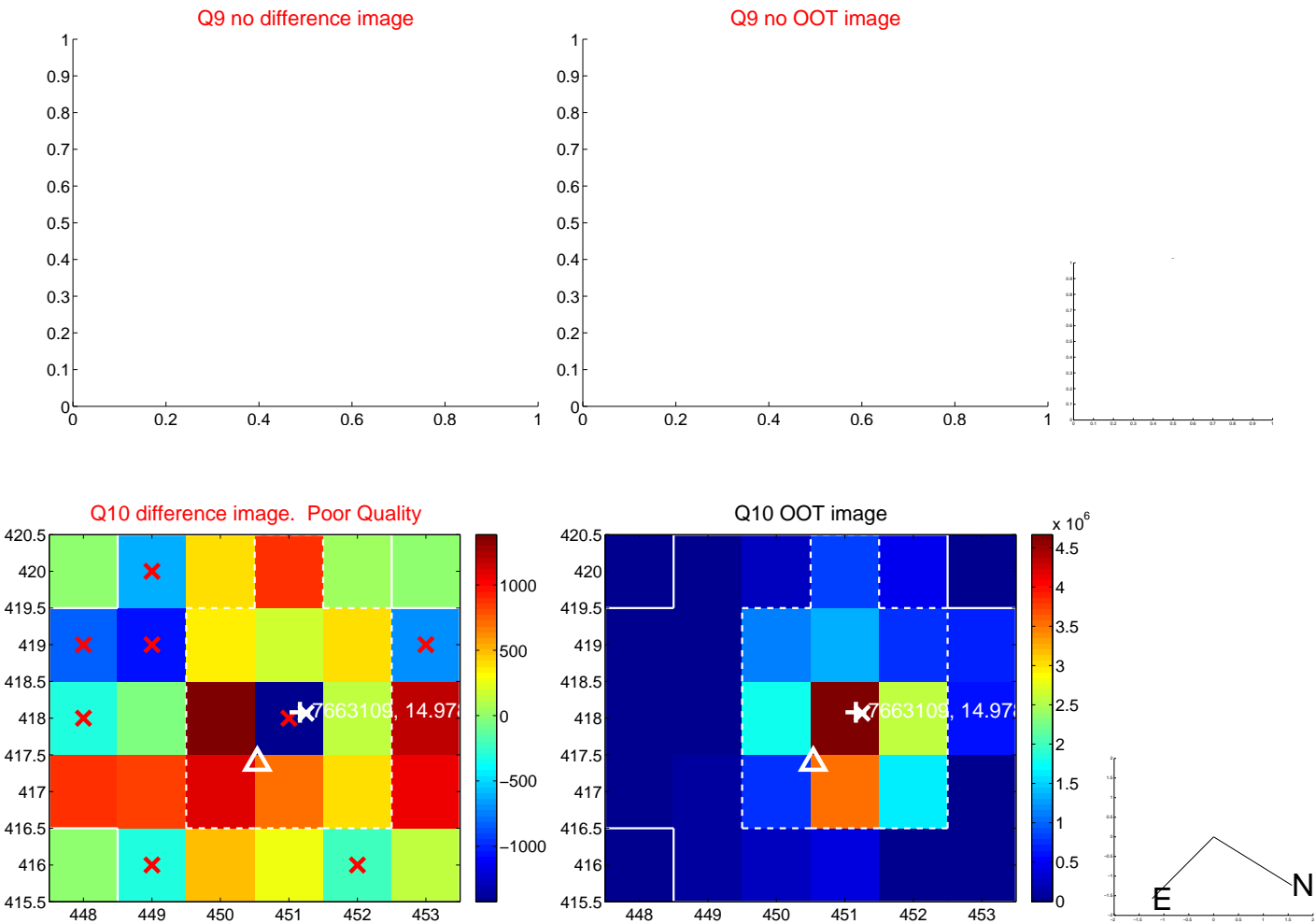
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



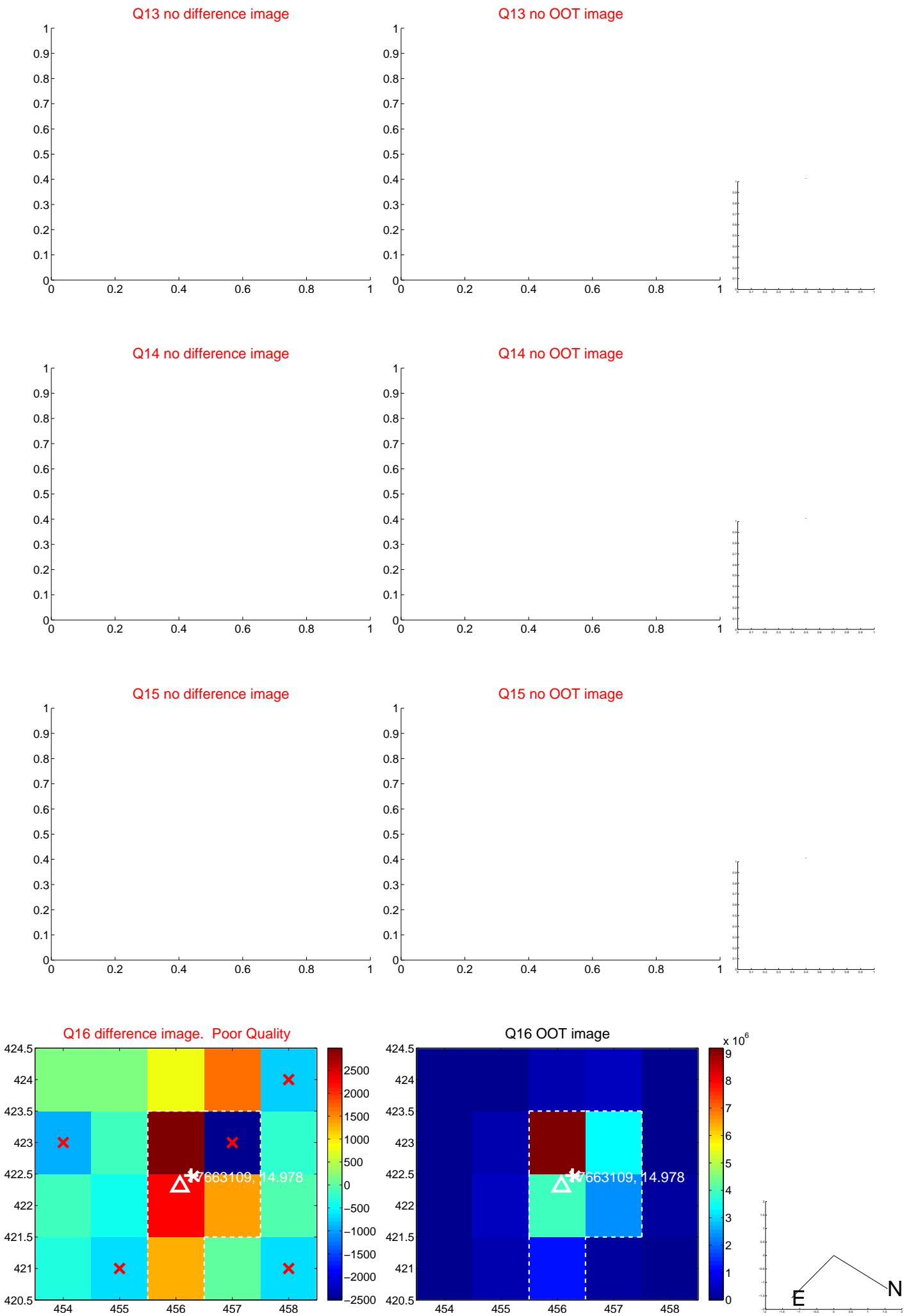
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



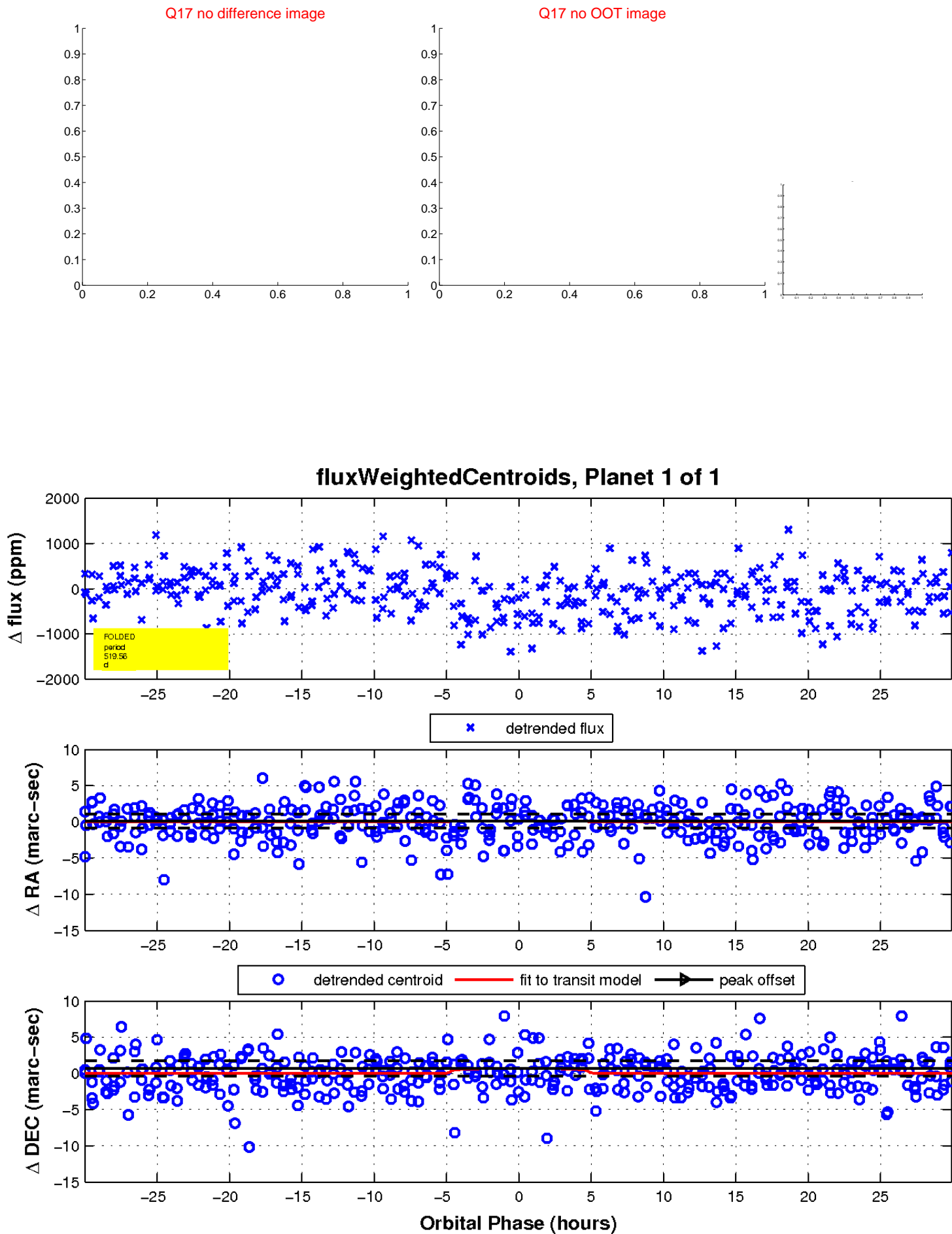
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

