

KIC 004771149

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})
004771149-01	OBS	No	494.614164	501.794477	459.1	14.393	8.9	7.9	0.85	5750	2.06	0.49

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004771149-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—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.

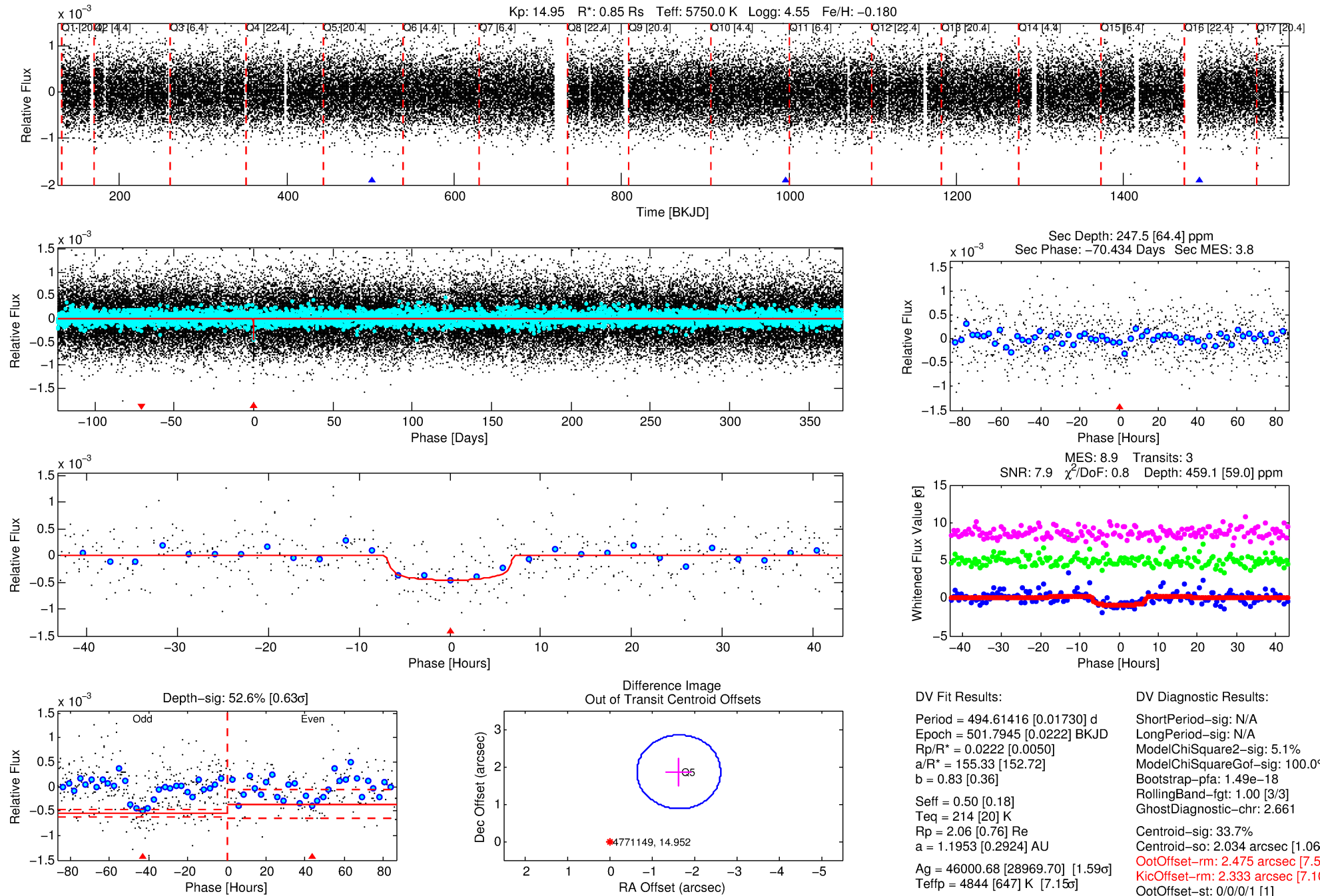
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004771149-01

No Significant Match Found

DV One-Page Summary

KIC: 4771149 Candidate: 1 of 1 Period: 494.614 d



DV Fit Results:

Period = 494.61416 [0.01730] d
Epoch = 501.7945 [0.0222] BKJD
Rp/R* = 0.0222 [0.0050]
a/R* = 155.33 [152.72]
b = 0.83 [0.36]
Seff = 0.50 [0.18]
Teq = 214 [20] K
Rp = 2.06 [0.76] Re
a = 1.1953 [0.2924] AU
Ag = 46000.68 [28969.70] [1.59 σ]
Teffp = 4844 [647] K [7.15 σ]

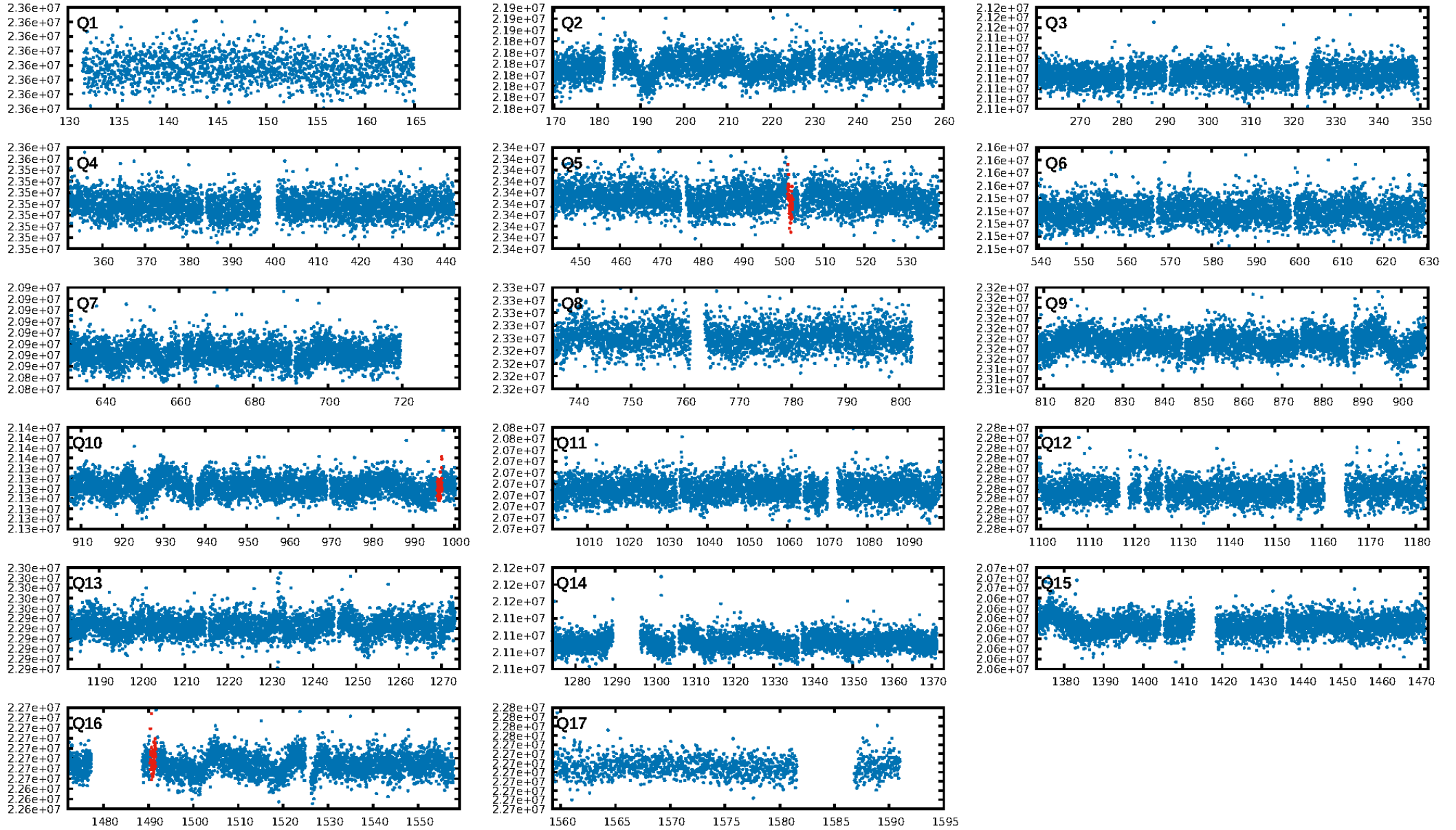
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 5.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.49e-18
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.661
Centroid-sig: 33.7%
Centroid-so: 2.034 arcsec [1.06 σ]
OotOffset-rm: 2.475 arcsec [7.52 σ]
KicOffset-rm: 2.333 arcsec [7.10 σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

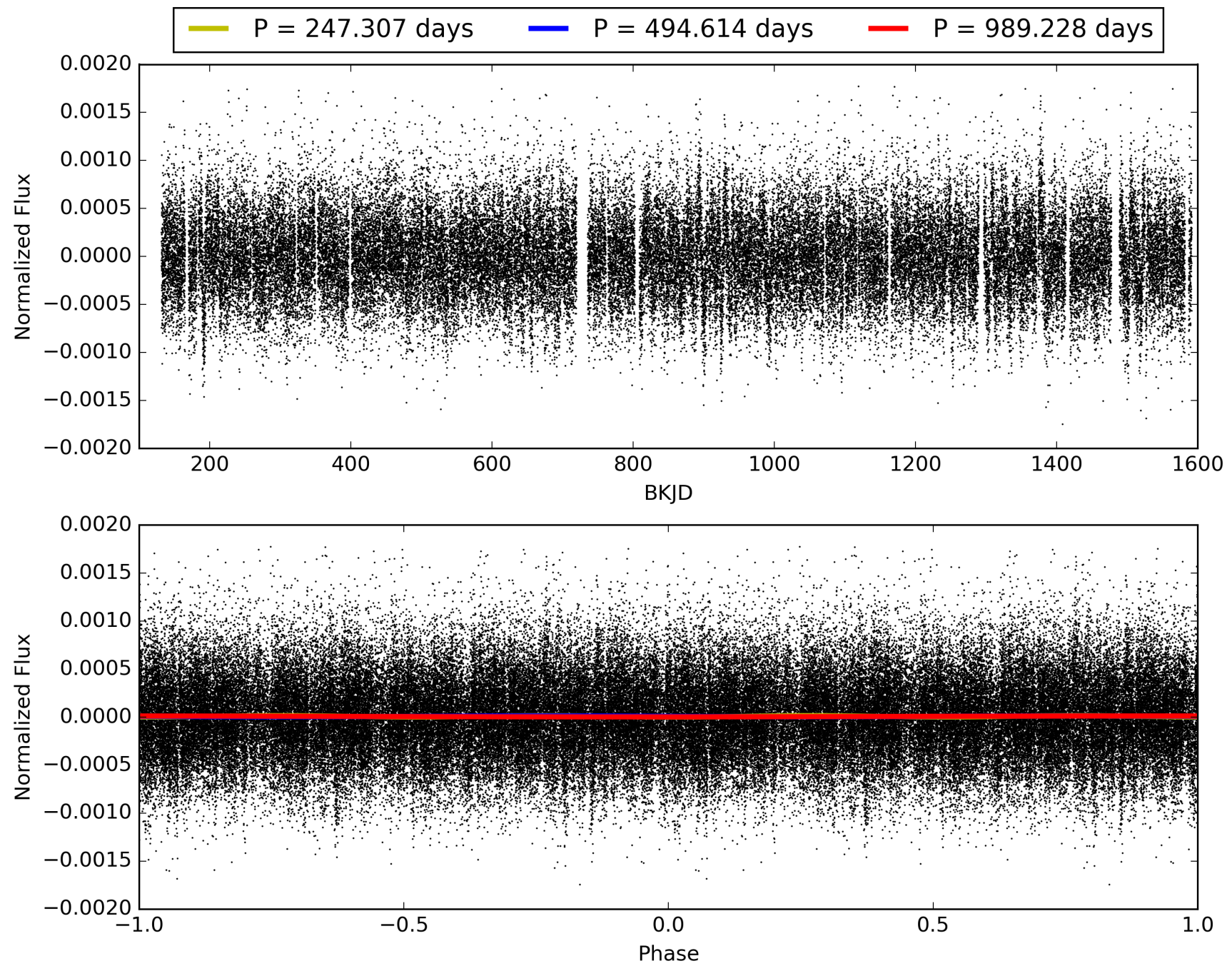
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:24:37 Z

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

TCE 004771149-01, PDC Light Curves

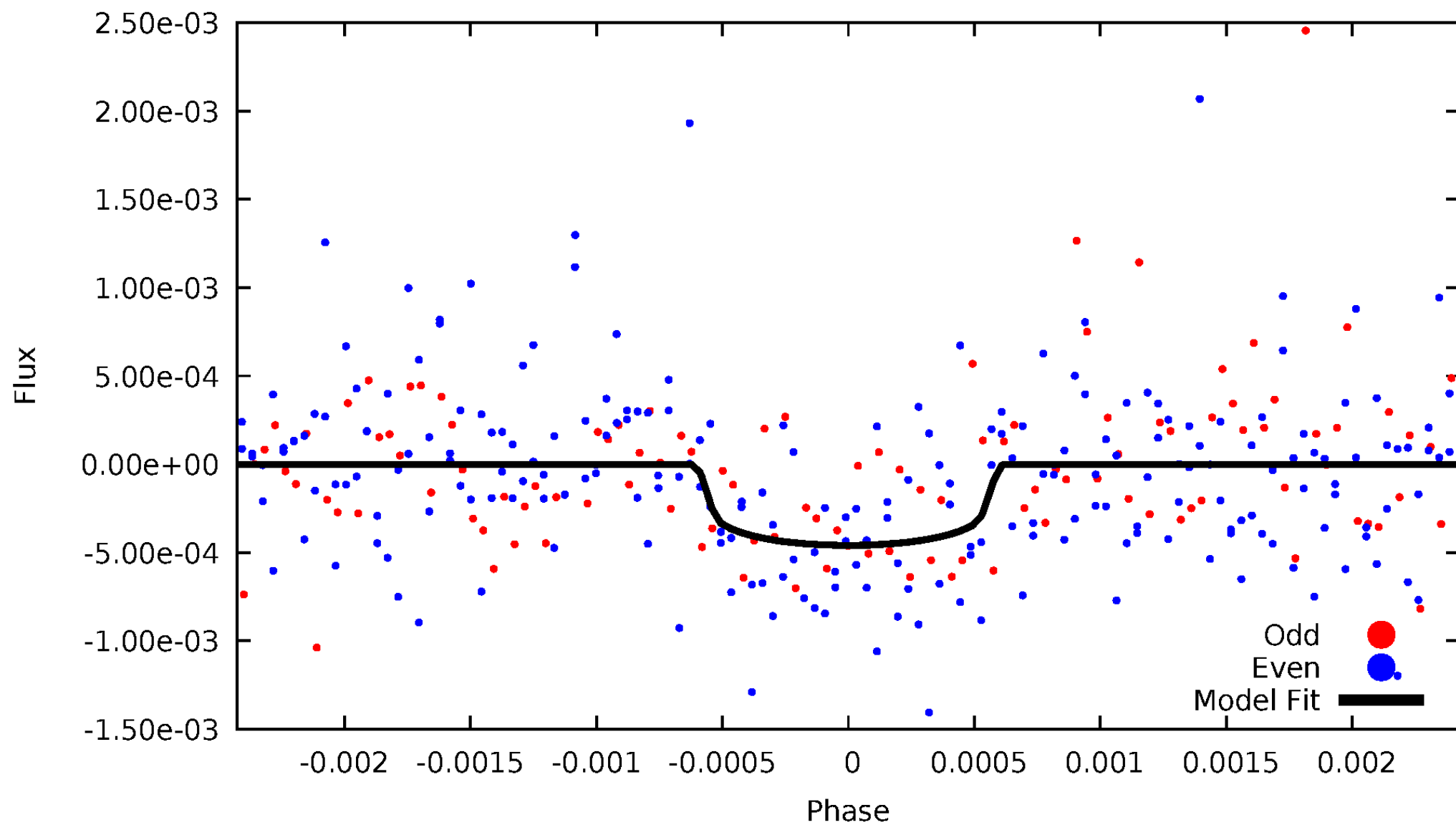


TCE 004771149-01



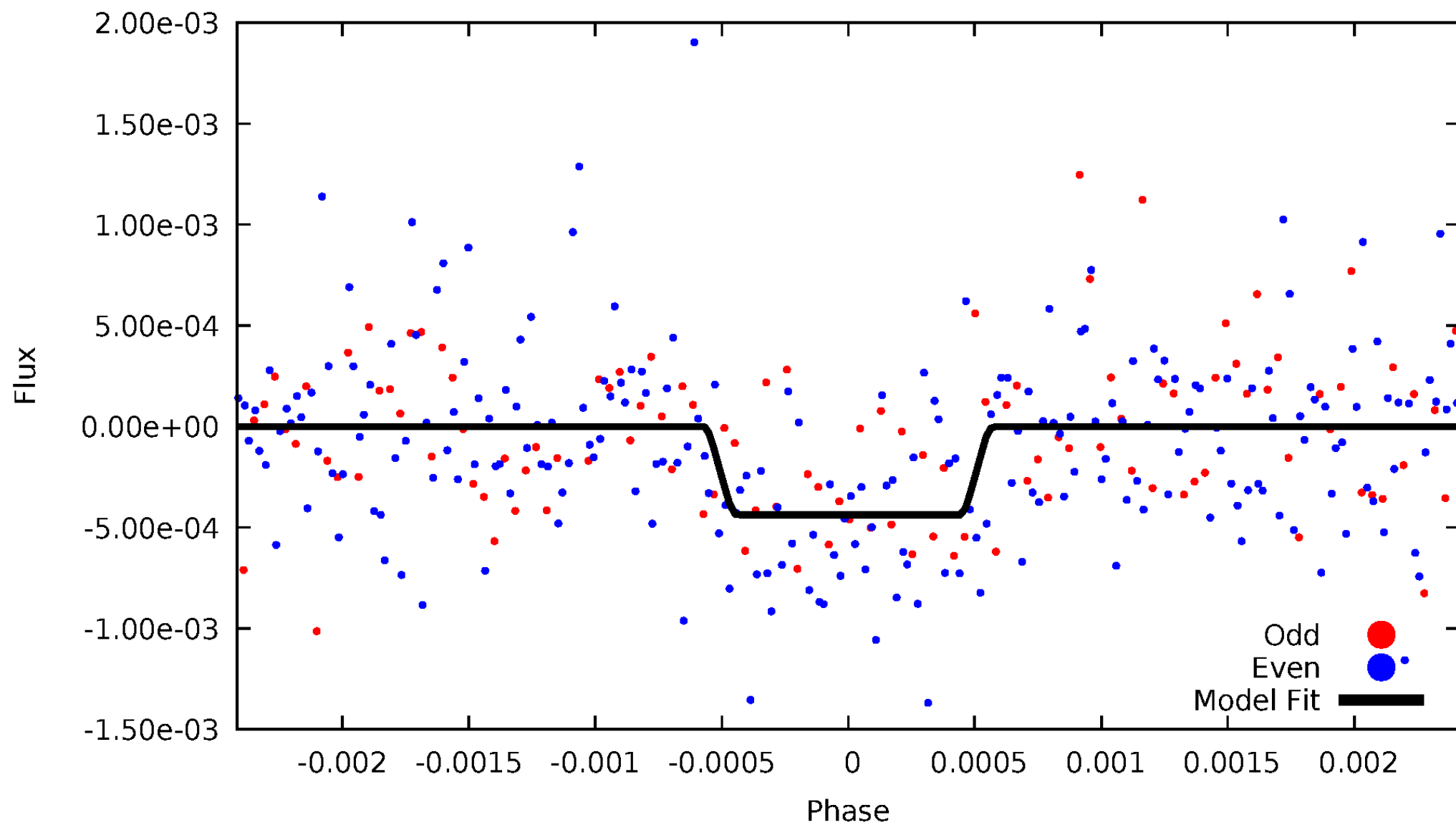
DV Odd/Even

TCE 004771149-01



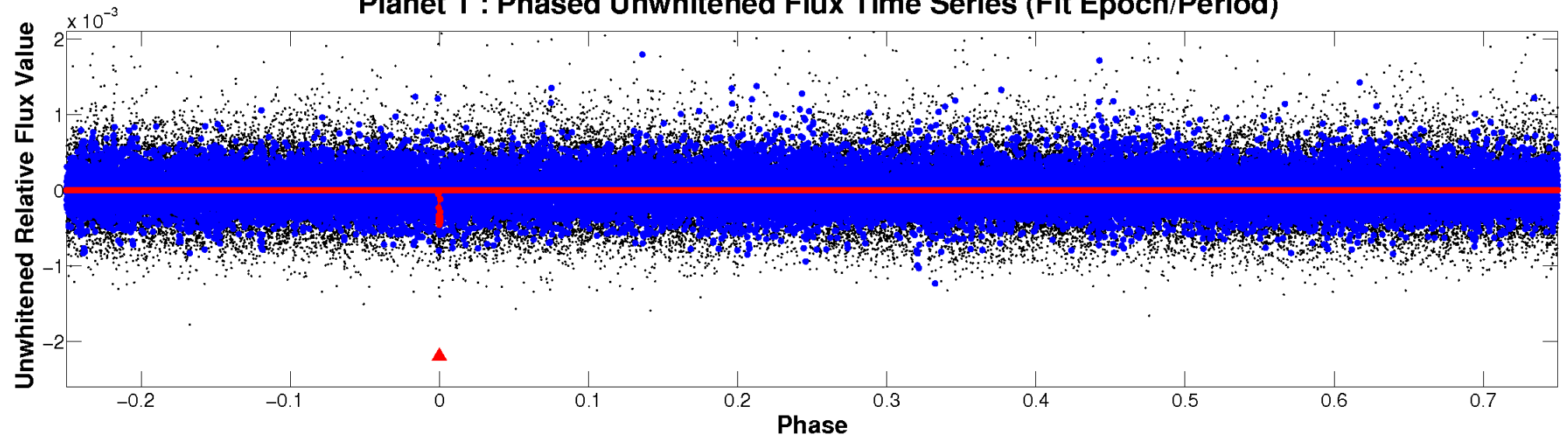
ALT Odd/Even

TCE 004771149-01

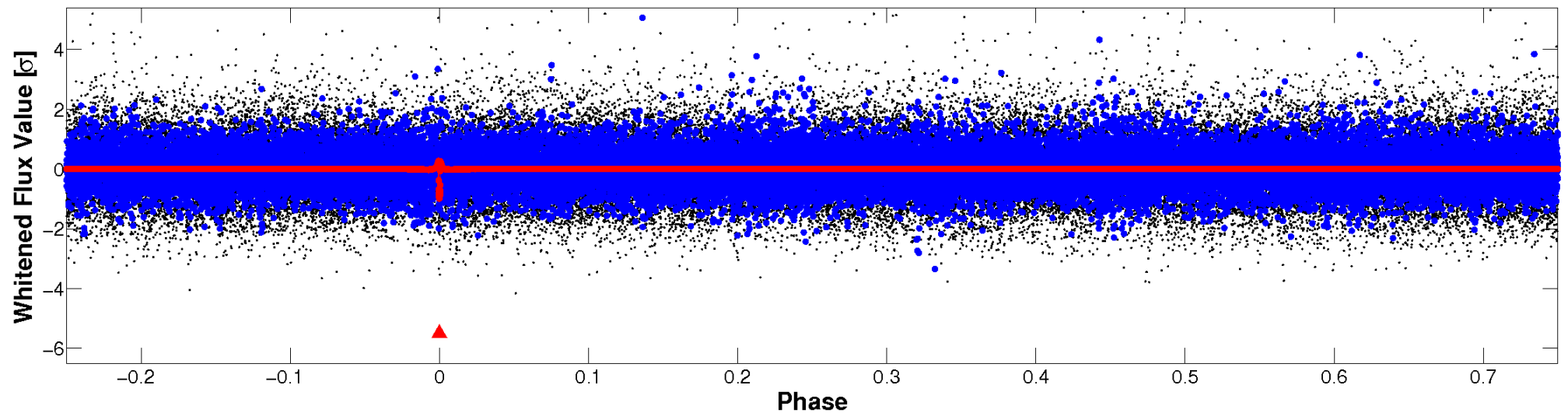


Non-Whitened Vs. Whitened Light Curve

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

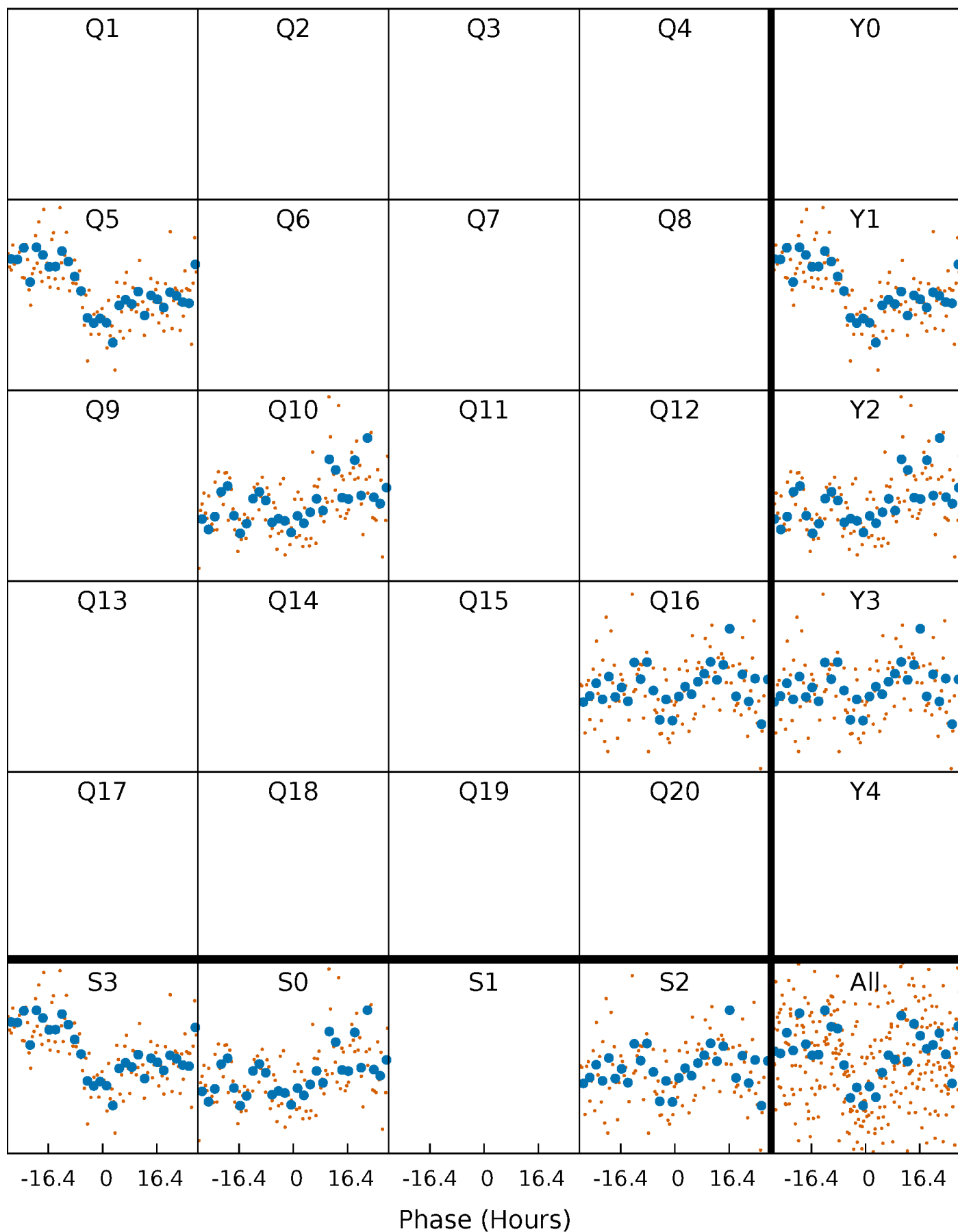


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



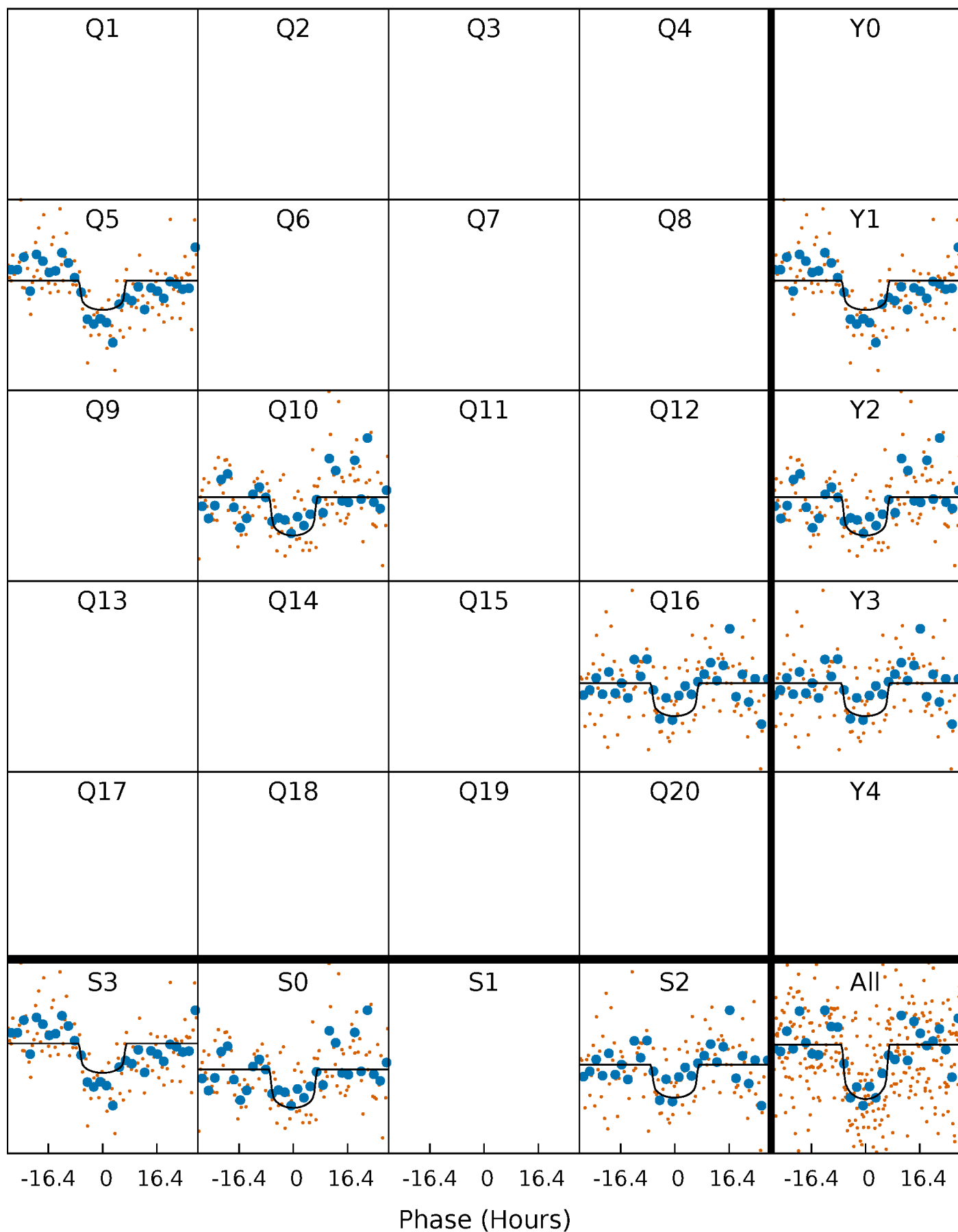
PDC Quarter-Phased Transit Curves

TCE 004771149-01 P=494.614164 Days $T_0=501.794477$ (BKJD)



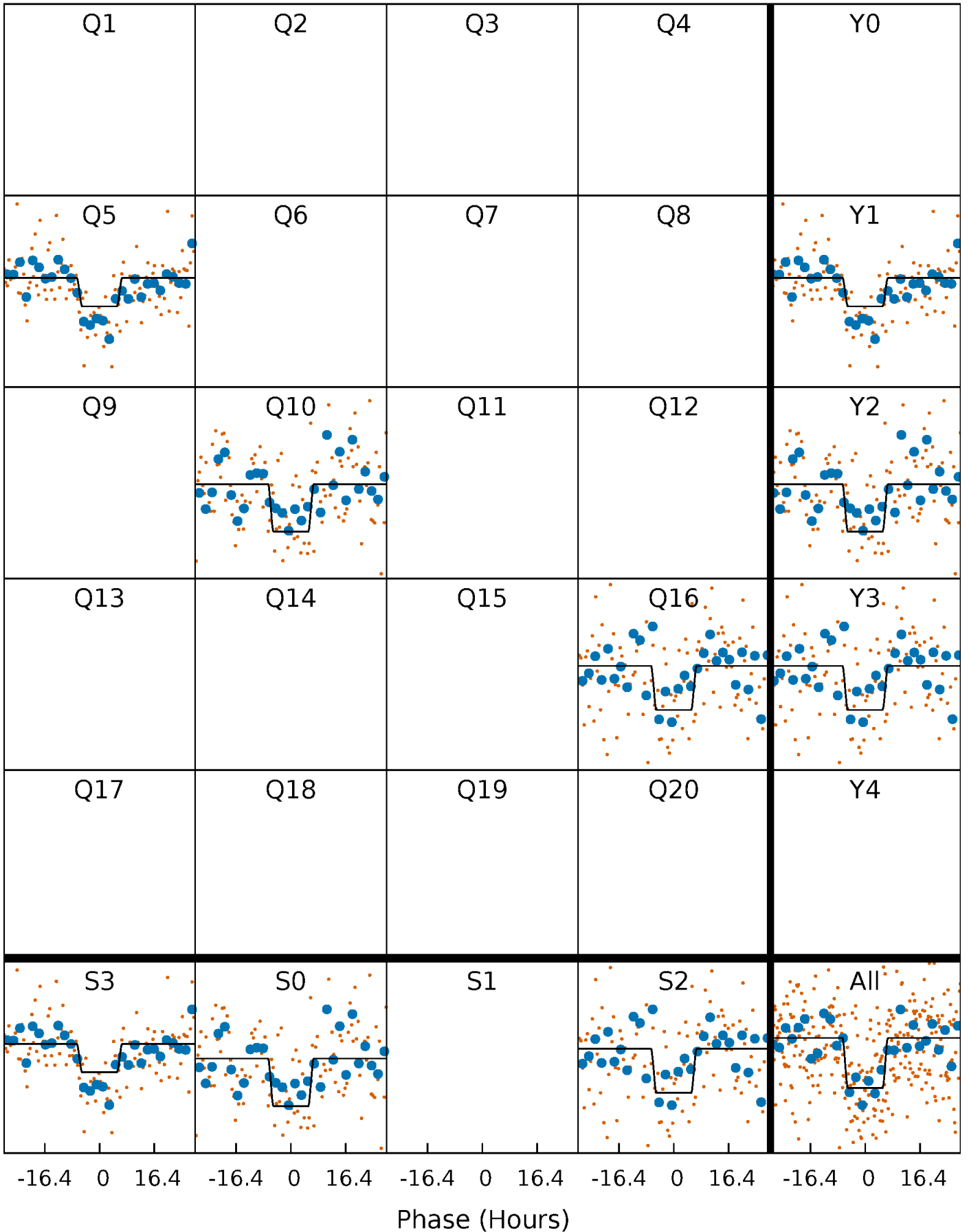
DV Quarter-Phased Transit Curves

TCE 004771149-01 P=494.614164 Days $T_0=501.794477$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

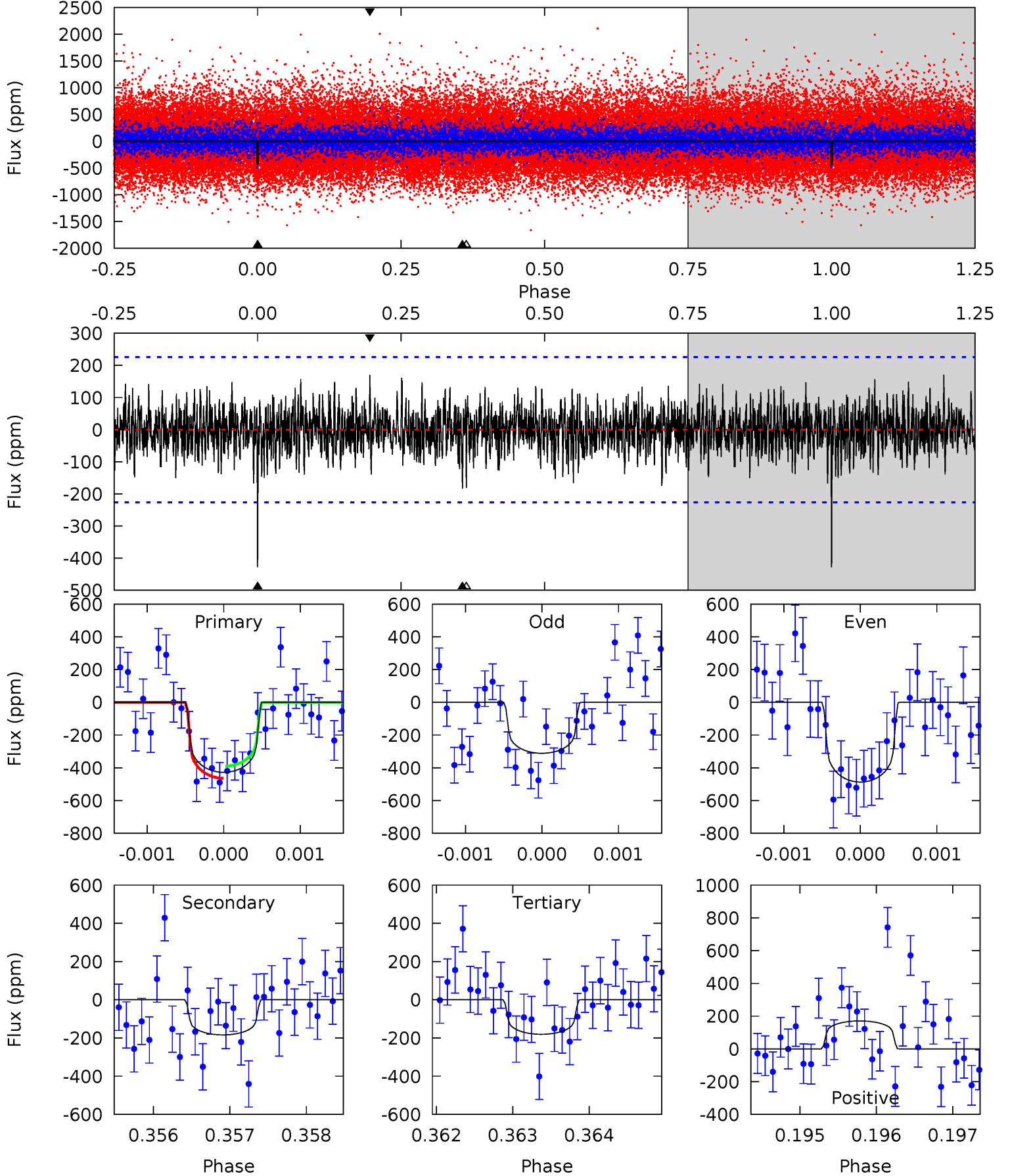
TCE 004771149-01 P=494.607942 Days $T_0=501.796795$ (BKJD)



DV Model-Shift Uniqueness Test

004771149-01, $P = 494.614164$ Days, $E = 7.180313$ Days

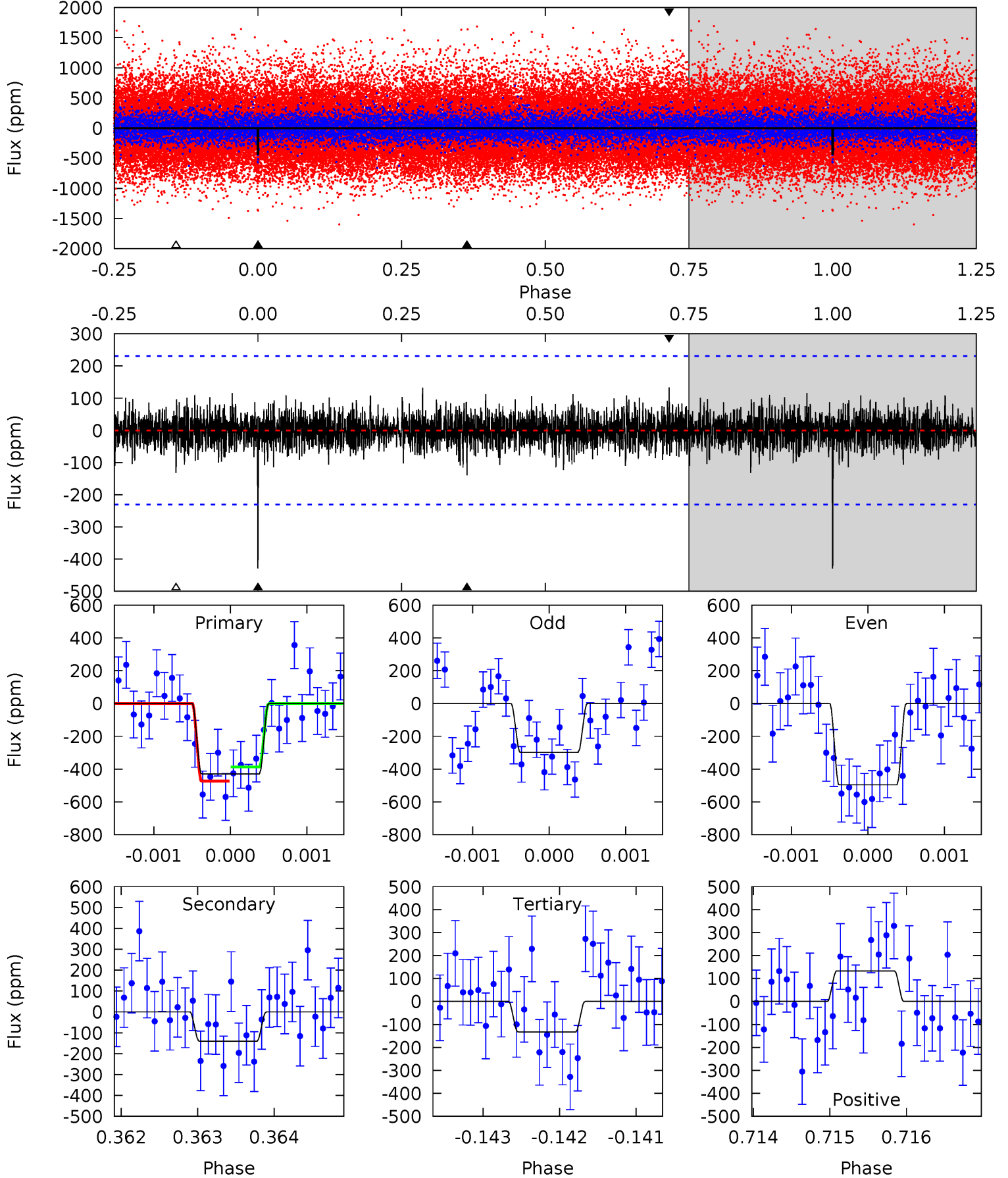
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	4.40	4.33	4.09	5.41	3.23	1.22	5.91	6.16	0.07	0.32	2.00	1.39	0.29	0.88



Alt Model-Shift Uniqueness Test

004771149-01, P = 494.607942 Days, E = 7.188853 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	3.29	3.11	3.12	5.43	3.25	0.83	6.97	6.96	0.18	0.16	2.19	1.36	0.24	1.02



Stellar Parameters For KIC 004771149

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5750^{+155}_{-172}	$4.548^{+0.036}_{-0.192}$	$-0.180^{+0.300}_{-0.300}$	$0.850^{+0.249}_{-0.083}$	$0.932^{+0.098}_{-0.109}$	$2.138^{+0.418}_{-1.088}$
	+3%/-3%	+1%/-4%	+167%/-167%	+29%/-10%	+11%/-12%	+20%/-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 004771149-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-184 ± 42	$2.17^{+0.56}_{-0.53}$	306^{+19}_{-14}	4630^{+588}_{-434}	29919^{+24707}_{-12272}
Alt.	-140 ± 43	$2.05^{+0.52}_{-0.49}$	306^{+20}_{-13}	4434^{+635}_{-431}	24370^{+20129}_{-10921}

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

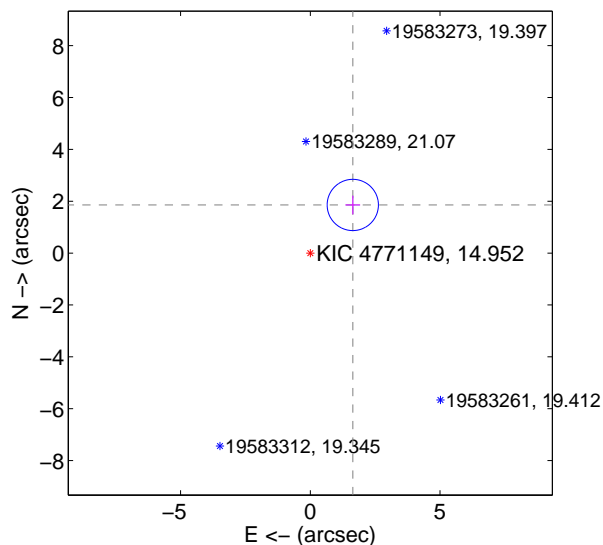
Supplemental centroid analysis for 004771149-01. Kepler magnitude: 14.95. Transit SNR 7.89

There are 1 quarters with good PRF difference image offsets

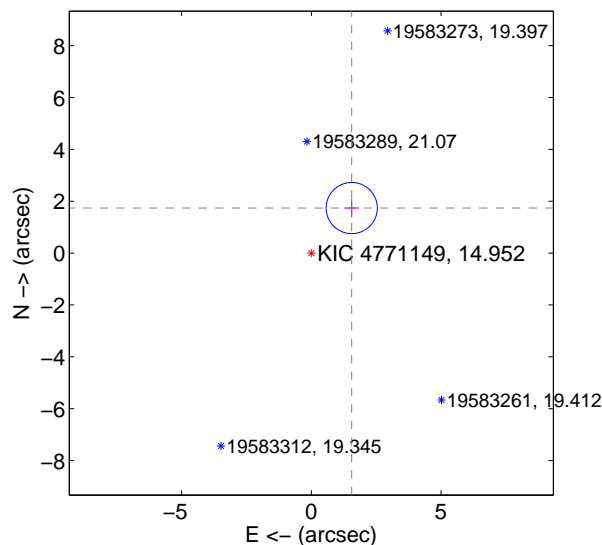
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.475 ± 0.329	7.52	-1.638 ± 0.286	1.856 ± 0.359
PRF-fit source offset from KIC position	2.333 ± 0.329	7.10	-1.558 ± 0.286	1.737 ± 0.359
photometric centroid source offset	2.03 ± 1.91	1.06	2.03 ± 1.91	-0.05 ± 1.74

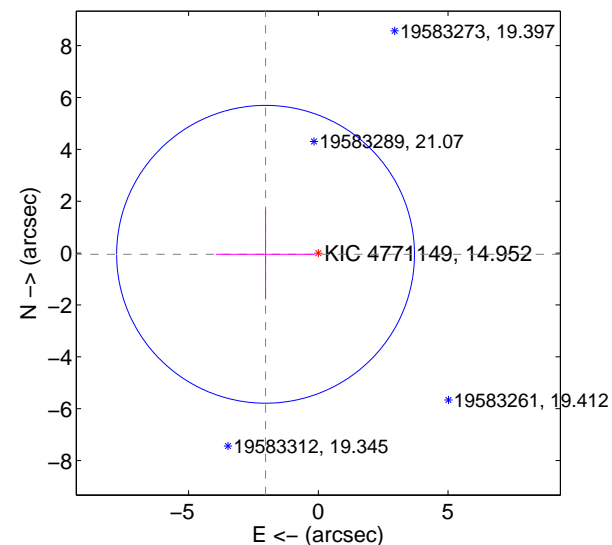
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

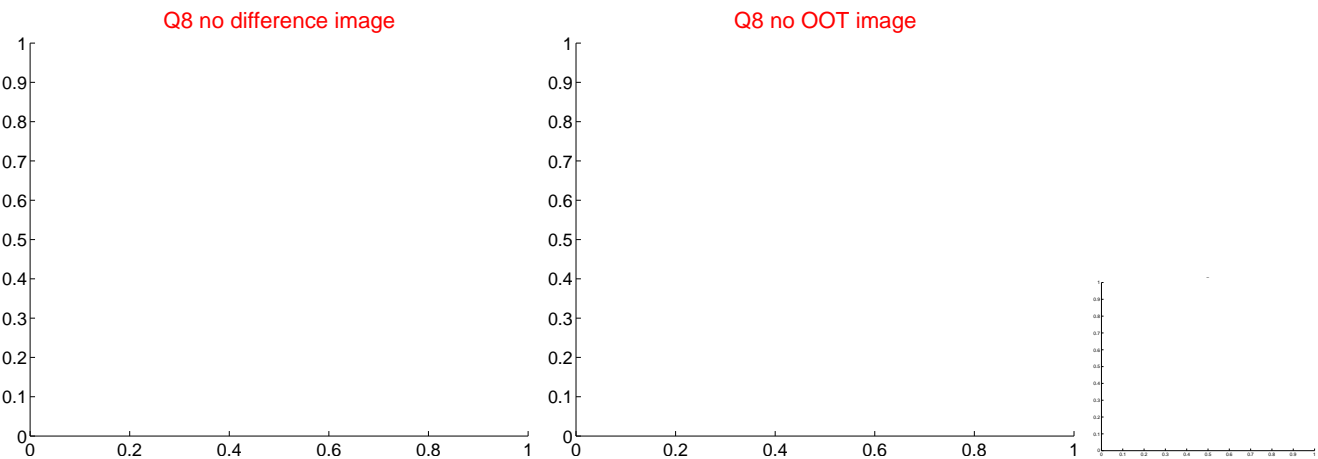
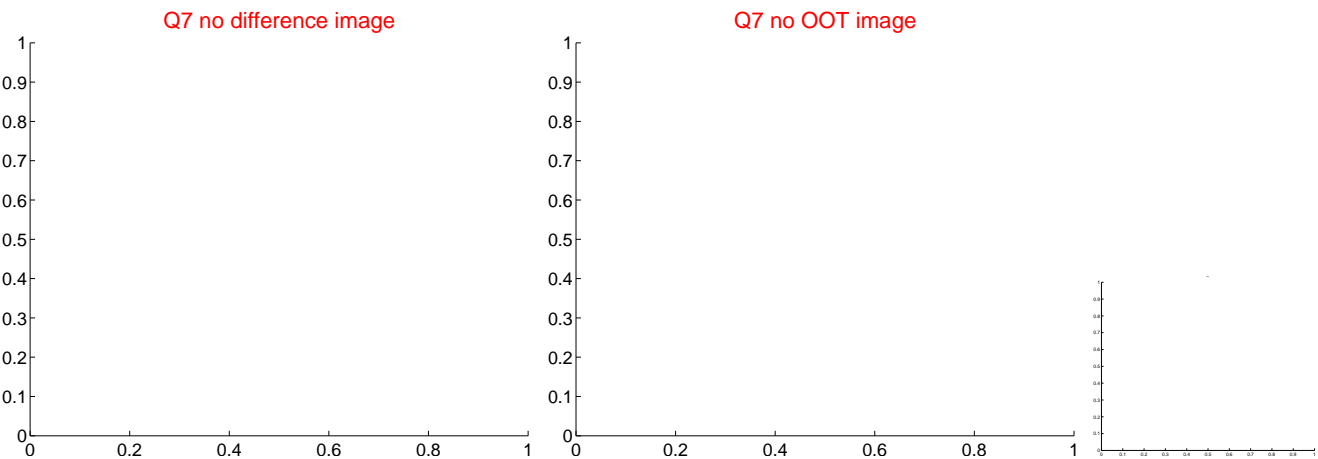
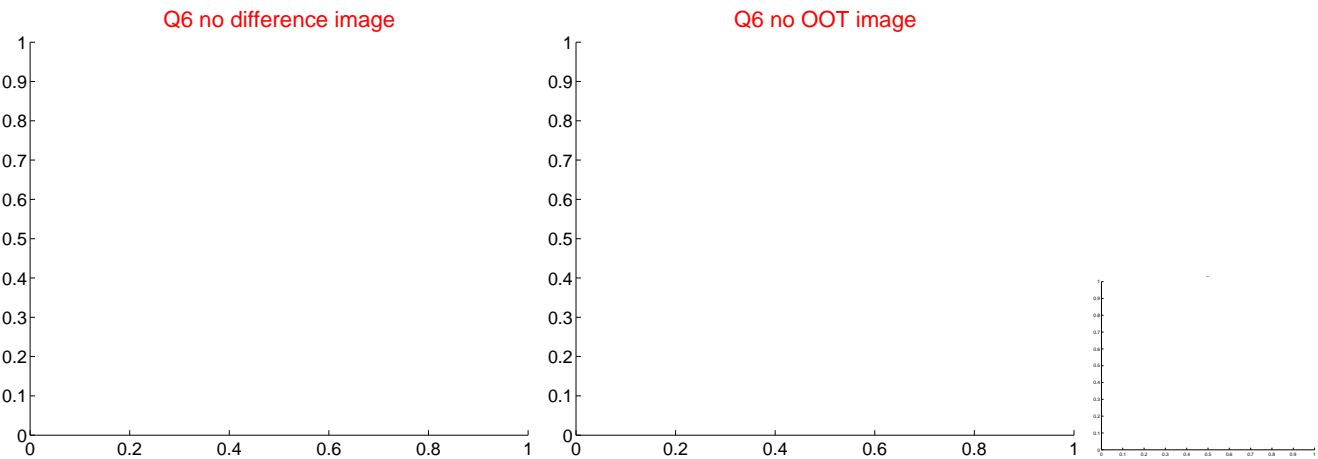
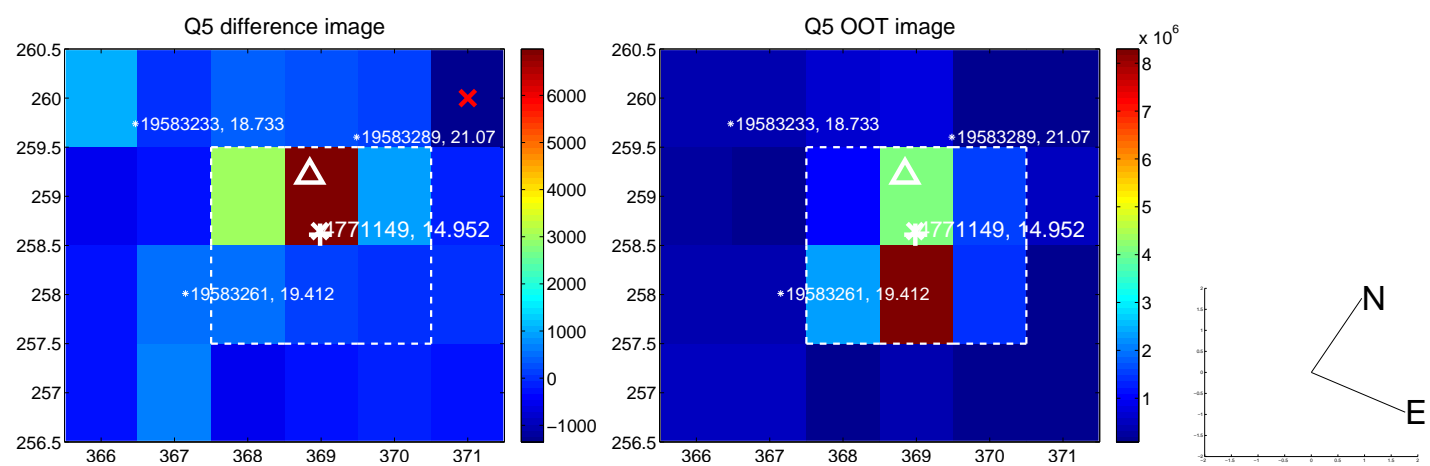


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

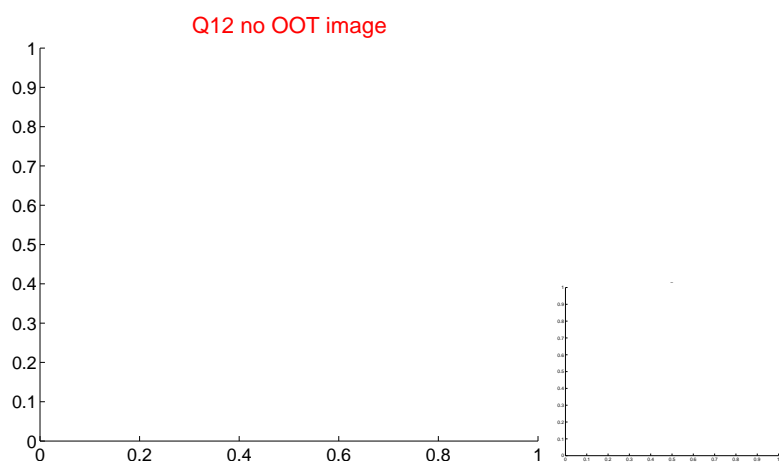
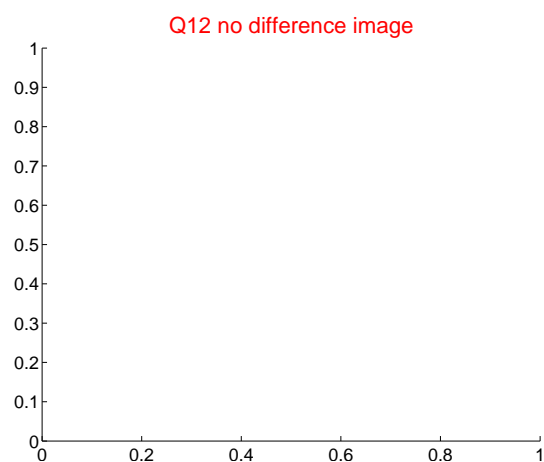
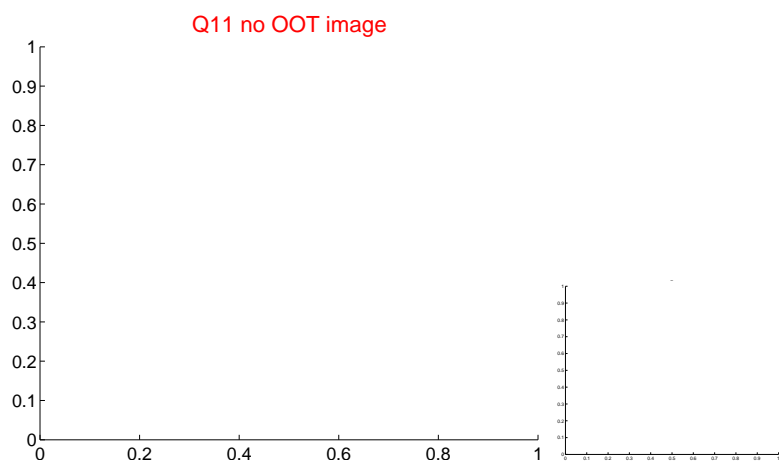
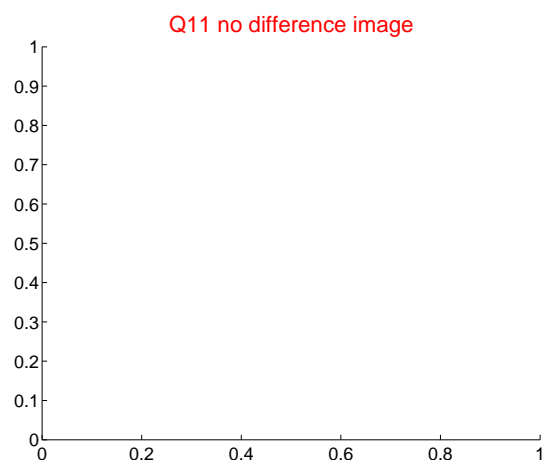
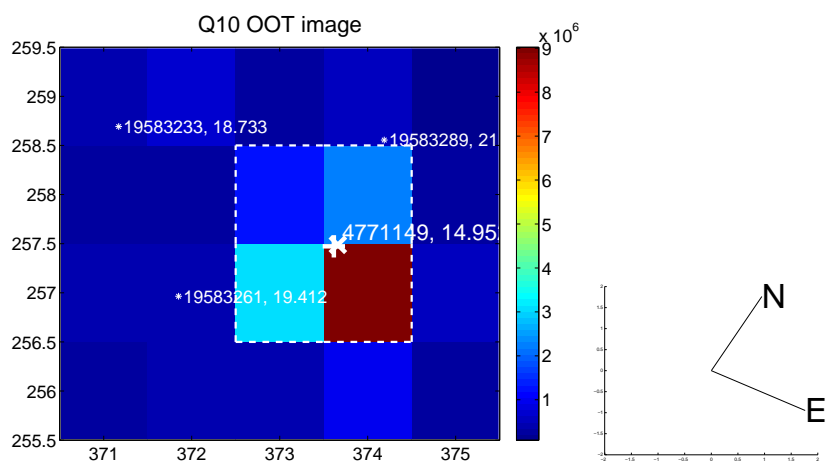
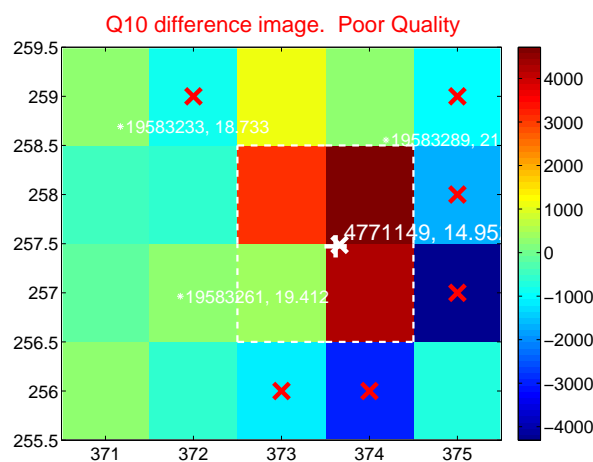
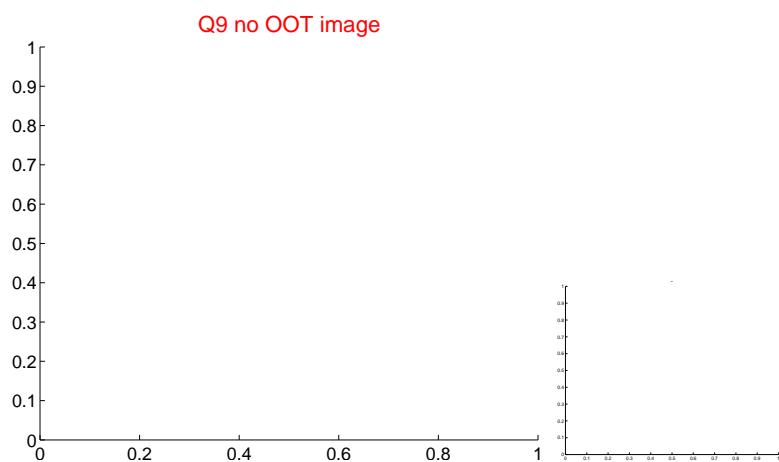
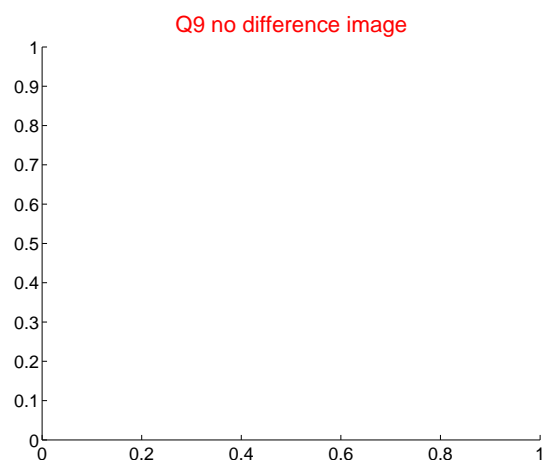
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



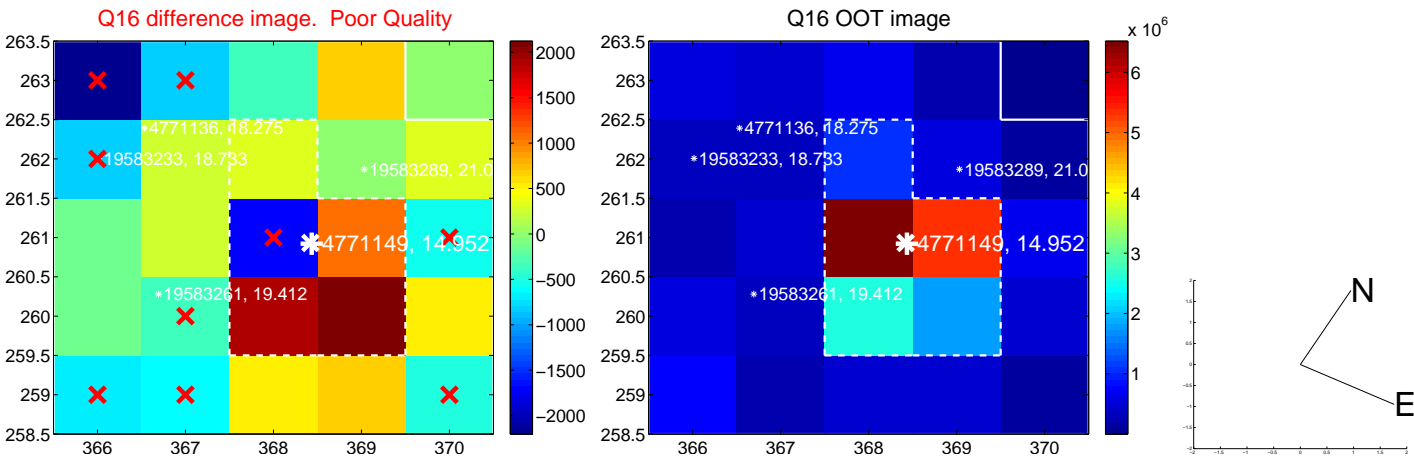
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



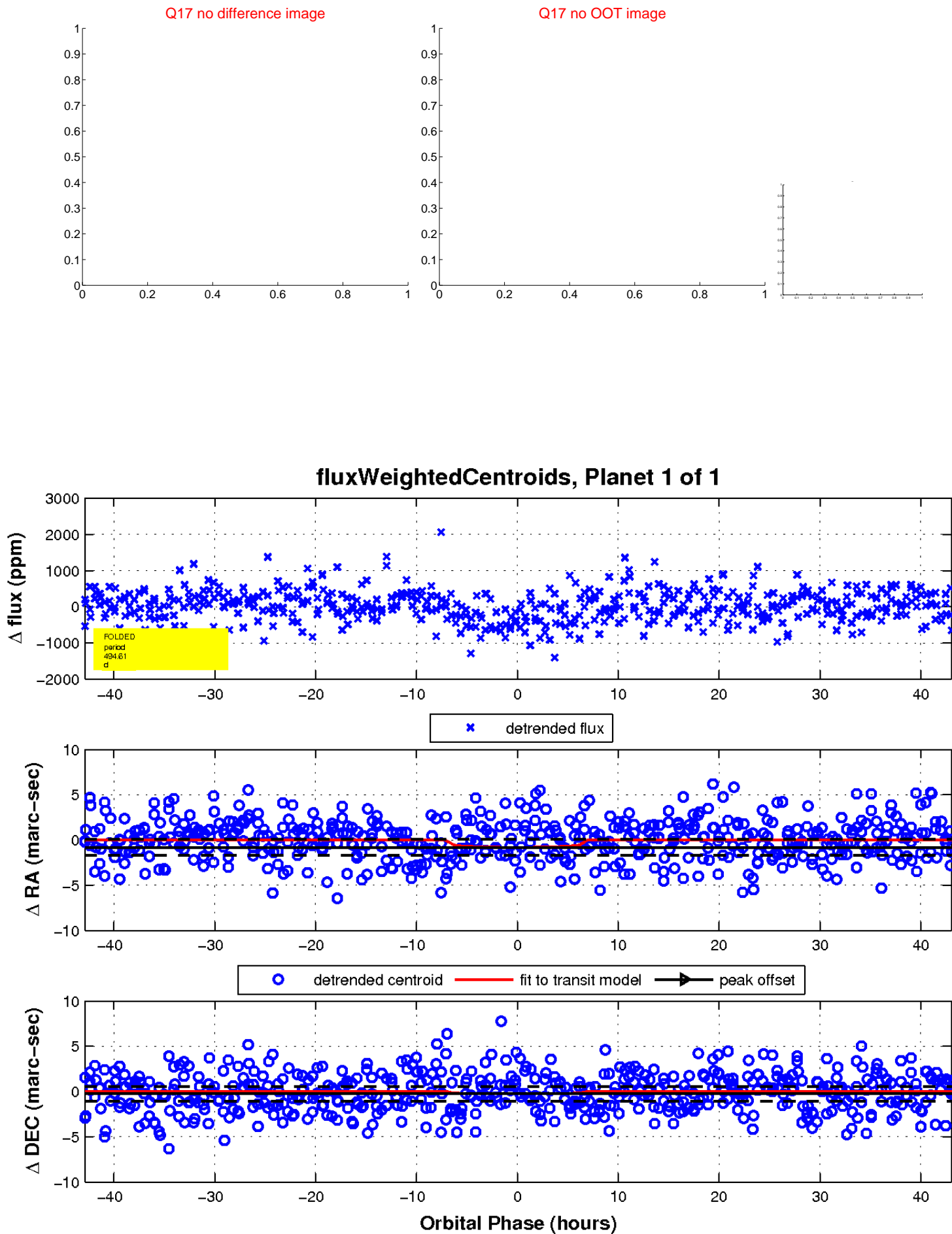
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



UKIRT Image

Declination

