

KIC 008884774

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})
008884774-01	OBS	No	375.439958	138.731510	762.4	73.718	13.1	18.2	0.97	5912	5.19	1.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008884774-01	OBS	FP	0.00	1	0	0	1	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—CENT_FEW_DIFFS—EPHEM_MATCH

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.

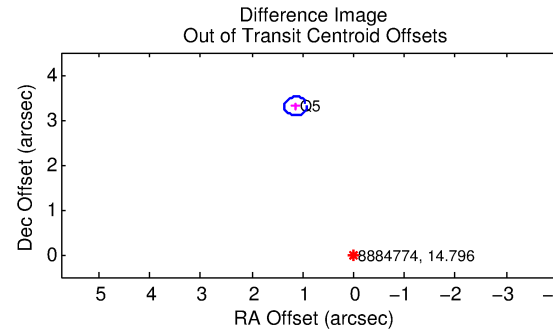
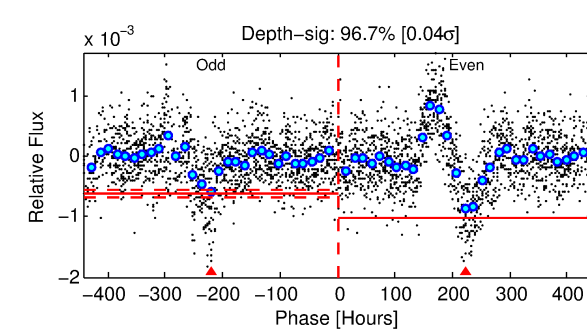
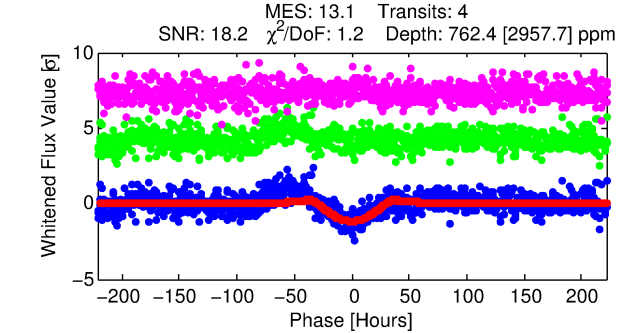
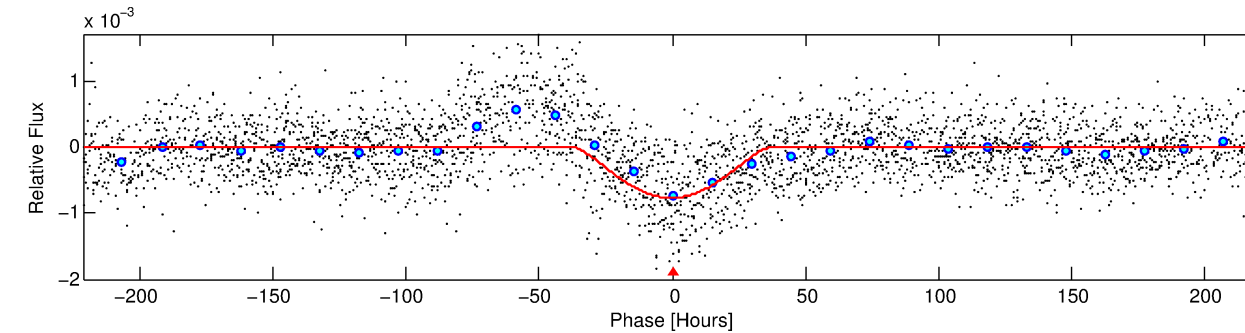
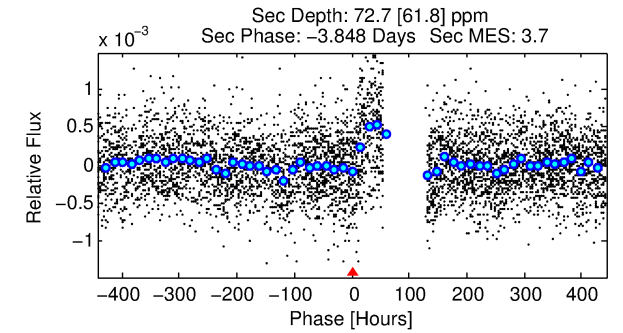
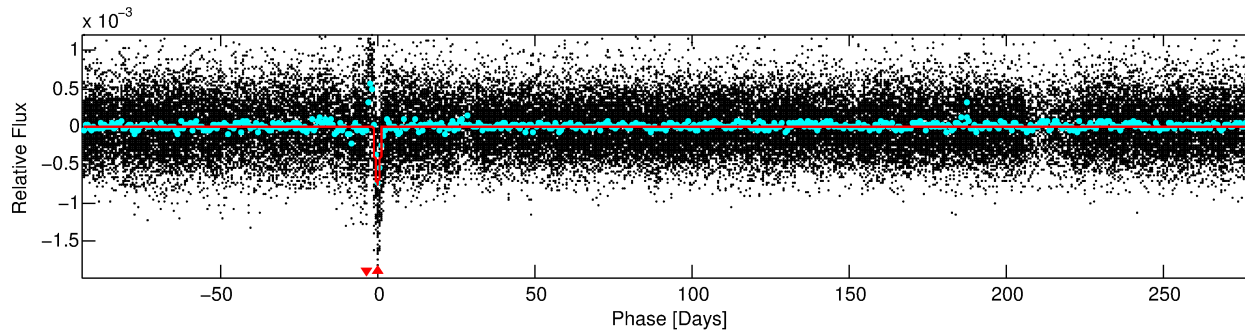
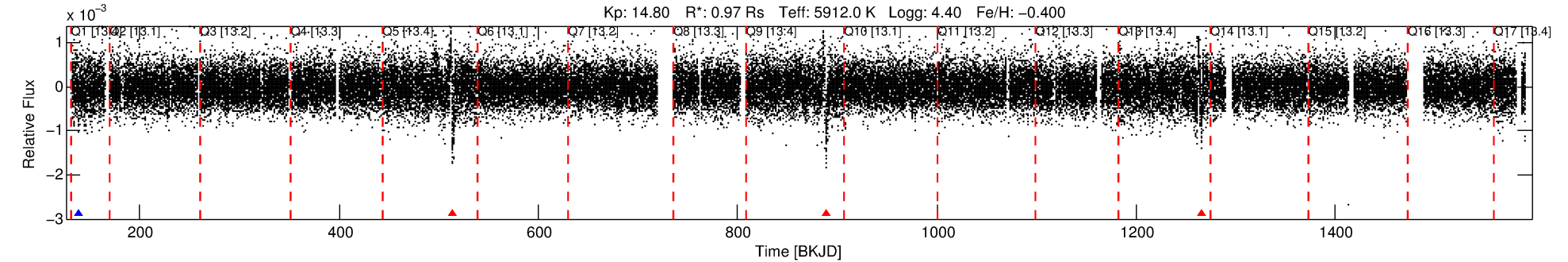
Ephemeris Match Information For 008884774-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist (\prime)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
008884774-01	8884774	008687209-01	8687209	1:1	1422.7	-357	-3	15.65	14.79	2.26	Col-Anomaly	1	3.98	3.17

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 8884774 Candidate: 1 of 1 Period: 375.440 d



DV Fit Results:

Period = 375.43996 [0.04752] d
Epoch = 138.7315 [0.0932] BKJD
Rp/R* = 0.0490 [0.0865]
a/R* = 12.37 [5.27]
b = 1.00 [0.00]
Seff = 1.09 [0.40]
Teq = 261 [24] K
Rp = 5.19 [9.28] Re
a = 0.9725 [0.2298] AU
Ag = 1406.02 [5133.38] [0.27σ]
Teffp = 2467 [2243] K [0.98σ]

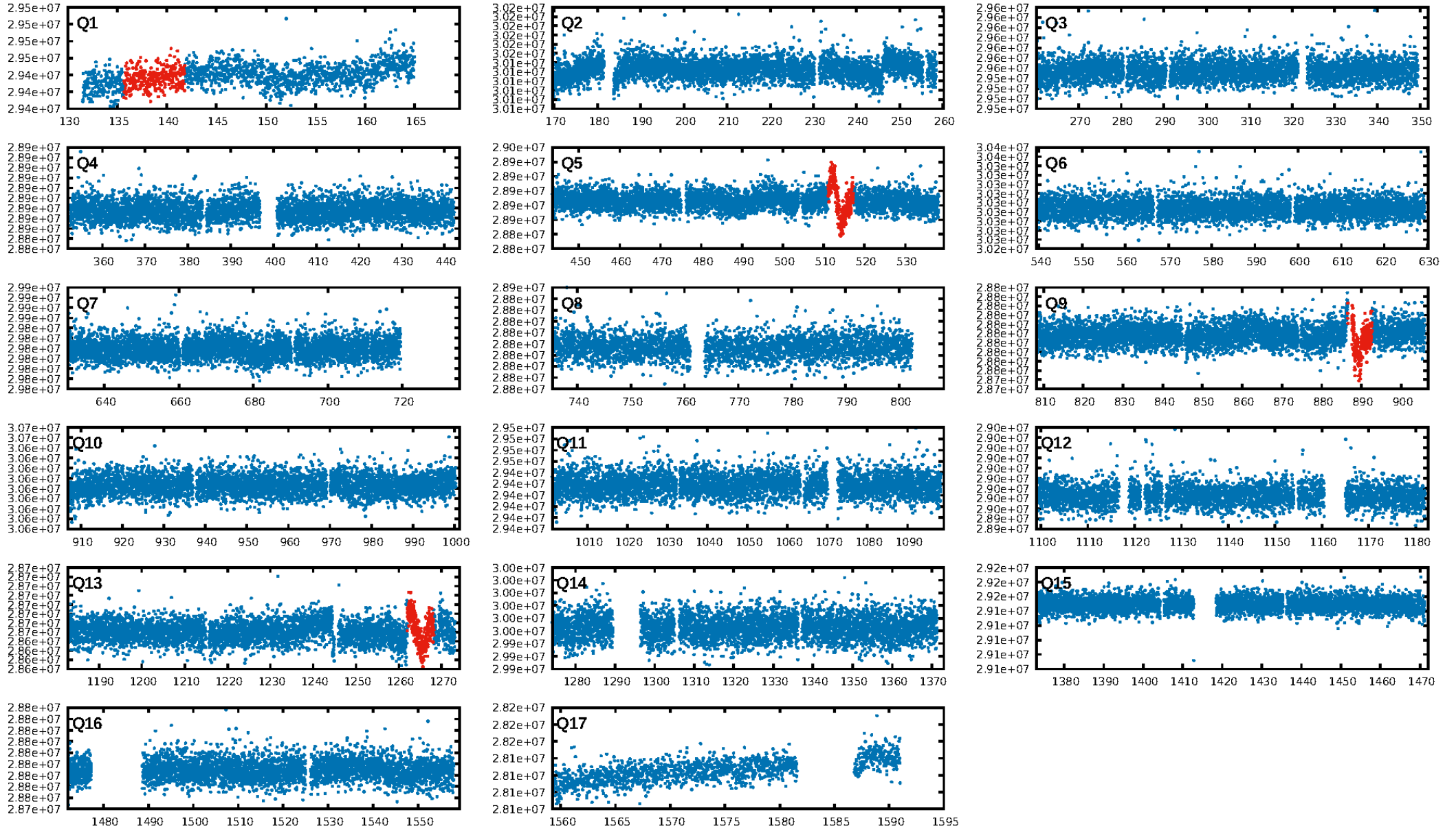
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 1.74e-50
RollingBand-fgt: 0.00 [0/3]
GhostDiagnostic-chr: -2.587
Centroid-sig: 0.0%
Centroid-so: 2.686 arcsec [4.31σ]
OotOffset-rm: 3.493 arcsec [48.98σ]
KicOffset-rm: 3.627 arcsec [50.85σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [2/2]

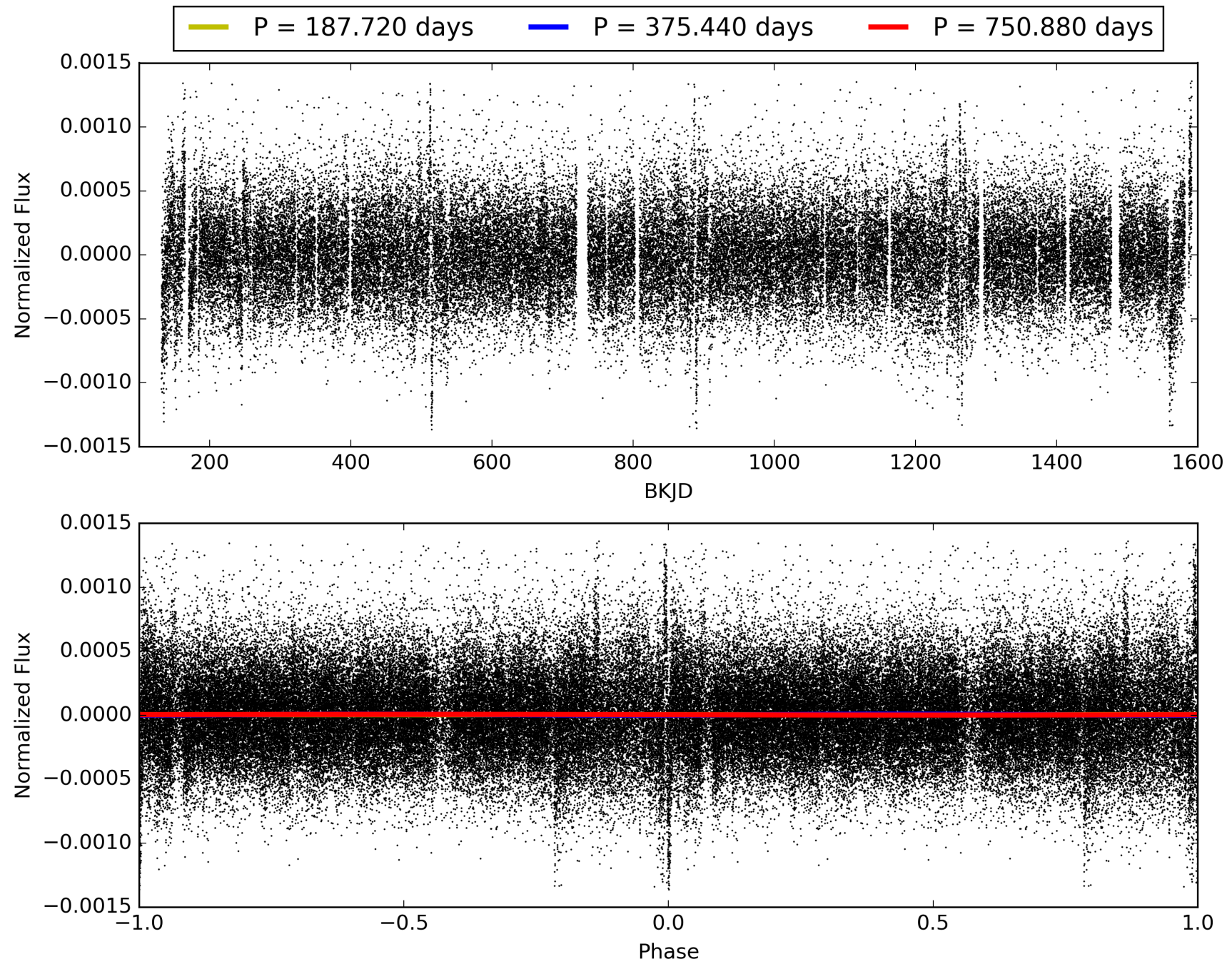
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:09:27 Z

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

TCE 008884774-01, PDC Light Curves

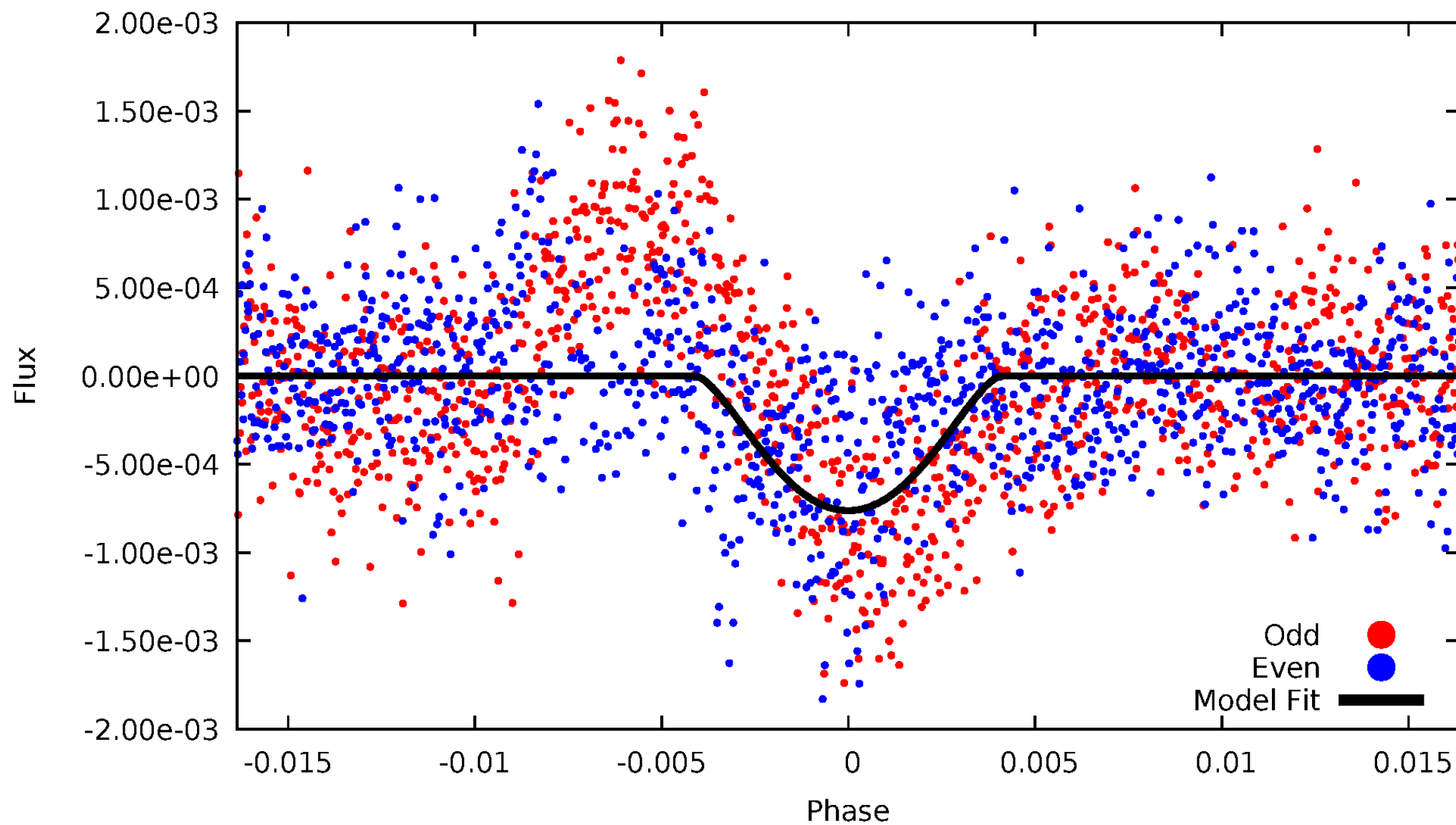


TCE 008884774-01



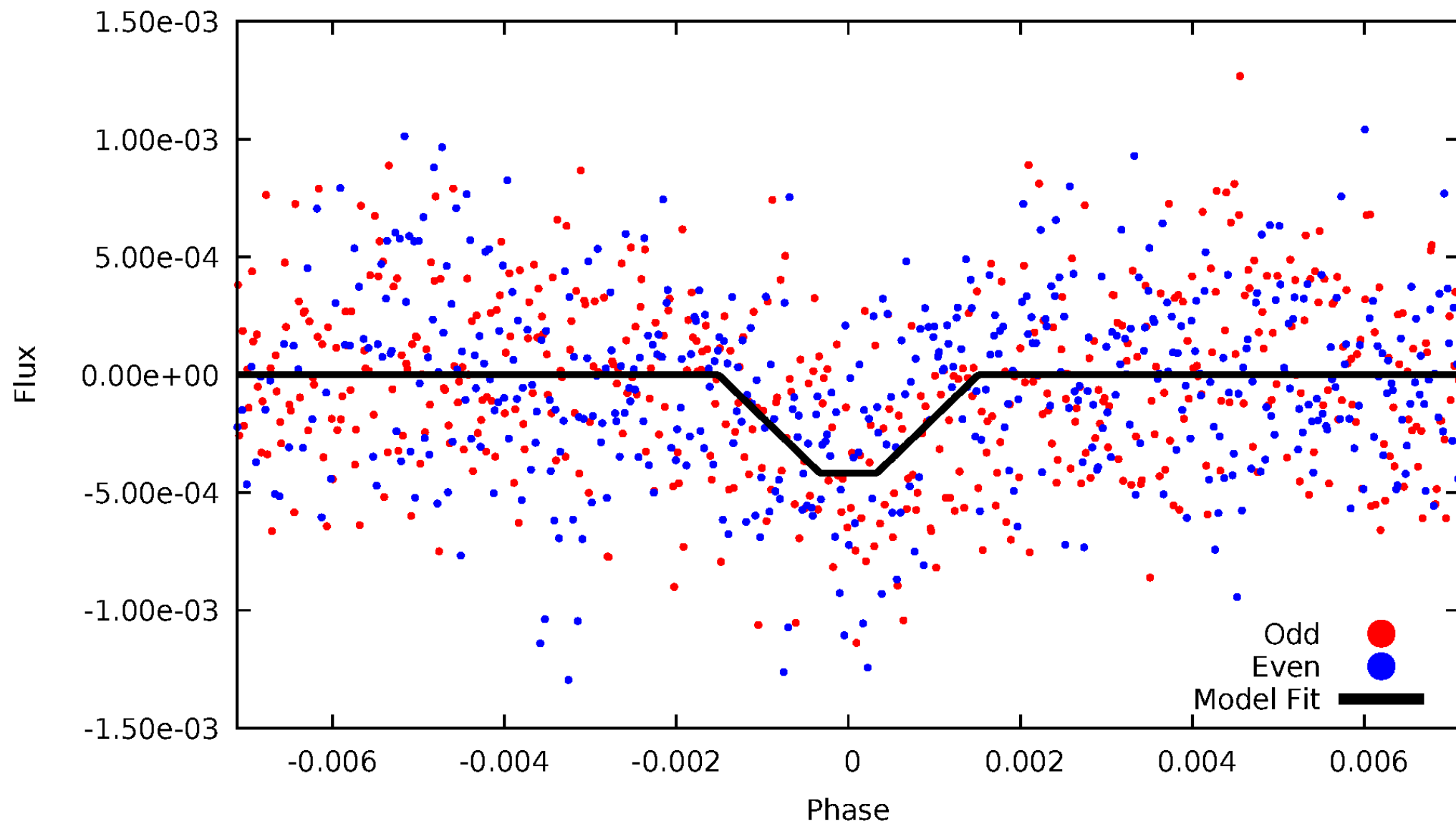
DV Odd/Even

TCE 008884774-01



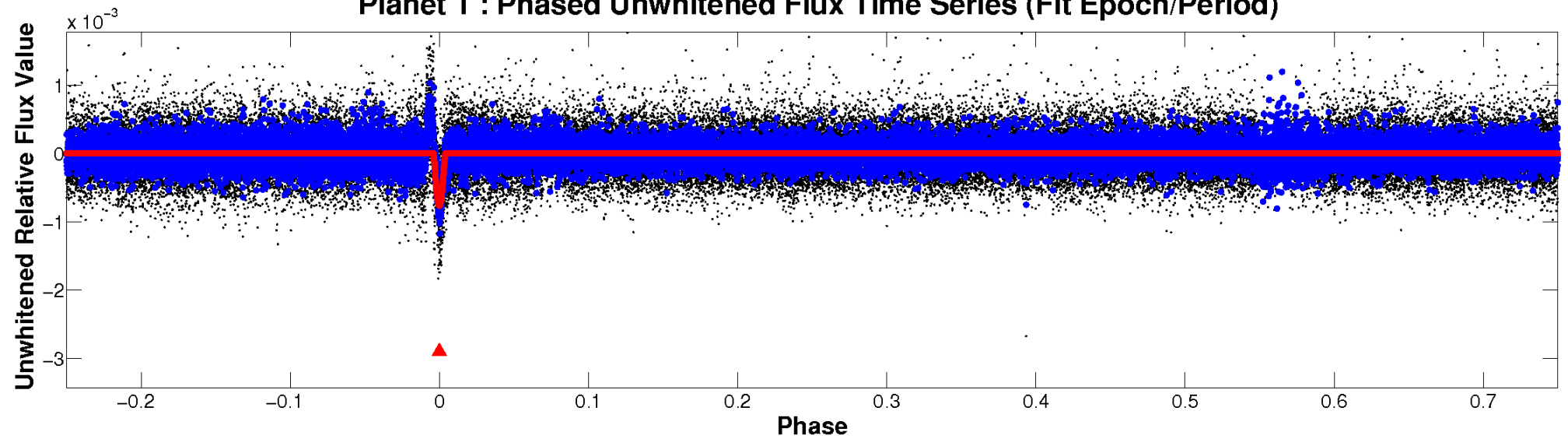
ALT Odd/Even

TCE 008884774-01

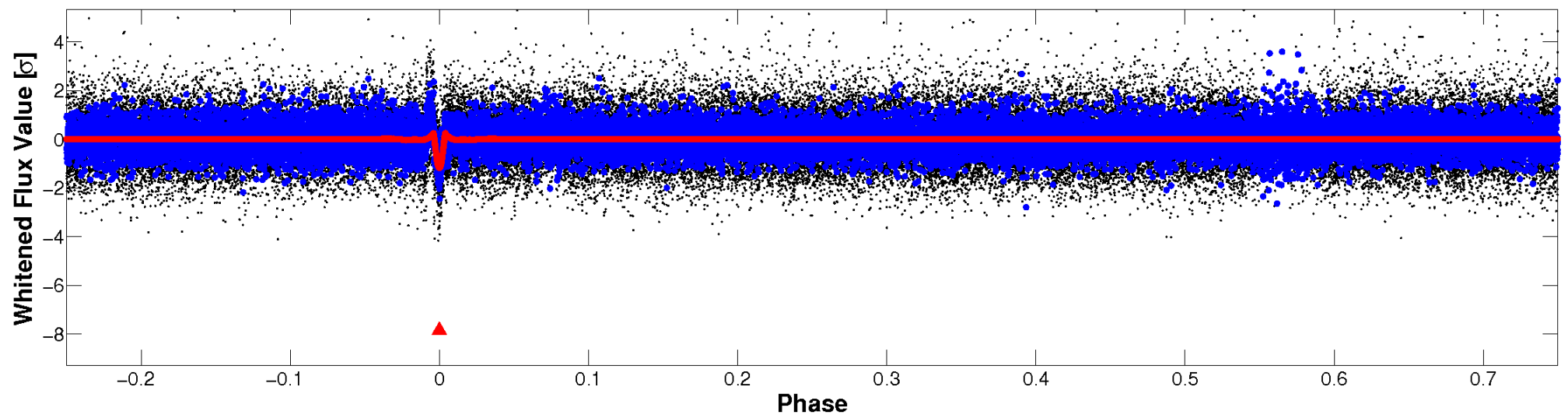


Non-Whitened Vs. Whitened Light Curve

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



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



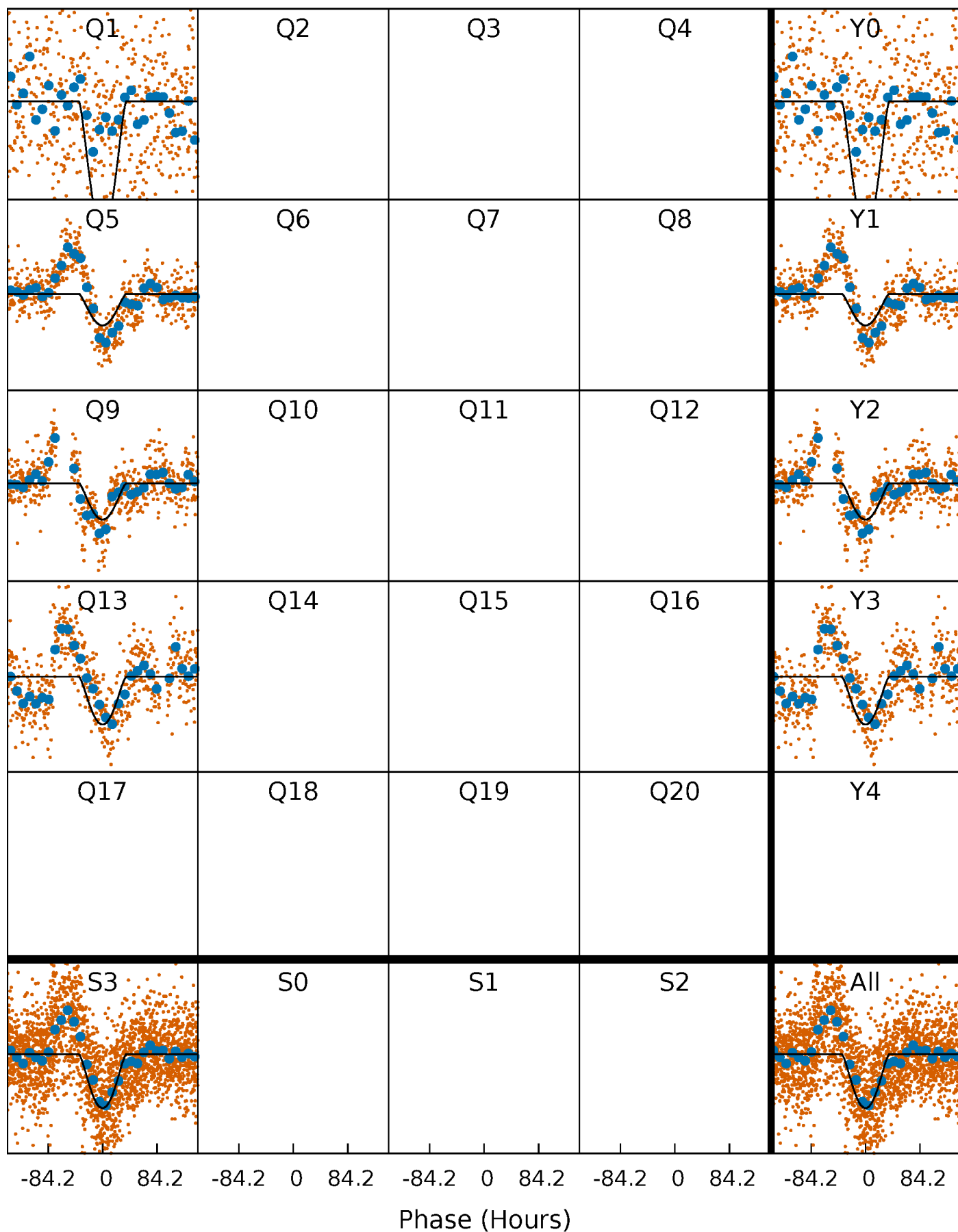
PDC Quarter-Phased Transit Curves

TCE 008884774-01 P=375.439958 Days $T_0=138.731510$ (BKJD)



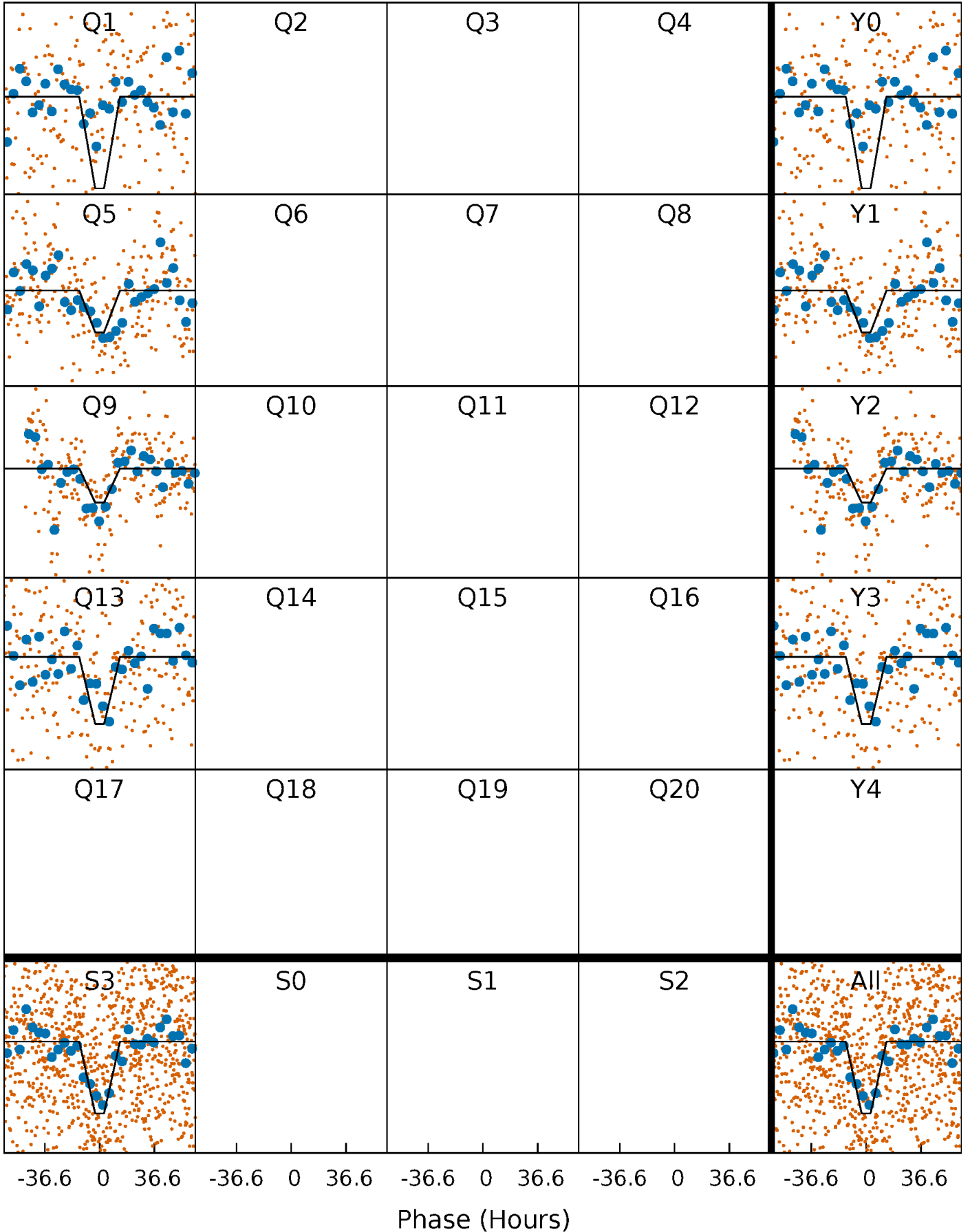
DV Quarter-Phased Transit Curves

TCE 008884774-01 $P=375.439958$ Days $T_0=138.731510$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

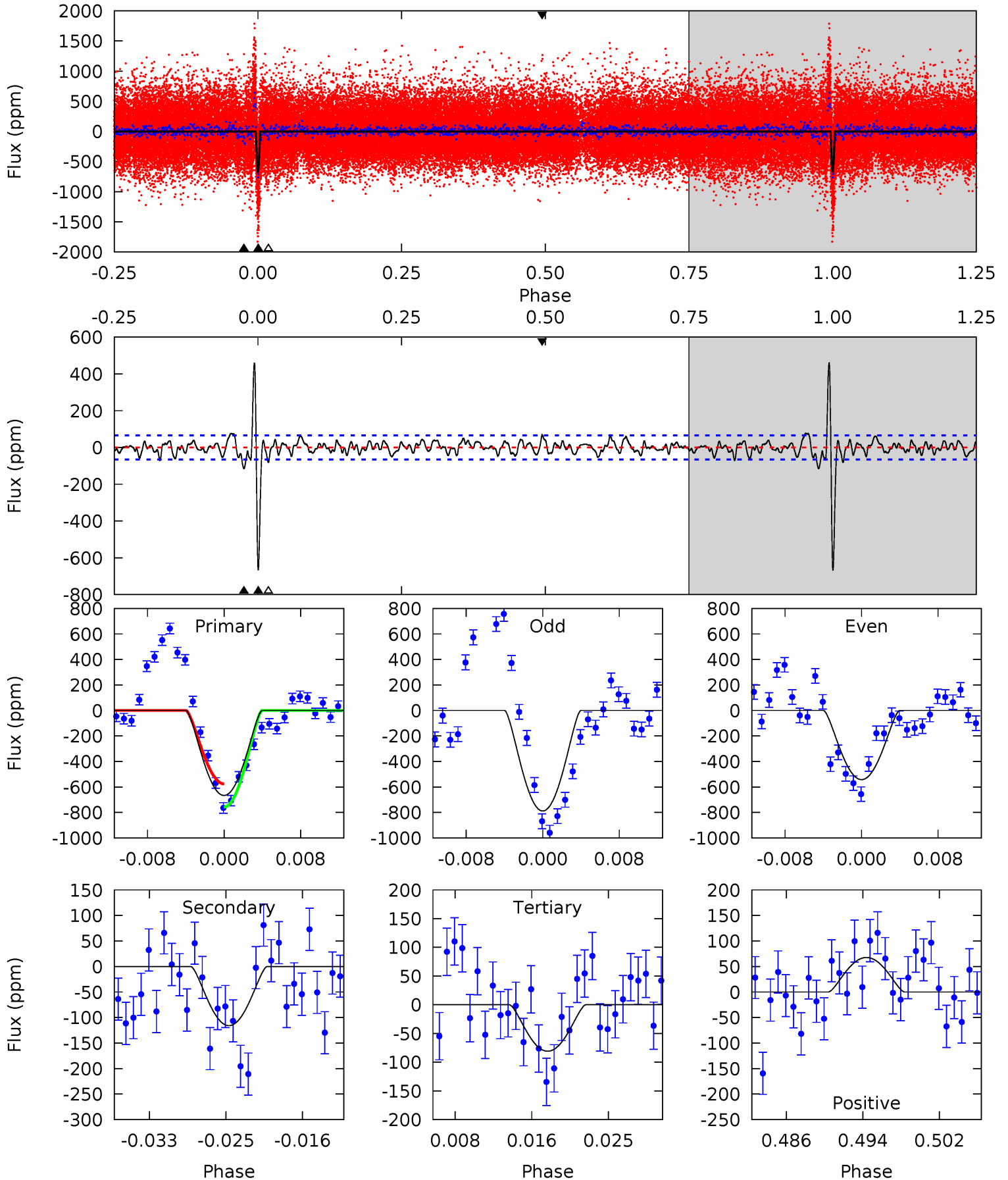
TCE 008884774-01 P=375.745924 Days $T_0=138.145416$ (BKJD)



DV Model-Shift Uniqueness Test

008884774-01, P = 375.439958 Days, E = 138.731510 Days

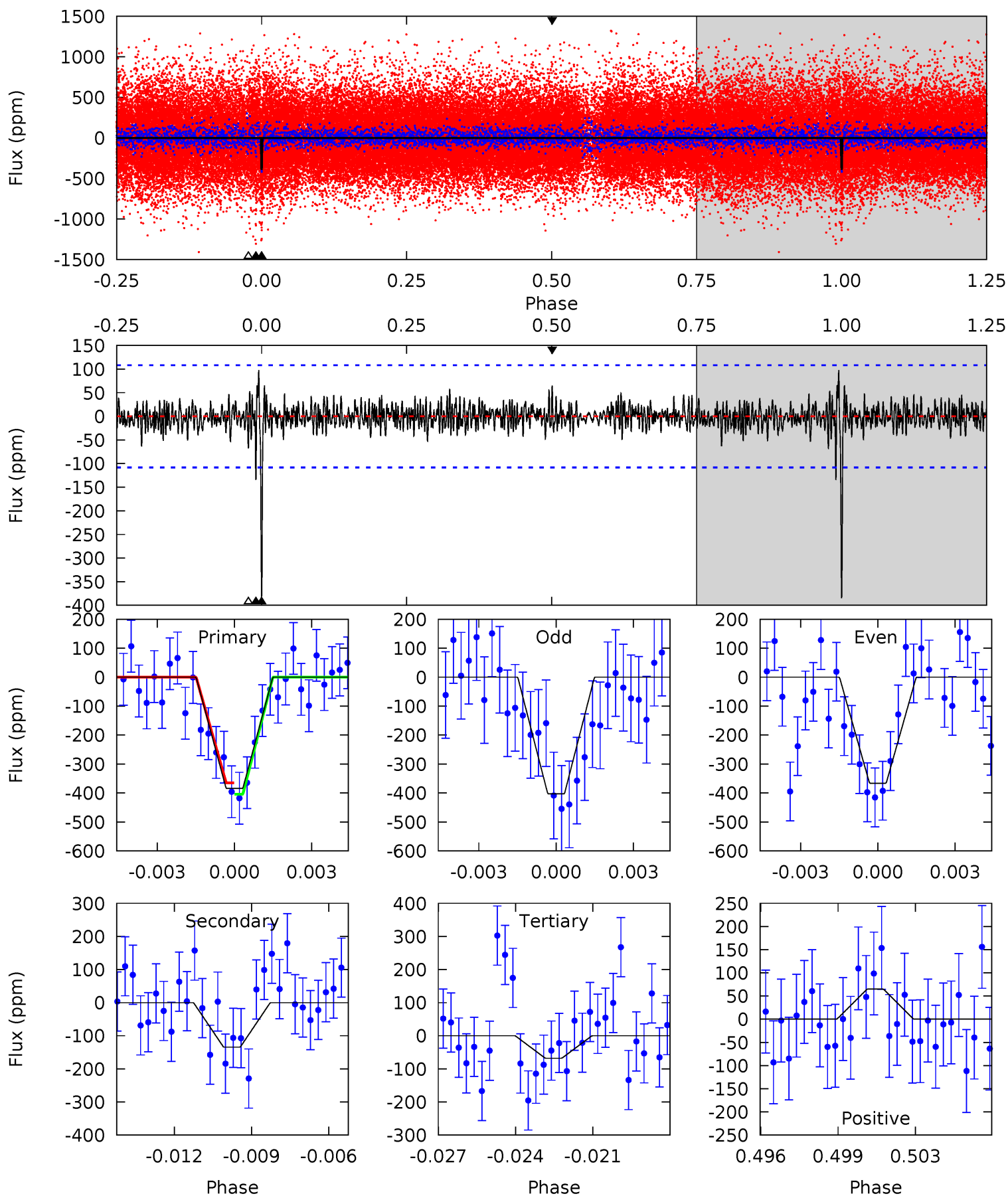
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
51.7	8.99	6.28	5.25	5.06	2.64	2.24	45.4	46.5	2.72	3.75	9.60	0.91	0.41	7.03



Alt Model-Shift Uniqueness Test

008884774-01, P = 375.745924 Days, E = 138.145416 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.6	6.52	3.29	3.14	5.25	2.96	0.92	15.4	15.5	3.23	3.38	0.90	0.96	0.20	0.96



Stellar Parameters For KIC 008884774

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5912^{+158}_{-175}	$4.403^{+0.128}_{-0.192}$	$-0.400^{+0.300}_{-0.300}$	$0.971^{+0.269}_{-0.165}$	$0.869^{+0.117}_{-0.072}$	$1.338^{+0.768}_{-0.662}$
	+3%/-3%	+3%/-4%	+75%/-75%	+28%/-17%	+13%/-8%	+57%/-50%
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 008884774-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-116 ± 13	$9.17^{+8.48}_{-5.99}$	367^{+28}_{-20}	2838^{+1111}_{-408}	728^{+5399}_{-525}
Alt.	-135 ± 21	$6.95^{+8.08}_{-4.76}$	365^{+28}_{-21}	3107^{+1523}_{-547}	1406^{+13952}_{-1081}

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

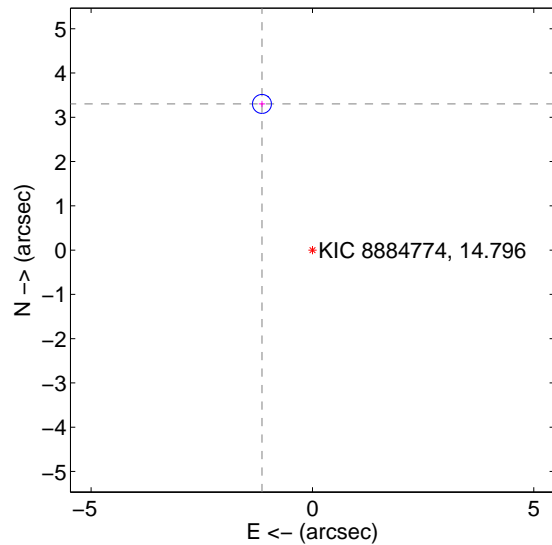
Supplemental centroid analysis for 008884774-01. Kepler magnitude: 14.80. Transit SNR 18.24

There are 0 quarters with good PRF difference image offsets

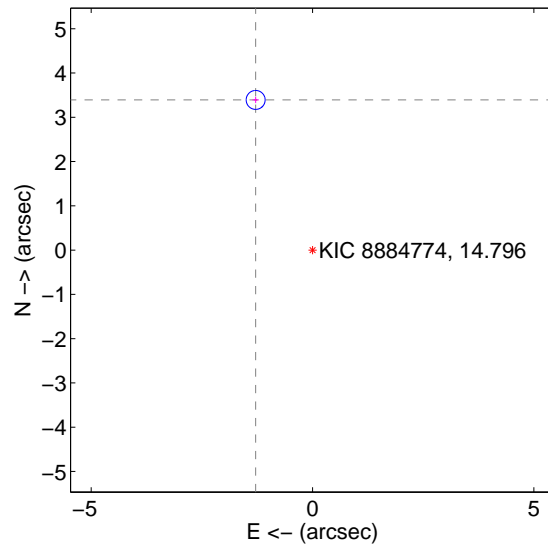
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.493 ± 0.071	48.98	1.140 ± 0.072	3.301 ± 0.071
PRF-fit source offset from KIC position	3.627 ± 0.071	50.85	1.285 ± 0.072	3.392 ± 0.071
photometric centroid source offset	2.69 ± 0.62	4.31	-2.09 ± 0.61	1.68 ± 0.64

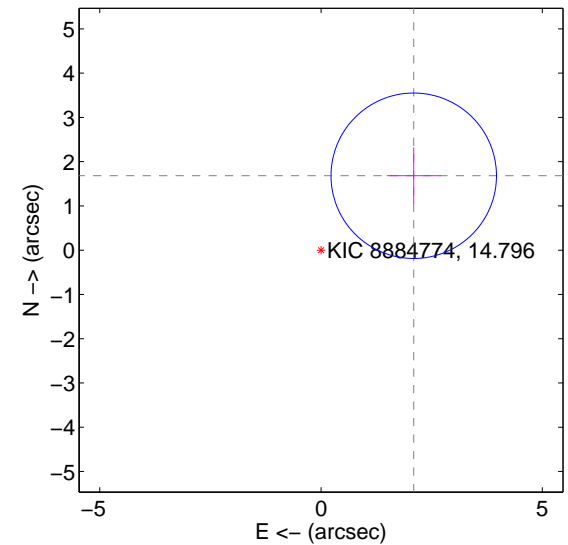
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

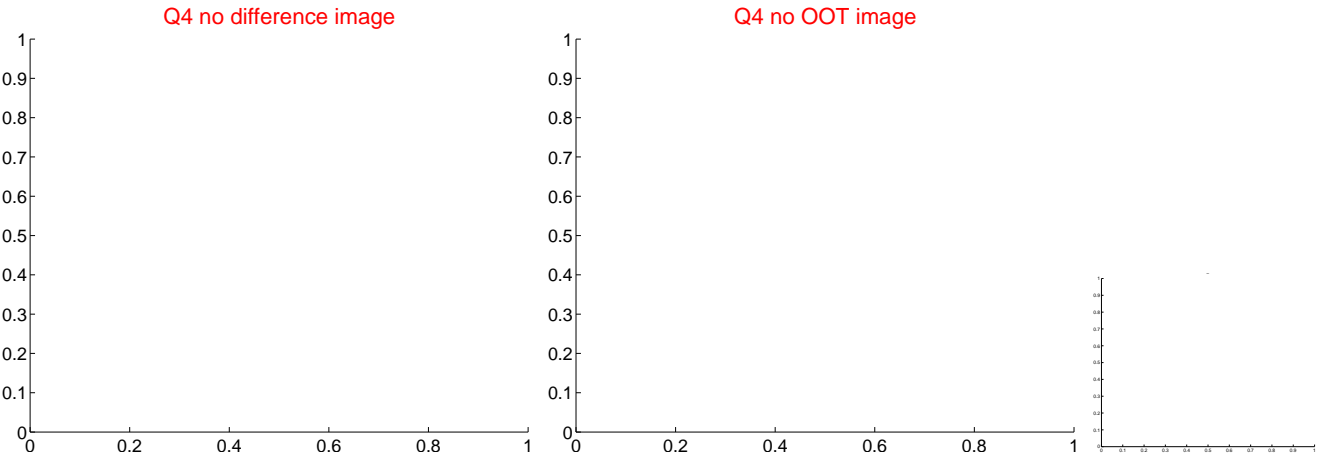
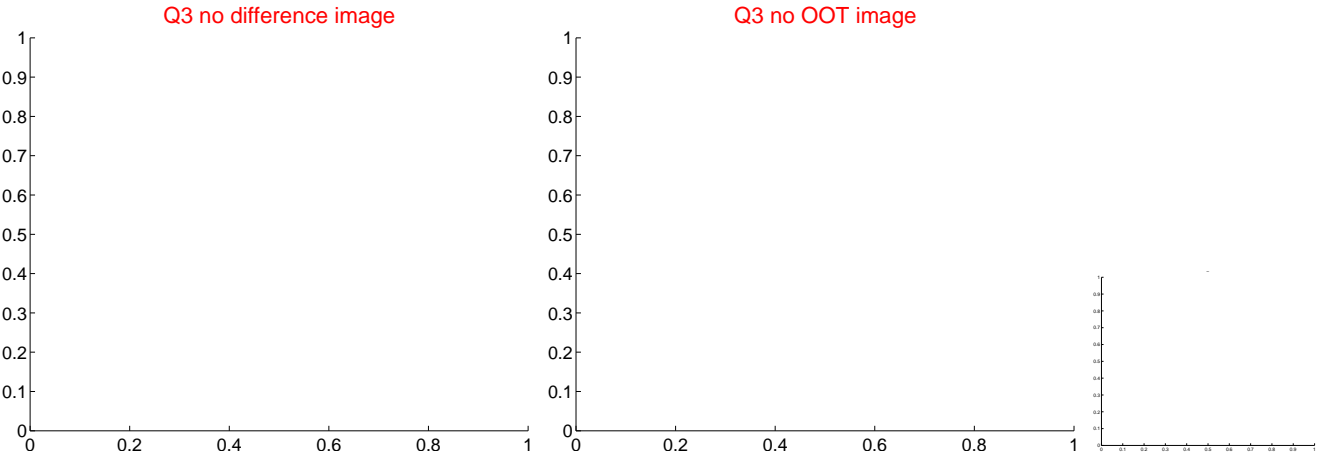
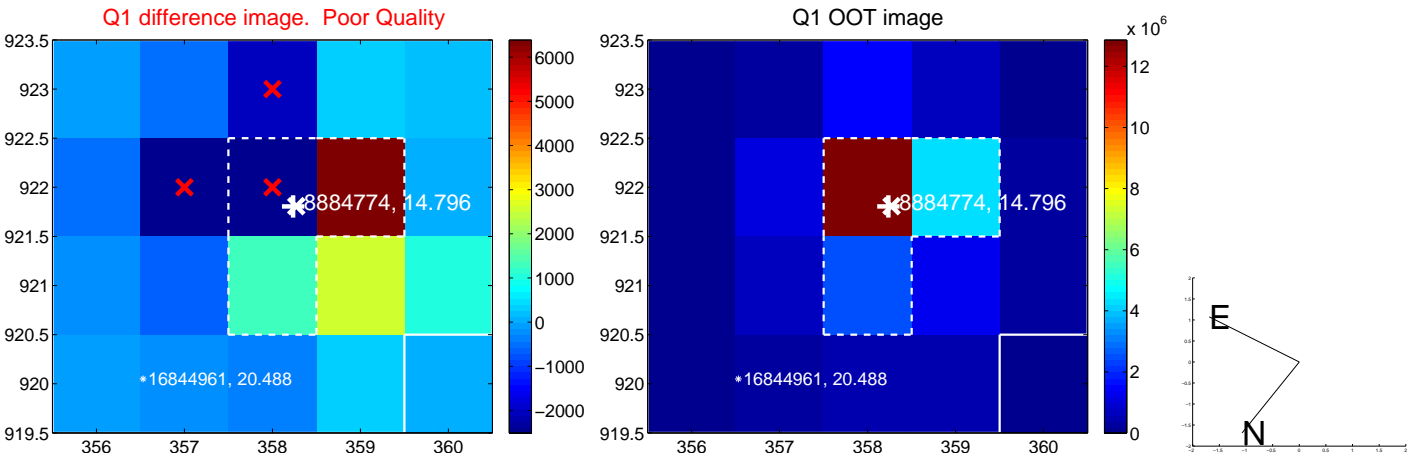


offset from photometric centroids

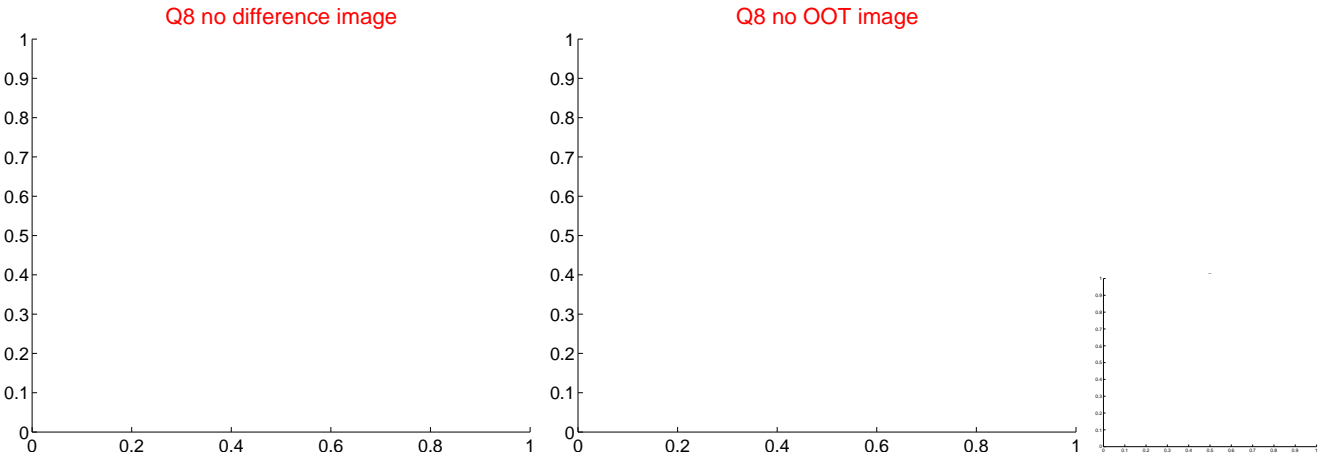
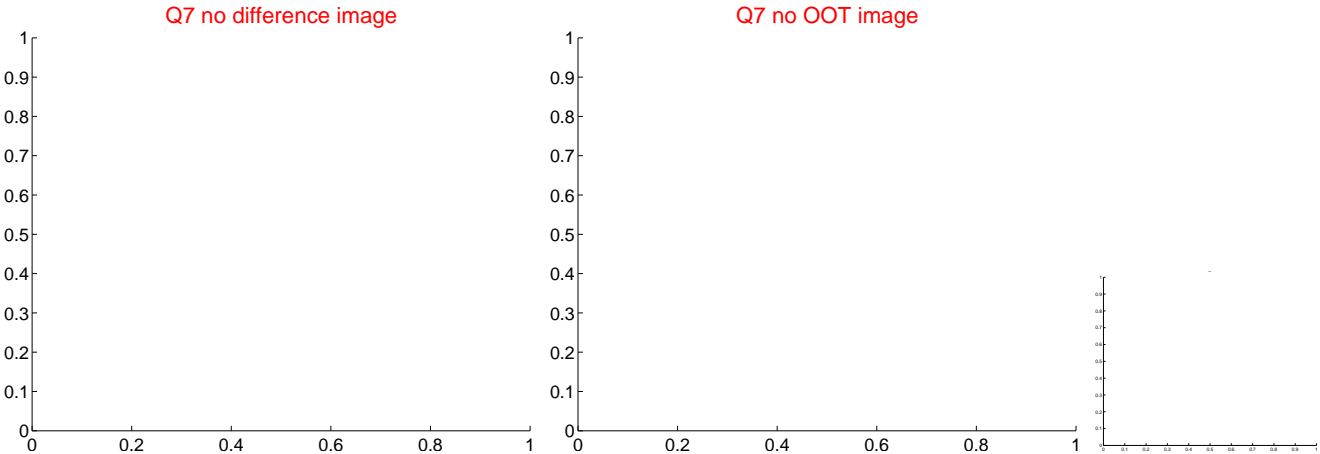
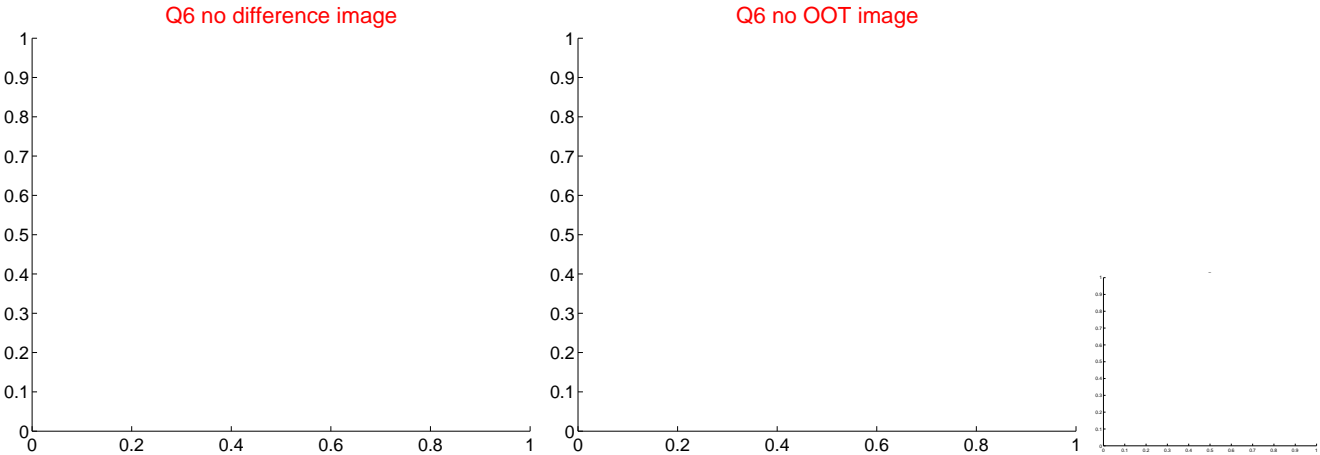
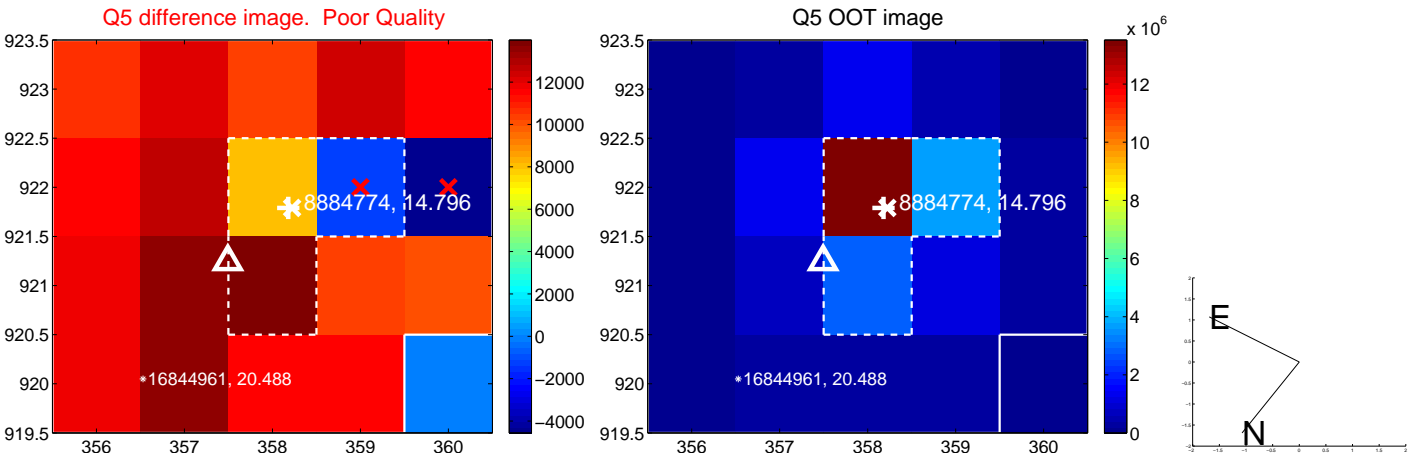


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



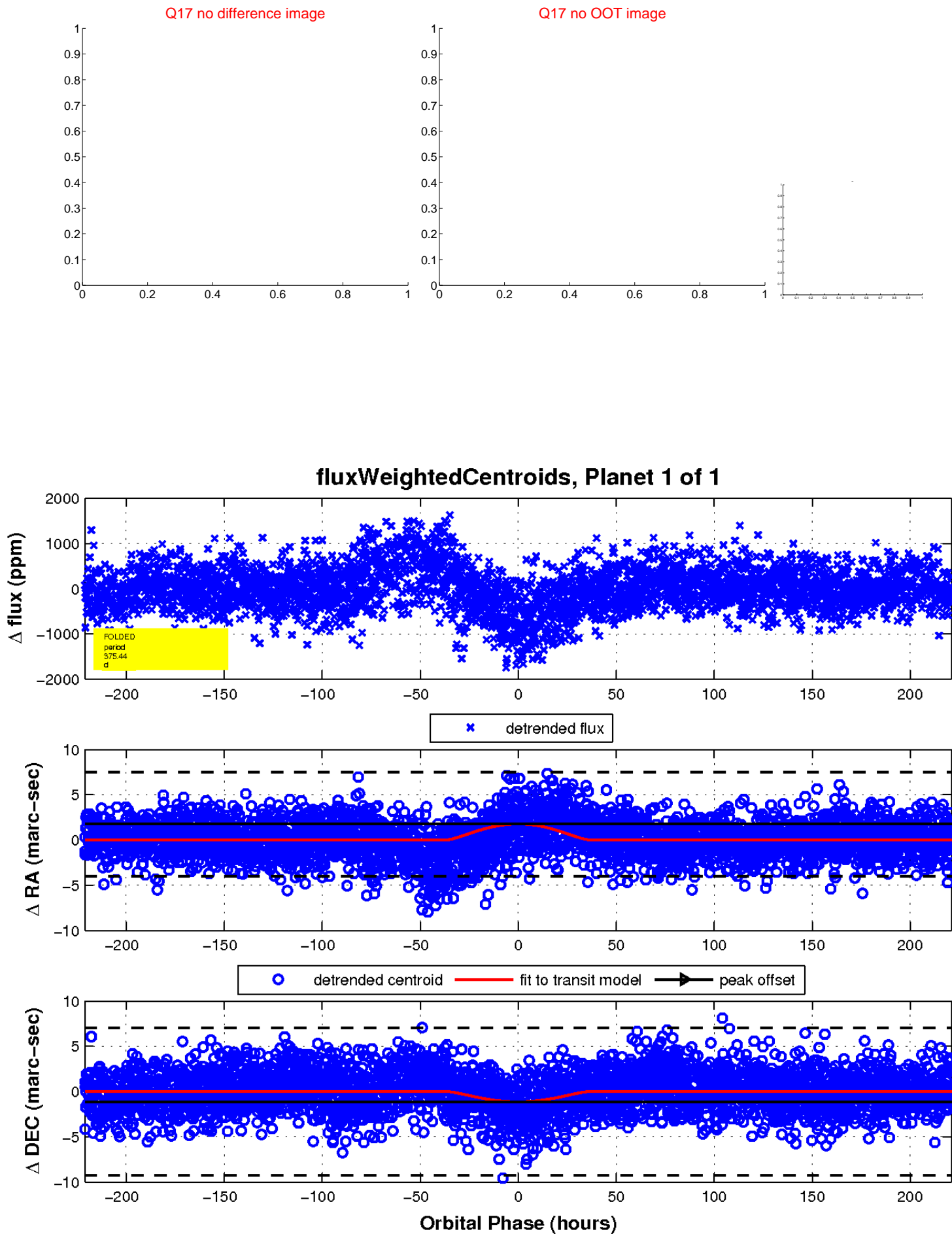
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

