

KIC 005609120

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})
005609120-01	OBS	No	484.950017	369.982002	571.0	19.303	8.3	9.5	0.73	5166	1.87	0.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005609120-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_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.

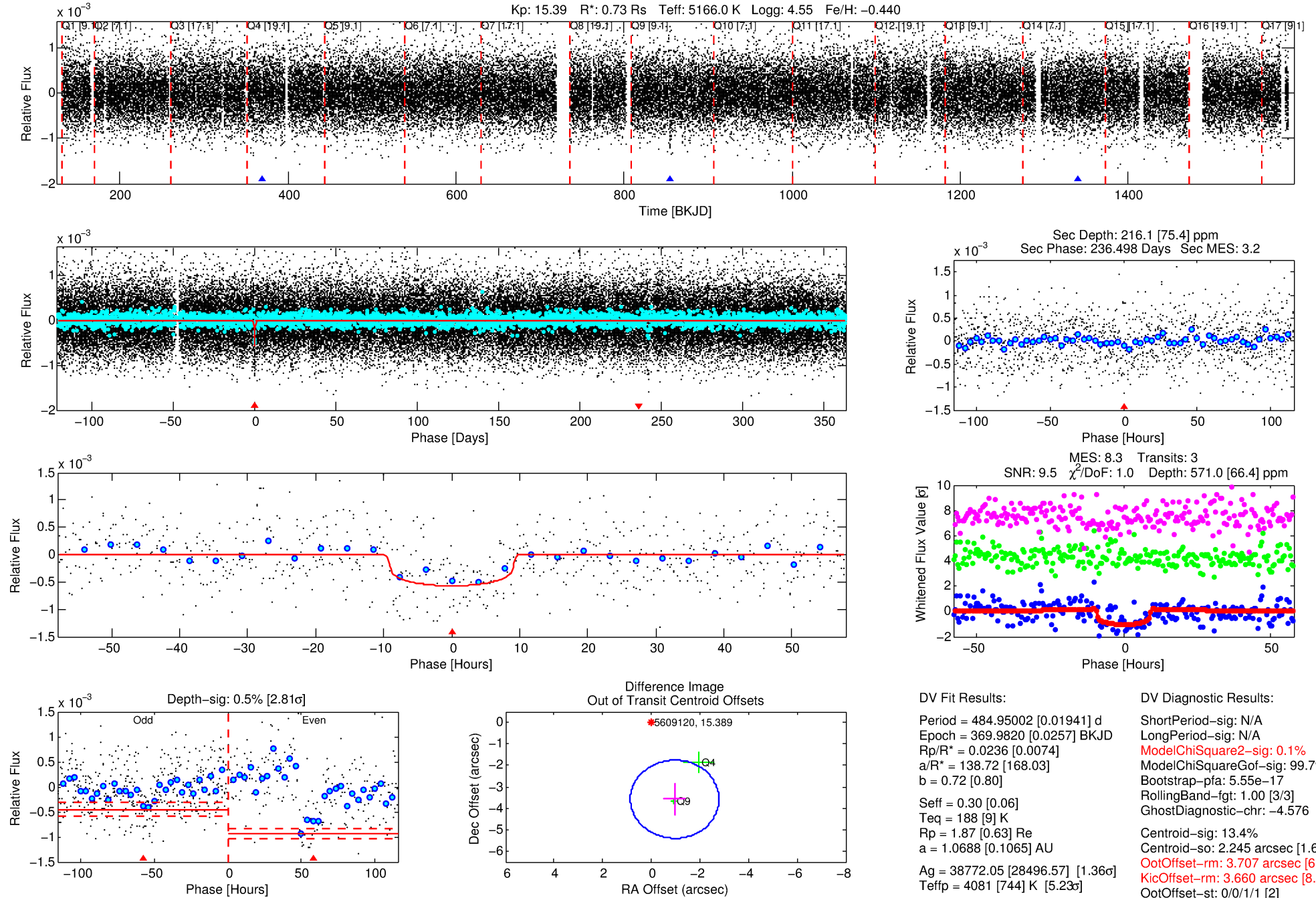
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005609120-01

No Significant Match Found

DV One-Page Summary

KIC: 5609120 Candidate: 1 of 1 Period: 484.950 d



DV Fit Results:

Period = 484.95002 [0.01941] d
Epoch = 369.9820 [0.0257] BKJD
Rp/R* = 0.0236 [0.0074]
a/R* = 138.72 [168.03]
b = 0.72 [0.80]
Seff = 0.30 [0.06]
Teq = 188 [9] K
Rp = 1.87 [0.63] Re
a = 1.0688 [0.1065] AU
Ag = 38772.05 [28496.57] [1.36 σ]
Teffp = 4081 [744] K [5.23 σ]

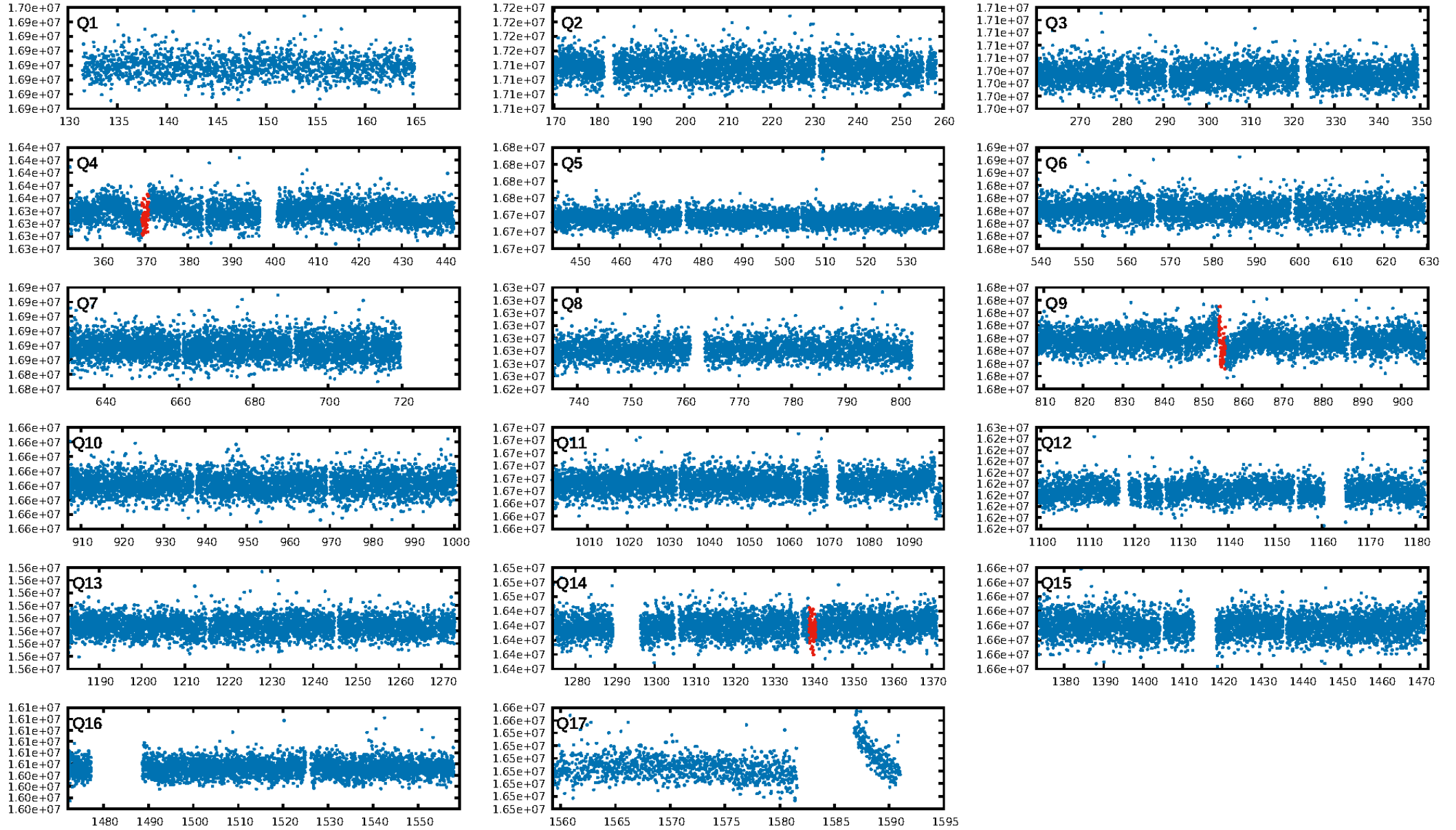
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 5.55e-17
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -4.576
Centroid-sig: 13.4%
Centroid-so: 2.245 arcsec [1.64 σ]
OotOffset-rm: 3.707 arcsec [6.10 σ]
KicOffset-rm: 3.660 arcsec [8.18 σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

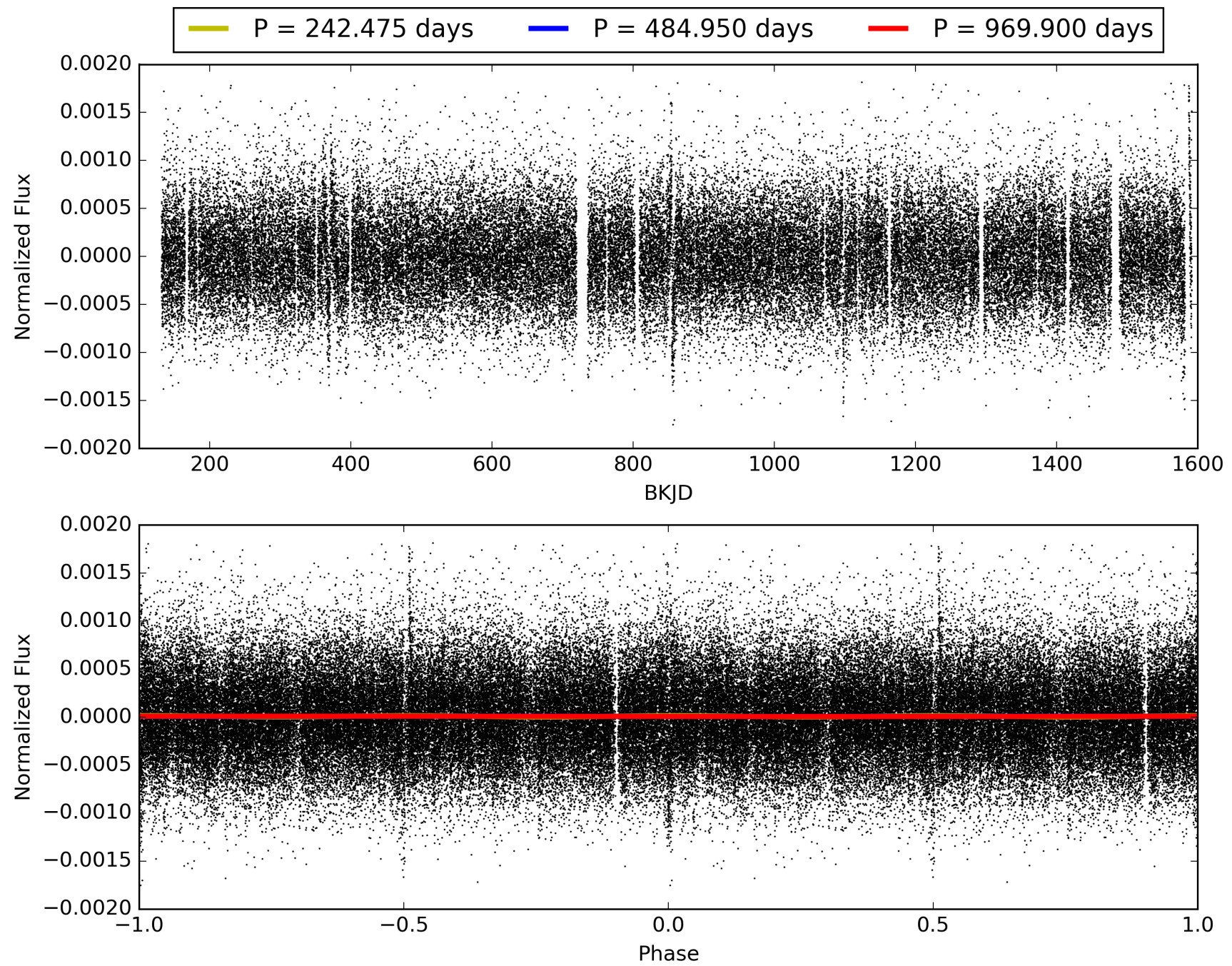
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:28:29 Z

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

TCE 005609120-01, PDC Light Curves

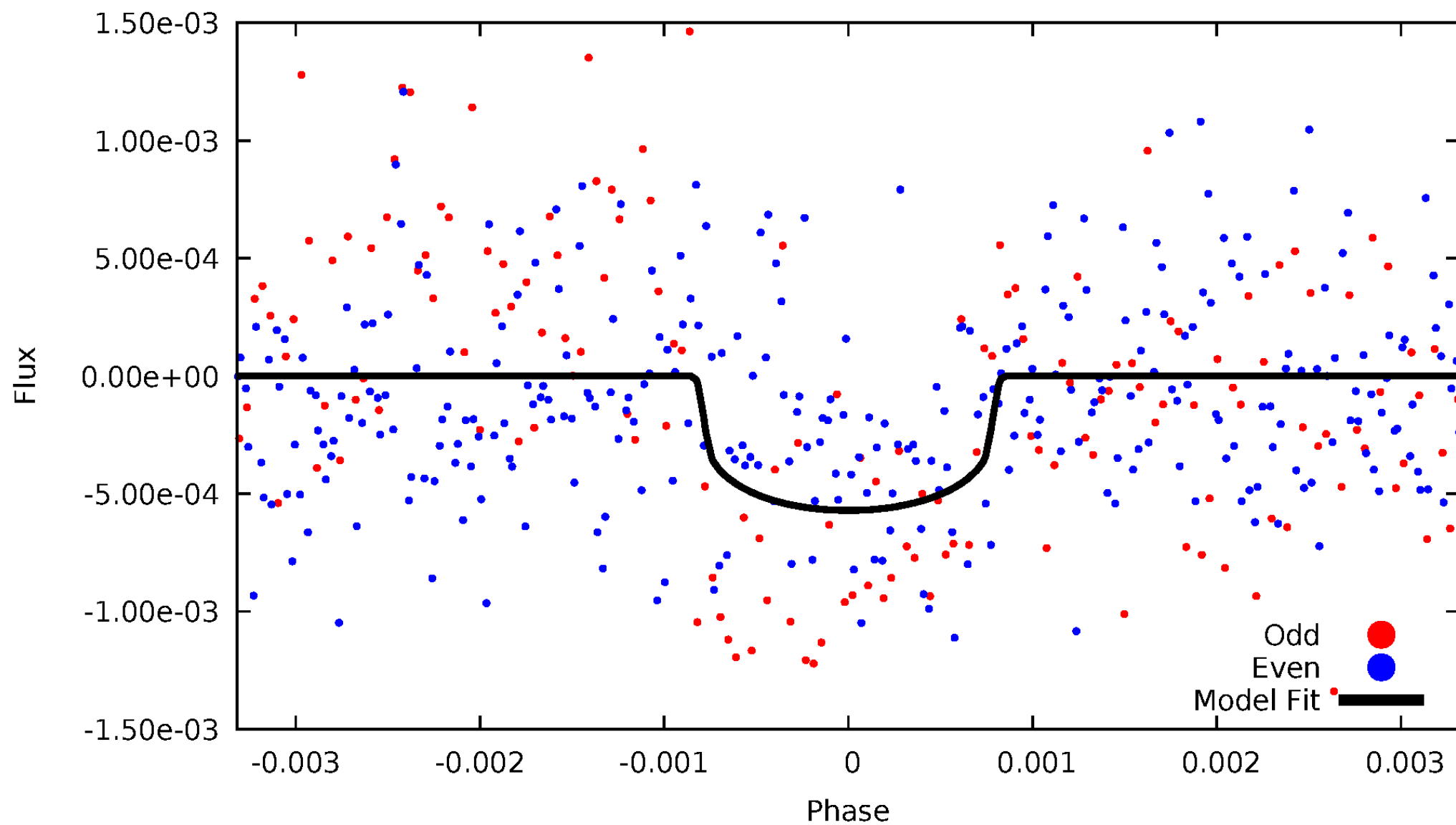


TCE 005609120-01



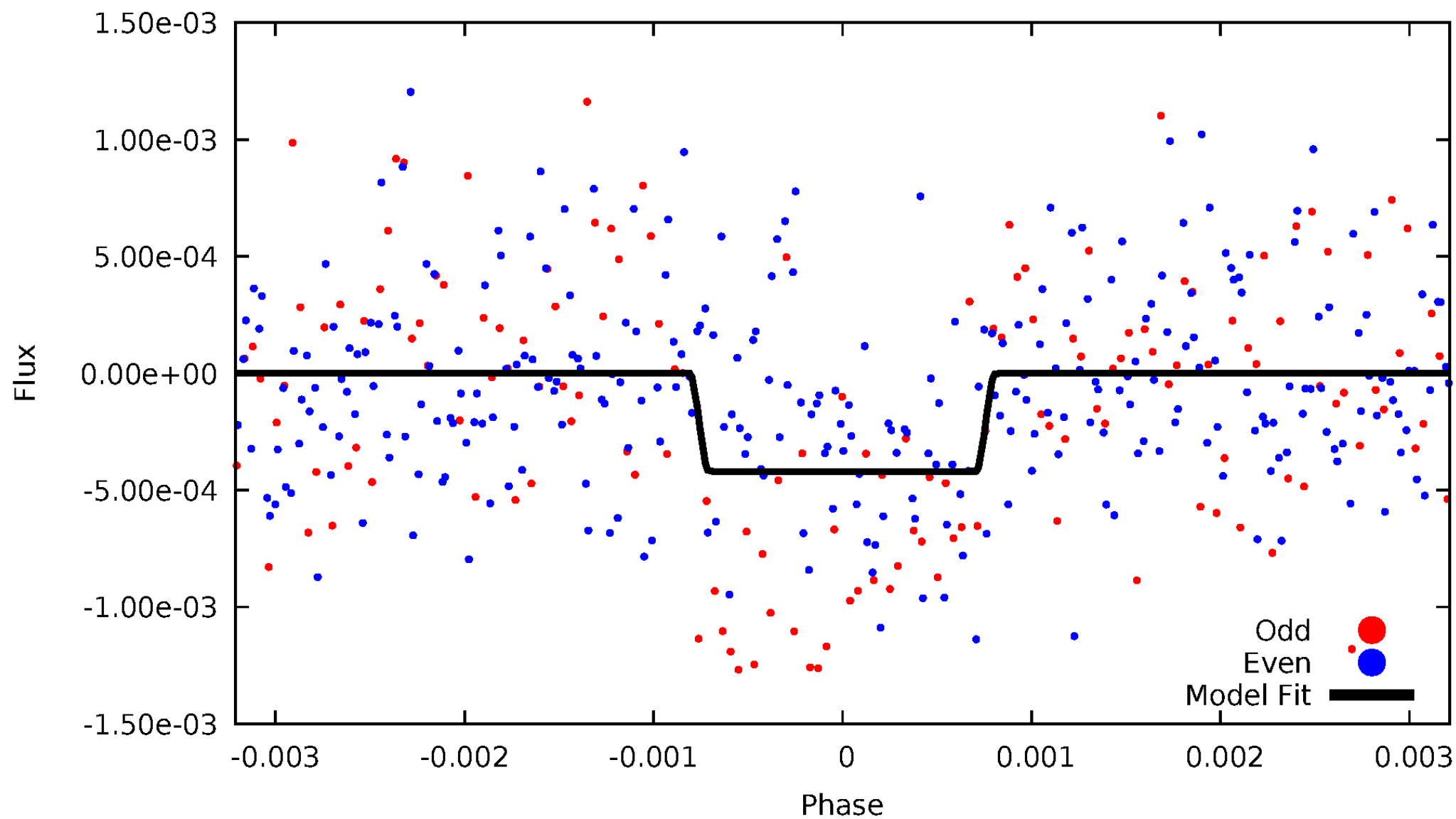
DV Odd/Even

TCE 005609120-01

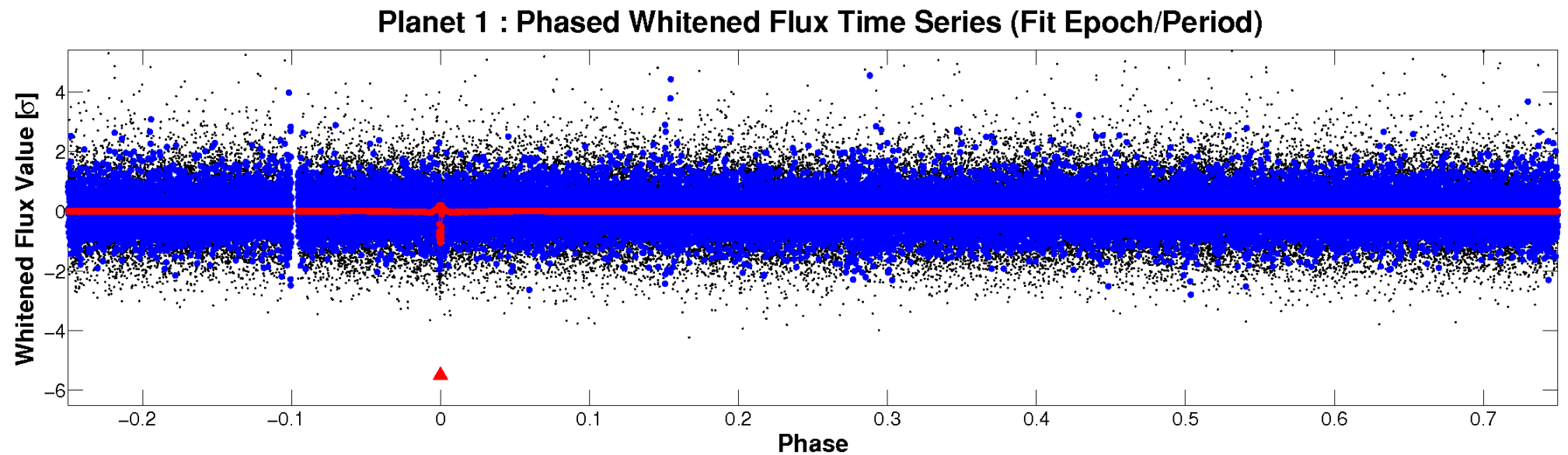
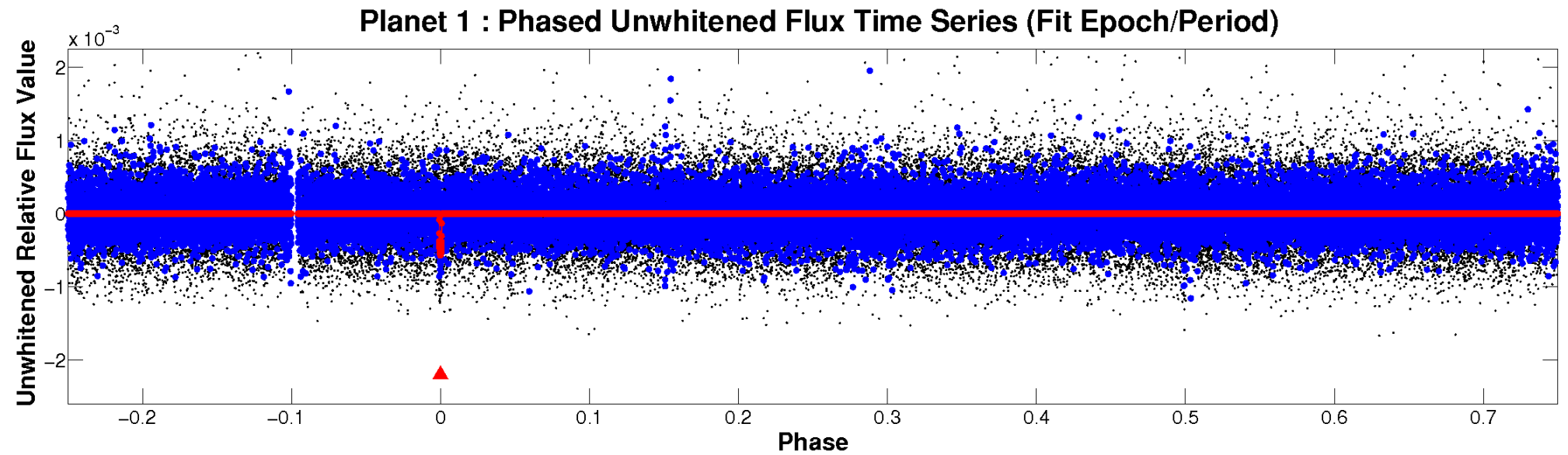


ALT Odd/Even

TCE 005609120-01

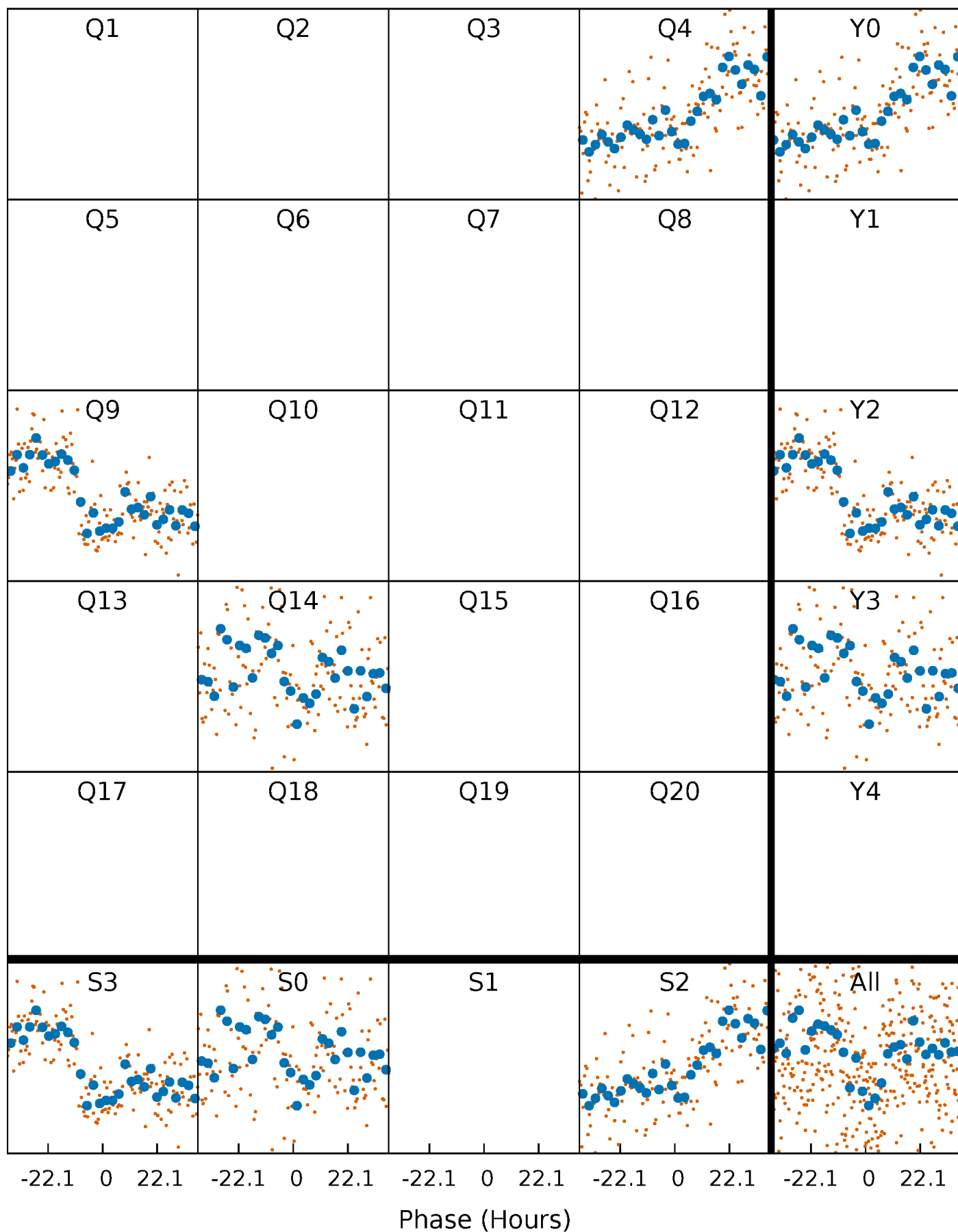


Non-Whitened Vs. Whitened Light Curve



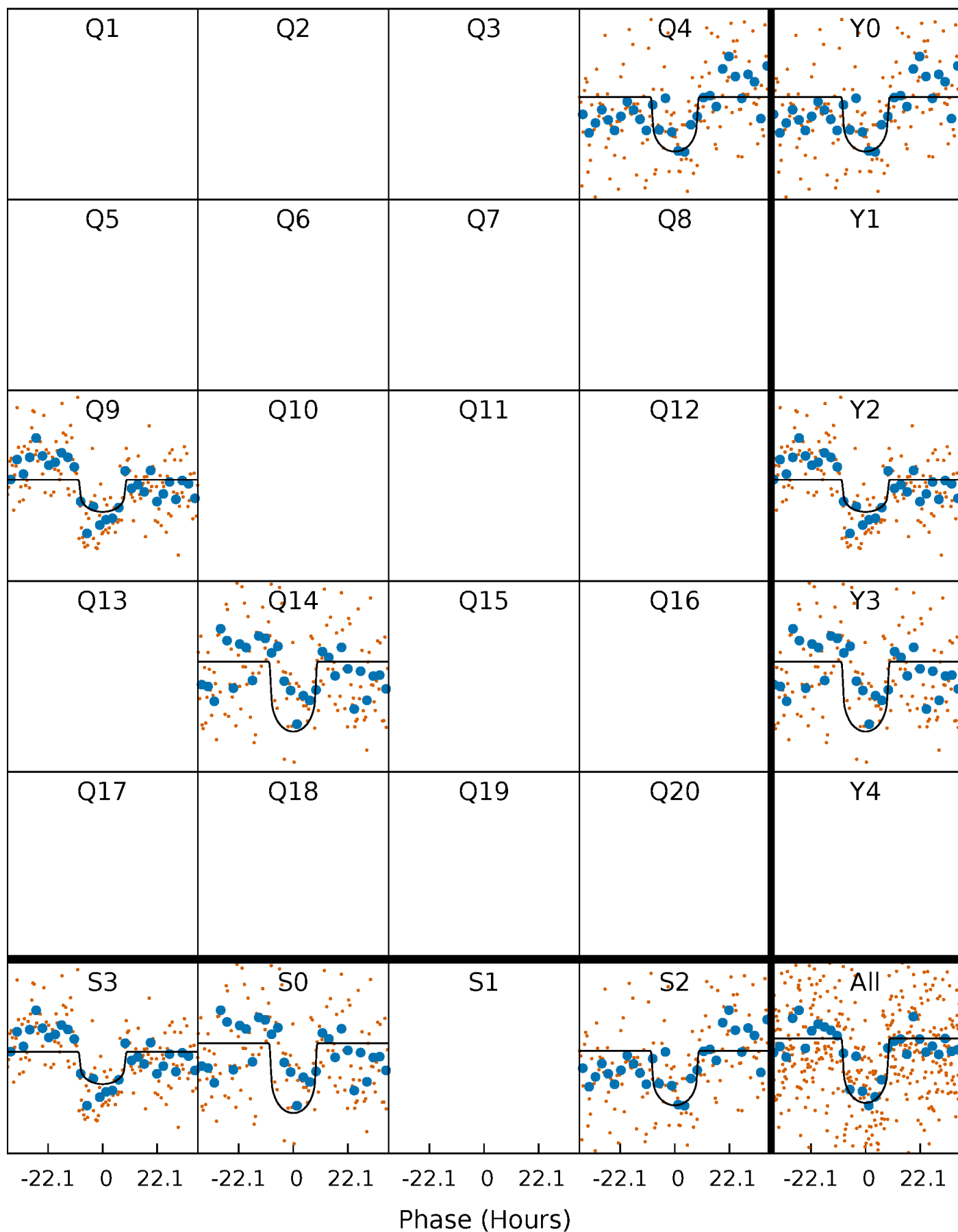
PDC Quarter-Phased Transit Curves

TCE 005609120-01 P=484.950017 Days $T_0=369.982002$ (BKJD)



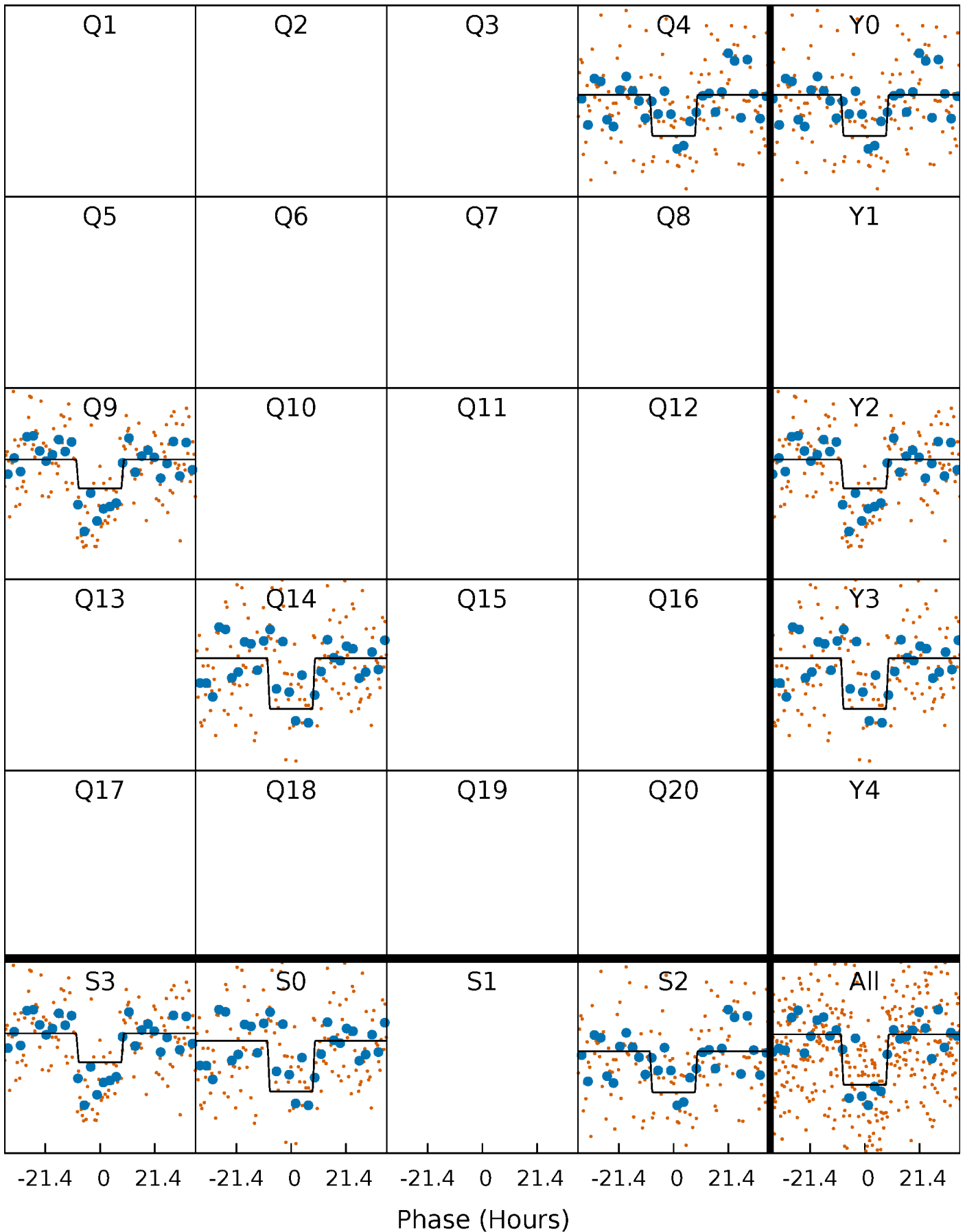
DV Quarter-Phased Transit Curves

TCE 005609120-01 P=484.950017 Days $T_0=369.982002$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

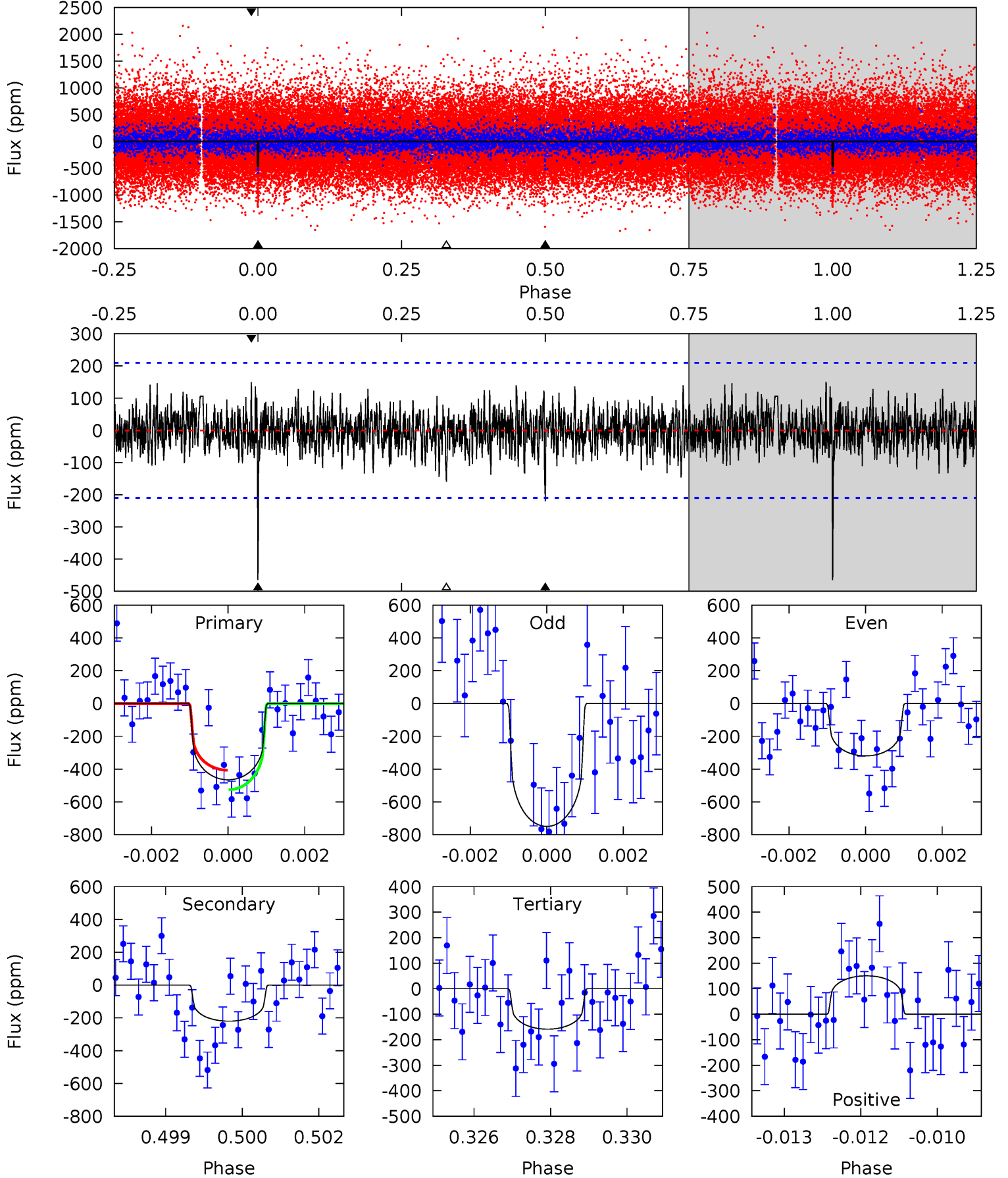
TCE 005609120-01 P=484.915623 Days $T_0=369.987665$ (BKJD)



DV Model-Shift Uniqueness Test

005609120-01, P = 484.950017 Days, E = 369.982002 Days

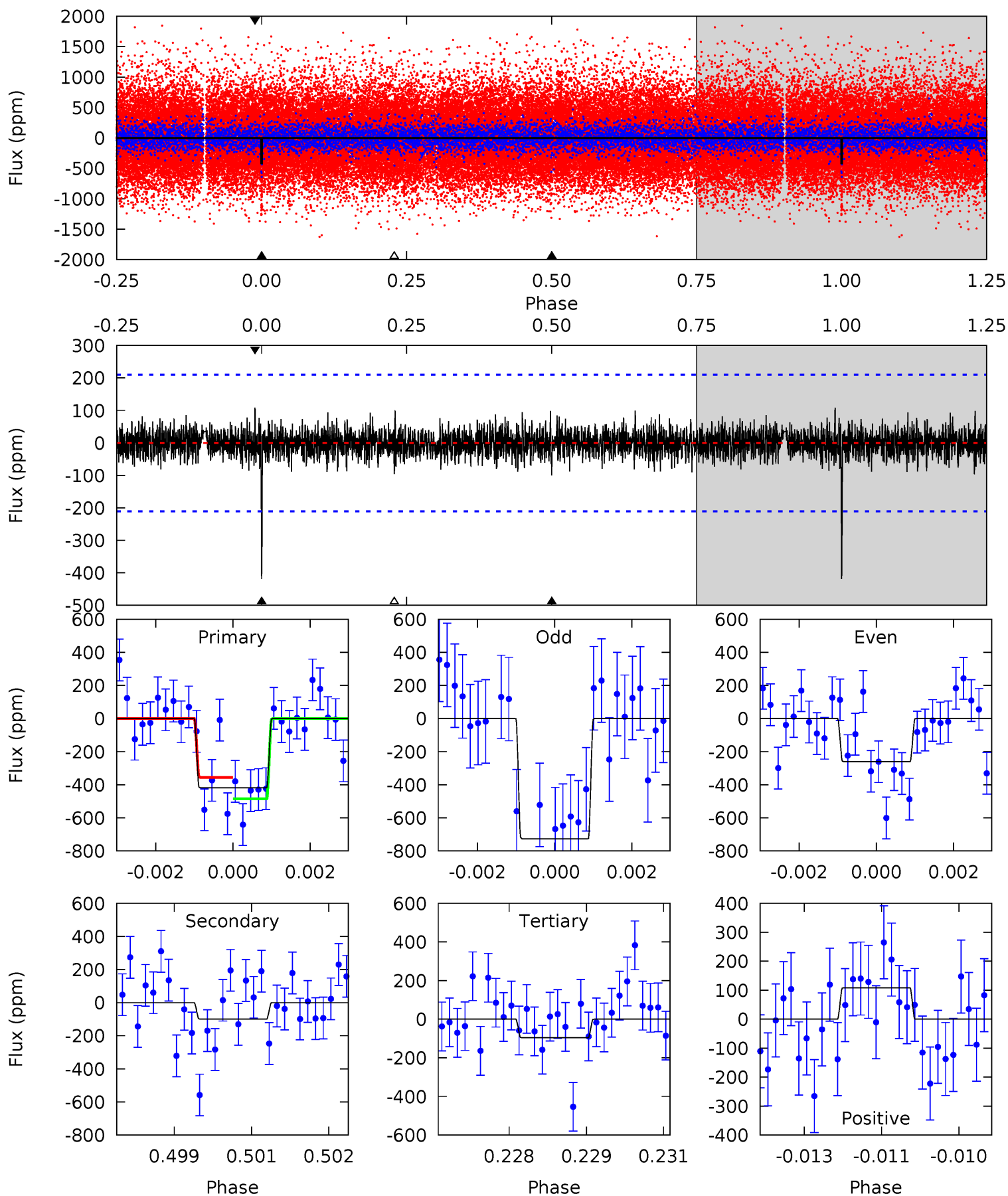
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	5.62	4.05	3.84	5.36	3.15	1.17	7.83	8.04	1.57	1.78	5.24	1.18	0.24	1.52



Alt Model-Shift Uniqueness Test

005609120-01, P = 484.915623 Days, E = 369.987665 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	2.54	2.45	2.76	5.37	3.15	0.73	8.23	7.92	0.09	-0.23	5.65	1.43	0.21	1.65



Stellar Parameters For KIC 005609120

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5166^{+155}_{-140}	$4.554^{+0.084}_{-0.063}$	$-0.440^{+0.300}_{-0.300}$	$0.728^{+0.083}_{-0.075}$	$0.692^{+0.101}_{-0.043}$	$2.523^{+0.904}_{-0.561}$
	+3%/-3%	+2%/-1%	+68%/-68%	+11%/-10%	+15%/-6%	+36%/-22%
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 005609120-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-220 ± 39	$1.87^{+0.66}_{-0.58}$	262^{+10}_{-10}	4272^{+719}_{-436}	39246^{+47857}_{-17961}
Alt.	-99 ± 39	$1.66^{+0.63}_{-0.60}$	262^{+10}_{-10}	3858^{+784}_{-459}	22634^{+36606}_{-12612}

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

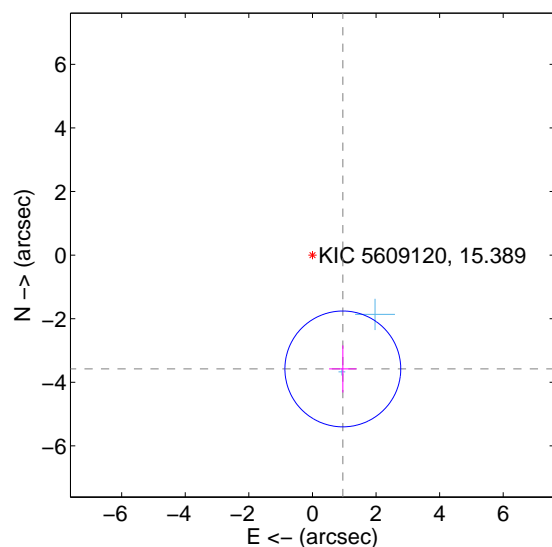
Supplemental centroid analysis for 005609120-01. Kepler magnitude: 15.39. Transit SNR 9.54

There are 2 quarters with good PRF difference image offsets

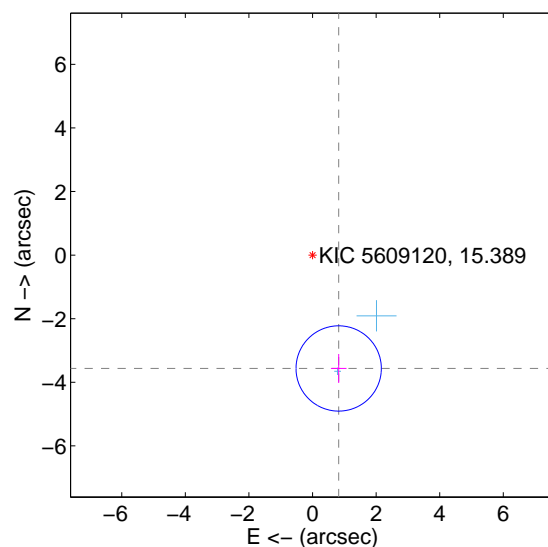
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.707 ± 0.607	6.10	-0.956 ± 0.430	-3.581 ± 0.741
PRF-fit source offset from KIC position	3.660 ± 0.447	8.18	-0.823 ± 0.246	-3.566 ± 0.455
photometric centroid source offset	2.25 ± 1.37	1.64	-2.23 ± 1.37	0.30 ± 1.35

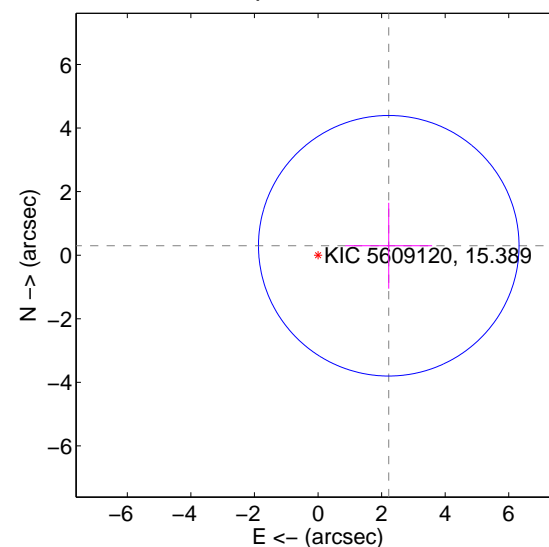
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

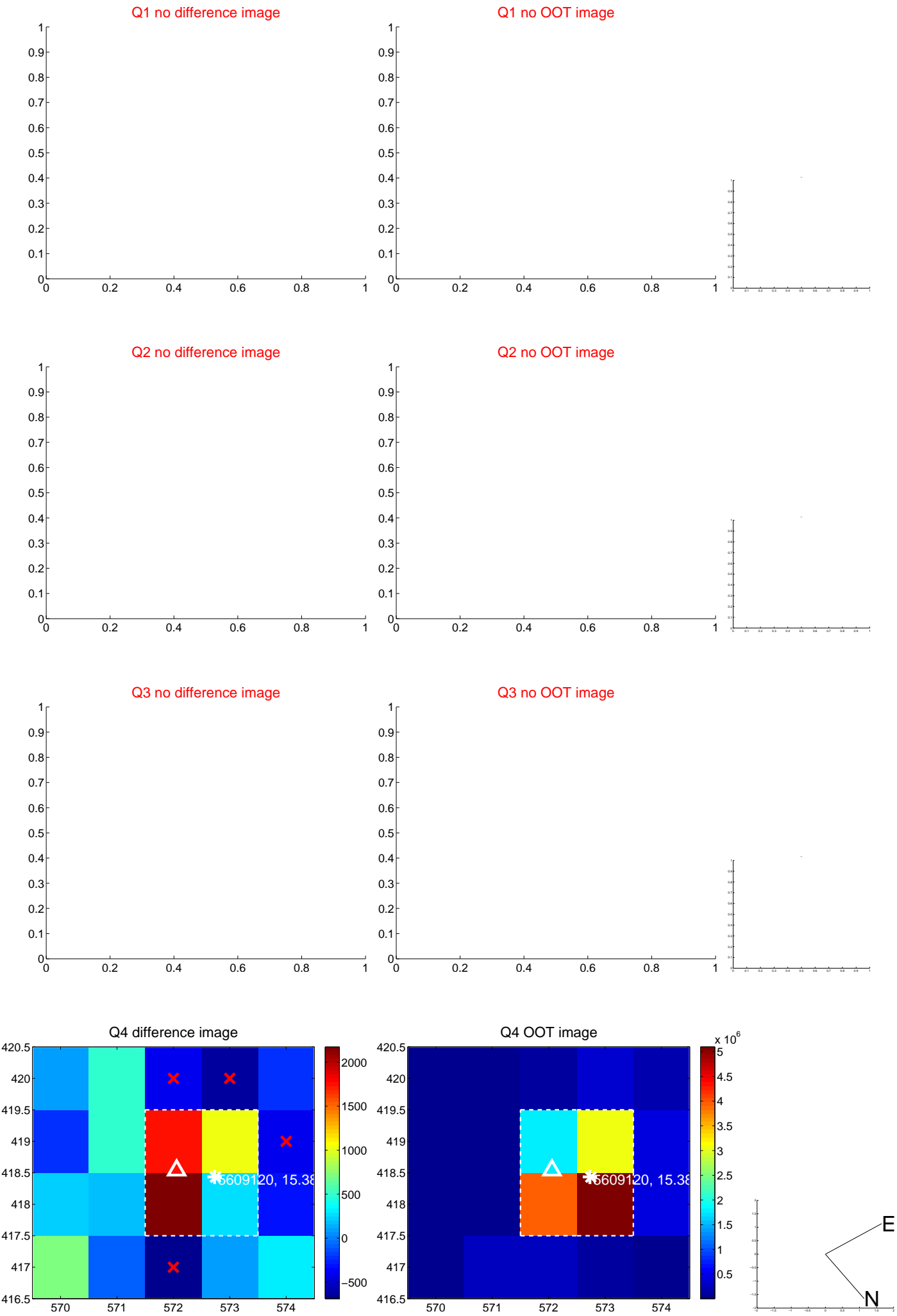


offset from photometric centroids



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.

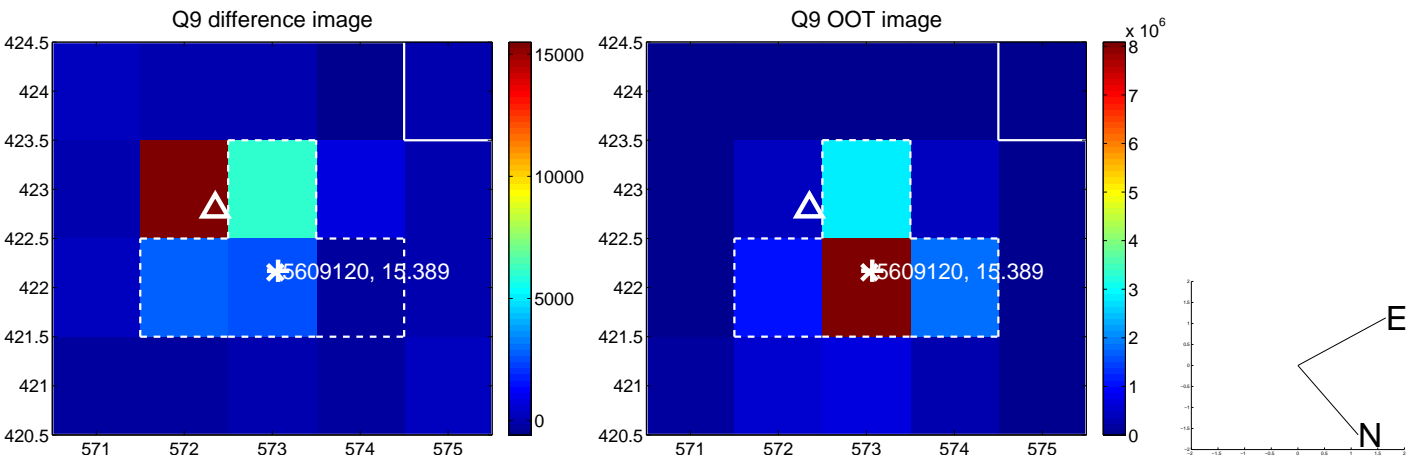
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



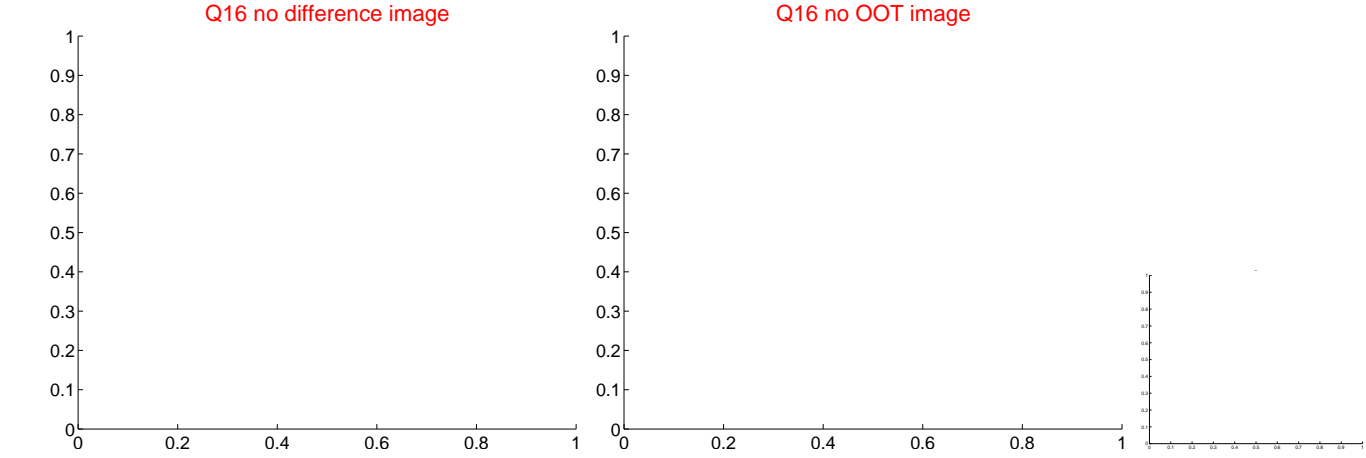
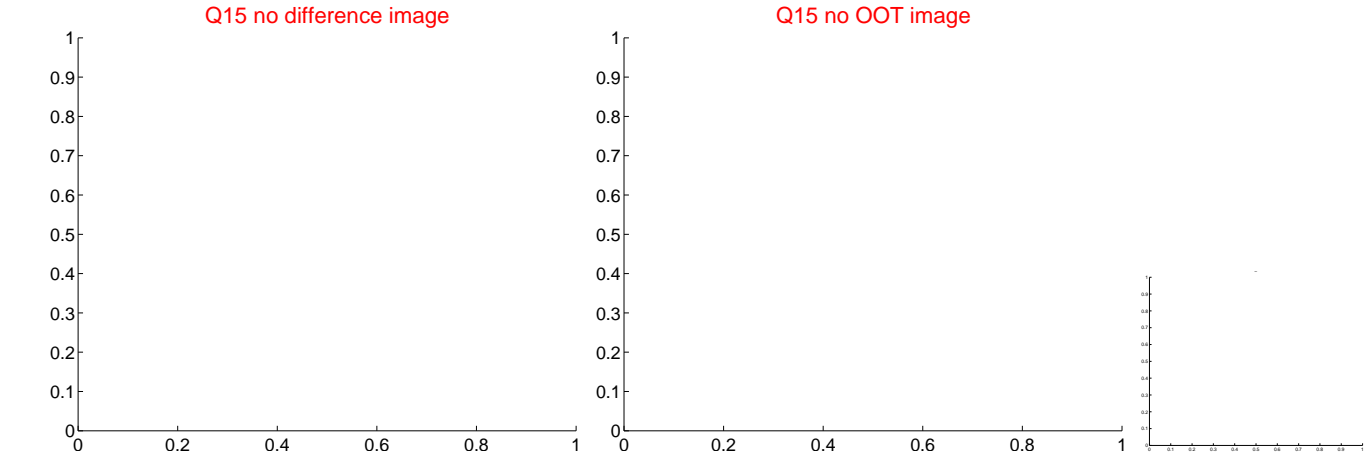
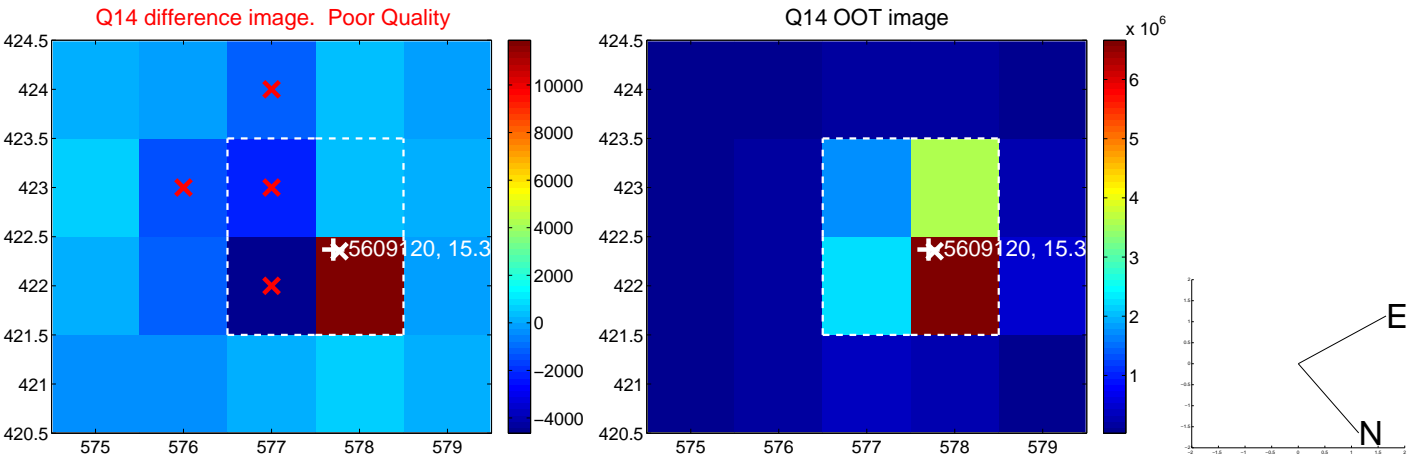
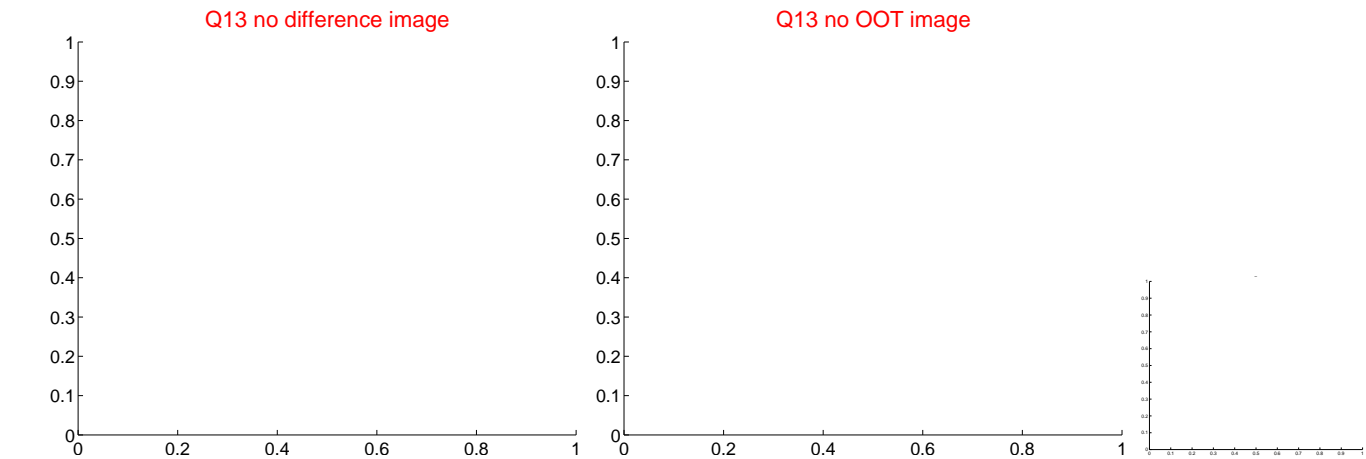
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



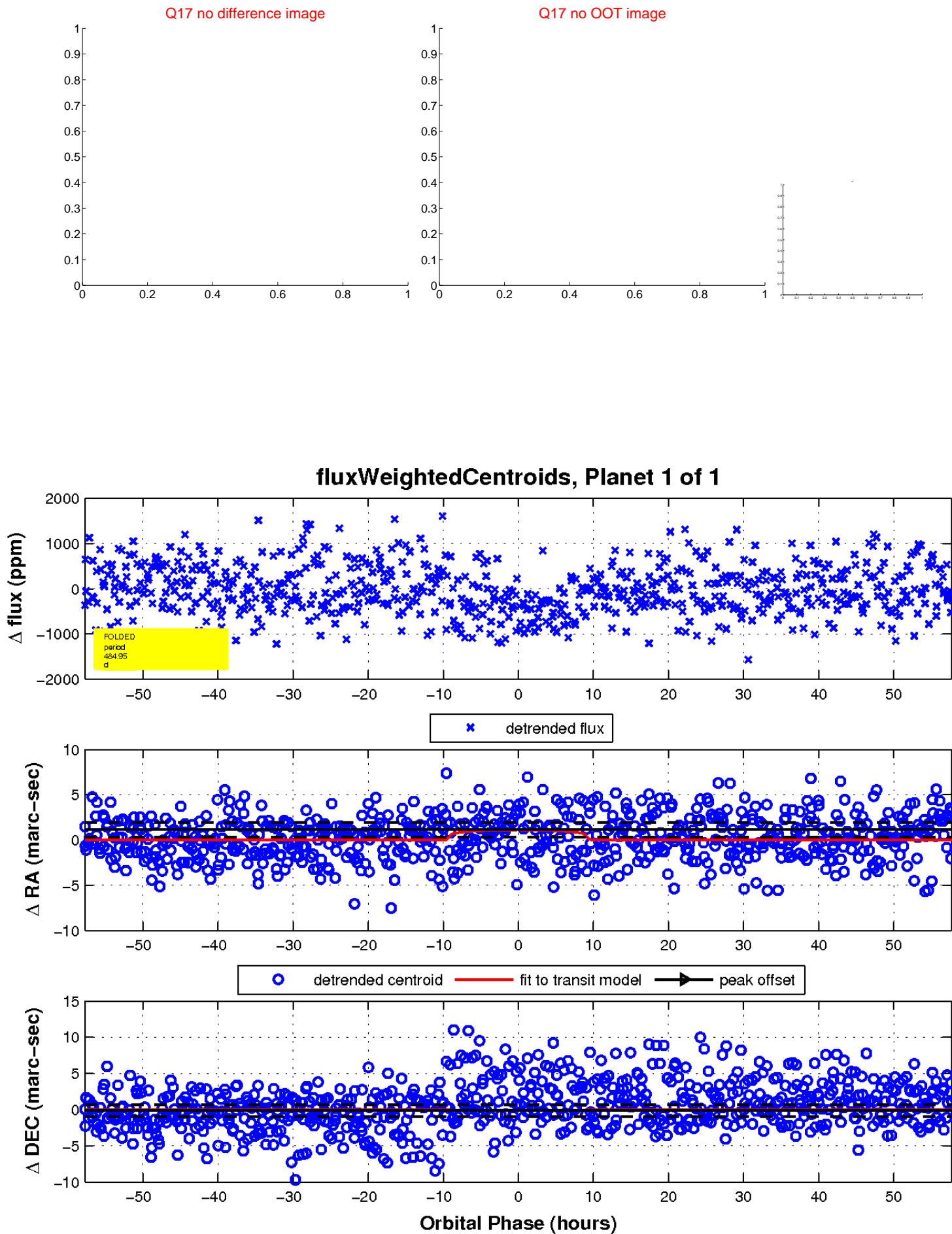
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

