

KIC 005864975

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})
005864975-01	OBS	1787.01	98.717979	131.586712	7177.6	6.571	109.7	112.1	0.79	5808	6.96	3.98

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005864975-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

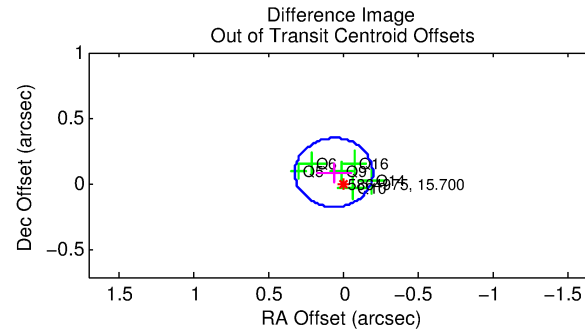
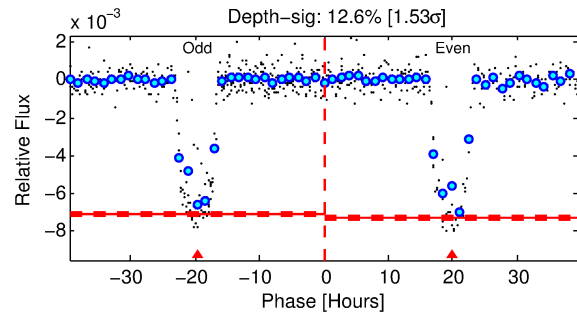
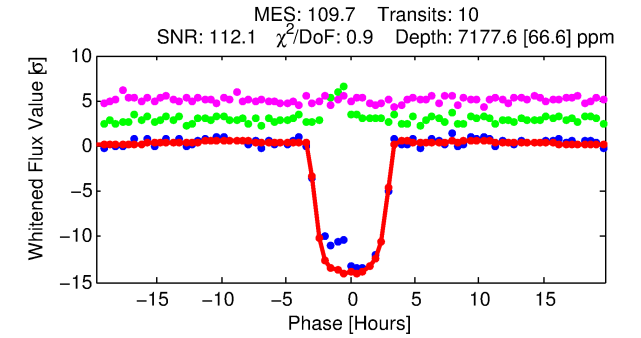
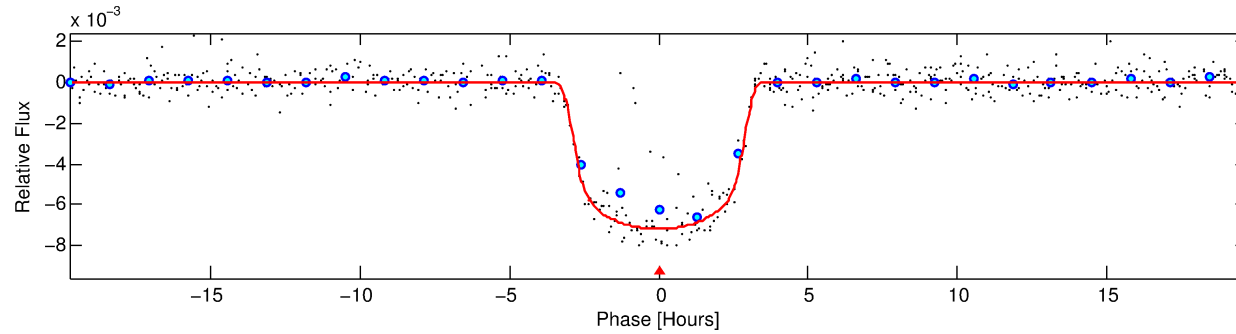
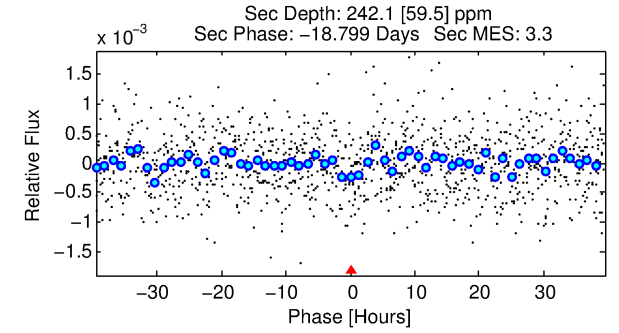
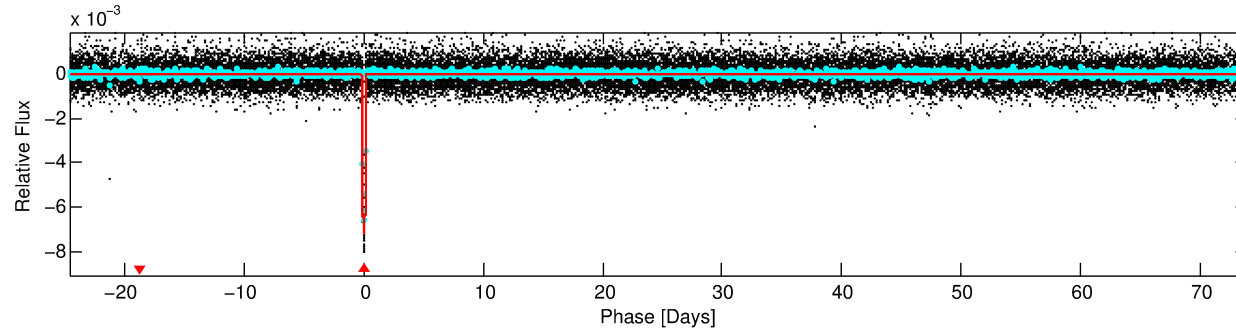
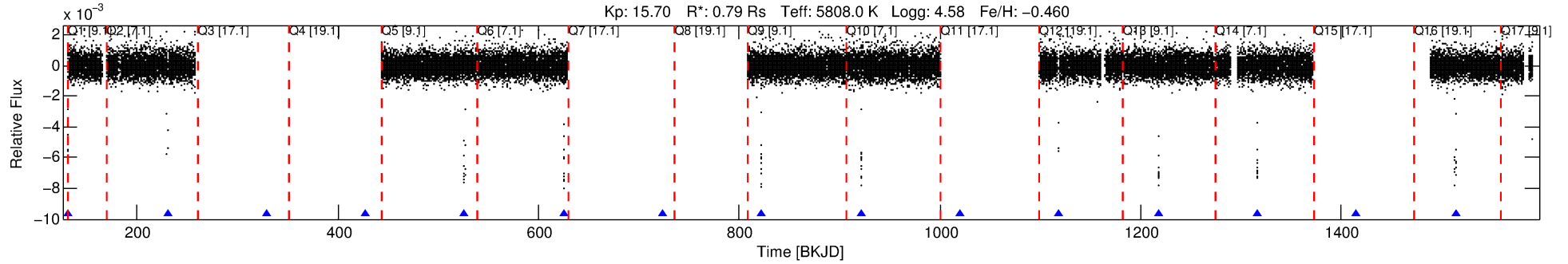
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005864975-01

No Significant Match Found

DV One-Page Summary

KIC: 5864975 Candidate: 1 of 1 Period: 98.718 d
KOI: K01787.01 Corr: 0.988



DV Fit Results:

Period = 98.71798 [0.00015] d
Epoch = 131.5867 [0.0014] BKJD
Rp/R* = 0.0811 [0.0014]
a/R* = 103.12 [7.73]
b = 0.60 [0.08]
Seff = 3.98 [1.13]
Teq = 360 [26] K
Rp = 6.96 [1.47] Re
a = 0.3980 [0.0712] AU
Ag = 436.11 [157.40] [2.76 σ]
Teffp = 2544 [172] K [12.55 σ]

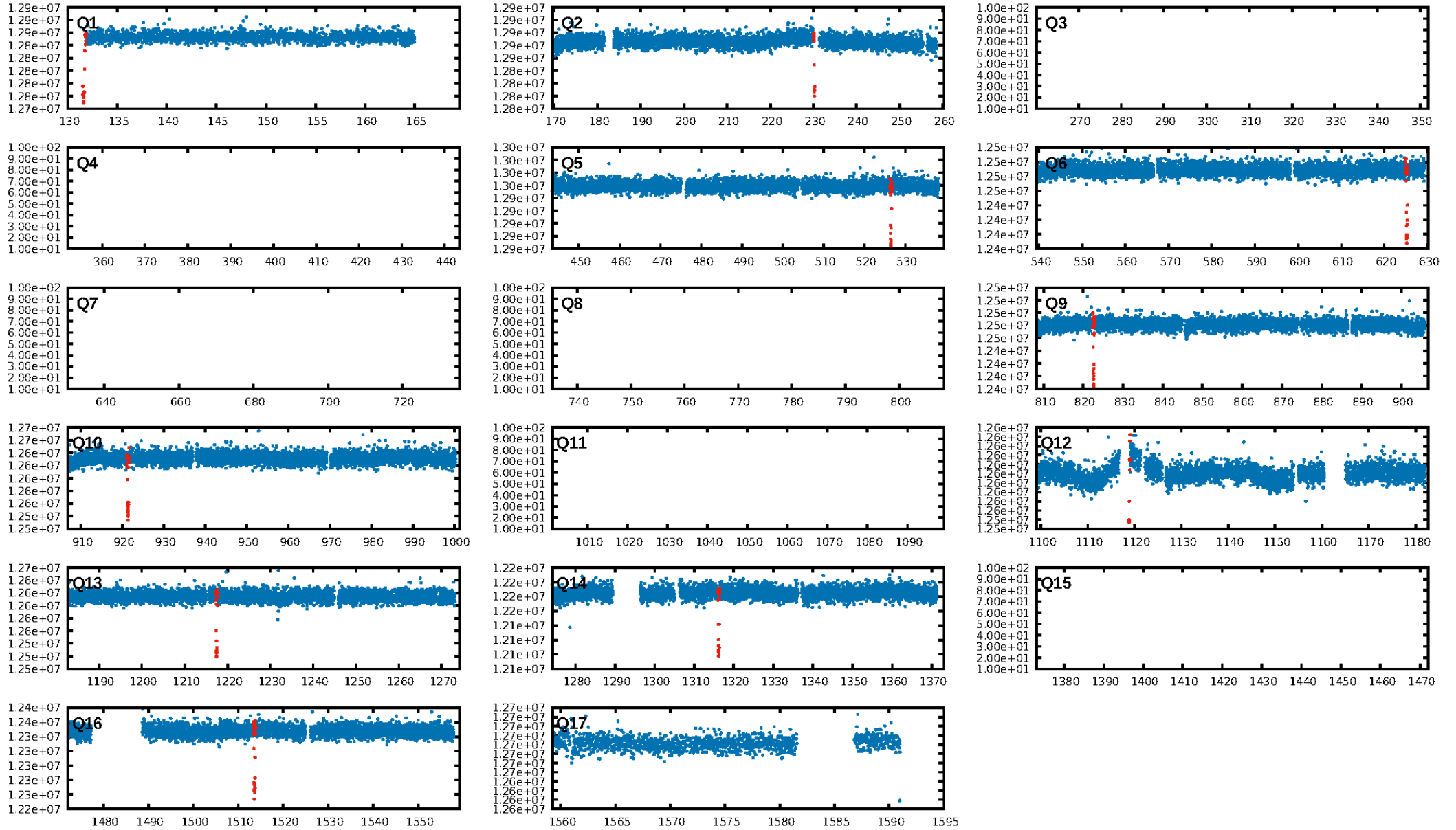
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 2.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: 3.753
Centroid-sig: 0.0%
Centroid-so: 0.421 arcsec [3.89 σ]
OotOffset-rm: 0.108 arcsec [1.24 σ]
KicOffset-rm: 0.190 arcsec [1.11 σ]
OotOffset-st: 3/0/1/2 [6]
KicOffset-st: 3/0/1/2 [6]
DiffImageQuality-fgm: 1.00 [6/6]
DiffImageOverlap-fno: 1.00 [6/6]

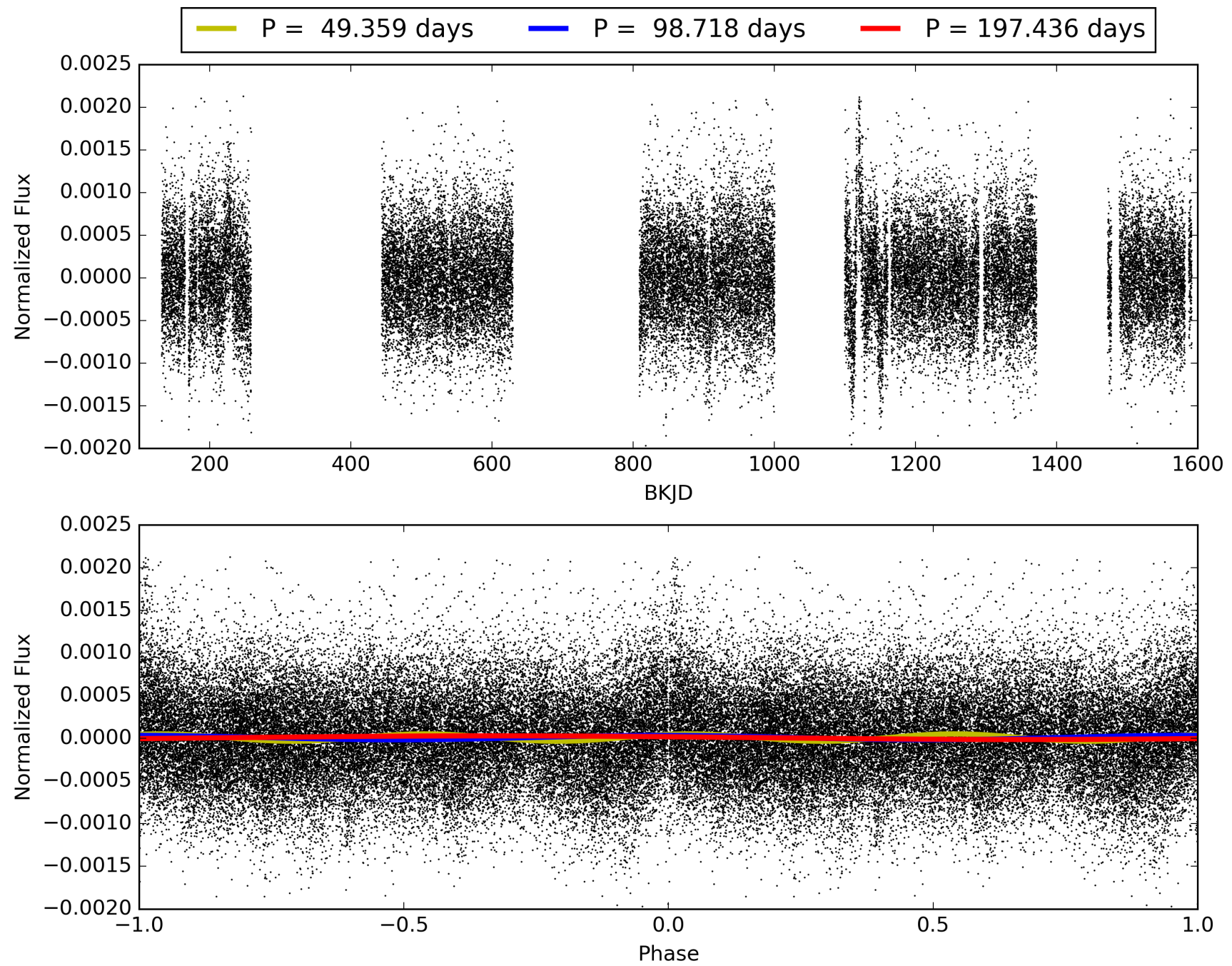
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:01:30 Z

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

TCE 005864975-01, PDC Light Curves

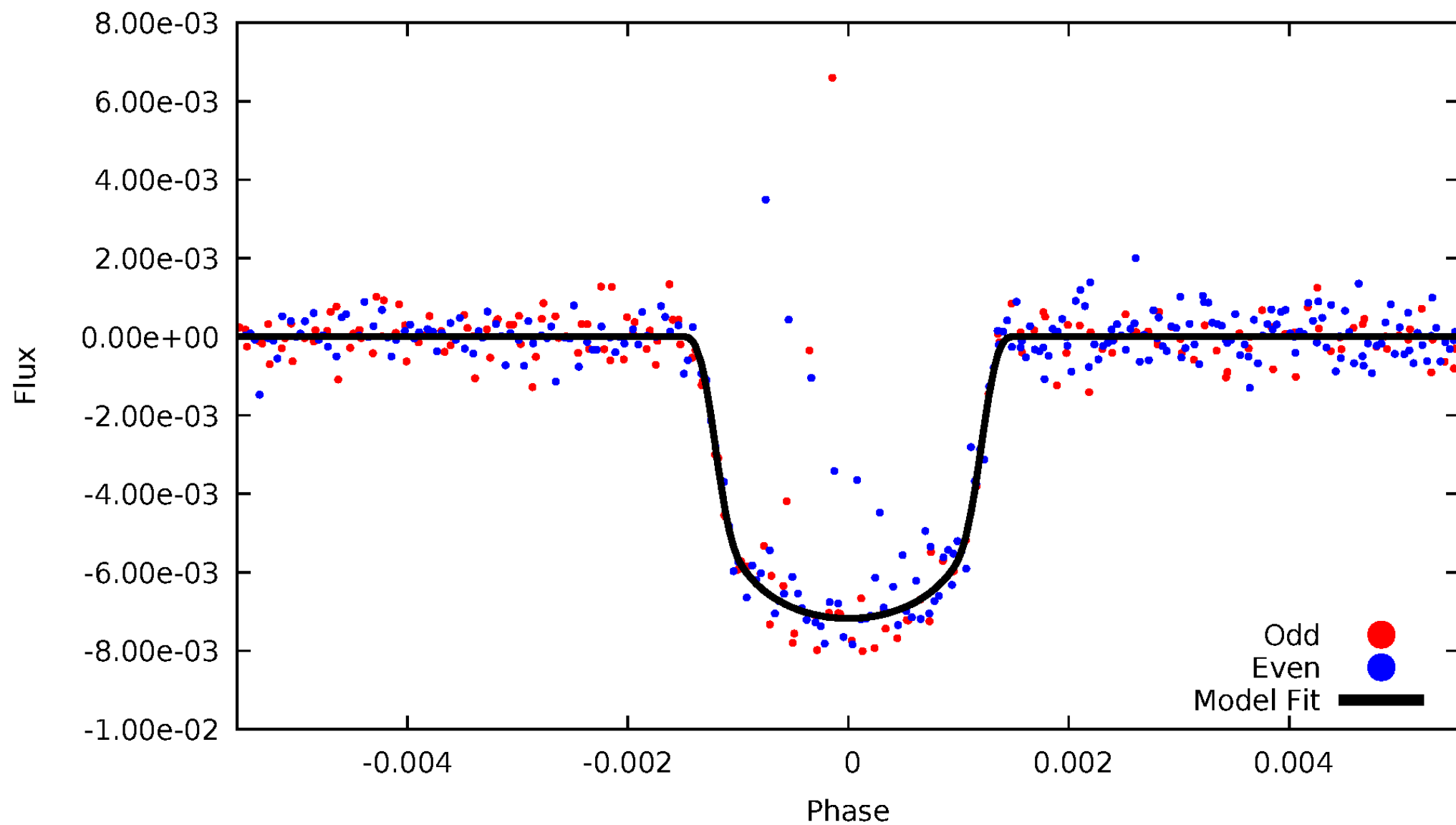


TCE 005864975-01



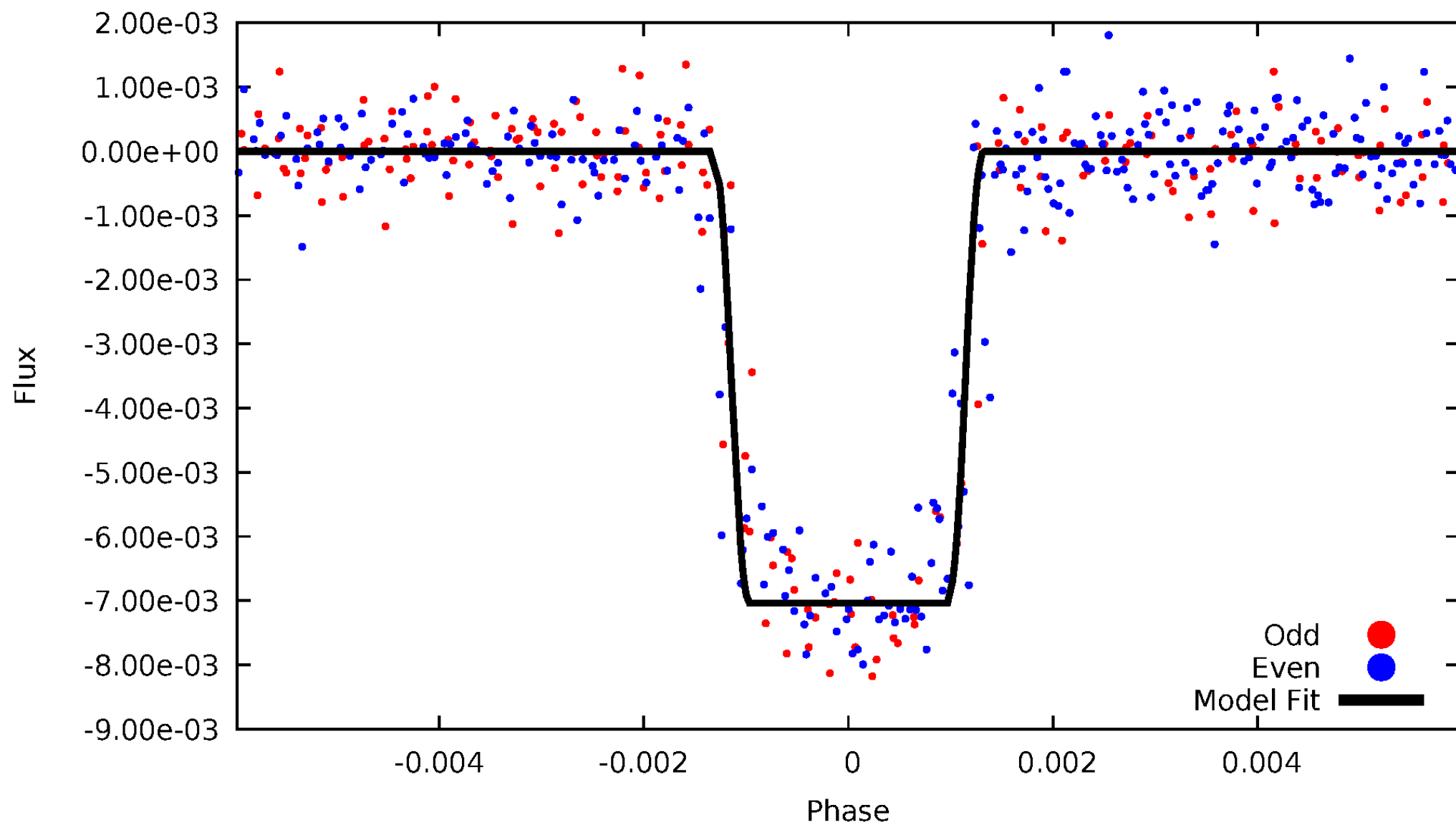
DV Odd/Even

TCE 005864975-01

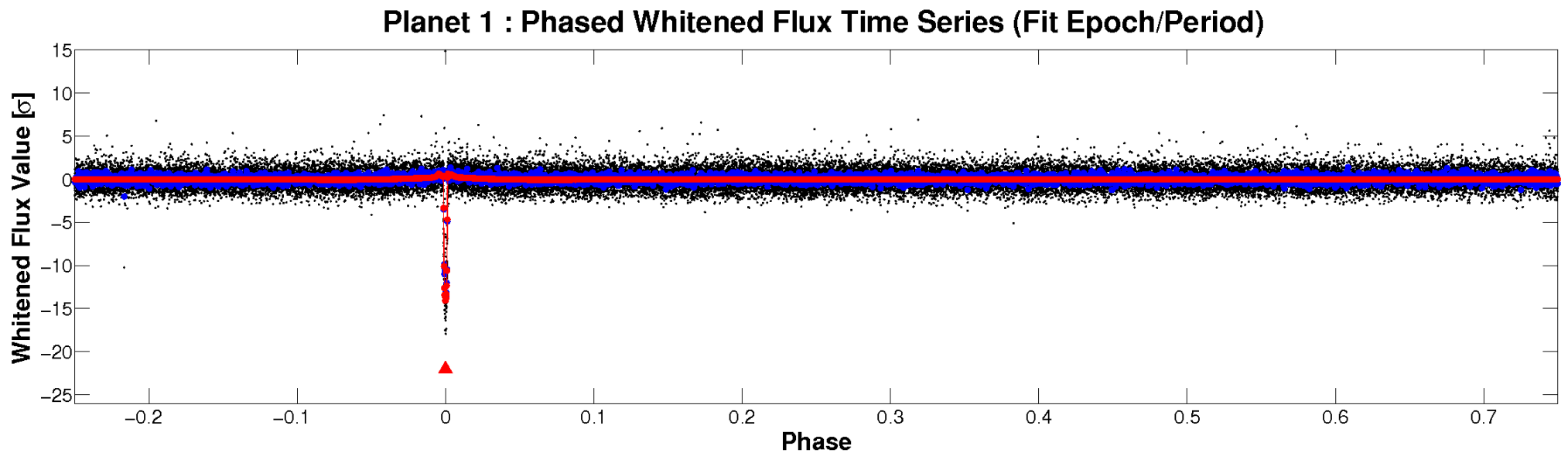
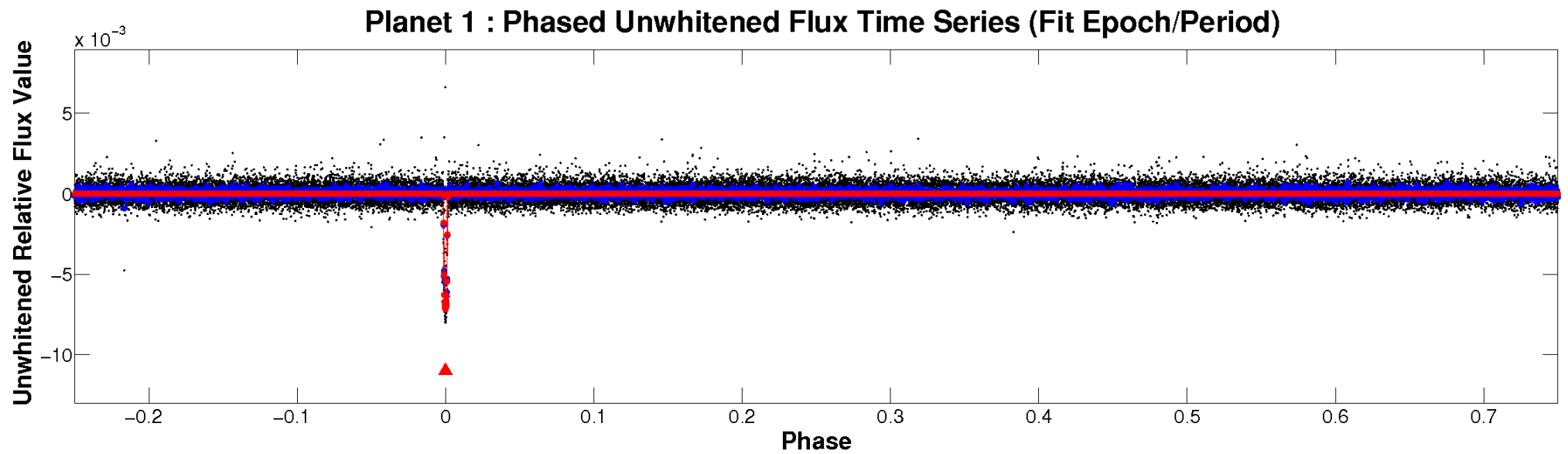


ALT Odd/Even

TCE 005864975-01

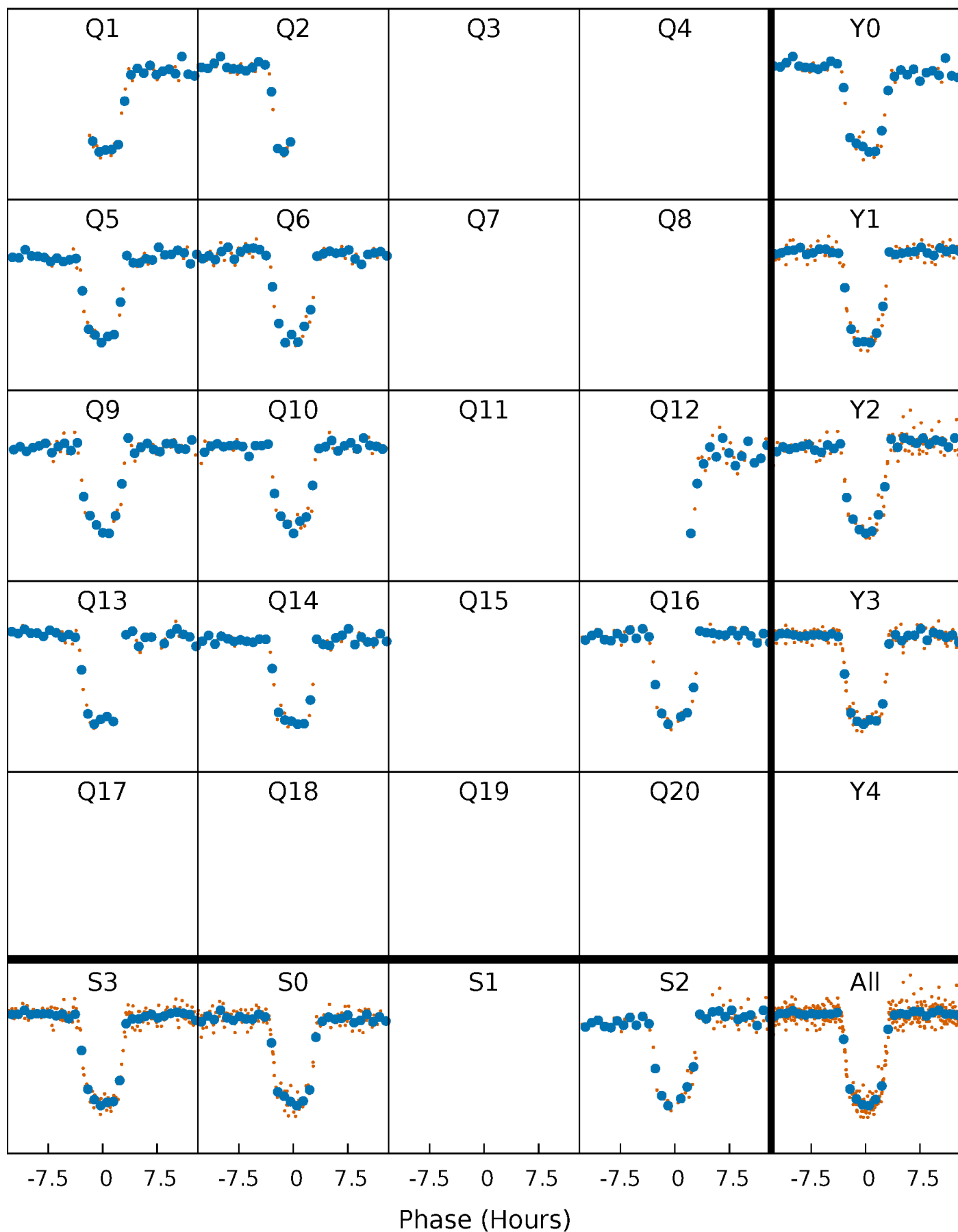


Non-Whitened Vs. Whitened Light Curve



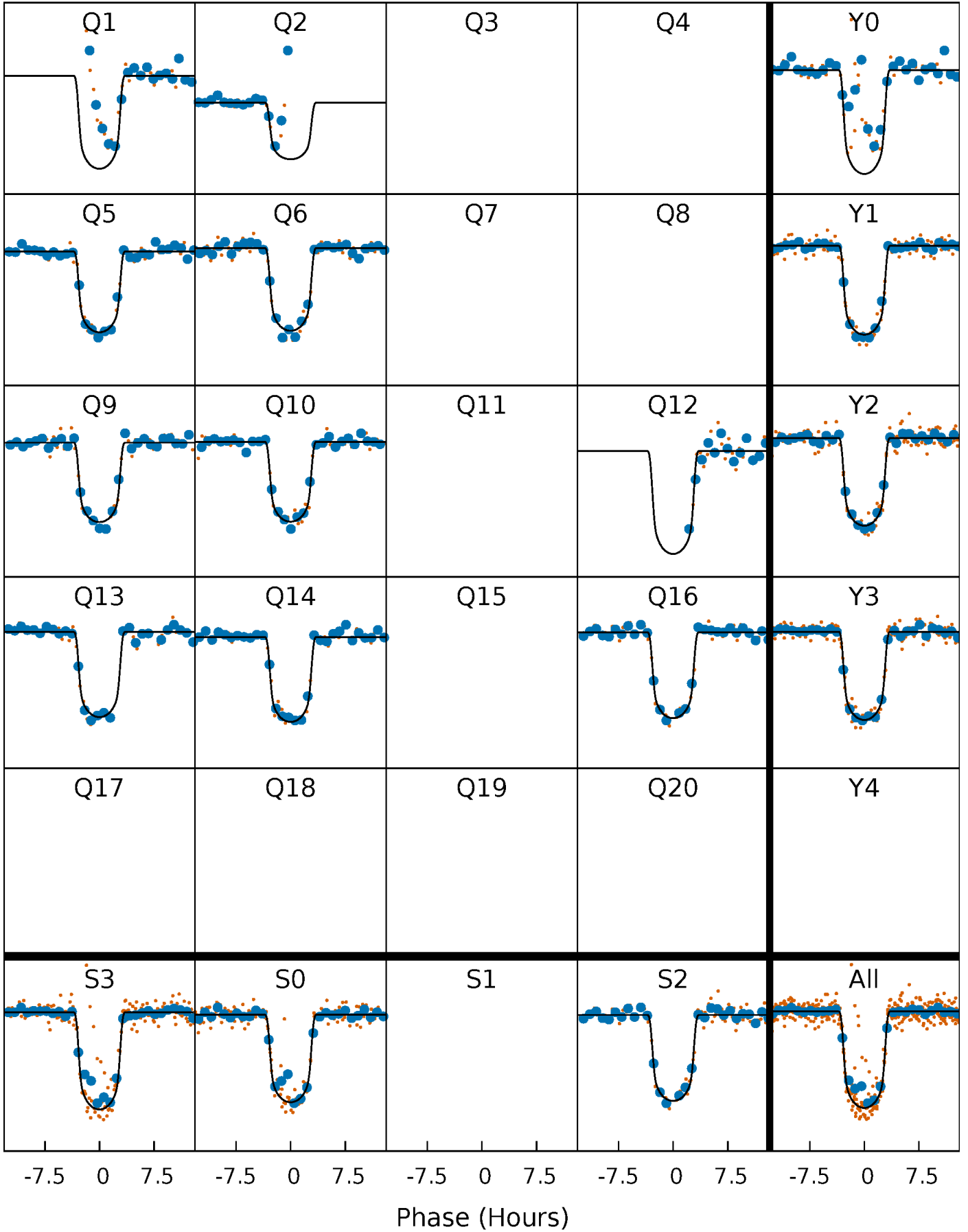
PDC Quarter-Phased Transit Curves

TCE 005864975-01 P= 98.717979 Days $T_0=131.586712$ (BKJD)



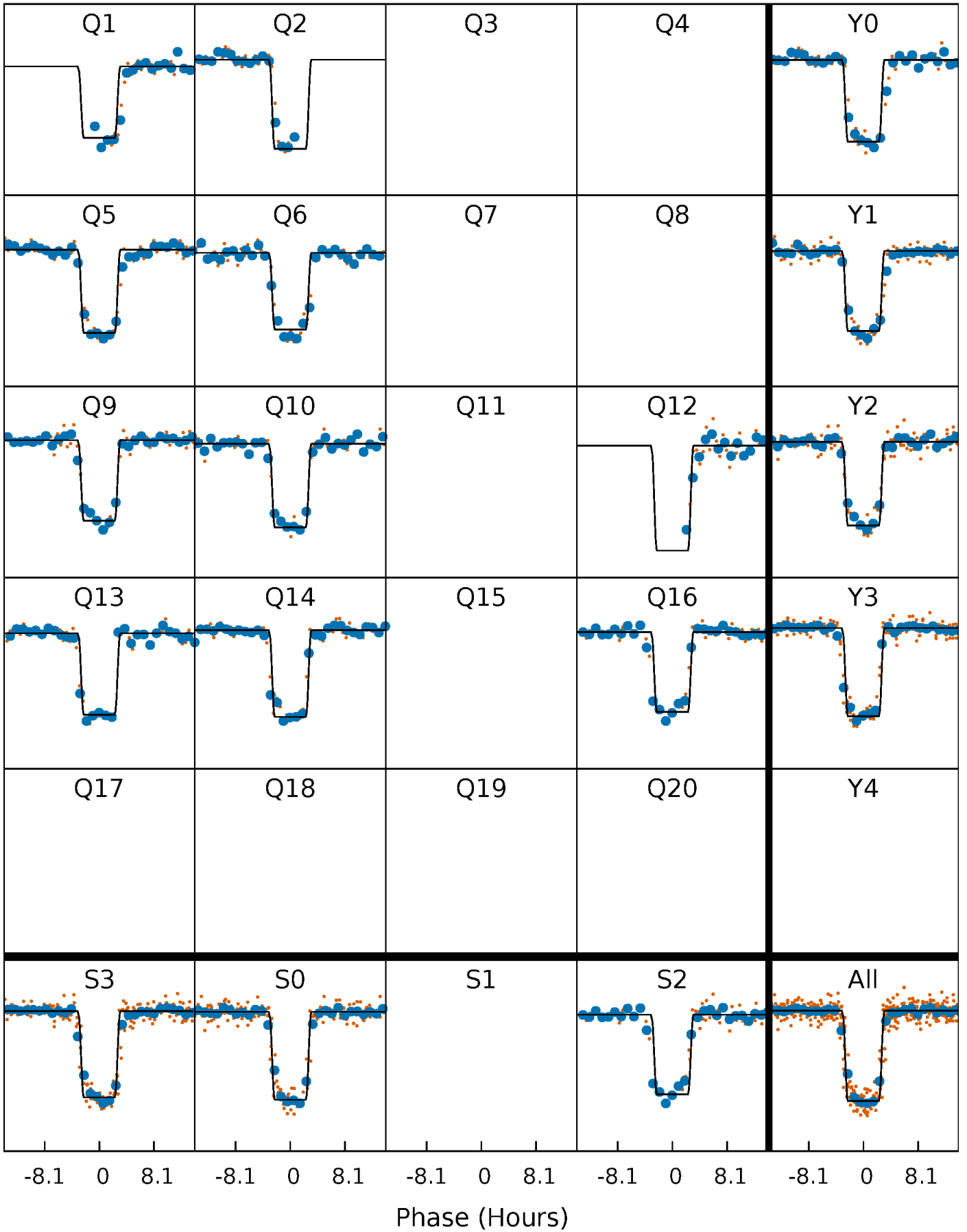
DV Quarter-Phased Transit Curves

TCE 005864975-01 P= 98.717979 Days $T_0=131.586712$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

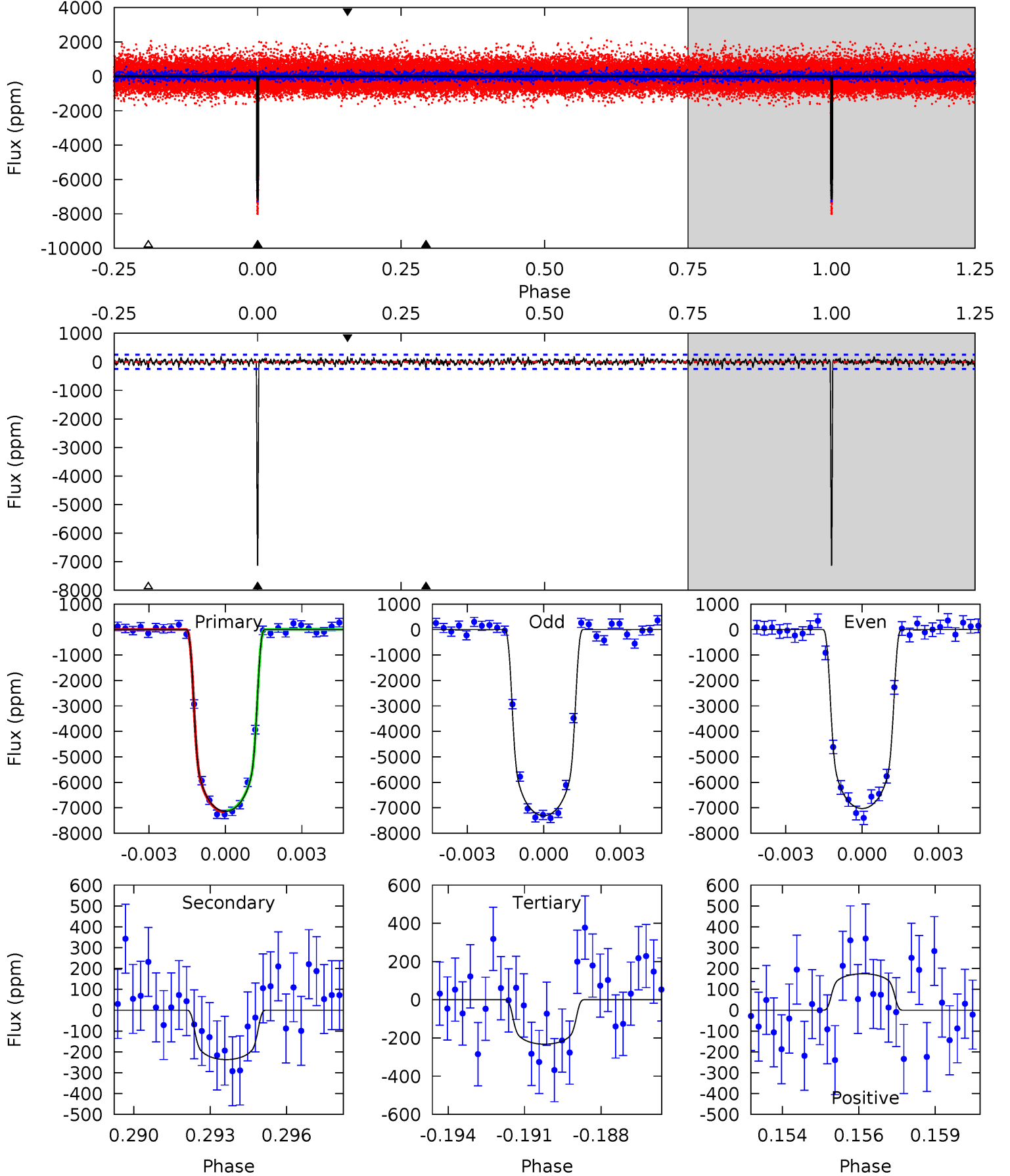
TCE 005864975-01 P= 98.721285 Days $T_0=131.559888$ (BKJD)



DV Model-Shift Uniqueness Test

005864975-01, P = 98.717979 Days, E = 32.868733 Days

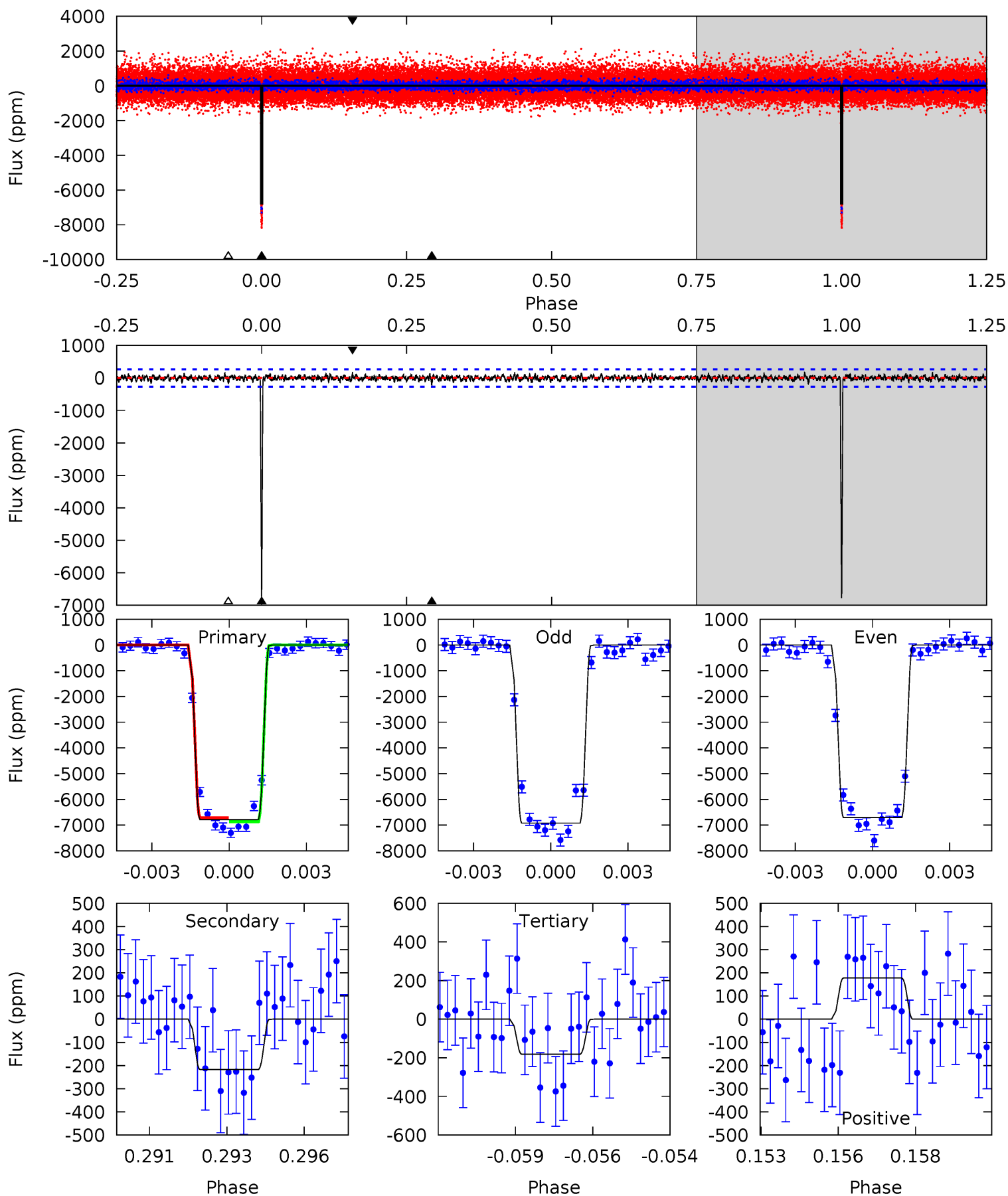
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
148.6	4.93	4.84	3.64	5.26	2.98	1.17	143.7	144.9	0.09	1.30	2.86	0.86	0.02	0.50



Alt Model-Shift Uniqueness Test

005864975-01, P = 98.721285 Days, E = 32.838603 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
134.3	4.30	3.60	3.52	5.28	3.02	0.96	130.7	130.8	0.71	0.79	2.06	0.98	0.03	1.57



Stellar Parameters For KIC 005864975

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5808^{+157}_{-157}	$4.583^{+0.036}_{-0.144}$	$-0.460^{+0.300}_{-0.300}$	$0.786^{+0.166}_{-0.059}$	$0.871^{+0.085}_{-0.095}$	$2.528^{+0.482}_{-1.035}$
	+3%/-3%	+1%/-3%	+65%/-65%	+21%/-8%	+10%/-11%	+19%/-41%
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 005864975-01 / KOI 1787.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-237 ± 48	$7.15^{+0.79}_{-0.50}$	512^{+24}_{-19}	3146^{+98}_{-117}	393^{+95}_{-99}
Alt.	-217 ± 51	$7.34^{+0.90}_{-0.47}$	513^{+27}_{-21}	3071^{+109}_{-133}	331^{+100}_{-91}

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

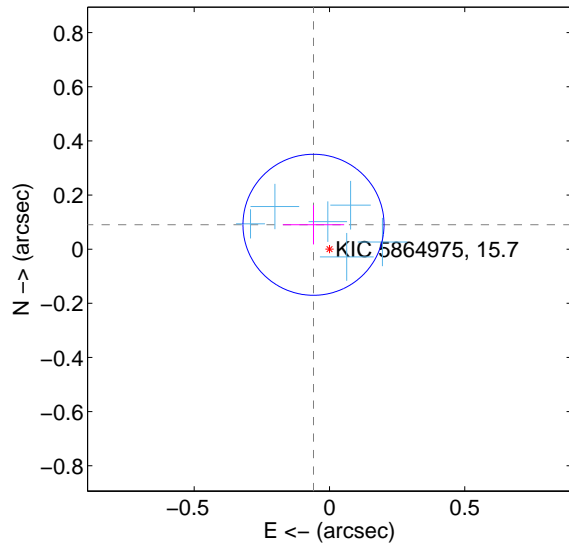
Supplemental centroid analysis for 005864975-01. Kepler magnitude: 15.70. Transit SNR 112.14

There are 6 quarters with good PRF difference image offsets

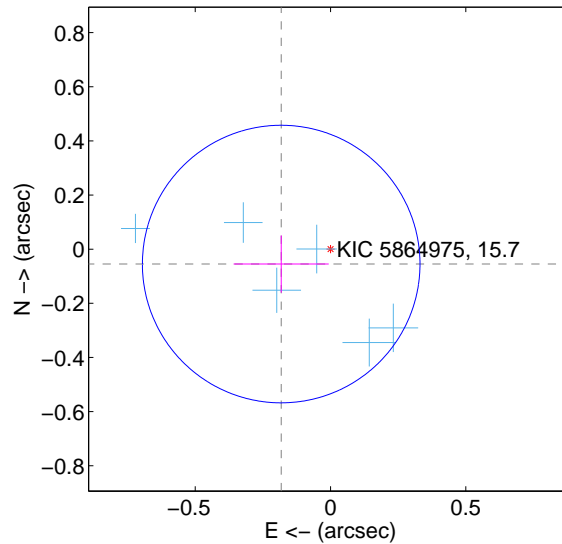
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.108 ± 0.087	1.24	0.059 ± 0.113	0.090 ± 0.072
PRF-fit source offset from KIC position	0.190 ± 0.171	1.11	0.182 ± 0.176	-0.055 ± 0.106
photometric centroid source offset	0.42 ± 0.11	3.89	0.31 ± 0.12	-0.29 ± 0.10

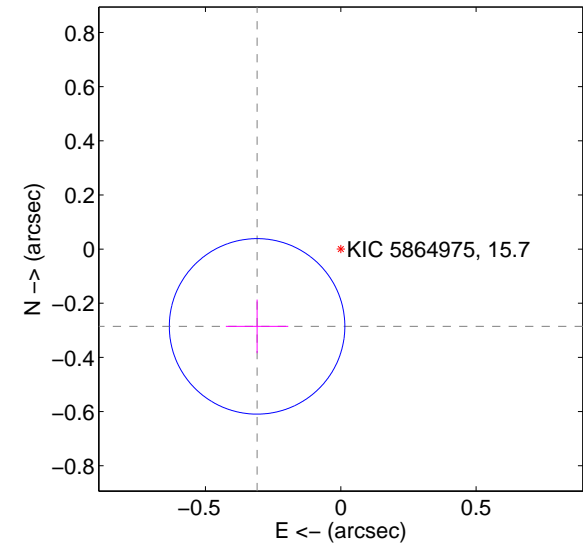
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

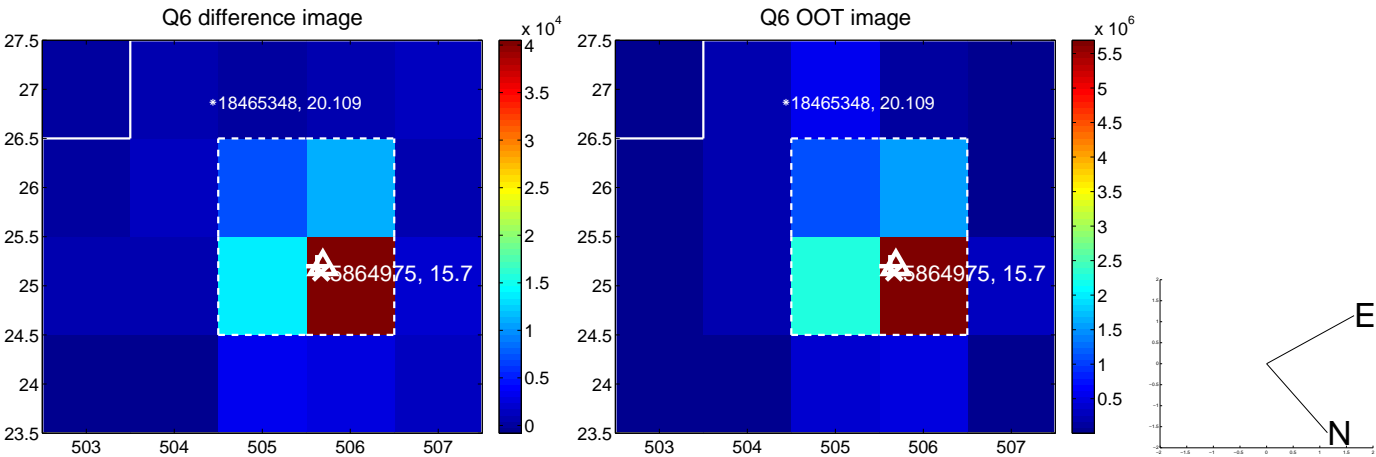
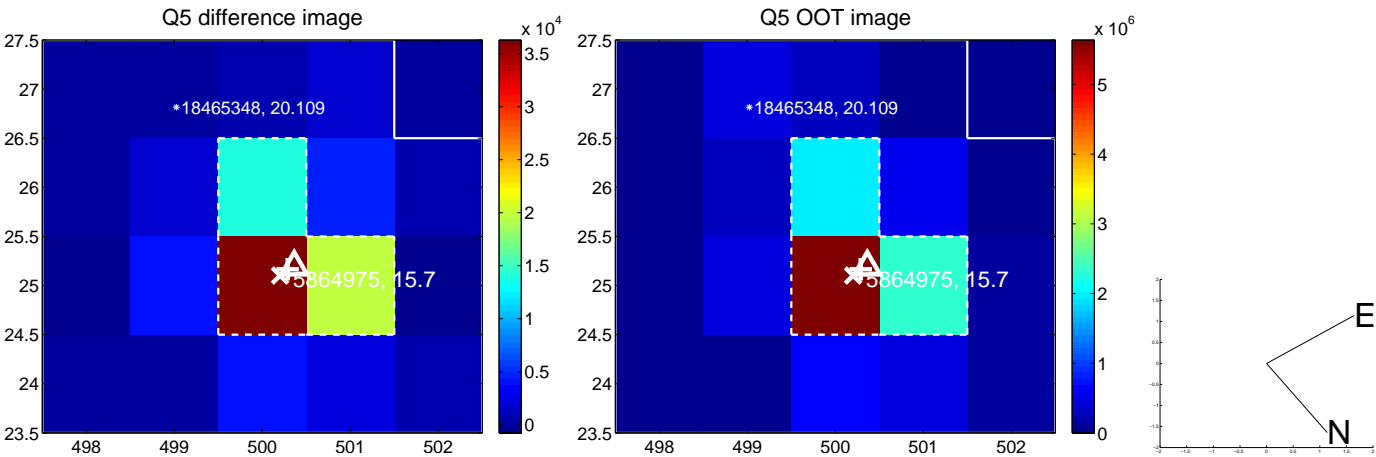


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

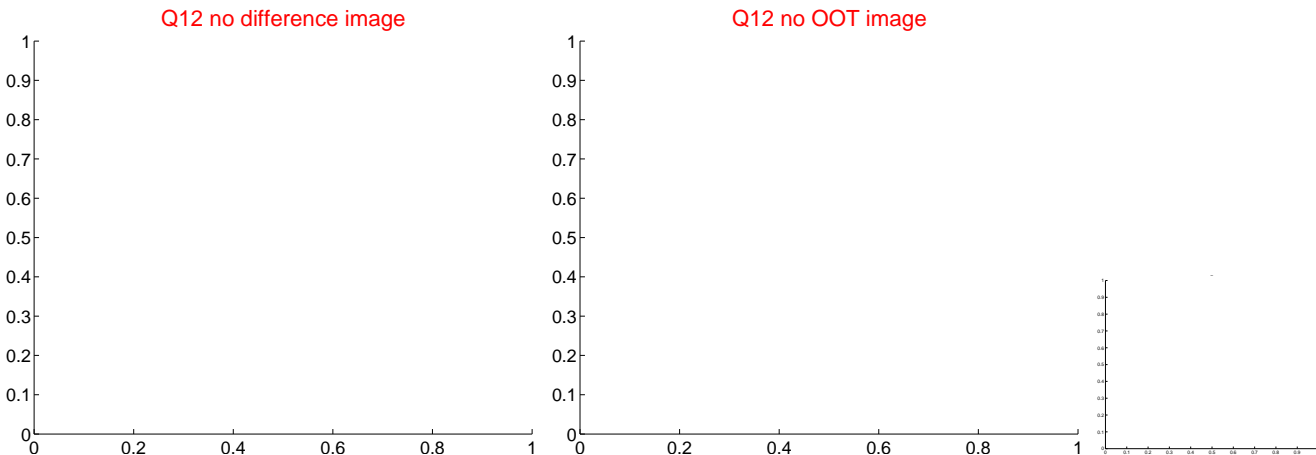
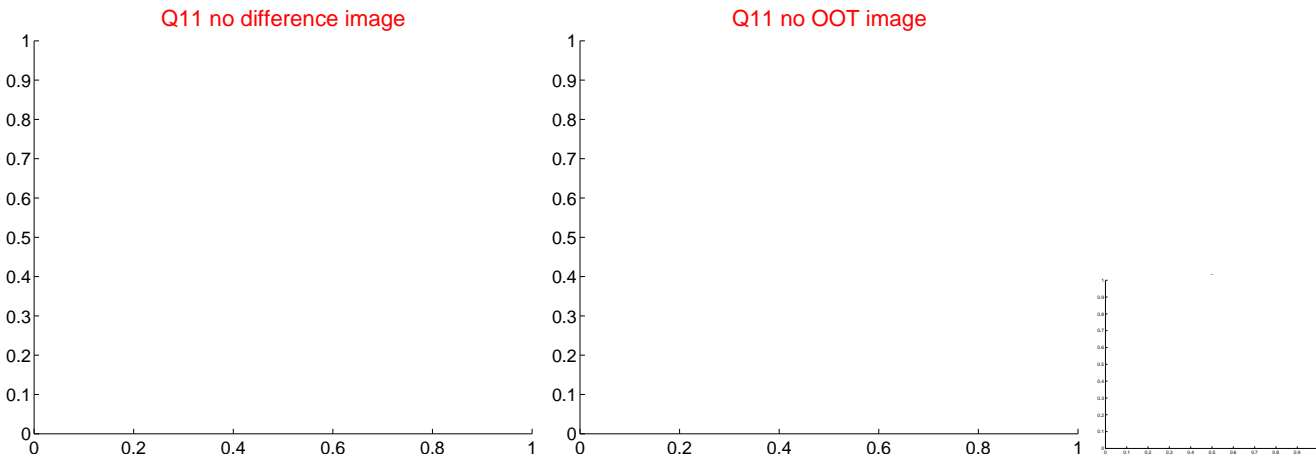
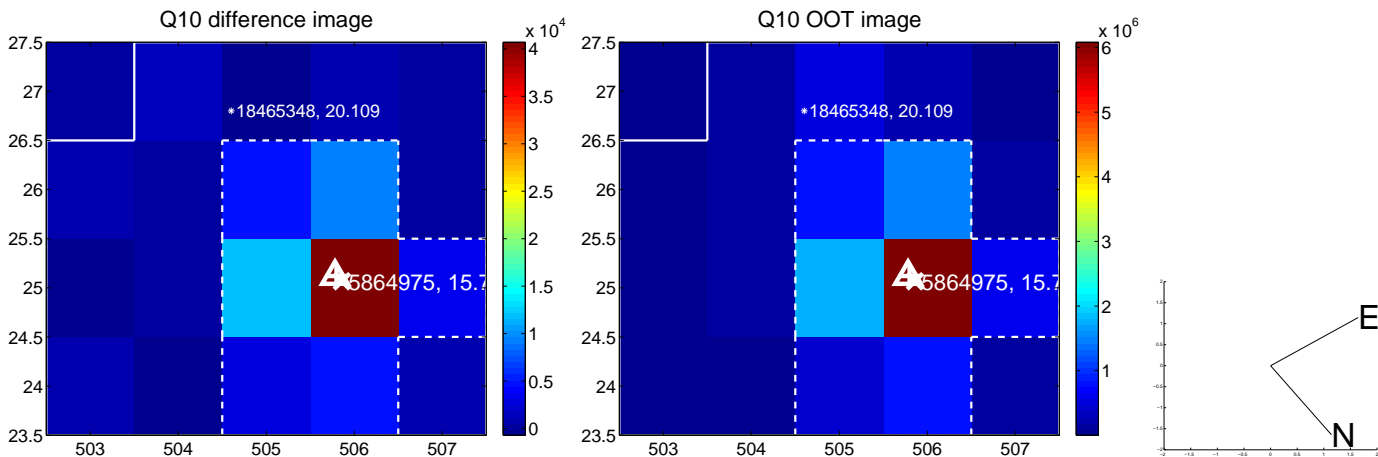
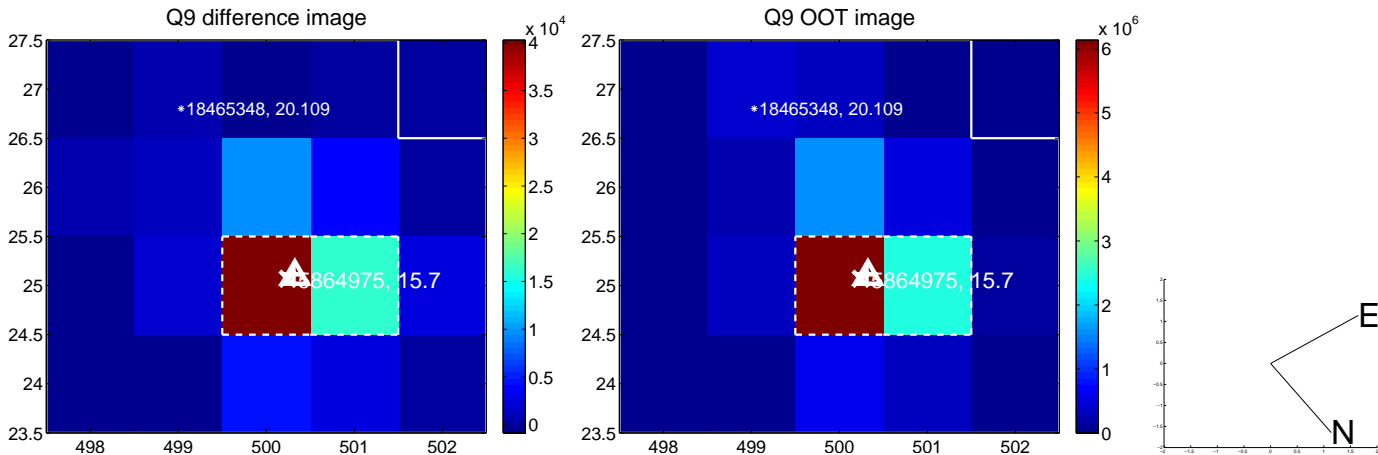
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



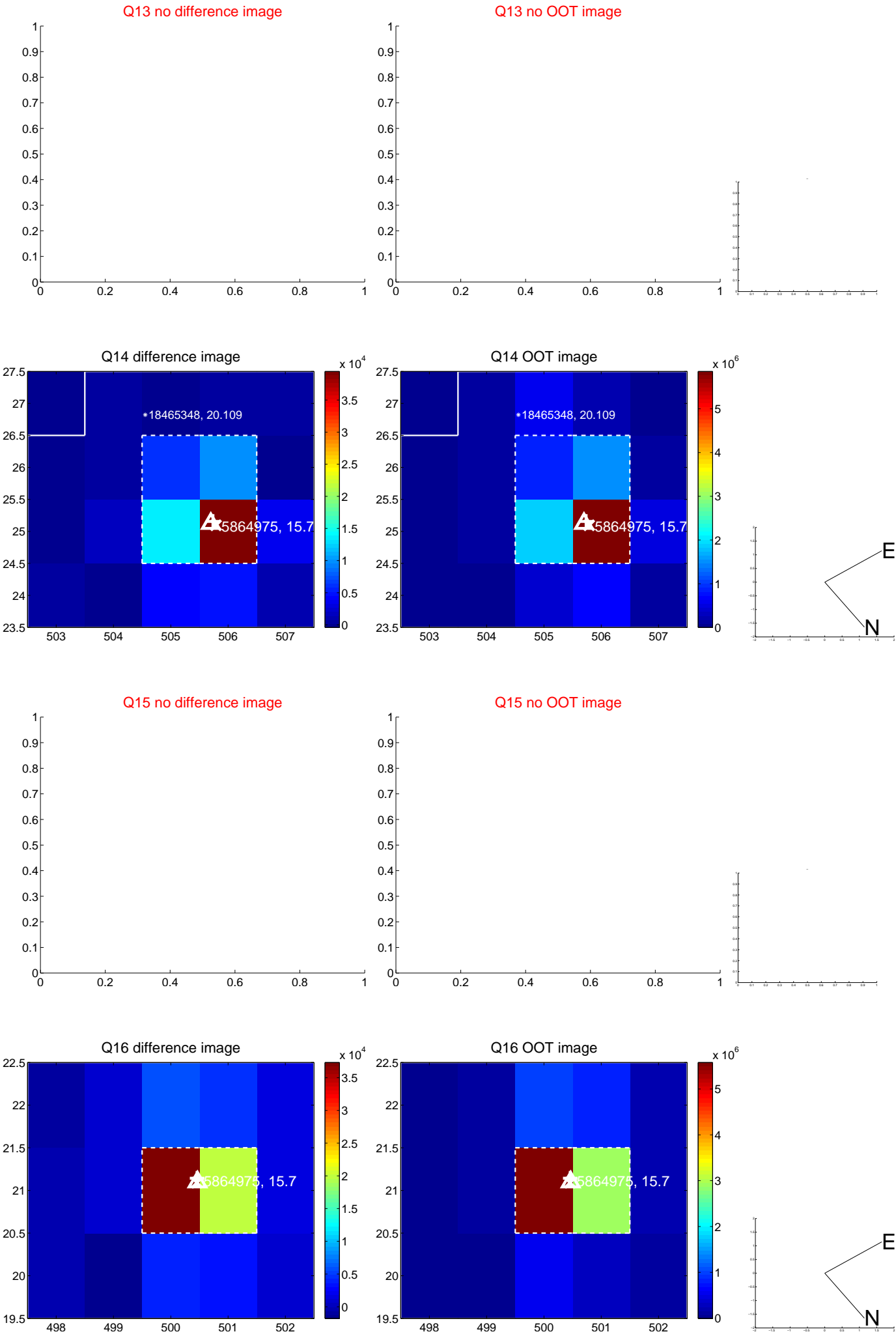
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



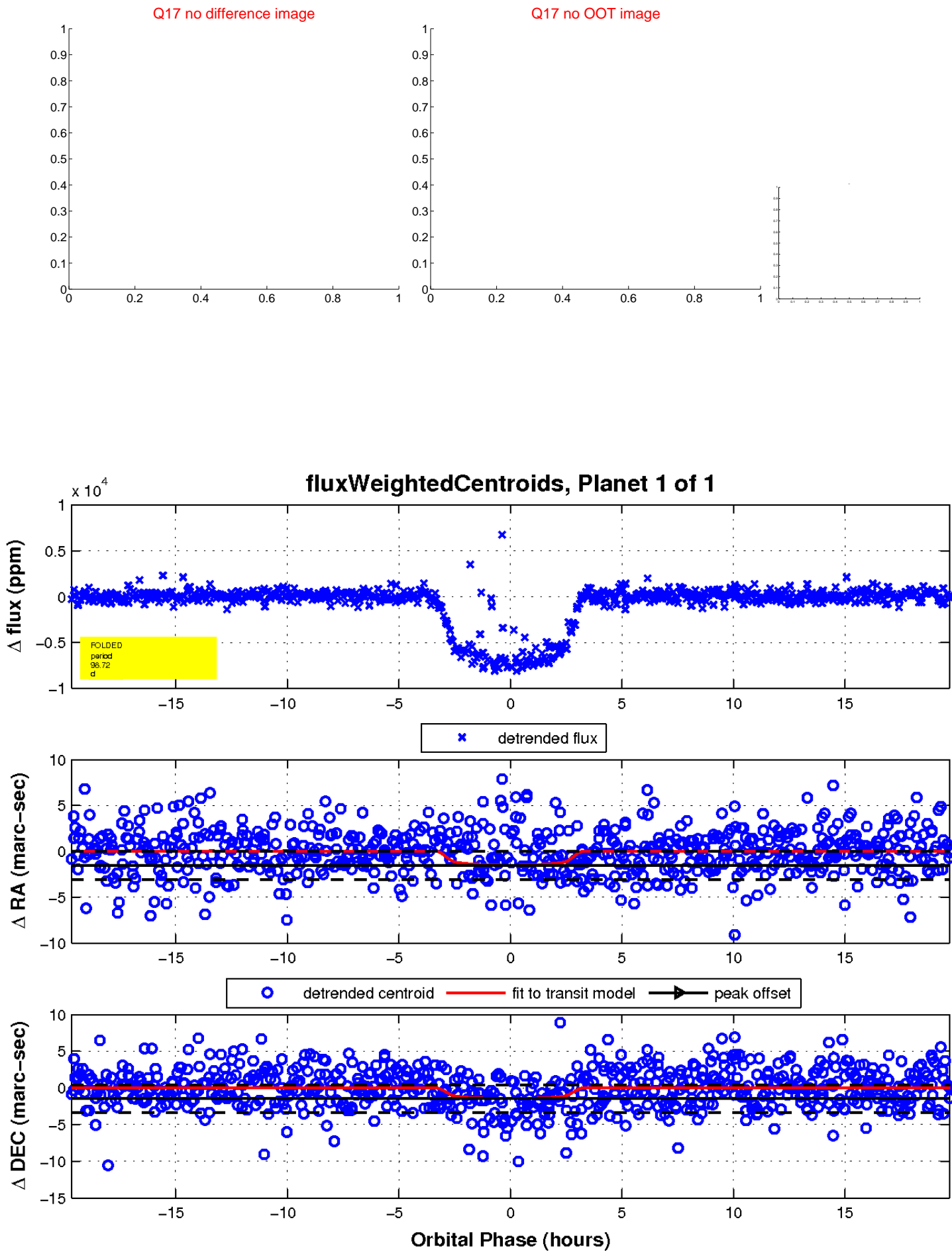
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



UKIRT Image

Declination

