

KIC 005809954

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})
005809954-01	OBS	1902.01	137.864096	172.814981	2420.9	1.953	24.1	29.2	0.45	3645	3.51	0.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005809954-01	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED—CENT_KIC_POS

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.

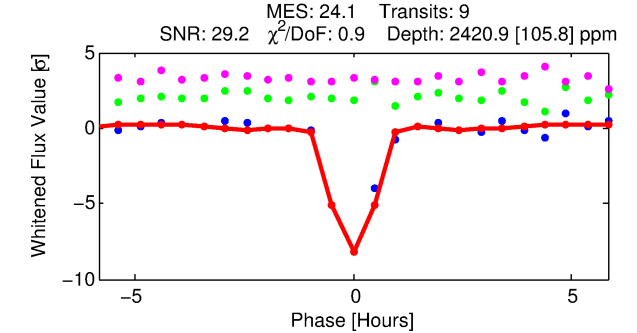
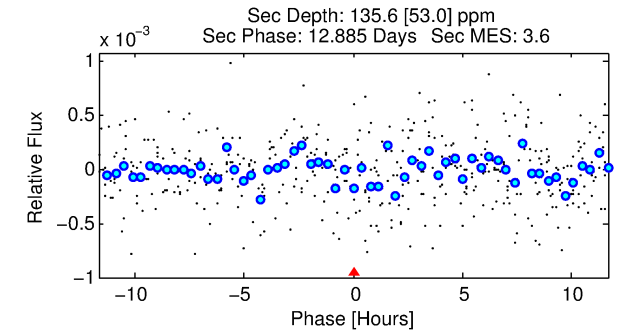
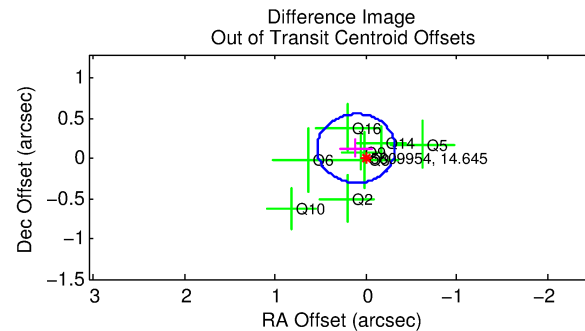
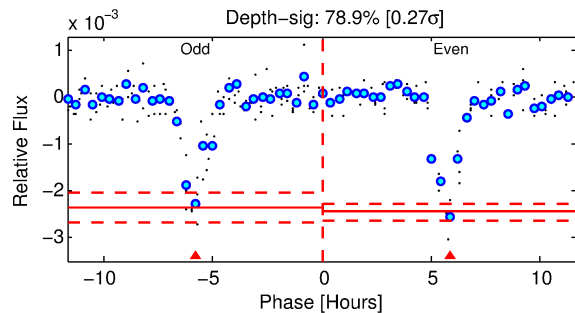
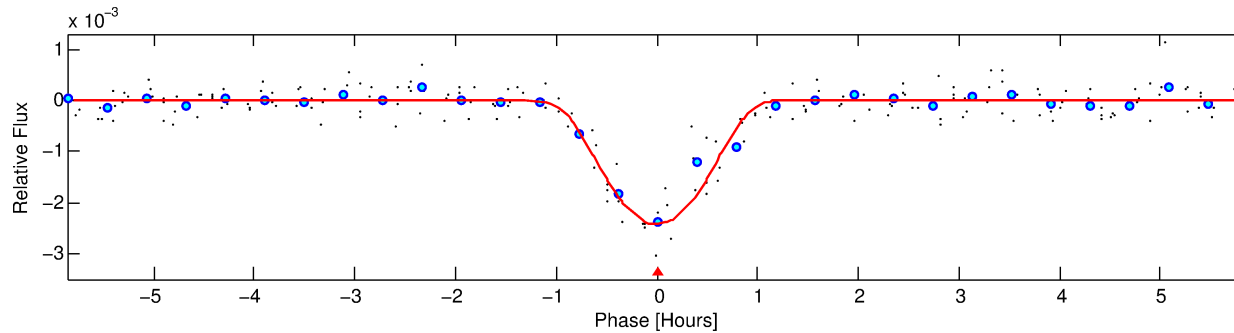
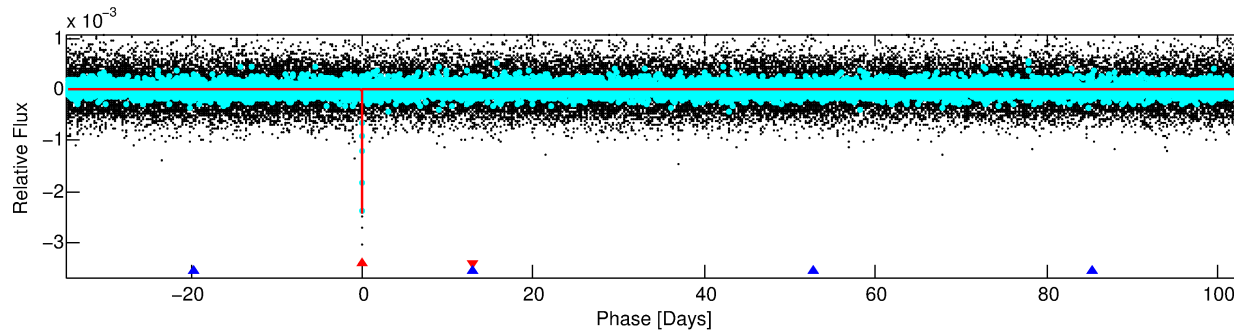
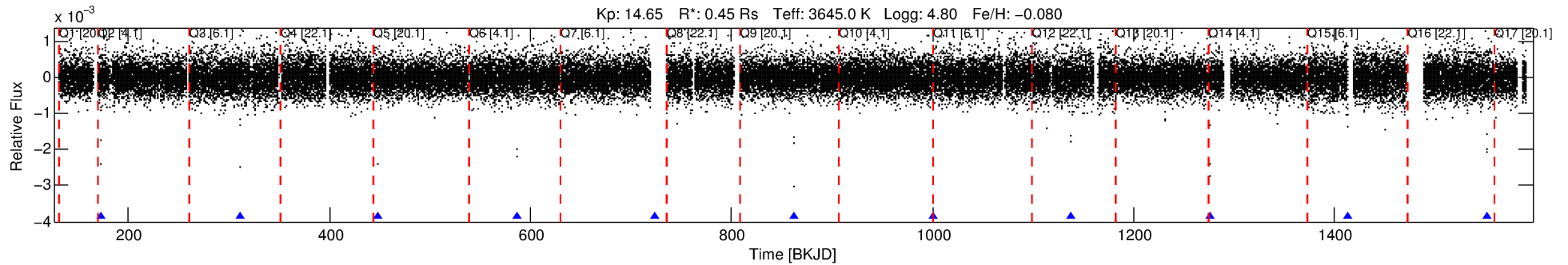
Ephemeris Match Information For 005809954-01

No Significant Match Found

DV One-Page Summary

KIC: 5809954 Candidate: 1 of 2 Period: 137.864 d

KOI: K01902.01 Corr: 0.984



DV Fit Results:

Period = 137.86410 [0.00026] d
Epoch = 172.8150 [0.0015] BKJD
Rp/R* = 0.0717 [0.0685]
a/R* = 240.57 [72.94]
b = 0.97 [0.12]
Seff = 0.20 [0.03]
Teq = 170 [7] K
Rp = 3.51 [3.39] Re
a = 0.4035 [0.0426] AU
Ag = 985.09 [1926.67] [0.51 σ]
Teffp = 1469 [717] K [1.81 σ]

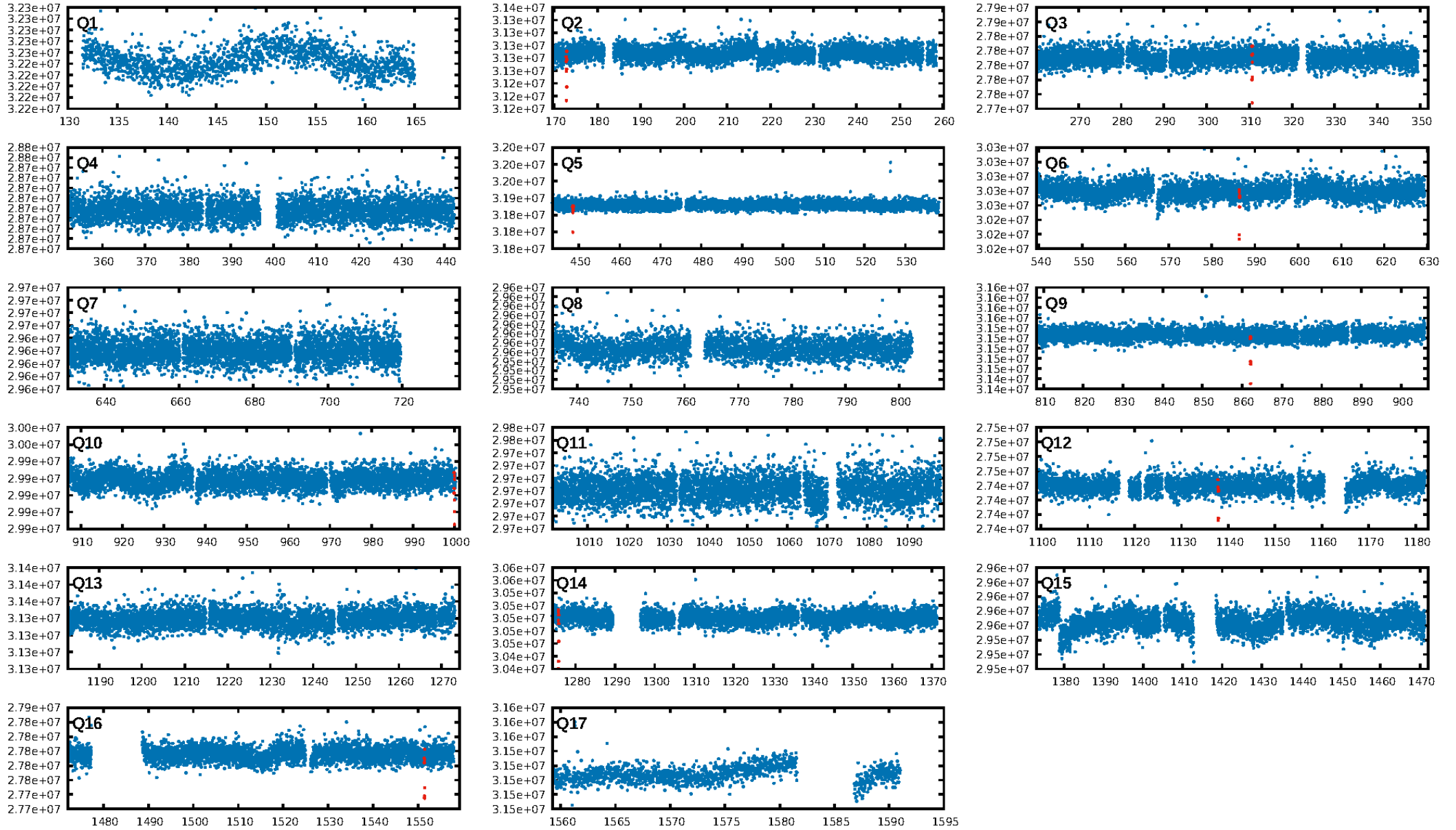
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [1444.53 σ]
ModelChiSquare2-sig: 3.4%
ModelChiSquareGof-sig: 90.4%
Bootstrap-pfa: 4.75e-93
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: 4.284
Centroid-sig: 8.7%
Centroid-so: 0.404 arcsec [0.95 σ]
OotOffset-rm: 0.166 arcsec [1.16 σ]
OotOffset-st: 4/1/1/2 [8]
KicOffset-rm: 0.597 arcsec [3.50 σ]
KicOffset-st: 4/1/1/2 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [8/8]

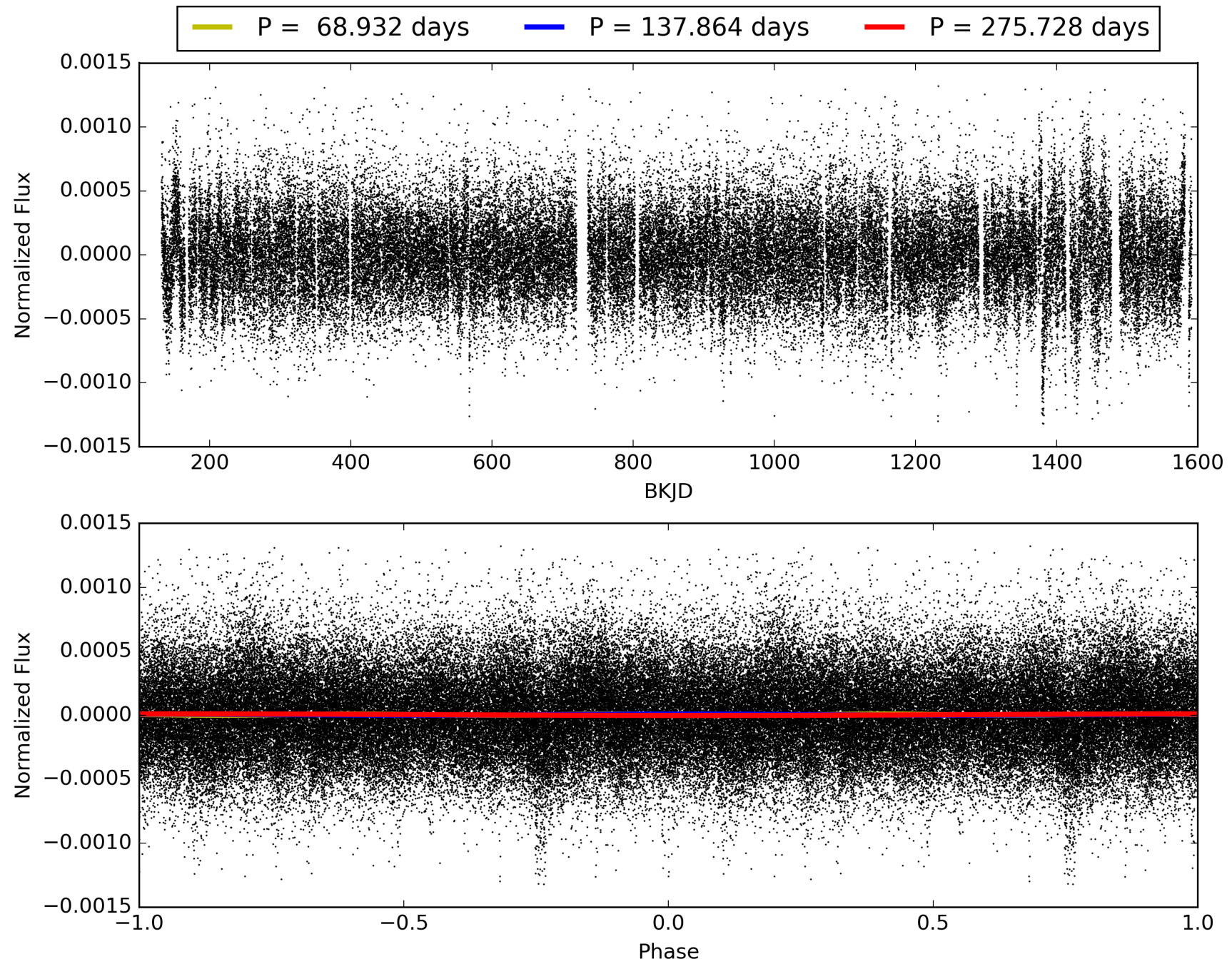
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:10:44 Z

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

TCE 005809954-01, PDC Light Curves

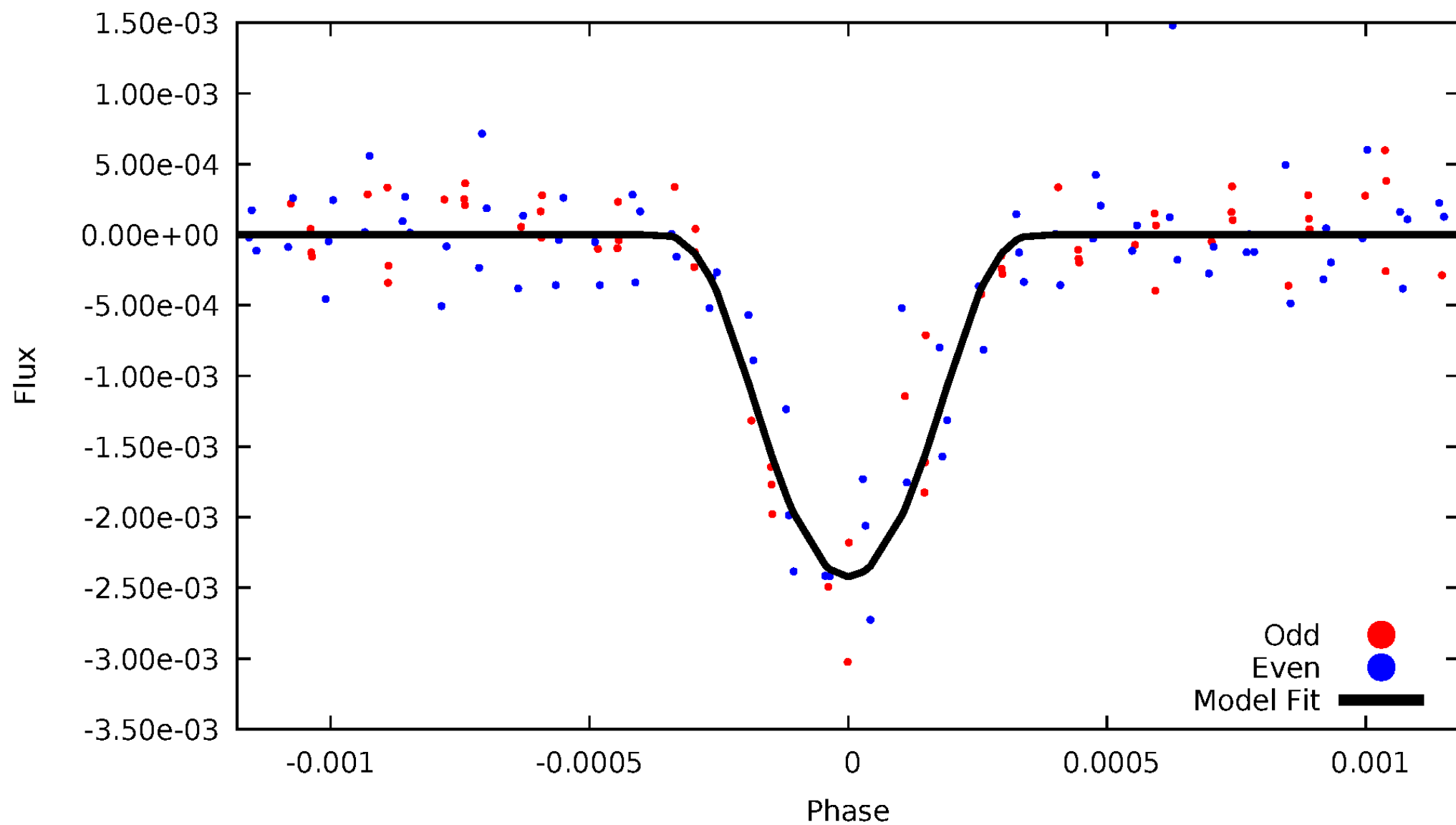


TCE 005809954-01



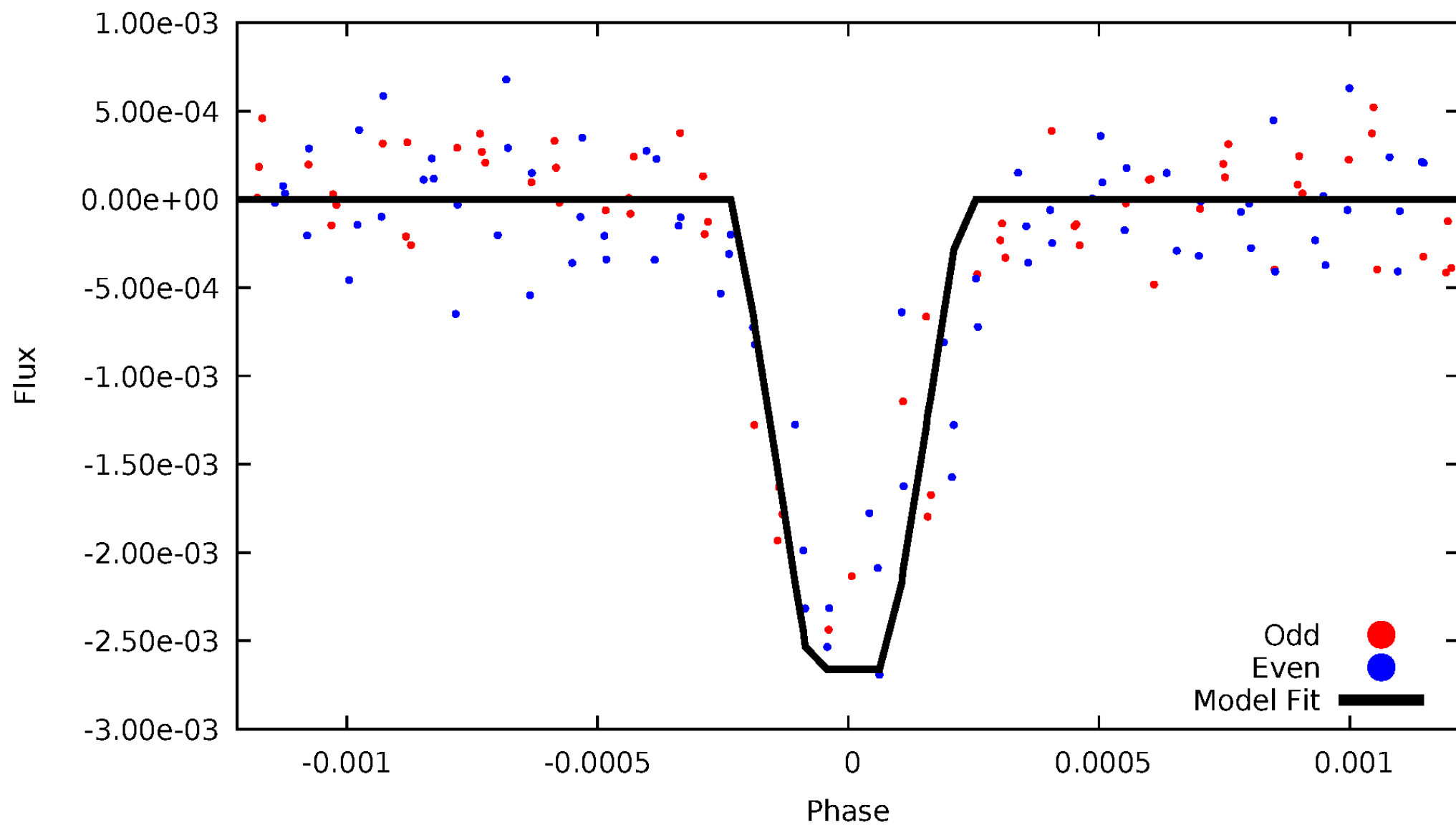
DV Odd/Even

TCE 005809954-01



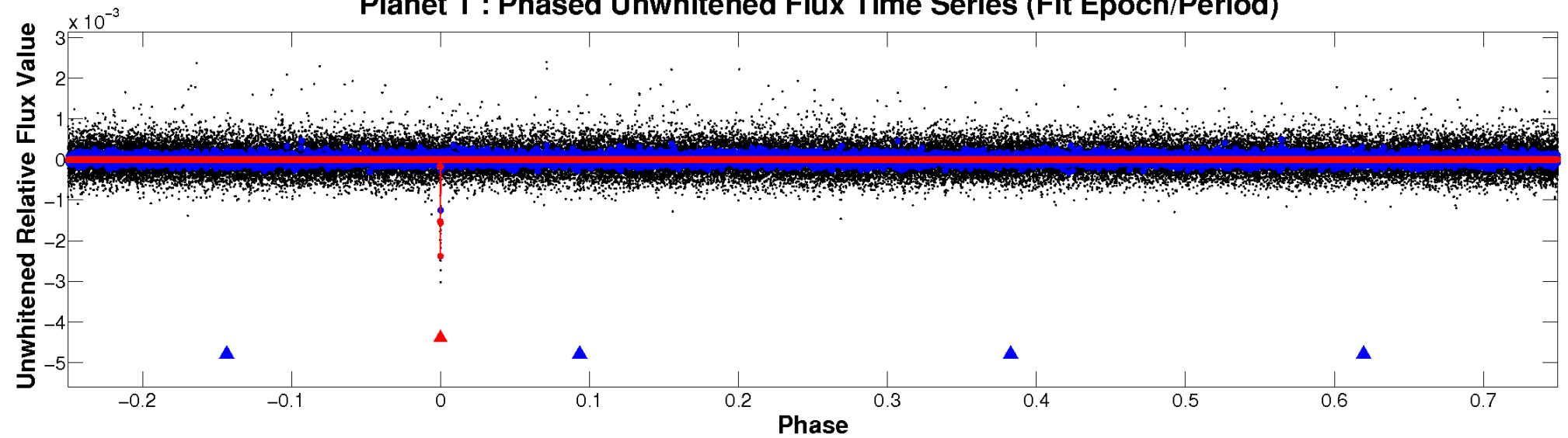
ALT Odd/Even

TCE 005809954-01

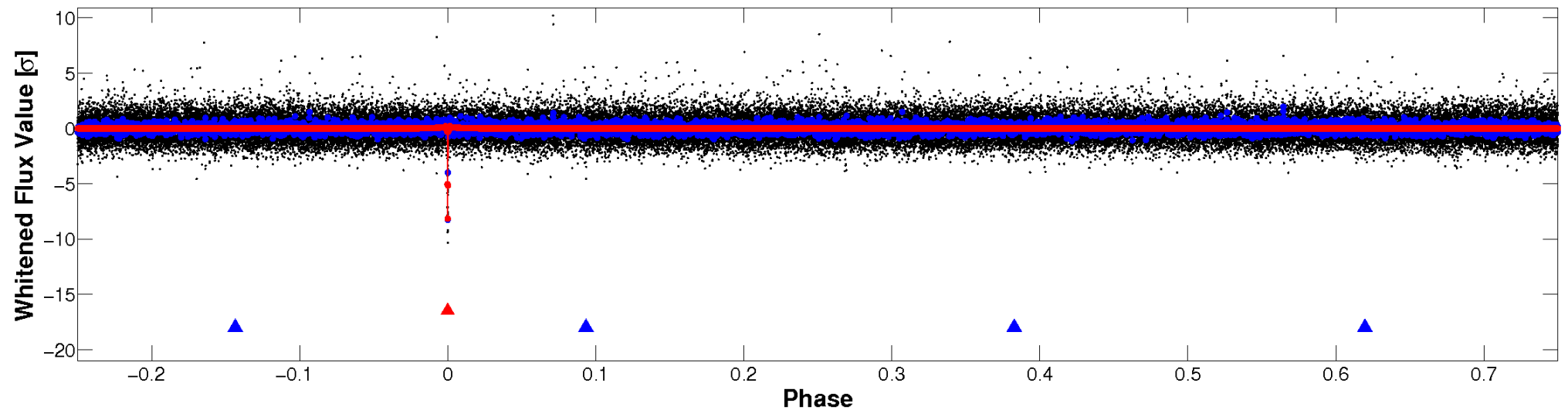


Non-Whitened Vs. Whitened Light Curve

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

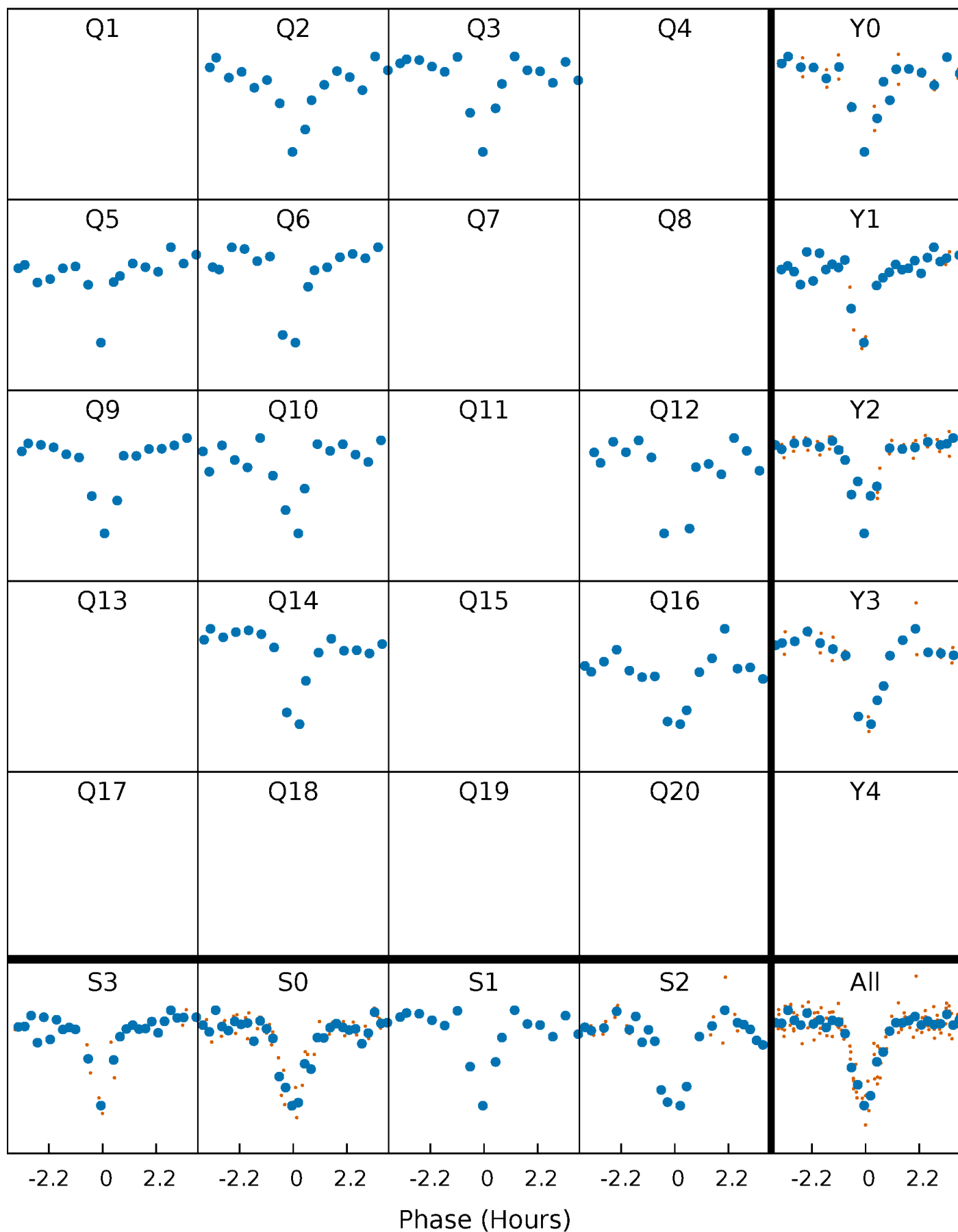


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



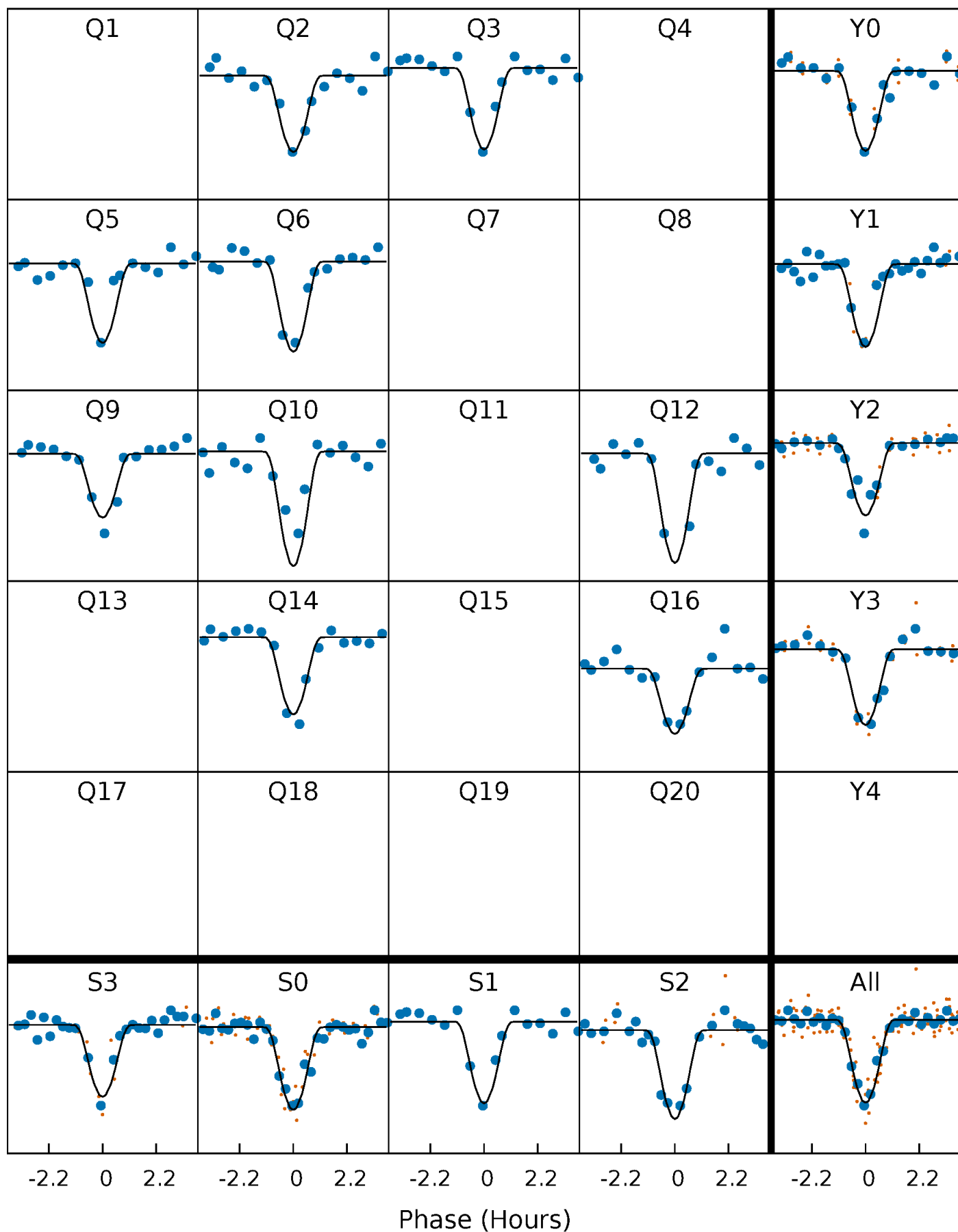
PDC Quarter-Phased Transit Curves

TCE 005809954-01 P=137.864095 Days $T_0=172.814981$ (BKJD)



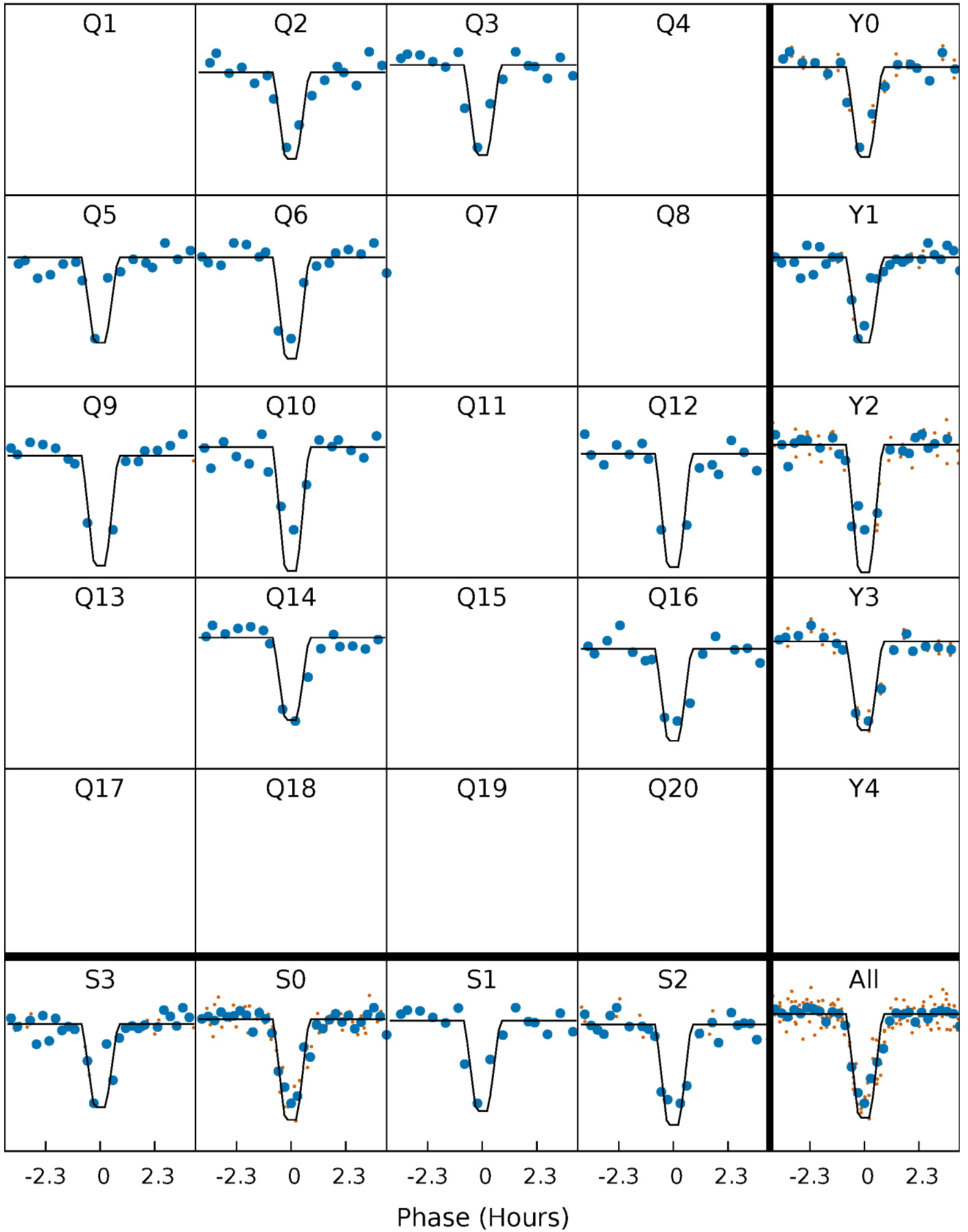
DV Quarter-Phased Transit Curves

TCE 005809954-01 P=137.864095 Days $T_0=172.814981$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

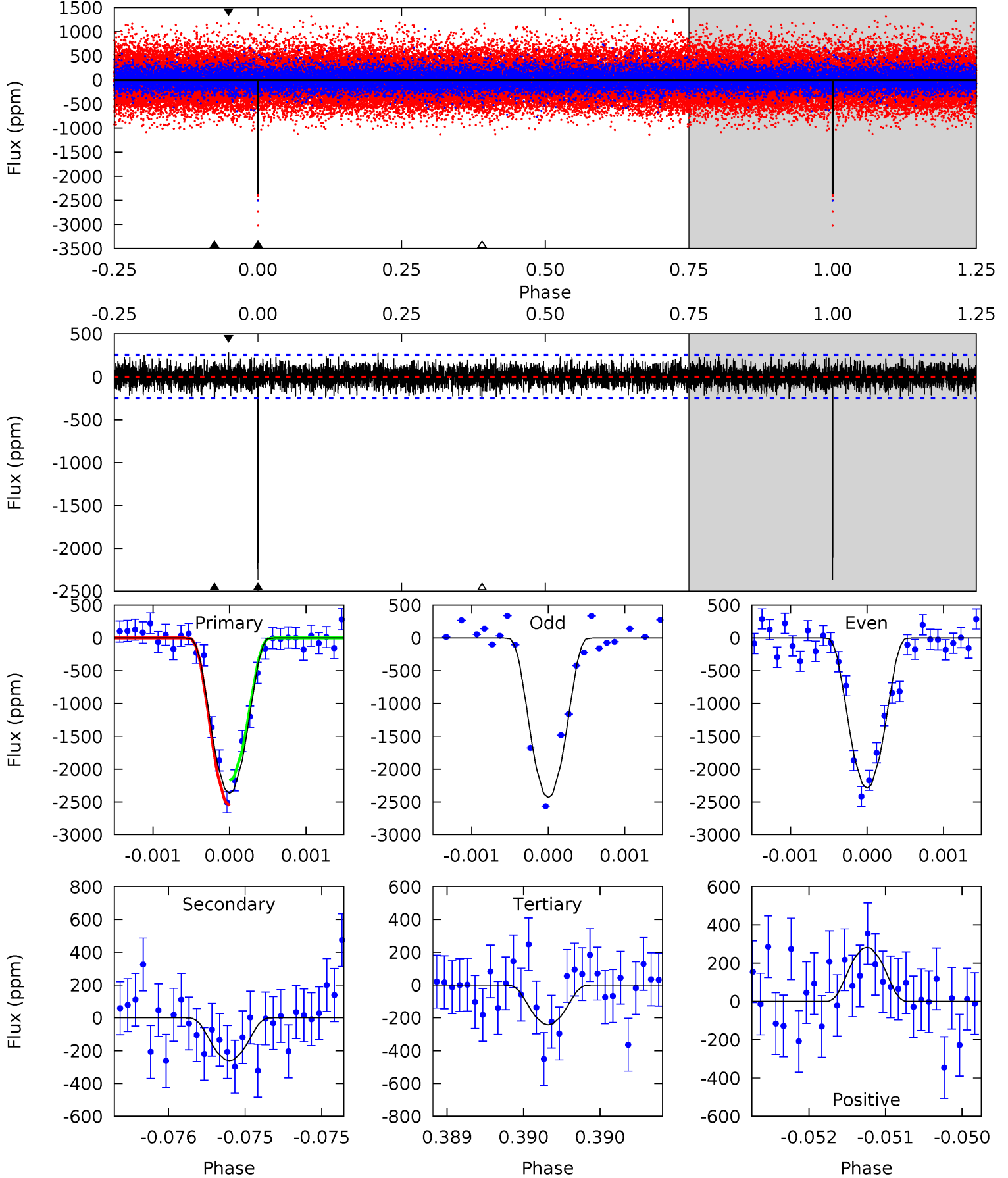
TCE 005809954-01 P=137.863710 Days $T_0=172.815379$ (BKJD)



DV Model-Shift Uniqueness Test

005809954-01, $P = 137.864095$ Days, $E = 34.950886$ Days

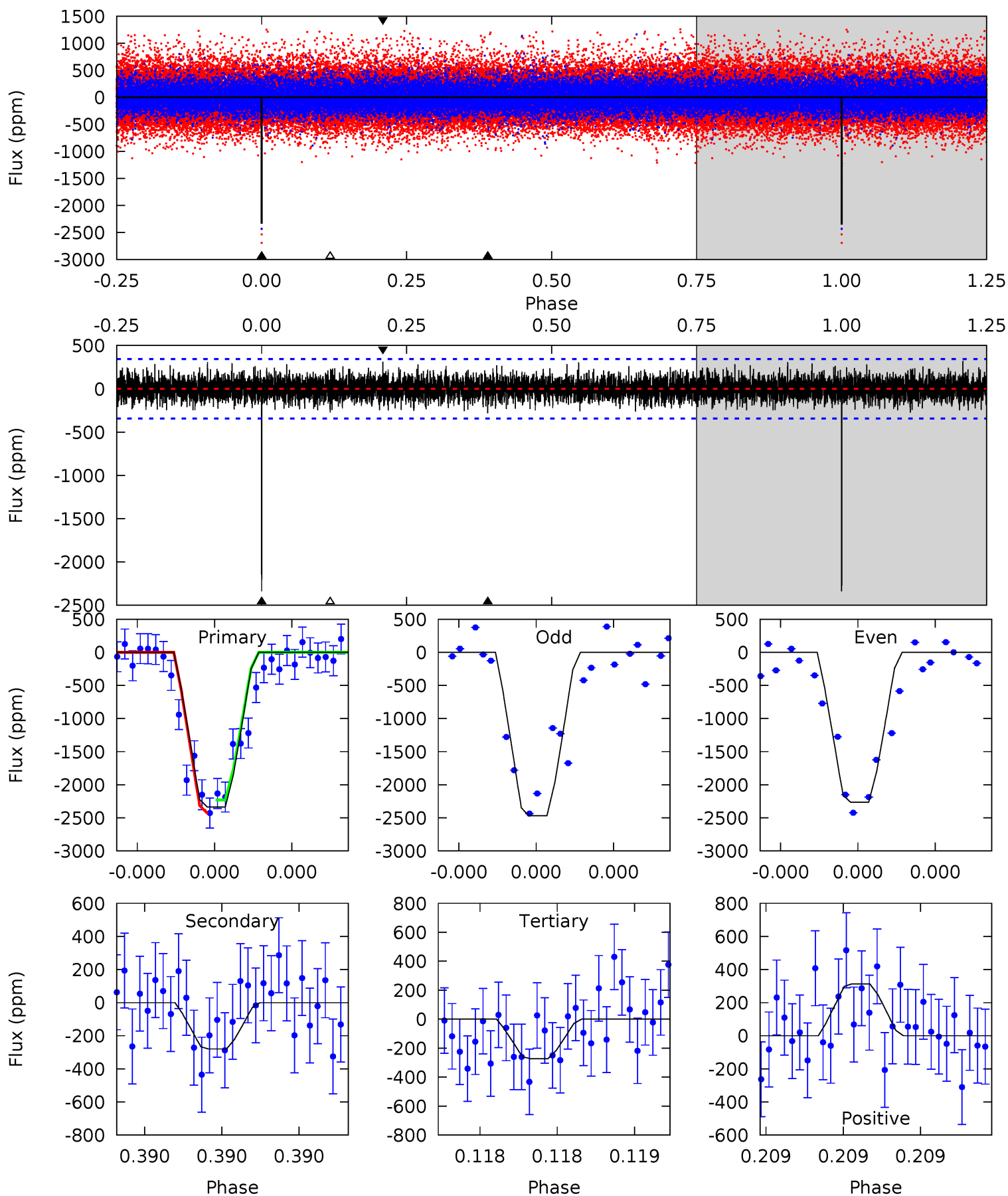
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
51.8	5.70	5.29	6.19	5.52	3.40	1.64	46.5	45.6	0.40	-0.49	1.57	0.99	0.11	4.17



Alt Model-Shift Uniqueness Test

005809954-01, P = 137.863710 Days, E = 34.951669 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.0	4.55	4.43	5.09	5.59	3.51	1.35	33.5	32.9	0.12	-0.55	1.62	1.06	0.12	1.64



Stellar Parameters For KIC 005809954

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3645^{+72}_{-90}	$4.797^{+0.071}_{-0.038}$	$-0.080^{+0.150}_{-0.150}$	$0.449^{+0.040}_{-0.061}$	$0.460^{+0.043}_{-0.059}$	$7.173^{+2.620}_{-1.105}$
	+2%/-2%	+1%/-1%	+188%/-188%	+9%/-14%	+9%/-13%	+37%/-15%
Source	SPE70	PHO16	SPE70	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 005809954-01 / KOI 1902.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-260 ± 46	$4.09^{+3.02}_{-2.59}$	235^{+7}_{-8}	2320^{+644}_{-278}	1414^{+8582}_{-957}
Alt.	-280 ± 62	$3.44^{+2.73}_{-2.26}$	235^{+7}_{-8}	2427^{+833}_{-316}	2054^{+15784}_{-1420}

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

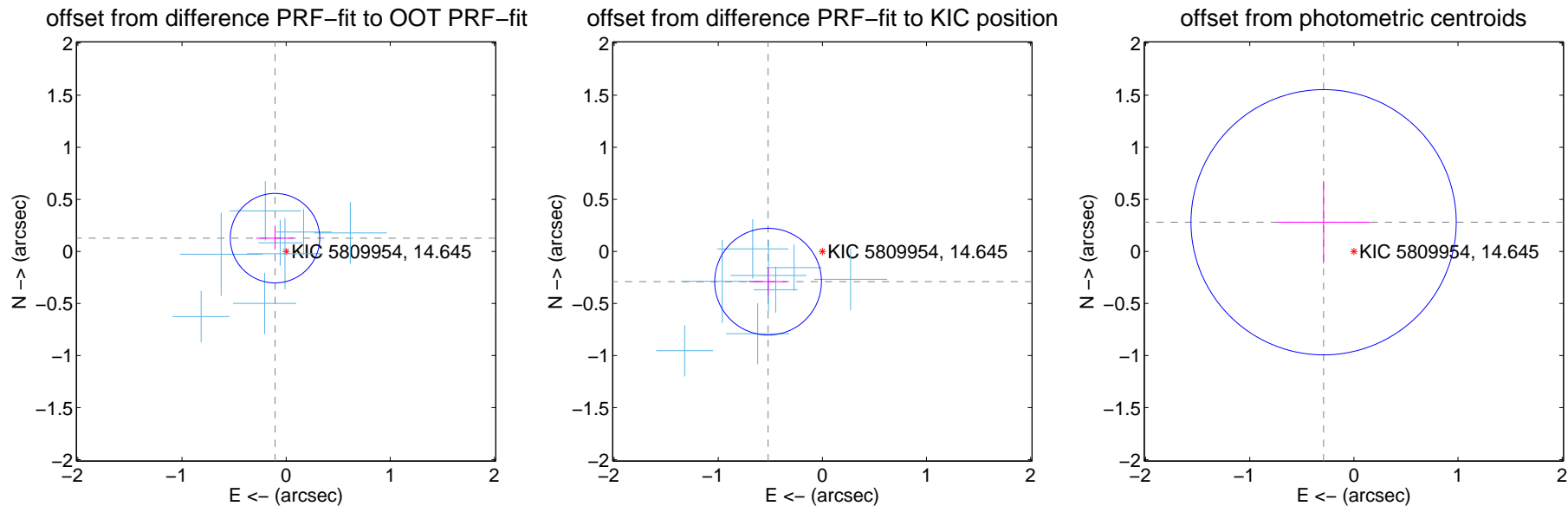
DV Centroid Data

Supplemental centroid analysis for 005809954-01. Kepler magnitude: 14.64. Transit SNR 29.16

There are 8 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.59 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.166 ± 0.143	1.16	0.107 ± 0.180	0.127 ± 0.110
PRF-fit source offset from KIC position	0.597 ± 0.171	3.50	0.522 ± 0.180	-0.290 ± 0.136
photometric centroid source offset	0.40 ± 0.42	0.95	0.29 ± 0.45	0.28 ± 0.40



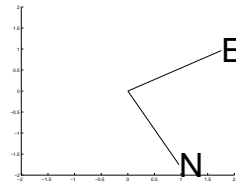
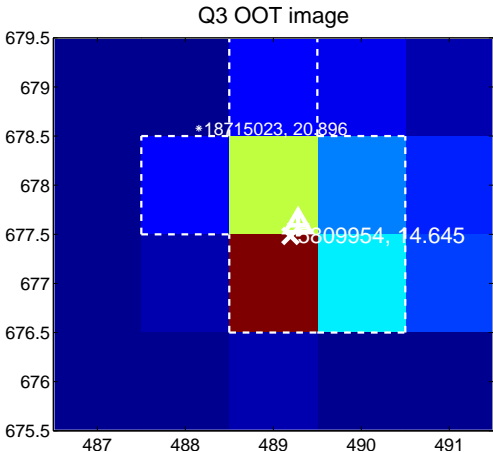
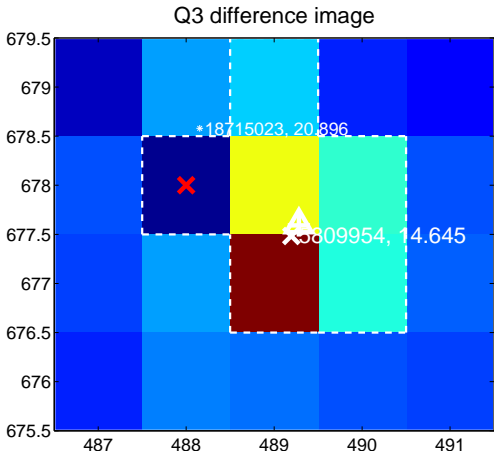
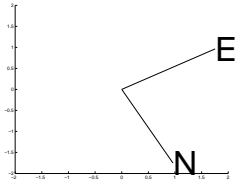
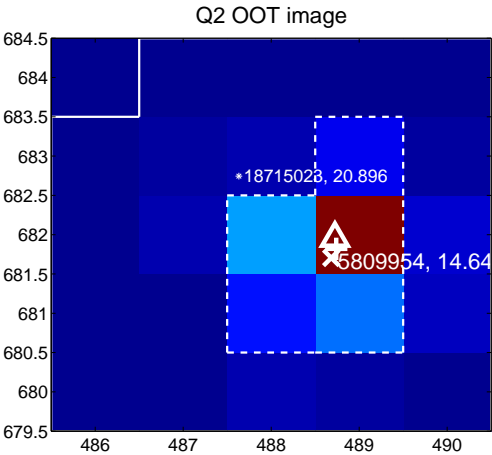
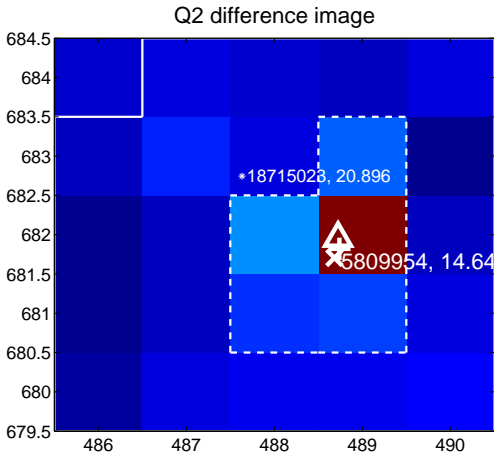
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

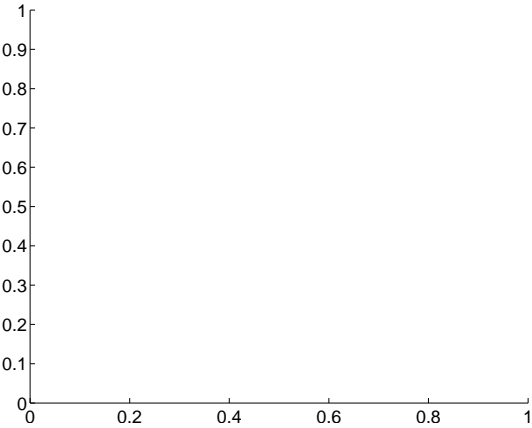
Q1 no difference image



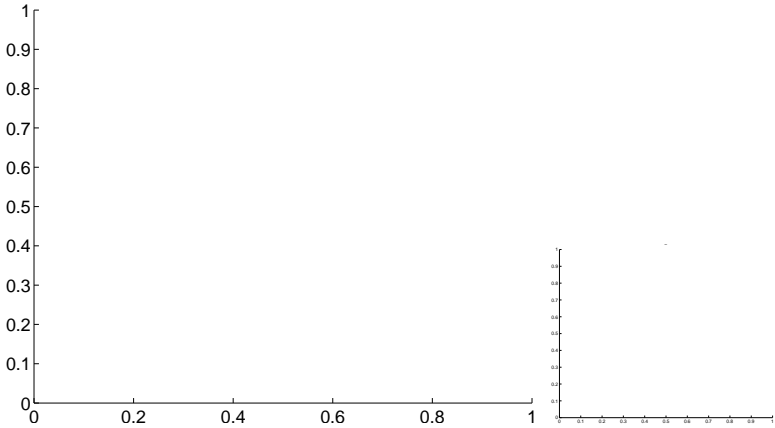
Q1 no OOT image



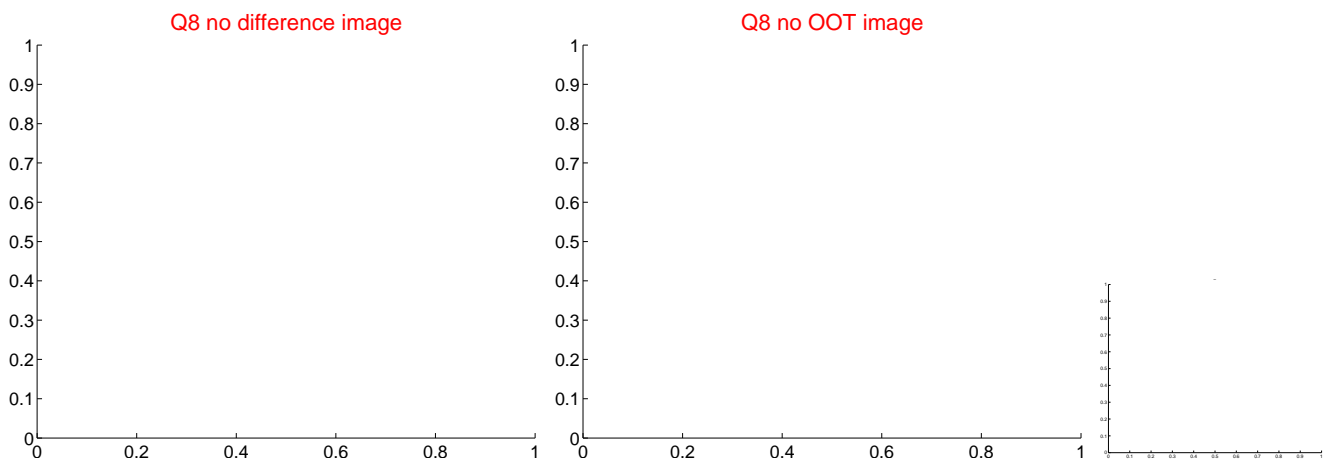
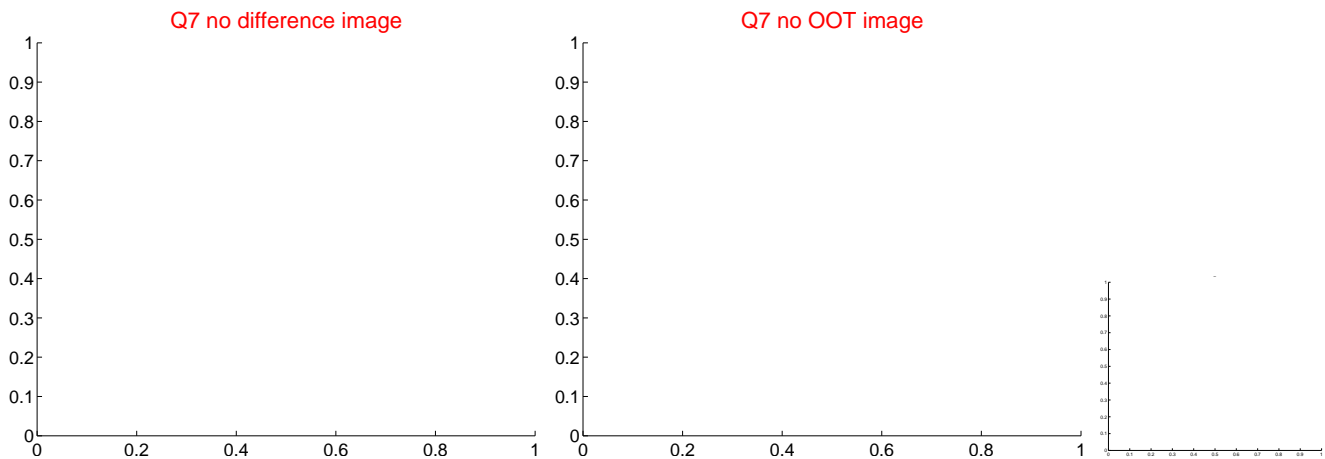
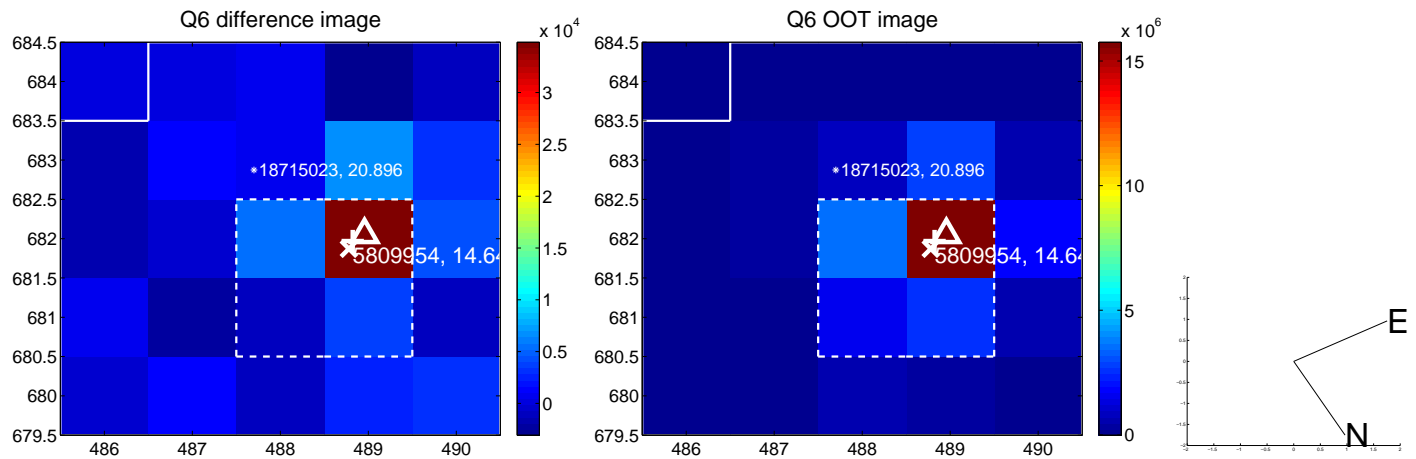
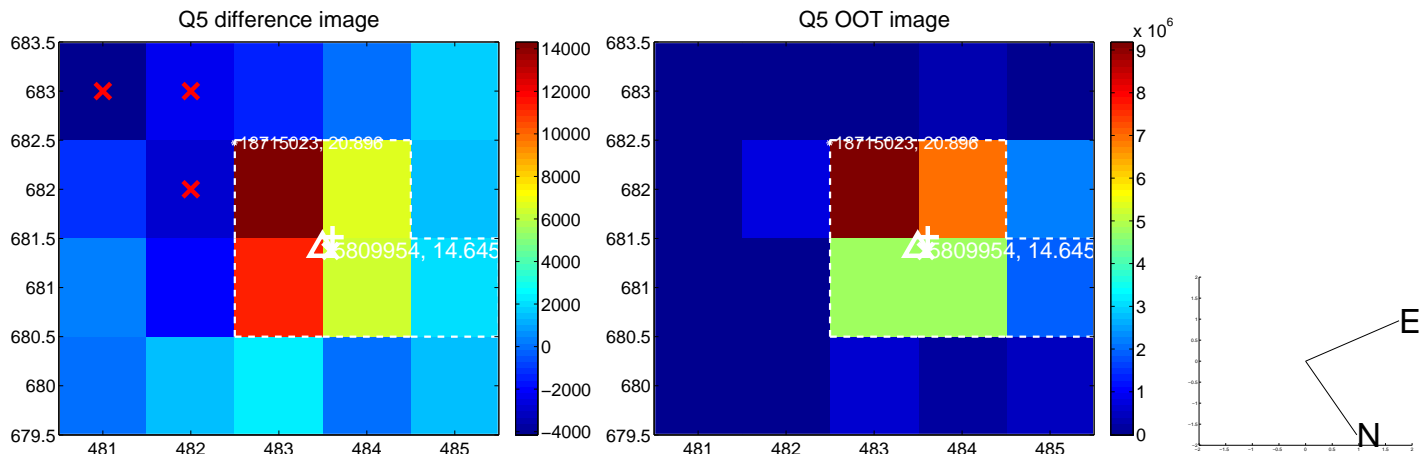
Q4 no difference image



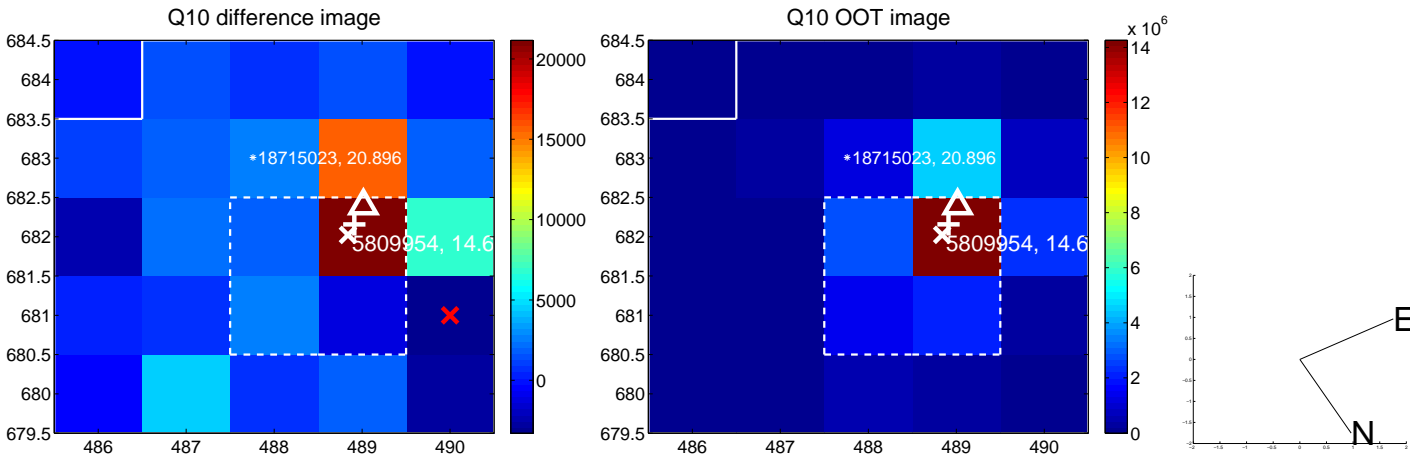
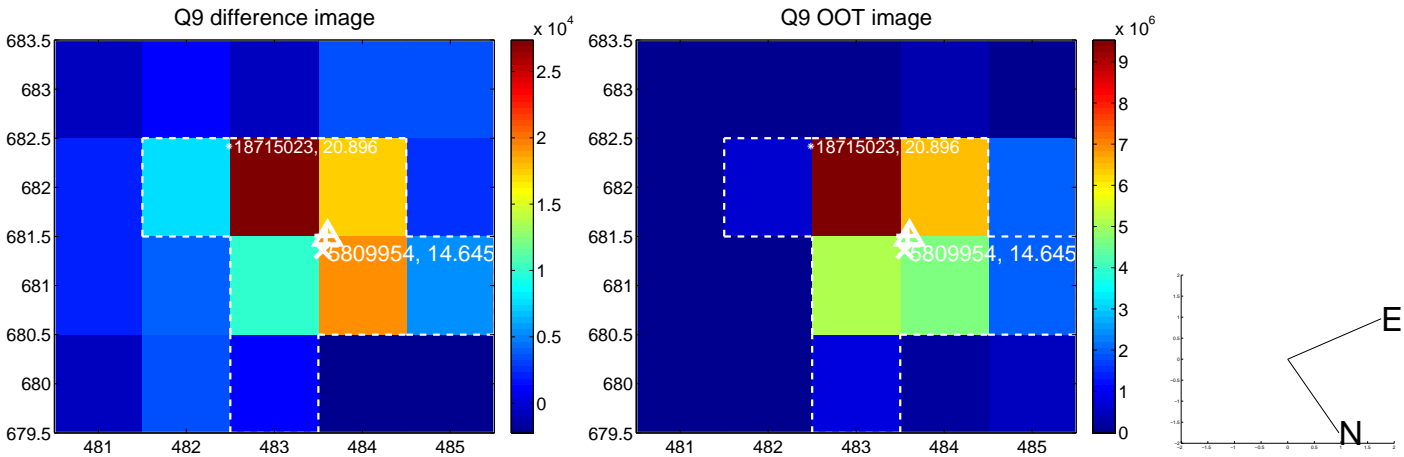
Q4 no OOT image



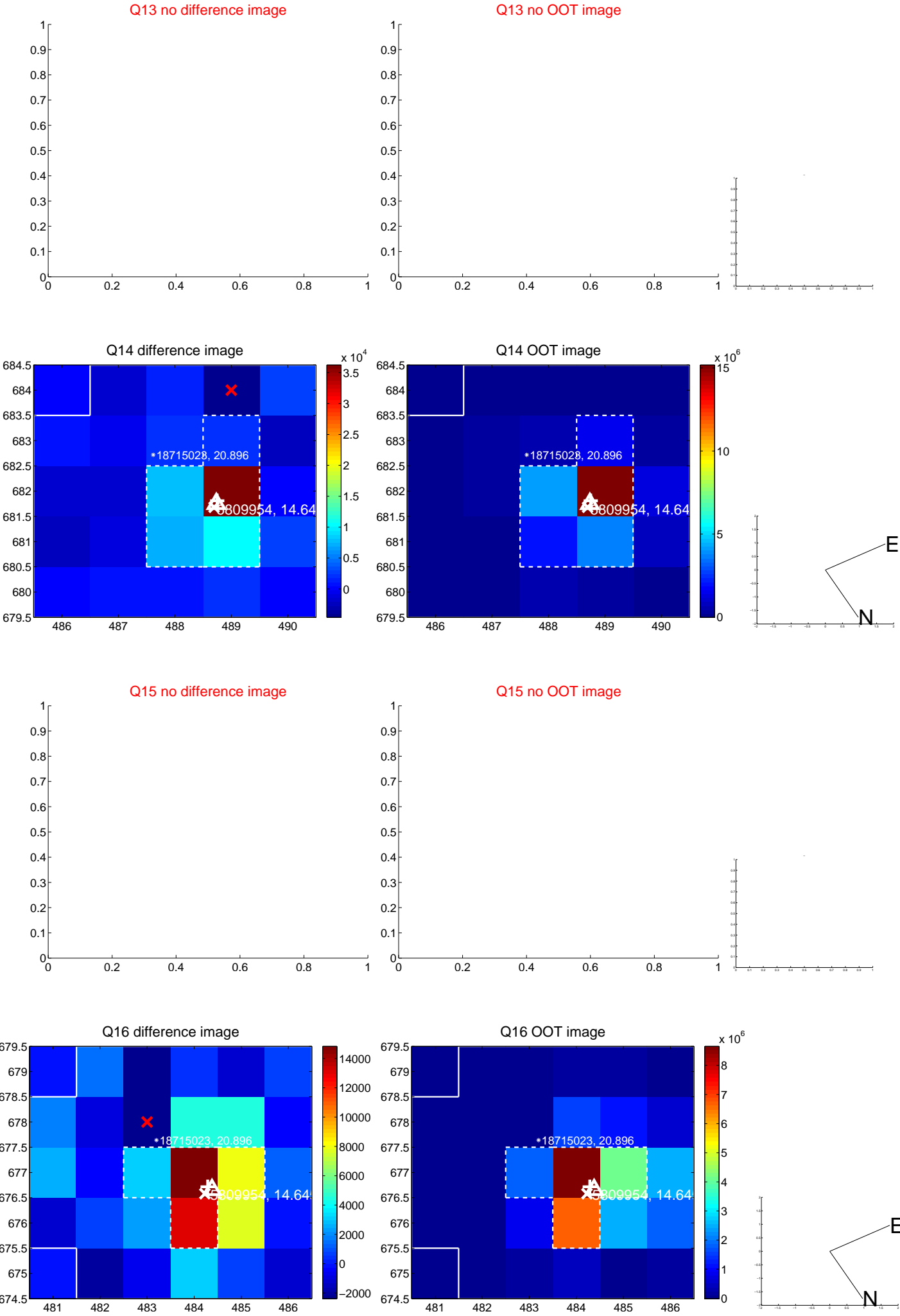
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



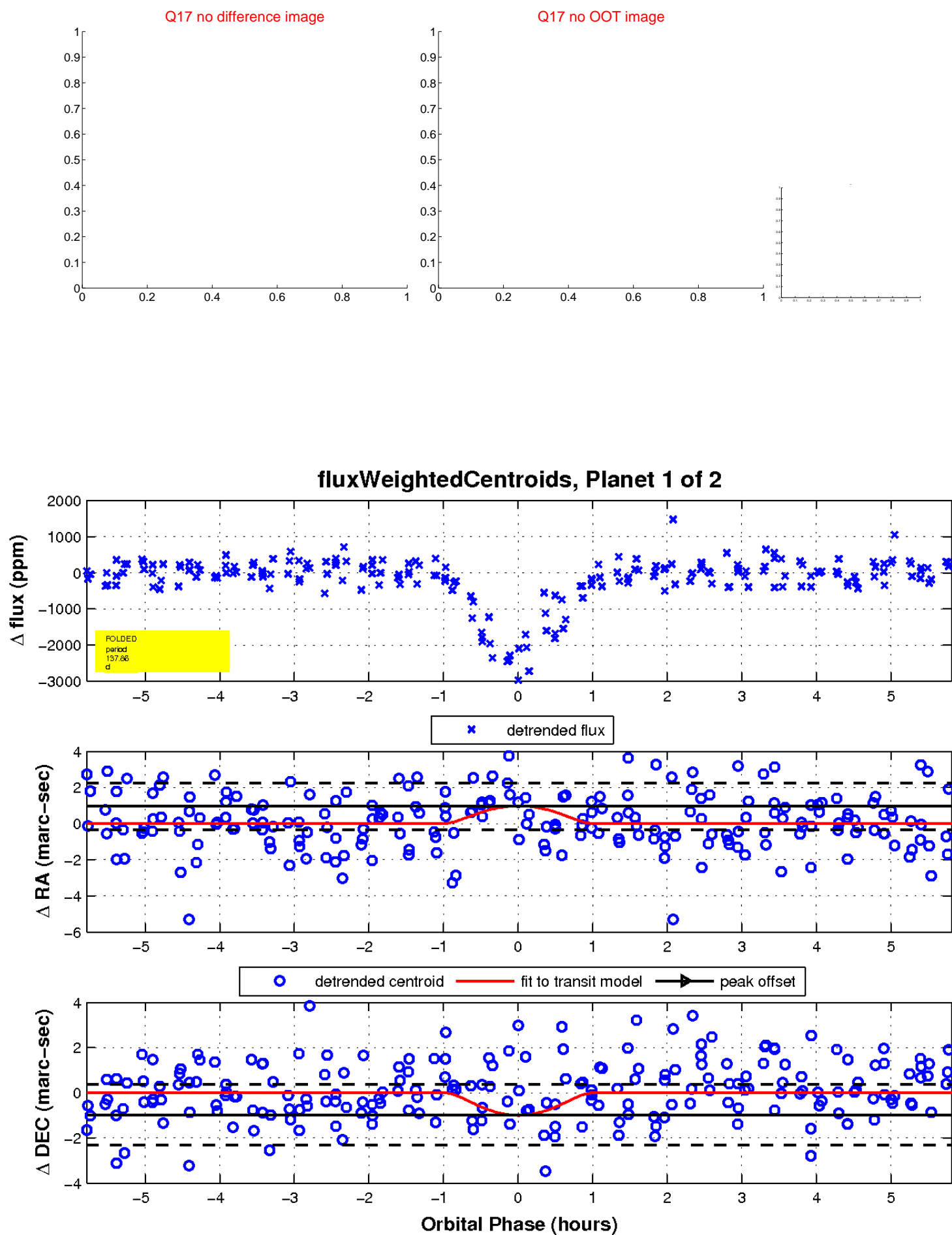
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

