

KIC 005636642

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})
005636642-01	OBS	3817.01	0.933490	132.099570	11584.0	1.391	343.6	260.9	1.08	5758	14.74	3635.14
005636642-02	OBS	No	0.933499	131.620369	14258.4	1.500	258.4	-1.0	1.08	5758	12.92	3635.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005636642-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_KIC_POS
005636642-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS

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 005636642-01

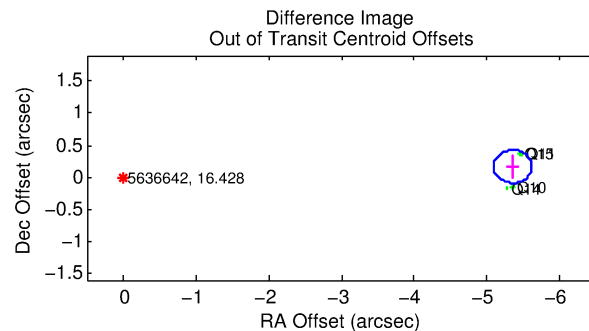
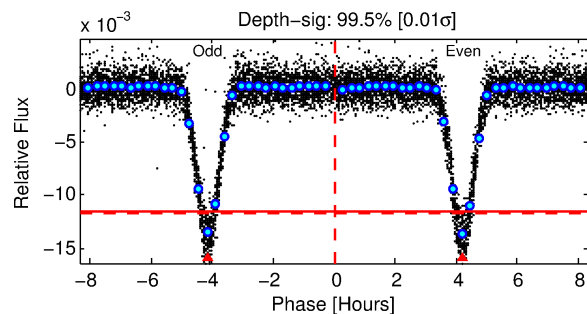
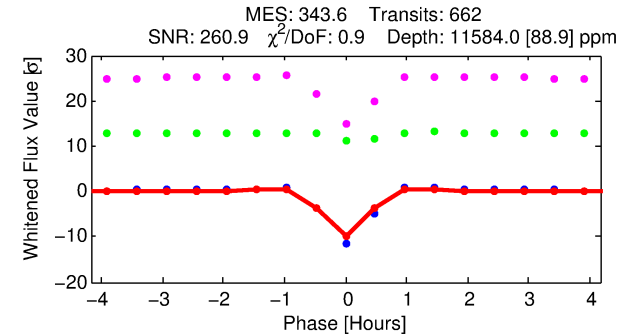
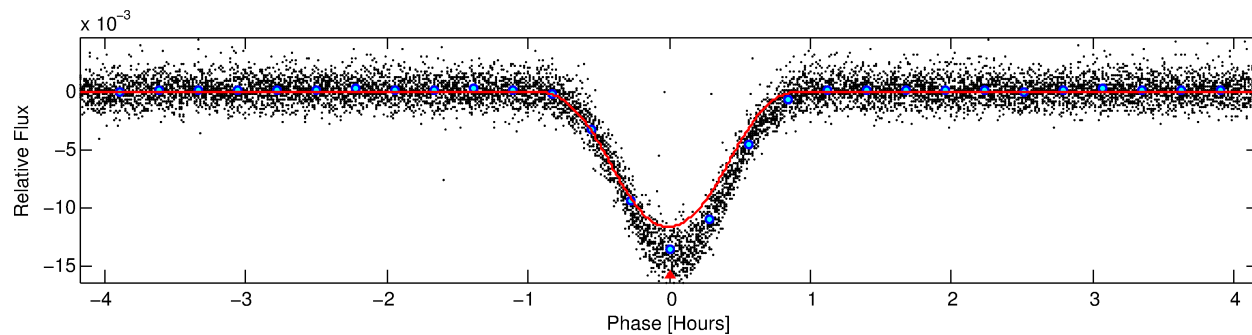
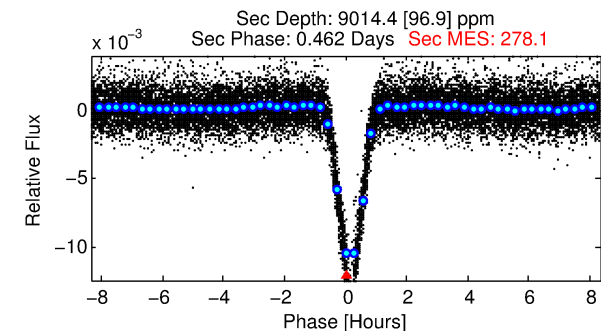
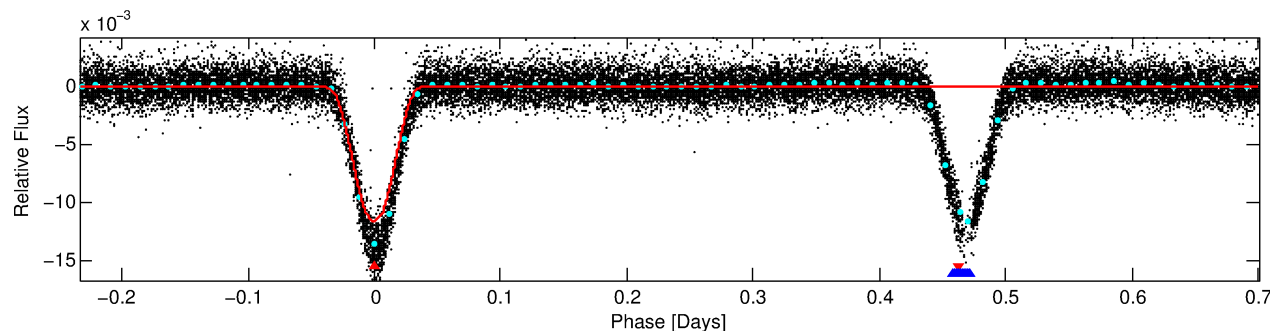
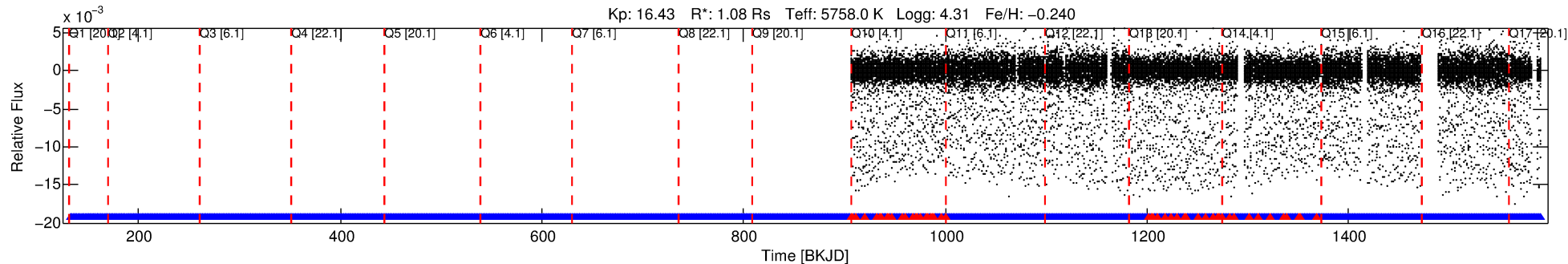
No Significant Match Found

DV One-Page Summary

KIC: 5636642 Candidate: 1 of 2 Period: 0.933 d

KOI: K03817.01 Corr: 0.973

Kp: 16.43 R*: 1.08 Rs Teff: 5758.0 K Logg: 4.31 Fe/H: -0.240



DV Fit Results:

Period = 0.93349 [0.00000] d
Epoch = 132.0996 [0.0001] BKJD
Rp/R* = 0.1246 [0.0067]
a/R* = 3.60 [0.10]
b = 0.90 [0.02]
Seff = 3635.14 [1387.86]
Teq = 1980 [189] K
Rp = 14.74 [4.17] Re
a = 0.0178 [0.0043] AU
Ag = 7.26 [2.72] [2.30σ]
Teff = 5026 [214] K [10.67σ]

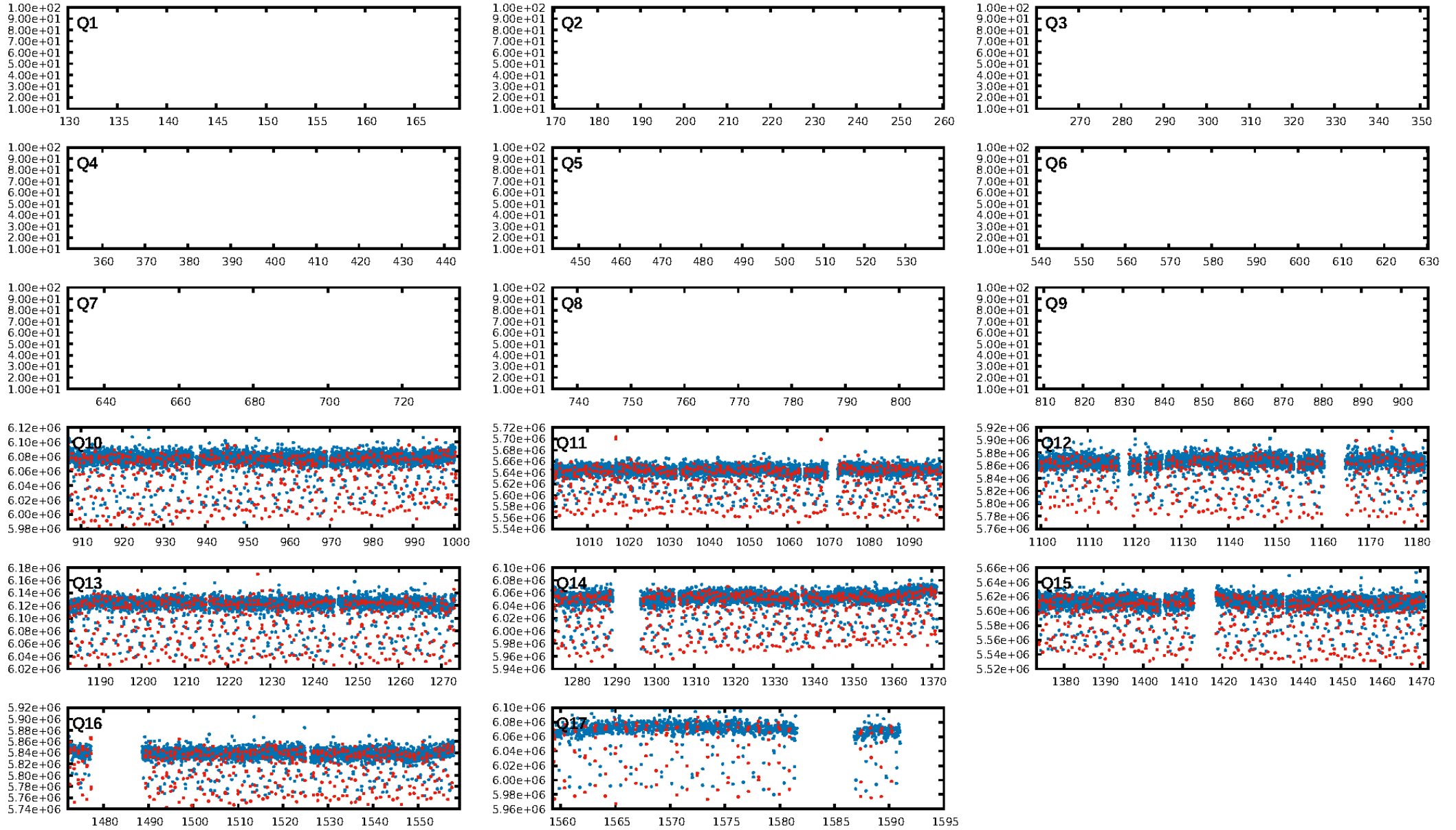
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.92 [583/634]
GhostDiagnostic-chr: 10.49
Centroid-sig: 0.0%
Centroid-so: 2.368 arcsec [112.65σ]
OotOffset-rm: 5.357 arcsec [62.29σ]
KicOffset-rm: 0.188 arcsec [2.61σ]
OotOffset-st: 2/2/0/0 [4]
KicOffset-st: 2/2/2/2 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [8/8]

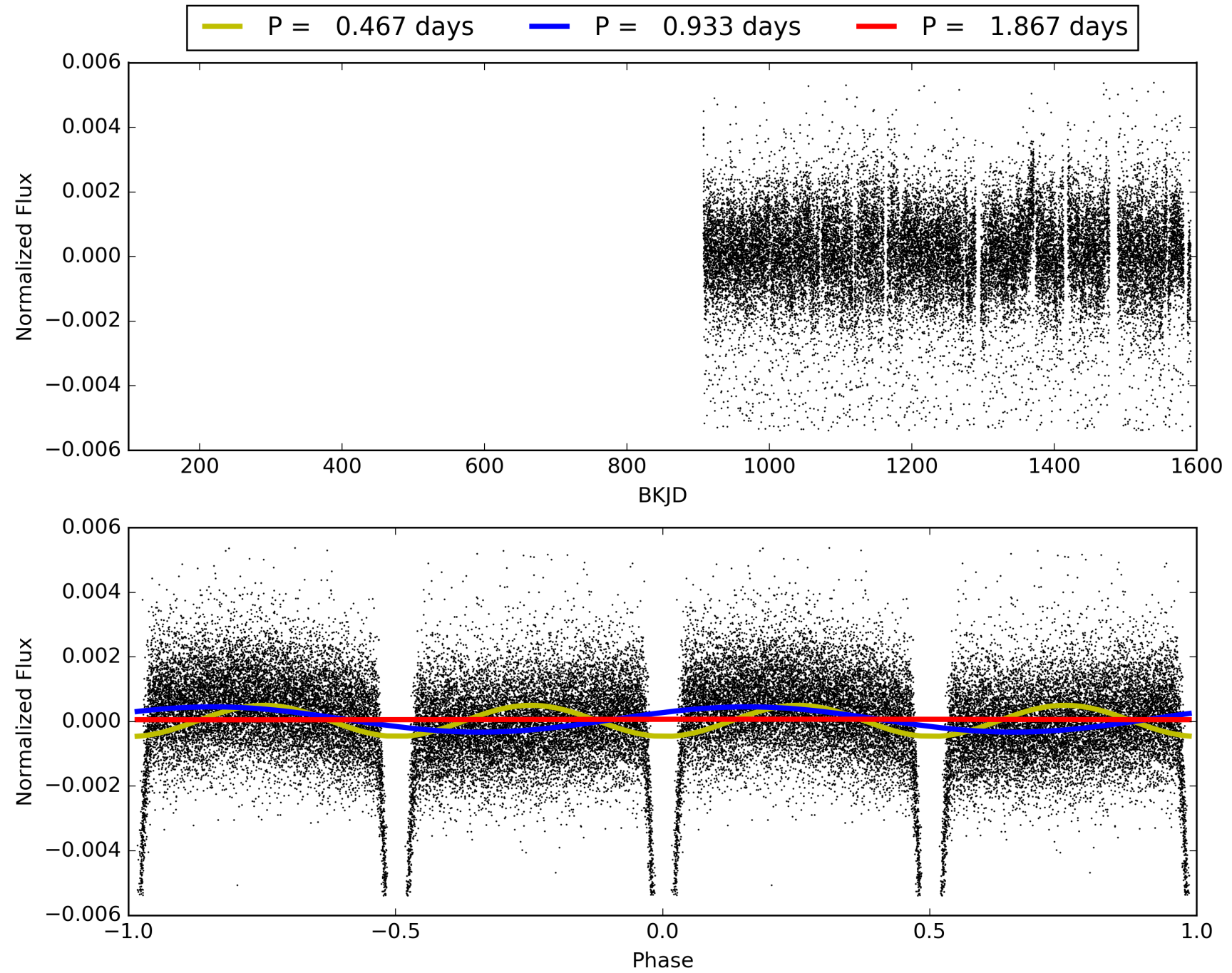
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 07:45:43 Z

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

TCE 005636642-01, PDC Light Curves

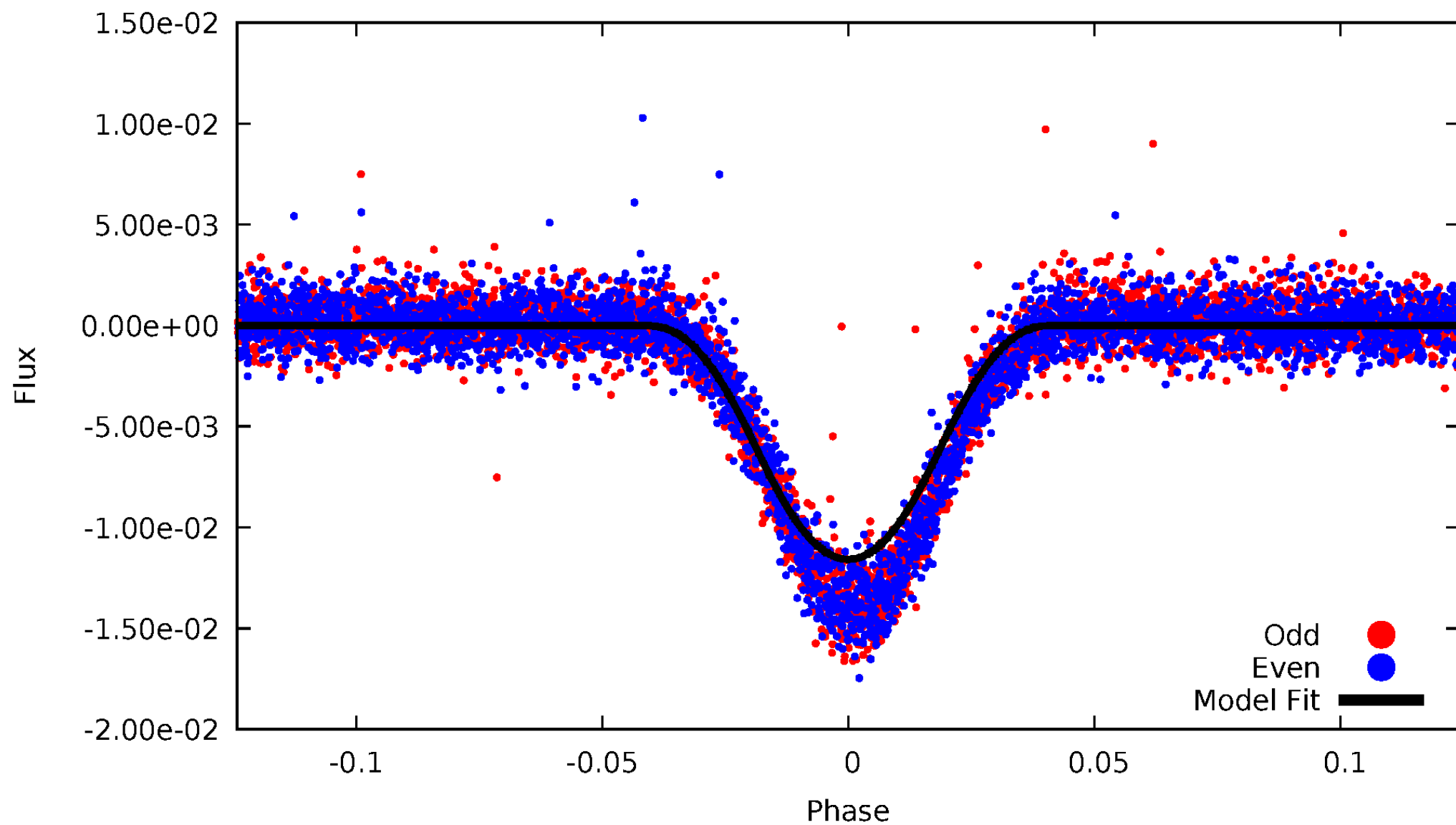


TCE 005636642-01



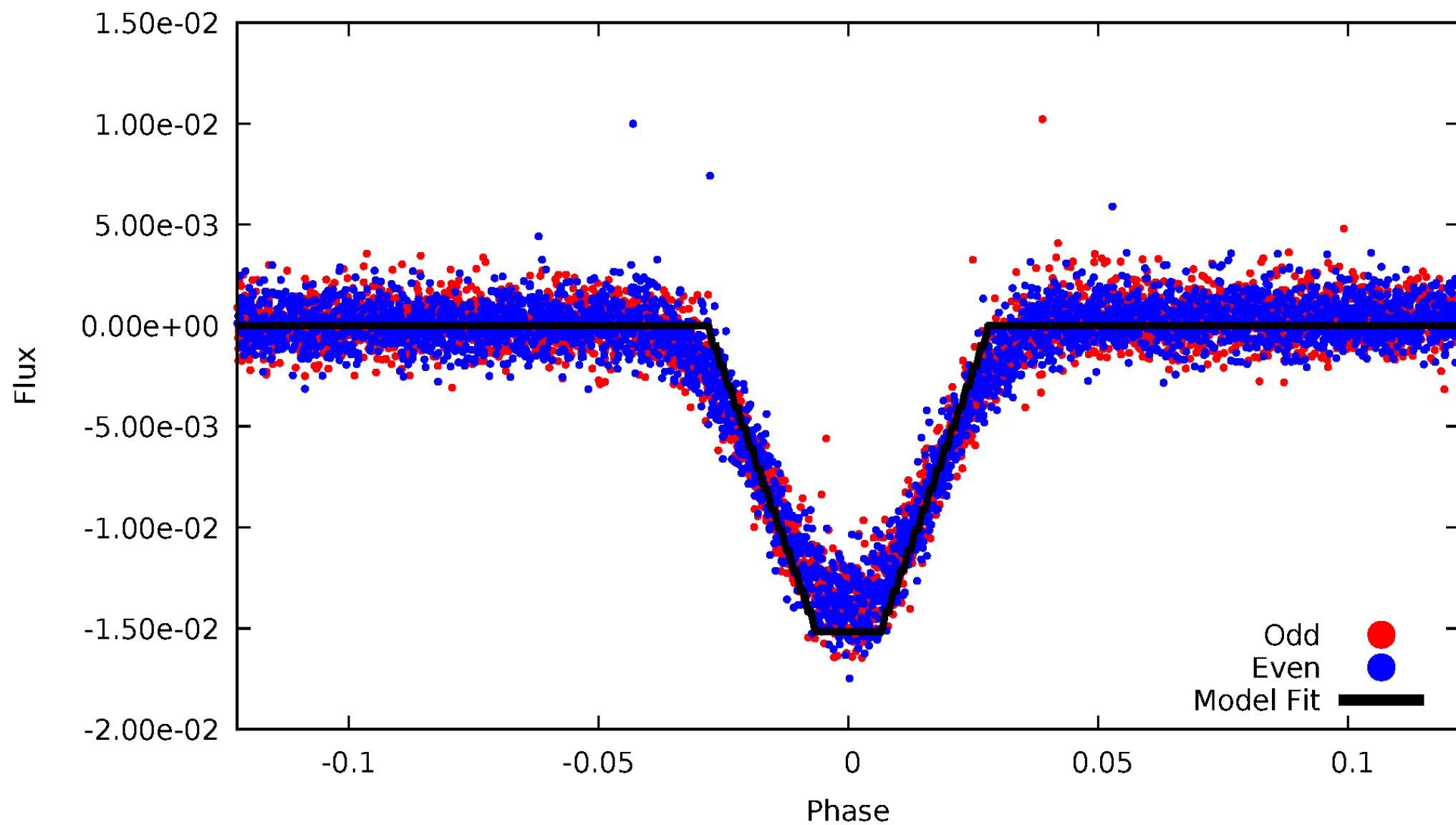
DV Odd/Even

TCE 005636642-01



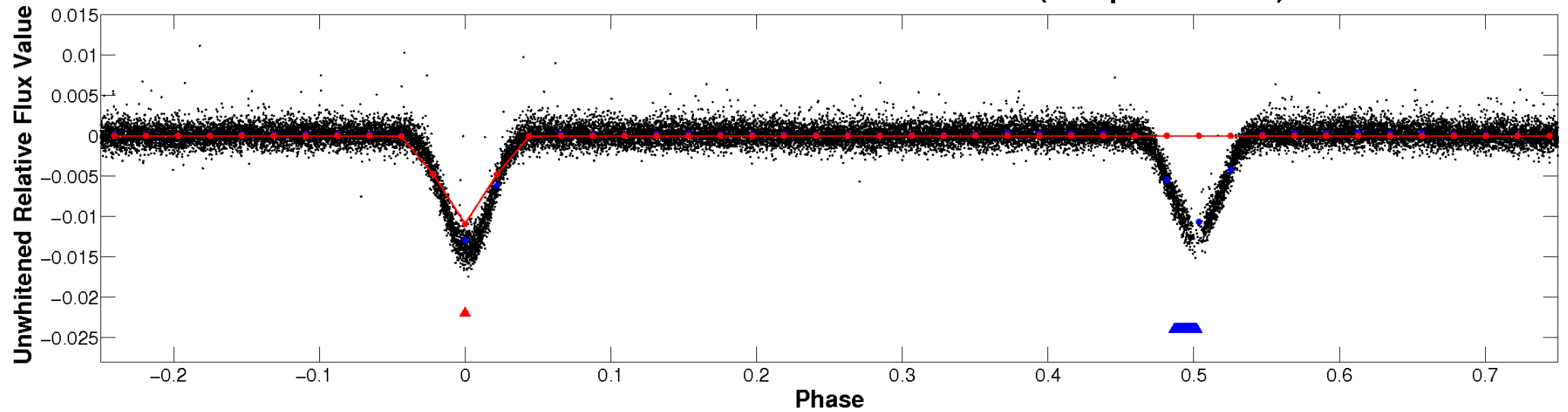
ALT Odd/Even

TCE 005636642-01

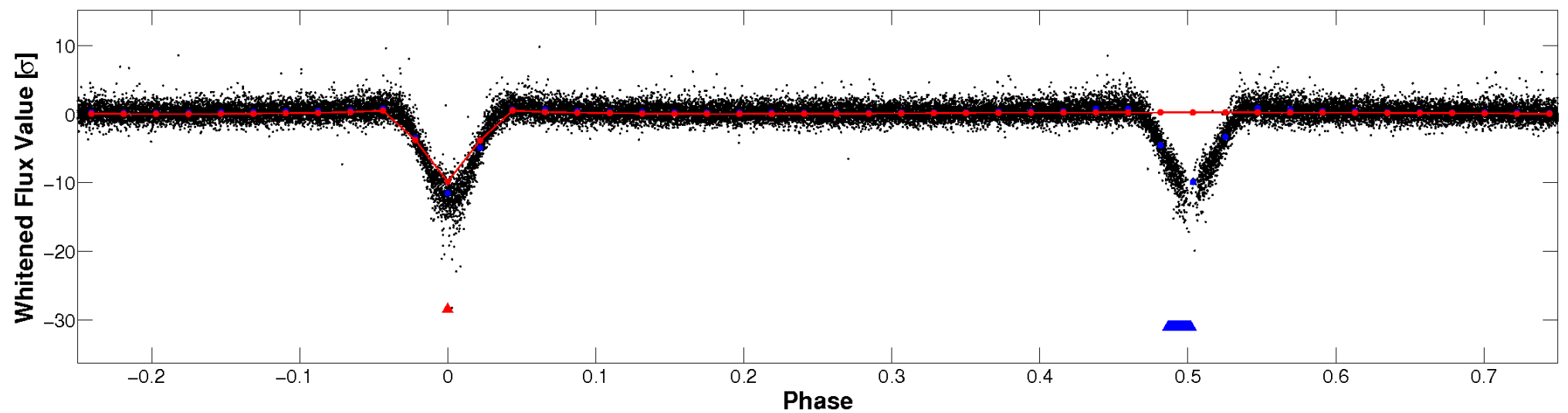


Non-Whitened Vs. Whitened Light Curve

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

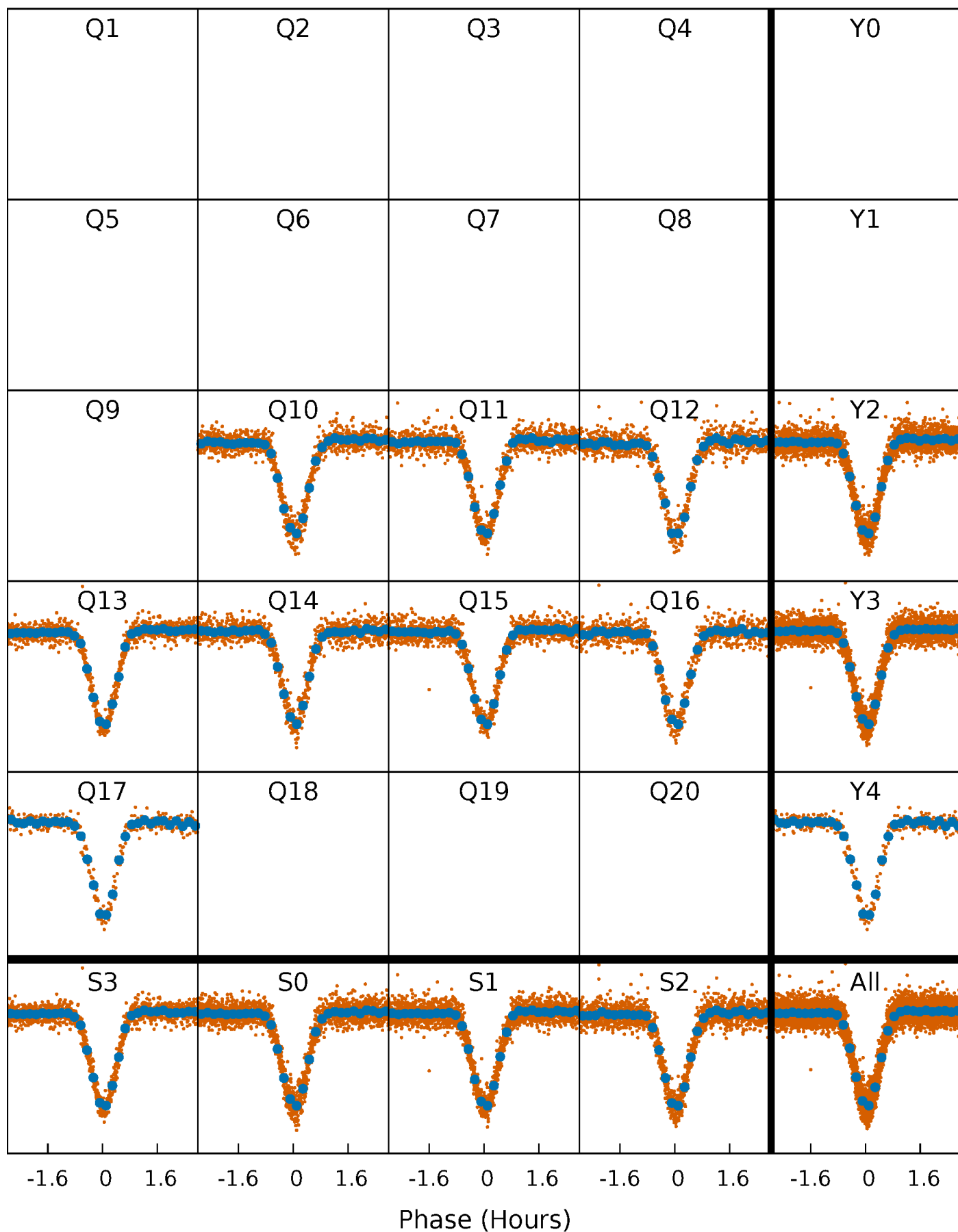


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



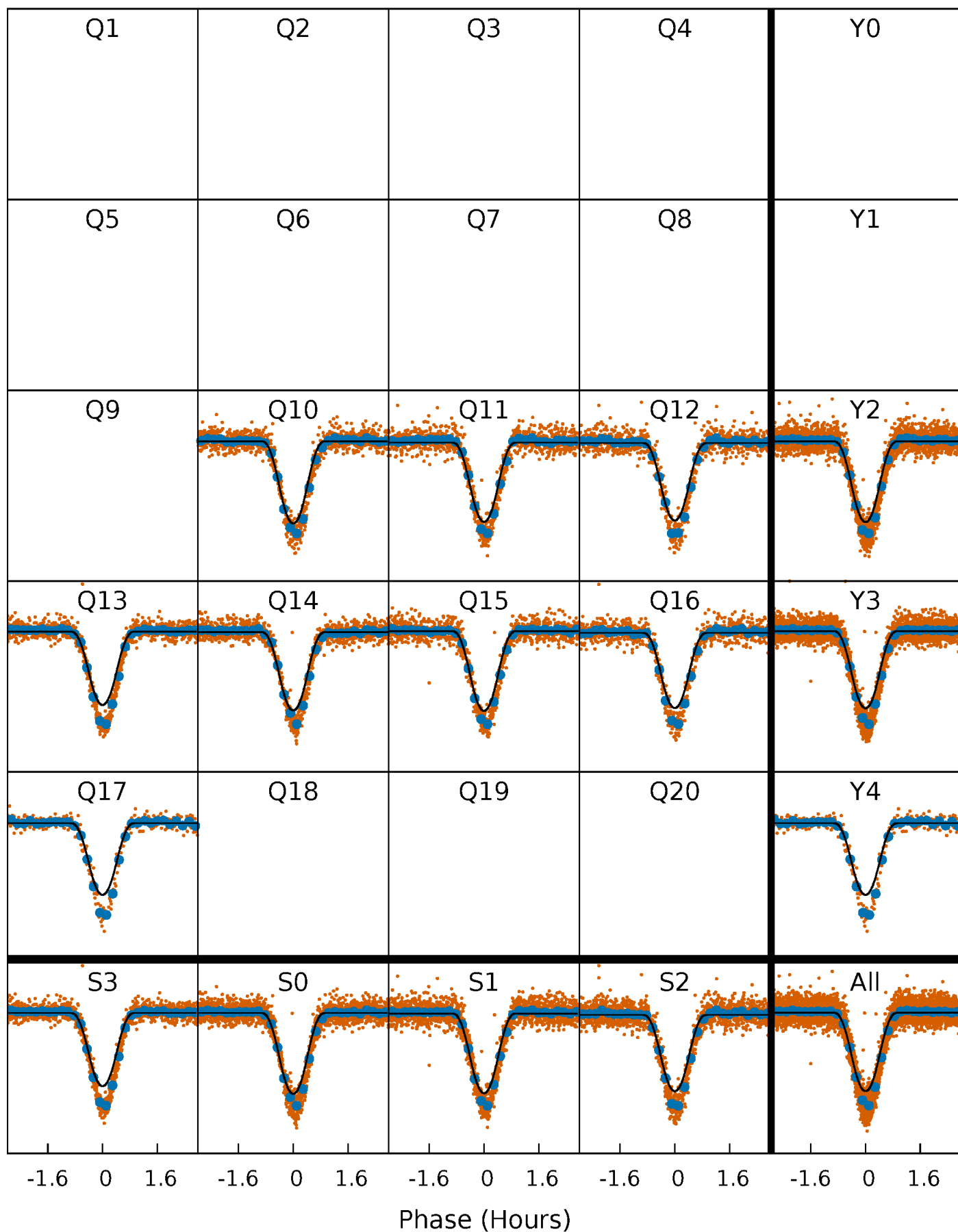
PDC Quarter-Phased Transit Curves

TCE 005636642-01 P= 0.933490 Days $T_0=132.099570$ (BKJD)



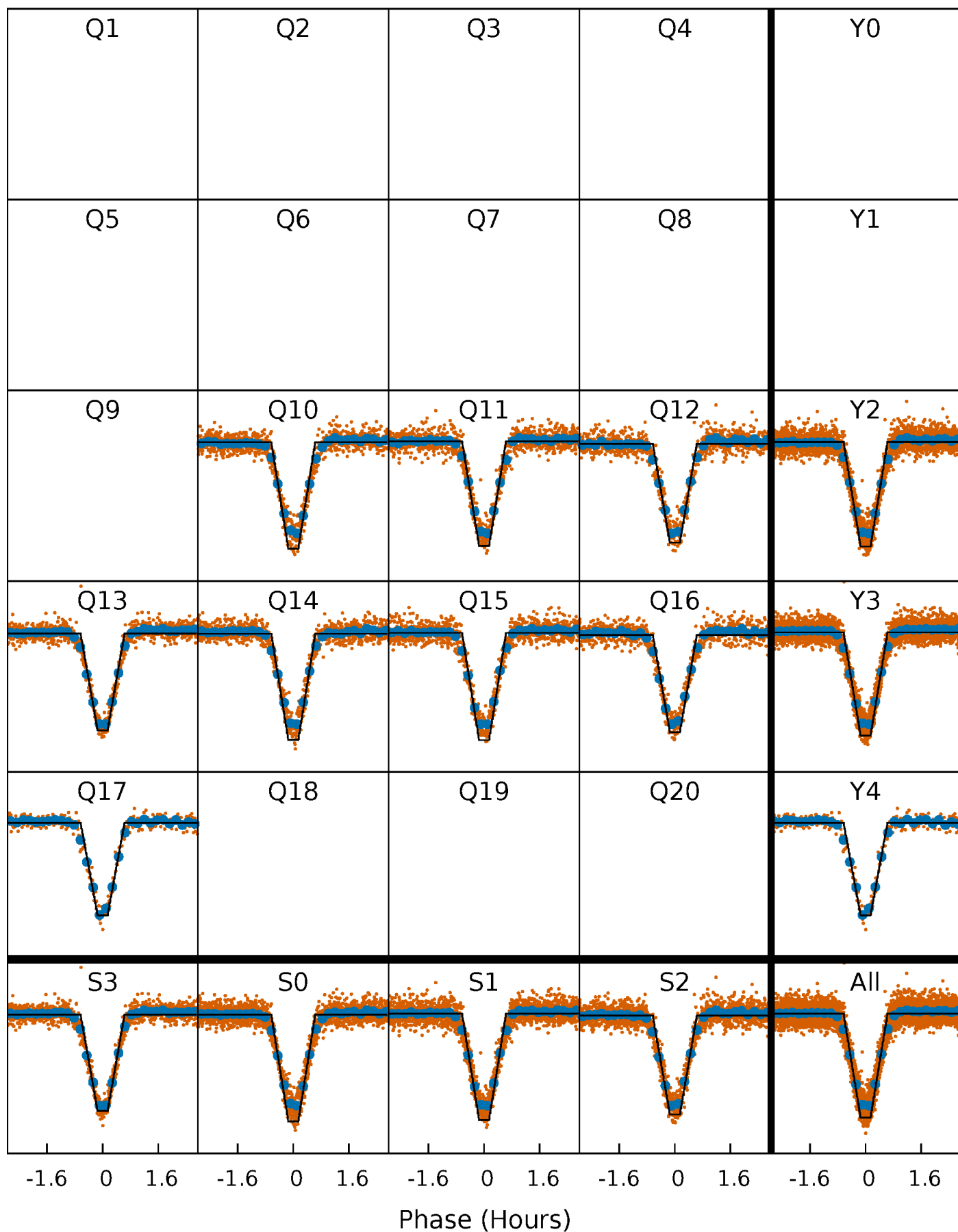
DV Quarter-Phased Transit Curves

TCE 005636642-01 P= 0.933490 Days $T_0=132.099570$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

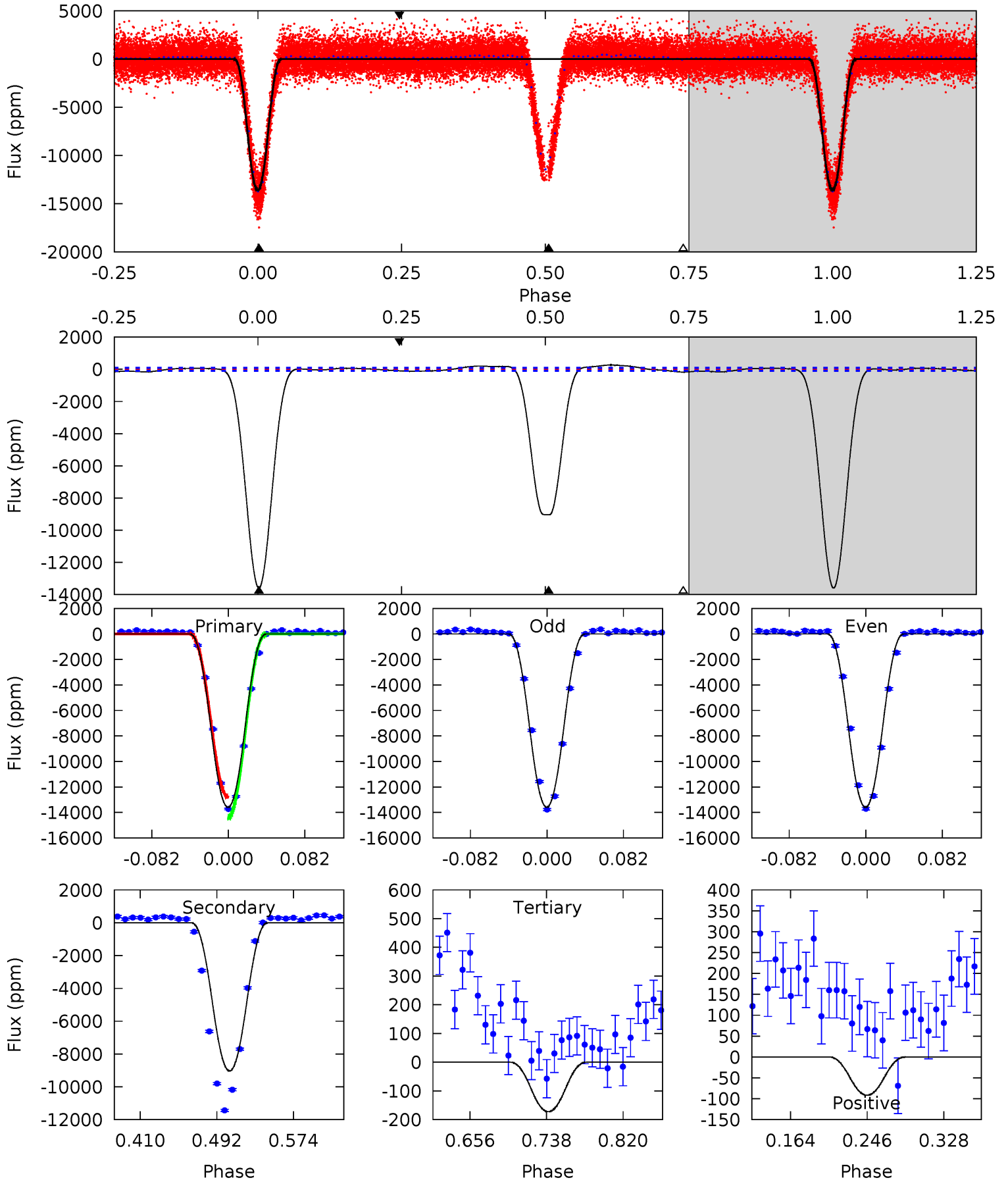
TCE 005636642-01 P= 0.933491 Days $T_0=132.099552$ (BKJD)



DV Model-Shift Uniqueness Test

005636642-01, P = 0.933490 Days, E = 132.099570 Days

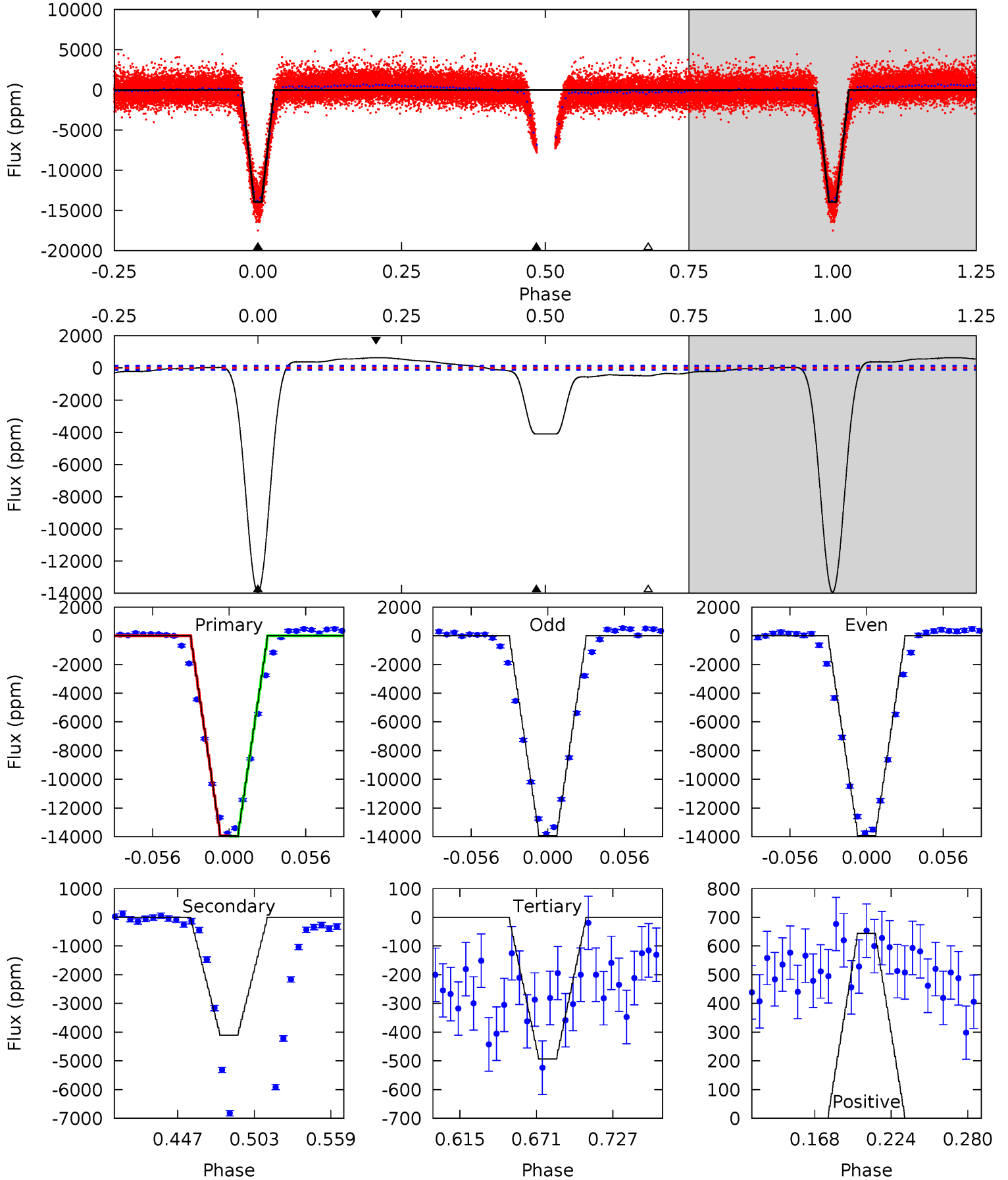
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
664.1	441.6	8.42	-4.47	4.61	1.74	5.79	655.7	668.6	433.1	446.0	0.30	1.00	0.02	39.7



Alt Model-Shift Uniqueness Test

005636642-01, P = 0.933491 Days, E = 132.099552 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
531.8	156.7	18.9	24.6	4.69	1.91	15.7	512.9	507.2	137.9	132.2	0.09	1.00	0.04	0.52



Stellar Parameters For KIC 005636642

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5758^{+172}_{-189}	$4.307^{+0.200}_{-0.200}$	$-0.240^{+0.300}_{-0.300}$	$1.084^{+0.301}_{-0.246}$	$0.869^{+0.130}_{-0.080}$	$0.961^{+0.958}_{-0.475}$
	+3%/-3%	+5%/-5%	+125%/-125%	+28%/-23%	+15%/-9%	+100%/-49%
Source	KIC0	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 005636642-01 / KOI 3817.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-9038 ± 20	$14.87^{+2.57}_{-2.12}$	2769^{+224}_{-205}	5058^{+184}_{-173}	$7.289^{+2.611}_{-1.928}$
Alt.	-4106 ± 26	$14.58^{+2.66}_{-1.95}$	2771^{+214}_{-194}	4295^{+167}_{-150}	$3.405^{+1.147}_{-0.896}$

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

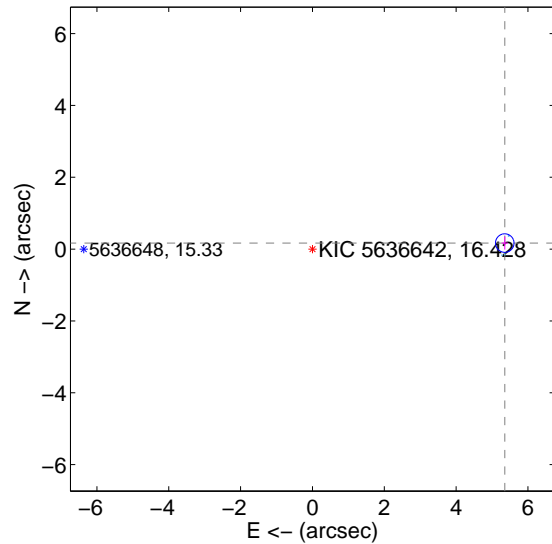
Supplemental centroid analysis for 005636642-01. Kepler magnitude: 16.43. Transit SNR 260.94

There are 8 quarters with good PRF difference image offsets

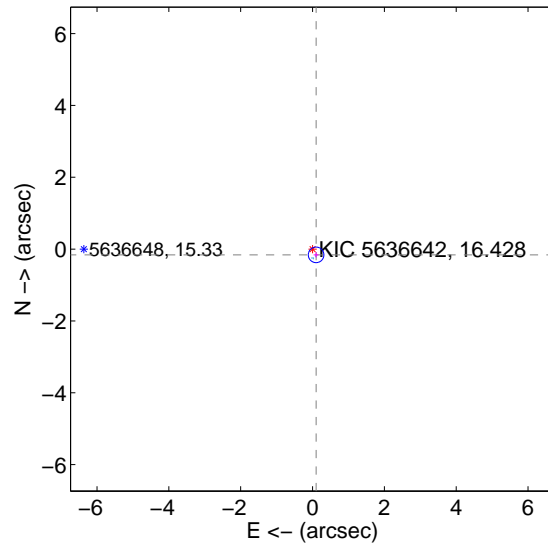
The OOT PRF centroid is offset from the target star catalog position by about 5.40 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.357 ± 0.086	62.29	-5.354 ± 0.086	0.168 ± 0.183
PRF-fit source offset from KIC position	0.188 ± 0.072	2.61	-0.099 ± 0.069	-0.160 ± 0.074
photometric centroid source offset	2.37 ± 0.02	112.65	2.36 ± 0.02	-0.17 ± 0.01

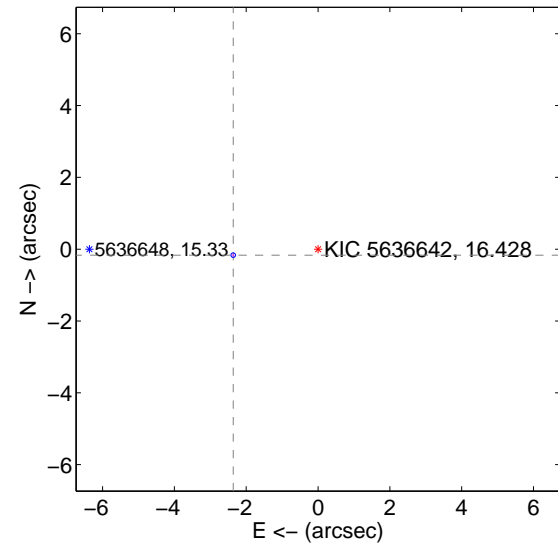
offset from difference PRF-fit to OOT PRF-fit



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.

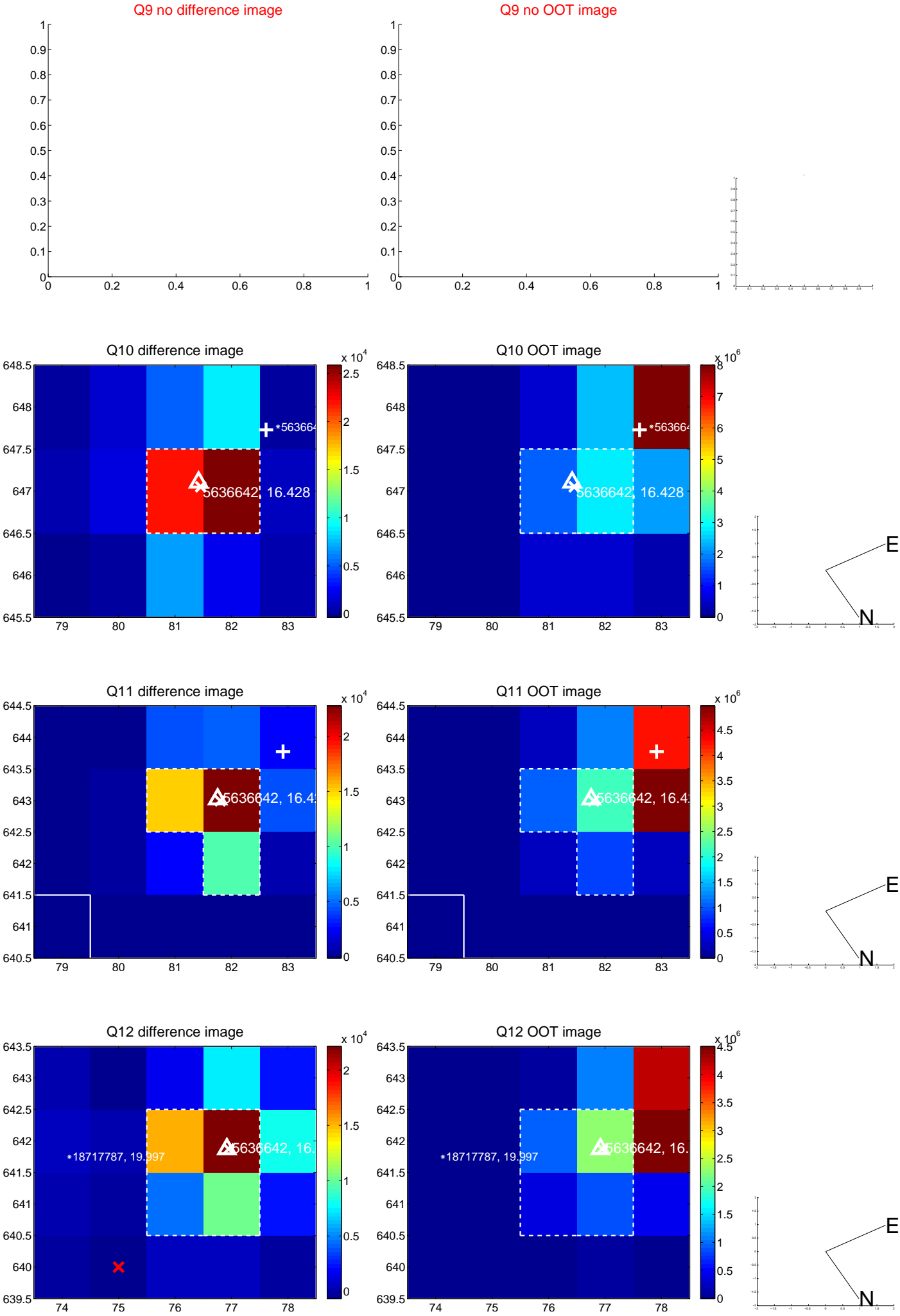
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



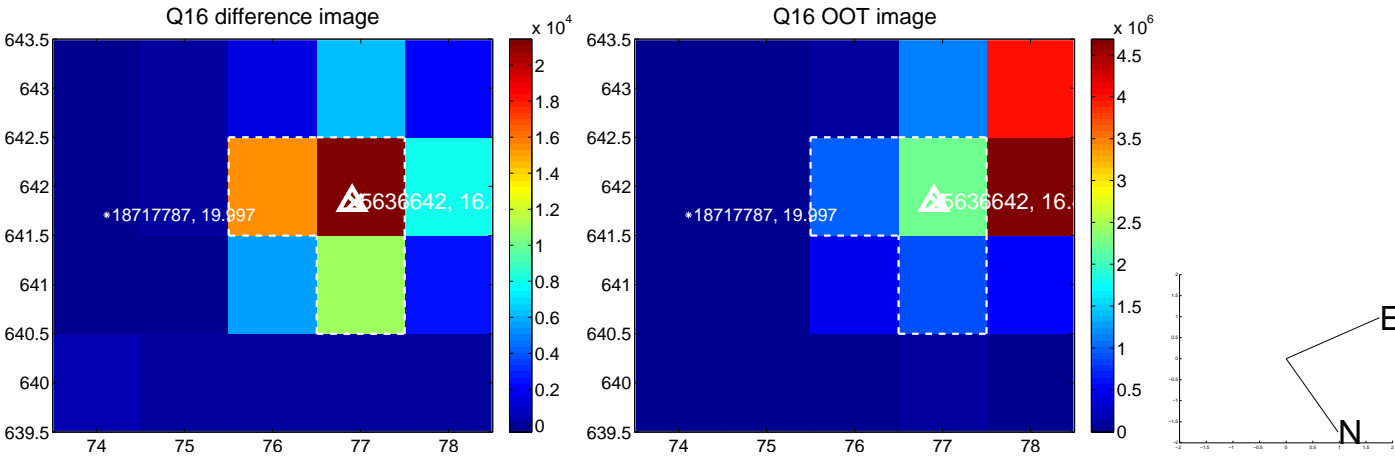
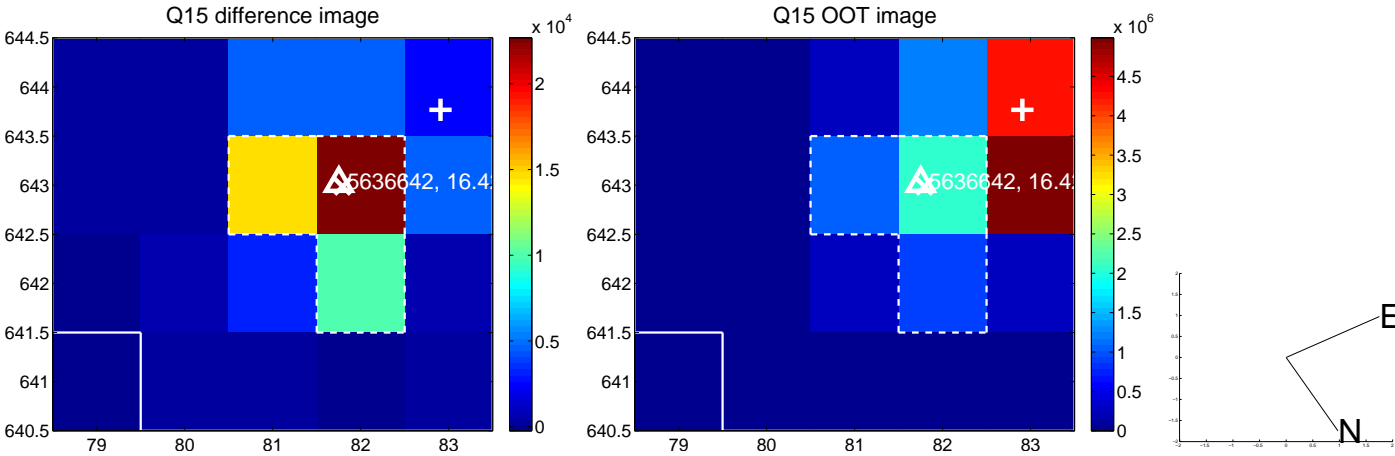
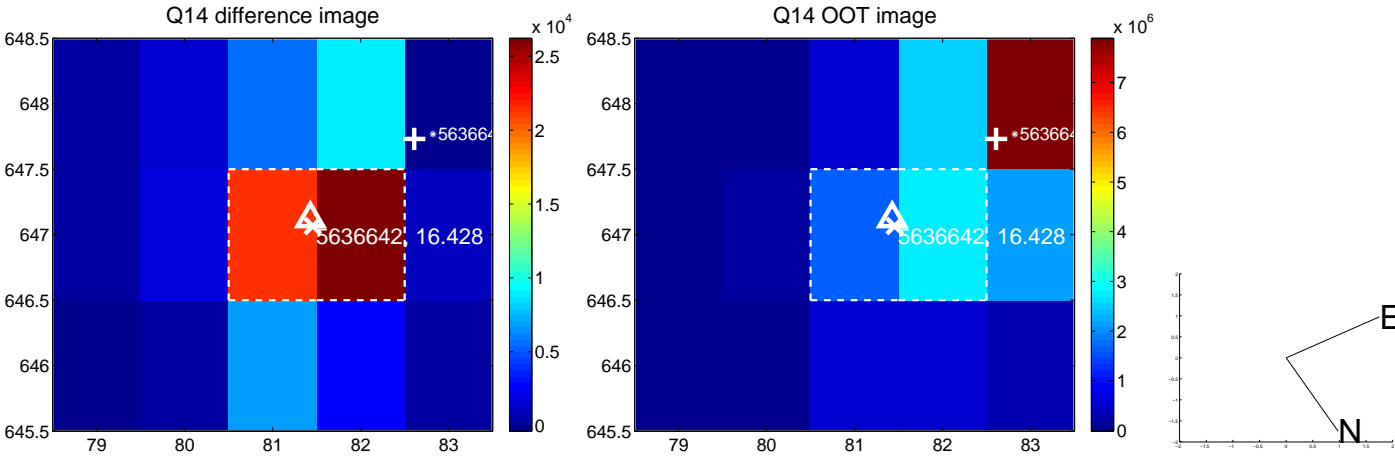
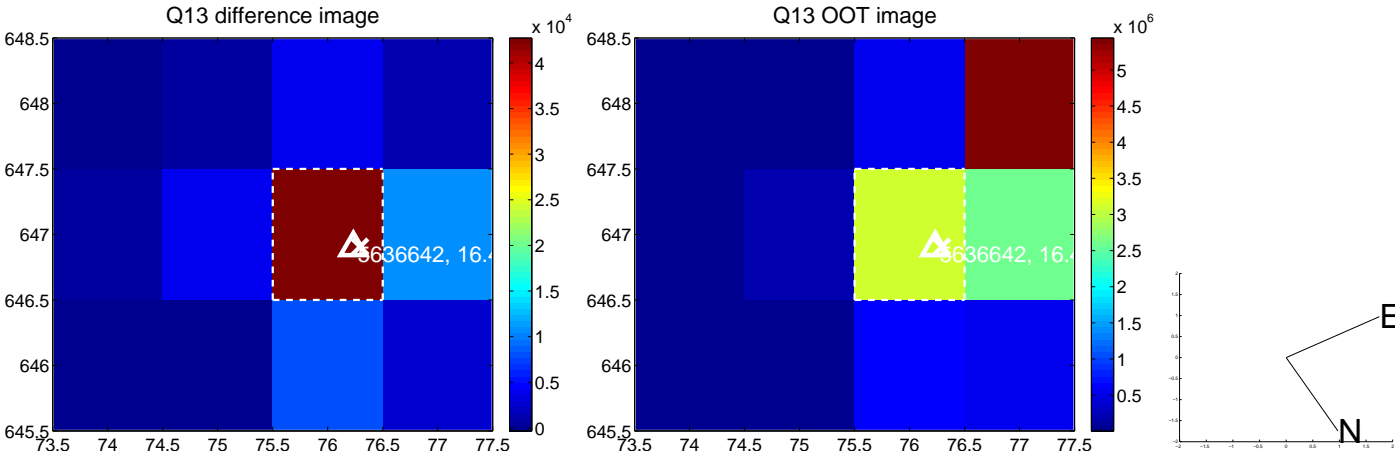
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



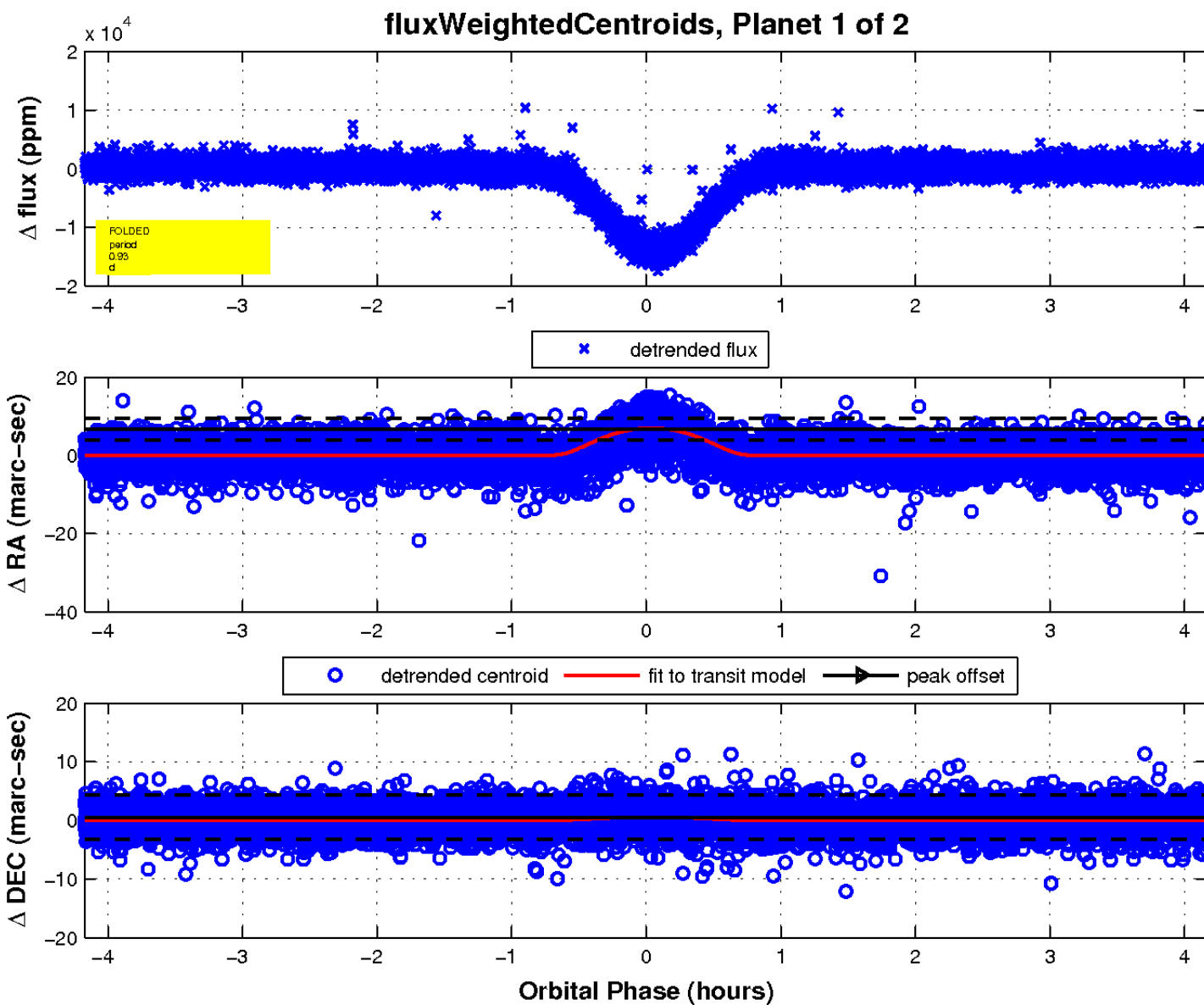
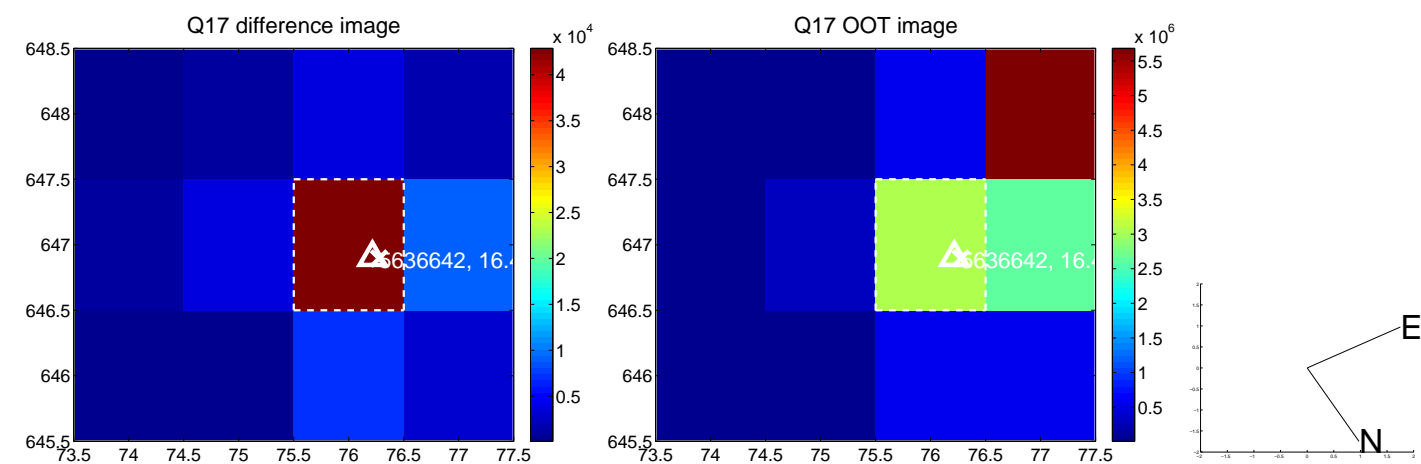
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



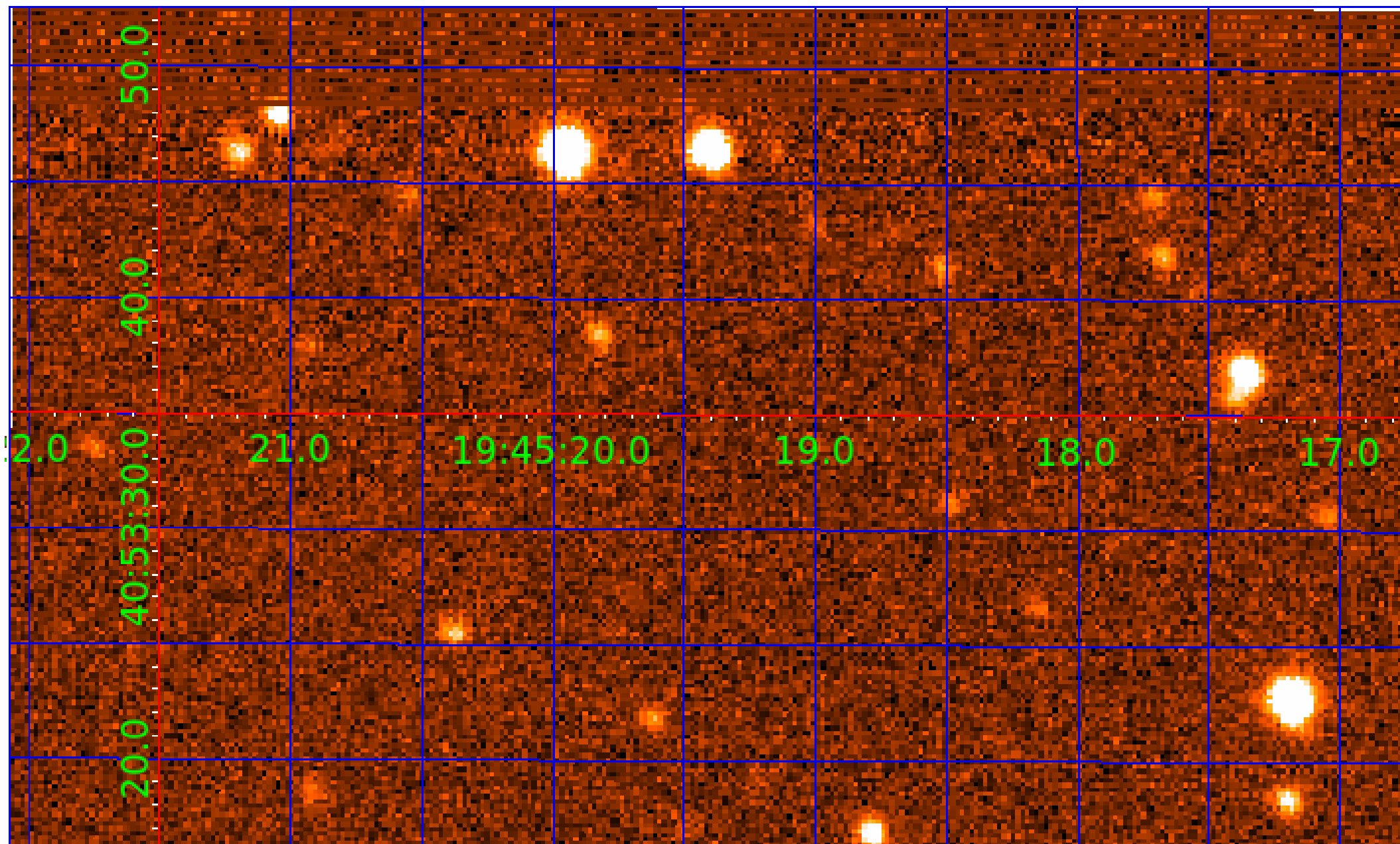
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 005636642

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})
005636642-01	OBS	3817.01	0.933490	132.099570	11584.0	1.391	343.6	260.9	1.08	5758	14.74	3635.14
005636642-02	OBS	No	0.933499	131.620369	14258.4	1.500	258.4	-1.0	1.08	5758	12.92	3635.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005636642-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_KIC_POS
005636642-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS

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.

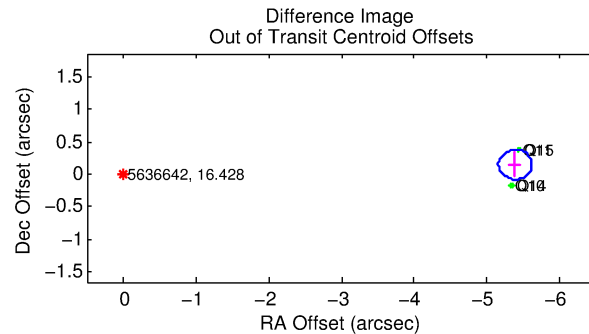
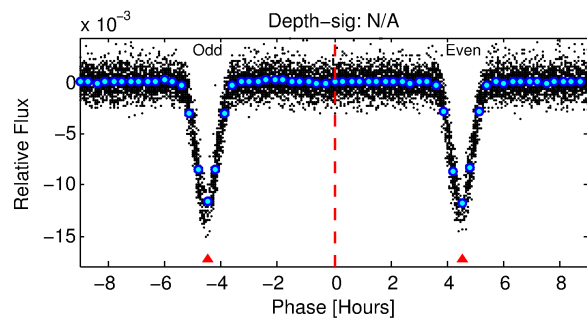
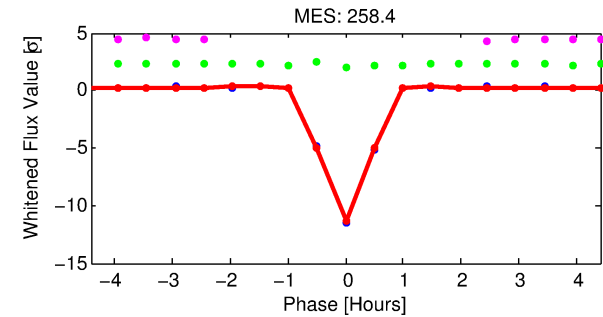
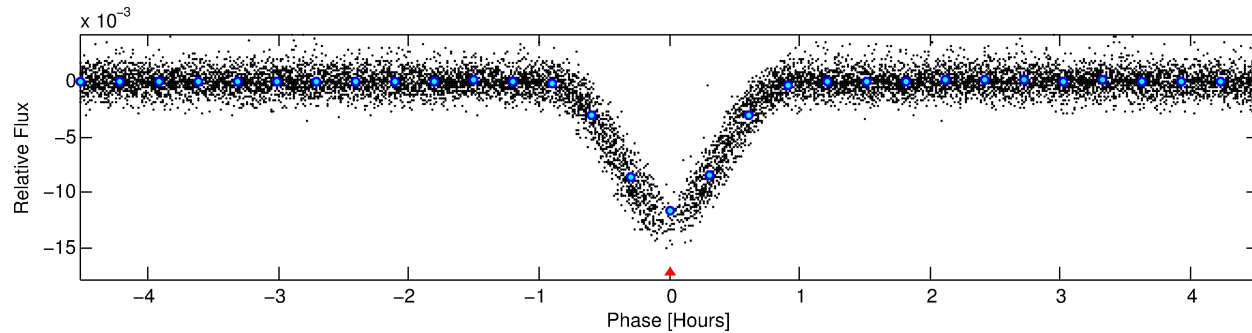
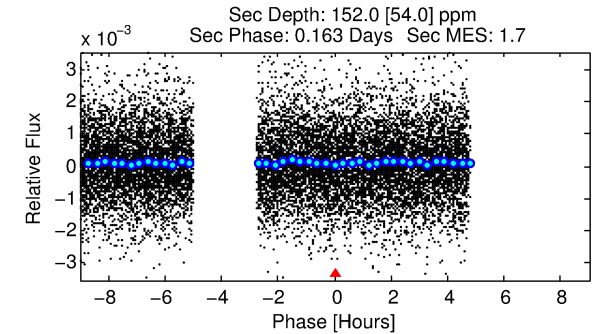
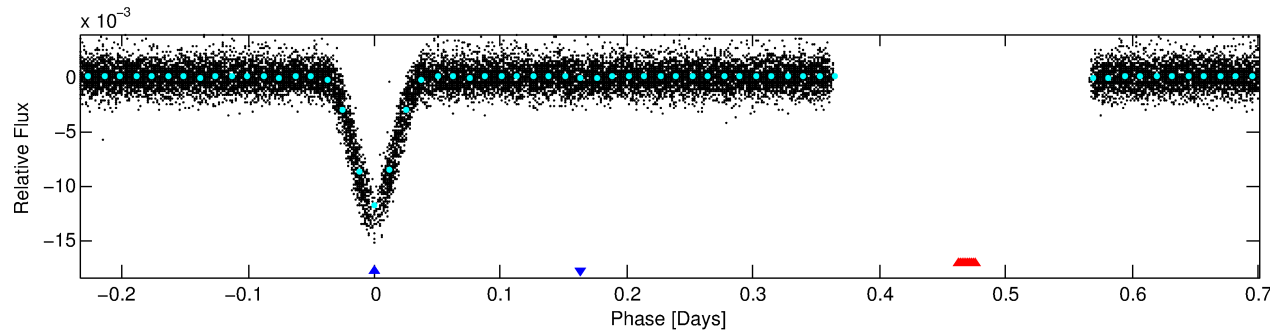
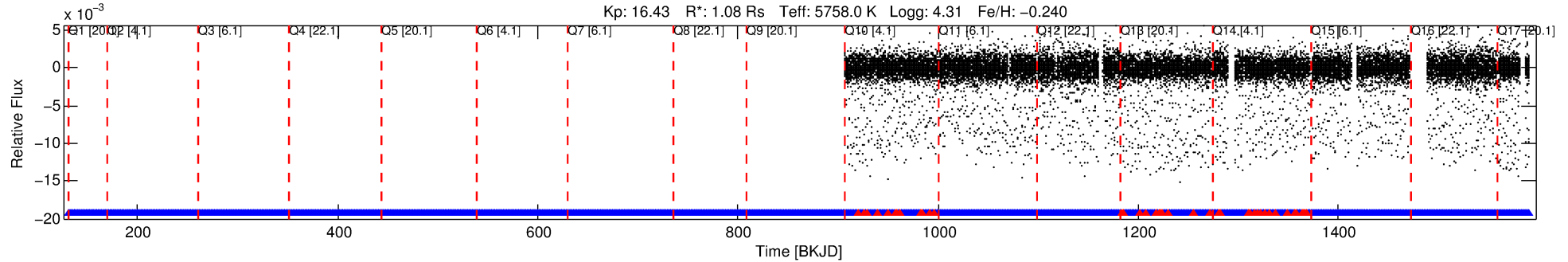
Ephemeris Match Information For 005636642-02

No Significant Match Found

DV One-Page Summary

KIC: 5636642 Candidate: 2 of 2 Period: 0.933 d
KOI: K03817 Corr: No Ephemeris Match

Kp: 16.43 R*: 1.08 Rs Teff: 5758.0 K Logg: 4.31 Fe/H: -0.240



TPS TCE Results:

Period = 0.93350 d
Epoch = 131.6204 BKJD

DV fit results are unavailable

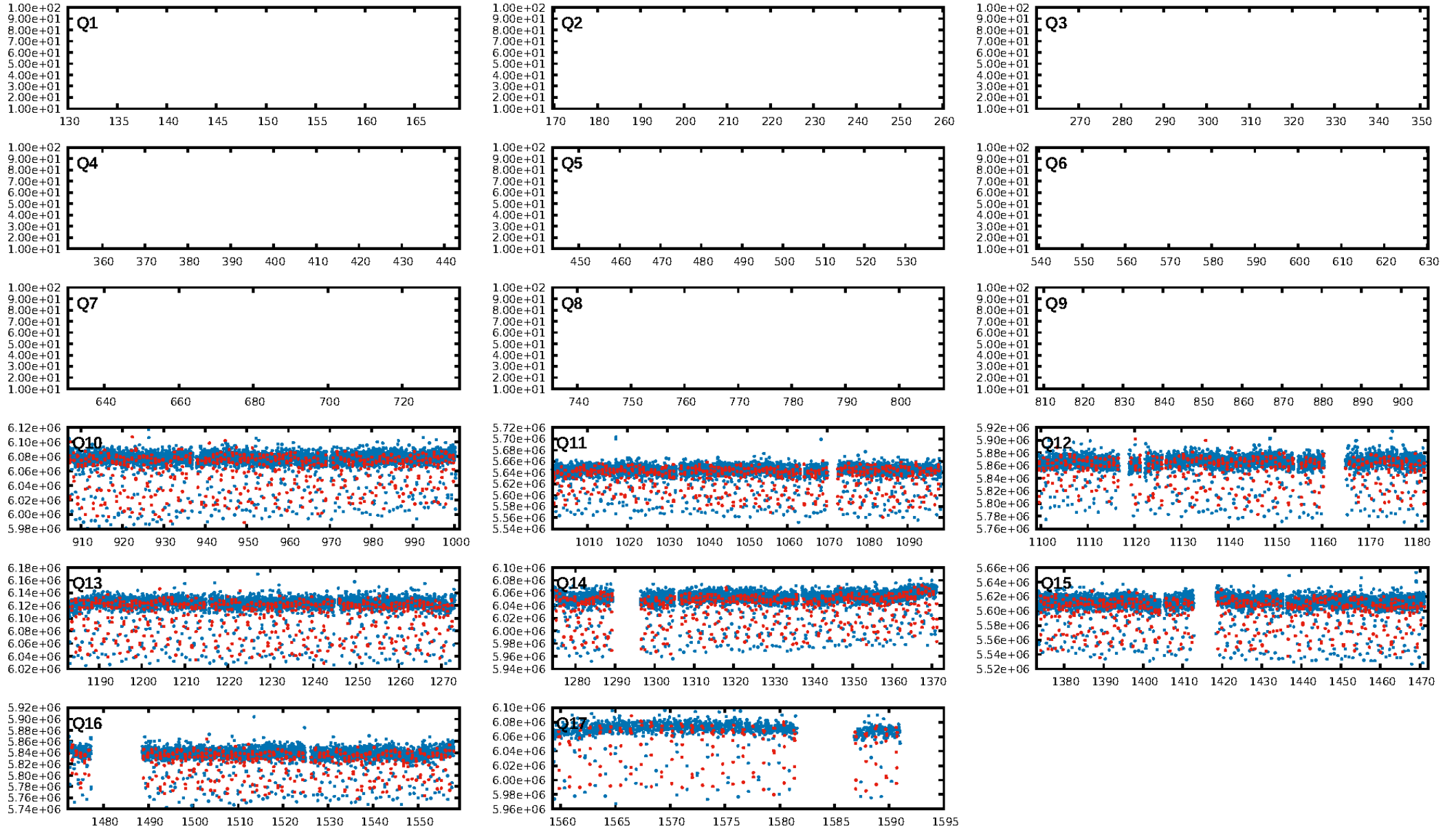
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.93 [596/639]
GhostDiagnostic-chr: 22.51
Centroid-sig: 0.0%
Centroid-so: 2.583 arcsec [147.35 σ]
OotOffset-rm: 5.390 arcsec [70.76 σ]
KicOffset-rm: 0.183 arcsec [2.49 σ]
OotOffset-st: 2/2/0/0 [4]
KicOffset-st: 2/2/2/2 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [8/8]

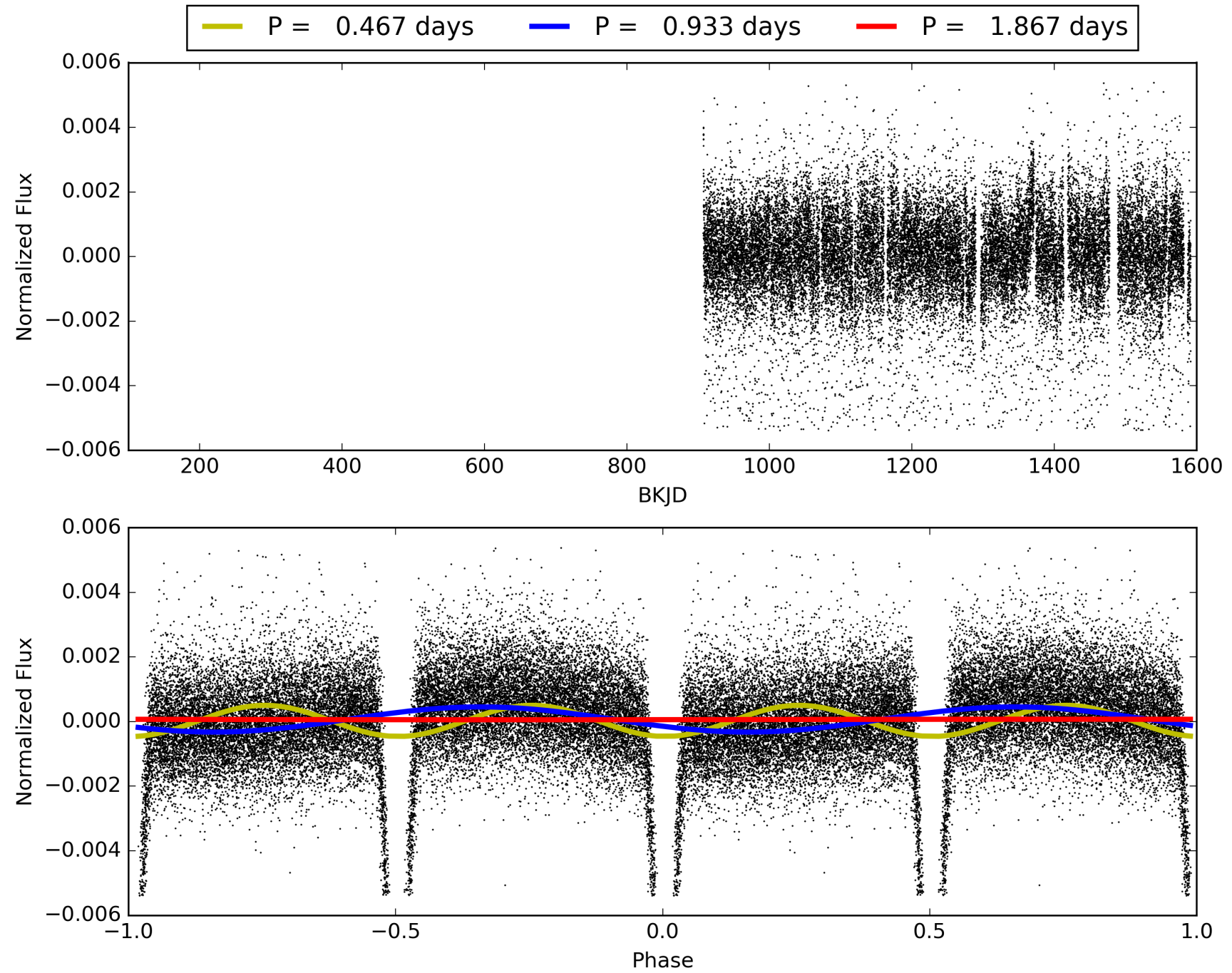
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 07:45:49 Z

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

TCE 005636642-02, PDC Light Curves

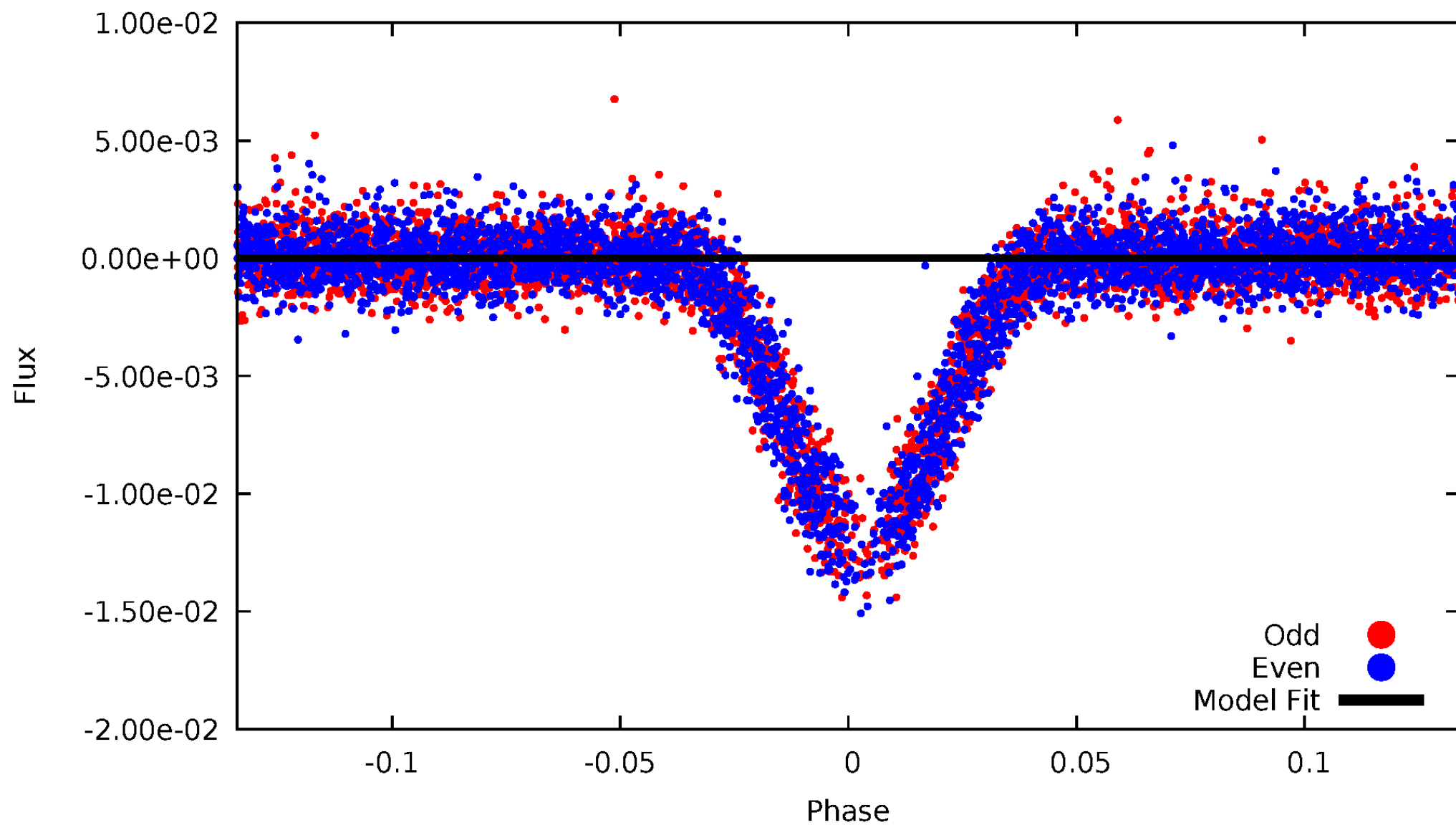


TCE 005636642-02



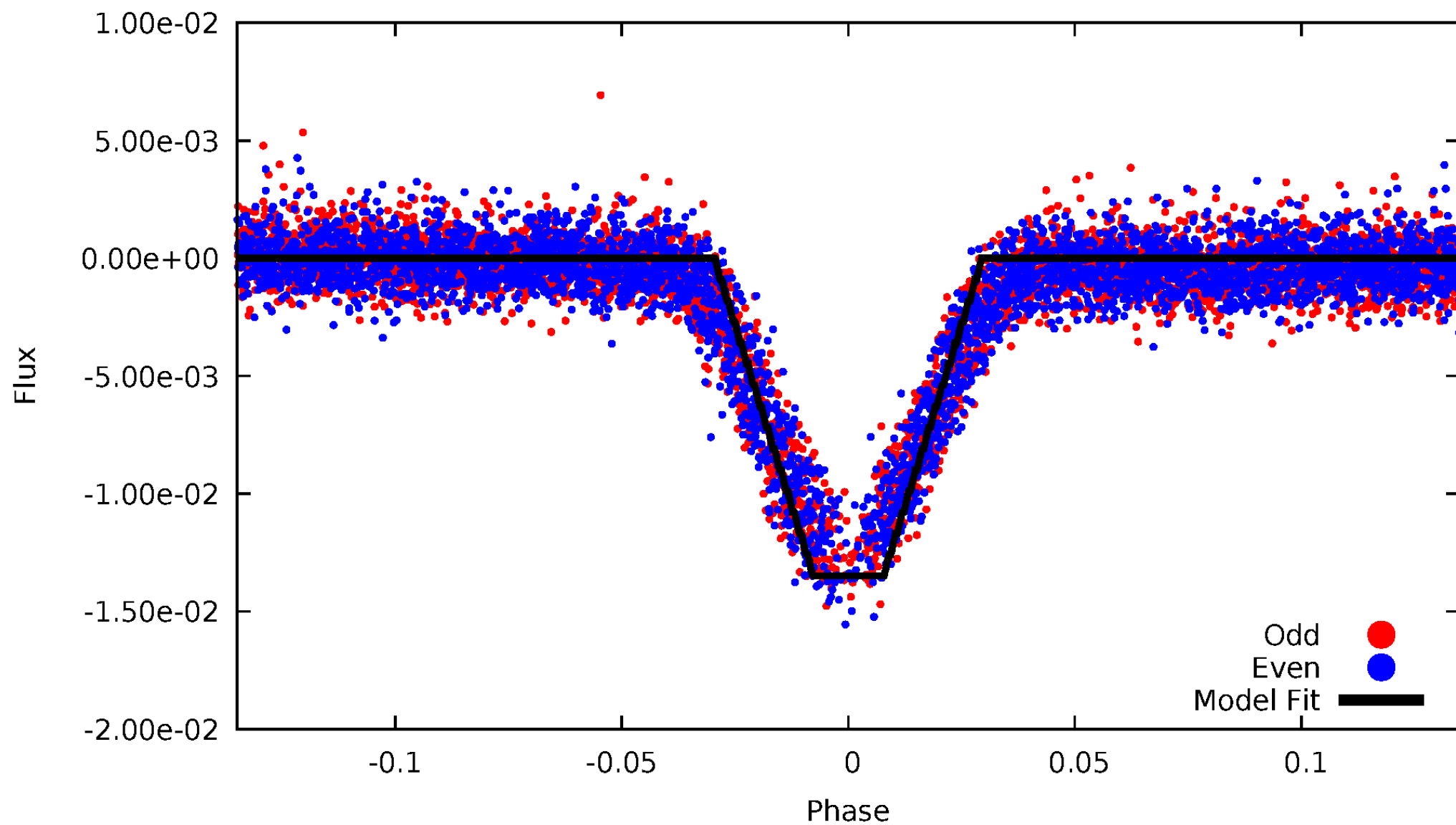
DV Odd/Even

TCE 005636642-02



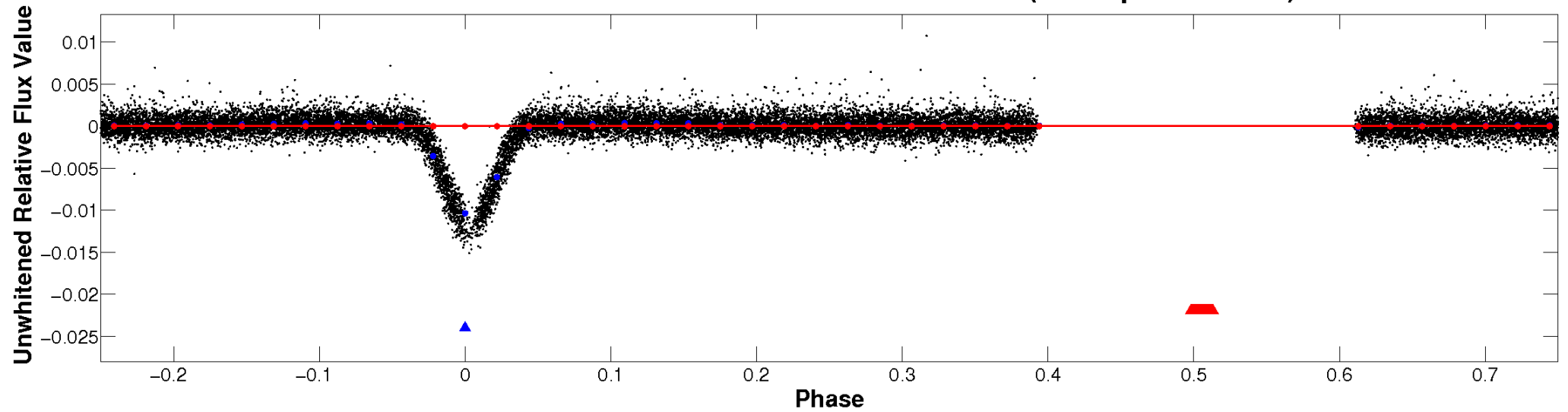
ALT Odd/Even

TCE 005636642-02

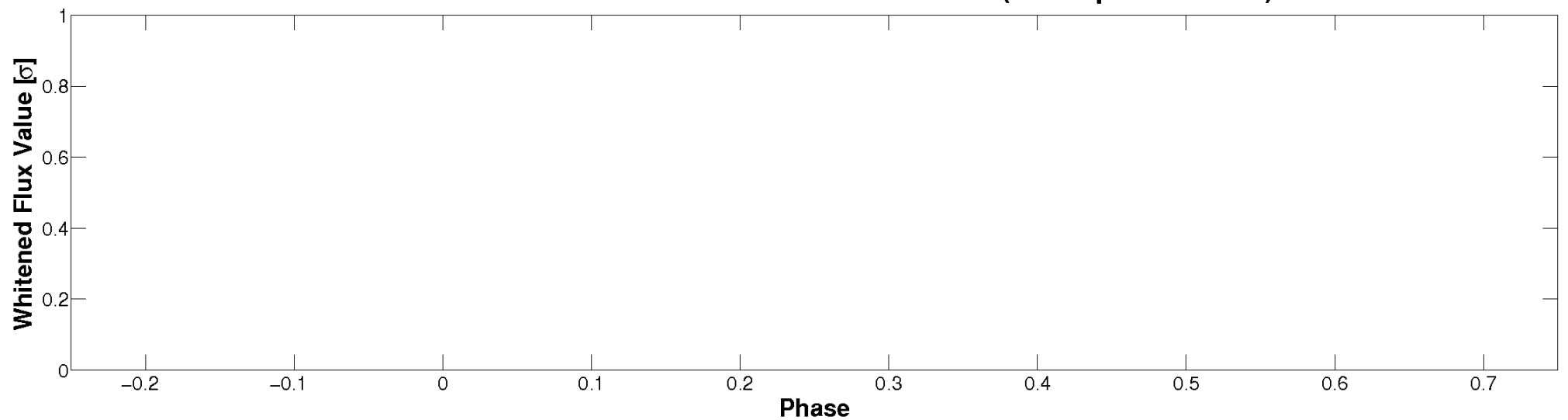


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

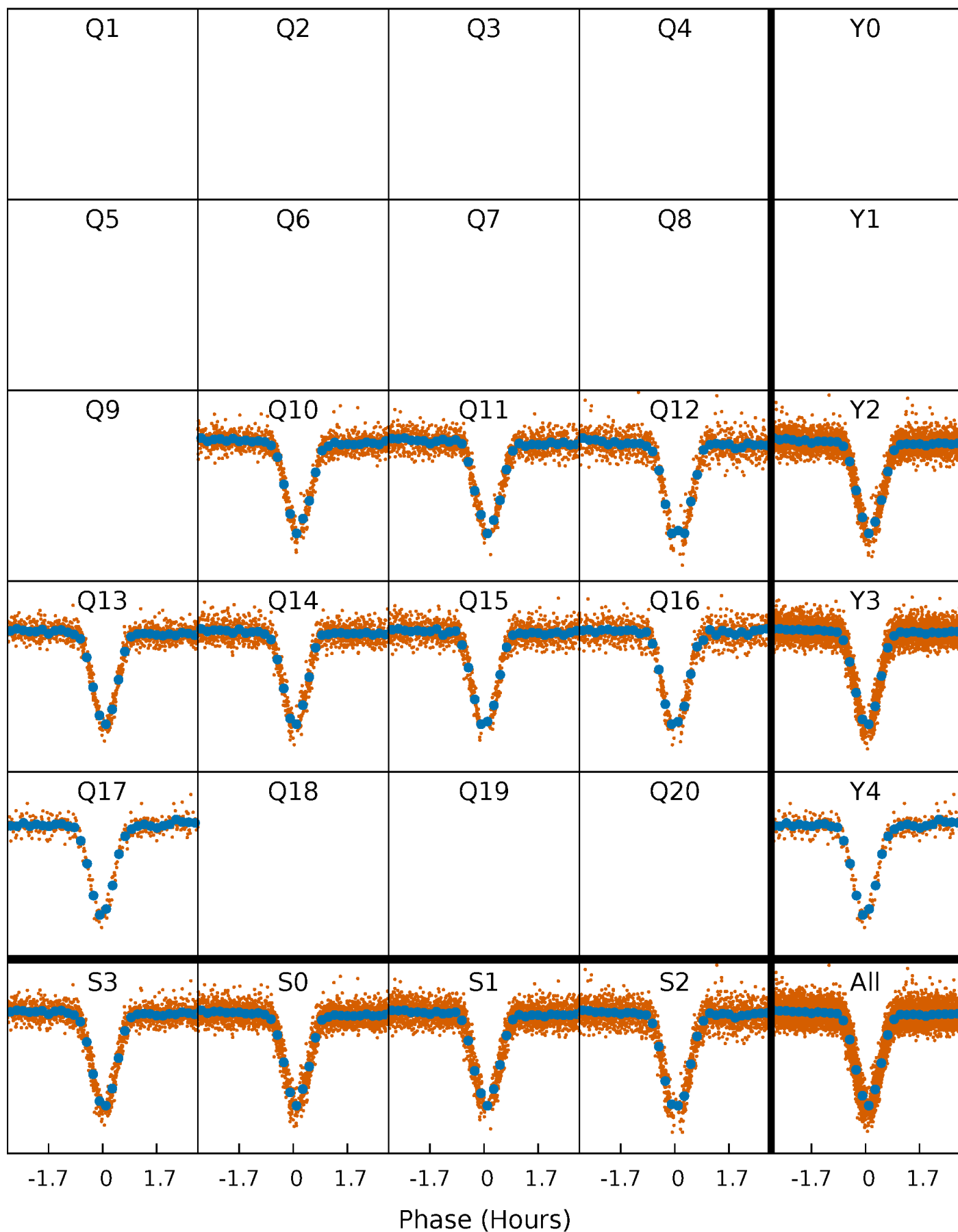


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



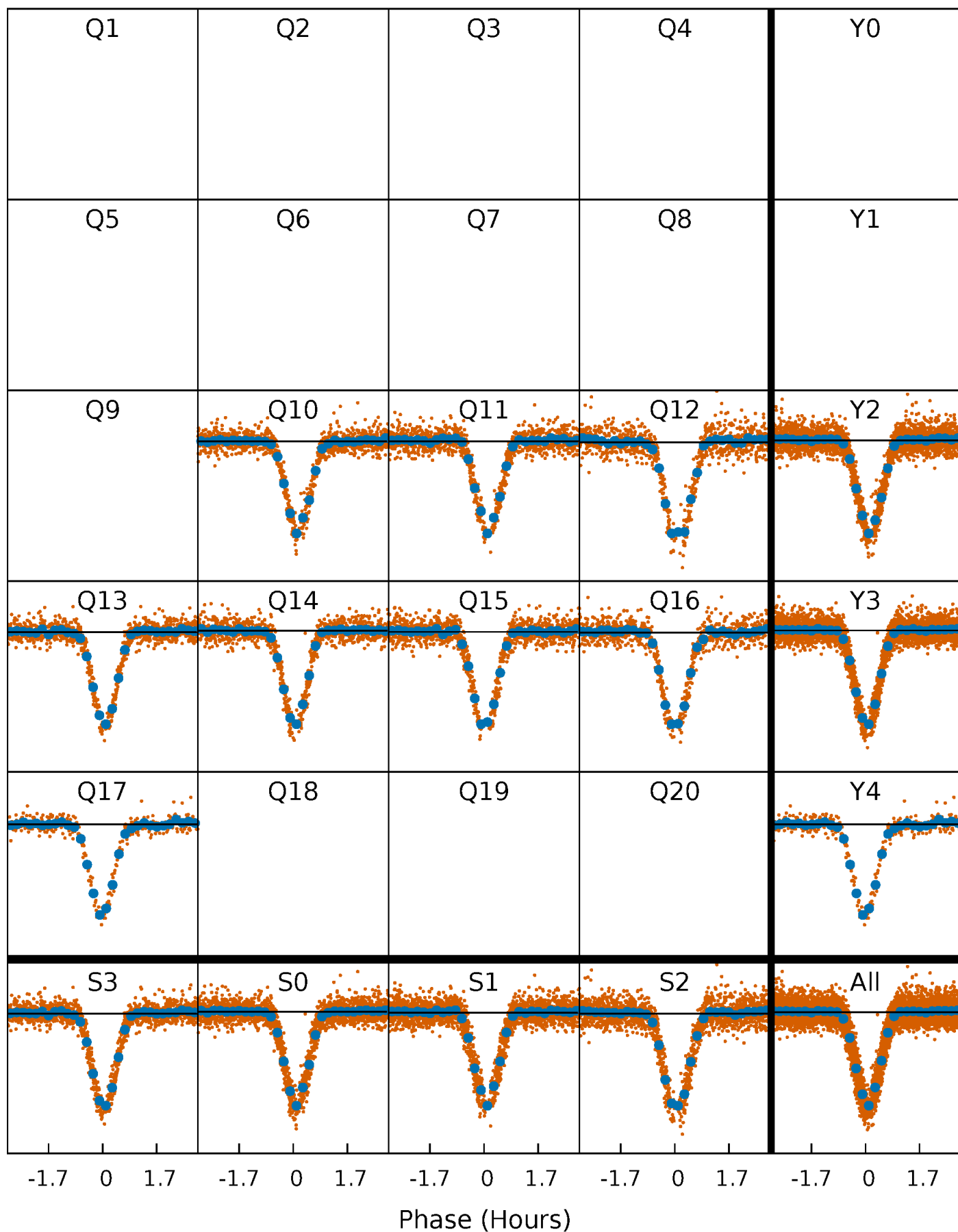
PDC Quarter-Phased Transit Curves

TCE 005636642-02 P= 0.933499 Days $T_0=131.620369$ (BKJD)



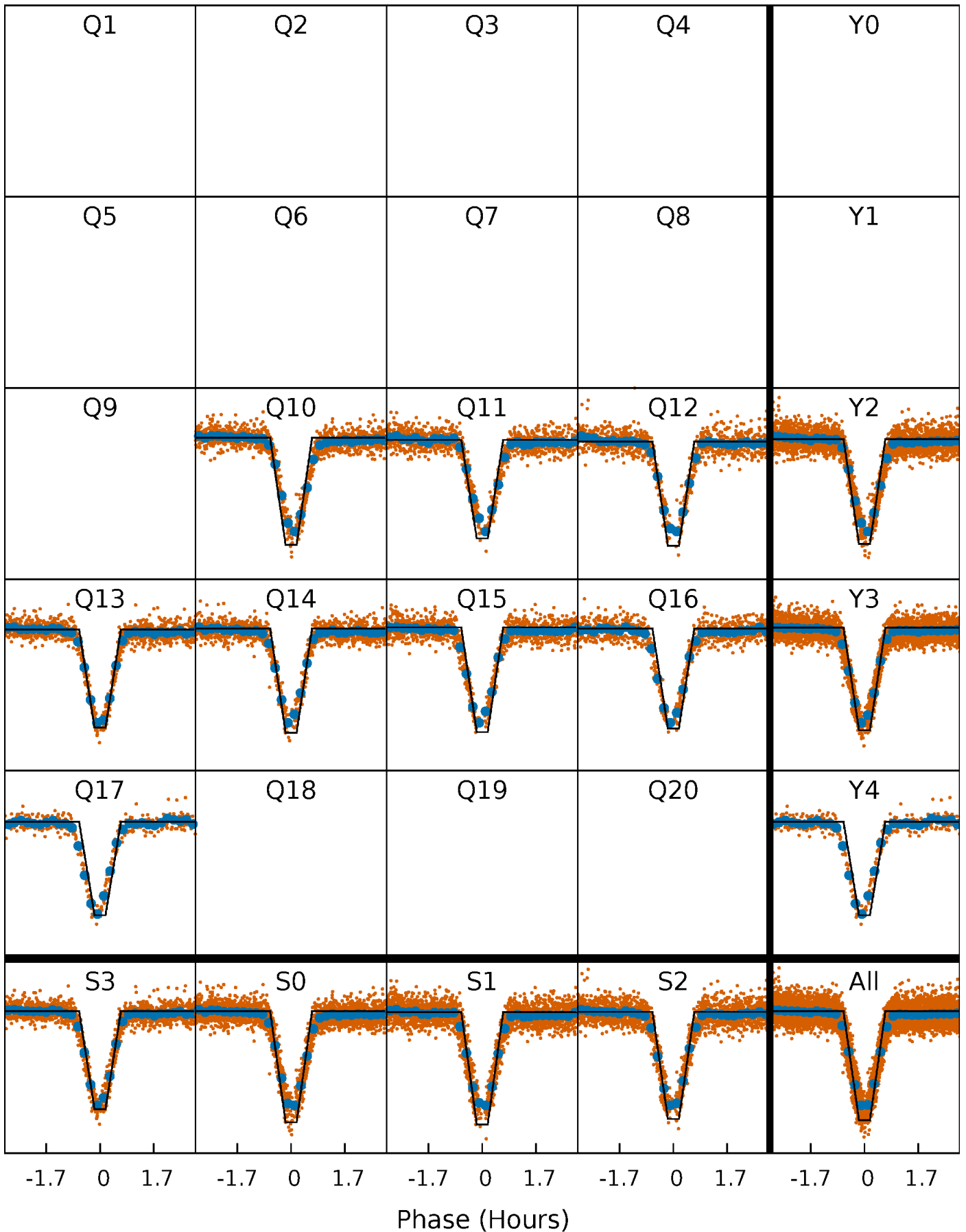
DV Quarter-Phased Transit Curves

TCE 005636642-02 $P = 0.933499$ Days $T_0 = 131.620369$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

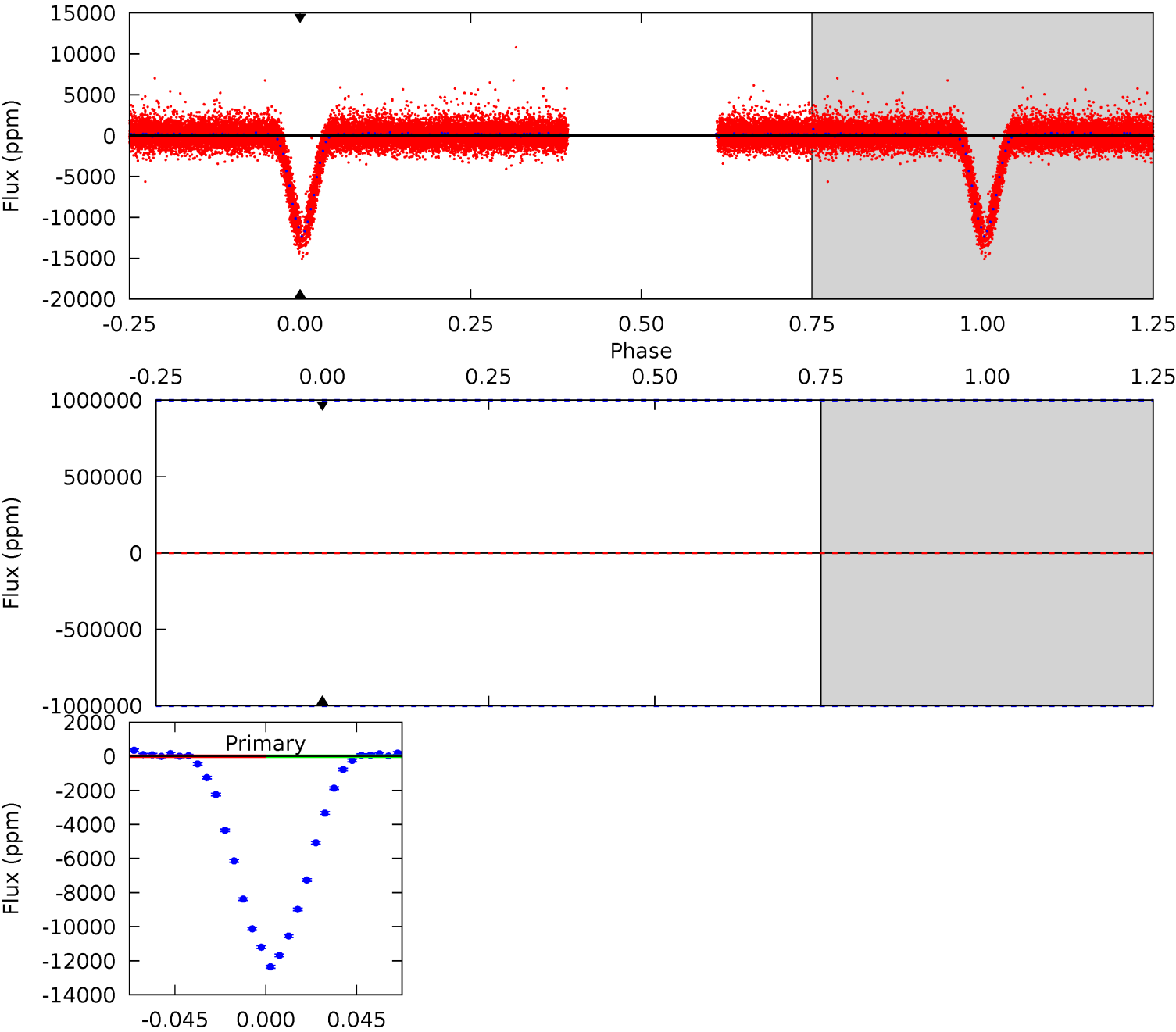
TCE 005636642-02 $P = 0.933499$ Days $T_0 = 131.623580$ (BKJD)



DV Model-Shift Uniqueness Test

005636642-02, P = 0.933499 Days, E = 131.620369 Days

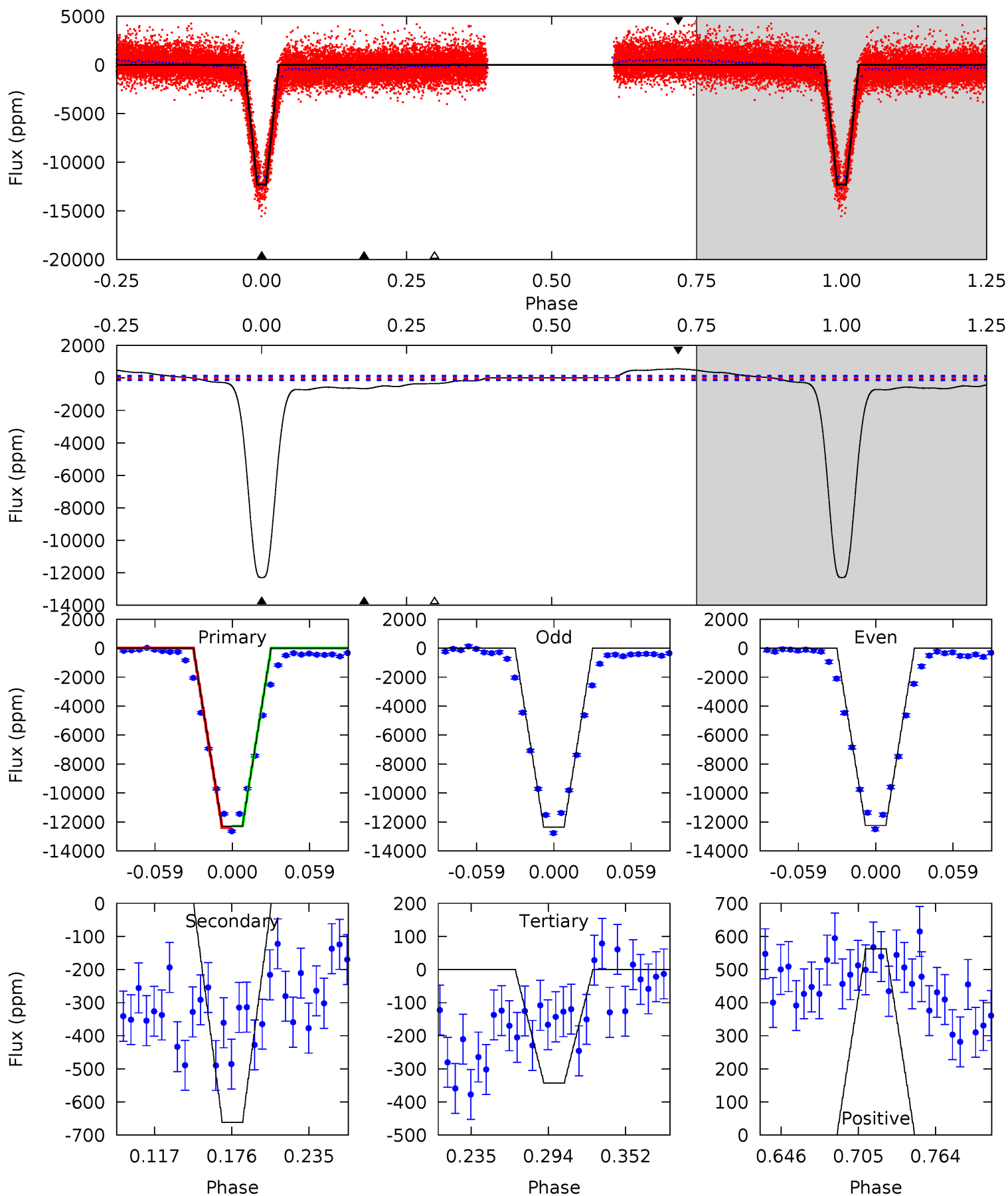
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

005636642-02, P = 0.933499 Days, E = 131.623580 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
441.7	23.8	12.3	20.2	4.68	1.89	14.2	429.4	421.5	11.4	3.55	2.09	1.01	0.04	1.82



Stellar Parameters For KIC 005636642

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5758^{+172}_{-189}	$4.307^{+0.200}_{-0.200}$	$-0.240^{+0.300}_{-0.300}$	$1.084^{+0.301}_{-0.246}$	$0.869^{+0.130}_{-0.080}$	$0.961^{+0.958}_{-0.475}$
	+3%/-3%	+5%/-5%	+125%/-125%	+28%/-23%	+15%/-9%	+100%/-49%
Source	KIC0	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 005636642-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$14.77^{+11.95}_{-9.19}$	2758^{+209}_{-193}	4342^{+8011}_{-15922}	$3.476^{+131.541}_{-123.233}$
Alt.	-662 ± 28	$15.37^{+11.35}_{-9.54}$	2758^{+224}_{-205}	2774^{+1546}_{-5439}	$0.497^{+2.791}_{-0.335}$

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

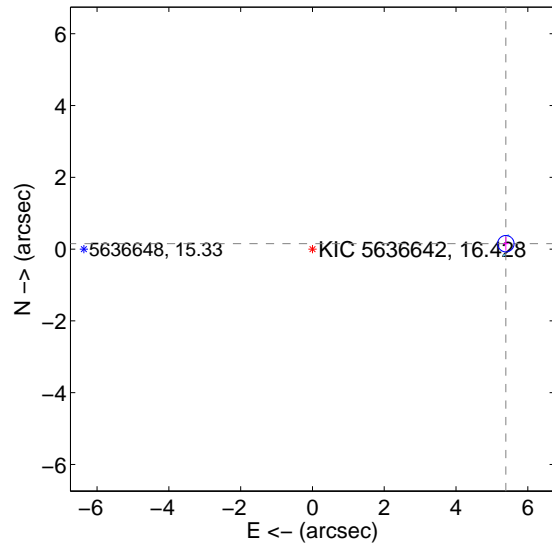
Supplemental centroid analysis for 005636642-02. Kepler magnitude: 16.43. Transit SNR -1.00

There are 8 quarters with good PRF difference image offsets

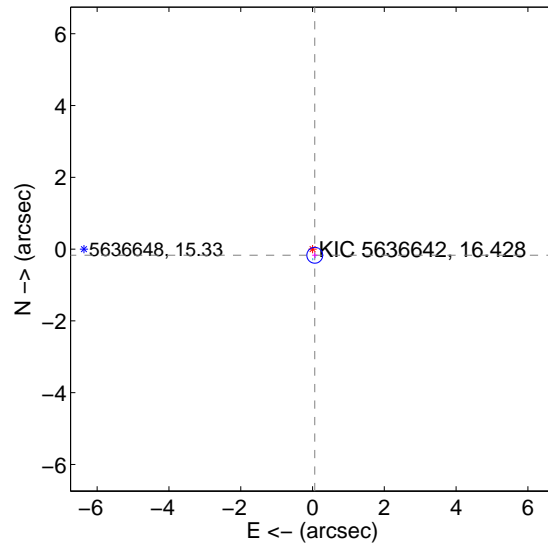
The OOT PRF centroid is offset from the target star catalog position by about 5.40 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.390 ± 0.076	70.76	-5.388 ± 0.076	0.151 ± 0.192
PRF-fit source offset from KIC position	0.183 ± 0.074	2.49	-0.063 ± 0.073	-0.172 ± 0.074
photometric centroid source offset	2.58 ± 0.02	147.35	2.58 ± 0.02	-0.16 ± 0.01

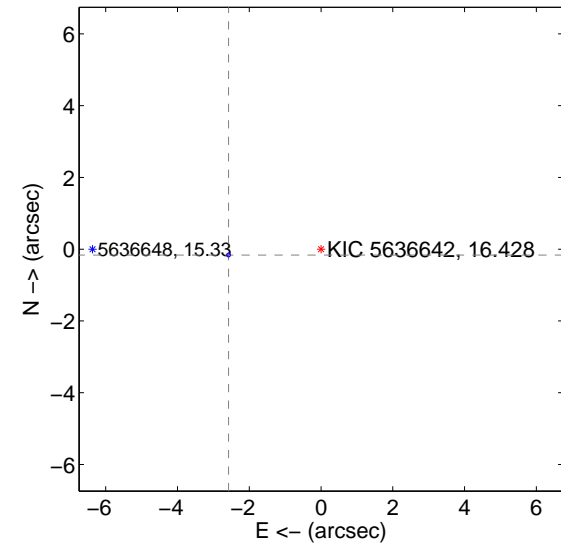
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

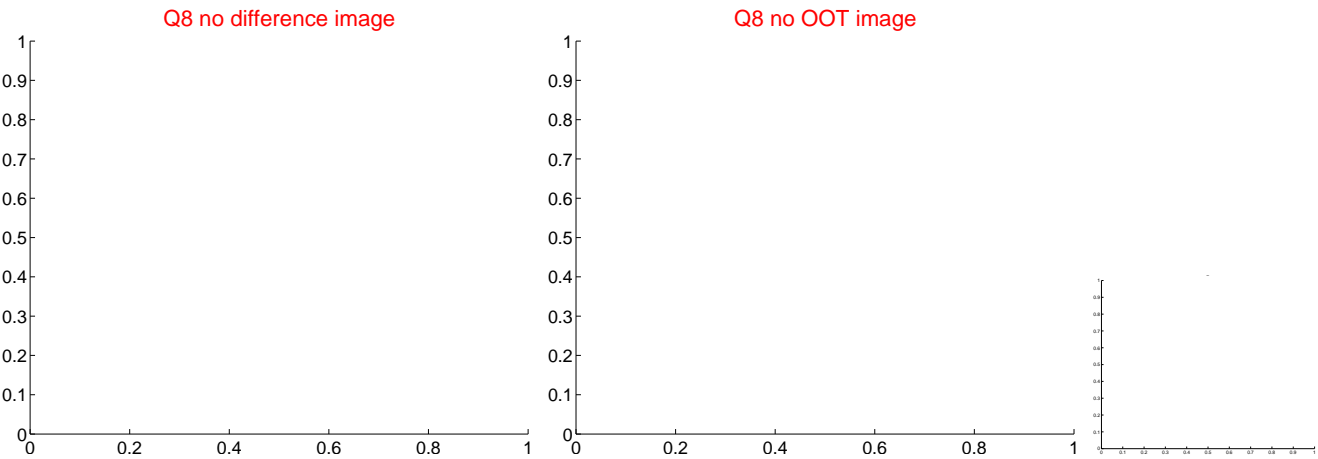
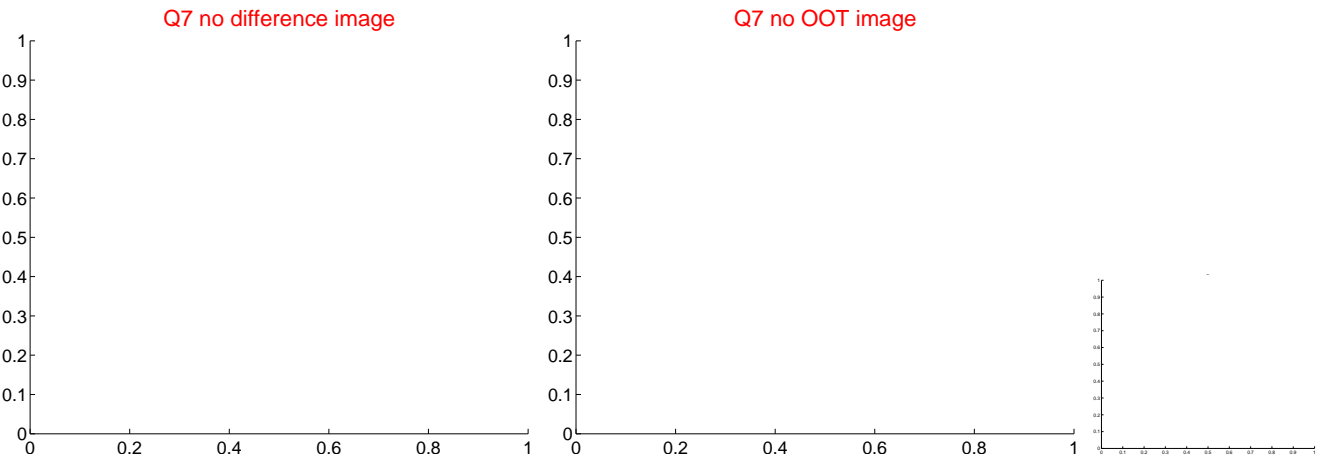
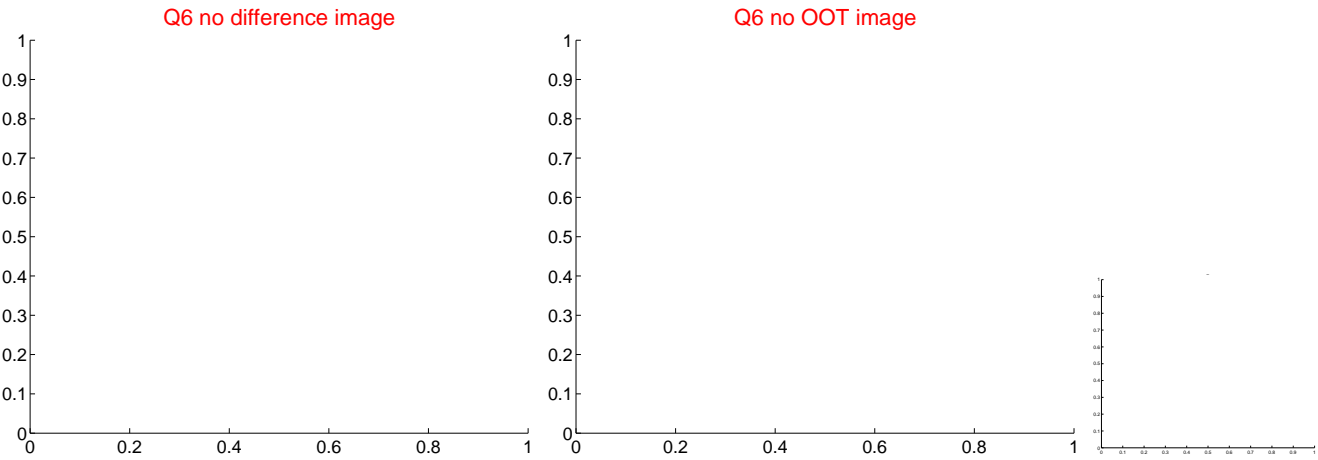
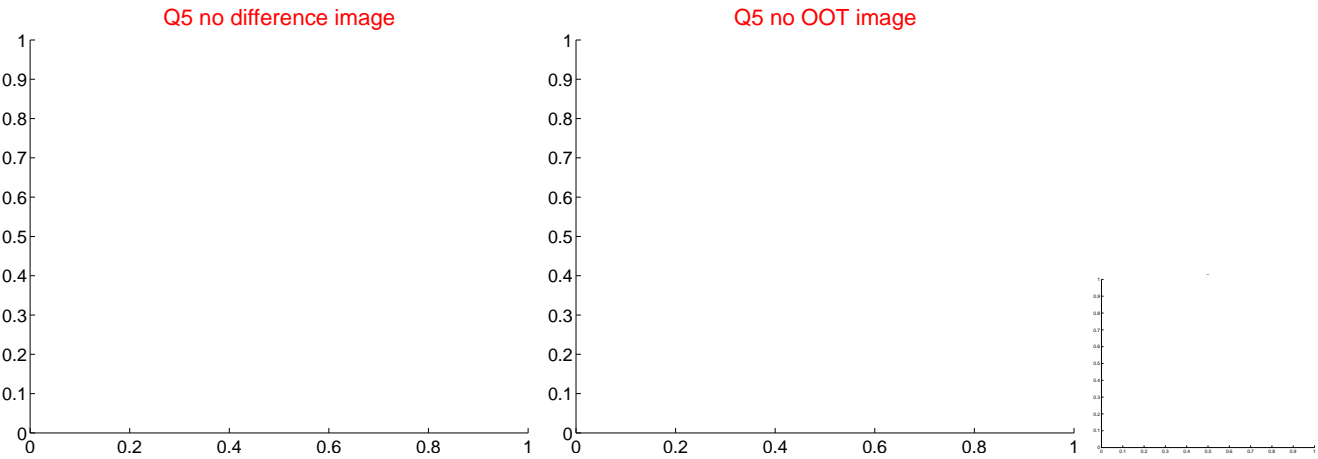


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

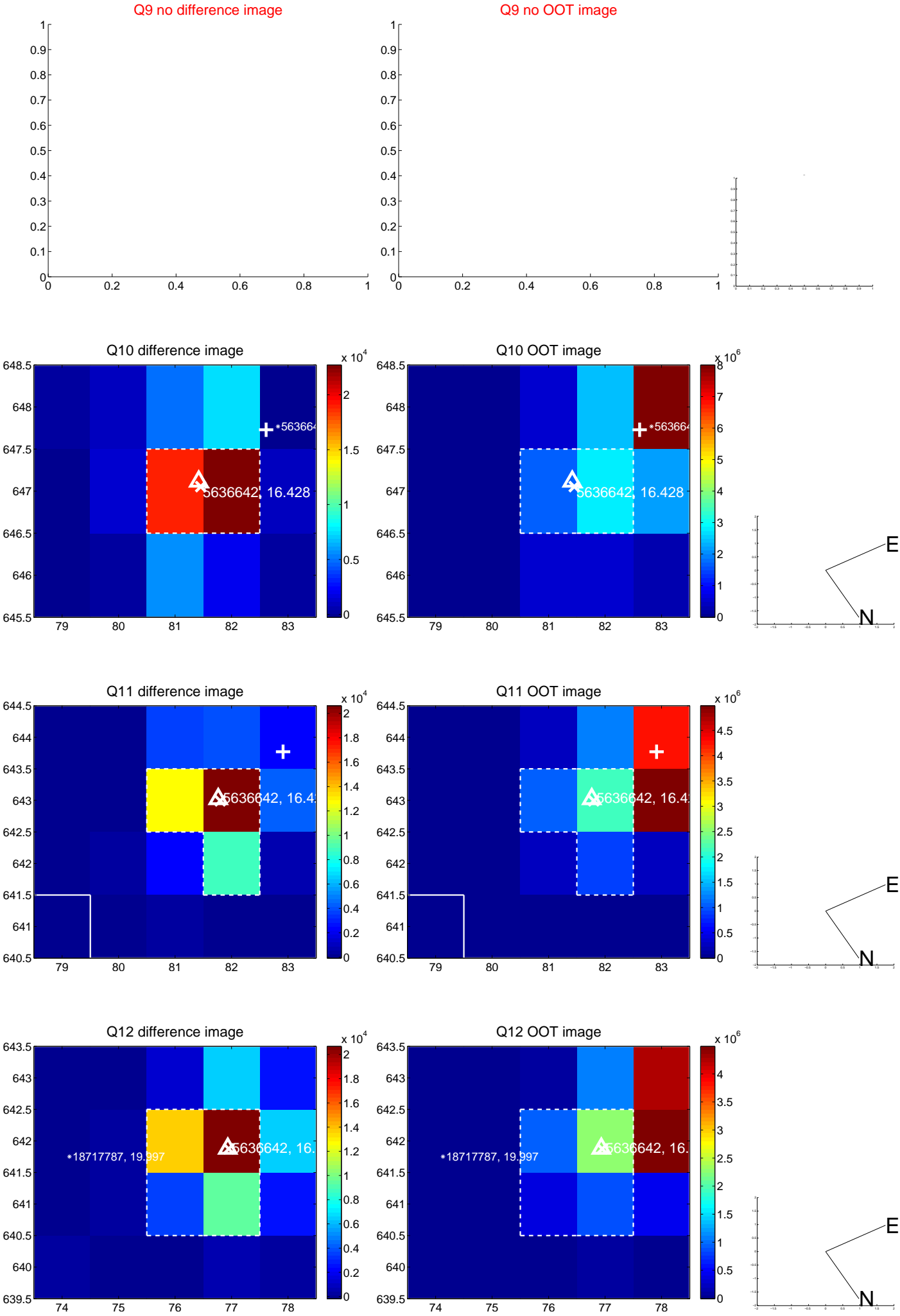
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



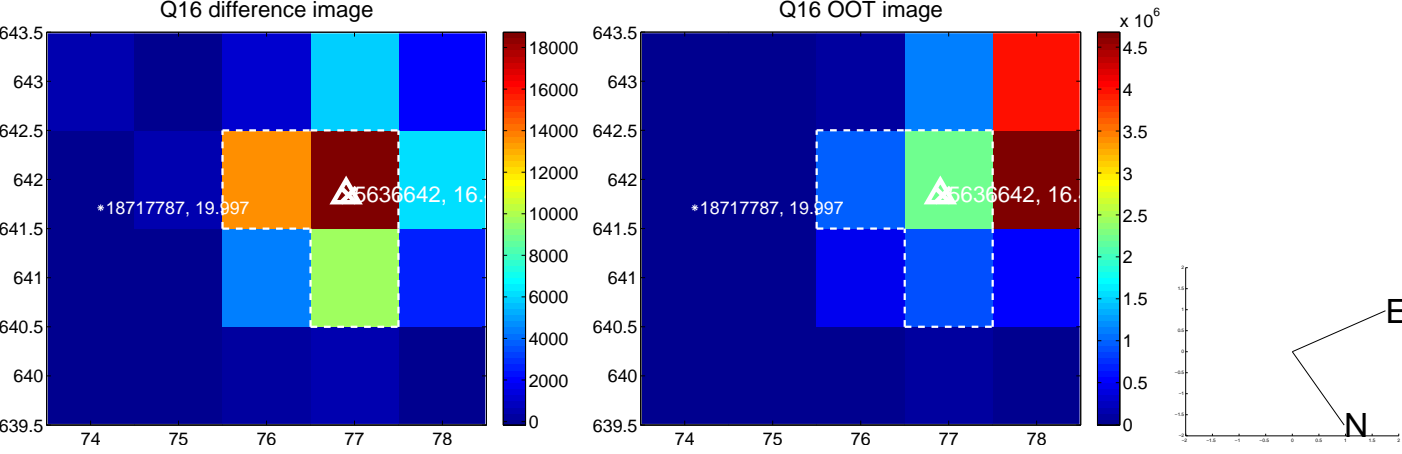
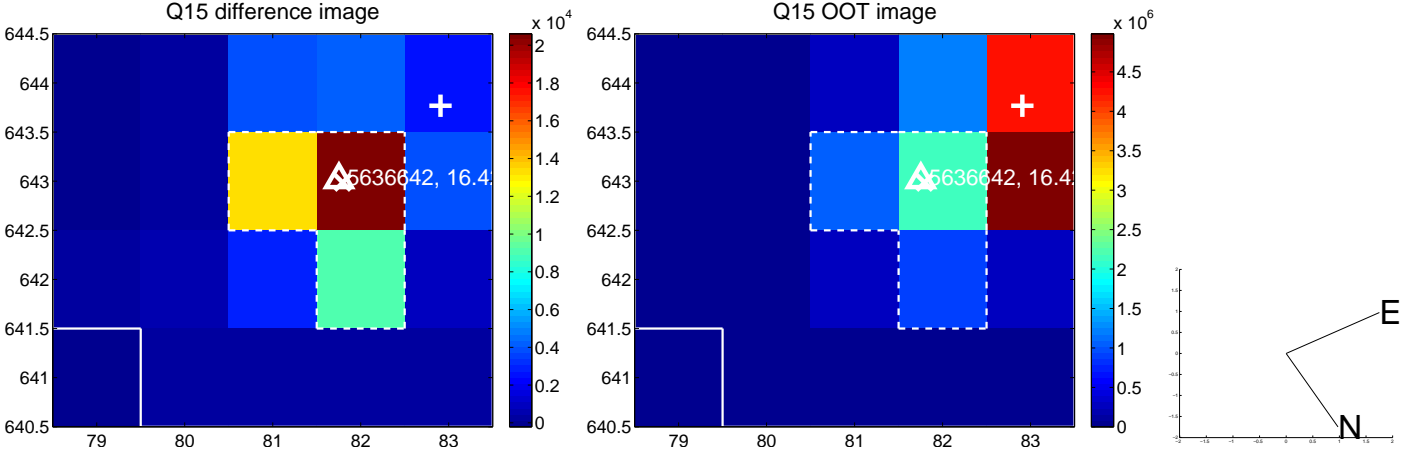
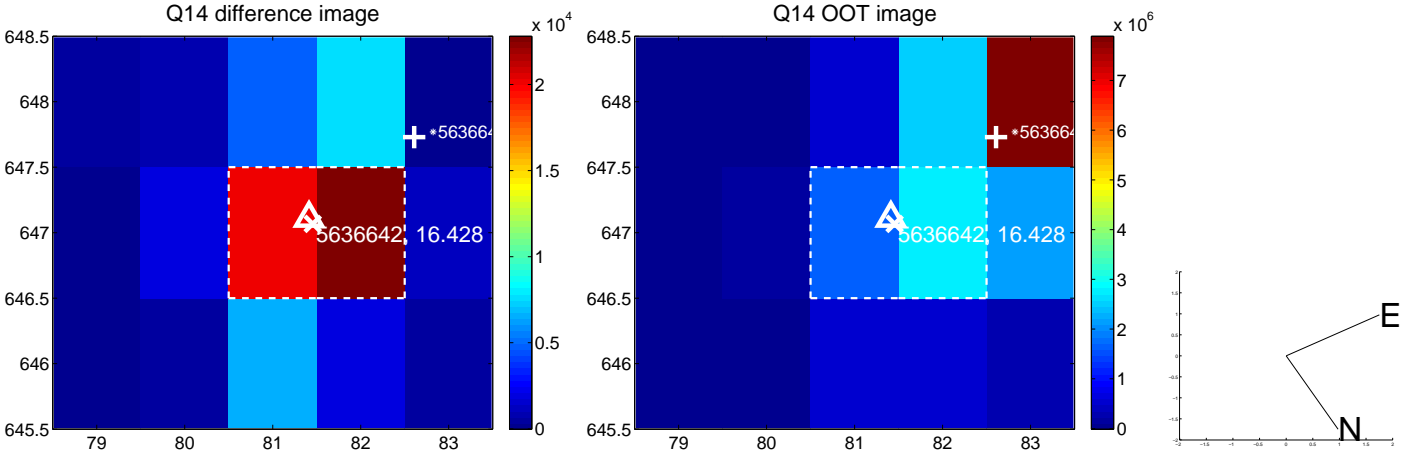
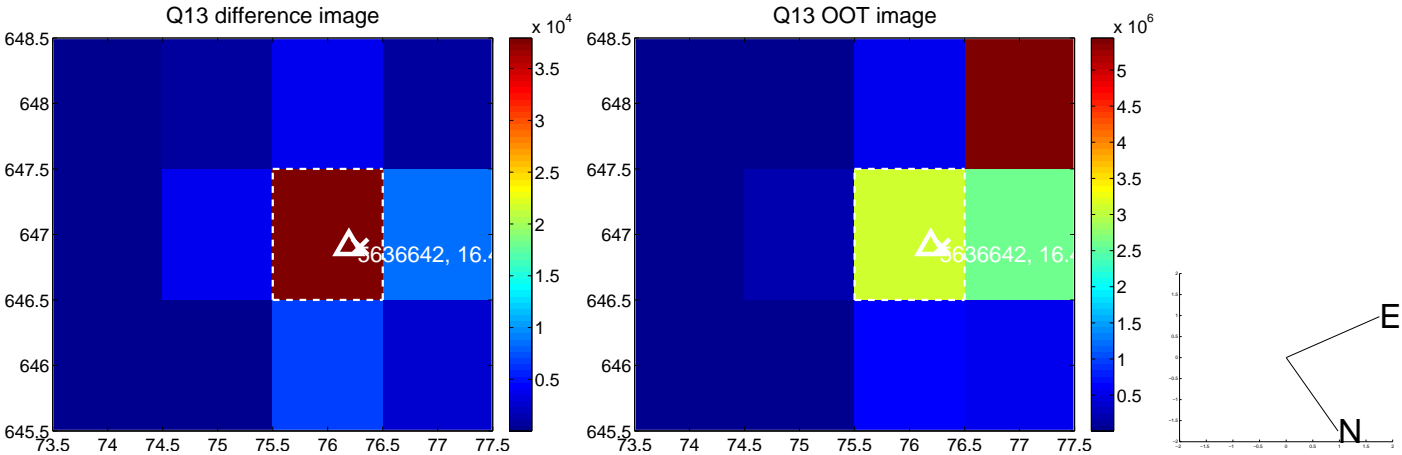
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



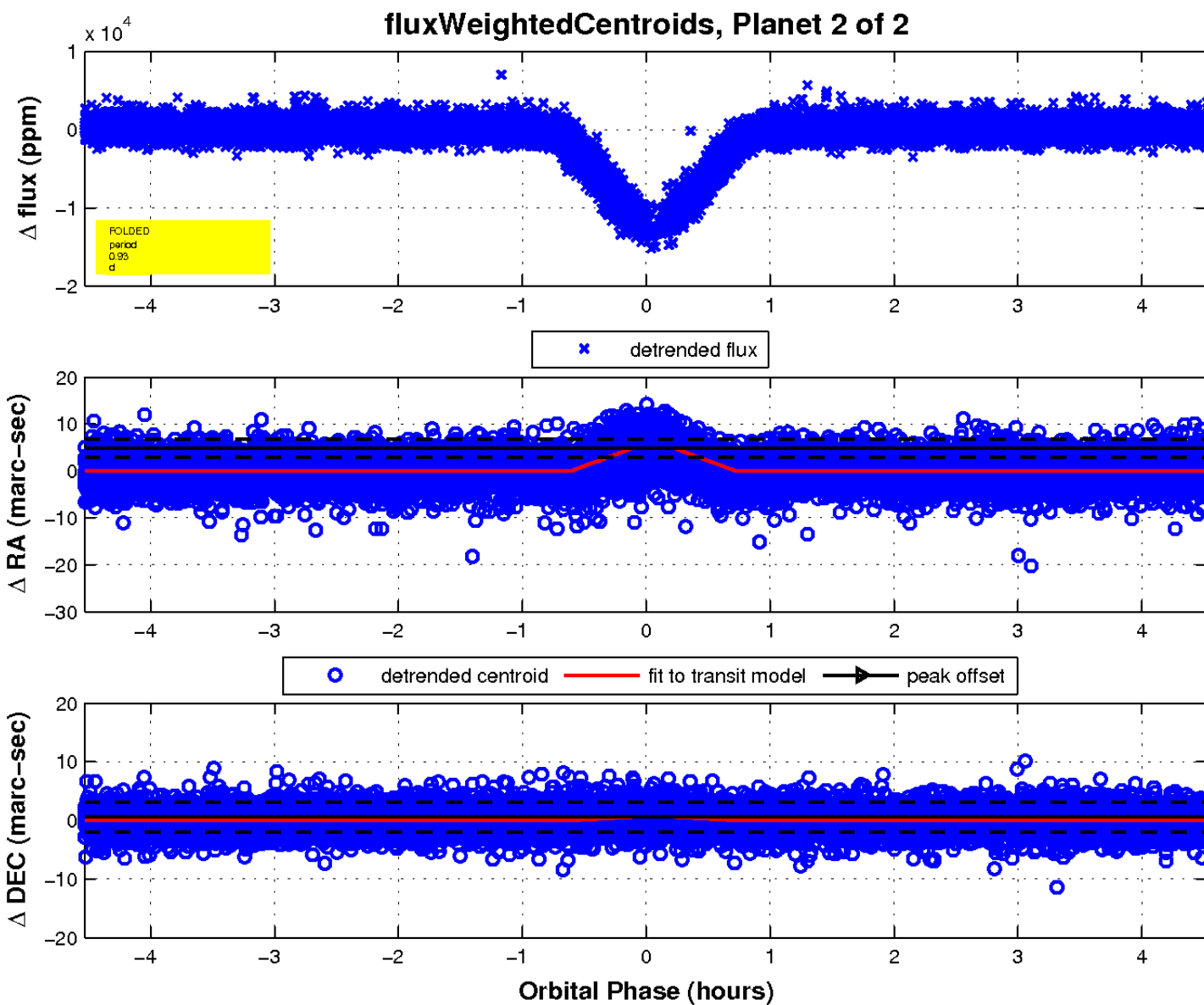
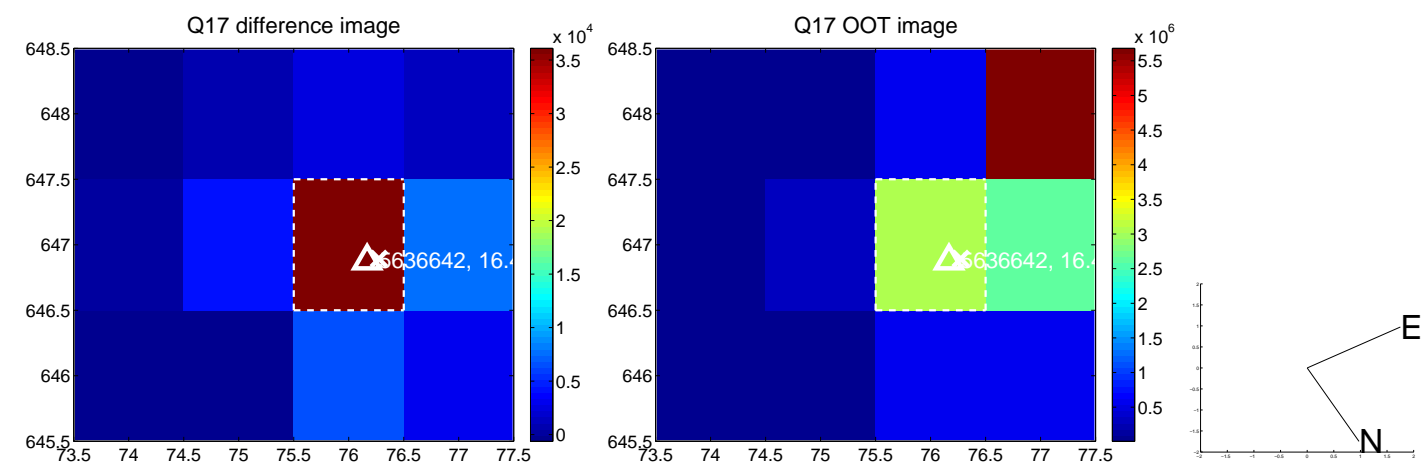
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UKIRT Image

