

KIC 004264340

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})
004264340-01	OBS	No	704.647063	144.681142	257.6	24.465	8.0	7.4	0.72	5327	1.19	0.20
004264340-02	OBS	No	455.824044	182.696581	192.2	13.682	7.4	7.4	0.72	5327	1.11	0.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004264340-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004264340-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—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.

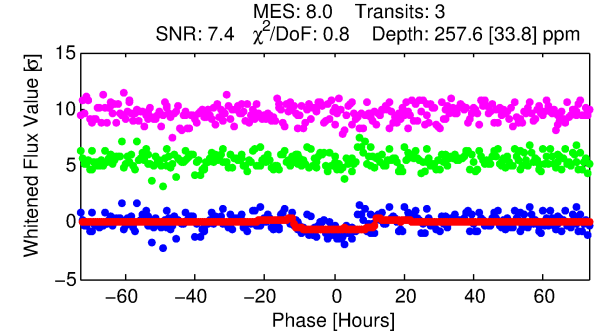
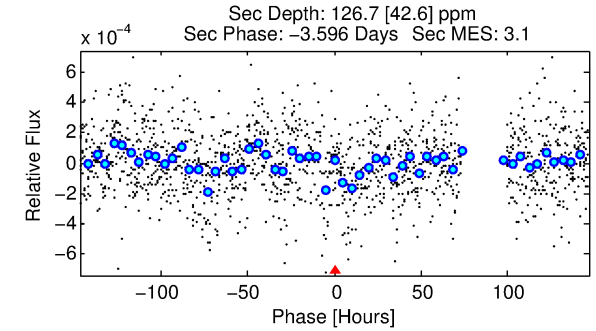
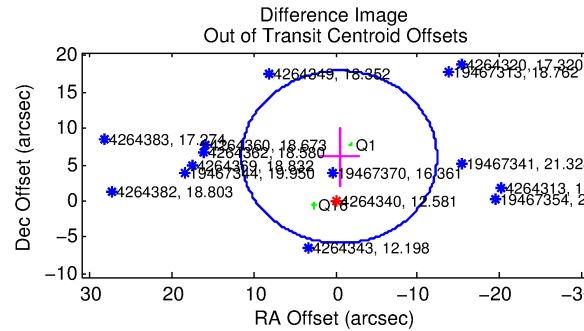
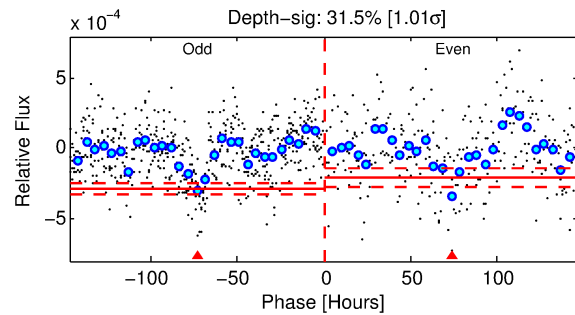
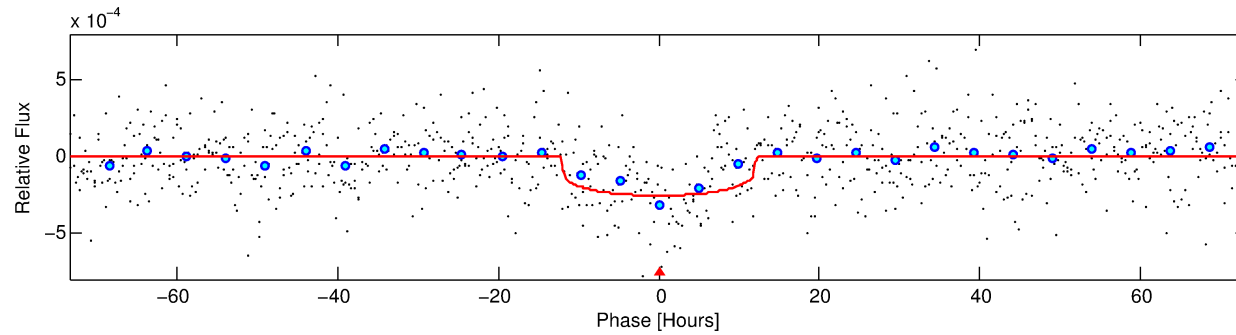
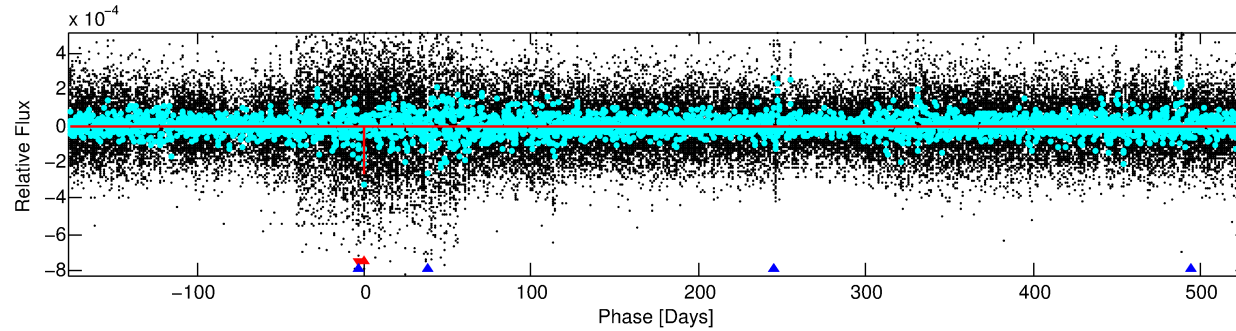
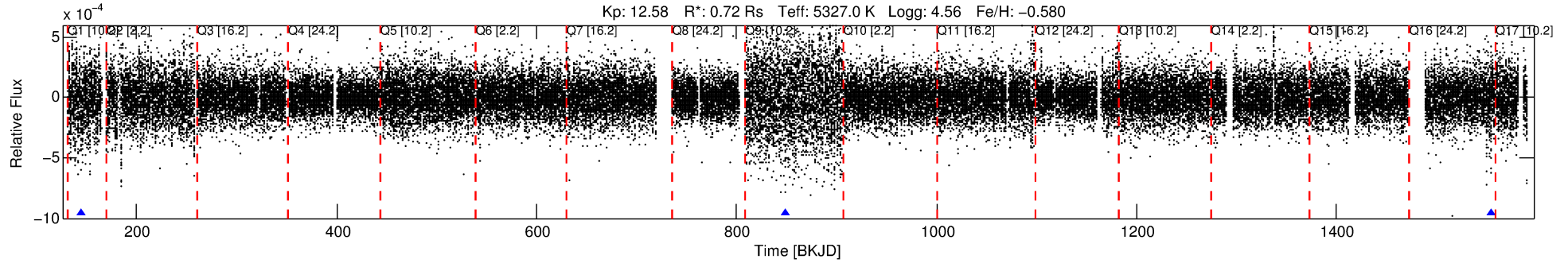
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004264340-01

No Significant Match Found

DV One-Page Summary

KIC: 4264340 Candidate: 1 of 2 Period: 704.647 d



DV Fit Results:

Period = 704.64706 [0.01308] d
Epoch = 144.6811 [0.0182] BKJD
Rp/R* = 0.0150 [0.0056]
a/R* = 191.61 [296.03]
b = 0.52 [2.17]
Seff = 0.20 [0.04]
Teq = 170 [9] K
Rp = 1.19 [0.47] Re
a = 1.3744 [0.1431] AU
Ag = 93587.75 [78287.69] [1.20 σ]
Teffp = 4609 [960] K [4.62 σ]

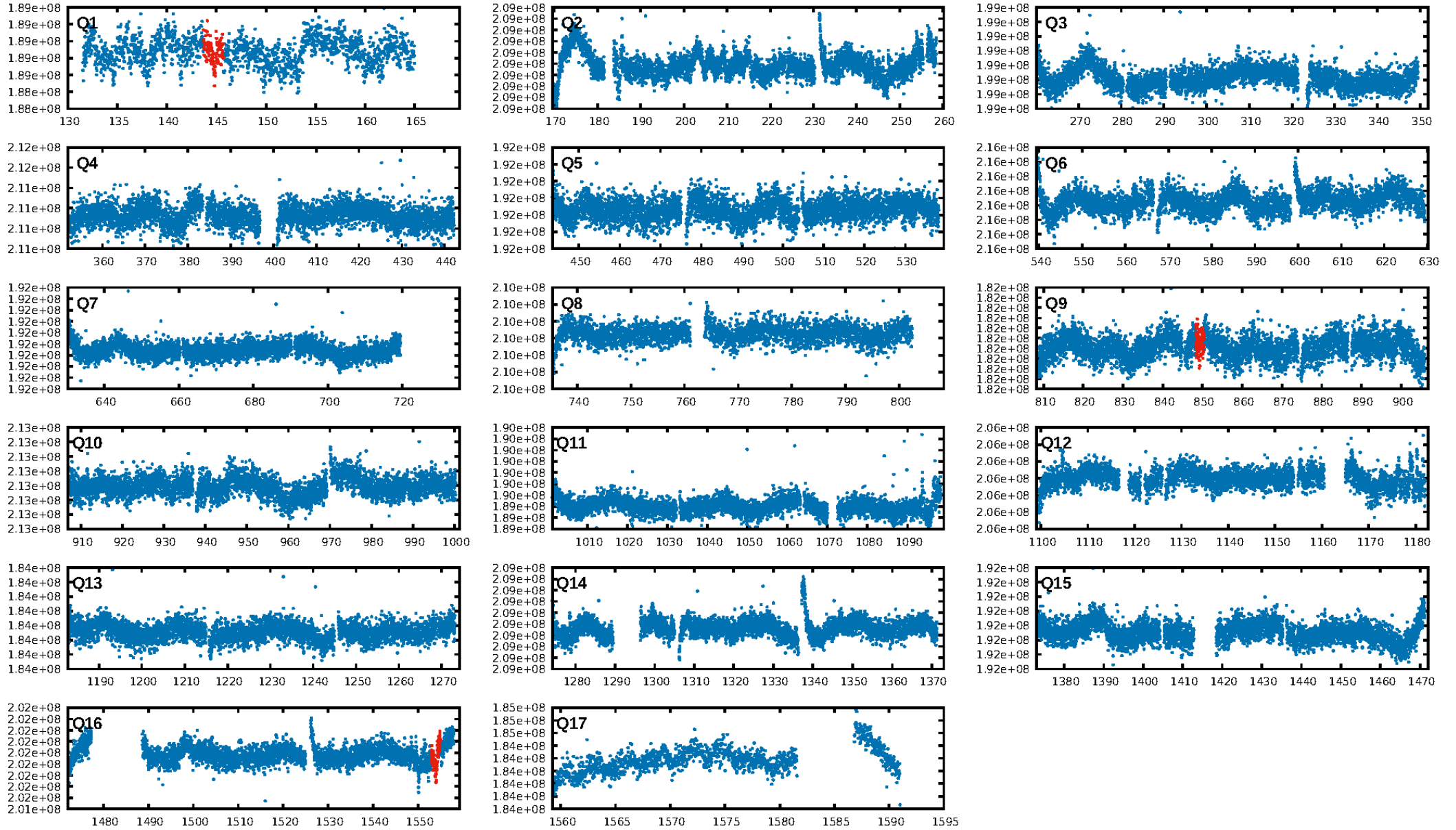
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [213.04 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 35.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.45e-11
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 2.045
Centroid-sig: 1.0%
Centroid-so: 1.497 arcsec [2.92 σ]
OotOffset-rm: 6.075 arcsec [1.53 σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-rm: 2.977 arcsec [1.77 σ]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

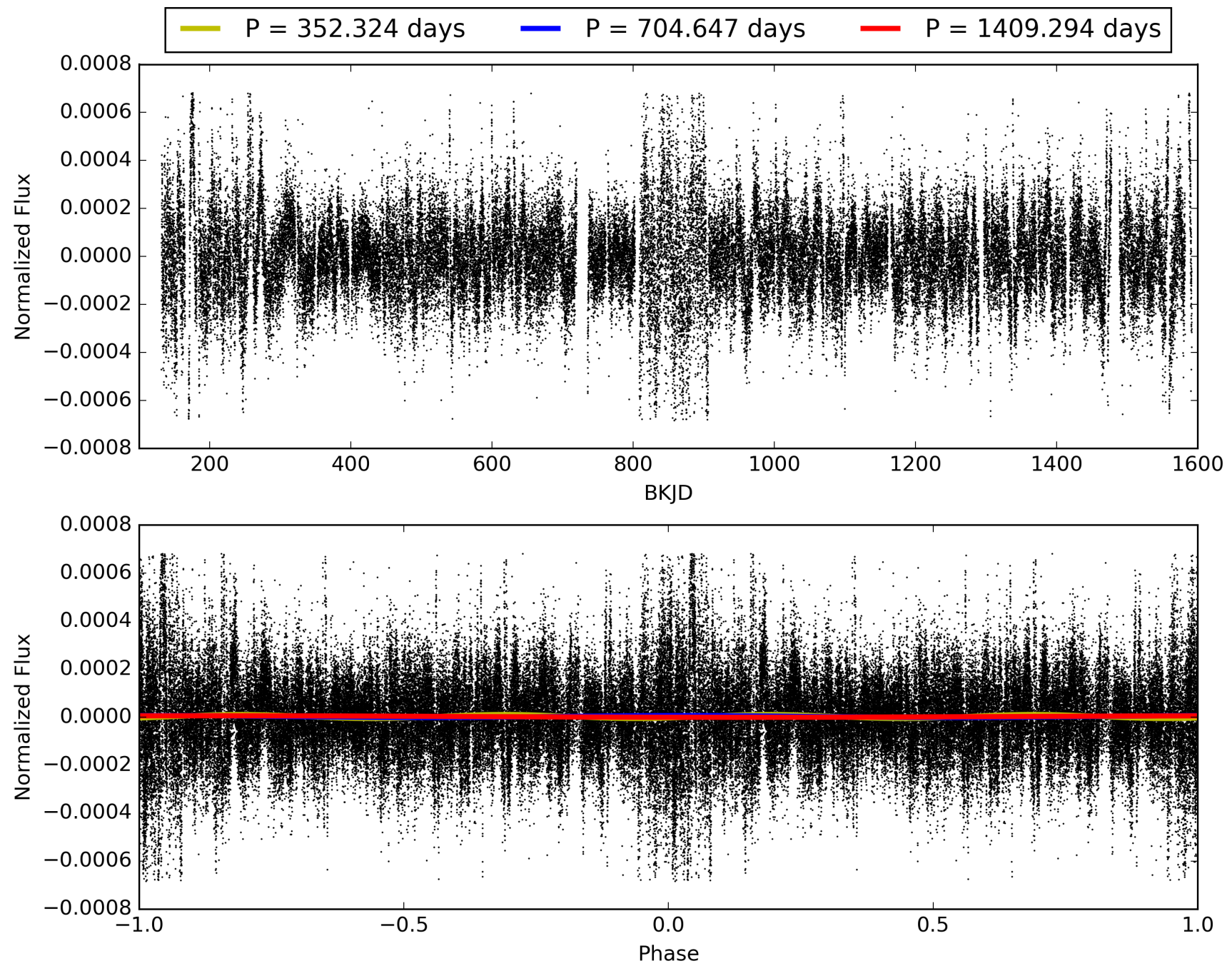
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 23:49:58 Z

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

TCE 004264340-01, PDC Light Curves

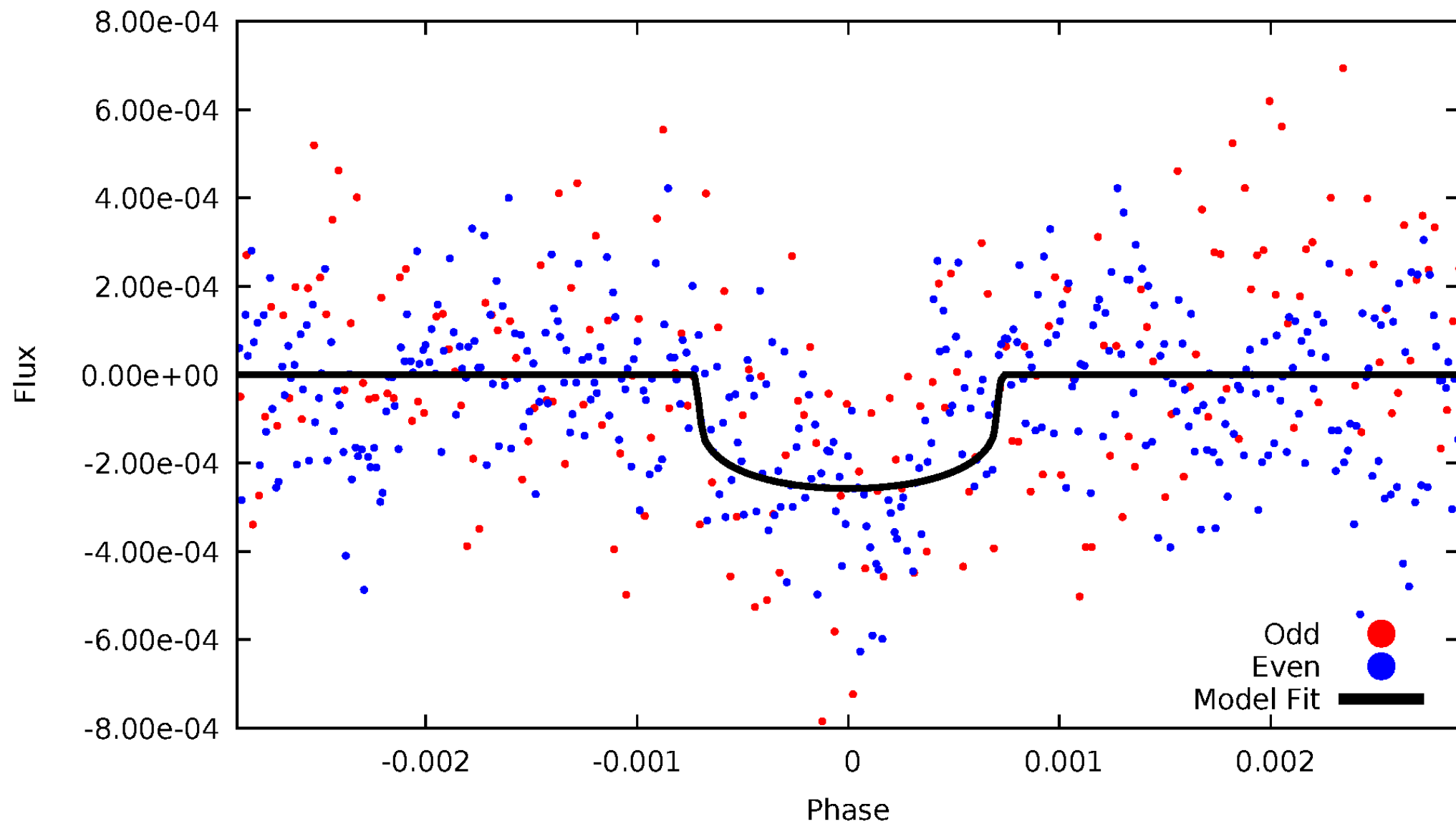


TCE 004264340-01



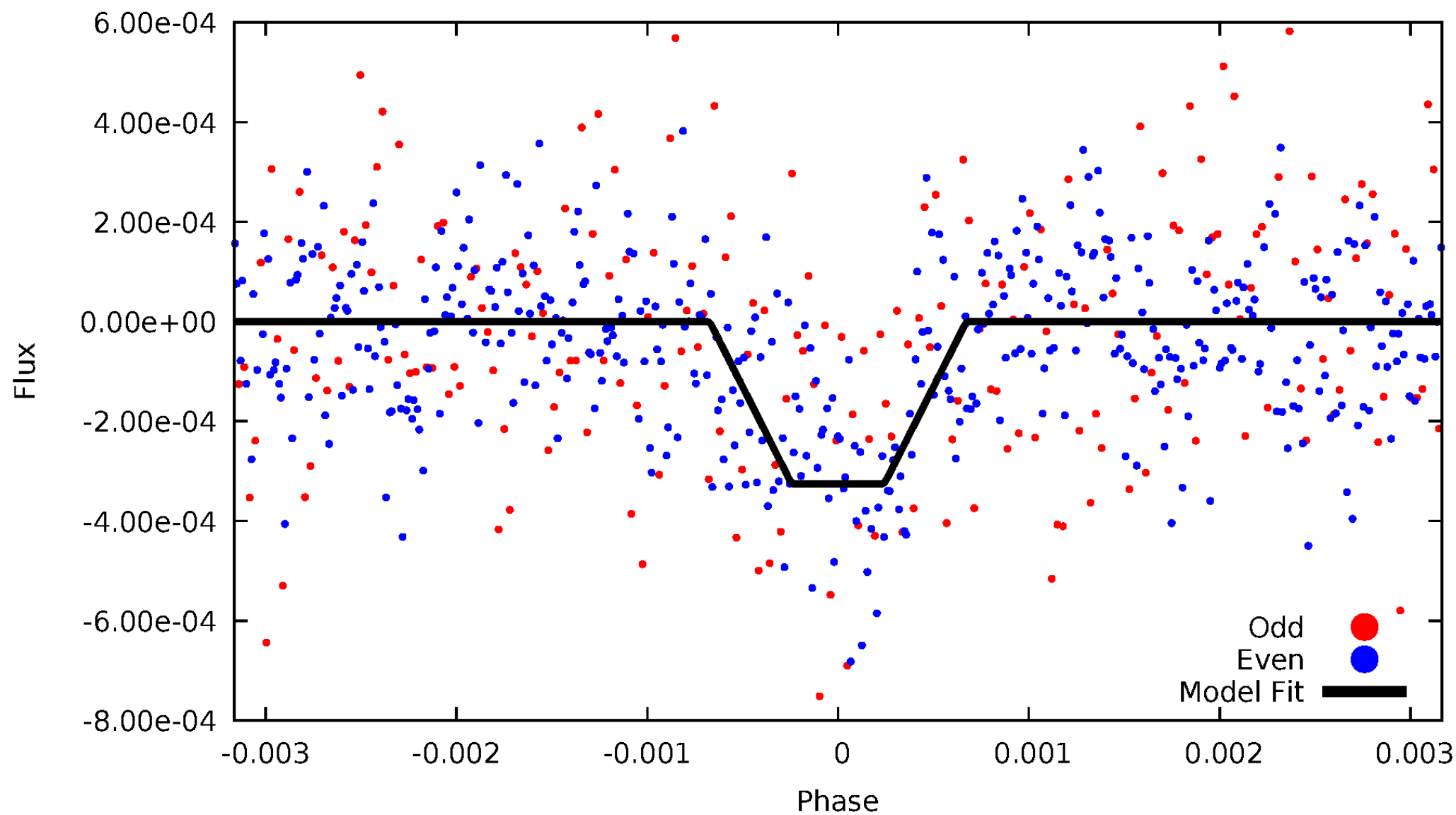
DV Odd/Even

TCE 004264340-01

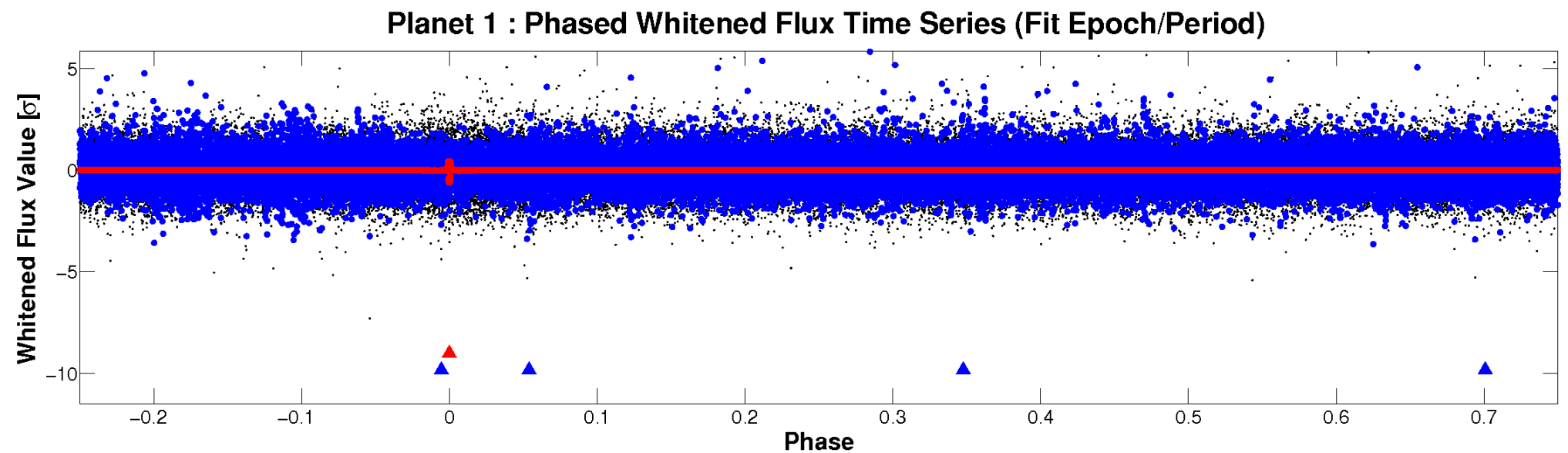
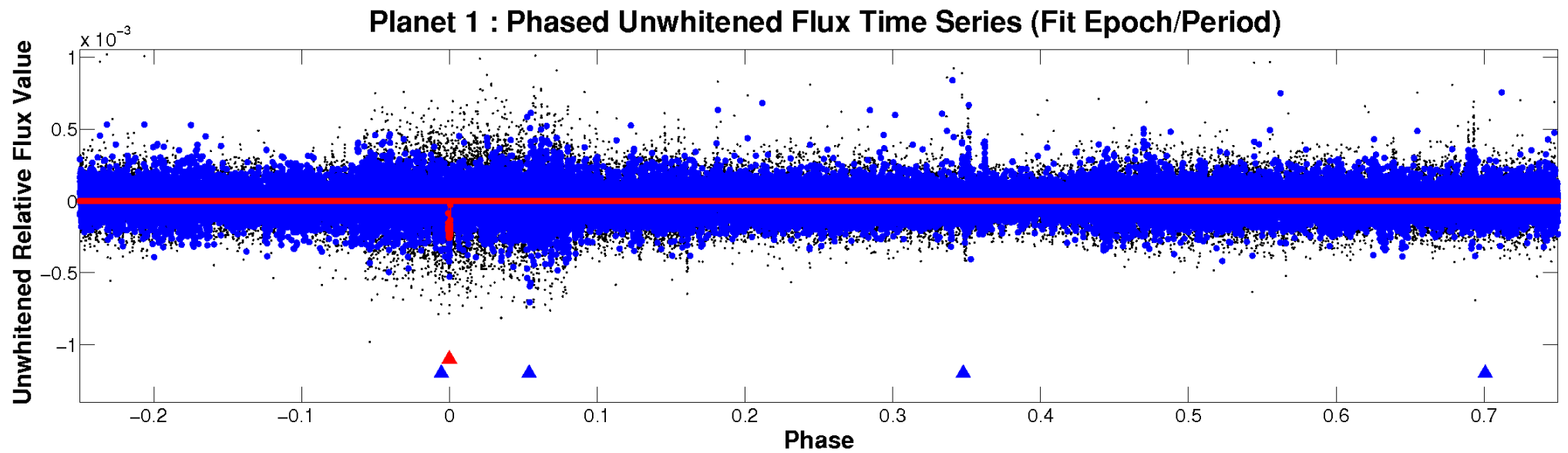


ALT Odd/Even

TCE 004264340-01



Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 004264340-01 P=704.647063 Days $T_0=144.681142$ (BKJD)



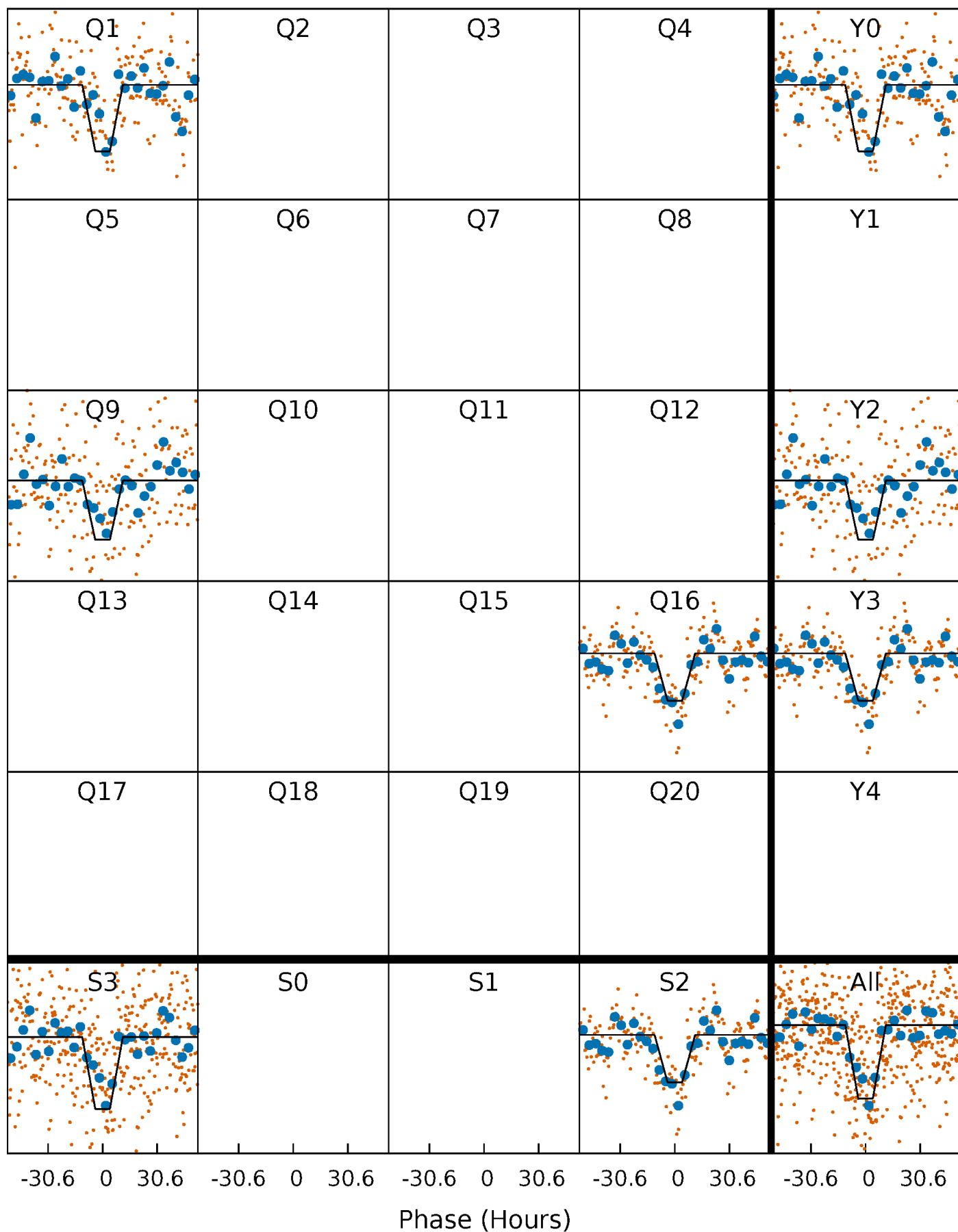
DV Quarter-Phased Transit Curves

TCE 004264340-01 P=704.647063 Days $T_0=144.681142$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

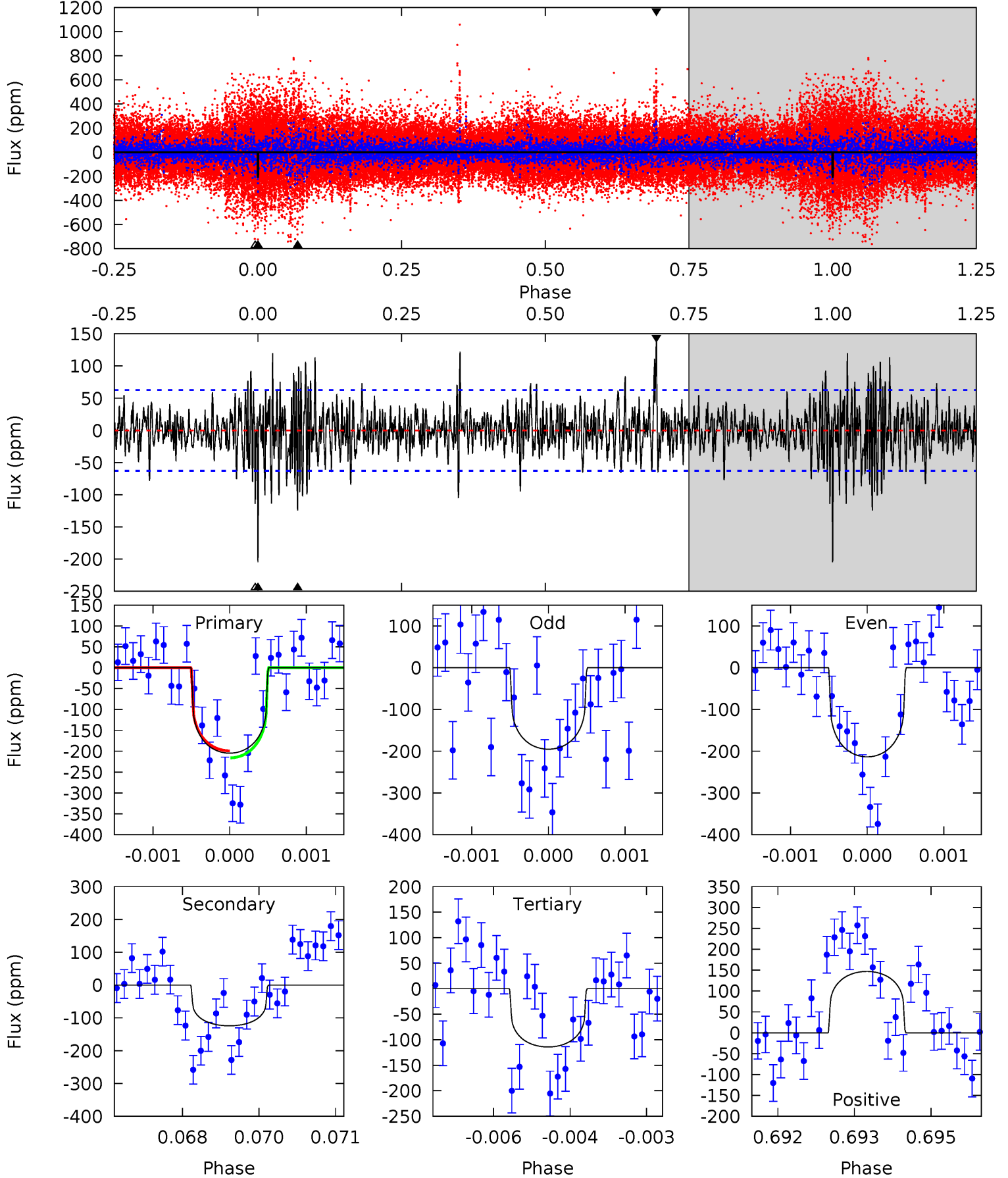
TCE 004264340-01 P=704.658128 Days $T_0=144.651790$ (BKJD)



DV Model-Shift Uniqueness Test

004264340-01, $P = 704.647063$ Days, $E = 144.681142$ Days

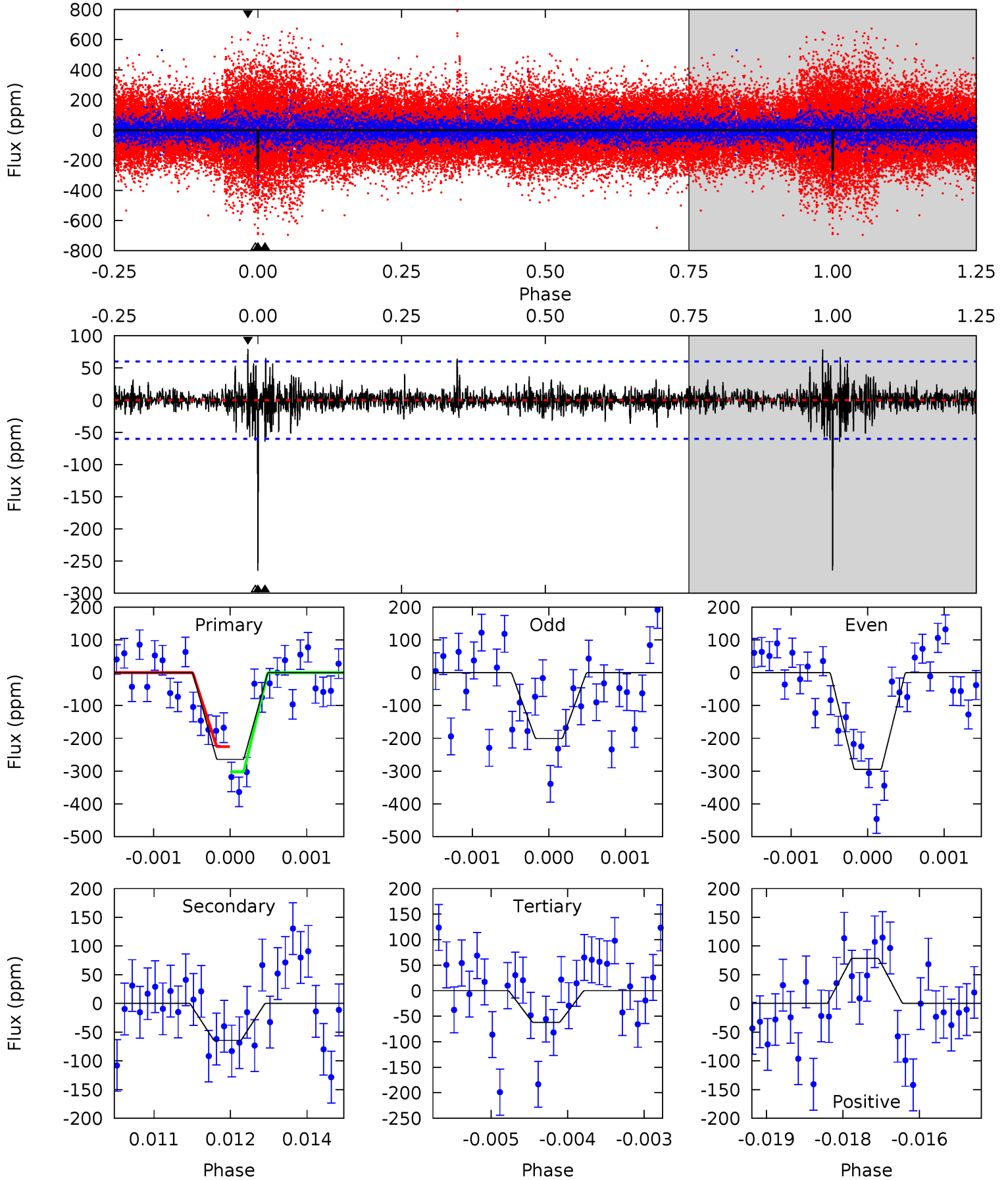
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.6	10.7	9.79	12.6	5.38	3.18	2.59	7.76	4.96	0.87	-1.93	0.73	1.04	0.42	0.72



Alt Model-Shift Uniqueness Test

004264340-01, P = 704.658128 Days, E = 144.651790 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.8	5.79	5.59	7.06	5.39	3.20	1.07	18.2	16.7	0.20	-1.27	3.83	1.23	0.23	3.46



Stellar Parameters For KIC 004264340

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5327^{+177}_{-160}	$4.563^{+0.082}_{-0.067}$	$-0.580^{+0.350}_{-0.300}$	$0.723^{+0.090}_{-0.073}$	$0.697^{+0.090}_{-0.039}$	$2.598^{+0.883}_{-0.608}$
	+3%/-3%	+2%/-1%	+60%/-52%	+12%/-10%	+13%/-6%	+34%/-23%
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 004264340-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-124 ± 12	$1.19^{+0.45}_{-0.42}$	238^{+10}_{-10}	4692^{+965}_{-566}	$92104^{+129353}_{-44029}$
Alt.	-64 ± 11	$1.48^{+0.46}_{-0.50}$	238^{+10}_{-11}	3847^{+627}_{-358}	30750^{+40735}_{-13220}

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 $A_{\text{obs}} \gg 1.0$

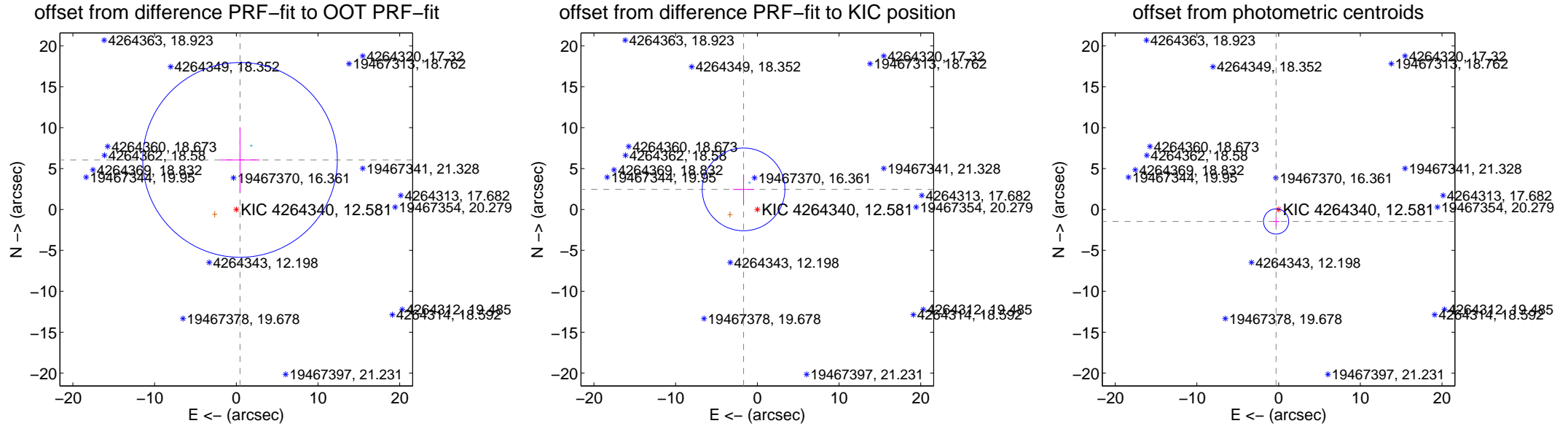
DV Centroid Data

Supplemental centroid analysis for 004264340-01. Kepler magnitude: 12.58. Transit SNR 7.41

There are 1 quarters with good PRF difference image offsets

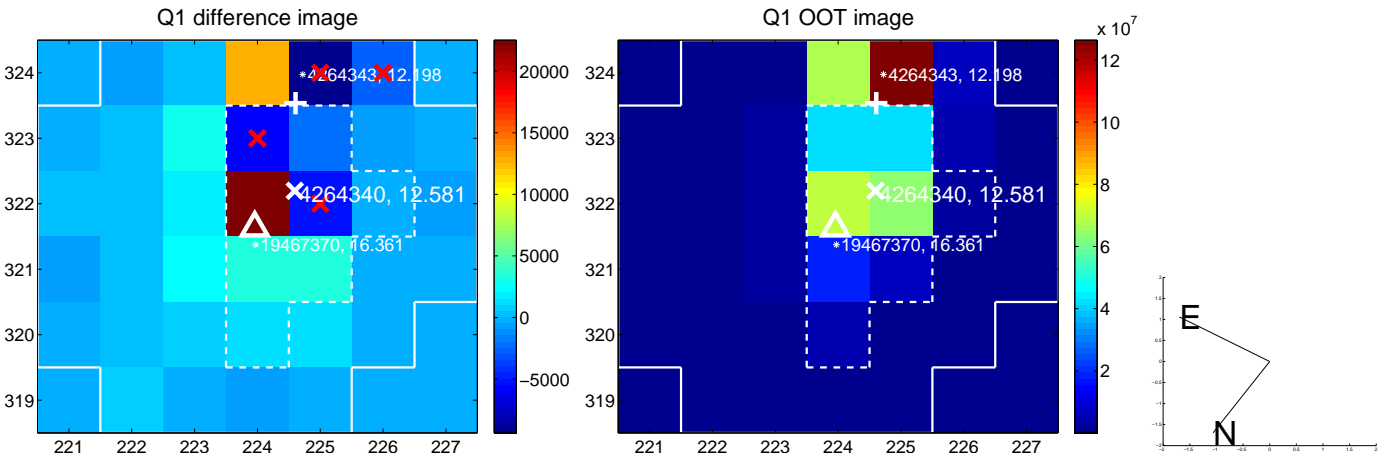
The direct PRF centroid is offset from the target star catalog position by about 0.70 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.075 ± 3.967	1.53	-0.458 ± 2.414	6.058 ± 3.975
PRF-fit source offset from KIC position	2.977 ± 1.686	1.77	1.683 ± 1.289	2.455 ± 1.843
photometric centroid source offset	1.50 ± 0.51	2.92	0.31 ± 0.37	-1.47 ± 0.52



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.

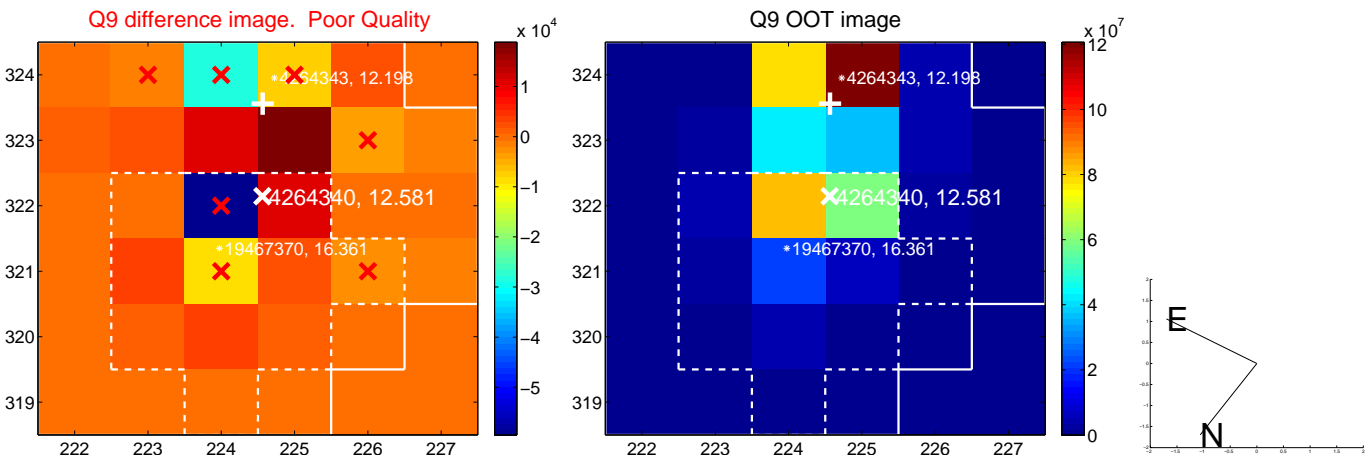
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



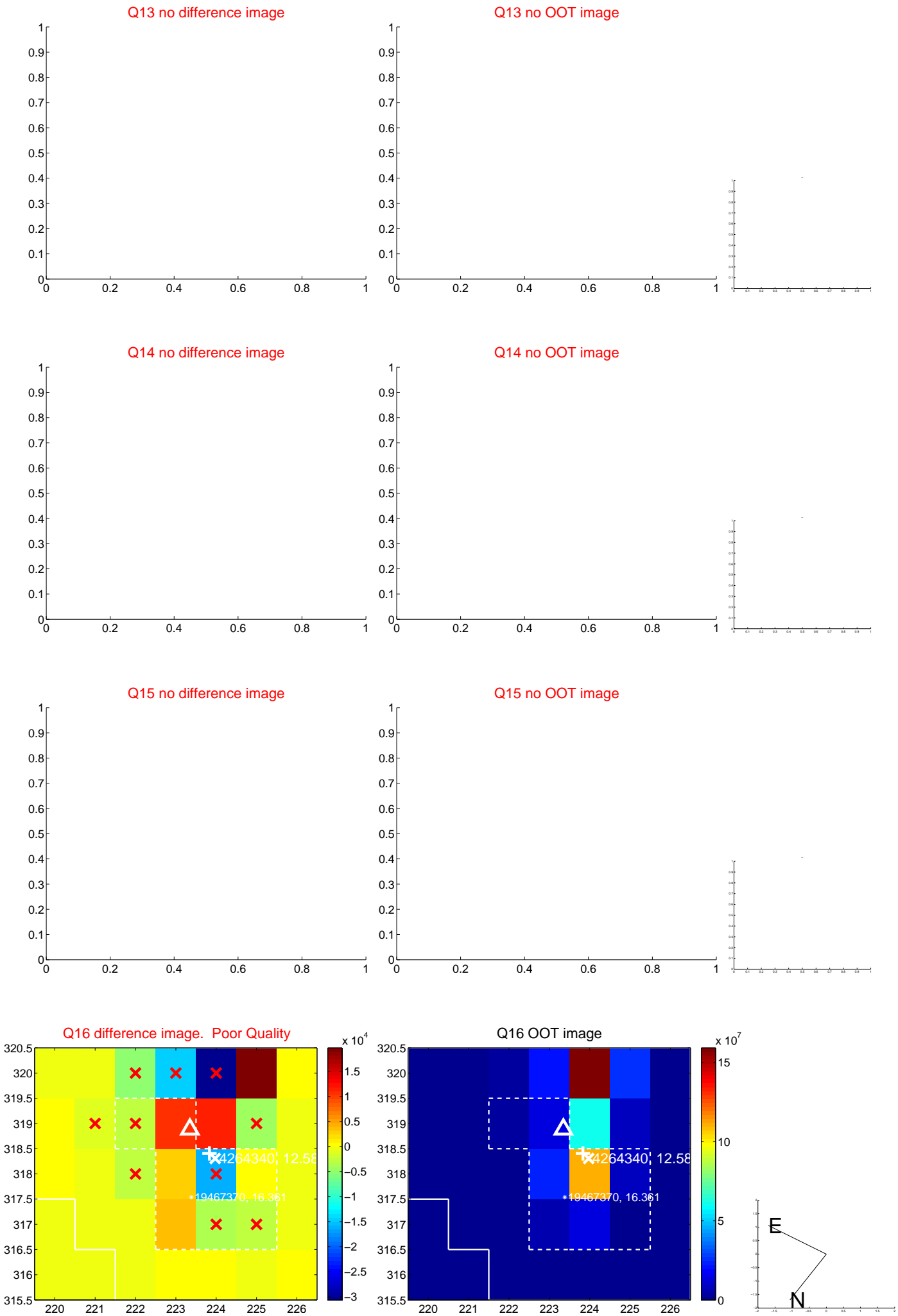
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



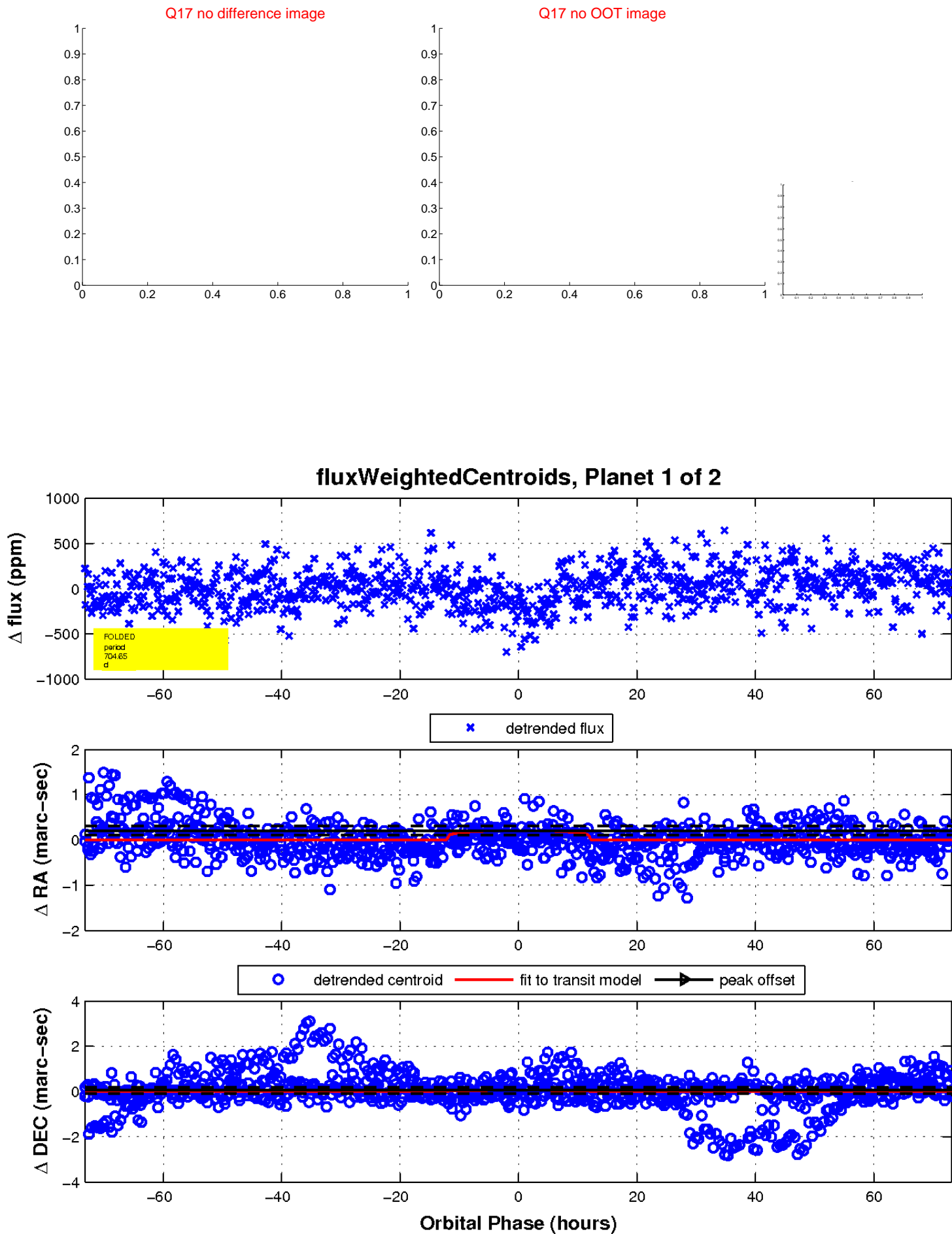
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



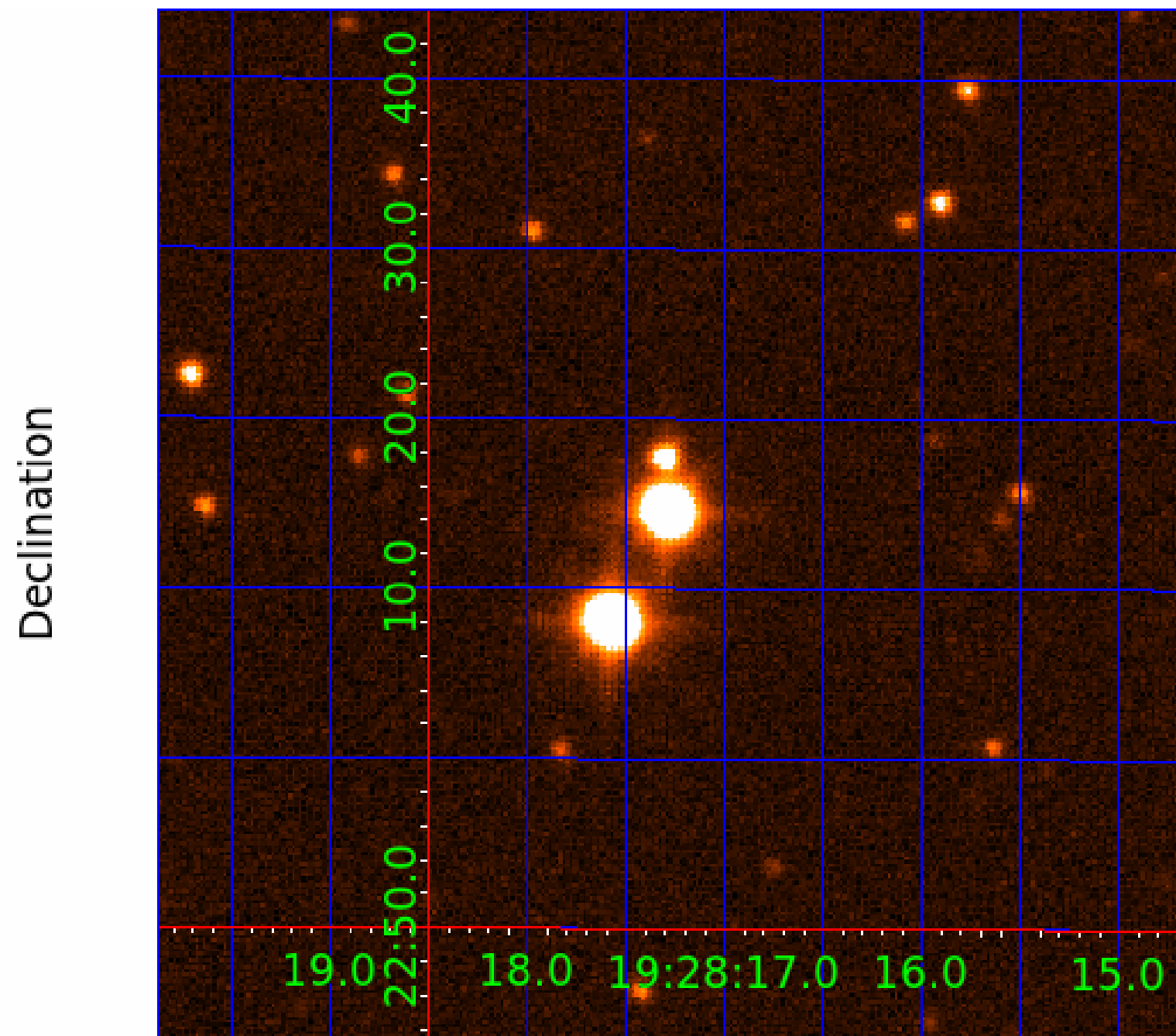
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 004264340

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})
004264340-01	OBS	No	704.647063	144.681142	257.6	24.465	8.0	7.4	0.72	5327	1.19	0.20
004264340-02	OBS	No	455.824044	182.696581	192.2	13.682	7.4	7.4	0.72	5327	1.11	0.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004264340-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
004264340-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—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.

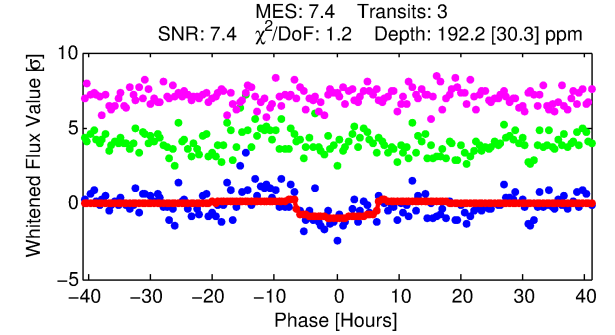
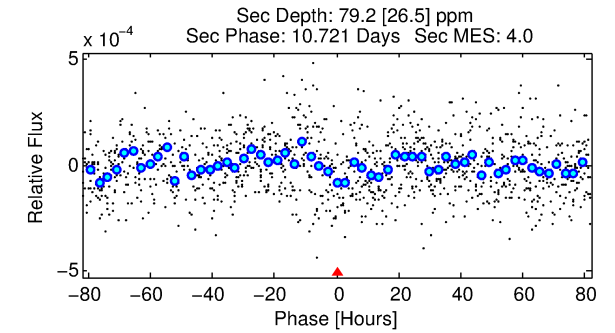
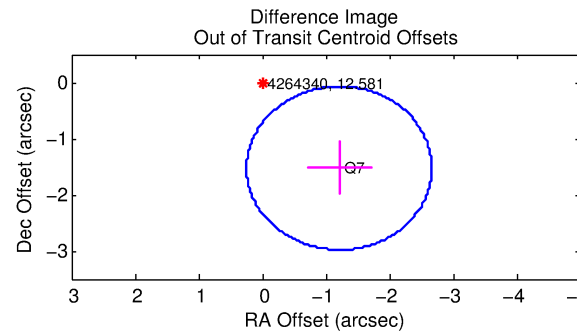
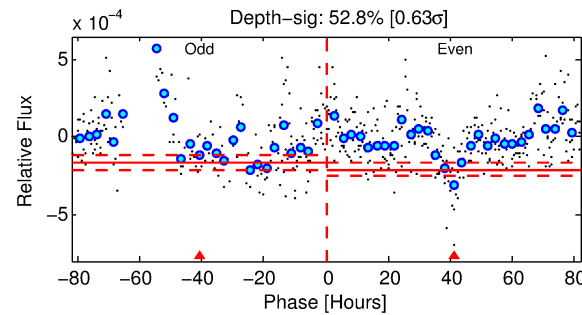
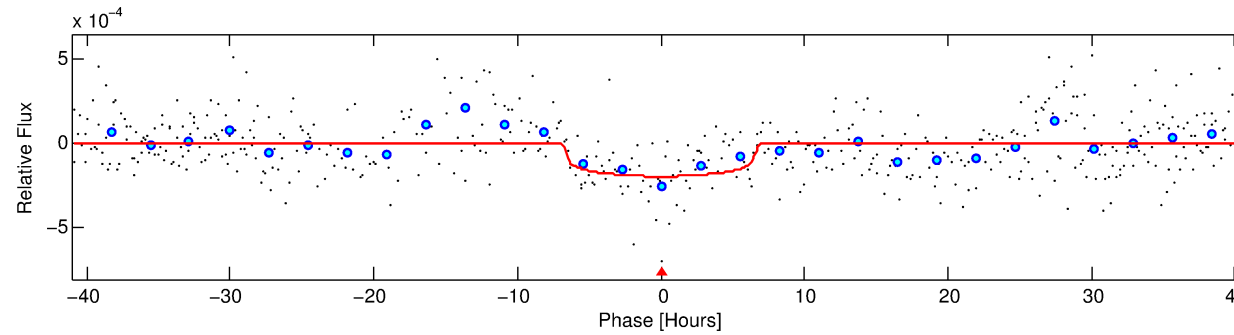
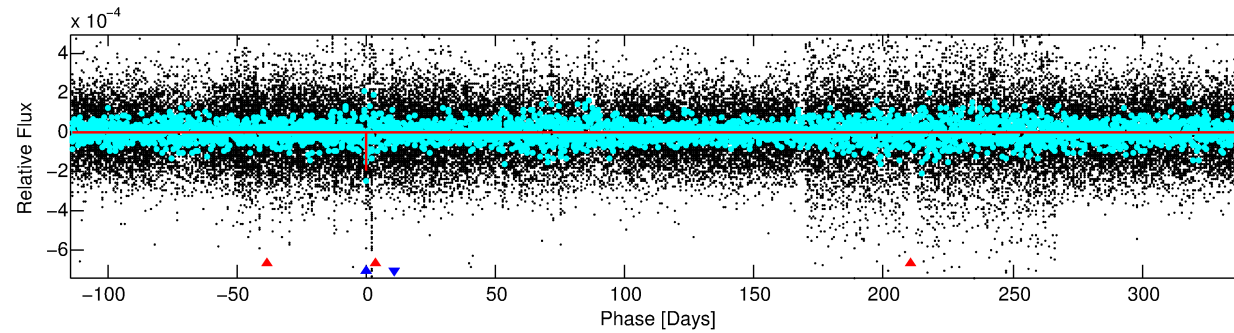
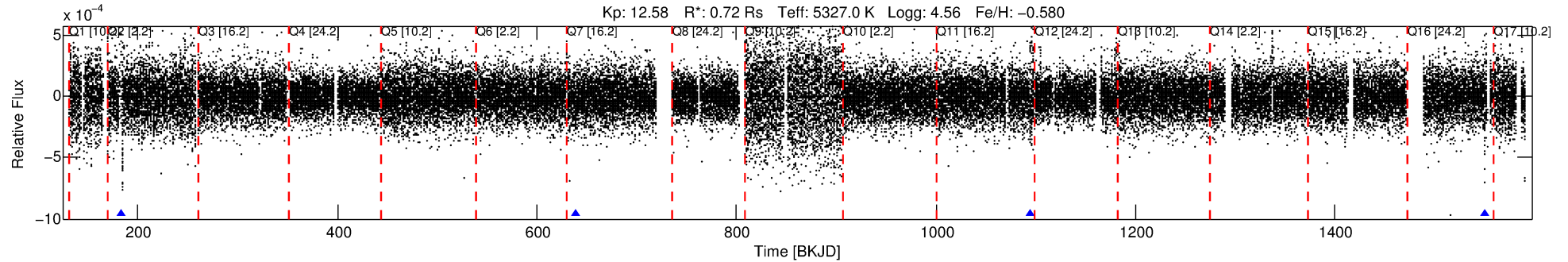
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004264340-02

No Significant Match Found

DV One-Page Summary

KIC: 4264340 Candidate: 2 of 2 Period: 455.824 d



DV Fit Results:

Period = 455.82404 [0.01575] d
Epoch = 182.6966 [0.0330] BKJD
Rp/R* = 0.0140 [0.0070]
a/R* = 162.26 [343.09]
b = 0.79 [1.03]
Seff = 0.36 [0.07]
Teq = 197 [10] K
Rp = 1.11 [0.57] Re
a = 1.0280 [0.1071] AU
Ag = 37558.17 [39803.20] [0.94σ]
Teffp = 4242 [1121] K [3.61σ]

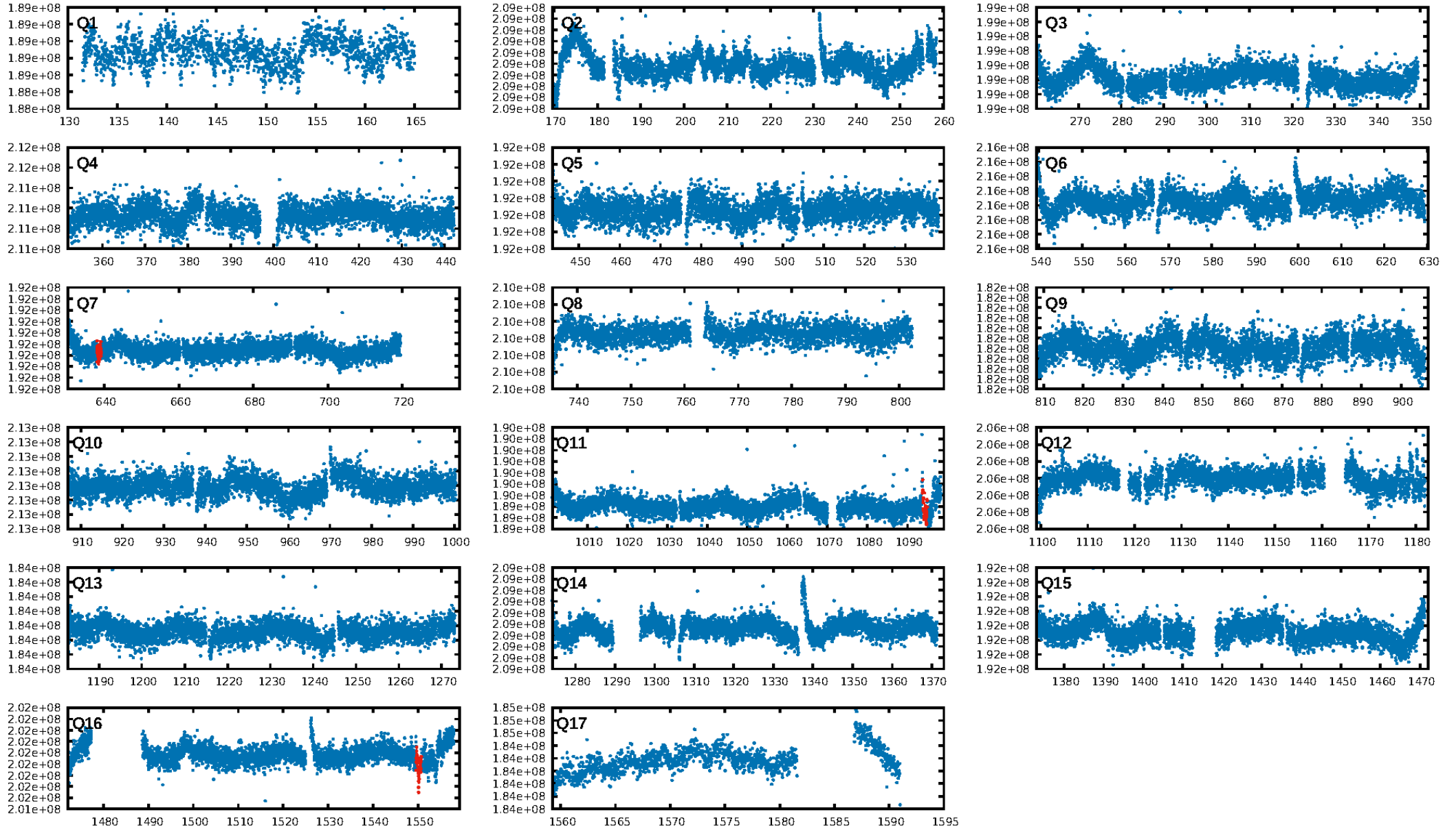
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [213.04σ]
ModelChiSquare2-sig: 40.9%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 1.62e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -6.446
Centroid-sig: 41.3%
Centroid-so: 2.665 arcsec [2.25σ]
OotOffset-rm: 1.948 arcsec [4.02σ]
KicOffset-rm: 5.167 arcsec [10.89σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [1/1]

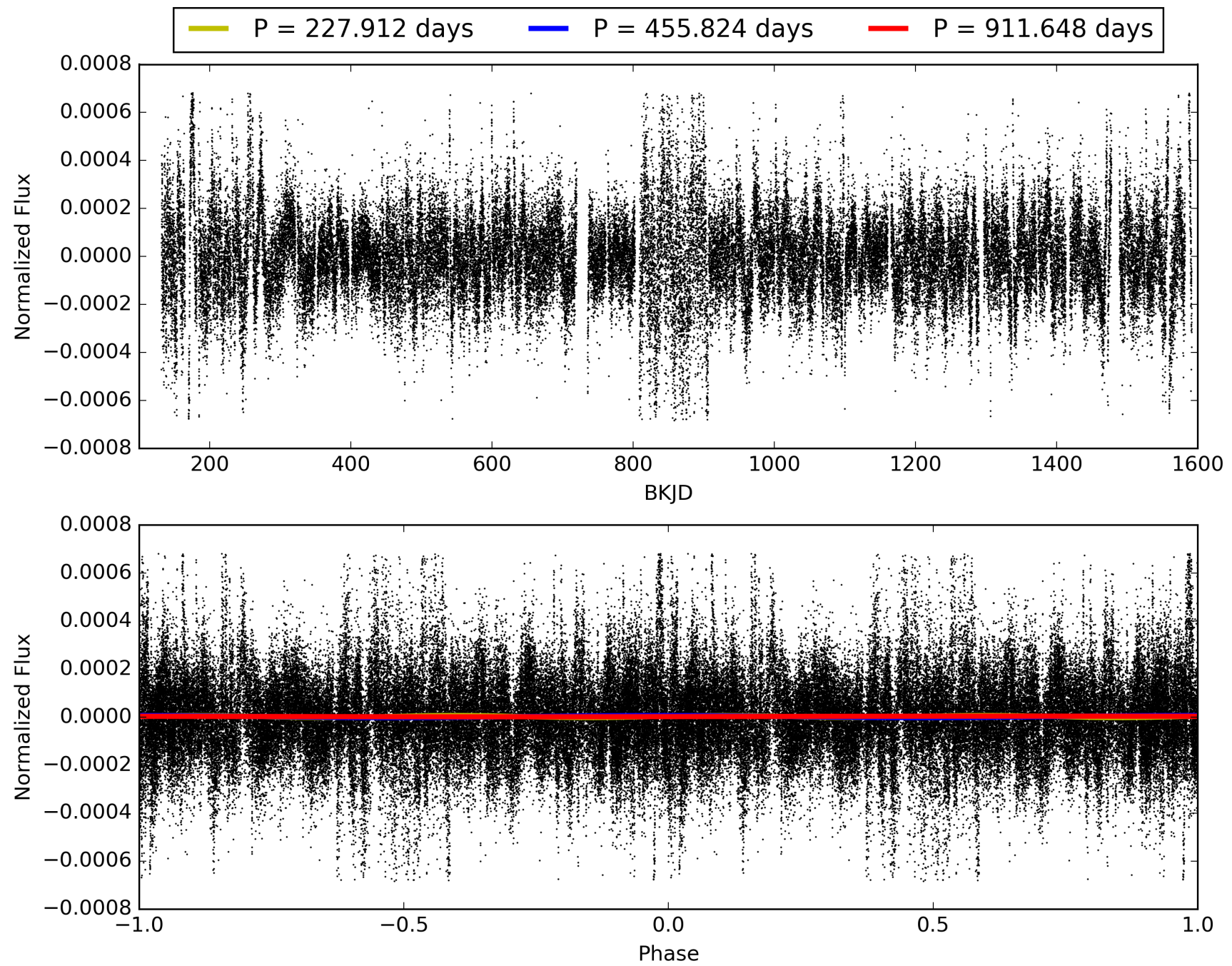
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 23:50:08 Z

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

TCE 004264340-02, PDC Light Curves

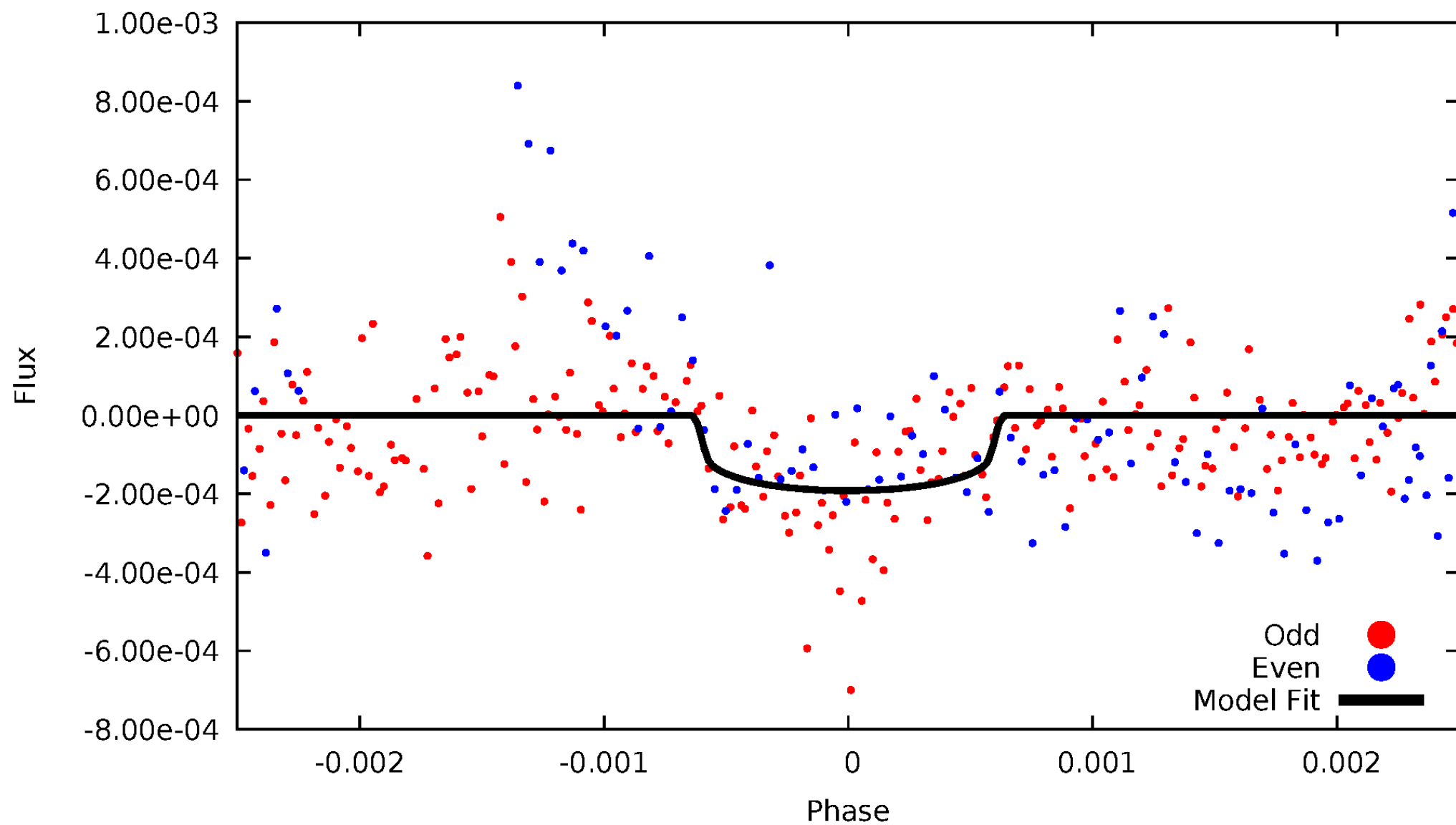


TCE 004264340-02



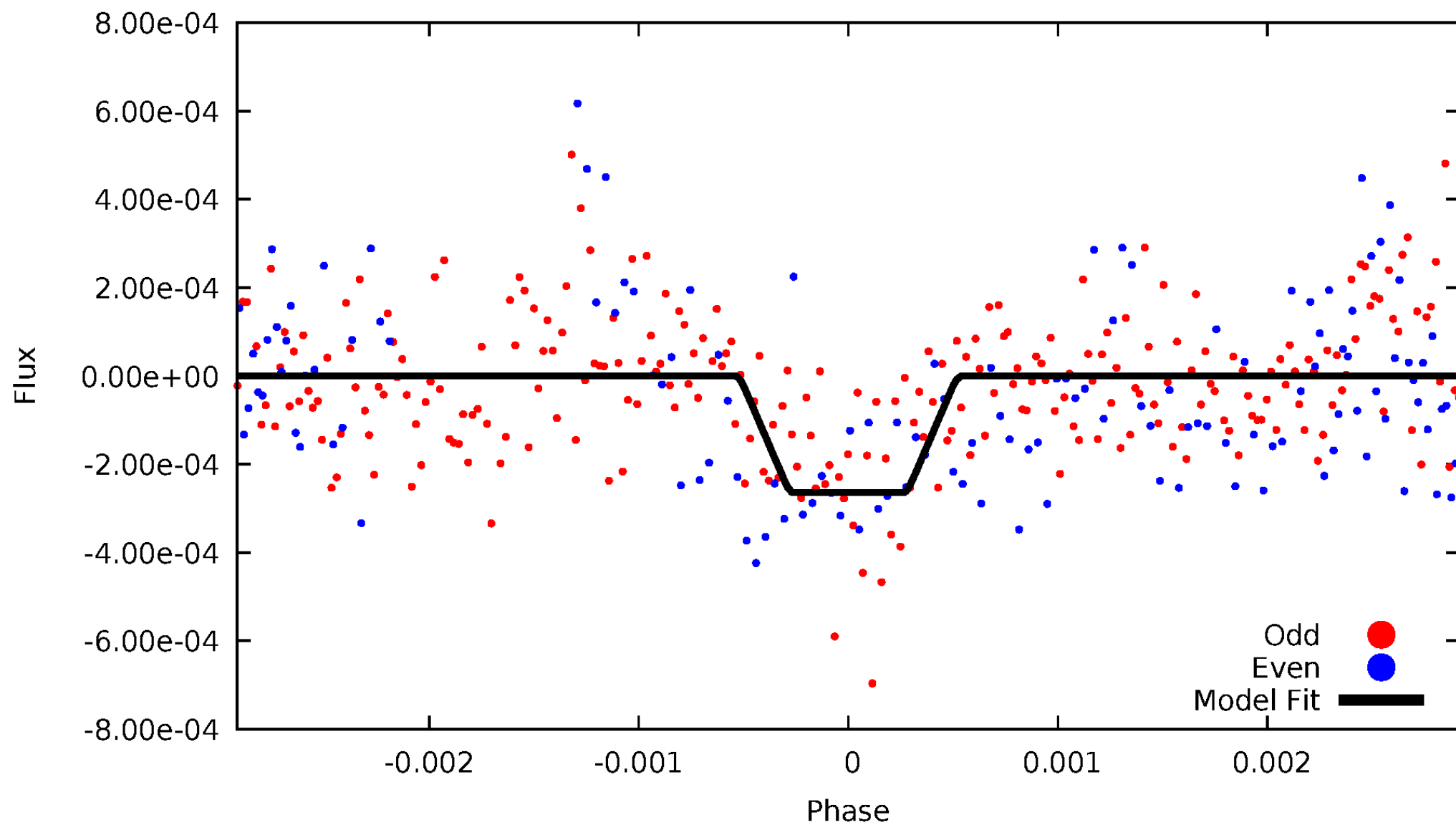
DV Odd/Even

TCE 004264340-02



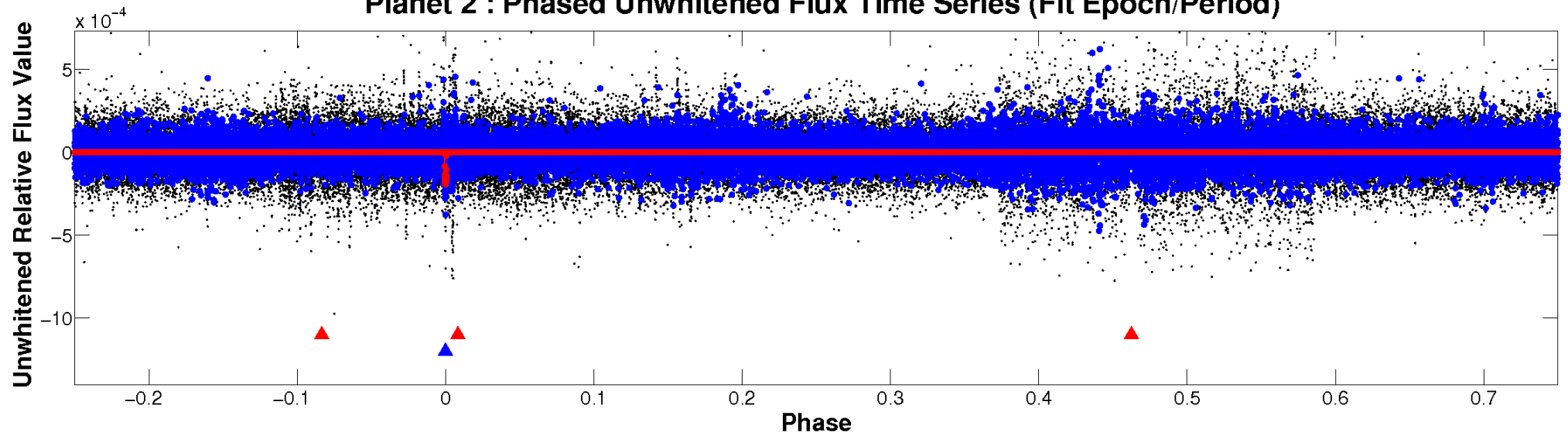
ALT Odd/Even

TCE 004264340-02

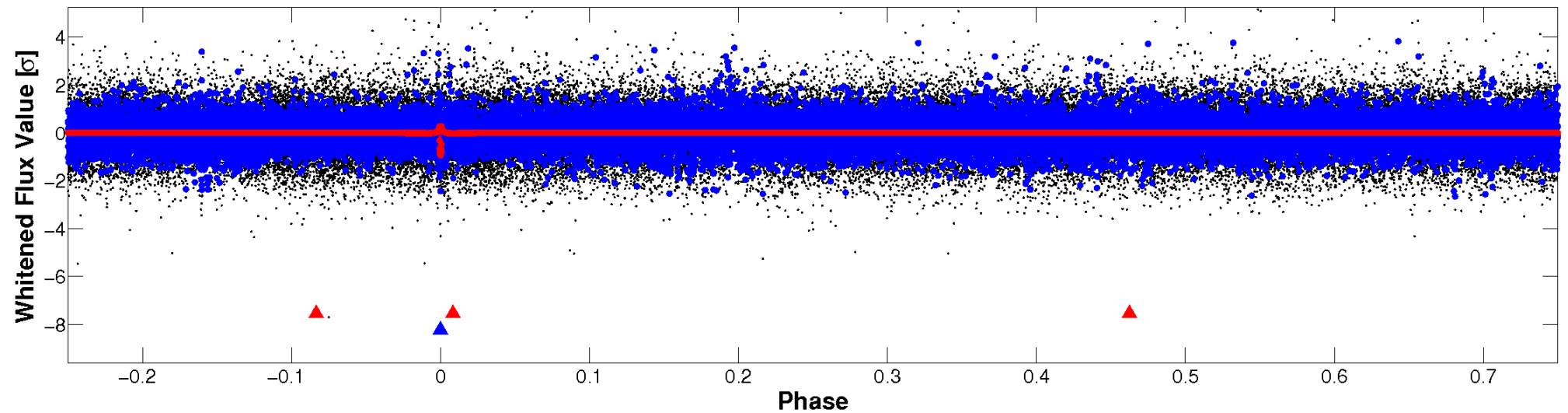


Non-Whitened Vs. Whitened Light Curve

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

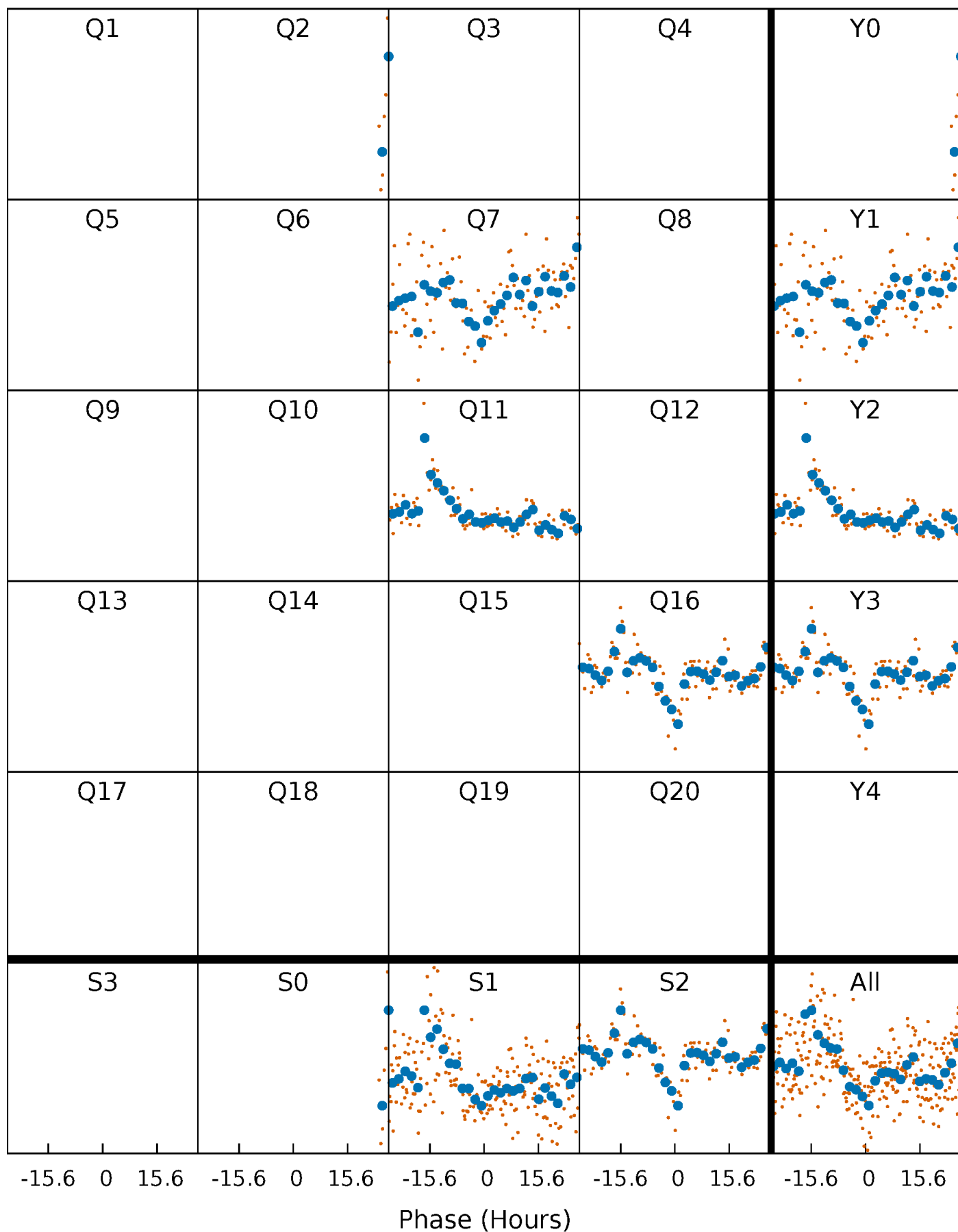


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



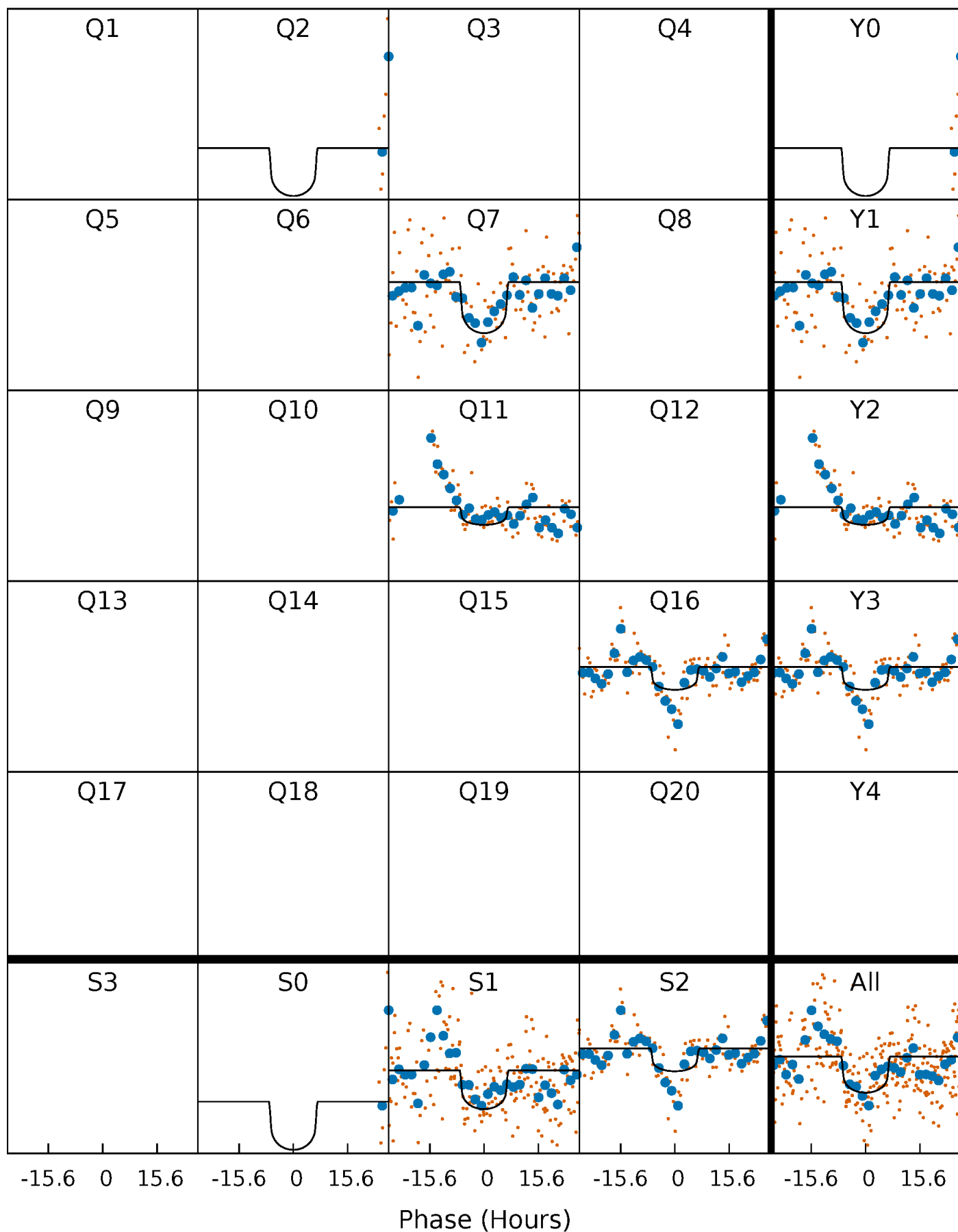
PDC Quarter-Phased Transit Curves

TCE 004264340-02 P=455.824044 Days $T_0=182.696581$ (BKJD)



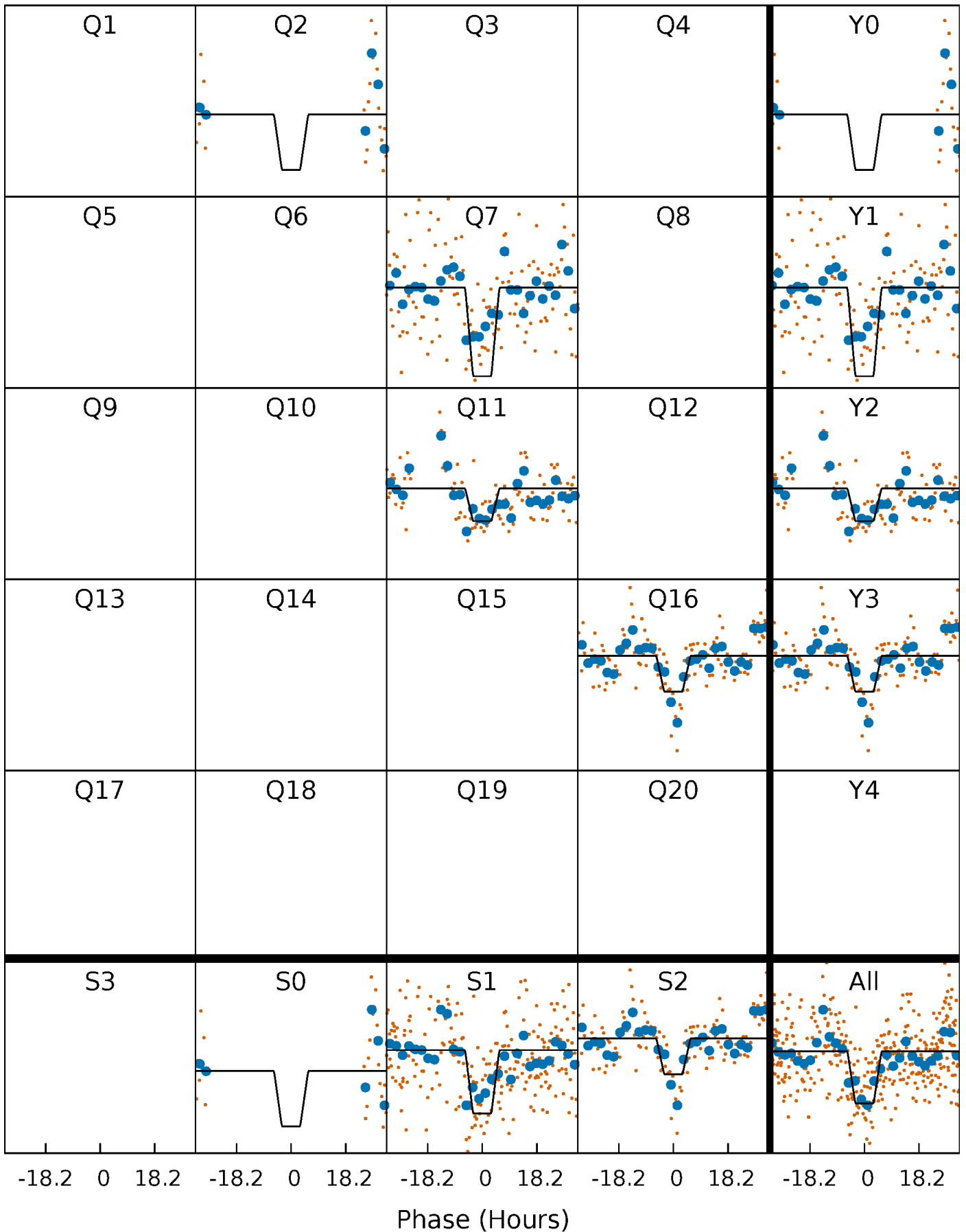
DV Quarter-Phased Transit Curves

TCE 004264340-02 $P=455.824044$ Days $T_0=182.696581$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

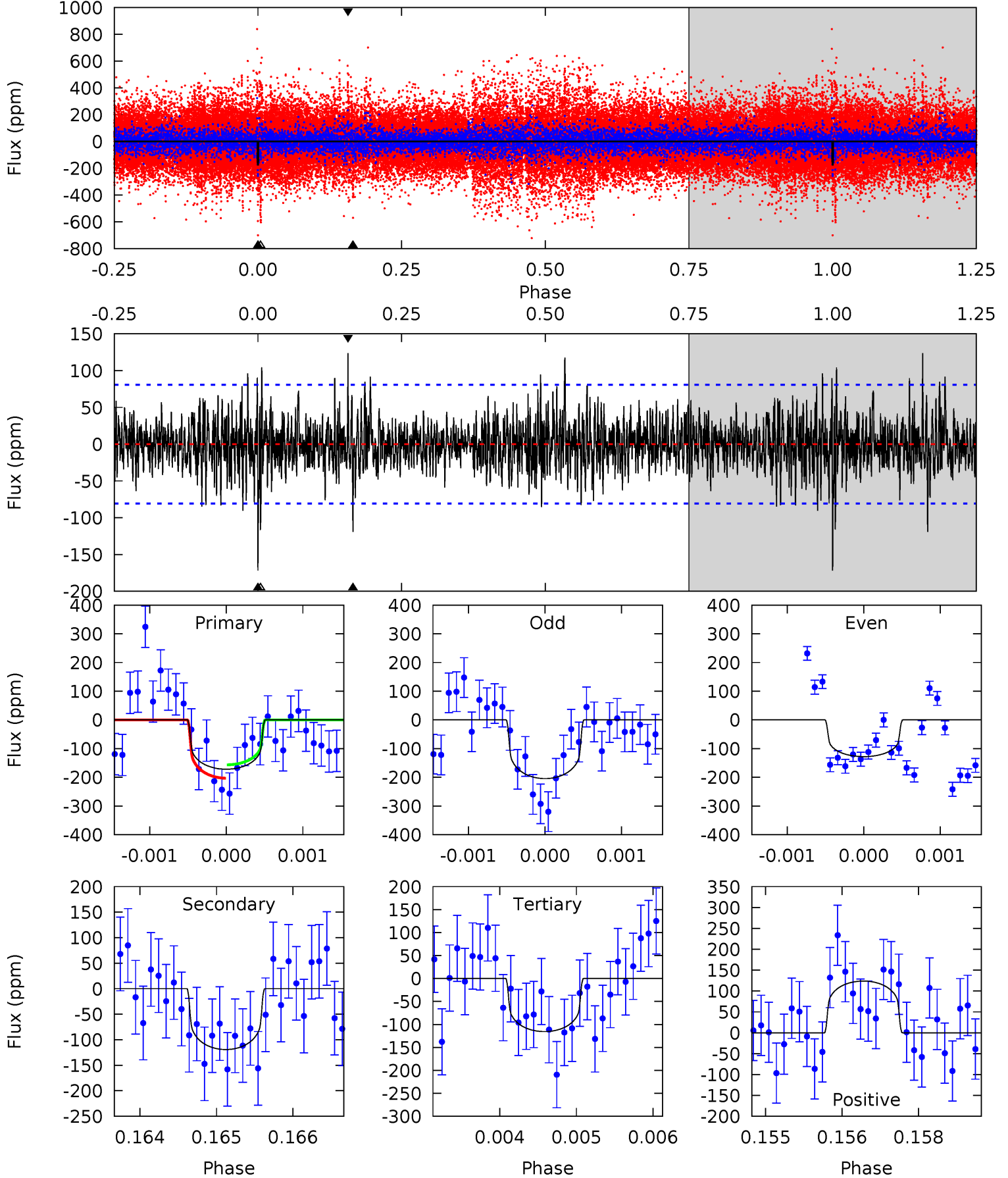
TCE 004264340-02 $P=455.804612$ Days $T_0=182.707659$ (BKJD)



DV Model-Shift Uniqueness Test

004264340-02, P = 455.824044 Days, E = 182.696581 Days

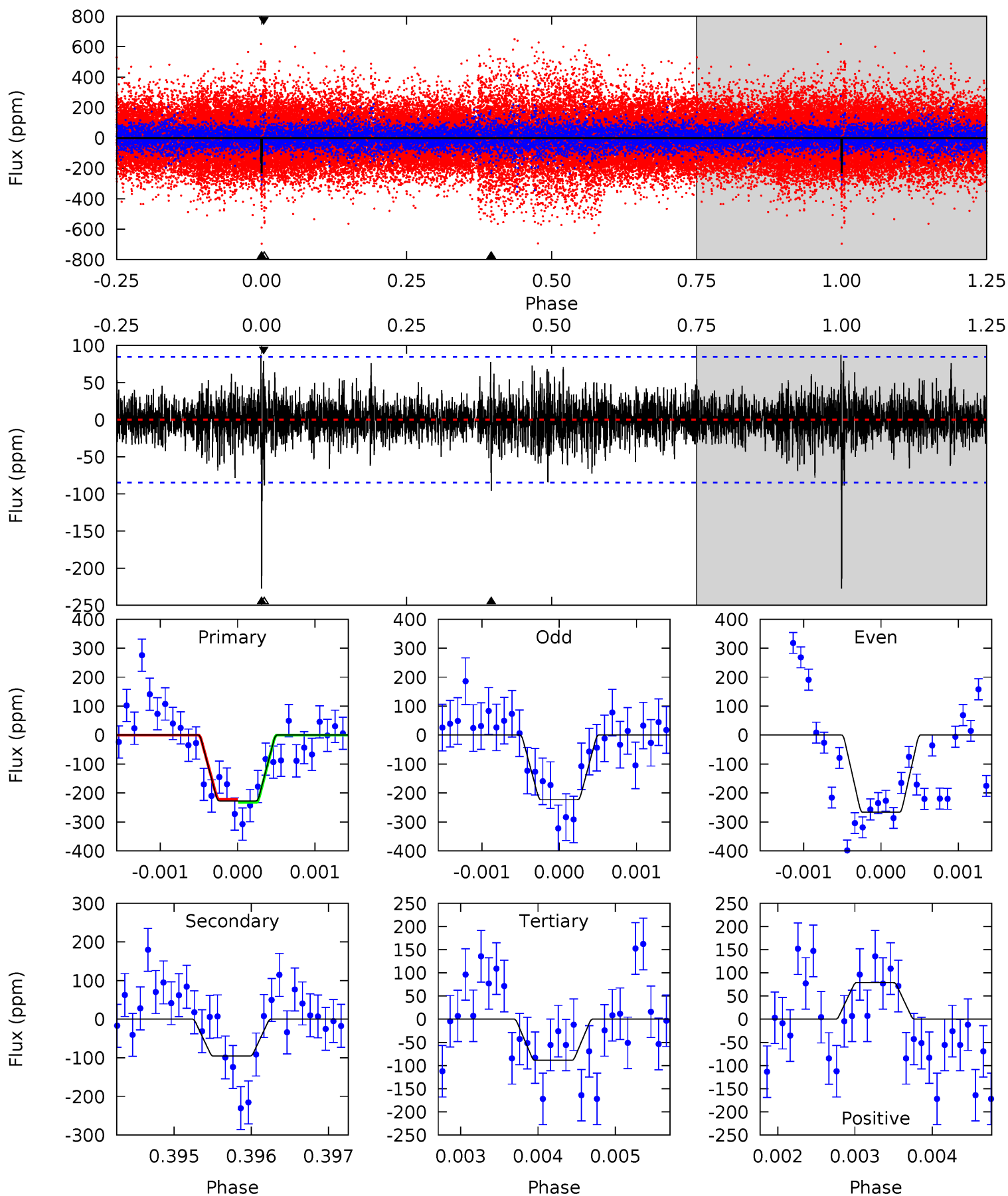
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	7.99	7.75	8.30	5.41	3.22	1.80	3.77	3.21	0.24	-0.31	2.37	1.07	0.42	1.56



Alt Model-Shift Uniqueness Test

004264340-02, P = 455.804612 Days, E = 182.707659 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.6	6.13	5.69	5.08	5.44	3.27	1.31	8.91	9.52	0.43	1.05	1.28	0.96	0.28	0.34



Stellar Parameters For KIC 004264340

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5327^{+177}_{-160}	$4.563^{+0.082}_{-0.067}$	$-0.580^{+0.350}_{-0.300}$	$0.723^{+0.090}_{-0.073}$	$0.697^{+0.090}_{-0.039}$	$2.598^{+0.883}_{-0.608}$
	+3%/-3%	+2%/-1%	+60%/-52%	+12%/-10%	+13%/-6%	+34%/-23%
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 004264340-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-119±15	$1.10^{+0.56}_{-0.52}$	275^{+12}_{-11}	4797^{+1669}_{-718}	$58513^{+151197}_{-33876}$
Alt.	-95±16	$1.32^{+0.51}_{-0.52}$	276^{+11}_{-12}	4266^{+1068}_{-451}	31415^{+59172}_{-14833}

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

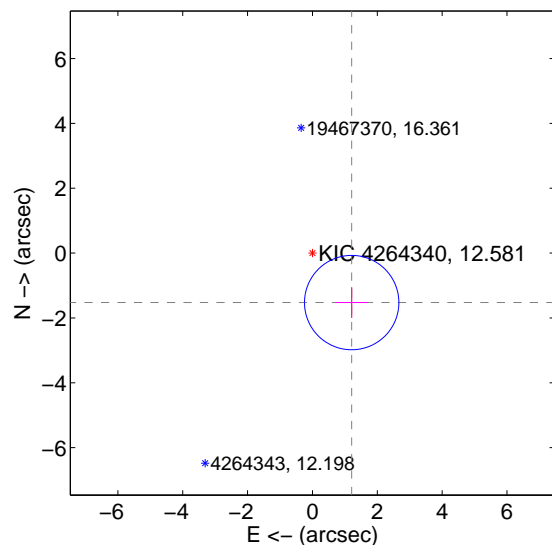
Supplemental centroid analysis for 004264340-02. Kepler magnitude: 12.58. Transit SNR 7.38

There are 0 quarters with good PRF difference image offsets

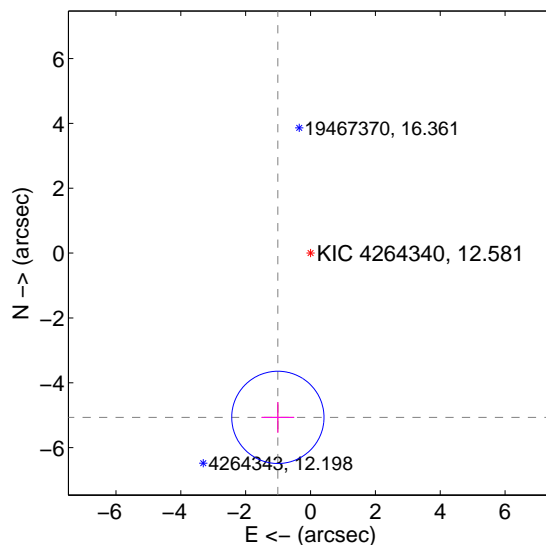
The OOT PRF centroid is offset from the target star catalog position by about 4.18 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.948 ± 0.485	4.02	-1.210 ± 0.503	-1.526 ± 0.473
PRF-fit source offset from KIC position	5.167 ± 0.474	10.89	1.008 ± 0.503	-5.067 ± 0.473
photometric centroid source offset	2.66 ± 1.19	2.25	2.00 ± 0.95	-1.76 ± 1.43

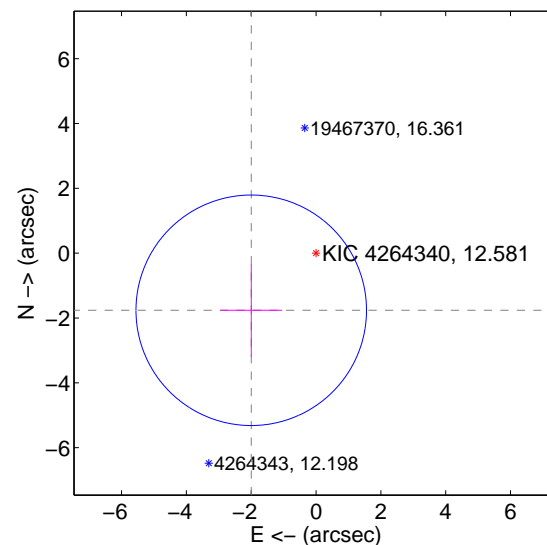
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

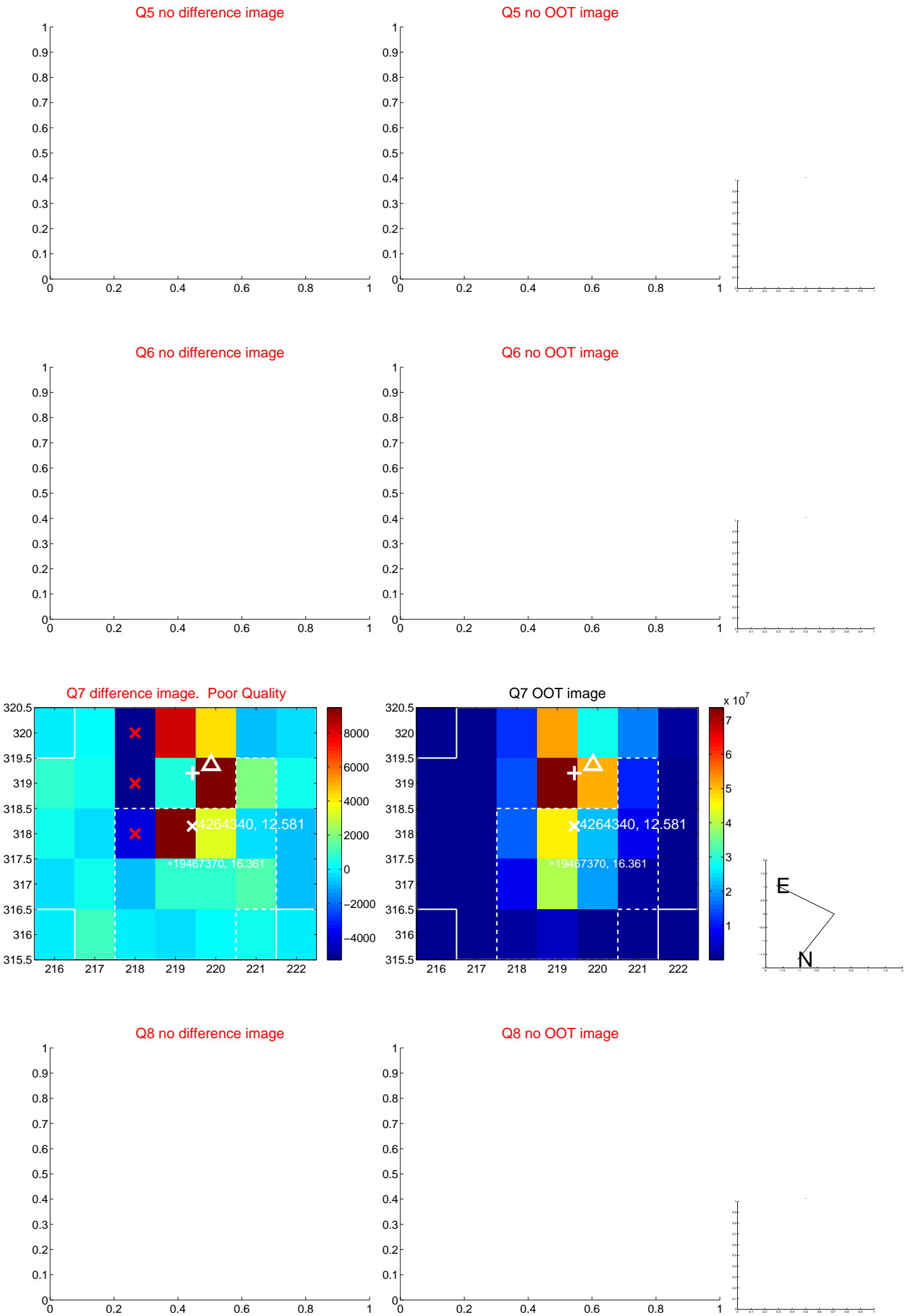


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



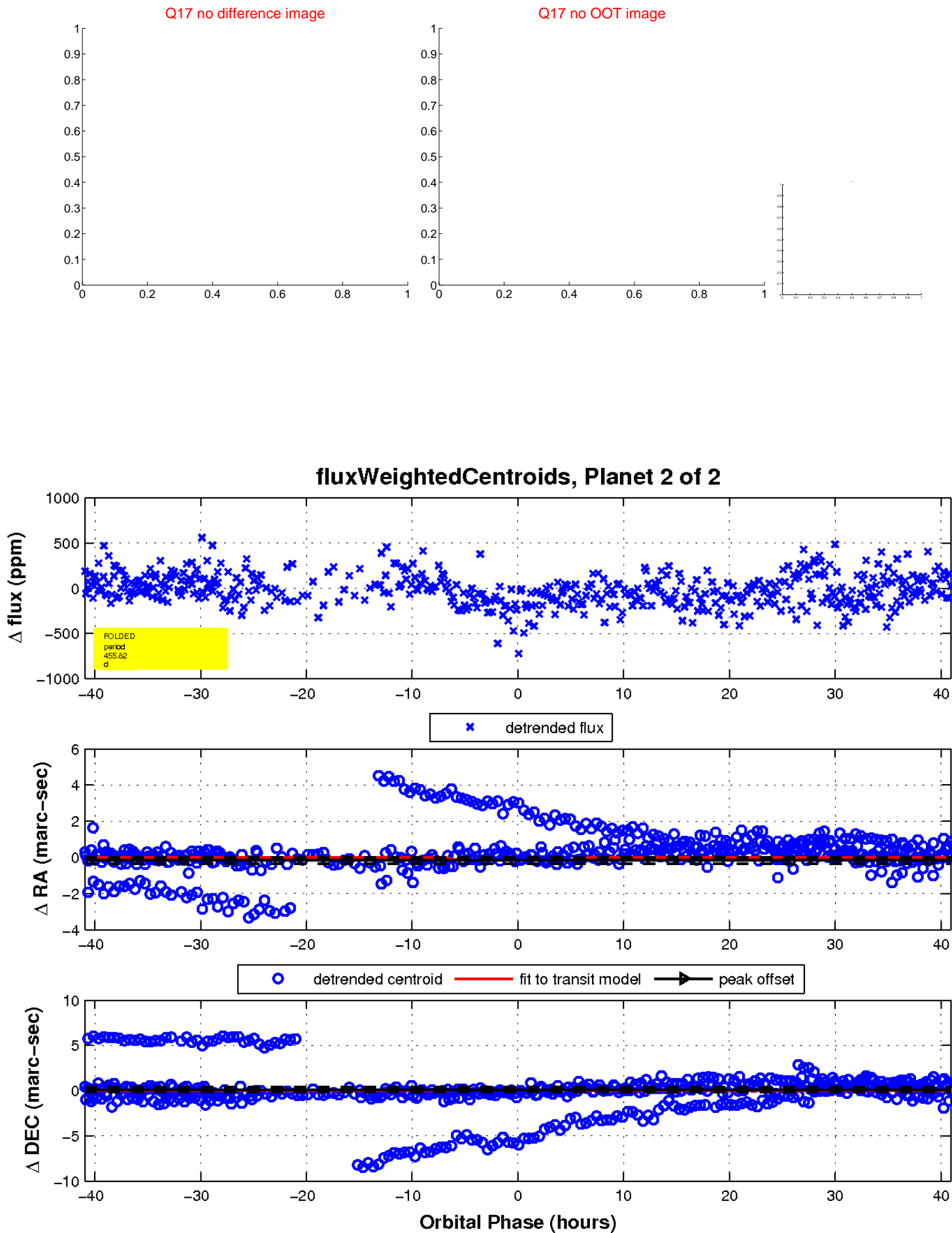
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

