

KIC 003426367

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})
003426367-01	OBS	2662.01	2.104340	133.314806	235.4	1.101	16.6	21.5	0.43	3605	0.80	45.43
003426367-02	OBS	No	325.076797	388.151156	778.1	3.562	8.1	6.5	0.43	3605	1.41	0.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003426367-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS
003426367-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—MOD_NONUNIQ_ALT—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.

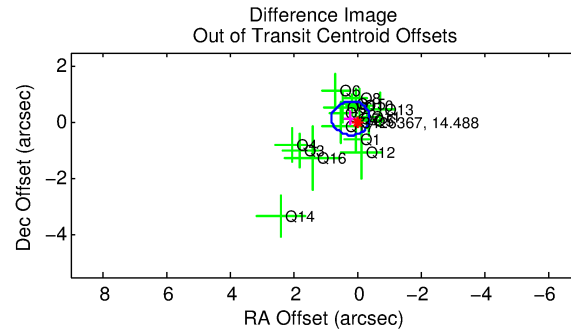
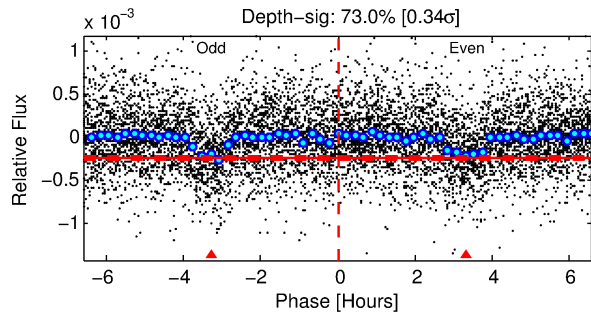
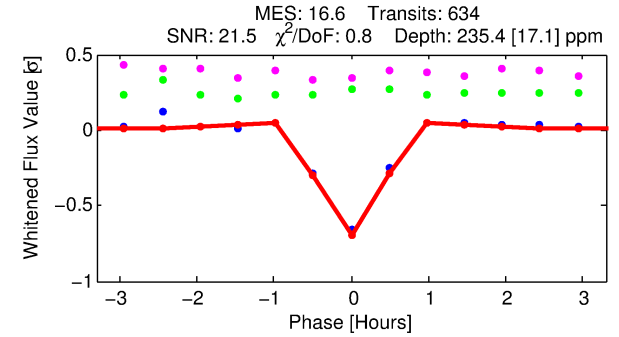
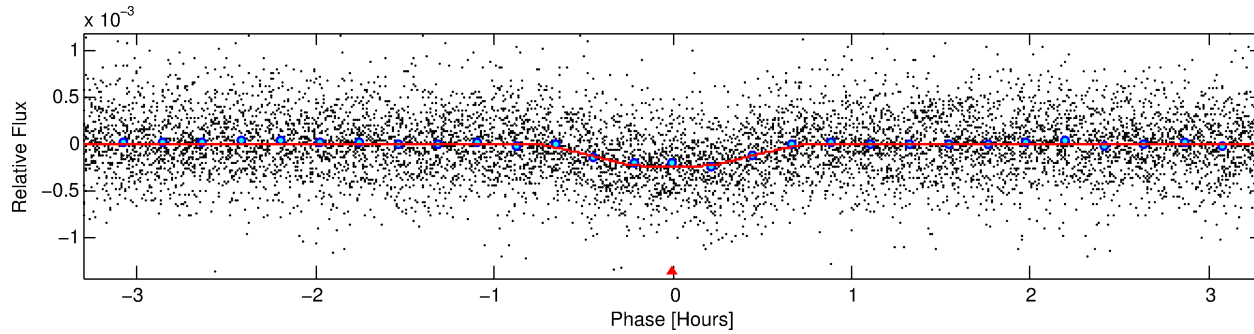
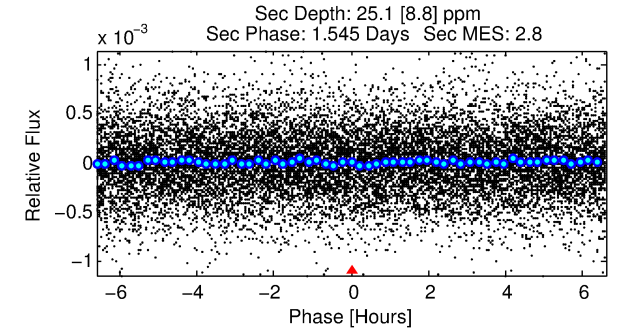
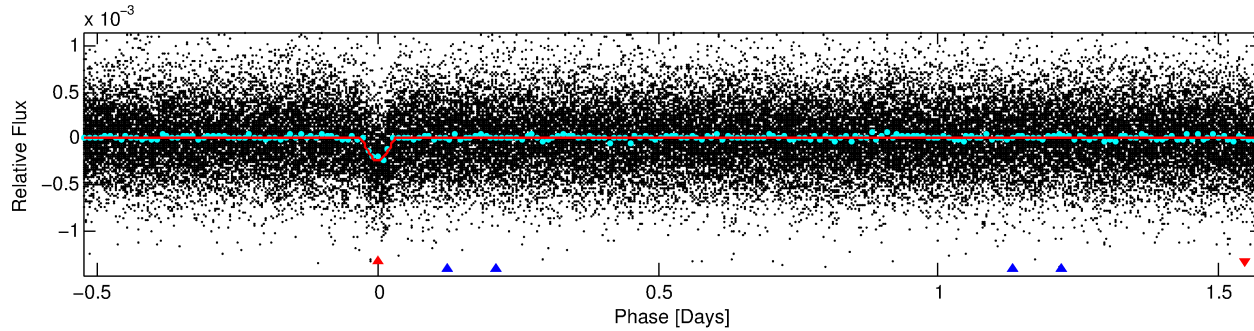
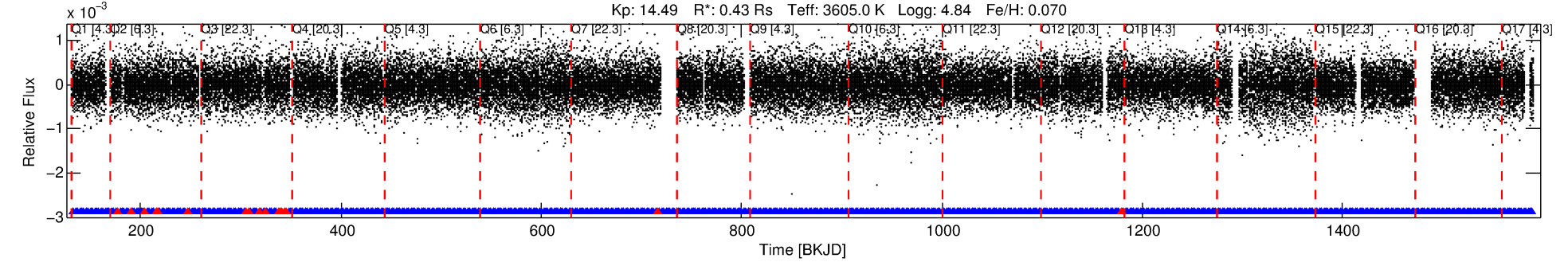
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003426367-01

No Significant Match Found

DV One-Page Summary

KIC: 3426367 Candidate: 1 of 2 Period: 2.104 d
KOI: K02662.01 Corr: 0.988



DV Fit Results:

Period = 2.10434 [0.00001] d
Epoch = 133.3148 [0.0009] BKJD
Rp/R* = 0.0169 [0.0066]
a/R* = 7.01 [11.41]
b = 0.90 [0.36]
Seff = 45.43 [7.70]
Teq = 662 [28] K
Rp = 0.80 [0.33] Re
a = 0.0250 [0.0026] AU
Ag = 13.49 [11.70] [1.07σ]
Teffp = 1961 [422] K [3.07σ]

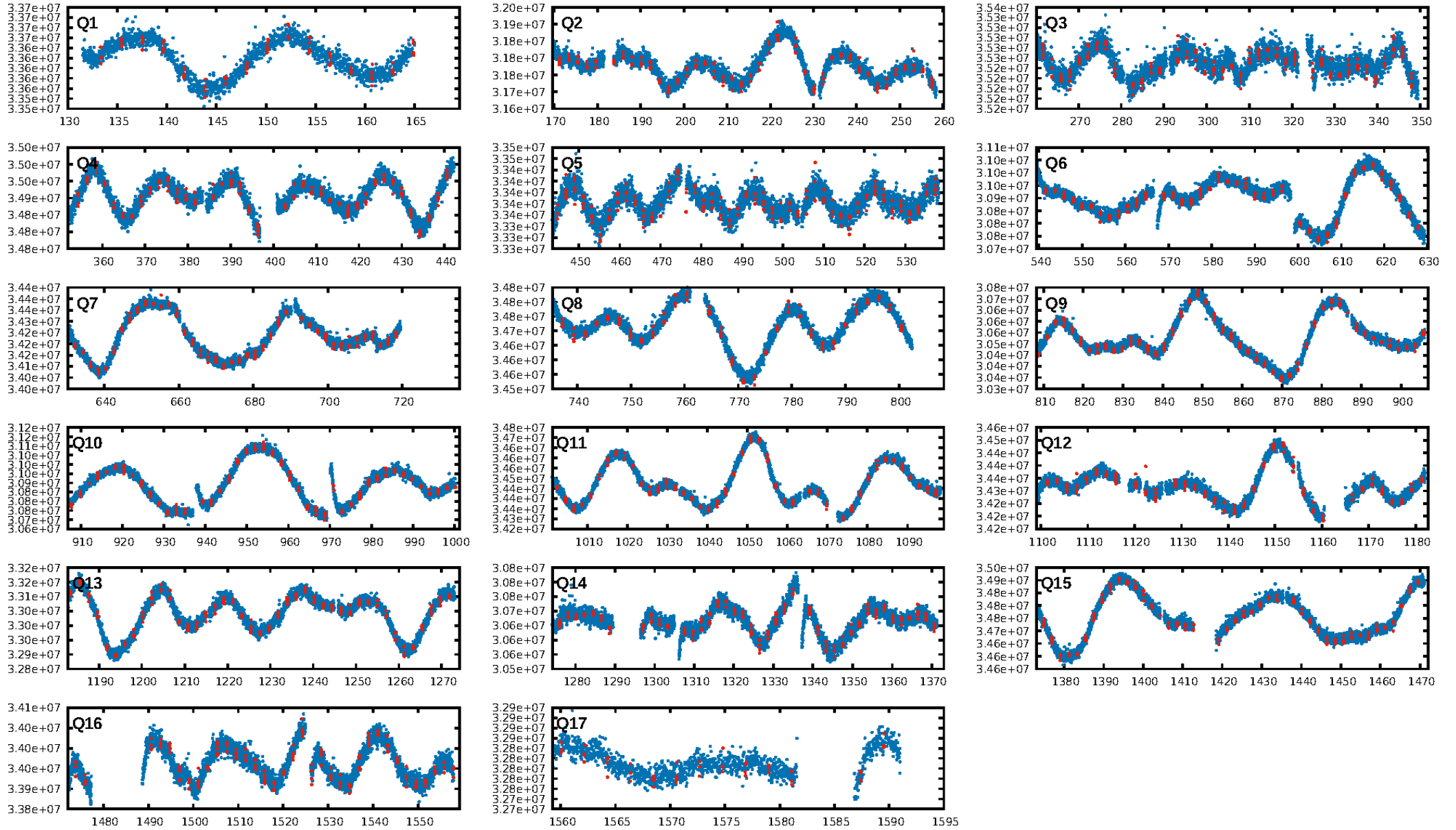
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [2079.19σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.45e-59
RollingBand-fgt: 0.97 [588/605]
GhostDiagnostic-chr: 3.99
Centroid-sig: 8.2%
Centroid-so: 1.511 arcsec [2.39σ]
OotOffset-rm: 0.250 arcsec [1.25σ]
KicOffset-rm: 0.593 arcsec [2.24σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.82 [14/17]
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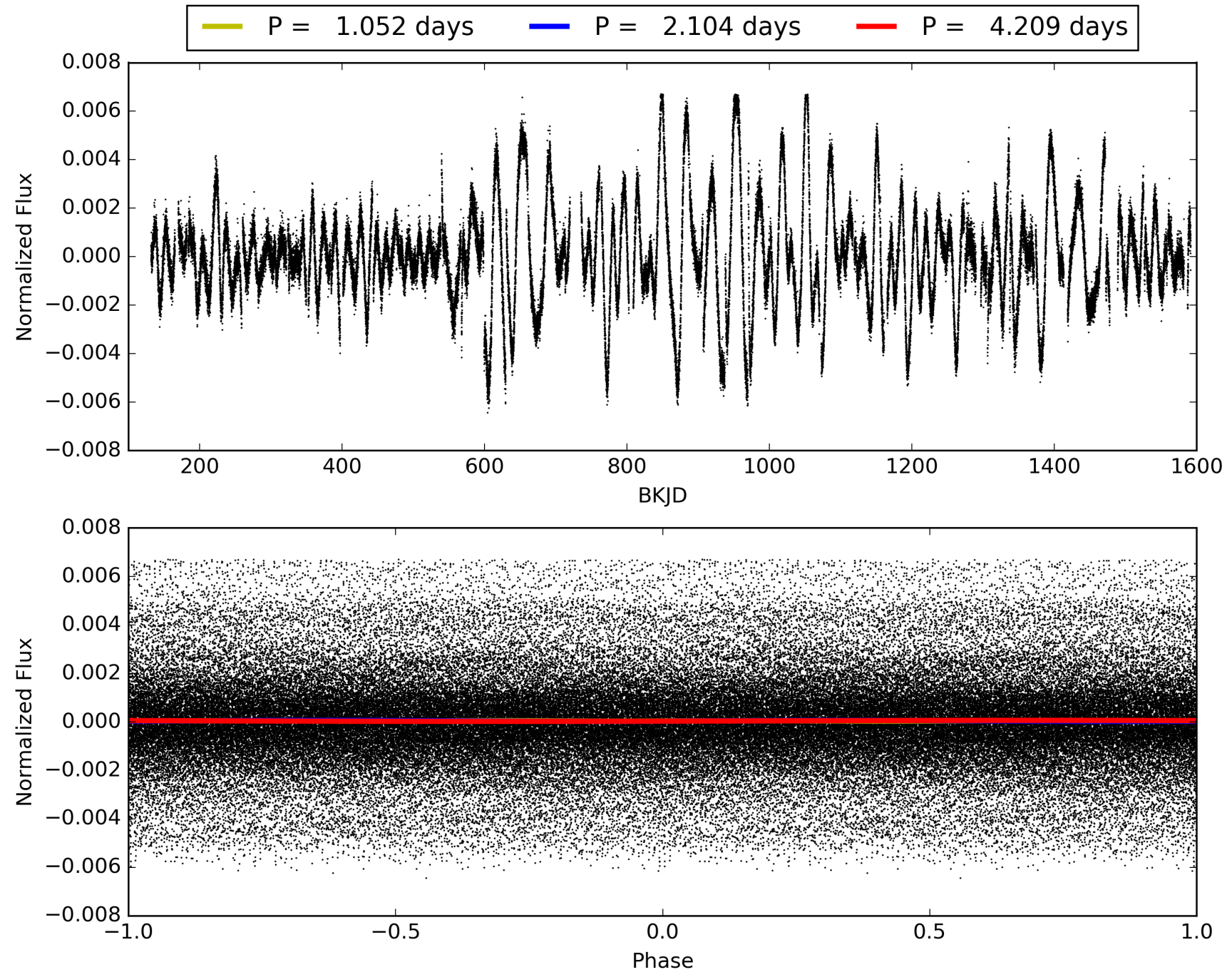
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:01:33 Z

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

TCE 003426367-01, PDC Light Curves

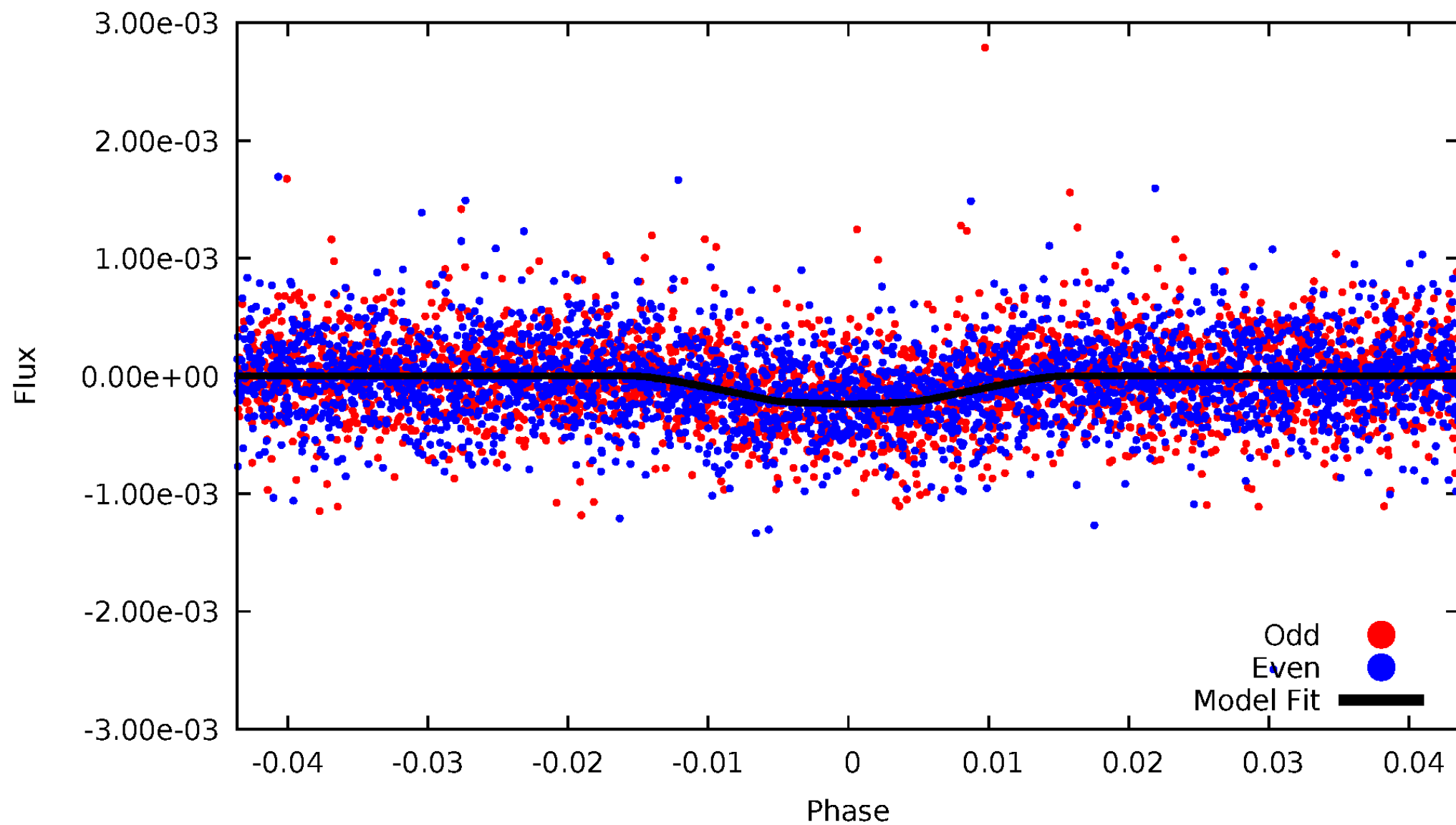


TCE 003426367-01



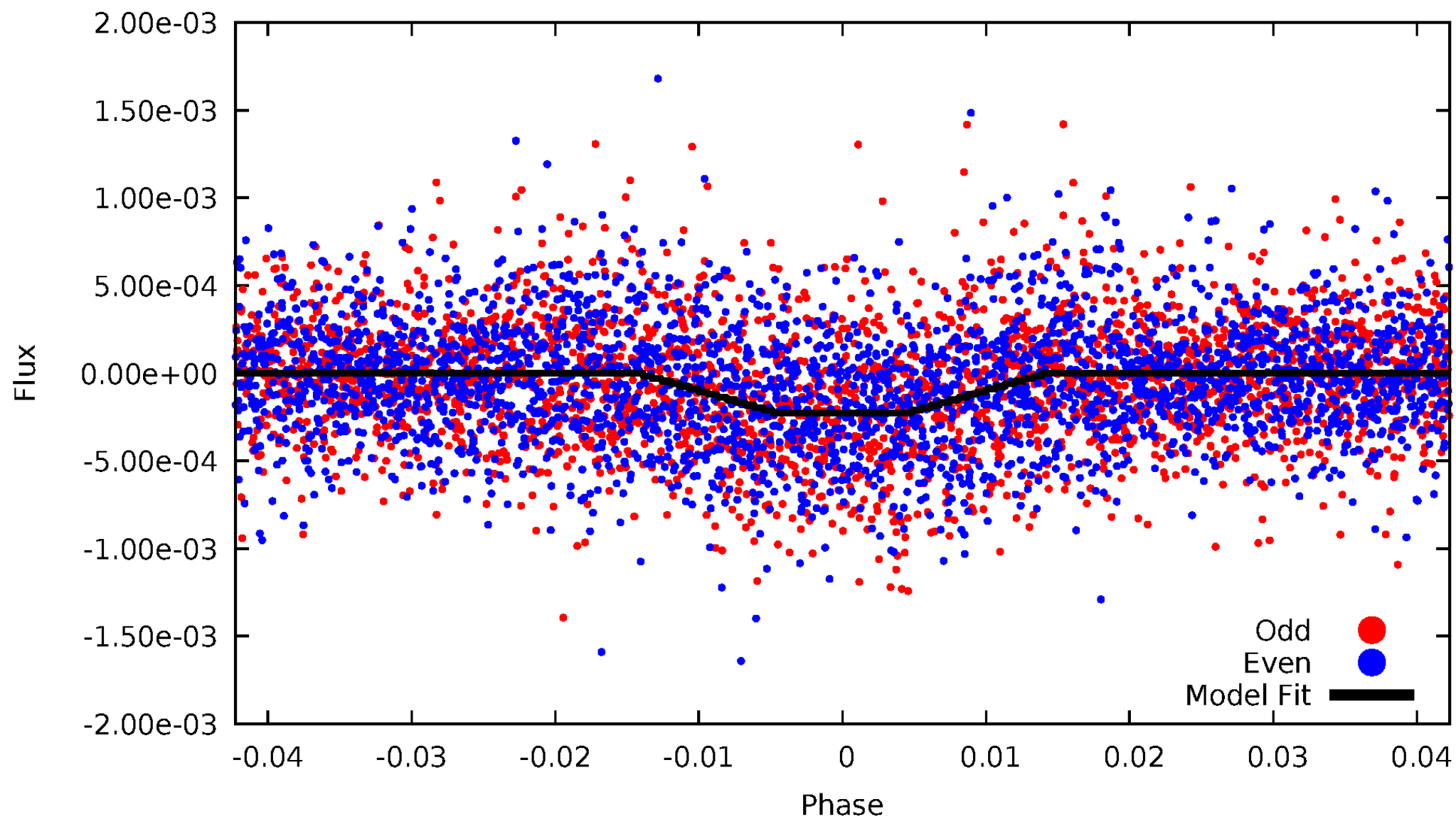
DV Odd/Even

TCE 003426367-01



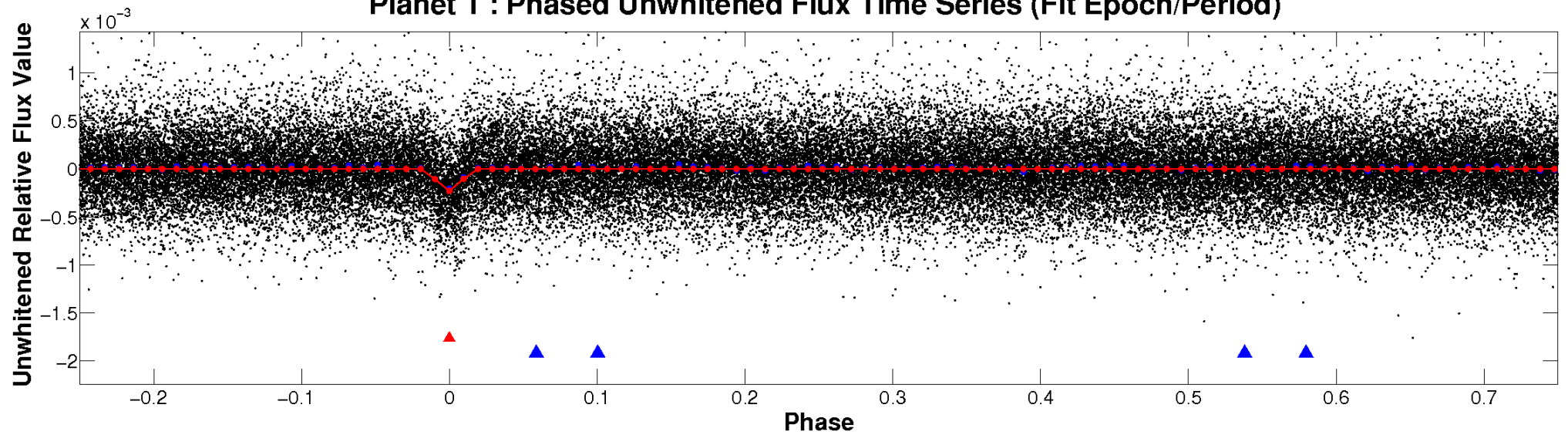
ALT Odd/Even

TCE 003426367-01

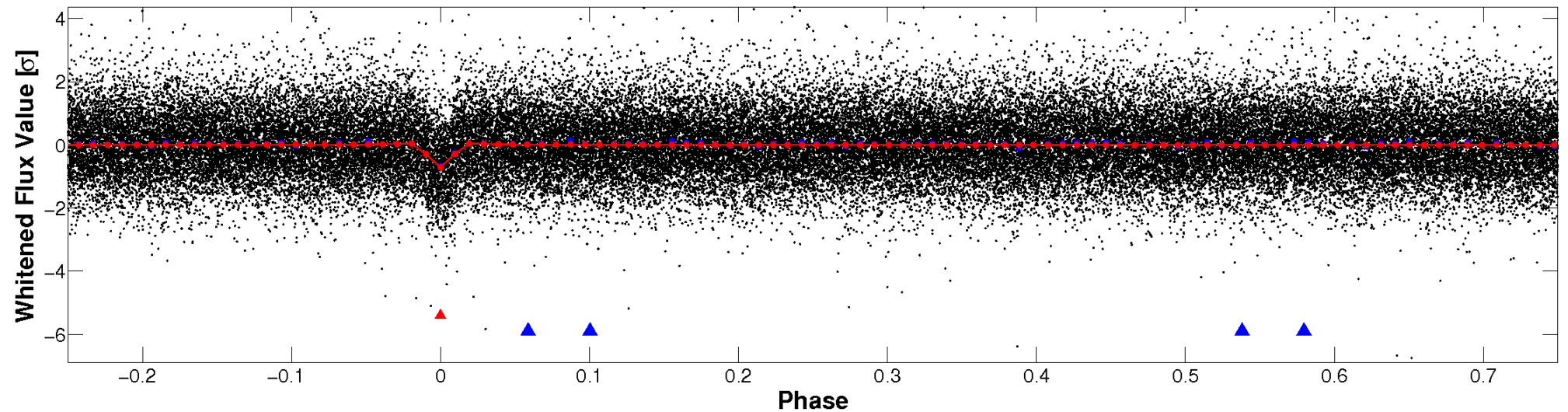


Non-Whitened Vs. Whitened Light Curve

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

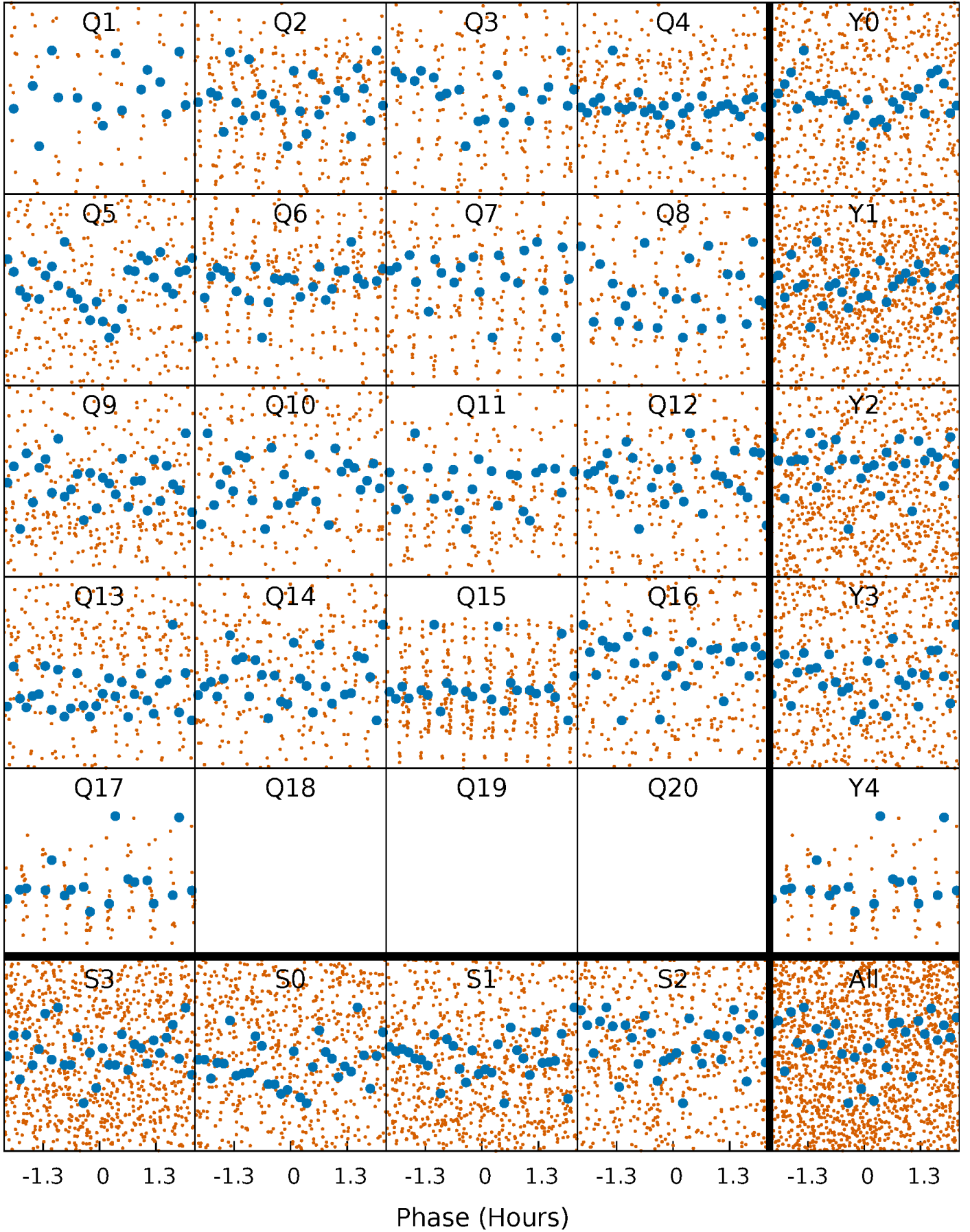


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



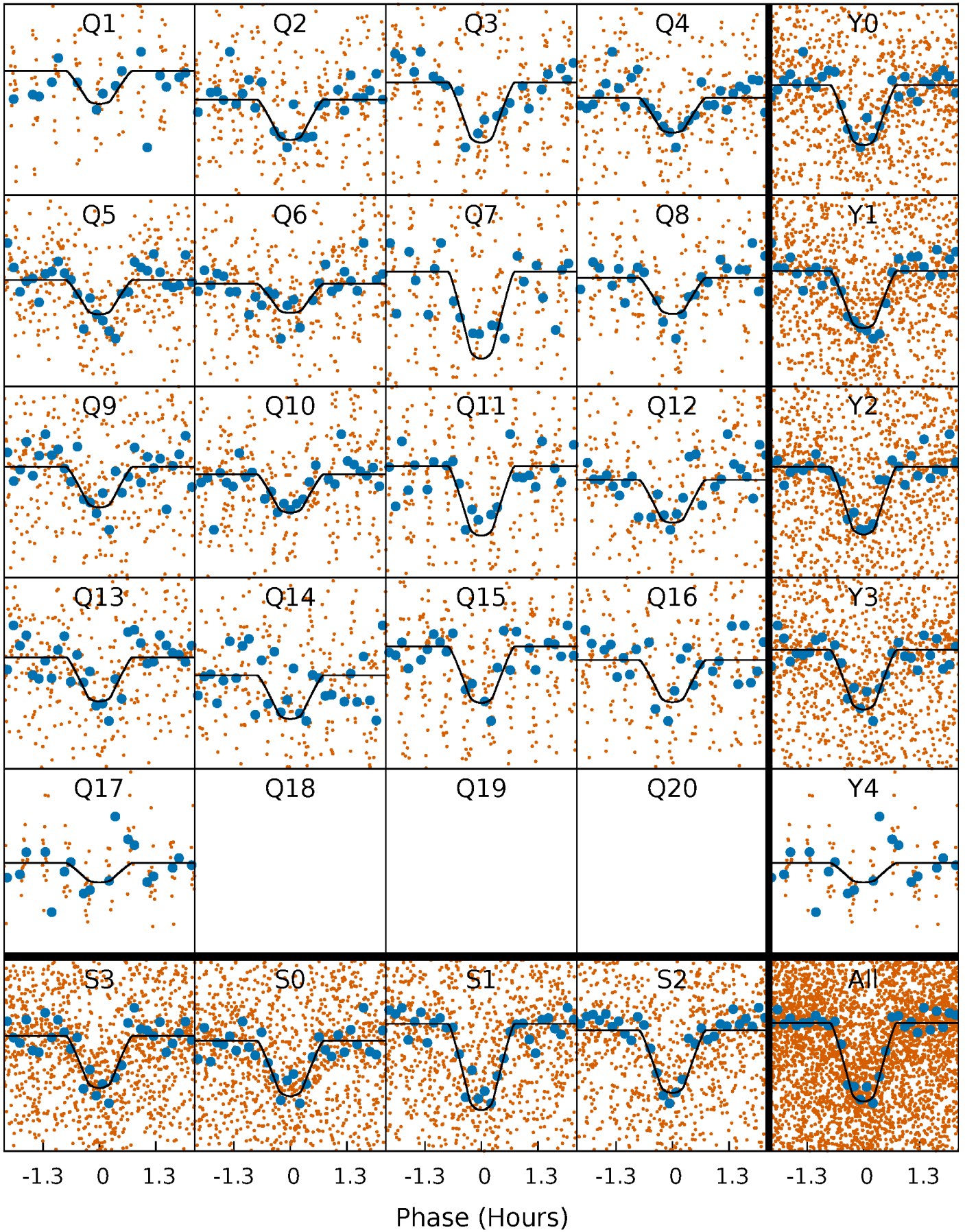
PDC Quarter-Phased Transit Curves

TCE 003426367-01 P= 2.104340 Days $T_0=133.314806$ (BKJD)



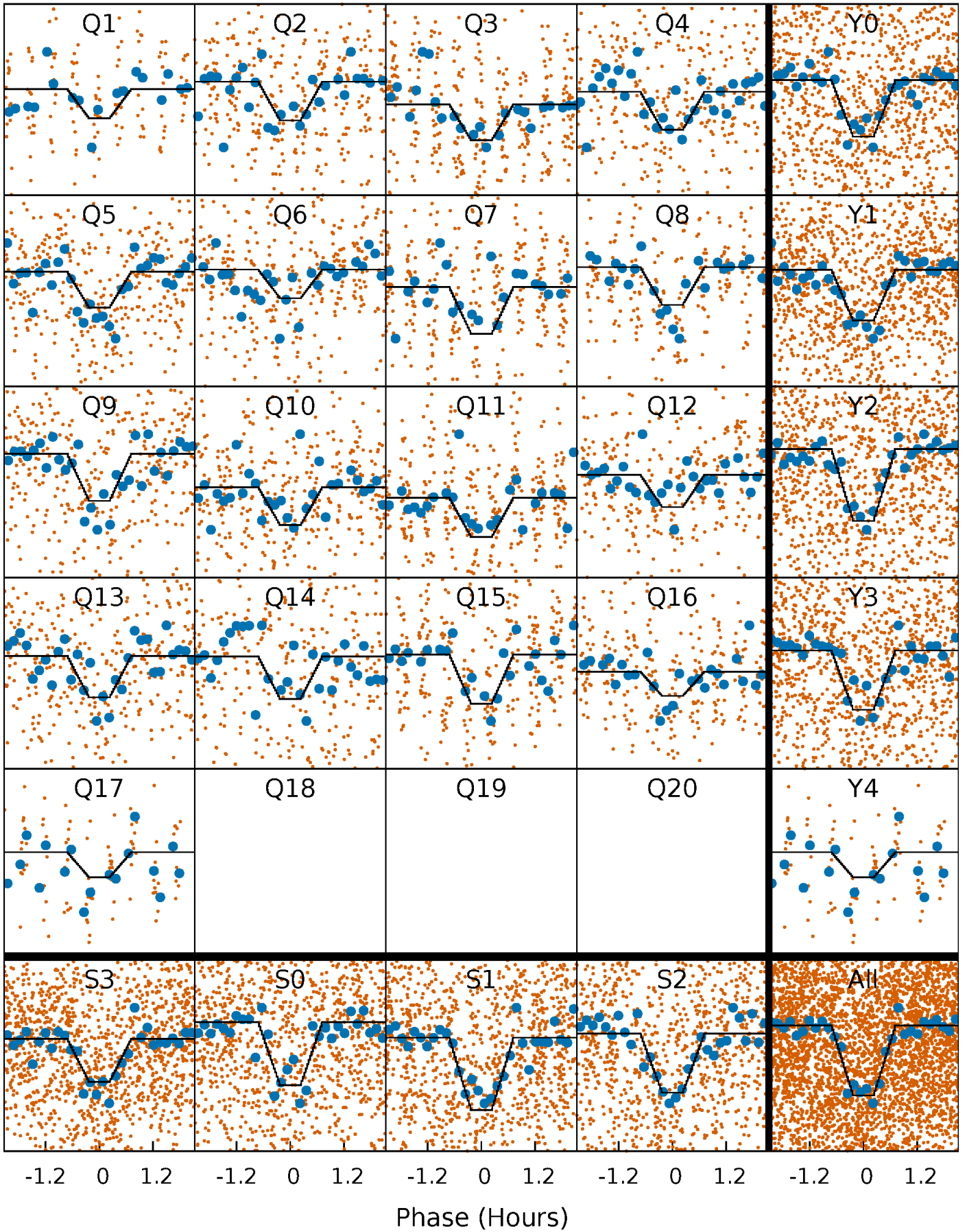
DV Quarter-Phased Transit Curves

TCE 003426367-01 P= 2.104340 Days $T_0=133.314806$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

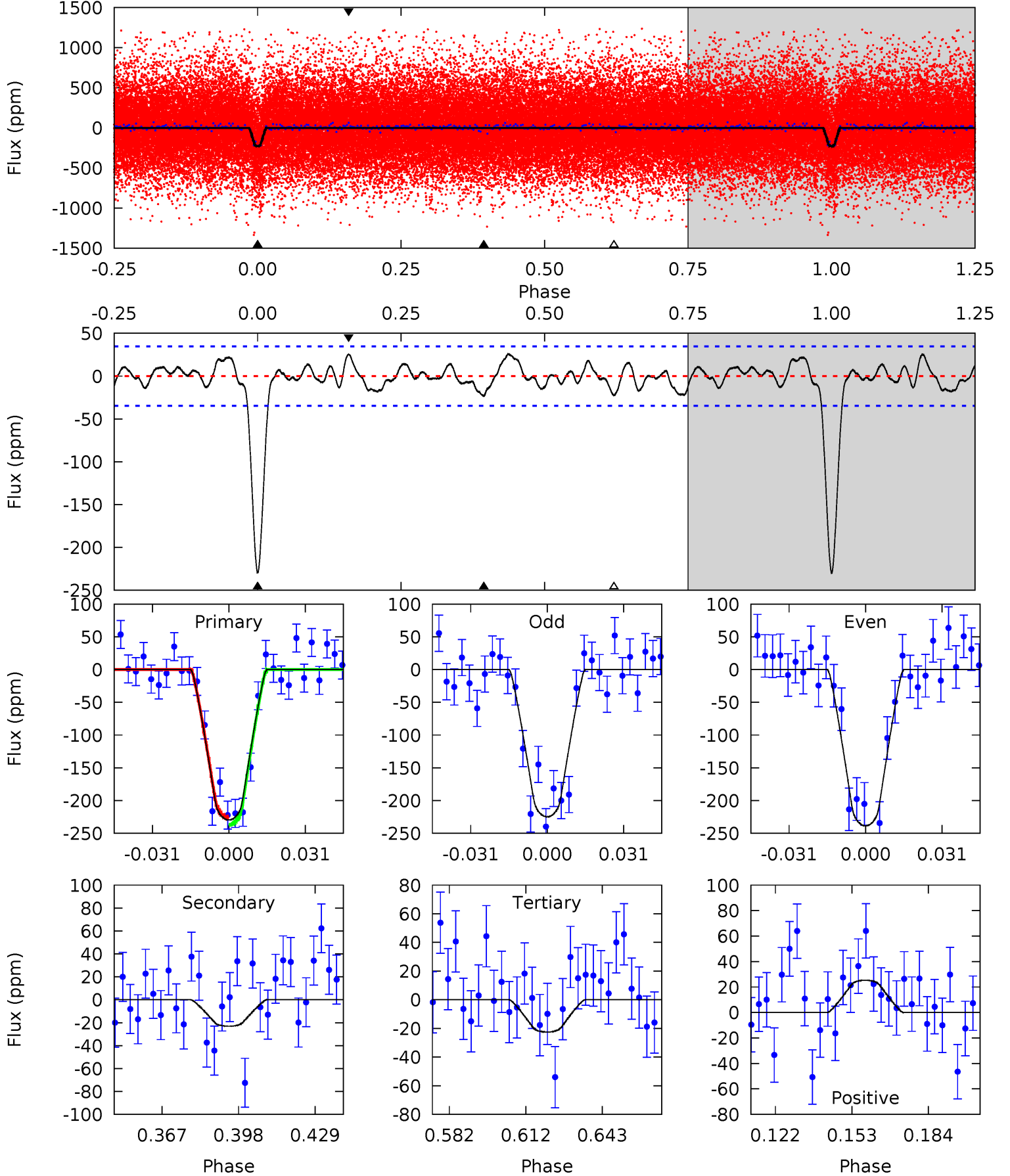
TCE 003426367-01 P= 2.104335 Days $T_0=133.316592$ (BKJD)



DV Model-Shift Uniqueness Test

003426367-01, P = 2.104340 Days, E = 131.210466 Days

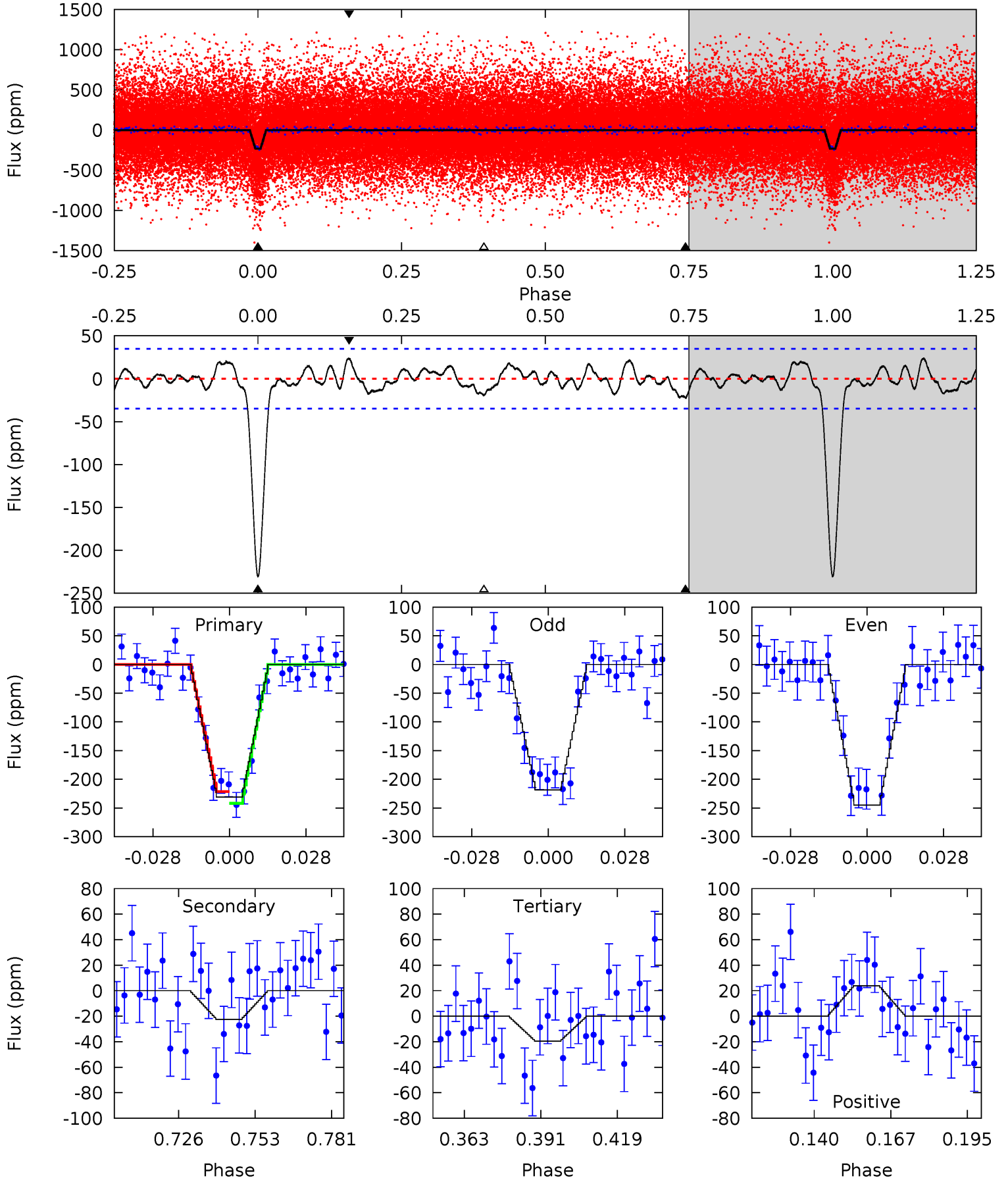
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.8	3.20	3.12	3.51	4.81	2.16	1.44	28.7	28.3	0.08	-0.31	0.96	1.01	0.10	0.71



Alt Model-Shift Uniqueness Test

003426367-01, P = 2.104335 Days, E = 131.212257 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.9	3.10	2.70	3.31	4.83	2.20	1.28	29.2	28.6	0.41	-0.20	1.83	0.97	0.09	1.43



Stellar Parameters For KIC 003426367

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3605^{+71}_{-85}	$4.837^{+0.038}_{-0.071}$	$0.070^{+0.150}_{-0.150}$	$0.433^{+0.058}_{-0.048}$	$0.470^{+0.047}_{-0.057}$	$8.148^{+1.828}_{-1.979}$
	+2%/-2%	+1%/-1%	+214%/-214%	+13%/-11%	+10%/-12%	+22%/-24%
Source	SPE70	SPE60	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 003426367-01 / KOI 2662.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-23 ± 7	$0.84^{+0.31}_{-0.33}$	931^{+31}_{-30}	2491^{+353}_{-215}	11^{+19}_{-6}
Alt.	-22 ± 7	$0.71^{+0.31}_{-0.31}$	932^{+30}_{-29}	2593^{+433}_{-264}	15^{+33}_{-9}

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 $A_{obs} \gg 1.0$

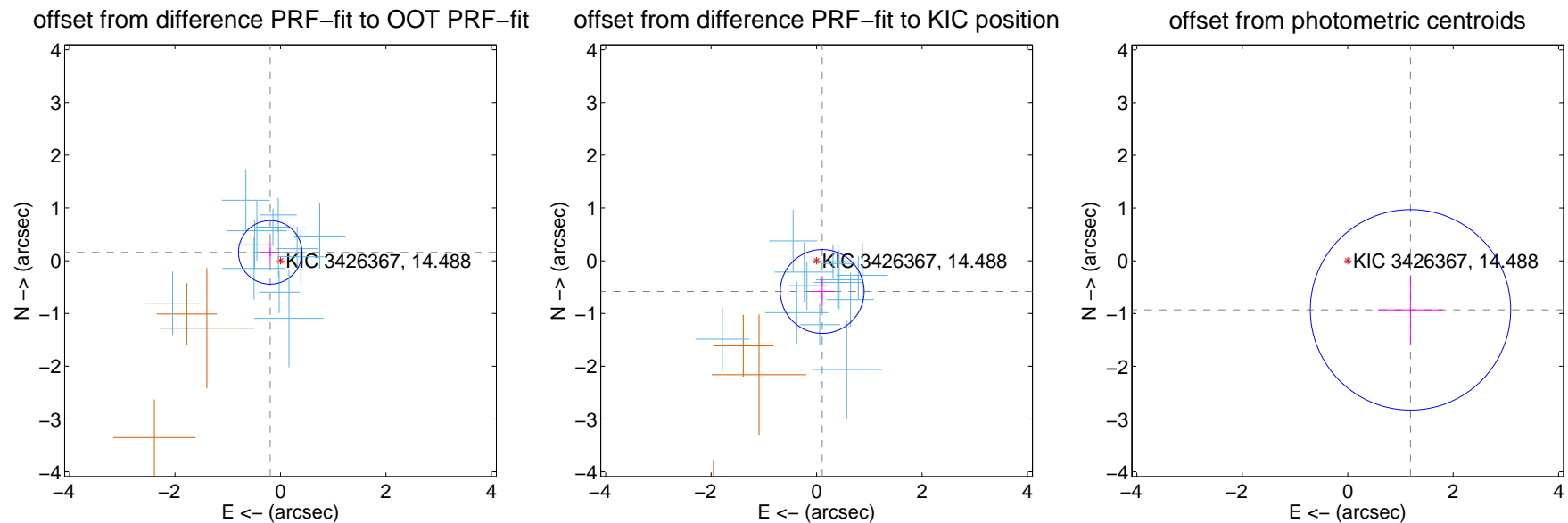
DV Centroid Data

Supplemental centroid analysis for 003426367-01. Kepler magnitude: 14.49. Transit SNR 21.45

There are 14 quarters with good PRF difference image offsets

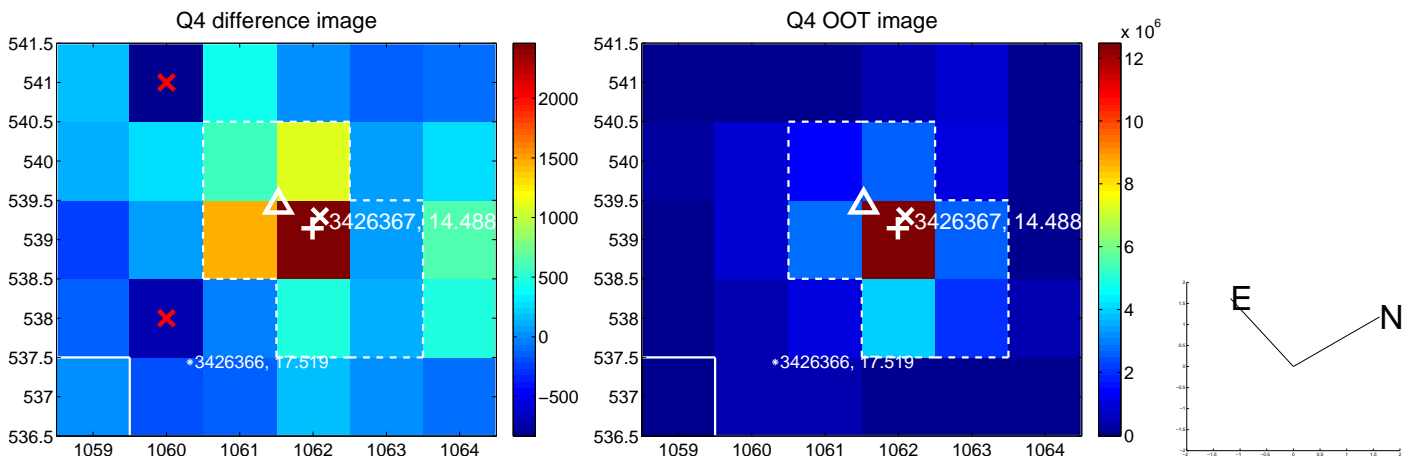
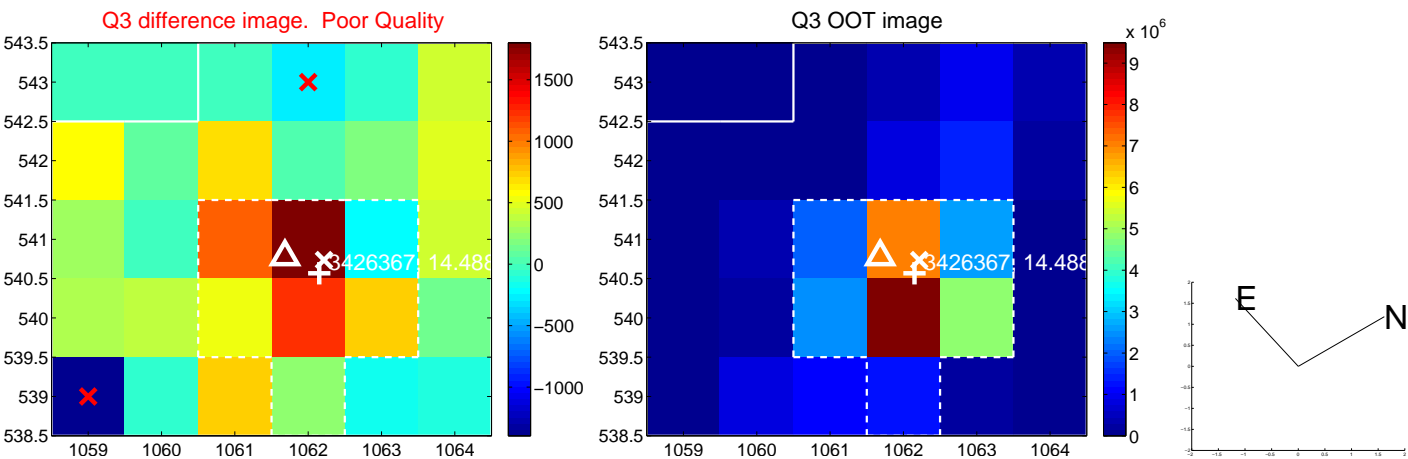
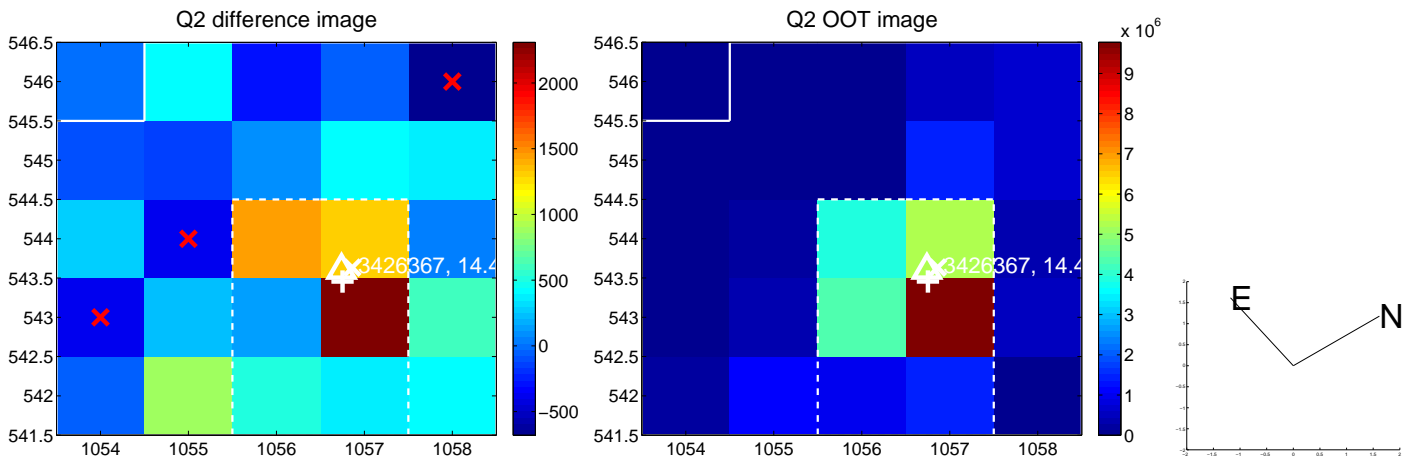
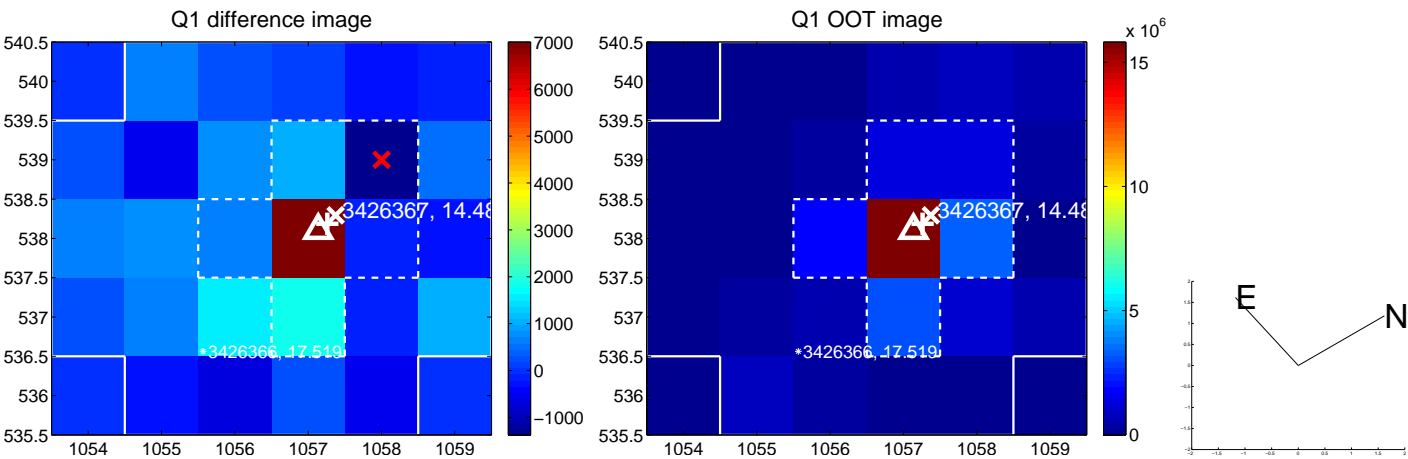
The direct PRF centroid is offset from the target star catalog position by about 0.85 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.250 ± 0.201	1.25	0.194 ± 0.194	0.158 ± 0.210
PRF-fit source offset from KIC position	0.593 ± 0.265	2.24	-0.107 ± 0.224	-0.583 ± 0.292
photometric centroid source offset	1.51 ± 0.63	2.39	-1.19 ± 0.62	-0.93 ± 0.66

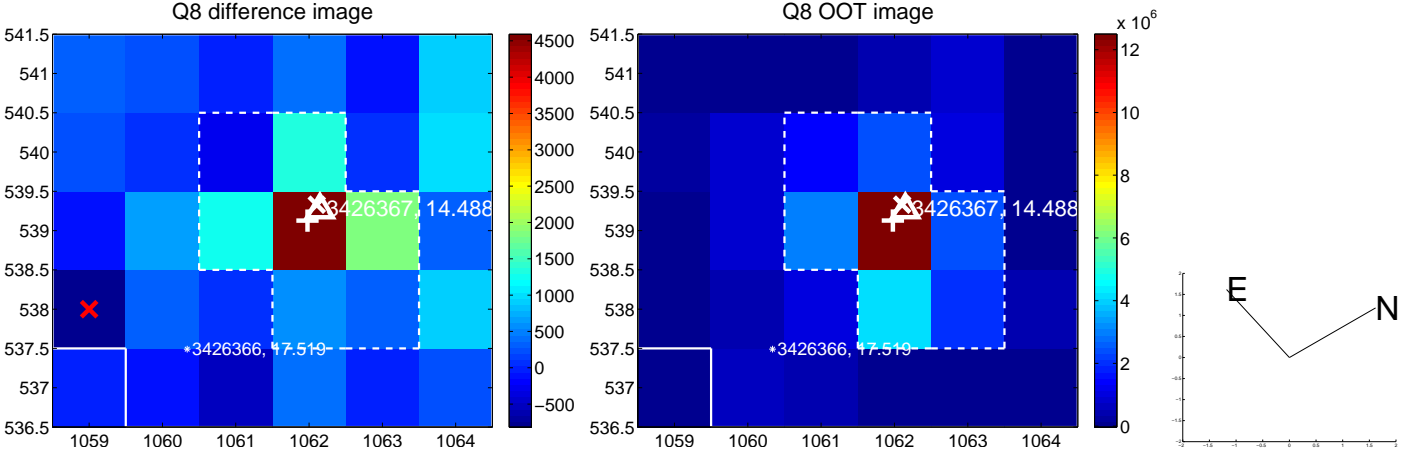
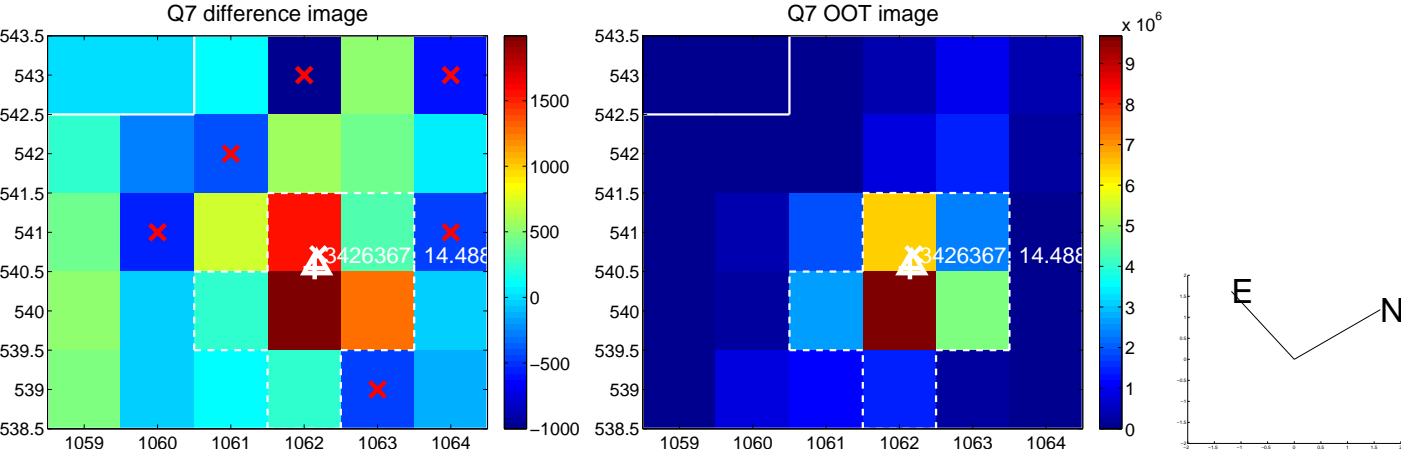
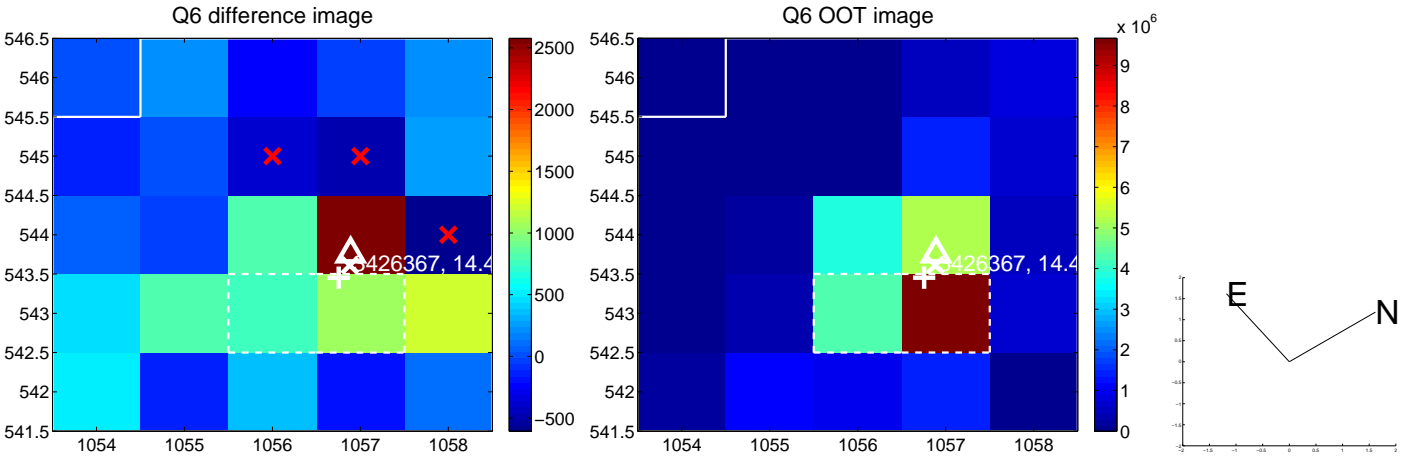
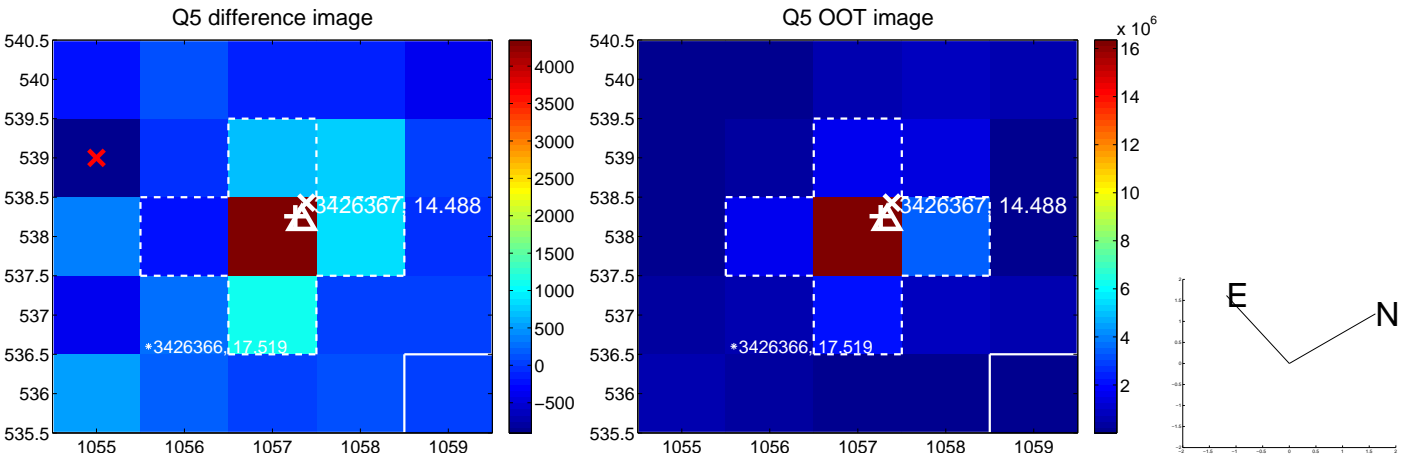


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

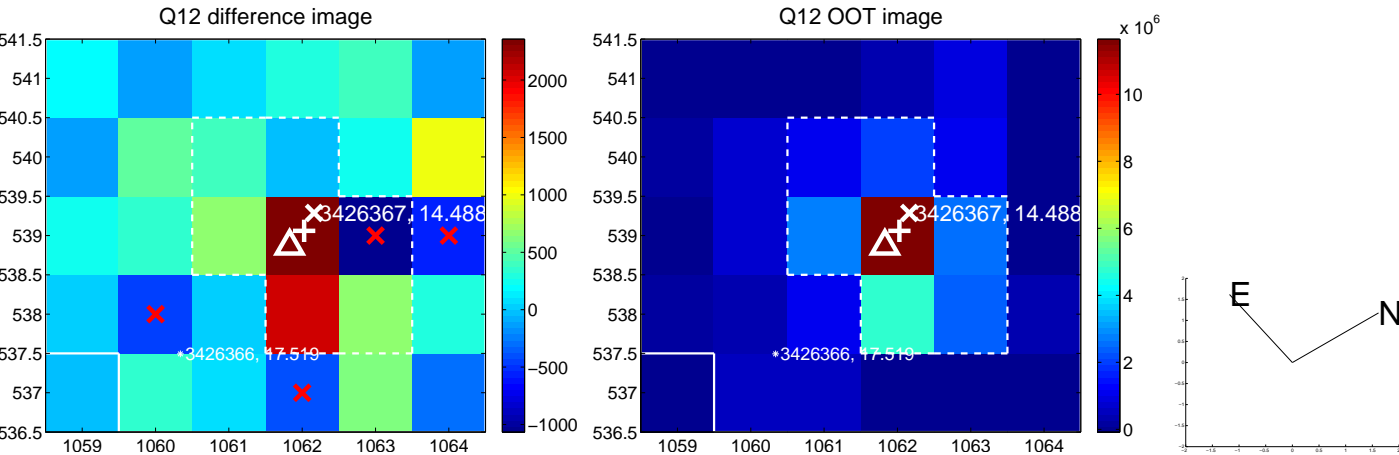
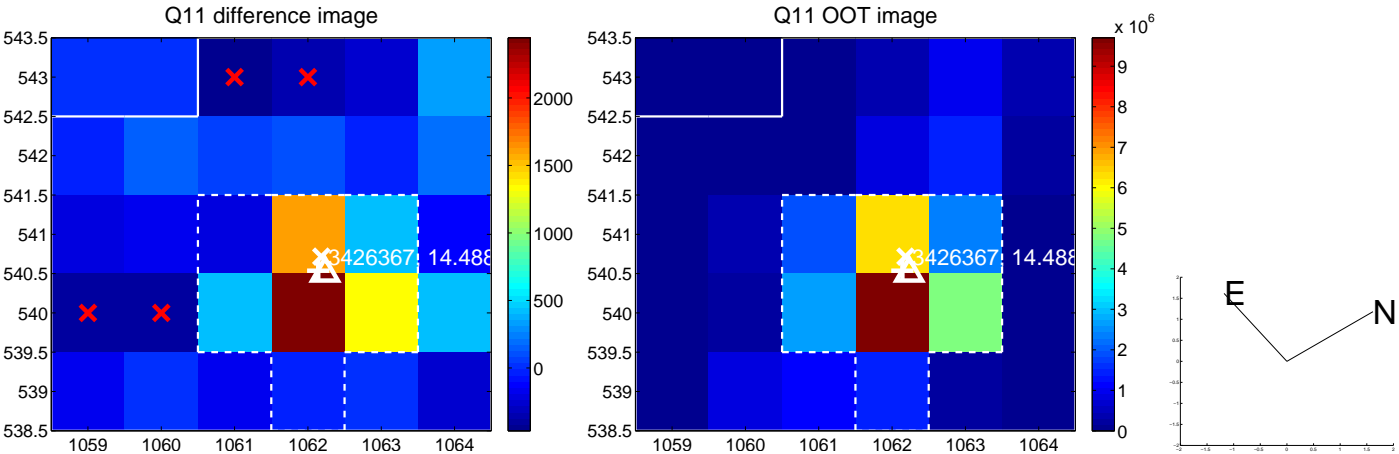
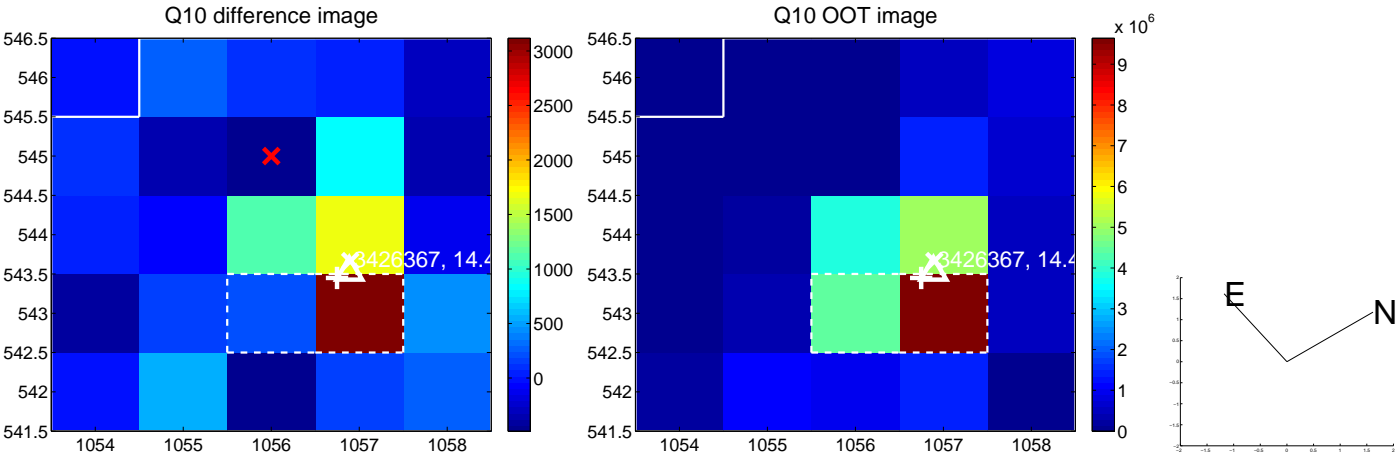
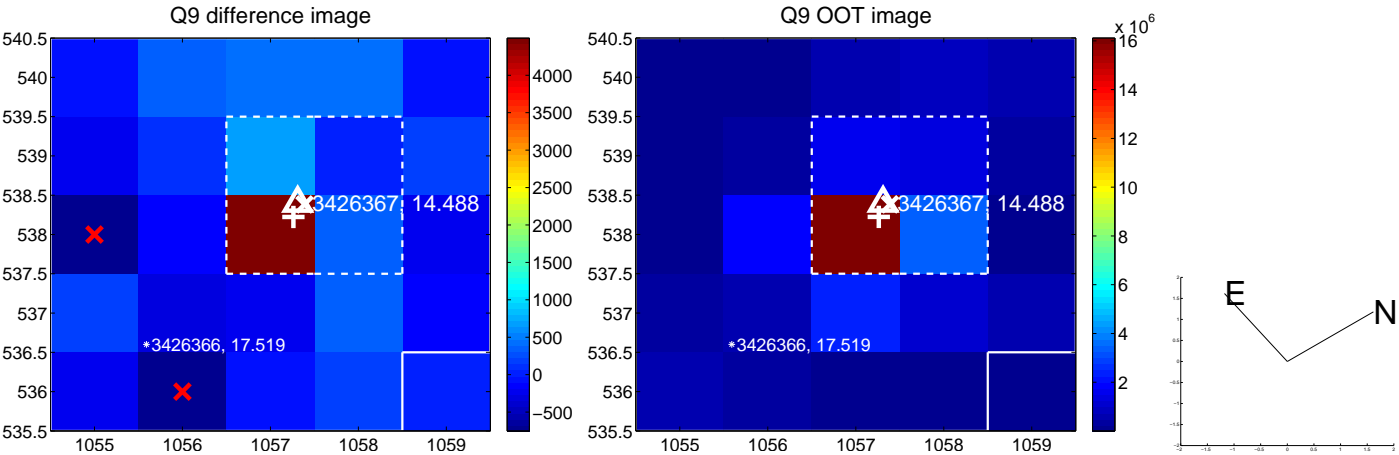
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



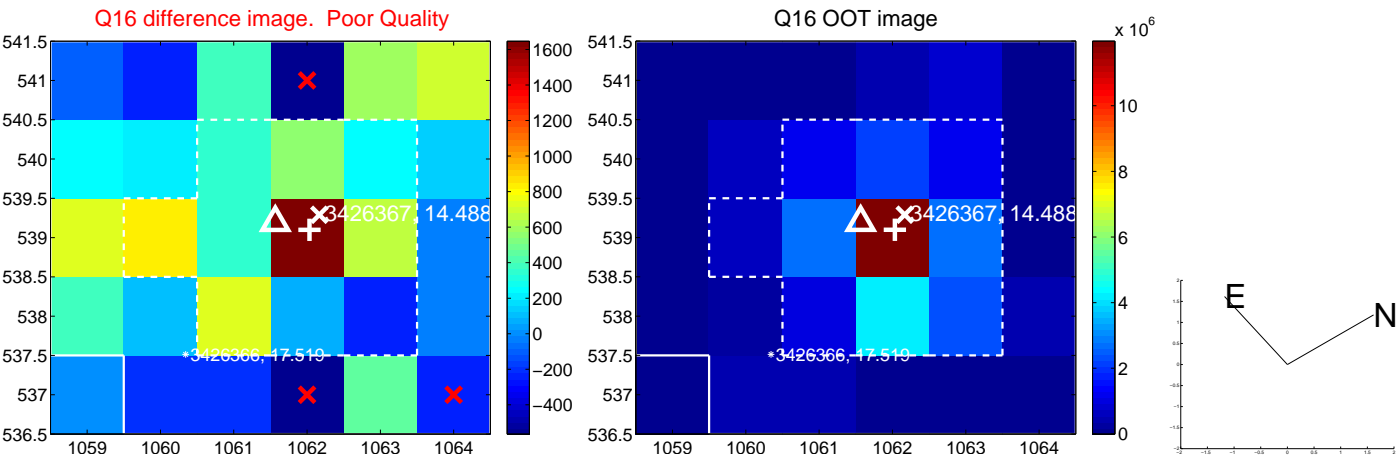
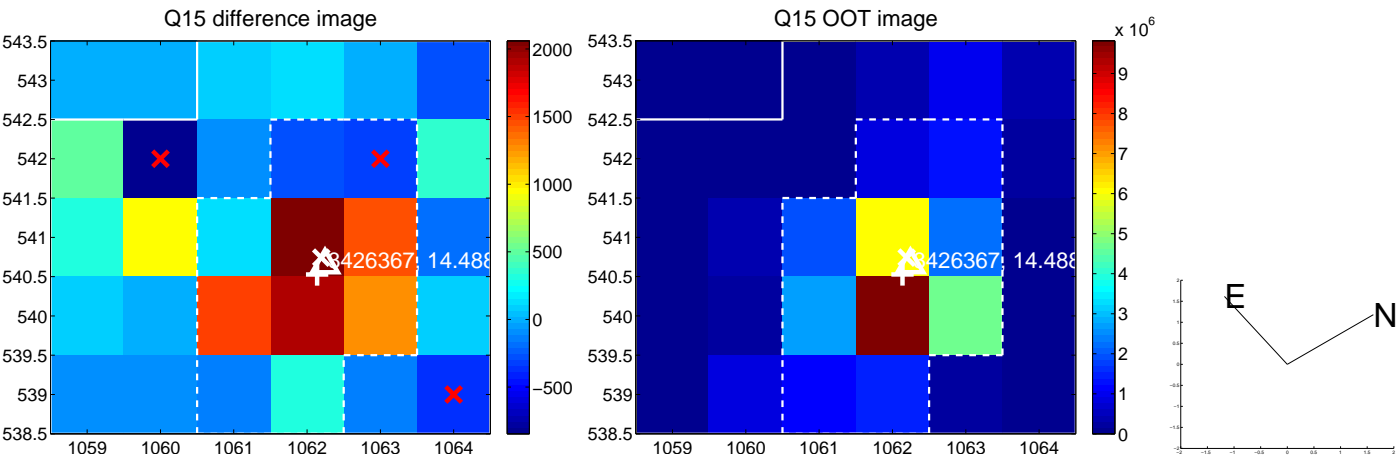
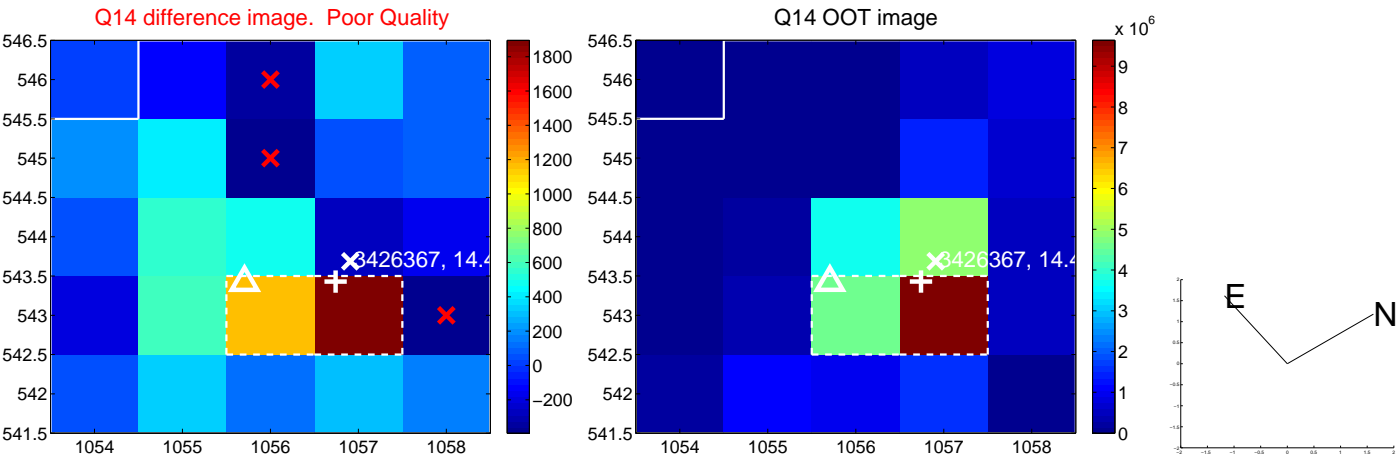
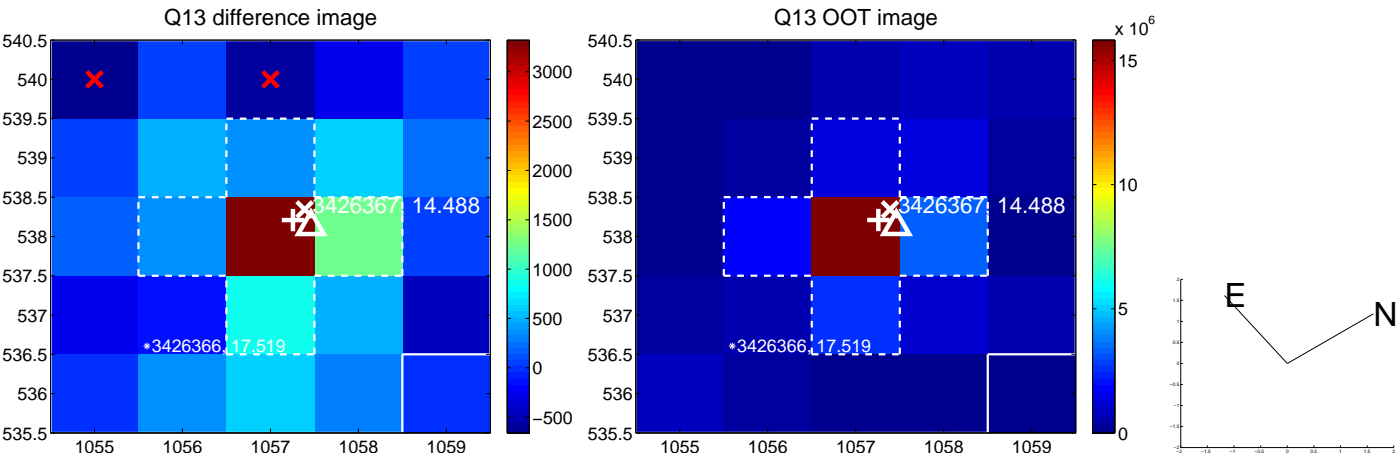
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



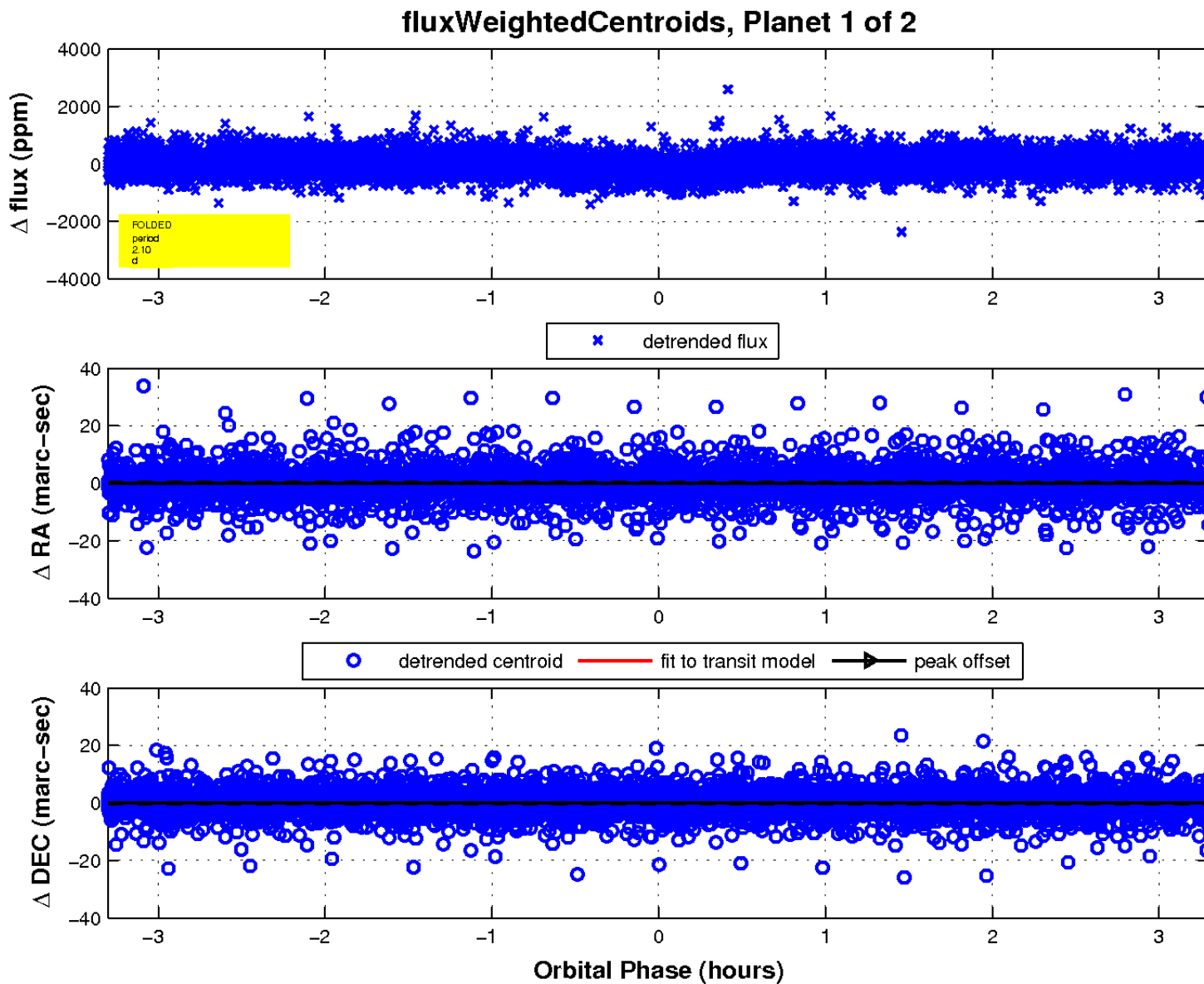
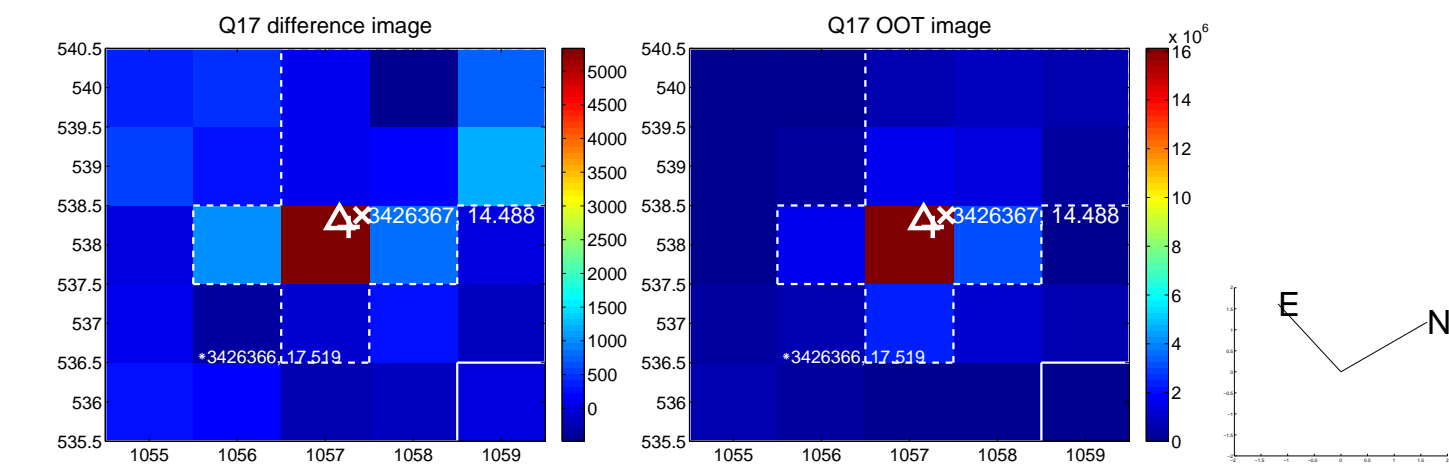
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

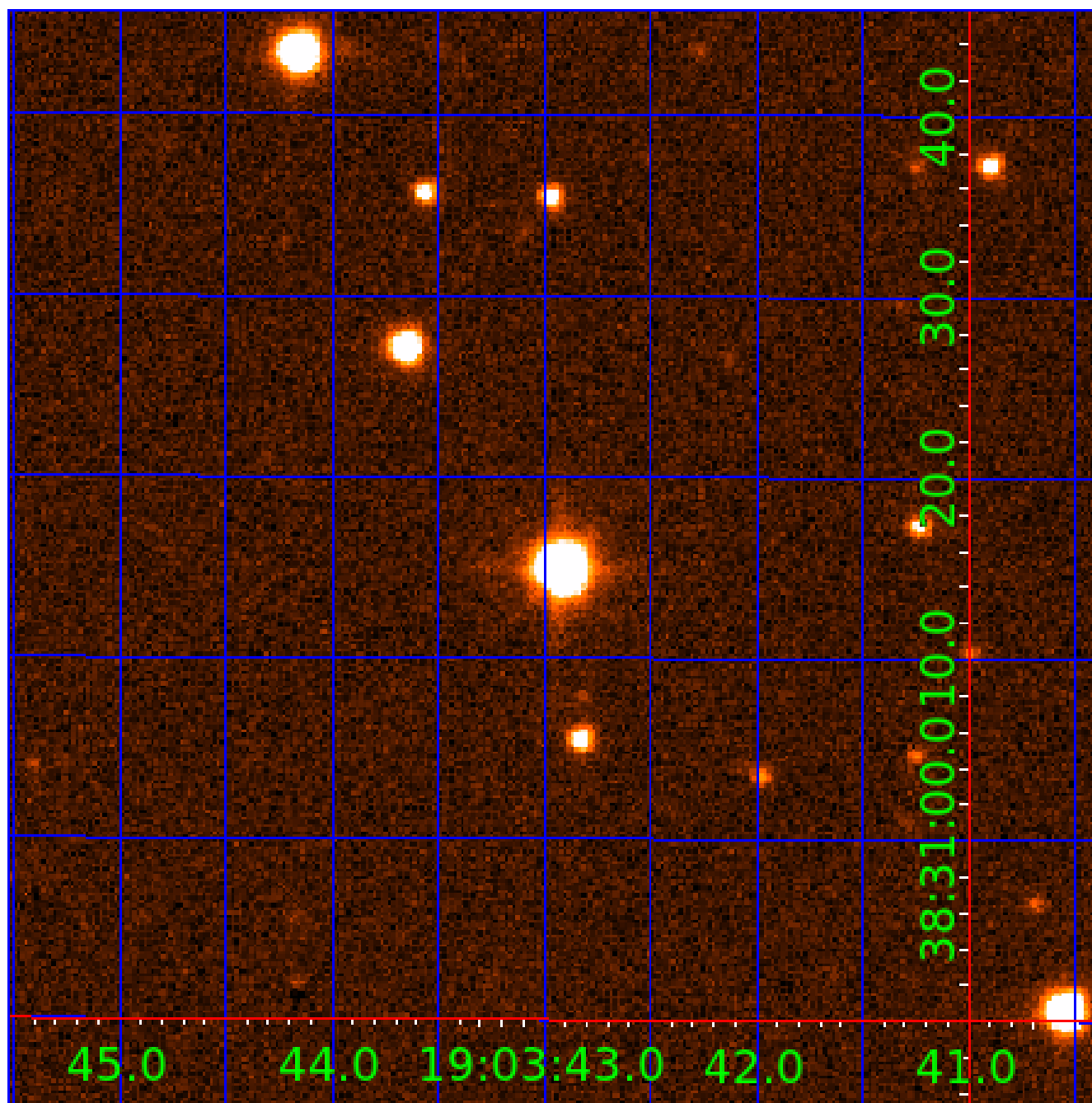


white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003426367

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})
003426367-01	OBS	2662.01	2.104340	133.314806	235.4	1.101	16.6	21.5	0.43	3605	0.80	45.43
003426367-02	OBS	No	325.076797	388.151156	778.1	3.562	8.1	6.5	0.43	3605	1.41	0.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003426367-01	OBS	PC	1.00	0	0	0	0	CENT_KIC_POS
003426367-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—MOD_NONUNIQ_ALT—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.

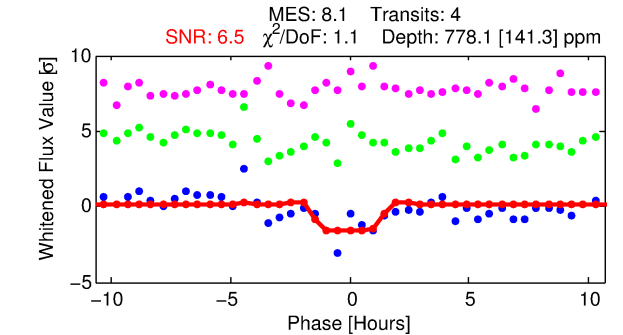
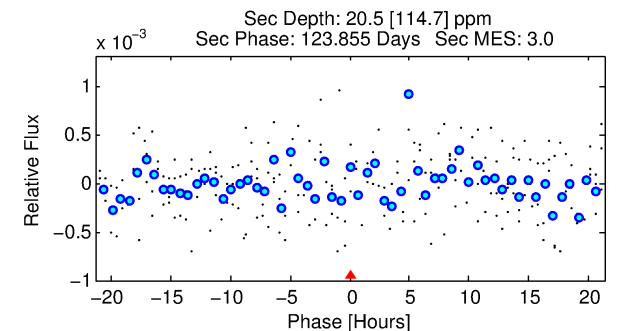
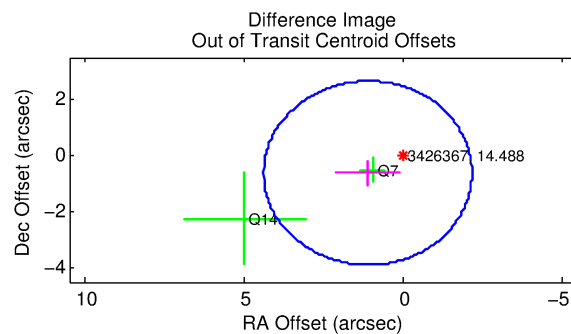
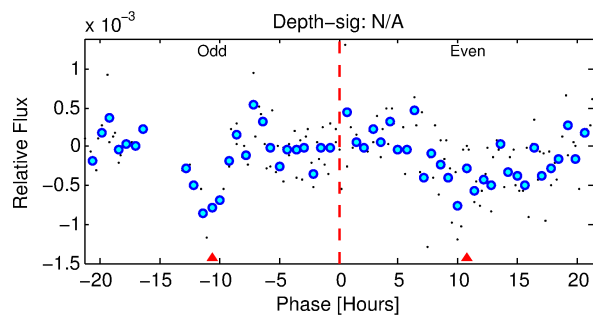
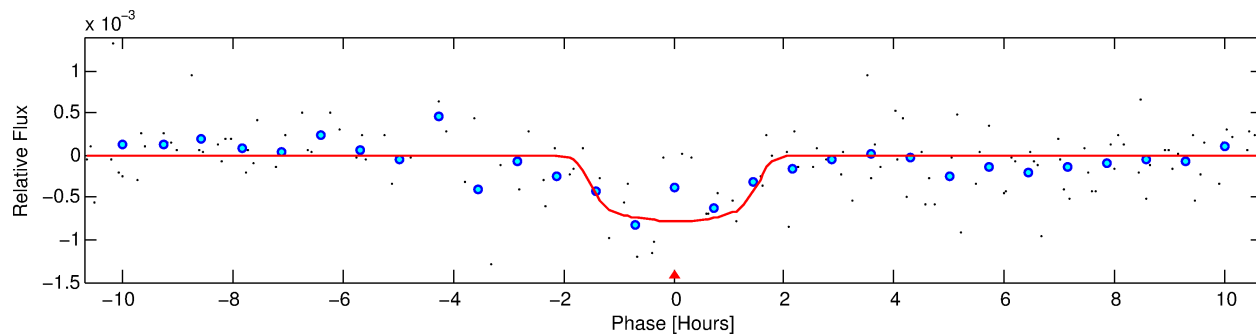
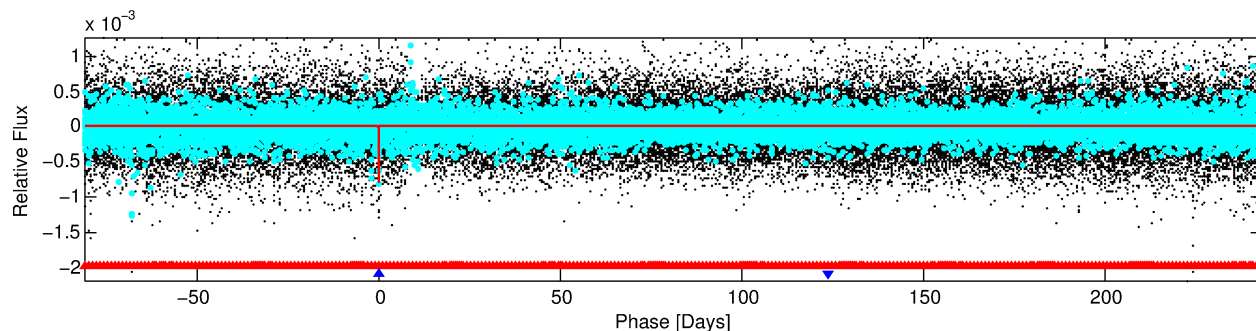
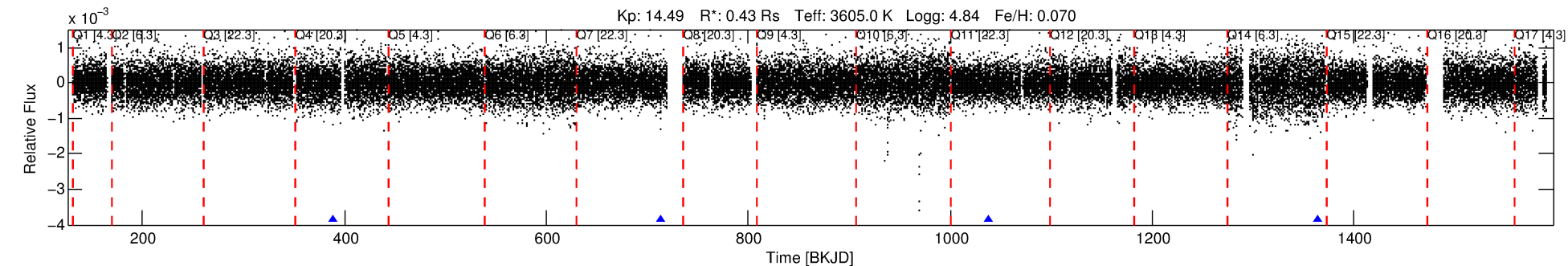
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003426367-02

No Significant Match Found

DV One-Page Summary

KIC: 3426367 Candidate: 2 of 2 Period: 325.077 d
KOI: K02662 Corr: No Ephemeris Match



DV Fit Results:

Period = 325.07680 [0.00525] d
Epoch = 388.1512 [0.0090] BKJD
Rp/R* = 0.0298 [0.0142]
a/R* = 381.82 [728.68]
b = 0.87 [0.53]
Seff = 0.05 [0.01]
Teq = 123 [5] K
Rp = 1.41 [0.69] Re
a = 0.7195 [0.0753] AU
Ag = 2948.62 [16739.33] [0.18σ]
Teffp = 1406 [1995] K [0.64σ]

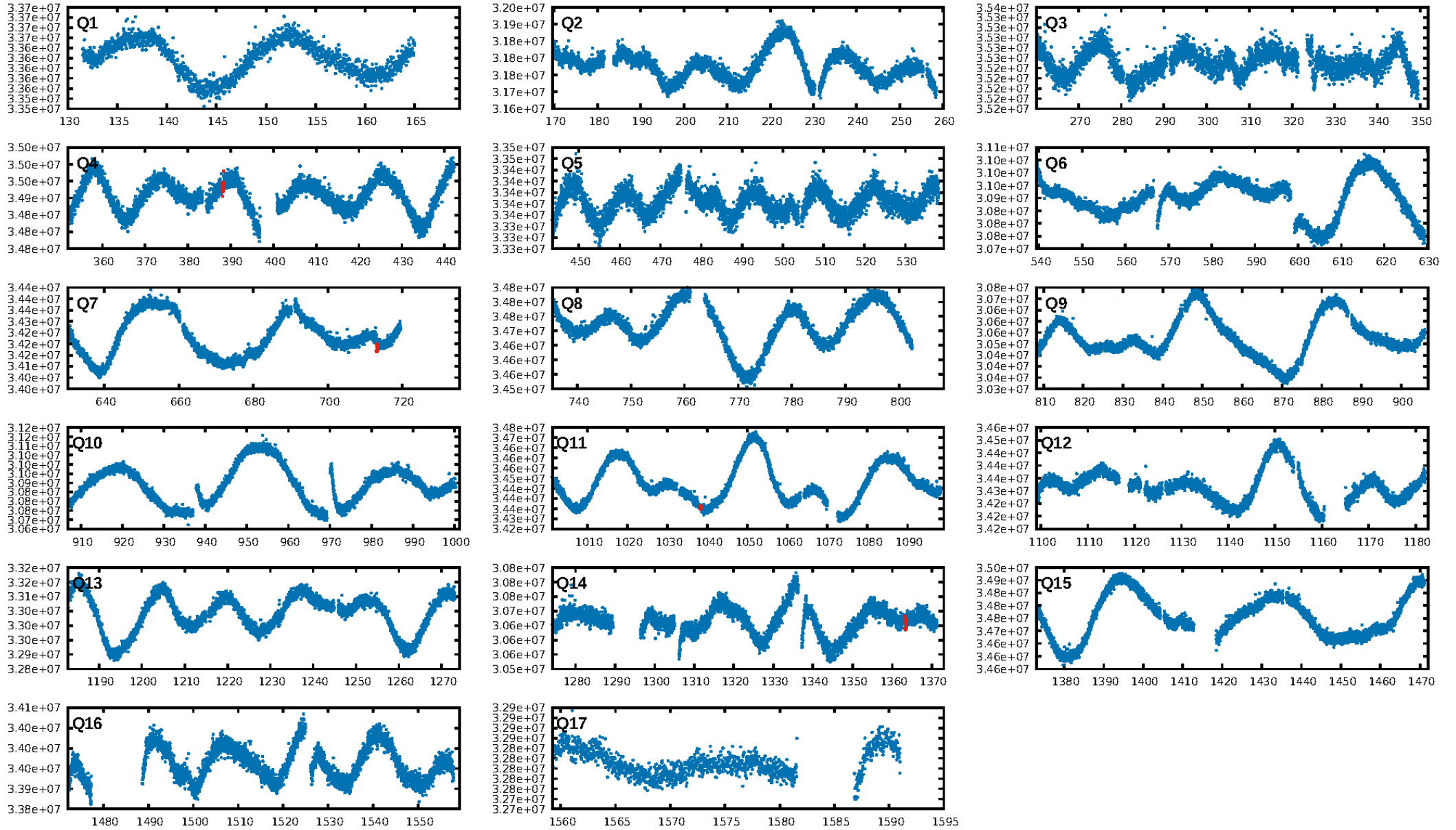
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [2079.19σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 59.7%
ModelChiSquareGof-sig: 98.4%
Bootstrap-pfa: 1.13e-11
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.5019
Centroid-sig: 1.9%
Centroid-so: 0.895 arcsec [0.53σ]
OotOffset-rm: 1.275 arcsec [1.17σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-rm: 1.482 arcsec [0.98σ]
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DiffImageOverlap-fno: 0.67 [2/3]

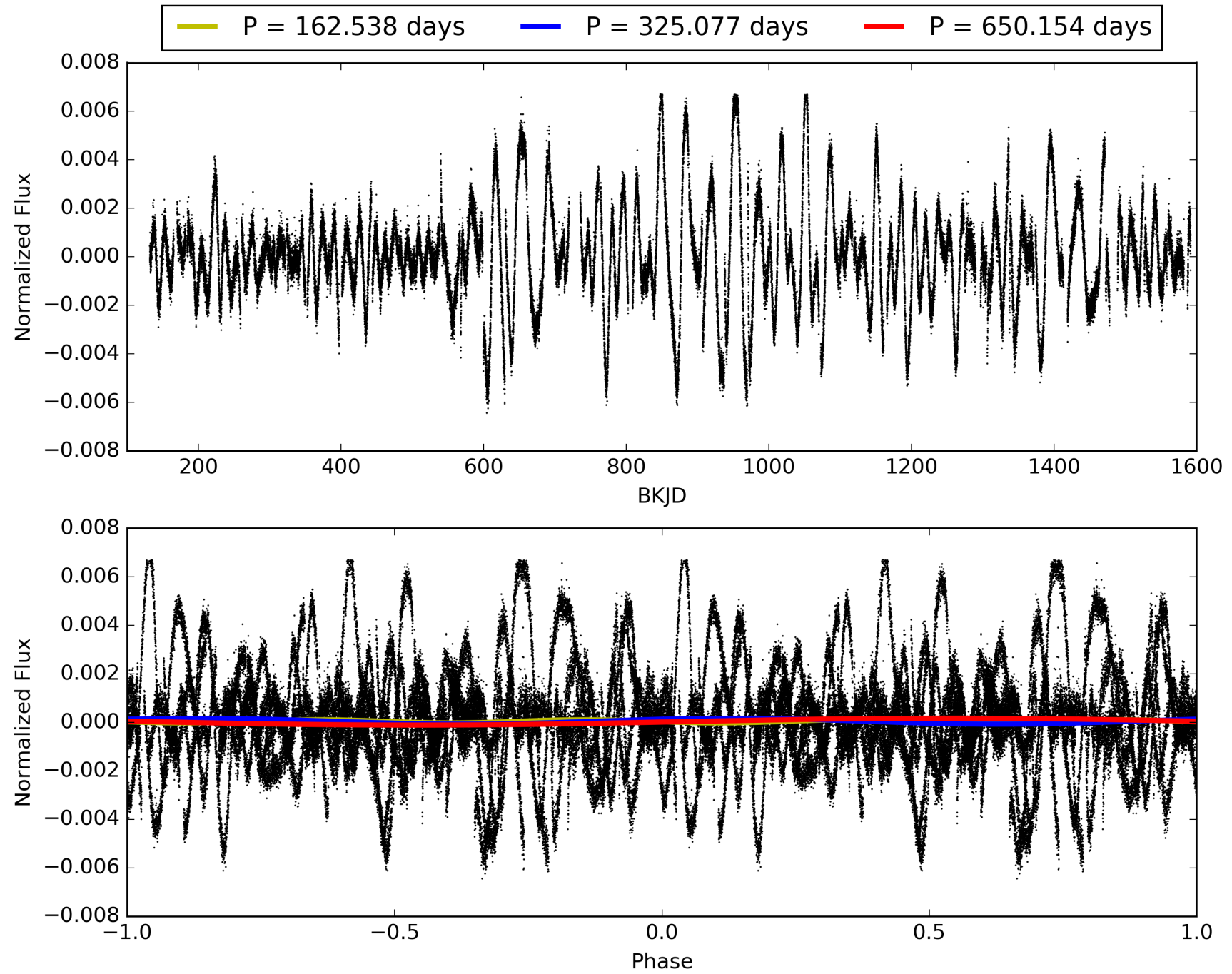
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:01:48 Z

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

TCE 003426367-02, PDC Light Curves

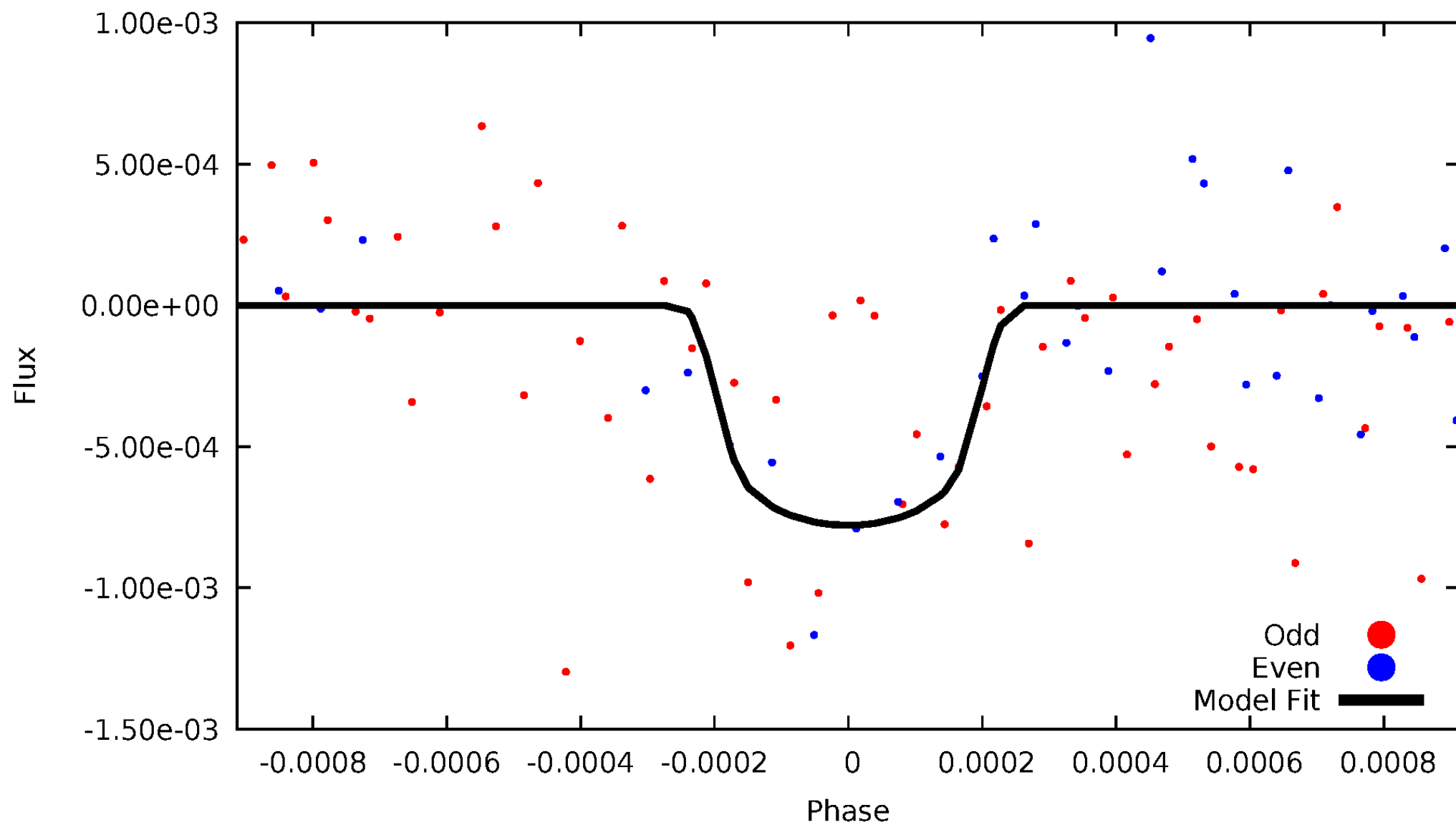


TCE 003426367-02



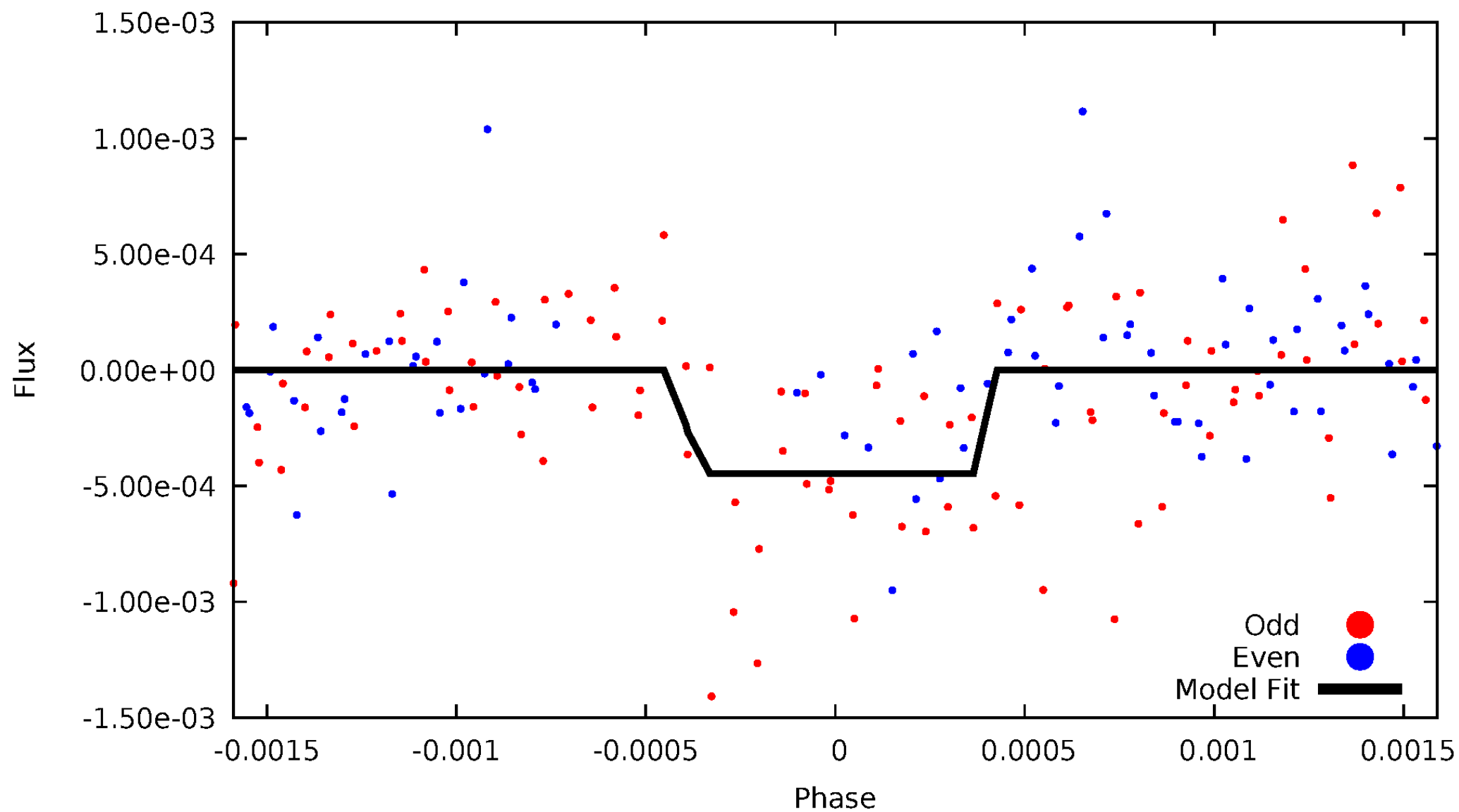
DV Odd/Even

TCE 003426367-02



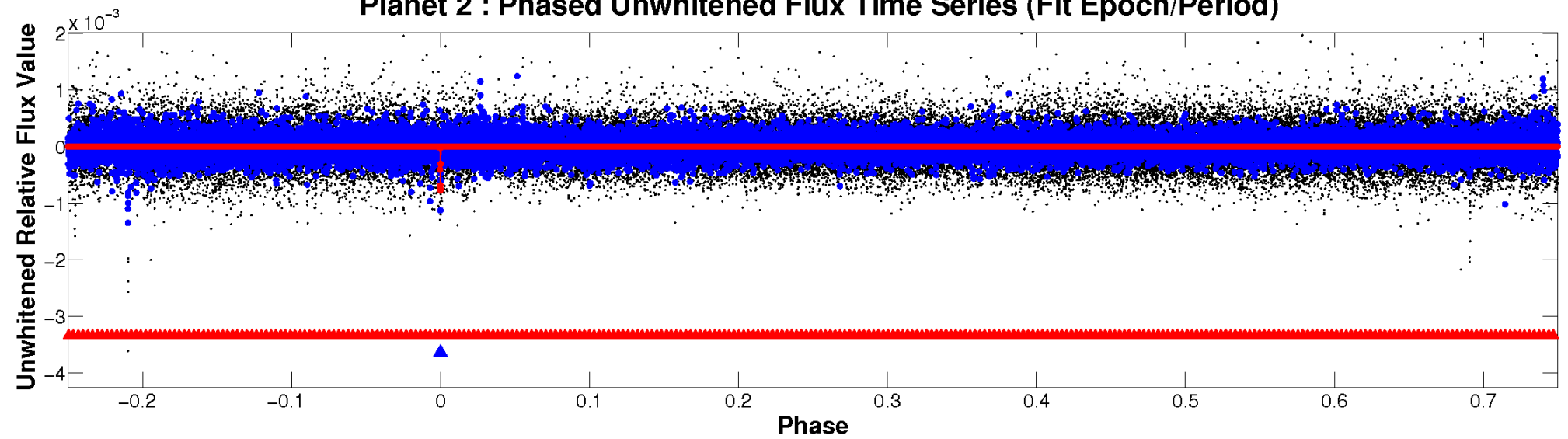
ALT Odd/Even

TCE 003426367-02

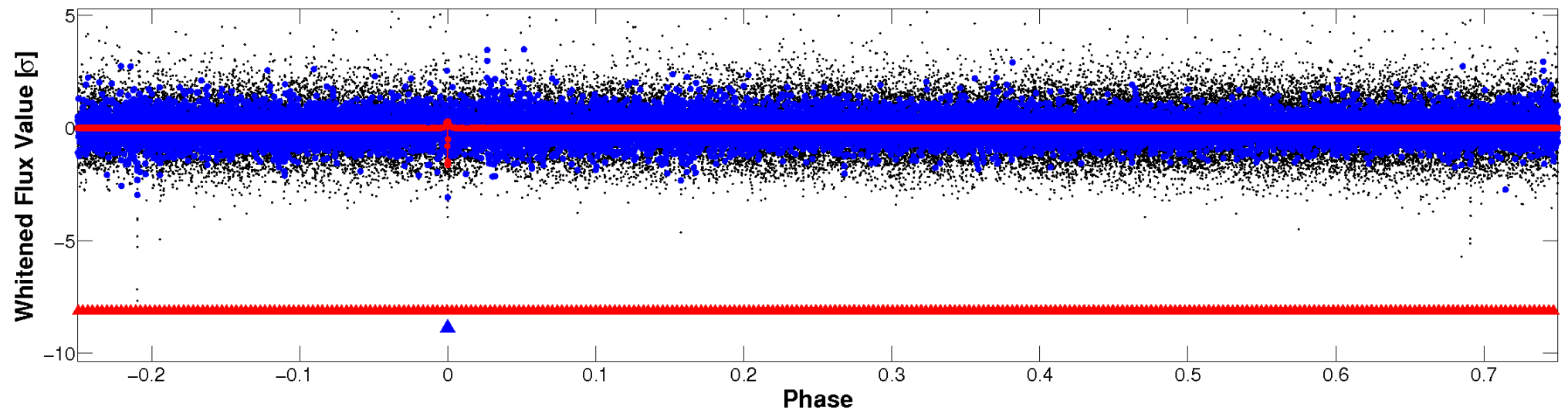


Non-Whitened Vs. Whitened Light Curve

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

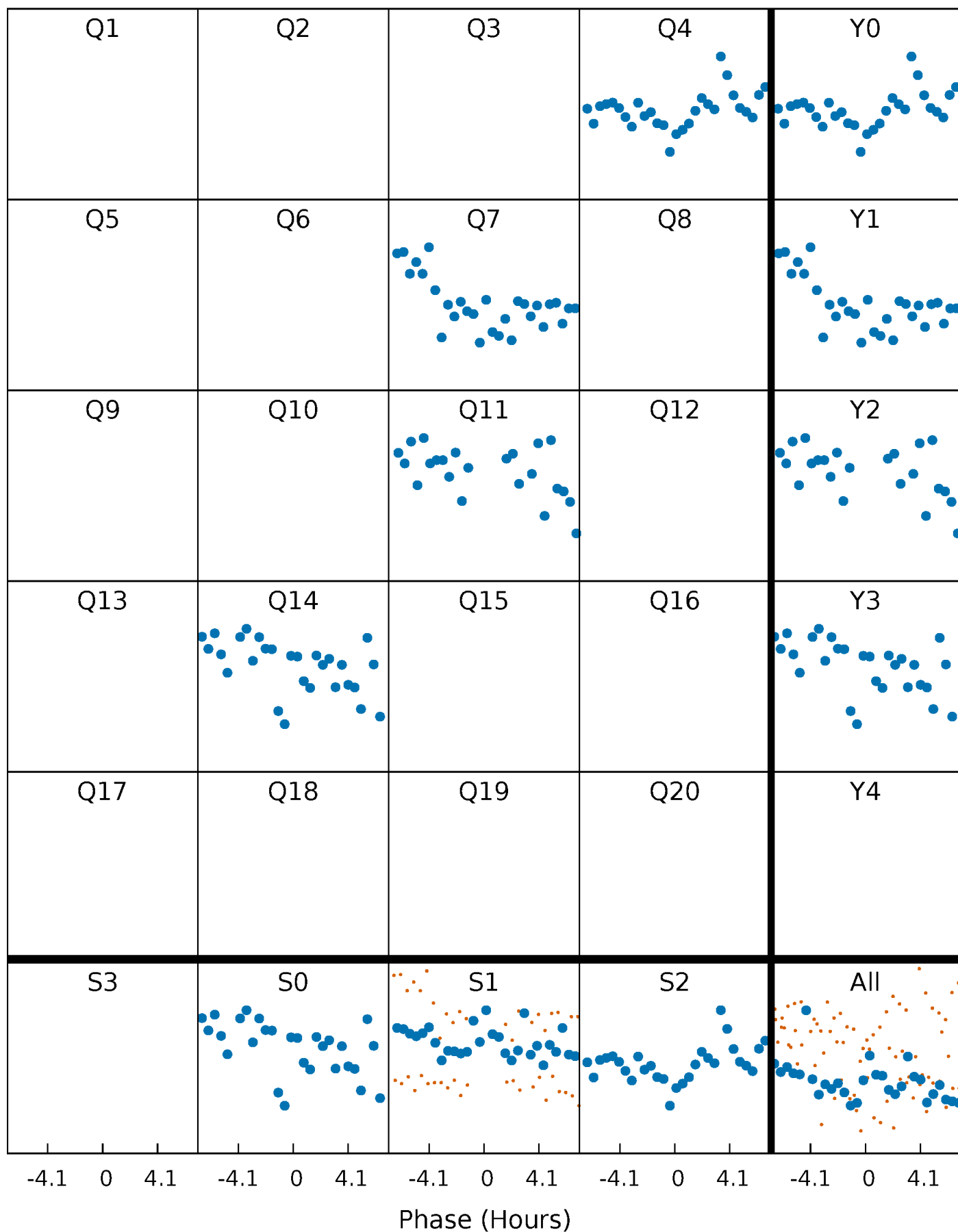


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



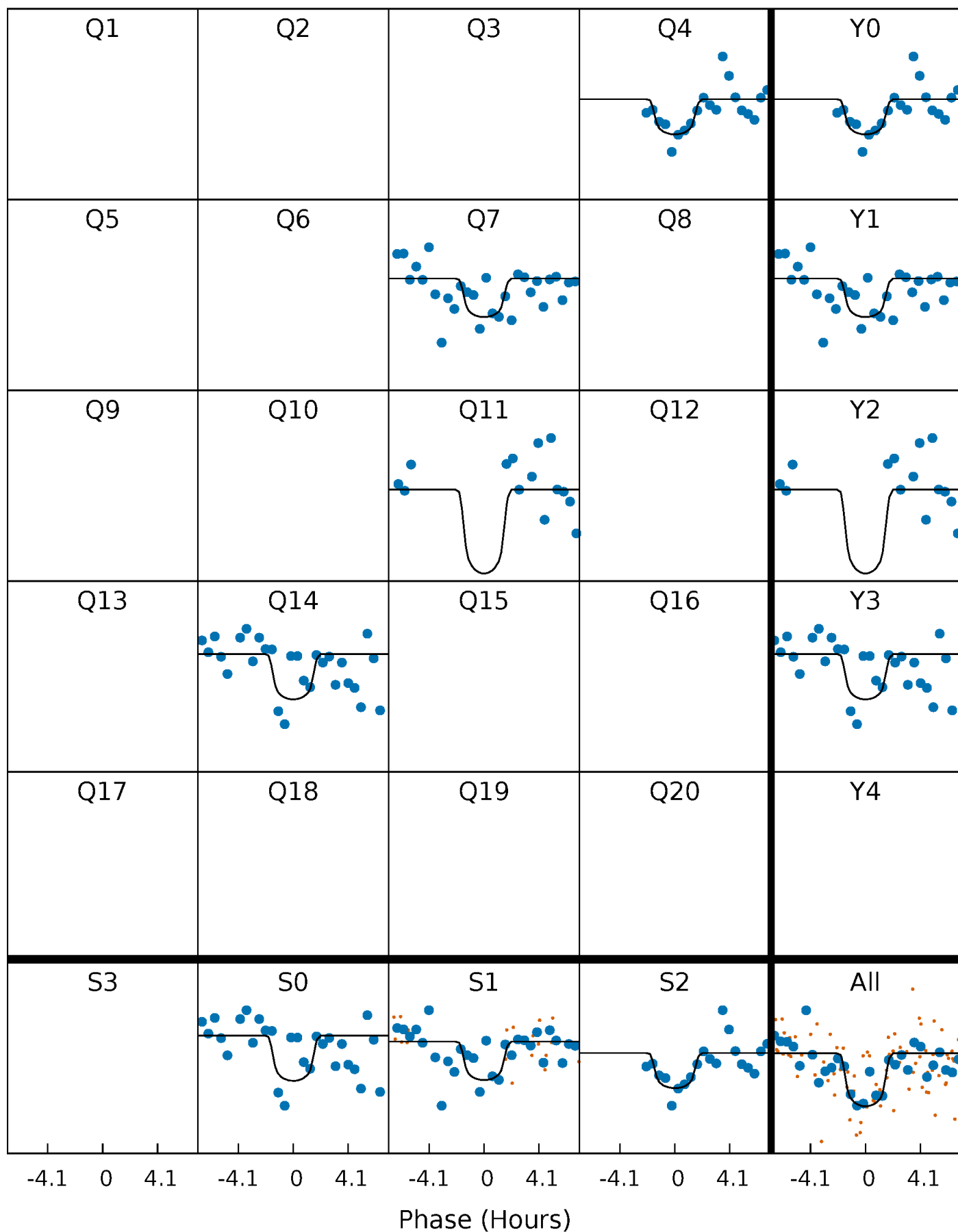
PDC Quarter-Phased Transit Curves

TCE 003426367-02 $P=325.076797$ Days $T_0=388.151156$ (BKJD)



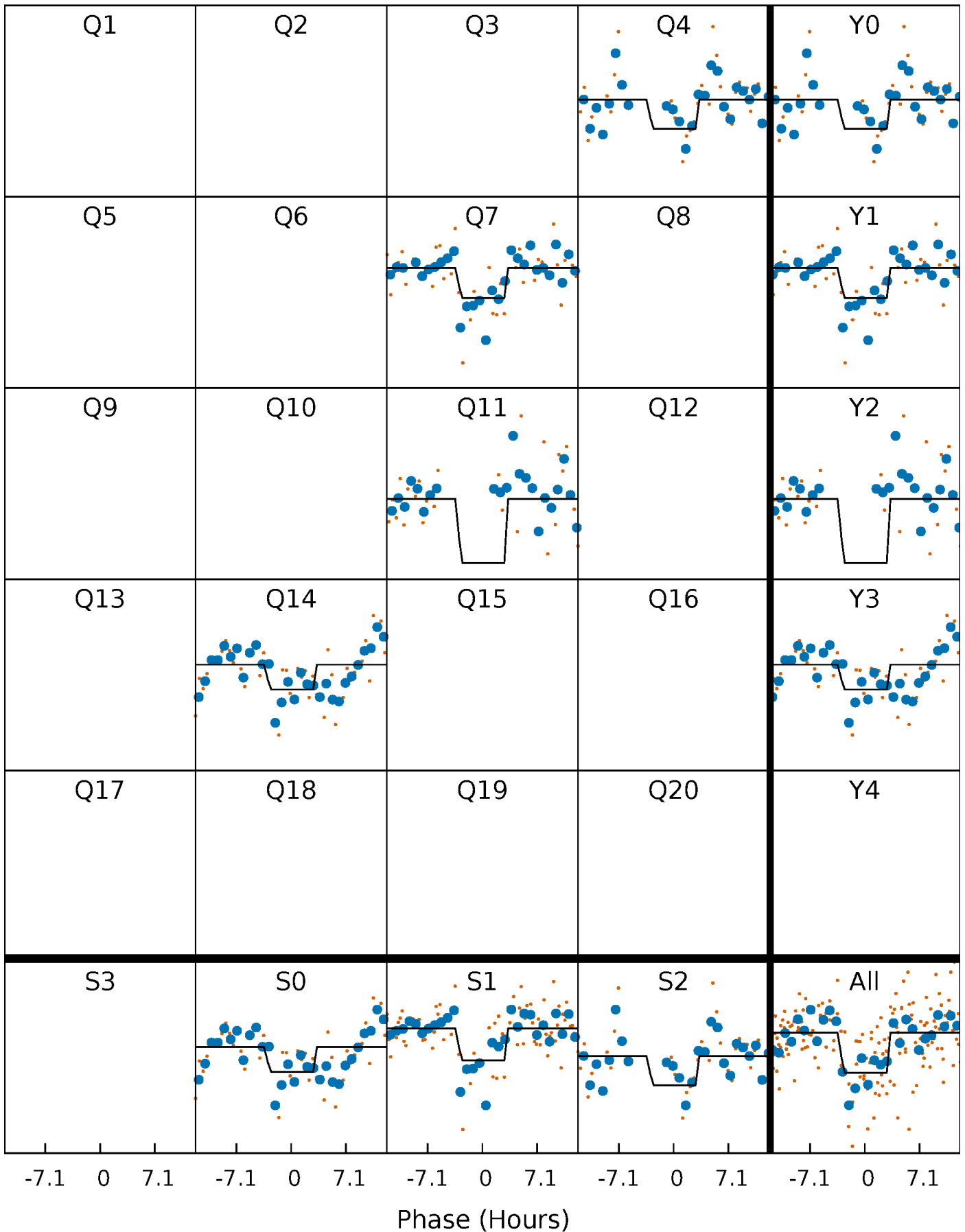
DV Quarter-Phased Transit Curves

TCE 003426367-02 $P=325.076797$ Days $T_0=388.151156$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

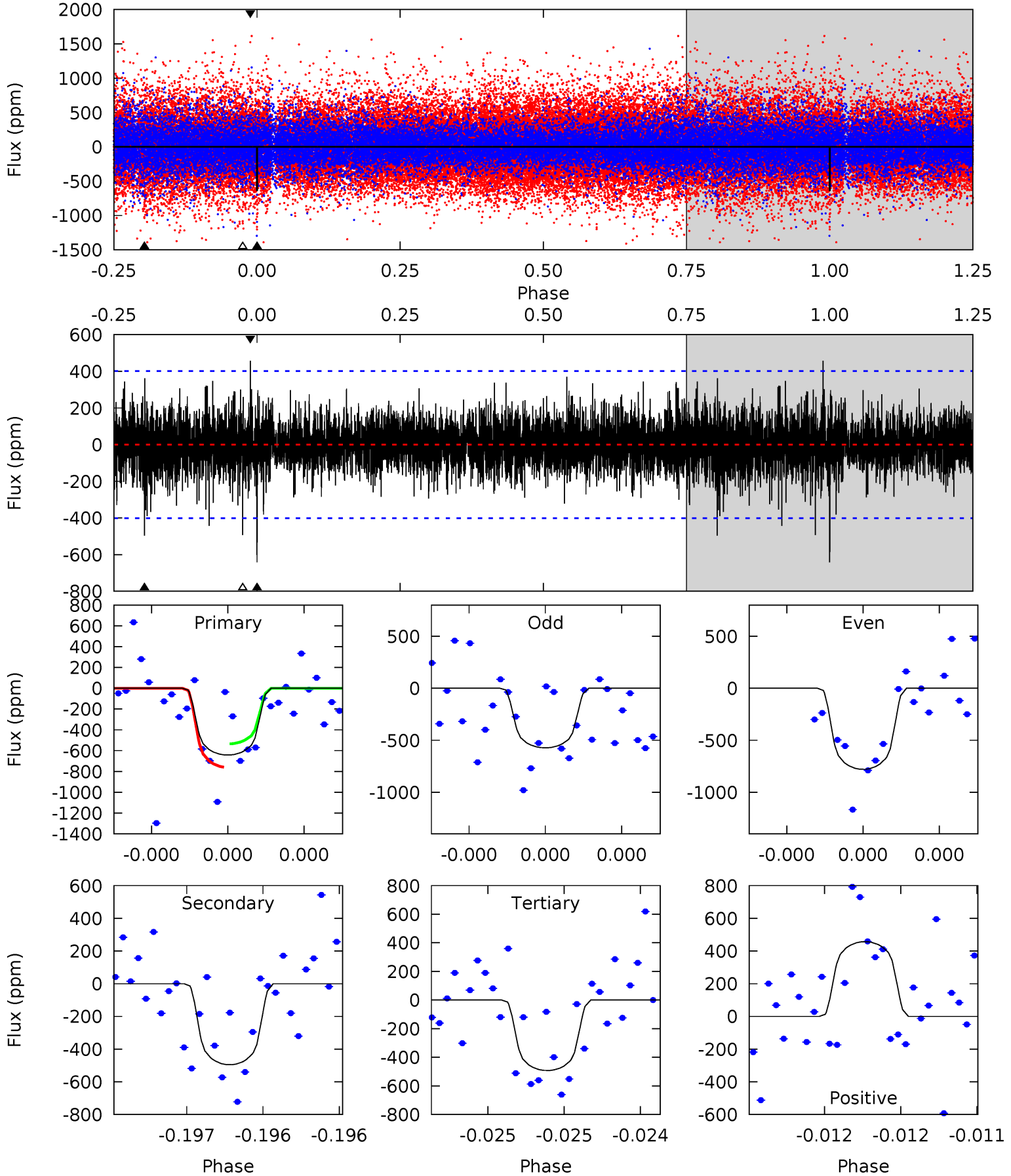
TCE 003426367-02 P=325.111562 Days $T_0=388.085528$ (BKJD)



DV Model-Shift Uniqueness Test

003426367-02, P = 325.076797 Days, E = 63.074359 Days

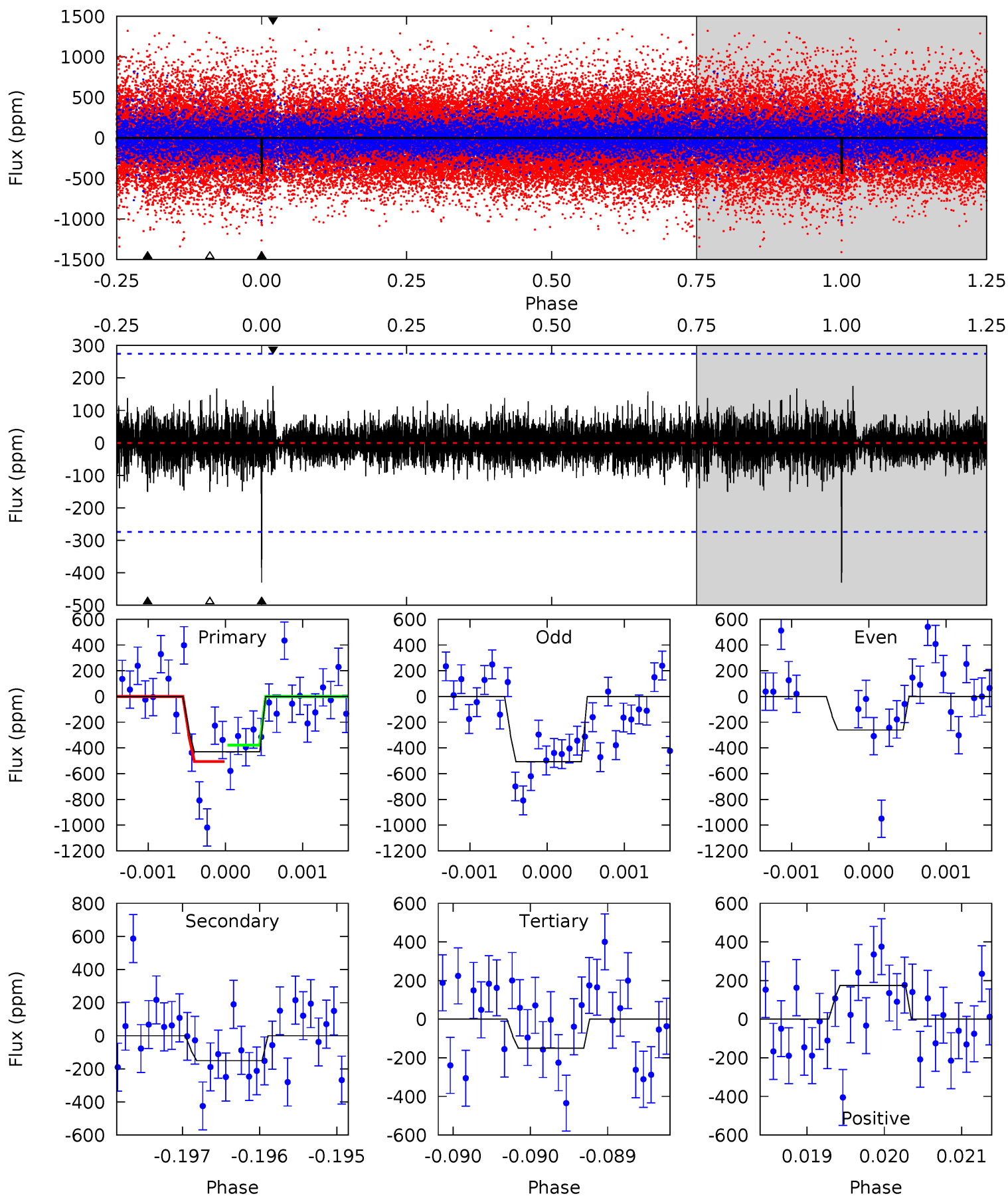
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.94	6.90	6.86	6.36	5.59	3.50	1.33	2.08	2.58	0.04	0.54	1.40	1.11	0.42	1.55



Alt Model-Shift Uniqueness Test

003426367-02, $P = 325.111562$ Days, $E = 62.973966$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.61	3.01	3.01	3.50	5.49	3.35	0.75	5.60	5.11	0.00	-0.49	2.30	0.87	0.29	1.24



Stellar Parameters For KIC 003426367

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3605^{+71}_{-85}	$4.837^{+0.038}_{-0.071}$	$0.070^{+0.150}_{-0.150}$	$0.433^{+0.058}_{-0.048}$	$0.470^{+0.047}_{-0.057}$	$8.148^{+1.828}_{-1.979}$
	+2%/-2%	+1%/-1%	+214%/-214%	+13%/-11%	+10%/-12%	+22%/-24%
Source	SPE70	SPE60	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 003426367-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-496 ± 72	$1.40^{+0.73}_{-0.63}$	173^{+5}_{-5}	3307^{+732}_{-391}	$70512^{+173312}_{-39575}$
Alt.	-151 ± 50	$1.07^{+0.65}_{-0.56}$	174^{+5}_{-6}	2978^{+847}_{-361}	$35170^{+140405}_{-21730}$

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 $A_{obs} \gg 1.0$

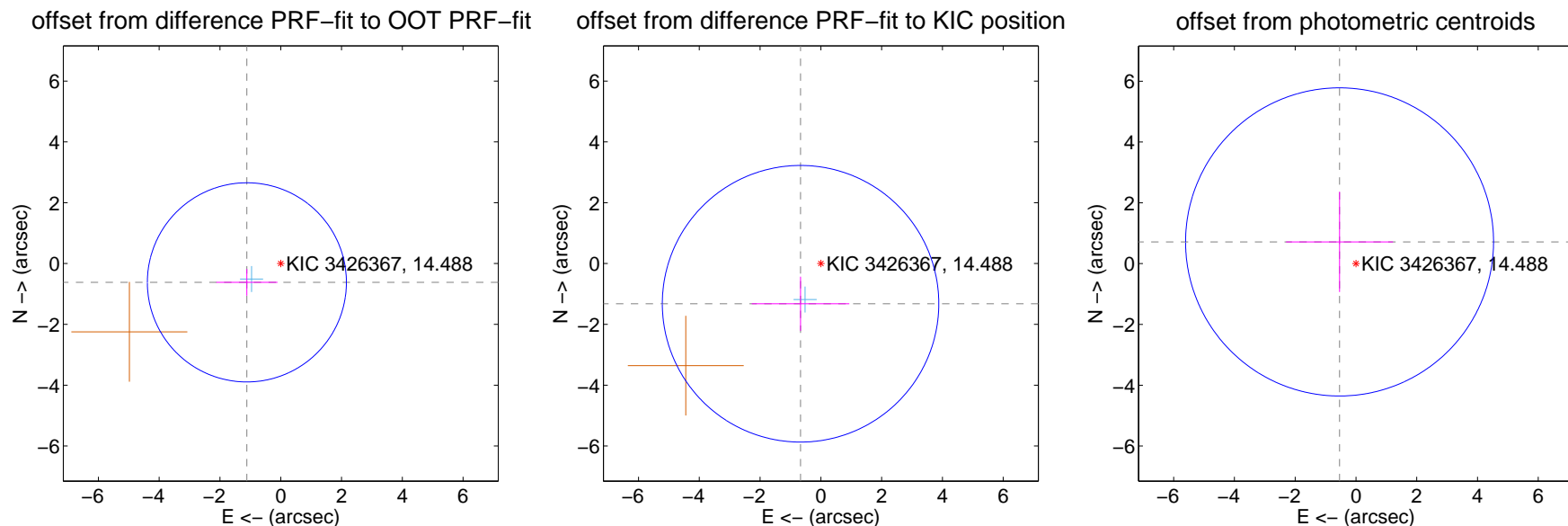
DV Centroid Data

Supplemental centroid analysis for 003426367-02. Kepler magnitude: 14.49. Transit SNR 6.50

There are 1 quarters with good PRF difference image offsets

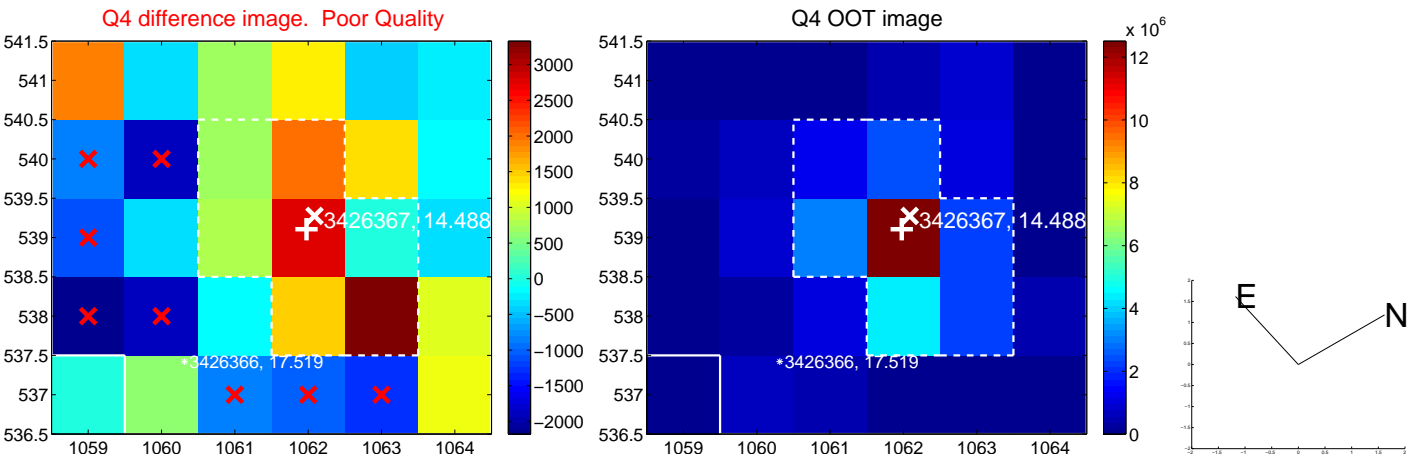
The direct PRF centroid is offset from the target star catalog position by about 1.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.275 ± 1.092	1.17	1.114 ± 1.007	-0.619 ± 0.439
PRF-fit source offset from KIC position	1.482 ± 1.516	0.98	0.668 ± 1.604	-1.323 ± 0.890
photometric centroid source offset	0.89 ± 1.69	0.53	0.54 ± 1.76	0.71 ± 1.65

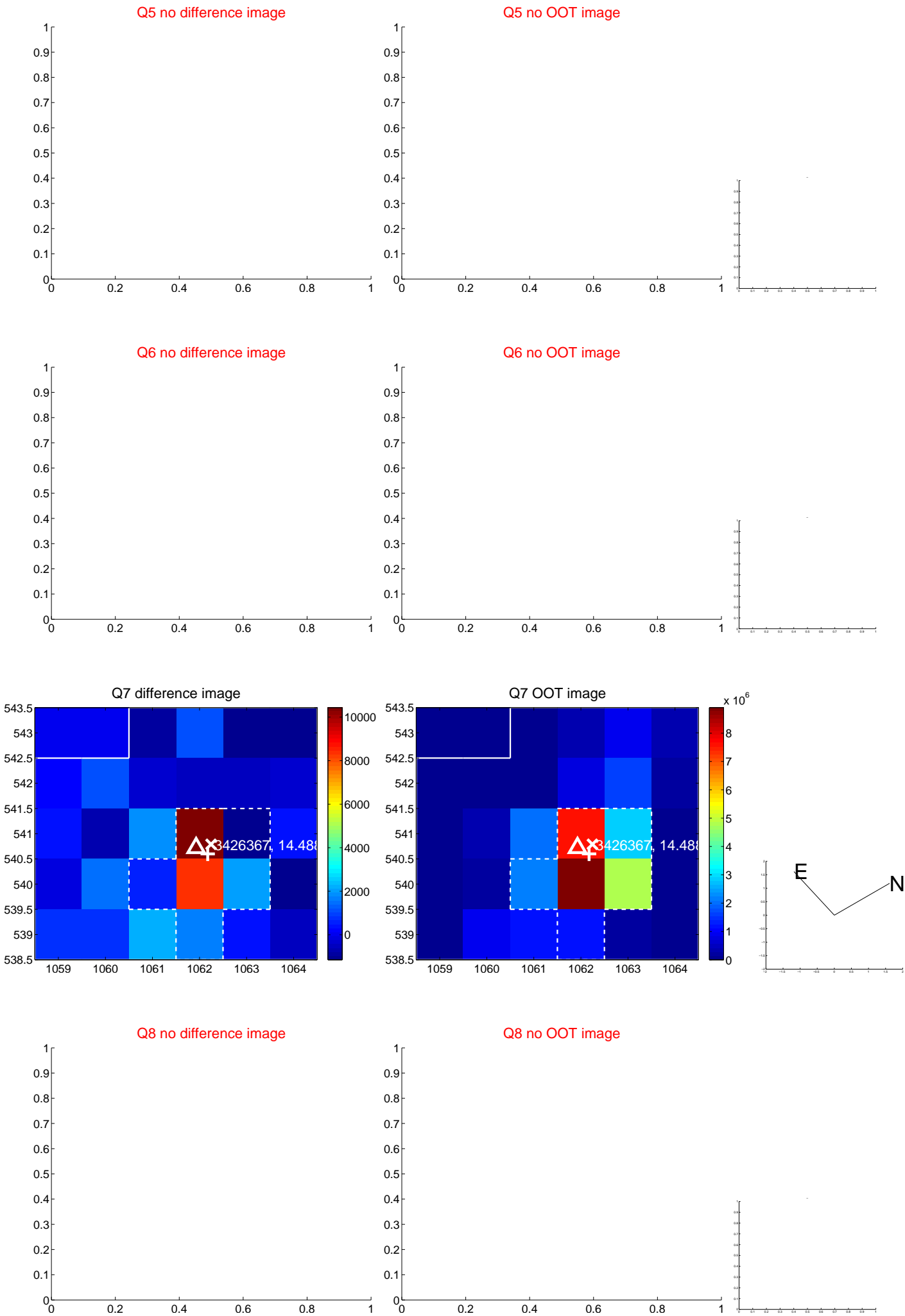


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



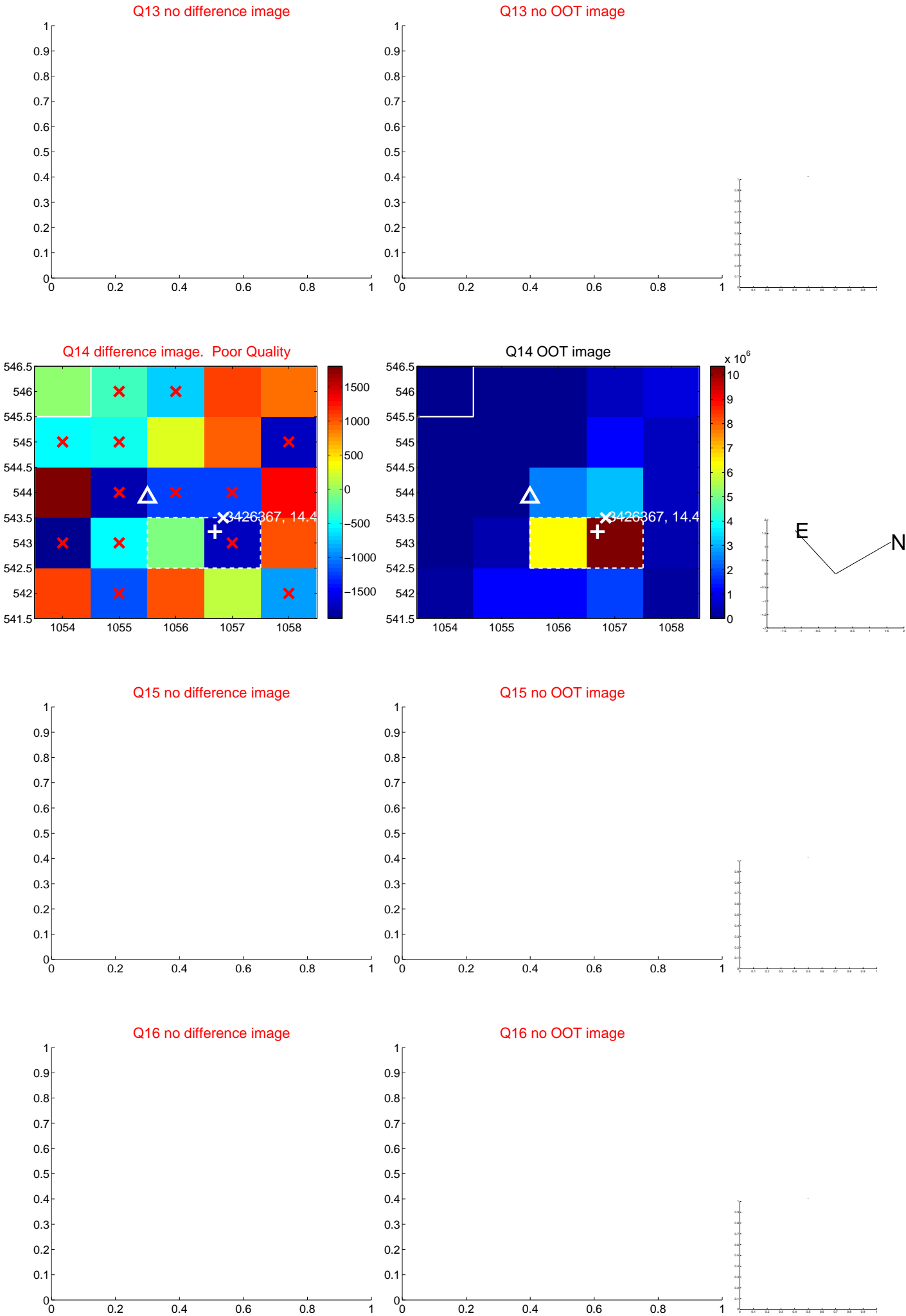
white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



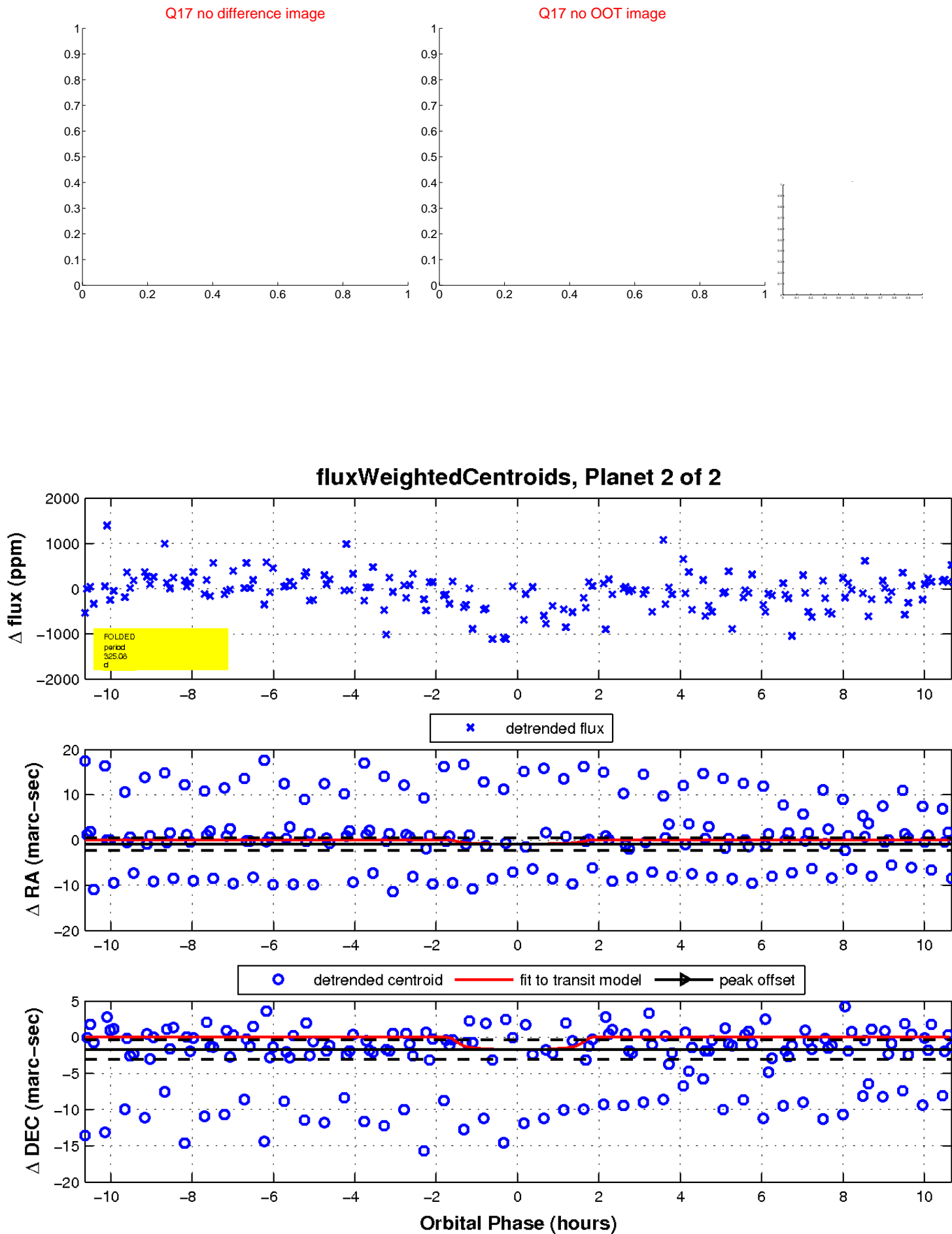
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

