

KIC 010338279

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})
010338279-01	OBS	3216.01	5.660287	134.465353	389.7	0.700	40.3	62.7	0.84	5615	1.84	193.22
010338279-02	OBS	No	5.660219	131.649137	141.7	0.710	14.3	23.2	0.84	5615	1.02	193.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010338279-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
010338279-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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

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

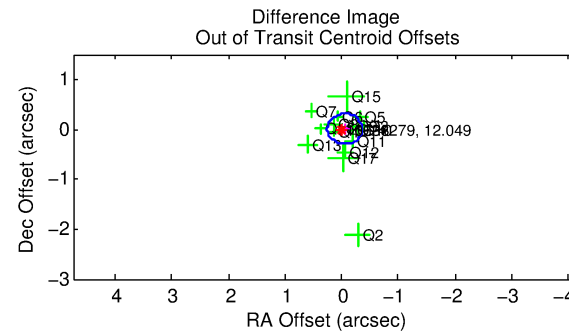
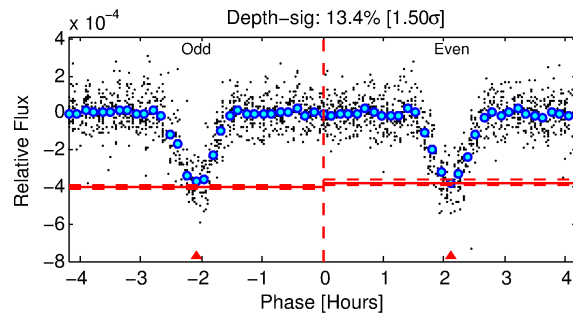
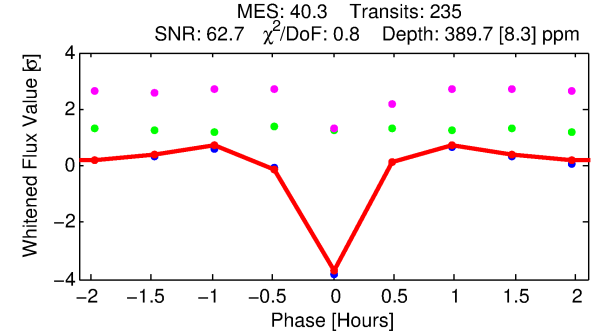
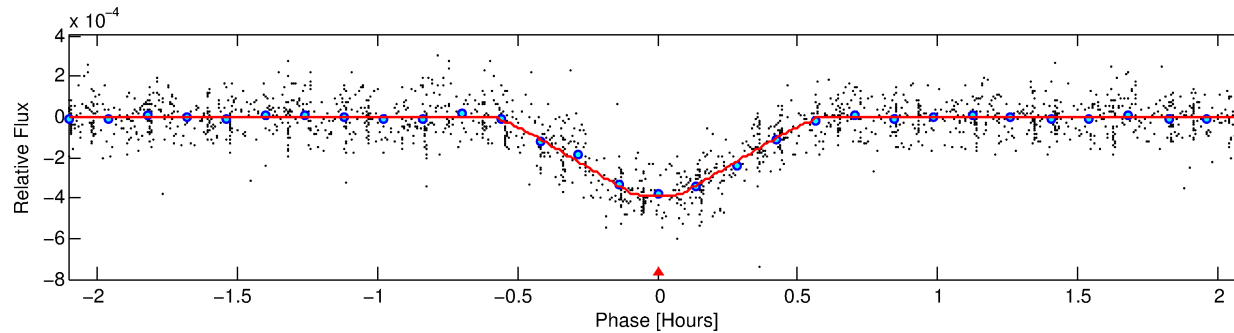
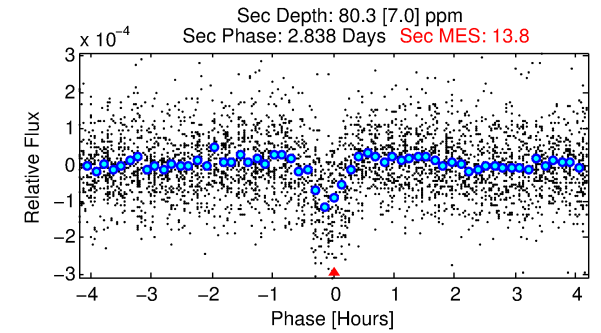
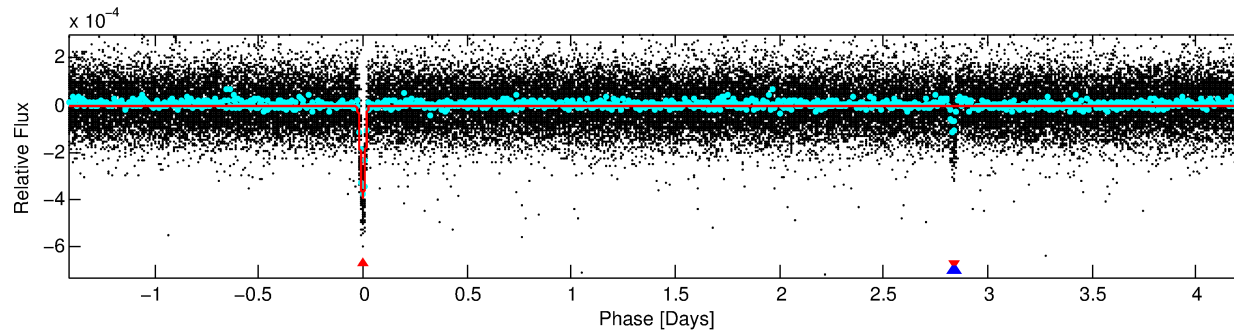
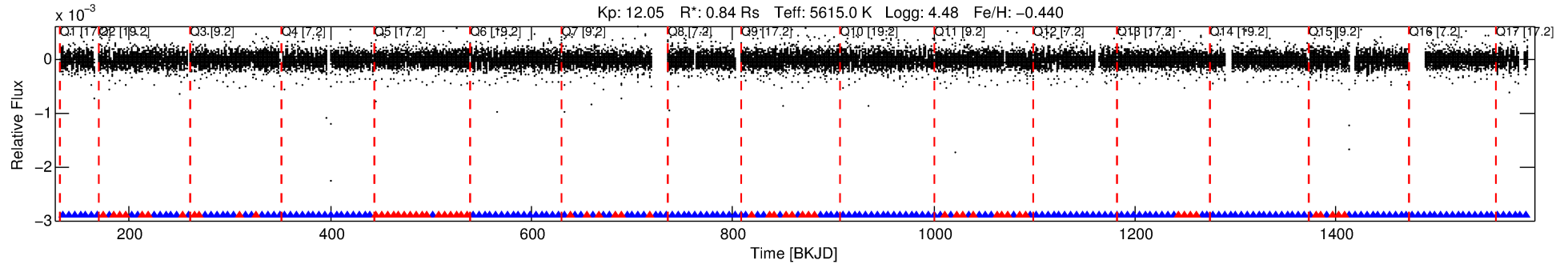
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010338279-01

No Significant Match Found

DV One-Page Summary

KIC: 10338279 Candidate: 1 of 2 Period: 5.660 d
KOI: K03216.01 Corr: 0.949



DV Fit Results:

Period = 5.66029 [0.00000] d
Epoch = 134.4654 [0.0002] BKJD
Rp/R* = 0.0200 [0.0014]
a/R* = 43.58 [14.14]
b = 0.74 [0.20]
Seff = 193.22 [55.43]
Teq = 951 [68] K
Rp = 1.84 [0.43] Re
a = 0.0572 [0.0106] AU
Ag = 42.78 [13.45] [3.10σ]
Teffp = 3759 [188] K [14.03σ]

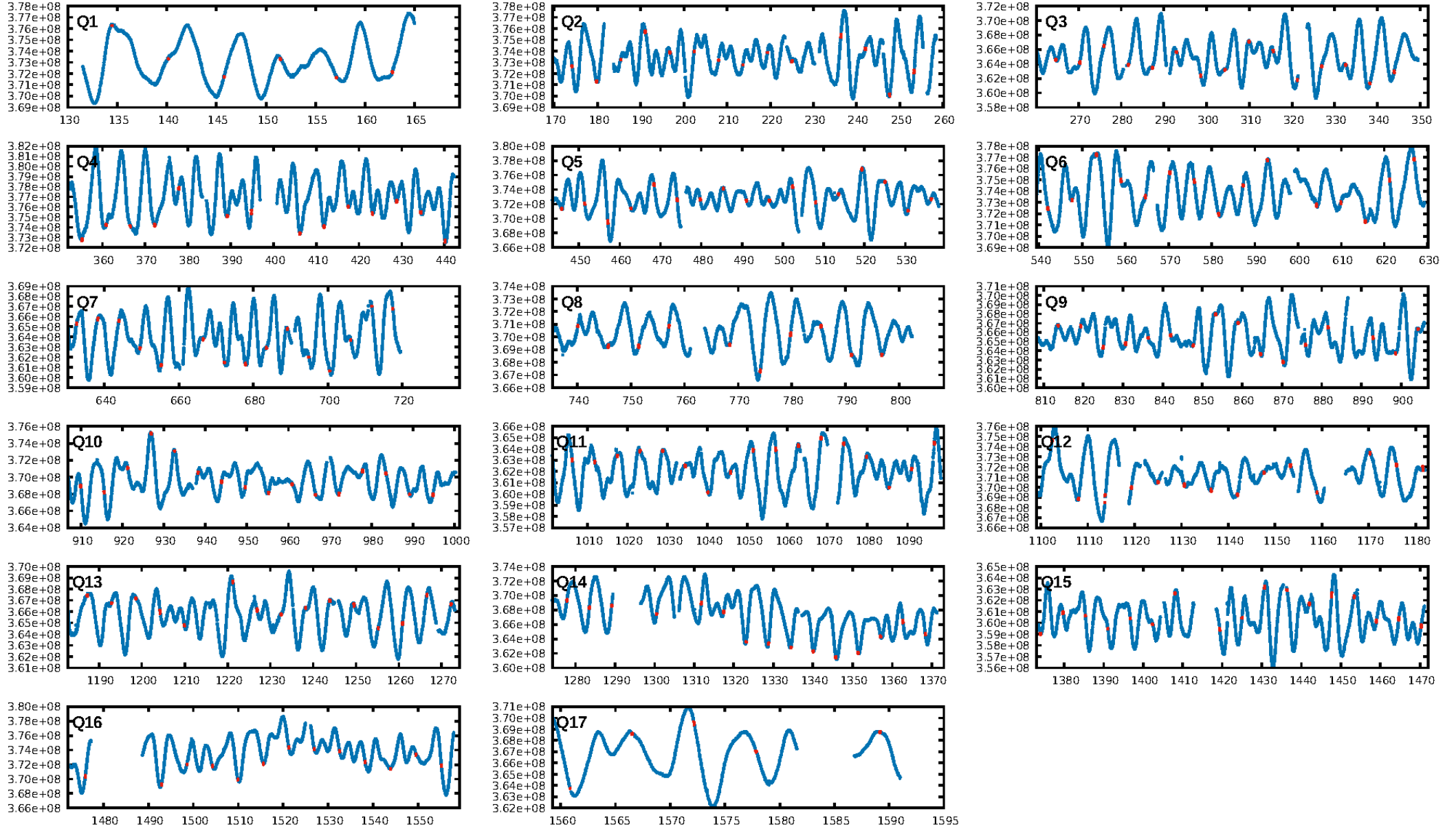
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.51e-229
RollingBand-fgt: 0.74 [165/224]
GhostDiagnostic-chr: 1.834
Centroid-sig: 28.6%
Centroid-so: 0.112 arcsec [0.93σ]
OotOffset-rm: 0.053 arcsec [0.52σ]
KicOffset-rm: 0.276 arcsec [2.10σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [16/16]

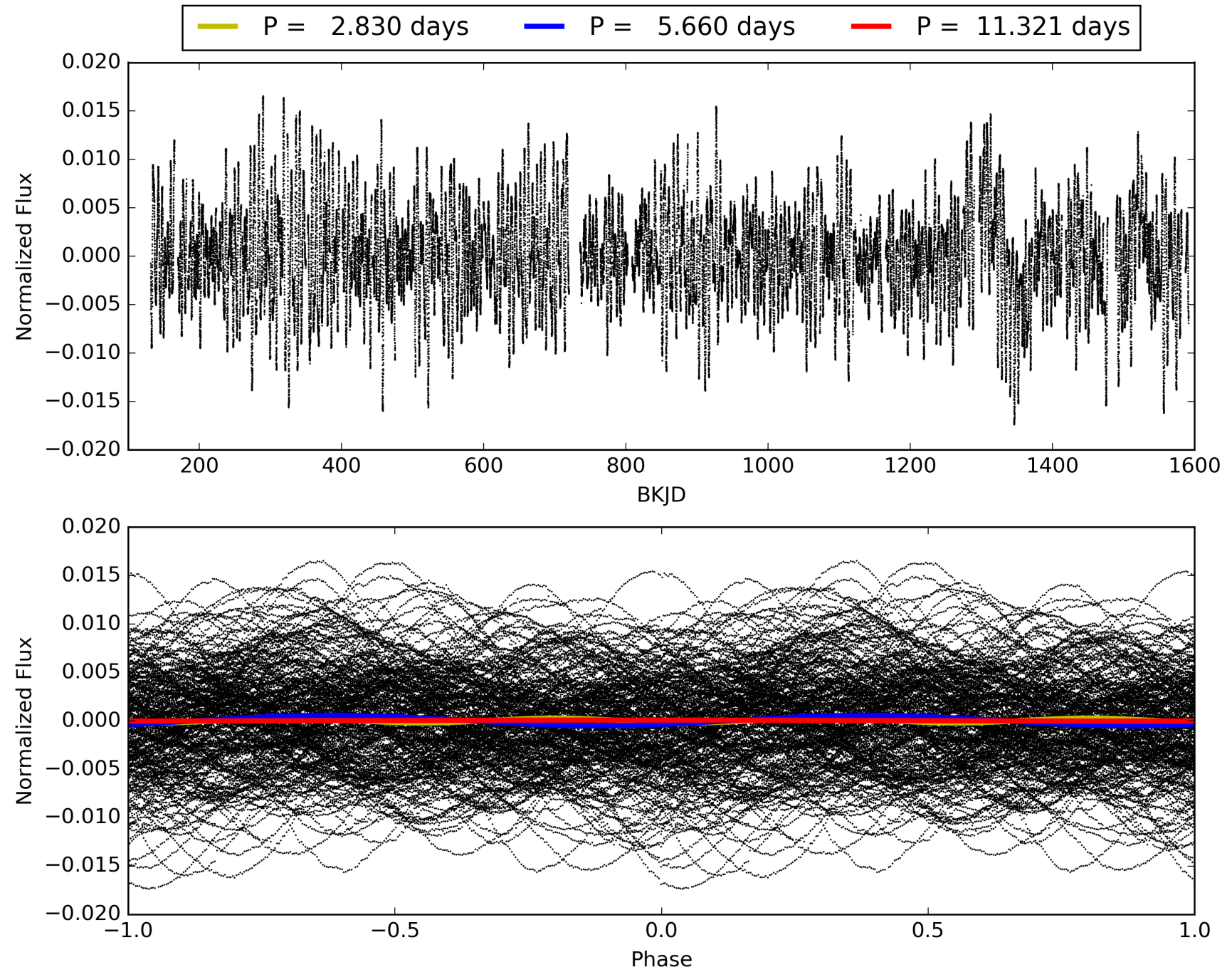
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:29:27 Z

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

TCE 010338279-01, PDC Light Curves

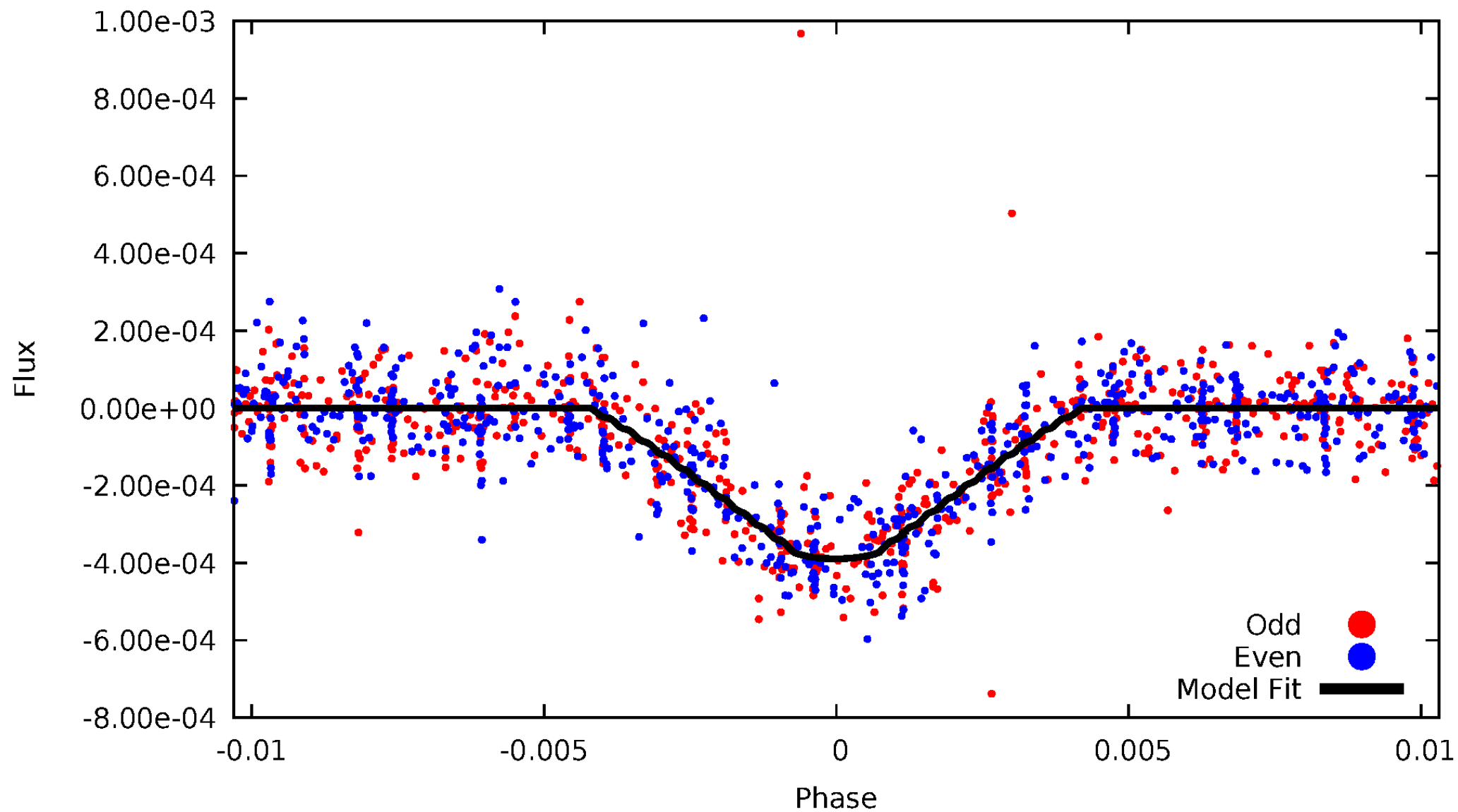


TCE 010338279-01



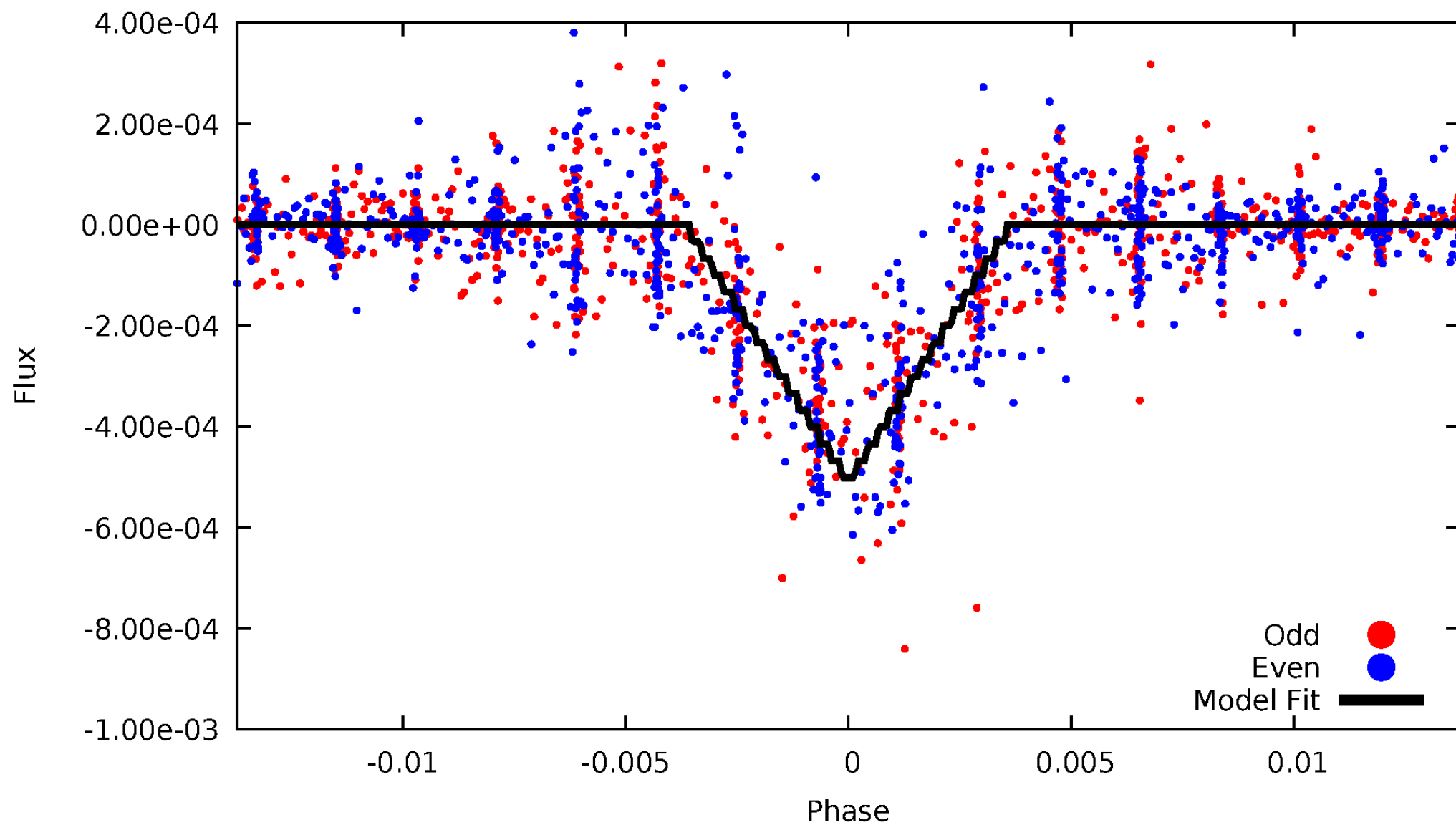
DV Odd/Even

TCE 010338279-01



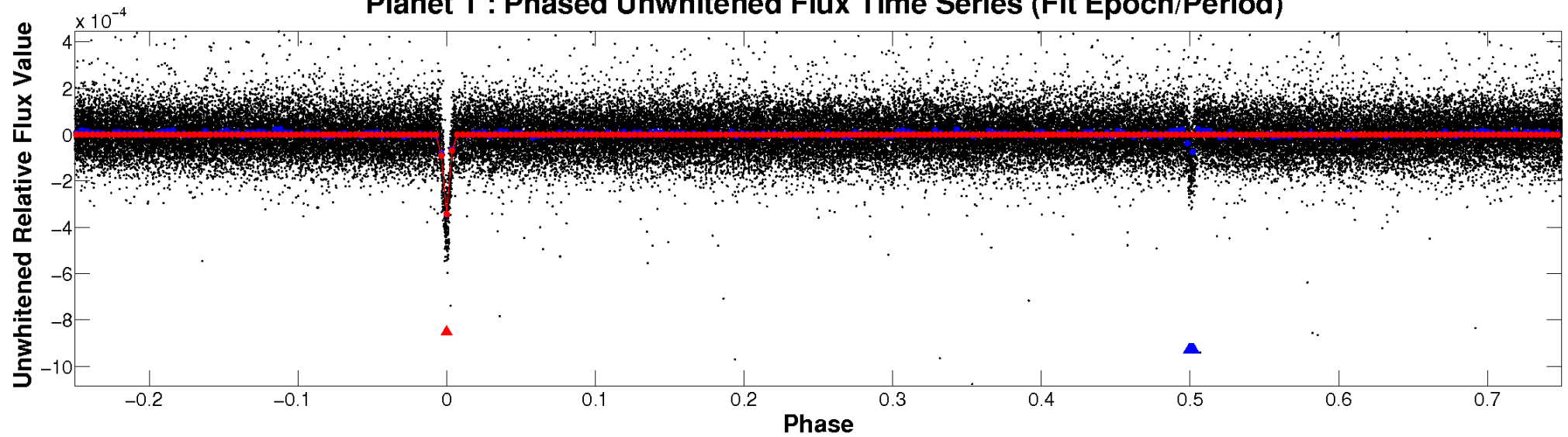
ALT Odd/Even

TCE 010338279-01

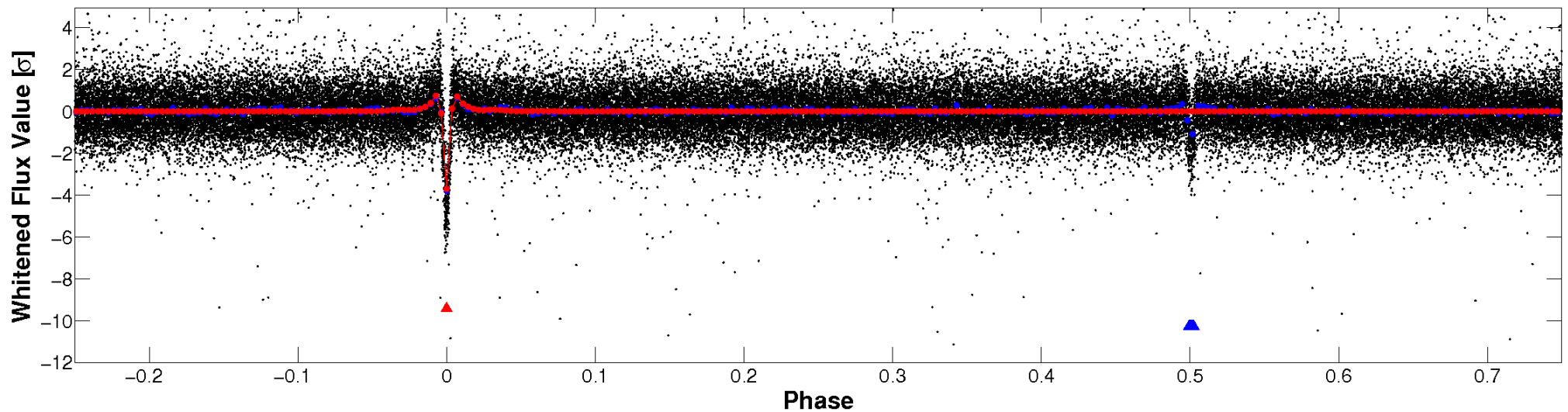


Non-Whitened Vs. Whitened Light Curve

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

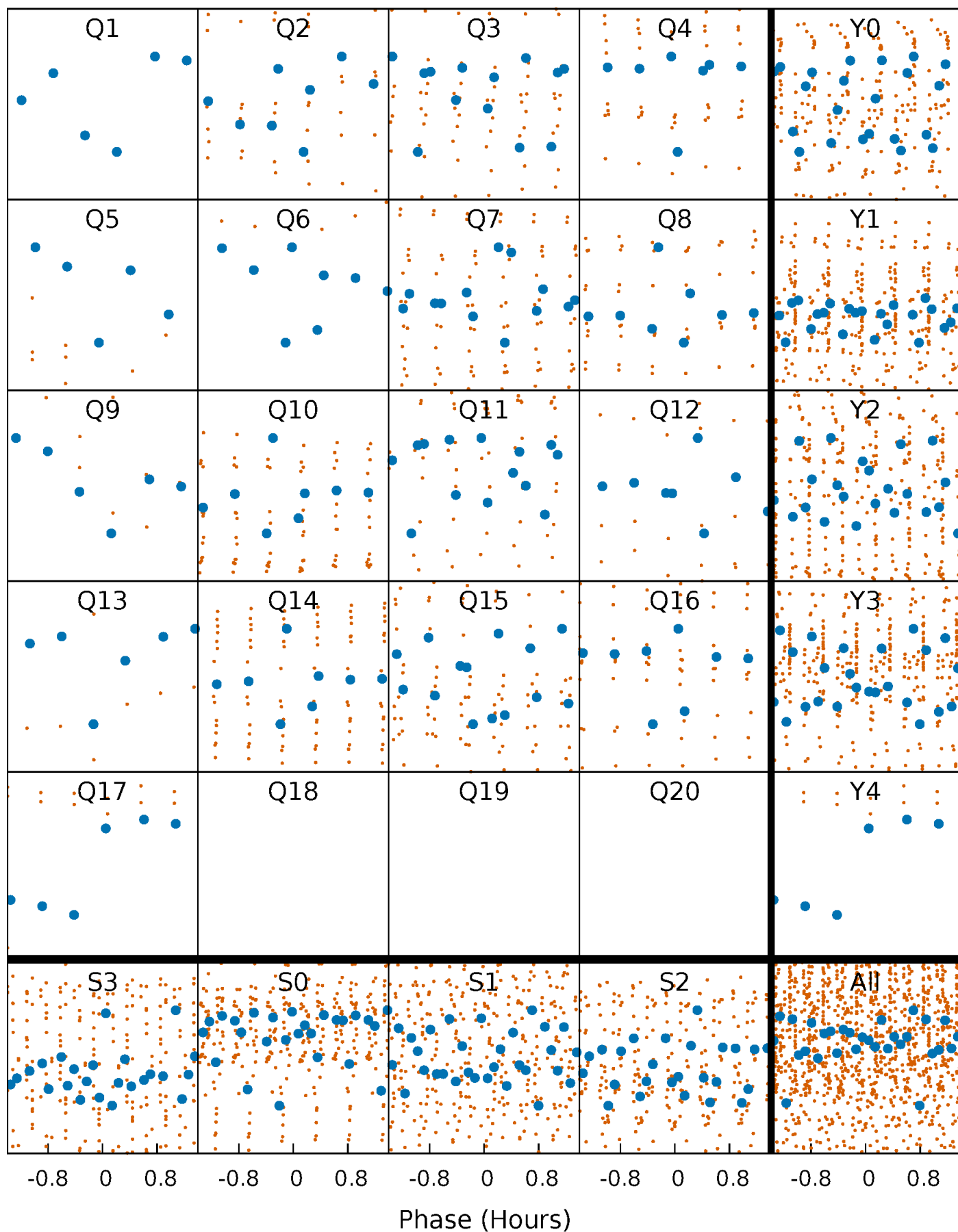


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



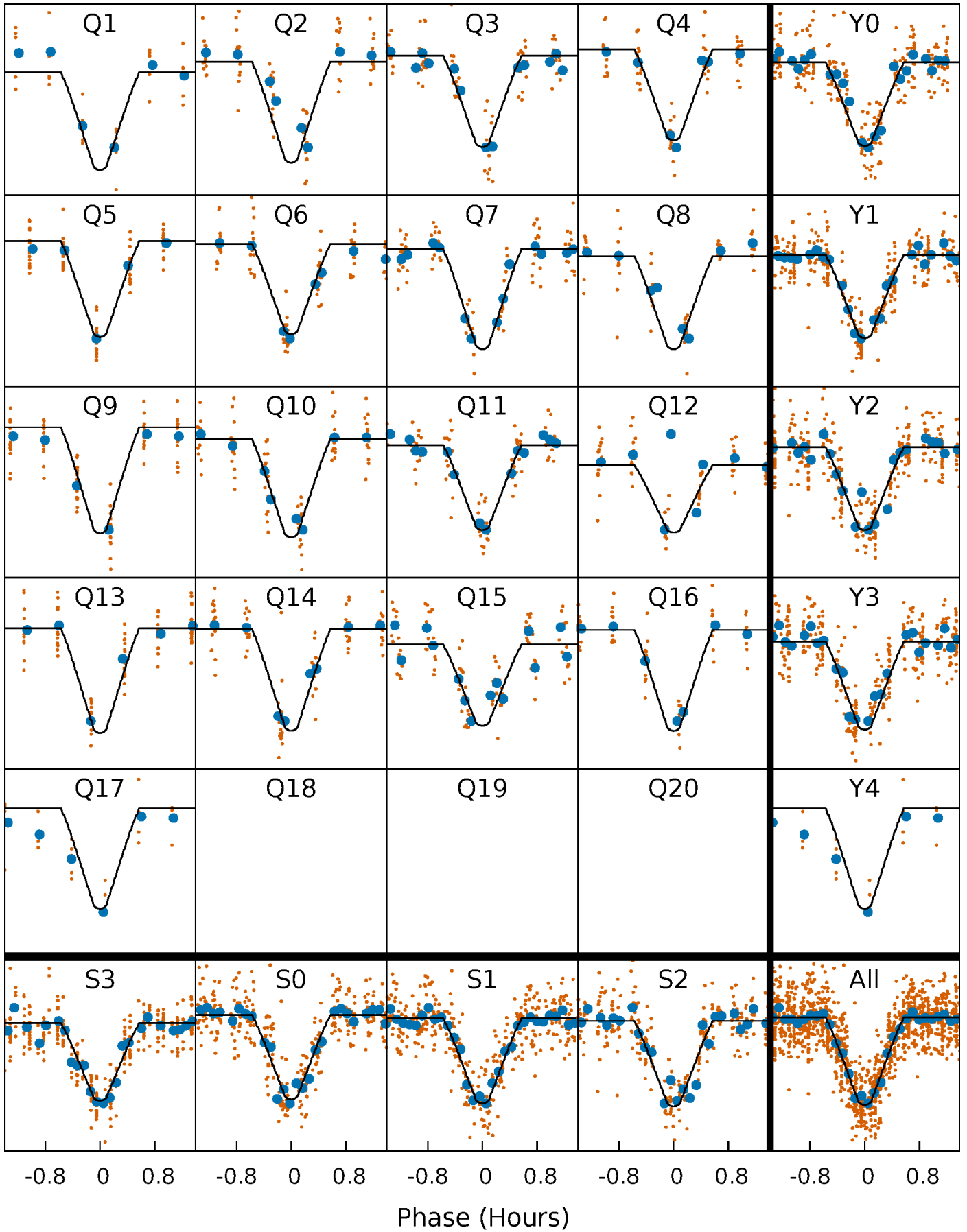
PDC Quarter-Phased Transit Curves

TCE 010338279-01 P= 5.660287 Days $T_0=134.465353$ (BKJD)



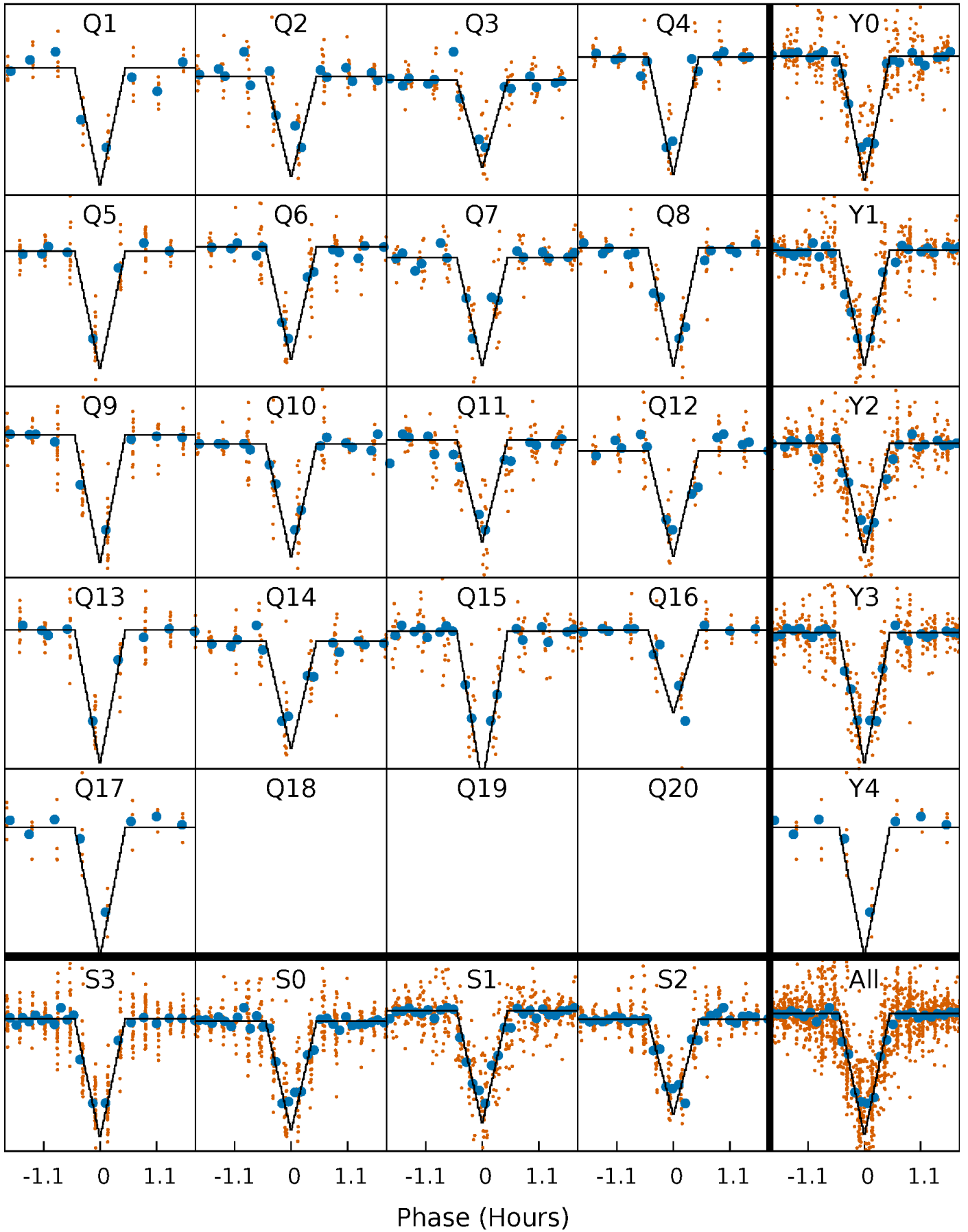
DV Quarter-Phased Transit Curves

TCE 010338279-01 P= 5.660287 Days $T_0=134.465353$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

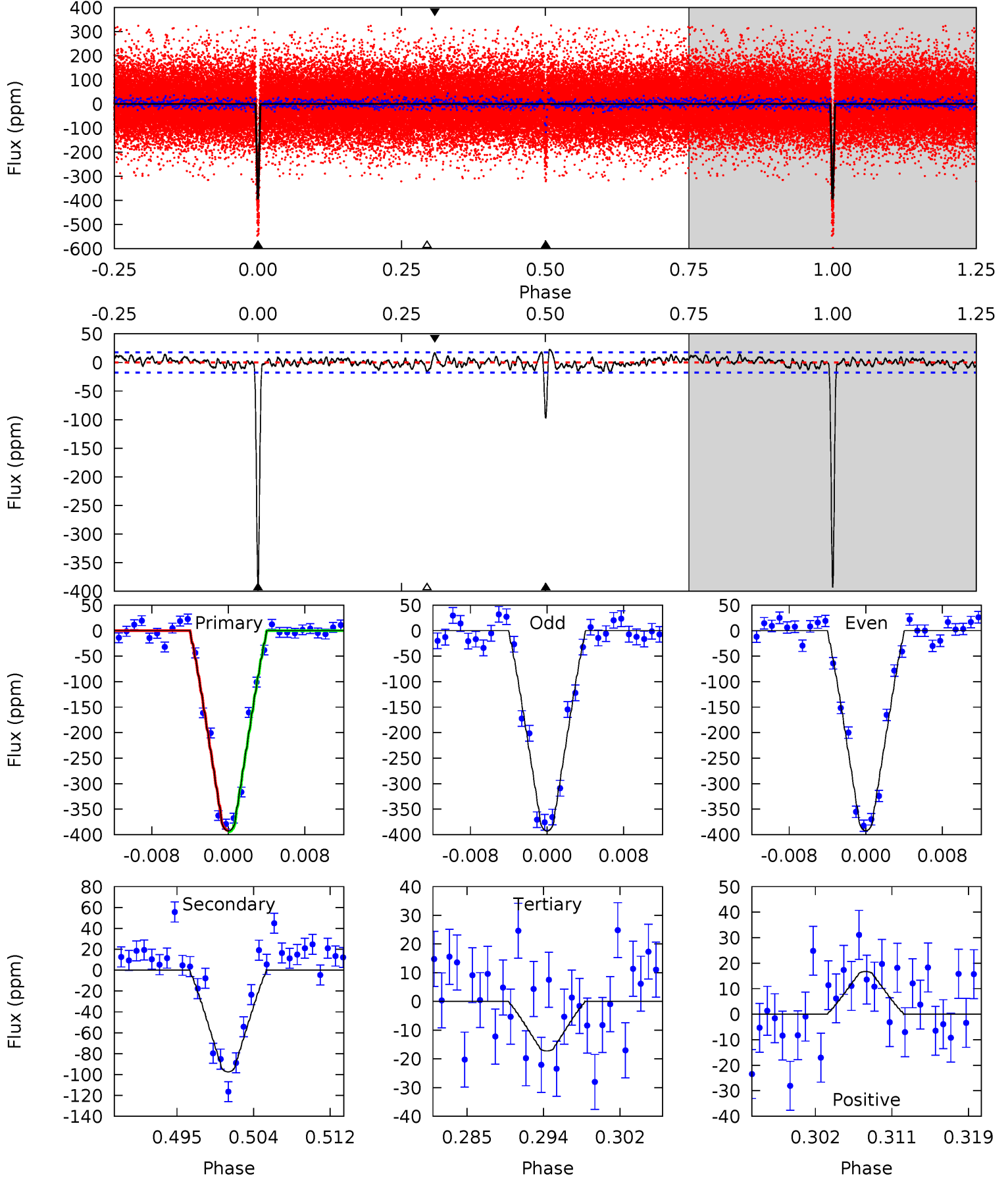
TCE 010338279-01 P= 5.660263 Days $T_0=134.468507$ (BKJD)



DV Model-Shift Uniqueness Test

010338279-01, P = 5.660287 Days, E = 128.805066 Days

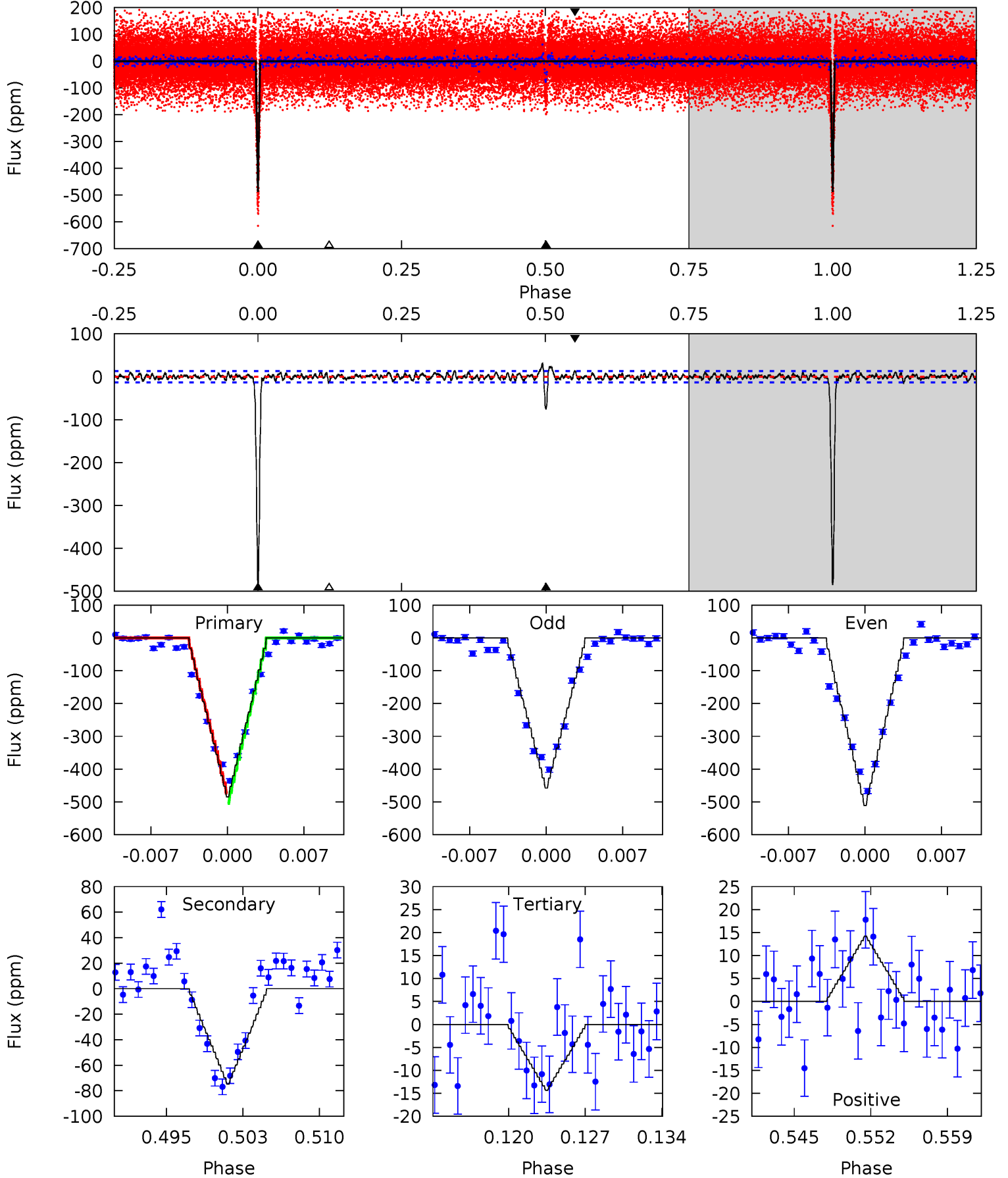
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
111.5	27.7	4.89	4.75	5.06	2.64	1.70	106.6	106.8	22.8	22.9	0.07	0.96	0.05	0.45



Alt Model-Shift Uniqueness Test

010338279-01, P = 5.660263 Days, E = 128.808244 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
188.5	29.1	5.57	5.52	5.09	2.69	1.87	182.9	182.9	23.5	23.5	10.5	0.99	0.06	6.19



Stellar Parameters For KIC 010338279

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5615^{+152}_{-152}	$4.478^{+0.104}_{-0.143}$	$-0.440^{+0.300}_{-0.300}$	$0.842^{+0.189}_{-0.102}$	$0.778^{+0.115}_{-0.053}$	$1.833^{+0.792}_{-0.764}$
	+3%/-3%	+2%/-3%	+68%/-68%	+22%/-12%	+15%/-7%	+43%/-42%
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 010338279-01 / KOI 3216.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-97 ± 4	$1.87^{+0.25}_{-0.20}$	1334^{+77}_{-61}	4189^{+163}_{-140}	51^{+14}_{-11}
Alt.	-75 ± 3	$2.09^{+0.28}_{-0.23}$	1333^{+75}_{-62}	3835^{+126}_{-108}	31^{+8}_{-7}

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 $A_{obs} \gg 1.0$

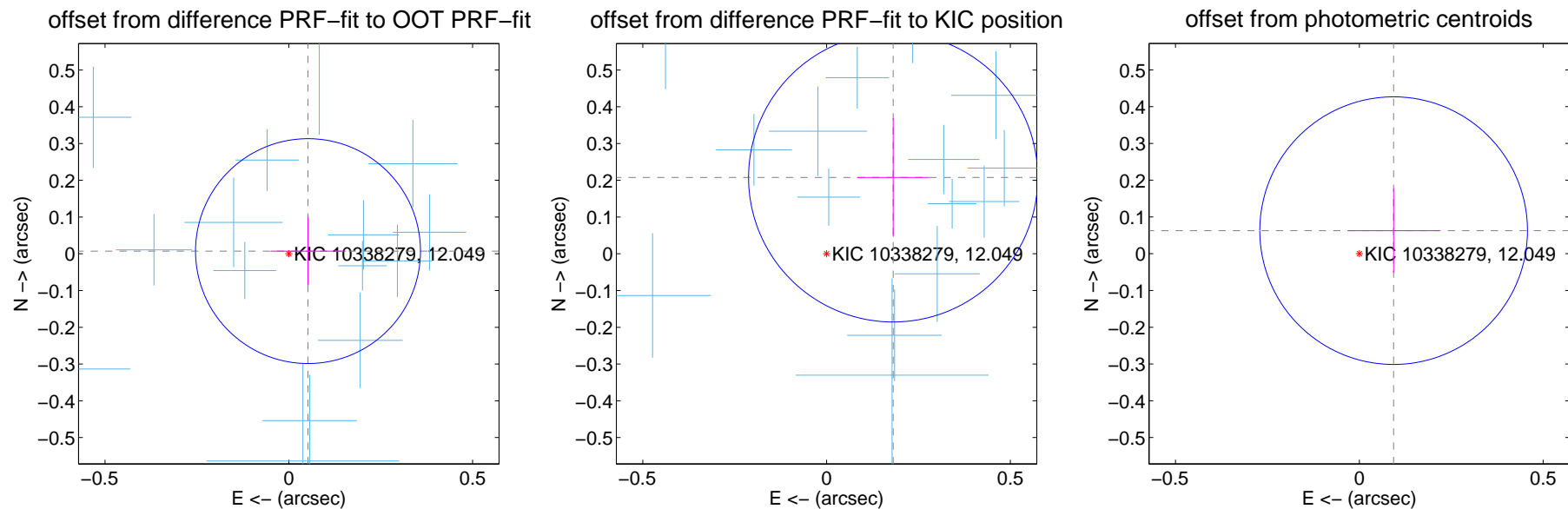
DV Centroid Data

Supplemental centroid analysis for 010338279-01. Kepler magnitude: 12.05. Transit SNR 62.71

There are 16 quarters with good PRF difference image offsets

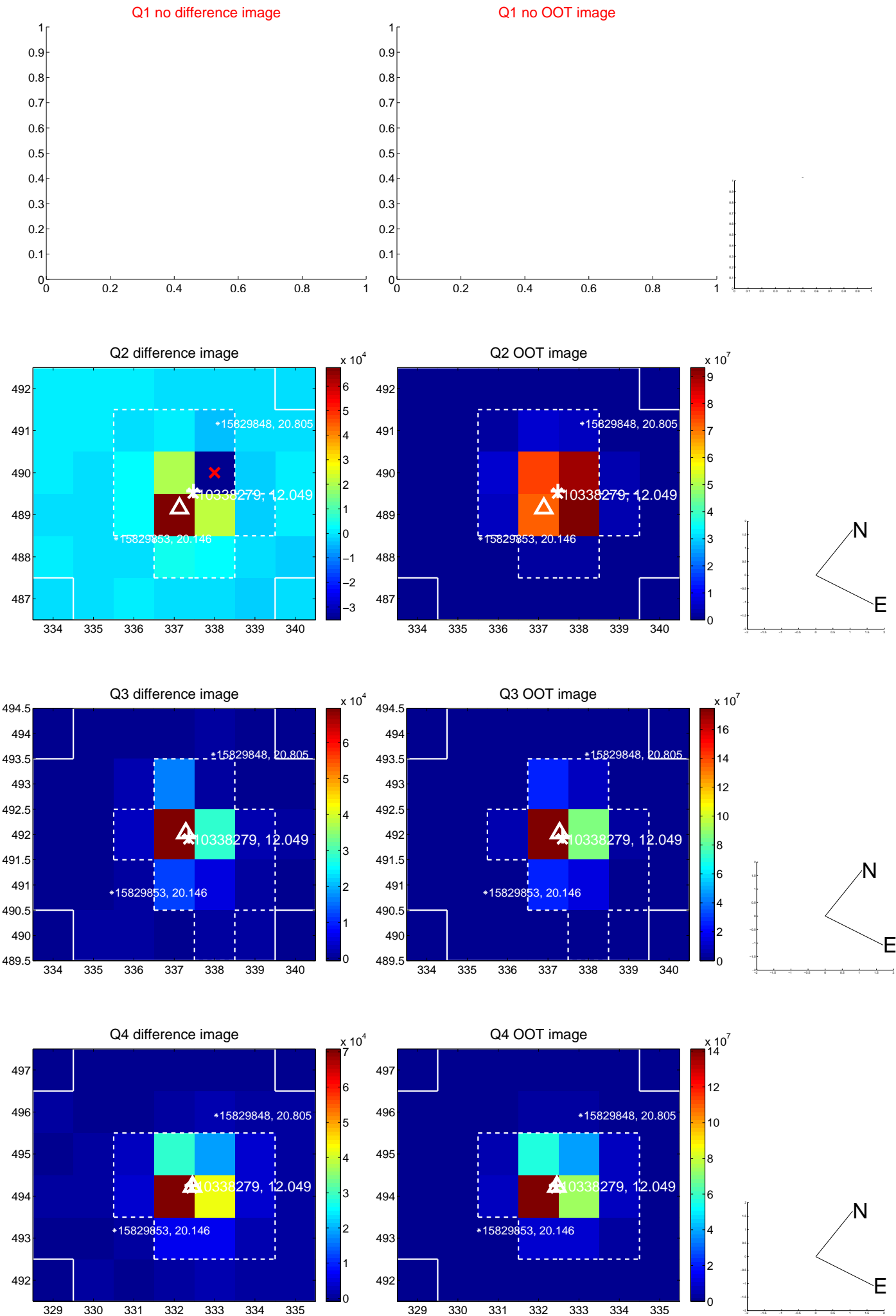
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.053 ± 0.102	0.52	-0.052 ± 0.102	0.007 ± 0.092
PRF-fit source offset from KIC position	0.276 ± 0.131	2.10	-0.181 ± 0.098	0.208 ± 0.161
photometric centroid source offset	0.11 ± 0.12	0.93	-0.09 ± 0.12	0.06 ± 0.11

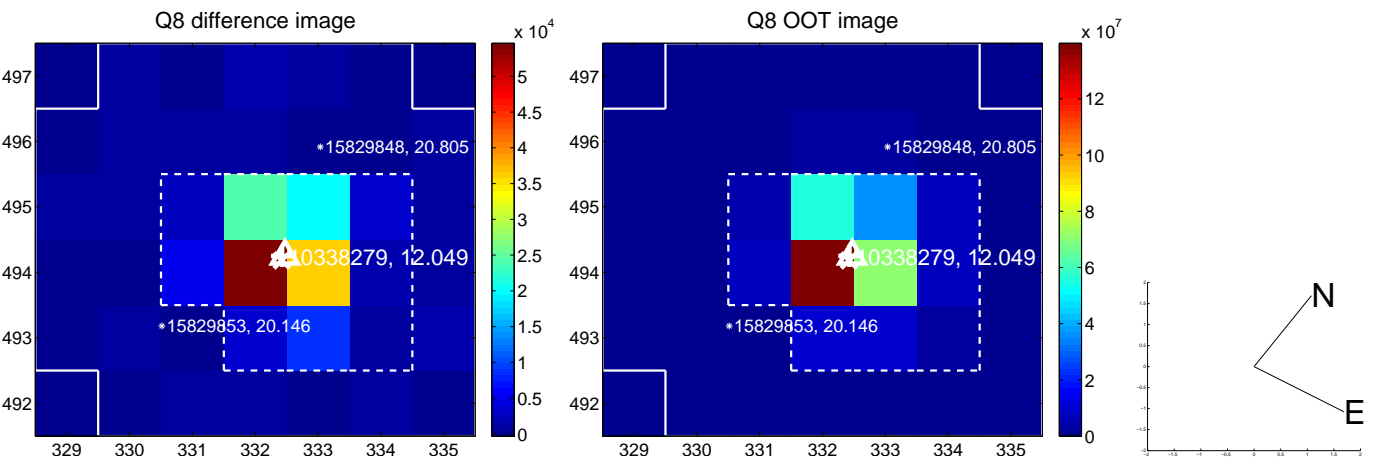
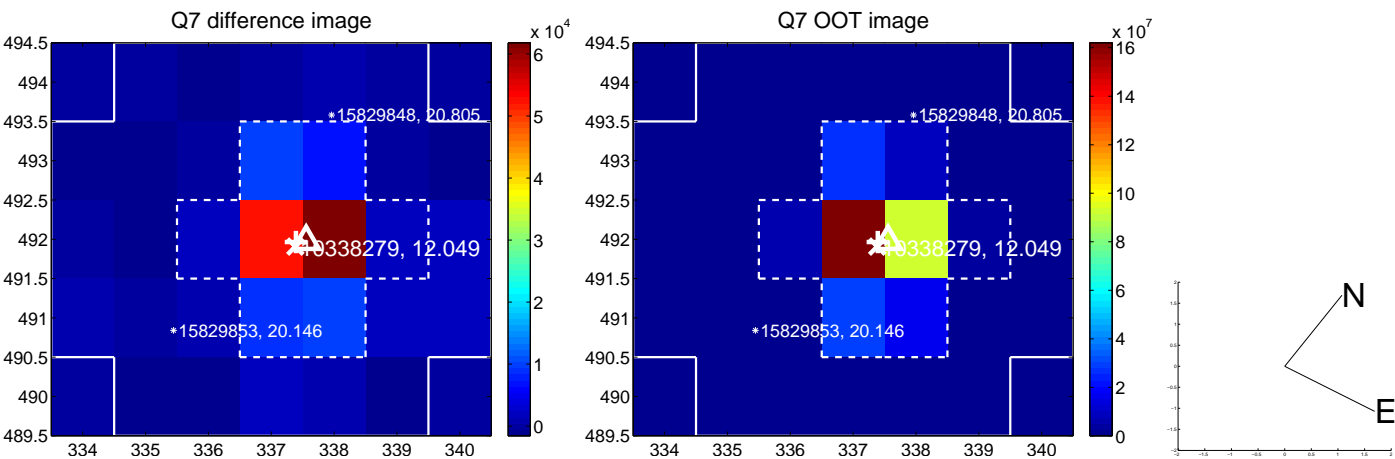
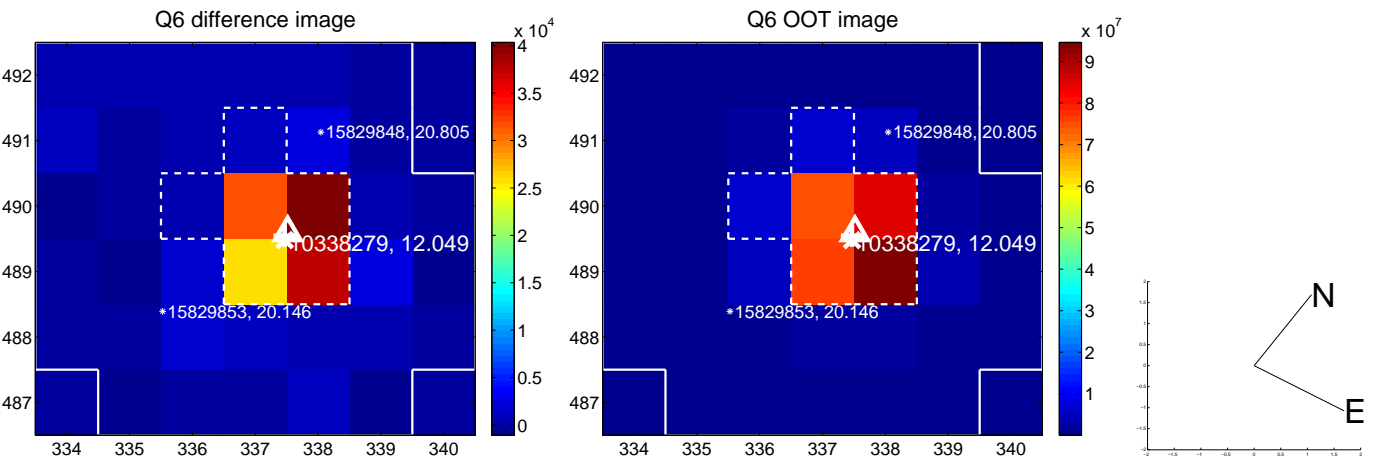
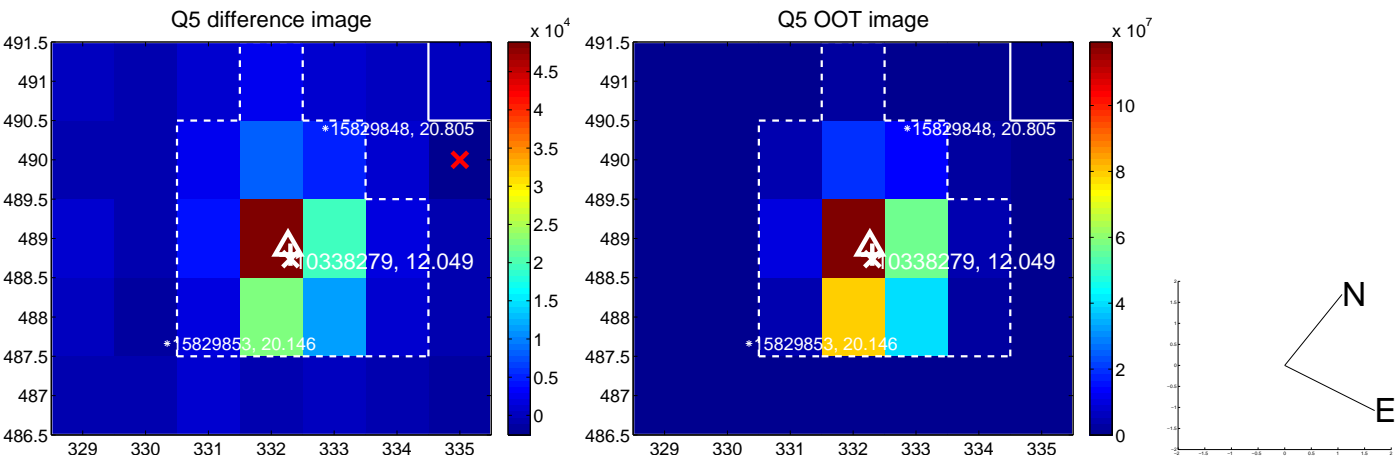


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

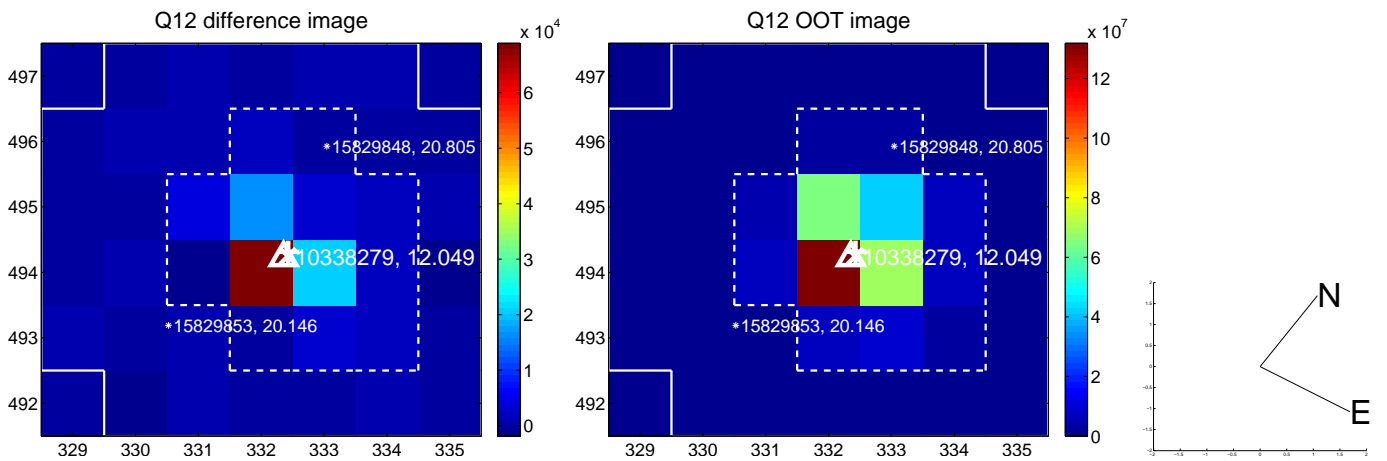
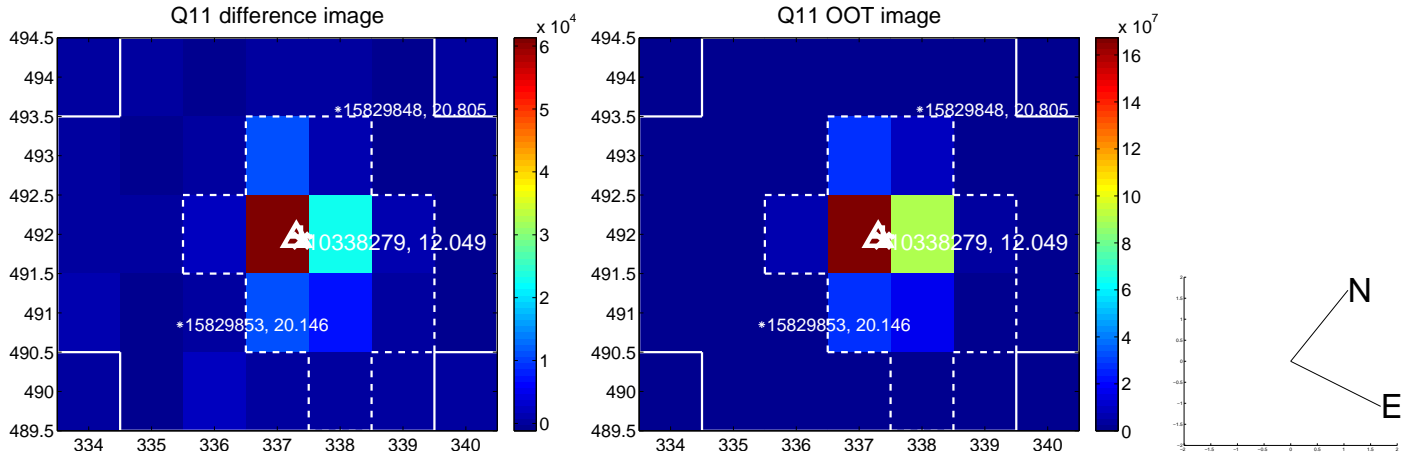
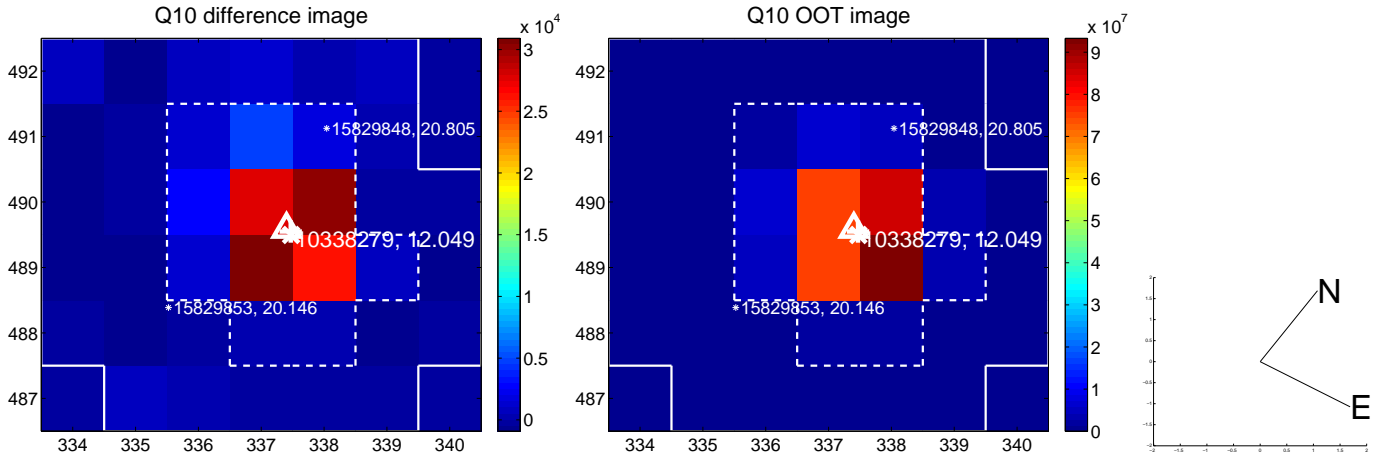
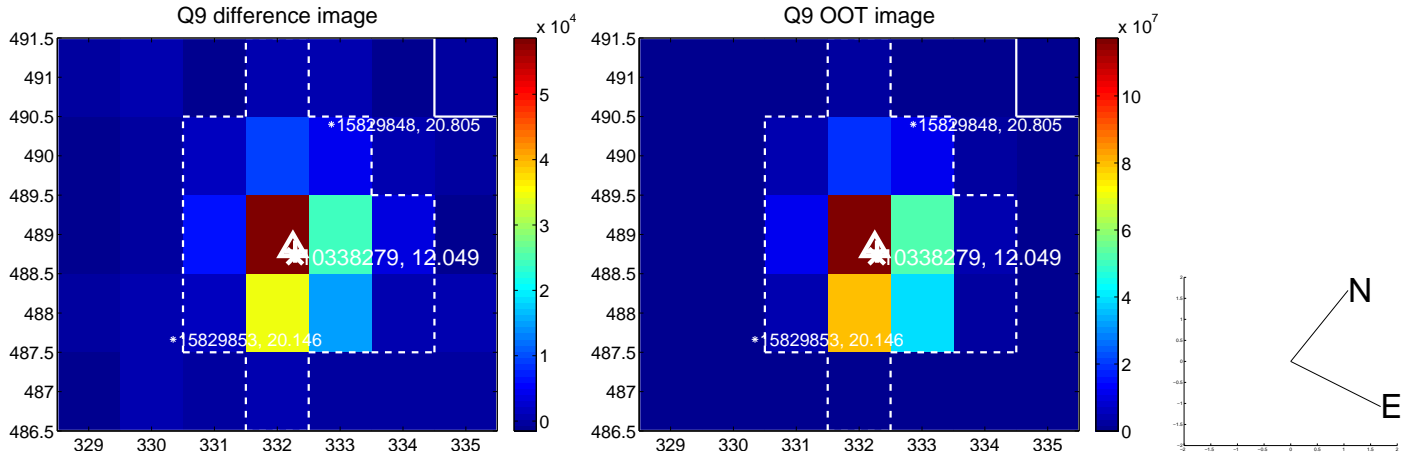
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



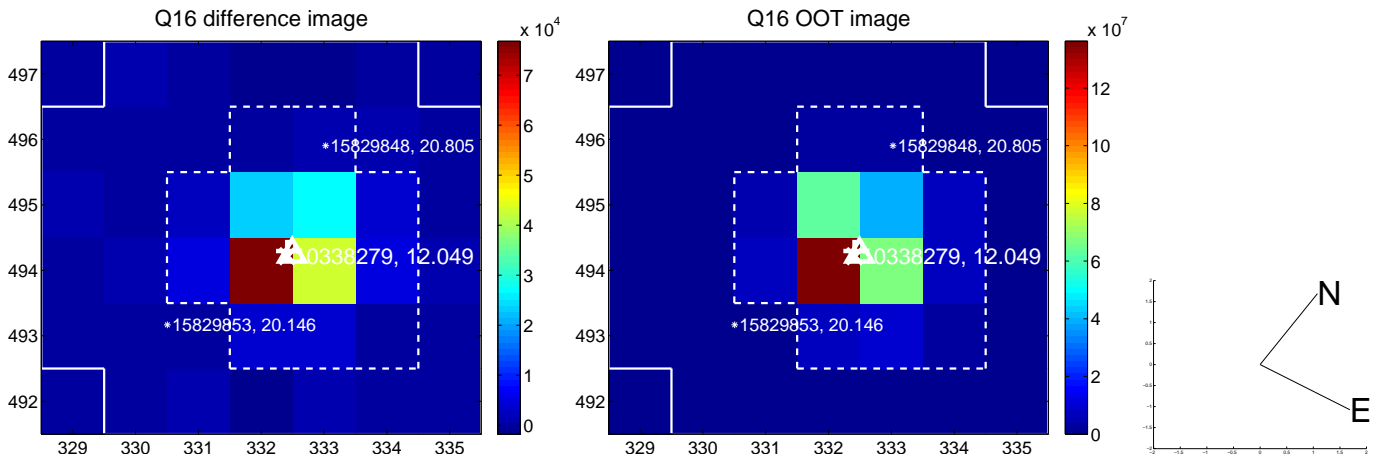
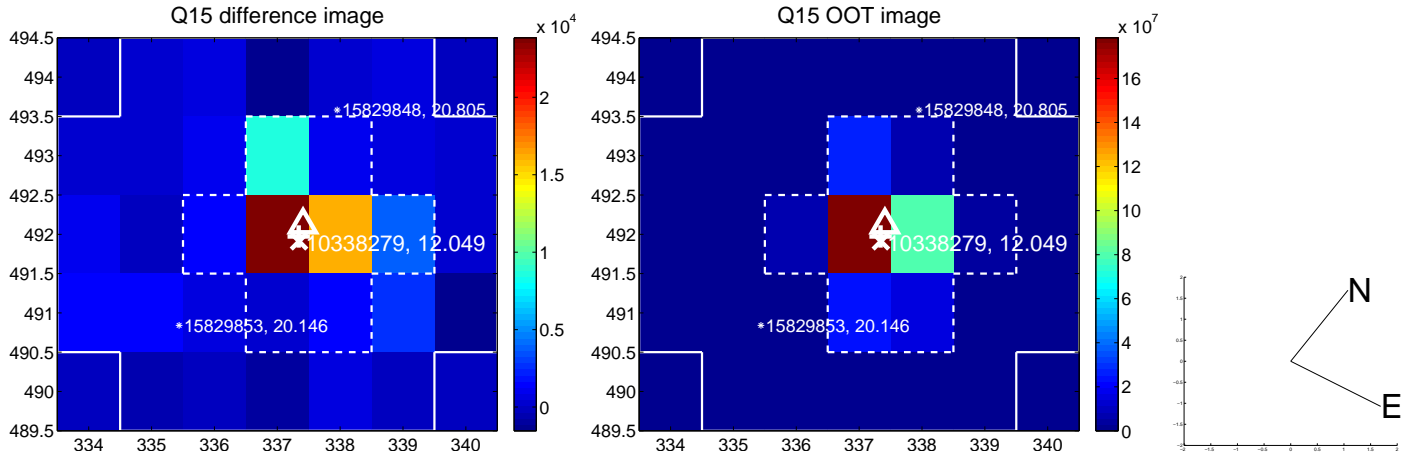
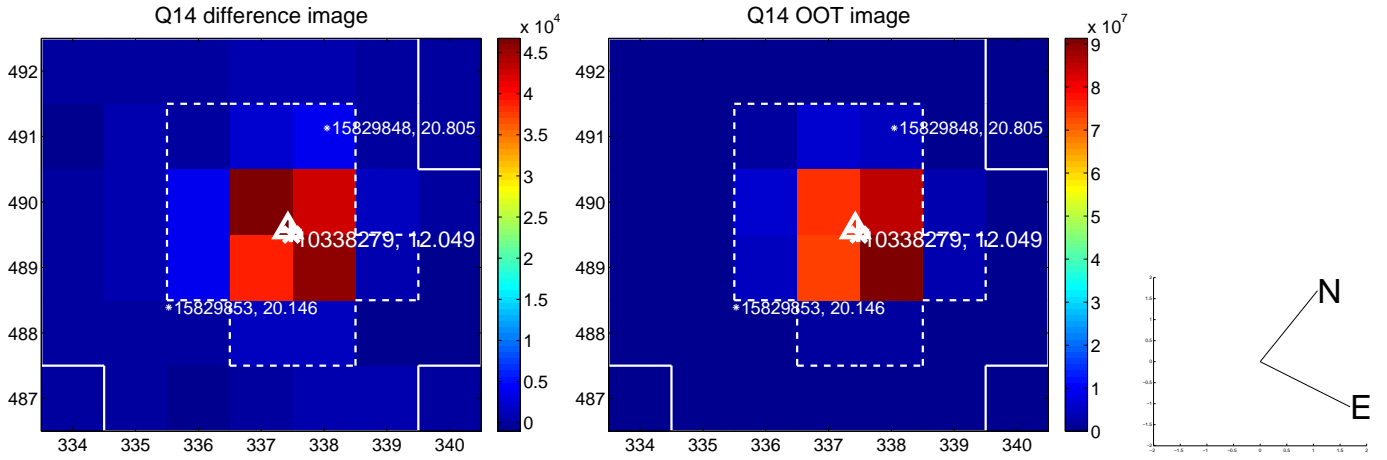
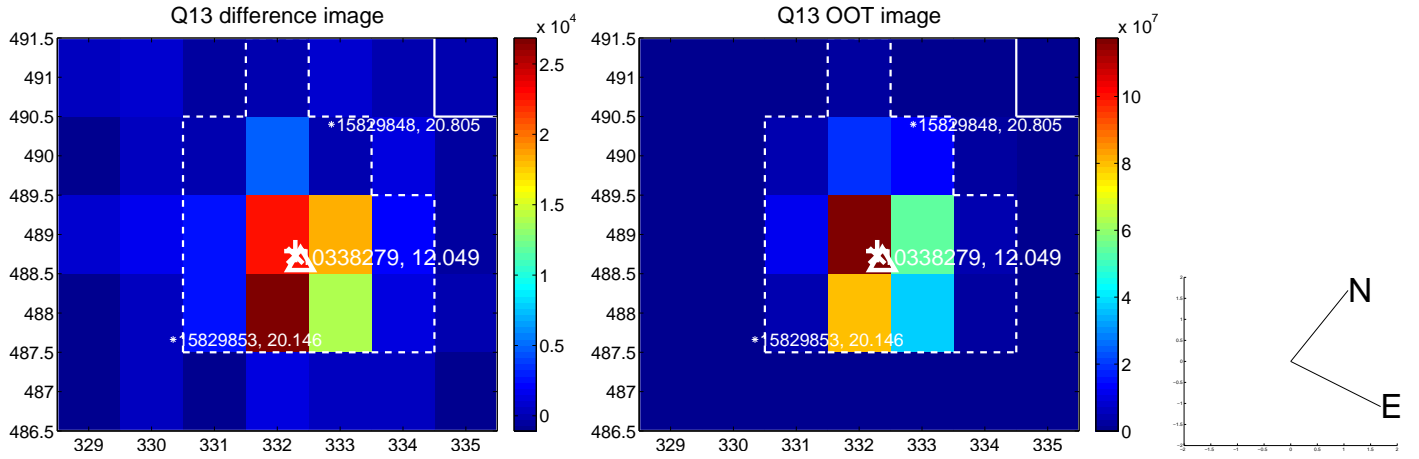
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

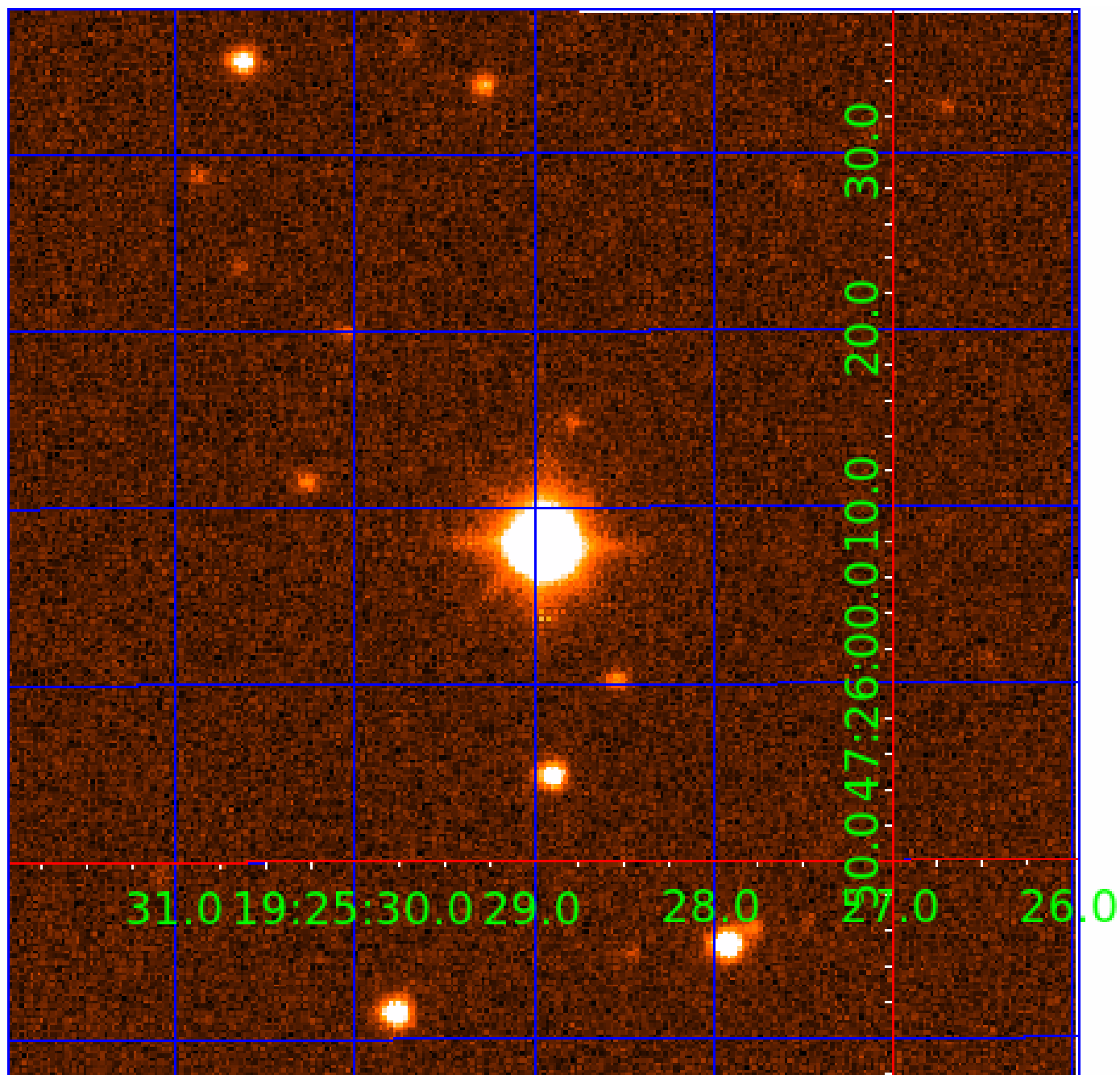


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010338279

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})
010338279-01	OBS	3216.01	5.660287	134.465353	389.7	0.700	40.3	62.7	0.84	5615	1.84	193.22
010338279-02	OBS	No	5.660219	131.649137	141.7	0.710	14.3	23.2	0.84	5615	1.02	193.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010338279-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
010338279-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

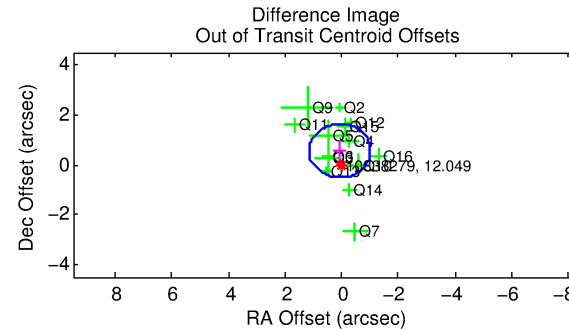
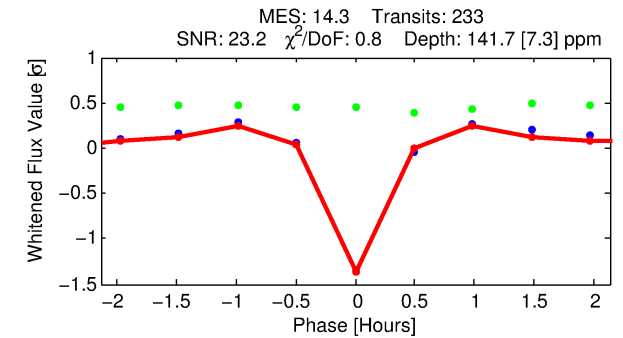
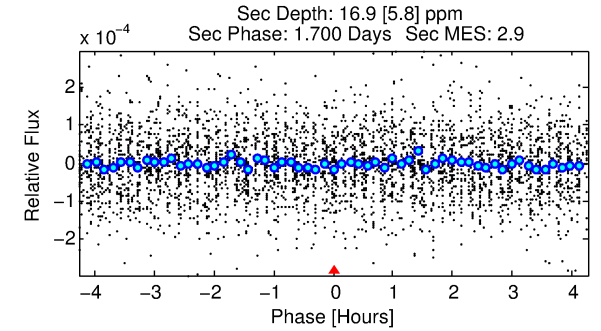
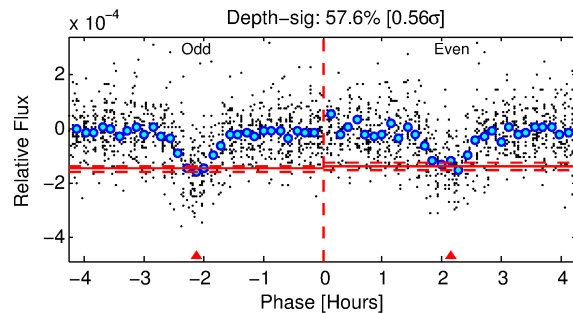
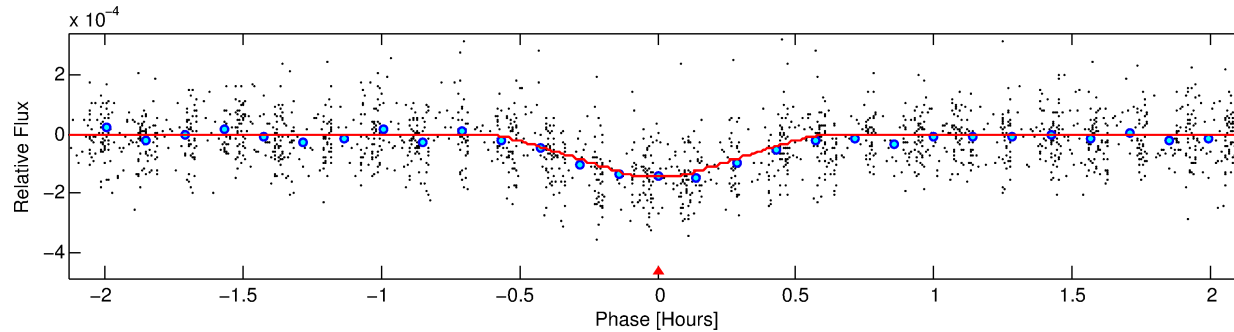
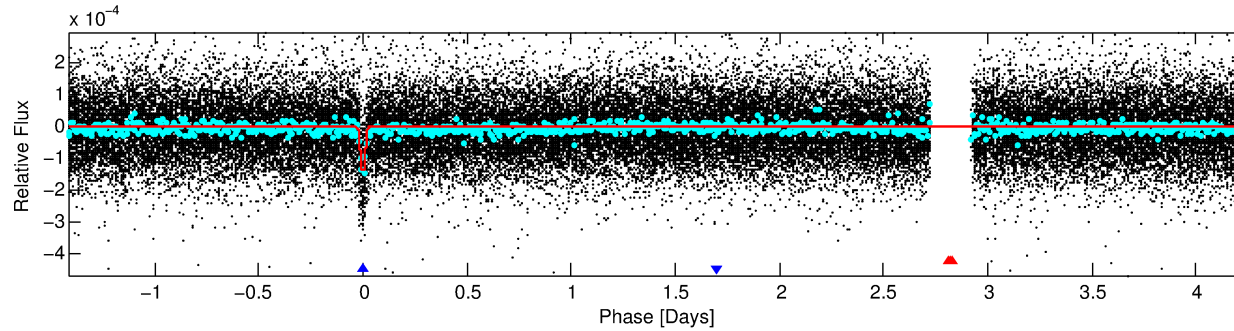
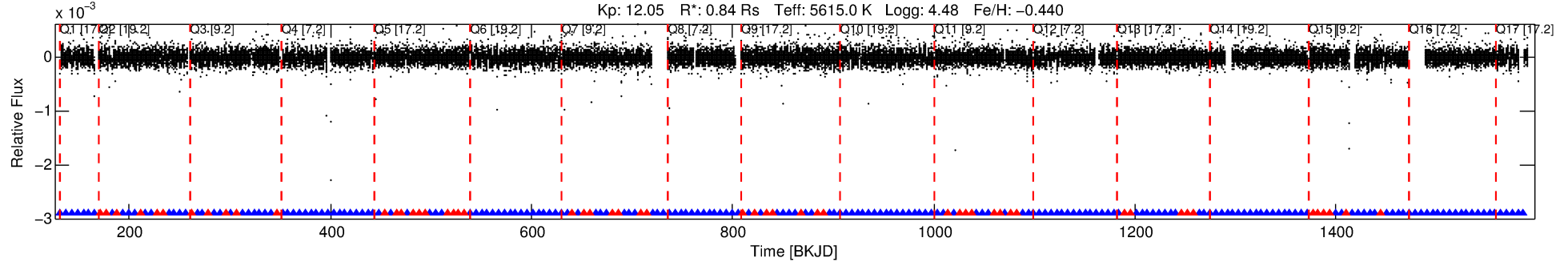
Ephemeris Match Information For 010338279-02

No Significant Match Found

DV One-Page Summary

KIC: 10338279 Candidate: 2 of 2 Period: 5.660 d
KOI: K03216 Corr: No Ephemeris Match

Kp: 12.05 R*: 0.84 Rs Teff: 5615.0 K Logg: 4.48 Fe/H: -0.440



DV Fit Results:

Period = 5.66022 [0.00001] d
Epoch = 131.6491 [0.0007] BKJD
Rp/R* = 0.0111 [0.0074]
a/R* = 60.43 [181.36]
b = 0.20 [14.64]
Seff = 193.22 [55.43]
Teq = 951 [68] K
Rp = 1.02 [0.71] Re
a = 0.0572 [0.0106] AU
Ag = 29.23 [40.83] [0.69σ]
Teffp = 3418 [1175] K [2.10σ]

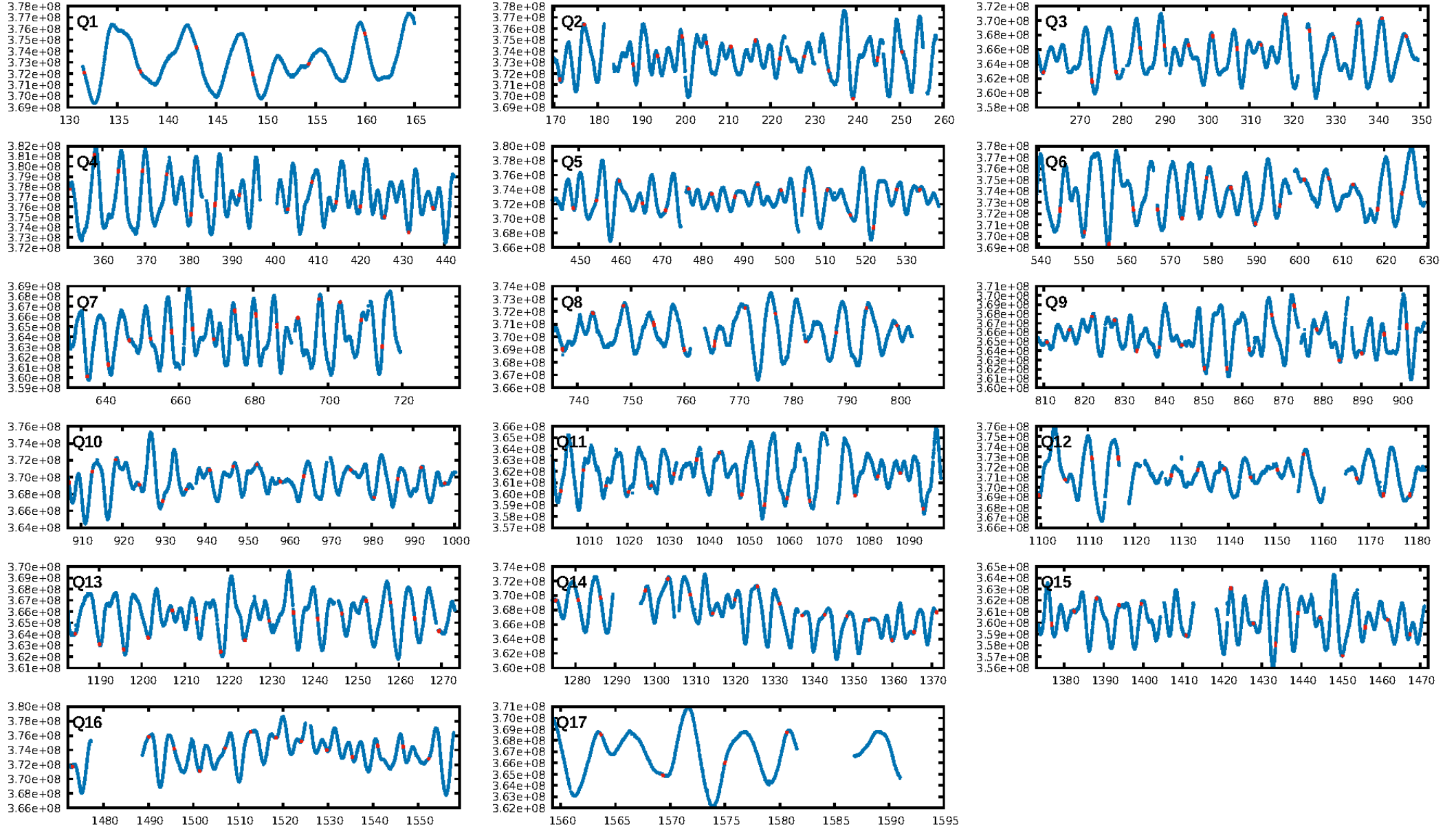
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.1% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.21e-31
RollingBand-fgt: 0.76 [169/223]
GhostDiagnostic-chr: -2.26
Centroid-sig: 2.1%
Centroid-so: 0.607 arcsec [1.97σ]
OotOffset-rm: 0.561 arcsec [1.56σ]
KicOffset-rm: 0.764 arcsec [1.95σ]
OotOffset-st: 4/4/3/3 [14]
KicOffset-st: 4/4/3/3 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [17/17]

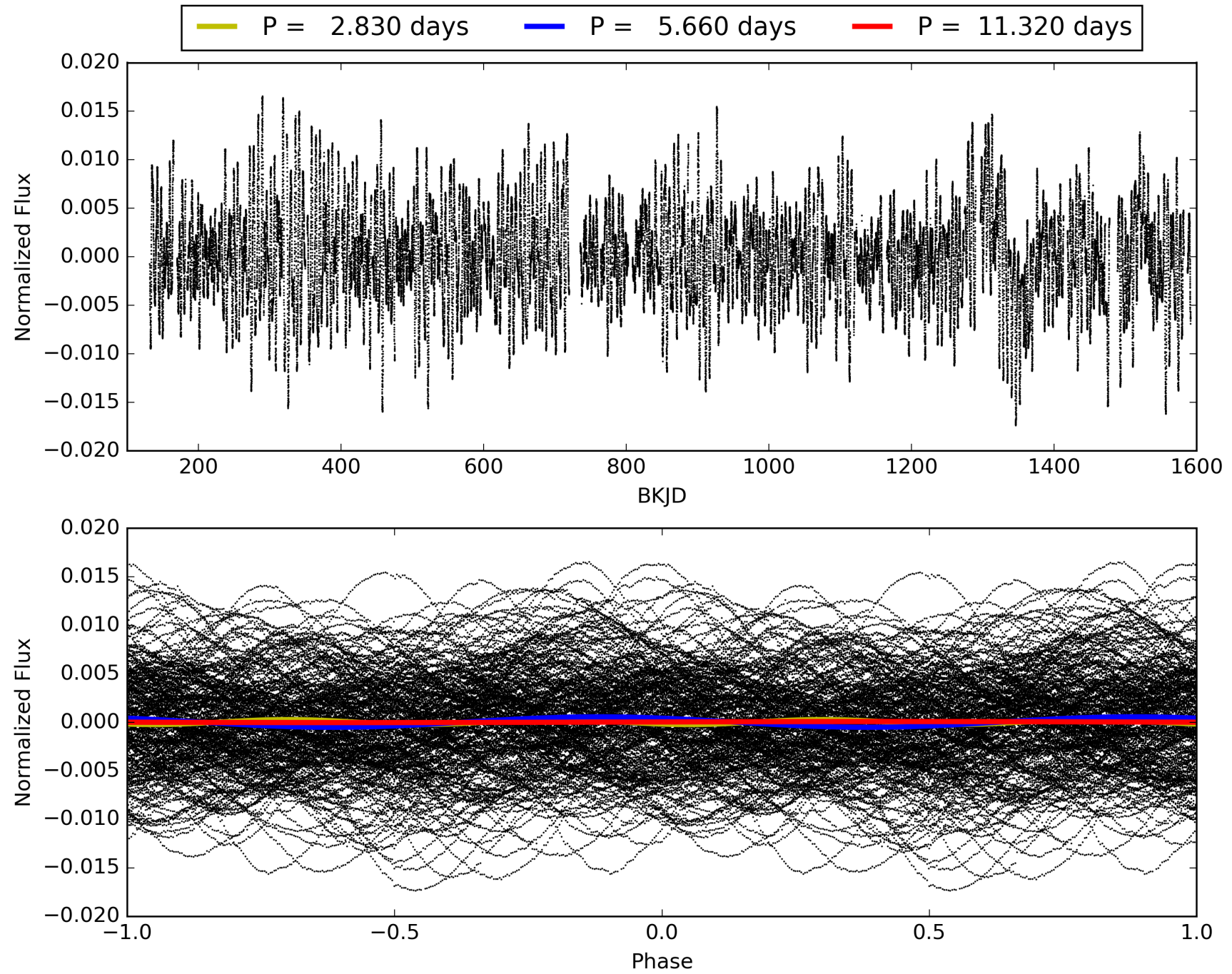
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:29:34 Z

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

TCE 010338279-02, PDC Light Curves

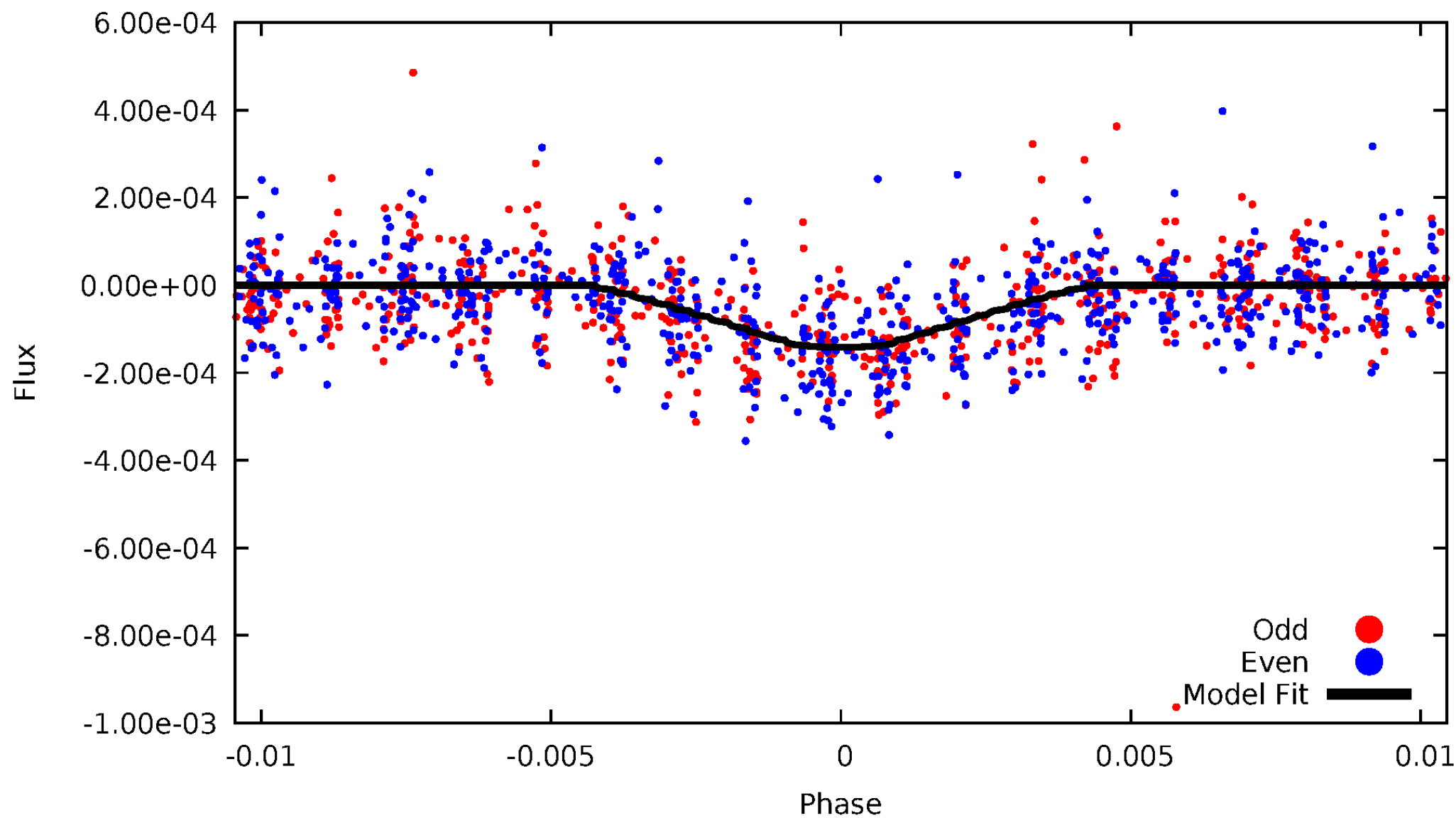


TCE 010338279-02



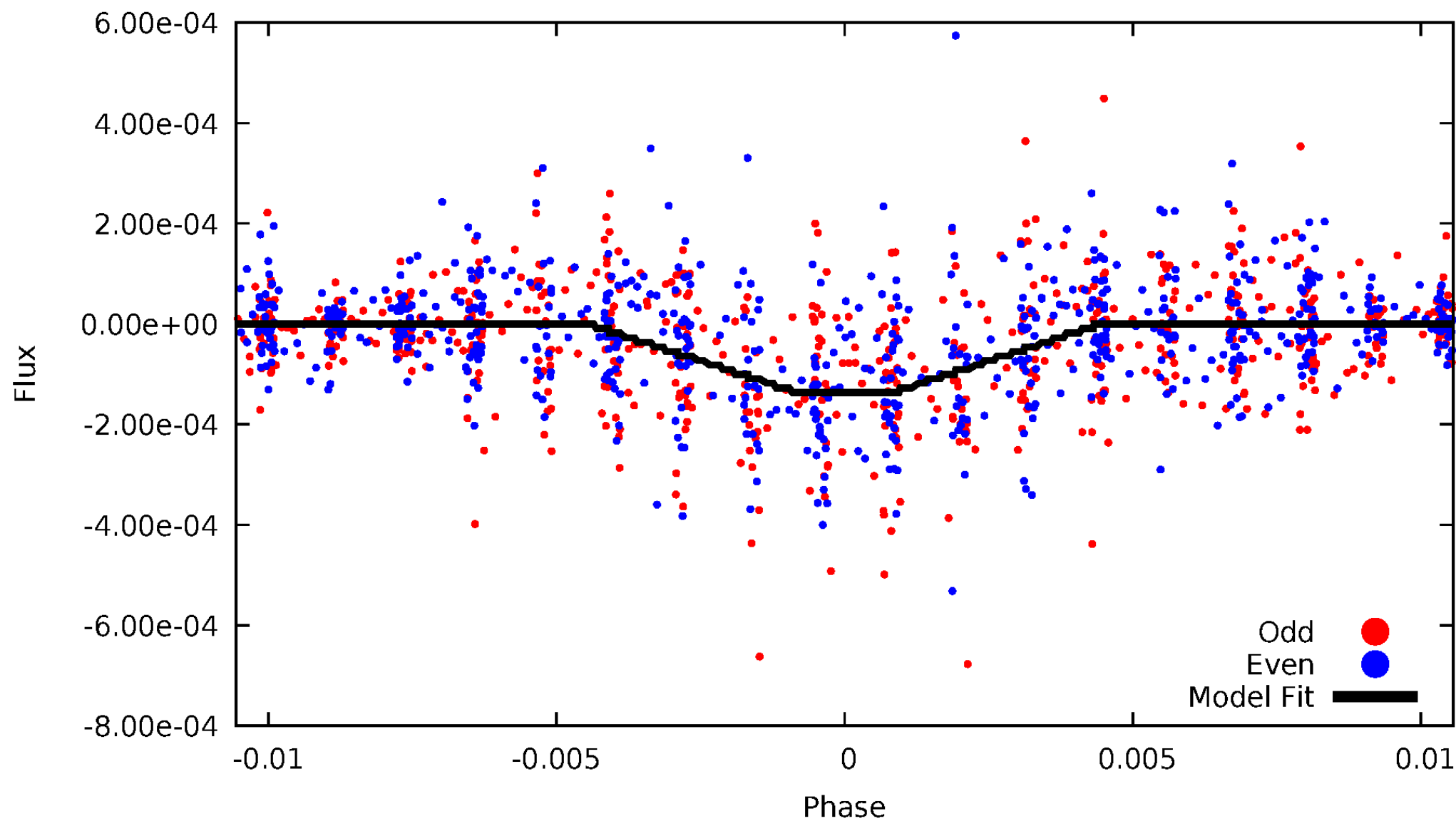
DV Odd/Even

TCE 010338279-02



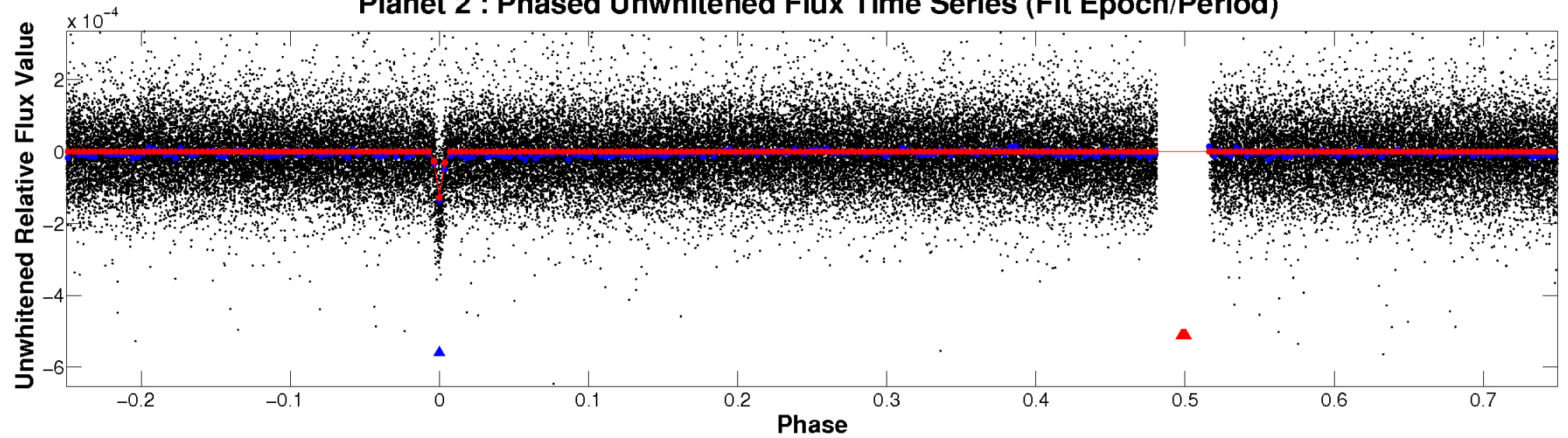
ALT Odd/Even

TCE 010338279-02

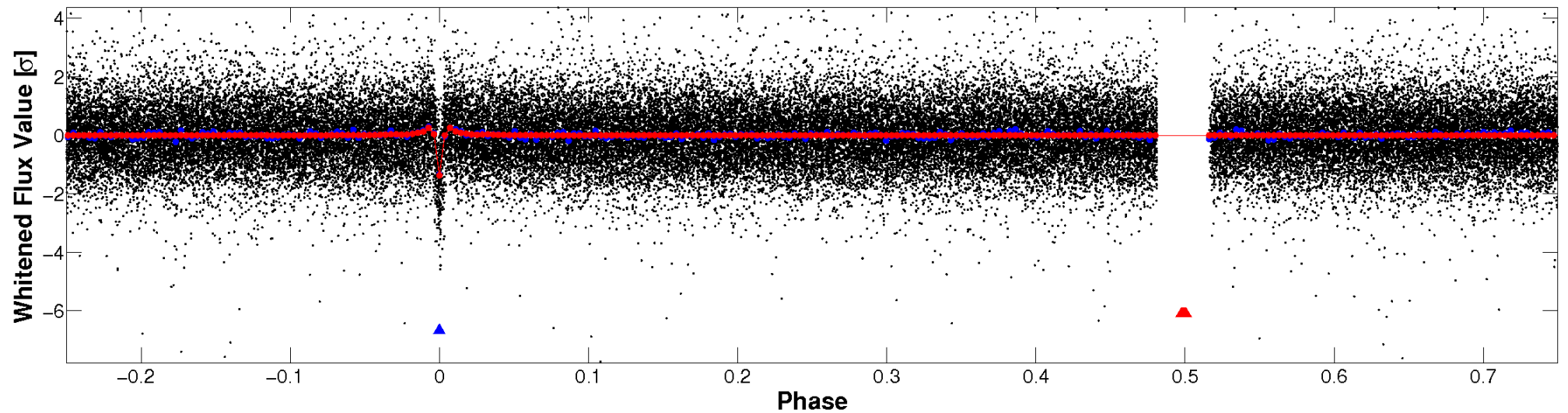


Non-Whitened Vs. Whitened Light Curve

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

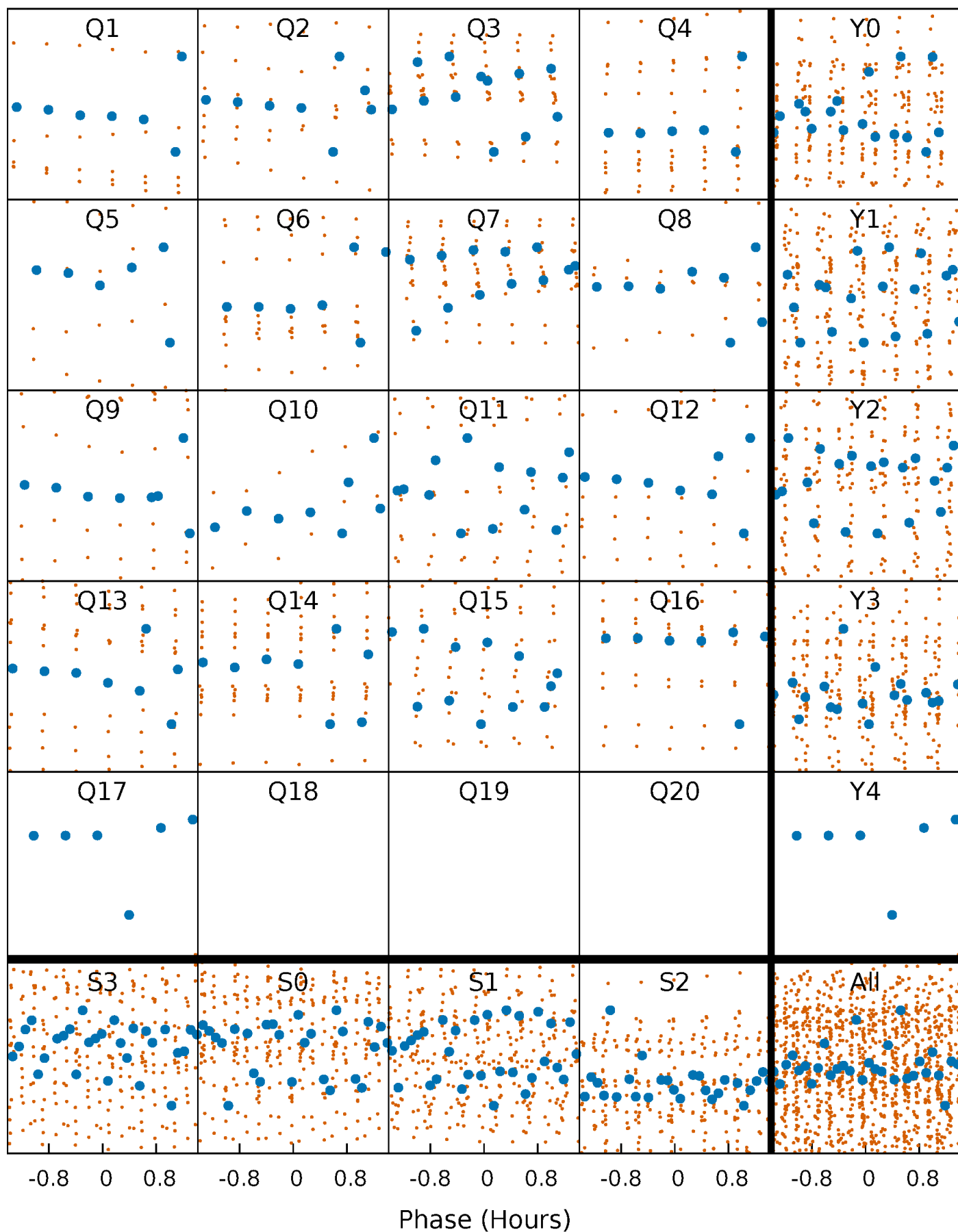


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



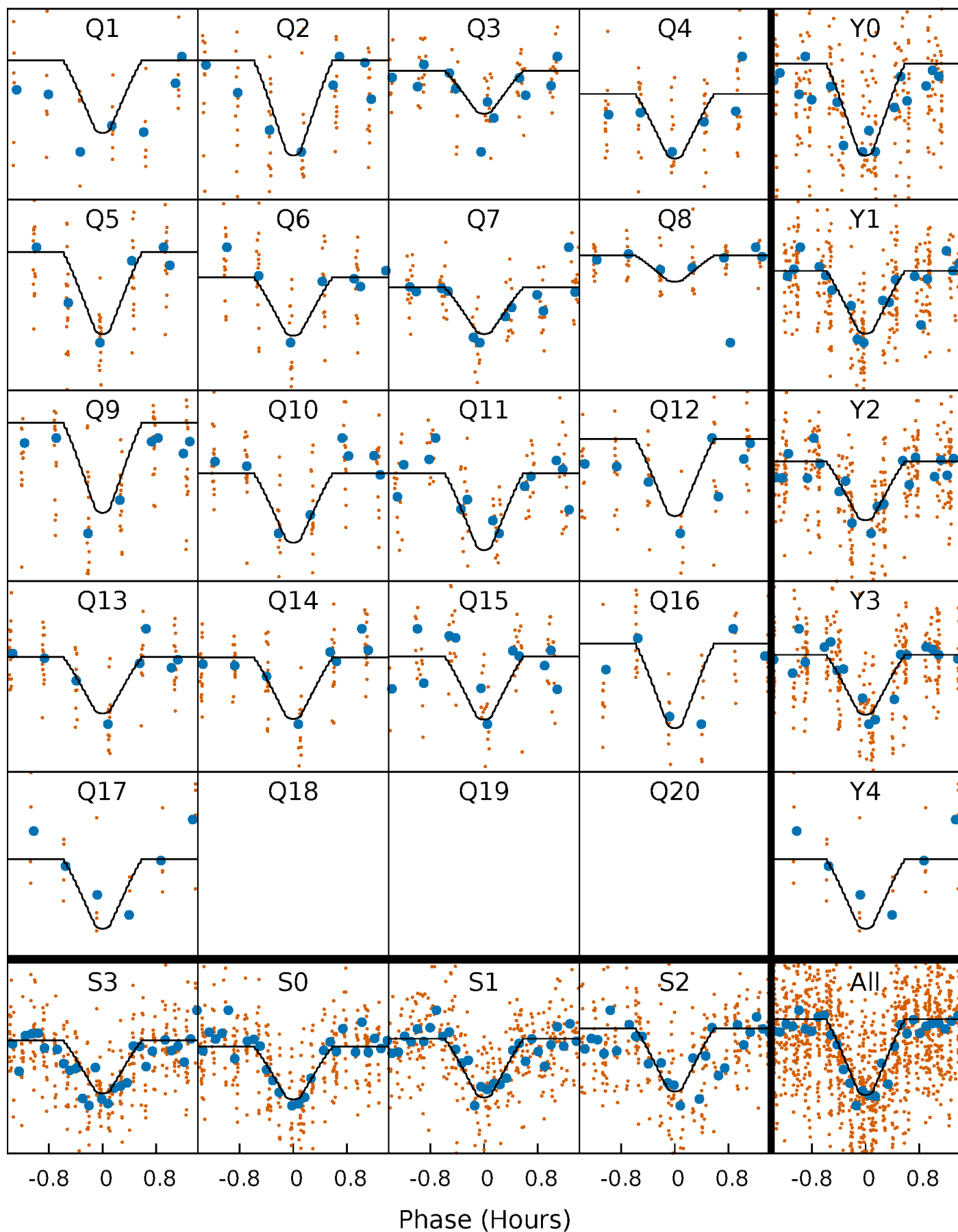
PDC Quarter-Phased Transit Curves

TCE 010338279-02 P= 5.660219 Days $T_0=131.649137$ (BKJD)



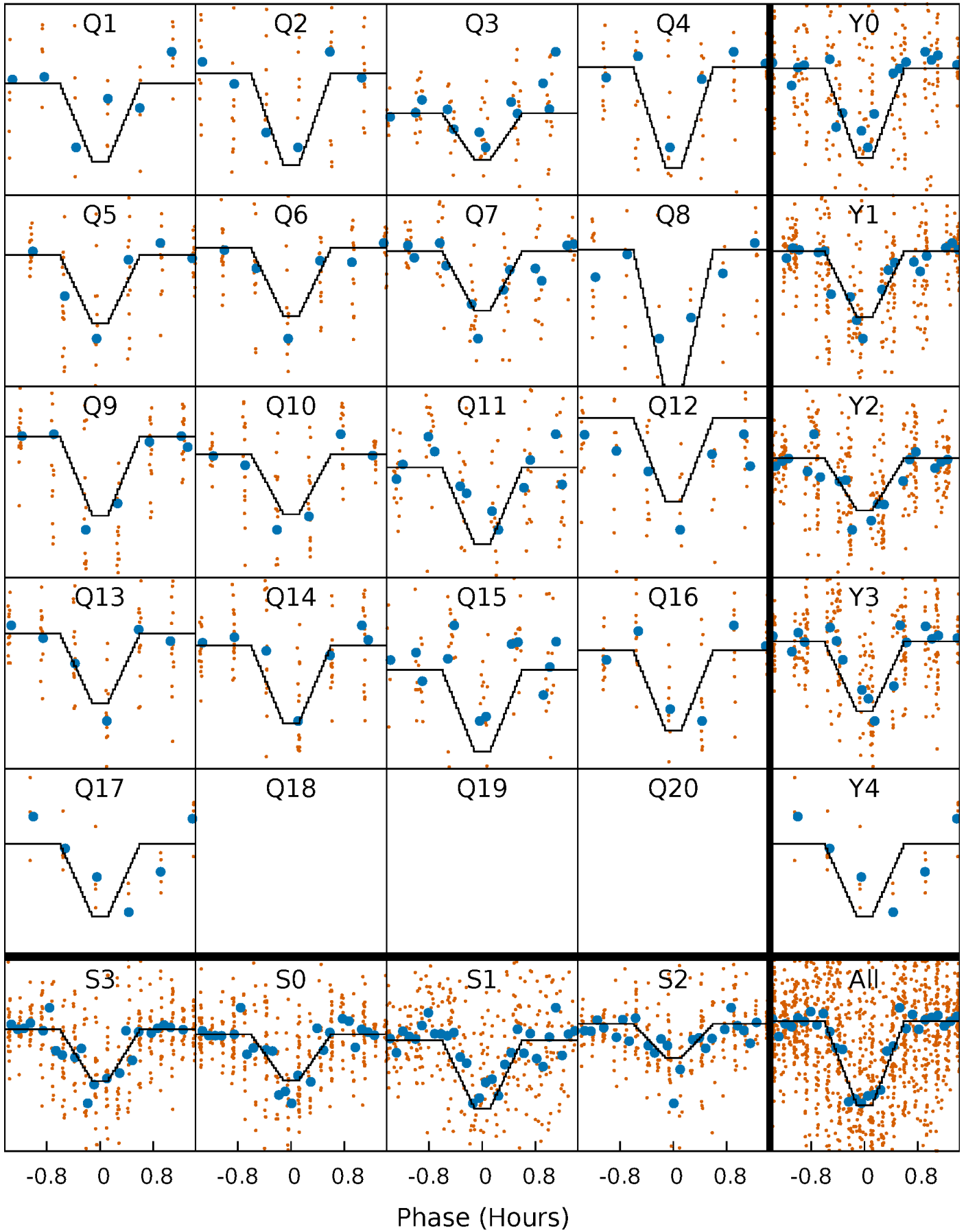
DV Quarter-Phased Transit Curves

TCE 010338279-02 P= 5.660219 Days $T_0=131.649137$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

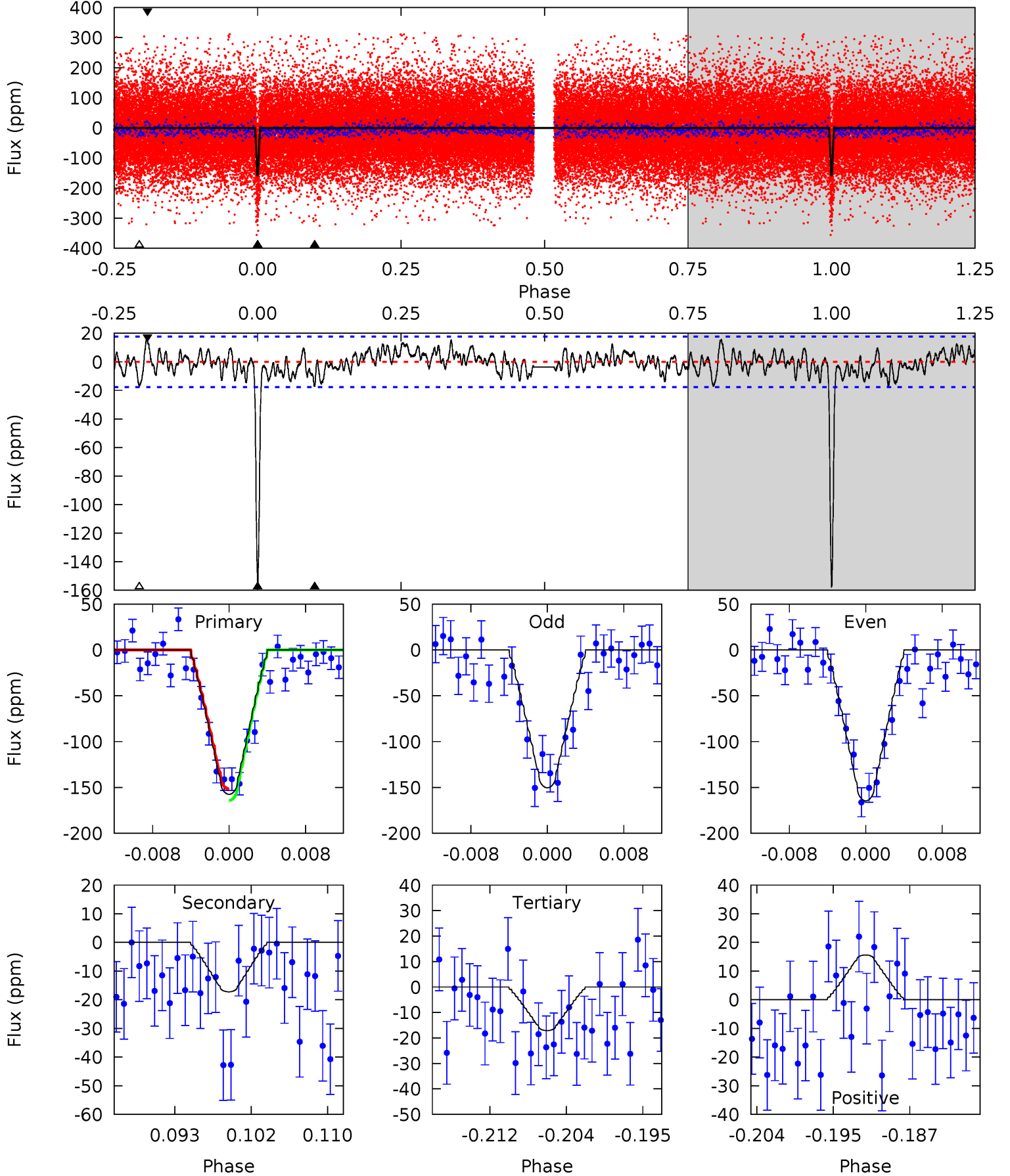
TCE 010338279-02 $P = 5.660209$ Days $T_0 = 131.650655$ (BKJD)



DV Model-Shift Uniqueness Test

010338279-02, P = 5.660219 Days, E = 125.988918 Days

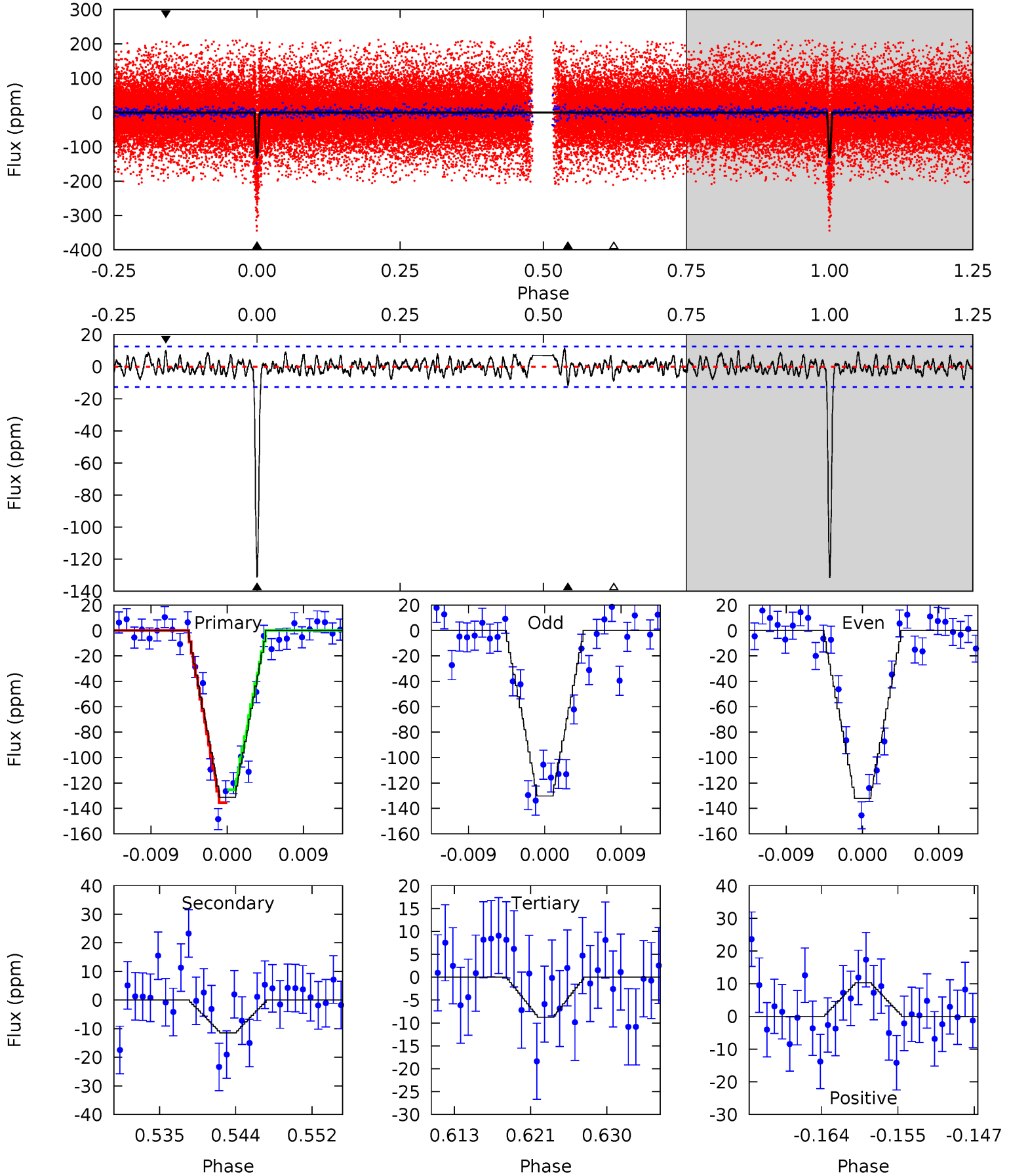
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
45.1	4.93	4.89	4.47	5.06	2.63	1.74	40.2	40.6	0.04	0.46	2.04	0.94	0.09	1.81



Alt Model-Shift Uniqueness Test

010338279-02, P = 5.660209 Days, E = 125.990446 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
52.3	4.57	3.49	4.09	5.05	2.63	1.33	48.8	48.2	1.08	0.48	0.37	0.95	0.08	2.05



Stellar Parameters For KIC 010338279

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5615^{+152}_{-152}	$4.478^{+0.104}_{-0.143}$	$-0.440^{+0.300}_{-0.300}$	$0.842^{+0.189}_{-0.102}$	$0.778^{+0.115}_{-0.053}$	$1.833^{+0.792}_{-0.764}$
	+3%/-3%	+2%/-3%	+68%/-68%	+22%/-12%	+15%/-7%	+43%/-42%
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 010338279-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-17 ± 3	$1.08^{+0.70}_{-0.55}$	1337^{+68}_{-65}	3713^{+1200}_{-537}	26^{+84}_{-17}
Alt.	-11 ± 3	$1.13^{+0.72}_{-0.57}$	1340^{+72}_{-66}	3432^{+1033}_{-478}	16^{+55}_{-10}

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 $A_{obs} \gg 1.0$

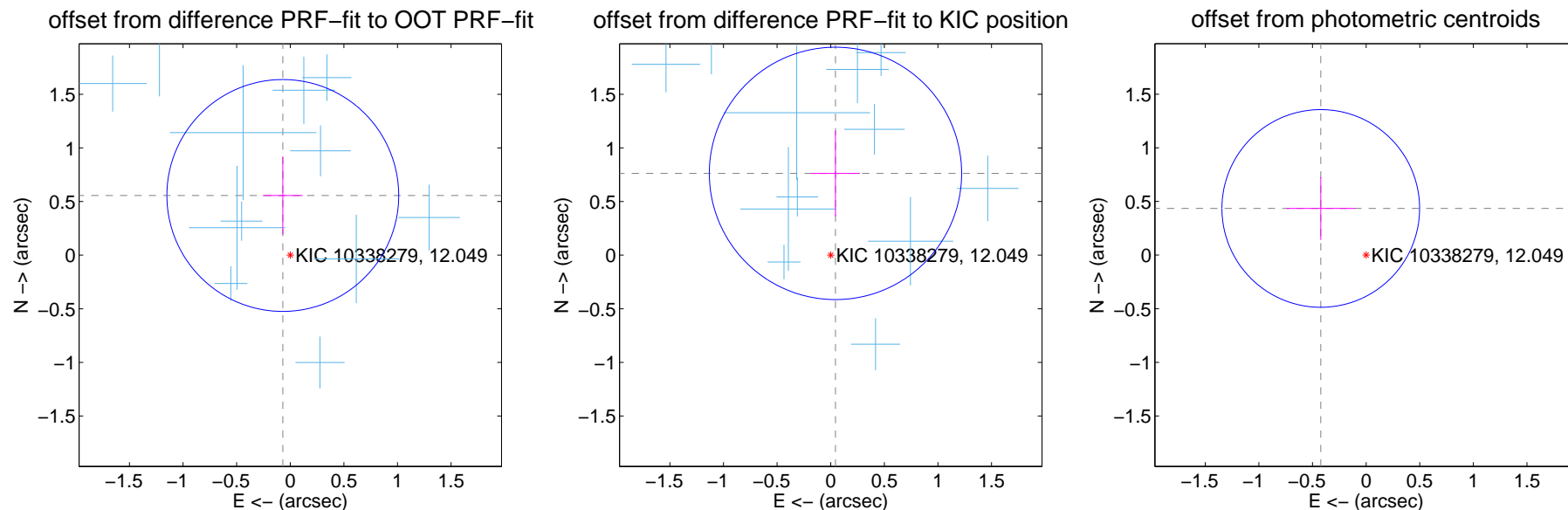
DV Centroid Data

Supplemental centroid analysis for 010338279-02. Kepler magnitude: 12.05. Transit SNR 23.17

There are 14 quarters with good PRF difference image offsets

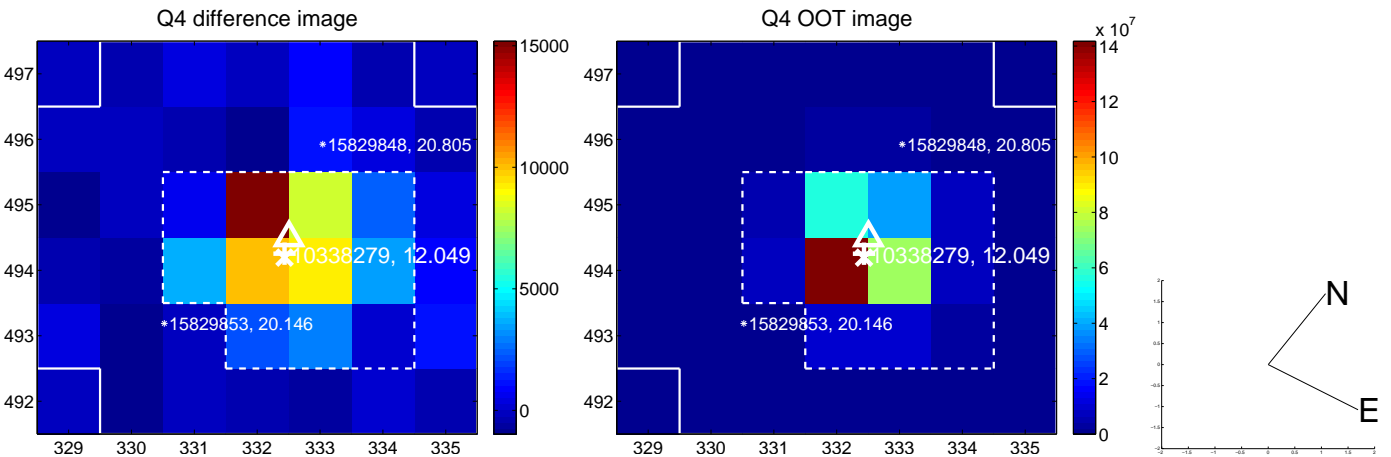
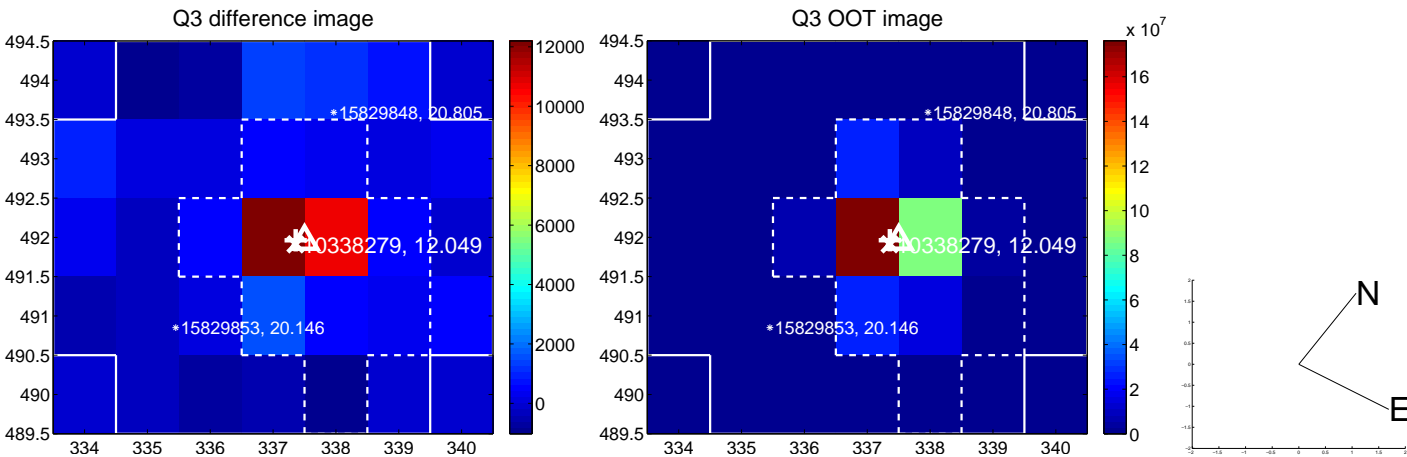
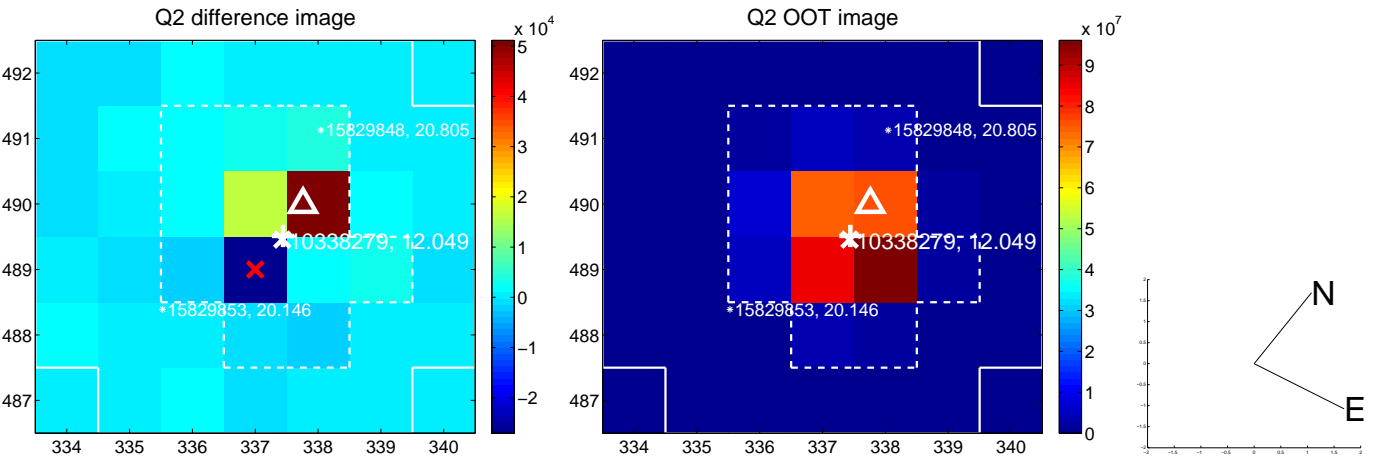
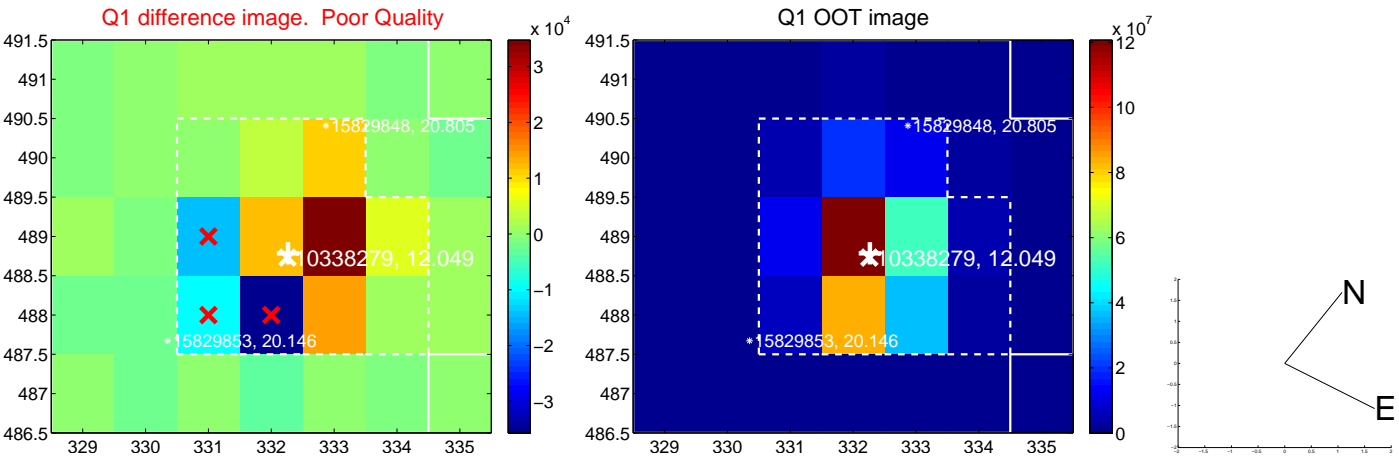
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.561 ± 0.360	1.56	0.070 ± 0.185	0.557 ± 0.362
PRF-fit source offset from KIC position	0.764 ± 0.392	1.95	-0.044 ± 0.229	0.762 ± 0.399
photometric centroid source offset	0.61 ± 0.31	1.97	0.42 ± 0.32	0.43 ± 0.29

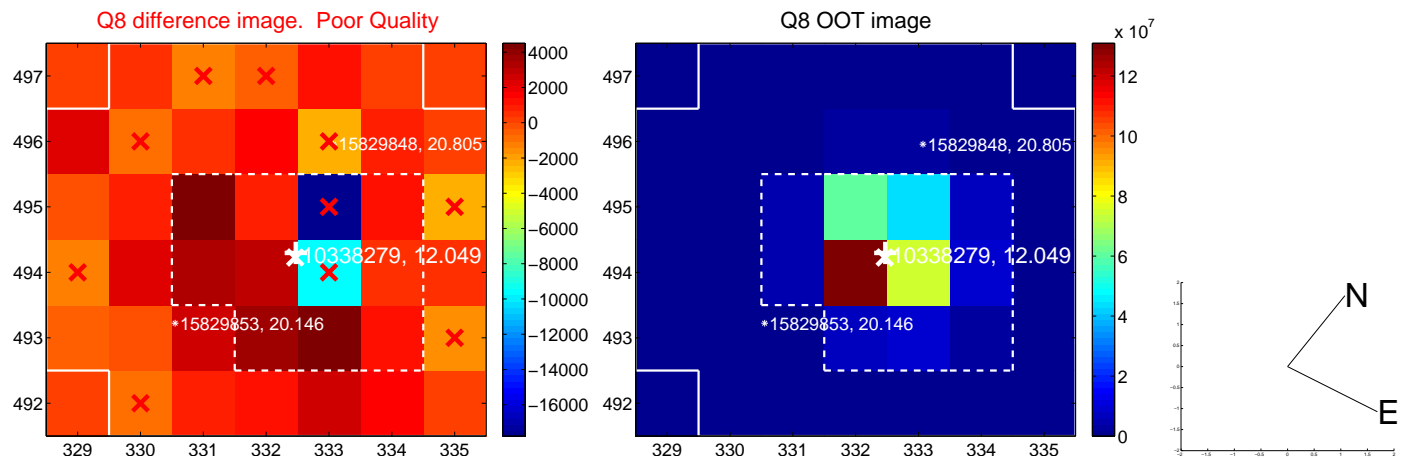
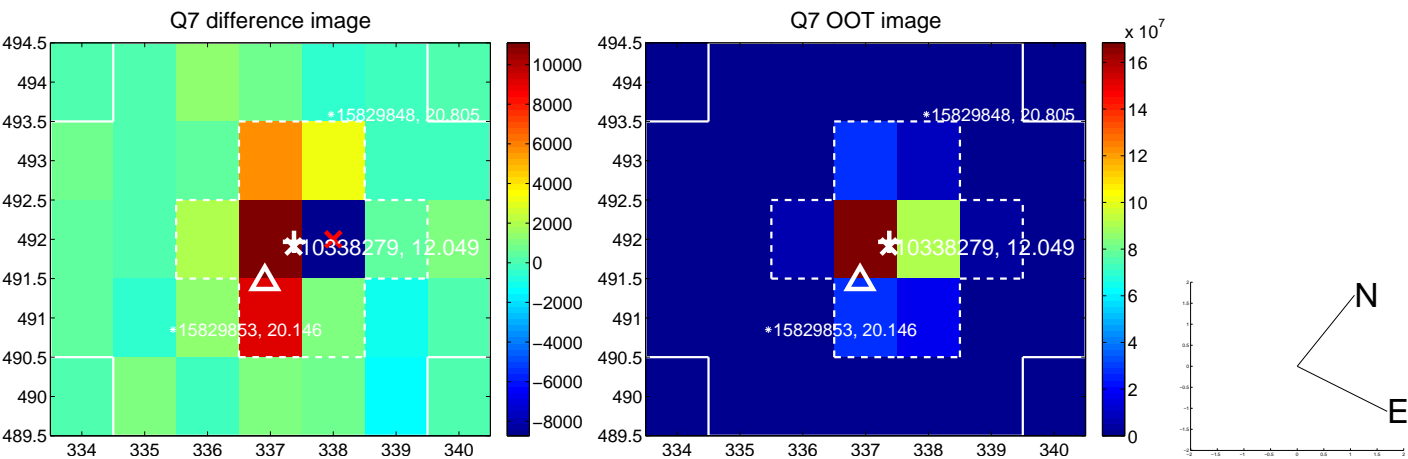
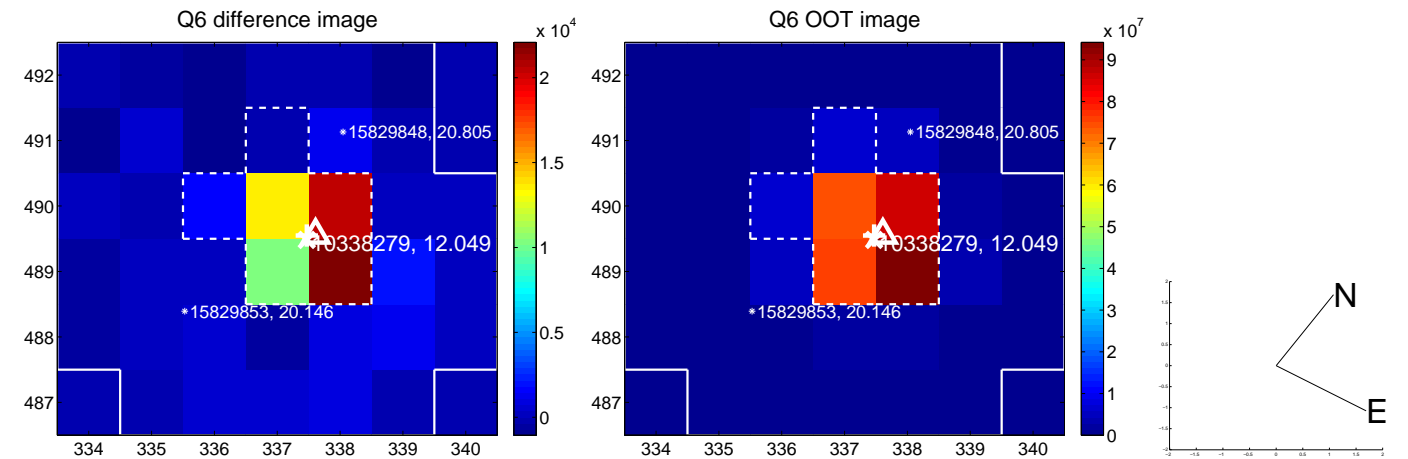
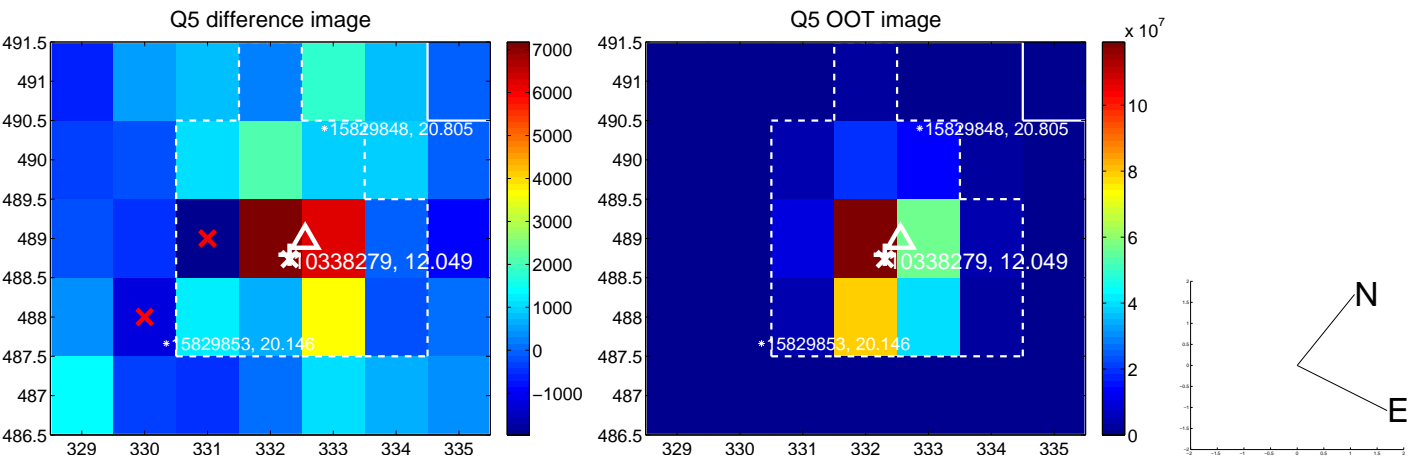


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

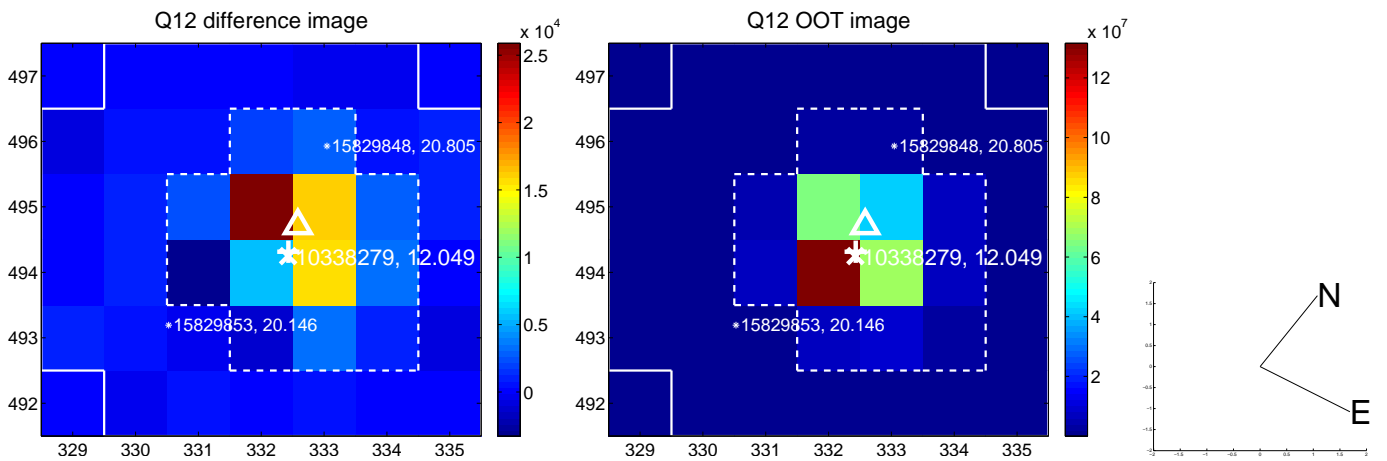
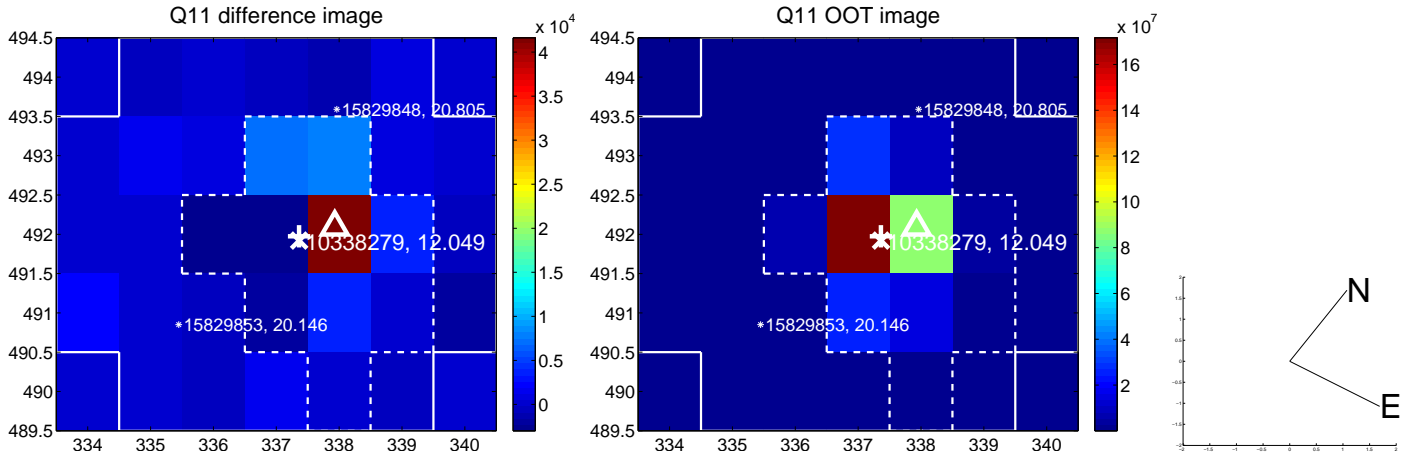
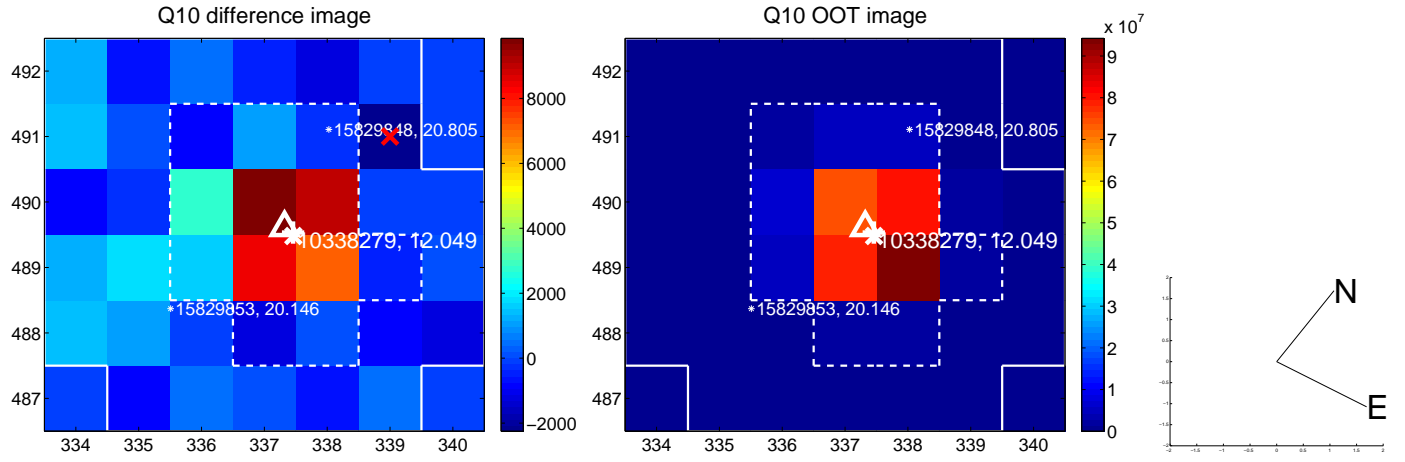
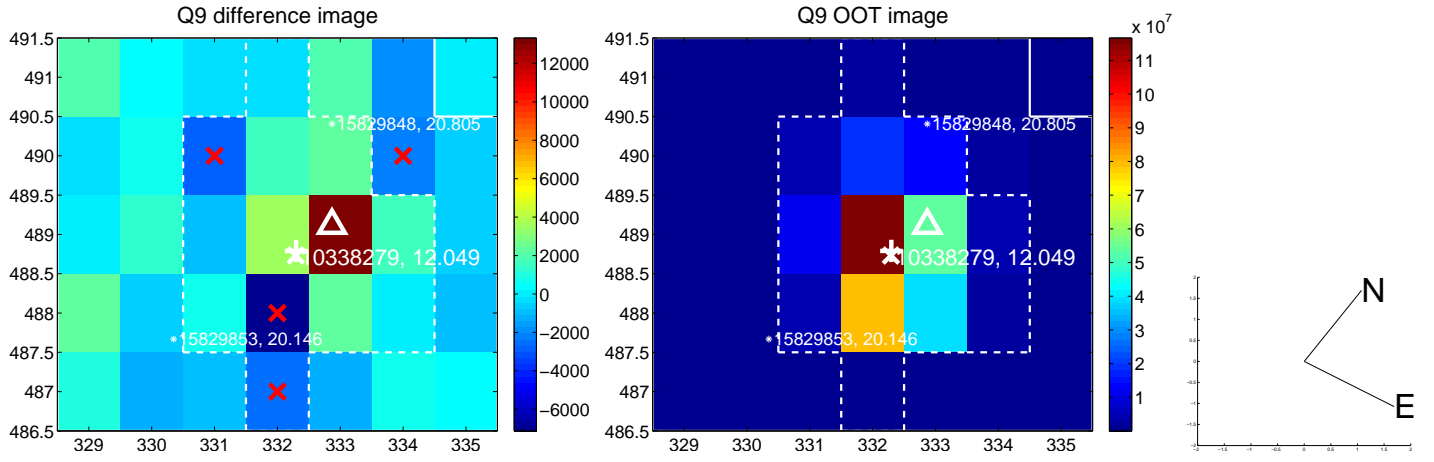
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



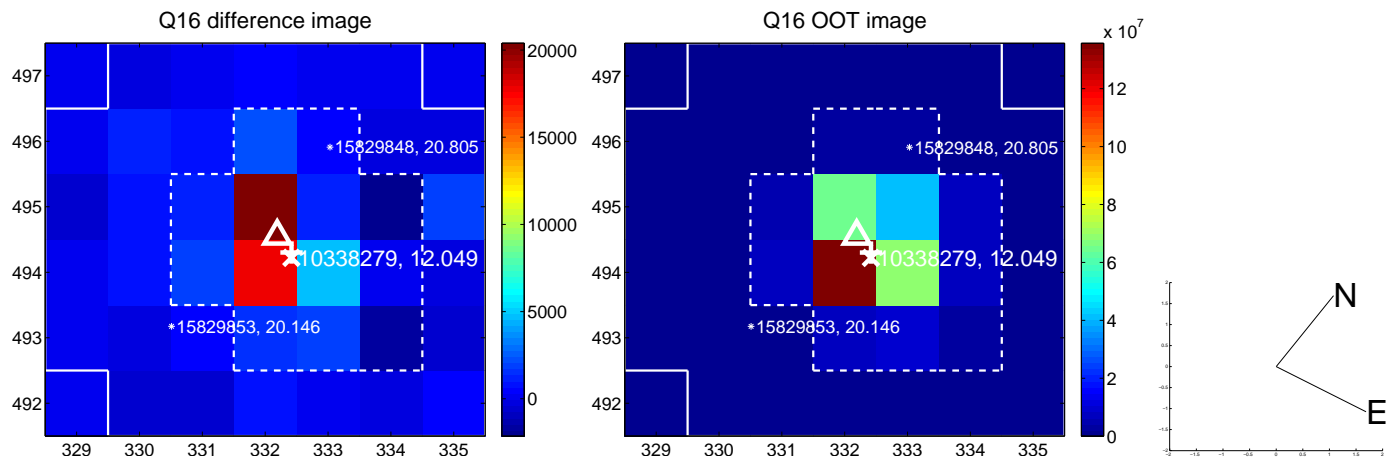
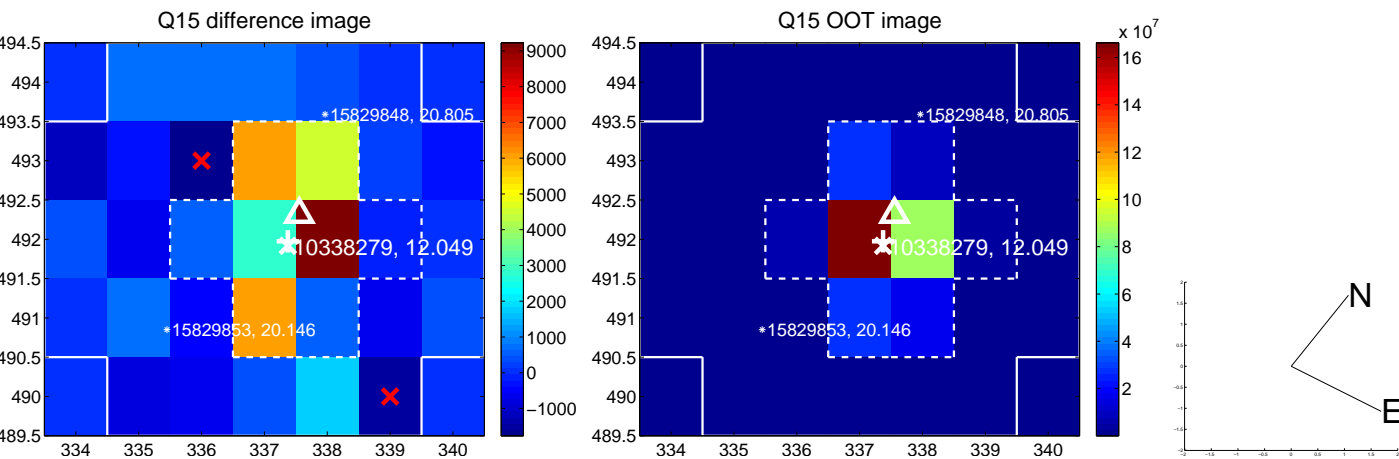
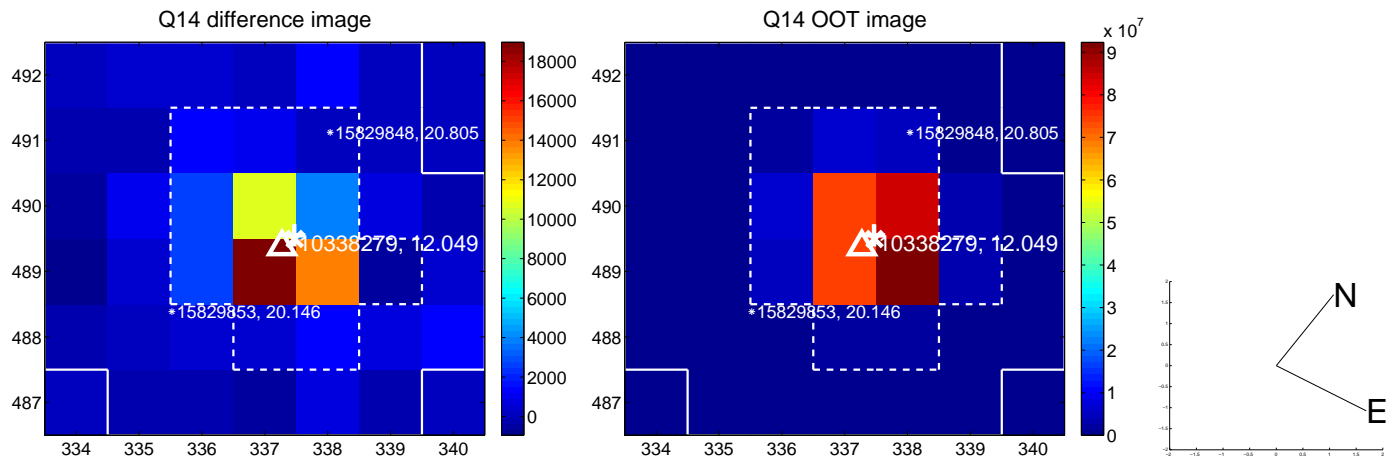
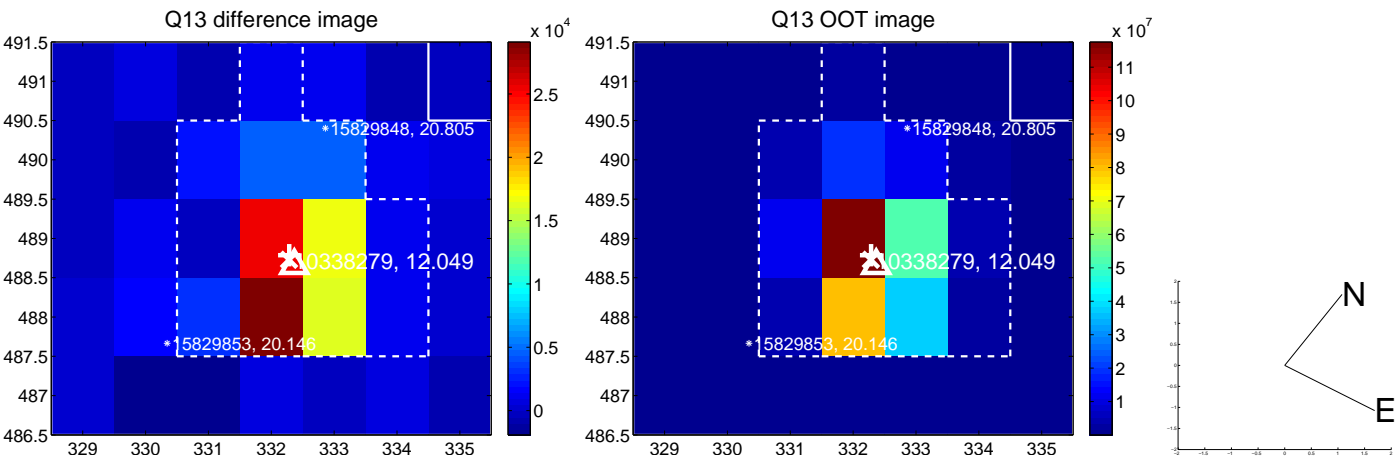
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



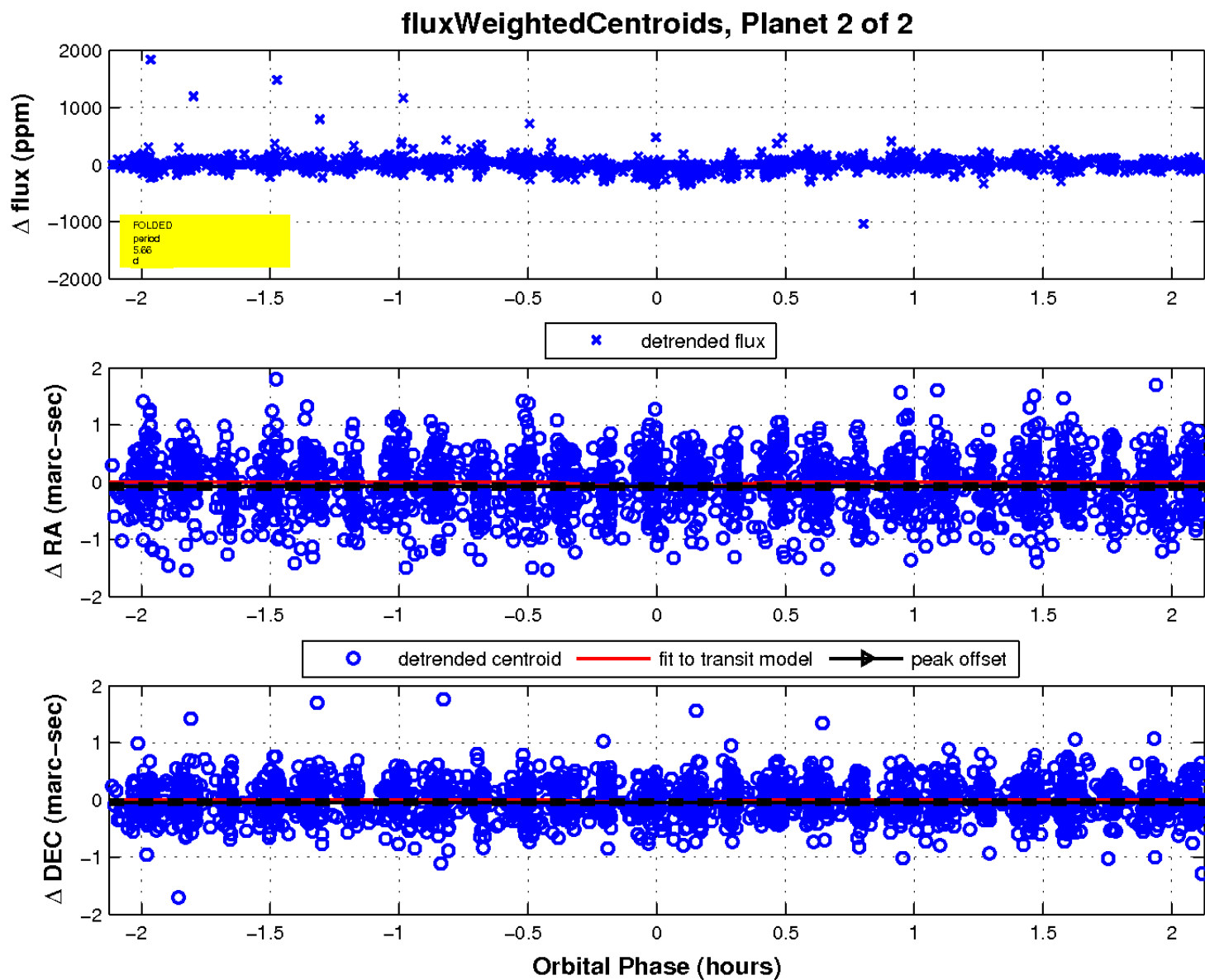
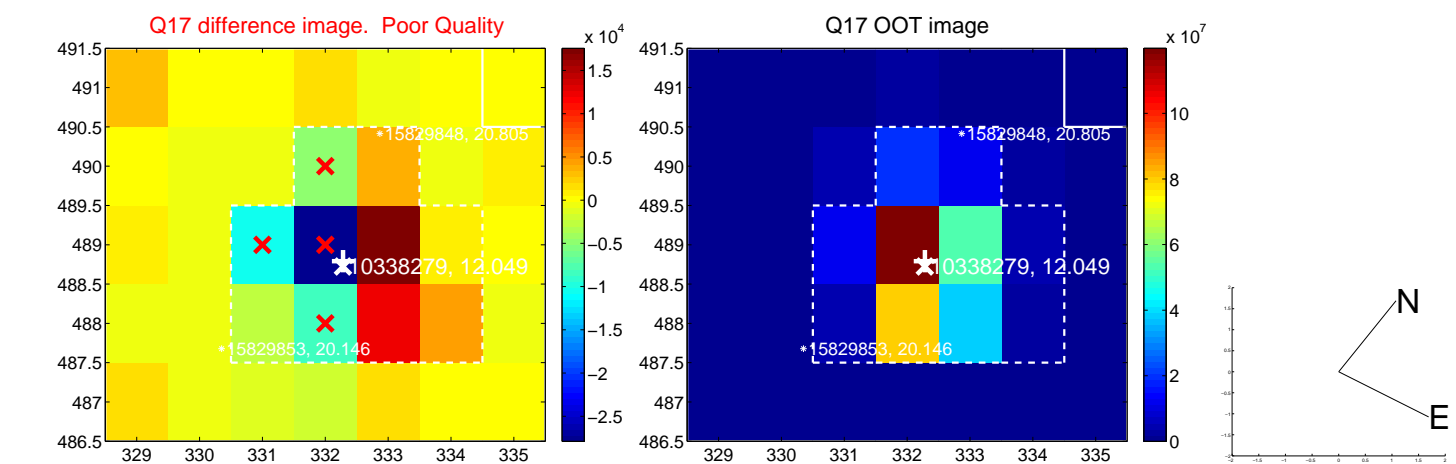
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

Declination

