

KIC 011037335

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})
011037335-01	OBS	1435.01	40.714956	146.566213	557.0	9.029	46.2	48.0	0.88	5968	2.37	16.80
011037335-02	OBS	1435.02	10.446380	133.276593	336.6	2.775	28.4	31.3	0.88	5968	2.11	103.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011037335-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
011037335-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

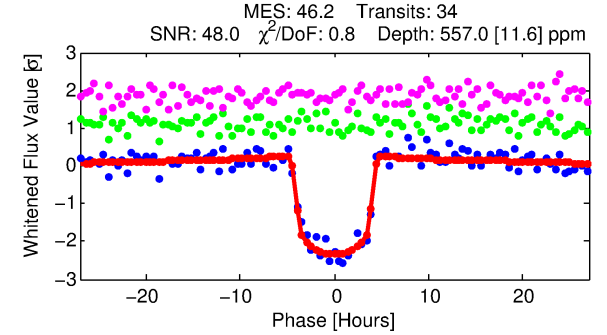
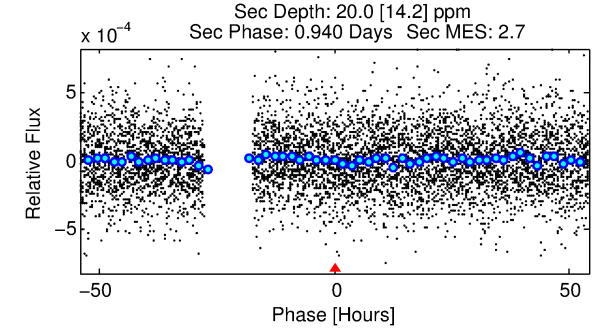
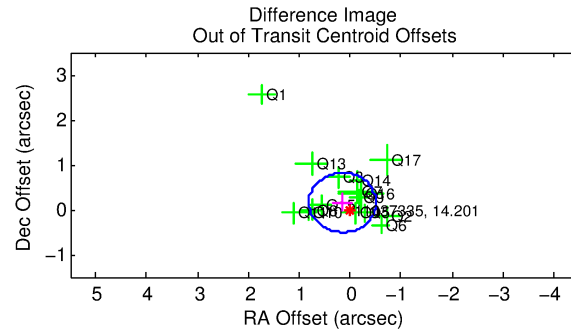
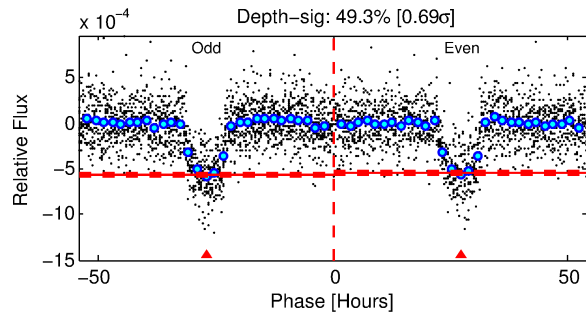
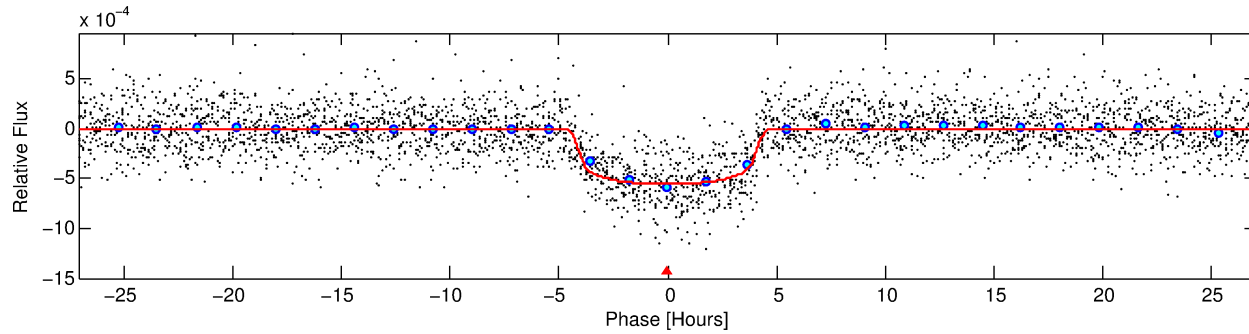
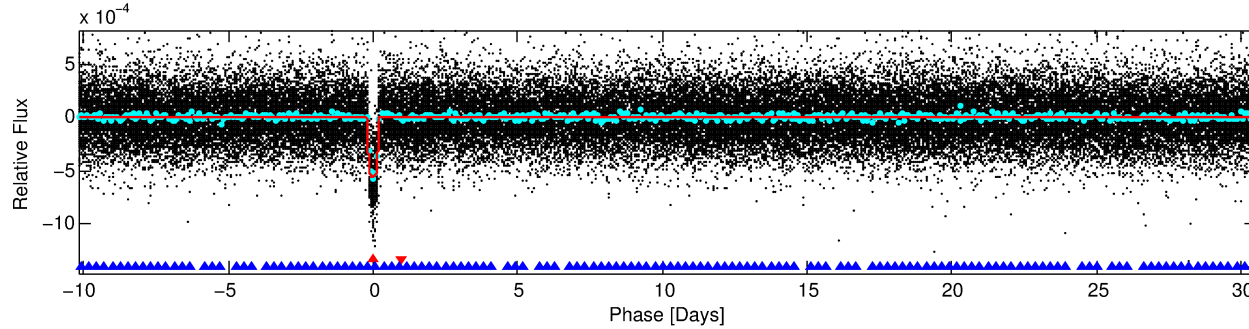
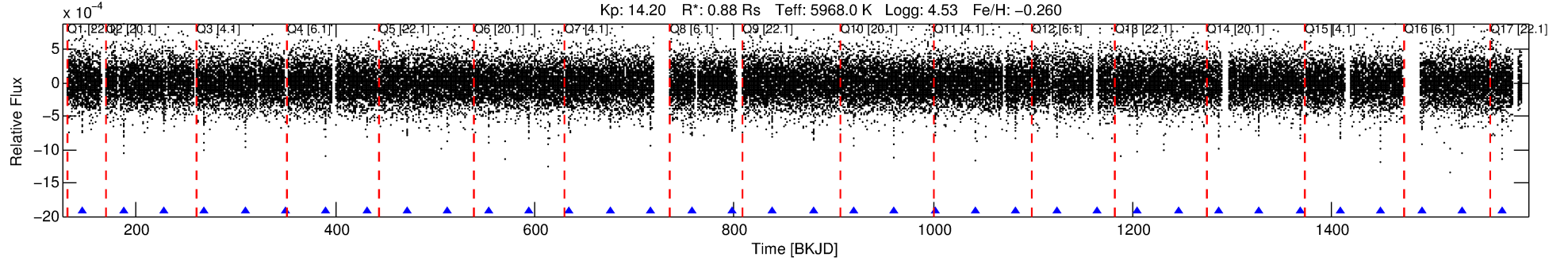
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011037335-01

No Significant Match Found

DV One-Page Summary

KIC: 11037335 Candidate: 1 of 2 Period: 40.715 d
KOI: K01435.01 Name: Kepler-300c Corr: 0.973



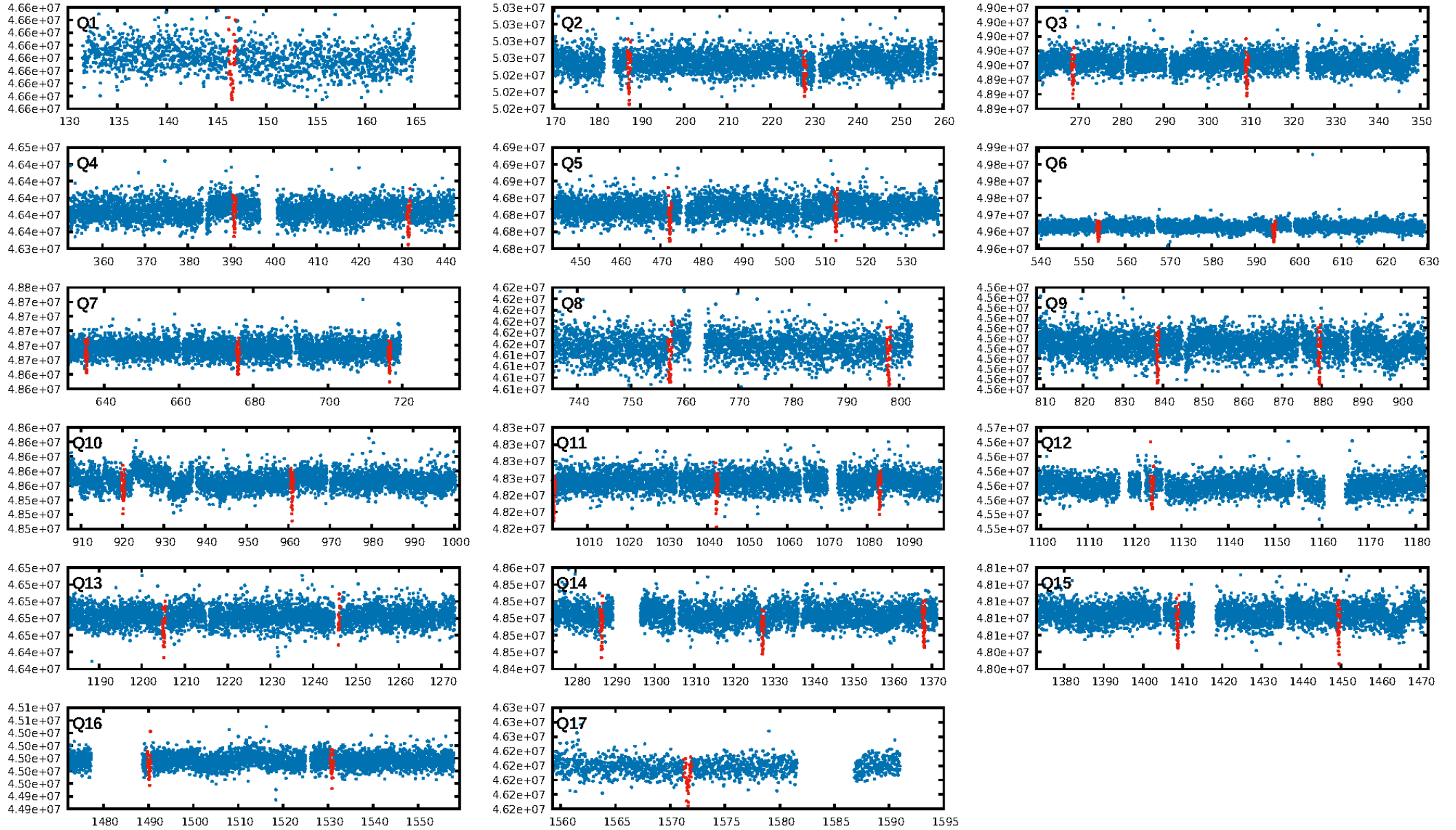
DV Fit Results:

Period = 40.71496 [0.00016] d
Epoch = 146.5662 [0.0033] BKJD
Rp/R* = 0.0247 [0.0008]
a/R* = 19.33 [3.05]
b = 0.86 [0.05]
Seff = 16.80 [6.53]
Teq = 516 [50] K
Rp = 2.37 [0.71] Re
a = 0.2292 [0.0576] AU
Ag = 102.65 [82.44] [1.23 σ]
Teffp = 2540 [459] K [4.38 σ]

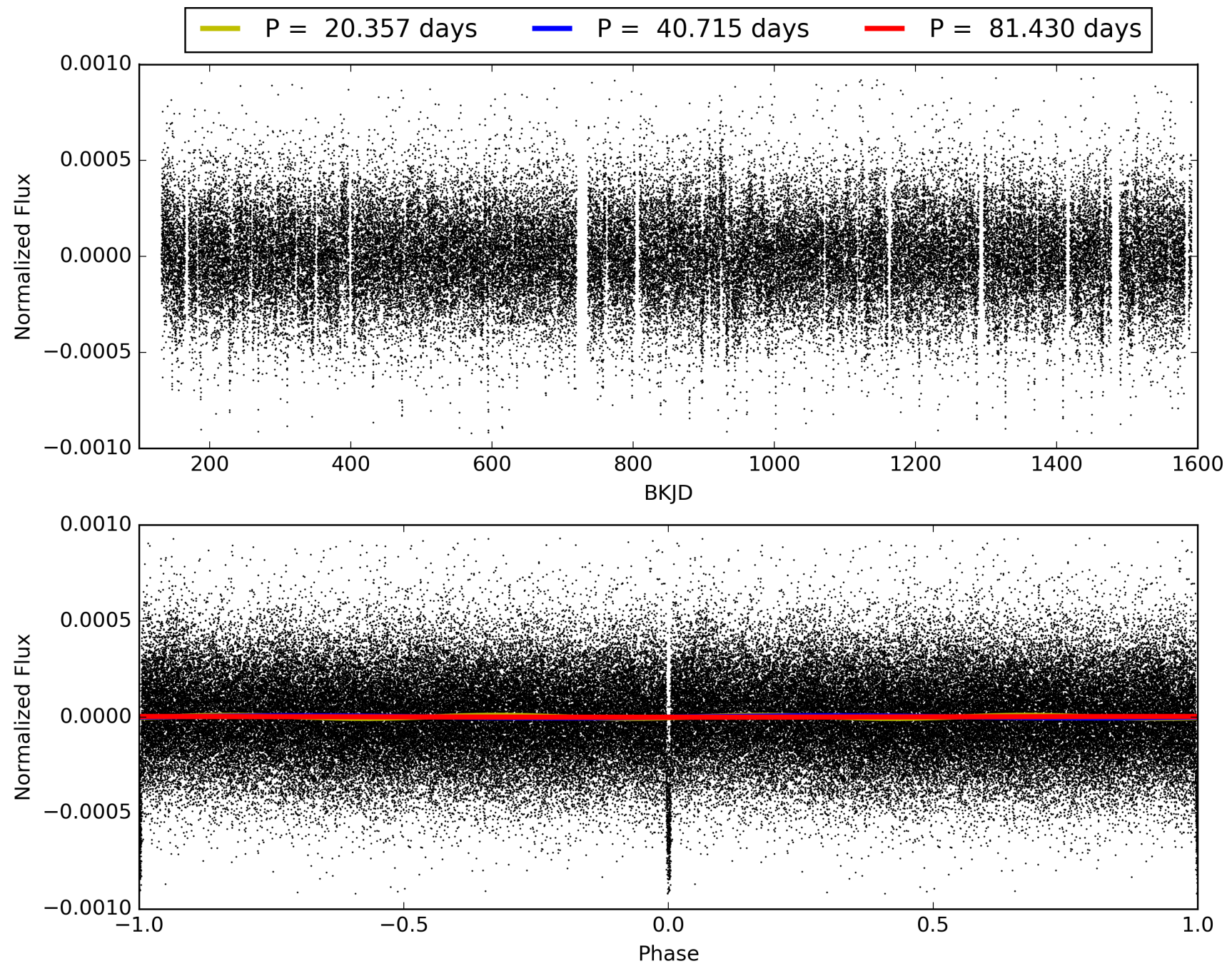
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [76.91 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 39.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [32/32]
GhostDiagnostic-chr: 4.988
Centroid-sig: 31.2%
Centroid-so: 0.468 arcsec [1.70 σ]
OotOffset-rm: 0.216 arcsec [0.98 σ]
KicOffset-rm: 0.345 arcsec [1.68 σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 0.94 [15/16]

TCE 011037335-01, PDC Light Curves

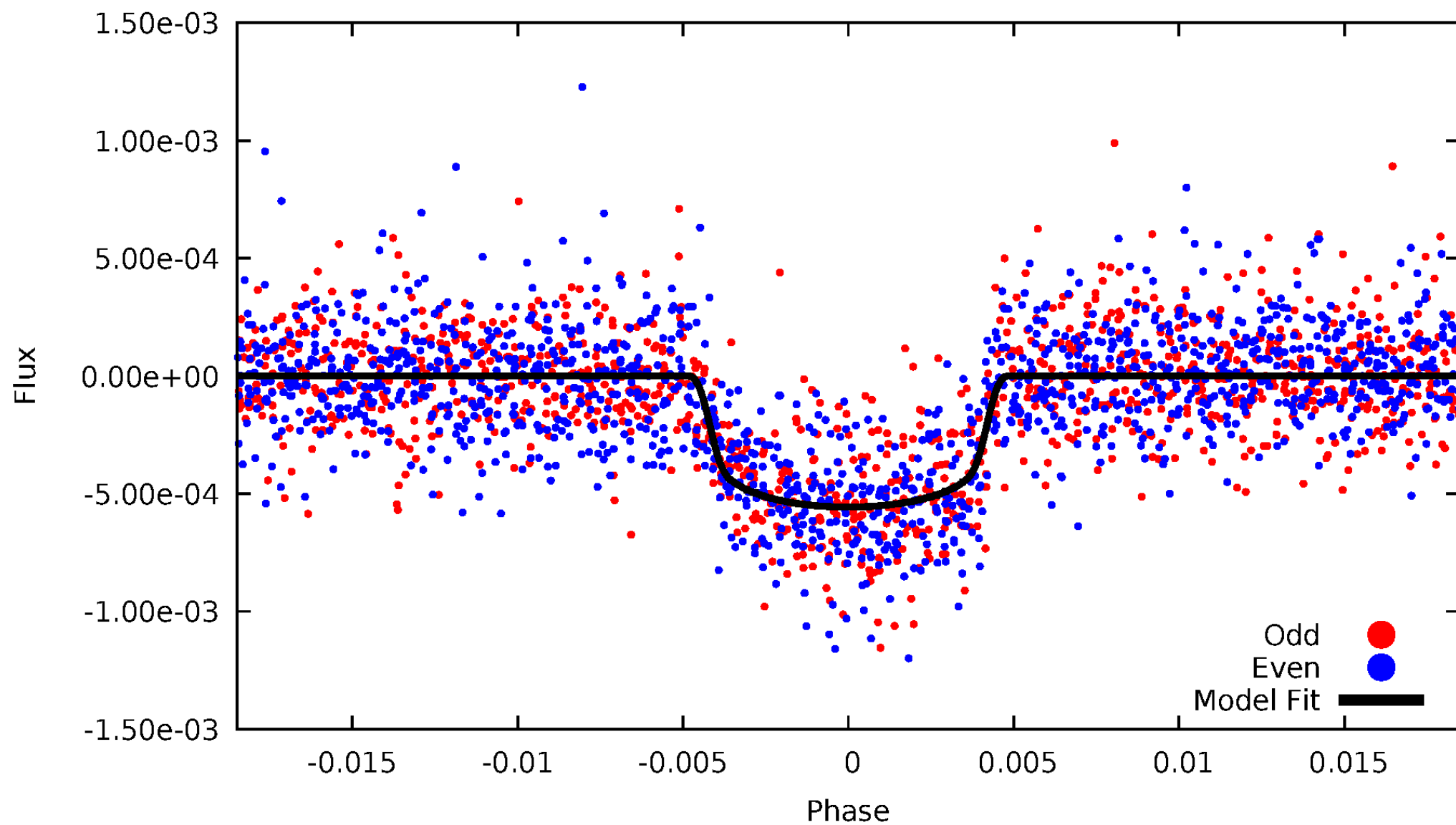


TCE 011037335-01



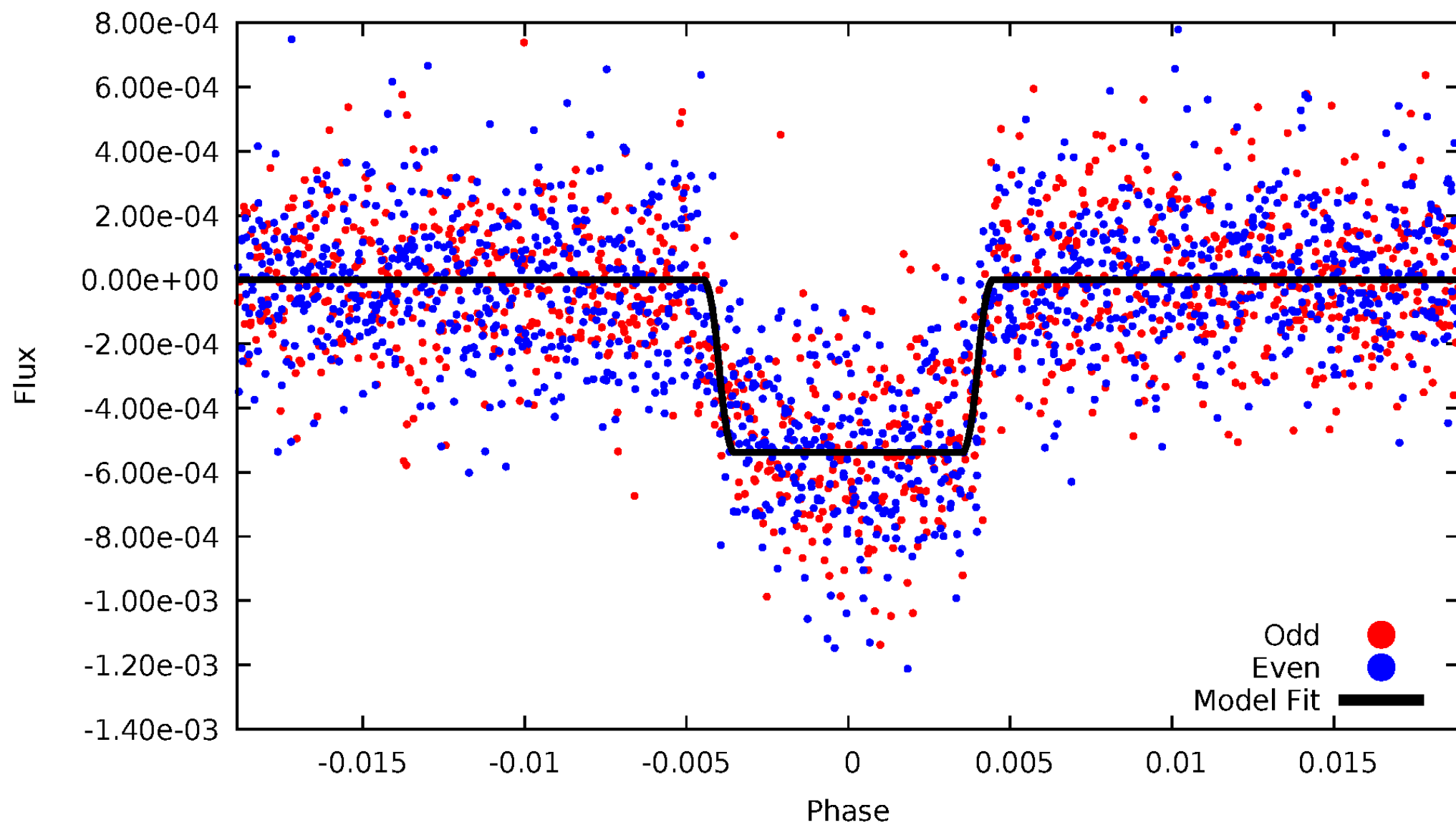
DV Odd/Even

TCE 011037335-01



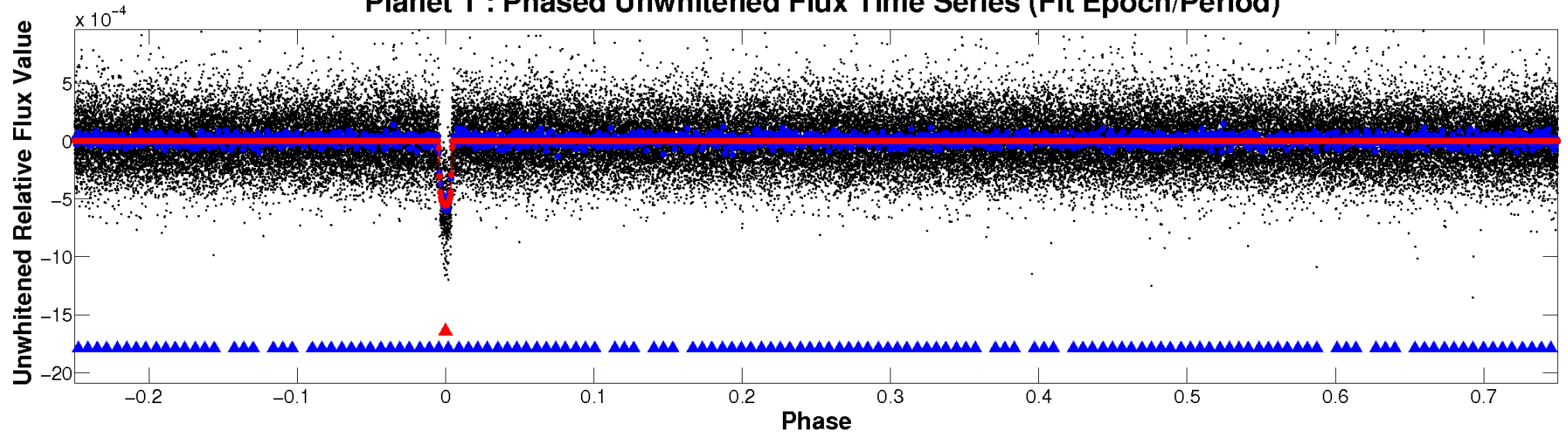
ALT Odd/Even

TCE 011037335-01

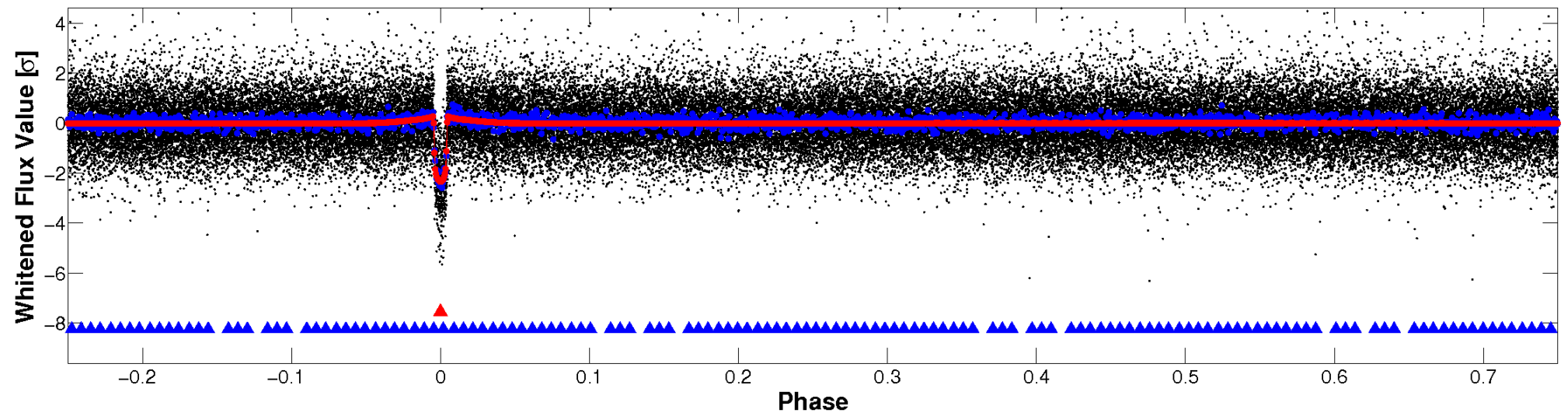


Non-Whitened Vs. Whitened Light Curve

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

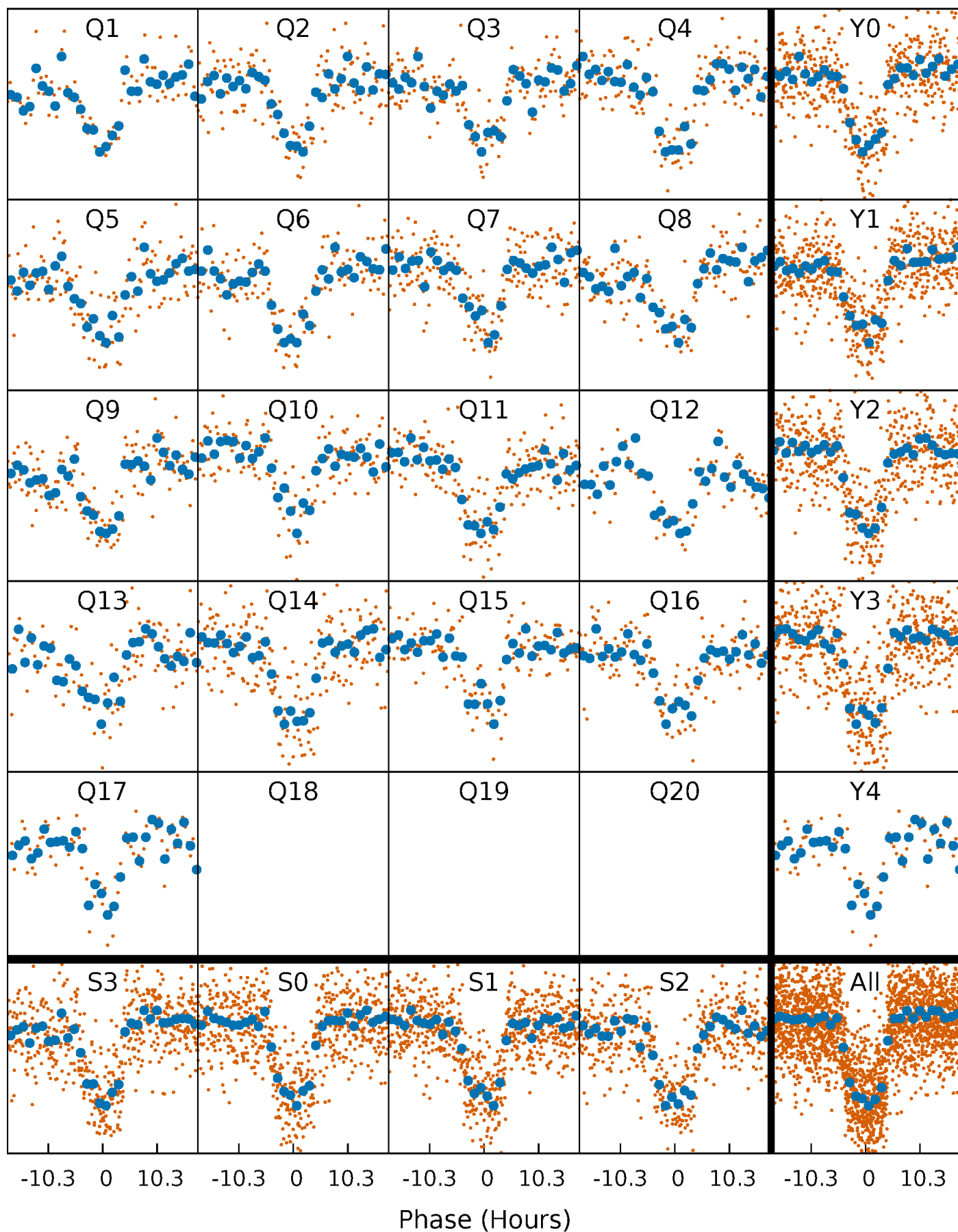


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



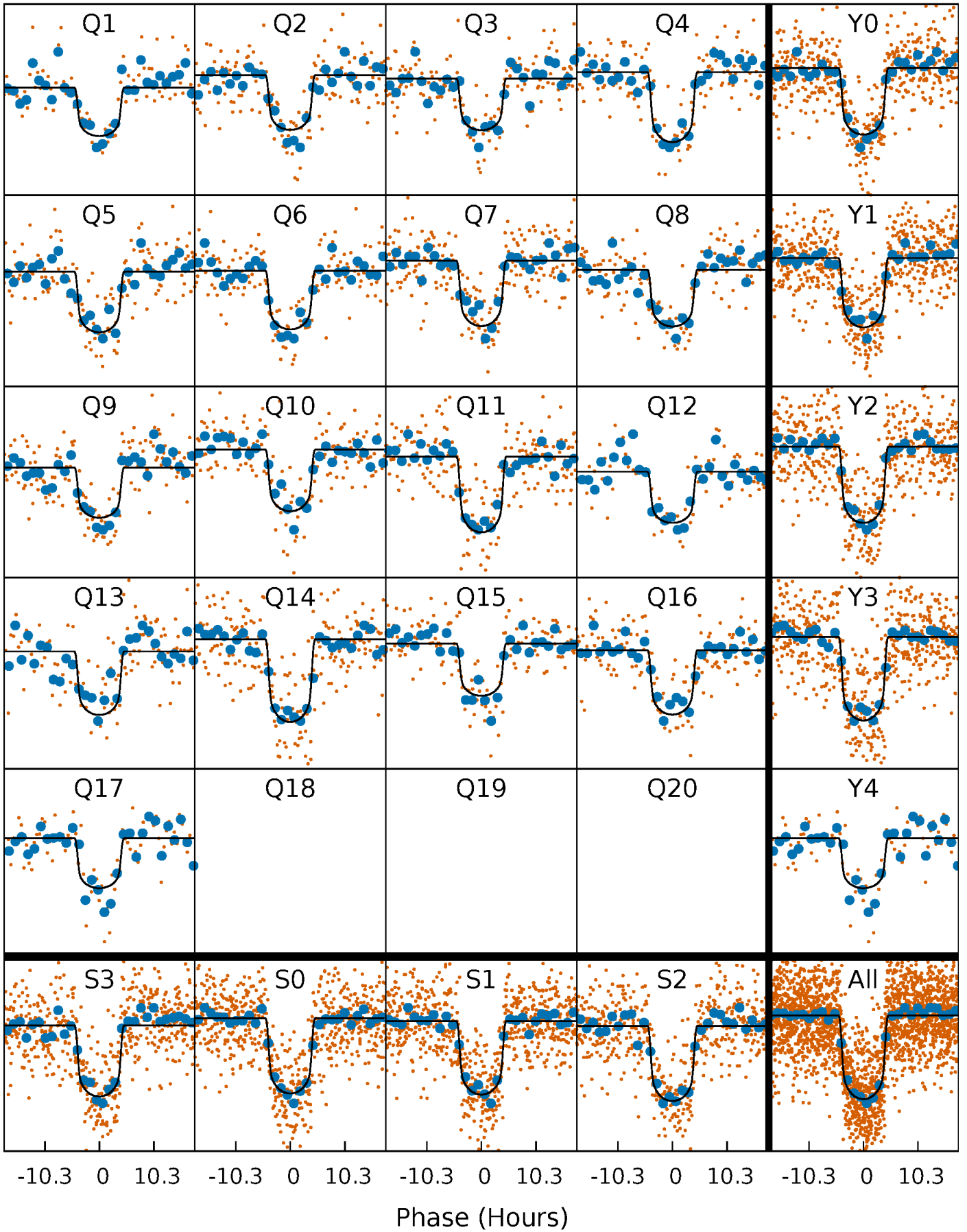
PDC Quarter-Phased Transit Curves

TCE 011037335-01 P= 40.714956 Days $T_0=146.566213$ (BKJD)



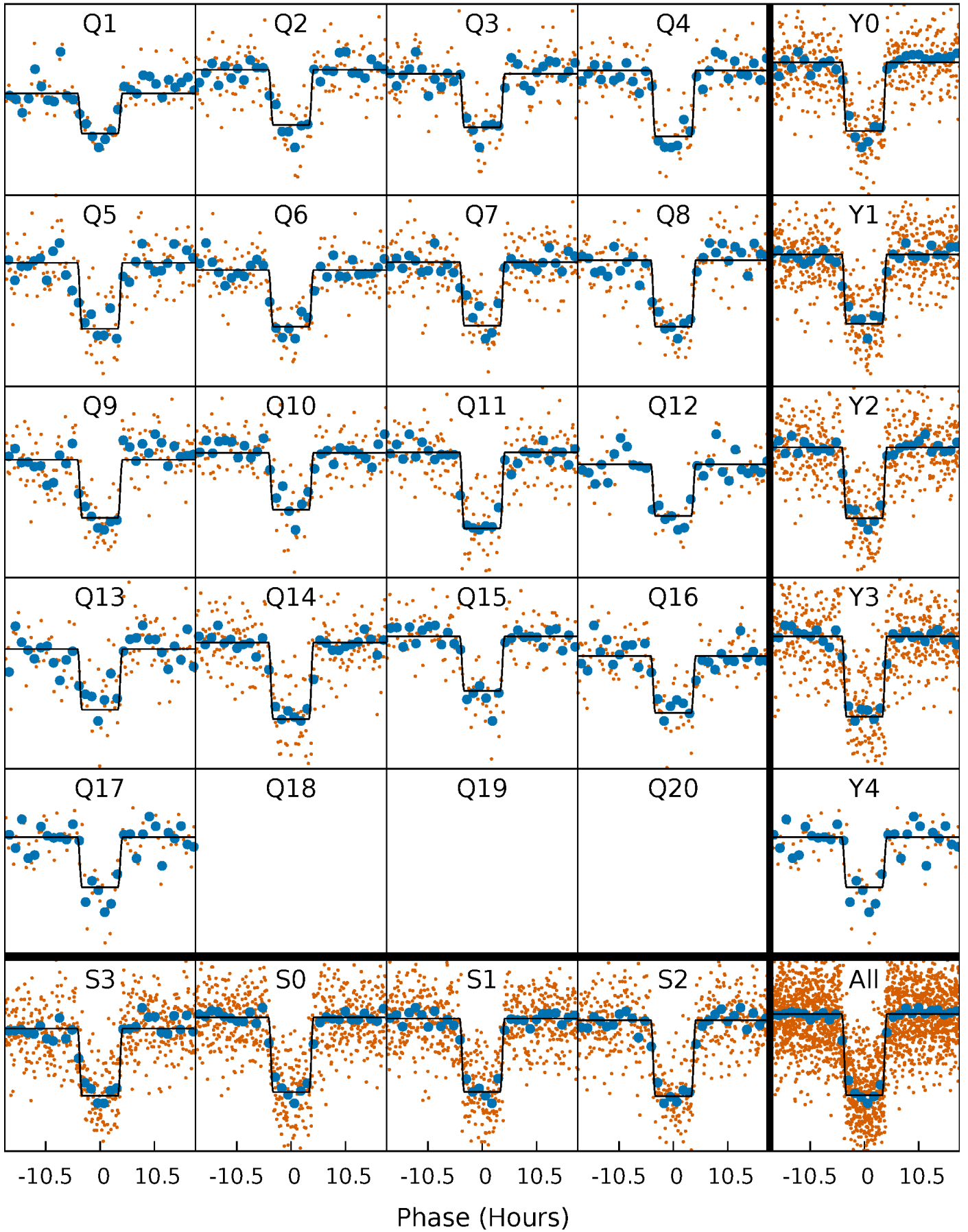
DV Quarter-Phased Transit Curves

TCE 011037335-01 P= 40.714956 Days $T_0=146.566213$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

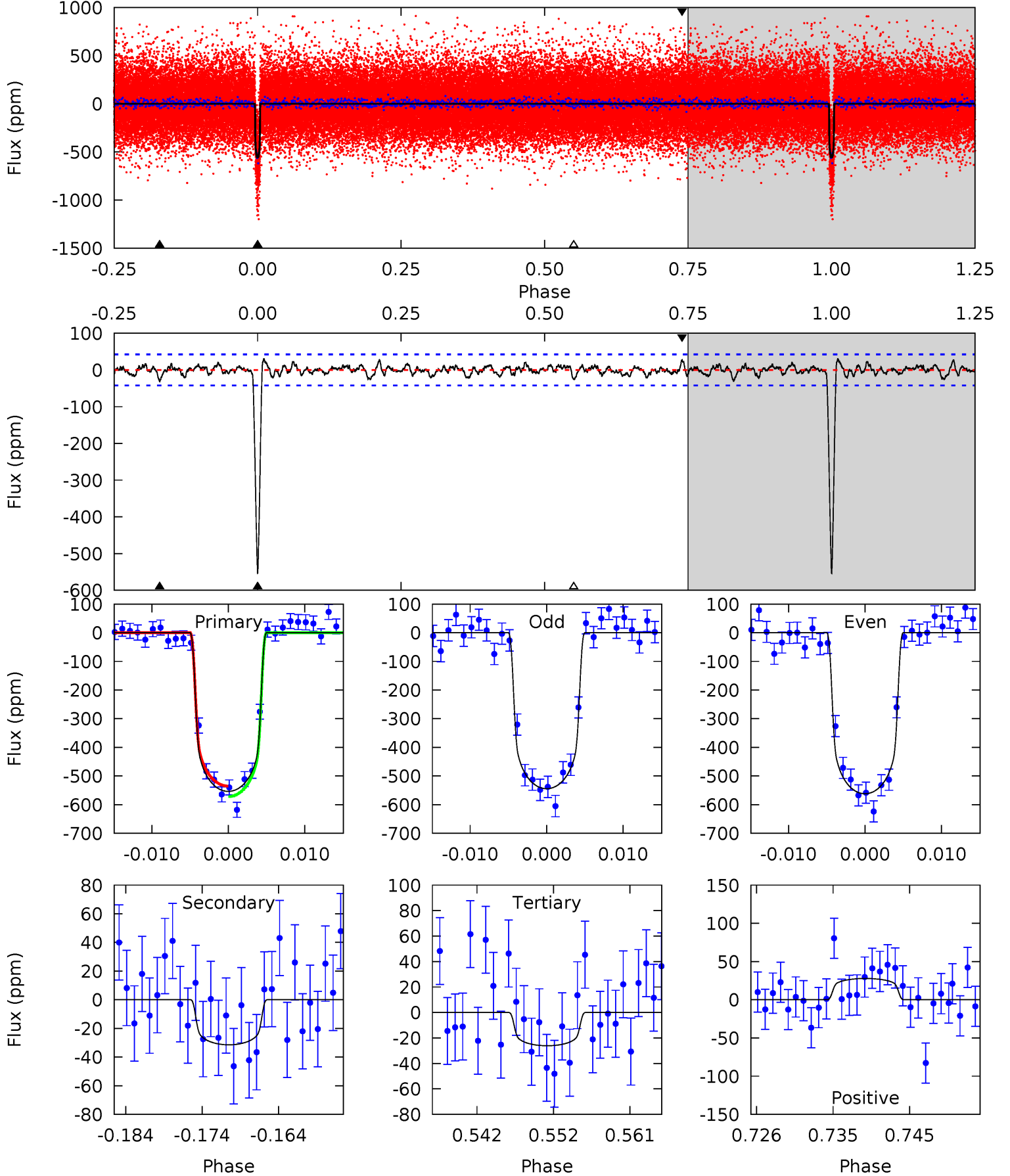
TCE 011037335-01 P= 40.714845 Days $T_0=146.569505$ (BKJD)



DV Model-Shift Uniqueness Test

011037335-01, P = 40.714956 Days, E = 105.851257 Days

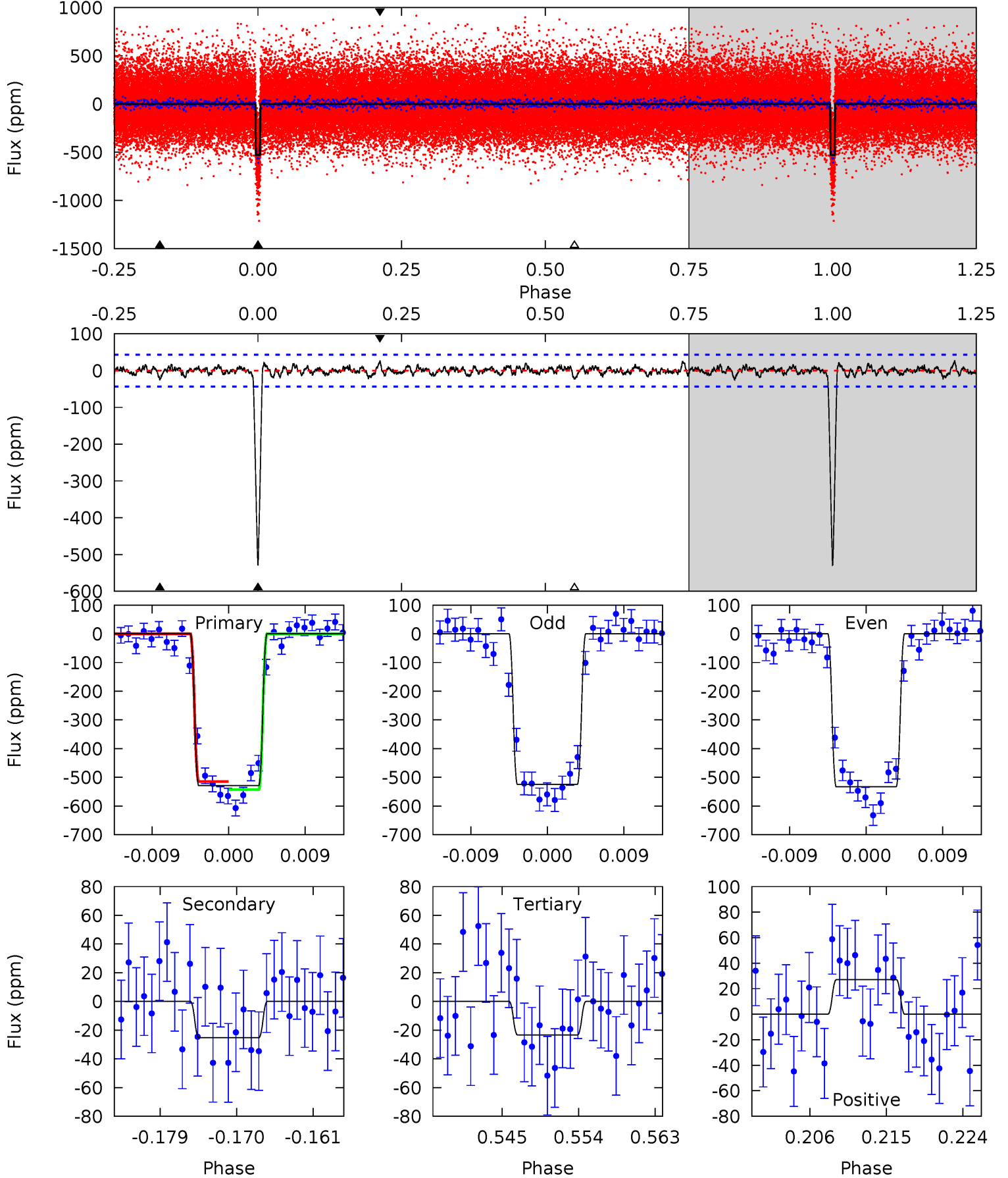
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
66.1	3.75	3.11	3.32	5.03	2.59	1.10	63.0	62.8	0.64	0.43	1.05	0.98	0.05	2.20



Alt Model-Shift Uniqueness Test

011037335-01, P = 40.714845 Days, E = 105.854660 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
61.5	2.93	2.71	3.15	5.05	2.61	0.88	58.8	58.3	0.21	-0.22	0.48	0.98	0.05	1.67



Stellar Parameters For KIC 011037335

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5968^{+161}_{-179}	$4.534^{+0.036}_{-0.204}$	$-0.260^{+0.300}_{-0.300}$	$0.881^{+0.260}_{-0.081}$	$0.970^{+0.118}_{-0.118}$	$1.995^{+0.377}_{-0.993}$
	+3%/-3%	+1%/-4%	+115%/-115%	+30%/-9%	+12%/-12%	+19%/-50%
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 011037335-01 / KOI 1435.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-31 ± 8	$2.45^{+0.38}_{-0.20}$	738^{+48}_{-33}	3368^{+140}_{-162}	143^{+47}_{-46}
Alt.	-25 ± 9	$2.32^{+0.39}_{-0.22}$	740^{+52}_{-35}	3322^{+169}_{-212}	122^{+60}_{-40}

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

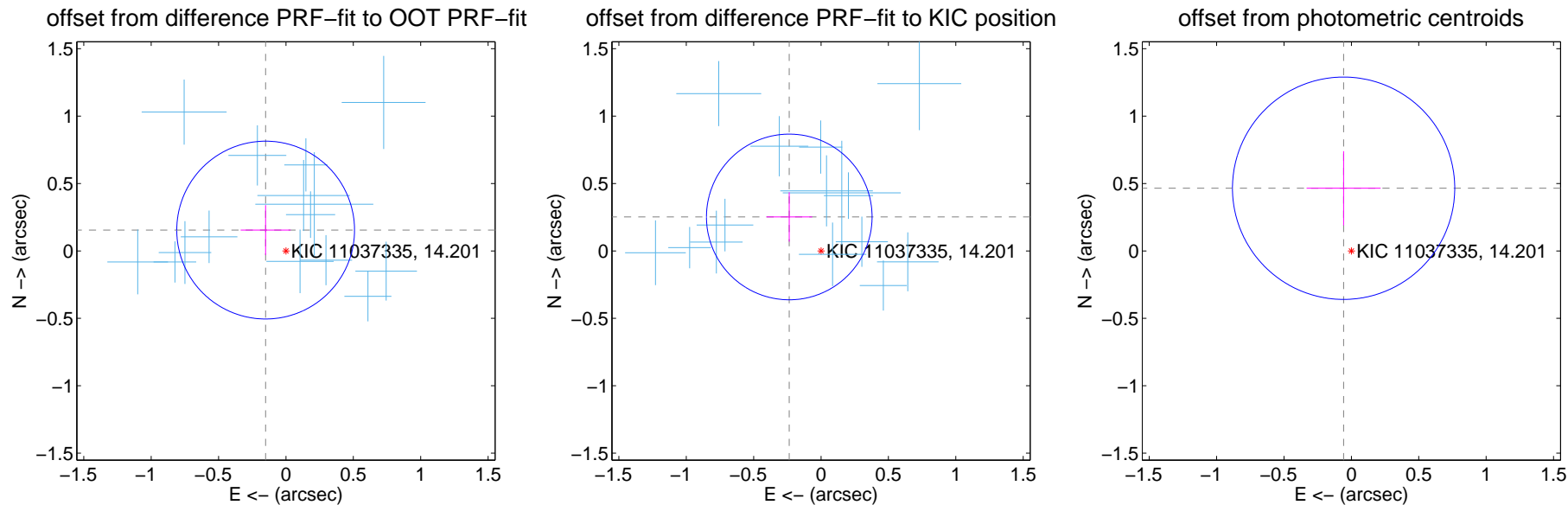
DV Centroid Data

Supplemental centroid analysis for 011037335-01. Kepler magnitude: 14.20. Transit SNR 48.01

There are 16 quarters with good PRF difference image offsets

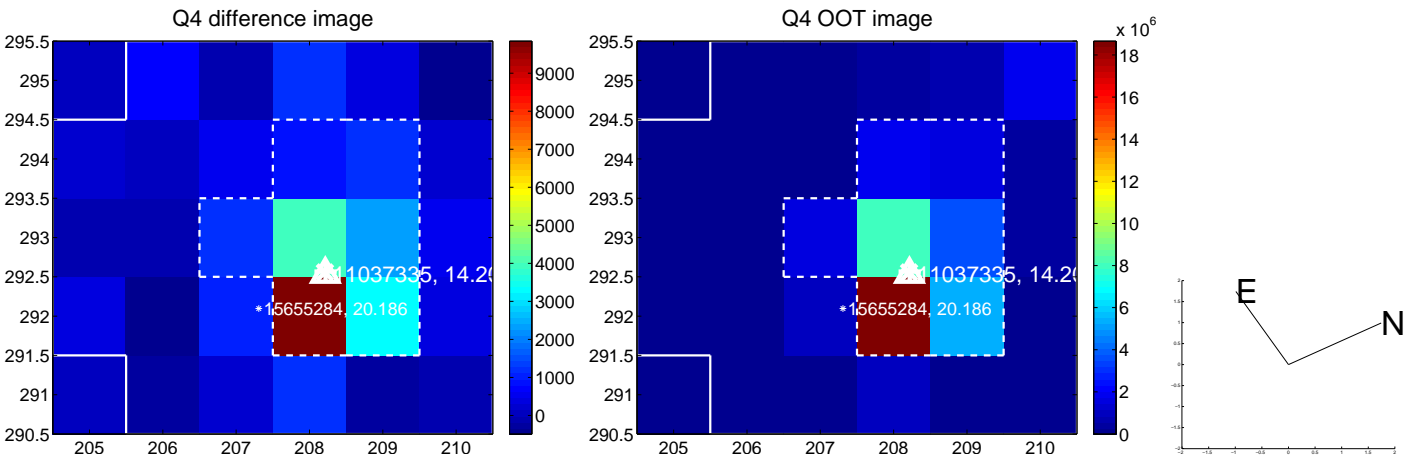
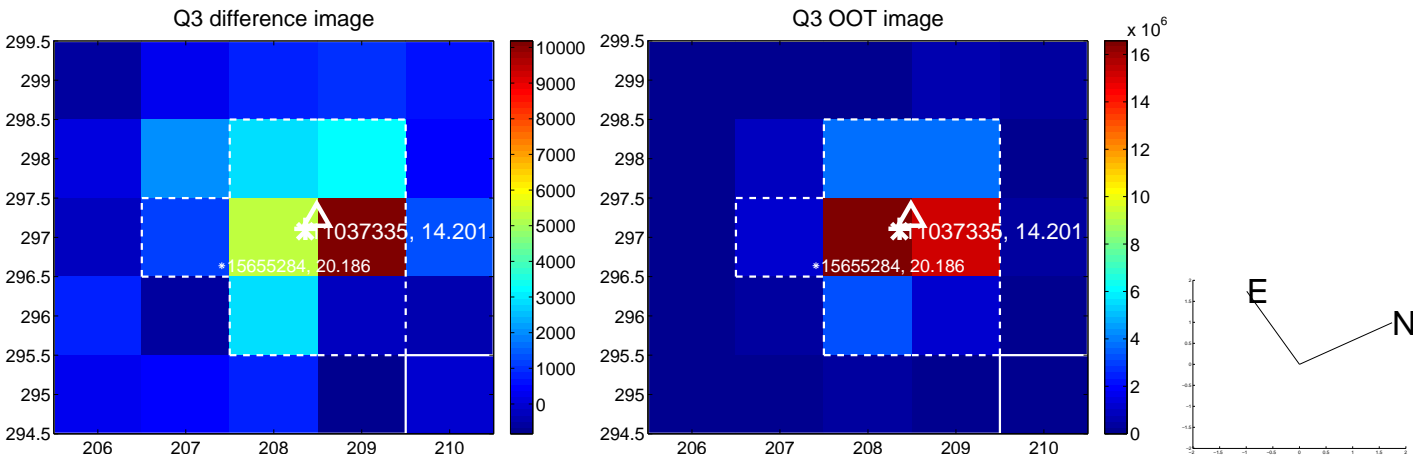
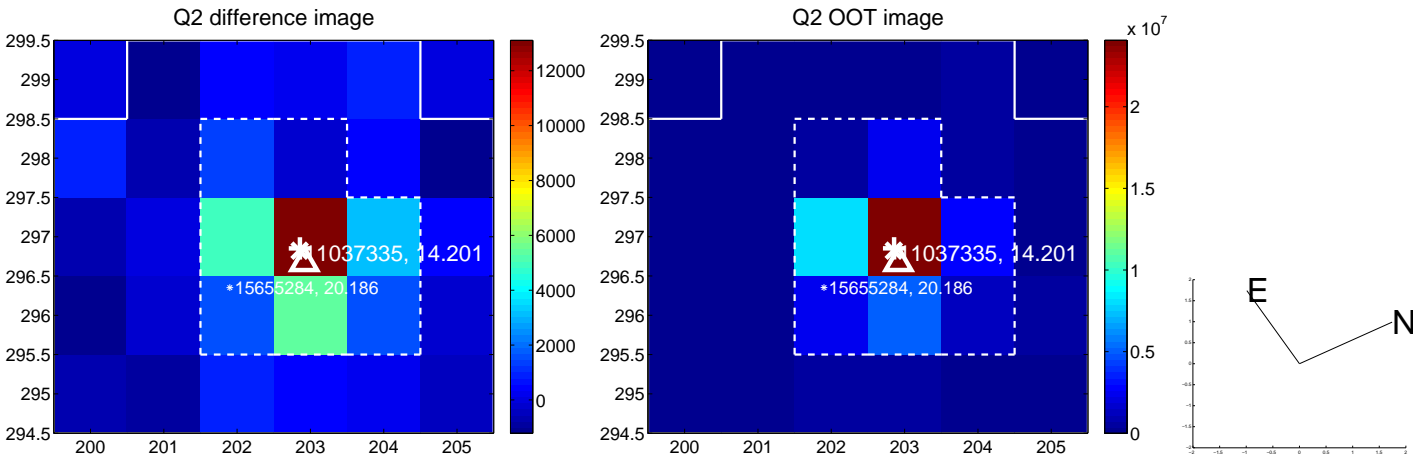
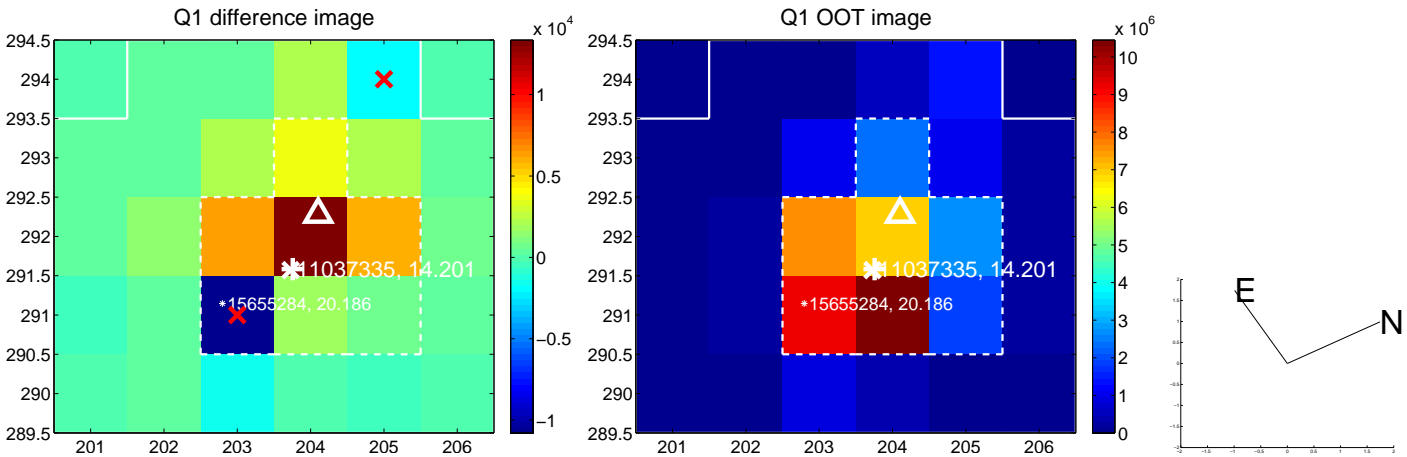
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.216 ± 0.220	0.98	0.151 ± 0.185	0.155 ± 0.185
PRF-fit source offset from KIC position	0.345 ± 0.205	1.68	0.236 ± 0.170	0.252 ± 0.183
photometric centroid source offset	0.47 ± 0.27	1.70	0.06 ± 0.27	0.46 ± 0.27

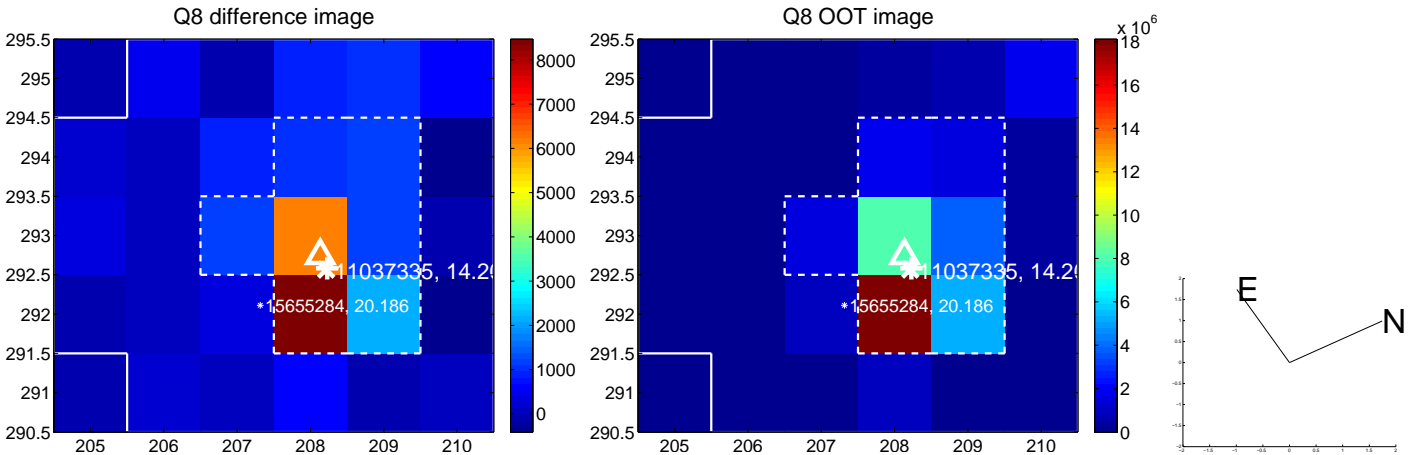
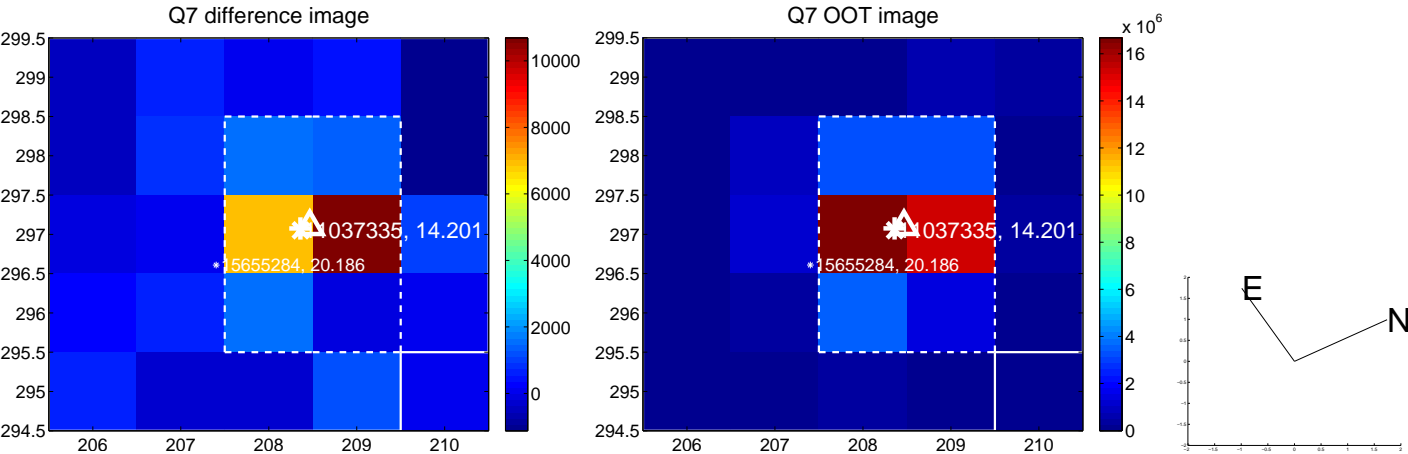
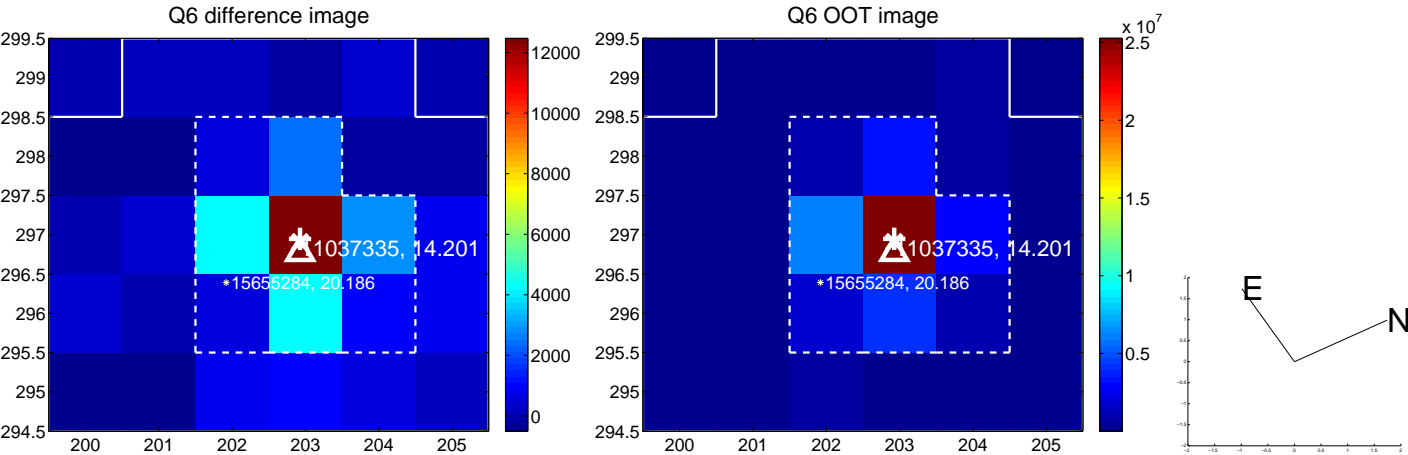
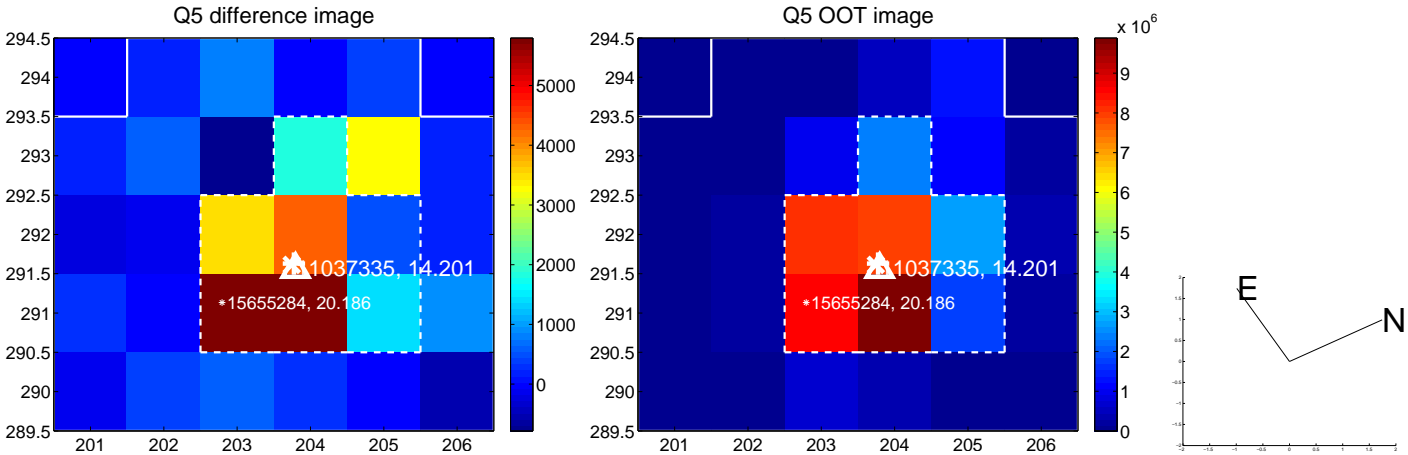


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

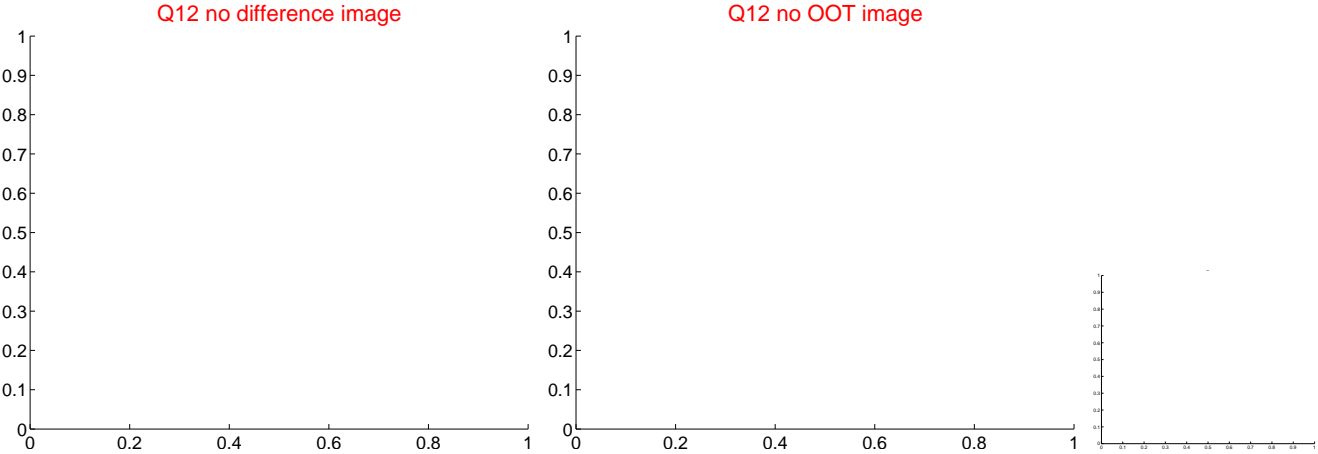
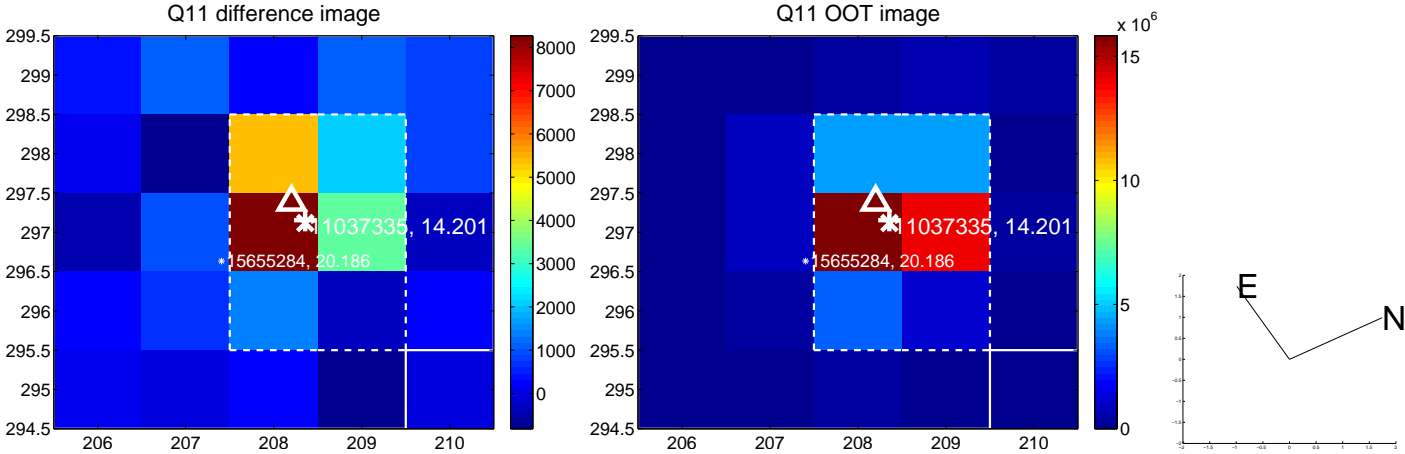
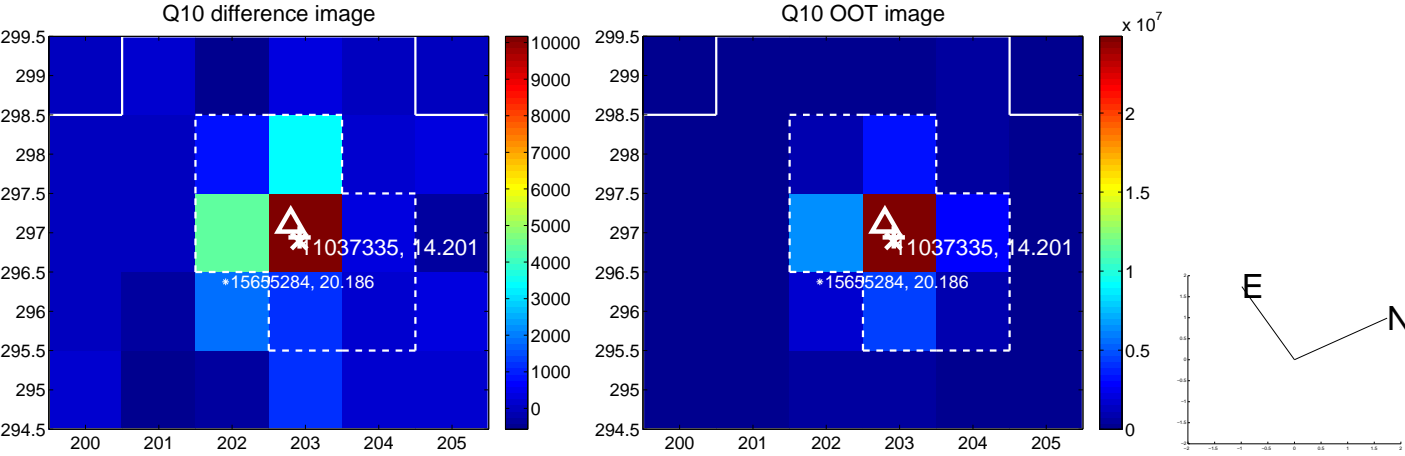
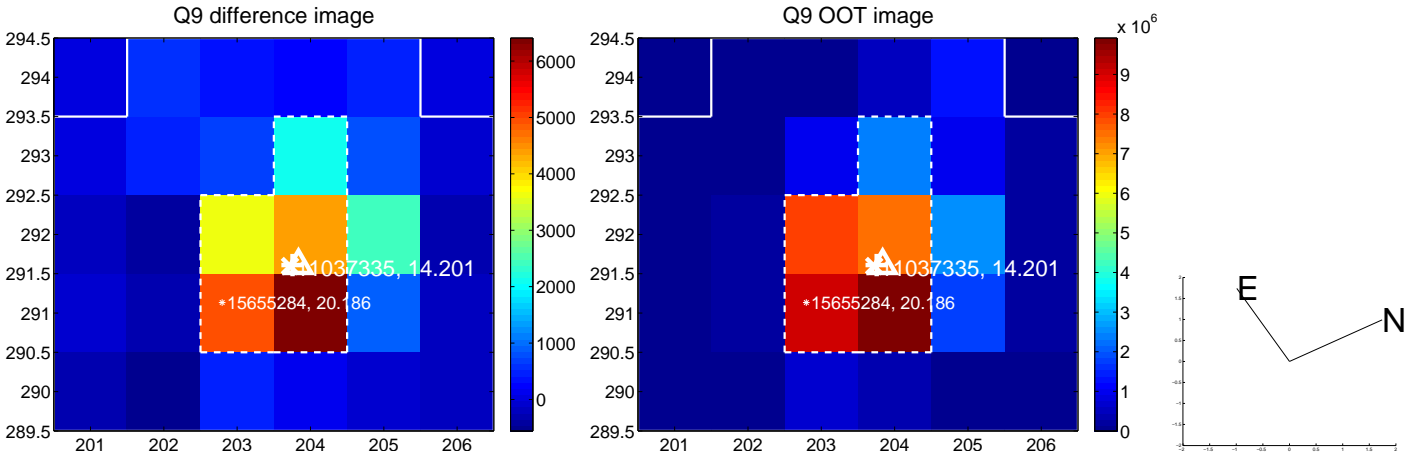
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



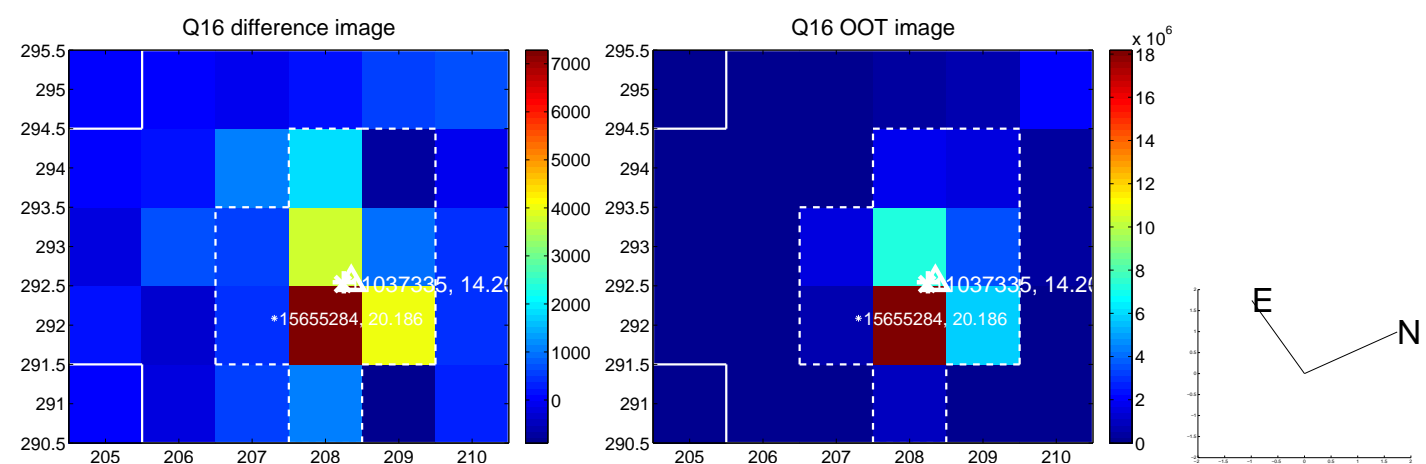
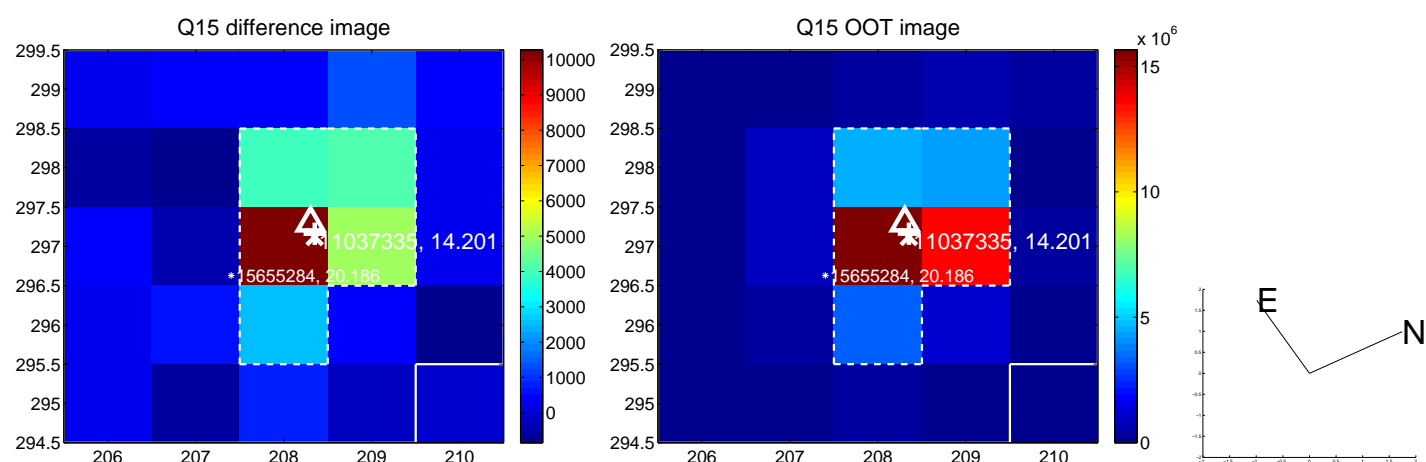
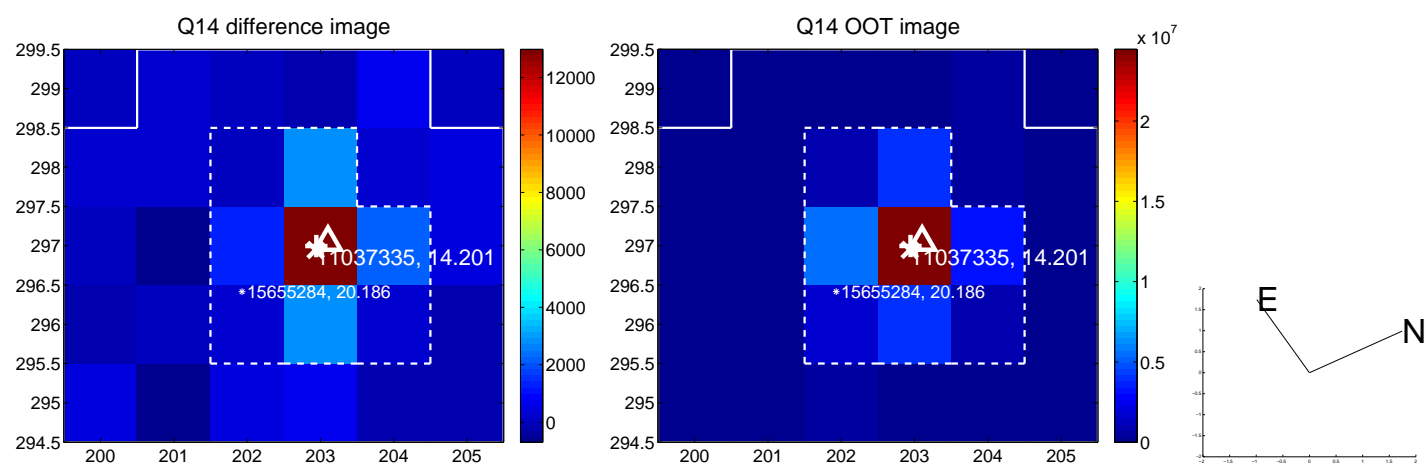
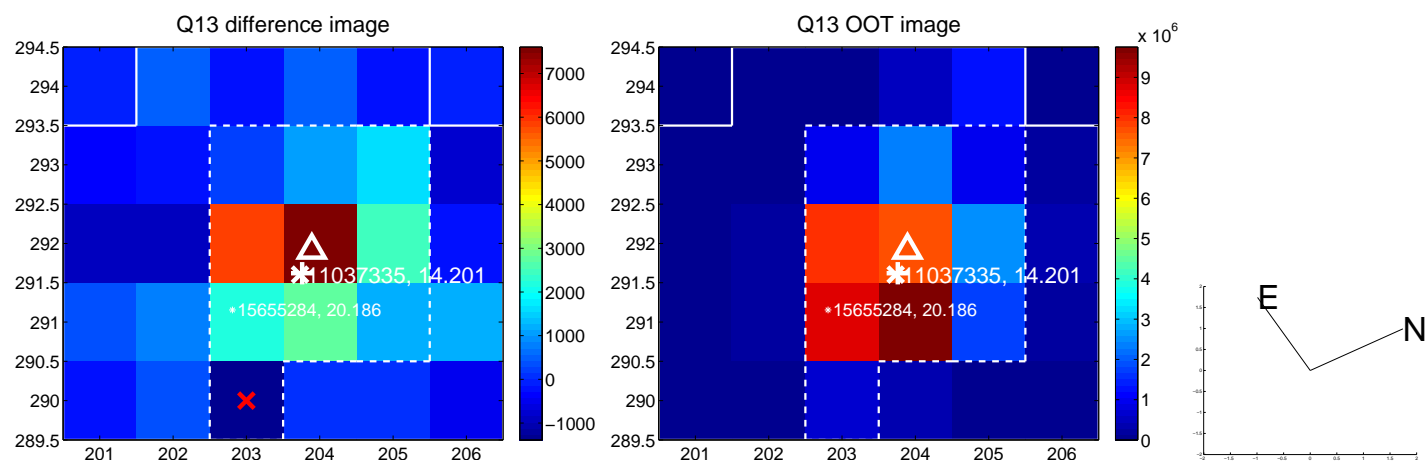
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



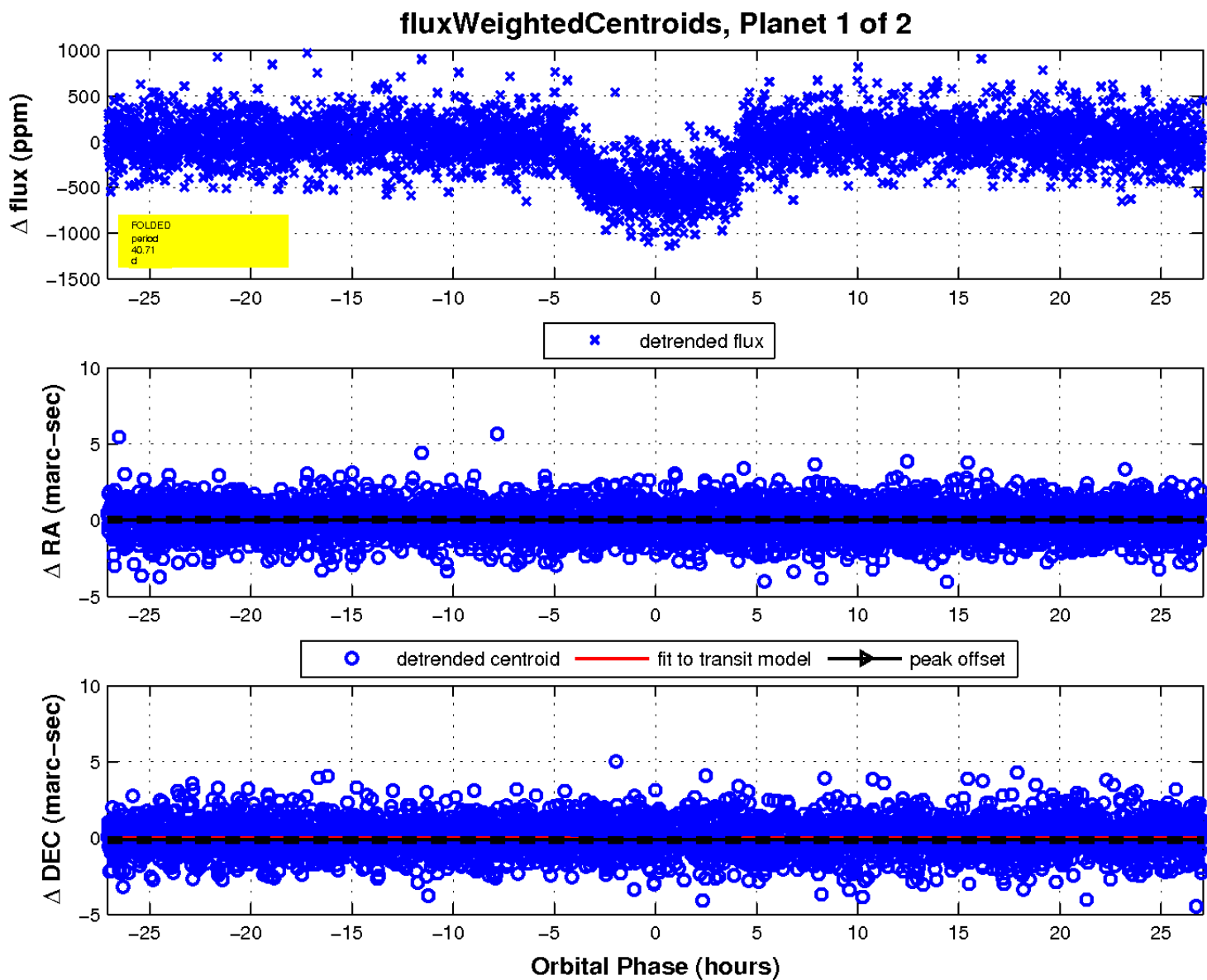
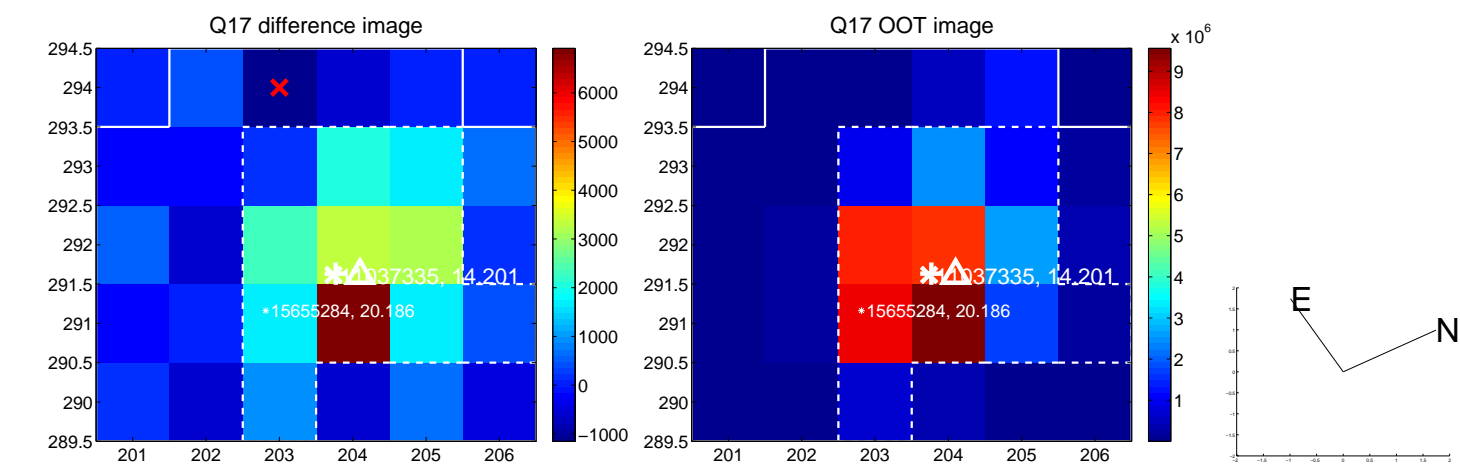
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



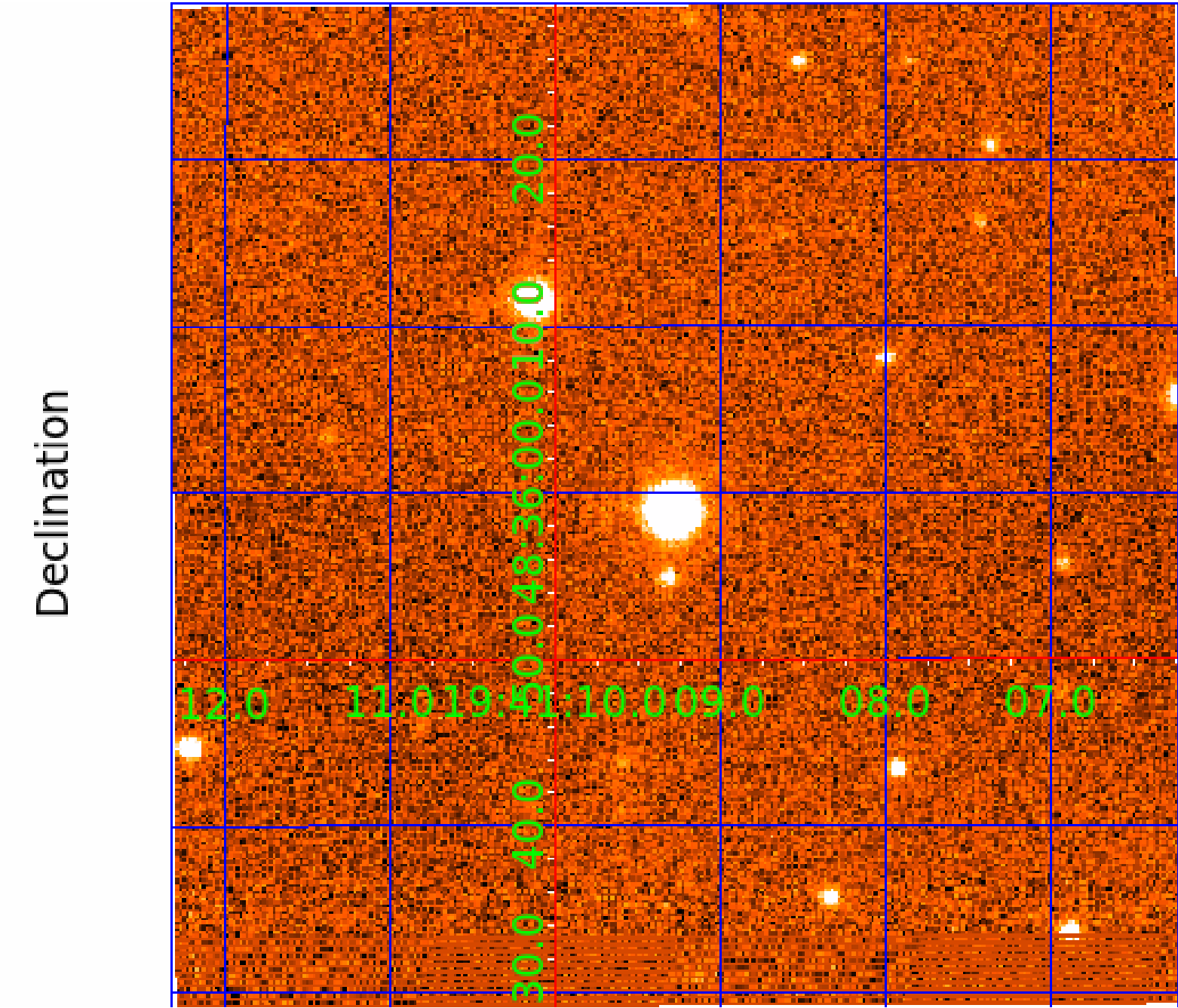
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



UKIRT Image



KIC 011037335

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})
011037335-01	OBS	1435.01	40.714956	146.566213	557.0	9.029	46.2	48.0	0.88	5968	2.37	16.80
011037335-02	OBS	1435.02	10.446380	133.276593	336.6	2.775	28.4	31.3	0.88	5968	2.11	103.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011037335-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
011037335-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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.

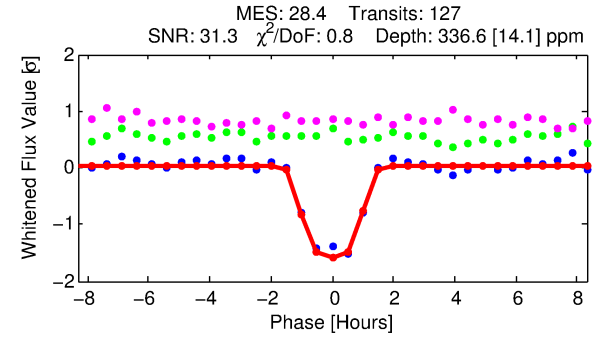
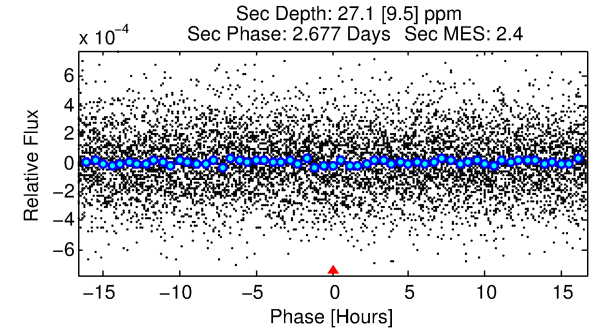
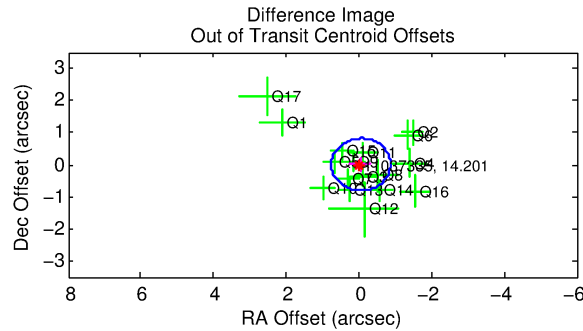
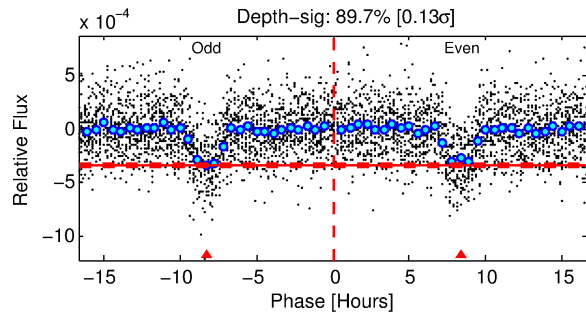
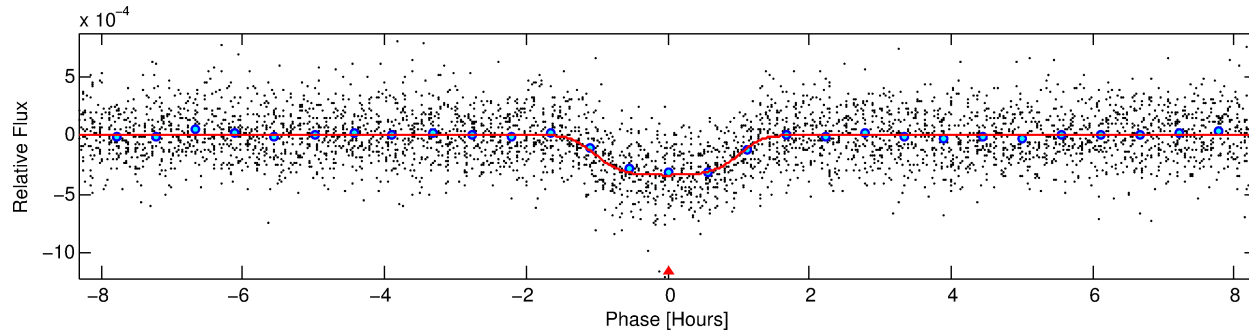
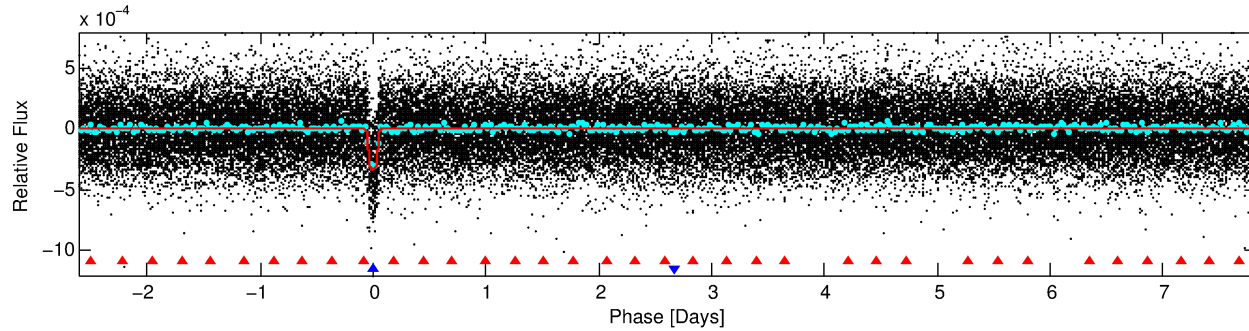
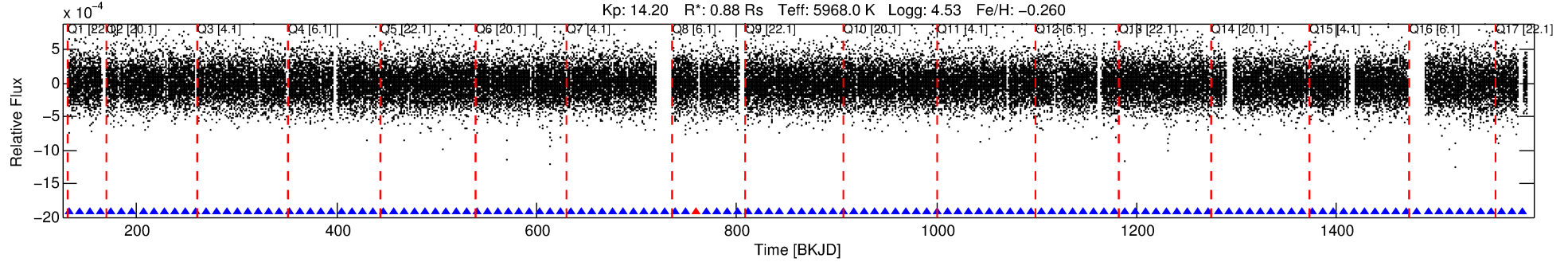
Ephemeris Match Information For 011037335-02

No Significant Match Found

DV One-Page Summary

KIC: 11037335 Candidate: 2 of 2 Period: 10.446 d
KOI: K01435.02 Name: Kepler-300b Corr: 0.920

Kp: 14.20 R*: 0.88 Rs Teff: 5968.0 K Logg: 4.53 Fe/H: -0.260



DV Fit Results:

Period = 10.44638 [0.00003] d
Epoch = 133.2766 [0.0022] BKJD
Rp/R* = 0.0219 [0.0008]
a/R* = 9.52 [1.18]
b = 0.97 [0.01]
Seff = 103.02 [40.05]
Teq = 812 [79] K
Rp = 2.11 [0.63] Re
a = 0.0925 [0.0233] AU
Ag = 28.76 [14.82] [1.87σ]
Teffp = 2909 [275] K [7.33σ]

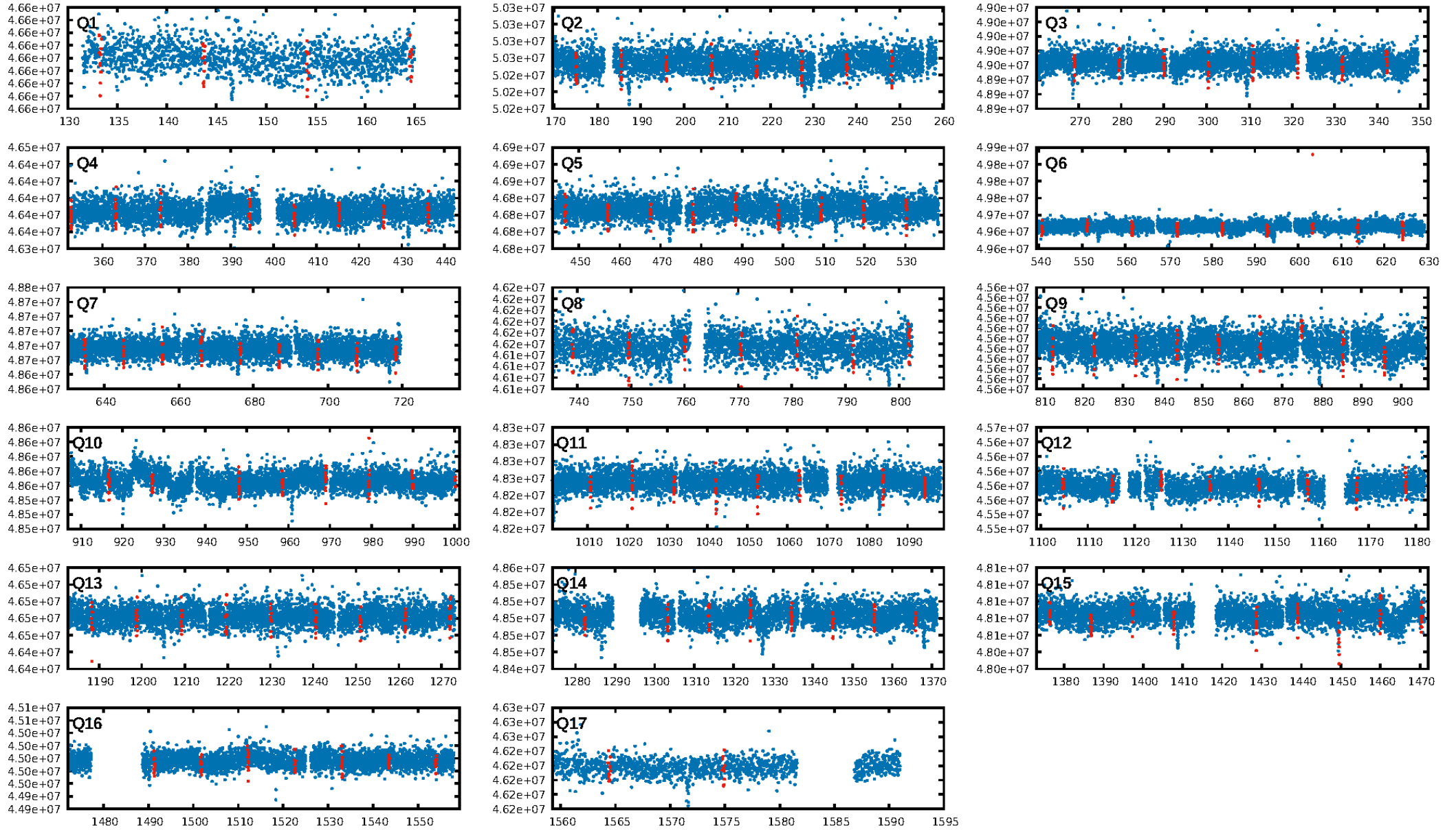
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [76.91σ]
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.11e-169
RollingBand-fgt: 0.99 [120/121]
GhostDiagnostic-chr: 5.641
Centroid-sig: 1.1%
Centroid-so: 1.117 arcsec [2.47σ]
OotOffset-rm: 0.048 arcsec [0.18σ]
KicOffset-rm: 0.103 arcsec [0.40σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

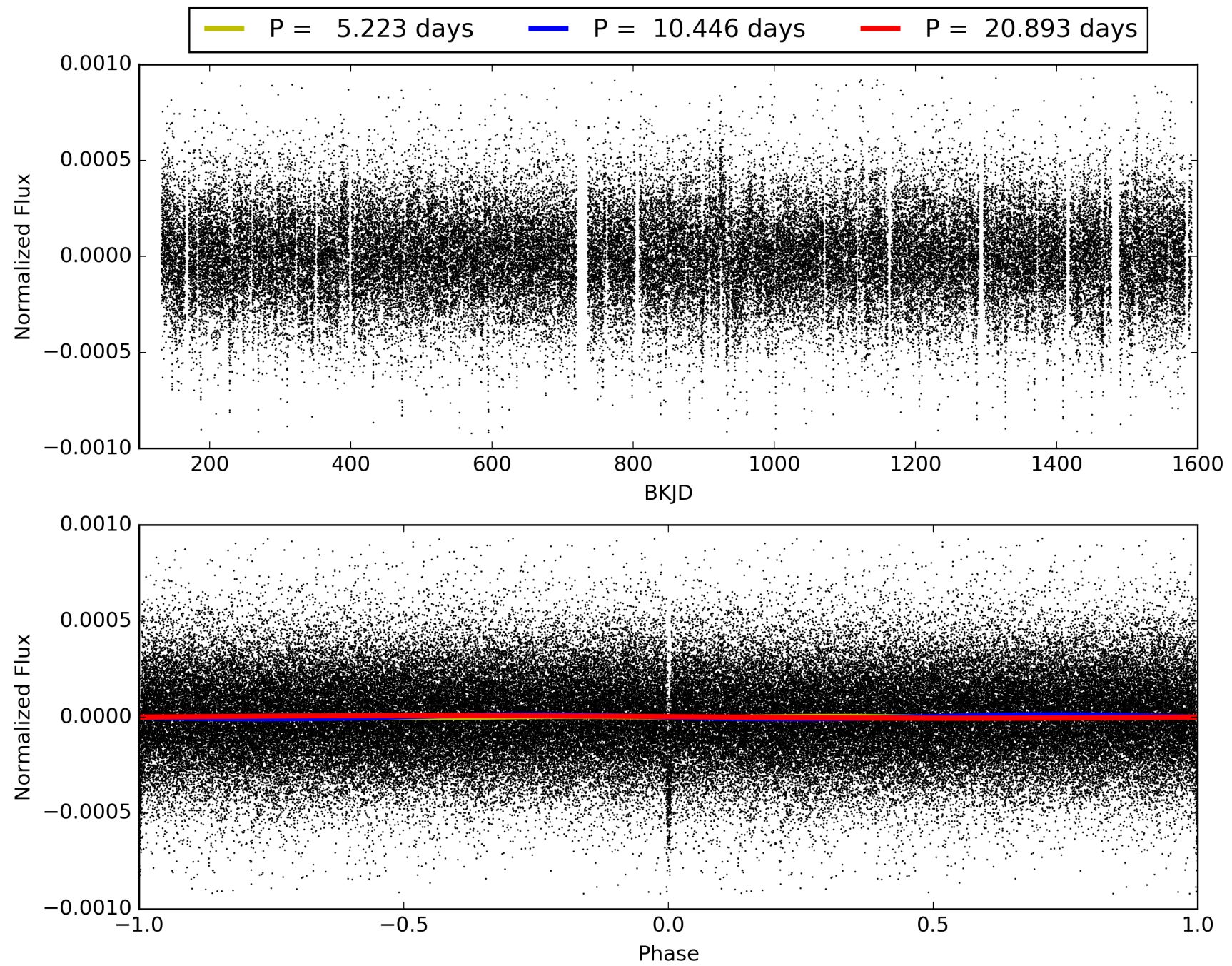
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 02:17:52 Z

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

TCE 011037335-02, PDC Light Curves

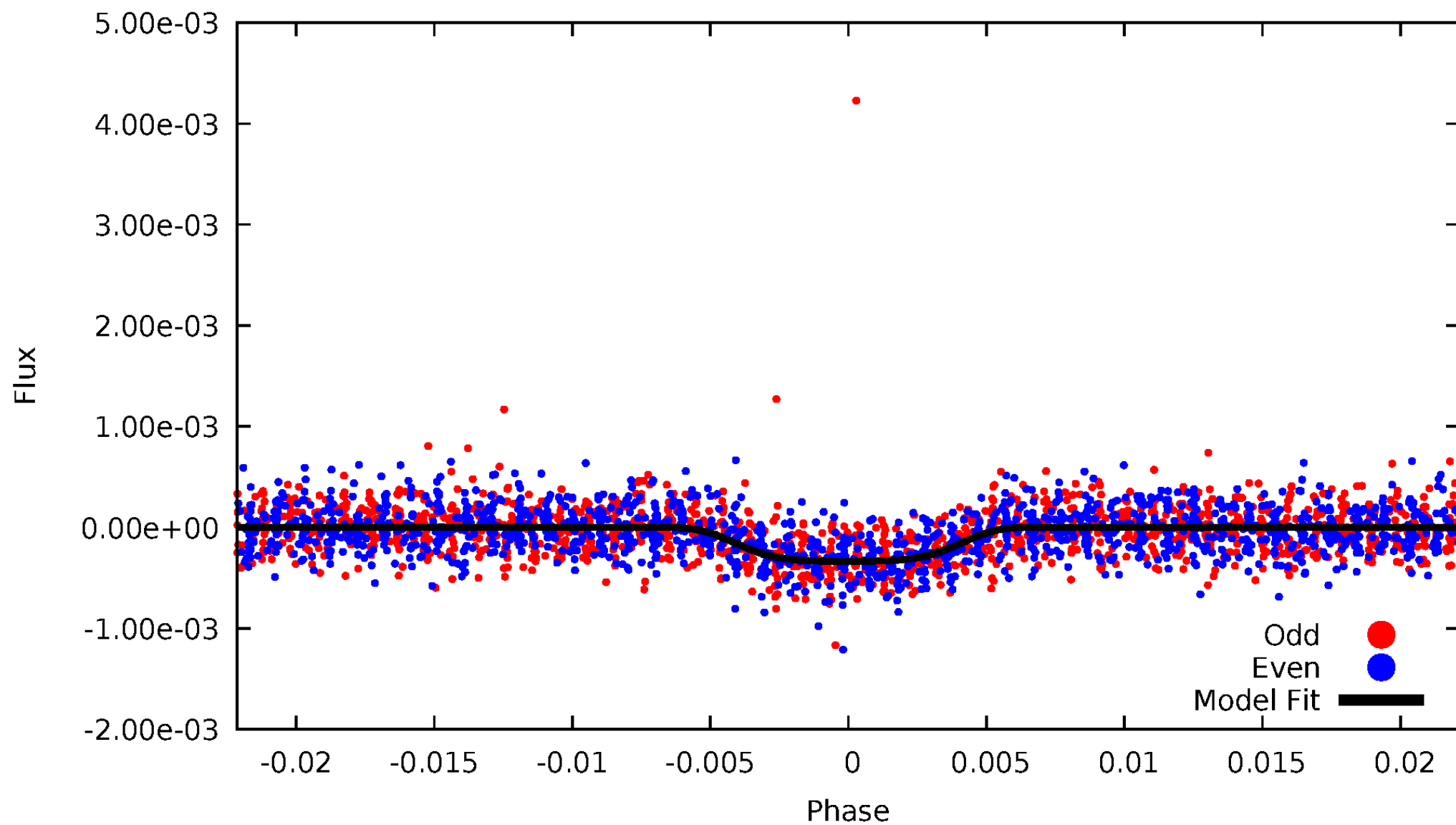


TCE 011037335-02



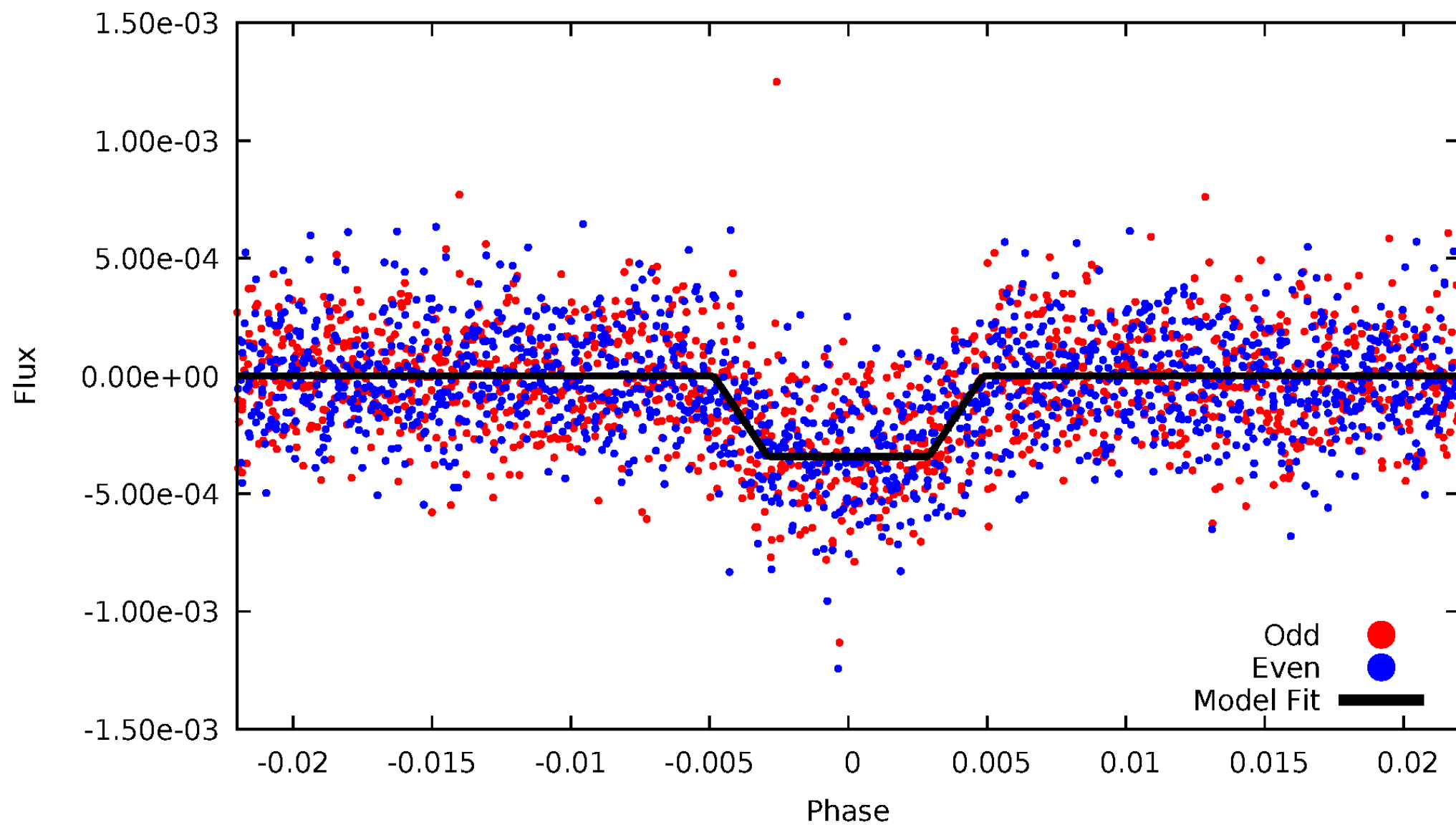
DV Odd/Even

TCE 011037335-02



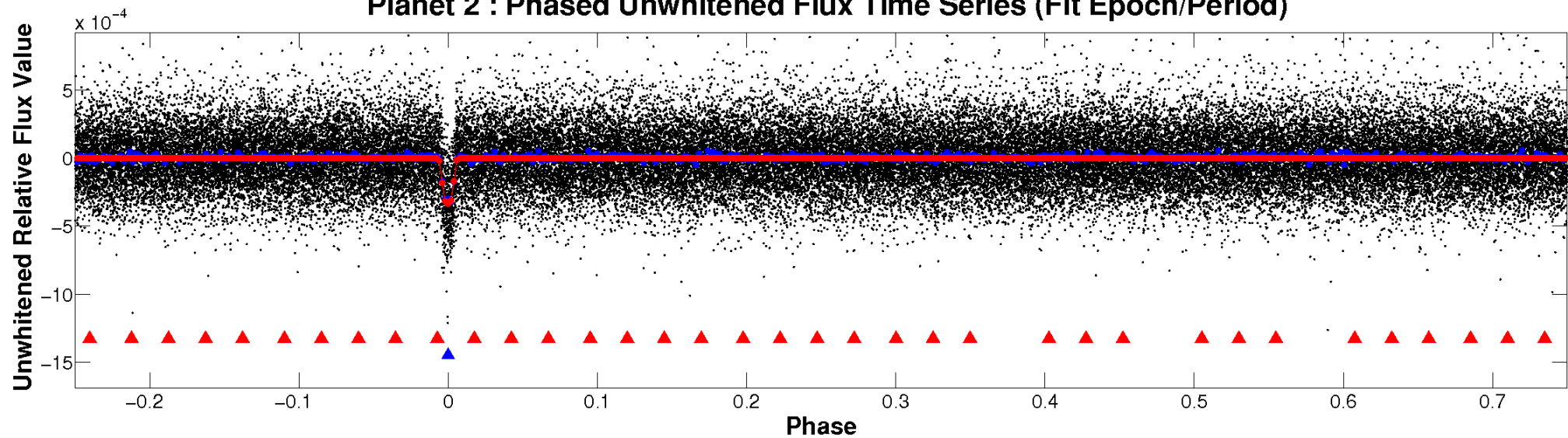
ALT Odd/Even

TCE 011037335-02

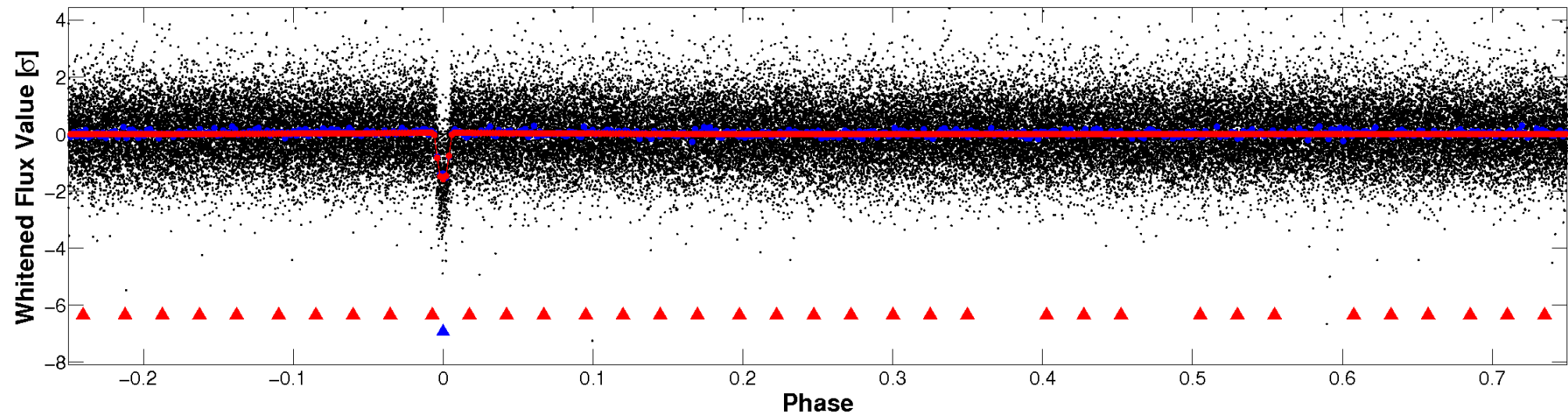


Non-Whitened Vs. Whitened Light Curve

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

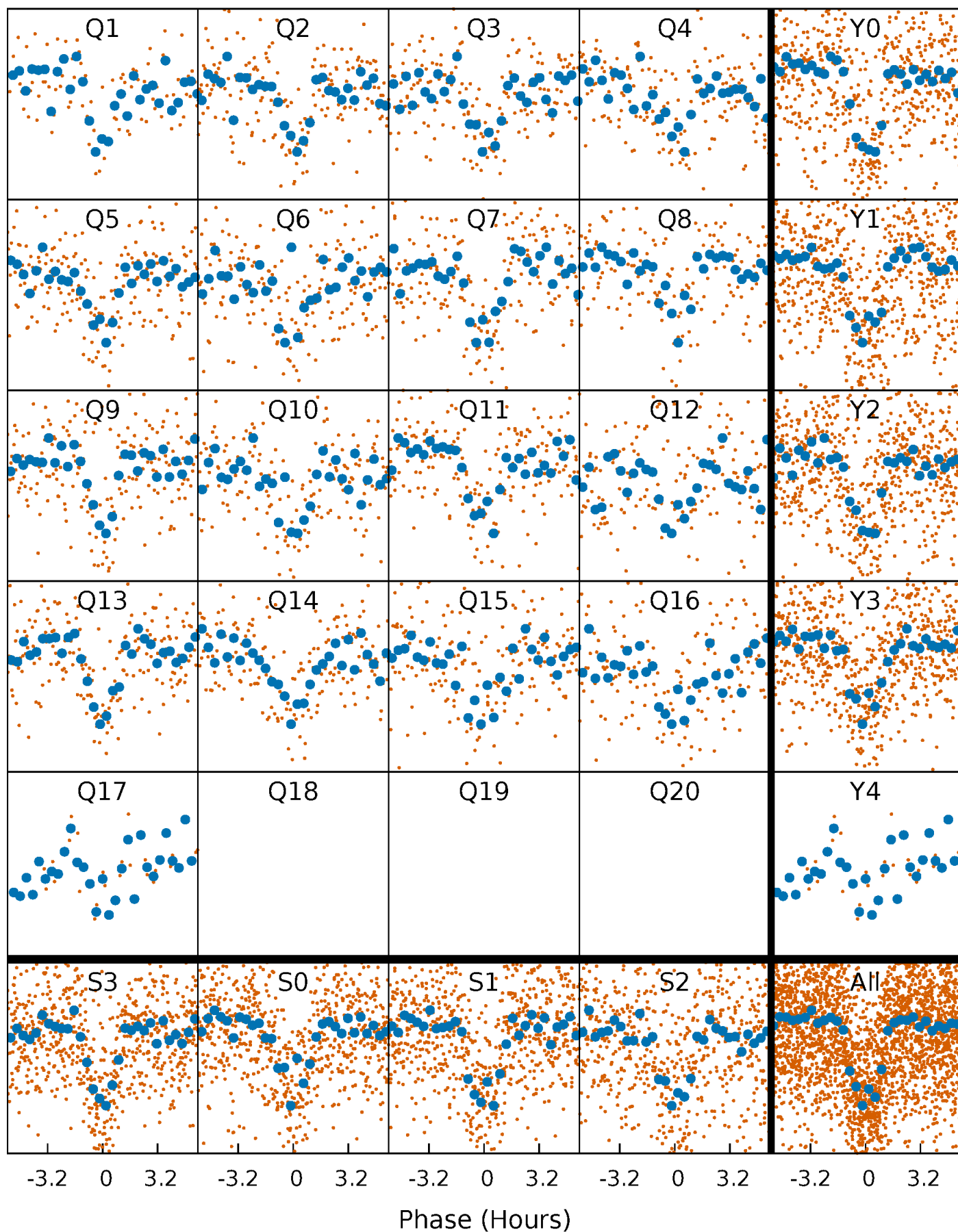


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



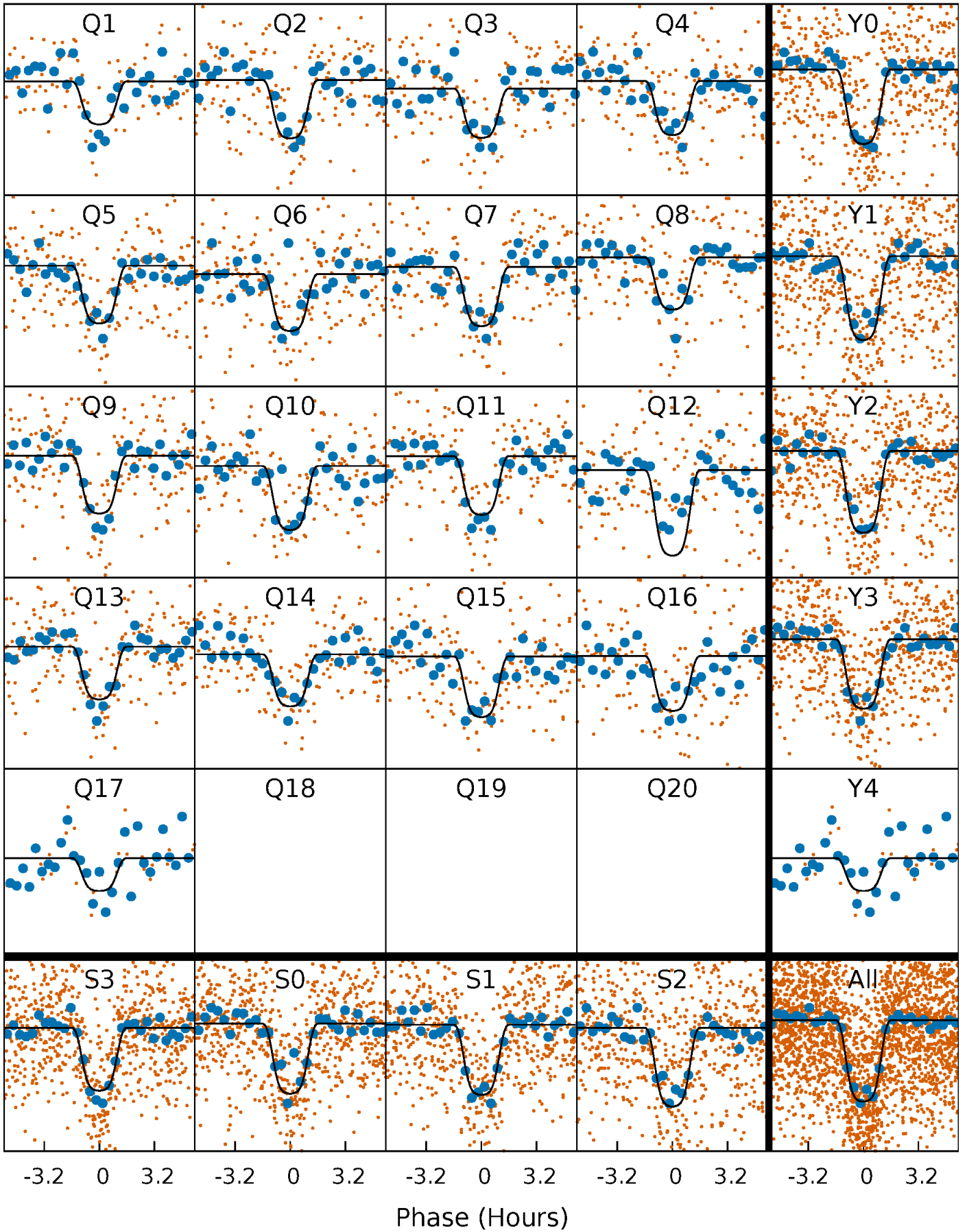
PDC Quarter-Phased Transit Curves

TCE 011037335-02 P= 10.446380 Days $T_0=133.276593$ (BKJD)



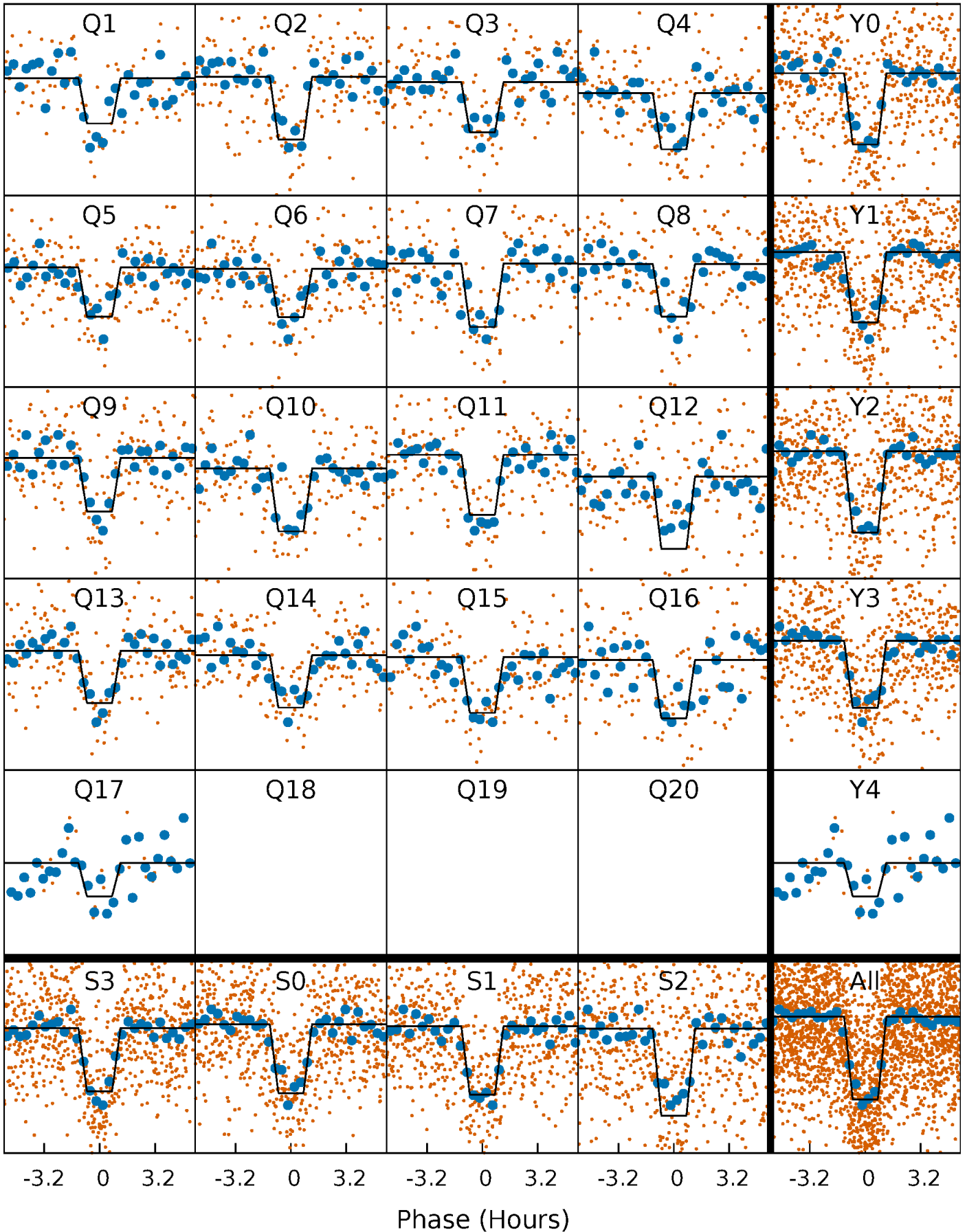
DV Quarter-Phased Transit Curves

TCE 011037335-02 P= 10.446380 Days $T_0=133.276593$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

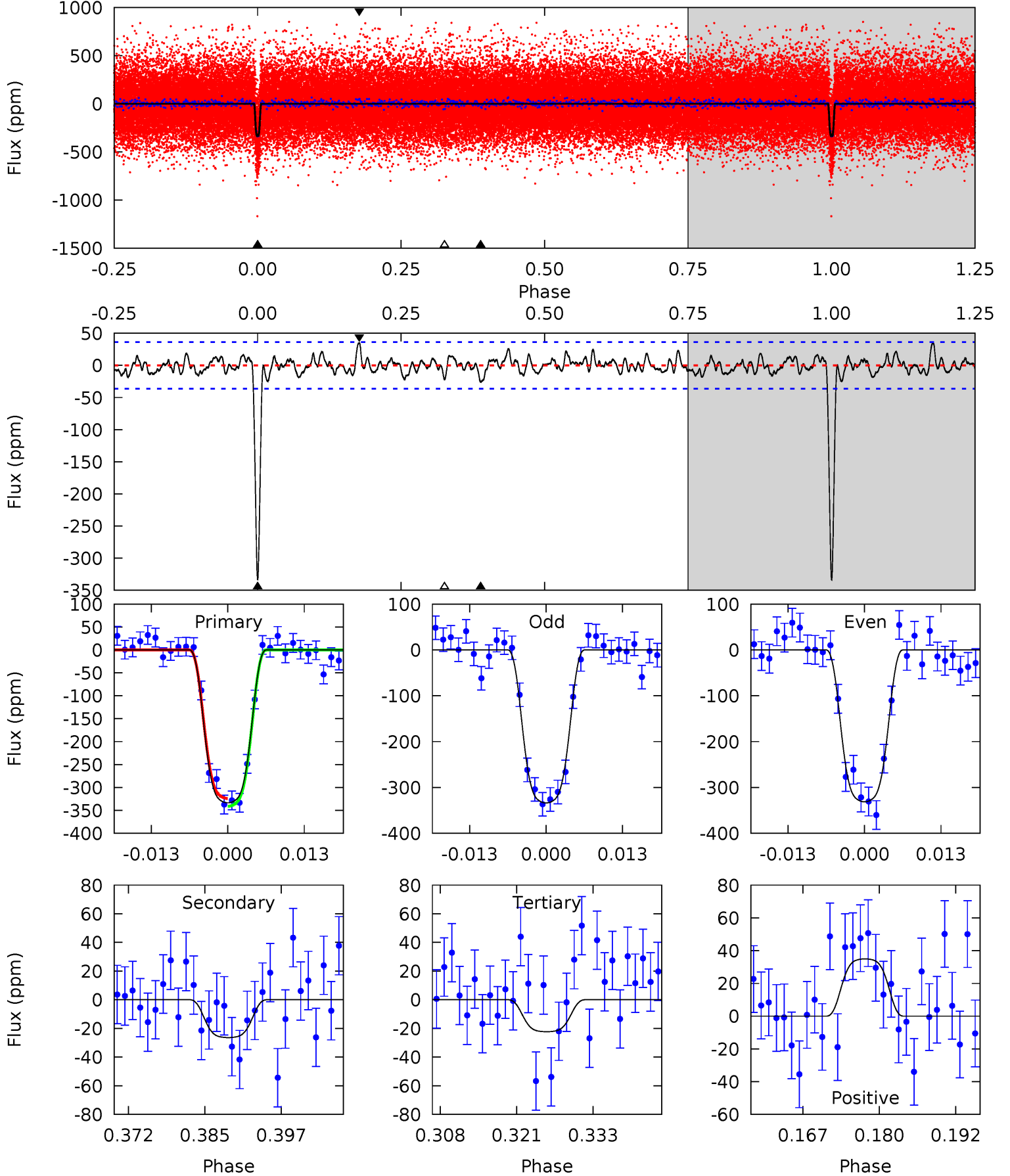
TCE 011037335-02 P= 10.446318 Days $T_0=133.281338$ (BKJD)



DV Model-Shift Uniqueness Test

011037335-02, $P = 10.446380$ Days, $E = 122.830213$ Days

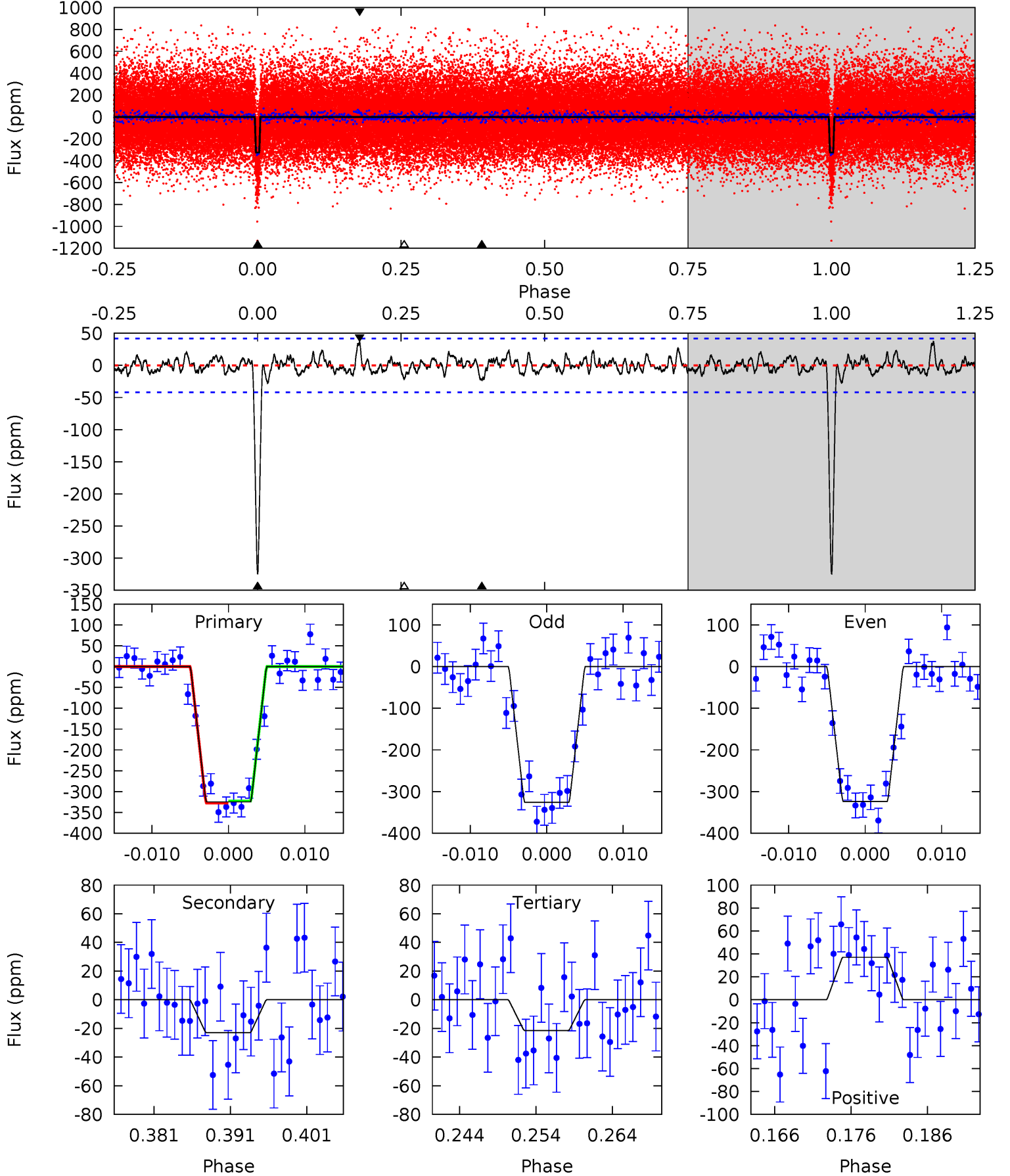
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
45.7	3.62	3.06	4.79	4.98	2.49	1.29	42.7	40.9	0.56	-1.18	0.17	0.98	0.09	1.17



Alt Model-Shift Uniqueness Test

011037335-02, P = 10.446318 Days, E = 122.835020 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.0	2.74	2.57	4.44	5.03	2.58	1.09	36.4	34.5	0.17	-1.70	0.13	0.97	0.10	0.31



Stellar Parameters For KIC 011037335

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5968^{+161}_{-179}	$4.534^{+0.036}_{-0.204}$	$-0.260^{+0.300}_{-0.300}$	$0.881^{+0.260}_{-0.081}$	$0.970^{+0.118}_{-0.118}$	$1.995^{+0.377}_{-0.993}$
	+3%/-3%	+1%/-4%	+115%/-115%	+30%/-9%	+12%/-12%	+19%/-50%
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 011037335-02 / KOI 1435.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-26 ± 7	$2.19^{+0.36}_{-0.19}$	1165^{+80}_{-52}	3397^{+165}_{-183}	24^{+10}_{-8}
Alt.	-23 ± 8	$1.87^{+0.29}_{-0.18}$	1166^{+83}_{-53}	3514^{+205}_{-253}	29^{+14}_{-12}

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 $A_{obs} \gg 1.0$

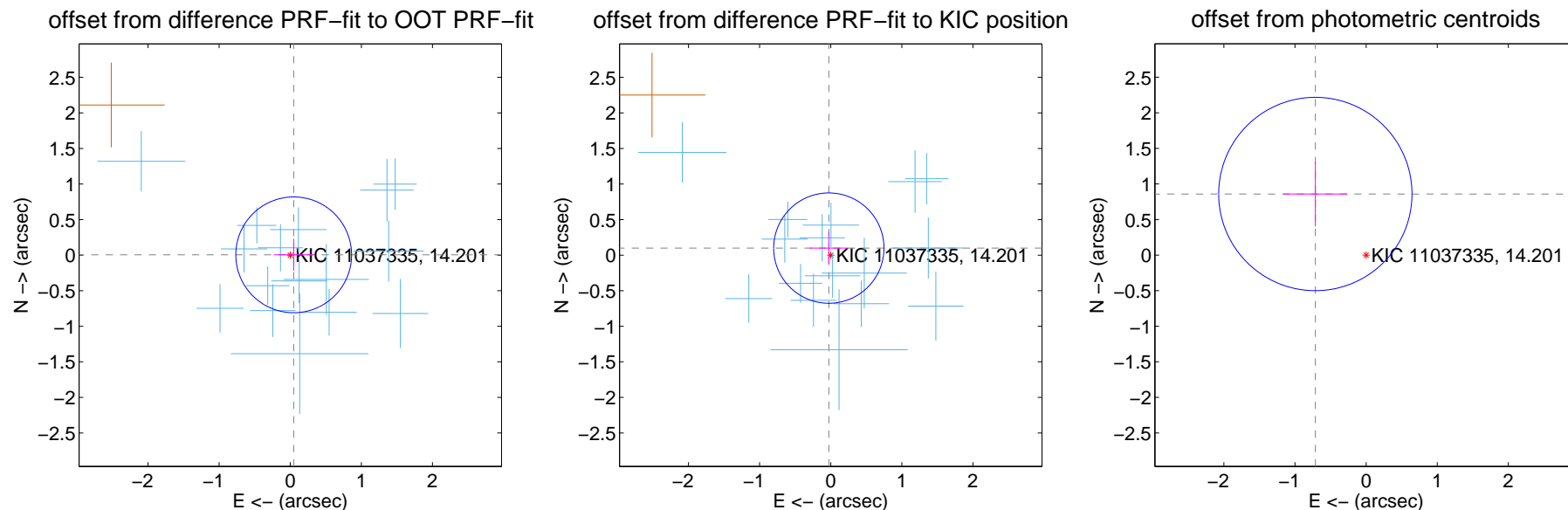
DV Centroid Data

Supplemental centroid analysis for 011037335-02. Kepler magnitude: 14.20. Transit SNR 31.33

There are 16 quarters with good PRF difference image offsets

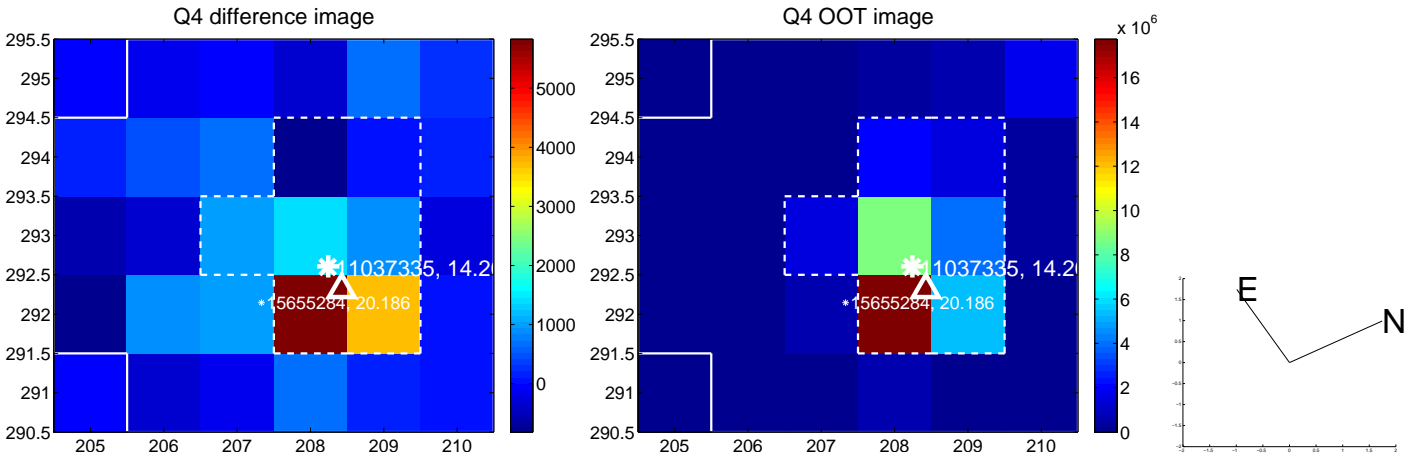
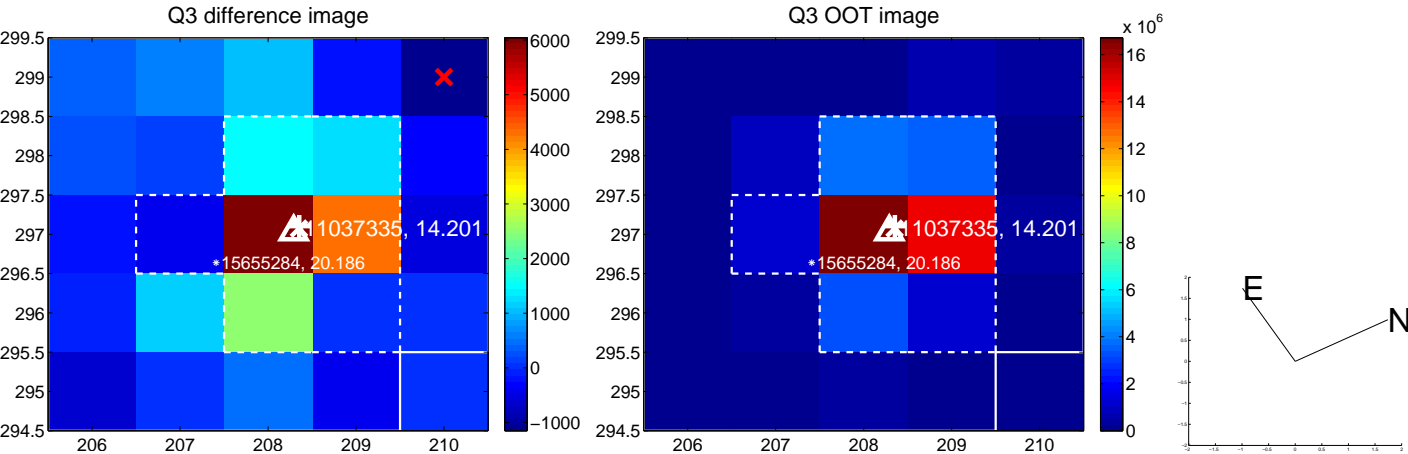
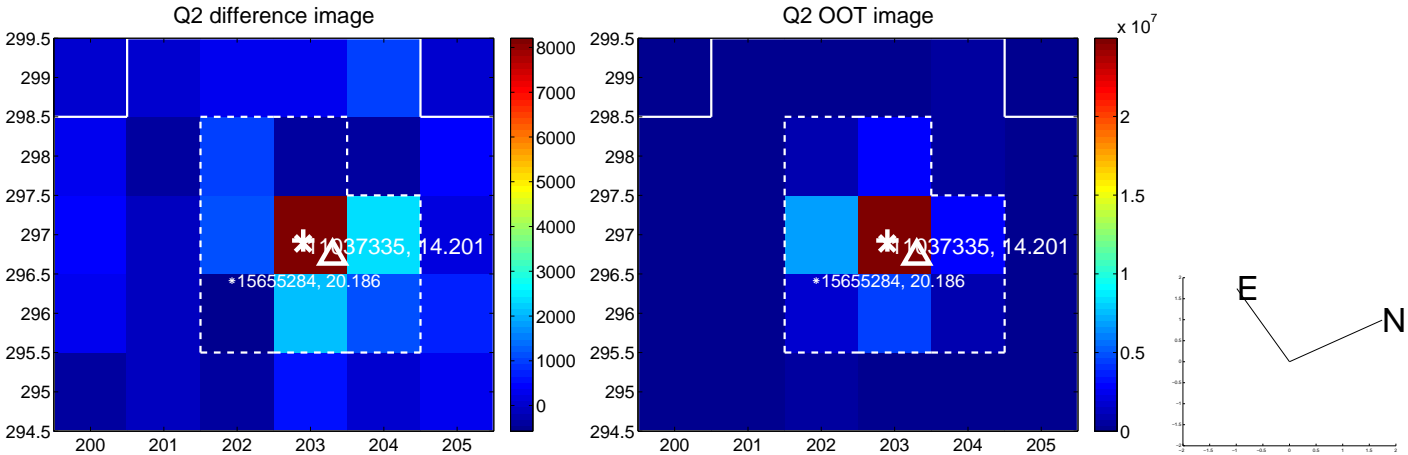
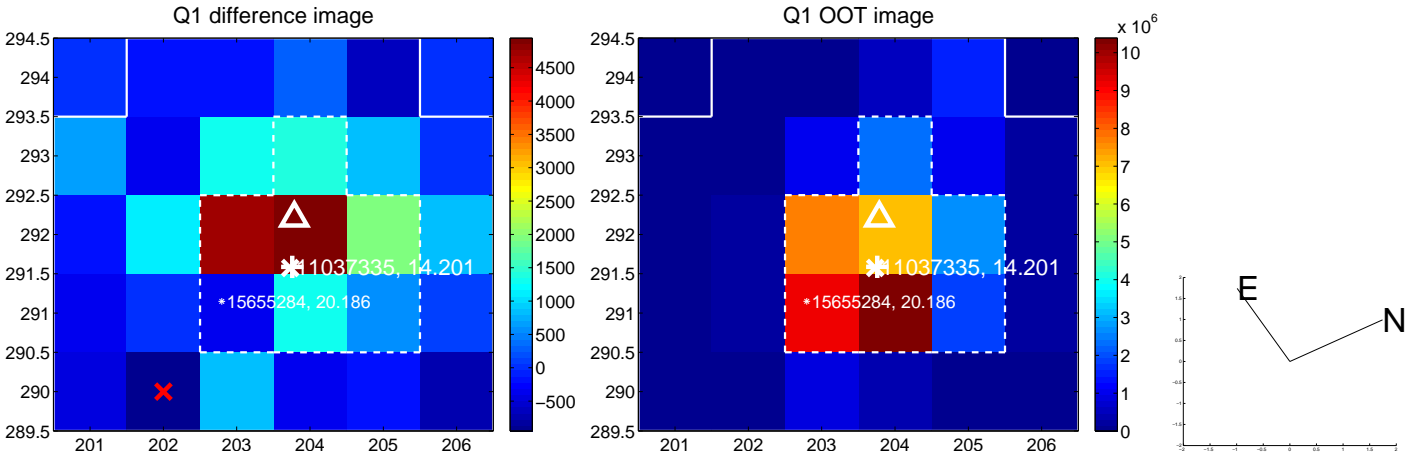
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.048 ± 0.271	0.18	-0.048 ± 0.280	0.004 ± 0.226
PRF-fit source offset from KIC position	0.103 ± 0.259	0.40	0.027 ± 0.269	0.099 ± 0.232
photometric centroid source offset	1.12 ± 0.45	2.47	0.71 ± 0.45	0.86 ± 0.46

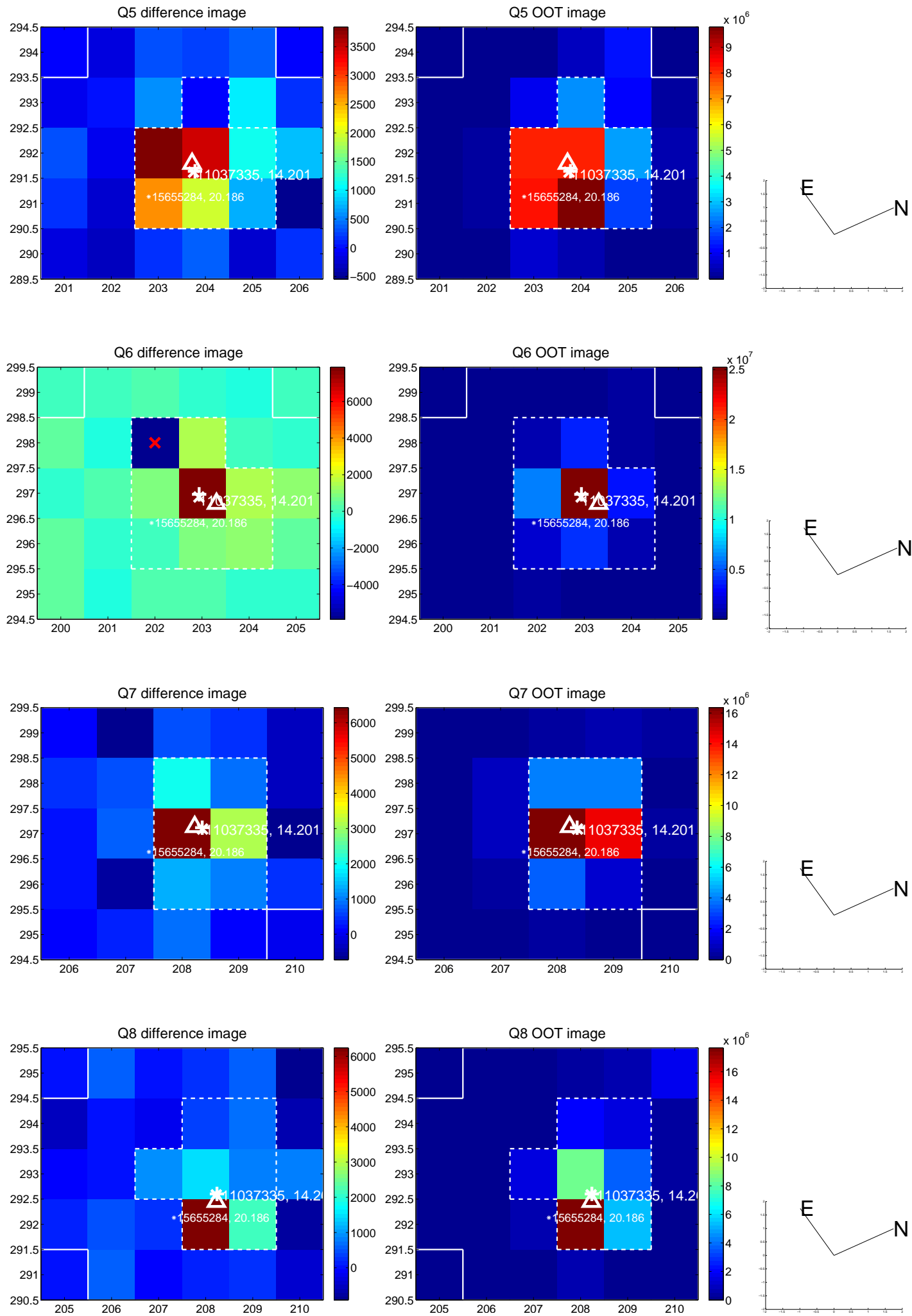


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

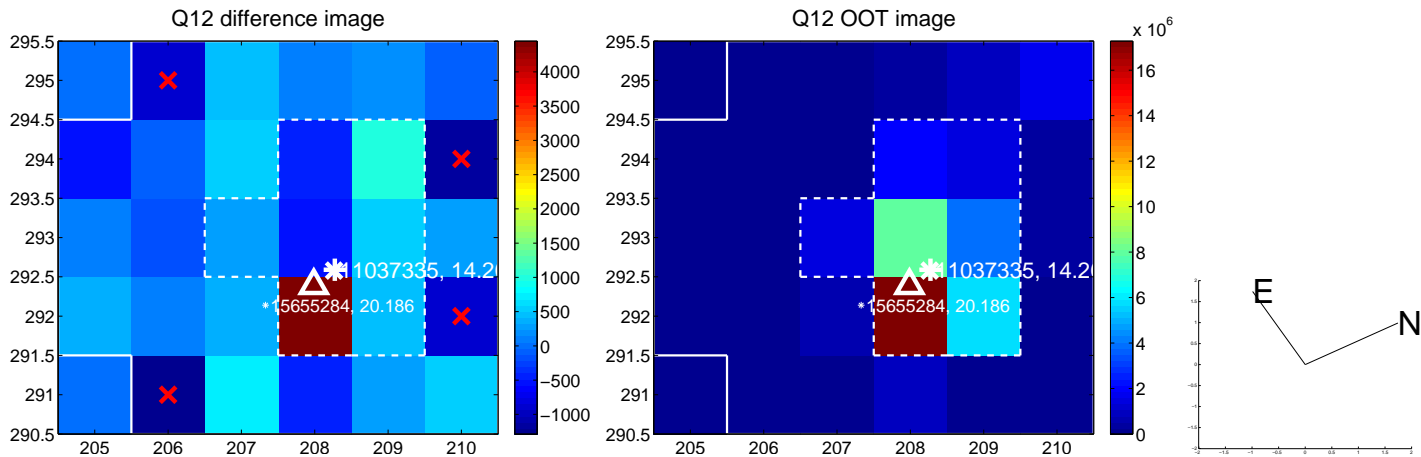
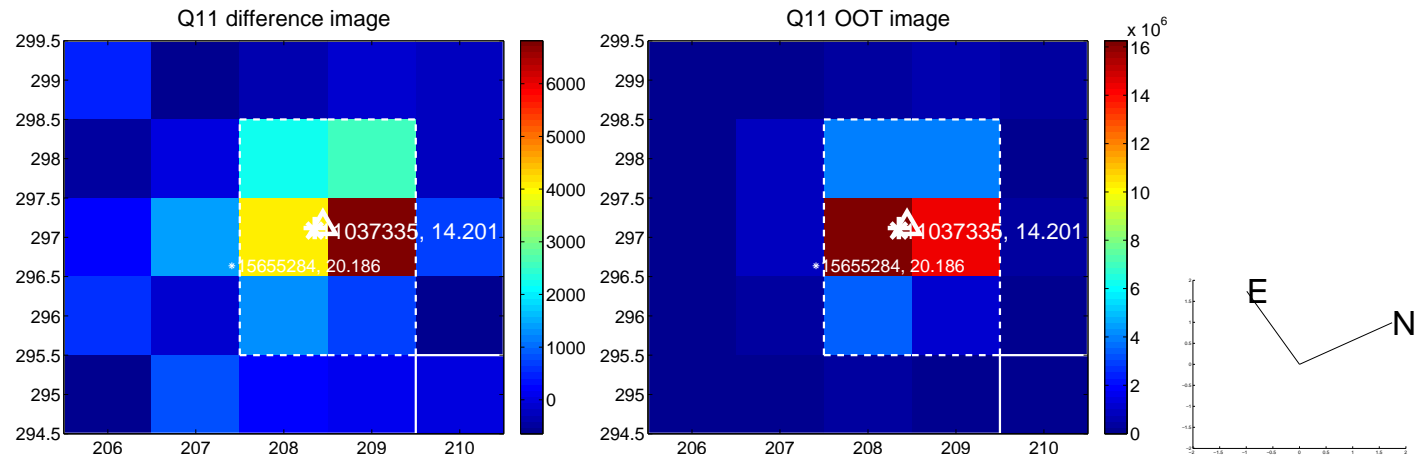
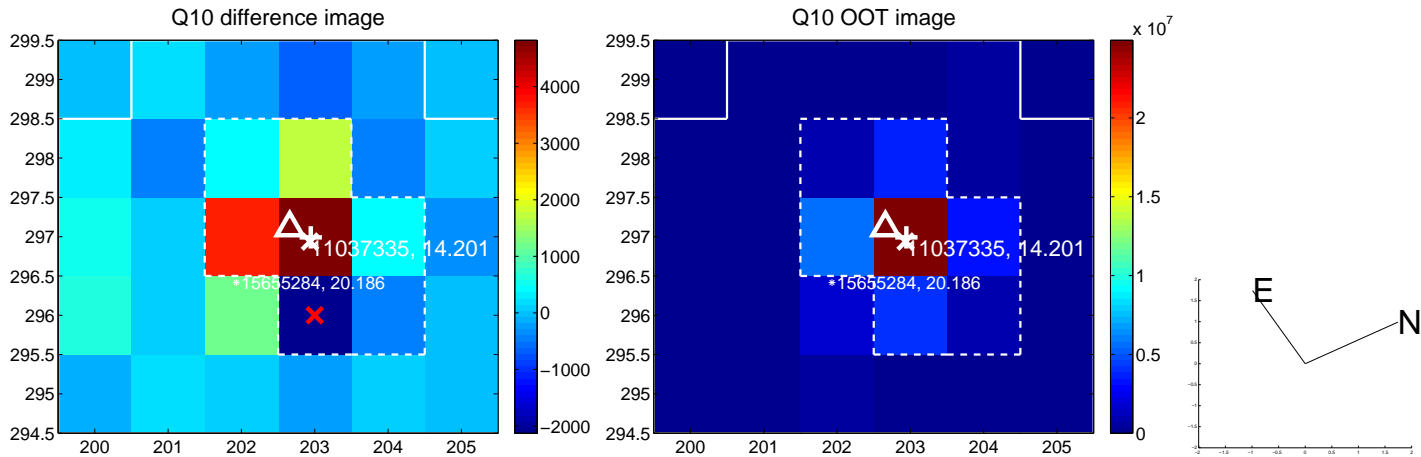
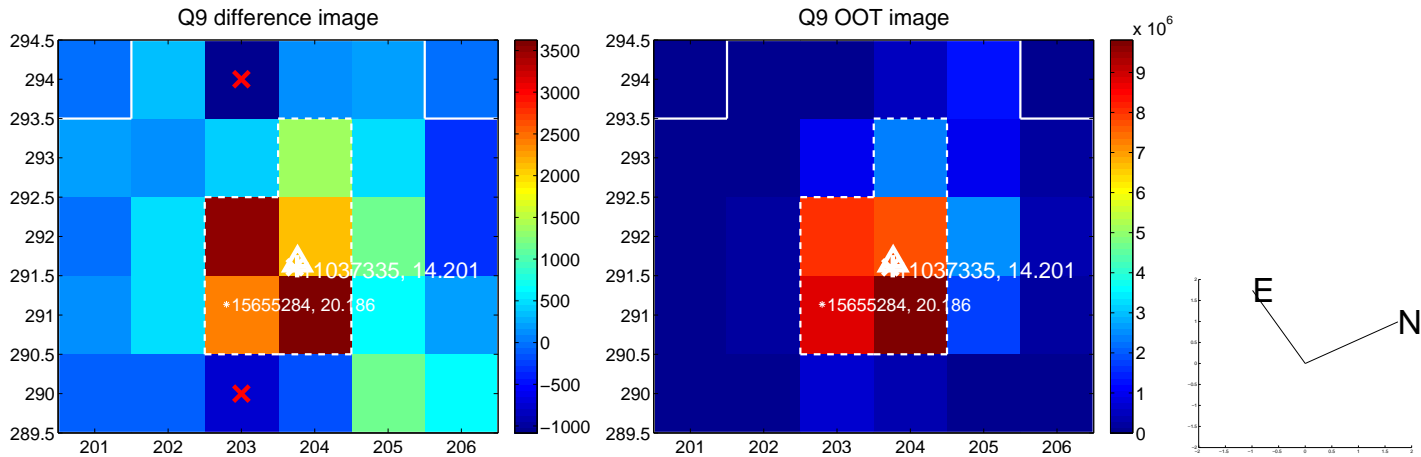
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



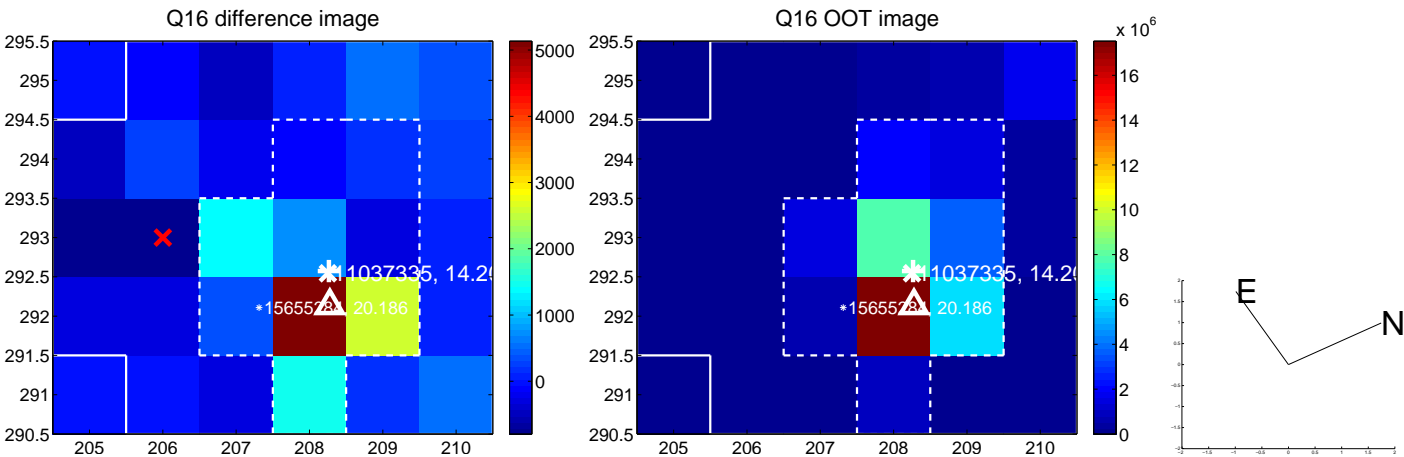
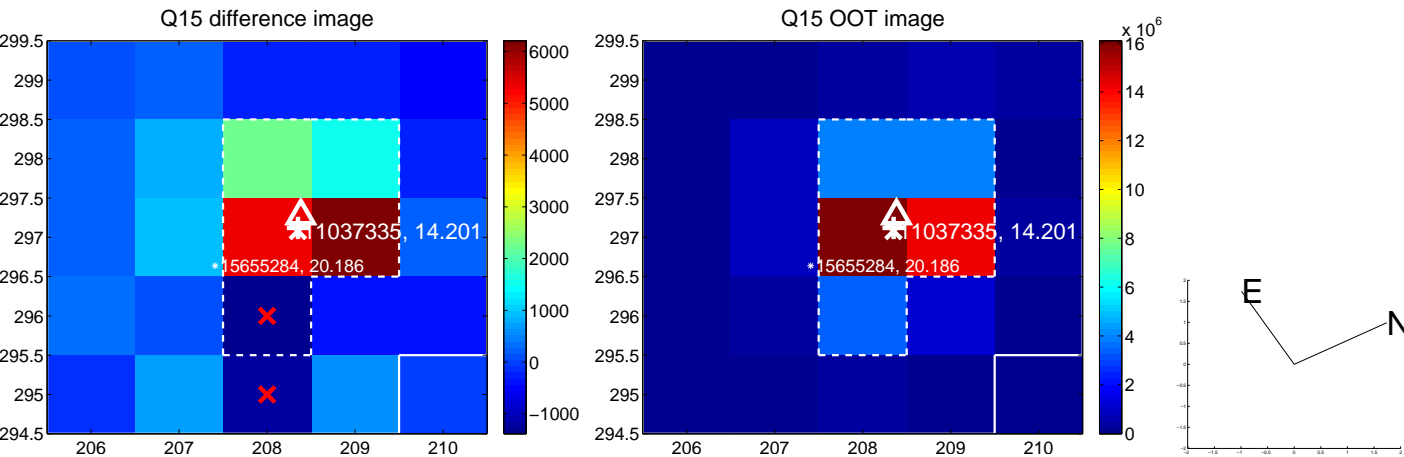
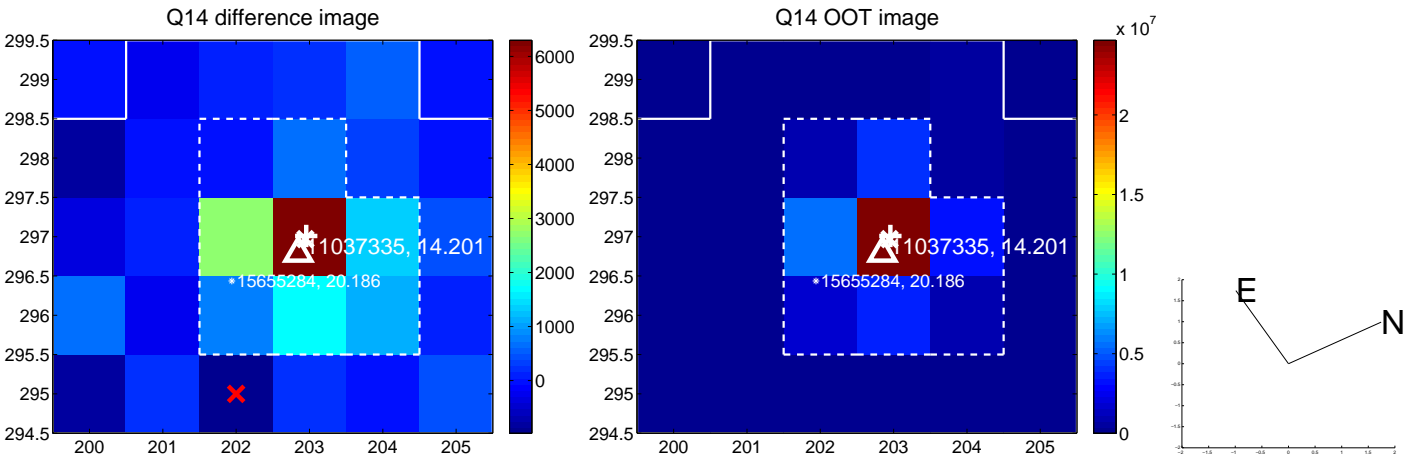
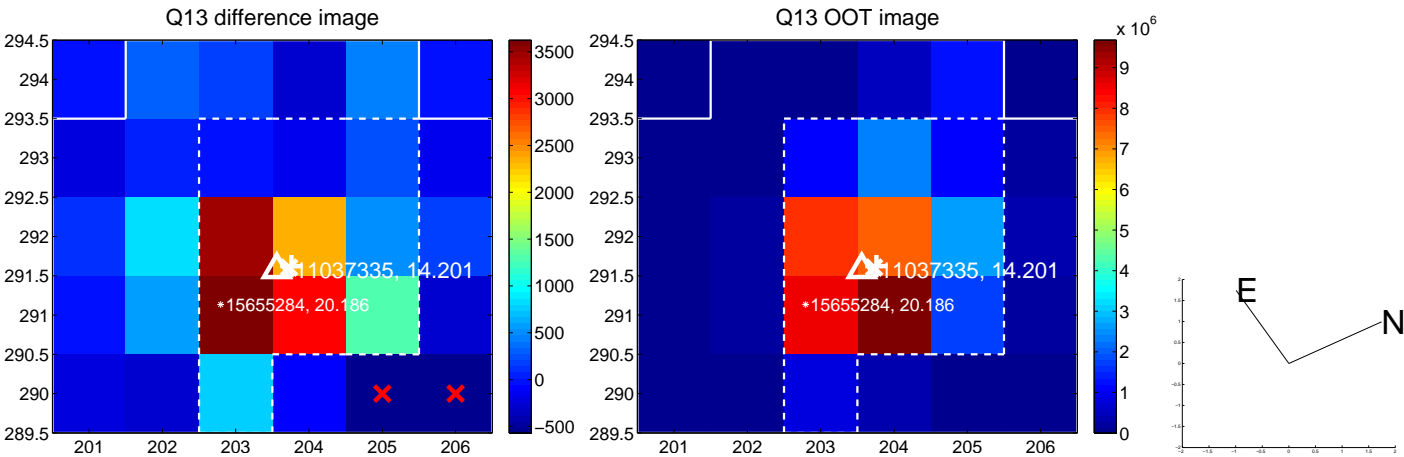
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



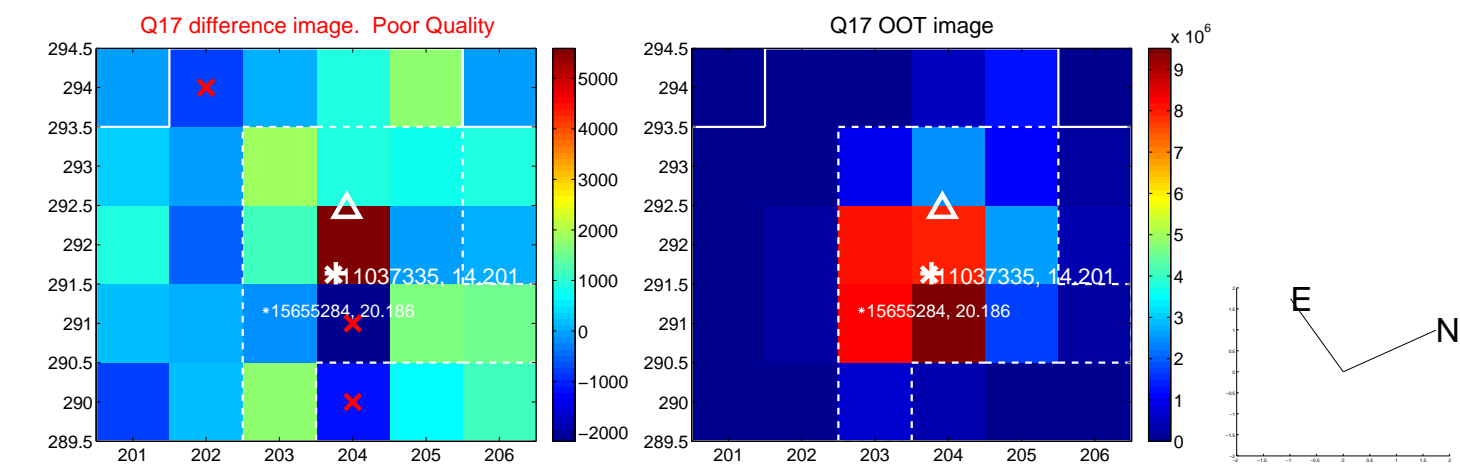
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



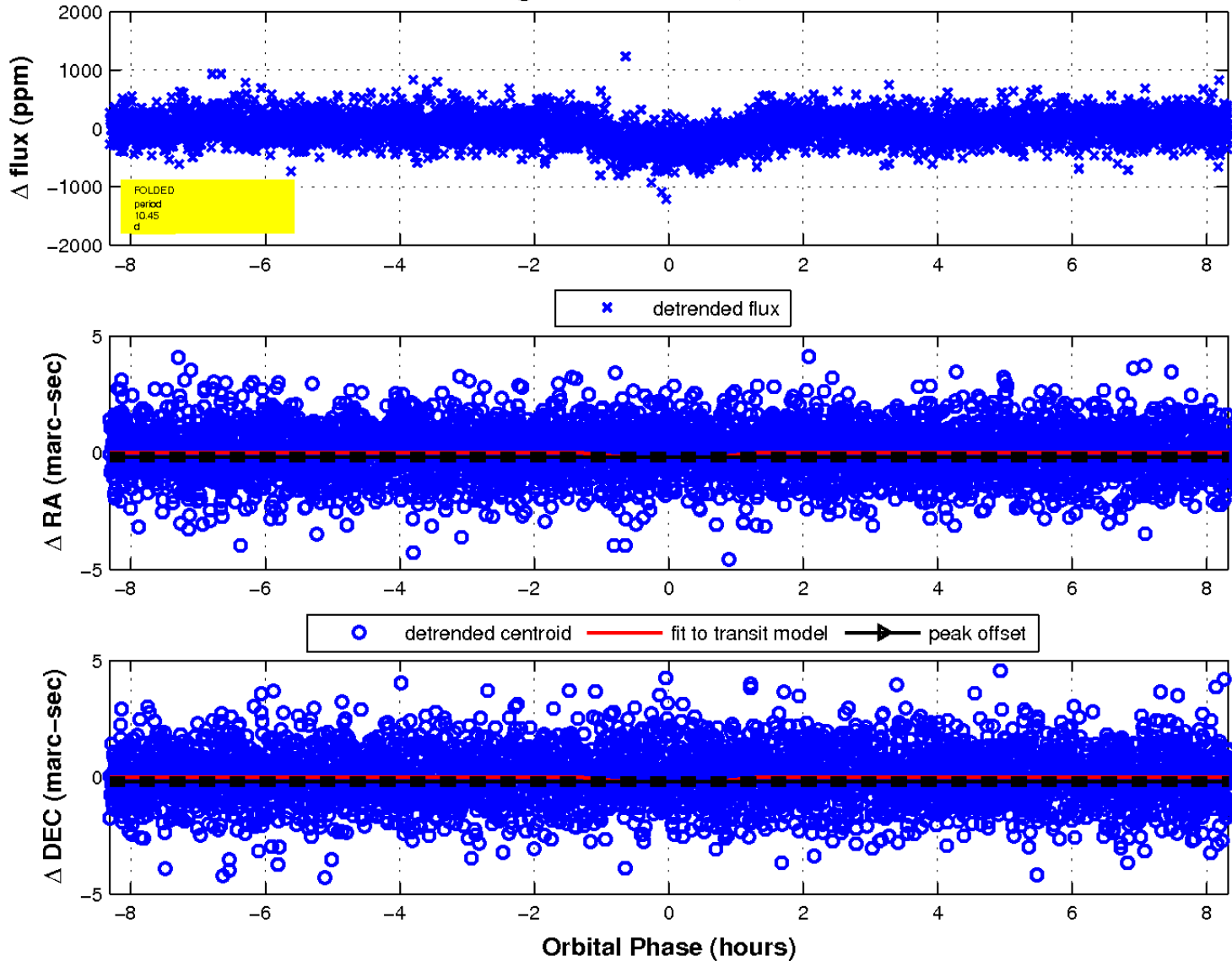
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

