

KIC 004035675

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})
004035675-01	OBS	6107.01	2.873663	132.583249	43443.4	2.028	3742.9	2479.2	2.29	5692	69.84	2655.93
004035675-02	OBS	No	2.873672	134.018303	4574.8	1.870	435.7	389.0	2.29	5692	19.44	2655.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004035675-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_KIC_POS
004035675-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS

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.

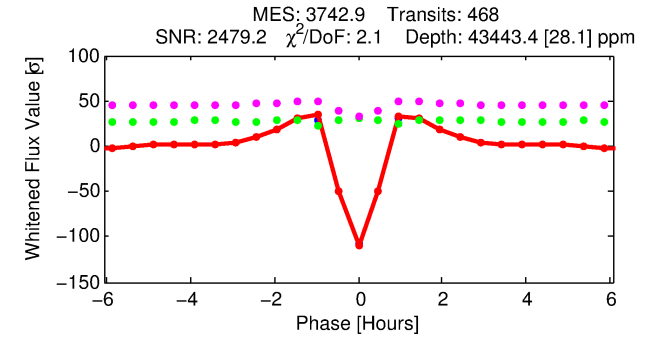
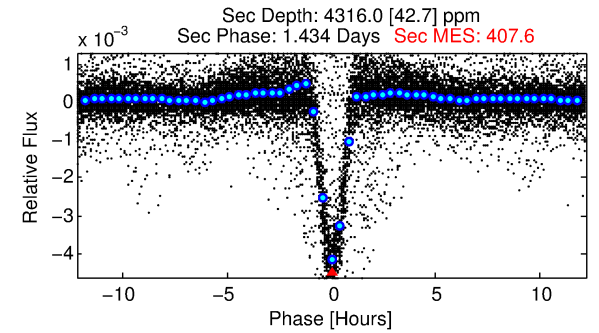
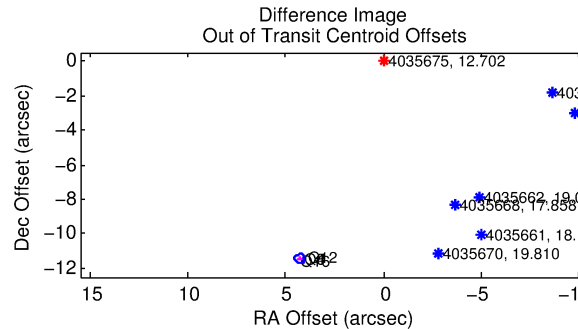
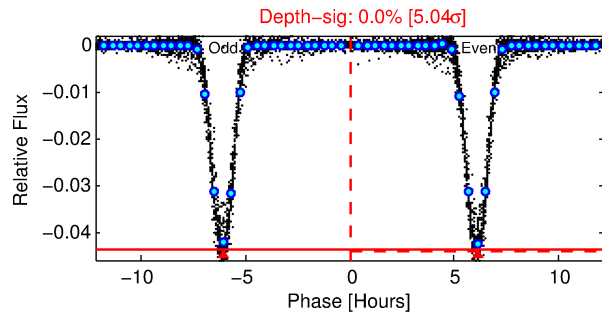
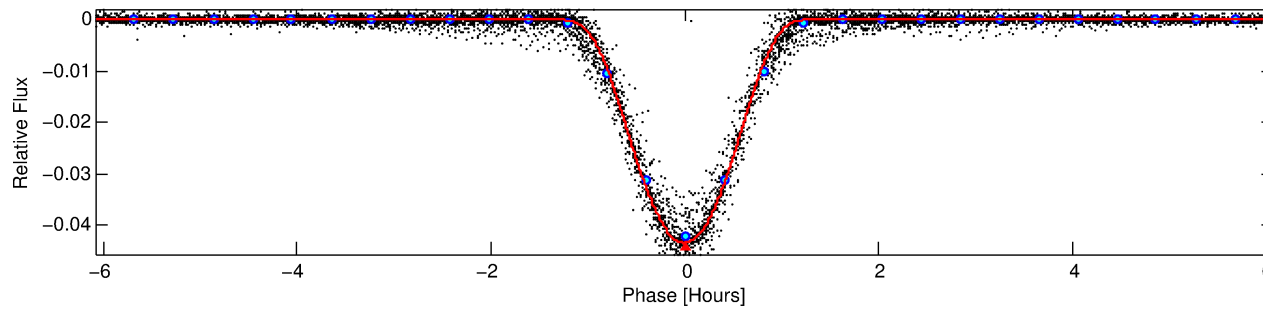
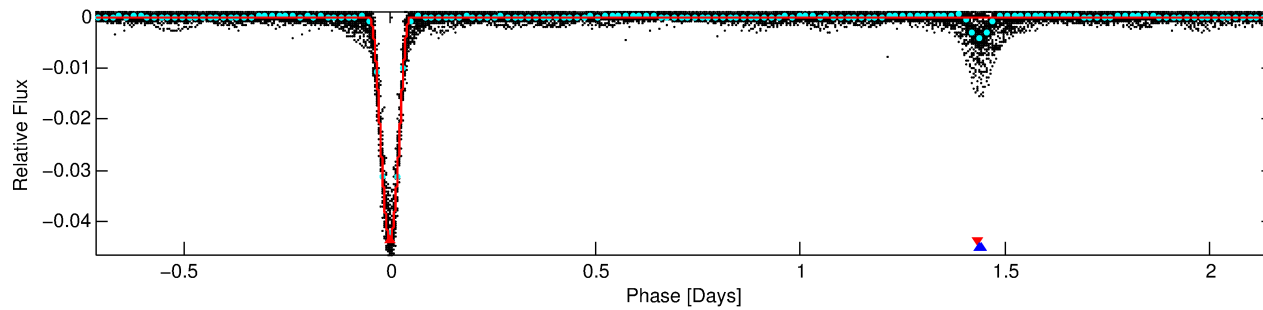
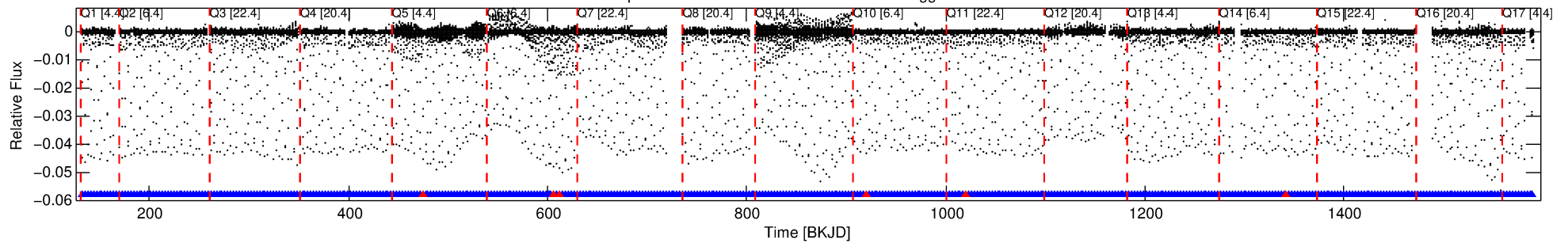
Ephemeris Match Information For 004035675-01

No Significant Match Found

DV One-Page Summary

KIC: 4035675 Candidate: 1 of 2 Period: 2.874 d
KOI: K06107.01 Corr: 0.997

Kp: 12.70 R*: 2.29 Rs Teff: 5692.0 K Logg: 3.83 Fe/H: 0.140



DV Fit Results:

Period = 2.87366 [0.00000] d
Epoch = 132.5832 [0.0000] BKJD
Rp/R* = 0.2799 [0.0052]
a/R* = 9.71 [0.02]
b = 0.92 [0.01]
Seff = 2655.93 [2399.95]
Teq = 1831 [414] K
Rp = 69.84 [37.13] Re
a = 0.0430 [0.0234] AU
Ag = 0.90 [0.81] [-0.12σ]
Teffp = 2758 [86] K [2.20σ]

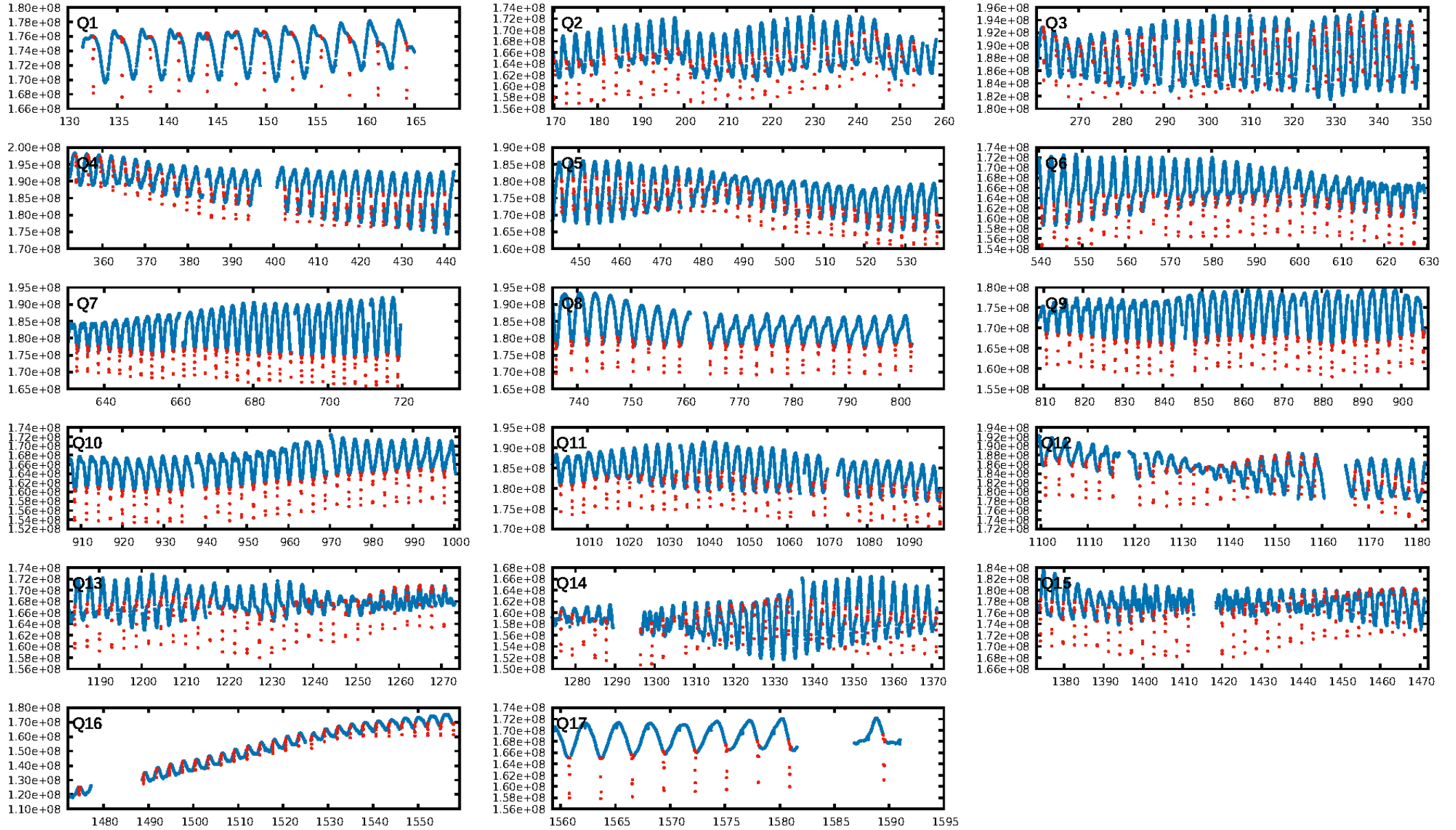
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.99 [441/447]
GhostDiagnostic-chr: 1.475
Centroid-sig: 0.0%
Centroid-so: 1.831 arcsec [227.35σ]
OotOffset-rm: 12.214 arcsec [139.97σ]
KicOffset-rm: 0.100 arcsec [1.24σ]
OotOffset-st: 0/0/4/0 [4]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

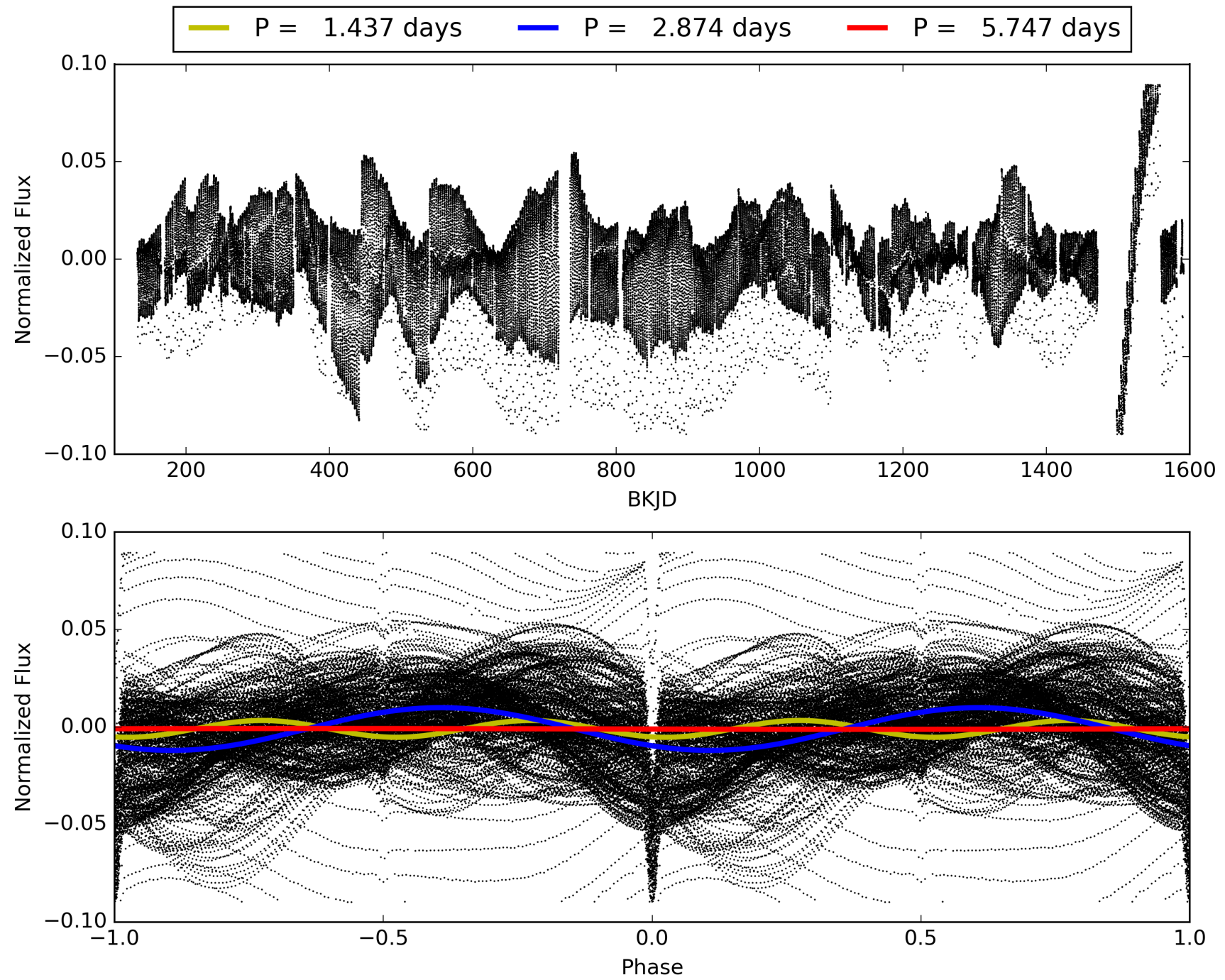
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:43:03 Z

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

TCE 004035675-01, PDC Light Curves

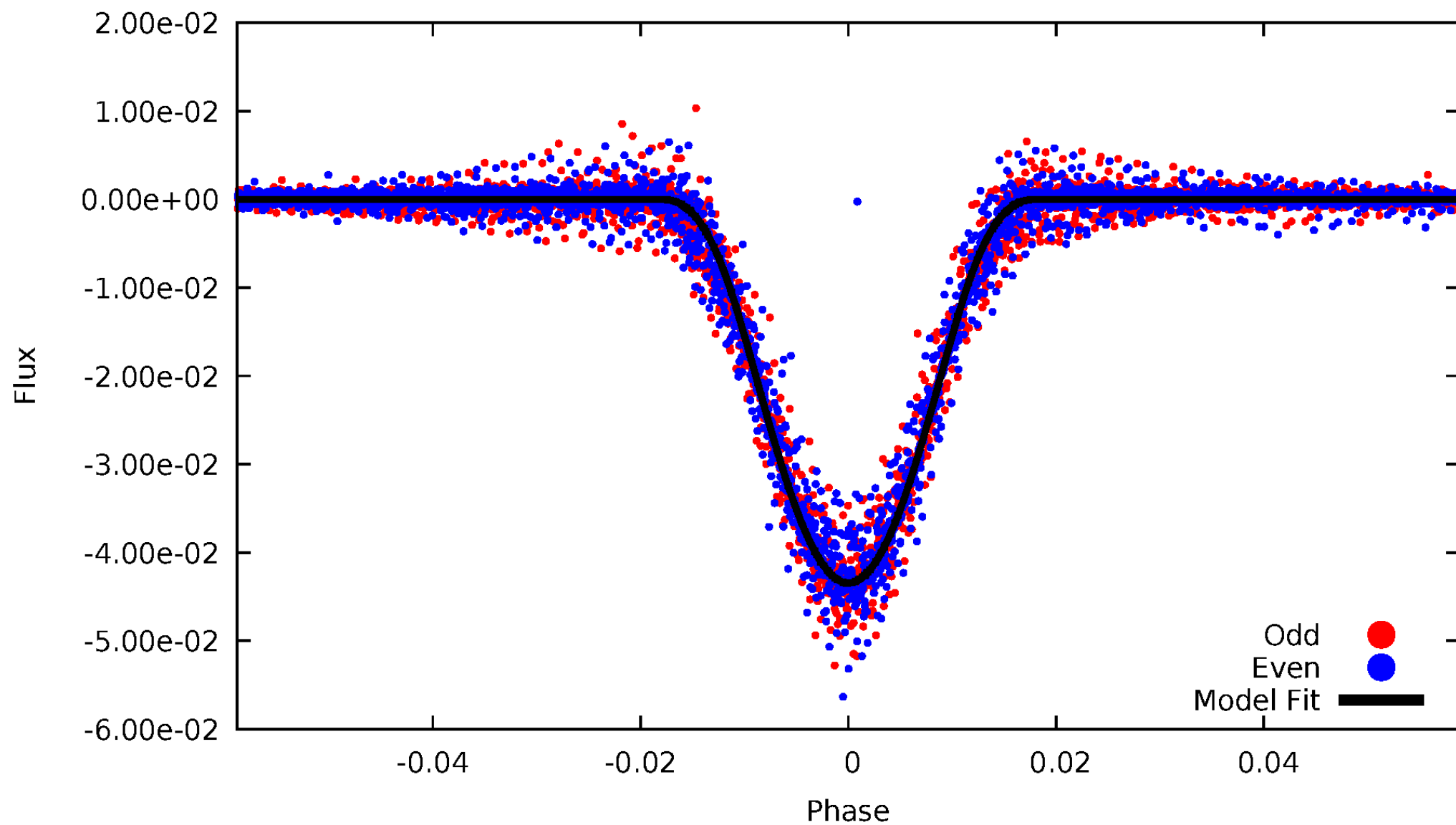


TCE 004035675-01



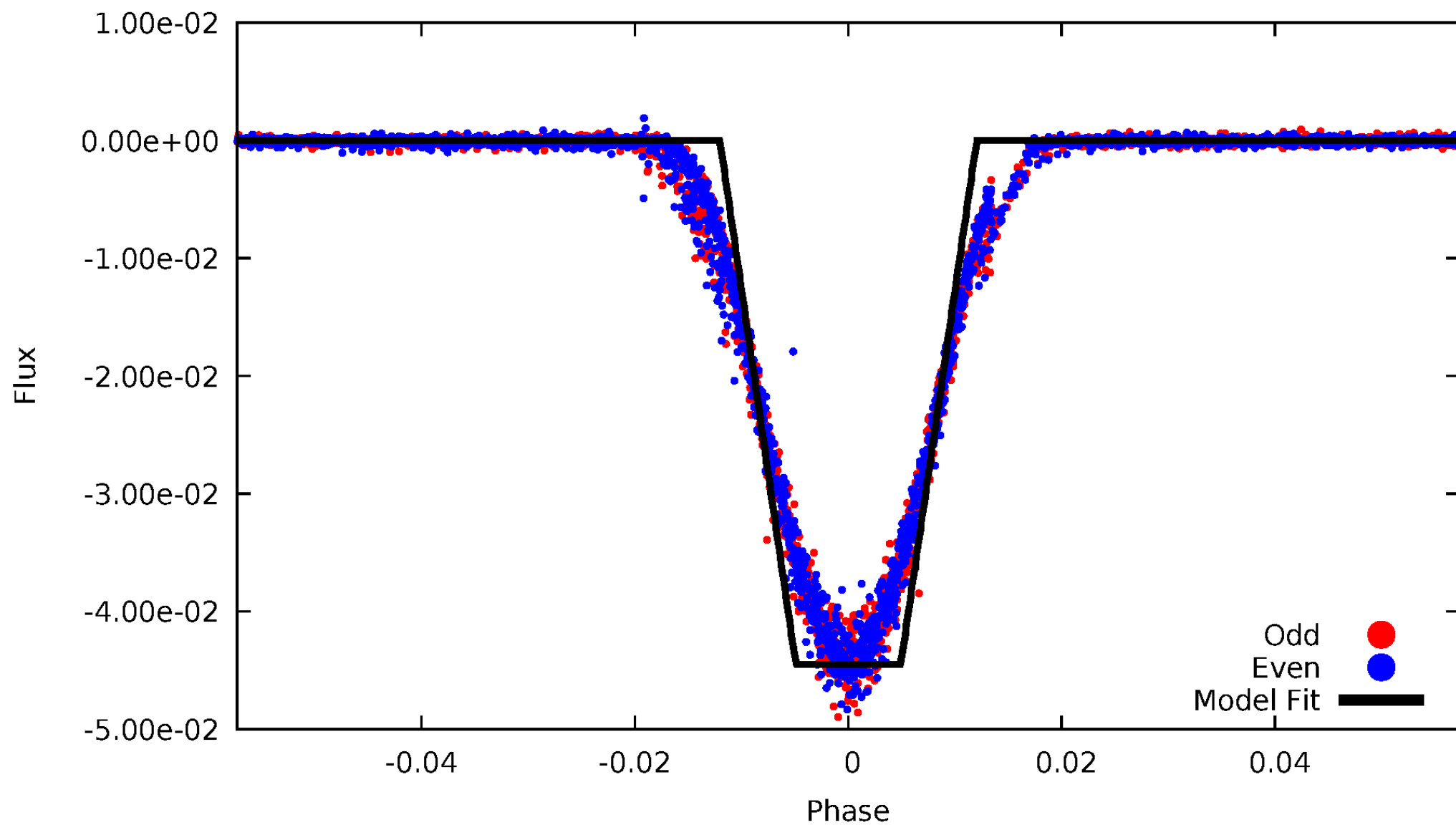
DV Odd/Even

TCE 004035675-01



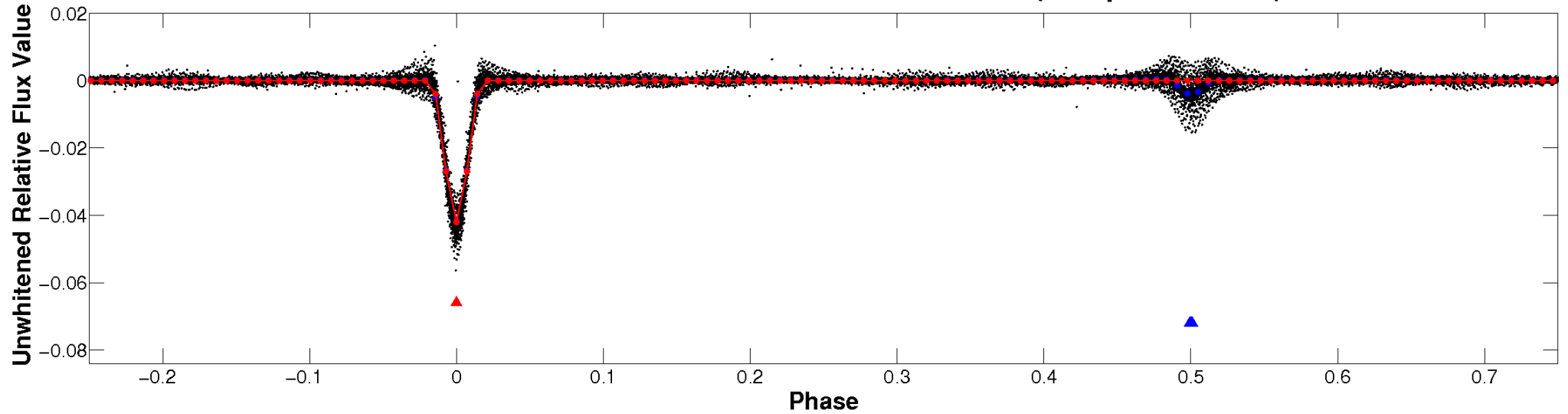
ALT Odd/Even

TCE 004035675-01

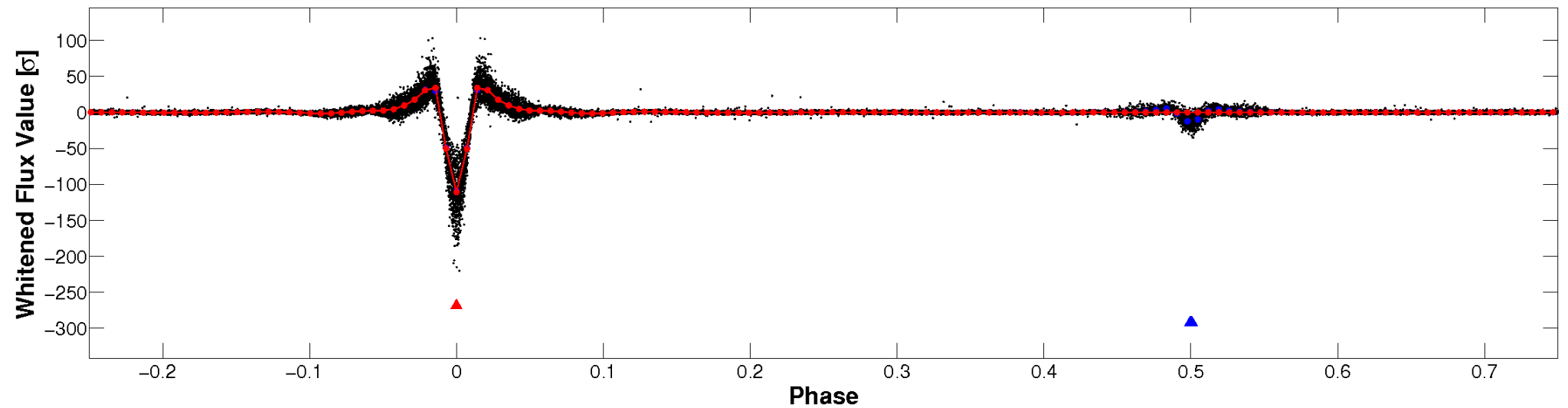


Non-Whitened Vs. Whitened Light Curve

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

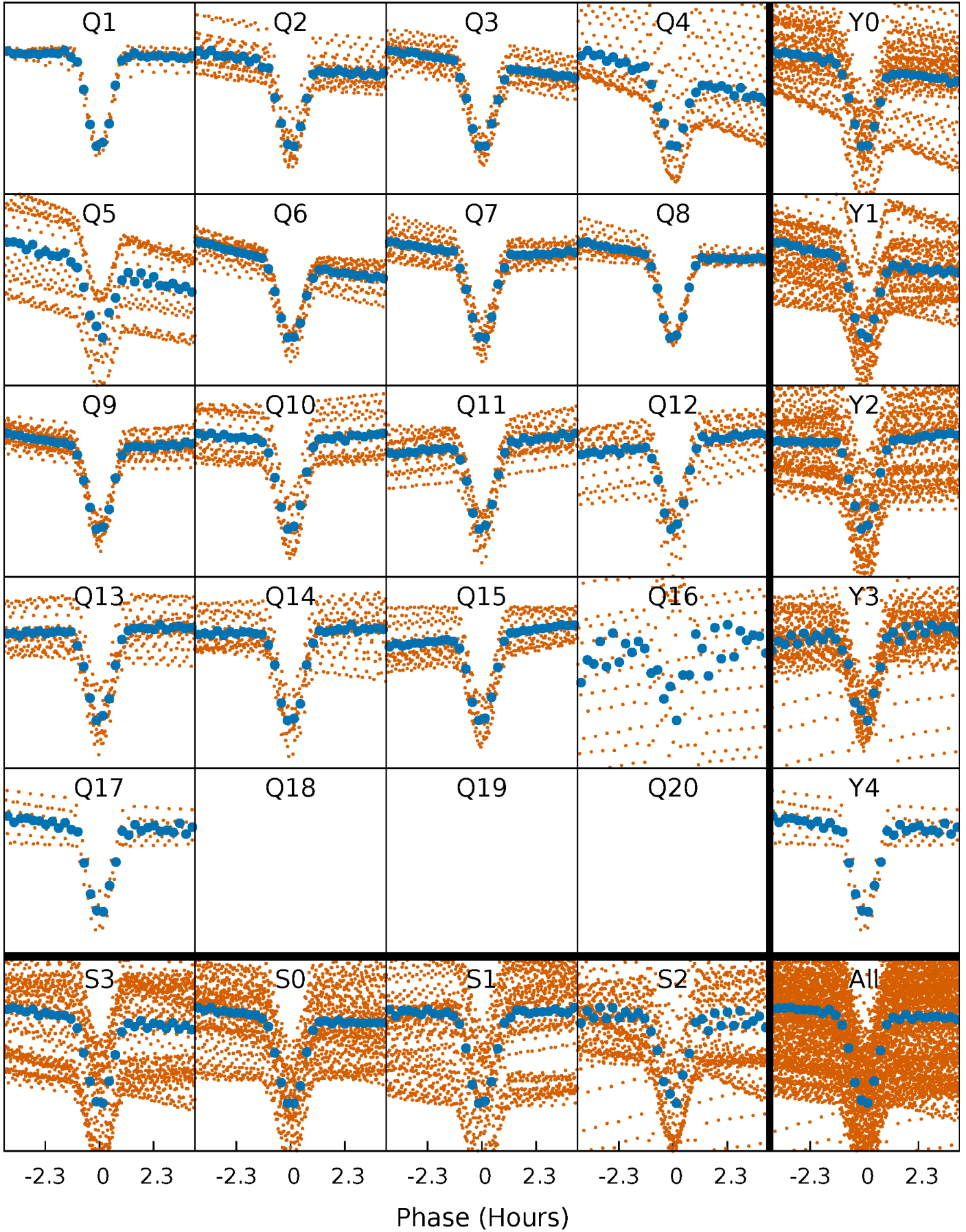


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



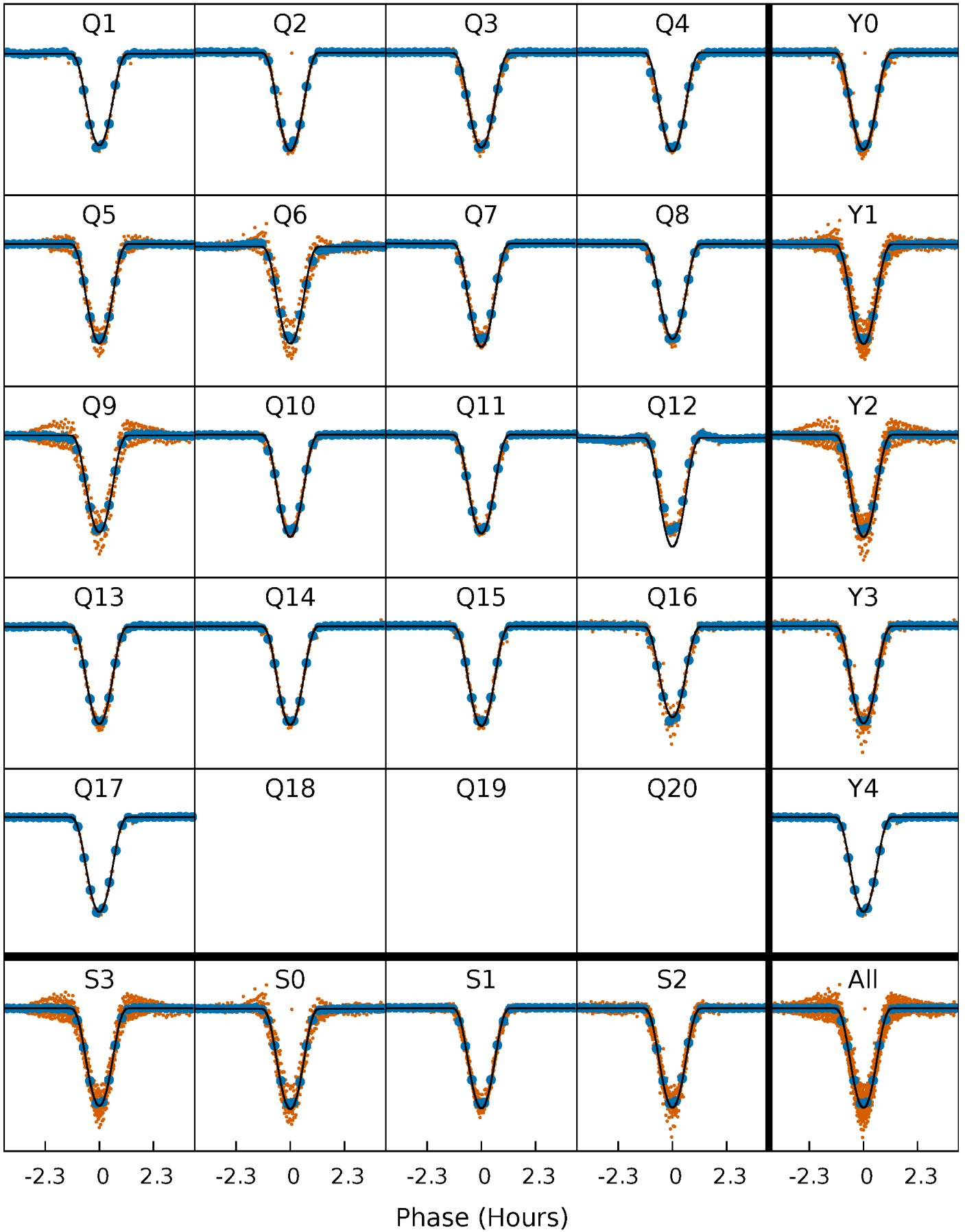
PDC Quarter-Phased Transit Curves

TCE 004035675-01 P= 2.873663 Days $T_0=132.583249$ (BKJD)



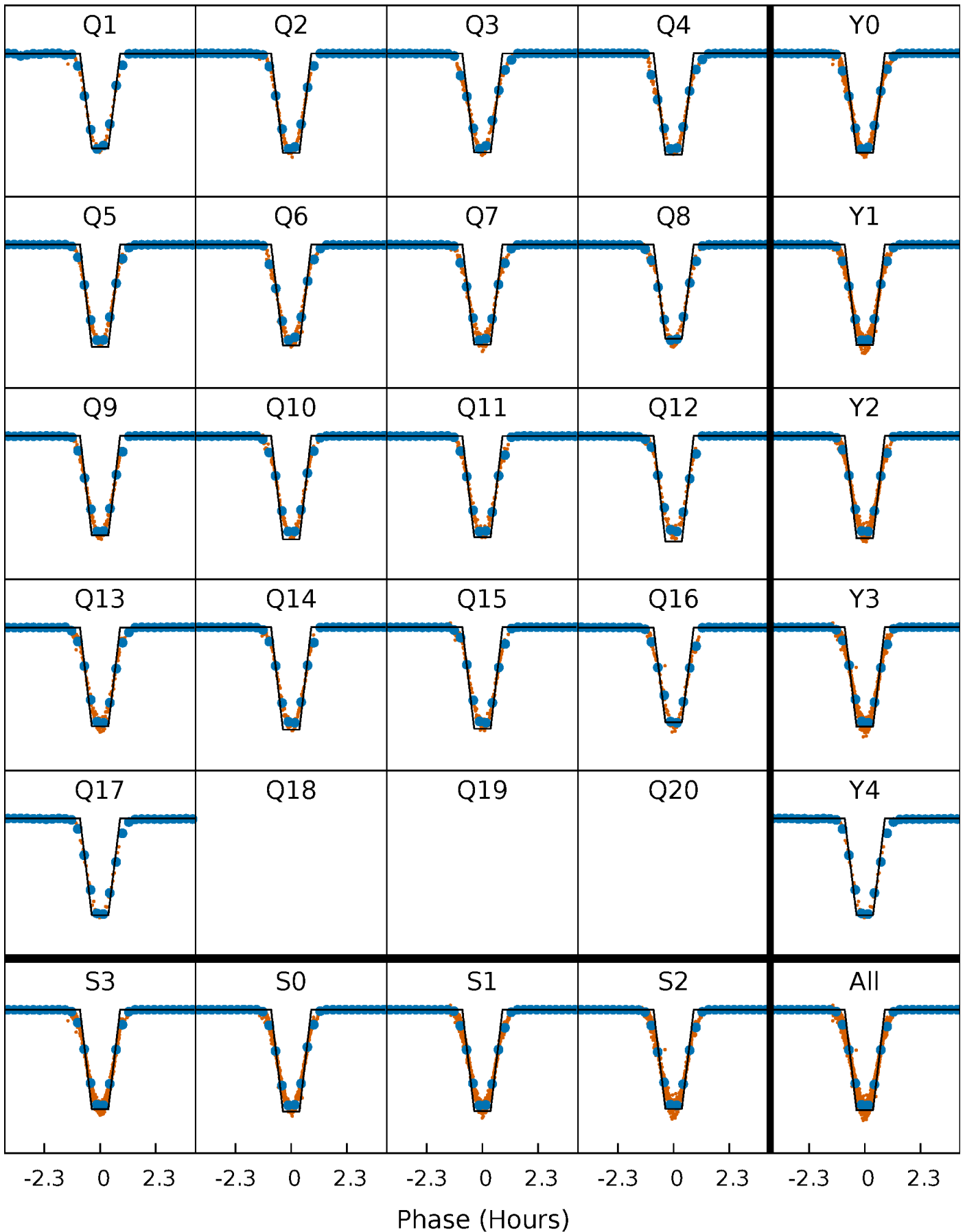
DV Quarter-Phased Transit Curves

TCE 004035675-01 P= 2.873663 Days $T_0=132.583249$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

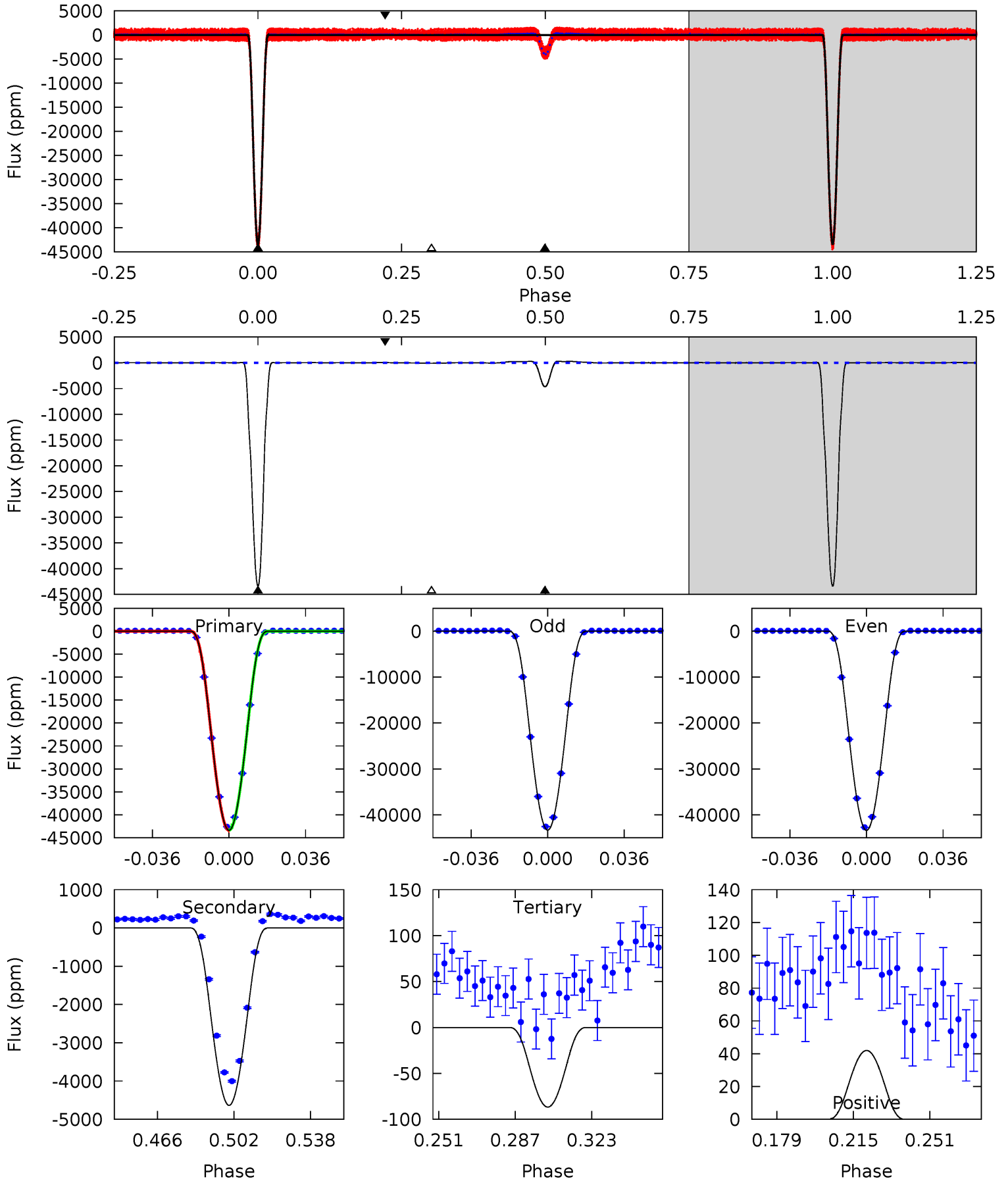
TCE 004035675-01 P= 2.873659 Days $T_0=132.583967$ (BKJD)



DV Model-Shift Uniqueness Test

004035675-01, P = 2.873663 Days, E = 129.709586 Days

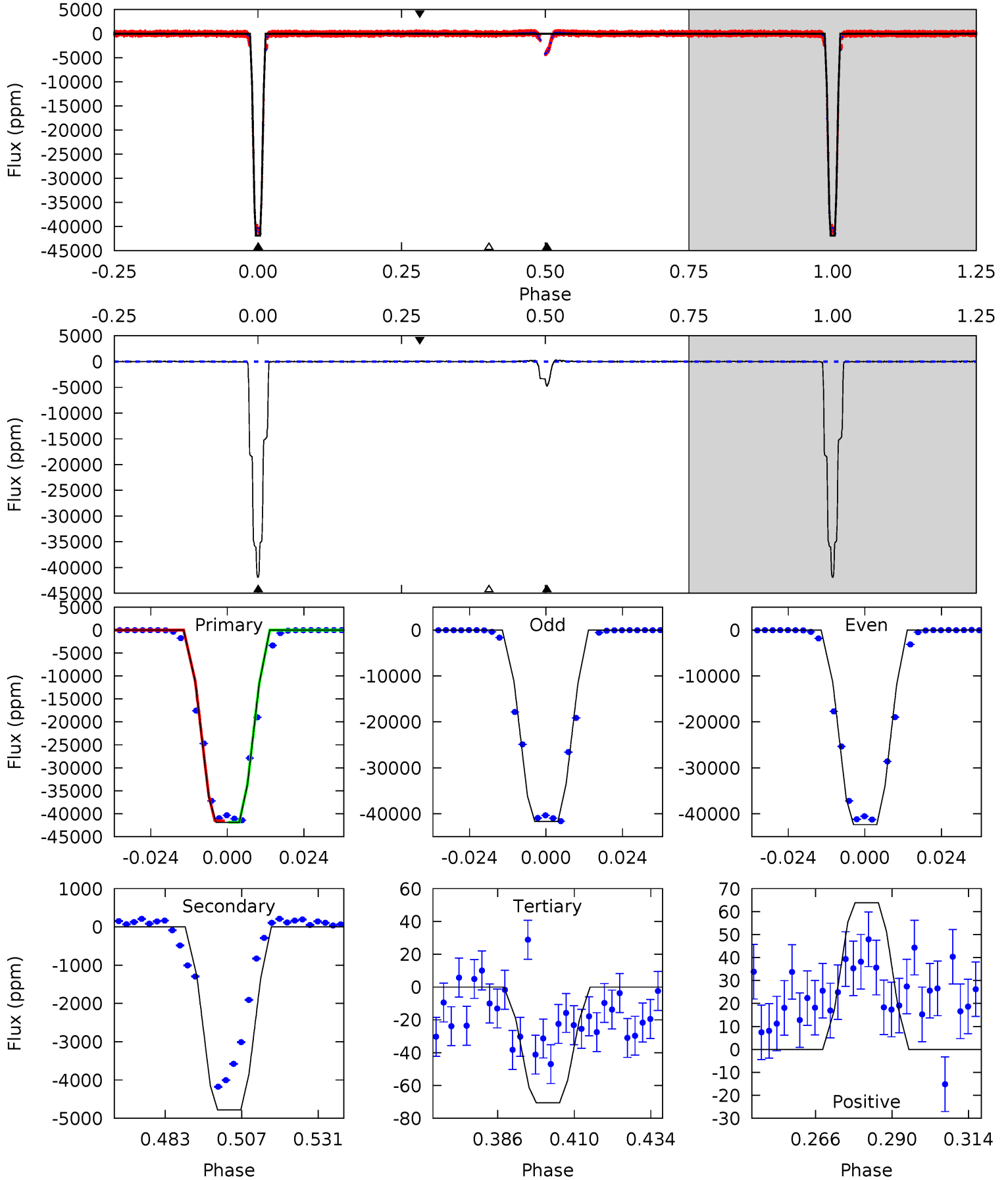
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4371	467.3	8.74	4.23	4.78	2.10	6.23	4363	4367	458.5	463.0	3.24	0.99	0.01	0



Alt Model-Shift Uniqueness Test

004035675-01, P = 2.873659 Days, E = 129.710308 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3340	381.1	5.63	5.09	4.85	2.25	2.74	3334	3335	375.5	376.0	28.1	1.00	0.01	0



Stellar Parameters For KIC 004035675

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5692^{+169}_{-169}	$3.829^{+0.536}_{-0.134}$	$0.140^{+0.250}_{-0.250}$	$2.287^{+0.521}_{-1.215}$	$1.288^{+0.145}_{-0.337}$	$0.152^{+0.964}_{-0.058}$
	+3%/-3%	+14%/-3%	+179%/-179%	+23%/-53%	+11%/-26%	+636%/-38%
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 004035675-01 / KOI 6107.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-4635 ± 10	$66.57^{+11.23}_{-18.58}$	2491^{+222}_{-358}	3190^{+96}_{-96}	$1.066^{+0.911}_{-0.269}$
Alt.	-4780 ± 13	$50.35^{+8.10}_{-13.79}$	2493^{+205}_{-337}	3579^{+91}_{-87}	$1.936^{+1.490}_{-0.478}$

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 $A_{obs} \gg 1.0$

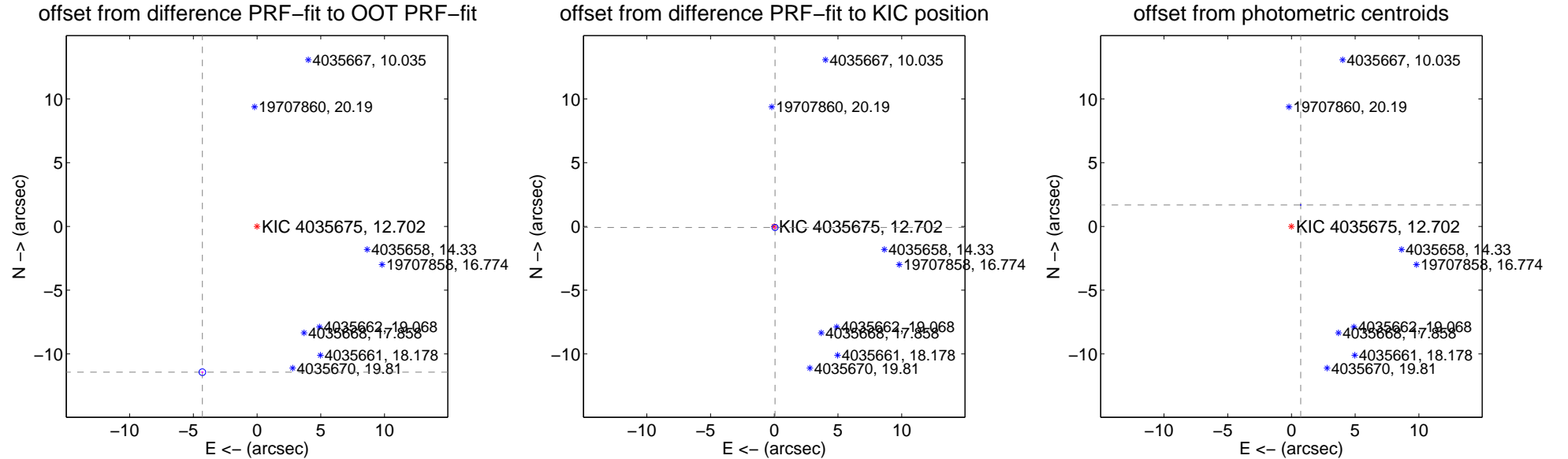
DV Centroid Data

Supplemental centroid analysis for 004035675-01. Kepler magnitude: 12.70. Transit SNR 2479.23

There are 17 quarters with good PRF difference image offsets

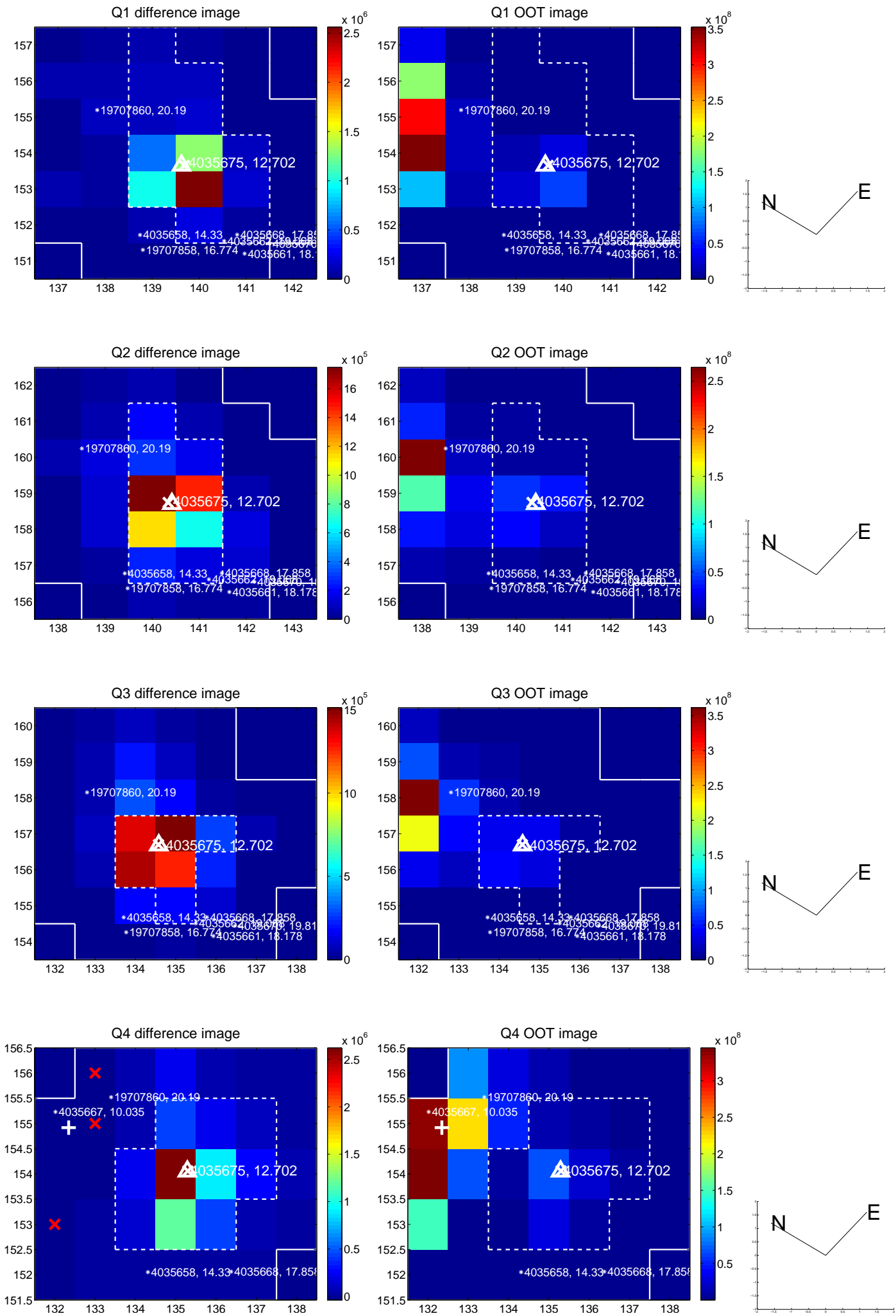
The OOT PRF centroid is offset from the target star catalog position by about 12.45 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	12.214 ± 0.087	139.97	4.293 ± 0.099	-11.435 ± 0.075
PRF-fit source offset from KIC position	0.100 ± 0.081	1.24	-0.058 ± 0.072	-0.081 ± 0.085
photometric centroid source offset	1.83 ± 0.01	227.35	-0.73 ± 0.00	1.68 ± 0.01

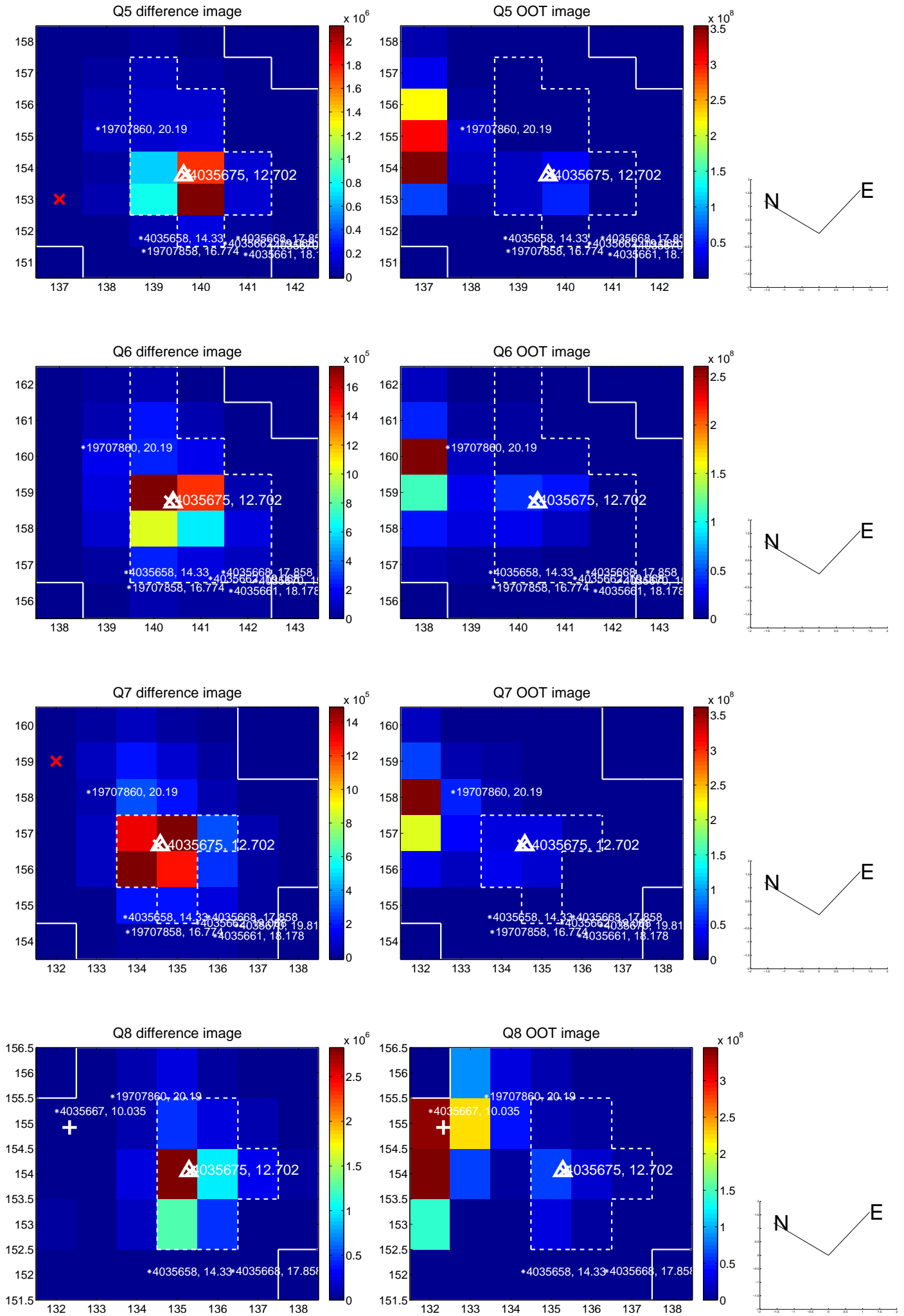


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

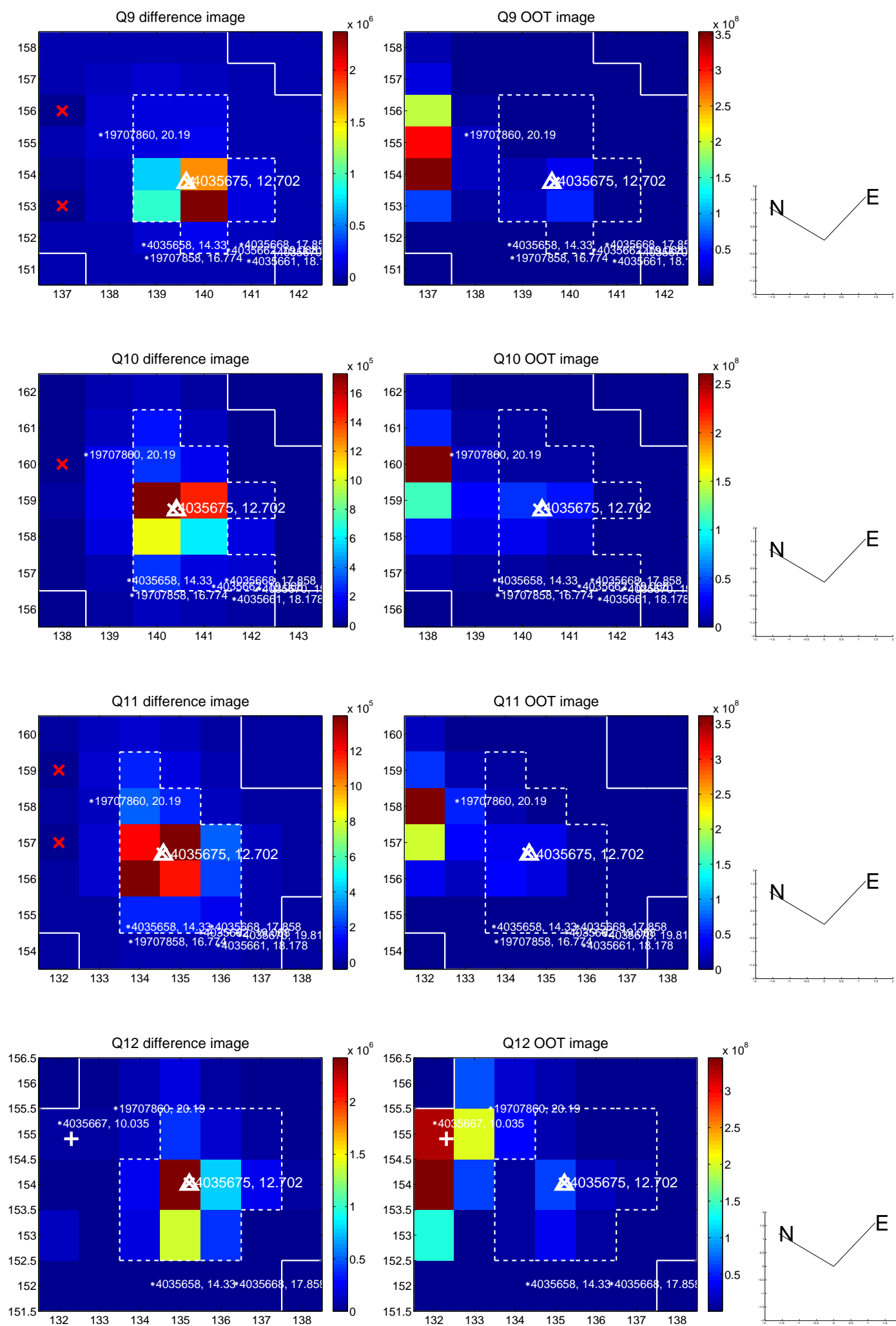
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



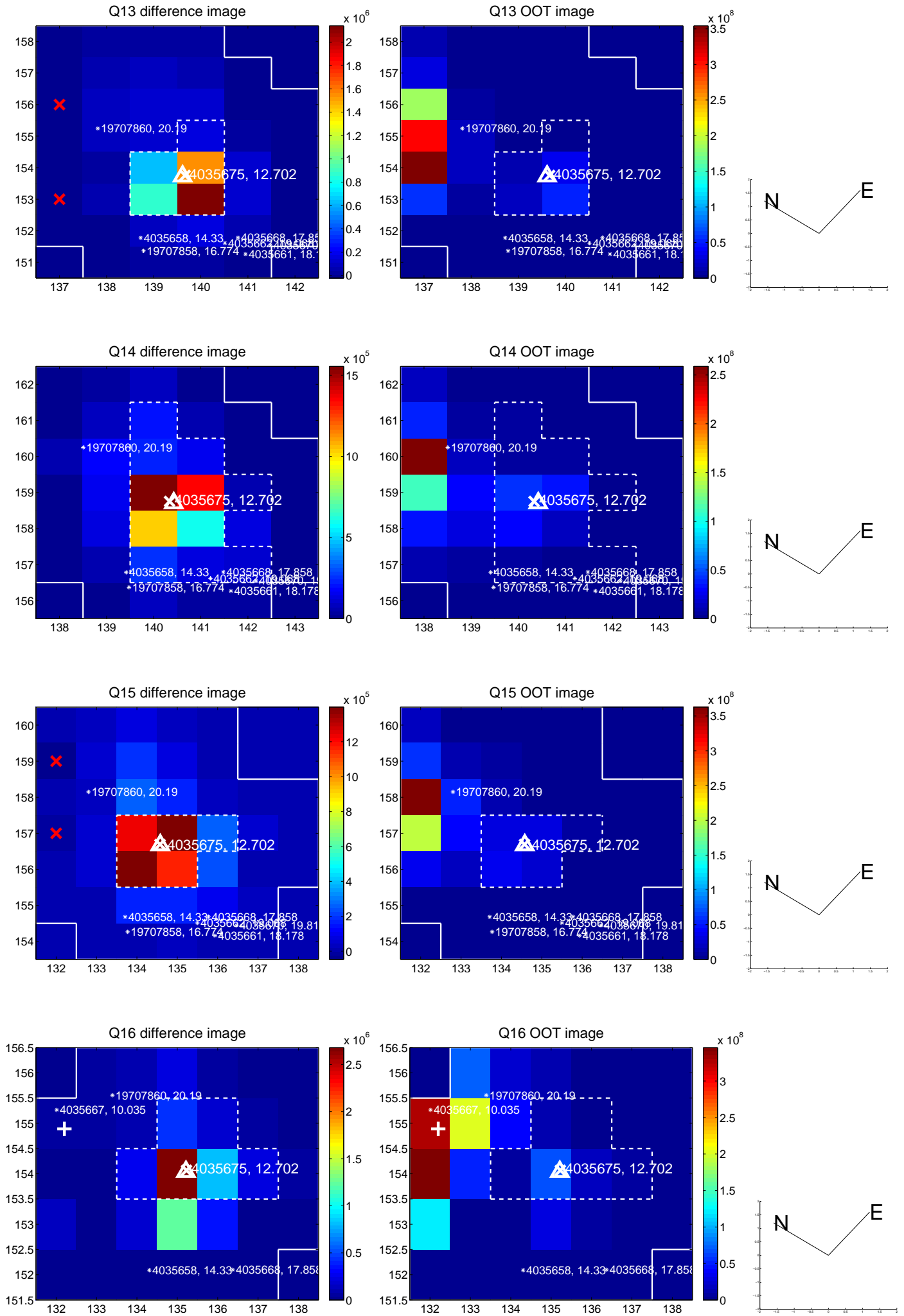
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



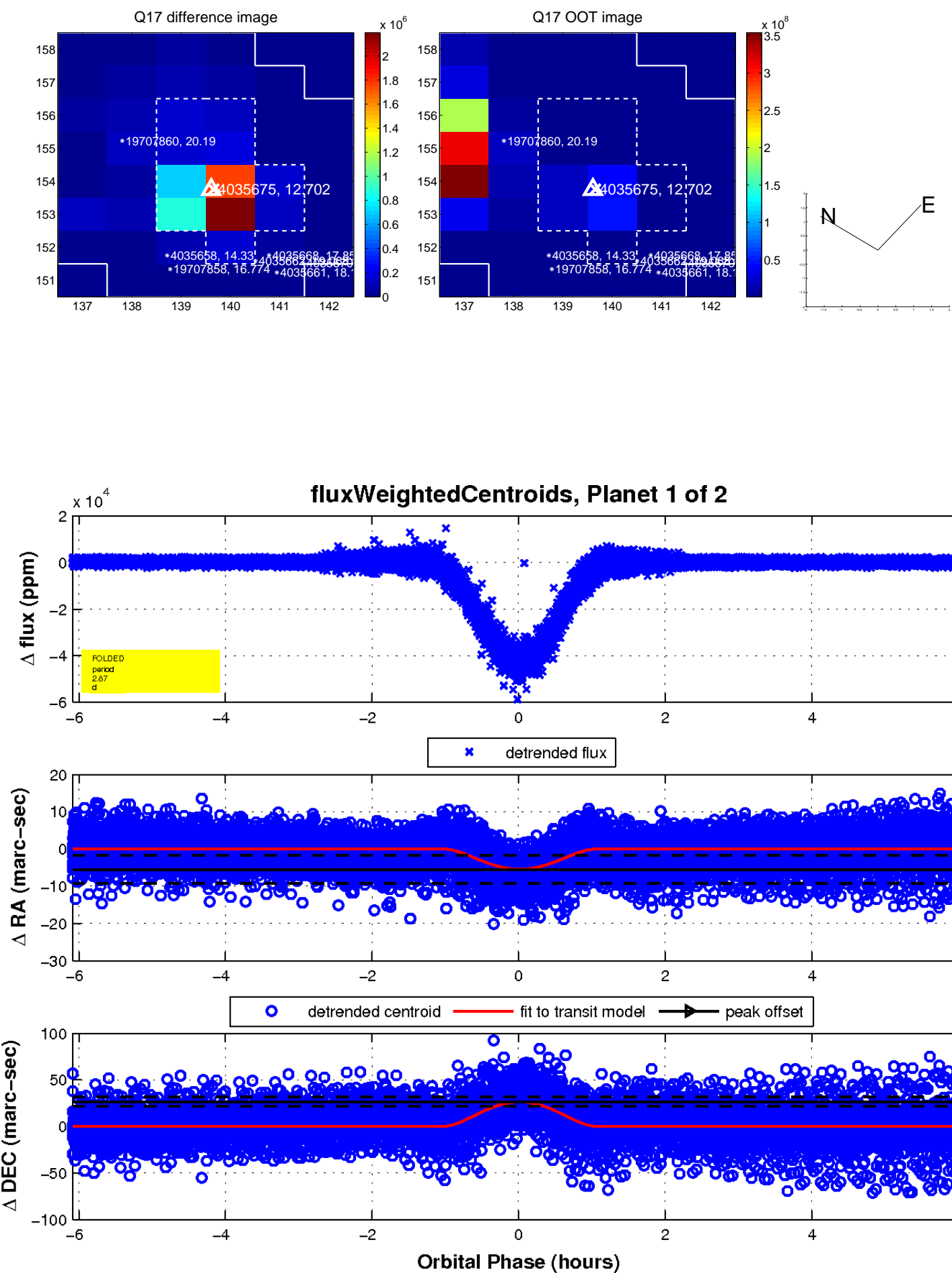
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

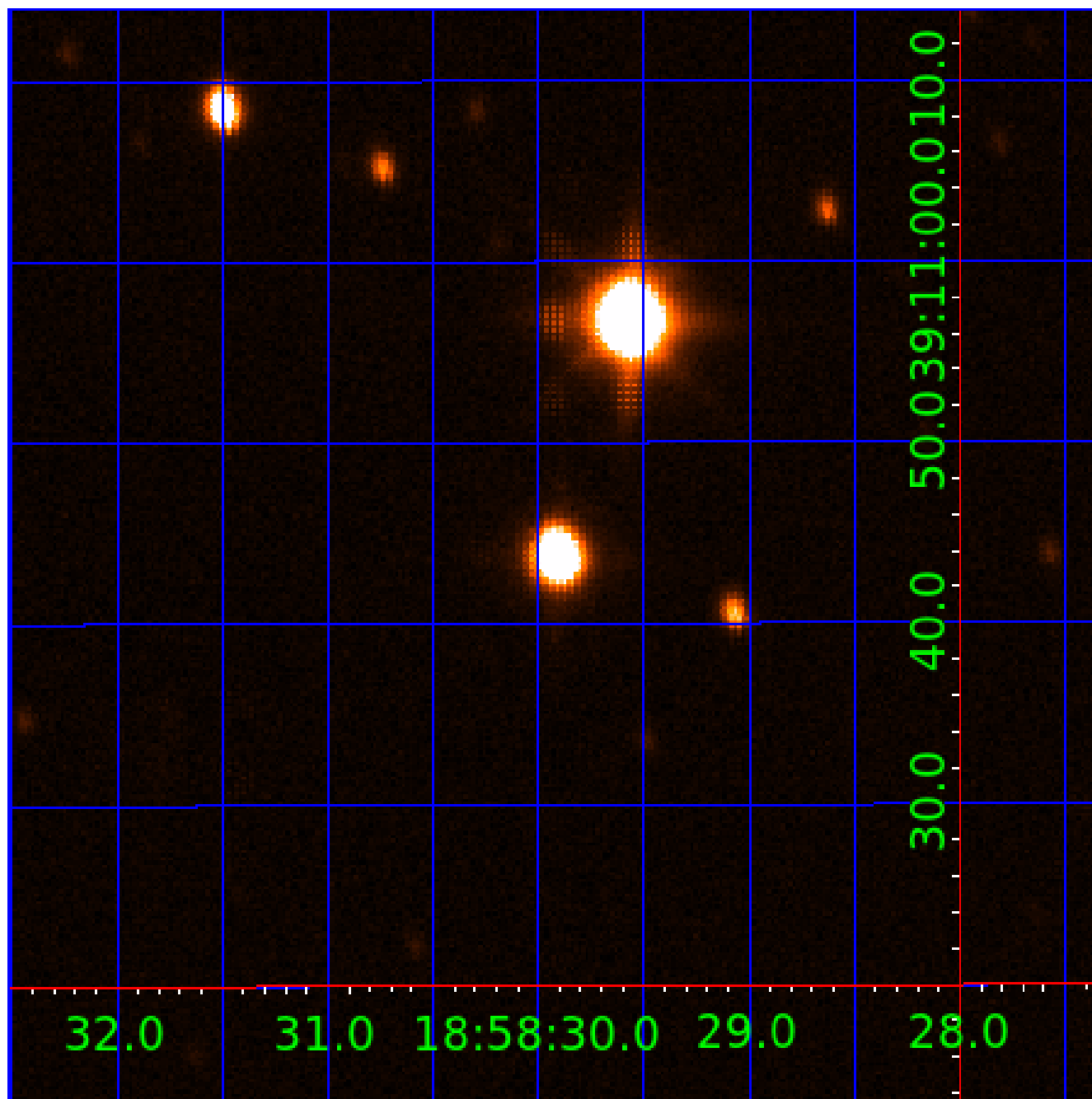


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004035675

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})
004035675-01	OBS	6107.01	2.873663	132.583249	43443.4	2.028	3742.9	2479.2	2.29	5692	69.84	2655.93
004035675-02	OBS	No	2.873672	134.018303	4574.8	1.870	435.7	389.0	2.29	5692	19.44	2655.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004035675-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_DV—MOD_SEC_ALT—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_KIC_POS
004035675-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS

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.

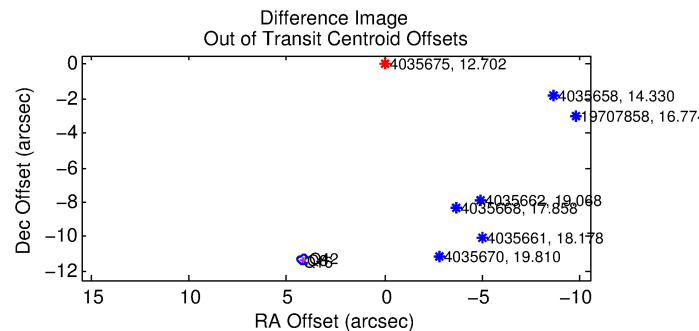
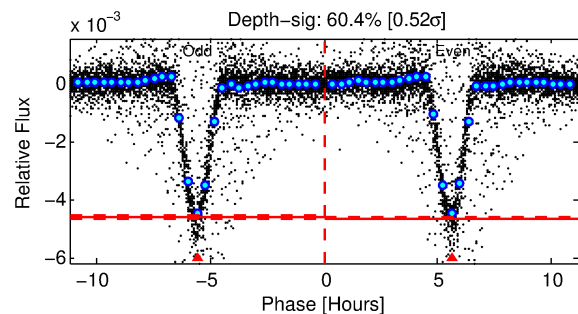
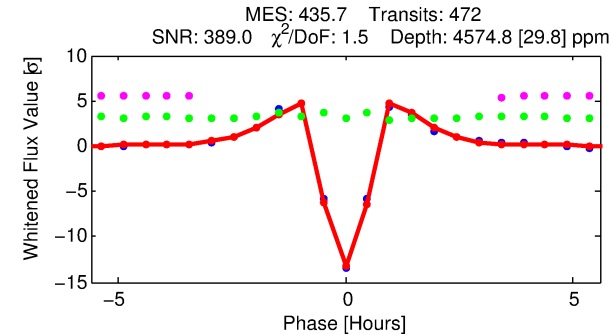
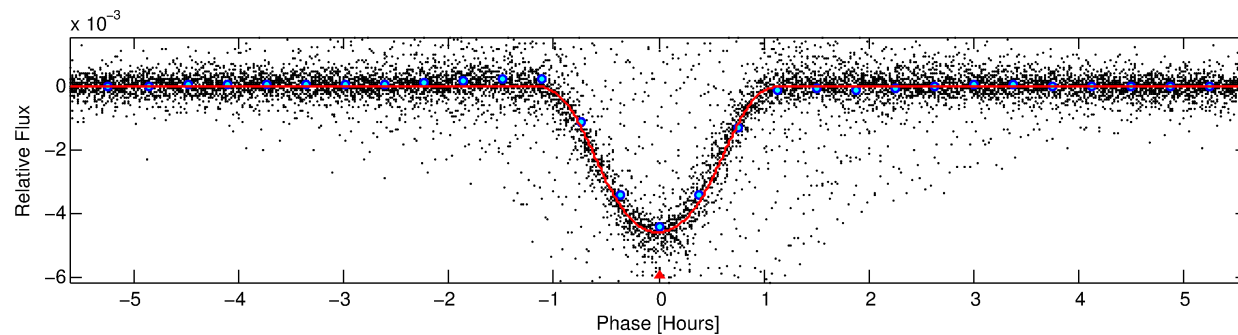
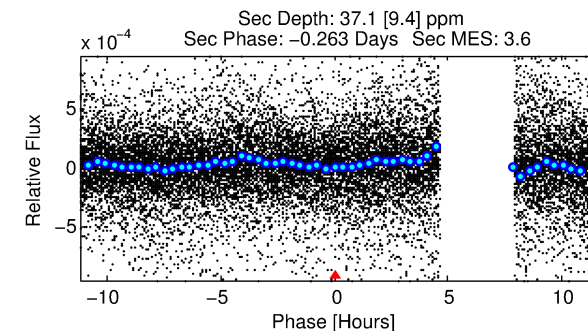
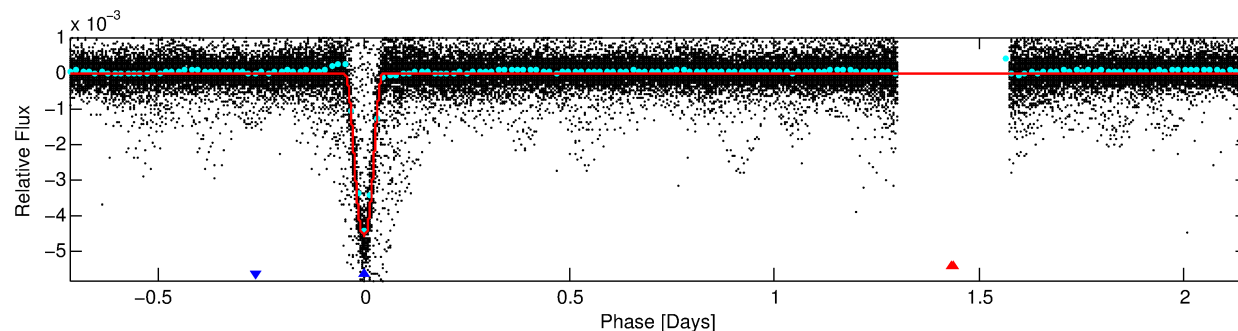
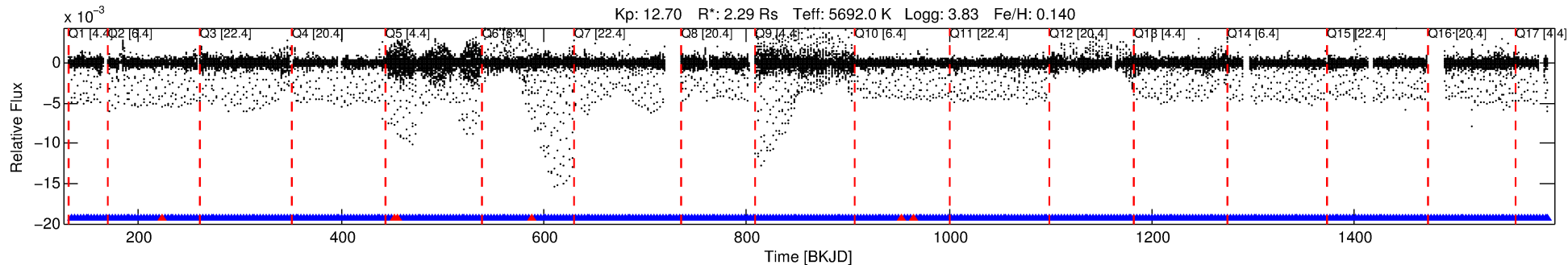
Ephemeris Match Information For 004035675-02

No Significant Match Found

DV One-Page Summary

KIC: 4035675 Candidate: 2 of 2 Period: 2.874 d
KOI: K06107 Corr: No Ephemeris Match

Kp: 12.70 R*: 2.29 Rs Teff: 5692.0 K Logg: 3.83 Fe/H: 0.140



DV Fit Results:

Period = 2.87367 [0.00000] d
Epoch = 134.0183 [0.0001] BKJD
Rp/R* = 0.0779 [0.0007]
a/R* = 6.58 [0.06]
b = 0.92 [0.00]
Seff = 2655.92 [2399.94]
Teq = 1831 [414] K
Rp = 19.44 [10.33] Re
a = 0.0430 [0.0234] AU
Ag = 0.10 [0.09] [-9.67 sigma]
Teff = 1592 [111] K [-0.56 sigma]

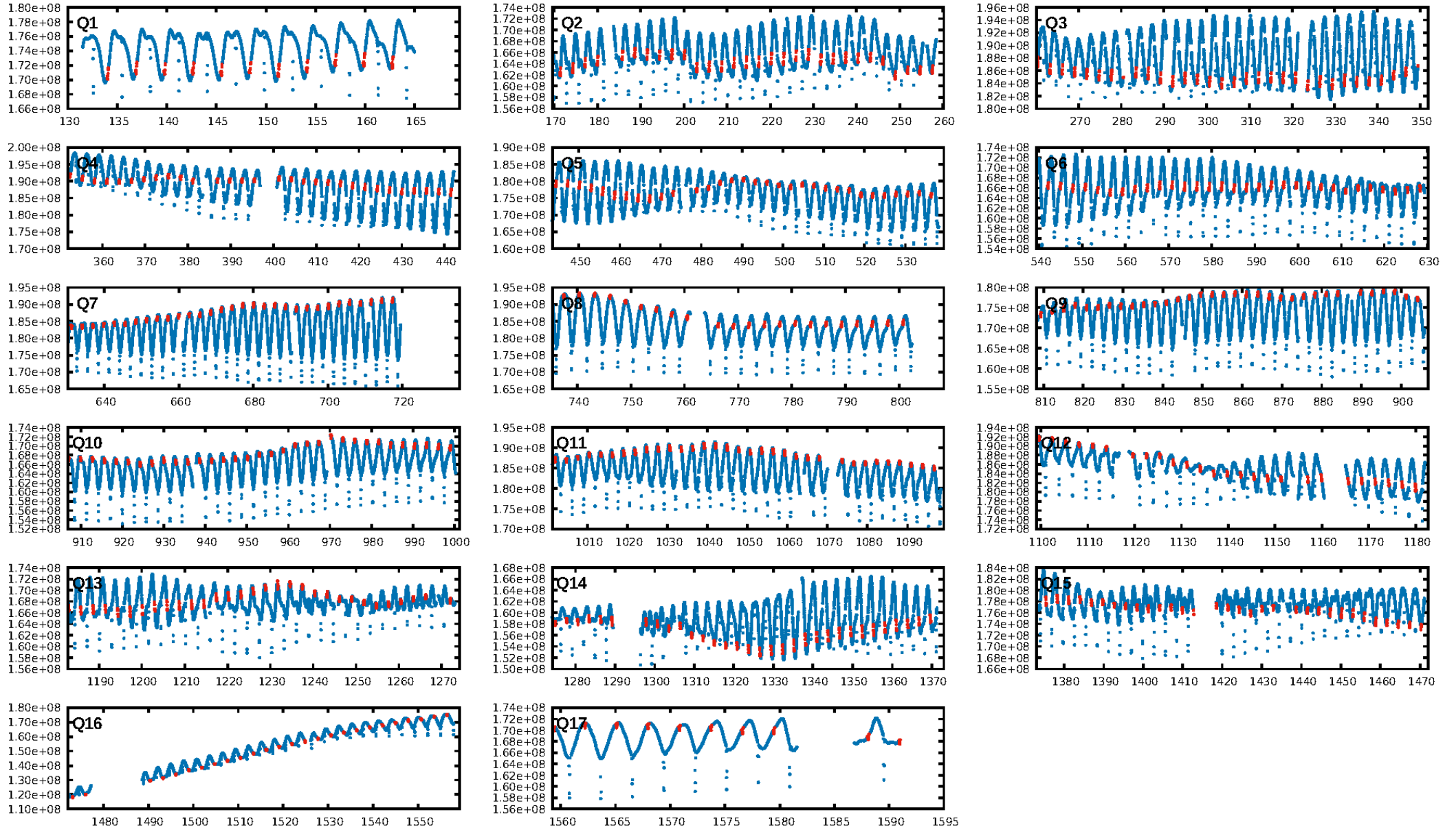
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 sigma]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.99 [445/451]
GhostDiagnostic-chr: 1.767
Centroid-sig: 0.0%
Centroid-so: 3.226 arcsec [47.93 sigma]
OotOffset-rm: 12.088 arcsec [130.68 sigma]
KicOffset-rm: 0.222 arcsec [2.57 sigma]
OotOffset-st: 0/0/4/0 [4]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

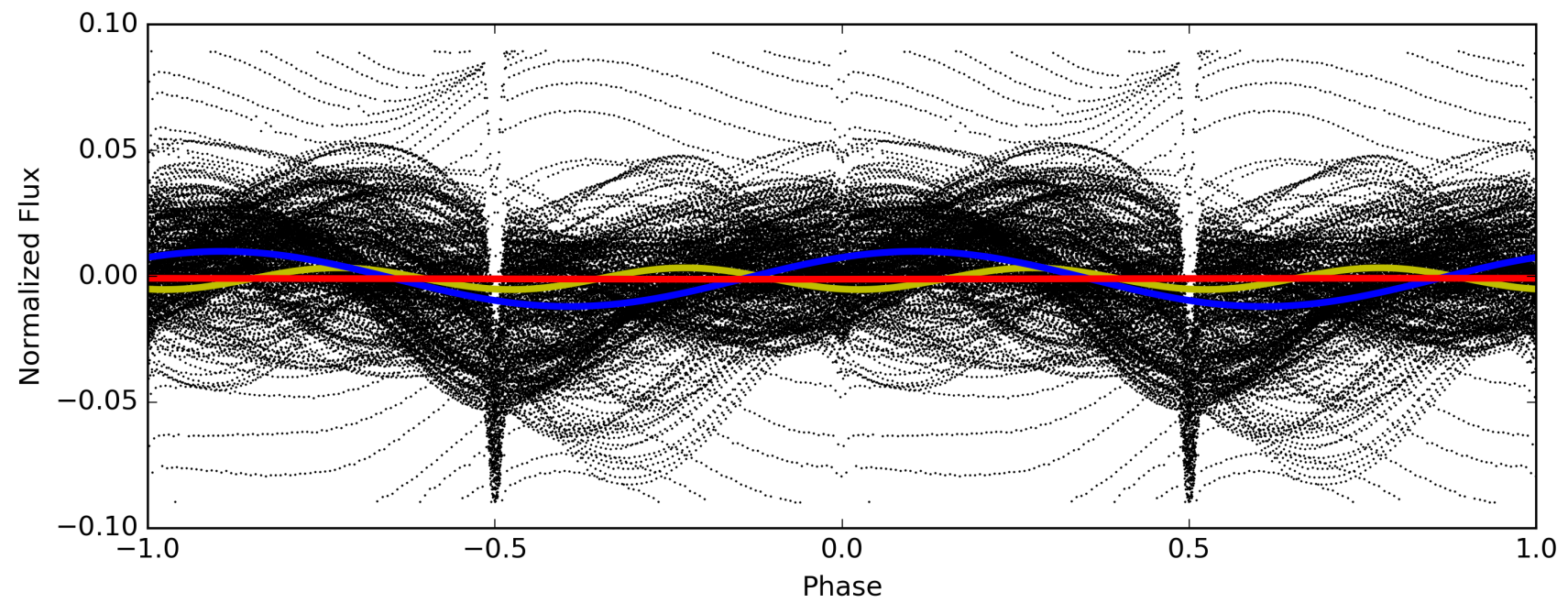
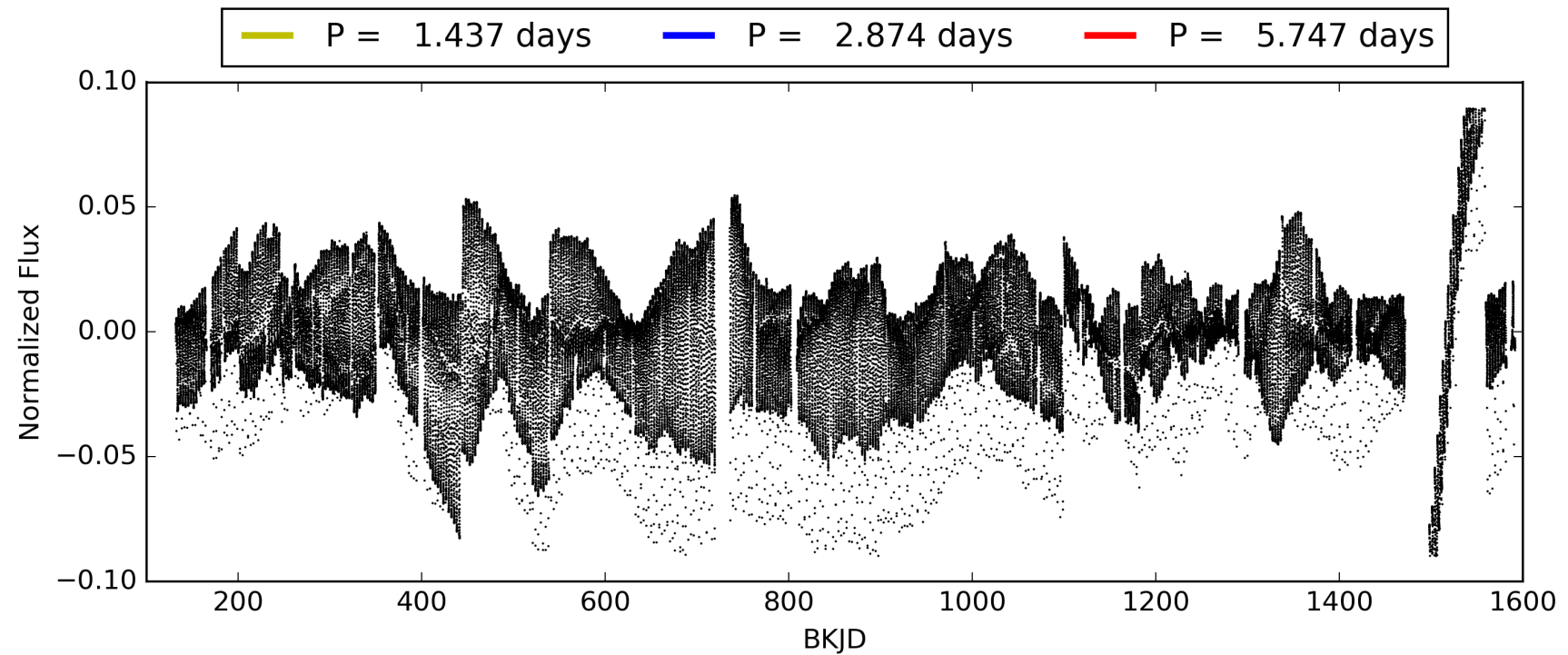
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:43:09 Z

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

TCE 004035675-02, PDC Light Curves

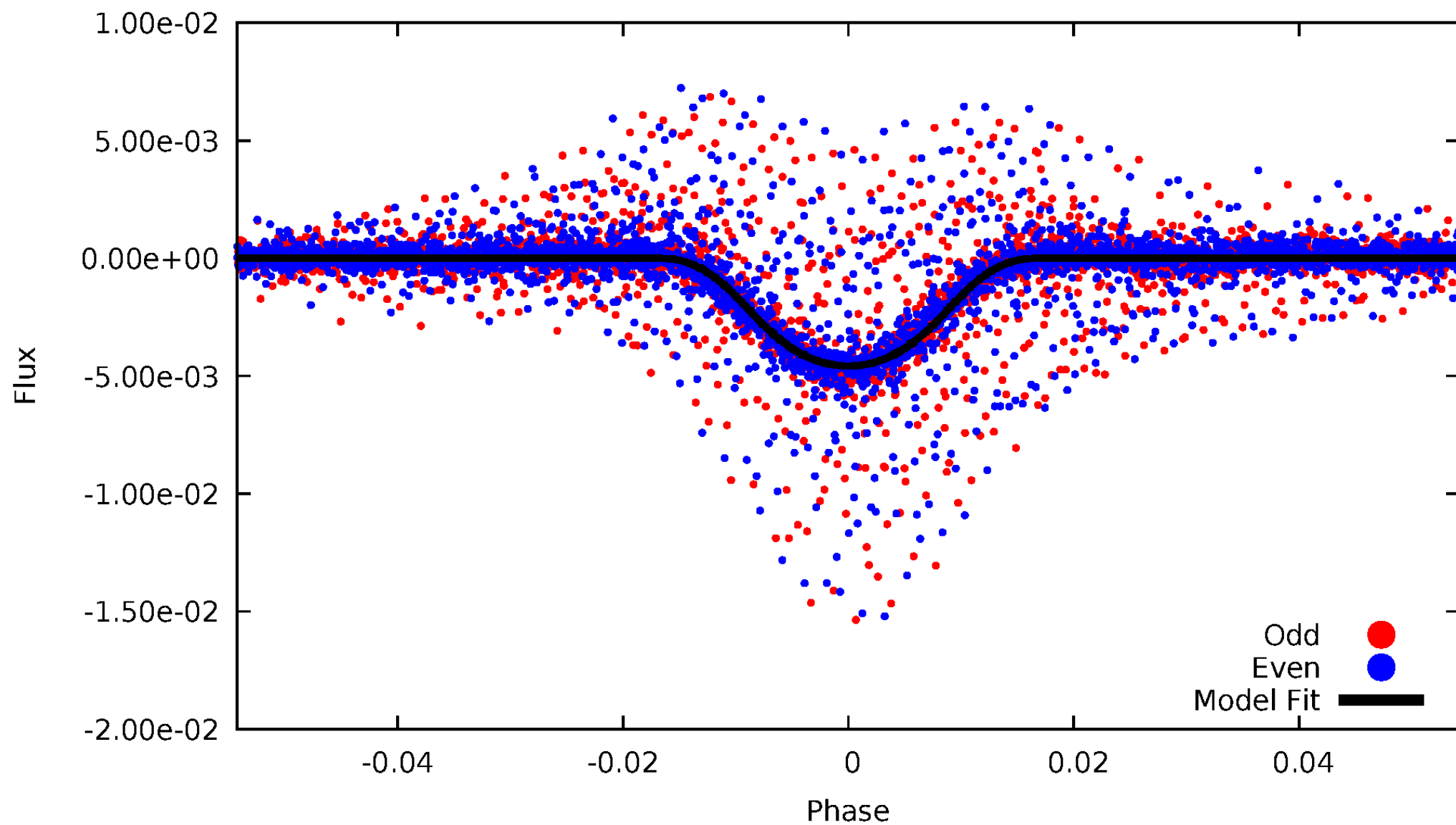


TCE 004035675-02



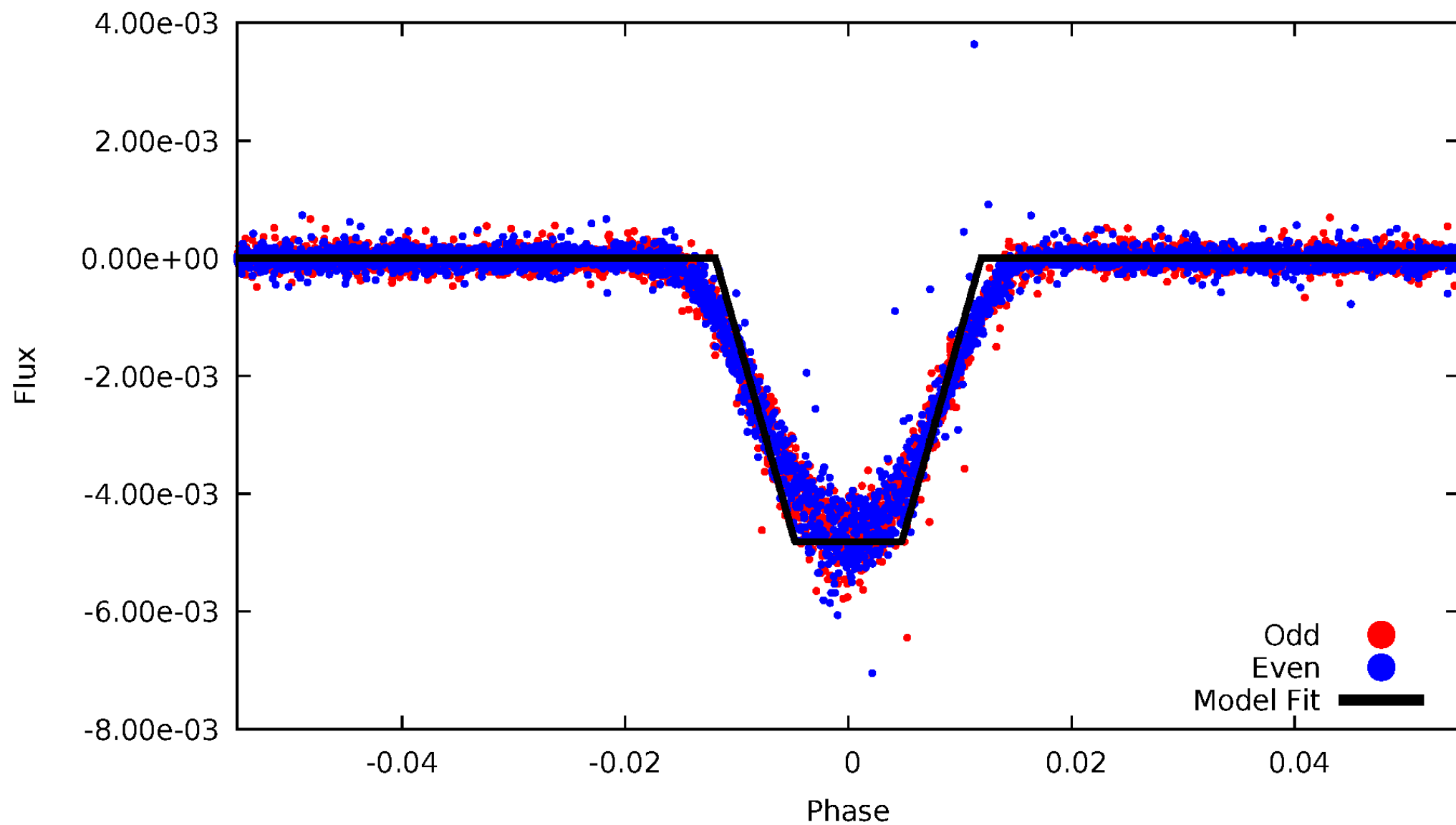
DV Odd/Even

TCE 004035675-02



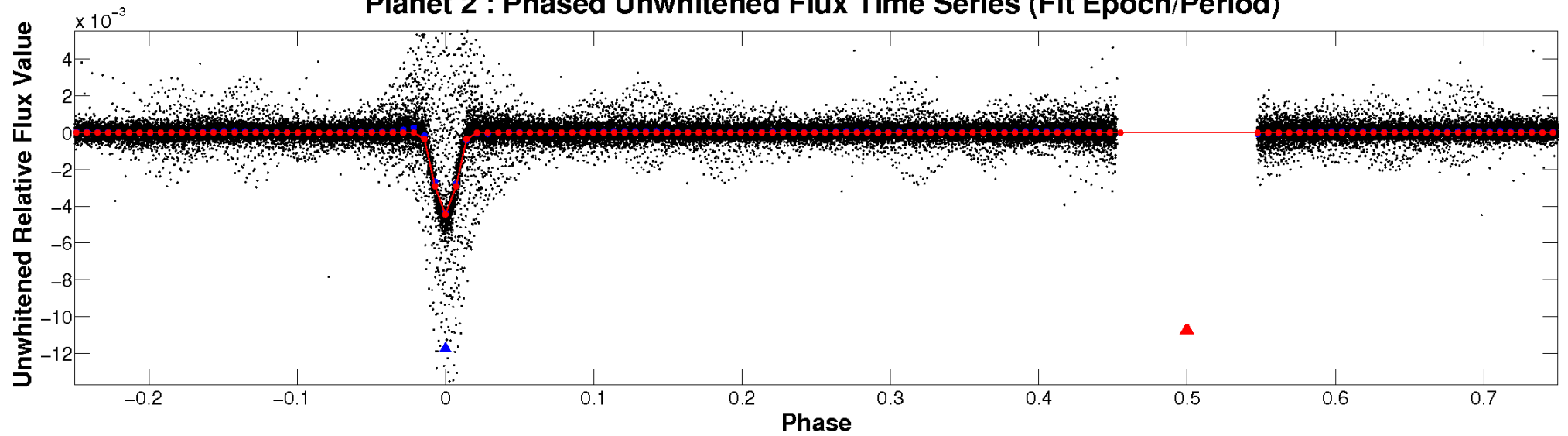
ALT Odd/Even

TCE 004035675-02

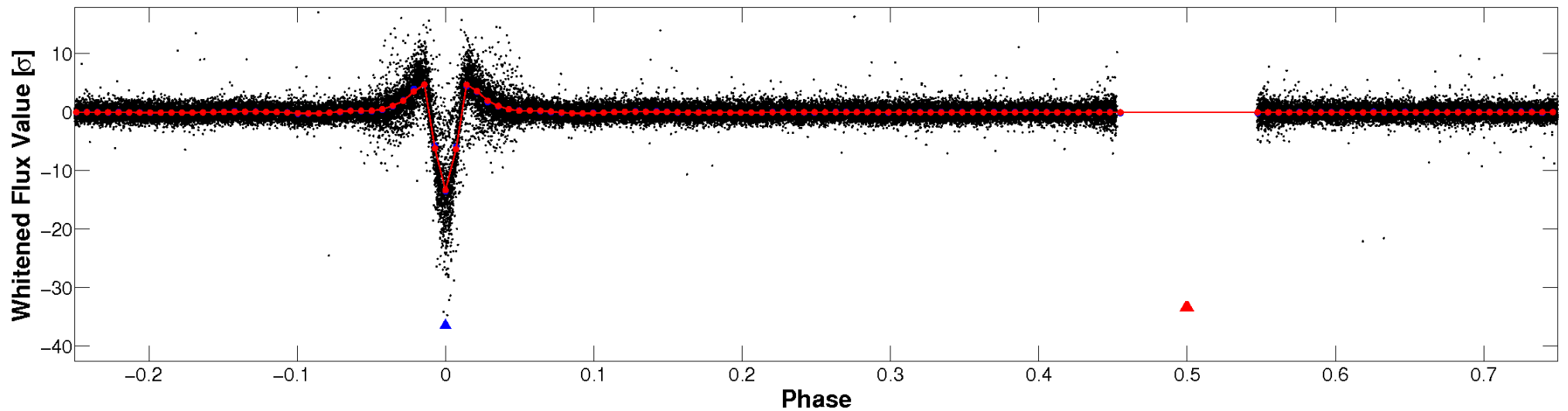


Non-Whitened Vs. Whitened Light Curve

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

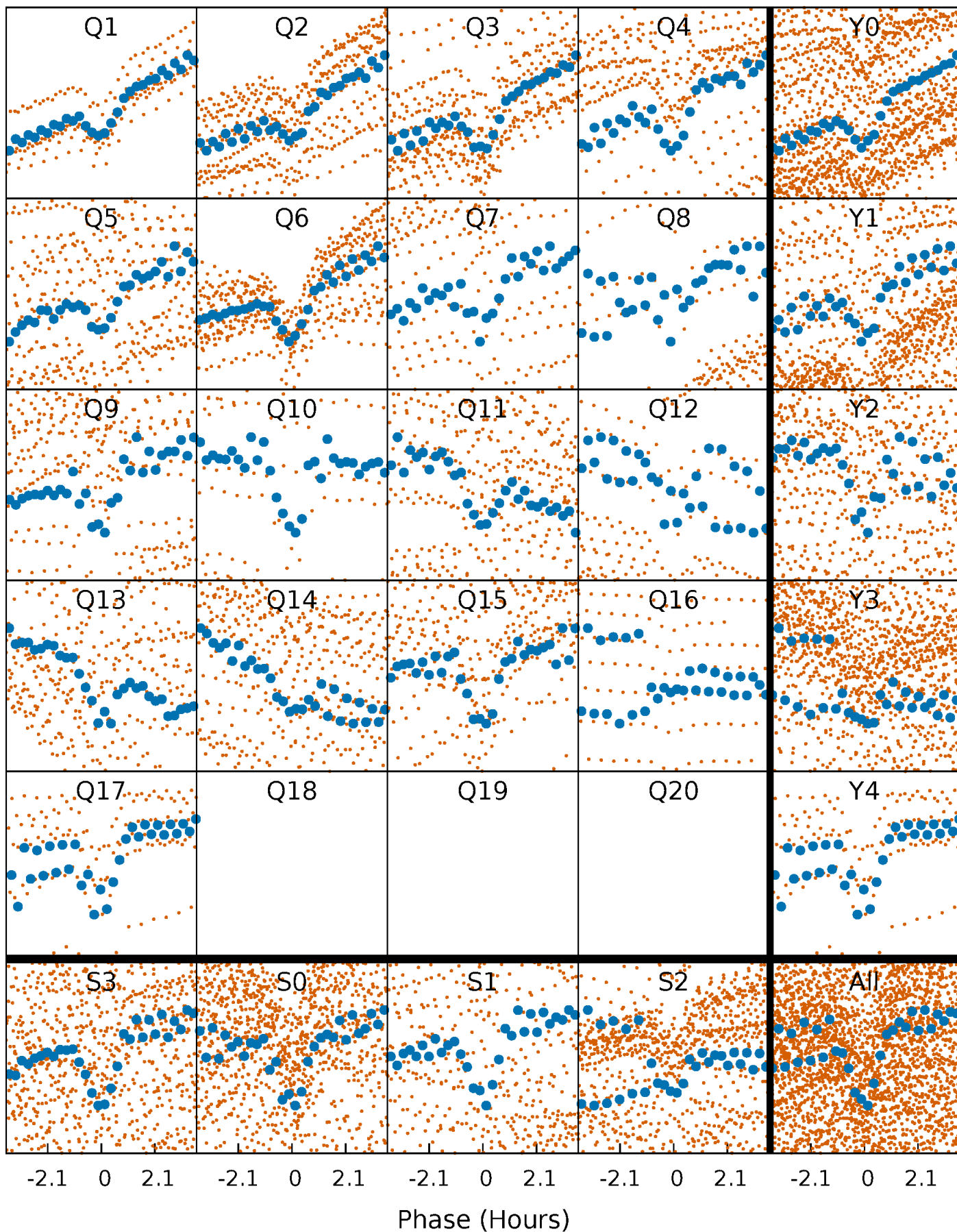


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



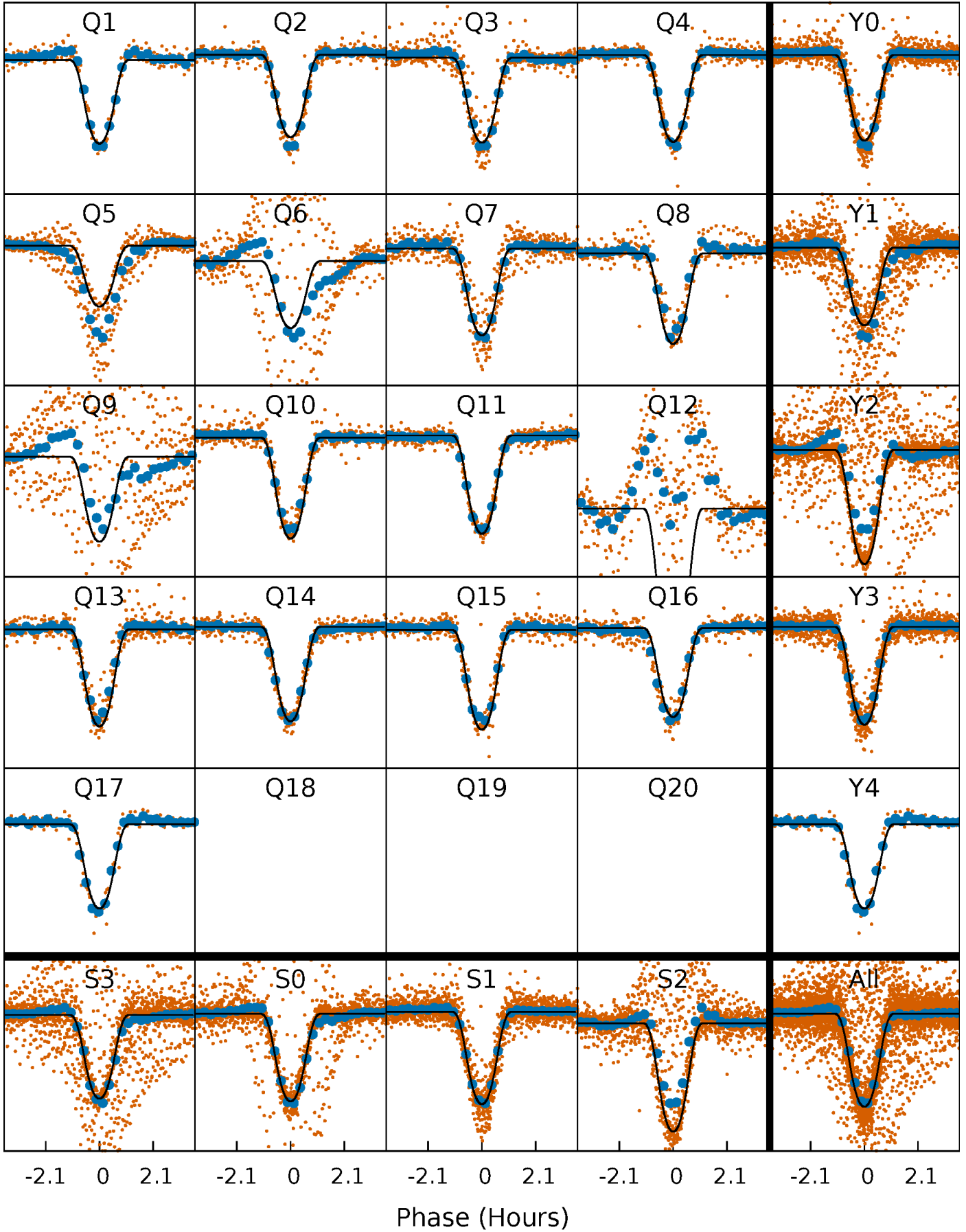
PDC Quarter-Phased Transit Curves

TCE 004035675-02 P= 2.873672 Days $T_0=134.018303$ (BKJD)



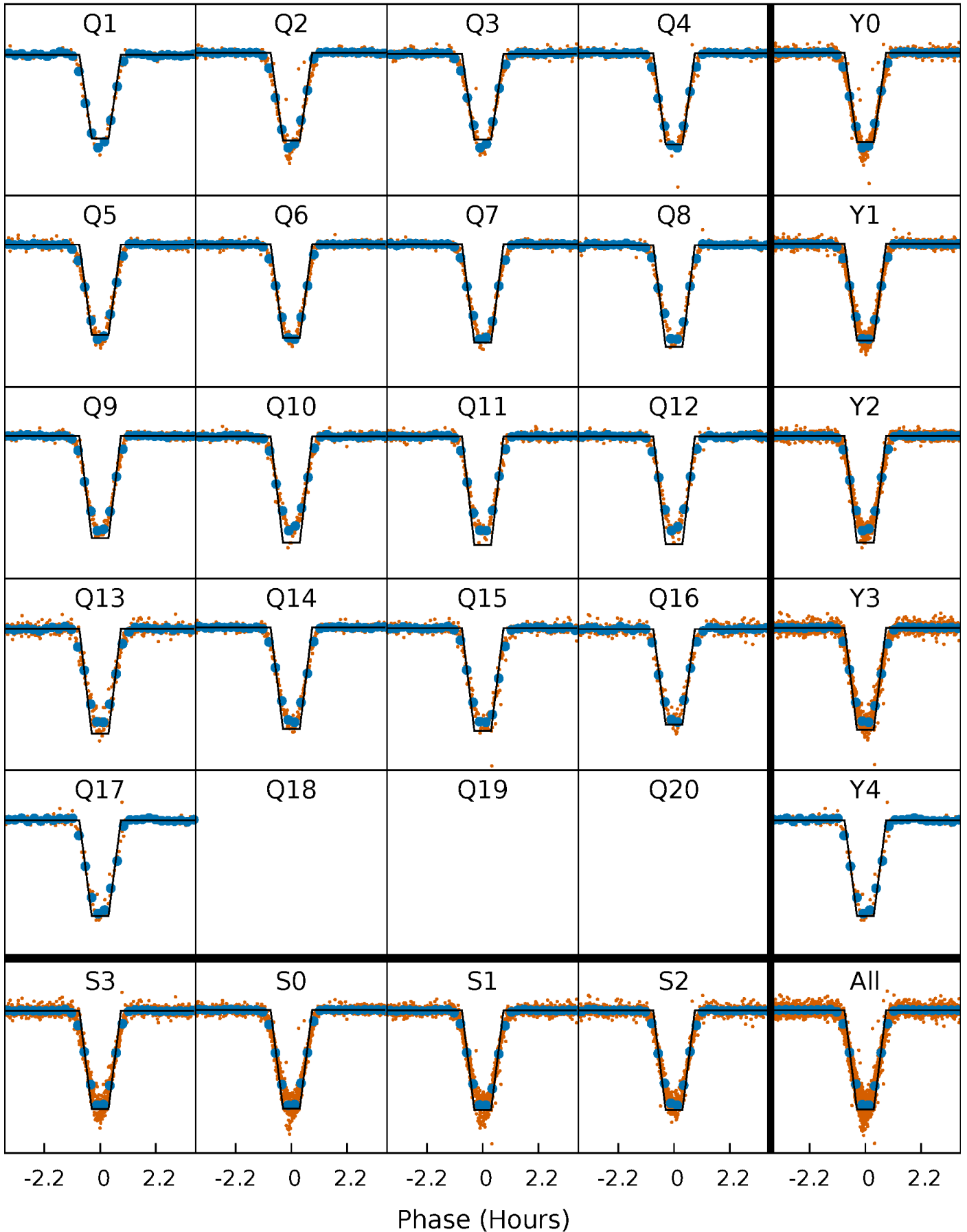
DV Quarter-Phased Transit Curves

TCE 004035675-02 P= 2.873672 Days $T_0=134.018303$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

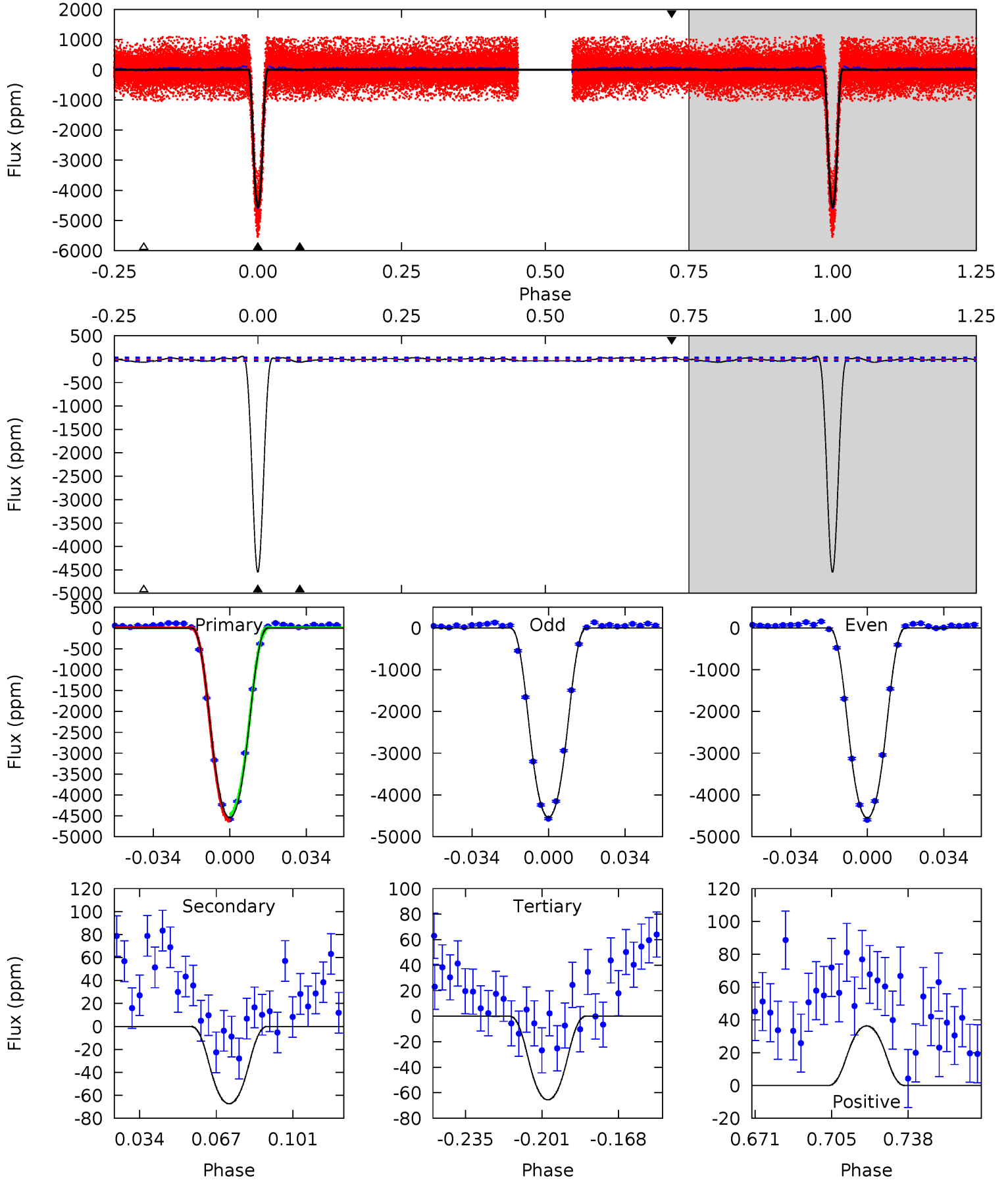
TCE 004035675-02 $P = 2.873659$ Days $T_0 = 134.020729$ (BKJD)



DV Model-Shift Uniqueness Test

004035675-02, P = 2.873672 Days, E = 131.144631 Days

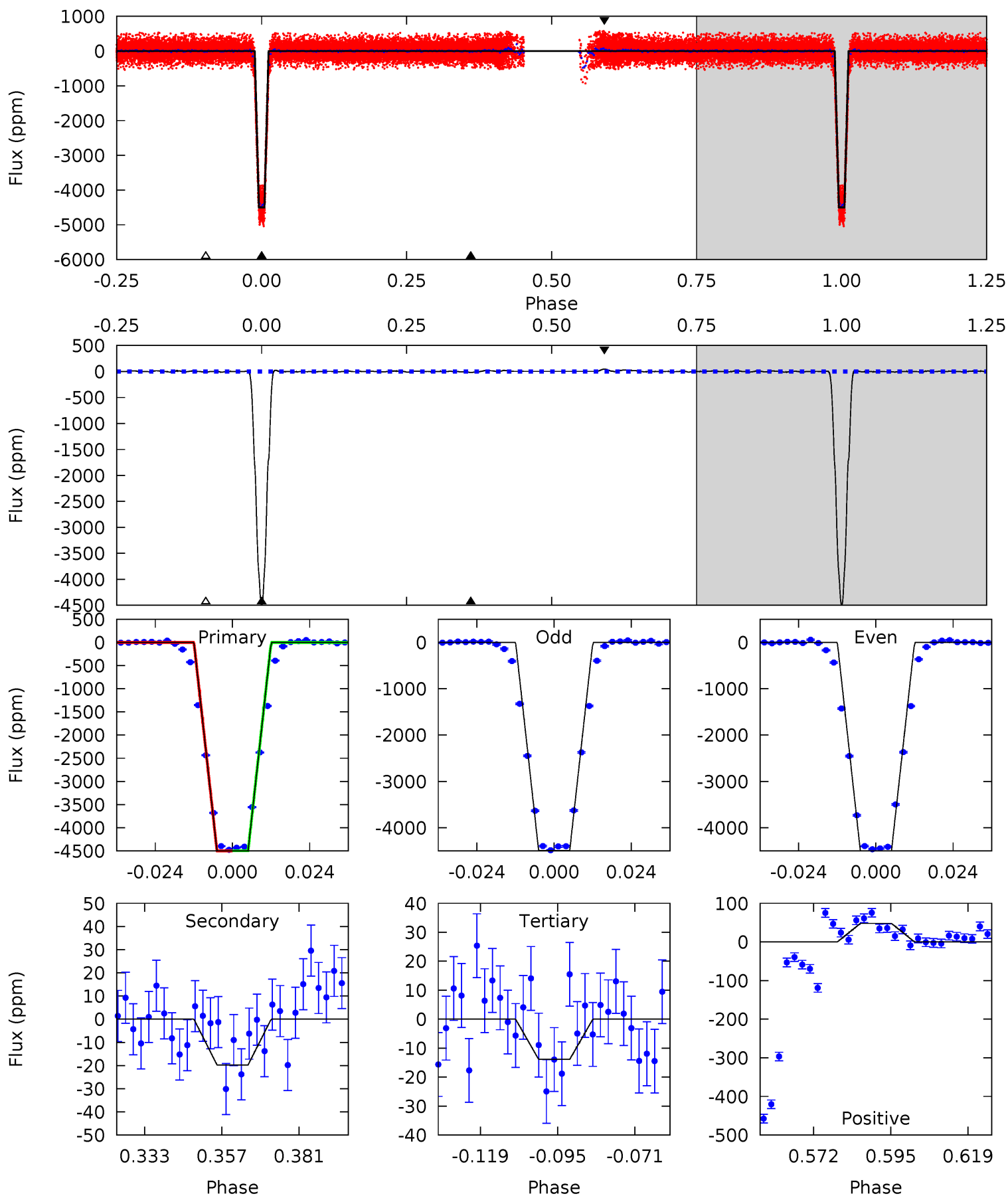
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
616.0	9.12	8.88	4.92	4.79	2.13	2.99	607.1	611.1	0.23	4.20	0.99	0.97	0.01	10.9



Alt Model-Shift Uniqueness Test

004035675-02, P = 2.873659 Days, E = 131.147070 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1060	4.65	3.27	11.3	4.86	2.26	1.97	1057	1048	1.38	-6.64	1.35	1.01	0.01	0.26



Stellar Parameters For KIC 004035675

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5692^{+169}_{-169}	$3.829^{+0.536}_{-0.134}$	$0.140^{+0.250}_{-0.250}$	$2.287^{+0.521}_{-1.215}$	$1.288^{+0.145}_{-0.337}$	$0.152^{+0.964}_{-0.058}$
	+3%/-3%	+14%/-3%	+179%/-179%	+23%/-53%	+11%/-26%	+636%/-38%
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 004035675-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-67 ± 7	$18.89^{+2.91}_{-5.46}$	2512^{+201}_{-367}	-2458^{+4527}_{-215}	$0.195^{+0.154}_{-0.052}$
Alt.	-20 ± 4	$16.40^{+2.72}_{-4.63}$	2474^{+203}_{-340}	-2675^{+287}_{-143}	$0.077^{+0.065}_{-0.026}$

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

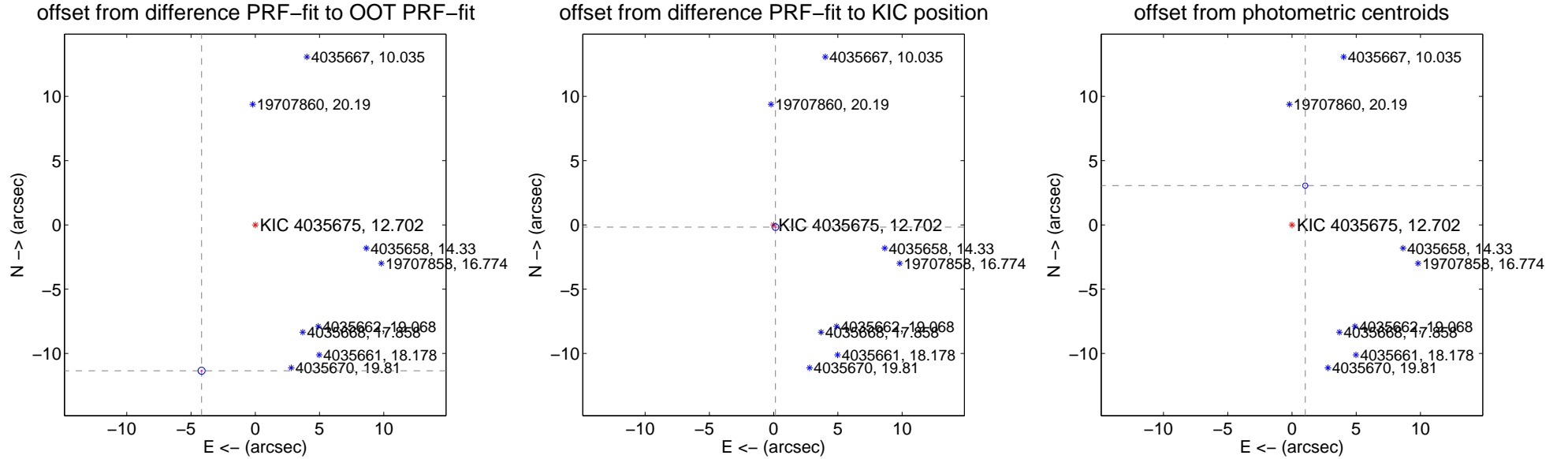
DV Centroid Data

Supplemental centroid analysis for 004035675-02. Kepler magnitude: 12.70. Transit SNR 389.03

There are 17 quarters with good PRF difference image offsets

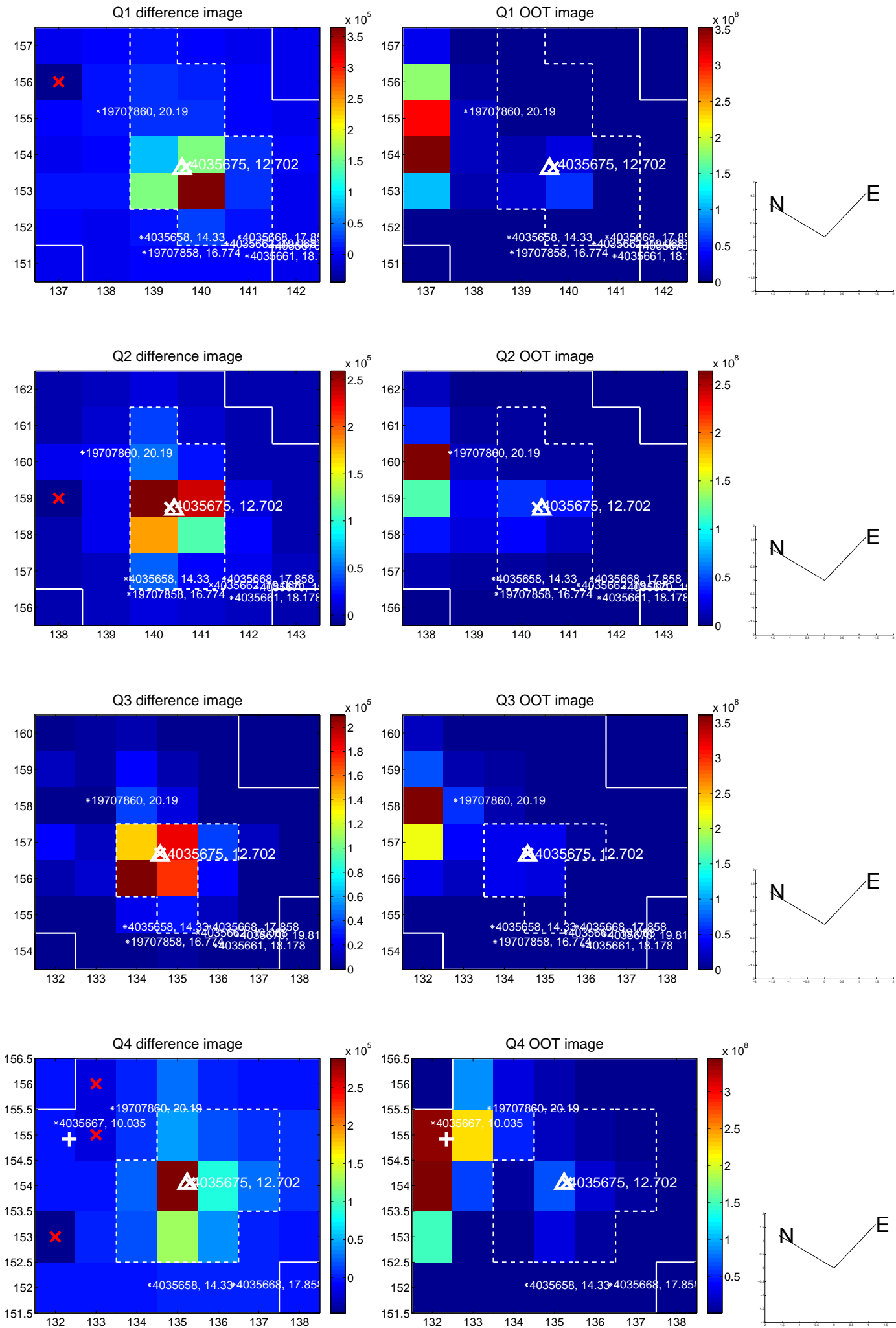
The OOT PRF centroid is offset from the target star catalog position by about 12.47 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	12.088 ± 0.093	130.68	4.177 ± 0.104	-11.344 ± 0.091
PRF-fit source offset from KIC position	0.222 ± 0.087	2.57	-0.144 ± 0.078	-0.170 ± 0.092
photometric centroid source offset	3.23 ± 0.07	47.93	-1.03 ± 0.02	3.06 ± 0.07

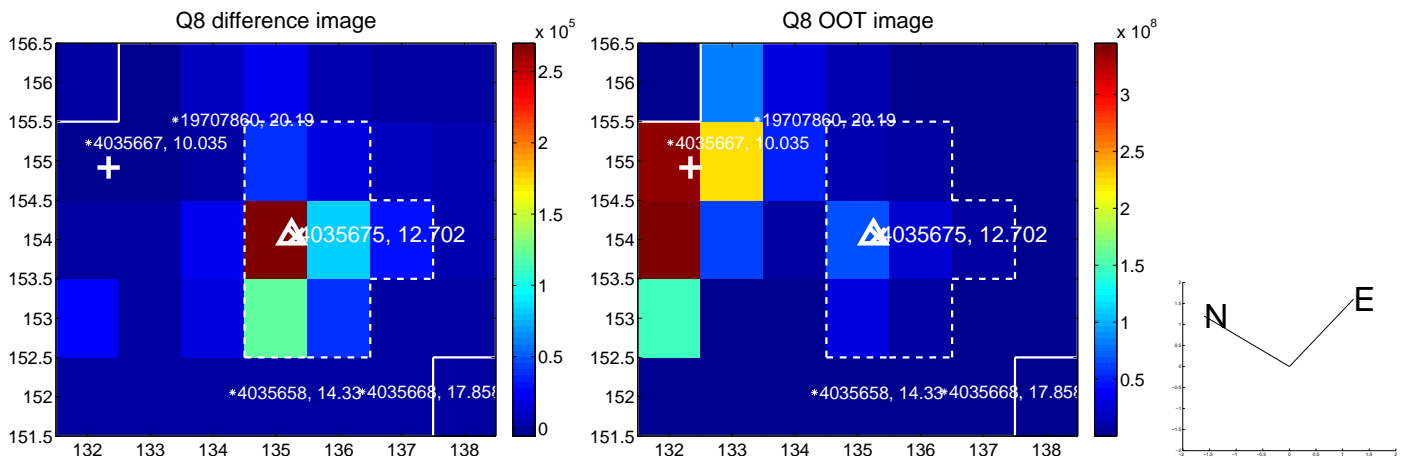
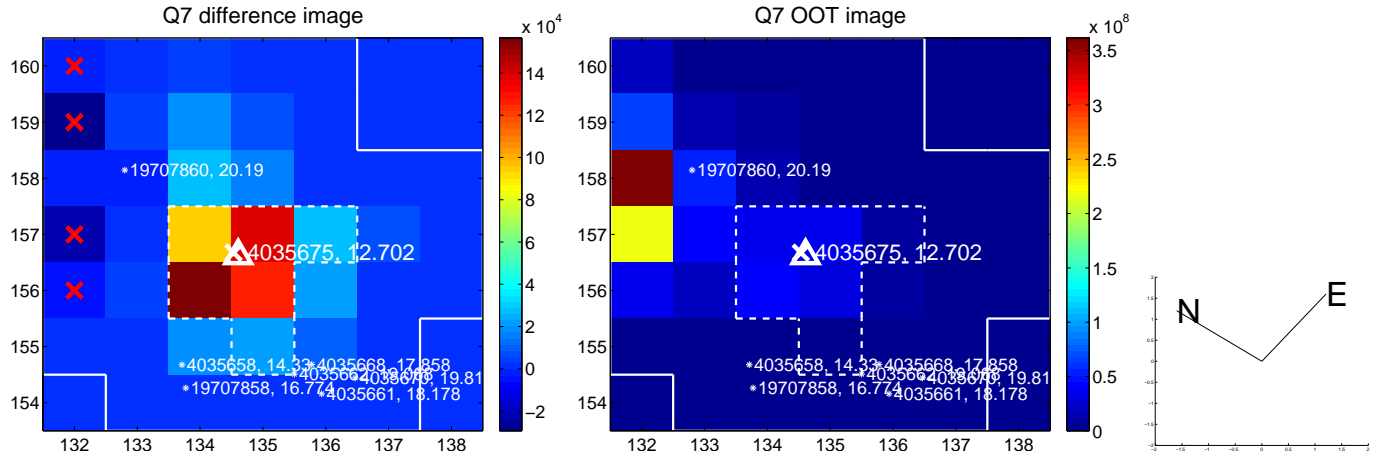
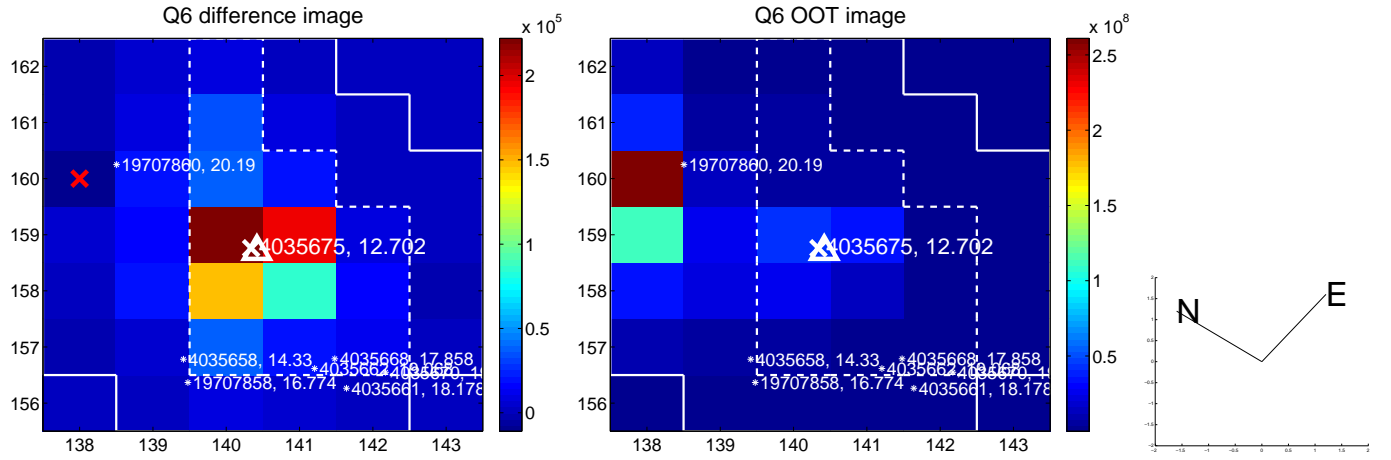
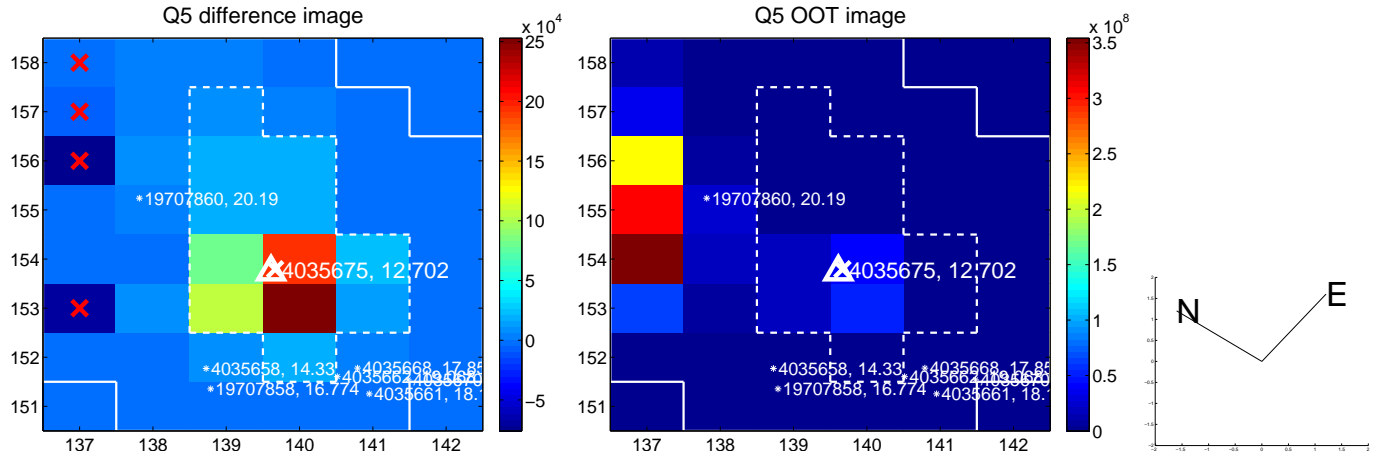


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

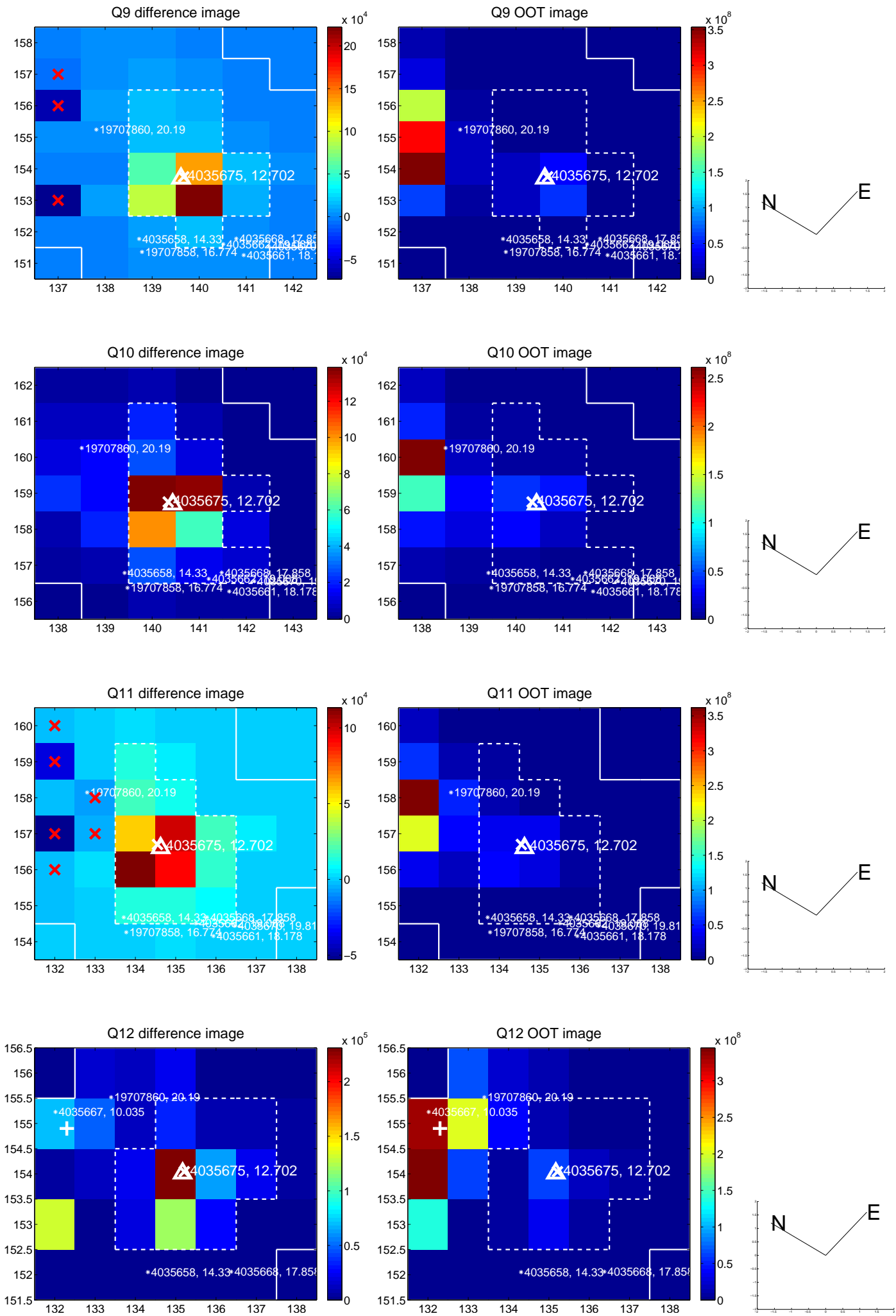
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



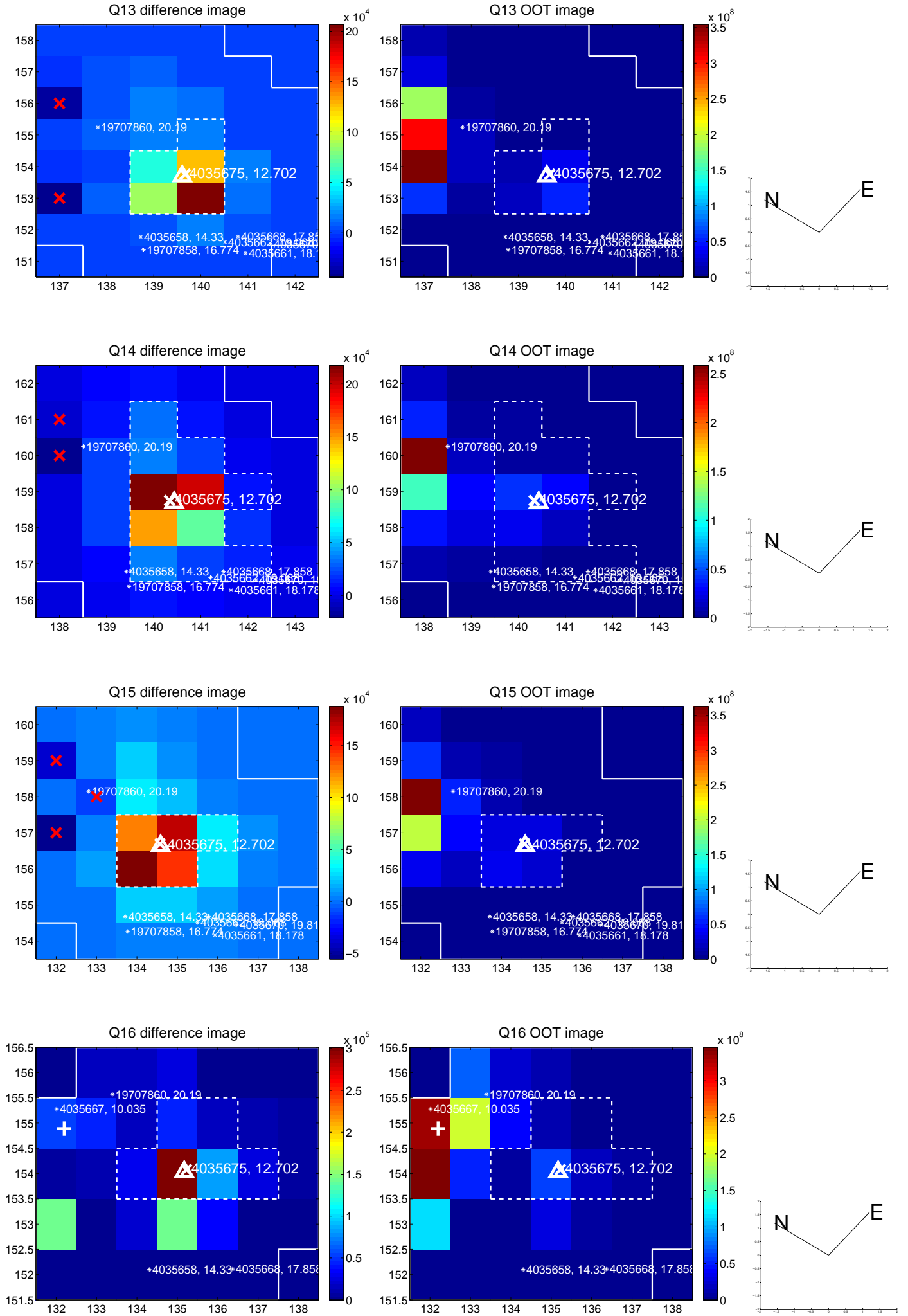
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



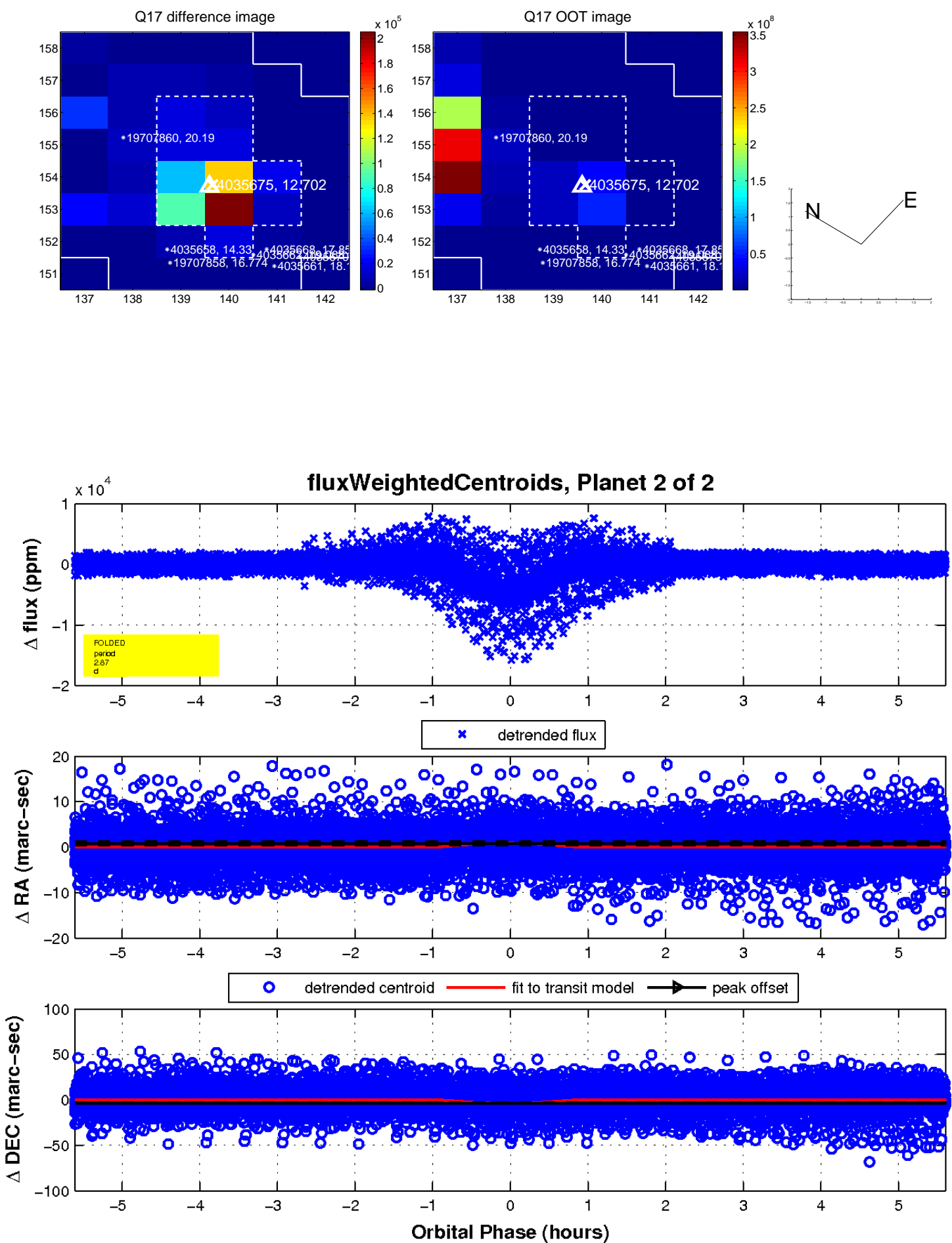
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

