

KIC 010268809

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})
010268809-01	OBS	7302.01	24.709381	138.995158	17435.7	5.075	1316.6	616.2	1.02	6065	14.92	45.39
010268809-02	OBS	No	24.709112	155.319243	23541.3	4.855	1087.9	921.1	1.02	6065	27.41	45.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010268809-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
010268809-02	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.

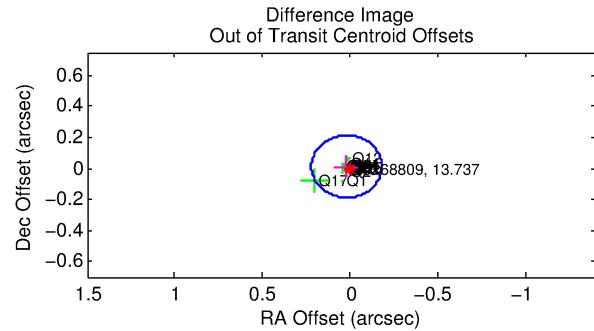
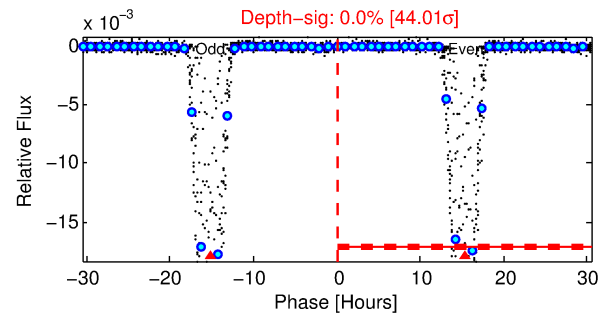
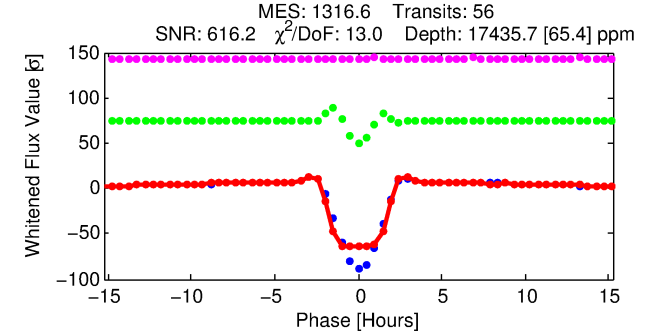
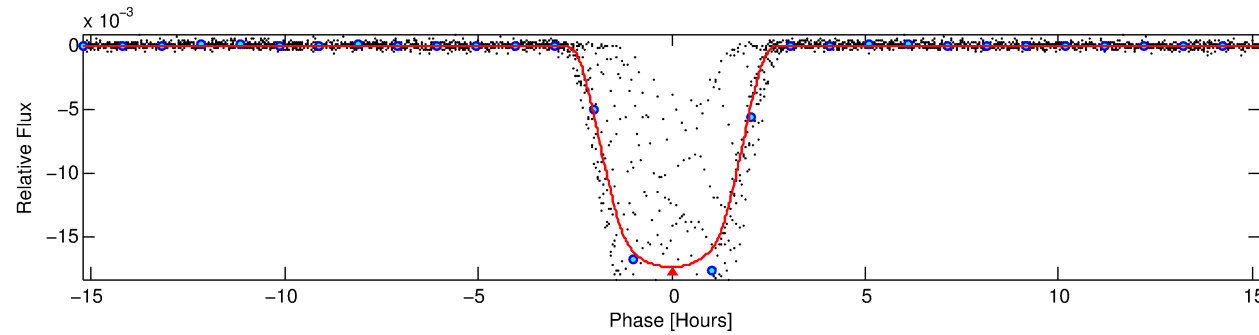
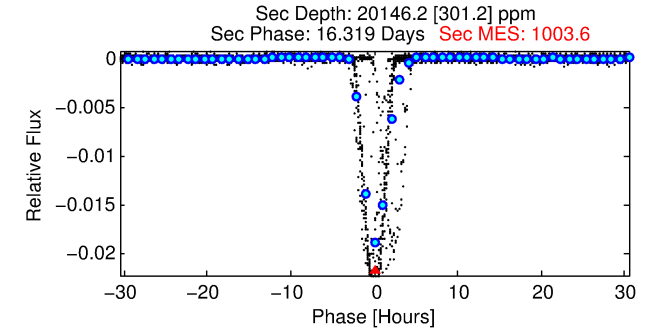
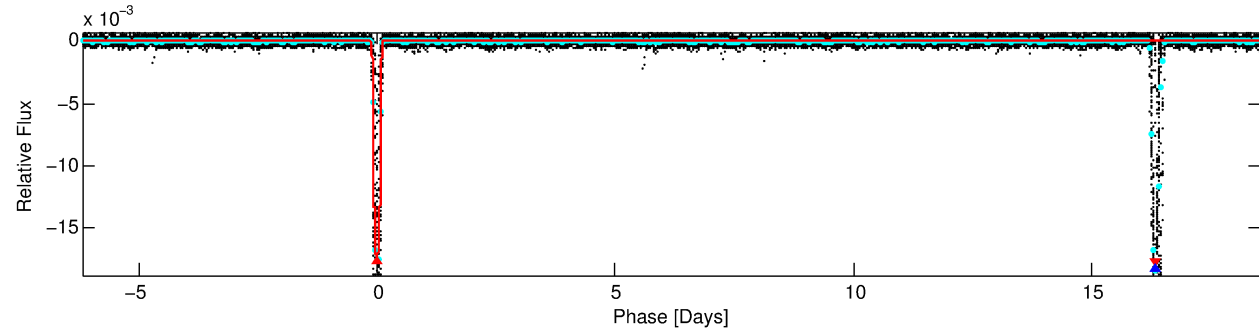
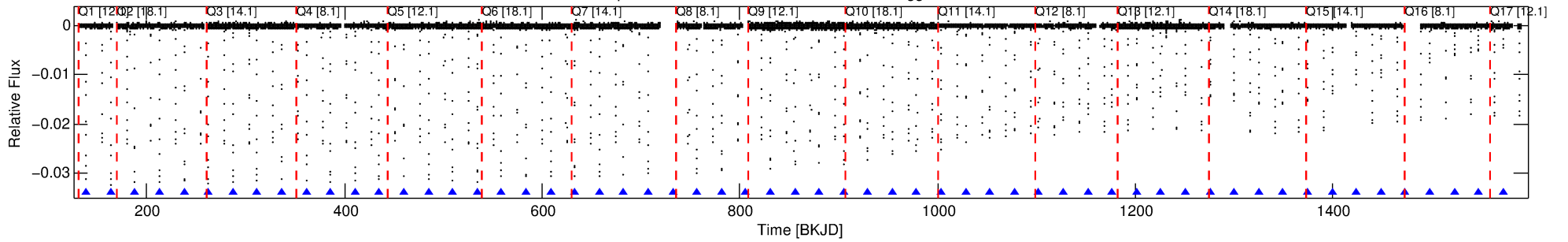
Ephemeris Match Information For 010268809-01

No Significant Match Found

DV One-Page Summary

KIC: 10268809 Candidate: 1 of 2 Period: 24.709 d
KOI: K07302.01 Corr: 0.993

Kp: 13.74 R*: 1.02 Rs Teff: 6065.0 K Logg: 4.43 Fe/H: -0.120



DV Fit Results:

Period = 24.70938 [0.00001] d
Epoch = 138.9952 [0.0003] BKJD
Rp/R* = 0.1337 [0.0004]
a/R* = 30.54 [0.21]
b = 0.78 [0.00]
Seff = 45.39 [18.79]
Teff = 6250 [187] K [28.04 σ]
Teq = 662 [68] K
Rp = 14.92 [4.81] Re
a = 0.1672 [0.0455] AU
Ag = 1391.03 [551.99] [2.52 σ]

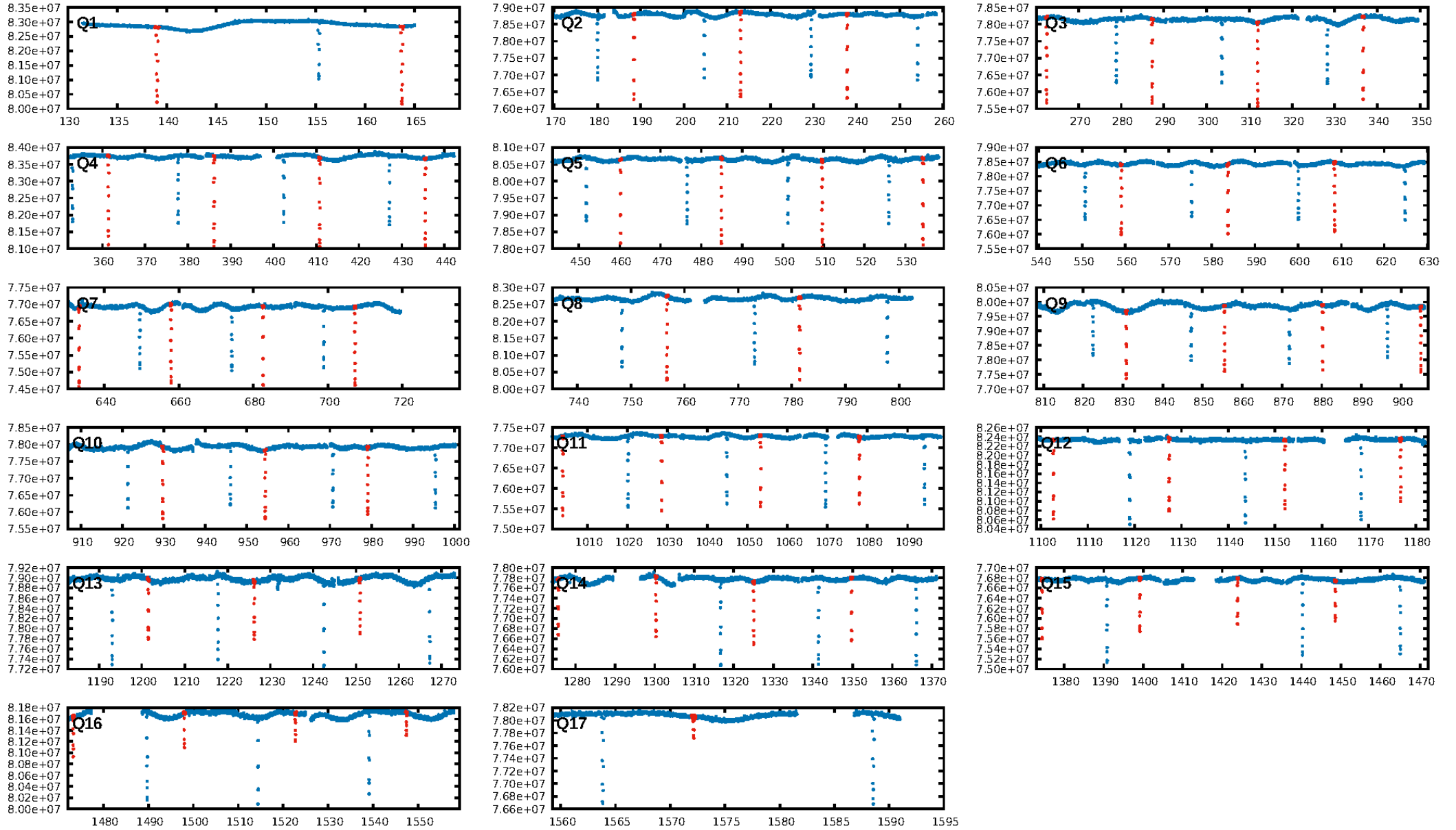
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [53/53]
GhostDiagnostic-chr: 2.278
Centroid-sig: 0.0%
Centroid-so: 0.211 arcsec [31.35 σ]
OotOffset-rm: 0.025 arcsec [0.38 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.124 arcsec [1.83 σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

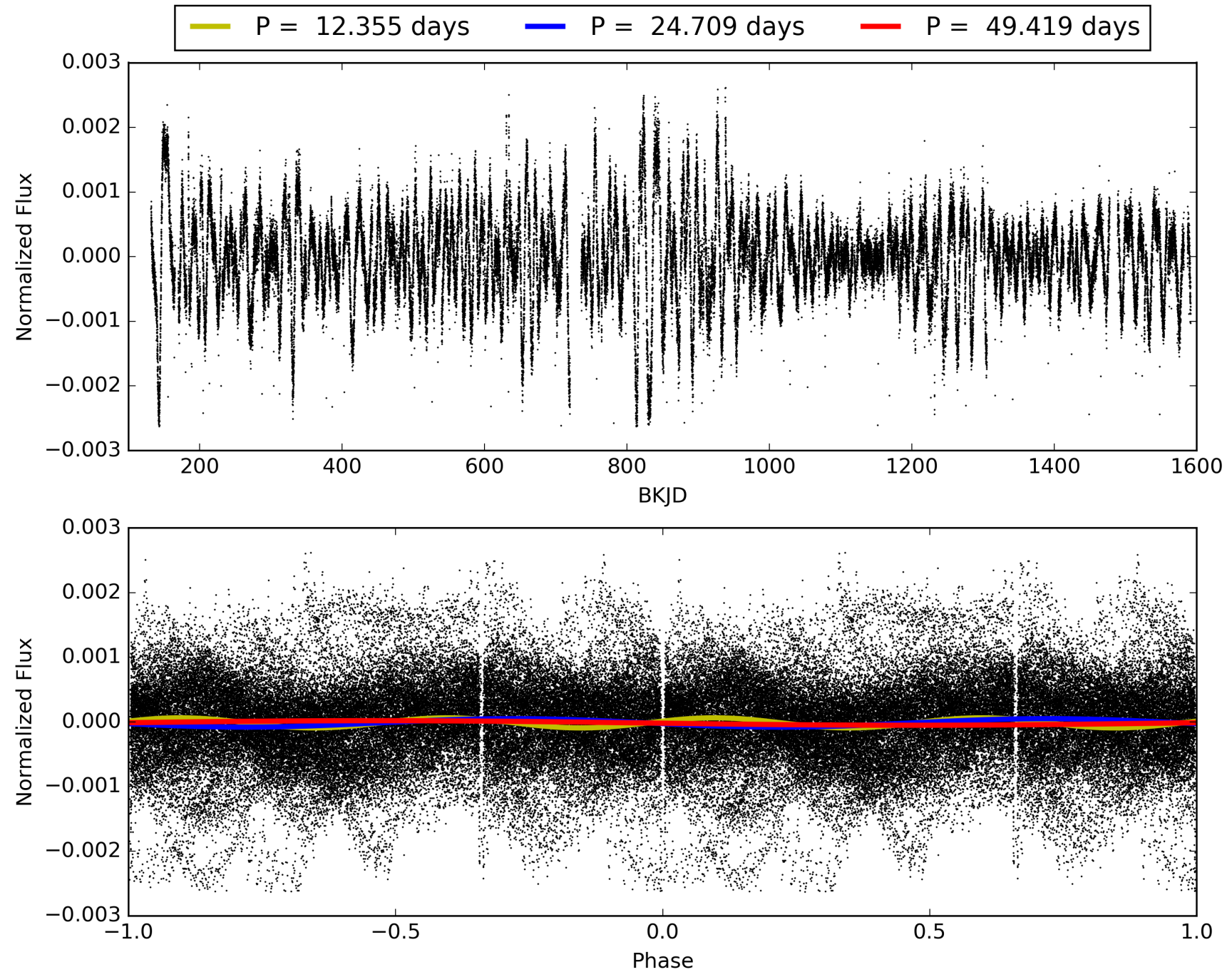
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:19:23 Z

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

TCE 010268809-01, PDC Light Curves

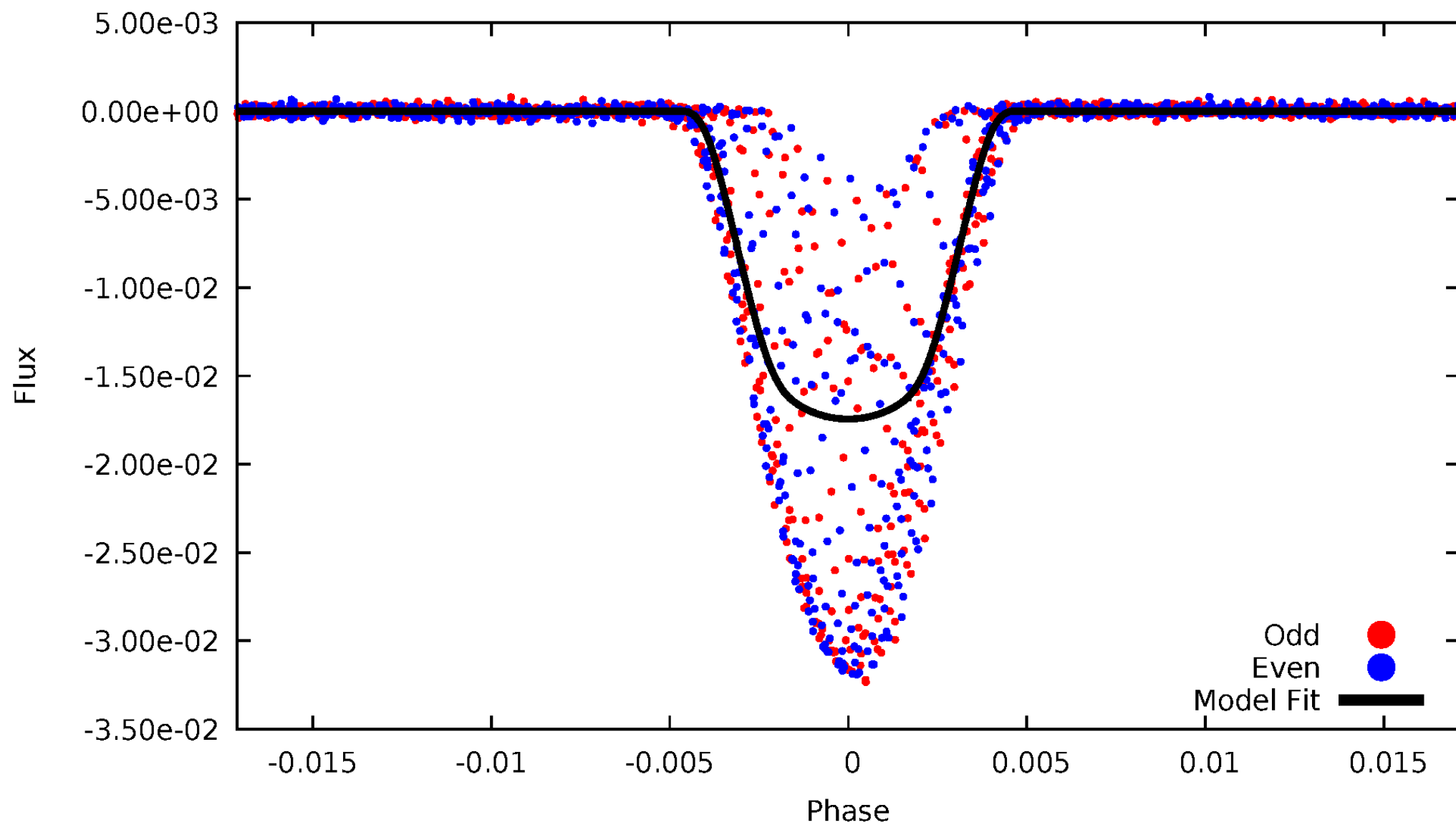


TCE 010268809-01



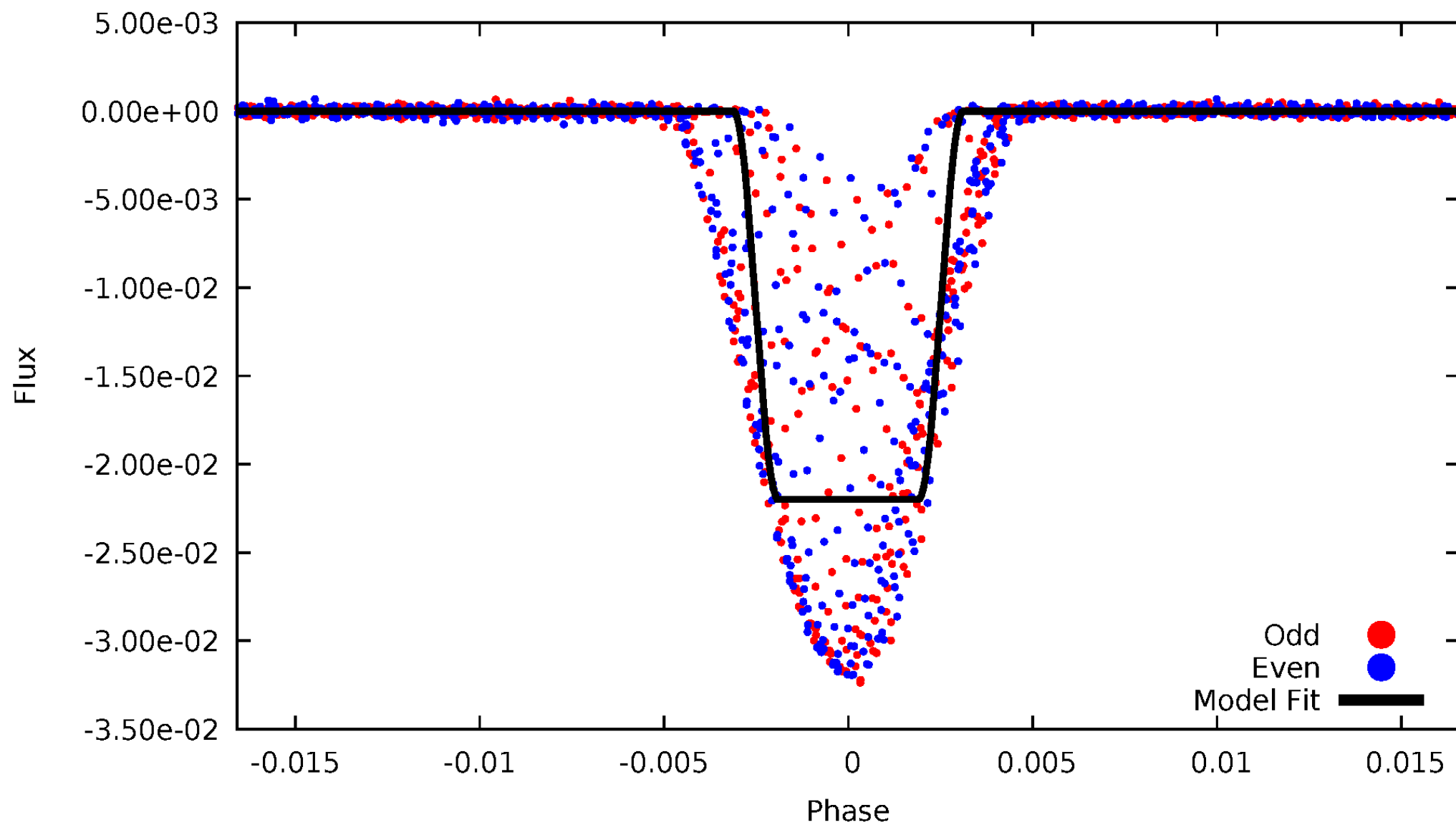
DV Odd/Even

TCE 010268809-01



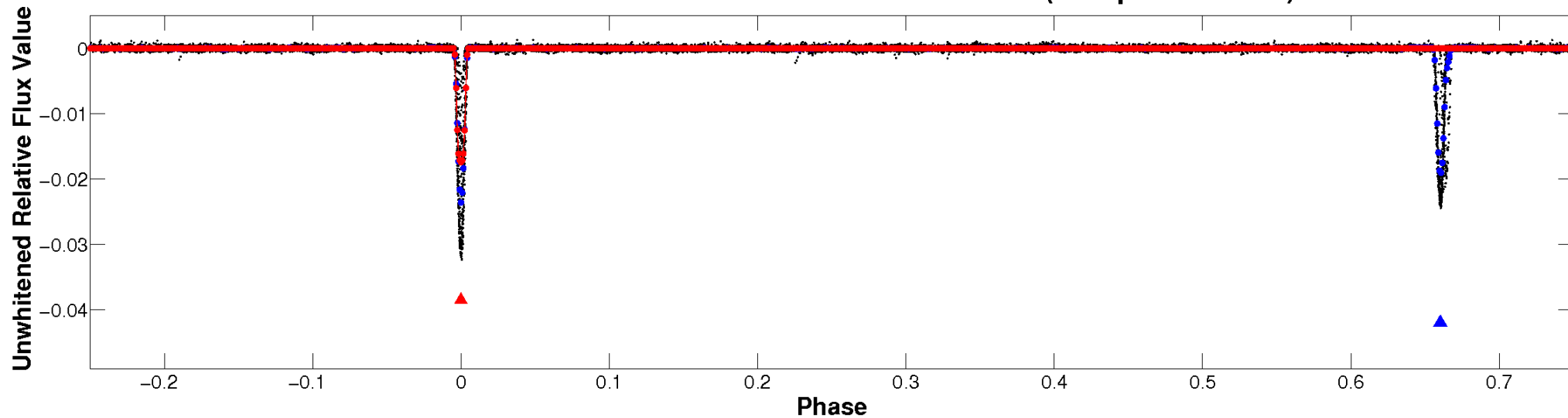
ALT Odd/Even

TCE 010268809-01

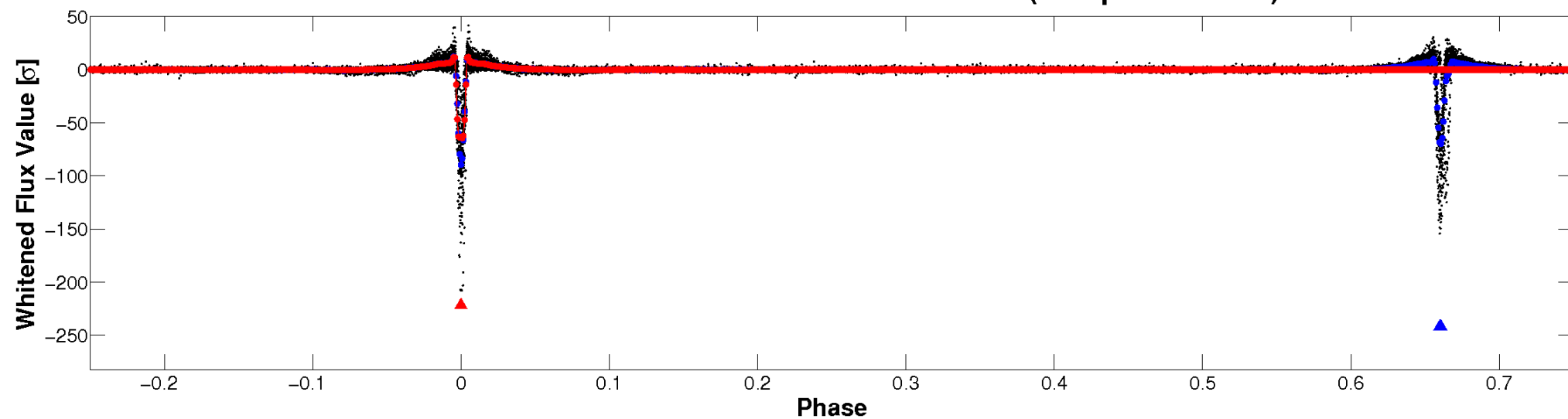


Non-Whitened Vs. Whitened Light Curve

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

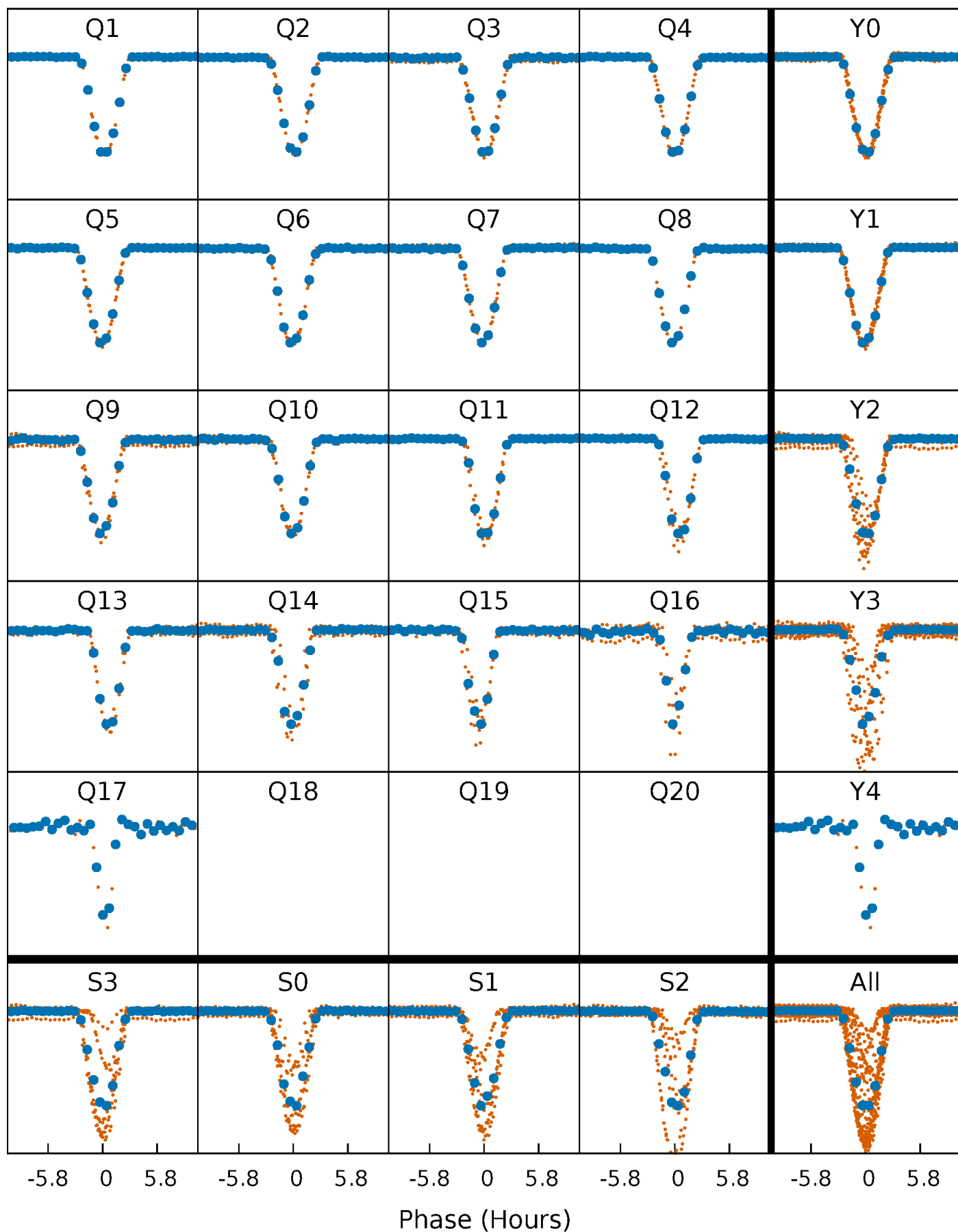


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



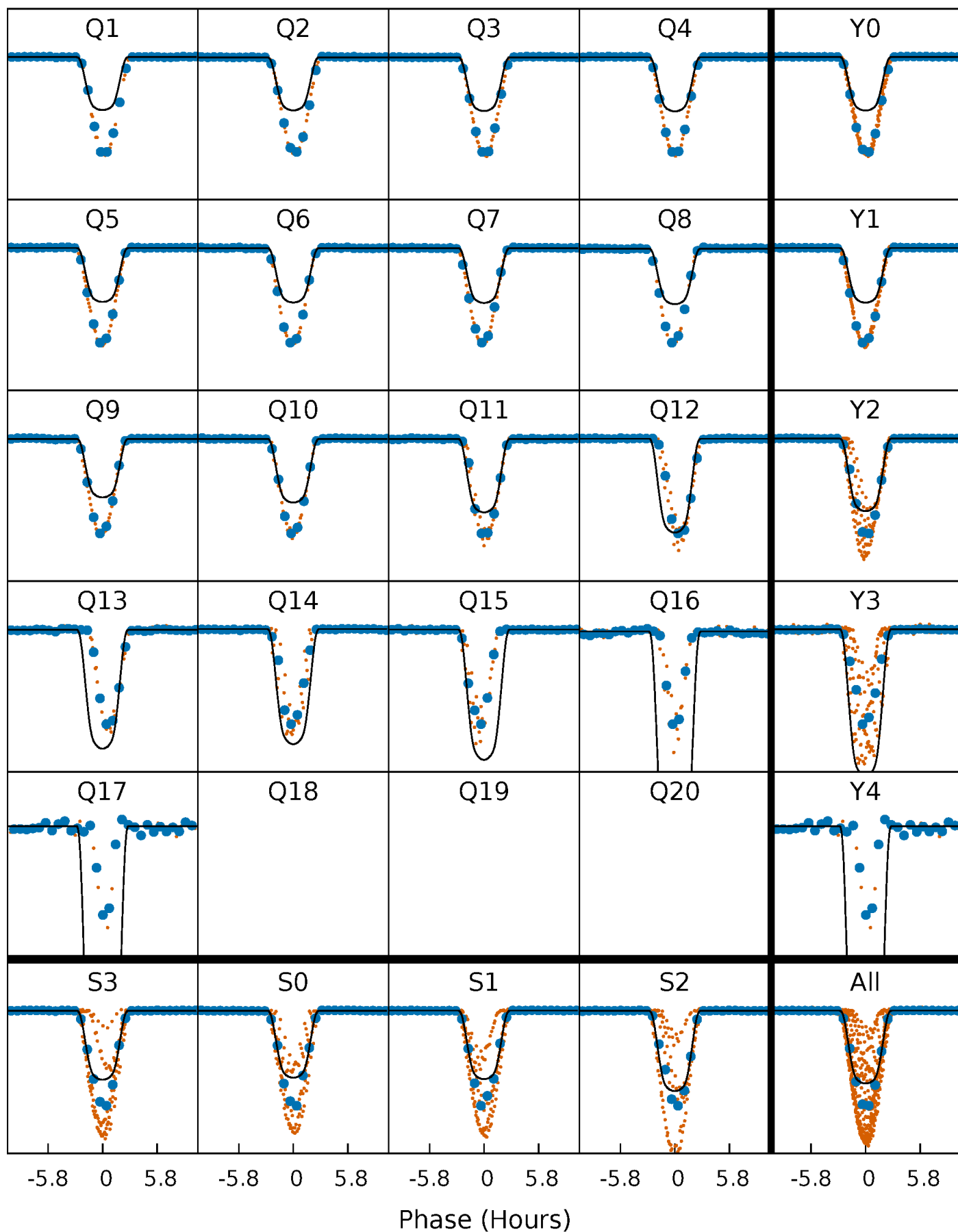
PDC Quarter-Phased Transit Curves

TCE 010268809-01 P= 24.709381 Days $T_0=138.995158$ (BKJD)



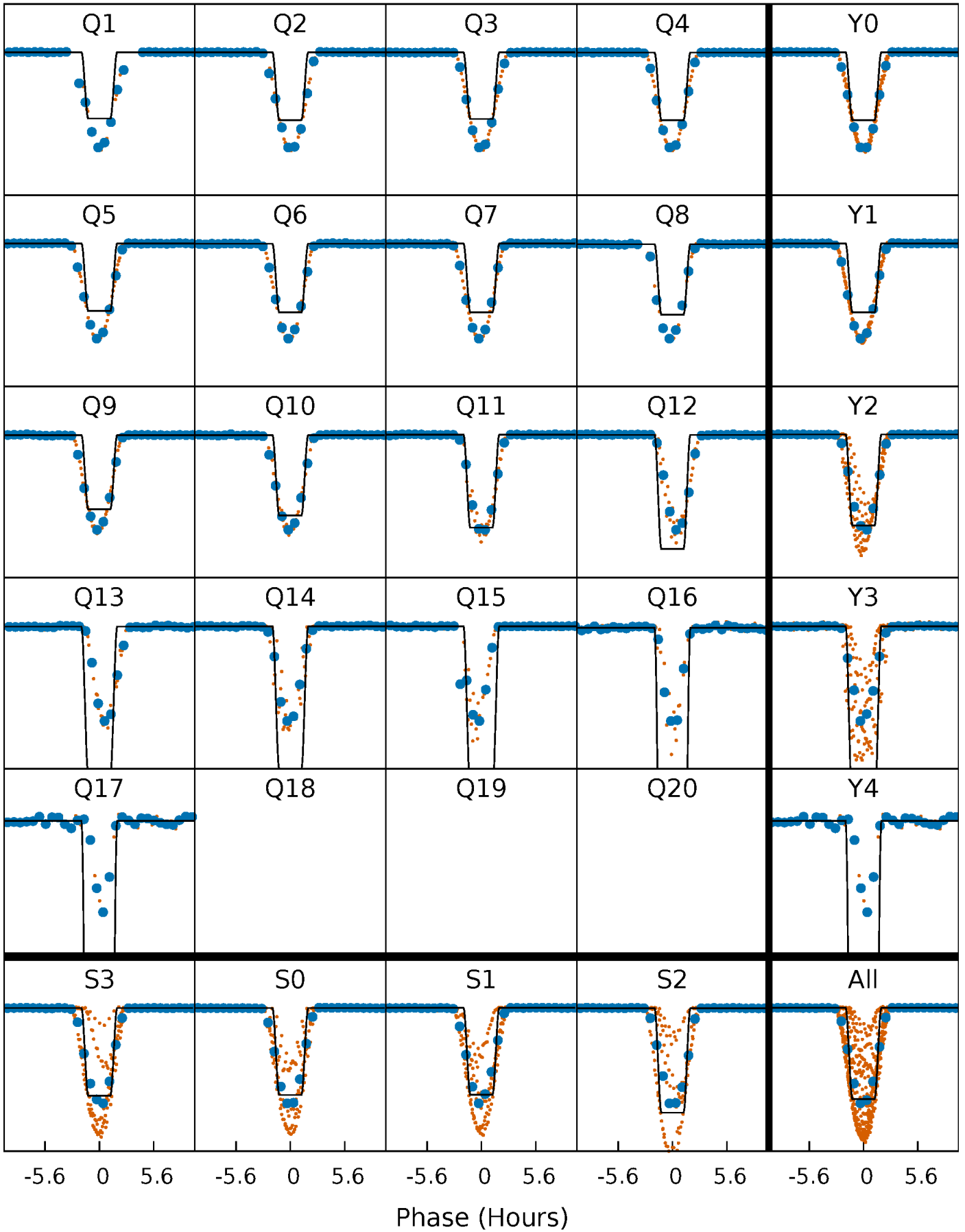
DV Quarter-Phased Transit Curves

TCE 010268809-01 P= 24.709381 Days $T_0=138.995158$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

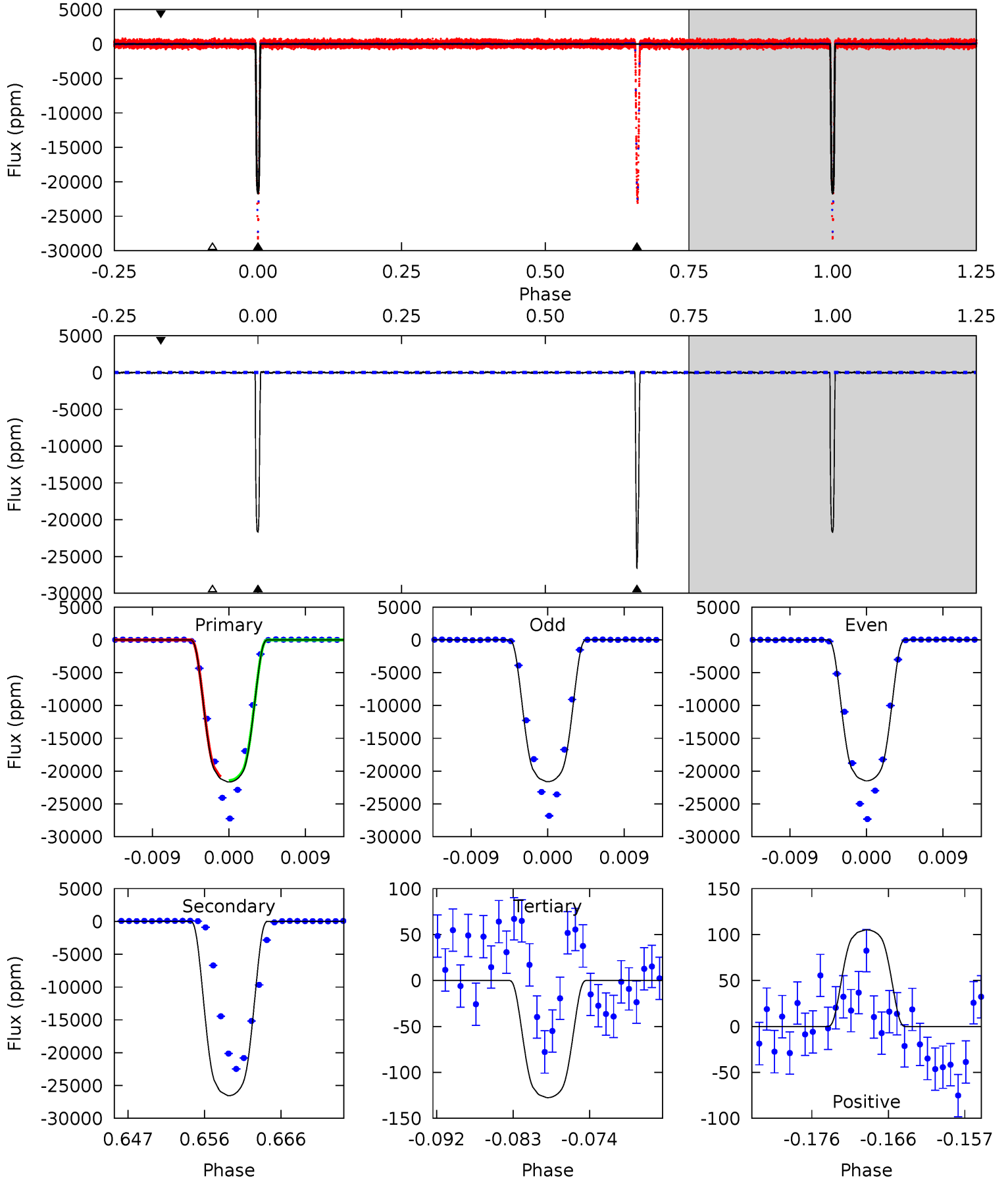
TCE 010268809-01 P= 24.709307 Days $T_0=138.999291$ (BKJD)



DV Model-Shift Uniqueness Test

010268809-01, P = 24.709381 Days, E = 114.285777 Days

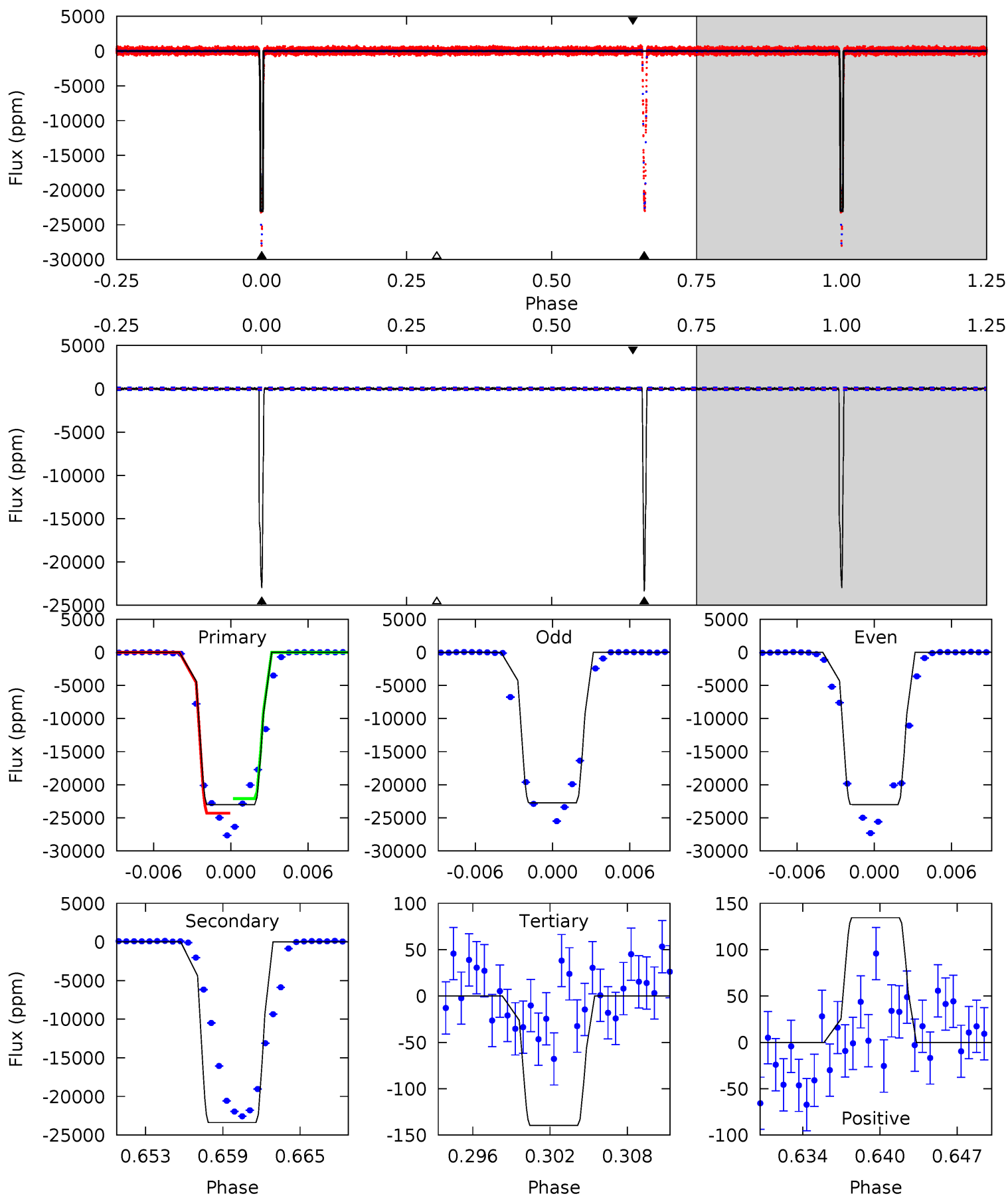
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1272	1559	7.48	6.17	5.04	2.60	2.25	1265	1266	1551	1553	3.72	0.84	0.01	0



Alt Model-Shift Uniqueness Test

010268809-01, P = 24.709307 Days, E = 114.289984 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
700.4	712.0	4.25	4.09	5.12	2.74	1.12	696.2	696.4	707.8	707.9	3.97	0.83	0.01	0



Stellar Parameters For KIC 010268809

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6065^{+180}_{-180}	$4.427^{+0.072}_{-0.217}$	$-0.120^{+0.300}_{-0.300}$	$1.023^{+0.330}_{-0.132}$	$1.018^{+0.153}_{-0.126}$	$1.341^{+0.496}_{-0.694}$
	+3%/-3%	+2%/-5%	+250%/-250%	+32%/-13%	+15%/-12%	+37%/-52%
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 010268809-01 / KOI 7302.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-26556 ± 17	$15.27^{+2.81}_{-1.32}$	944^{+76}_{-51}	6765^{+211}_{-227}	1748^{+309}_{-452}
Alt.	-23384 ± 33	$16.89^{+2.92}_{-1.44}$	939^{+71}_{-48}	6177^{+196}_{-178}	1266^{+209}_{-298}

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 $A_{obs} \gg 1.0$

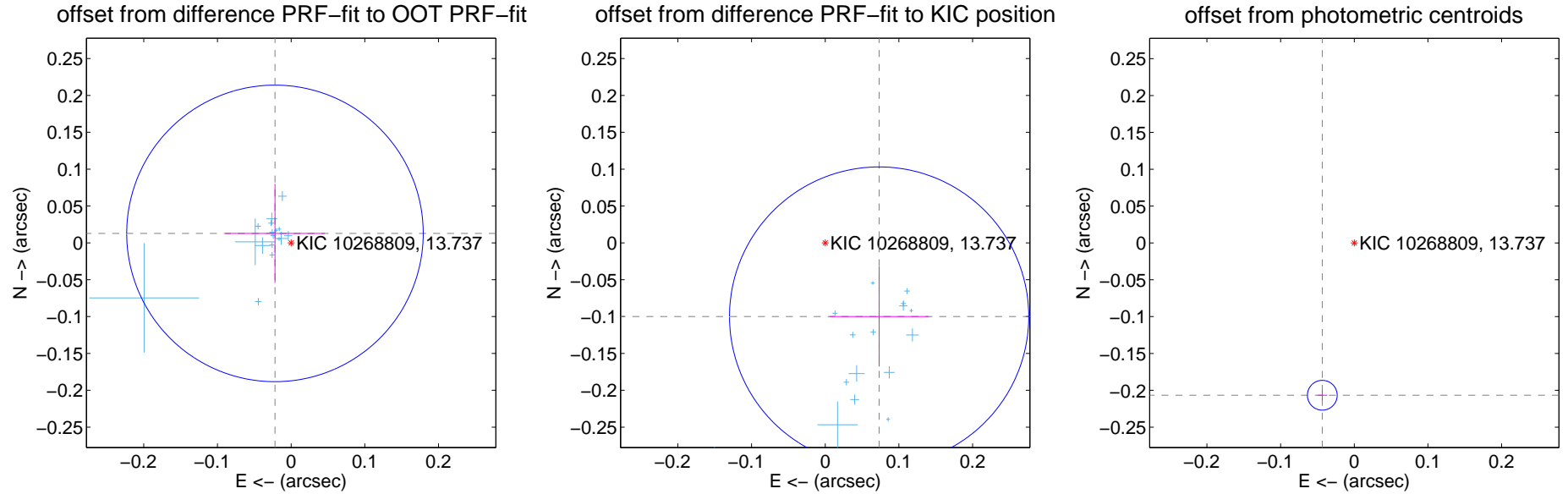
DV Centroid Data

Supplemental centroid analysis for 010268809-01. Kepler magnitude: 13.74. Transit SNR 616.20

There are 17 quarters with good PRF difference image offsets

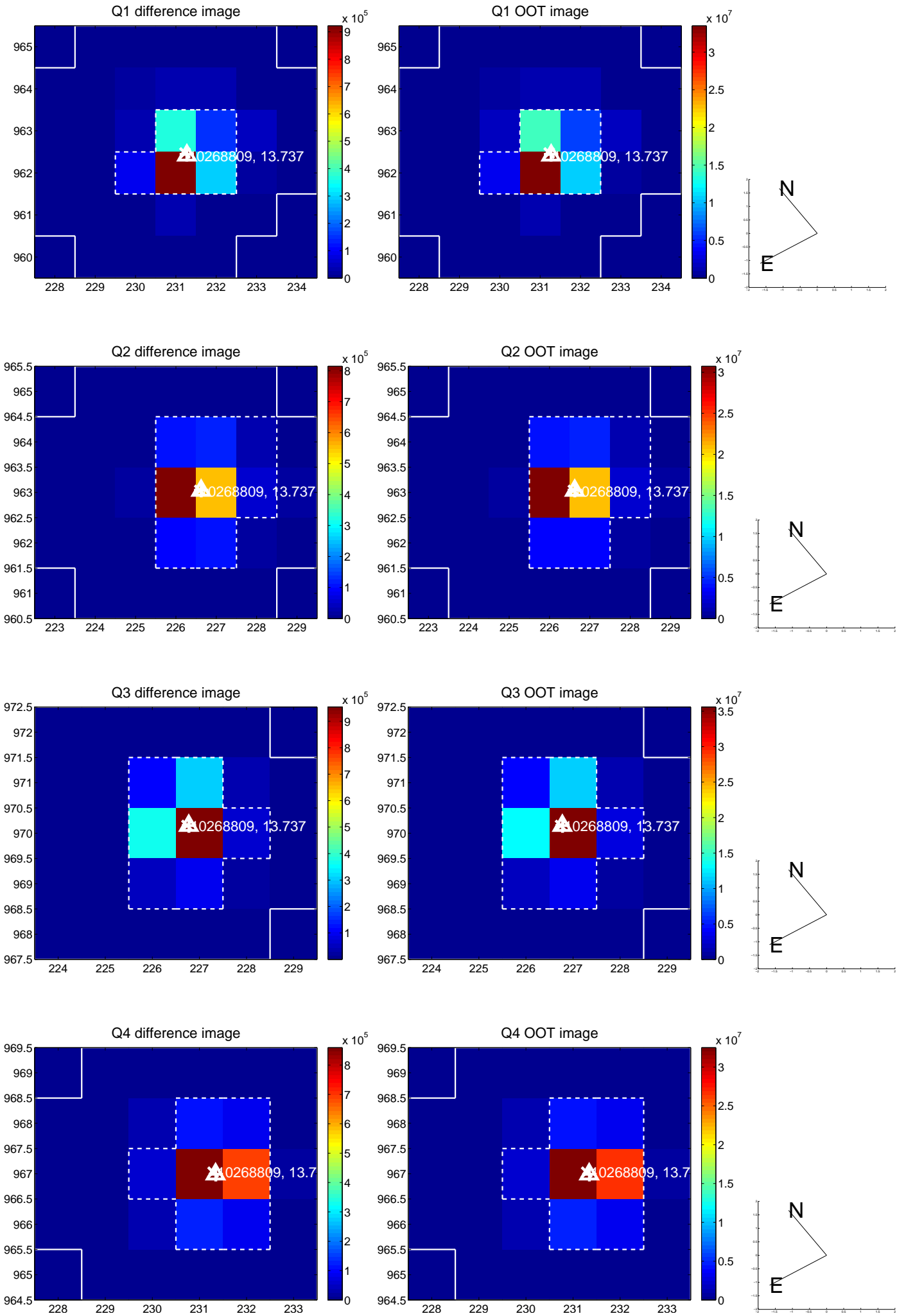
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.025 ± 0.067	0.38	0.022 ± 0.067	0.013 ± 0.067
PRF-fit source offset from KIC position	0.124 ± 0.068	1.83	-0.073 ± 0.067	-0.100 ± 0.068
photometric centroid source offset	0.21 ± 0.01	31.35	0.04 ± 0.01	-0.21 ± 0.01

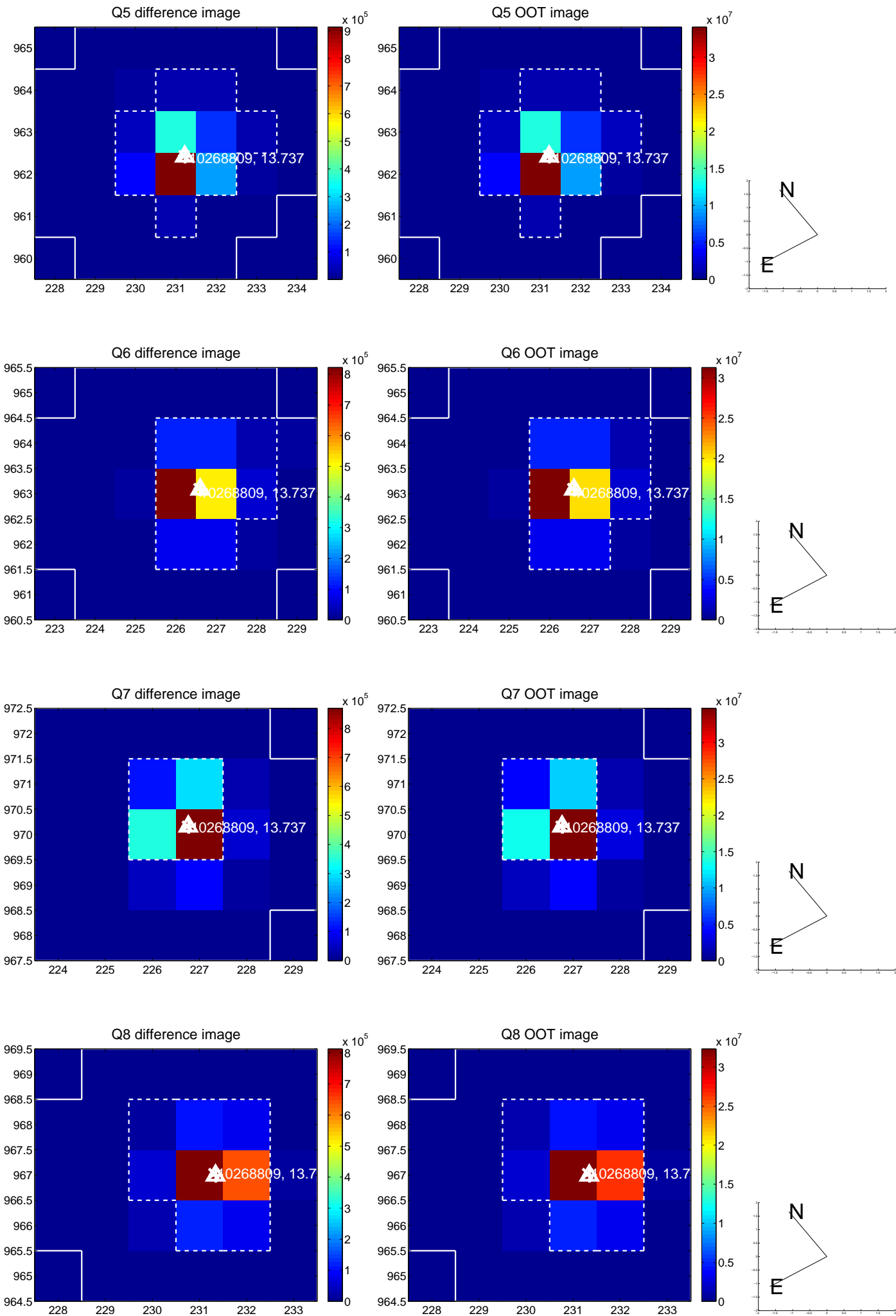


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

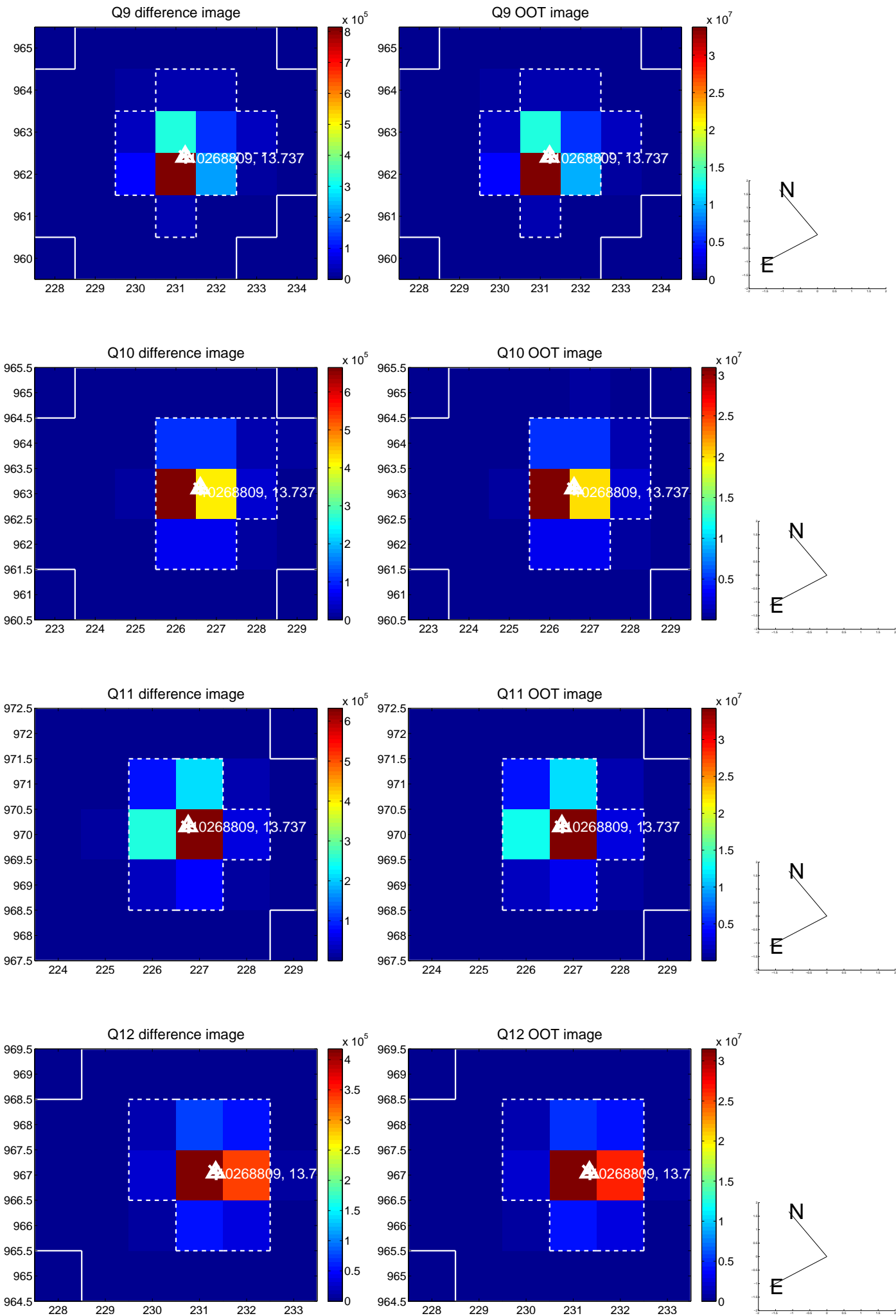
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



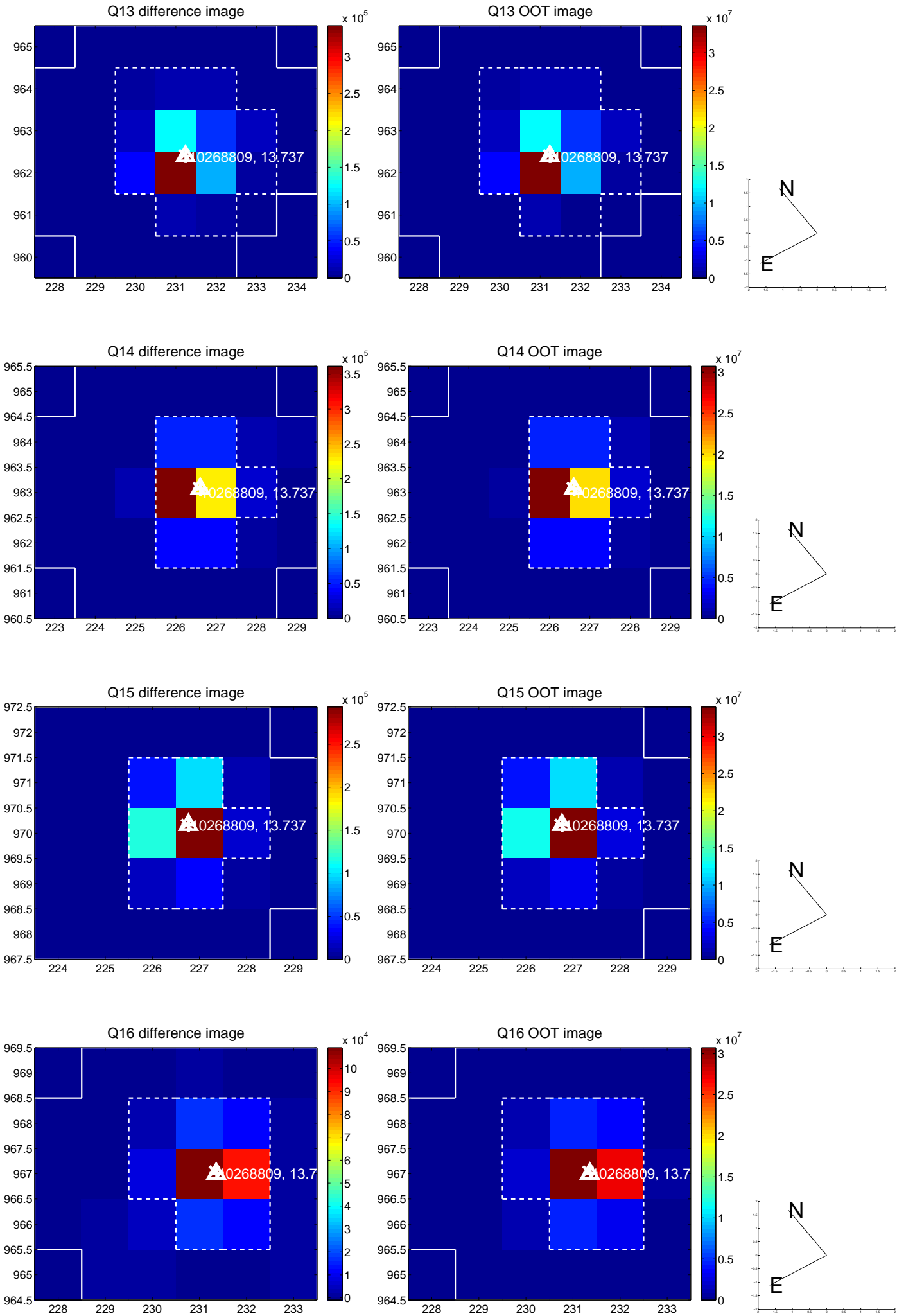
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



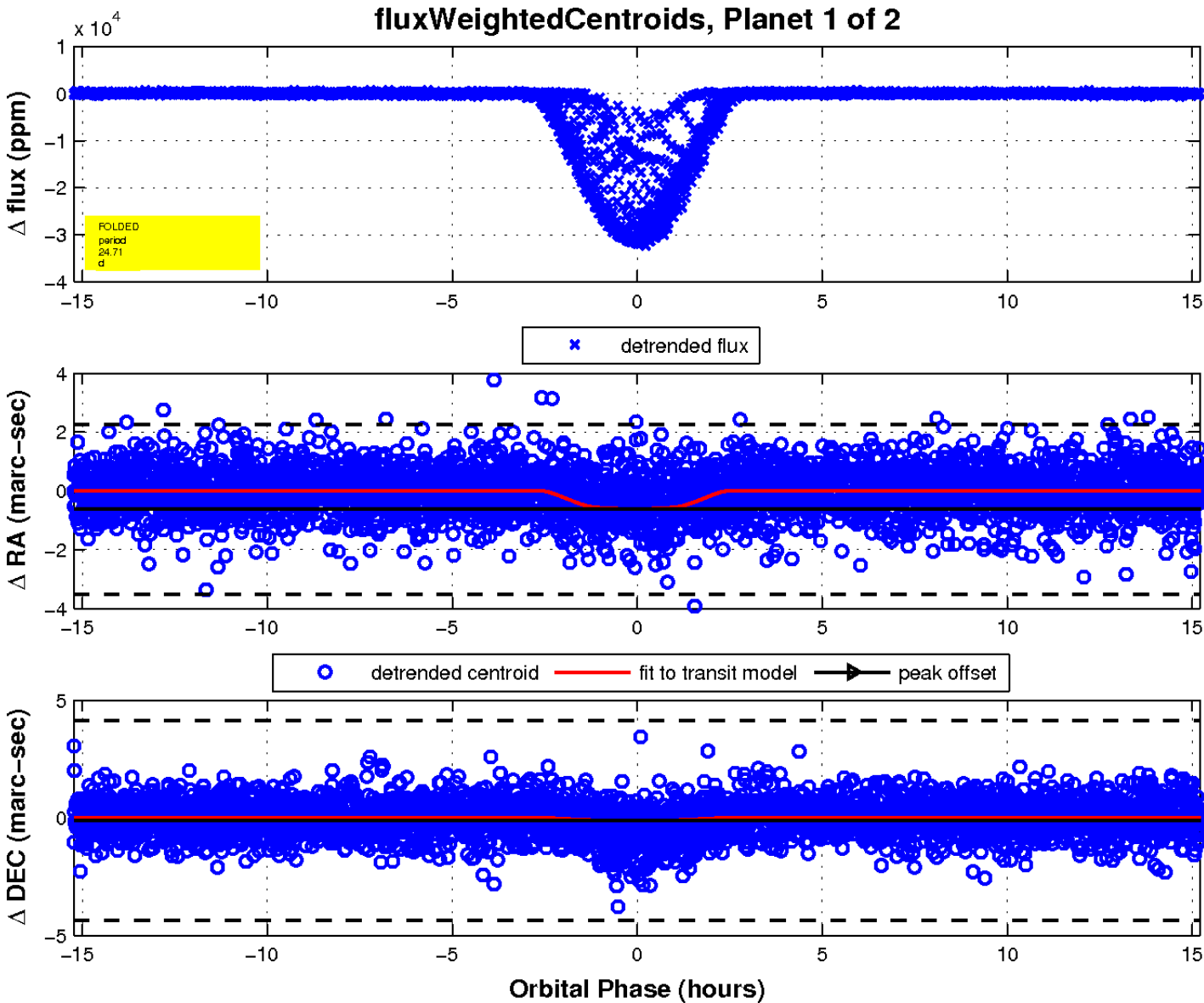
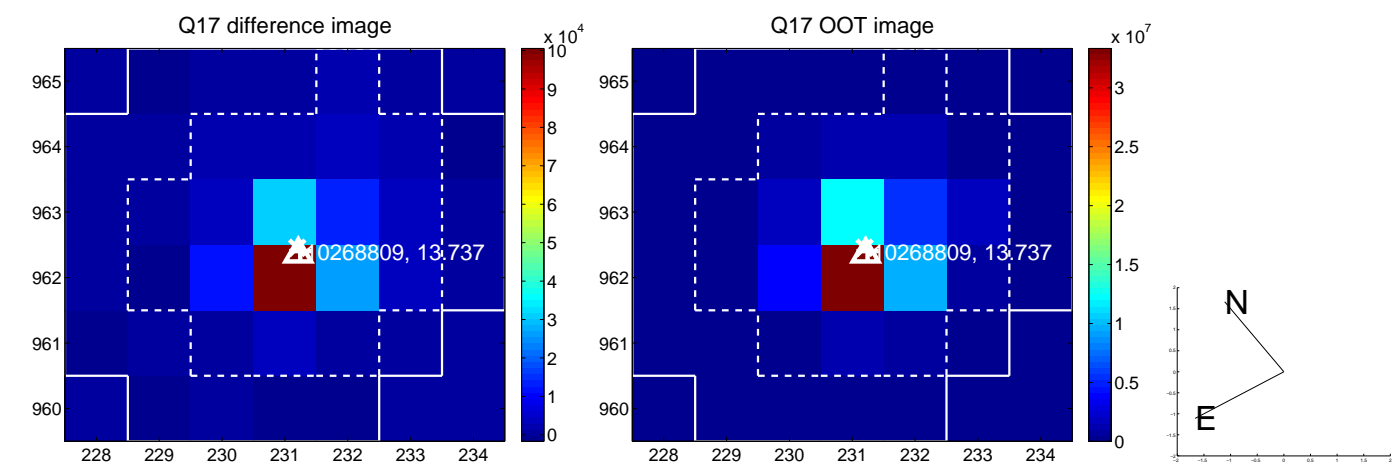
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

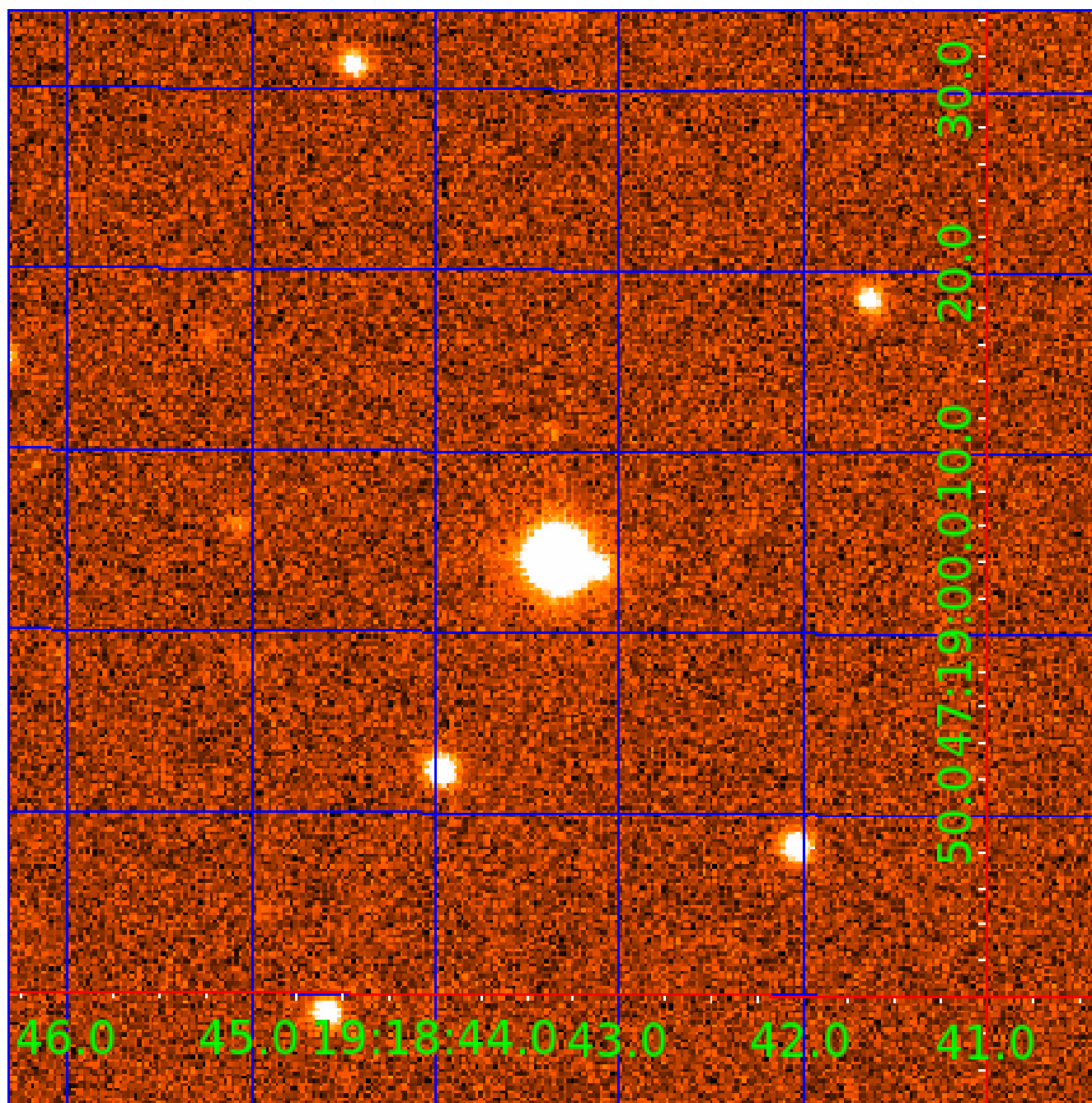


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010268809

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})
010268809-01	OBS	7302.01	24.709381	138.995158	17435.7	5.075	1316.6	616.2	1.02	6065	14.92	45.39
010268809-02	OBS	No	24.709112	155.319243	23541.3	4.855	1087.9	921.1	1.02	6065	27.41	45.39

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010268809-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
010268809-02	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.

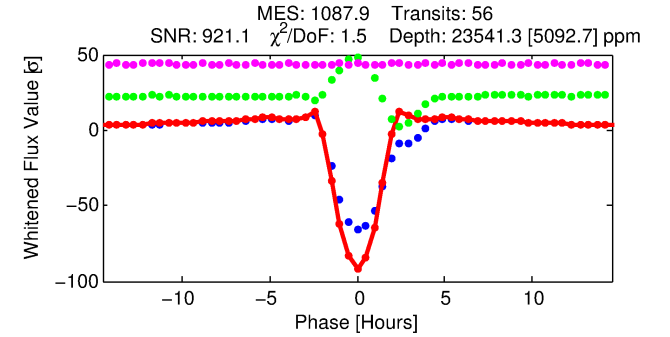
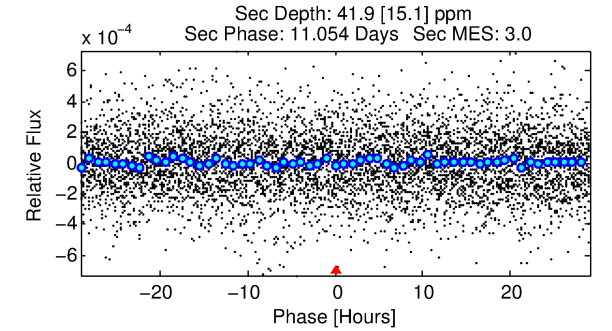
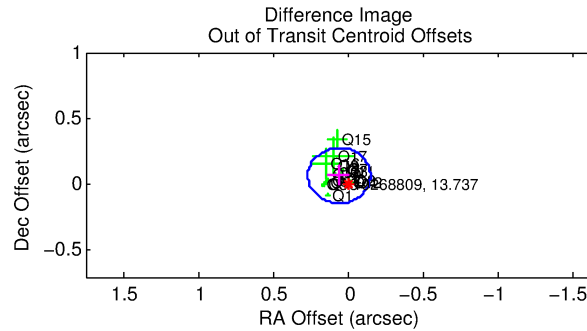
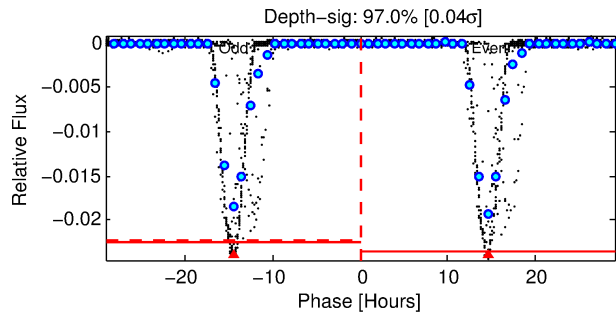
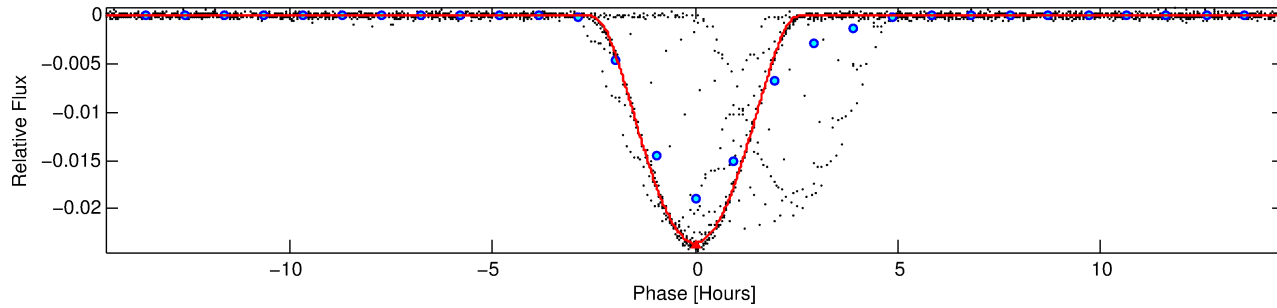
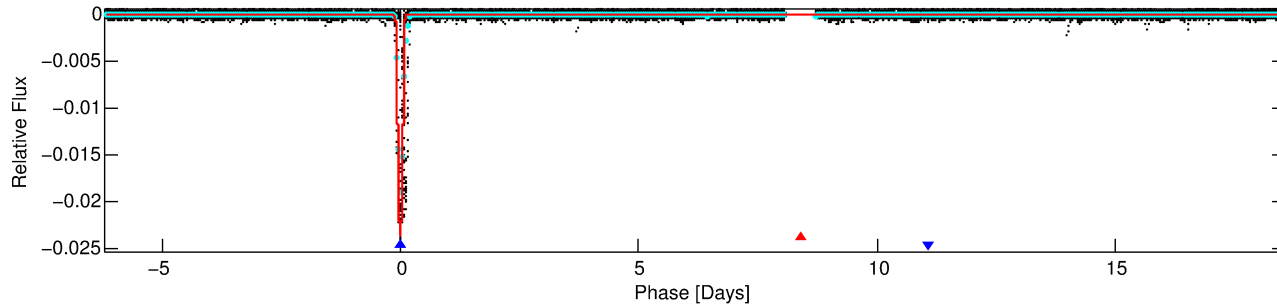
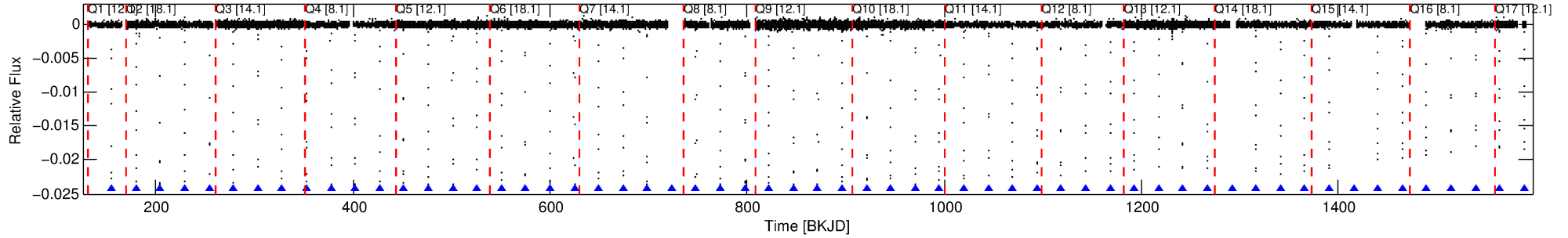
Ephemeris Match Information For 010268809-02

No Significant Match Found

DV One-Page Summary

KIC: 10268809 Candidate: 2 of 2 Period: 24.709 d
KOI: K07302 Corr: No Ephemeris Match

Kp: 13.74 R*: 1.02 Rs Teff: 6065.0 K Logg: 4.43 Fe/H: -0.120



DV Fit Results:

Period = 24.70911 [0.00000] d
Epoch = 155.3192 [0.0001] BKJD
Rp/R* = 0.2456 [0.0169]
a/R* = 28.89 [0.17]
b = 1.00 [0.01]
Seff = 45.39 [18.79]
Teq = 662 [68] K
Rp = 27.41 [9.04] Re
a = 0.1672 [0.0455] AU
Ag = 0.86 [0.47] [-0.30σ]
Teffp = 985 [100] K [2.67σ]

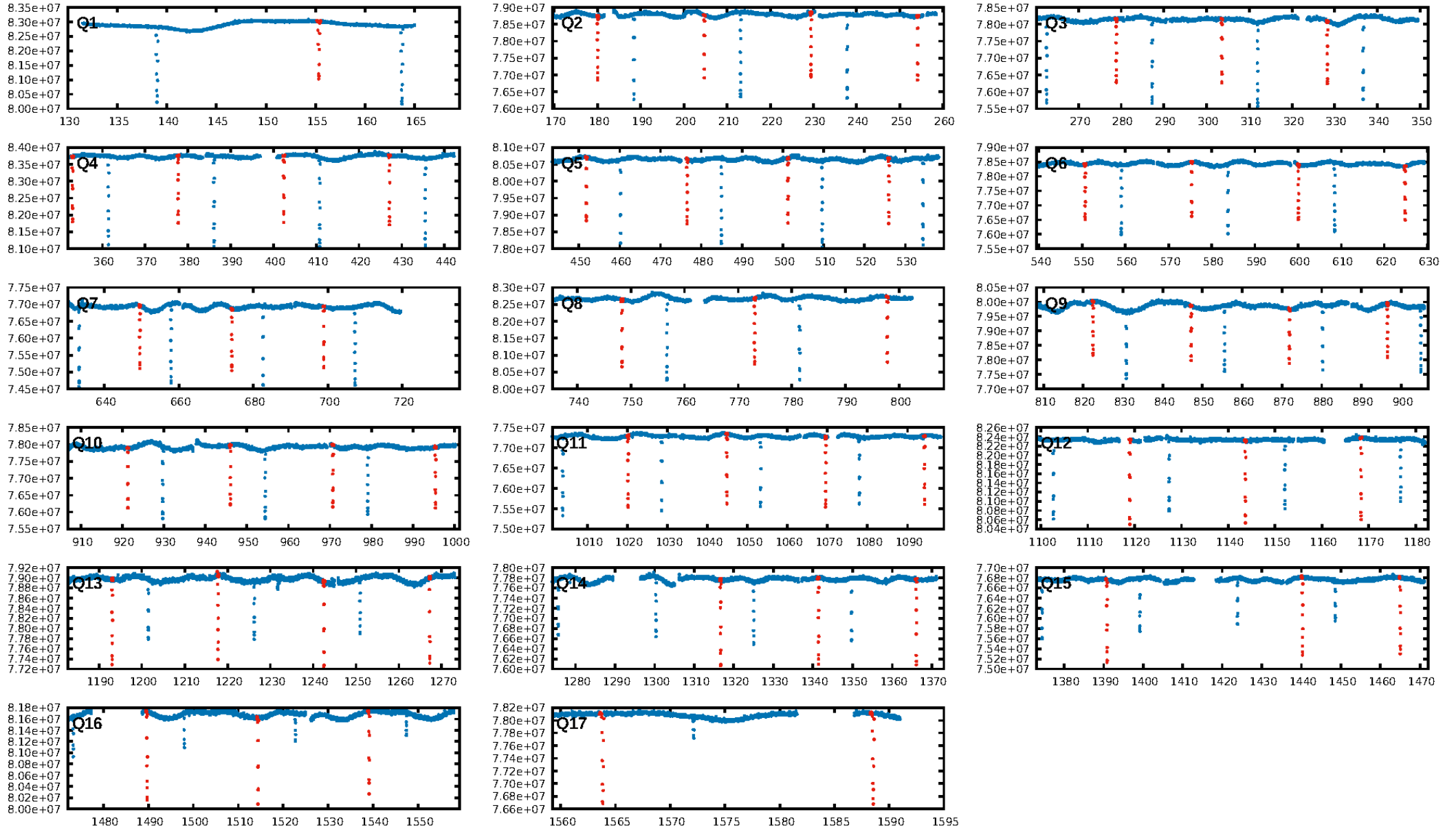
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.1% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 19.9%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [53/53]
GhostDiagnostic-chr: 2.936
Centroid-sig: 0.0%
Centroid-so: 0.145 arcsec [24.12σ]
OotOffset-rm: 0.089 arcsec [1.27σ]
KicOffset-rm: 0.075 arcsec [1.05σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

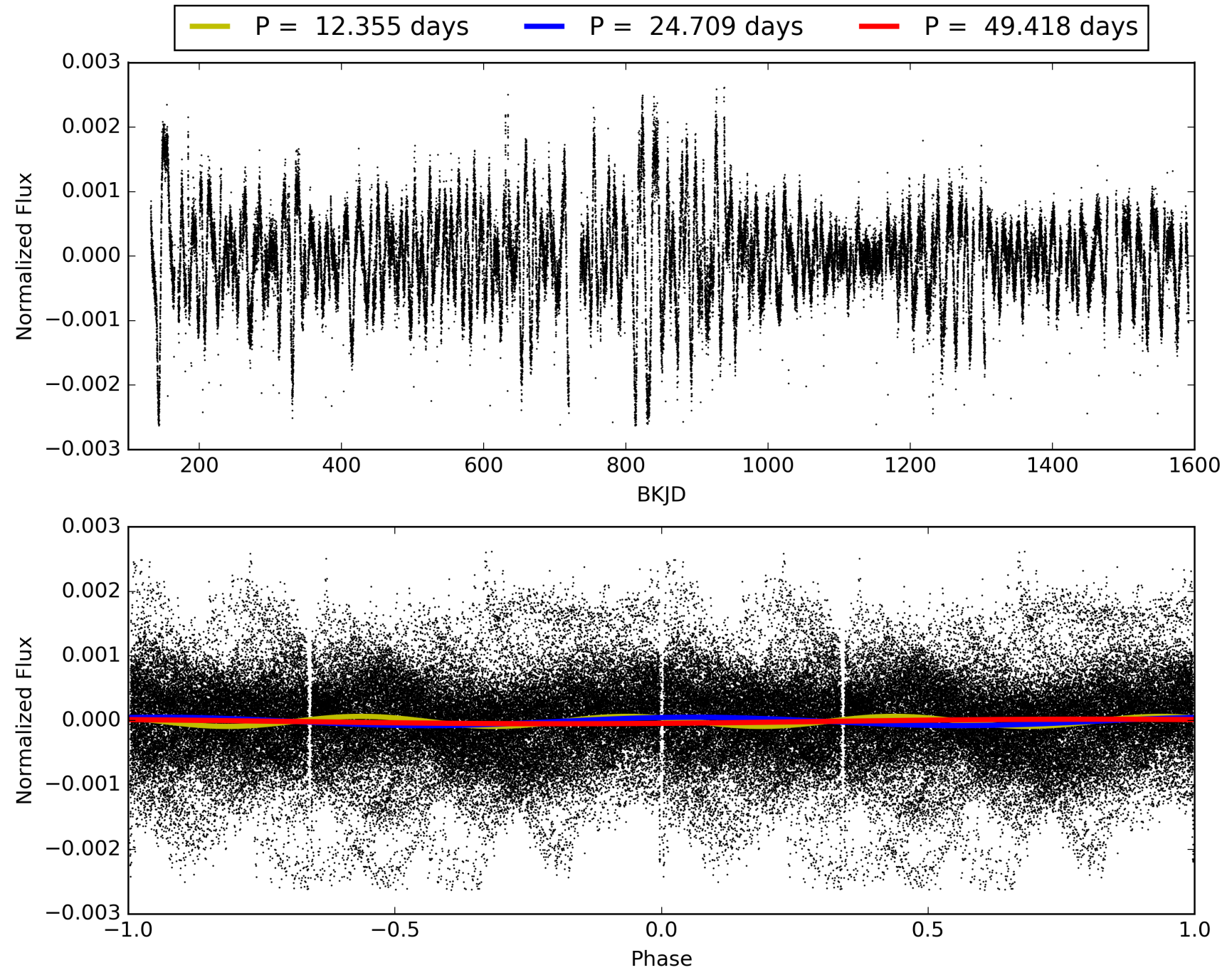
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:19:28 Z

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

TCE 010268809-02, PDC Light Curves

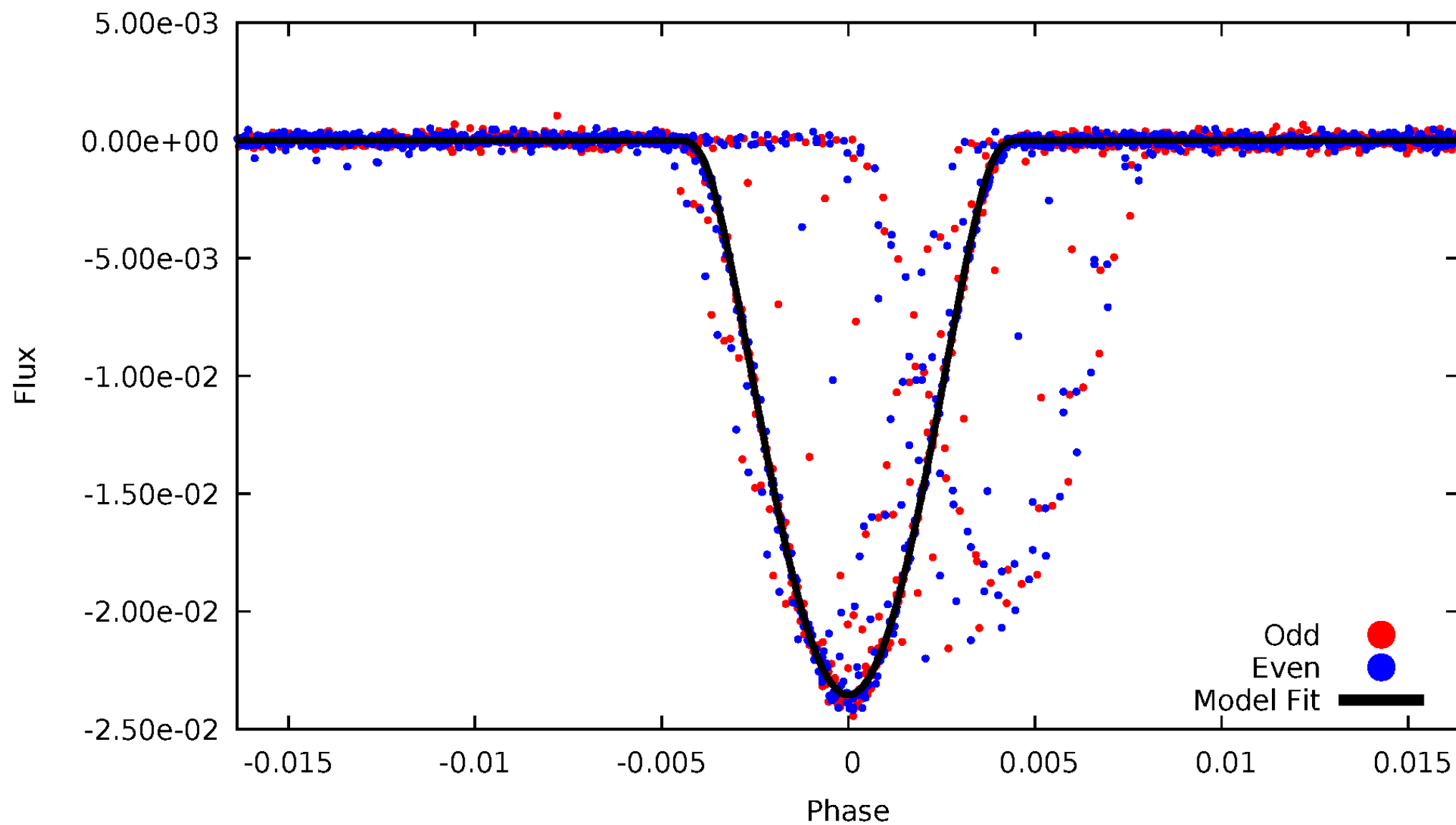


TCE 010268809-02



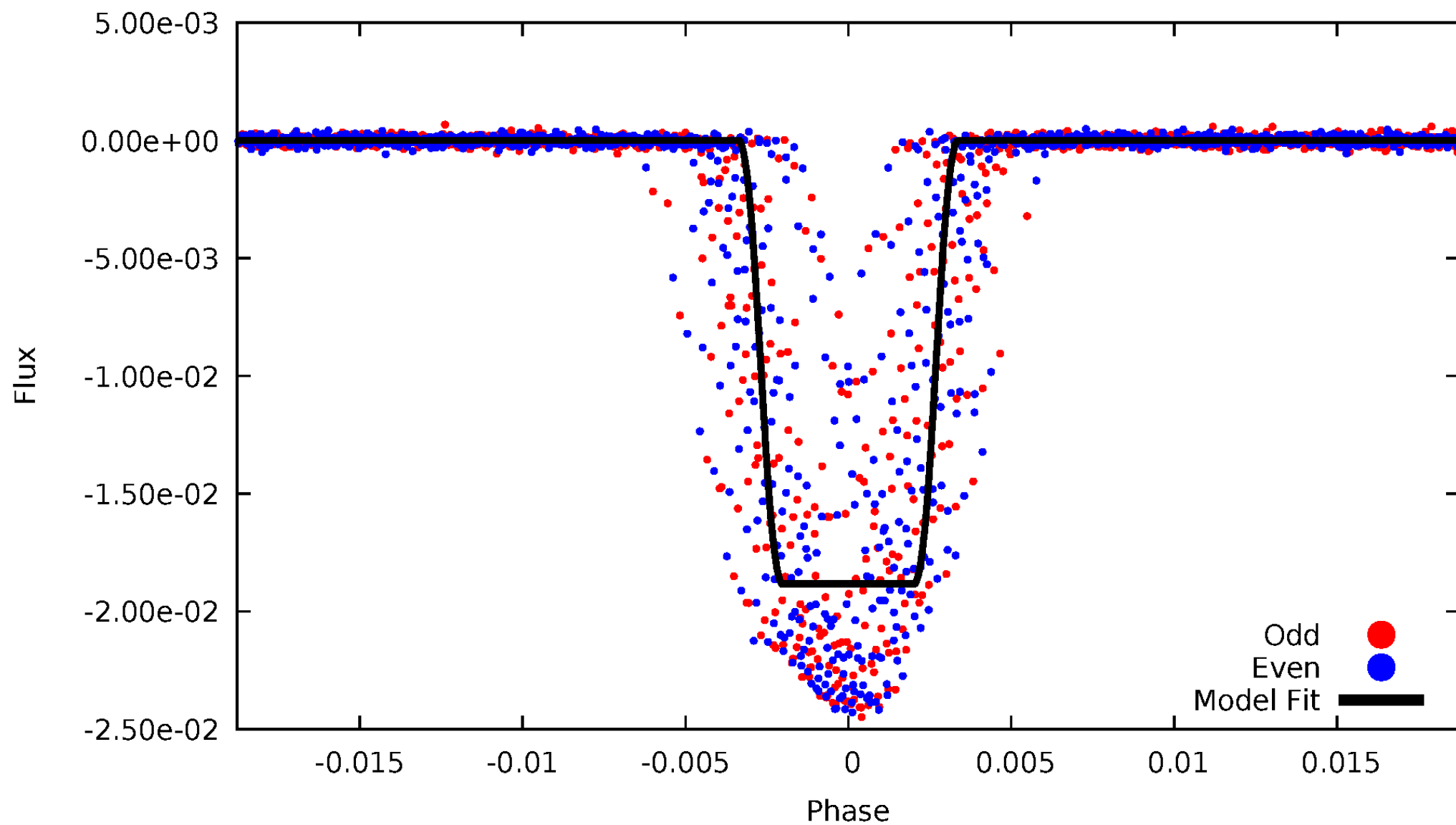
DV Odd/Even

TCE 010268809-02



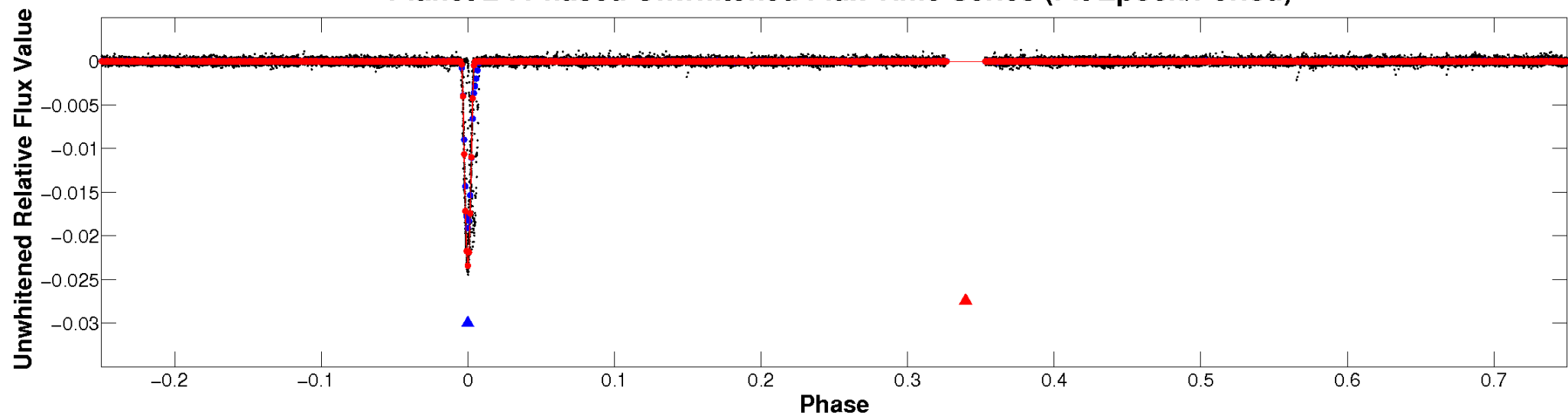
ALT Odd/Even

TCE 010268809-02

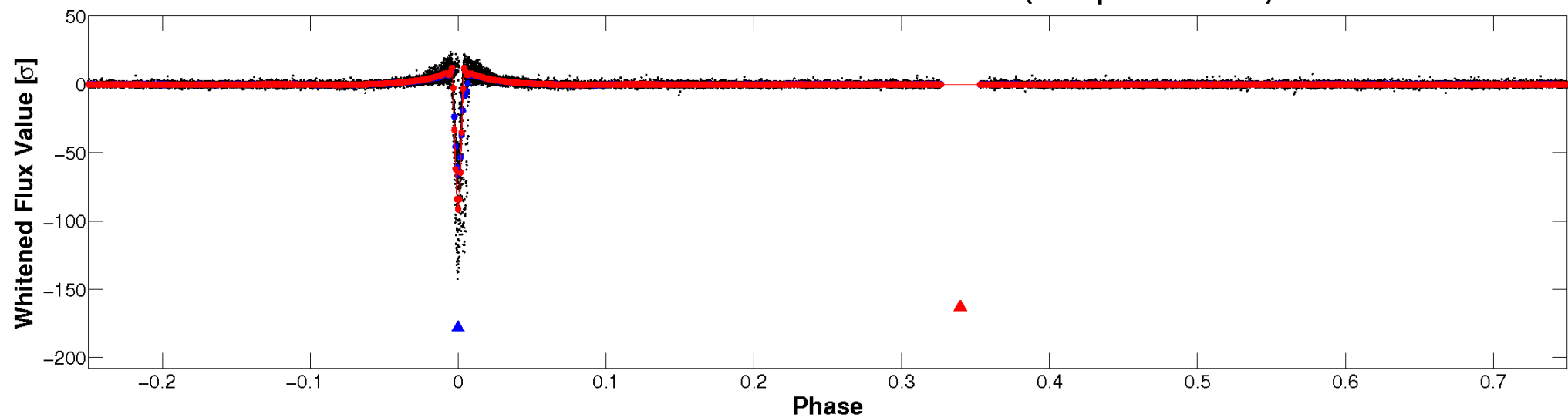


Non-Whitened Vs. Whitened Light Curve

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

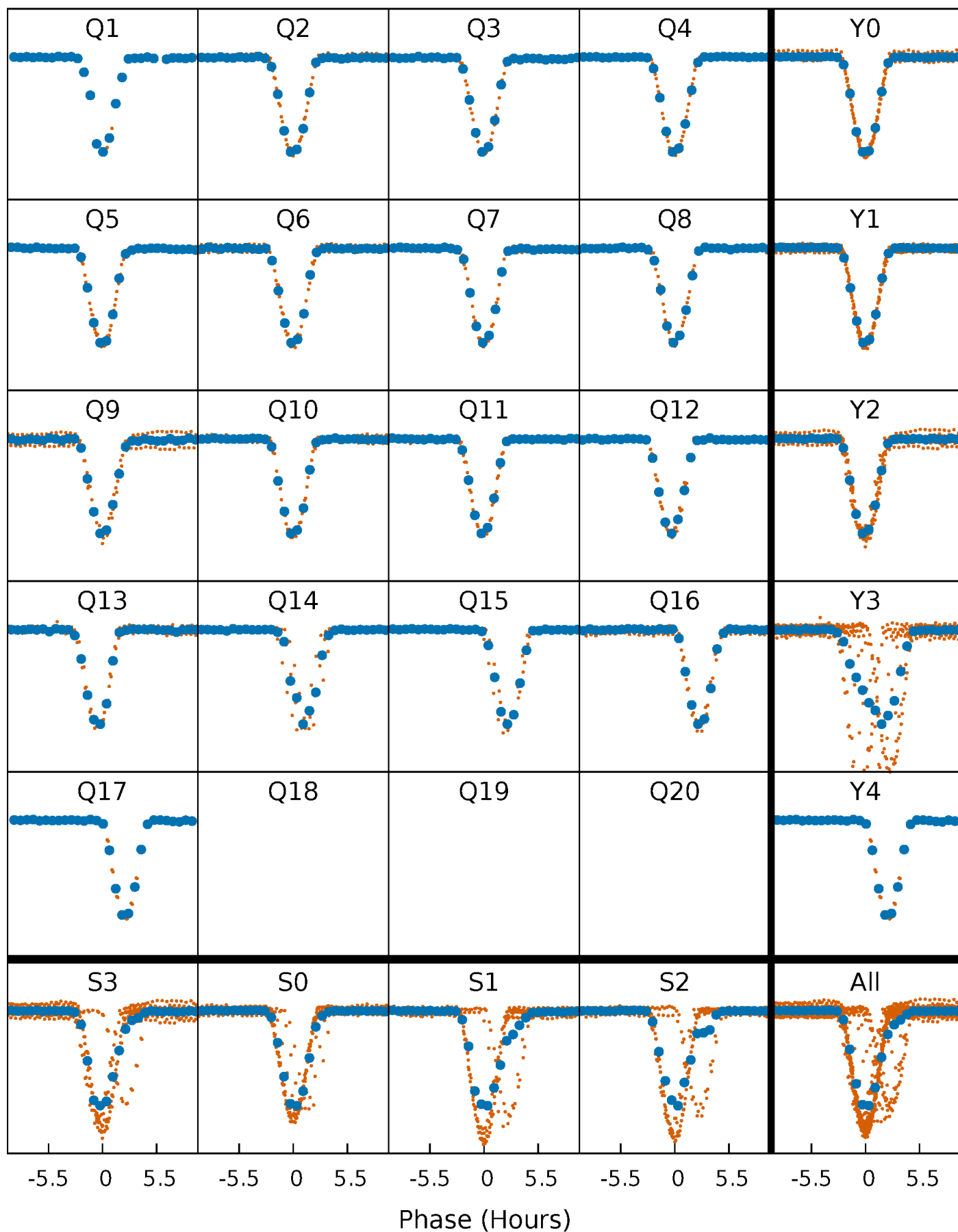


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



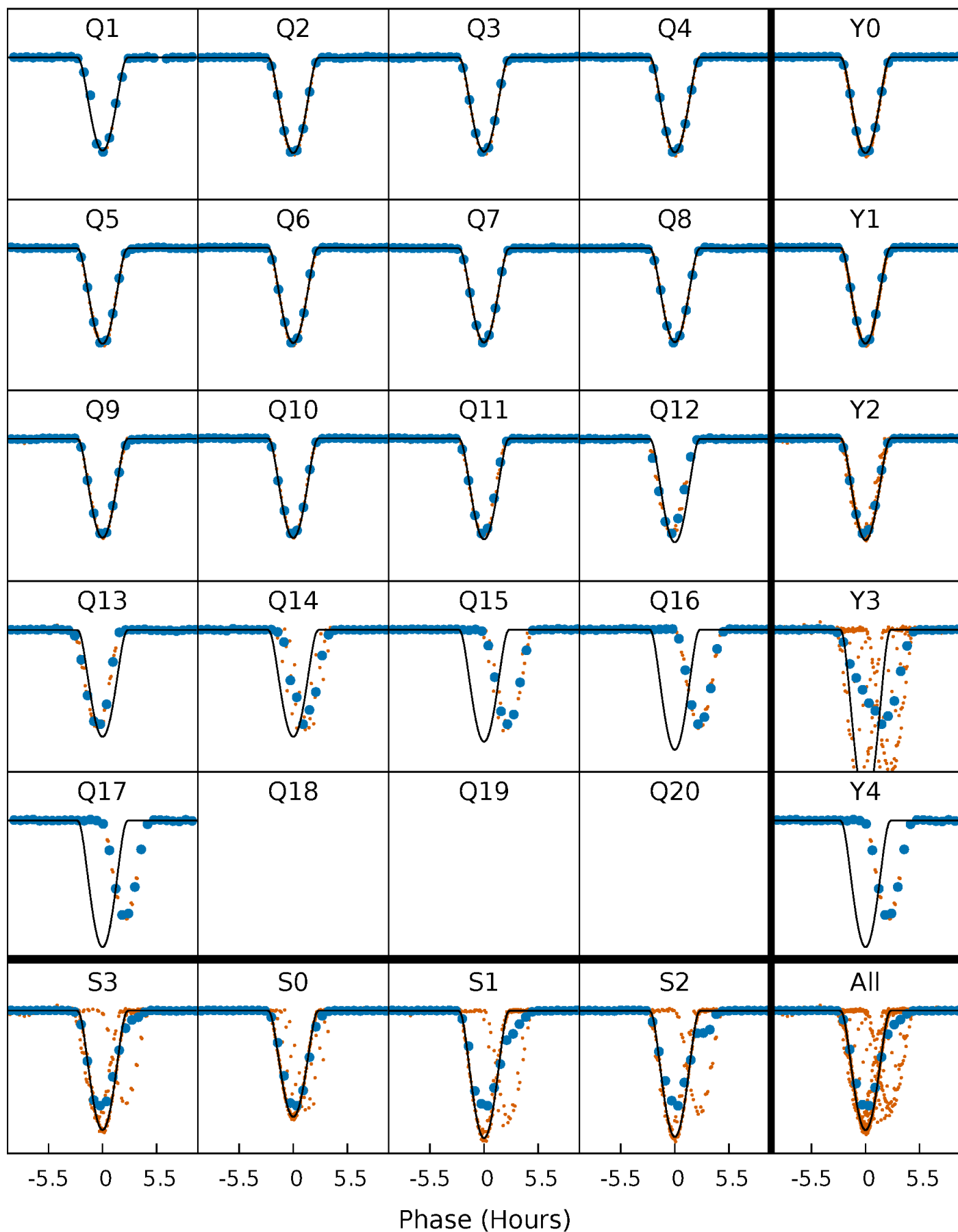
PDC Quarter-Phased Transit Curves

TCE 010268809-02 P= 24.709112 Days $T_0=155.319243$ (BKJD)



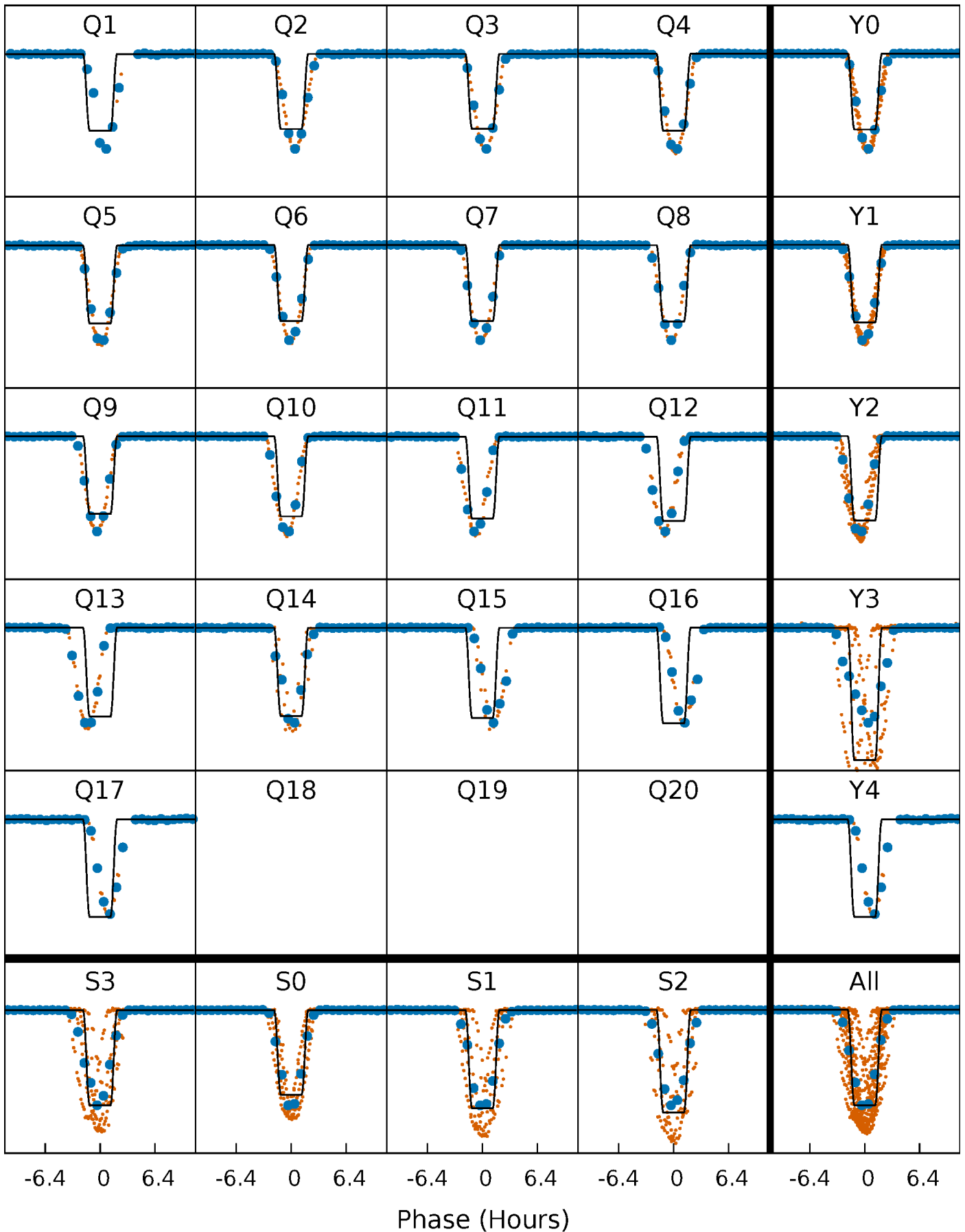
DV Quarter-Phased Transit Curves

TCE 010268809-02 P= 24.709112 Days $T_0=155.319243$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

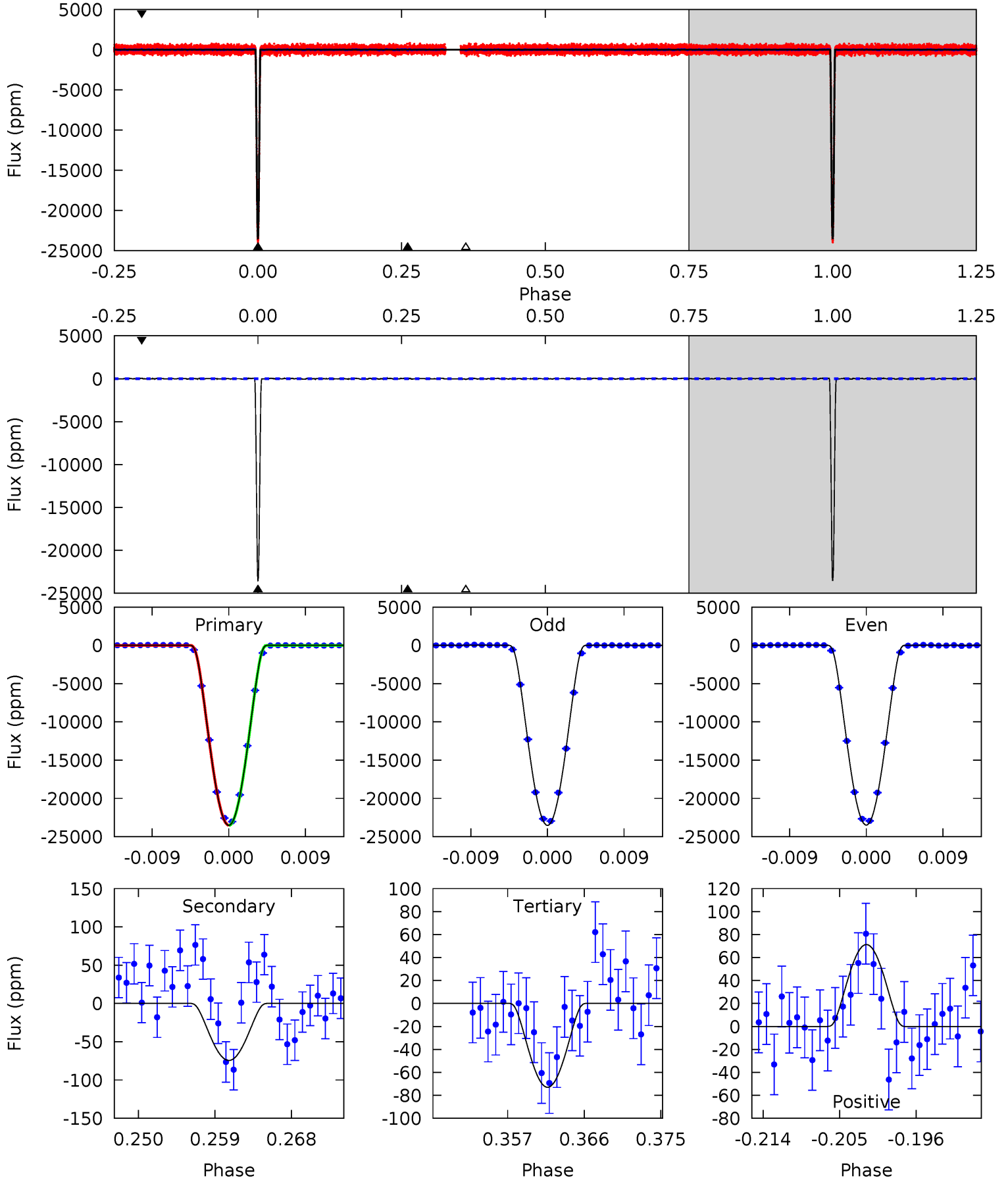
TCE 010268809-02 $P = 24.710488$ Days $T_0 = 155.297224$ (BKJD)



DV Model-Shift Uniqueness Test

010268809-02, P = 24.709112 Days, E = 130.610131 Days

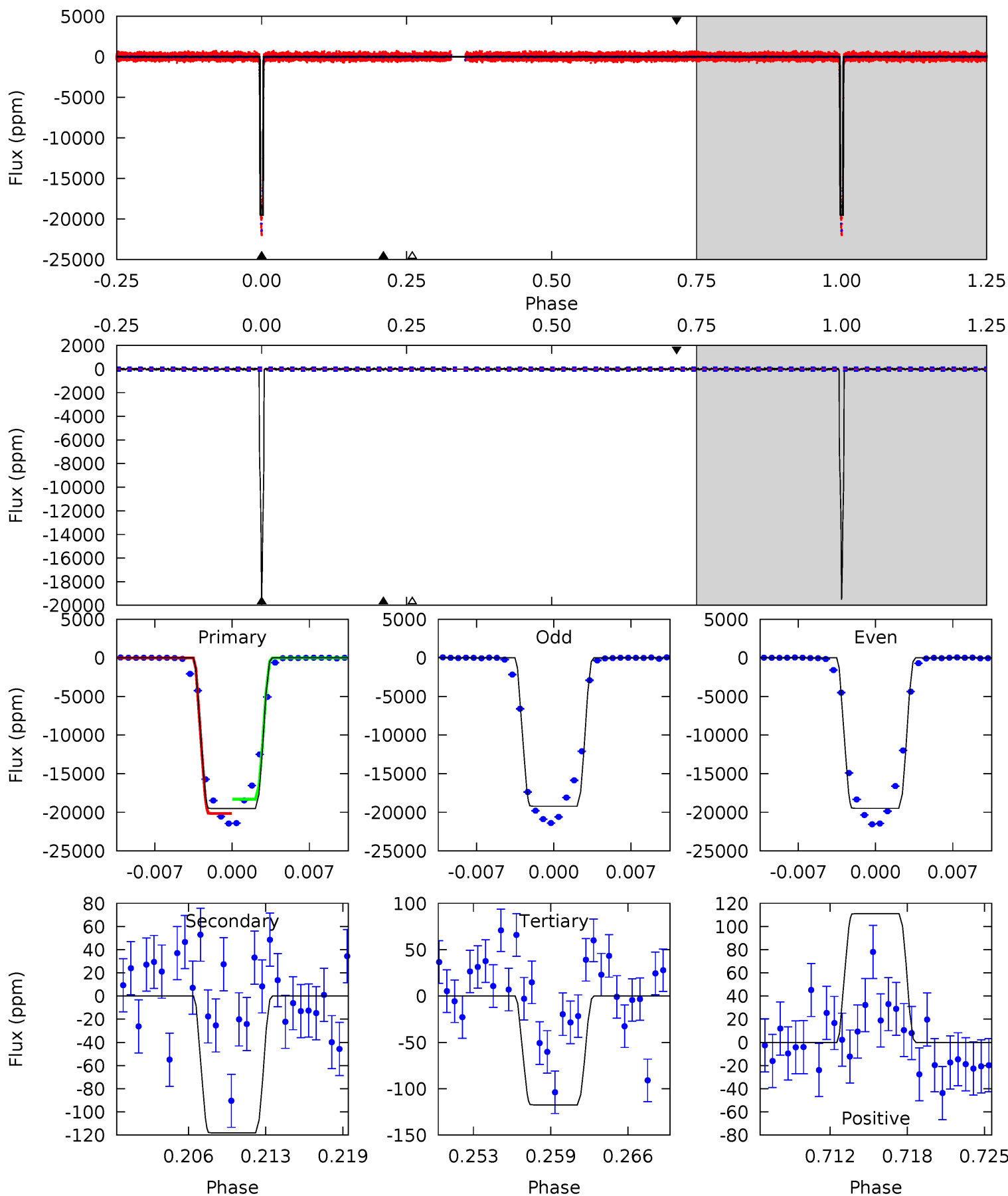
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2305	7.29	7.15	6.99	5.05	2.61	2.27	2297	2298	0.14	0.30	1.82	0.86	0.00	0



Alt Model-Shift Uniqueness Test

010268809-02, P = 24.710488 Days, E = 130.586736 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
728.8	4.41	4.39	4.15	5.10	2.71	1.04	724.4	724.7	0.03	0.26	5.41	0.91	0.01	0



Stellar Parameters For KIC 010268809

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6065^{+180}_{-180}	$4.427^{+0.072}_{-0.217}$	$-0.120^{+0.300}_{-0.300}$	$1.023^{+0.330}_{-0.132}$	$1.018^{+0.153}_{-0.126}$	$1.341^{+0.496}_{-0.694}$
	+3%/-3%	+2%/-5%	+250%/-250%	+32%/-13%	+15%/-12%	+37%/-52%
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 010268809-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-74 ± 10	$28.36^{+4.61}_{-3.22}$	943^{+70}_{-52}	2060^{+61}_{-65}	$1.377^{+0.477}_{-0.352}$
Alt.	-118 ± 27	$16.10^{+2.96}_{-2.56}$	945^{+72}_{-49}	2532^{+118}_{-115}	$6.922^{+3.403}_{-2.357}$

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

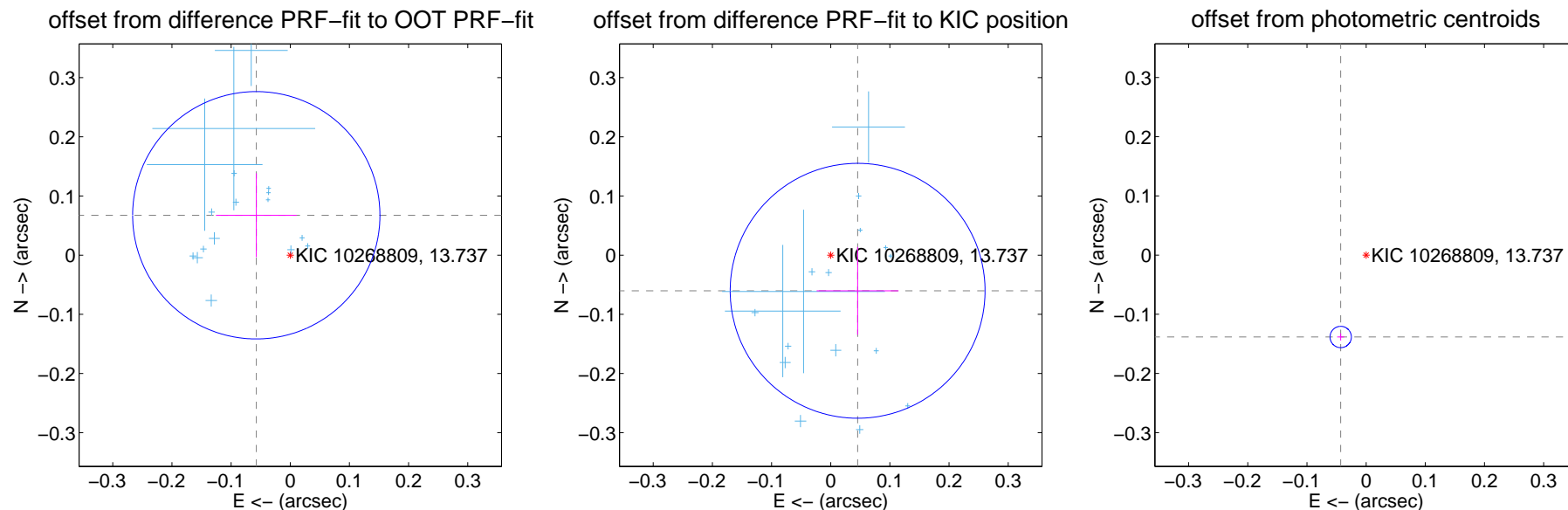
DV Centroid Data

Supplemental centroid analysis for 010268809-02. Kepler magnitude: 13.74. Transit SNR 921.15

There are 17 quarters with good PRF difference image offsets

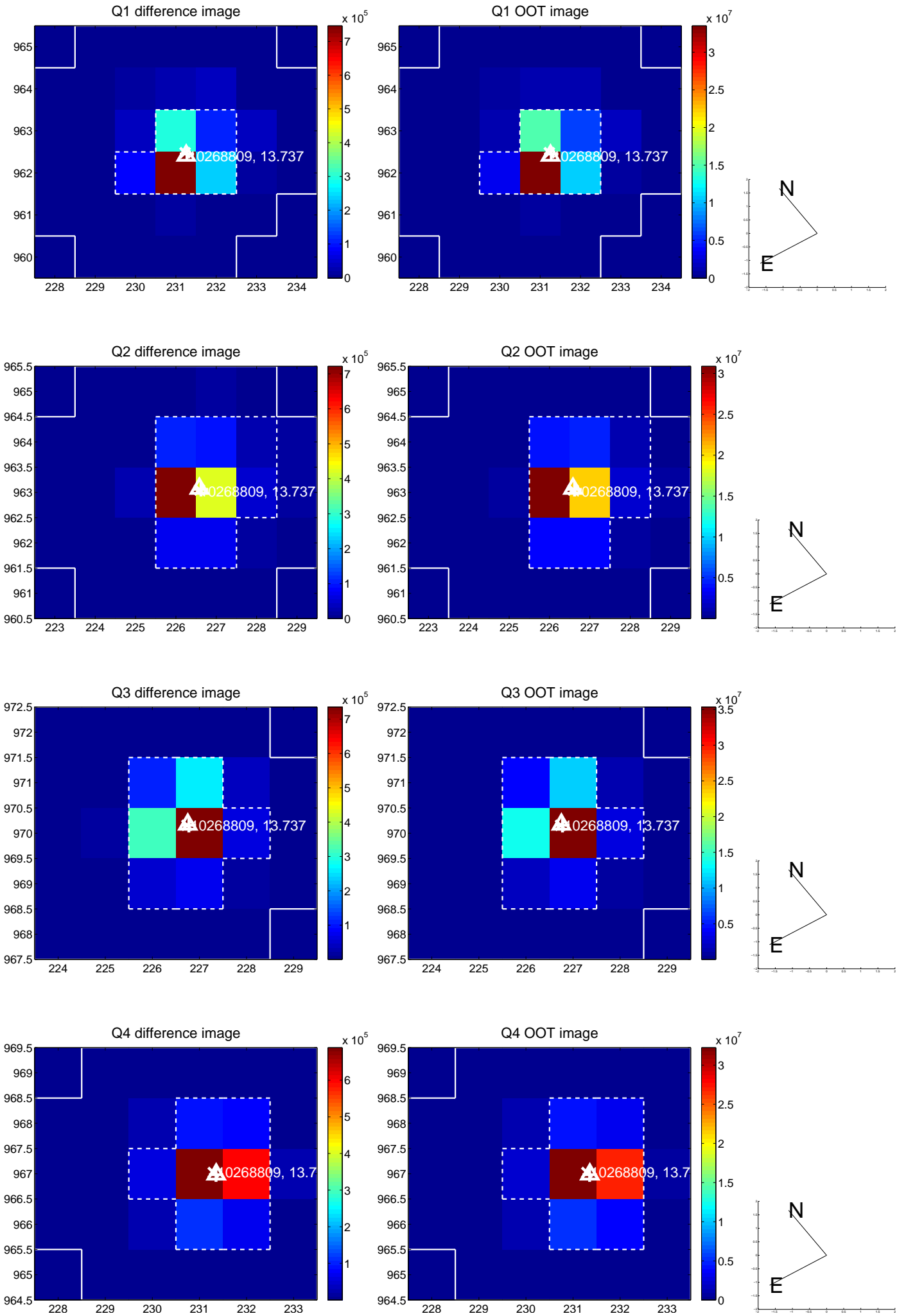
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.089 ± 0.070	1.27	0.057 ± 0.068	0.067 ± 0.071
PRF-fit source offset from KIC position	0.075 ± 0.072	1.05	-0.045 ± 0.069	-0.060 ± 0.074
photometric centroid source offset	0.14 ± 0.01	24.12	0.04 ± 0.01	-0.14 ± 0.01

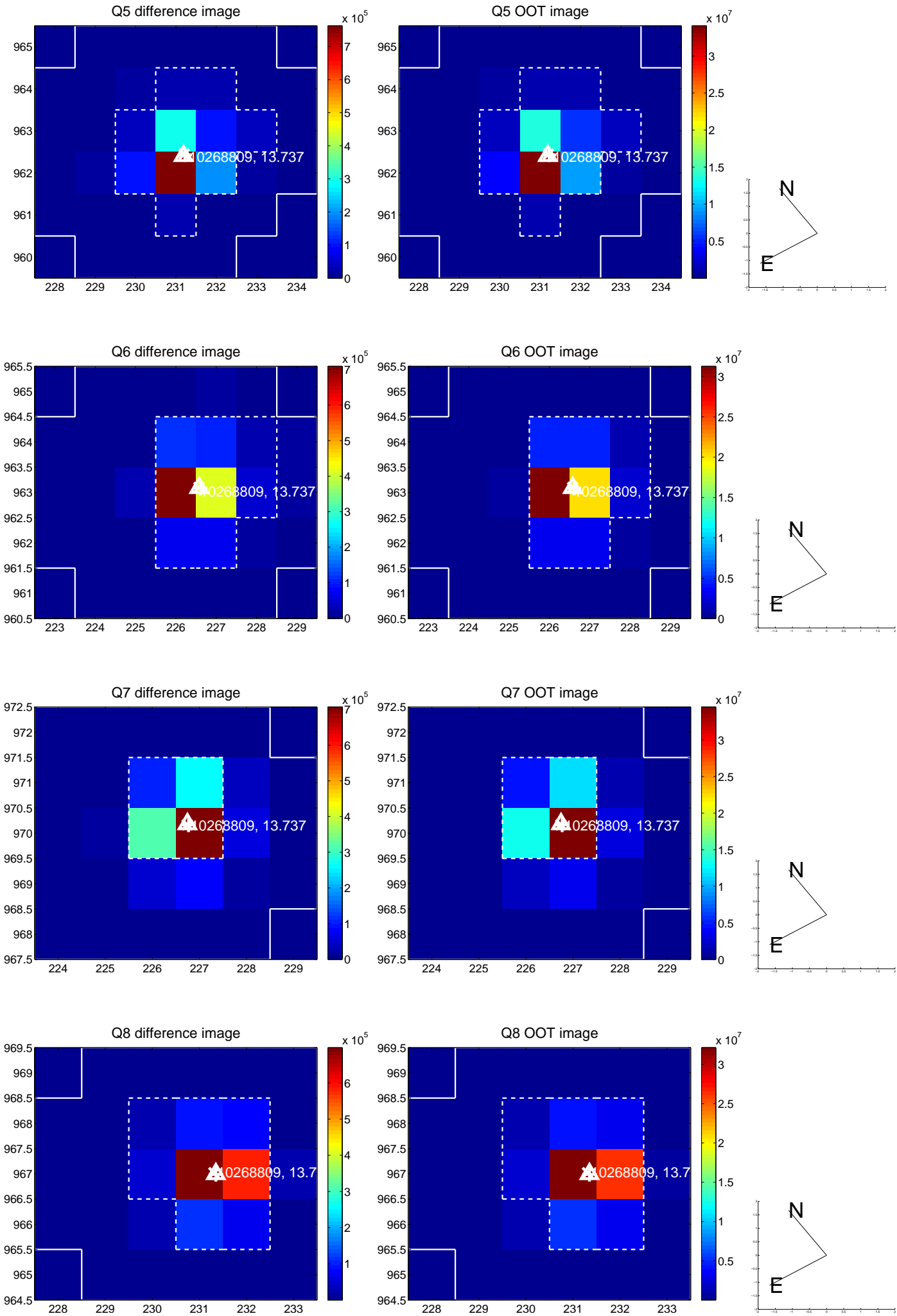


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

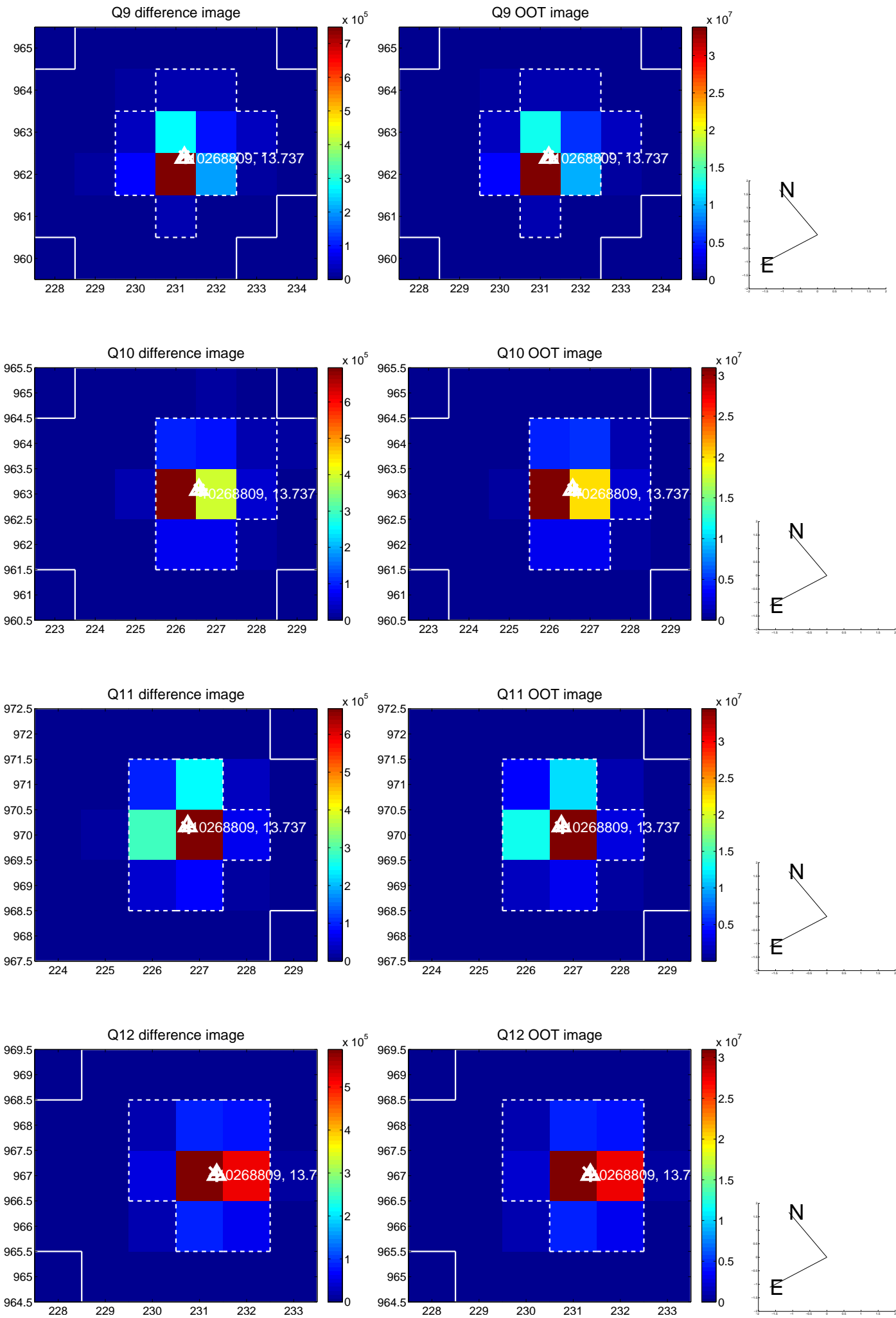
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



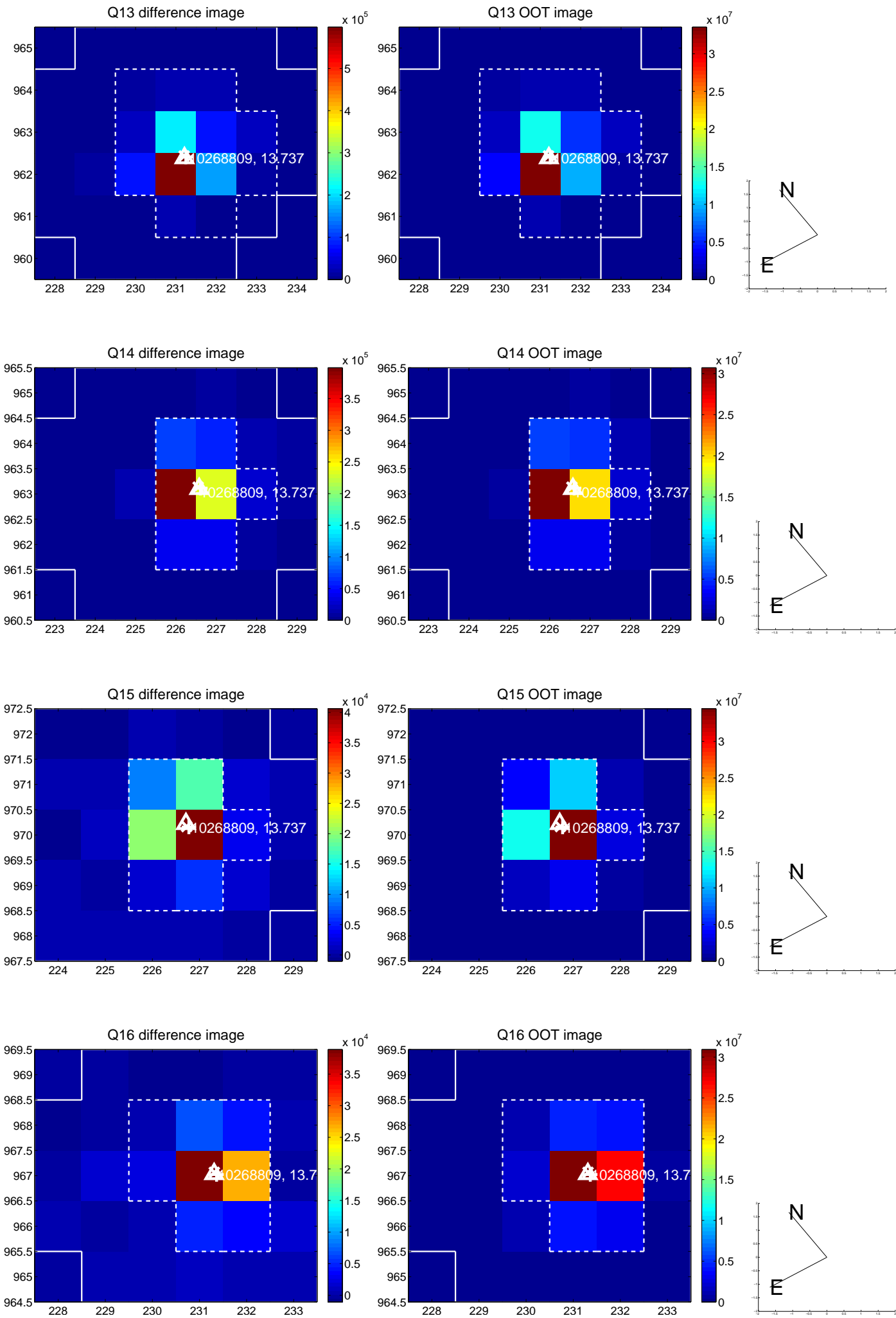
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



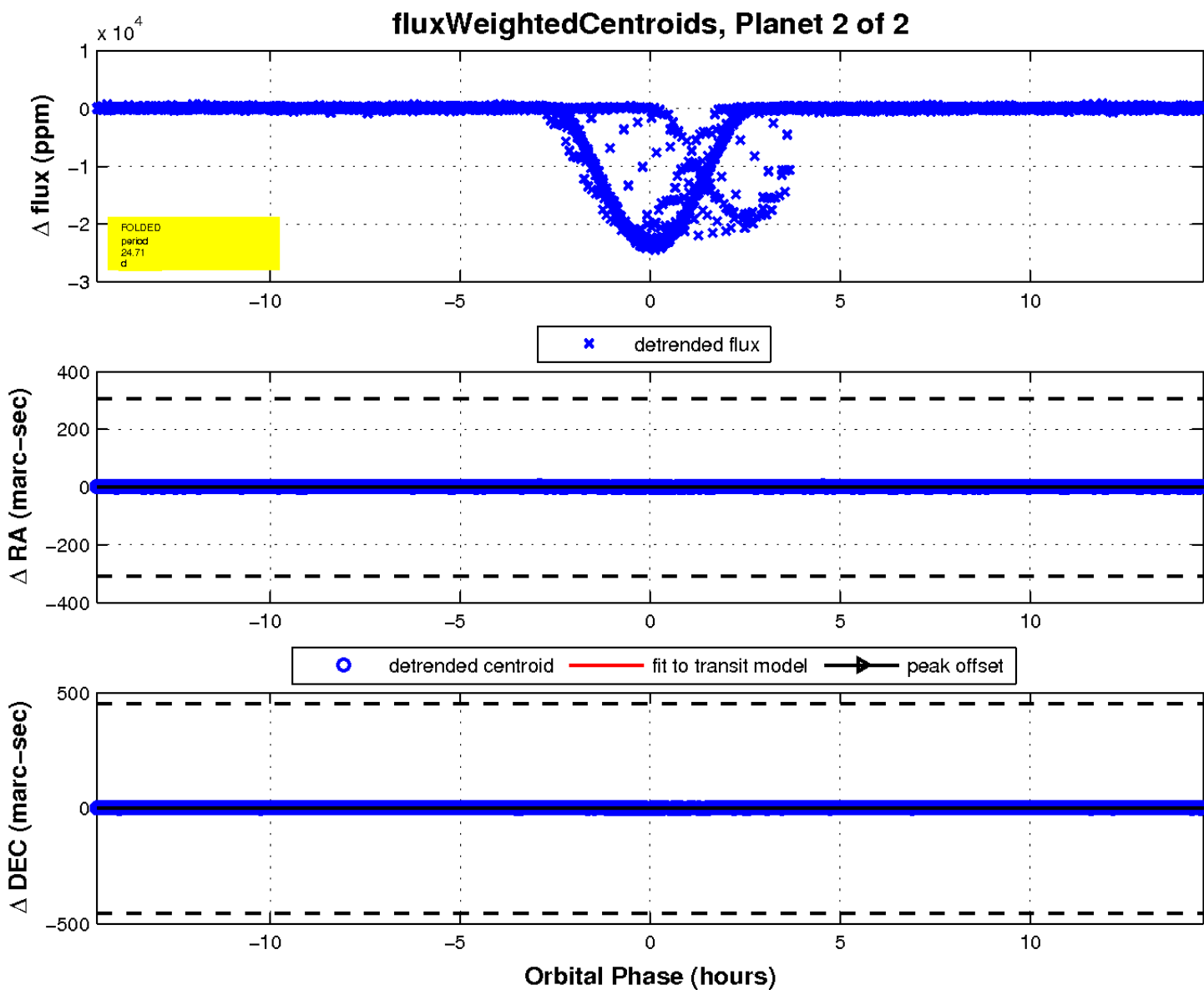
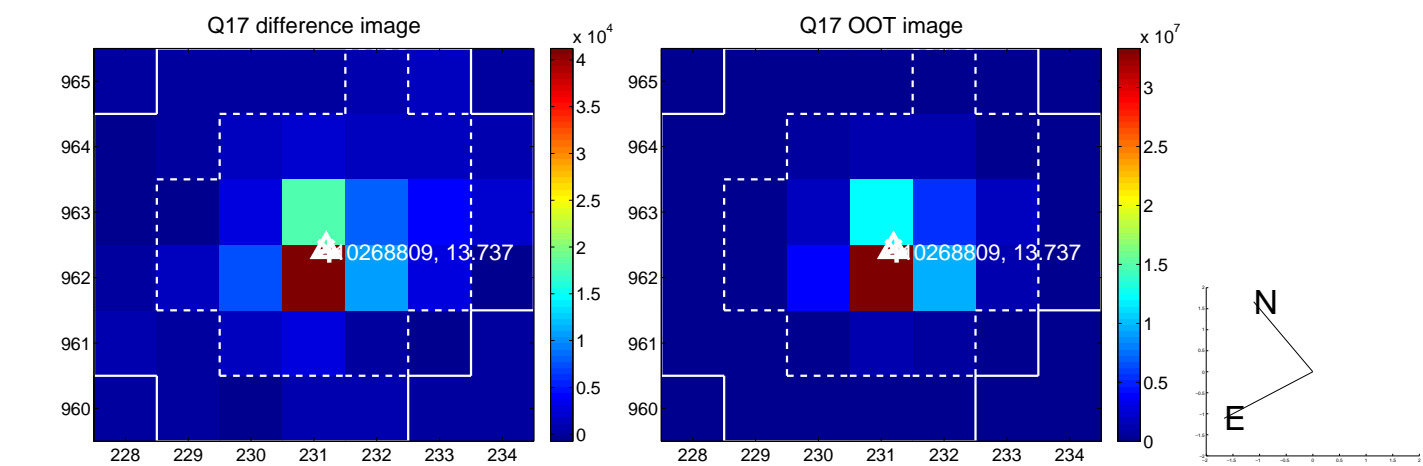
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

