

KIC 011144554

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})
011144554-01	OBS	No	6.947019	136.651719	38.9	16.785	8.6	9.0	2.32	6806	1.70	1528.06
011144554-02	OBS	No	3.473460	132.034721	21.8	12.978	7.7	7.3	2.32	6806	1.26	3850.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011144554-01	OBS	FP	0.00	1	0	0	0	LPP_DV
011144554-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—SAME_NTL_PERIOD—CENT_FEW_DIFFS

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

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

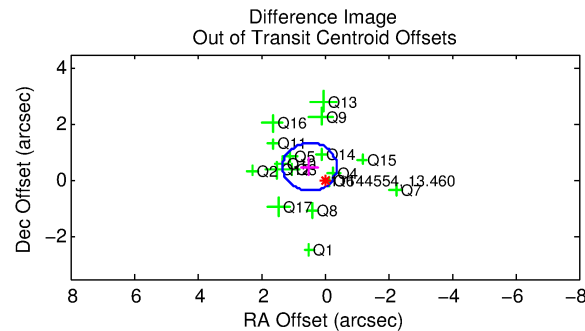
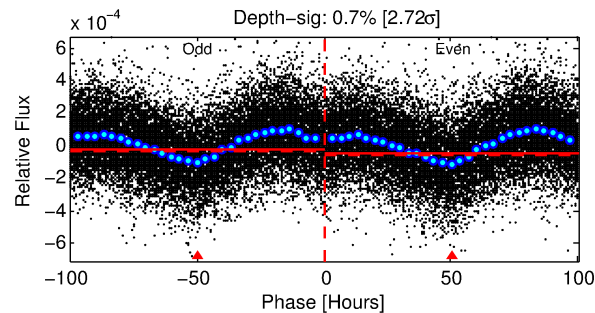
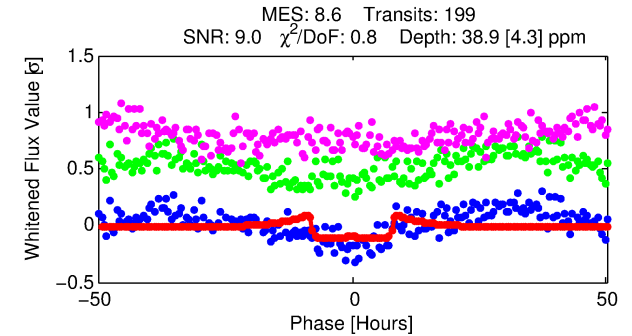
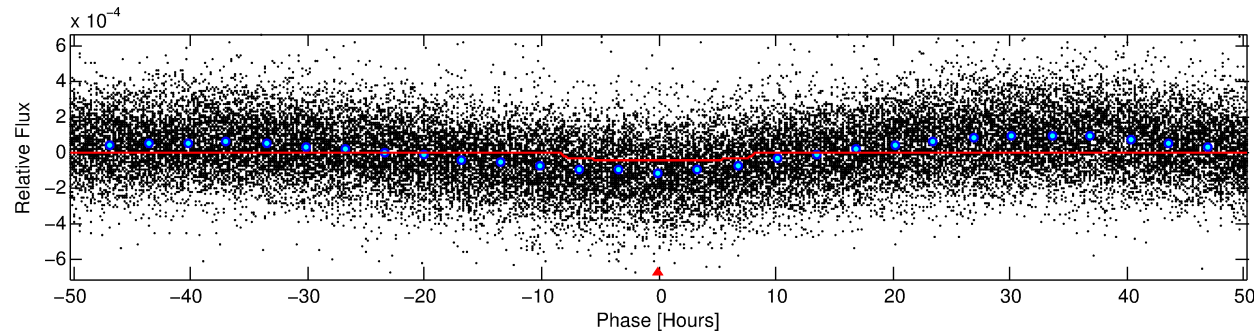
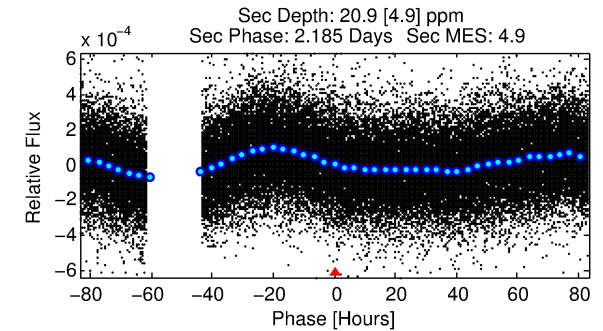
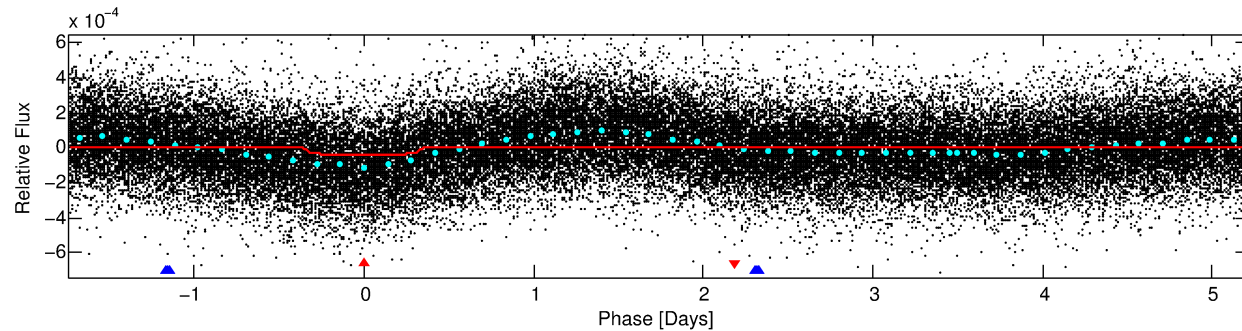
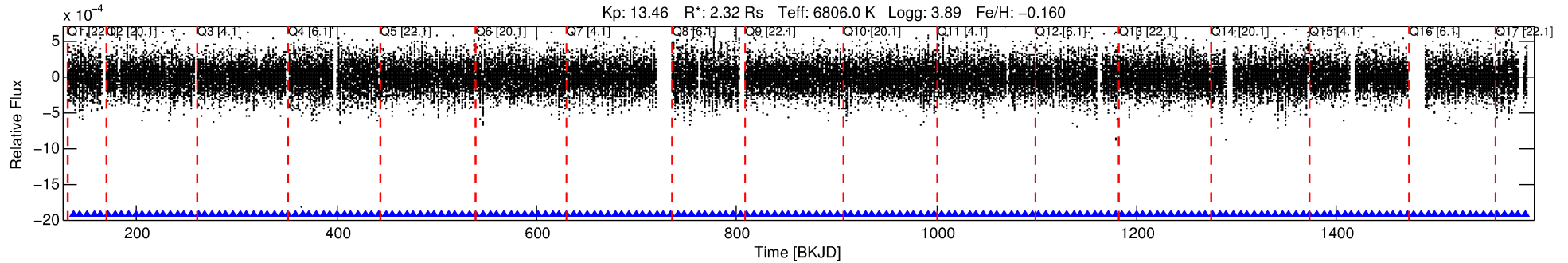
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011144554-01

No Significant Match Found

DV One-Page Summary

KIC: 11144554 Candidate: 1 of 2 Period: 6.947 d



DV Fit Results:

Period = 6.94702 [0.00011] d
Epoch = 136.6517 [0.0126] BKJD
Rp/R* = 0.0067 [0.0006]
a/R* = 1.64 [0.47]
b = 0.91 [0.08]
Seff = 1528.06 [753.43]
Teq = 1594 [197] K
Rp = 1.70 [0.61] Re
a = 0.0822 [0.0253] AU
Ag = 26.96 [15.02] [1.73σ]
Teffp = 5617 [475] K [7.82σ]

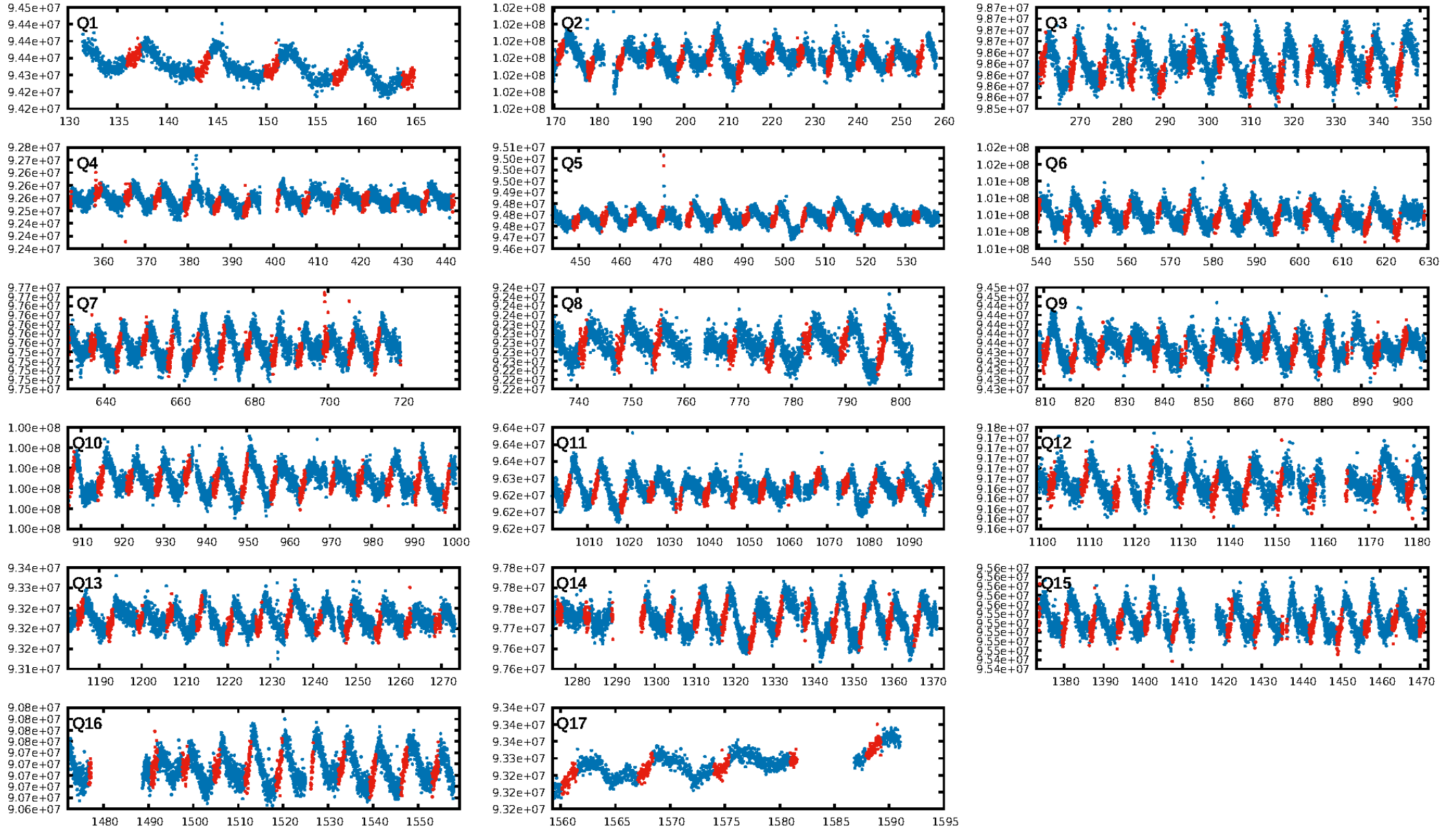
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [3.93σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.64e-11
RollingBand-fgt: 1.00 [189/189]
GhostDiagnostic-chr: 1.901
Centroid-sig: 0.4%
Centroid-so: 1.410 arcsec [1.92σ]
OotOffset-rm: 0.683 arcsec [2.40σ]
KicOffset-rm: 0.676 arcsec [2.20σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

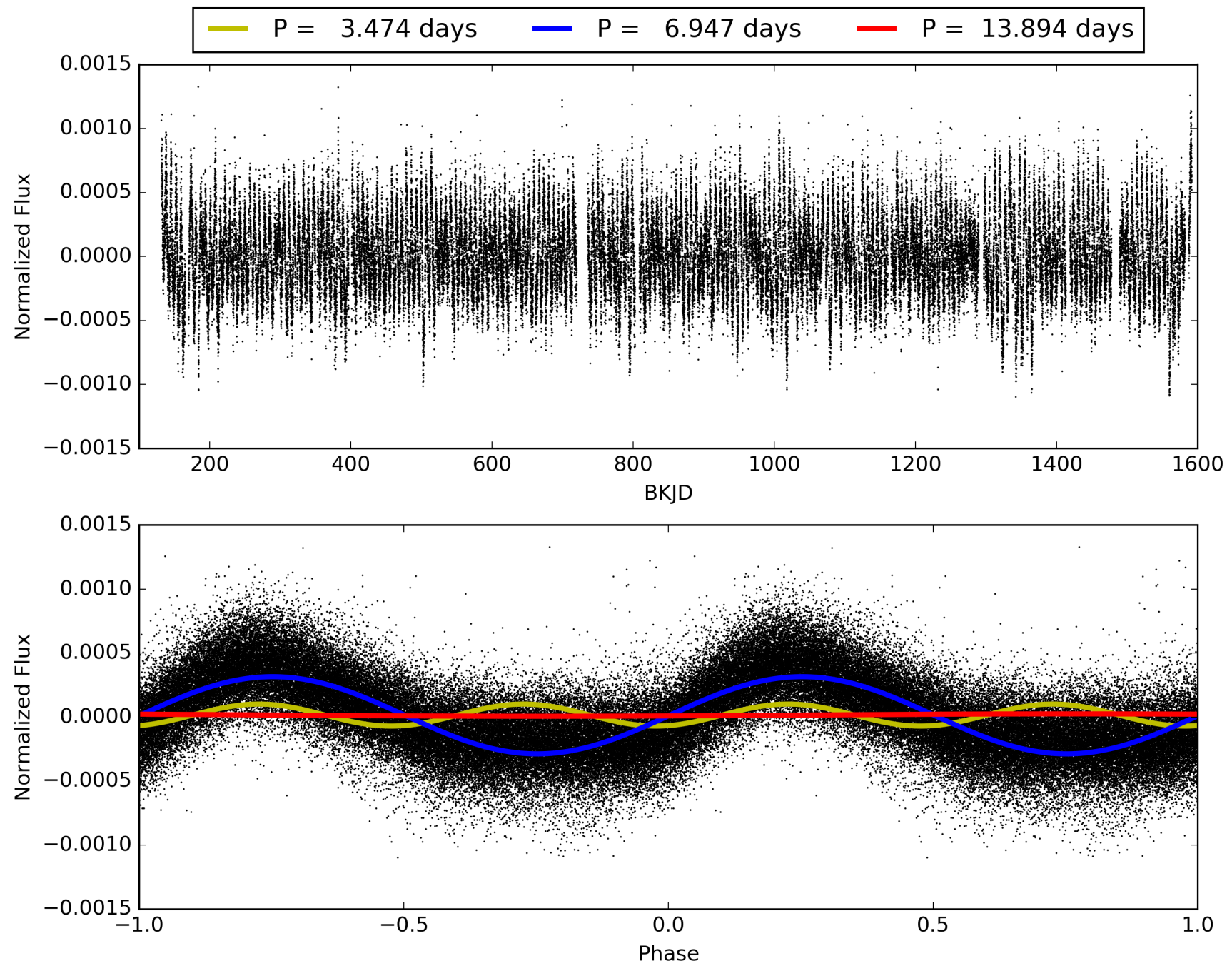
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 03:00:34 Z

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

TCE 011144554-01, PDC Light Curves

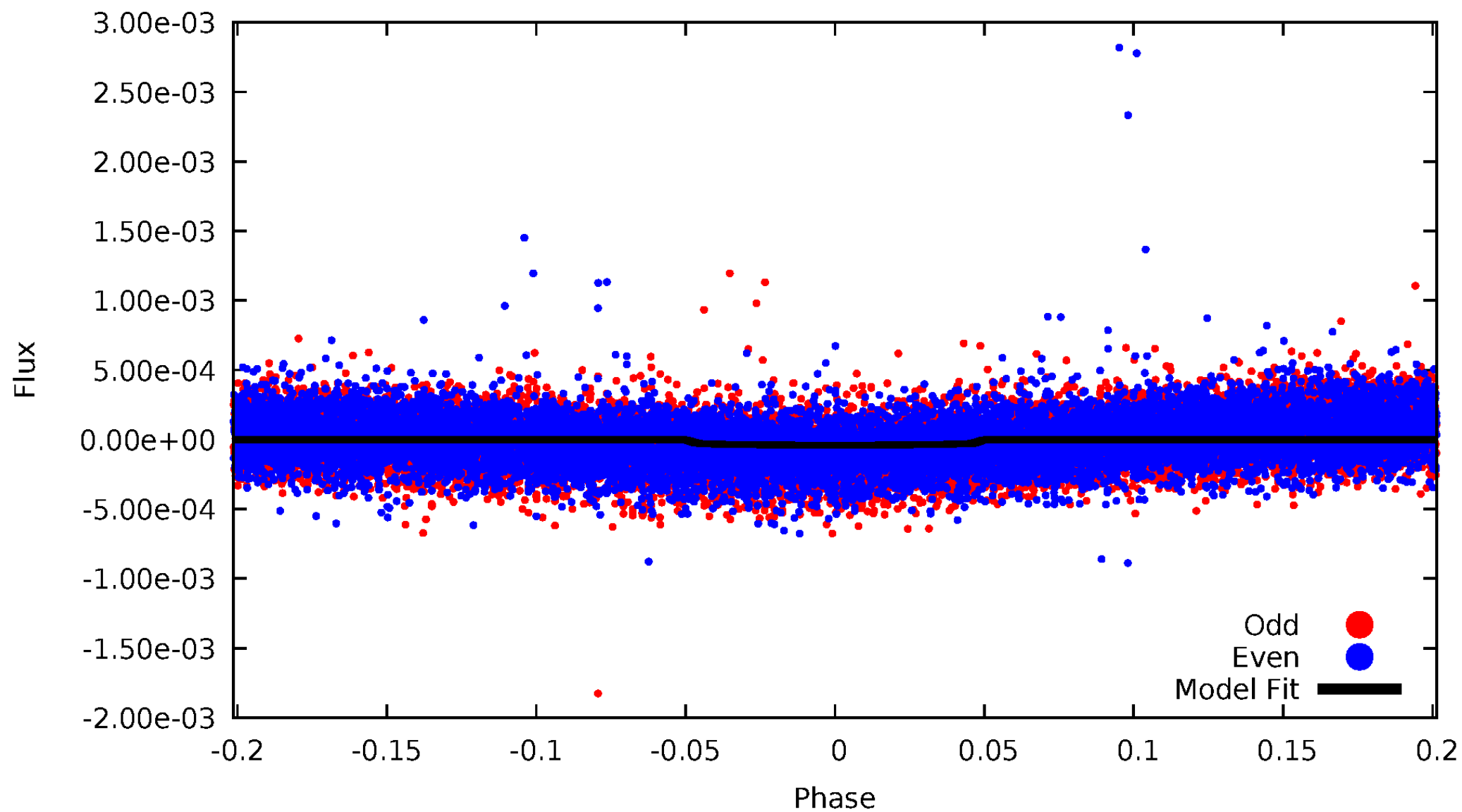


TCE 011144554-01



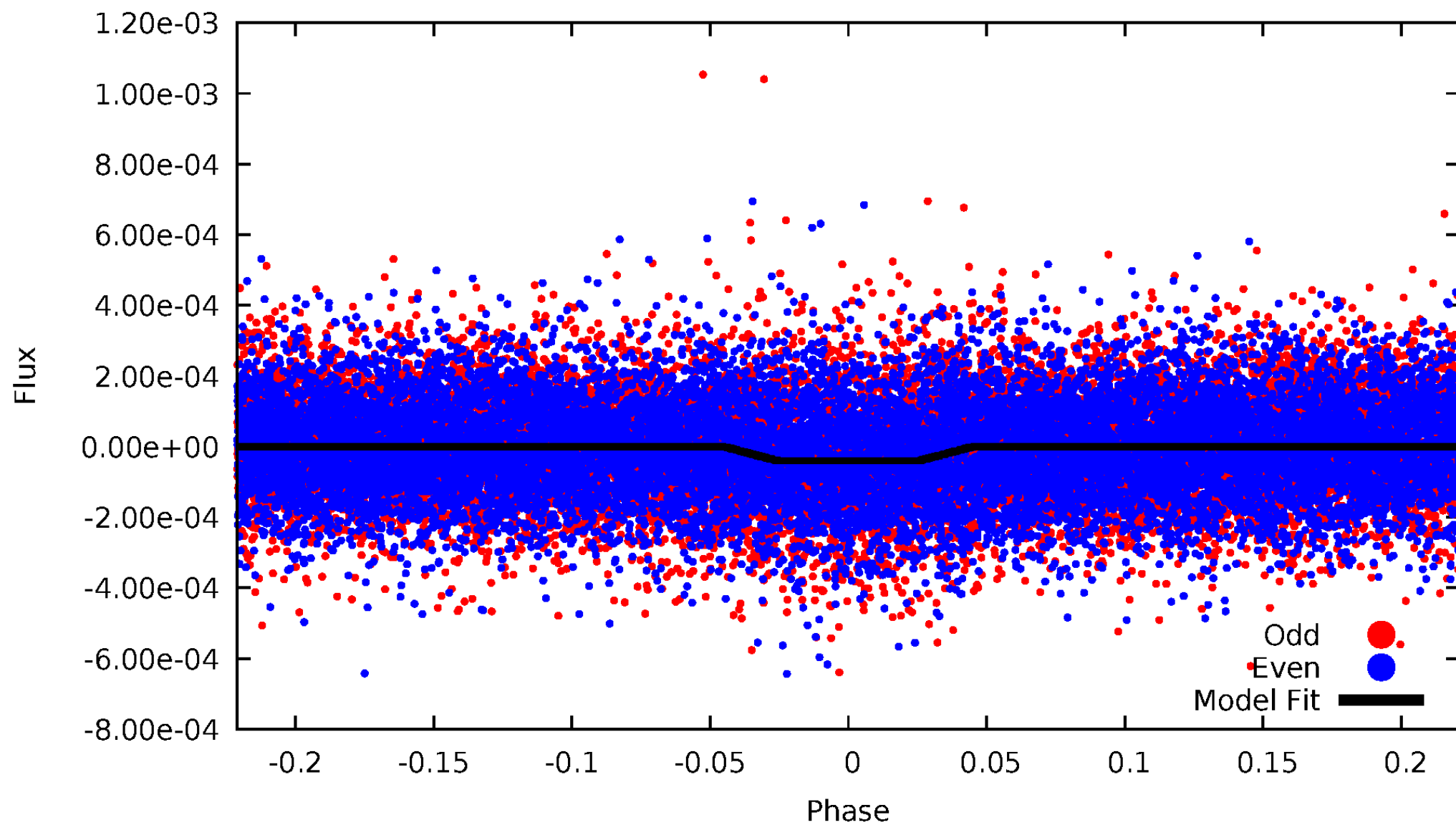
DV Odd/Even

TCE 011144554-01



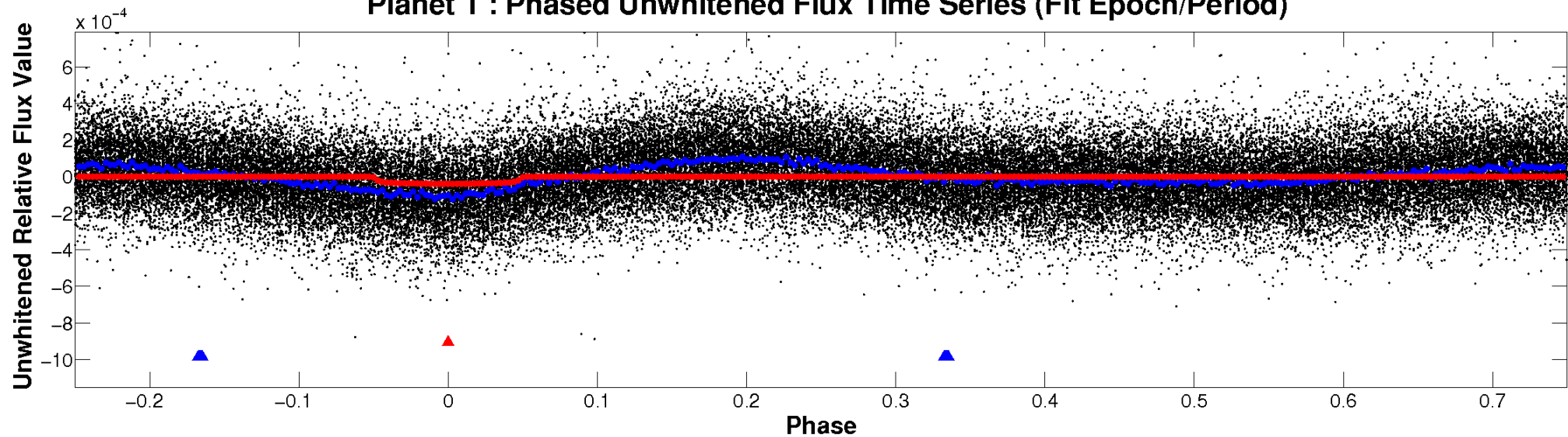
ALT Odd/Even

TCE 011144554-01

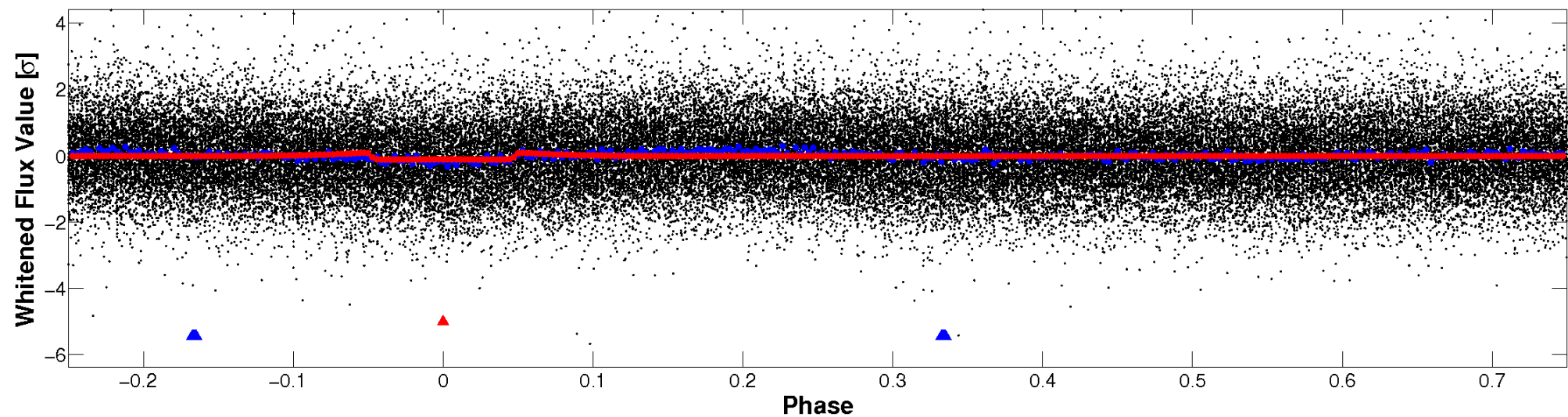


Non-Whitened Vs. Whitened Light Curve

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

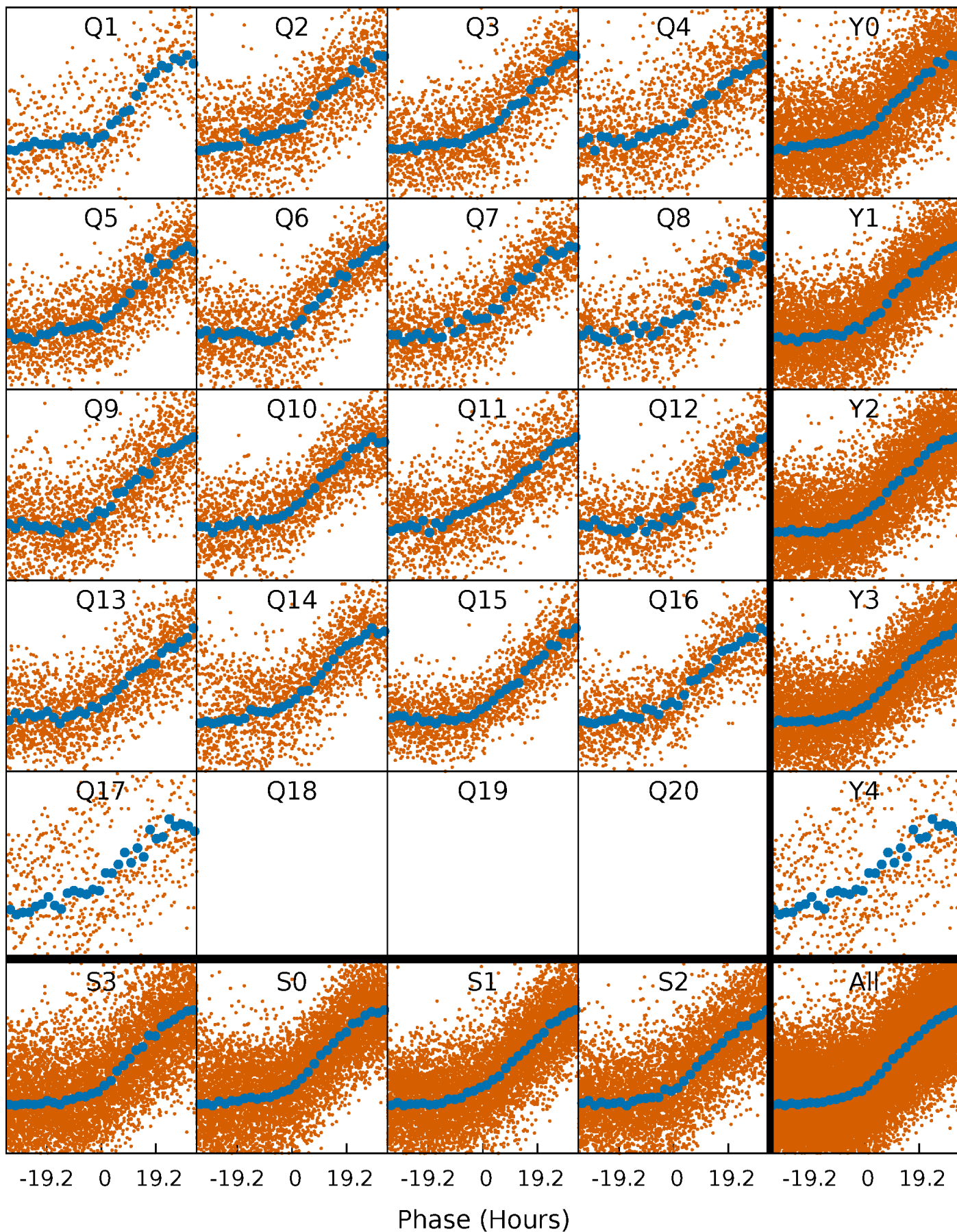


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



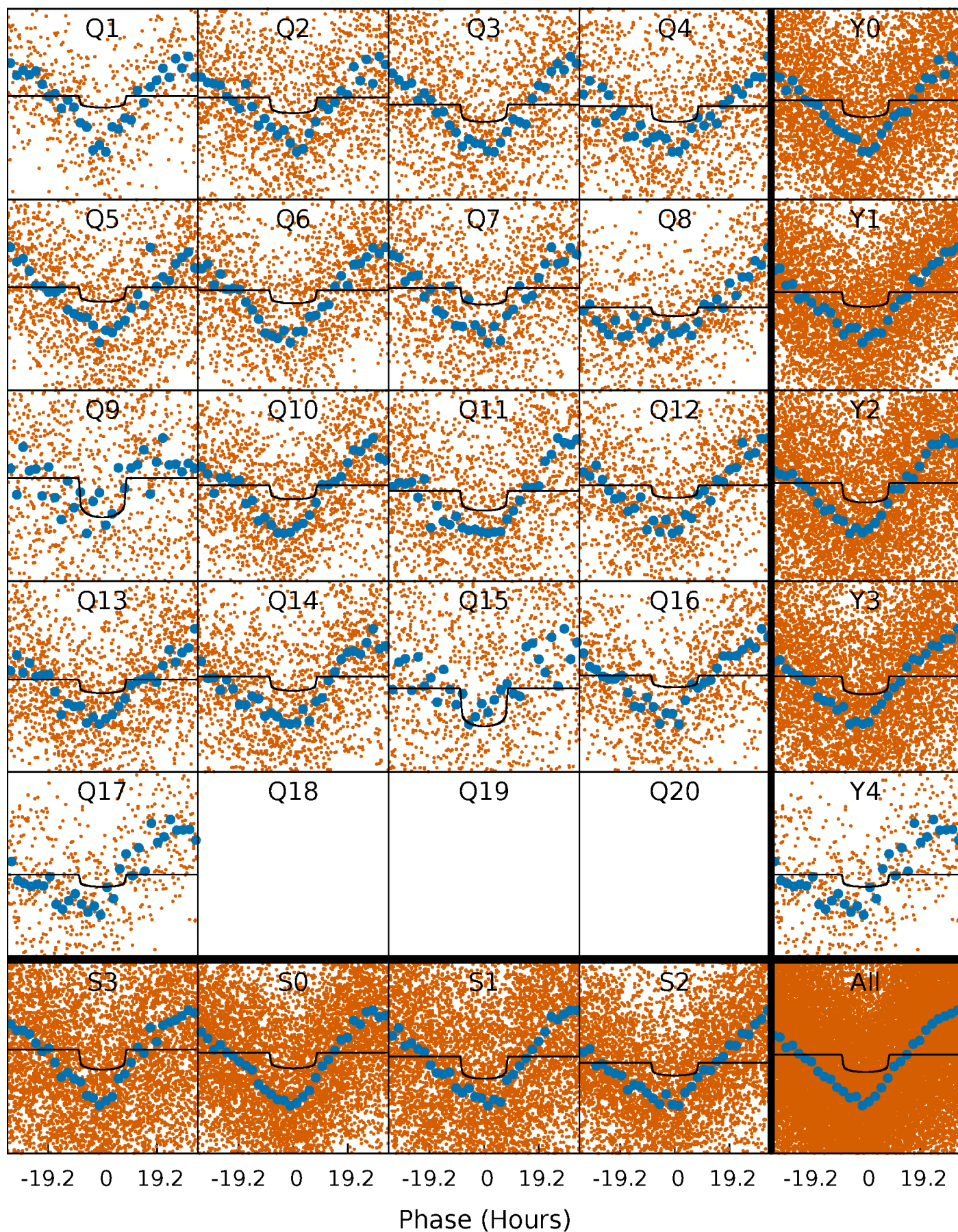
PDC Quarter-Phased Transit Curves

TCE 011144554-01 P= 6.947019 Days $T_0=136.651719$ (BKJD)



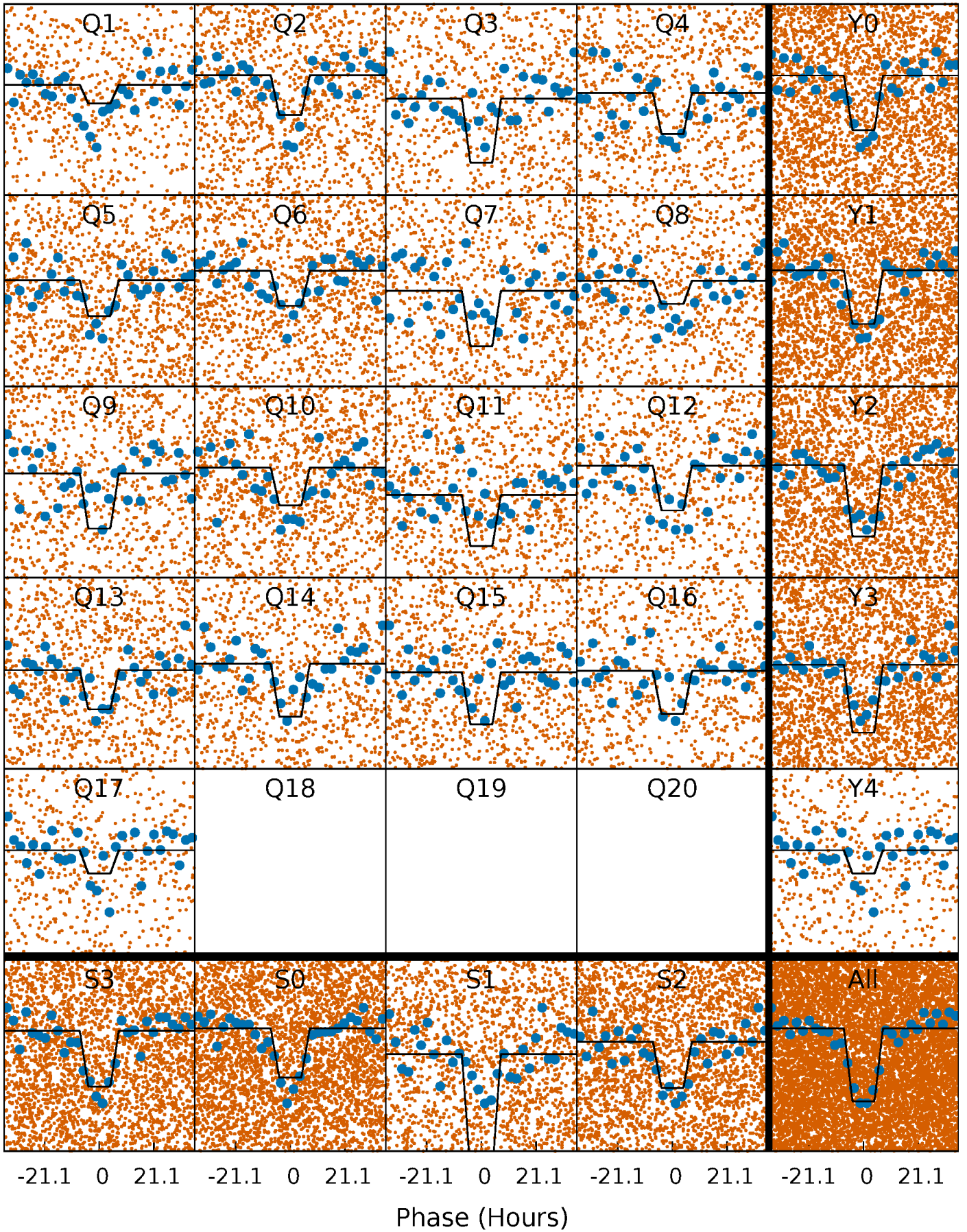
DV Quarter-Phased Transit Curves

TCE 011144554-01 P= 6.947019 Days $T_0=136.651719$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

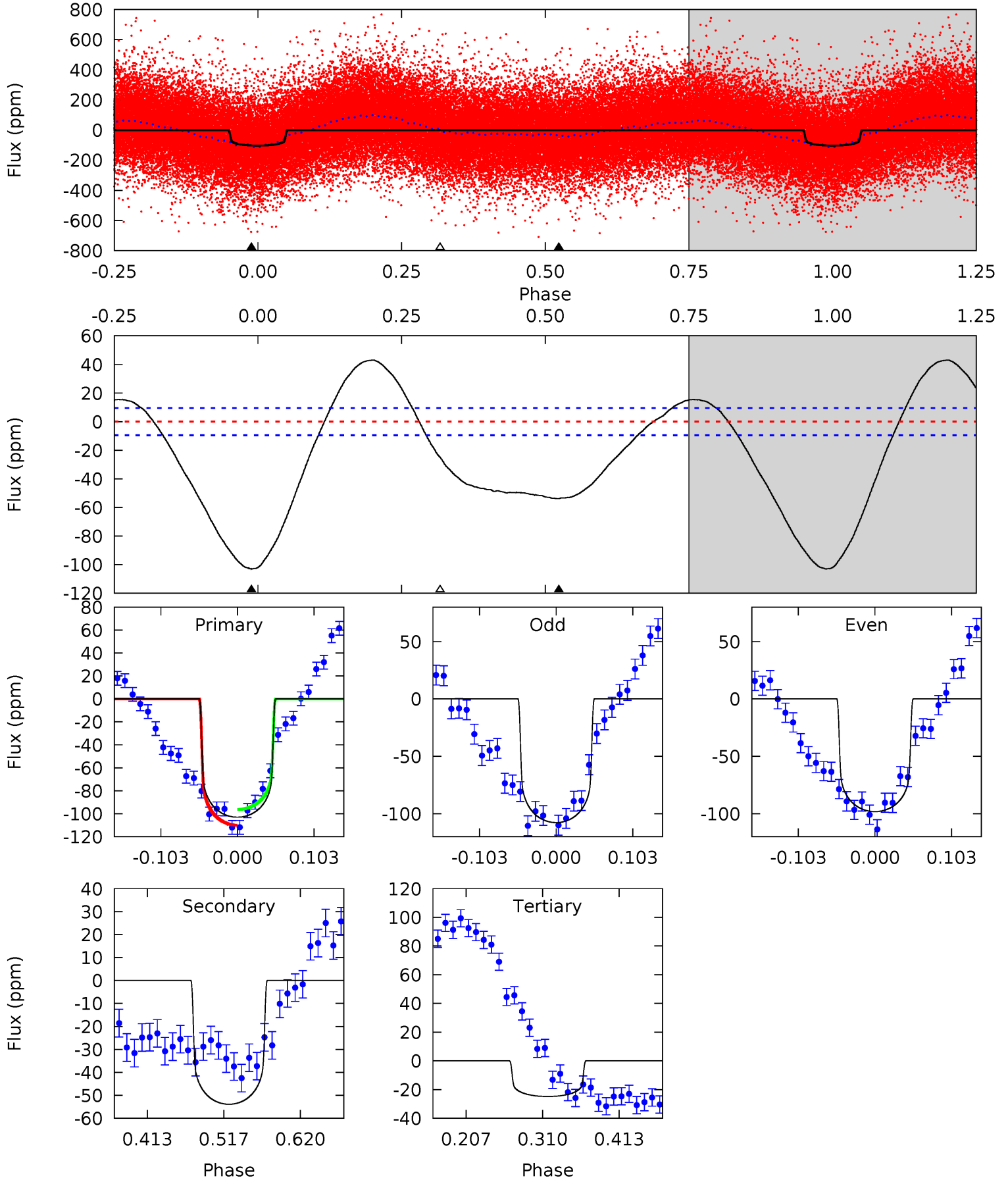
TCE 011144554-01 P= 6.946308 Days $T_0=136.738310$ (BKJD)



DV Model-Shift Uniqueness Test

011144554-01, P = 6.947019 Days, E = 129.704700 Days

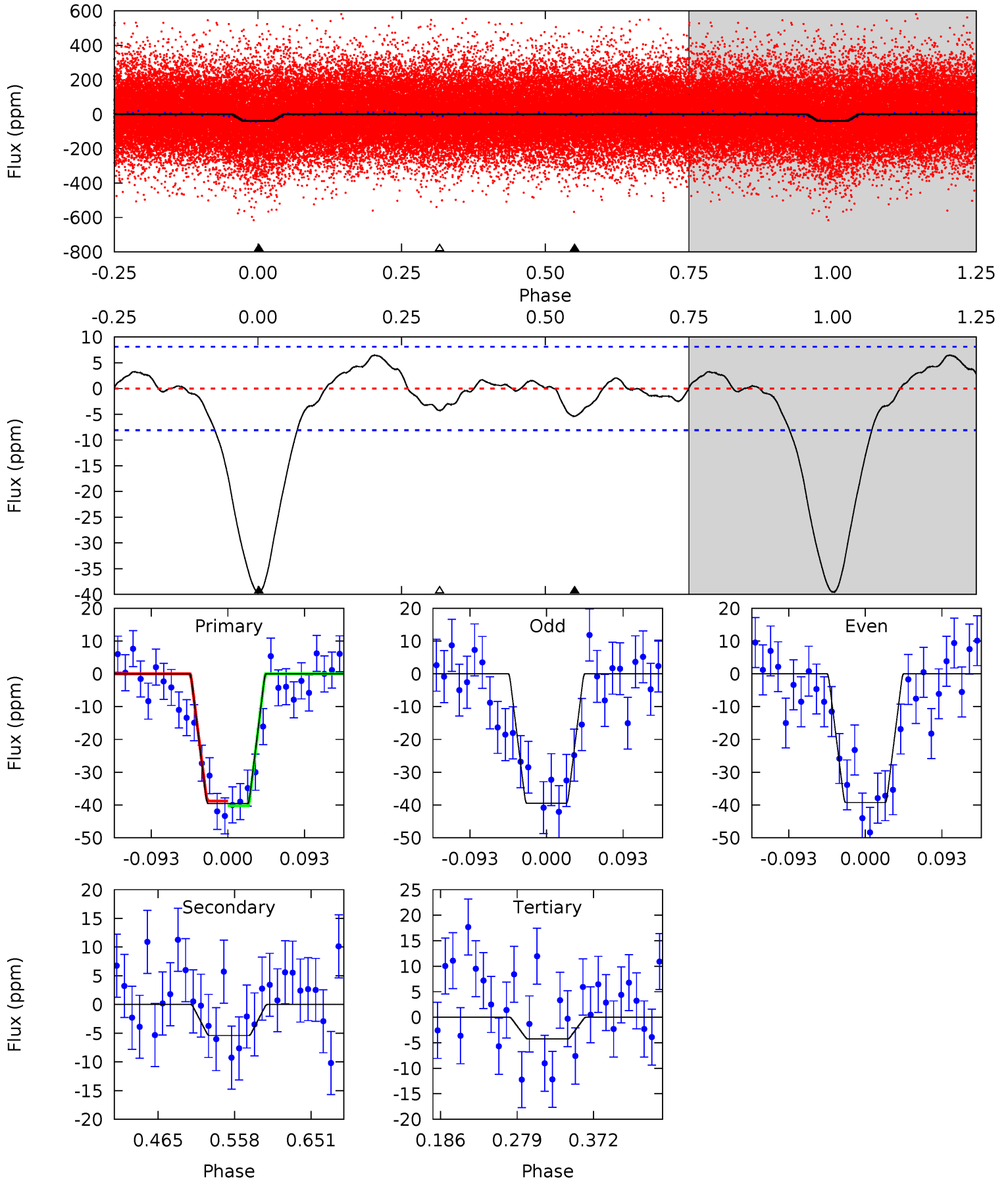
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
49.6	26.0	12.0	0	4.56	1.63	12.8	37.7	49.6	14.0	26.0	2.31	0.93	0.30	3.31



Alt Model-Shift Uniqueness Test

011144554-01, P = 6.946308 Days, E = 129.792002 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.3	3.04	2.40	0	4.58	1.68	1.43	19.9	22.3	0.64	3.04	0.07	1.26	0.14	0.40



Stellar Parameters For KIC 011144554

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6806^{+190}_{-262}	$3.894^{+0.266}_{-0.114}$	$-0.160^{+0.300}_{-0.300}$	$2.318^{+0.430}_{-0.798}$	$1.535^{+0.180}_{-0.335}$	$0.173^{+0.320}_{-0.063}$
	+3%/-4%	+7%/-3%	+188%/-188%	+19%/-34%	+12%/-22%	+184%/-37%
Source	PHO1	FLK73	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 011144554-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-54 ± 2	$1.64^{+0.26}_{-0.32}$	2192^{+151}_{-207}	7127^{+517}_{-447}	74^{+36}_{-19}
Alt.	-5 ± 2	$1.55^{+0.28}_{-0.29}$	2199^{+141}_{-197}	4287^{+332}_{-355}	$8.309^{+4.905}_{-3.315}$

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

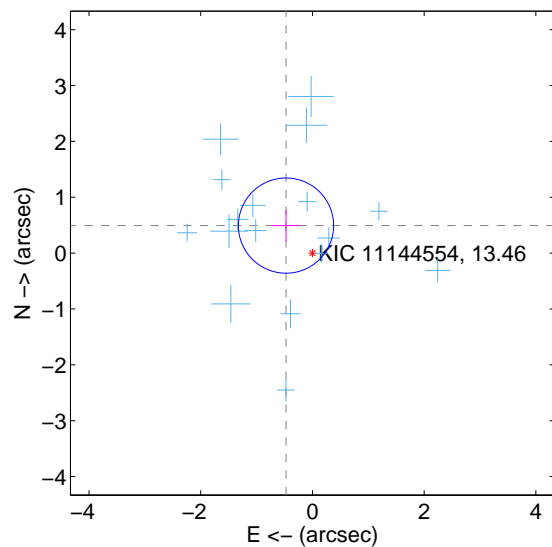
Supplemental centroid analysis for 011144554-01. Kepler magnitude: 13.46. Transit SNR 8.98

There are 17 quarters with good PRF difference image offsets

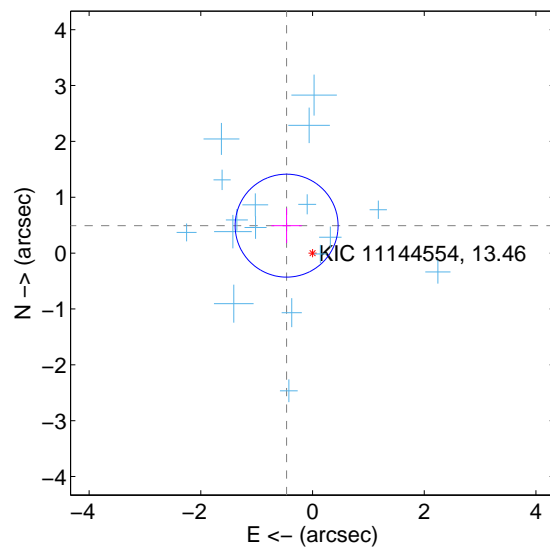
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.683 ± 0.284	2.40	0.473 ± 0.258	0.492 ± 0.283
PRF-fit source offset from KIC position	0.676 ± 0.307	2.20	0.464 ± 0.272	0.491 ± 0.312
photometric centroid source offset	1.41 ± 0.73	1.92	-0.12 ± 0.69	1.40 ± 0.73

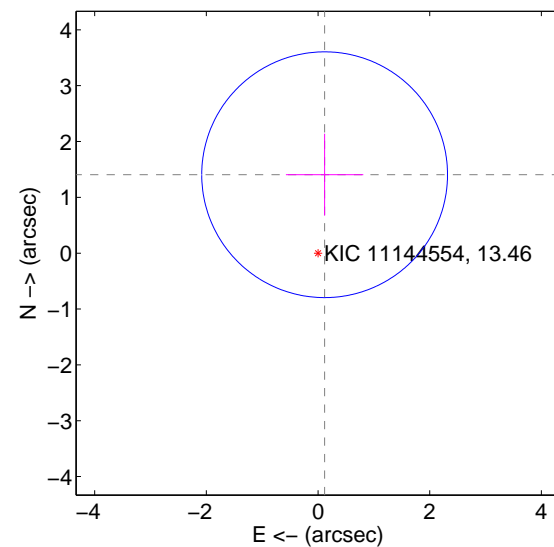
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

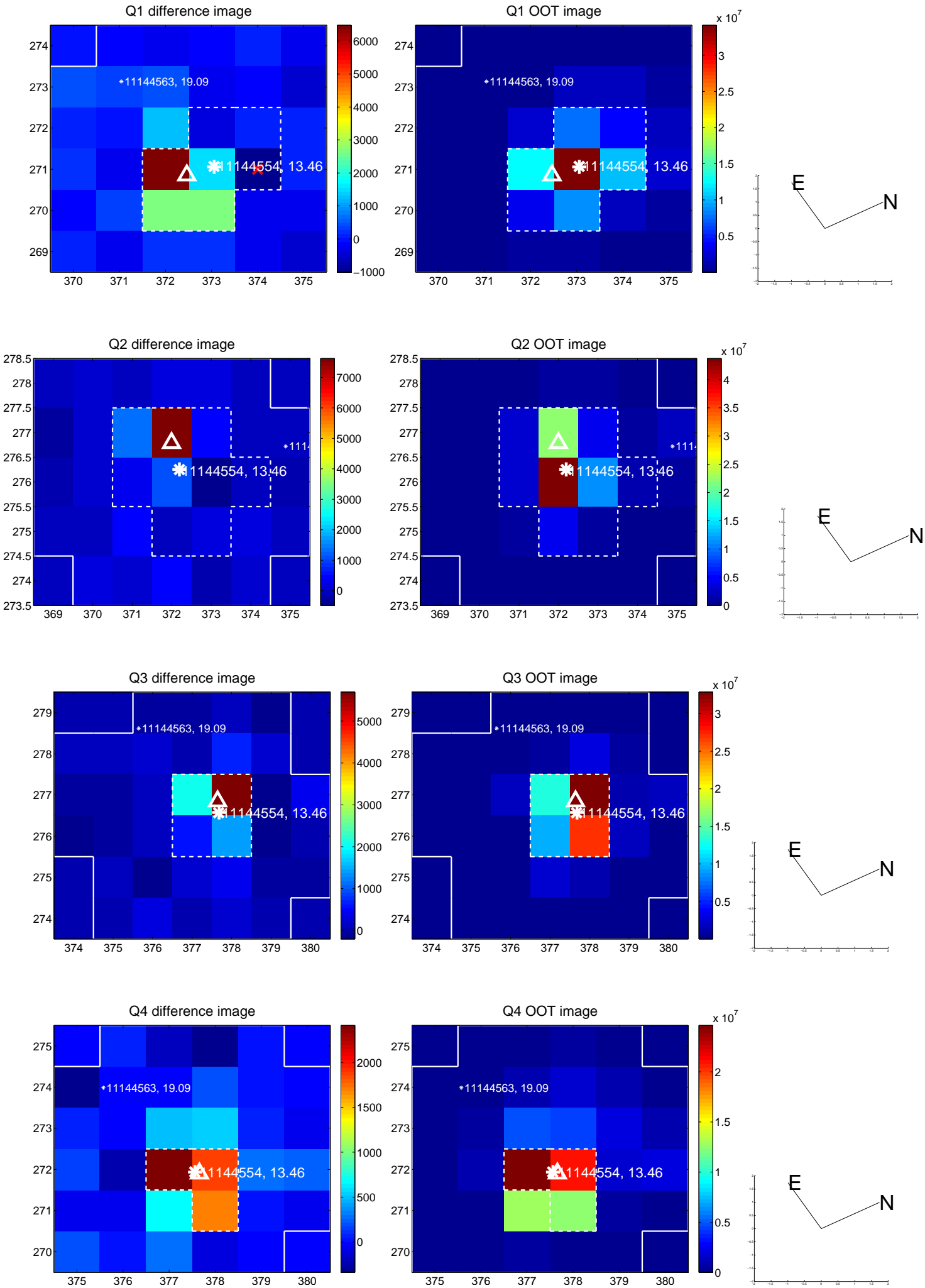


offset from photometric centroids

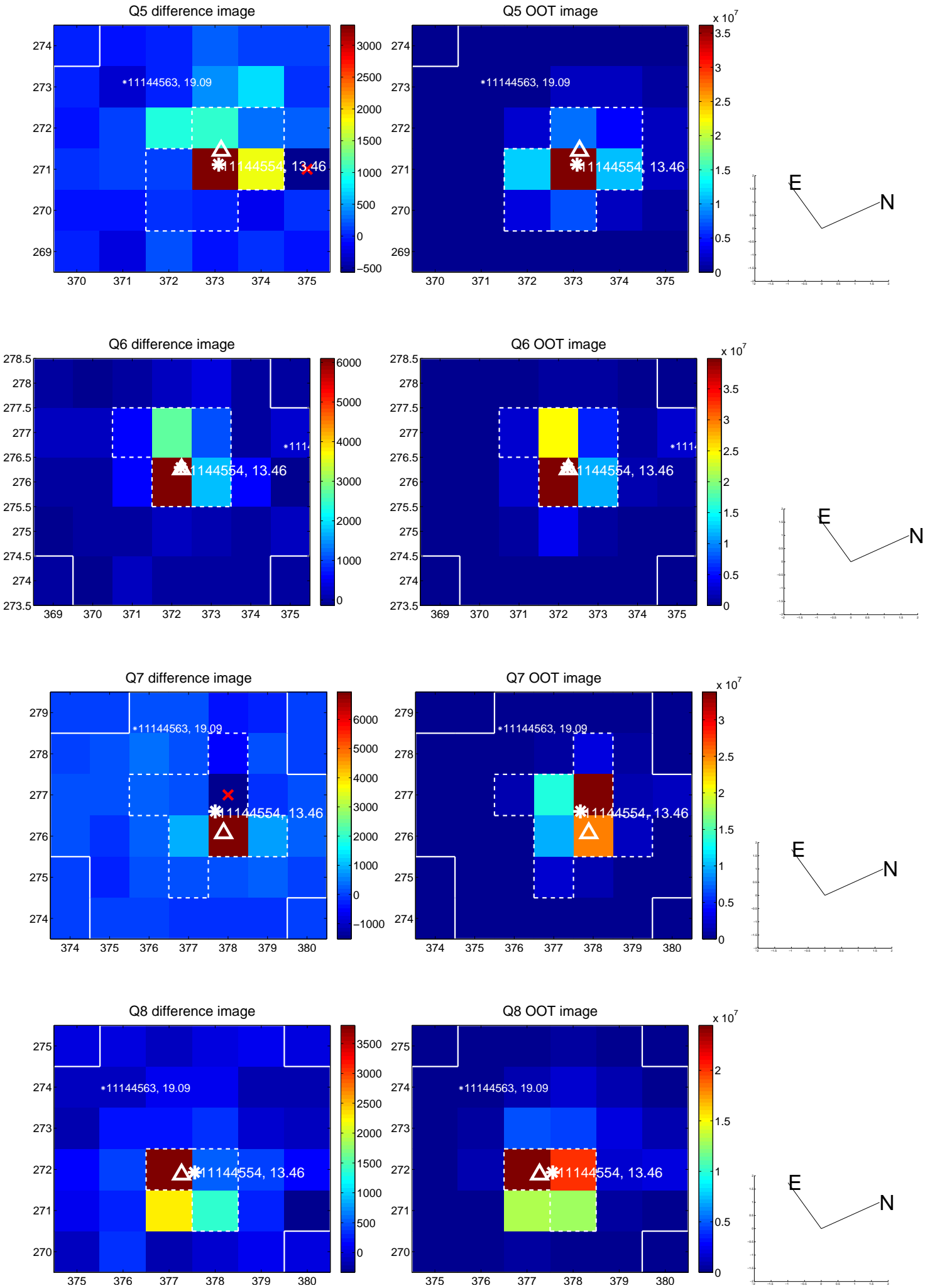


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

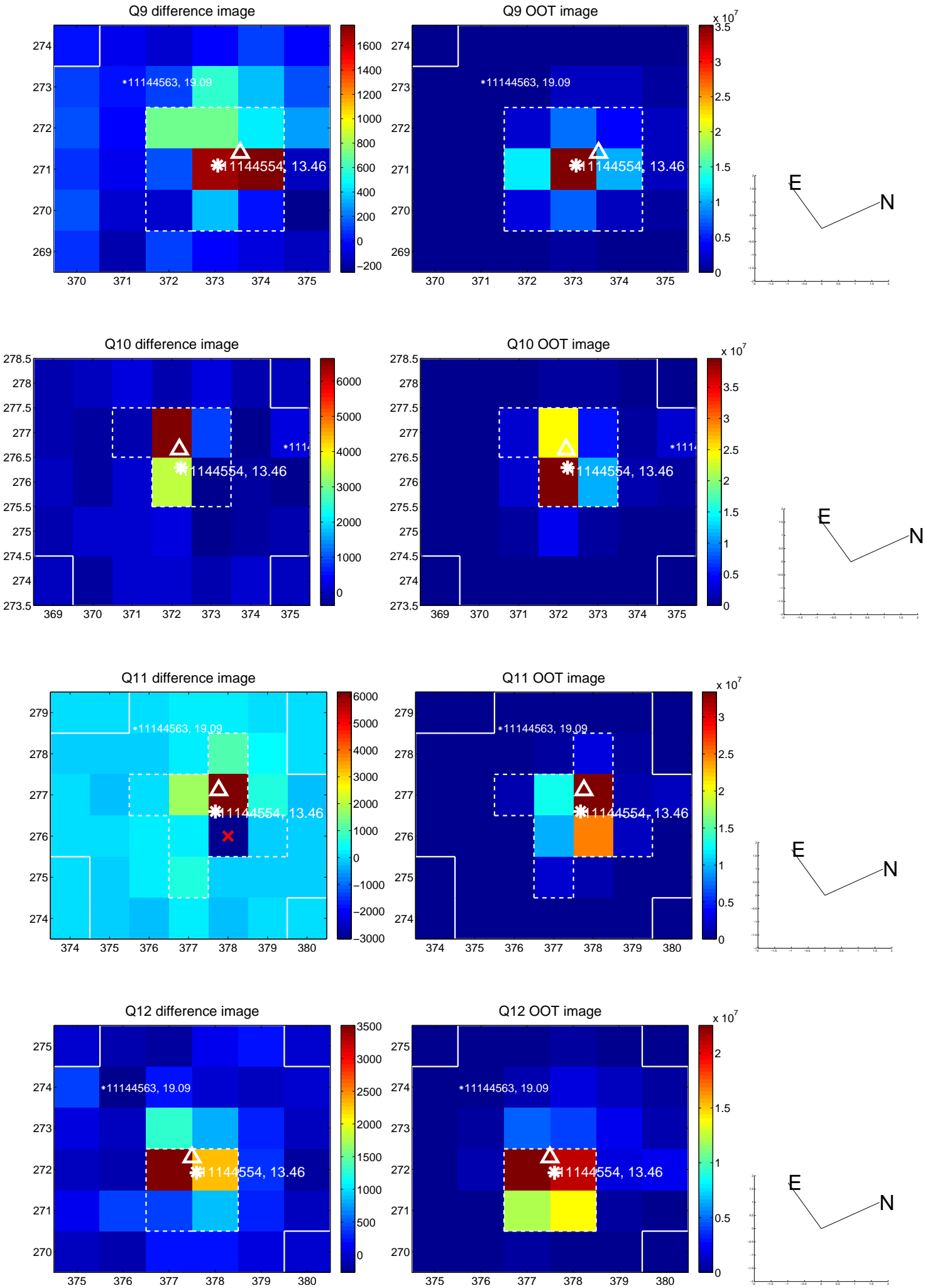
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



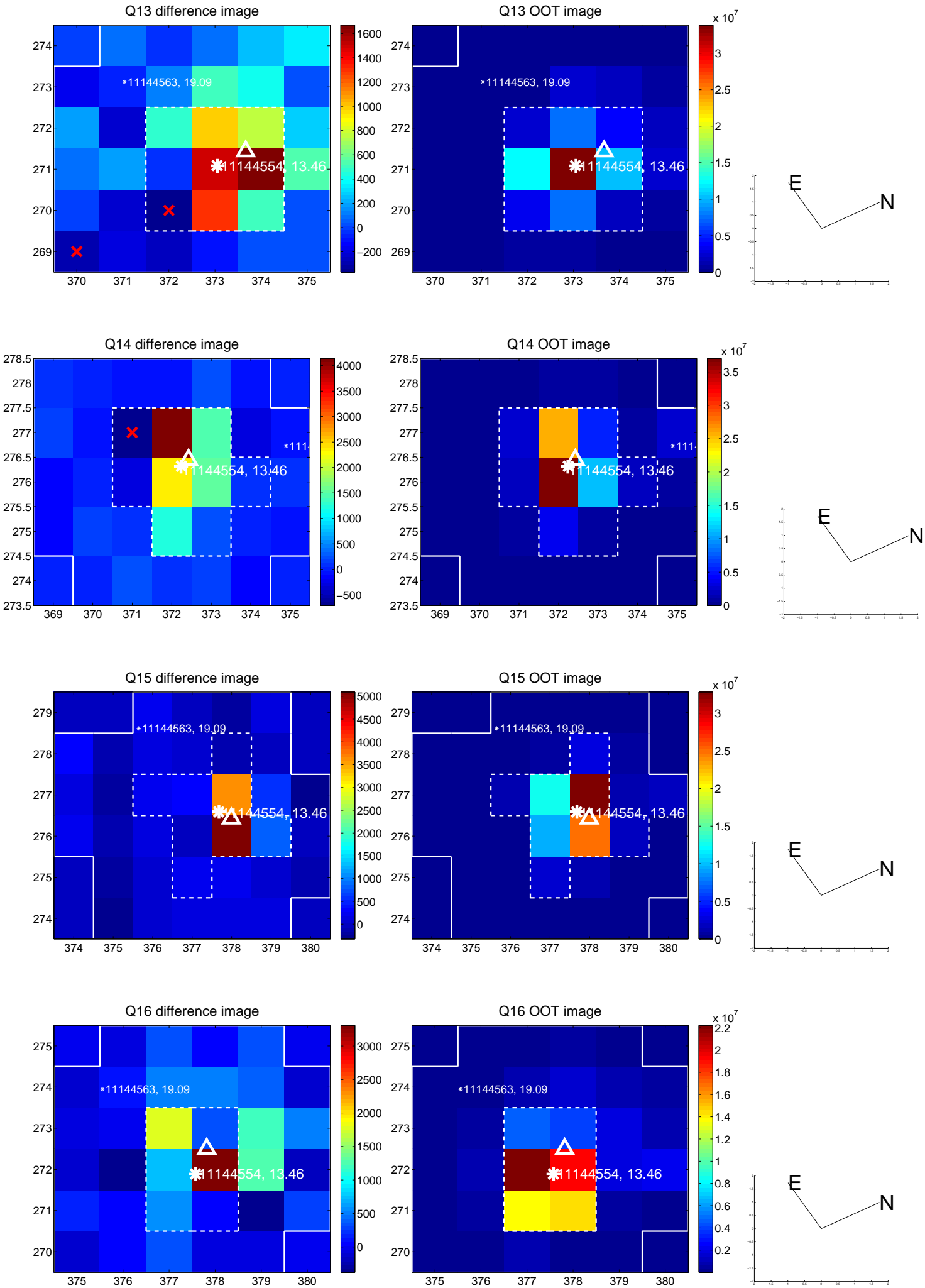
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



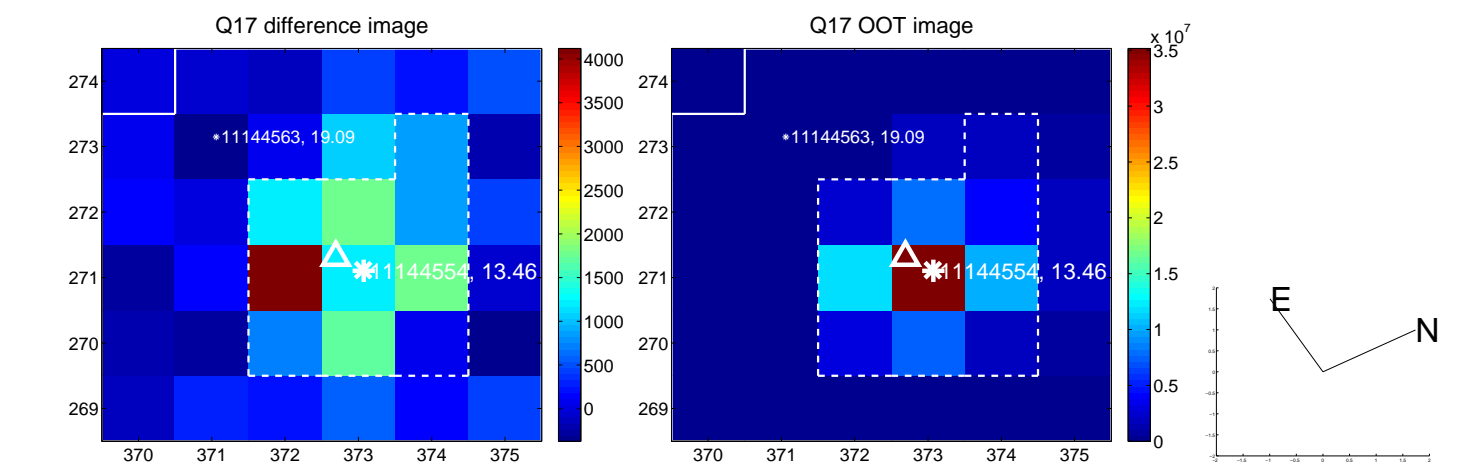
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



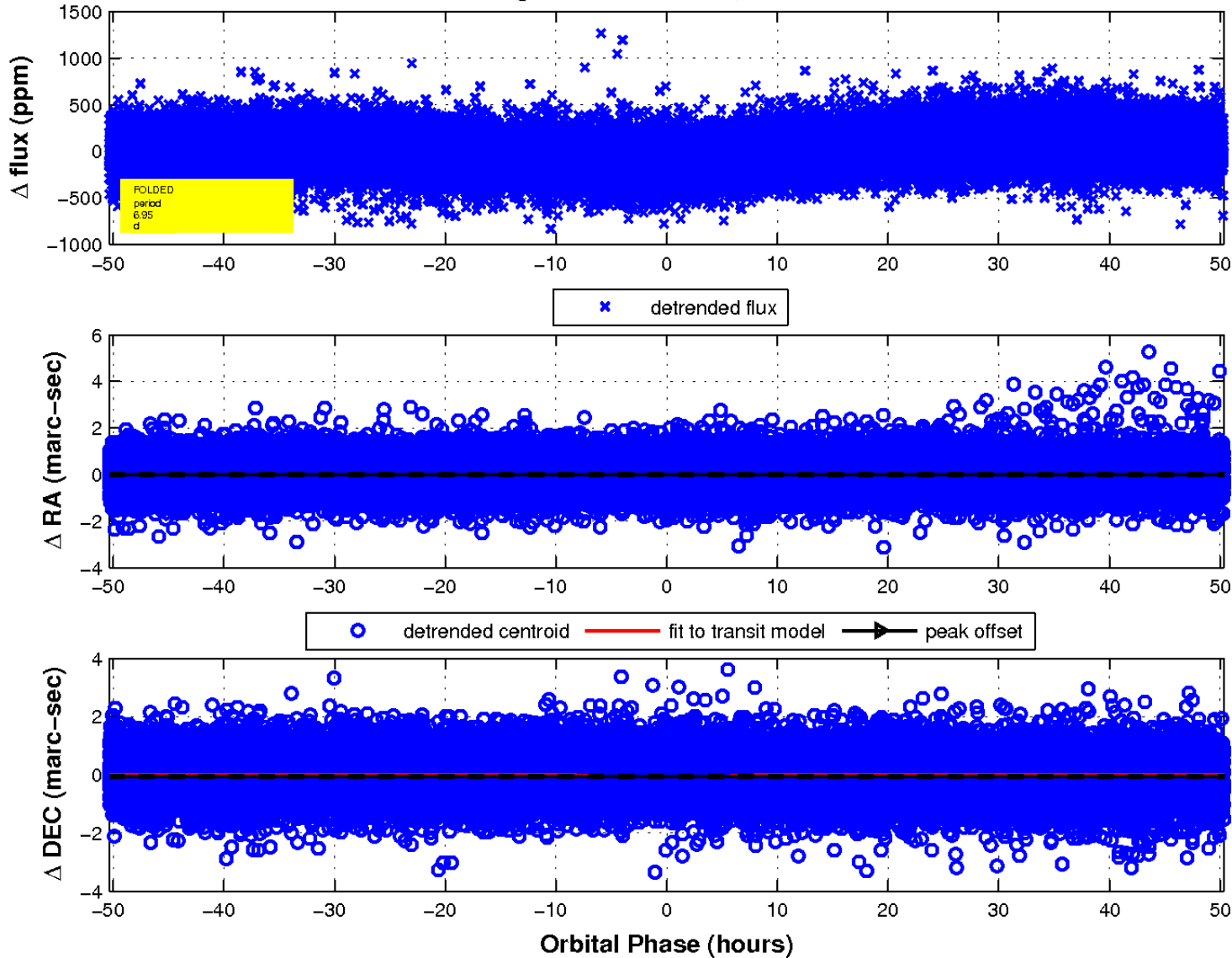
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

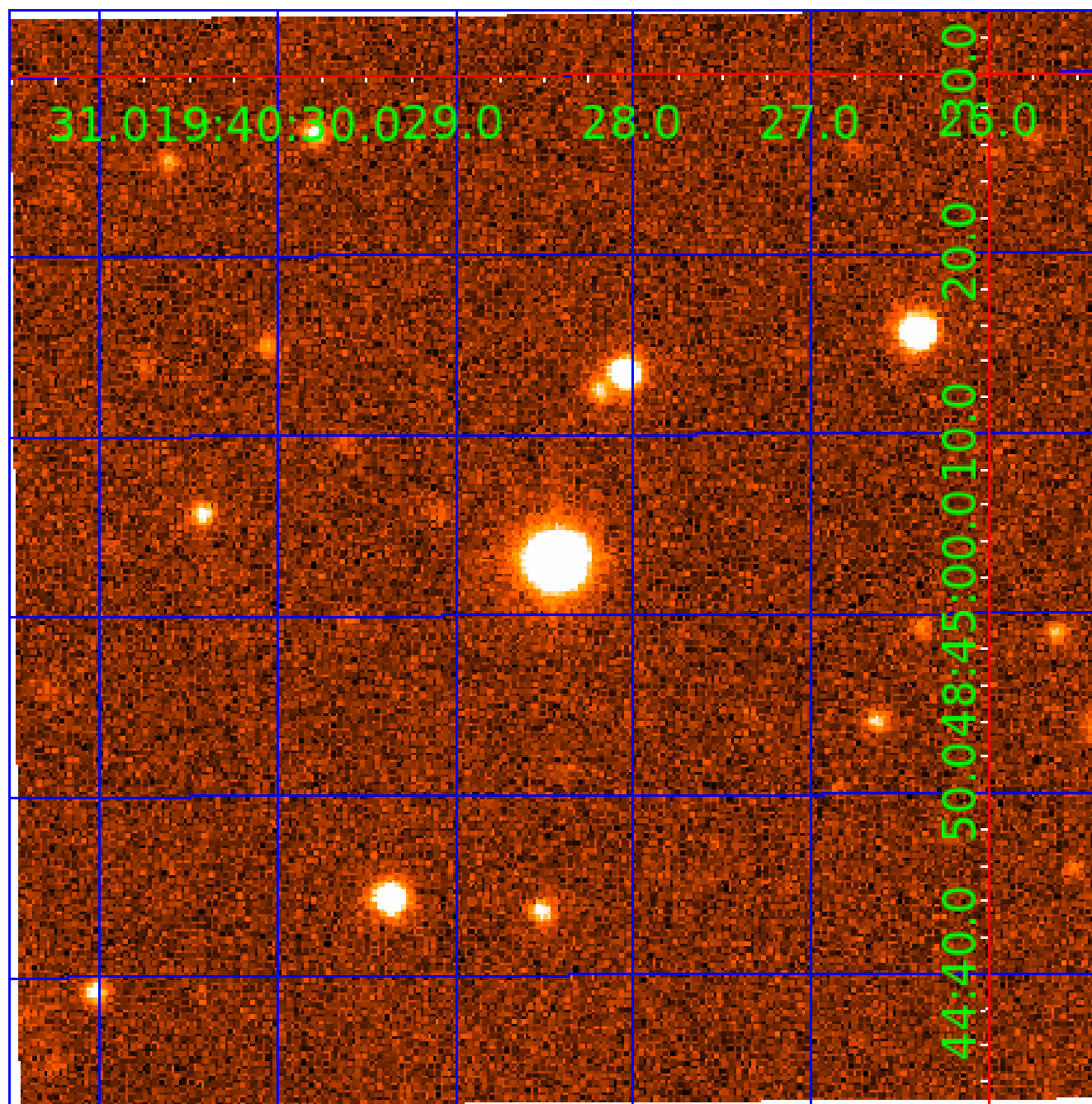


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 011144554

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})
011144554-01	OBS	No	6.947019	136.651719	38.9	16.785	8.6	9.0	2.32	6806	1.70	1528.06
011144554-02	OBS	No	3.473460	132.034721	21.8	12.978	7.7	7.3	2.32	6806	1.26	3850.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011144554-01	OBS	FP	0.00	1	0	0	0	LPP_DV
011144554-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—SAME_NTL_PERIOD—CENT_FEW_DIFFS

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

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

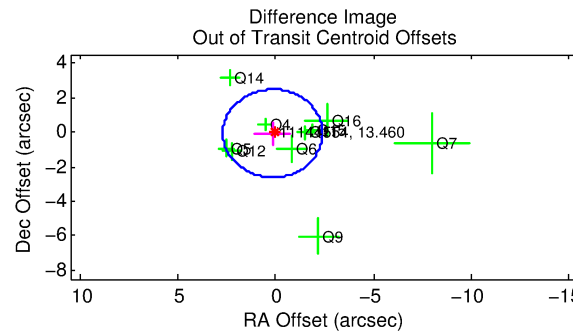
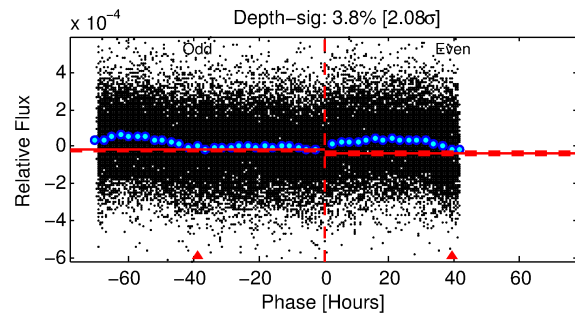
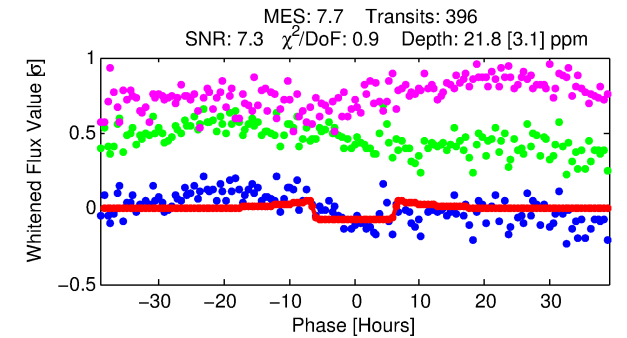
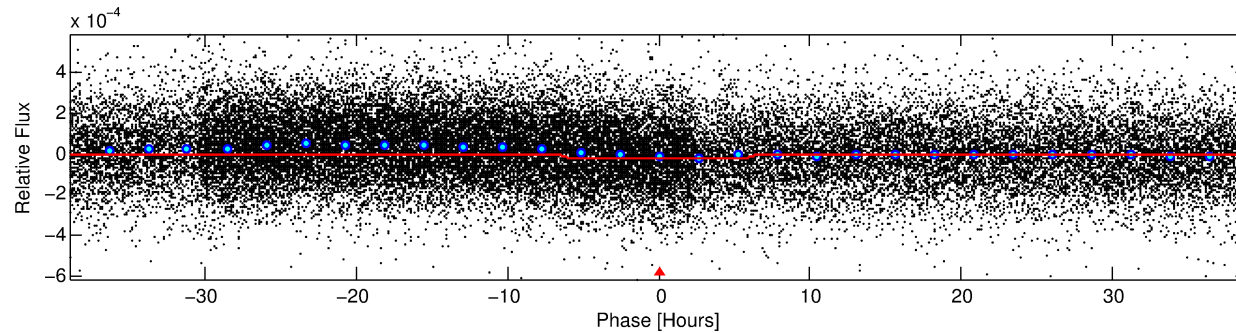
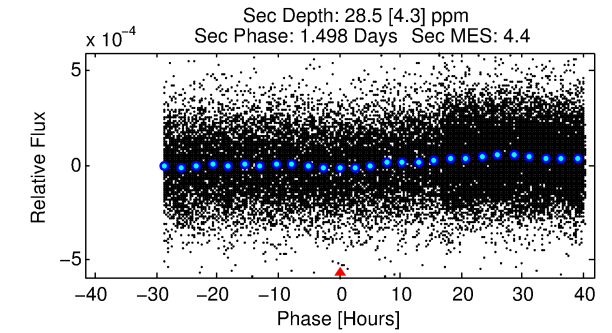
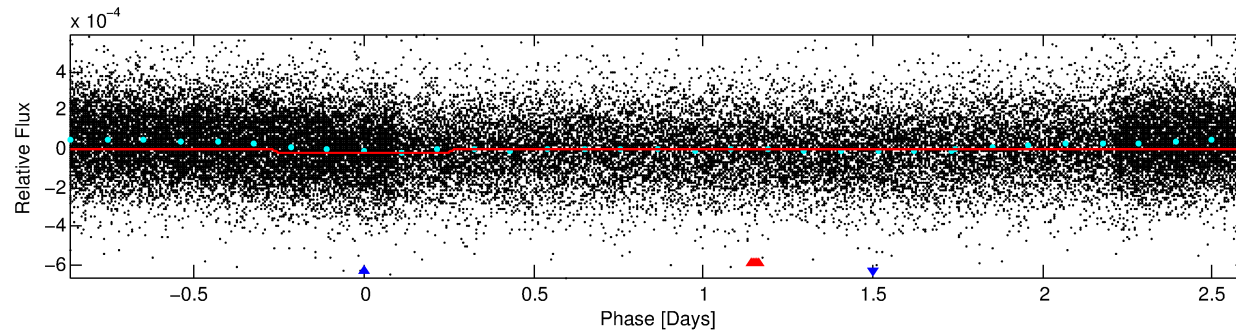
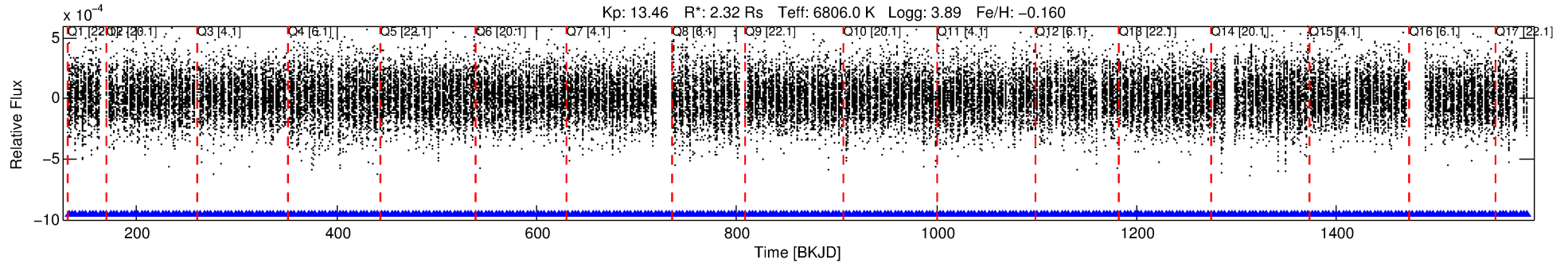
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011144554-02

No Significant Match Found

DV One-Page Summary

KIC: 11144554 Candidate: 2 of 2 Period: 3.473 d



DV Fit Results:

Period = 3.47346 [0.00006] d
Epoch = 132.0347 [0.0121] BKJD
Rp/R* = 0.0050 [0.0011]
a/R* = 1.31 [0.68]
b = 0.90 [0.27]
Seff = 3850.54 [1898.57]
Teq = 2009 [248] K
Rp = 1.26 [0.51] Re
a = 0.0518 [0.0159] AU
Ag = 26.48 [17.40] [1.46σ]
Teffp = 7045 [856] K [5.65σ]

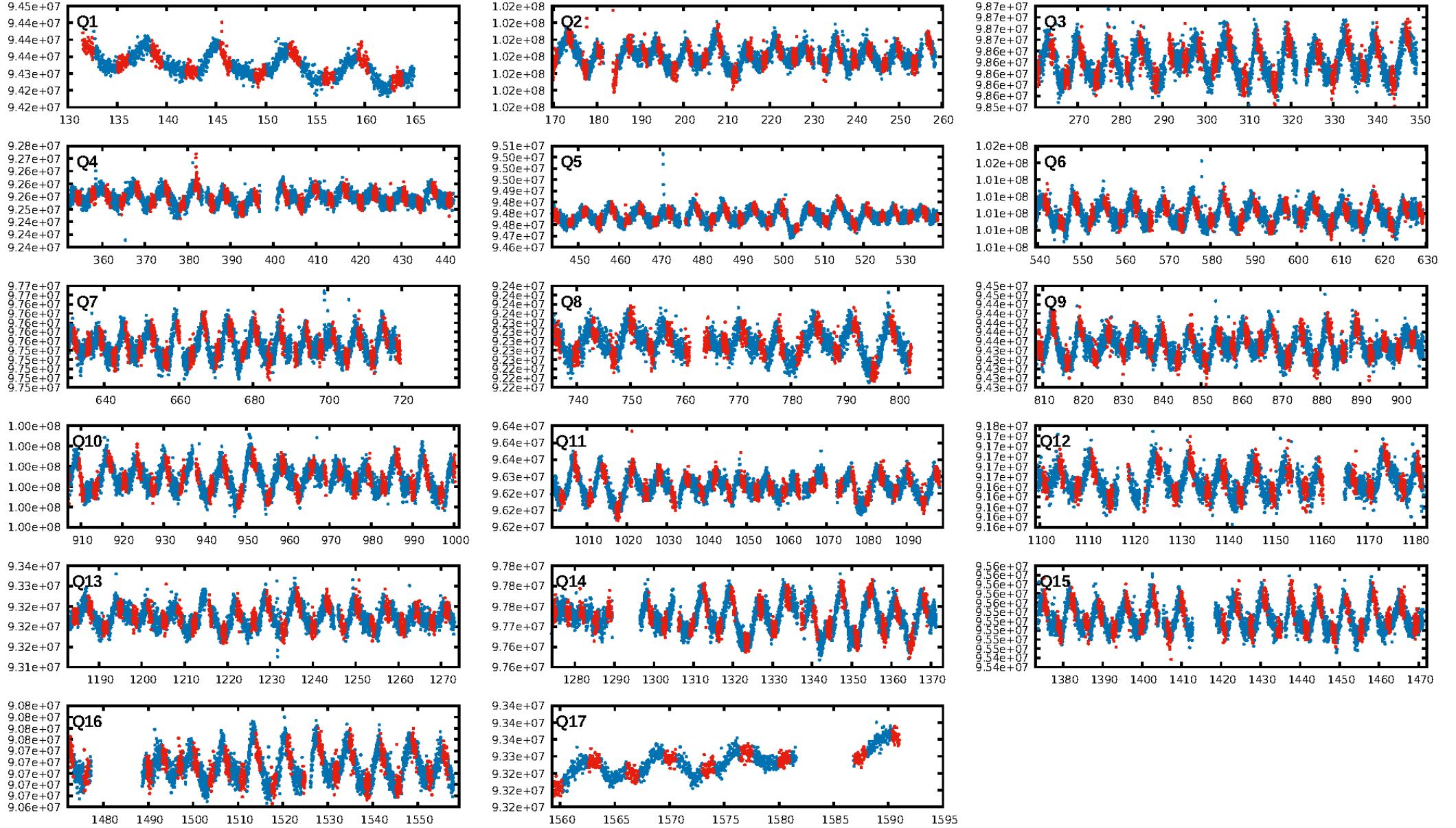
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [3.93σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.22e-09
RollingBand-fgt: 1.00 [377/377]
GhostDiagnostic-chr: 0.3277
Centroid-sig: 83.4%
Centroid-so: 0.477 arcsec [0.50σ]
OotOffset-rm: 0.181 arcsec [0.21σ]
KicOffset-rm: 0.157 arcsec [0.18σ]
OotOffset-st: 2/3/3/2 [10]
KicOffset-st: 2/3/3/2 [10]
DiffImageQuality-fgm: 0.10 [1/10]
DiffImageOverlap-fno: 1.00 [17/17]

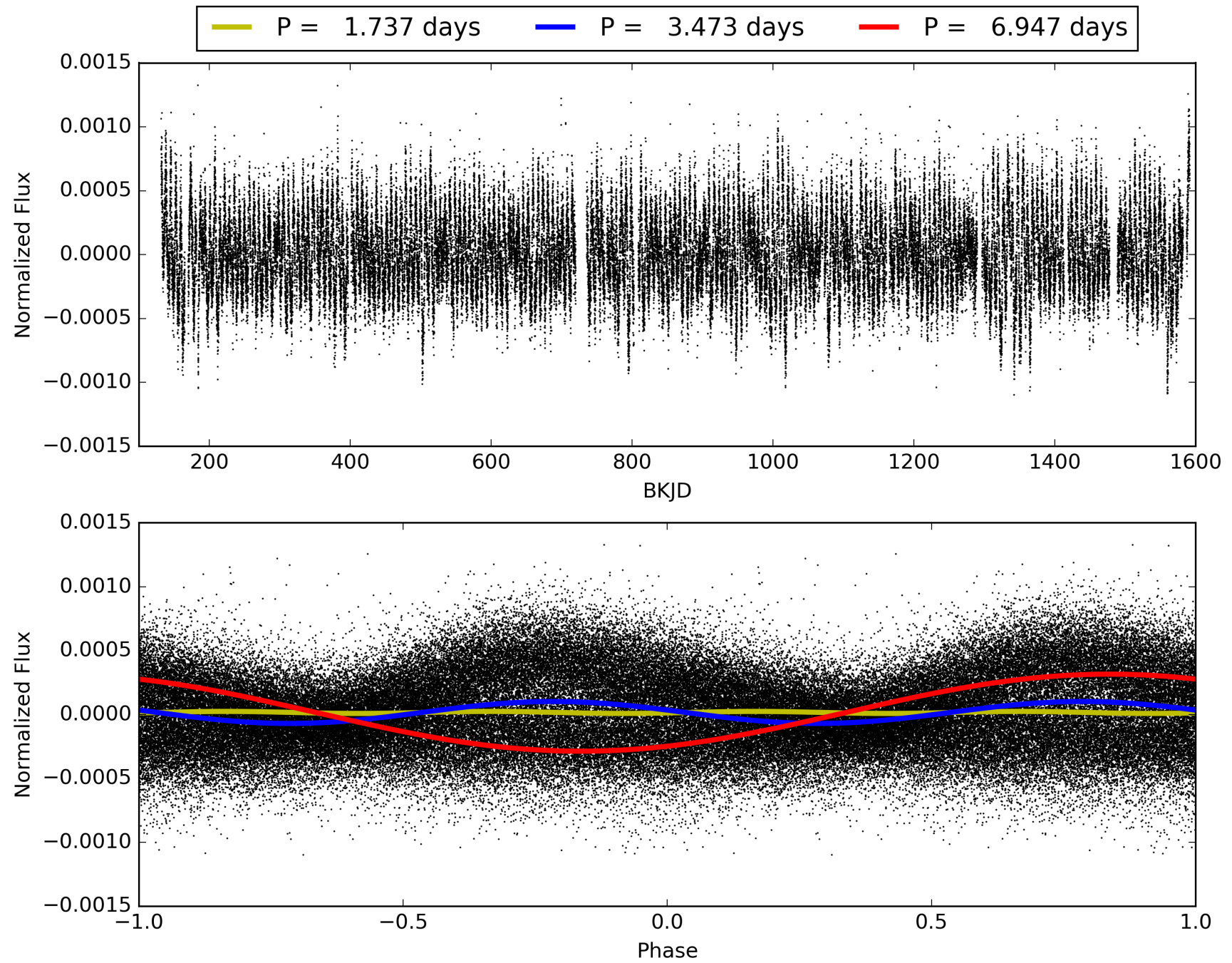
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 03:00:47 Z

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

TCE 011144554-02, PDC Light Curves

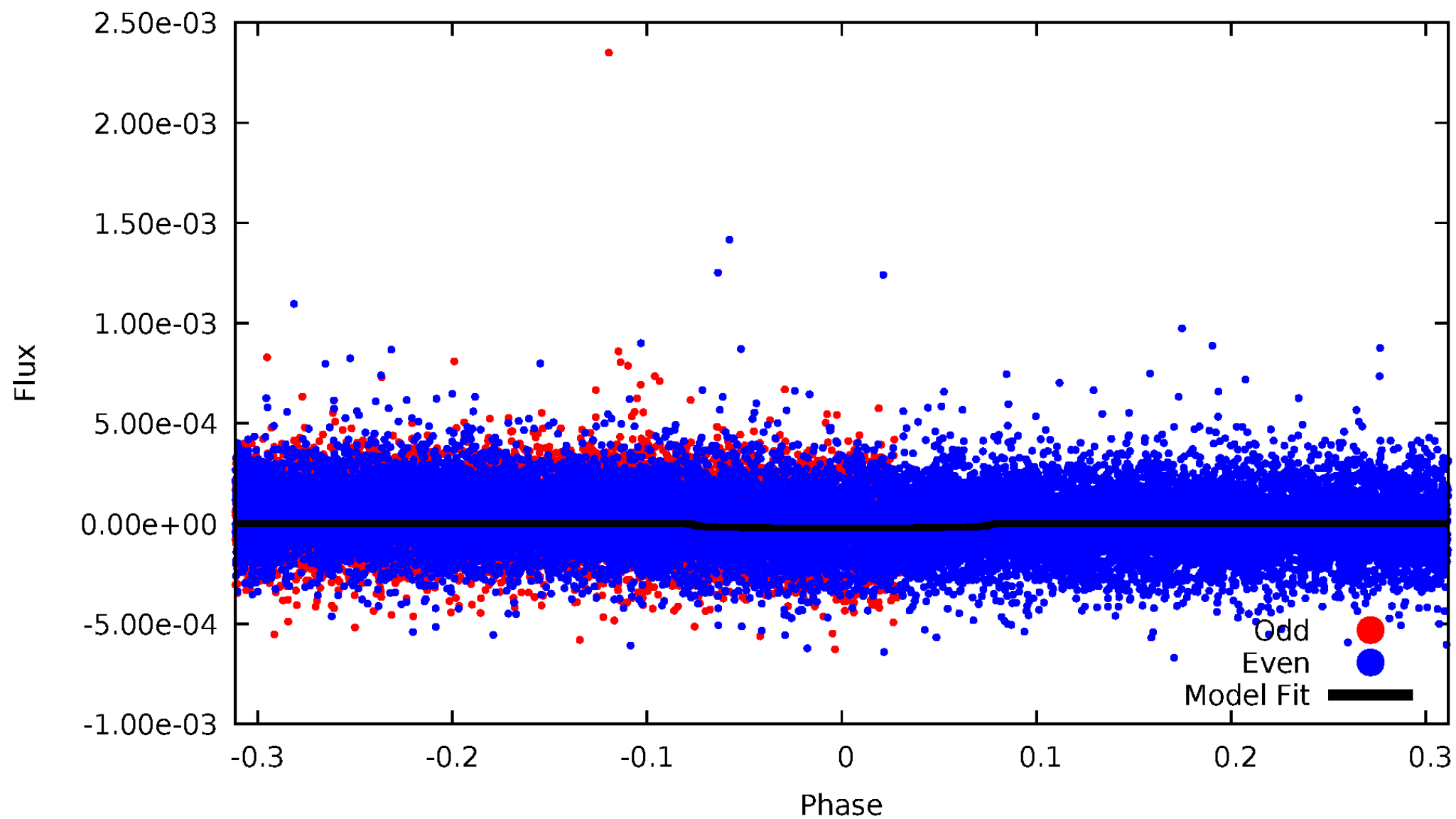


TCE 011144554-02



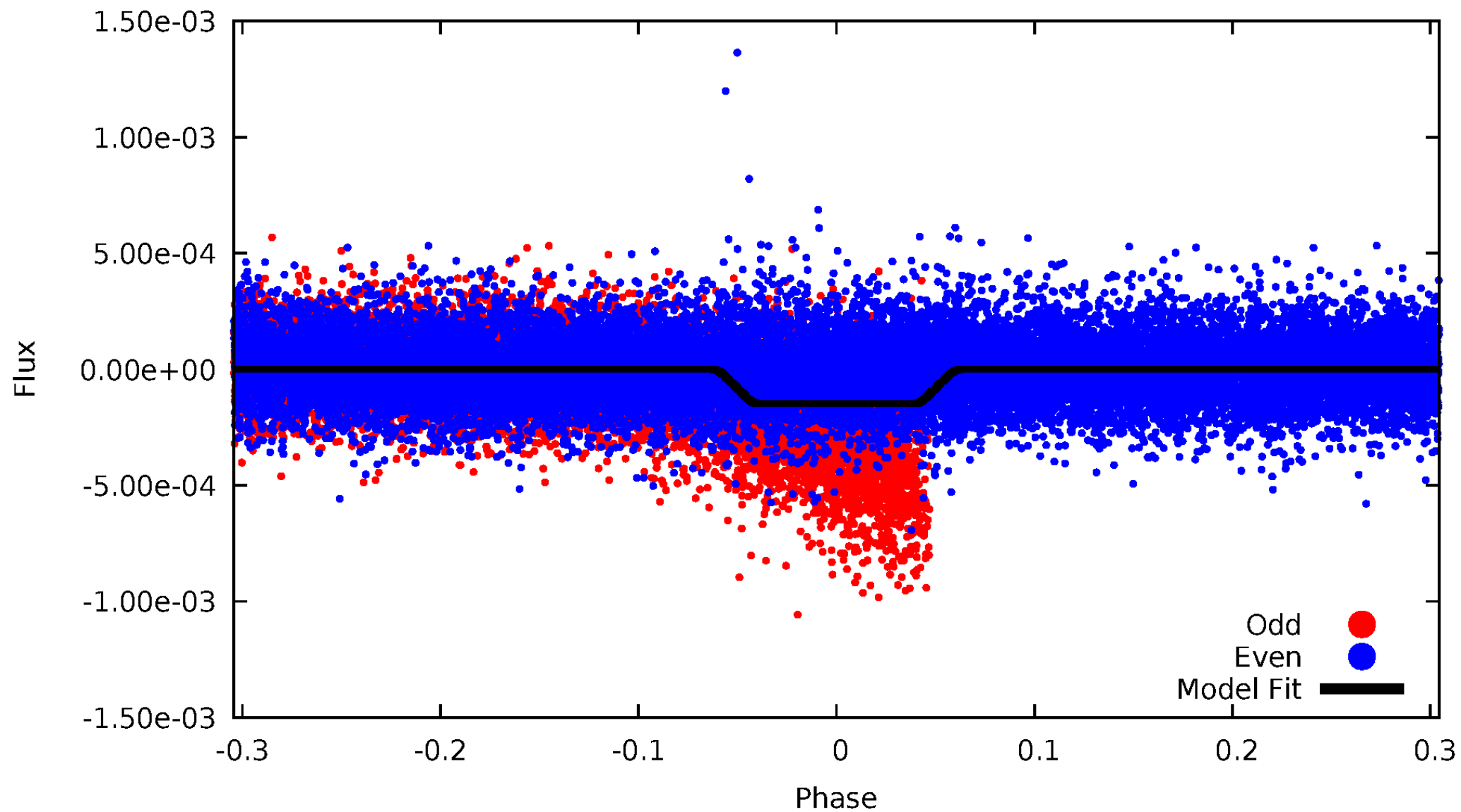
DV Odd/Even

TCE 011144554-02



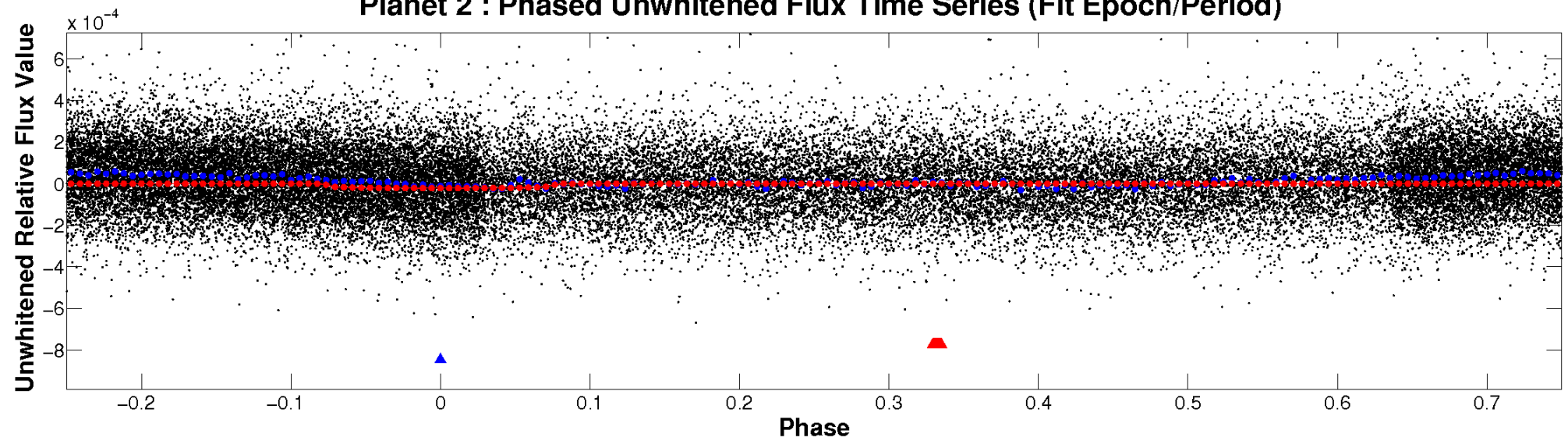
ALT Odd/Even

TCE 011144554-02

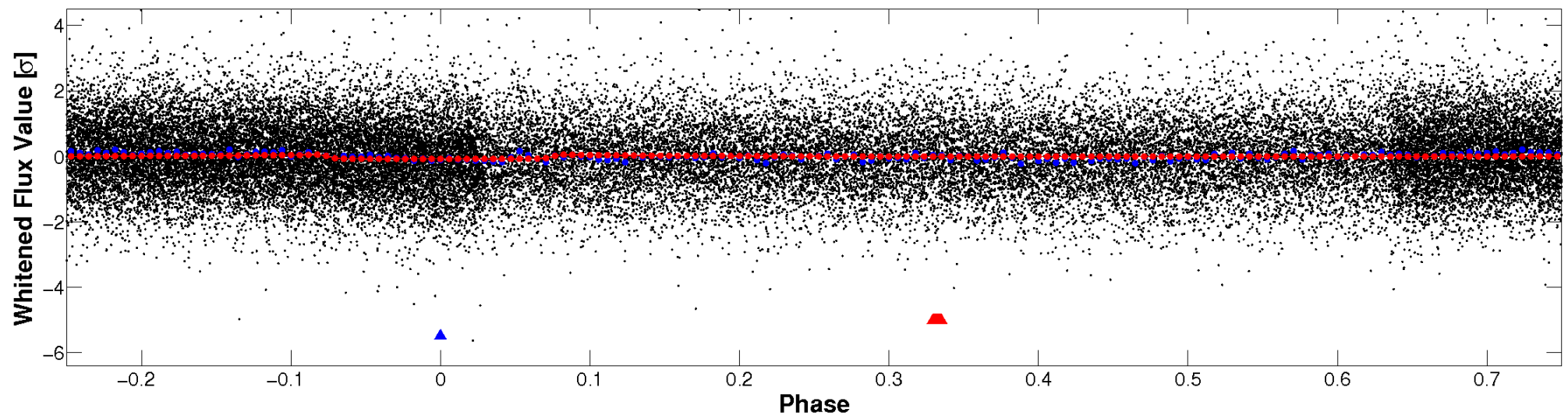


Non-Whitened Vs. Whitened Light Curve

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

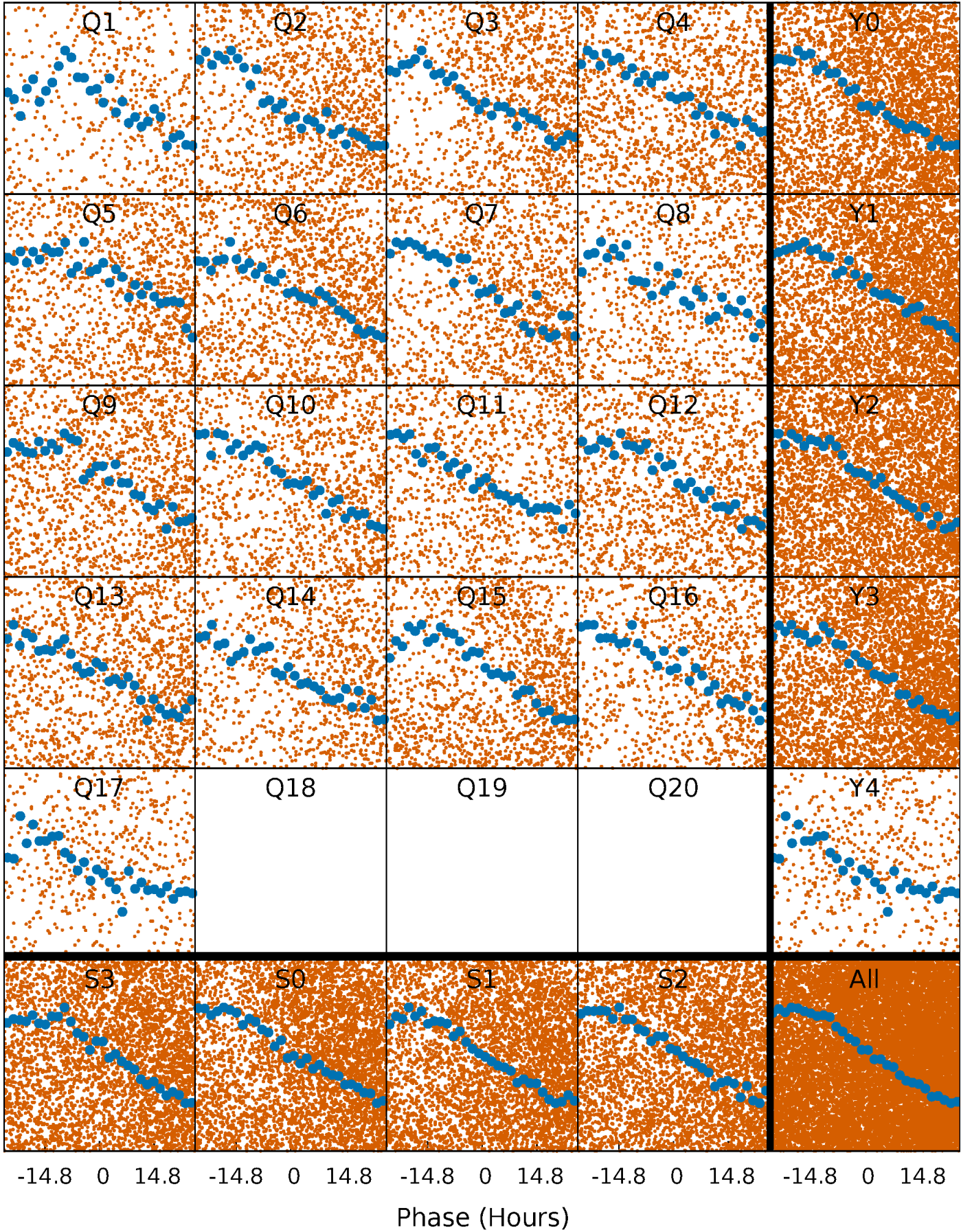


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



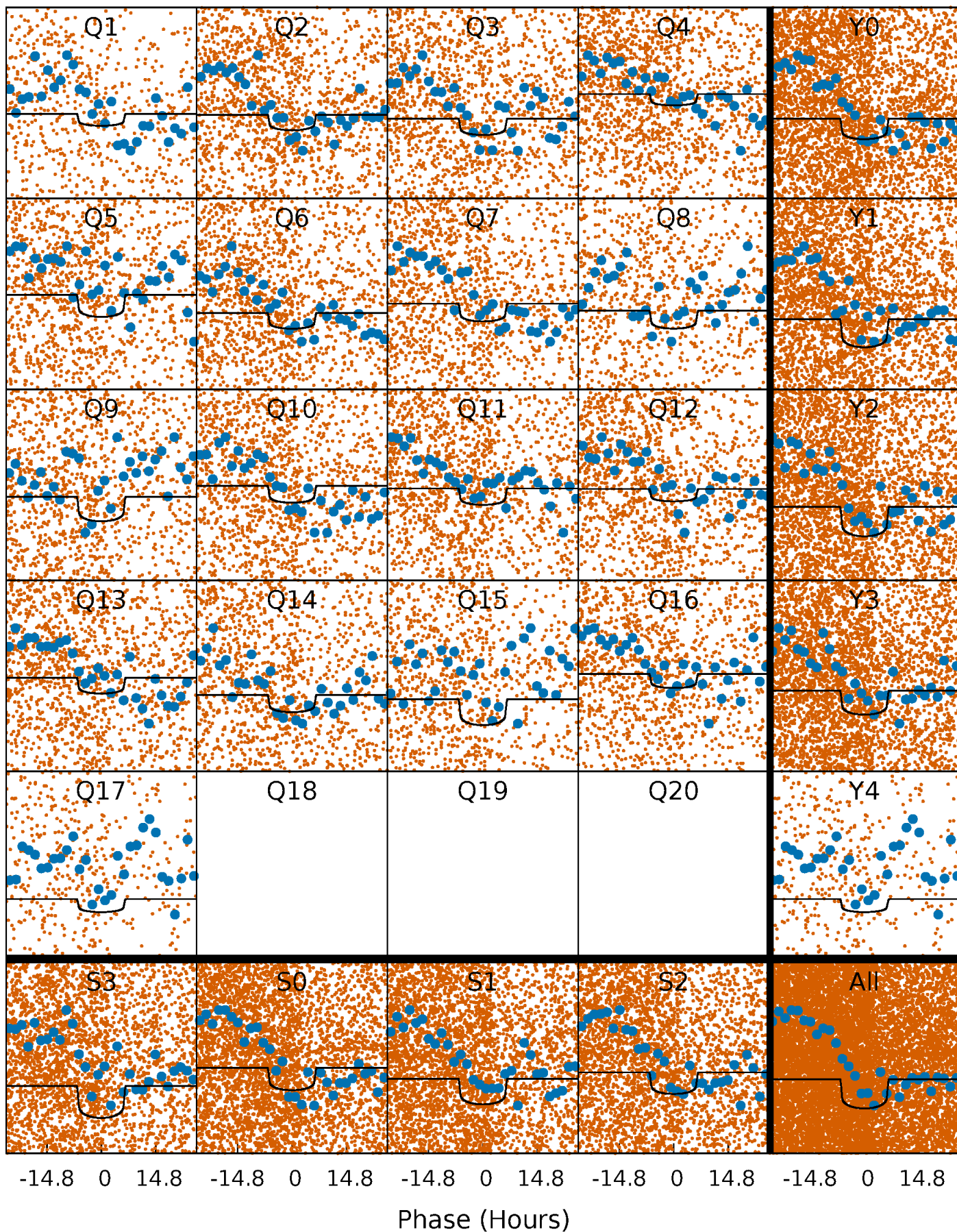
PDC Quarter-Phased Transit Curves

TCE 011144554-02 P= 3.473460 Days $T_0=132.034721$ (BKJD)



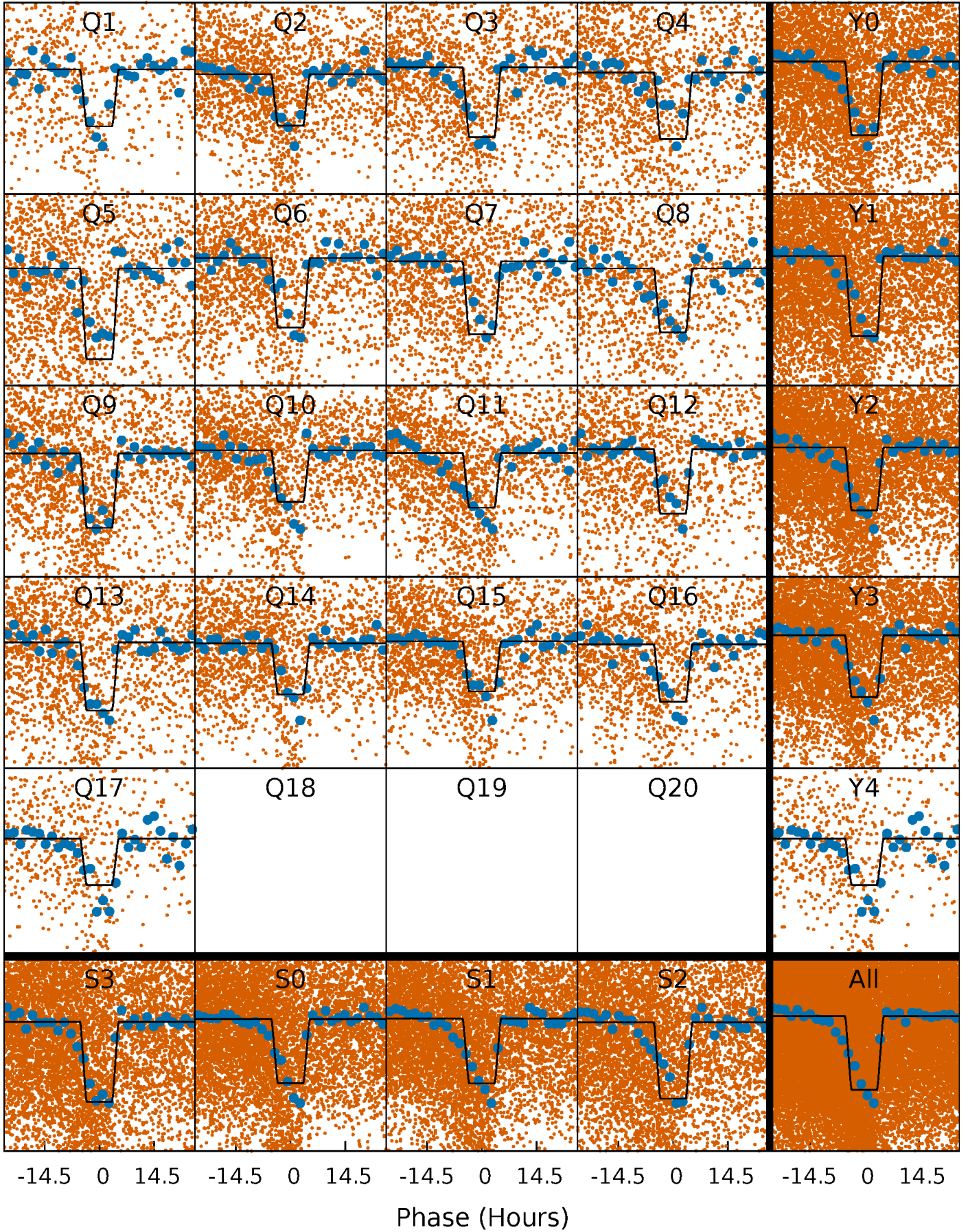
DV Quarter-Phased Transit Curves

TCE 011144554-02 P= 3.473460 Days $T_0=132.034721$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

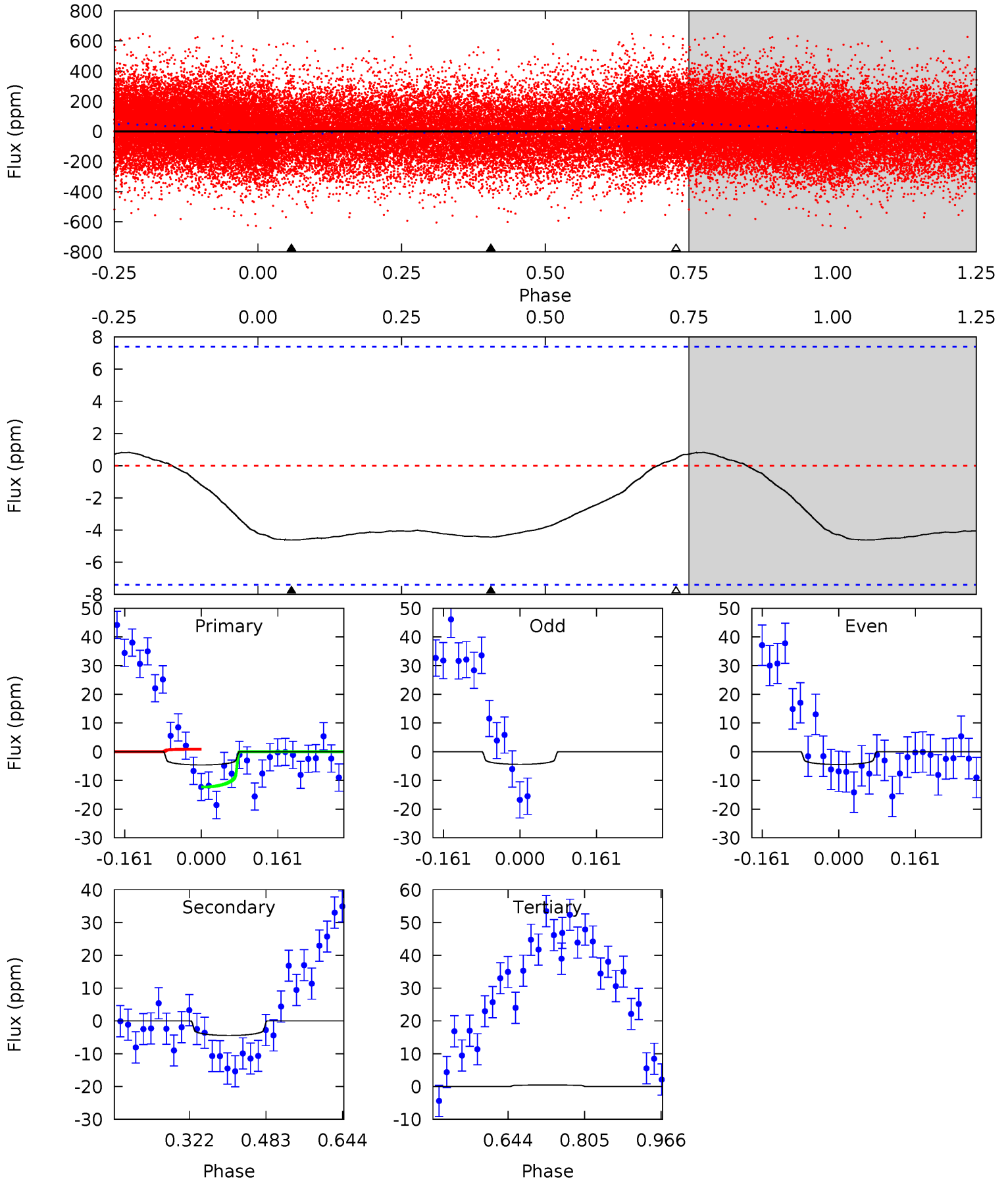
TCE 011144554-02 P= 3.473349 Days $T_0=132.016053$ (BKJD)



DV Model-Shift Uniqueness Test

011144554-02, P = 3.473460 Days, E = 128.561261 Days

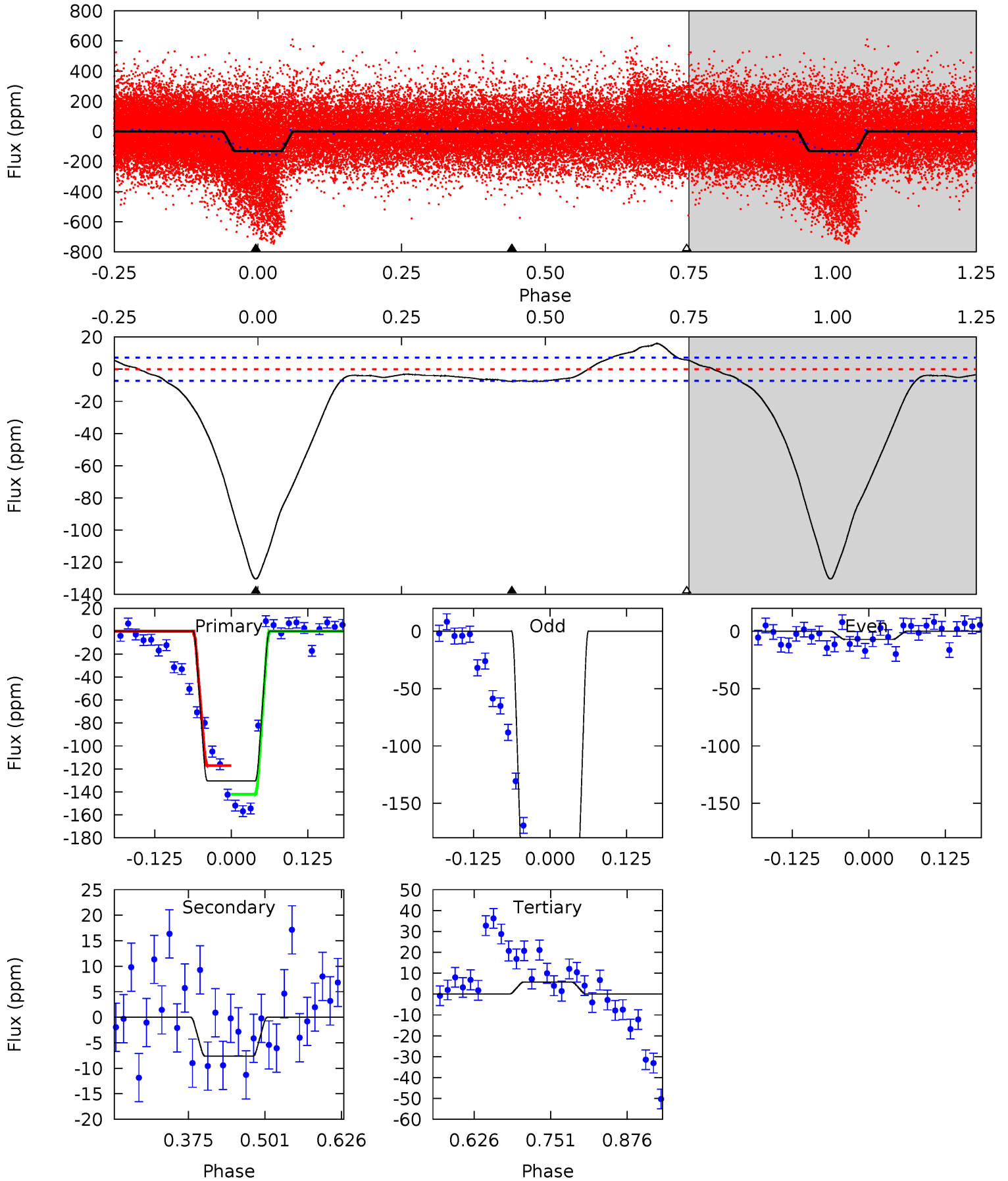
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.79	2.68	-0.27	0	4.46	1.40	0.72	3.06	2.79	2.95	2.68	0.01	0.65	0.15	3.47



Alt Model-Shift Uniqueness Test

011144554-02, P = 3.473349 Days, E = 128.542704 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
82.0	4.80	-3.62	0	4.52	1.53	5.23	85.6	82.0	8.42	4.80	88.2	1.90	0.11	7.80



Stellar Parameters For KIC 011144554

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6806^{+190}_{-262}	$3.894^{+0.266}_{-0.114}$	$-0.160^{+0.300}_{-0.300}$	$2.318^{+0.430}_{-0.798}$	$1.535^{+0.180}_{-0.335}$	$0.173^{+0.320}_{-0.063}$
	+3%/-4%	+7%/-3%	+188%/-188%	+19%/-34%	+12%/-22%	+184%/-37%
Source	PHO1	FLK73	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 011144554-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-4 ± 2	$1.23^{+0.33}_{-0.34}$	2754^{+176}_{-207}	4455^{+617}_{-551}	$4.167^{+4.314}_{-2.022}$
Alt.	-8 ± 2	$2.97^{+0.45}_{-0.56}$	2767^{+194}_{-228}	3504^{+213}_{-225}	$1.254^{+0.623}_{-0.377}$

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

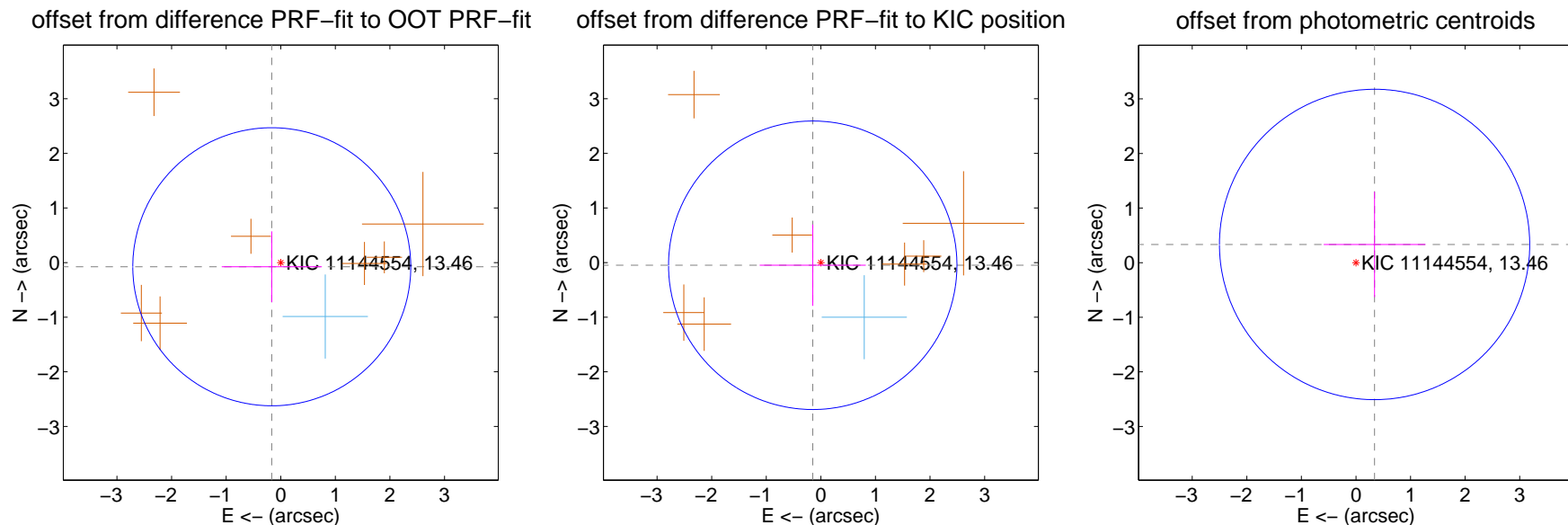
DV Centroid Data

Supplemental centroid analysis for 011144554-02. Kepler magnitude: 13.46. Transit SNR 7.26

There are 1 quarters with good PRF difference image offsets

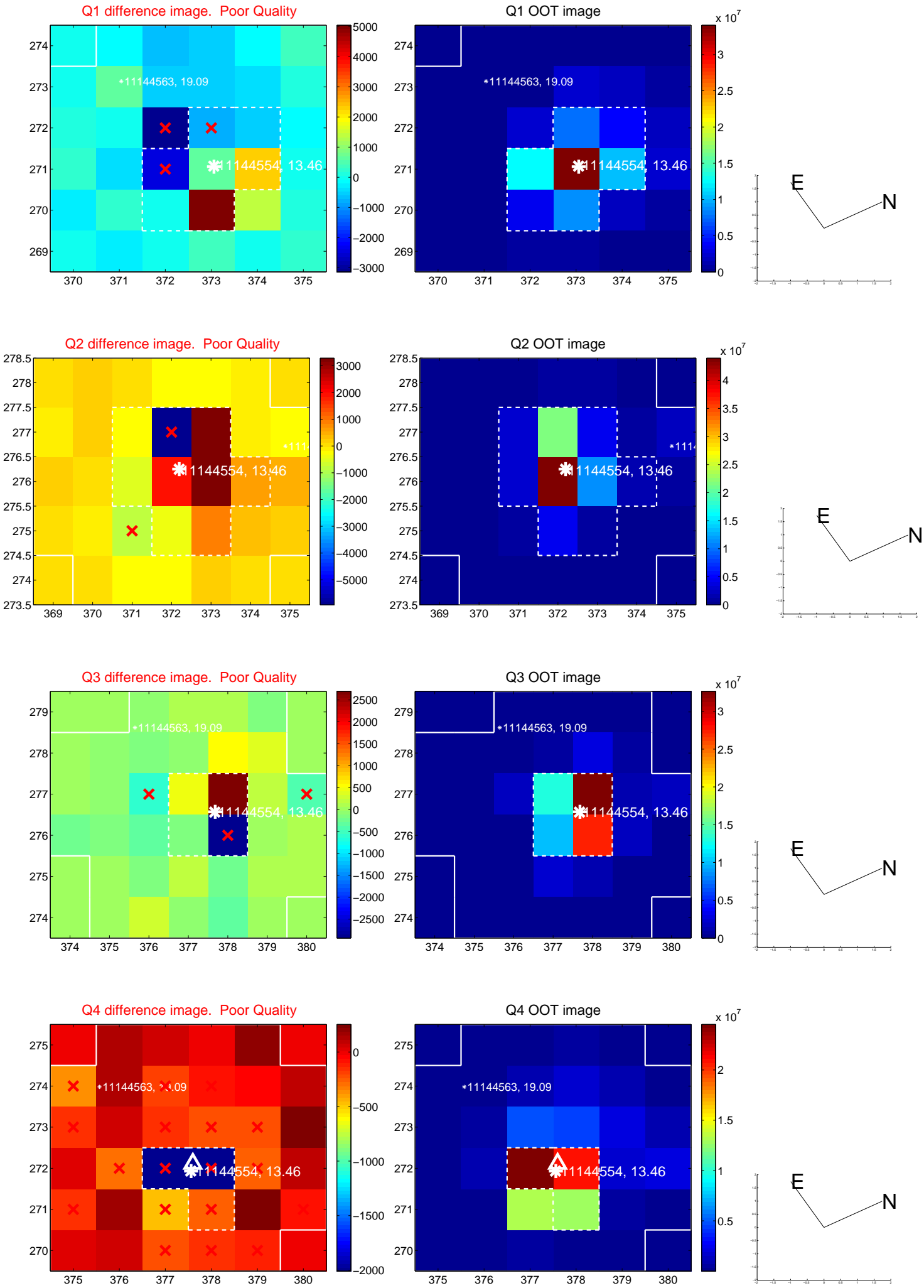
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.181 ± 0.849	0.21	0.164 ± 0.918	-0.076 ± 0.649
PRF-fit source offset from KIC position	0.157 ± 0.881	0.18	0.149 ± 0.971	-0.049 ± 0.745
photometric centroid source offset	0.48 ± 0.95	0.50	-0.34 ± 0.93	0.33 ± 0.96

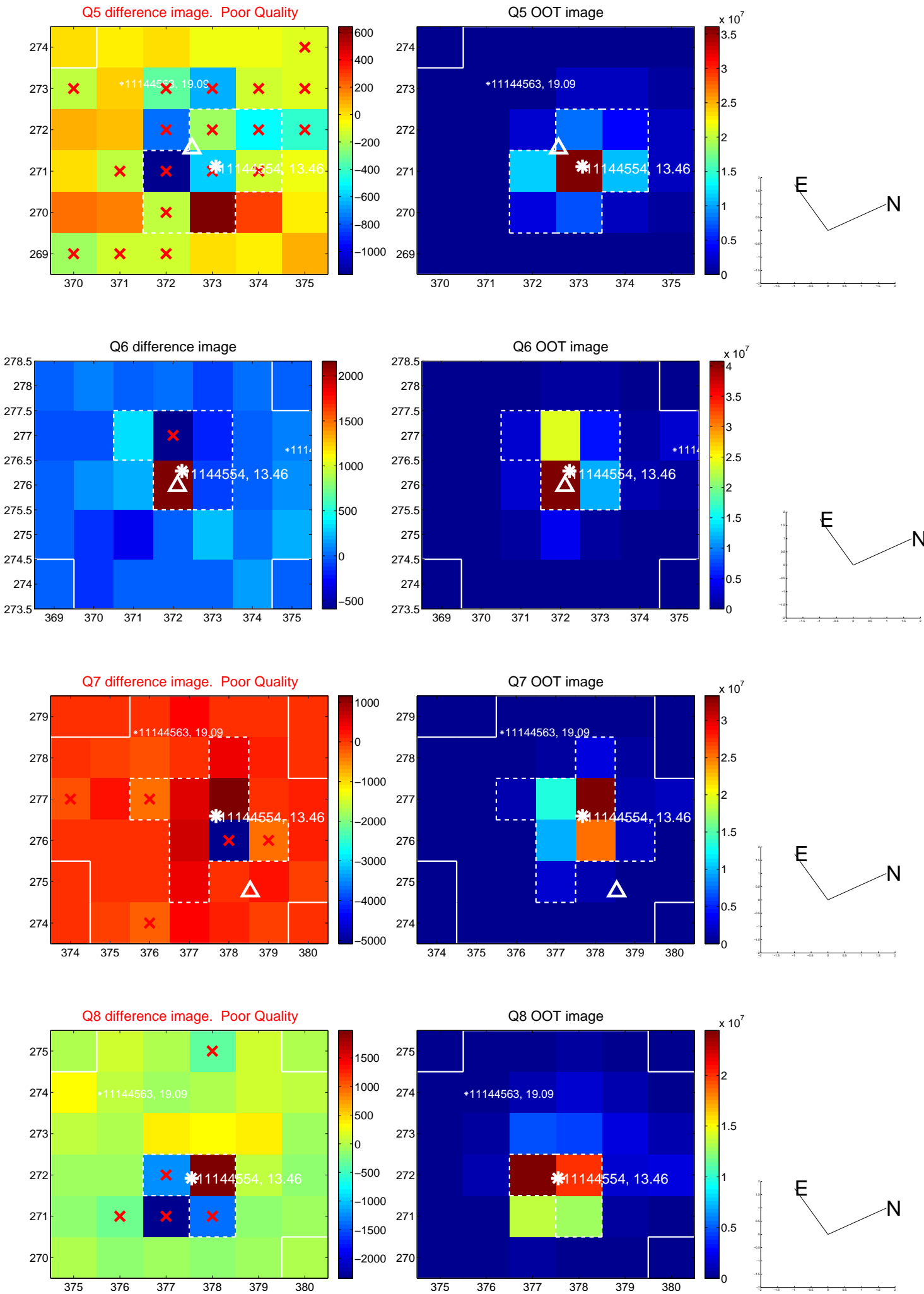


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

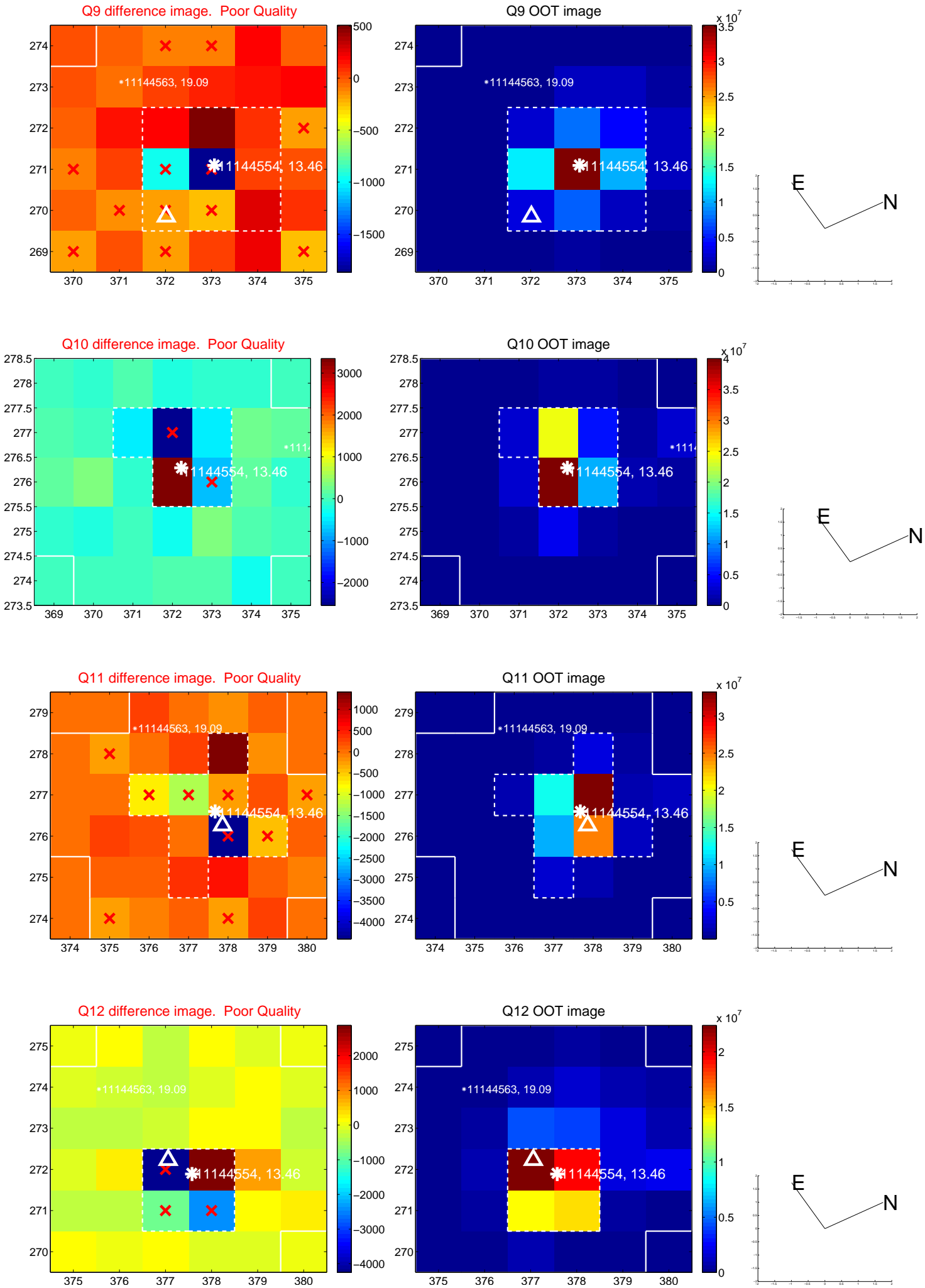
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



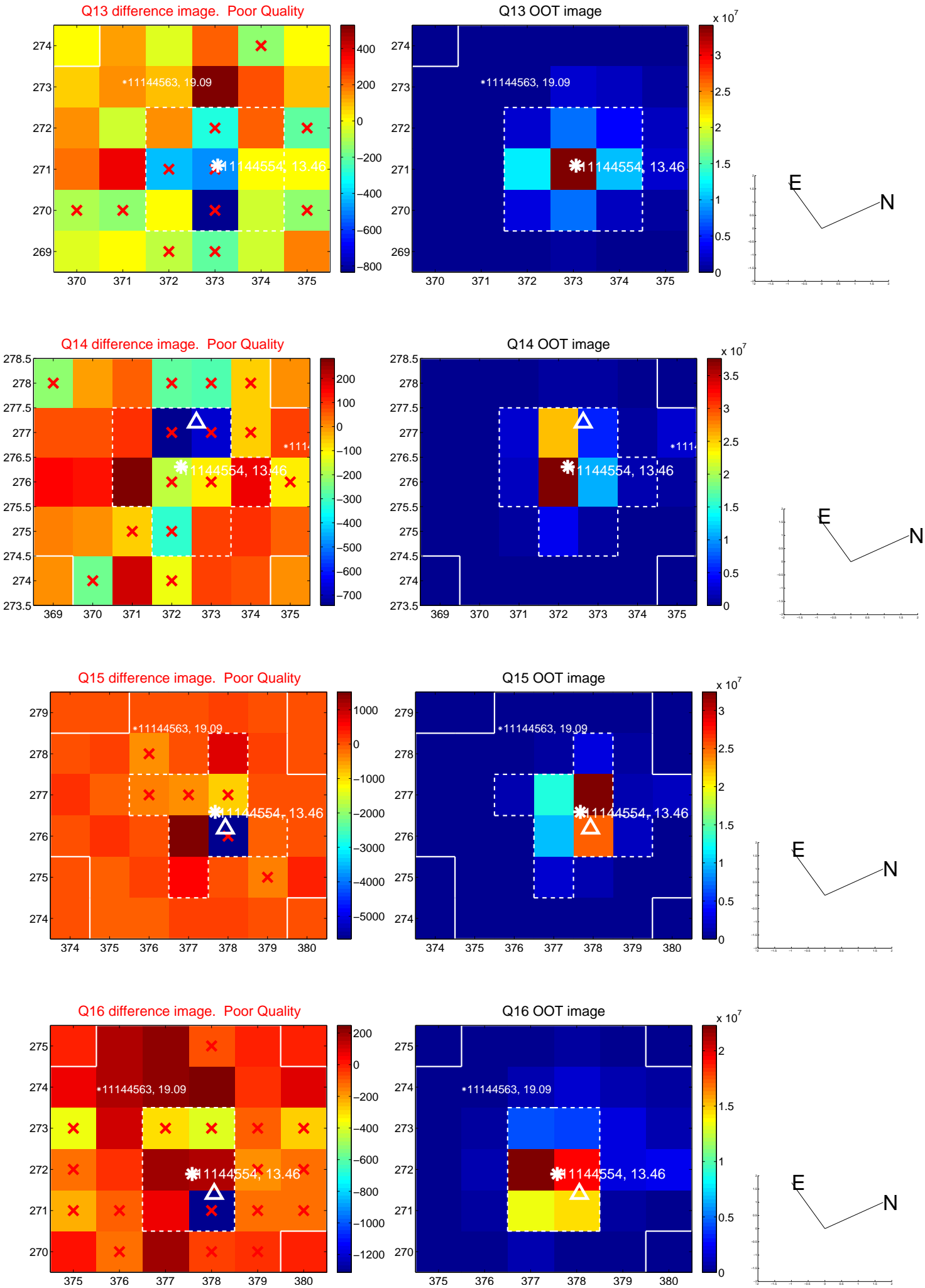
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



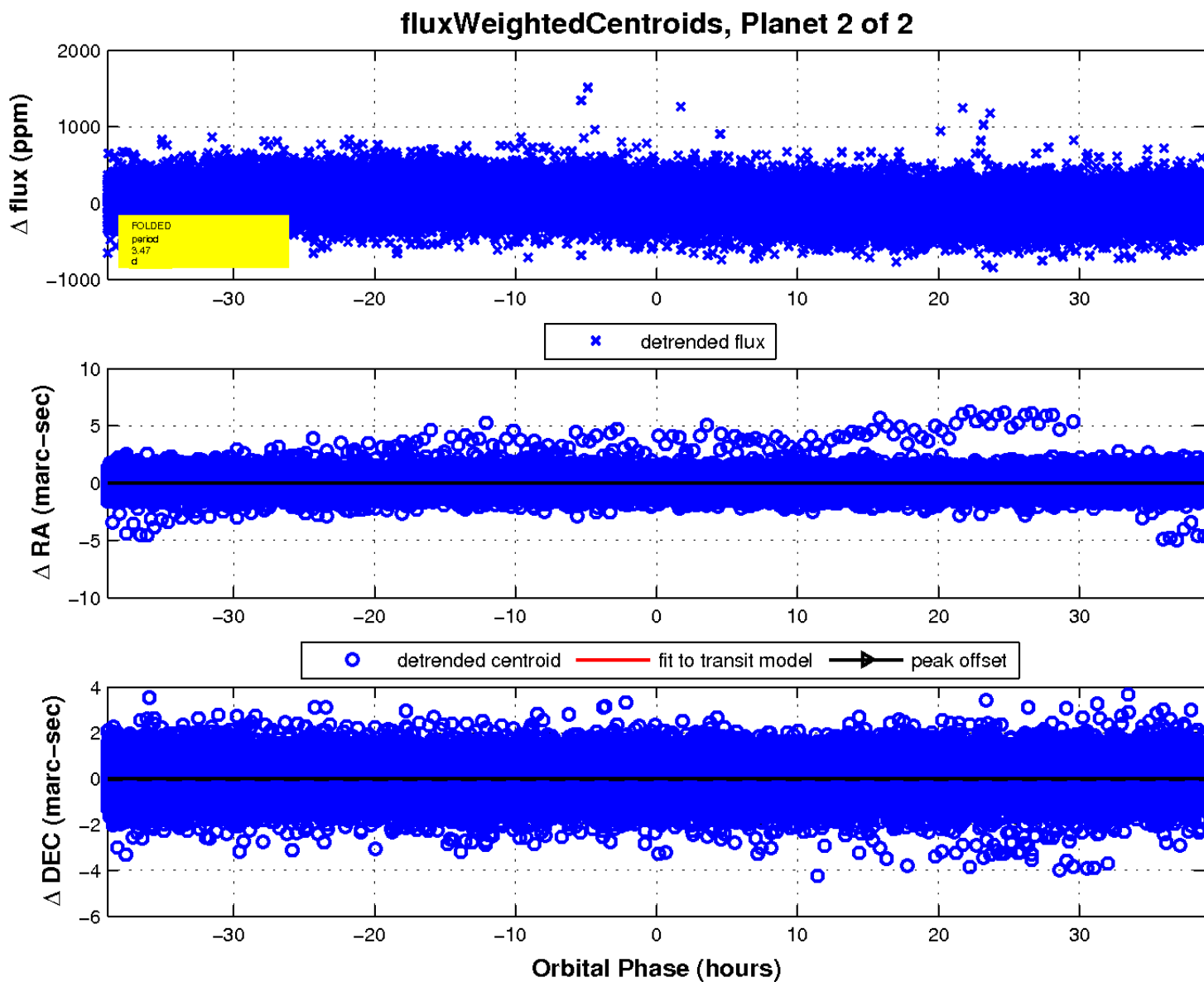
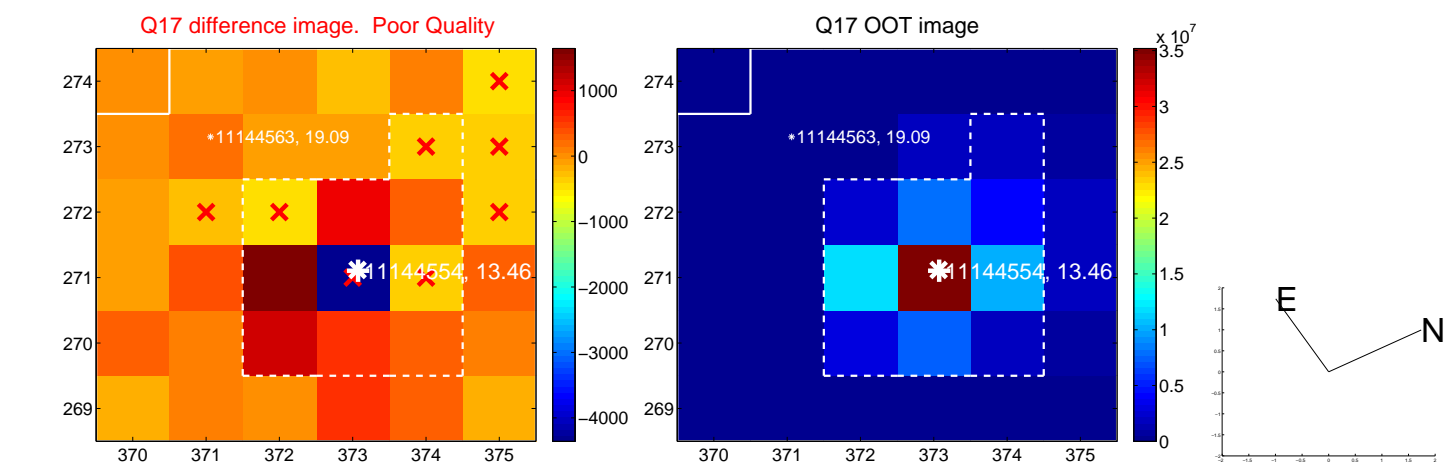
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

