

KIC 009369547

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})
009369547-01	OBS	No	0.604212	132.051637	253.8	0.995	11.6	12.7	3.26	7244	5.40	88314.95
009369547-02	OBS	No	0.604212	131.753291	176.2	1.319	9.2	9.9	3.26	7244	5.09	88314.92
009369547-03	OBS	No	0.530269	131.812009	292.9	3.207	10.1	14.6	3.26	7244	5.99	105105.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009369547-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
009369547-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD
009369547-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT

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

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

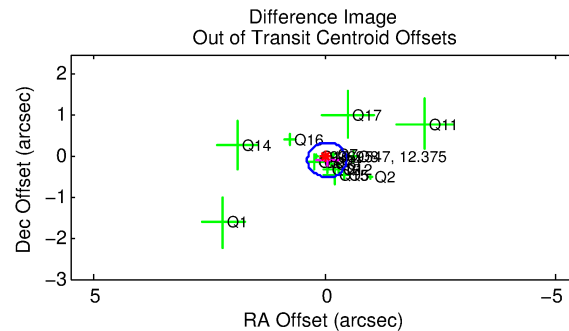
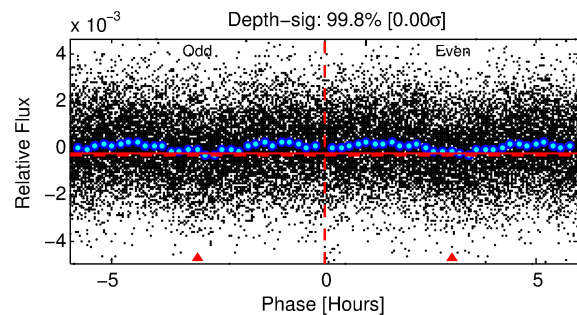
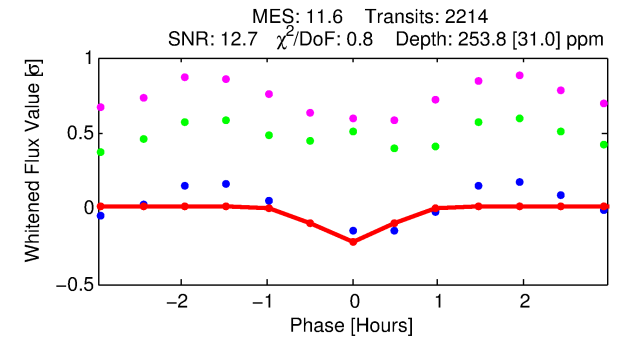
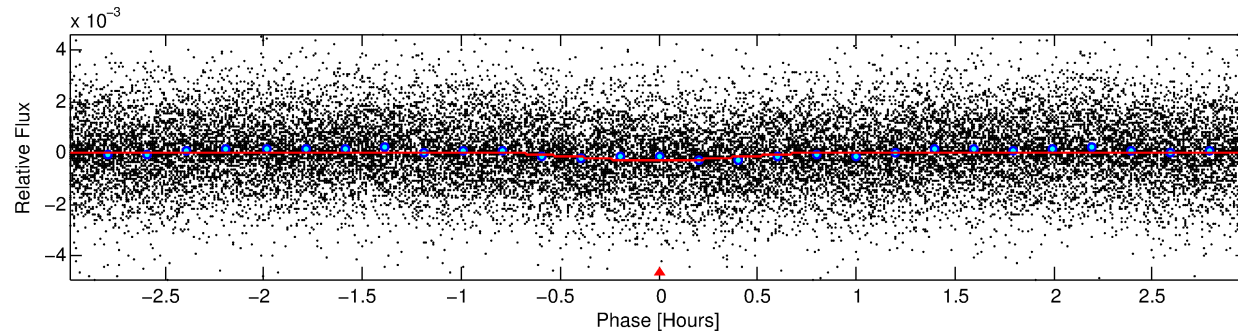
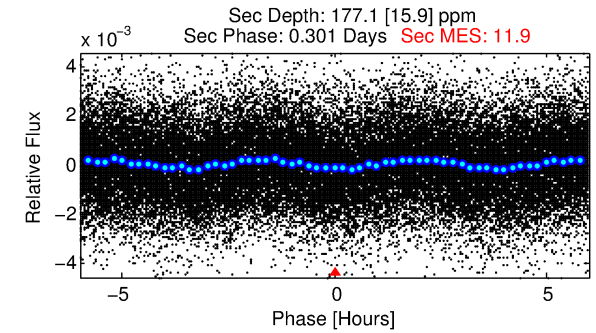
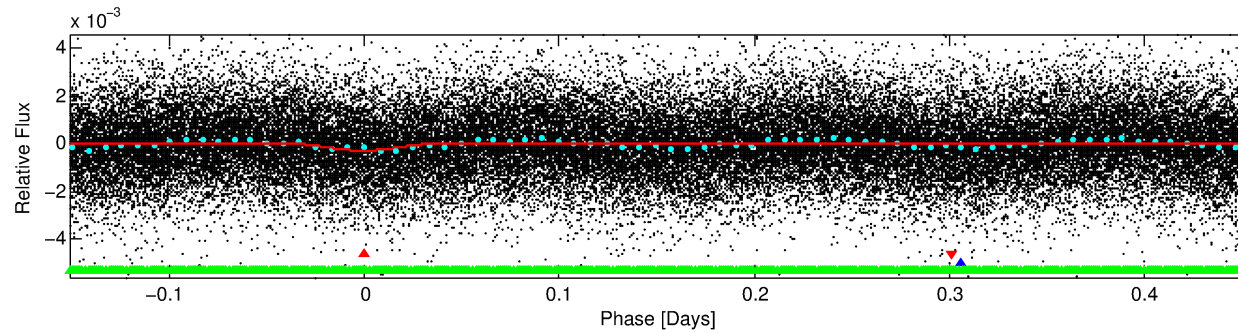
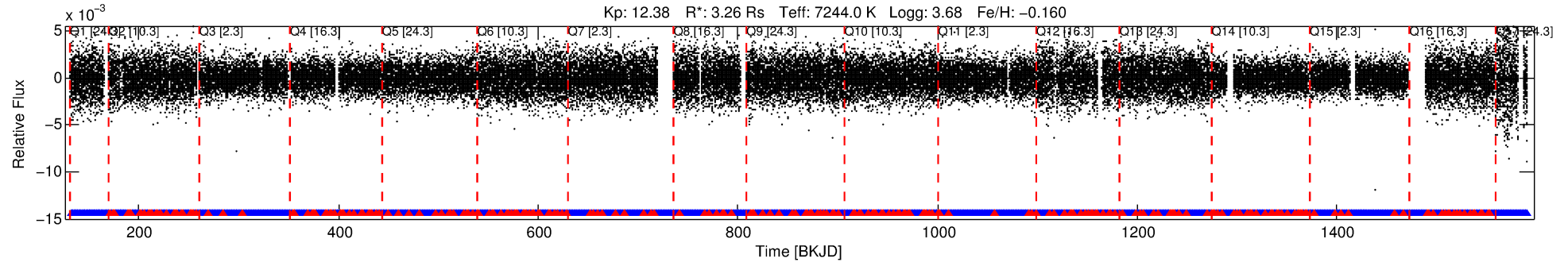
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009369547-01

No Significant Match Found

DV One-Page Summary

KIC: 9369547 Candidate: 1 of 3 Period: 0.604 d



DV Fit Results:

Period = 0.60421 [0.00001] d
Epoch = 132.0516 [0.0015] BKJD
 R_p/R^* = 0.0152 [0.0084]
 a/R^* = 4.16 [11.28]
 b = 0.50 [4.34]
 S_{eff} = 88314.95 [70832.49]
 T_{eq} = 4396 [881] K
 R_p = 5.40 [4.09] R_{e}
 a = 0.0172 [0.0085] AU
 A_g = 0.99 [1.34] [-0.01σ]
 T_{eff} = 6781 [1897] K [1.14σ]

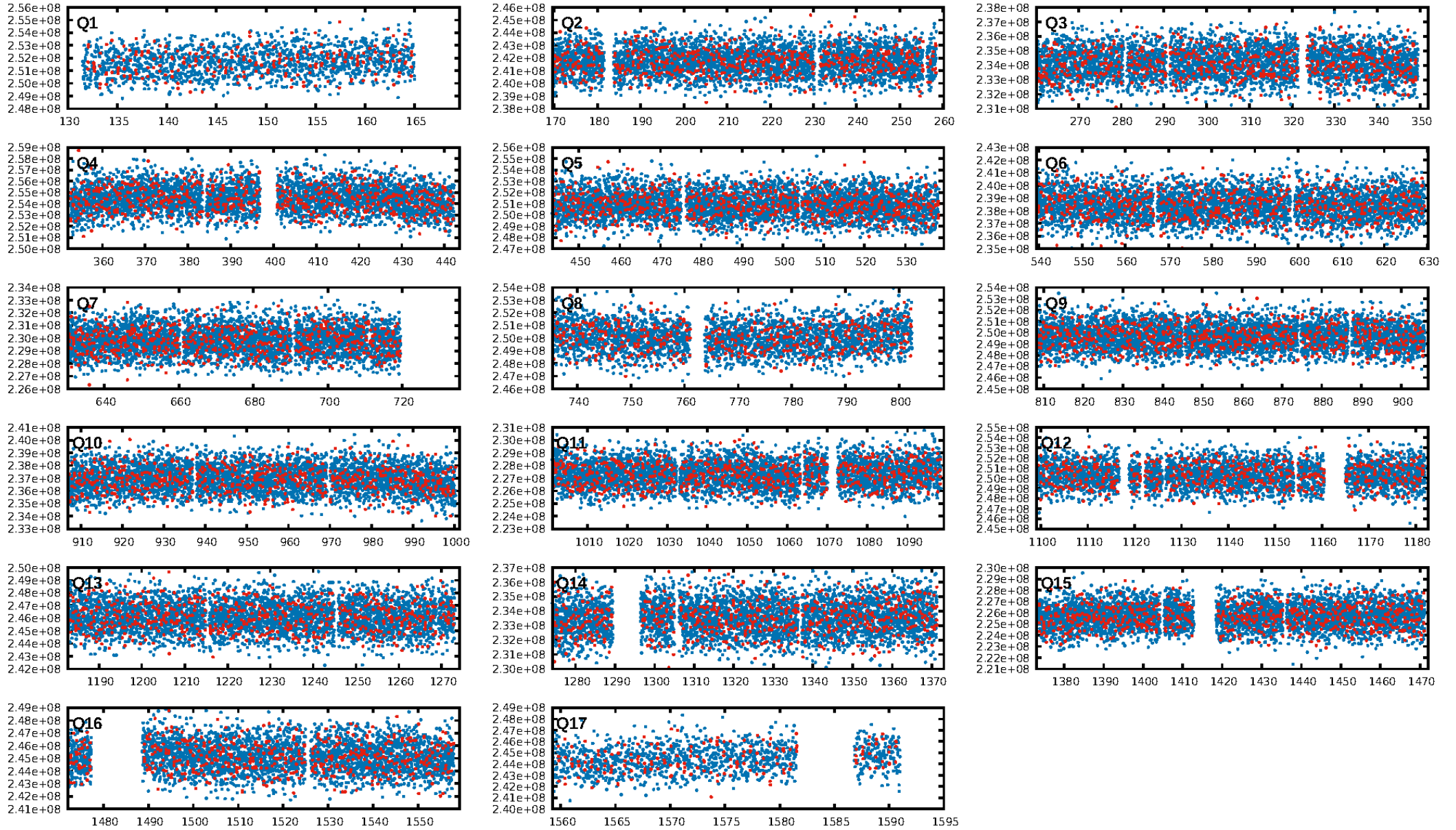
DV Diagnostic Results:

ShortPeriod-sig: 40.3% [0.53σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.87 [1843/2115]
GhostDiagnostic-chr: 1.198
Centroid-sig: 0.0%
Centroid-so: 0.481 arcsec [4.55σ]
OotOffset-rm: 0.099 arcsec [0.70σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.238 arcsec [1.85σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.59 [10/17]
DiffImageOverlap-fno: 0.00 [0/17]

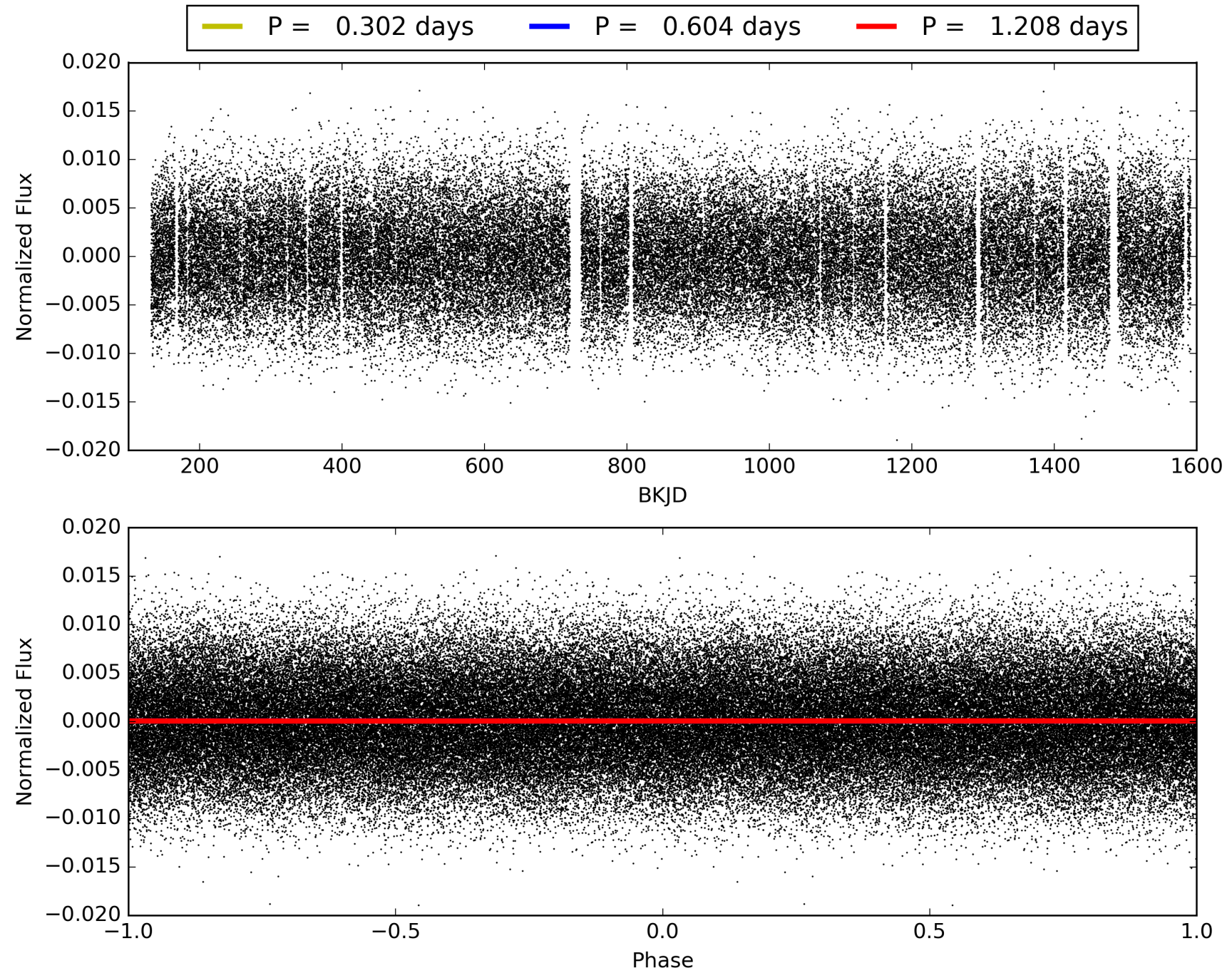
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 13:29:11 Z

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

TCE 009369547-01, PDC Light Curves

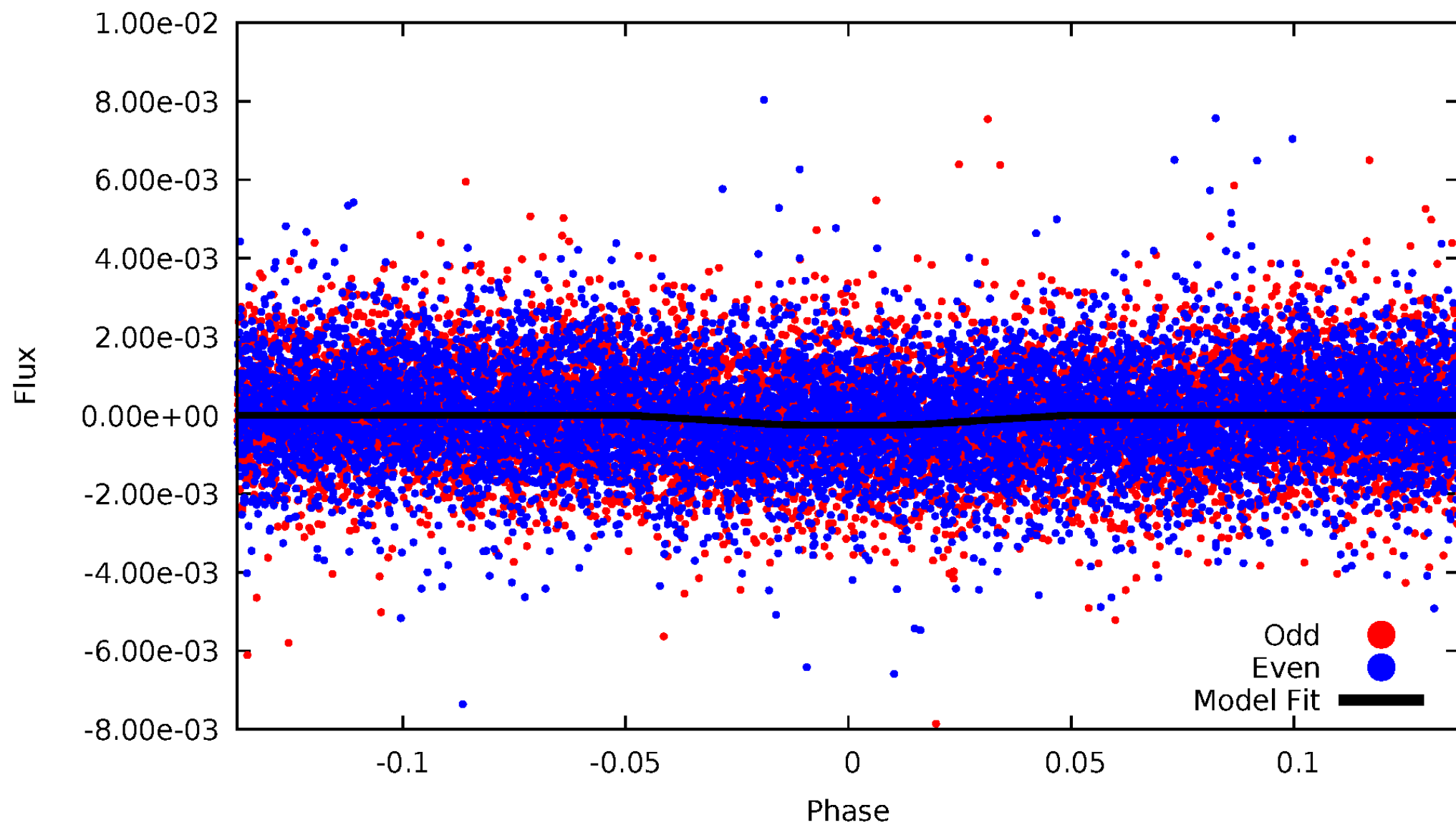


TCE 009369547-01



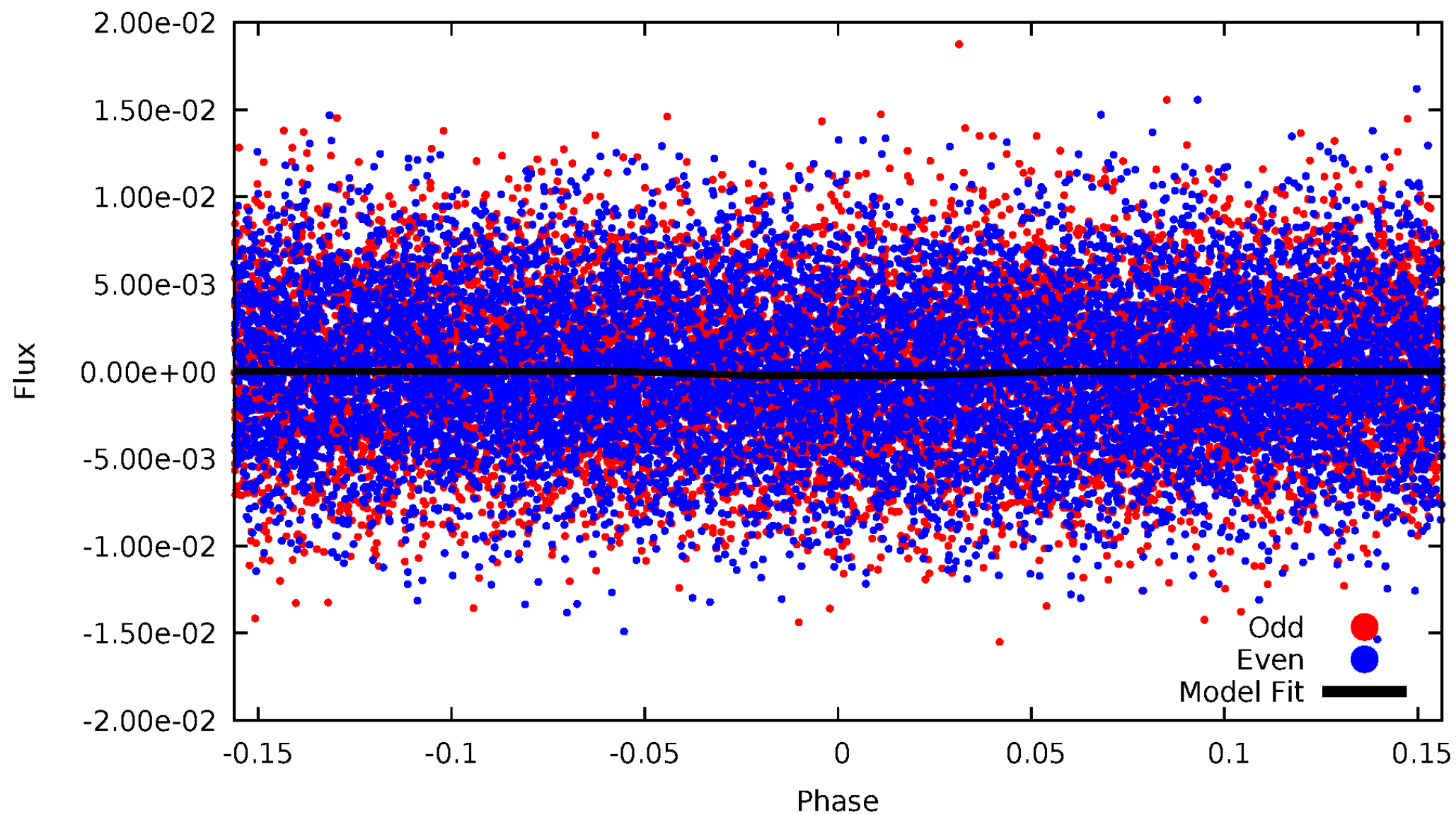
DV Odd/Even

TCE 009369547-01

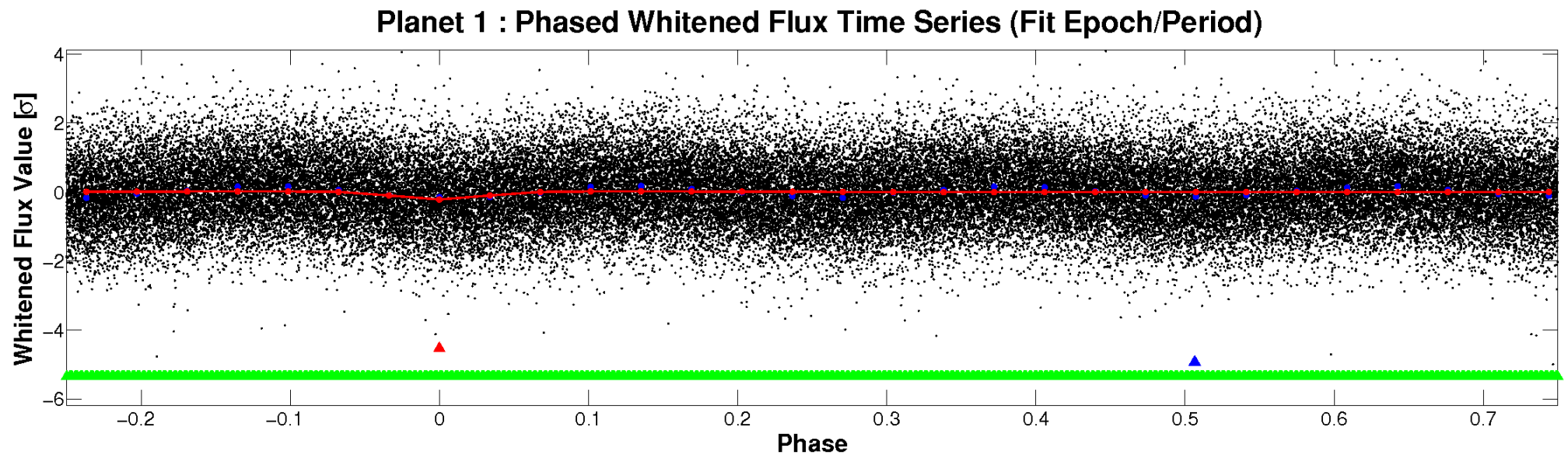
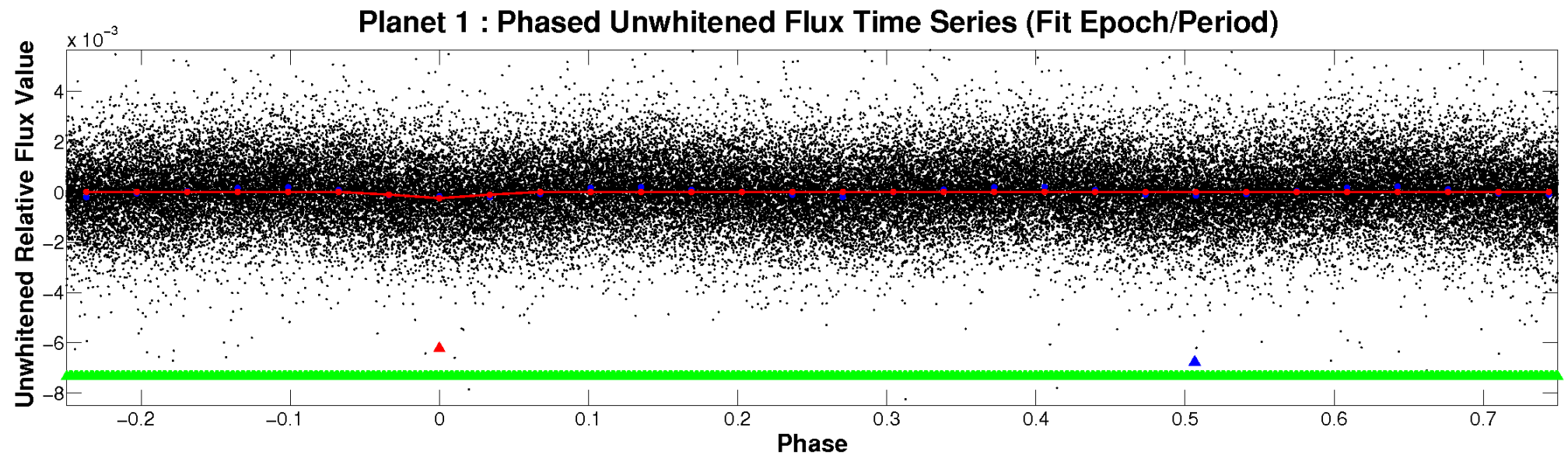


ALT Odd/Even

TCE 009369547-01

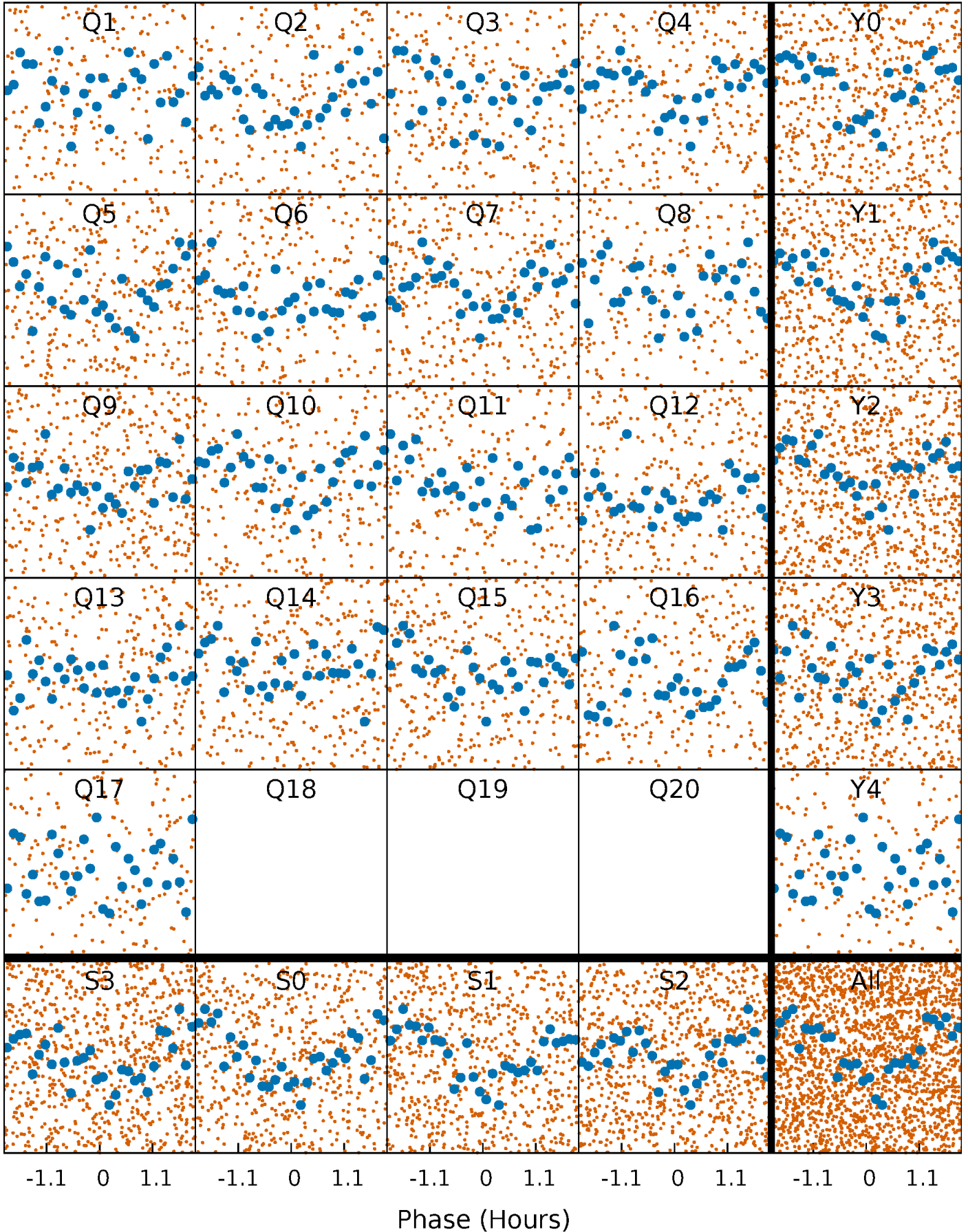


Non-Whitened Vs. Whitened Light Curve



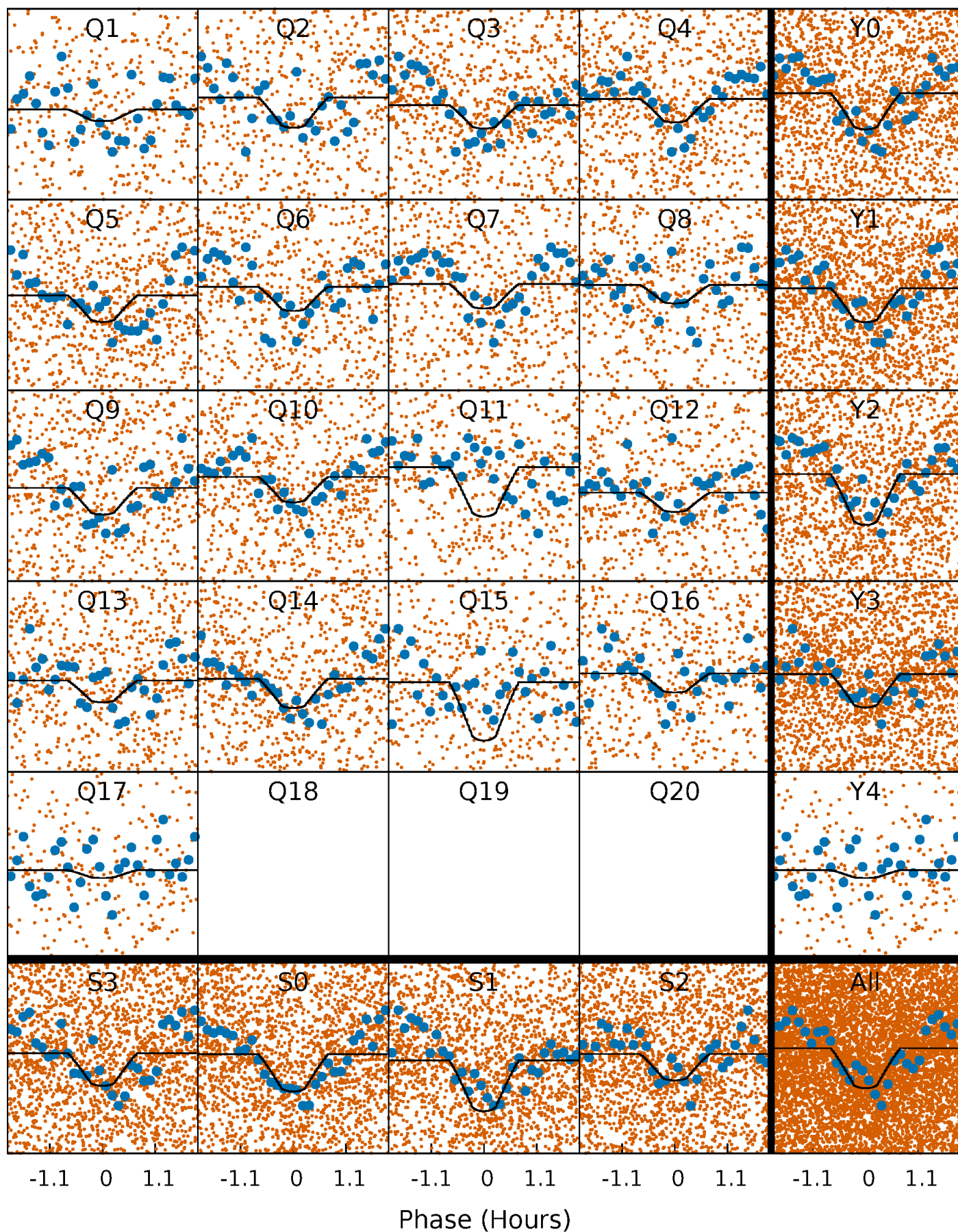
PDC Quarter-Phased Transit Curves

TCE 009369547-01 P= 0.604212 Days $T_0=132.051637$ (BKJD)



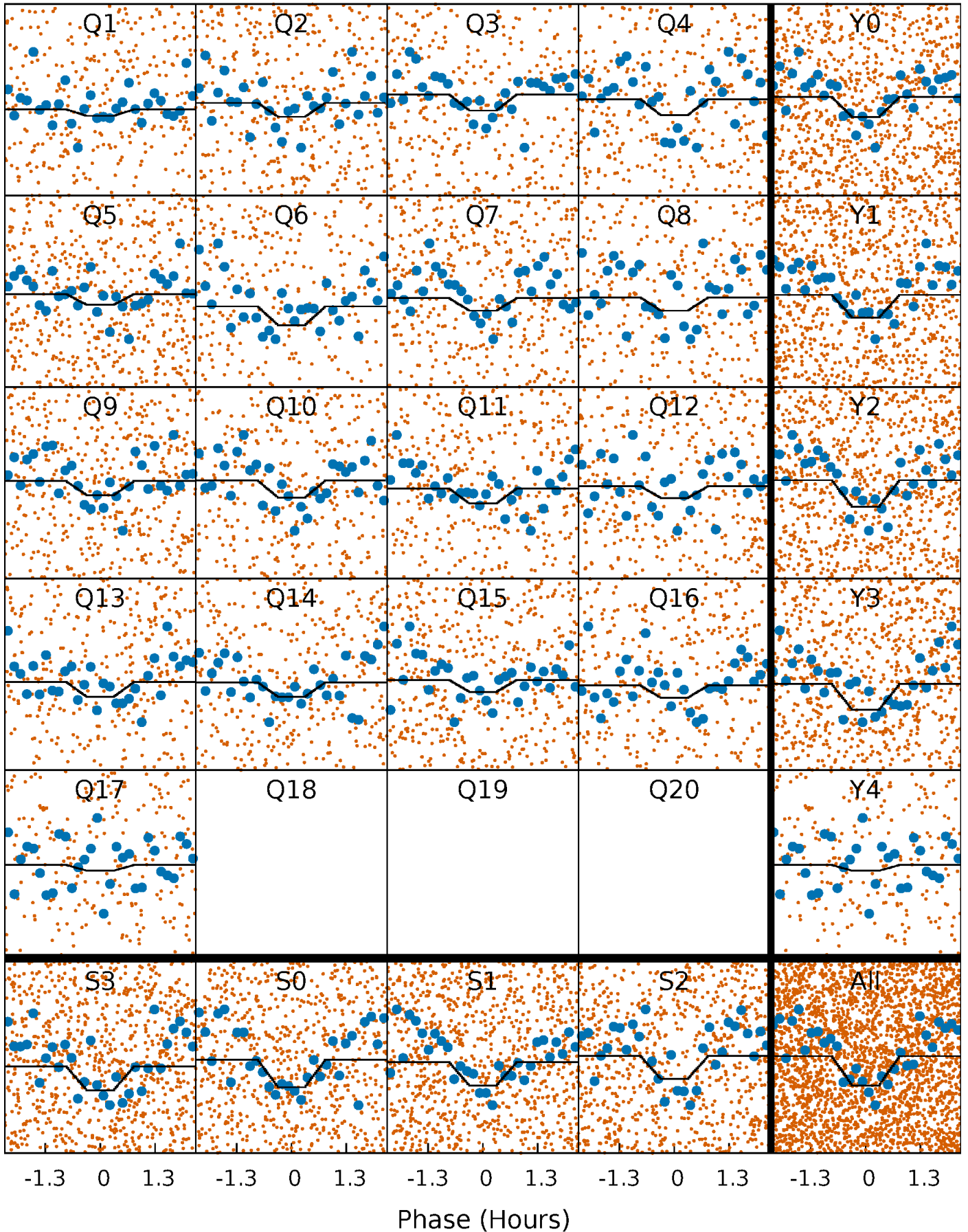
DV Quarter-Phased Transit Curves

TCE 009369547-01 P= 0.604212 Days $T_0=132.051637$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

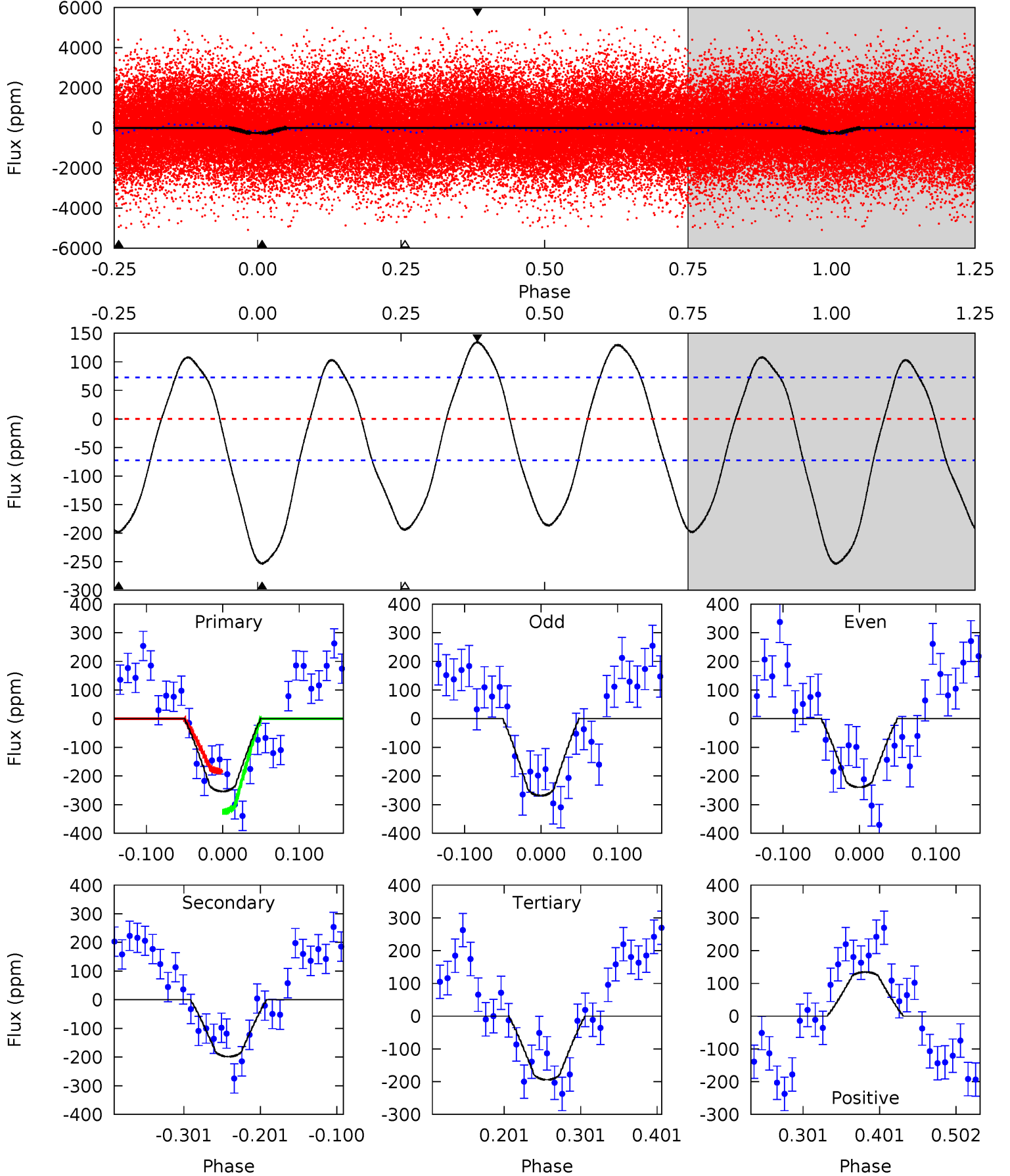
TCE 009369547-01 P= 0.604212 Days $T_0=132.051634$ (BKJD)



DV Model-Shift Uniqueness Test

009369547-01, P = 0.604212 Days, E = 131.447425 Days

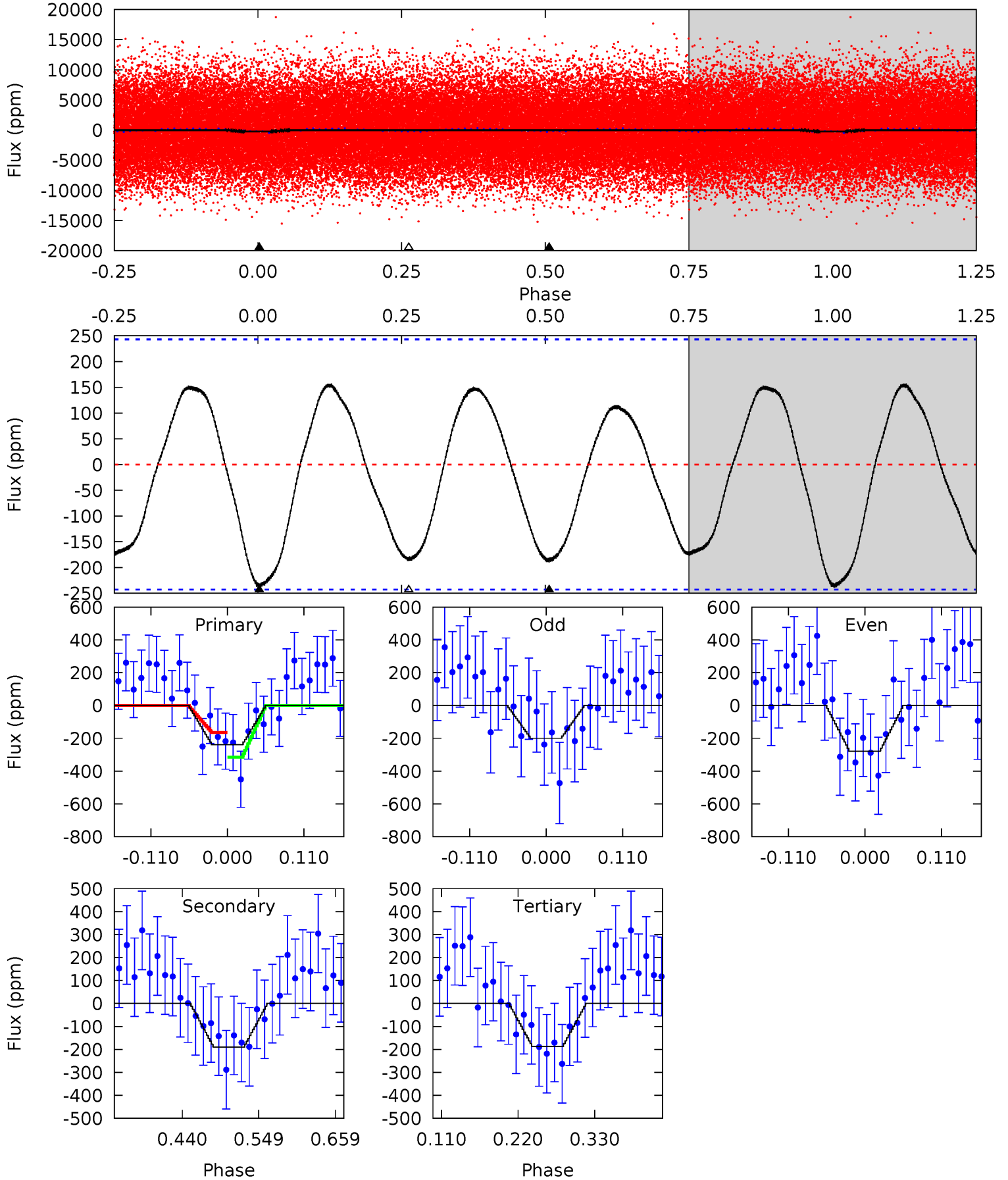
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.0	12.5	12.2	8.45	4.56	1.64	6.94	3.75	7.52	0.26	4.03	0.92	0.97	0.35	4.44



Alt Model-Shift Uniqueness Test

009369547-01, P = 0.604212 Days, E = 131.447422 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.47	3.55	3.50	0	4.54	1.60	2.18	0.97	4.47	0.05	3.55	0.74	1.00	0.40	1.41



Stellar Parameters For KIC 009369547

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7244^{+226}_{-302}	$3.683^{+0.459}_{-0.081}$	$-0.160^{+0.250}_{-0.300}$	$3.260^{+0.397}_{-1.687}$	$1.868^{+0.169}_{-0.508}$	$0.076^{+0.351}_{-0.020}$
	+3%/-4%	+12%/-2%	+156%/-188%	+12%/-52%	+9%/-27%	+463%/-26%
Source	KIC0	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 009369547-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-198 ± 16	$5.00^{+2.90}_{-2.45}$	5988^{+369}_{-744}	6366^{+3524}_{-1743}	$1.295^{+3.477}_{-0.776}$
Alt.	-190 ± 53	$4.84^{+3.13}_{-2.62}$	5959^{+409}_{-674}	6150^{+4829}_{-1826}	$1.269^{+5.142}_{-0.818}$

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 $A_{obs} \gg 1.0$

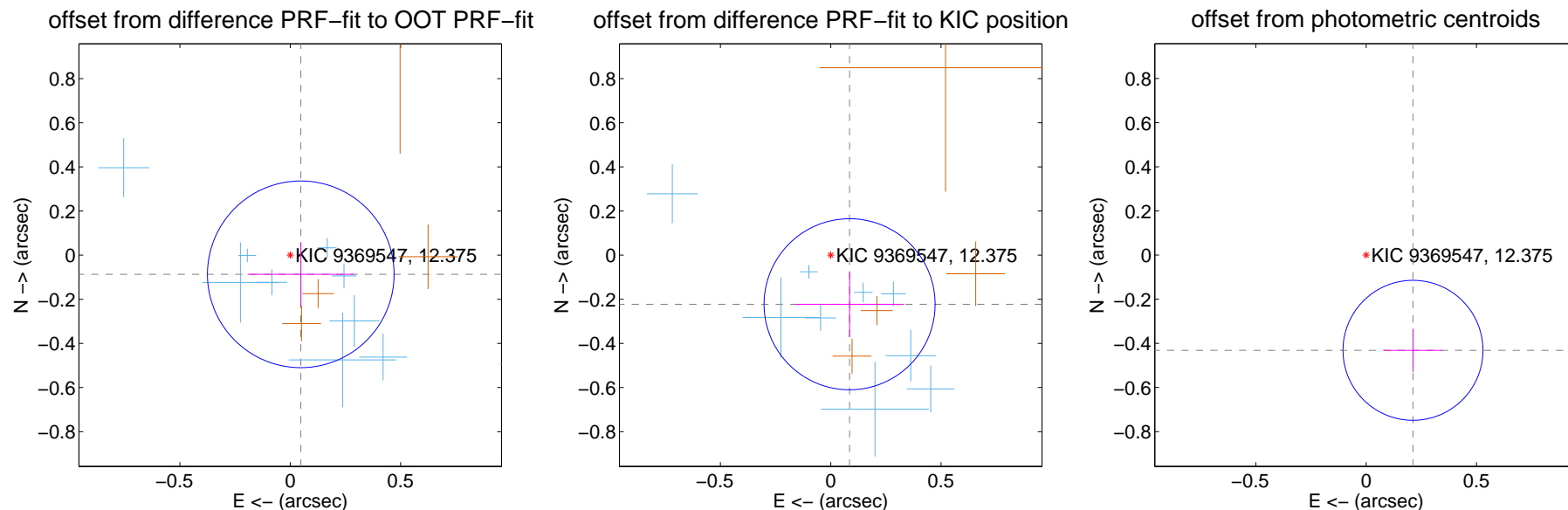
DV Centroid Data

Supplemental centroid analysis for 009369547-01. Kepler magnitude: 12.38. Transit SNR 12.72

There are 10 quarters with good PRF difference image offsets

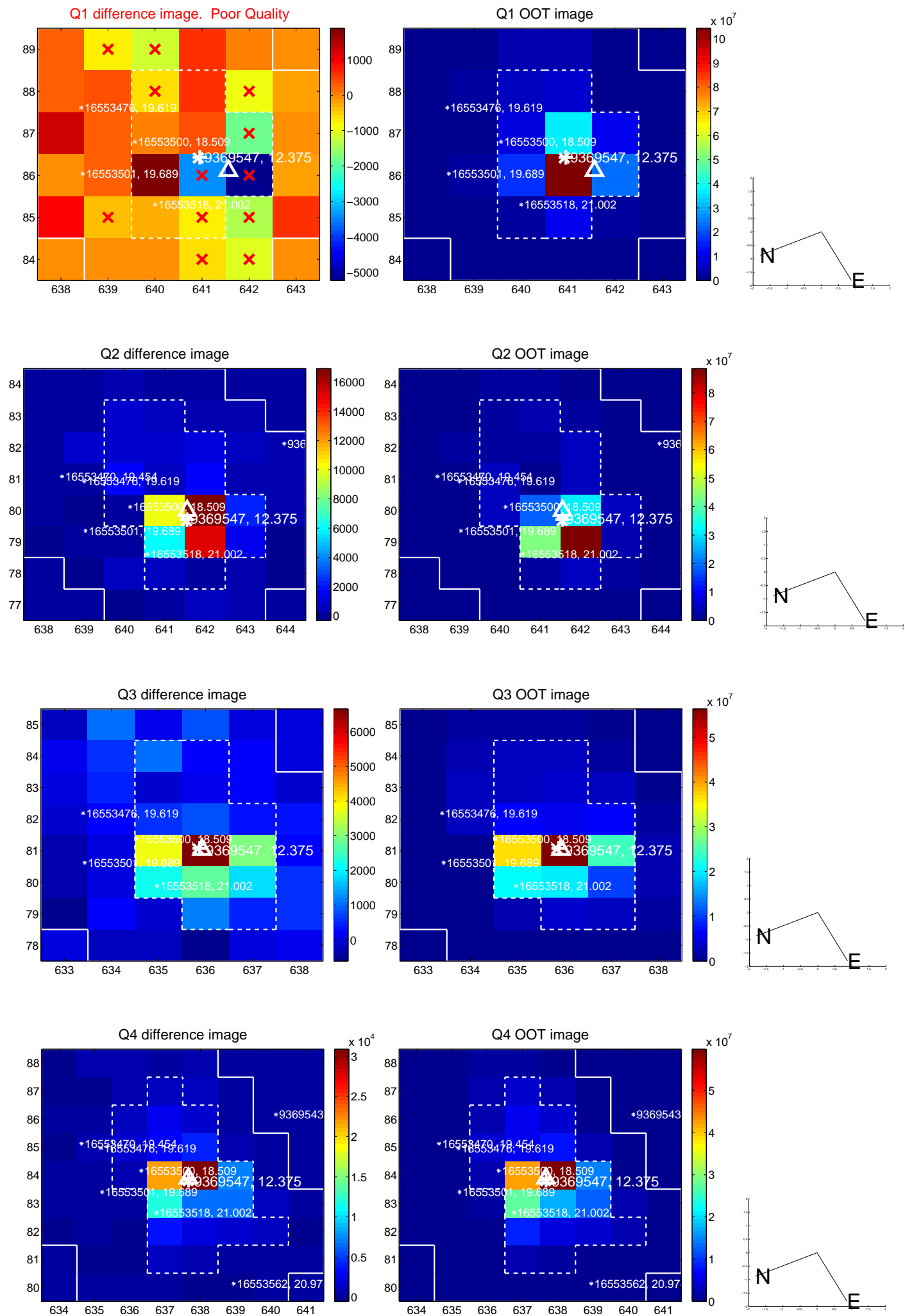
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.099 ± 0.141	0.70	-0.048 ± 0.241	-0.087 ± 0.145
PRF-fit source offset from KIC position	0.238 ± 0.129	1.85	-0.086 ± 0.246	-0.223 ± 0.150
photometric centroid source offset	0.48 ± 0.11	4.55	-0.21 ± 0.13	-0.43 ± 0.10

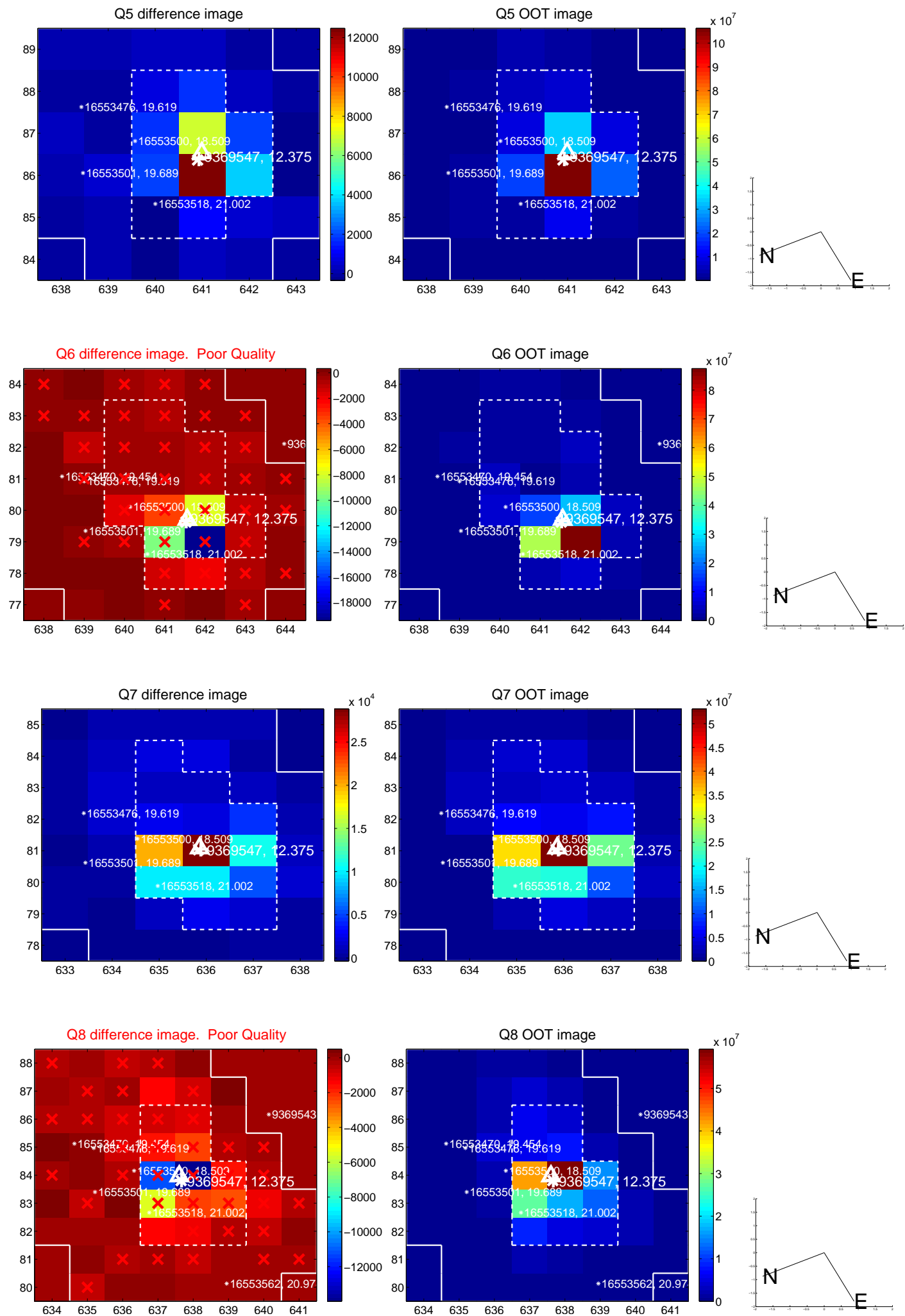


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

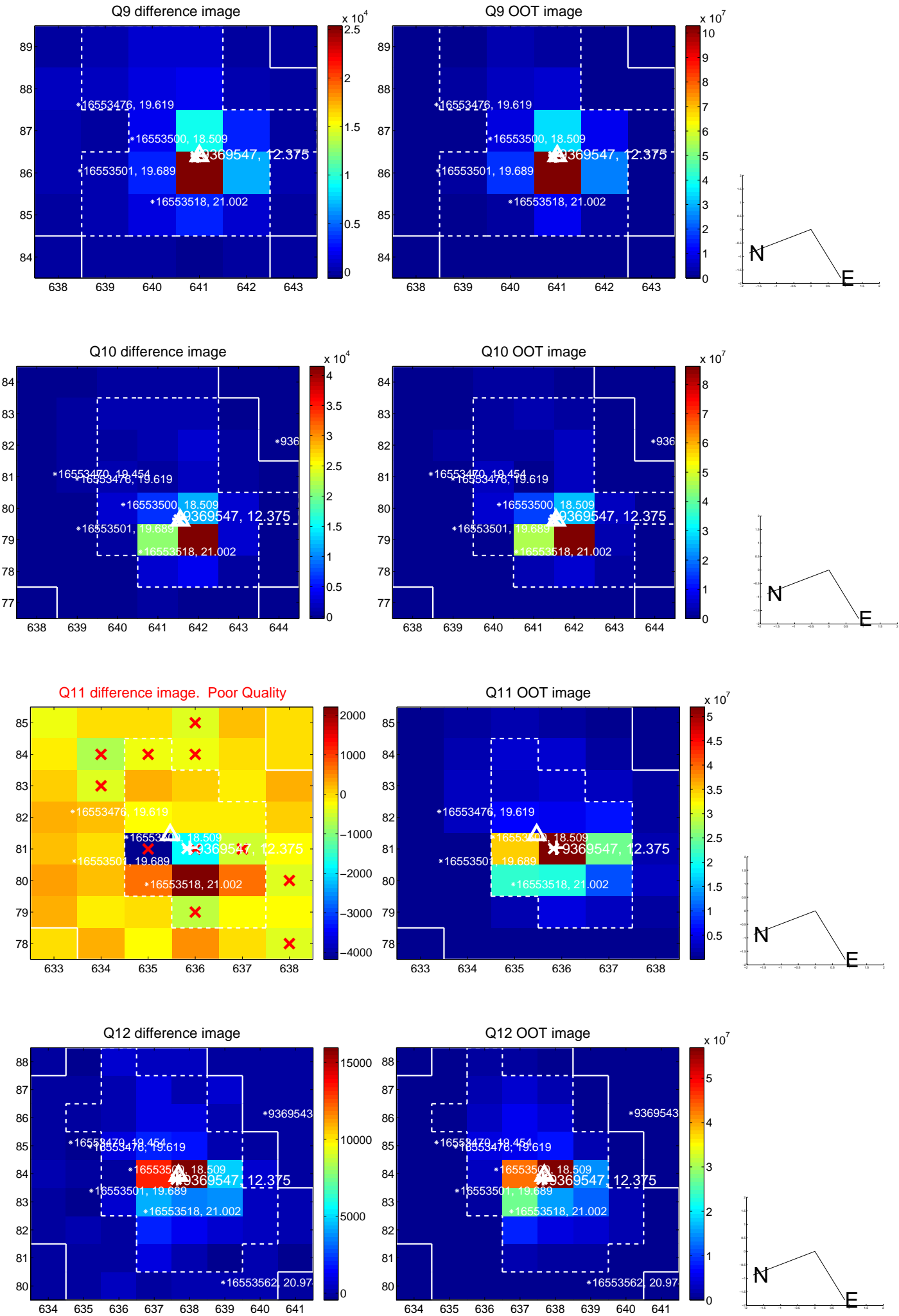
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



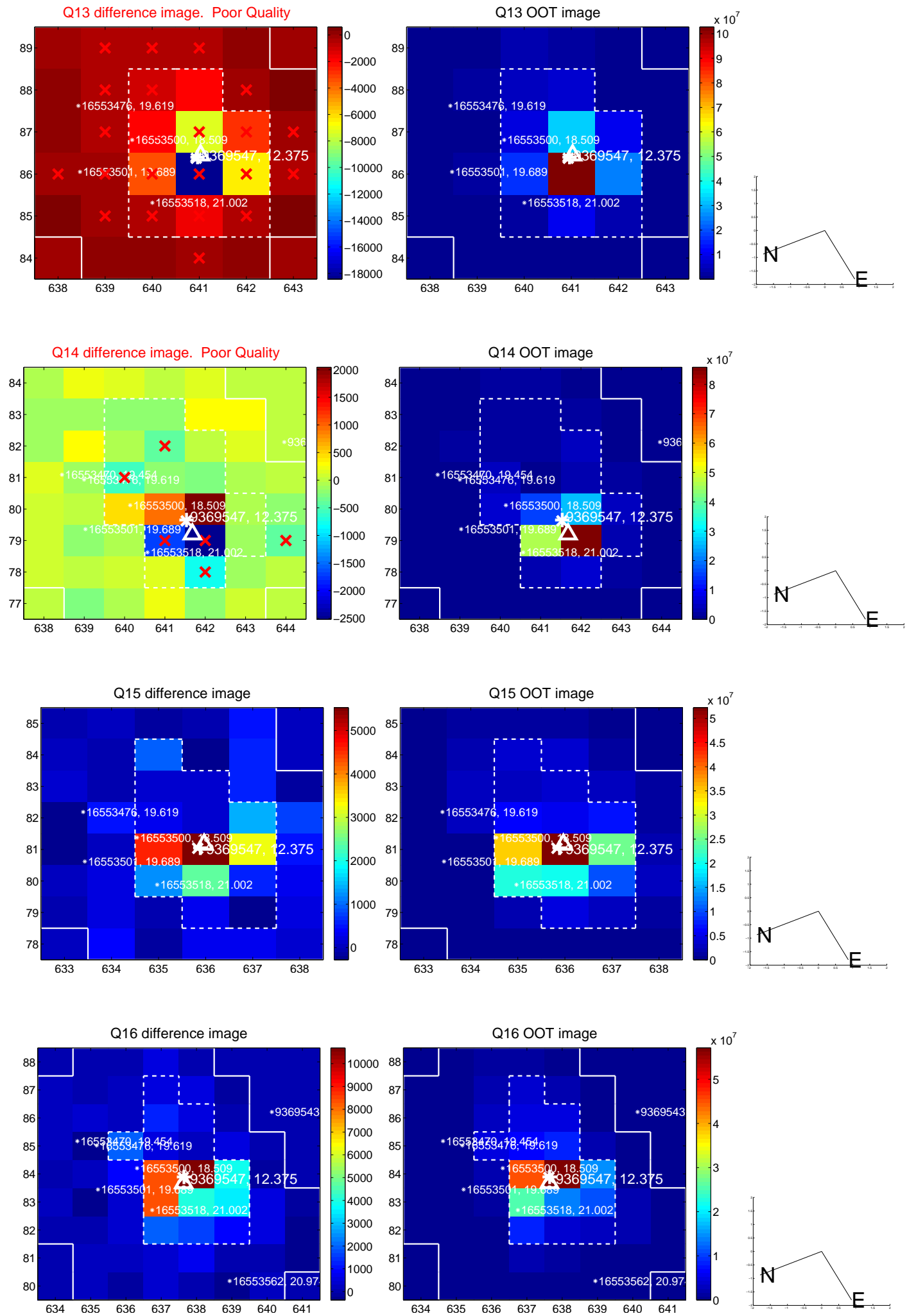
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



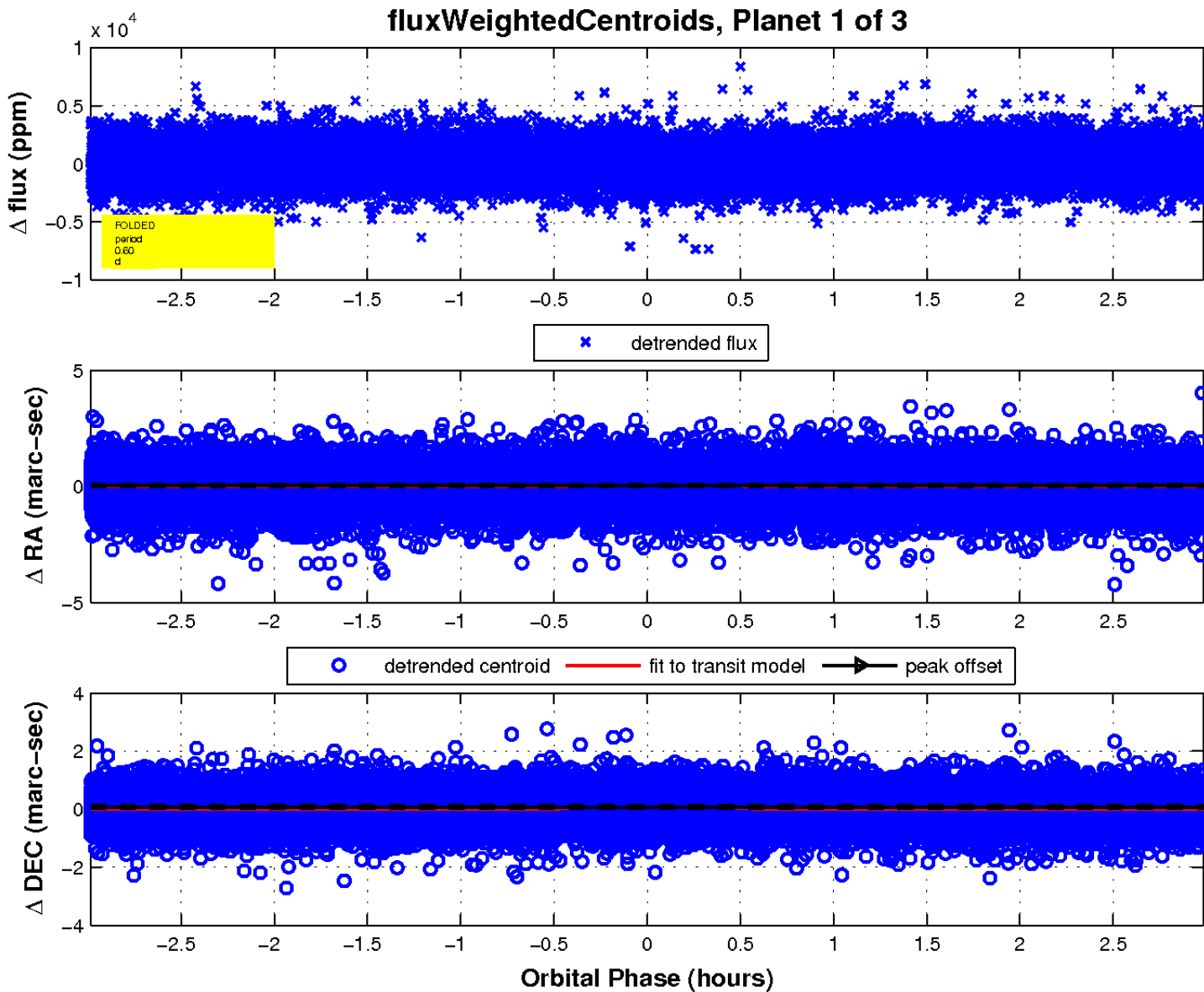
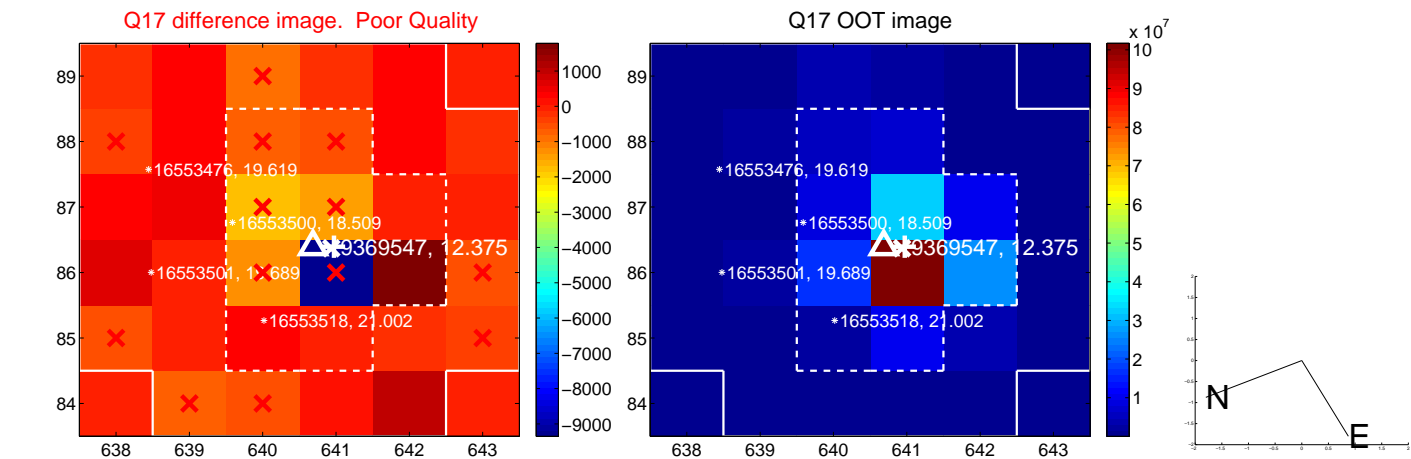
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

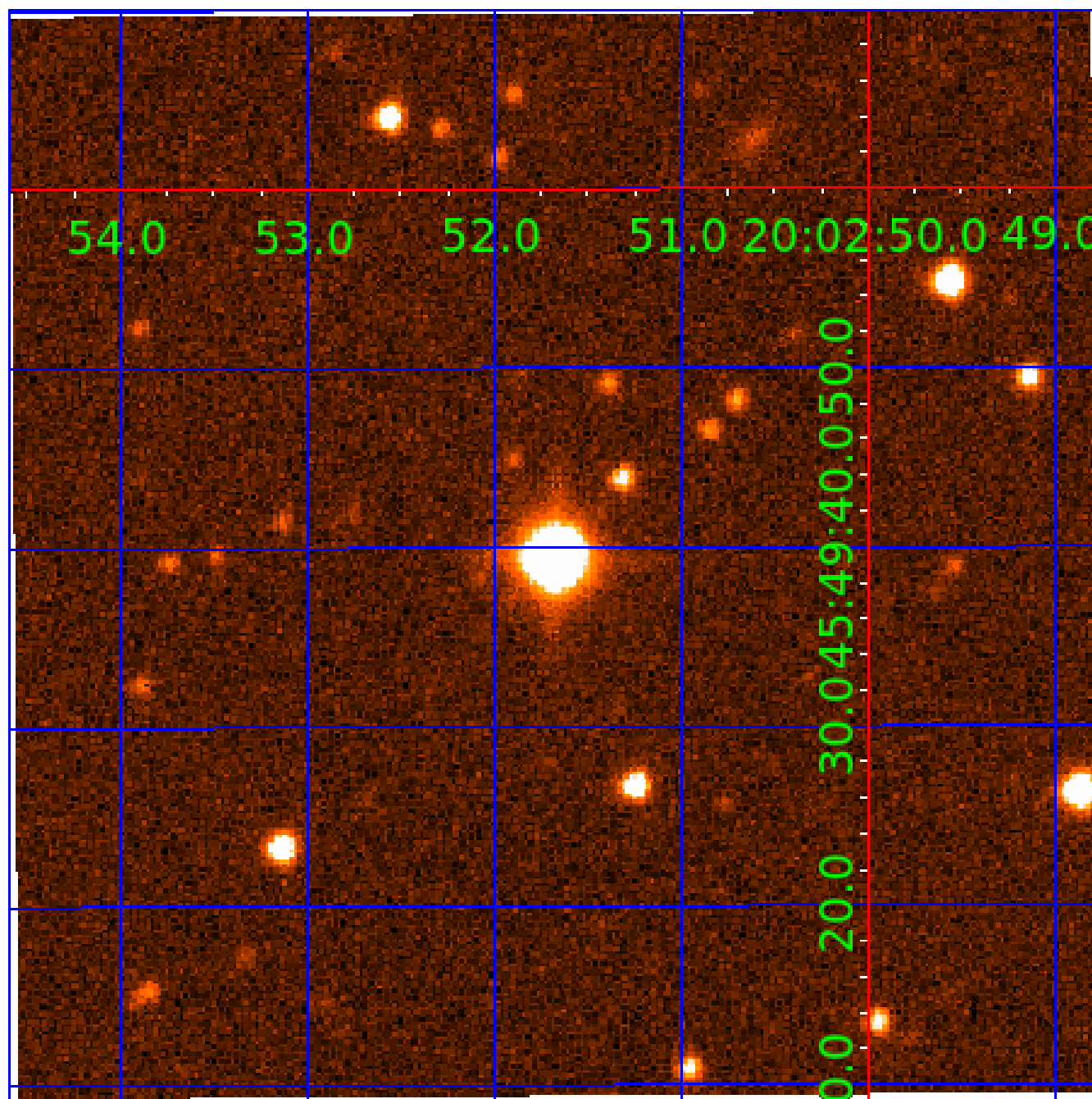


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009369547

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})
009369547-01	OBS	No	0.604212	132.051637	253.8	0.995	11.6	12.7	3.26	7244	5.40	88314.95
009369547-02	OBS	No	0.604212	131.753291	176.2	1.319	9.2	9.9	3.26	7244	5.09	88314.92
009369547-03	OBS	No	0.530269	131.812009	292.9	3.207	10.1	14.6	3.26	7244	5.99	105105.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009369547-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
009369547-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD
009369547-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT

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

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

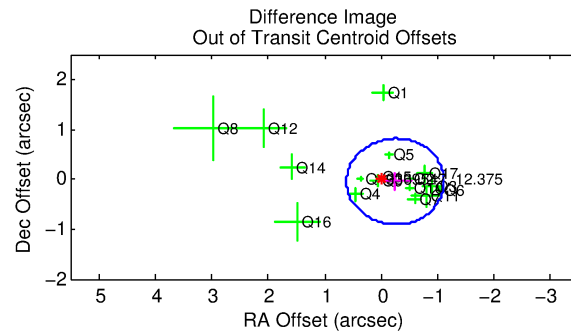
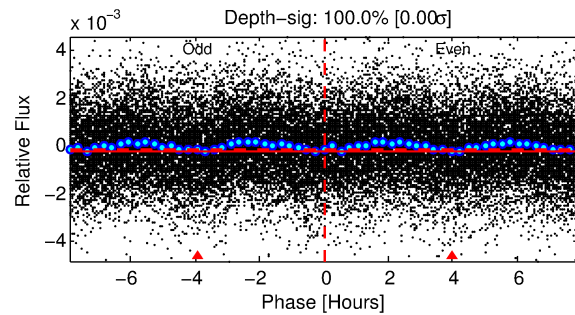
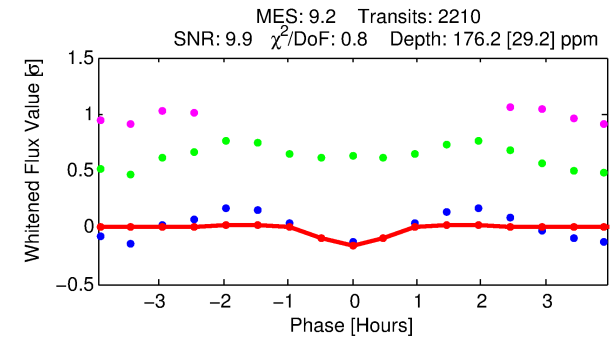
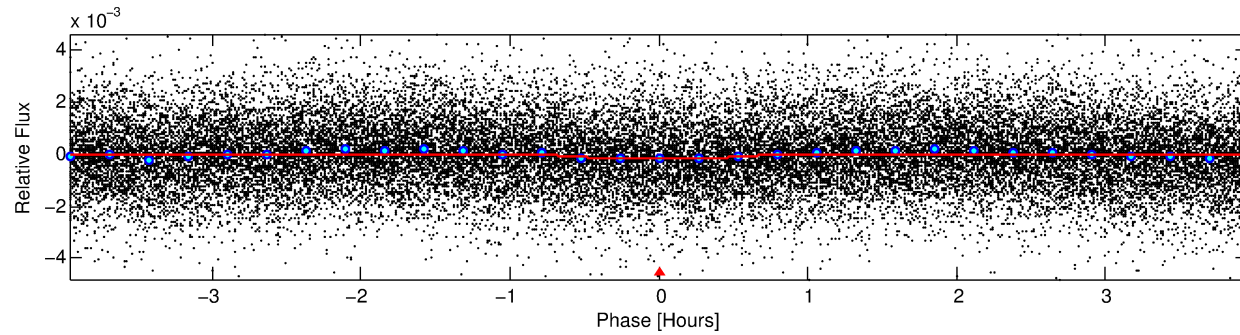
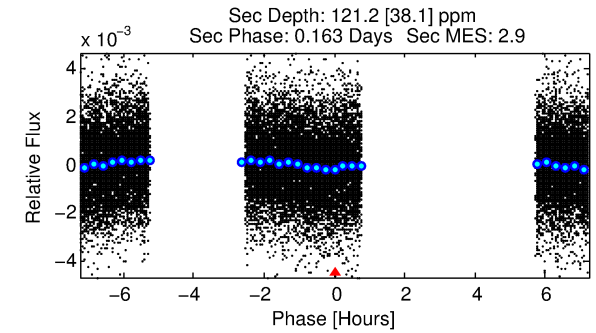
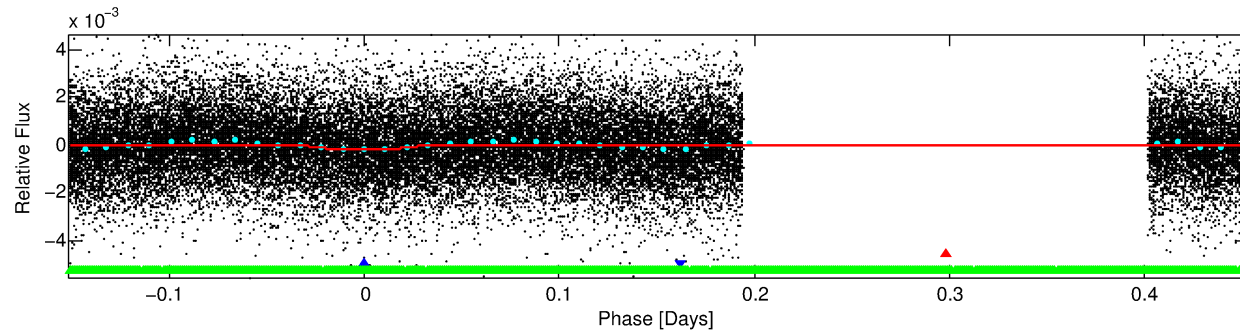
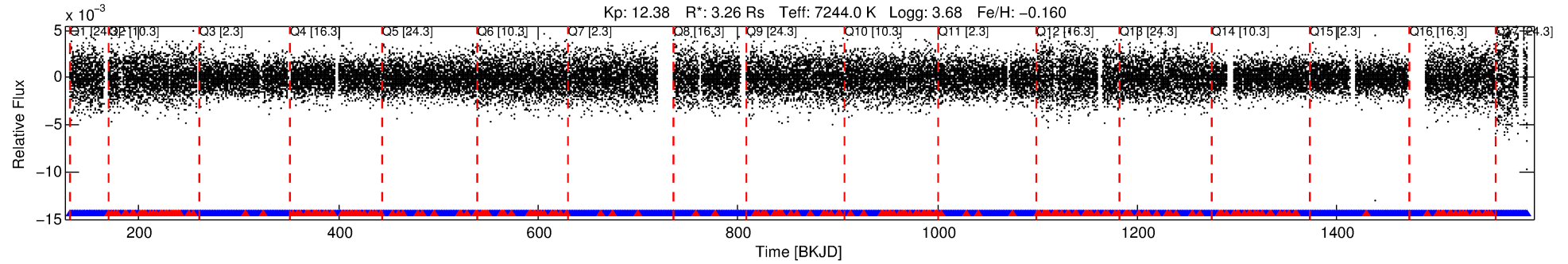
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009369547-02

No Significant Match Found

DV One-Page Summary

KIC: 9369547 Candidate: 2 of 3 Period: 0.604 d



DV Fit Results:

Period = 0.60421 [0.00001] d
Epoch = 131.7533 [0.0021] BKJD
 $R_p/R^* = 0.0143$ [0.0097]
 $a/R^* = 1.89$ [5.19]
 $b = 0.90$ [0.83]
 $S_{\text{eff}} = 88314.92$ [70832.47]
 $T_{\text{eq}} = 4396$ [881] K
 $R_p = 5.09$ [4.33] R_e
 $a = 0.0172$ [0.0085] AU
 $A_g = 0.76$ [1.22] [-0.19σ]
 $T_{\text{eff}} = 6354$ [2222] K [0.82σ]

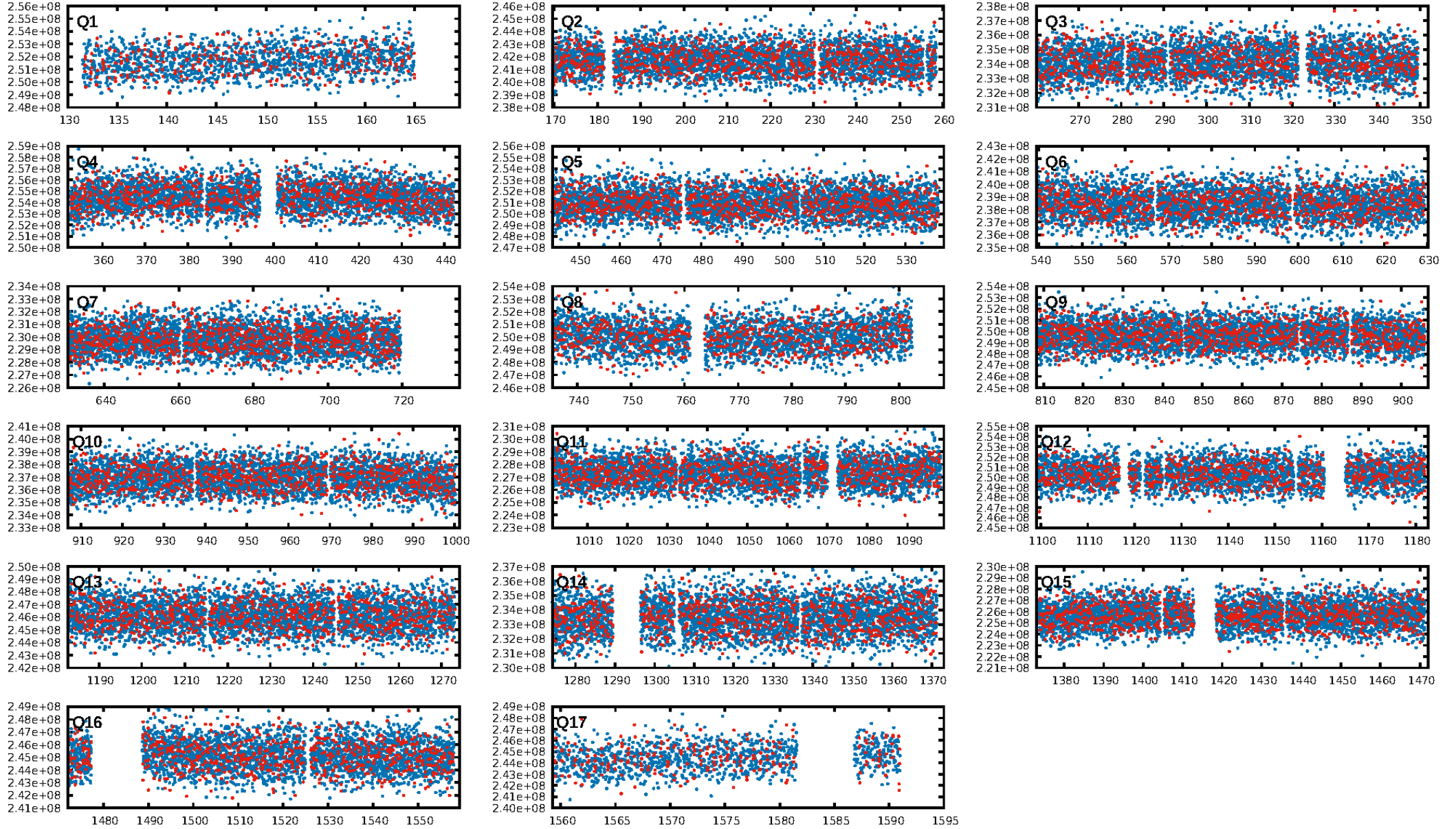
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.88 [1855/2110]
GhostDiagnostic-chr: 2.011
Centroid-sig: 1.6%
Centroid-so: 0.042 arcsec [0.30σ]
OotOffset-rm: 0.255 arcsec [0.89σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.352 arcsec [1.24σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.65 [11/17]
DiffImageOverlap-fno: 0.00 [0/17]

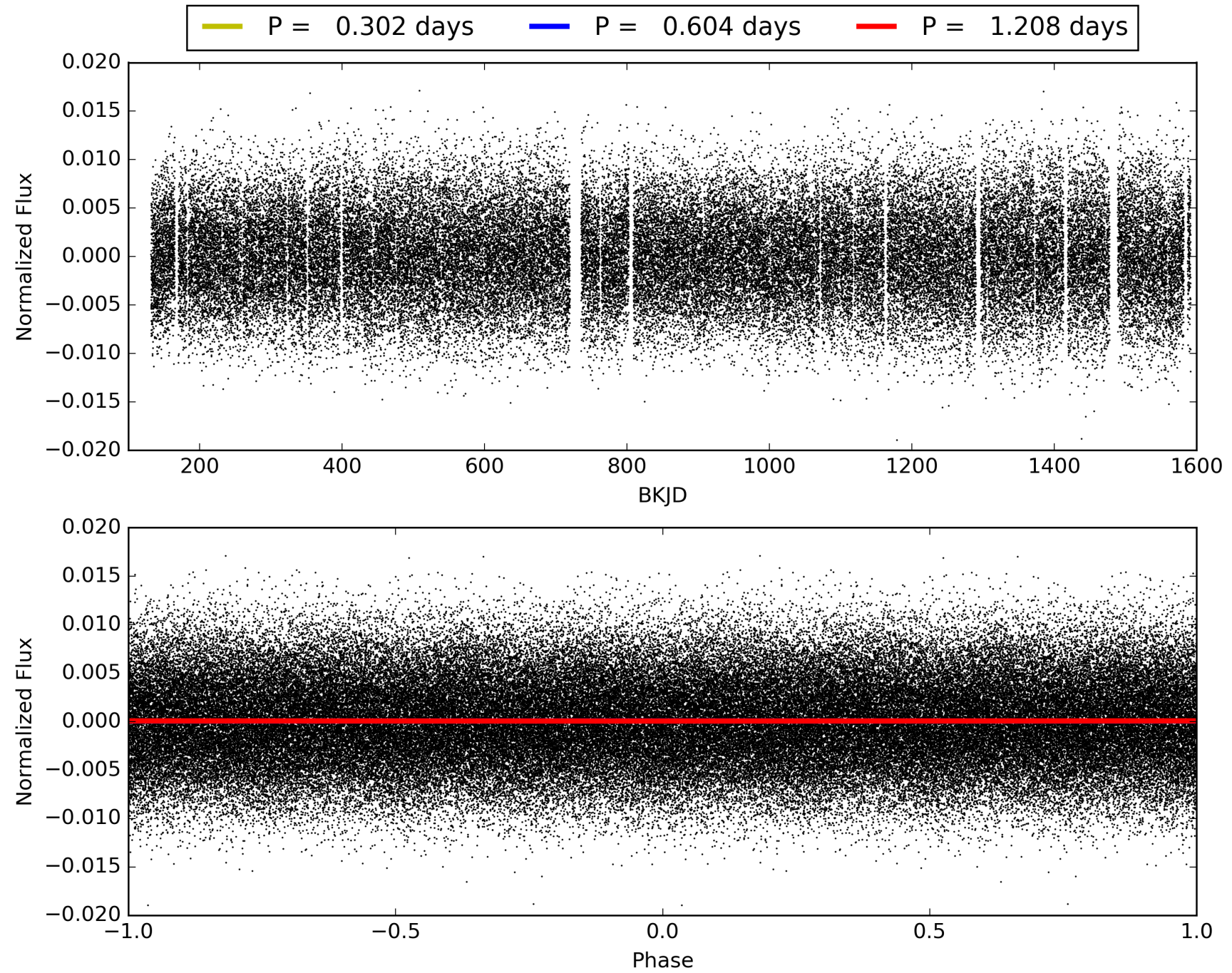
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 13:29:21 Z

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

TCE 009369547-02, PDC Light Curves

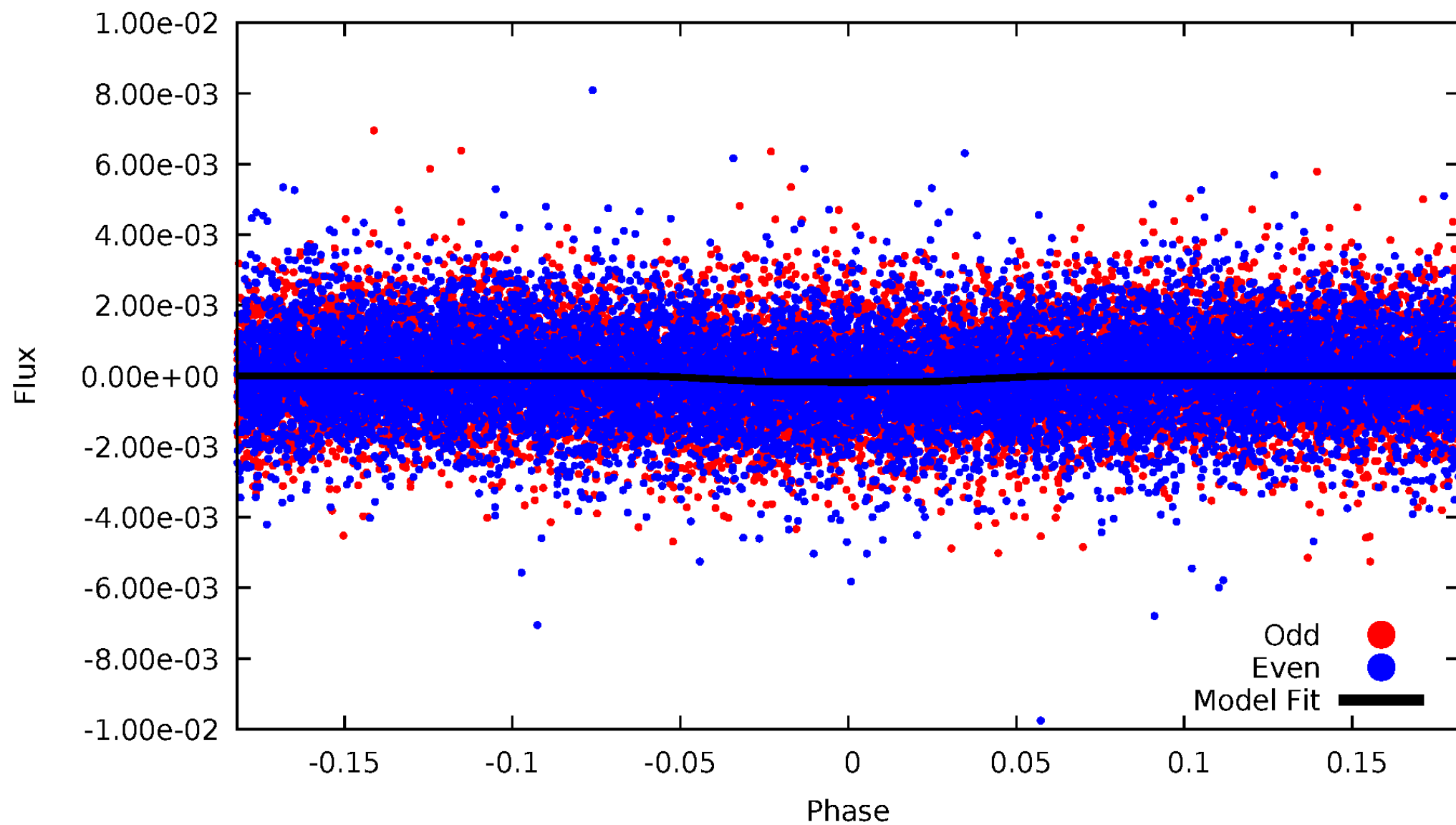


TCE 009369547-02



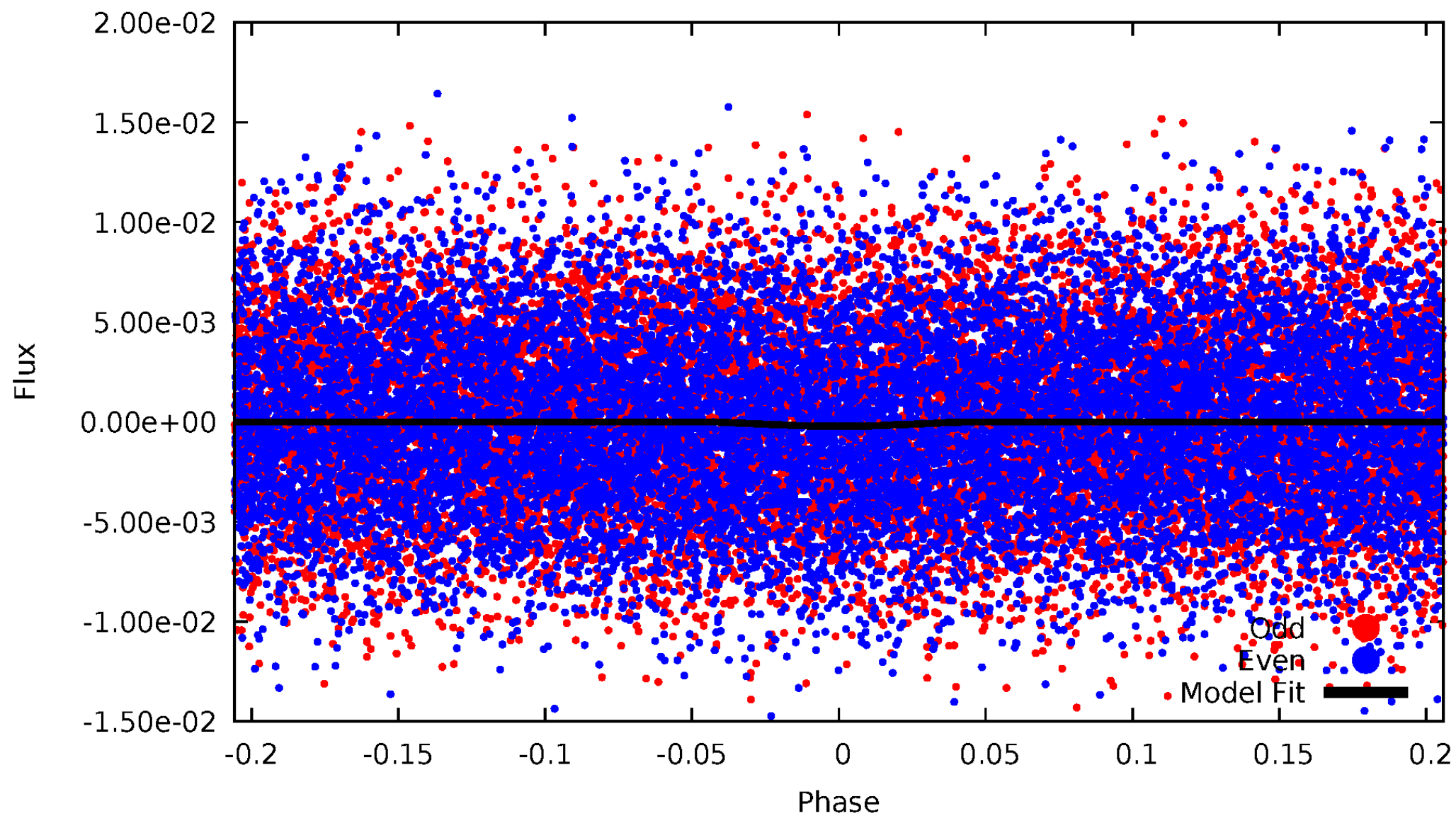
DV Odd/Even

TCE 009369547-02



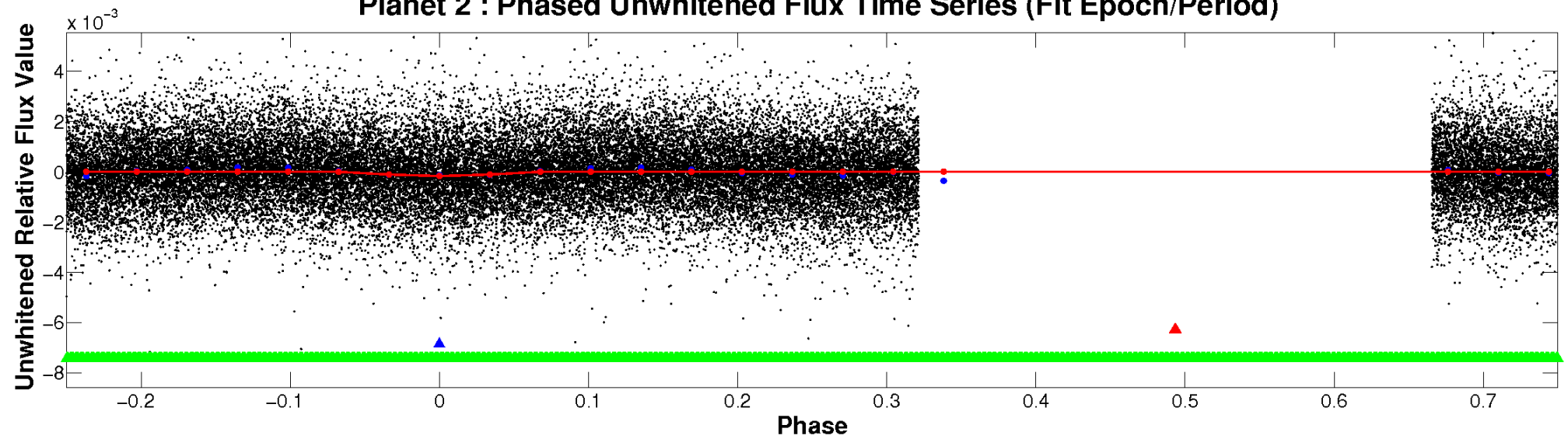
ALT Odd/Even

TCE 009369547-02

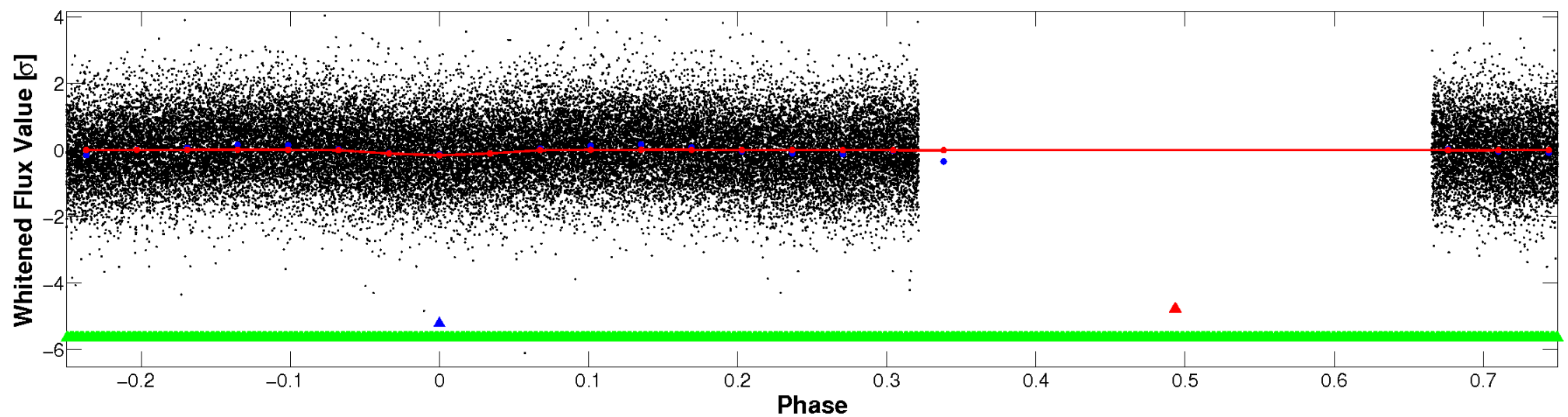


Non-Whitened Vs. Whitened Light Curve

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

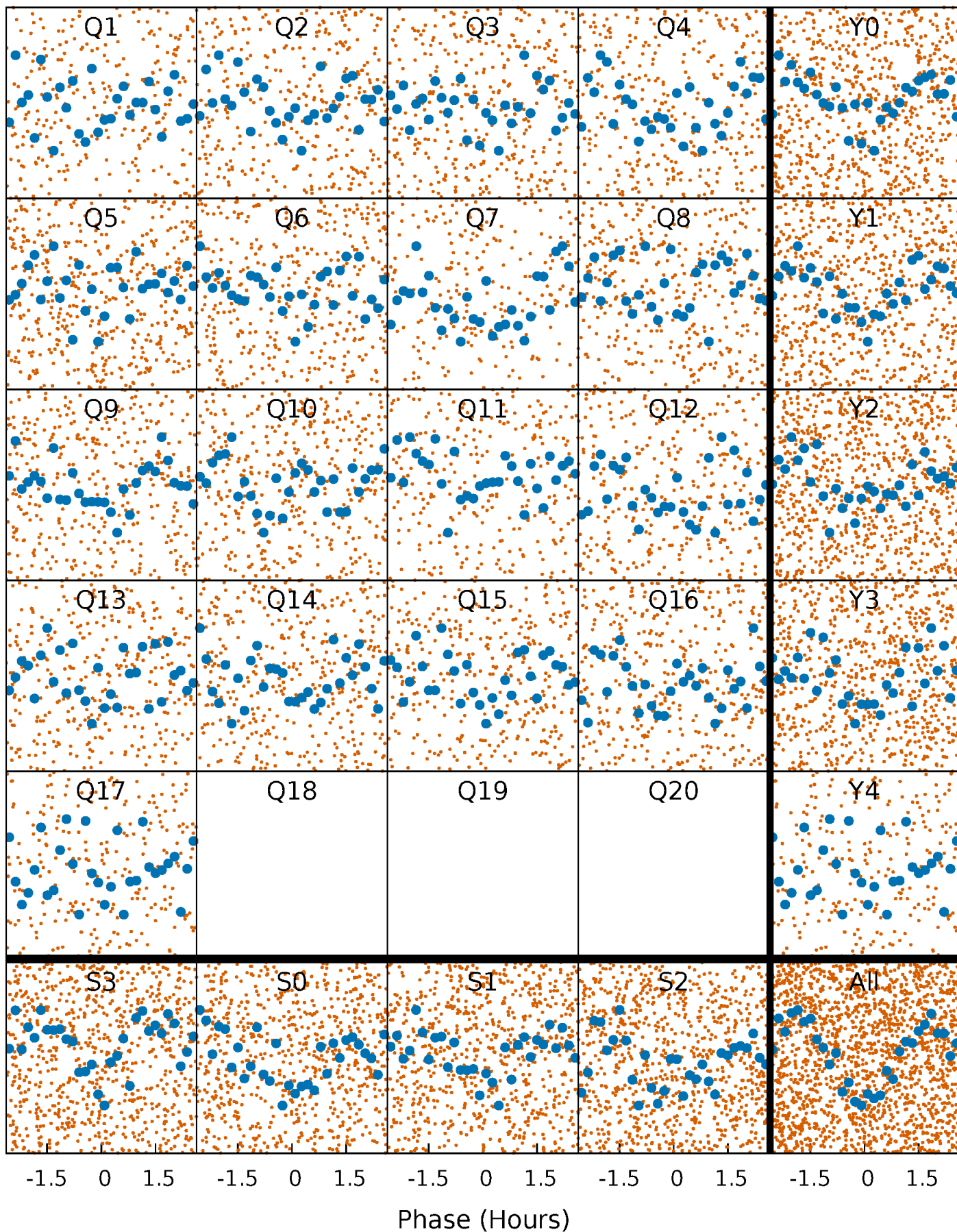


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



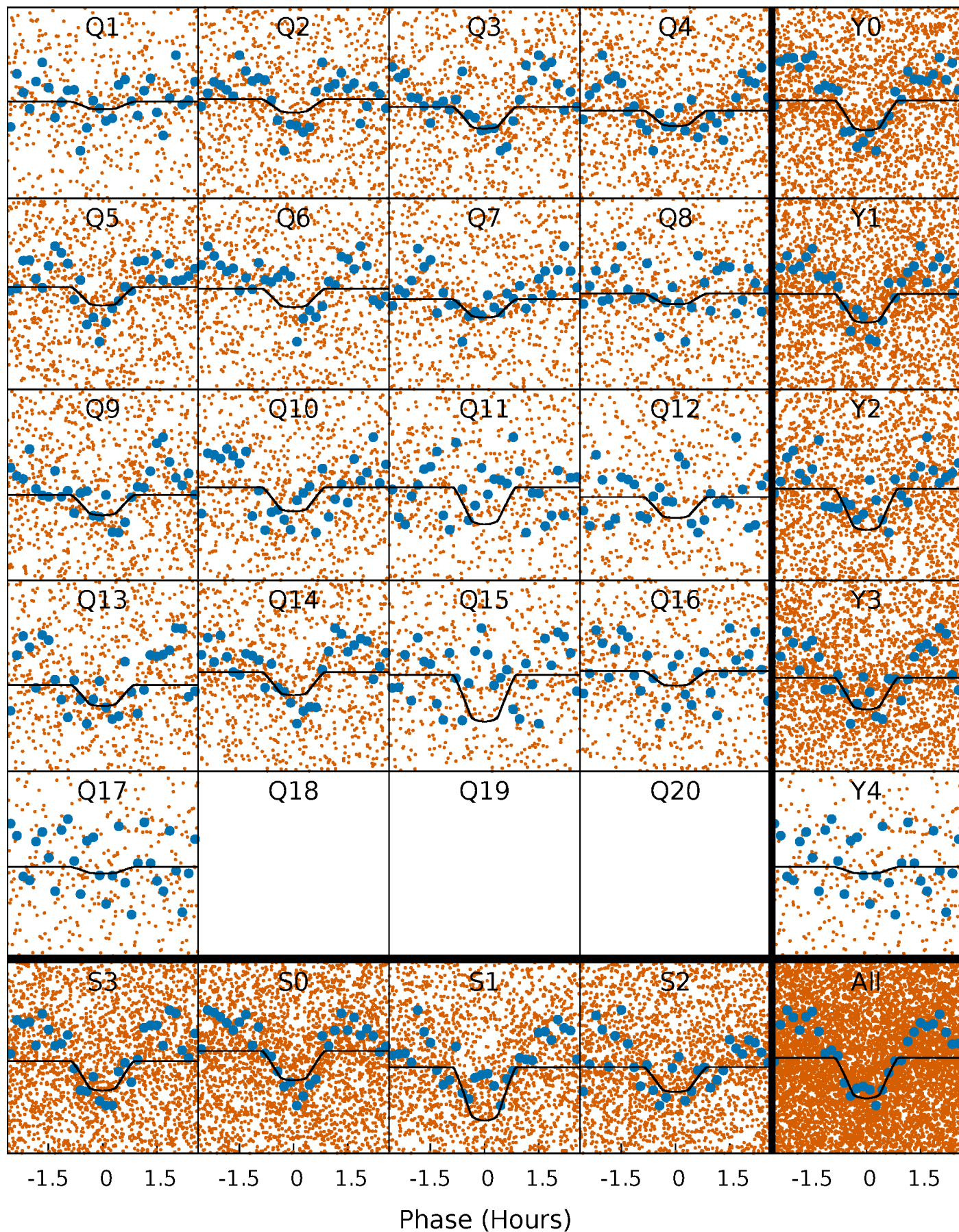
PDC Quarter-Phased Transit Curves

TCE 009369547-02 P= 0.604212 Days $T_0=131.753291$ (BKJD)



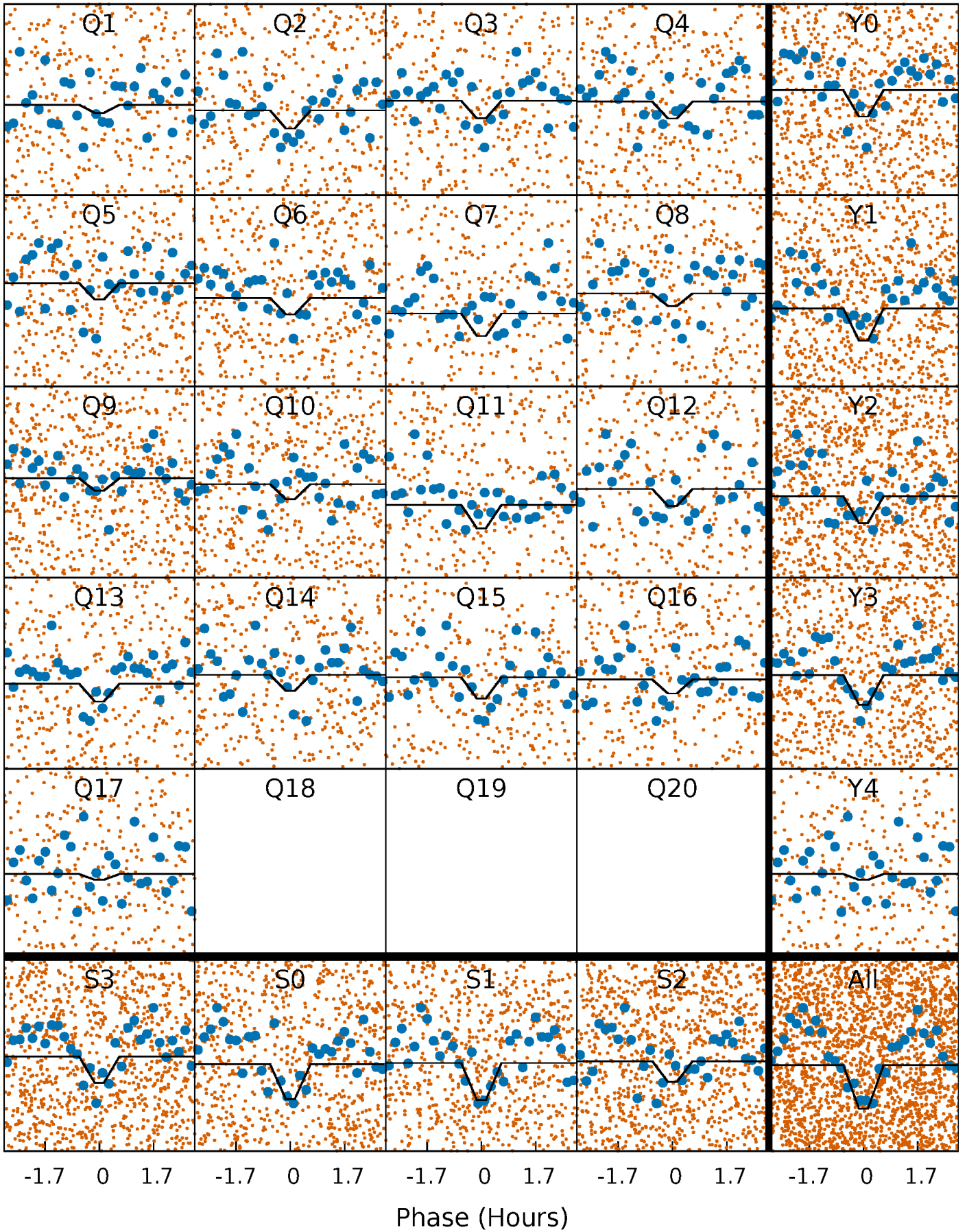
DV Quarter-Phased Transit Curves

TCE 009369547-02 P= 0.604212 Days $T_0=131.753291$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

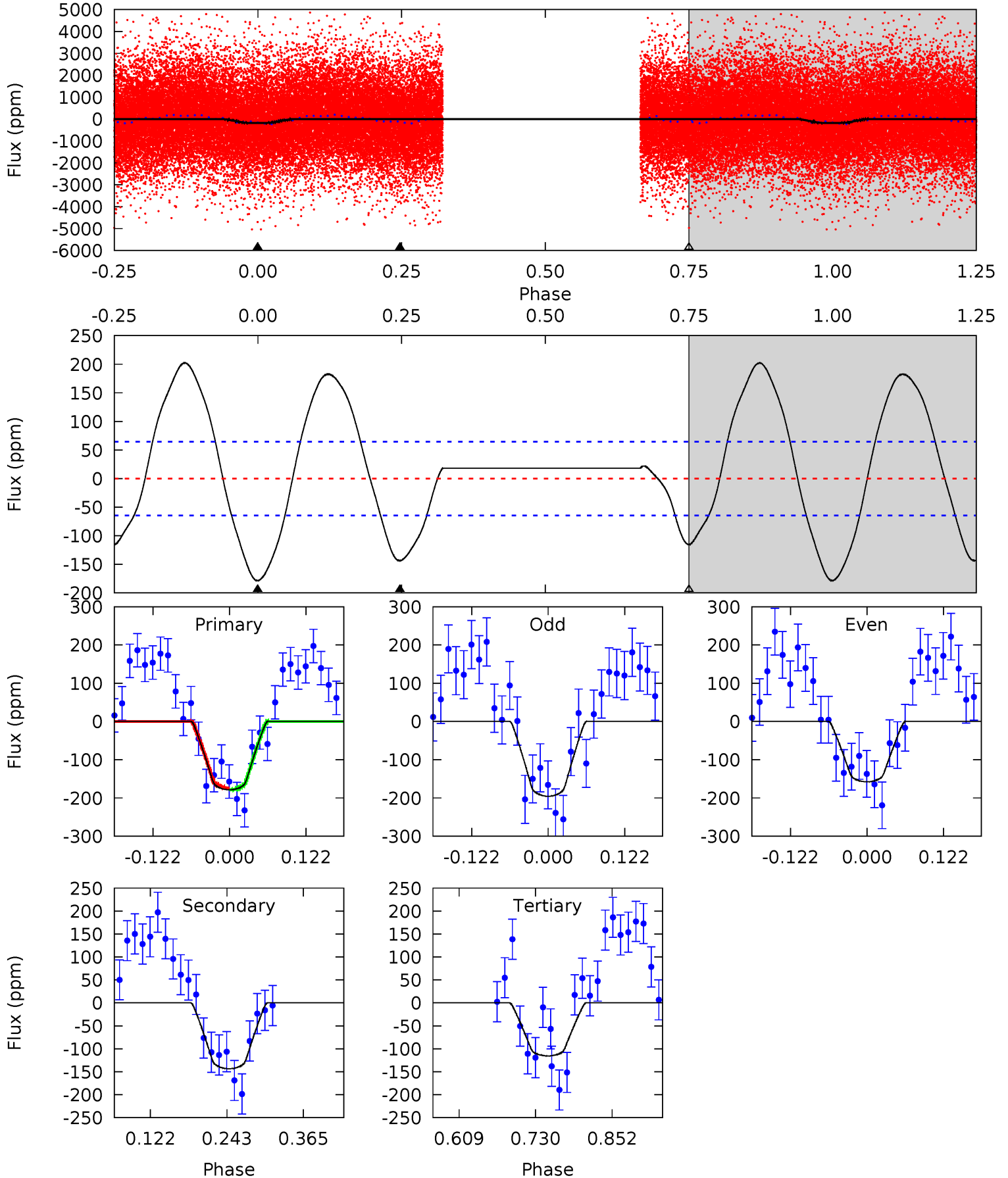
TCE 009369547-02 $P = 0.604212$ Days $T_0 = 131.755594$ (BKJD)



DV Model-Shift Uniqueness Test

009369547-02, P = 0.604212 Days, E = 131.149079 Days

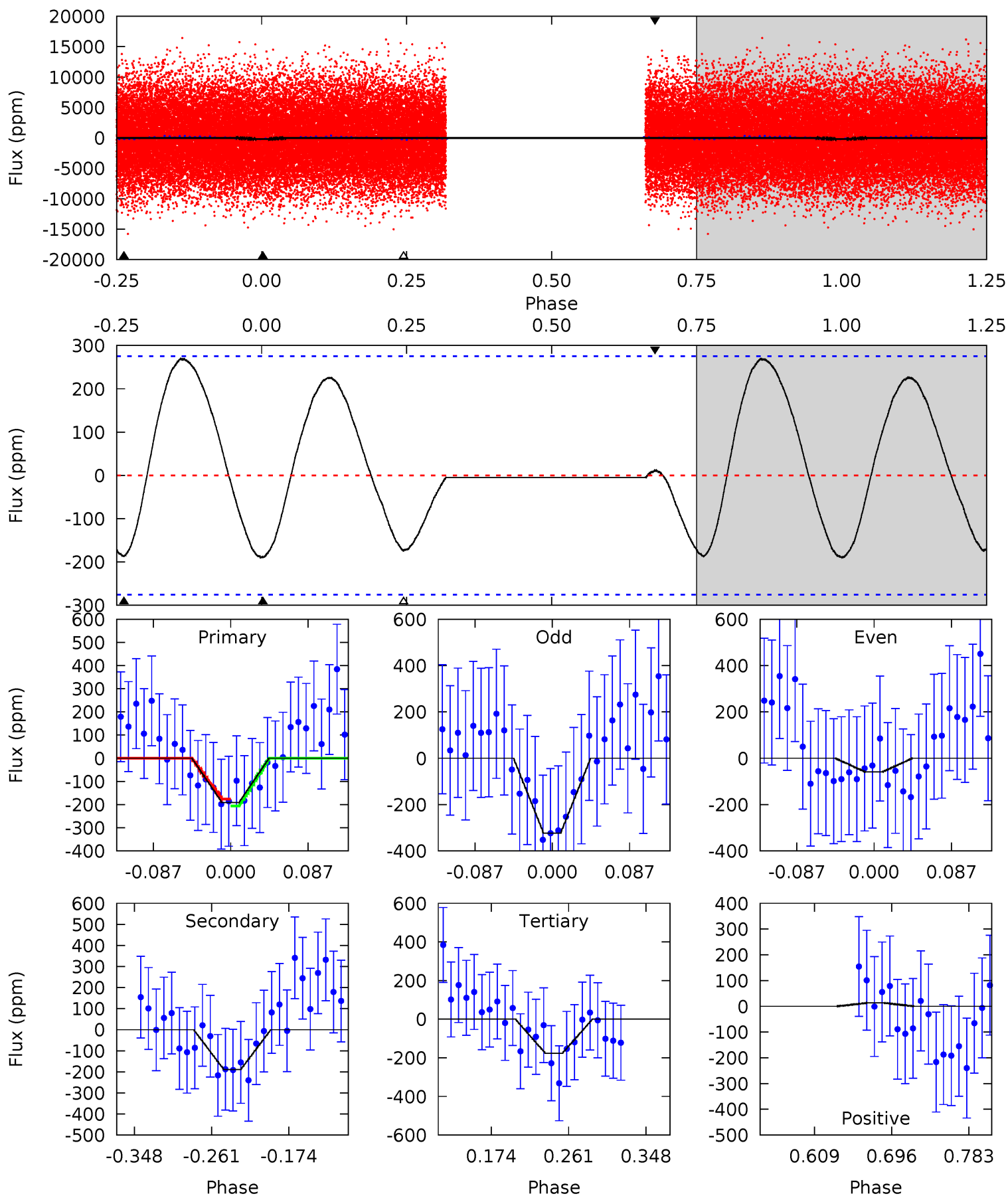
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	10.1	8.10	0	4.52	1.55	7.11	4.44	12.5	1.96	10.1	1.33	0.96	0.53	0.17



Alt Model-Shift Uniqueness Test

009369547-02, P = 0.604212 Days, E = 131.151382 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.19	3.14	2.94	0.22	4.59	1.71	2.45	0.25	2.97	0.21	2.93	2.20	0.95	0.59	0.25



Stellar Parameters For KIC 009369547

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7244^{+226}_{-302}	$3.683^{+0.459}_{-0.081}$	$-0.160^{+0.250}_{-0.300}$	$3.260^{+0.397}_{-1.687}$	$1.868^{+0.169}_{-0.508}$	$0.076^{+0.351}_{-0.020}$
	+3%/-4%	+12%/-2%	+156%/-188%	+12%/-52%	+9%/-27%	+463%/-26%
Source	KIC0	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 009369547-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-143 ± 14	$4.74^{+3.33}_{-2.50}$	5968^{+387}_{-767}	5736^{+3632}_{-2235}	$1.048^{+3.452}_{-0.699}$
Alt.	-188 ± 60	$4.92^{+3.42}_{-2.70}$	5961^{+389}_{-773}	6215^{+4166}_{-2230}	$1.288^{+4.774}_{-0.890}$

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 $A_{obs} \gg 1.0$

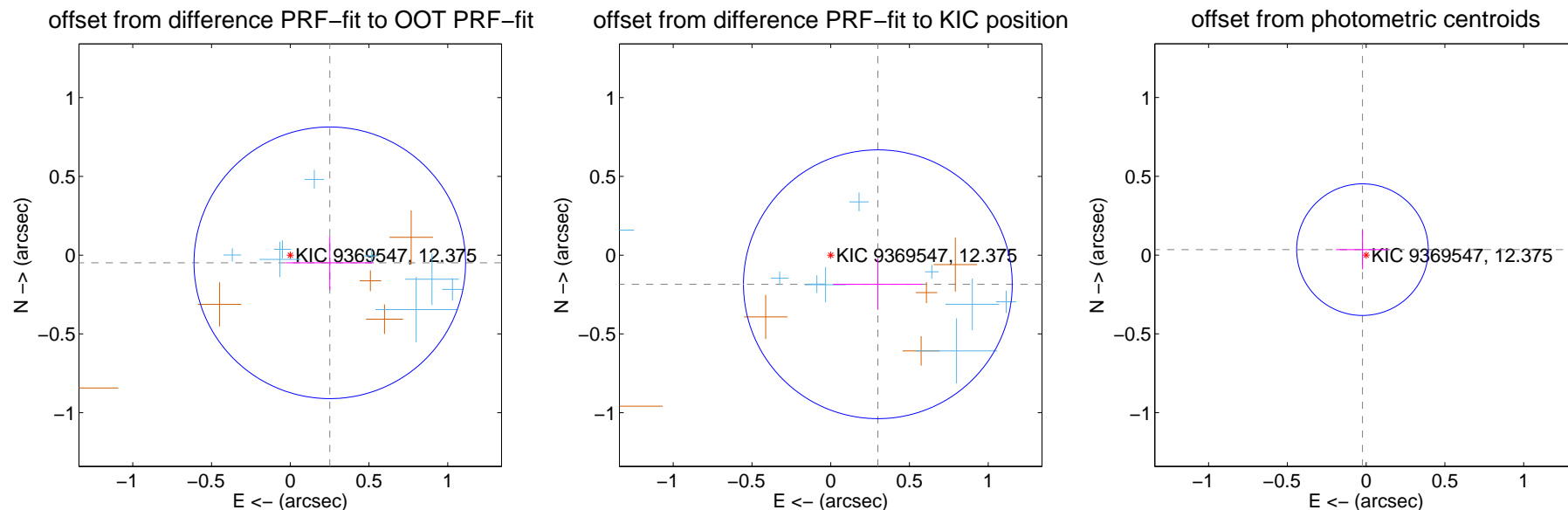
DV Centroid Data

Supplemental centroid analysis for 009369547-02. Kepler magnitude: 12.38. Transit SNR 9.91

There are 11 quarters with good PRF difference image offsets

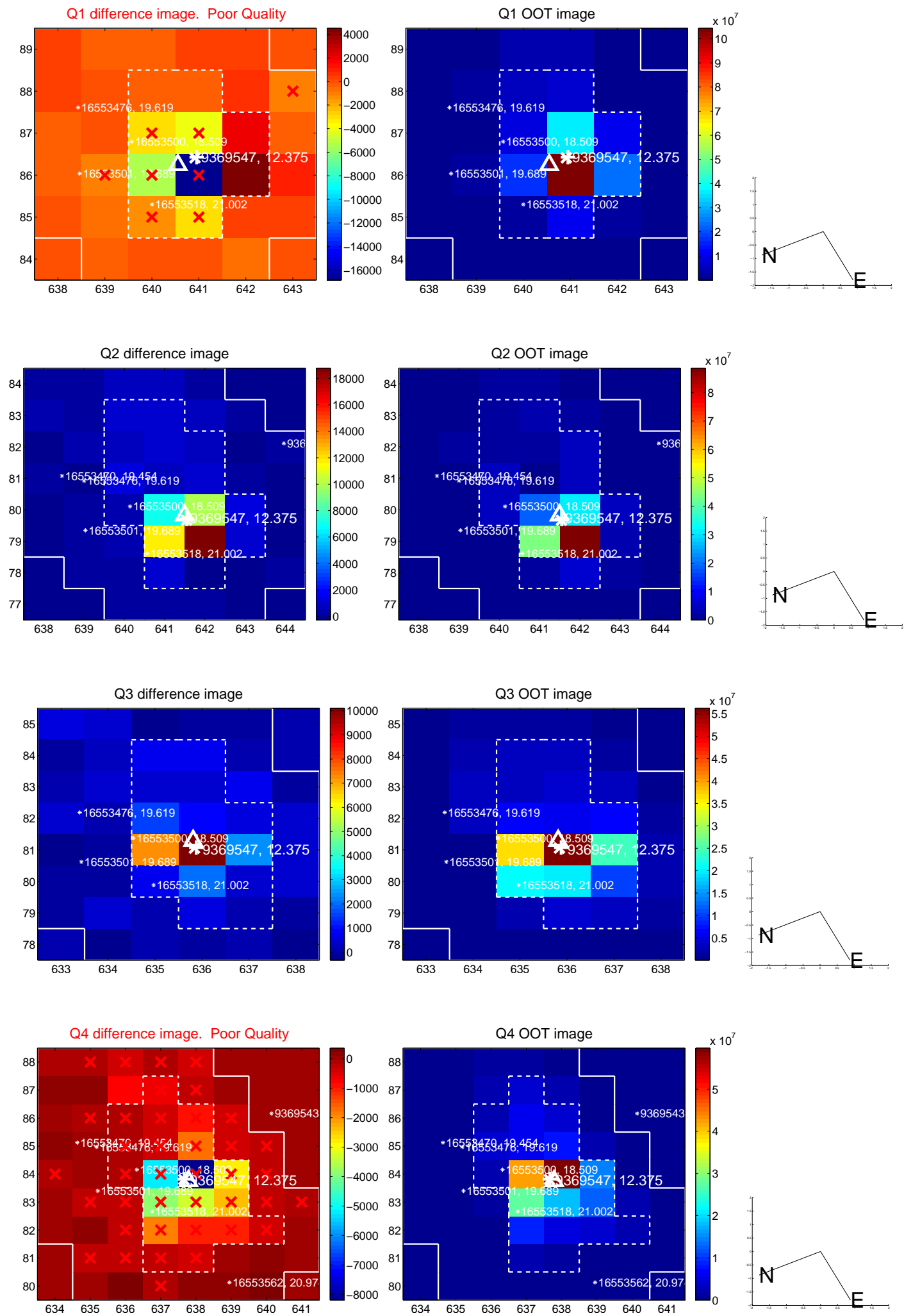
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.255 ± 0.287	0.89	-0.251 ± 0.279	-0.049 ± 0.170
PRF-fit source offset from KIC position	0.352 ± 0.284	1.24	-0.299 ± 0.283	-0.185 ± 0.162
photometric centroid source offset	0.04 ± 0.14	0.30	0.02 ± 0.17	0.03 ± 0.12

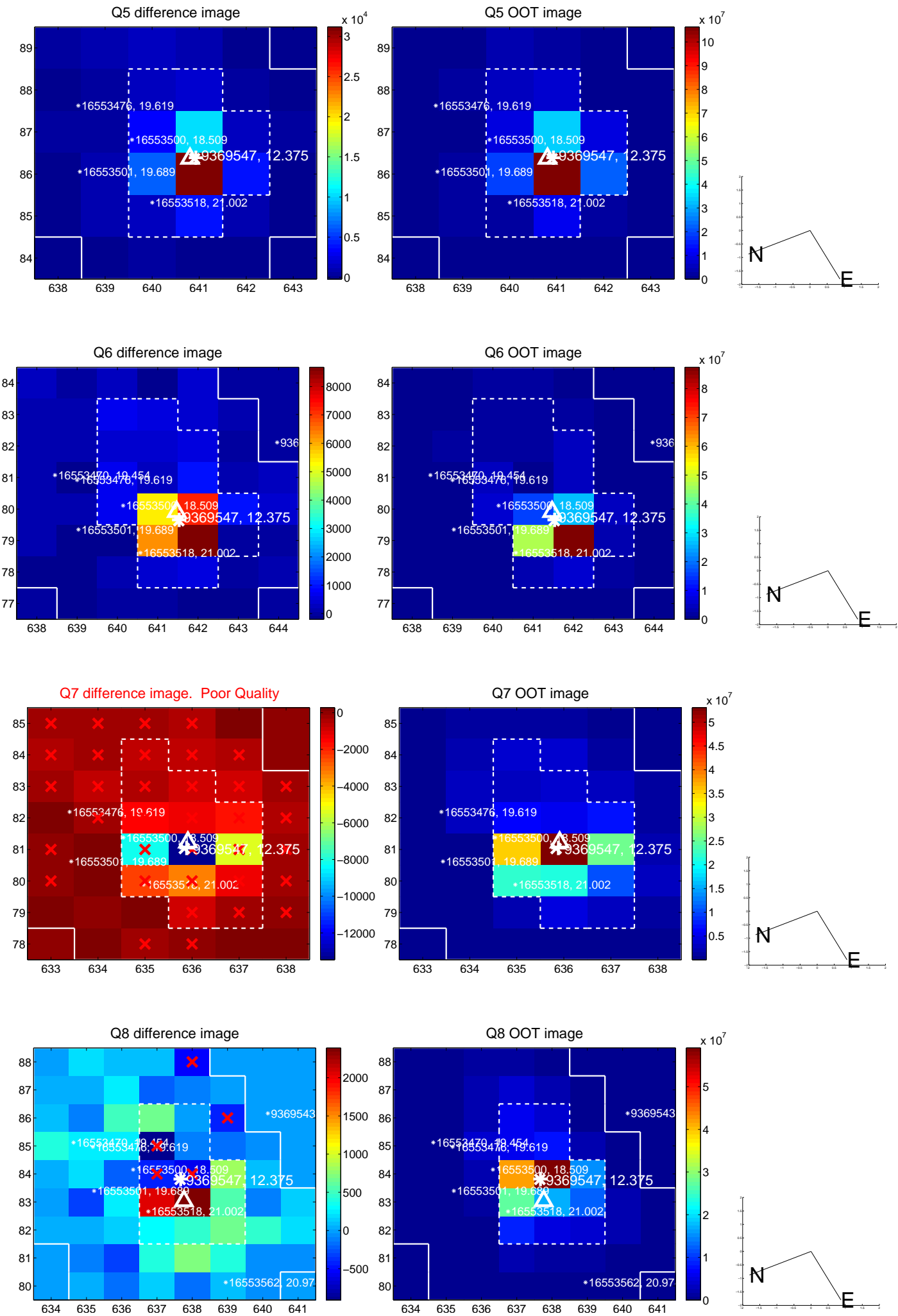


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

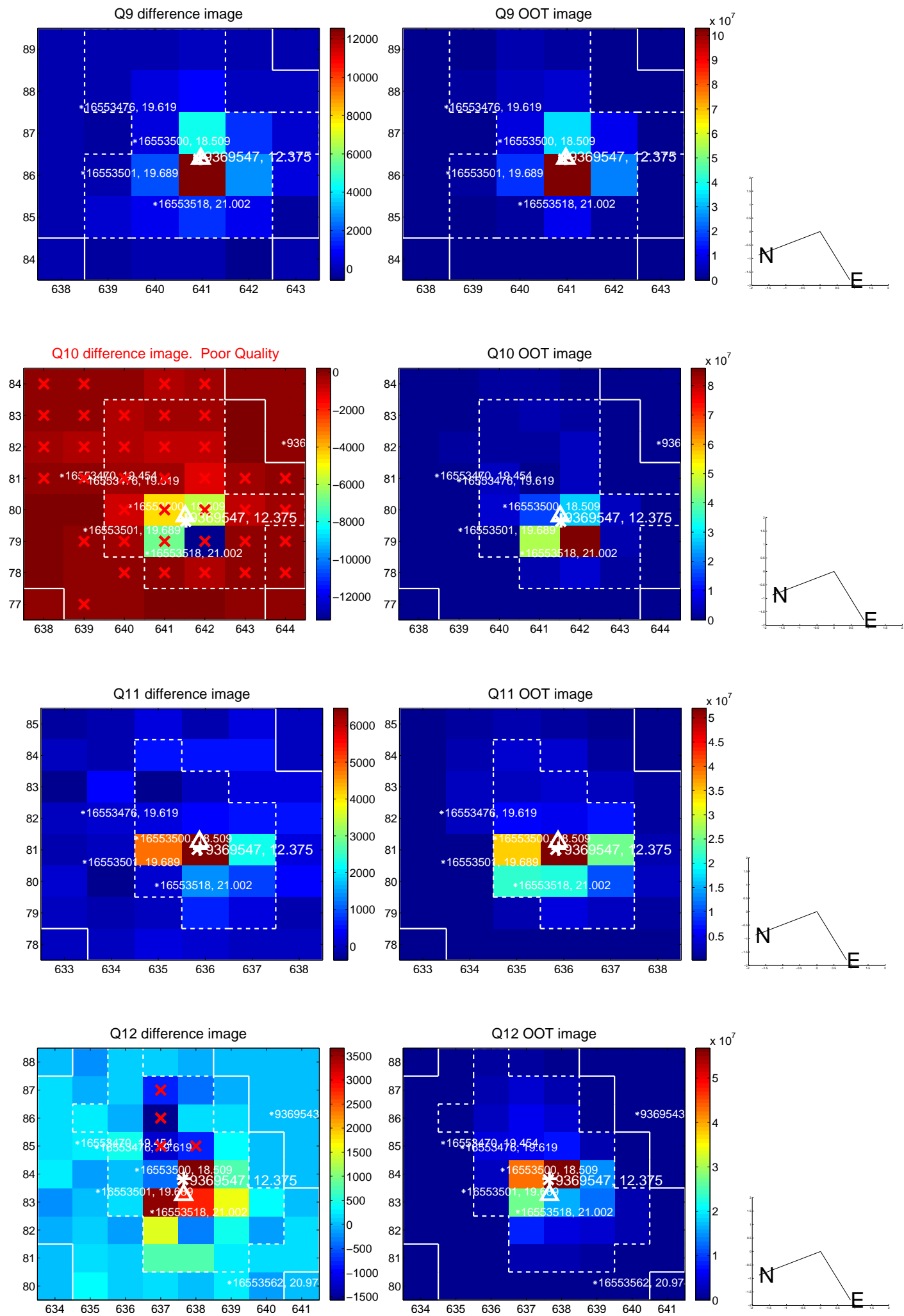
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



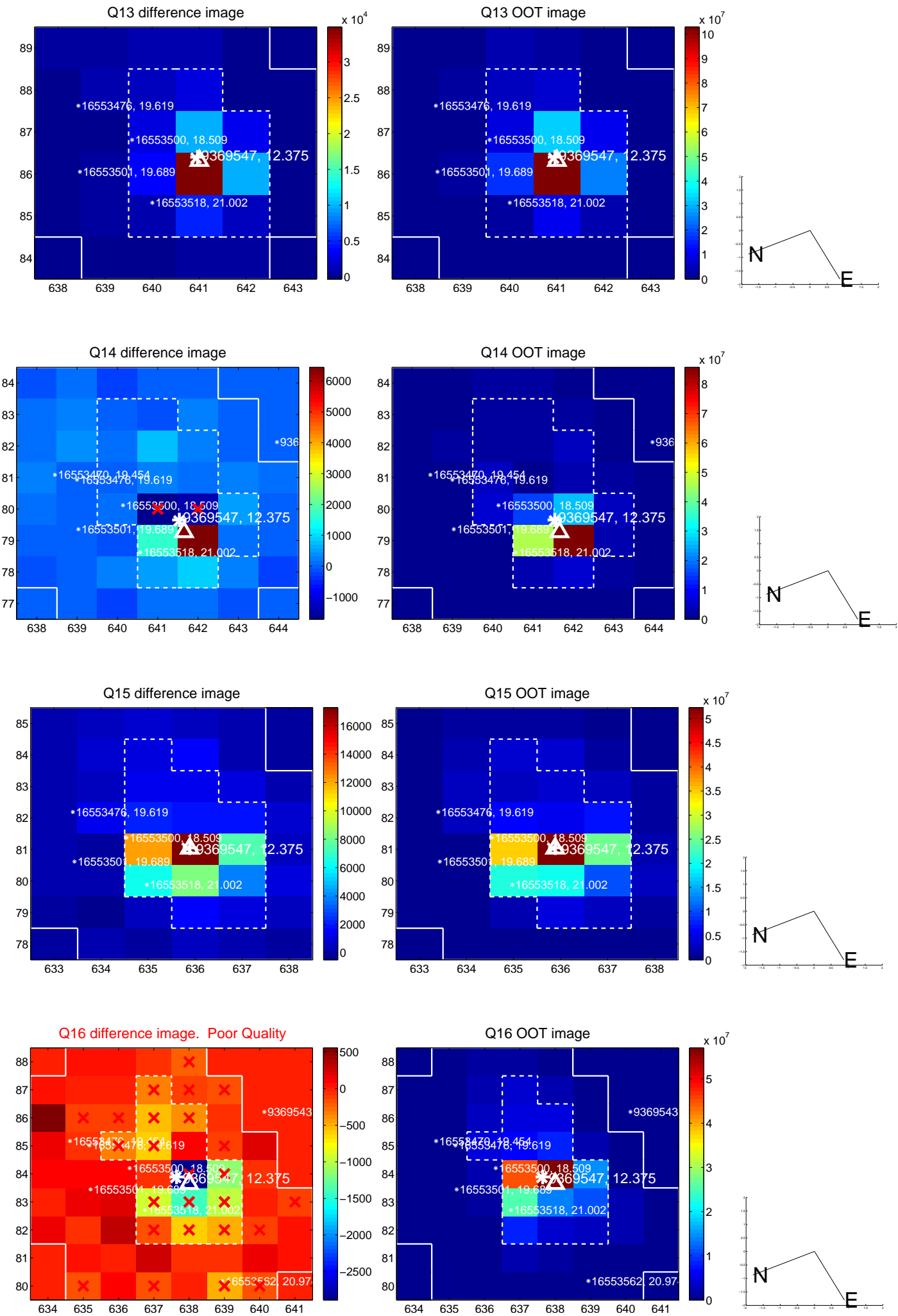
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



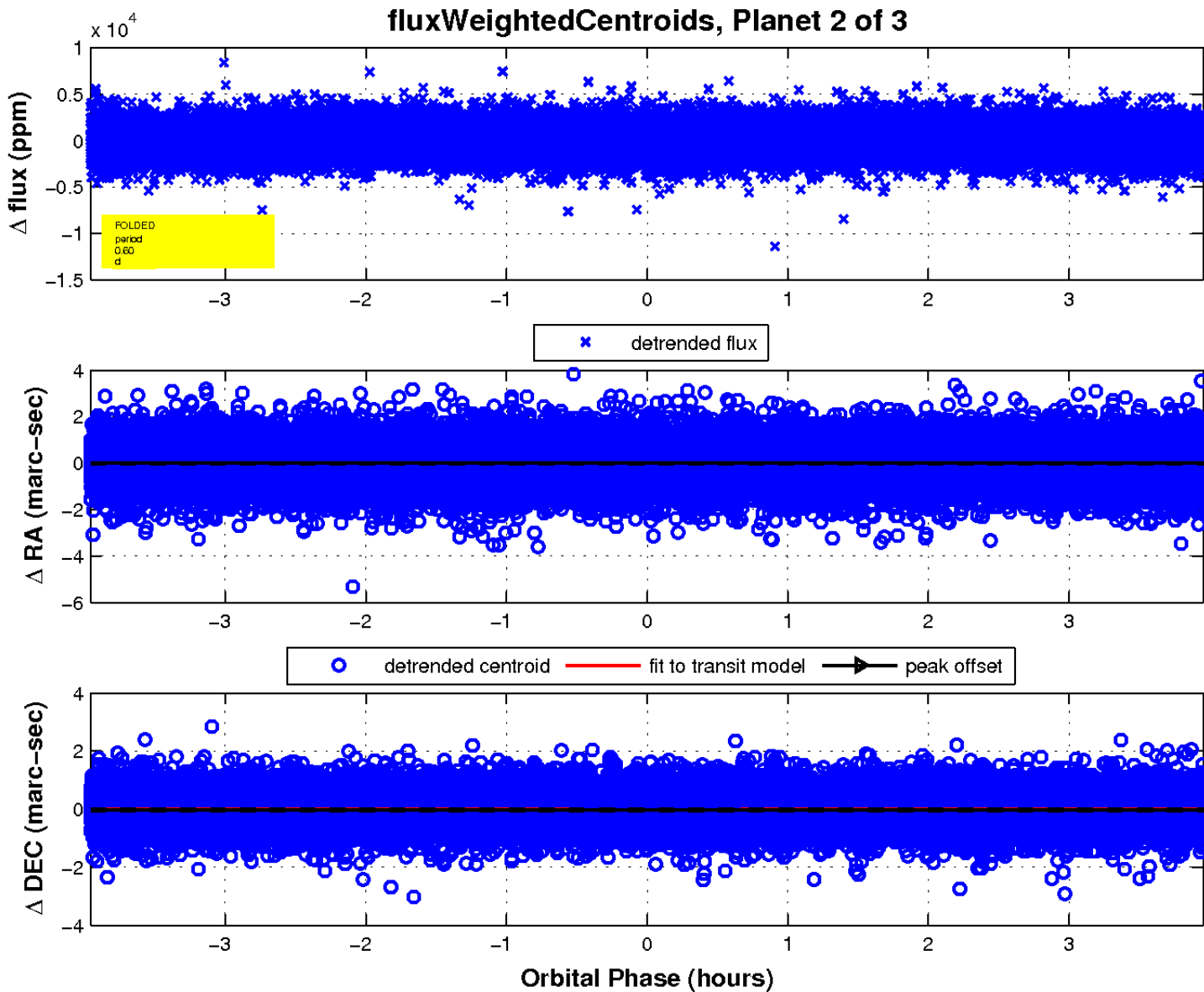
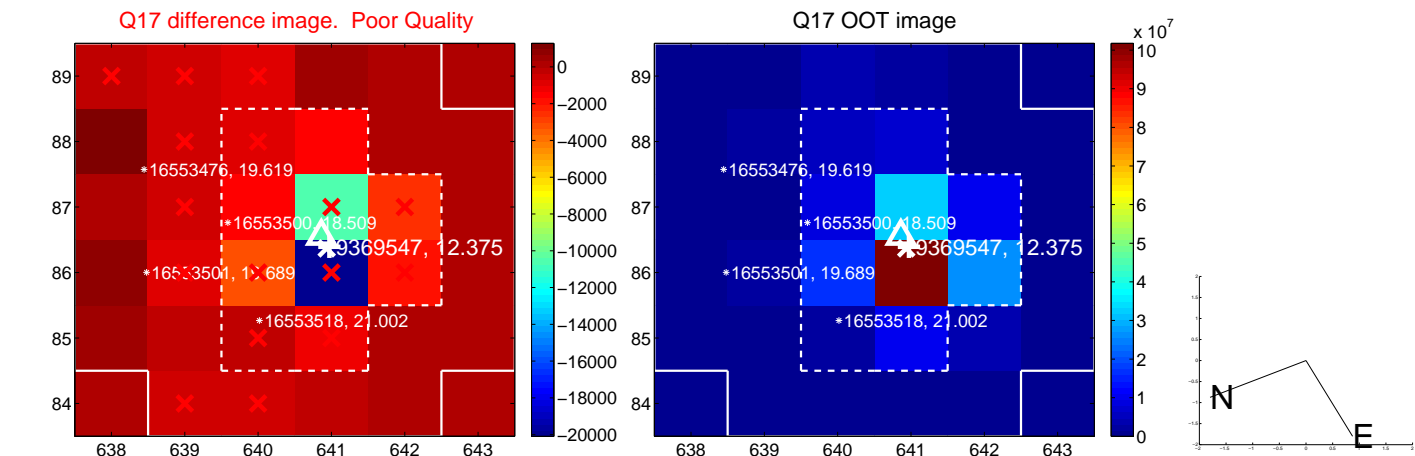
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

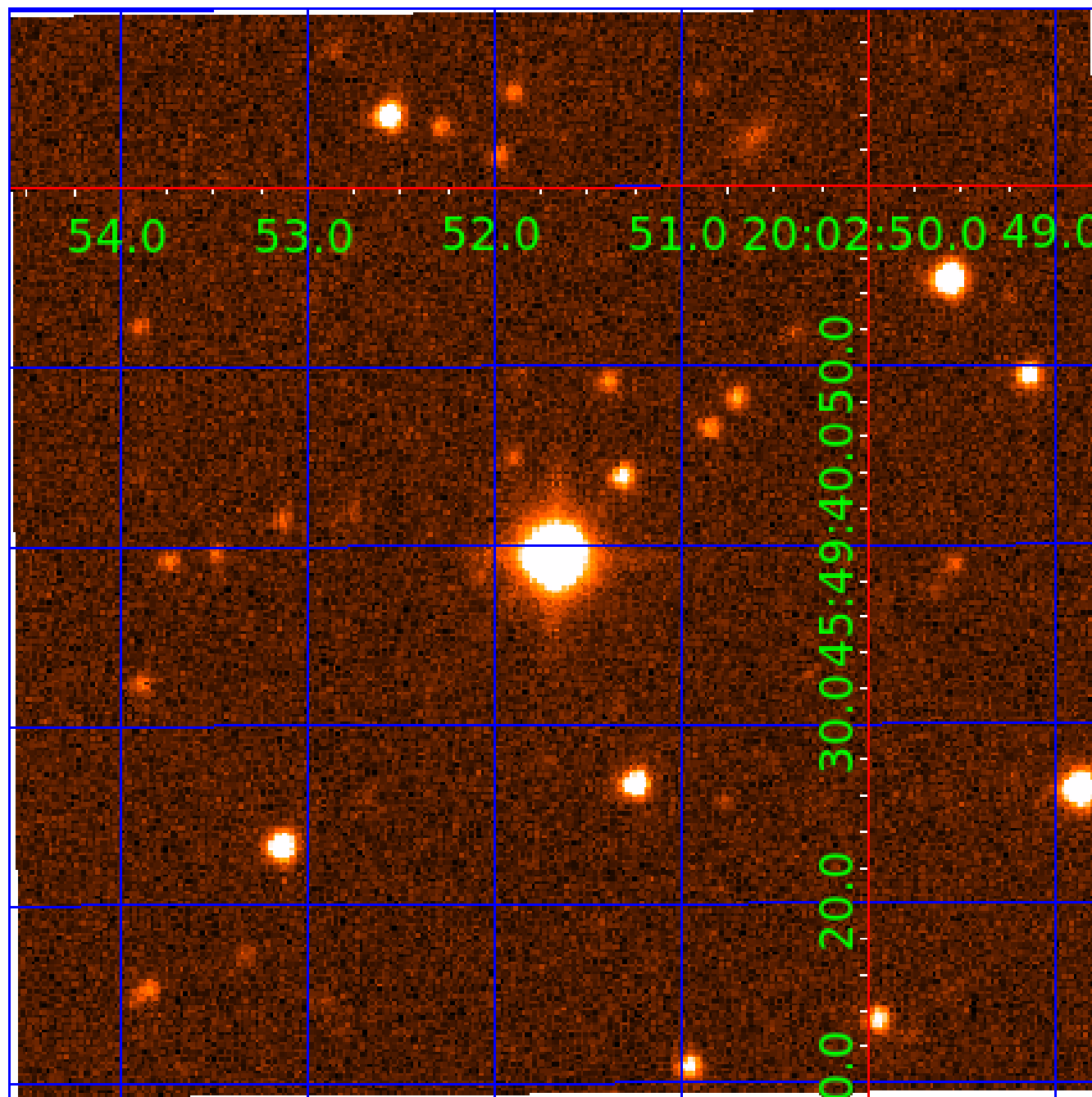


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009369547

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})
009369547-01	OBS	No	0.604212	132.051637	253.8	0.995	11.6	12.7	3.26	7244	5.40	88314.95
009369547-02	OBS	No	0.604212	131.753291	176.2	1.319	9.2	9.9	3.26	7244	5.09	88314.92
009369547-03	OBS	No	0.530269	131.812009	292.9	3.207	10.1	14.6	3.26	7244	5.99	105105.23

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009369547-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
009369547-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD
009369547-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT

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

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

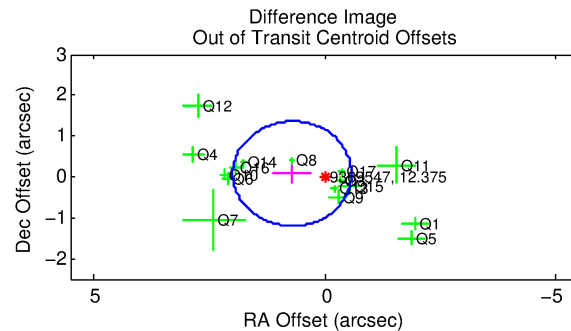
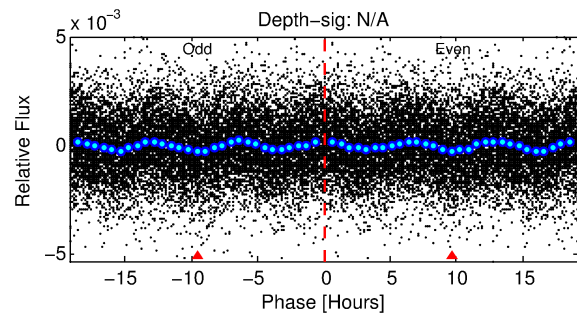
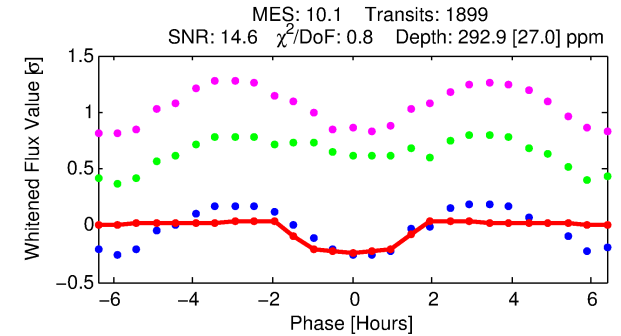
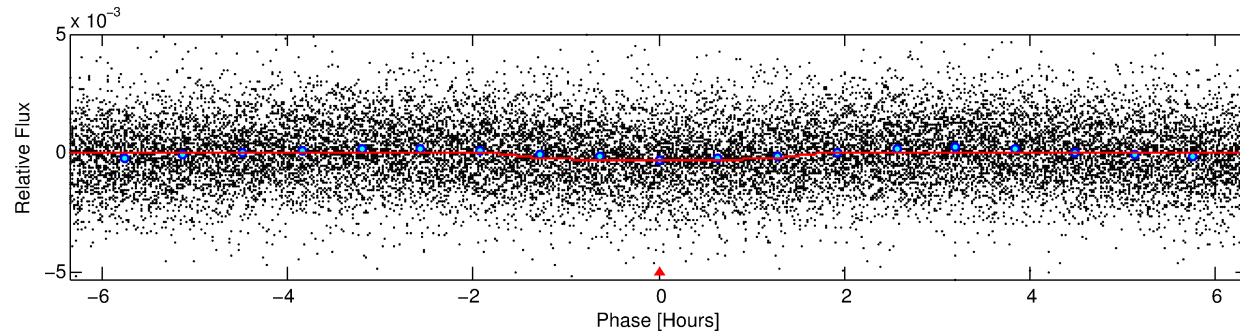
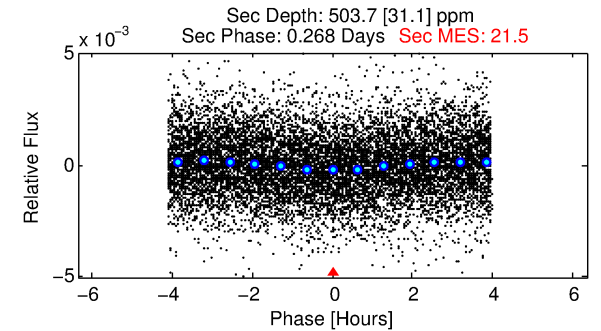
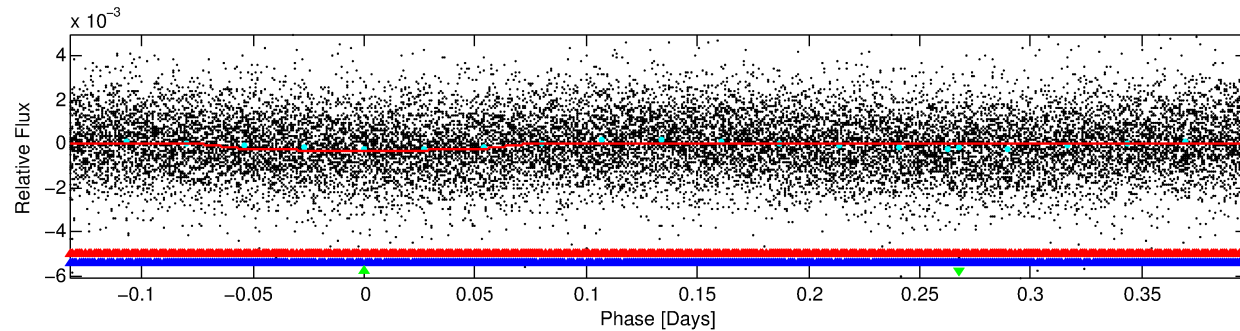
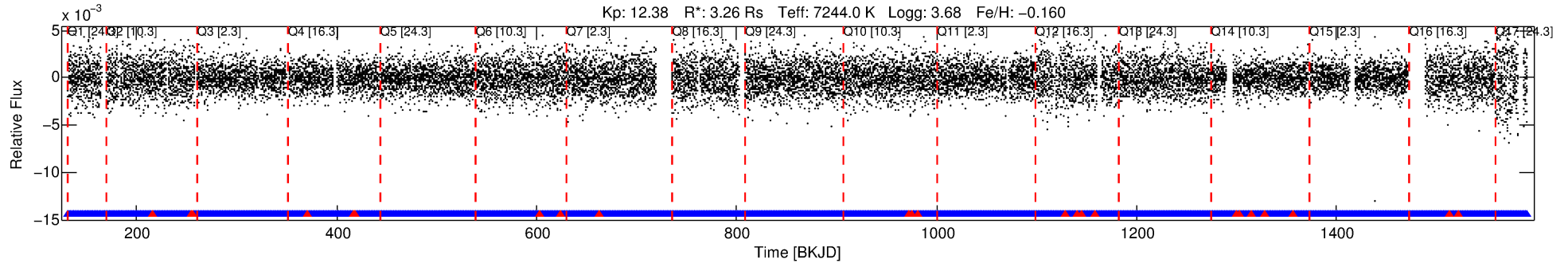
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009369547-03

No Significant Match Found

DV One-Page Summary

KIC: 9369547 Candidate: 3 of 3 Period: 0.530 d



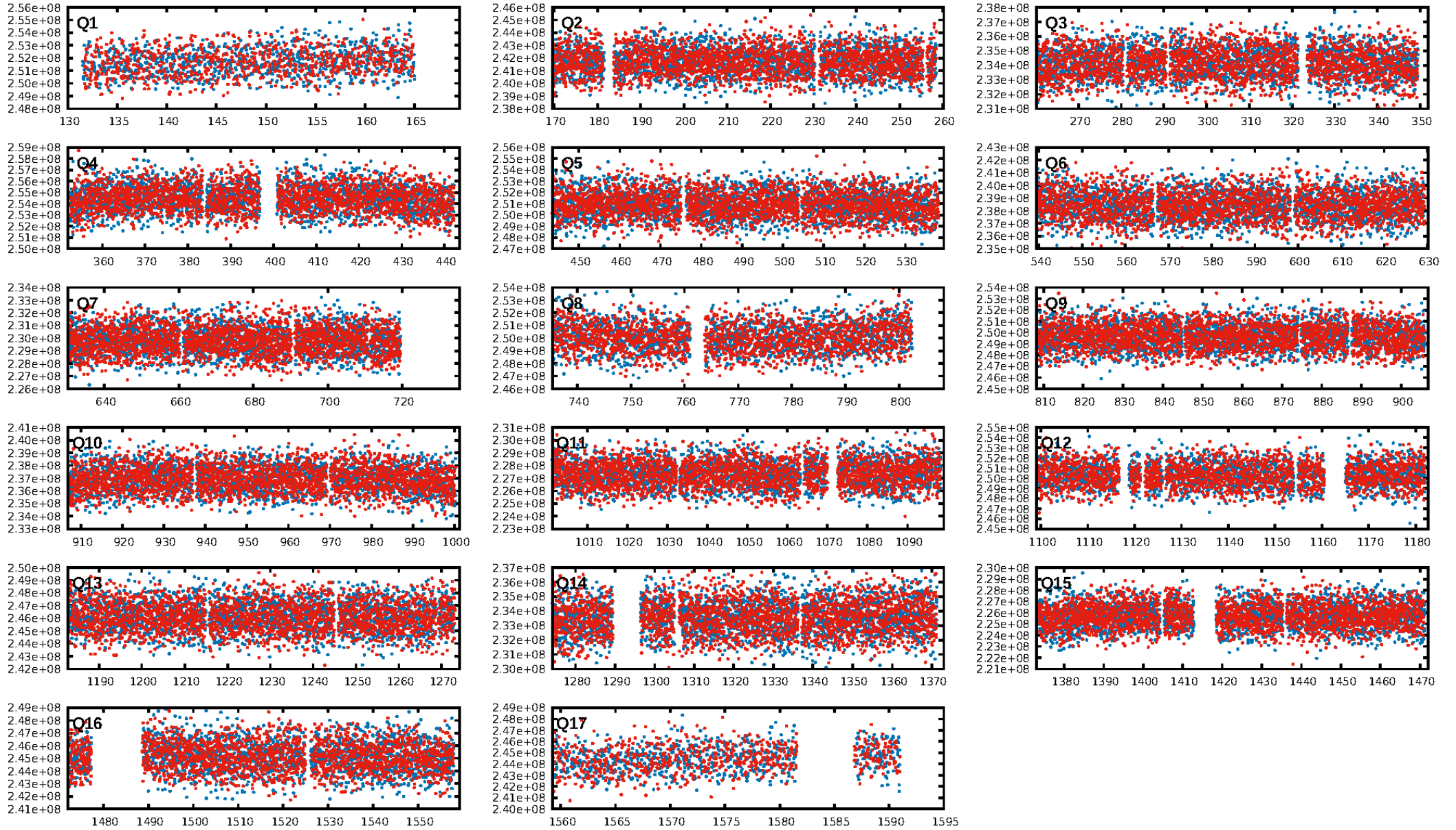
DV Fit Results:

Period = 0.53027 [0.00001] d
Epoch = 131.8120 [0.0026] BKJD
Rp/R* = 0.0168 [0.0138]
a/R* = 1.24 [1.89]
b = 0.71 [3.05]
Seff = 105105.23 [84299.05]
Teff = 4591 [921] K
Rp = 5.99 [5.82] Re
a = 0.0158 [0.0078] AU
Ag = 1.93 [3.51] [0.26σ]
Teffp = 8361 [3453] K [1.05σ]

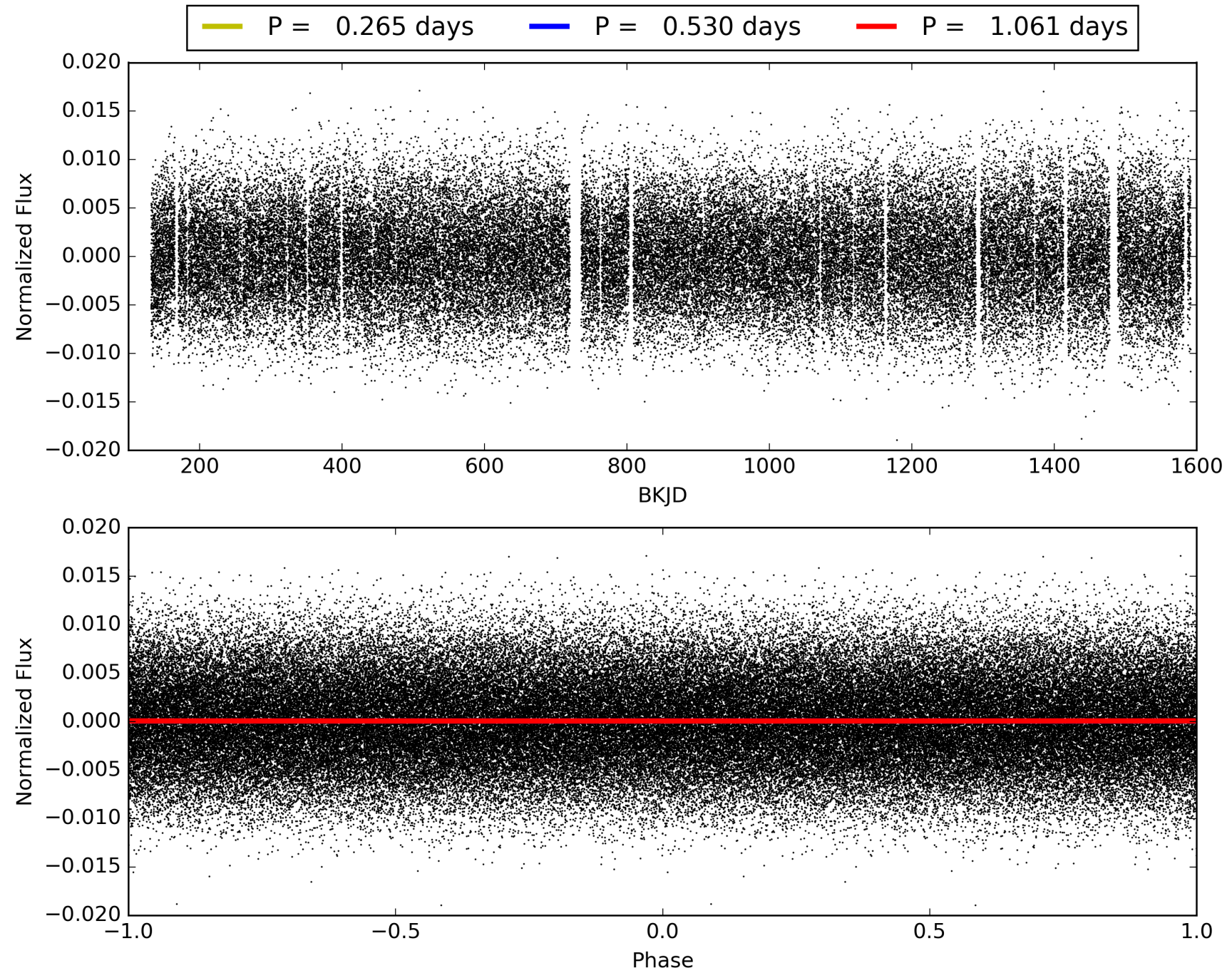
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 40.3% [0.53σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [1792/1816]
GhostDiagnostic-chr: 3.719
Centroid-sig: 16.4%
Centroid-so: 0.134 arcsec [2.96σ]
OotOffset-rm: 0.707 arcsec [1.65σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-rm: 0.662 arcsec [1.68σ]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.50 [8/16]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 009369547-03, PDC Light Curves

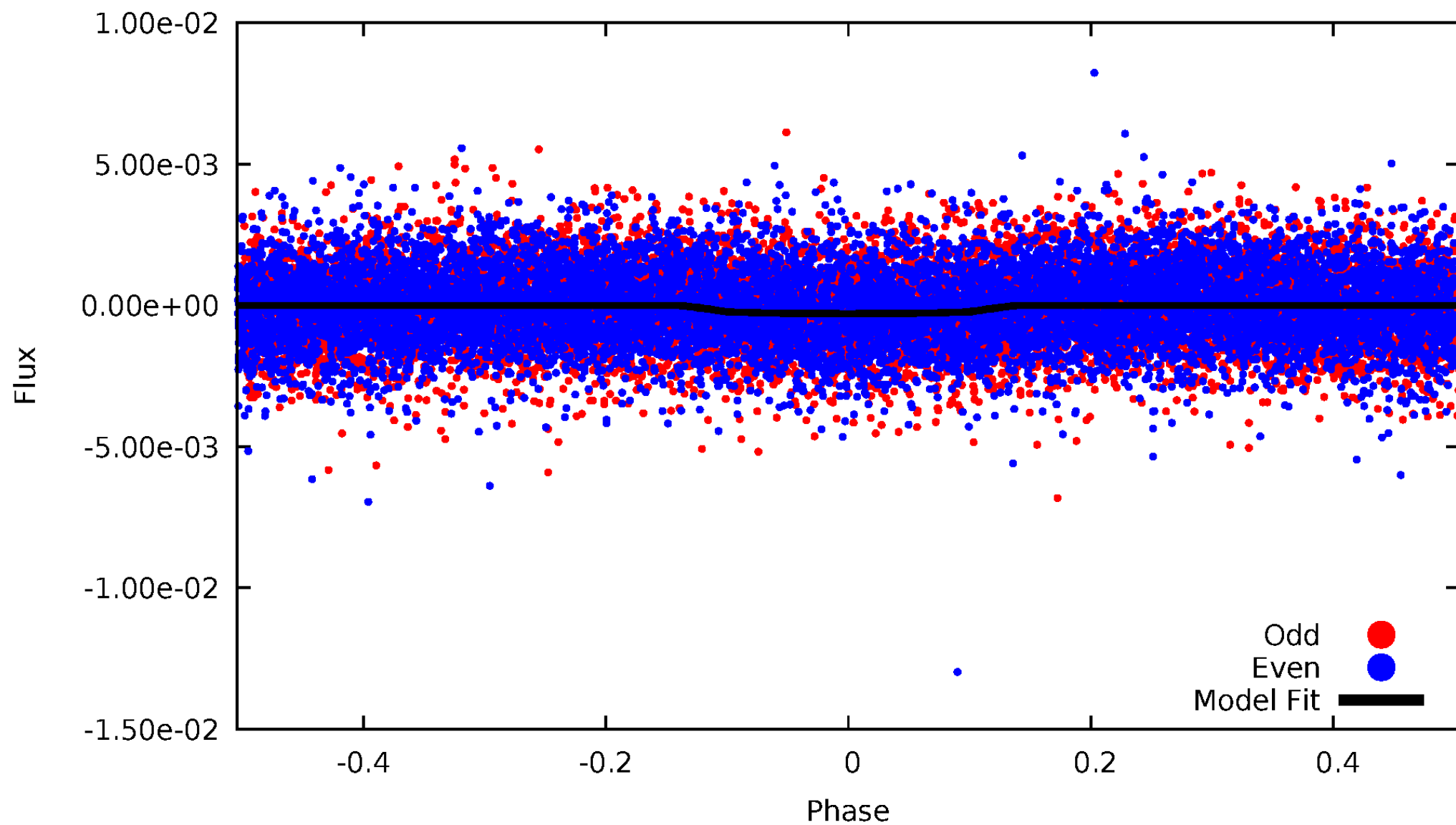


TCE 009369547-03



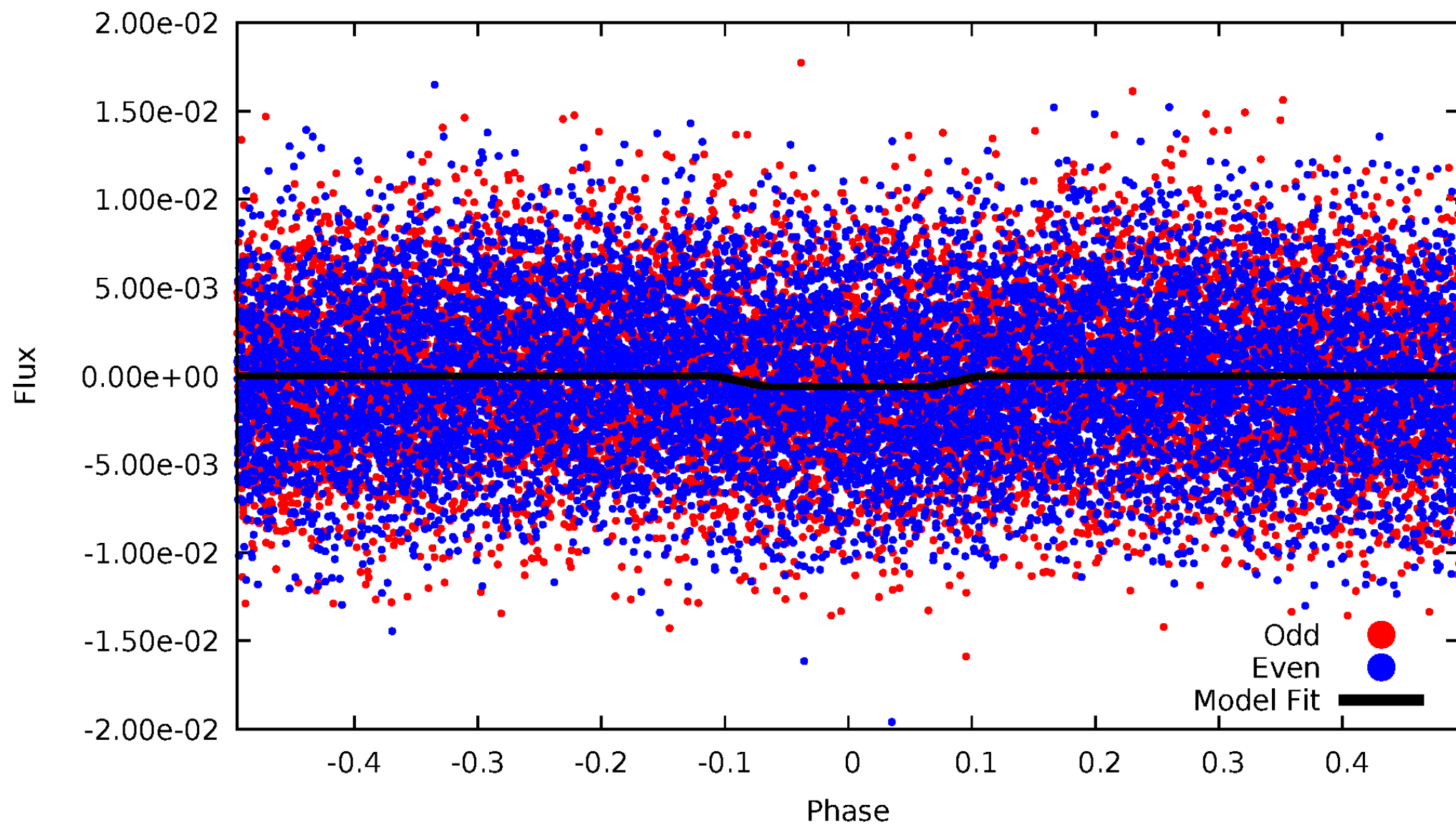
DV Odd/Even

TCE 009369547-03



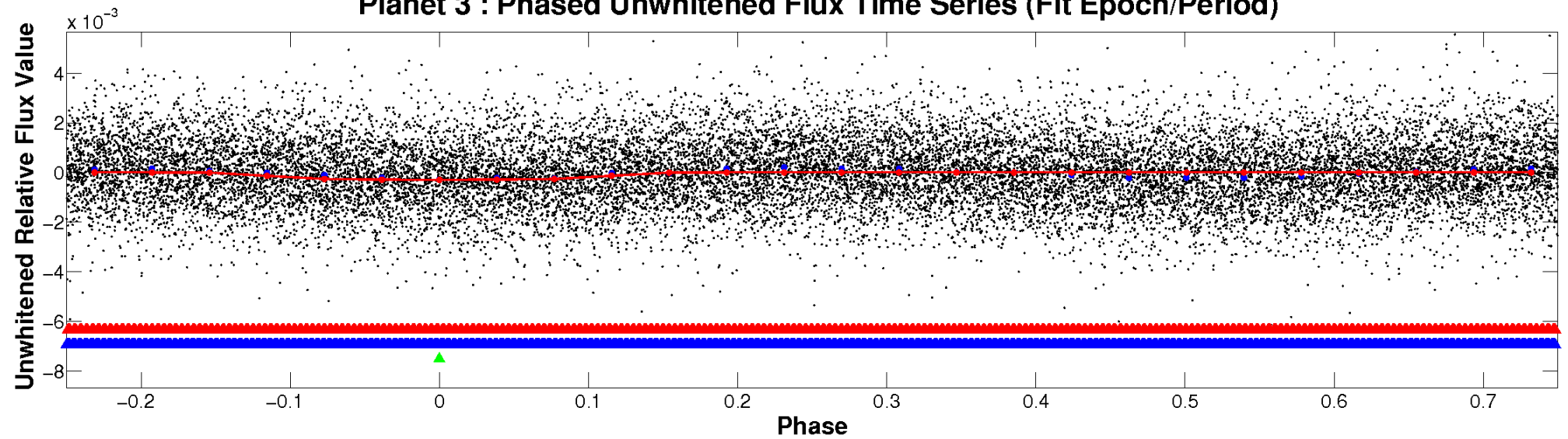
ALT Odd/Even

TCE 009369547-03

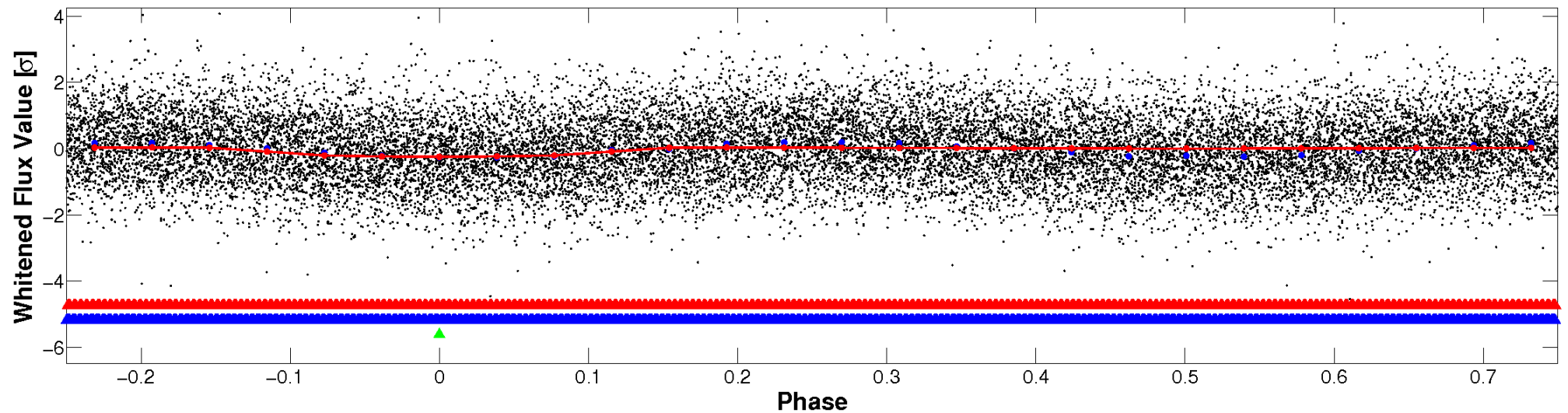


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

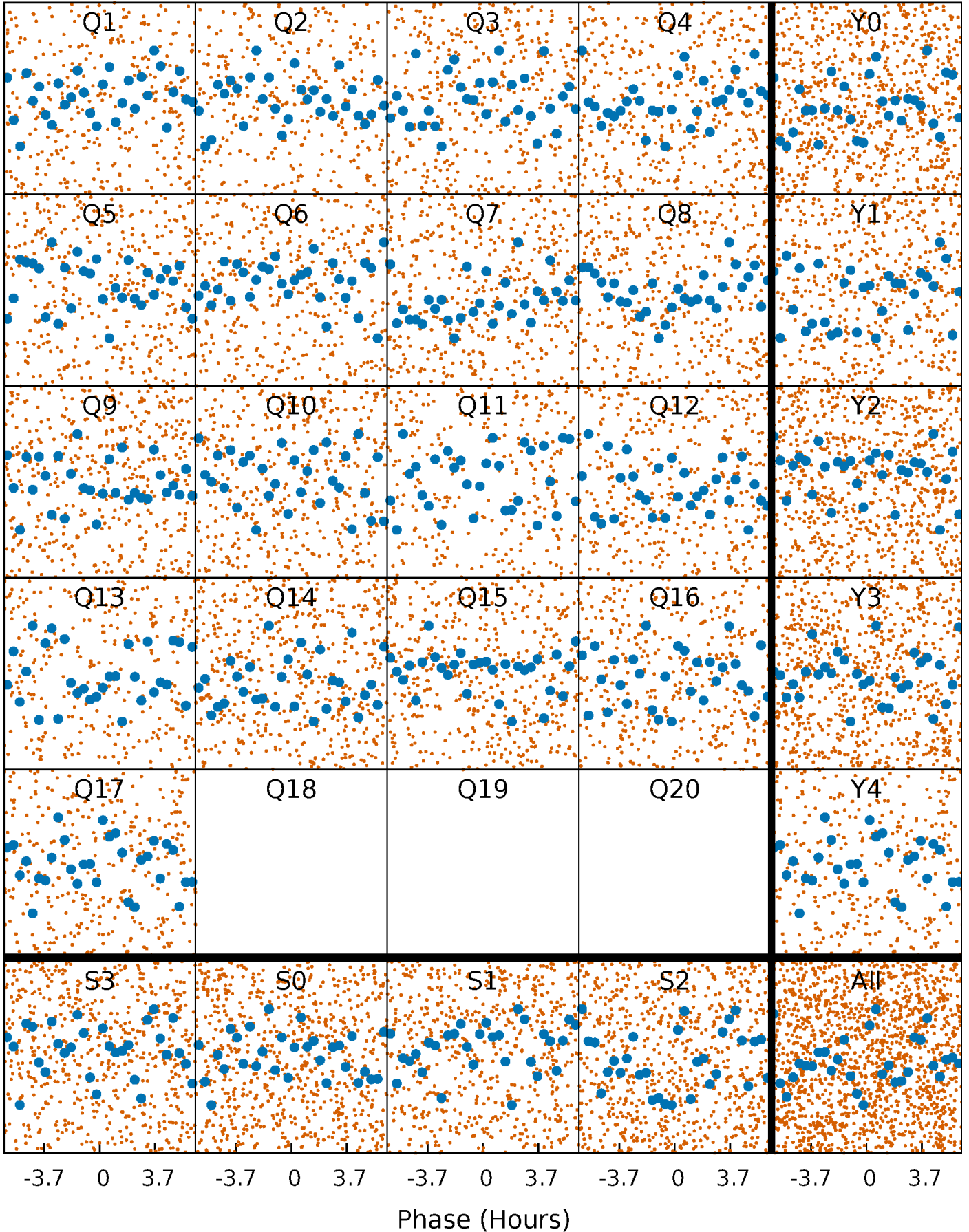


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



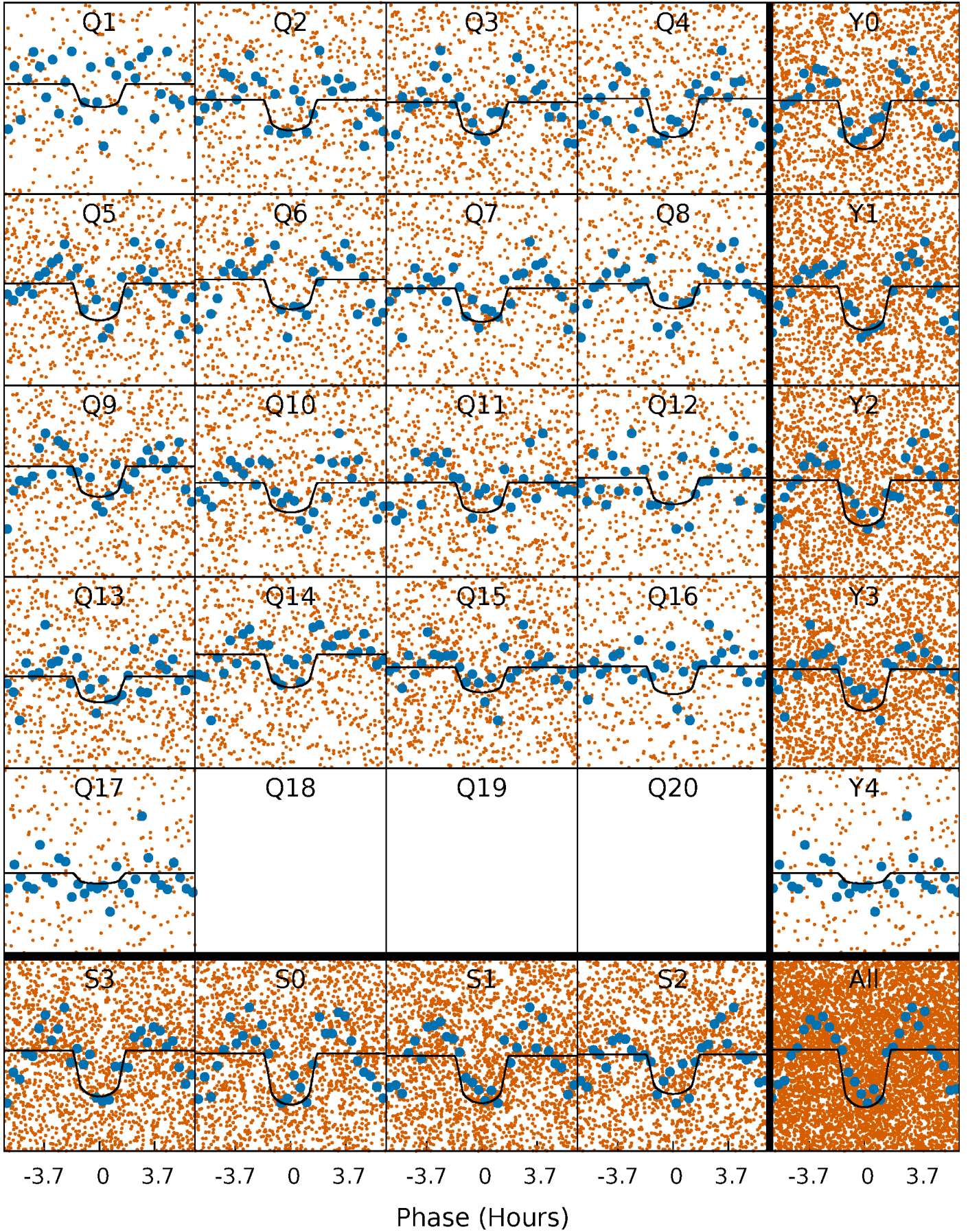
PDC Quarter-Phased Transit Curves

TCE 009369547-03 P= 0.530269 Days $T_0=131.812009$ (BKJD)



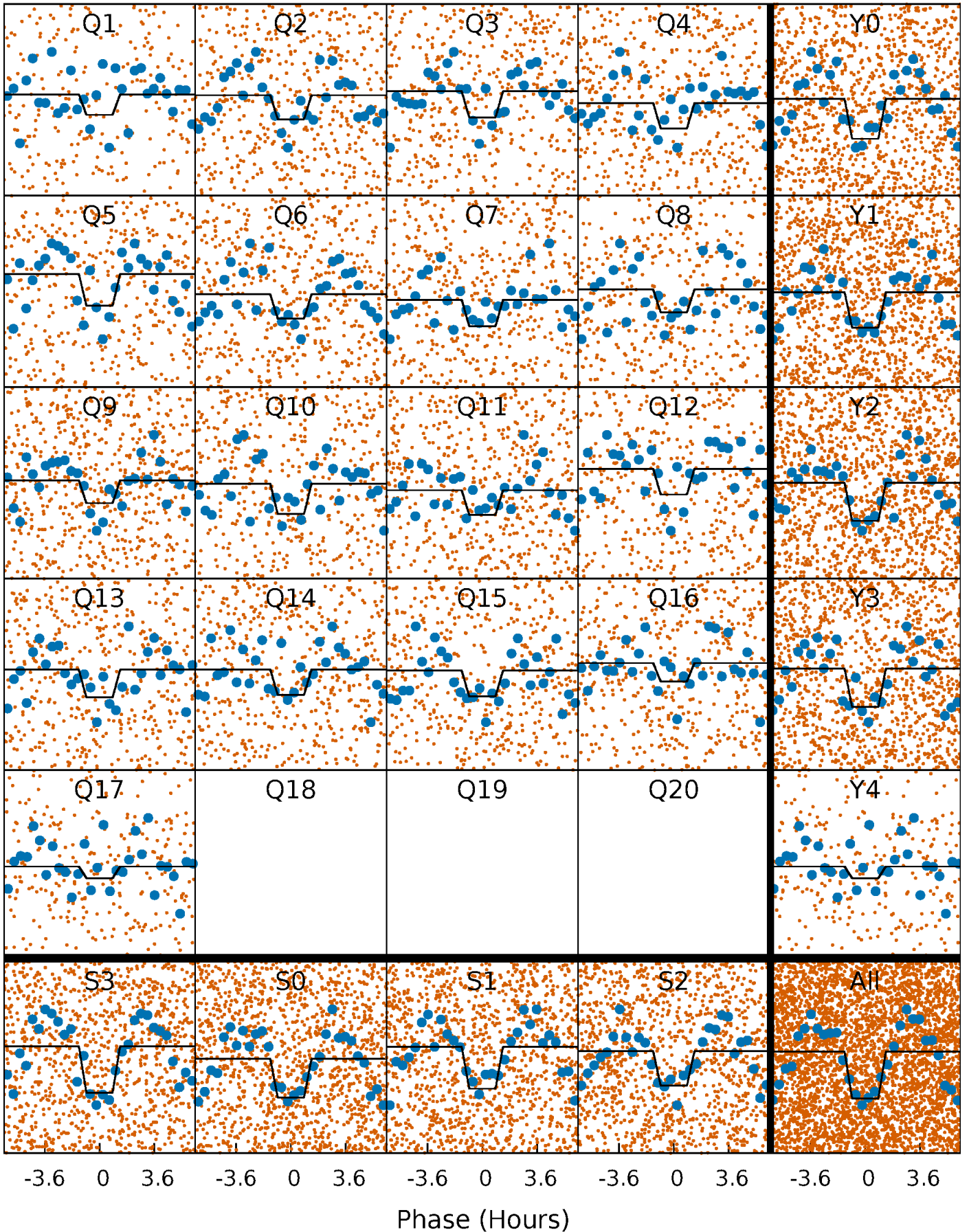
DV Quarter-Phased Transit Curves

TCE 009369547-03 $P = 0.530269$ Days $T_0 = 131.812009$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

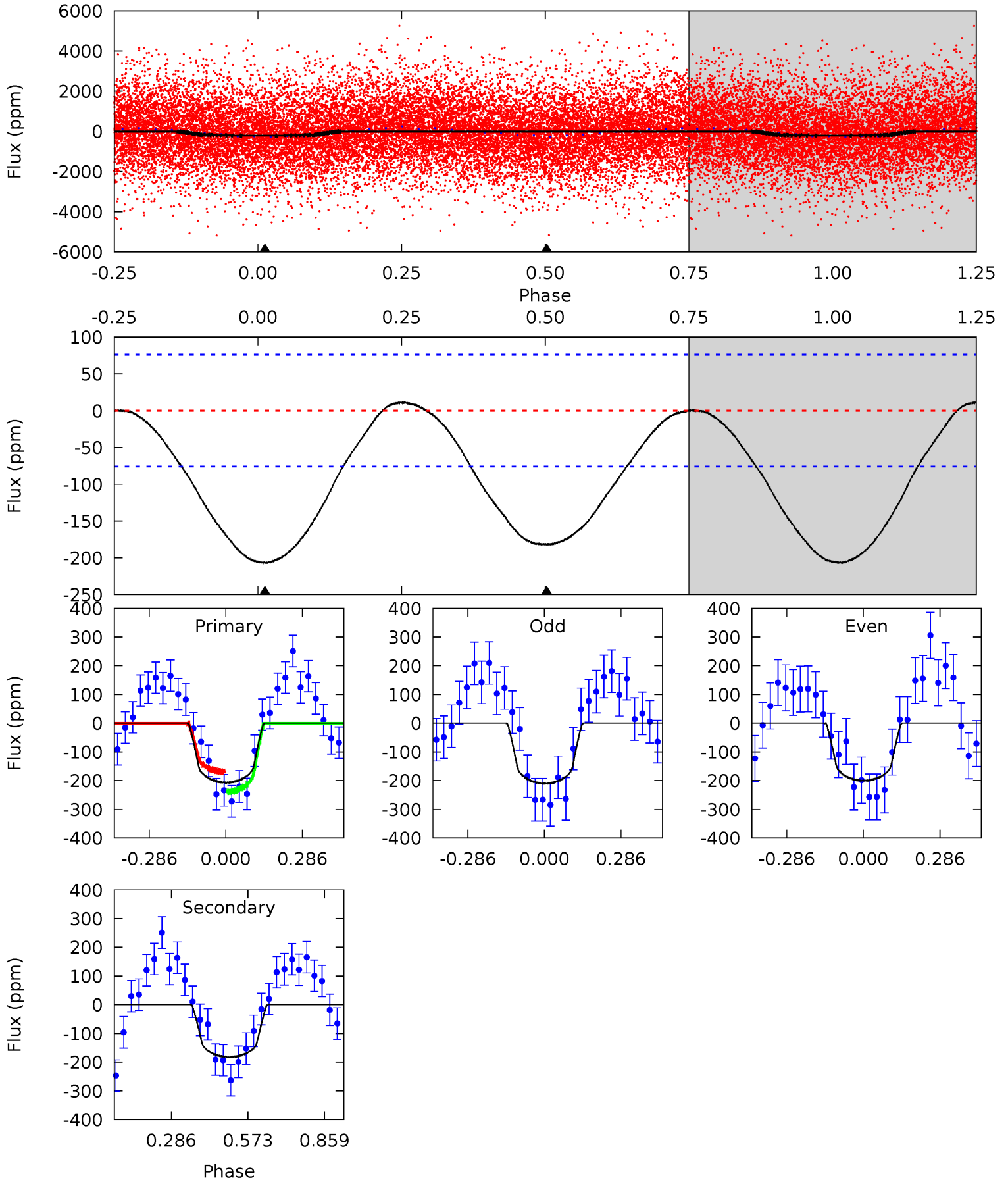
TCE 009369547-03 P= 0.530284 Days $T_0=131.805872$ (BKJD)



DV Model-Shift Uniqueness Test

009369547-03, P = 0.530269 Days, E = 131.281740 Days

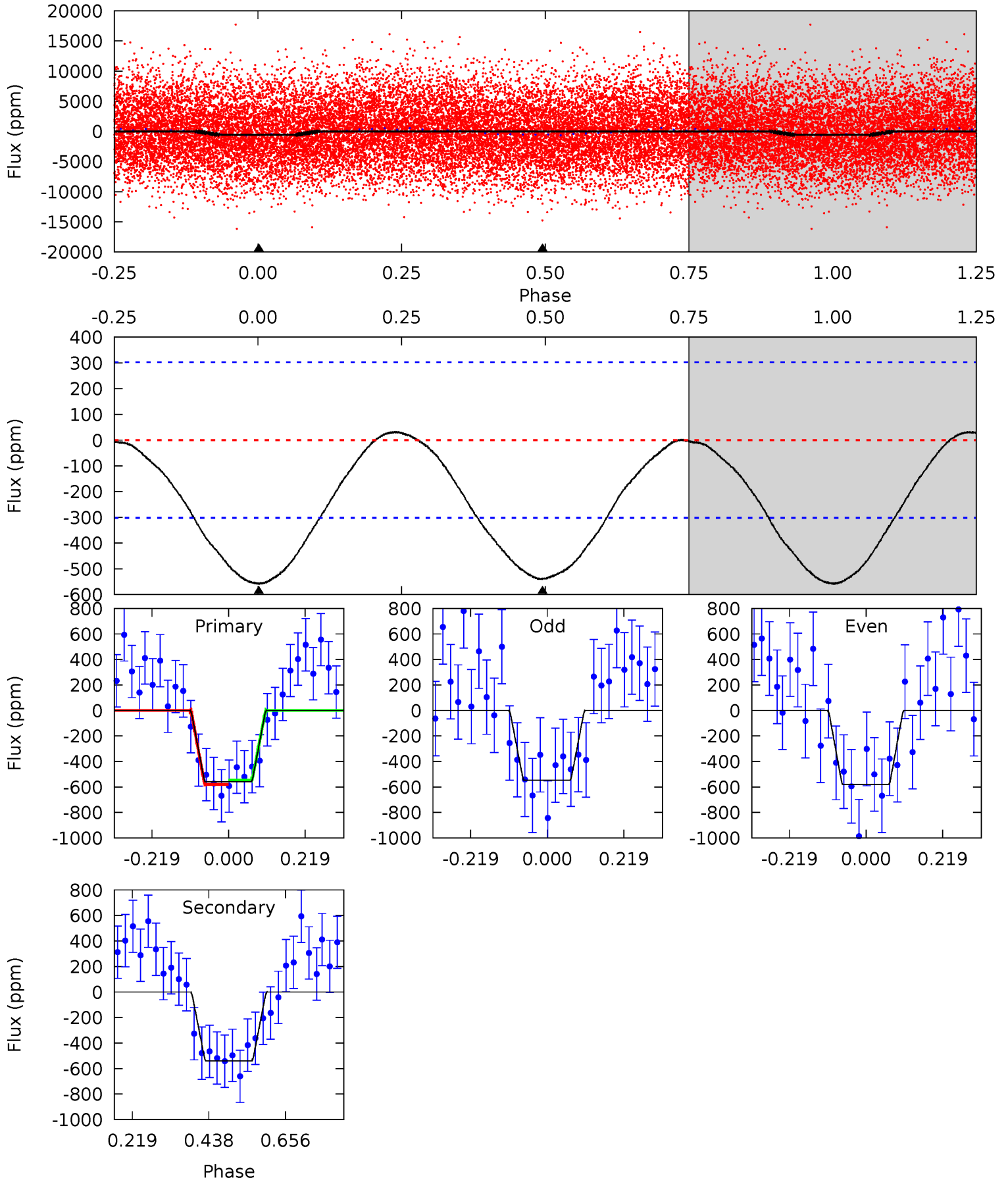
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	10.4	0	0	4.34	1.07	0.32	11.8	11.8	10.4	10.4	0.29	0.69	0.05	2.01



Alt Model-Shift Uniqueness Test

009369547-03, P = 0.530284 Days, E = 131.275588 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.12	7.85	0	0	4.40	1.23	0.25	8.12	8.12	7.85	7.85	0.24	0.80	0.05	0.25



Stellar Parameters For KIC 009369547

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7244^{+226}_{-302}	$3.683^{+0.459}_{-0.081}$	$-0.160^{+0.250}_{-0.300}$	$3.260^{+0.397}_{-1.687}$	$1.868^{+0.169}_{-0.508}$	$0.076^{+0.351}_{-0.020}$
	+3%/-4%	+12%/-2%	+156%/-188%	+12%/-52%	+9%/-27%	+463%/-26%
Source	KIC0	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 009369547-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-182 ± 17	$5.93^{+4.95}_{-3.64}$	6233^{+436}_{-794}	5274^{+4746}_{-9288}	$0.715^{+4.019}_{-0.500}$
Alt.	-539 ± 69	$7.92^{+5.10}_{-4.09}$	6223^{+442}_{-743}	6422^{+4299}_{-2105}	$1.168^{+3.875}_{-0.745}$

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

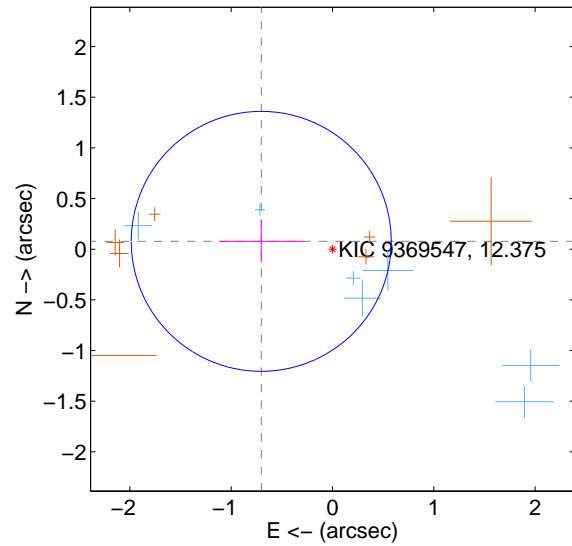
Supplemental centroid analysis for 009369547-03. Kepler magnitude: 12.38. Transit SNR 14.56

There are 8 quarters with good PRF difference image offsets

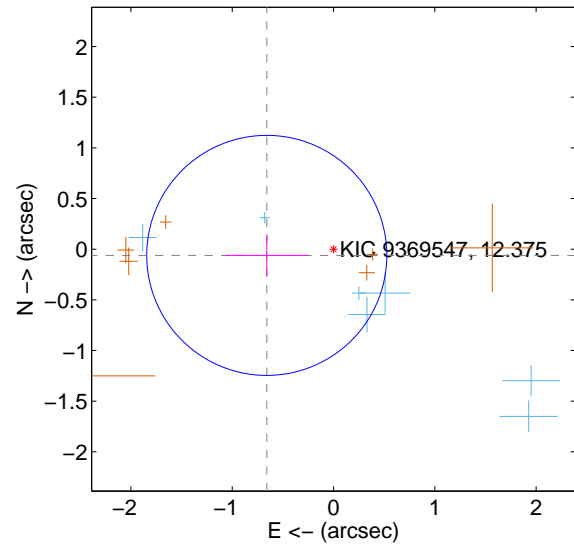
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.707 ± 0.428	1.65	0.703 ± 0.417	0.077 ± 0.210
PRF-fit source offset from KIC position	0.662 ± 0.395	1.68	0.659 ± 0.407	-0.061 ± 0.208
photometric centroid source offset	0.13 ± 0.05	2.96	0.03 ± 0.06	-0.13 ± 0.04

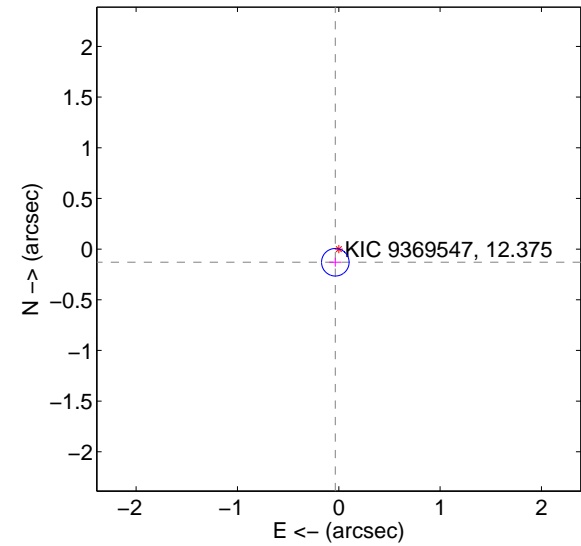
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

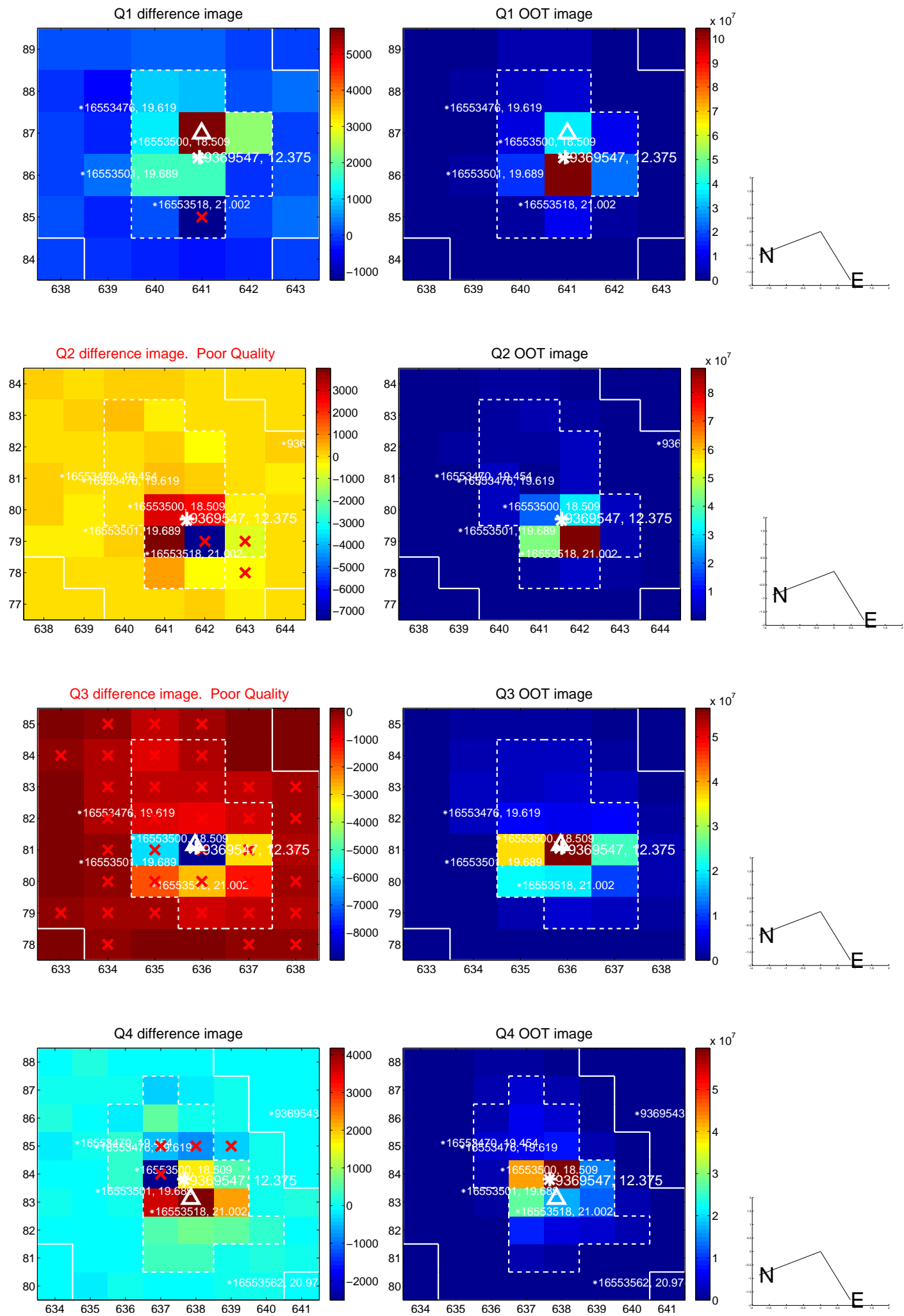


offset from photometric centroids

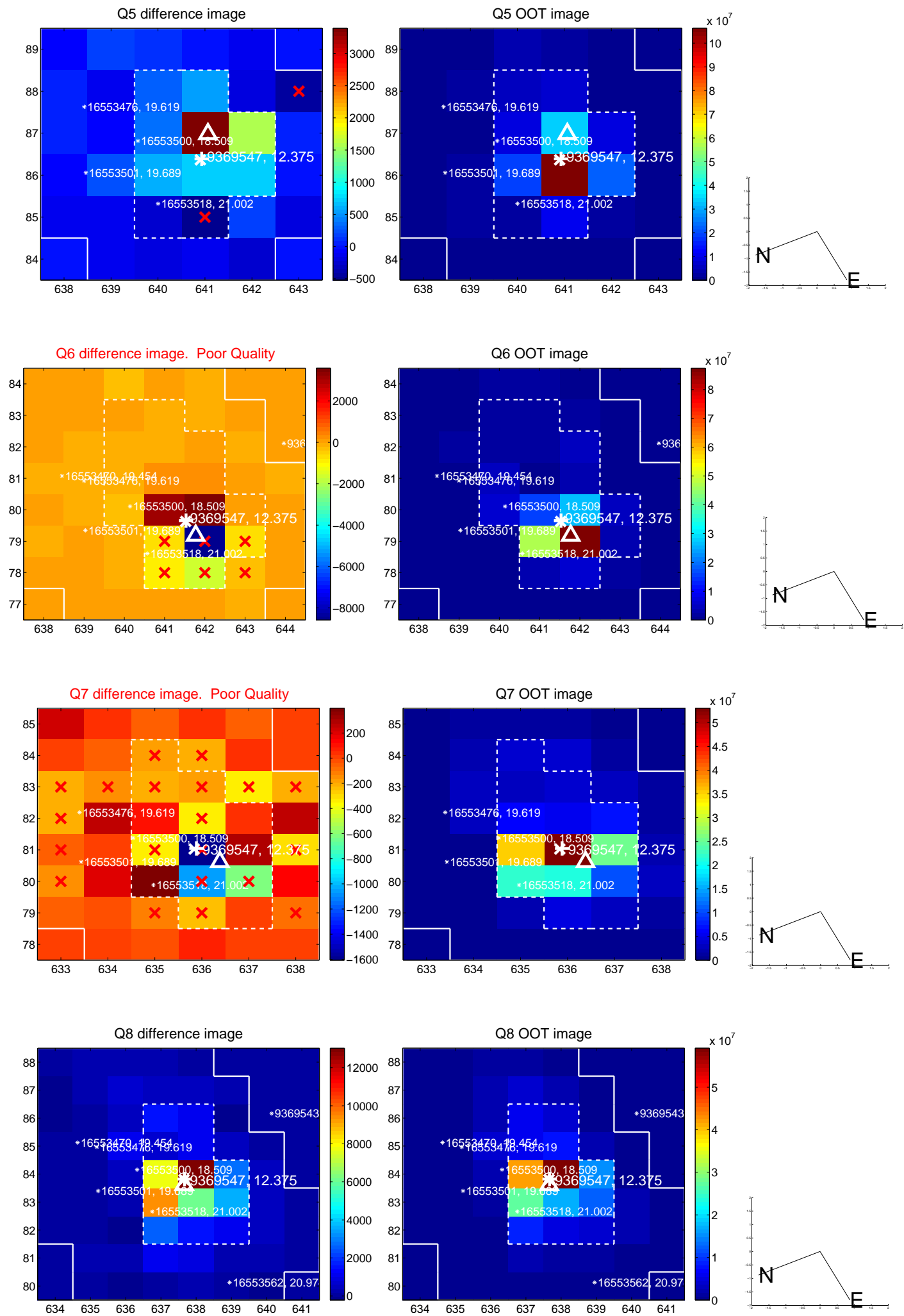


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

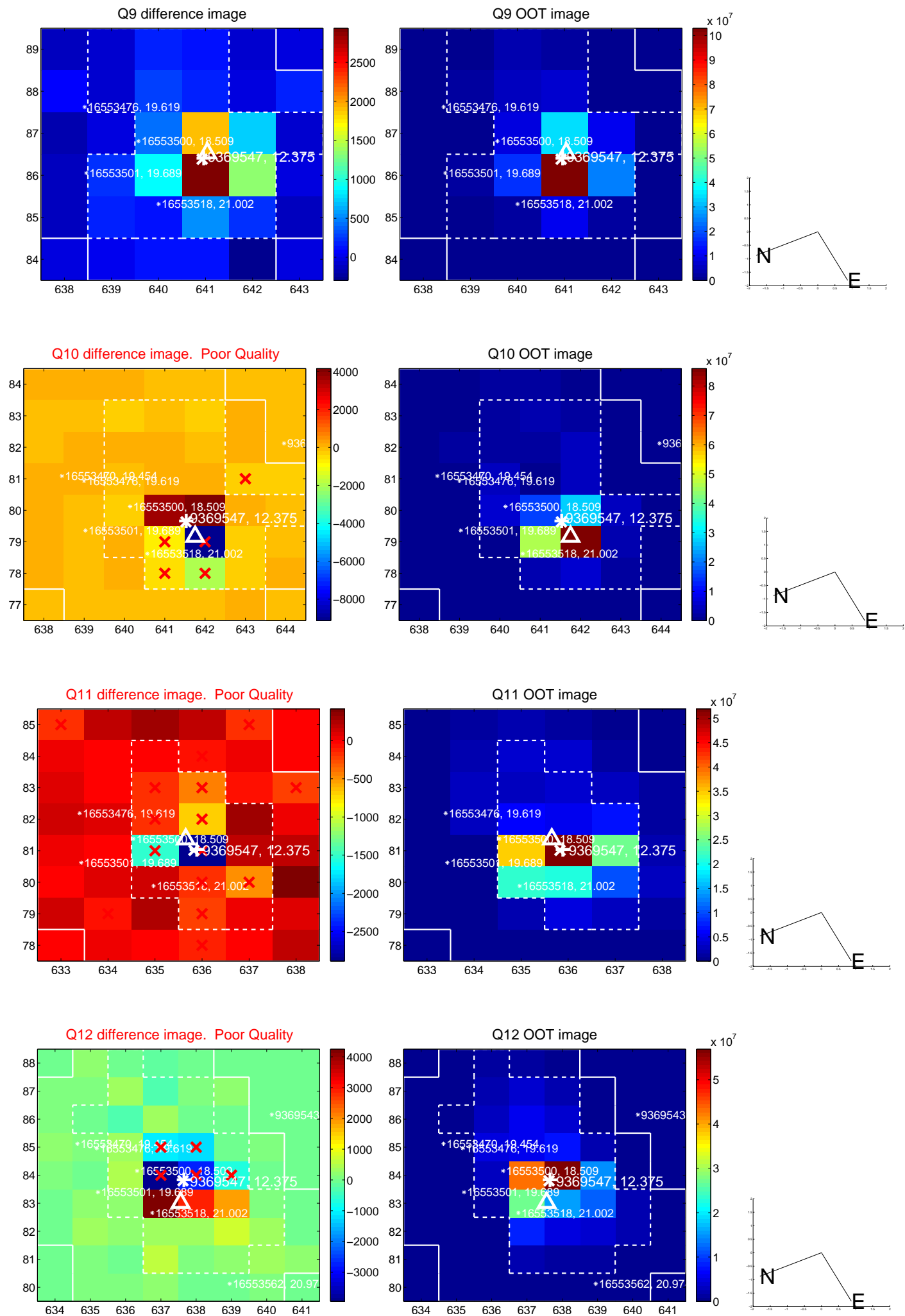
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



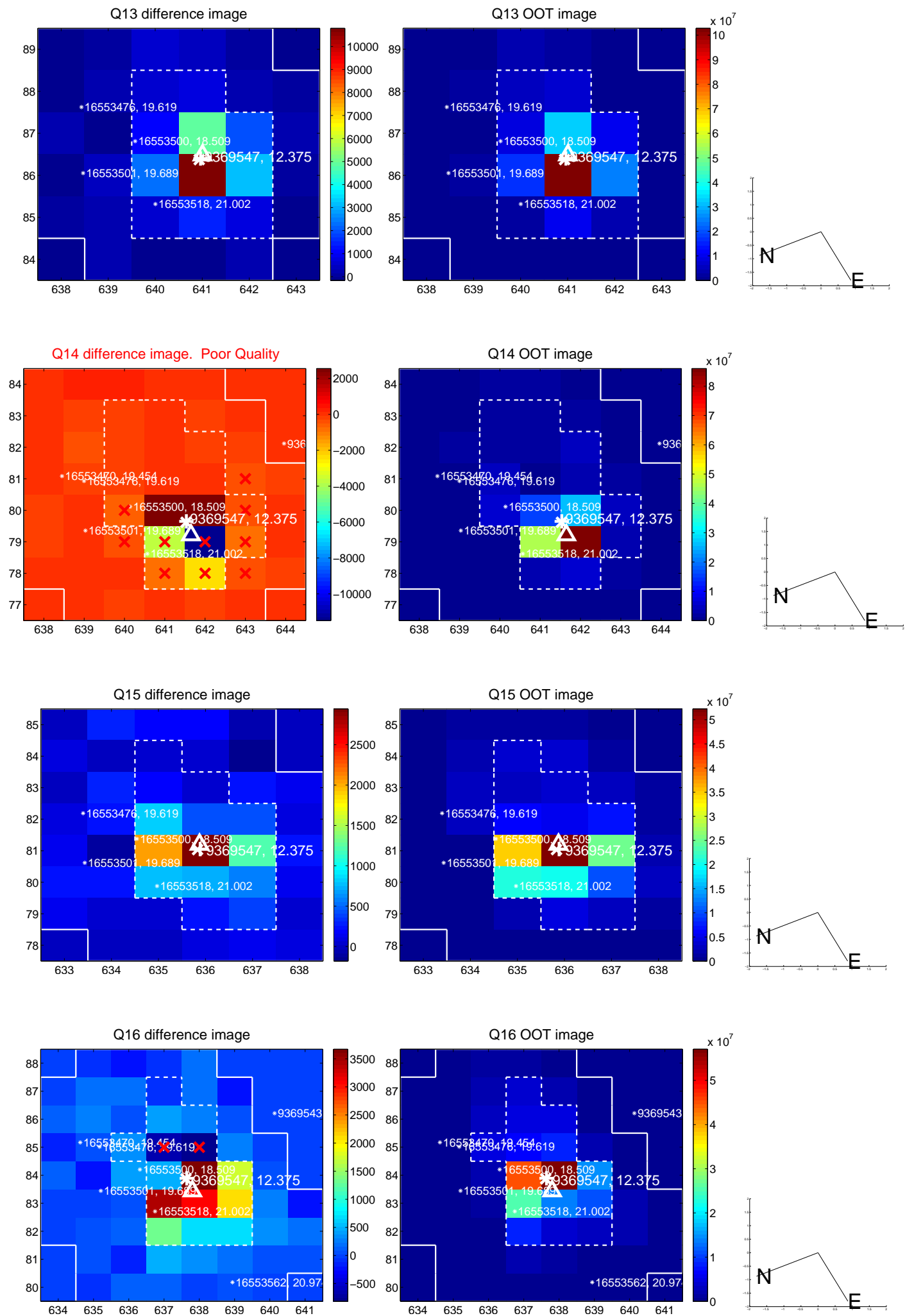
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



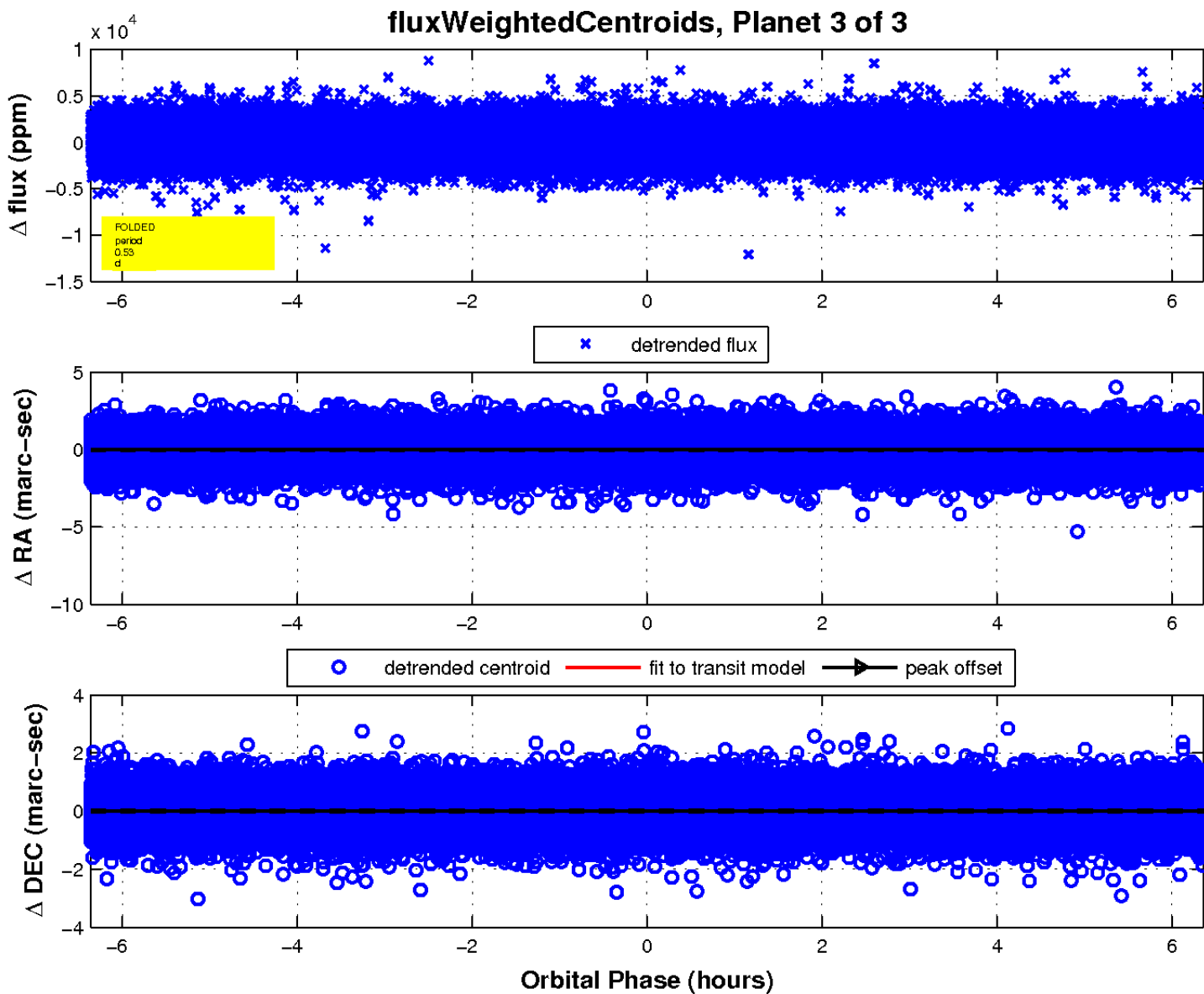
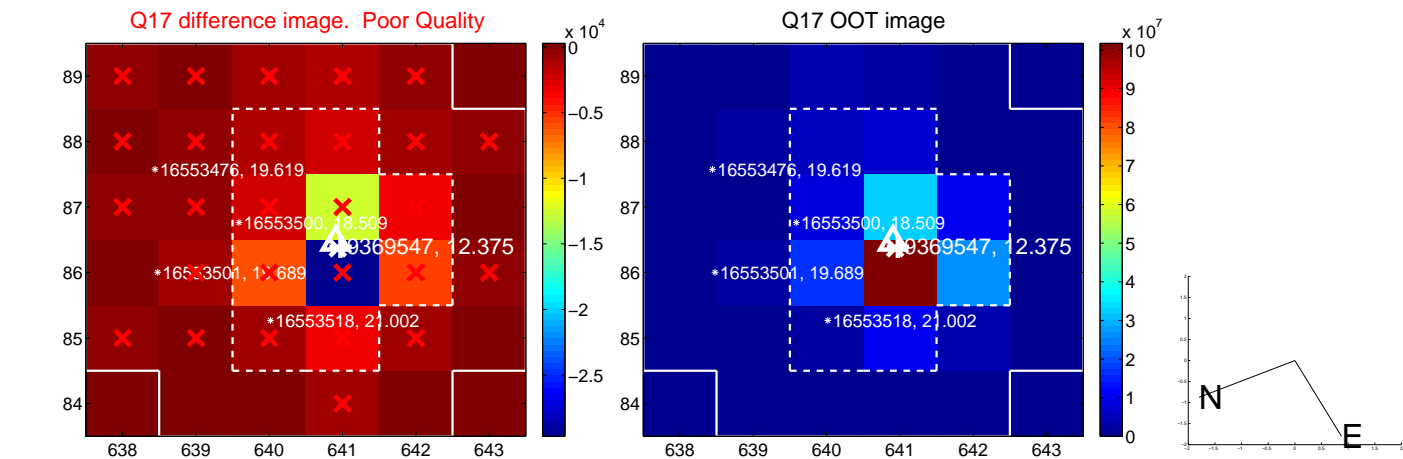
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

