

KIC 007989348

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})
007989348-01	OBS	No	2.132921	132.233579	29.8	7.618	10.5	6.8	3.55	6510	2.22	13856.34
007989348-02	OBS	No	2.132803	133.308910	15.8	15.051	12.9	4.2	3.55	6510	1.45	13857.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007989348-01	OBS	FP	0.00	1	0	0	0	LPP_DV
007989348-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD

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

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

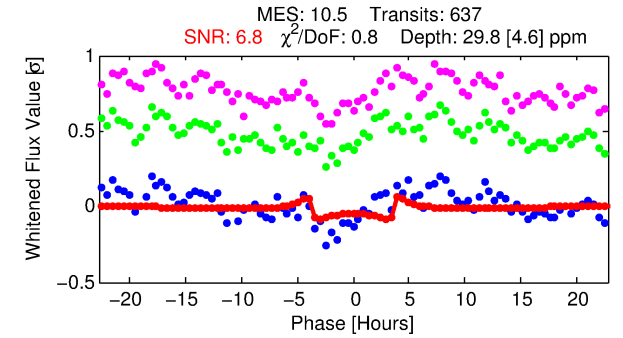
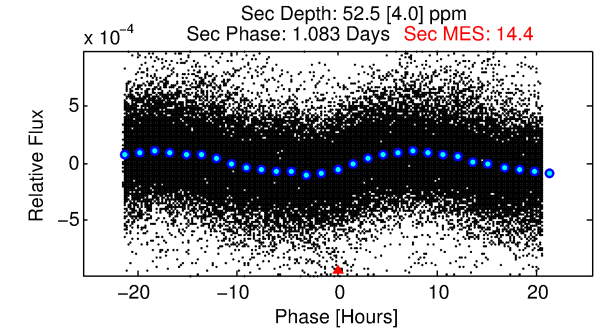
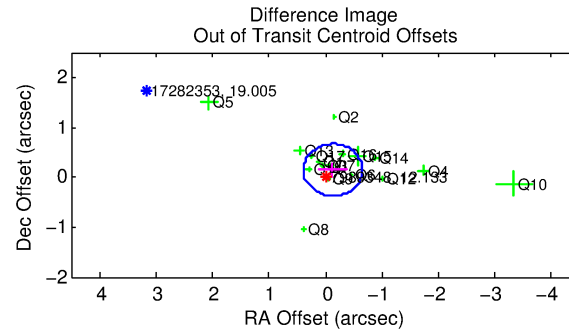
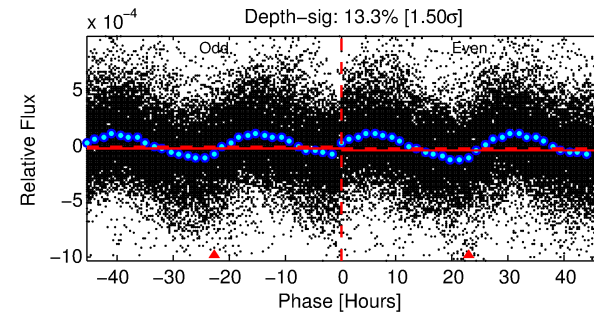
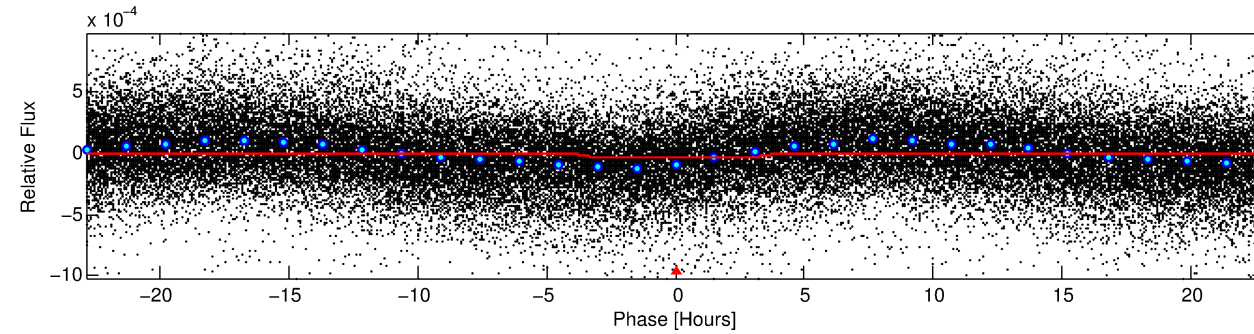
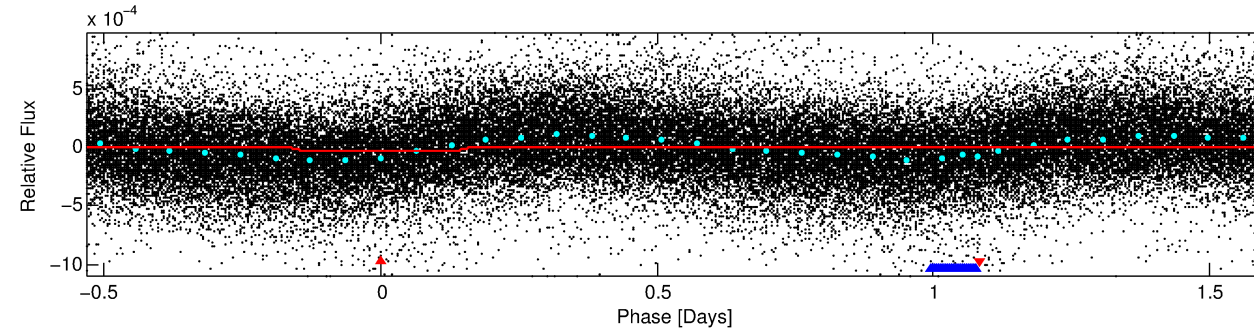
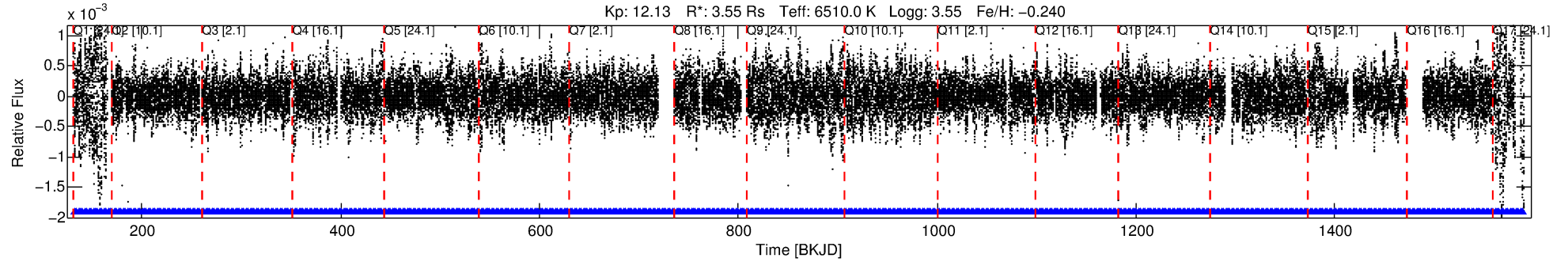
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007989348-01

No Significant Match Found

DV One-Page Summary

KIC: 7989348 Candidate: 1 of 2 Period: 2.133 d



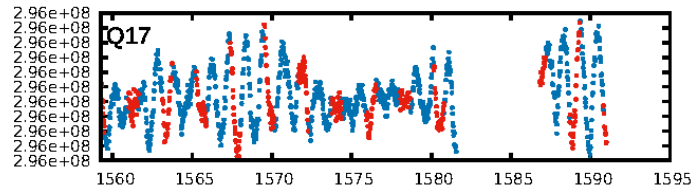
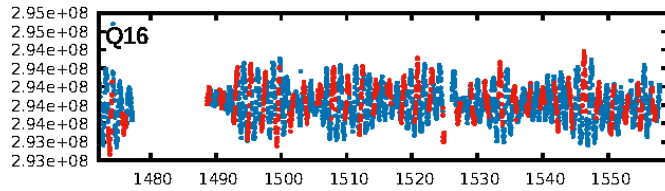
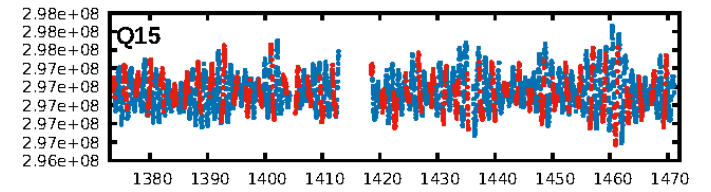
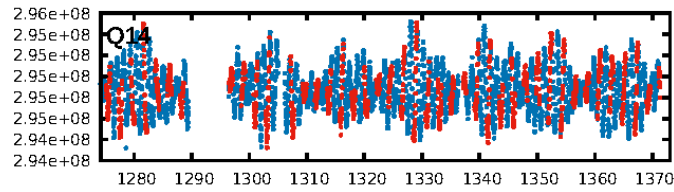
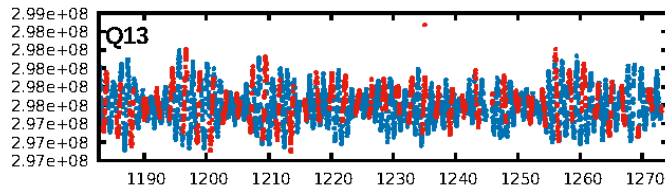
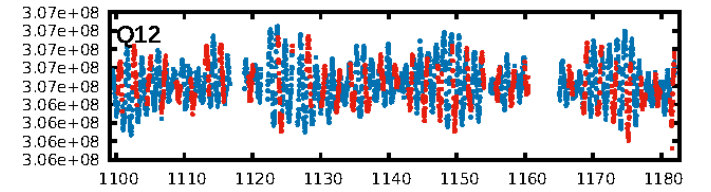
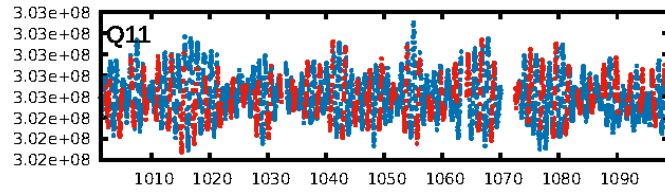
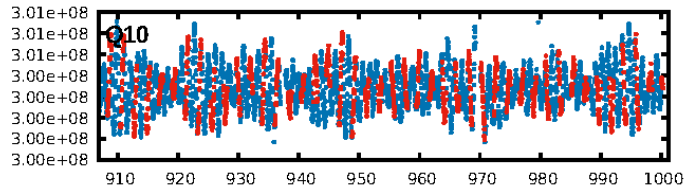
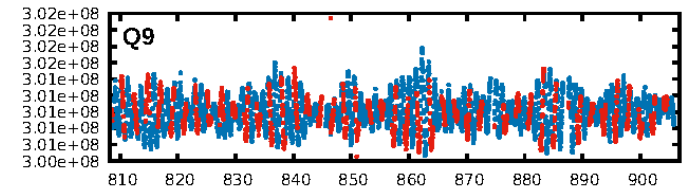
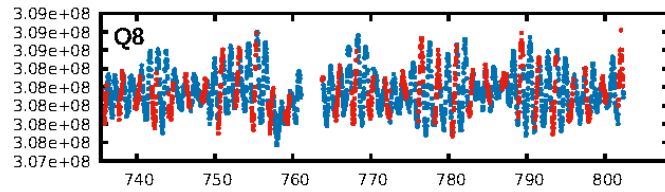
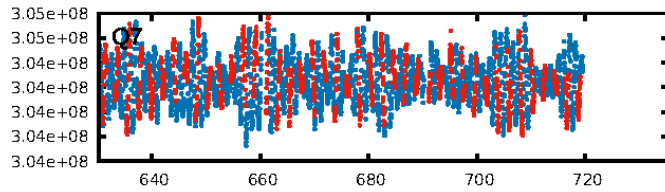
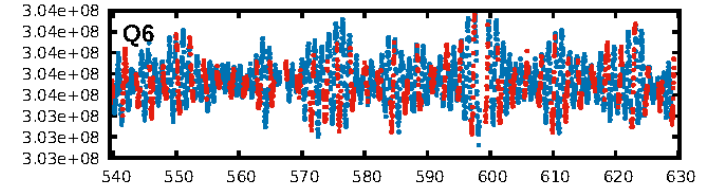
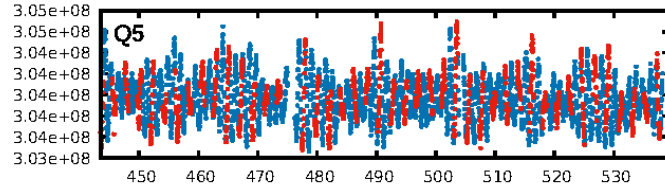
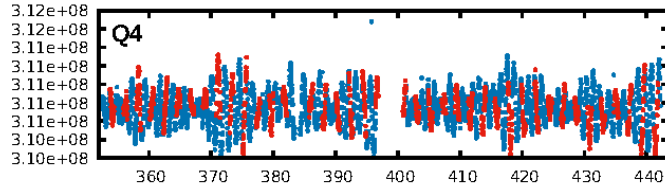
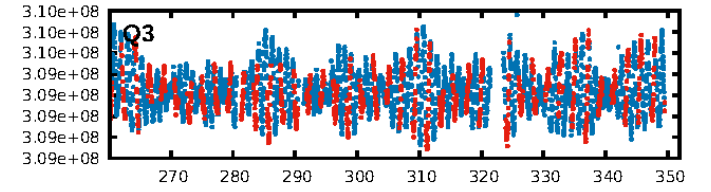
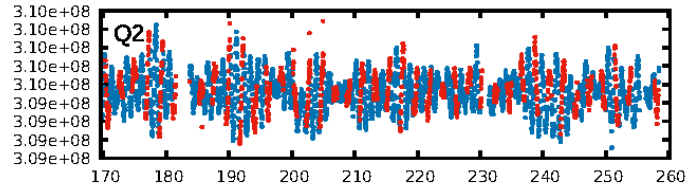
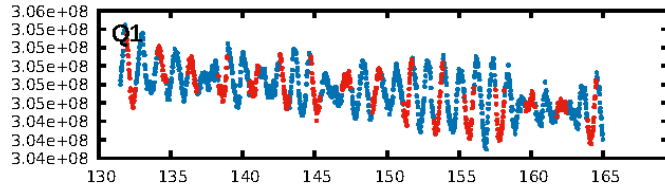
DV Fit Results:

Period = 2.13292 [0.00002] d
Epoch = 132.2336 [0.0036] BKJD
Rp/R* = 0.0057 [0.0011]
a/R* = 1.40 [0.68]
b = 0.88 [0.26]
Seff = 13856.34 [8462.17]
Teff = 2767 [422] K
Rp = 2.22 [0.97] Re
a = 0.0383 [0.0144] AU
Ag = 8.56 [6.13] [1.23 σ]
Teffp = 7317 [738] K [5.35 σ]

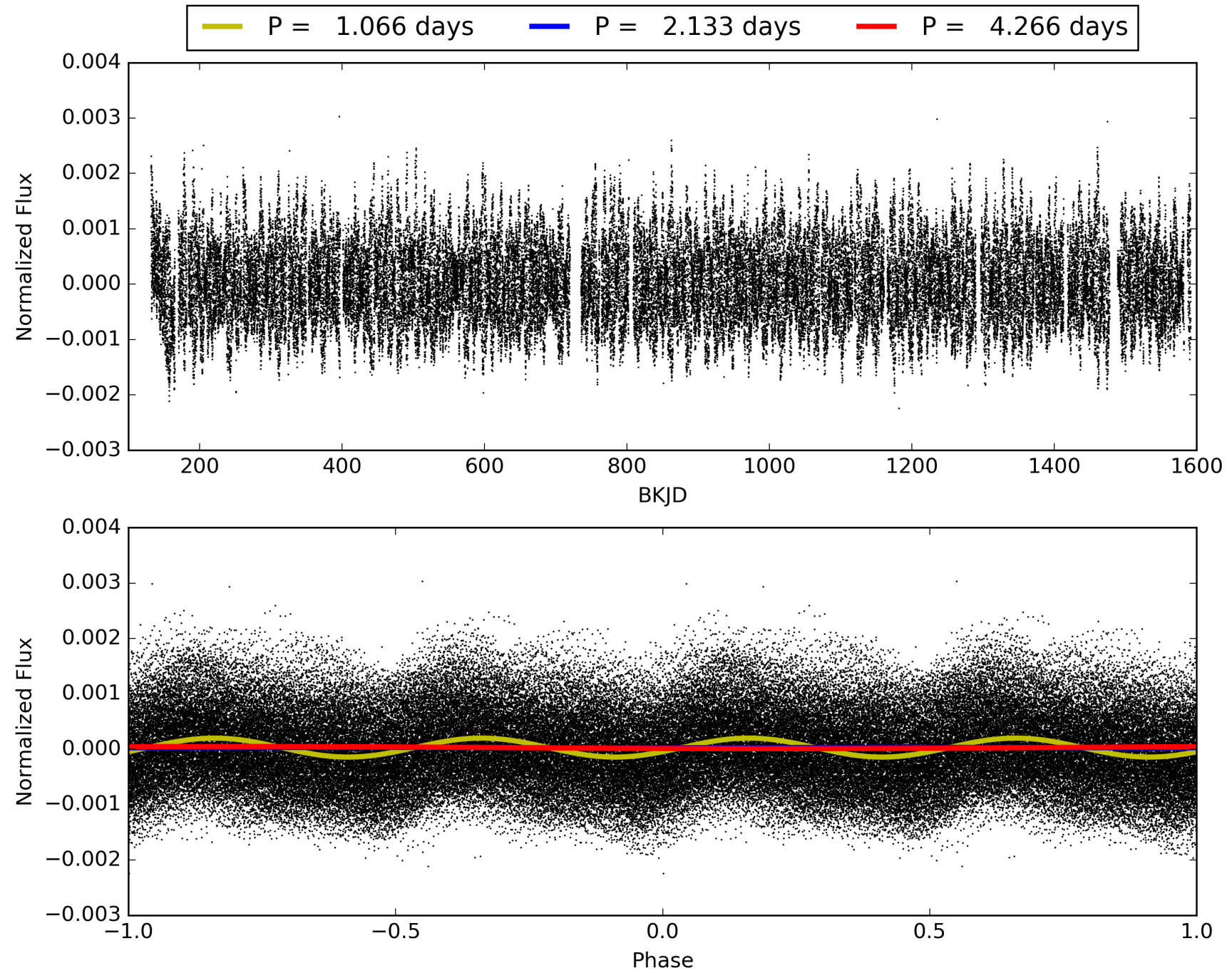
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [607/607]
GhostDiagnostic-chr: 1.497
Centroid-sig: 0.0%
Centroid-so: 3.406 arcsec [3.16 σ]
OotOffset-rm: 0.194 arcsec [1.12 σ]
KicOffset-rm: 0.381 arcsec [1.59 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.71 [12/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007989348-01, PDC Light Curves

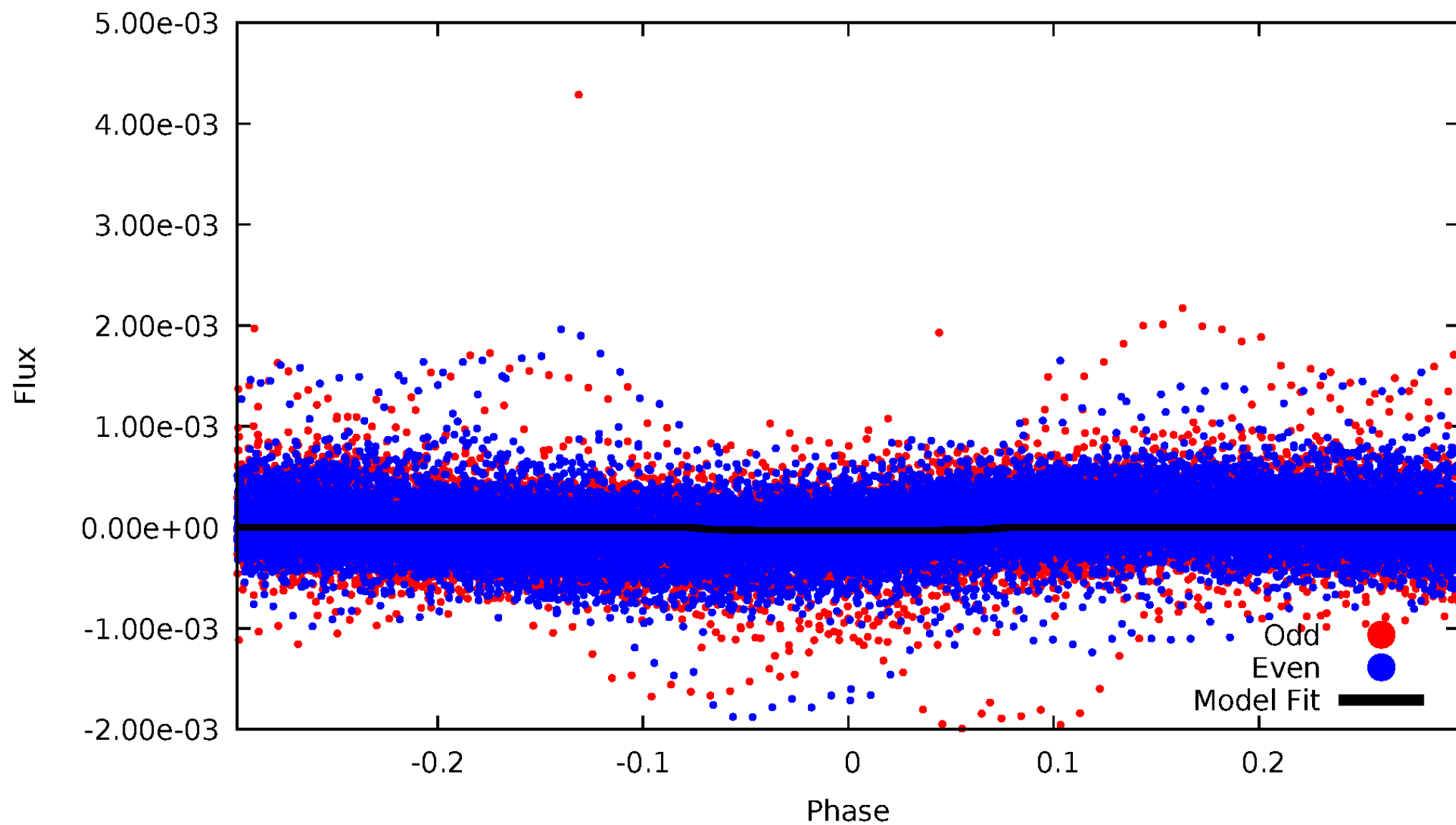


TCE 007989348-01



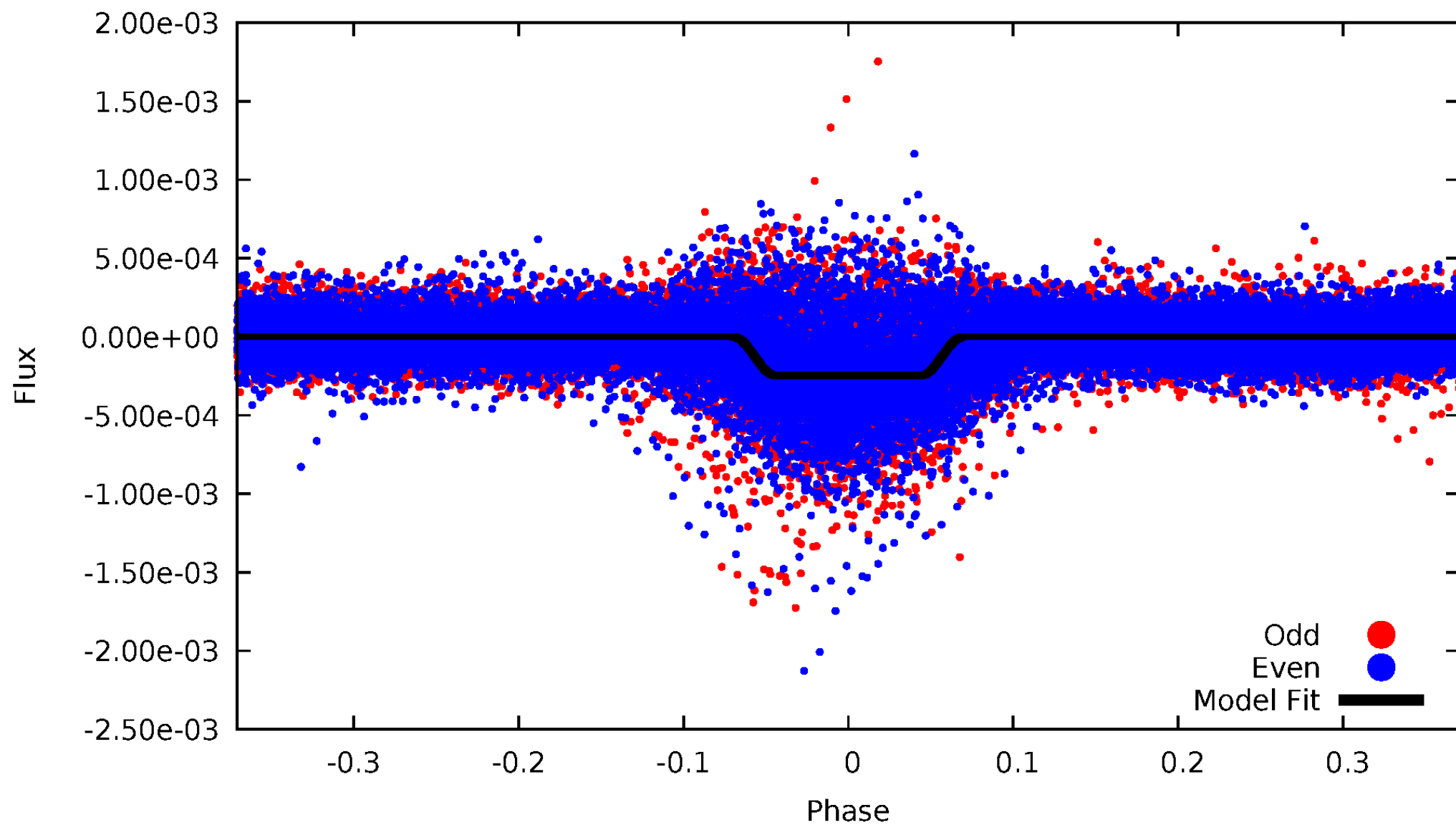
DV Odd/Even

TCE 007989348-01



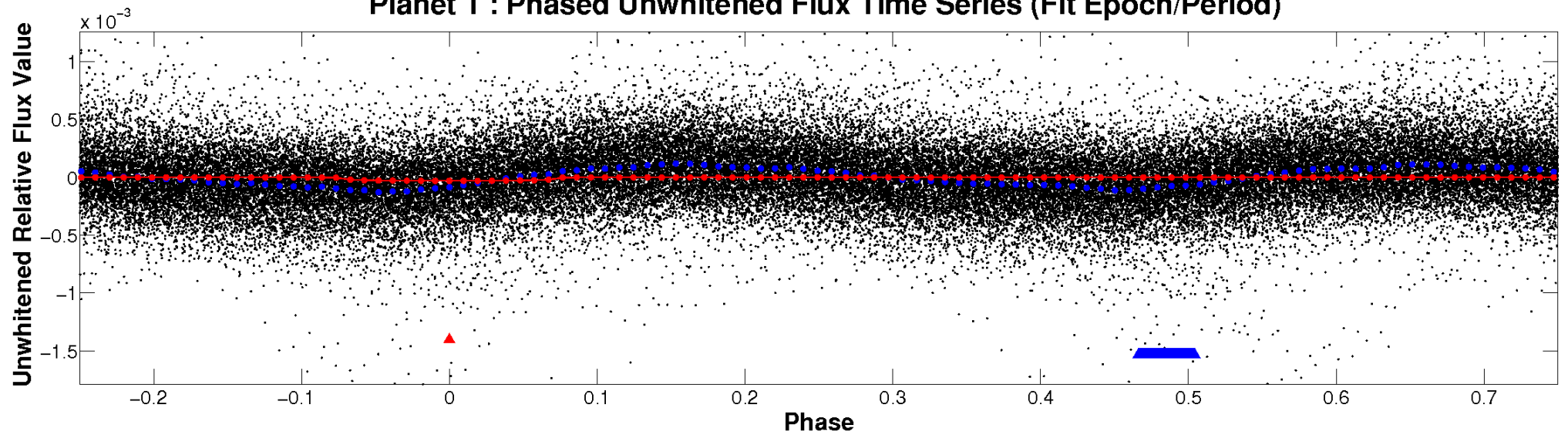
ALT Odd/Even

TCE 007989348-01

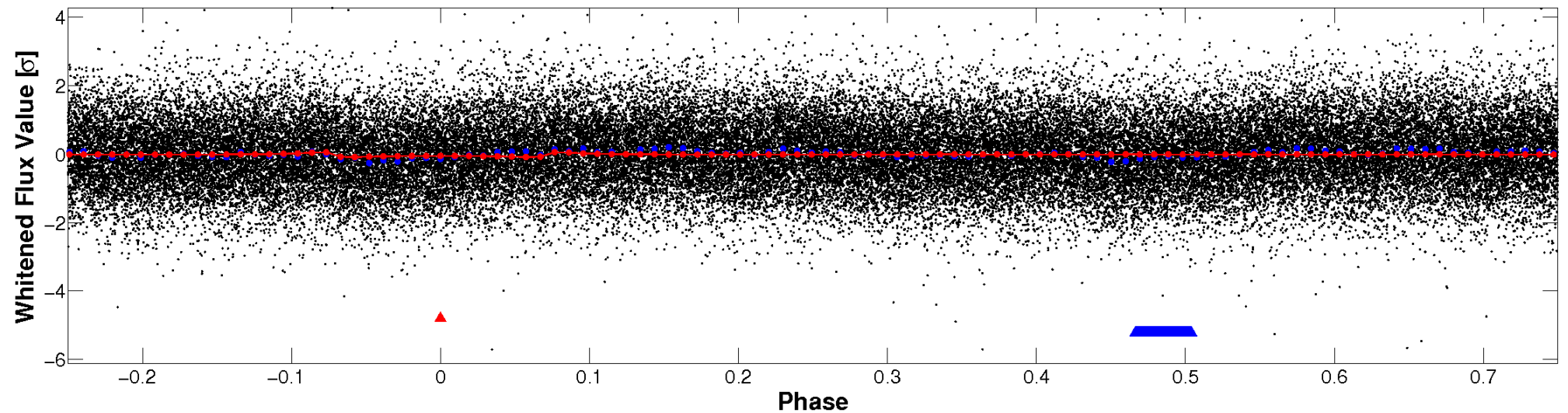


Non-Whitened Vs. Whitened Light Curve

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

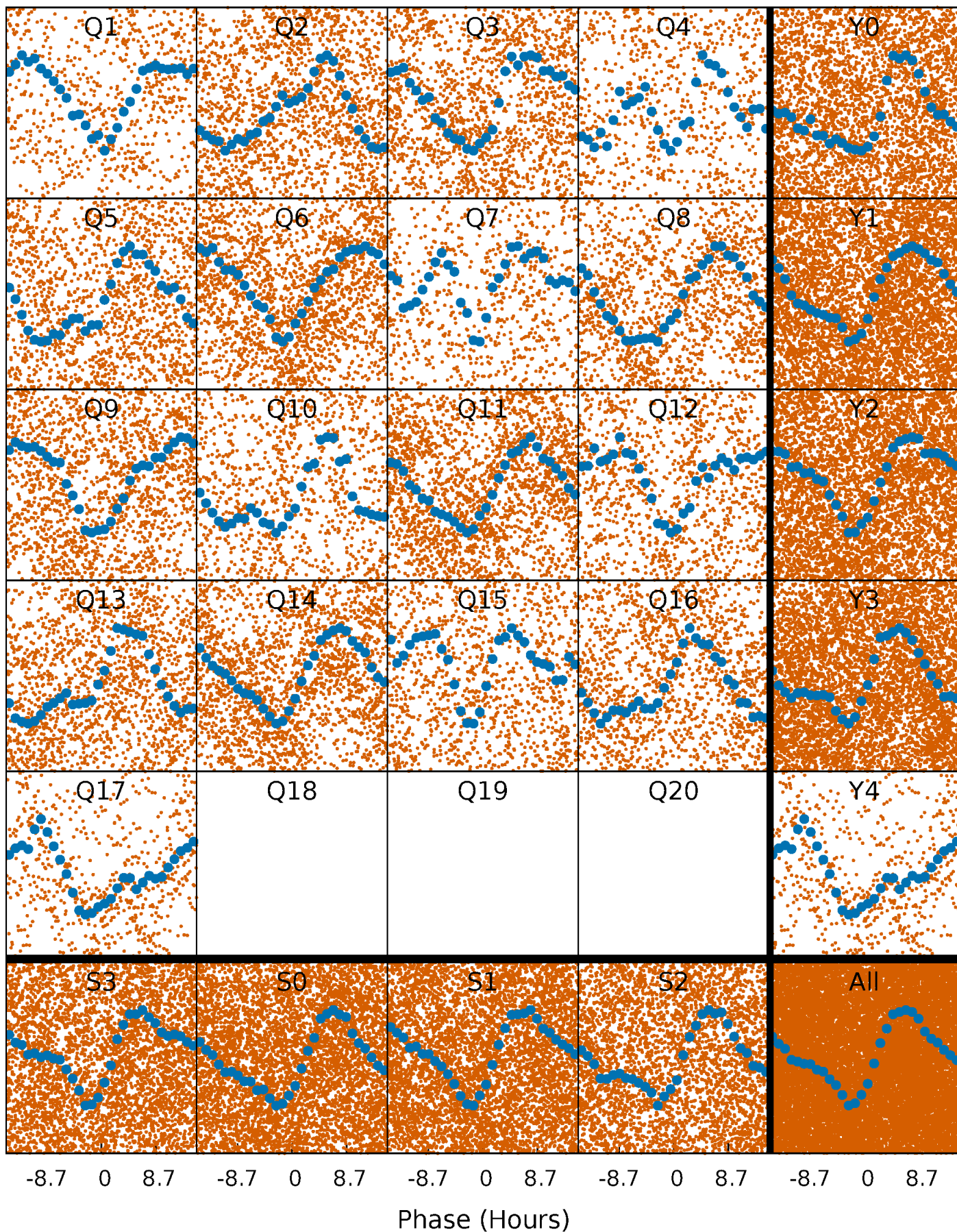


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



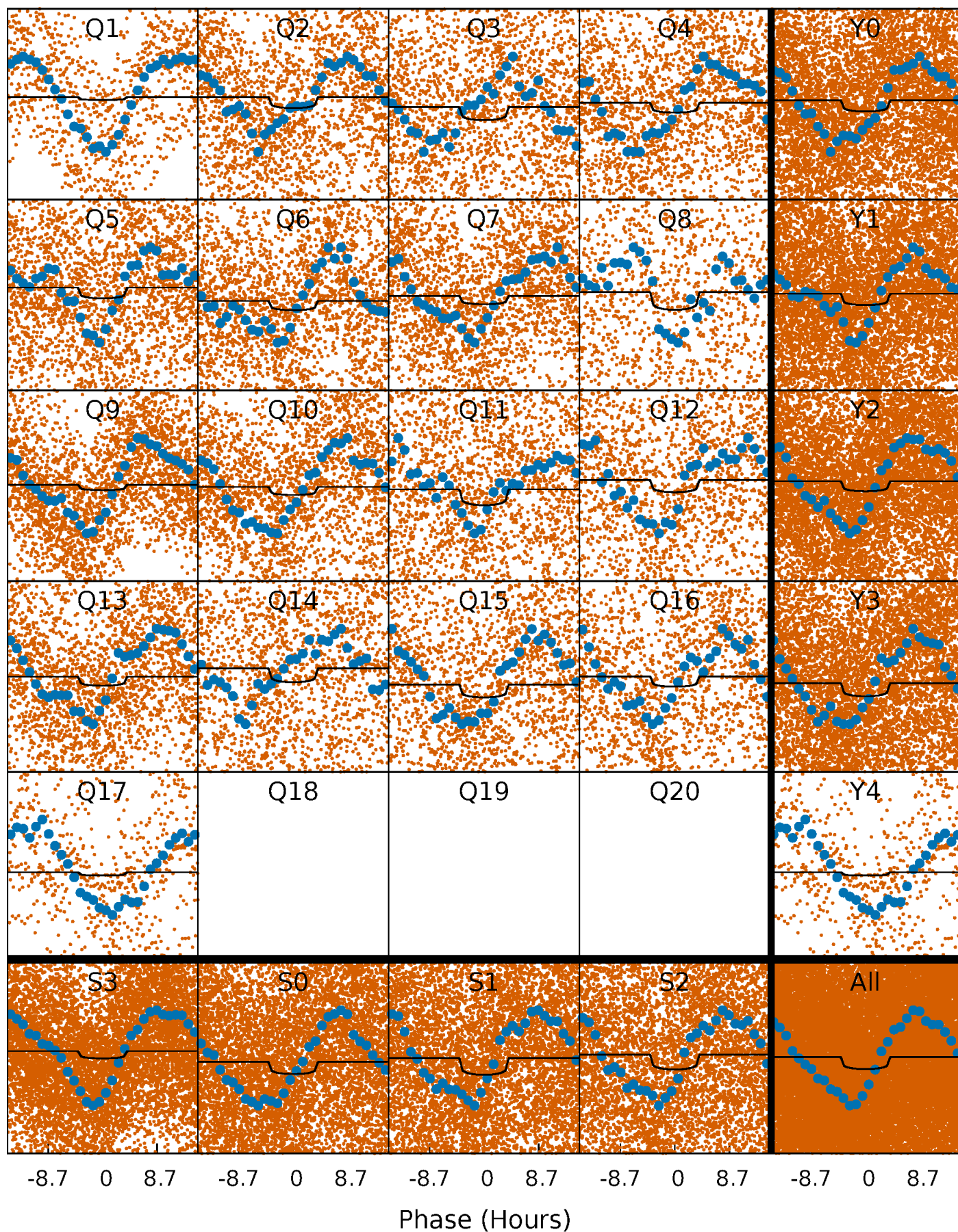
PDC Quarter-Phased Transit Curves

TCE 007989348-01 P= 2.132921 Days $T_0=132.233579$ (BKJD)



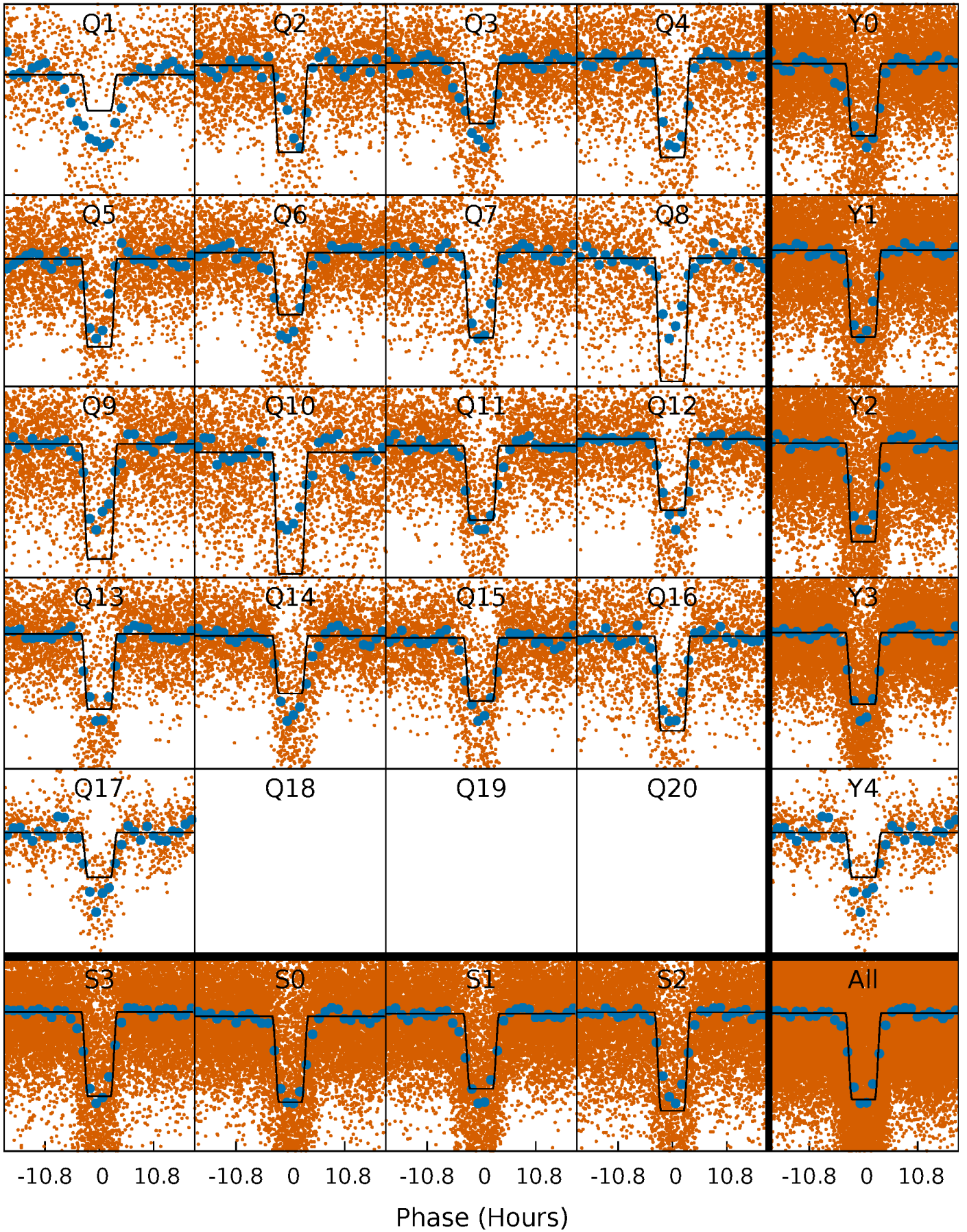
DV Quarter-Phased Transit Curves

TCE 007989348-01 P= 2.132921 Days $T_0=132.233579$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

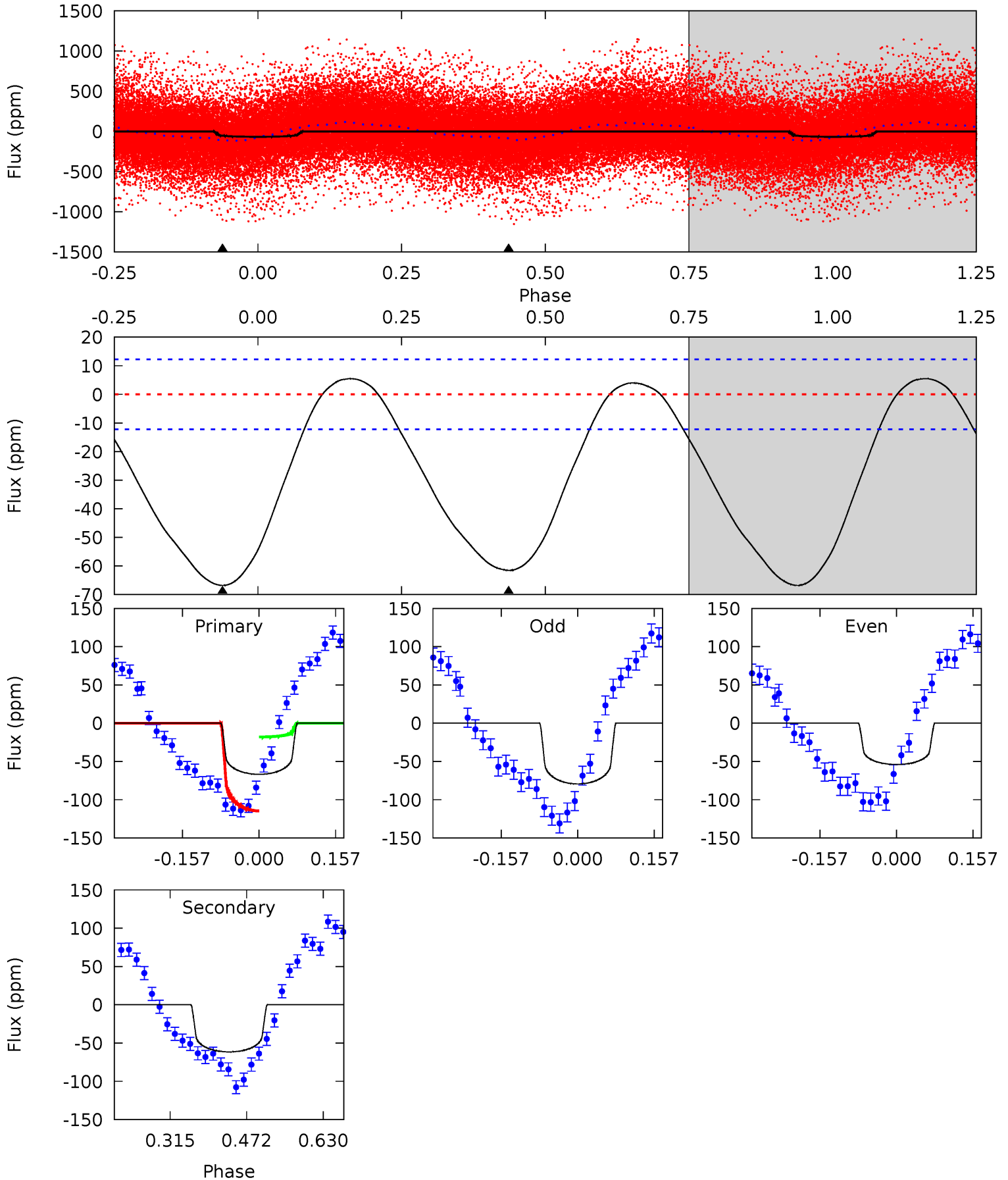
TCE 007989348-01 P= 2.132776 Days $T_0=132.240207$ (BKJD)



DV Model-Shift Uniqueness Test

007989348-01, P = 2.132921 Days, E = 130.100658 Days

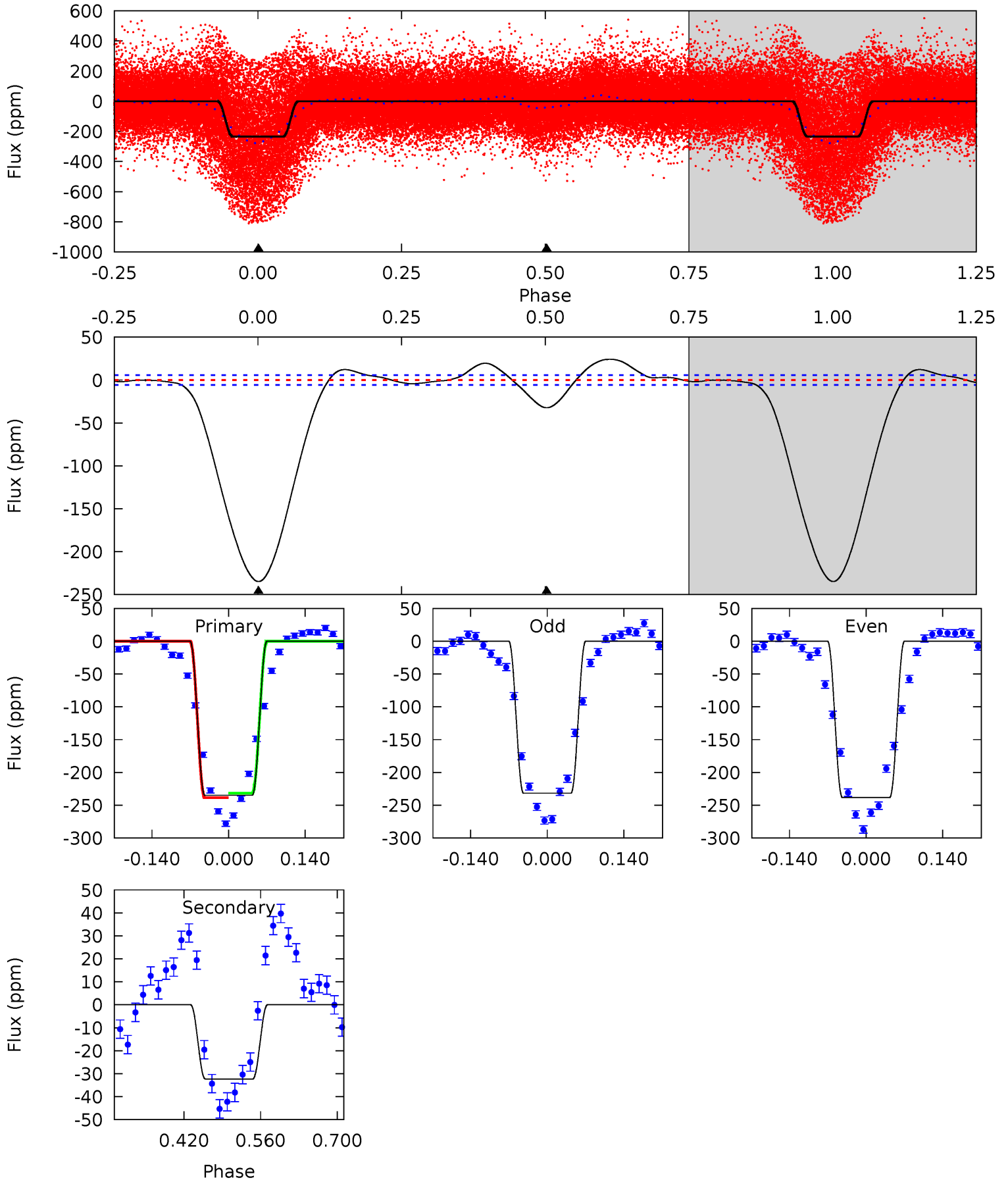
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.4	22.5	0	0	4.47	1.41	3.23	24.4	24.4	22.5	22.5	4.66	1.28	0.08	17.9



Alt Model-Shift Uniqueness Test

007989348-01, P = 2.132776 Days, E = 130.107431 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
183.8	25.3	0	0	4.49	1.48	3.83	183.8	183.8	25.3	25.3	2.49	1.04	0.09	0



Stellar Parameters For KIC 007989348

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6510^{+176}_{-176}	$3.553^{+0.352}_{-0.088}$	$-0.240^{+0.350}_{-0.250}$	$3.553^{+0.439}_{-1.403}$	$1.646^{+0.228}_{-0.371}$	$0.052^{+0.138}_{-0.014}$
	+3%/-3%	+10%/-2%	+146%/-104%	+12%/-39%	+14%/-23%	+267%/-28%
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 007989348-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-62 ± 3	$2.06^{+0.58}_{-0.51}$	3793^{+221}_{-376}	7674^{+1220}_{-800}	12^{+8}_{-5}
Alt.	-32 ± 1	$5.90^{+0.82}_{-1.25}$	3797^{+216}_{-379}	3843^{+200}_{-198}	$0.769^{+0.384}_{-0.170}$

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

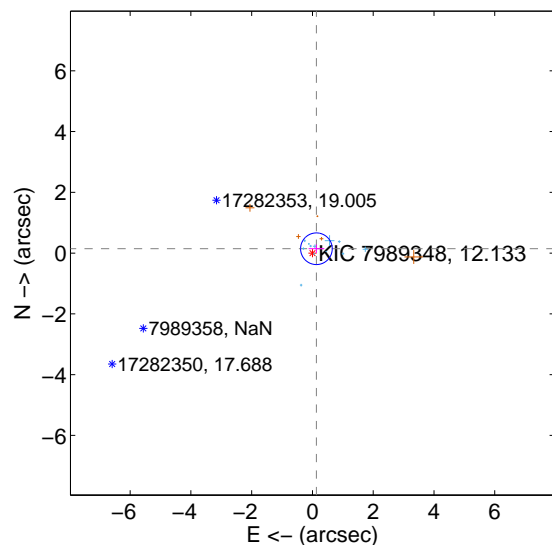
Supplemental centroid analysis for 007989348-01. Kepler magnitude: 12.13. Transit SNR 6.83

There are 12 quarters with good PRF difference image offsets

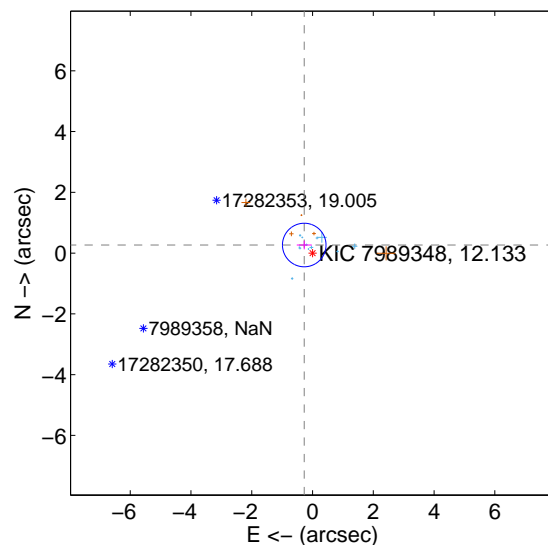
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.194 ± 0.174	1.12	-0.131 ± 0.258	0.143 ± 0.138
PRF-fit source offset from KIC position	0.381 ± 0.239	1.59	0.272 ± 0.247	0.266 ± 0.144
photometric centroid source offset	3.41 ± 1.08	3.16	-3.24 ± 1.12	-1.05 ± 0.53

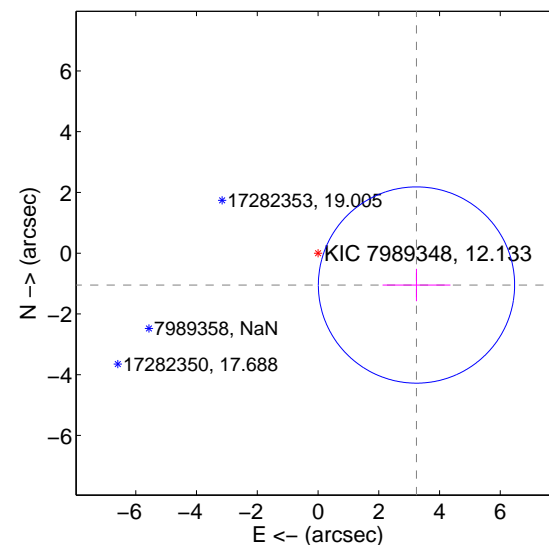
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

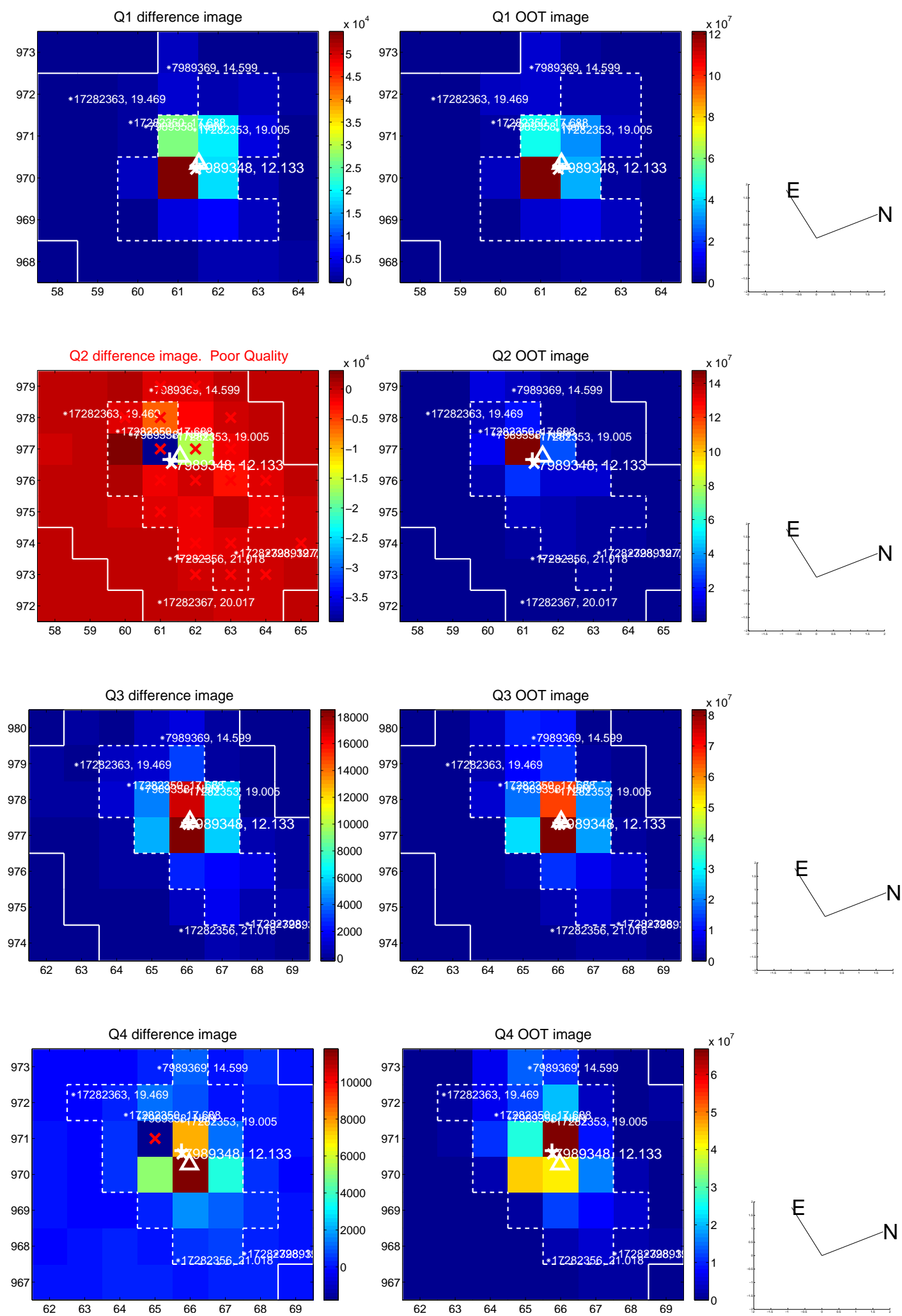


offset from photometric centroids

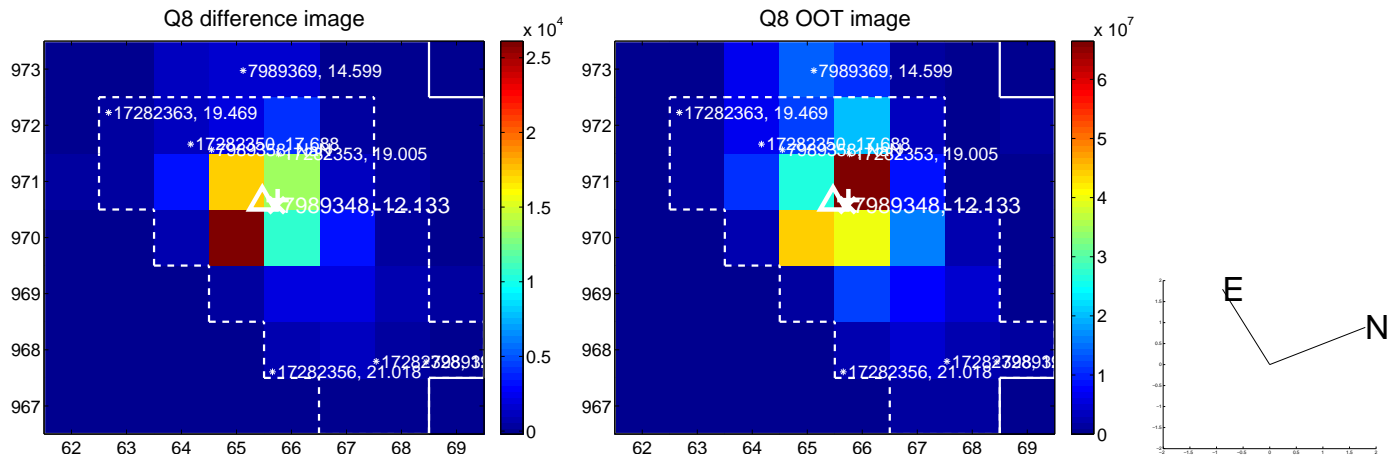
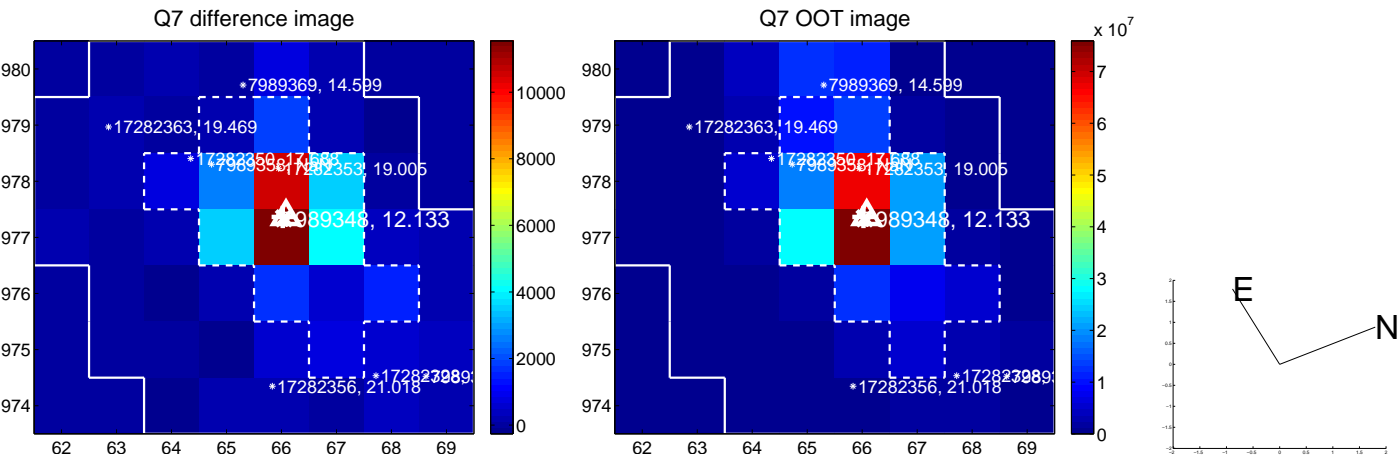
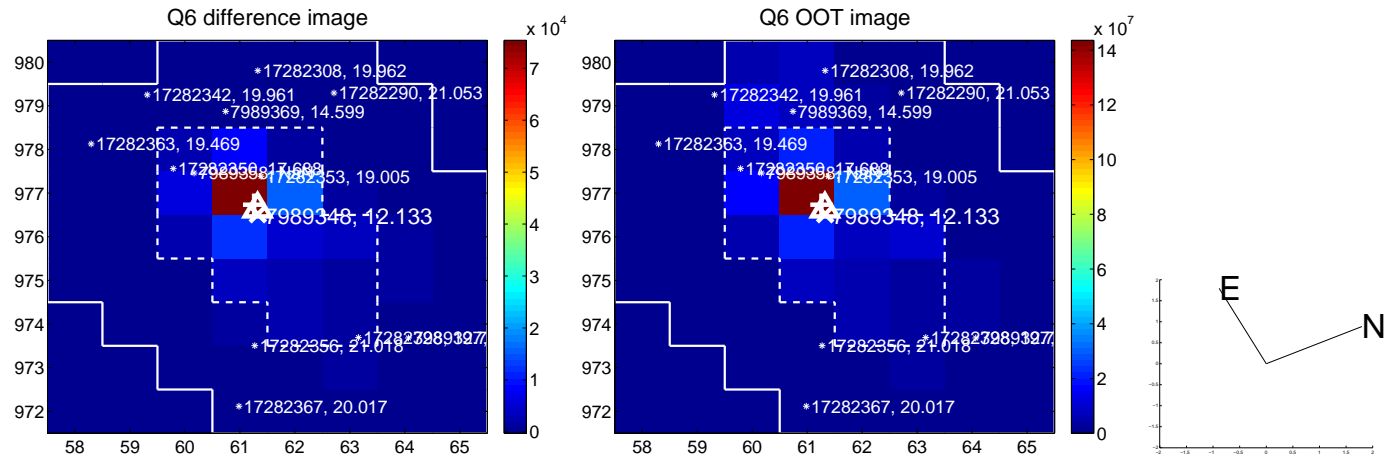
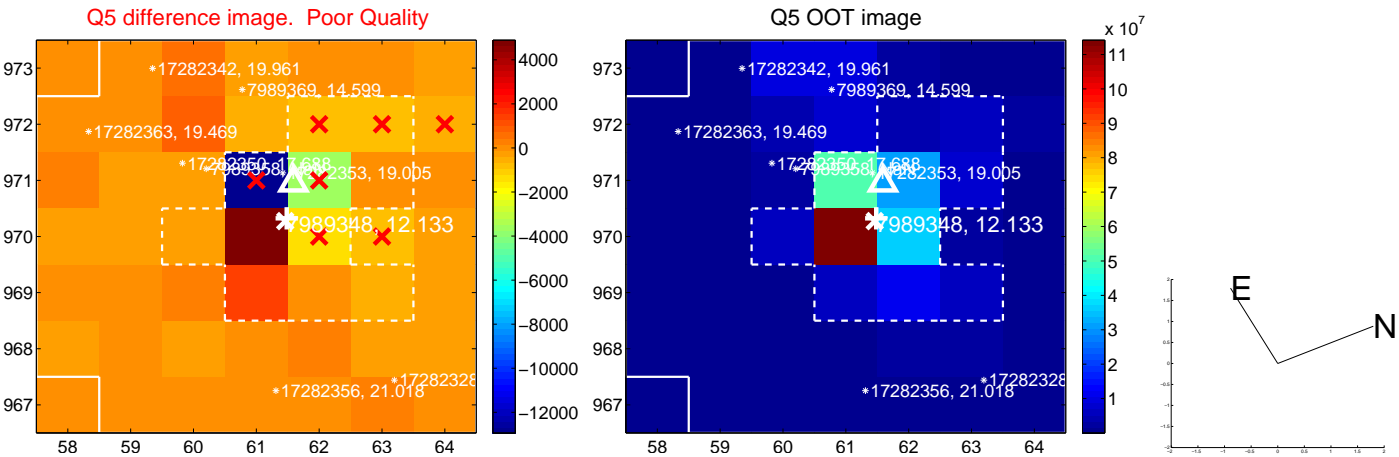


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

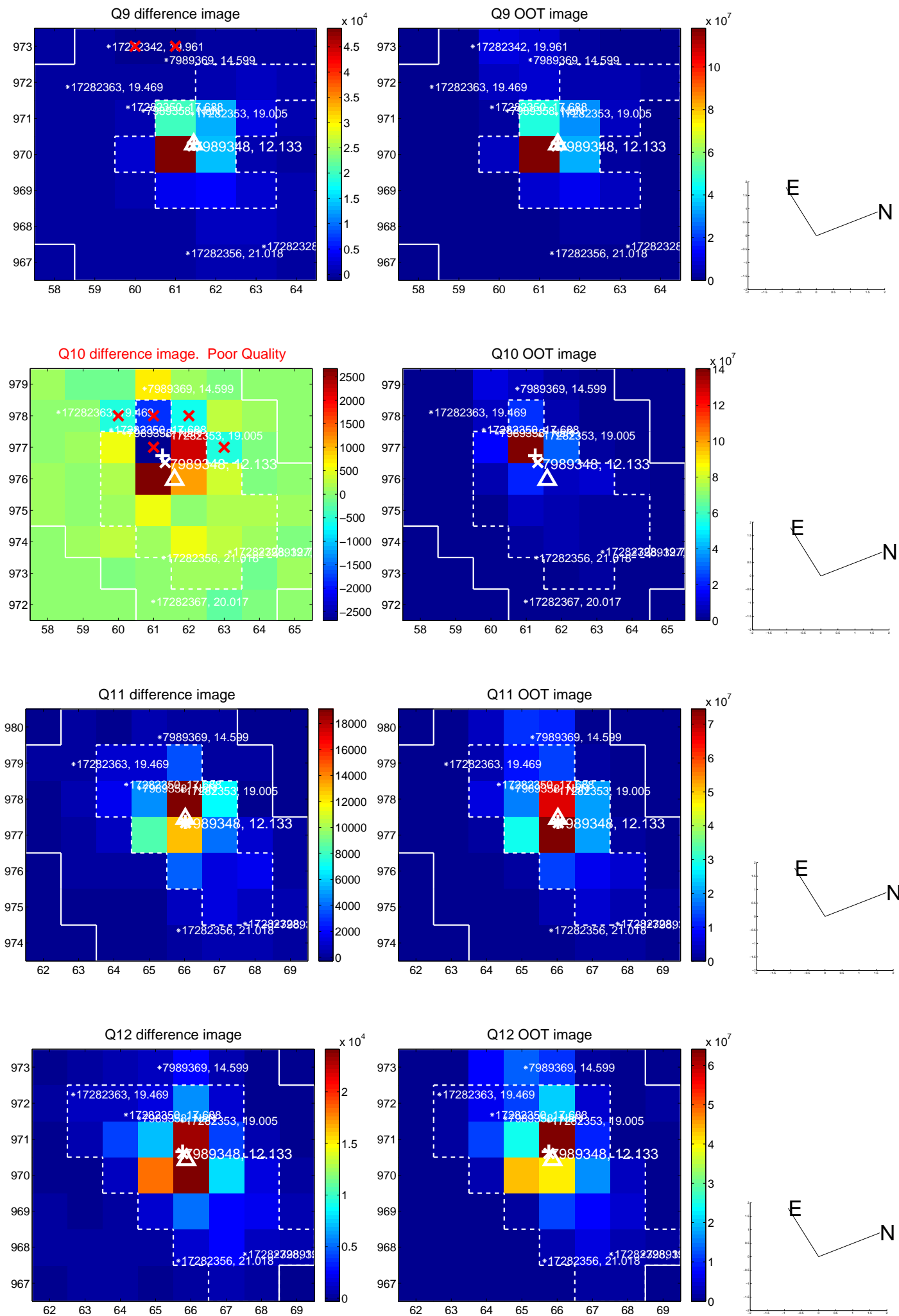
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



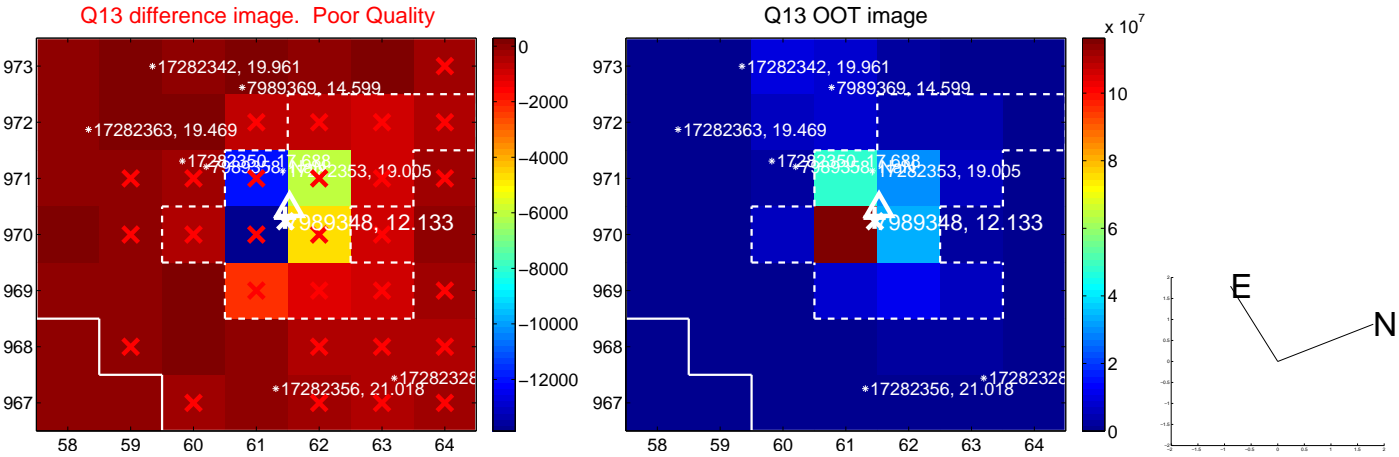
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



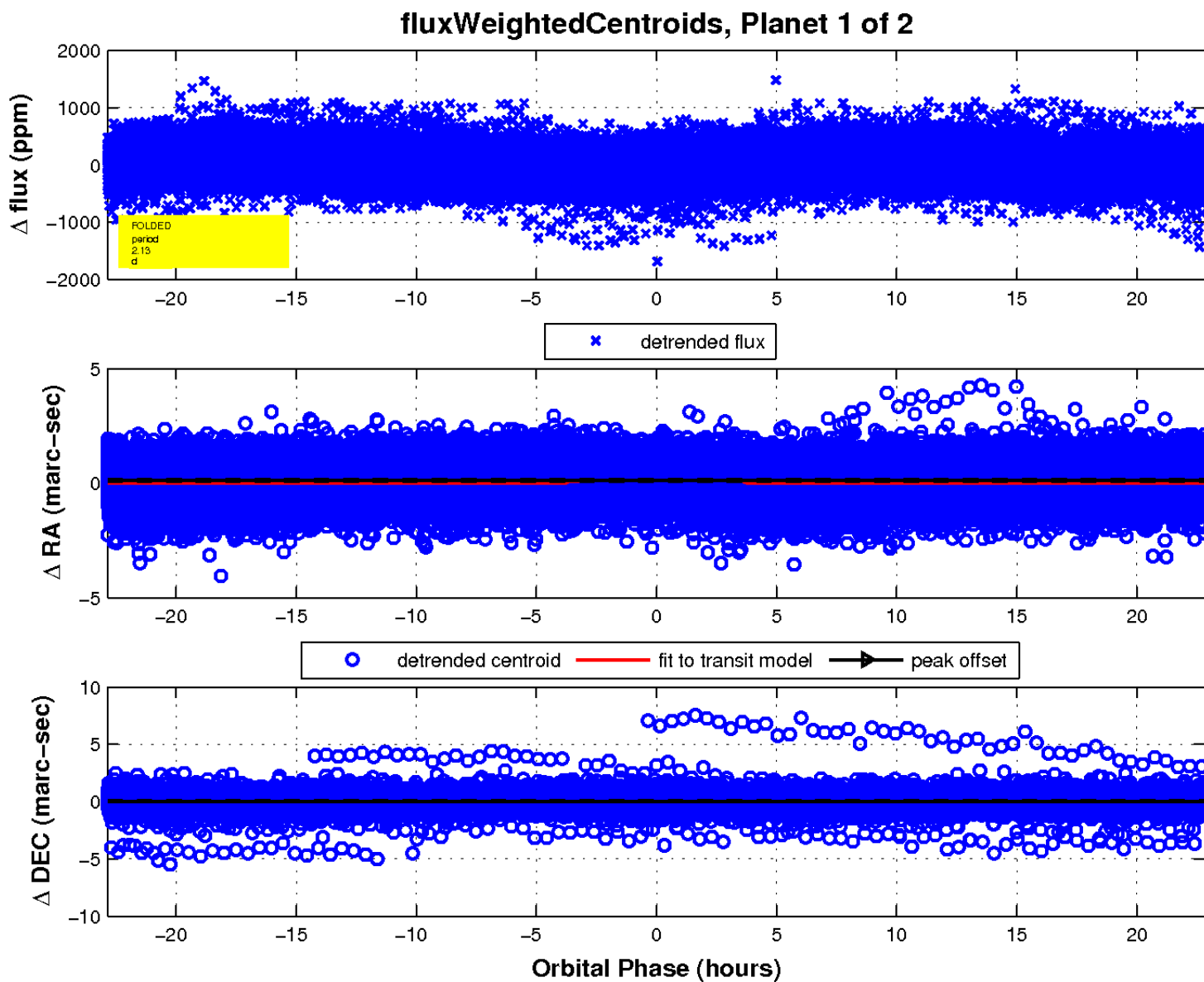
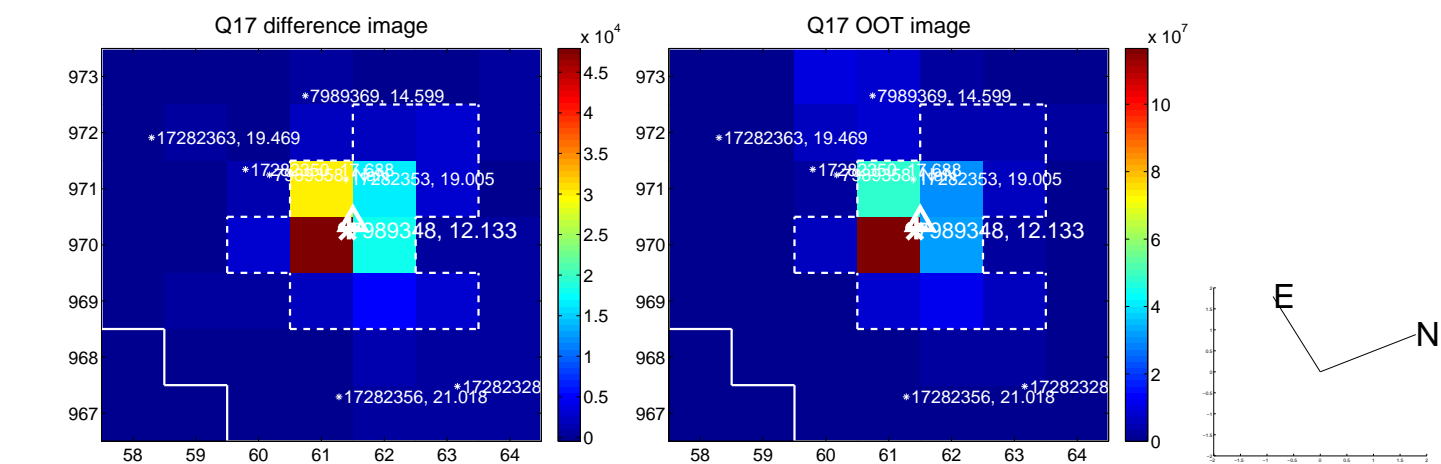
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

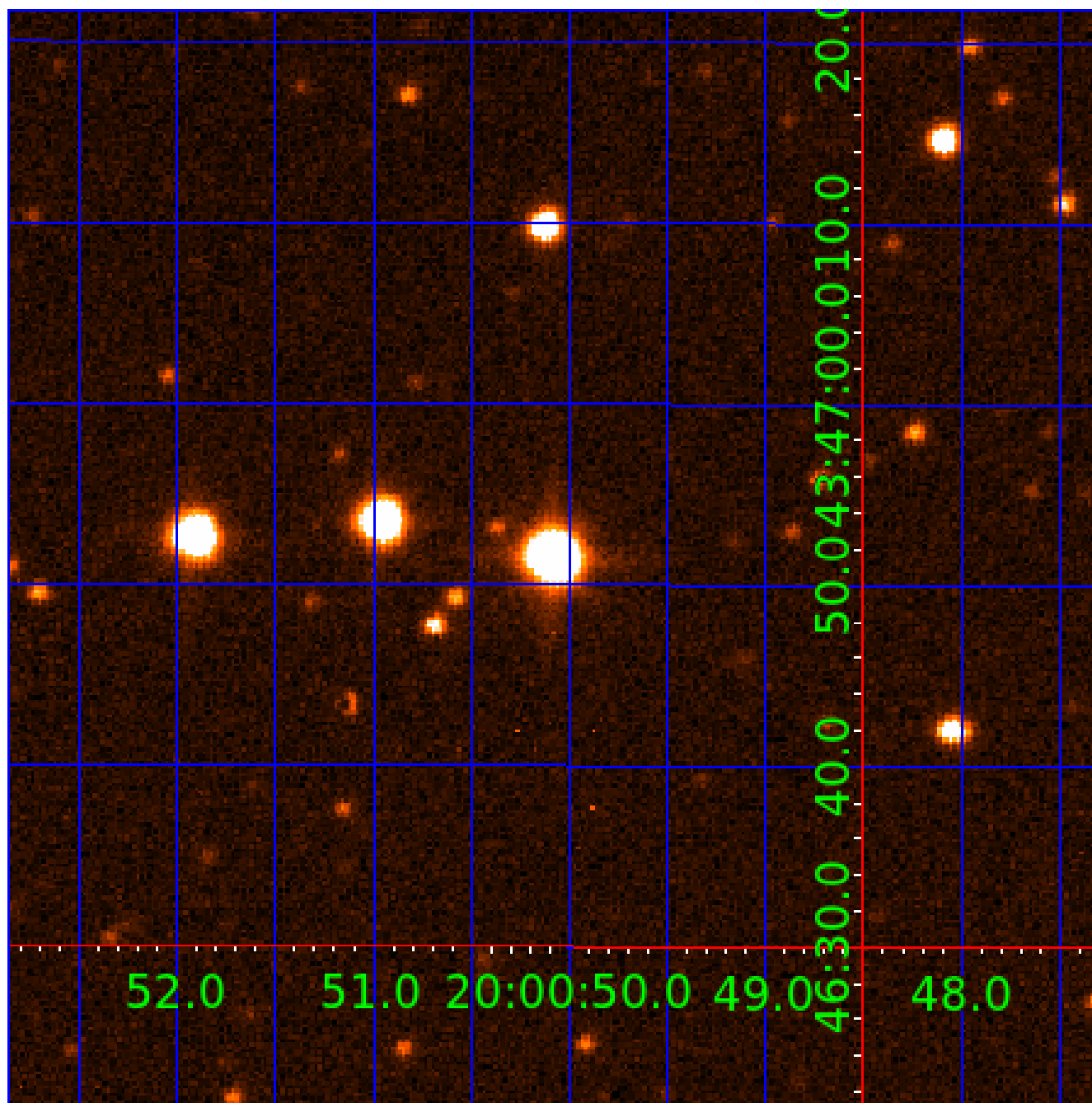


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007989348

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})
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Robovetter Results

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007989348-01	OBS	FP	0.00	1	0	0	0	LPP_DV
007989348-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD

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

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

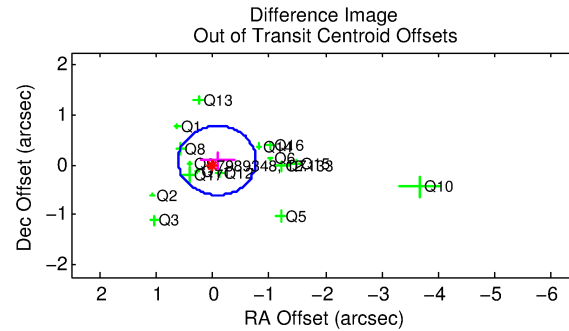
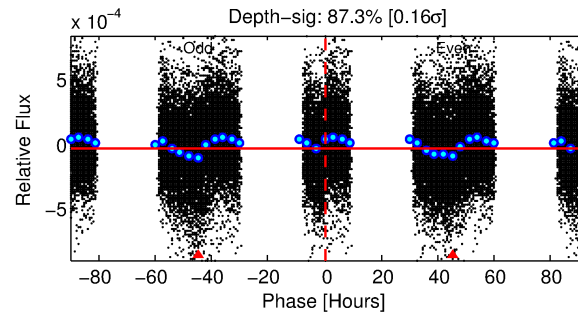
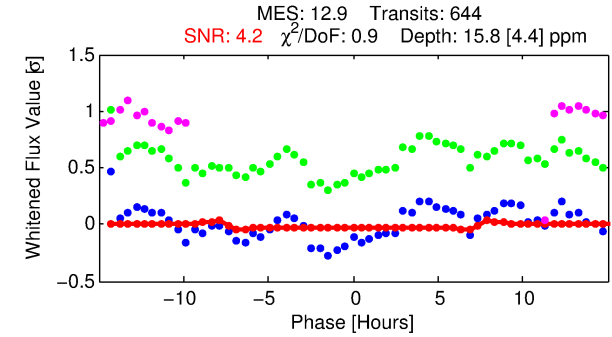
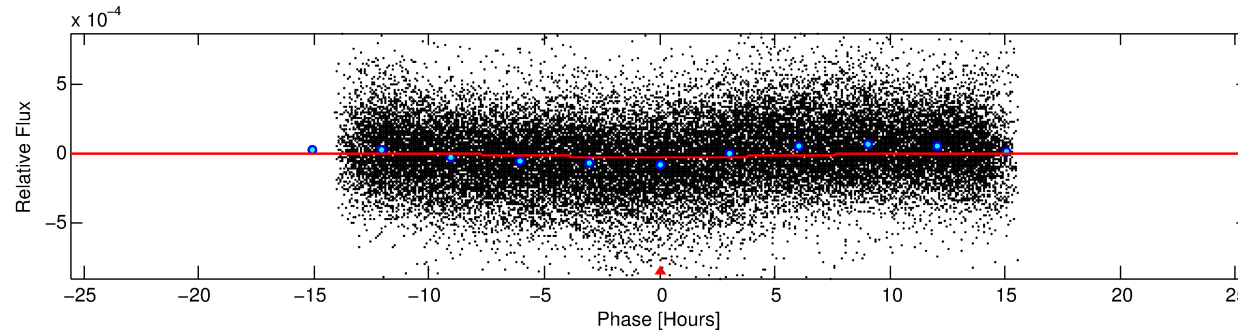
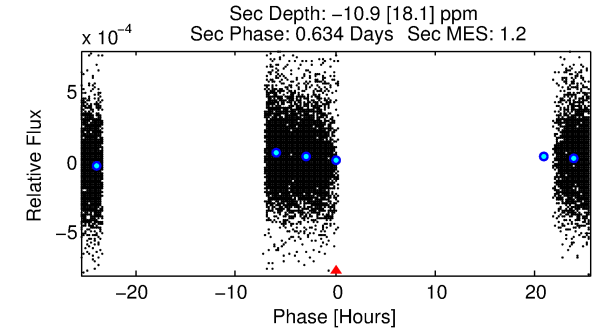
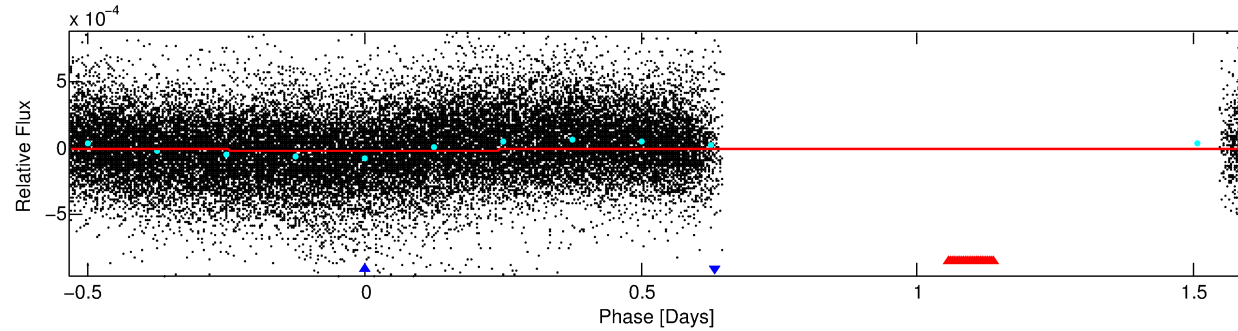
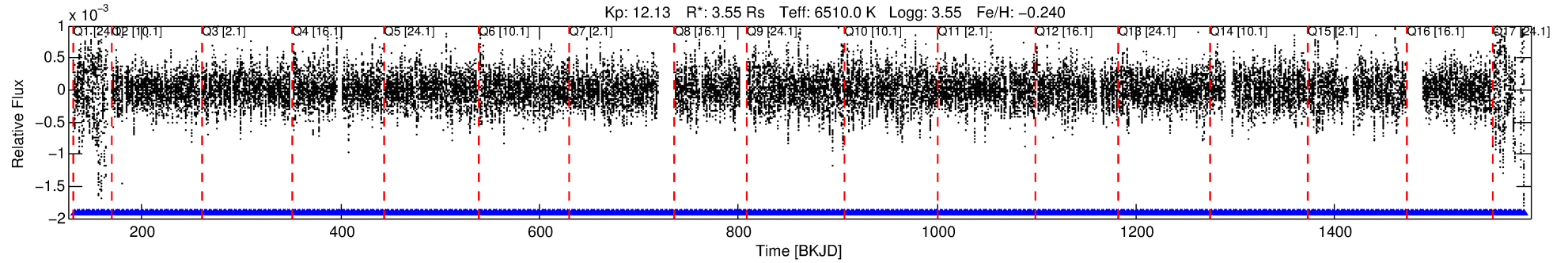
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007989348-02

No Significant Match Found

DV One-Page Summary

KIC: 7989348 Candidate: 2 of 2 Period: 2.133 d



DV Fit Results:

Period = 2.13280 [0.00004] d
Epoch = 133.3089 [0.0084] BKJD
Rp/R* = 0.0037 [0.0030]
a/R* = 1.20 [1.69]
b = 0.48 [7.30]
Seff = 13857.37 [8462.79]
Teff = 2767 [422] K
Rp = 1.45 [1.31] Re
a = 0.0383 [0.0144] AU
Ag = N/A
Teffp = N/A

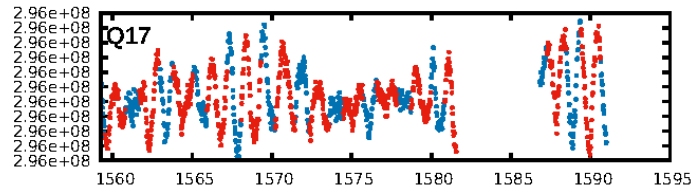
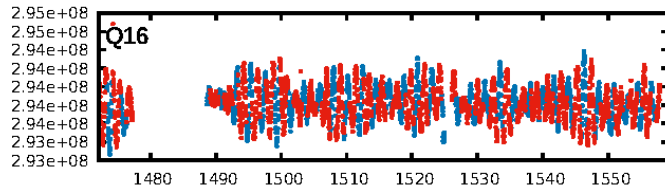
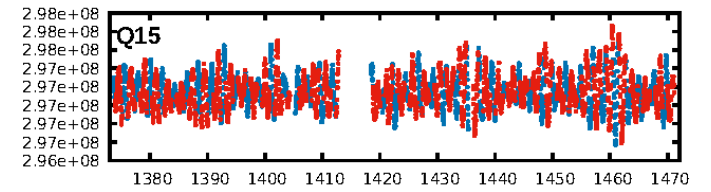
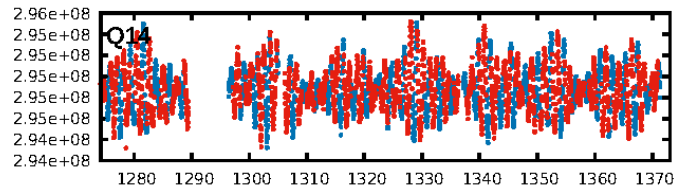
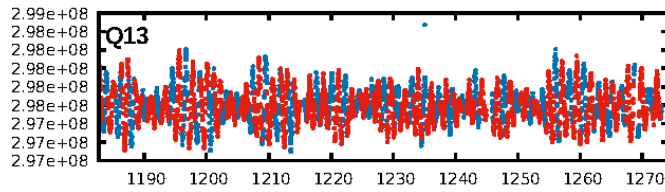
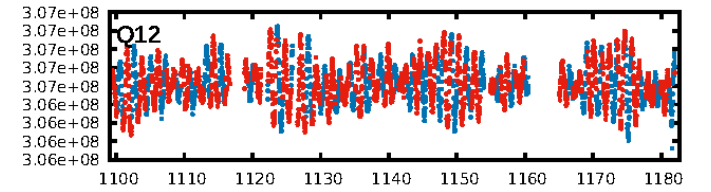
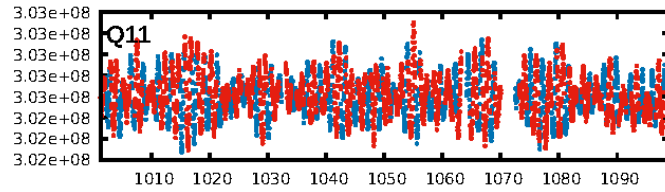
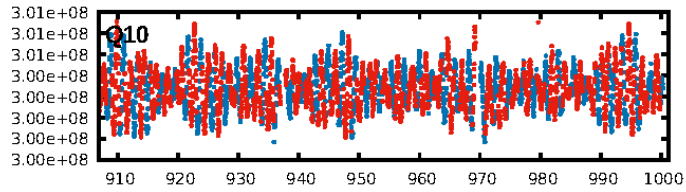
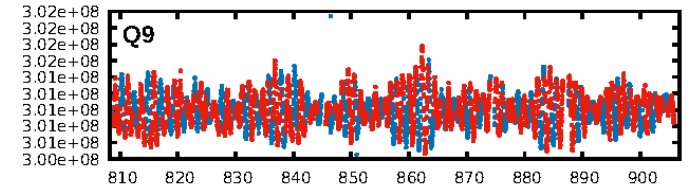
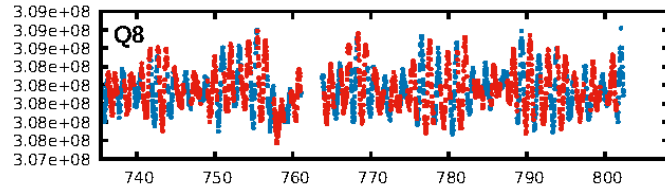
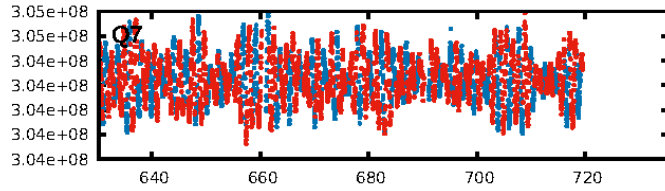
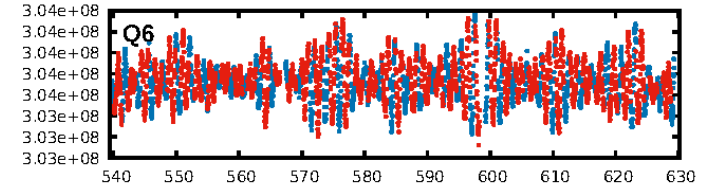
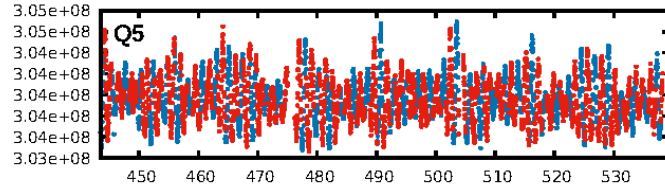
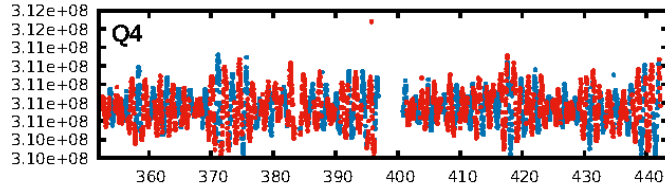
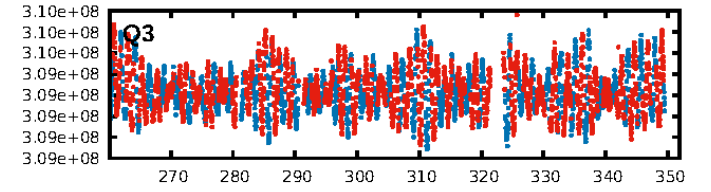
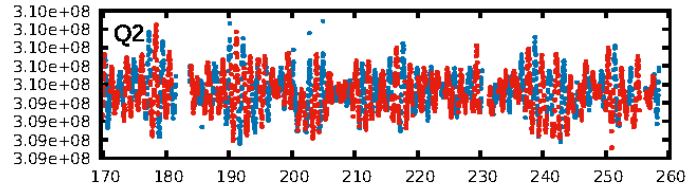
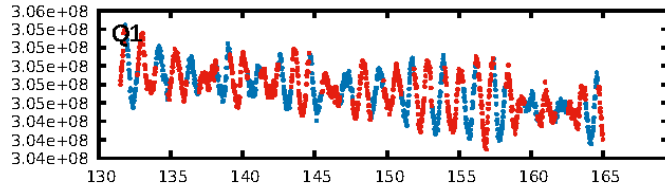
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [615/615]
GhostDiagnostic-chr: -5.803
Centroid-sig: 0.1%
Centroid-so: 1.394 arcsec [1.34σ]
OotOffset-rm: 0.118 arcsec [0.51σ]
KicOffset-rm: 0.292 arcsec [1.23σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.75 [12/16]
DiffImageOverlap-fno: 0.00 [0/17]

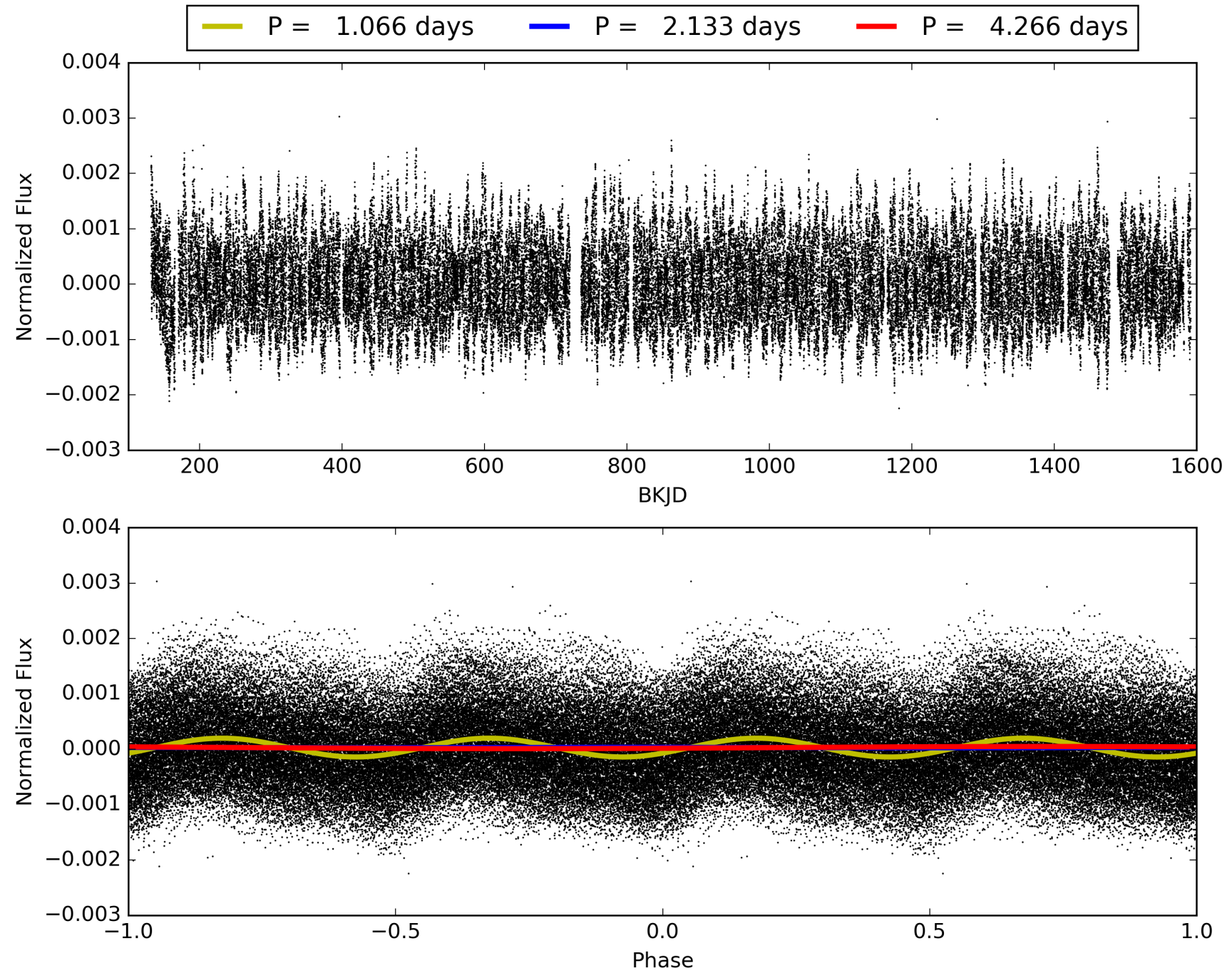
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 23:16:05 Z

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

TCE 007989348-02, PDC Light Curves

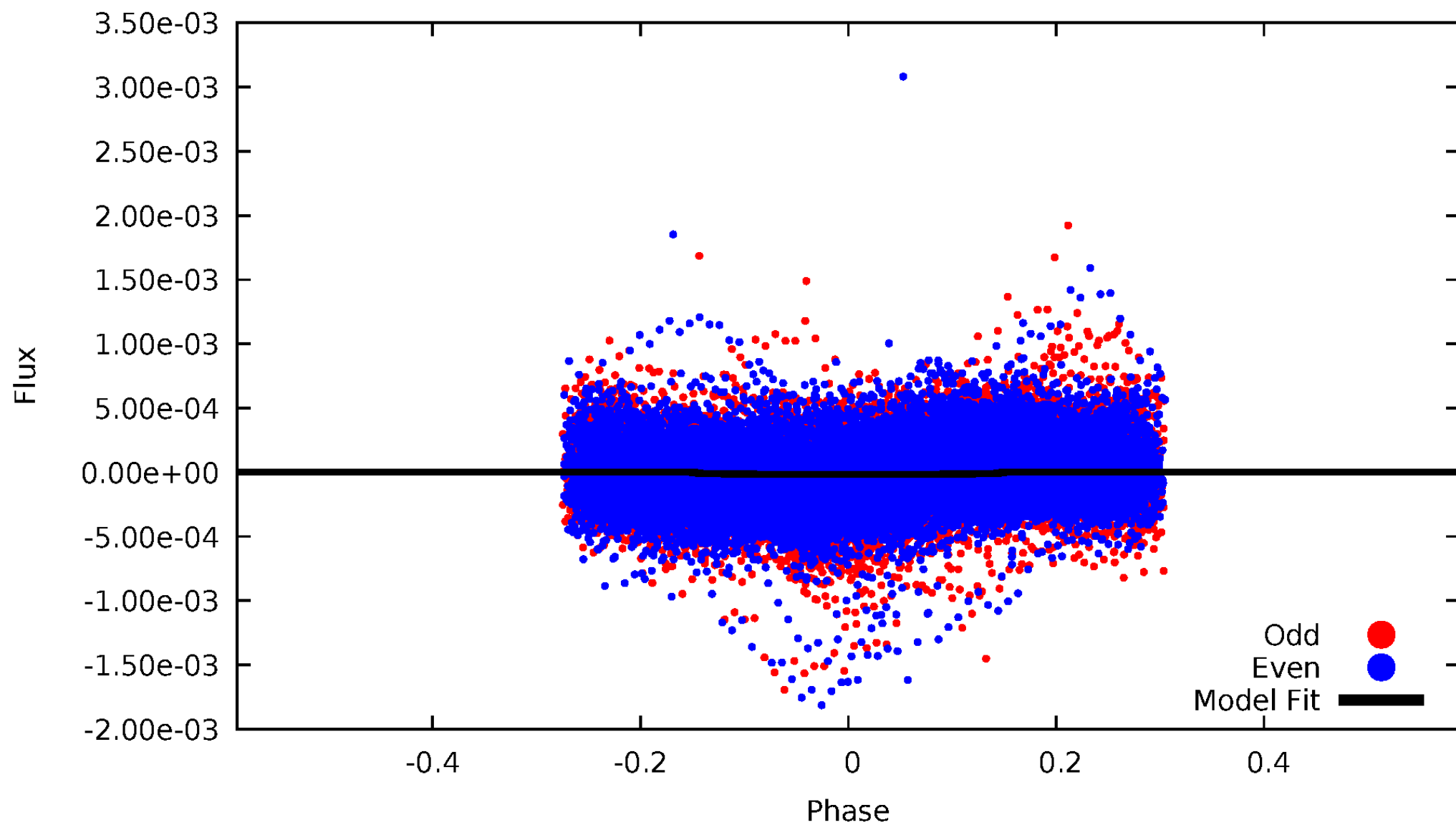


TCE 007989348-02



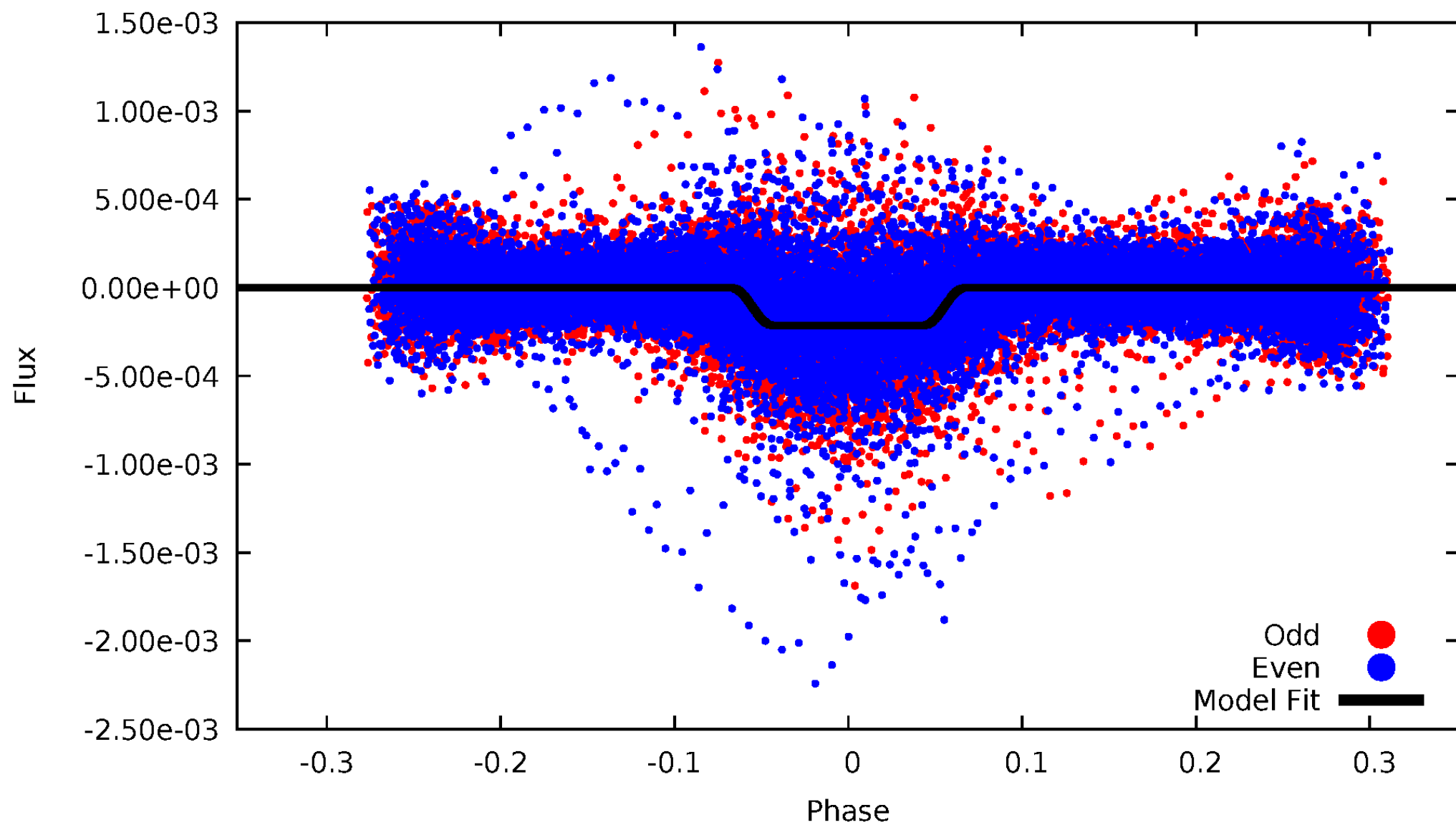
DV Odd/Even

TCE 007989348-02



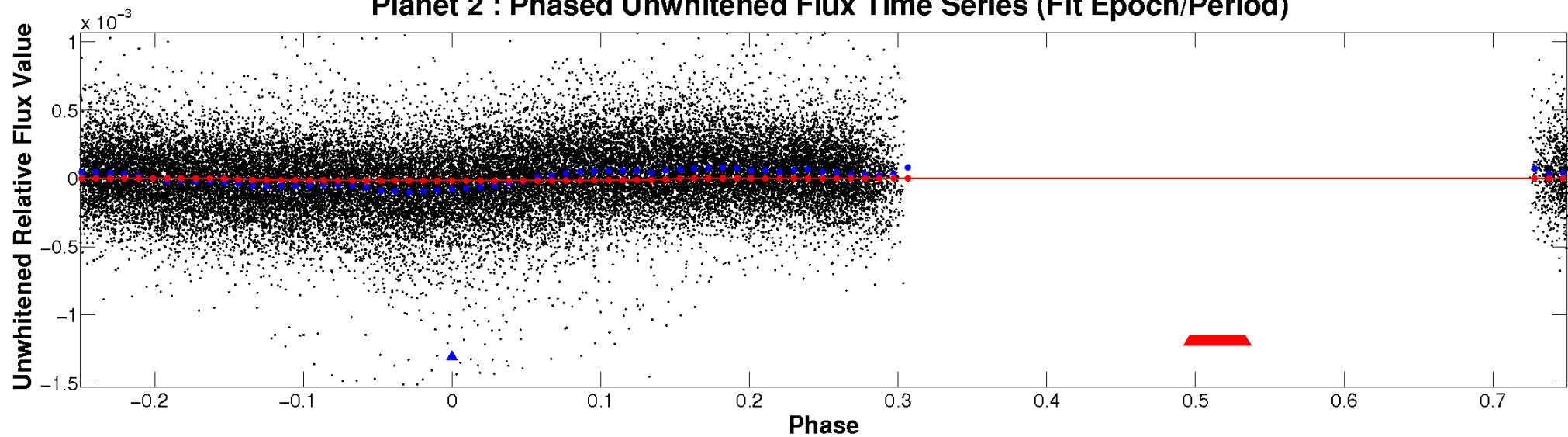
ALT Odd/Even

TCE 007989348-02

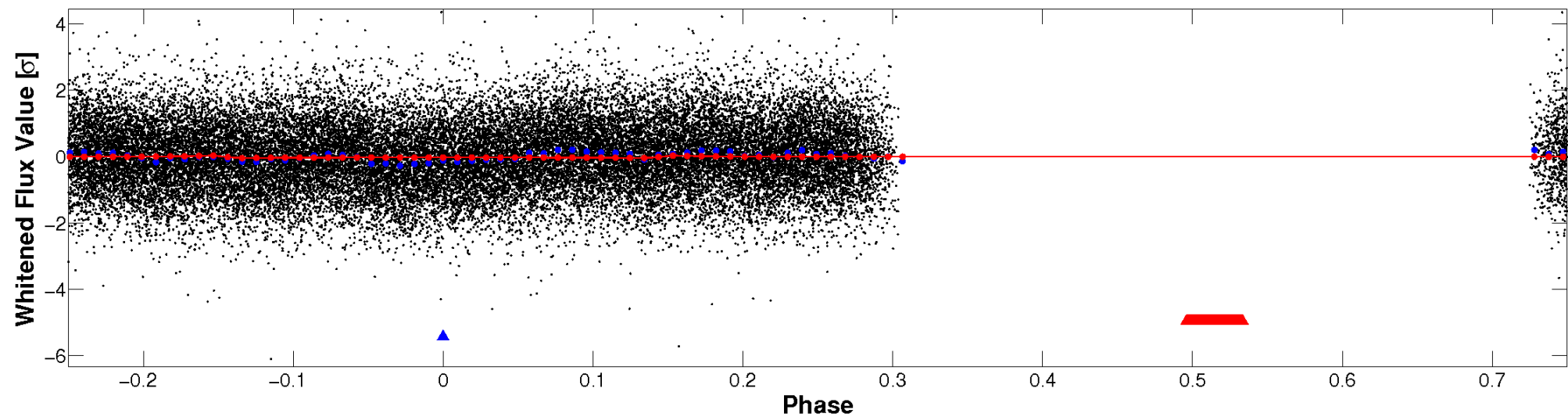


Non-Whitened Vs. Whitened Light Curve

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

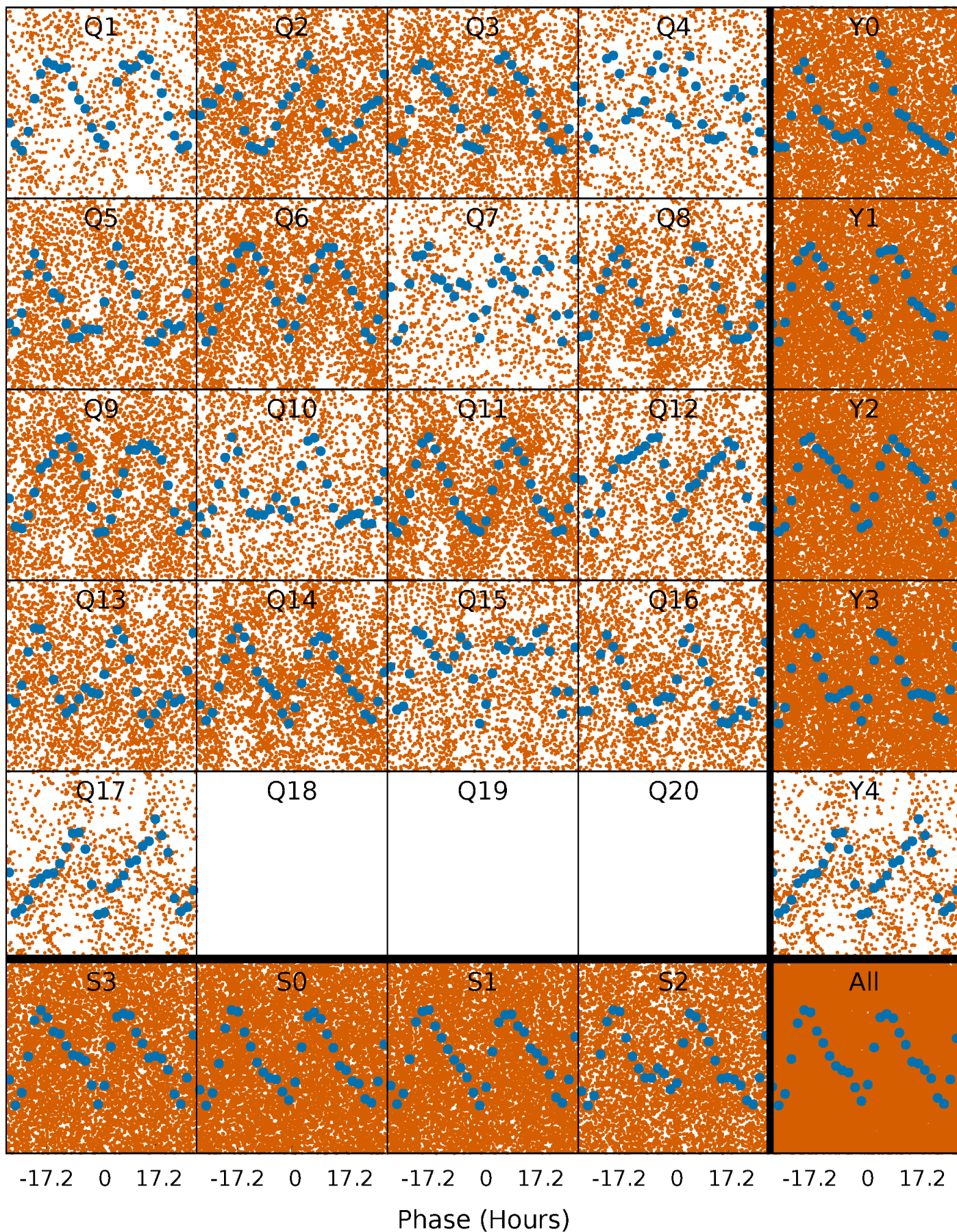


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



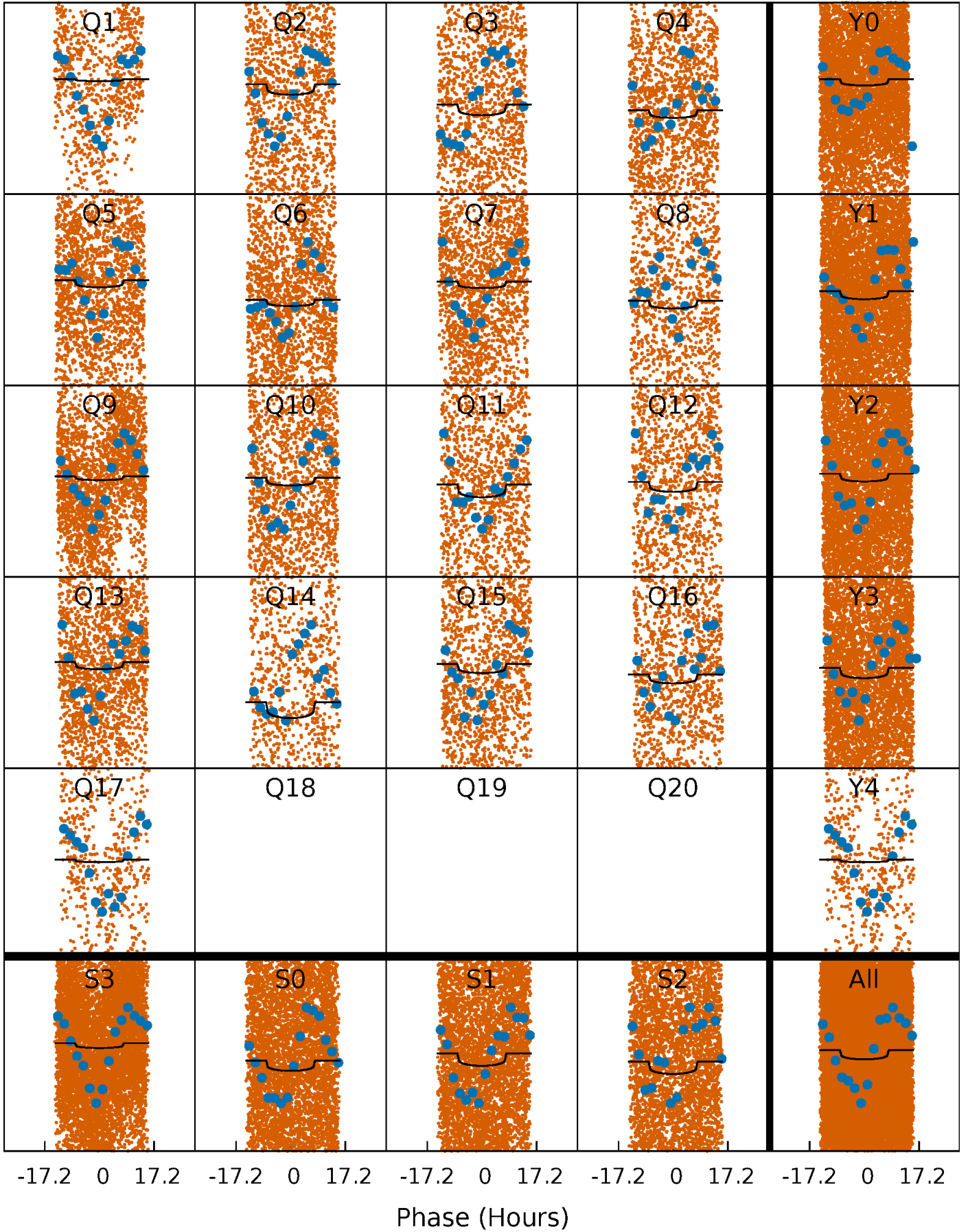
PDC Quarter-Phased Transit Curves

TCE 007989348-02 P= 2.132803 Days $T_0=133.308910$ (BKJD)



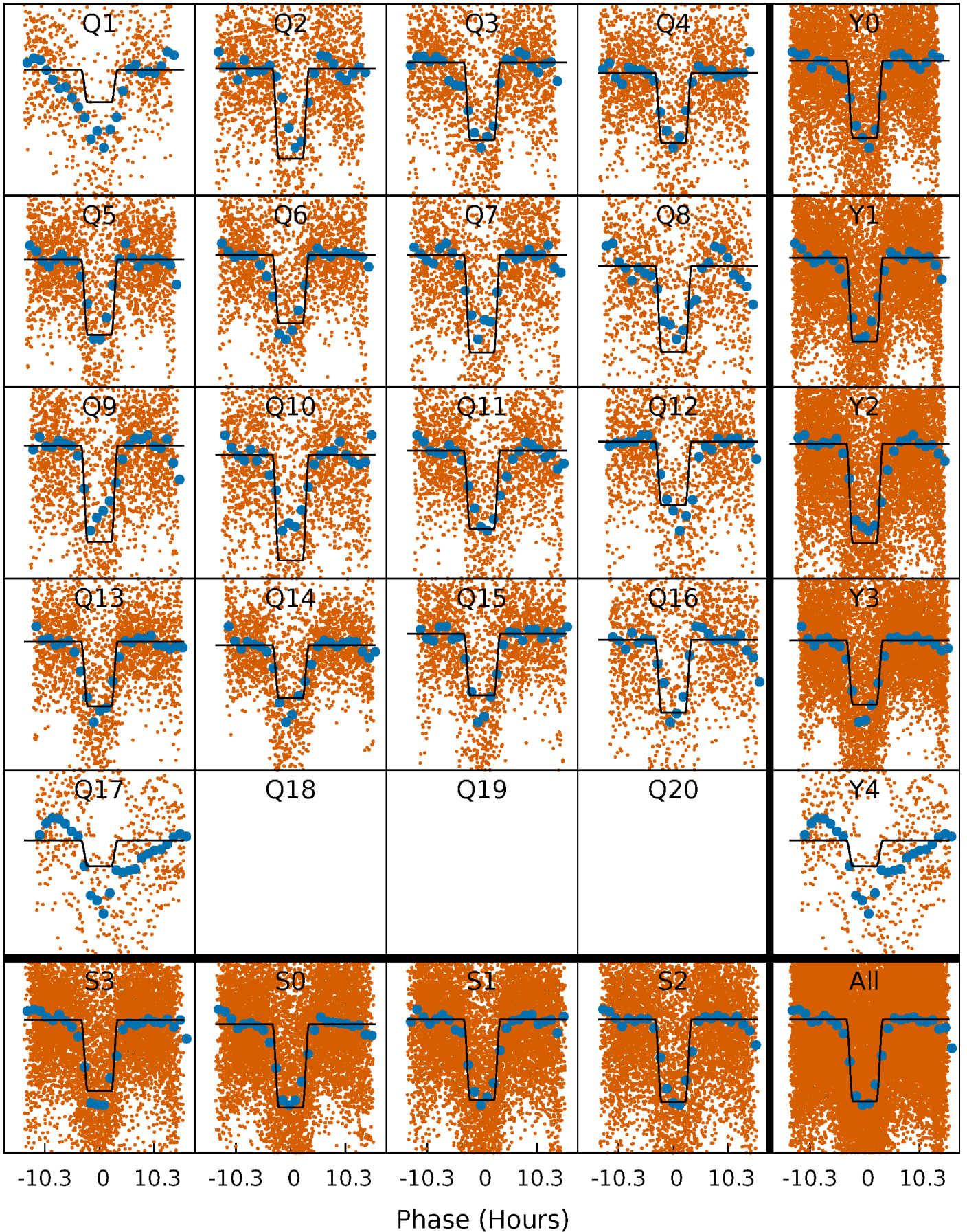
DV Quarter-Phased Transit Curves

TCE 007989348-02 P= 2.132803 Days $T_0=133.308910$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

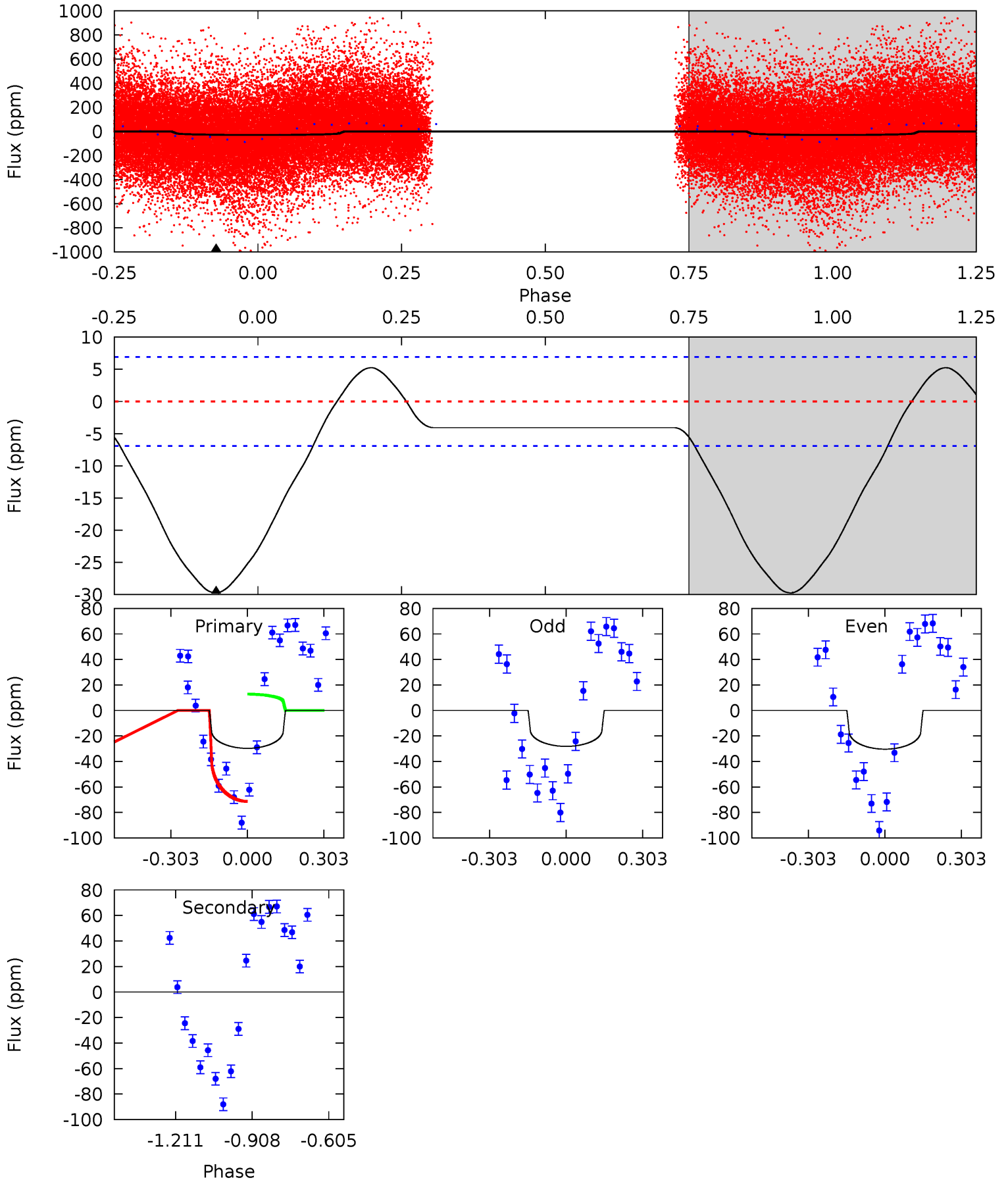
TCE 007989348-02 P= 2.132776 Days $T_0=133.313175$ (BKJD)



DV Model-Shift Uniqueness Test

007989348-02, P = 2.132803 Days, E = 131.176107 Days

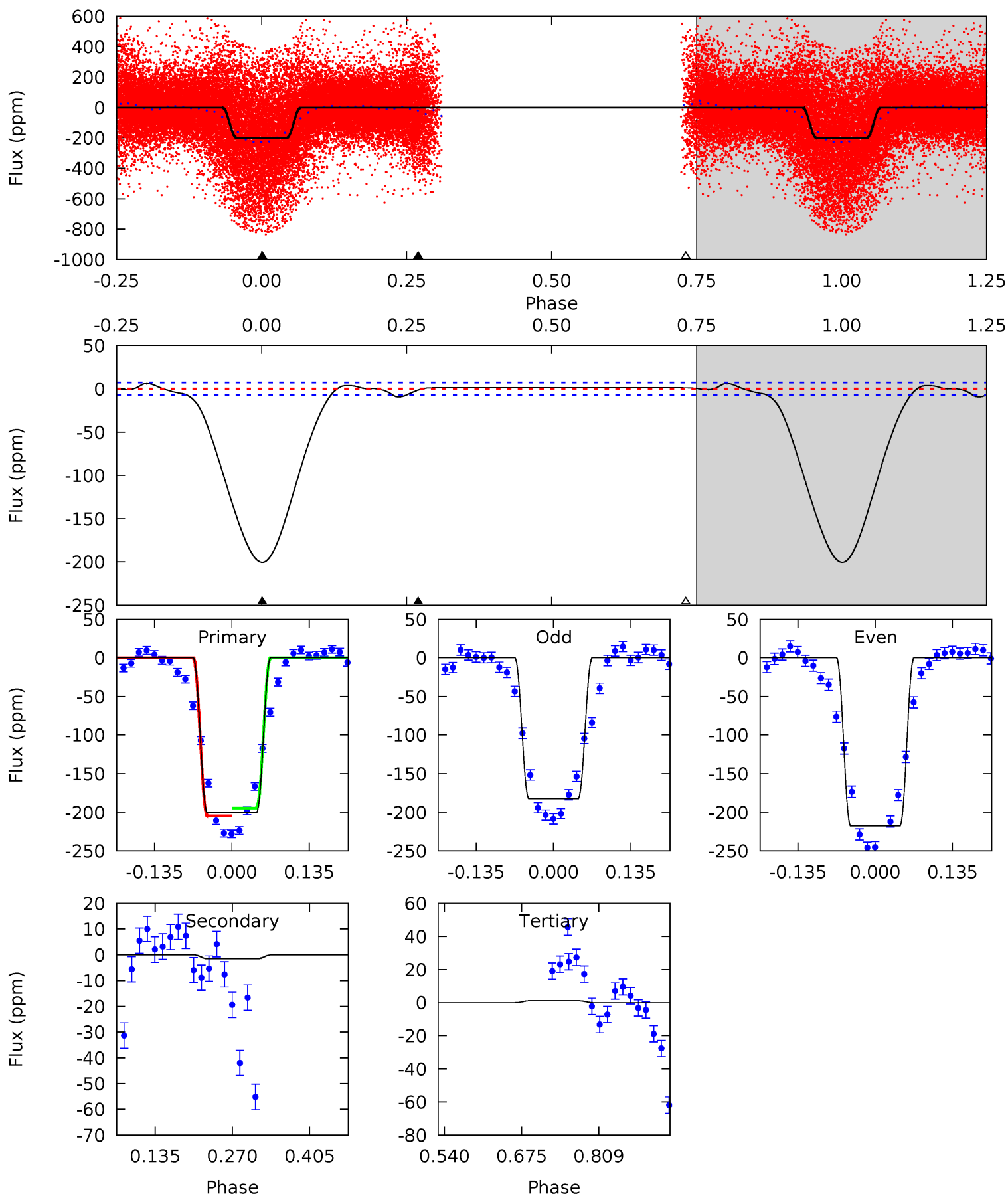
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.6	0	0	0	4.33	1.03	1.34	18.6	18.6	0	0	0.69	1.16	0.15	17.9



Alt Model-Shift Uniqueness Test

007989348-02, P = 2.132776 Days, E = 131.180399 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
127.4	0.99	-0.68	0	4.50	1.50	2.14	128.1	127.4	1.67	0.99	11.3	0.98	0.03	3.88



Stellar Parameters For KIC 007989348

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6510^{+176}_{-176}	$3.553^{+0.352}_{-0.088}$	$-0.240^{+0.350}_{-0.250}$	$3.553^{+0.439}_{-1.403}$	$1.646^{+0.228}_{-0.371}$	$0.052^{+0.138}_{-0.014}$
	+3%/-3%	+10%/-2%	+146%/-104%	+12%/-39%	+14%/-23%	+267%/-28%
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 007989348-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 2	$1.48^{+1.11}_{-0.88}$	3811^{+198}_{-364}	-3479^{+7527}_{-1021}	$0.027^{+0.982}_{-0.894}$
Alt.	-2 ± 2	$5.35^{+1.47}_{-1.46}$	3796^{+206}_{-347}	-3476^{+298}_{-161}	$0.042^{+0.062}_{-0.042}$

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 $A_{obs} \gg 1.0$

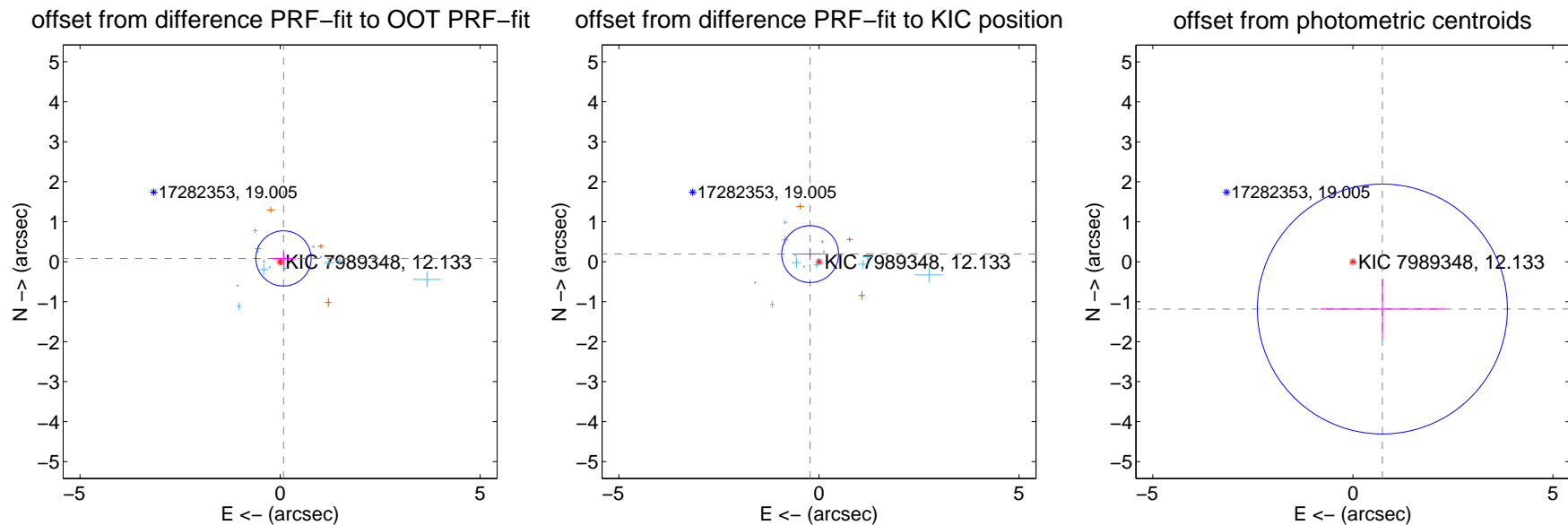
DV Centroid Data

Supplemental centroid analysis for 007989348-02. Kepler magnitude: 12.13. Transit SNR 4.20

There are 12 quarters with good PRF difference image offsets

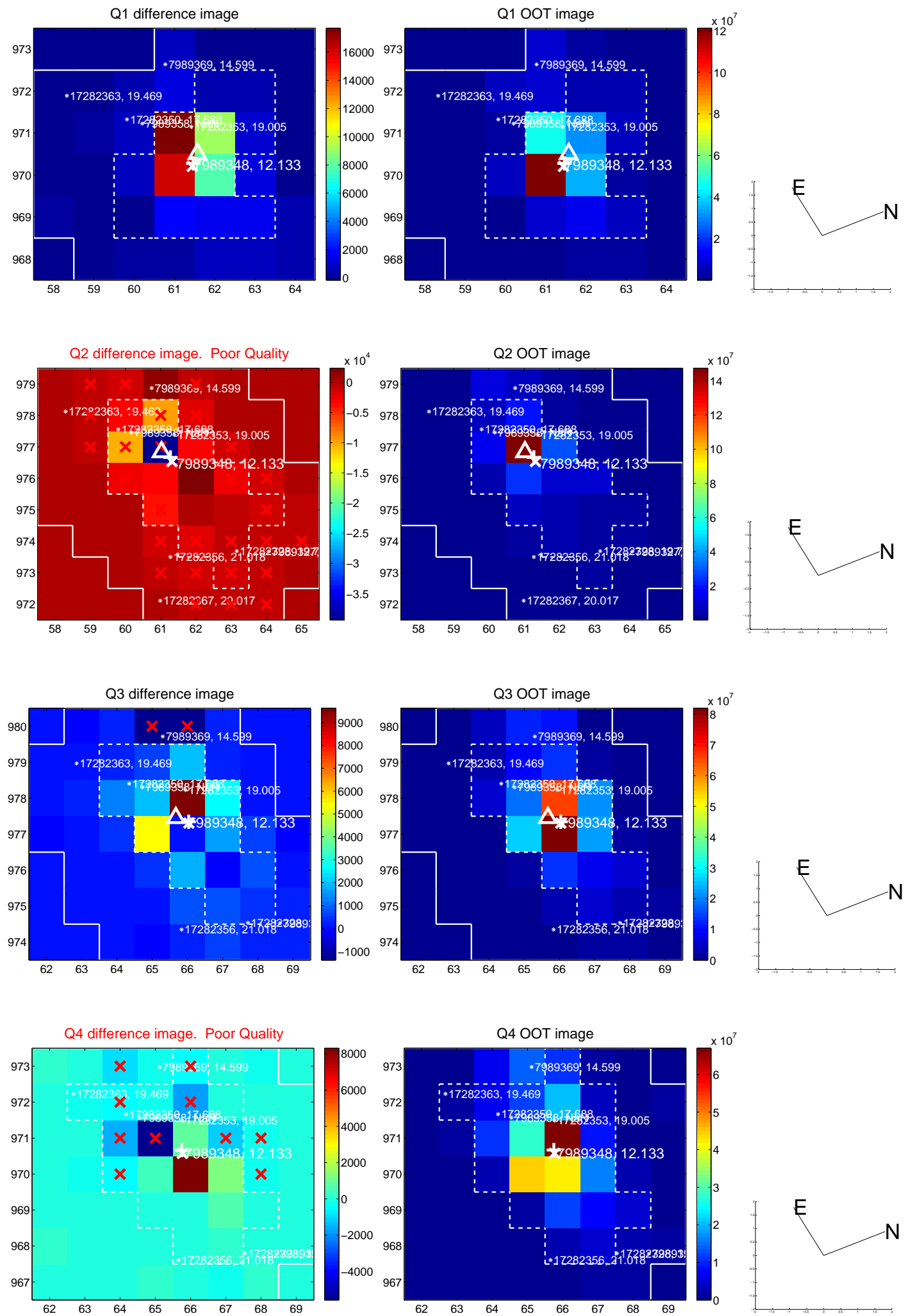
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.118 ± 0.230	0.51	-0.085 ± 0.296	0.082 ± 0.159
PRF-fit source offset from KIC position	0.292 ± 0.237	1.23	0.221 ± 0.279	0.191 ± 0.151
photometric centroid source offset	1.39 ± 1.04	1.34	-0.74 ± 1.56	-1.18 ± 0.75

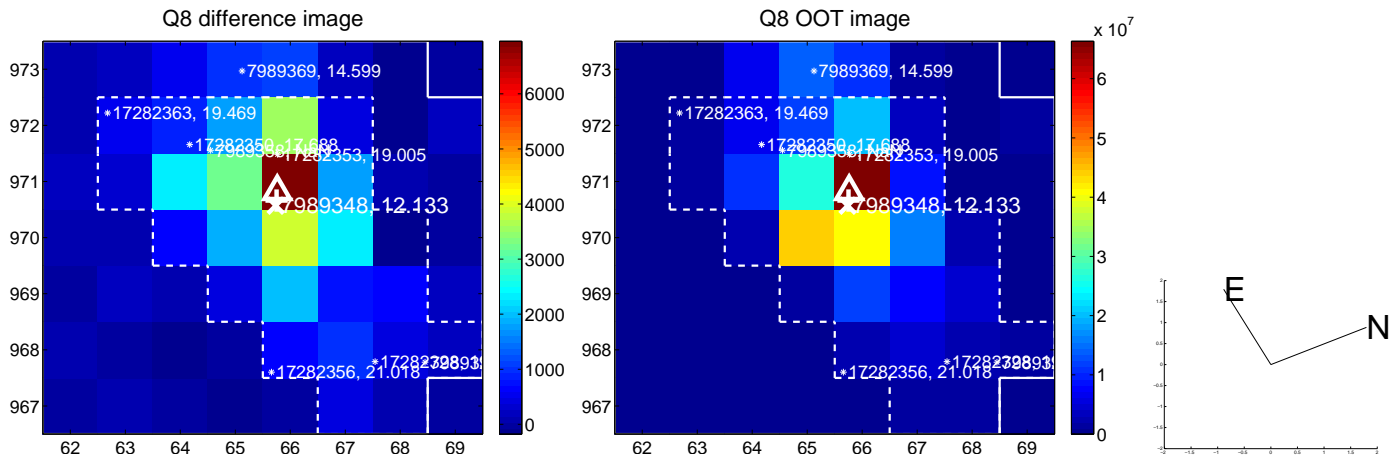
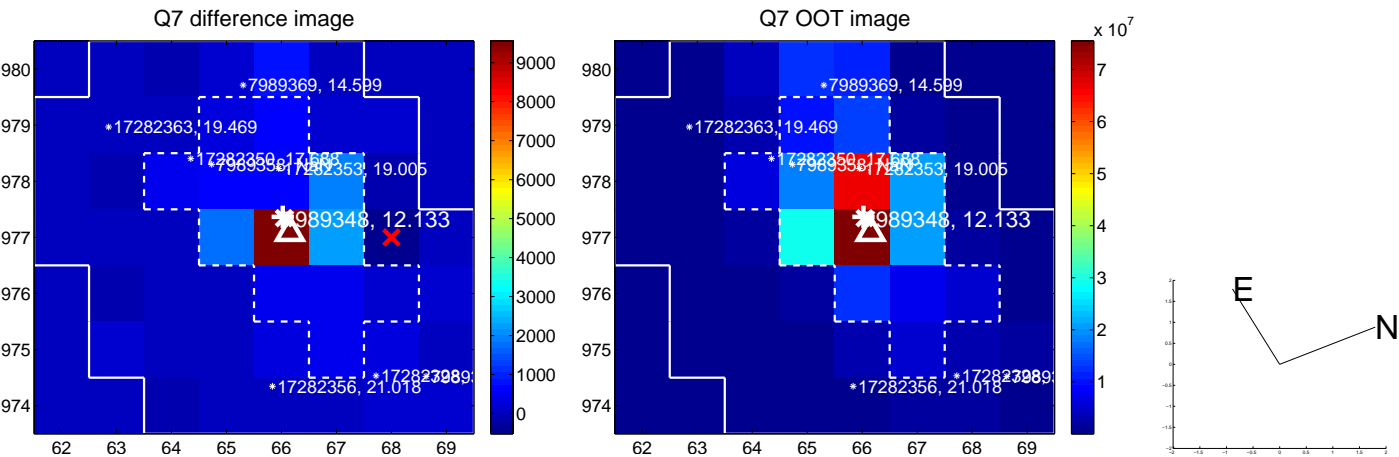
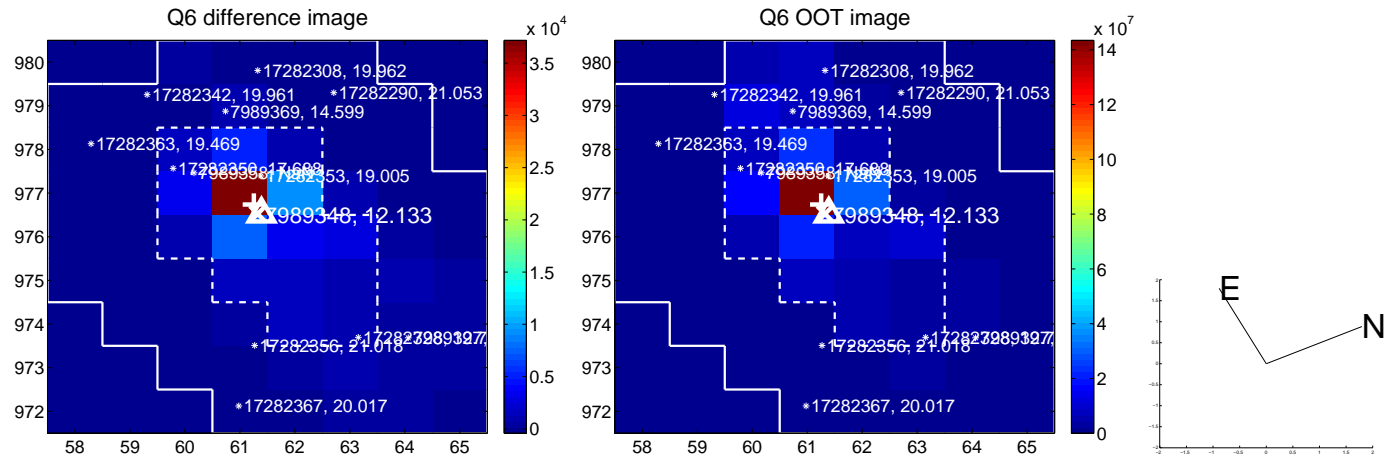
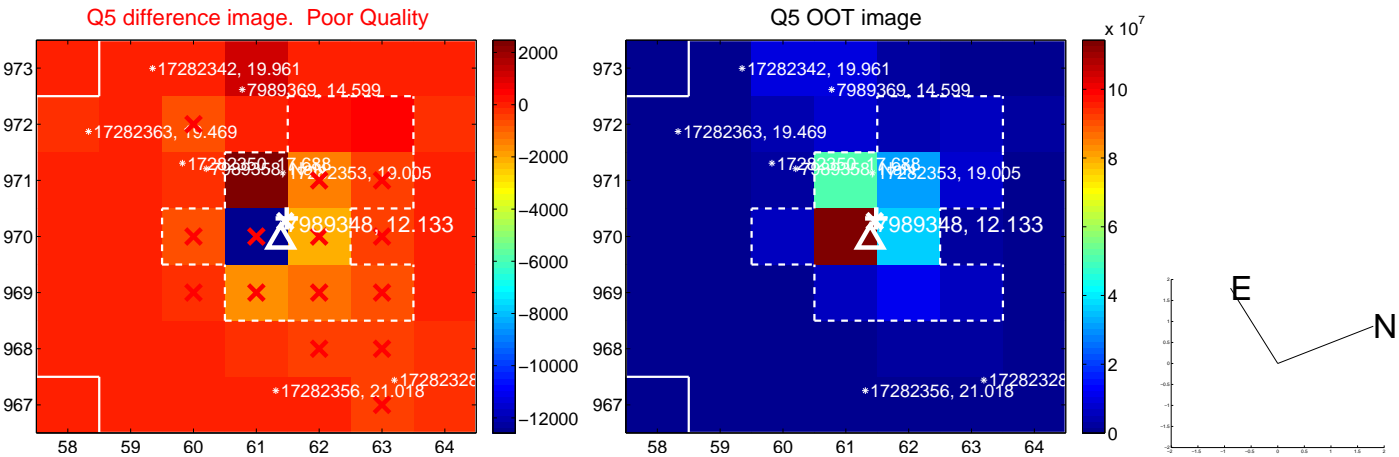


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

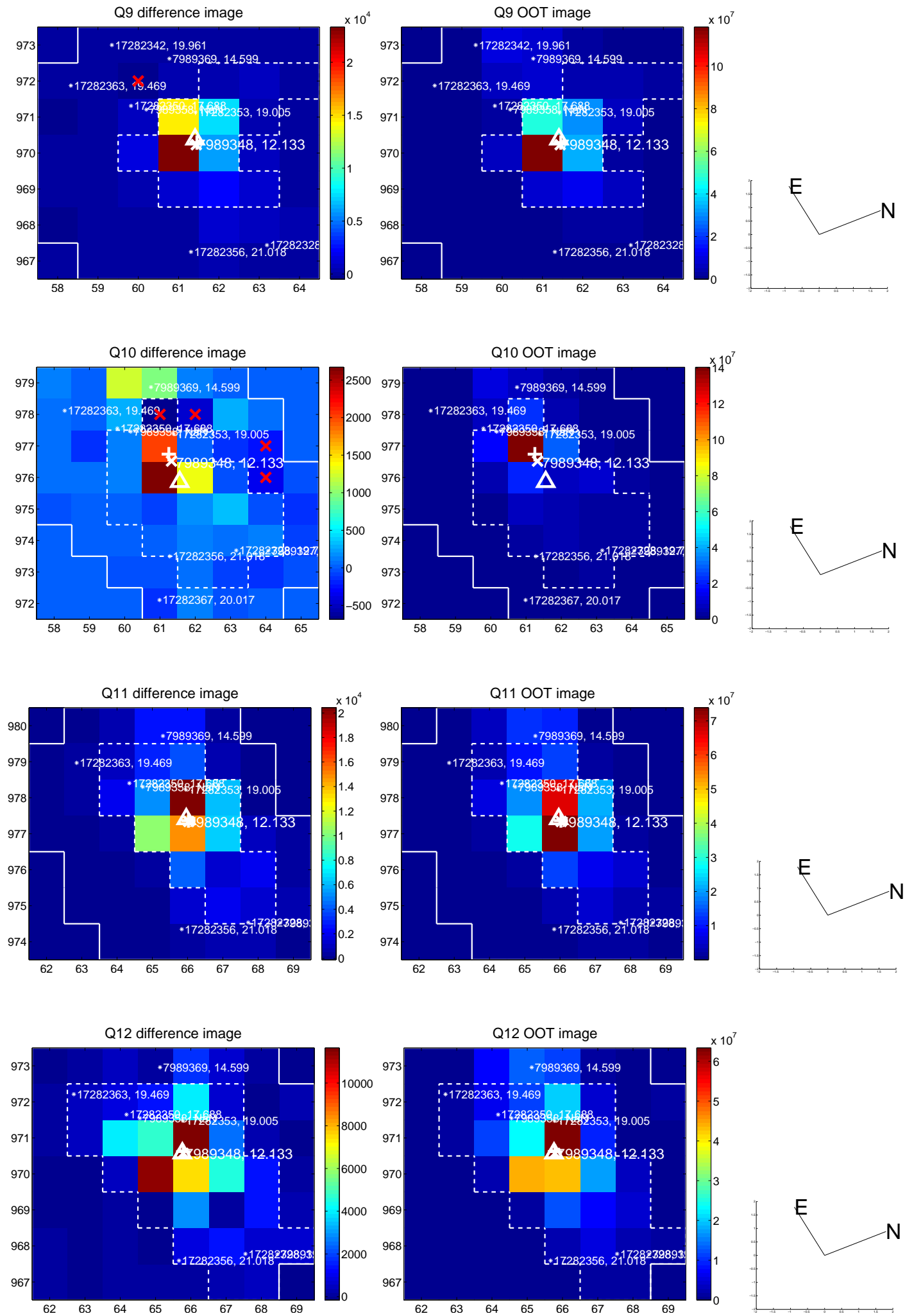
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



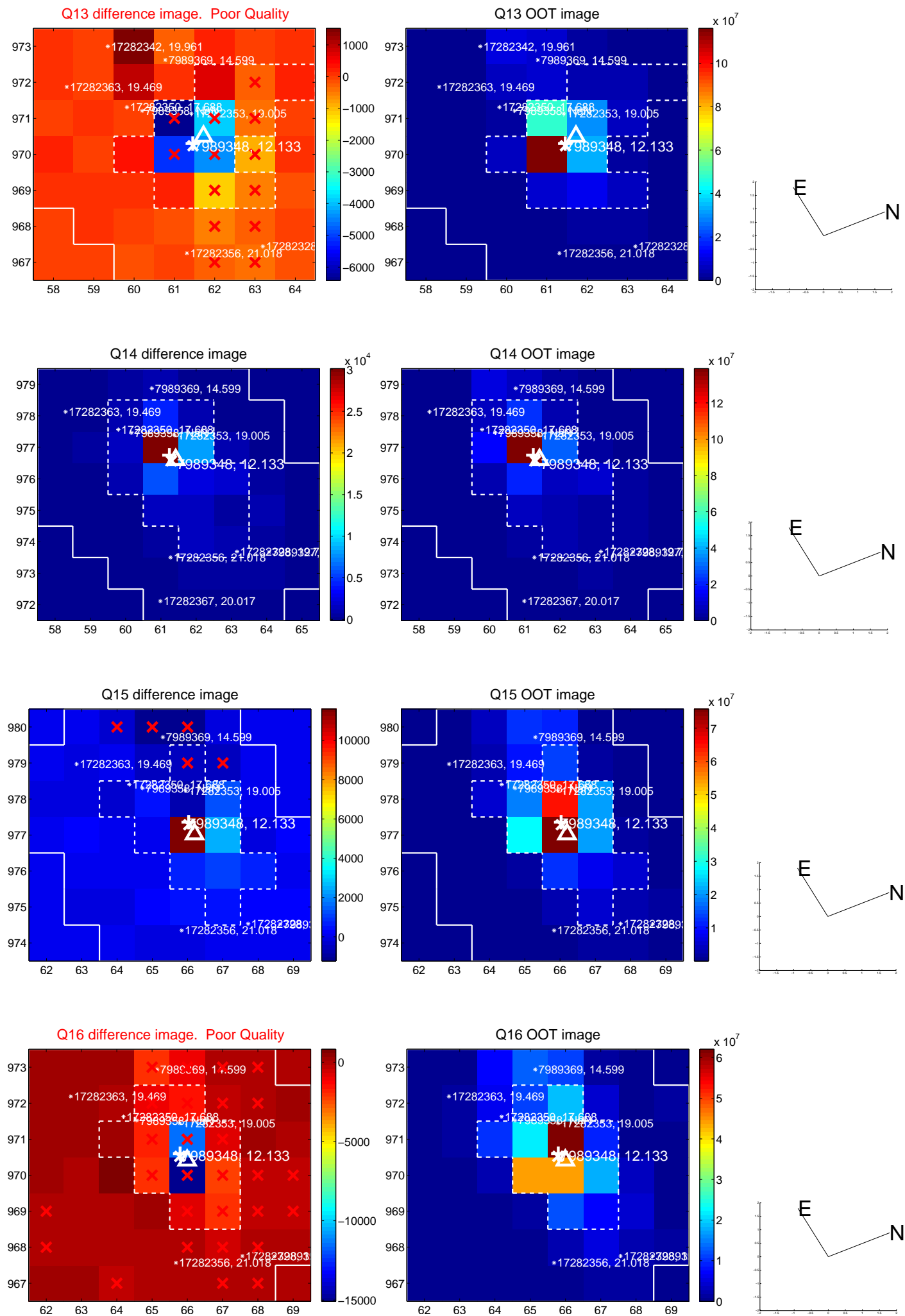
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



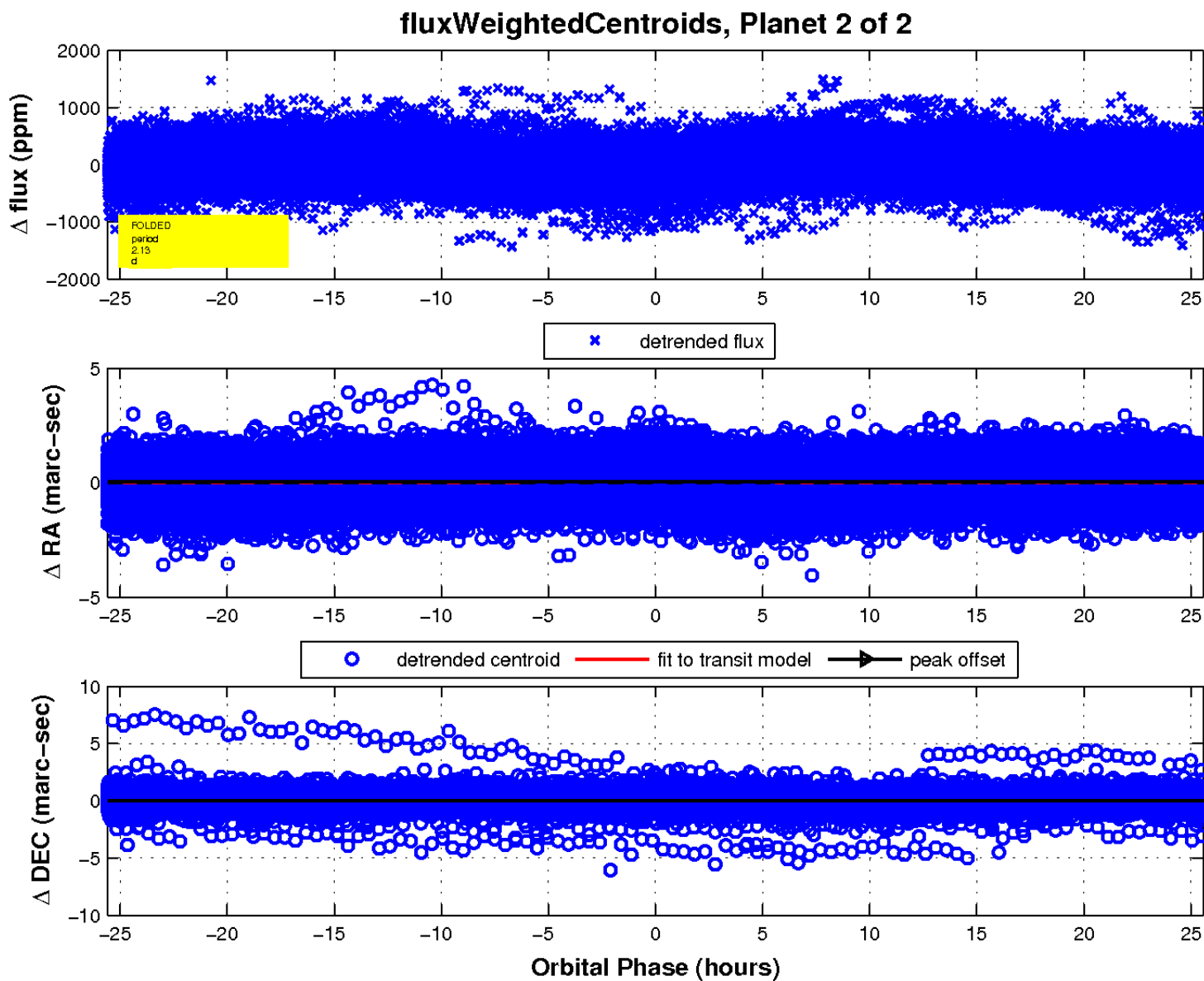
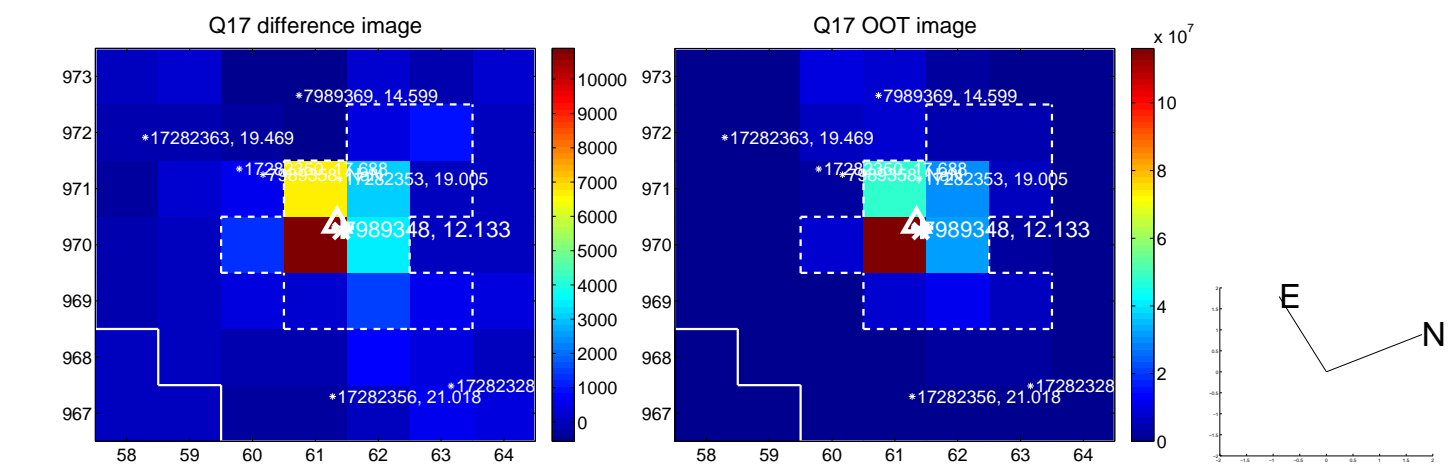
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

