

KIC 011253711

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})
011253711-01	OBS	1972.01	17.791104	149.253050	407.1	3.143	31.7	34.9	1.34	5855	3.48	112.24
011253711-02	OBS	1972.02	1.226247	132.672238	54.7	2.390	16.7	17.7	1.34	5855	1.17	3971.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011253711-01	OBS	PC	0.99	0	0	0	0	NO_COMMENT
011253711-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

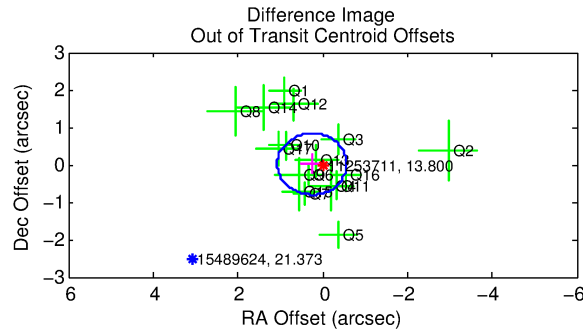
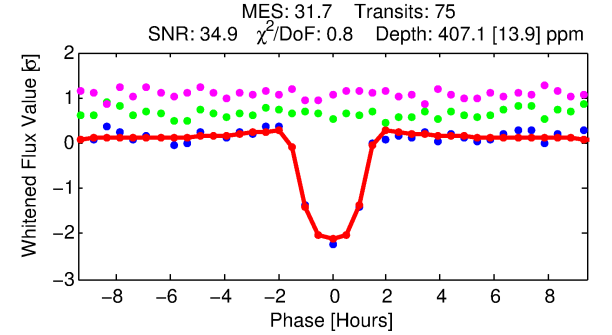
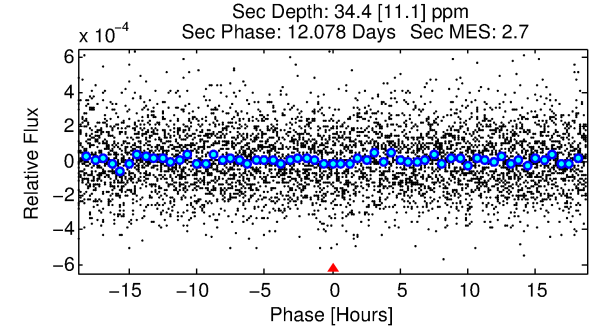
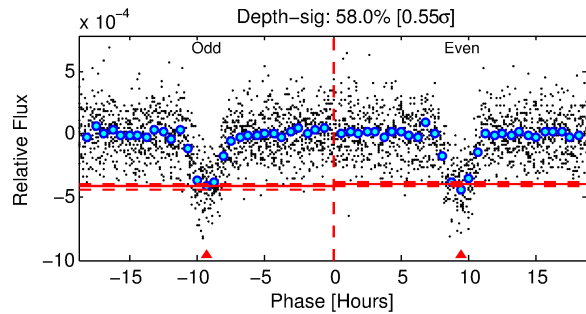
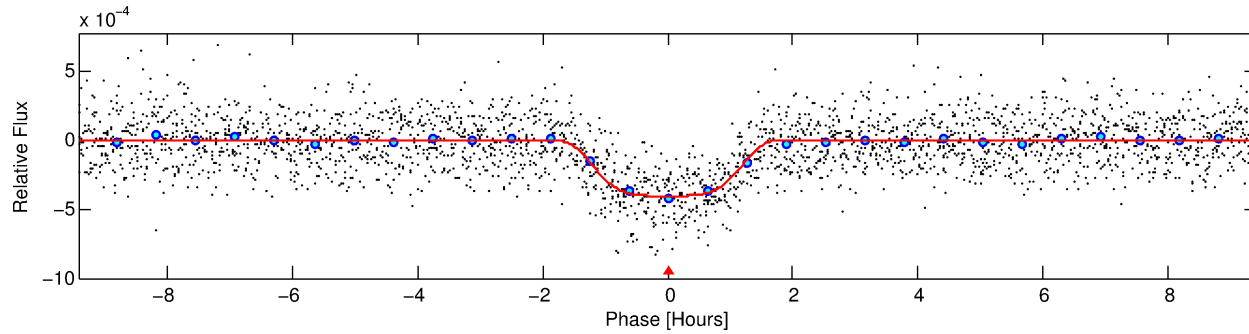
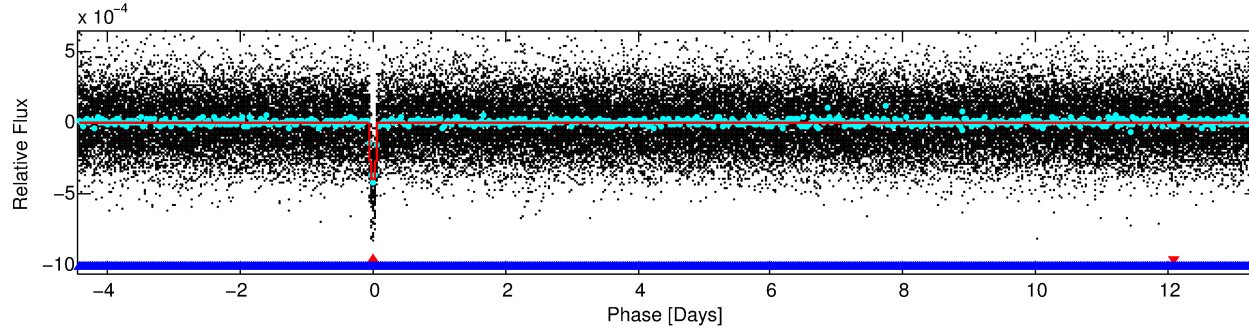
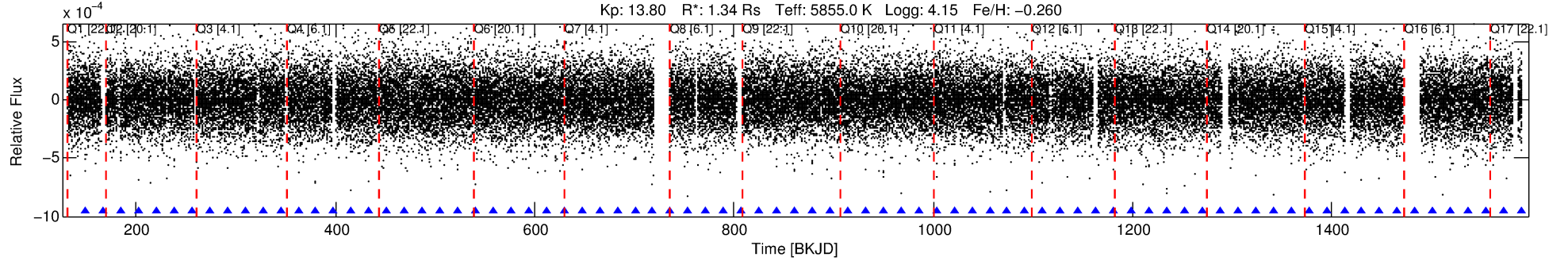
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011253711-01

No Significant Match Found

DV One-Page Summary

KIC: 11253711 Candidate: 1 of 2 Period: 17.791 d
KOI: K01972.01 Corr: 0.913



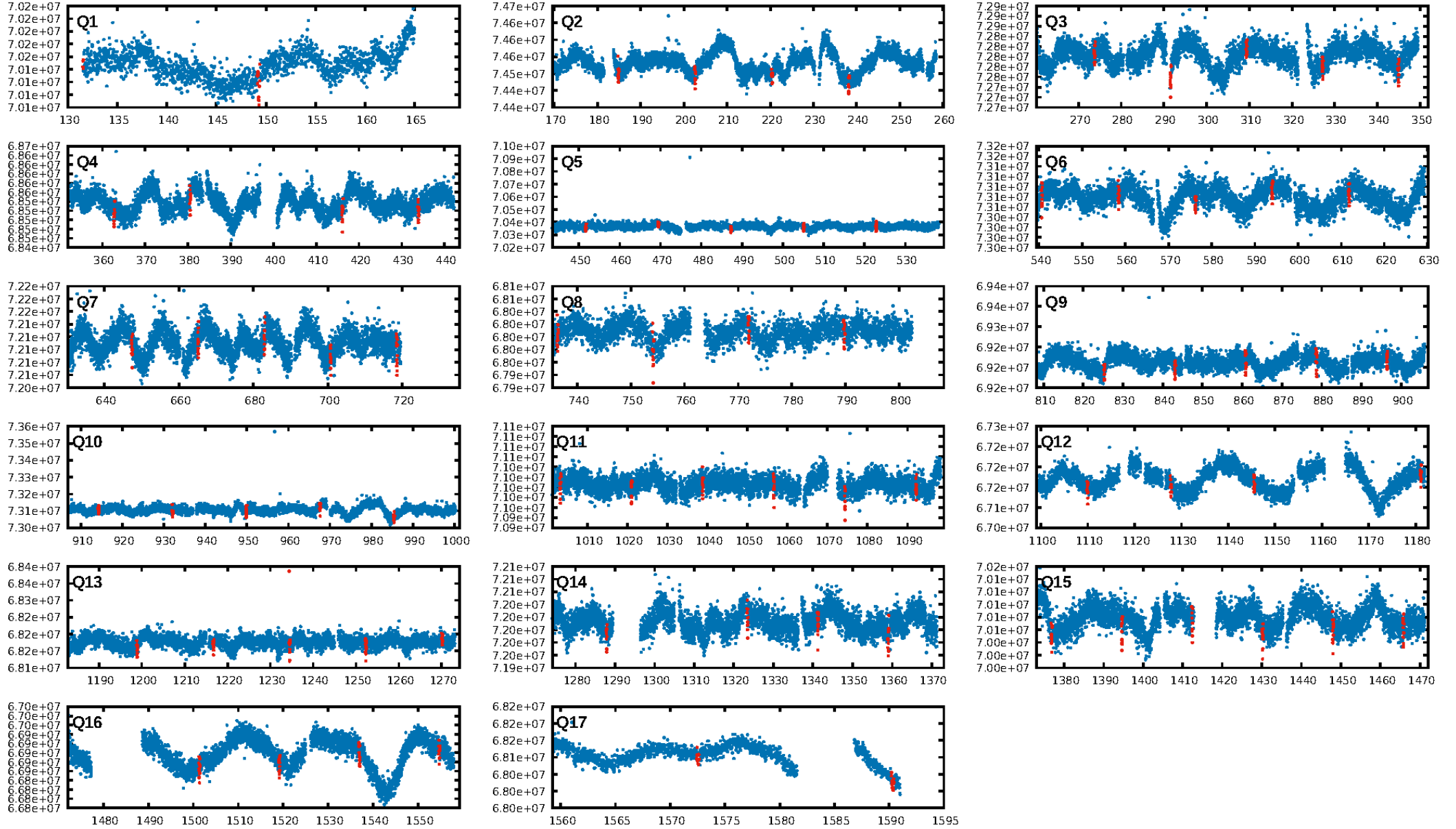
DV Fit Results:

Period = 17.79110 [0.00004] d
Epoch = 149.2531 [0.0021] BKJD
Rp/R* = 0.0238 [0.0007]
a/R* = 15.33 [1.60]
b = 0.96 [0.01]
Seff = 112.24 [37.88]
Teff = 830 [70] K
Rp = 3.48 [0.77] Re
a = 0.1298 [0.0272] AU
Ag = 26.29 [12.31] [2.05 σ]
Teffp = 2906 [242] K [8.24 σ]

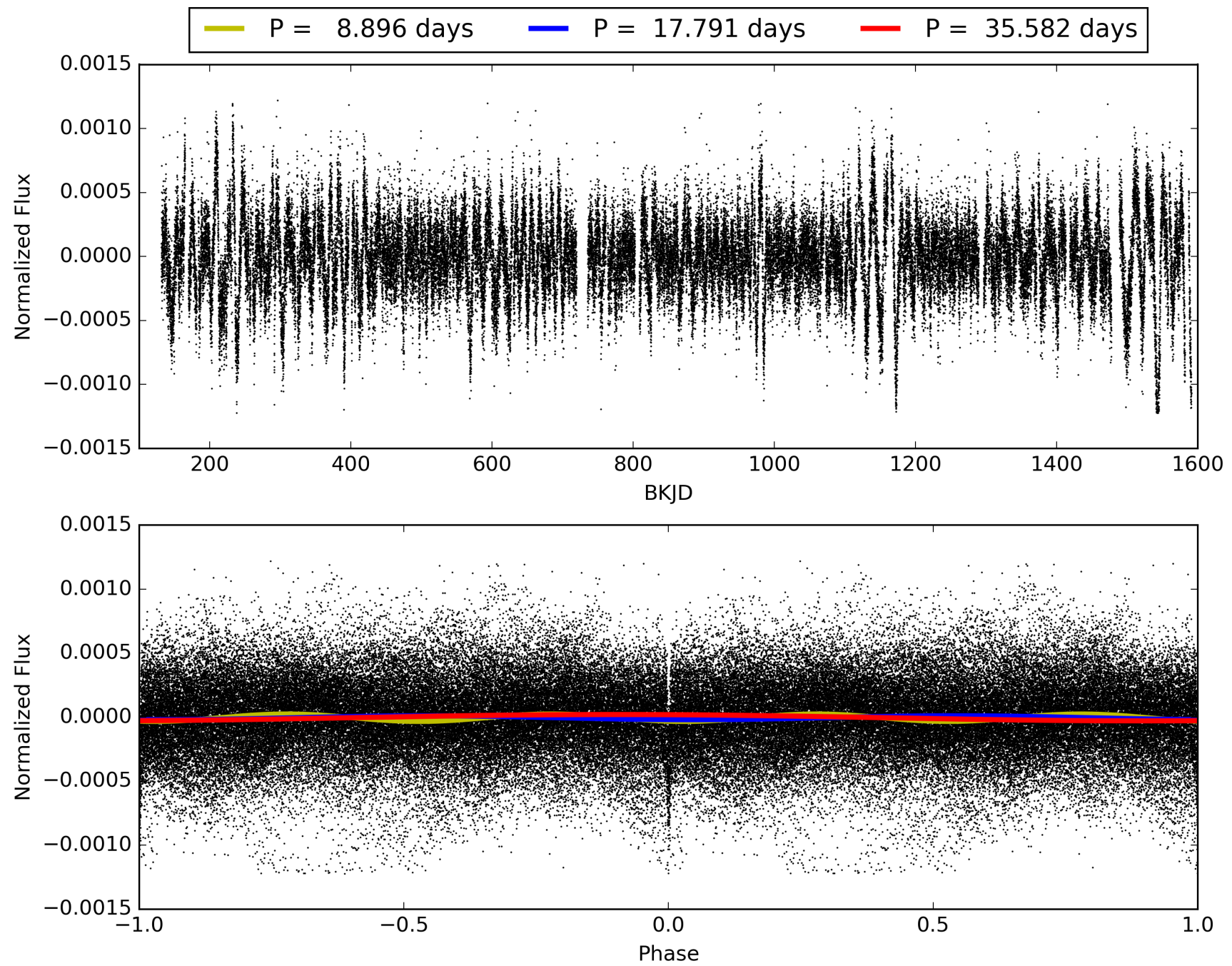
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [100.68 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 93.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.98e-202
RollingBand-fgt: 1.00 [71/71]
GhostDiagnostic-chr: 4.261
Centroid-sig: 8.0%
Centroid-so: 0.459 arcsec [1.38 σ]
OotOffset-rm: 0.255 arcsec [0.93 σ]
KicOffset-rm: 0.405 arcsec [1.45 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.76 [13/17]

TCE 011253711-01, PDC Light Curves

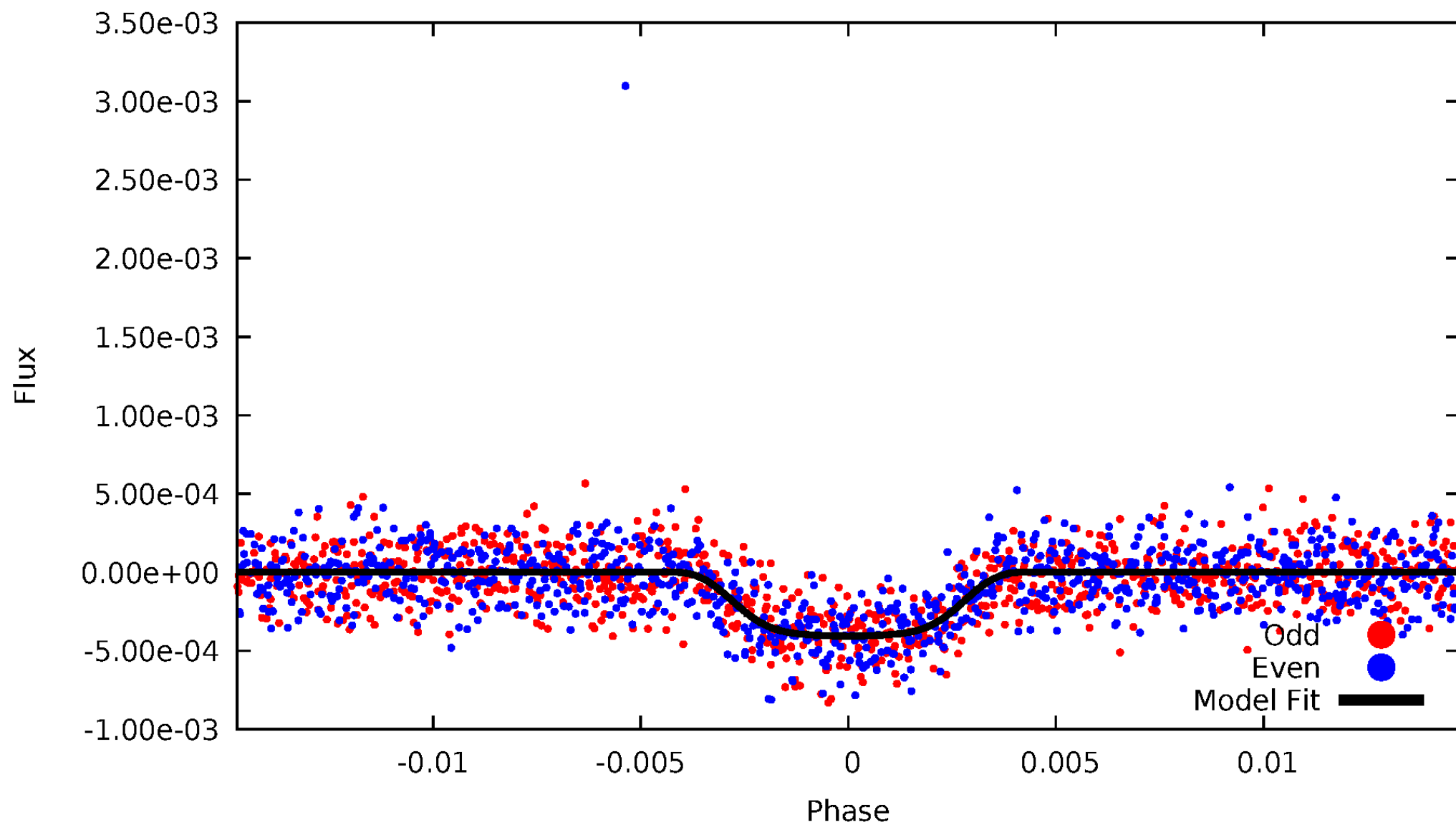


TCE 011253711-01



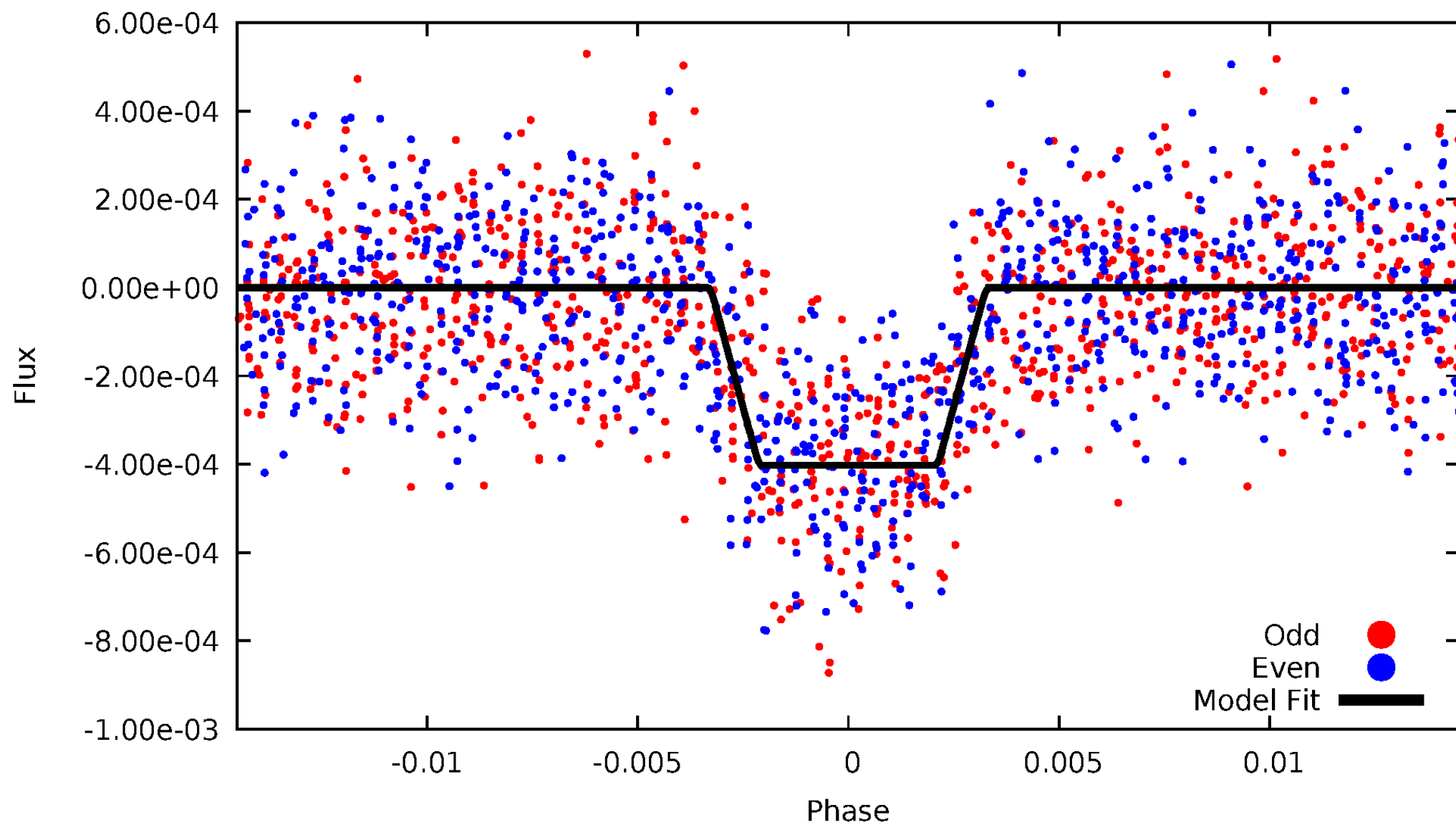
DV Odd/Even

TCE 011253711-01



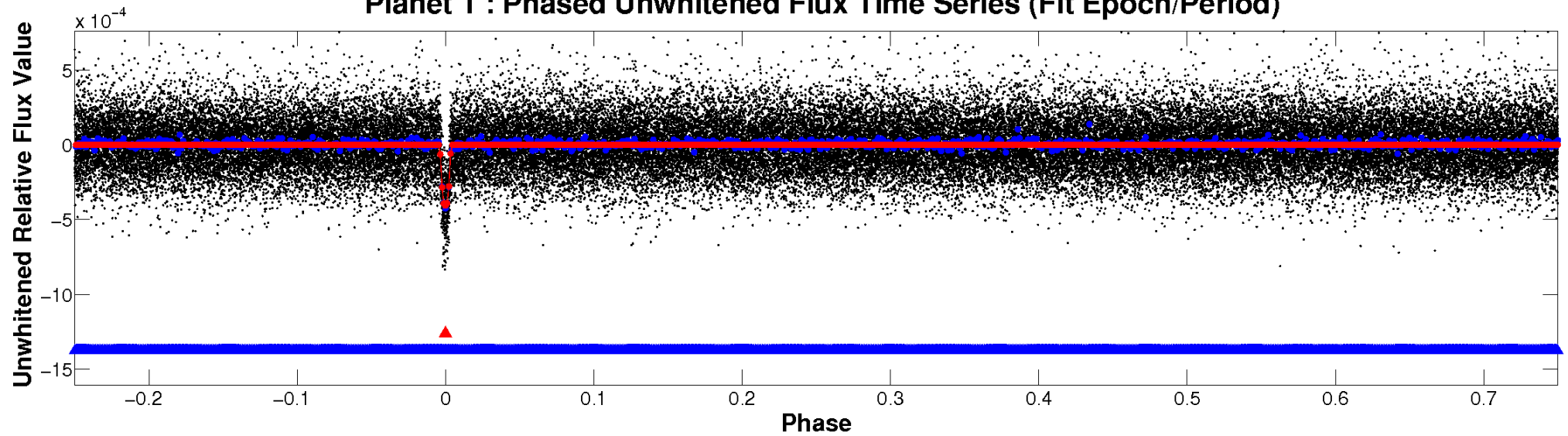
ALT Odd/Even

TCE 011253711-01

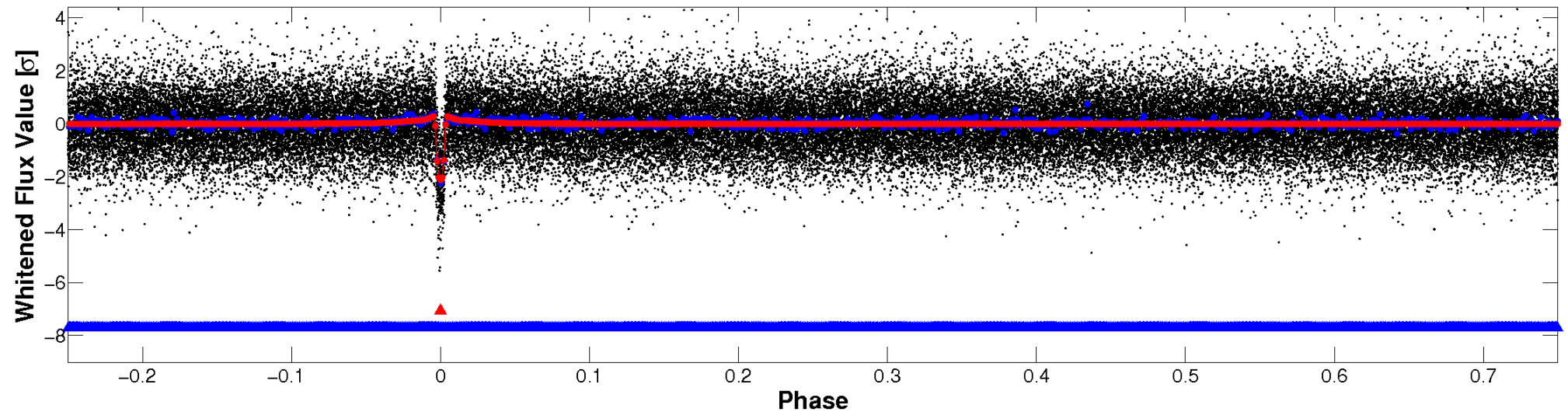


Non-Whitened Vs. Whitened Light Curve

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

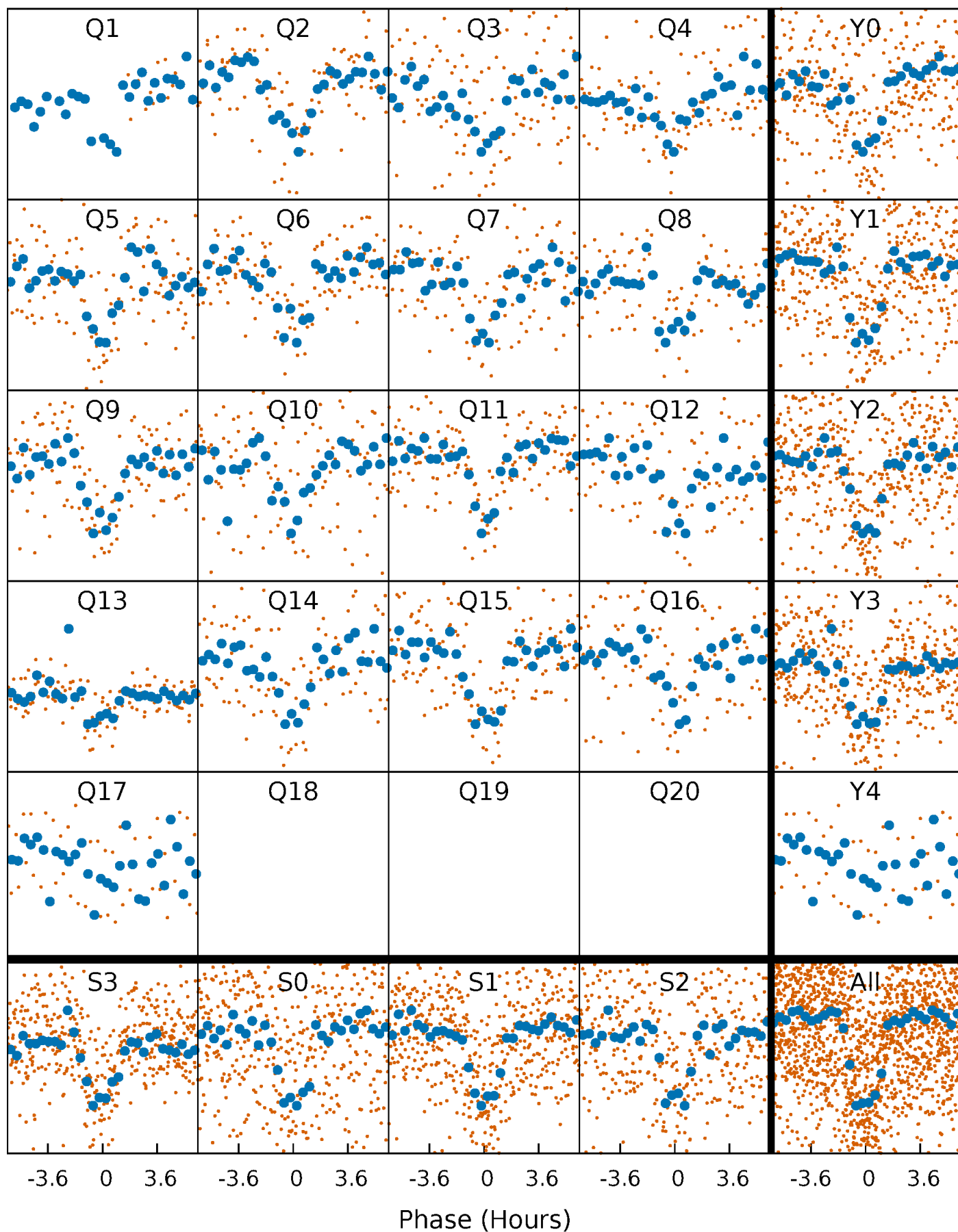


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



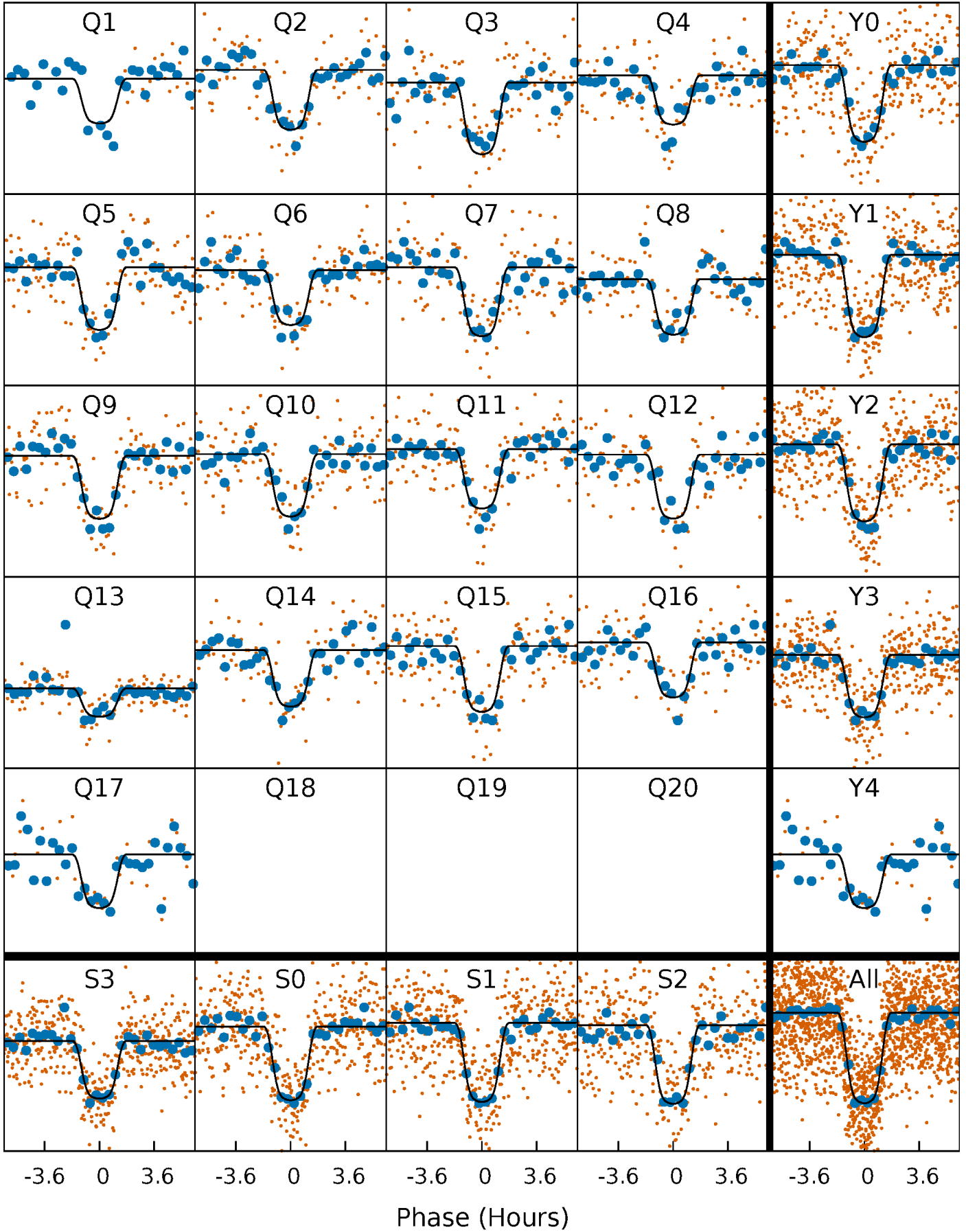
PDC Quarter-Phased Transit Curves

TCE 011253711-01 P= 17.791104 Days $T_0=149.253050$ (BKJD)



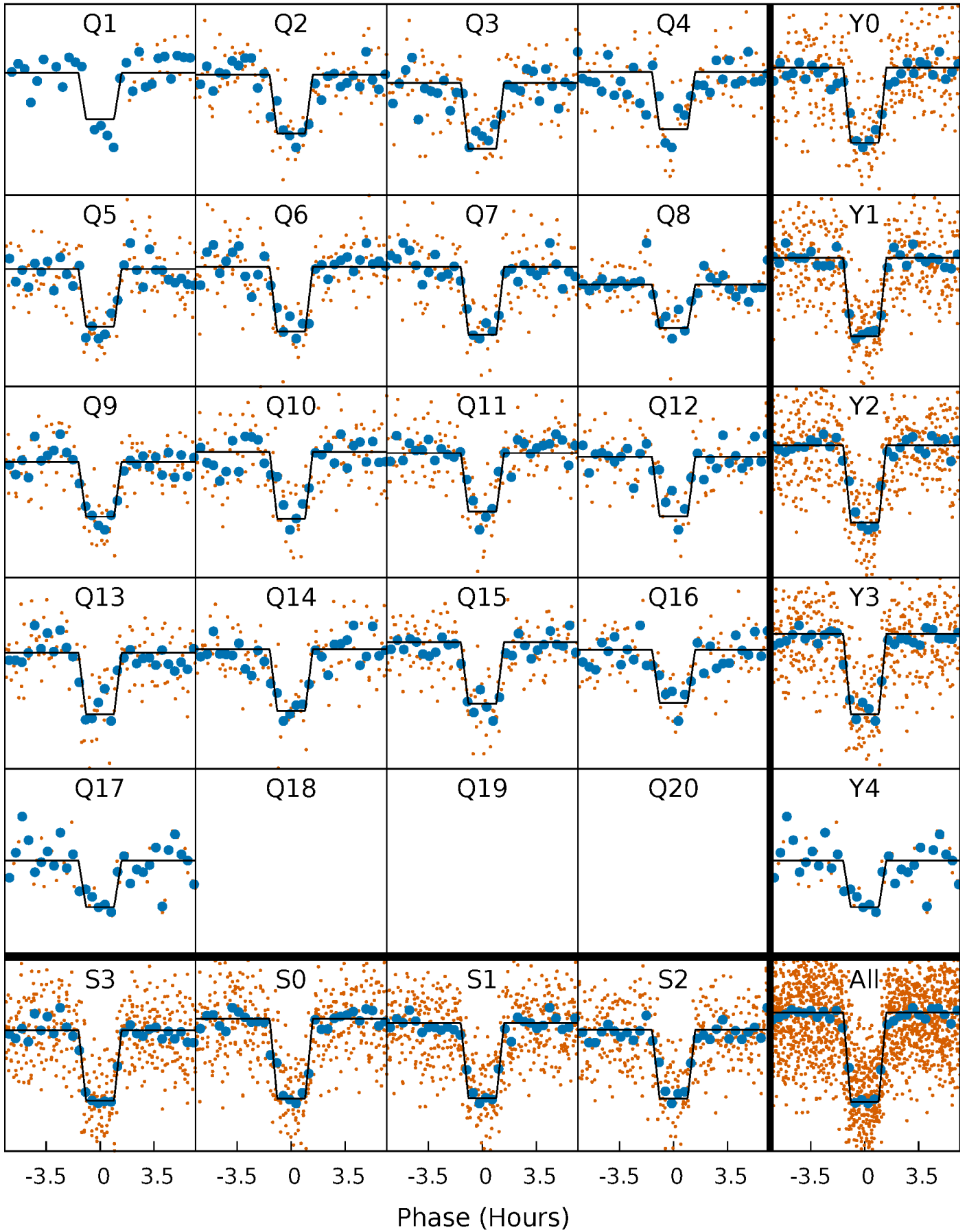
DV Quarter-Phased Transit Curves

TCE 011253711-01 P= 17.791104 Days $T_0=149.253050$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

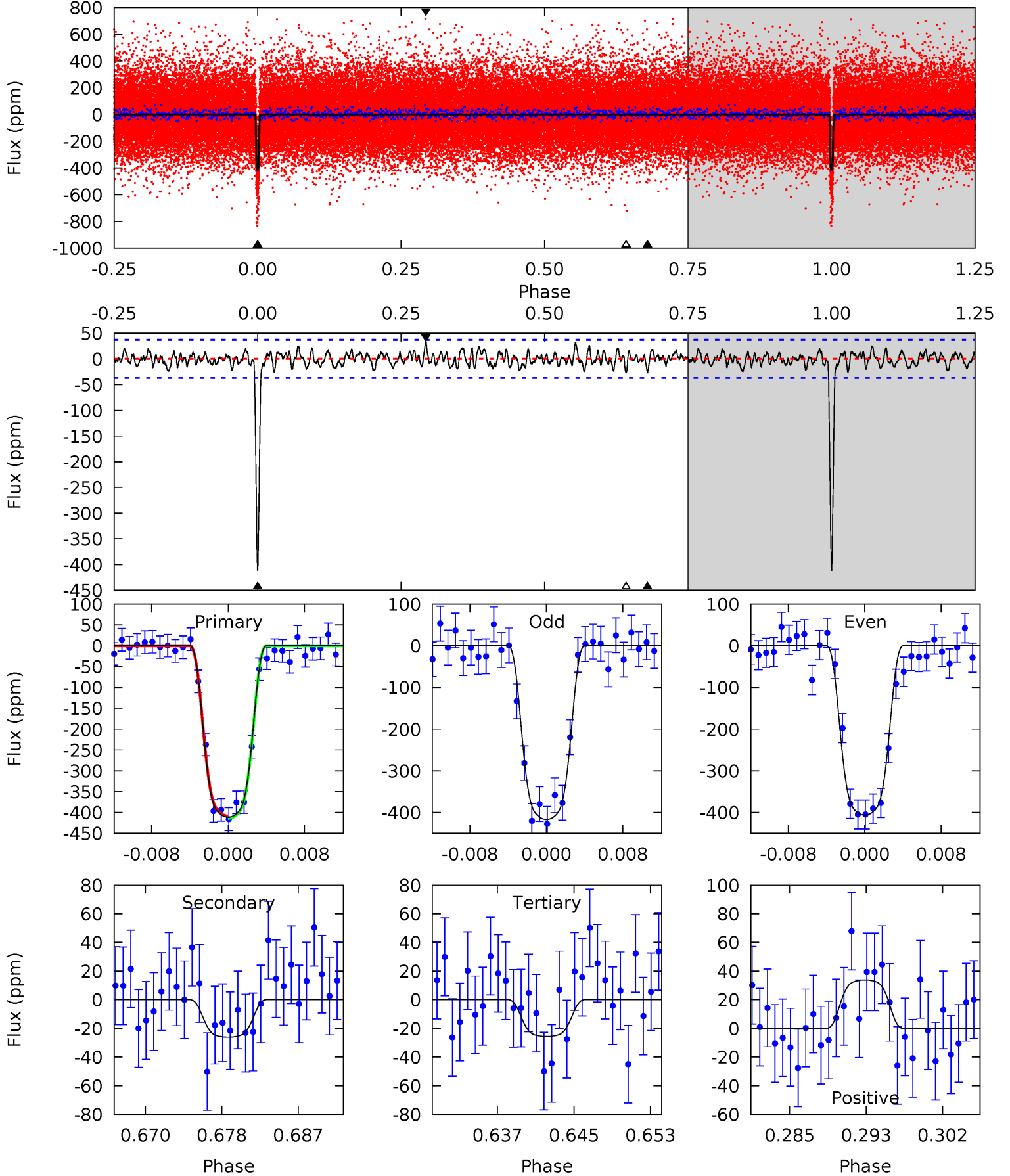
TCE 011253711-01 P= 17.791164 Days $T_0=149.250709$ (BKJD)



DV Model-Shift Uniqueness Test

011253711-01, $P = 17.791104$ Days, $E = 131.461946$ Days

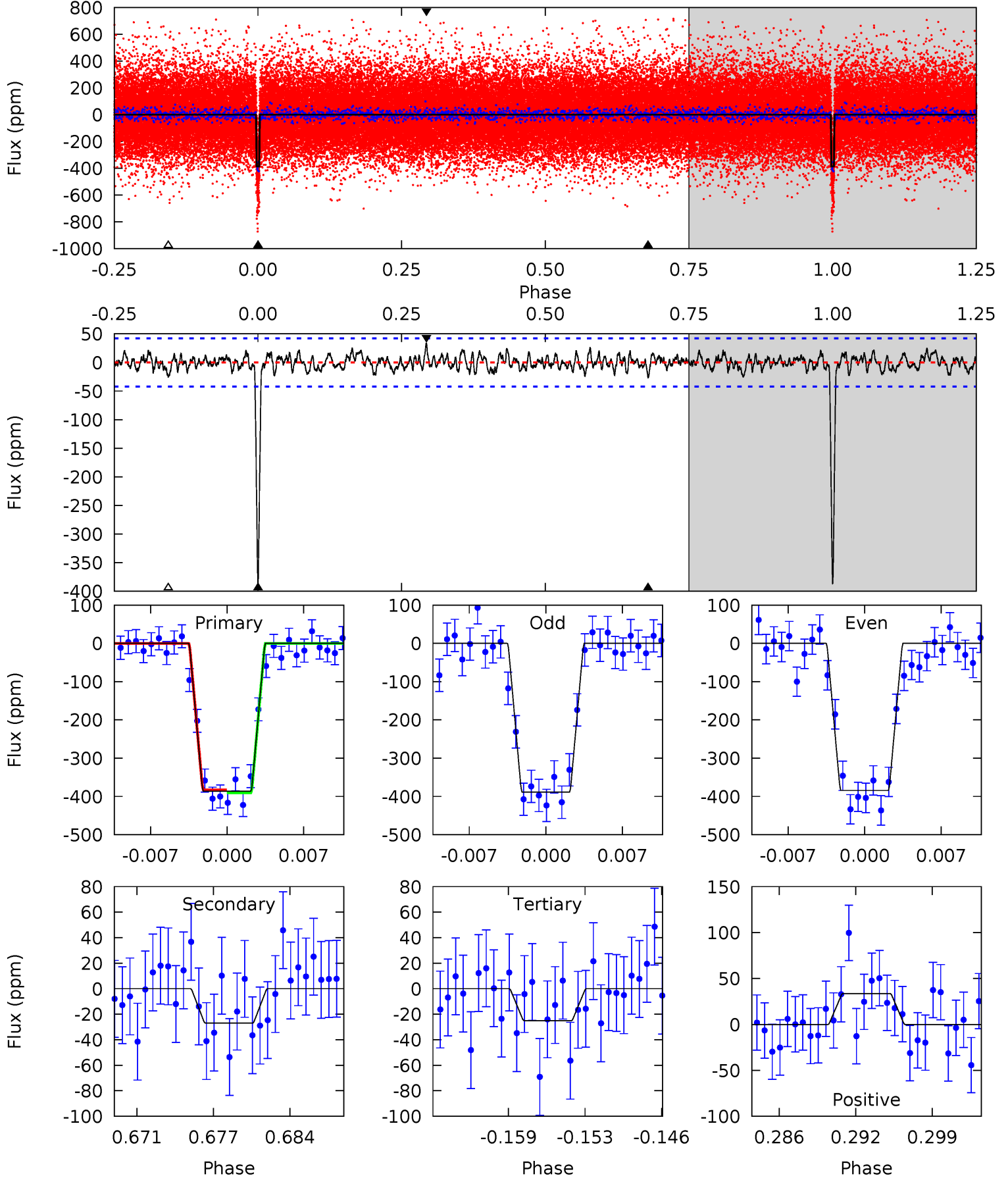
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
56.0	3.56	3.49	4.60	5.06	2.64	1.38	52.5	51.4	0.07	-1.04	0.72	1.00	0.08	0.38



Alt Model-Shift Uniqueness Test

011253711-01, $P = 17.791164$ Days, $E = 131.459545$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
47.0	3.28	3.04	4.09	5.10	2.71	1.19	43.9	42.9	0.23	-0.82	0.25	0.96	0.08	0.46



Stellar Parameters For KIC 011253711

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5855^{+79}_{-70}	$4.148^{+0.195}_{-0.105}$	$-0.260^{+0.150}_{-0.150}$	$1.340^{+0.221}_{-0.294}$	$0.920^{+0.069}_{-0.062}$	$0.539^{+0.555}_{-0.172}$
	+1%/-1%	+5%/-3%	+58%/-58%	+16%/-22%	+8%/-7%	+103%/-32%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 011253711-01 / KOI 1972.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-26 ± 7	$3.47^{+0.32}_{-0.44}$	1155^{+49}_{-73}	3275^{+134}_{-163}	21^{+9}_{-7}
Alt.	-27 ± 8	$2.89^{+0.29}_{-0.33}$	1152^{+57}_{-67}	3468^{+166}_{-202}	30^{+13}_{-11}

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 $A_{obs} \gg 1.0$

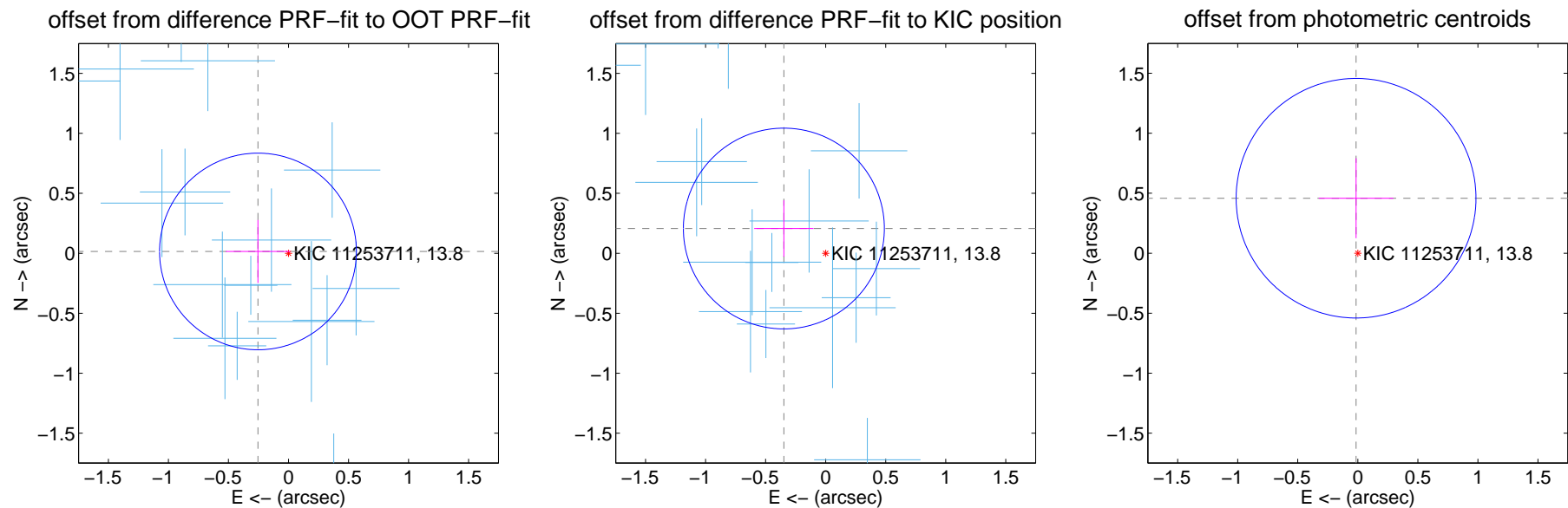
DV Centroid Data

Supplemental centroid analysis for 011253711-01. Kepler magnitude: 13.80. Transit SNR 34.89

There are 17 quarters with good PRF difference image offsets

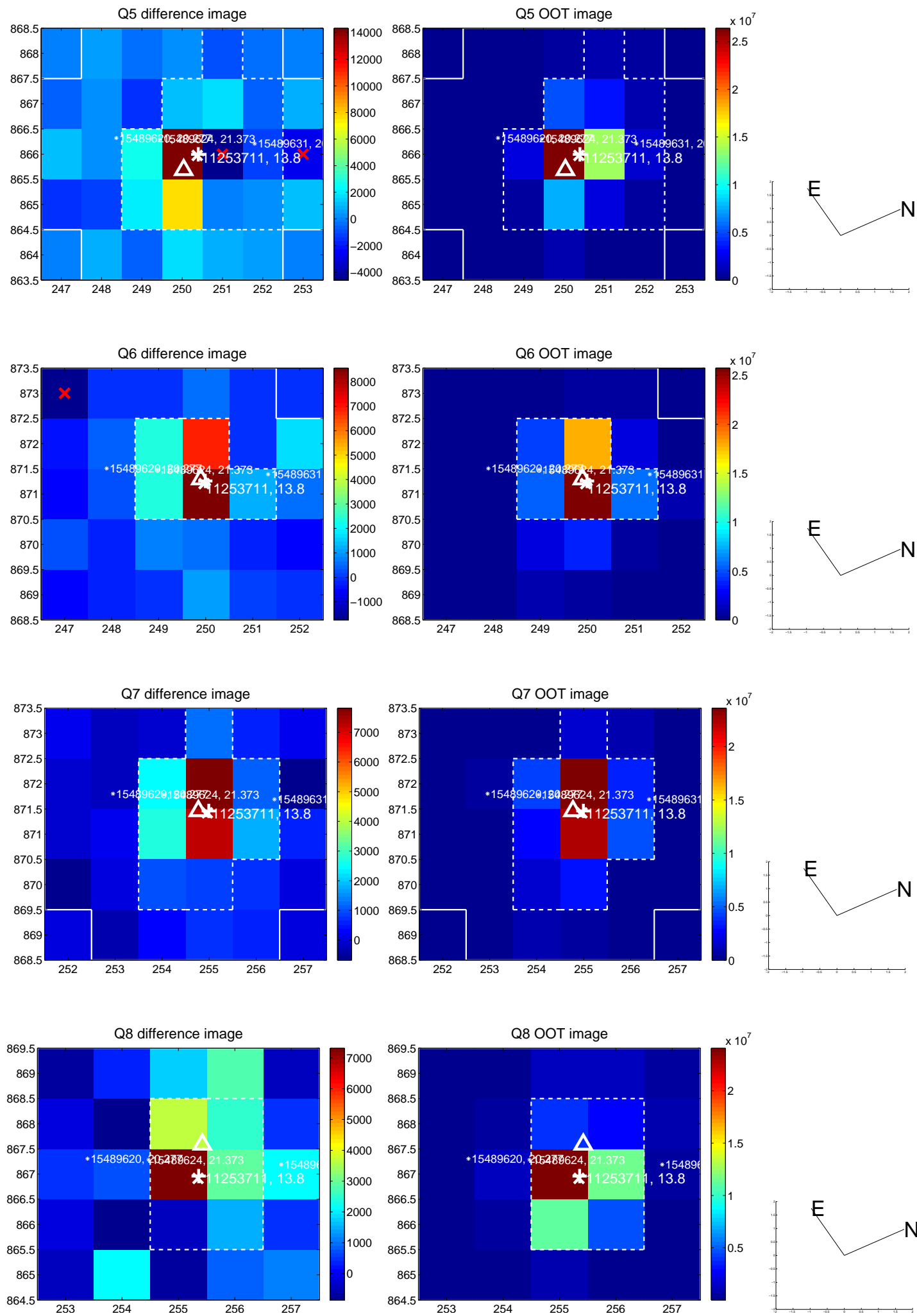
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.255 ± 0.273	0.93	0.254 ± 0.268	0.015 ± 0.263
PRF-fit source offset from KIC position	0.405 ± 0.279	1.45	0.348 ± 0.247	0.206 ± 0.235
photometric centroid source offset	0.46 ± 0.33	1.38	0.01 ± 0.31	0.46 ± 0.33

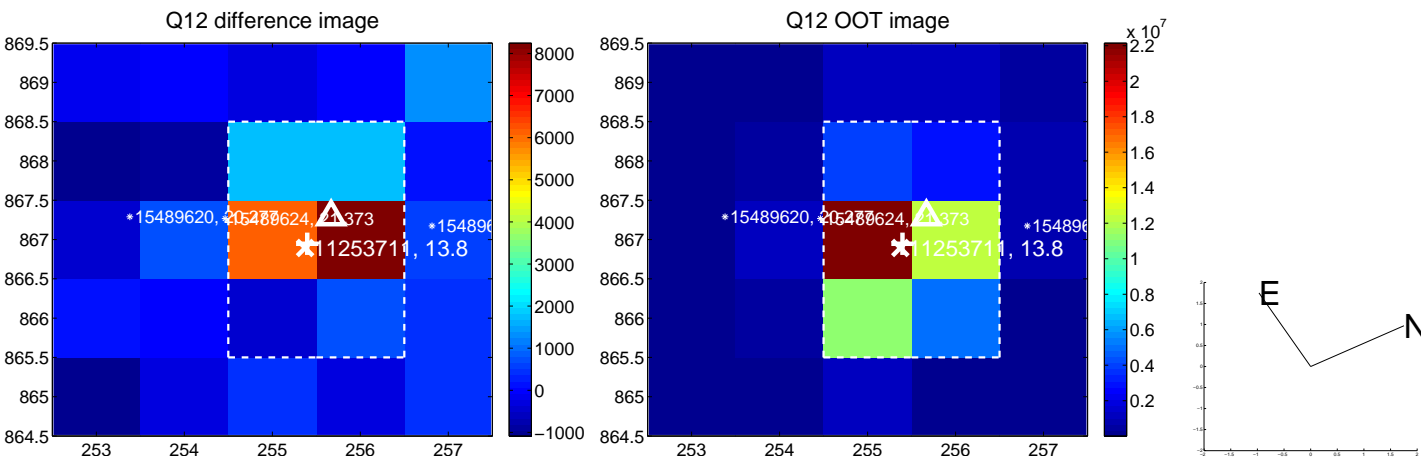
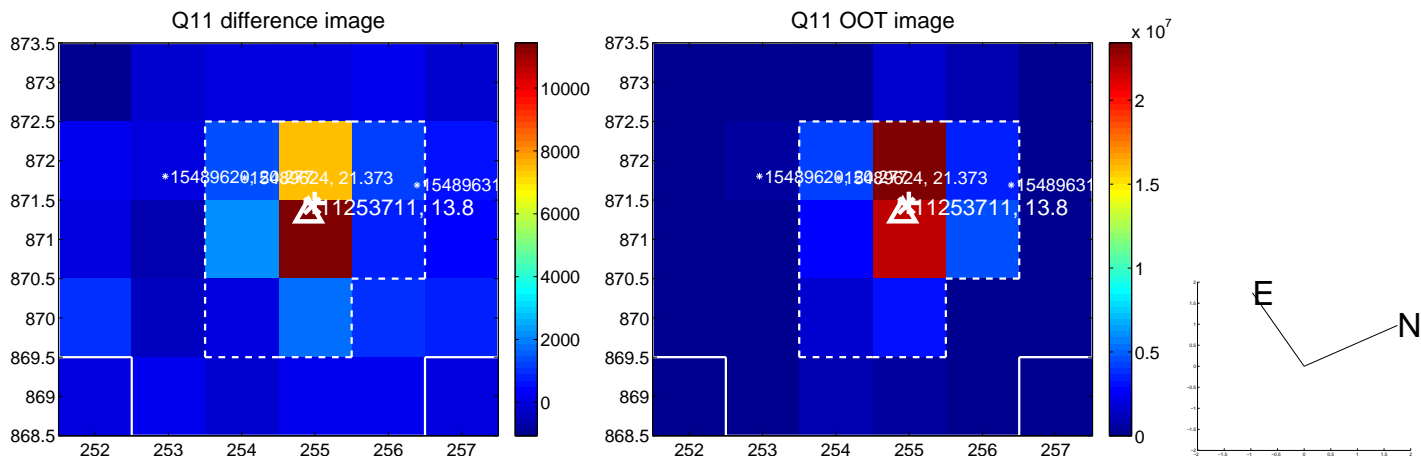
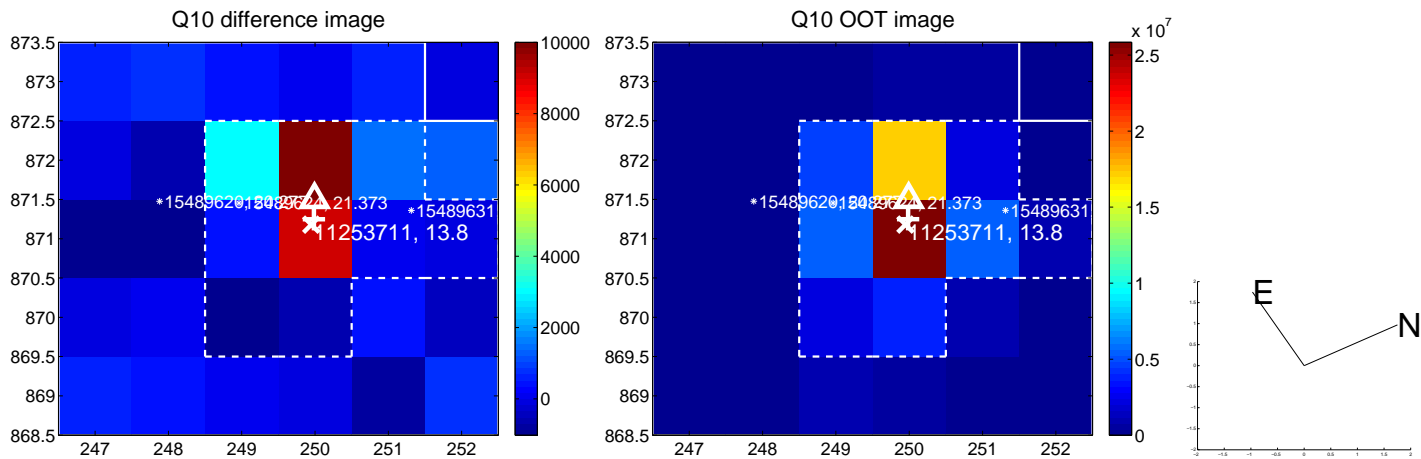
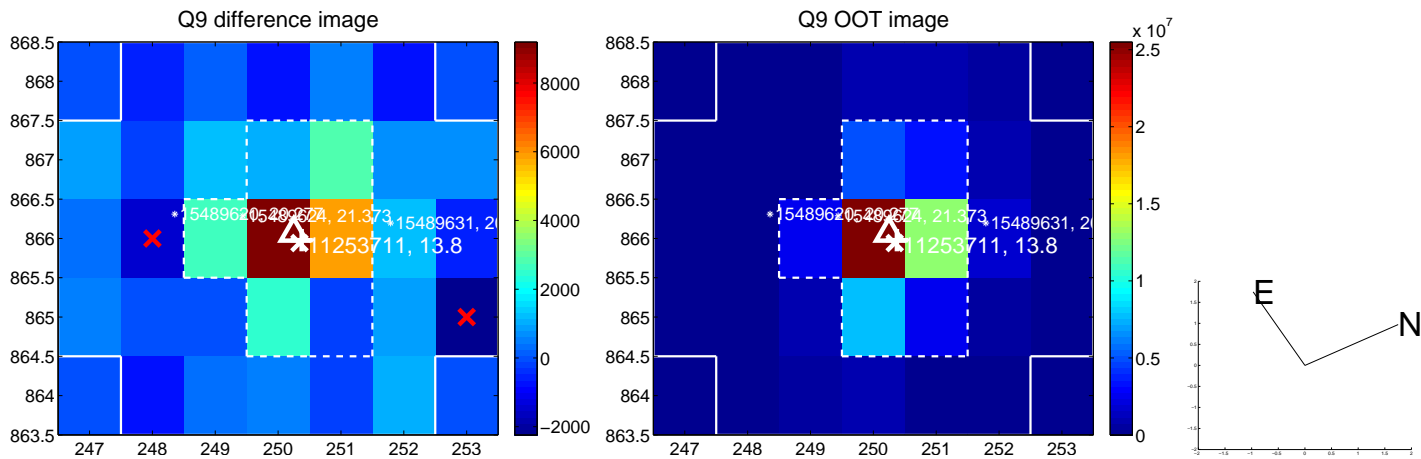


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

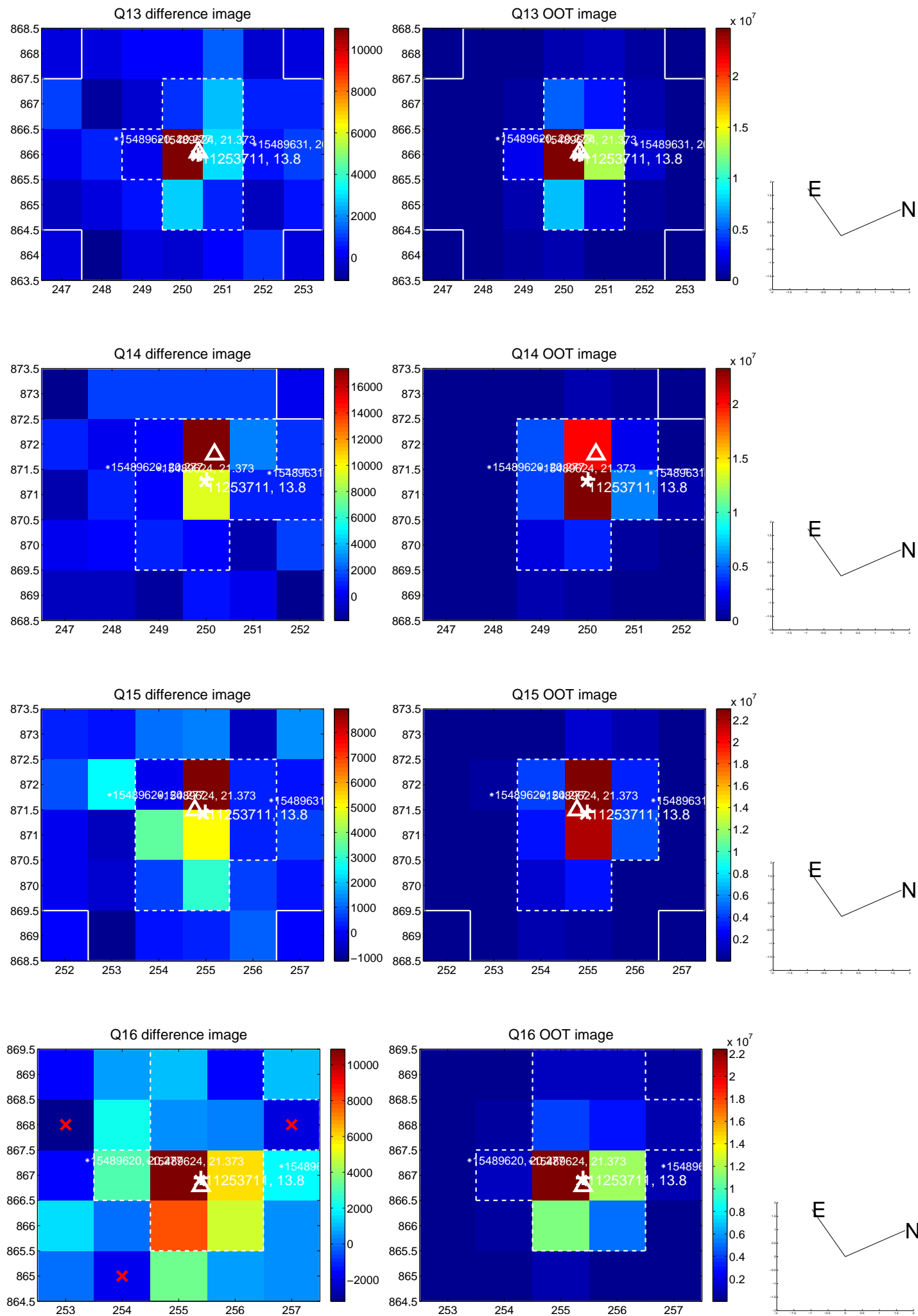
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



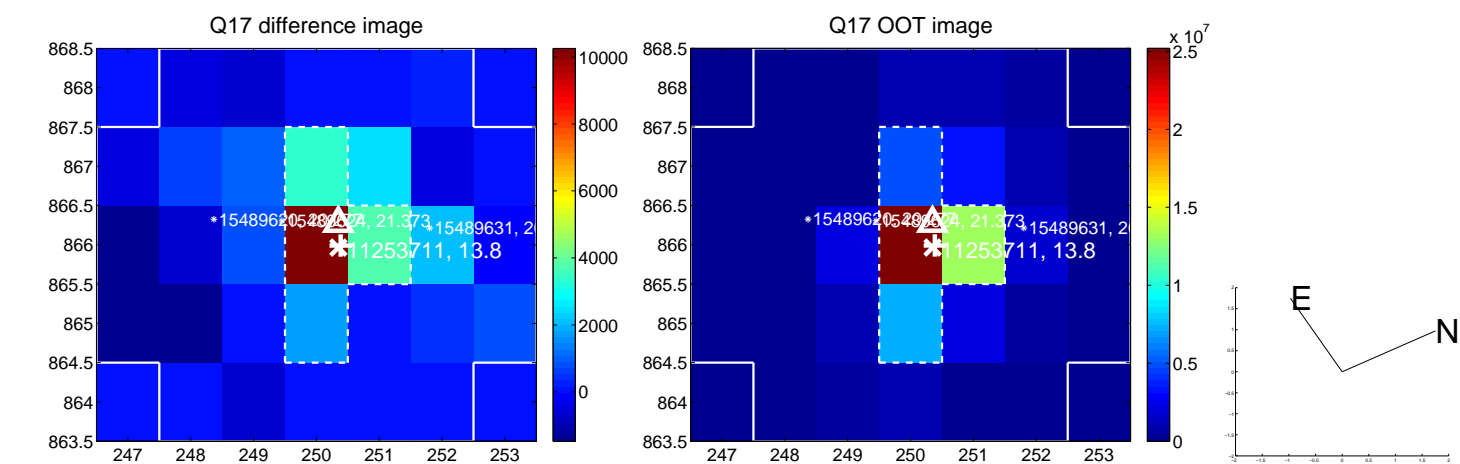
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



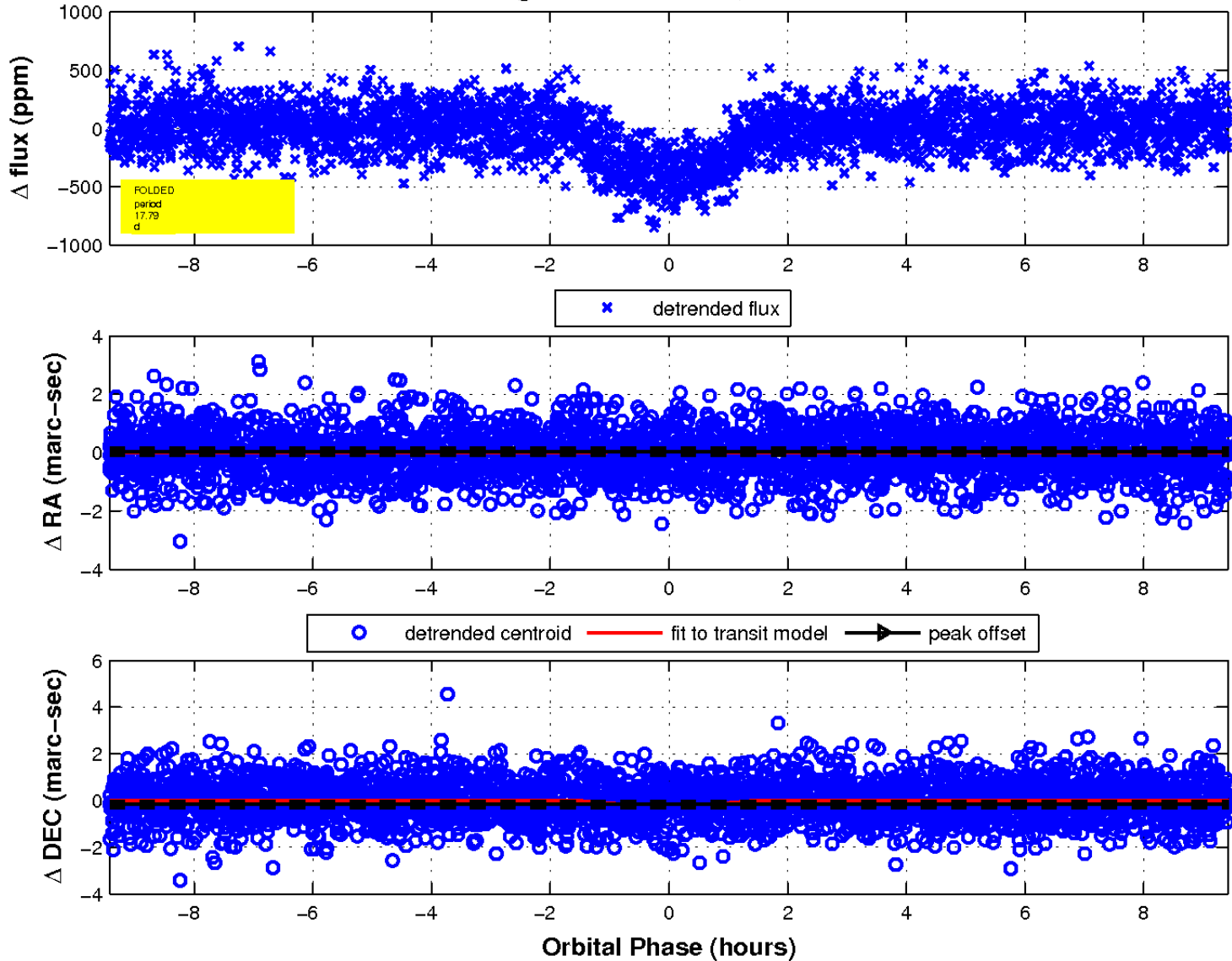
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

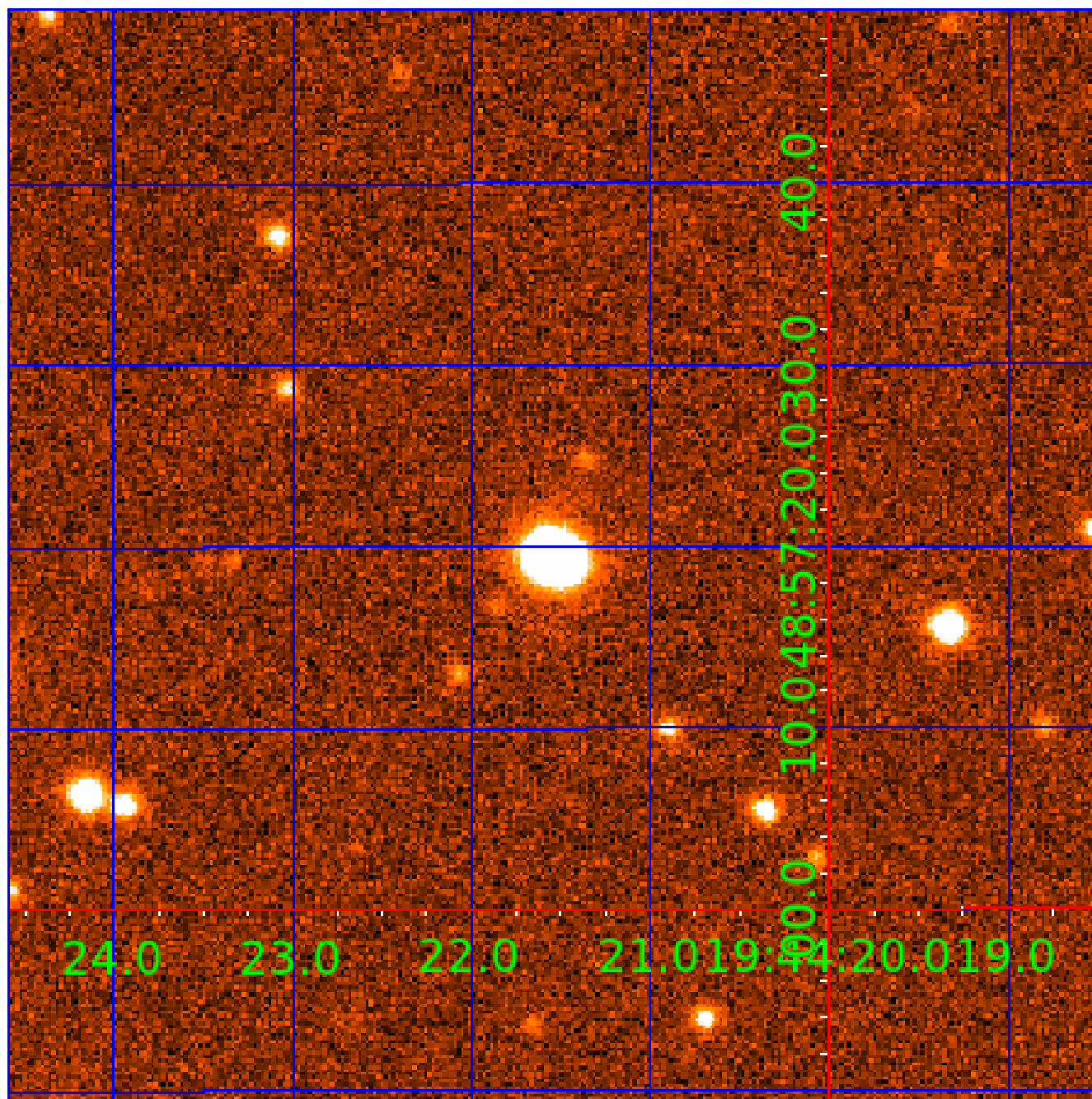


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 011253711

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})
011253711-01	OBS	1972.01	17.791104	149.253050	407.1	3.143	31.7	34.9	1.34	5855	3.48	112.24
011253711-02	OBS	1972.02	1.226247	132.672238	54.7	2.390	16.7	17.7	1.34	5855	1.17	3971.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011253711-01	OBS	PC	0.99	0	0	0	0	NO_COMMENT
011253711-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

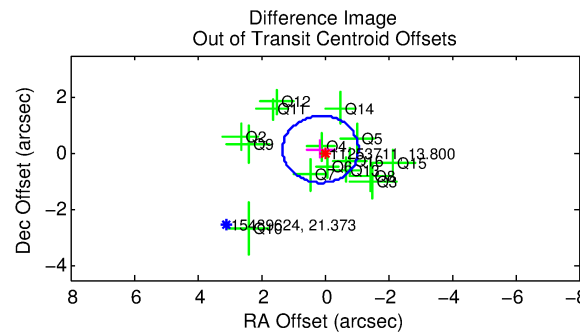
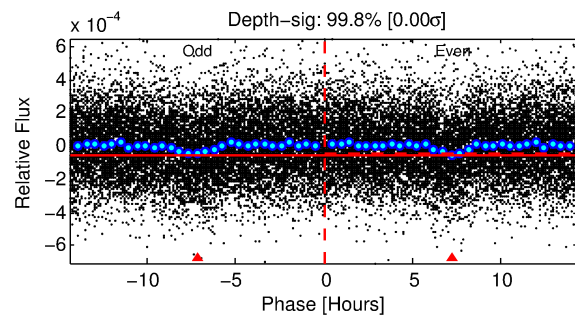
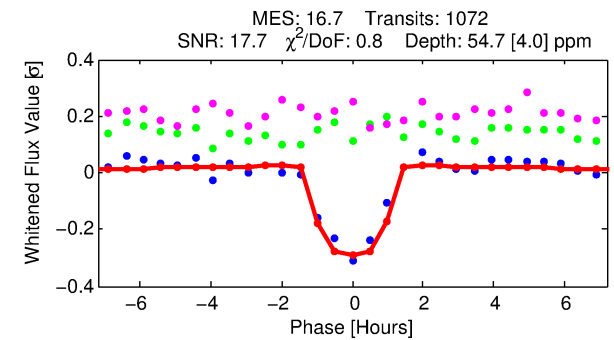
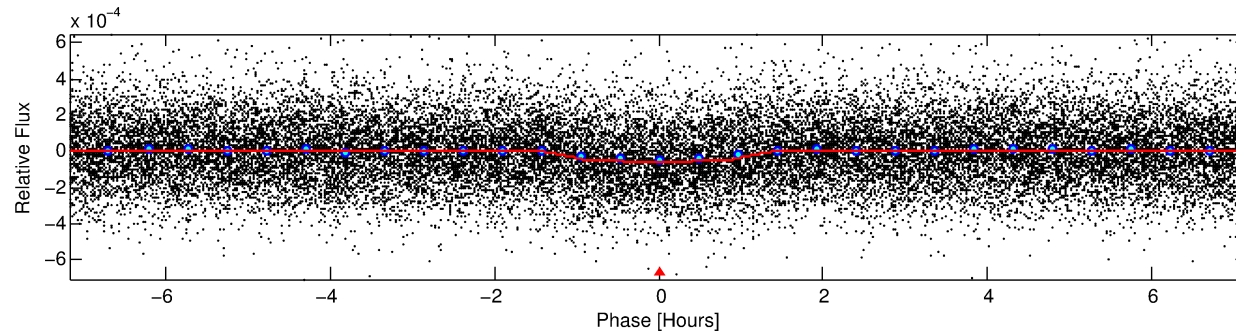
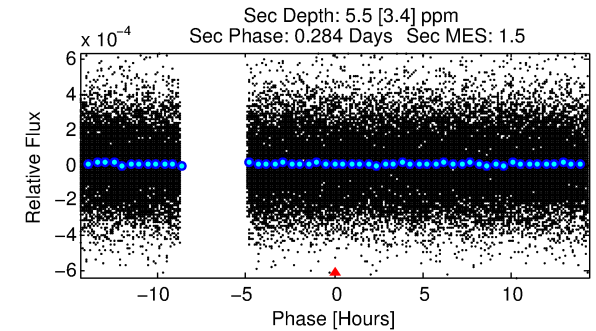
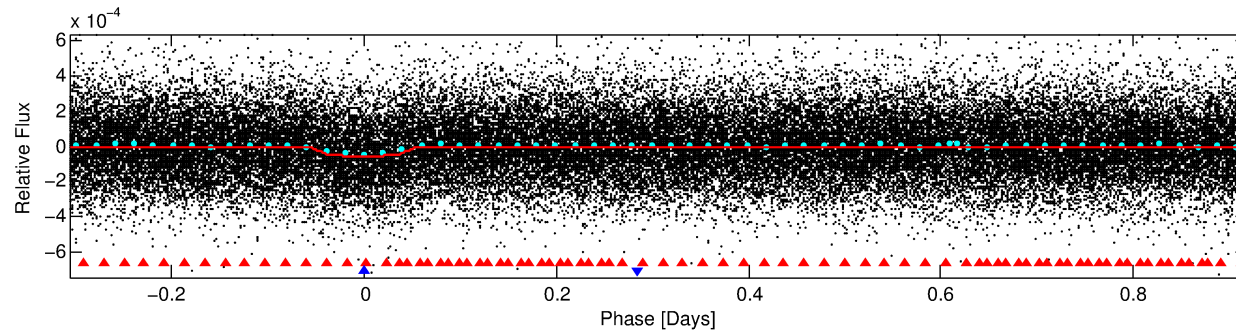
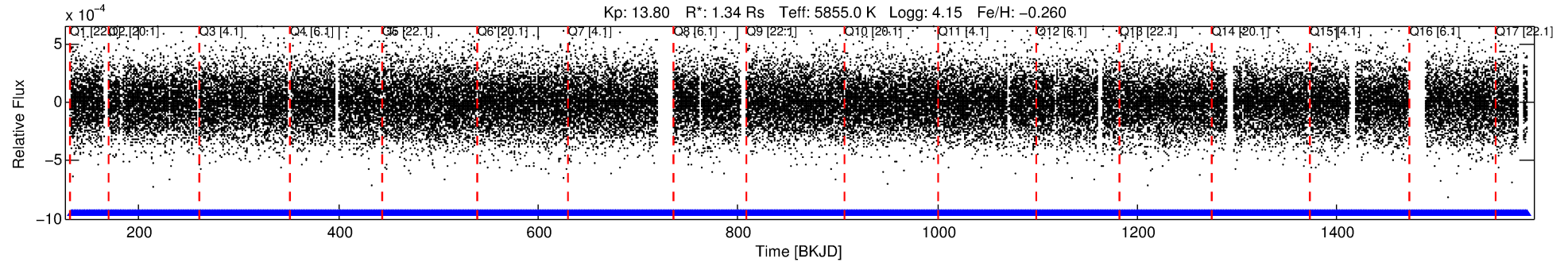
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011253711-02

No Significant Match Found

DV One-Page Summary

KIC: 11253711 Candidate: 2 of 2 Period: 1.226 d
KOI: K01972.02 Corr: 0.897



DV Fit Results:

Period = 1.22625 [0.00001] d
Epoch = 132.6722 [0.0018] BKJD
Rp/R* = 0.0080 [0.0028]
a/R* = 2.03 [2.69]
b = 0.90 [0.39]
Seff = 3971.62 [1340.44]
Teq = 2024 [171] K
Rp = 1.17 [0.48] Re
a = 0.0218 [0.0046] AU
Ag = 1.06 [1.04] [0.06σ]
Teffp = 3178 [734] K [1.53σ]

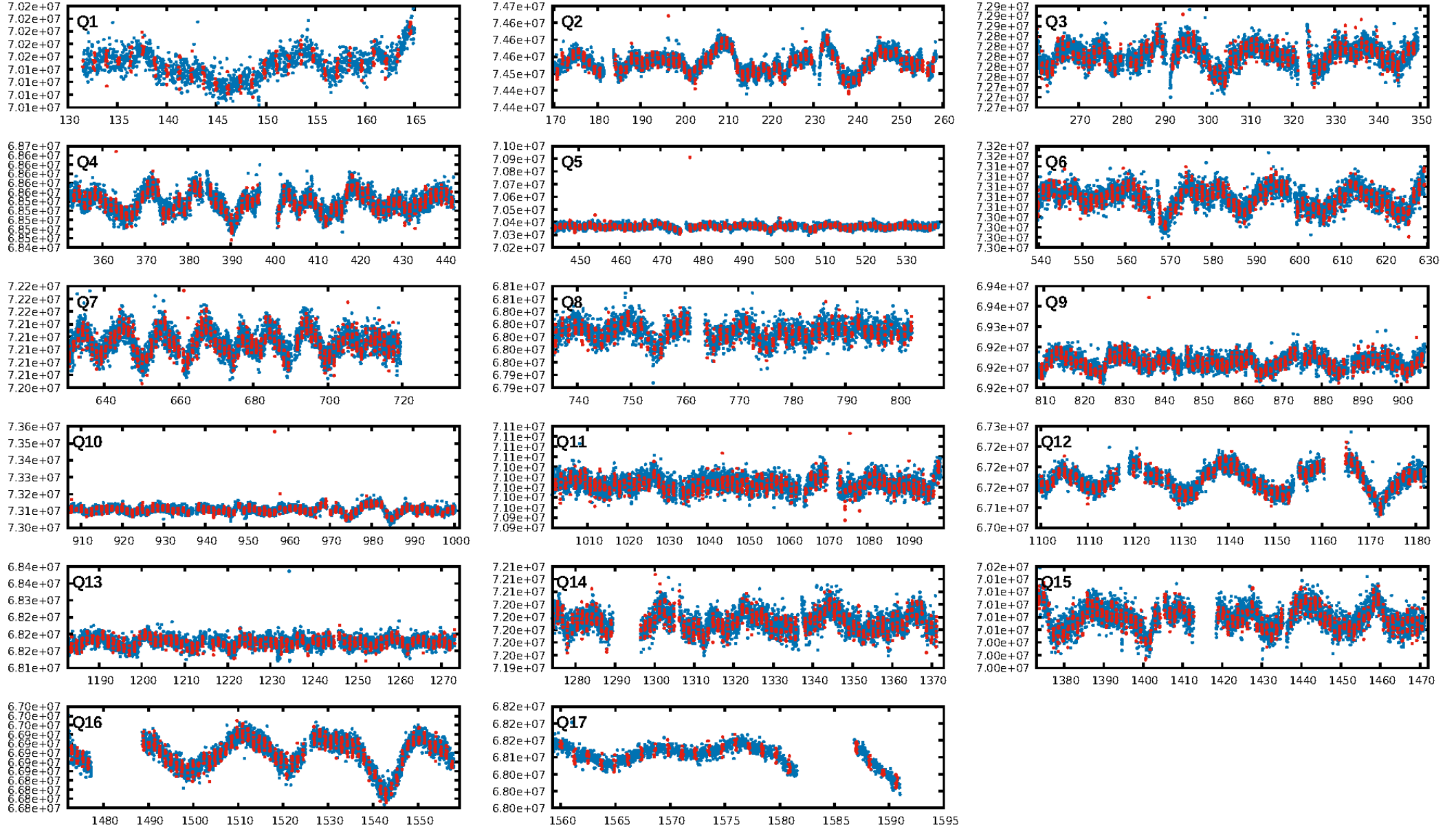
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [100.68σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.80e-58
RollingBand-fgt: 1.00 [1023/1023]
GhostDiagnostic-chr: 3.044
Centroid-sig: 3.7%
Centroid-so: 0.919 arcsec [1.40σ]
OotOffset-rm: 0.201 arcsec [0.51σ]
KicOffset-rm: 0.392 arcsec [1.14σ]
OotOffset-st: 4/4/4/3 [15]
KicOffset-st: 4/4/4/3 [15]
DiffImageQuality-fgm: 0.80 [12/15]
DiffImageOverlap-fno: 1.00 [17/17]

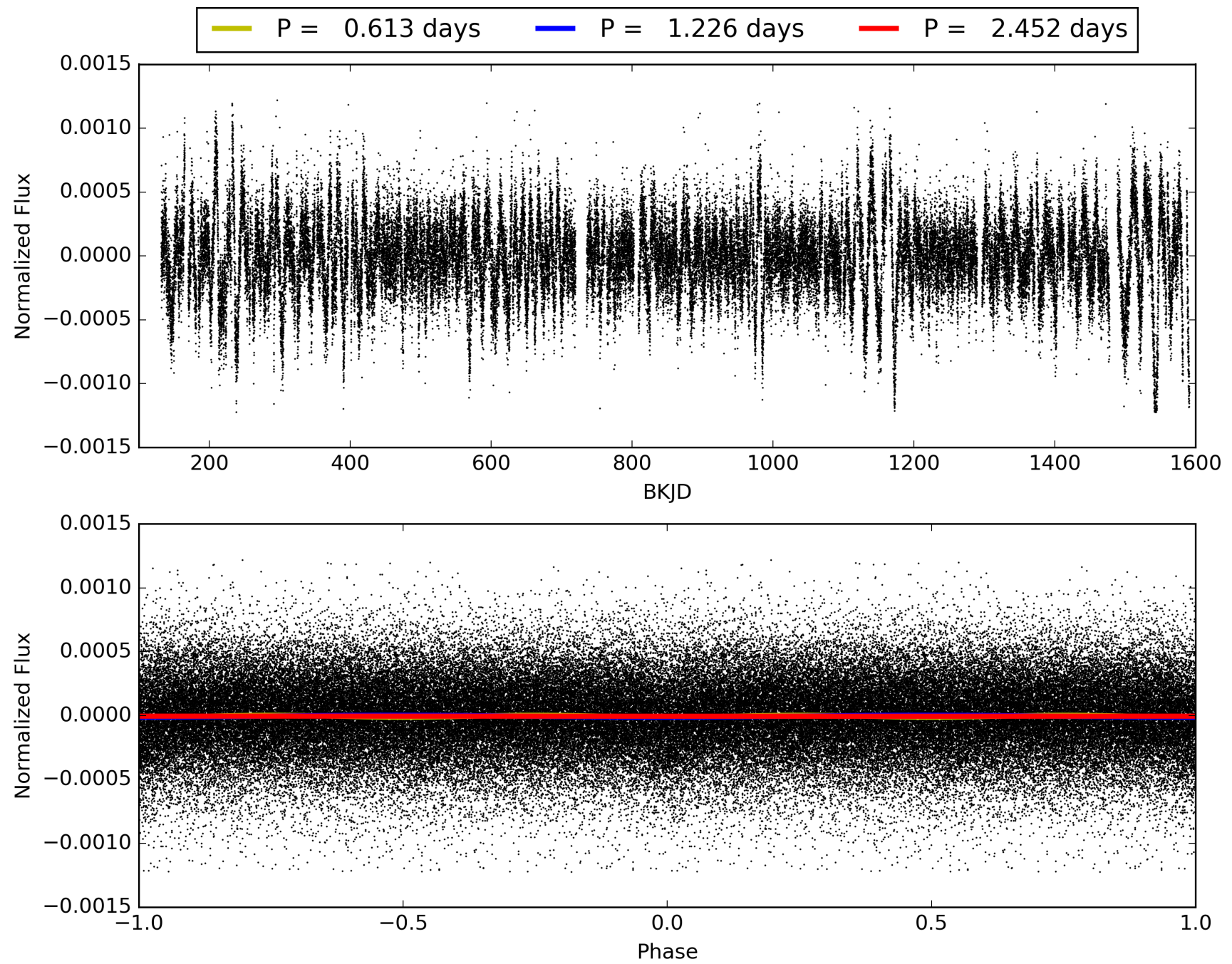
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 05:38:46 Z

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

TCE 011253711-02, PDC Light Curves

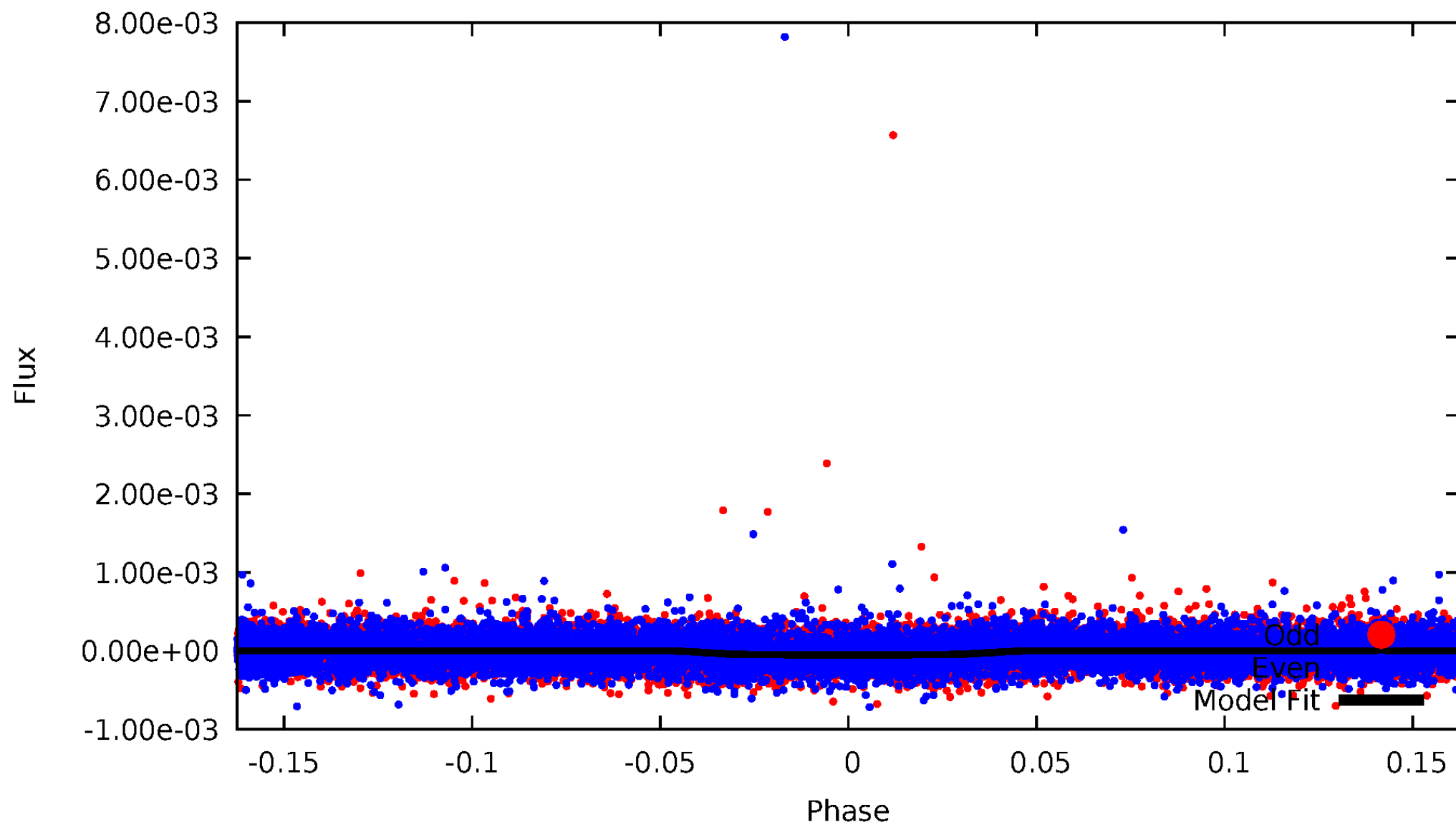


TCE 011253711-02



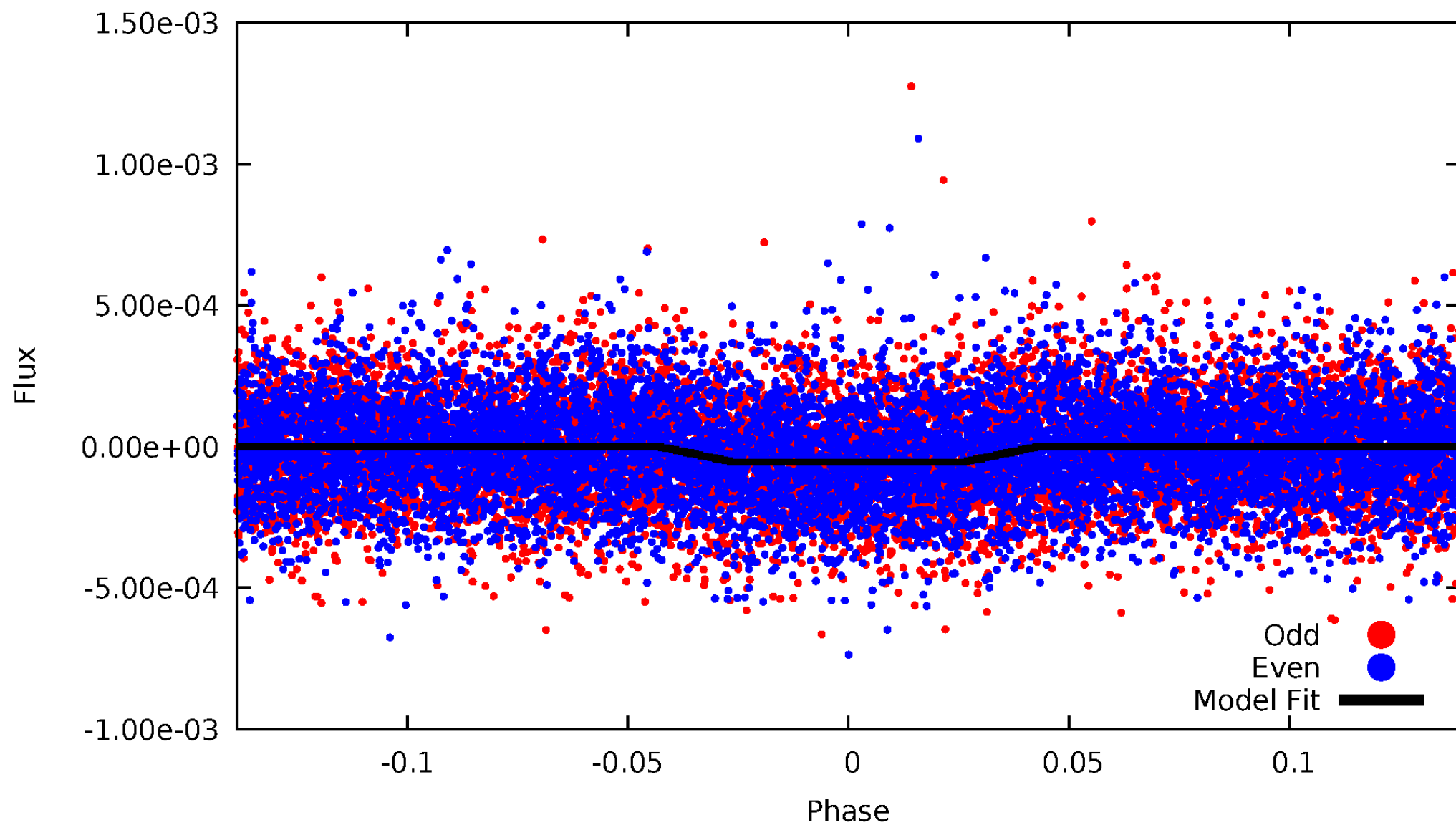
DV Odd/Even

TCE 011253711-02



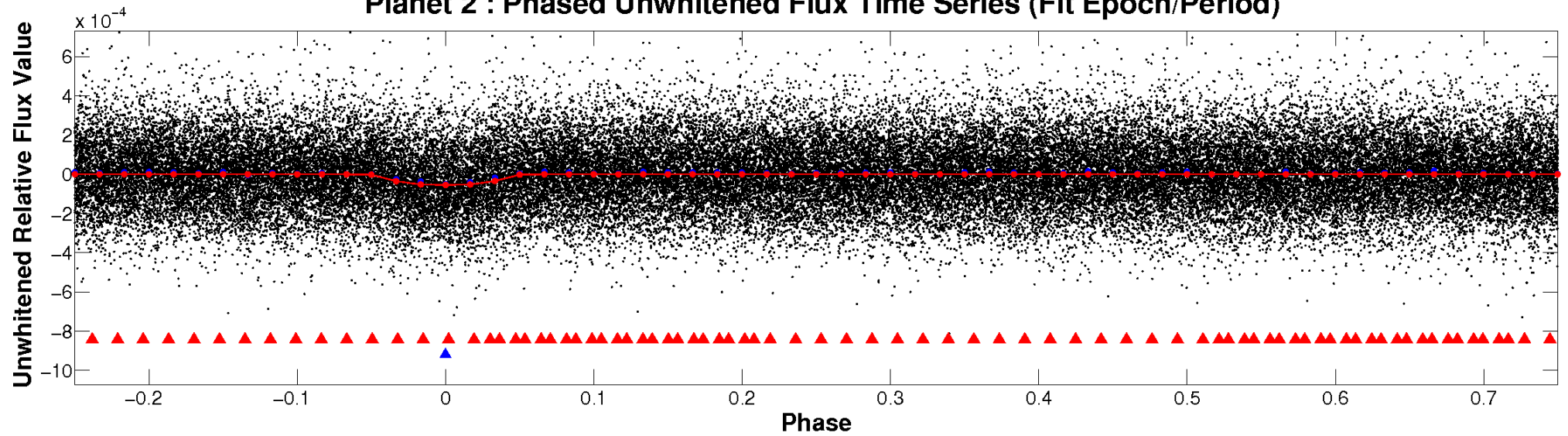
ALT Odd/Even

TCE 011253711-02

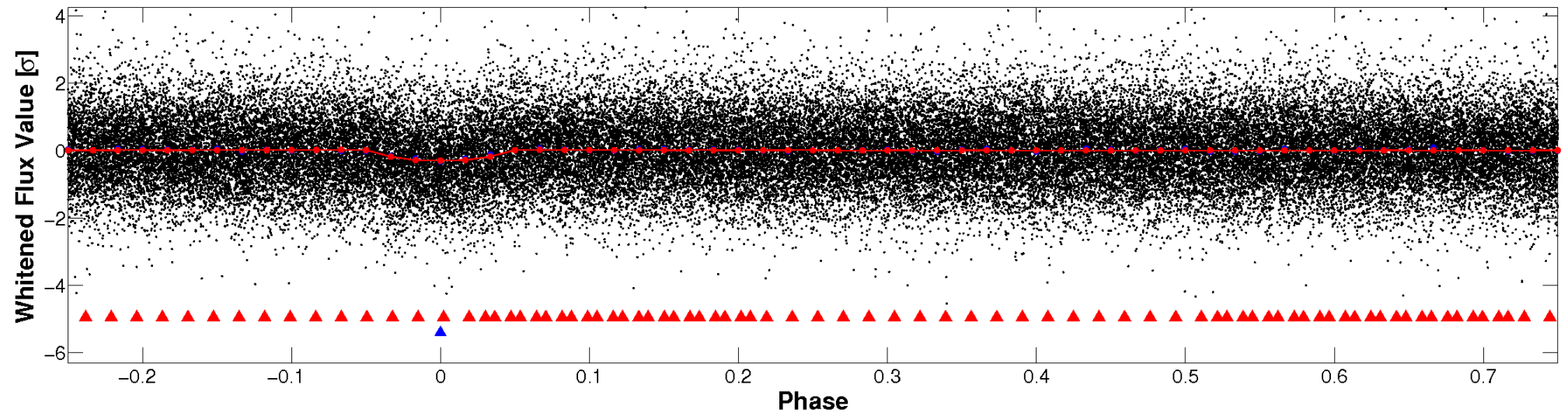


Non-Whitened Vs. Whitened Light Curve

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

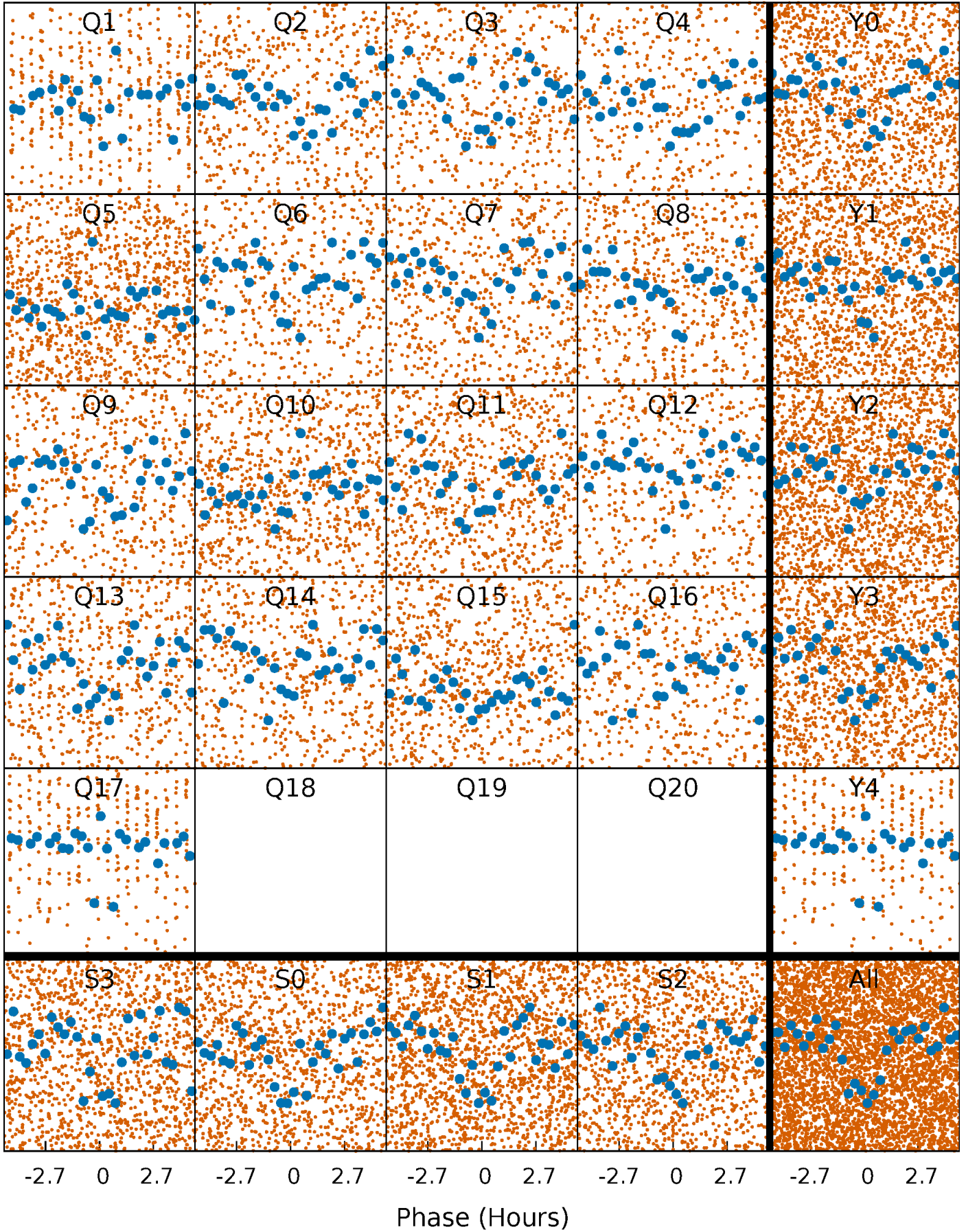


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



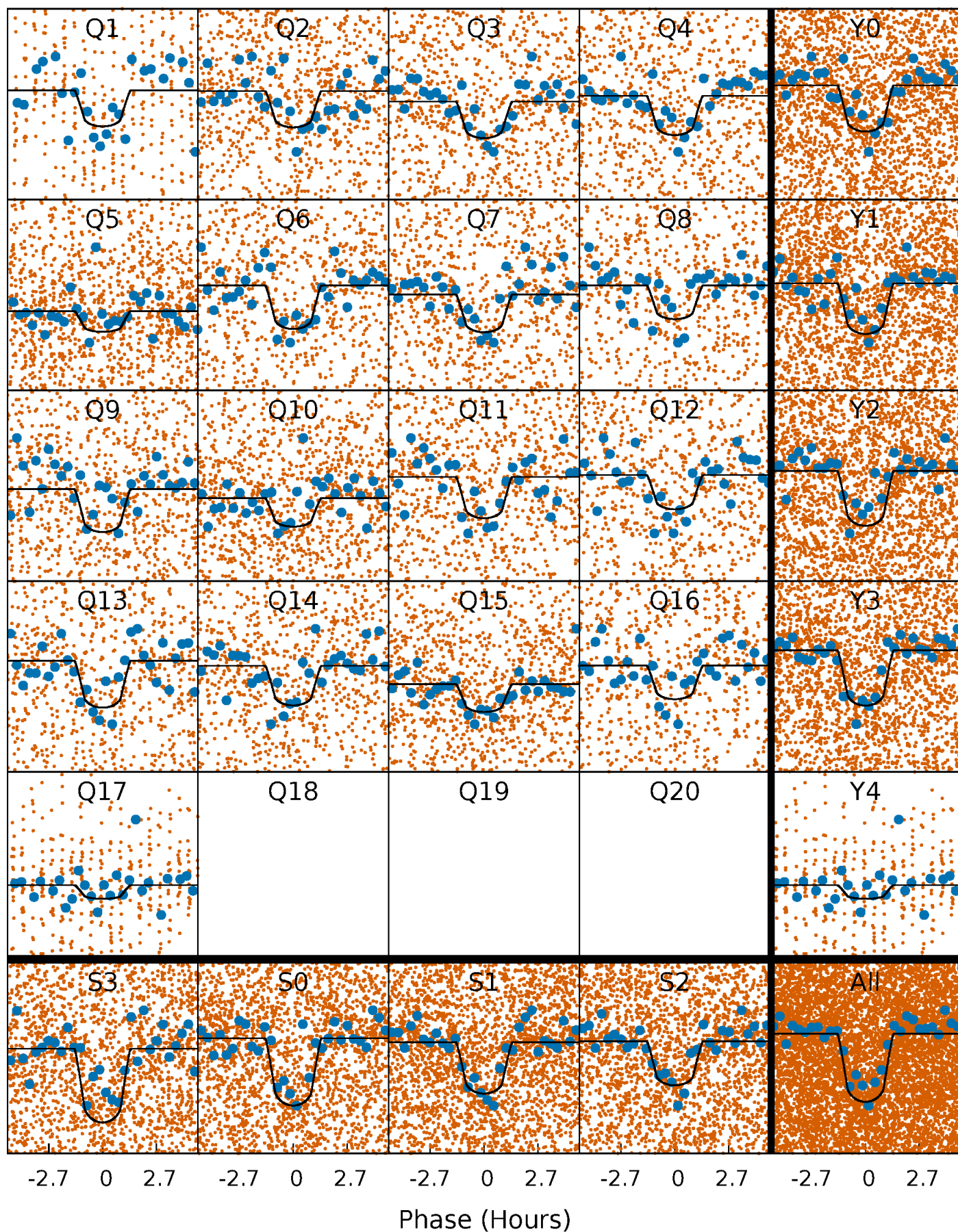
PDC Quarter-Phased Transit Curves

TCE 011253711-02 P= 1.226247 Days $T_0=132.672238$ (BKJD)



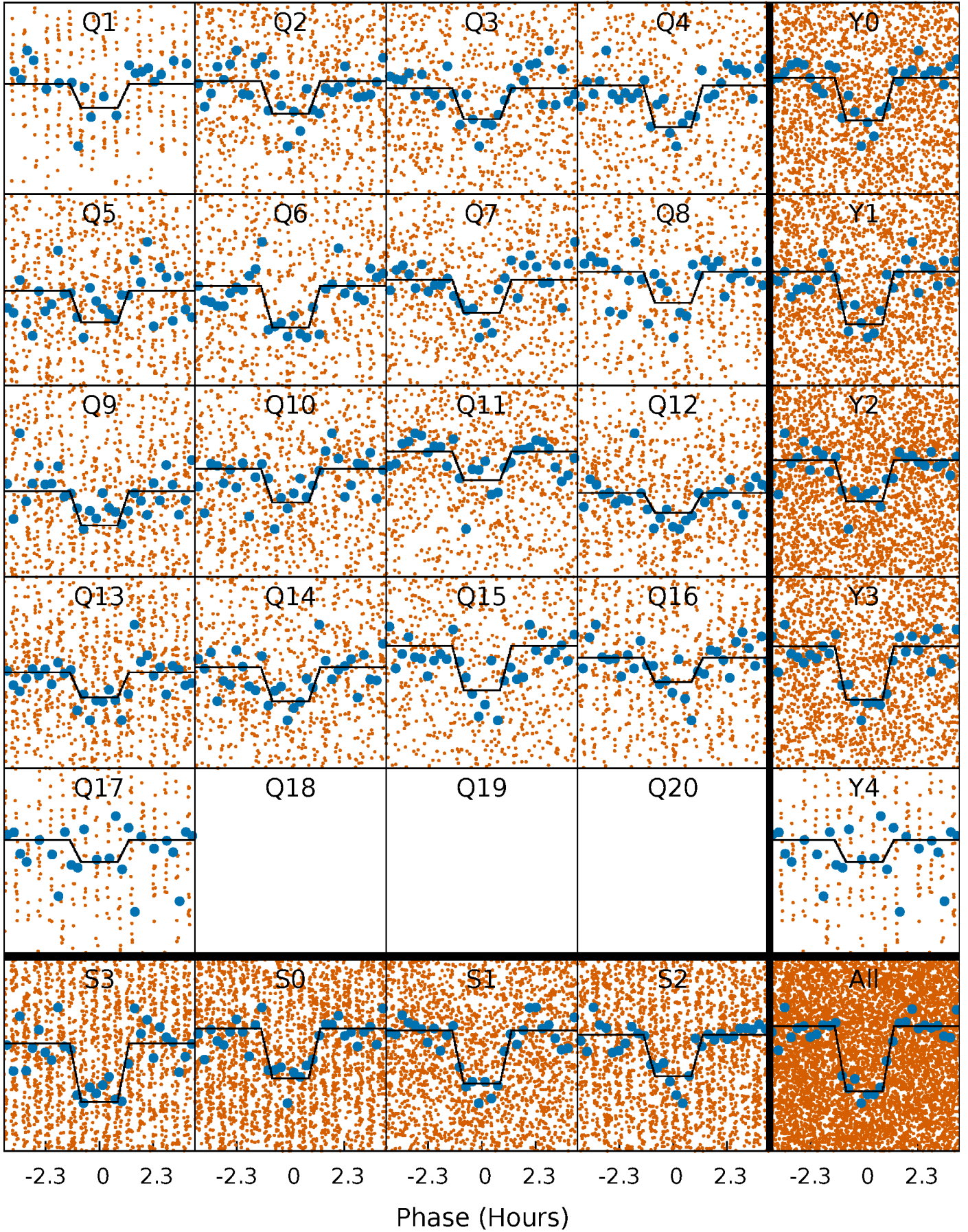
DV Quarter-Phased Transit Curves

TCE 011253711-02 P= 1.226247 Days $T_0=132.672238$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

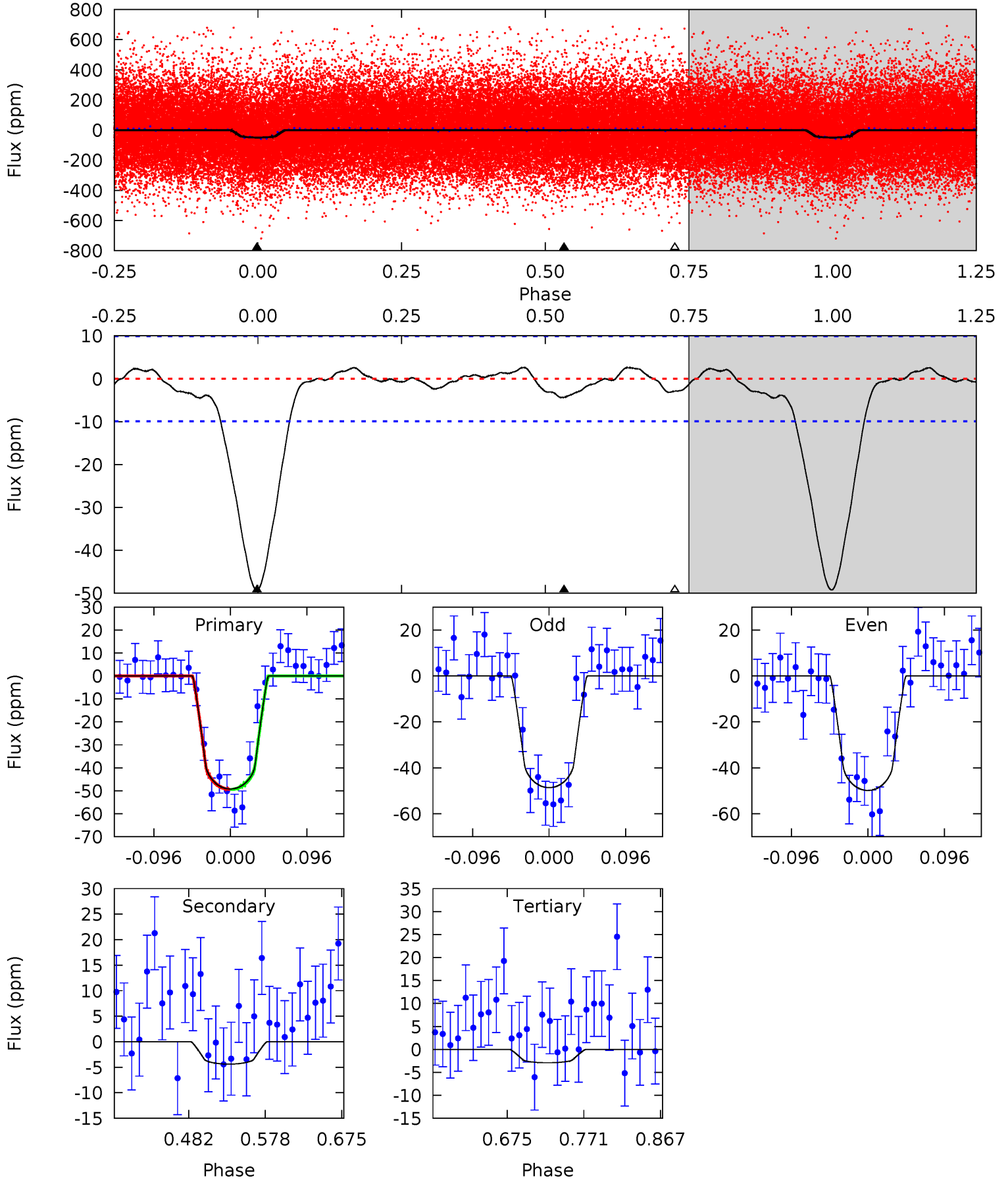
TCE 011253711-02 P= 1.226219 Days $T_0=132.685915$ (BKJD)



DV Model-Shift Uniqueness Test

011253711-02, P = 1.226247 Days, E = 131.445991 Days

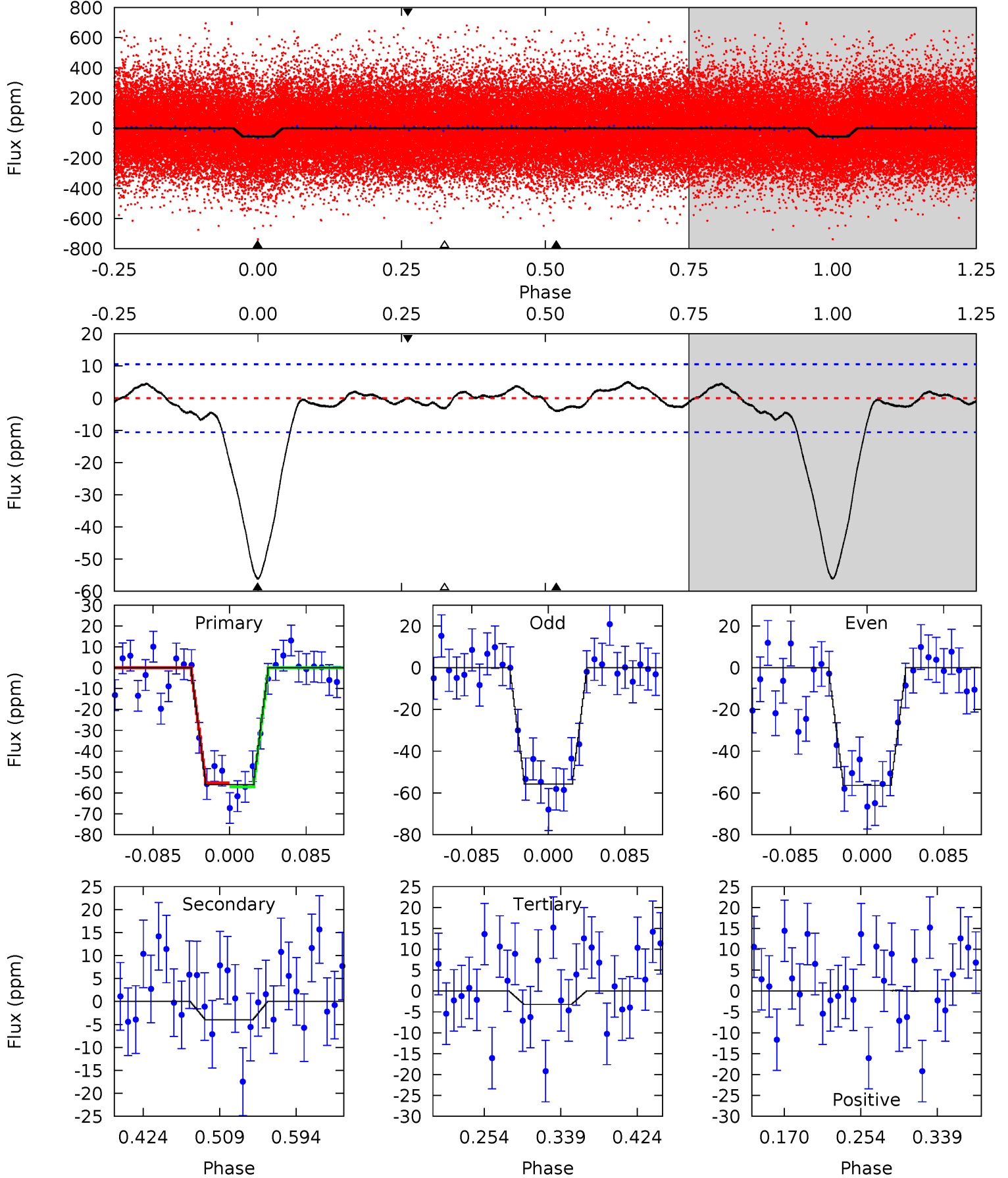
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.7	2.02	1.35	0	4.57	1.66	0.80	21.4	22.7	0.68	2.02	0.29	0.84	0.05	0.01



Alt Model-Shift Uniqueness Test

011253711-02, P = 1.226219 Days, E = 131.459696 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	1.75	1.40	0.06	4.60	1.72	1.08	23.0	24.4	0.35	1.69	0.13	0.97	0.08	0.43



Stellar Parameters For KIC 011253711

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5855^{+79}_{-70}	$4.148^{+0.195}_{-0.105}$	$-0.260^{+0.150}_{-0.150}$	$1.340^{+0.221}_{-0.294}$	$0.920^{+0.069}_{-0.062}$	$0.539^{+0.555}_{-0.172}$
	+1%/-1%	+5%/-3%	+58%/-58%	+16%/-22%	+8%/-7%	+103%/-32%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 011253711-02 / KOI 1972.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-4 ± 2	$1.15^{+0.44}_{-0.39}$	2823^{+123}_{-172}	3195^{+725}_{-4752}	$0.799^{+1.332}_{-0.500}$
Alt.	-4 ± 2	$1.06^{+0.43}_{-0.40}$	2811^{+138}_{-151}	3264^{+775}_{-1579}	$0.866^{+1.649}_{-0.564}$

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

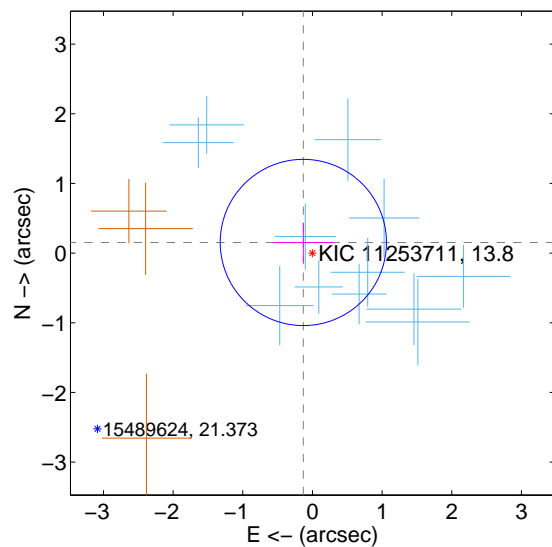
Supplemental centroid analysis for 011253711-02. Kepler magnitude: 13.80. Transit SNR 17.71

There are 12 quarters with good PRF difference image offsets

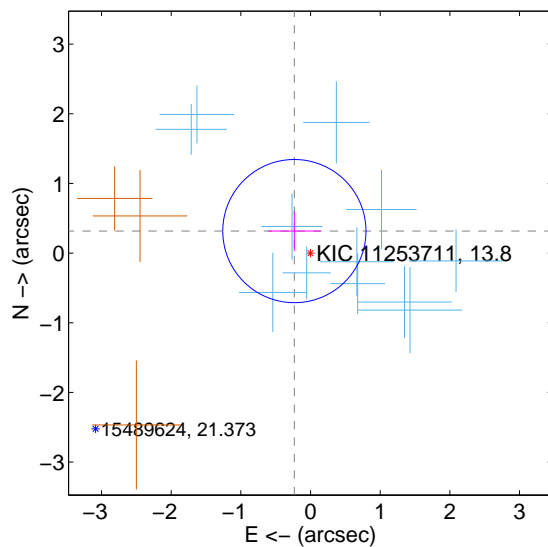
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.201 ± 0.398	0.51	0.131 ± 0.434	0.153 ± 0.284
PRF-fit source offset from KIC position	0.392 ± 0.343	1.14	0.232 ± 0.379	0.316 ± 0.284
photometric centroid source offset	0.92 ± 0.66	1.40	0.26 ± 0.61	-0.88 ± 0.66

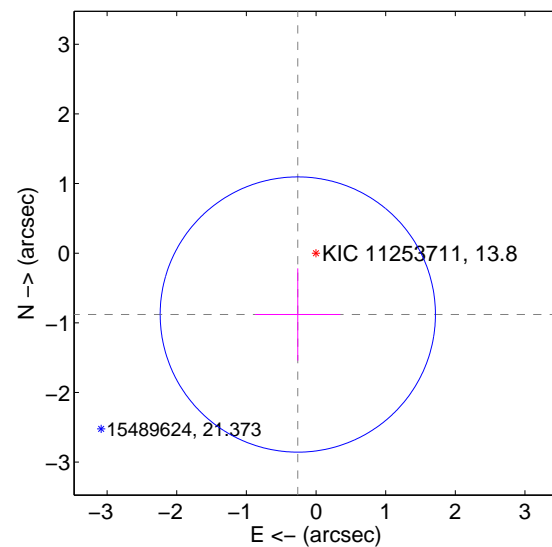
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

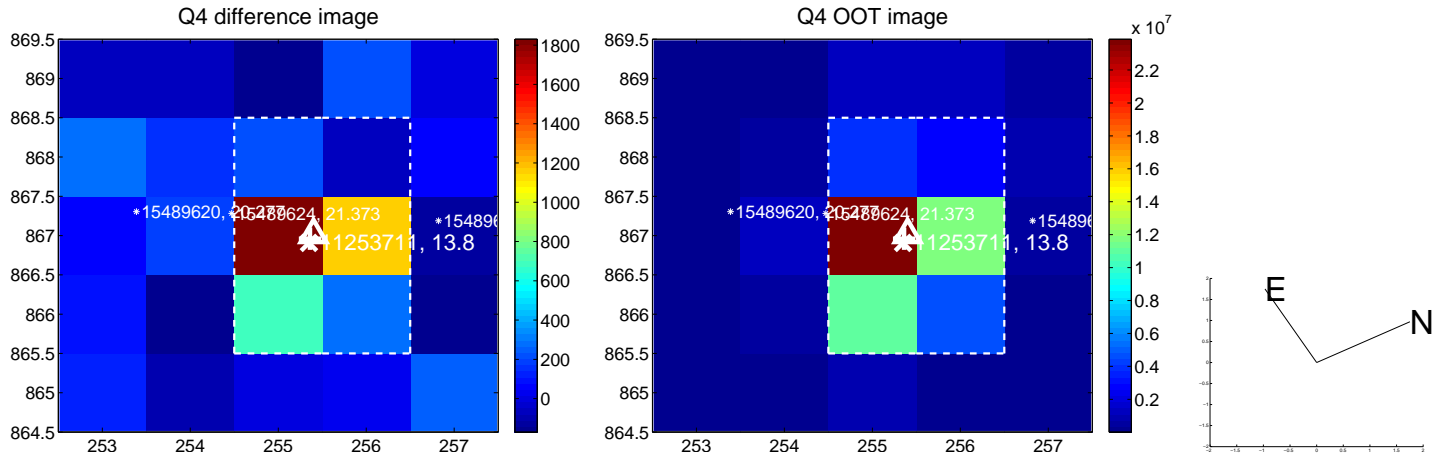
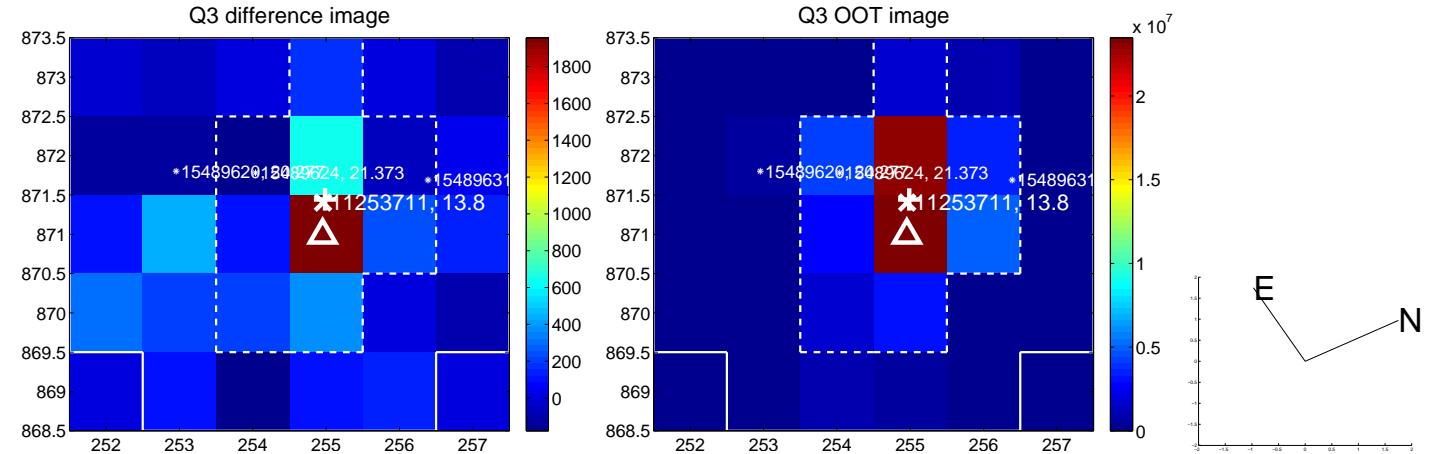
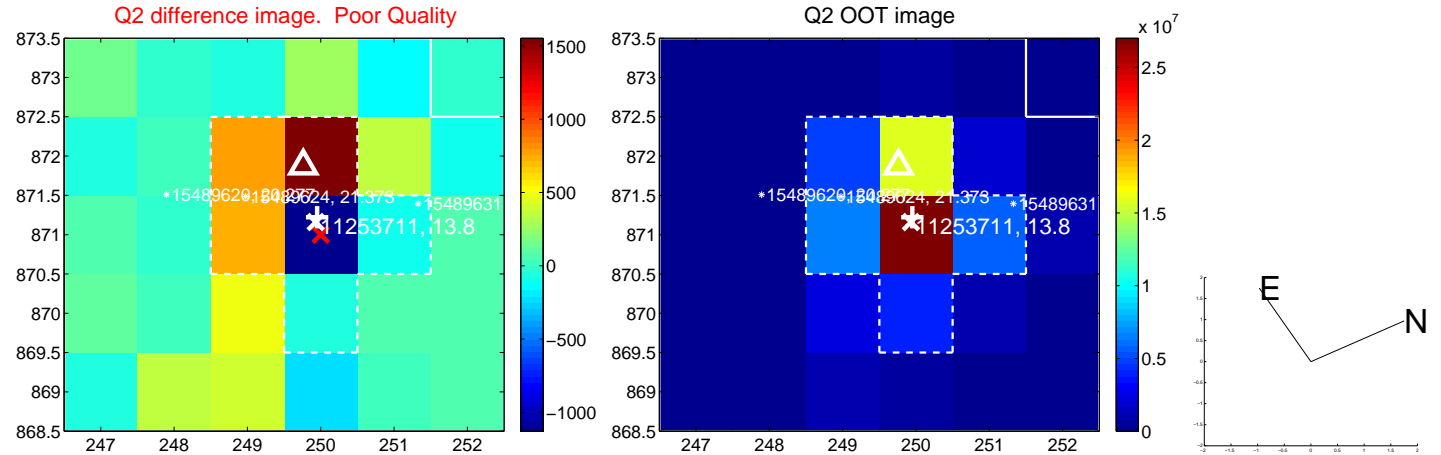
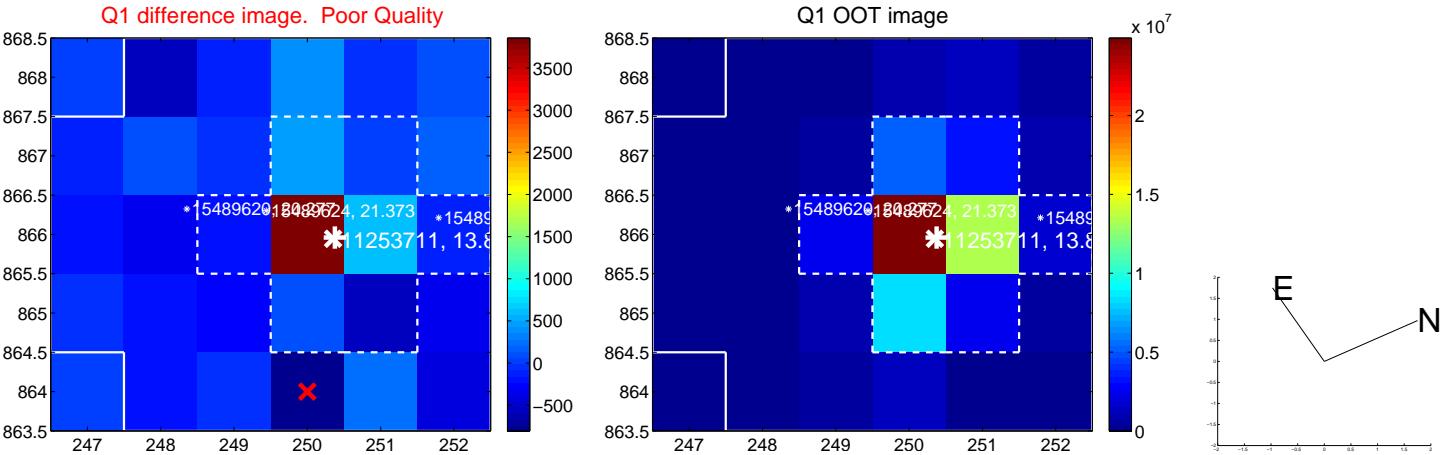


offset from photometric centroids

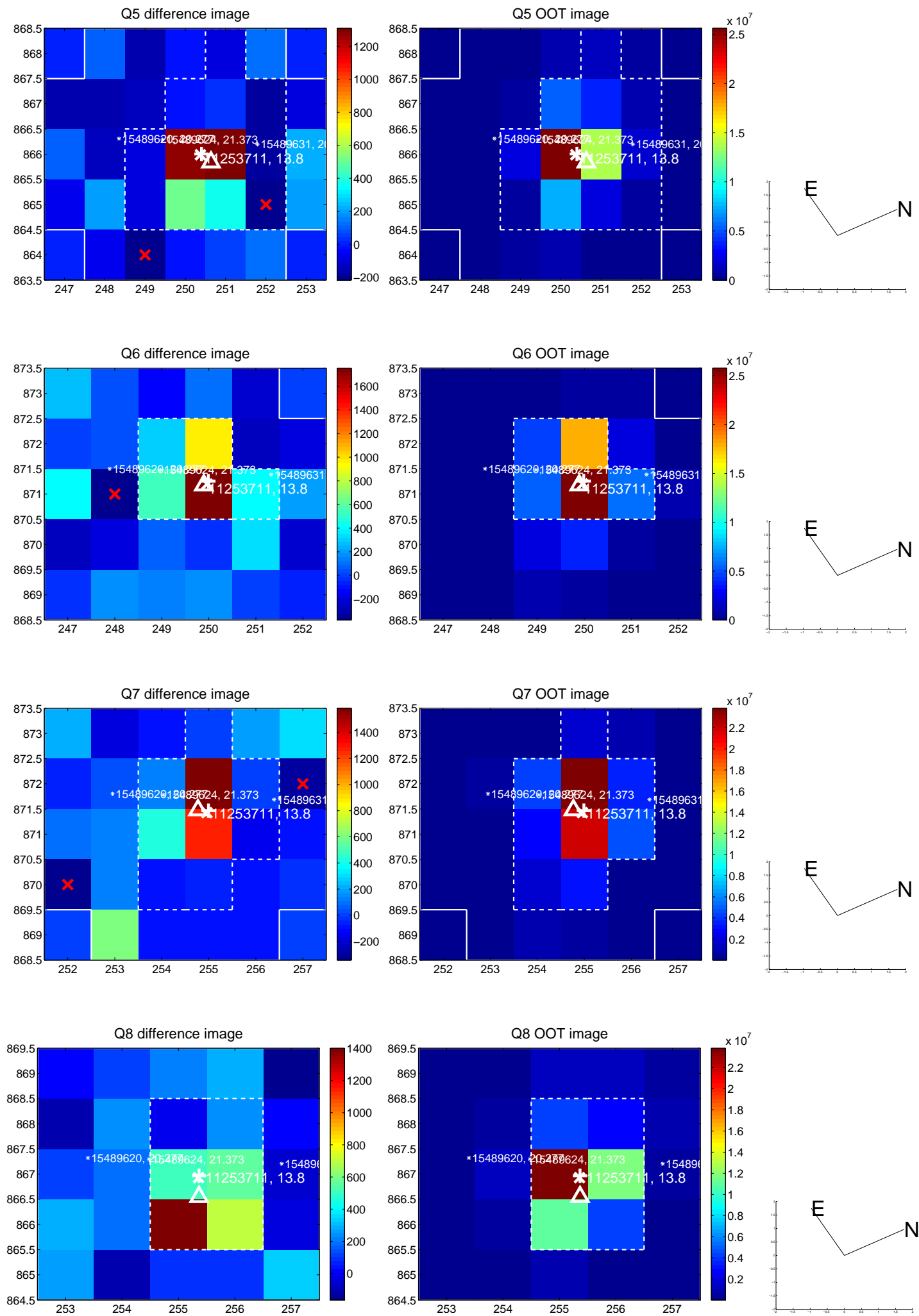


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

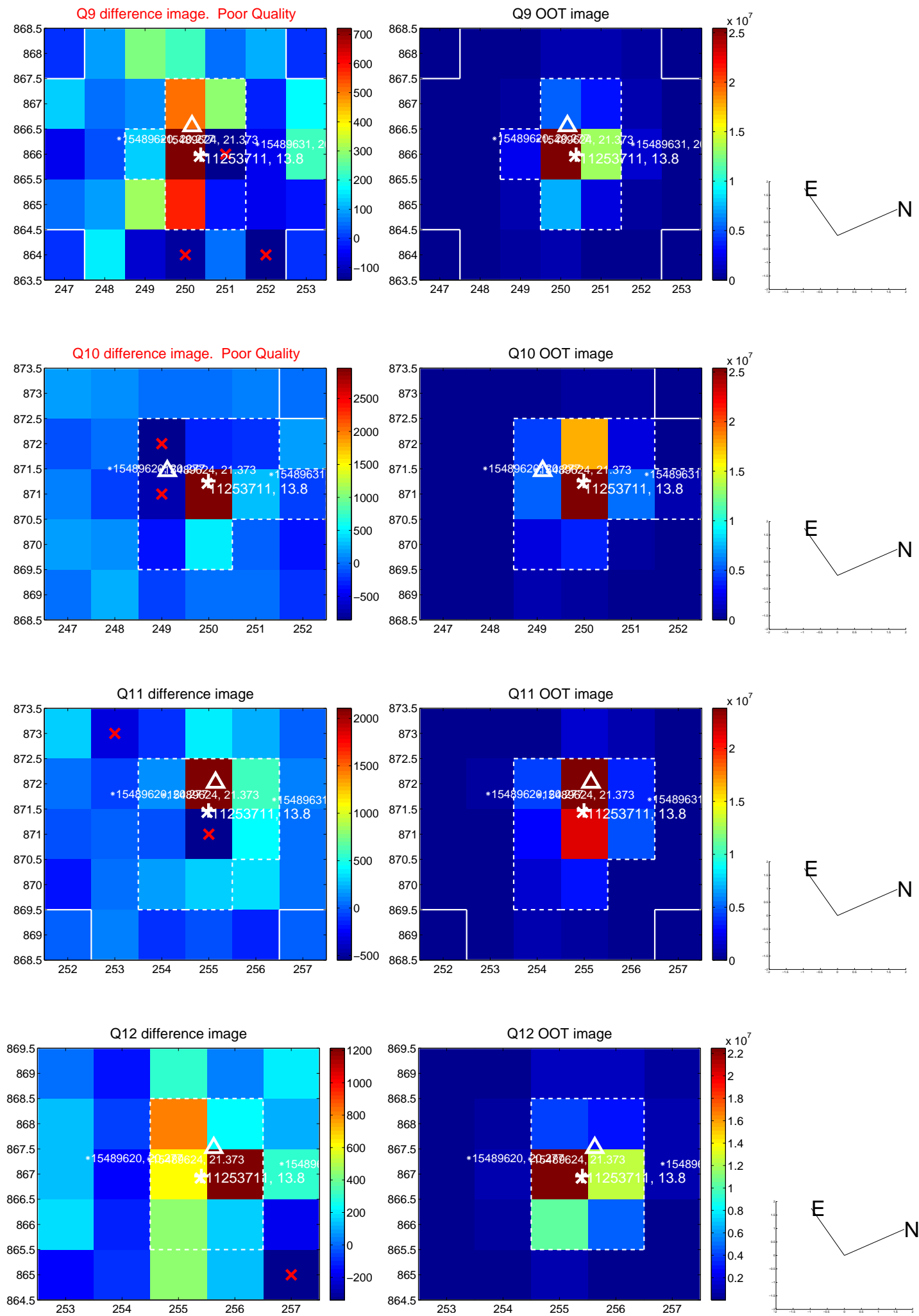
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



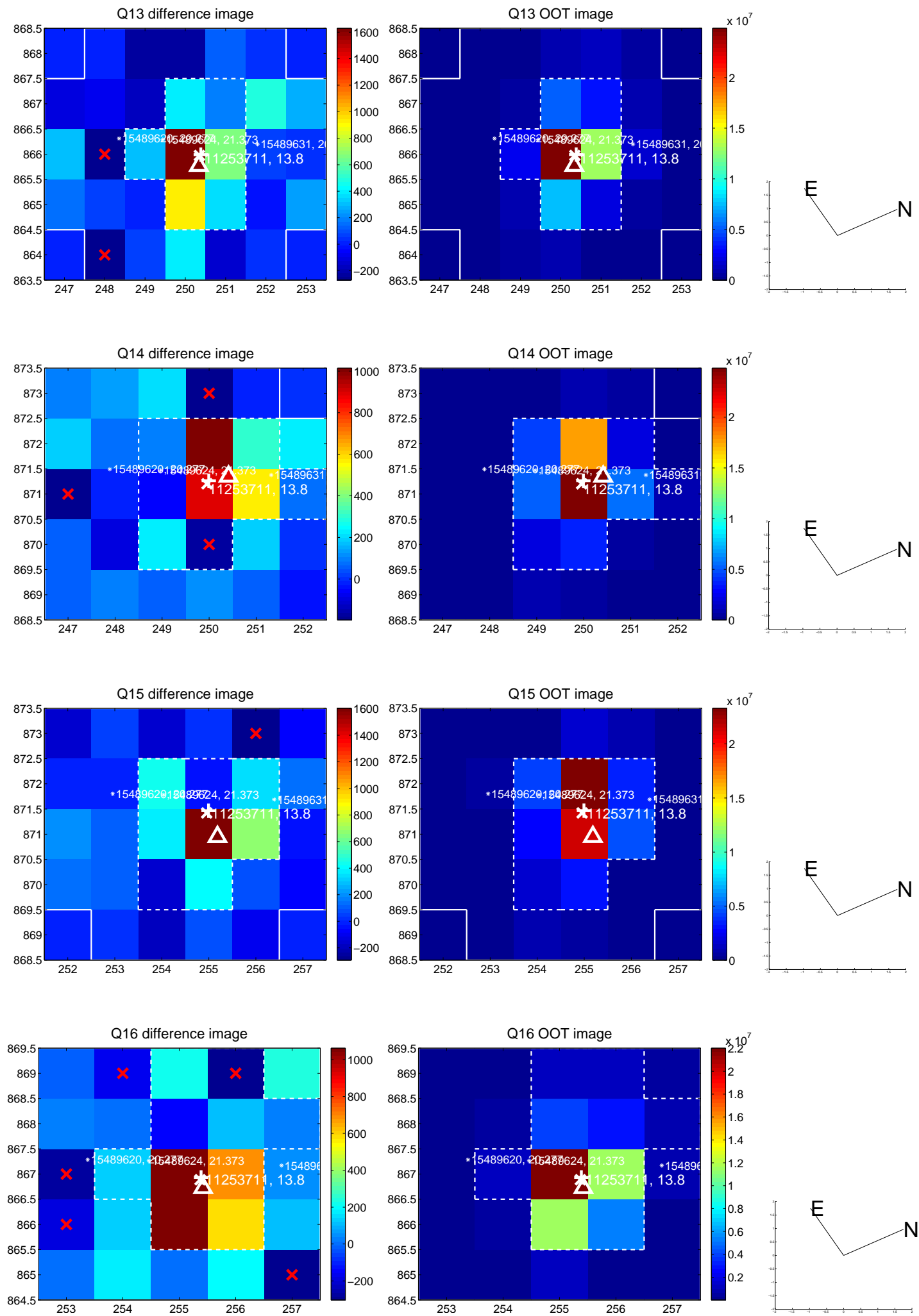
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



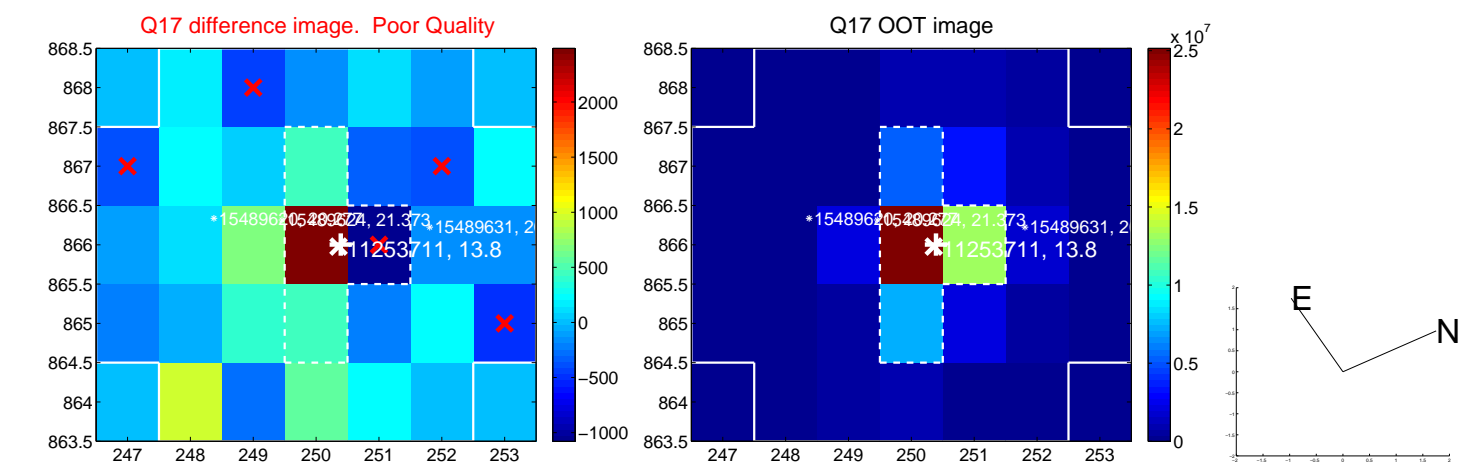
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



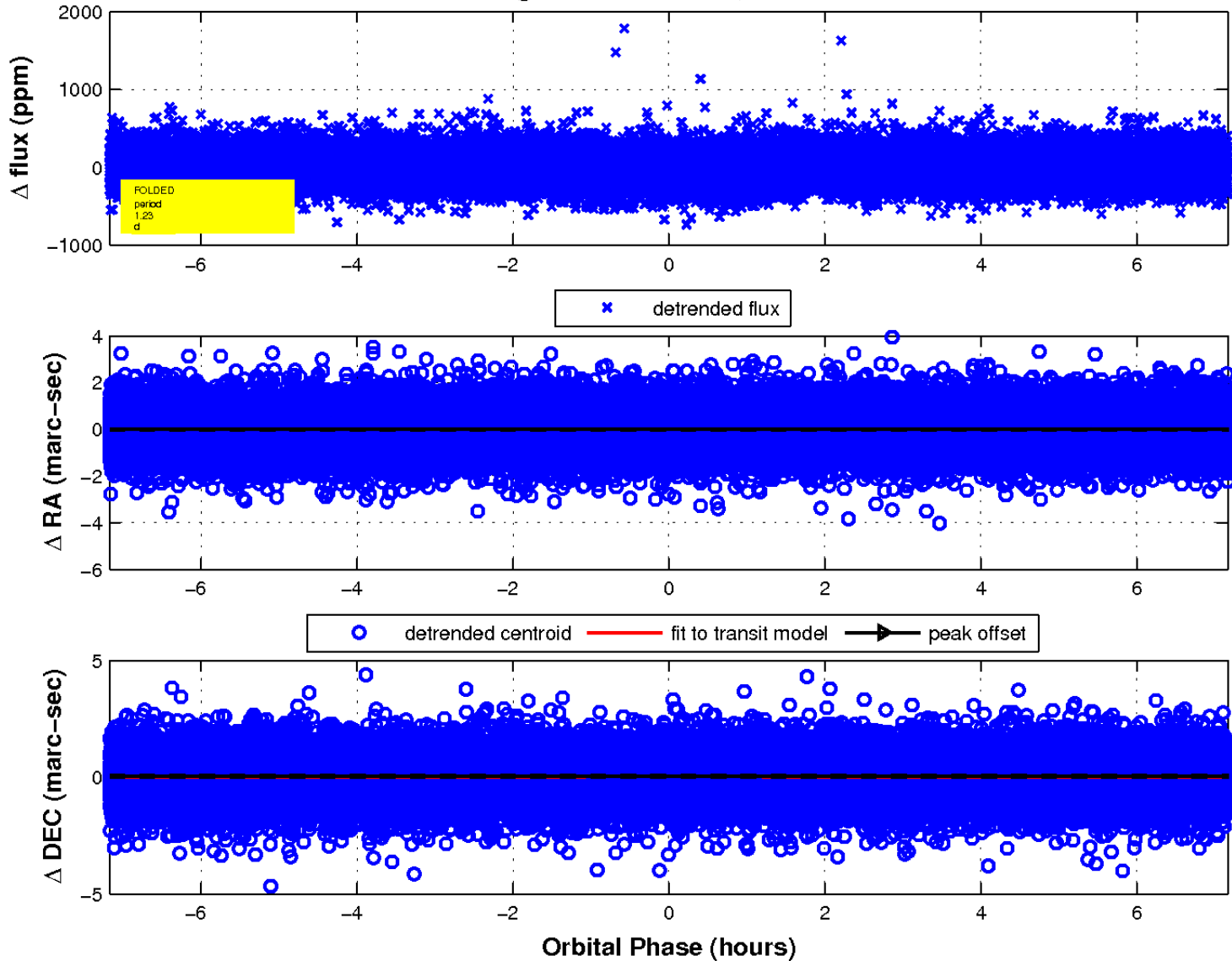
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

