

KIC 009489626

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})
009489626-01	OBS	No	0.502838	131.920491	204.8	1.801	10.3	13.1	1.91	6777	3.20	38645.75
009489626-02	OBS	No	0.502834	131.753849	156.6	1.444	9.2	10.0	1.91	6777	2.43	38646.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009489626-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
009489626-02	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.

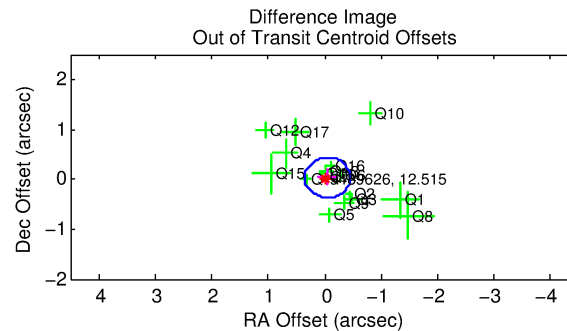
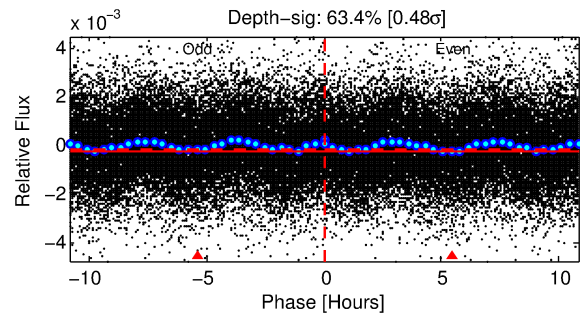
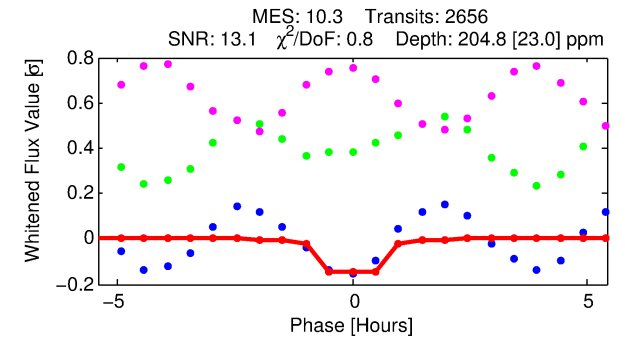
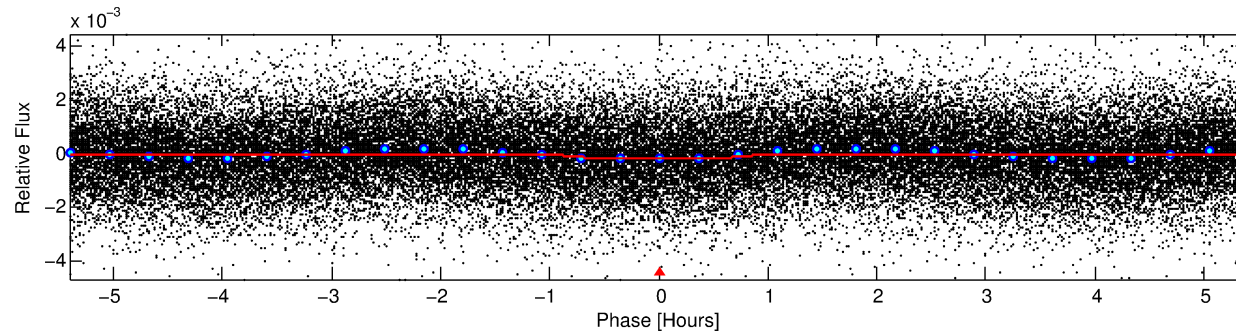
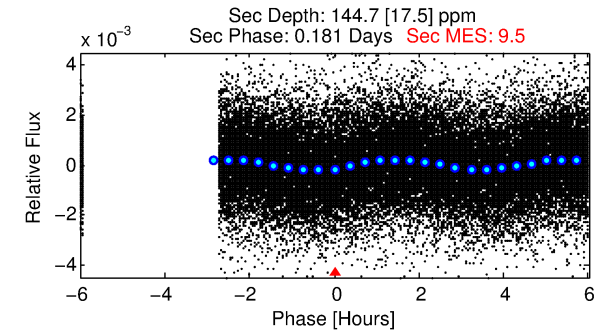
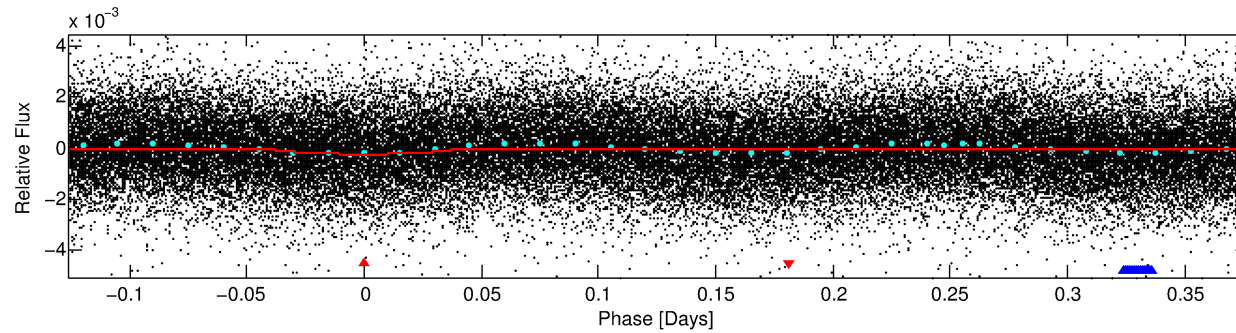
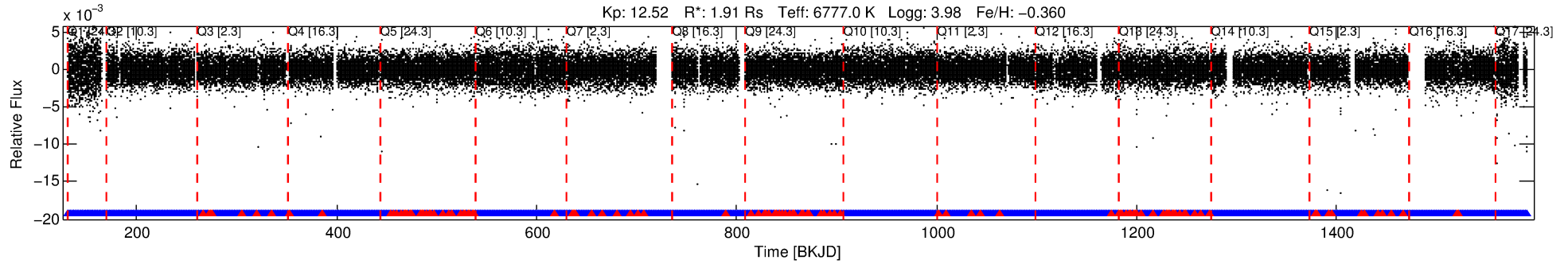
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009489626-01

No Significant Match Found

DV One-Page Summary

KIC: 9489626 Candidate: 1 of 2 Period: 0.503 d



DV Fit Results:

Period = 0.50284 [0.00001] d
Epoch = 131.9205 [0.0018] BKJD
Rp/R* = 0.0153 [0.0053]
a/R* = 1.37 [1.29]
b = 0.90 [0.42]
Seff = 38645.75 [22490.63]
Teff = 3575 [520] K
Rp = 3.20 [1.63] Re
a = 0.0134 [0.0048] AU
Ag = 1.39 [1.25] [0.31σ]
Teffp = 6002 [1069] K [2.04σ]

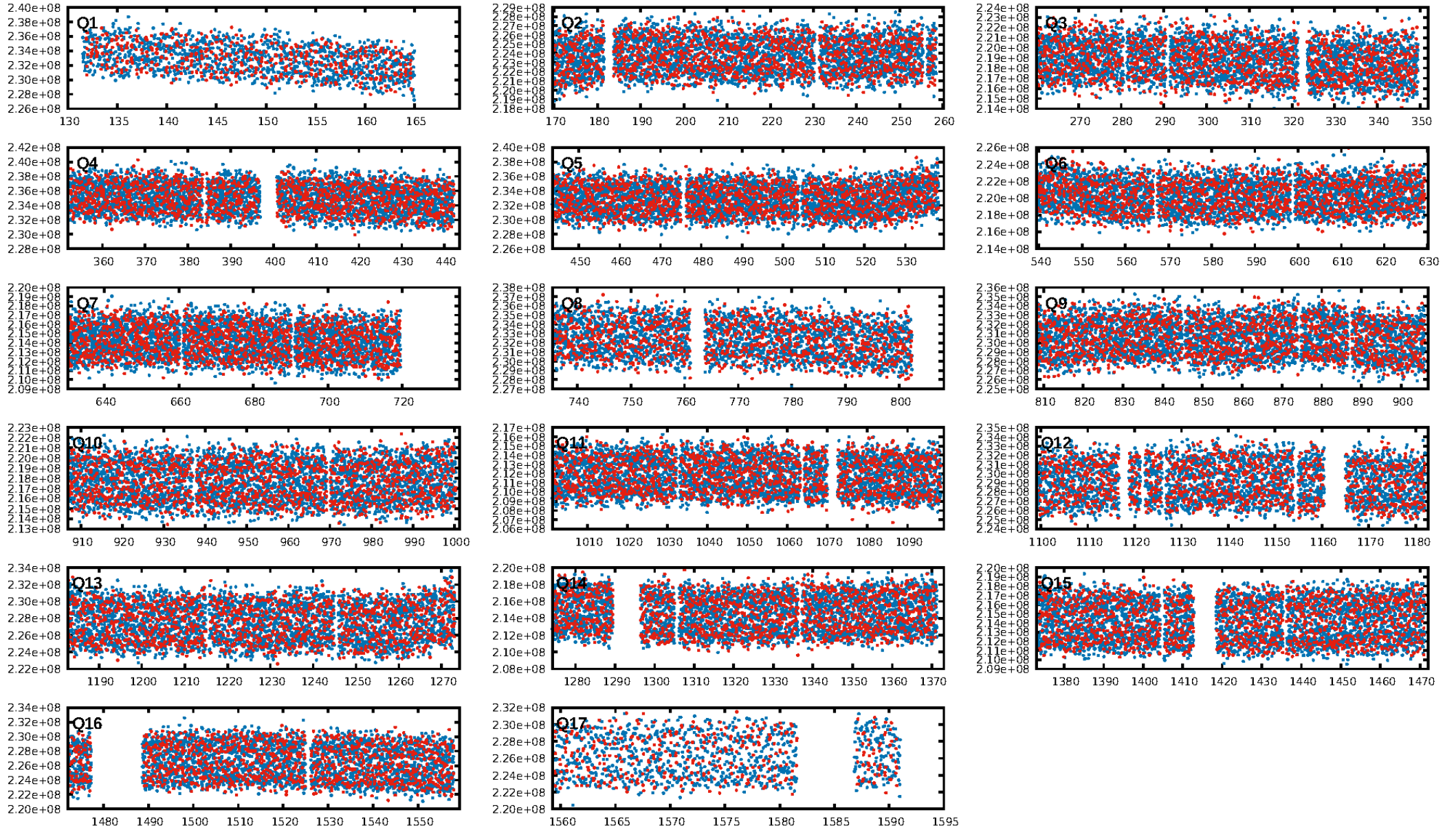
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.68e-11
RollingBand-fgt: 0.95 [2416/2537]
GhostDiagnostic-chr: 0.7992
Centroid-sig: 25.8%
Centroid-so: 0.033 arcsec [0.41σ]
OotOffset-rm: 0.059 arcsec [0.44σ]
KicOffset-rm: 0.131 arcsec [1.05σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.59 [10/17]
DiffImageOverlap-fno: 0.00 [0/17]

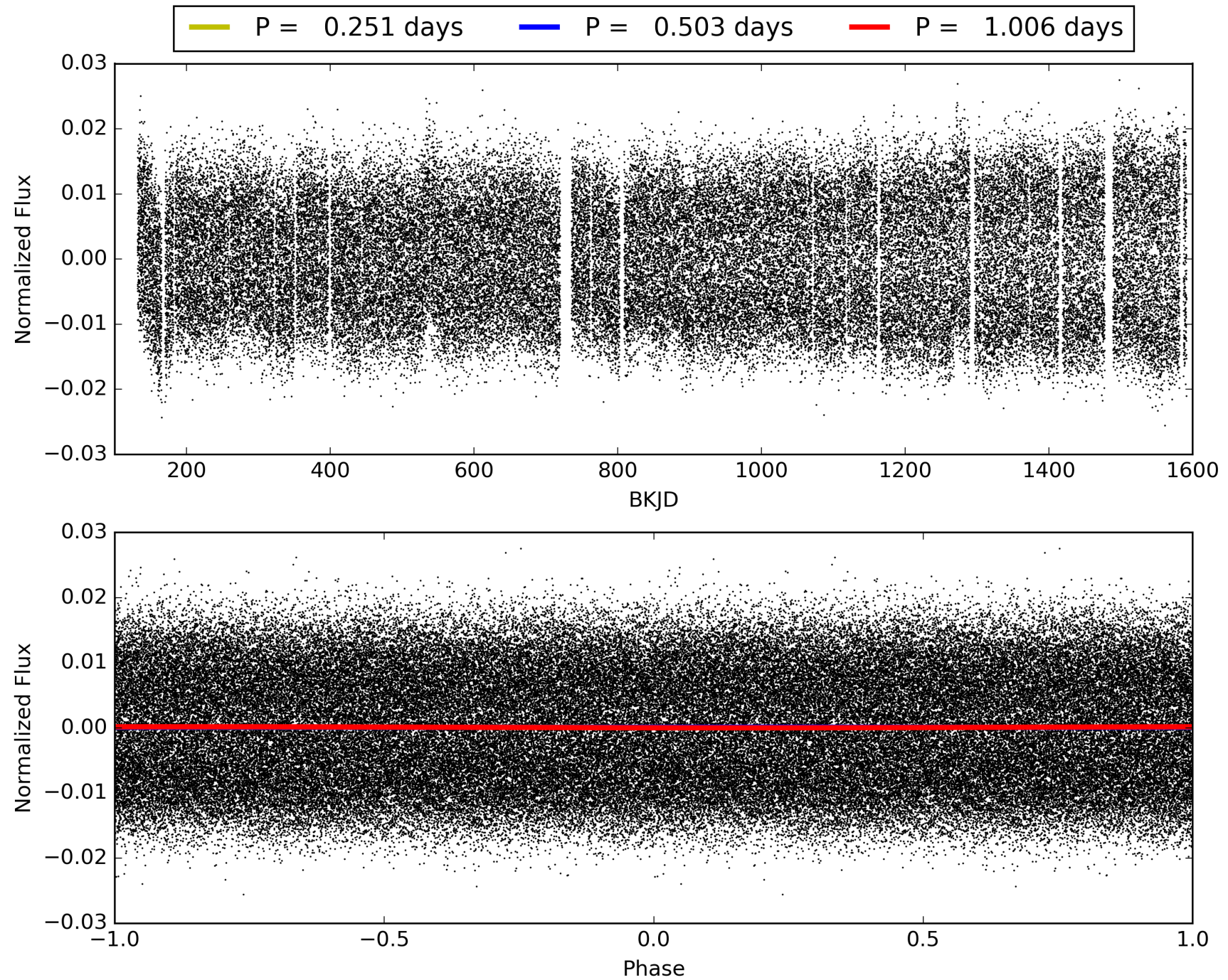
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 11:00:47 Z

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

TCE 009489626-01, PDC Light Curves

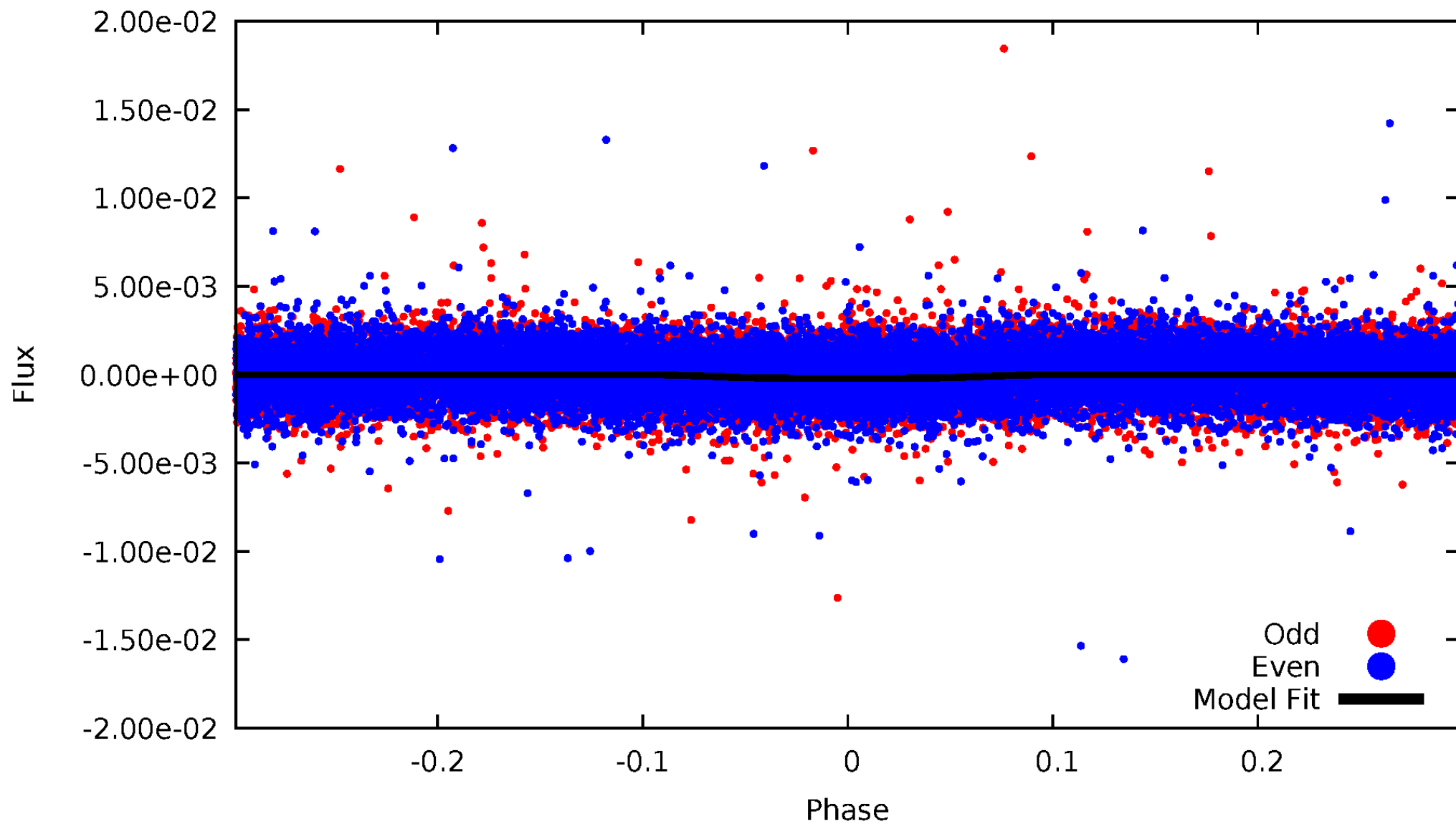


TCE 009489626-01



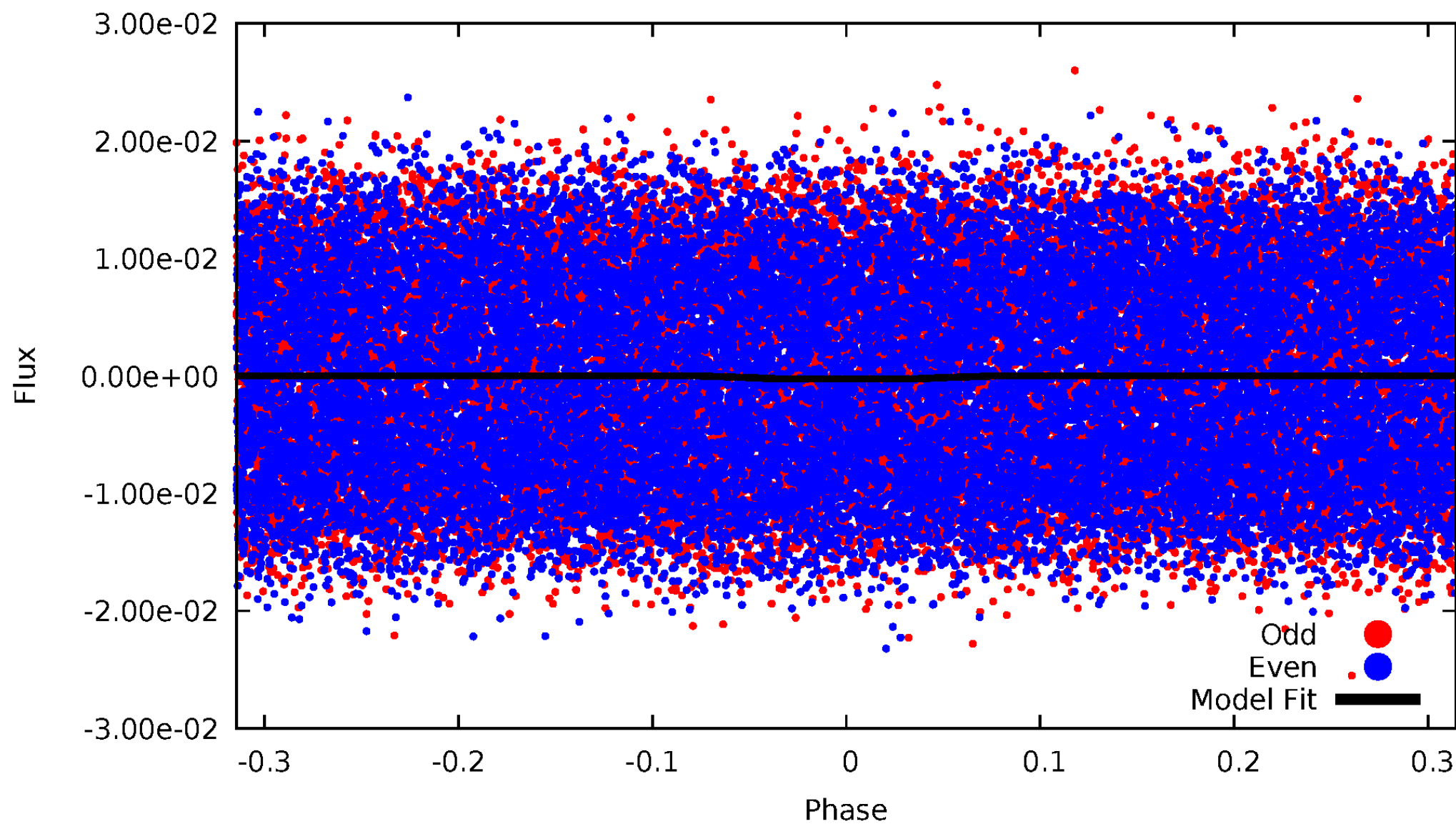
DV Odd/Even

TCE 009489626-01



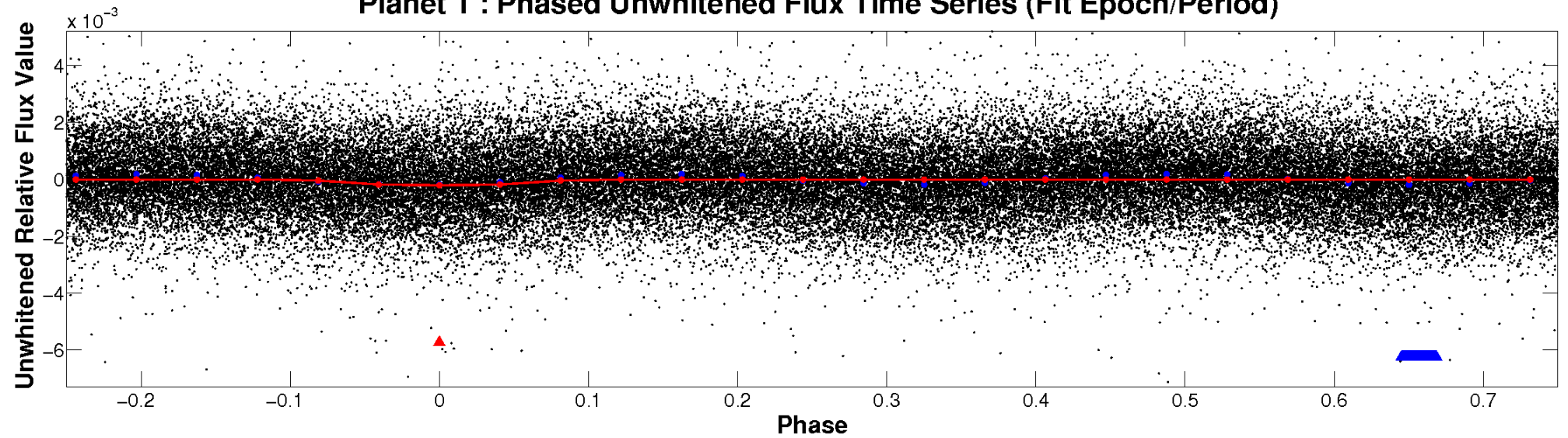
ALT Odd/Even

TCE 009489626-01

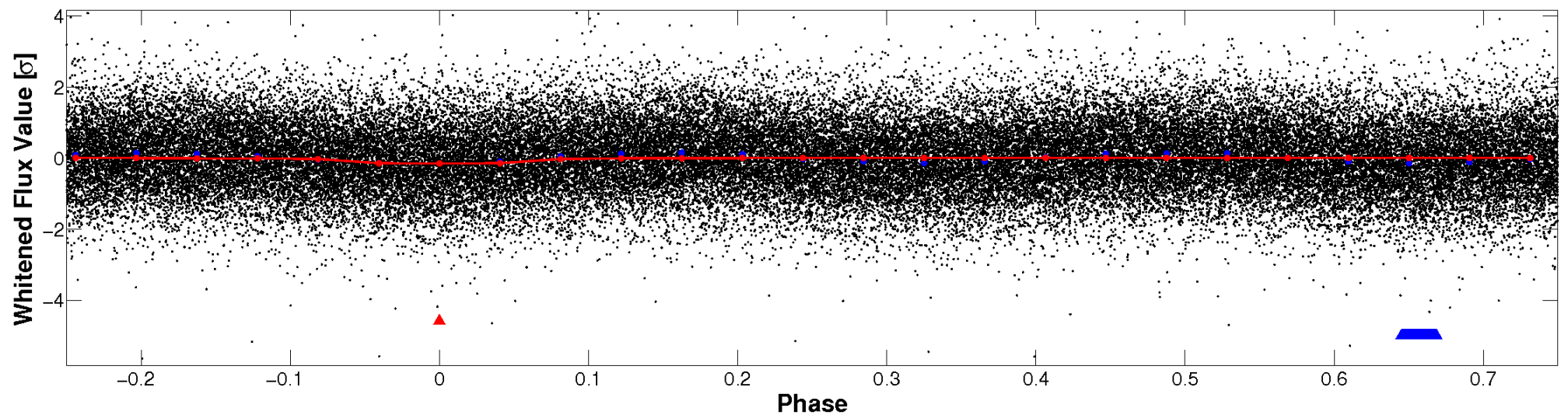


Non-Whitened Vs. Whitened Light Curve

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

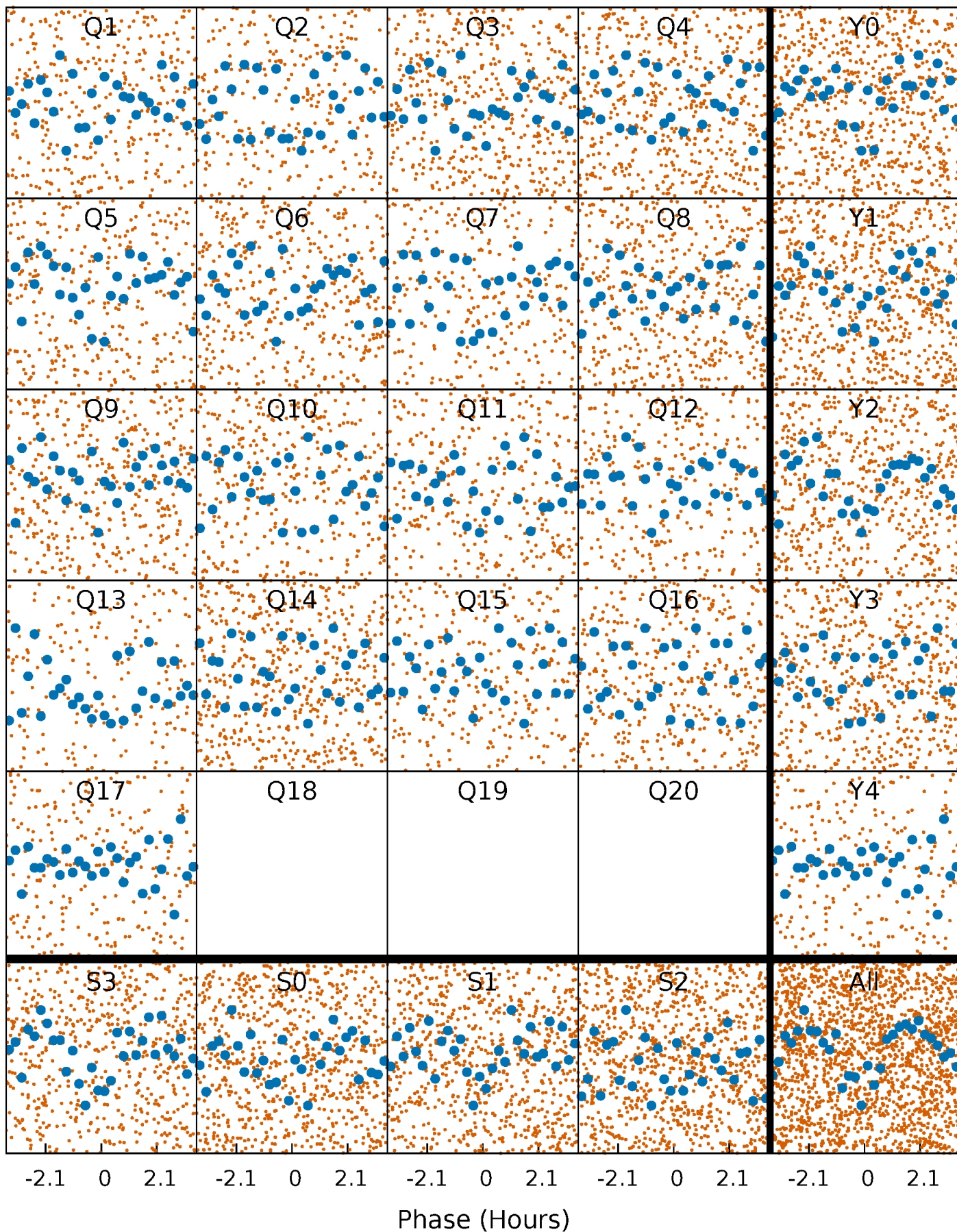


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



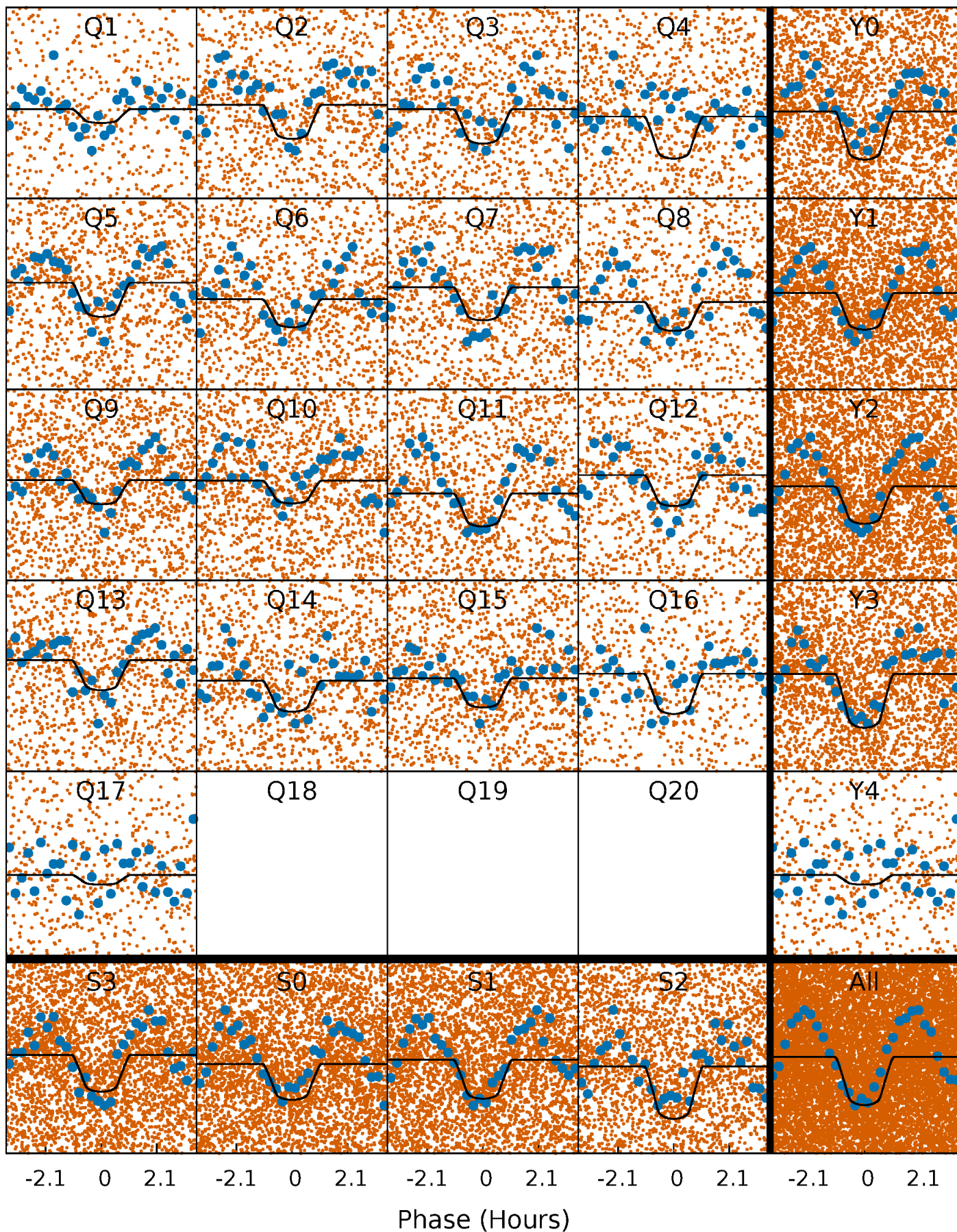
PDC Quarter-Phased Transit Curves

TCE 009489626-01 P= 0.502838 Days $T_0=131.920491$ (BKJD)



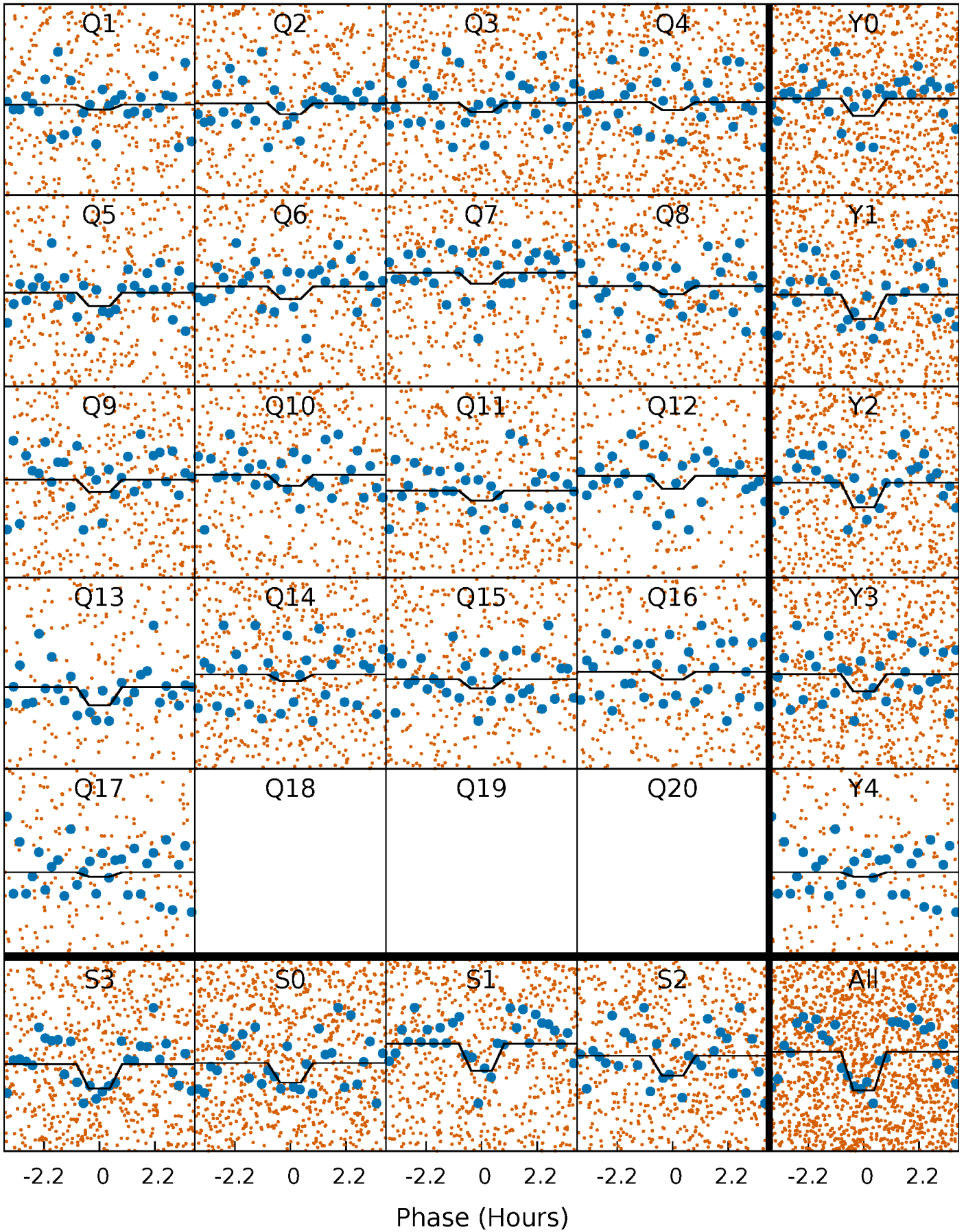
DV Quarter-Phased Transit Curves

TCE 009489626-01 P= 0.502838 Days $T_0=131.920491$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

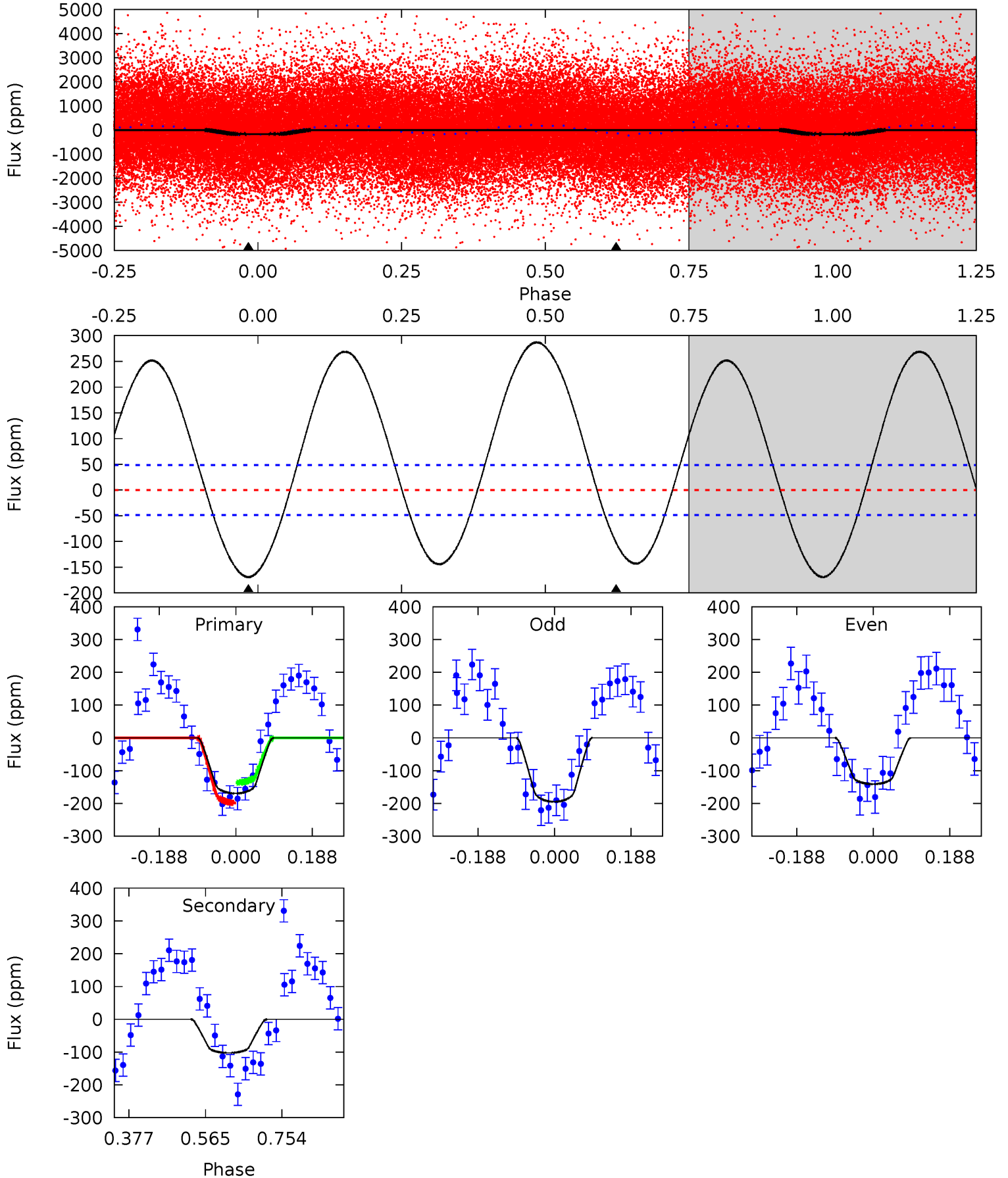
TCE 009489626-01 P= 0.502834 Days $T_0=131.920674$ (BKJD)



DV Model-Shift Uniqueness Test

009489626-01, P = 0.502838 Days, E = 131.417653 Days

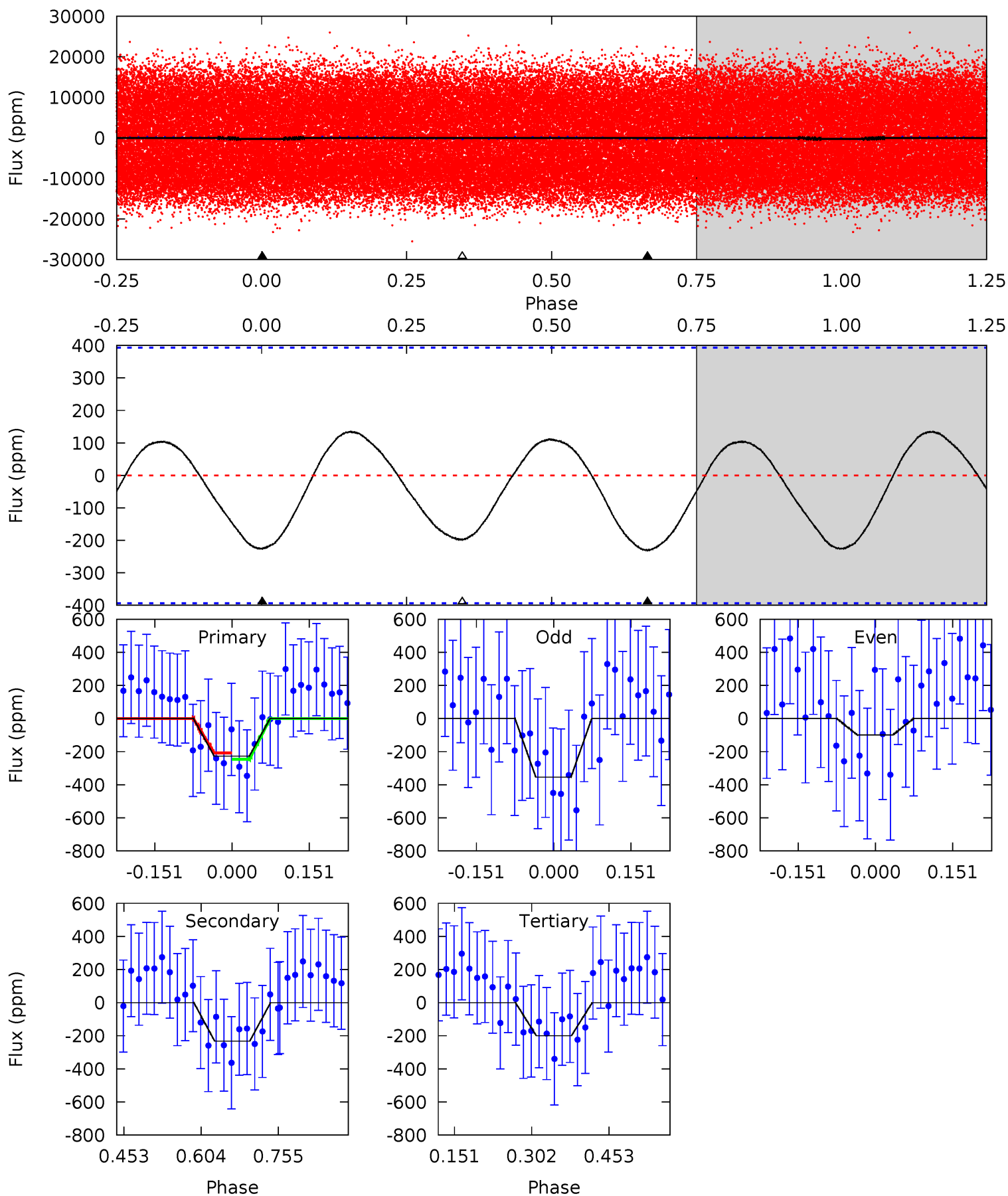
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.5	9.36	0	0	4.43	1.32	11.3	15.5	15.5	9.36	9.36	2.46	1.07	0.63	2.83



Alt Model-Shift Uniqueness Test

009489626-01, P = 0.502834 Days, E = 131.417840 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.58	2.64	2.27	0	4.48	1.44	1.30	0.31	2.58	0.37	2.64	1.45	1.08	0.37	0.22



Stellar Parameters For KIC 009489626

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6777^{+183}_{-245}	$3.976^{+0.329}_{-0.141}$	$-0.360^{+0.300}_{-0.300}$	$1.914^{+0.479}_{-0.719}$	$1.267^{+0.203}_{-0.223}$	$0.254^{+0.601}_{-0.101}$
	+3%/-4%	+8%/-4%	+83%/-83%	+25%/-38%	+16%/-18%	+236%/-40%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 009489626-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-103 ± 11	$3.02^{+1.27}_{-1.14}$	4911^{+373}_{-483}	5085^{+1588}_{-950}	$1.128^{+1.708}_{-0.569}$
Alt.	-232 ± 88	$3.14^{+1.36}_{-1.15}$	4908^{+366}_{-479}	6229^{+2105}_{-1290}	$2.115^{+3.913}_{-1.189}$

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 $A_{obs} \gg 1.0$

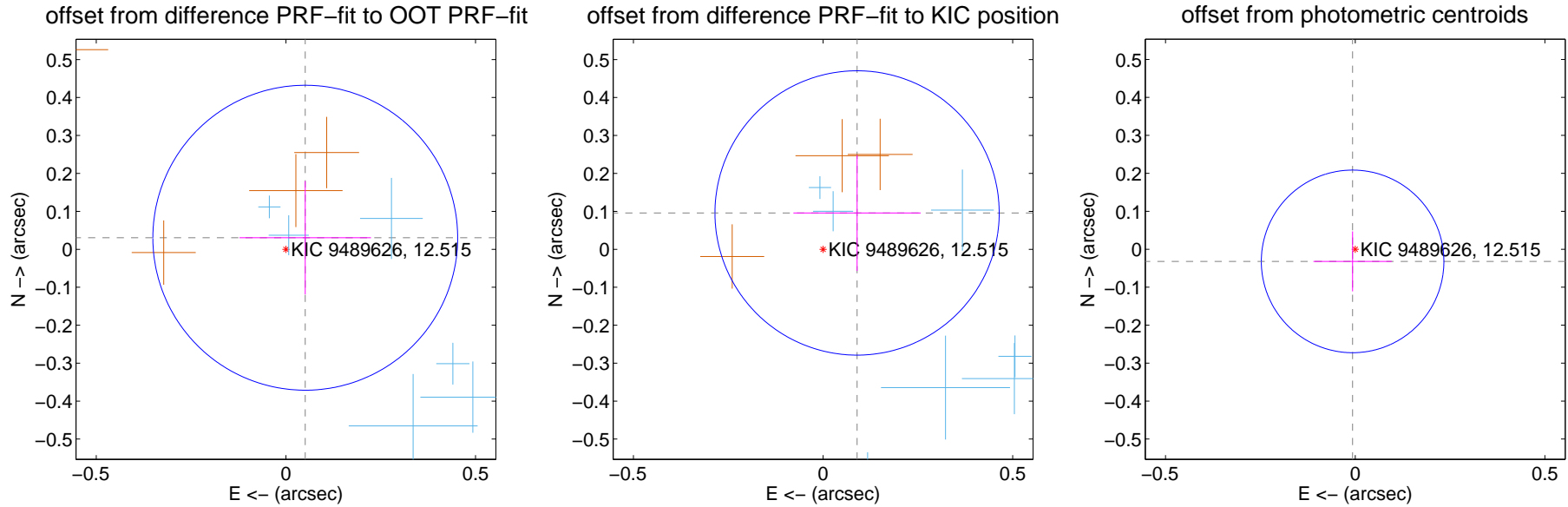
DV Centroid Data

Supplemental centroid analysis for 009489626-01. Kepler magnitude: 12.52. Transit SNR 13.09

There are 10 quarters with good PRF difference image offsets

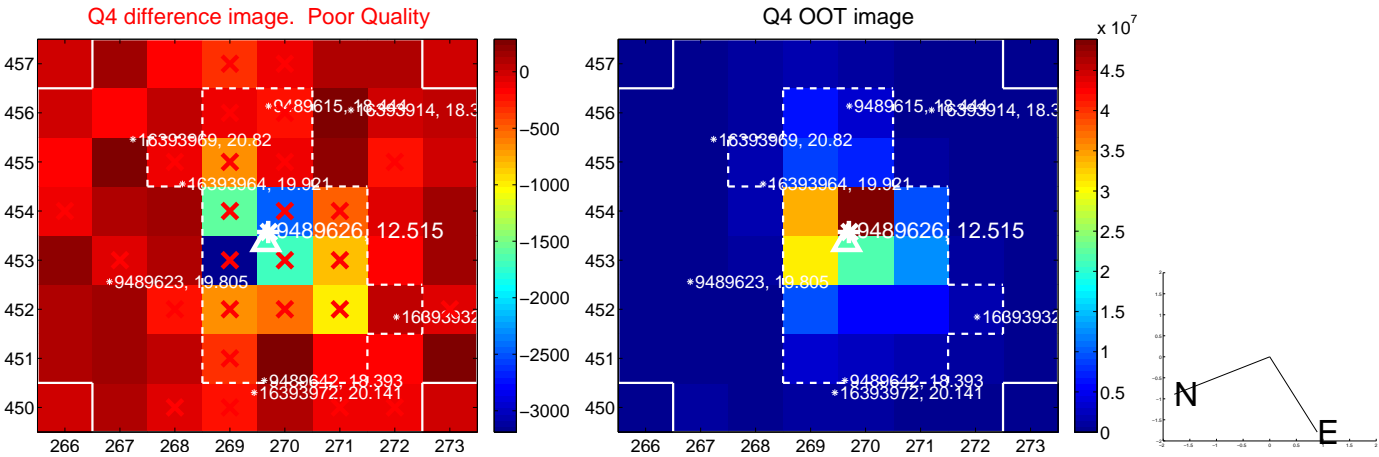
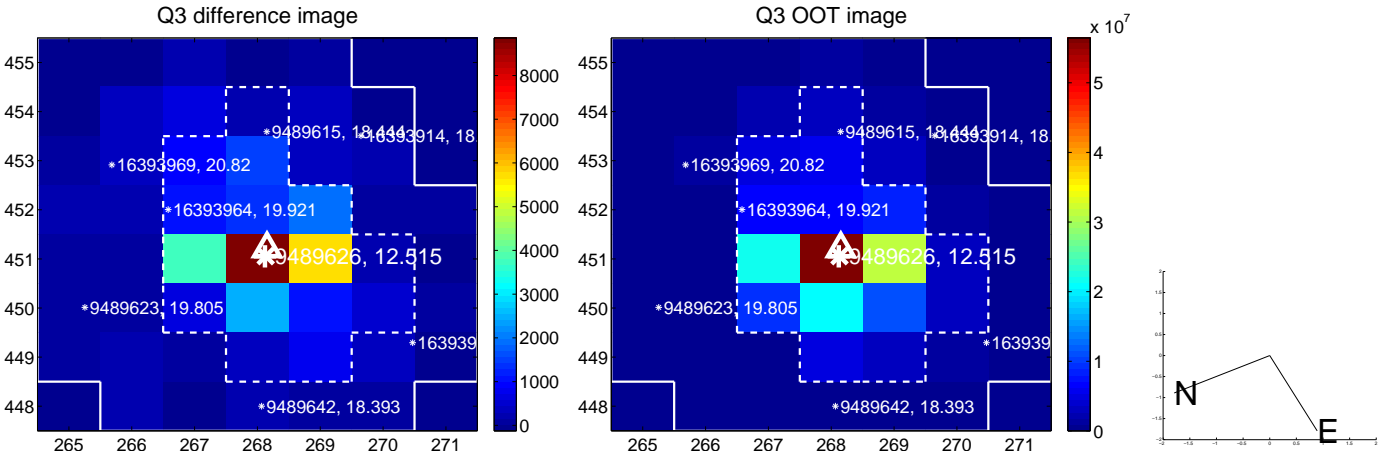
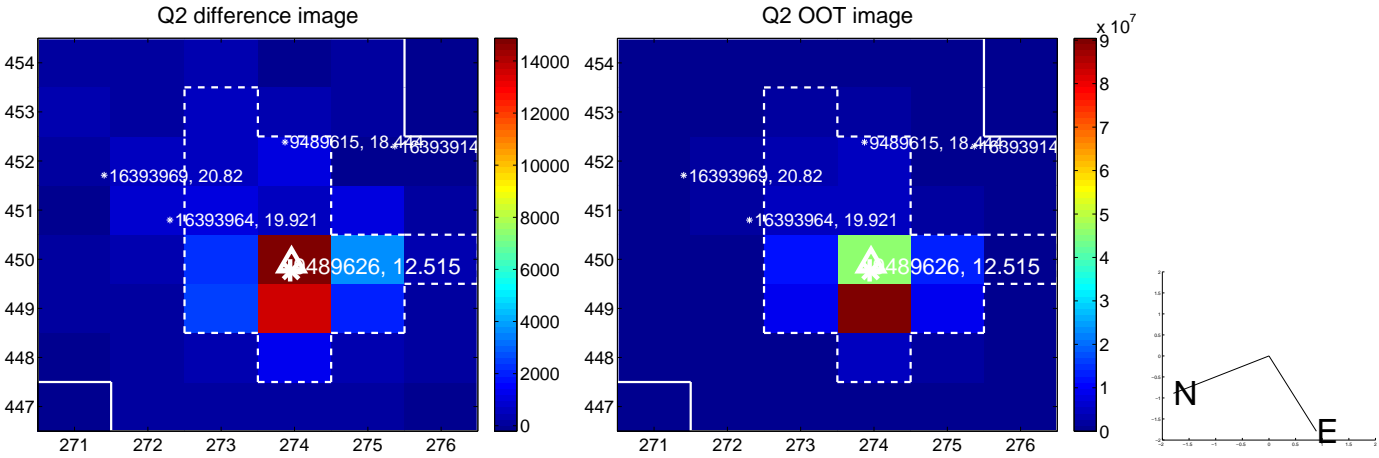
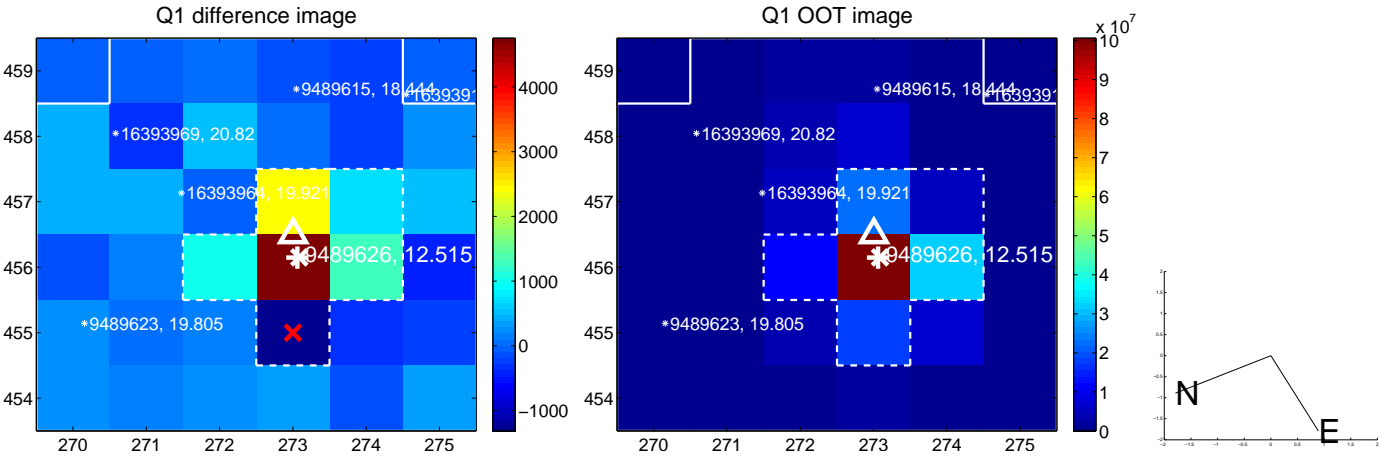
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.059 ± 0.134	0.44	-0.051 ± 0.173	0.030 ± 0.149
PRF-fit source offset from KIC position	0.131 ± 0.125	1.05	-0.090 ± 0.168	0.096 ± 0.152
photometric centroid source offset	0.03 ± 0.08	0.41	0.01 ± 0.10	-0.03 ± 0.08

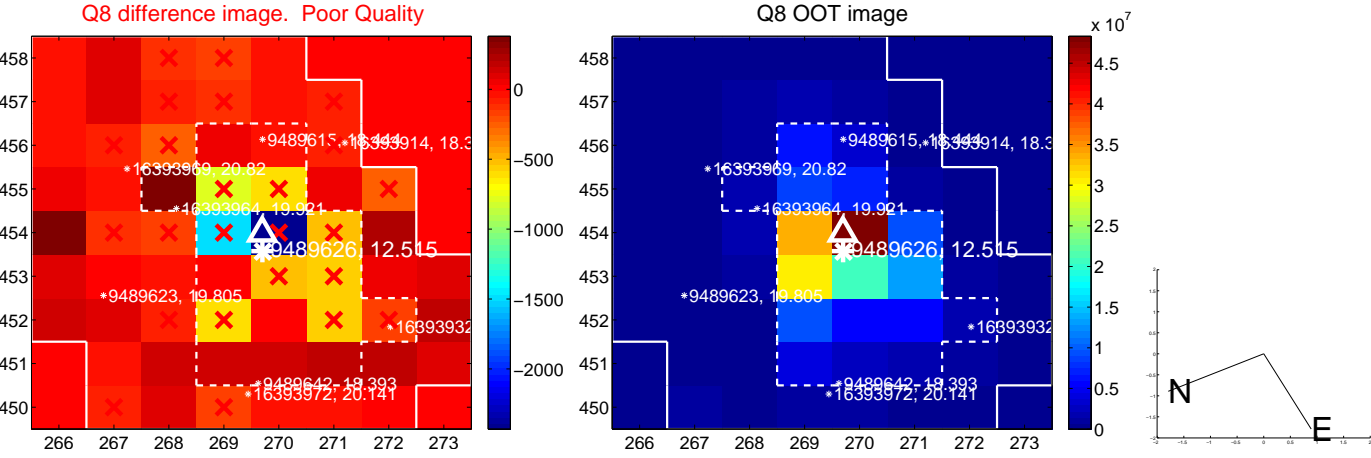
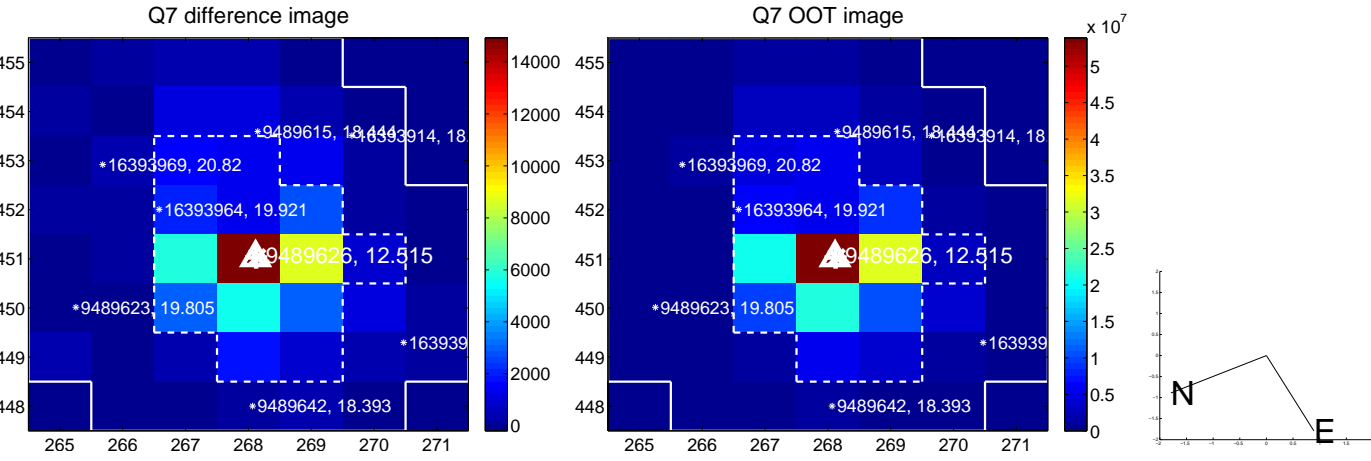
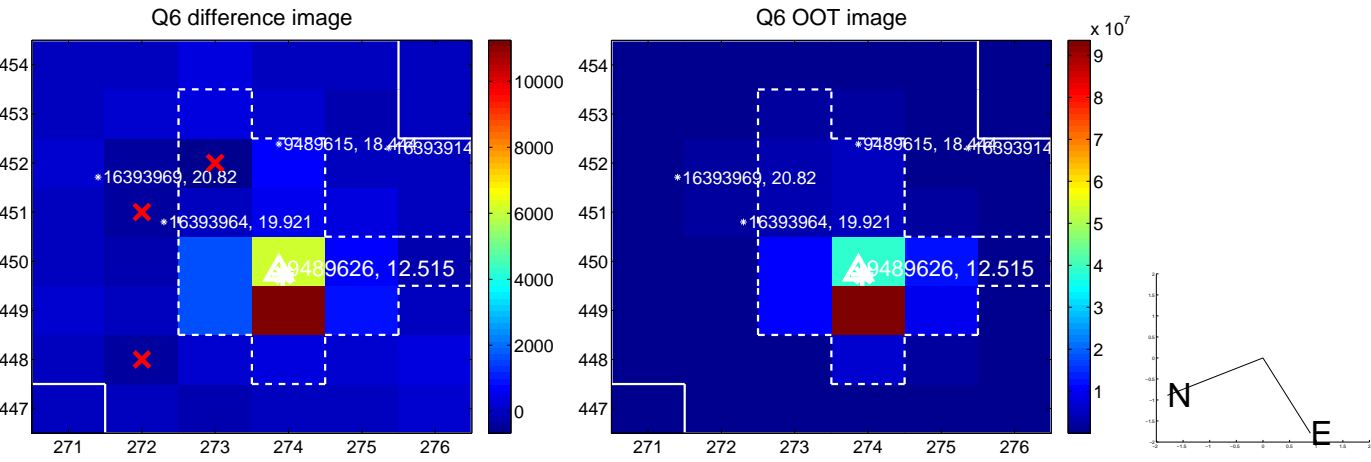
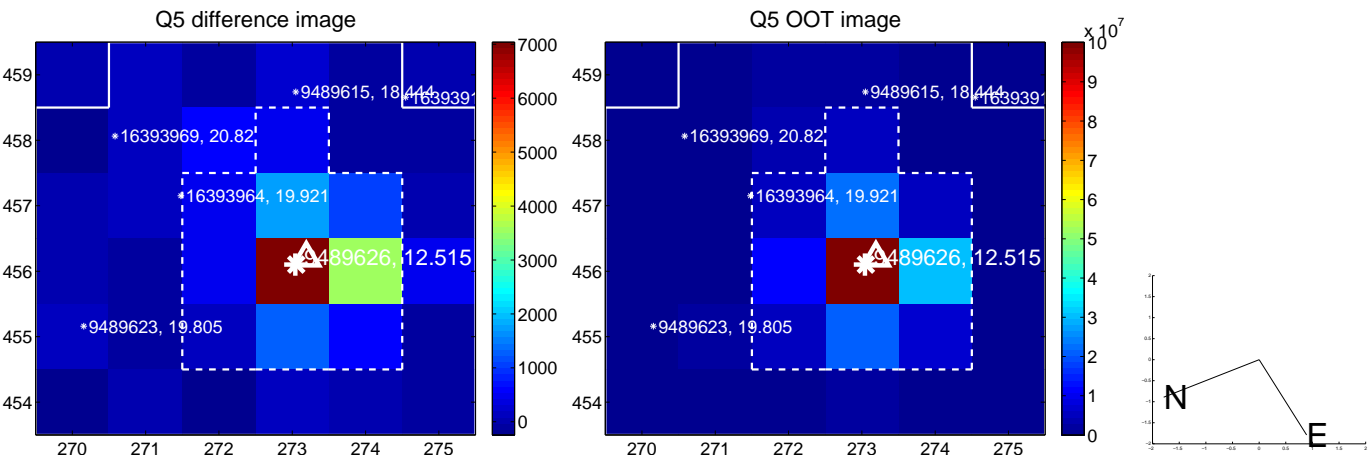


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

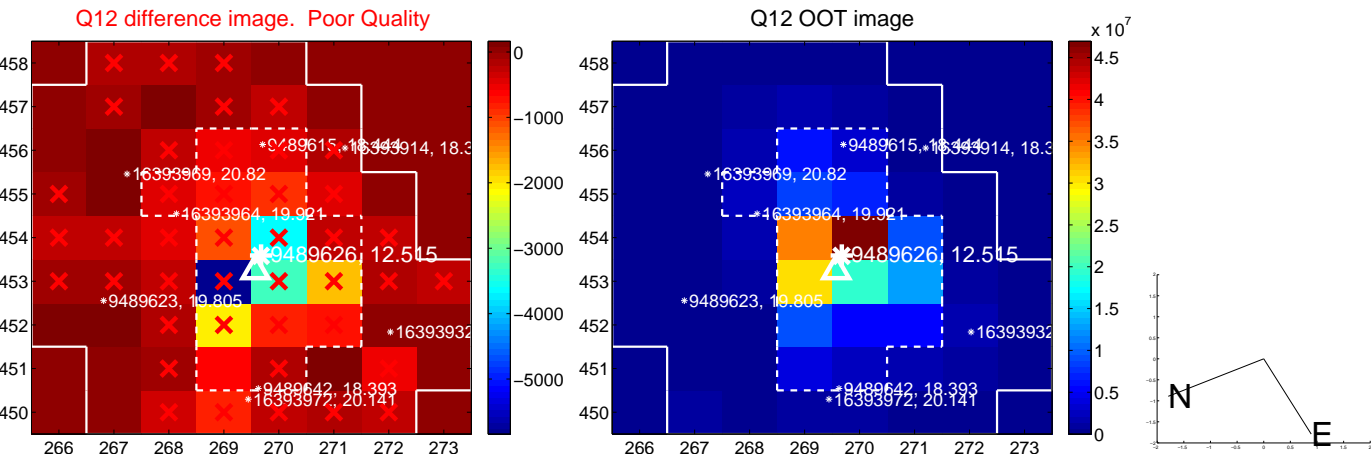
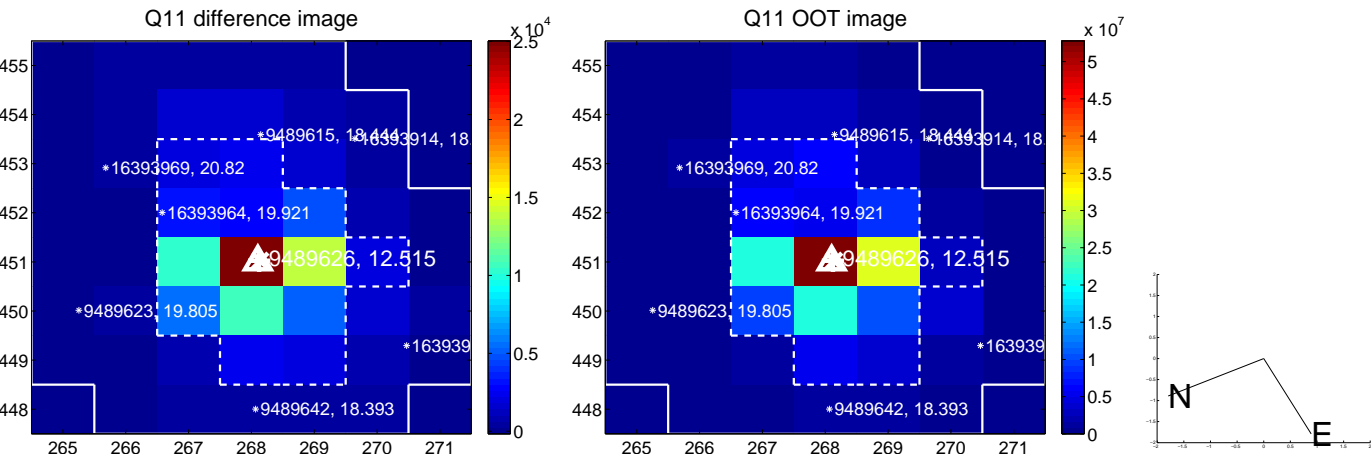
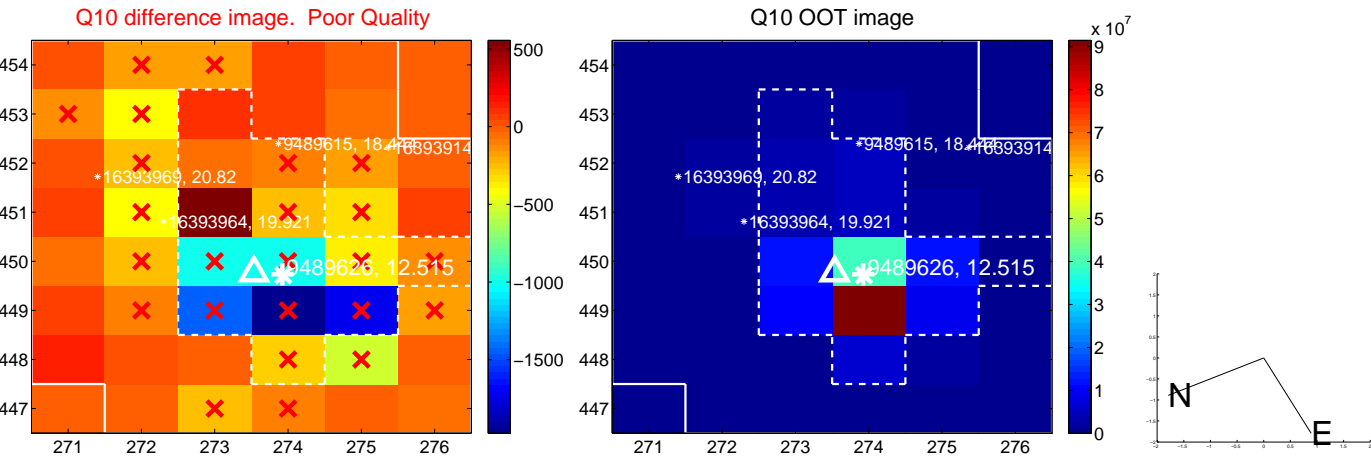
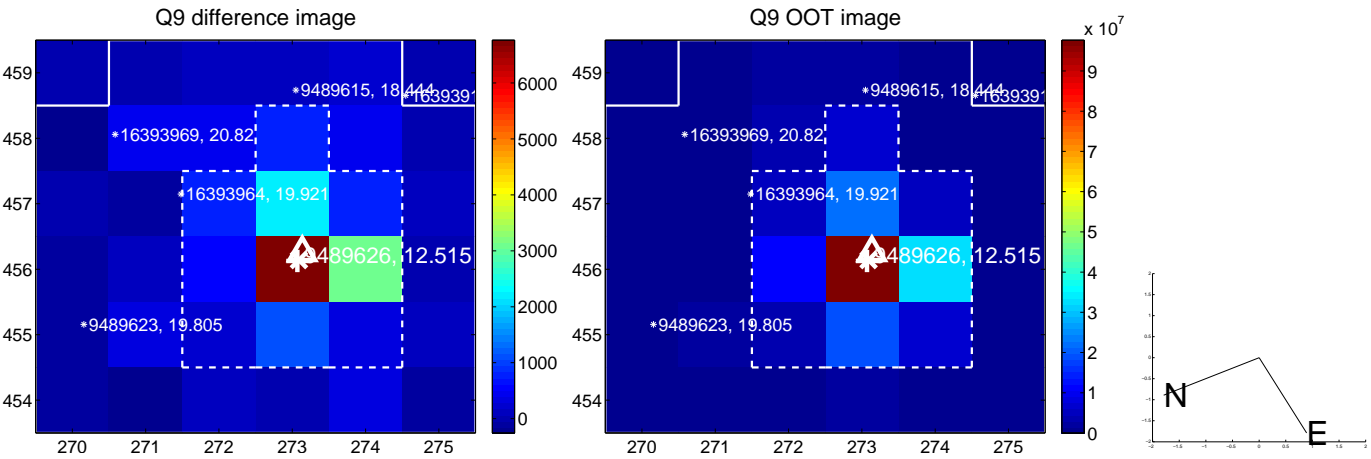
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



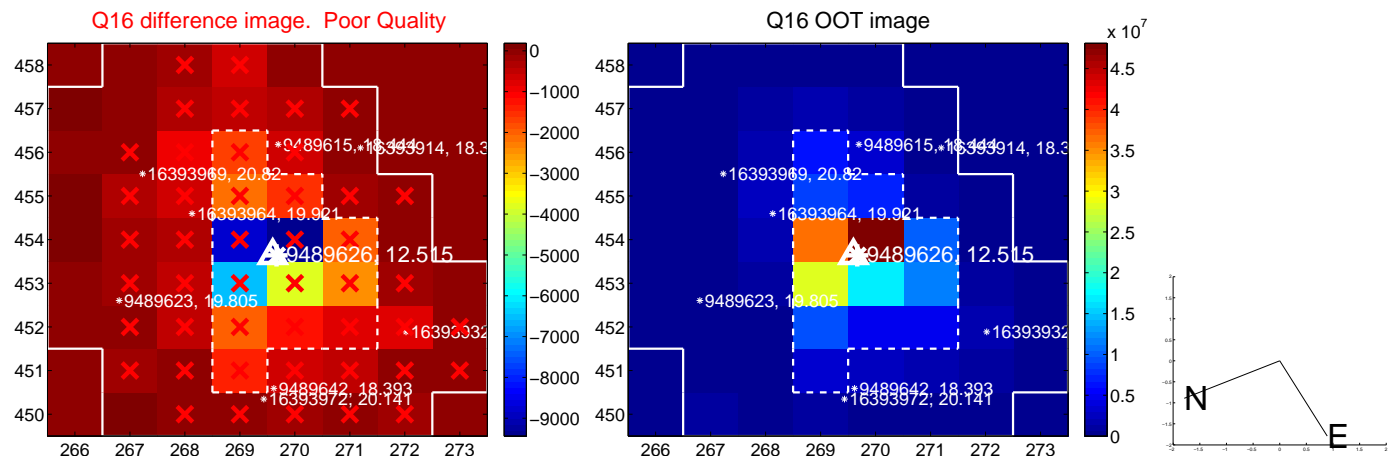
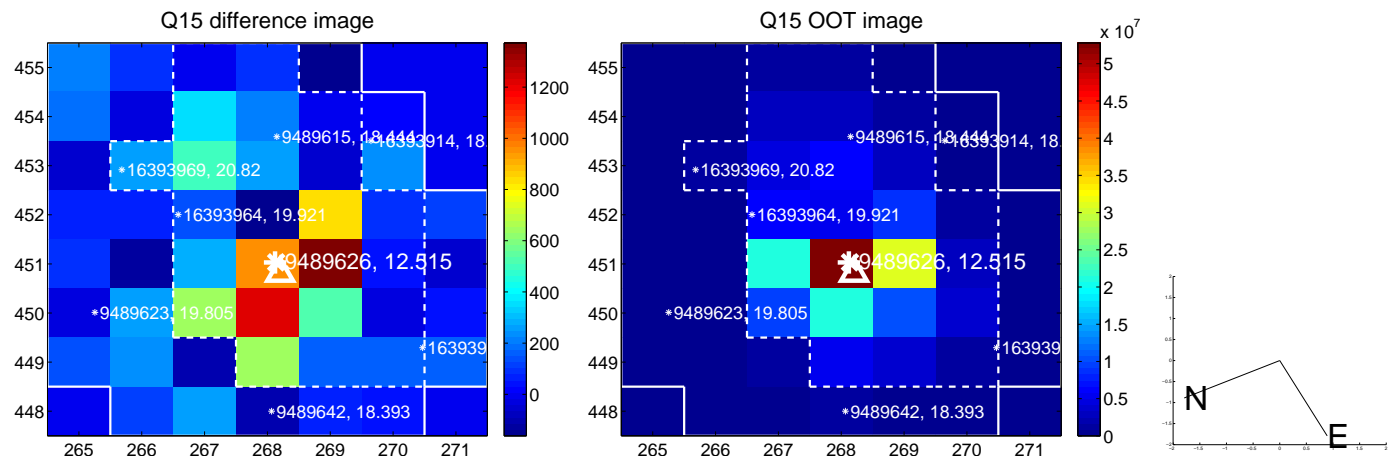
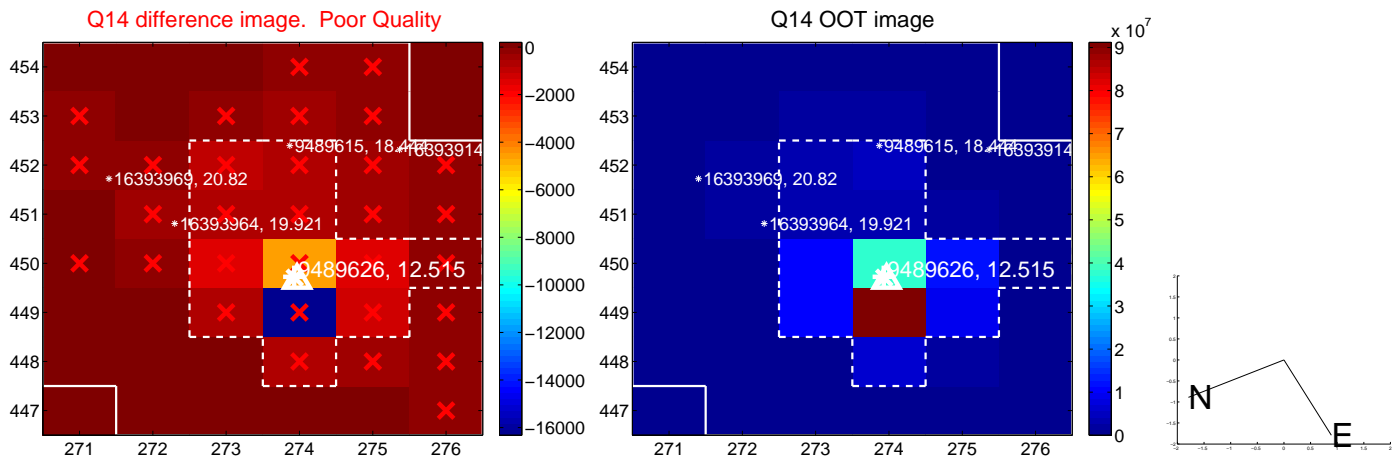
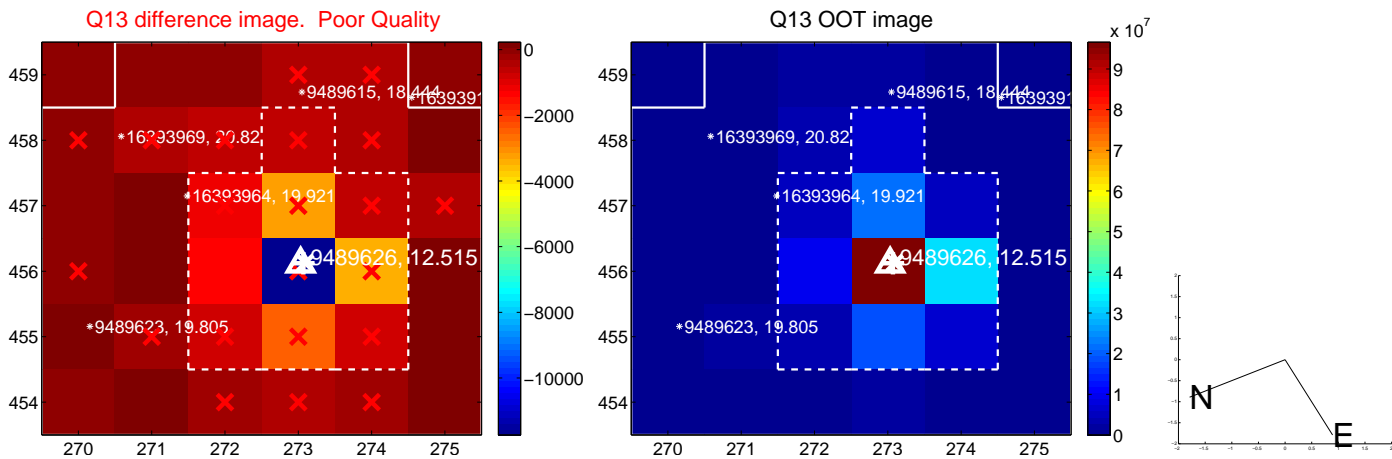
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



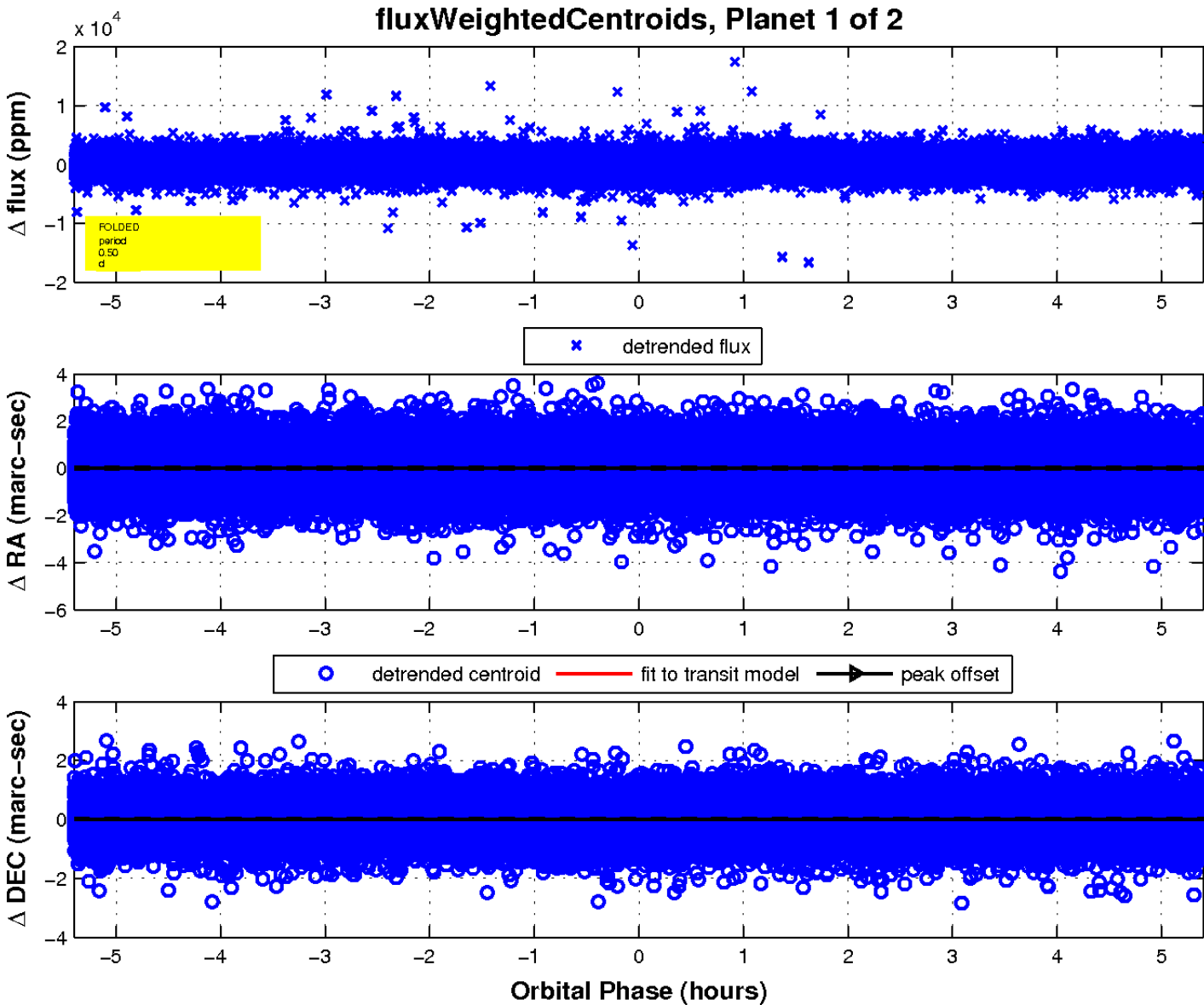
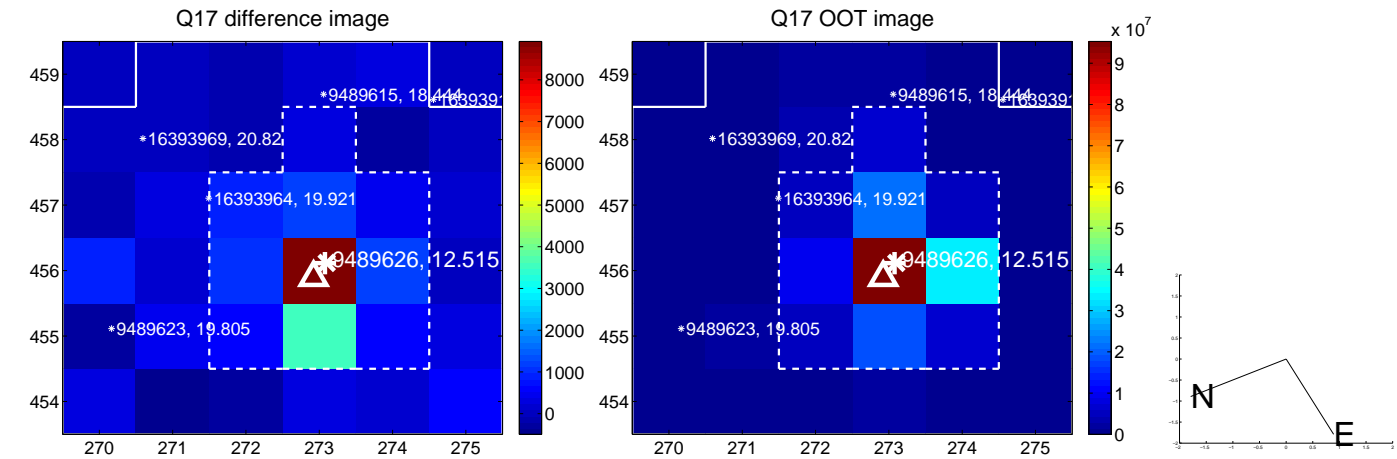
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

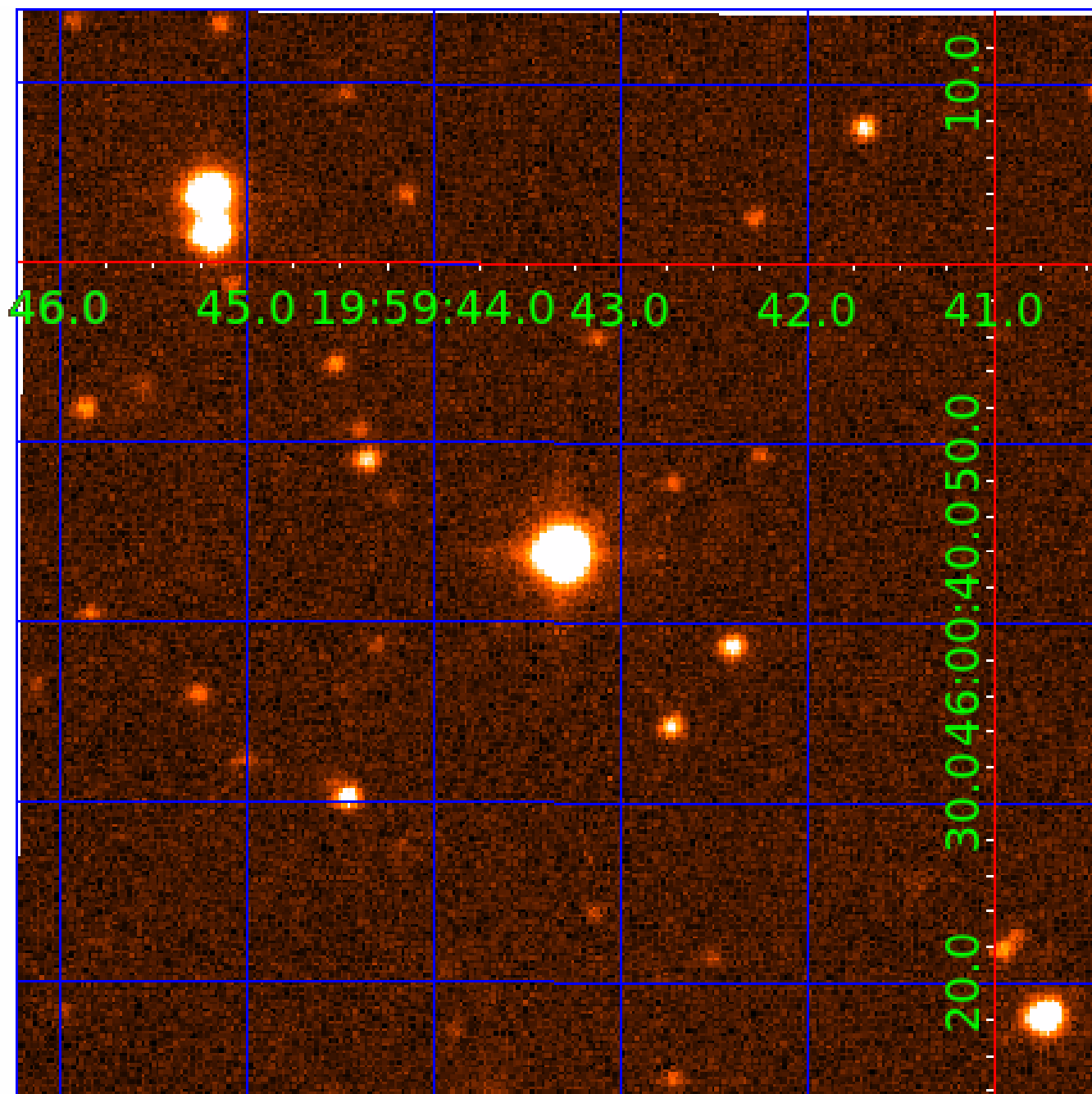


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009489626

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})
009489626-01	OBS	No	0.502838	131.920491	204.8	1.801	10.3	13.1	1.91	6777	3.20	38645.75
009489626-02	OBS	No	0.502834	131.753849	156.6	1.444	9.2	10.0	1.91	6777	2.43	38646.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009489626-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
009489626-02	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.

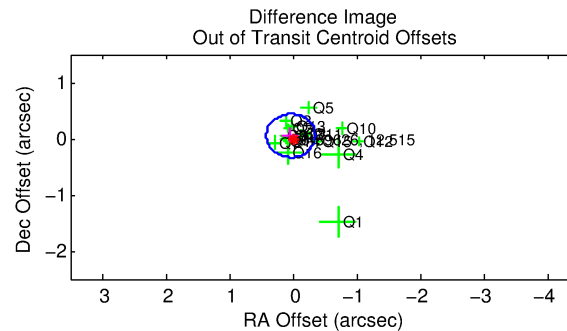
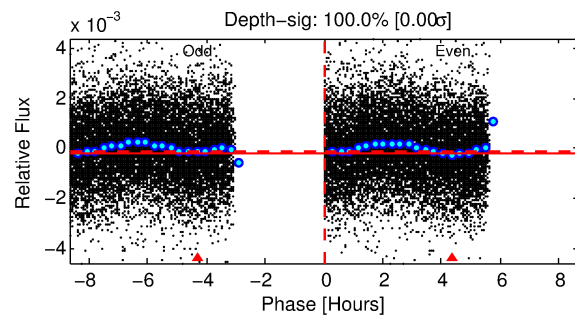
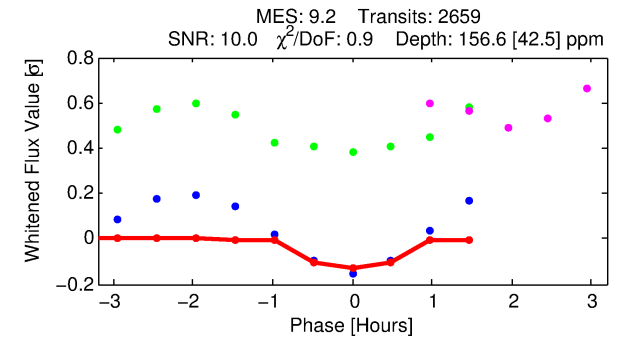
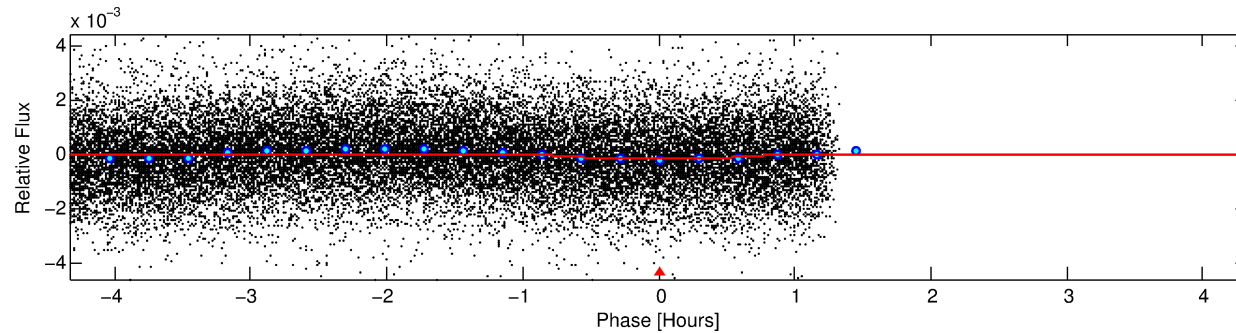
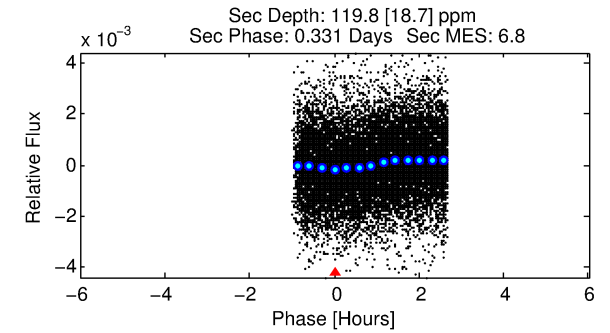
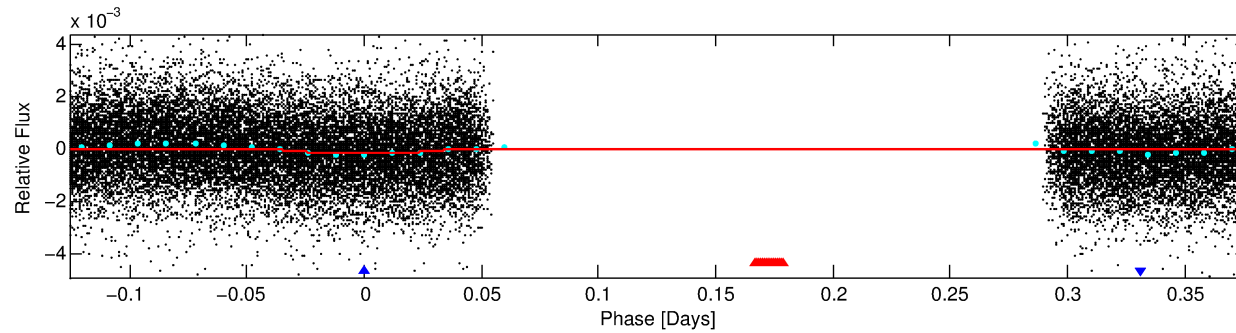
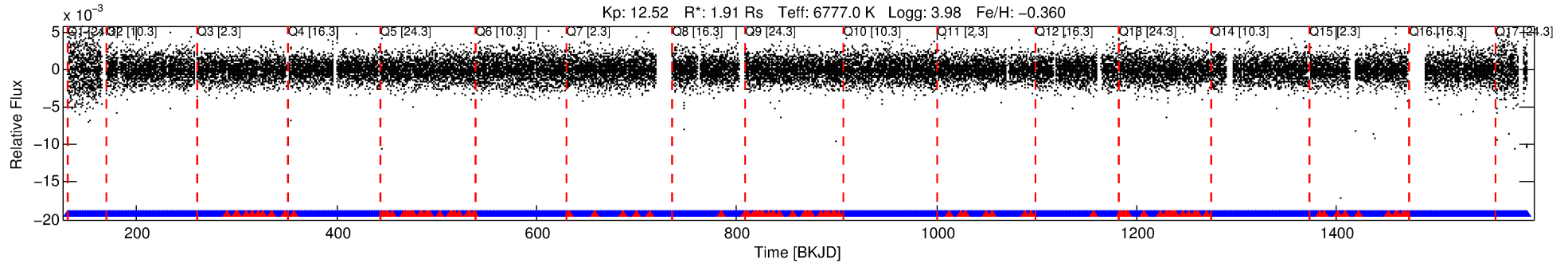
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009489626-02

No Significant Match Found

DV One-Page Summary

KIC: 9489626 Candidate: 2 of 2 Period: 0.503 d



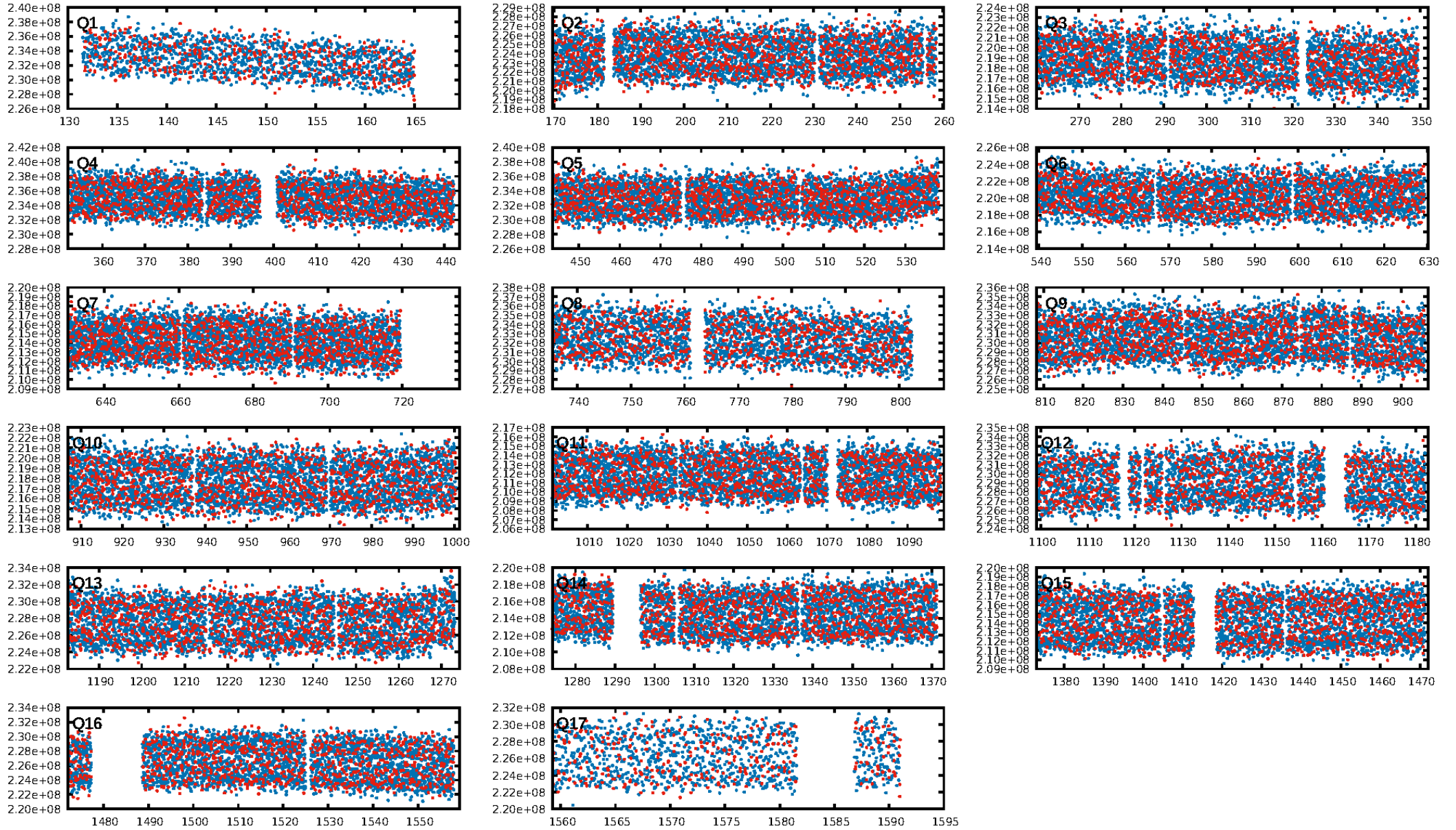
DV Fit Results:

Period = 0.50283 [0.00003] d
Epoch = 131.7538 [0.0024] BKJD
Rp/R* = 0.0116 [0.0122]
a/R* = 2.74 [13.69]
b = 0.10 [57.36]
Seff = 38646.17 [22490.87]
Teq = 3575 [520] K
Rp = 2.43 [2.71] Re
a = 0.0134 [0.0048] AU
Ag = 2.01 [4.38] [0.23σ]
Teffp = 6579 [3480] K [0.85σ]

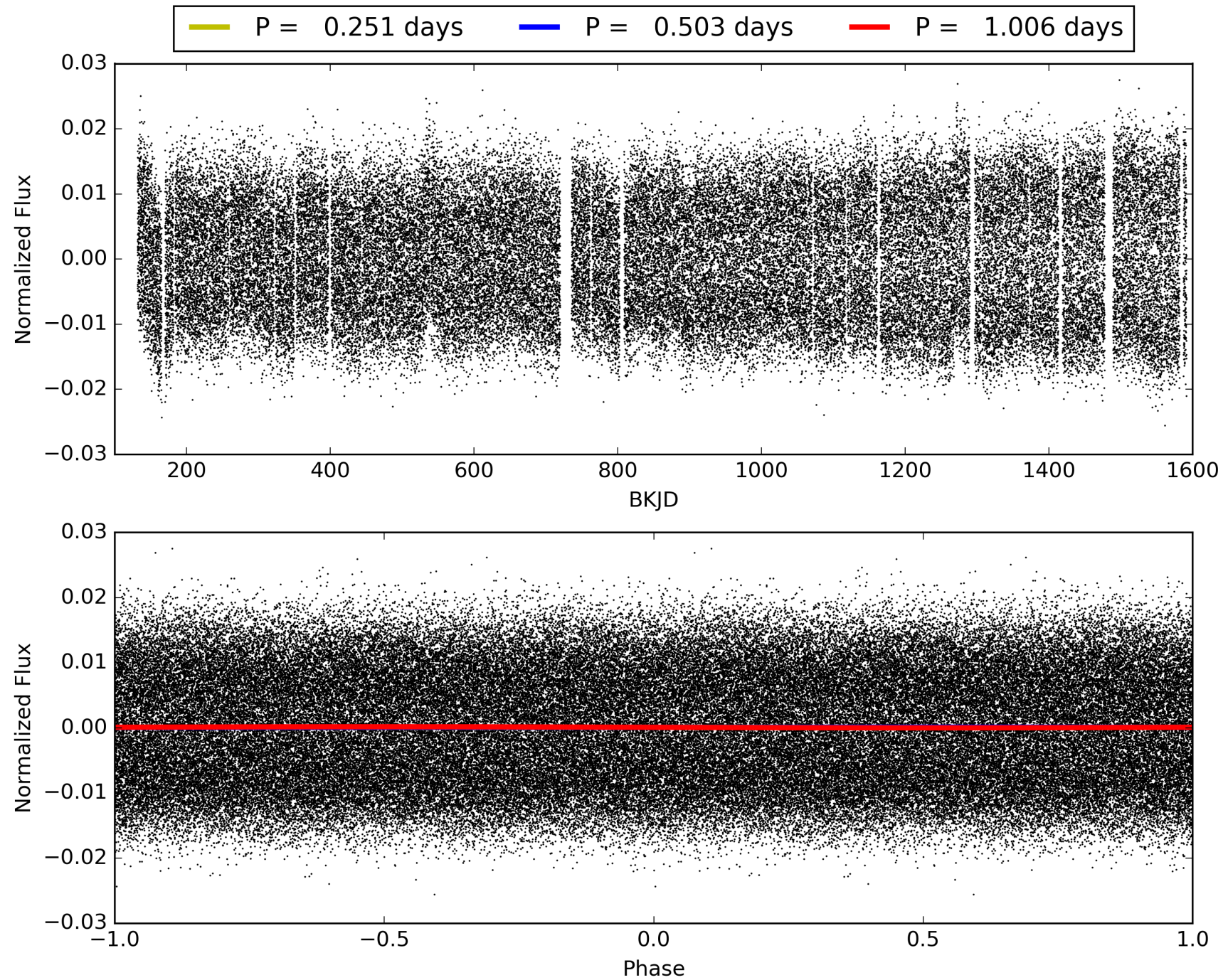
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.16e-08
RollingBand-fgt: 0.96 [2430/2538]
GhostDiagnostic-chr: 1.103
Centroid-sig: 85.0%
Centroid-so: 0.081 arcsec [0.55σ]
OotOffset-rm: 0.061 arcsec [0.48σ]
KicOffset-rm: 0.124 arcsec [1.06σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.71 [12/17]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 009489626-02, PDC Light Curves

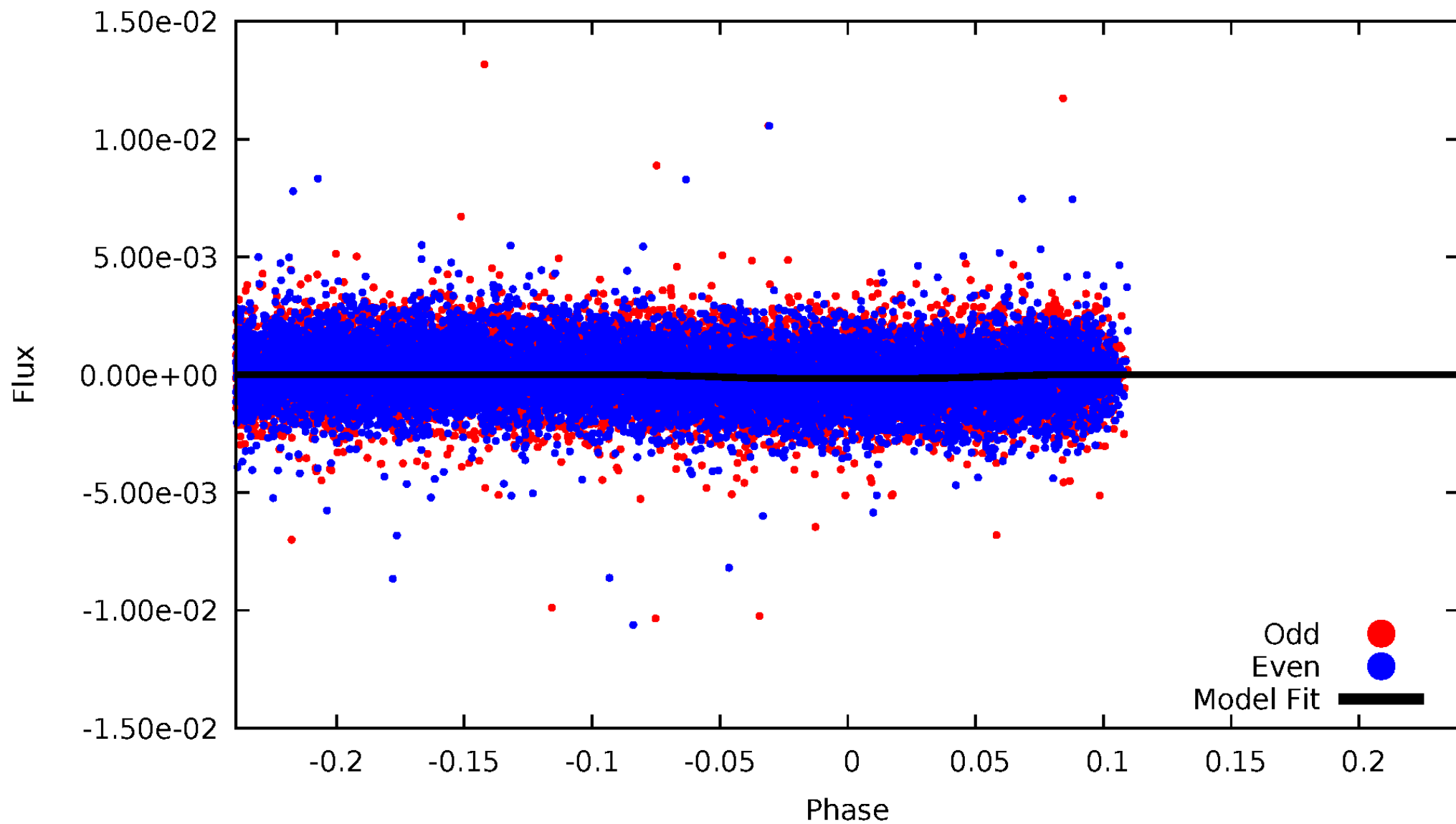


TCE 009489626-02



DV Odd/Even

TCE 009489626-02

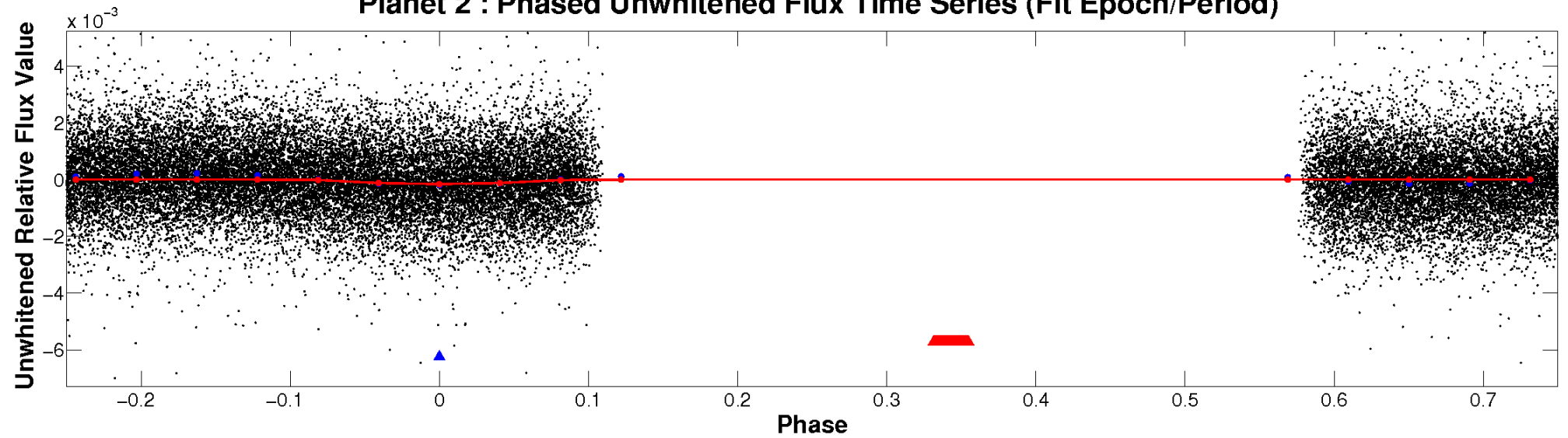


ALT Odd/Even

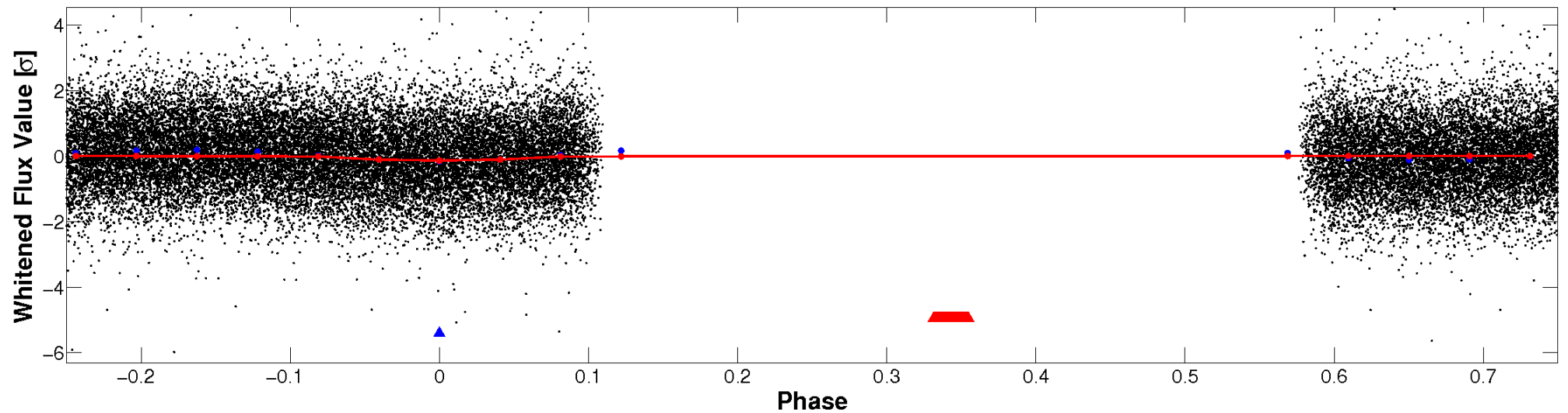
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

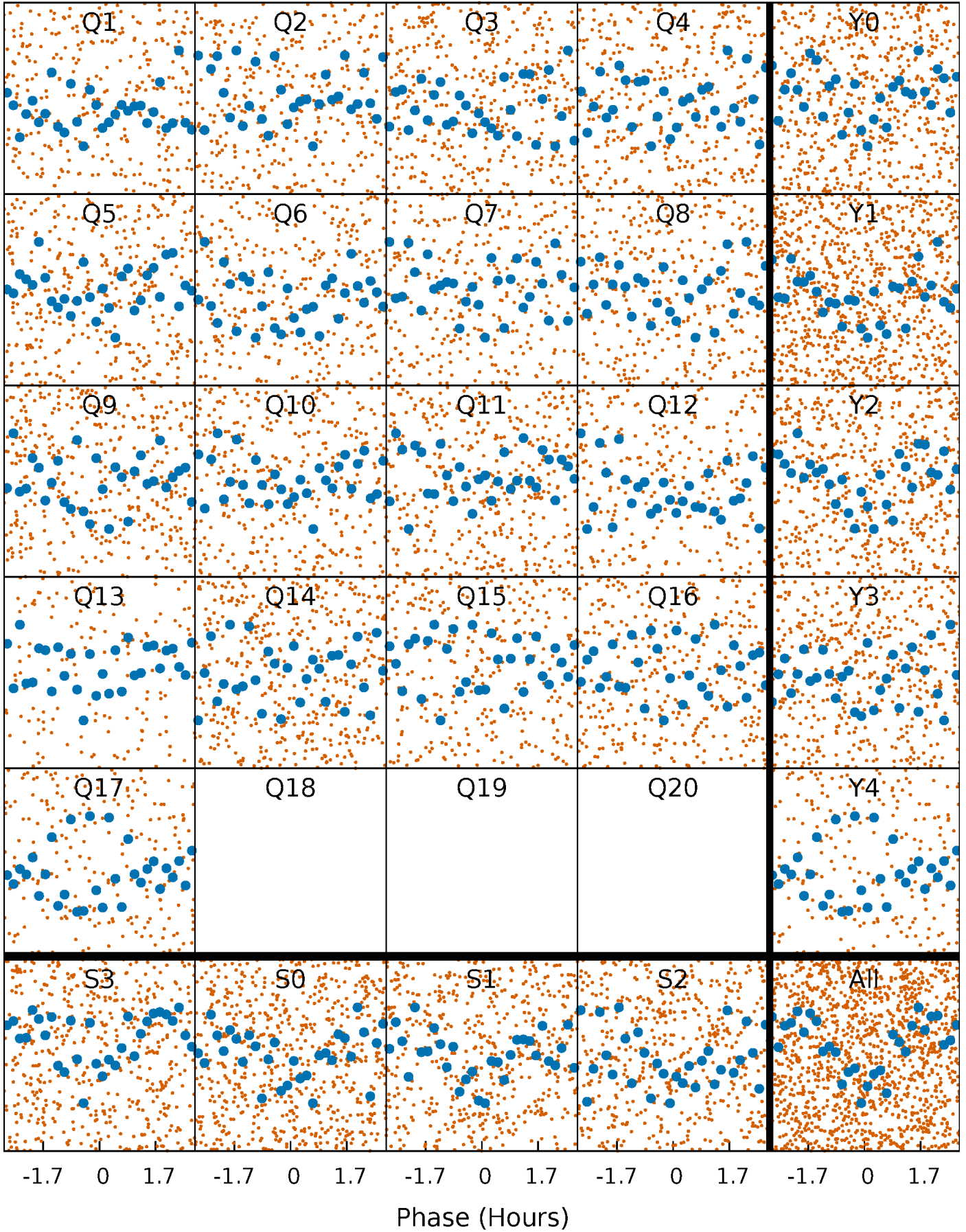


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



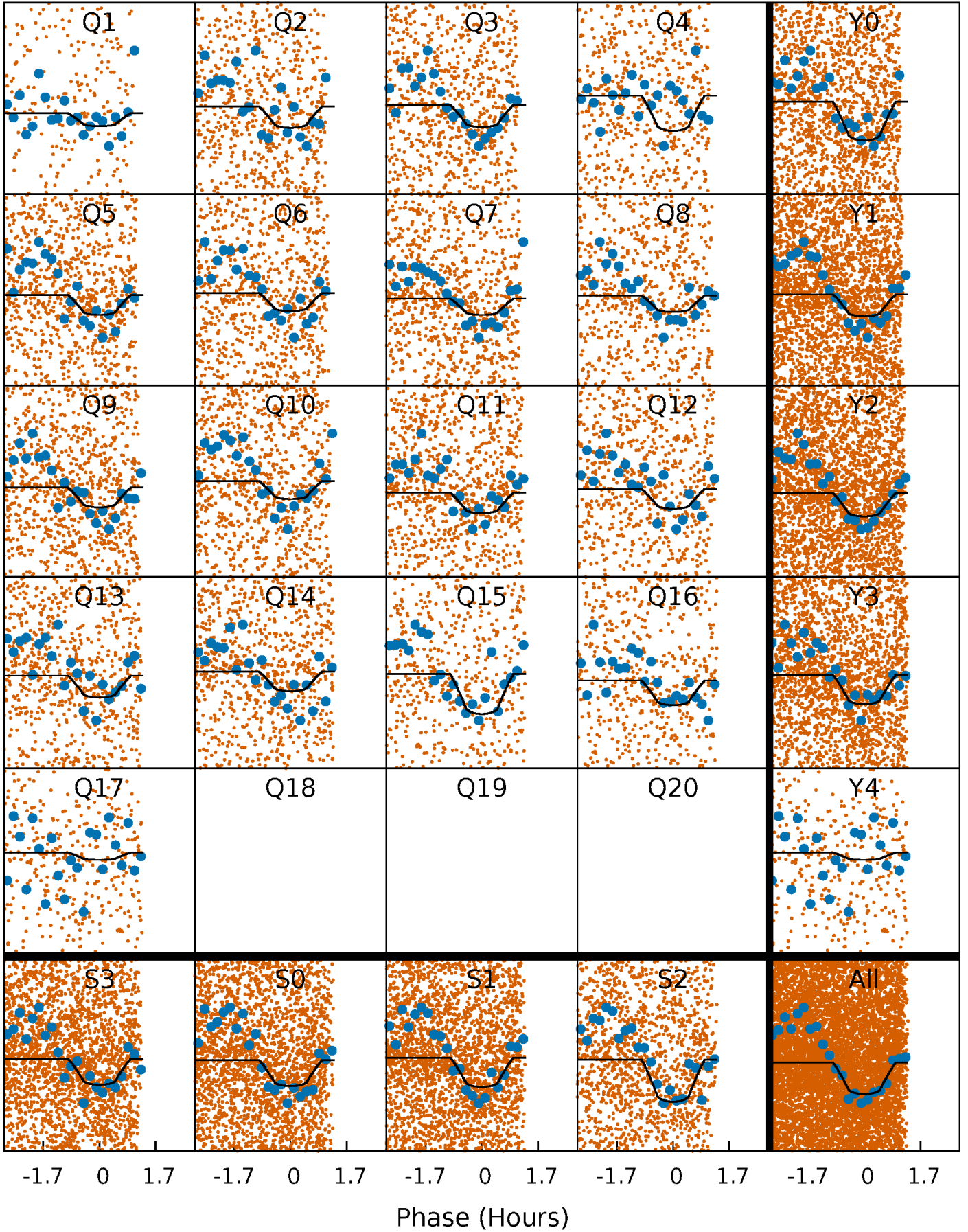
PDC Quarter-Phased Transit Curves

TCE 009489626-02 P= 0.502834 Days $T_0=131.753849$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 009489626-02 $P = 0.502834$ Days $T_0 = 131.753849$ (BKJD)

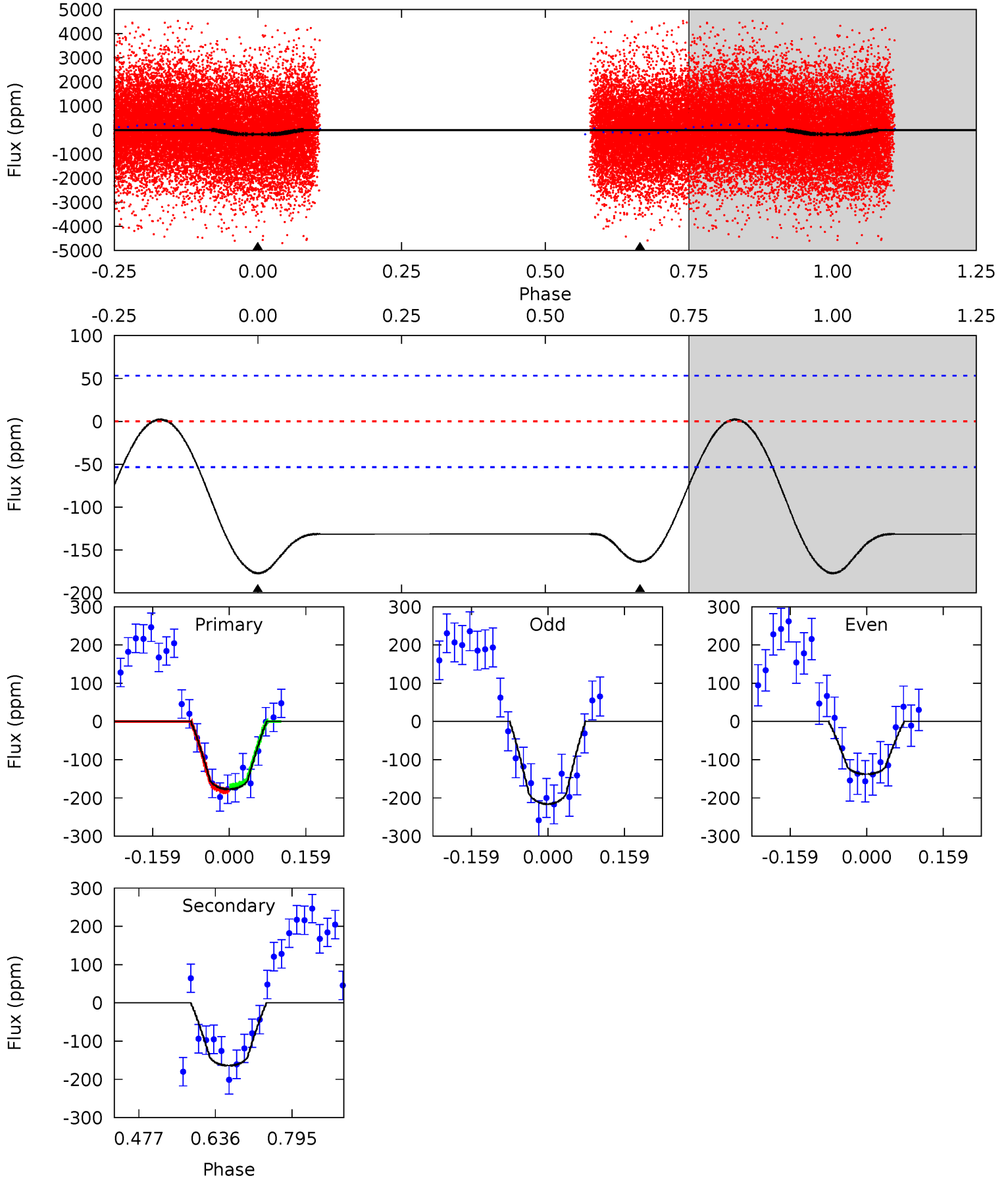


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

009489626-02, P = 0.502834 Days, E = 131.251015 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.9	13.8	0	0	4.47	1.41	0.23	14.9	14.9	13.8	13.8	3.31	0.86	0.01	0.49



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 009489626

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6777^{+183}_{-245}	$3.976^{+0.329}_{-0.141}$	$-0.360^{+0.300}_{-0.300}$	$1.914^{+0.479}_{-0.719}$	$1.267^{+0.203}_{-0.223}$	$0.254^{+0.601}_{-0.101}$
	+3%/-4%	+8%/-4%	+83%/-83%	+25%/-38%	+16%/-18%	+236%/-40%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 009489626-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-164 \pm 12	$2.85^{+2.19}_{-1.81}$	4911^{+361}_{-506}	6124^{+6022}_{-1814}	$2.056^{+12.697}_{-1.403}$
Alt.	N/A	N/A	N/A	N/A	N/A

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

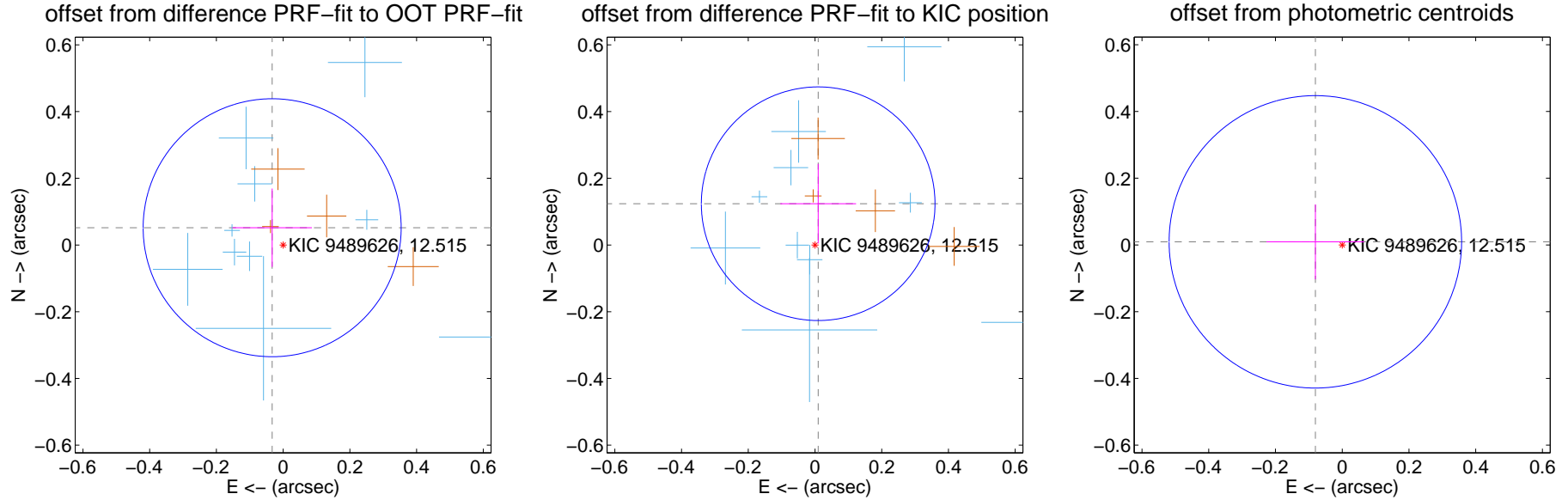
DV Centroid Data

Supplemental centroid analysis for 009489626-02. Kepler magnitude: 12.52. Transit SNR 10.05

There are 12 quarters with good PRF difference image offsets

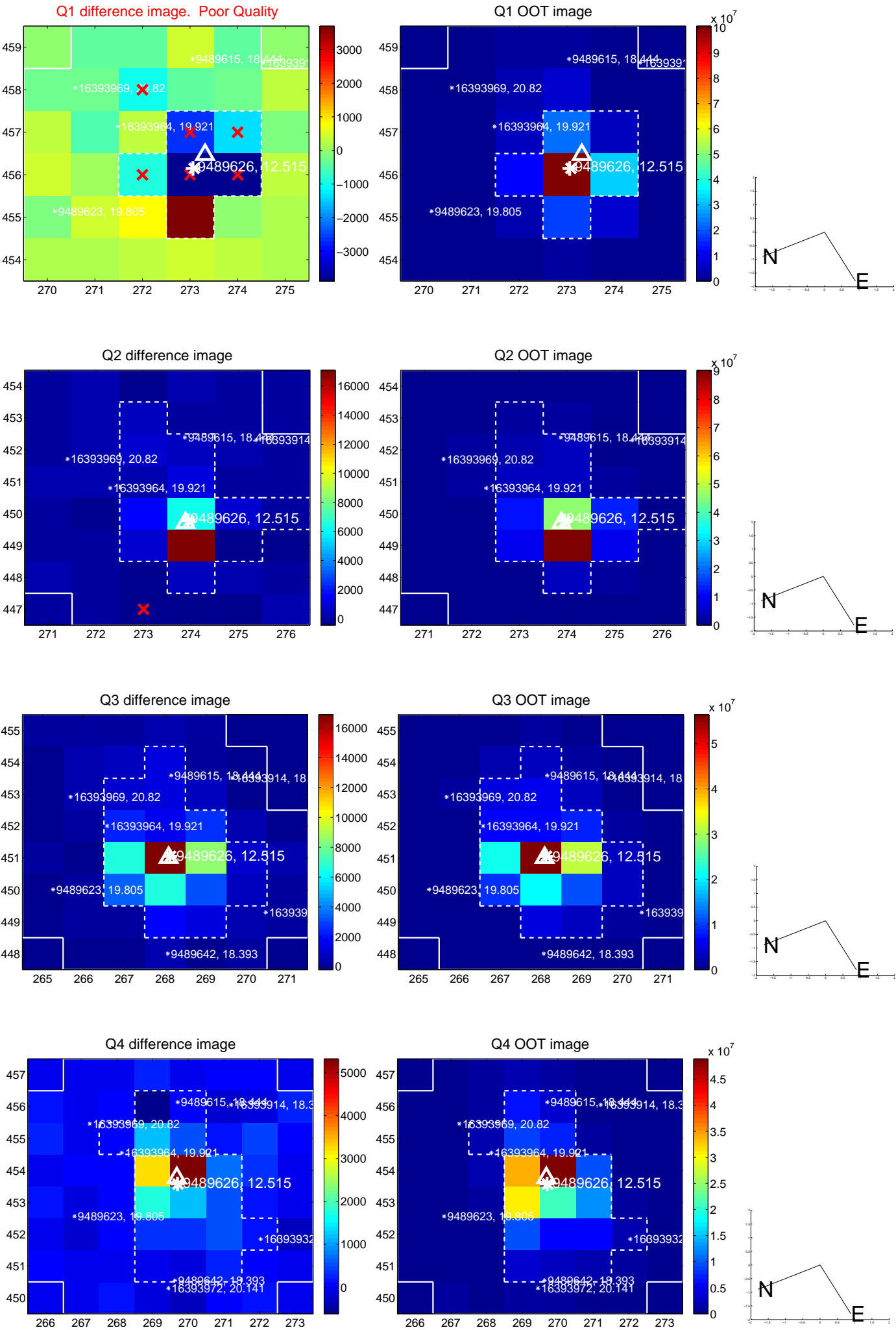
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.061 ± 0.129	0.48	0.033 ± 0.119	0.052 ± 0.117
PRF-fit source offset from KIC position	0.124 ± 0.117	1.06	-0.010 ± 0.114	0.124 ± 0.119
photometric centroid source offset	0.08 ± 0.15	0.55	0.08 ± 0.15	0.01 ± 0.11

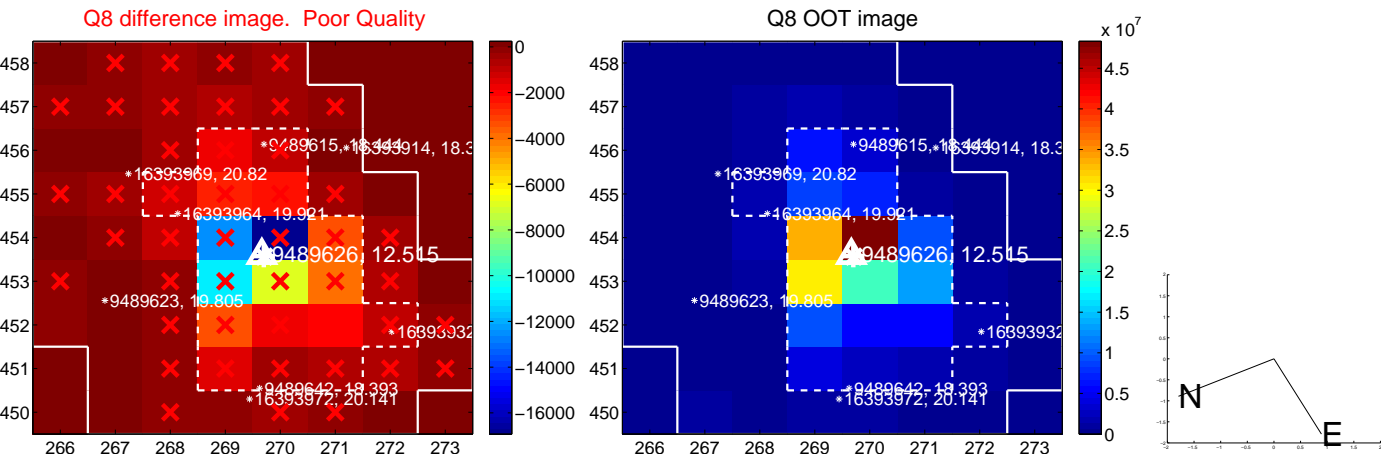
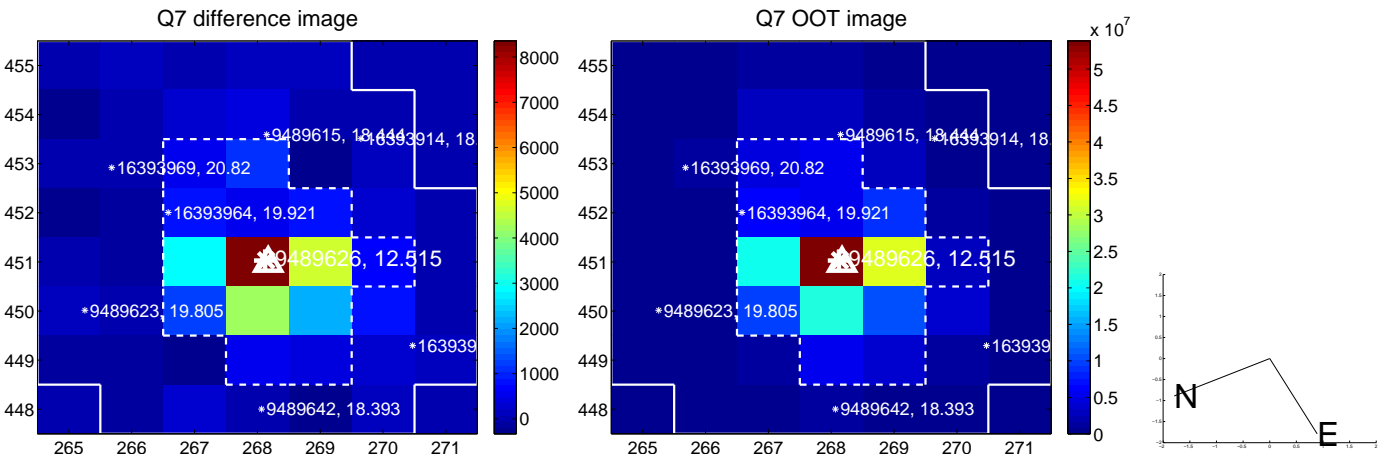
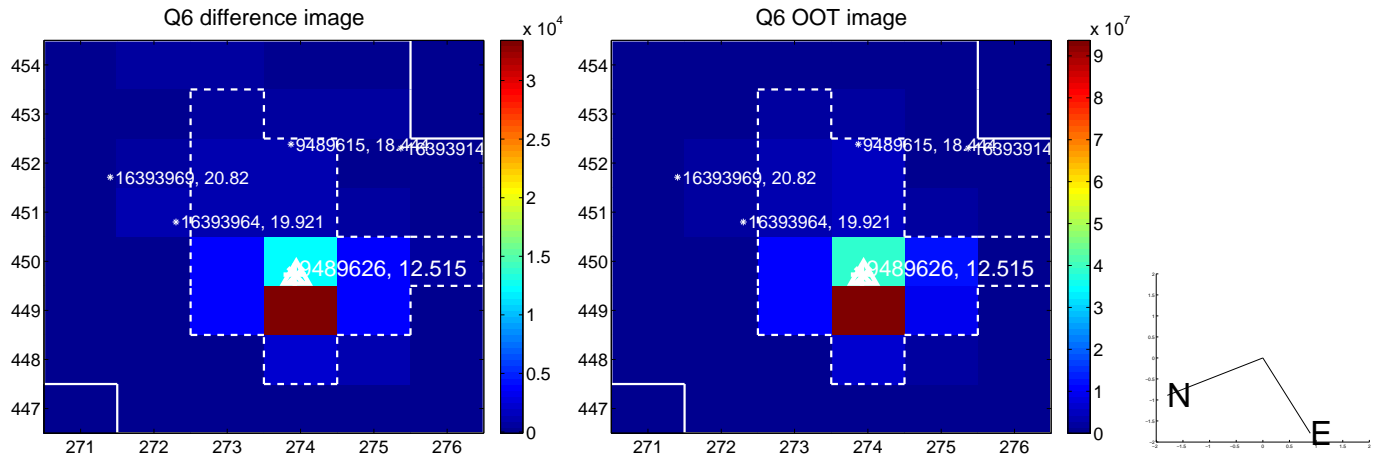
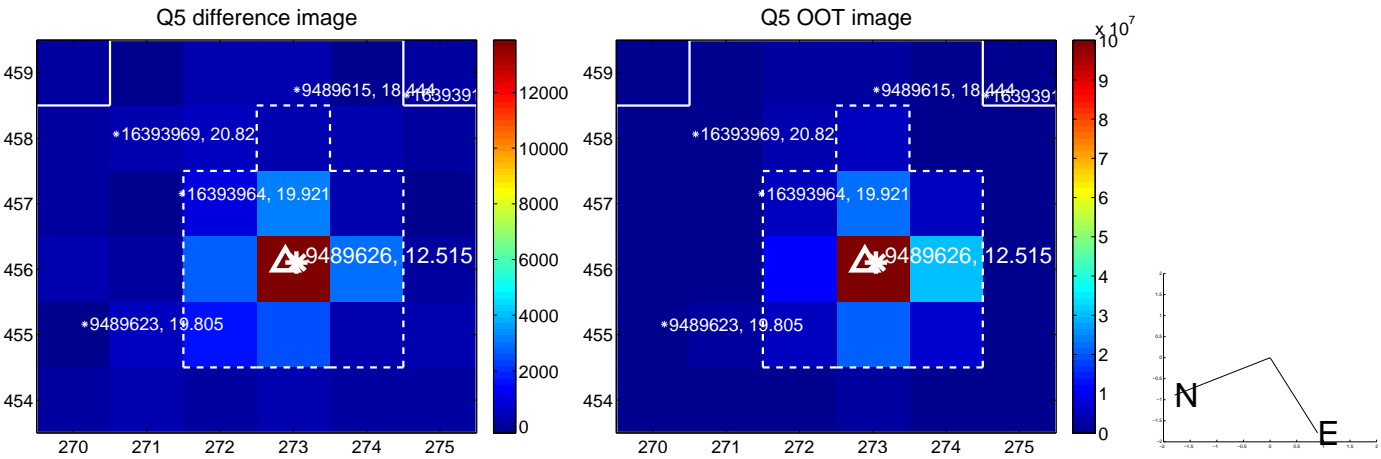


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

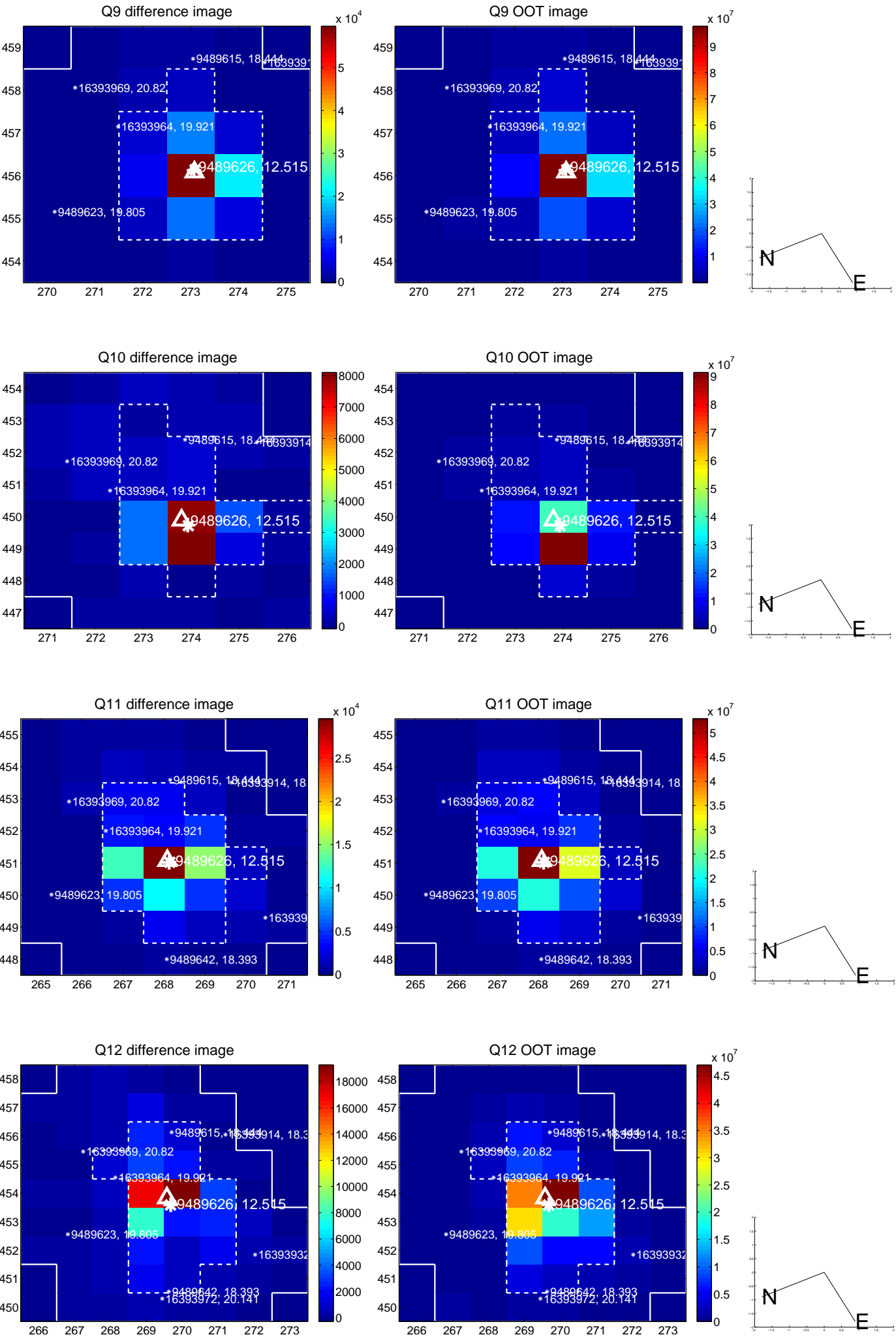
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



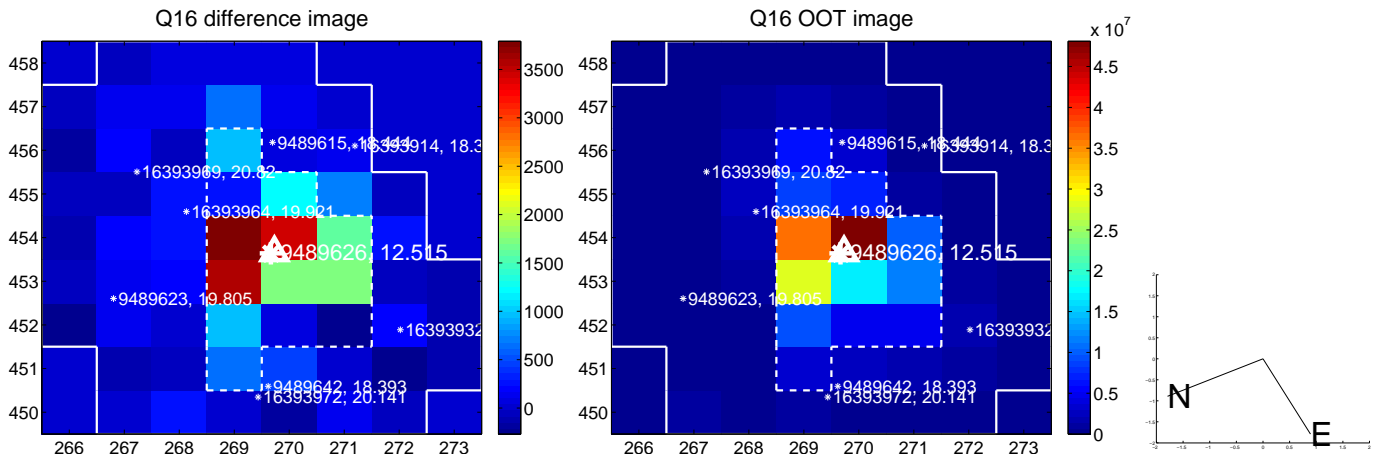
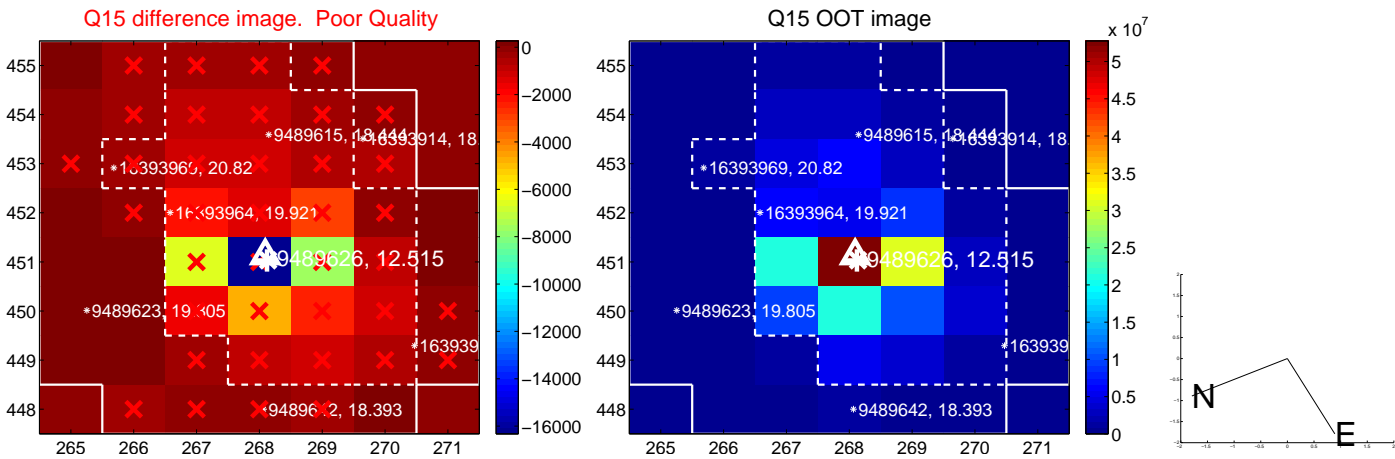
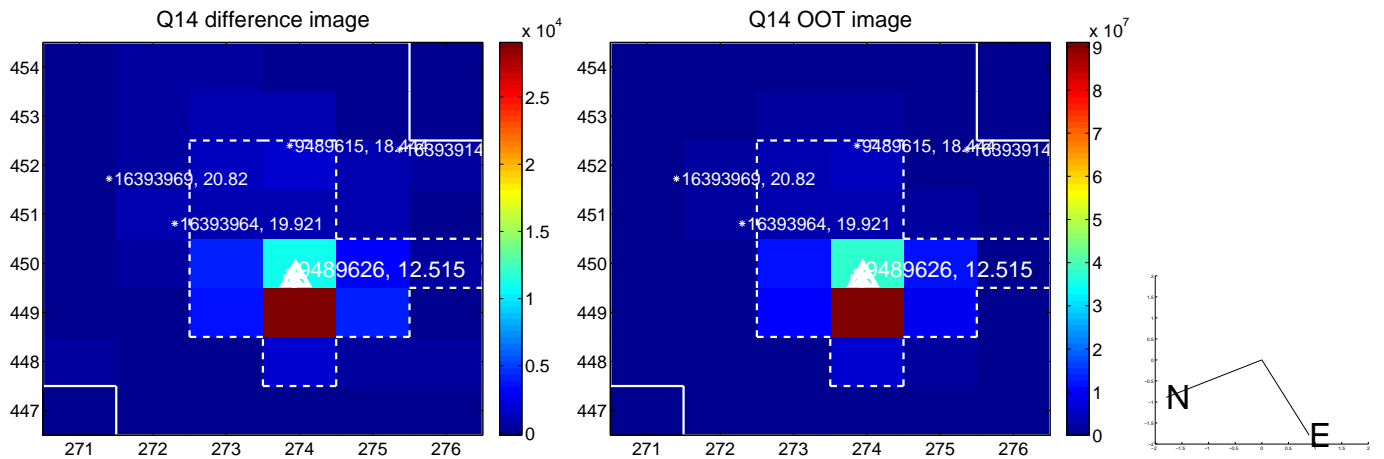
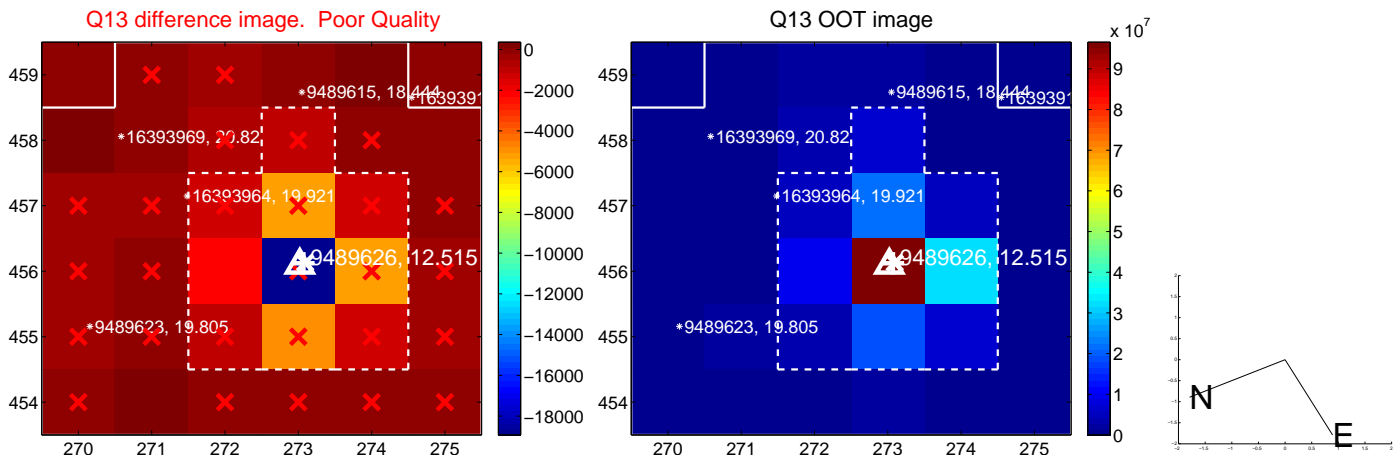
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



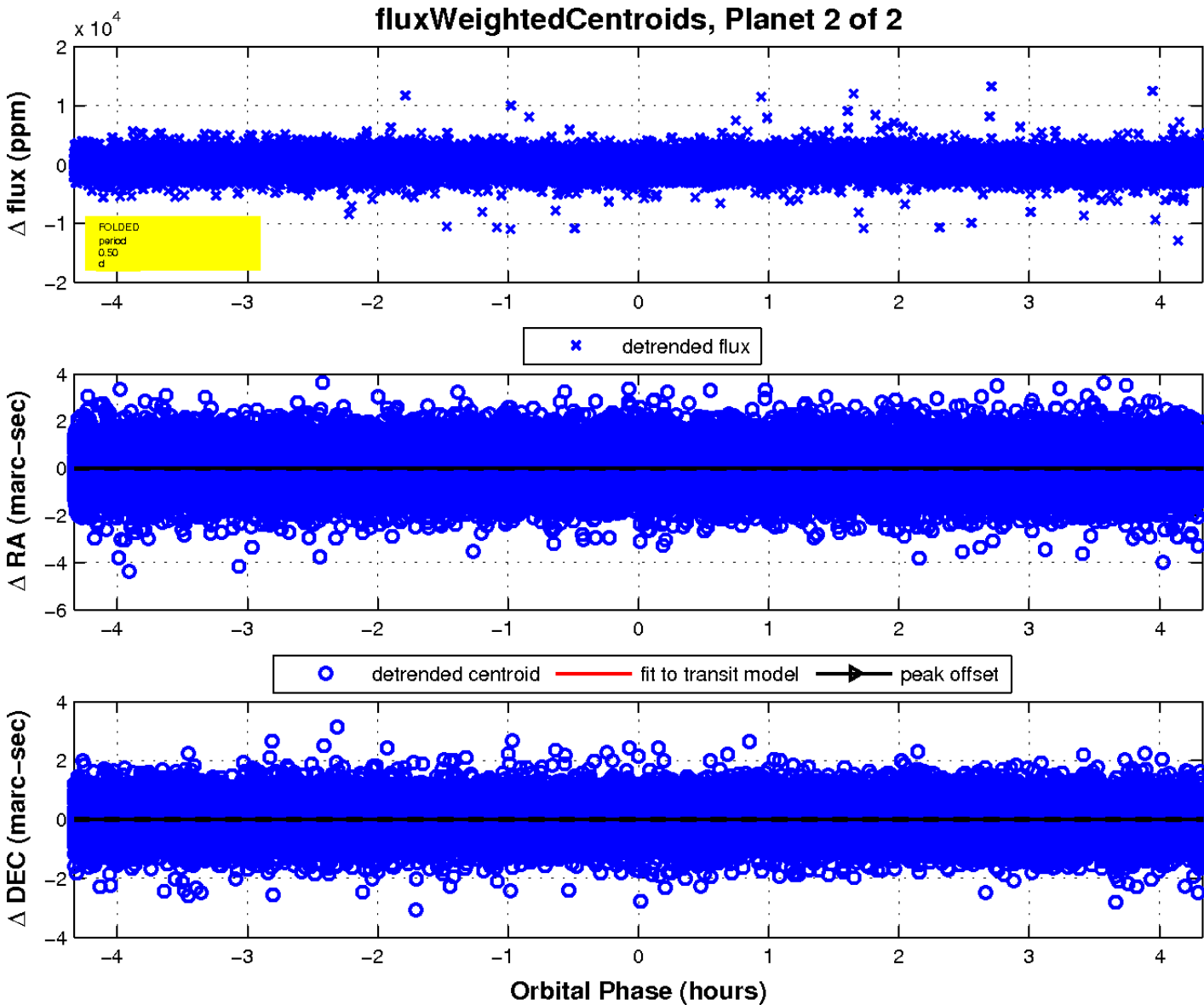
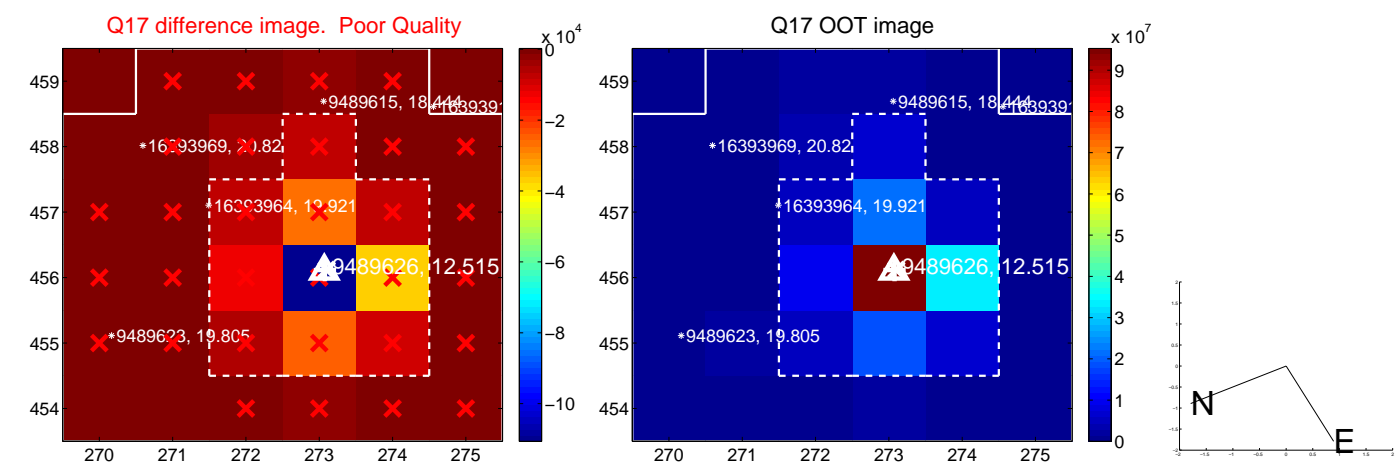
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

