

KIC 007387226

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})
007387226-01	OBS	No	1.334757	132.121142	23.1	10.257	10.1	4.8	1.59	6367	0.77	5827.92
007387226-02	OBS	No	8.737283	135.332959	672.3	2.434	11.0	14.8	1.59	6367	4.83	475.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007387226-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT
007387226-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

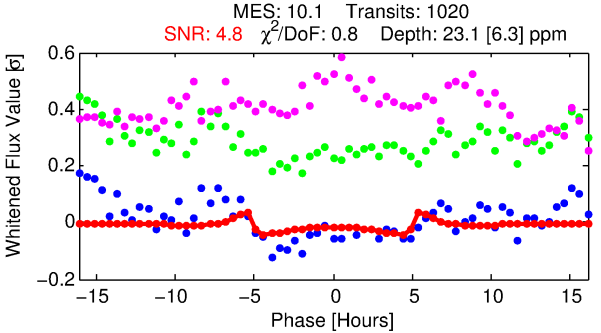
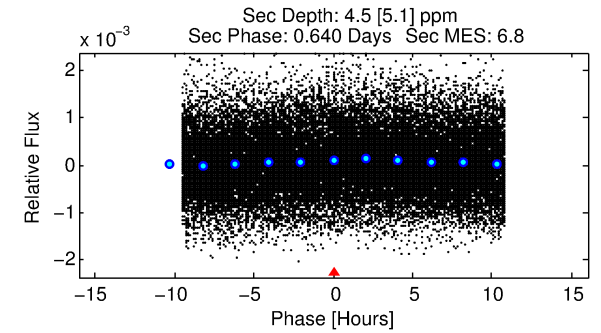
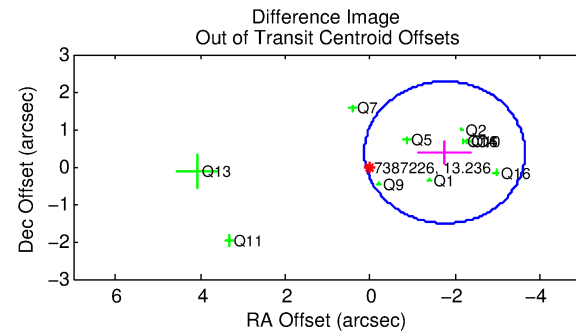
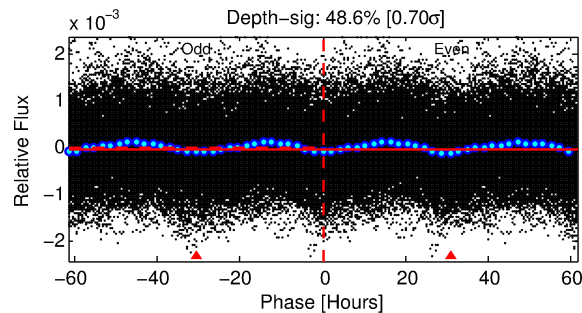
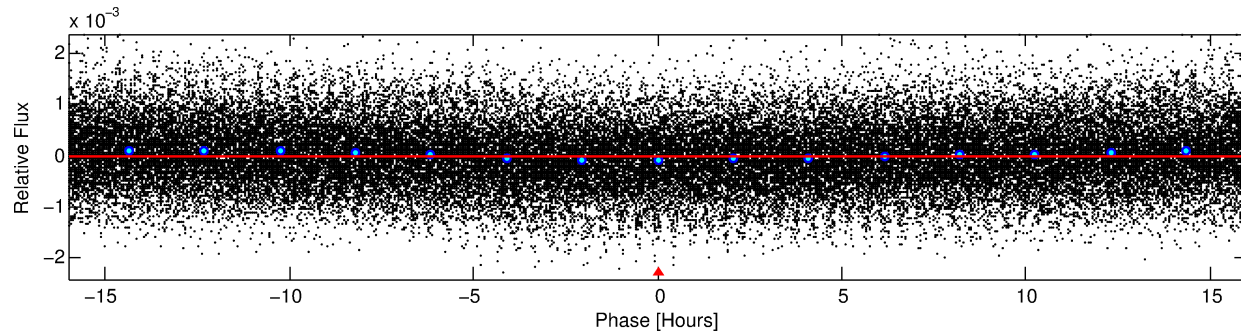
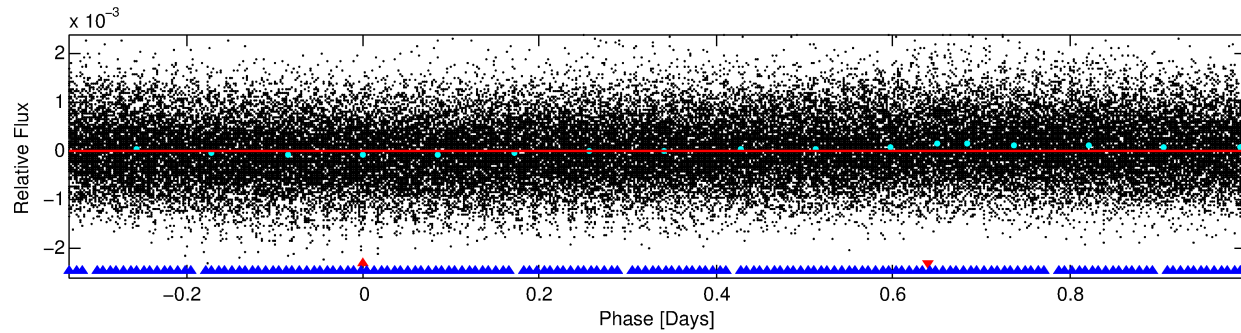
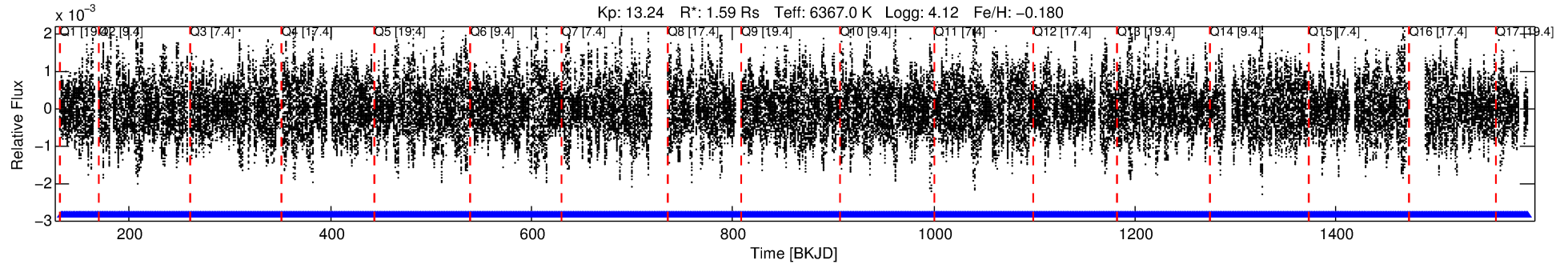
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007387226-01

No Significant Match Found

DV One-Page Summary

KIC: 7387226 Candidate: 1 of 2 Period: 1.335 d



DV Fit Results:

Period = 1.33476 [0.00002] d
Epoch = 132.1211 [0.0054] BKJD
Rp/R* = 0.0044 [0.0044]
a/R* = 1.19 [1.86]
b = 0.01 [527.76]
Seff = 5827.92 [2635.34]
Teff = 2228 [252] K
Rp = 0.76 [0.79] Re
a = 0.0253 [0.0069] AU
Ag = 2.68 [6.27] [0.27 σ]
Teffp = 4409 [2535] K [0.86 σ]

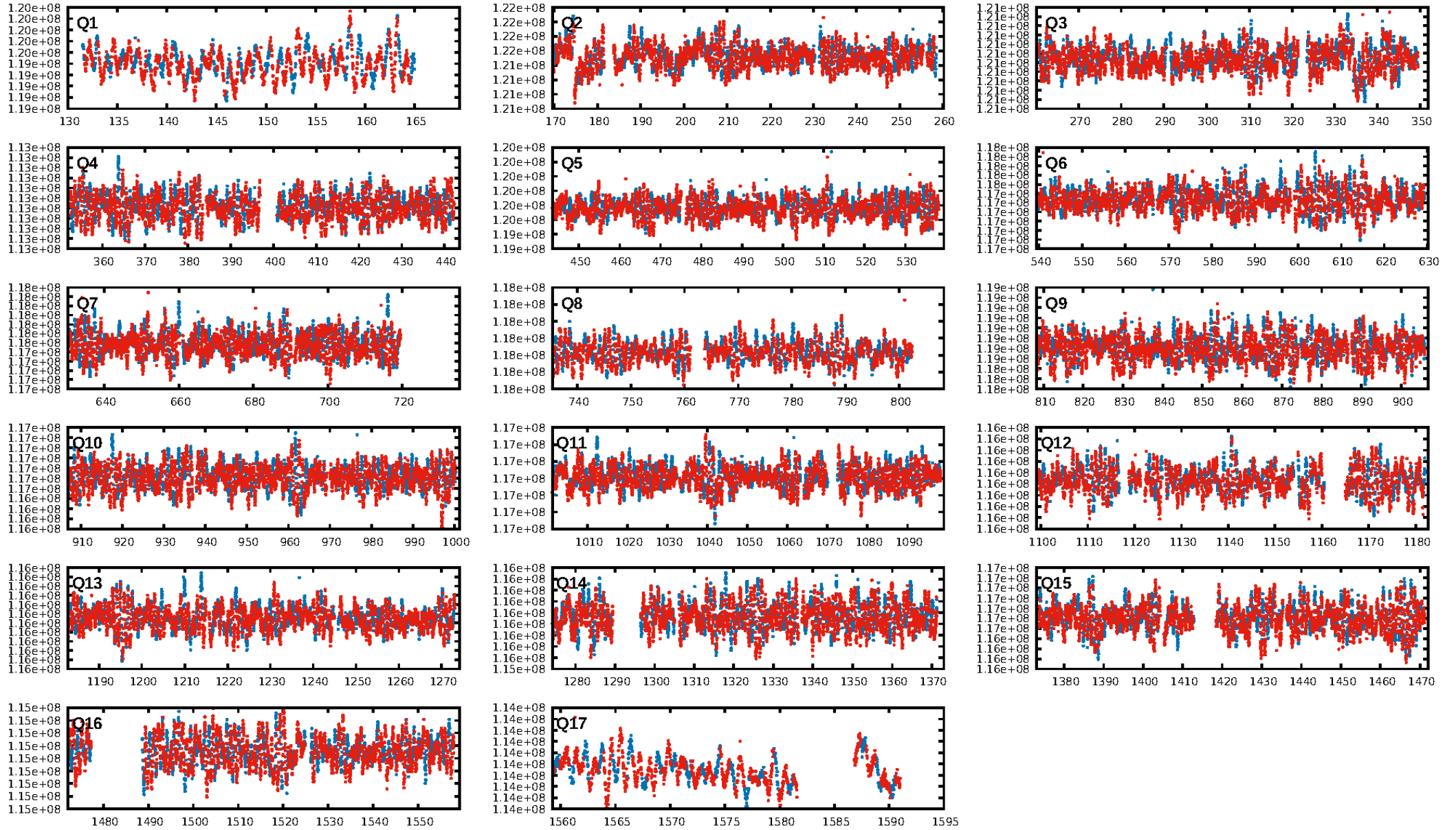
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [16.85 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.22e-249
RollingBand-fgt: 1.00 [974/974]
GhostDiagnostic-chr: 3.333
Centroid-sig: 0.0%
Centroid-so: 5.825 arcsec [6.75 σ]
OotOffset-rm: 1.803 arcsec [2.86 σ]
KicOffset-rm: 1.542 arcsec [2.34 σ]
OotOffset-st: 4/2/1/4 [11]
KicOffset-st: 4/2/1/4 [11]
DiffImageQuality-fgm: 0.55 [6/11]
DiffImageOverlap-fno: 1.00 [17/17]

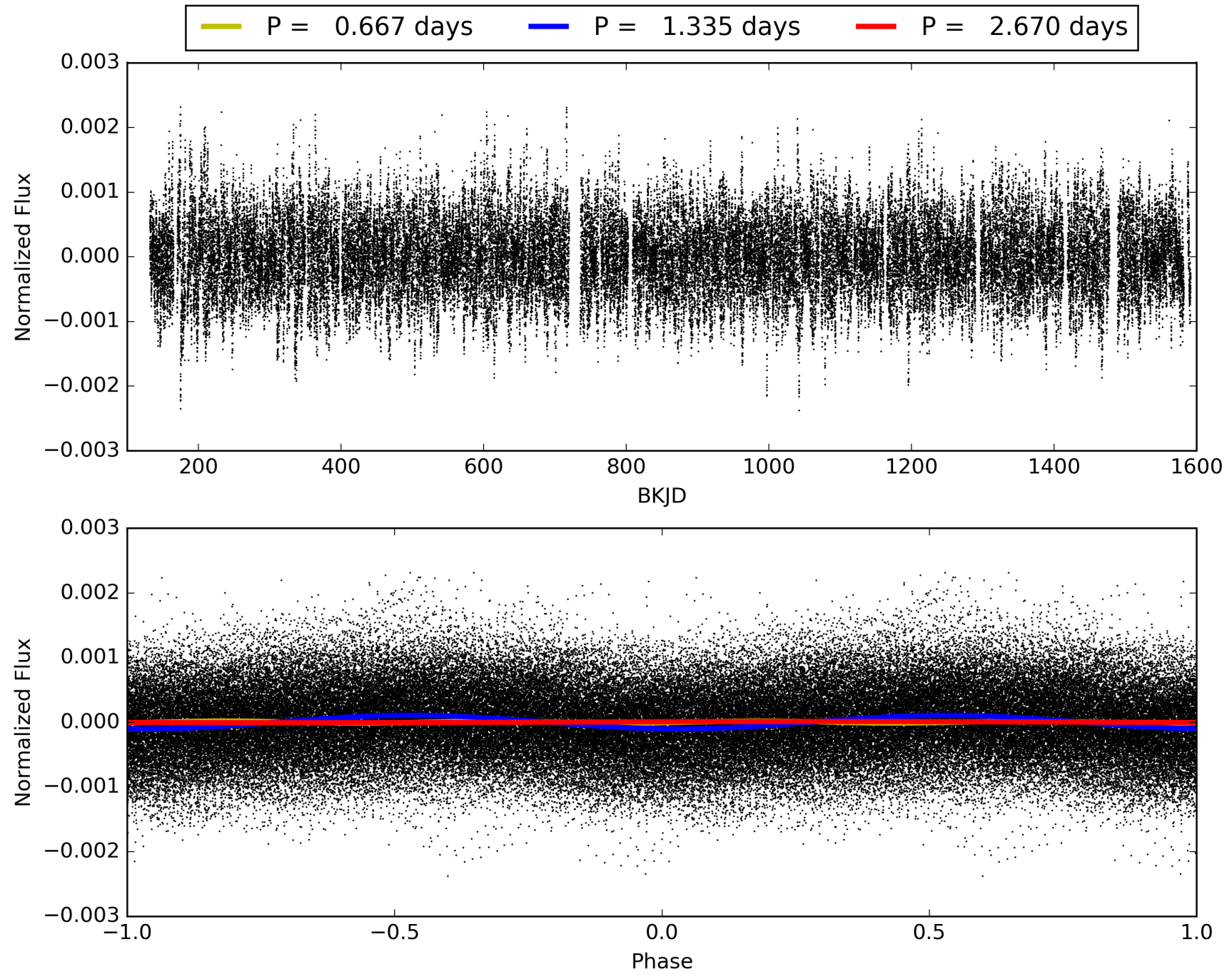
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:46:13 Z

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

TCE 007387226-01, PDC Light Curves

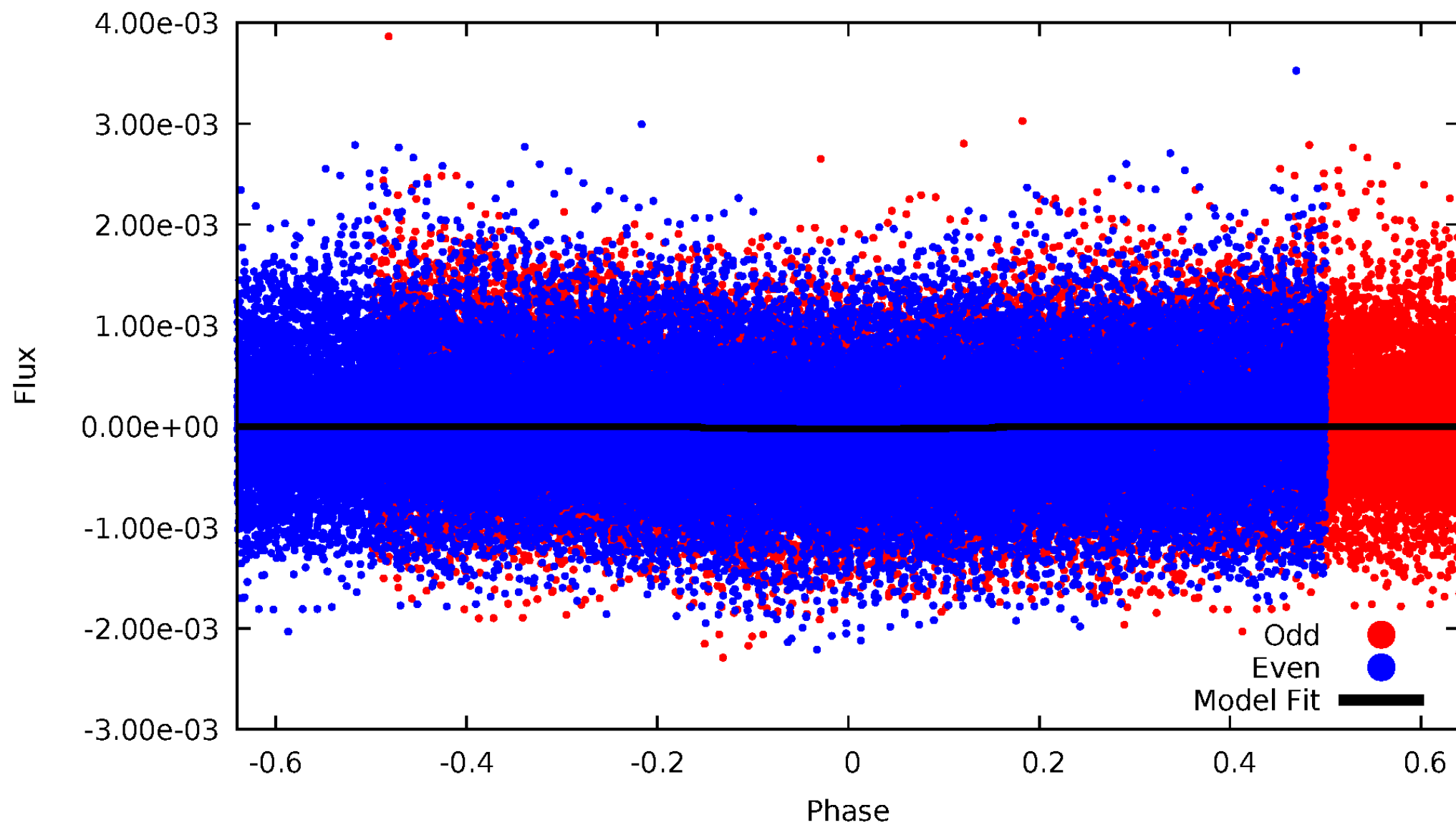


TCE 007387226-01



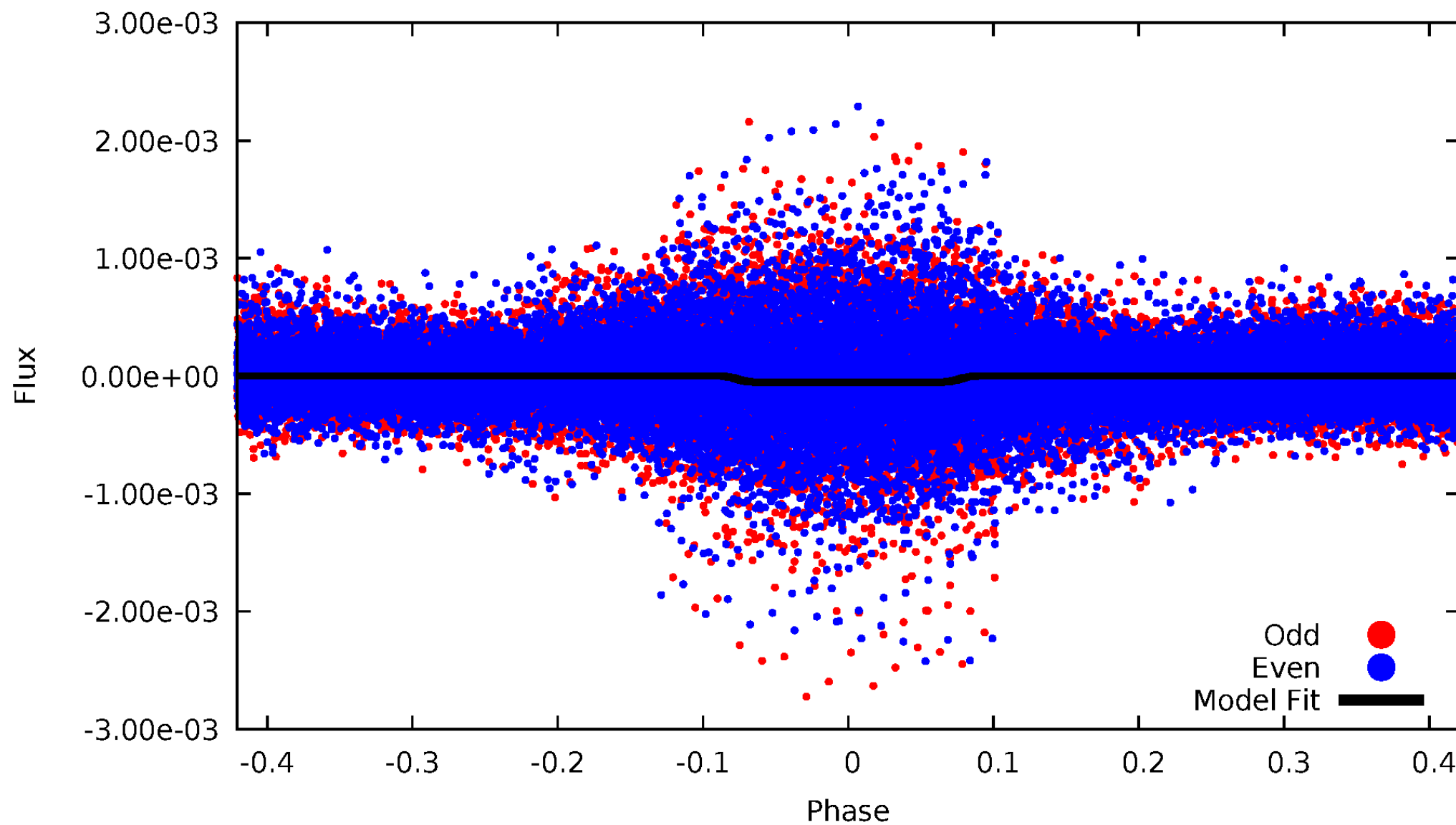
DV Odd/Even

TCE 007387226-01



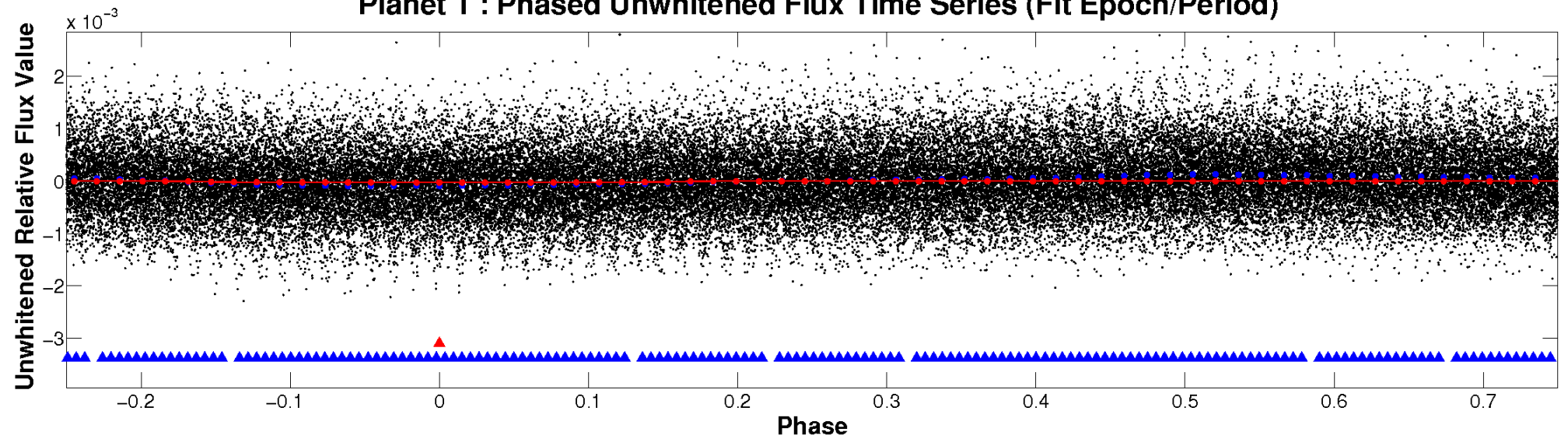
ALT Odd/Even

TCE 007387226-01

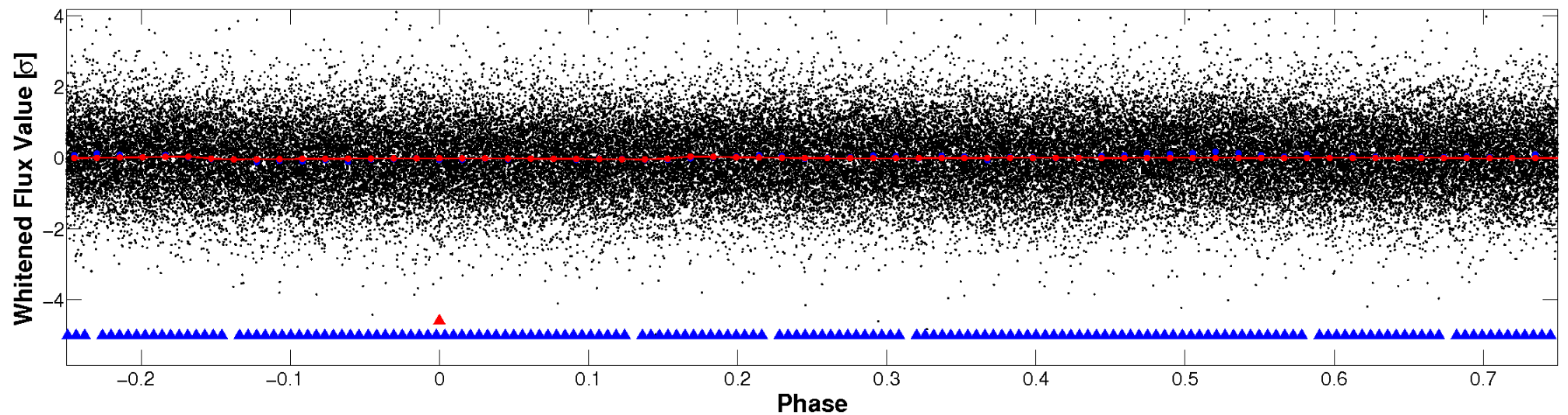


Non-Whitened Vs. Whitened Light Curve

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

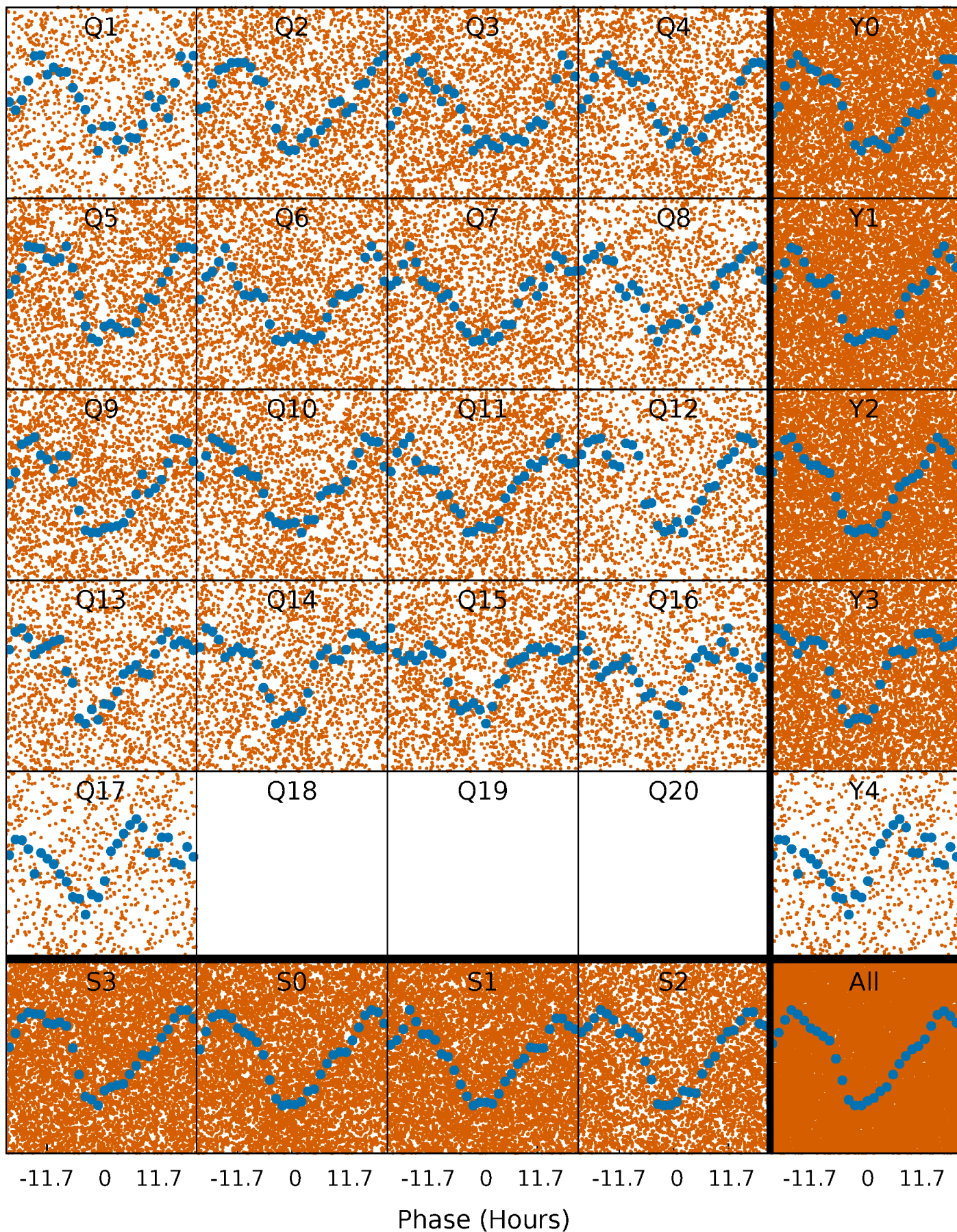


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



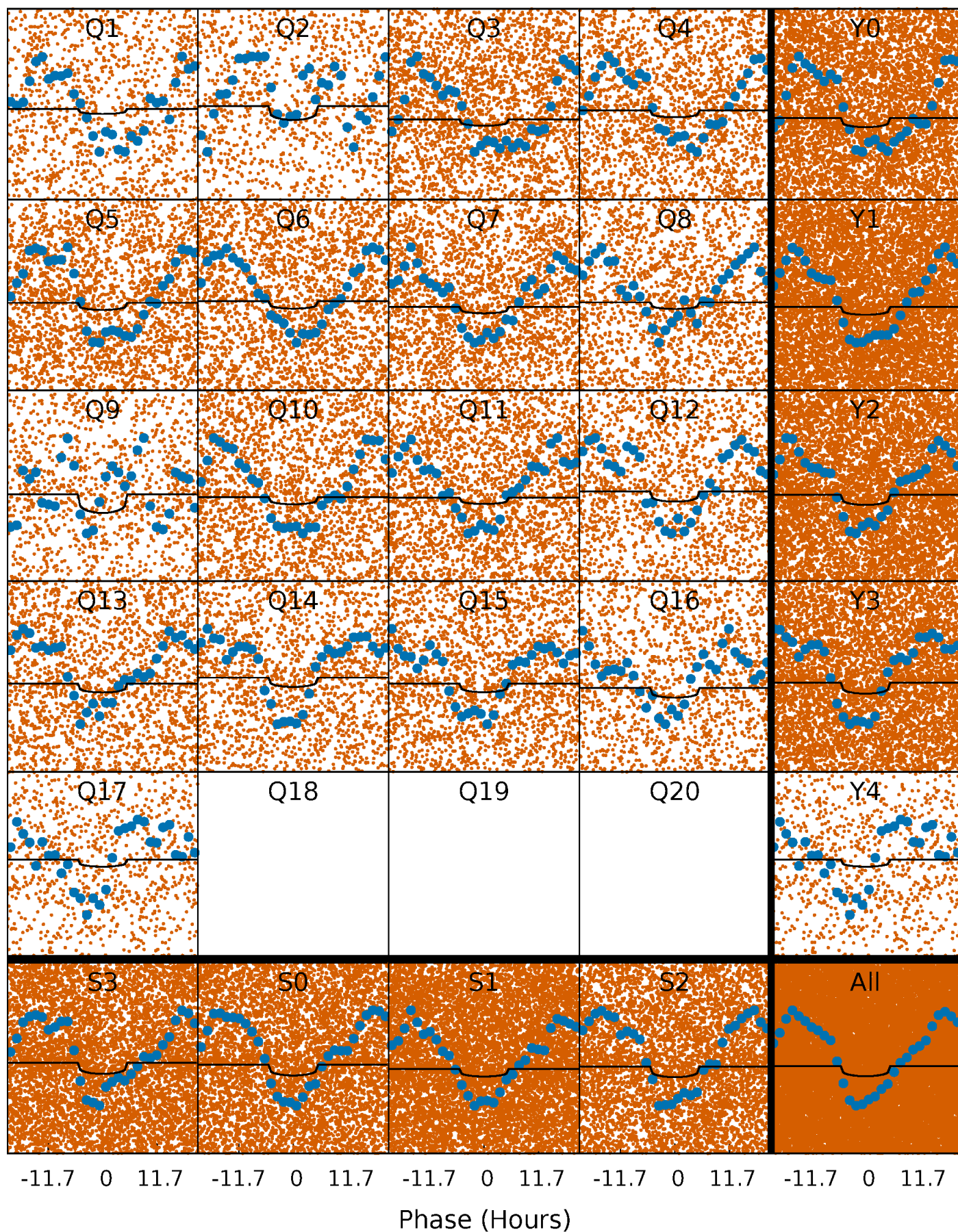
PDC Quarter-Phased Transit Curves

TCE 007387226-01 P= 1.334757 Days $T_0=132.121142$ (BKJD)



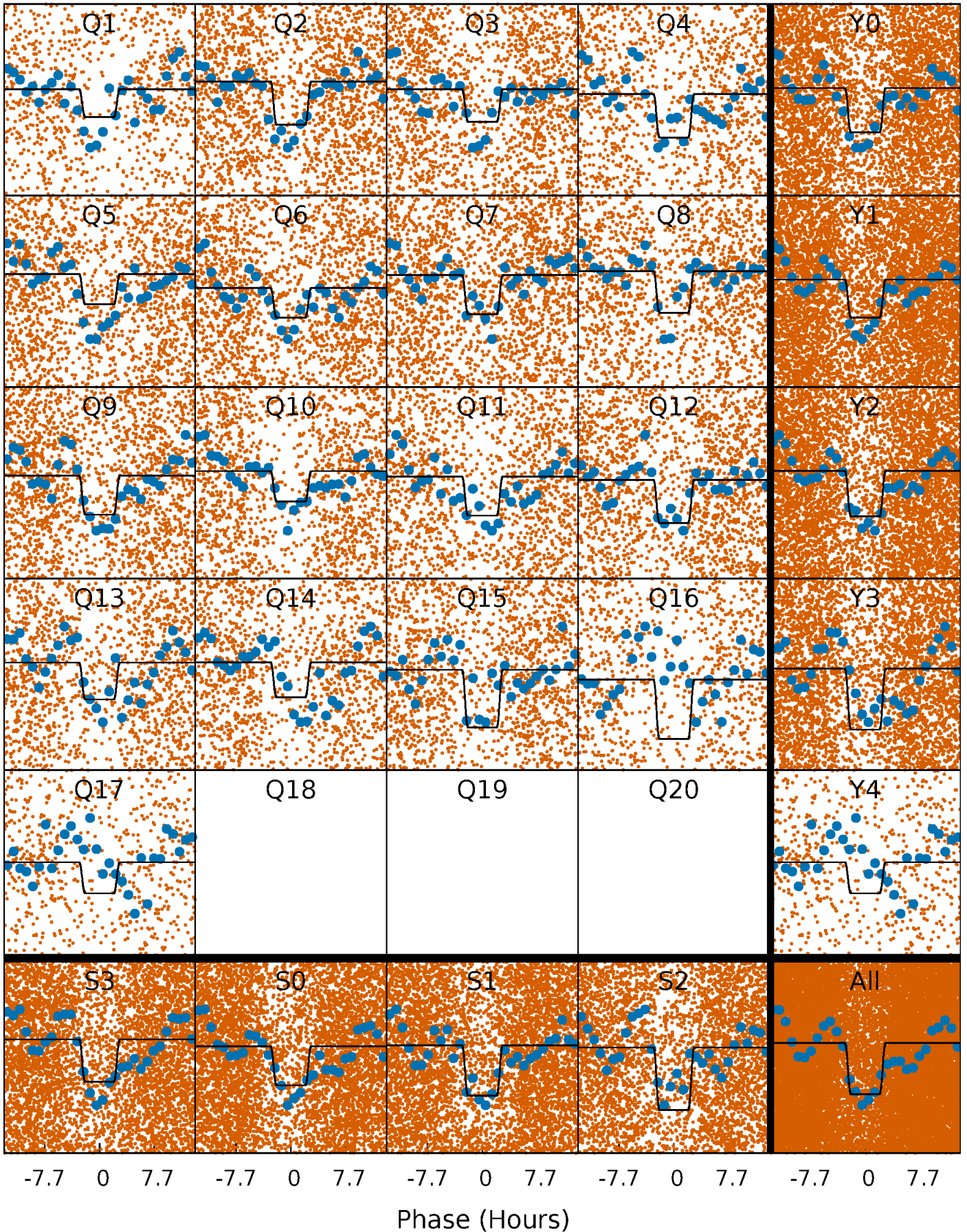
DV Quarter-Phased Transit Curves

TCE 007387226-01 P= 1.334757 Days $T_0=132.121142$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

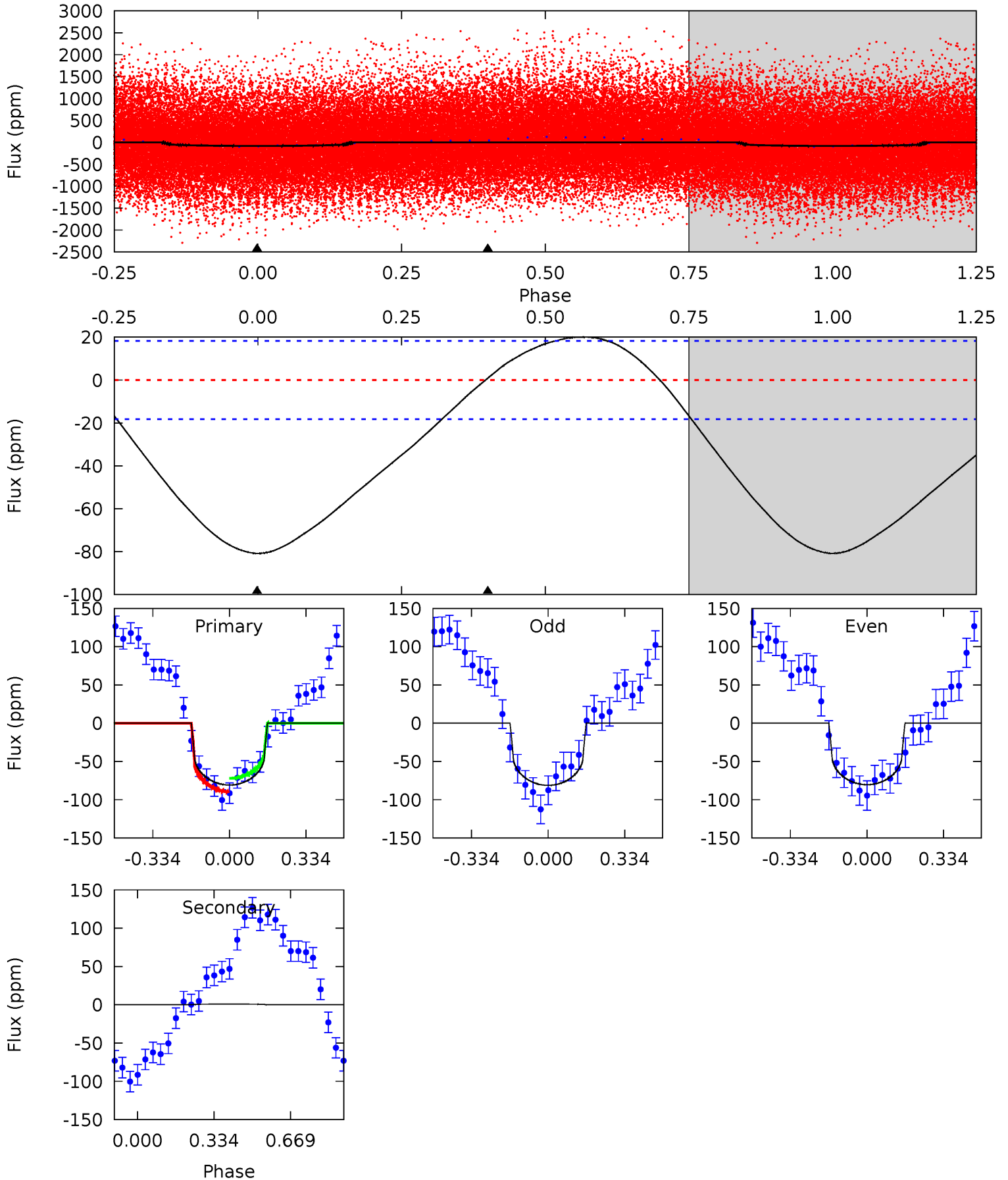
TCE 007387226-01 P= 1.334546 Days $T_0=132.101871$ (BKJD)



DV Model-Shift Uniqueness Test

007387226-01, P = 1.334757 Days, E = 130.786385 Days

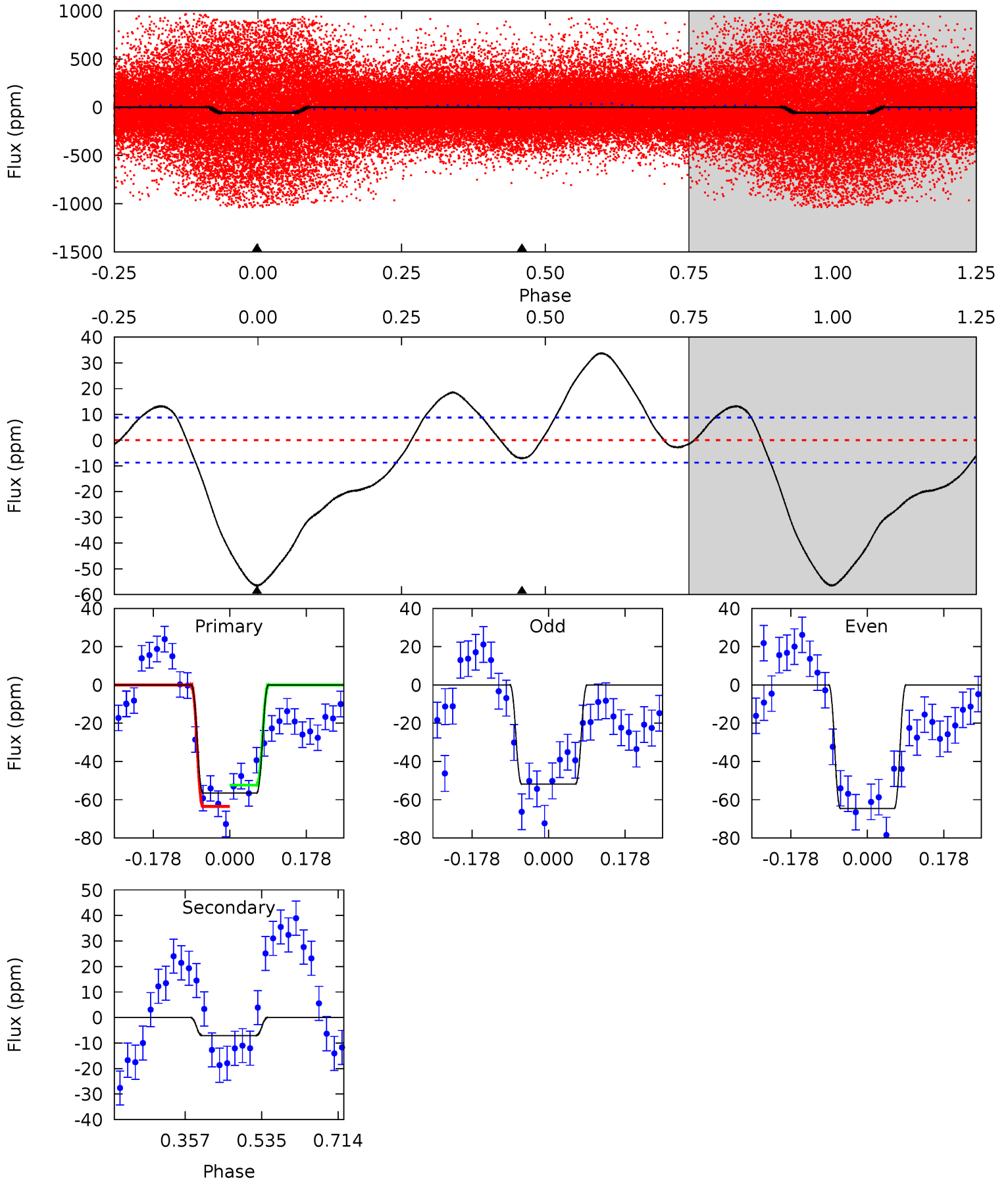
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.1	-0.21	0	0	4.30	0.97	2.05	19.1	19.1	-0.21	-0.21	0.11	1.28	0.20	2.09



Alt Model-Shift Uniqueness Test

007387226-01, P = 1.334546 Days, E = 130.767325 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.7	3.58	0	0	4.44	1.35	5.58	28.7	28.7	3.58	3.58	3.24	0.94	0.37	2.81



Stellar Parameters For KIC 007387226

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6367^{+155}_{-214}	$4.117^{+0.252}_{-0.168}$	$-0.180^{+0.250}_{-0.300}$	$1.589^{+0.457}_{-0.457}$	$1.209^{+0.181}_{-0.201}$	$0.425^{+0.658}_{-0.199}$
	+2%/-3%	+6%/-4%	+139%/-167%	+29%/-29%	+15%/-17%	+155%/-47%
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 007387226-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	1 ± 4	$0.94^{+0.71}_{-0.56}$	3067^{+231}_{-232}	-3440^{+7376}_{-1454}	$-0.235^{+1.784}_{-3.497}$
Alt.	-7 ± 2	$1.28^{+0.82}_{-0.65}$	3086^{+233}_{-241}	3884^{+1470}_{-885}	$1.467^{+4.690}_{-0.943}$

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 $A_{obs} \gg 1.0$

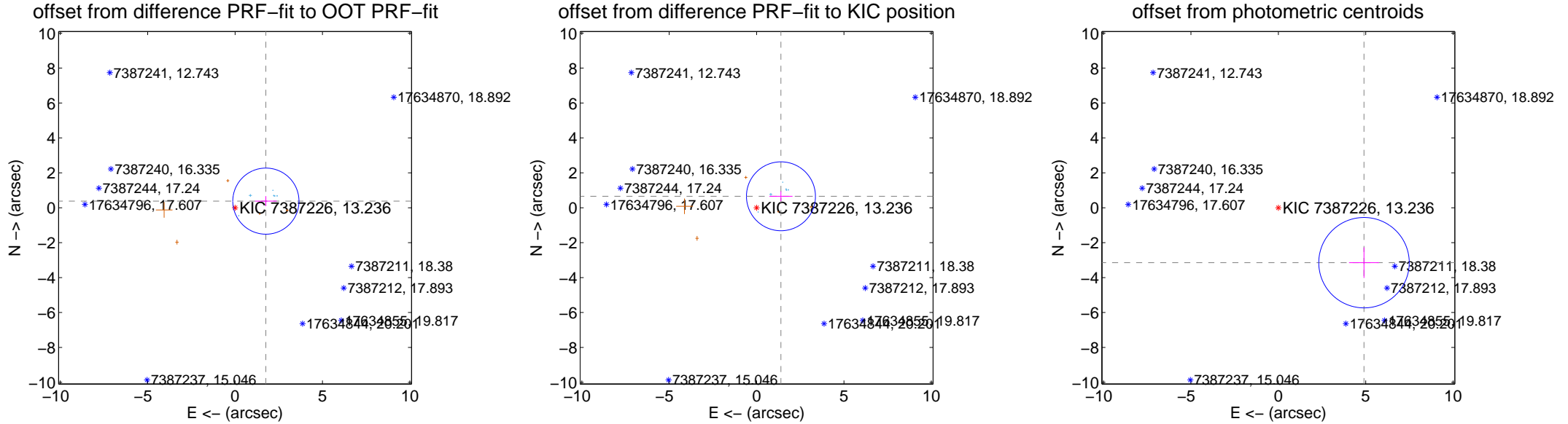
DV Centroid Data

Supplemental centroid analysis for 007387226-01. Kepler magnitude: 13.24. Transit SNR 4.84

There are 6 quarters with good PRF difference image offsets

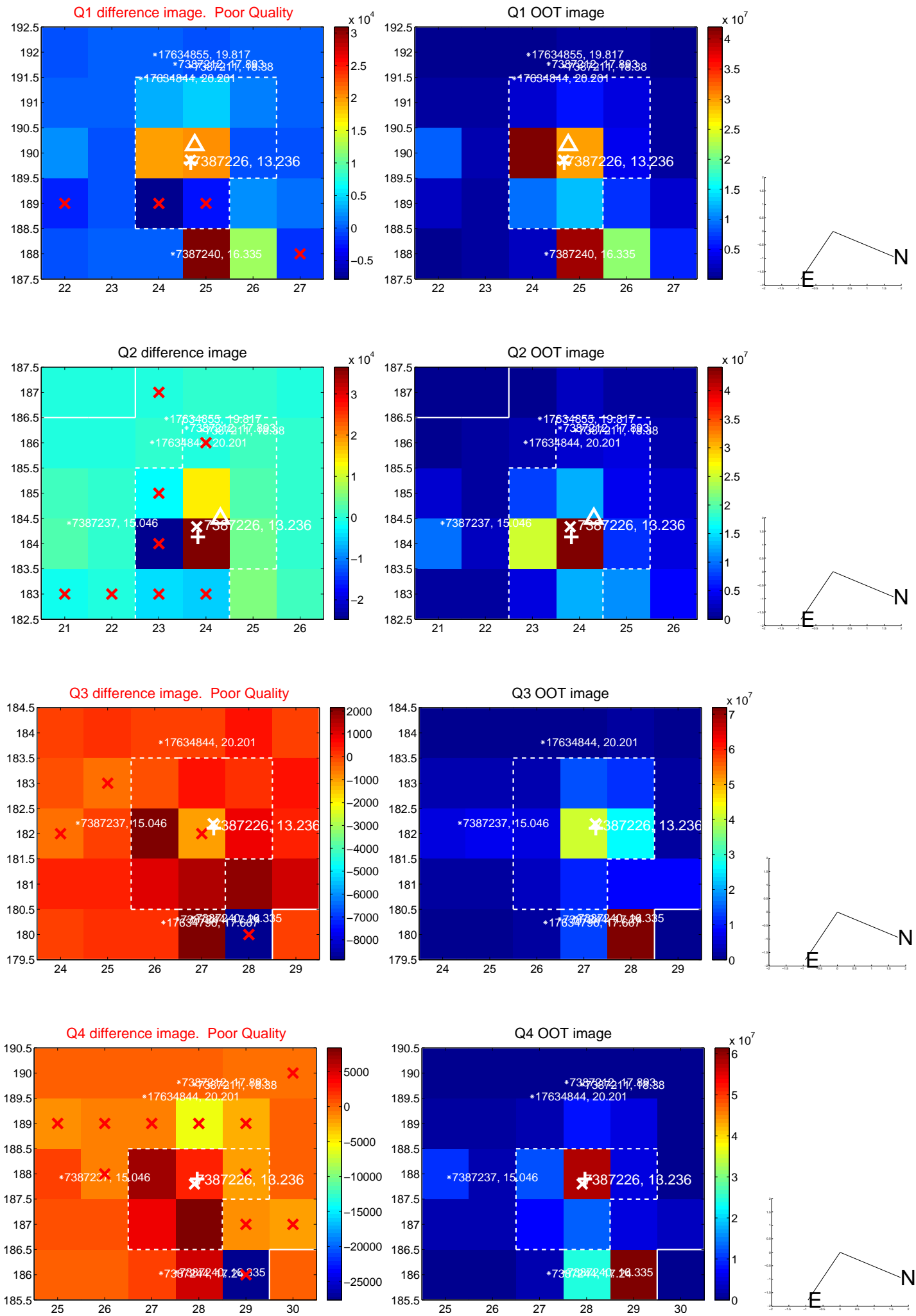
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.803 ± 0.631	2.86	-1.763 ± 0.619	0.379 ± 0.287
PRF-fit source offset from KIC position	1.542 ± 0.658	2.34	-1.395 ± 0.661	0.657 ± 0.285
photometric centroid source offset	5.83 ± 0.86	6.75	-4.90 ± 0.86	-3.15 ± 0.87

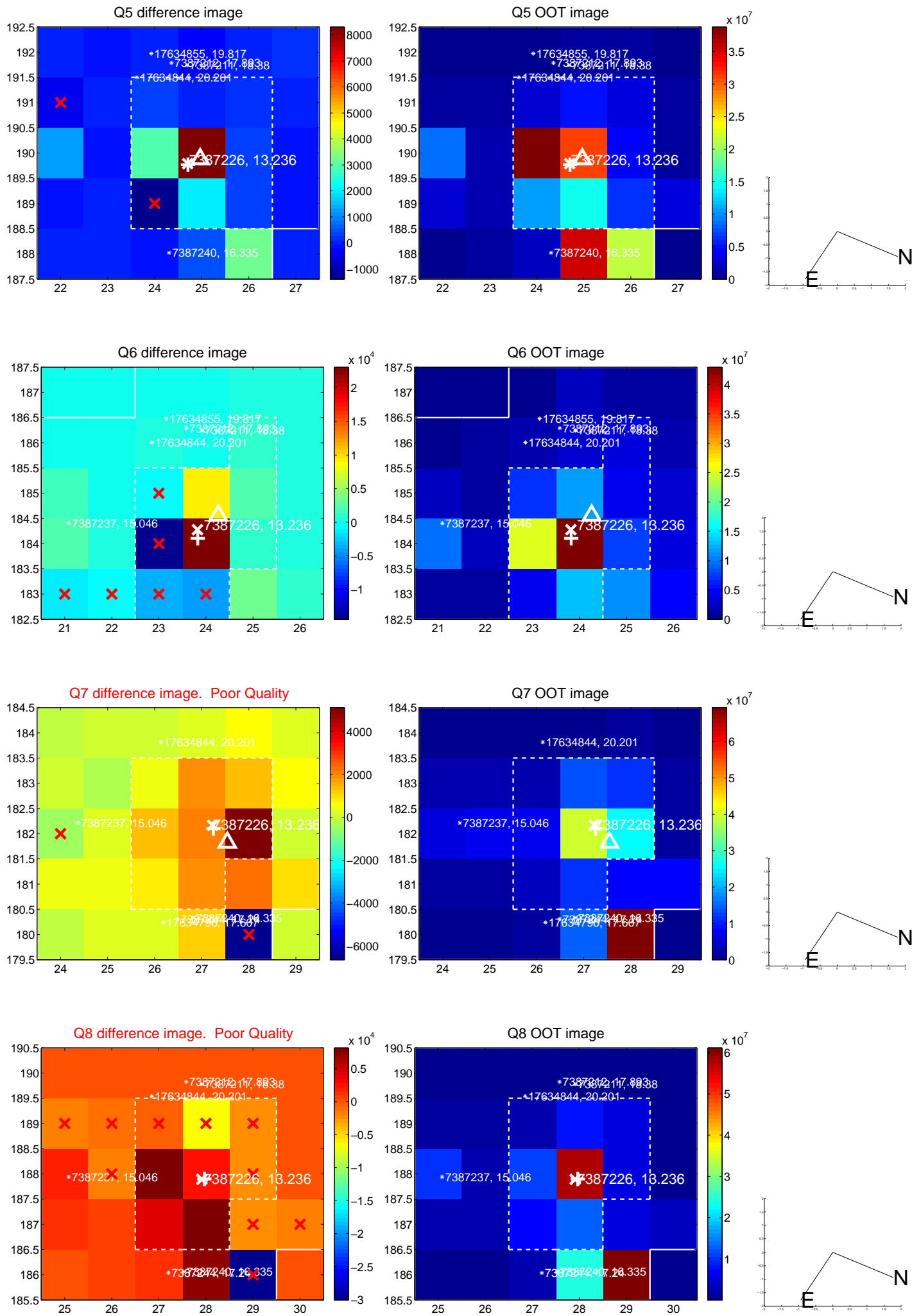


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

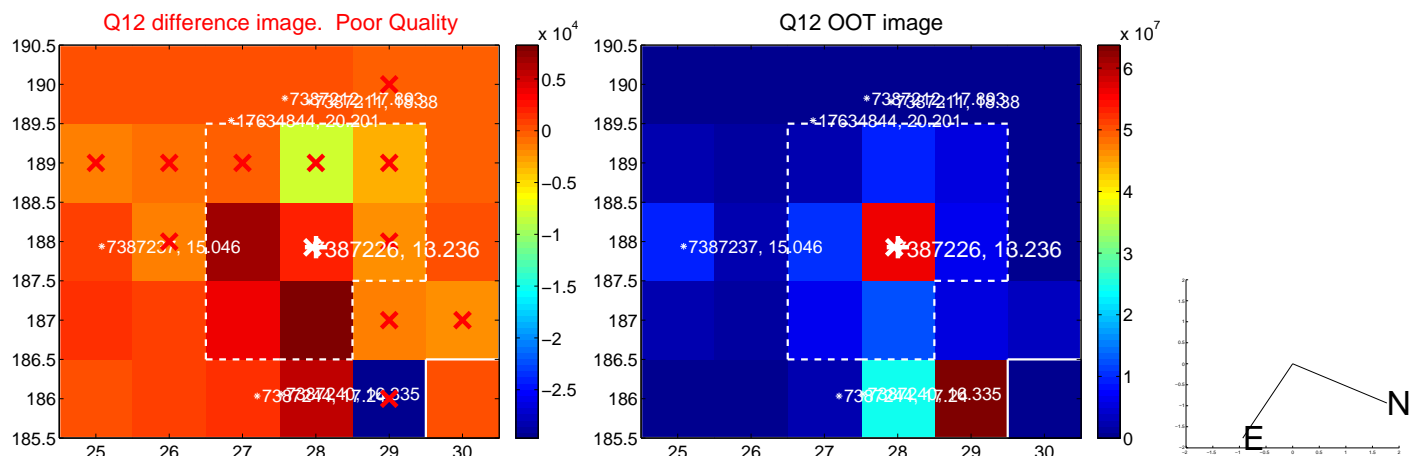
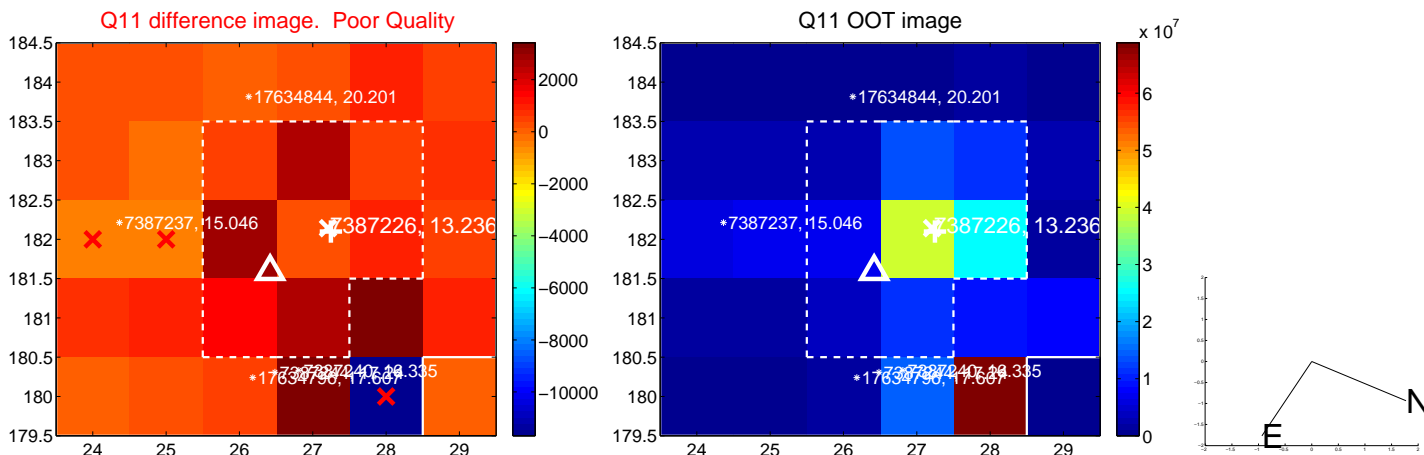
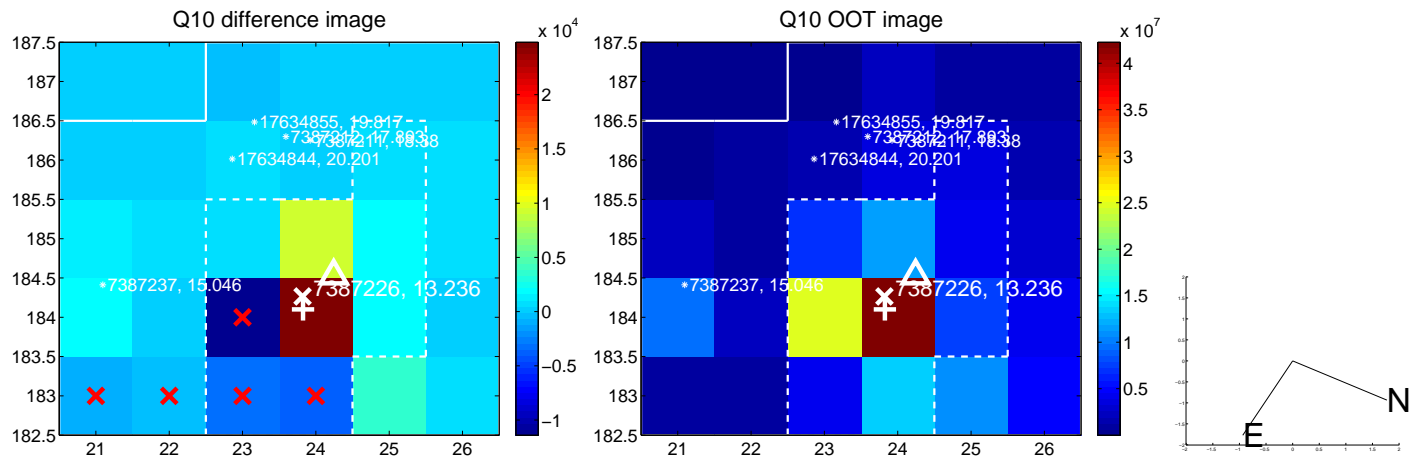
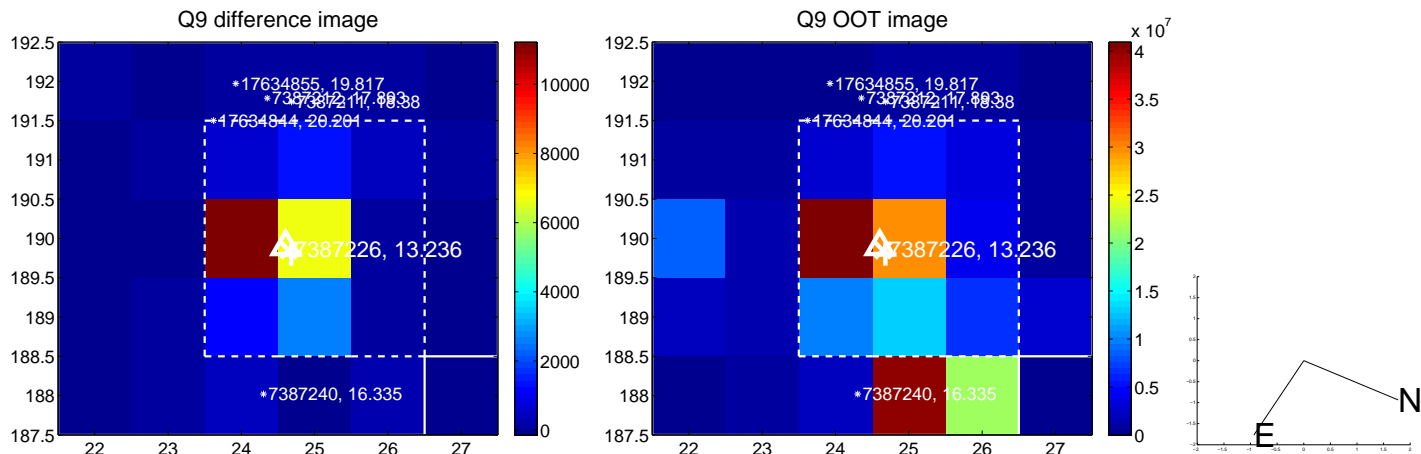
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



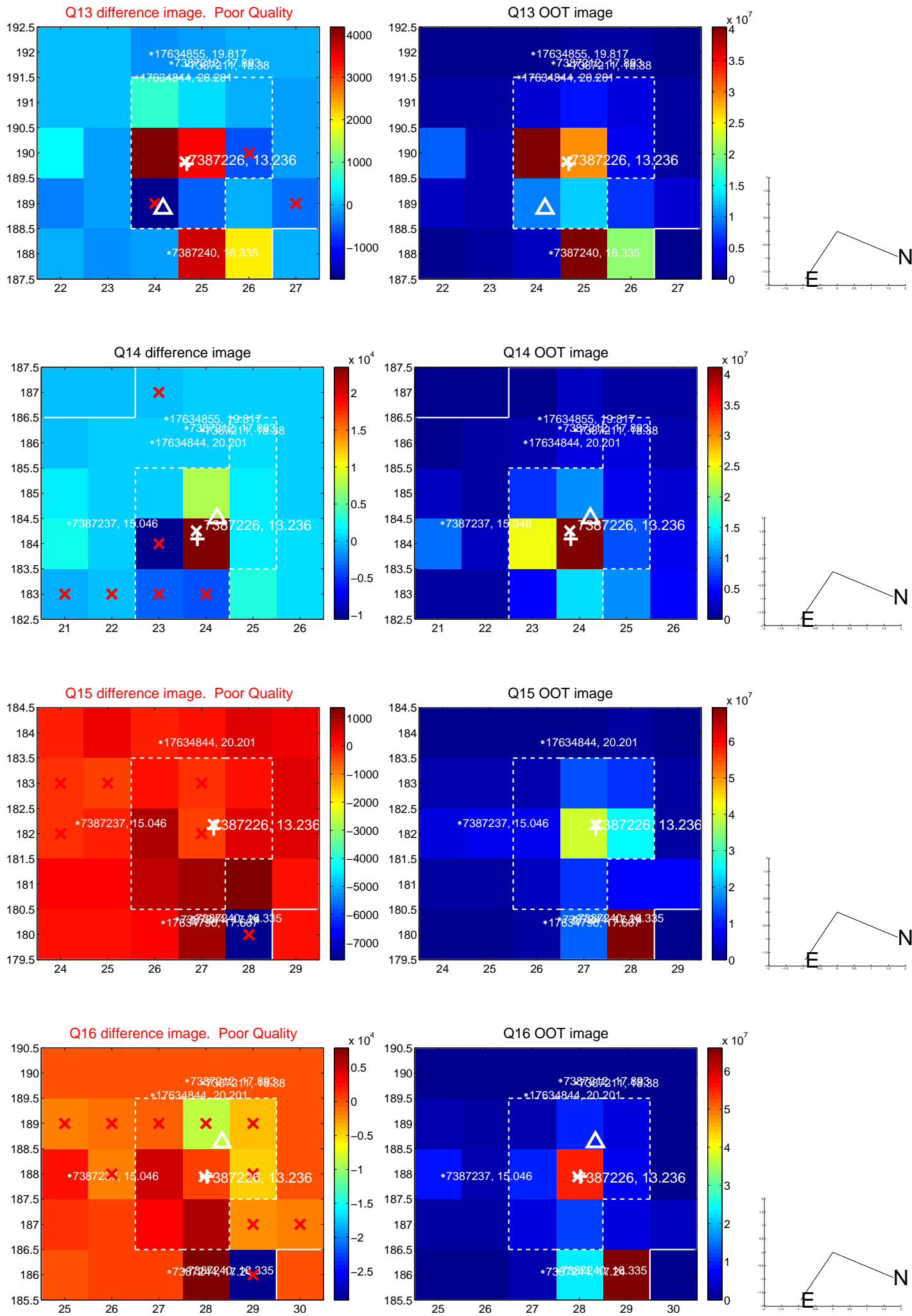
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



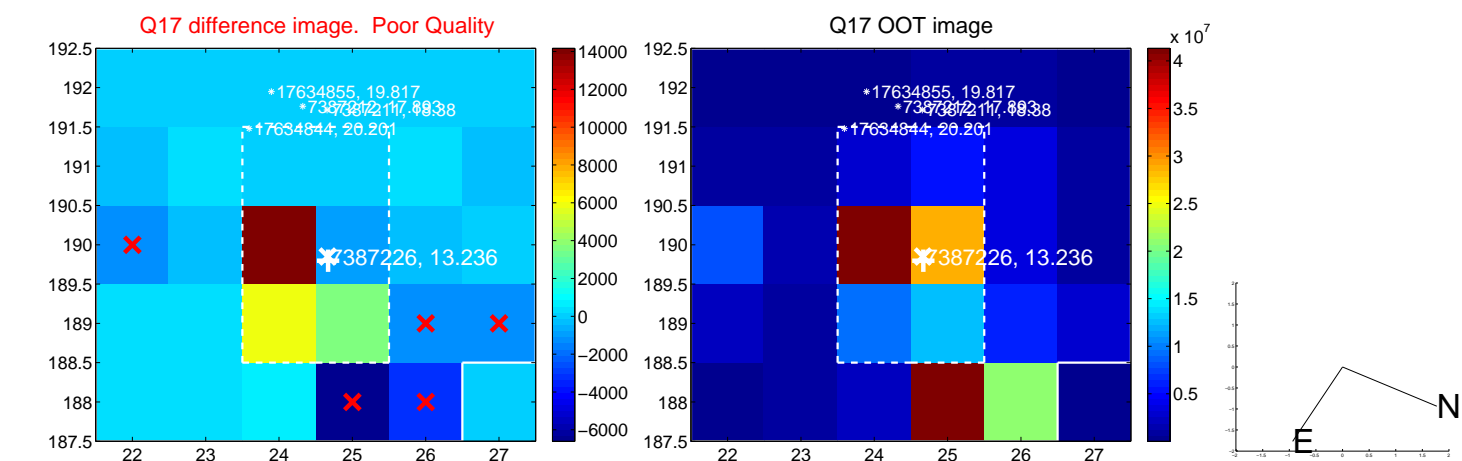
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



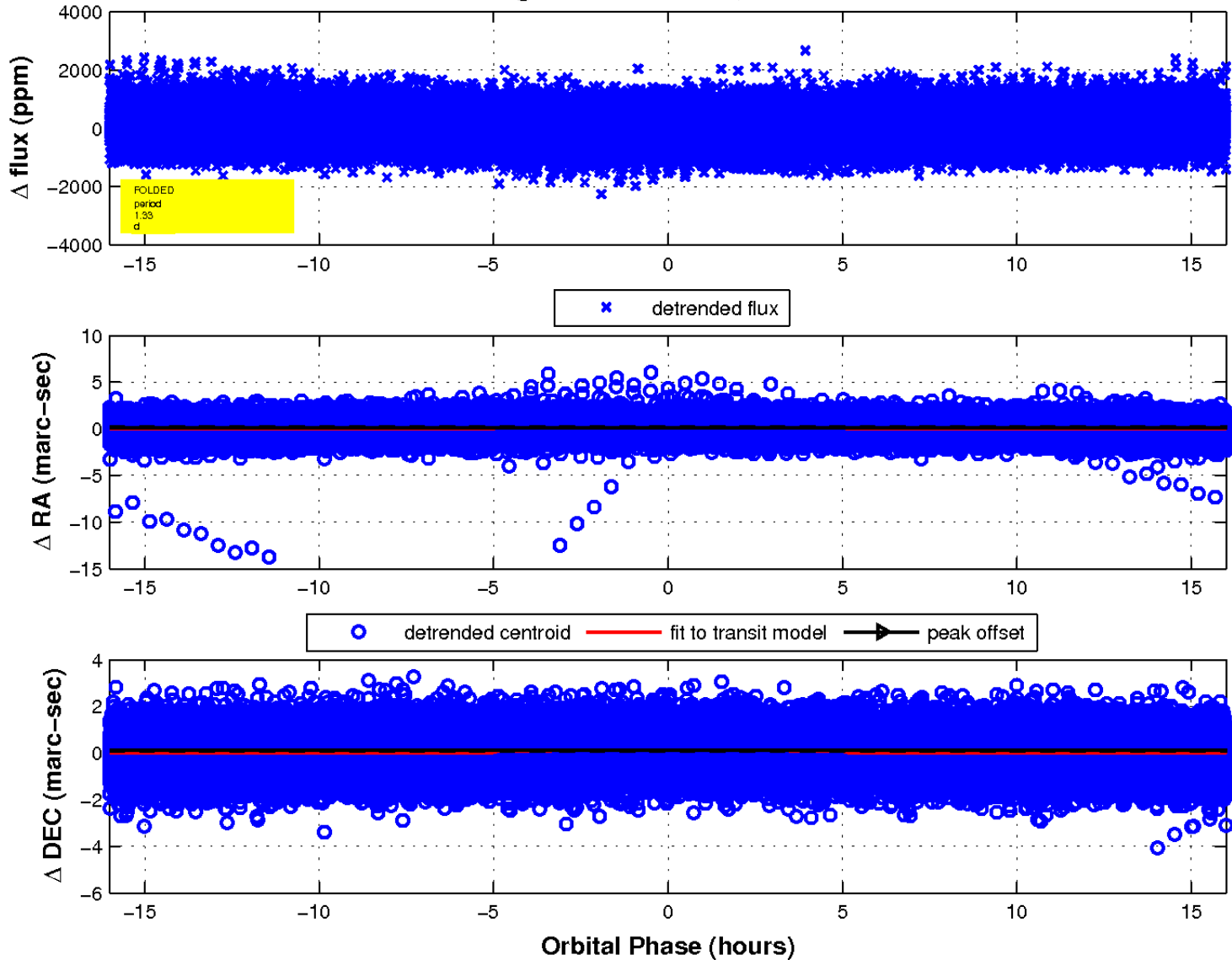
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

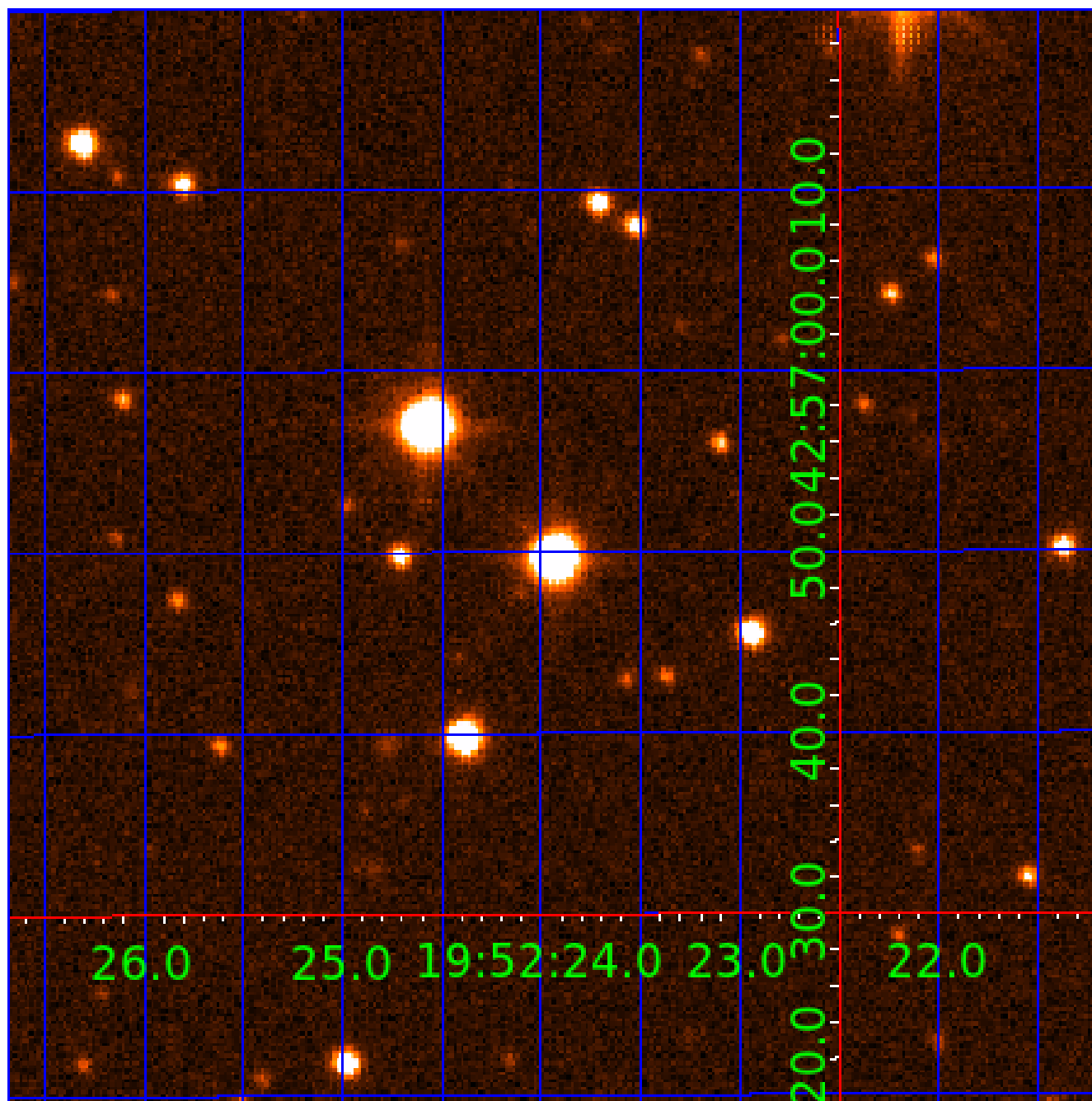


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 007387226

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})
007387226-01	OBS	No	1.334757	132.121142	23.1	10.257	10.1	4.8	1.59	6367	0.77	5827.92
007387226-02	OBS	No	8.737283	135.332959	672.3	2.434	11.0	14.8	1.59	6367	4.83	475.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007387226-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT
007387226-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

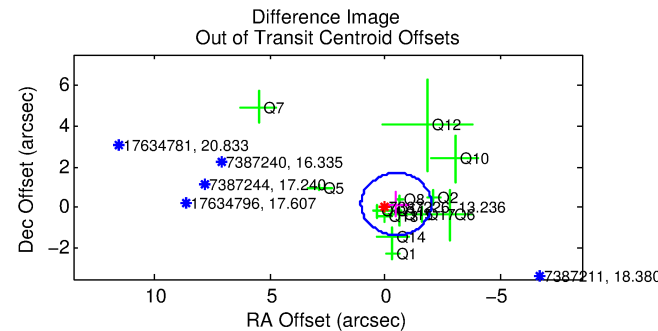
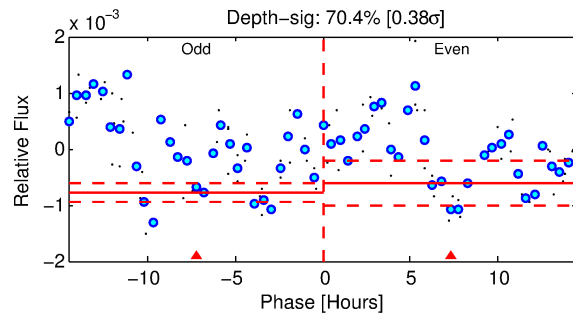
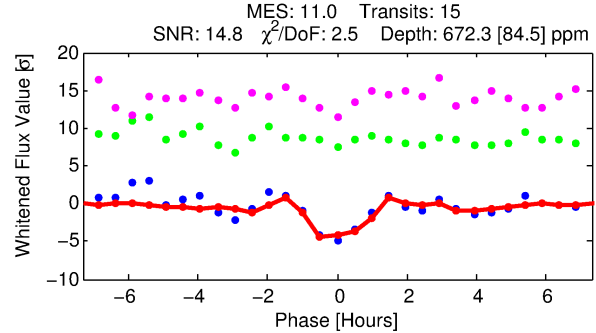
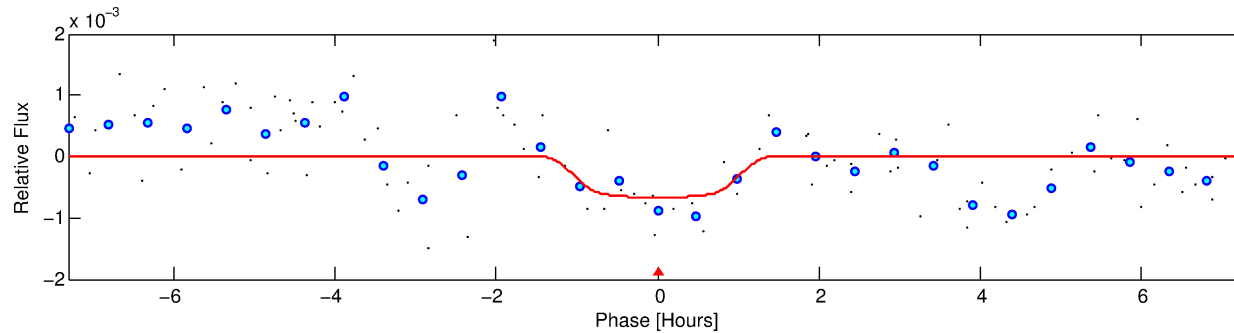
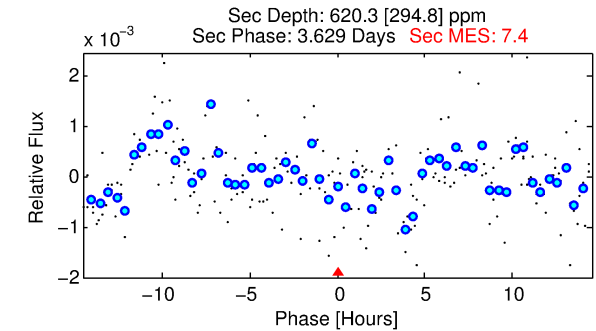
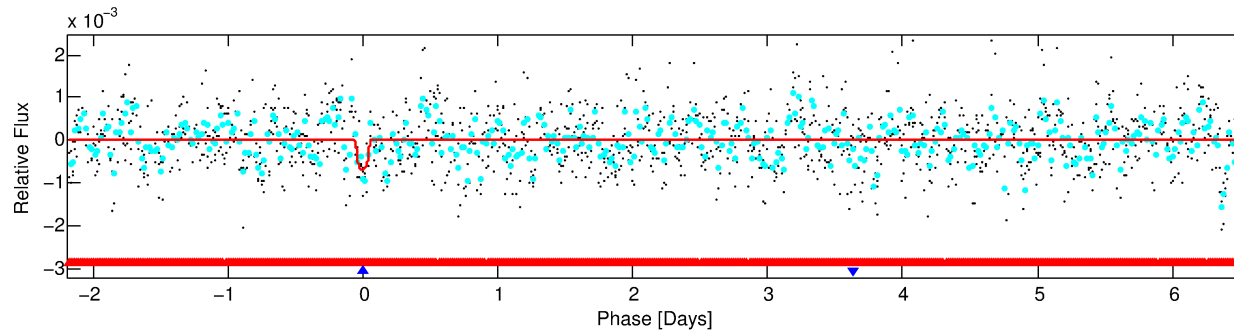
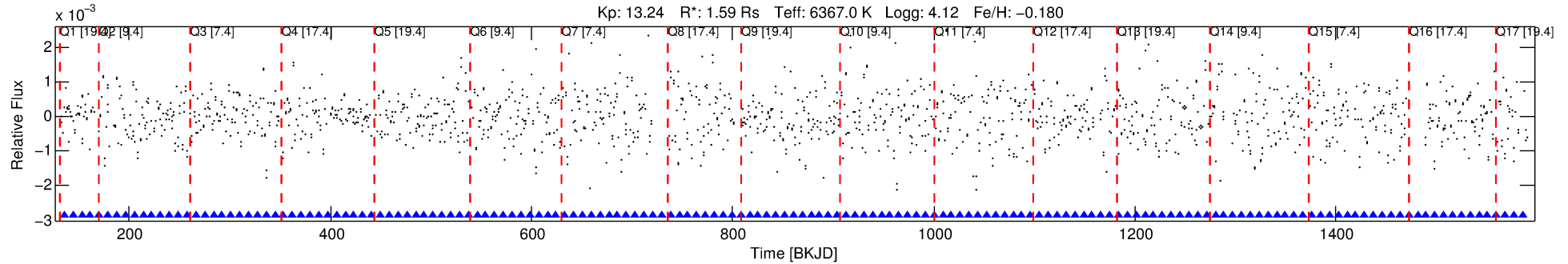
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007387226-02

No Significant Match Found

DV One-Page Summary

KIC: 7387226 Candidate: 2 of 2 Period: 8.737 d



DV Fit Results:

Period = 8.73728 [0.00019] d
Epoch = 135.3330 [0.0149] BKJD
Rp/R* = 0.0279 [0.0111]
a/R* = 13.65 [29.32]
b = 0.90 [0.46]
Seff = 475.94 [215.21]
Teq = 1191 [135] K
Rp = 4.83 [2.38] Re
a = 0.0884 [0.0241] AU
Ag = 114.19 [117.12] [0.97σ]
Teffp = 6019 [1415] K [3.40σ]

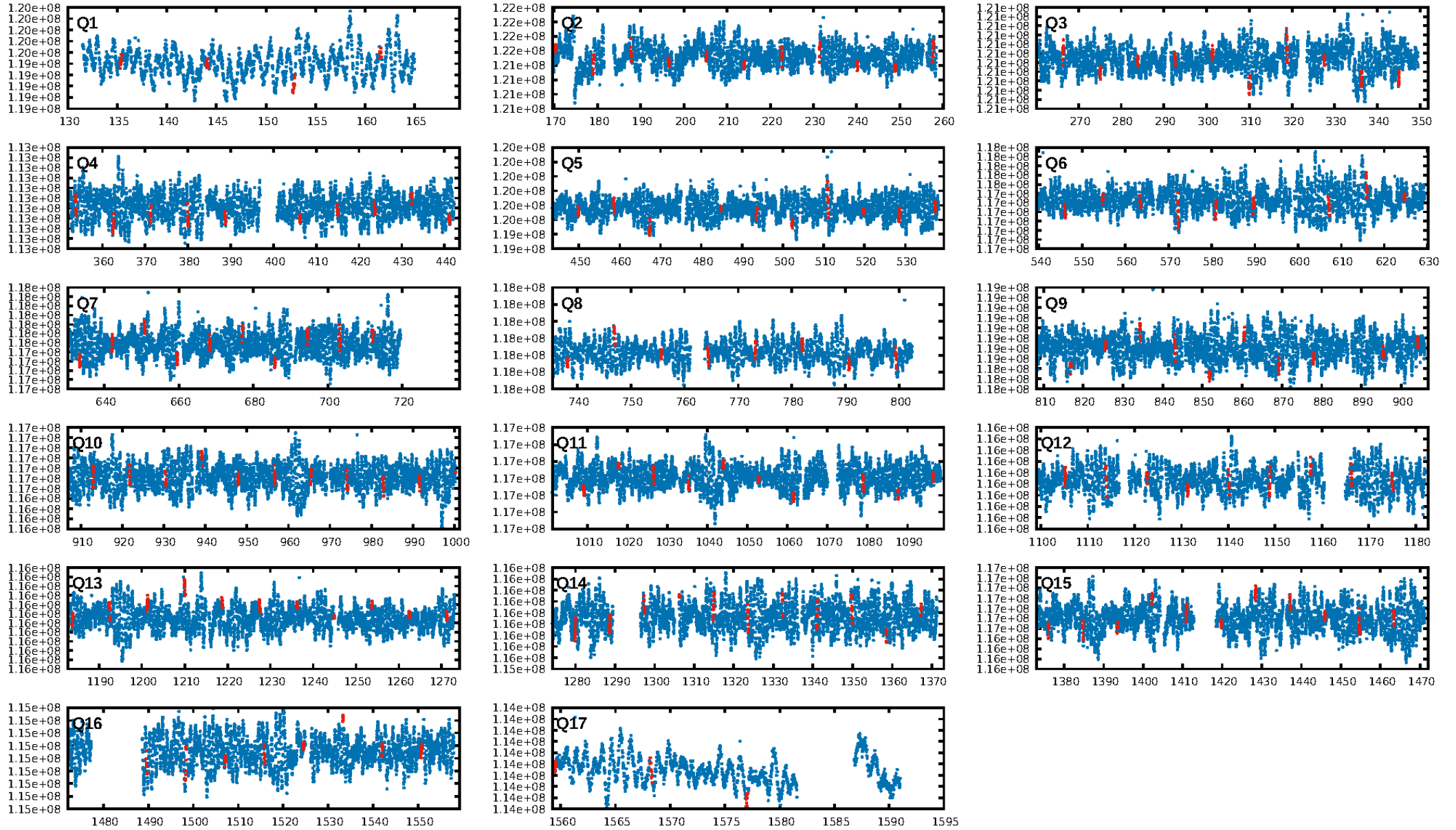
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [16.85σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 13.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.98e-73
RollingBand-fgt: 1.00 [13/13]
GhostDiagnostic-chr: -0.3718
Centroid-sig: 16.4%
Centroid-so: 2.502 arcsec [21.73σ]
OotOffset-rm: 0.492 arcsec [0.97σ]
KicOffset-rm: 0.627 arcsec [1.30σ]
OotOffset-st: 4/3/3/4 [14]
KicOffset-st: 4/3/3/4 [14]
DiffImageQuality-fgm: 0.36 [5/14]
DiffImageOverlap-fno: 0.94 [16/17]

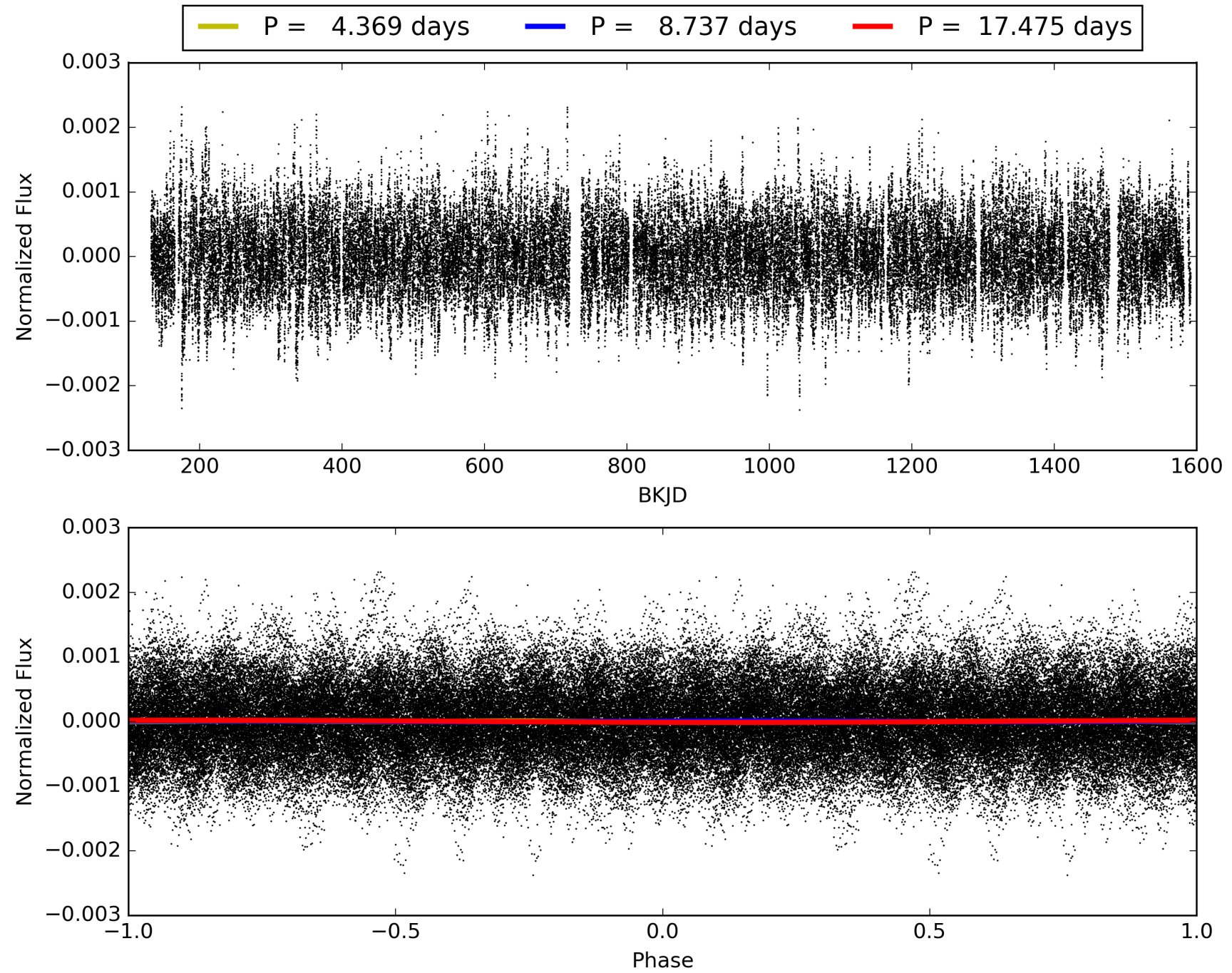
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:46:24 Z

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

TCE 007387226-02, PDC Light Curves

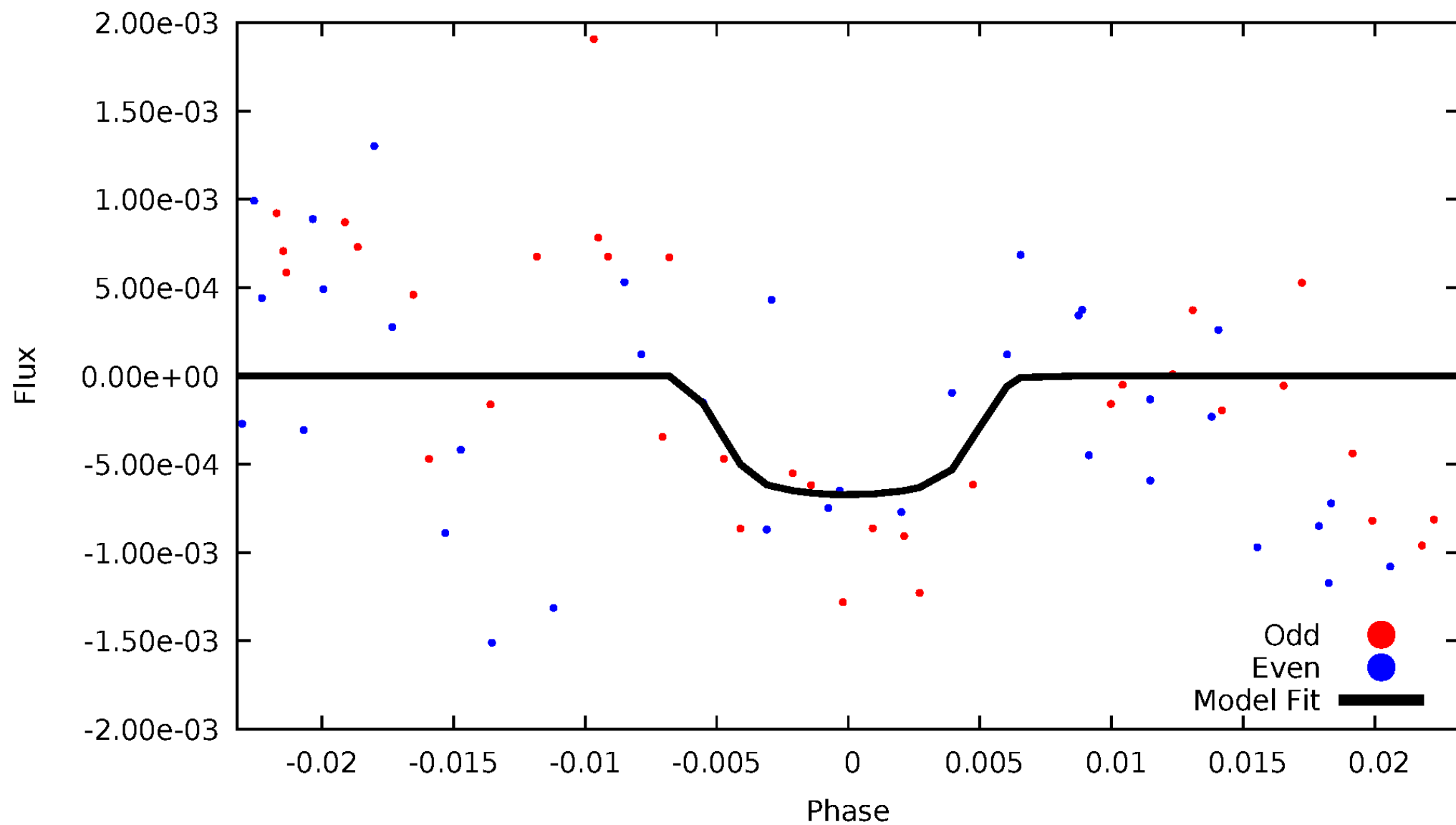


TCE 007387226-02



DV Odd/Even

TCE 007387226-02

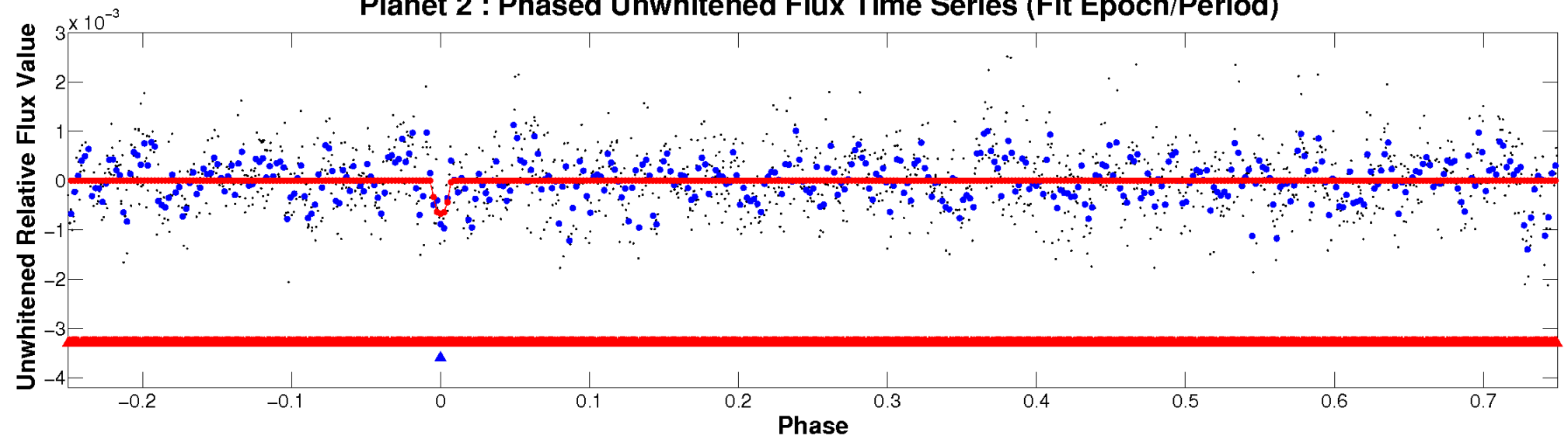


ALT Odd/Even

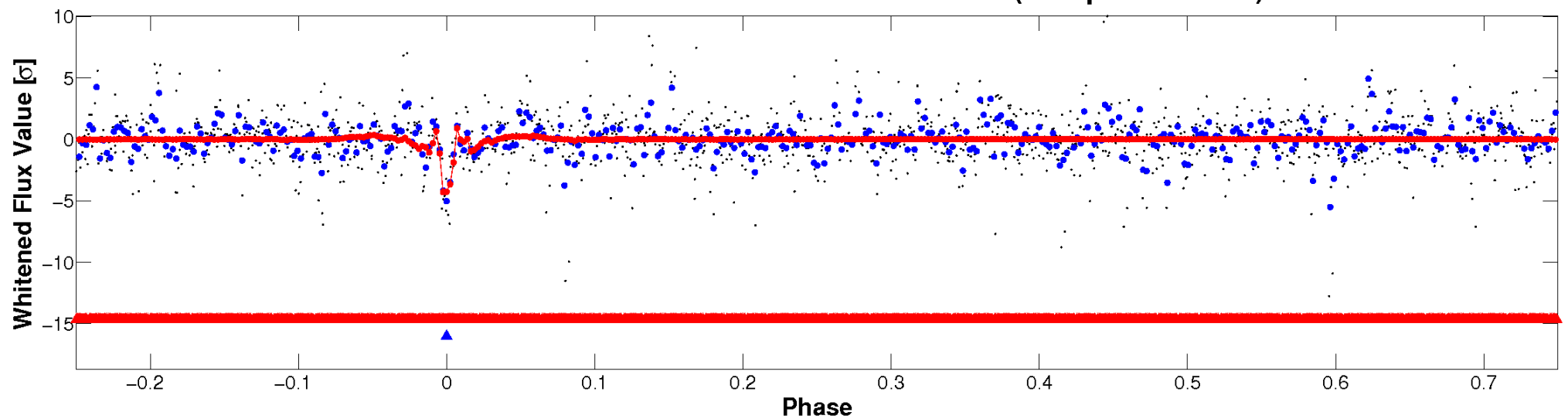
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

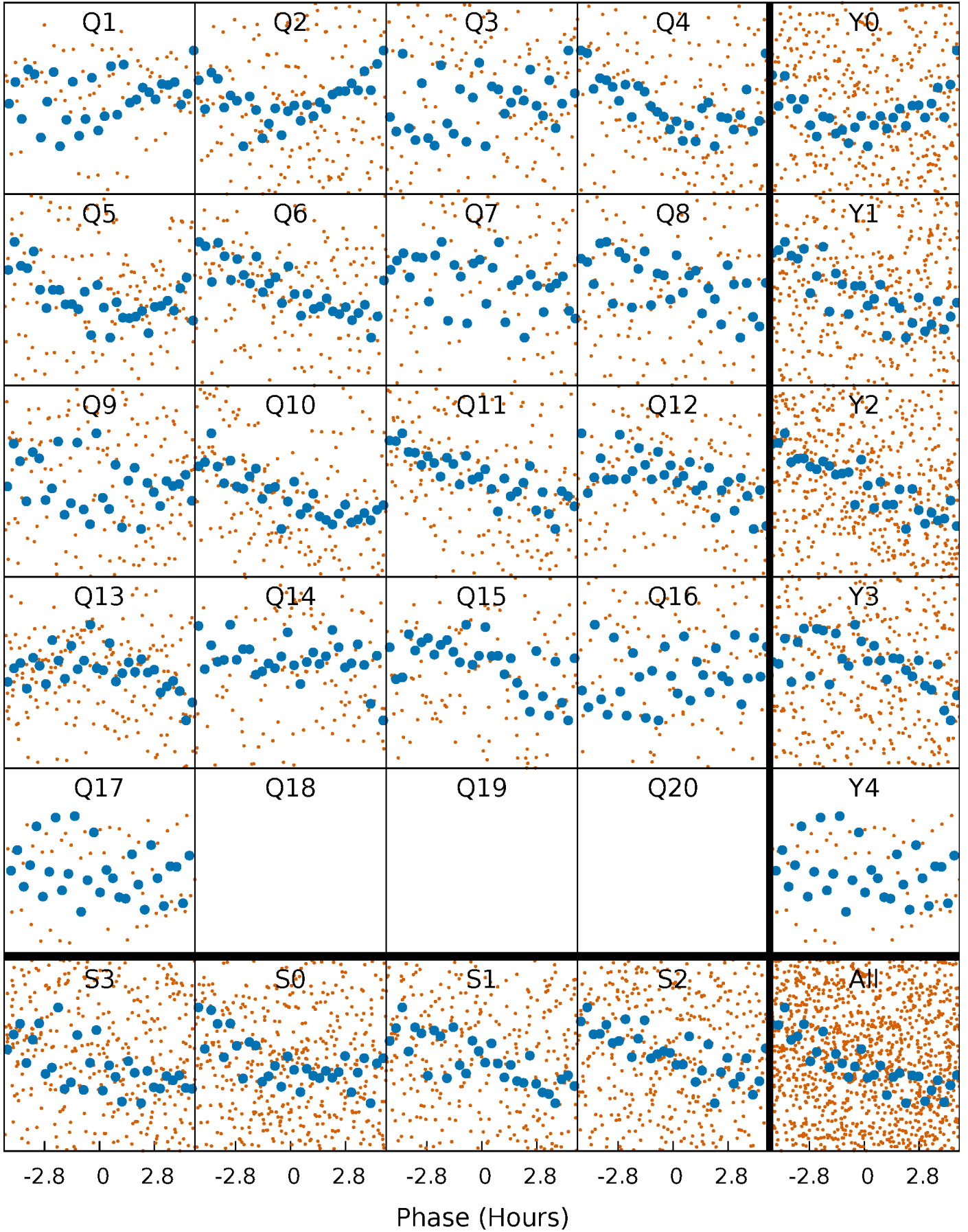


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



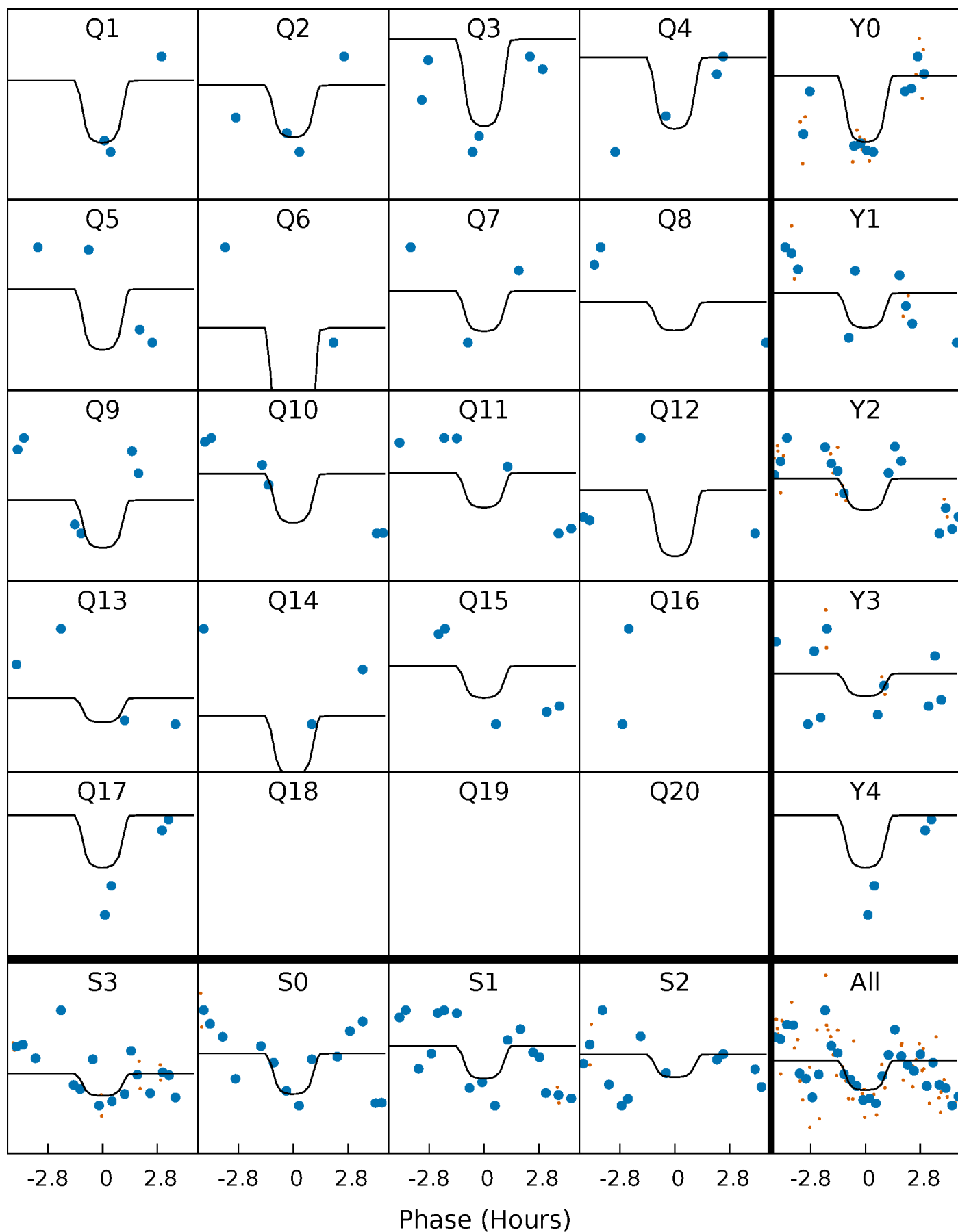
PDC Quarter-Phased Transit Curves

TCE 007387226-02 P= 8.737283 Days $T_0=135.332959$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007387226-02 $P = 8.737283$ Days $T_0 = 135.332959$ (BKJD)

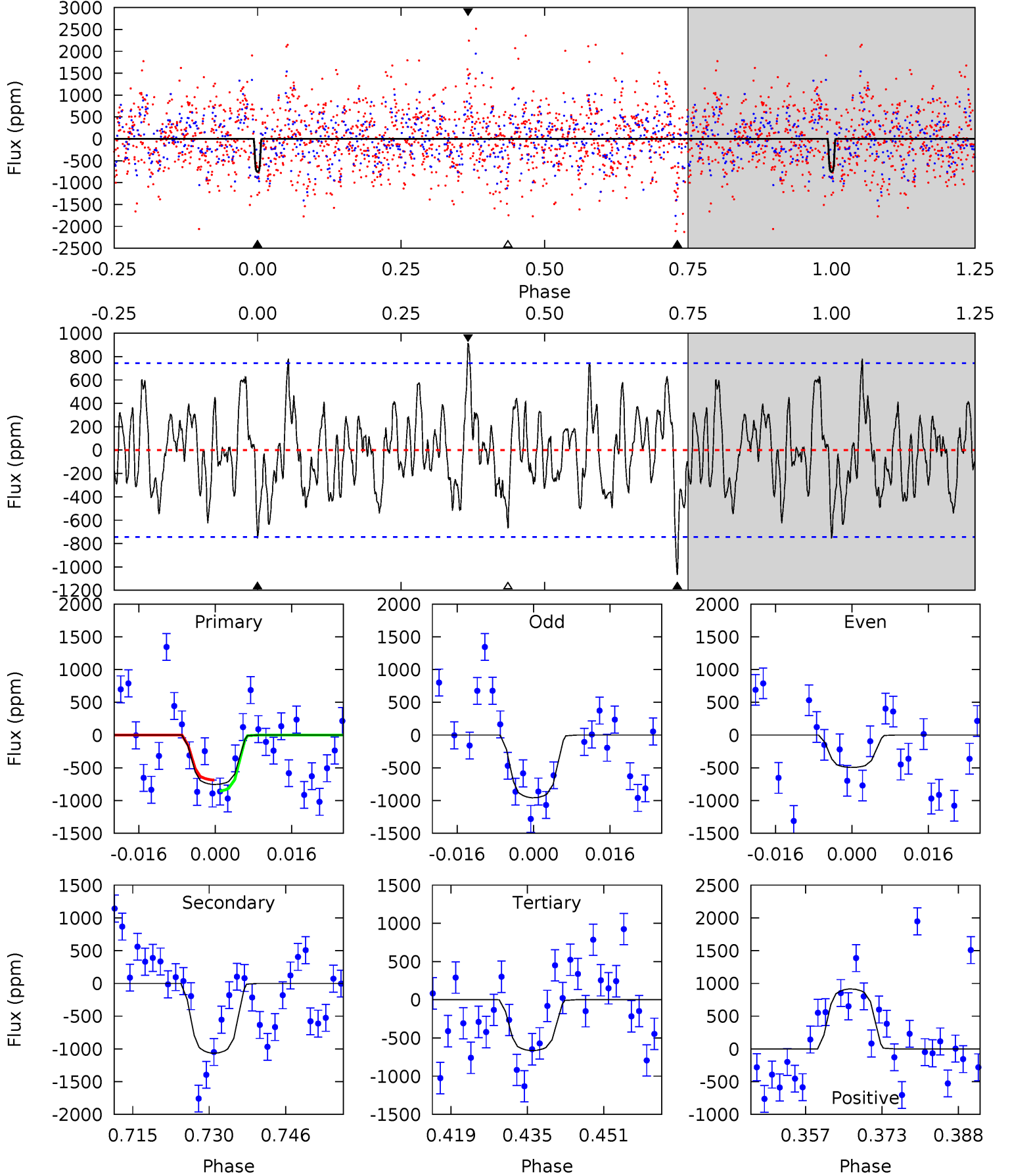


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

007387226-02, P = 8.737283 Days, E = 126.595676 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.02	7.09	4.42	6.08	4.94	2.42	1.95	0.60	-1.07	2.67	1.01	1.52	1.08	0.46	0.57



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 007387226

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6367^{+155}_{-214}	$4.117^{+0.252}_{-0.168}$	$-0.180^{+0.250}_{-0.300}$	$1.589^{+0.457}_{-0.457}$	$1.209^{+0.181}_{-0.201}$	$0.425^{+0.658}_{-0.199}$
	+2%/-3%	+6%/-4%	+139%/-167%	+29%/-29%	+15%/-17%	+155%/-47%
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 007387226-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1067 ± 151	$4.65^{+2.28}_{-2.00}$	1646^{+127}_{-135}	6833^{+2667}_{-1090}	204^{+443}_{-108}
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 $A_{\text{obs}} \gg 1.0$

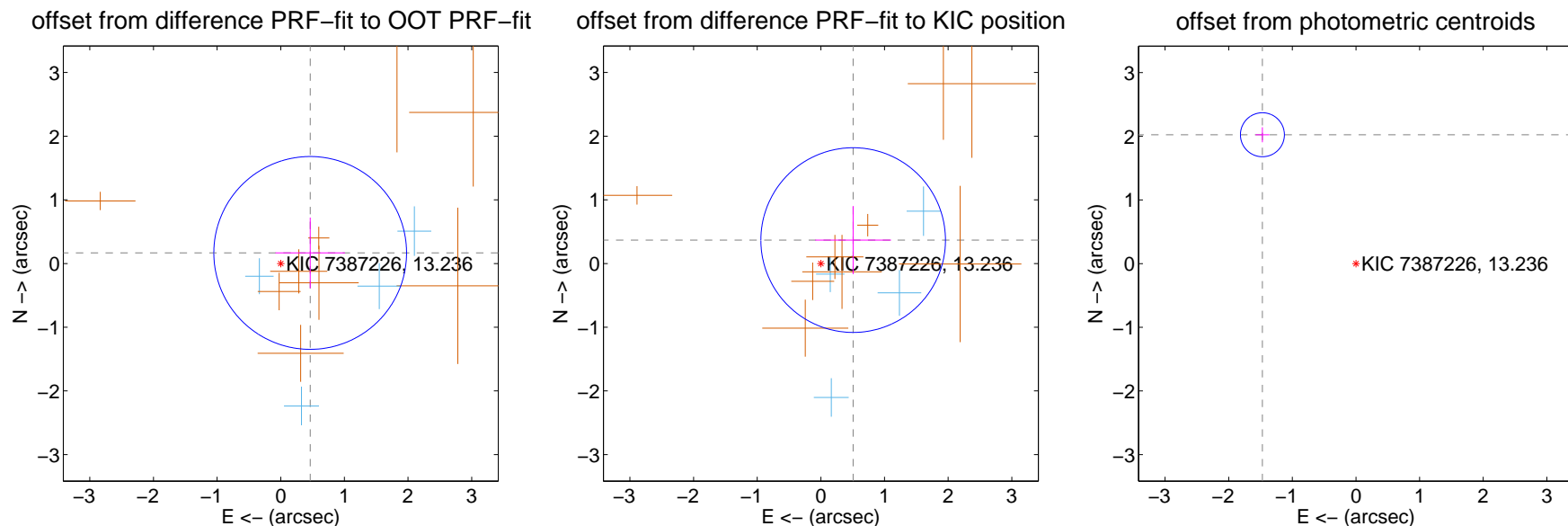
DV Centroid Data

Supplemental centroid analysis for 007387226-02. Kepler magnitude: 13.24. Transit SNR 14.79

There are 5 quarters with good PRF difference image offsets

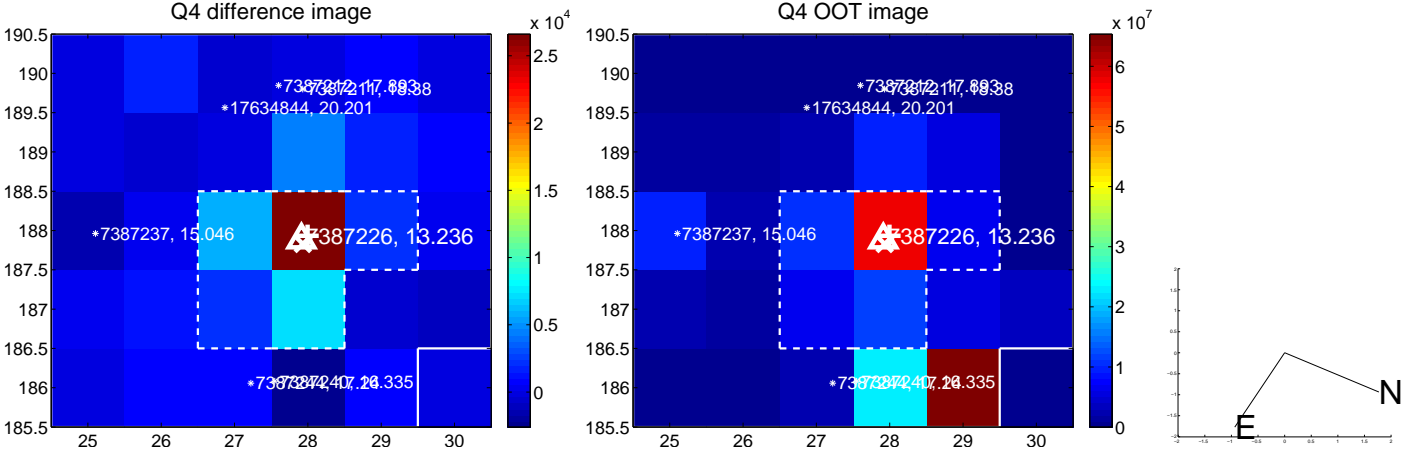
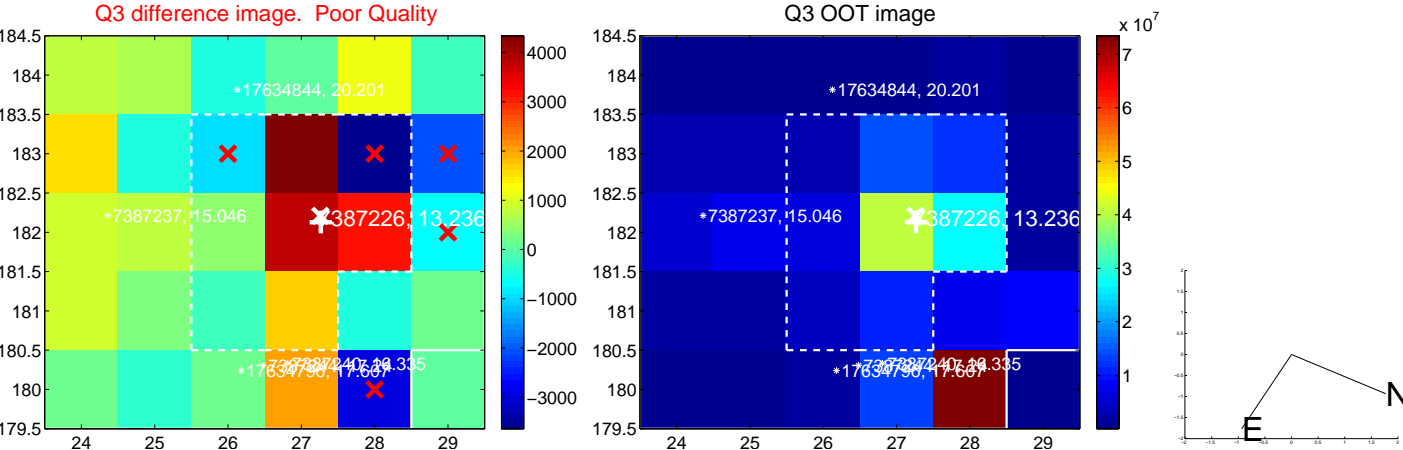
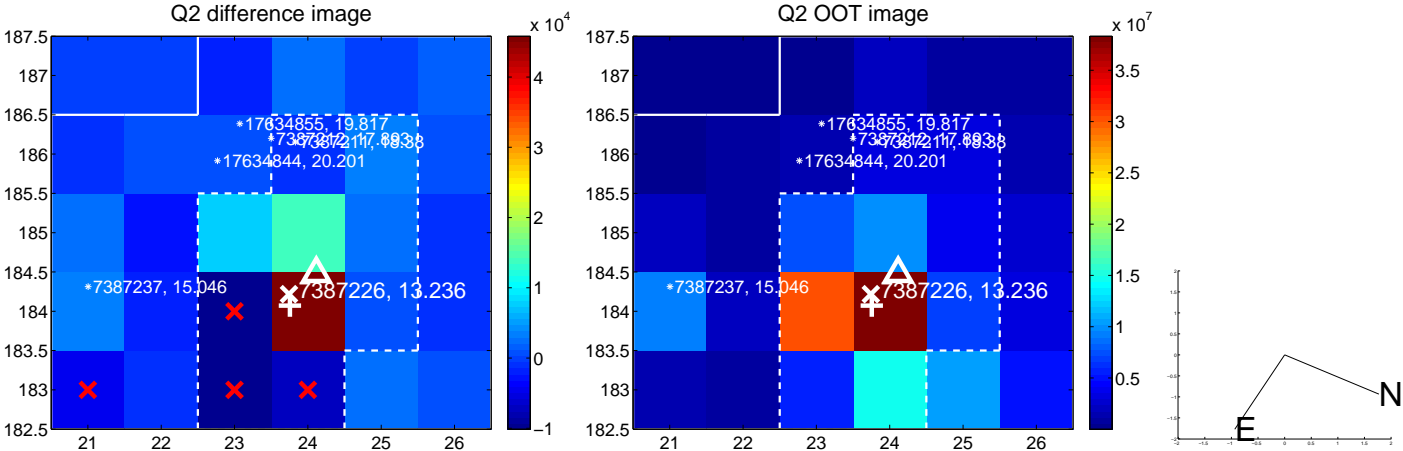
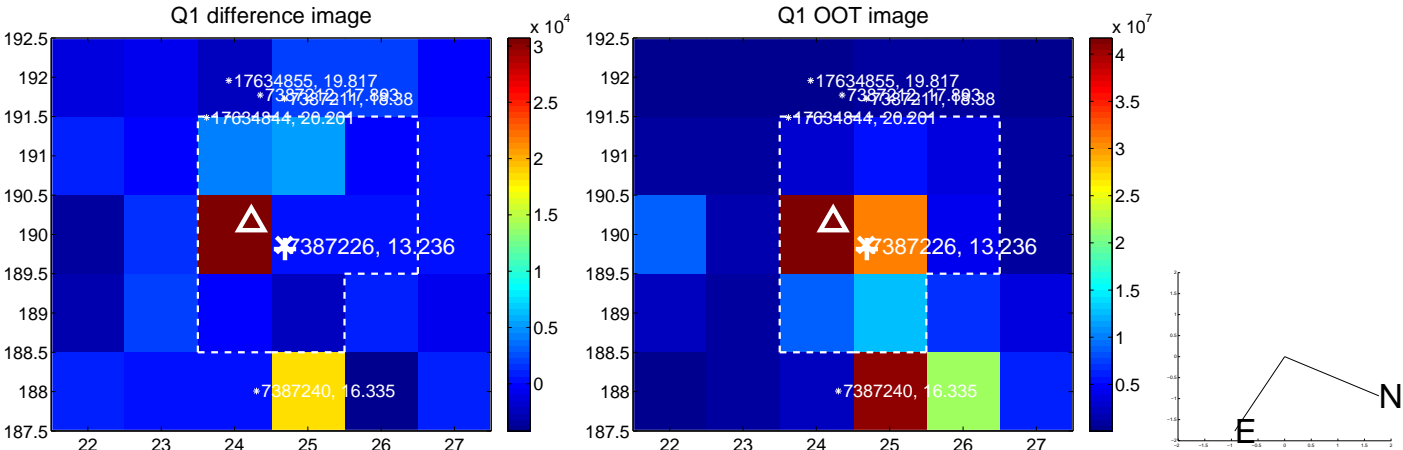
The direct PRF centroid is offset from the target star catalog position by about 0.33 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.492 ± 0.505	0.97	-0.463 ± 0.545	0.167 ± 0.555
PRF-fit source offset from KIC position	0.627 ± 0.483	1.30	-0.507 ± 0.595	0.368 ± 0.535
photometric centroid source offset	2.50 ± 0.12	21.73	1.47 ± 0.11	2.02 ± 0.12

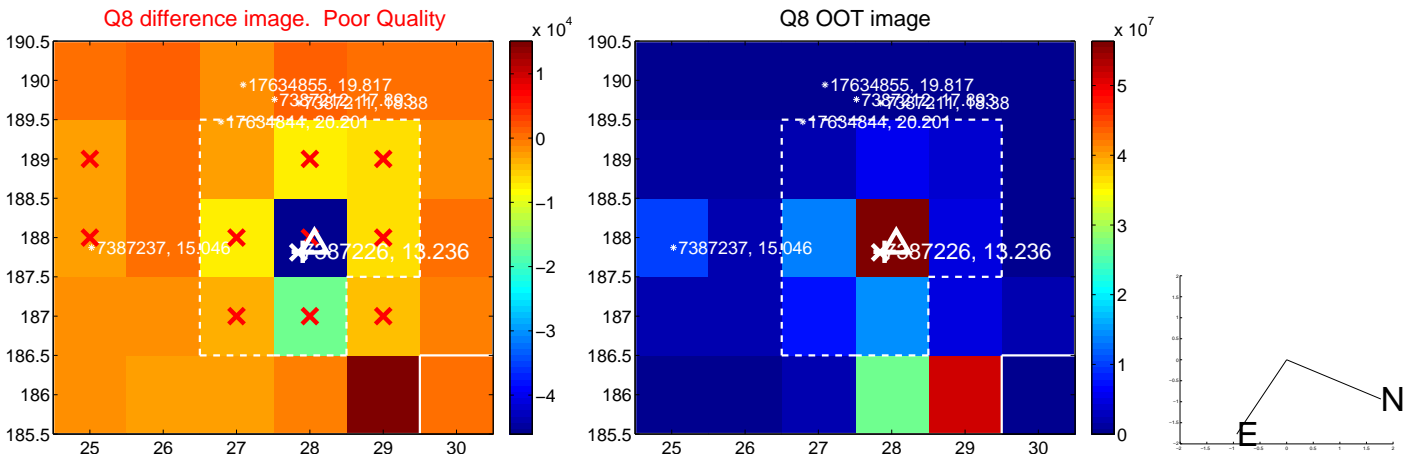
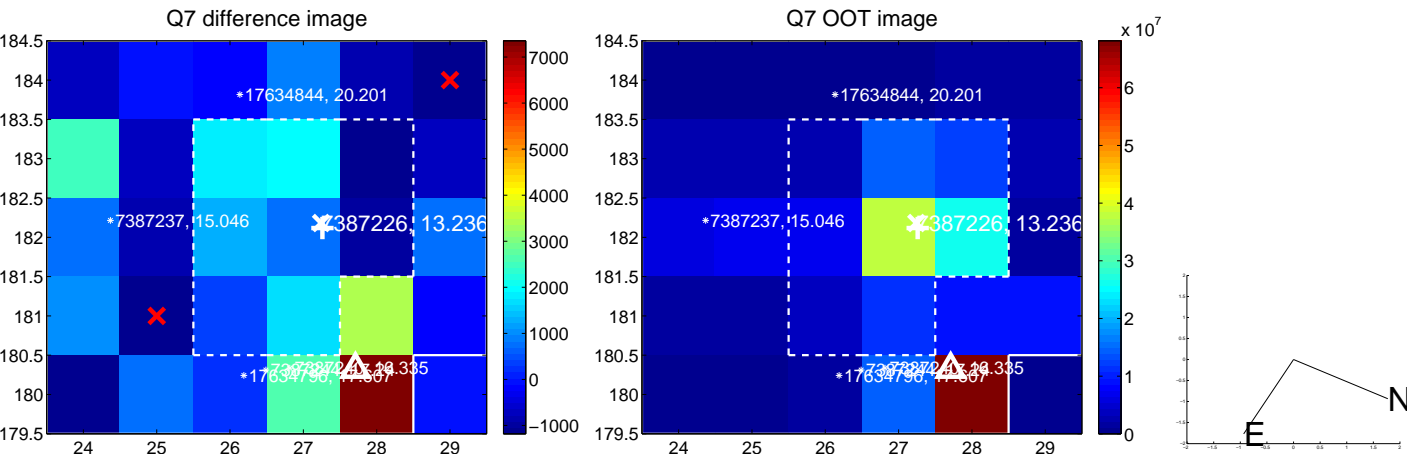
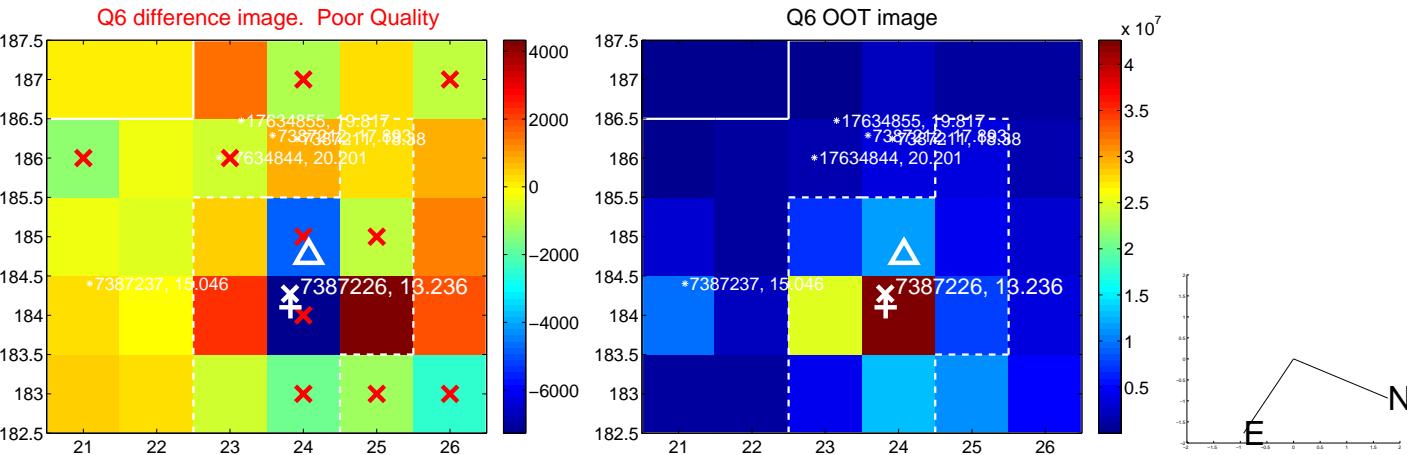
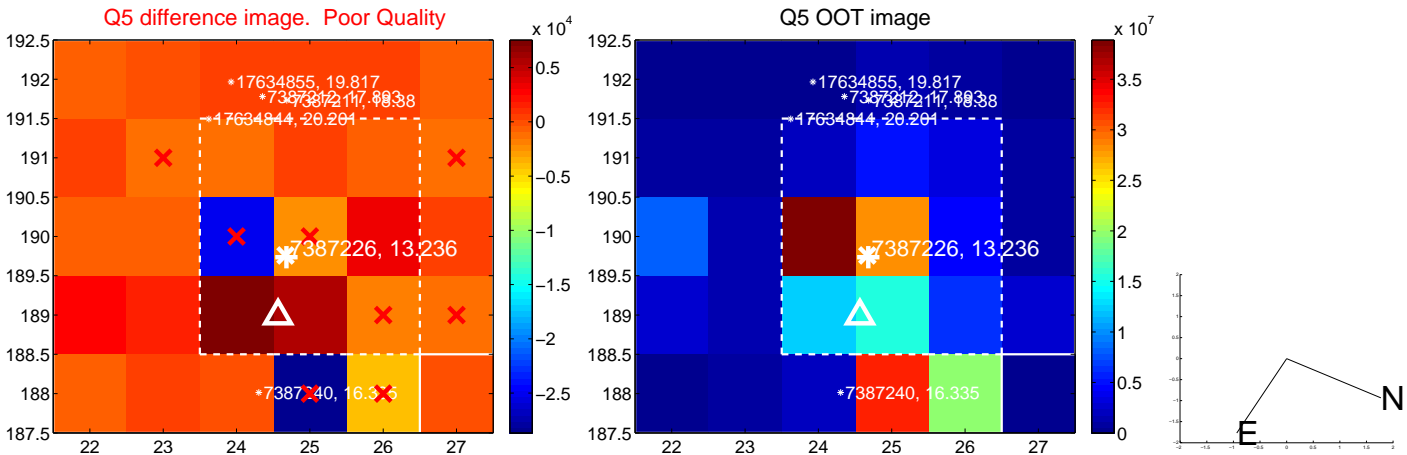


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

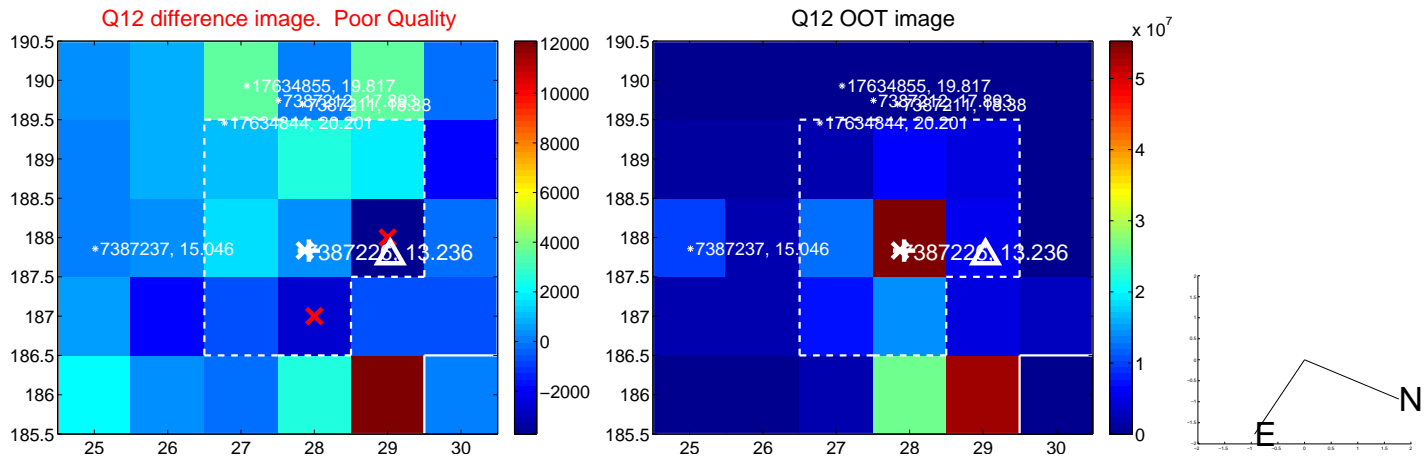
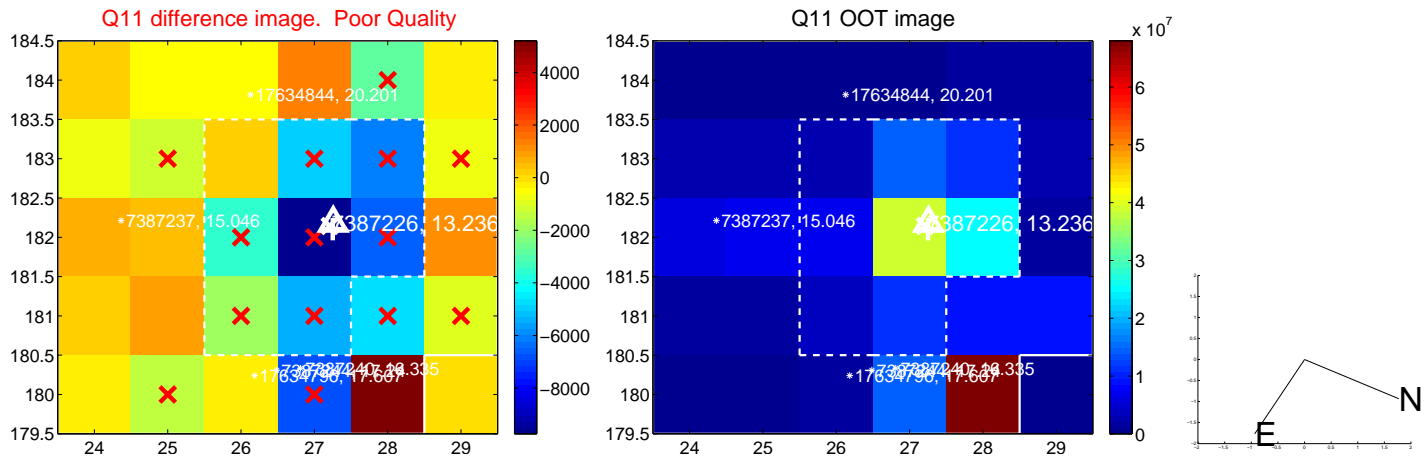
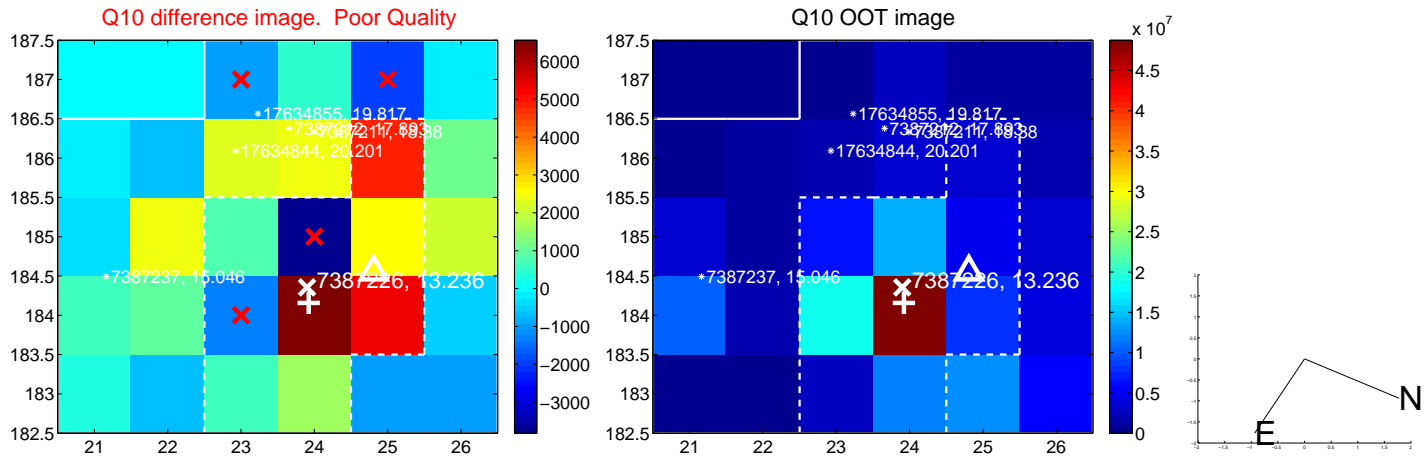
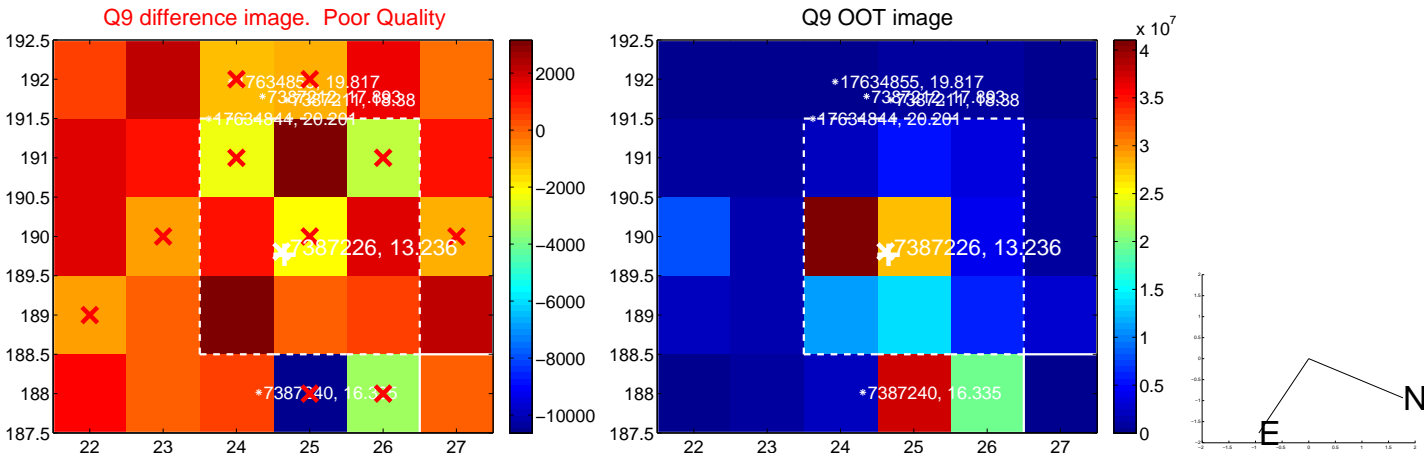
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



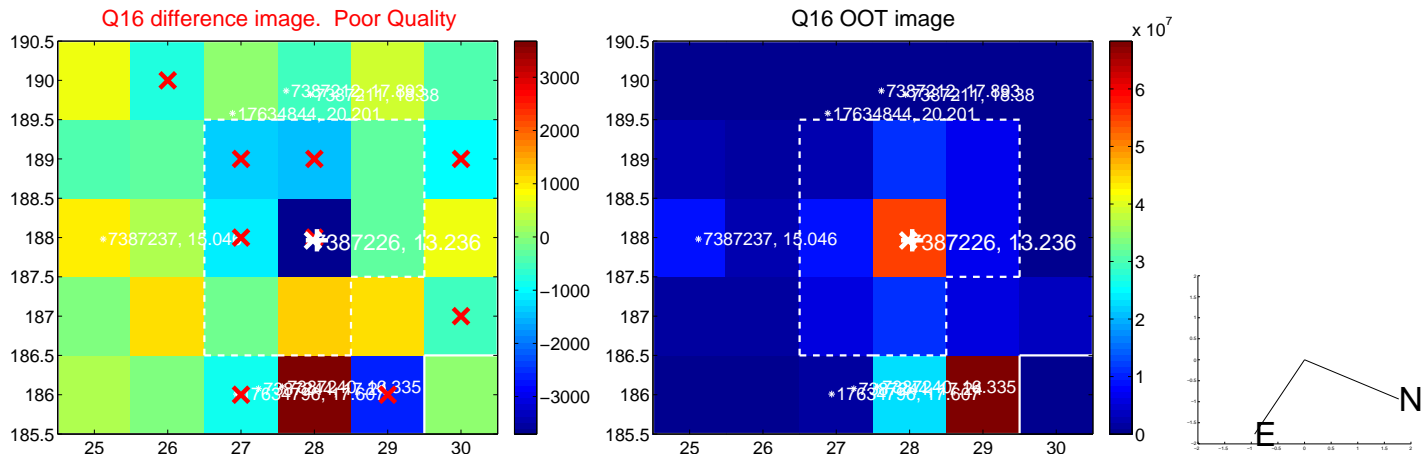
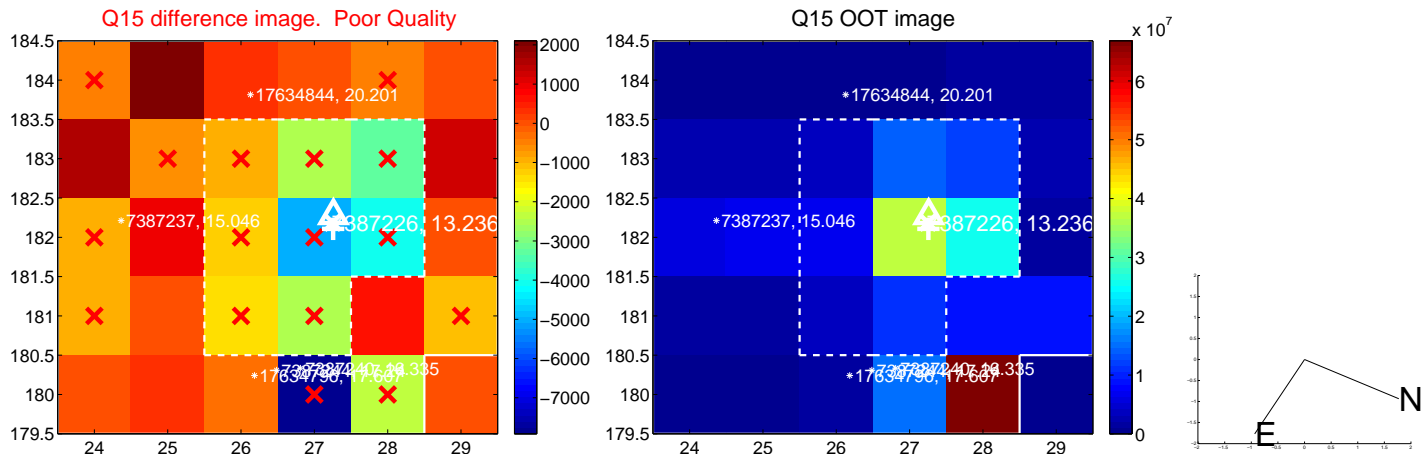
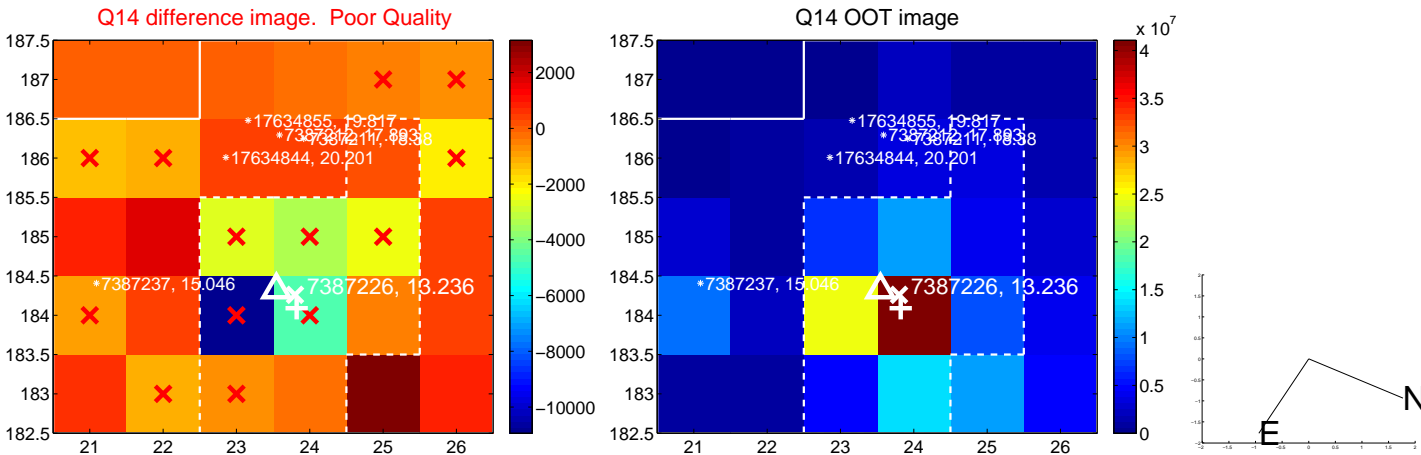
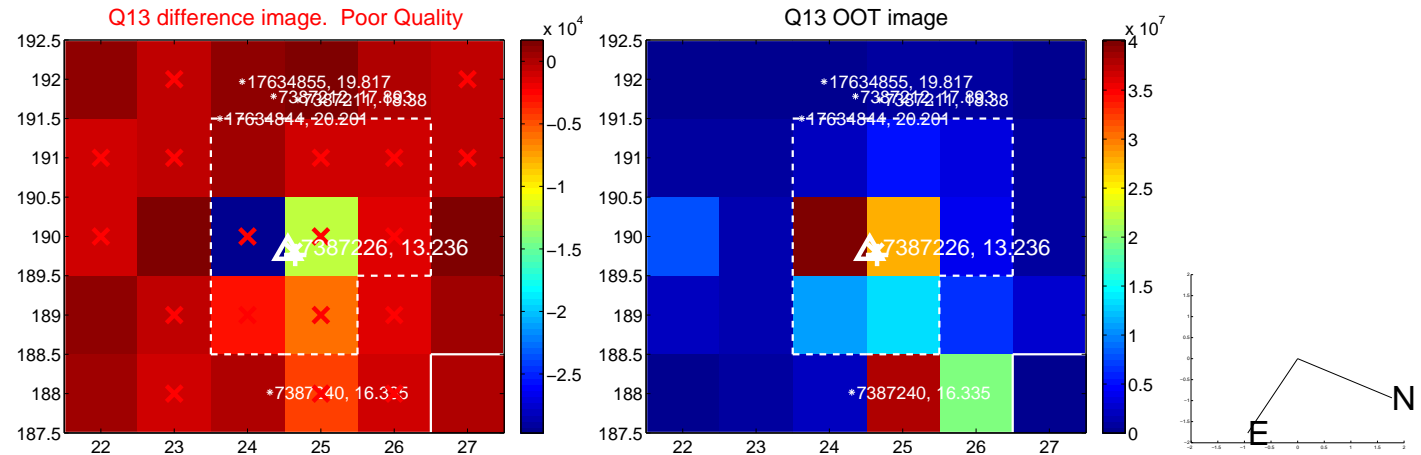
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



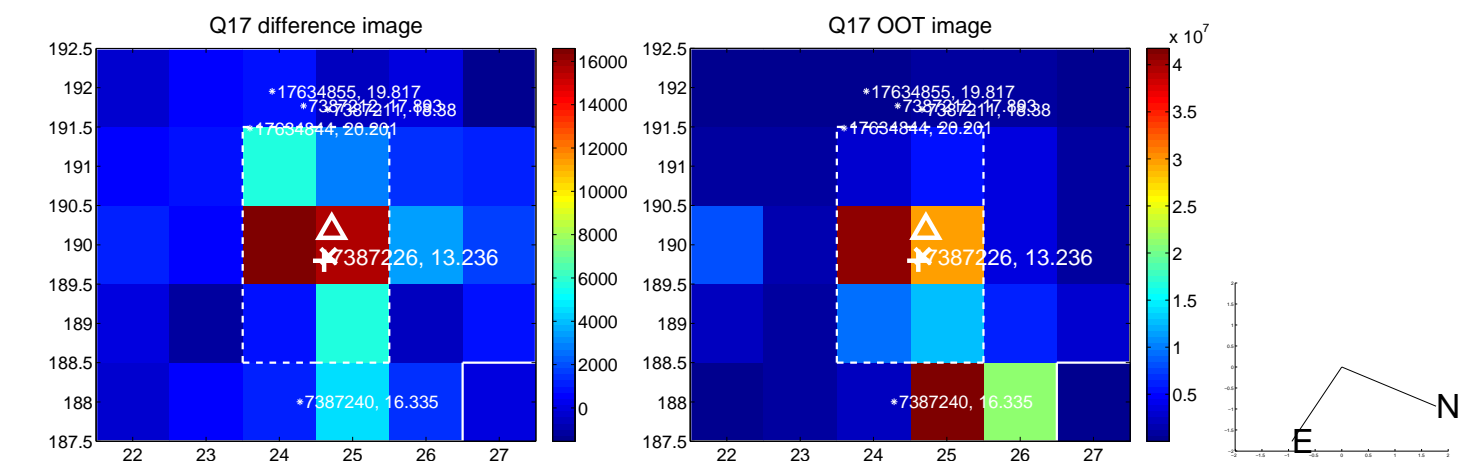
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



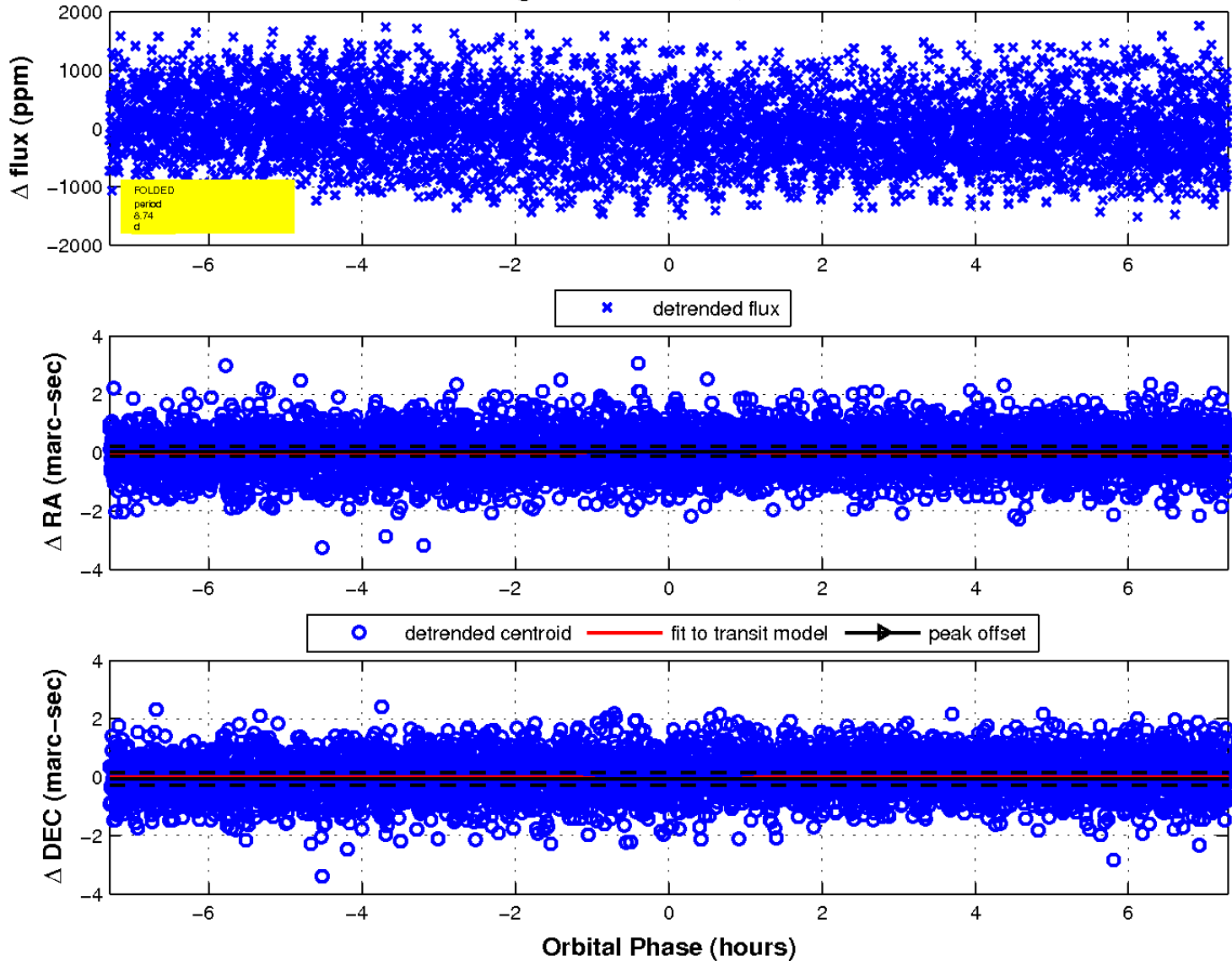
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

