

KIC 007738436

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})
007738436-01	OBS	No	0.709121	132.167882	5.6	4.365	9.5	2.3	2.57	7076	0.64	43001.34
007738436-02	OBS	No	70.871942	167.414128	326.4	1.836	8.4	5.7	2.57	7076	4.94	92.71

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007738436-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
007738436-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES

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

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

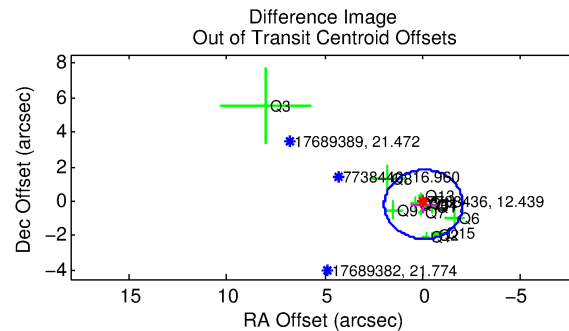
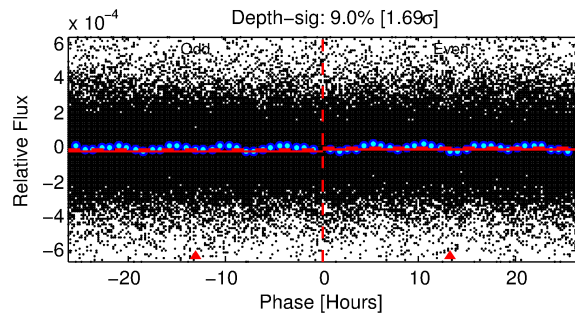
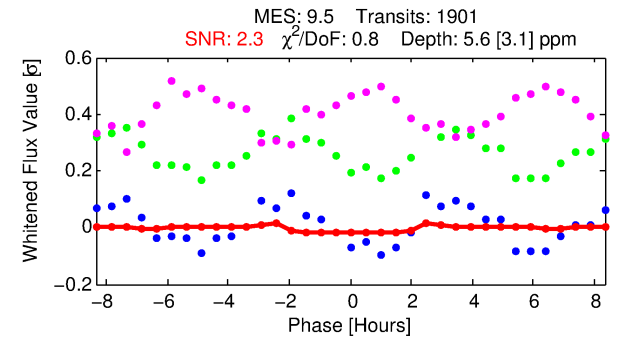
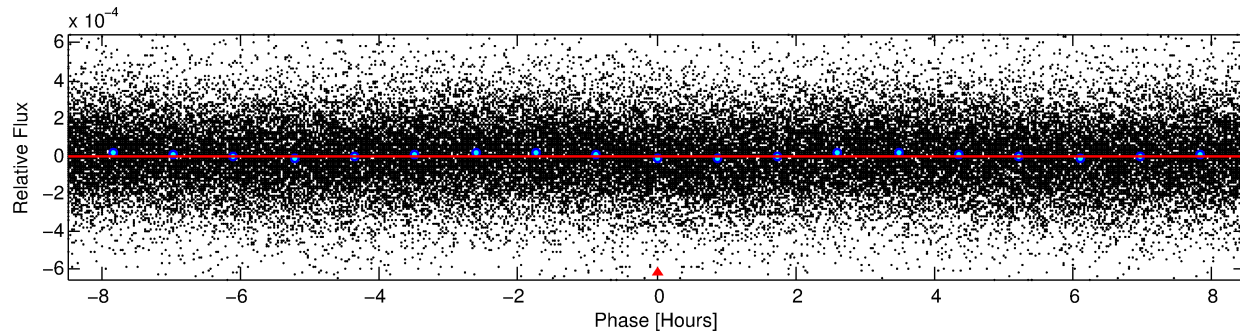
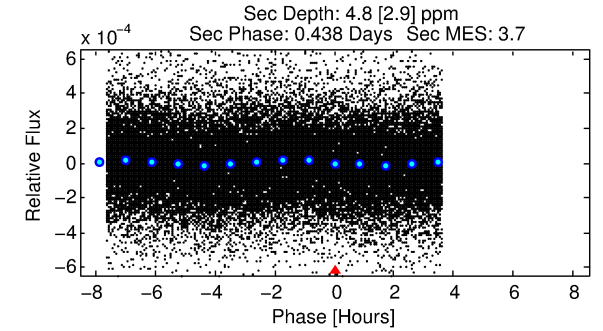
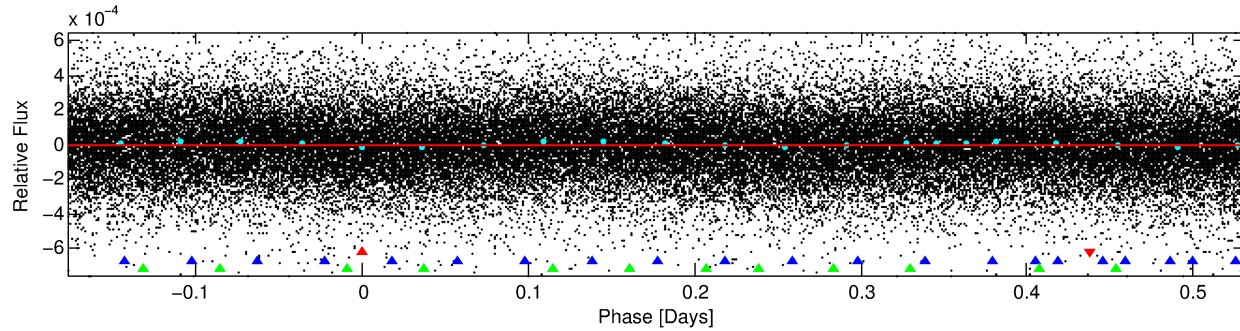
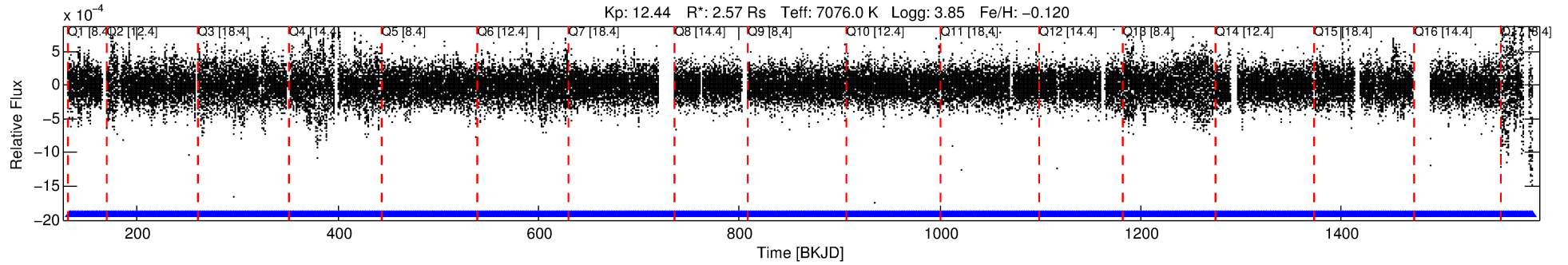
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007738436-01

No Significant Match Found

DV One-Page Summary

KIC: 7738436 Candidate: 1 of 3 Period: 0.709 d



DV Fit Results:

Period = 0.70912 [0.00004] d
Epoch = 132.1679 [0.0094] BKJD
Rp/R* = 0.0023 [0.0012]
a/R* = 1.26 [1.24]
b = 0.62 [2.70]
Seff = 43001.34 [19649.08]
Teq = 3672 [419] K
Rp = 0.64 [0.40] Re
a = 0.0186 [0.0052] AU
Ag = 2.22 [2.91] [0.42σ]
Teffp = 6933 [2152] K [1.49σ]

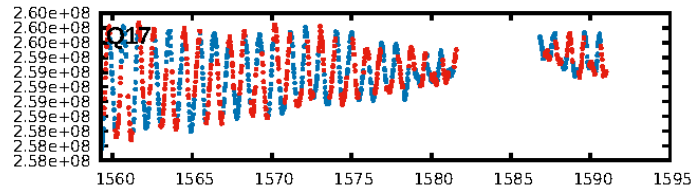
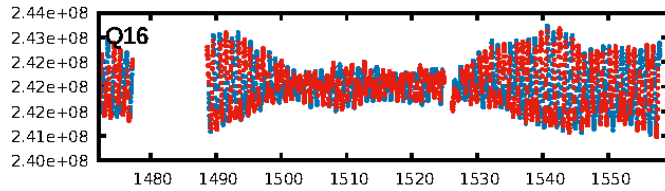
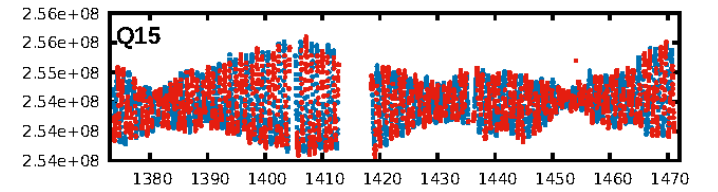
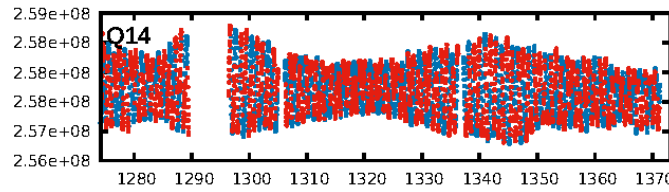
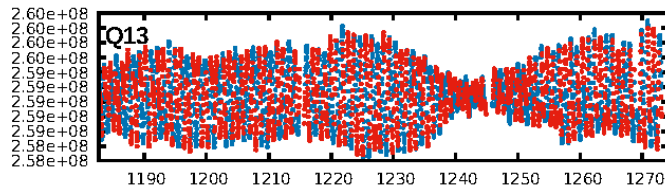
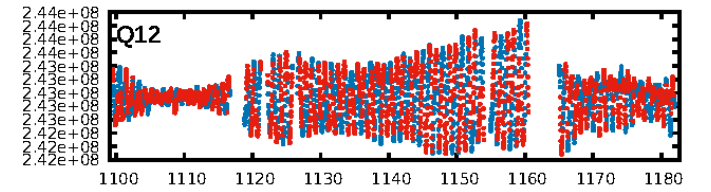
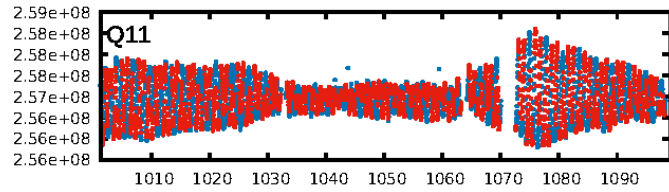
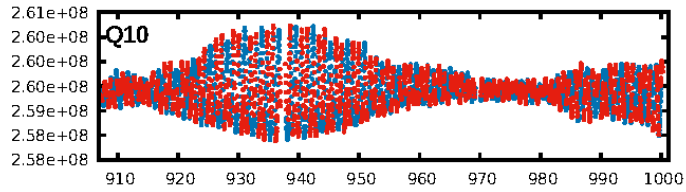
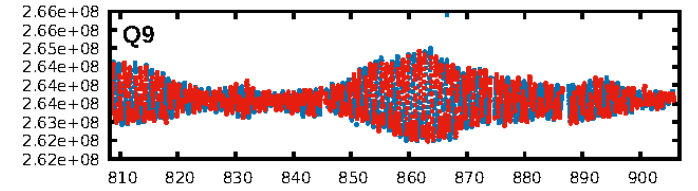
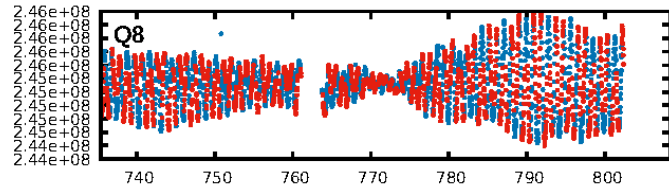
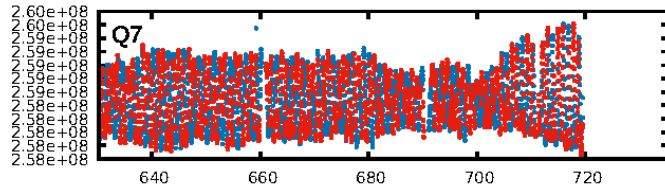
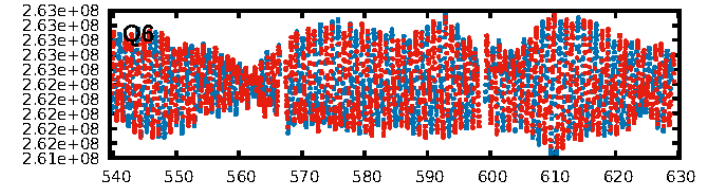
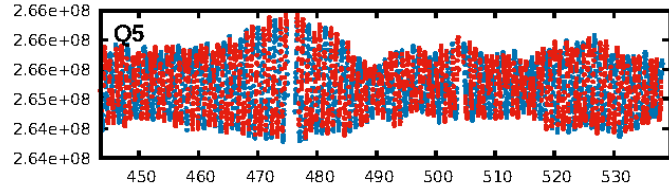
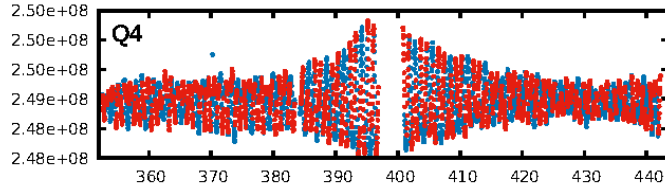
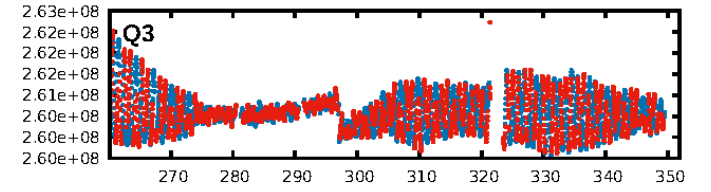
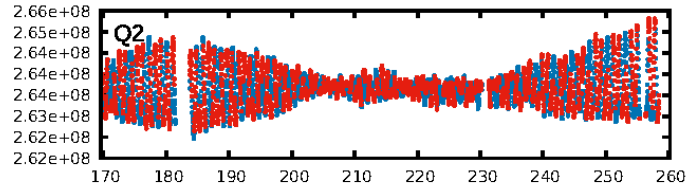
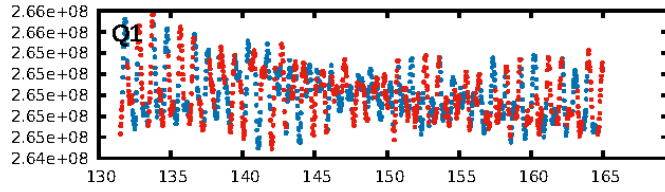
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [355.59σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.61e-11
RollingBand-fgt: 1.00 [1815/1815]
GhostDiagnostic-chr: -0.06514
Centroid-sig: 55.1%
Centroid-so: 1.200 arcsec [0.75σ]
OotOffset-rm: 0.195 arcsec [0.29σ]
KicOffset-rm: 0.266 arcsec [0.44σ]
OotOffset-st: 4/4/2/4 [14]
KicOffset-st: 4/4/2/4 [14]
DiffImageQuality-fgm: 0.29 [4/14]
DiffImageOverlap-fno: 1.00 [17/17]

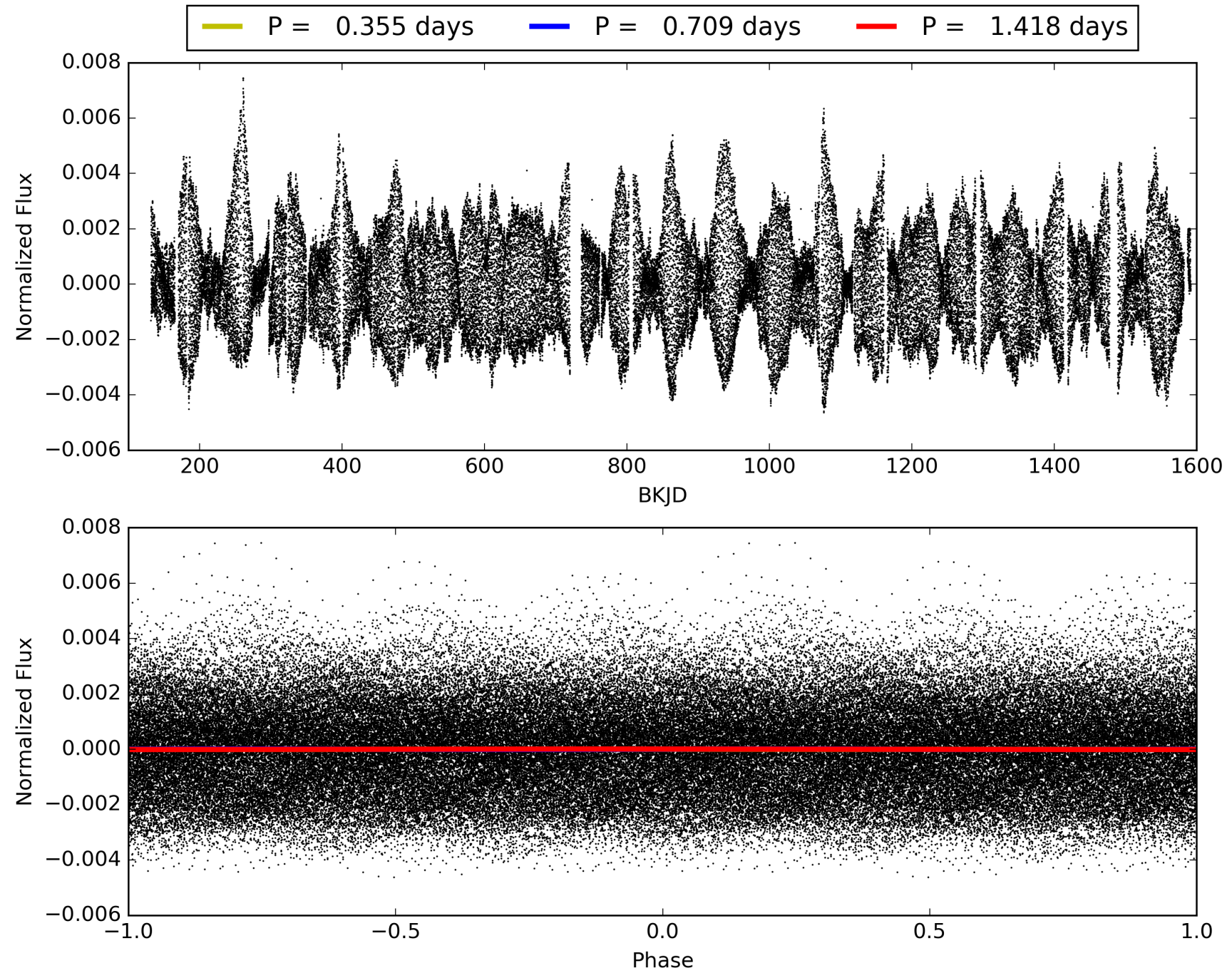
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 10:43:23 Z

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

TCE 007738436-01, PDC Light Curves

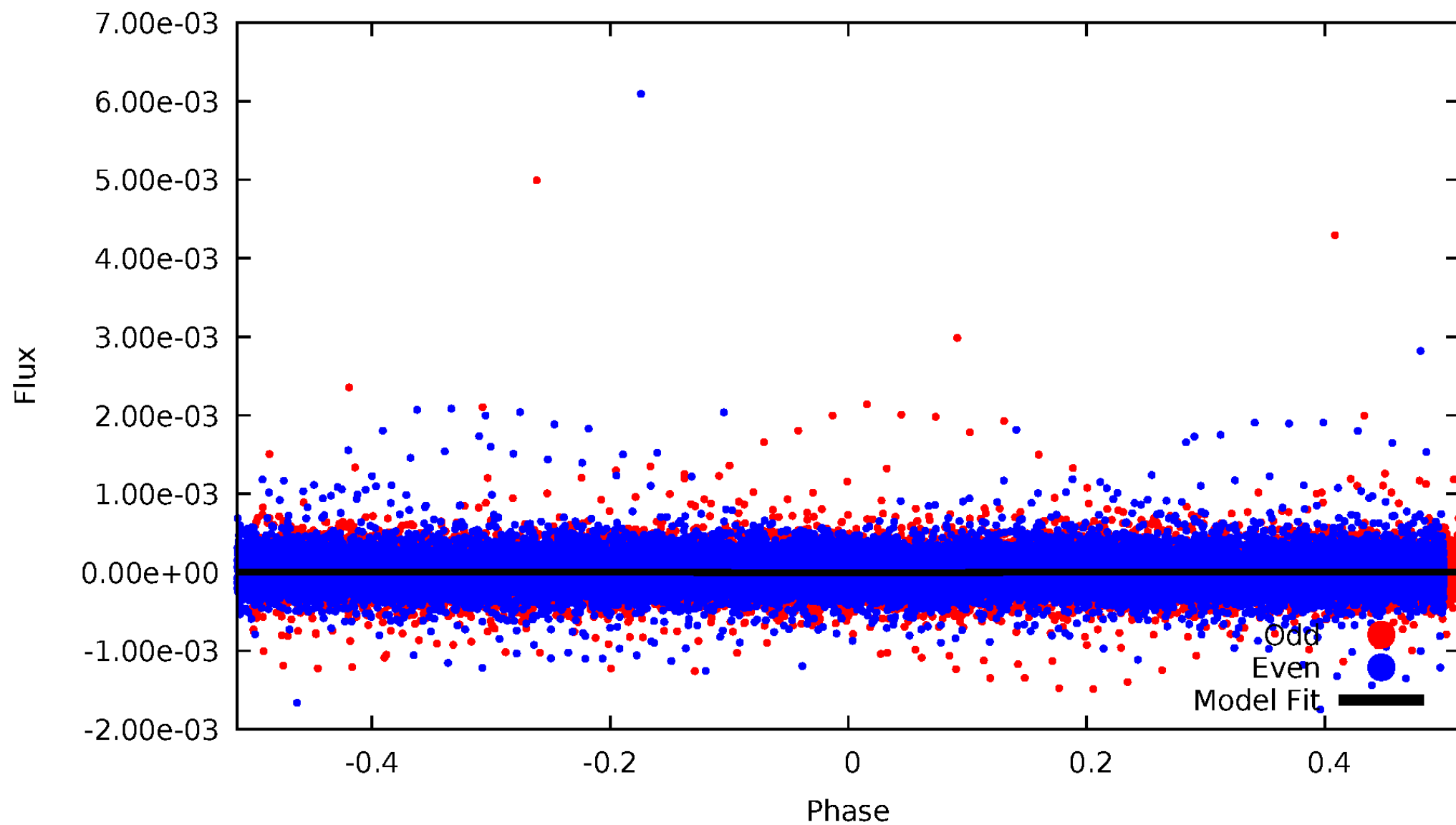


TCE 007738436-01



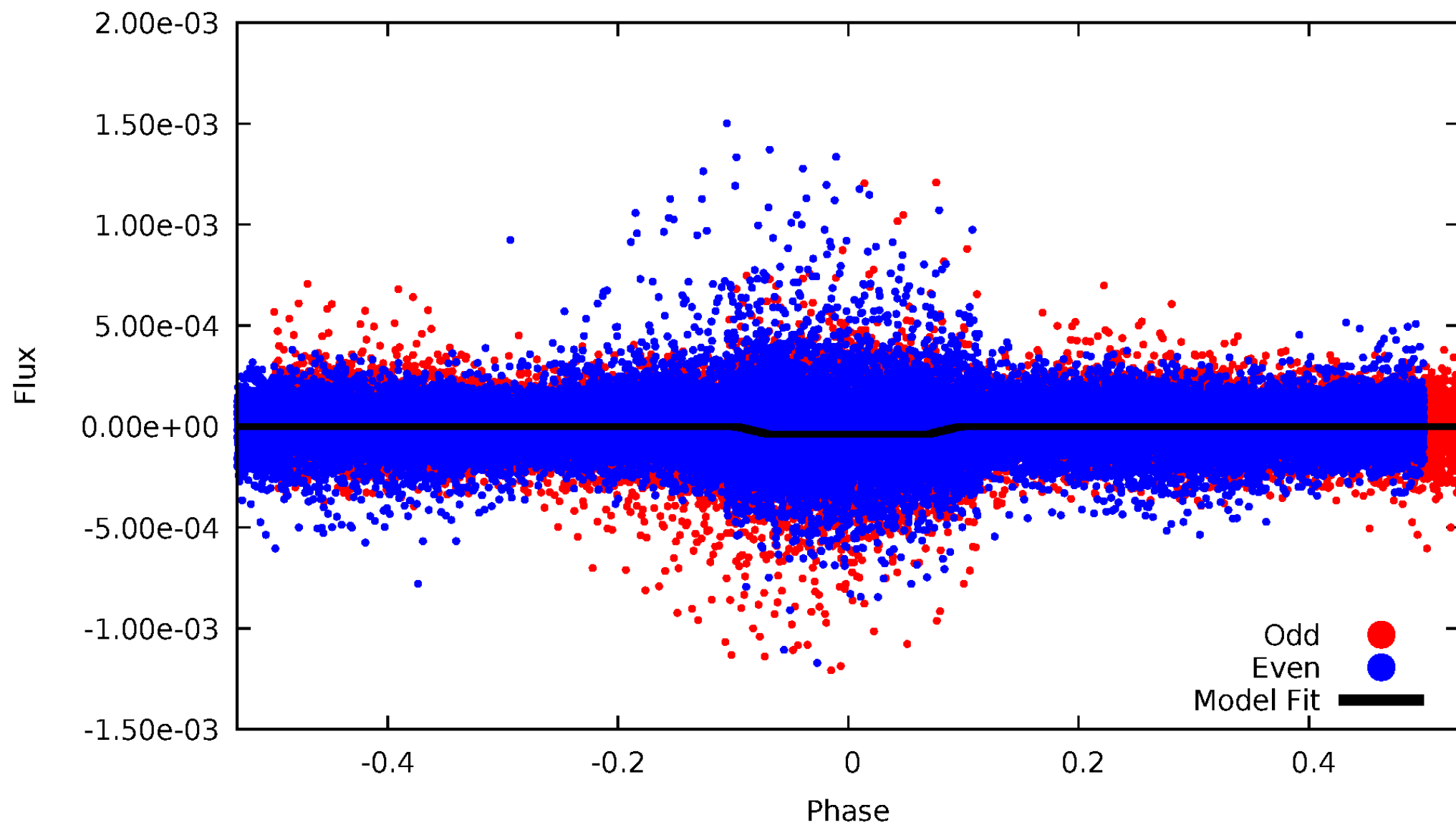
DV Odd/Even

TCE 007738436-01



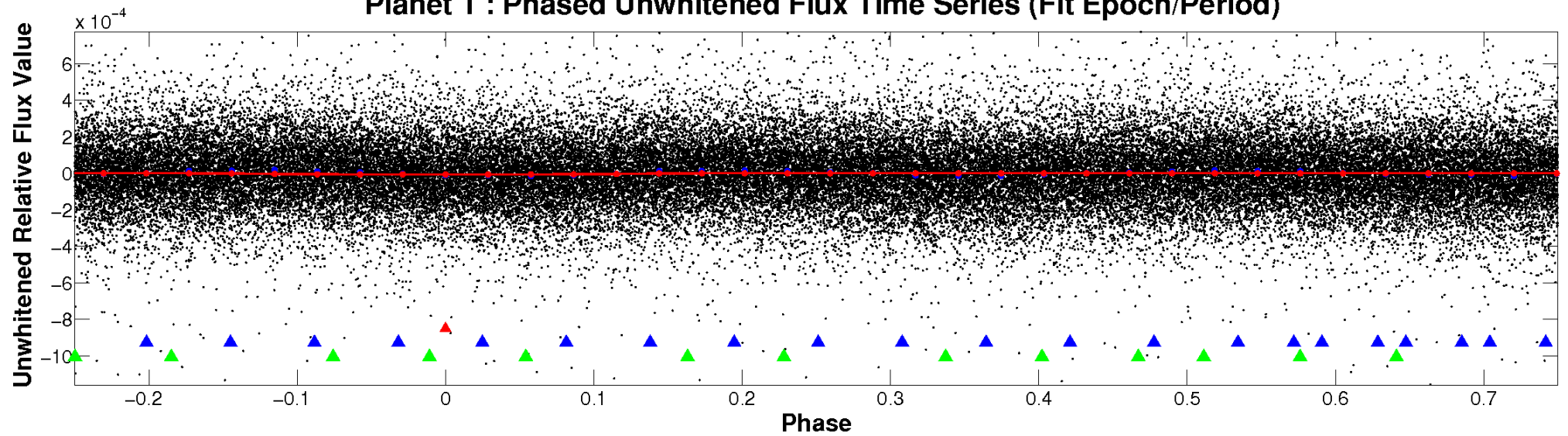
ALT Odd/Even

TCE 007738436-01

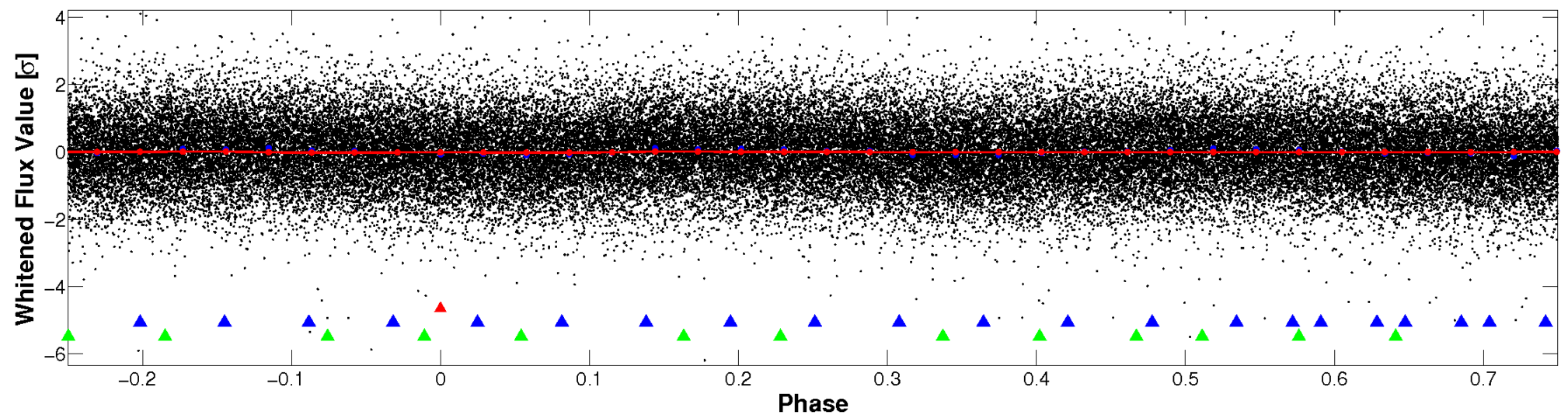


Non-Whitened Vs. Whitened Light Curve

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

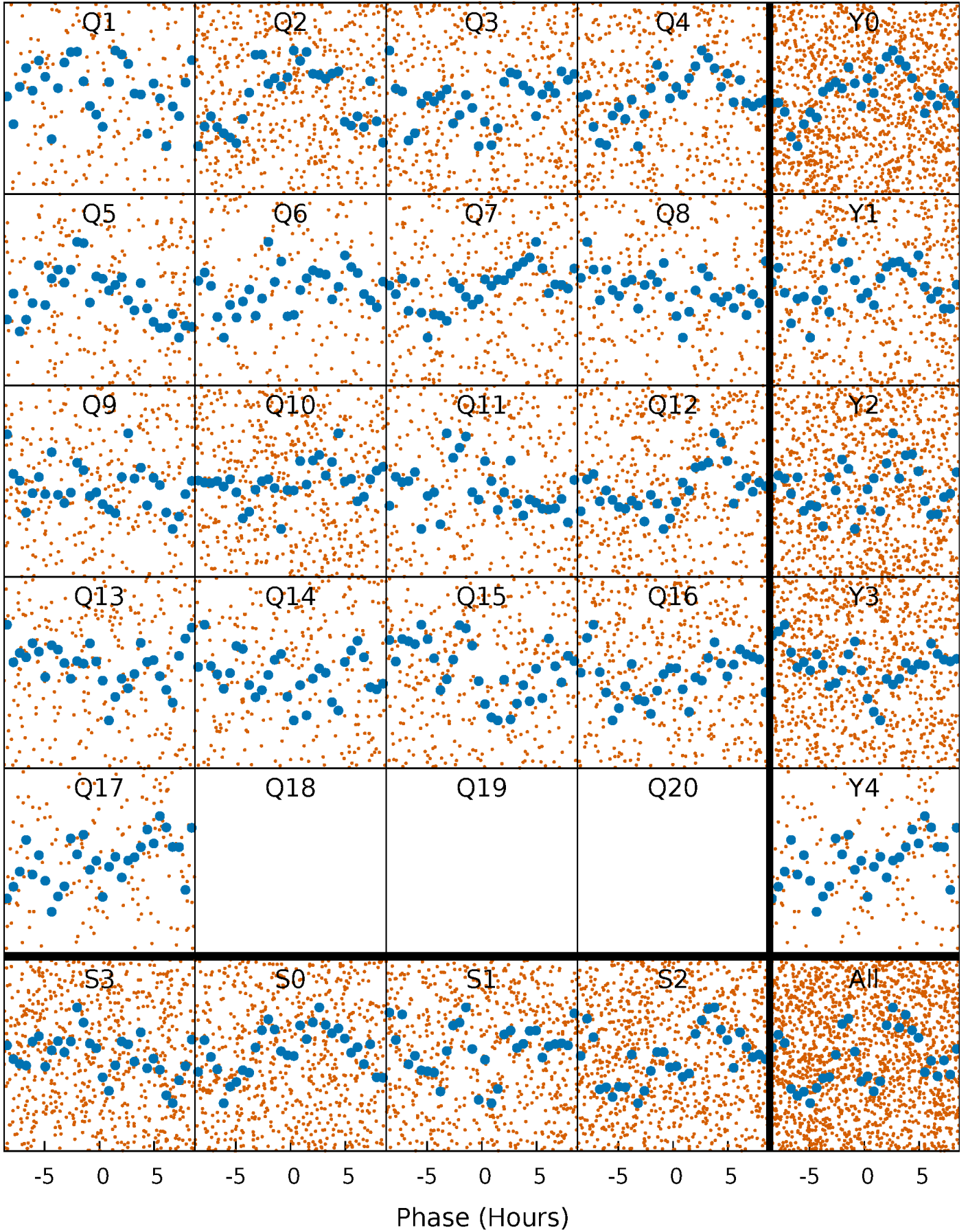


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



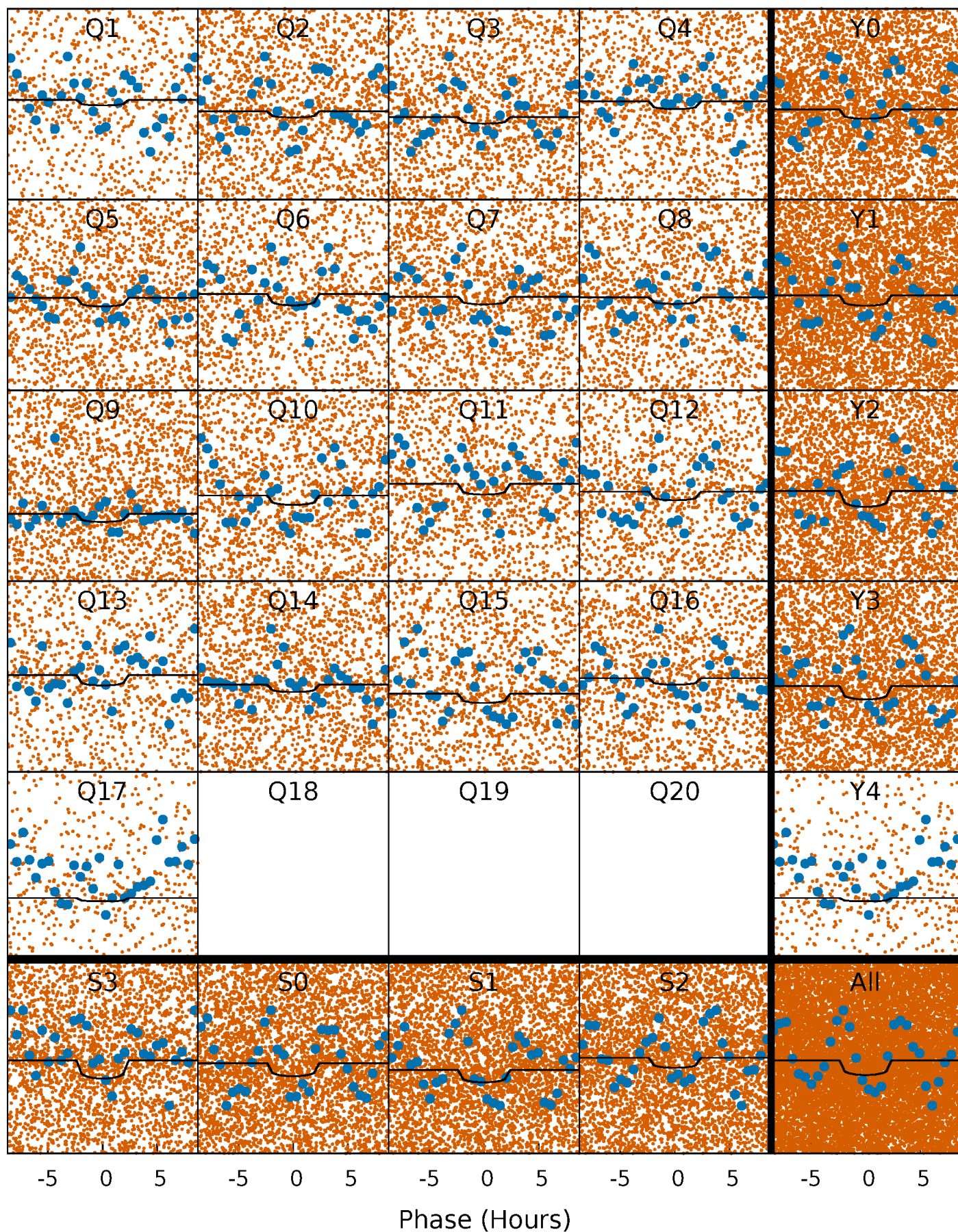
PDC Quarter-Phased Transit Curves

TCE 007738436-01 P= 0.709121 Days $T_0=132.167881$ (BKJD)



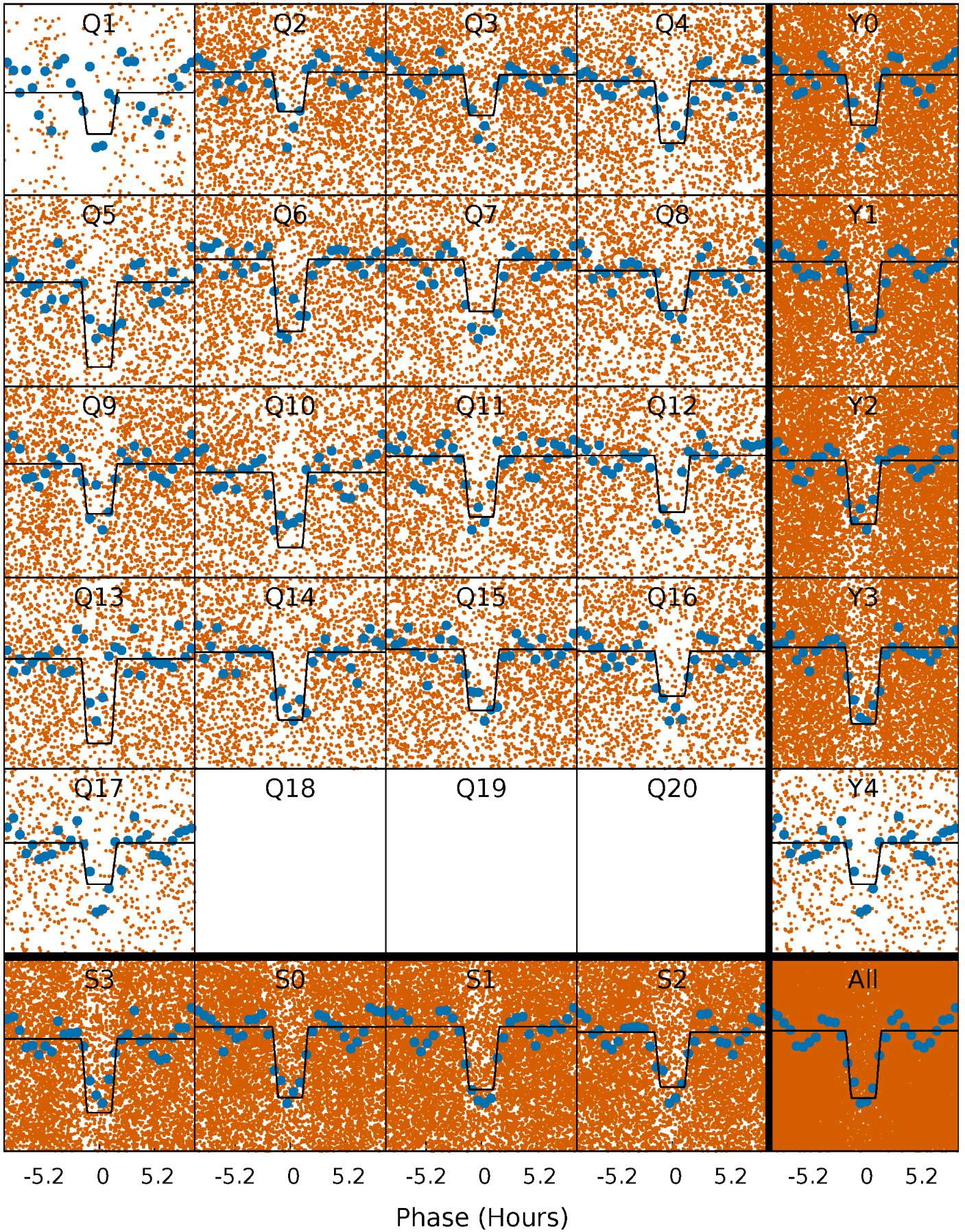
DV Quarter-Phased Transit Curves

TCE 007738436-01 P= 0.709121 Days $T_0=132.167881$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

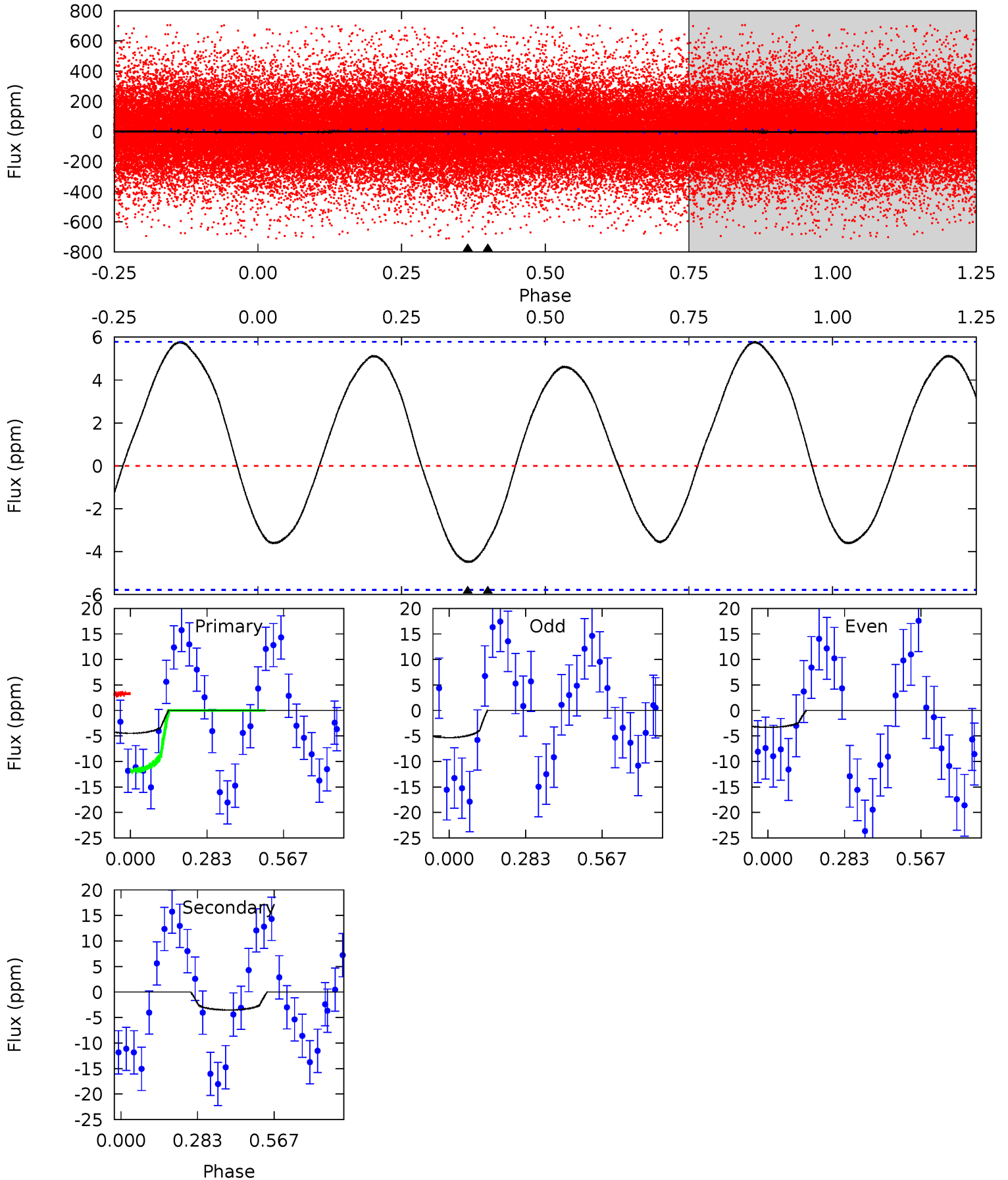
TCE 007738436-01 P= 0.709152 Days $T_0=132.163535$ (BKJD)



DV Model-Shift Uniqueness Test

007738436-01, P = 0.709121 Days, E = 131.458760 Days

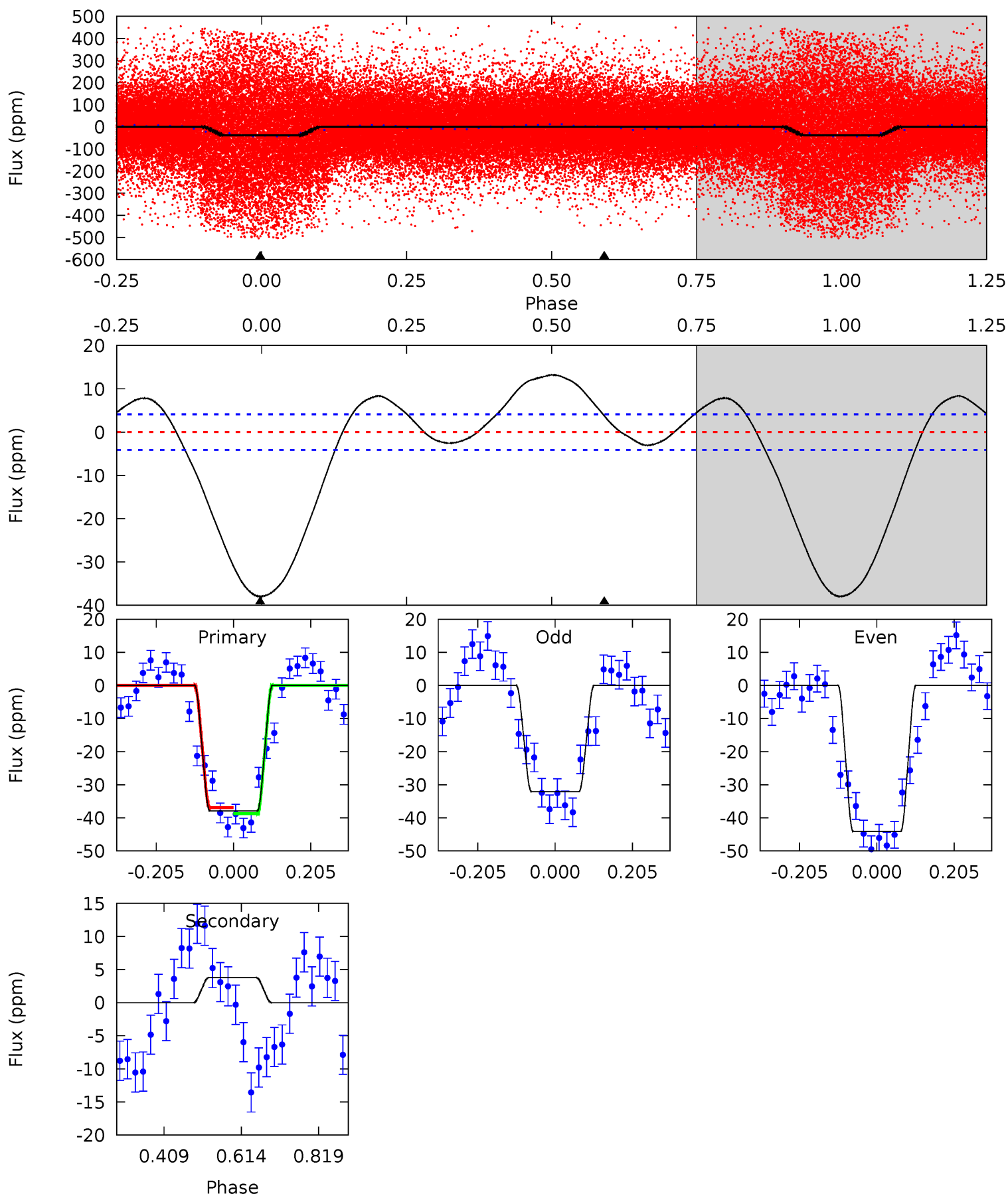
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.37	2.65	0	0	4.34	1.07	2.54	3.37	3.37	2.65	2.65	0.76	0.67	0.56	3.27



Alt Model-Shift Uniqueness Test

007738436-01, P = 0.709152 Days, E = 131.454383 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
40.8	-4.04	0	0	4.41	1.27	3.88	40.8	40.8	-4.04	-4.04	6.57	1.03	0.26	1.00



Stellar Parameters For KIC 007738436

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7076^{+190}_{-232}	$3.848^{+0.252}_{-0.108}$	$-0.120^{+0.300}_{-0.300}$	$2.568^{+0.460}_{-0.789}$	$1.694^{+0.172}_{-0.320}$	$0.141^{+0.231}_{-0.049}$
	+3%/-3%	+7%/-3%	+250%/-250%	+18%/-31%	+10%/-19%	+164%/-35%
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 007738436-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-4 ± 1	$0.61^{+0.36}_{-0.31}$	5053^{+308}_{-386}	6025^{+3563}_{-1688}	$1.798^{+5.292}_{-1.199}$
Alt.	4 ± 1	$1.70^{+0.47}_{-0.40}$	5072^{+287}_{-383}	-4879^{+276}_{-285}	$-0.227^{+0.089}_{-0.194}$

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

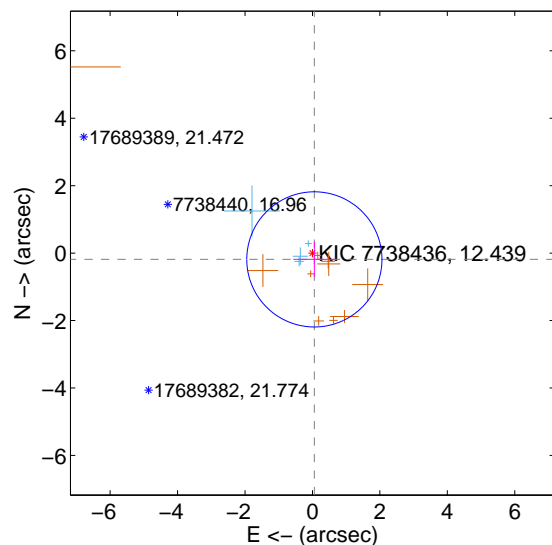
Supplemental centroid analysis for 007738436-01. Kepler magnitude: 12.44. Transit SNR 2.31

There are 4 quarters with good PRF difference image offsets

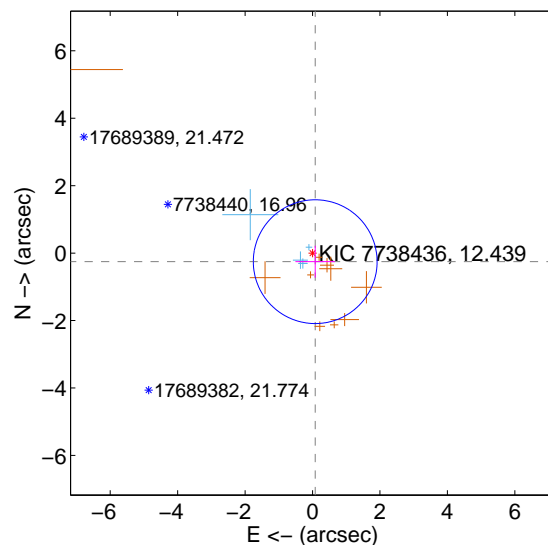
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.195 ± 0.668	0.29	-0.057 ± 0.626	-0.187 ± 0.517
PRF-fit source offset from KIC position	0.266 ± 0.612	0.44	-0.080 ± 0.586	-0.254 ± 0.473
photometric centroid source offset	1.20 ± 1.59	0.75	1.20 ± 1.59	0.10 ± 1.66

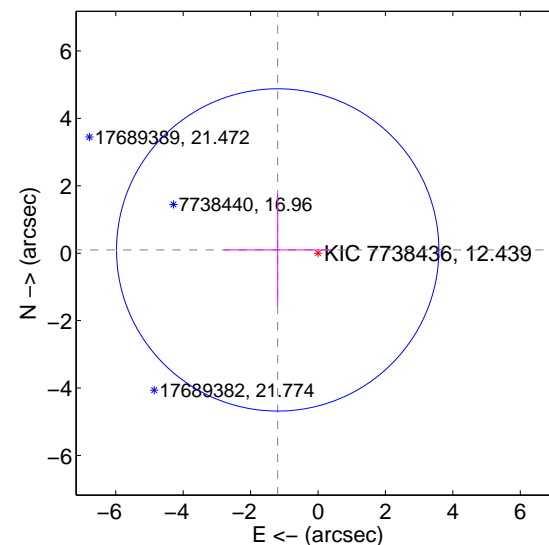
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

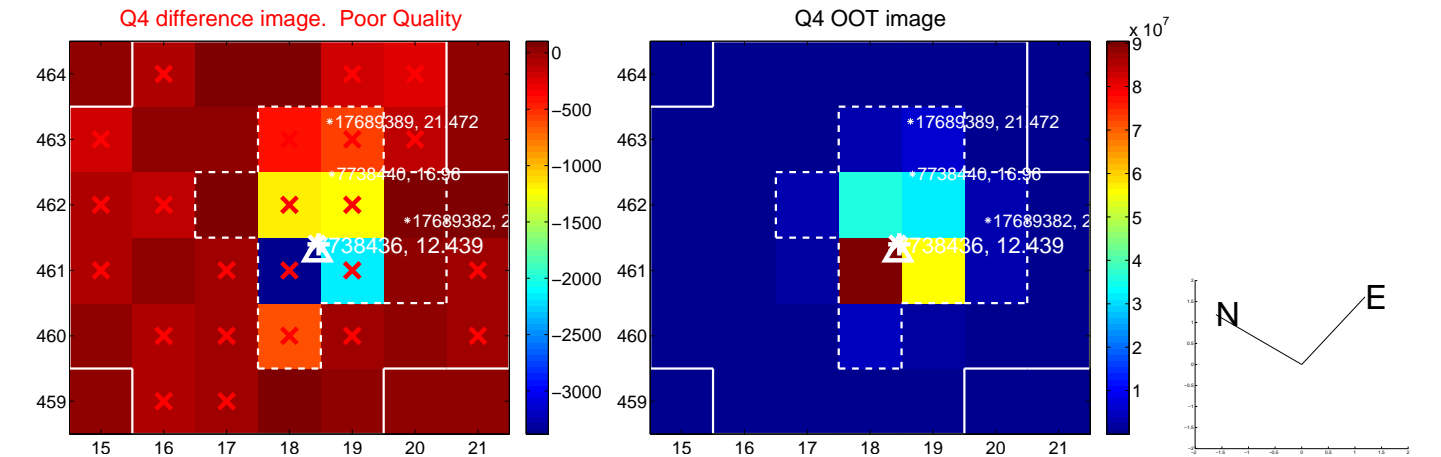
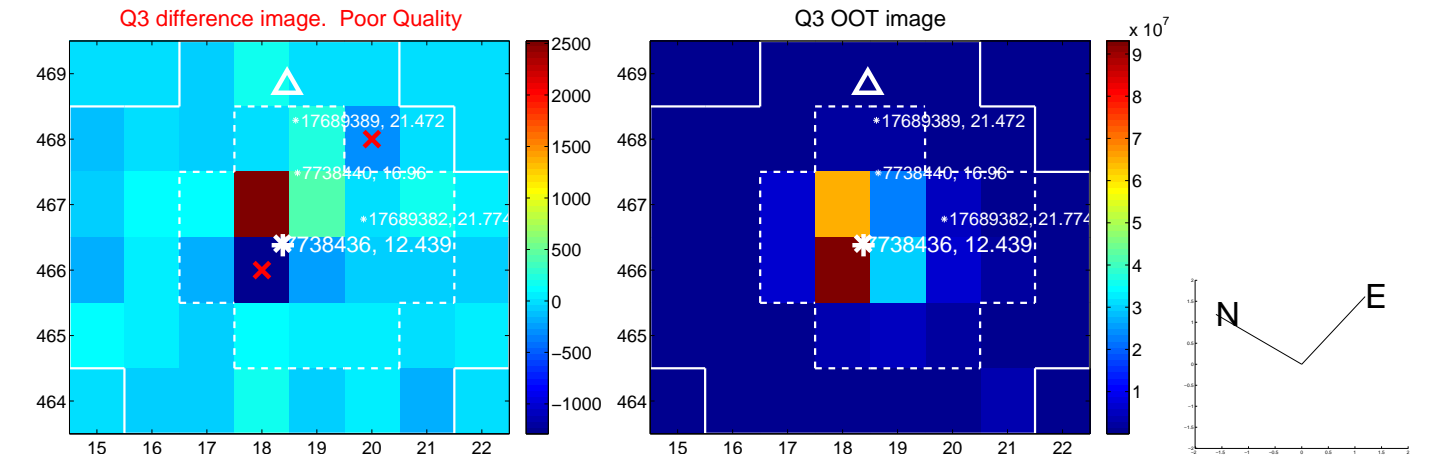
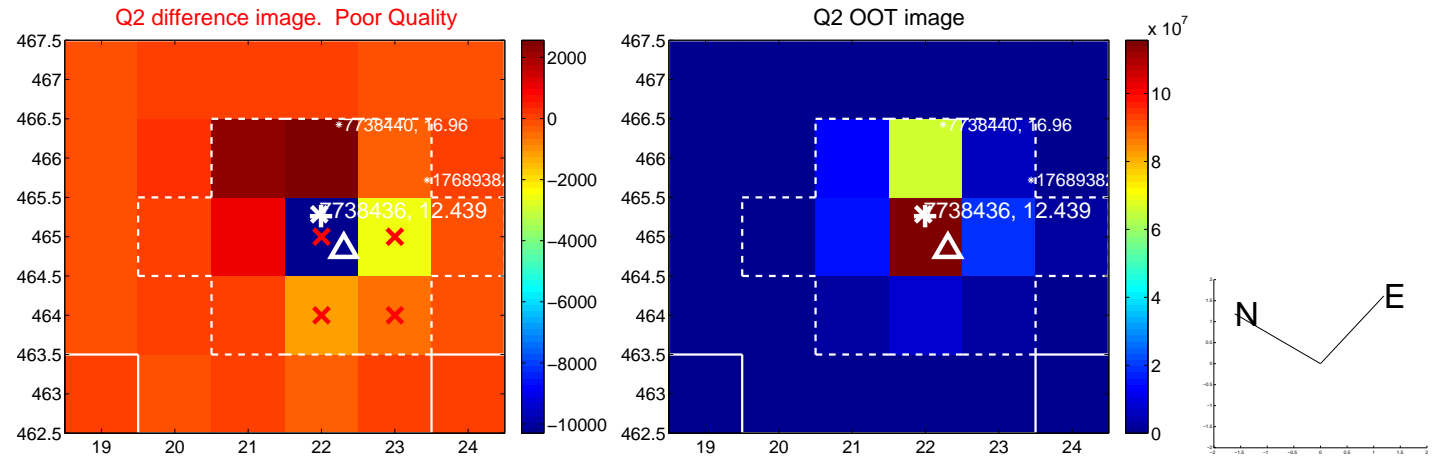
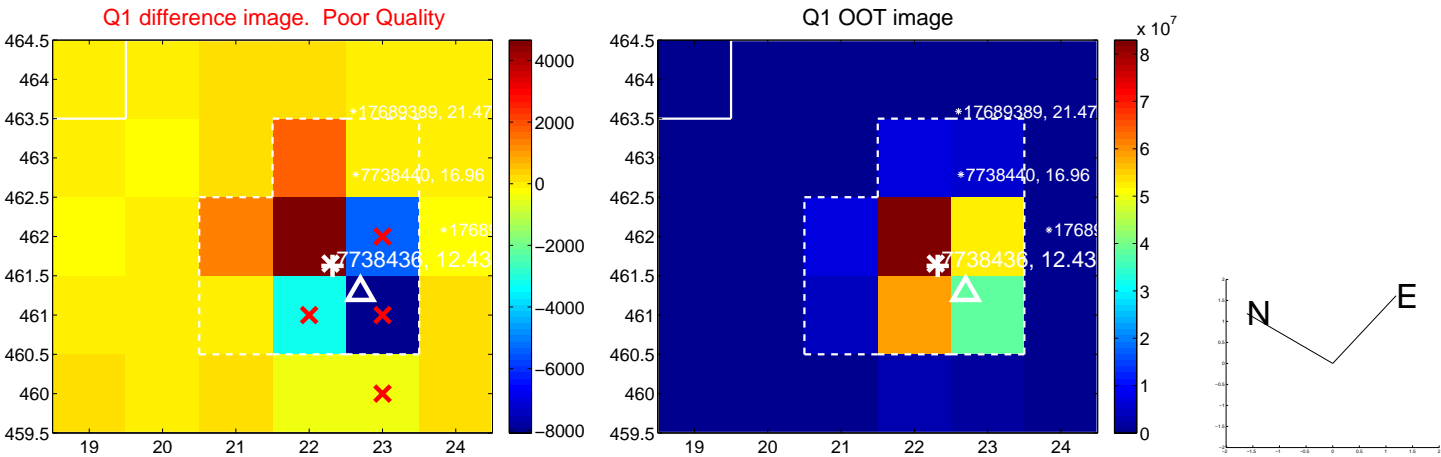


offset from photometric centroids

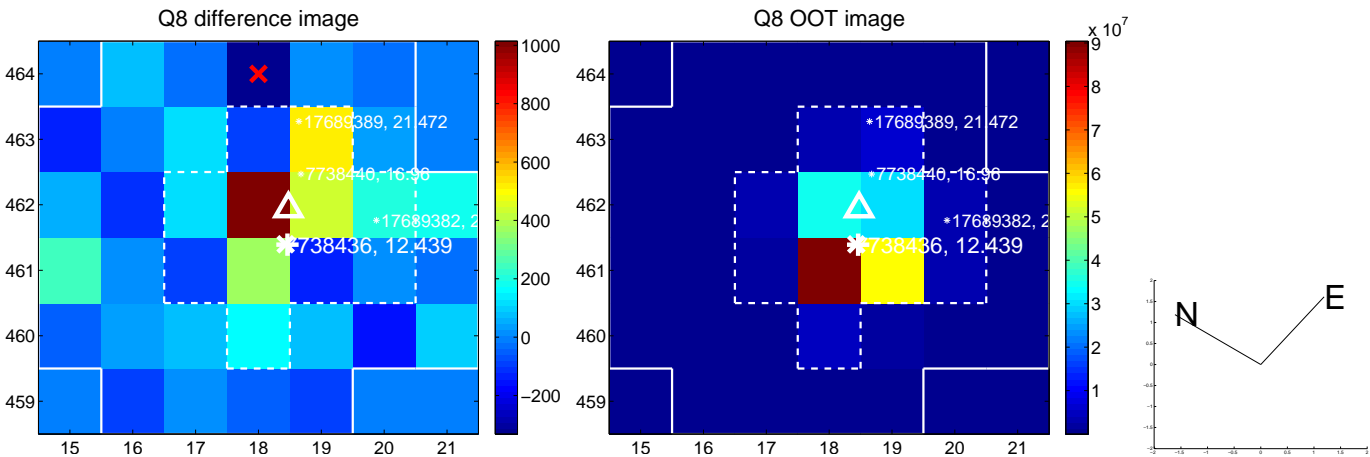
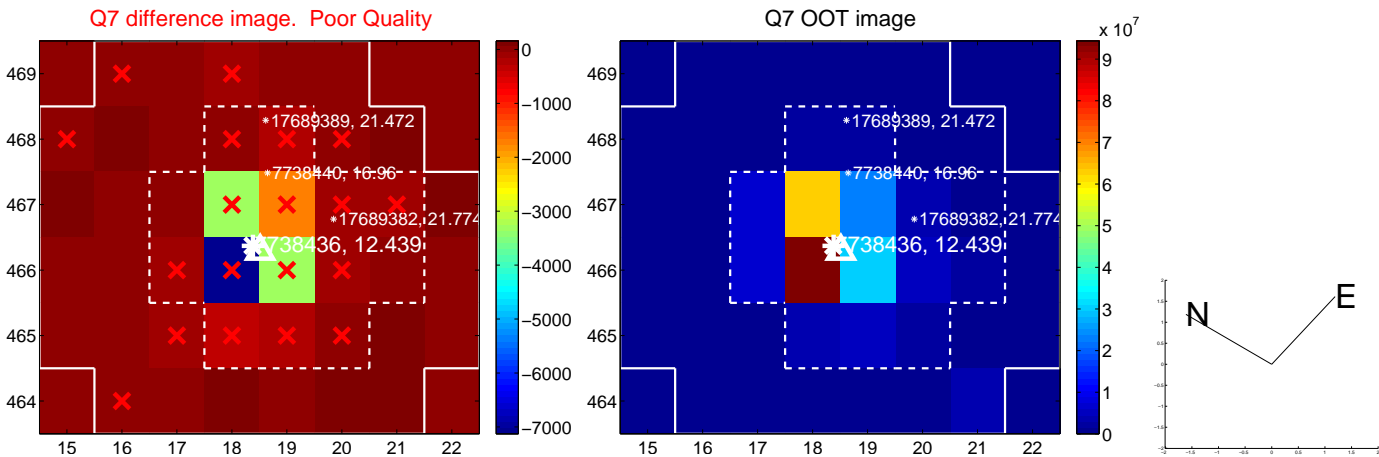
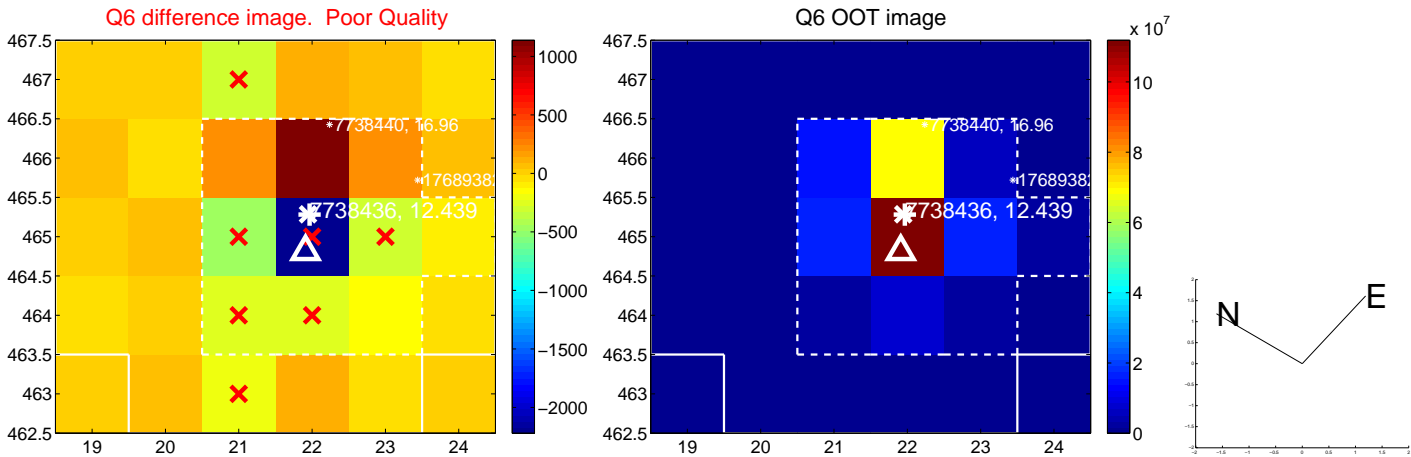
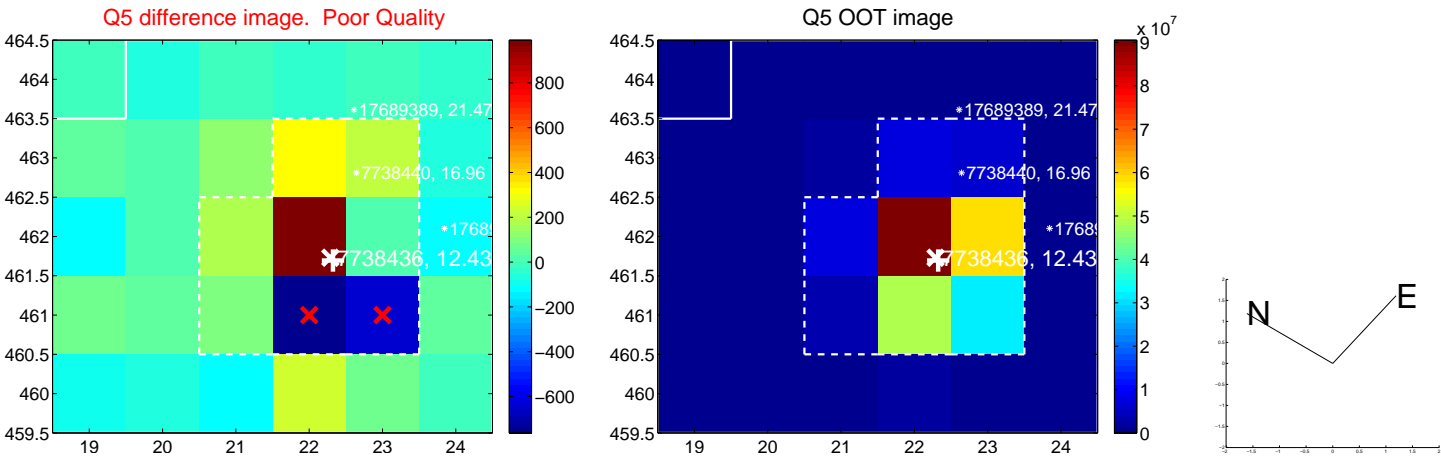


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

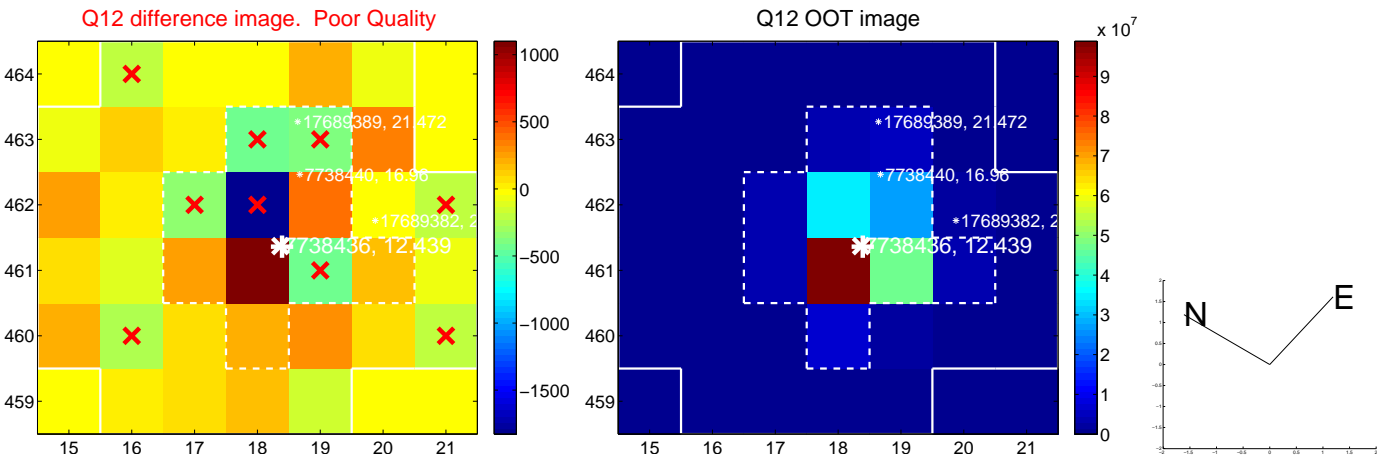
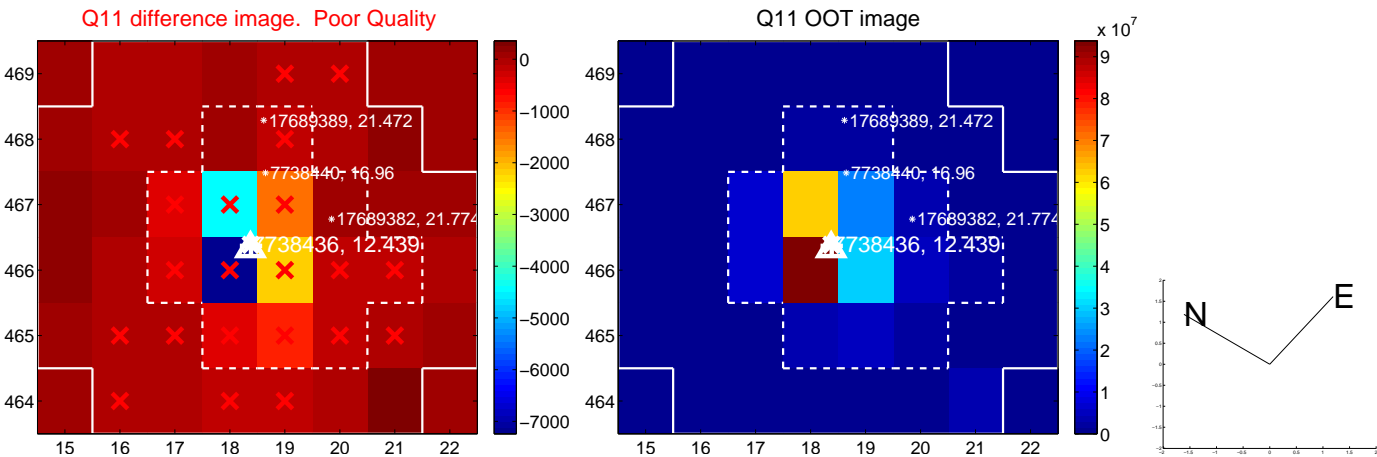
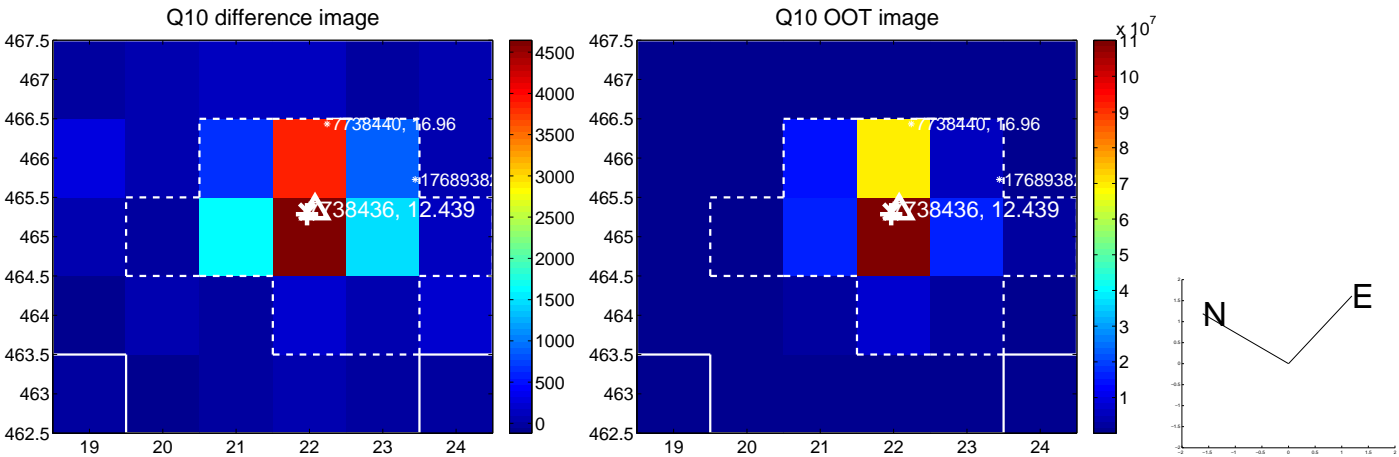
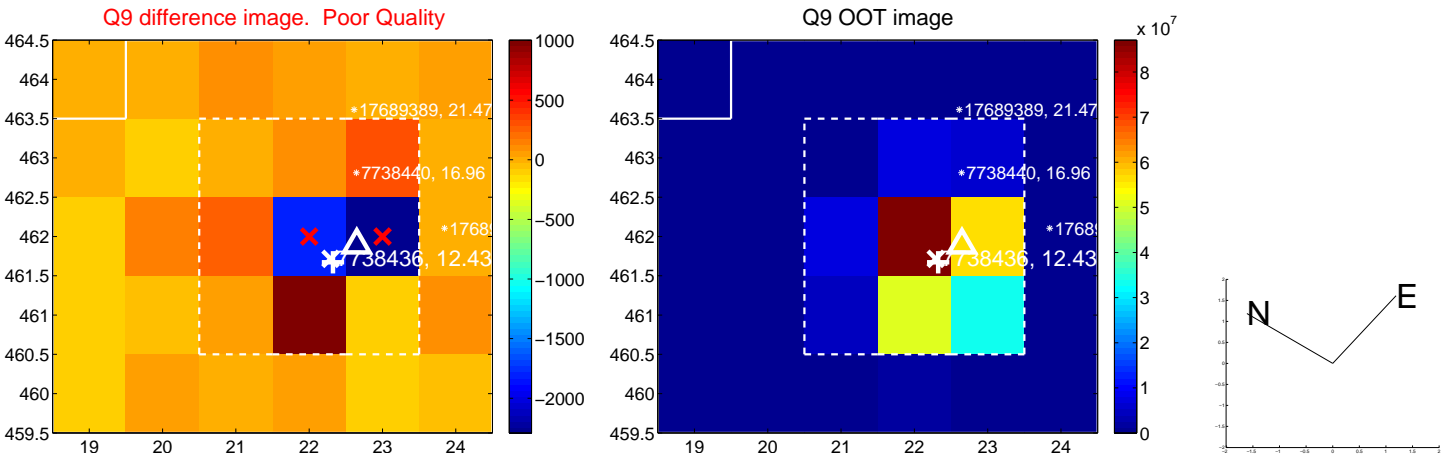
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



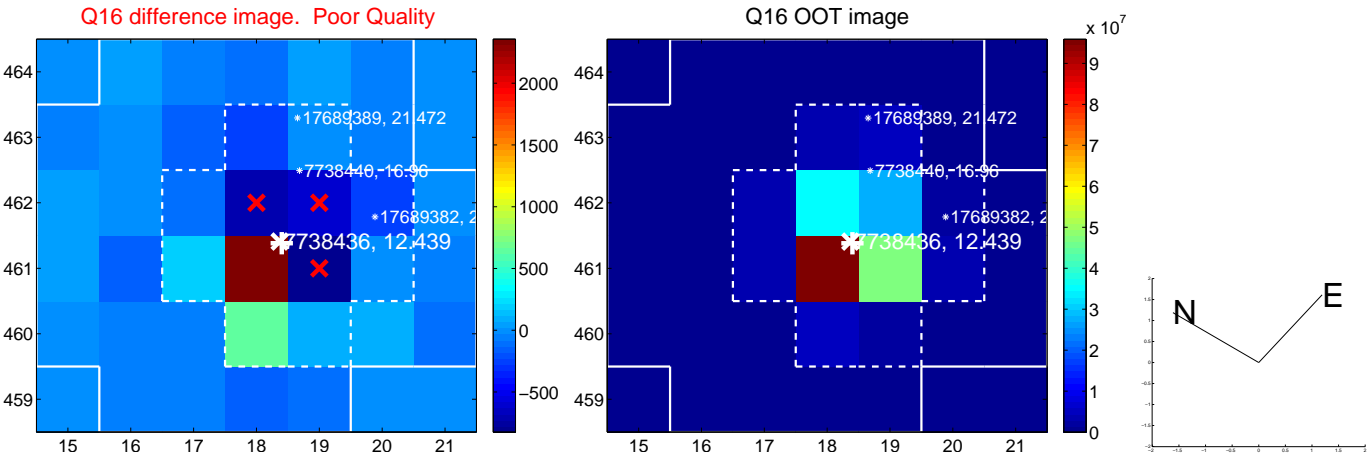
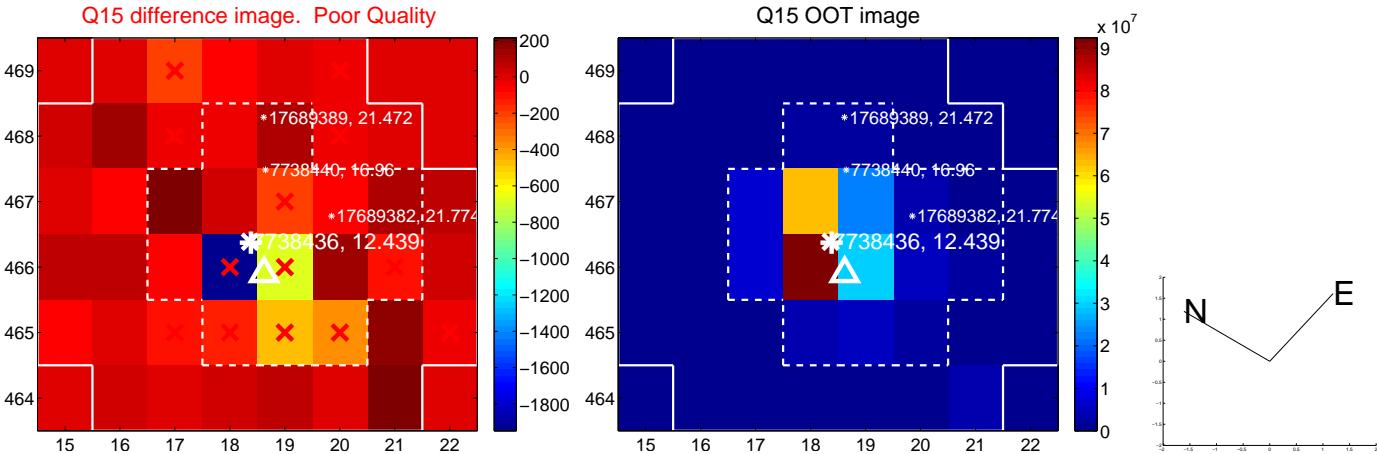
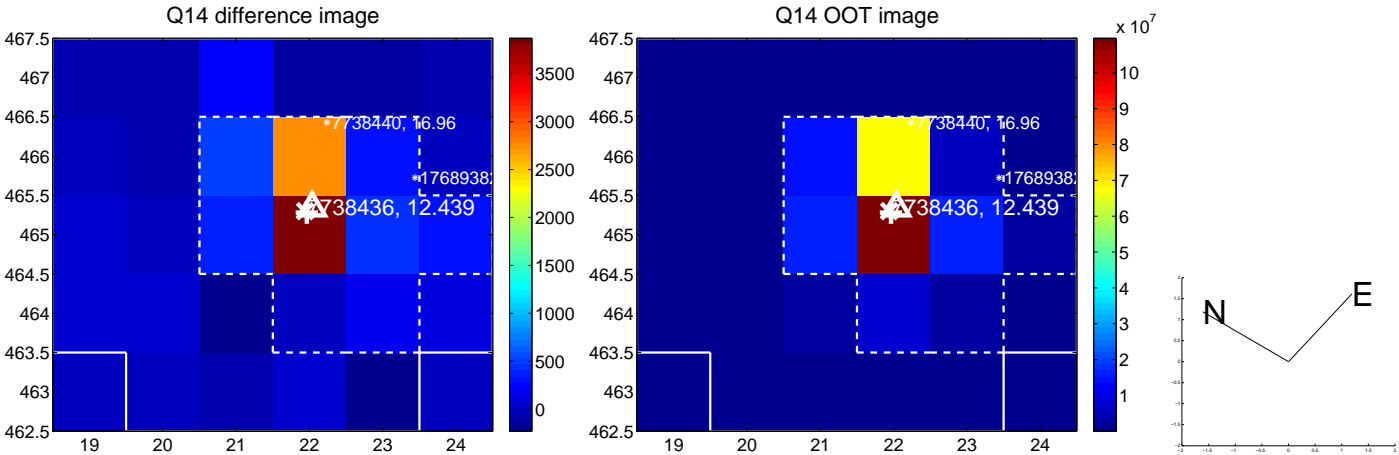
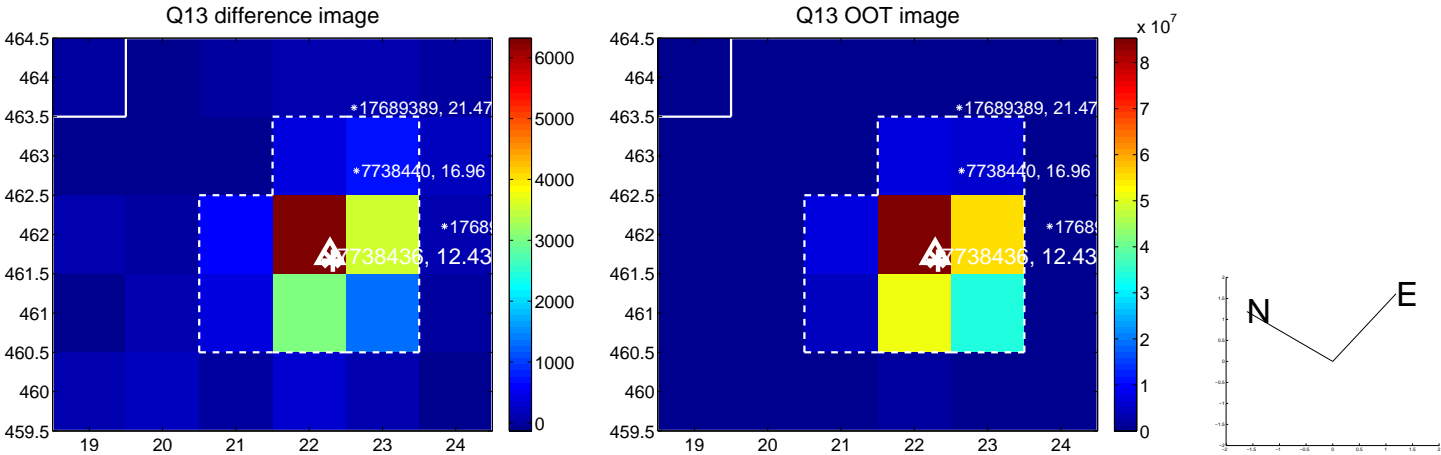
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



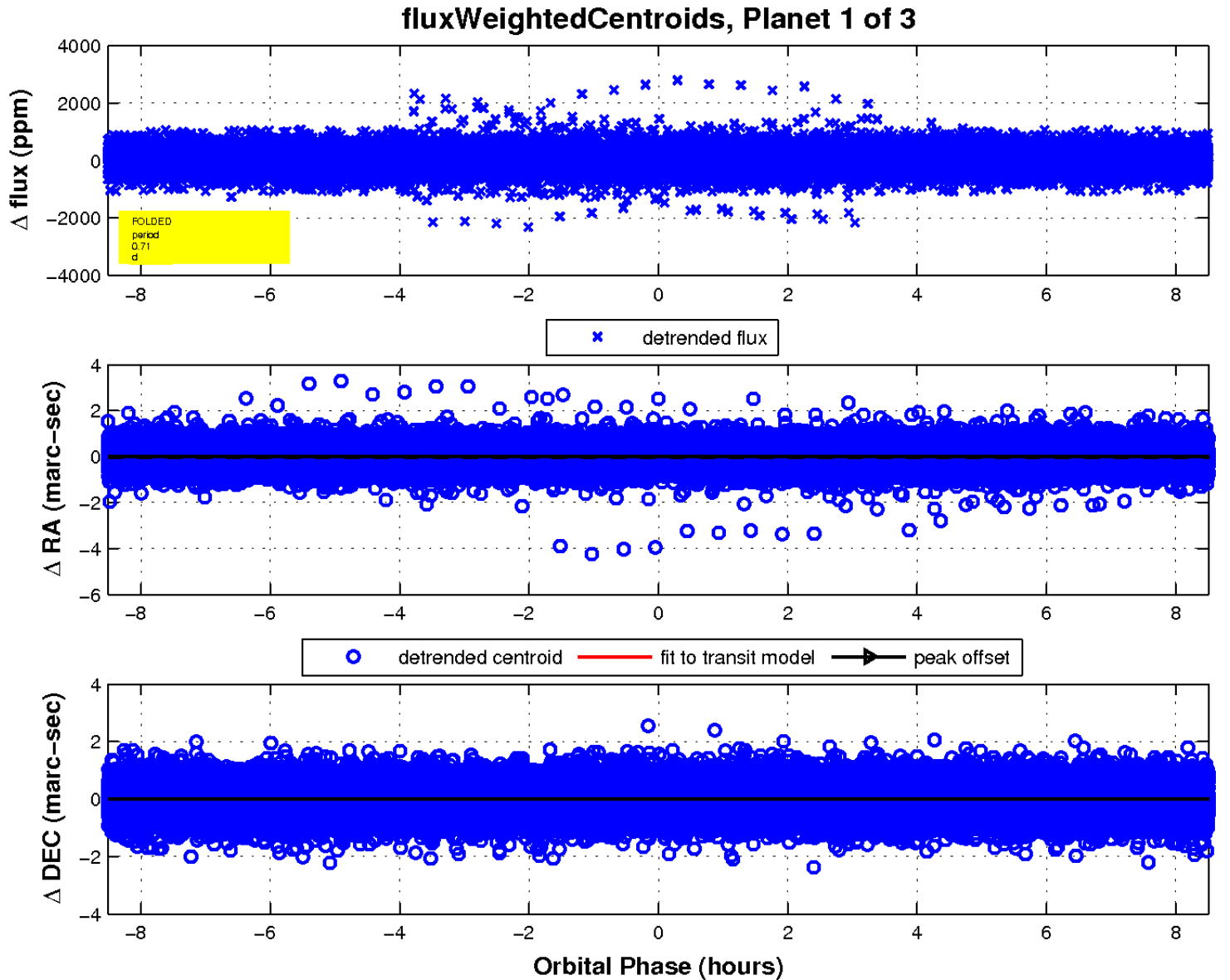
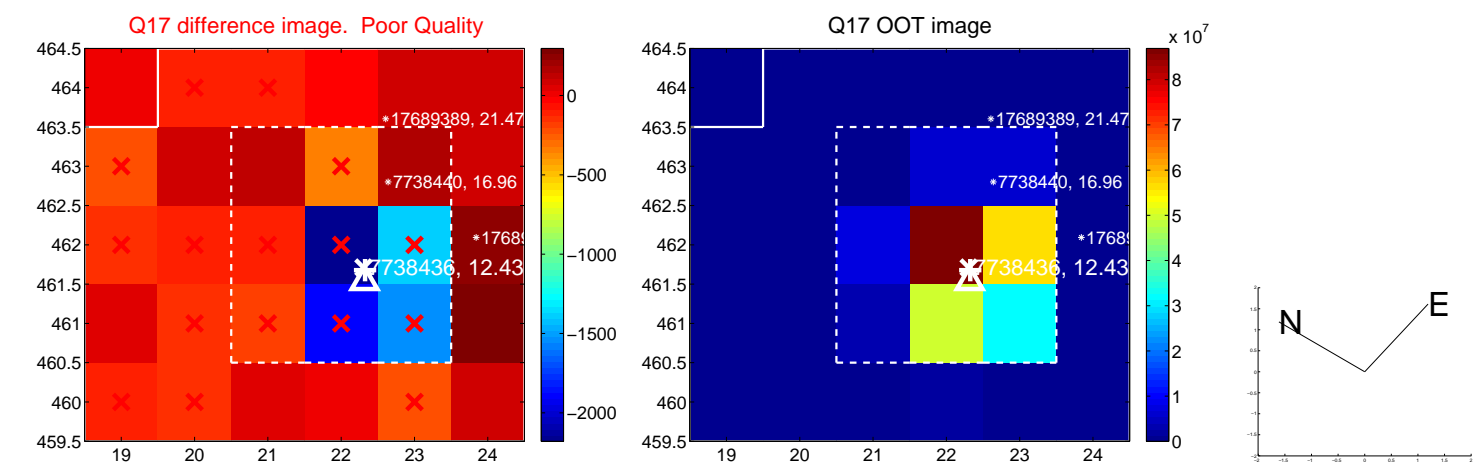
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

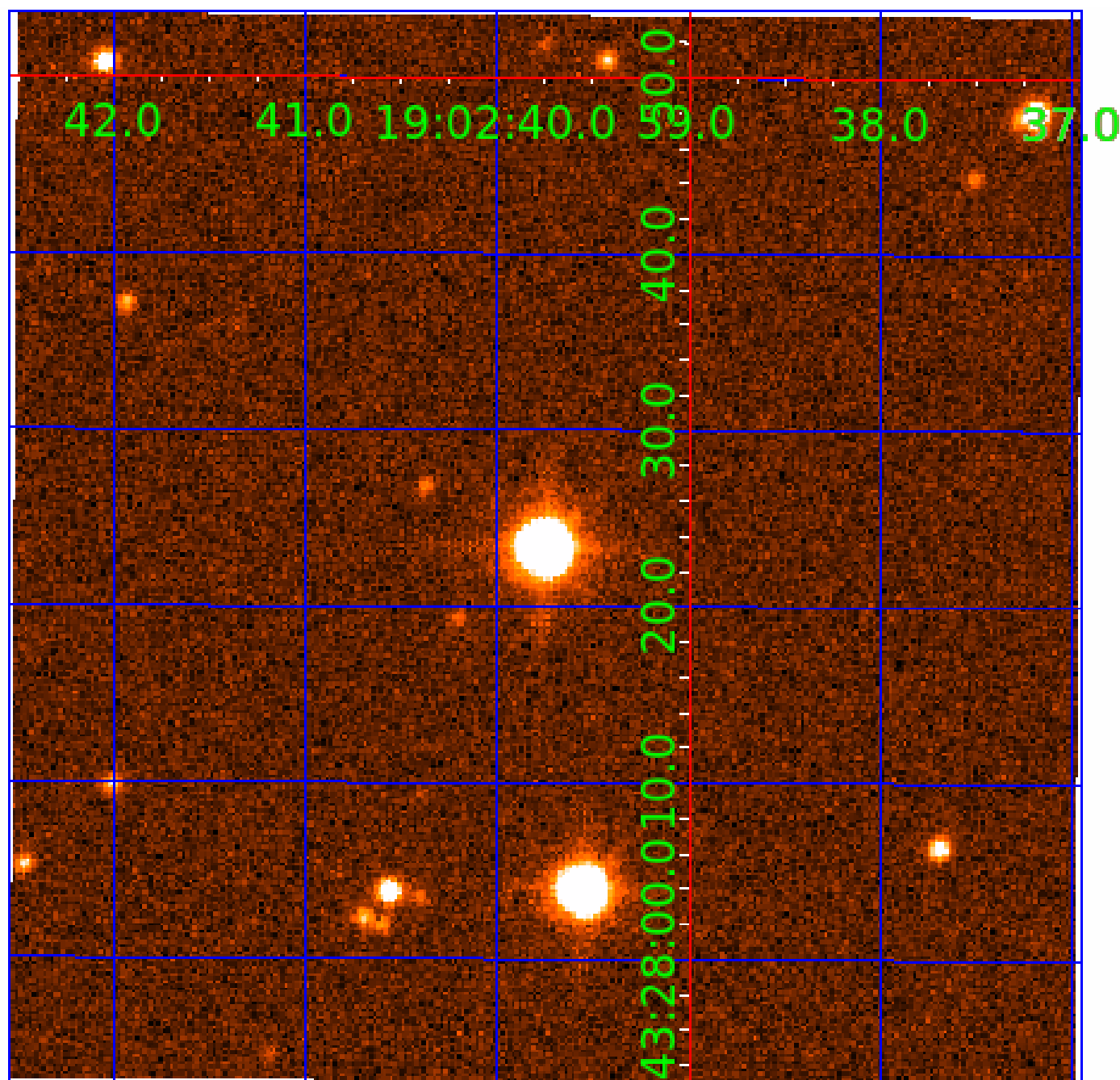


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007738436

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})
007738436-01	OBS	No	0.709121	132.167882	5.6	4.365	9.5	2.3	2.57	7076	0.64	43001.34
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007738436-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
007738436-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES

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

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

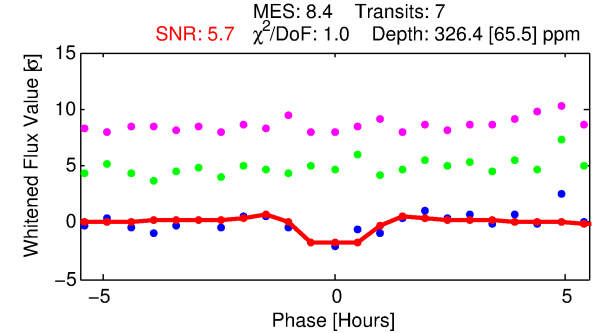
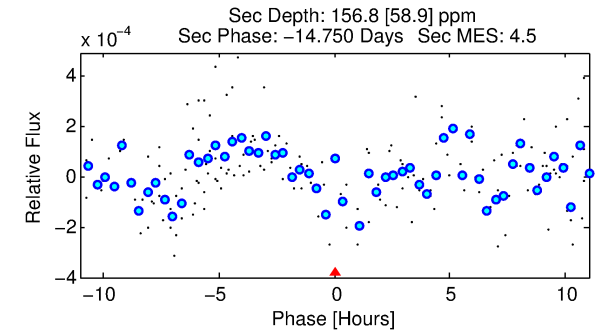
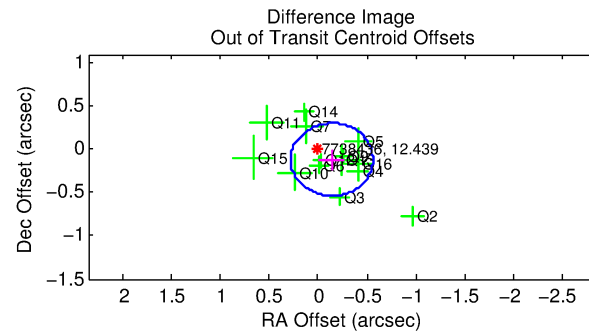
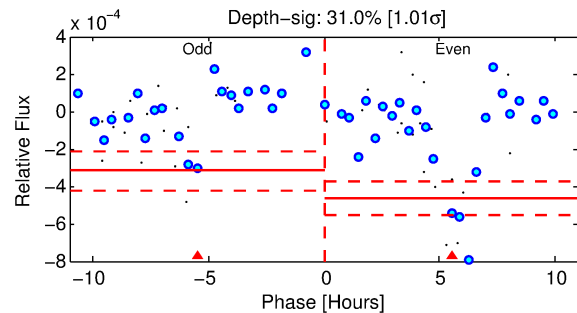
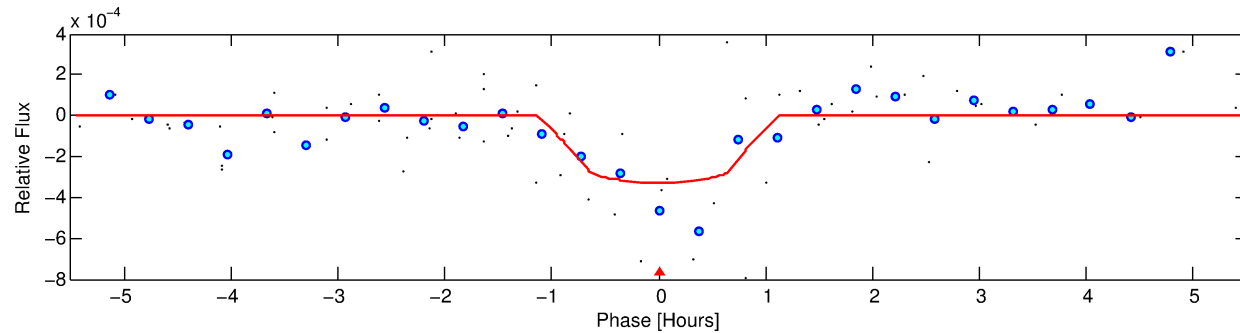
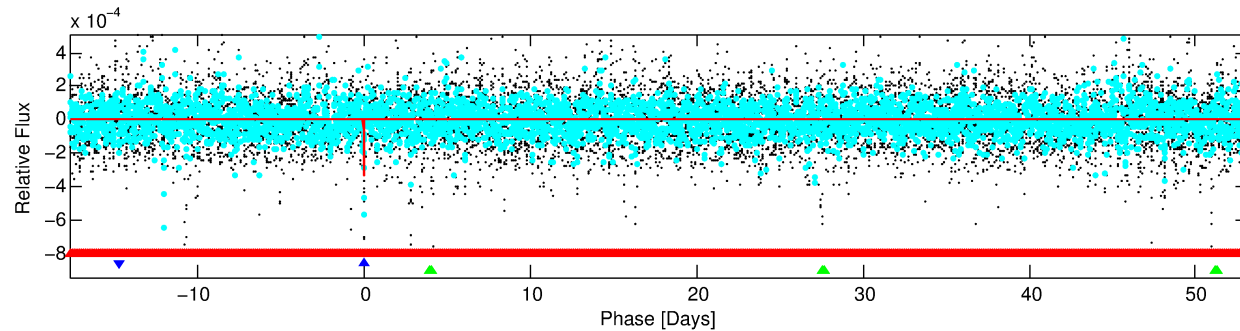
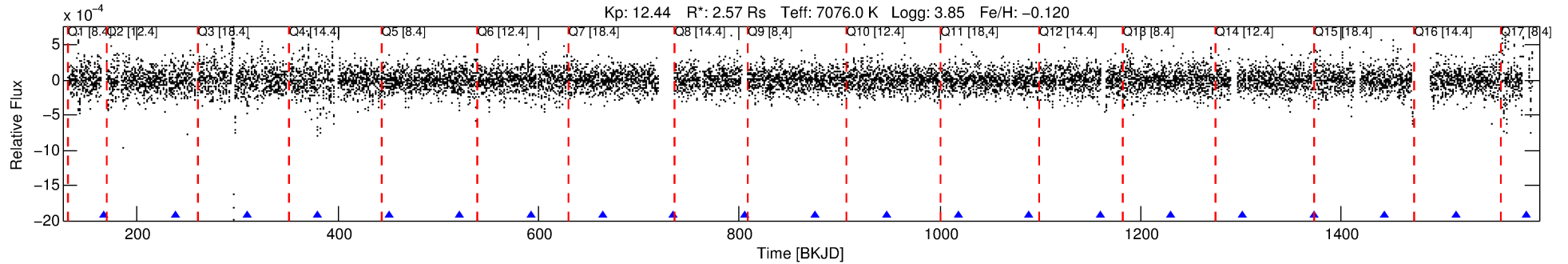
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007738436-02

No Significant Match Found

DV One-Page Summary

KIC: 7738436 Candidate: 2 of 3 Period: 70.872 d



DV Fit Results:

Period = 70.87194 [0.00063] d
Epoch = 167.4141 [0.0053] BKJD
Rp/R* = 0.0176 [0.0208]
a/R* = 227.83 [1482.37]
b = 0.66 [5.57]
Seff = 92.71 [42.36]
Teff = 791 [90] K
Rp = 4.94 [6.02] Re
a = 0.3997 [0.1126] AU
Ag = 565.61 [1374.54] [0.41 σ]
Teffp = 5966 [3571] K [1.45 σ]

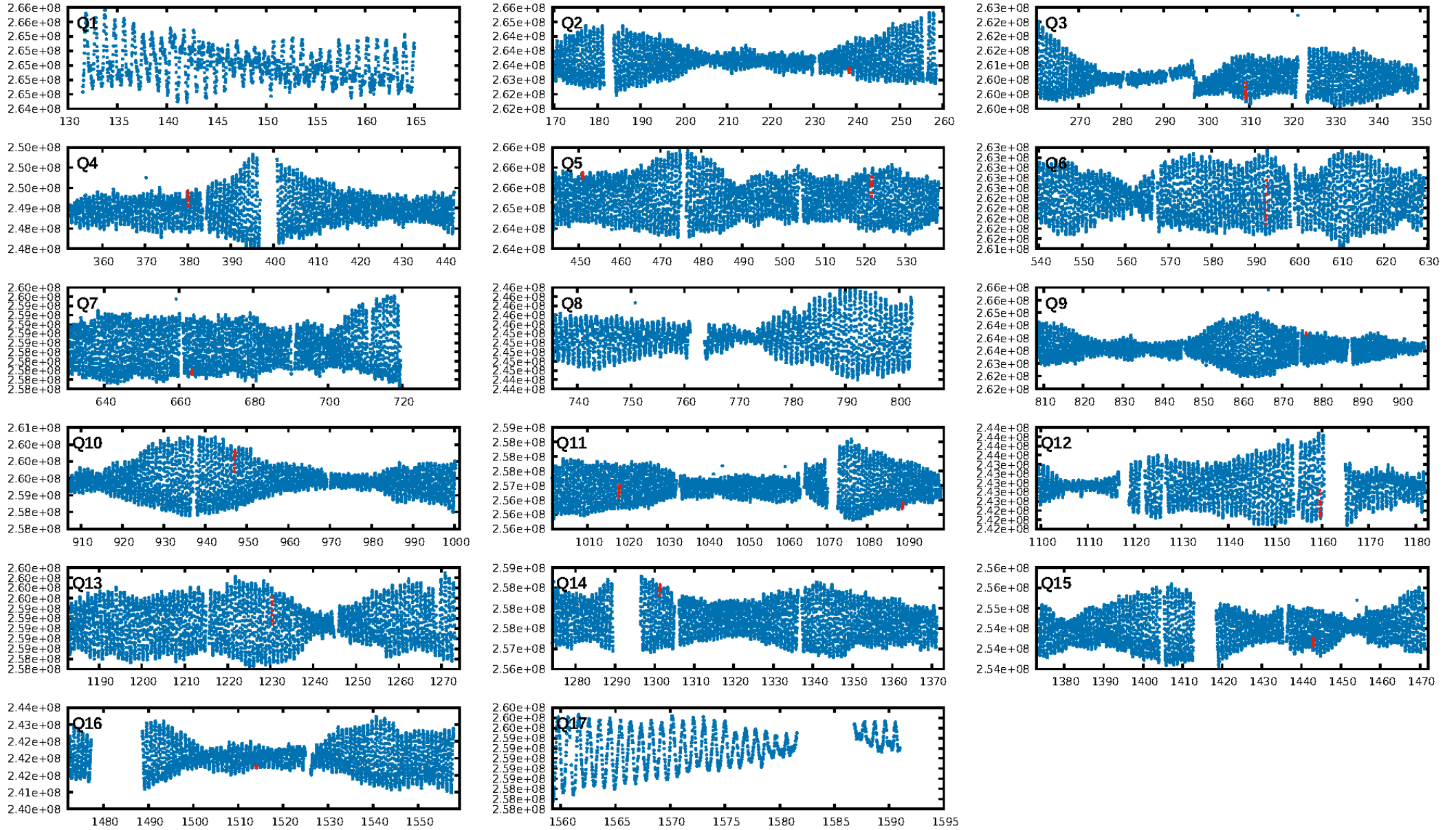
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [355.59 σ]
LongPeriod-sig: 100.0% [322.46 σ]
ModelChiSquare2-sig: 27.4%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 9.64e-10
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 0.6799
Centroid-sig: 23.8%
Centroid-so: 0.574 arcsec [1.18 σ]
OotOffset-rm: 0.182 arcsec [1.30 σ]
KicOffset-rm: 0.299 arcsec [2.36 σ]
OotOffset-st: 4/4/3/3 [14]
KicOffset-st: 4/4/3/3 [14]
DiffImageQuality-fgm: 0.57 [8/14]
DiffImageOverlap-fno: 0.00 [0/14]

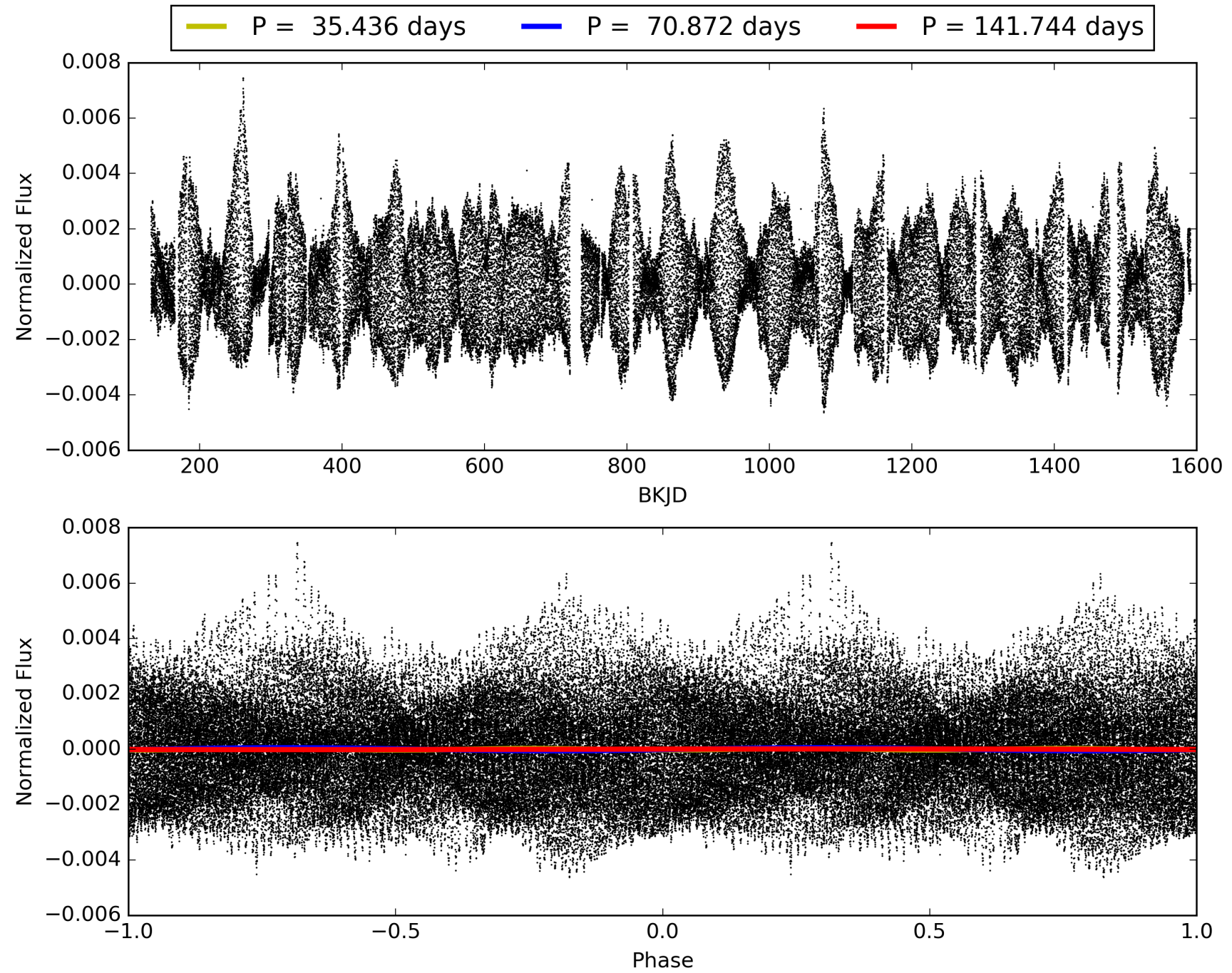
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 10:43:34 Z

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

TCE 007738436-02, PDC Light Curves

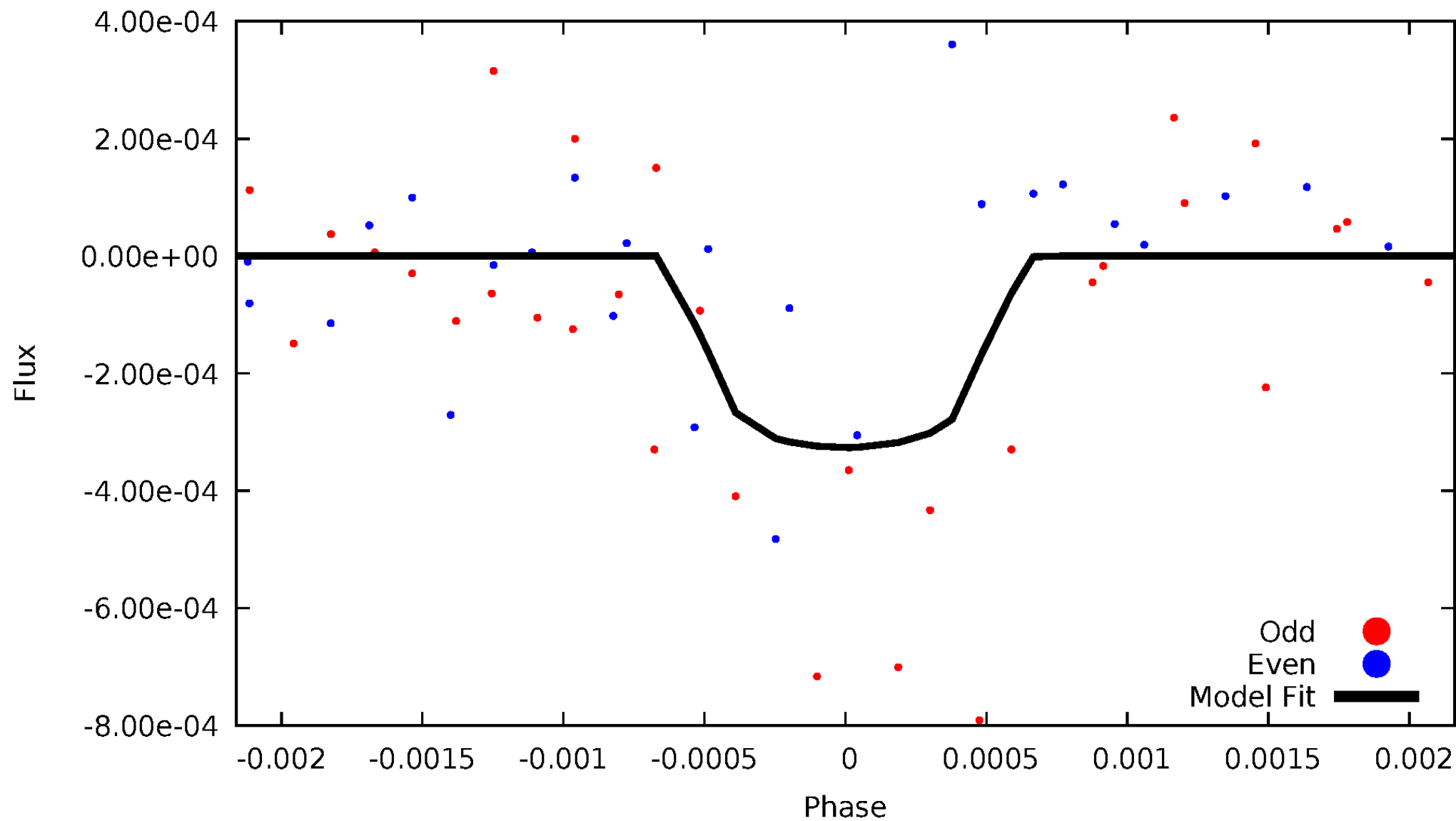


TCE 007738436-02



DV Odd/Even

TCE 007738436-02

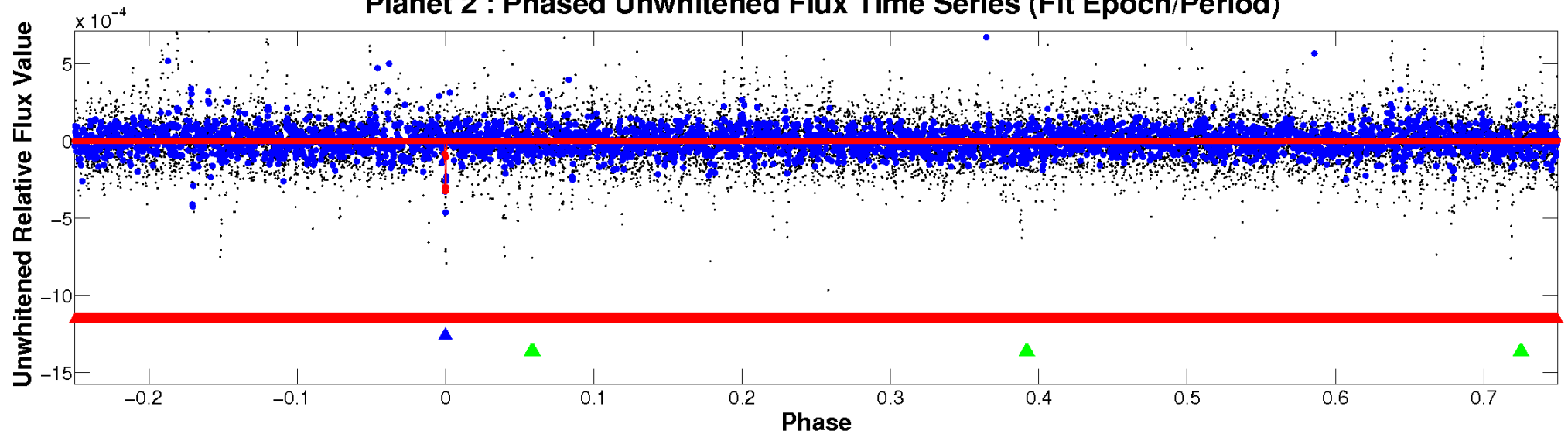


ALT Odd/Even

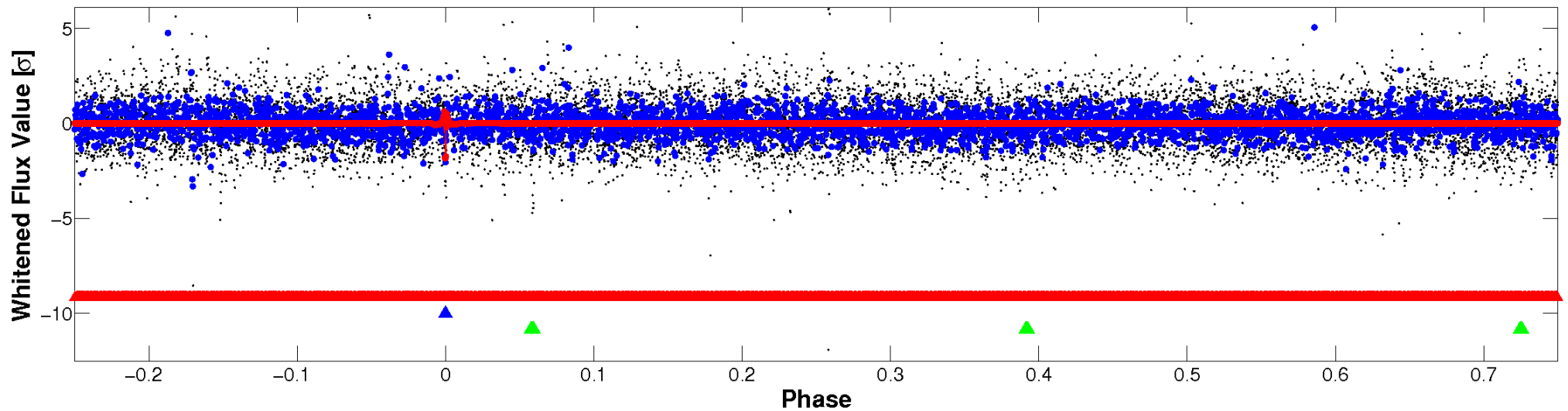
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

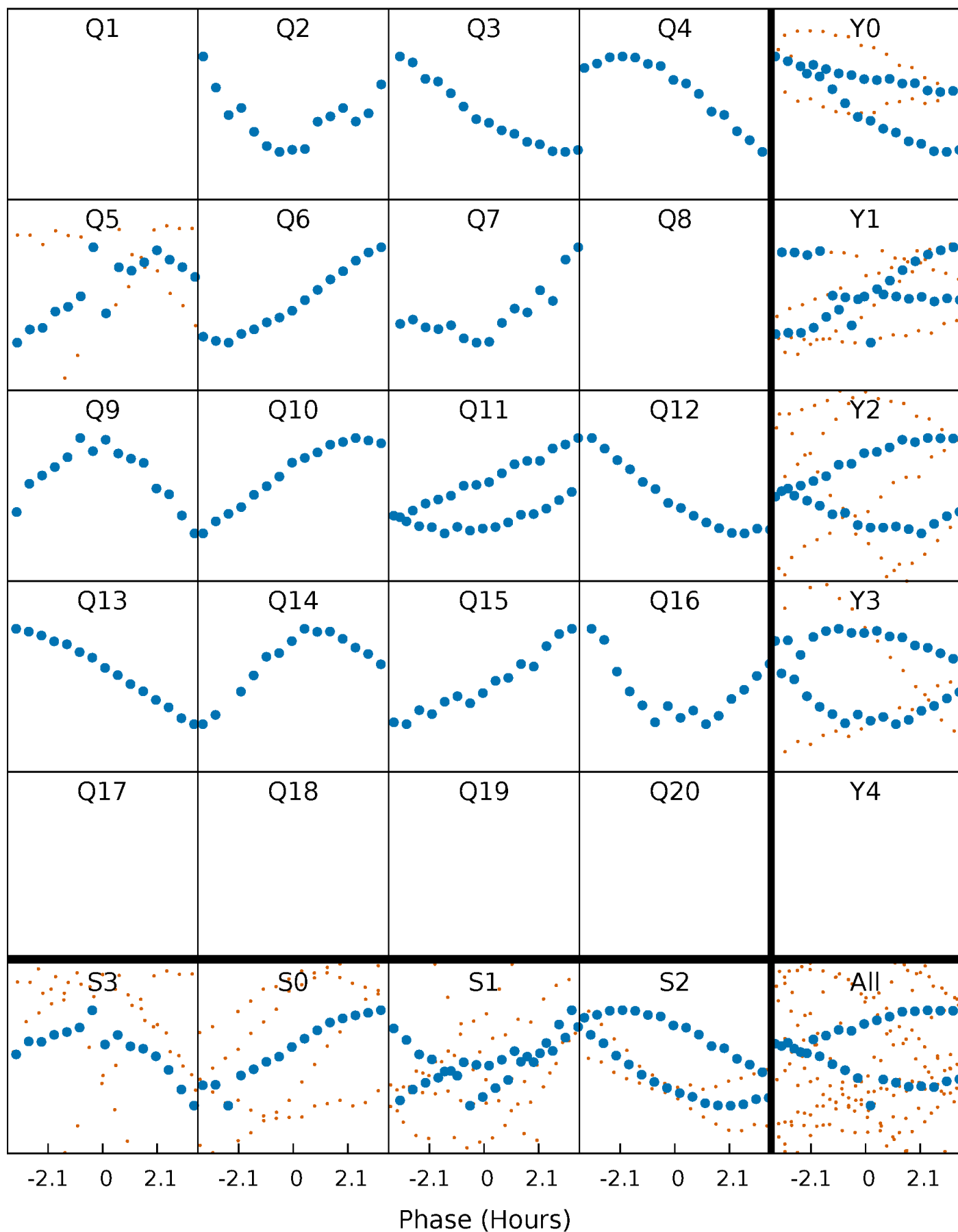


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



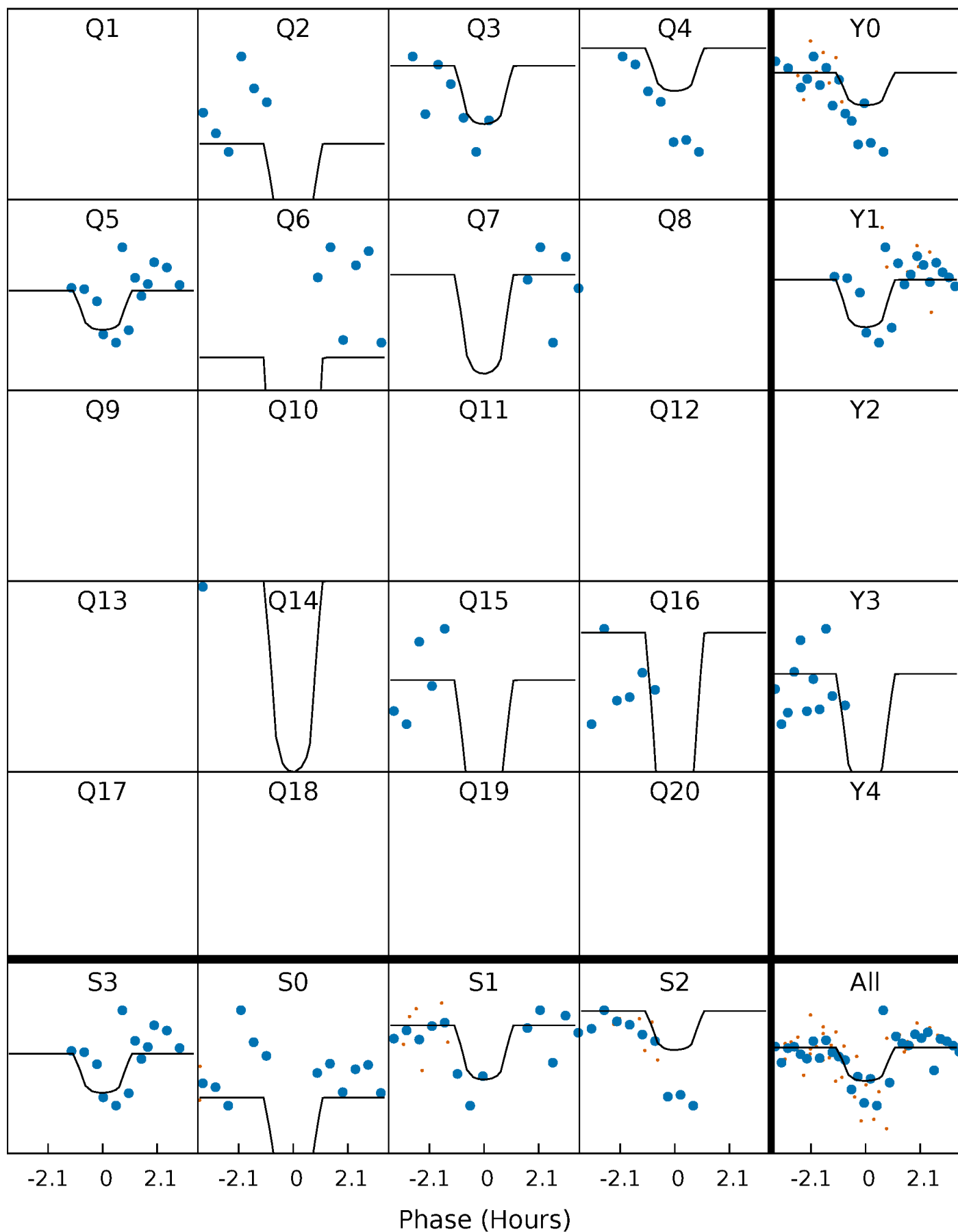
PDC Quarter-Phased Transit Curves

TCE 007738436-02 P= 70.871942 Days $T_0=167.414128$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007738436-02 P= 70.871942 Days $T_0=167.414128$ (BKJD)

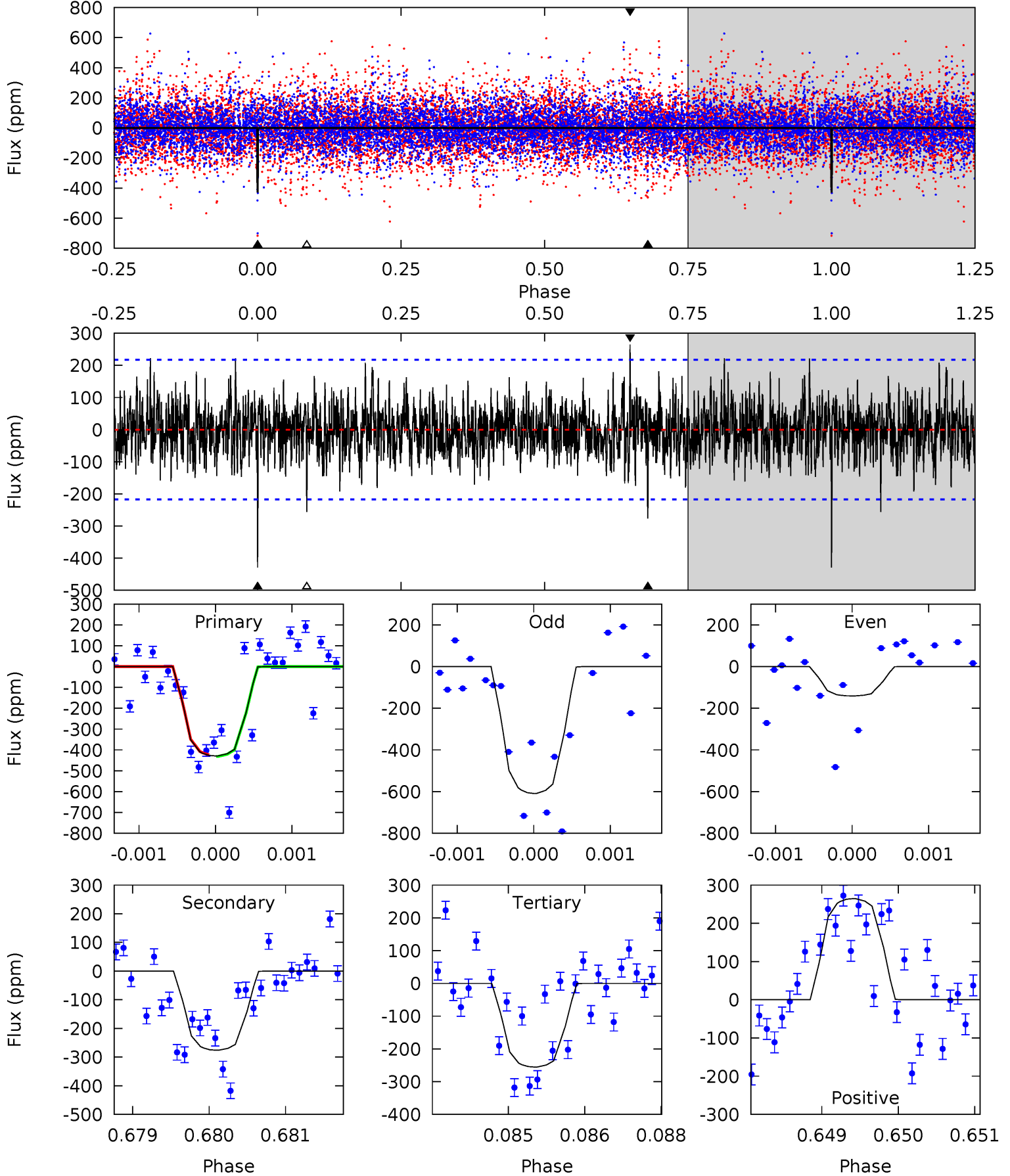


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

007738436-02, P = 70.871942 Days, E = 96.542186 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	6.88	6.37	6.60	5.42	3.24	1.56	4.32	4.09	0.52	0.29	6.12	0.86	0.38	0.10



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 007738436

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7076^{+190}_{-232}	$3.848^{+0.252}_{-0.108}$	$-0.120^{+0.300}_{-0.300}$	$2.568^{+0.460}_{-0.789}$	$1.694^{+0.172}_{-0.320}$	$0.141^{+0.231}_{-0.049}$
	+3%/-3%	+7%/-3%	+250%/-250%	+18%/-31%	+10%/-19%	+164%/-35%
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 007738436-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-276 ± 40	$5.90^{+5.00}_{-3.64}$	1089^{+63}_{-85}	6043^{+4571}_{-1433}	684^{+3761}_{-486}
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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

DV Centroid Data

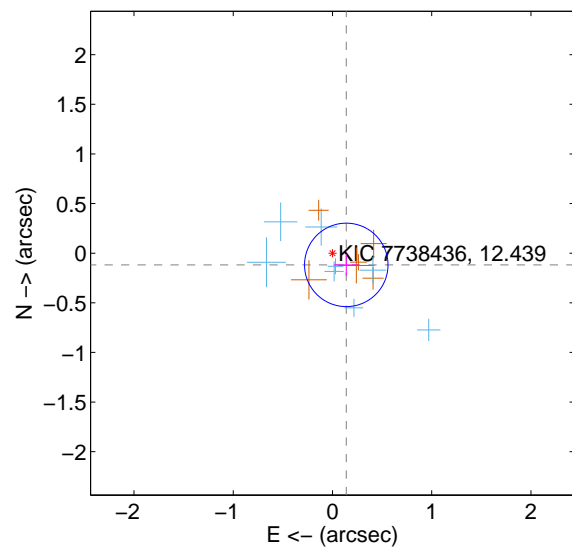
Supplemental centroid analysis for 007738436-02. Kepler magnitude: 12.44. Transit SNR 5.67

There are 8 quarters with good PRF difference image offsets

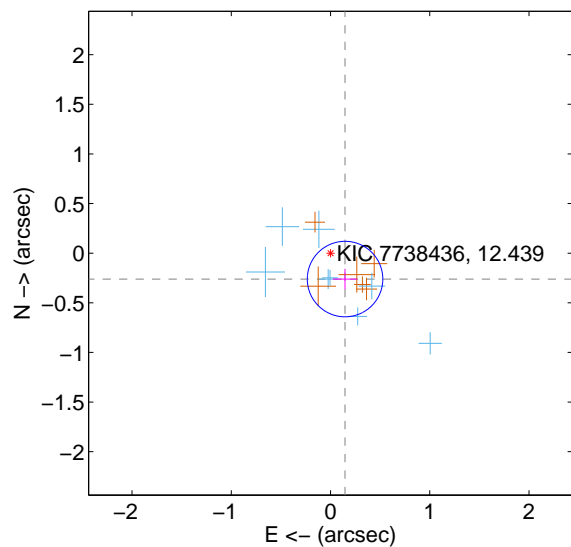
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.182 ± 0.140	1.30	-0.139 ± 0.126	-0.118 ± 0.107
PRF-fit source offset from KIC position	0.299 ± 0.127	2.36	-0.146 ± 0.123	-0.261 ± 0.103
photometric centroid source offset	0.57 ± 0.49	1.18	0.55 ± 0.48	-0.16 ± 0.54

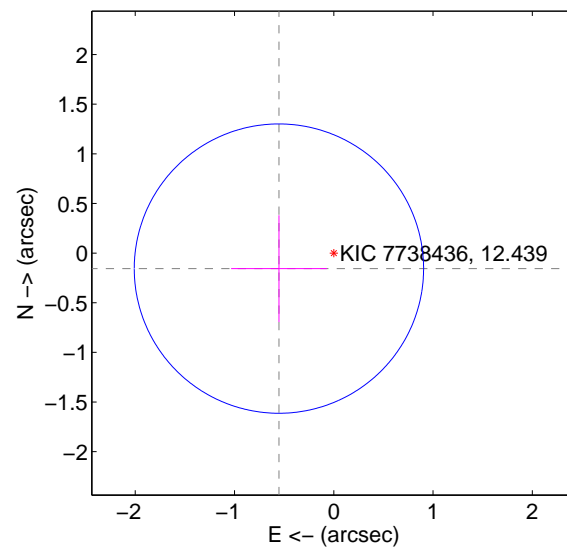
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

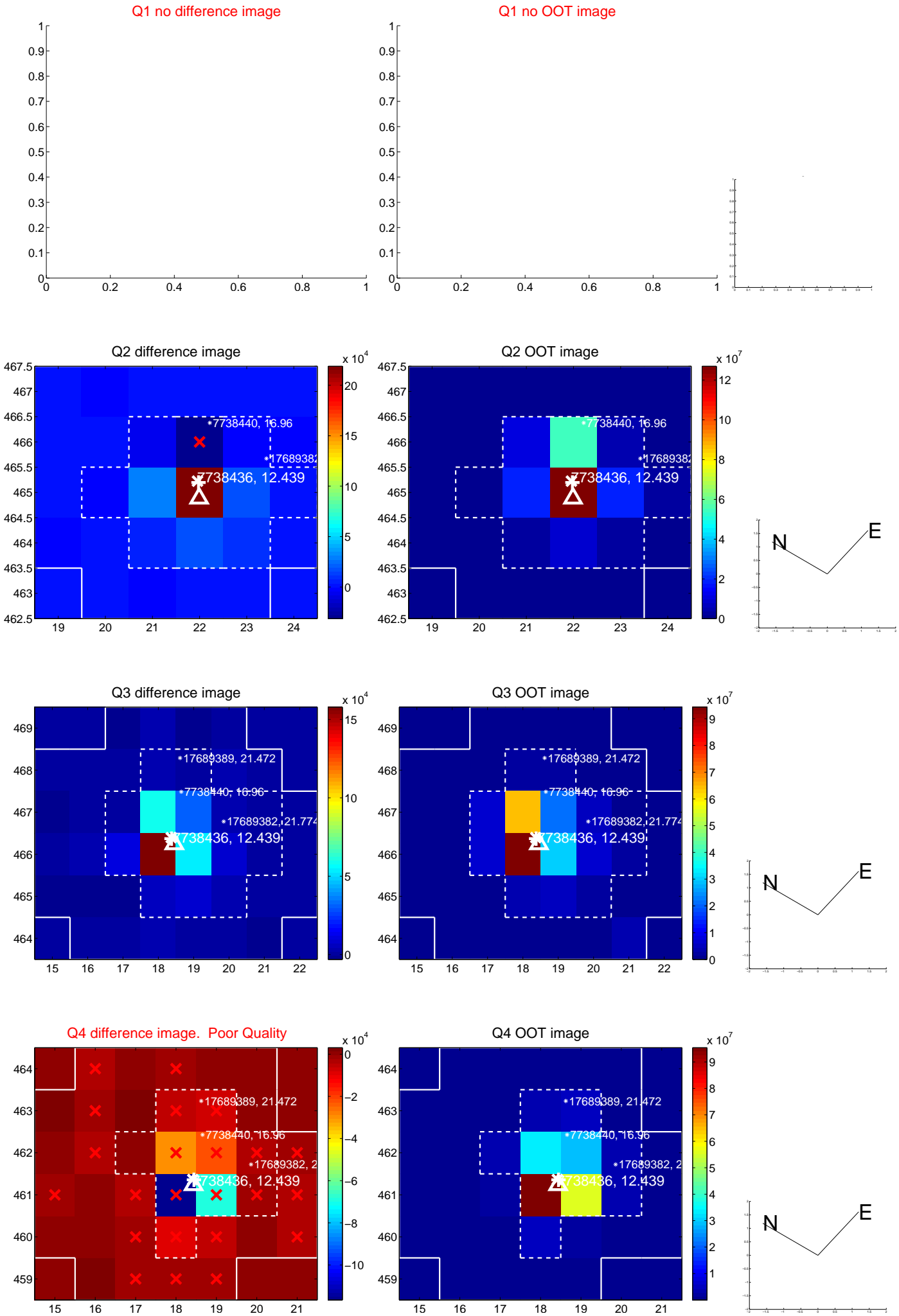


offset from photometric centroids

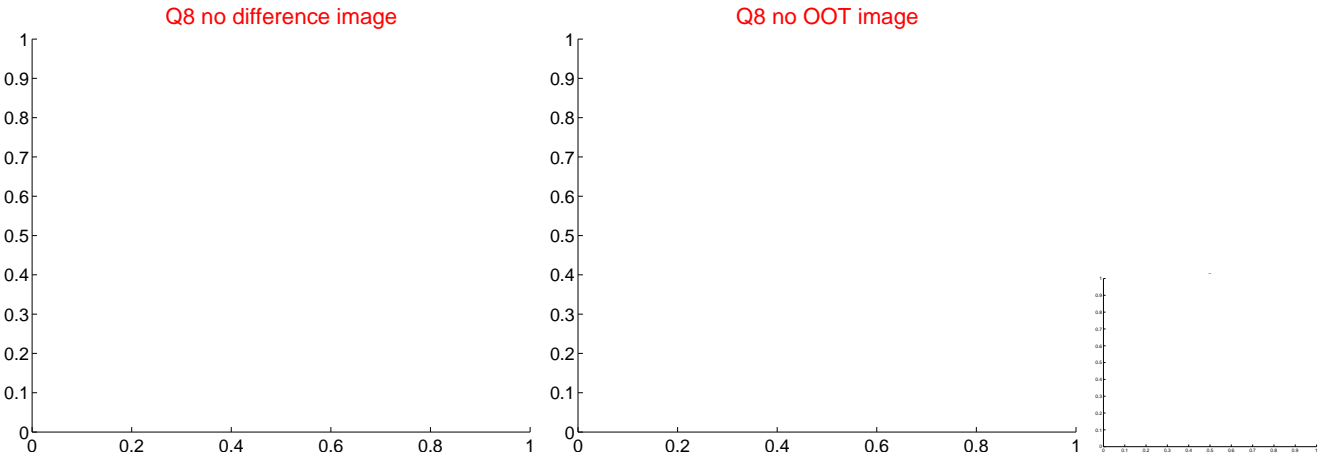
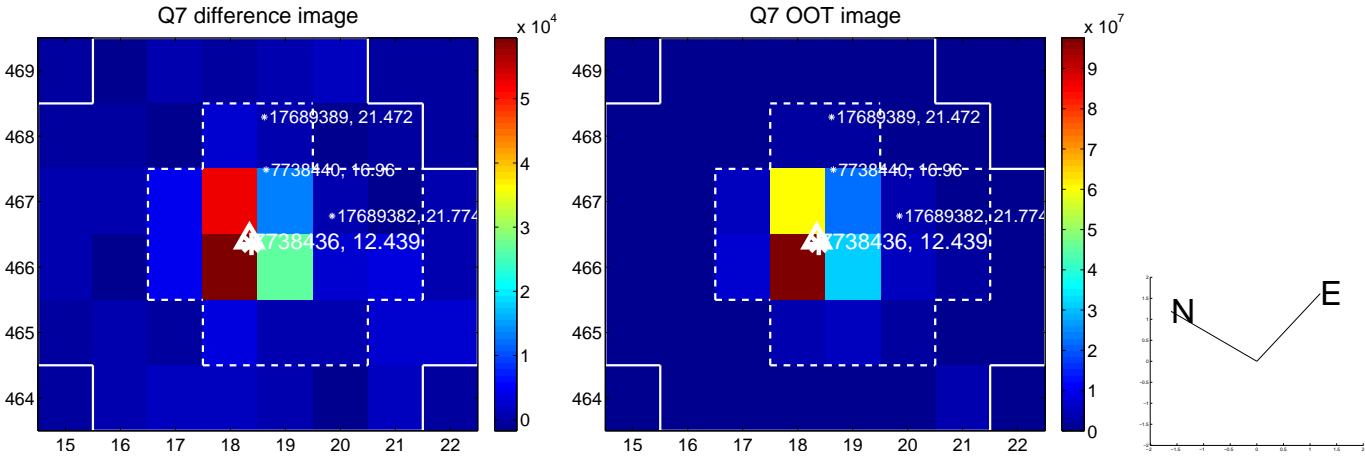
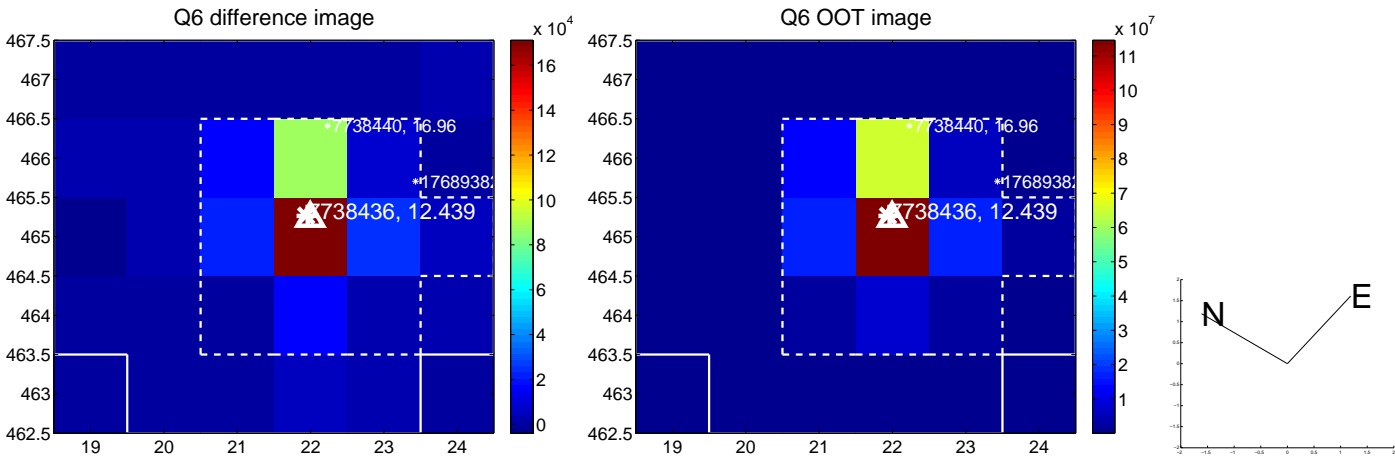
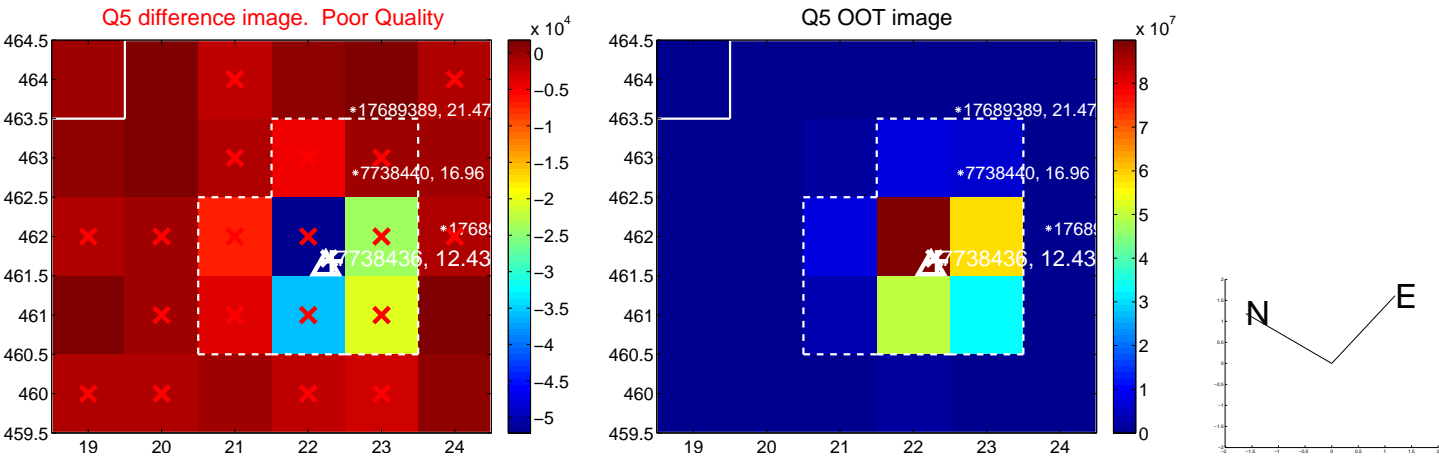


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

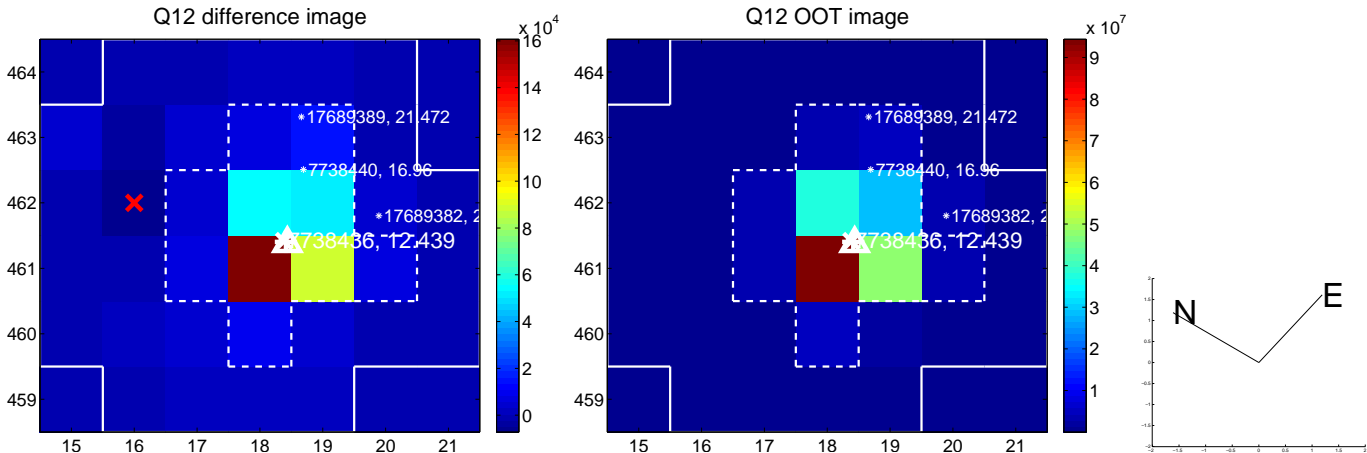
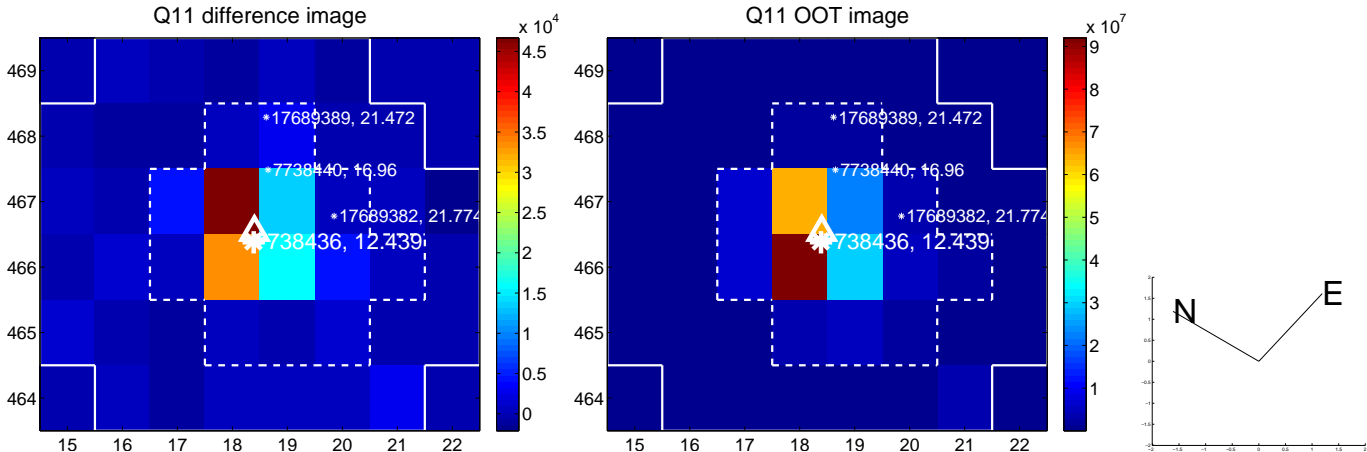
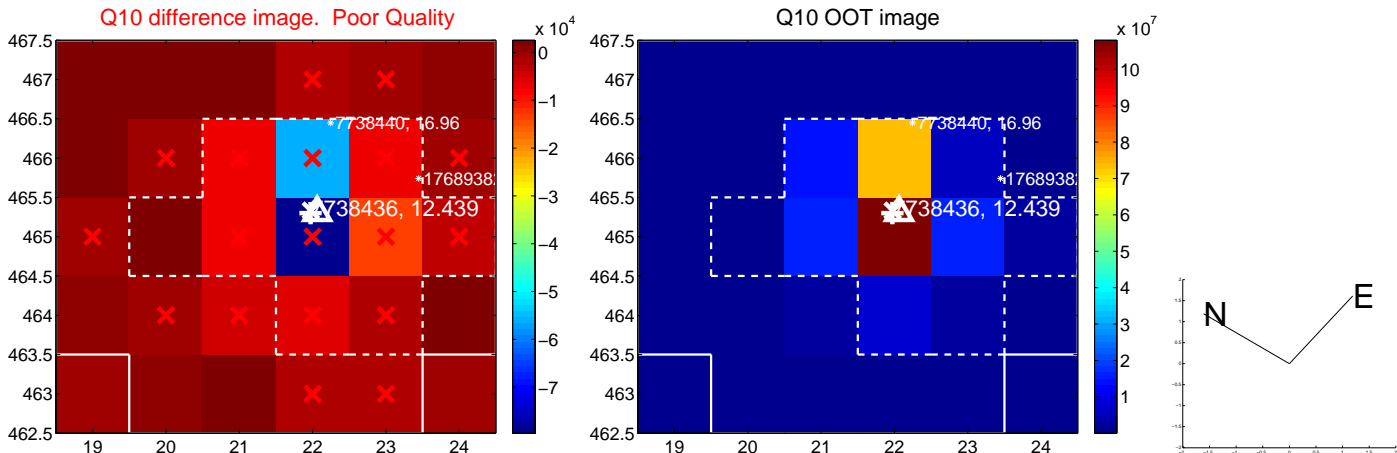
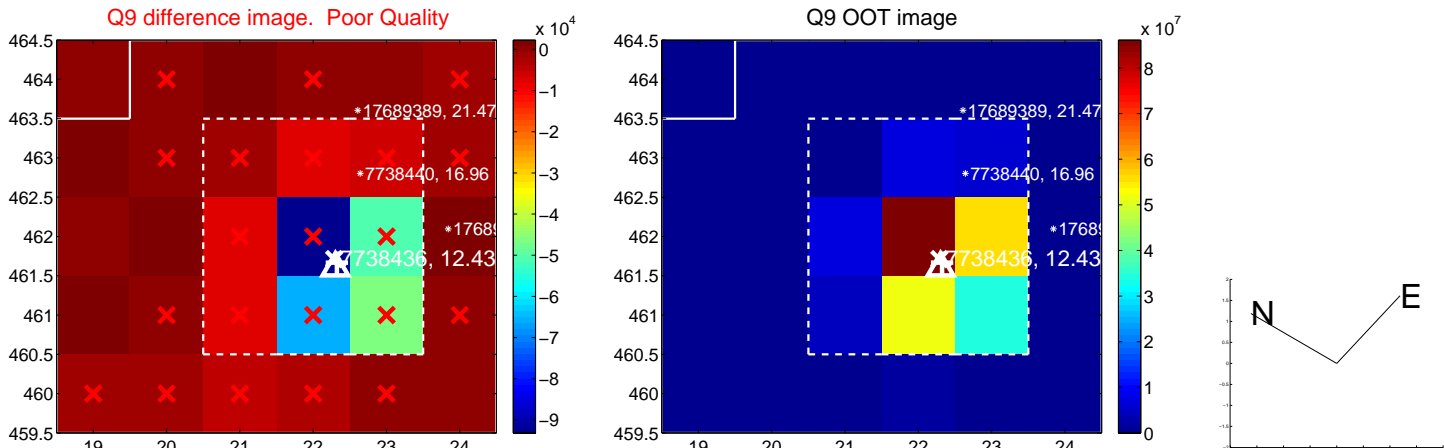
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



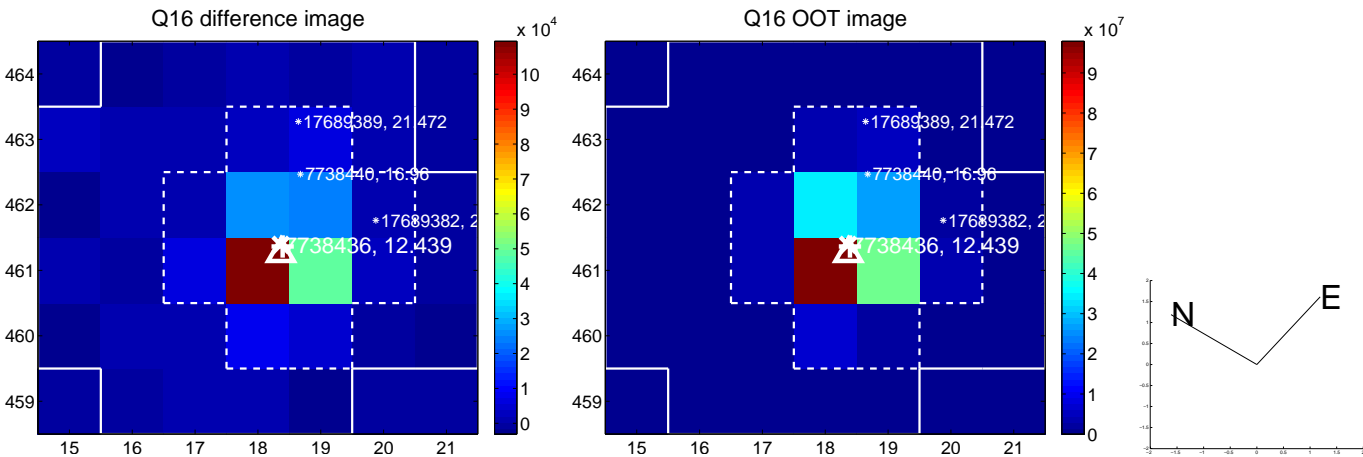
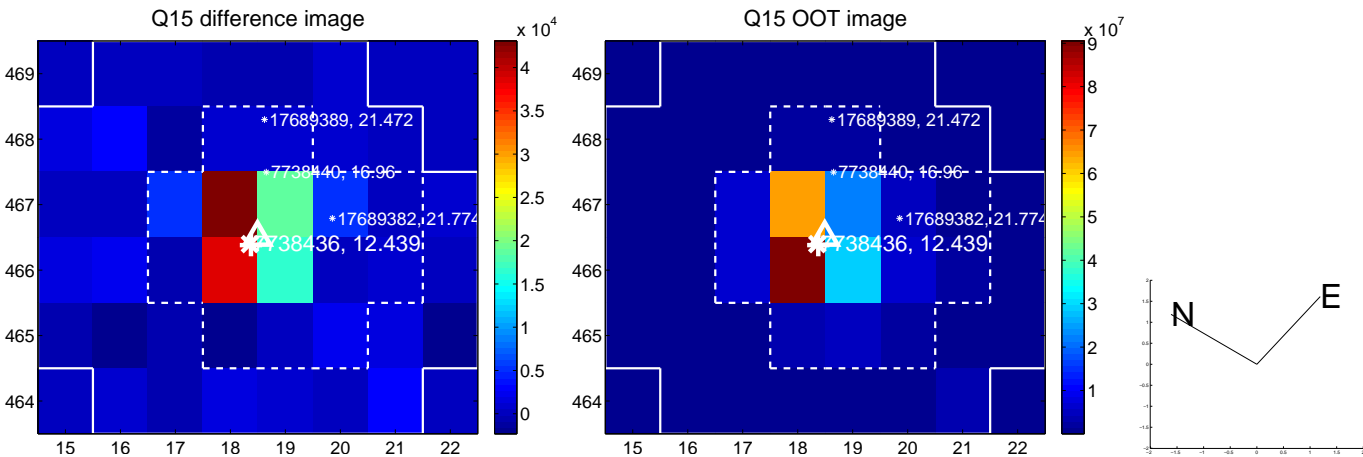
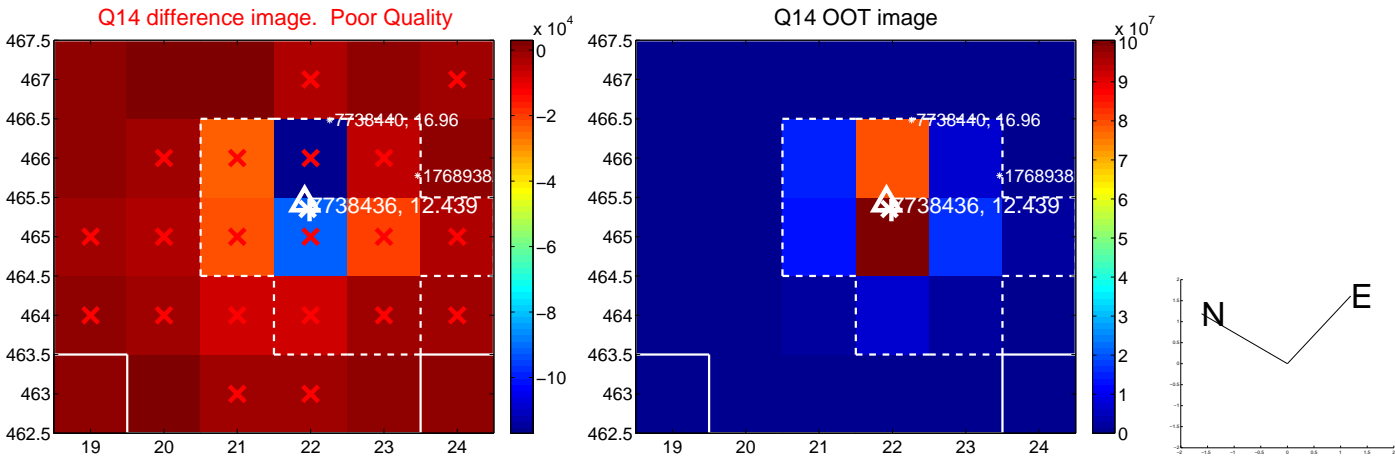
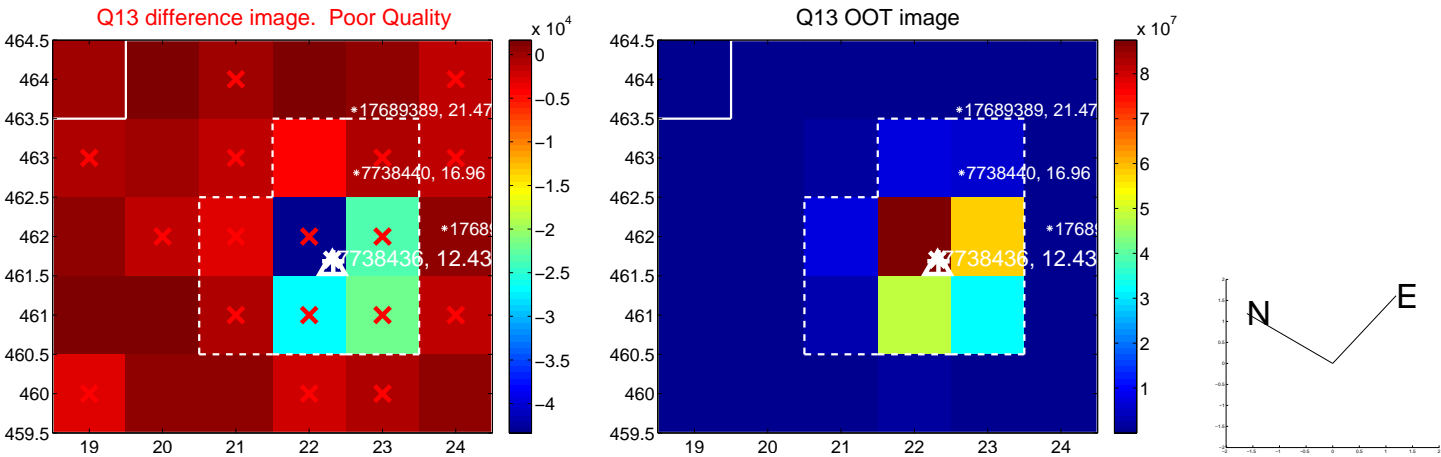
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



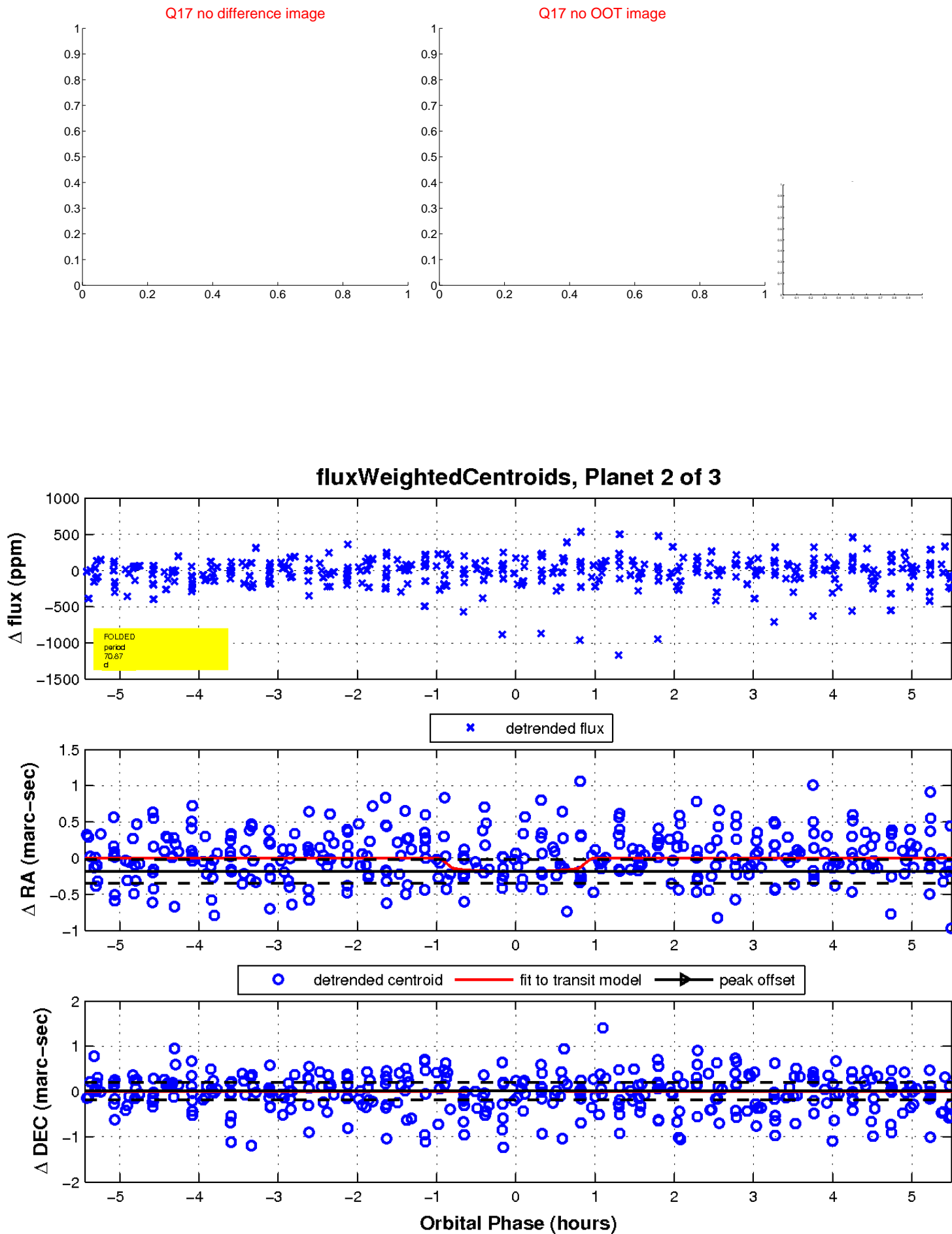
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

