

KIC 010322473

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})
010322473-01	OBS	No	1.227881	132.589613	0.0	9.264	8.8	0.0	2.01	7199	0.02	14103.56
010322473-02	OBS	No	10.768014	133.877417	196.8	1.237	9.6	9.5	2.01	7199	2.86	779.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010322473-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
010322473-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—HALO_GHOST

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

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

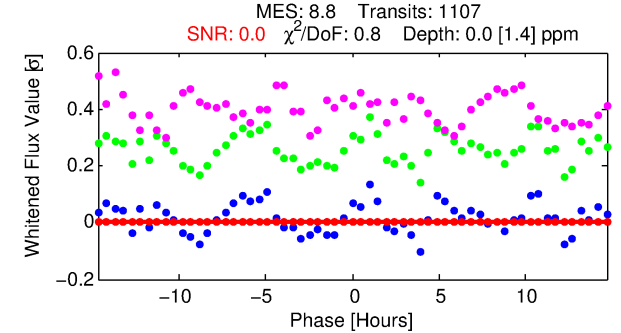
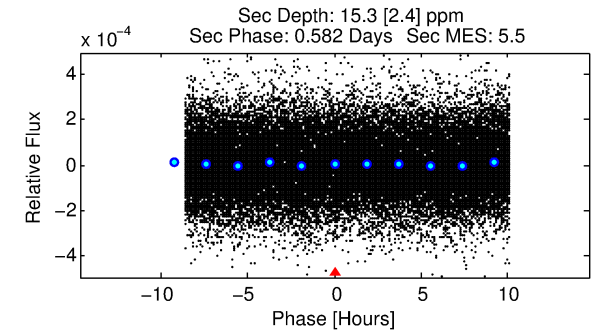
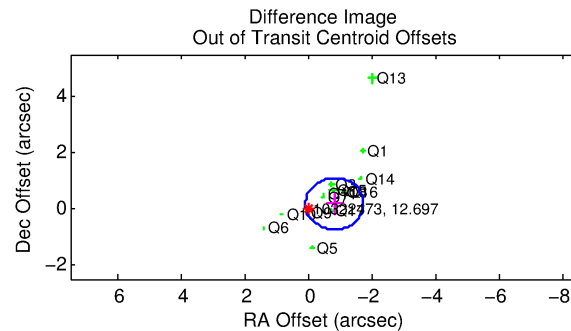
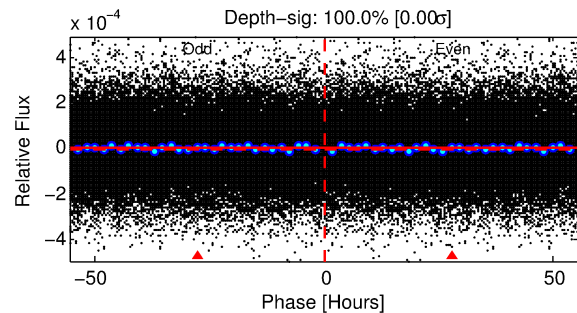
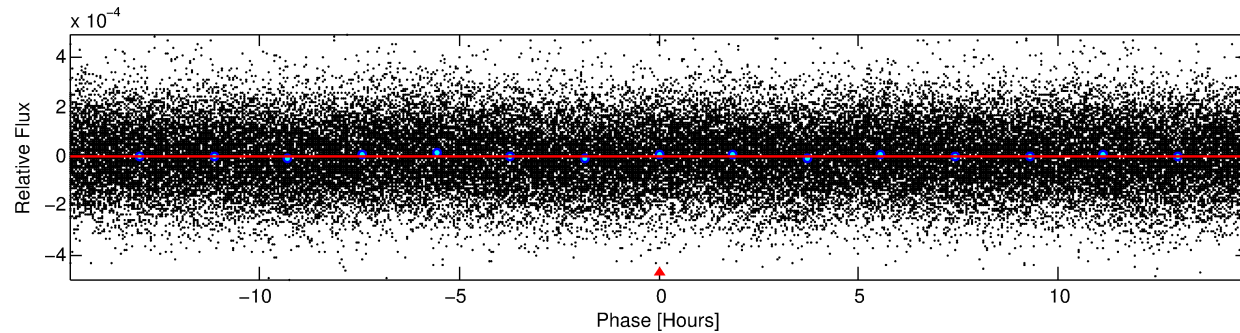
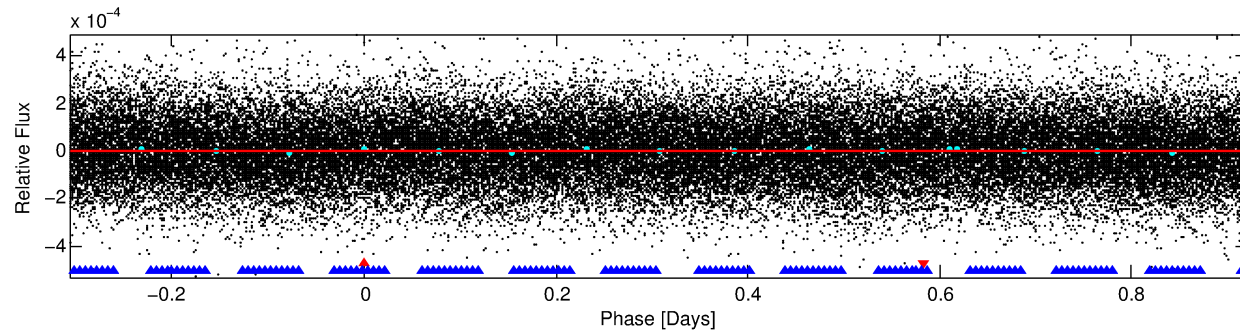
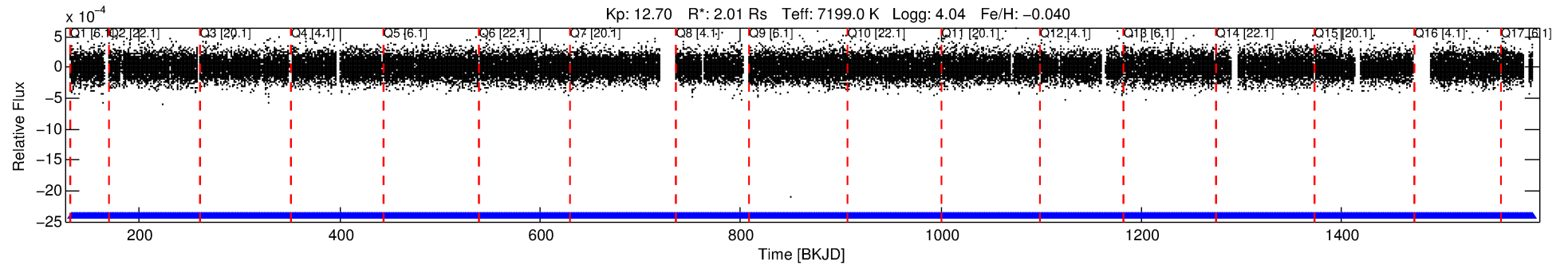
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010322473-01

No Significant Match Found

DV One-Page Summary

KIC: 10322473 Candidate: 1 of 2 Period: 1.228 d



DV Fit Results:

Period = 1.22788 [0.03928] d
Epoch = 132.5896 [11.4622] BKJD
Rp/R* = 0.0001 [0.0079]
a/R* = 1.15 [19.42]
b = 0.50 [103.69]
Seff = 14103.56 [5732.79]
Teq = 2779 [282] K
Rp = 0.02 [1.73] Re
a = 0.0262 [0.0064] AU
Ag = 18823.07 [3707456.88] [0.01]
Teffp = 50324 [2478114] K [0.02]

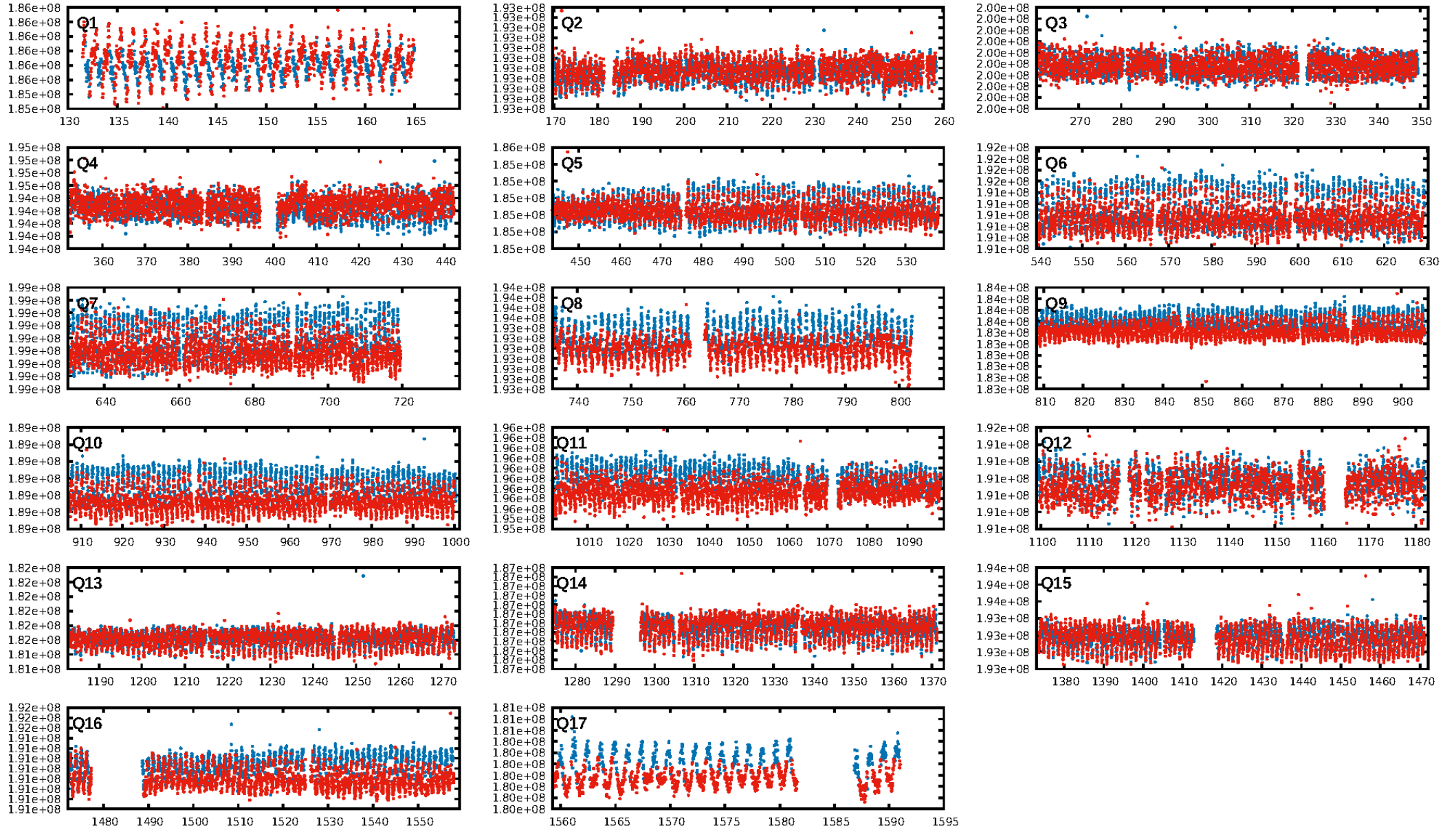
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [24.5 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.27e-39
RollingBand-fgt: 1.00 [1057/1057]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.830 arcsec [2.72 σ]
KicOffset-rm: 0.716 arcsec [2.51 σ]
OotOffset-st: 3/4/2/5 [14]
KicOffset-st: 3/4/2/5 [14]
DiffImageQuality-fgm: 0.79 [11/14]
DiffImageOverlap-fno: 1.00 [17/17]

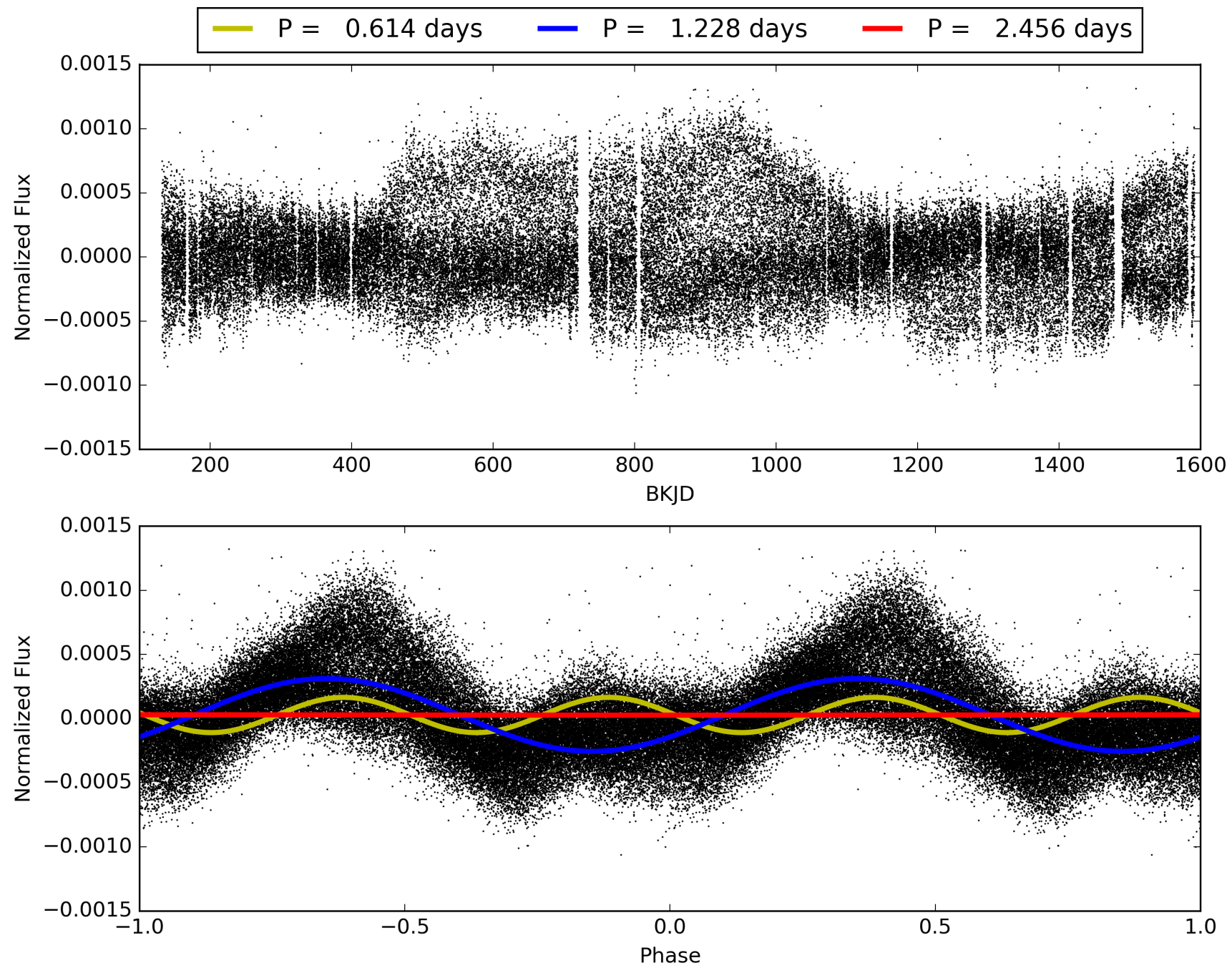
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 12:49:12 Z

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

TCE 010322473-01, PDC Light Curves

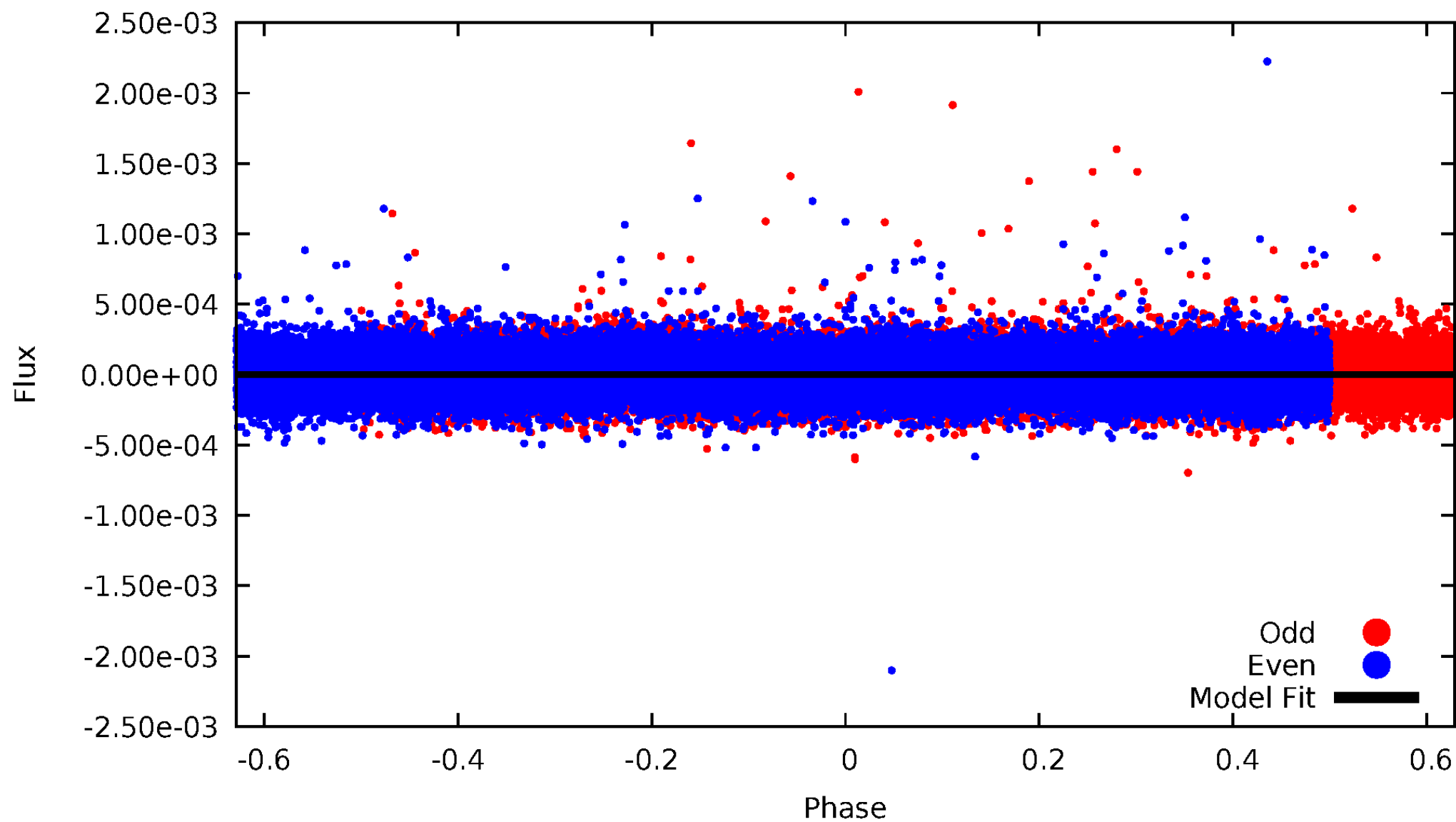


TCE 010322473-01



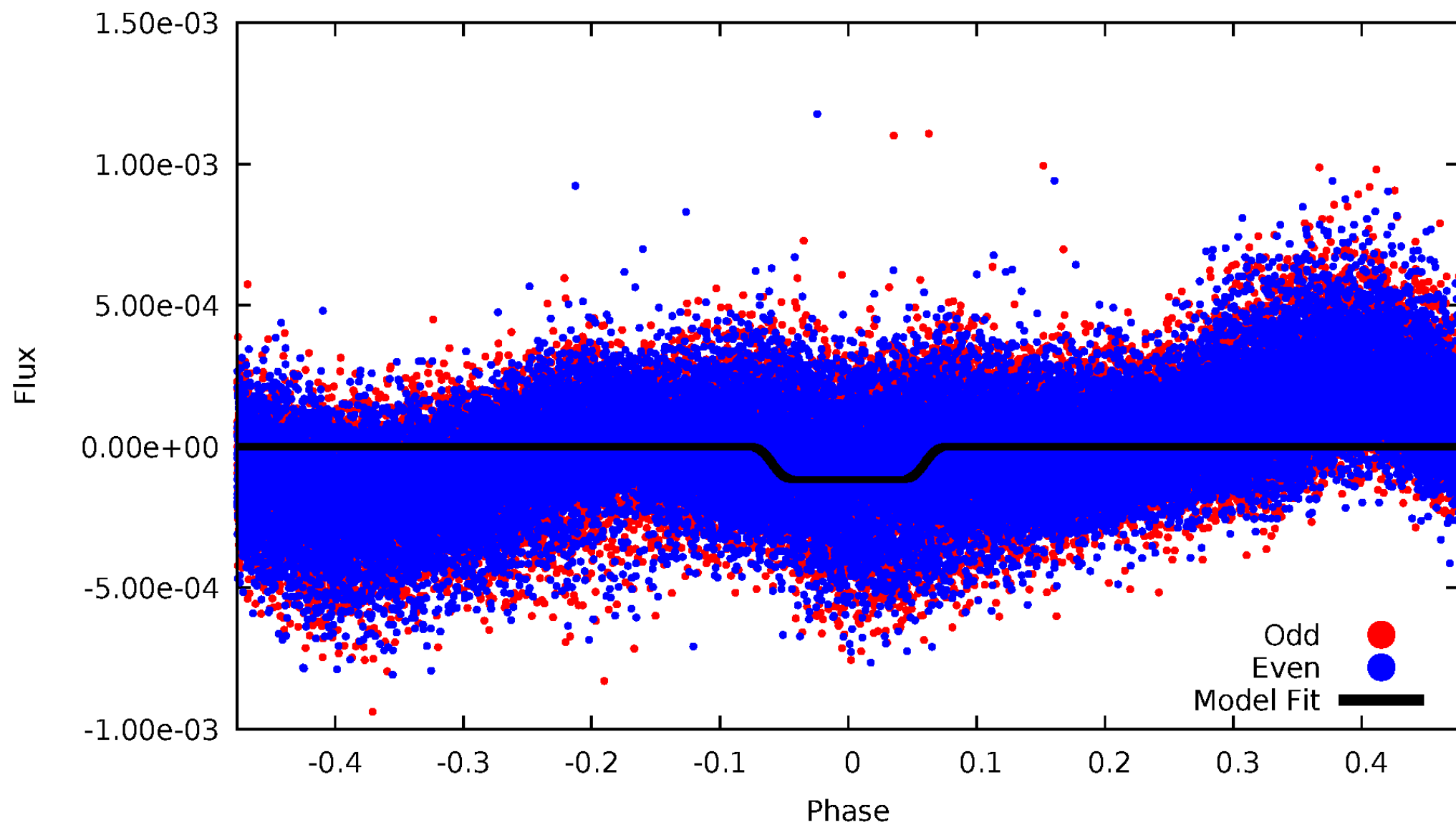
DV Odd/Even

TCE 010322473-01

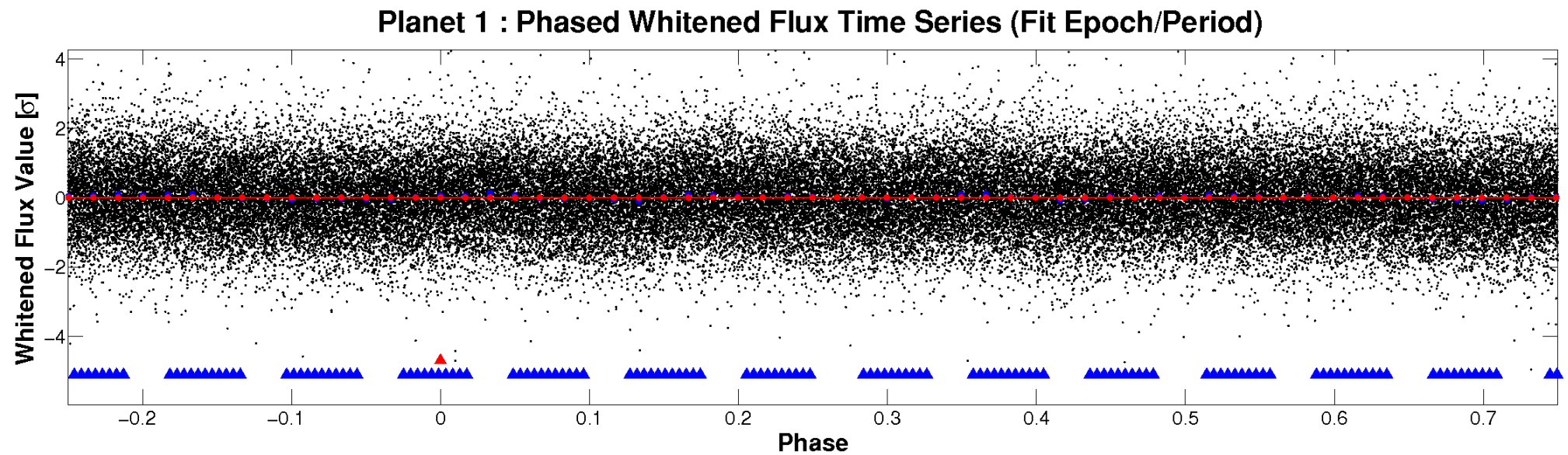
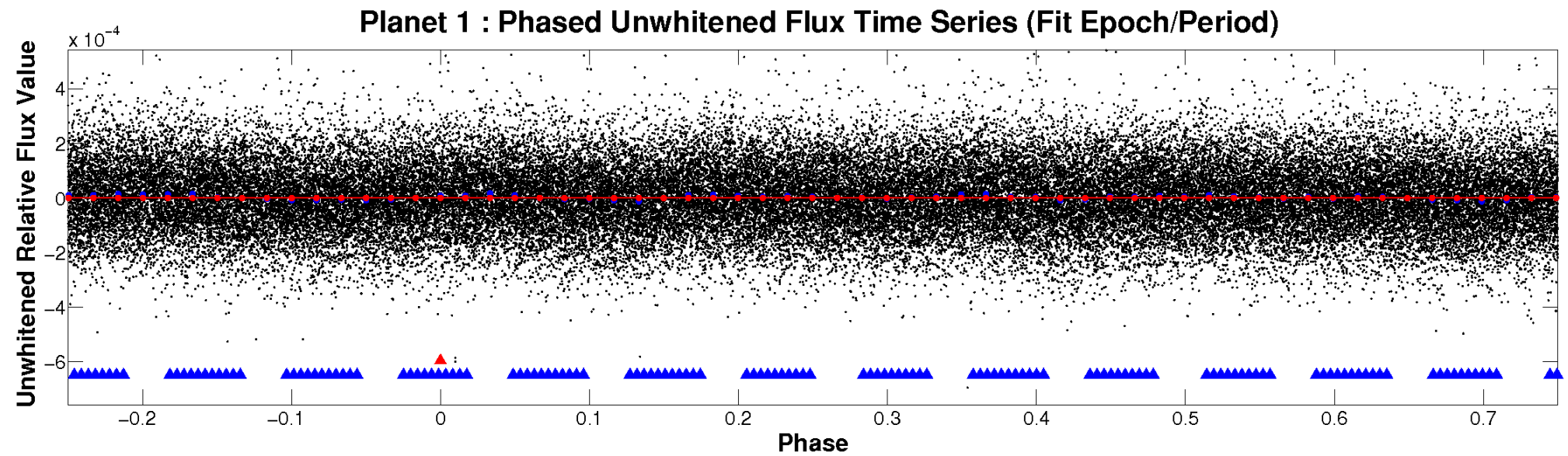


ALT Odd/Even

TCE 010322473-01

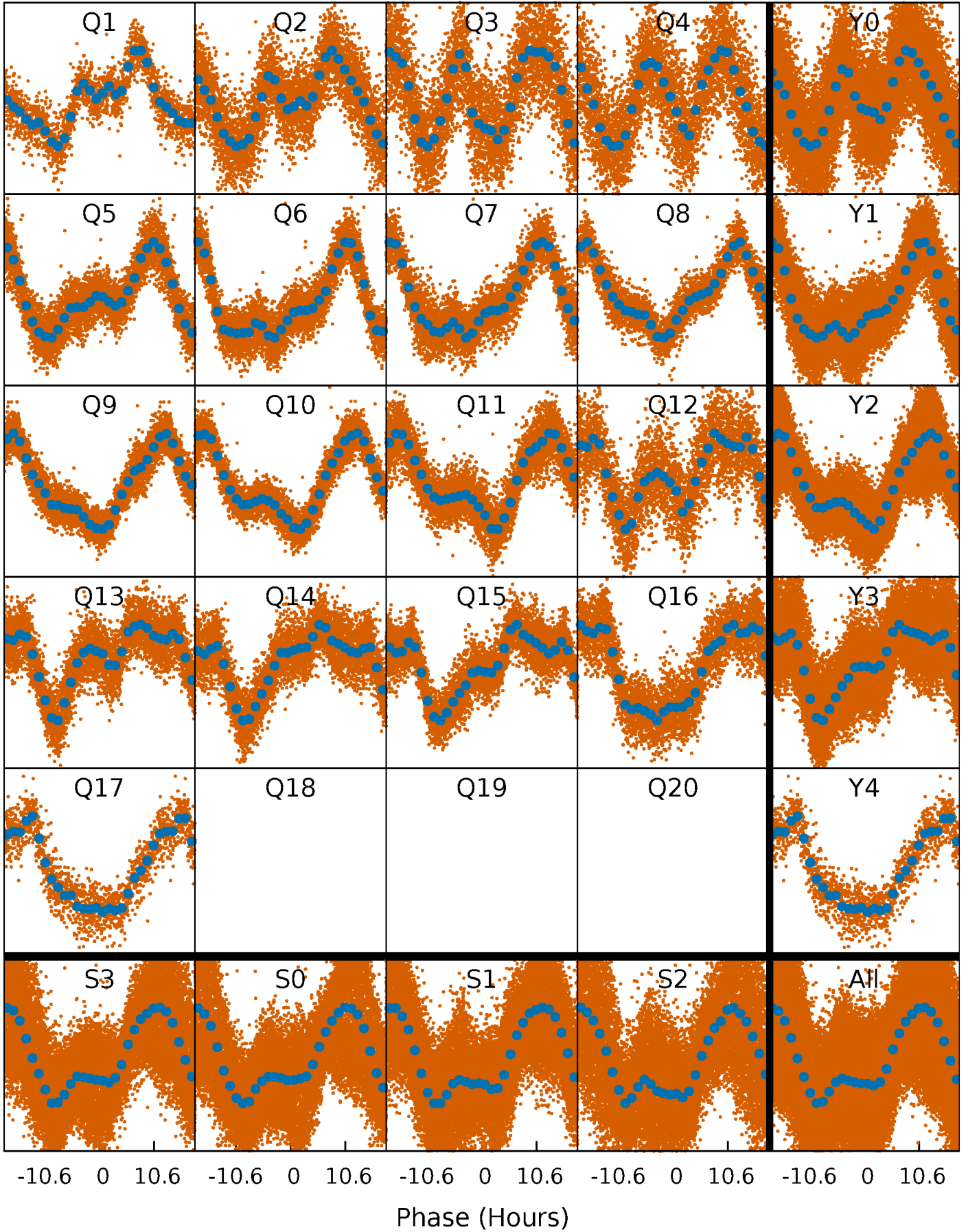


Non-Whitened Vs. Whitened Light Curve



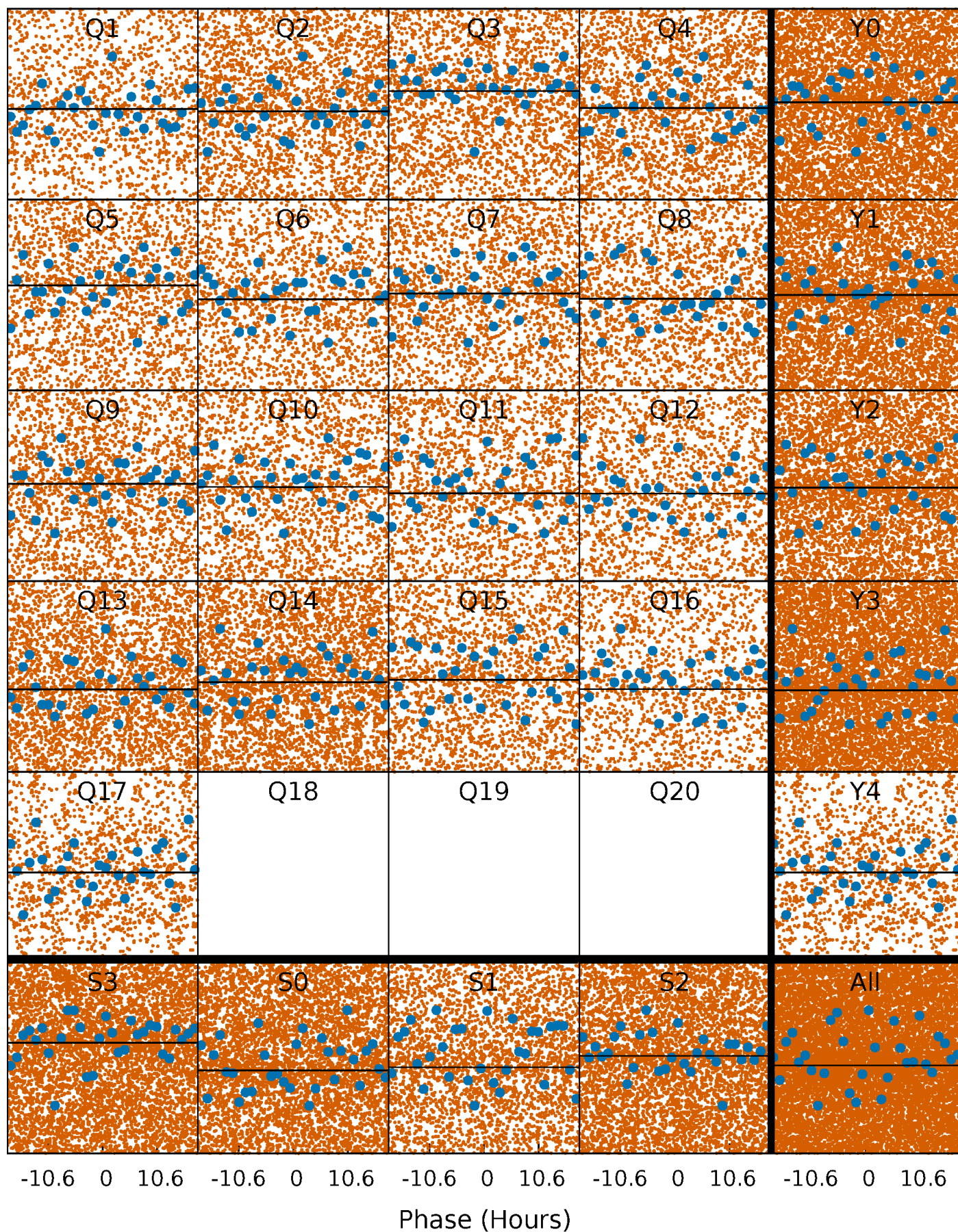
PDC Quarter-Phased Transit Curves

TCE 010322473-01 P= 1.227881 Days $T_0=132.589613$ (BKJD)



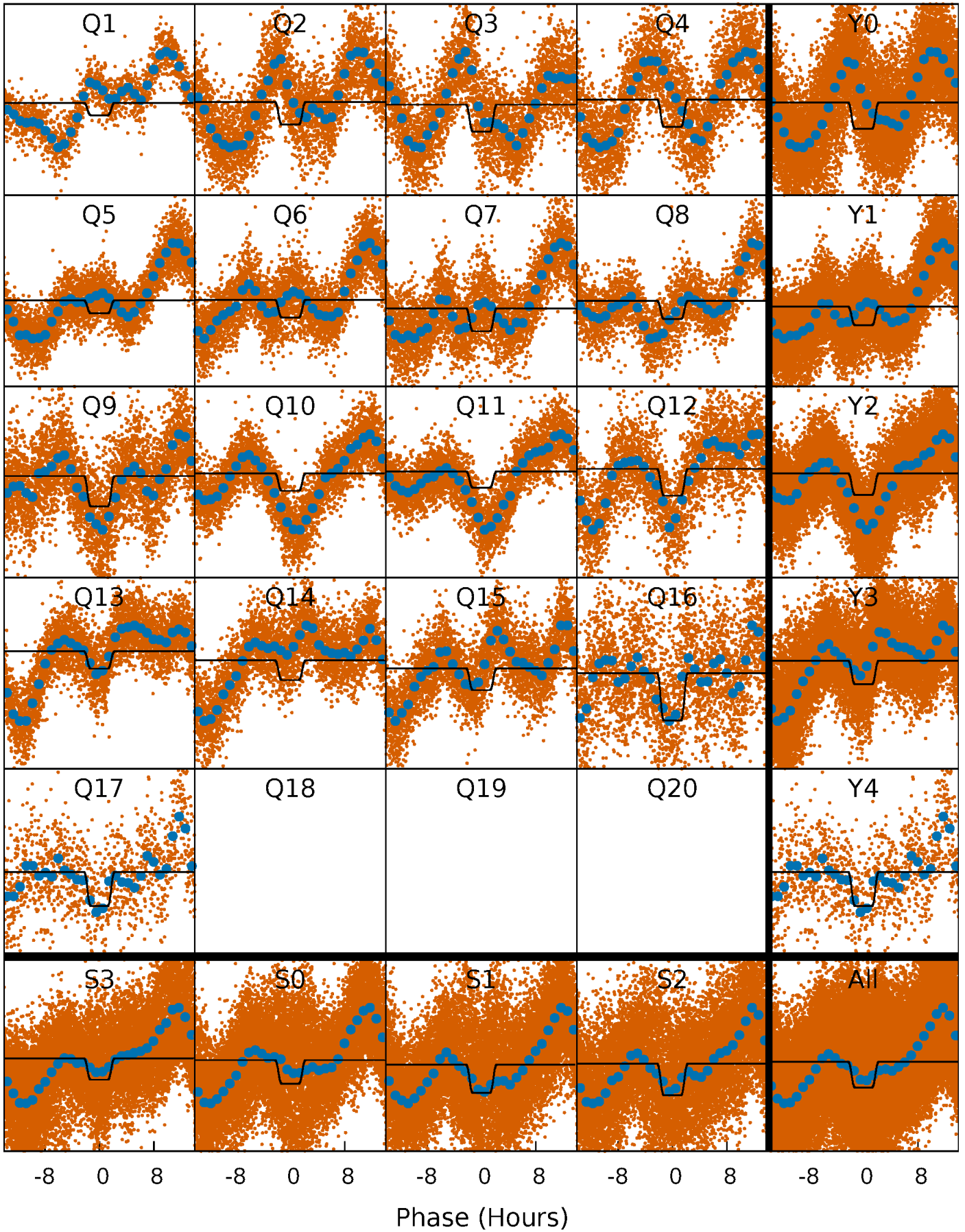
DV Quarter-Phased Transit Curves

TCE 010322473-01 P= 1.227881 Days $T_0=132.589613$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

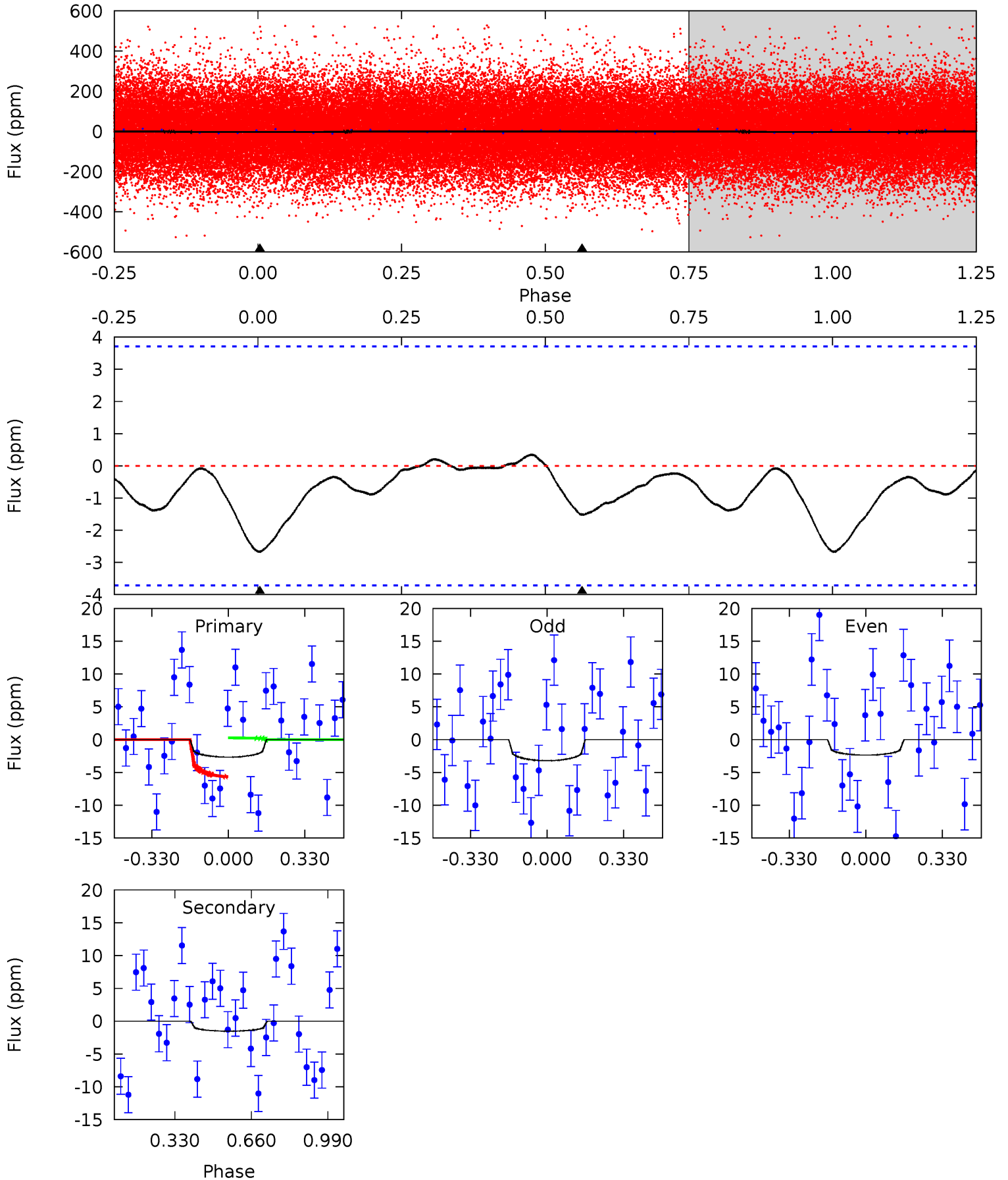
TCE 010322473-01 P= 1.228128 Days $T_0=132.489863$ (BKJD)



DV Model-Shift Uniqueness Test

010322473-01, P = 1.227881 Days, E = 131.361732 Days

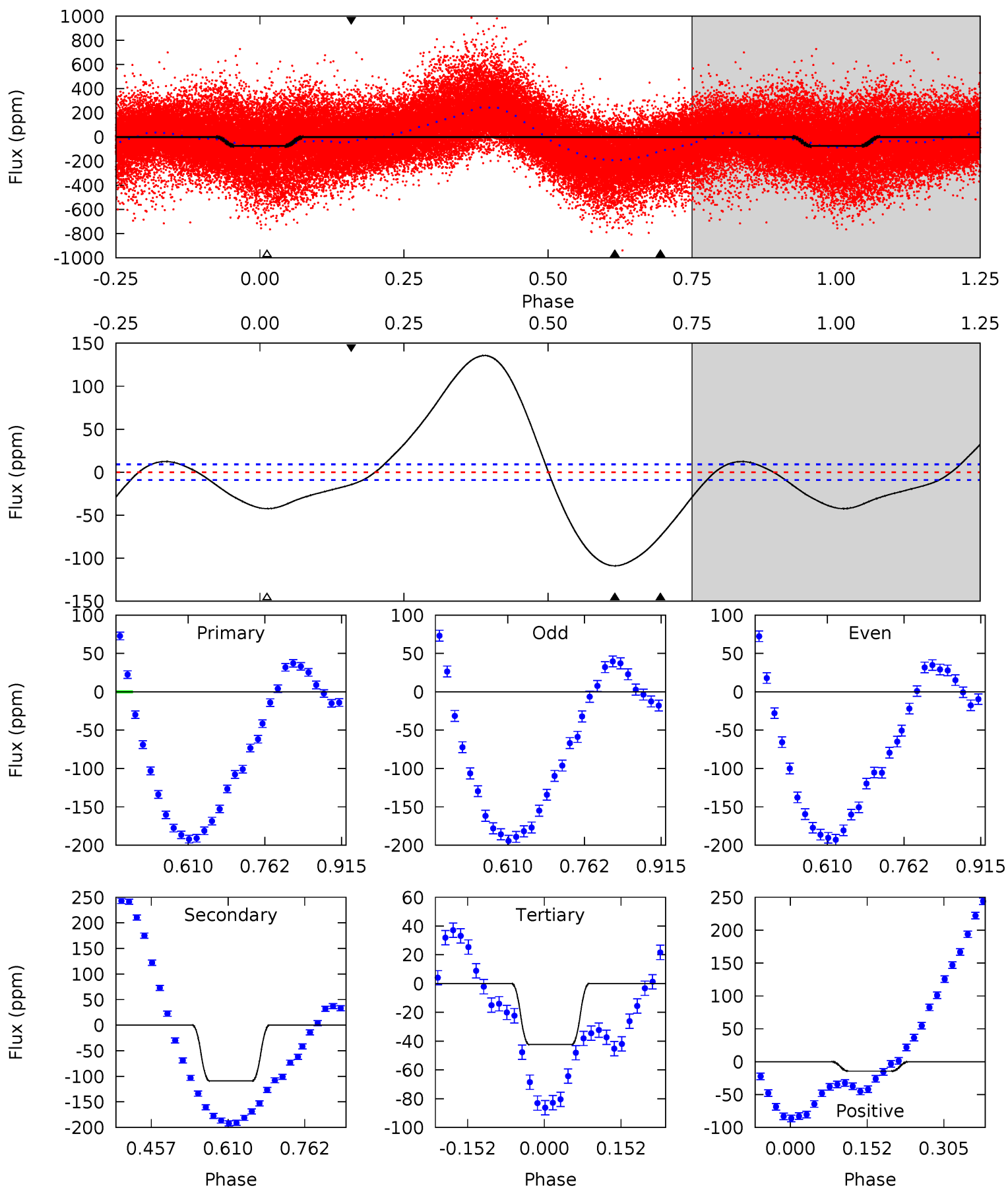
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.10	1.76	0	0	4.31	0.97	0.19	3.10	3.10	1.76	1.76	0.49	1.10	0.12	3.09



Alt Model-Shift Uniqueness Test

010322473-01, P = 1.228128 Days, E = 131.261735 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.7	53.8	20.9	-7.12	4.48	1.43	29.4	15.8	43.8	32.9	60.9	1.04	1.69	0.55	3.55



Stellar Parameters For KIC 010322473

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7199^{+230}_{-316}	$4.035^{+0.204}_{-0.167}$	$-0.040^{+0.250}_{-0.350}$	$2.006^{+0.559}_{-0.559}$	$1.588^{+0.200}_{-0.300}$	$0.277^{+0.316}_{-0.127}$
	+3%/-4%	+5%/-4%	+625%/-875%	+28%/-28%	+13%/-19%	+114%/-46%
Source	KIC0	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 010322473-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2 ± 1	$1.25^{+1.24}_{-0.90}$	3865^{+321}_{-307}	2202^{+3707}_{-5721}	$0.306^{+3.712}_{-0.256}$
Alt.	-109 ± 2	$2.52^{+1.71}_{-1.44}$	3839^{+307}_{-298}	6563^{+4872}_{-1441}	$6.410^{+27.034}_{-4.130}$

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

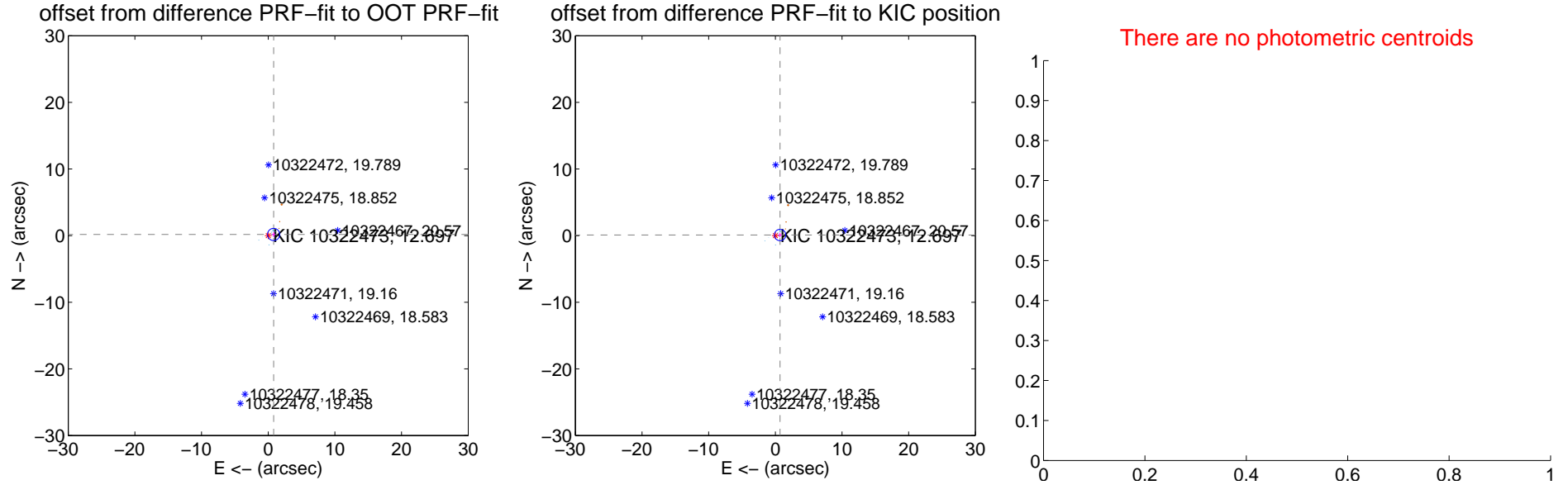
DV Centroid Data

Supplemental centroid analysis for 010322473-01. Kepler magnitude: 12.70. Transit SNR 0.01

There are 11 quarters with good PRF difference image offsets

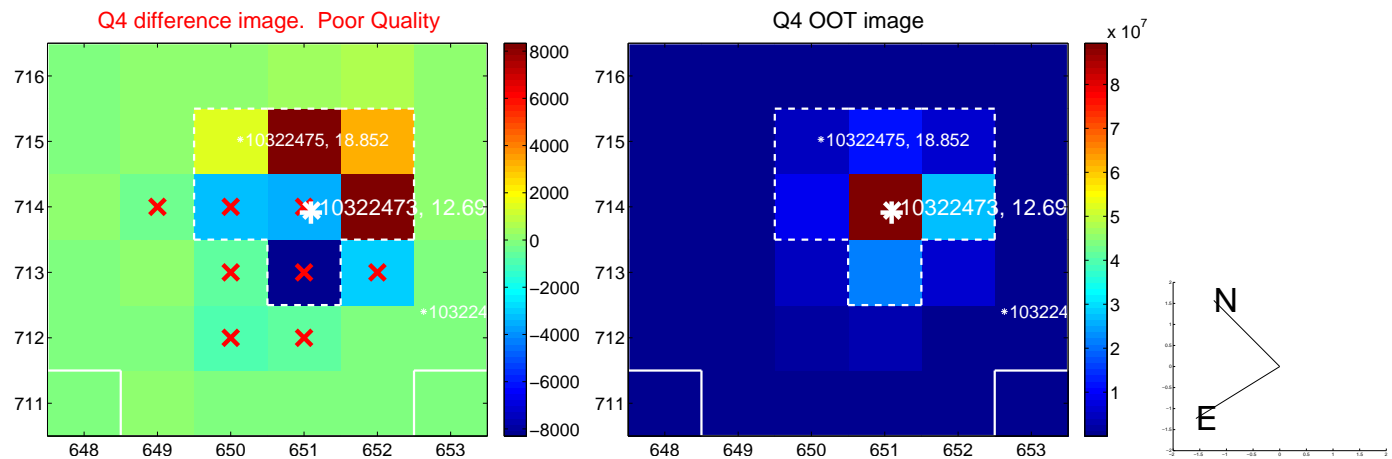
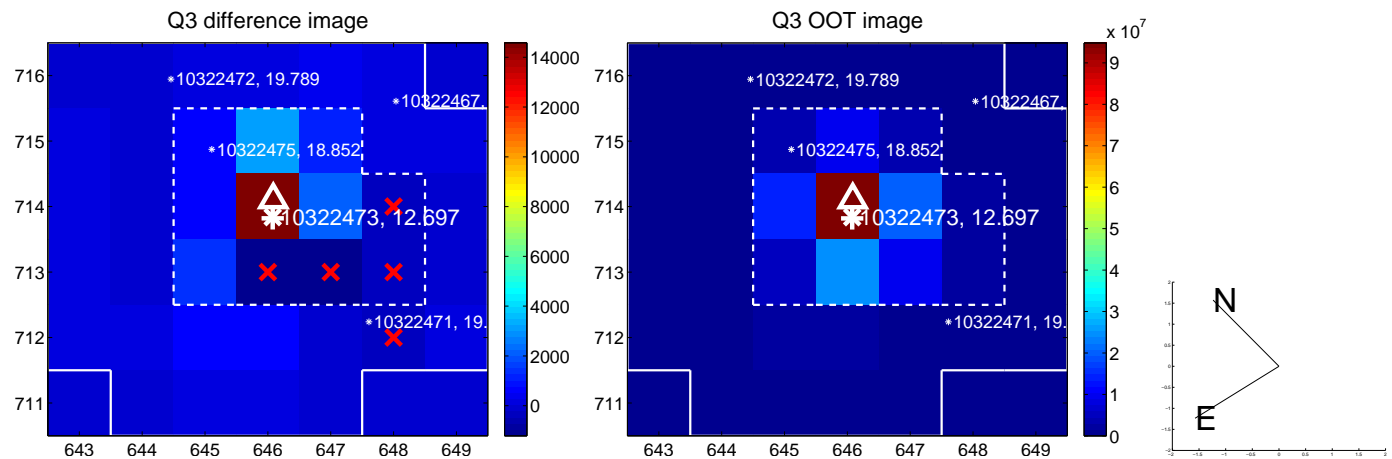
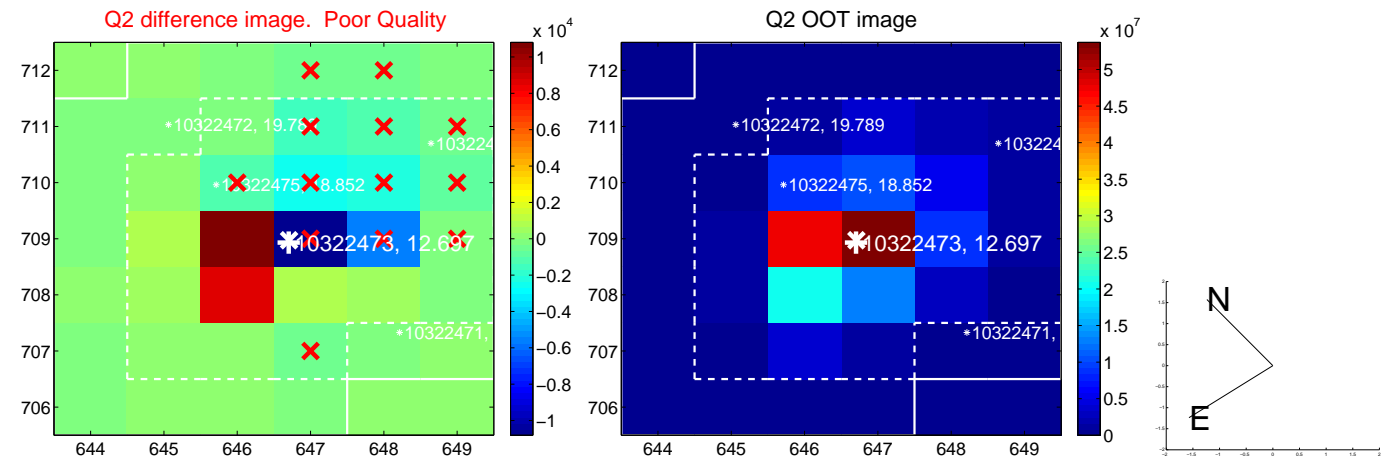
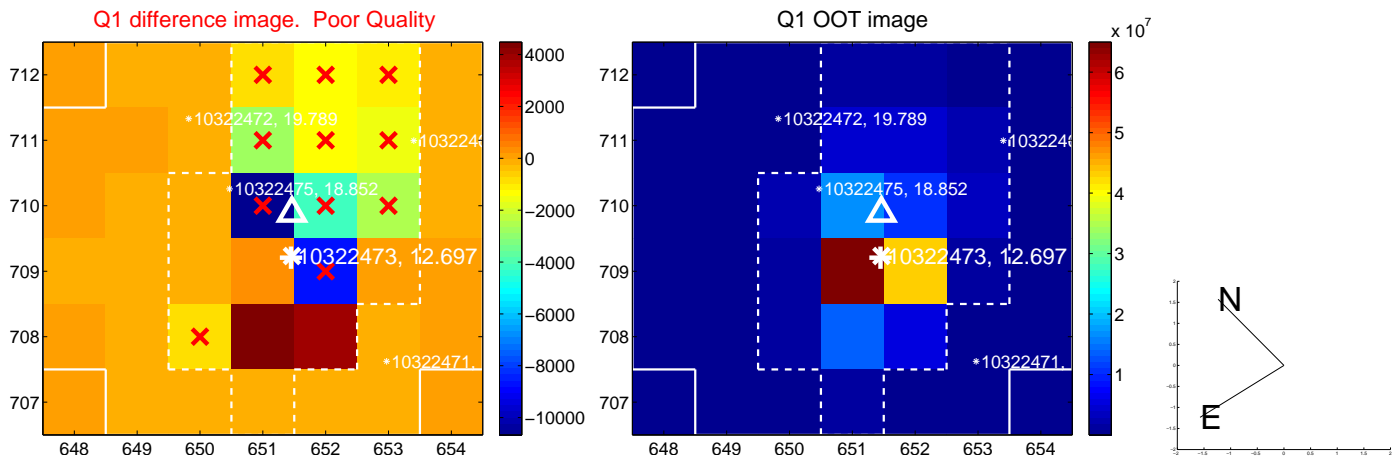
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.830 ± 0.305	2.72	-0.811 ± 0.247	0.175 ± 0.376
PRF-fit source offset from KIC position	0.716 ± 0.285	2.51	-0.709 ± 0.252	0.093 ± 0.358
photometric centroid source offset	—	—	—	—

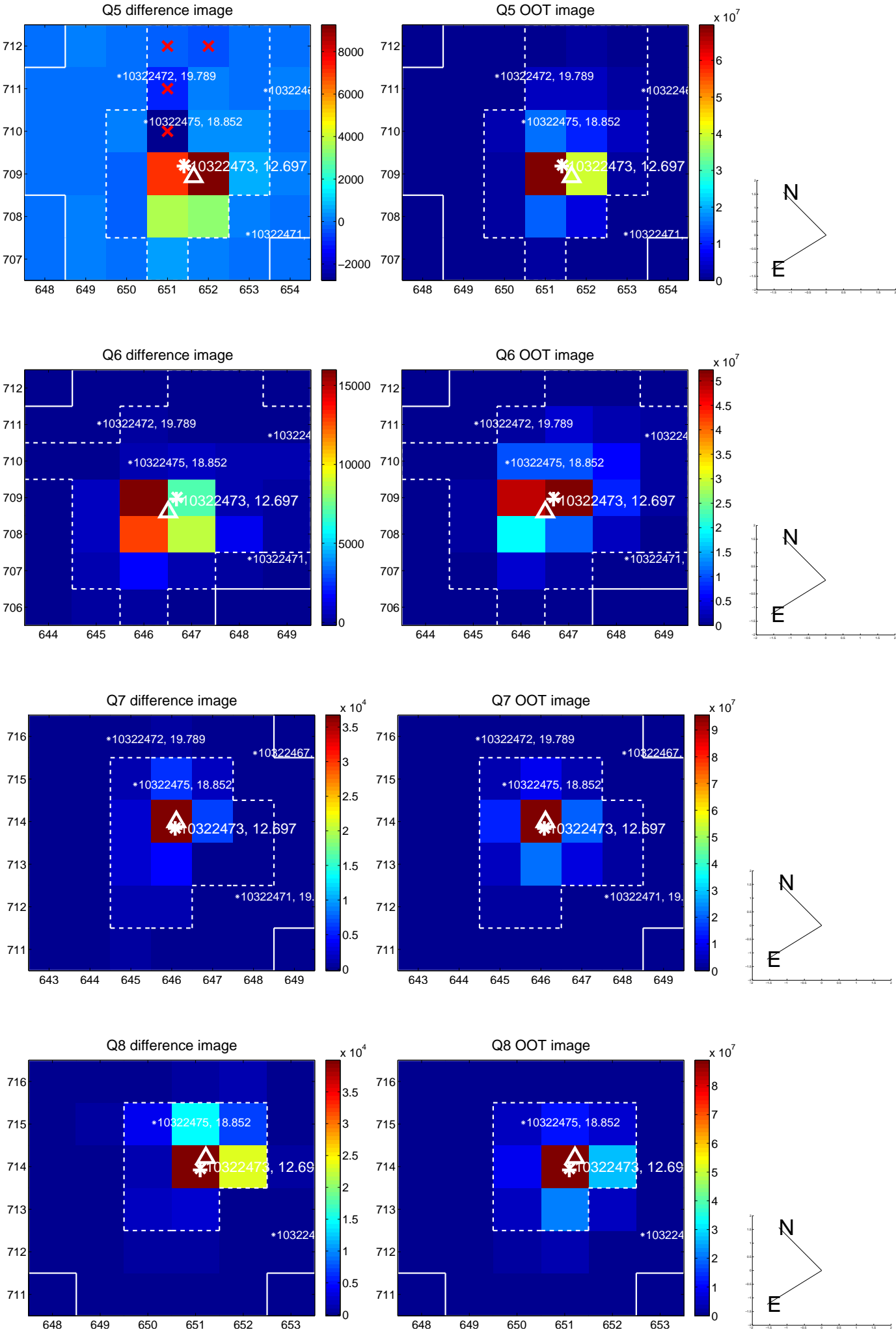


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

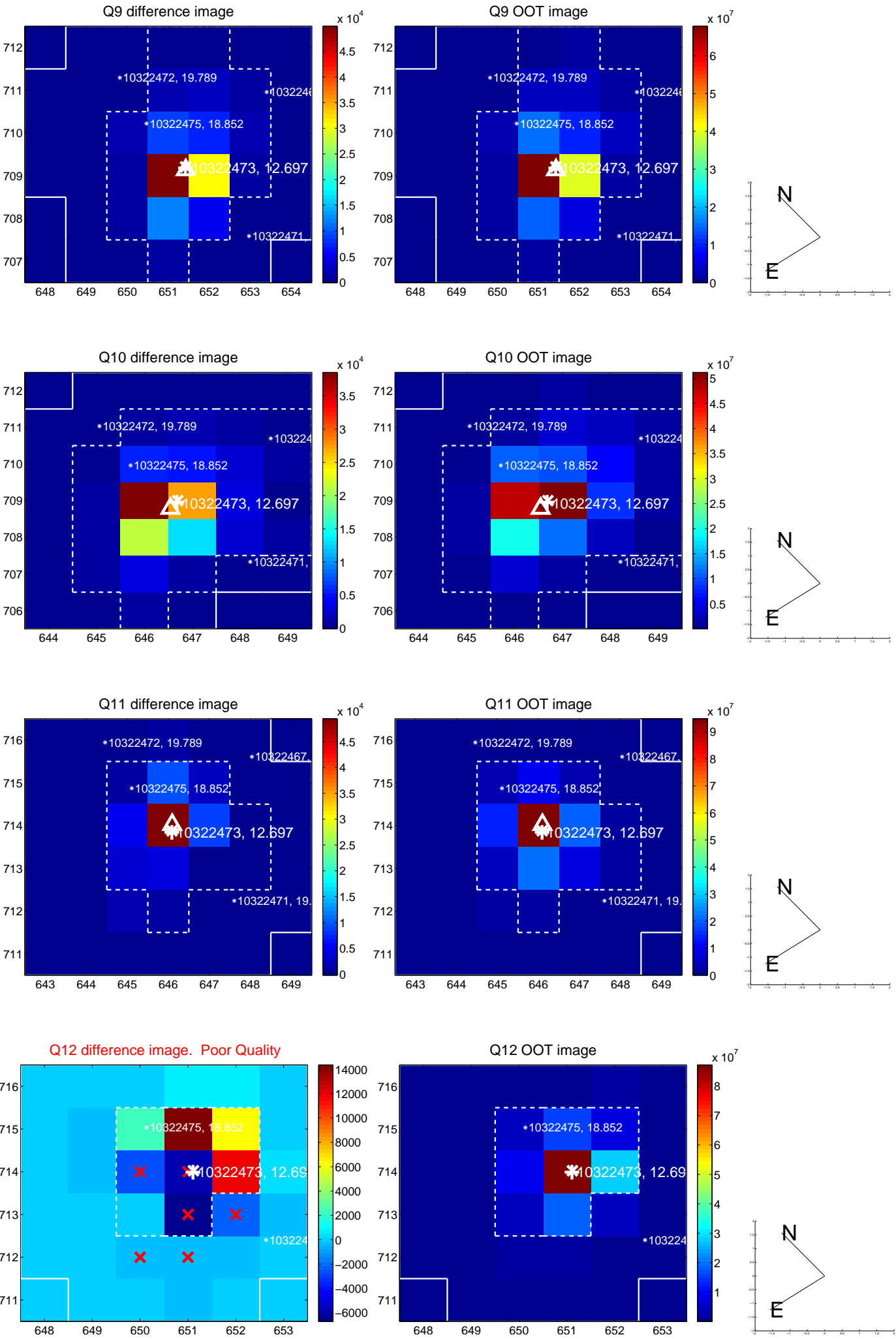
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



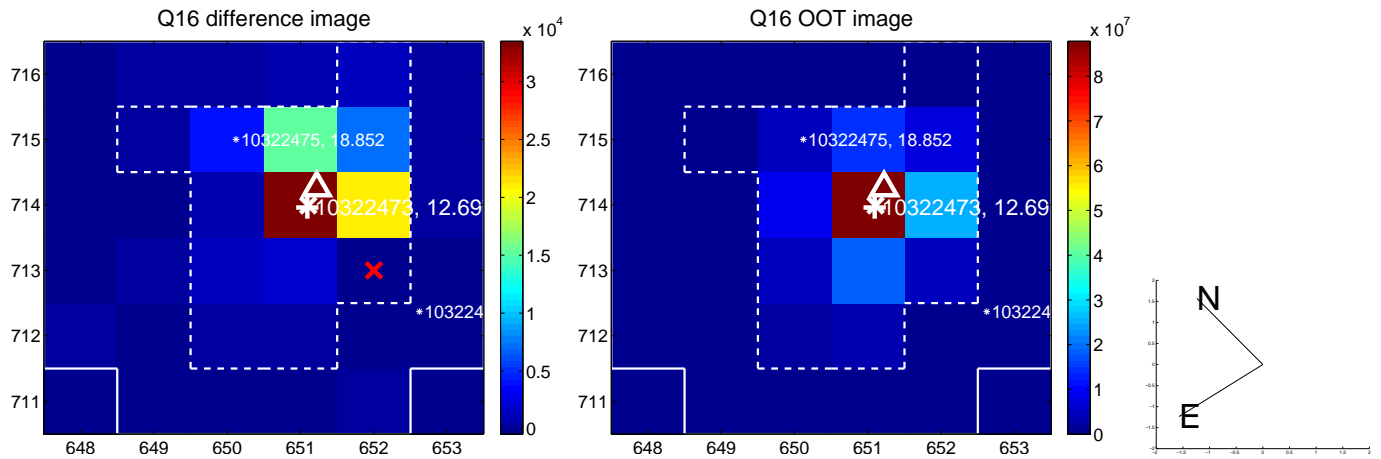
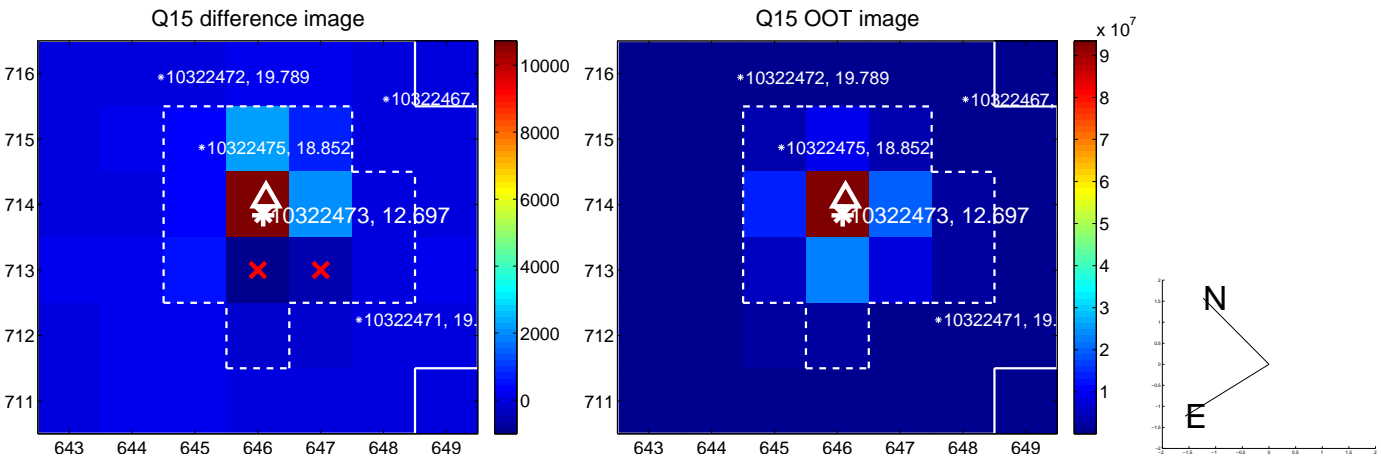
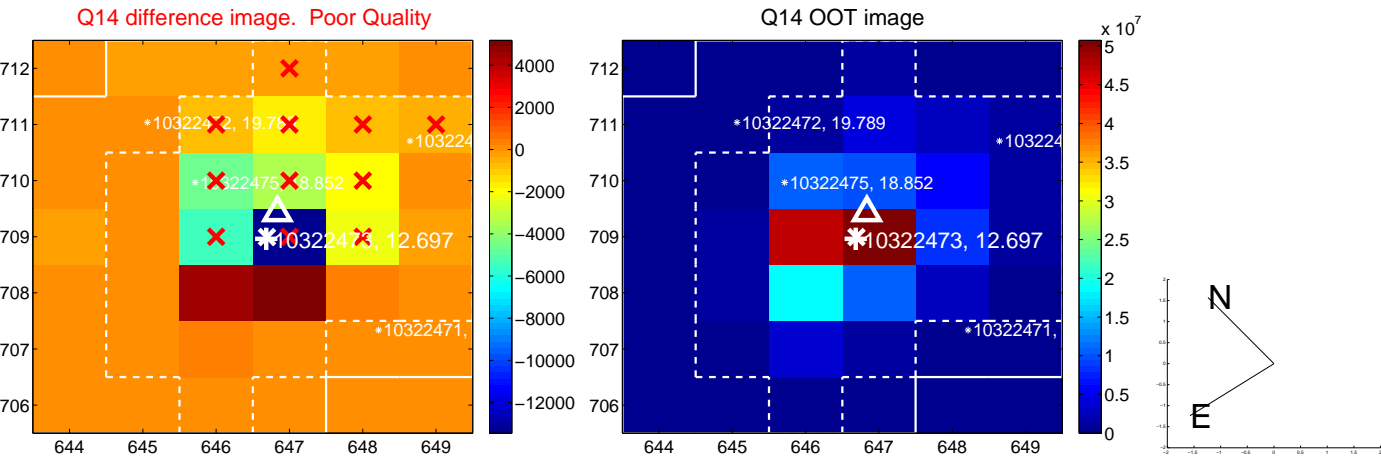
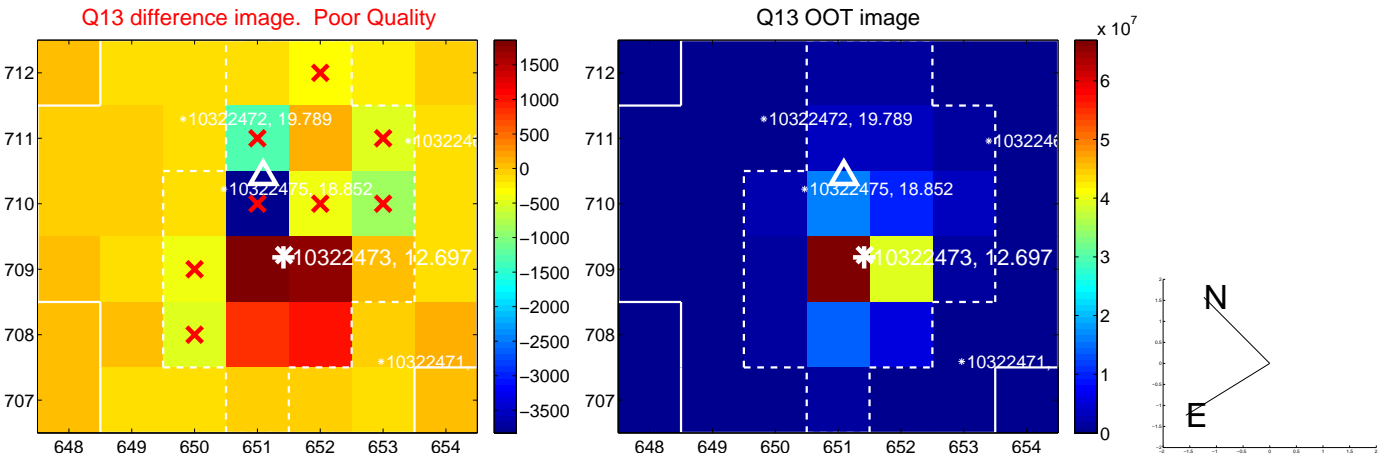
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



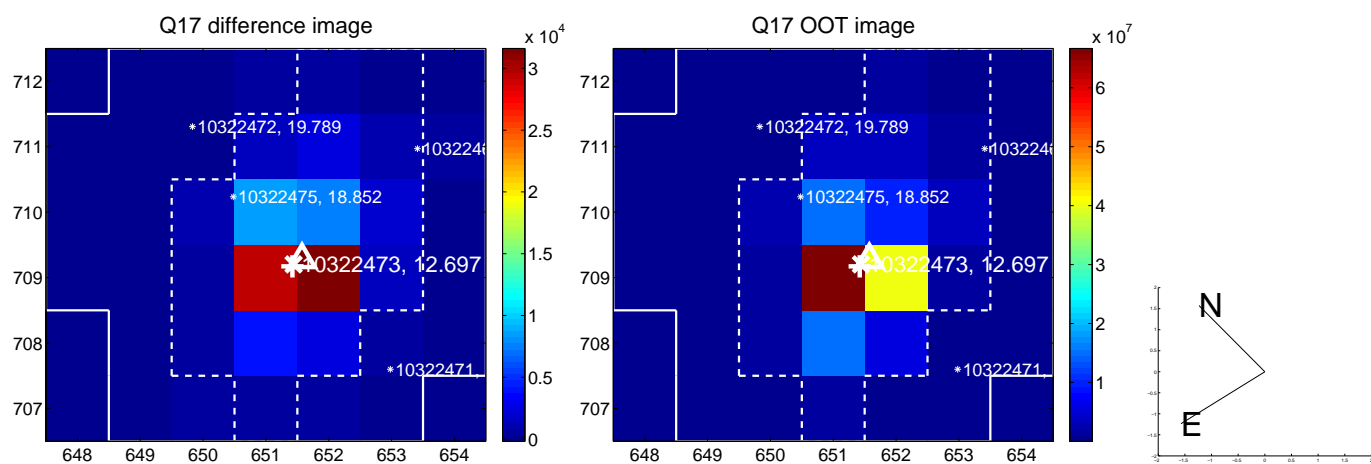
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

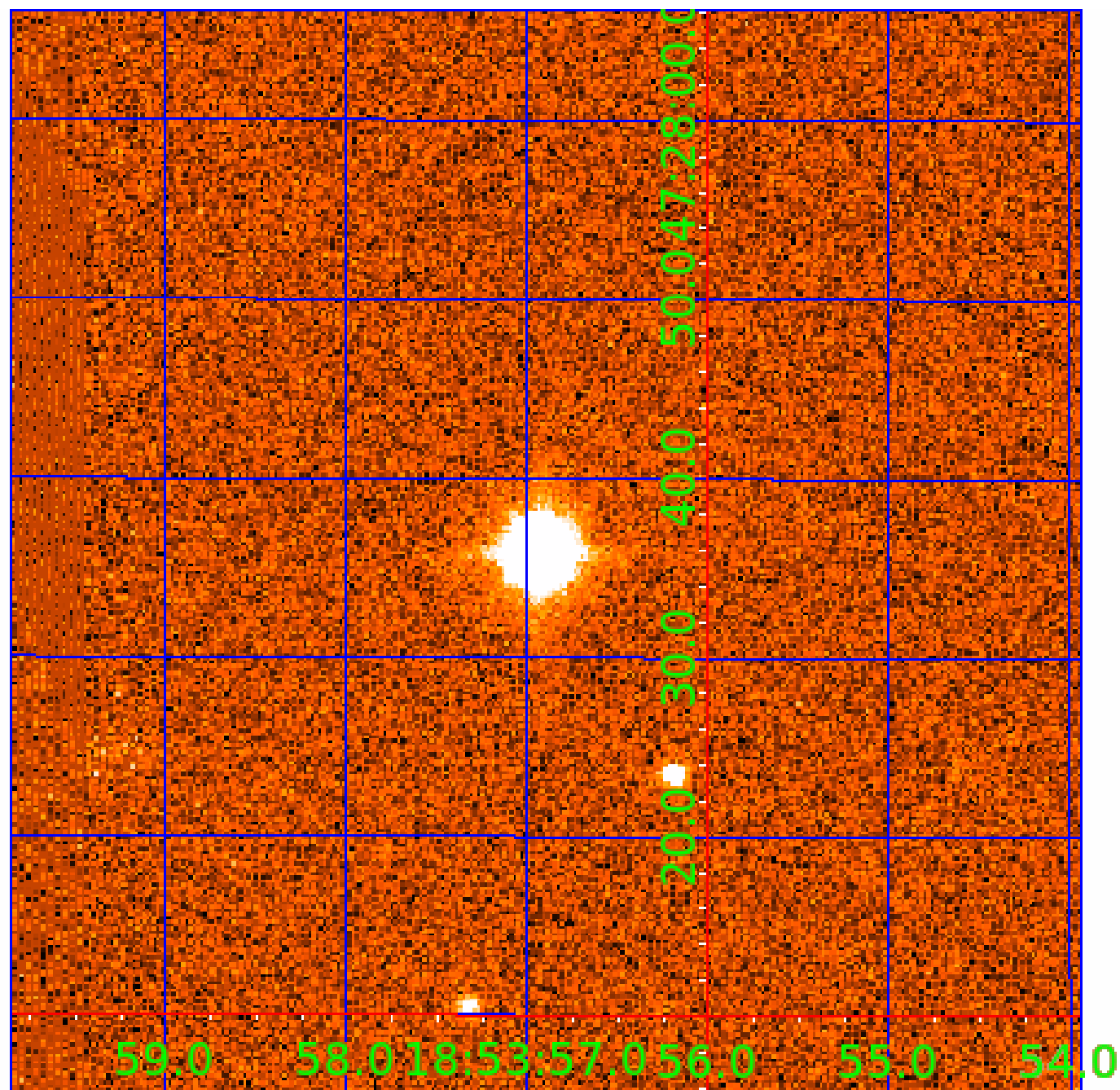


folded centroid time series figure for this object.



UKIRT Image

Declination



KIC 010322473

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})
010322473-01	OBS	No	1.227881	132.589613	0.0	9.264	8.8	0.0	2.01	7199	0.02	14103.56
010322473-02	OBS	No	10.768014	133.877417	196.8	1.237	9.6	9.5	2.01	7199	2.86	779.87

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010322473-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
010322473-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—HALO_GHOST

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

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

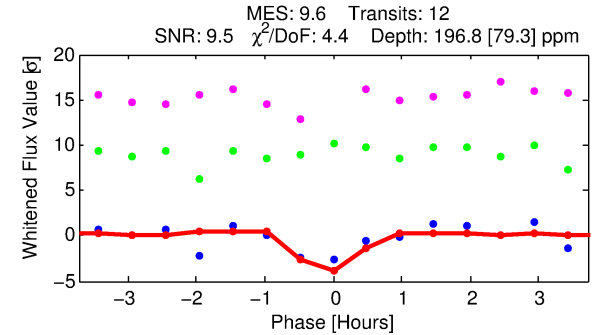
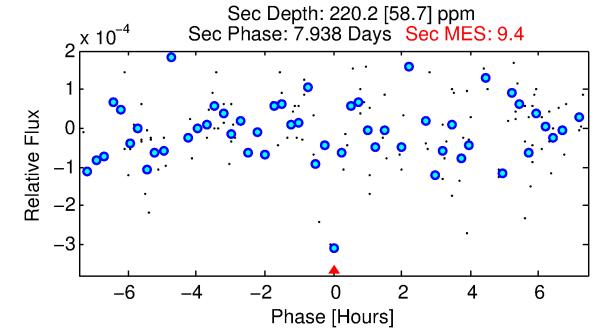
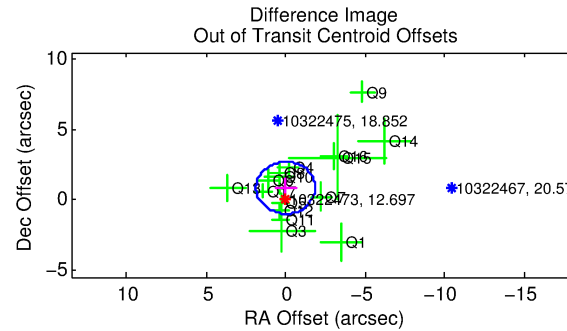
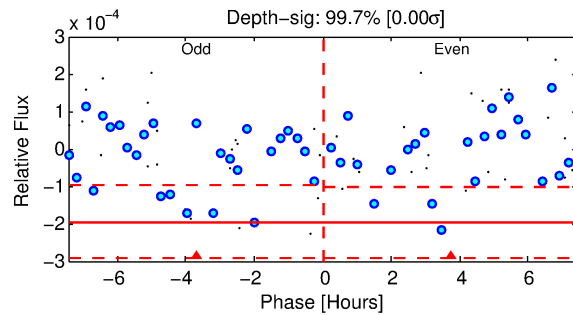
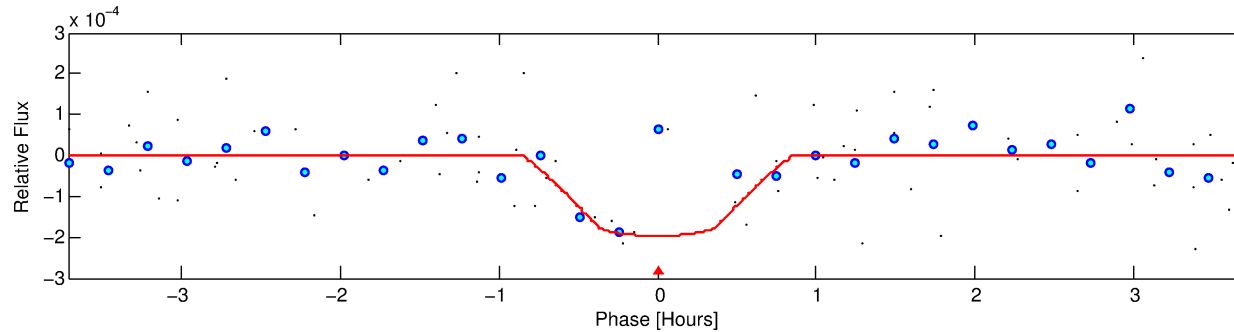
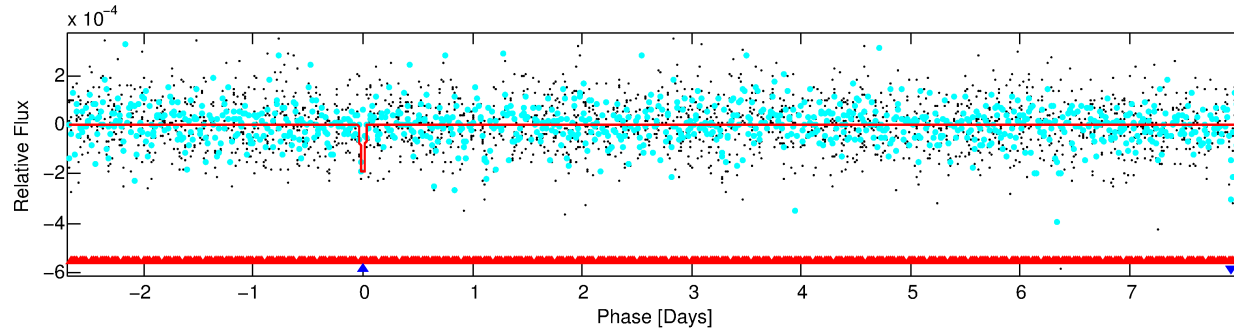
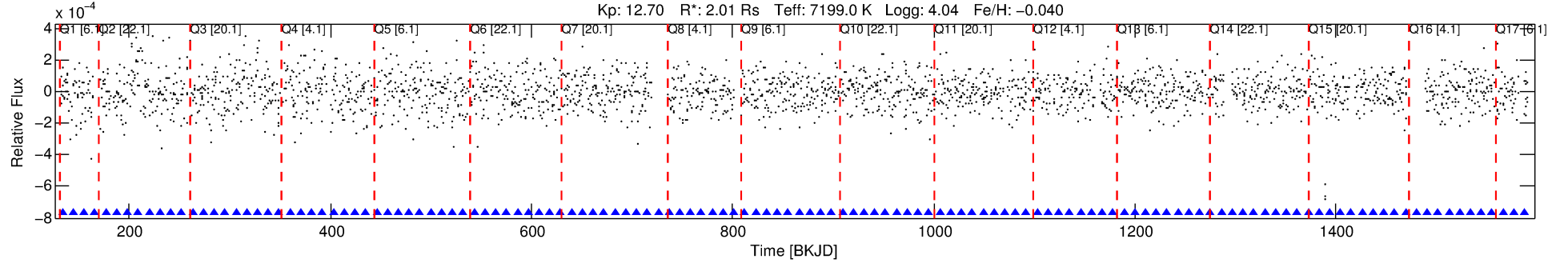
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010322473-02

No Significant Match Found

DV One-Page Summary

KIC: 10322473 Candidate: 2 of 2 Period: 10.768 d



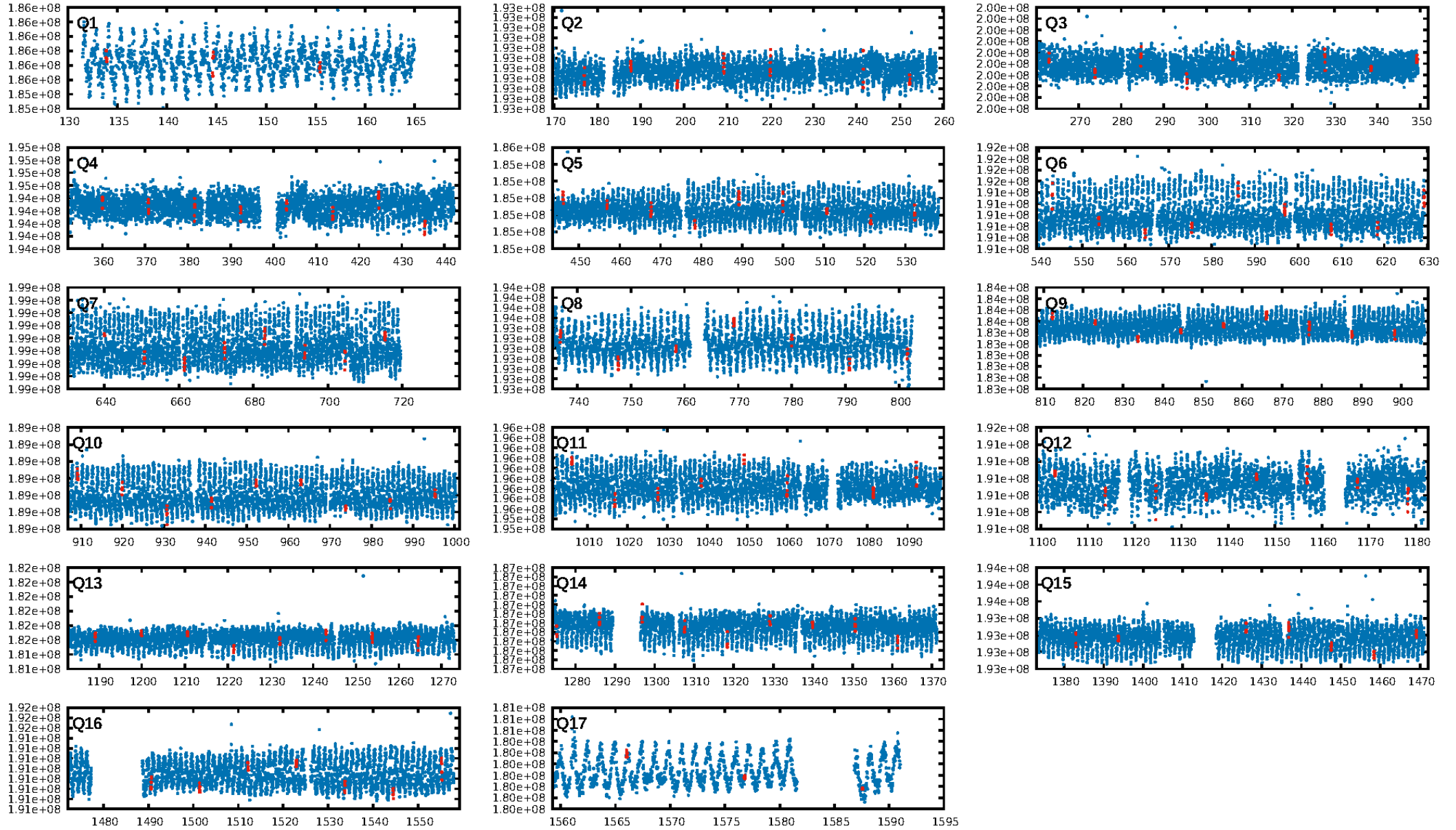
DV Fit Results:

Period = 10.76801 [0.00015] d
Epoch = 133.8774 [0.0113] BKJD
Rp/R* = 0.0131 [0.0918]
a/R* = 67.30 [2705.16]
b = 0.06 [736.46]
Seff = 779.87 [315.25]
Teq = 1348 [136] K
Rp = 2.86 [20.11] Re
a = 0.1114 [0.0271] AU
Ag = 183.53 [2577.46] [0.07σ]
Teffp = 7668 [26916] K [0.23σ]

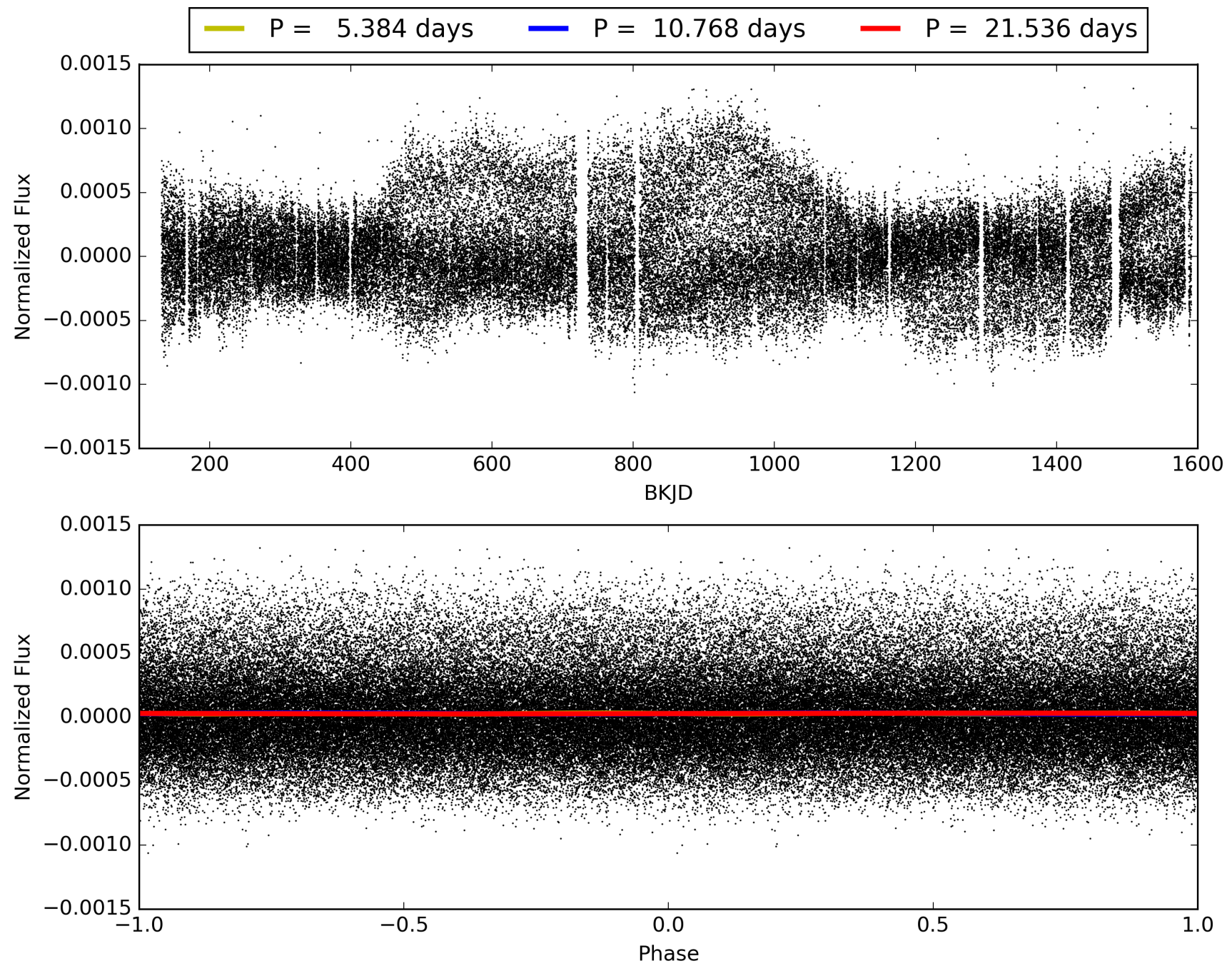
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [24.50σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.2%
ModelChiSquareGof-sig: 96.9%
Bootstrap-pfa: 9.72e-14
RollingBand-fgt: 1.00 [12/12]
GhostDiagnostic-chr: -0.221
Centroid-sig: 30.7%
Centroid-so: 0.606 arcsec [1.34σ]
OotOffset-rm: 0.853 arcsec [1.38σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-rm: 0.788 arcsec [1.40σ]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.12 [2/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 010322473-02, PDC Light Curves

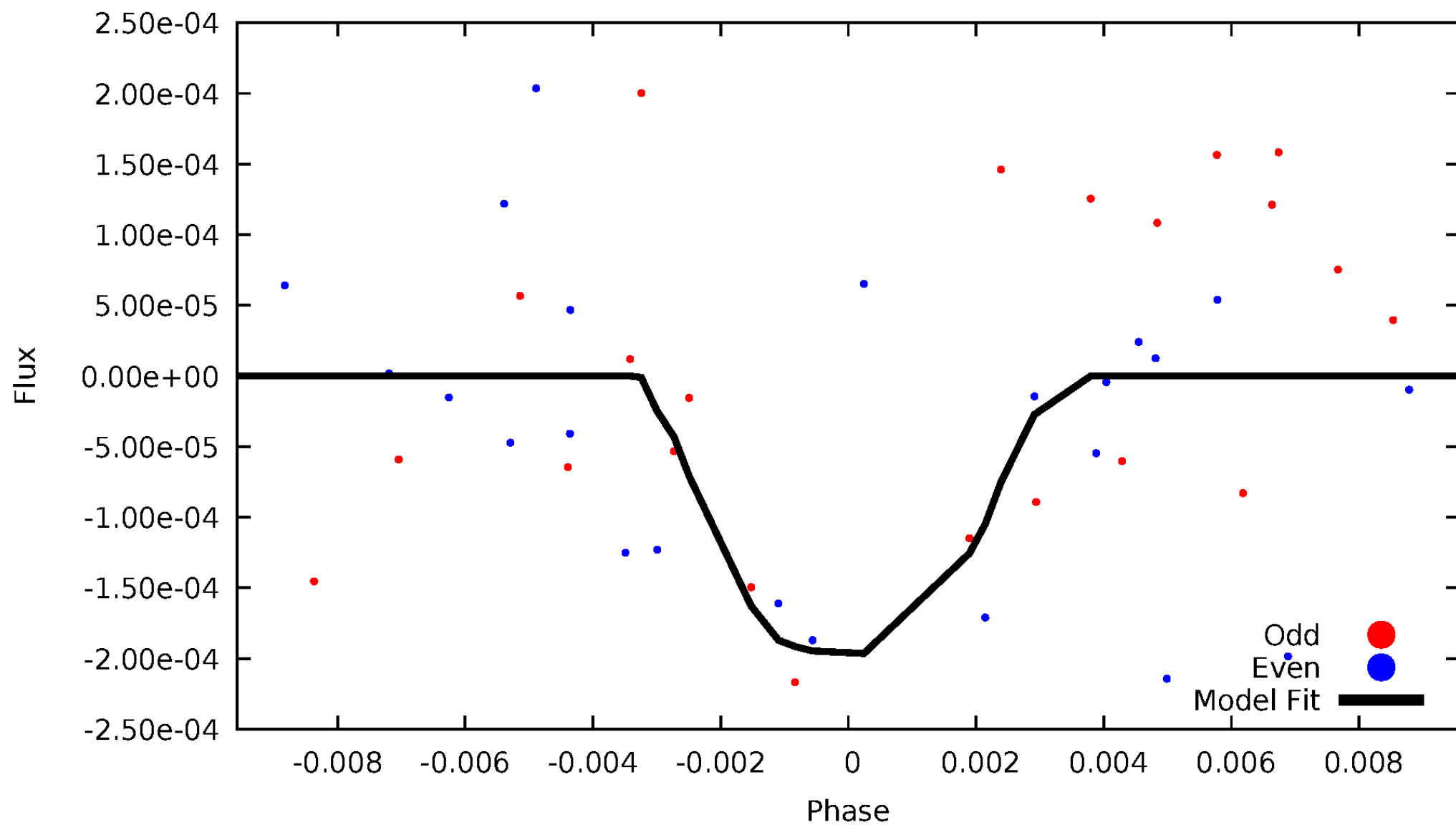


TCE 010322473-02



DV Odd/Even

TCE 010322473-02

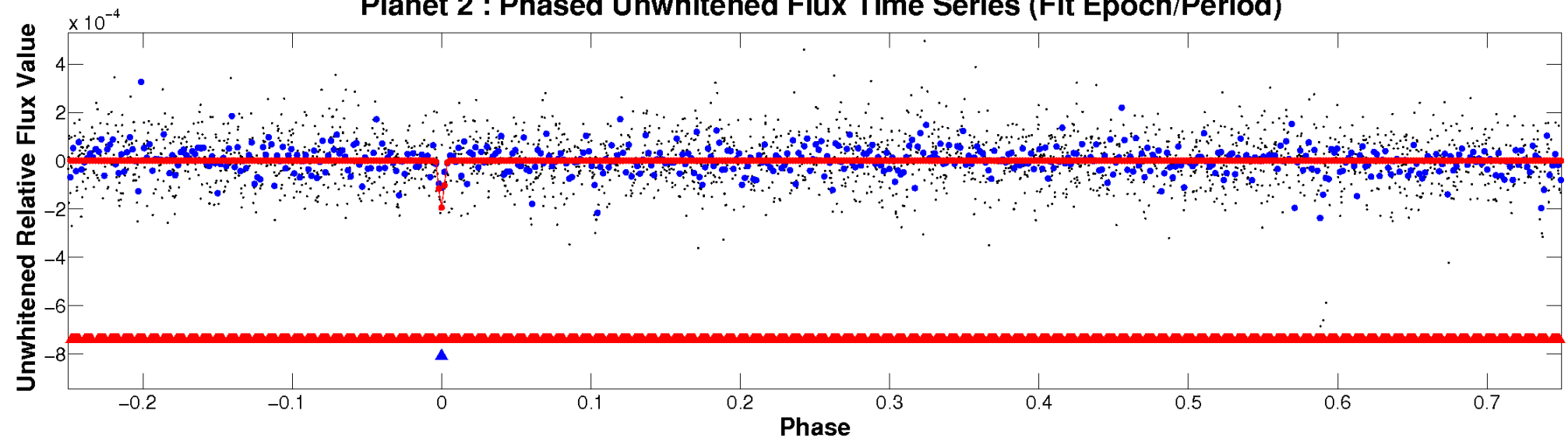


ALT Odd/Even

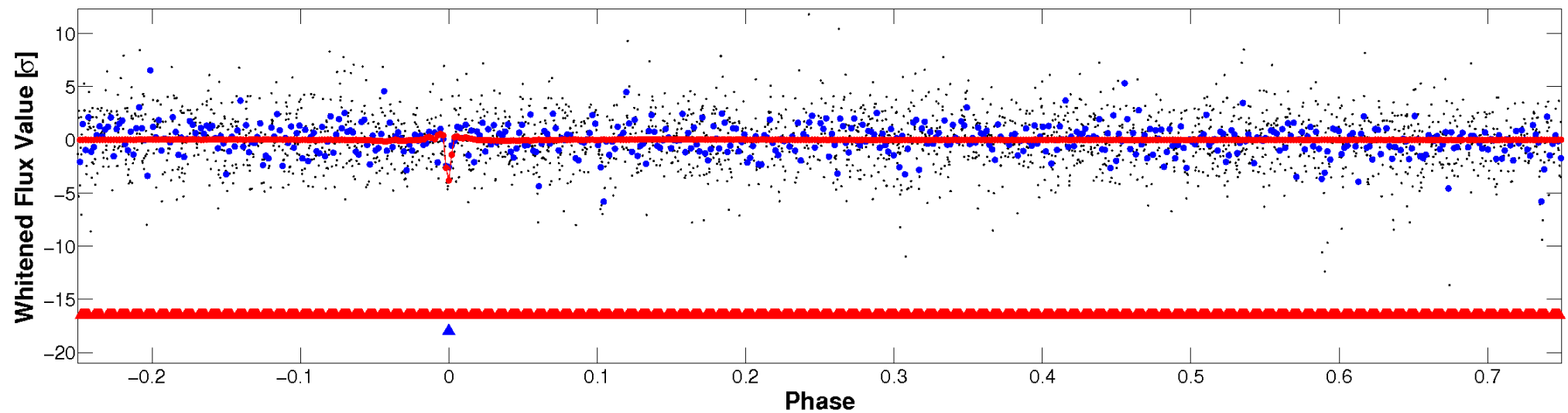
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

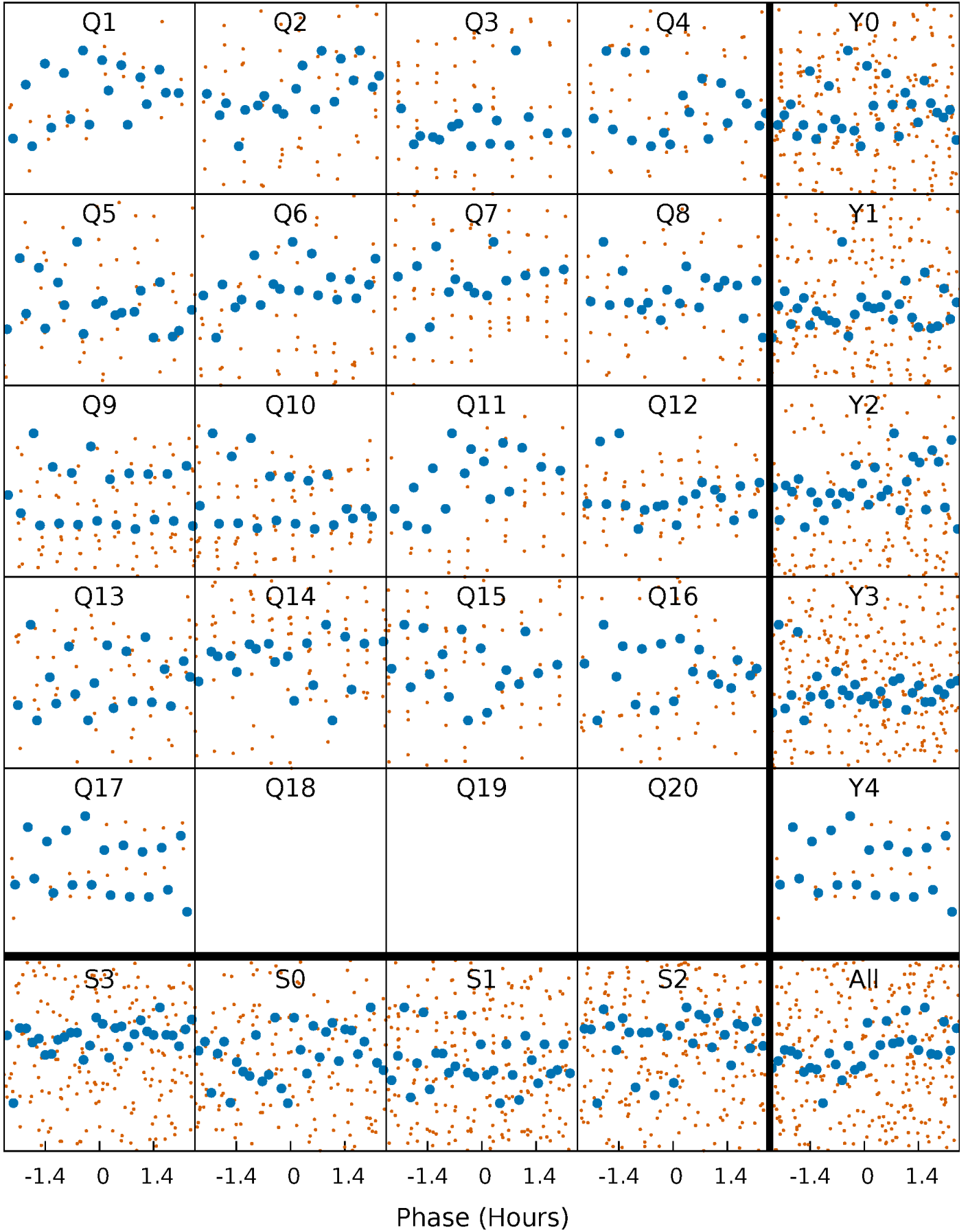


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



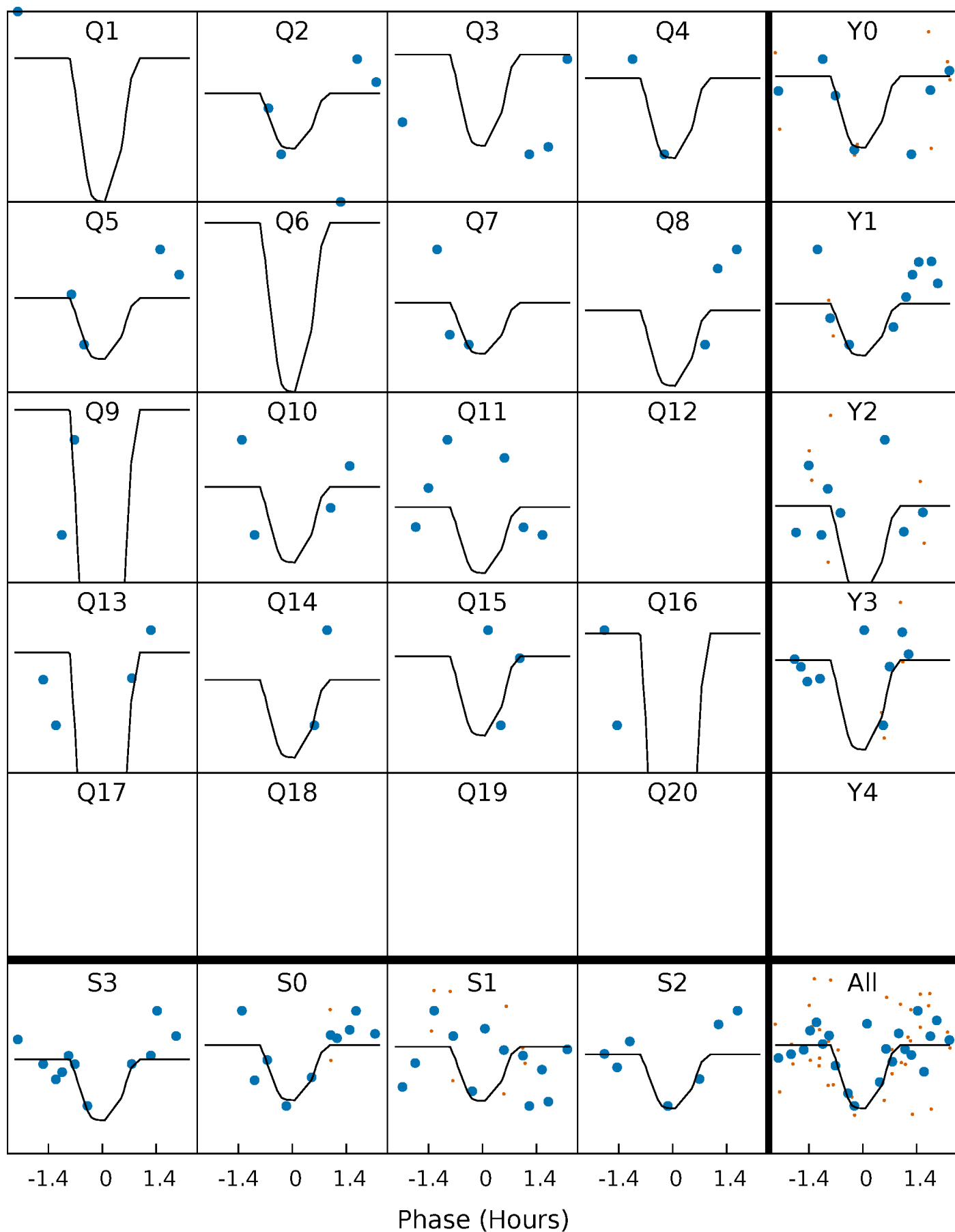
PDC Quarter-Phased Transit Curves

TCE 010322473-02 P= 10.768014 Days $T_0=133.877417$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 010322473-02 P= 10.768014 Days $T_0=133.877417$ (BKJD)

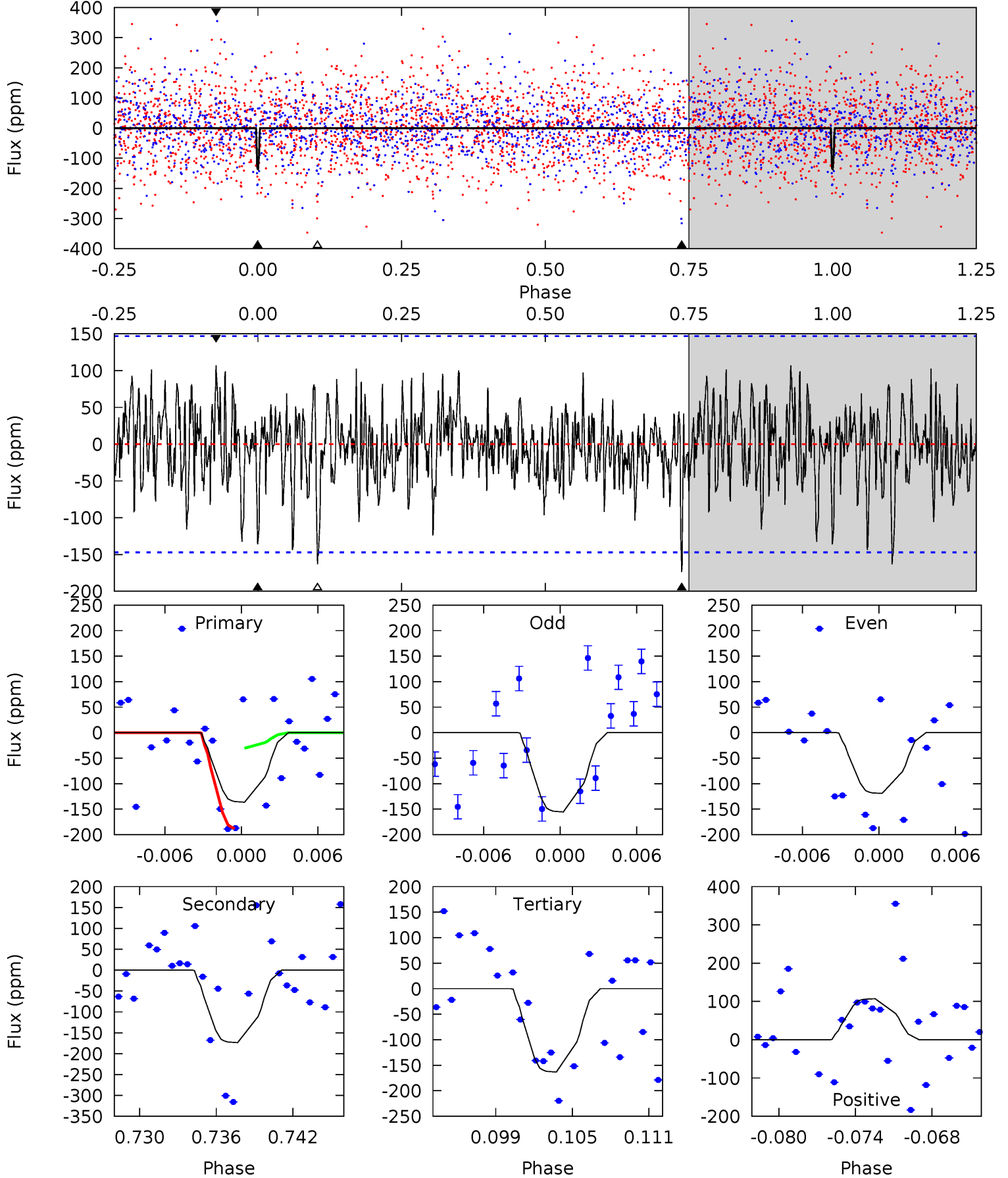


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

010322473-02, $P = 10.768014$ Days, $E = 123.109403$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.74	6.05	5.69	3.73	5.12	2.74	1.39	-0.94	1.02	0.36	2.32	0.63	0.78	0.38	2.75



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 010322473

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7199^{+230}_{-316}	$4.035^{+0.204}_{-0.167}$	$-0.040^{+0.250}_{-0.350}$	$2.006^{+0.559}_{-0.559}$	$1.588^{+0.200}_{-0.300}$	$0.277^{+0.316}_{-0.127}$
	+3%/-4%	+5%/-4%	+625%/-875%	+28%/-28%	+13%/-19%	+114%/-46%
Source	KIC0	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 010322473-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-174 ± 29	$14.00^{+14.52}_{-9.72}$	1875^{+131}_{-142}	3604^{+2135}_{-789}	$5.928^{+55.003}_{-4.508}$
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 $A_{\text{obs}} \gg 1.0$

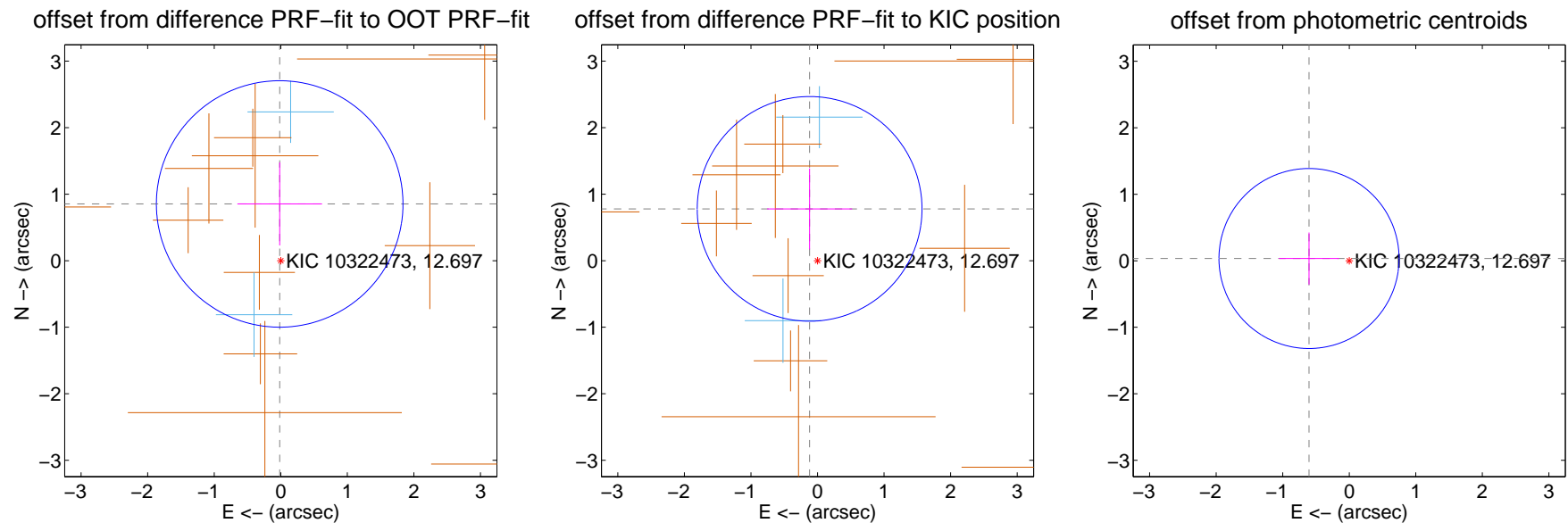
DV Centroid Data

Supplemental centroid analysis for 010322473-02. Kepler magnitude: 12.70. Transit SNR 9.52

There are 2 quarters with good PRF difference image offsets

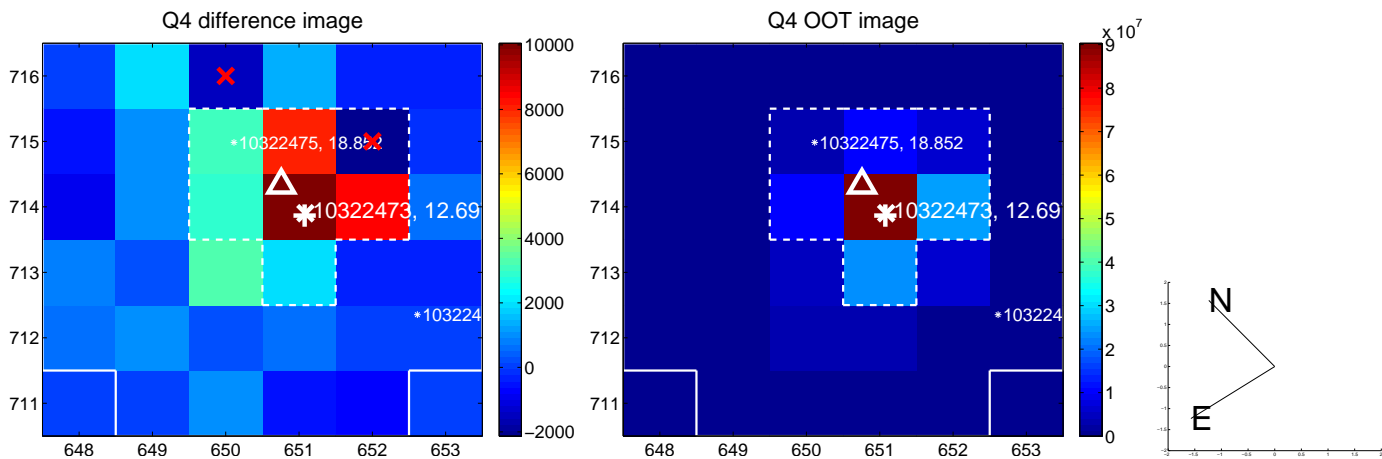
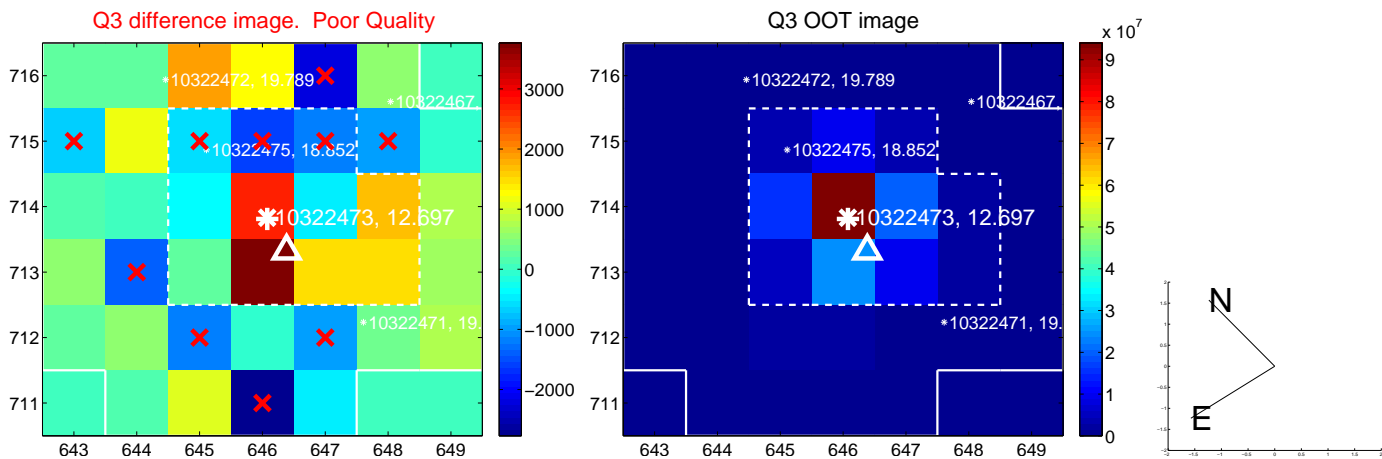
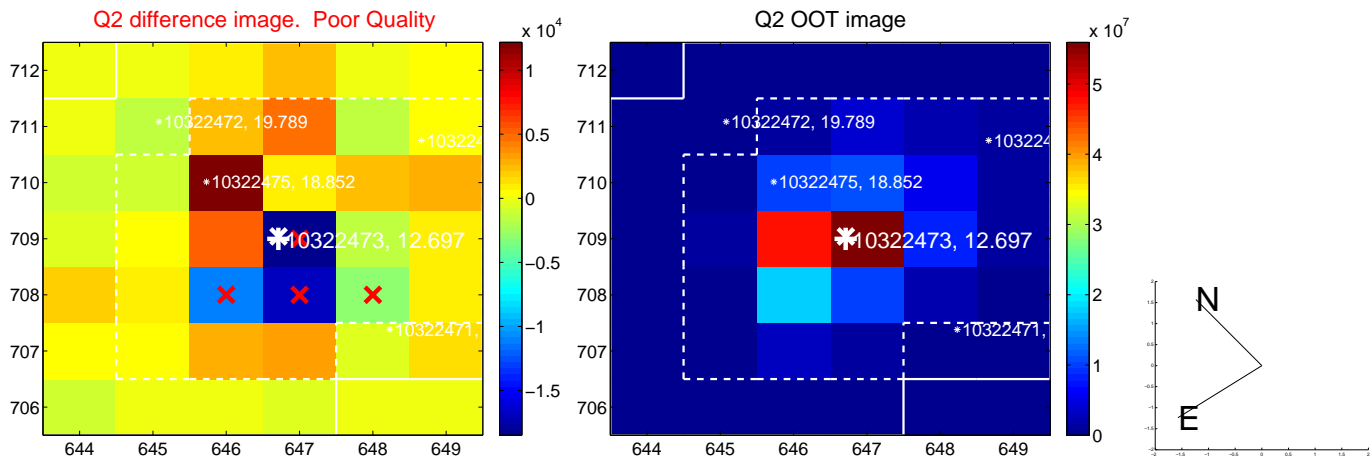
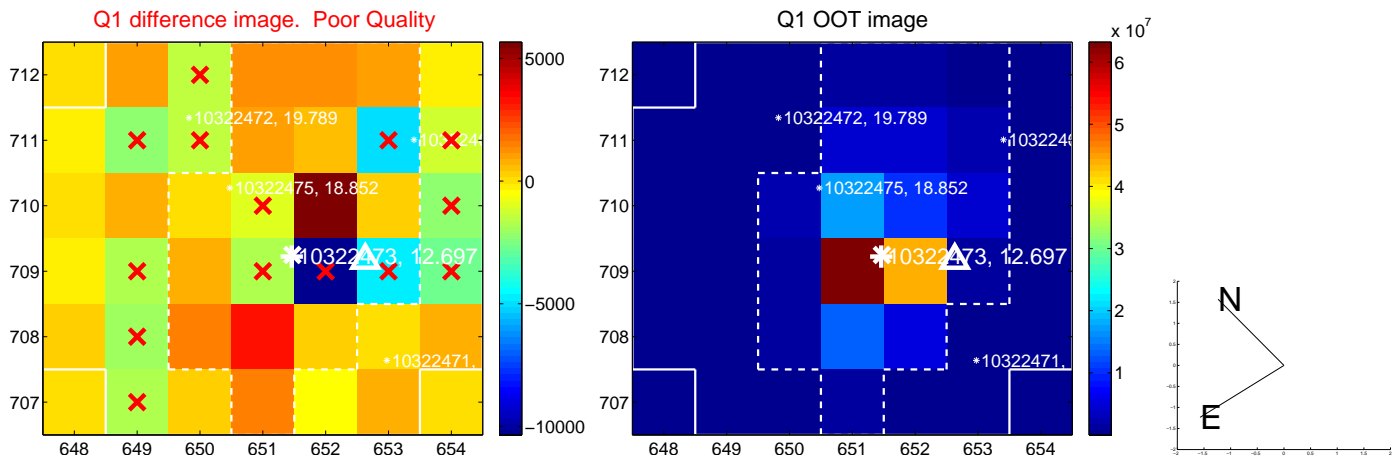
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.853 ± 0.618	1.38	0.016 ± 0.636	0.853 ± 0.624
PRF-fit source offset from KIC position	0.788 ± 0.563	1.40	0.119 ± 0.638	0.779 ± 0.608
photometric centroid source offset	0.61 ± 0.45	1.34	0.60 ± 0.45	0.03 ± 0.39

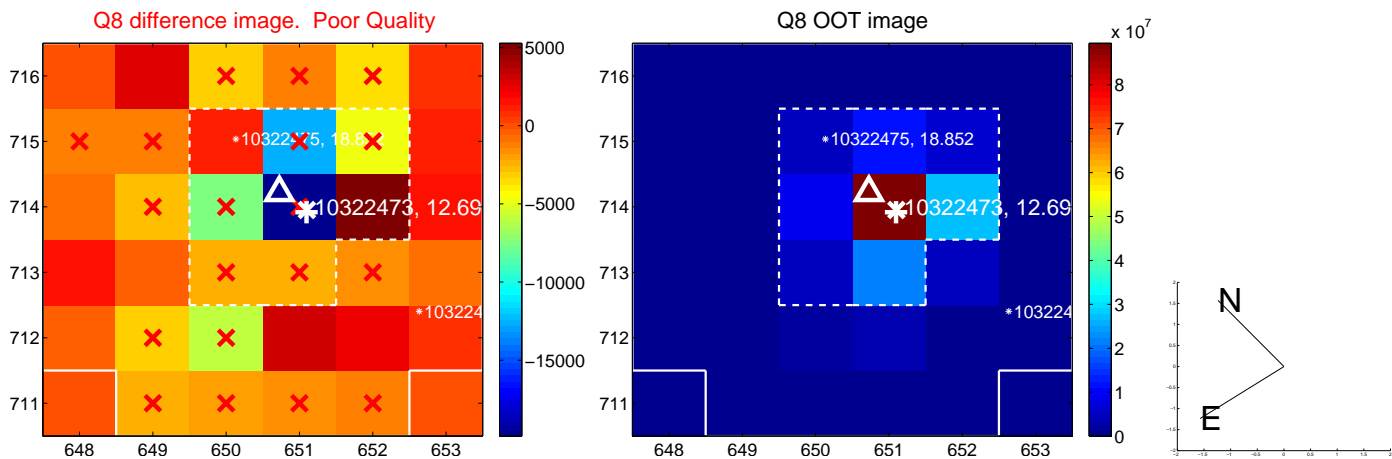
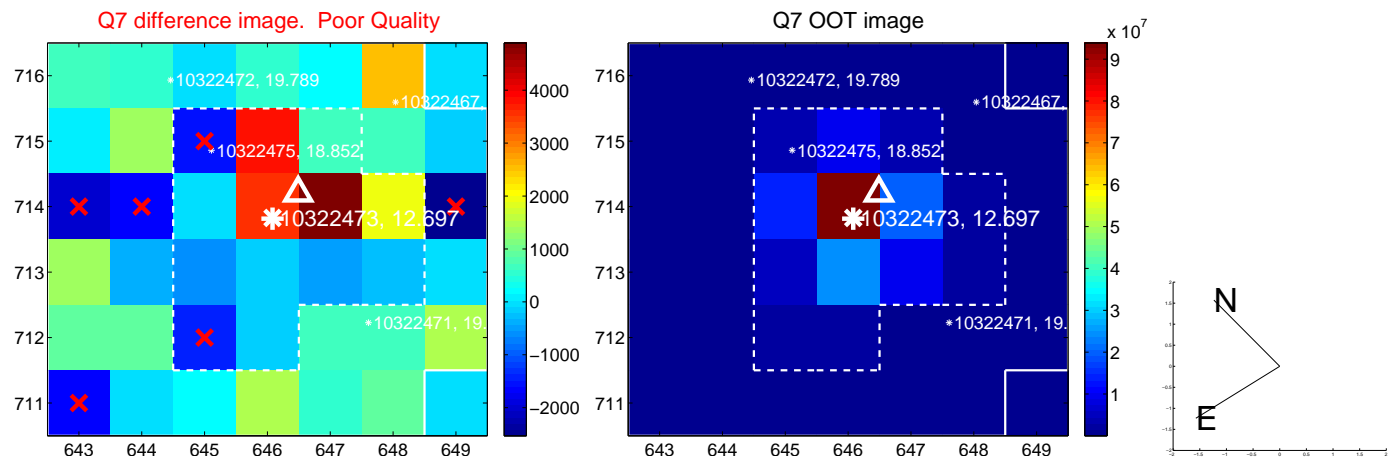
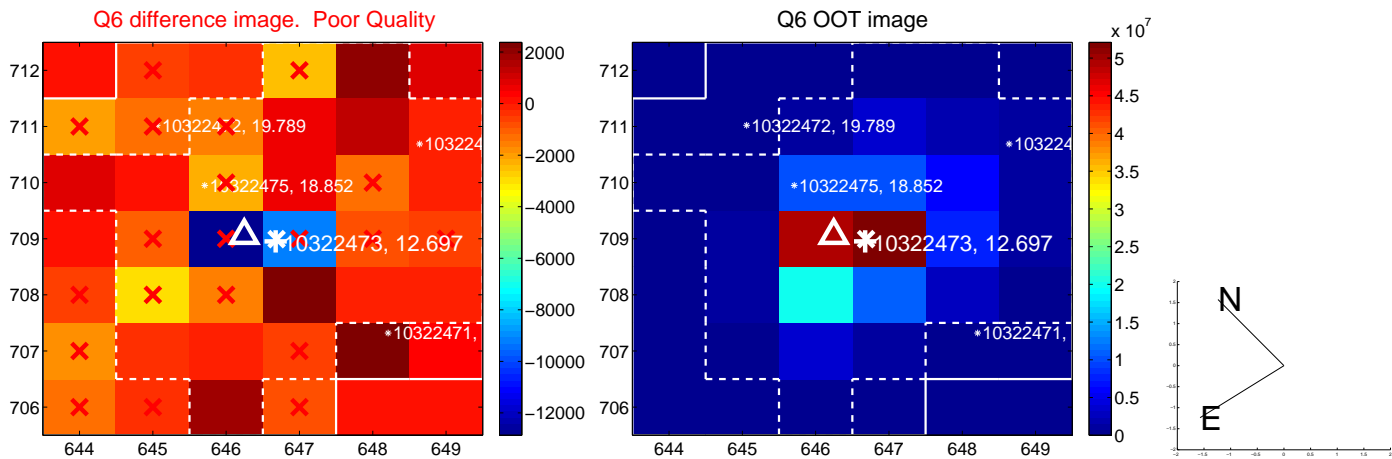
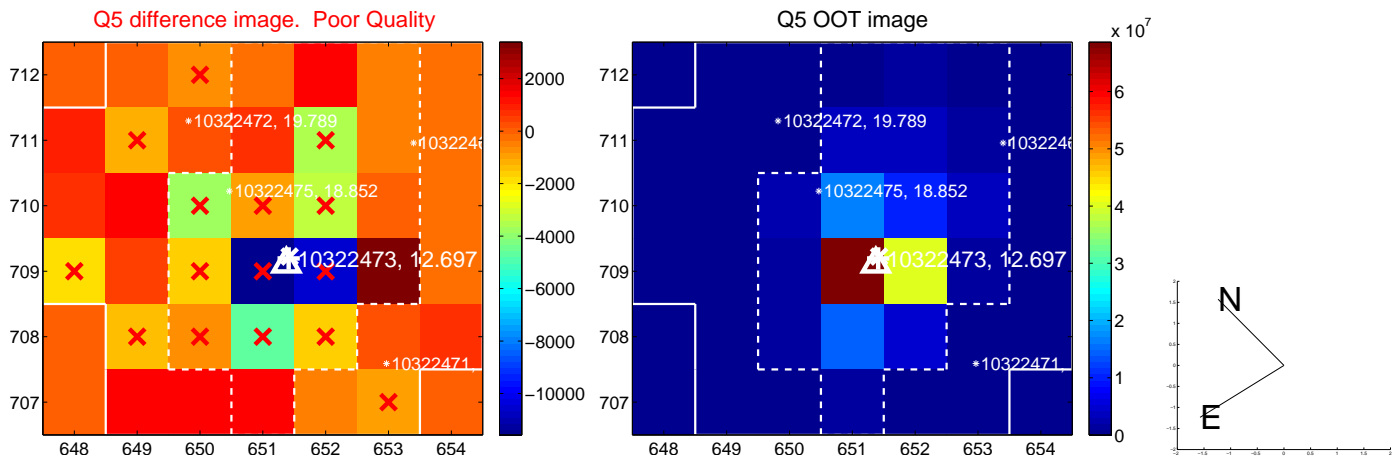


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

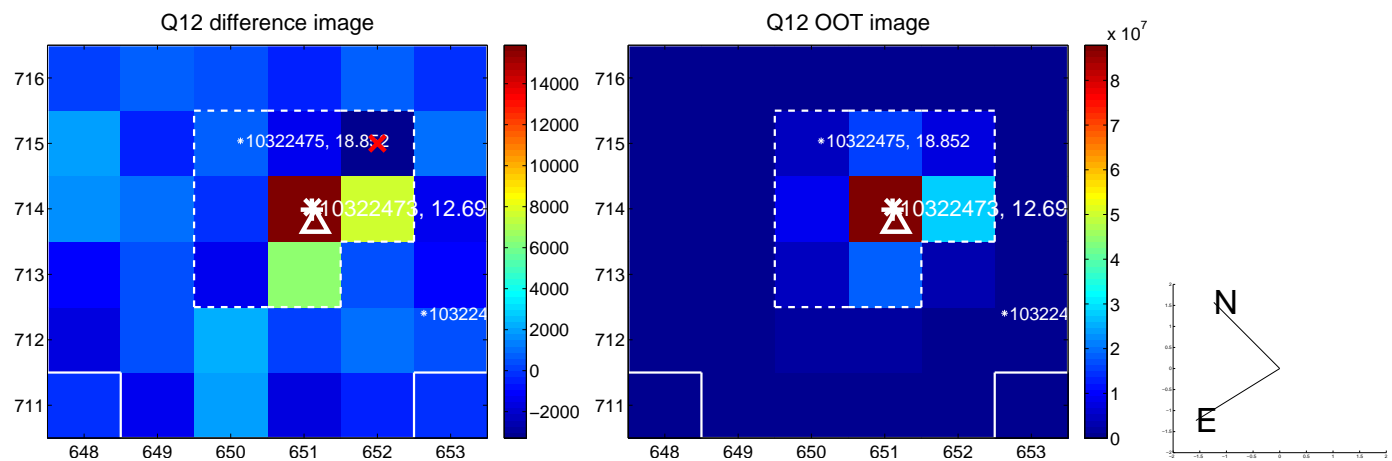
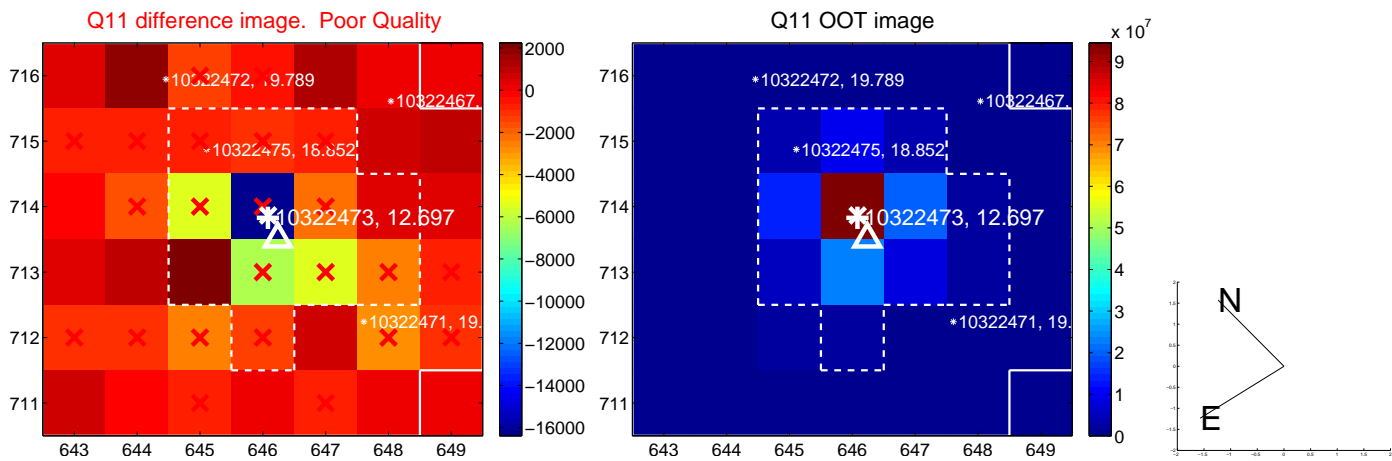
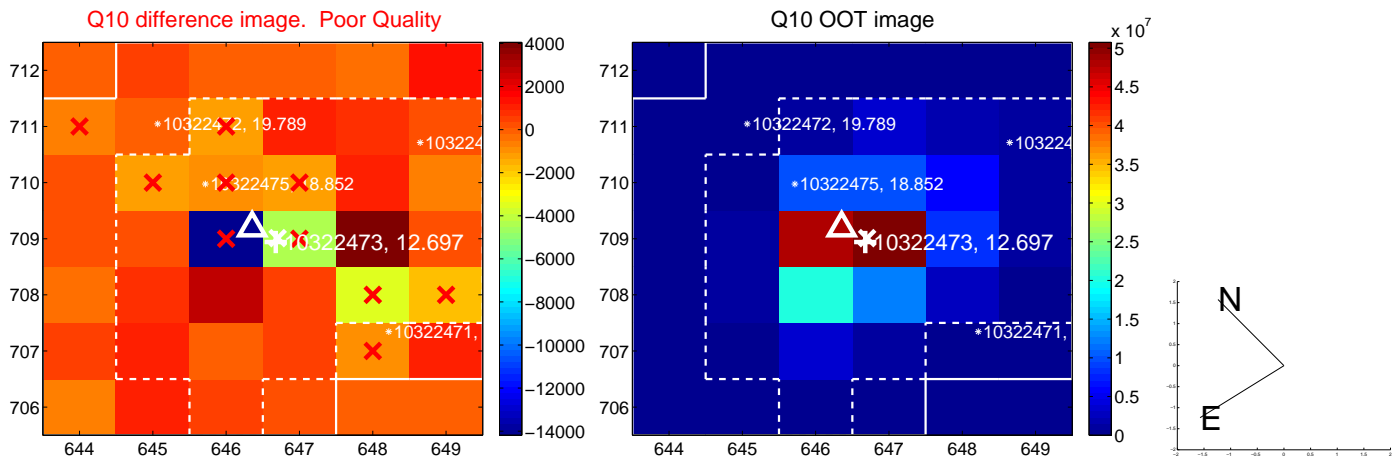
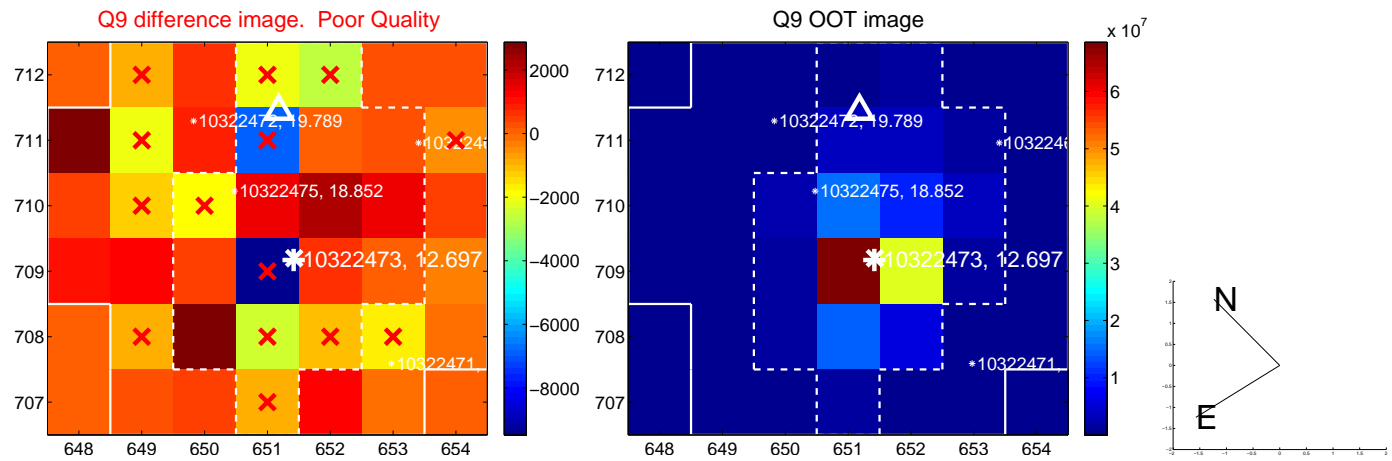
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



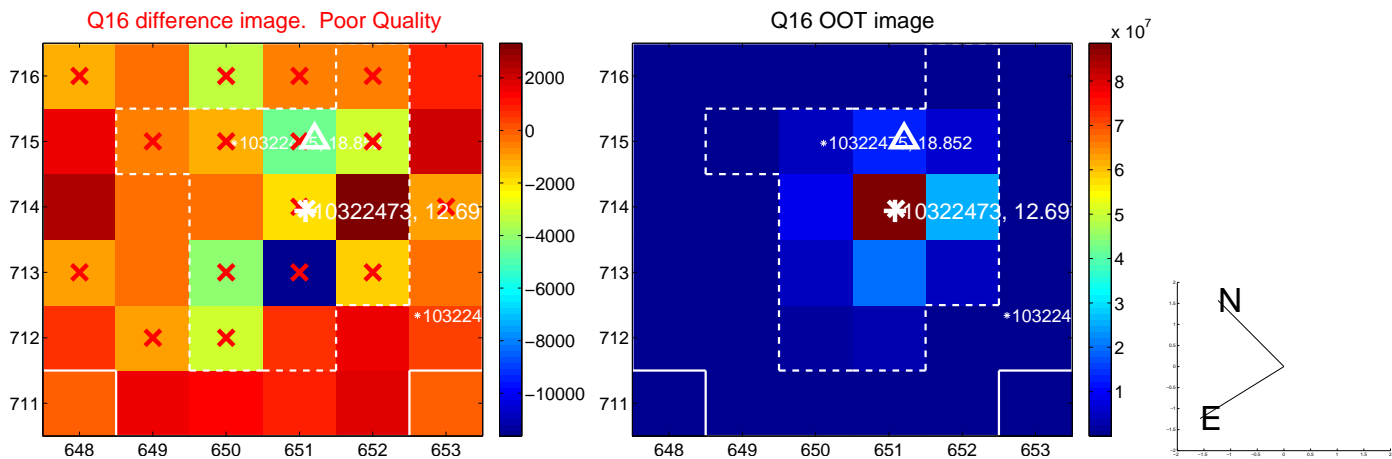
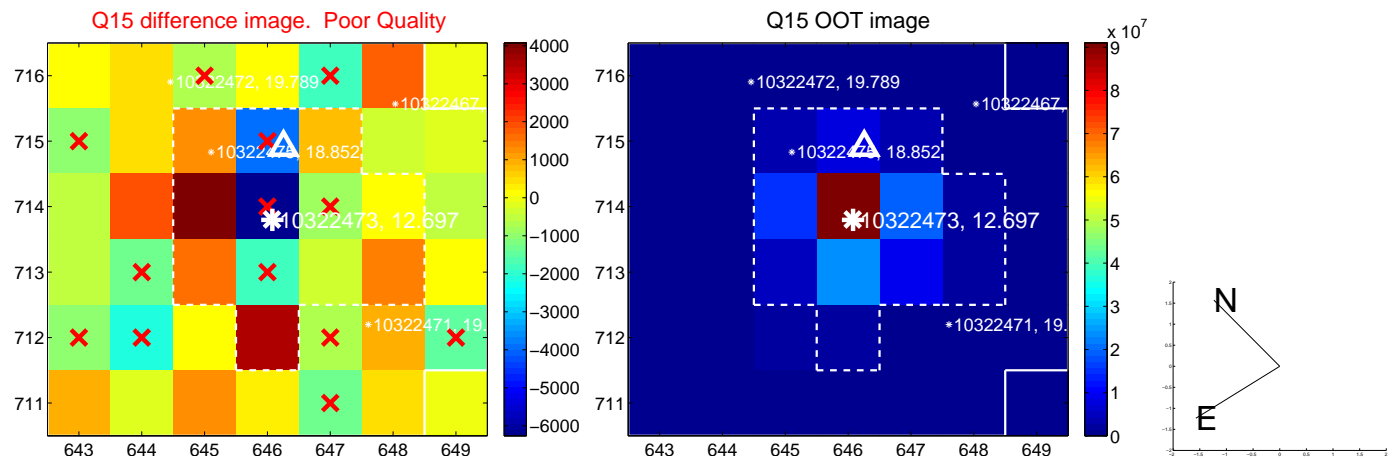
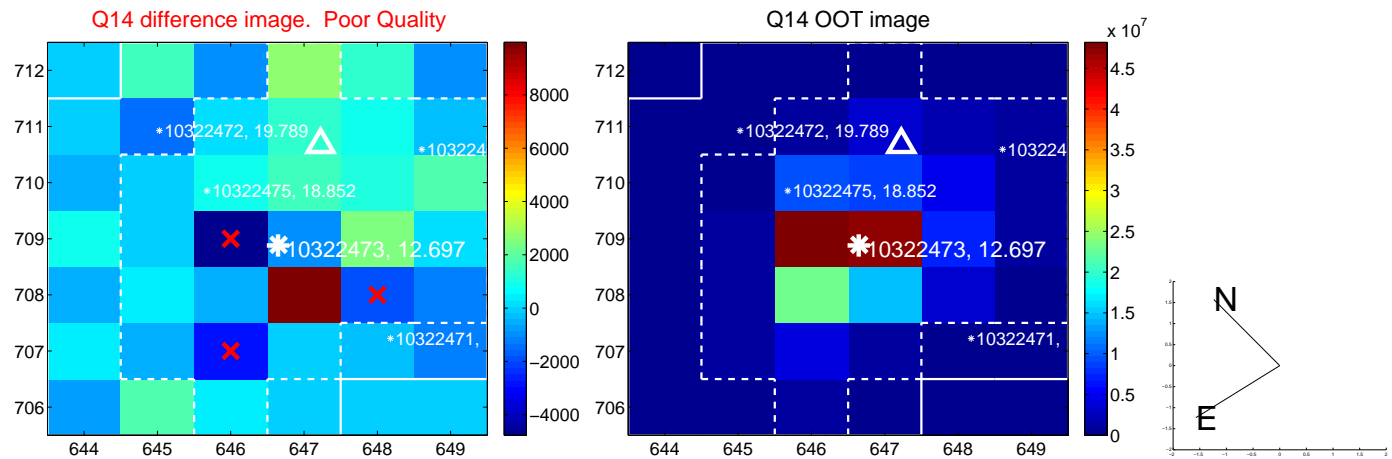
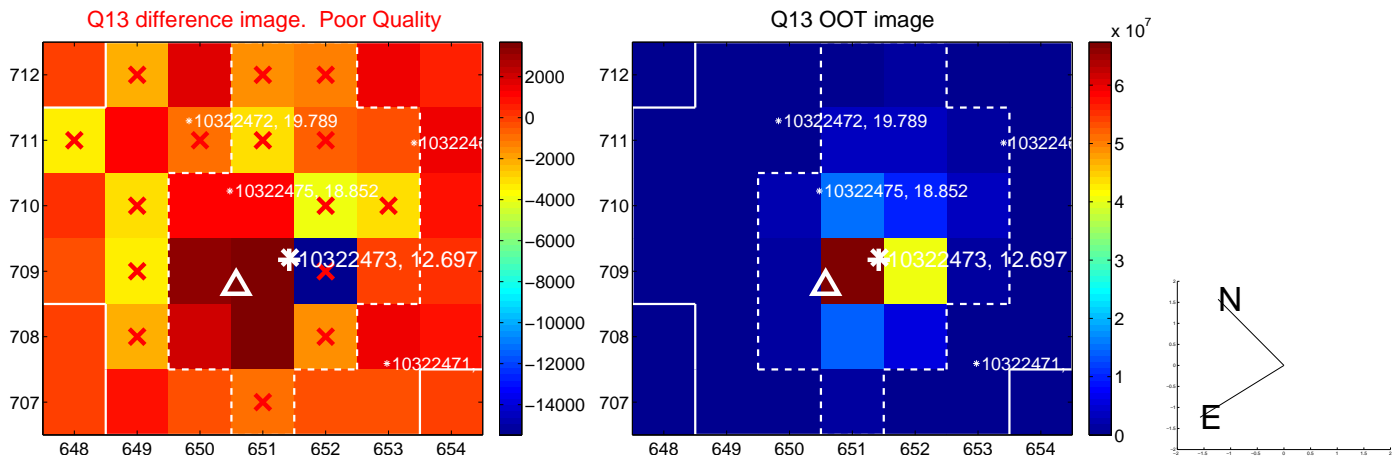
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



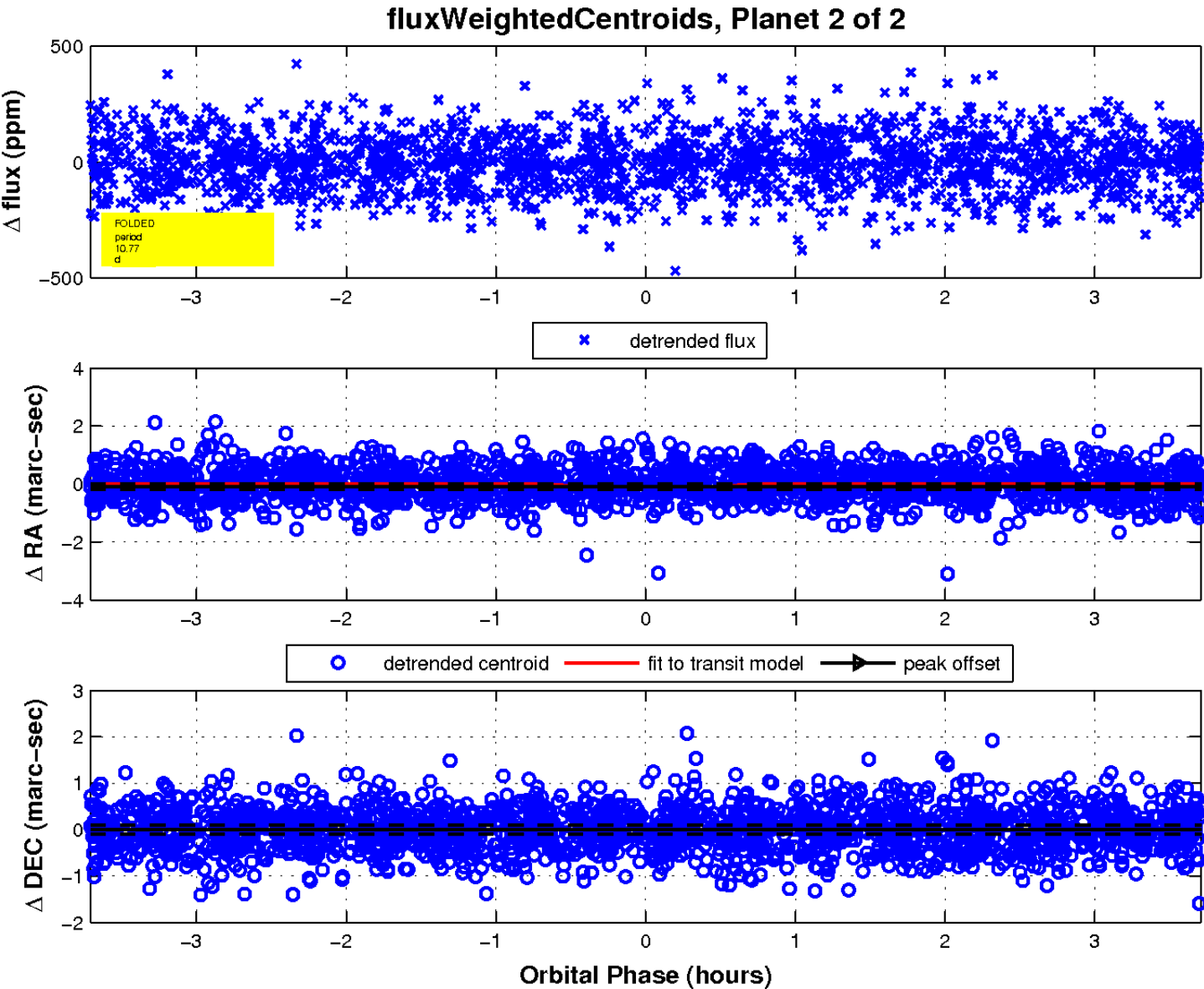
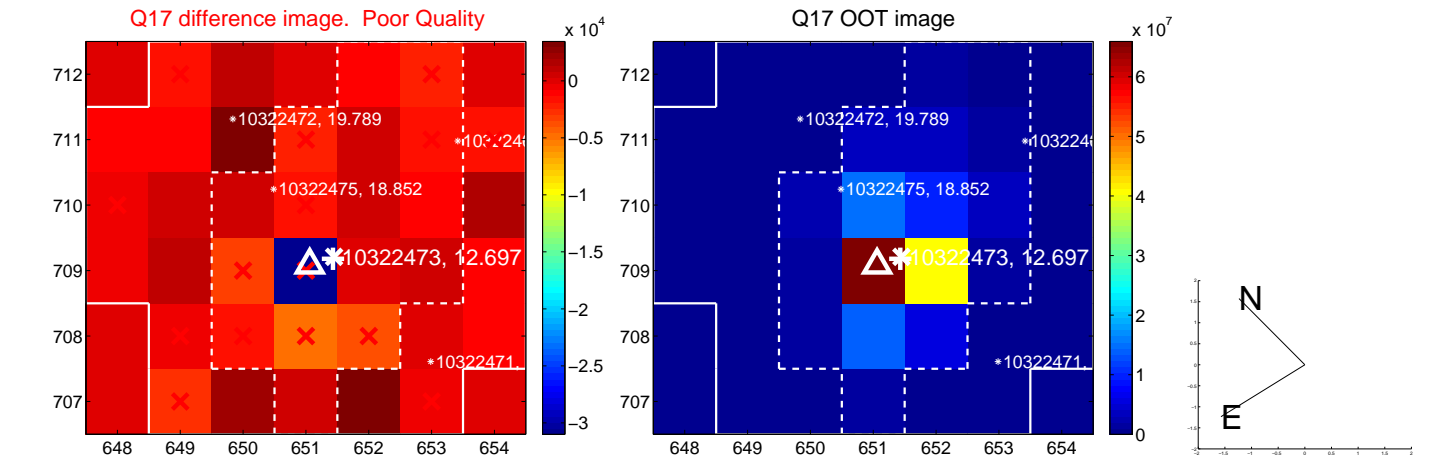
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

