

KIC 004479633

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})
004479633-01	OBS	2814.01	0.950142	132.292929	104.1	0.997	13.5	15.9	0.95	6045	1.16	2974.61
004479633-02	OBS	No	0.950144	131.814725	99.0	0.897	13.5	14.3	0.95	6045	1.13	2974.60

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004479633-01	OBS	FP	0.00	0	0	1	0	MOD_SEC_DV—MOD_SEC_ALT—PLANET_PERIOD_IS_HALF_ALT—HAS_SEC_TCE—CENT_UNRESOLVED_OFFSET
004479633-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_OFFSET

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

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

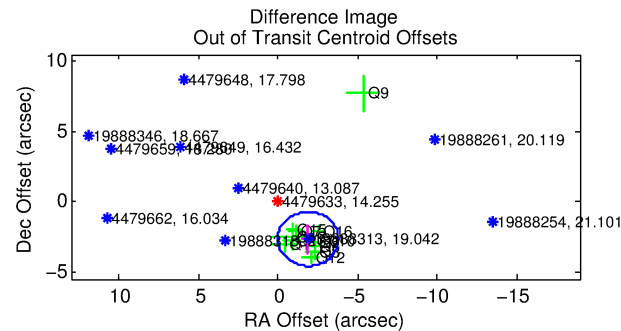
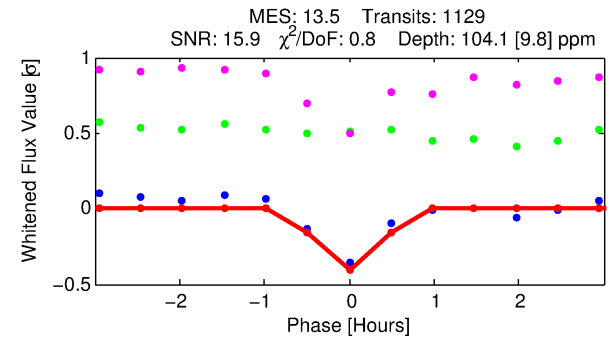
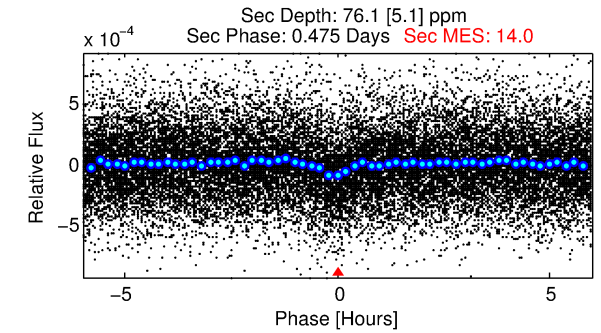
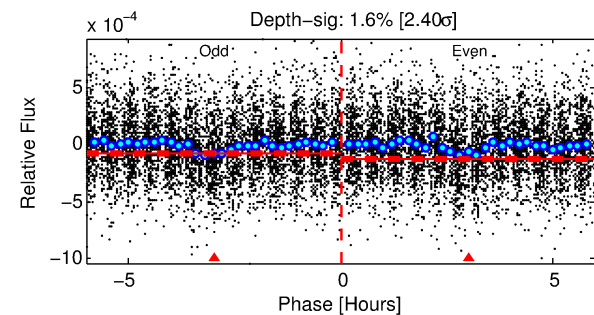
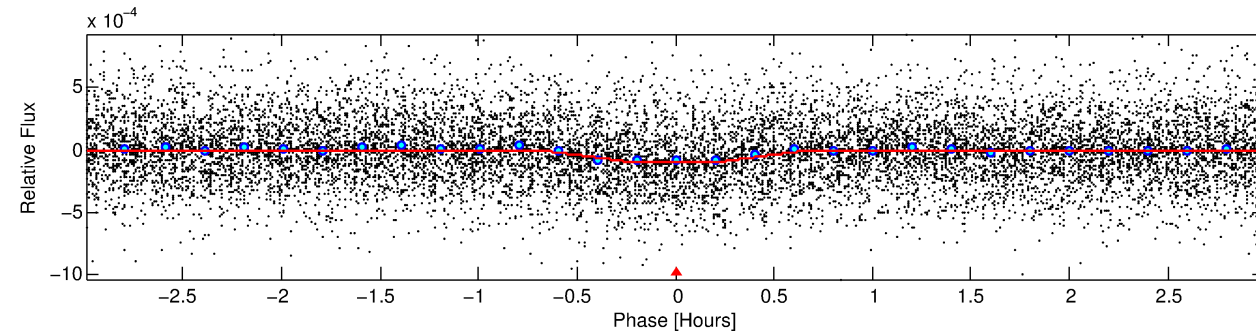
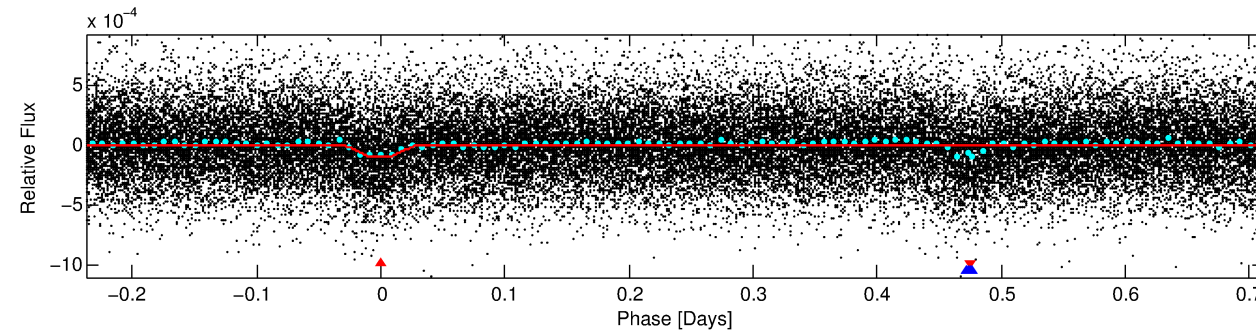
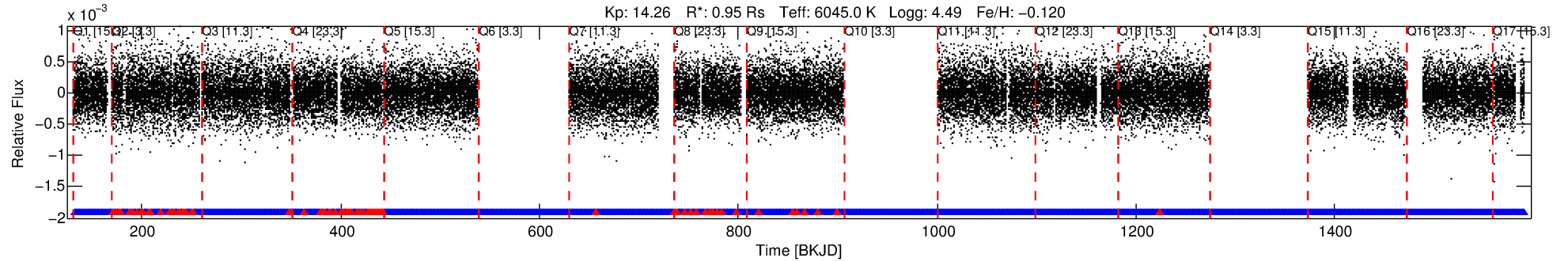
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004479633-01

No Significant Match Found

DV One-Page Summary

KIC: 4479633 Candidate: 1 of 2 Period: 0.950 d
KOI: K02814 Corr: No Ephemeris Match



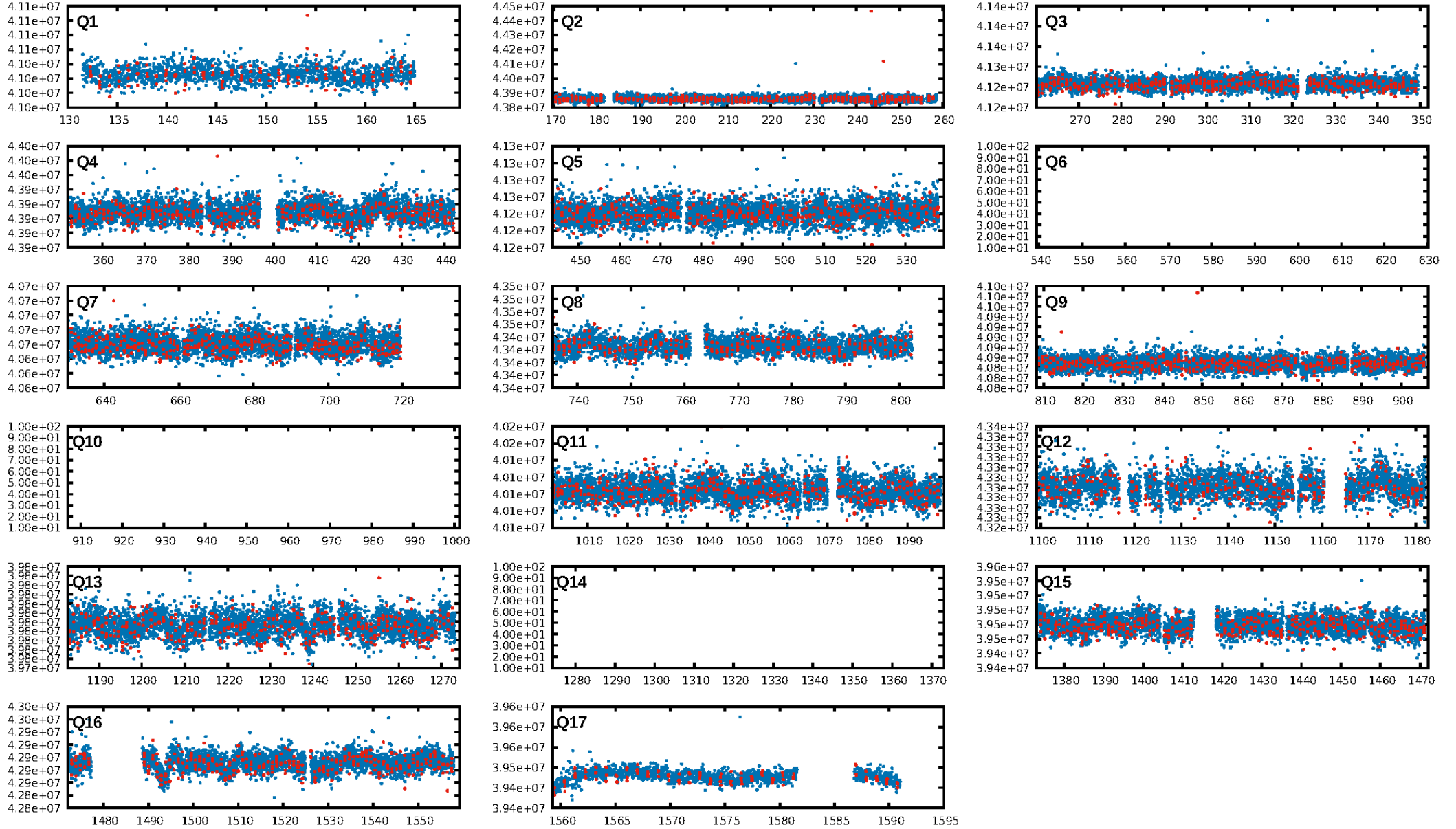
DV Fit Results:

Period = 0.95014 [0.00001] d
Epoch = 132.2929 [0.0011] BKJD
Rp/R* = 0.0111 [0.0044]
a/R* = 3.47 [6.46]
b = 0.90 [0.43]
Seff = 2974.61 [1200.84]
Teff = 1883 [190] K
Rp = 1.16 [0.58] Re
a = 0.0192 [0.0050] AU
Ag = 11.43 [9.98] [1.05 σ]
Teffp = 5353 [1065] K [3.21 σ]

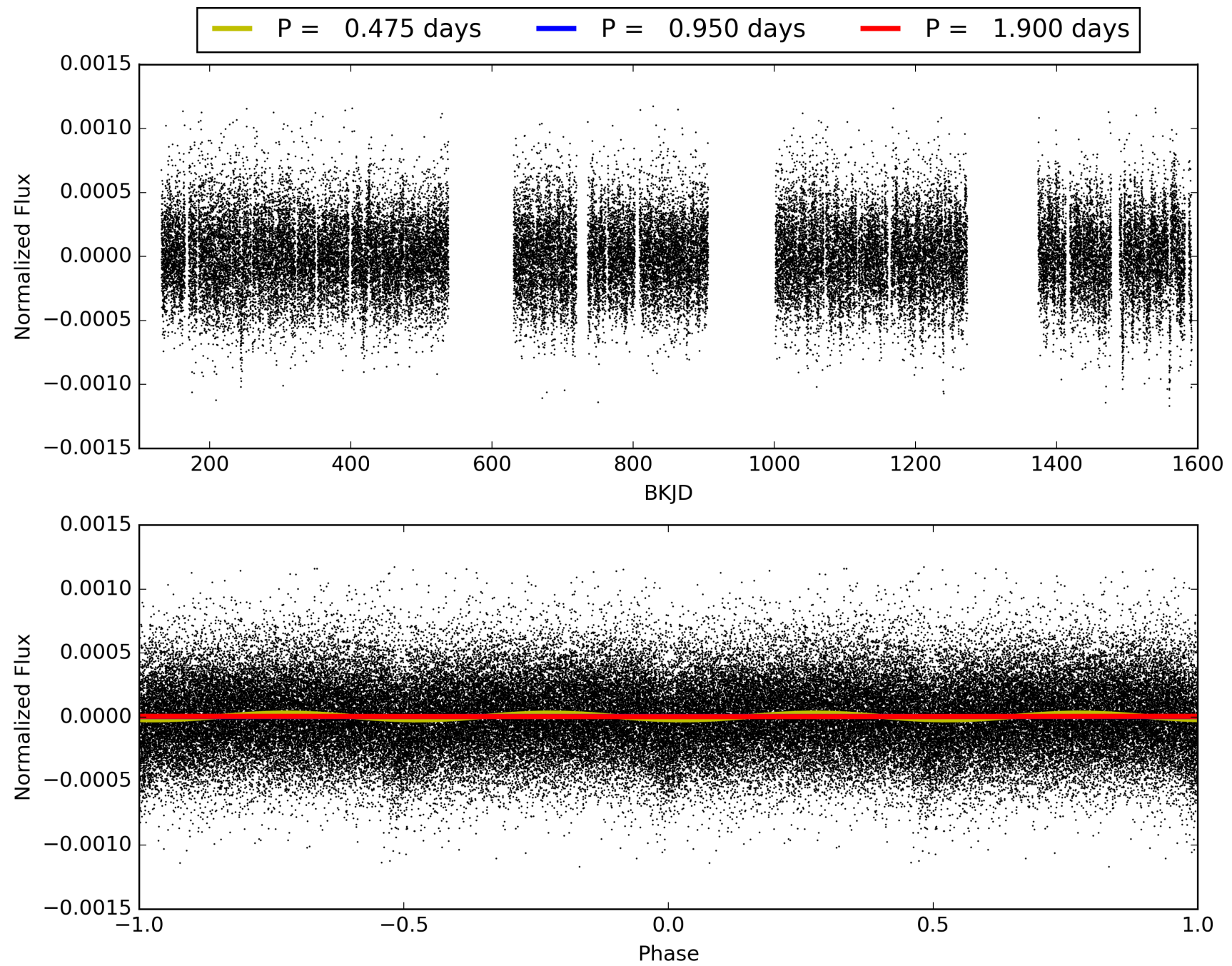
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.95e-44
RollingBand-fgt: 0.92 [985/1065]
GhostDiagnostic-chr: 15.32
Centroid-sig: 0.0%
Centroid-so: 3.232 arcsec [4.53 σ]
OotOffset-rm: 3.265 arcsec [5.09 σ]
KicOffset-rm: 3.012 arcsec [5.37 σ]
OotOffset-st: 1/3/3/4 [11]
KicOffset-st: 1/3/3/4 [11]
DiffImageQuality-fgm: 0.73 [8/11]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 004479633-01, PDC Light Curves

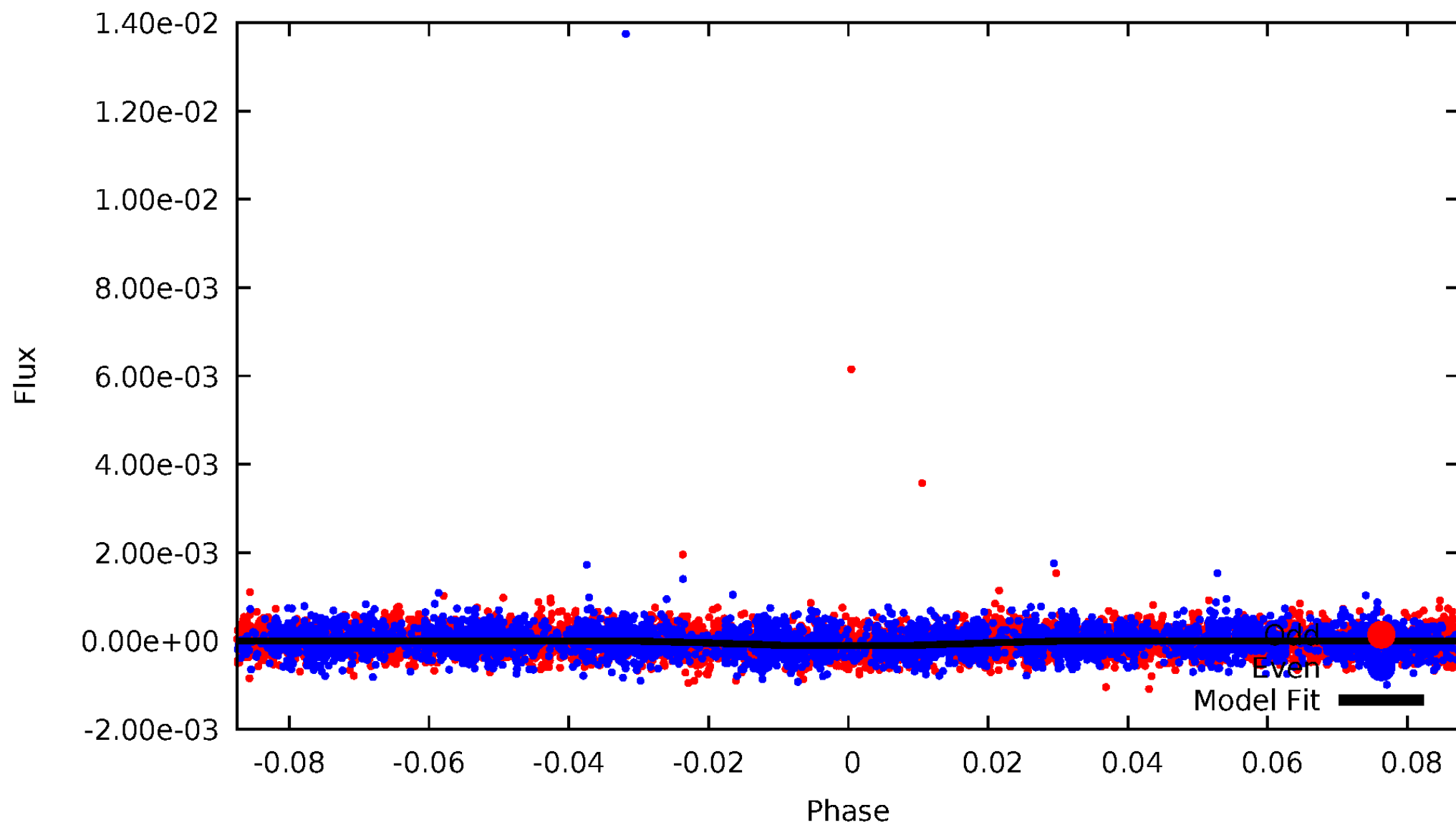


TCE 004479633-01



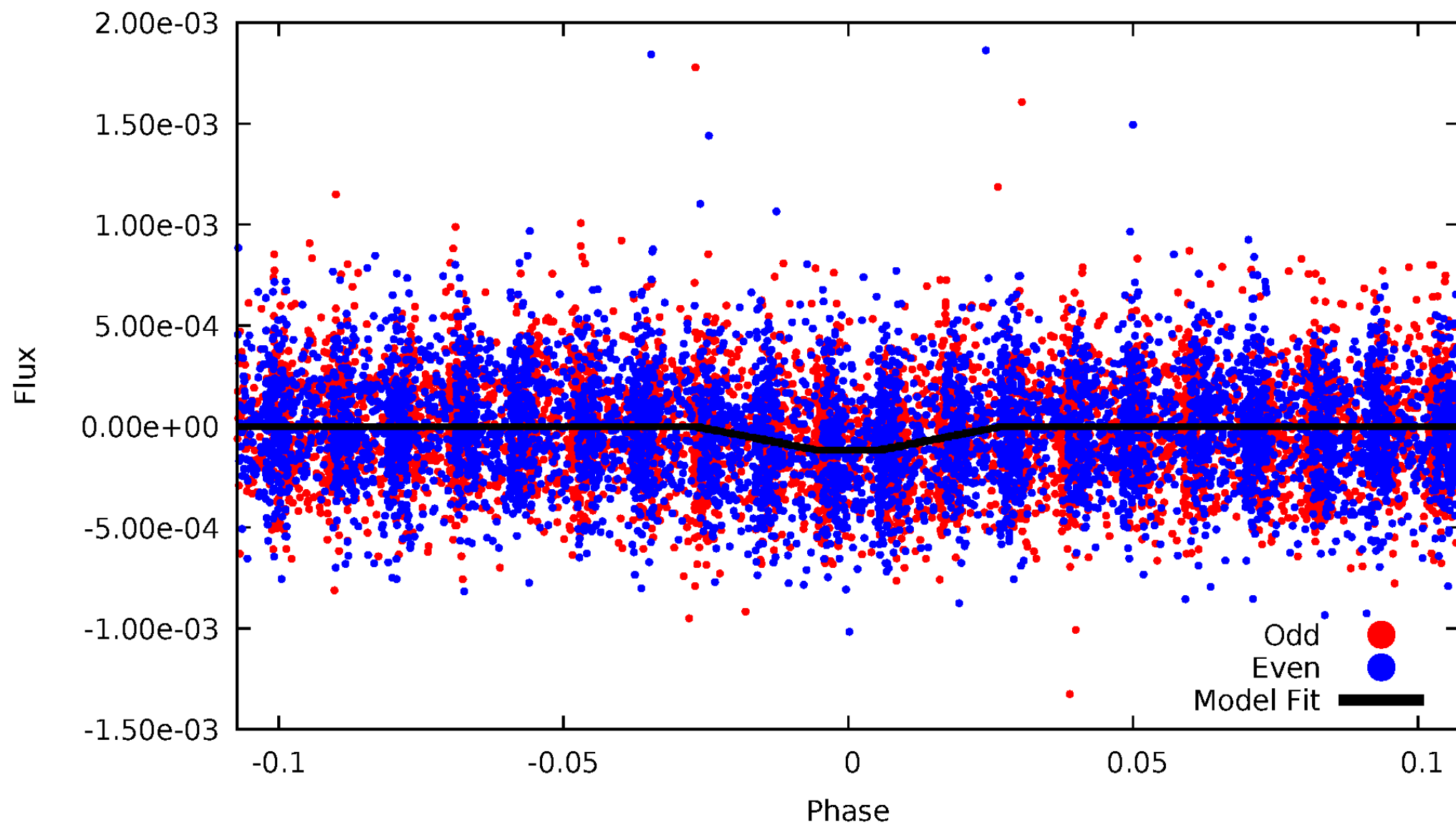
DV Odd/Even

TCE 004479633-01

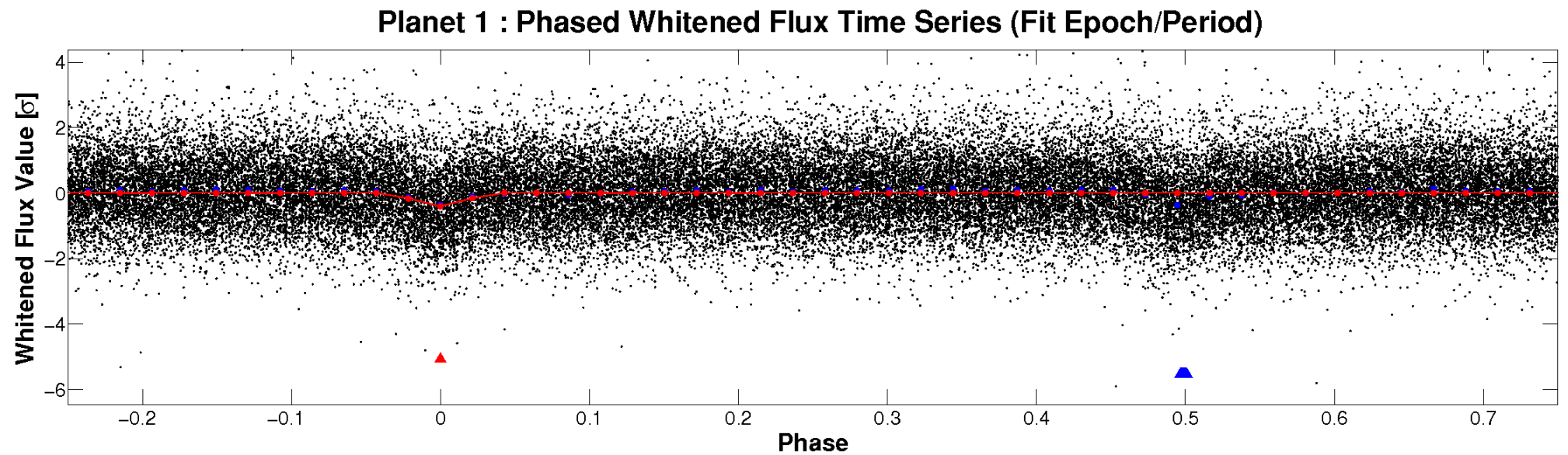
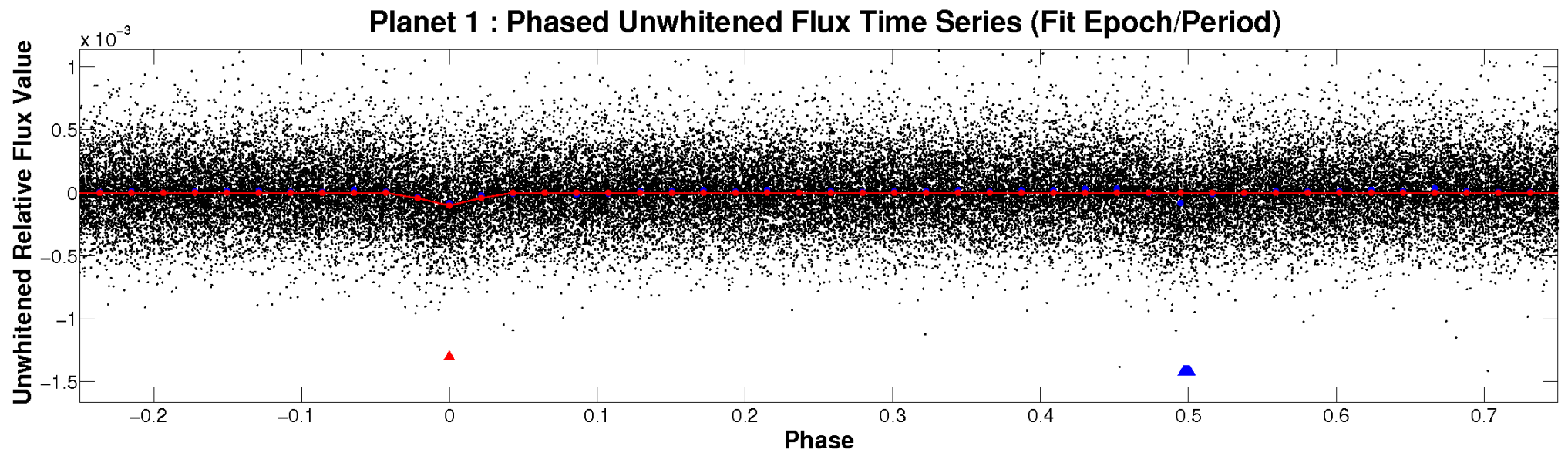


ALT Odd/Even

TCE 004479633-01

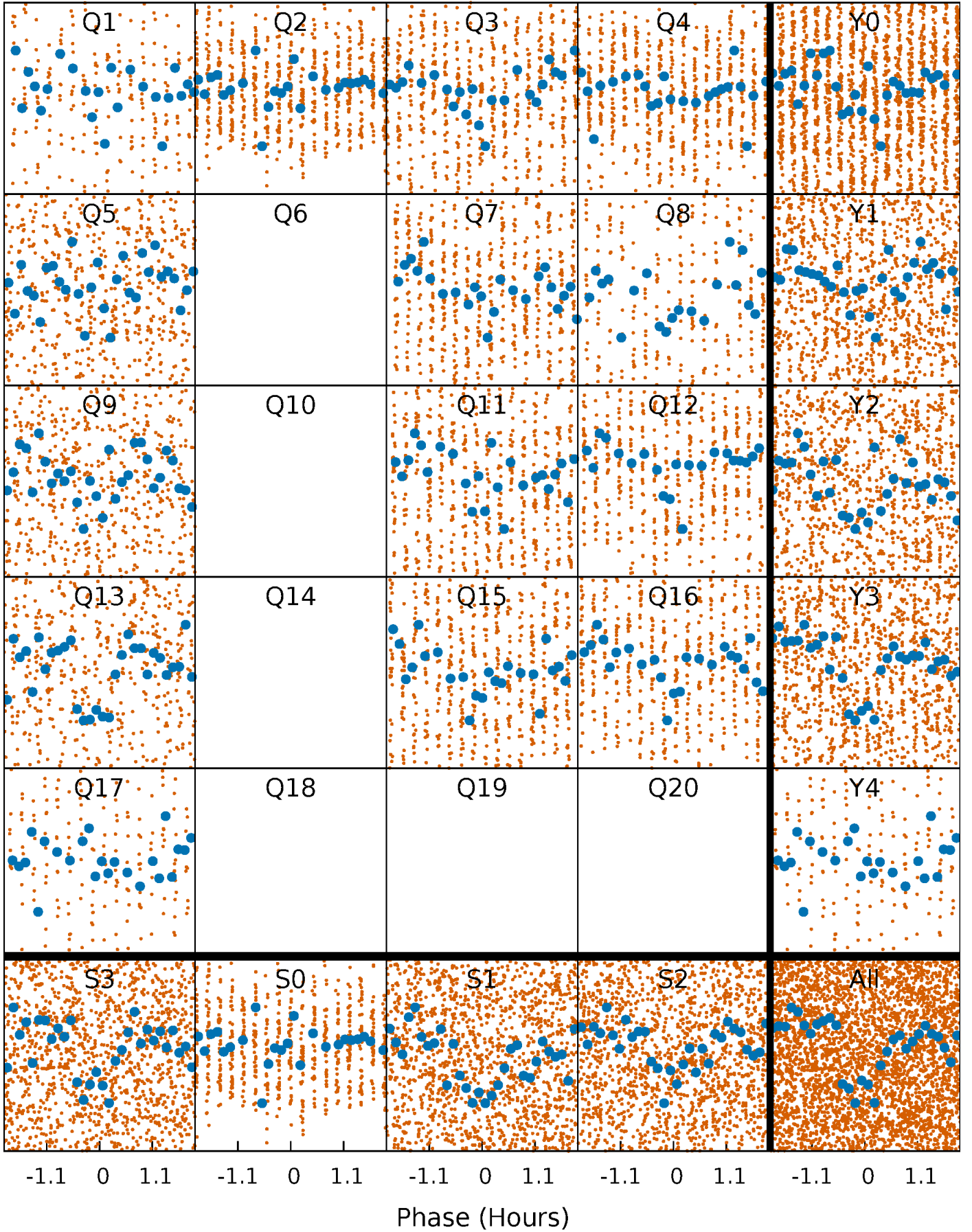


Non-Whitened Vs. Whitened Light Curve



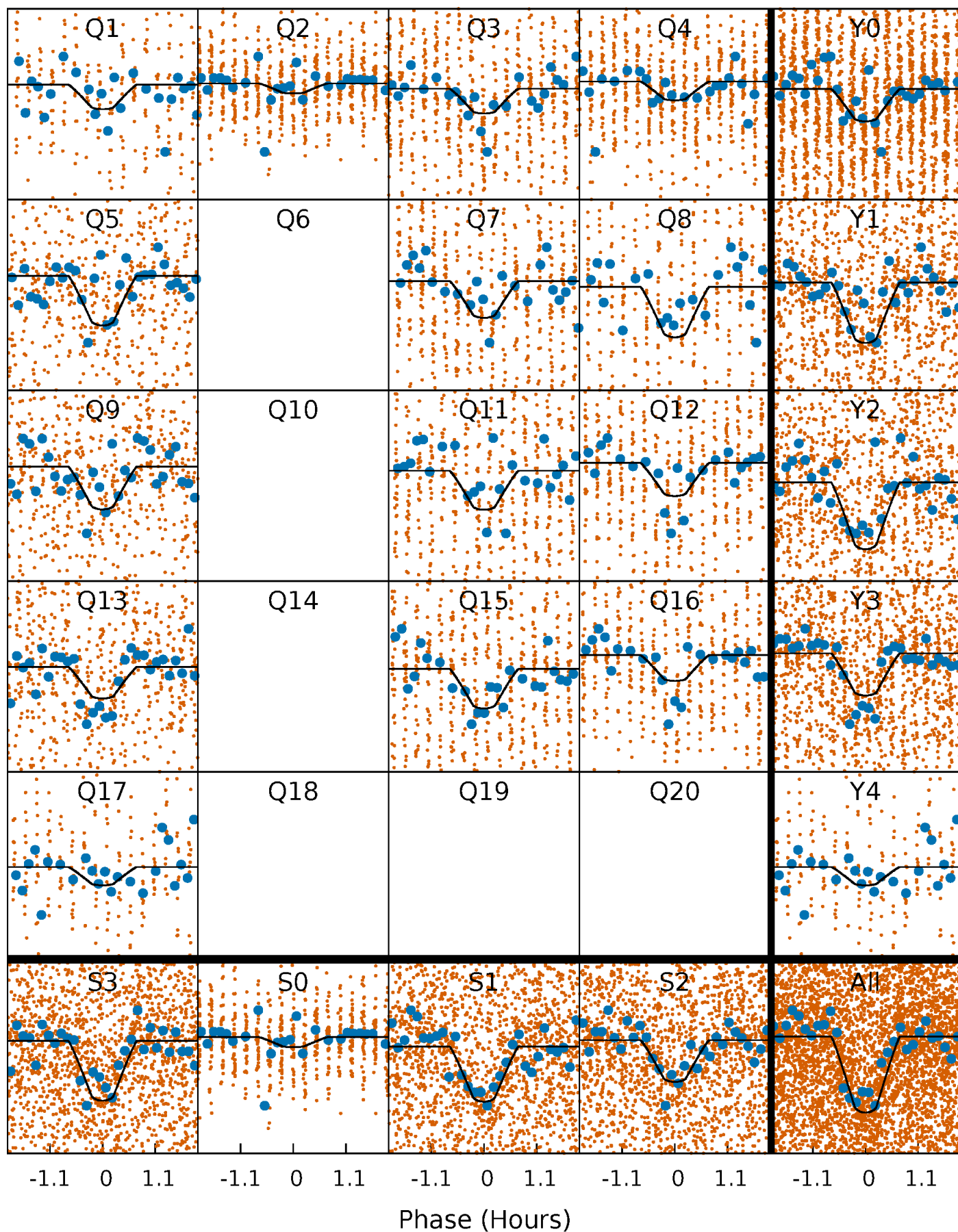
PDC Quarter-Phased Transit Curves

TCE 004479633-01 P= 0.950142 Days $T_0=132.292929$ (BKJD)



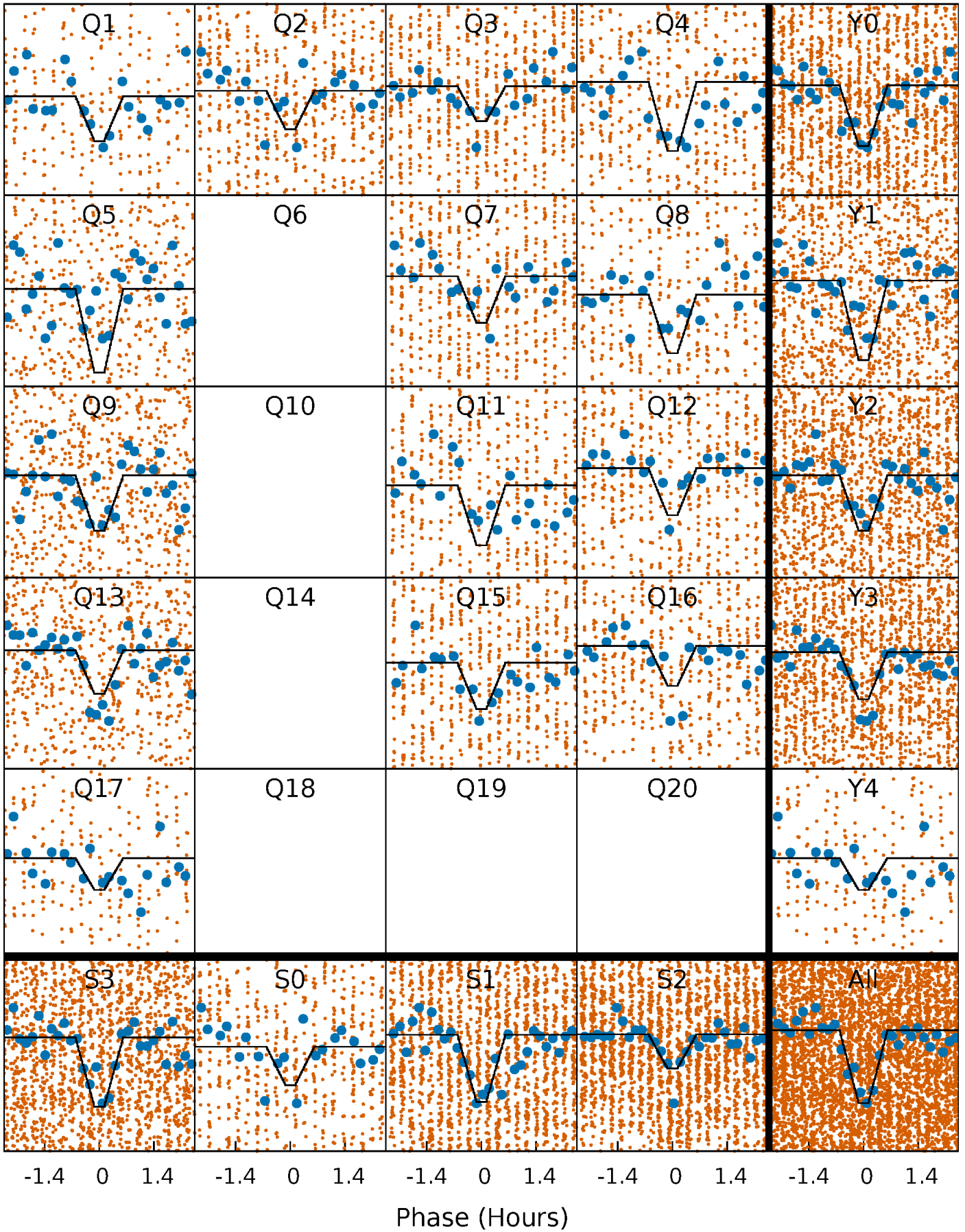
DV Quarter-Phased Transit Curves

TCE 004479633-01 P= 0.950142 Days $T_0=132.292929$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

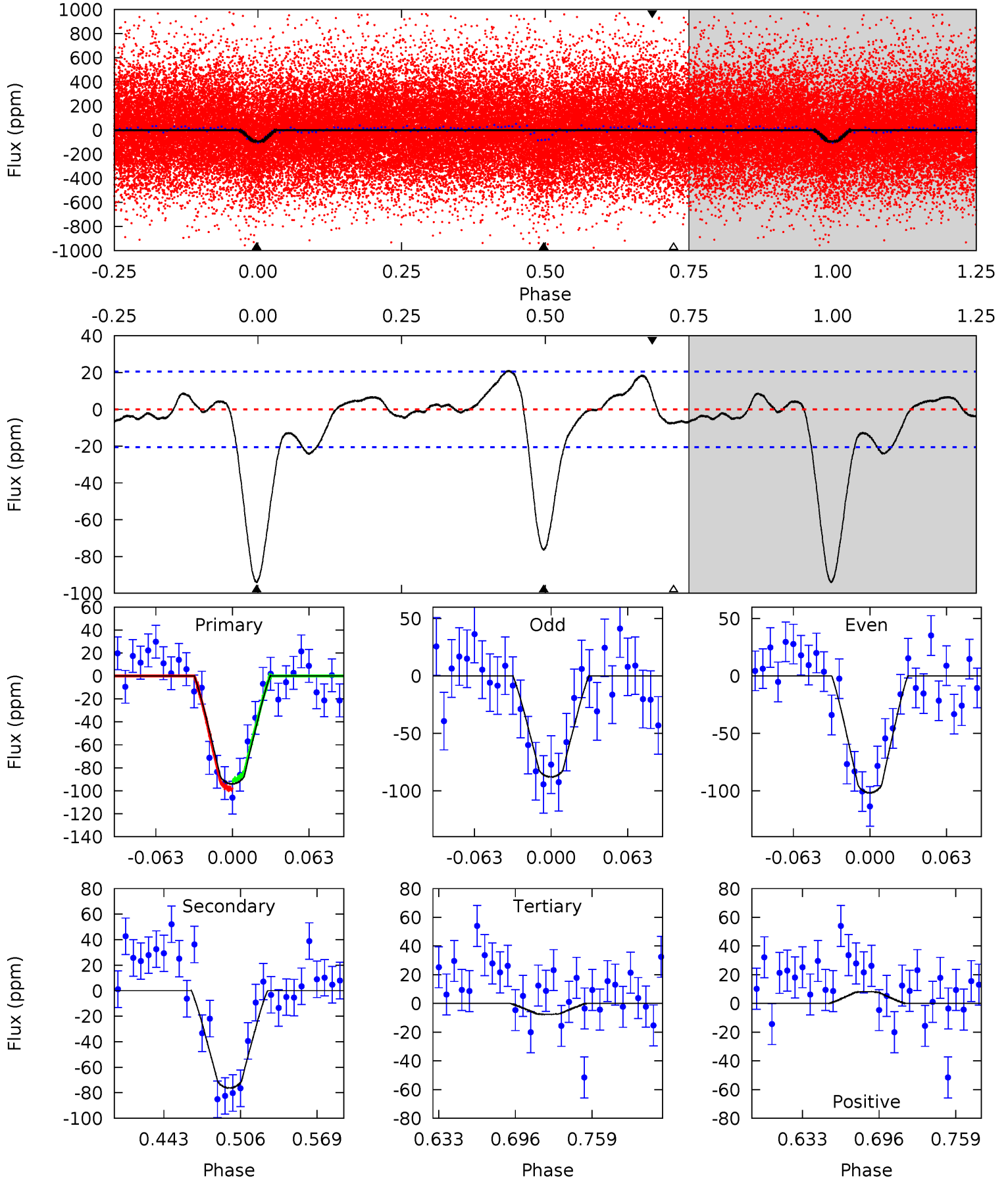
TCE 004479633-01 P= 0.950134 Days $T_0=132.298120$ (BKJD)



DV Model-Shift Uniqueness Test

004479633-01, P = 0.950142 Days, E = 131.342787 Days

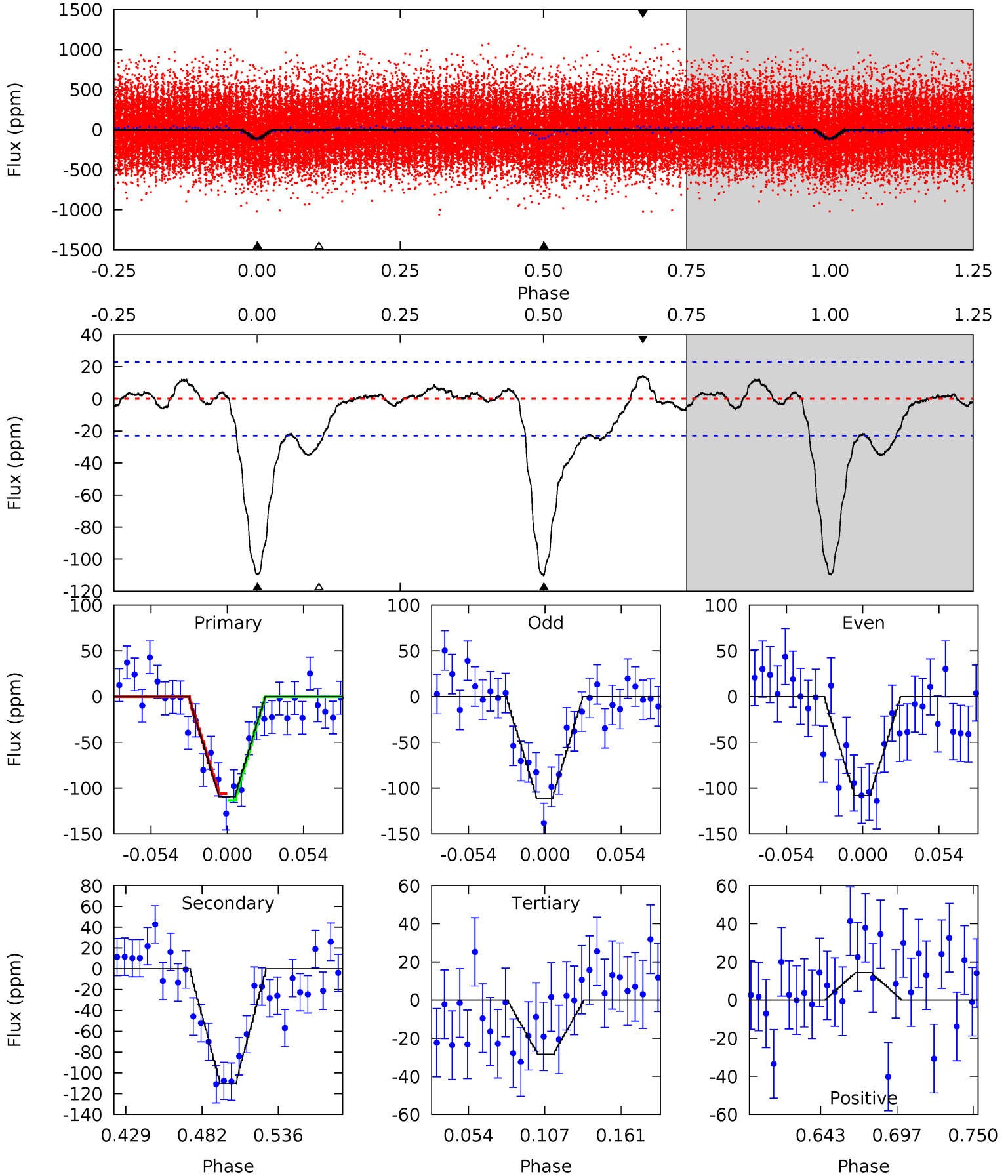
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.3	17.3	1.73	1.87	4.66	1.86	1.89	19.6	19.4	15.6	15.4	1.56	0.87	0.18	0.90



Alt Model-Shift Uniqueness Test

004479633-01, P = 0.950134 Days, E = 131.347986 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.3	22.4	5.79	2.93	4.69	1.93	2.34	16.5	19.4	16.7	19.5	0.32	1.01	0.12	0.76



Stellar Parameters For KIC 004479633

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6045^{+162}_{-198}	$4.494^{+0.052}_{-0.208}$	$-0.120^{+0.250}_{-0.350}$	$0.955^{+0.300}_{-0.100}$	$1.038^{+0.139}_{-0.139}$	$1.679^{+0.361}_{-0.912}$
	+3%/-3%	+1%/-5%	+208%/-292%	+31%/-10%	+13%/-13%	+22%/-54%
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 004479633-01 / KOI 2814.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-76 ± 4	$1.24^{+0.48}_{-0.53}$	2681^{+181}_{-140}	5281^{+1665}_{-704}	$9.757^{+19.875}_{-4.794}$
Alt.	-110 ± 5	$1.17^{+0.53}_{-0.46}$	2690^{+186}_{-132}	5915^{+1914}_{-872}	16^{+29}_{-8}

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

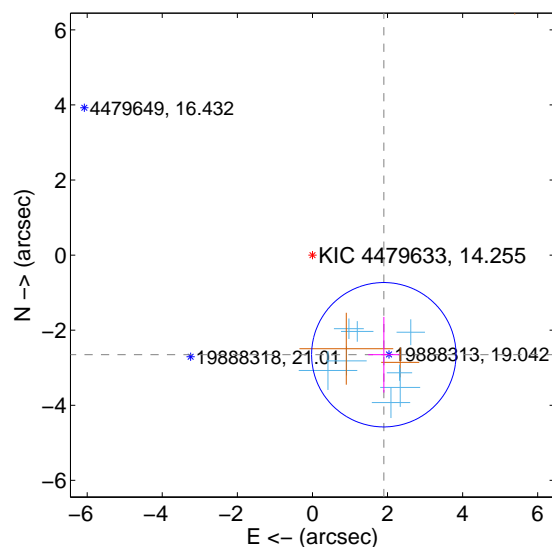
Supplemental centroid analysis for 004479633-01. Kepler magnitude: 14.26. Transit SNR 15.94

There are 8 quarters with good PRF difference image offsets

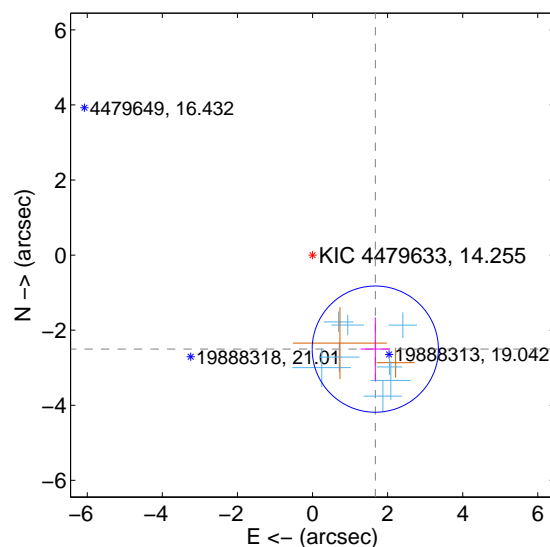
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.265 ± 0.641	5.09	-1.901 ± 0.412	-2.654 ± 1.008
PRF-fit source offset from KIC position	3.012 ± 0.560	5.37	-1.672 ± 0.392	-2.505 ± 0.846
photometric centroid source offset	3.23 ± 0.71	4.53	-0.60 ± 0.83	-3.18 ± 0.71

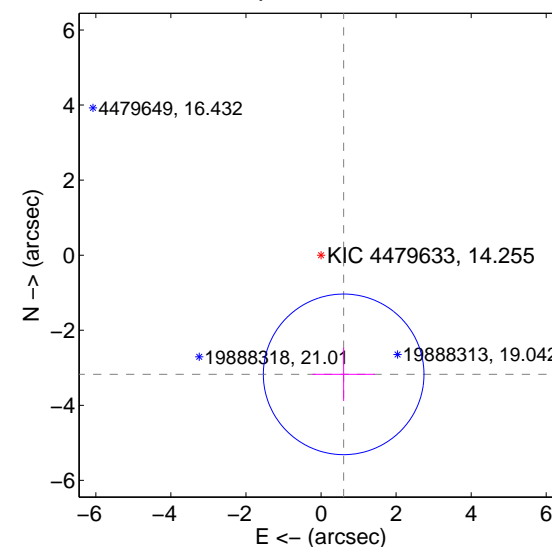
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

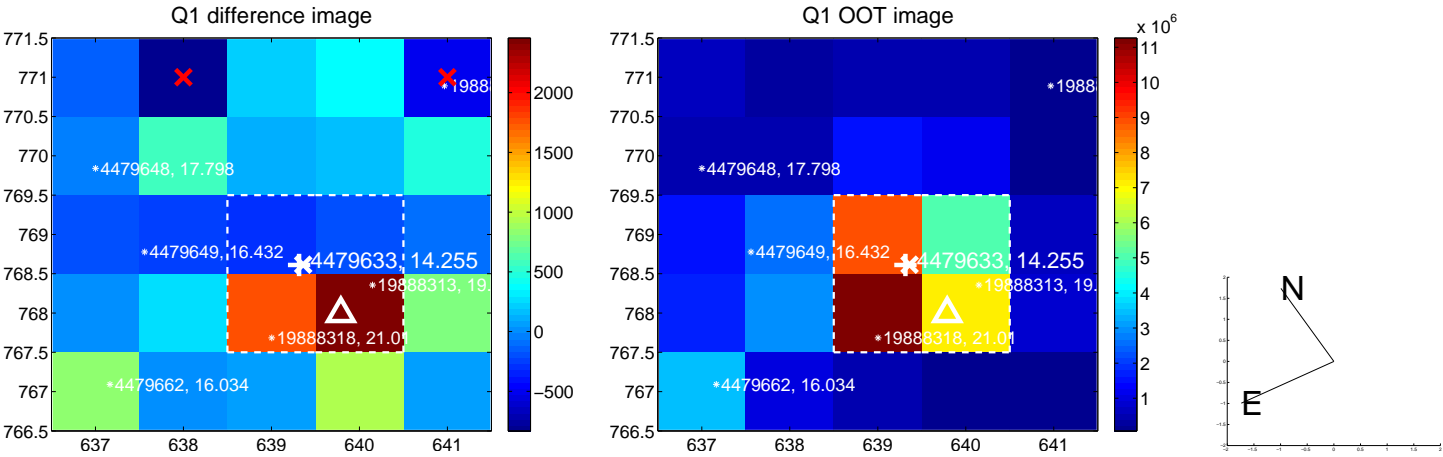


offset from photometric centroids

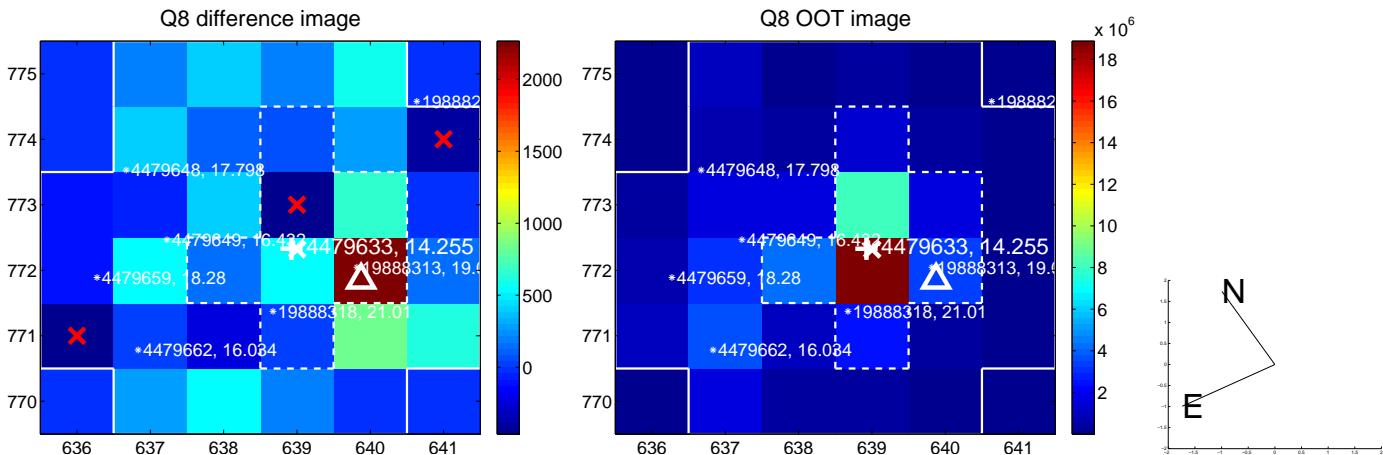
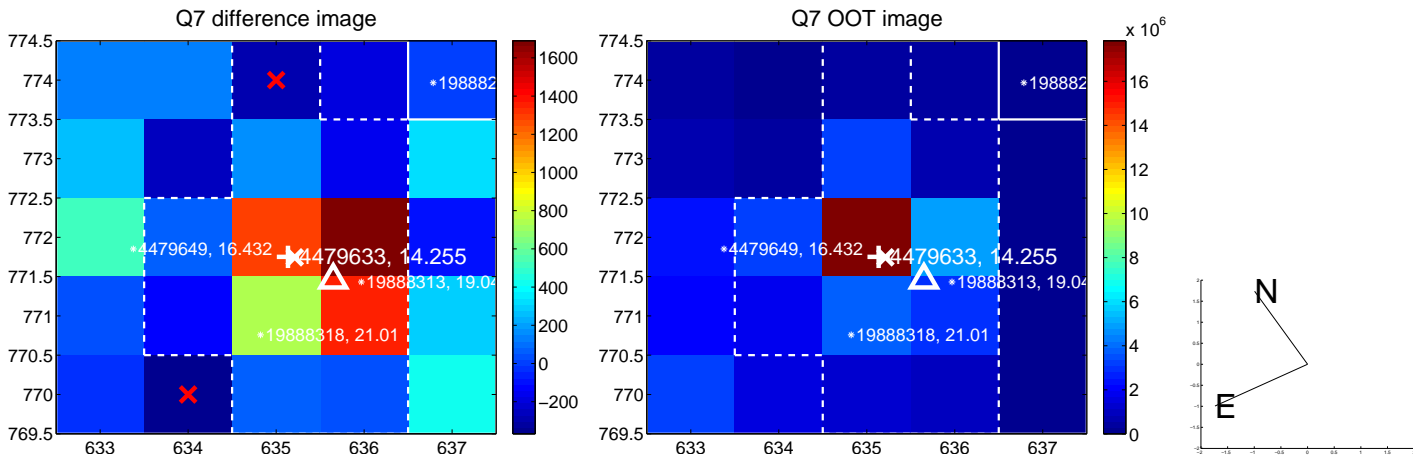
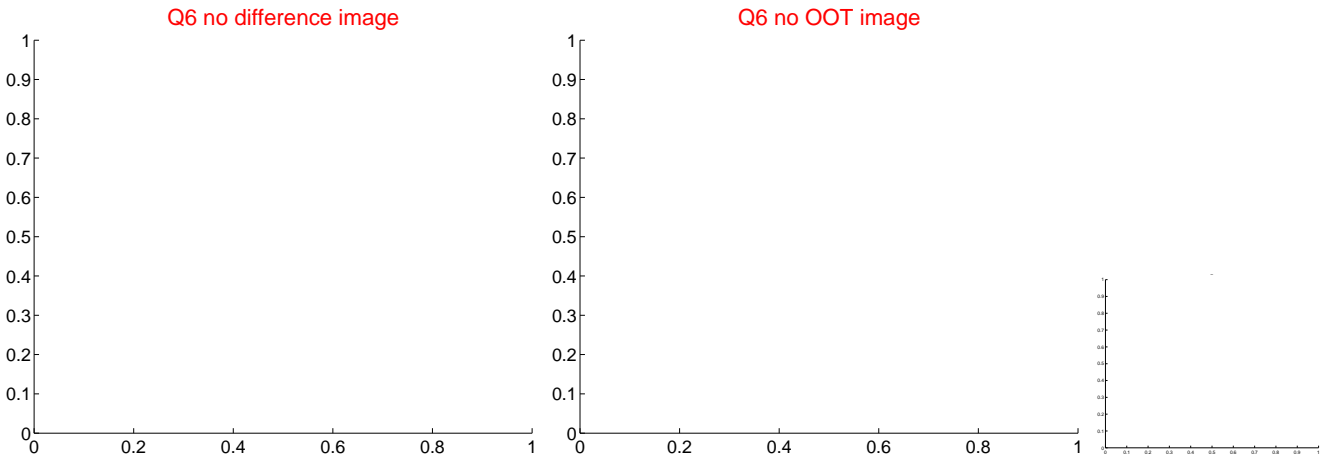
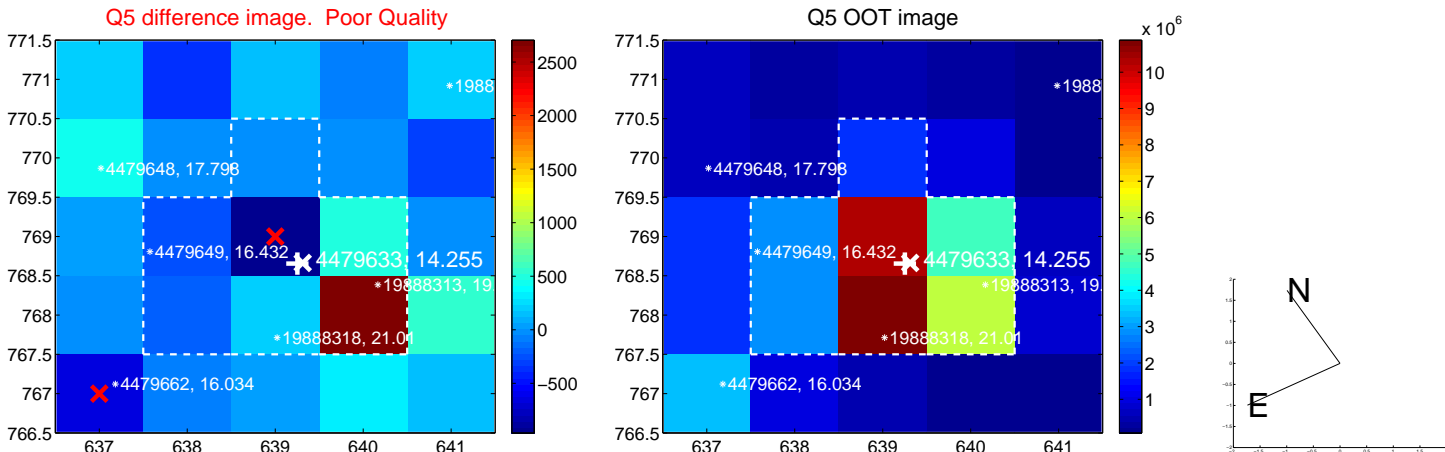


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

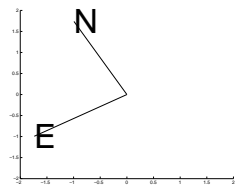
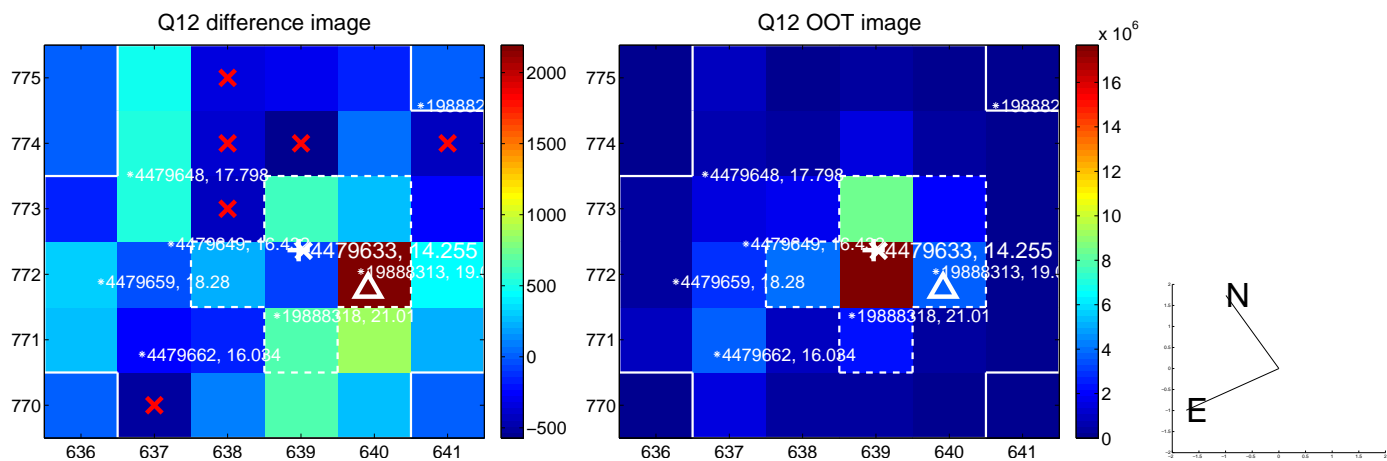
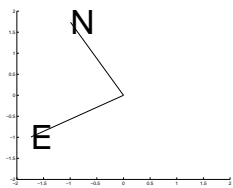
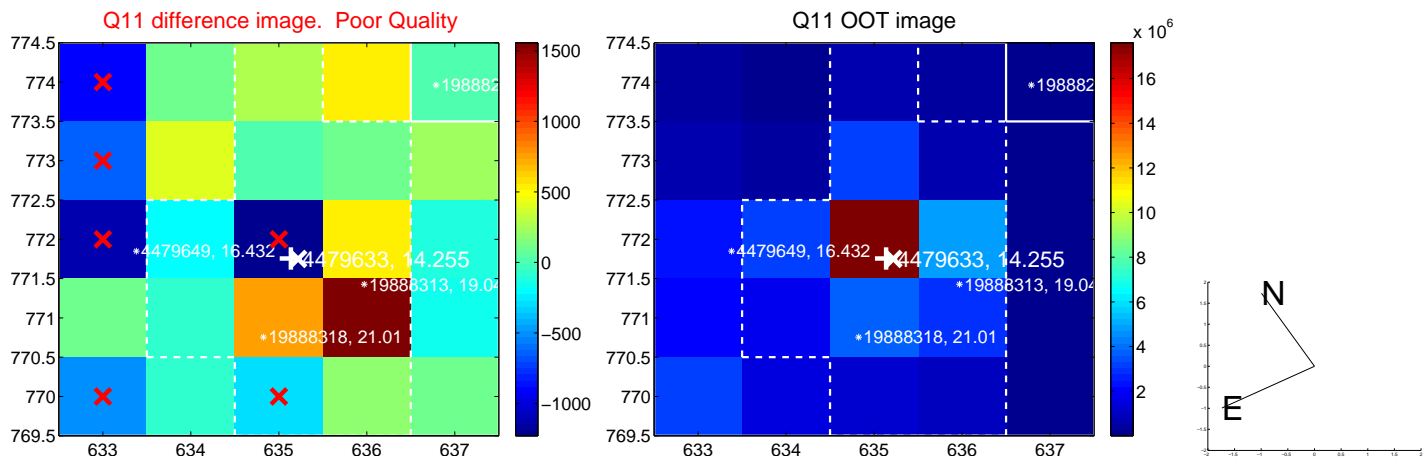
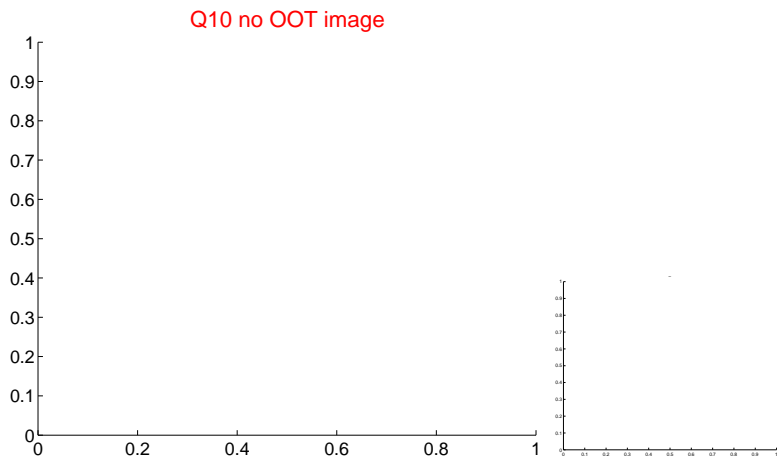
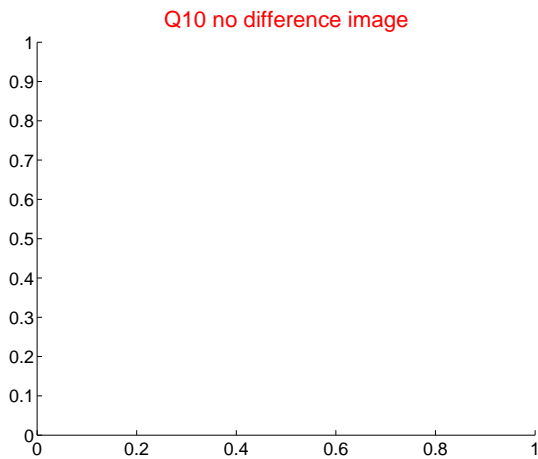
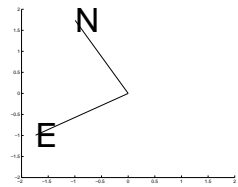
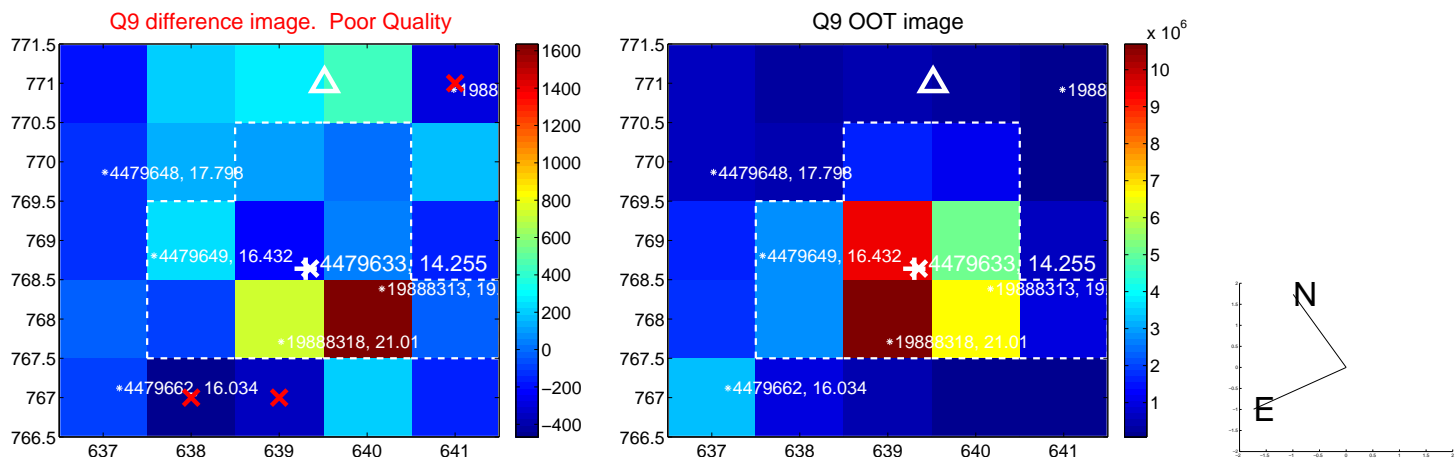
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



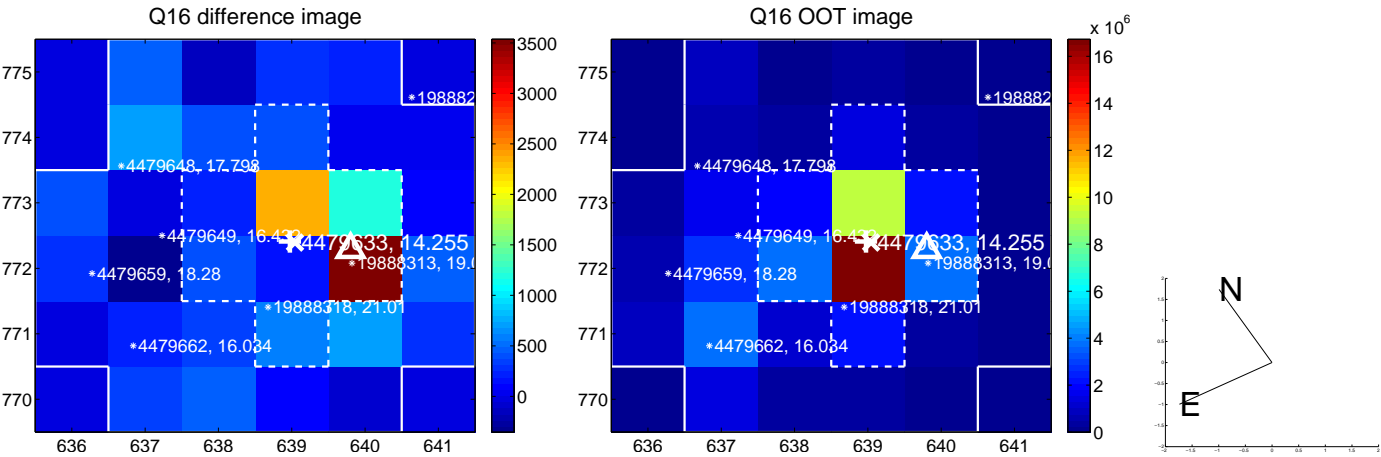
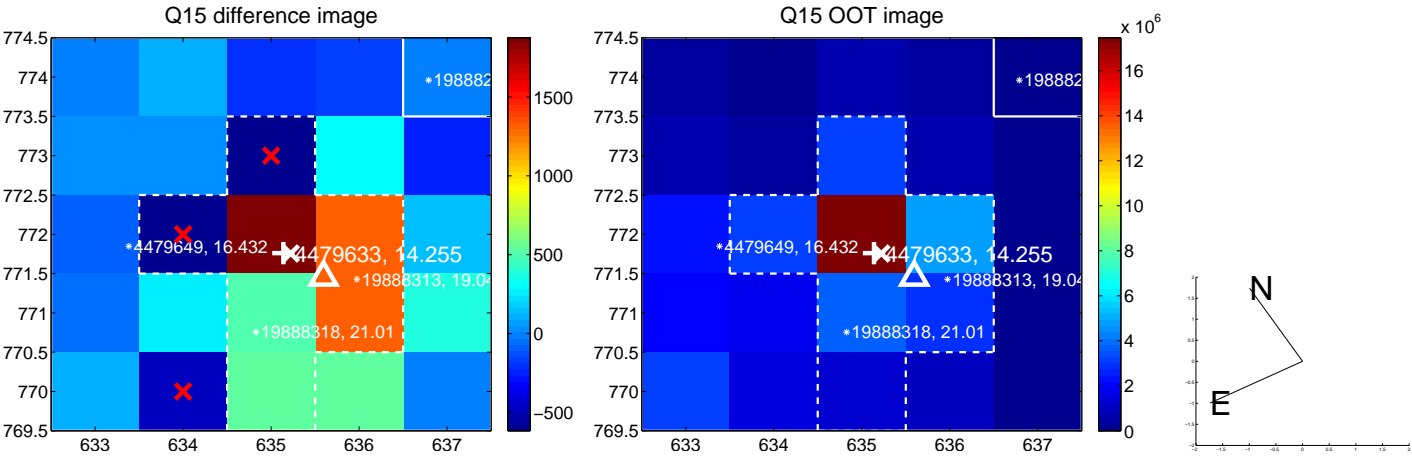
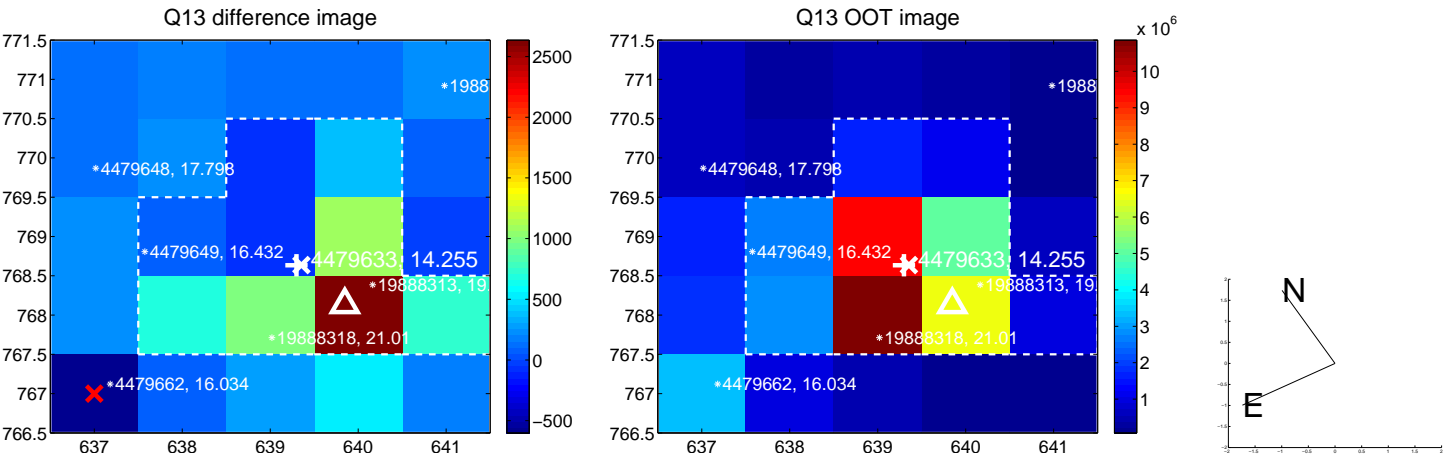
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



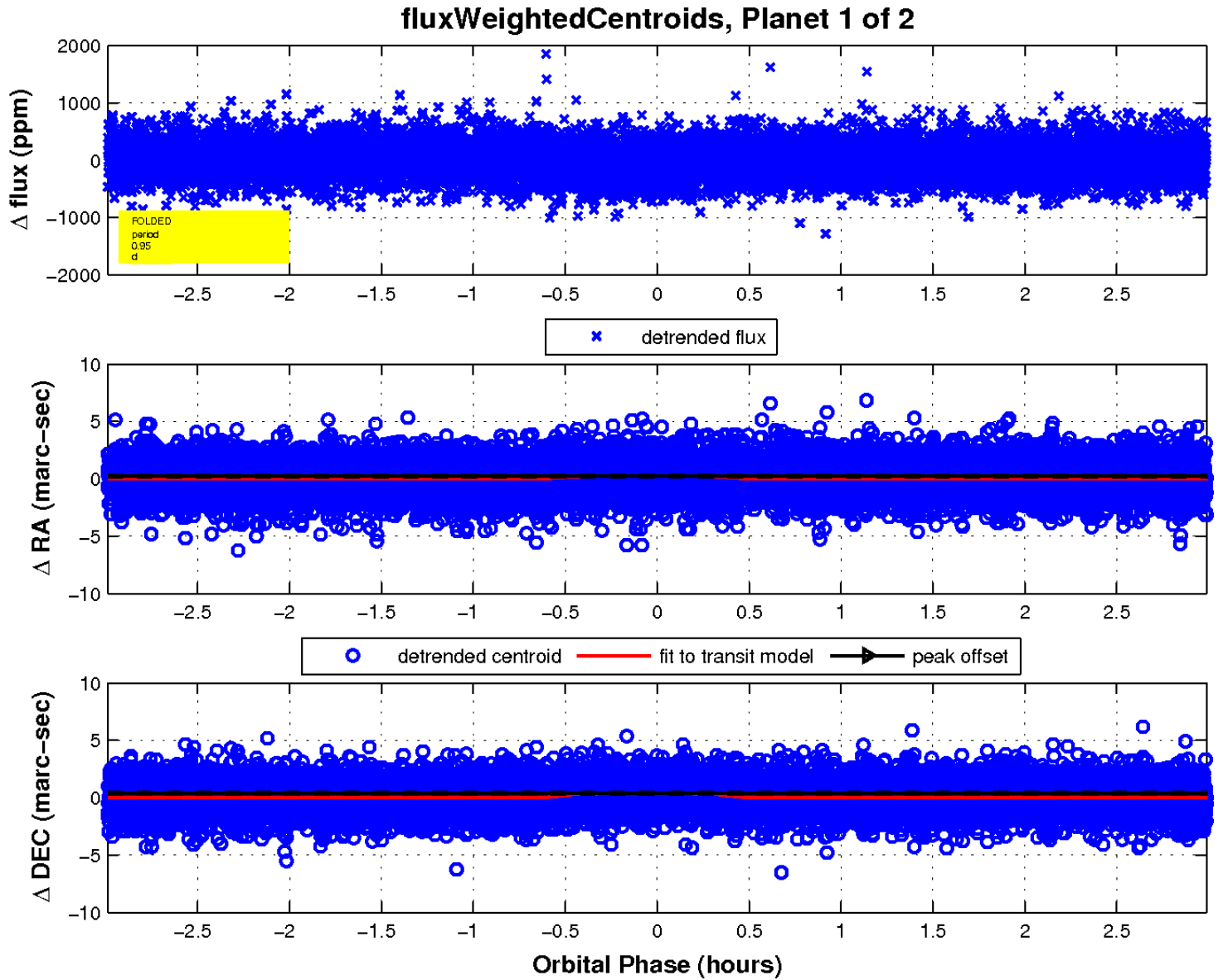
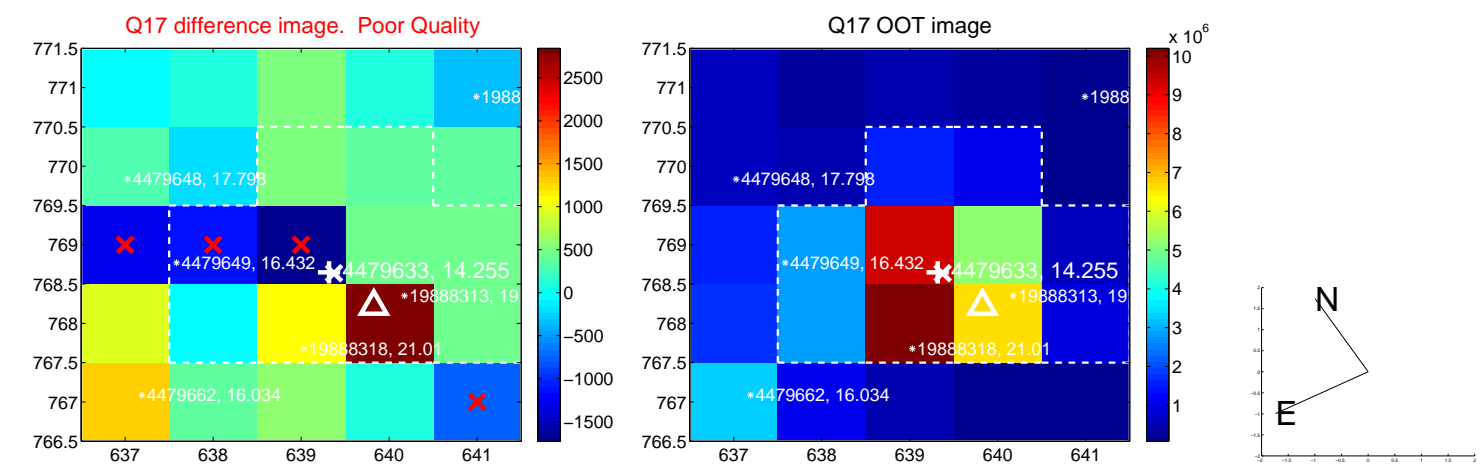
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

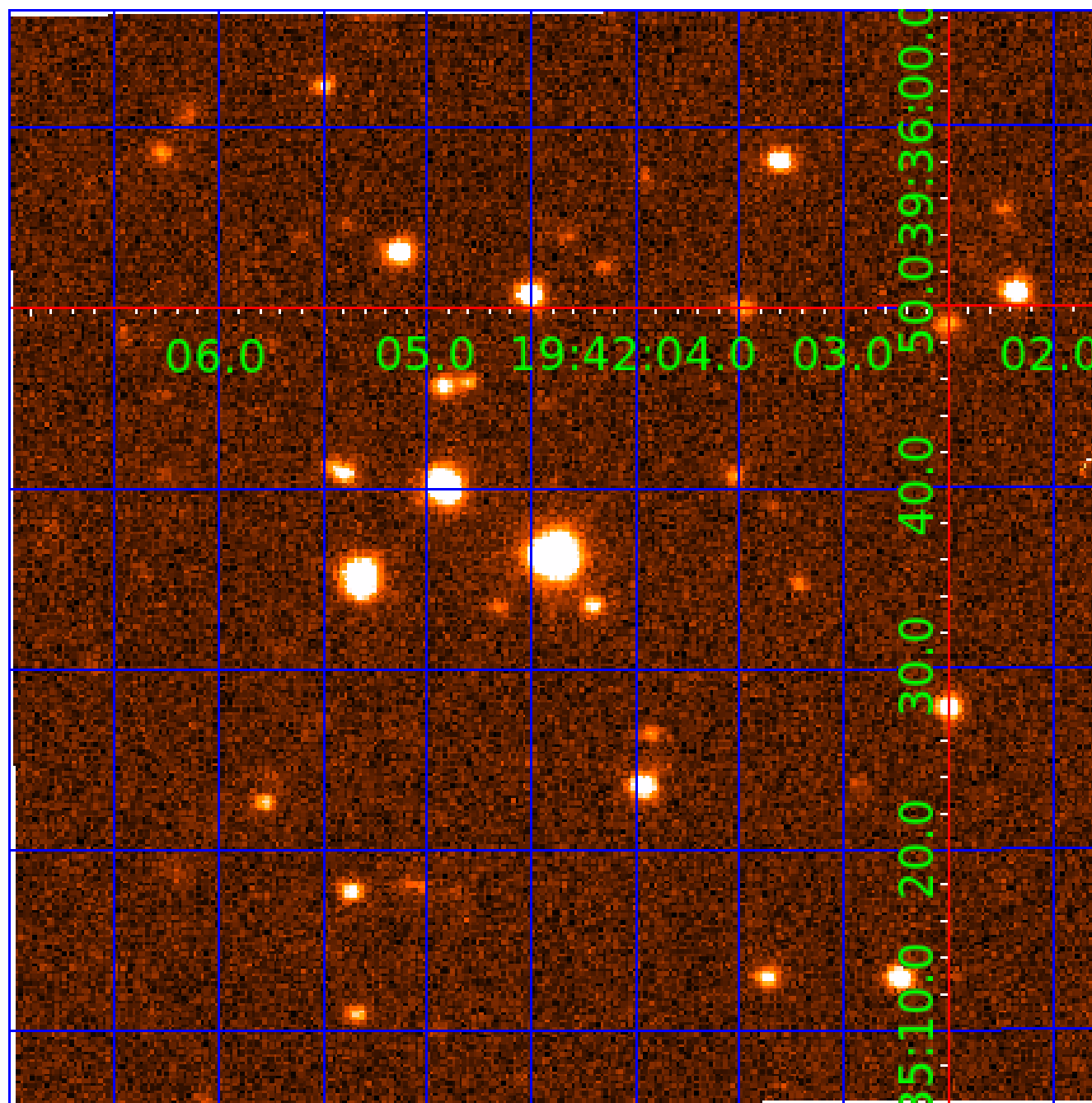


white \times : KIC target position; +: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004479633

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})
004479633-01	OBS	2814.01	0.950142	132.292929	104.1	0.997	13.5	15.9	0.95	6045	1.16	2974.61
004479633-02	OBS	No	0.950144	131.814725	99.0	0.897	13.5	14.3	0.95	6045	1.13	2974.60

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004479633-01	OBS	FP	0.00	0	0	1	0	MOD_SEC_DV—MOD_SEC_ALT—PLANET_PERIOD_IS_HALF_ALT—HAS_SEC_TCE—CENT_UNRESOLVED_OFFSET
004479633-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_OFFSET

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 004479633-02

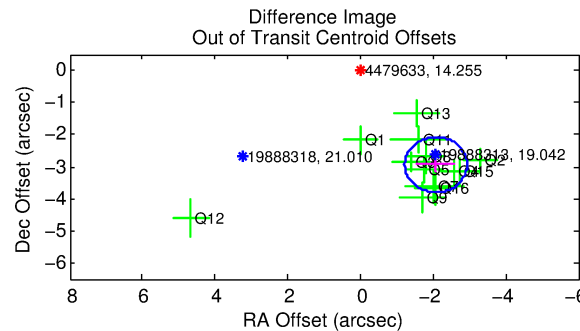
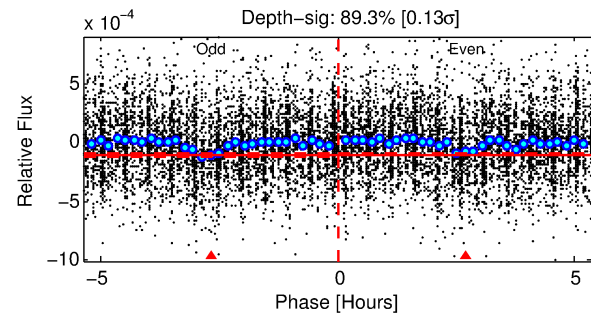
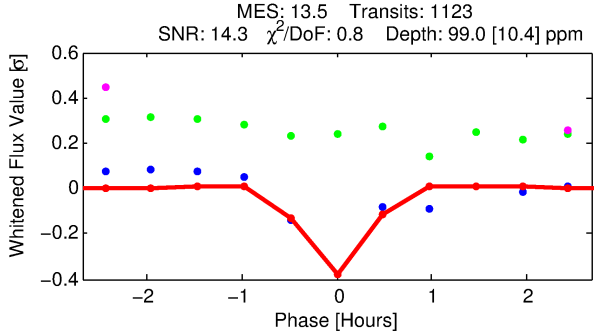
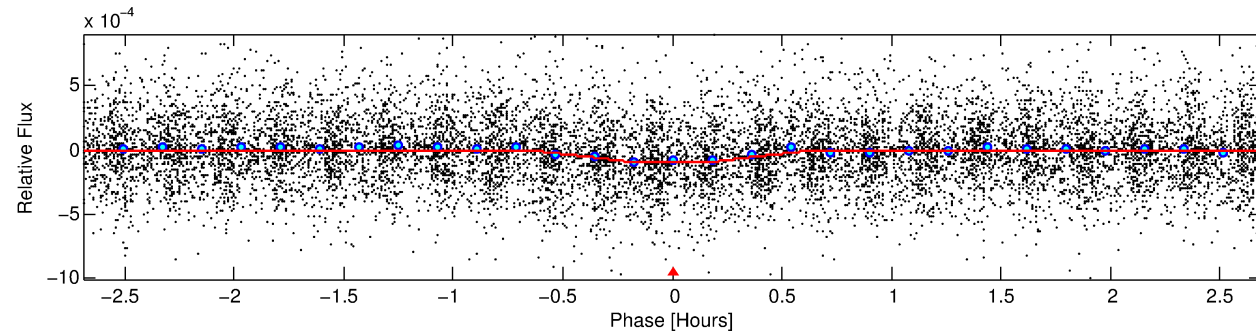
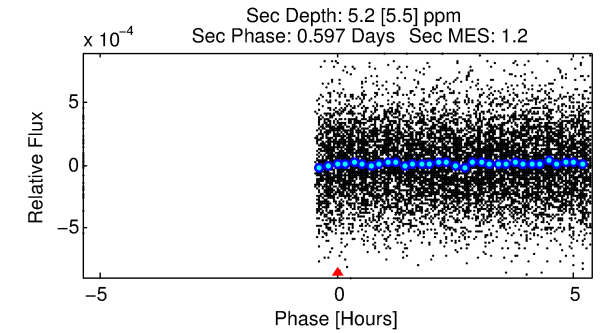
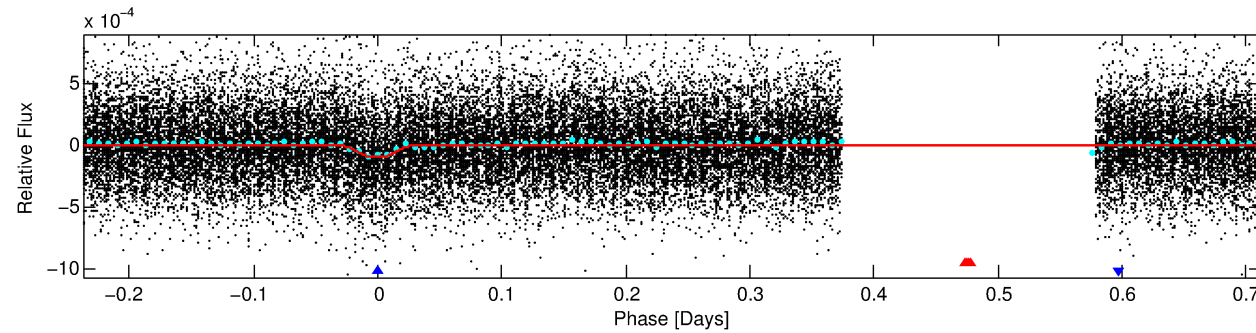
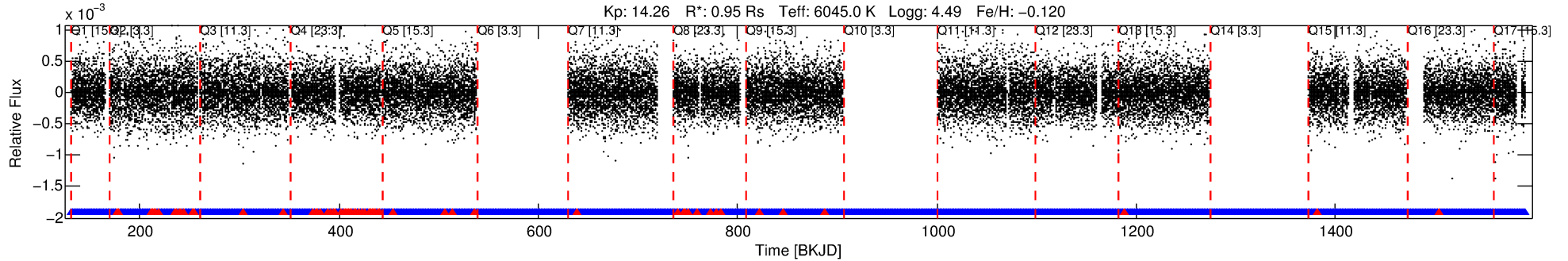
No Significant Match Found

DV One-Page Summary

KIC: 4479633 Candidate: 2 of 2 Period: 0.950 d

KOI: K02814 Corr: No Ephemeris Match

Kp: 14.26 R*: 0.95 Rs Teff: 6045.0 K Logg: 4.49 Fe/H: -0.120



DV Fit Results:

Period = 0.95014 [0.00001] d
Epoch = 131.8147 [0.0012] BKJD
Rp/R* = 0.0109 [0.0033]
a/R* = 3.85 [5.68]
b = 0.90 [0.34]
Seff = 2974.60 [1200.84]
Teq = 1883 [190] K
Rp = 1.13 [0.50] Re
a = 0.0192 [0.0050] AU
Ag = 0.82 [1.05] [-0.17σ]
Teffp = 2769 [856] K [1.01σ]

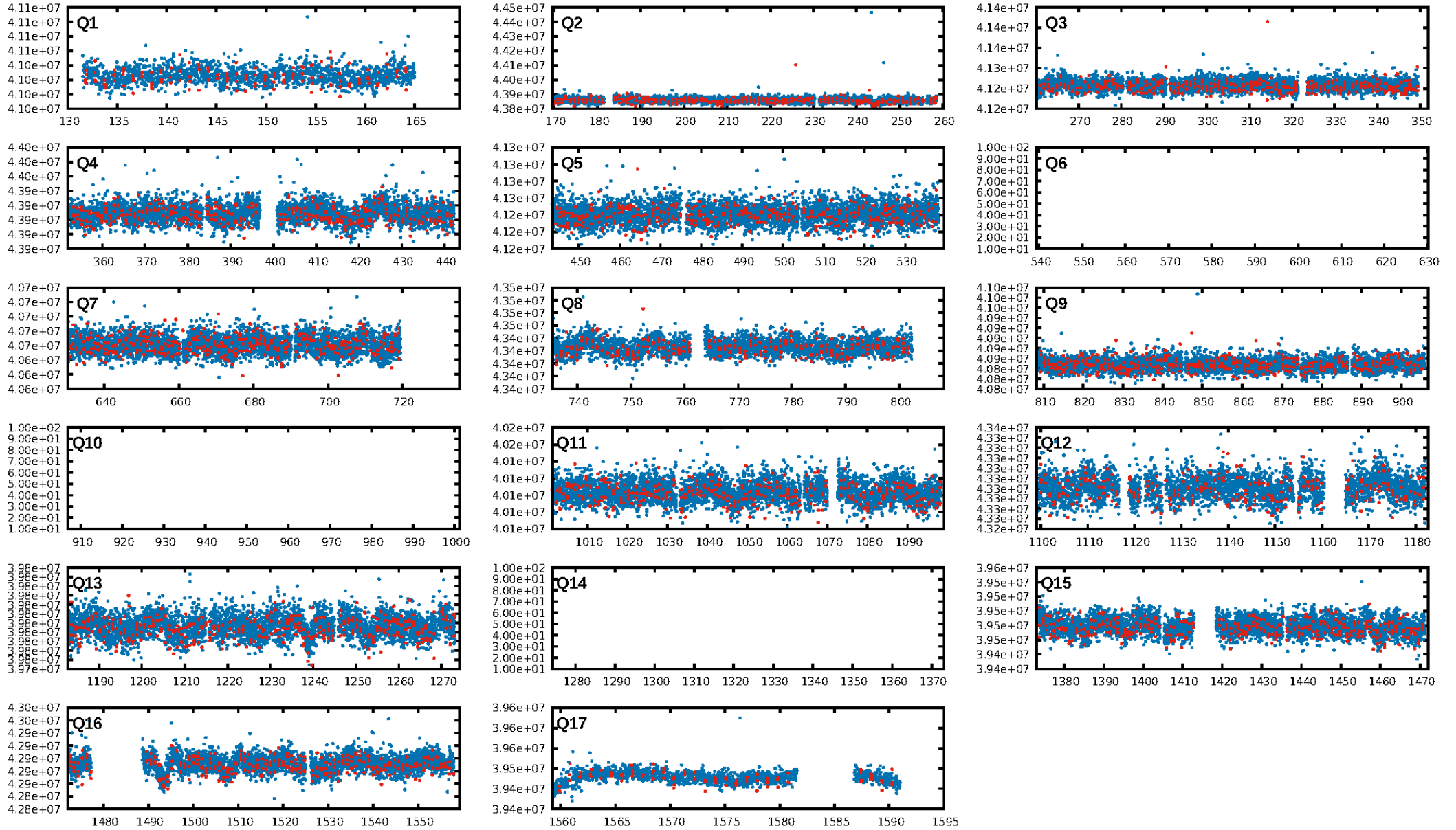
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.27e-44
RollingBand-fgt: 0.93 [991/1061]
GhostDiagnostic-chr: 1.488
Centroid-sig: 0.0%
Centroid-so: 3.309 arcsec [3.78σ]
OotOffset-rm: 3.597 arcsec [12.57σ]
KicOffset-rm: 3.361 arcsec [11.94σ]
OotOffset-st: 1/4/4/4 [13]
KicOffset-st: 1/4/4/4 [13]
DiffImageQuality-fgm: 0.77 [10/13]
DiffImageOverlap-fno: 1.00 [14/14]

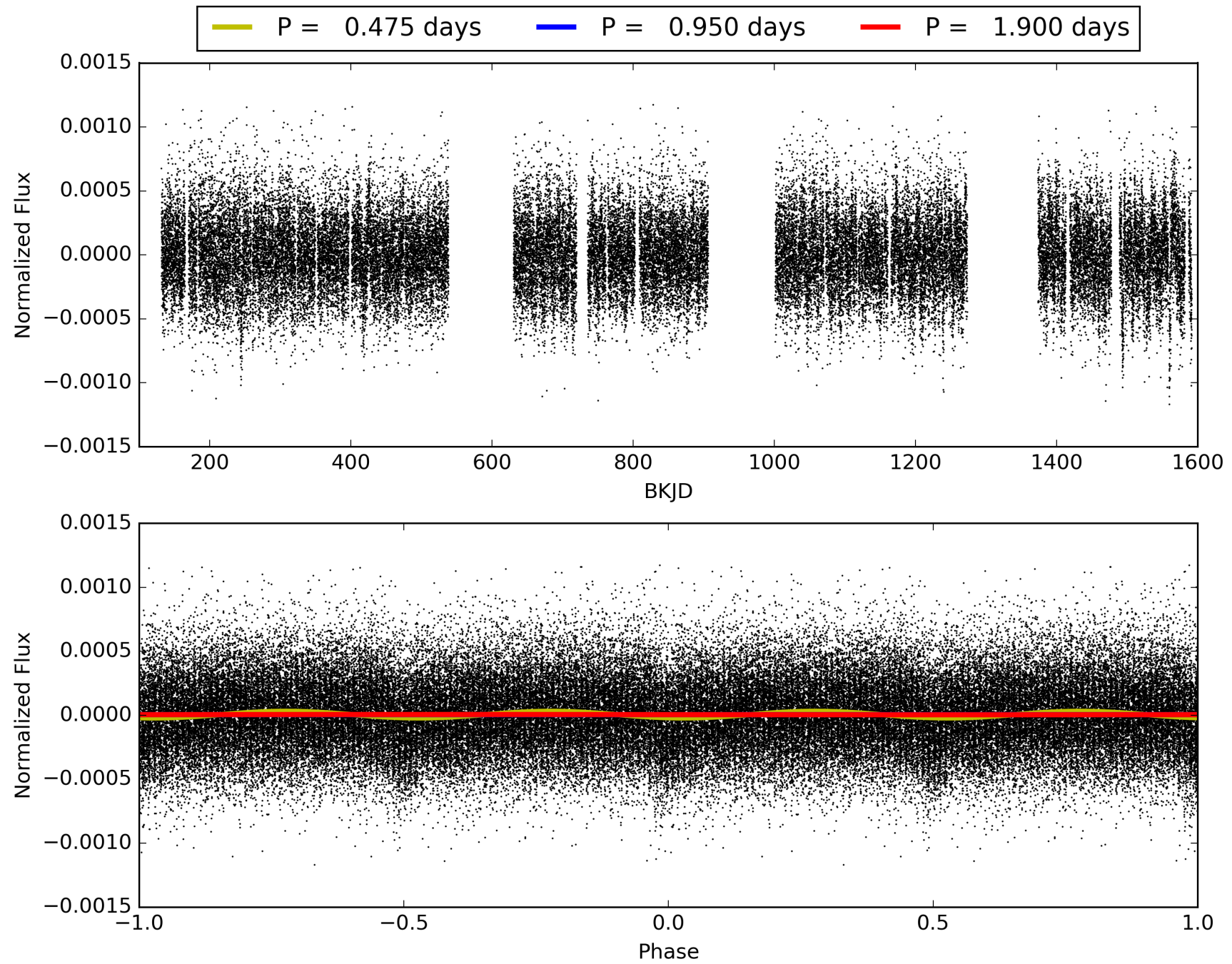
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:48:38 Z

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

TCE 004479633-02, PDC Light Curves

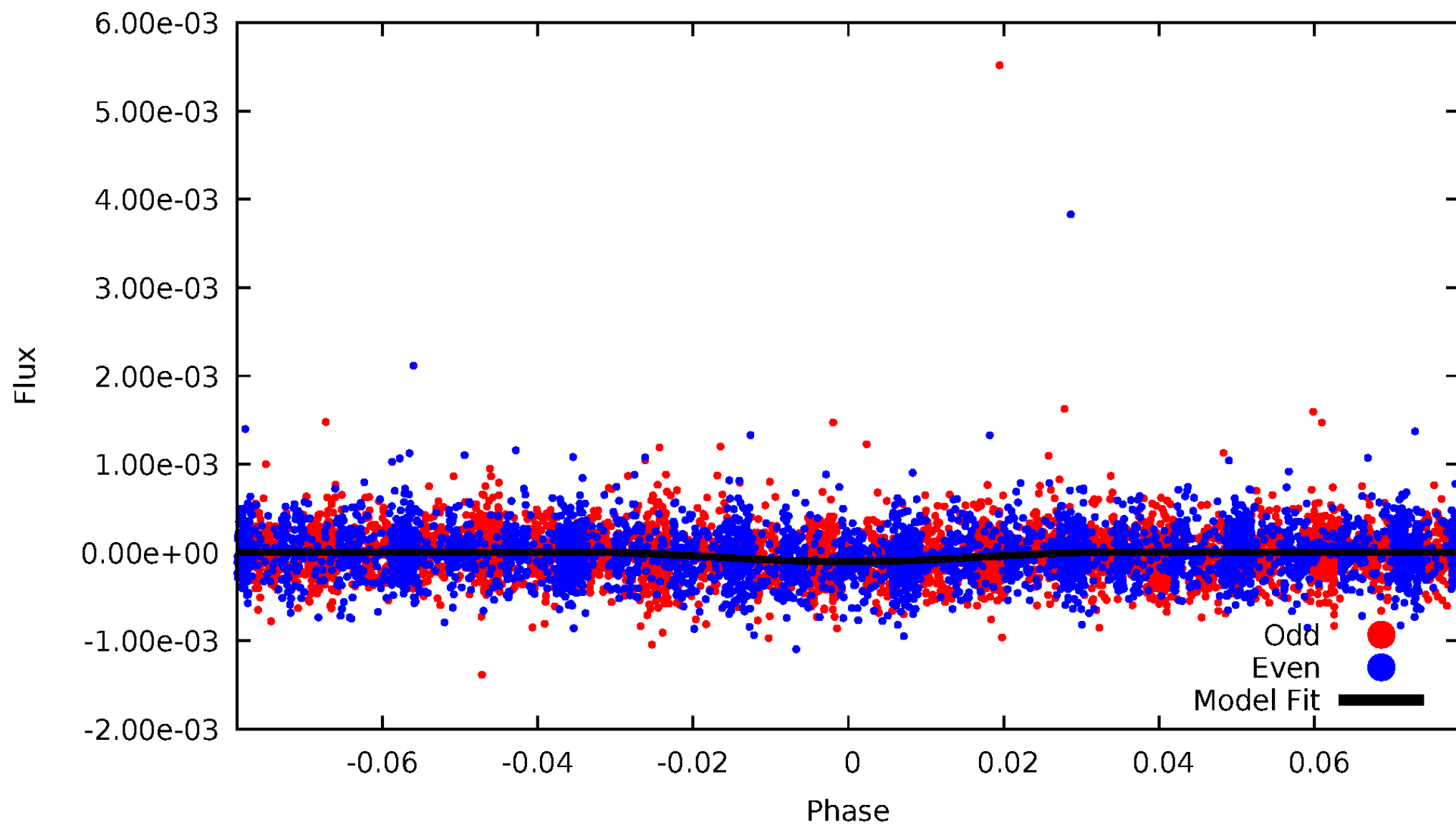


TCE 004479633-02



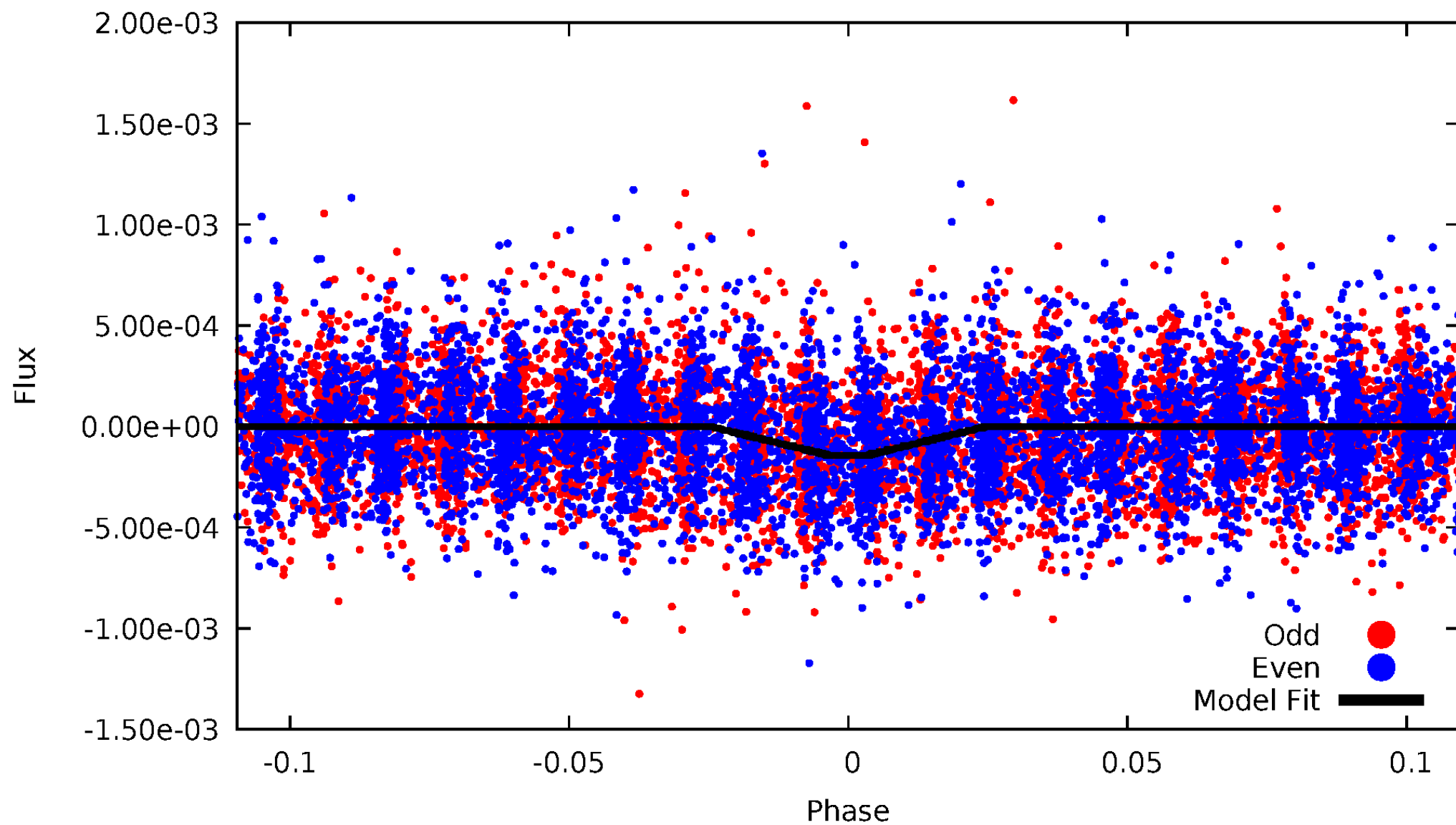
DV Odd/Even

TCE 004479633-02



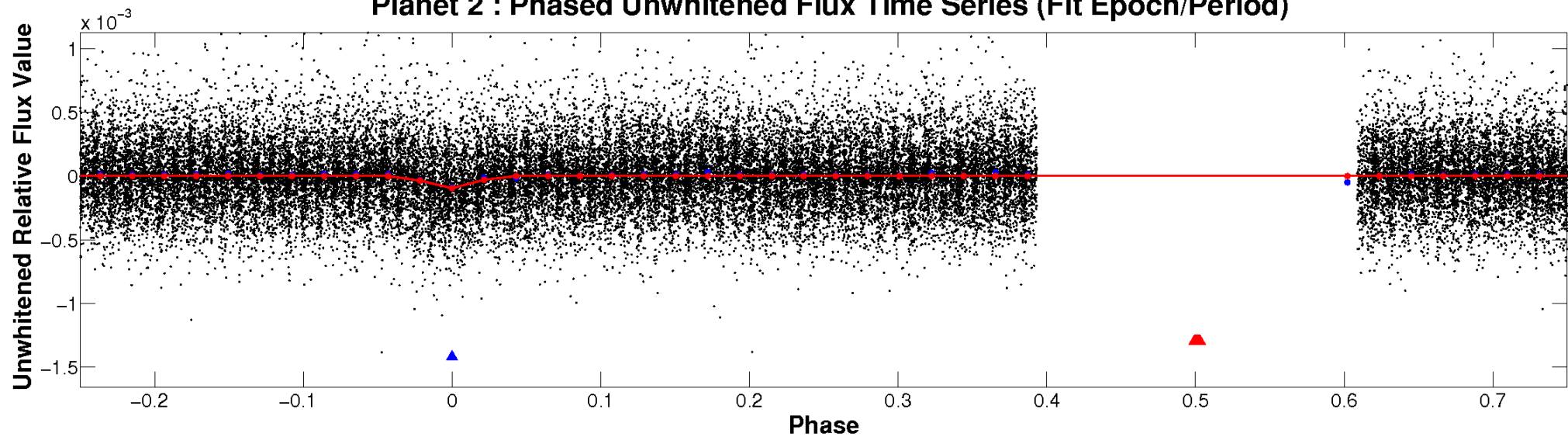
ALT Odd/Even

TCE 004479633-02

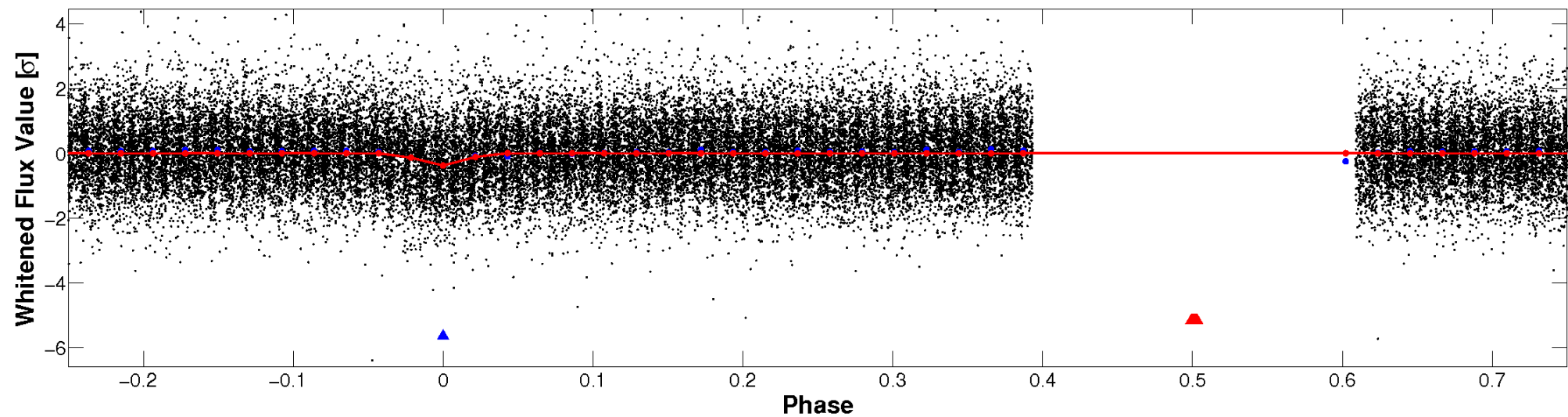


Non-Whitened Vs. Whitened Light Curve

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

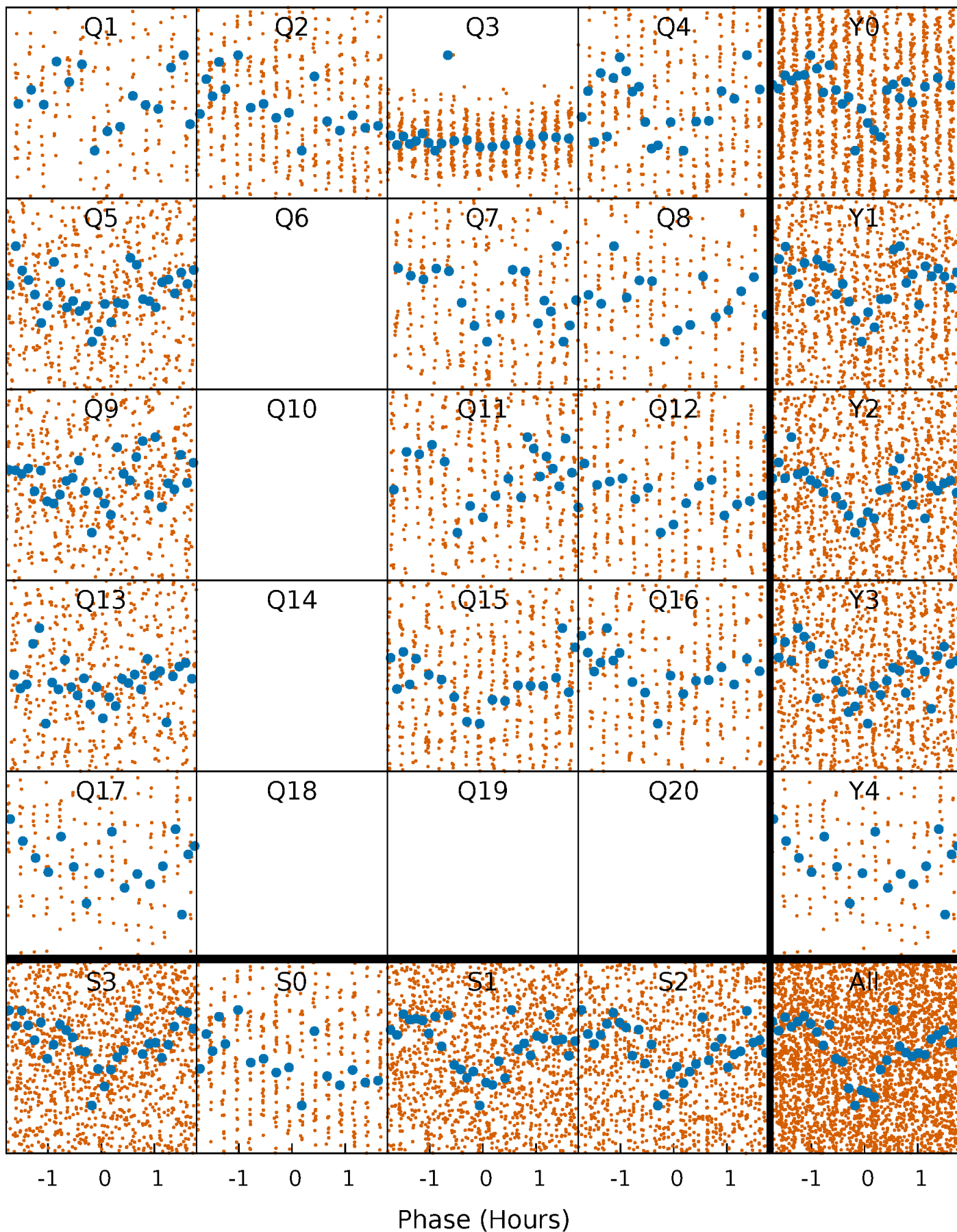


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



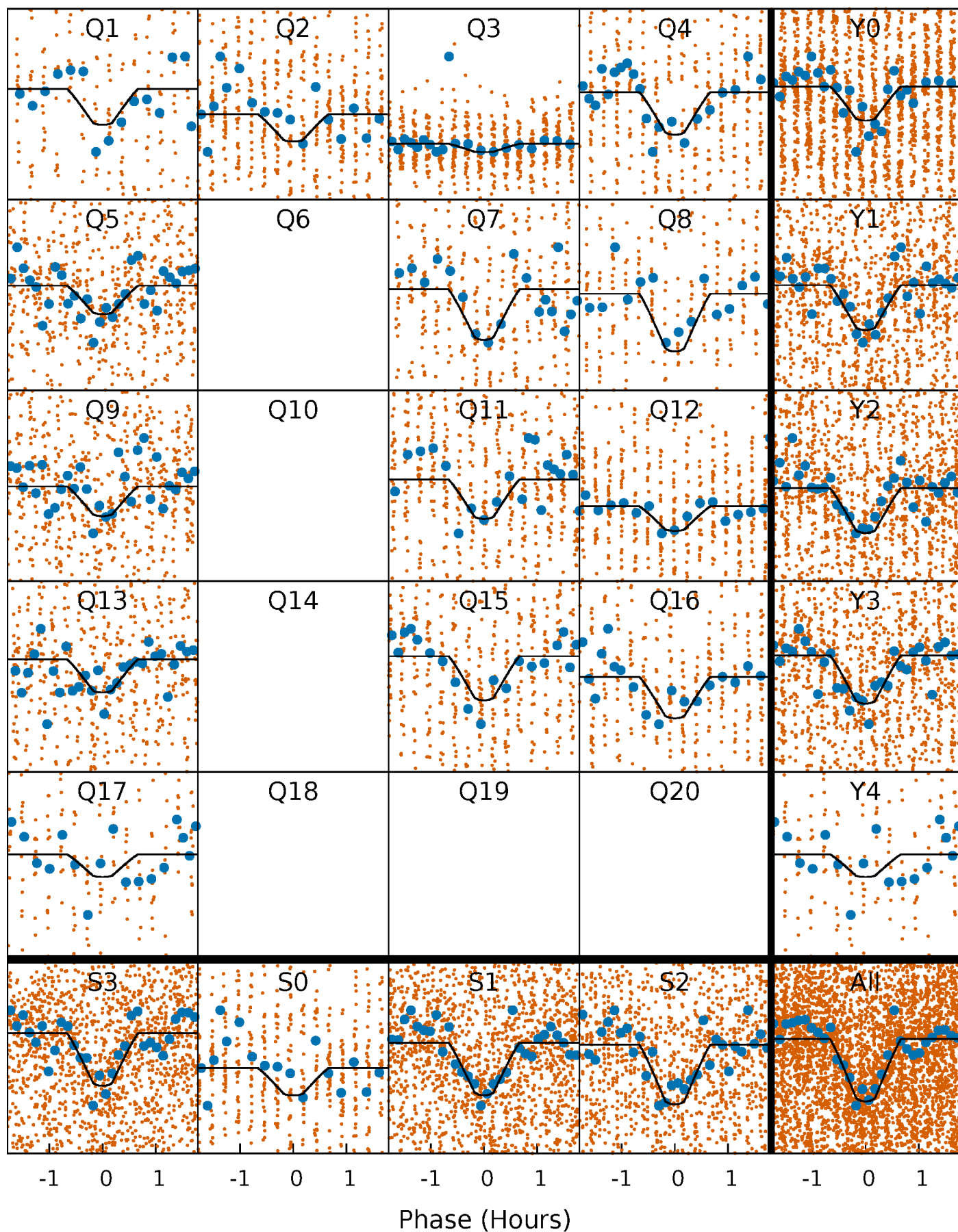
PDC Quarter-Phased Transit Curves

TCE 004479633-02 P= 0.950144 Days $T_0=131.814725$ (BKJD)



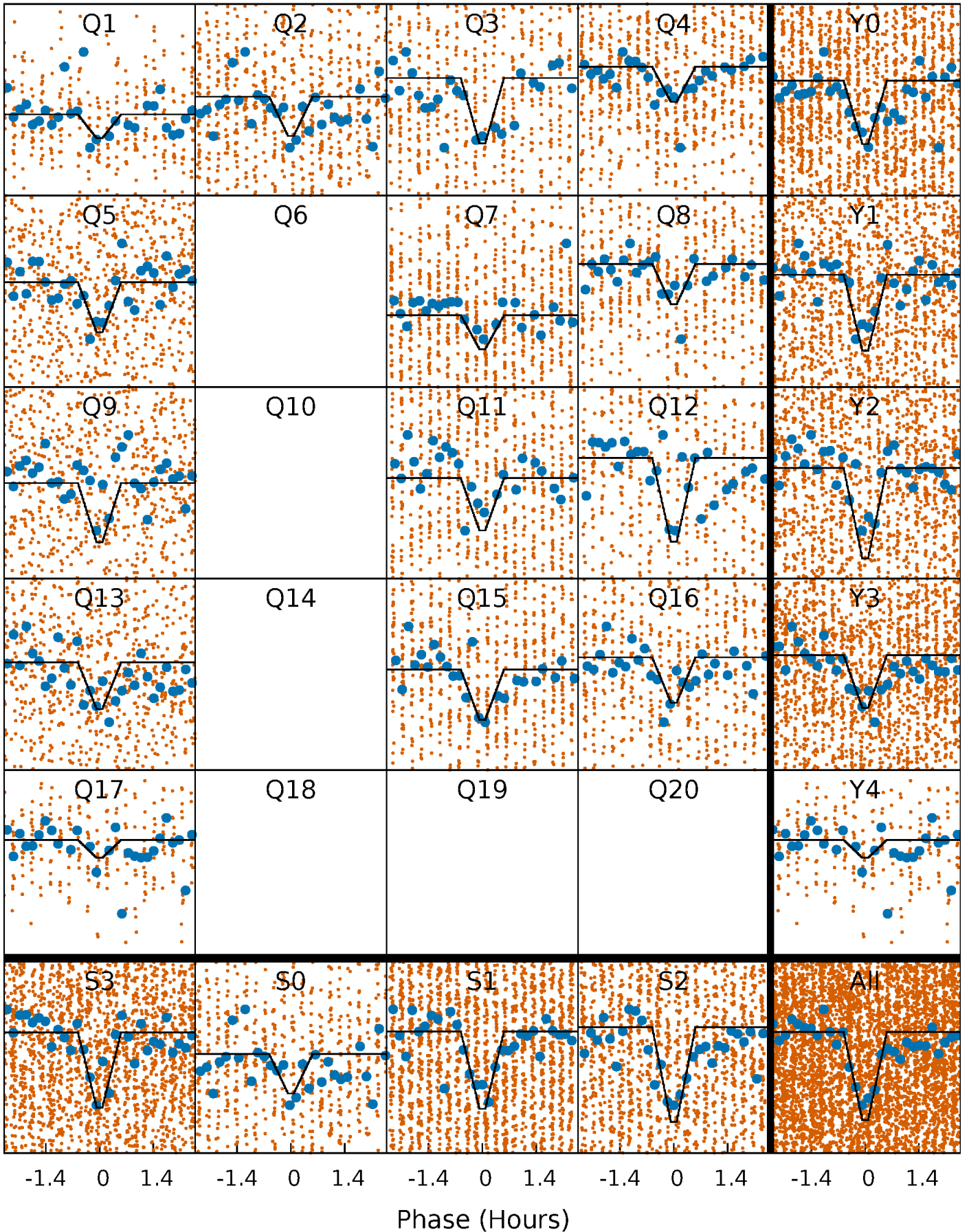
DV Quarter-Phased Transit Curves

TCE 004479633-02 P= 0.950144 Days $T_0=131.814725$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

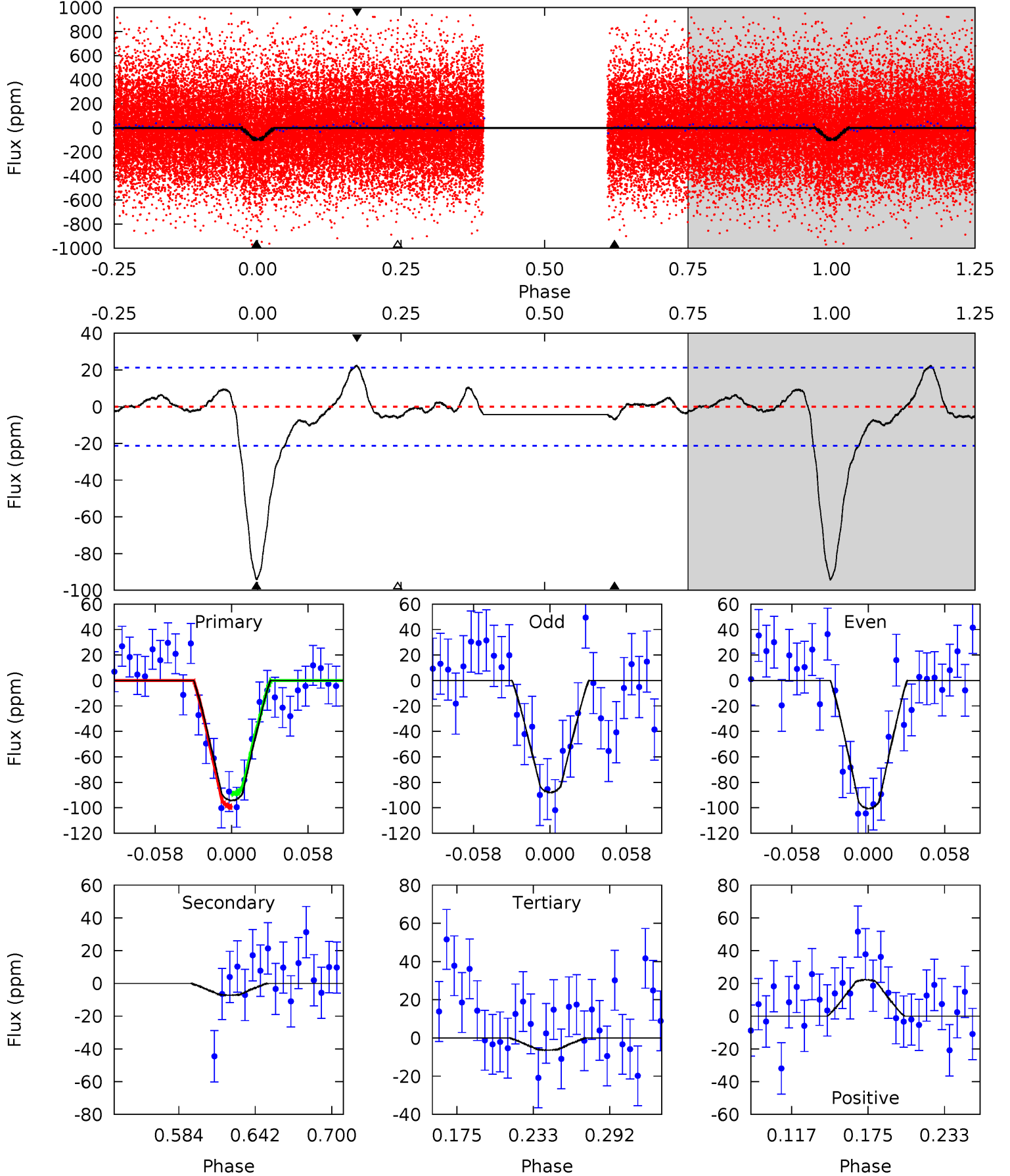
TCE 004479633-02 P= 0.950134 Days $T_0=131.821195$ (BKJD)



DV Model-Shift Uniqueness Test

004479633-02, P = 0.950144 Days, E = 130.864581 Days

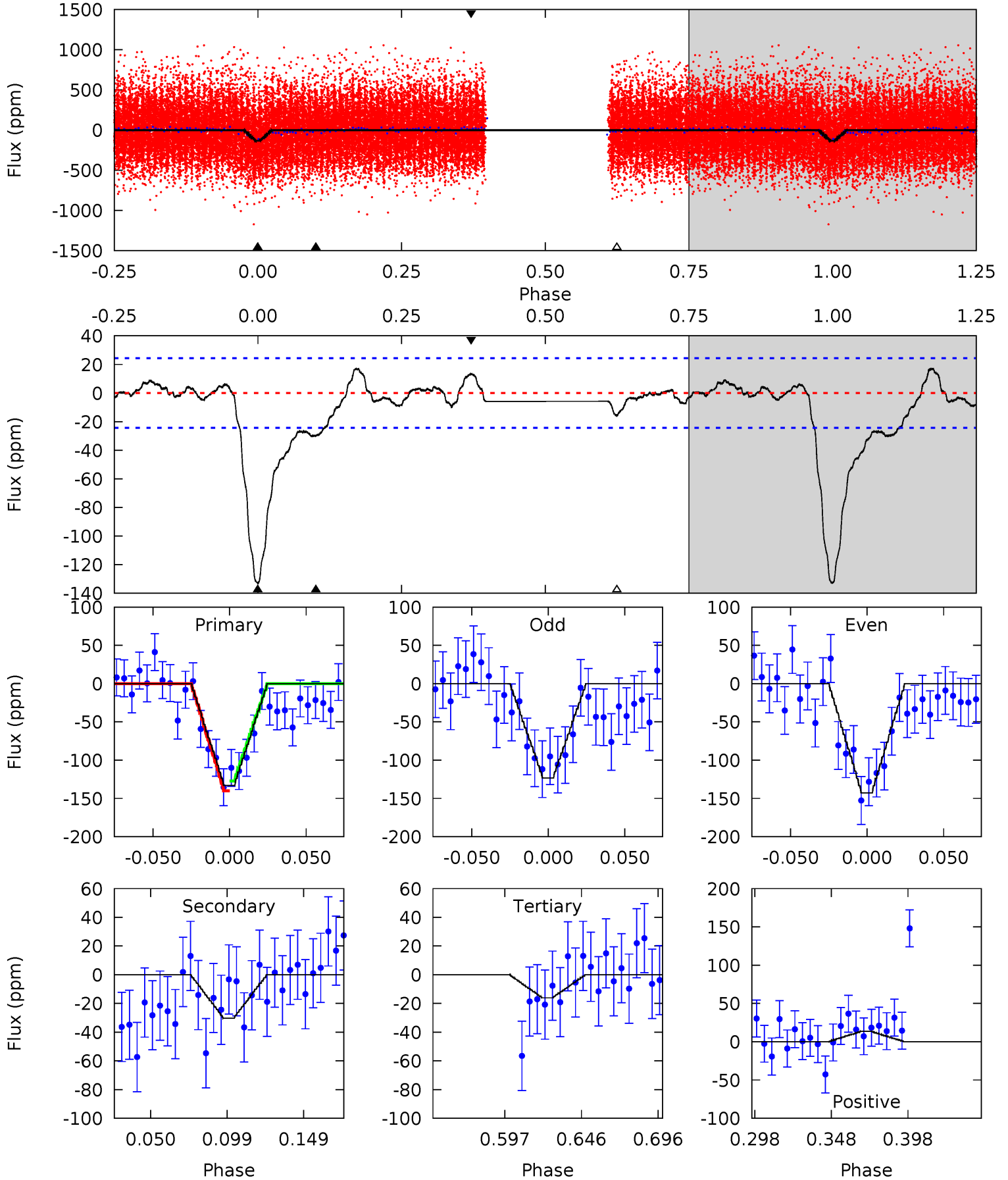
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.7	1.59	1.39	4.87	4.68	1.89	1.38	19.3	15.8	0.20	-3.28	1.40	0.86	0.19	1.11



Alt Model-Shift Uniqueness Test

004479633-02, P = 0.950134 Days, E = 130.871061 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.7	5.84	3.11	2.62	4.71	1.96	1.19	22.6	23.1	2.74	3.22	1.89	0.95	0.11	1.23



Stellar Parameters For KIC 004479633

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6045^{+162}_{-198}	$4.494^{+0.052}_{-0.208}$	$-0.120^{+0.250}_{-0.350}$	$0.955^{+0.300}_{-0.100}$	$1.038^{+0.139}_{-0.139}$	$1.679^{+0.361}_{-0.912}$
	+3%/-3%	+1%/-5%	+208%/-292%	+31%/-10%	+13%/-13%	+22%/-54%
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 004479633-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-7 ± 5	$1.22^{+0.41}_{-0.41}$	2690^{+178}_{-129}	3246^{+665}_{-5317}	$0.967^{+1.472}_{-0.678}$
Alt.	-30 ± 5	$1.30^{+0.42}_{-0.38}$	2682^{+189}_{-128}	4212^{+694}_{-417}	$3.403^{+3.510}_{-1.381}$

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 $A_{obs} \gg 1.0$

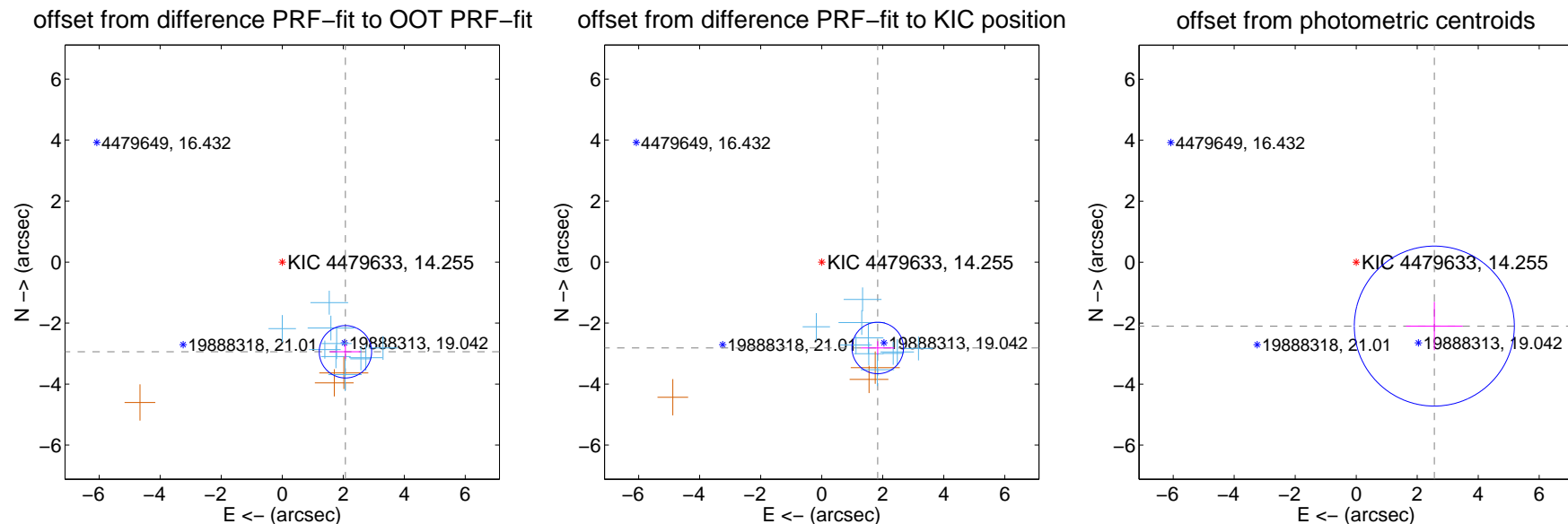
DV Centroid Data

Supplemental centroid analysis for 004479633-02. Kepler magnitude: 14.26. Transit SNR 14.35

There are 10 quarters with good PRF difference image offsets

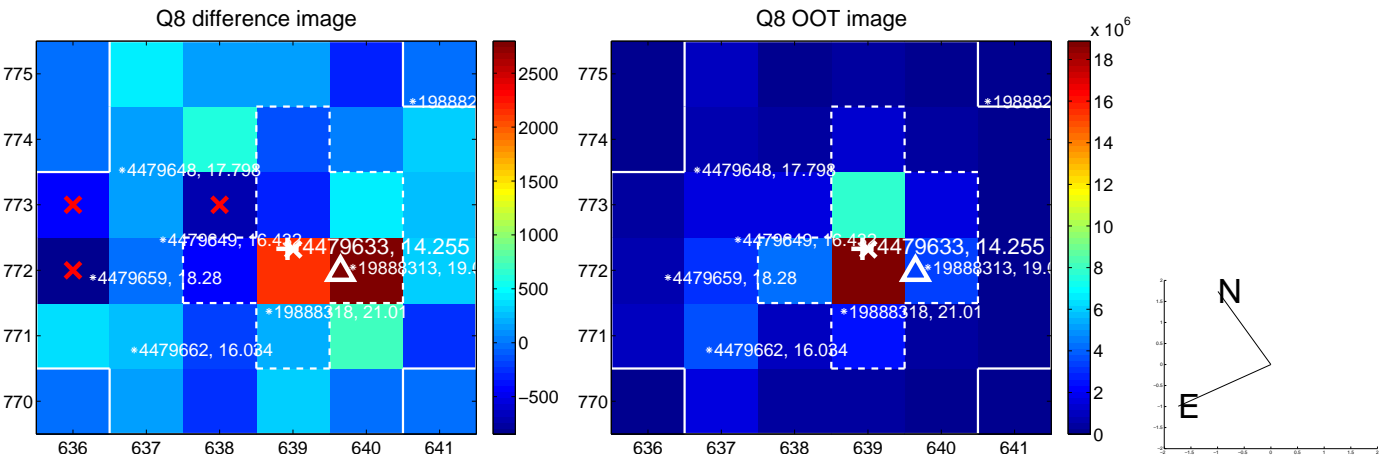
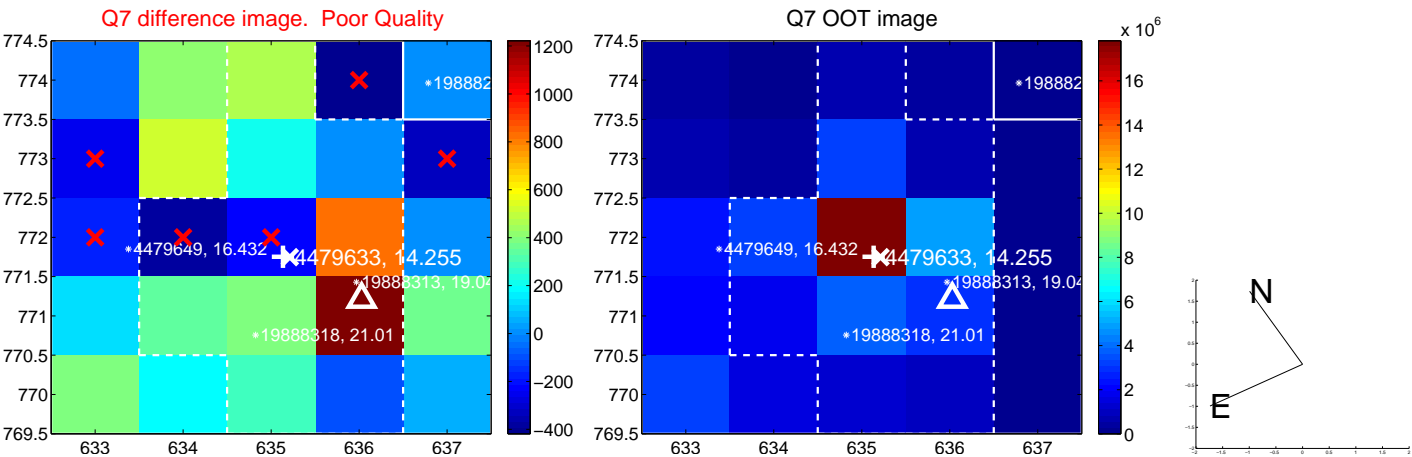
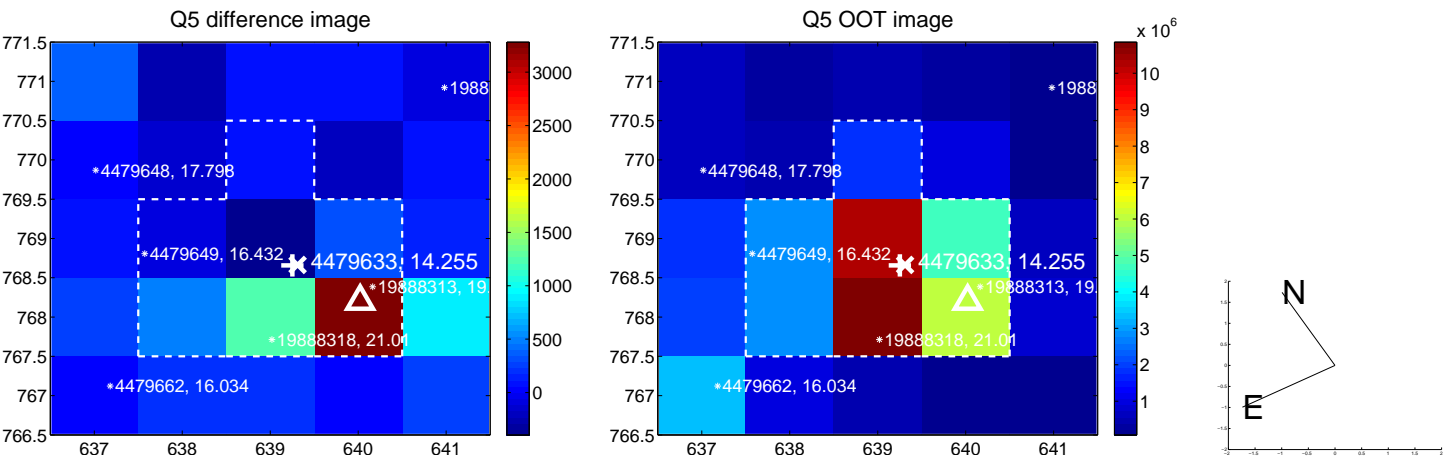
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.597 ± 0.286	12.57	-2.072 ± 0.510	-2.941 ± 0.233
PRF-fit source offset from KIC position	3.361 ± 0.281	11.94	-1.836 ± 0.543	-2.815 ± 0.222
photometric centroid source offset	3.31 ± 0.87	3.78	-2.56 ± 0.93	-2.10 ± 0.79

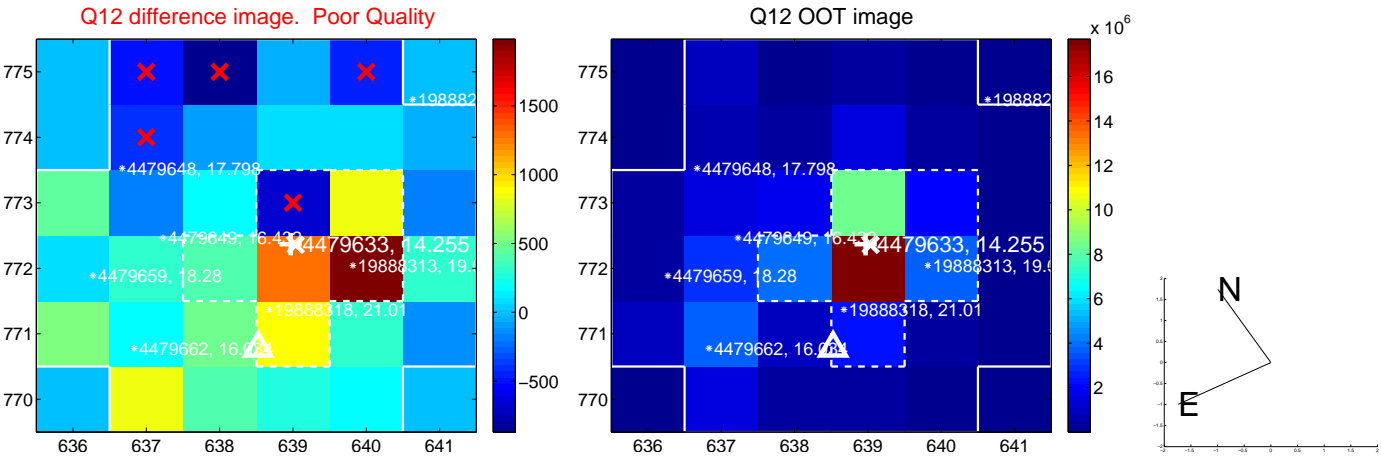
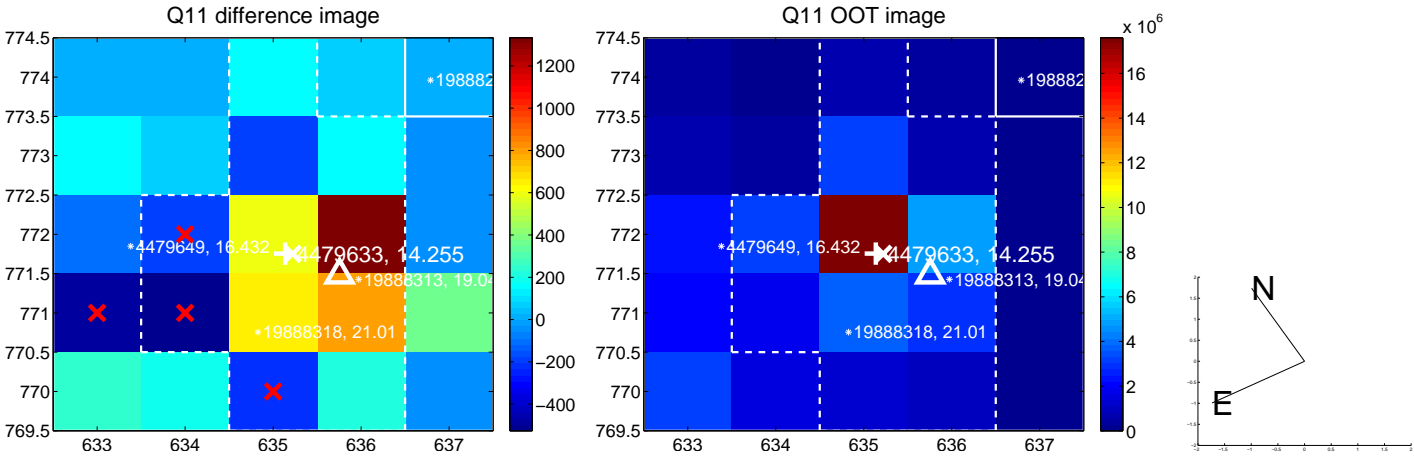
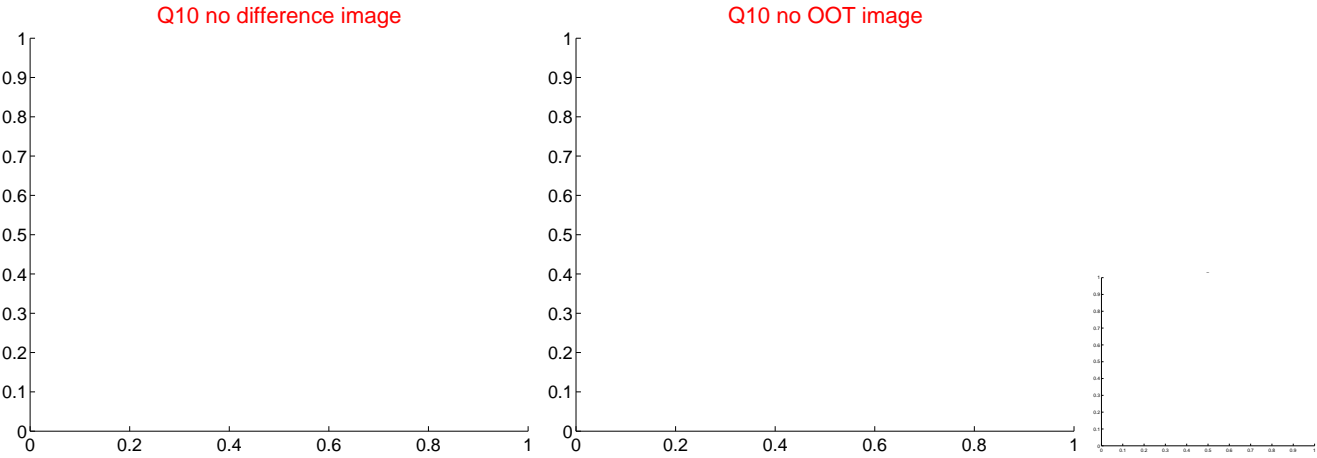
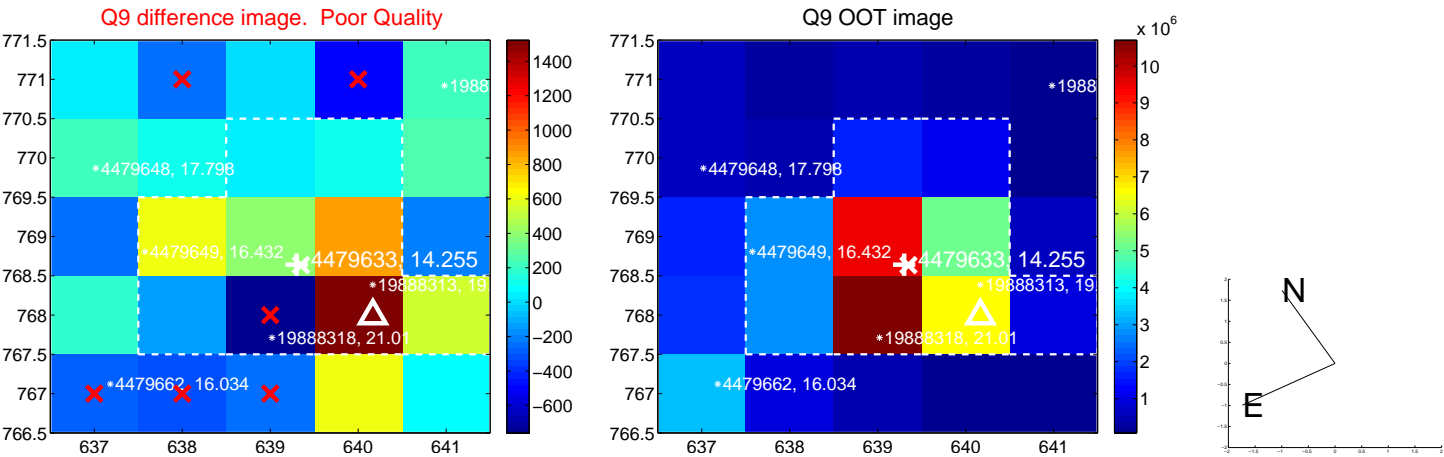


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

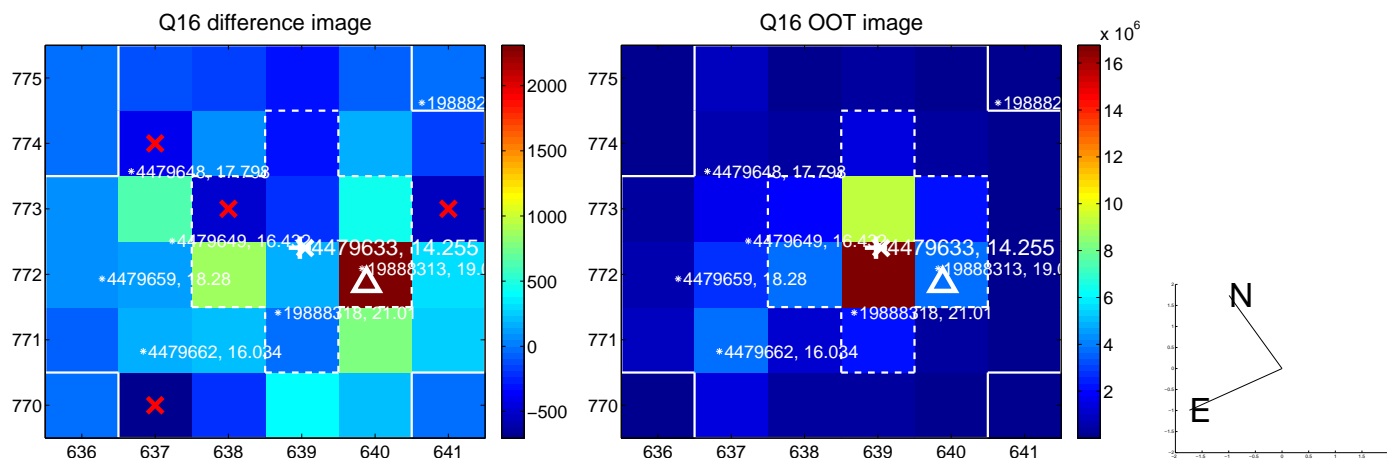
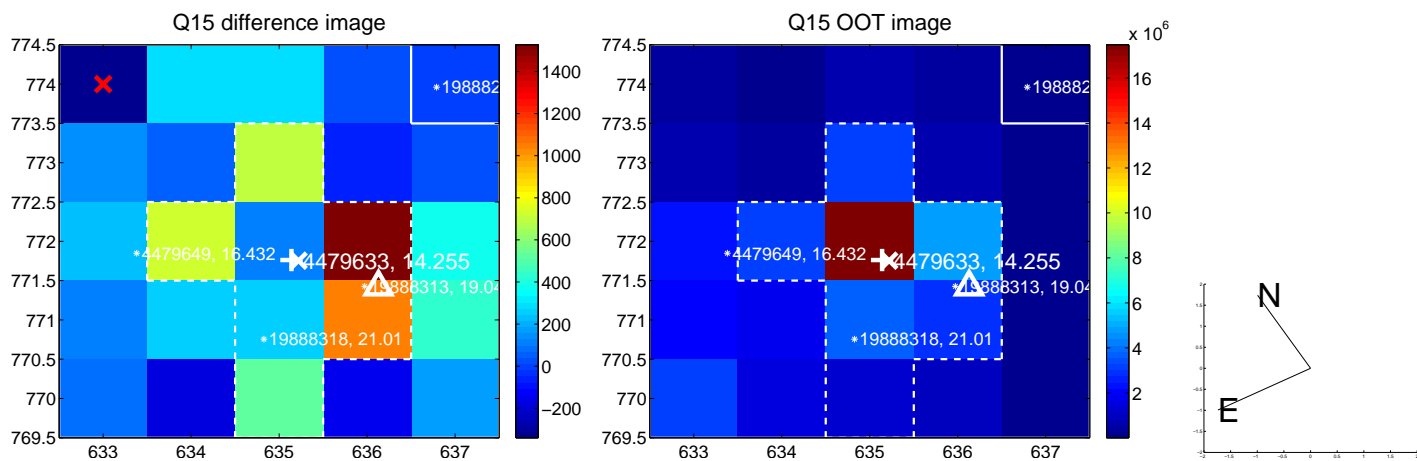
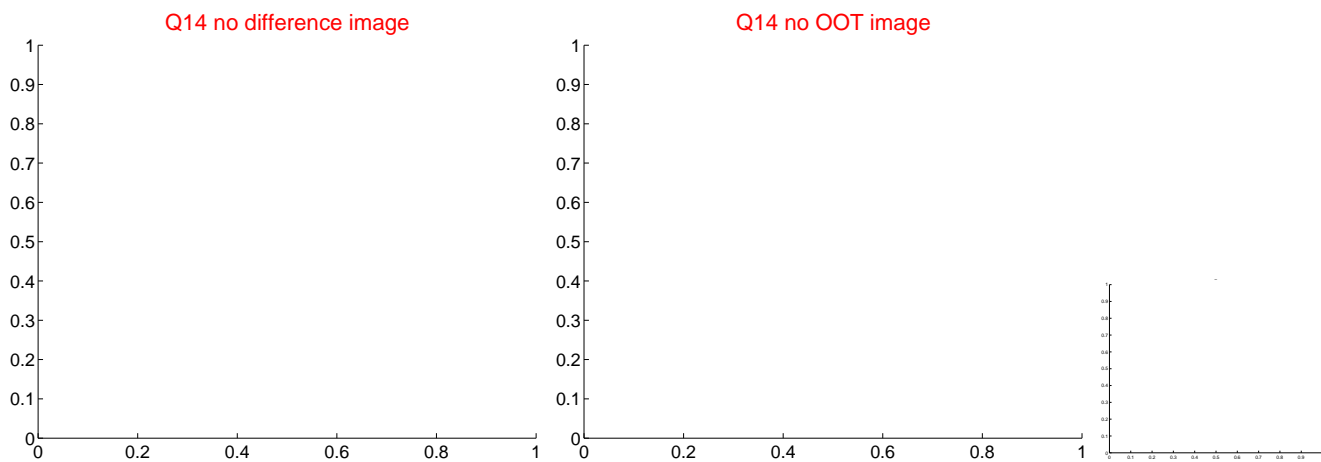
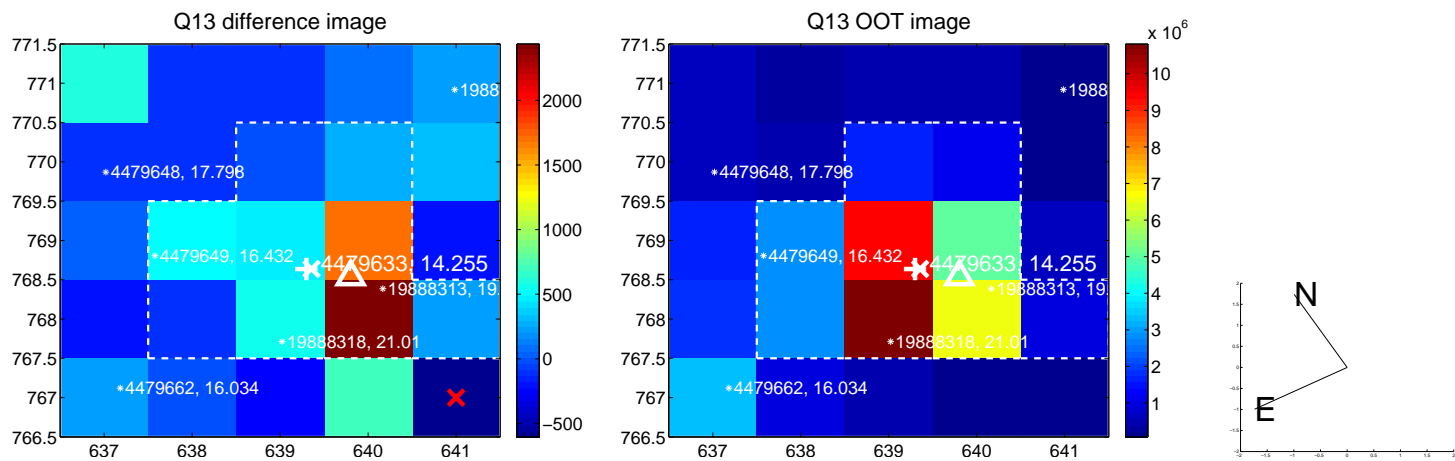
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



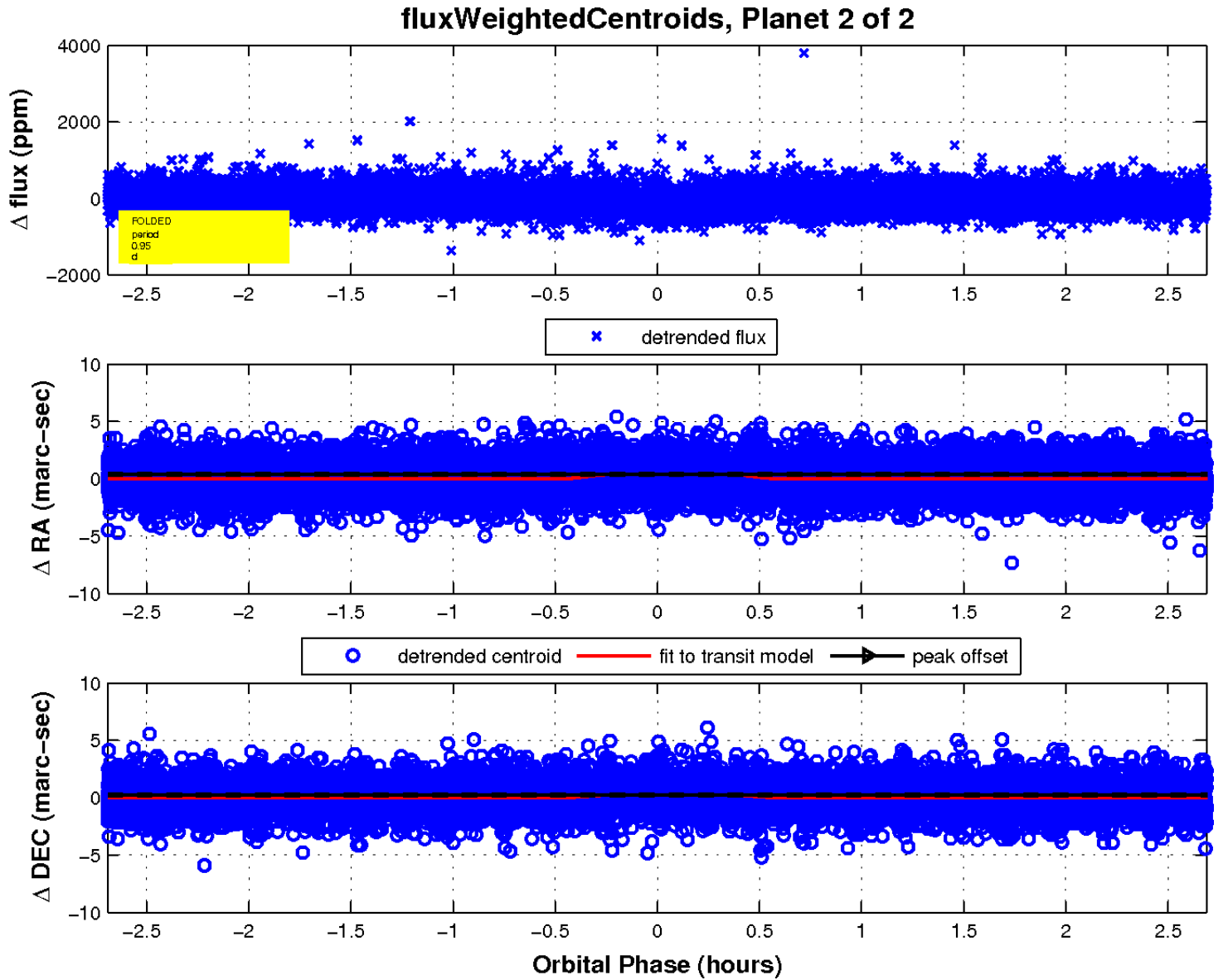
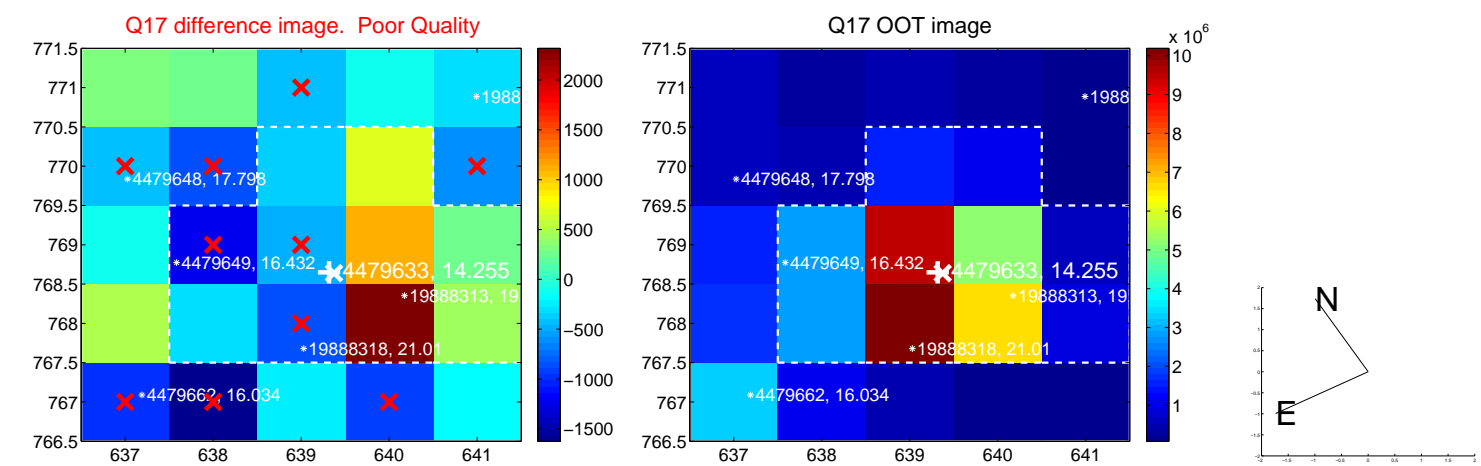
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

