

KIC 002694632

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})
002694632-01	OBS	4600.01	0.922282	131.835521	9.3	6.660	8.3	5.0	1.49	5631	0.45	5604.91
002694632-02	OBS	No	24.884794	152.678111	2488.7	1.460	16.7	10.3	1.49	5631	7.78	69.26
002694632-04	OBS	No	20.293866	134.914683	770.0	53.699	13.1	4.6	1.49	5631	5.16	90.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002694632-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_CROWDED
002694632-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—CENT_RESOLVED_OFFSET
002694632-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_POS_ALT

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.

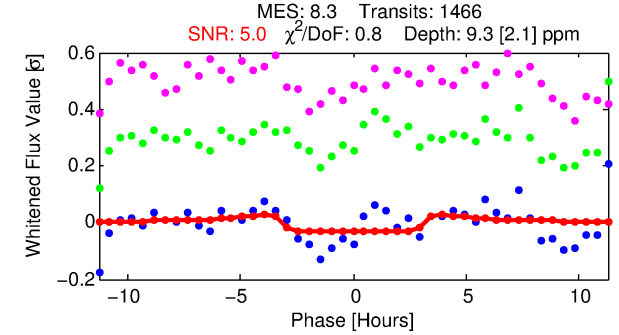
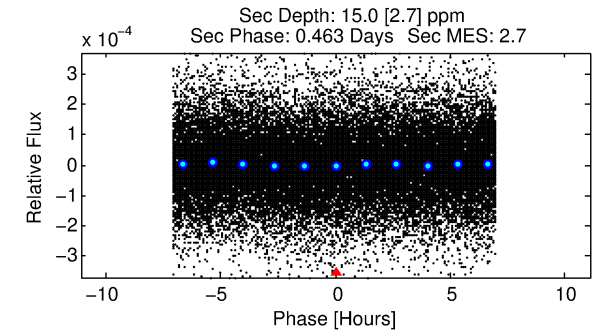
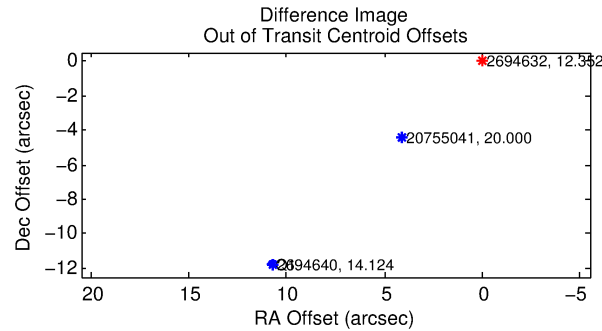
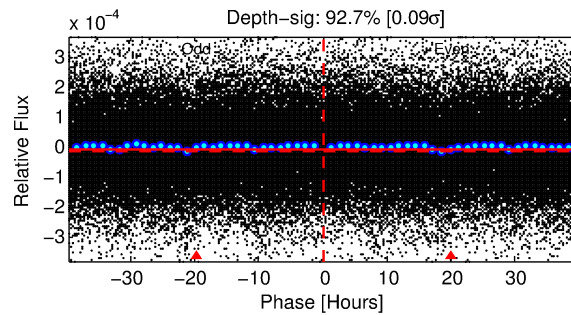
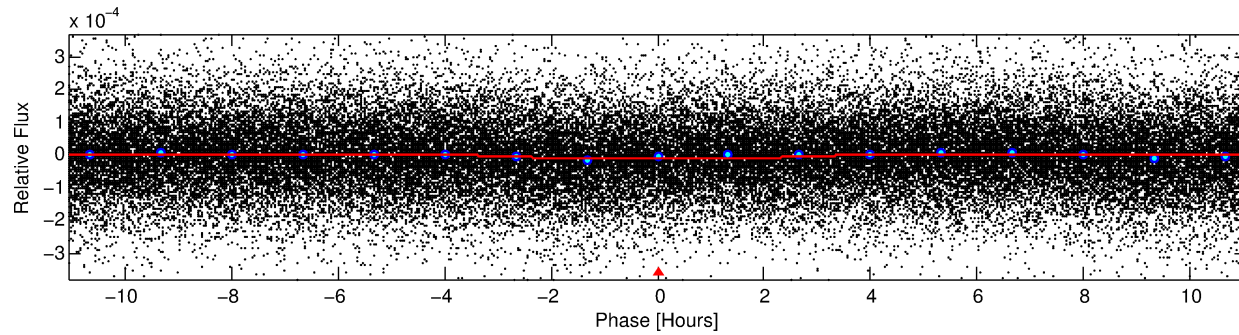
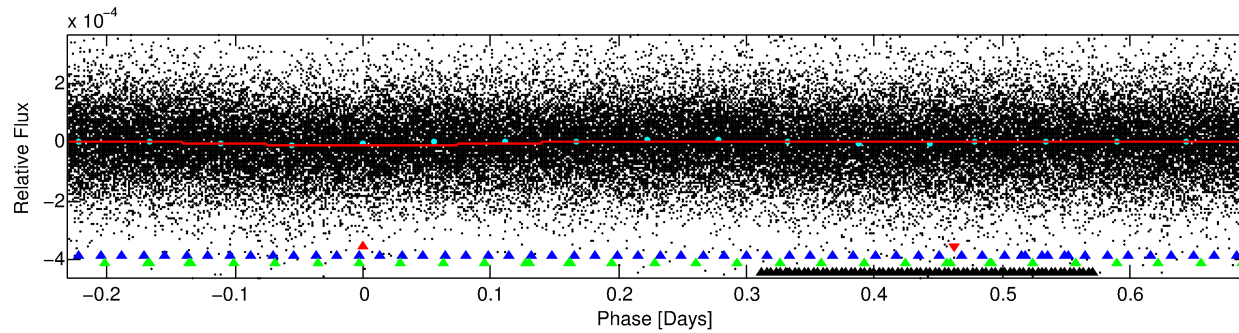
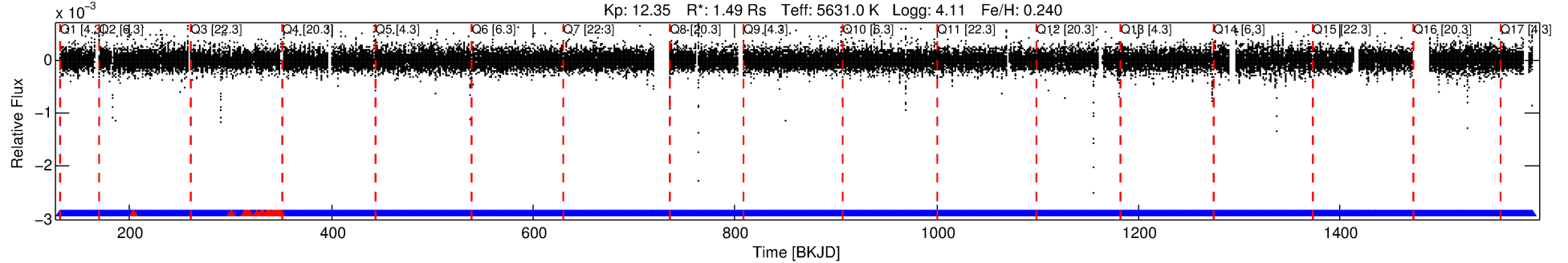
Ephemeris Match Information For 002694632-01

No Significant Match Found

DV One-Page Summary

KIC: 2694632 Candidate: 1 of 4 Period: 0.922 d
KOI: K04600 Corr: No Ephemeris Match

Kp: 12.35 R*: 1.49 Rs Teff: 5631.0 K Logg: 4.11 Fe/H: 0.240



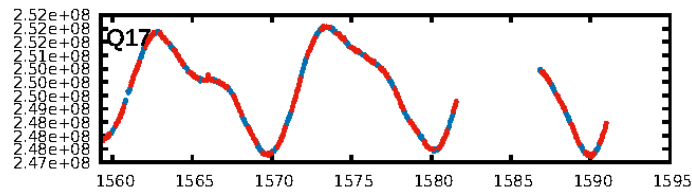
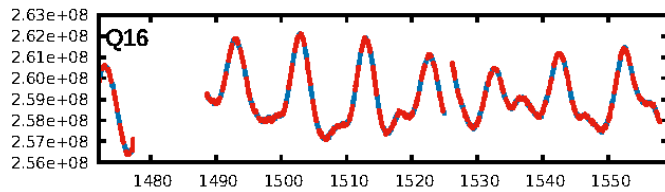
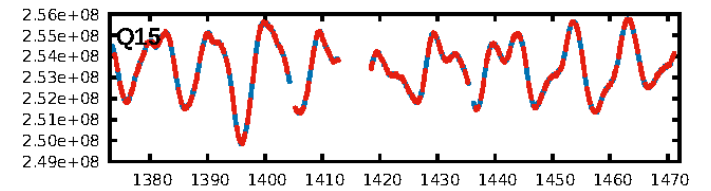
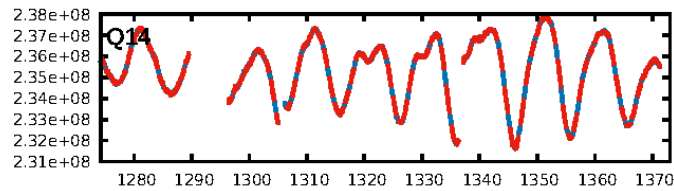
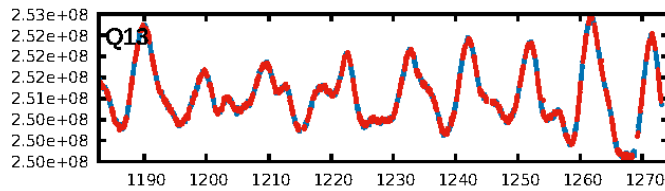
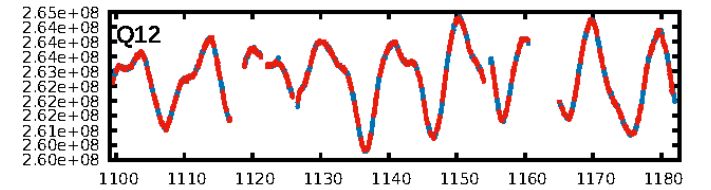
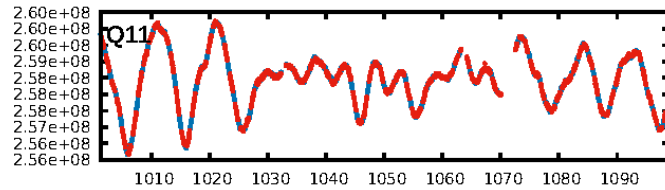
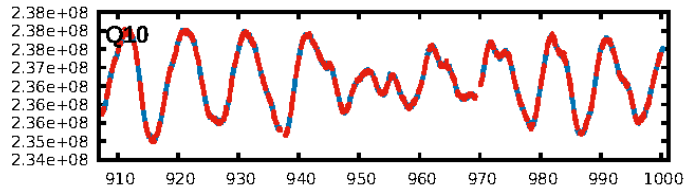
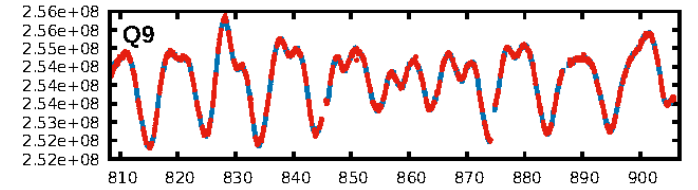
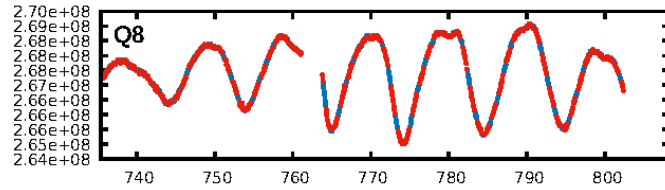
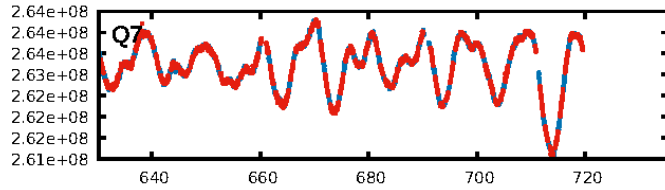
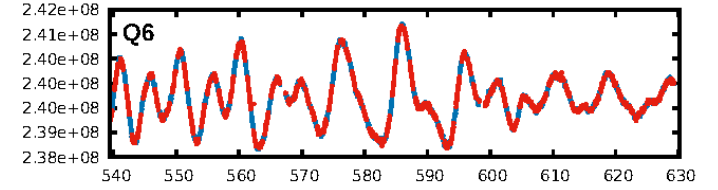
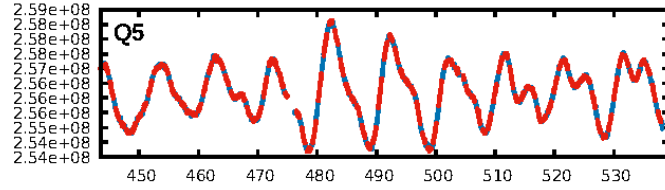
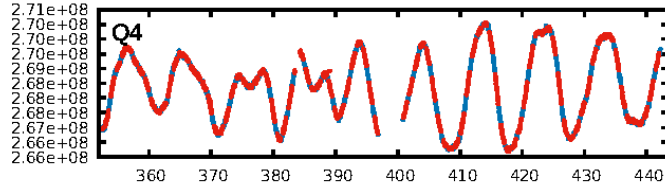
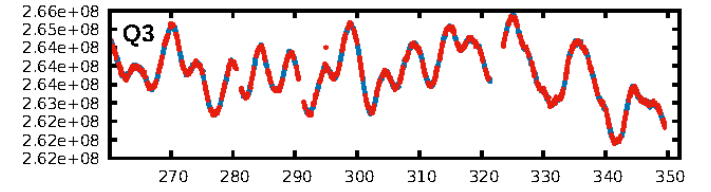
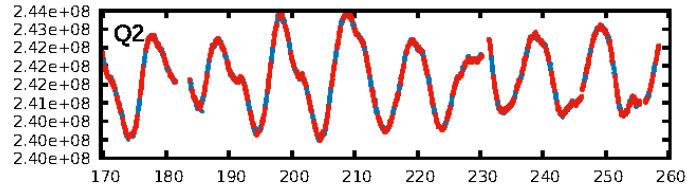
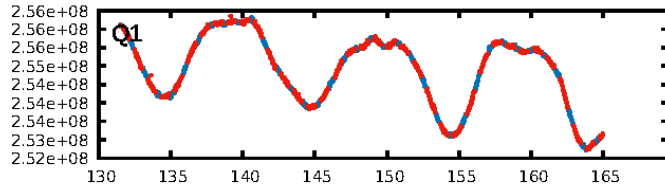
DV Fit Results:

Period = 0.92228 [0.00002] d
Epoch = 131.8355 [0.0073] BKJD
Rp/R* = 0.0027 [0.0034]
a/R* = 1.23 [2.14]
b = 0.12 [42.90]
Seff = 5604.91 [3135.61]
Teq = 2206 [309] K
Rp = 0.45 [0.57] Re
a = 0.0188 [0.0063] AU
Ag = 14.77 [37.65] [0.37σ]
Teffp = 6687 [4170] K [1.07σ]

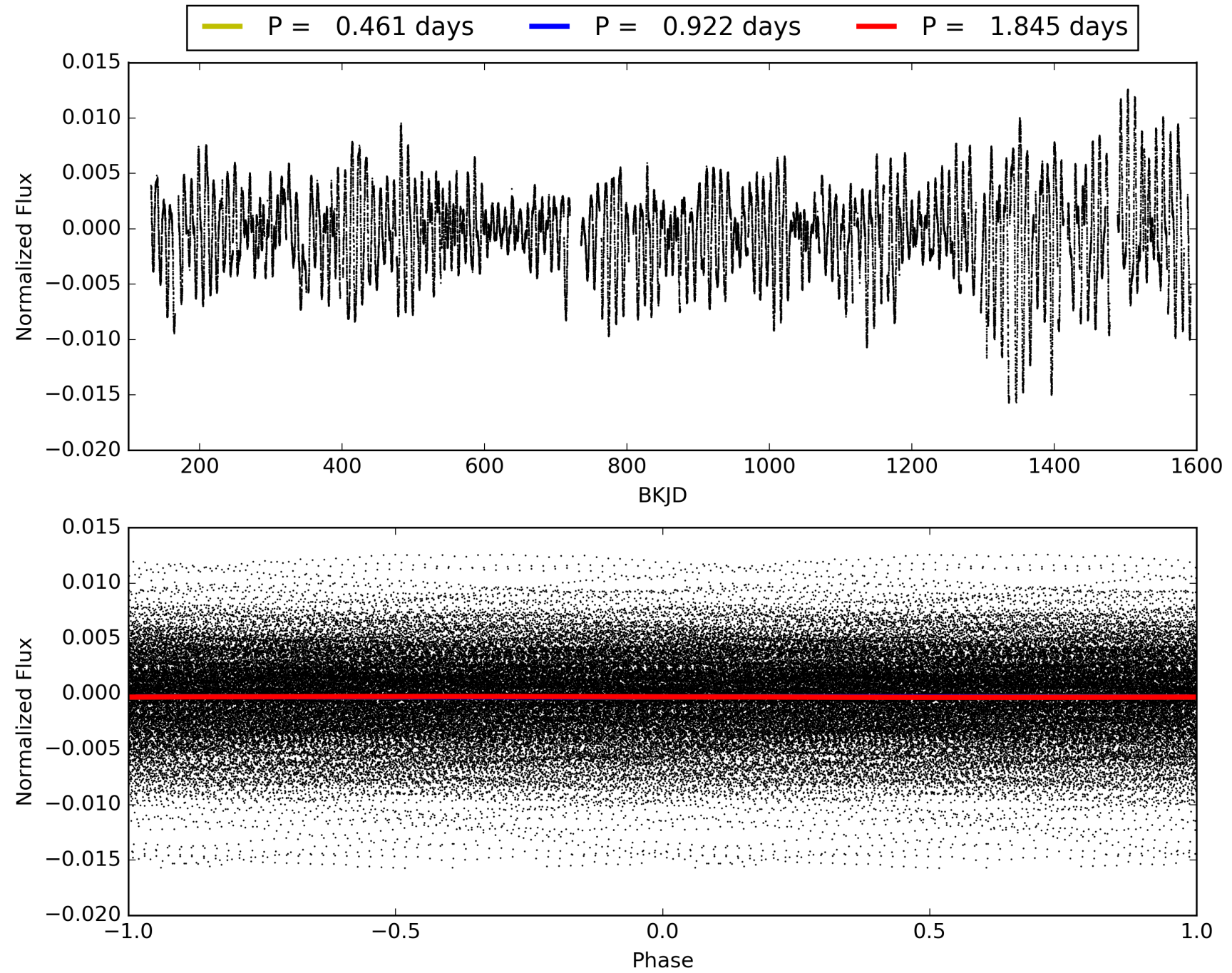
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [8.59σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.96e-15
RollingBand-fgt: 0.98 [1377/1399]
GhostDiagnostic-chr: -1.472
Centroid-sig: 51.2%
Centroid-so: 1.207 arcsec [0.73σ]
OotOffset-rm: 15.938 arcsec [238.74σ]
KicOffset-rm: 15.952 arcsec [238.95σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 002694632-01, PDC Light Curves

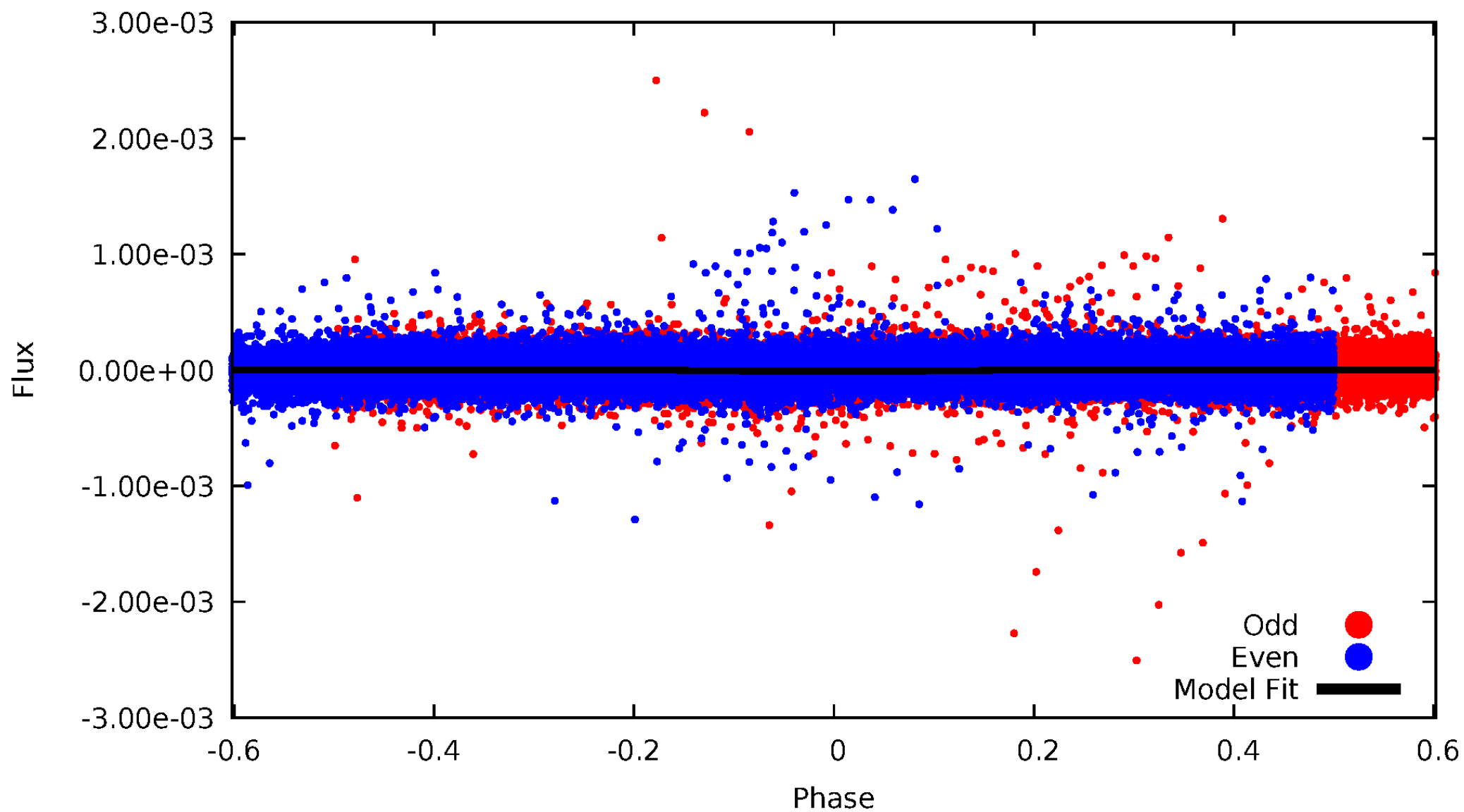


TCE 002694632-01



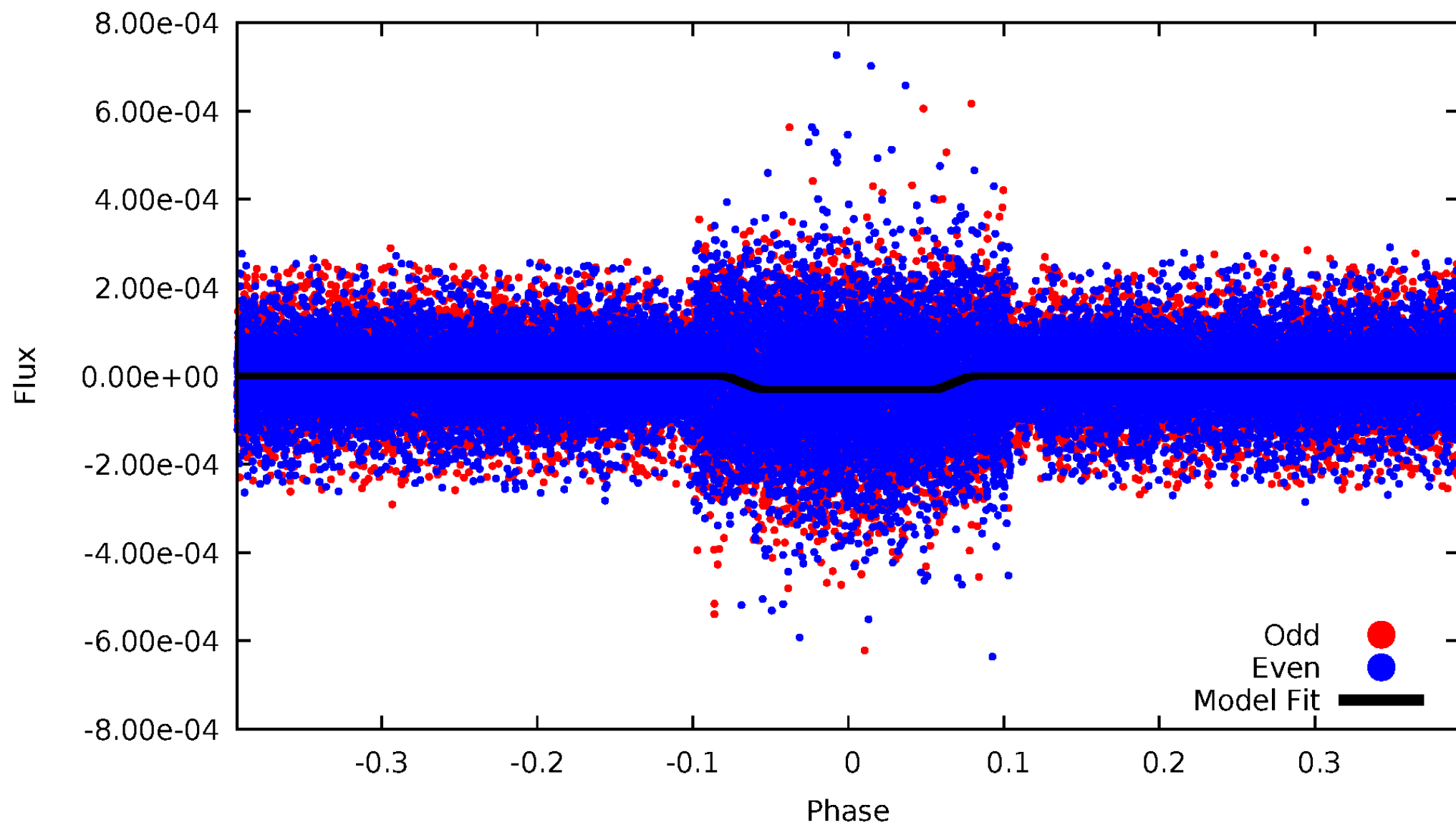
DV Odd/Even

TCE 002694632-01



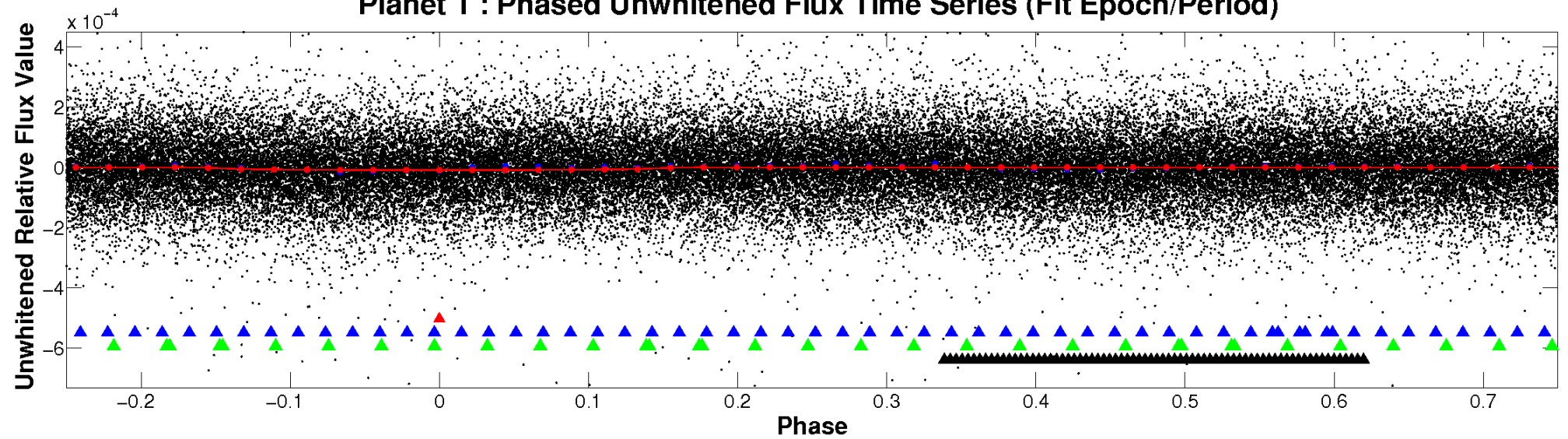
ALT Odd/Even

TCE 002694632-01

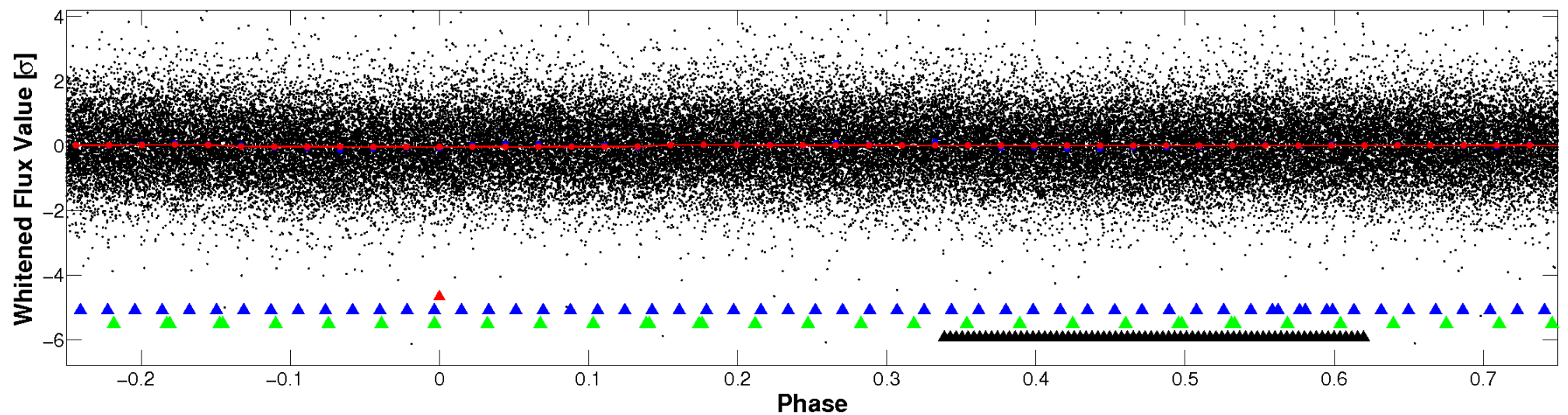


Non-Whitened Vs. Whitened Light Curve

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

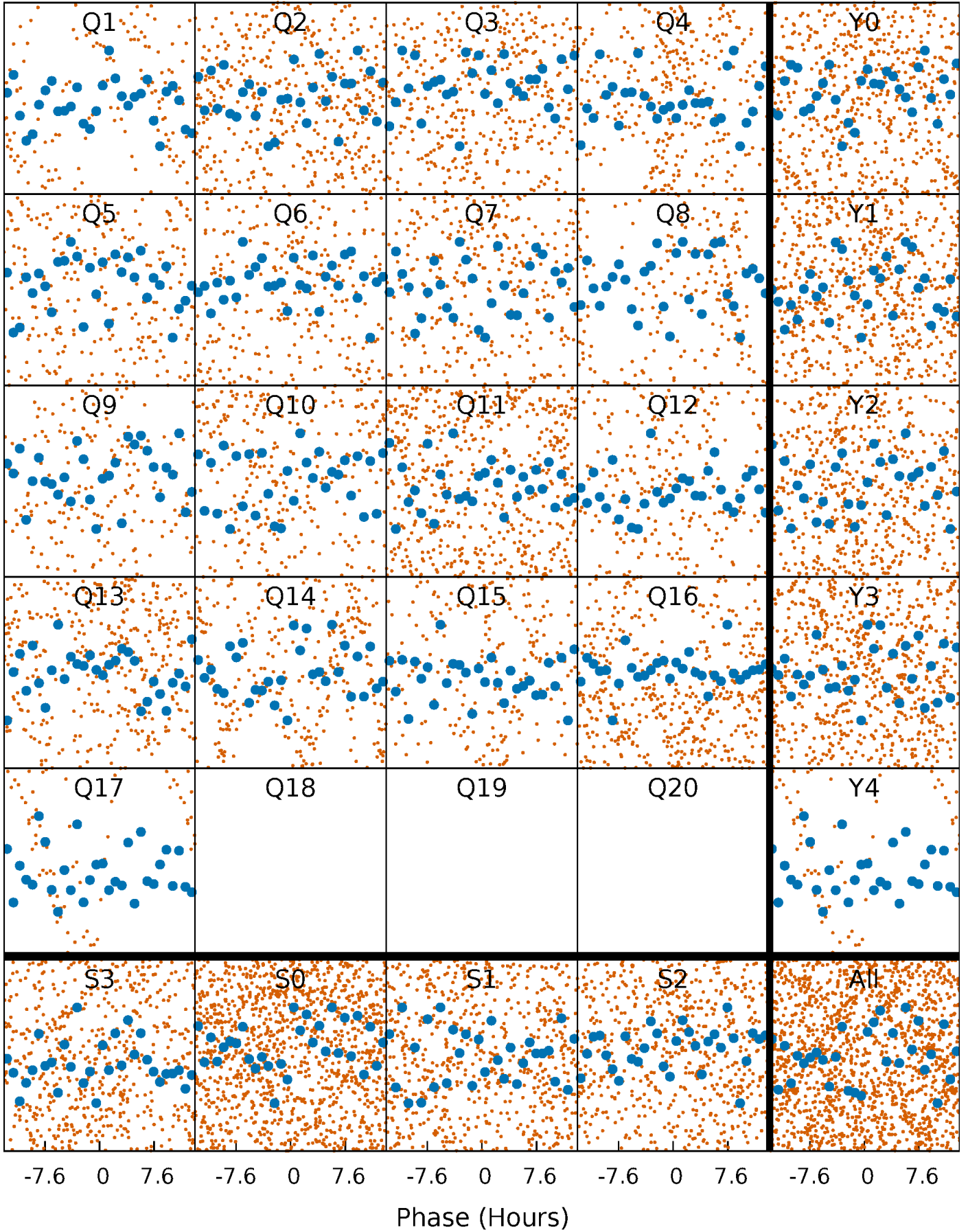


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



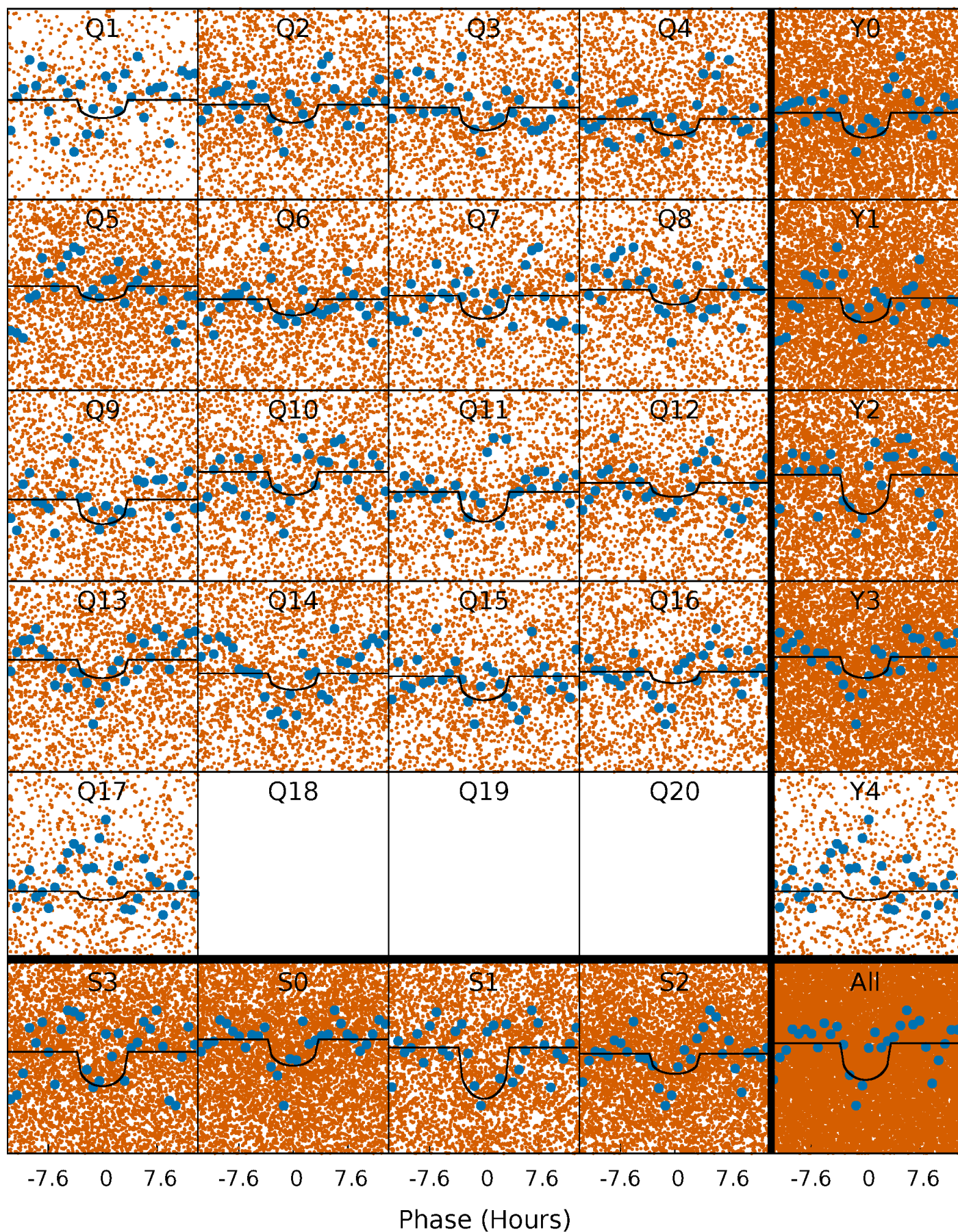
PDC Quarter-Phased Transit Curves

TCE 002694632-01 P= 0.922282 Days $T_0=131.835521$ (BKJD)



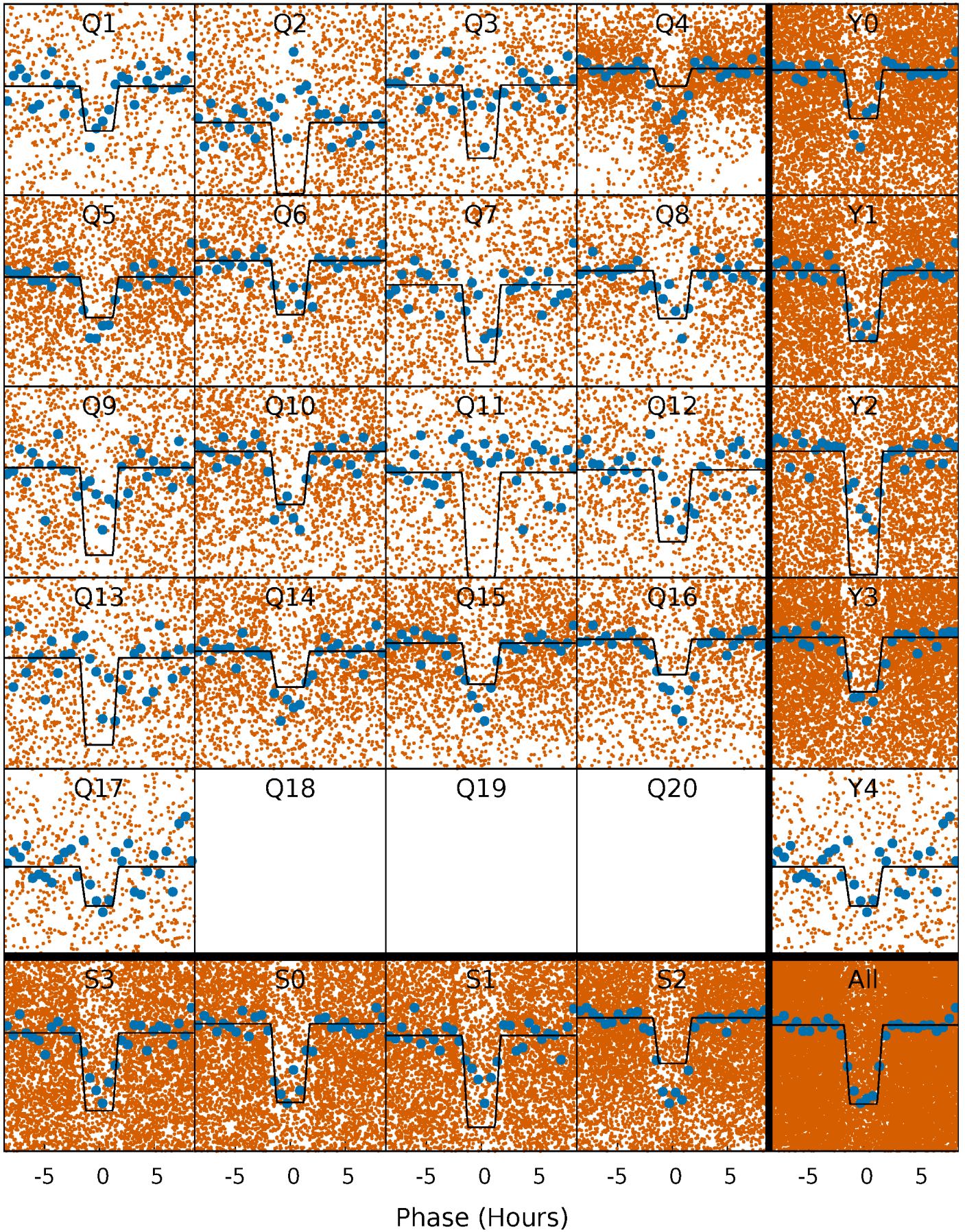
DV Quarter-Phased Transit Curves

TCE 002694632-01 P= 0.922282 Days $T_0=131.835521$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

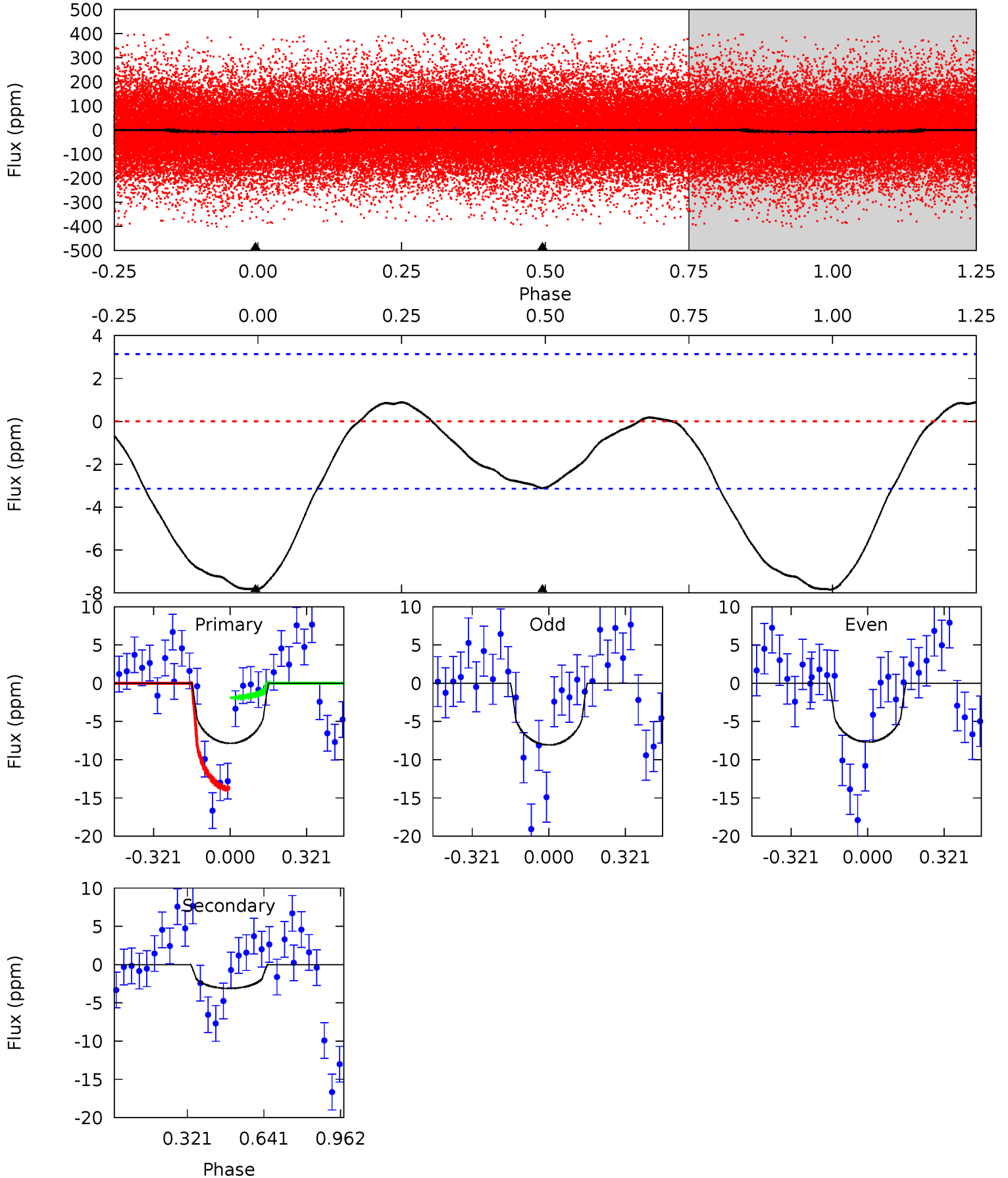
TCE 002694632-01 P= 0.922259 Days $T_0=131.796844$ (BKJD)



DV Model-Shift Uniqueness Test

002694632-01, P = 0.922282 Days, E = 130.913239 Days

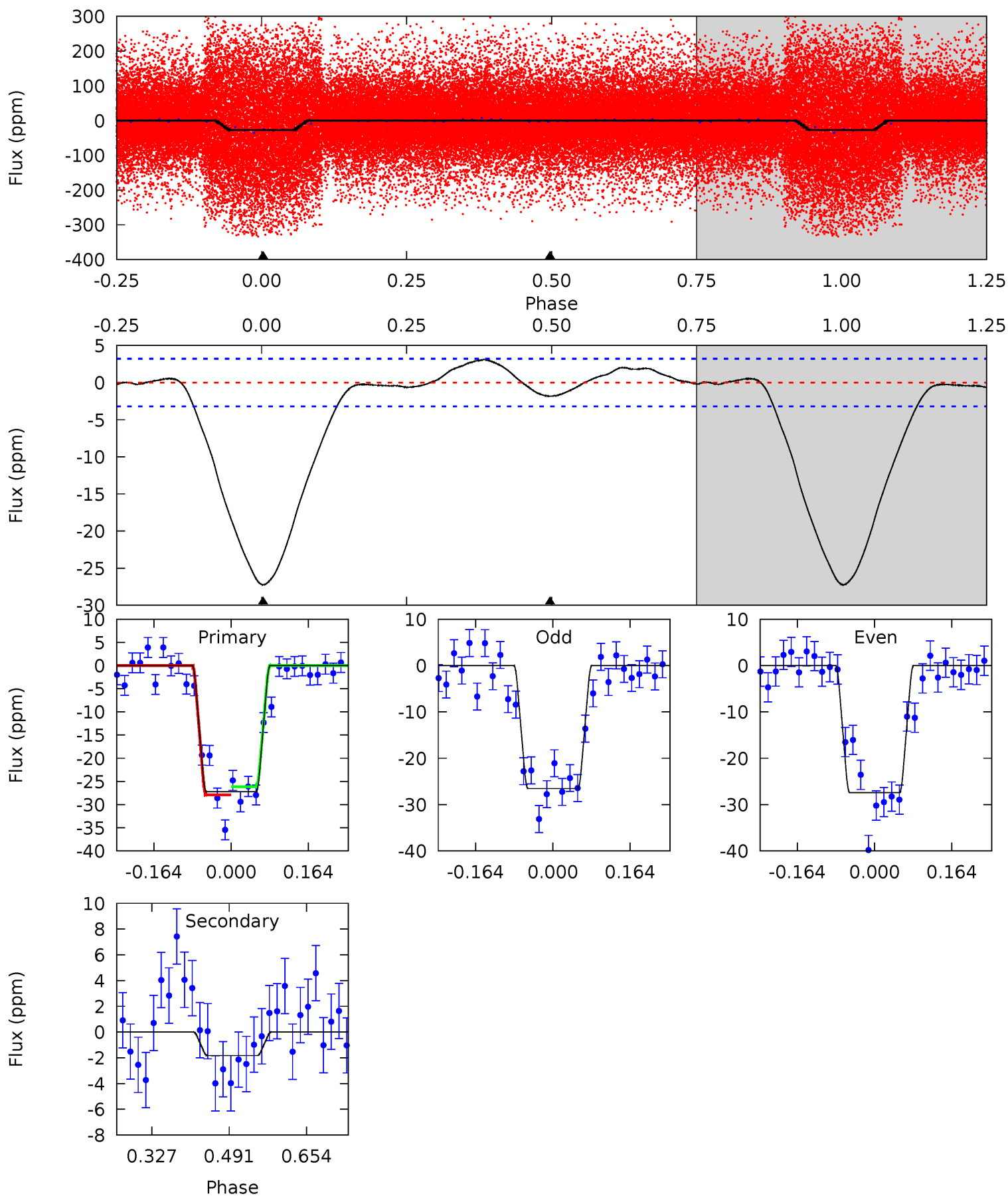
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	4.28	0	0	4.31	0.99	1.06	10.8	10.8	4.28	4.28	0.26	0.50	0.10	8.38



Alt Model-Shift Uniqueness Test

002694632-01, P = 0.922259 Days, E = 130.874585 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.9	2.54	0	0	4.46	1.39	0.95	37.9	37.9	2.54	2.54	0.59	1.08	0.10	1.21



Stellar Parameters For KIC 002694632

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5631^{+186}_{-169}	$4.114^{+0.322}_{-0.138}$	$0.240^{+0.150}_{-0.300}$	$1.485^{+0.336}_{-0.504}$	$1.046^{+0.126}_{-0.126}$	$0.450^{+0.984}_{-0.174}$
	+3%/-3%	+8%/-3%	+62%/-125%	+23%/-34%	+12%/-12%	+219%/-39%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 002694632-01 / KOI 4600.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-3 ± 1	$0.54^{+0.51}_{-0.33}$	3048^{+231}_{-291}	4070^{+2145}_{-1121}	$2.055^{+11.323}_{-1.536}$
Alt.	-2 ± 1	$0.90^{+0.57}_{-0.45}$	3047^{+214}_{-260}	2727^{+1257}_{-5587}	$0.431^{+1.325}_{-0.293}$

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

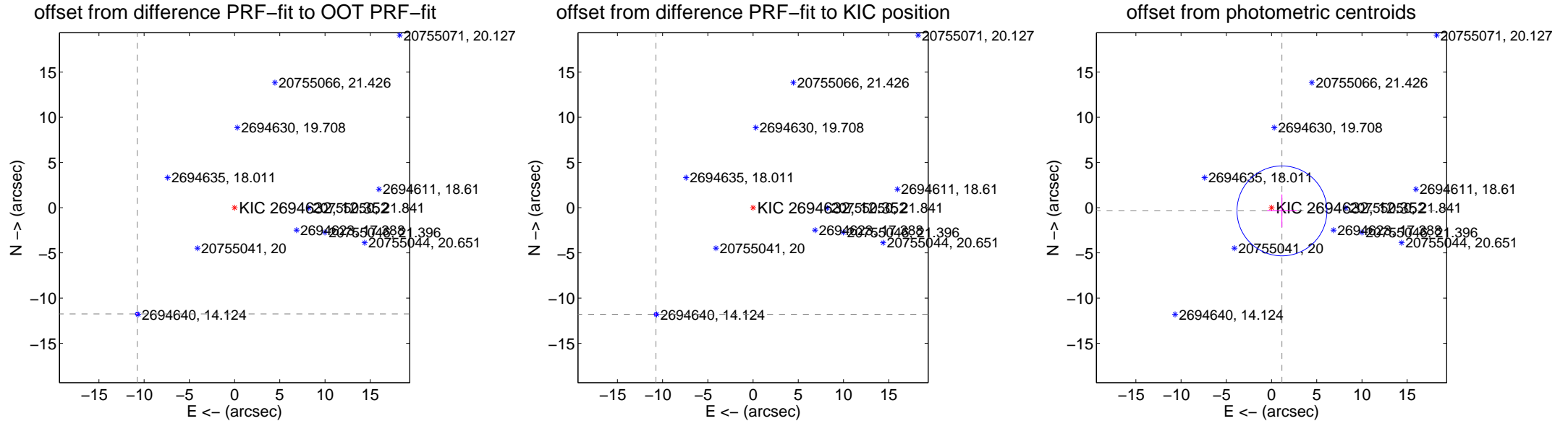
DV Centroid Data

Supplemental centroid analysis for 002694632-01. Kepler magnitude: 12.35. Transit SNR 5.00

There are 1 quarters with good PRF difference image offsets

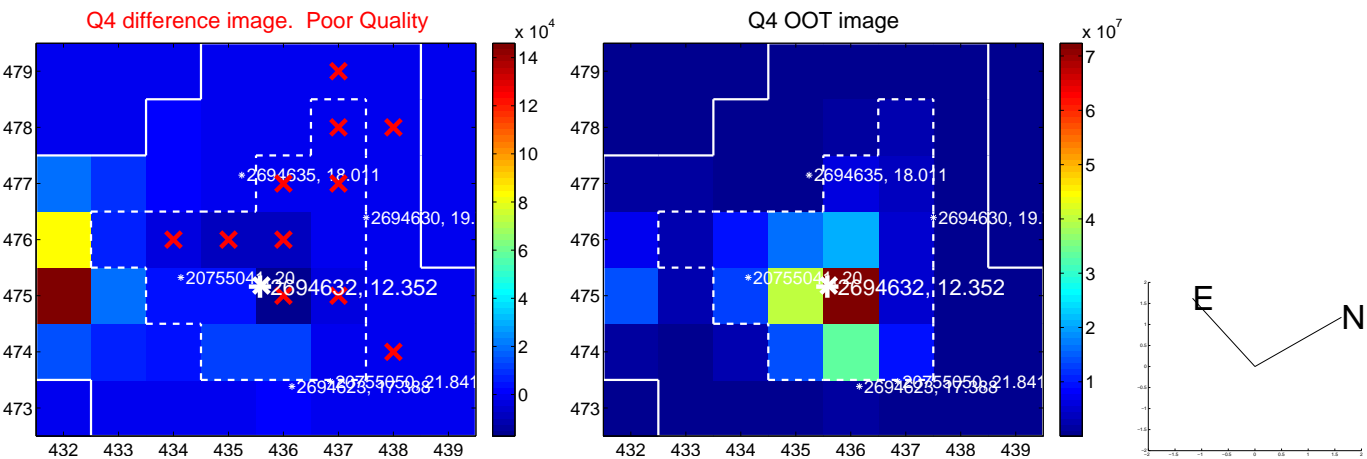
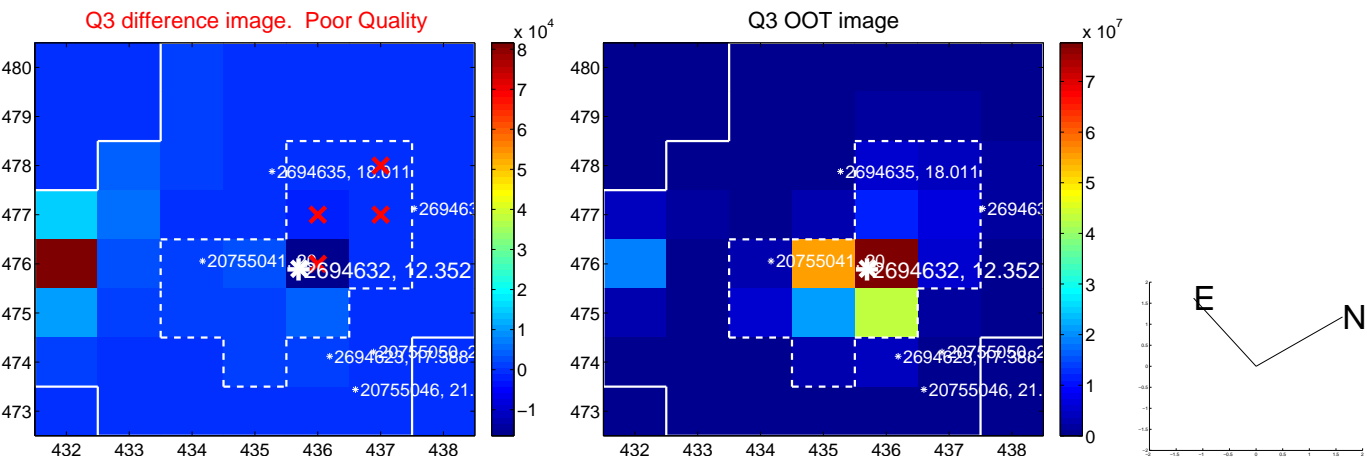
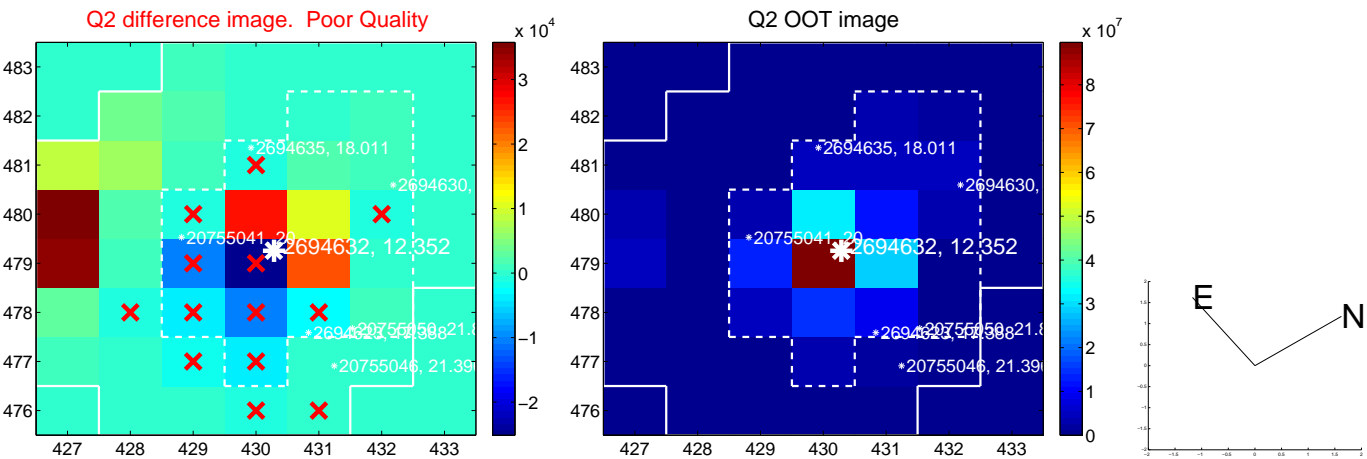
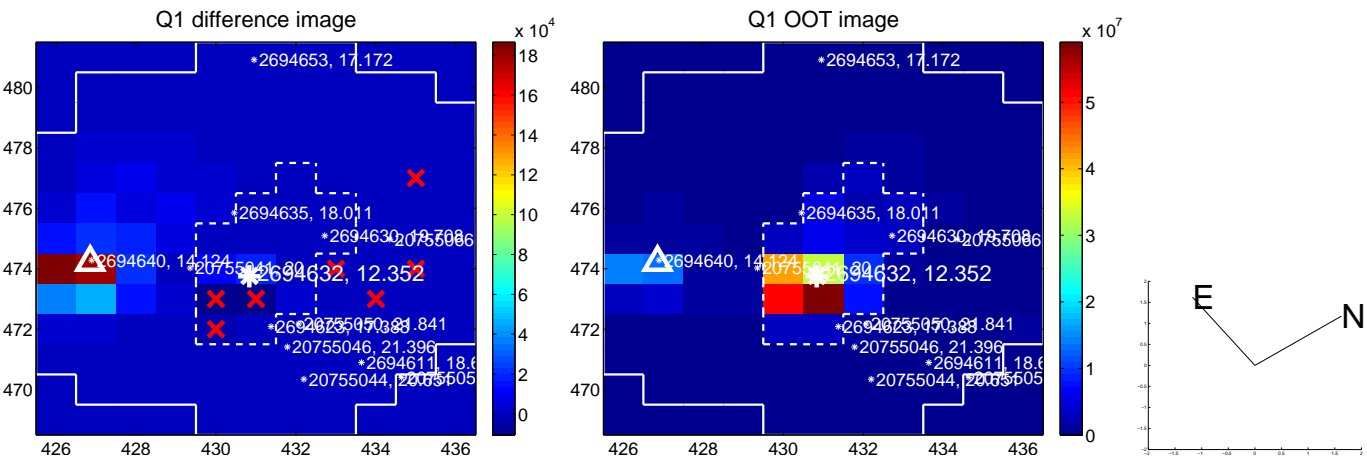
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	15.938 ± 0.067	238.74	10.762 ± 0.067	-11.755 ± 0.067
PRF-fit source offset from KIC position	15.952 ± 0.067	238.95	10.737 ± 0.067	-11.798 ± 0.067
photometric centroid source offset	1.21 ± 1.66	0.73	-1.15 ± 1.64	-0.36 ± 1.81

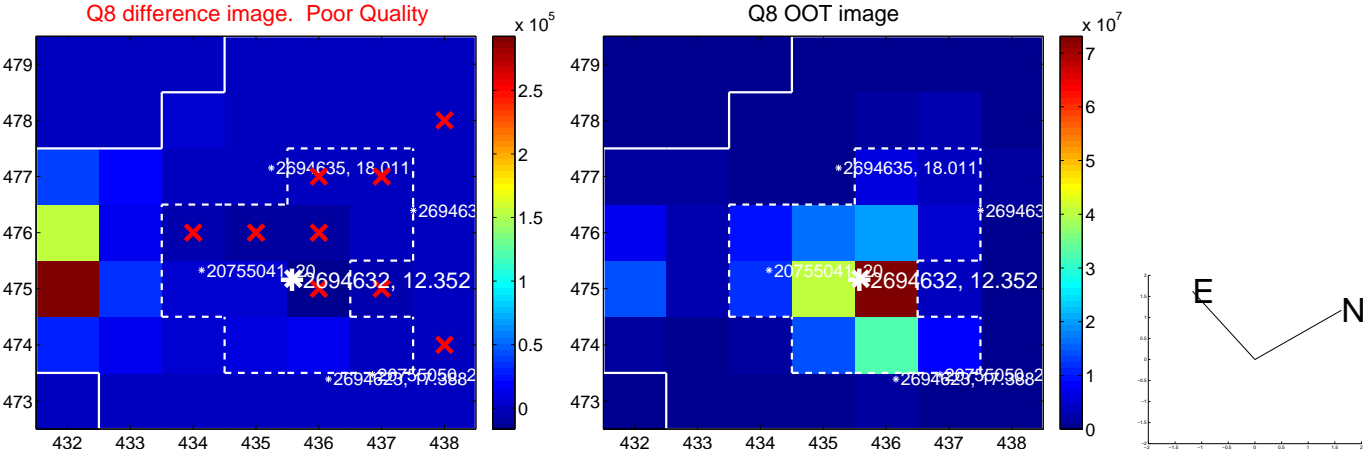
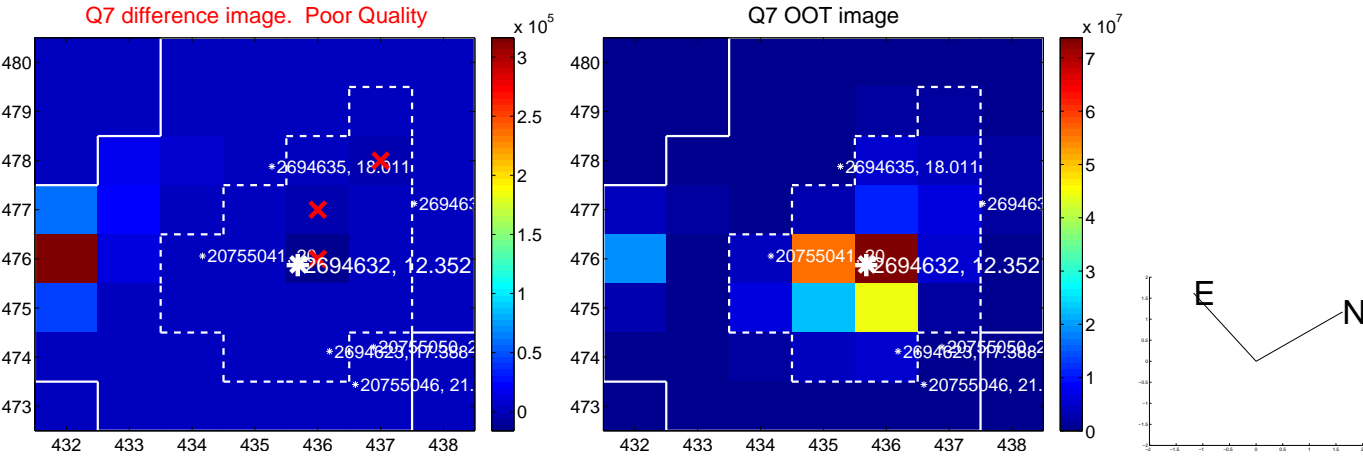
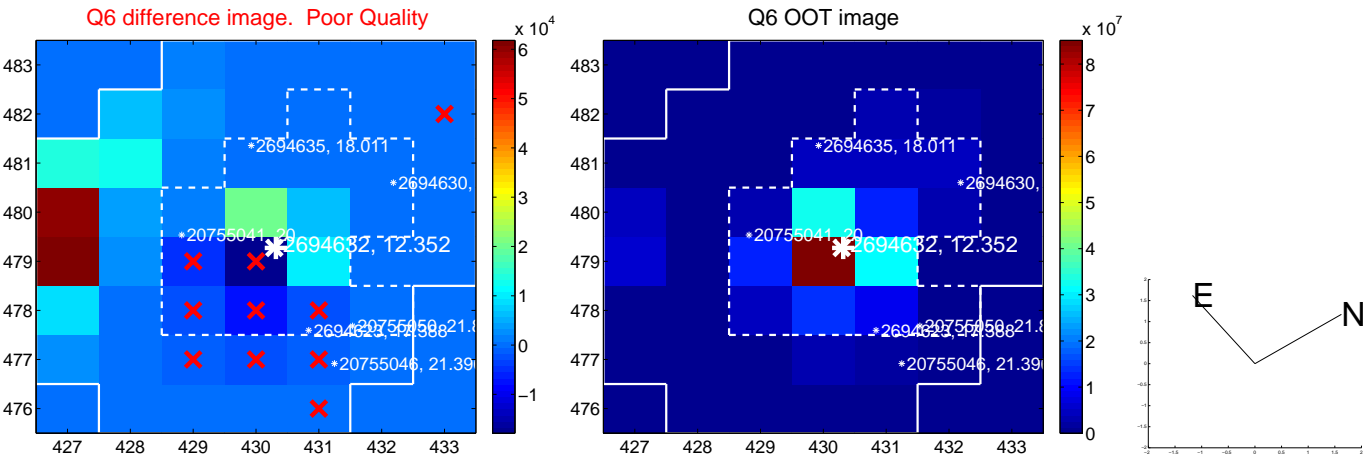
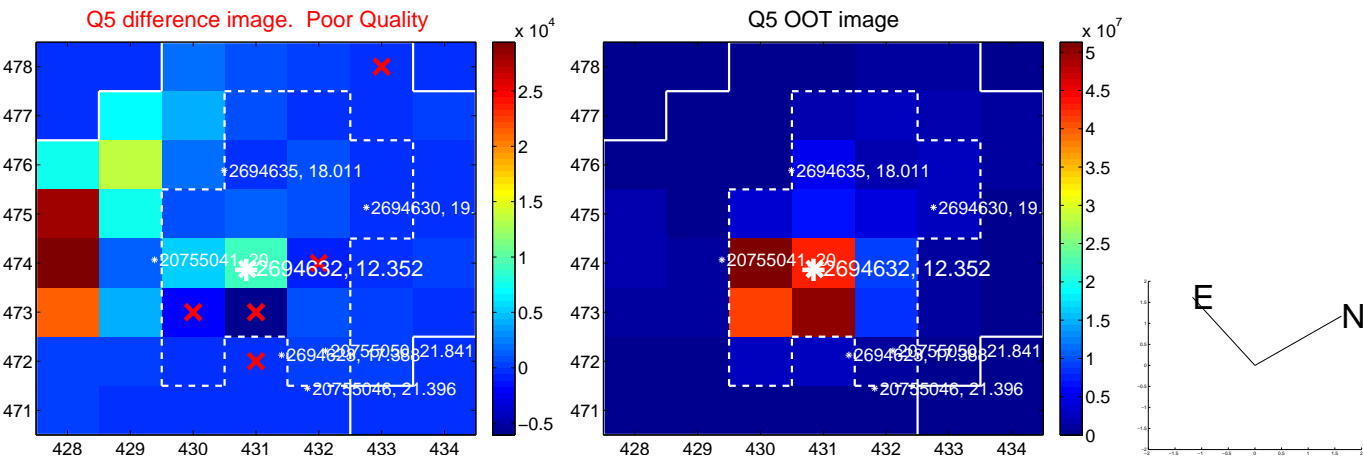


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

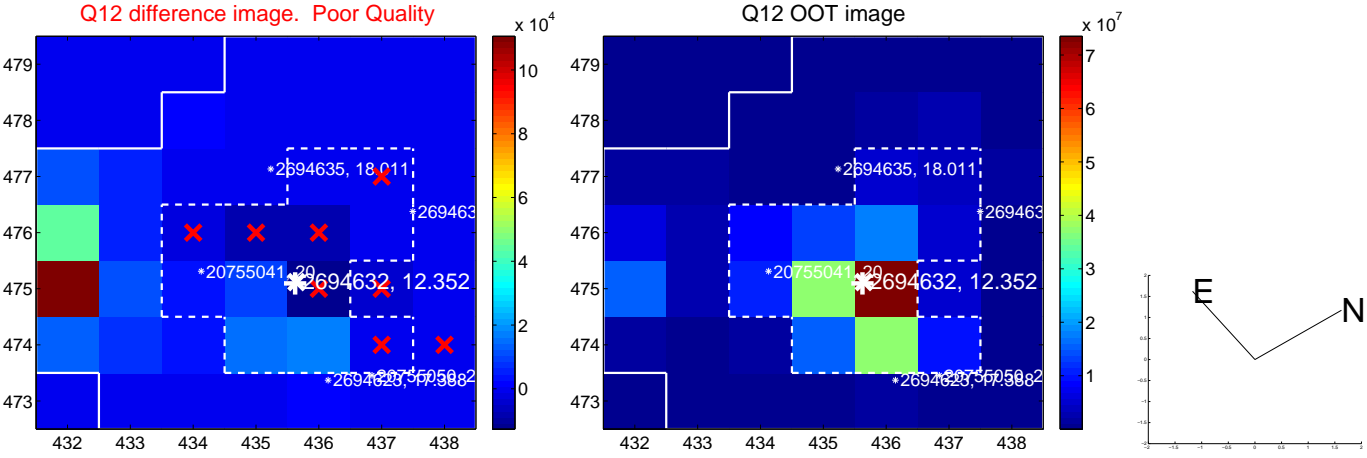
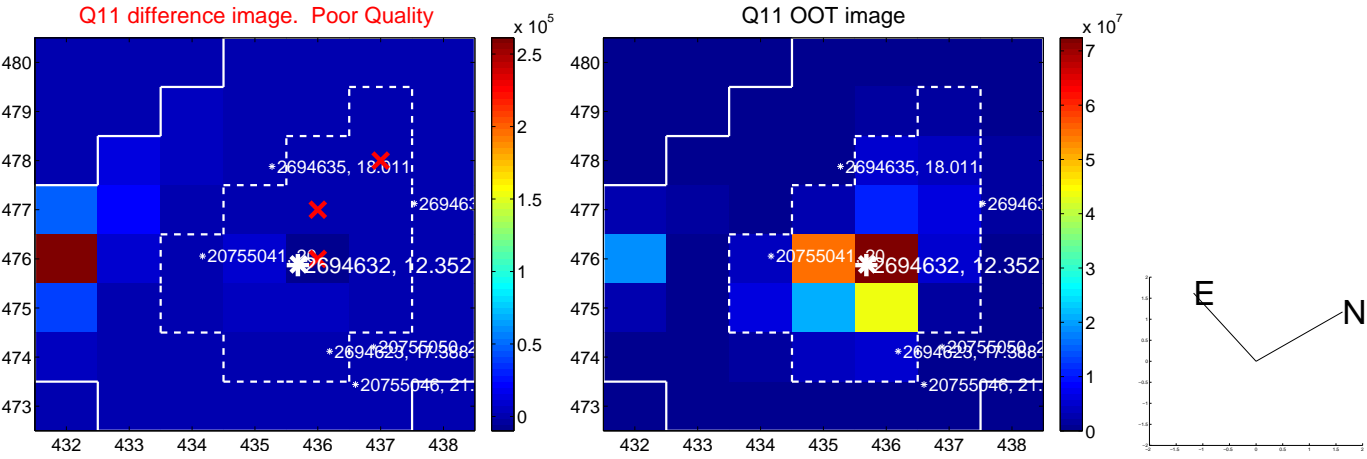
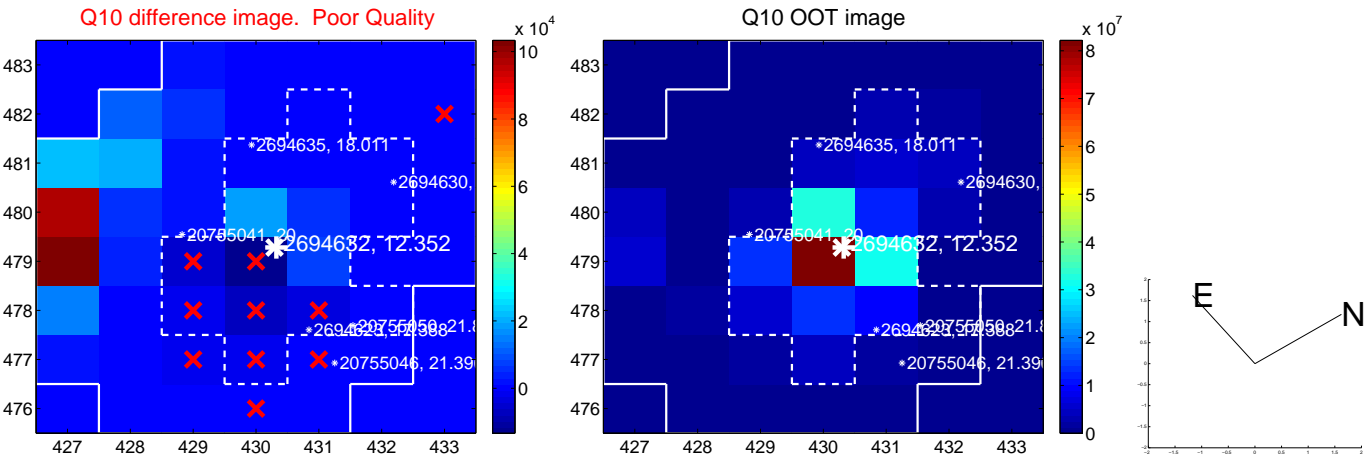
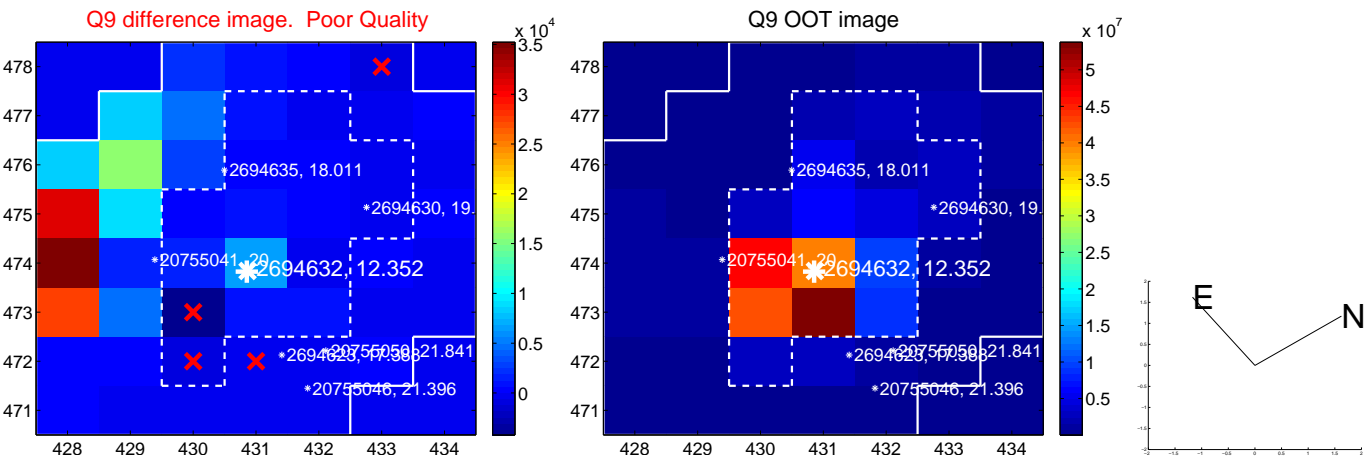
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



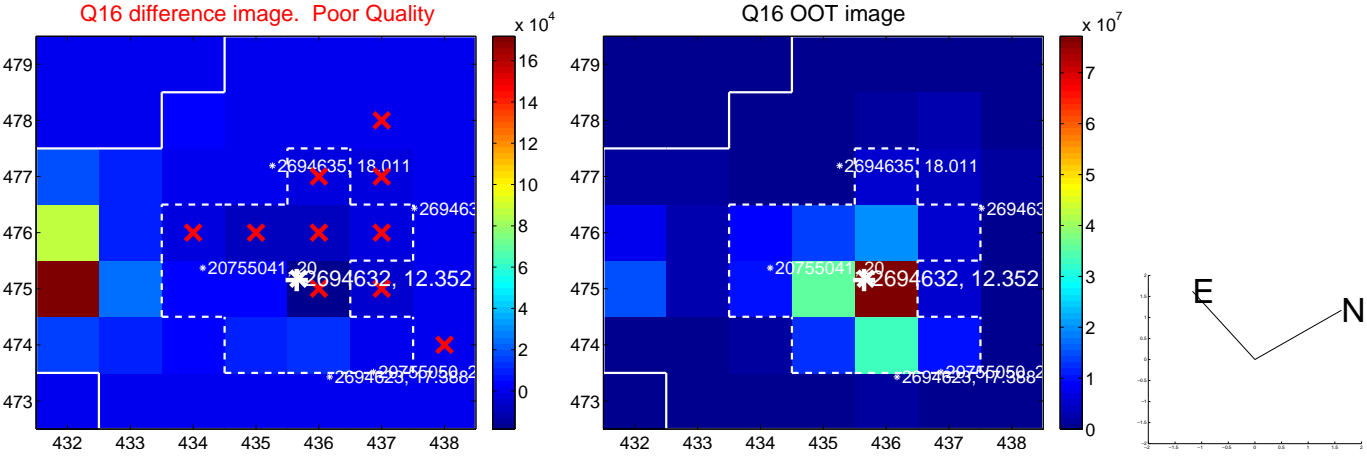
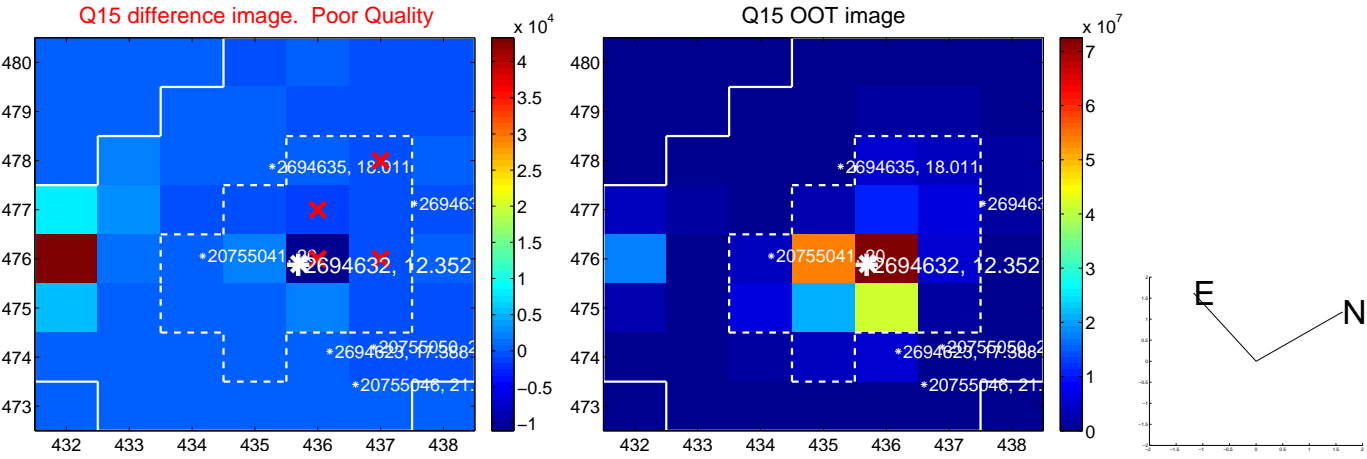
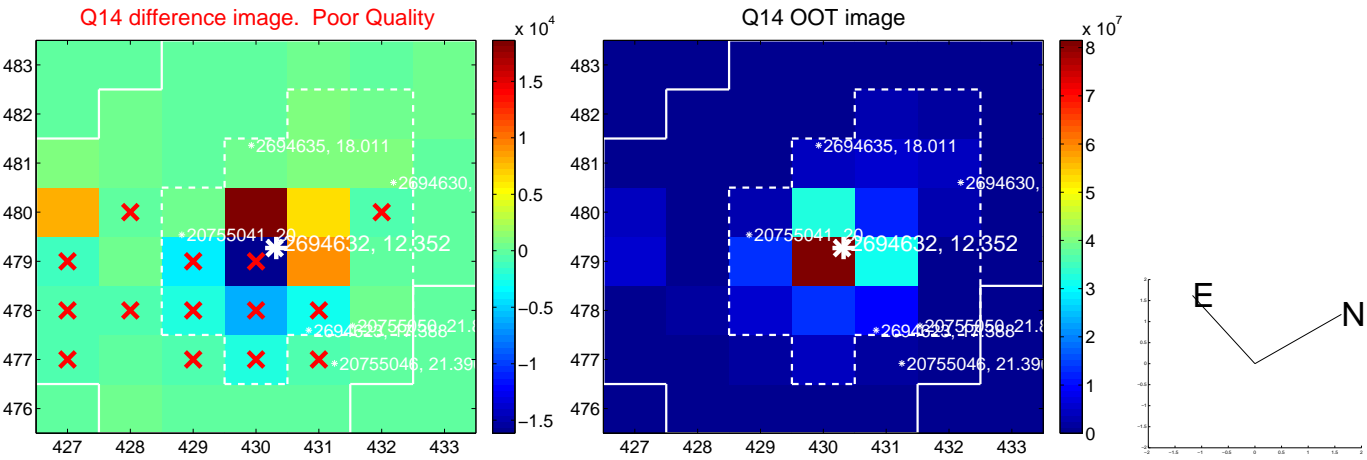
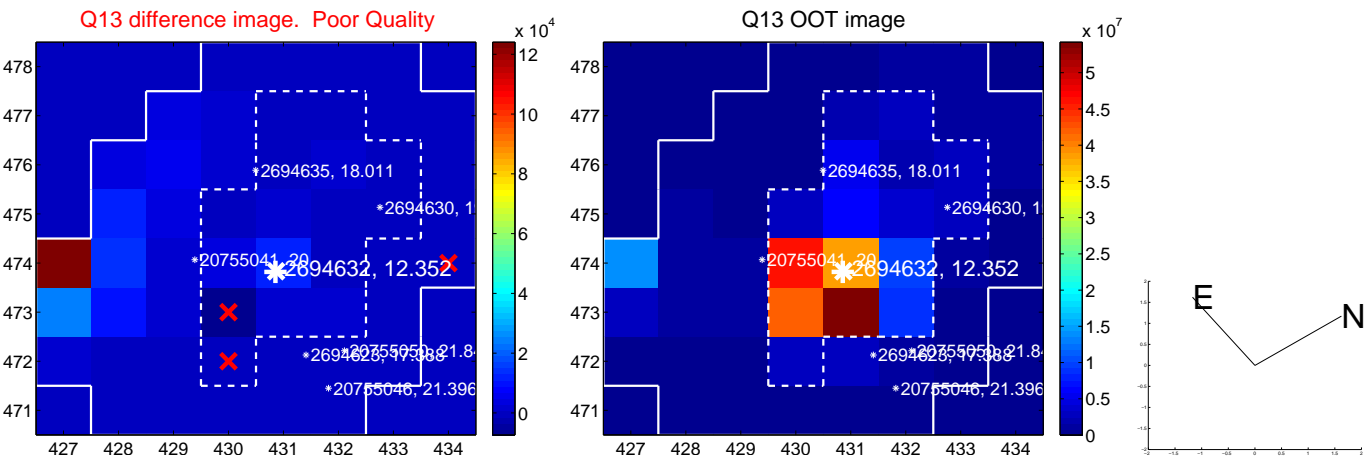
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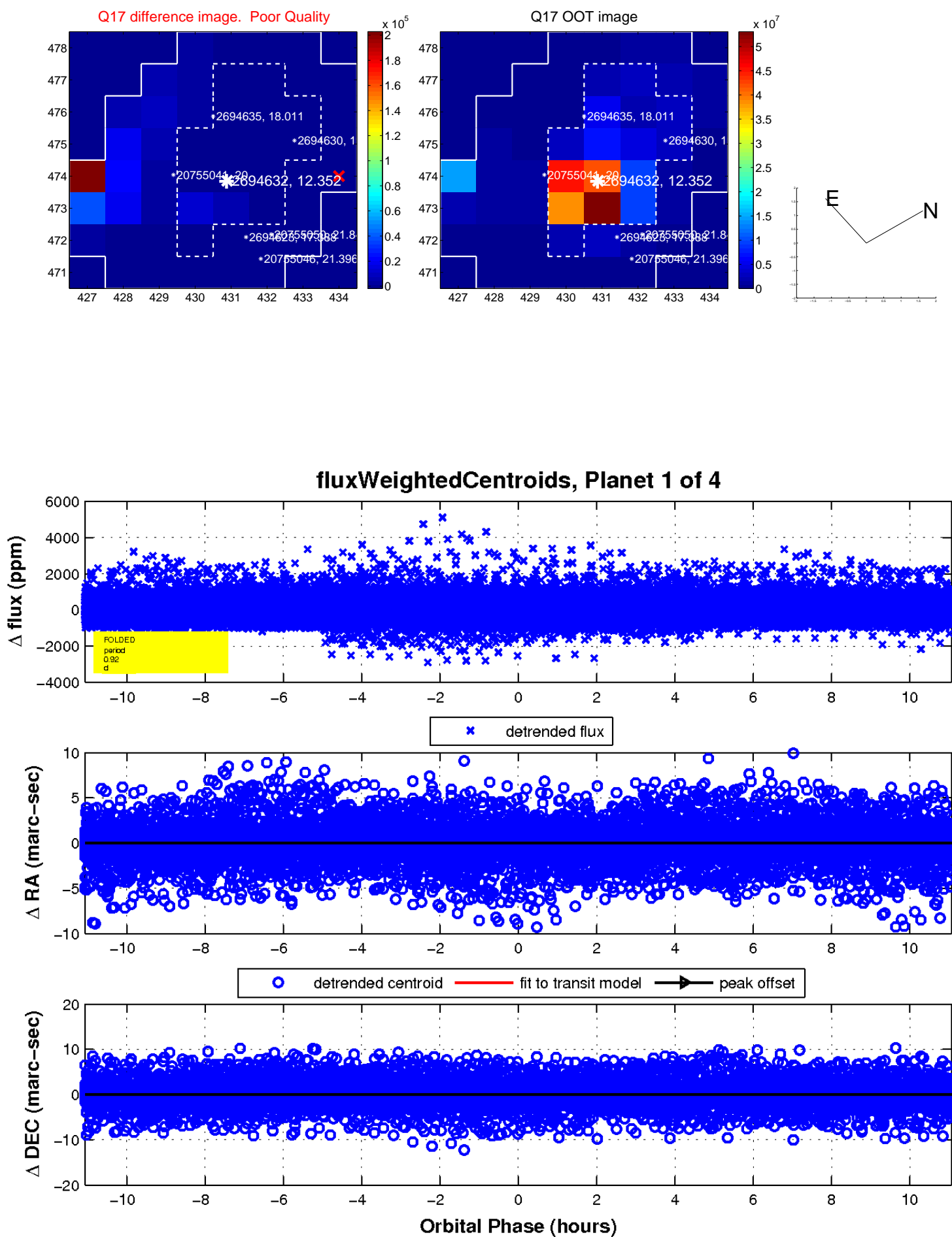
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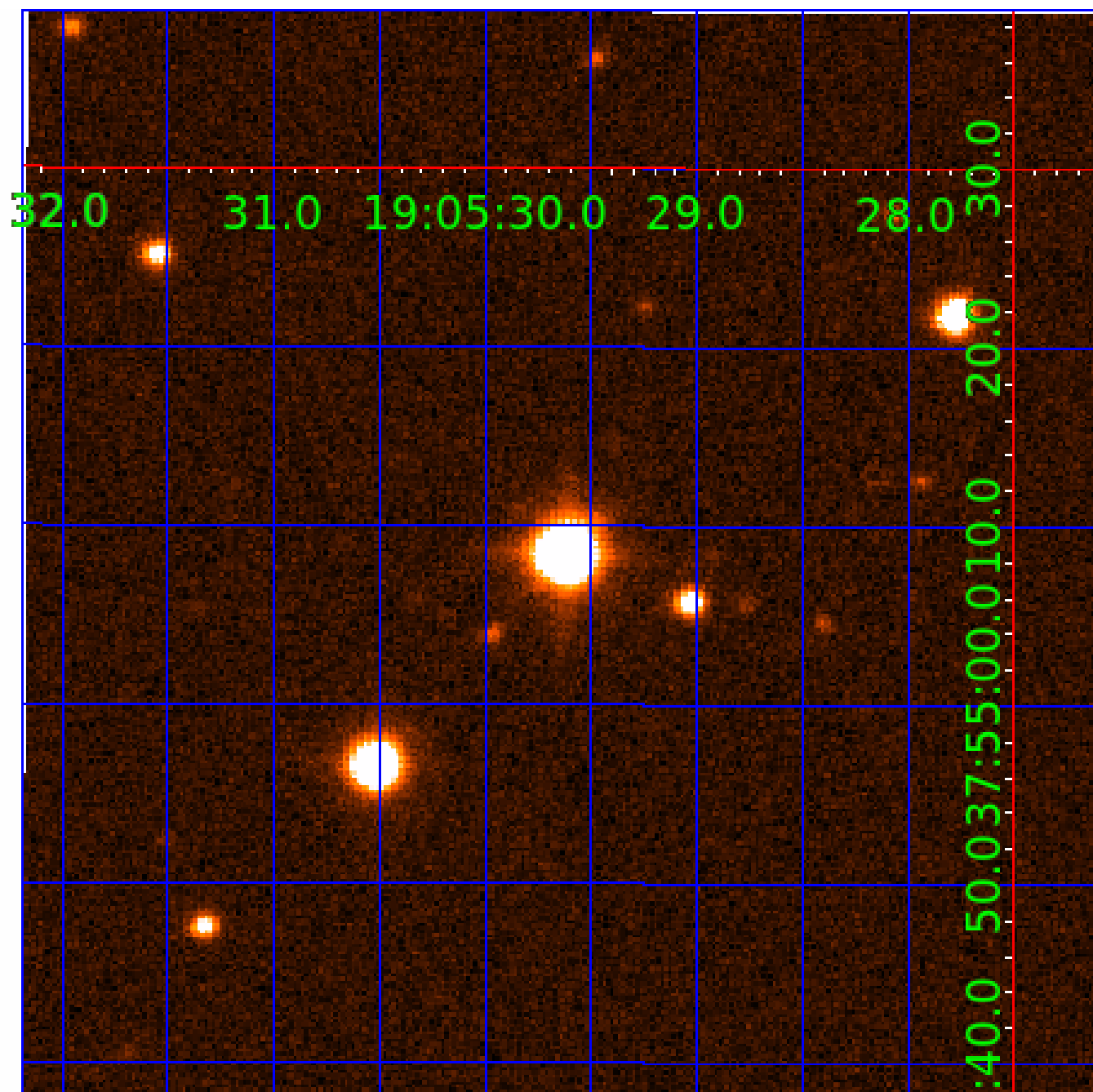


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002694632

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})
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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002694632-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—CENT_RESOLVED_OFFSET
002694632-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_POS_ALT

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.

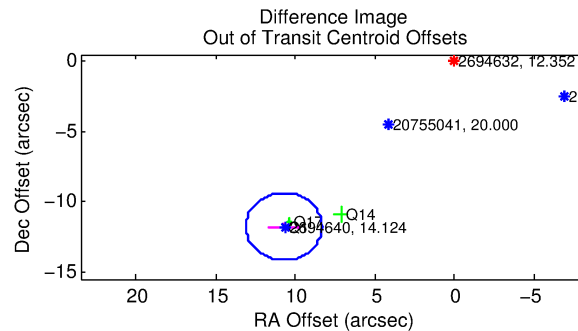
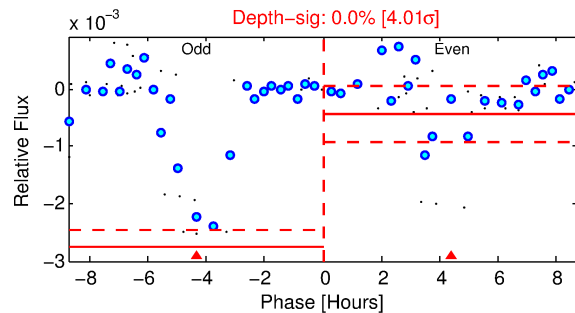
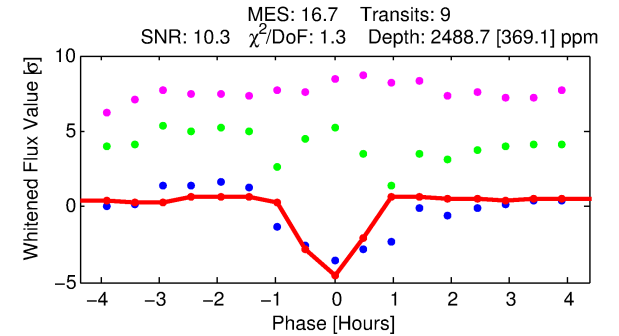
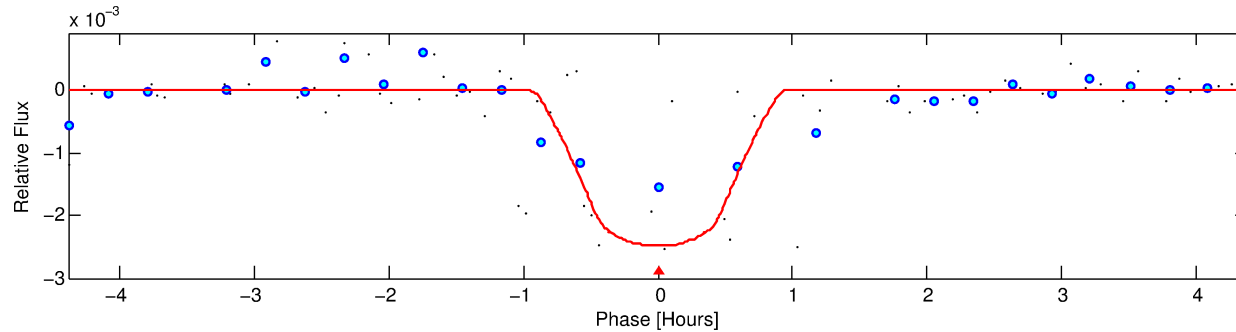
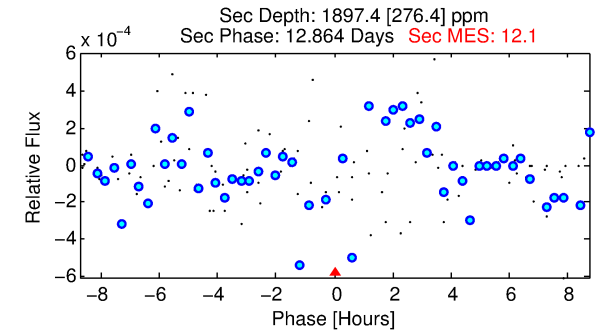
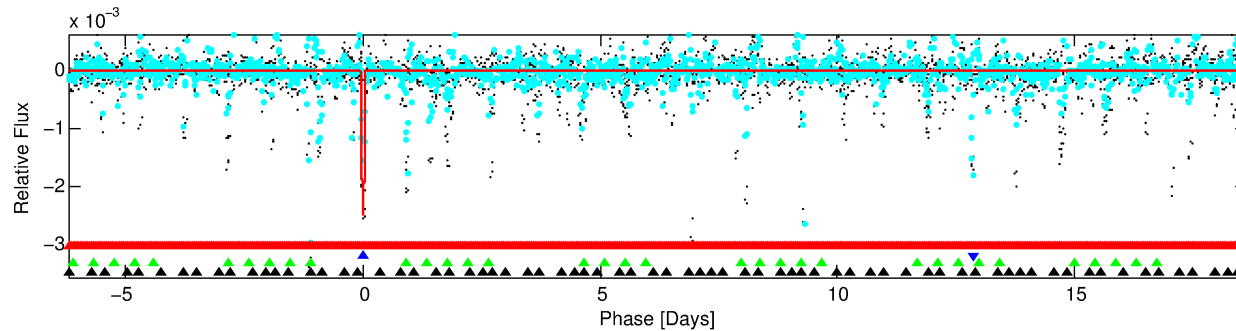
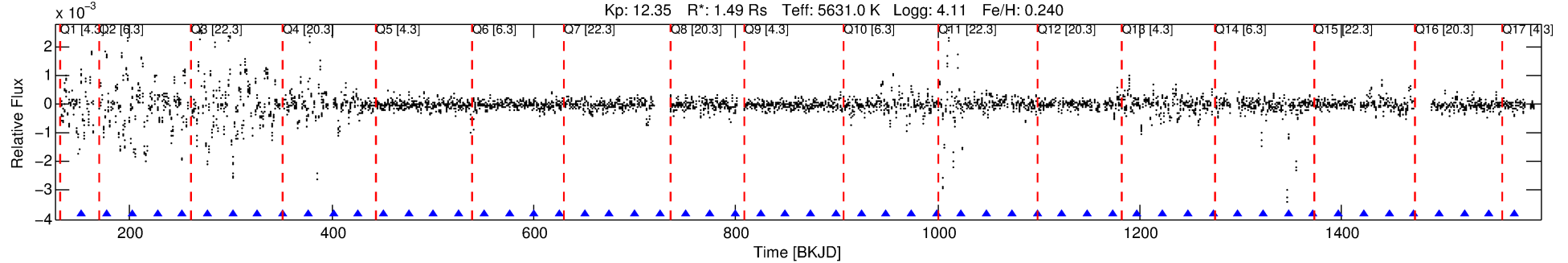
Ephemeris Match Information For 002694632-02

No Significant Match Found

DV One-Page Summary

KIC: 2694632 Candidate: 2 of 4 Period: 24.885 d
KOI: K04600 Corr: No Ephemeris Match

Kp: 12.35 R*: 1.49 Rs Teff: 5631.0 K Logg: 4.11 Fe/H: 0.240



DV Fit Results:

Period = 24.88479 [0.00017] d
Epoch = 152.6781 [0.0023] BKJD
Rp/R* = 0.0480 [0.0860]
a/R* = 109.61 [775.09]
b = 0.62 [7.05]
Seff = 69.26 [38.75]
Teq = 736 [103] K
Rp = 7.78 [14.18] Re
a = 0.1694 [0.0567] AU
Ag = 495.07 [1795.16] [0.28σ]
Teffp = 5365 [4812] K [0.96σ]

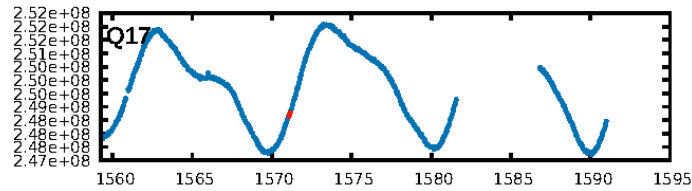
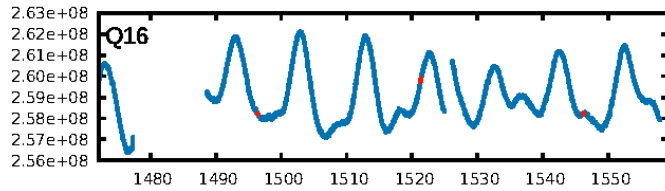
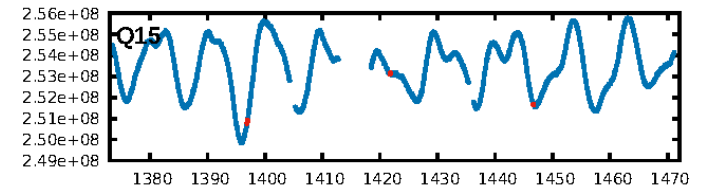
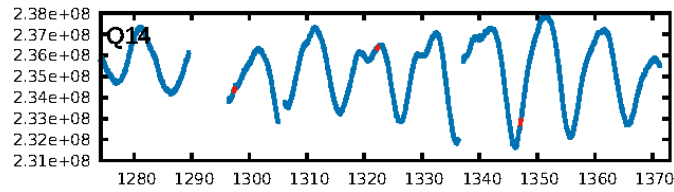
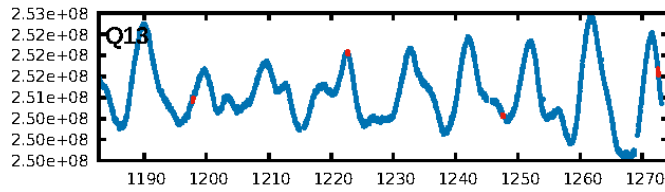
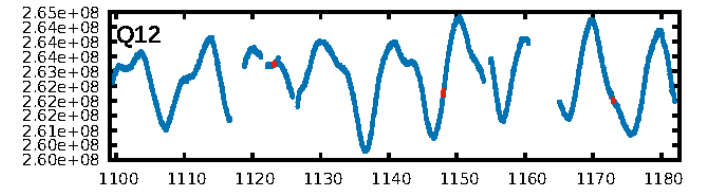
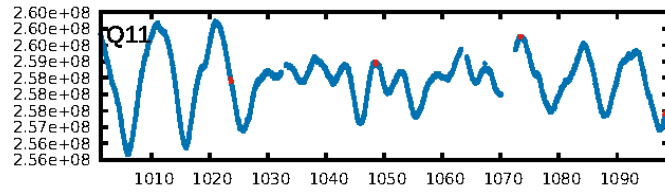
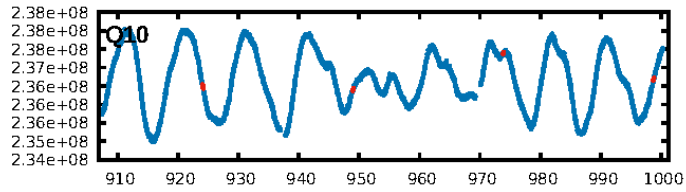
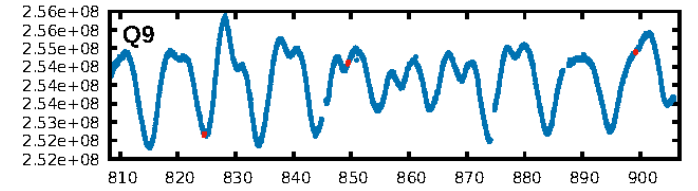
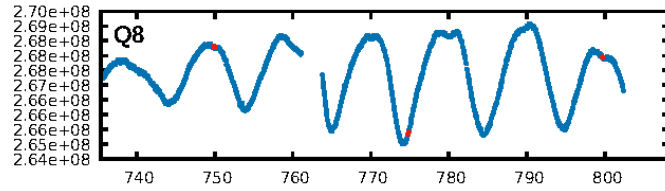
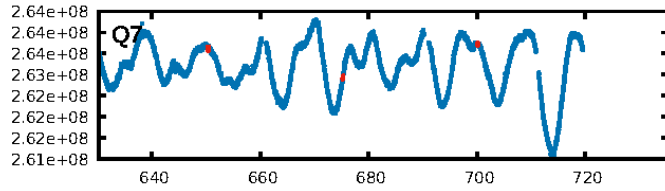
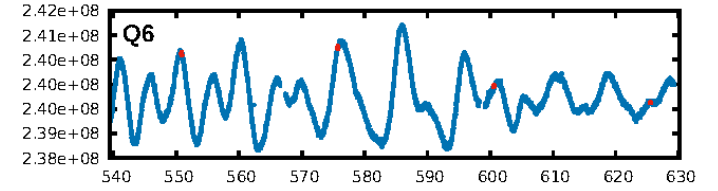
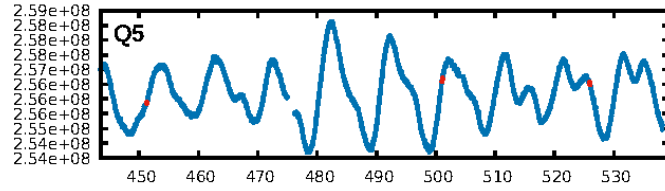
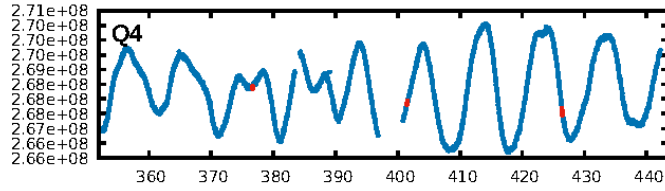
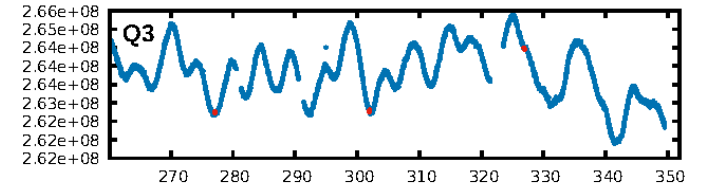
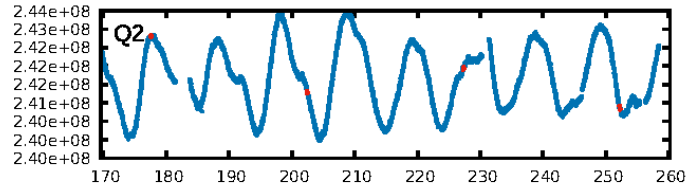
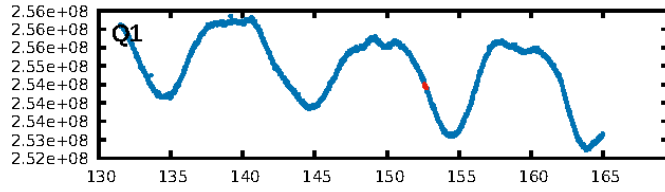
DV Diagnostic Results:

ShortPeriod-sig: 96.0% [2.05σ]
LongPeriod-sig: 100.0% [179.61σ]
ModelChiSquare2-sig: 1.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.73e-47
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: -3.777
Centroid-sig: 21.9%
Centroid-so: 0.196 arcsec [2.91σ]
OotOffset-rm: 15.918 arcsec [19.92σ]
KicOffset-rm: 15.921 arcsec [18.54σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-st: 1/0/0/2 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.35 [6/17]

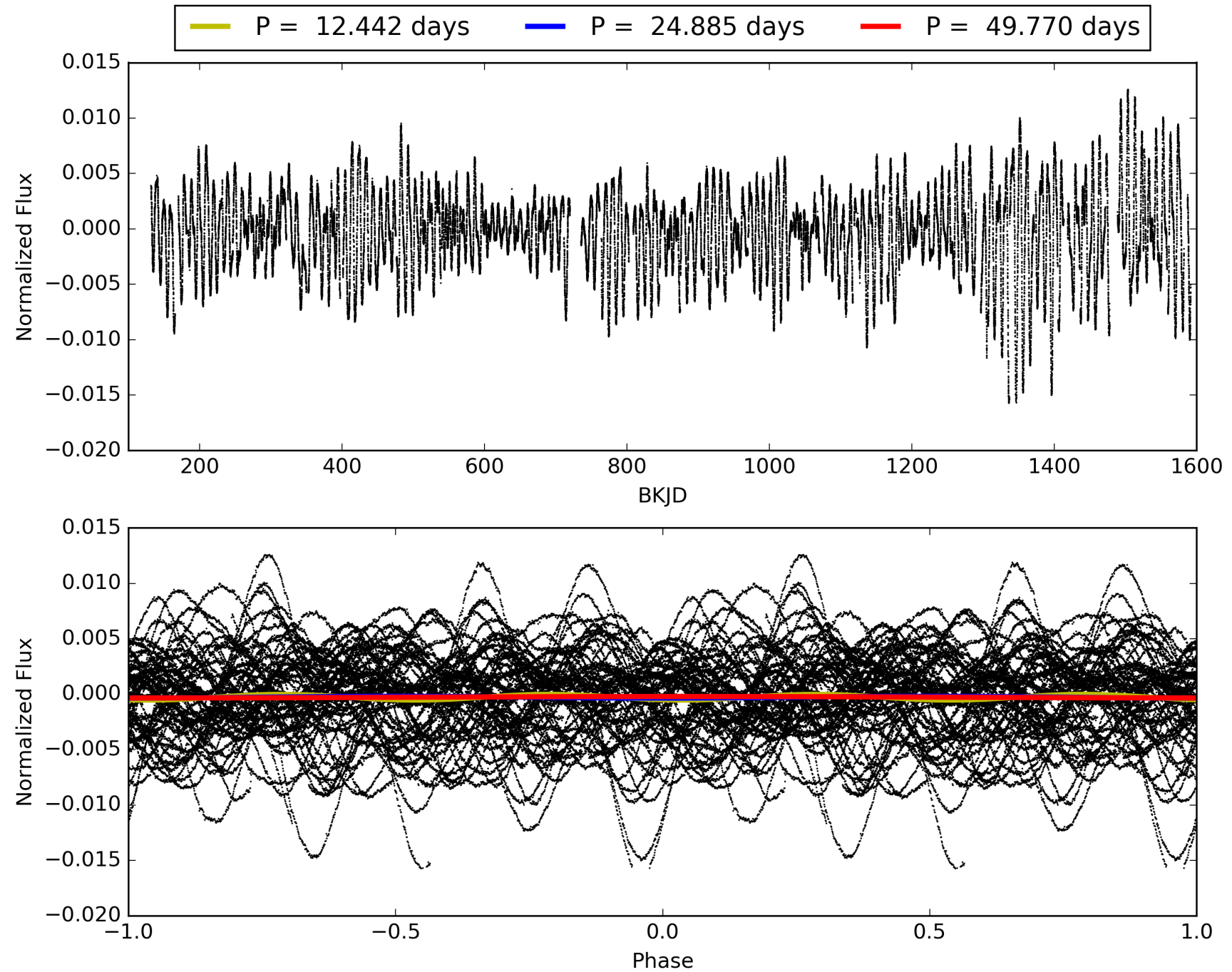
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:34:53 Z

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

TCE 002694632-02, PDC Light Curves

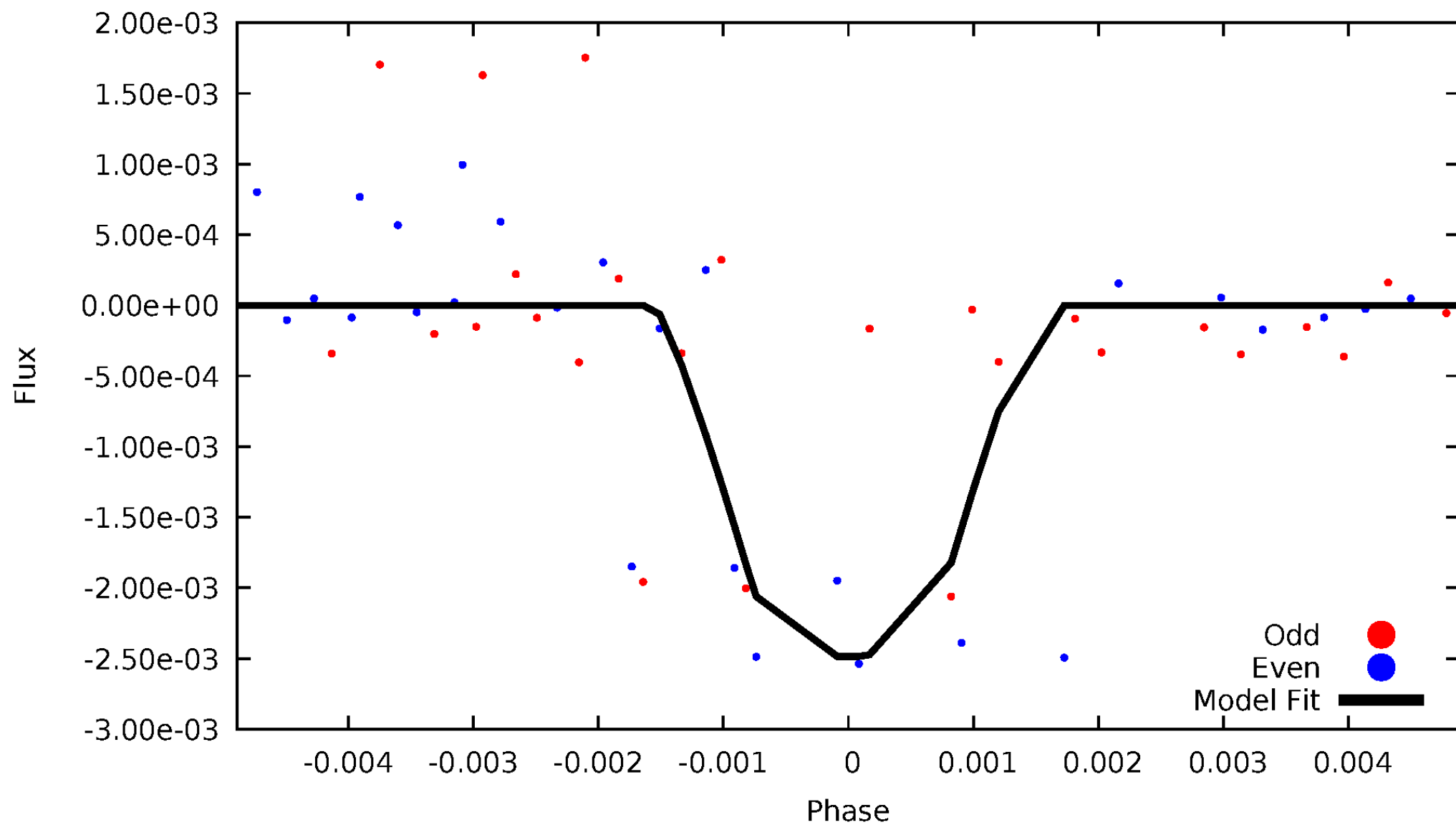


TCE 002694632-02



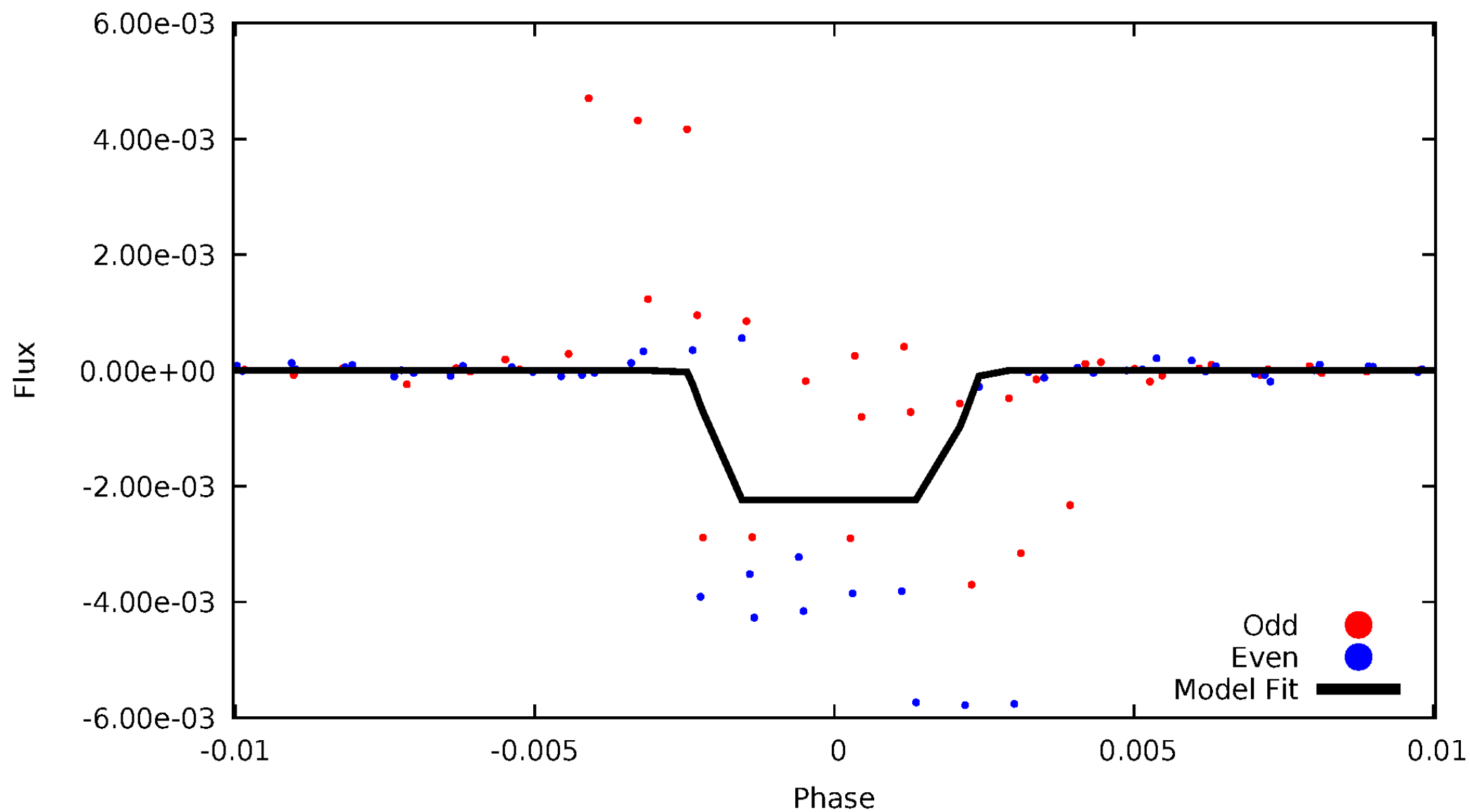
DV Odd/Even

TCE 002694632-02



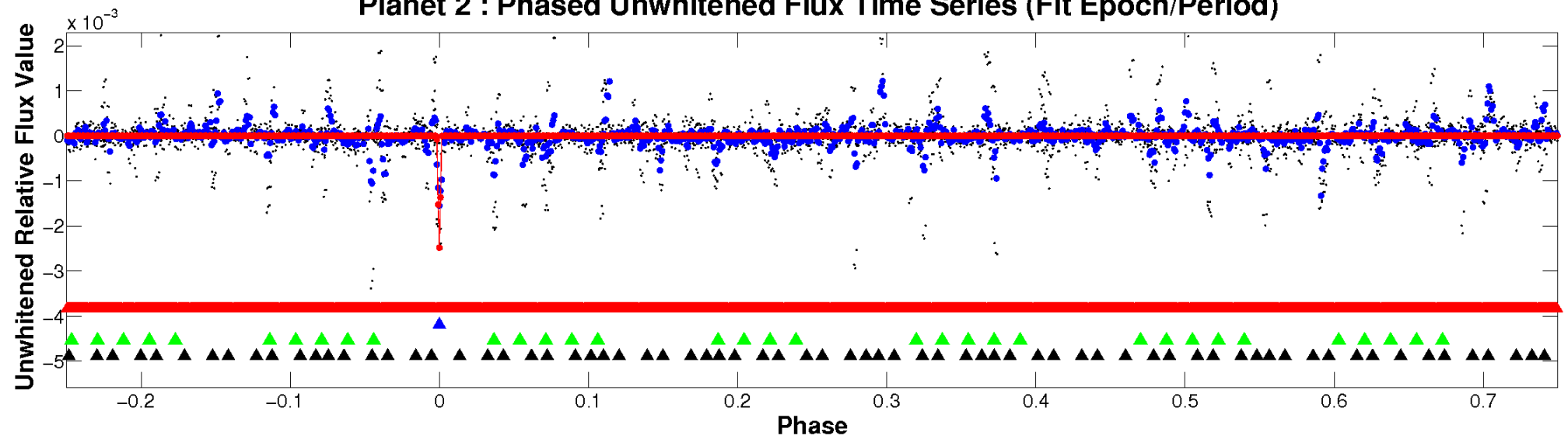
ALT Odd/Even

TCE 002694632-02

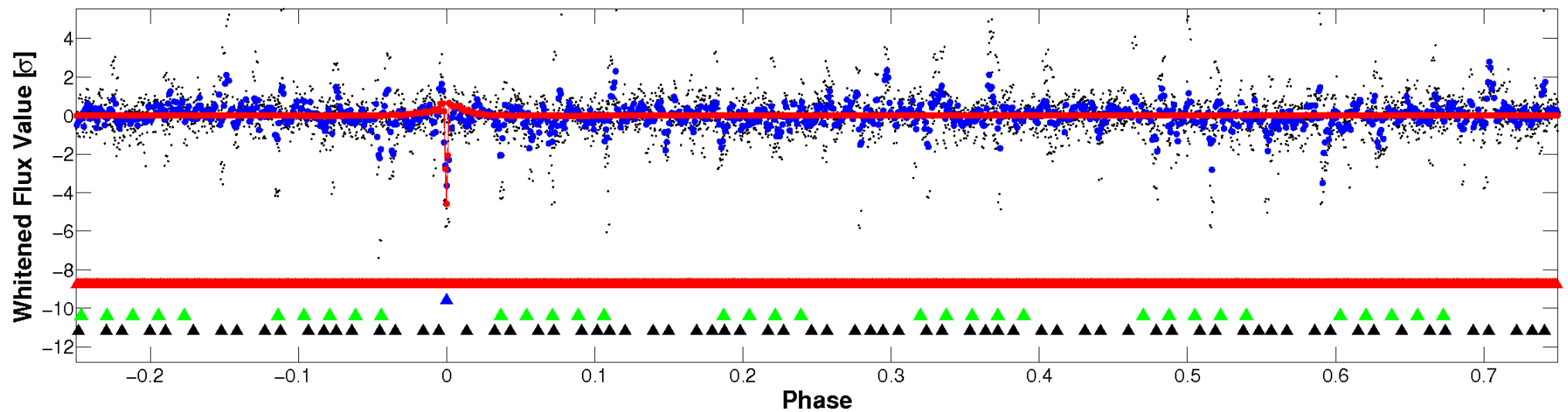


Non-Whitened Vs. Whitened Light Curve

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

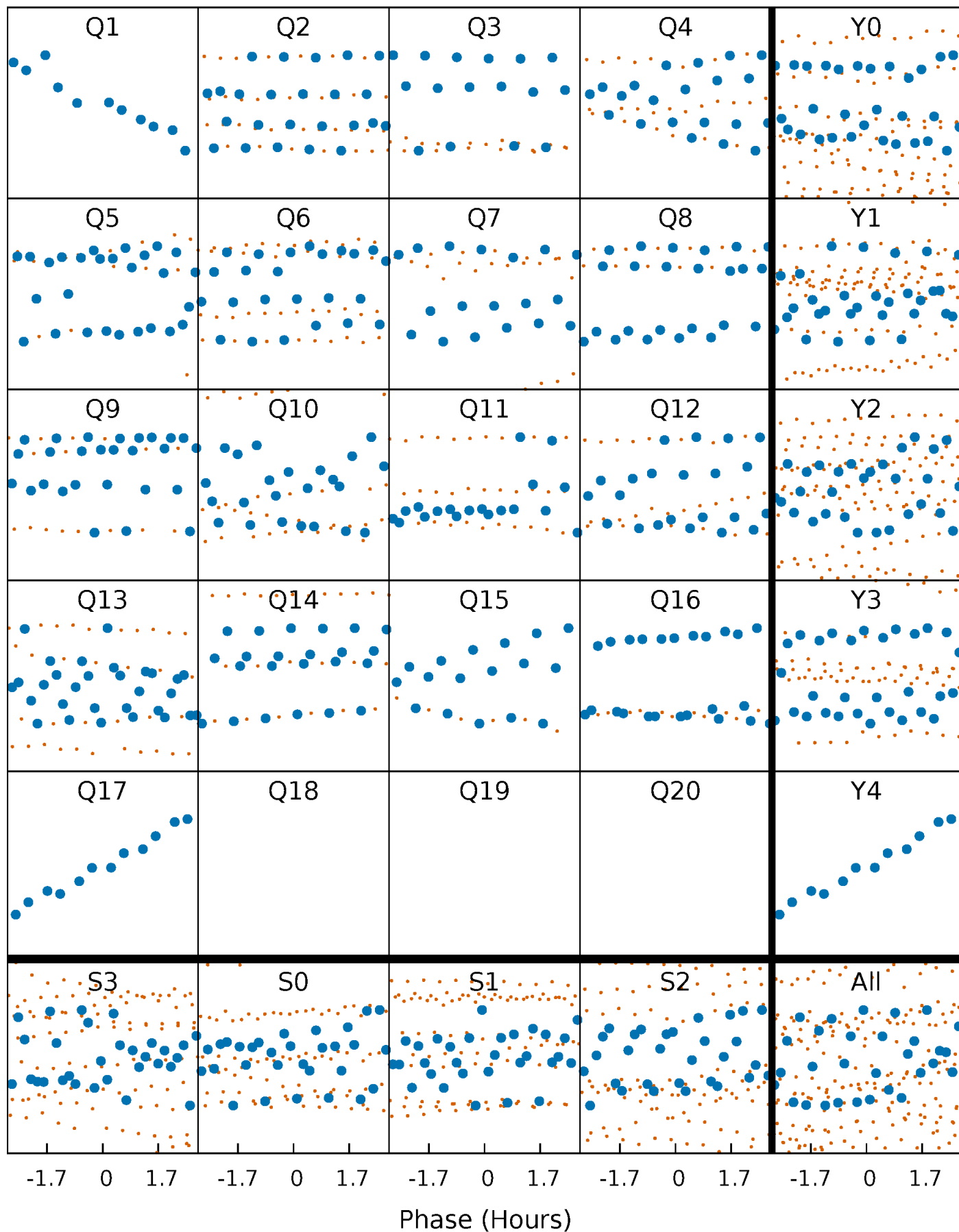


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



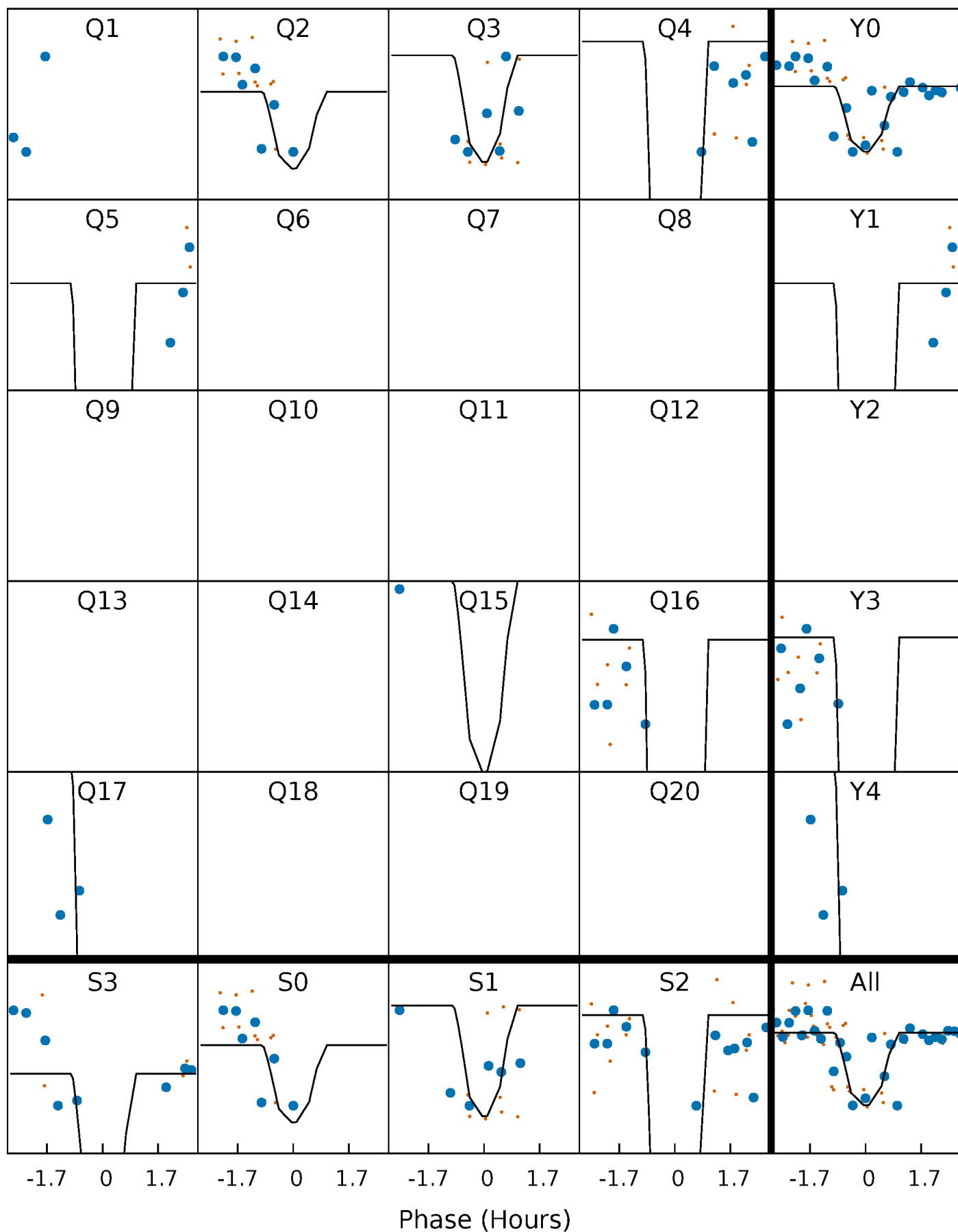
PDC Quarter-Phased Transit Curves

TCE 002694632-02 P= 24.884794 Days $T_0=152.678111$ (BKJD)



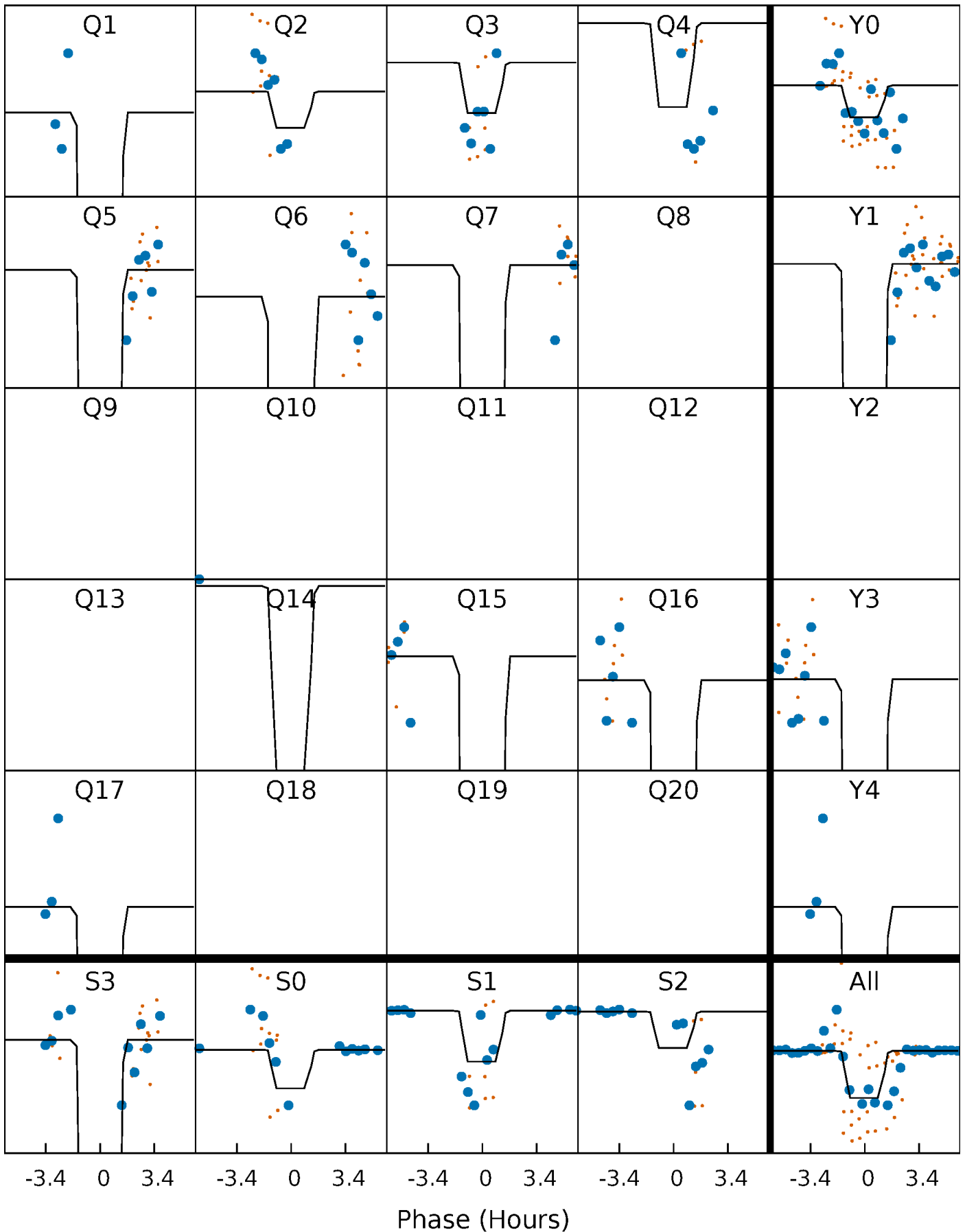
DV Quarter-Phased Transit Curves

TCE 002694632-02 P= 24.884794 Days $T_0=152.678111$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

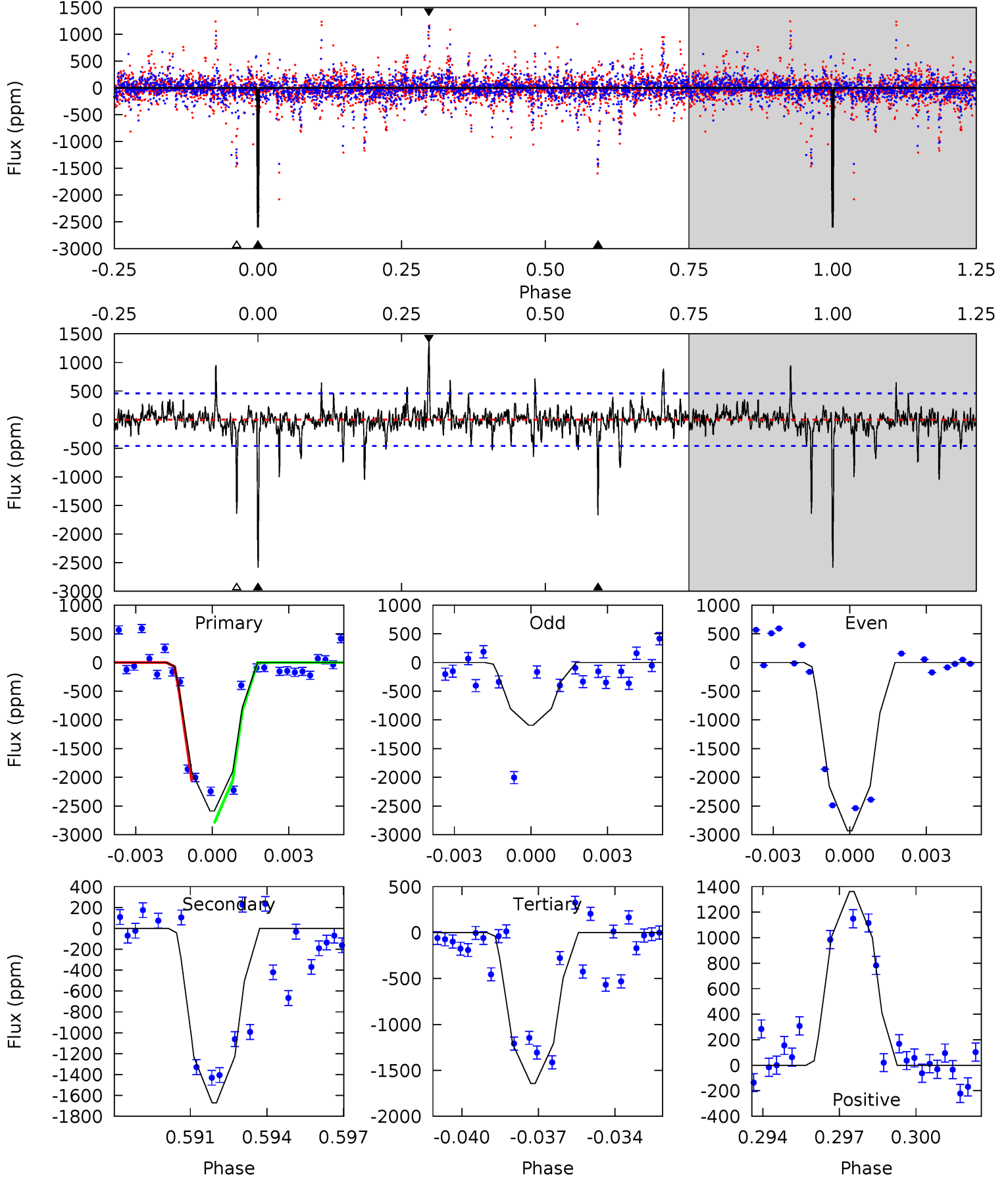
TCE 002694632-02 P= 24.886015 Days $T_0=152.685738$ (BKJD)



DV Model-Shift Uniqueness Test

002694632-02, P = 24.884794 Days, E = 127.793317 Days

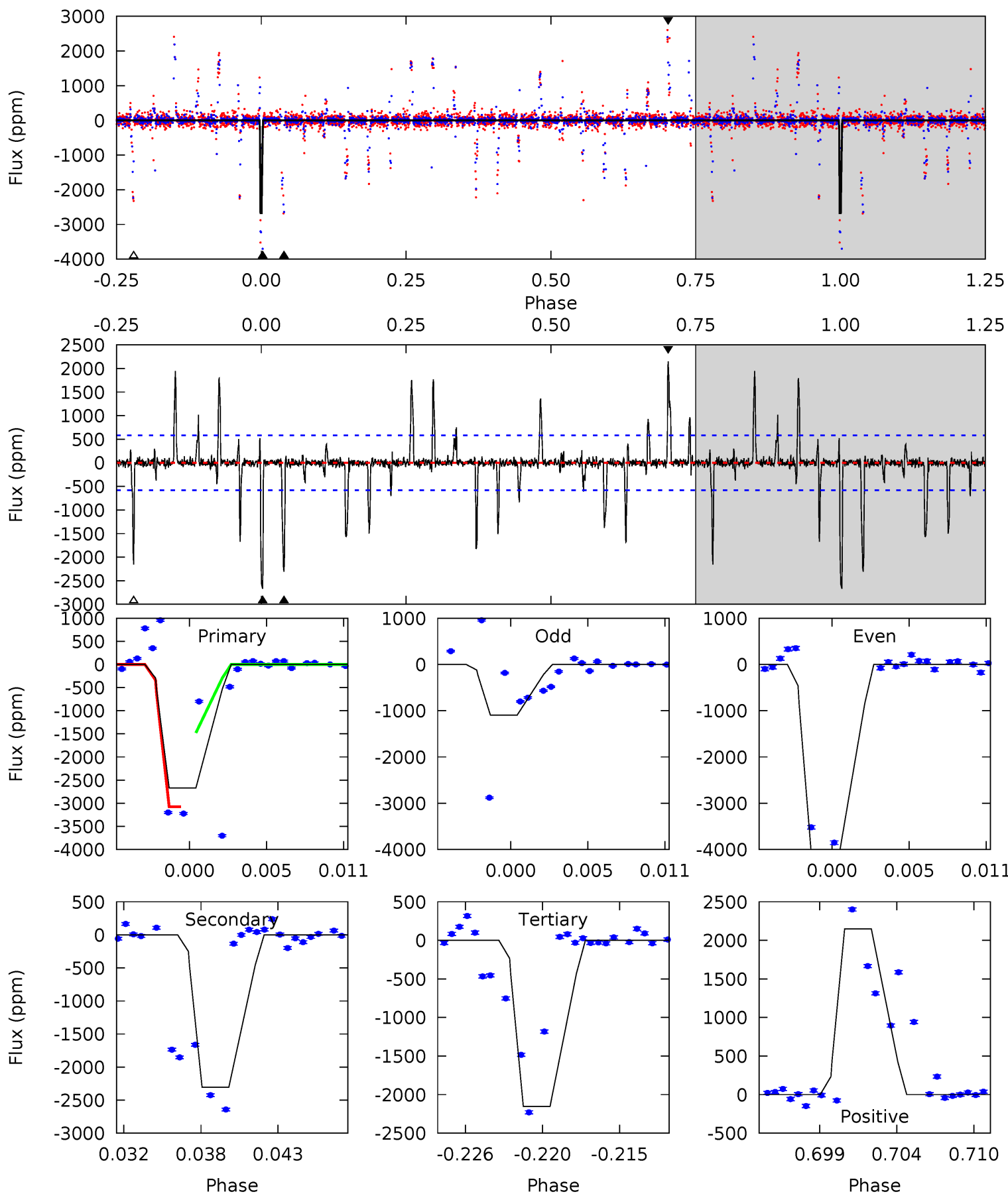
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.6	19.1	18.8	15.6	5.25	2.96	2.07	10.8	14.0	0.32	3.53	7.74	0.81	0.34	0



Alt Model-Shift Uniqueness Test

002694632-02, P = 24.886015 Days, E = 127.799723 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.6	20.4	19.0	19.0	5.14	2.78	2.21	4.58	4.62	1.36	1.40	9.62	1.06	0.45	0



Stellar Parameters For KIC 002694632

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5631^{+186}_{-169}	$4.114^{+0.322}_{-0.138}$	$0.240^{+0.150}_{-0.300}$	$1.485^{+0.336}_{-0.504}$	$1.046^{+0.126}_{-0.126}$	$0.450^{+0.984}_{-0.174}$
	+3%/-3%	+8%/-3%	+62%/-125%	+23%/-34%	+12%/-12%	+219%/-39%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 002694632-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1670 ± 87	$12.82^{+11.71}_{-8.59}$	1019^{+73}_{-92}	4176^{+2758}_{-772}	160^{+1307}_{-116}
Alt.	-2306 ± 113	$12.11^{+11.86}_{-8.12}$	1021^{+69}_{-101}	4569^{+3384}_{-951}	250^{+2107}_{-185}

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

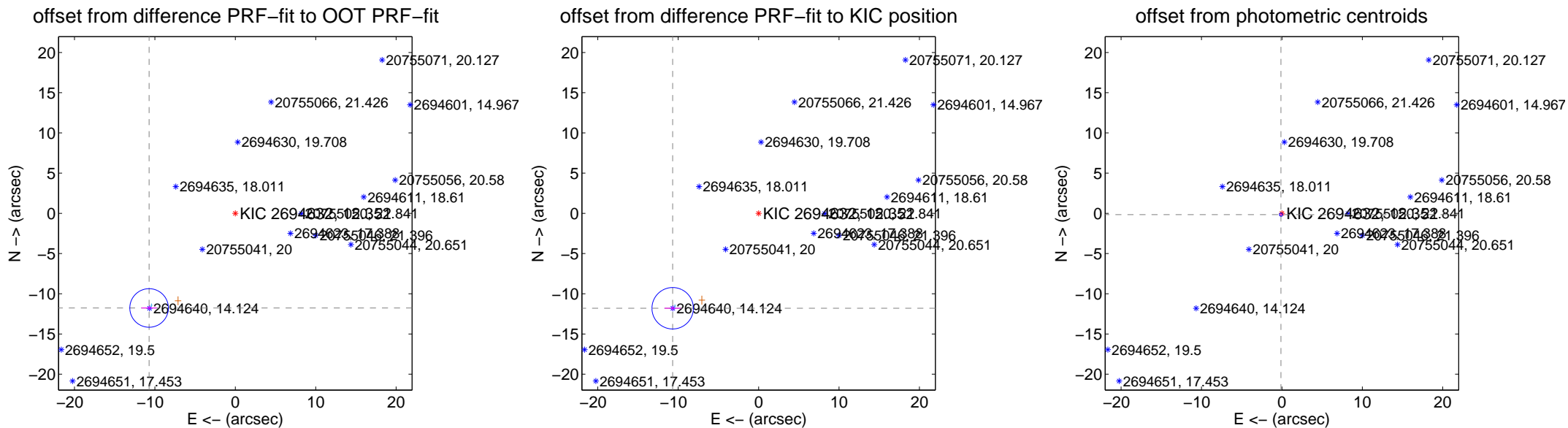
DV Centroid Data

Supplemental centroid analysis for 002694632-02. Kepler magnitude: 12.35. Transit SNR 10.34

There are 1 quarters with good PRF difference image offsets

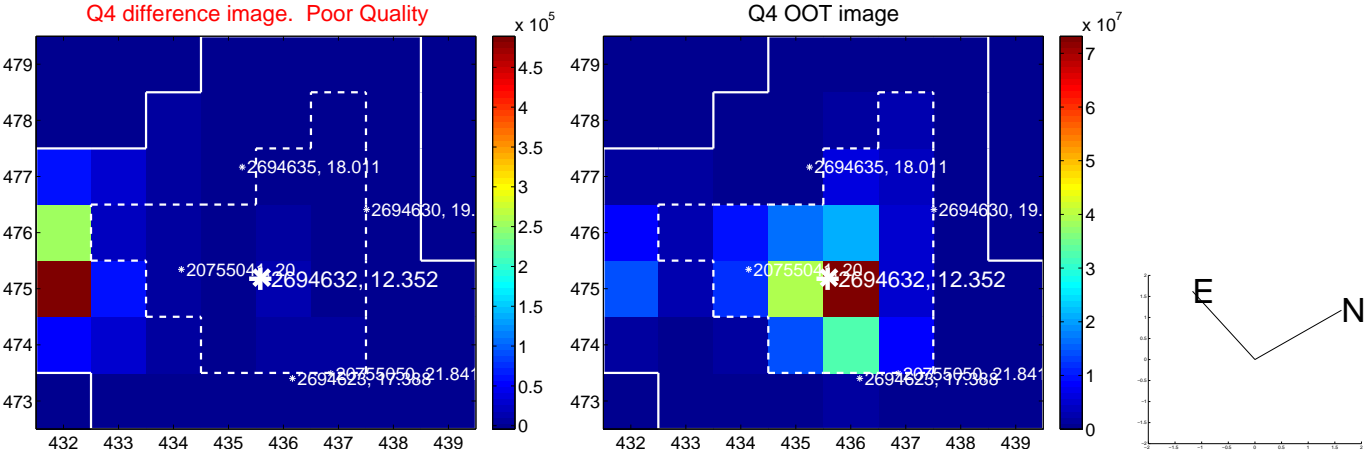
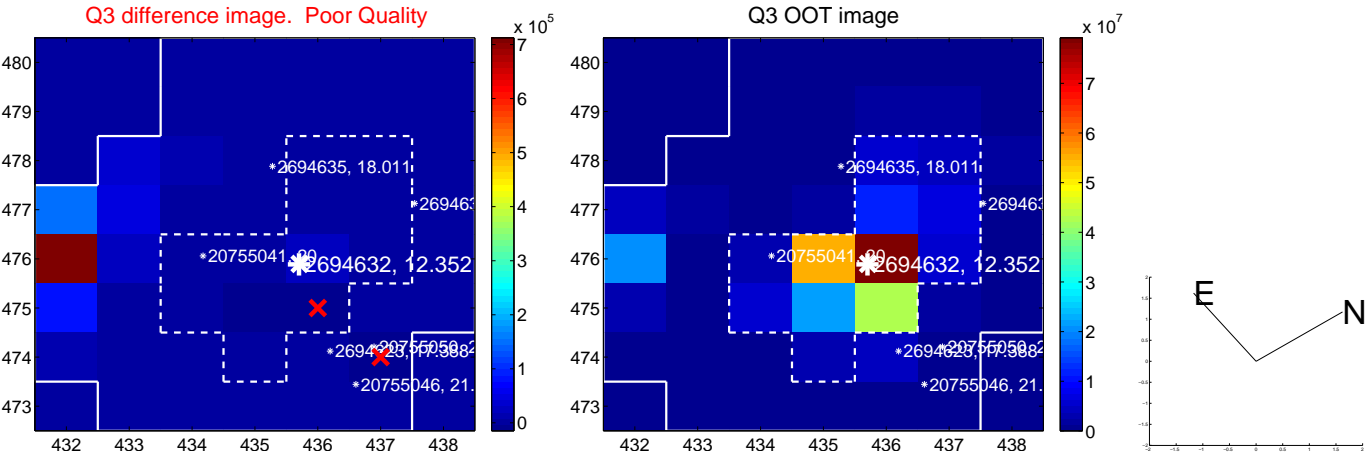
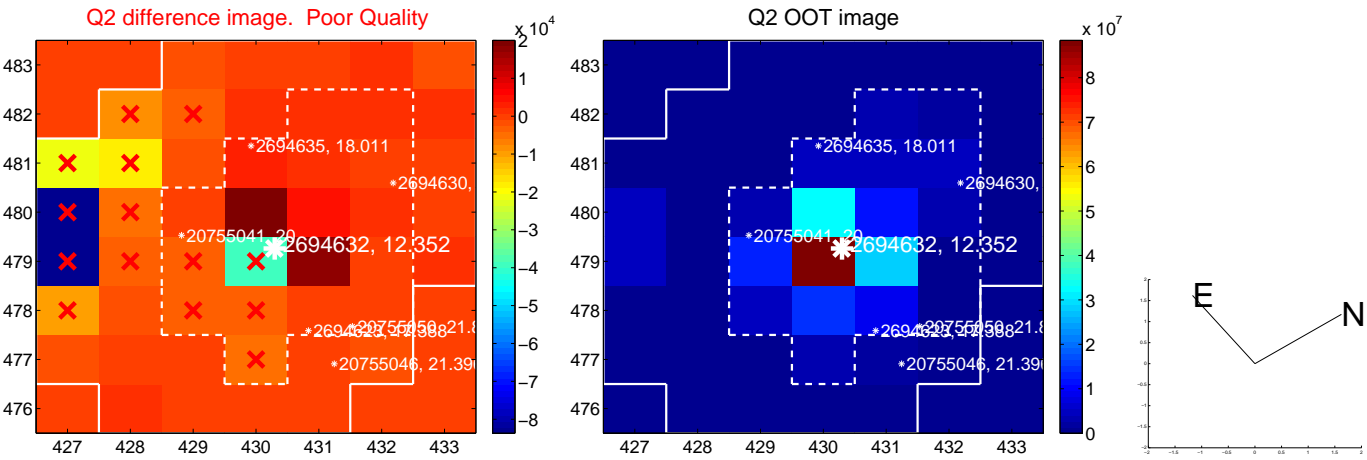
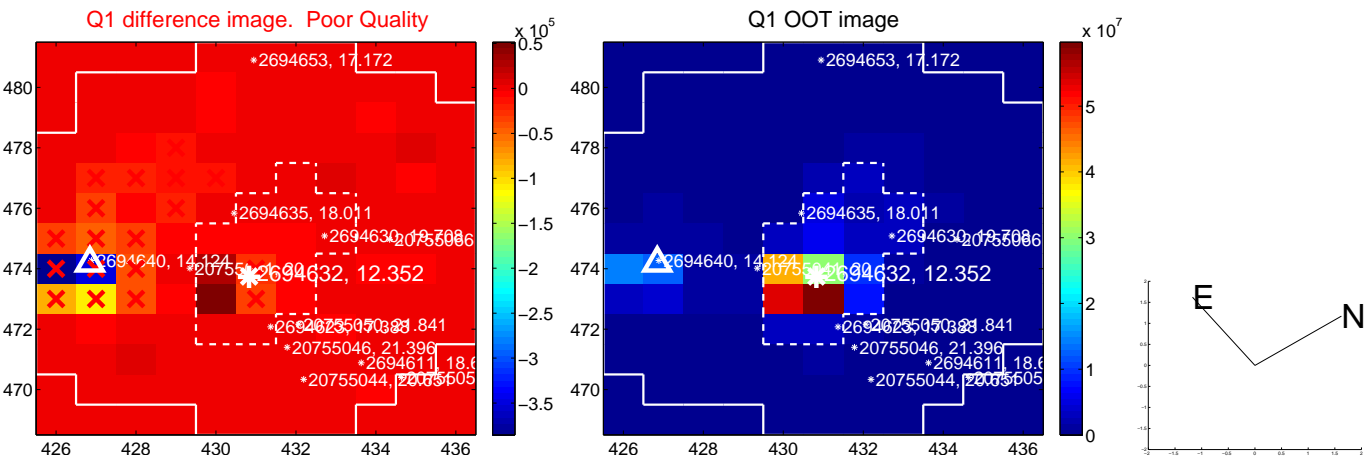
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	15.918 \pm 0.799	19.92	10.720 \pm 0.962	-11.767 \pm 0.223
PRF-fit source offset from KIC position	15.921 \pm 0.859	18.54	10.687 \pm 1.012	-11.802 \pm 0.254
photometric centroid source offset	0.20 \pm 0.07	2.91	0.11 \pm 0.06	-0.16 \pm 0.07

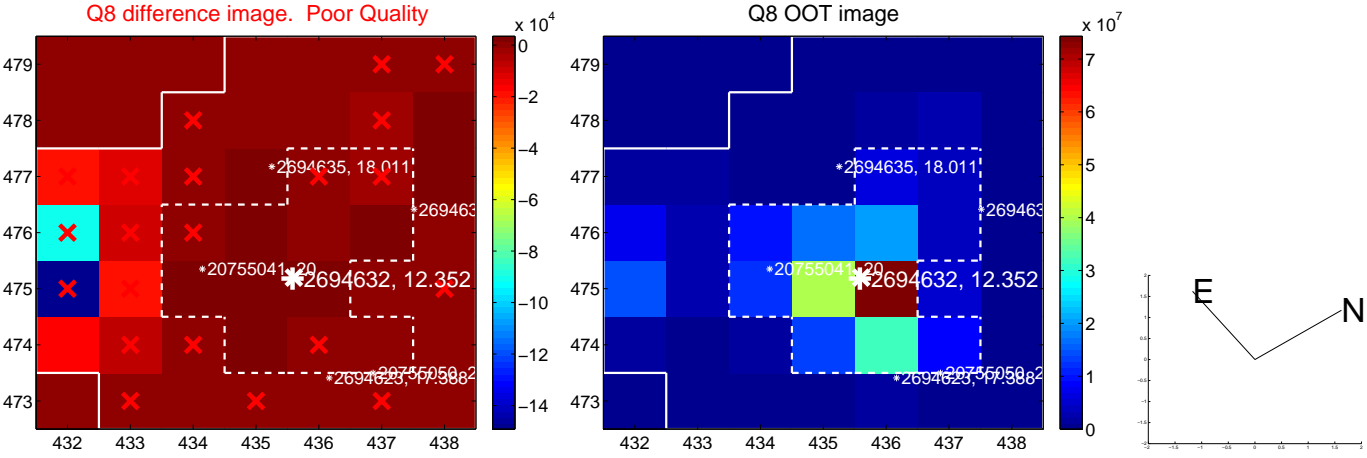
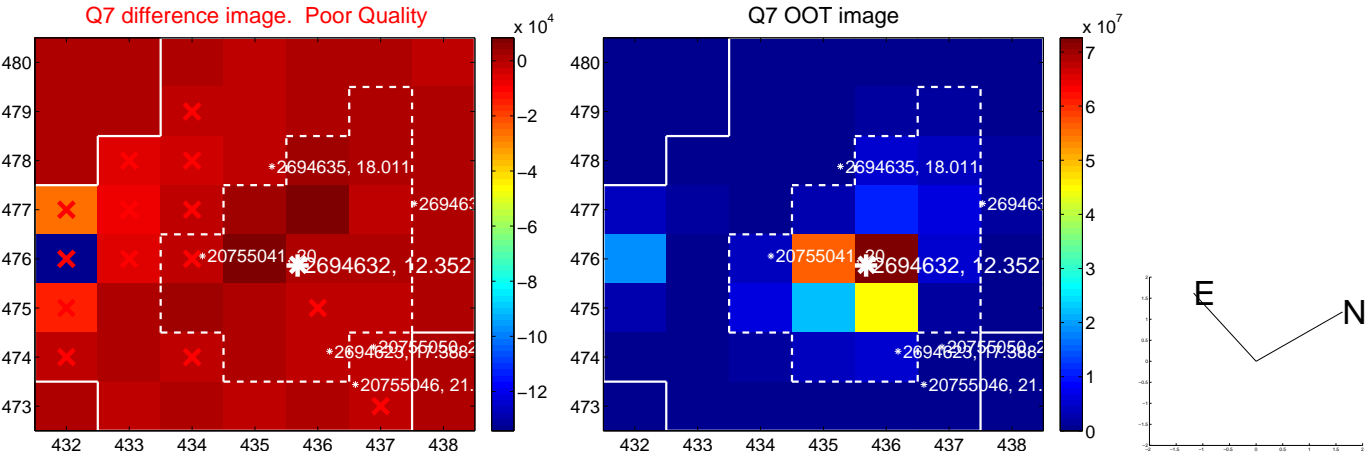
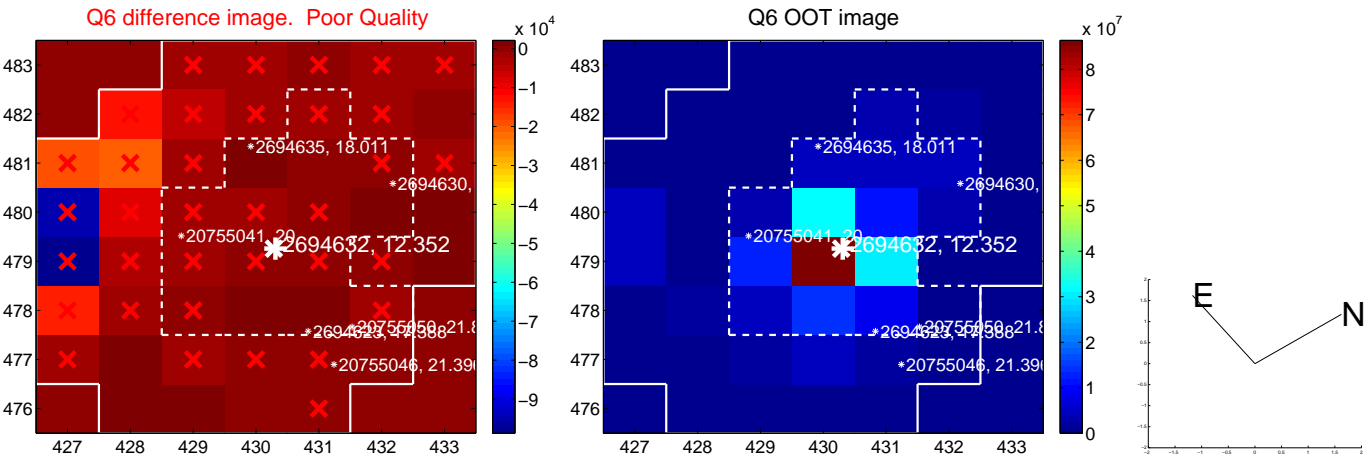
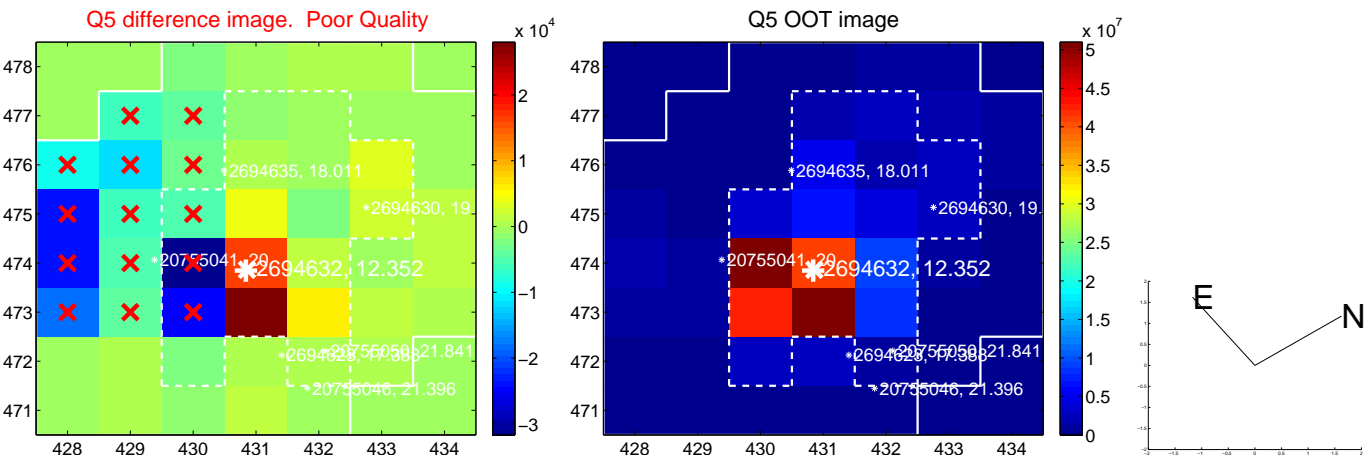


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

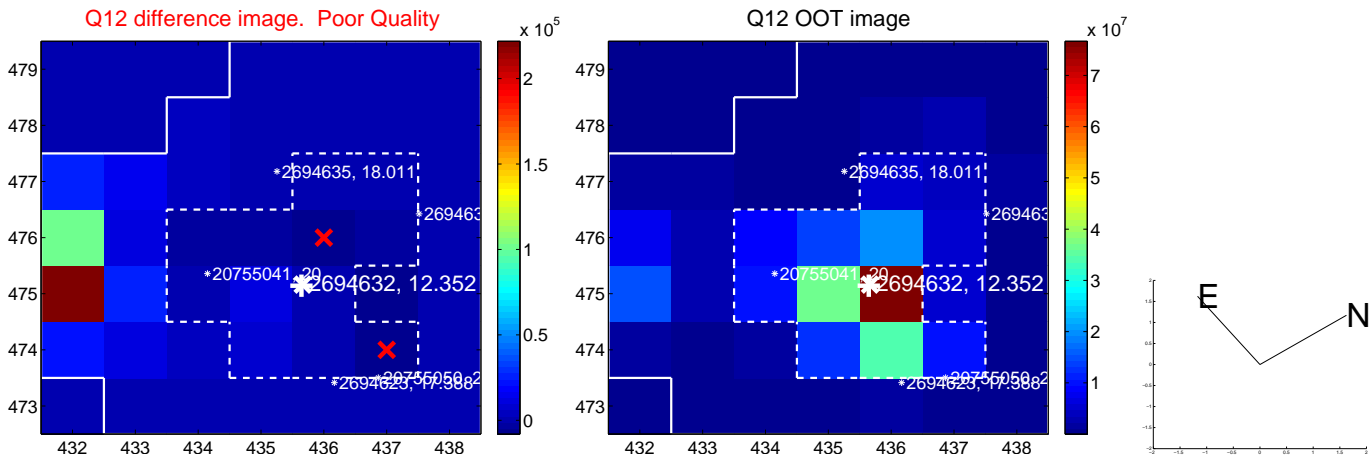
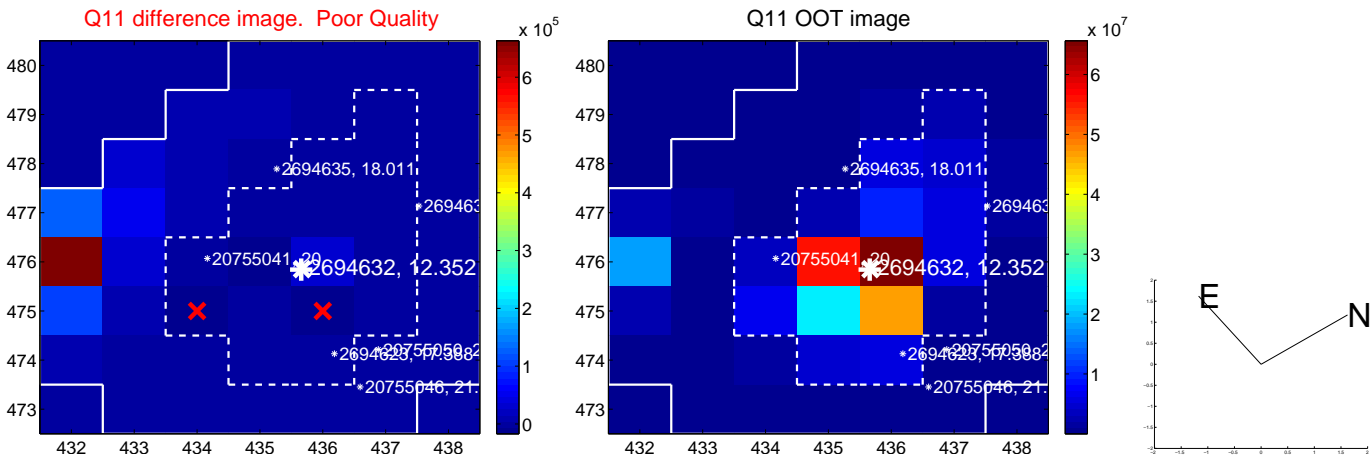
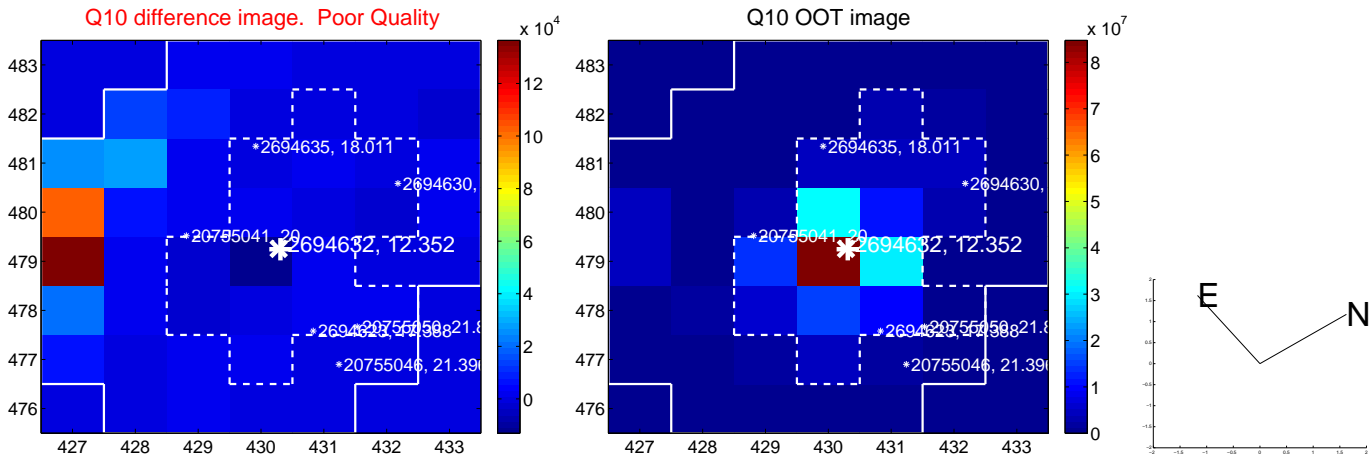
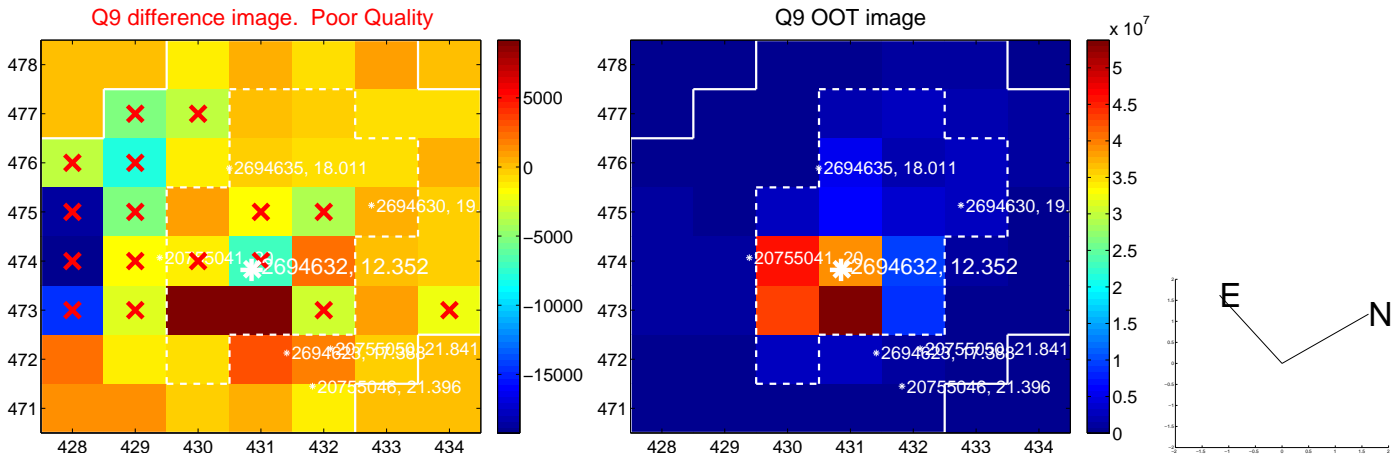
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



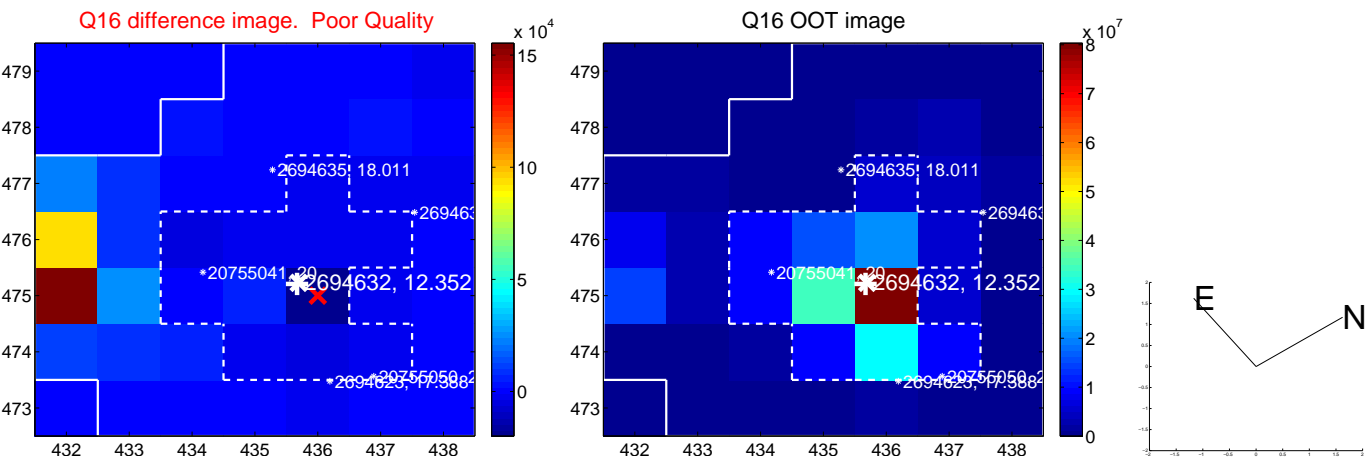
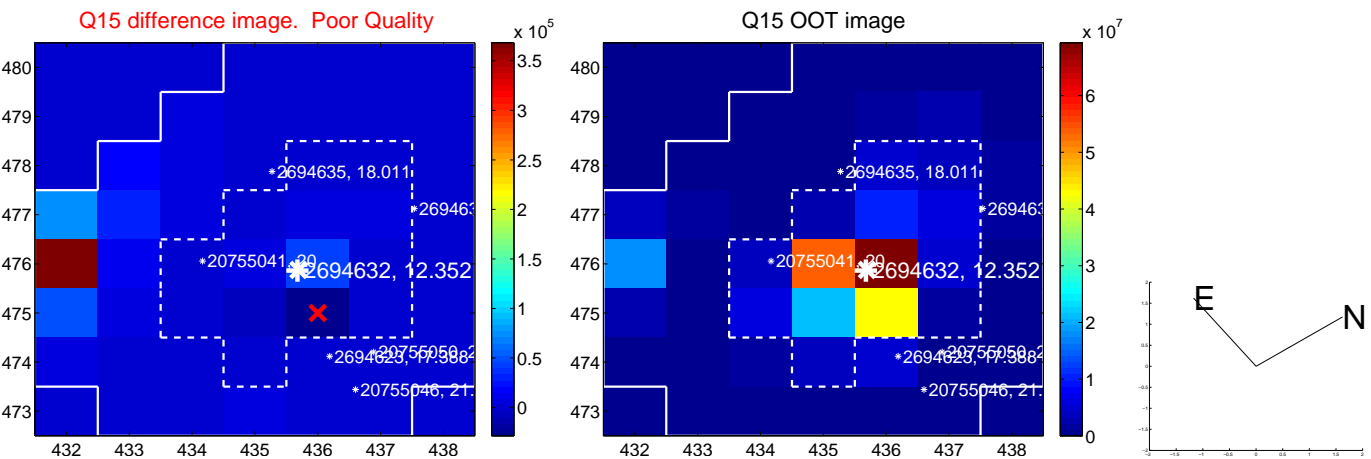
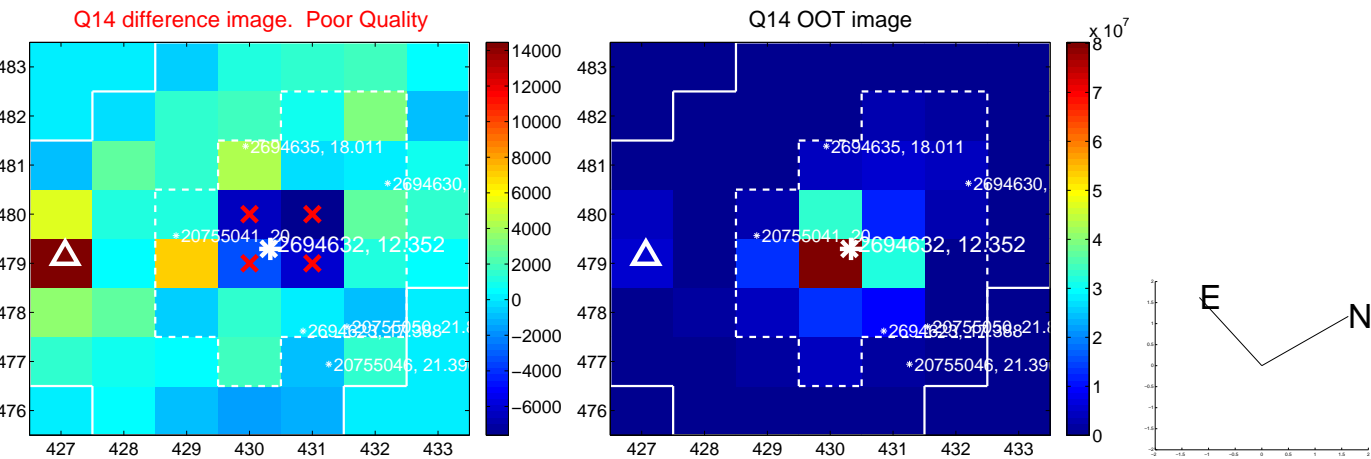
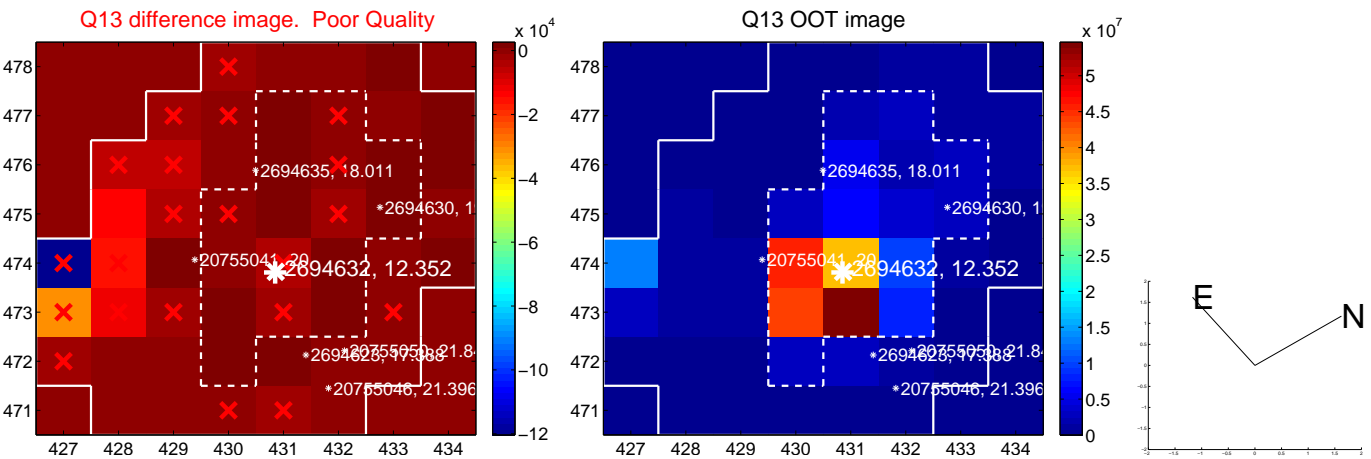
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



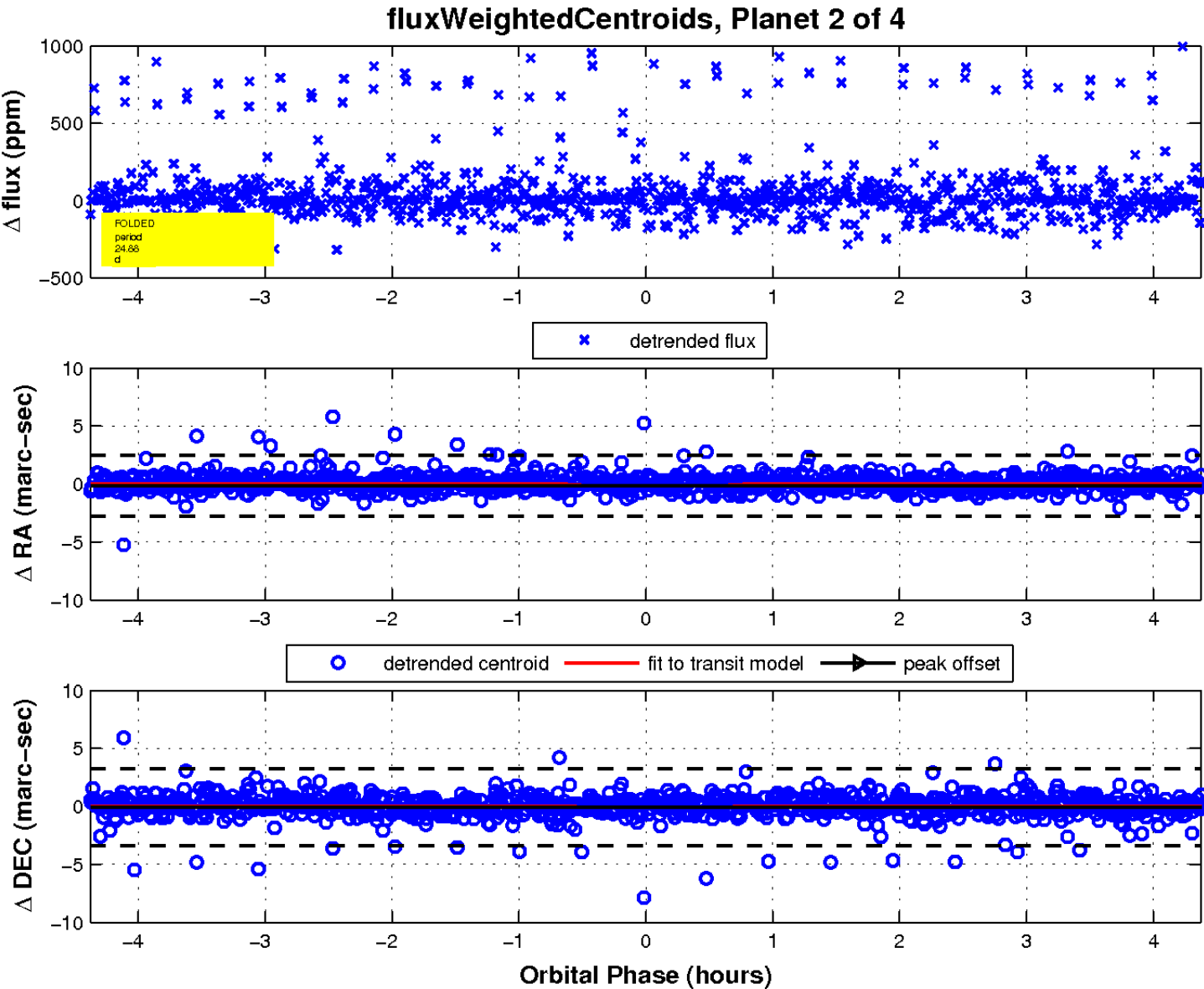
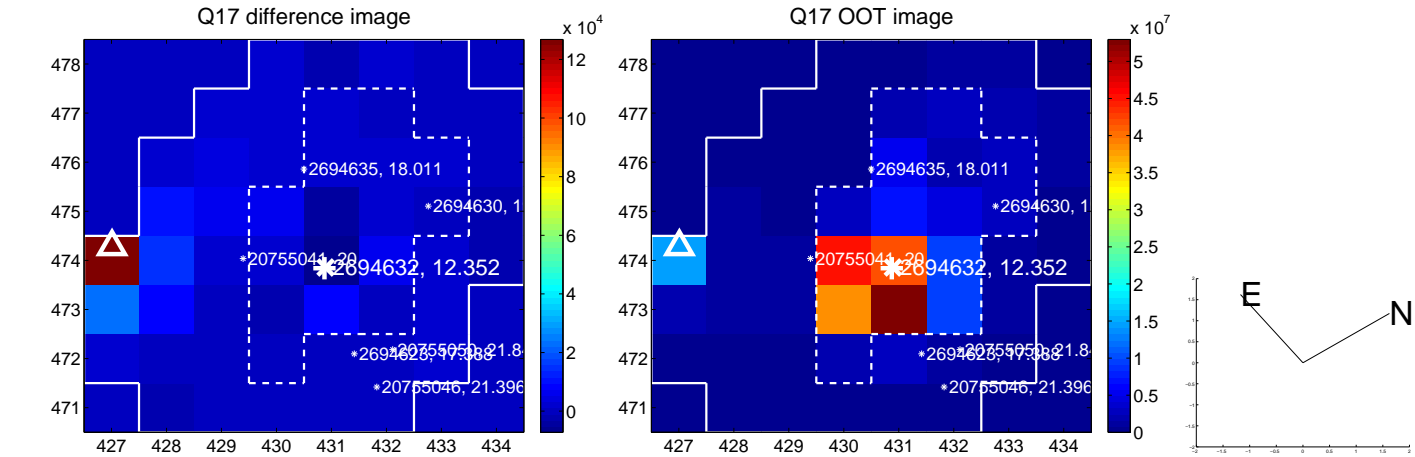
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

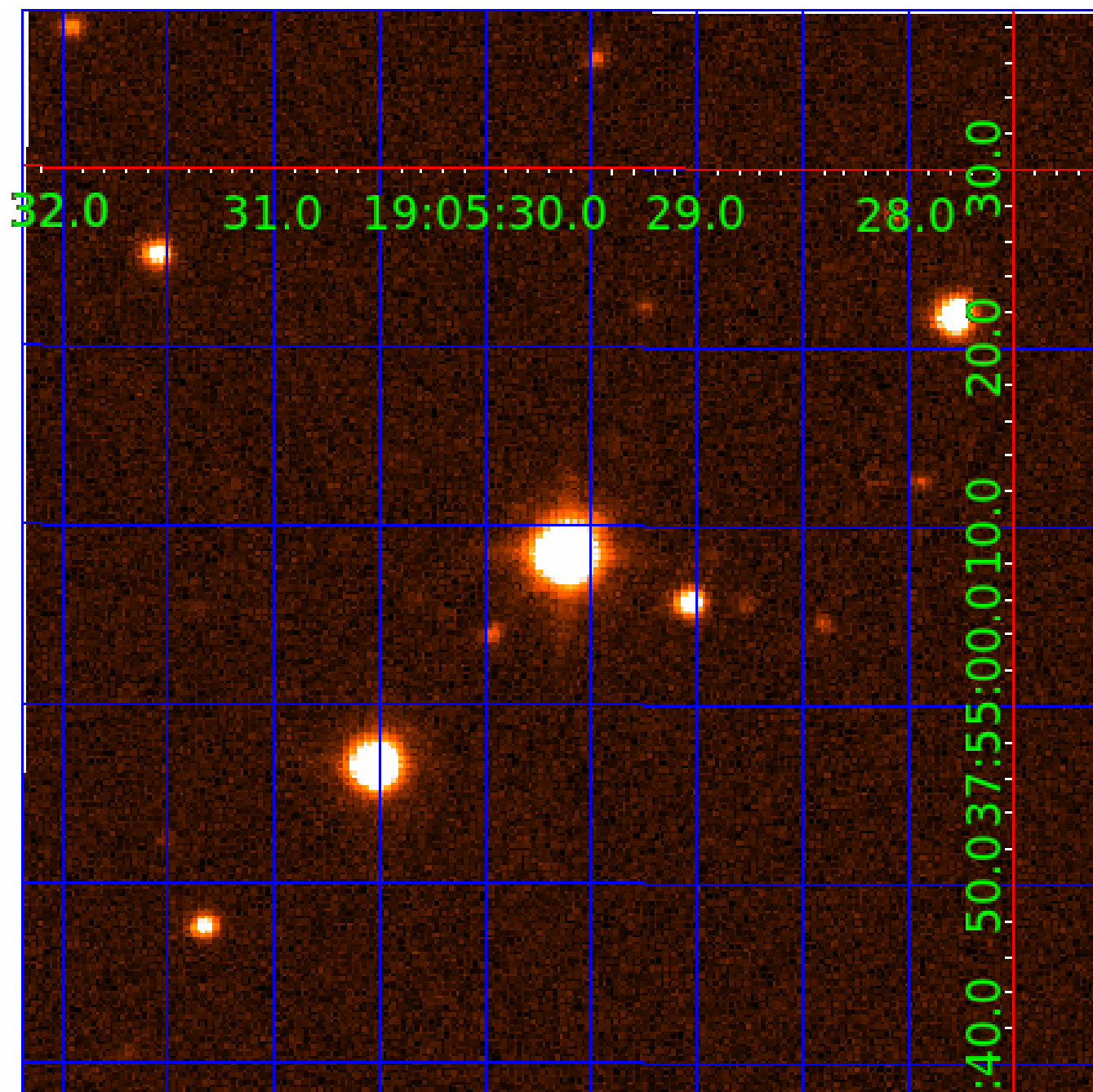


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002694632

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})
002694632-01	OBS	4600.01	0.922282	131.835521	9.3	6.660	8.3	5.0	1.49	5631	0.45	5604.91
002694632-02	OBS	No	24.884794	152.678111	2488.7	1.460	16.7	10.3	1.49	5631	7.78	69.26
002694632-04	OBS	No	20.293866	134.914683	770.0	53.699	13.1	4.6	1.49	5631	5.16	90.90

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002694632-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_CROWDED
002694632-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—CENT_RESOLVED_OFFSET
002694632-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_POS_ALT

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

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

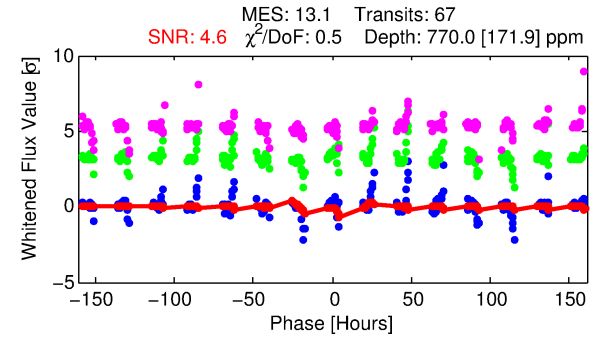
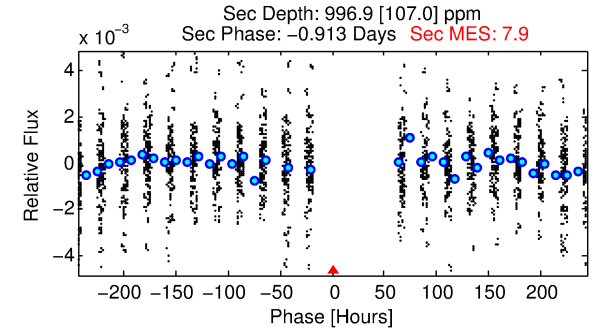
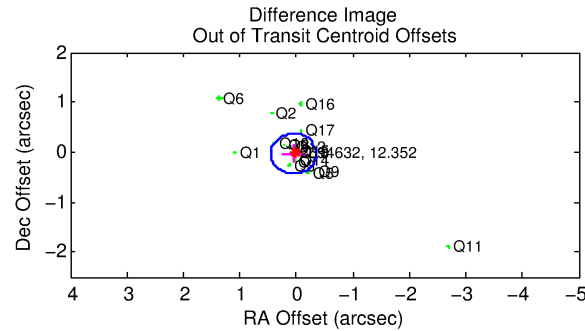
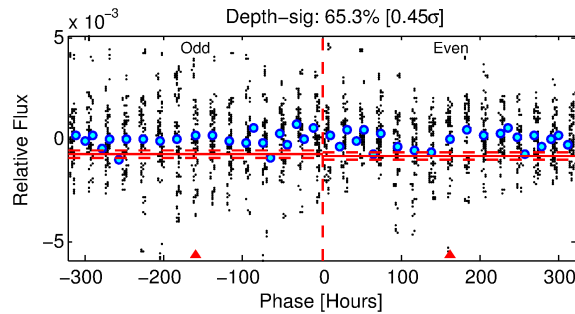
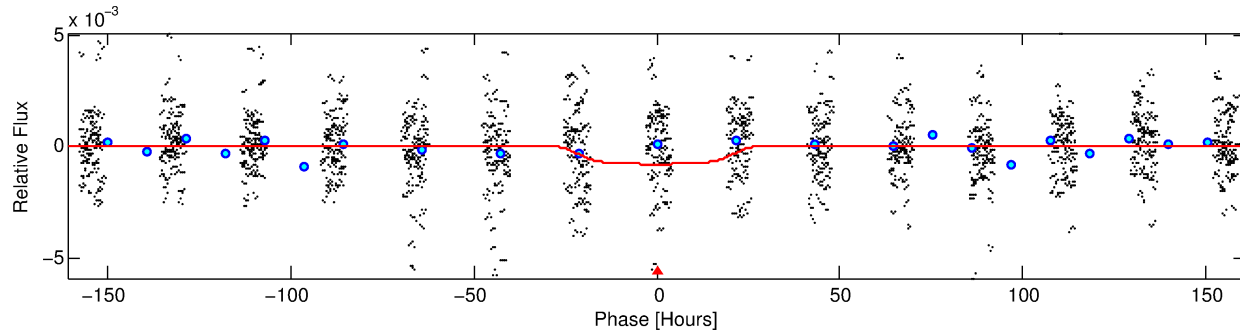
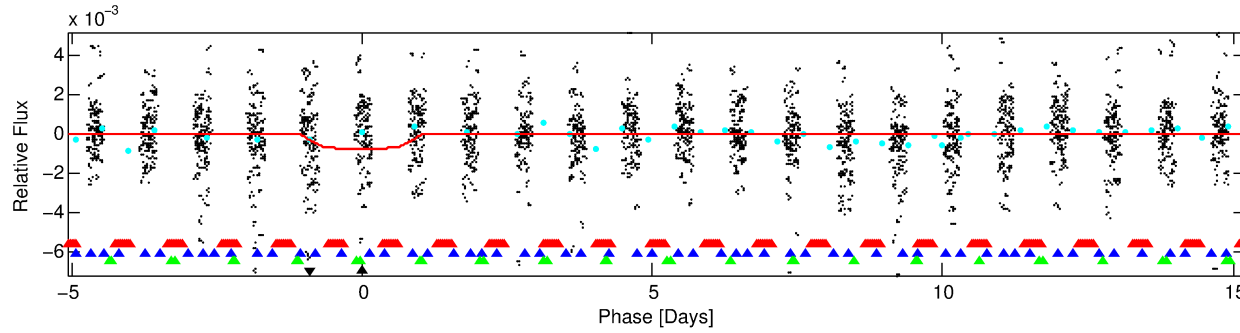
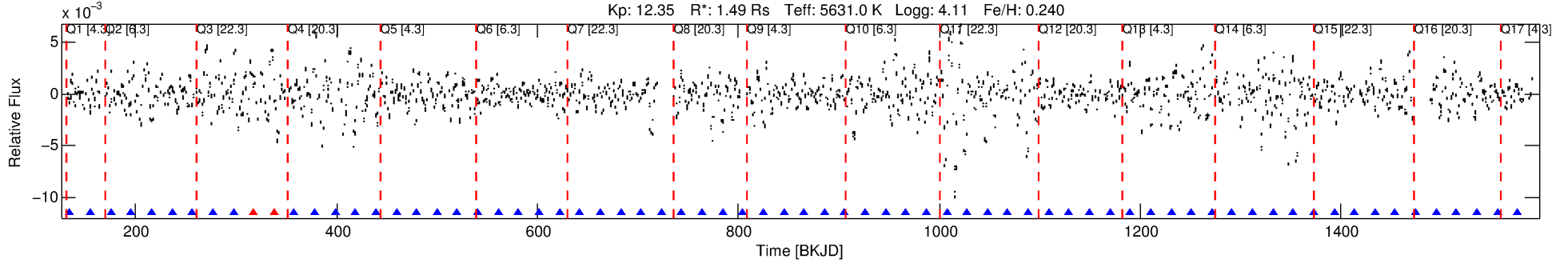
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002694632-04

No Significant Match Found

DV One-Page Summary

KIC: 2694632 Candidate: 4 of 4 Period: 20.294 d
KOI: K04600 Corr: No Ephemeris Match



DV Fit Results:

Period = 20.29387 [0.00288] d
Epoch = 134.9147 [0.1139] BKJD
Rp/R* = 0.0318 [0.0039]
a/R* = 1.59 [0.20]
b = 0.93 [0.04]
Seff = 90.90 [50.85]
Teq = 787 [110] K
Rp = 5.16 [1.86] Re
a = 0.1478 [0.0495] AU
Ag = 450.69 [273.16] [1.65 σ]
Teffp = 5609 [419] K [11.13 σ]

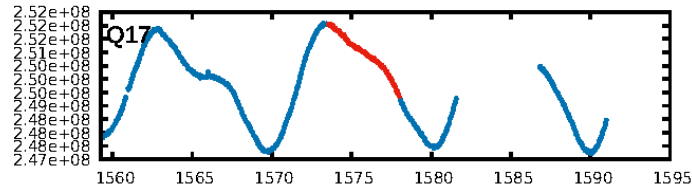
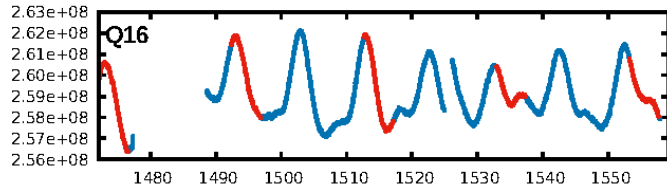
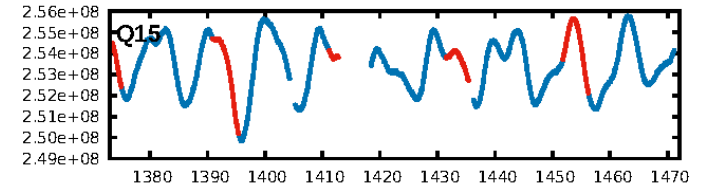
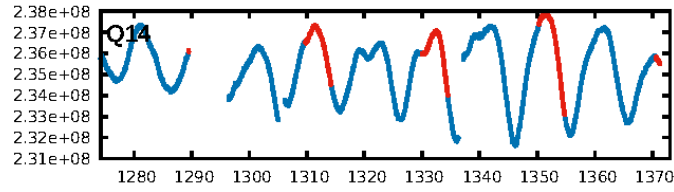
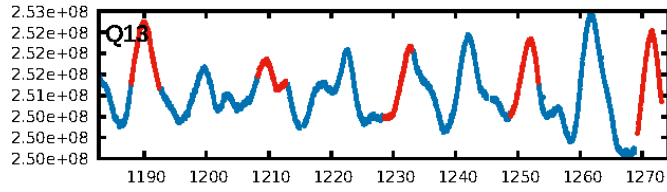
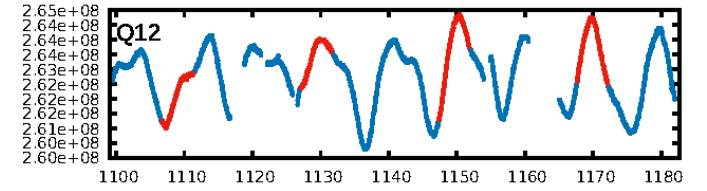
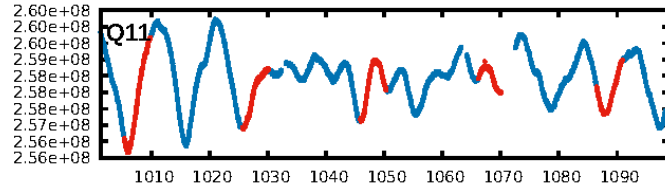
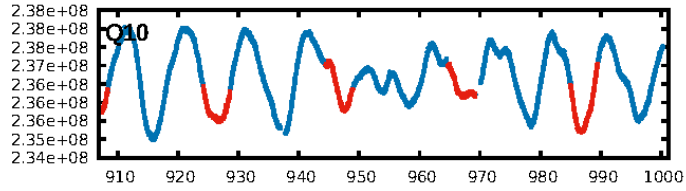
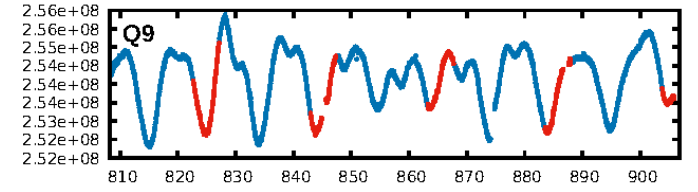
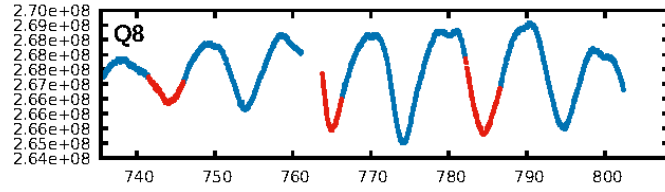
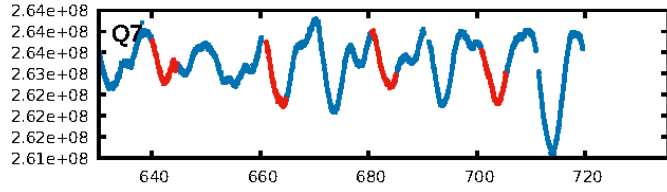
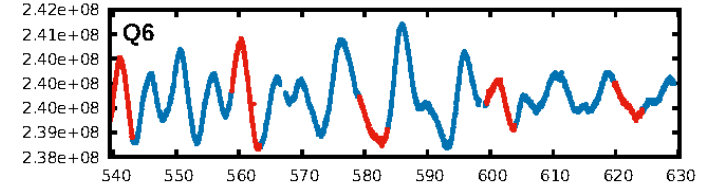
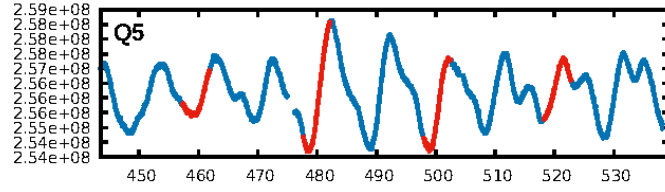
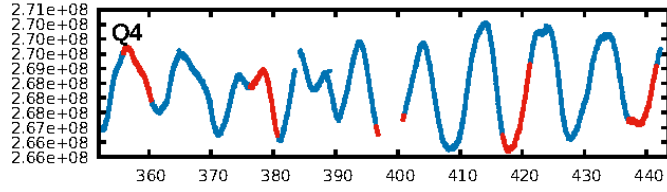
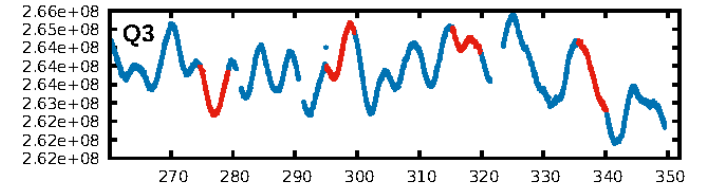
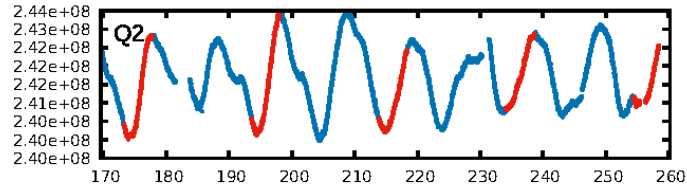
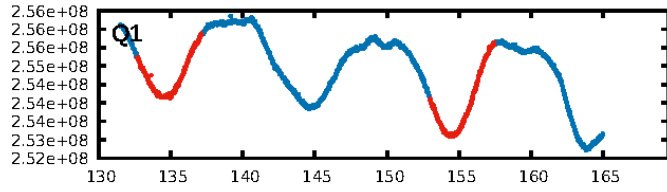
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [8.59 σ]
LongPeriod-sig: 96.0% [2.05 σ]
ModelChiSquare2-sig: 0.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.28e-34
RollingBand-fgt: 0.97 [62/64]
GhostDiagnostic-chr: 1.642
Centroid-sig: 0.2%
Centroid-so: 0.051 arcsec [0.66 σ]
OotOffset-rm: 0.062 arcsec [0.46 σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-rm: 0.051 arcsec [0.43 σ]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.50 [8/16]
DiffImageOverlap-fno: 0.00 [0/17]

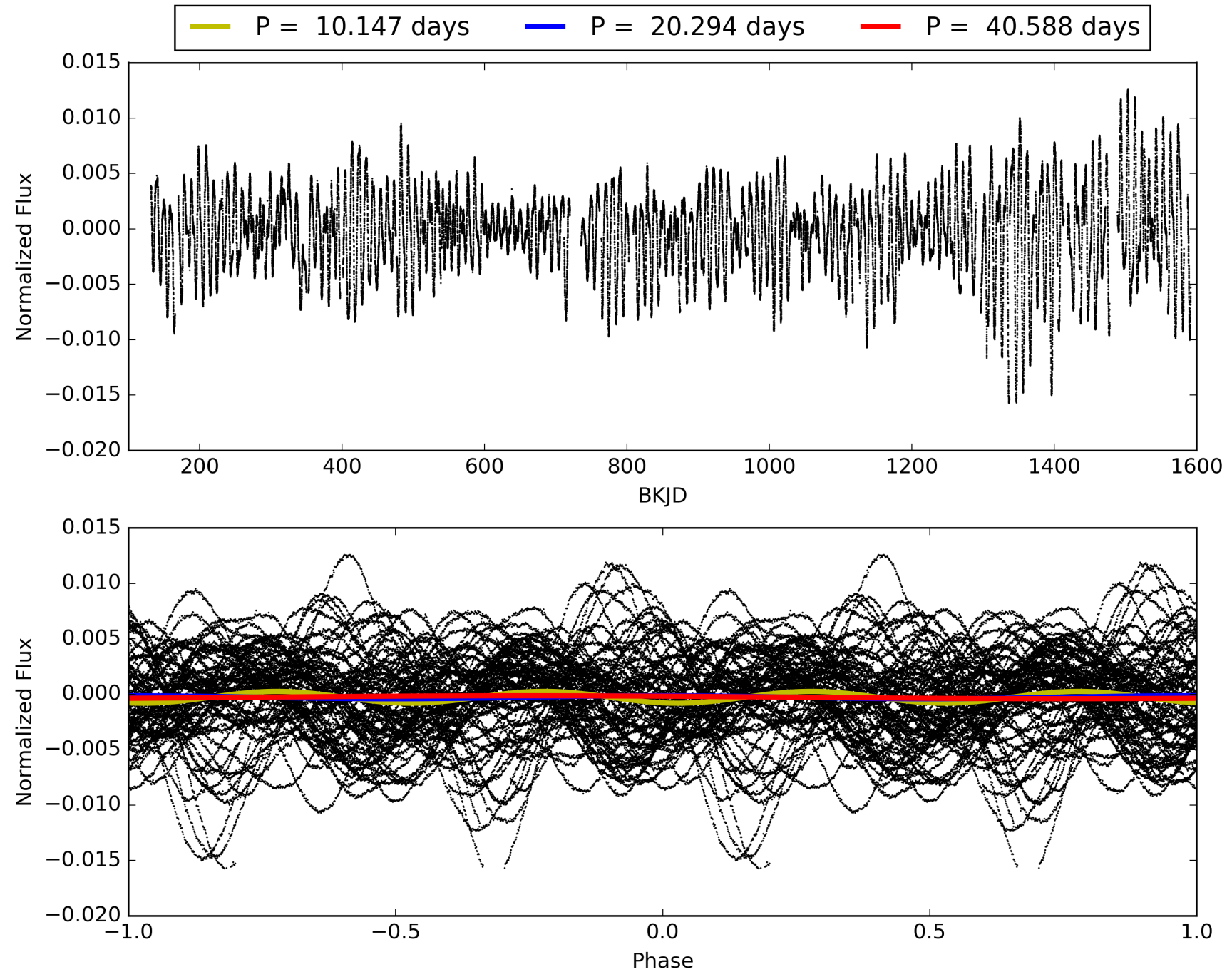
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:35:02 Z

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

TCE 002694632-04, PDC Light Curves

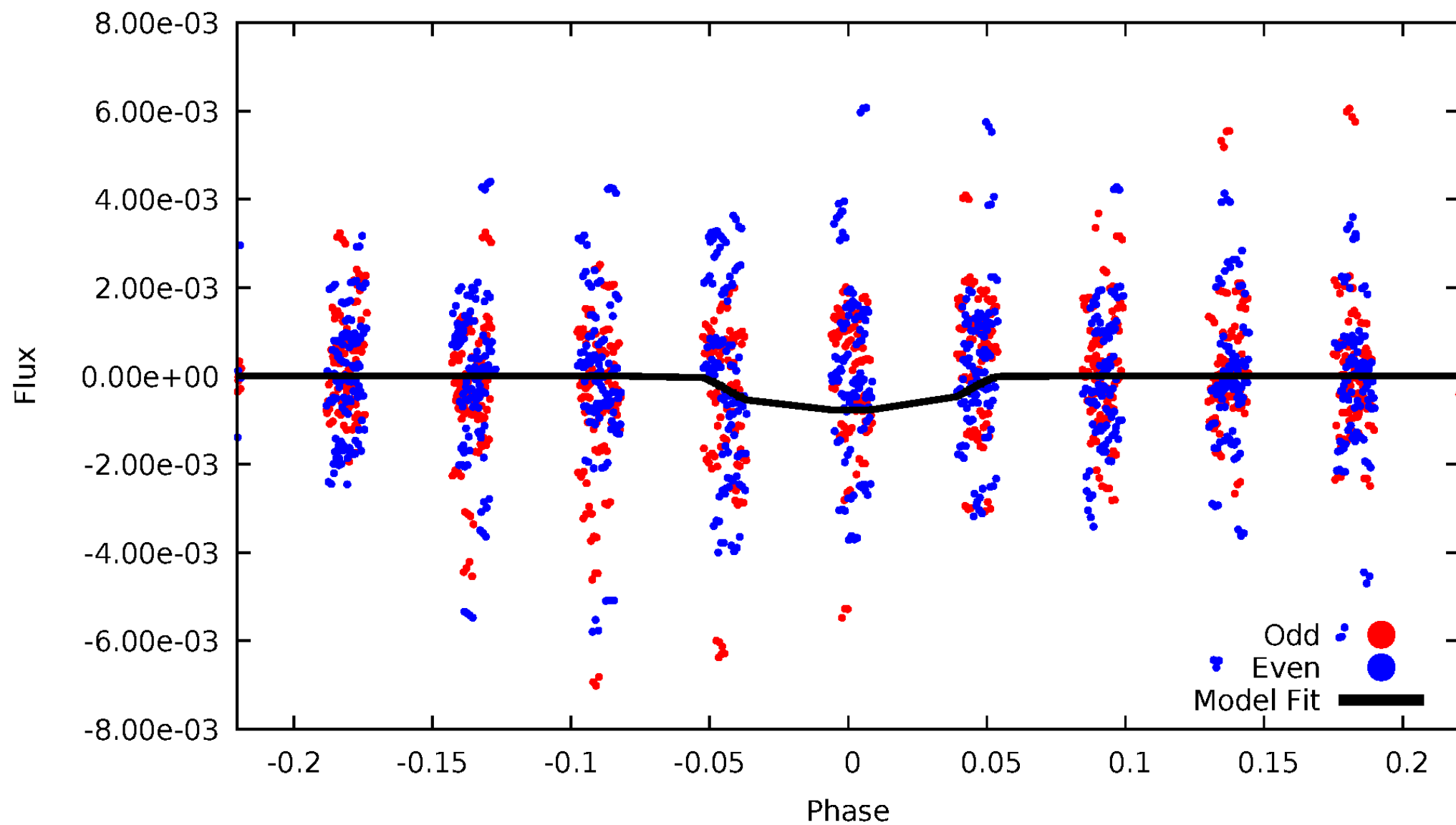


TCE 002694632-04



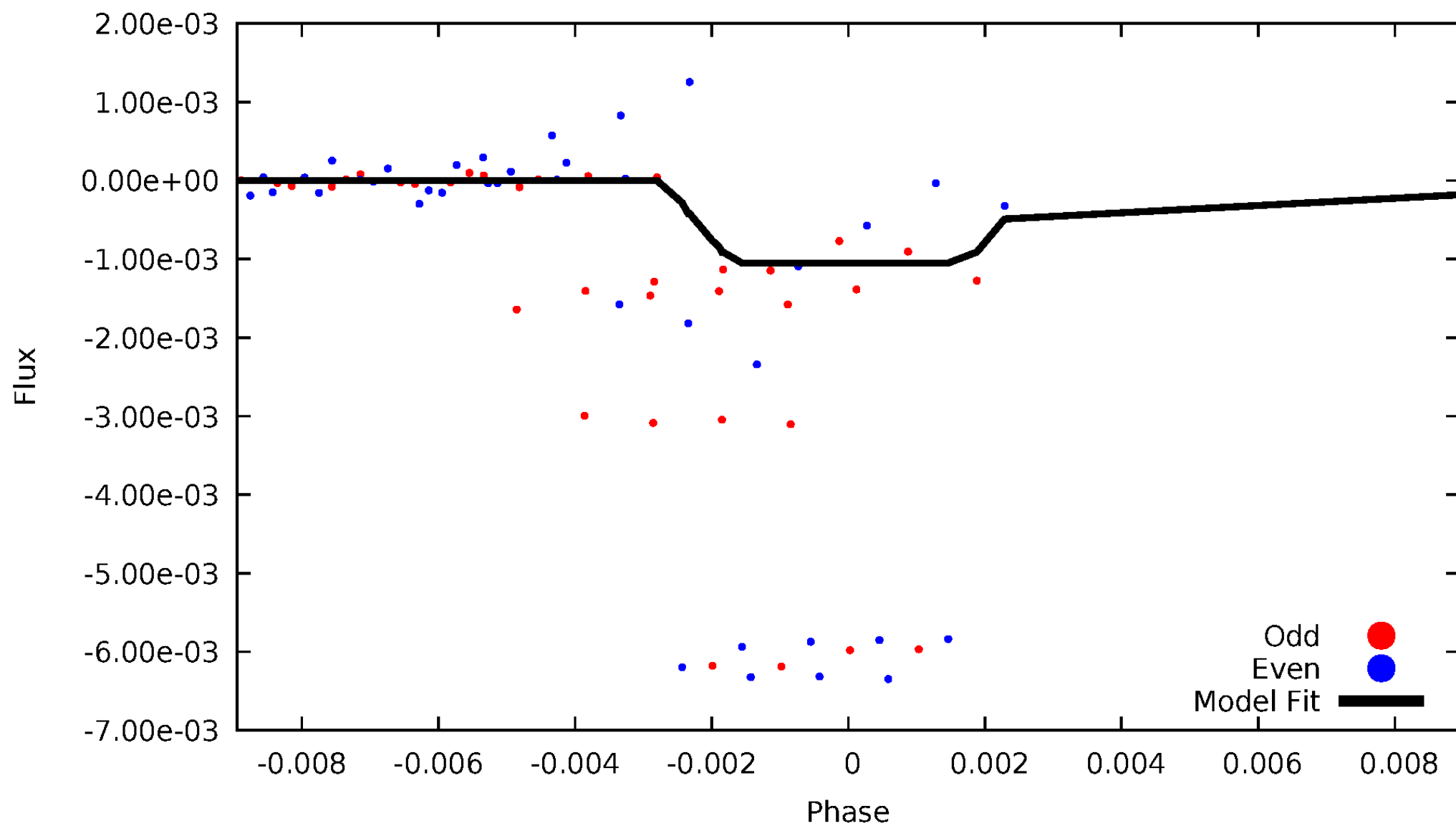
DV Odd/Even

TCE 002694632-04



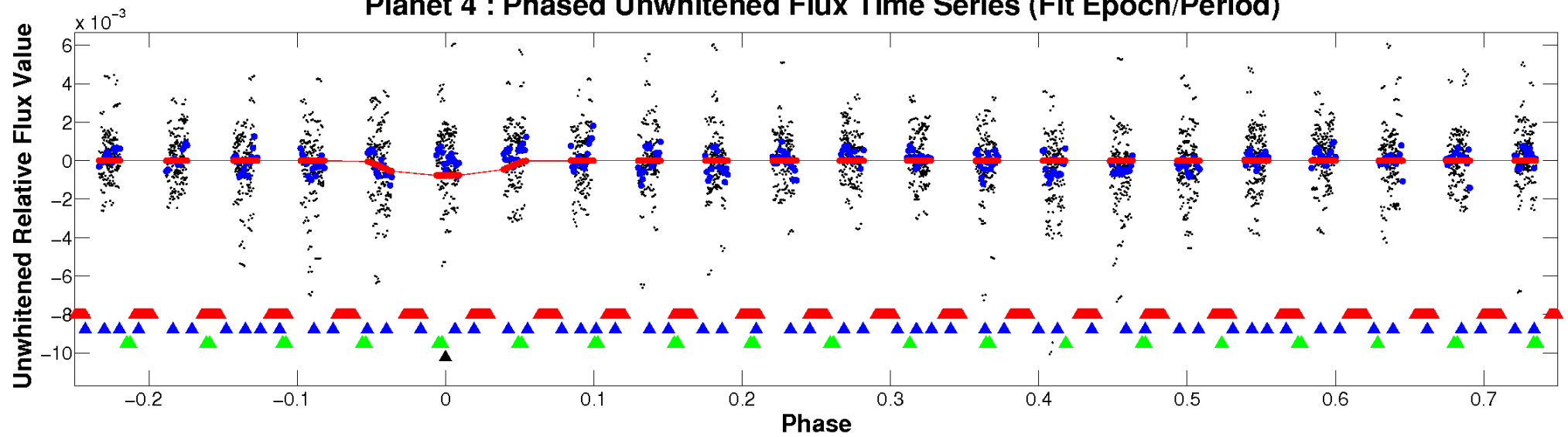
ALT Odd/Even

TCE 002694632-04

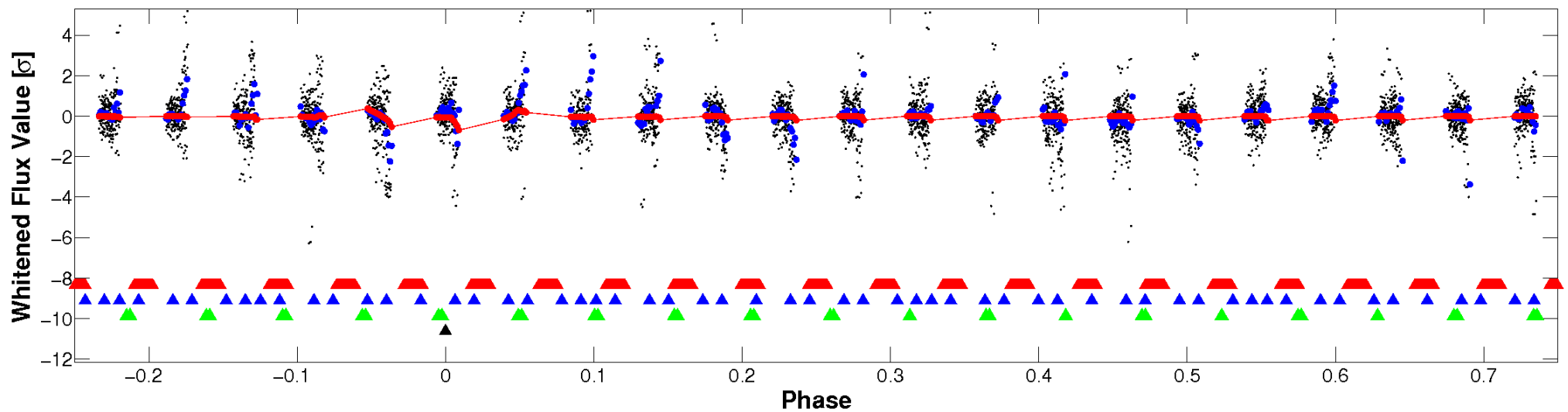


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

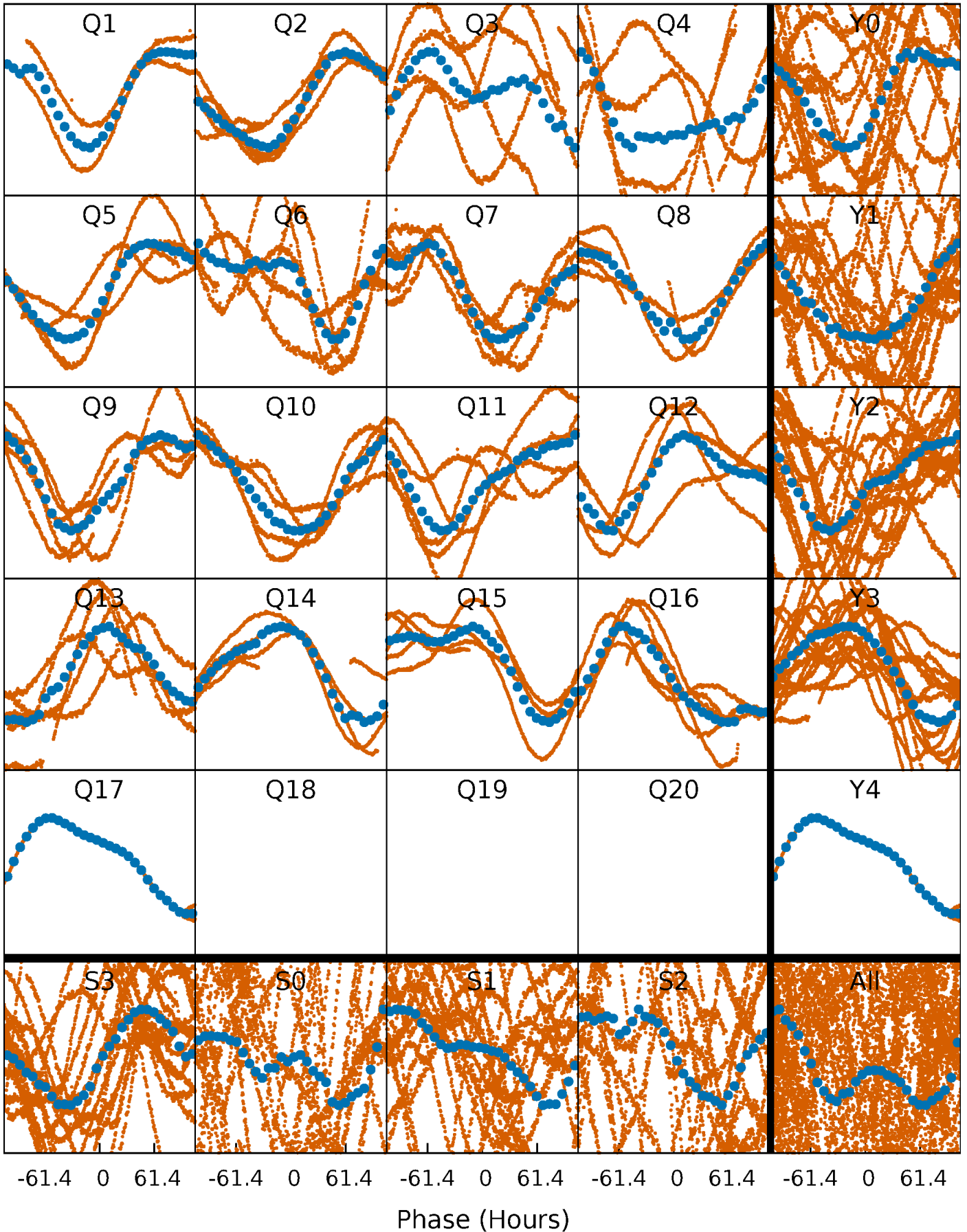


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



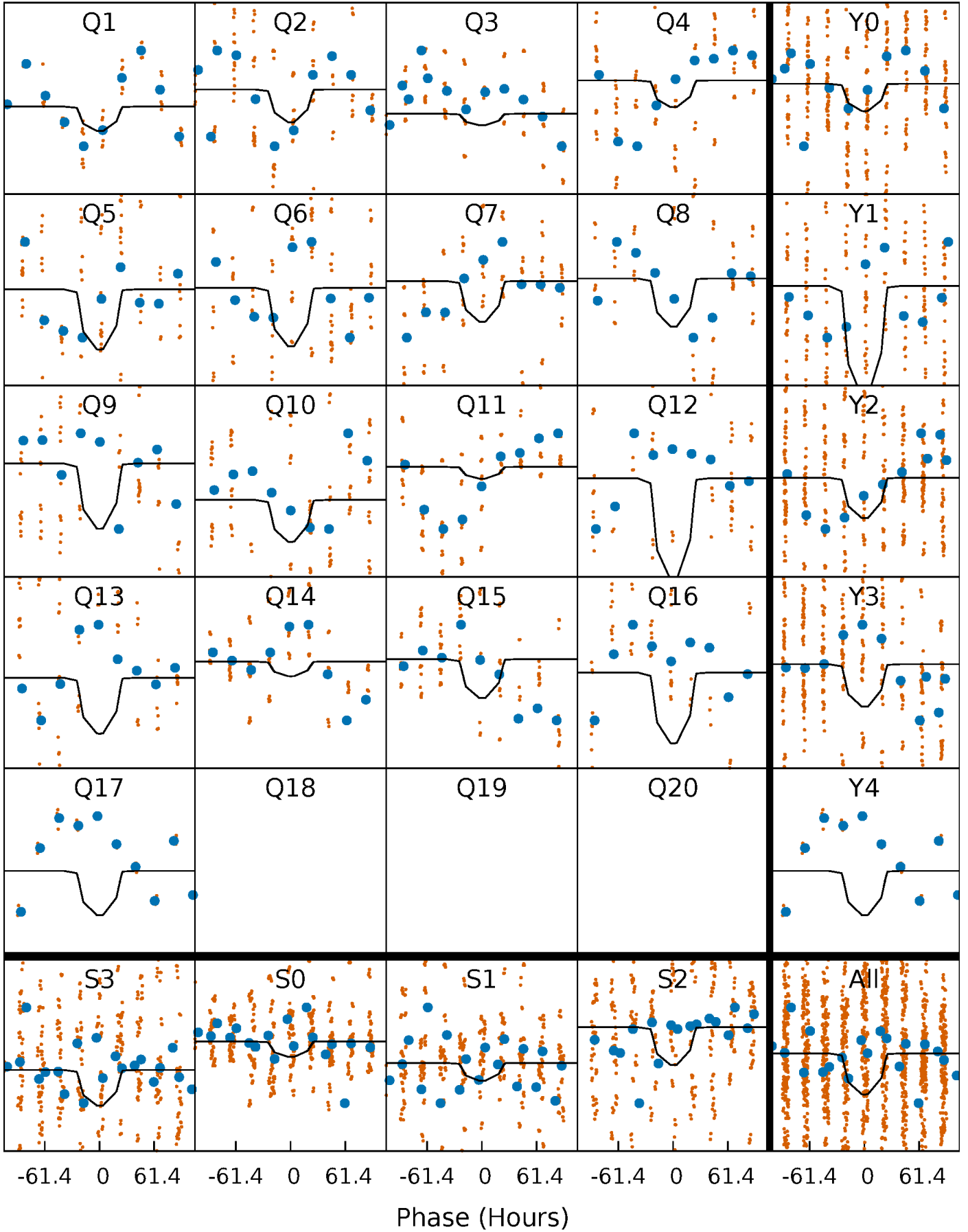
PDC Quarter-Phased Transit Curves

TCE 002694632-04 P= 20.293866 Days $T_0=134.914683$ (BKJD)



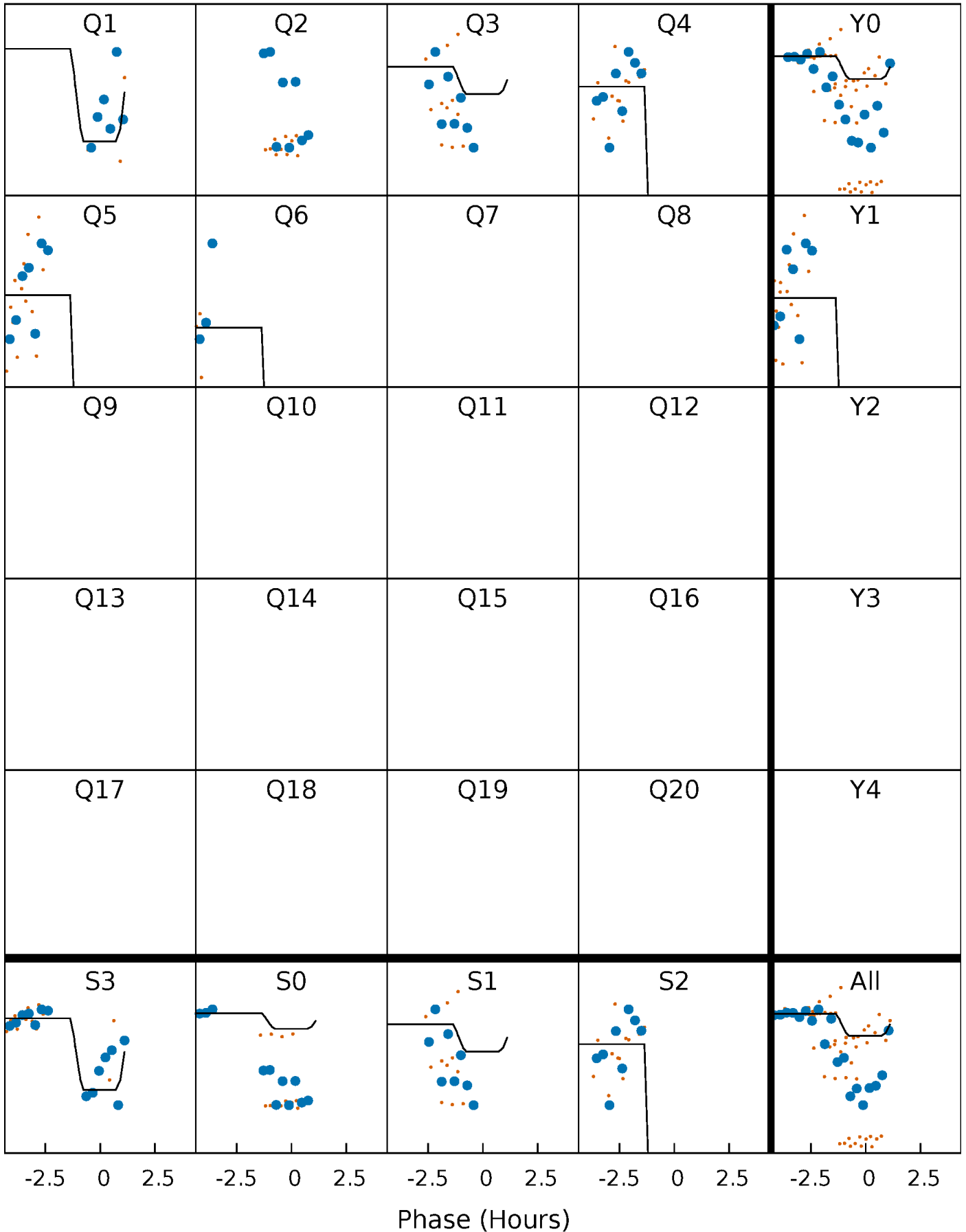
DV Quarter-Phased Transit Curves

TCE 002694632-04 P= 20.293866 Days $T_0=134.914683$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

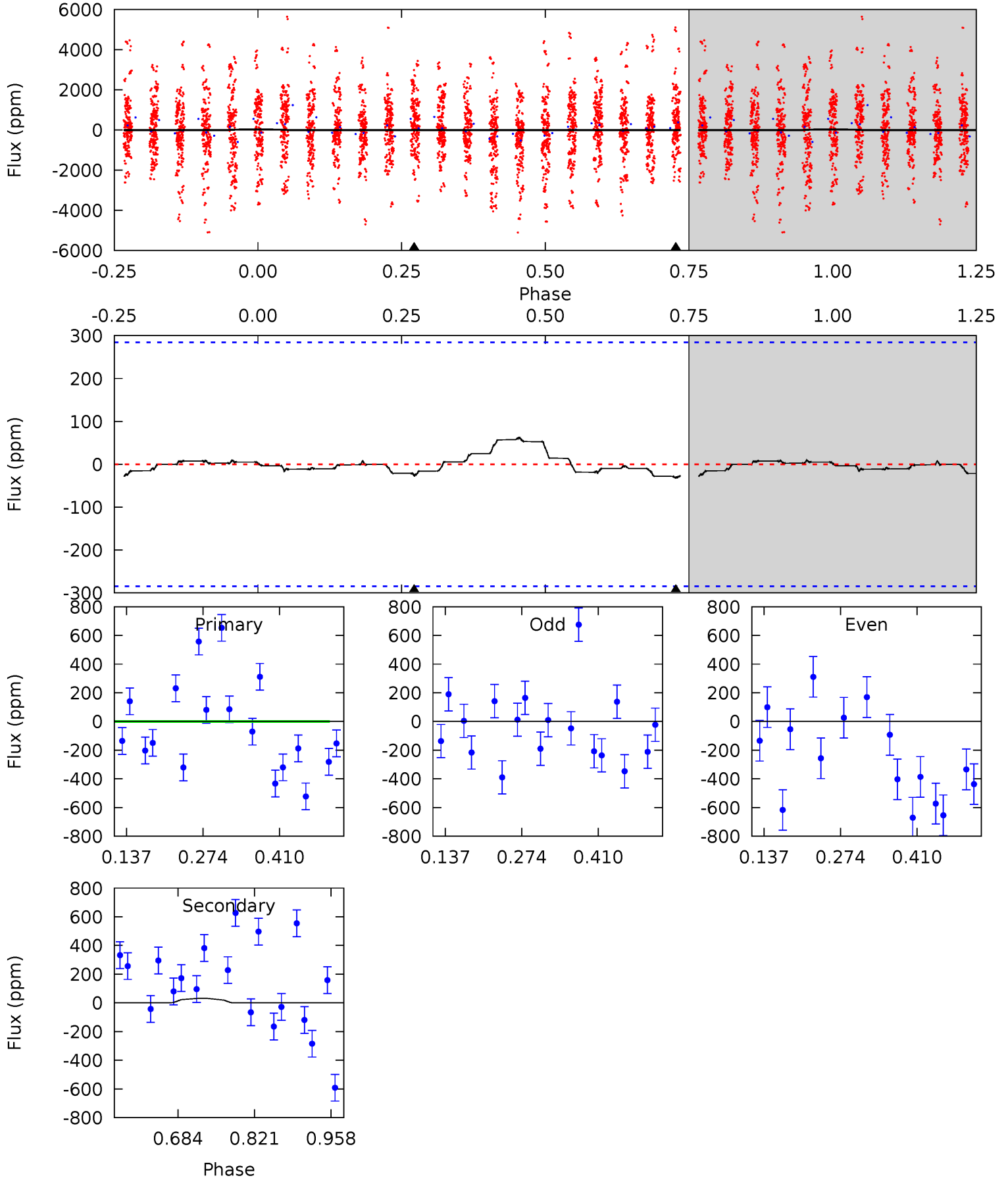
TCE 002694632-04 $P = 20.299595$ Days $T_0 = 134.123054$ (BKJD)



DV Model-Shift Uniqueness Test

002694632-04, P = 20.293866 Days, E = 114.620817 Days

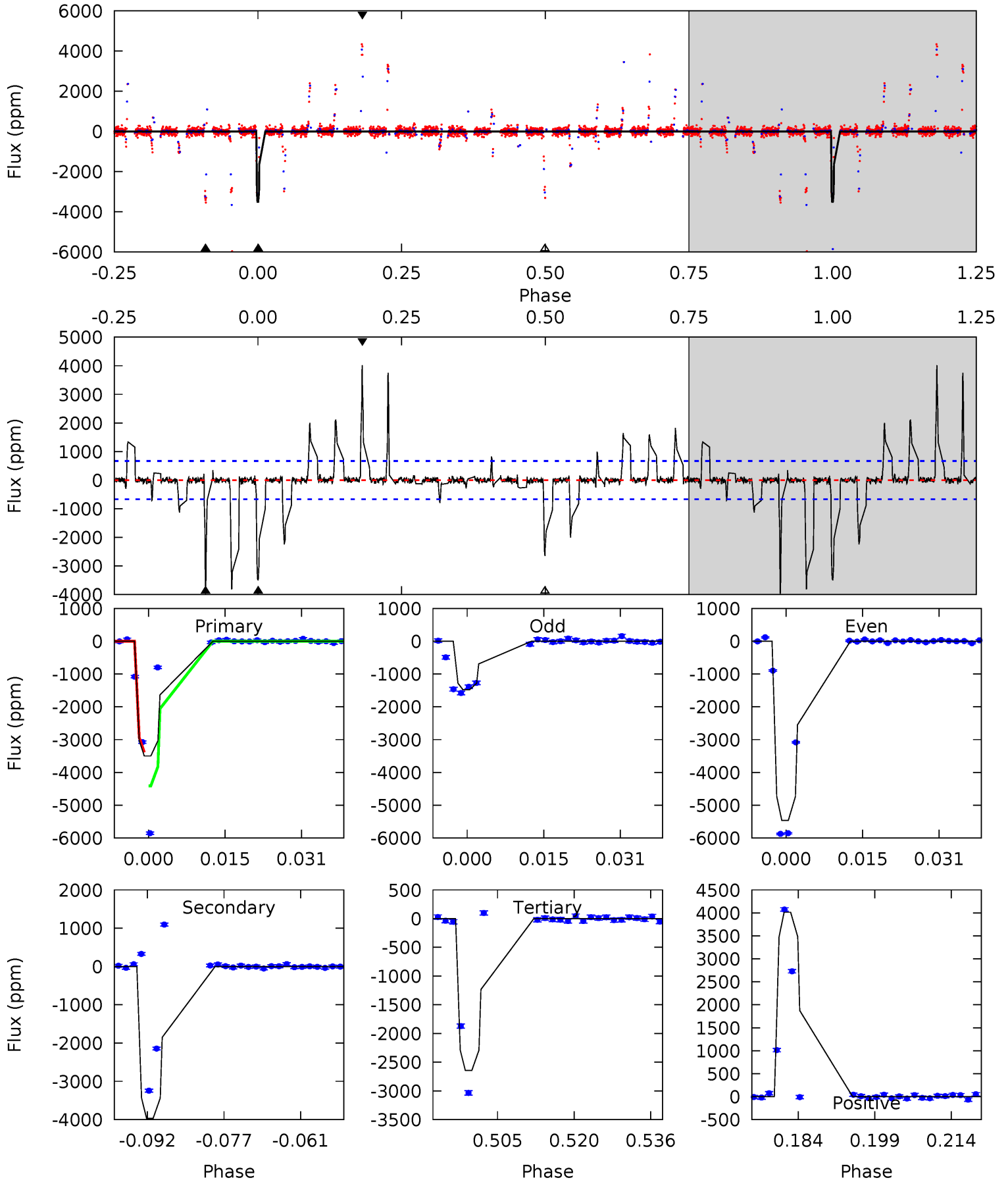
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.43	0.50	0	0	4.50	1.49	0.36	0.43	0.43	0.50	0.50	0.26	-0.01	0.66	0.47



Alt Model-Shift Uniqueness Test

002694632-04, P = 20.299595 Days, E = 113.823459 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.9	29.4	19.6	29.7	4.94	2.43	2.23	6.34	-3.80	9.80	-0.34	12.8	1.19	0.50	0



Stellar Parameters For KIC 002694632

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5631^{+186}_{-169}	$4.114^{+0.322}_{-0.138}$	$0.240^{+0.150}_{-0.300}$	$1.485^{+0.336}_{-0.504}$	$1.046^{+0.126}_{-0.126}$	$0.450^{+0.984}_{-0.174}$
	+3%/-3%	+8%/-3%	+62%/-125%	+23%/-34%	+12%/-12%	+219%/-39%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 002694632-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-32±63	$5.03^{+1.02}_{-1.12}$	1081^{+87}_{-99}	2989^{+586}_{-6084}	14^{+36}_{-32}
Alt.	-3968±135	$5.06^{+1.09}_{-1.07}$	1087^{+82}_{-100}	8063^{+768}_{-611}	1879^{+1088}_{-590}

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 $A_{obs} \gg 1.0$

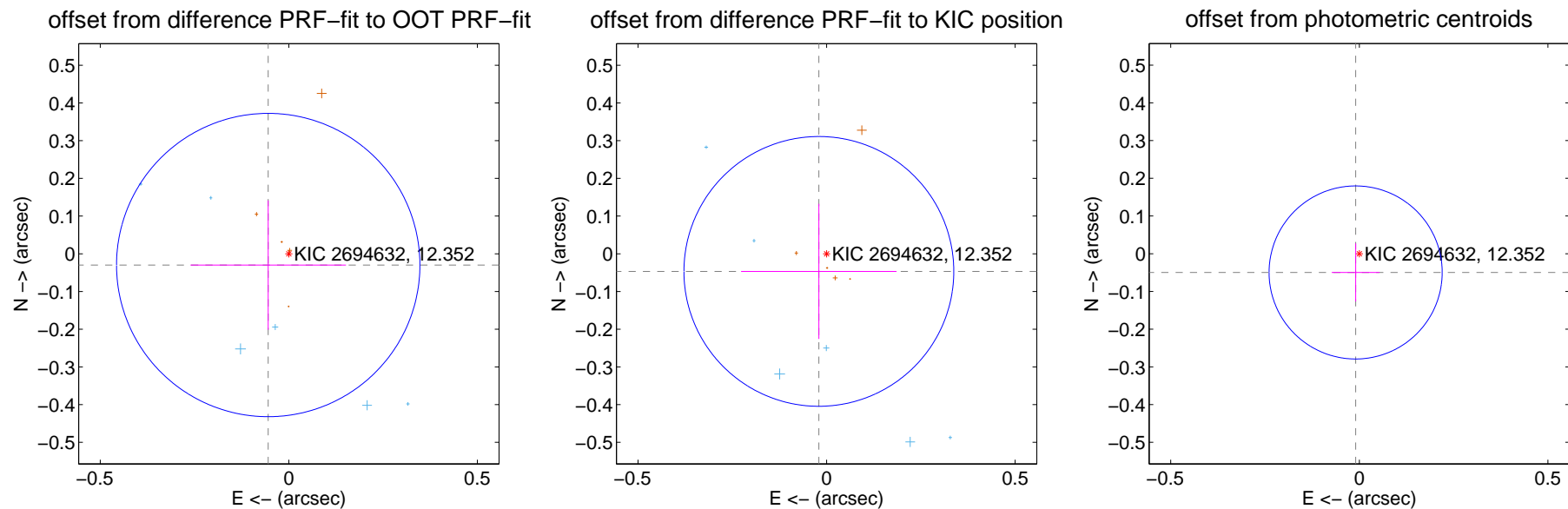
DV Centroid Data

Supplemental centroid analysis for 002694632-04. Kepler magnitude: 12.35. Transit SNR 4.62

There are 8 quarters with good PRF difference image offsets

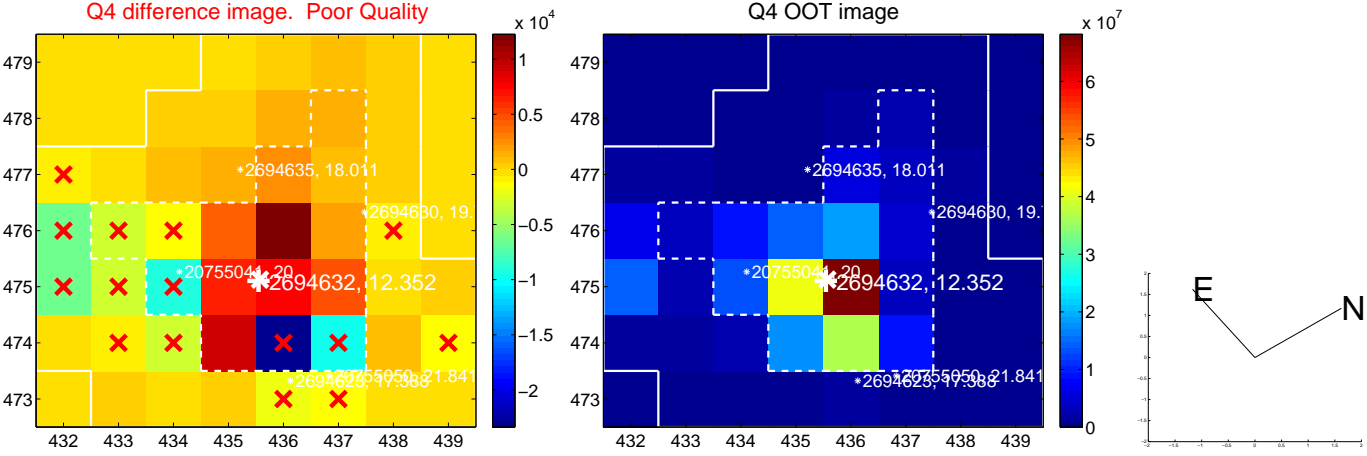
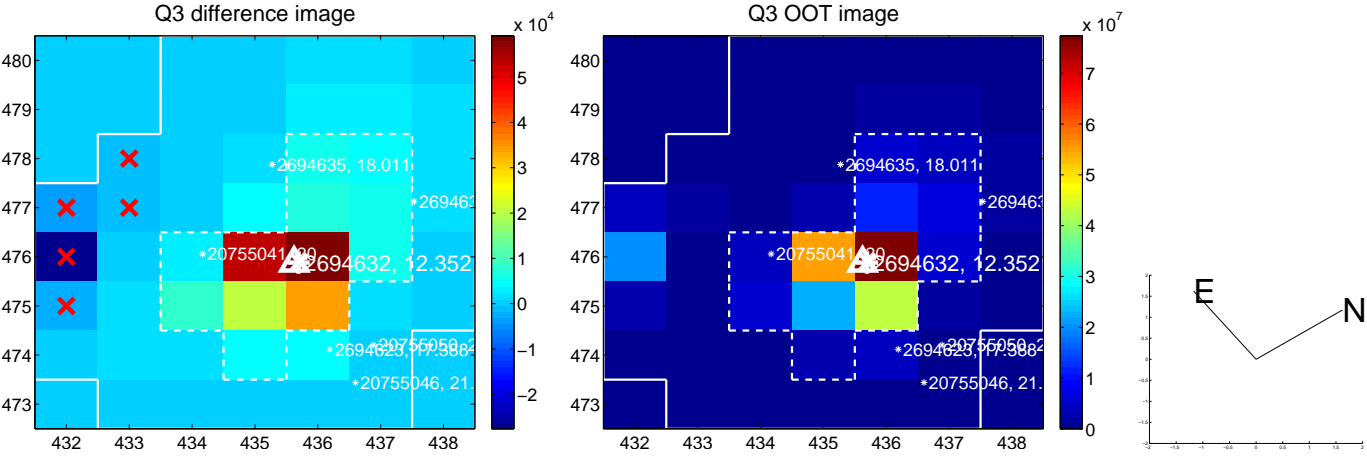
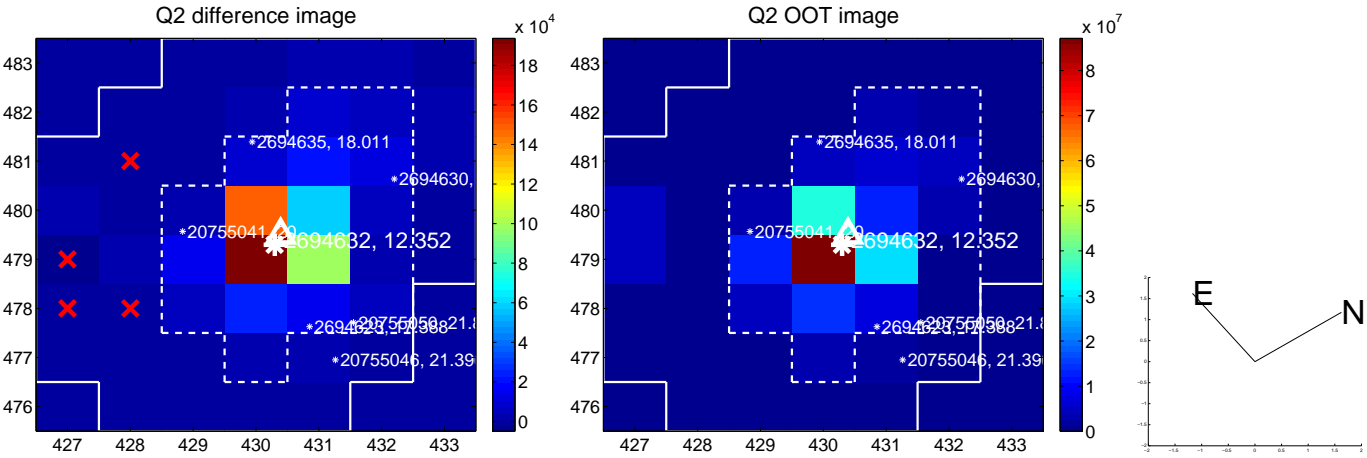
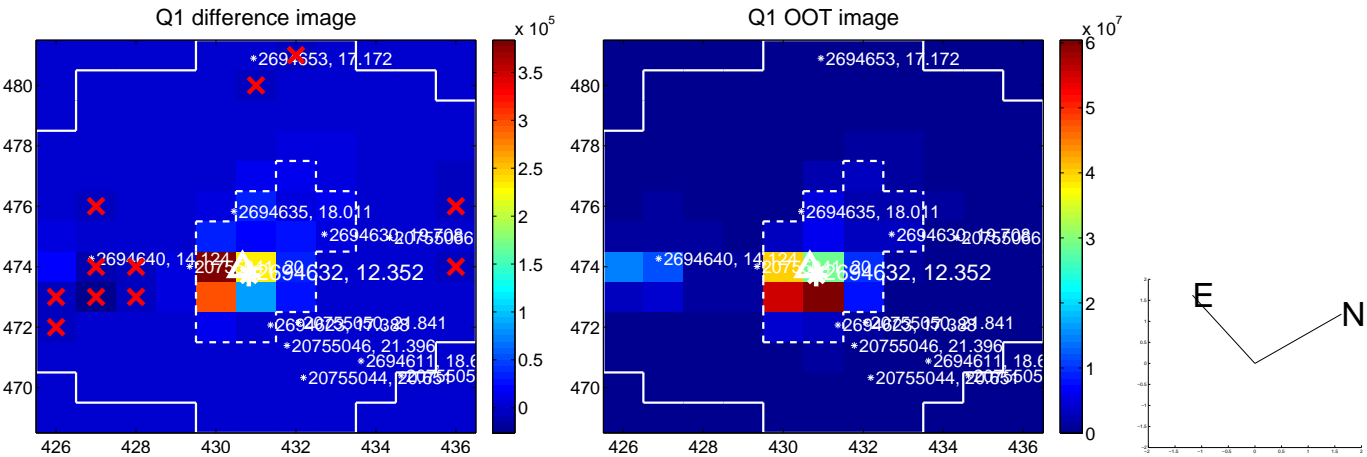
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.062 ± 0.134	0.46	0.055 ± 0.206	-0.030 ± 0.171
PRF-fit source offset from KIC position	0.051 ± 0.119	0.43	0.020 ± 0.206	-0.047 ± 0.179
photometric centroid source offset	0.05 ± 0.08	0.66	0.01 ± 0.06	-0.05 ± 0.08

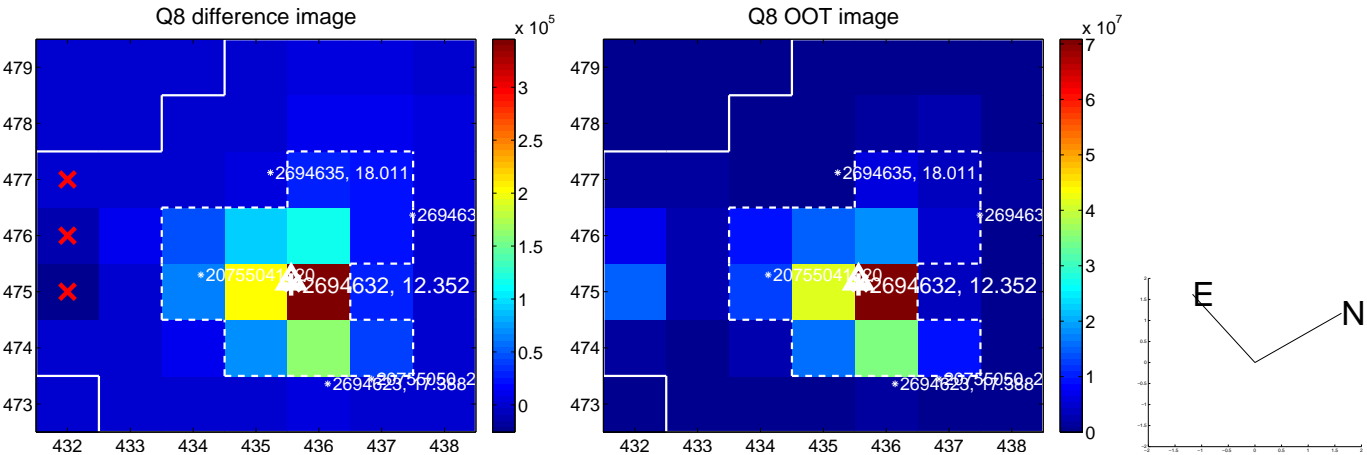
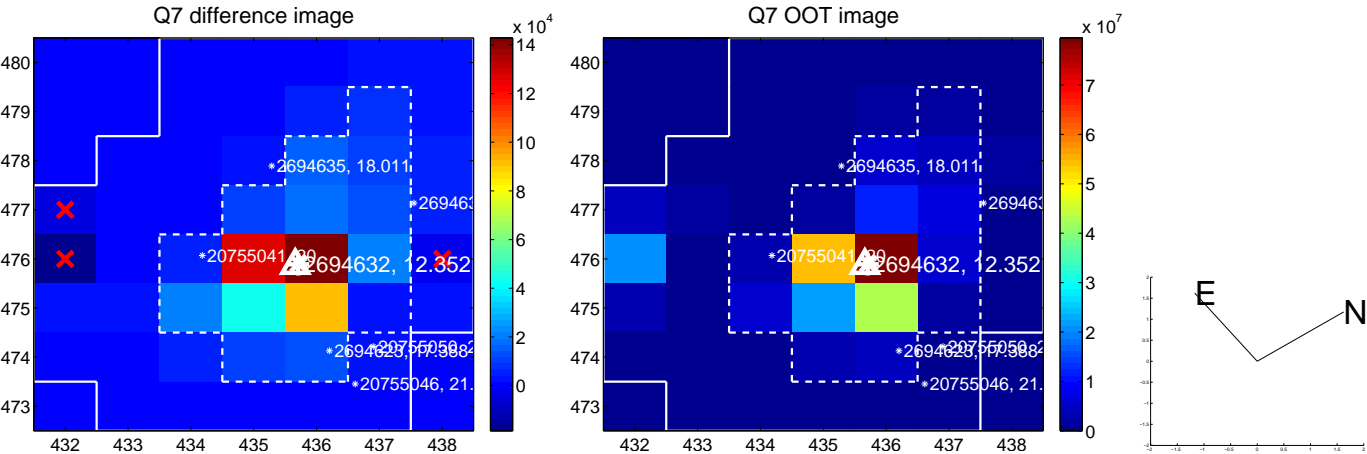
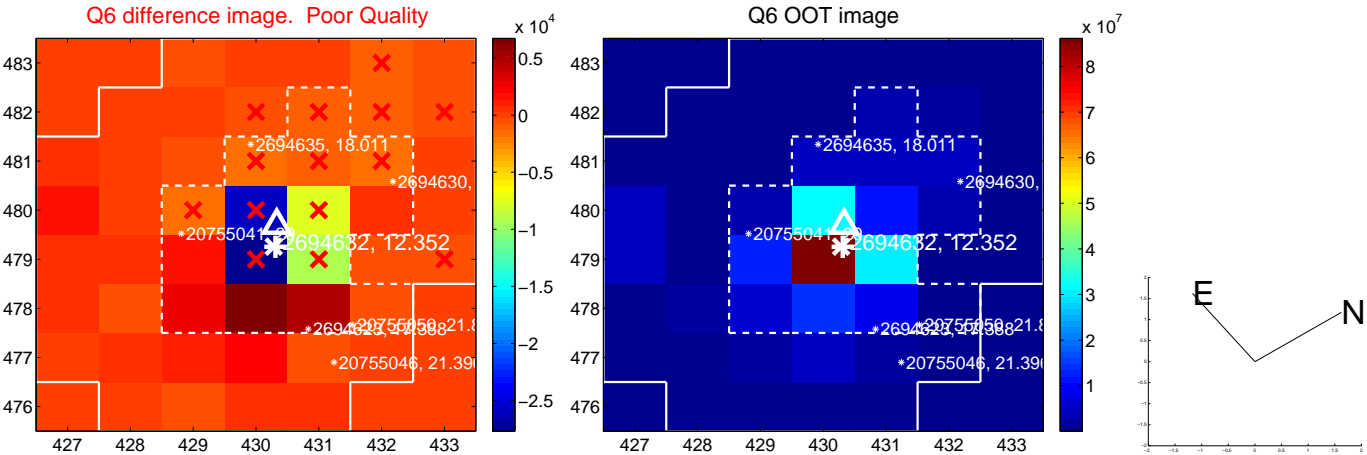
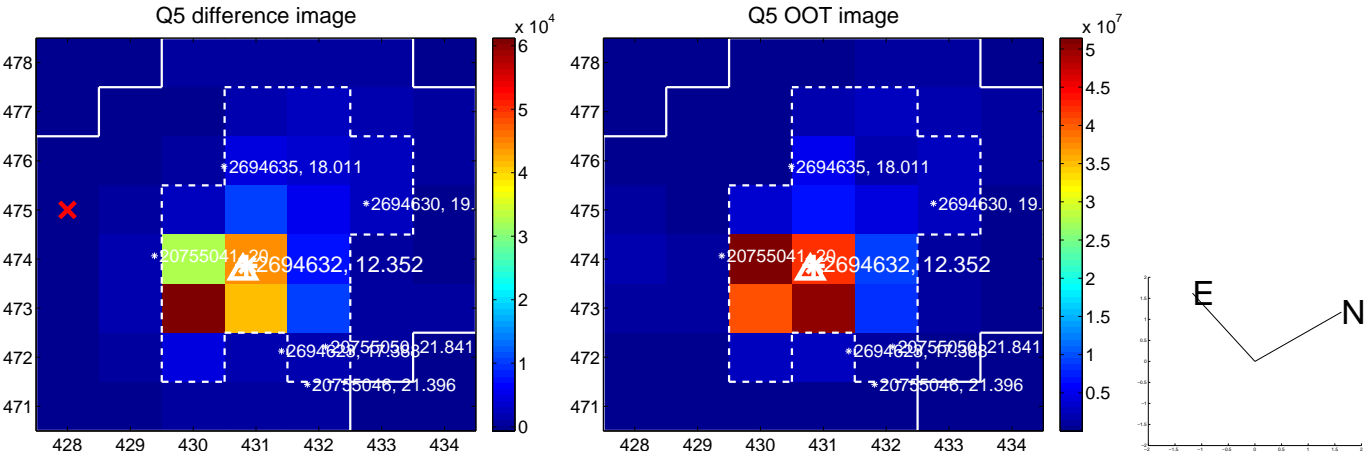


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

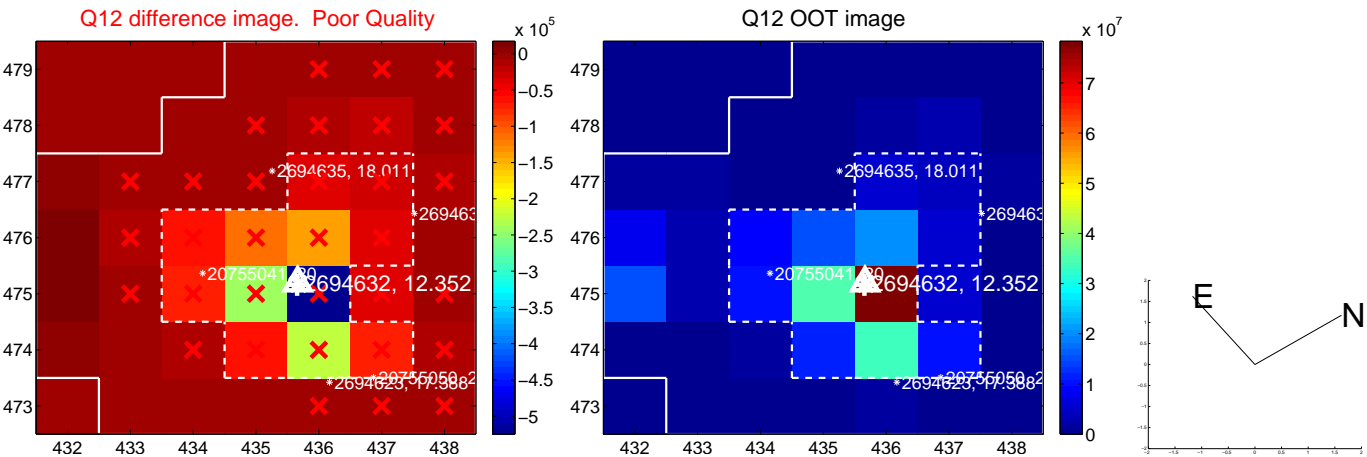
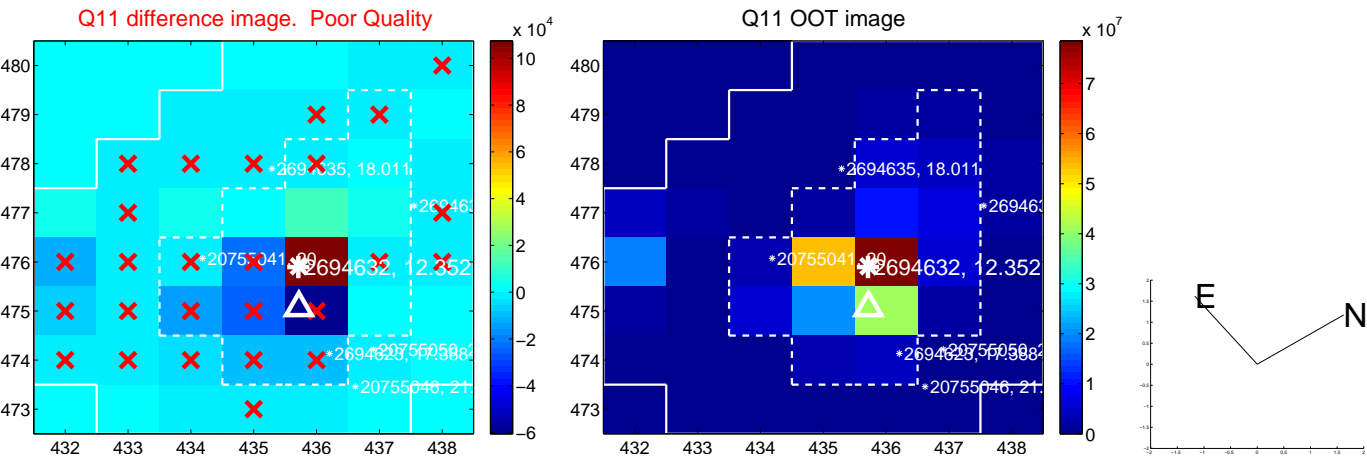
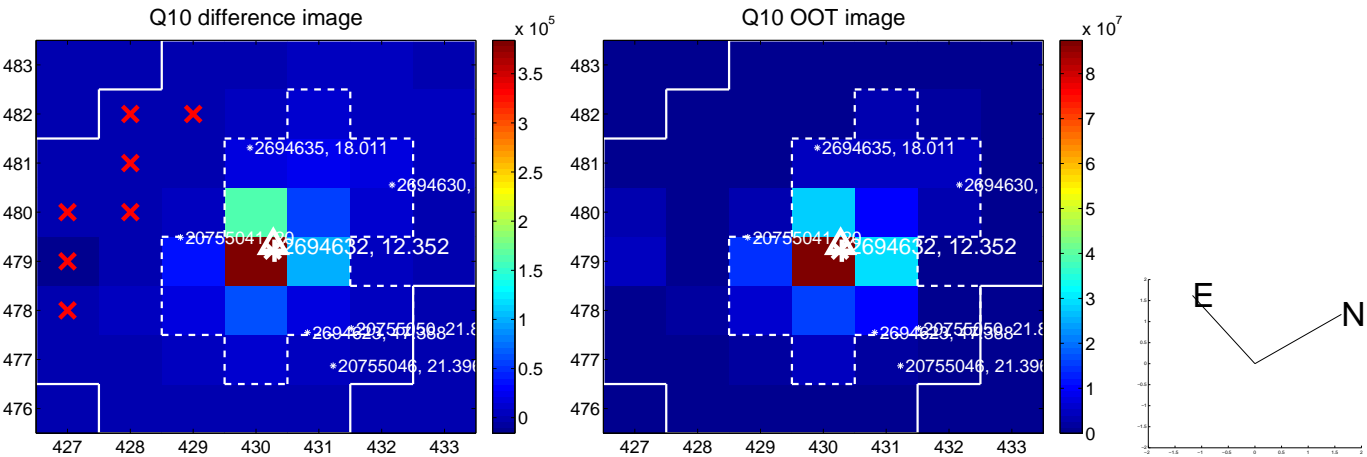
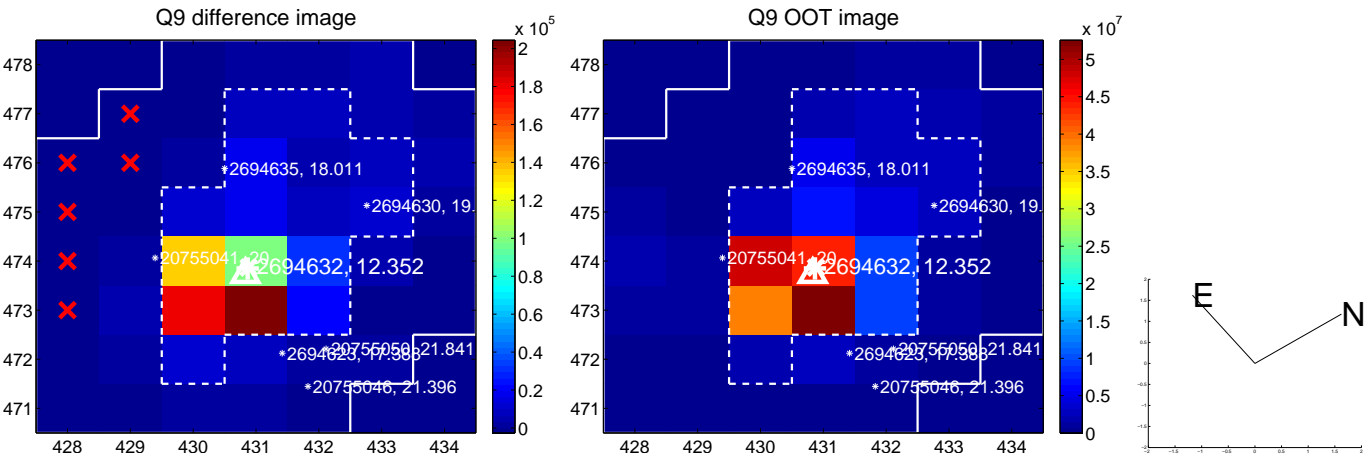
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



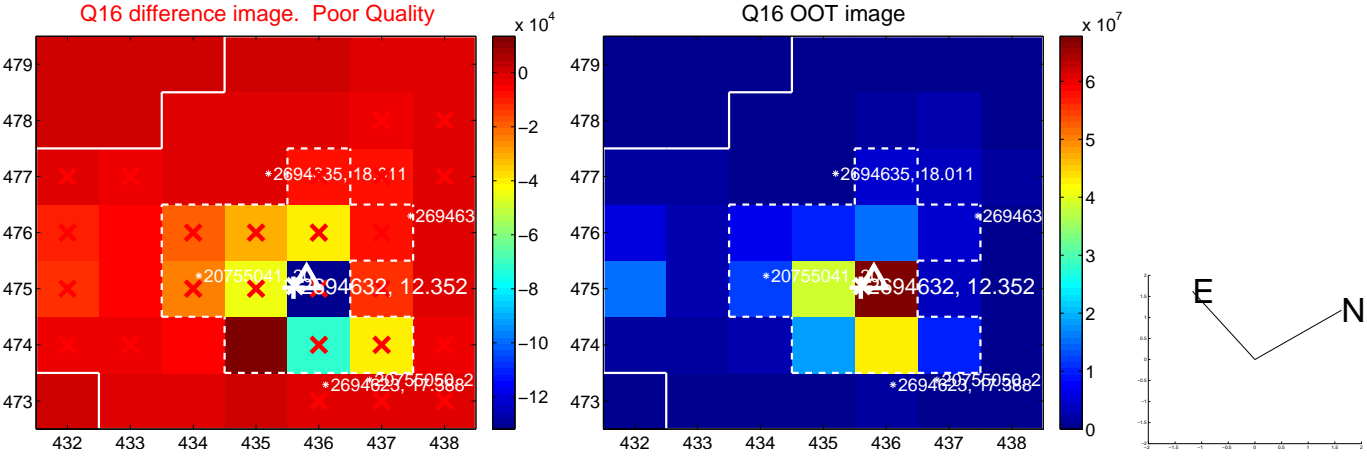
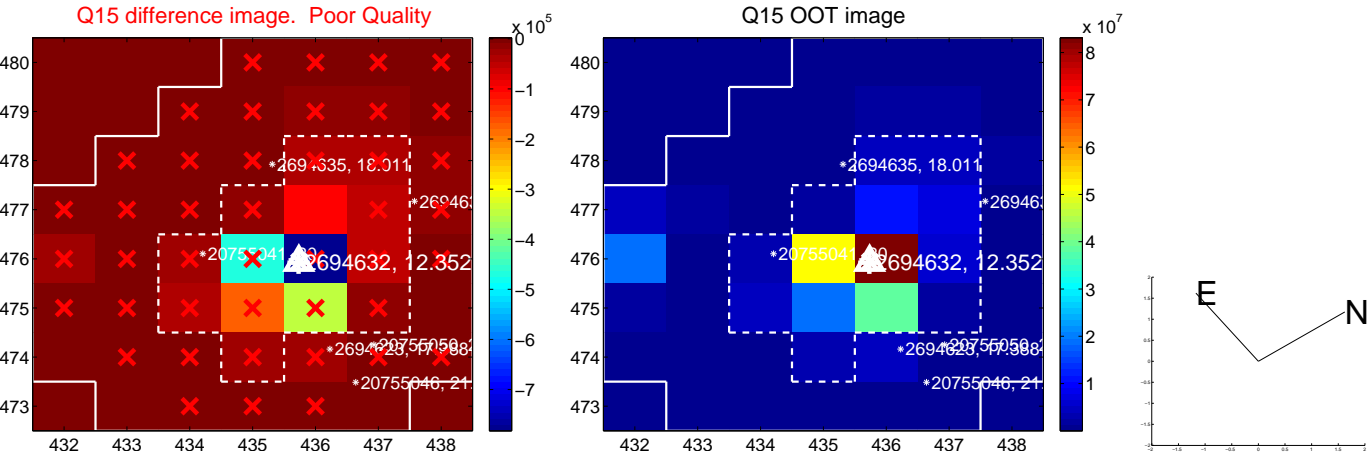
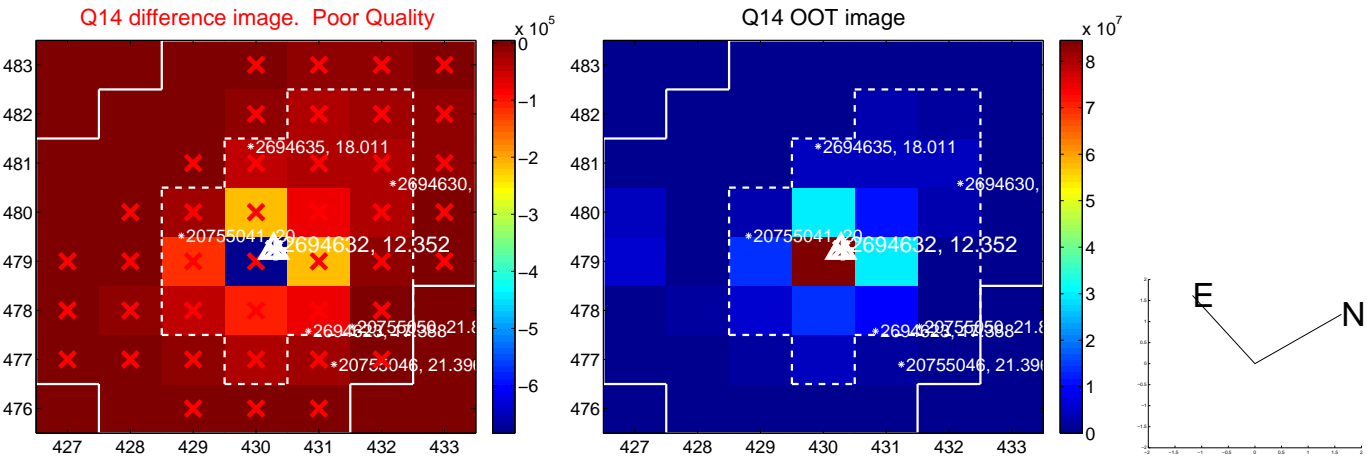
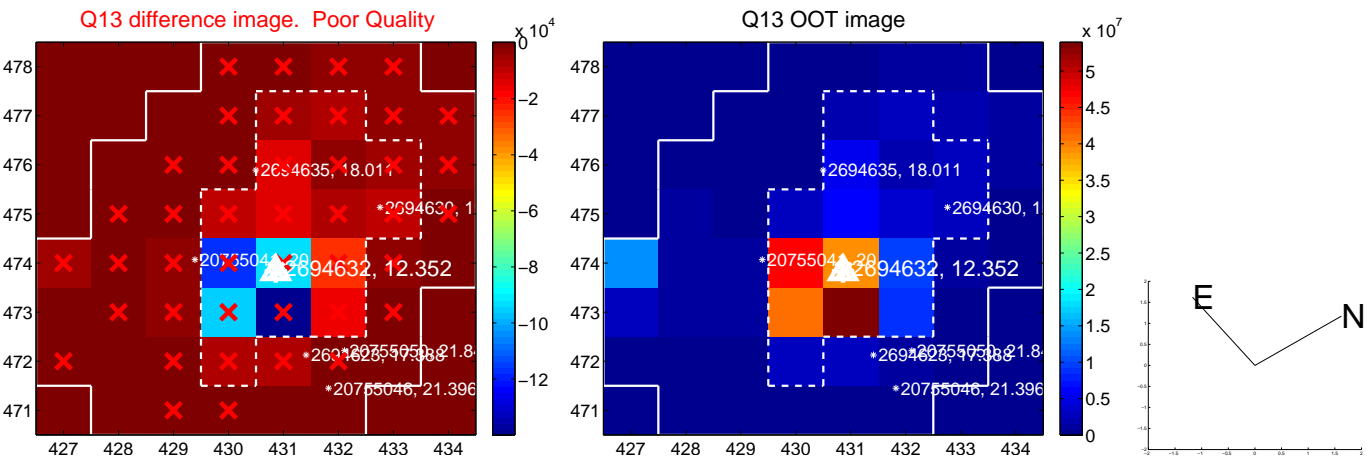
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



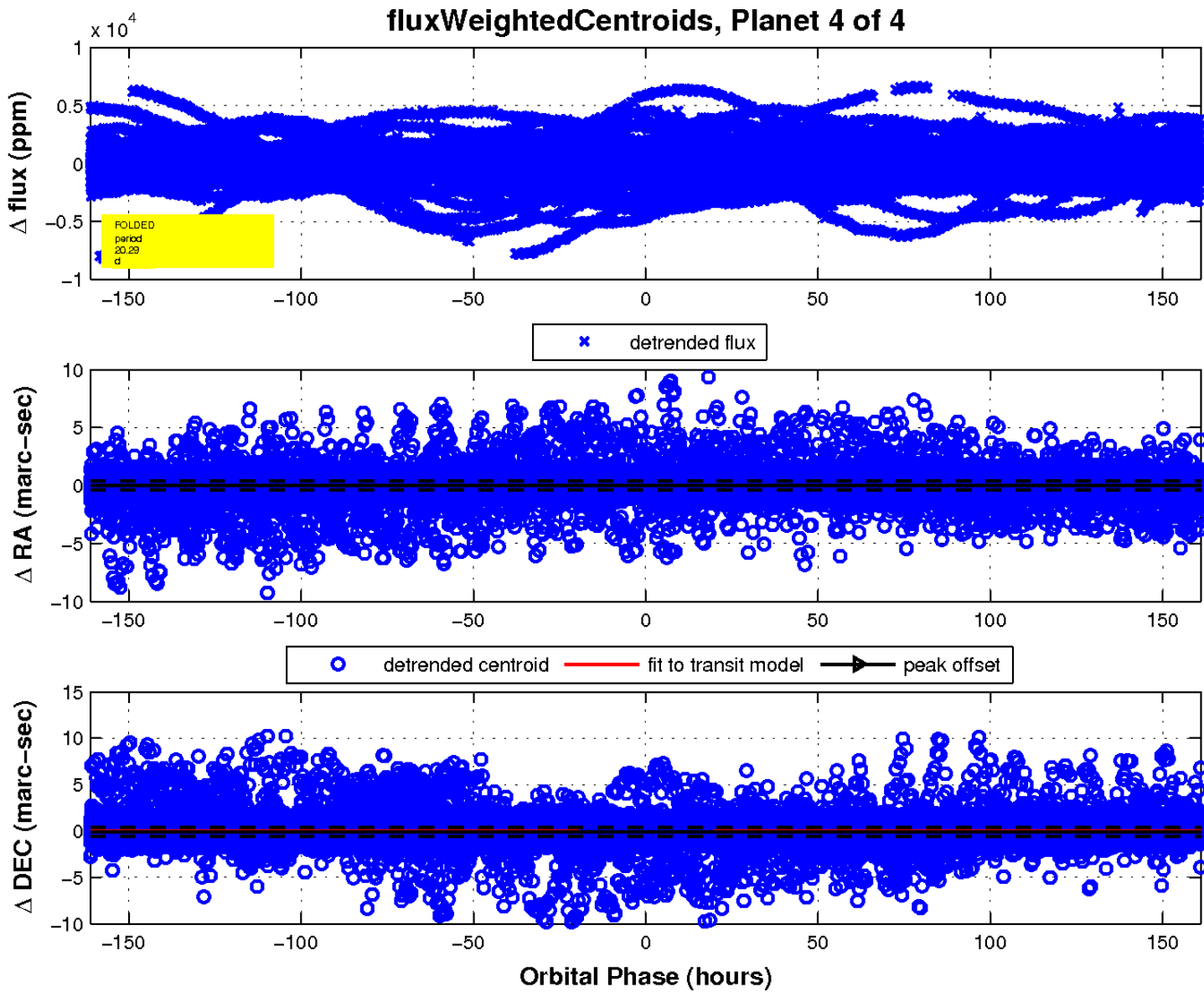
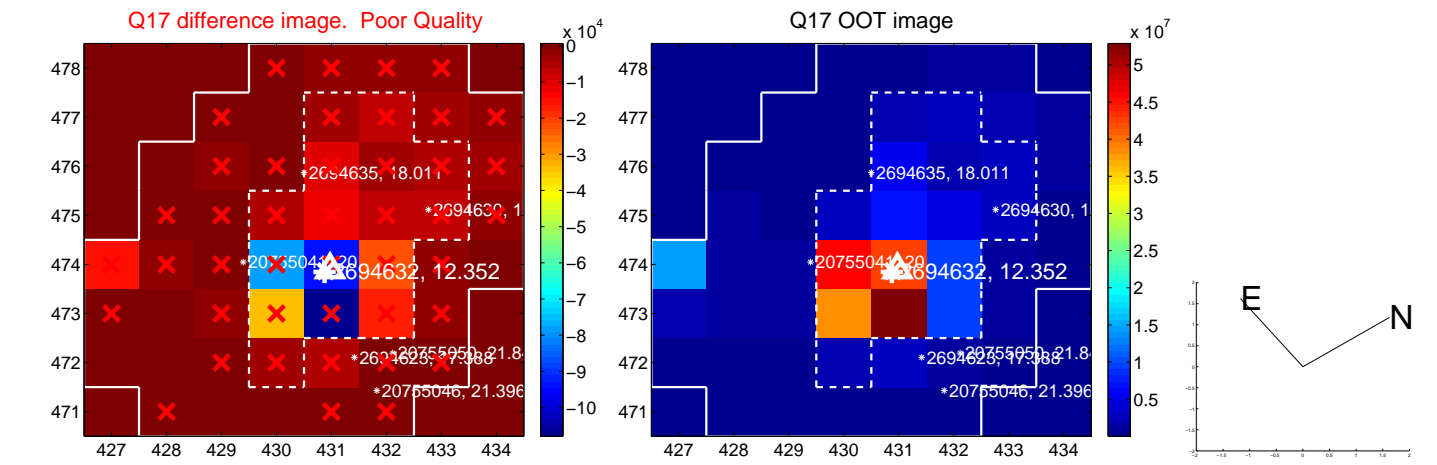
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

