

KIC 007116632

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})
007116632-01	OBS	No	0.566789	131.682065	53.8	3.818	8.7	7.3	0.94	5874	0.74	5184.61
007116632-02	OBS	No	36.448922	154.862009	498.4	9.446	10.4	3.9	0.94	5874	2.21	20.12
007116632-03	OBS	No	30.129596	152.141135	645.2	7.136	8.8	4.9	0.94	5874	2.69	25.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007116632-01	OBS	FP	0.00	1	0	0	1	LPP_DV—CENT_FEW_DIFFS—EPHEM_MATCH
007116632-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007116632-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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.

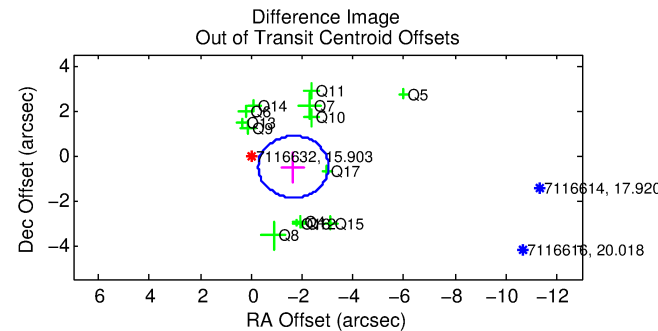
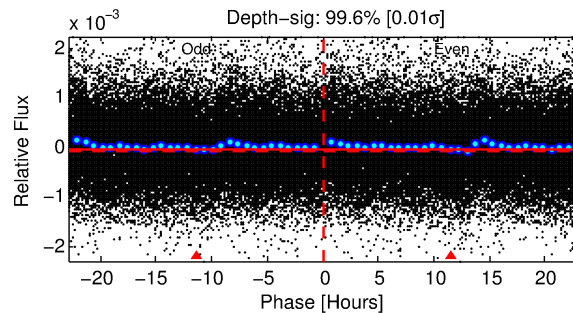
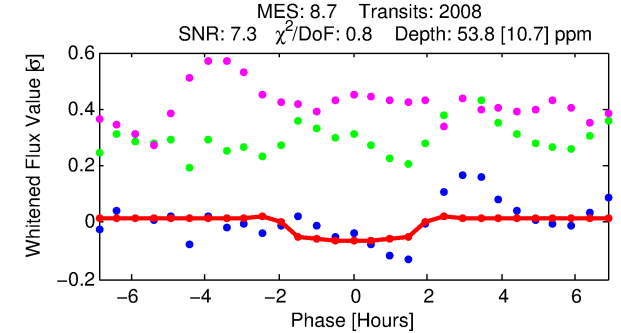
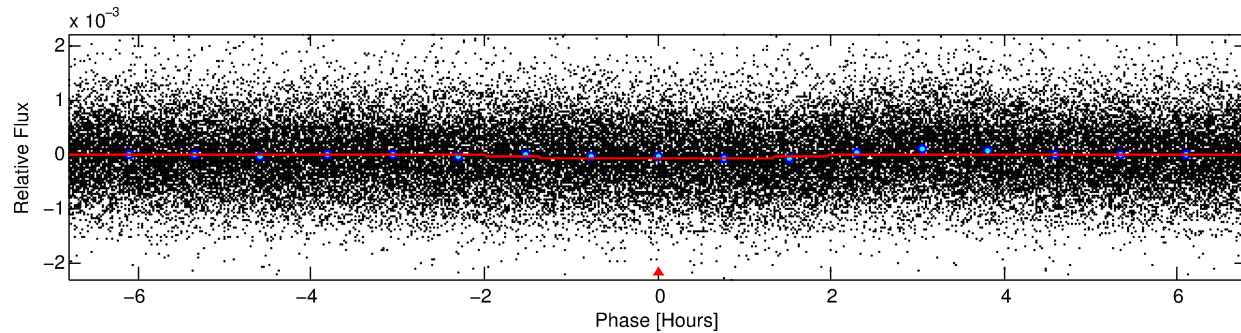
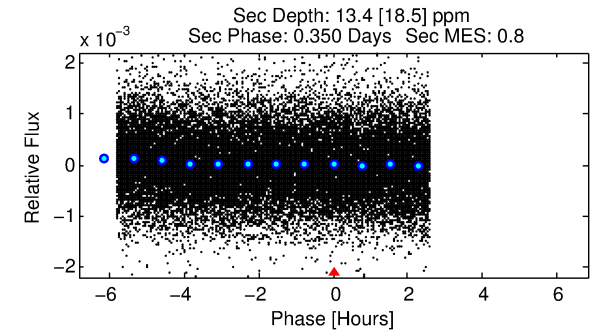
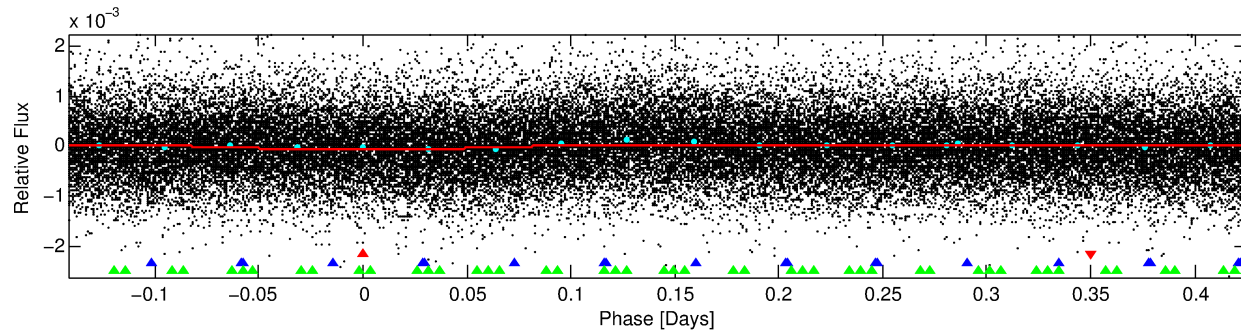
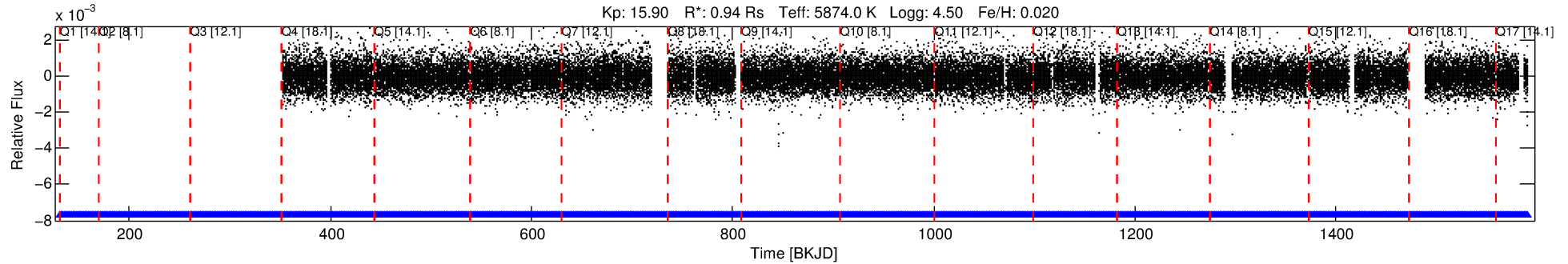
Ephemeris Match Information For 007116632-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (μ)	Δ Row	Δ Col	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ_P	σ_T
007116632-01	7116632	RR-Lyr-pri	7198959	1:1	378.1	94	-13	7.86	15.90	11543.00	Direct-PRF	0	1.75	18.92

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 7116632 Candidate: 1 of 3 Period: 0.567 d



DV Fit Results:

Period = 0.56679 [0.00001] d
Epoch = 131.6821 [0.0050] BKJD
Rp/R* = 0.0072 [0.0090]
a/R* = 1.17 [1.79]
b = 0.70 [4.24]
Seff = 5184.61 [2080.94]
Teq = 2164 [217] K
Rp = 0.74 [0.96] Re
a = 0.0135 [0.0035] AU
Ag = 2.47 [7.14] [0.21σ]
Teffp = 4194 [3007] K [0.67σ]

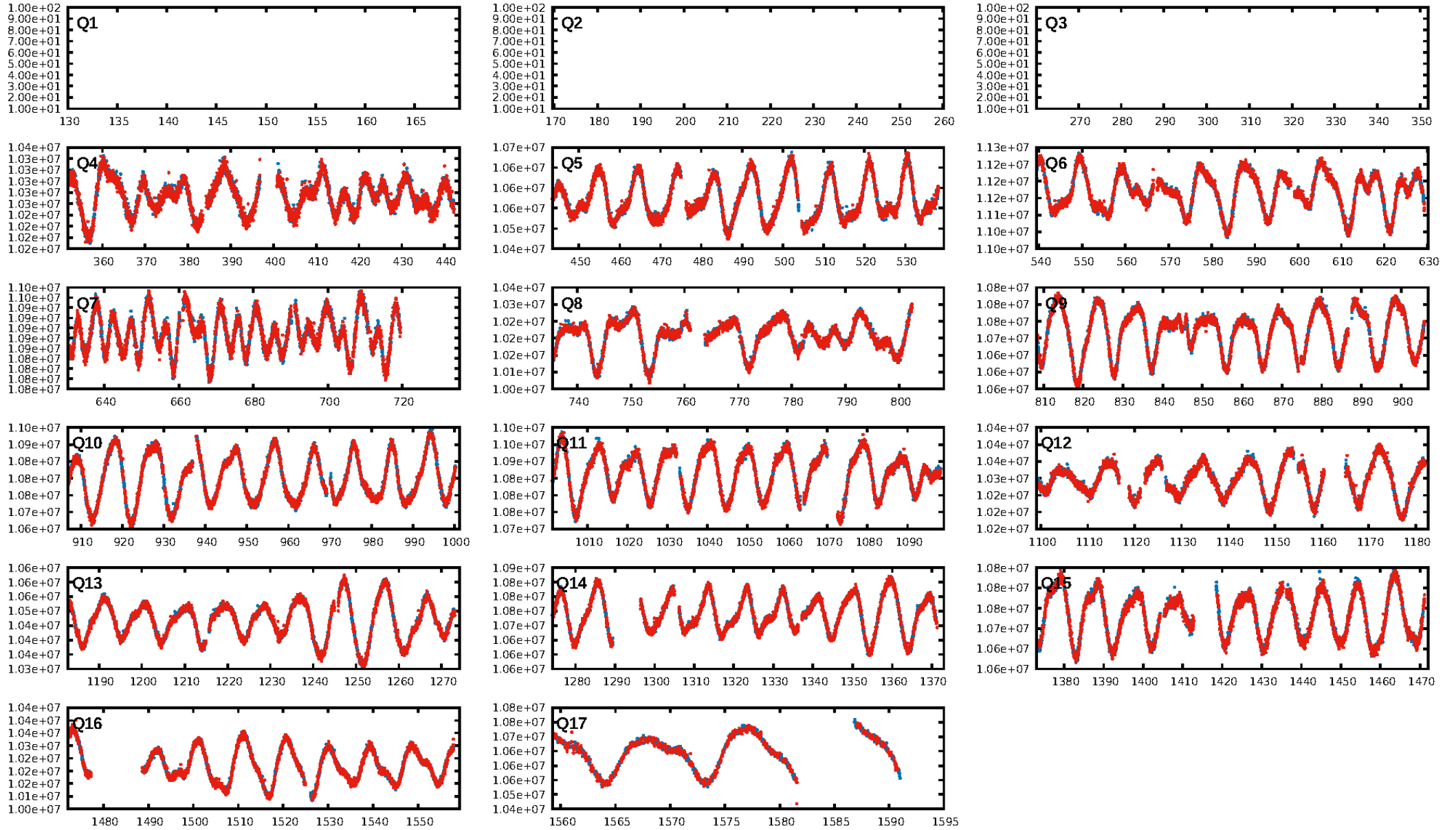
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [87.66σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.96e-13
RollingBand-fgt: 1.00 [1961/1961]
GhostDiagnostic-chr: -0.2521
Centroid-sig: 0.5%
Centroid-so: 3.963 arcsec [2.31σ]
OotOffset-rm: 1.728 arcsec [3.77σ]
KicOffset-rm: 1.883 arcsec [3.98σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 0.14 [2/14]
DiffImageOverlap-fno: 1.00 [14/14]

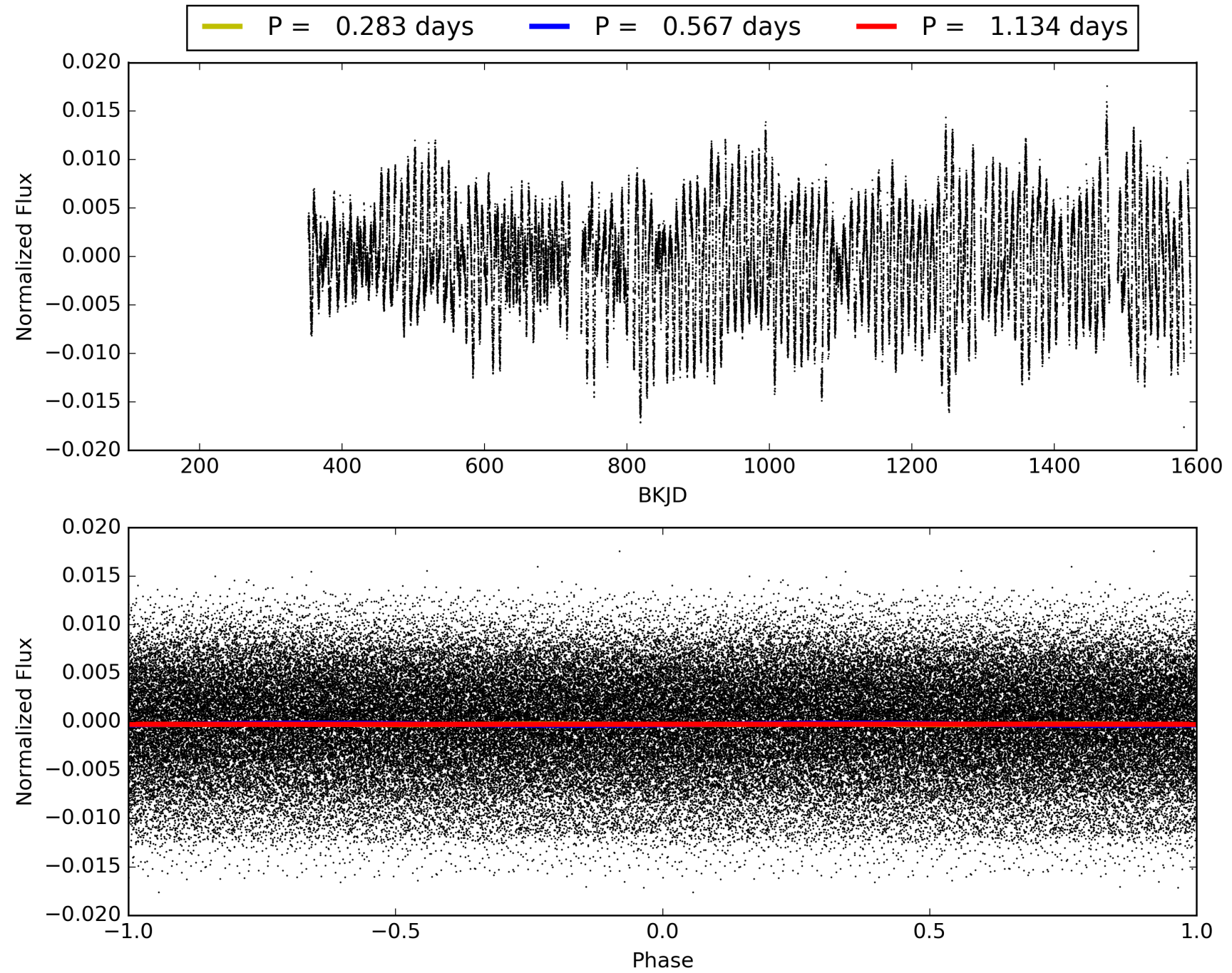
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:51:23 Z

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

TCE 007116632-01, PDC Light Curves

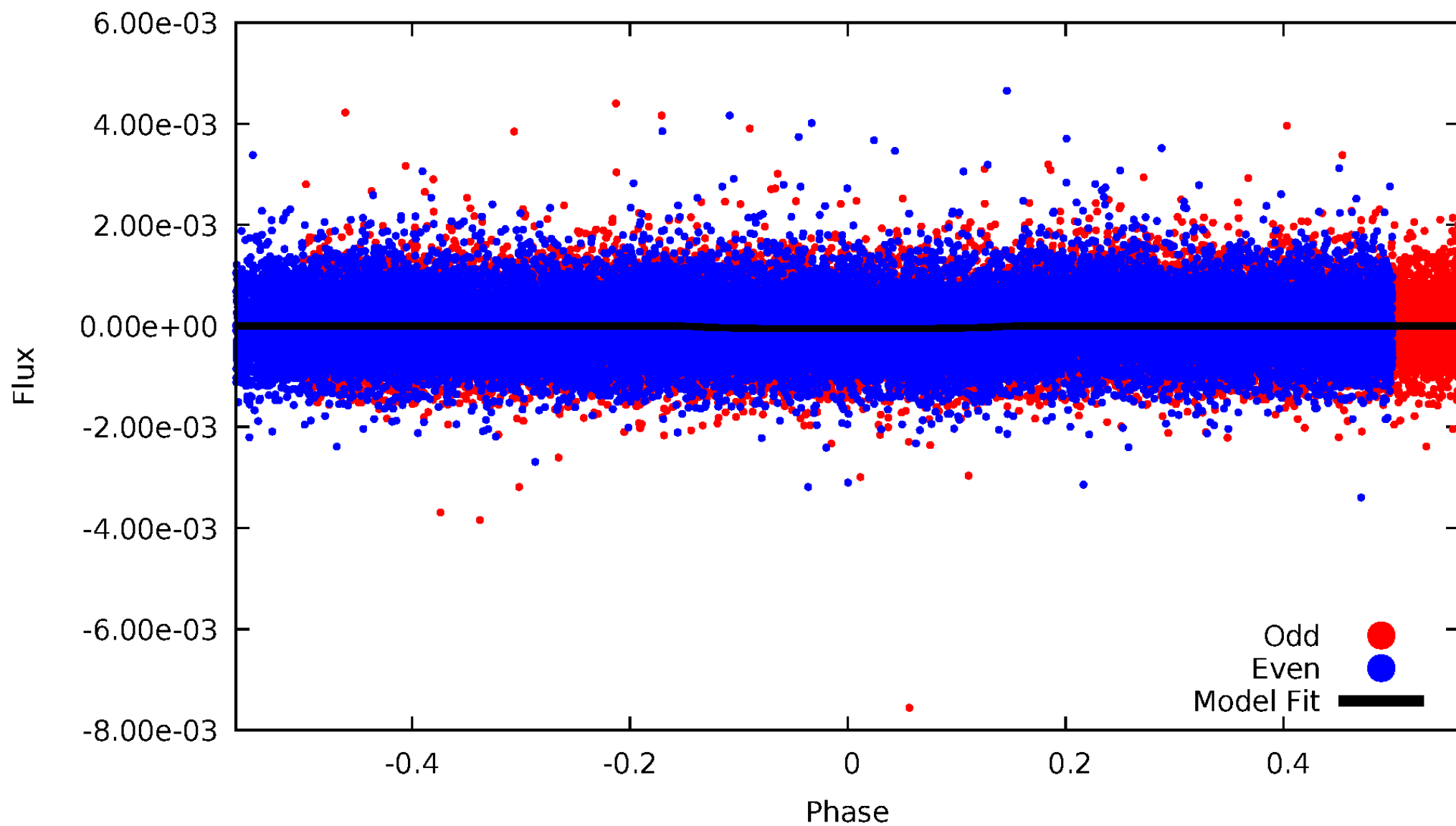


TCE 007116632-01



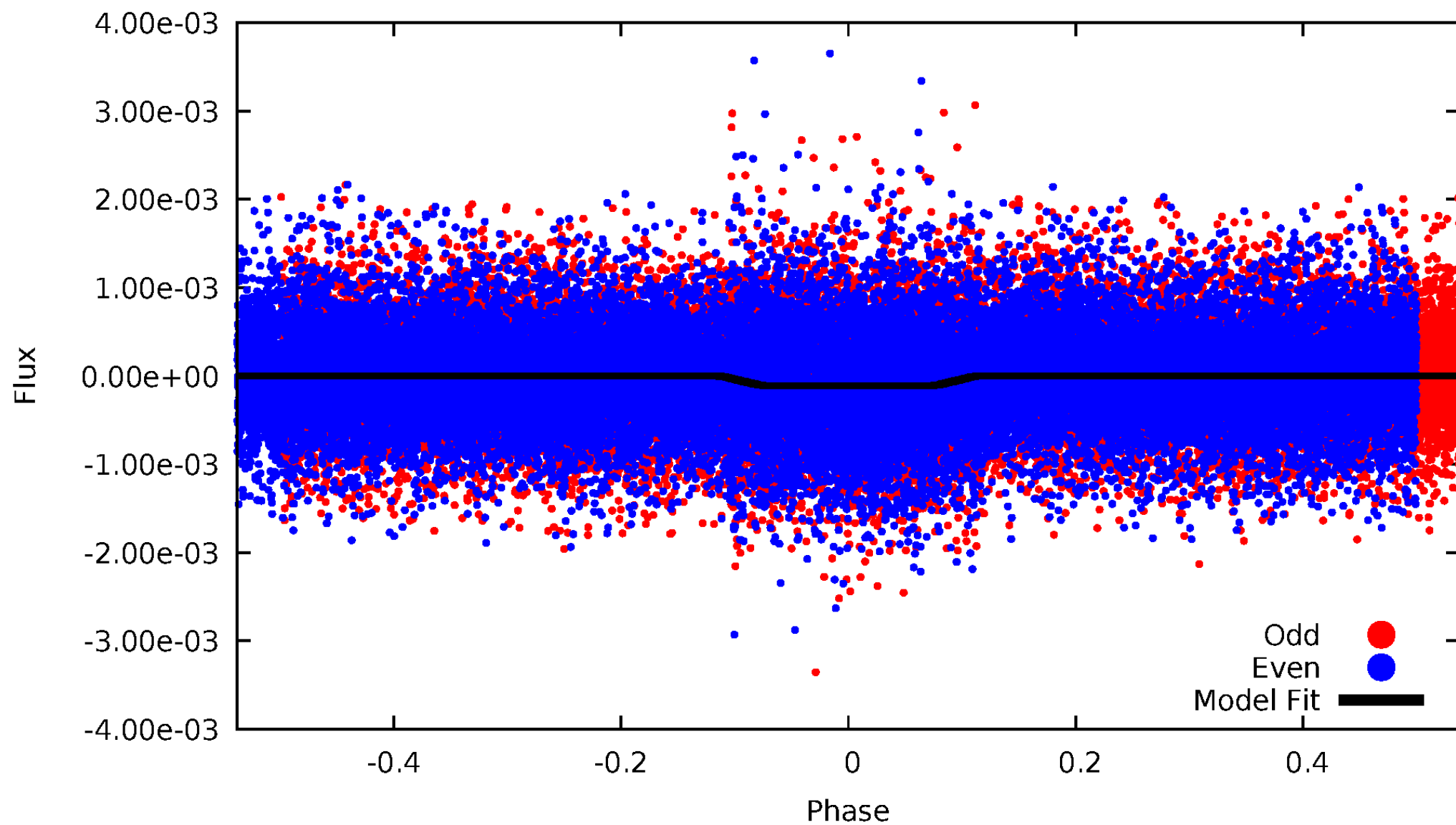
DV Odd/Even

TCE 007116632-01

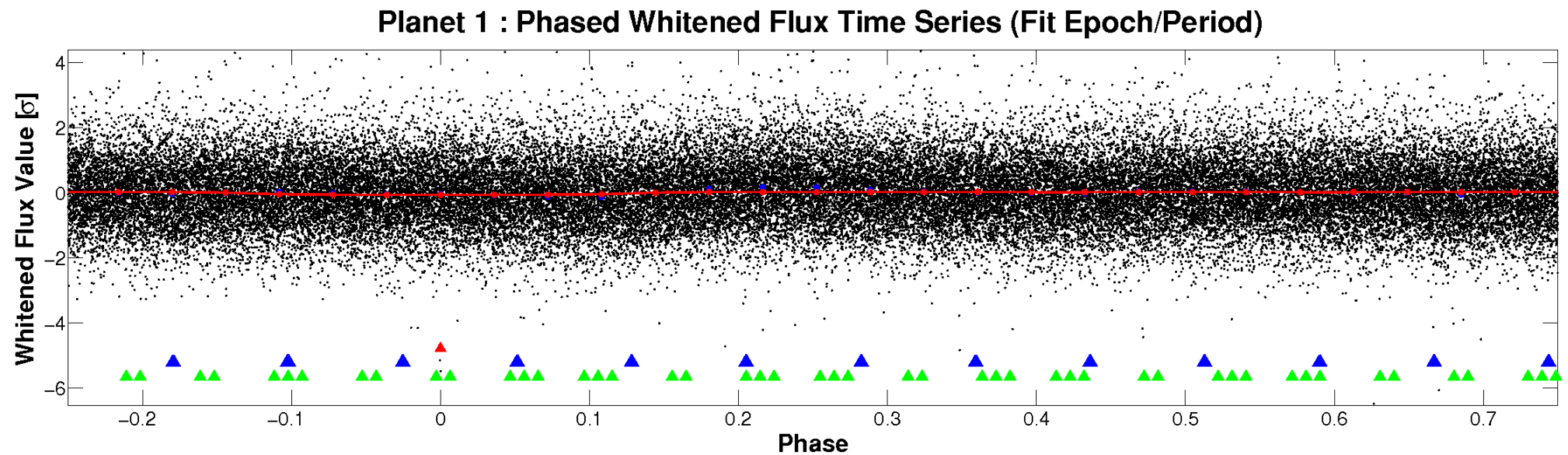
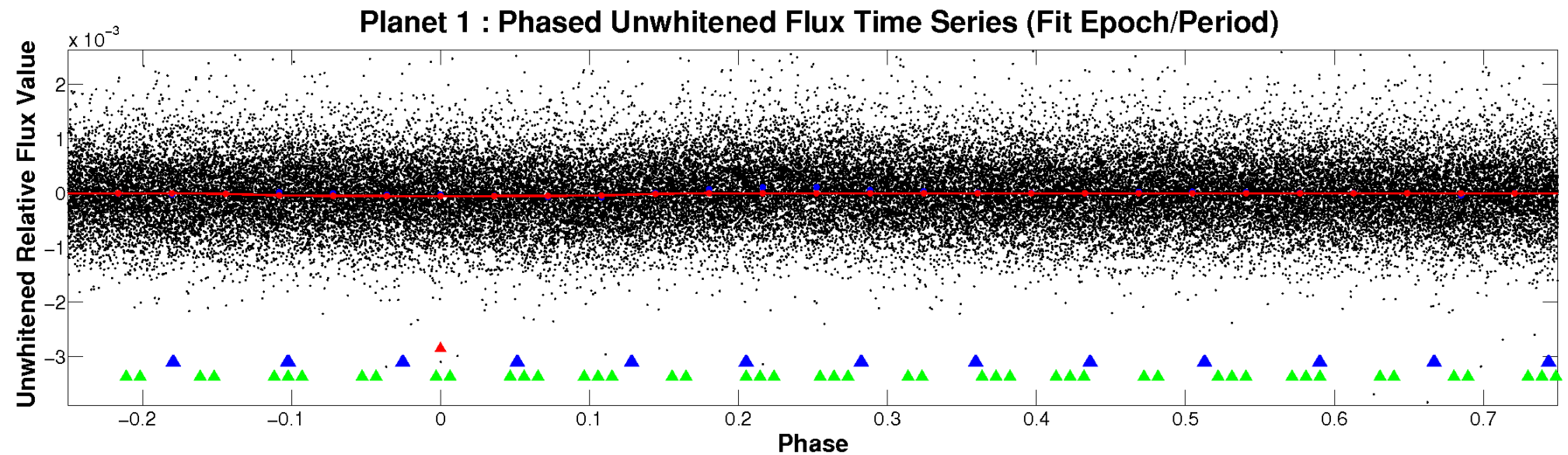


ALT Odd/Even

TCE 007116632-01

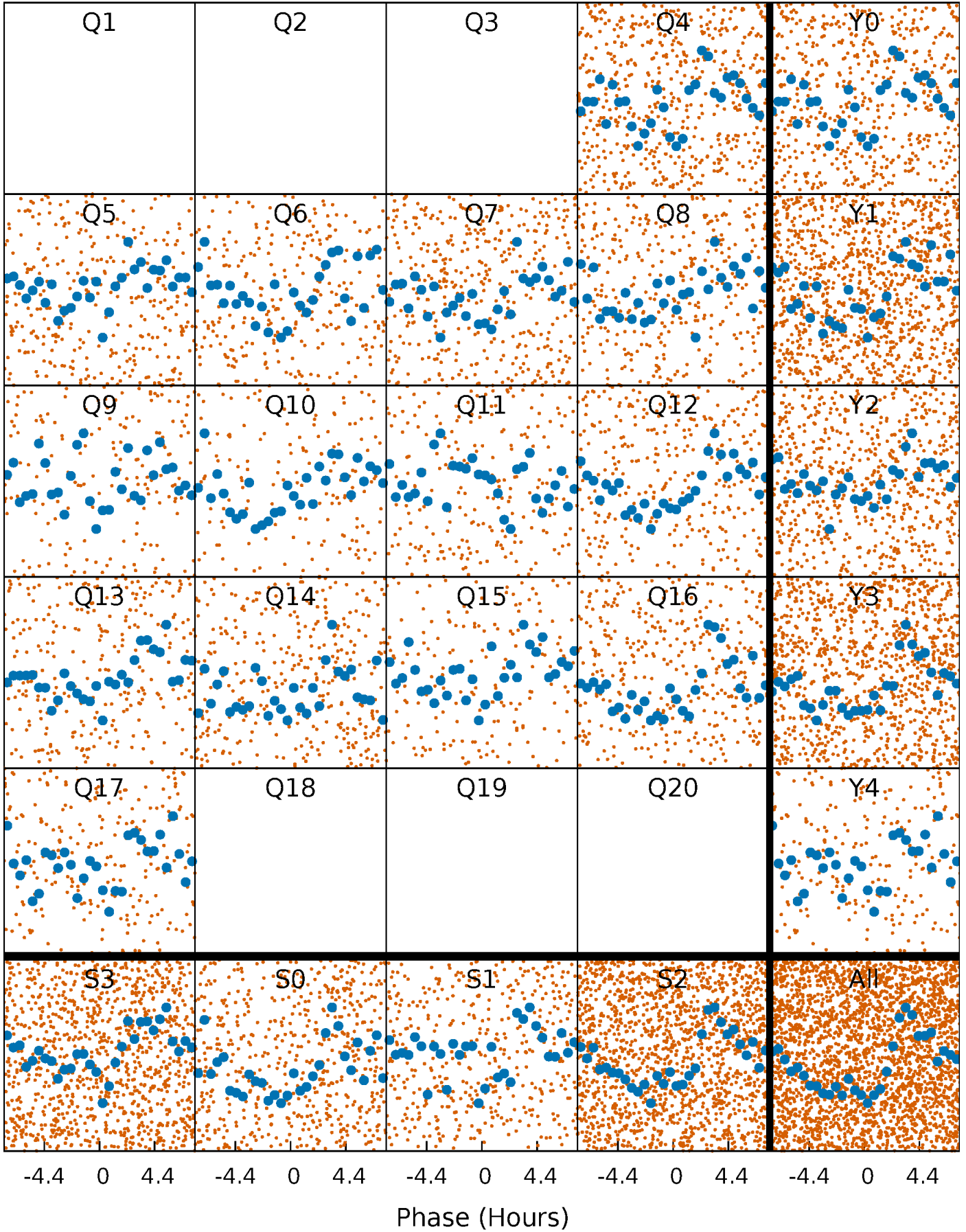


Non-Whitened Vs. Whitened Light Curve



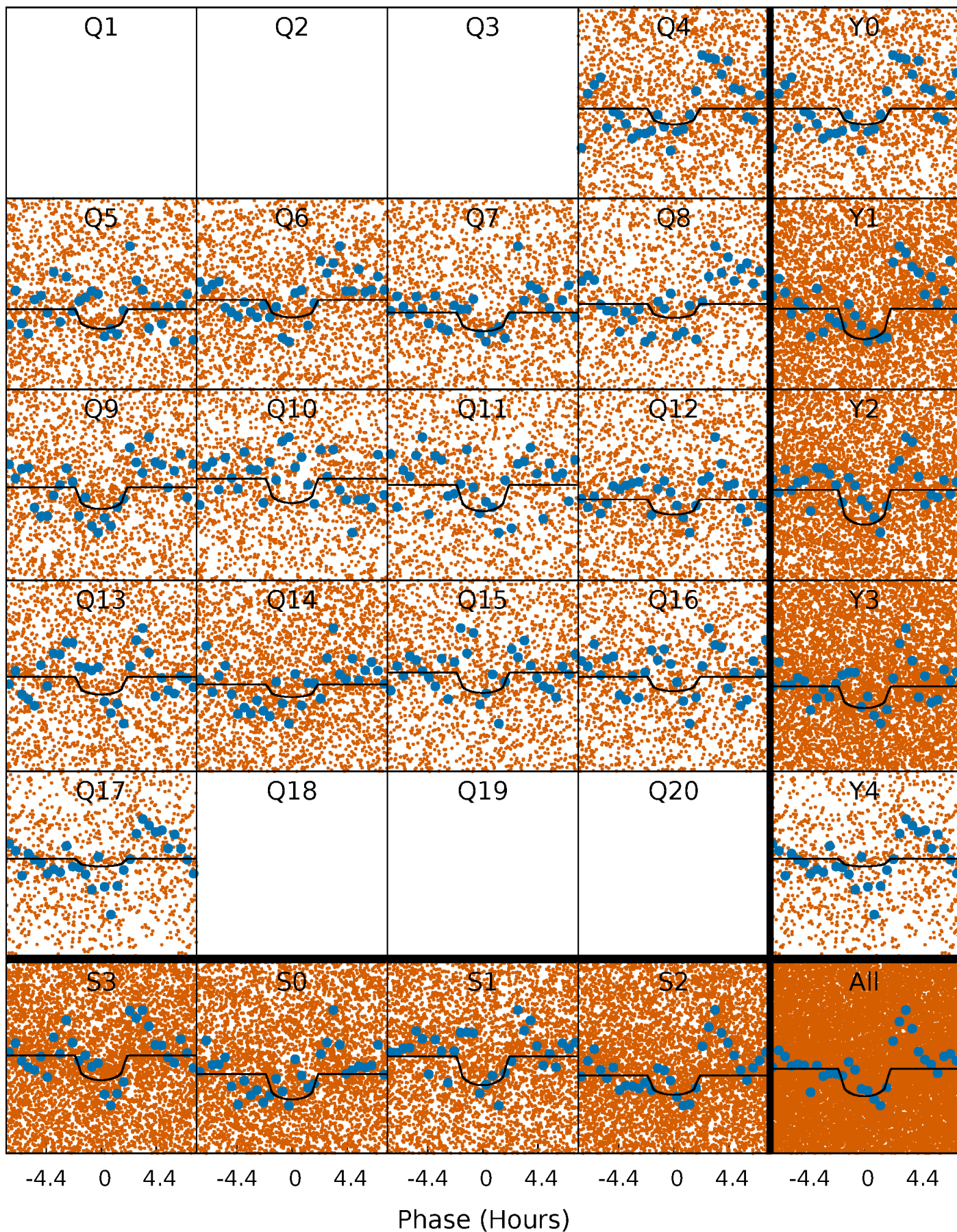
PDC Quarter-Phased Transit Curves

TCE 007116632-01 P= 0.566789 Days $T_0=131.682065$ (BKJD)



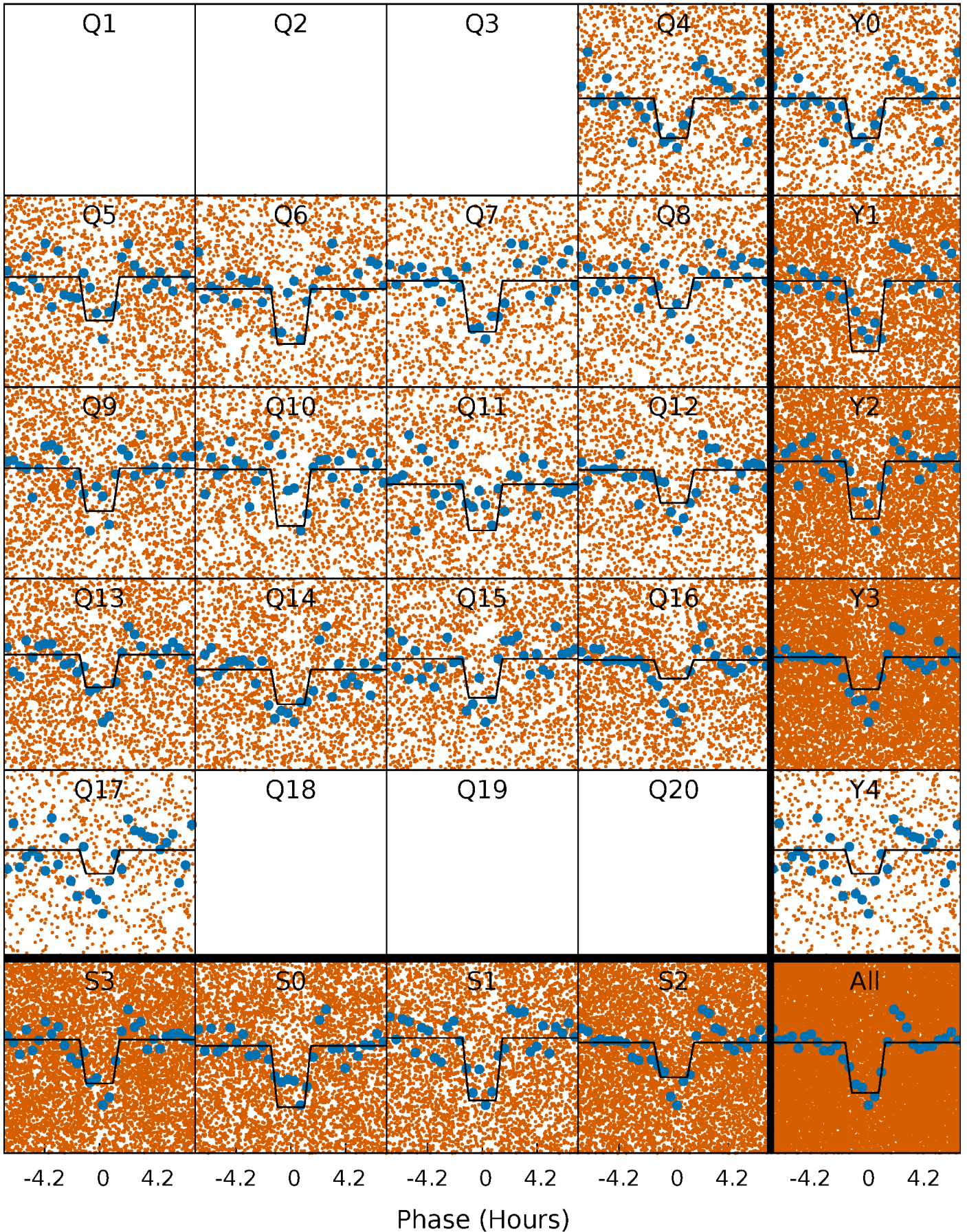
DV Quarter-Phased Transit Curves

TCE 007116632-01 P= 0.566789 Days $T_0=131.682065$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

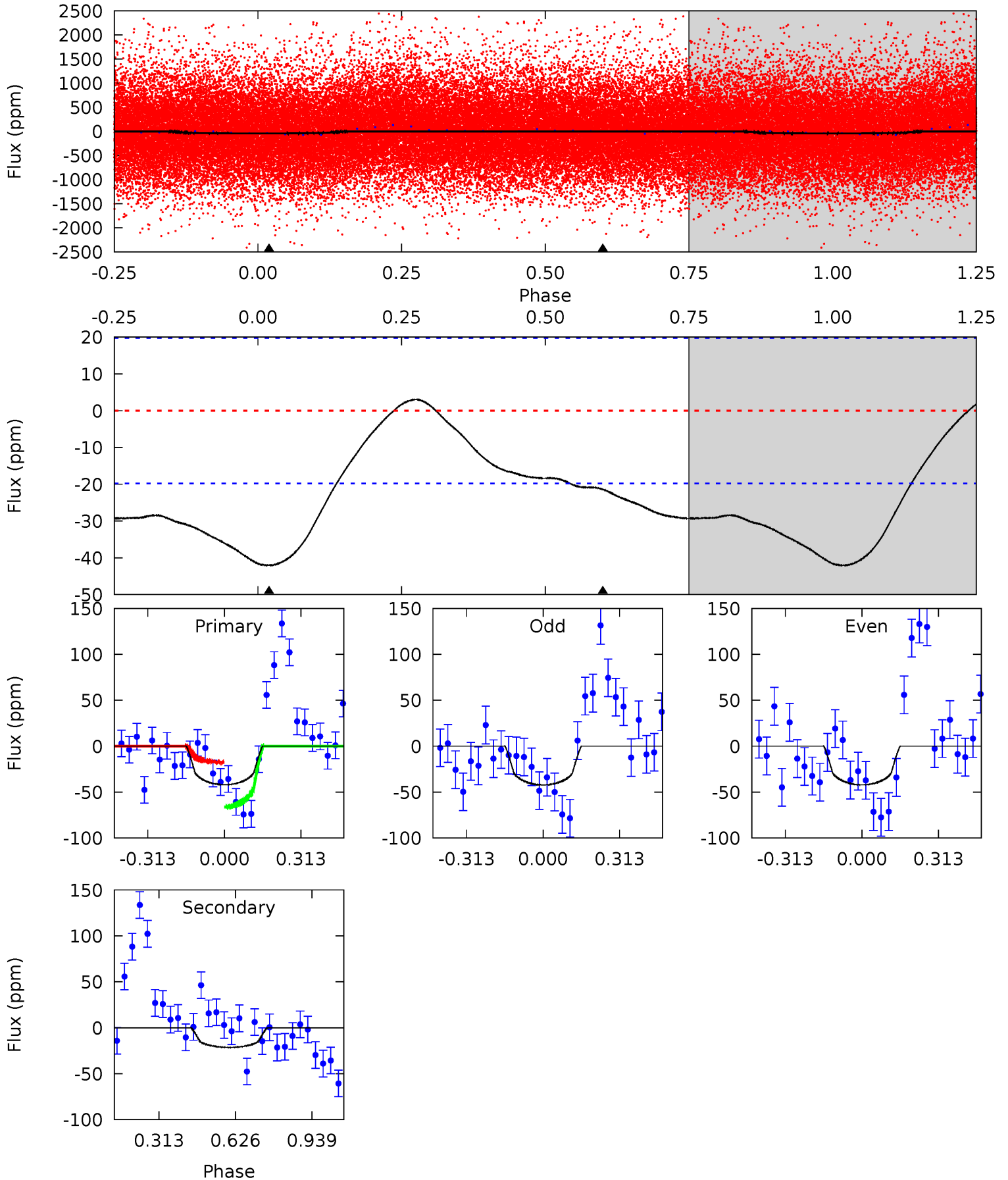
TCE 007116632-01 P= 0.566801 Days $T_0=131.693534$ (BKJD)



DV Model-Shift Uniqueness Test

007116632-01, P = 0.566789 Days, E = 131.682065 Days

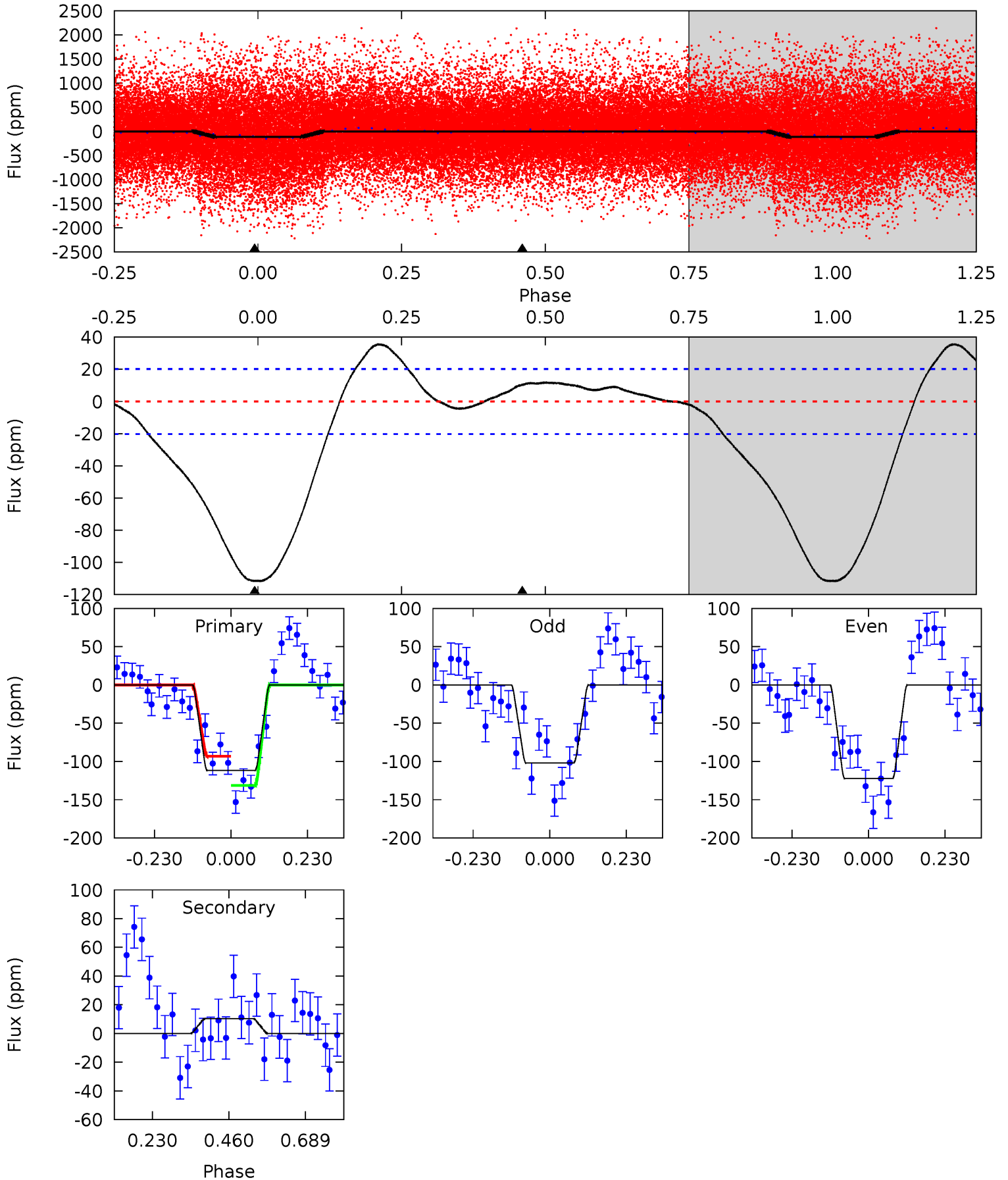
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.18	4.67	0	0	4.32	1.01	0.75	9.18	9.18	4.67	4.67	0.01	1.11	0.07	5.27



Alt Model-Shift Uniqueness Test

007116632-01, P = 0.566801 Days, E = 131.693534 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.2	-2.23	0	0	4.39	1.20	2.77	24.2	24.2	-2.23	-2.23	2.23	0.88	0.24	4.11



Stellar Parameters For KIC 007116632

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5874^{+164}_{-205}	$4.501^{+0.052}_{-0.208}$	$0.020^{+0.250}_{-0.300}$	$0.944^{+0.282}_{-0.094}$	$1.031^{+0.124}_{-0.138}$	$1.728^{+0.470}_{-0.887}$
	+3%/-3%	+1%/-5%	+1250%/-1500%	+30%/-10%	+12%/-13%	+27%/-51%
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 007116632-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-21 ± 5	$1.09^{+0.89}_{-0.69}$	3089^{+228}_{-152}	4093^{+2464}_{-1034}	$1.813^{+11.746}_{-1.283}$
Alt.	10 ± 5	$1.29^{+0.94}_{-0.77}$	3078^{+238}_{-157}	-3738^{+387}_{-1227}	$-0.564^{+0.402}_{-3.183}$

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 $A_{obs} \gg 1.0$

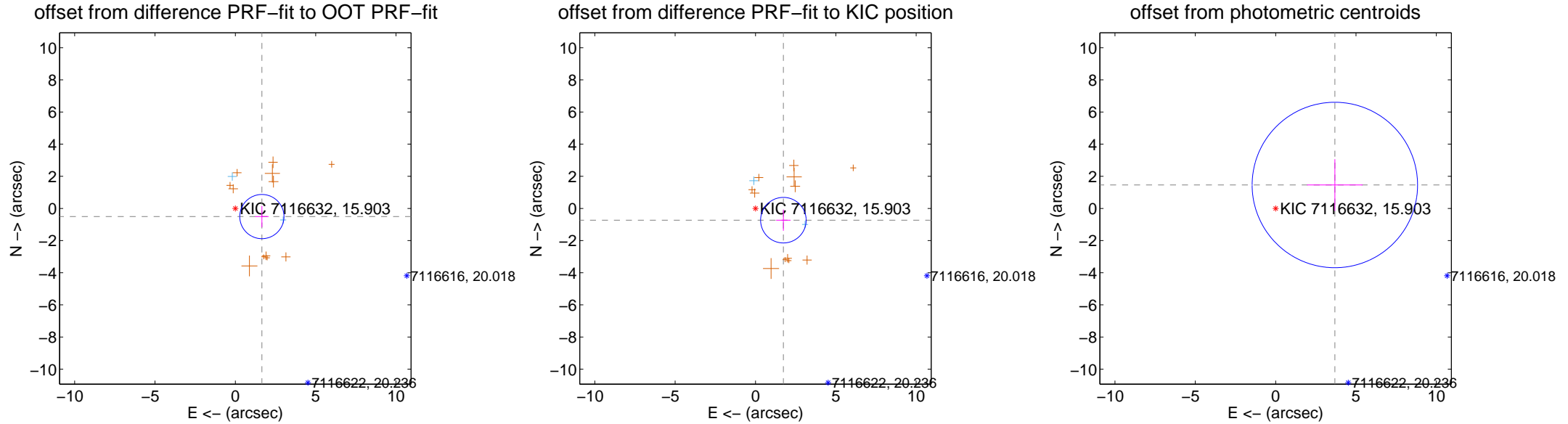
DV Centroid Data

Supplemental centroid analysis for 007116632-01. Kepler magnitude: 15.90. Transit SNR 7.31

There are 2 quarters with good PRF difference image offsets

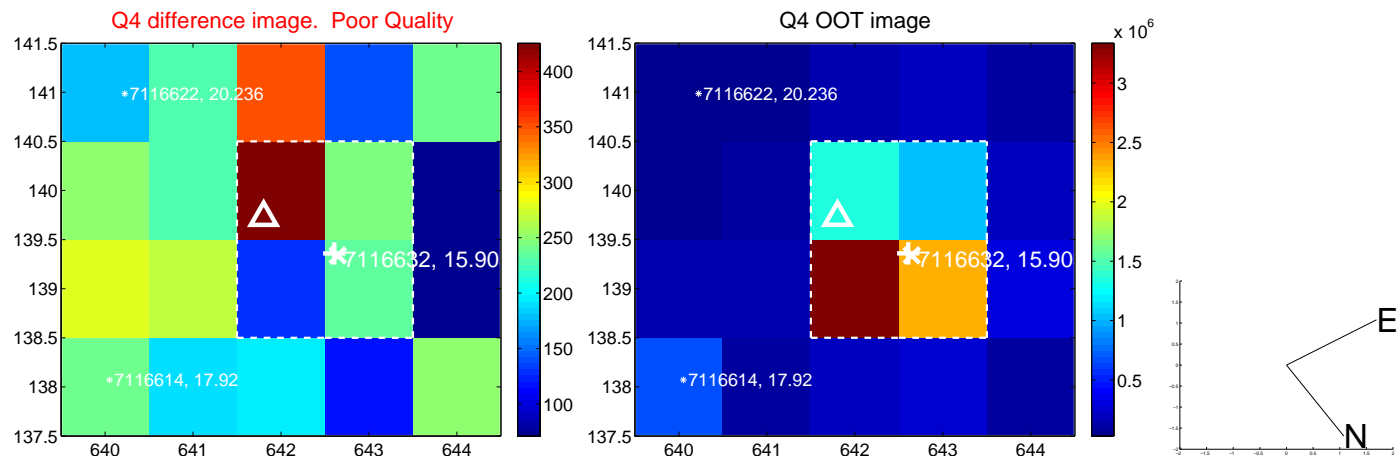
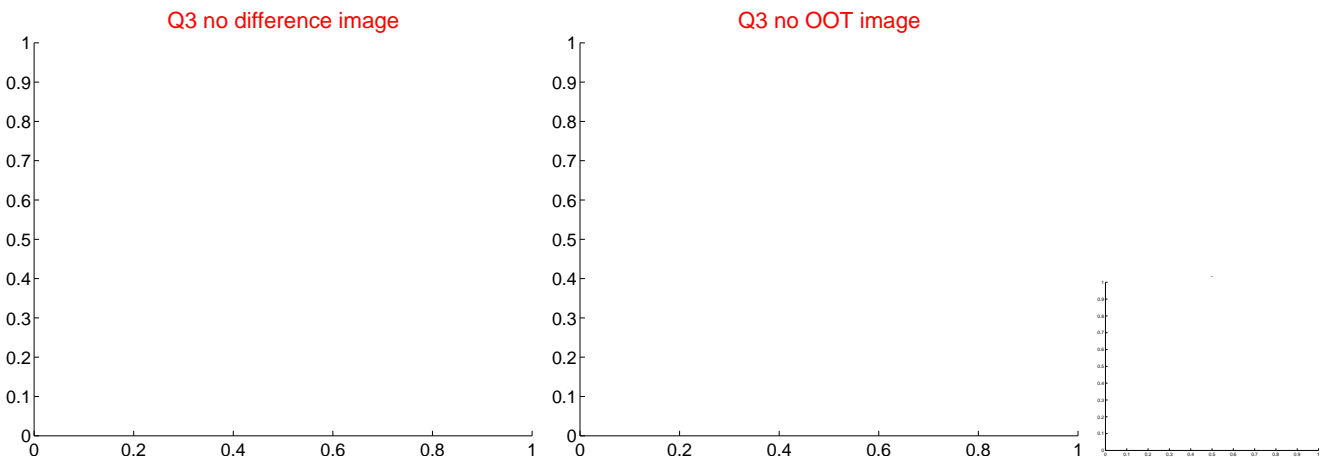
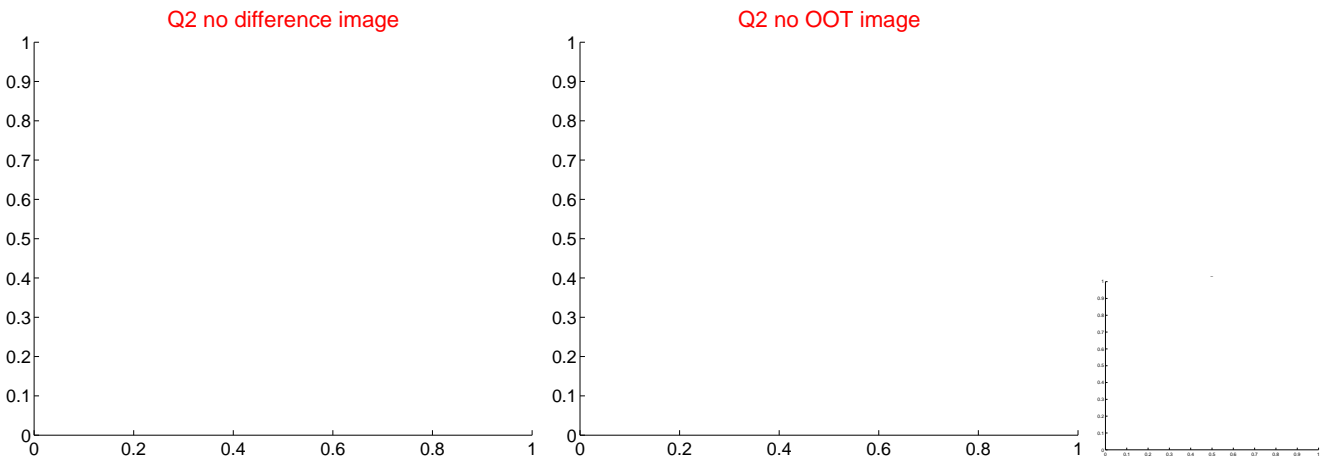
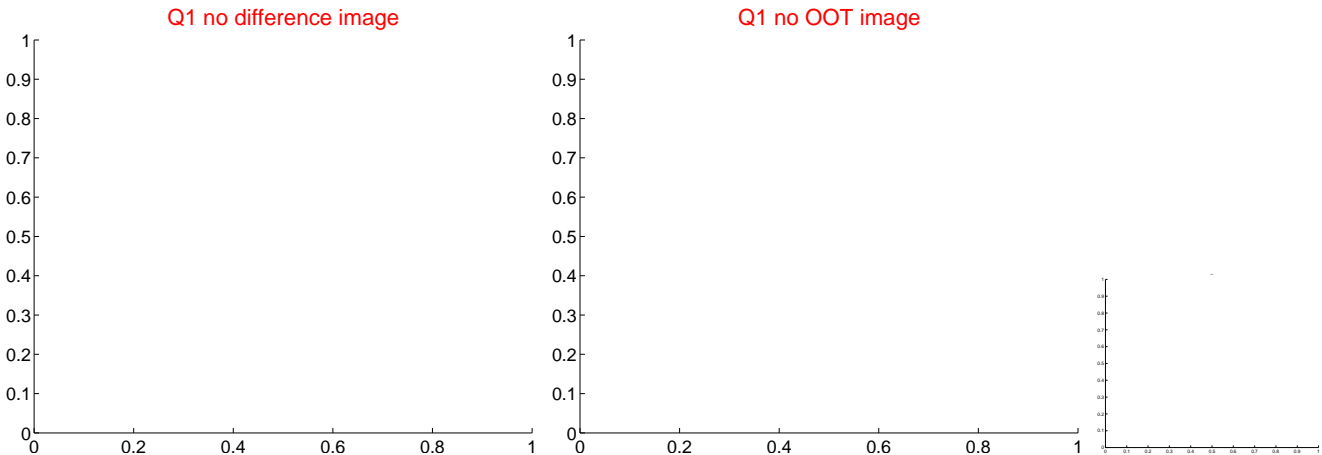
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.728 ± 0.459	3.77	-1.652 ± 0.420	-0.506 ± 0.663
PRF-fit source offset from KIC position	1.883 ± 0.472	3.98	-1.736 ± 0.448	-0.730 ± 0.659
photometric centroid source offset	3.96 ± 1.72	2.31	-3.68 ± 1.73	1.46 ± 1.61

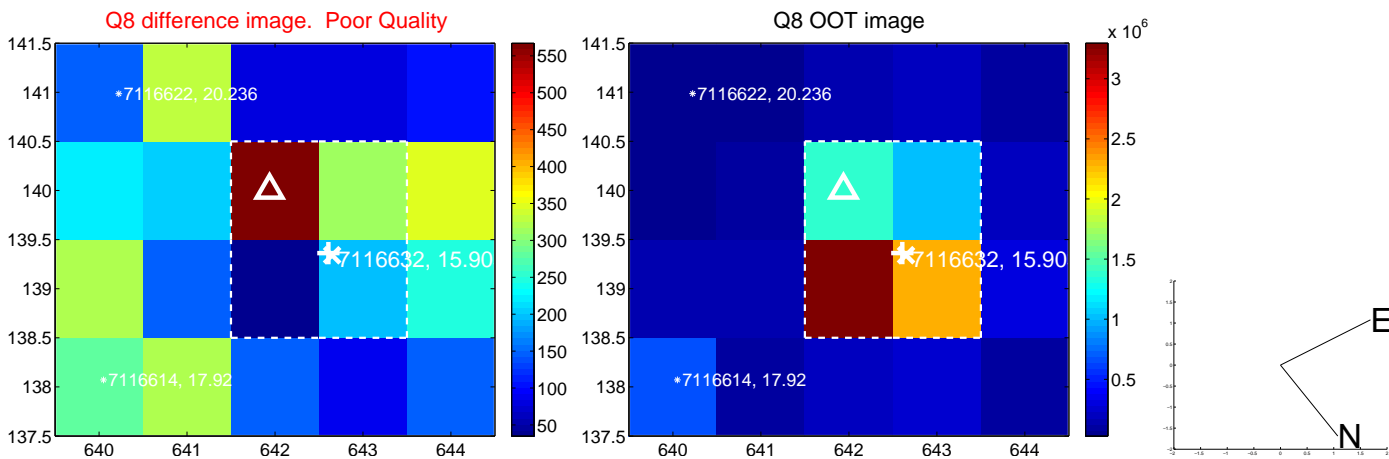
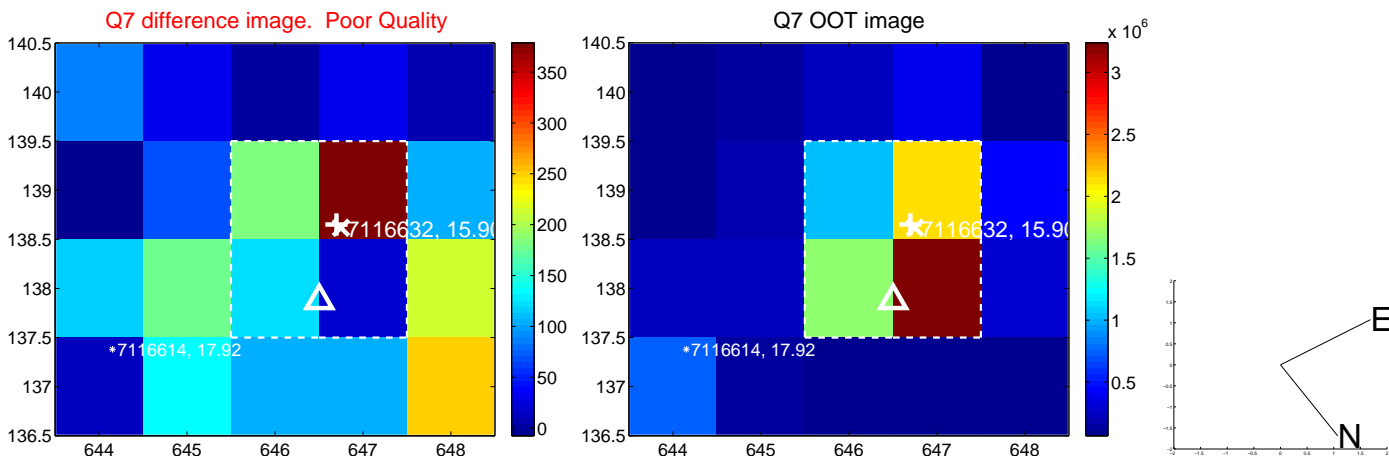
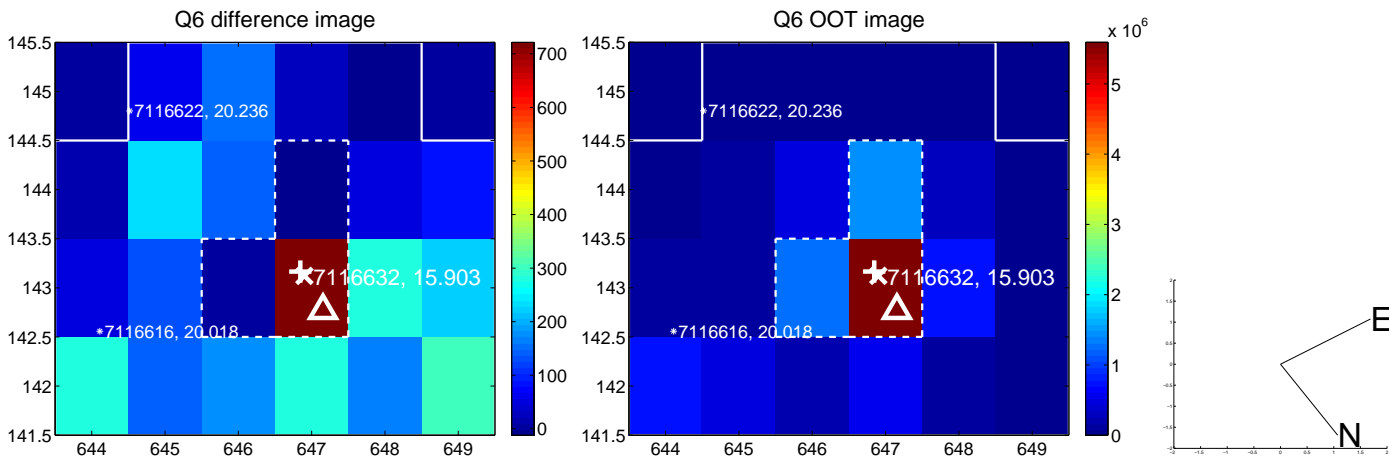
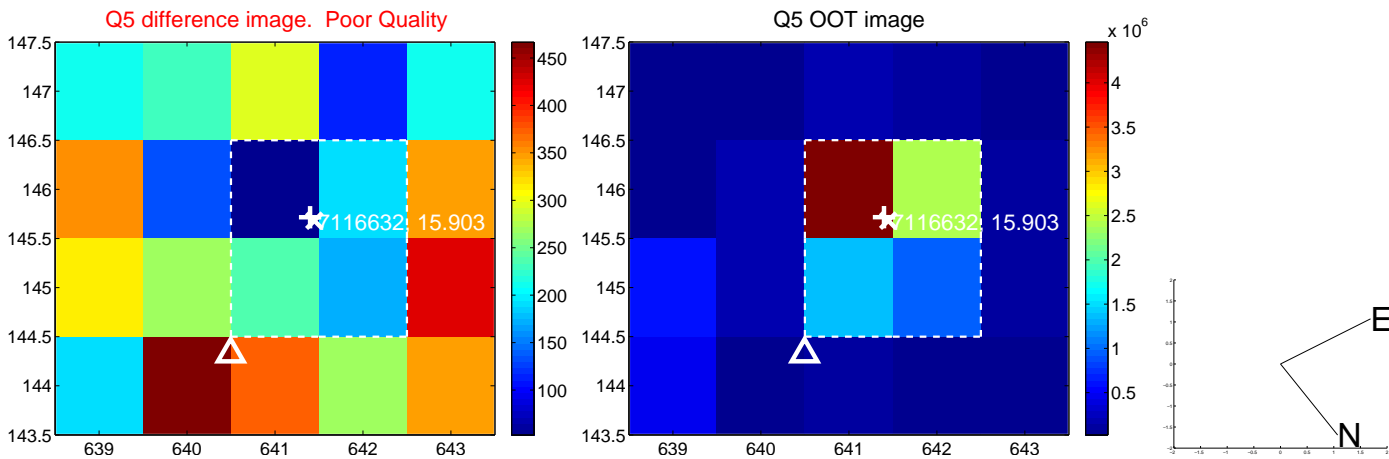


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

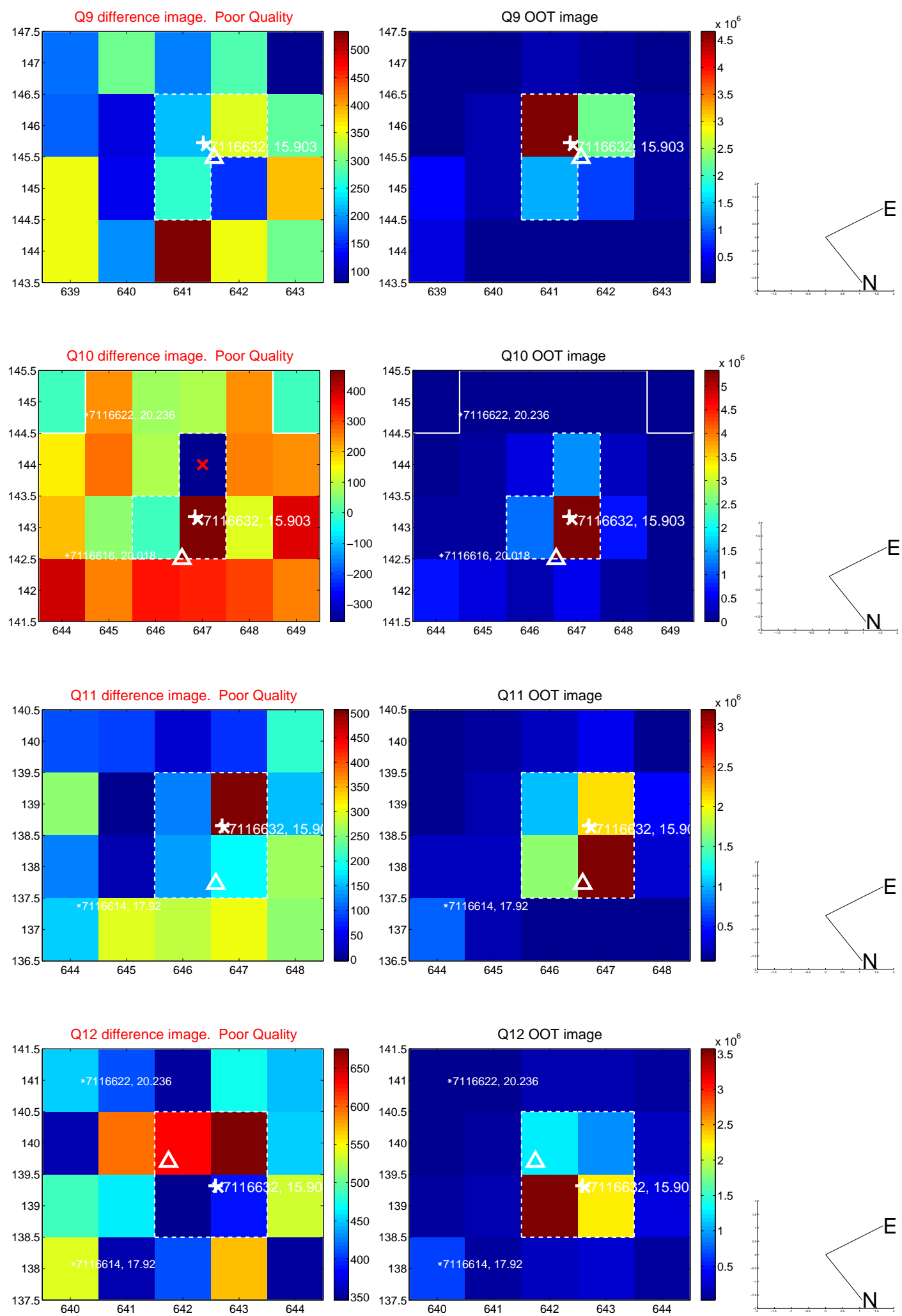
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



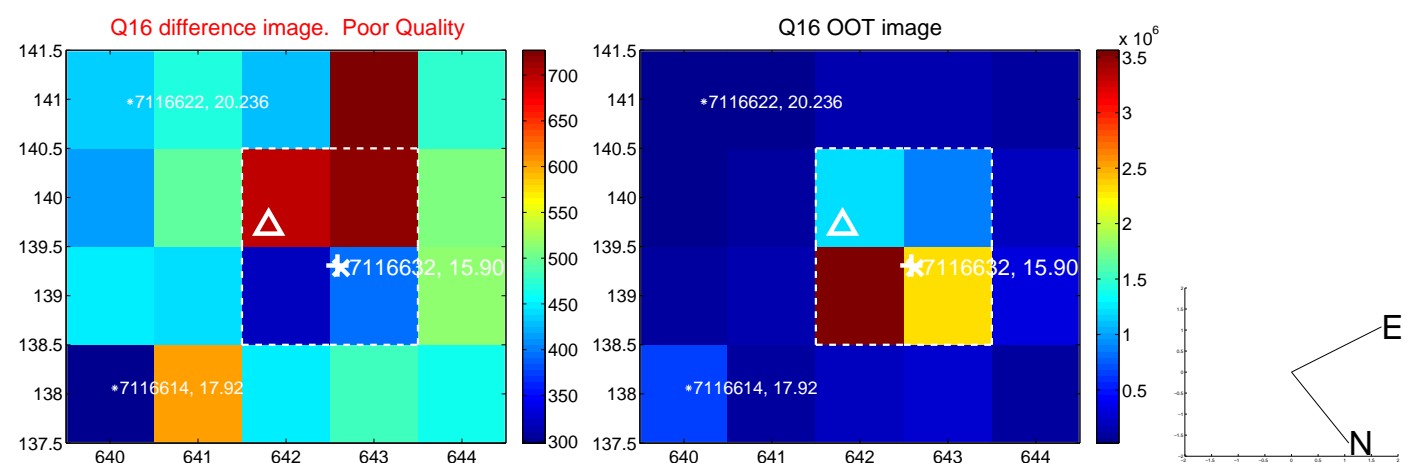
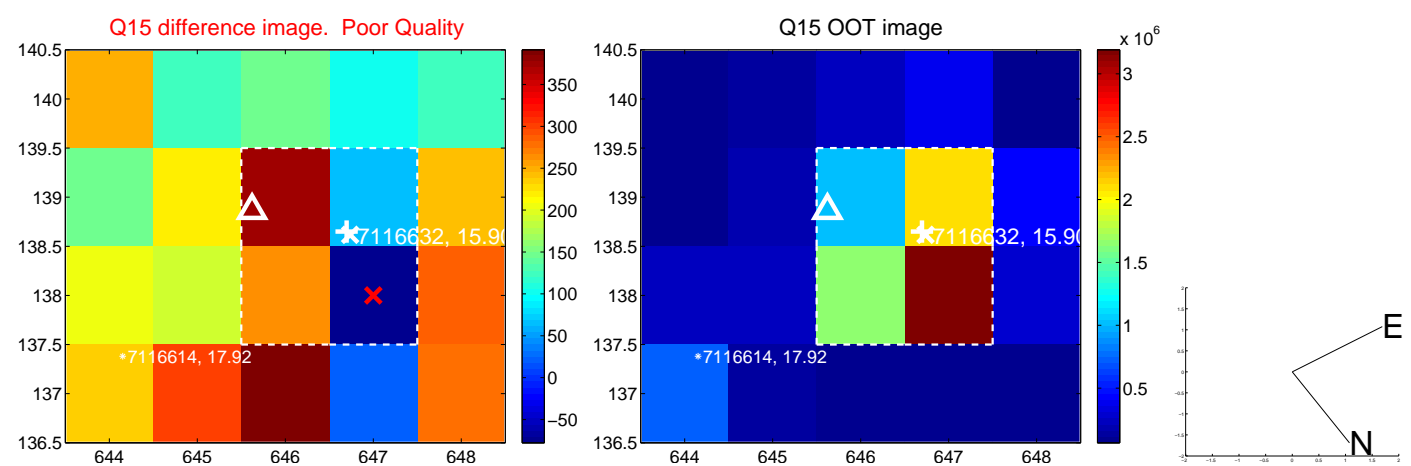
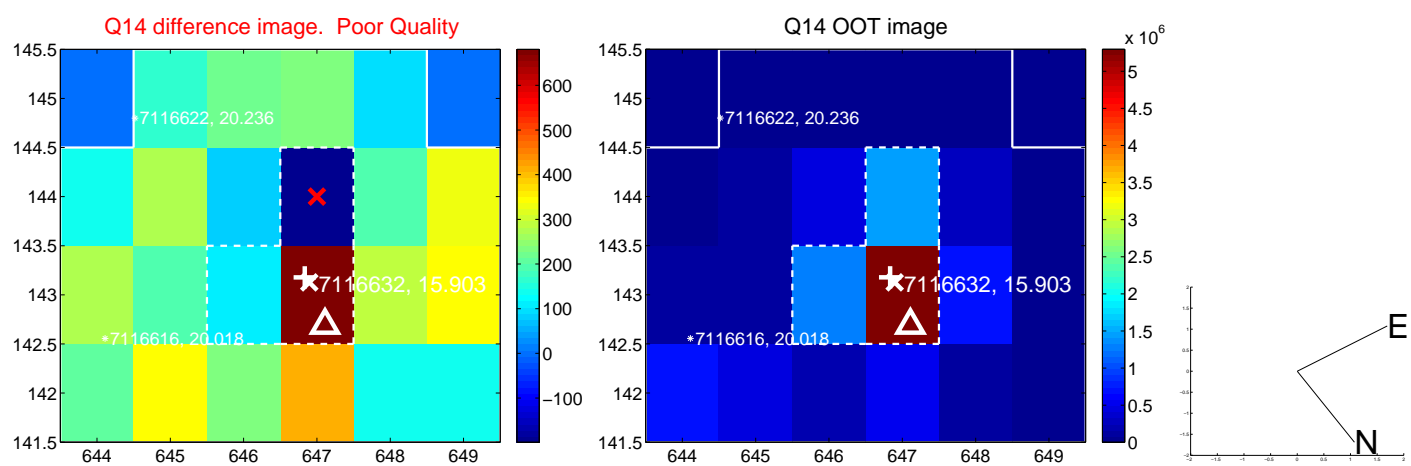
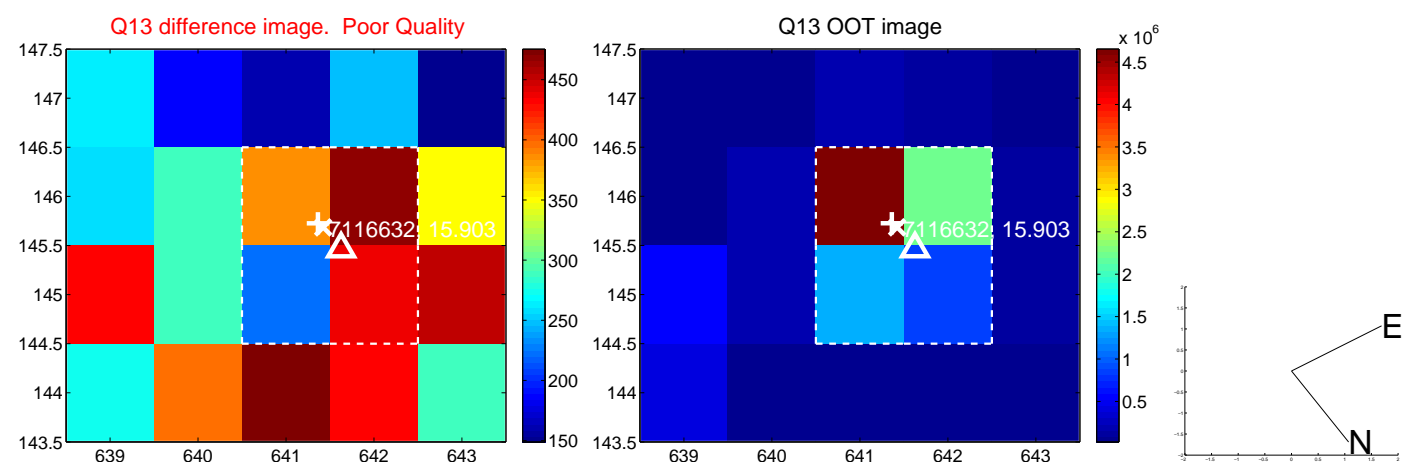
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



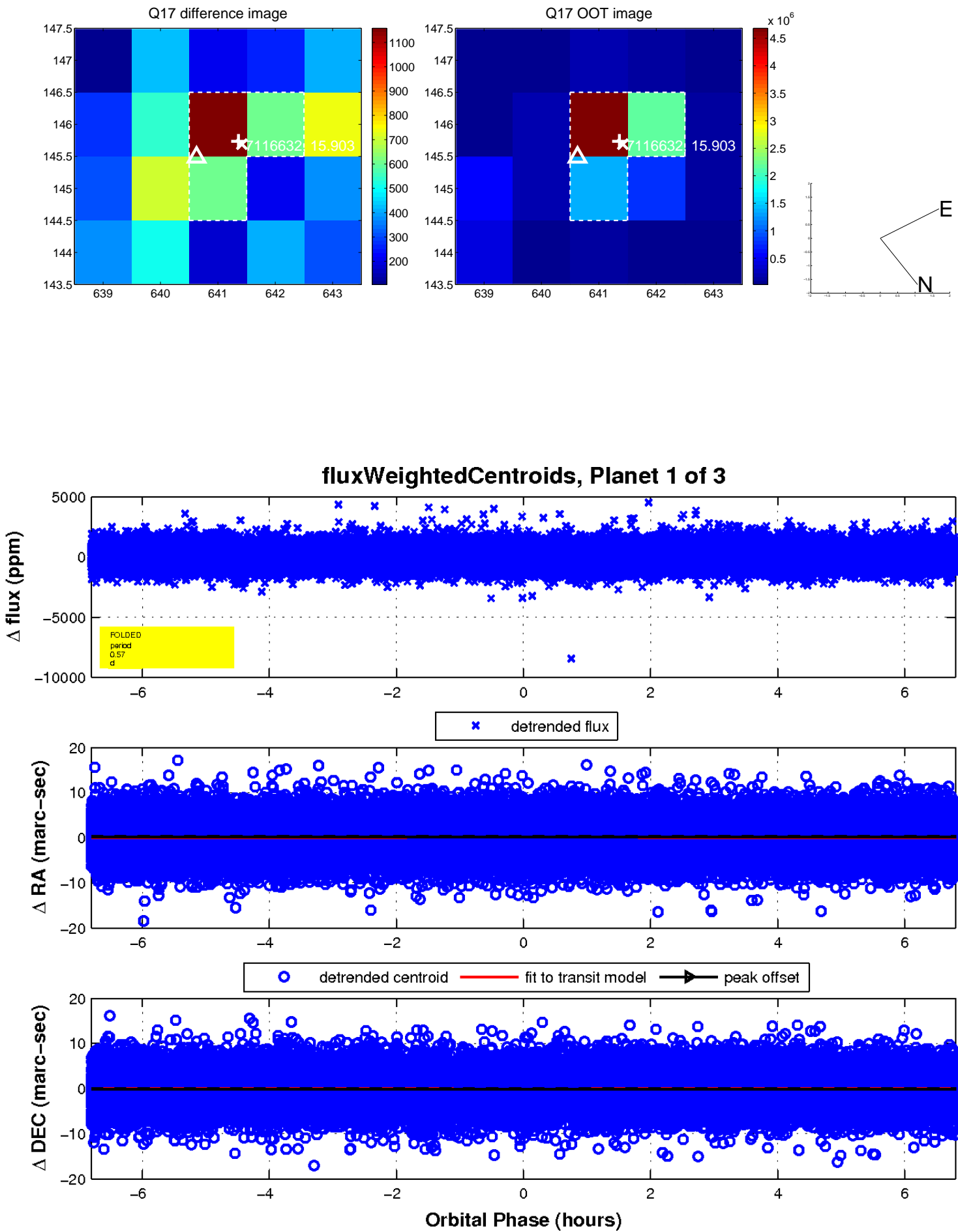
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



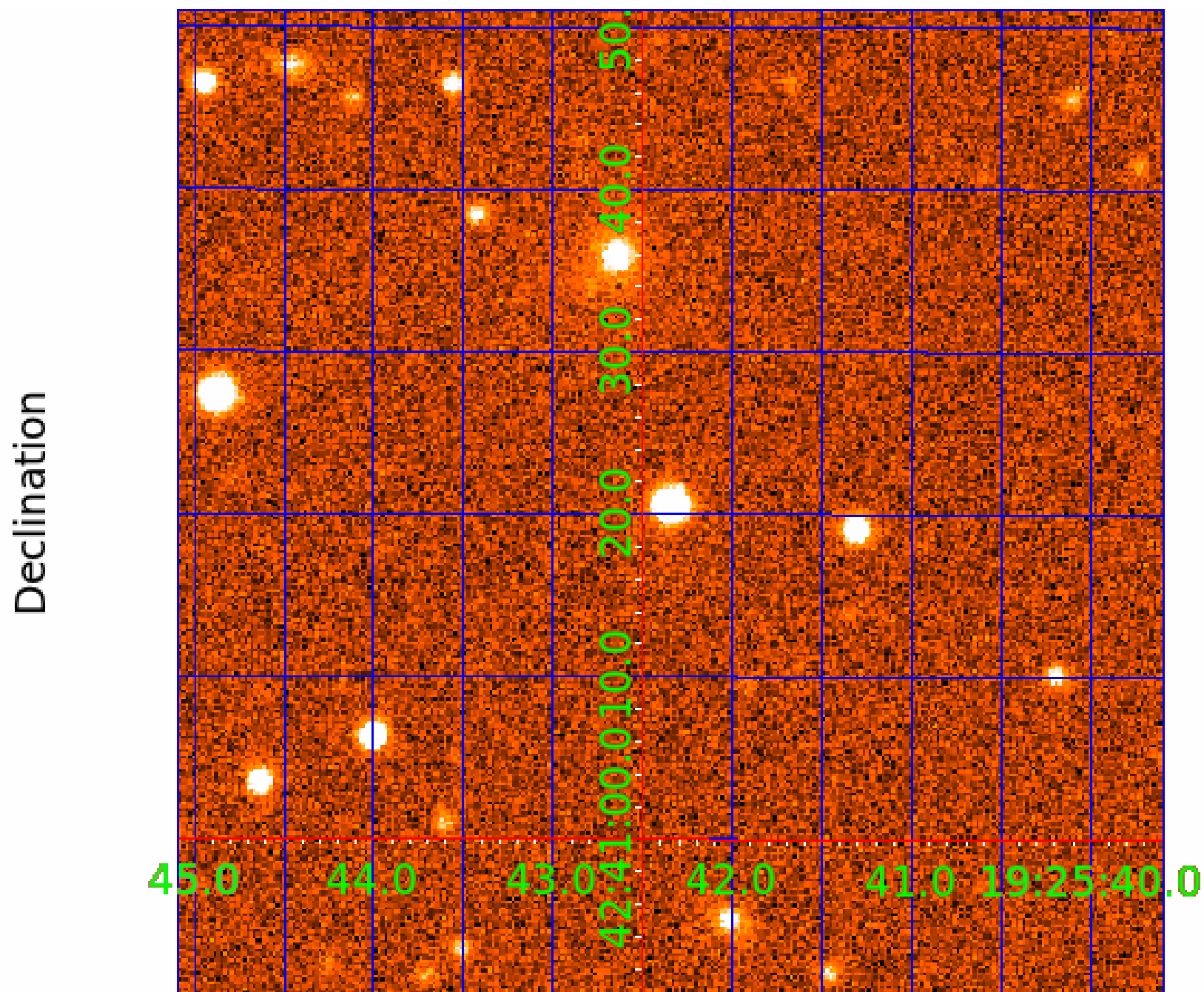
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 007116632

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})
007116632-01	OBS	No	0.566789	131.682065	53.8	3.818	8.7	7.3	0.94	5874	0.74	5184.61
007116632-02	OBS	No	36.448922	154.862009	498.4	9.446	10.4	3.9	0.94	5874	2.21	20.12
007116632-03	OBS	No	30.129596	152.141135	645.2	7.136	8.8	4.9	0.94	5874	2.69	25.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007116632-01	OBS	FP	0.00	1	0	0	1	LPP_DV—CENT_FEW_DIFFS—EPHEM_MATCH
007116632-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007116632-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

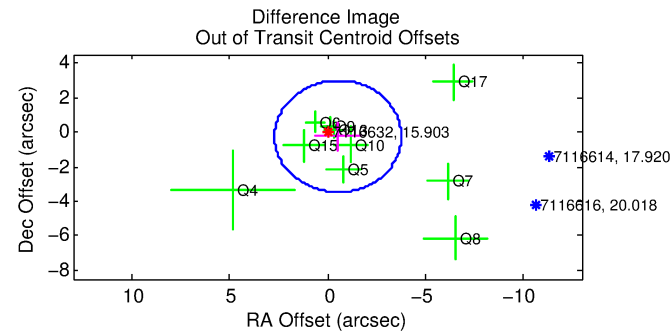
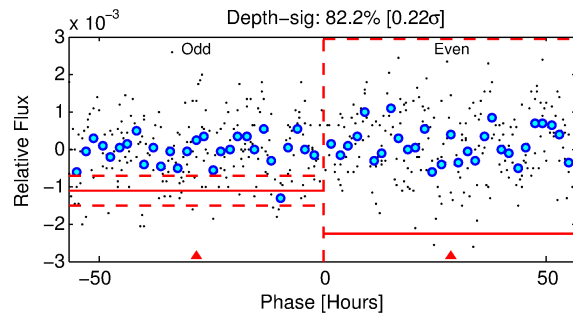
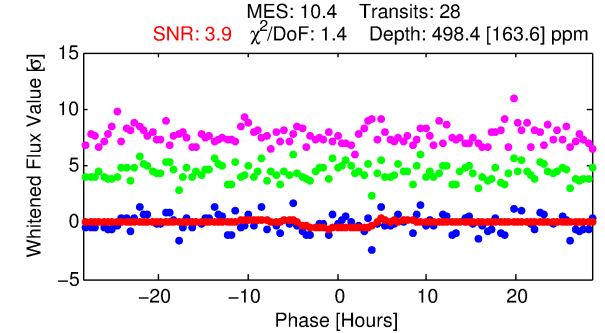
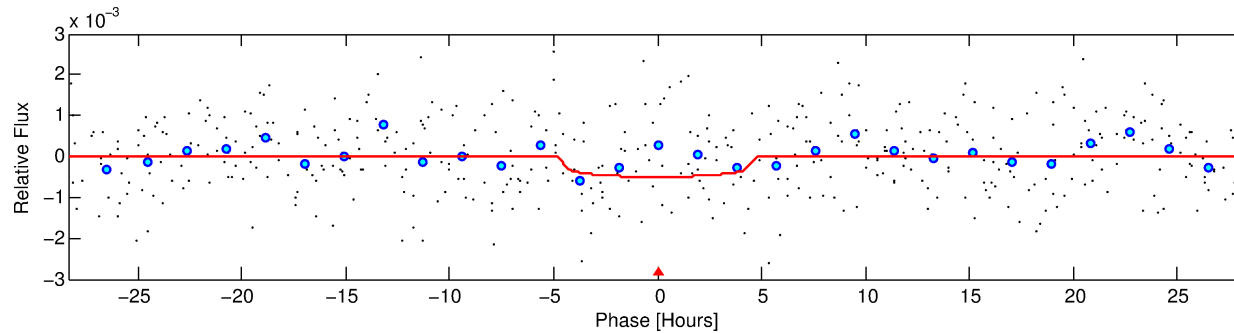
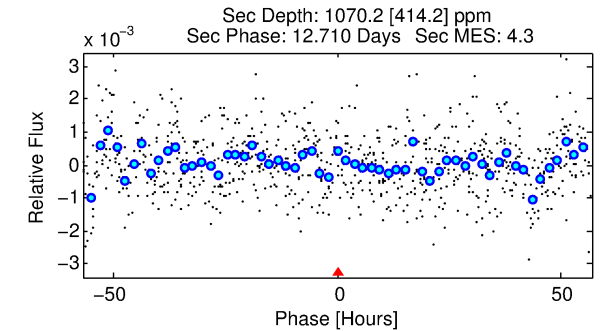
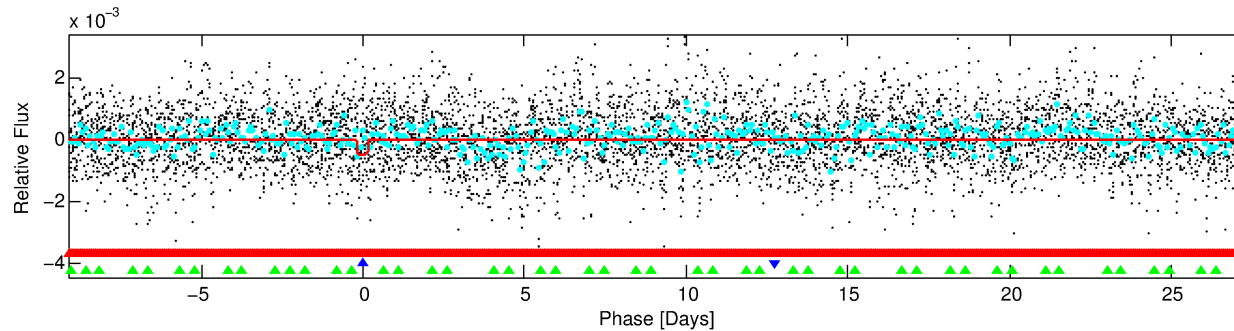
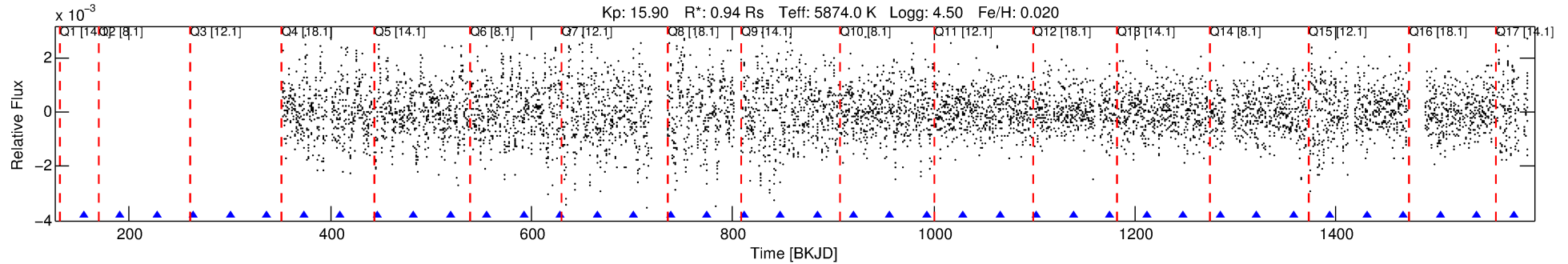
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007116632-02

No Significant Match Found

DV One-Page Summary

KIC: 7116632 Candidate: 2 of 3 Period: 36.449 d



DV Fit Results:

Period = 36.44892 [0.00295] d
Epoch = 154.8620 [0.0779] BKJD
Rp/R* = 0.0215 [0.0381]
a/R* = 23.45 [186.48]
b = 0.64 [7.36]
Seff = 20.12 [8.08]
Teq = 540 [54] K
Rp = 2.21 [3.98] Re
a = 0.2173 [0.0555] AU
Ag = 5670.34 [20327.70] [0.28σ]
Teffp = 7246 [6463] K [1.04σ]

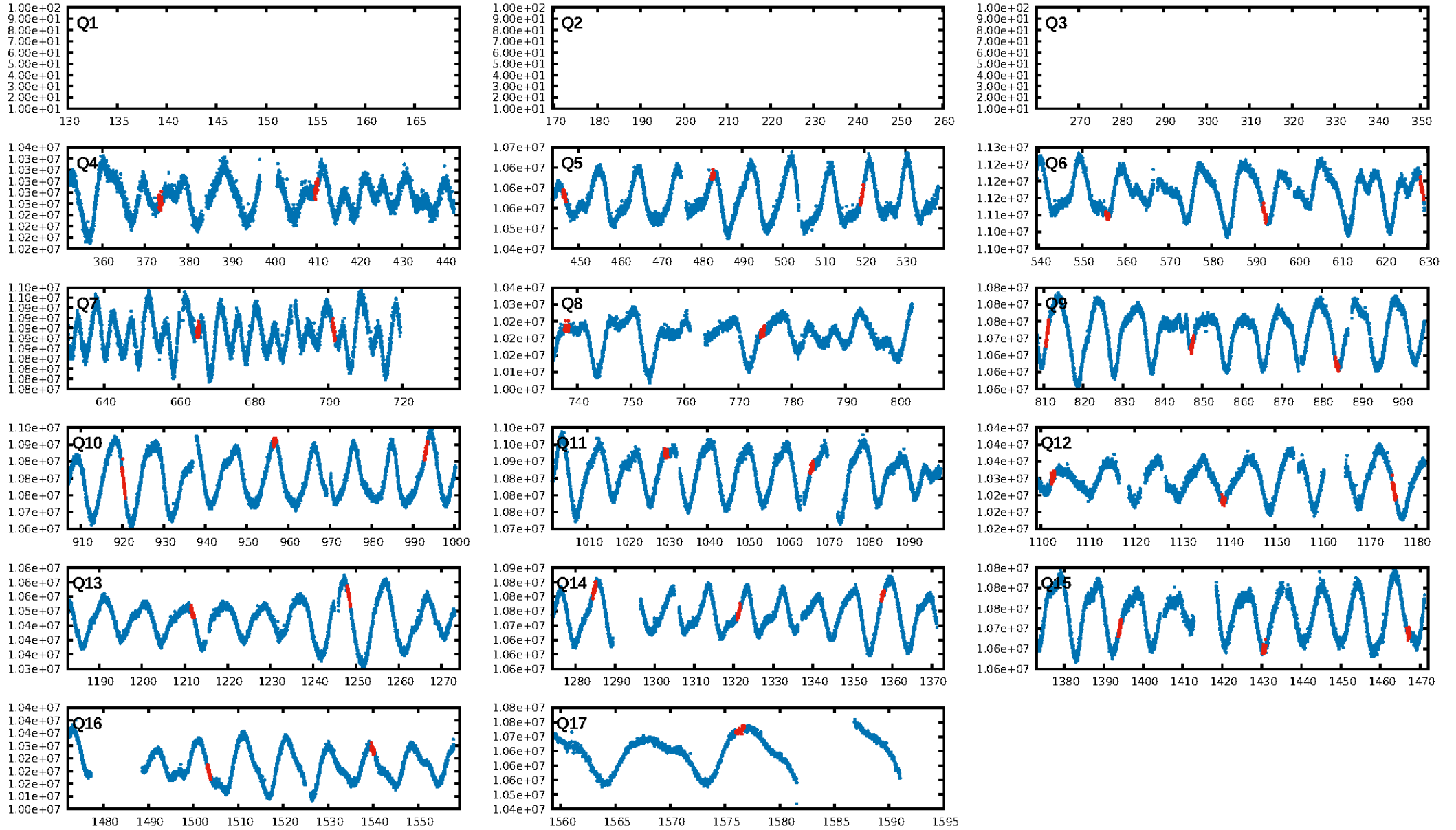
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [12.81σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.40e-23
RollingBand-fgt: 1.00 [27/27]
GhostDiagnostic-chr: -6.266
Centroid-sig: 10.0%
Centroid-so: 0.756 arcsec [0.94σ]
OotOffset-rm: 0.589 arcsec [0.55σ]
OotOffset-st: 2/2/2/4 [10]
KicOffset-rm: 0.810 arcsec [0.90σ]
KicOffset-st: 2/2/2/4 [10]
DiffImageQuality-fgm: 0.30 [3/10]
DiffImageOverlap-fno: 0.00 [0/14]

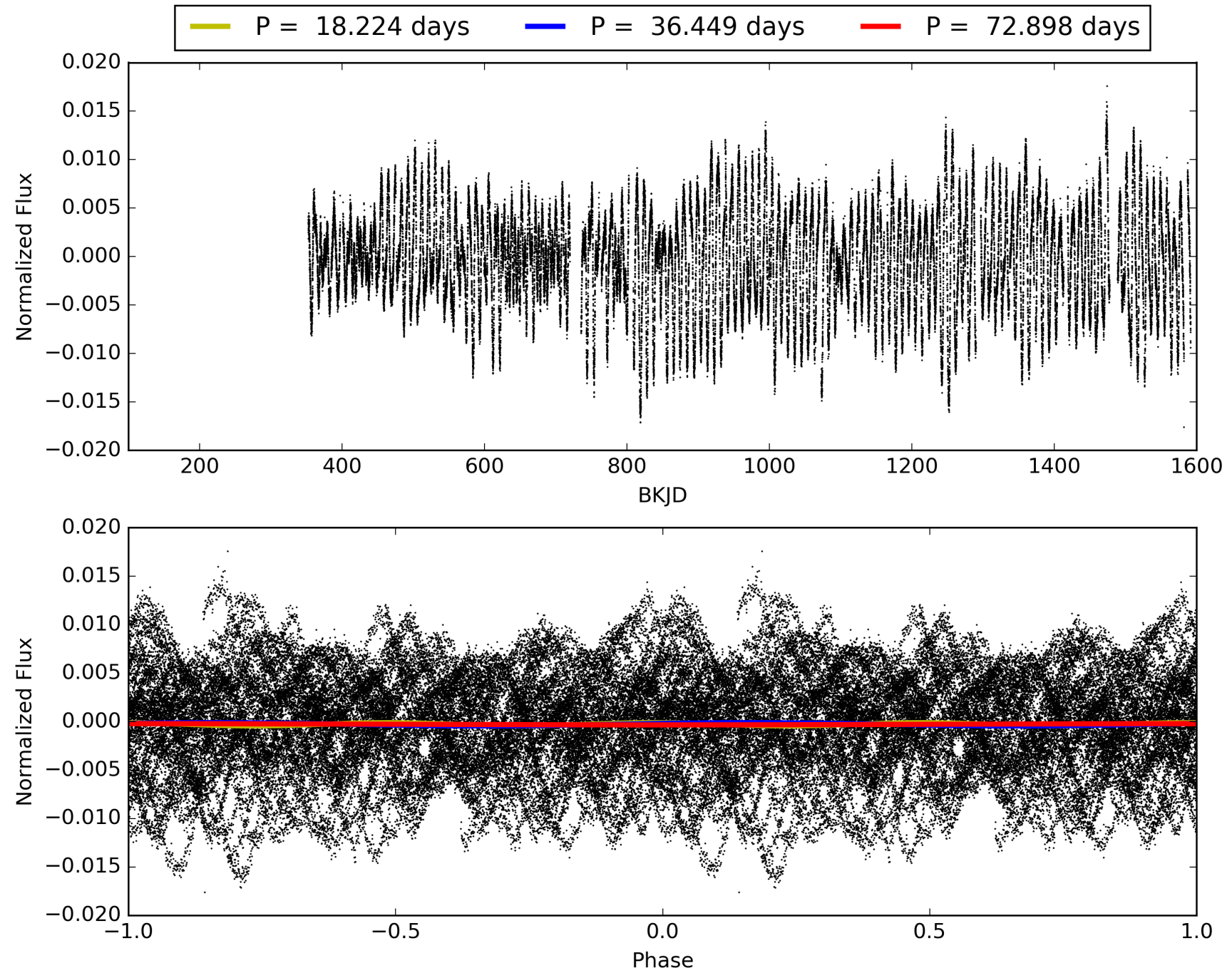
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:51:33 Z

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

TCE 007116632-02, PDC Light Curves

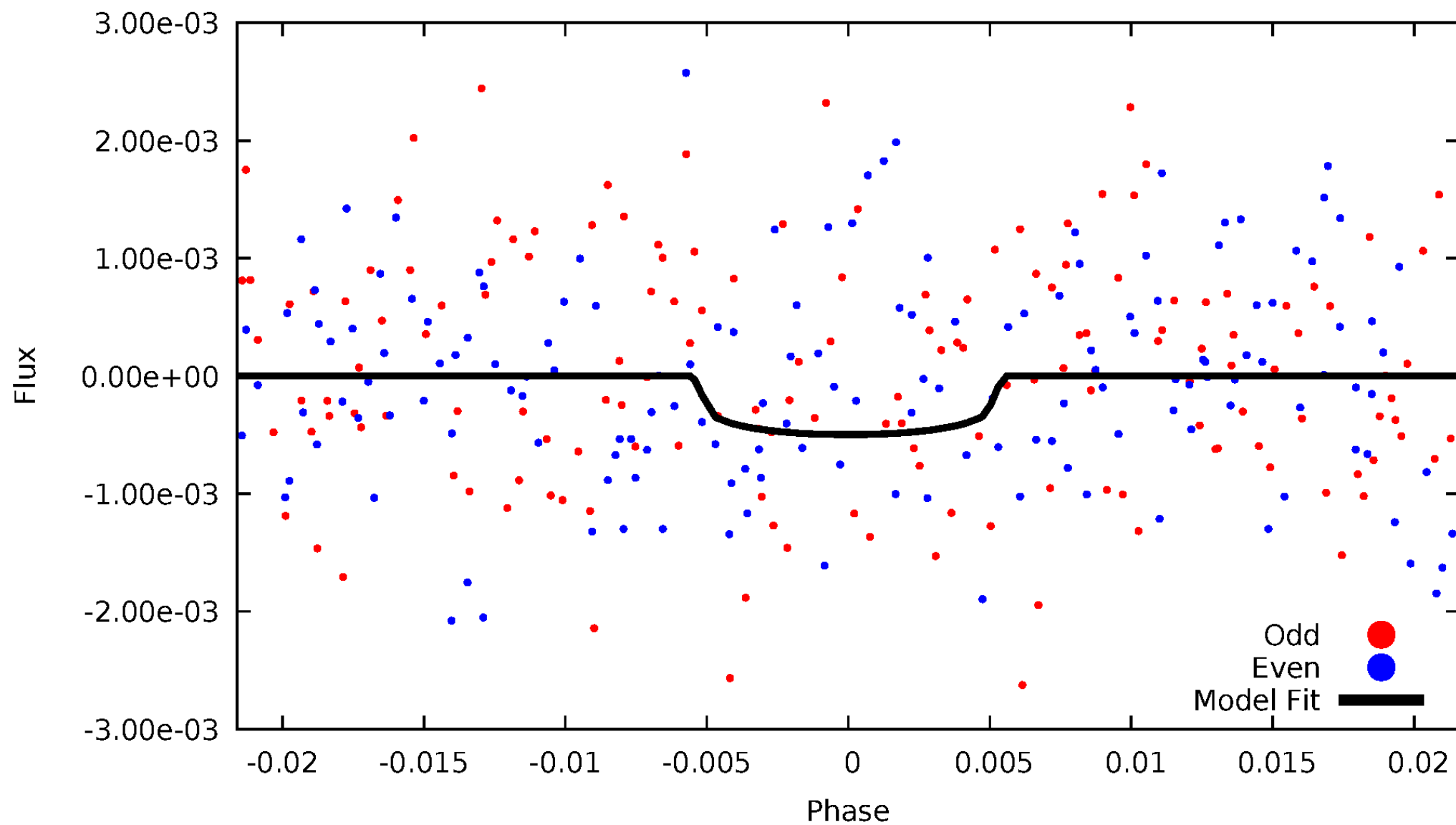


TCE 007116632-02



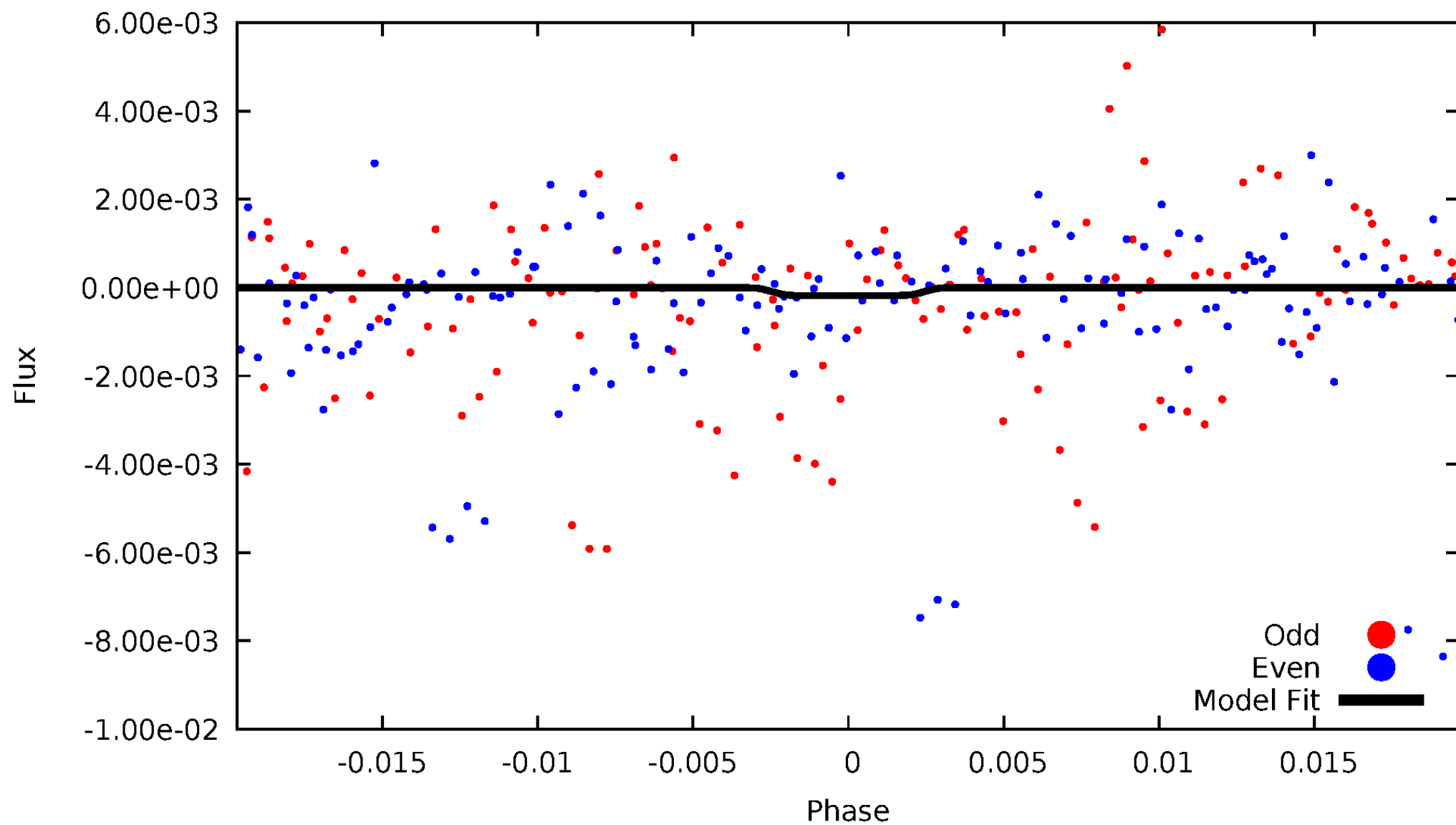
DV Odd/Even

TCE 007116632-02



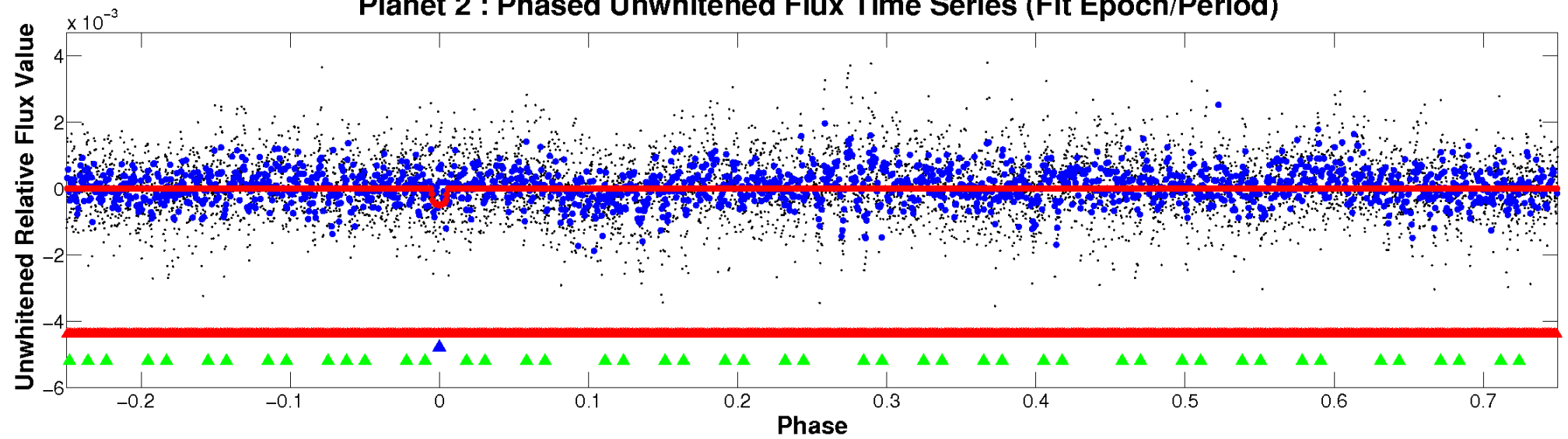
ALT Odd/Even

TCE 007116632-02

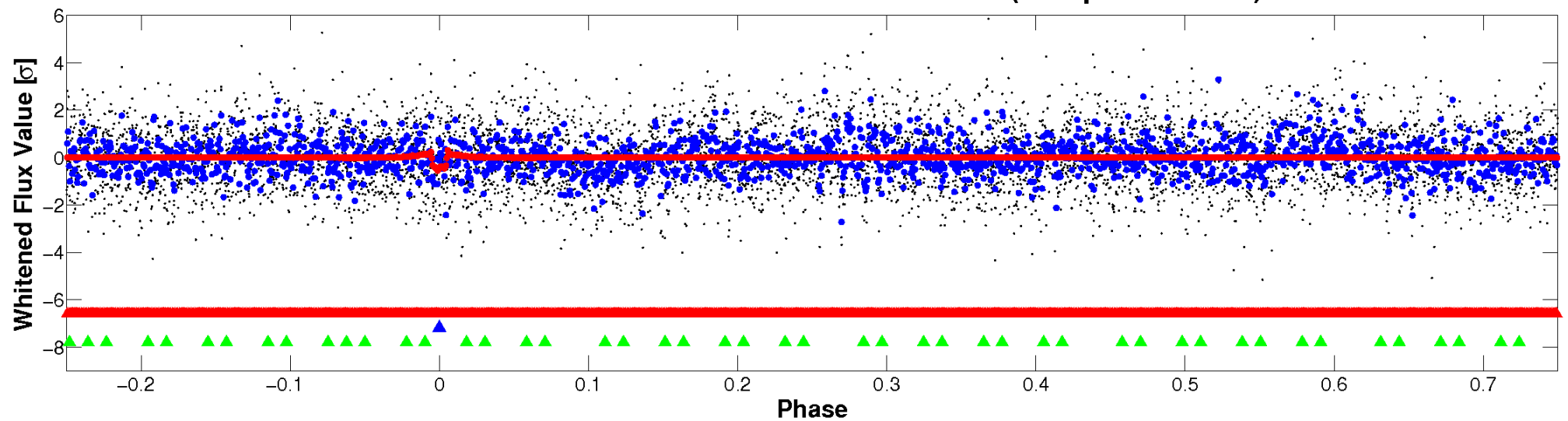


Non-Whitened Vs. Whitened Light Curve

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

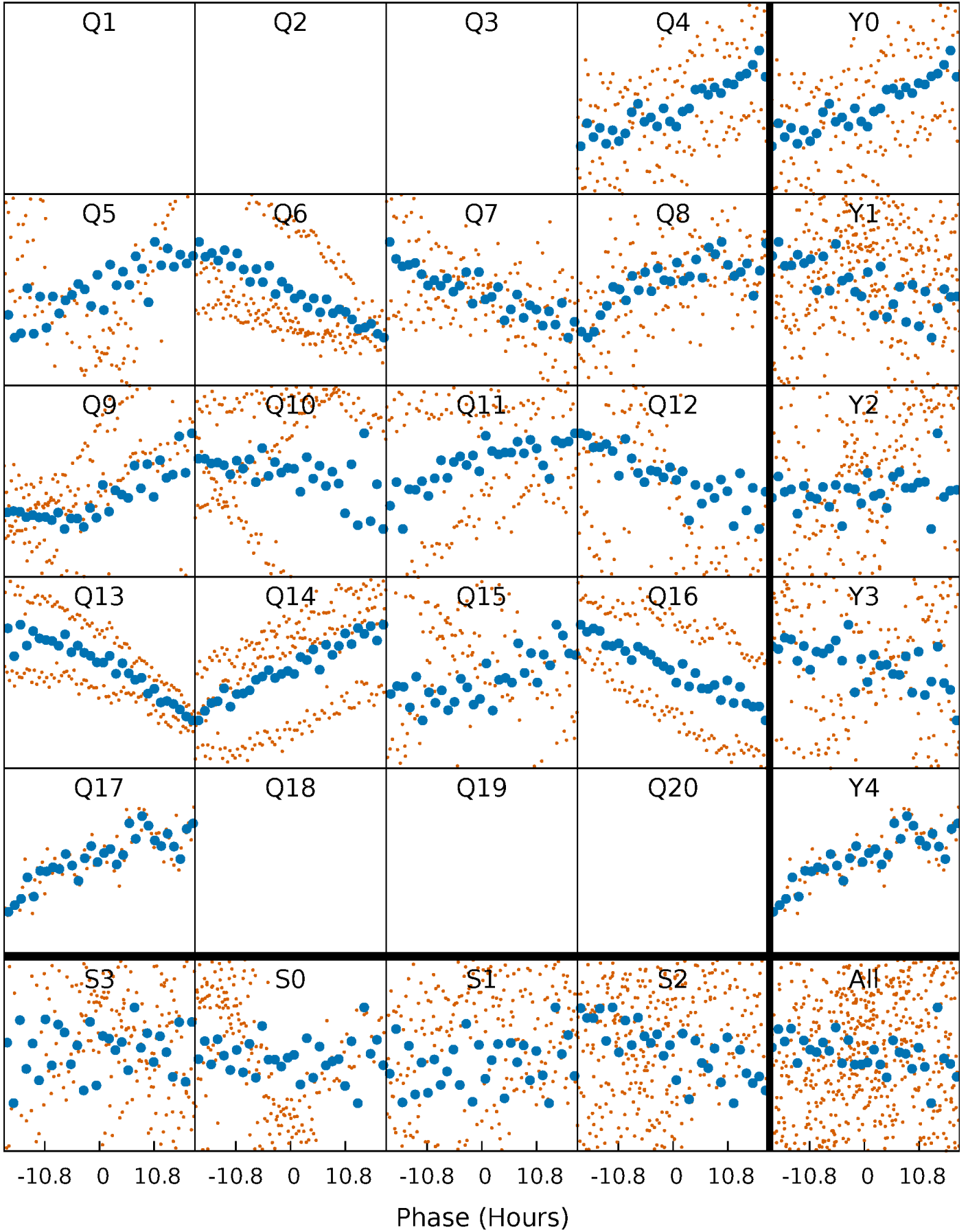


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



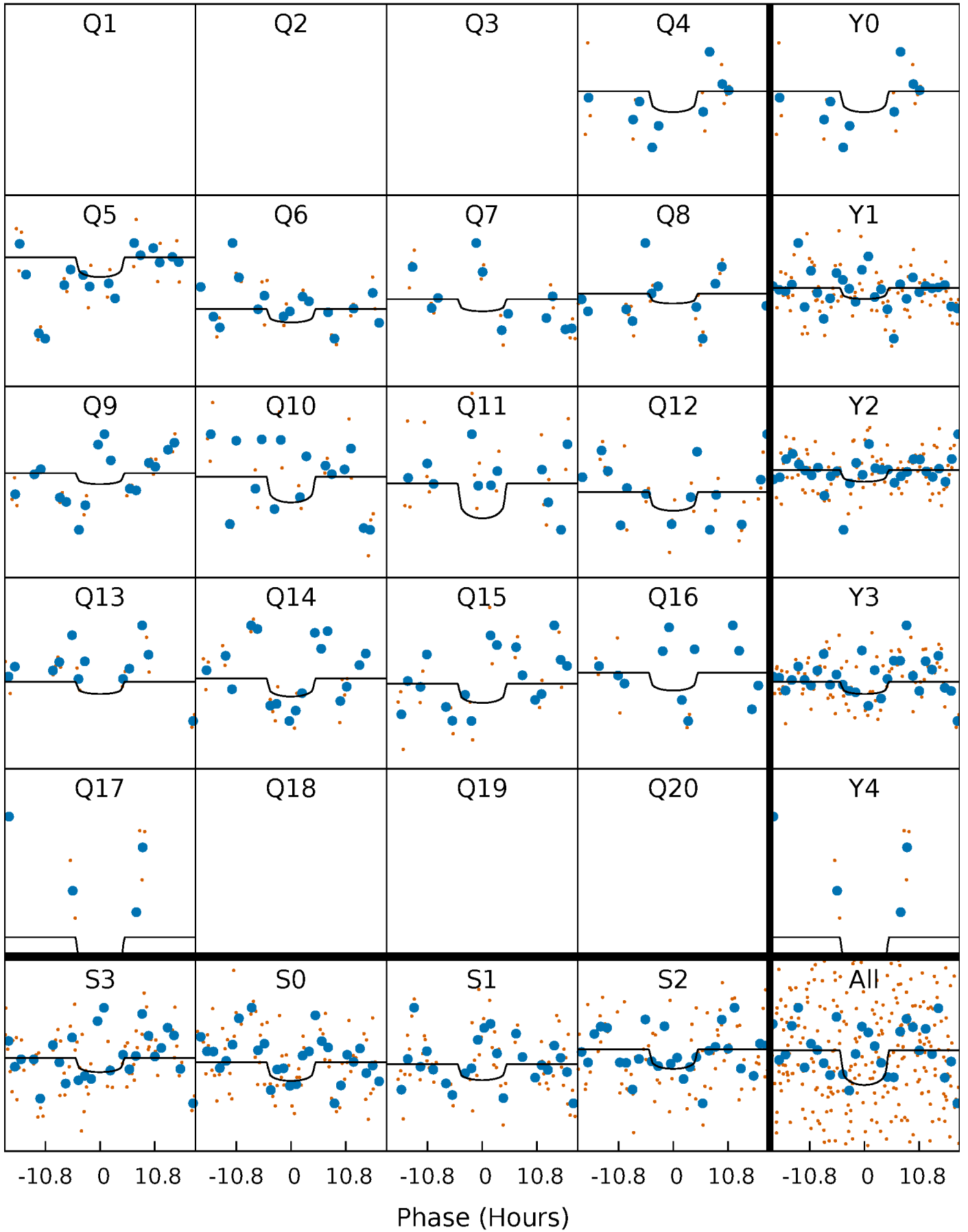
PDC Quarter-Phased Transit Curves

TCE 007116632-02 $P = 36.448922$ Days $T_0 = 154.862009$ (BKJD)



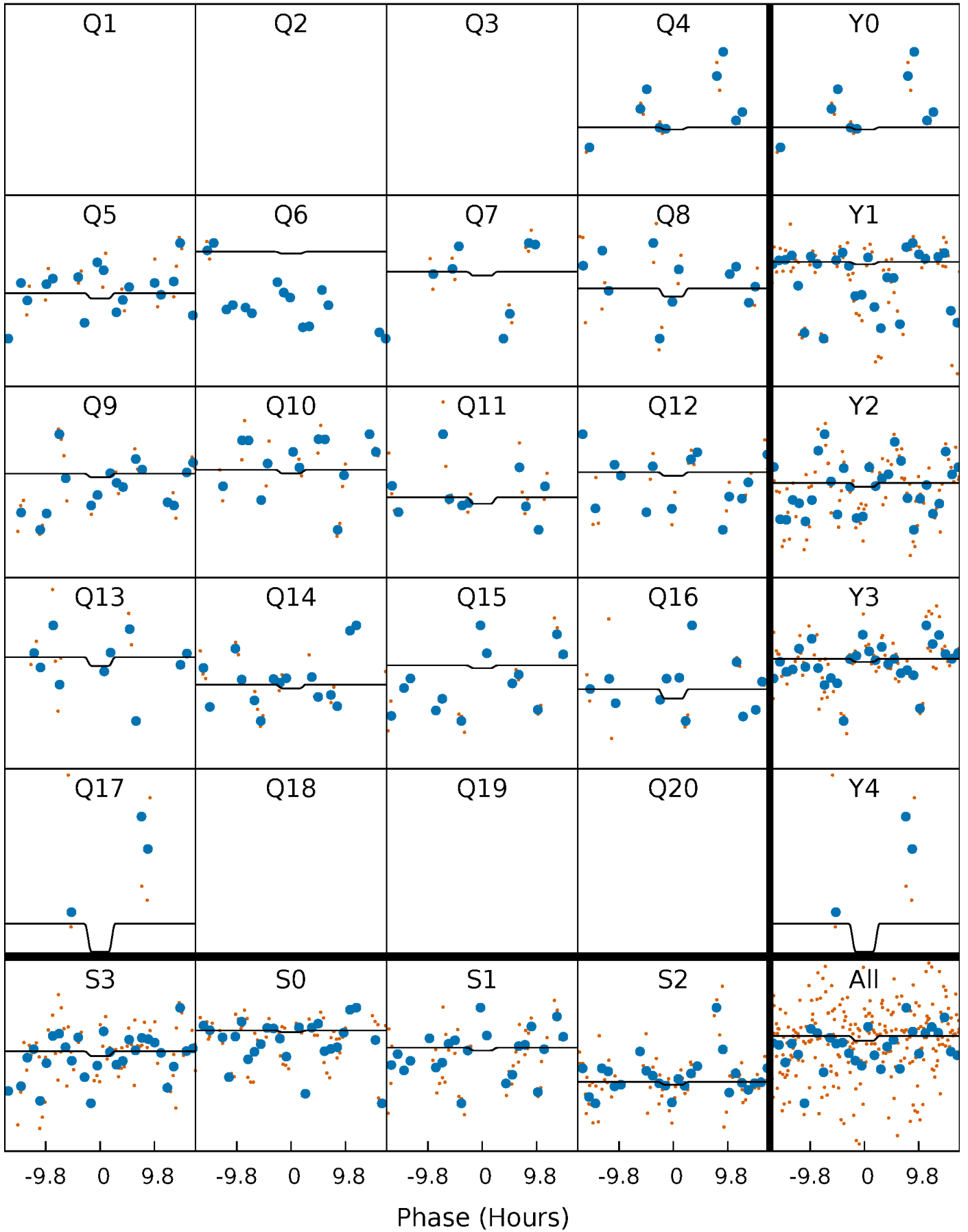
DV Quarter-Phased Transit Curves

TCE 007116632-02 P= 36.448922 Days $T_0=154.862009$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

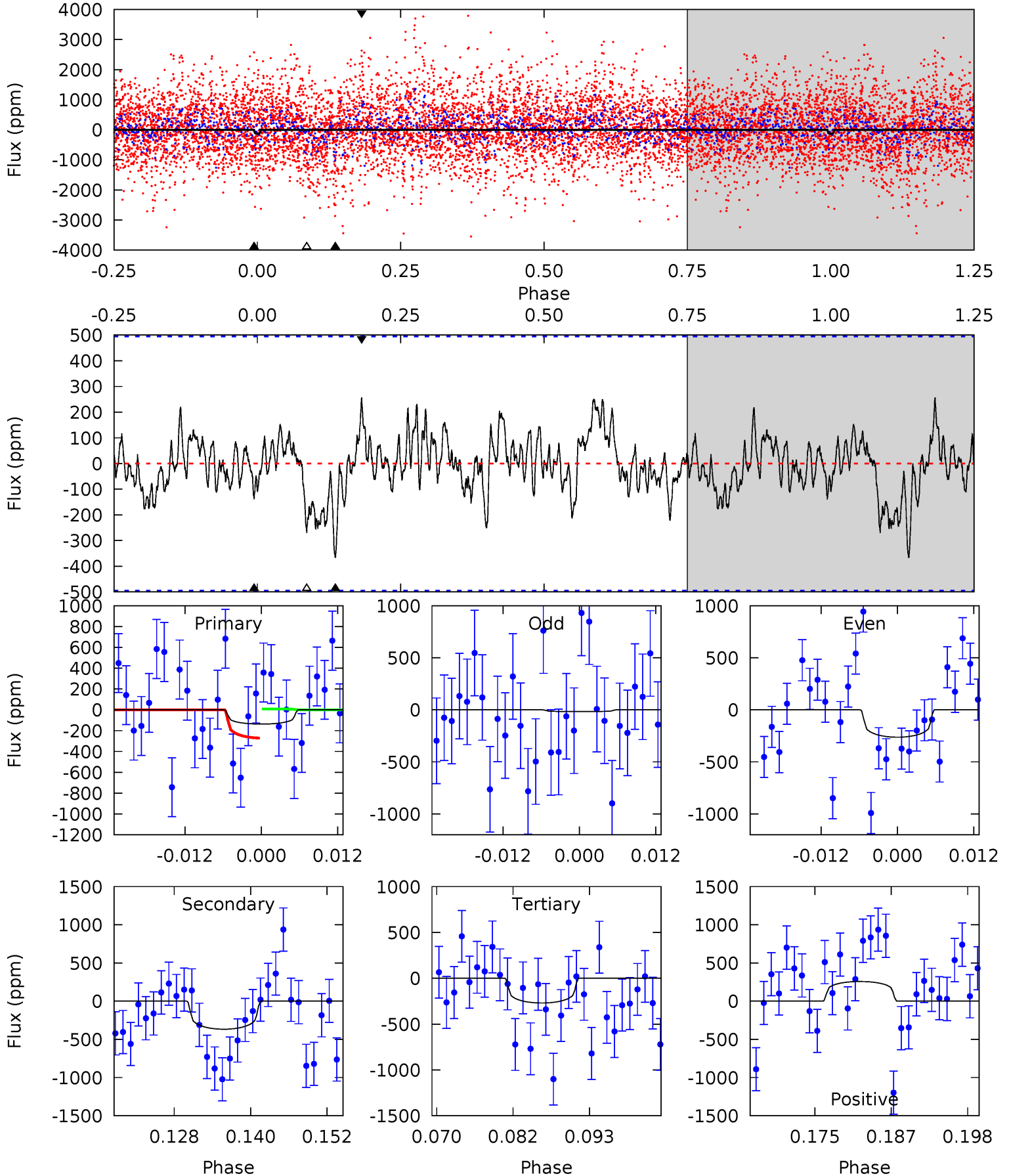
TCE 007116632-02 P= 36.433569 Days $T_0=155.454337$ (BKJD)



DV Model-Shift Uniqueness Test

007116632-02, P = 36.448922 Days, E = 154.862009 Days

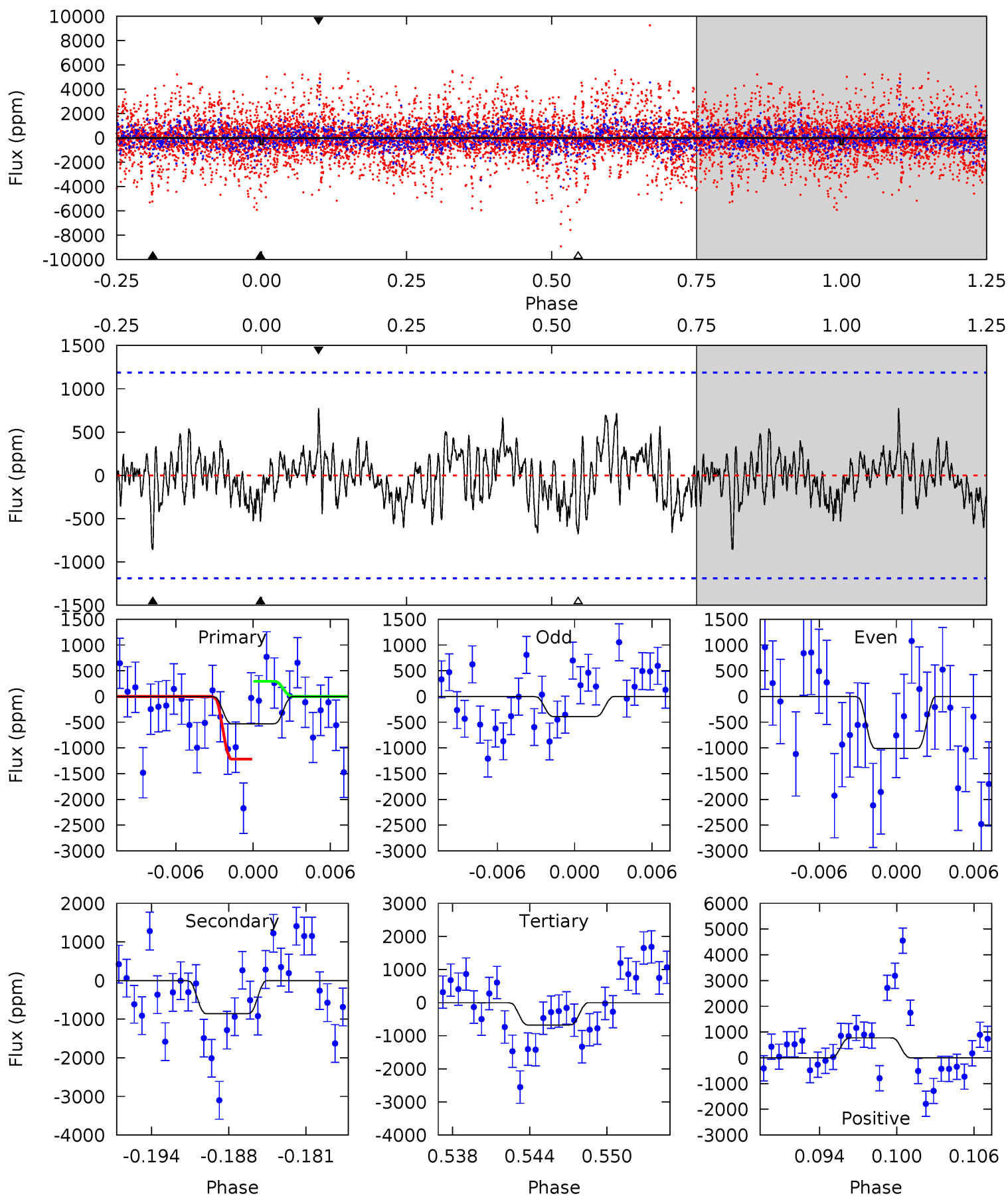
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.38	3.70	2.72	2.60	5.00	2.52	0.98	-1.34	-1.22	0.98	1.11	1.24	1.19	0.41	1.33



Alt Model-Shift Uniqueness Test

007116632-02, P = 36.433569 Days, E = 155.454337 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.29	3.69	2.92	3.33	5.12	2.73	1.08	-0.63	-1.05	0.78	0.36	1.21	16.3	0.47	2.05



Stellar Parameters For KIC 007116632

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5874^{+164}_{-205}	$4.501^{+0.052}_{-0.208}$	$0.020^{+0.250}_{-0.300}$	$0.944^{+0.282}_{-0.094}$	$1.031^{+0.124}_{-0.138}$	$1.728^{+0.470}_{-0.887}$
	+3%/-3%	+1%/-5%	+1250%/-1500%	+30%/-10%	+12%/-13%	+27%/-51%
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 007116632-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-367 ± 99	$3.83^{+3.45}_{-2.61}$	770^{+50}_{-38}	4444^{+3401}_{-868}	629^{+5625}_{-456}
Alt.	-857 ± 232	$3.27^{+3.61}_{-2.23}$	770^{+53}_{-37}	5733^{+5756}_{-1520}	2001^{+17212}_{-1551}

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 $A_{obs} \gg 1.0$

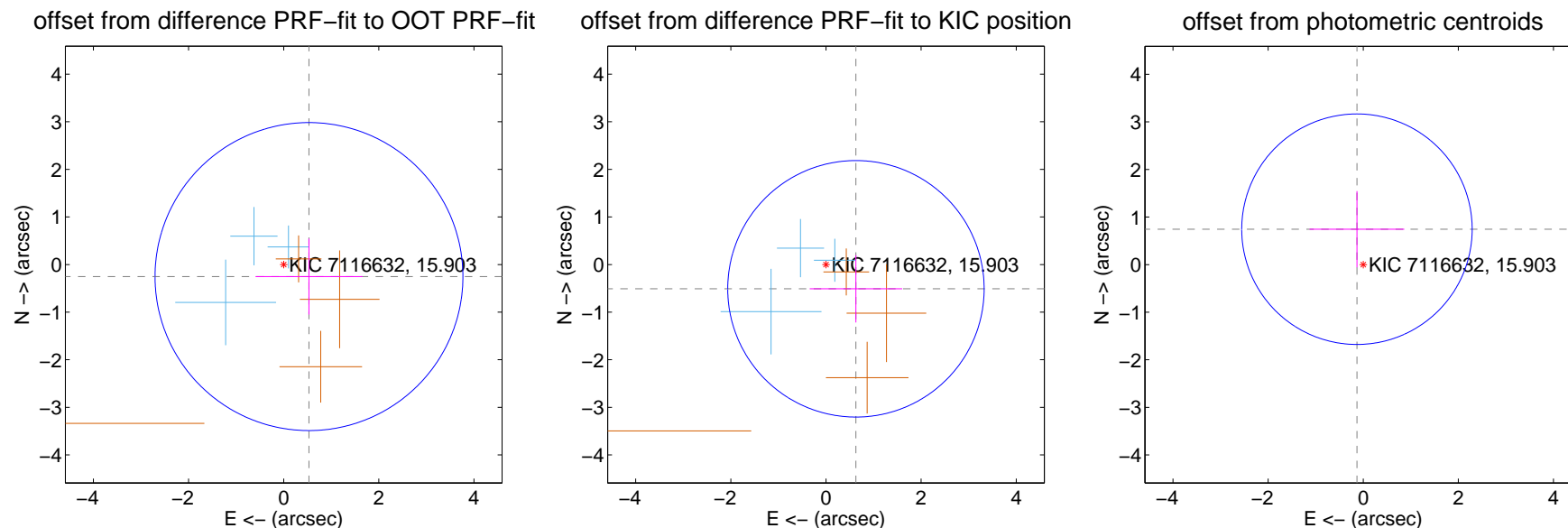
DV Centroid Data

Supplemental centroid analysis for 007116632-02. Kepler magnitude: 15.90. Transit SNR 3.89

There are 3 quarters with good PRF difference image offsets

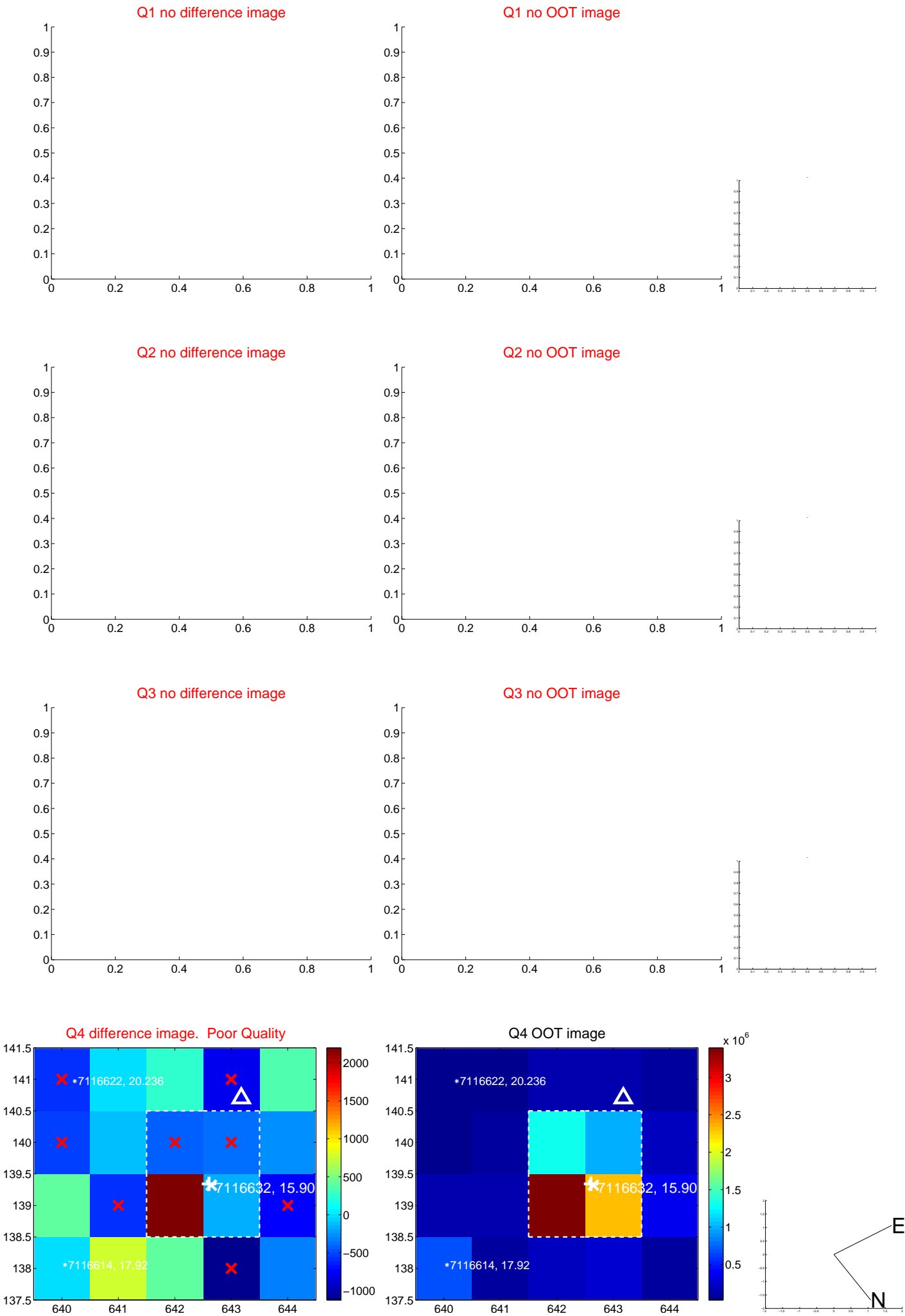
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.589 ± 1.079	0.55	-0.532 ± 1.124	-0.253 ± 0.796
PRF-fit source offset from KIC position	0.810 ± 0.898	0.90	-0.630 ± 0.973	-0.510 ± 0.707
photometric centroid source offset	0.76 ± 0.81	0.94	0.13 ± 1.00	0.74 ± 0.80

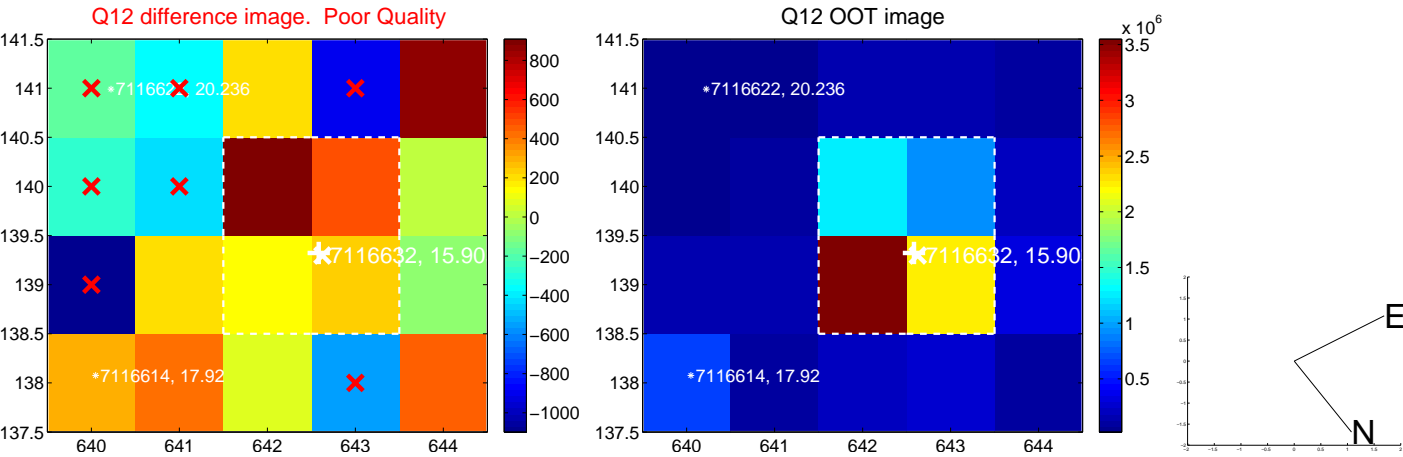
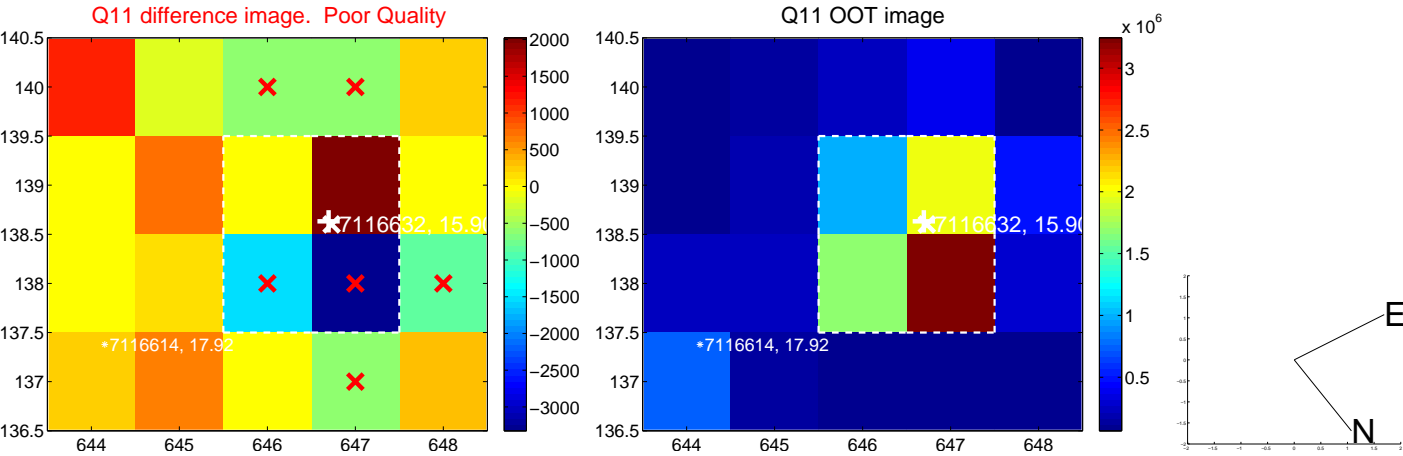
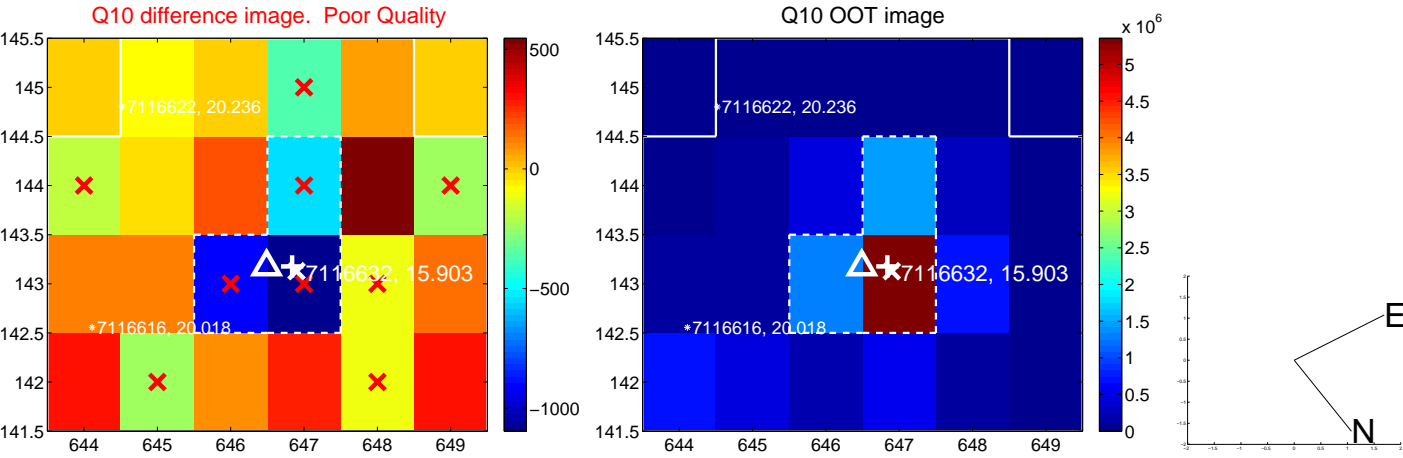
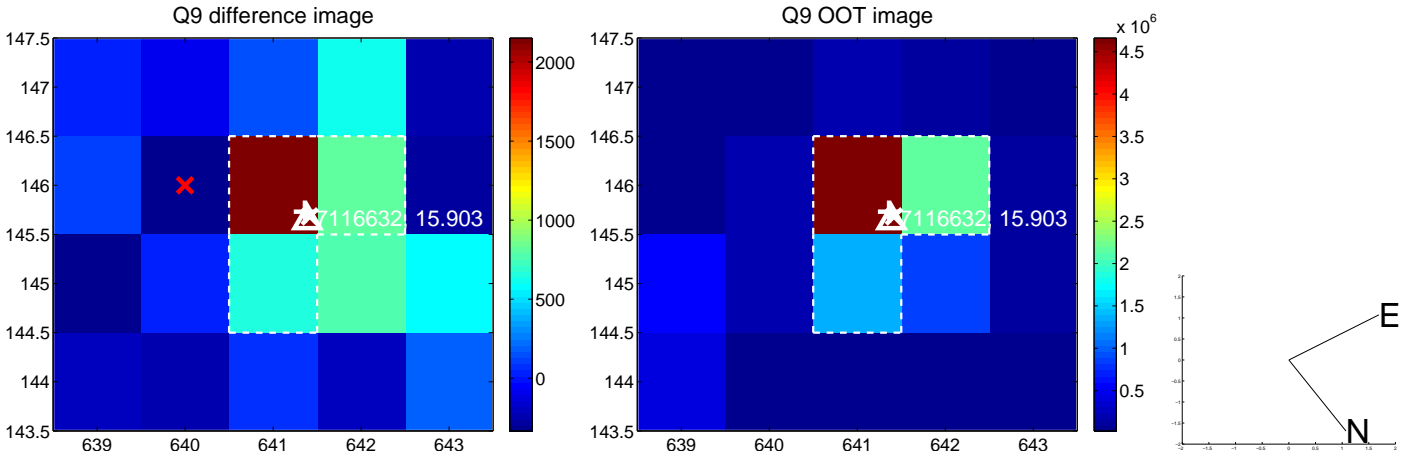


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

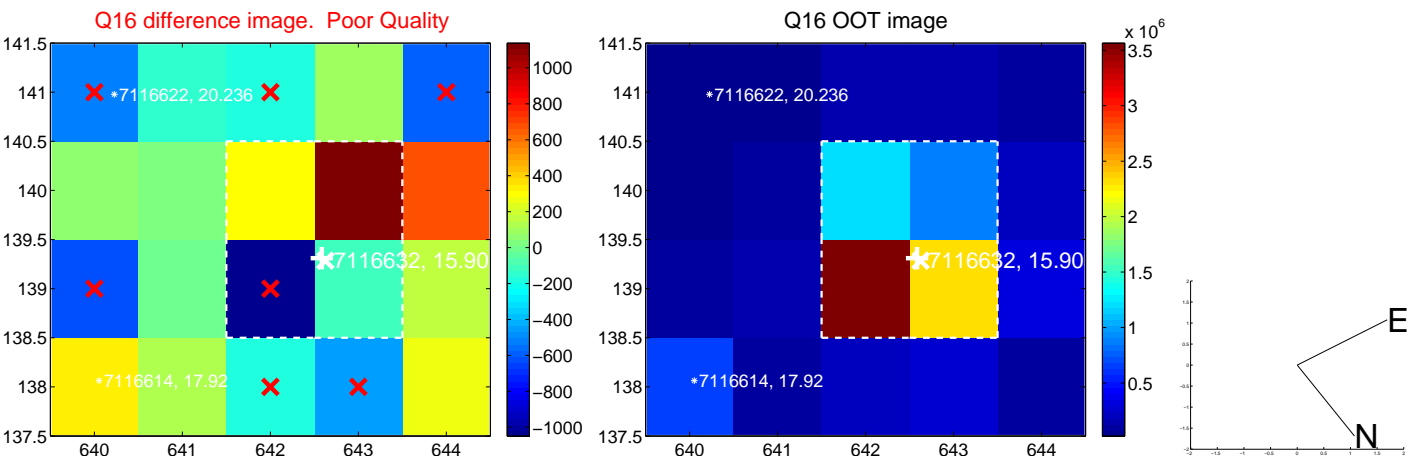
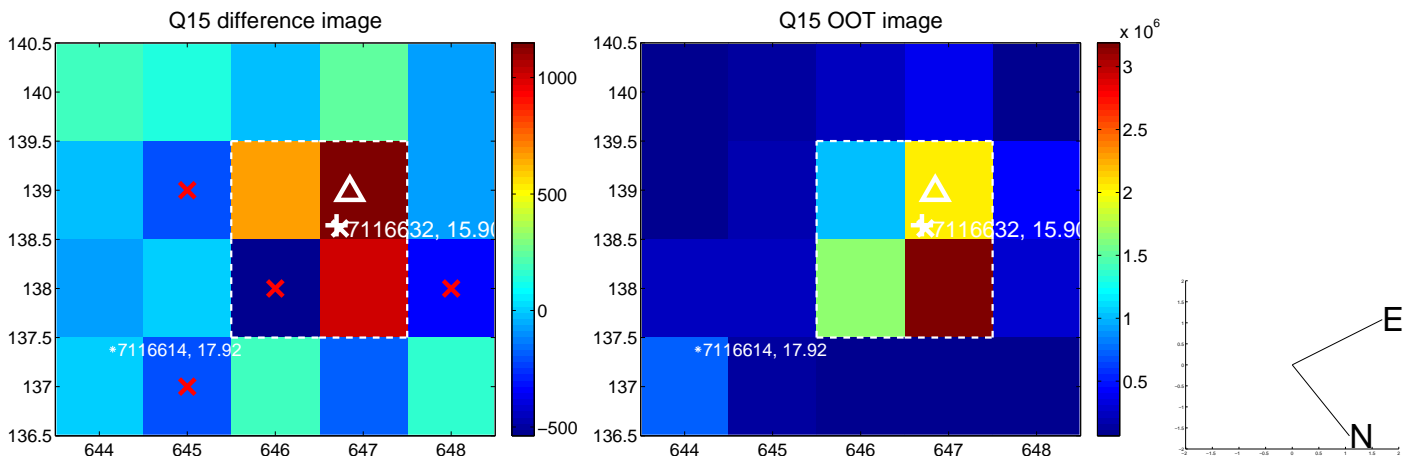
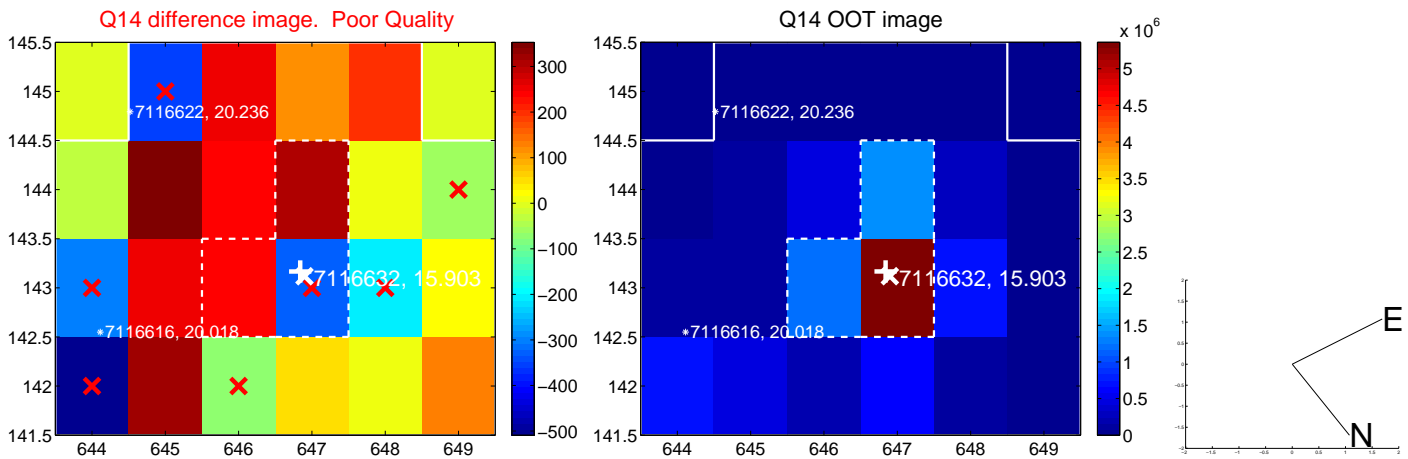
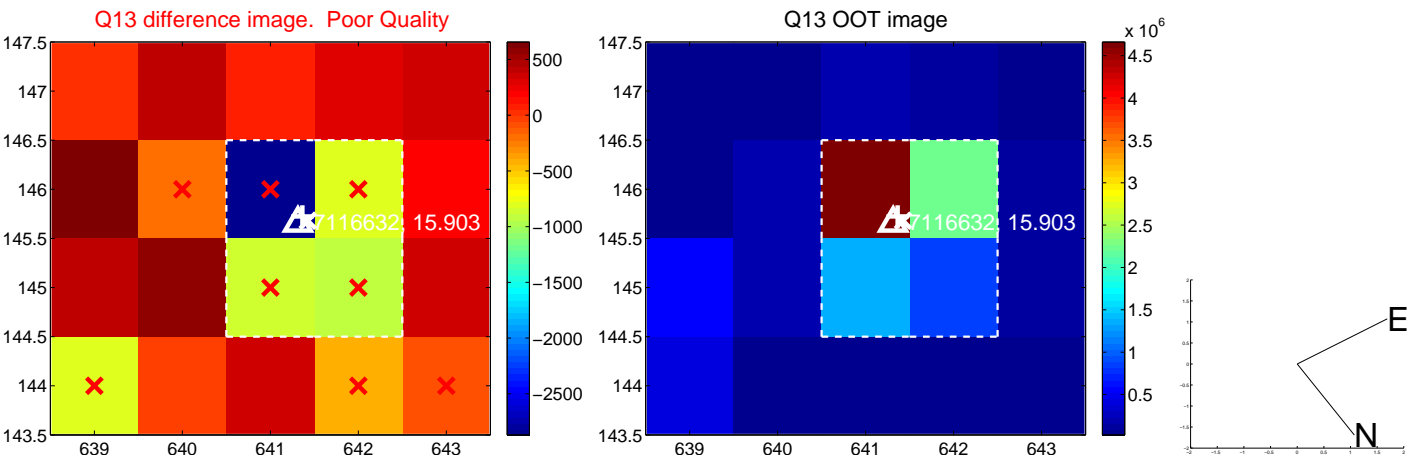
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



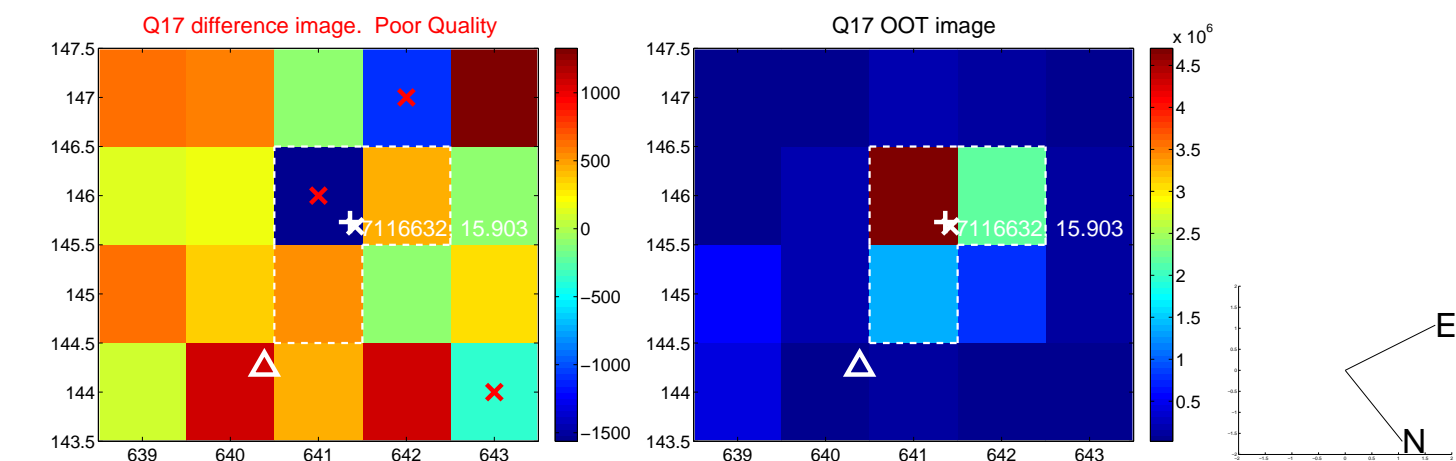
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



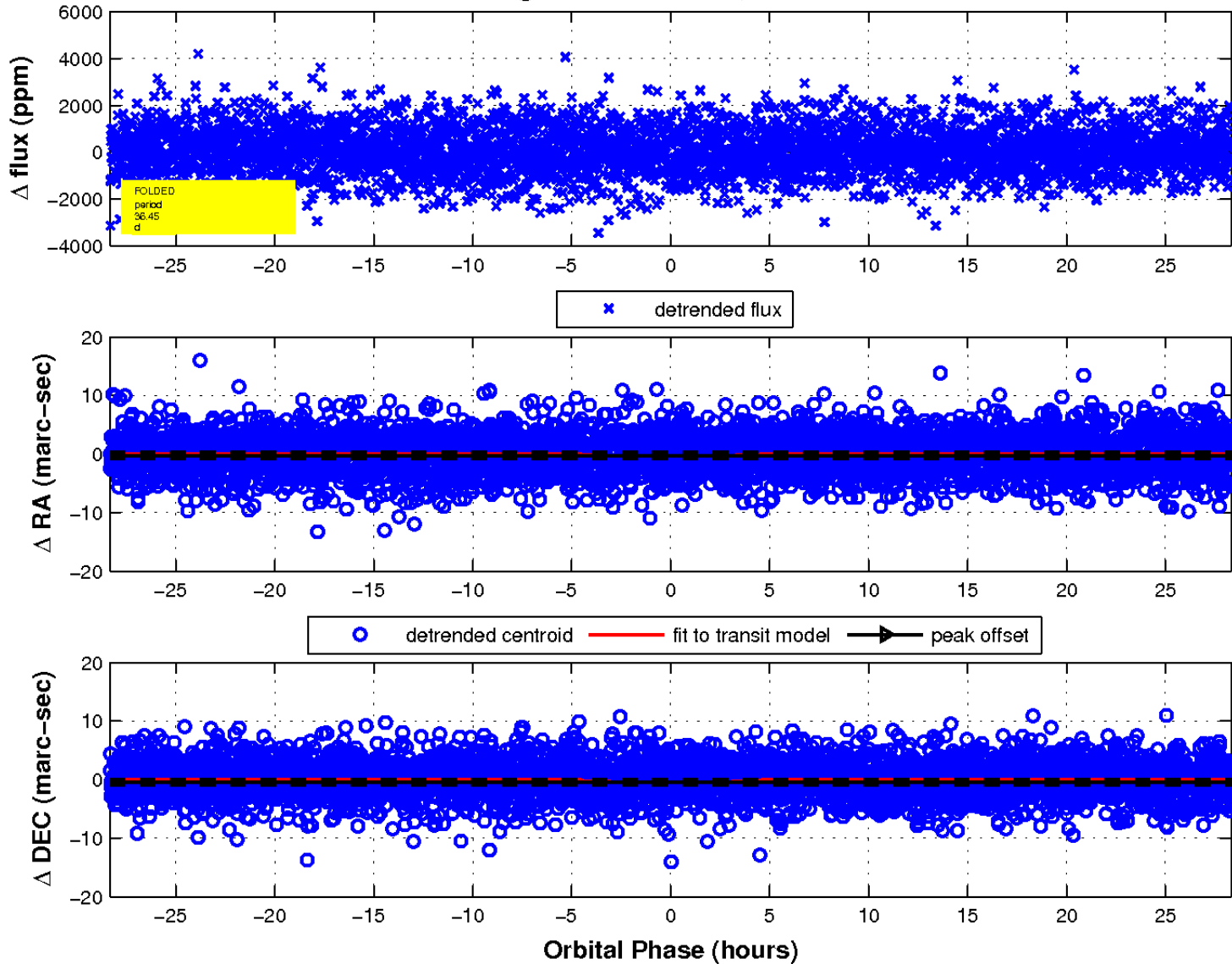
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



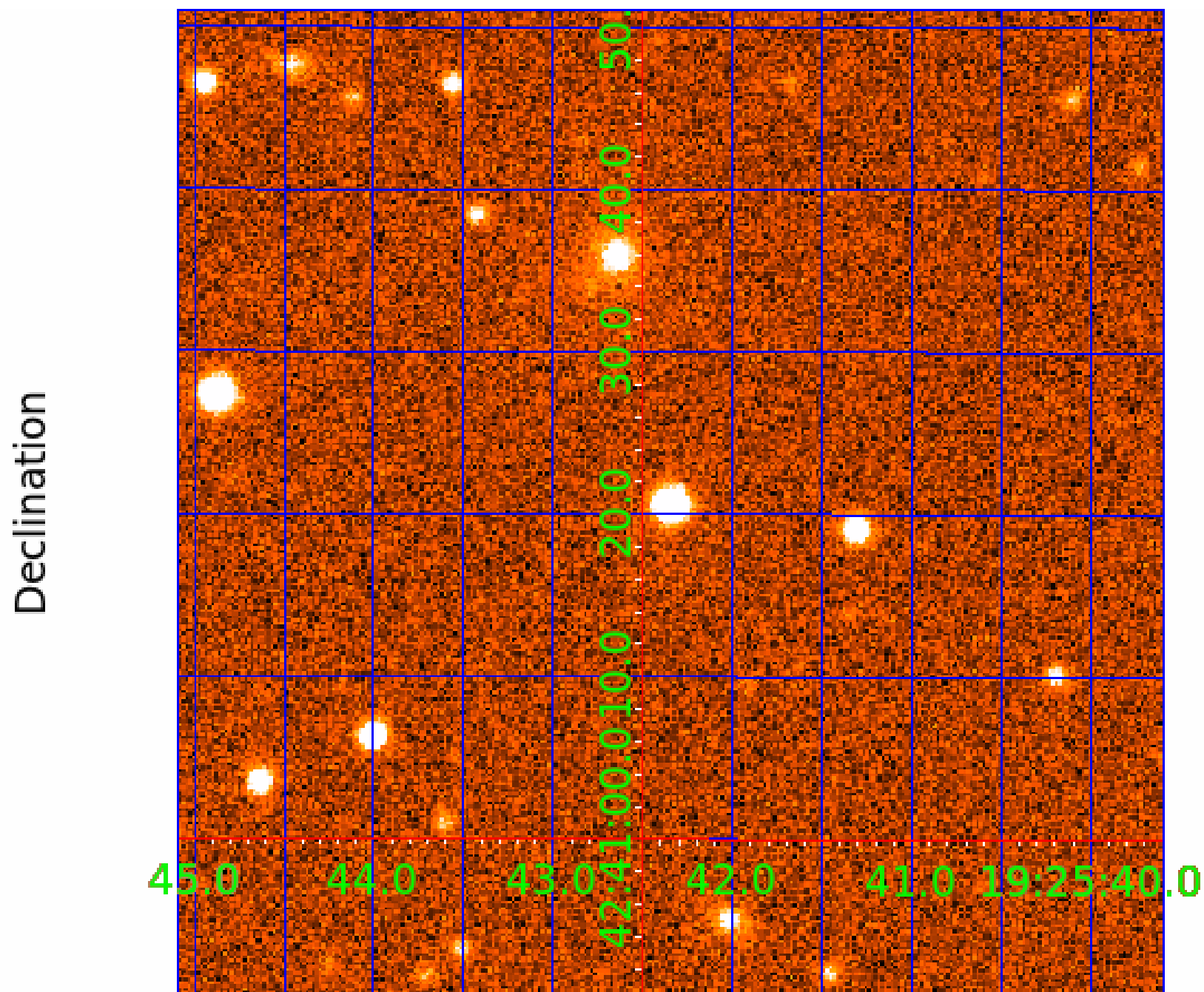
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 2 of 3



UKIRT Image



KIC 007116632

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})
007116632-01	OBS	No	0.566789	131.682065	53.8	3.818	8.7	7.3	0.94	5874	0.74	5184.61
007116632-02	OBS	No	36.448922	154.862009	498.4	9.446	10.4	3.9	0.94	5874	2.21	20.12
007116632-03	OBS	No	30.129596	152.141135	645.2	7.136	8.8	4.9	0.94	5874	2.69	25.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007116632-01	OBS	FP	0.00	1	0	0	1	LPP_DV—CENT_FEW_DIFFS—EPHEM_MATCH
007116632-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007116632-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

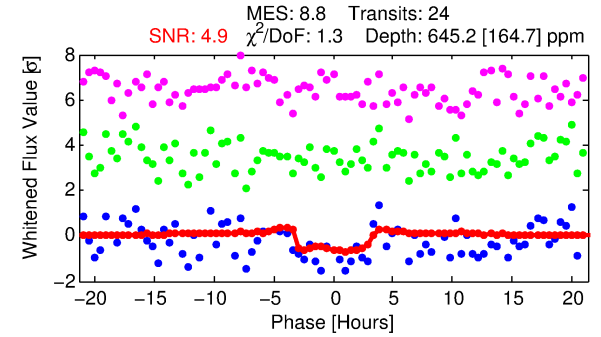
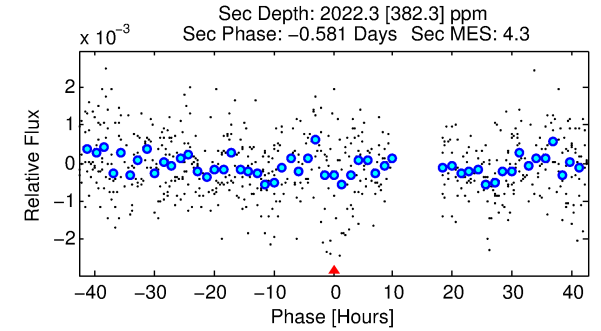
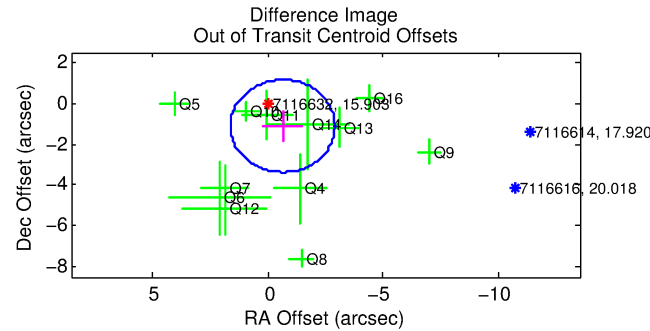
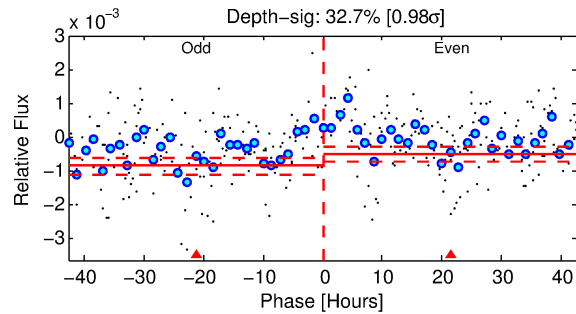
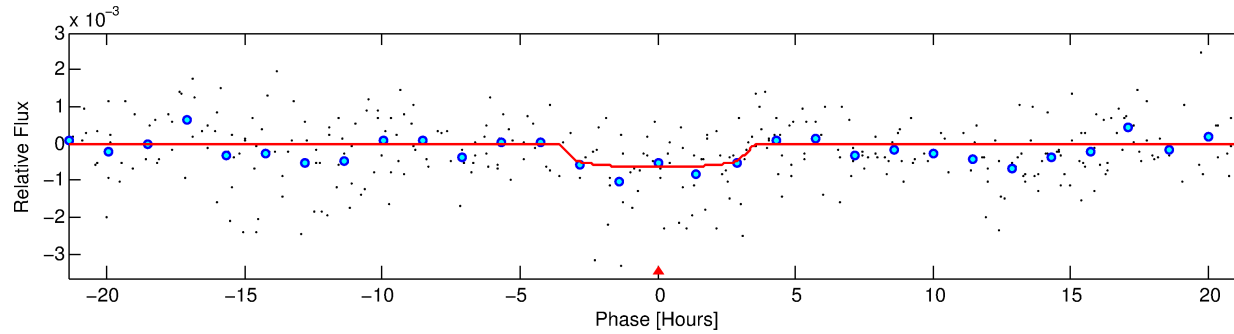
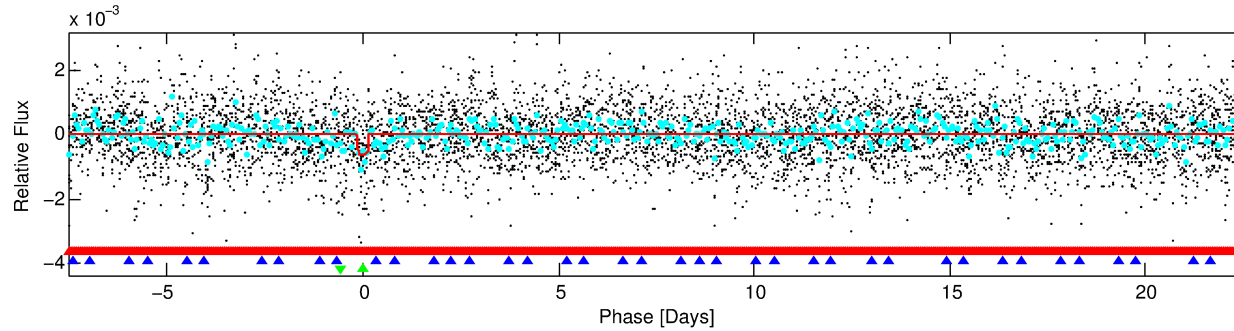
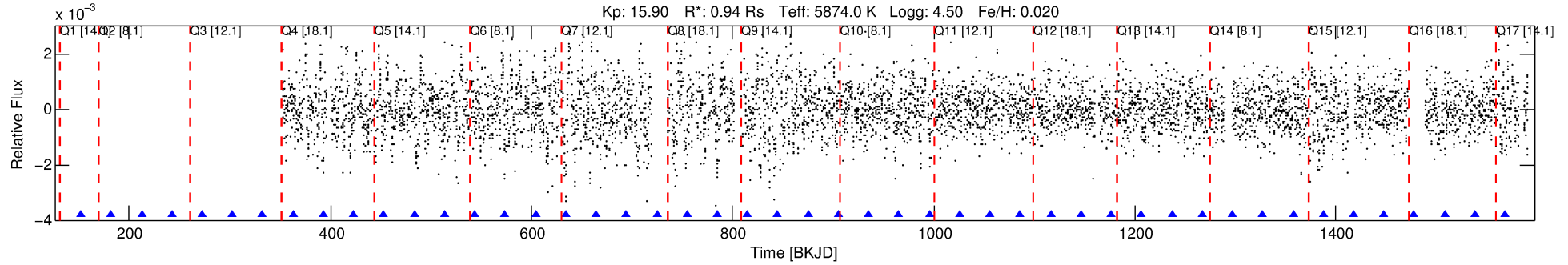
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007116632-03

No Significant Match Found

DV One-Page Summary

KIC: 7116632 Candidate: 3 of 3 Period: 30.130 d



DV Fit Results:

Period = 30.12960 [0.00112] d
Epoch = 152.1411 [0.0351] BKJD
Rp/R* = 0.0262 [0.0132]
a/R* = 19.69 [43.55]
b = 0.83 [0.87]
Seff = 25.94 [10.41]
Teq = 575 [58] K
Rp = 2.69 [1.58] Re
a = 0.1914 [0.0489] AU
Ag = 5613.72 [6149.35] [0.91 σ]
Teffp = 7701 [1999] K [3.56 σ]

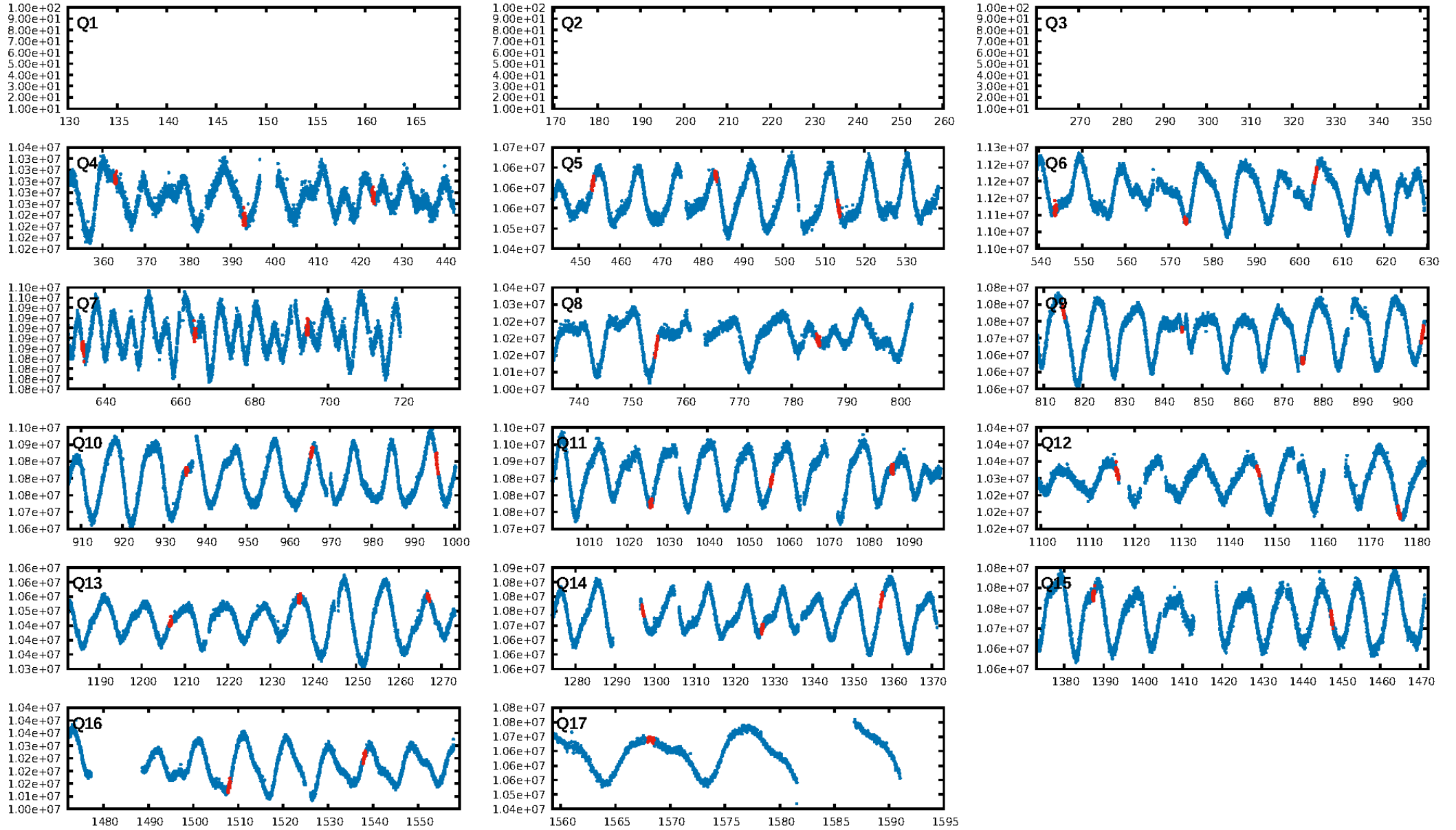
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [87.66 σ]
LongPeriod-sig: 100.0% [12.81 σ]
ModelChiSquare2-sig: 1.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.19e-14
RollingBand-fgt: 1.00 [23/23]
GhostDiagnostic-chr: -0.98
Centroid-sig: 75.8%
Centroid-so: 0.237 arcsec [0.34 σ]
OotOffset-rm: 1.279 arcsec [1.69 σ]
KicOffset-rm: 1.542 arcsec [2.10 σ]
OotOffset-st: 3/2/4/3 [12]
KicOffset-st: 3/2/4/3 [12]
DiffImageQuality-fgm: 0.08 [1/12]
DiffImageOverlap-fno: 0.00 [0/14]

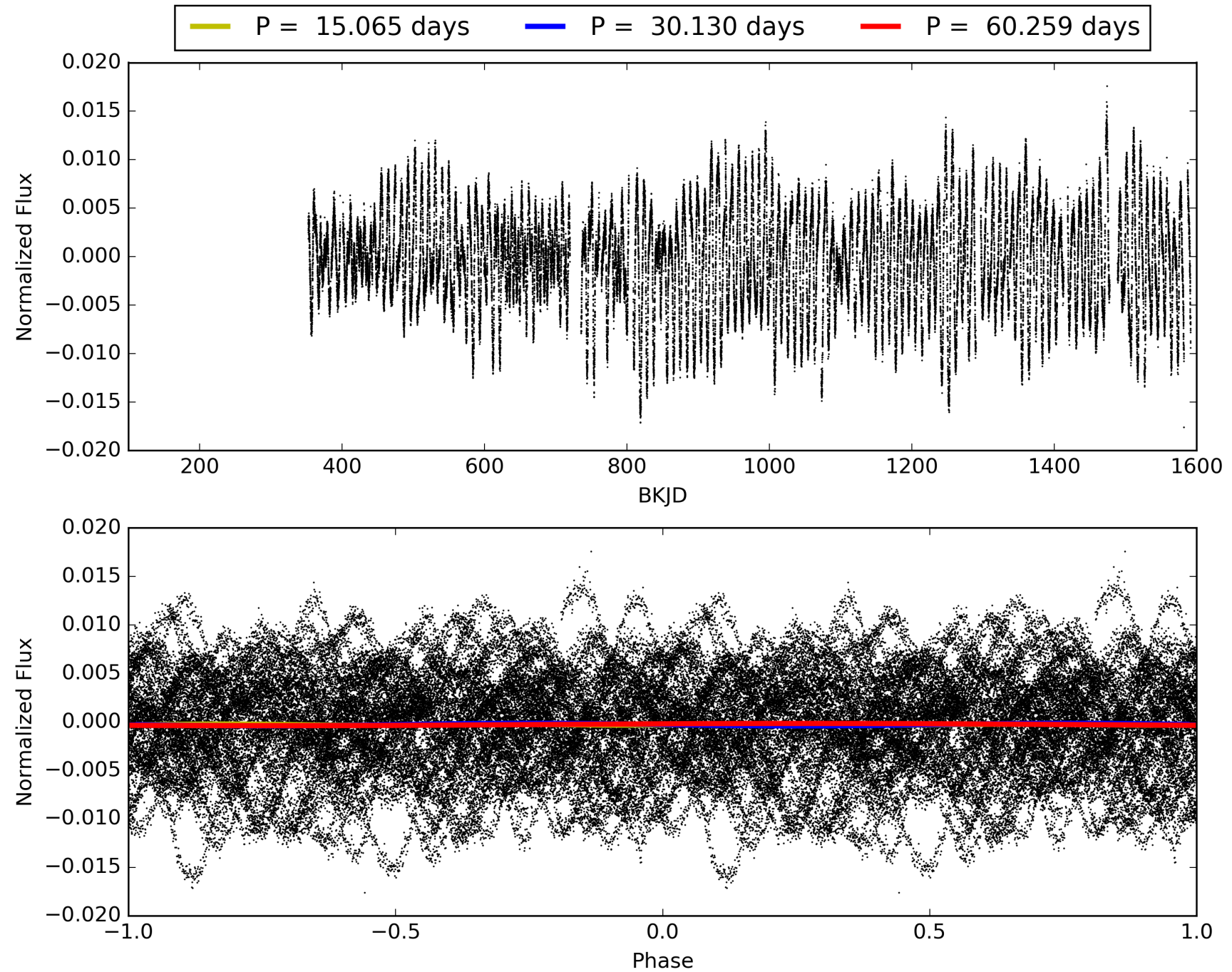
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:51:36 Z

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

TCE 007116632-03, PDC Light Curves

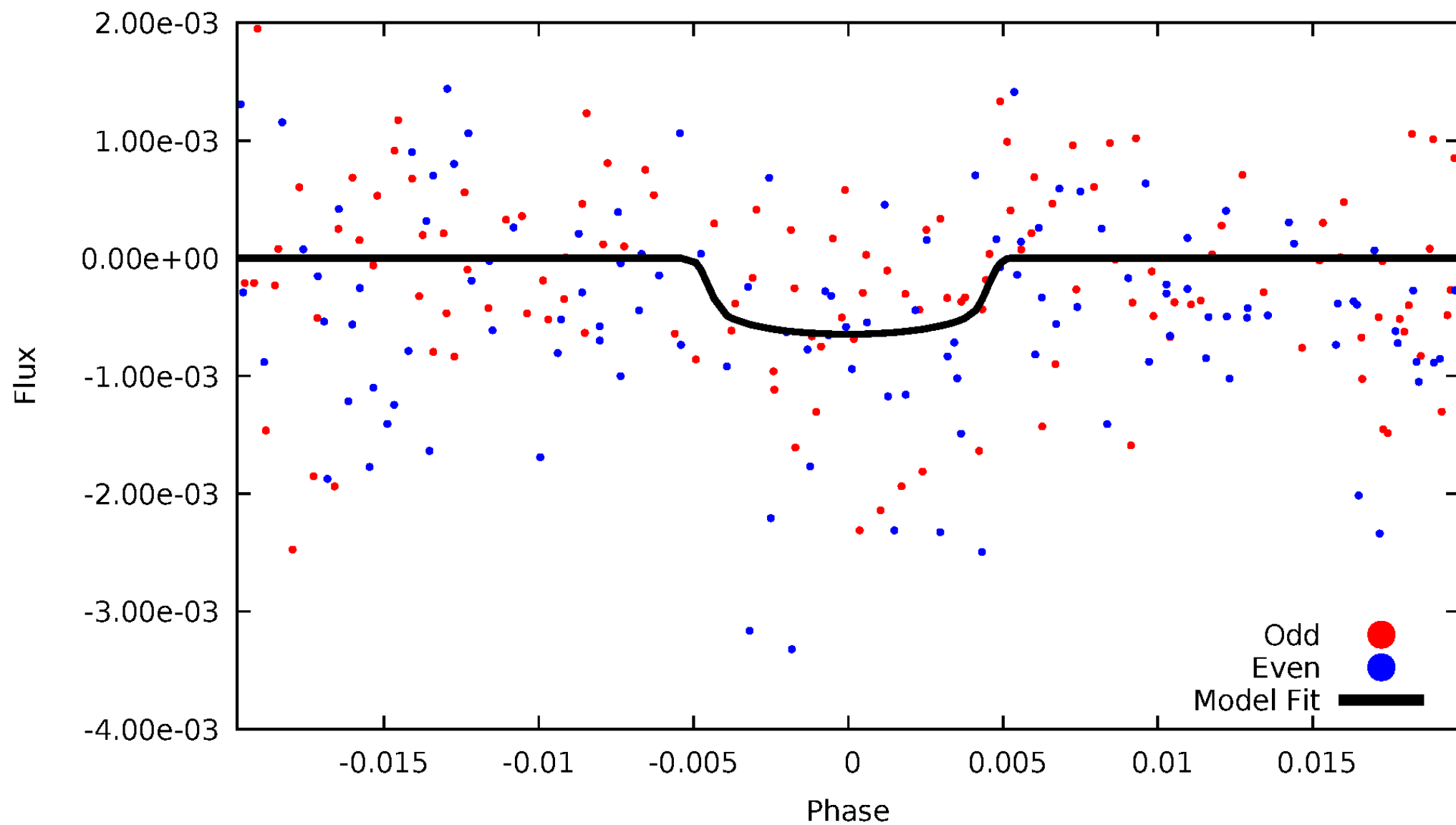


TCE 007116632-03



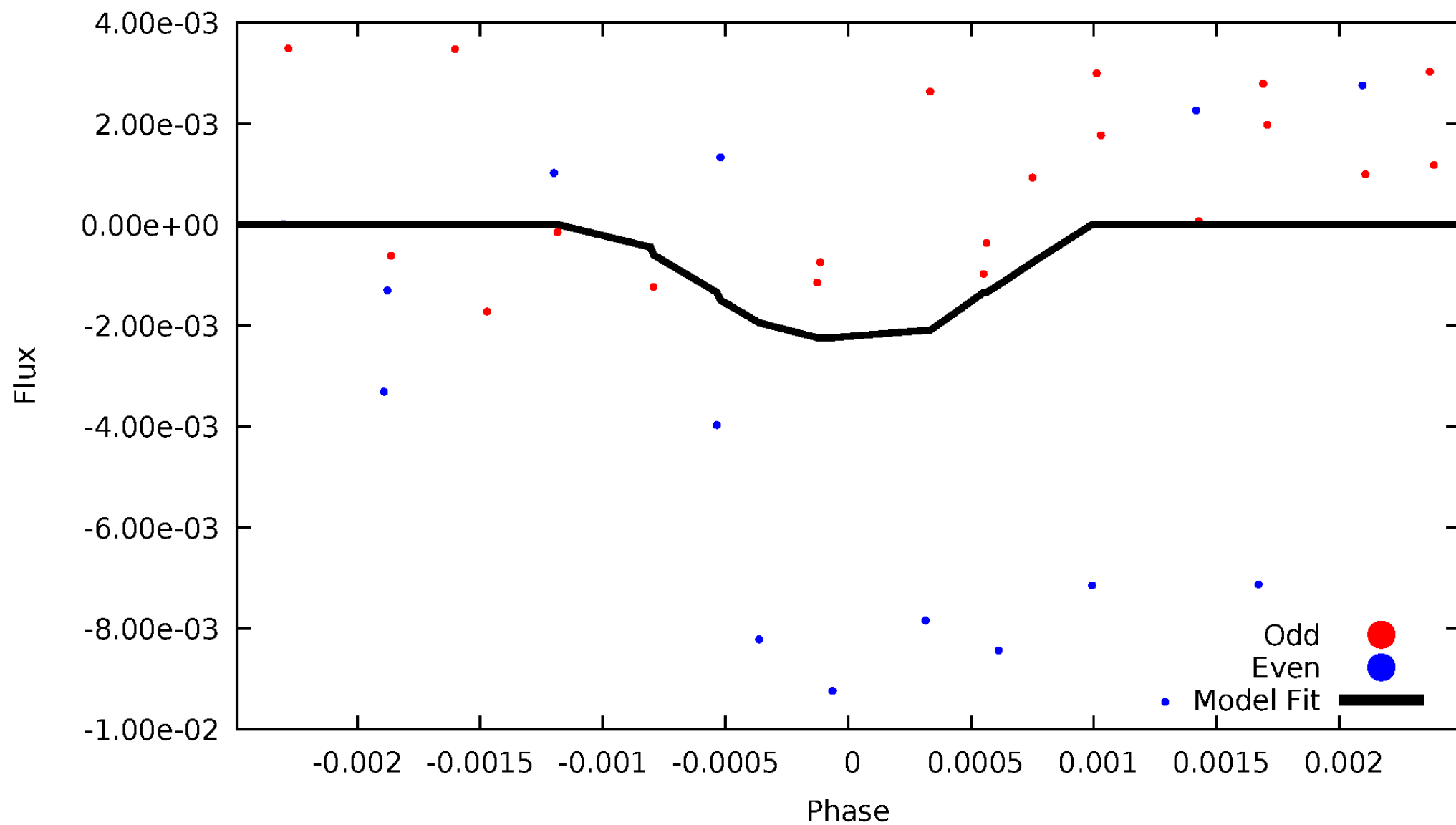
DV Odd/Even

TCE 007116632-03



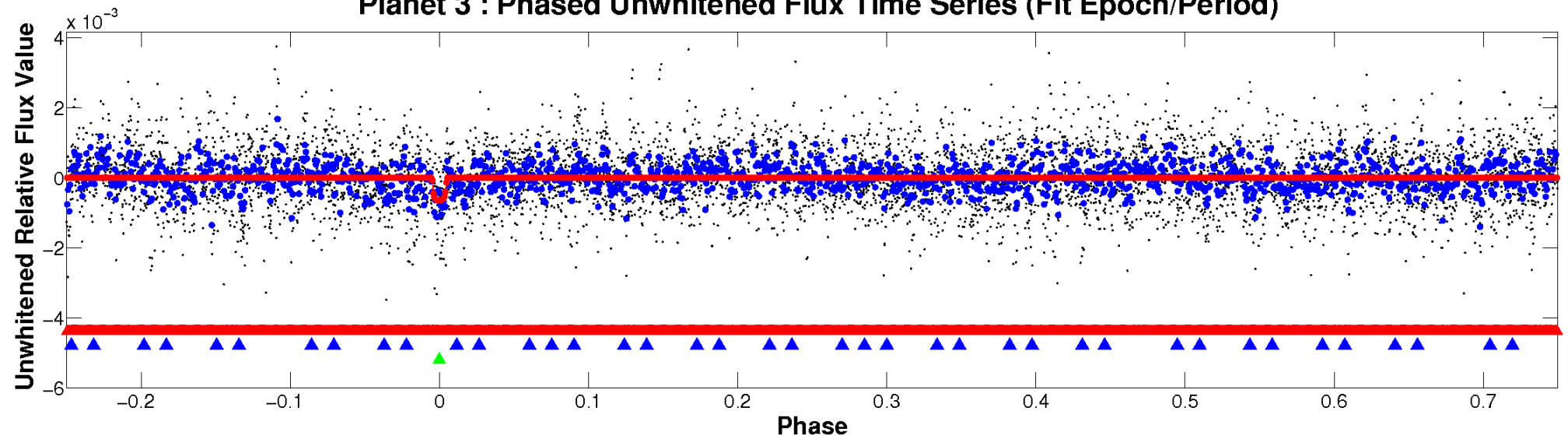
ALT Odd/Even

TCE 007116632-03

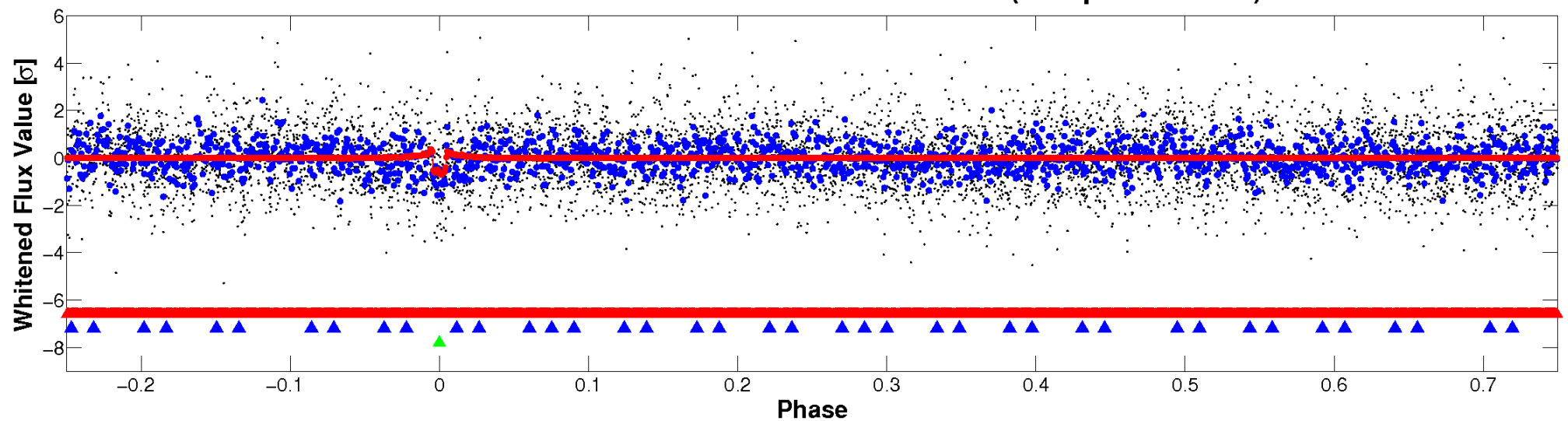


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

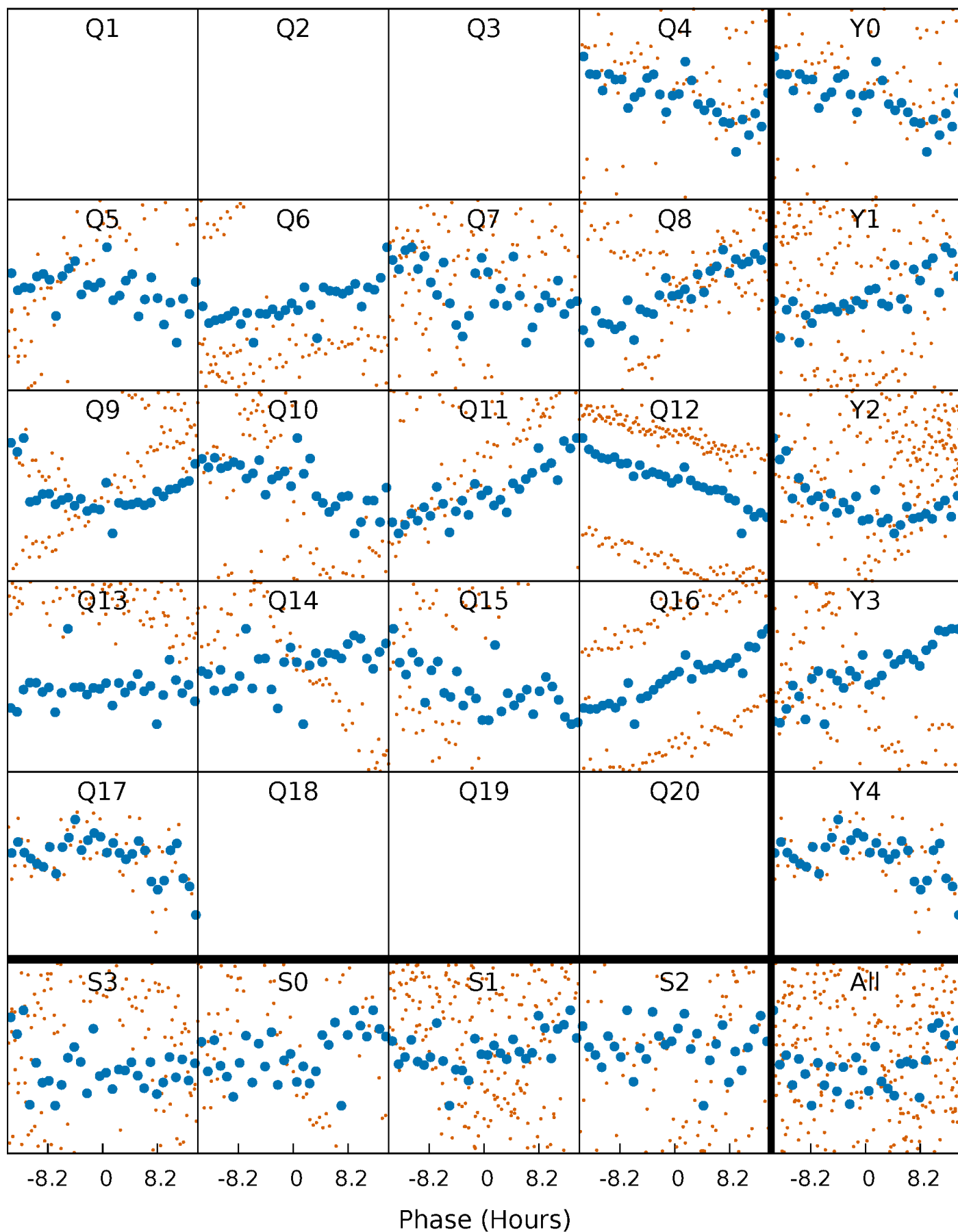


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



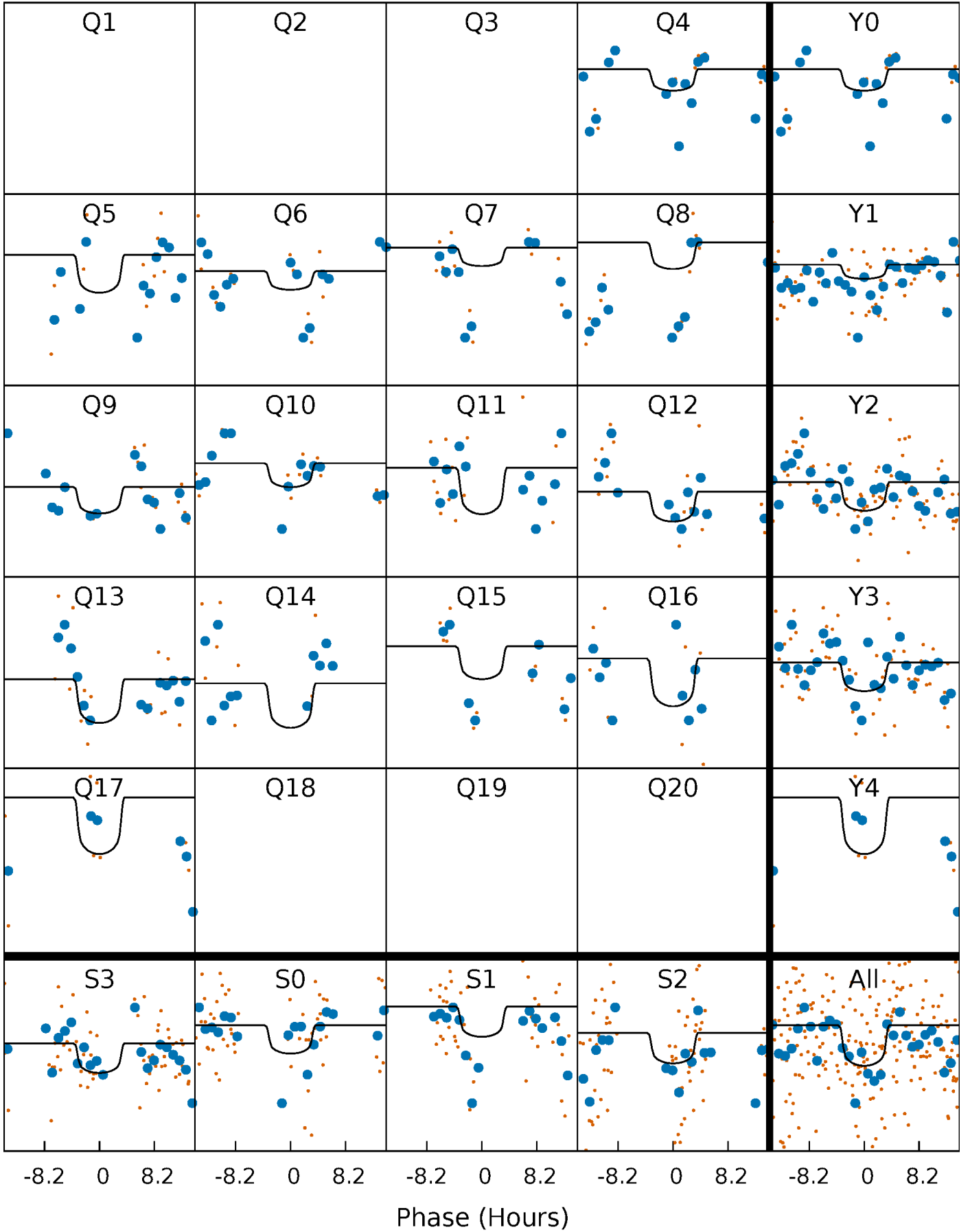
PDC Quarter-Phased Transit Curves

TCE 007116632-03 P= 30.129596 Days $T_0=152.141135$ (BKJD)



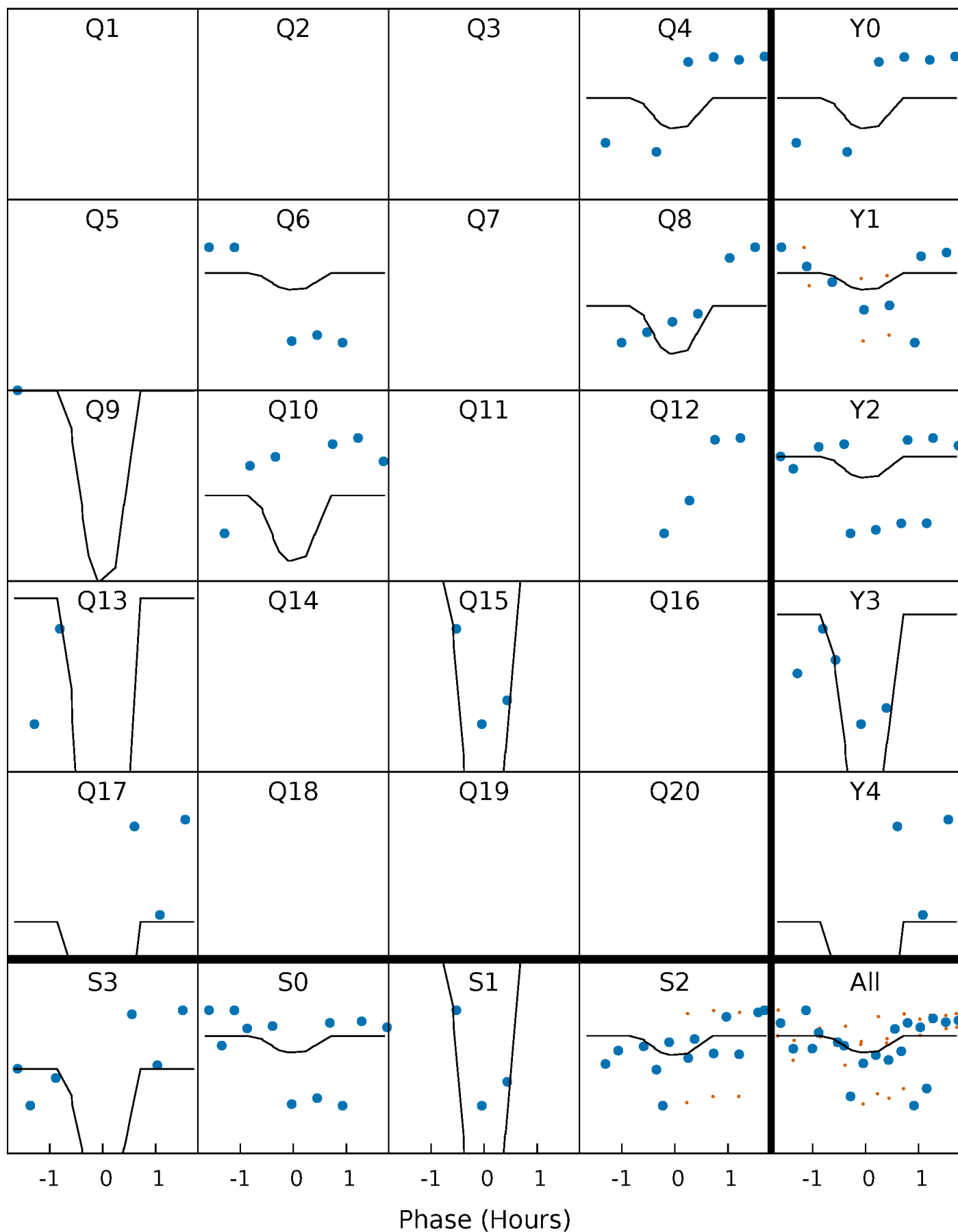
DV Quarter-Phased Transit Curves

TCE 007116632-03 P= 30.129596 Days $T_0=152.141135$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

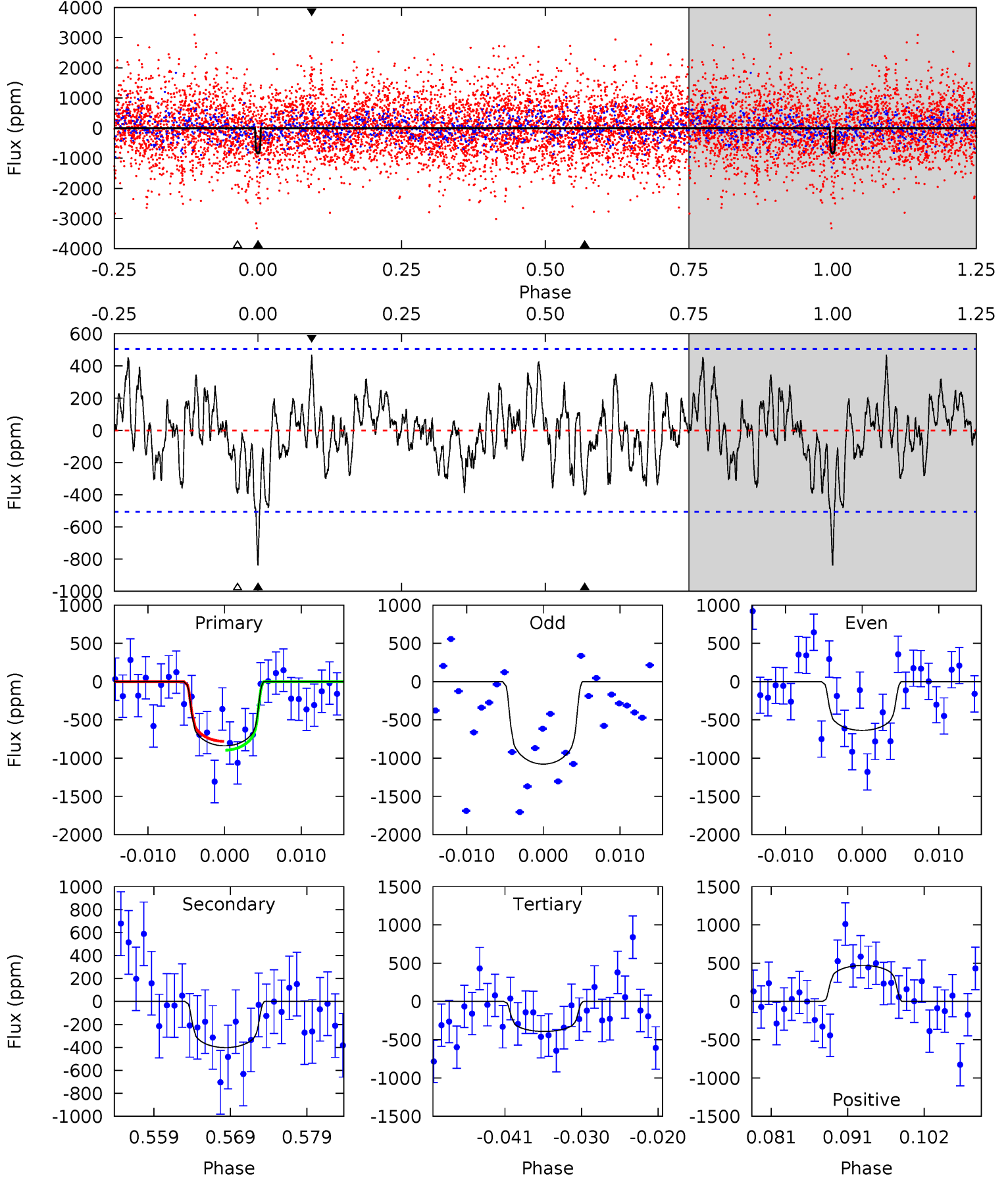
TCE 007116632-03 P= 30.124448 Days $T_0=152.304524$ (BKJD)



DV Model-Shift Uniqueness Test

007116632-03, P = 30.129596 Days, E = 152.141135 Days

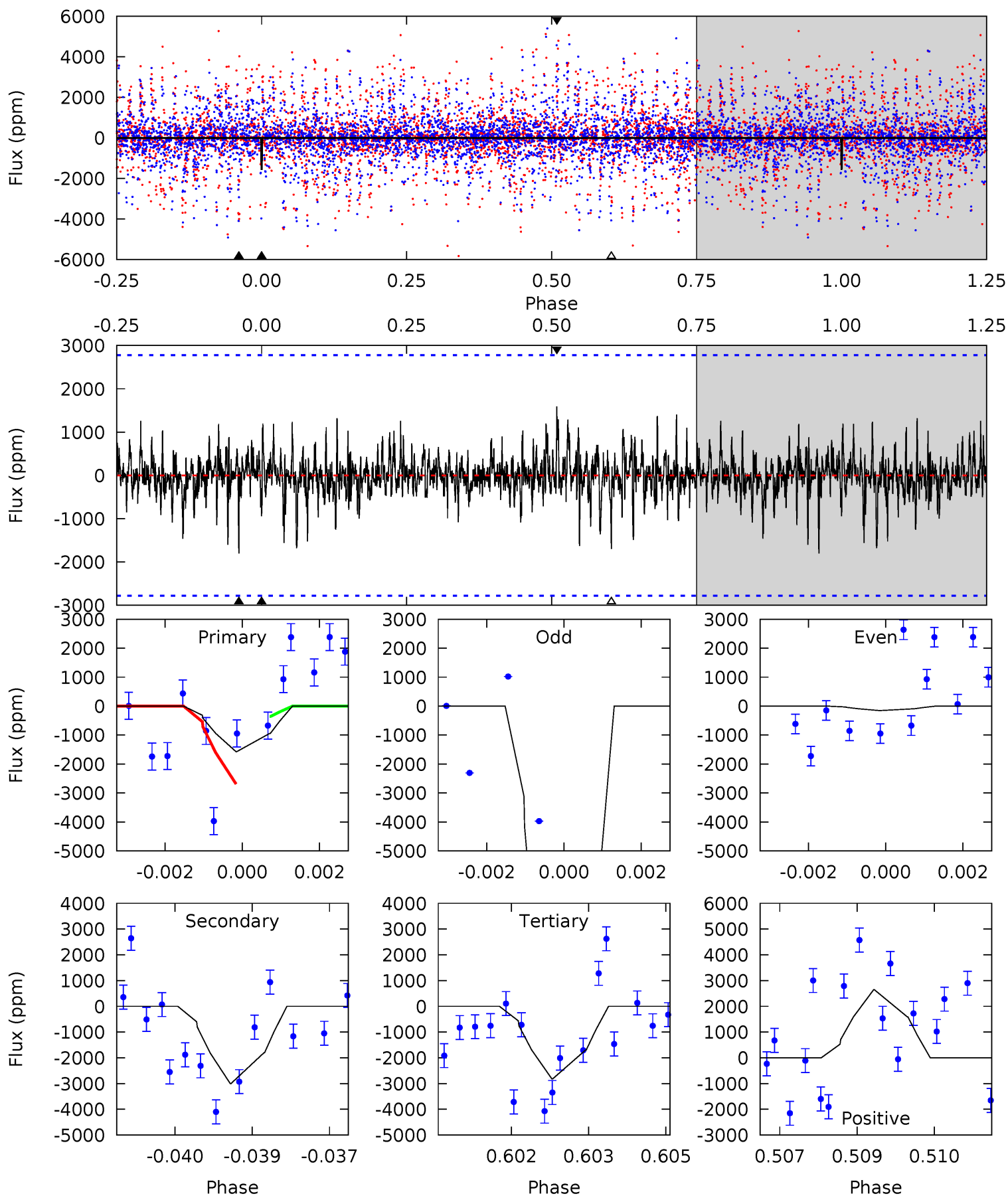
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.34	4.00	3.90	4.67	5.02	2.57	1.67	4.44	3.67	0.10	-0.67	2.18	1.63	0.36	0.57



Alt Model-Shift Uniqueness Test

007116632-03, P = 30.124448 Days, E = 152.304524 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.83	3.49	3.28	3.07	5.37	3.16	0.73	-1.45	-1.24	0.21	0.42	9.50	1.07	0.47	0



Stellar Parameters For KIC 007116632

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5874^{+164}_{-205}	$4.501^{+0.052}_{-0.208}$	$0.020^{+0.250}_{-0.300}$	$0.944^{+0.282}_{-0.094}$	$1.031^{+0.124}_{-0.138}$	$1.728^{+0.470}_{-0.887}$
	+3%/-3%	+1%/-5%	+1250%/-1500%	+30%/-10%	+12%/-13%	+27%/-51%
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 007116632-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-402±101	$2.82^{+1.52}_{-1.30}$	819^{+55}_{-41}	5128^{+1960}_{-808}	943^{+2579}_{-546}
Alt.	-1803±517	$5.10^{+1.59}_{-1.49}$	821^{+58}_{-43}	5540^{+1041}_{-686}	1326^{+1507}_{-603}

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 $A_{obs} \gg 1.0$

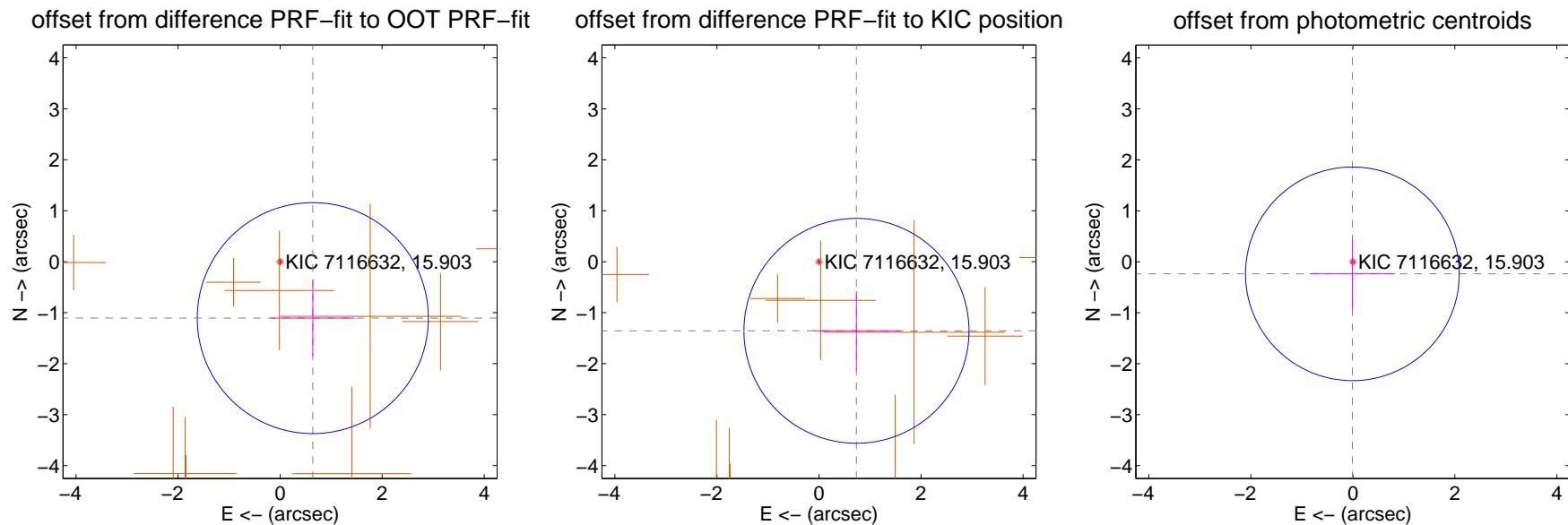
DV Centroid Data

Supplemental centroid analysis for 007116632-03. Kepler magnitude: 15.90. Transit SNR 4.92

There are 1 quarters with good PRF difference image offsets

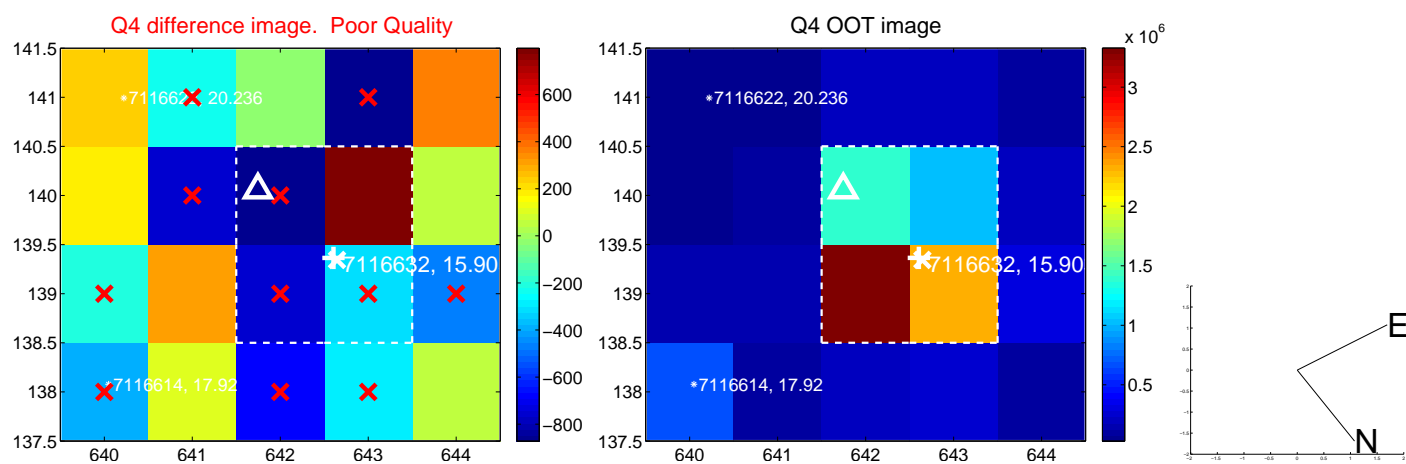
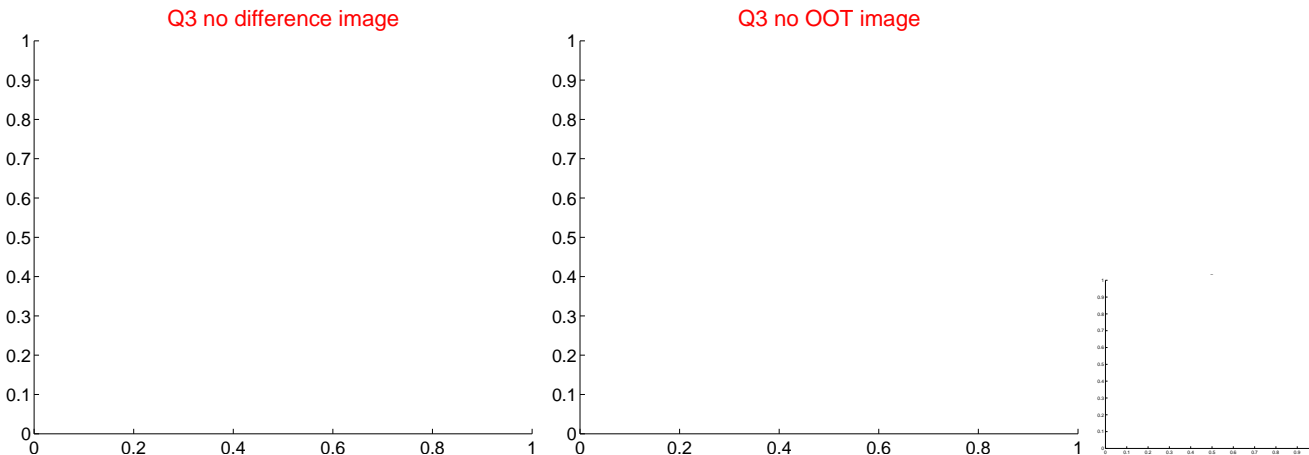
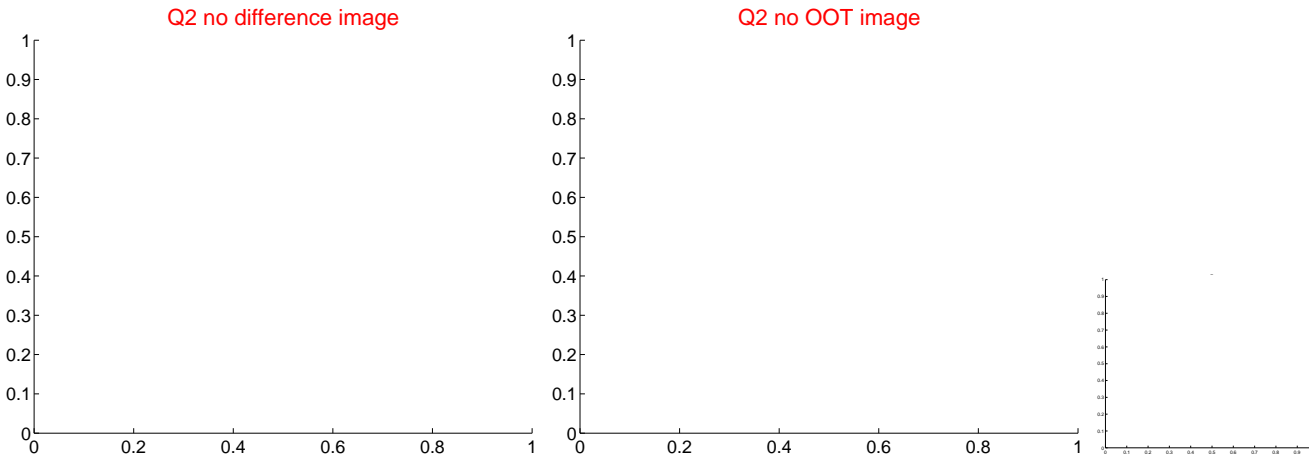
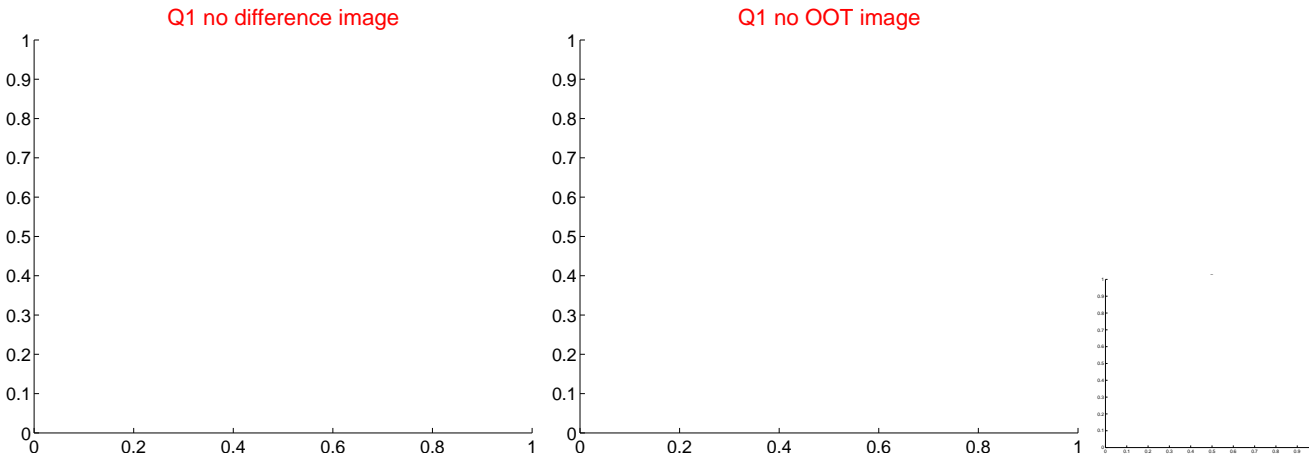
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.279 ± 0.755	1.69	-0.641 ± 0.822	-1.106 ± 0.743
PRF-fit source offset from KIC position	1.542 ± 0.735	2.10	-0.734 ± 0.850	-1.356 ± 0.777
photometric centroid source offset	0.24 ± 0.70	0.34	0.01 ± 0.84	-0.24 ± 0.70

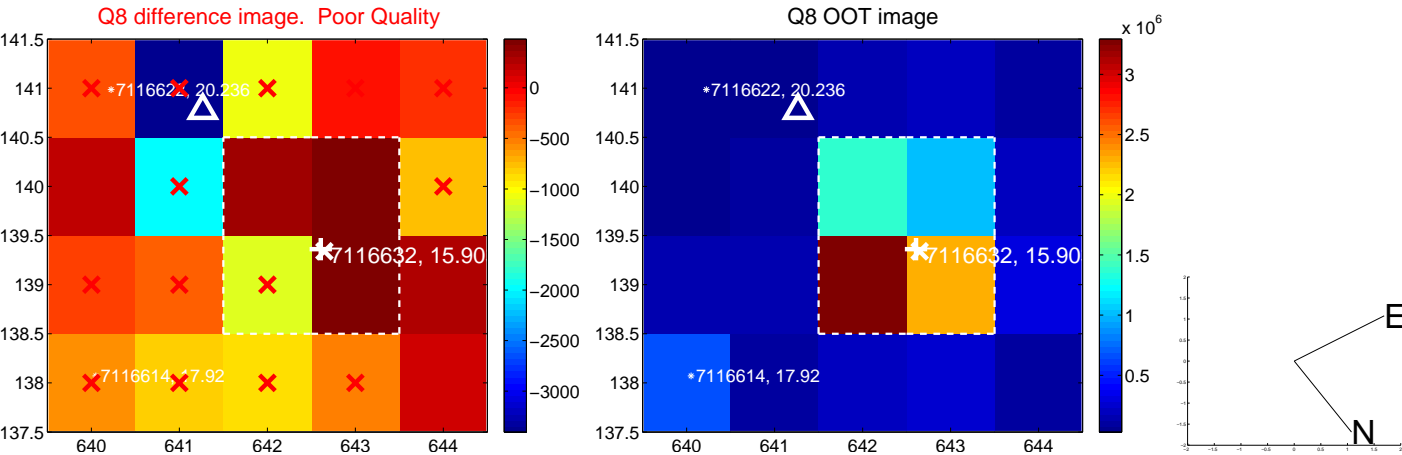
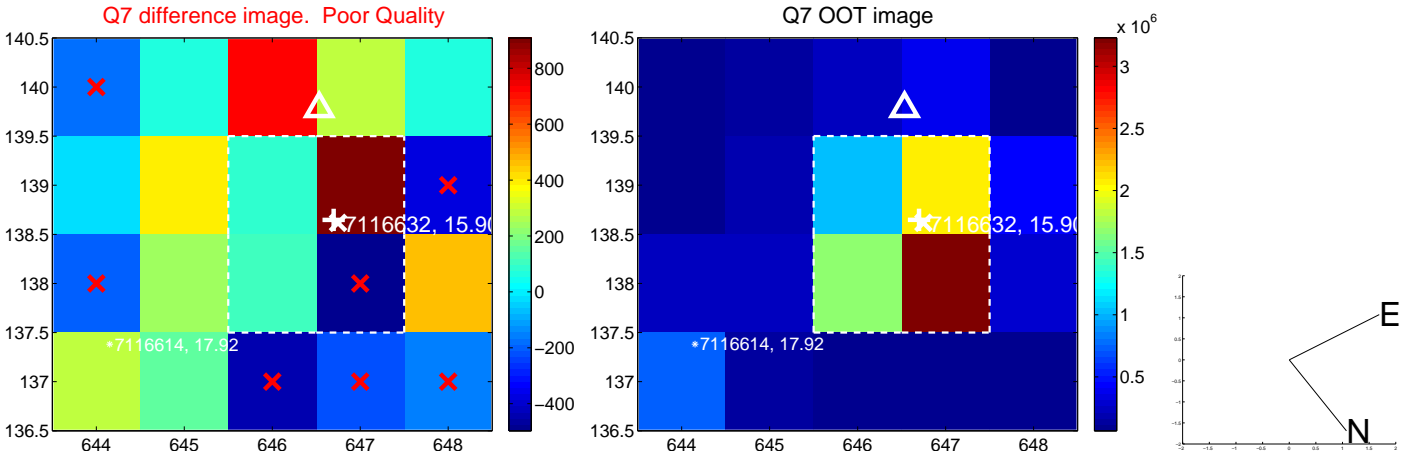
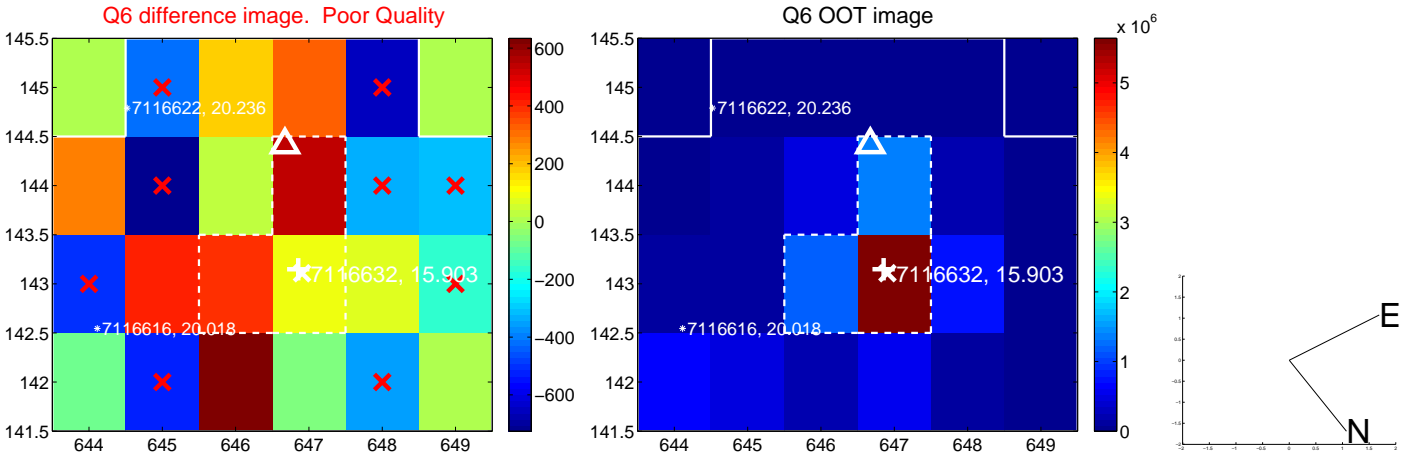
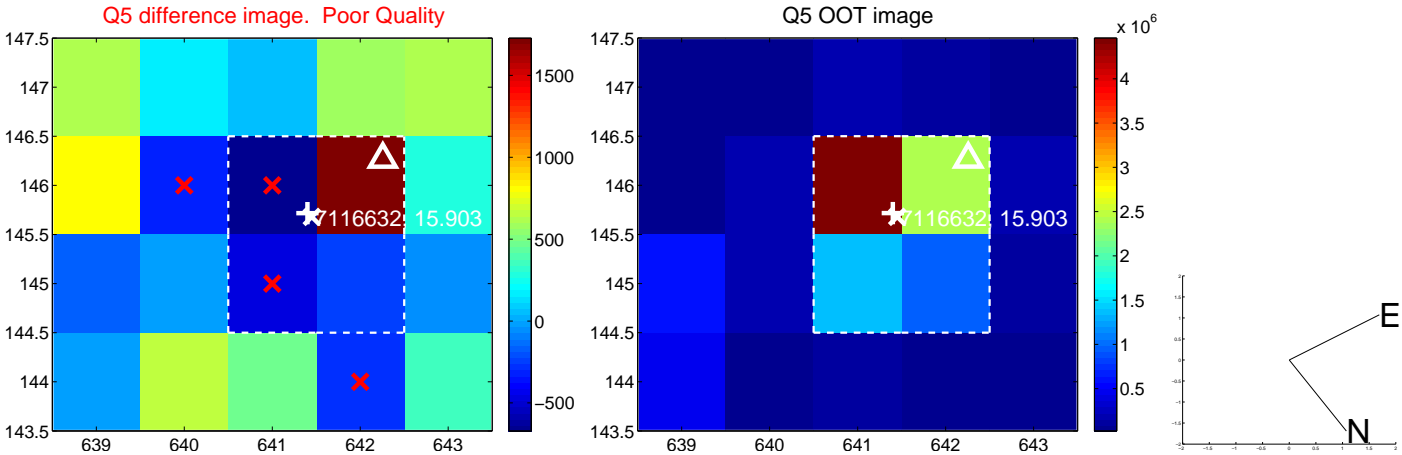


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

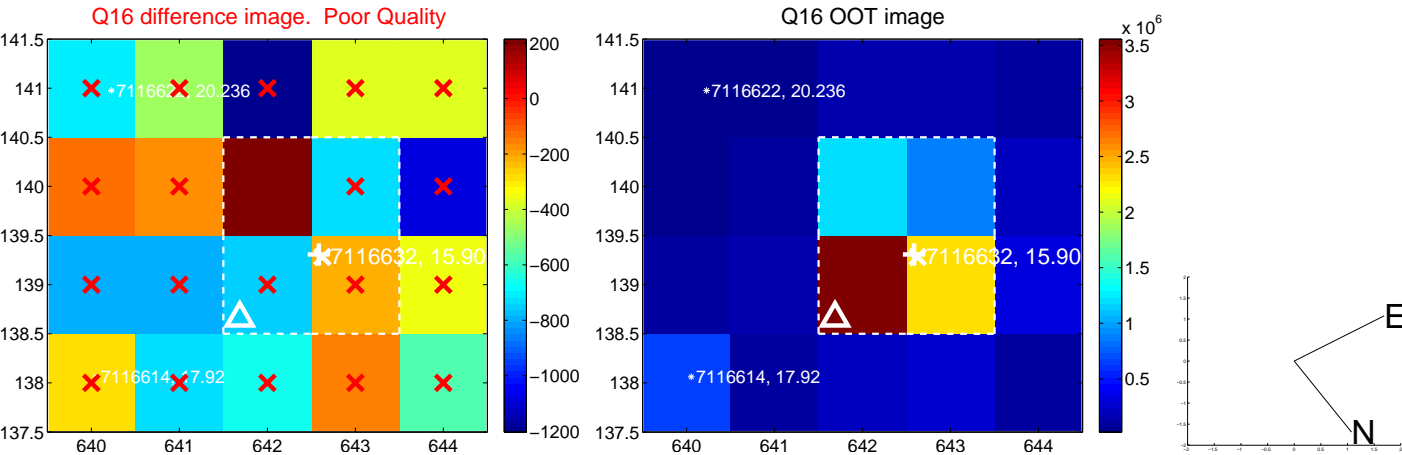
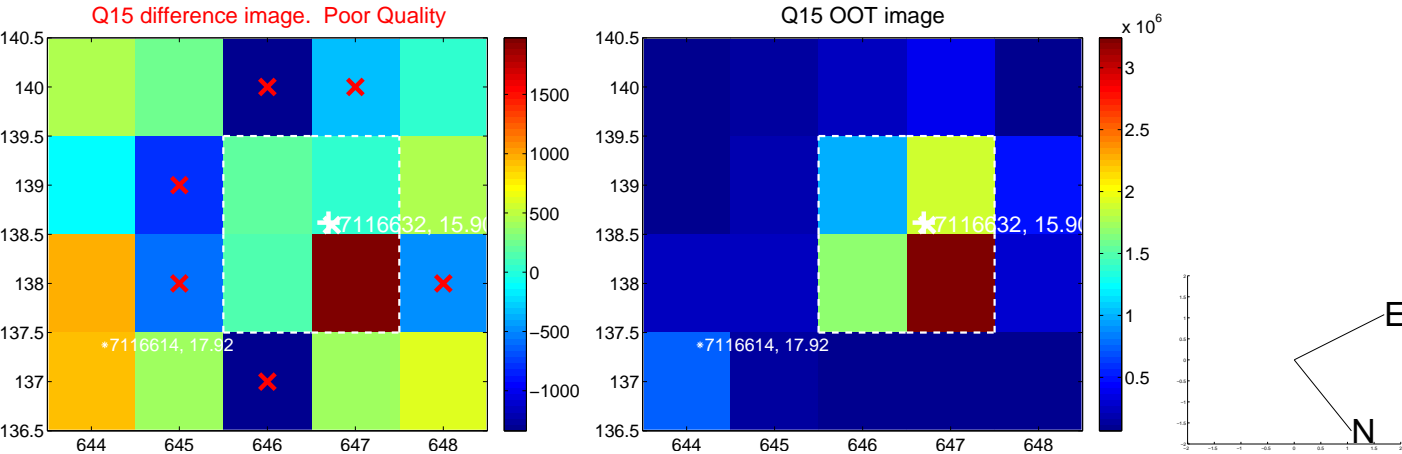
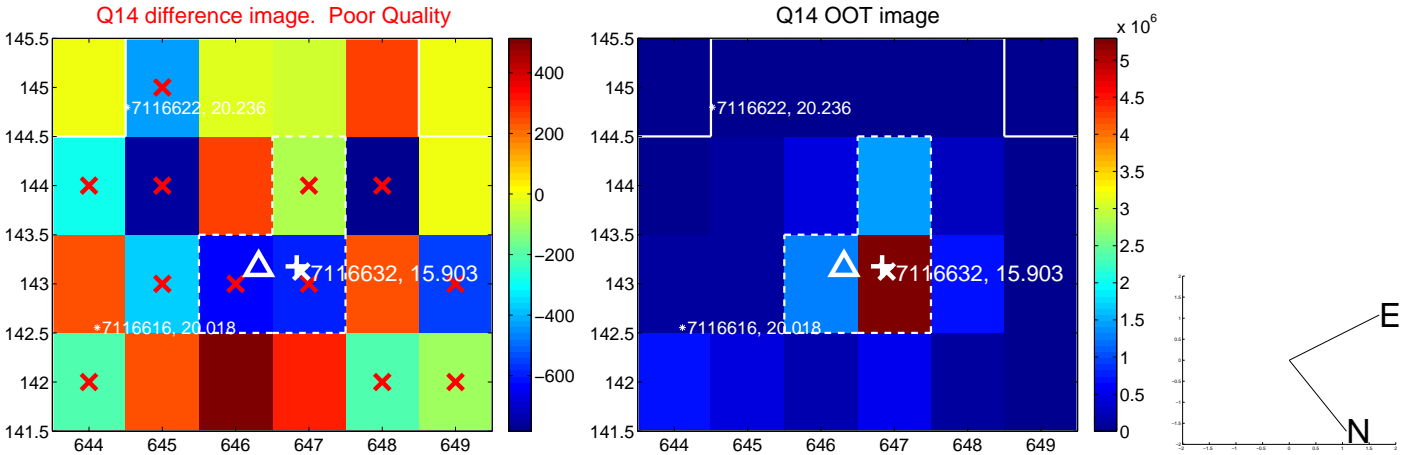
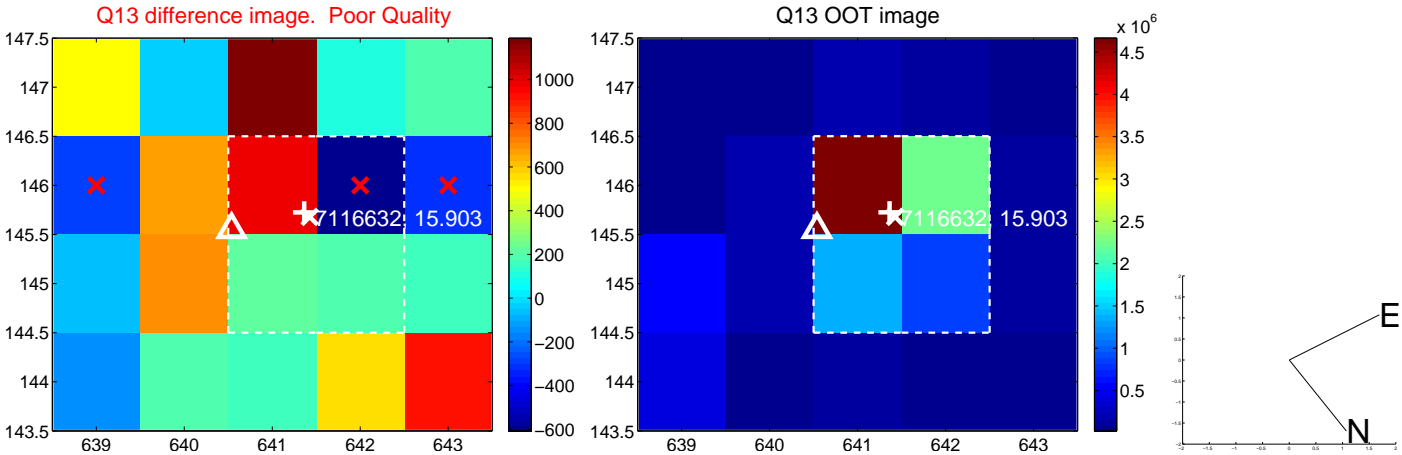
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



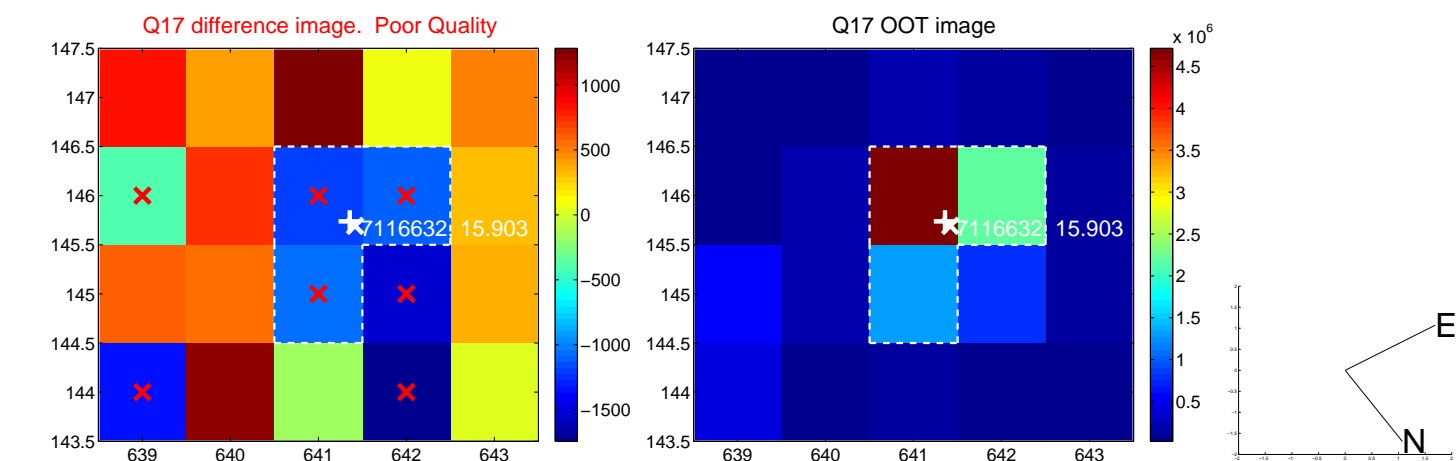
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



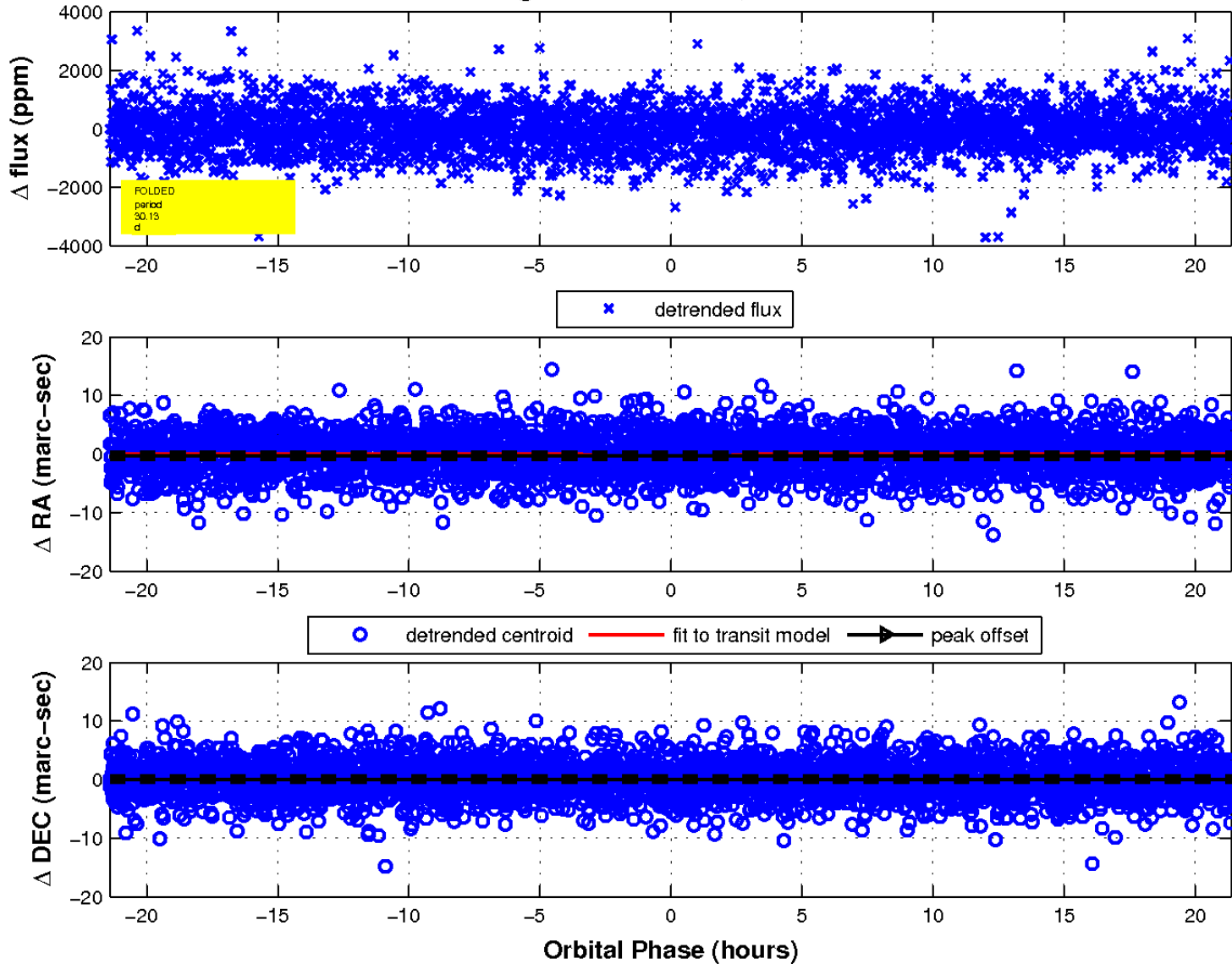
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

