

KIC 002306463

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})
002306463-01	OBS	No	0.513609	131.966103	6.7	2.430	8.0	4.7	2.29	7282	0.60	57985.94
002306463-02	OBS	No	306.085677	336.700518	148.9	3.717	7.2	6.5	2.29	7282	3.19	11.56
002306463-03	OBS	No	163.816745	193.992503	174.8	2.311	7.1	8.2	2.29	7282	3.52	26.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002306463-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
002306463-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
002306463-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_ALT

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

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

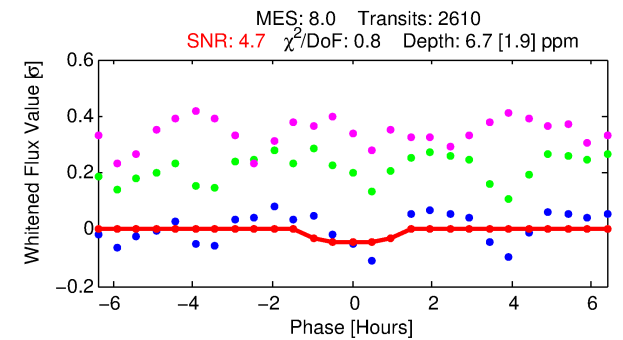
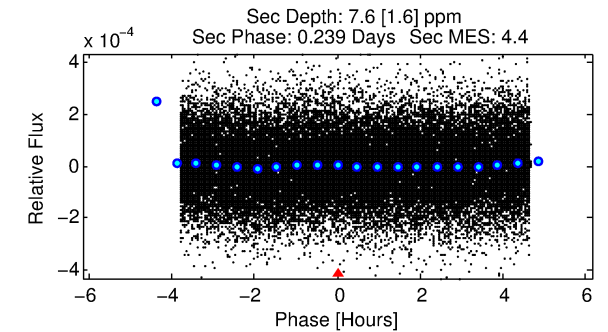
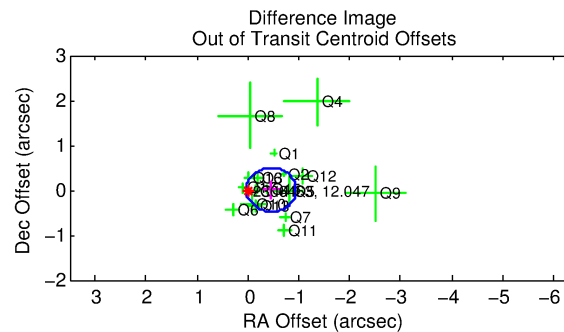
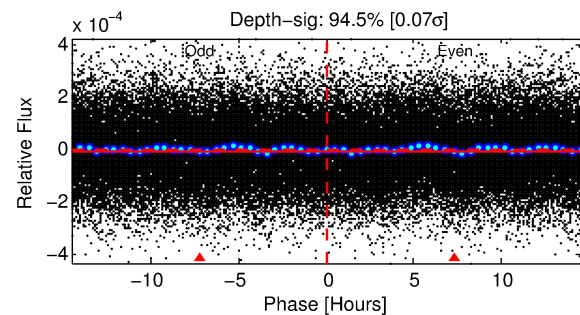
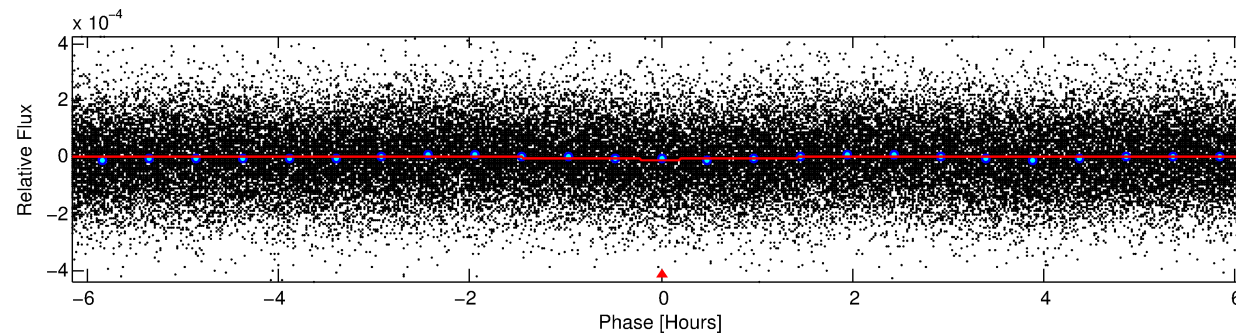
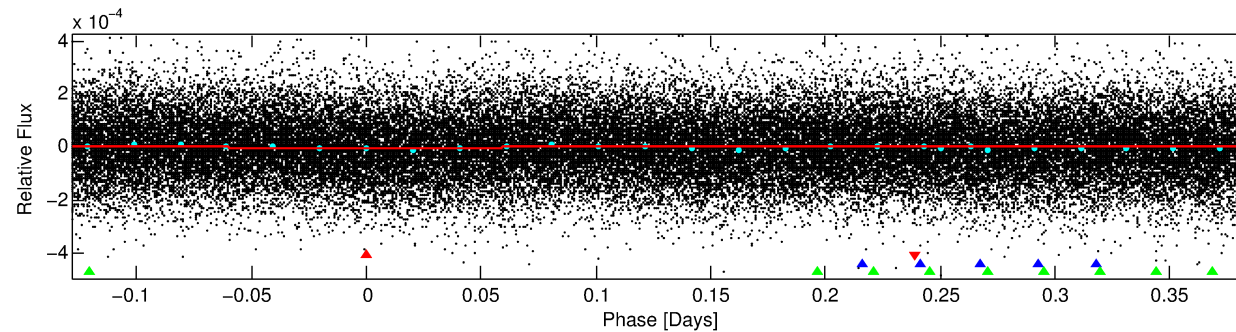
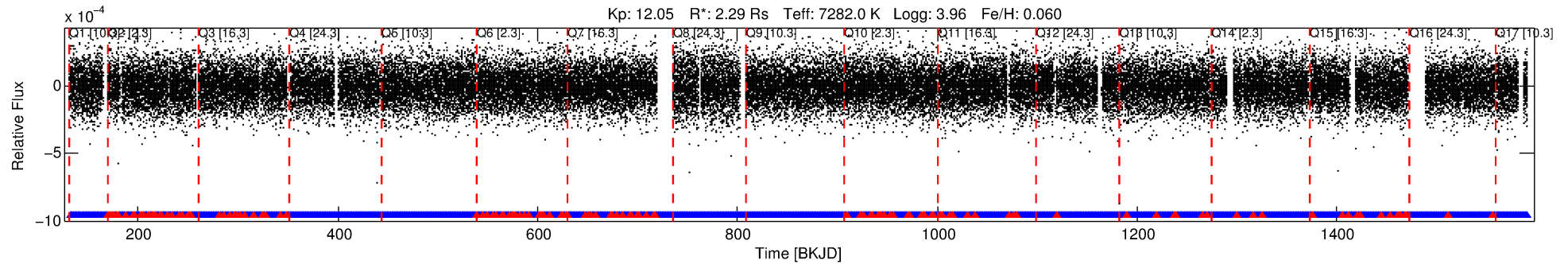
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002306463-01

No Significant Match Found

DV One-Page Summary

KIC: 2306463 Candidate: 1 of 3 Period: 0.514 d



DV Fit Results:

Period = 0.51361 [0.00002] d
Epoch = 131.9661 [0.0053] BKJD
Rp/R* = 0.0024 [0.0032]
a/R* = 1.70 [8.80]
b = 0.20 [38.01]
Seff = 57985.94 [23148.42]
Teq = 3957 [395] K
Rp = 0.60 [0.81] Re
a = 0.0151 [0.0036] AU
Ag = 2.63 [7.05] [0.23 σ]
Teffp = 7791 [5183] K [0.74 σ]

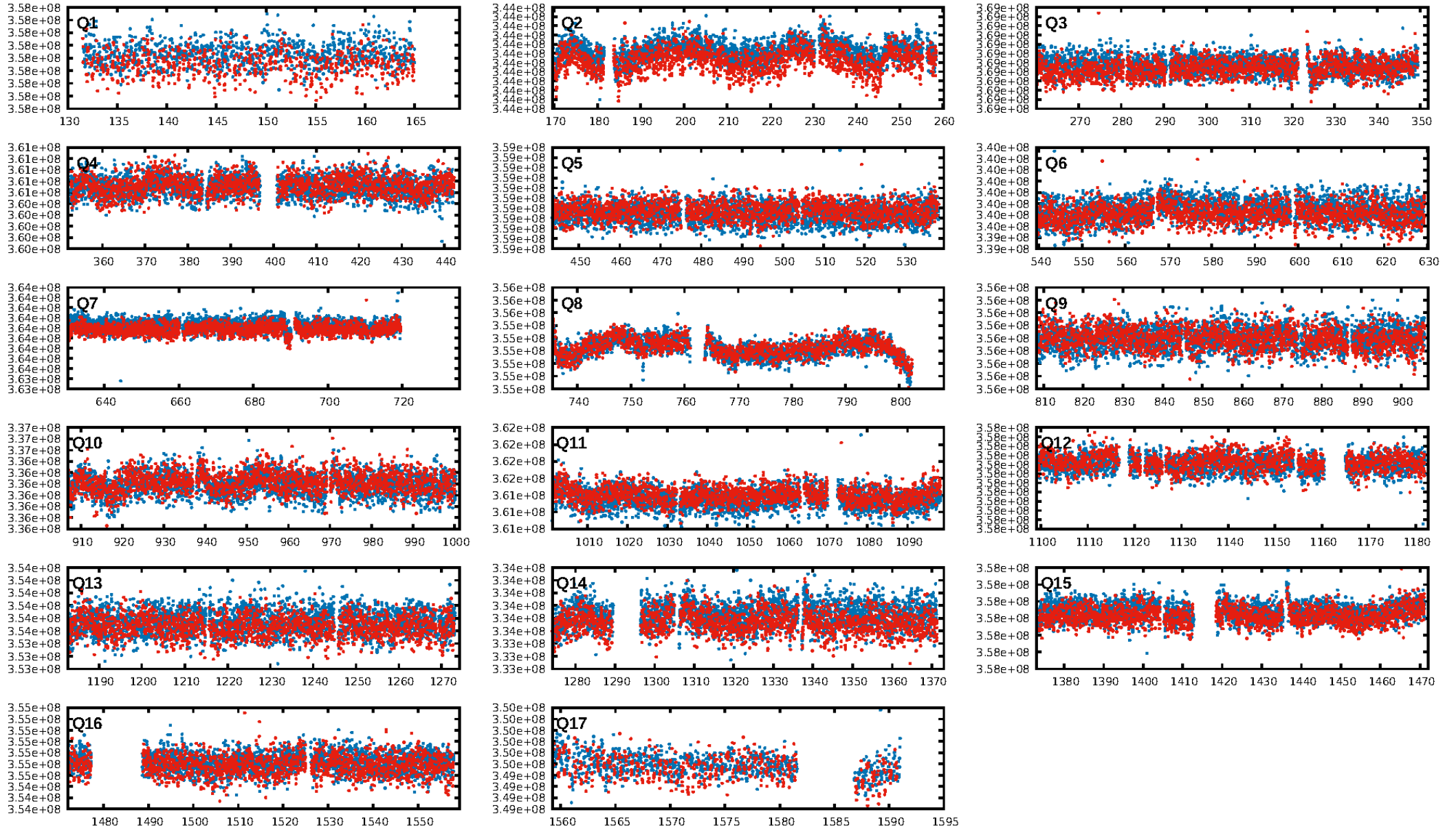
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [1168.80 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.24e-11
RollingBand-fgt: 0.94 [2342/2492]
GhostDiagnostic-chr: 1.632
Centroid-sig: 2.4%
Centroid-so: 1.648 arcsec [0.91 σ]
OotOffset-rm: 0.456 arcsec [2.79 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.336 arcsec [1.84 σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.59 [10/17]
DiffImageOverlap-fno: 1.00 [17/17]

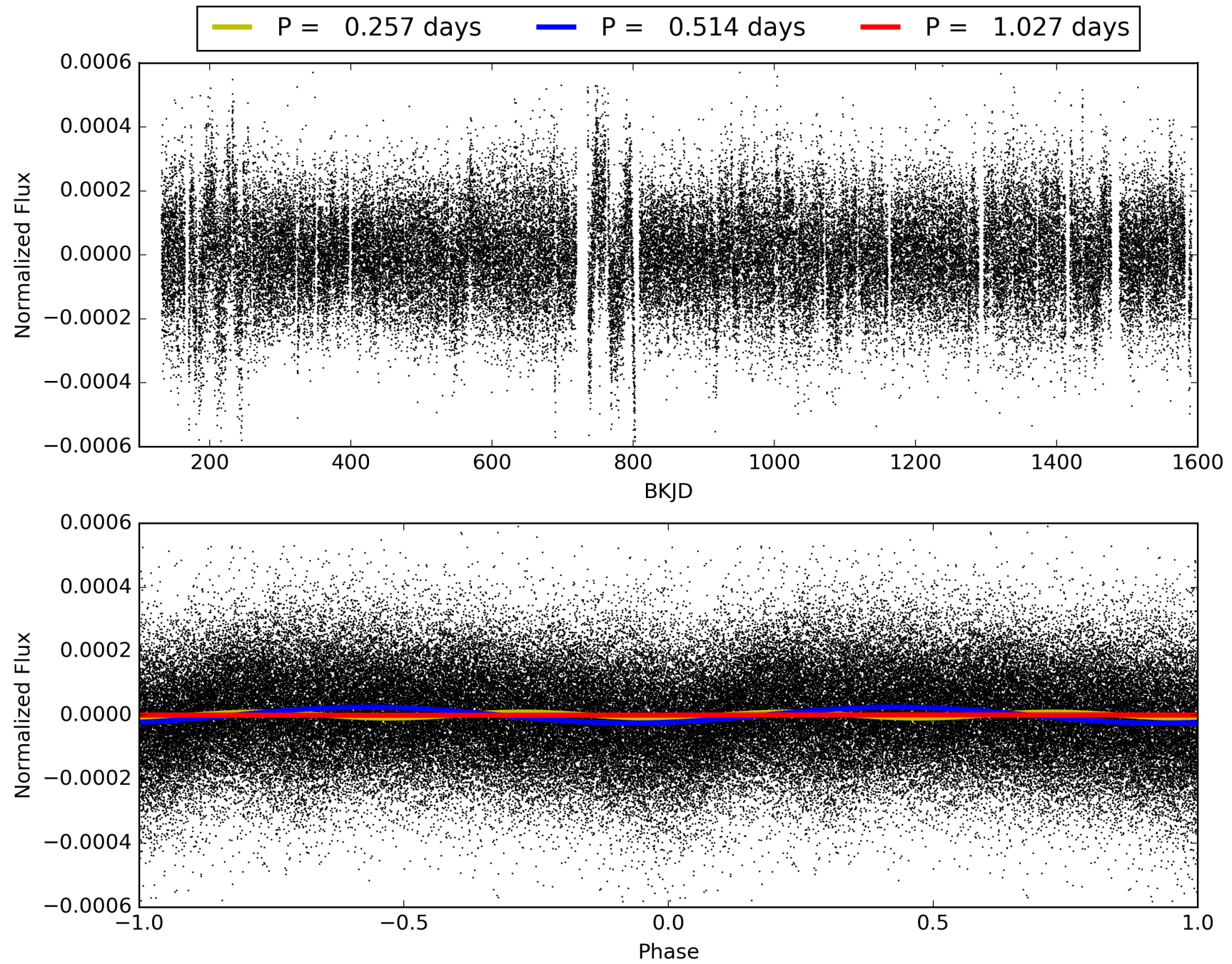
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:17:48 Z

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

TCE 002306463-01, PDC Light Curves

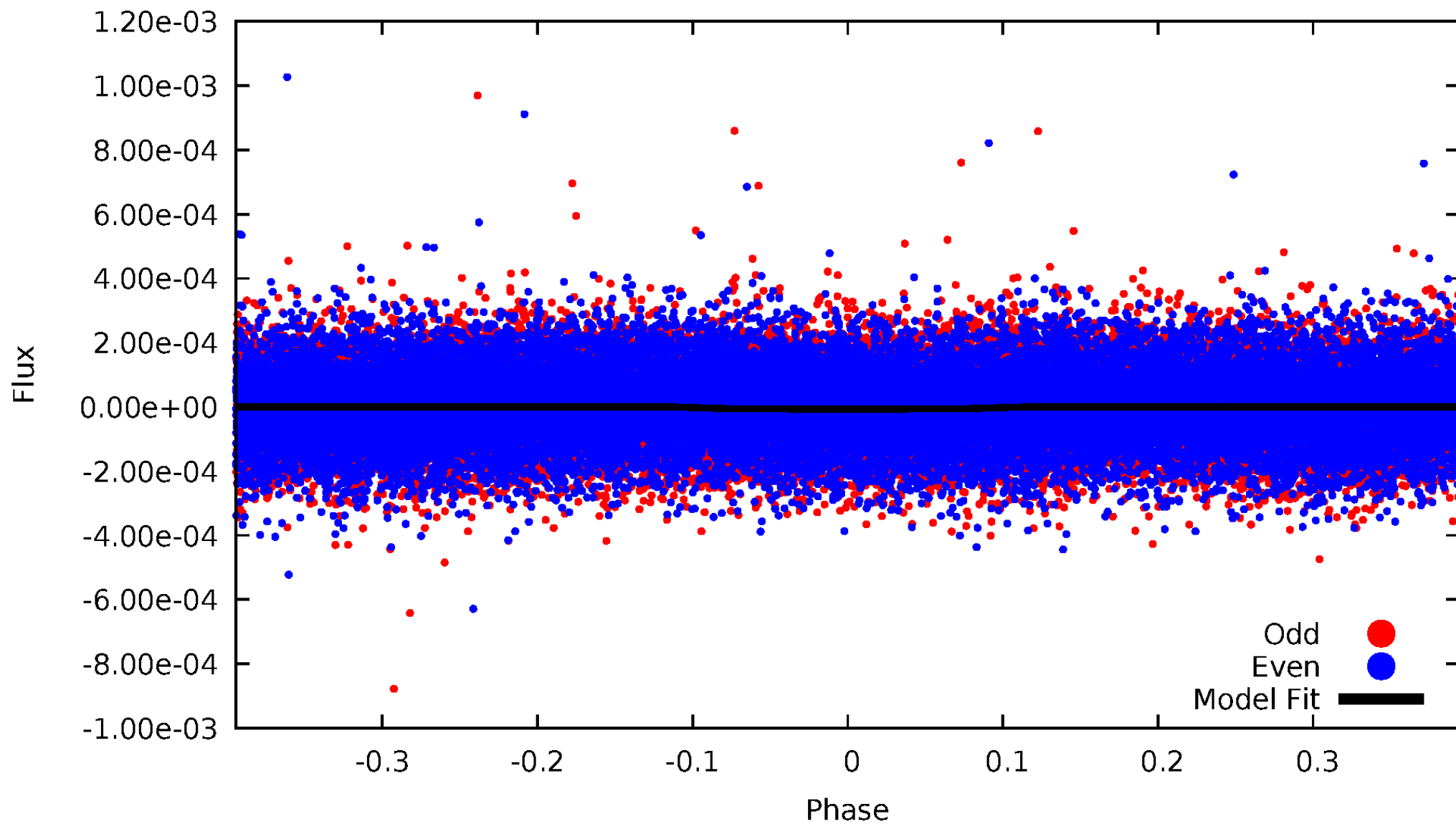


TCE 002306463-01



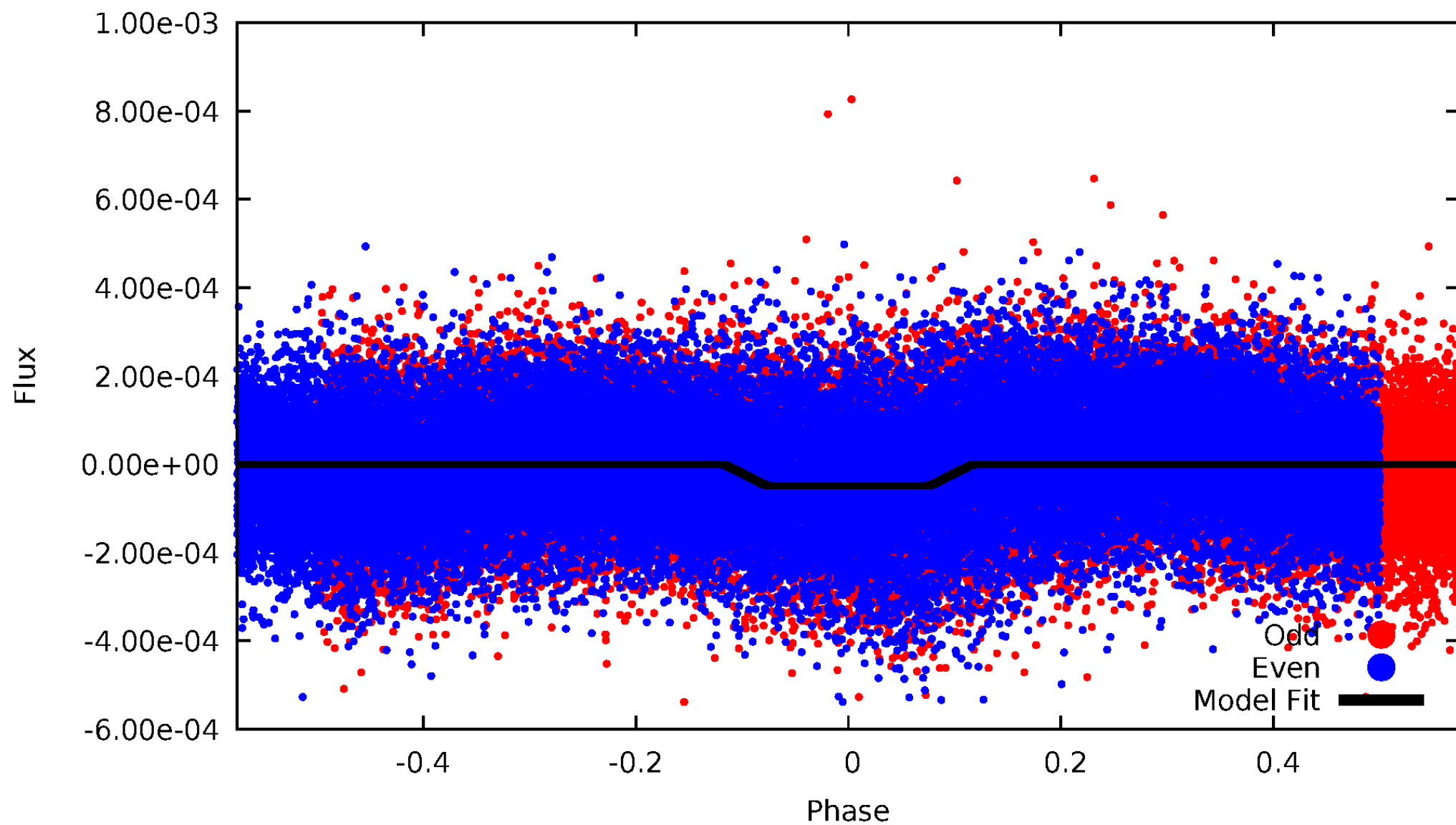
DV Odd/Even

TCE 002306463-01



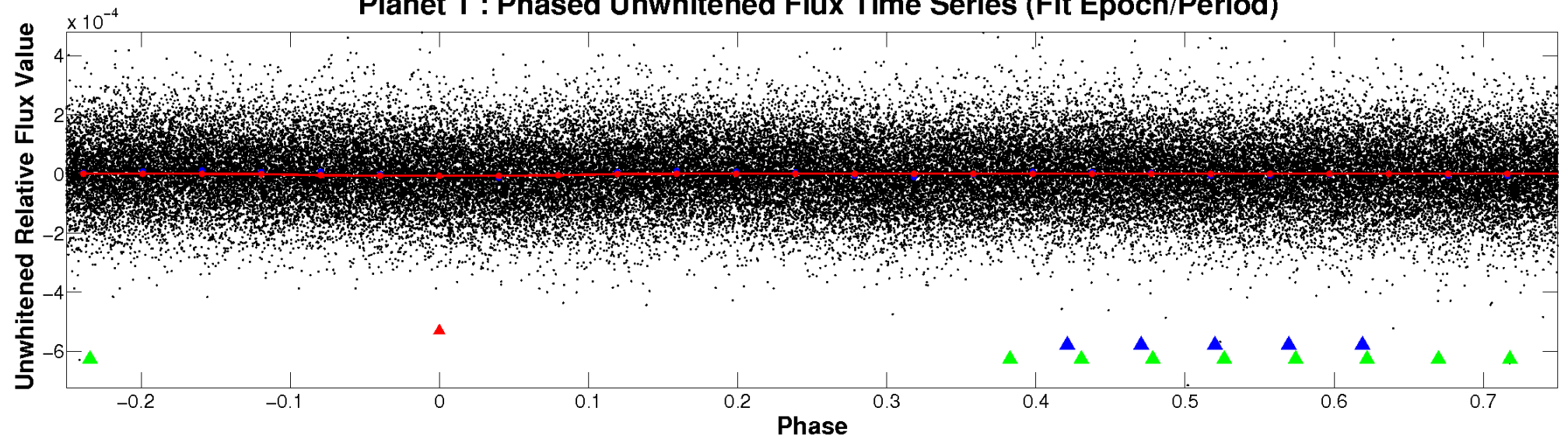
ALT Odd/Even

TCE 002306463-01

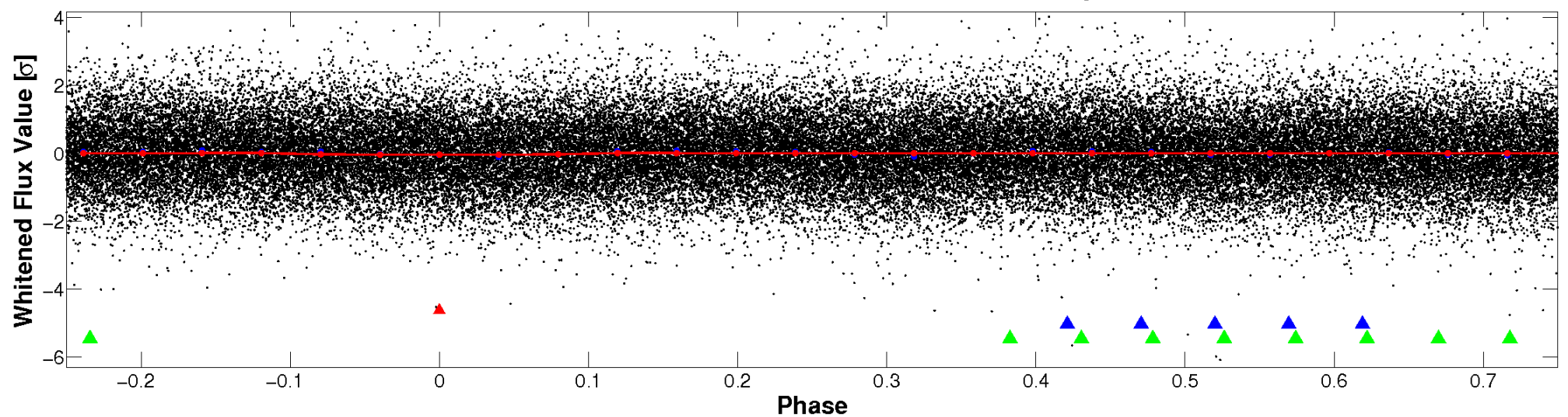


Non-Whitened Vs. Whitened Light Curve

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

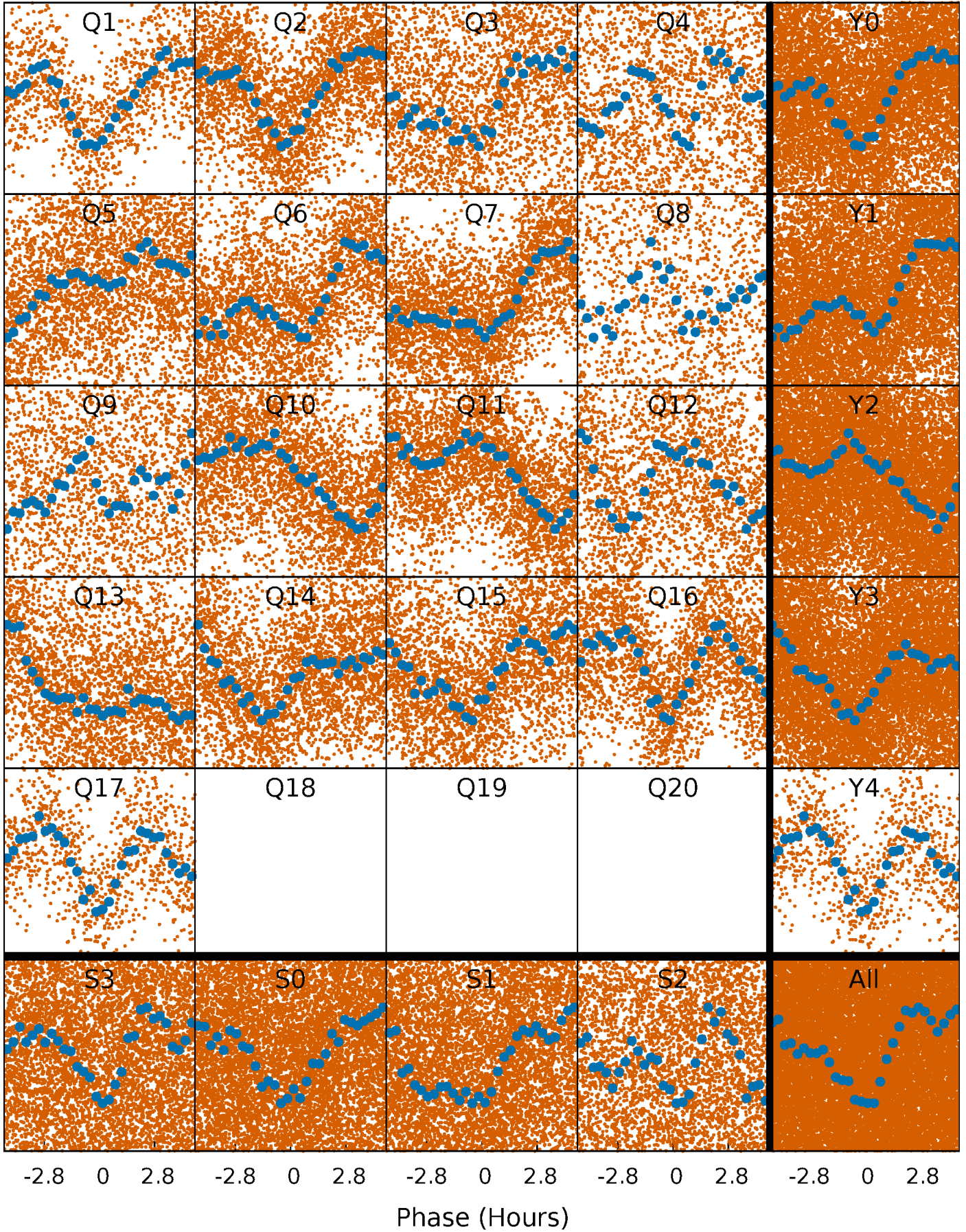


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



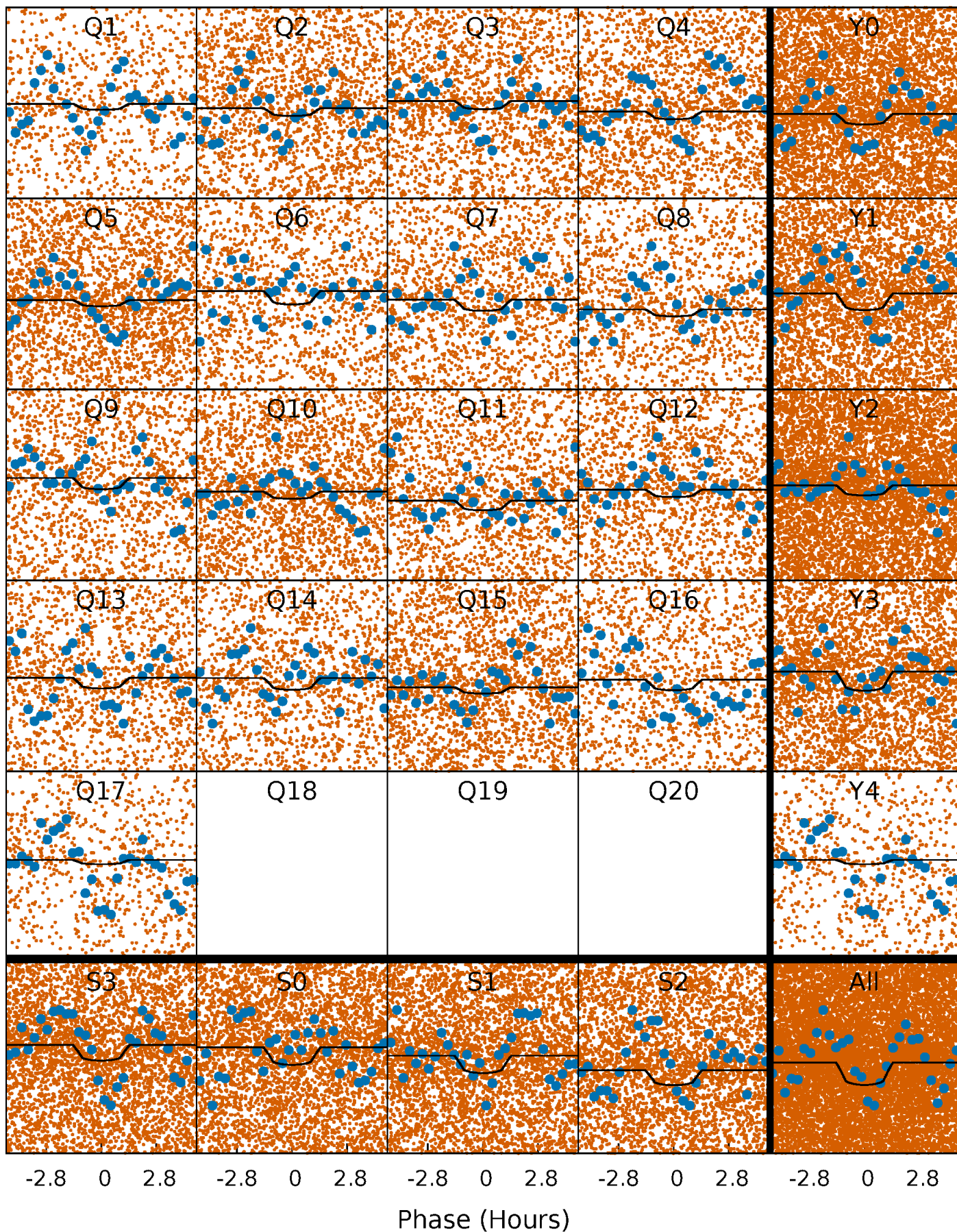
PDC Quarter-Phased Transit Curves

TCE 002306463-01 P= 0.513609 Days $T_0=131.966103$ (BKJD)



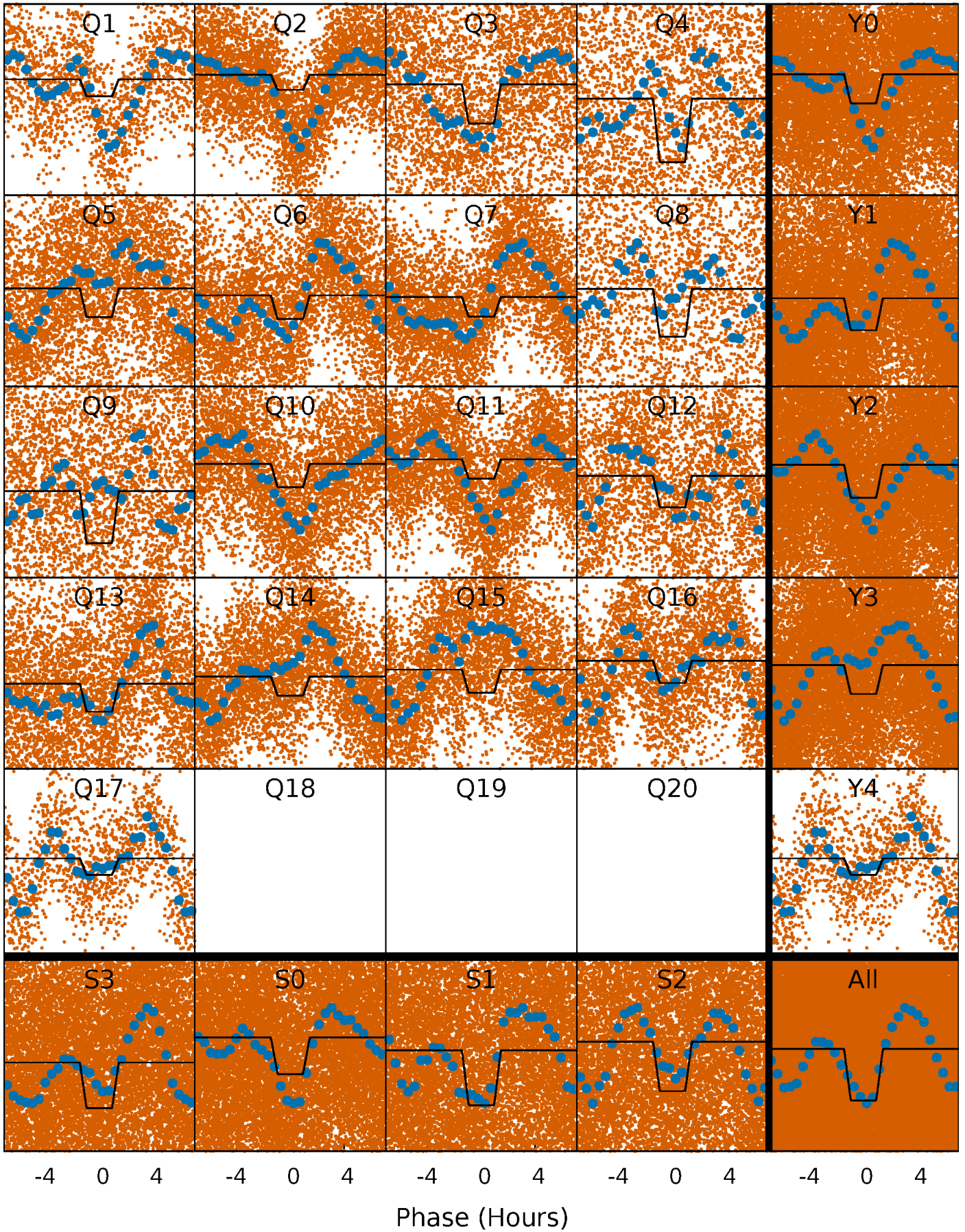
DV Quarter-Phased Transit Curves

TCE 002306463-01 P= 0.513609 Days $T_0=131.966103$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

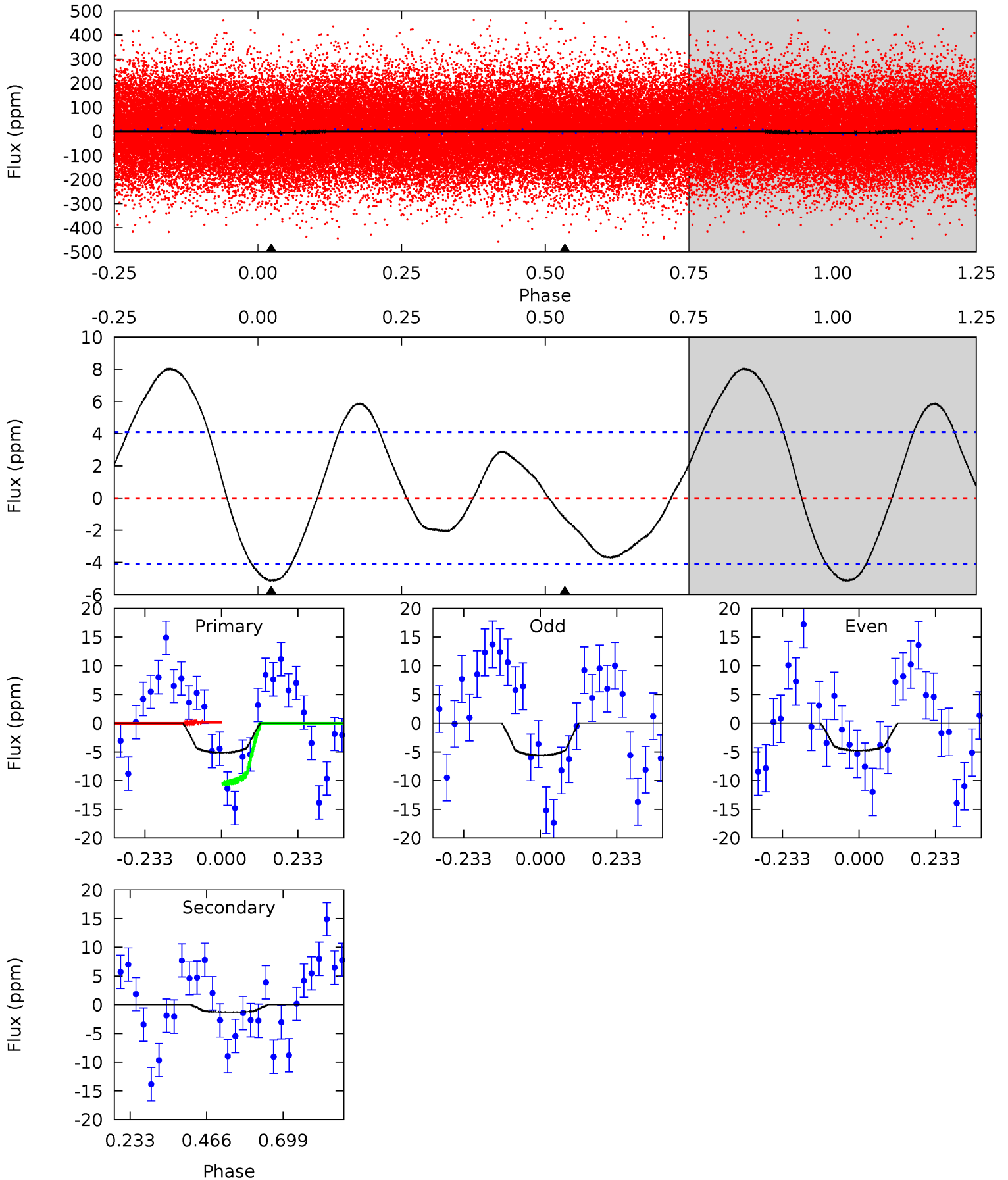
TCE 002306463-01 P= 0.513714 Days $T_0=131.909274$ (BKJD)



DV Model-Shift Uniqueness Test

002306463-01, P = 0.513609 Days, E = 131.452494 Days

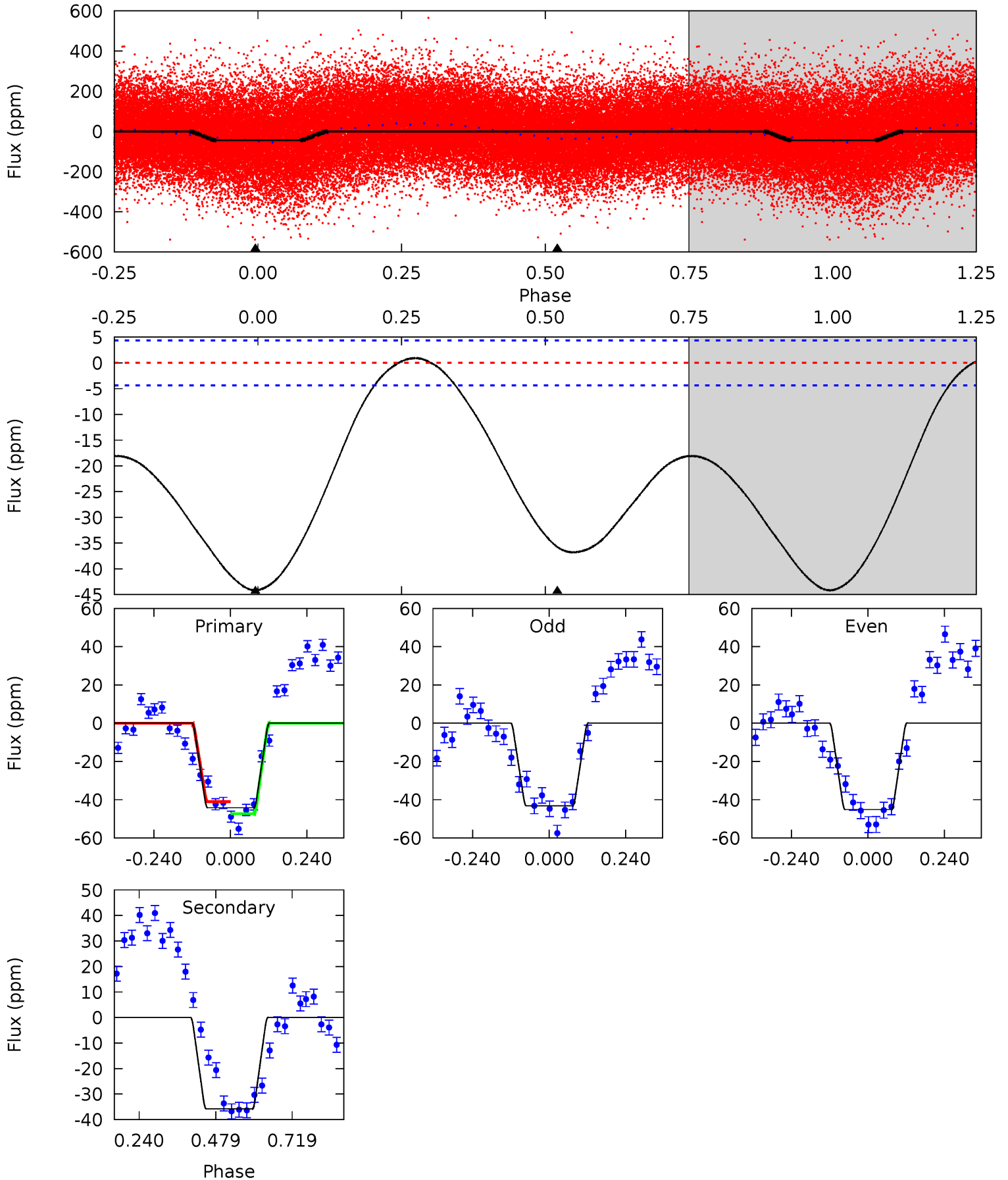
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.52	1.38	0	0	4.38	1.19	3.03	5.52	5.52	1.38	1.38	0.44	0.98	0.61	5.61



Alt Model-Shift Uniqueness Test

002306463-01, P = 0.513714 Days, E = 131.395560 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
44.4	36.0	0	0	4.38	1.18	8.07	44.4	44.4	36.0	36.0	0.95	1.00	0.02	3.13



Stellar Parameters For KIC 002306463

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7282^{+232}_{-309}	$3.959^{+0.204}_{-0.167}$	$0.060^{+0.200}_{-0.300}$	$2.293^{+0.558}_{-0.620}$	$1.744^{+0.197}_{-0.296}$	$0.204^{+0.274}_{-0.088}$
	+3%/-4%	+5%/-4%	+333%/-500%	+24%/-27%	+11%/-17%	+135%/-43%
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 002306463-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1 ± 1	$0.78^{+0.72}_{-0.50}$	5508^{+405}_{-474}	-3742^{+10332}_{-863}	$0.201^{+1.575}_{-0.169}$
Alt.	-36 ± 1	$1.68^{+0.86}_{-0.80}$	5499^{+414}_{-443}	6368^{+3382}_{-1454}	$1.547^{+3.964}_{-0.856}$

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

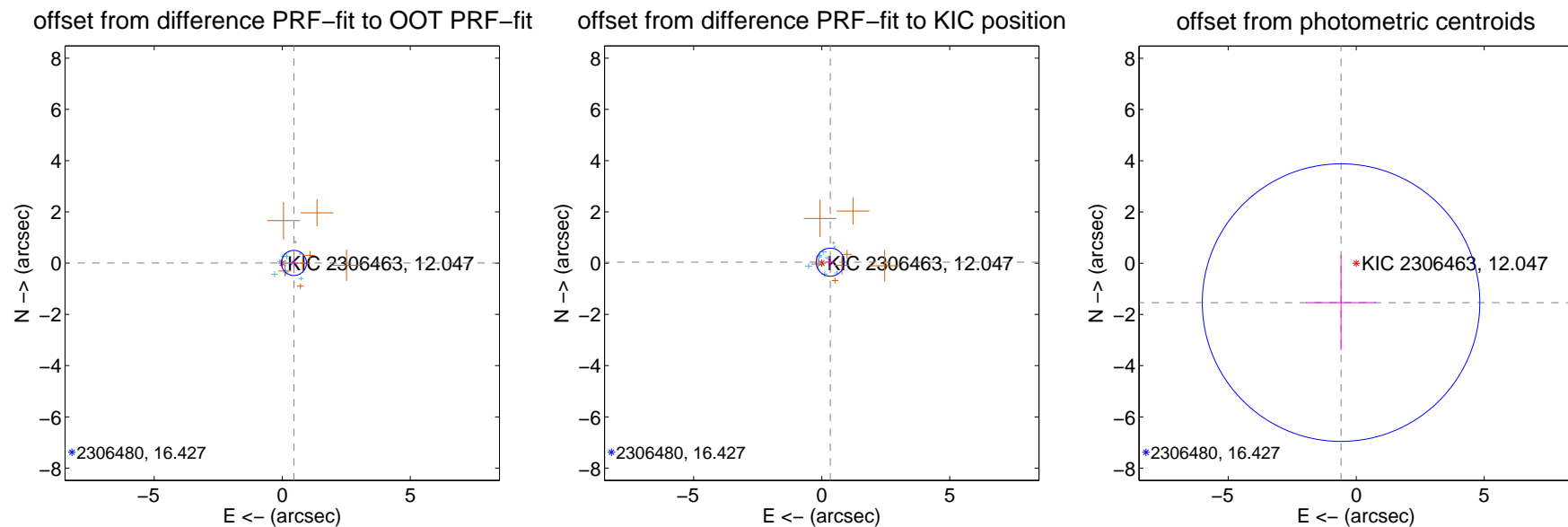
DV Centroid Data

Supplemental centroid analysis for 002306463-01. Kepler magnitude: 12.05. Transit SNR 4.65

There are 10 quarters with good PRF difference image offsets

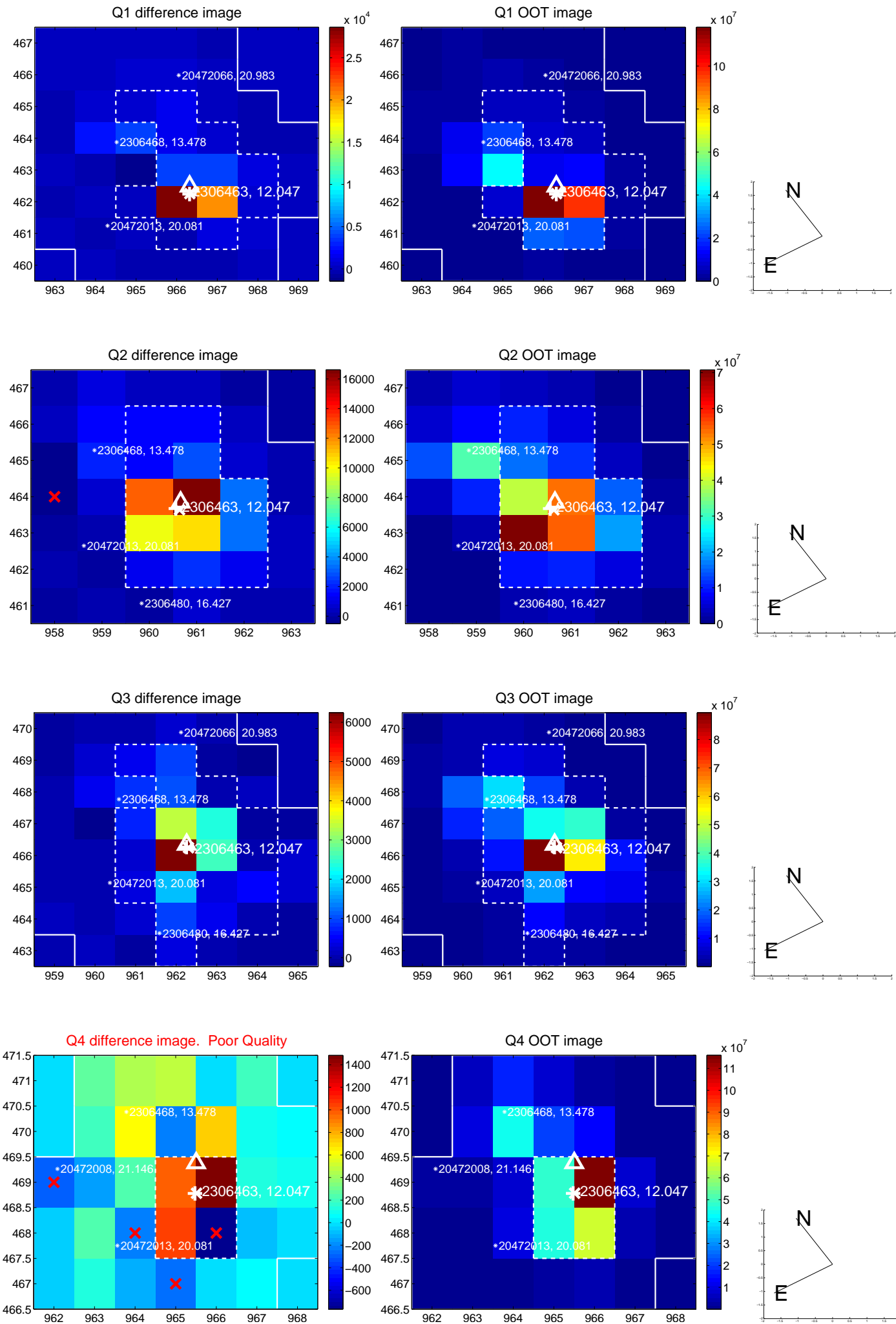
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.456 ± 0.164	2.79	-0.456 ± 0.163	0.008 ± 0.194
PRF-fit source offset from KIC position	0.336 ± 0.183	1.84	-0.334 ± 0.181	0.037 ± 0.187
photometric centroid source offset	1.65 ± 1.81	0.91	0.59 ± 1.37	-1.54 ± 1.86

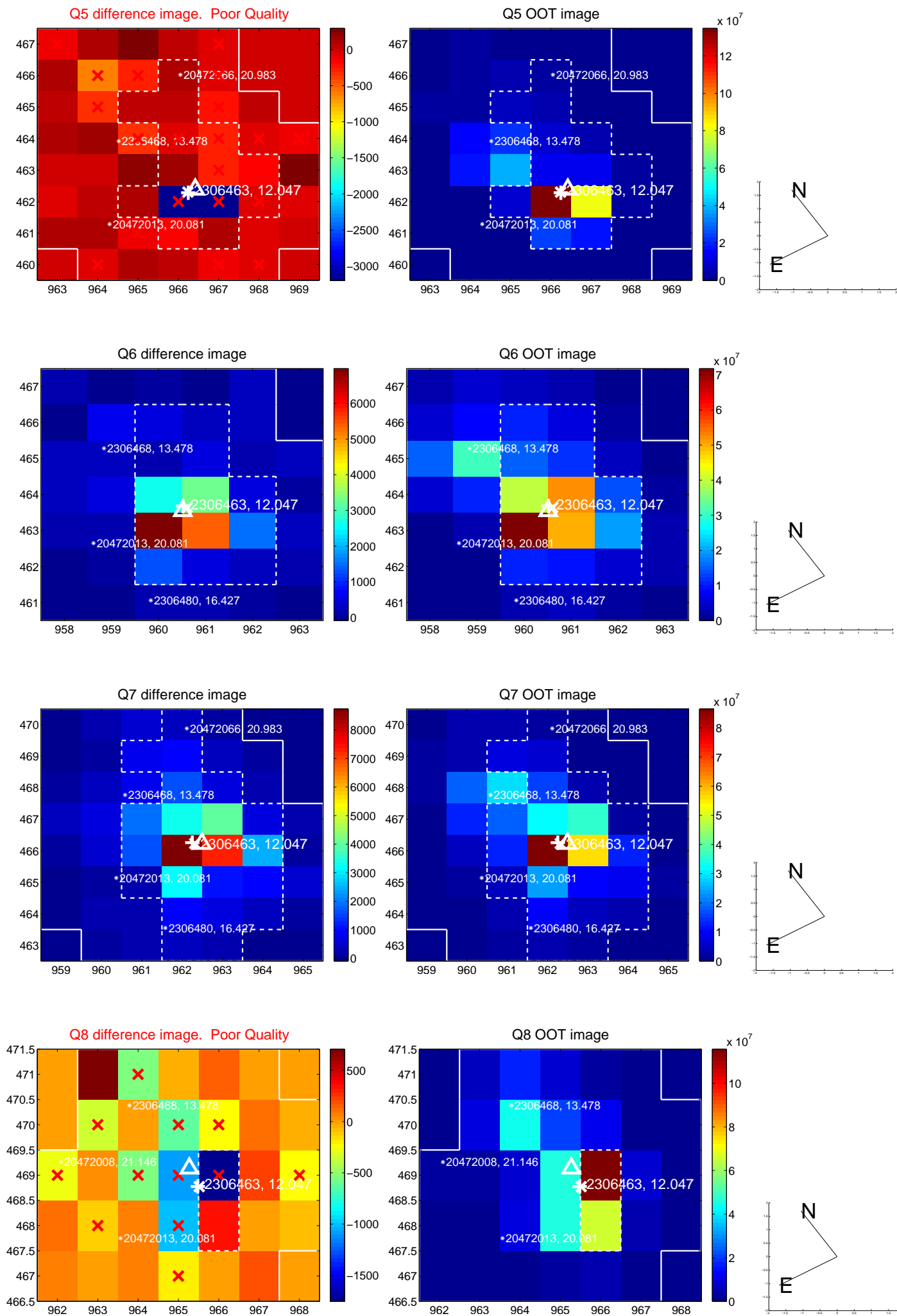


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

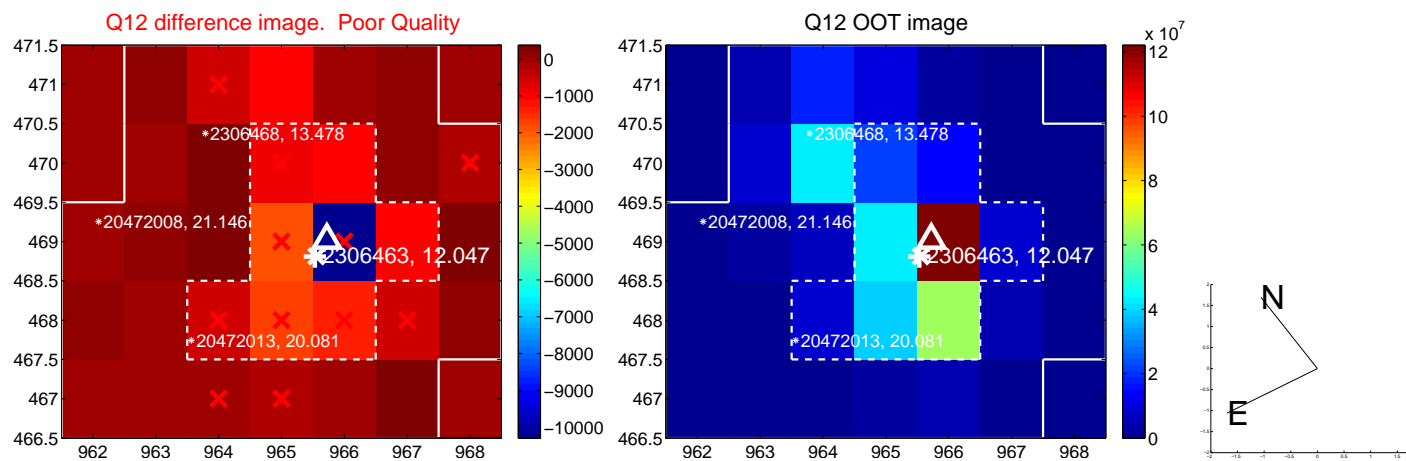
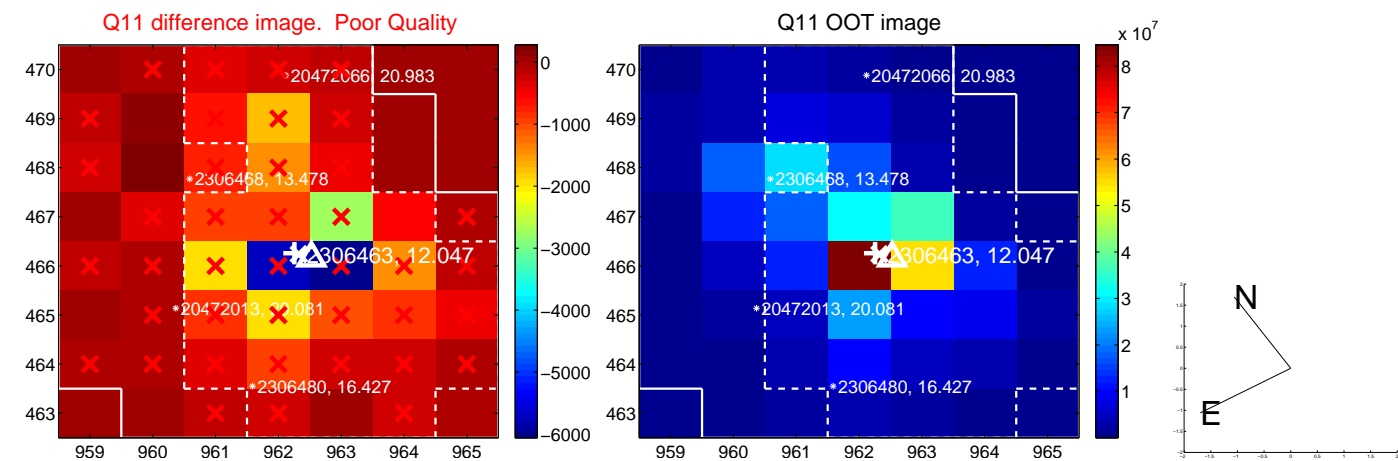
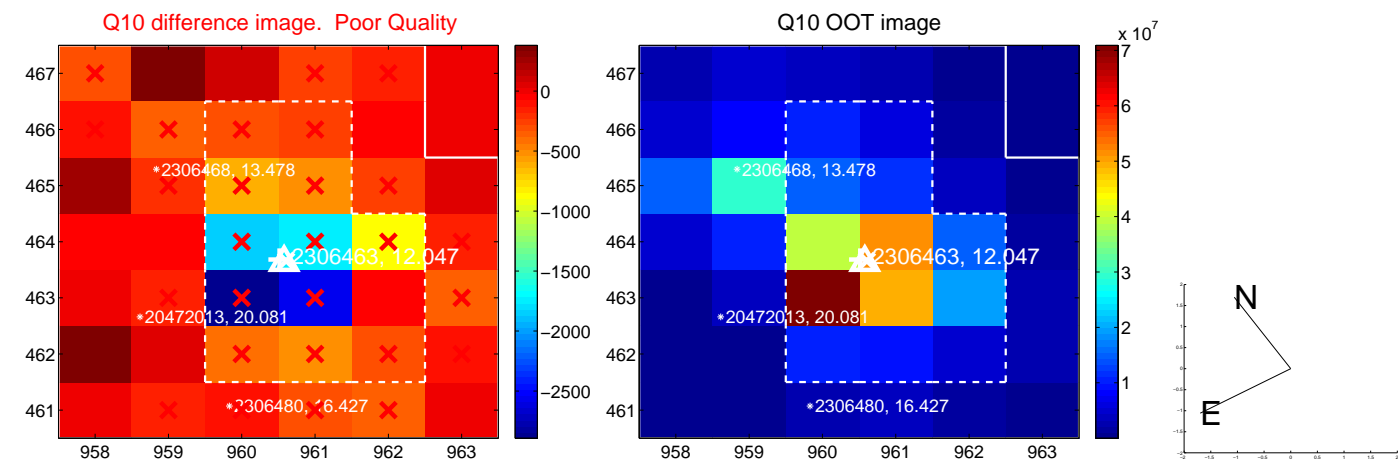
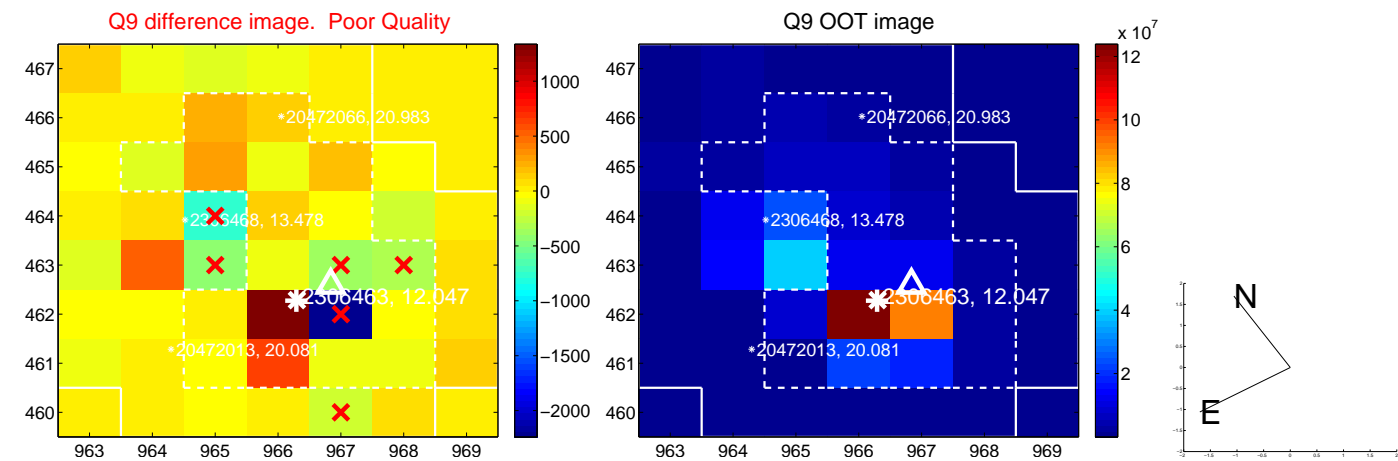
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



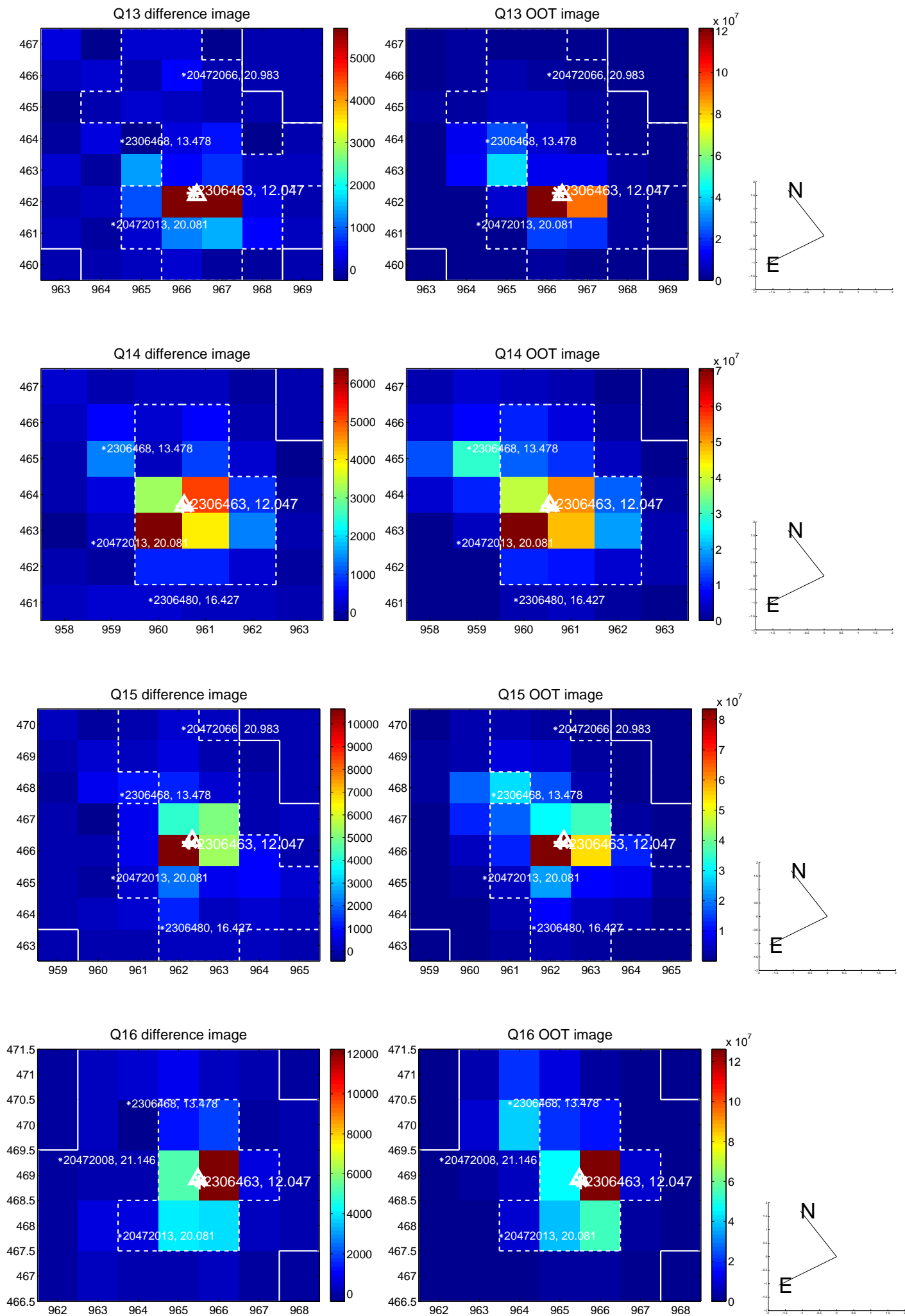
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



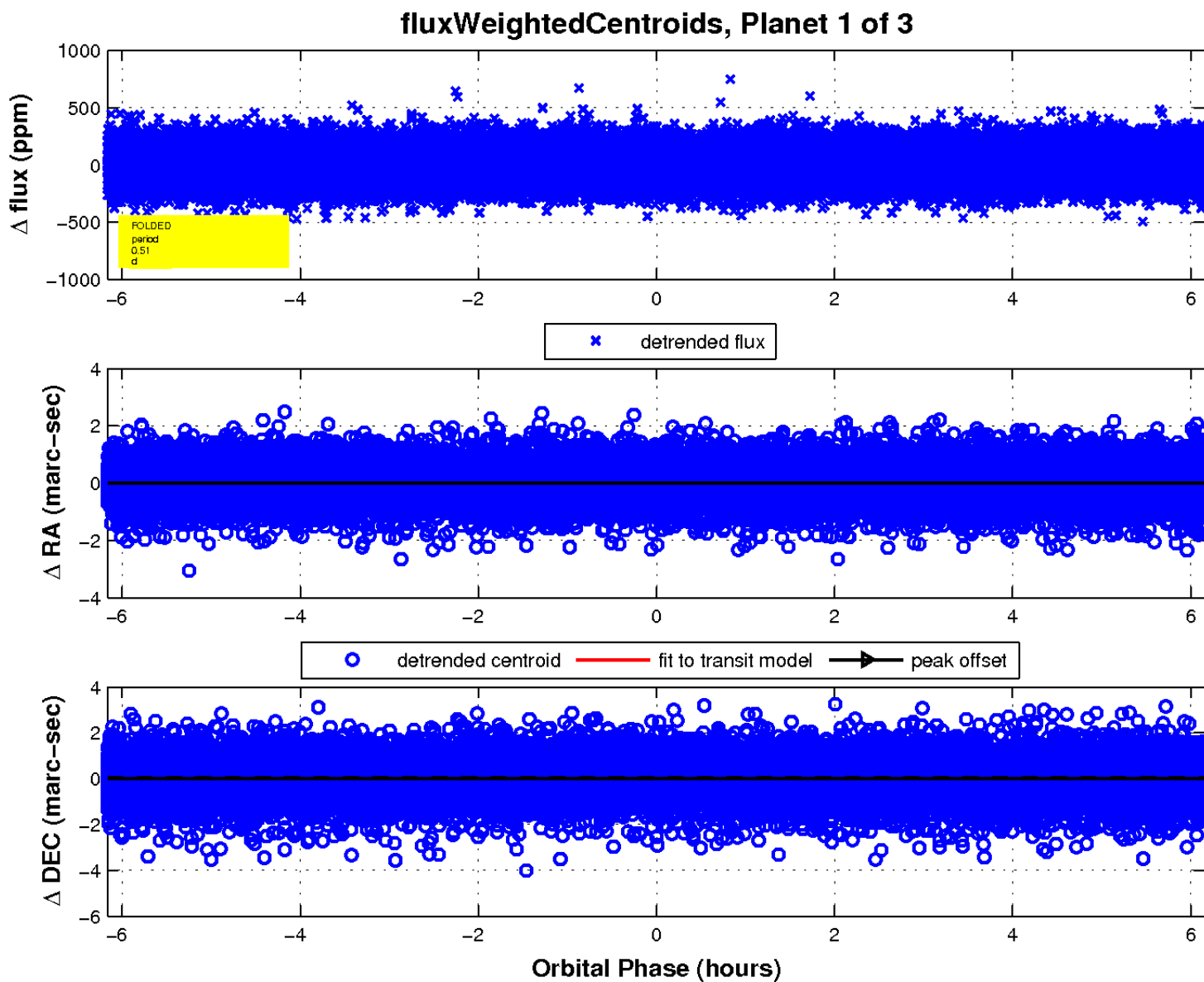
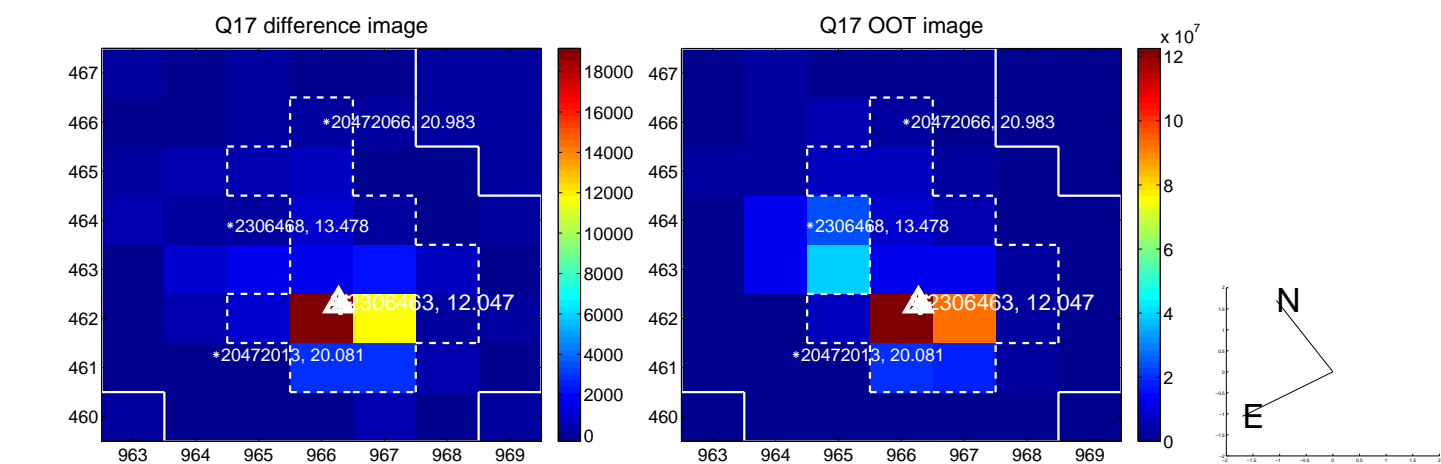
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

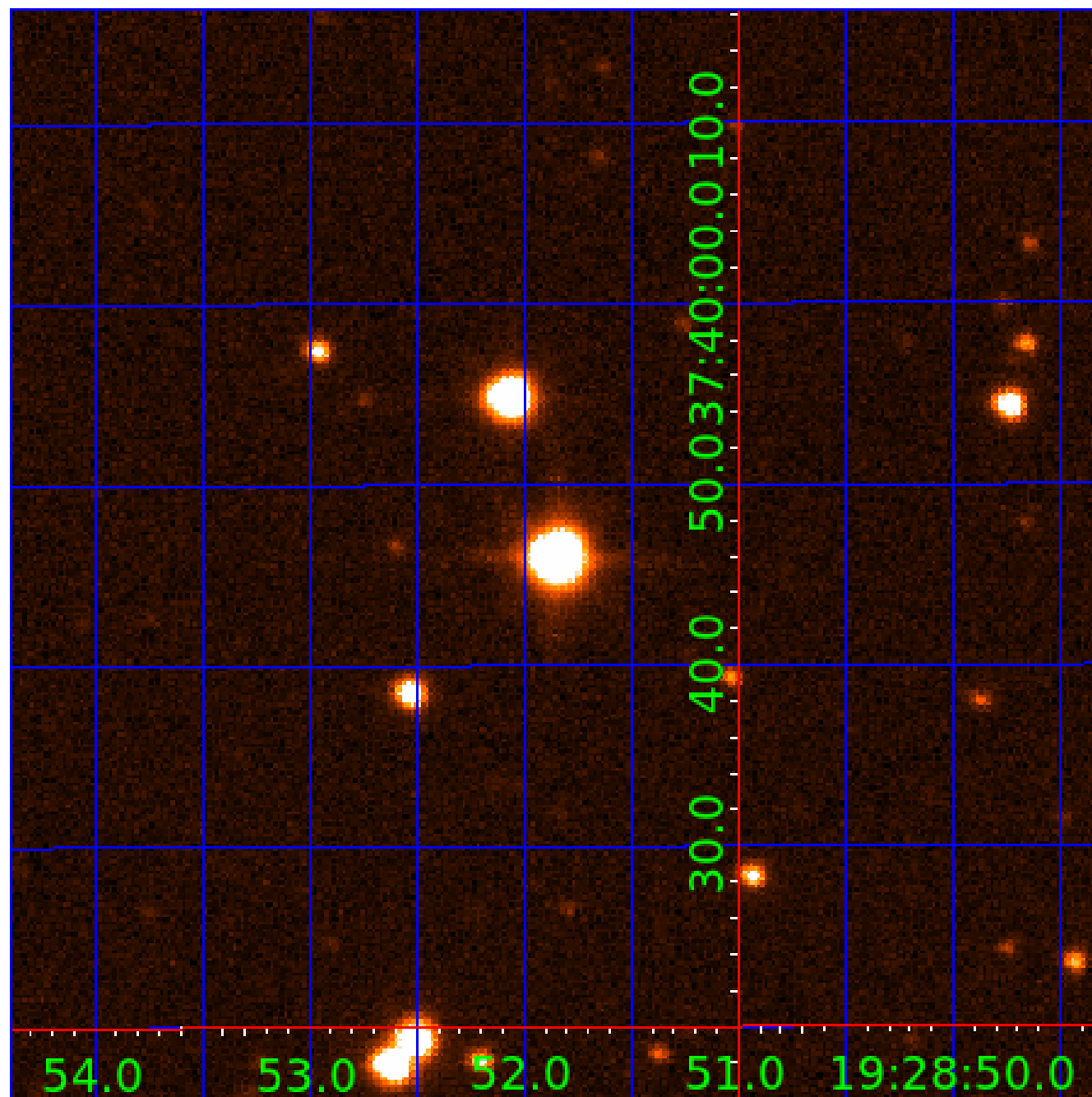


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002306463

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})
002306463-01	OBS	No	0.513609	131.966103	6.7	2.430	8.0	4.7	2.29	7282	0.60	57985.94
002306463-02	OBS	No	306.085677	336.700518	148.9	3.717	7.2	6.5	2.29	7282	3.19	11.56
002306463-03	OBS	No	163.816745	193.992503	174.8	2.311	7.1	8.2	2.29	7282	3.52	26.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002306463-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
002306463-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
002306463-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_ALT

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

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

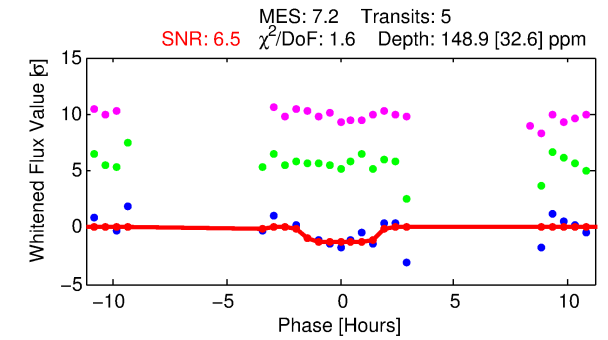
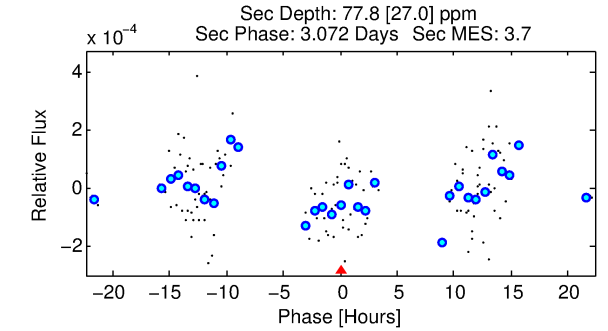
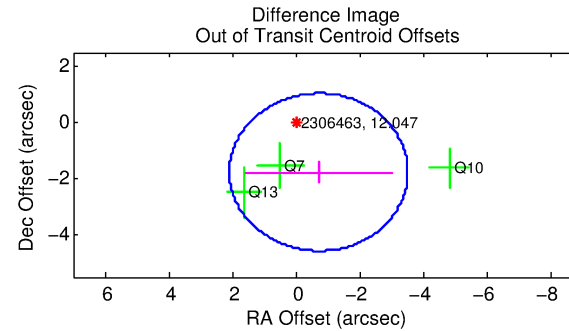
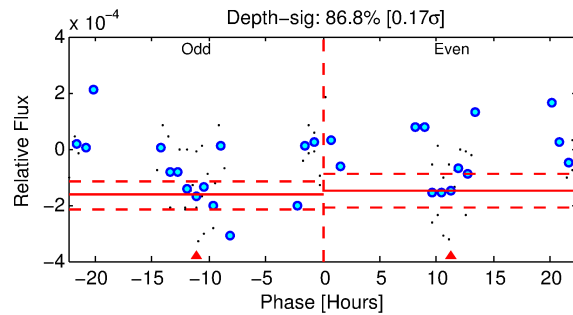
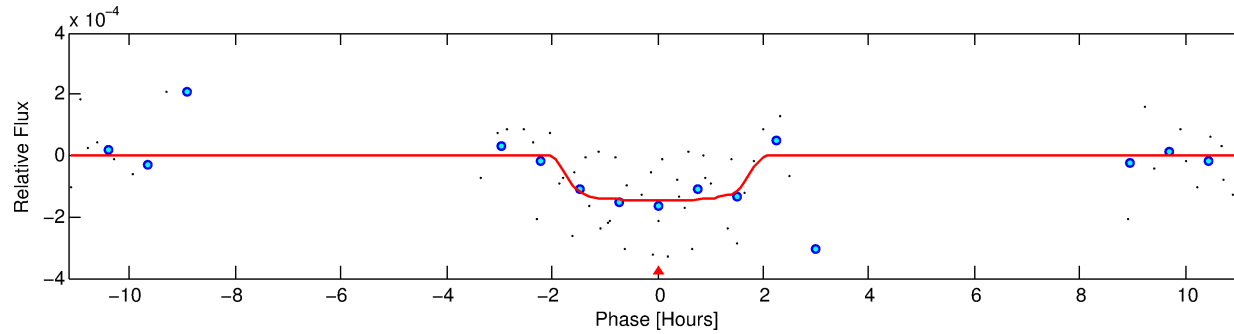
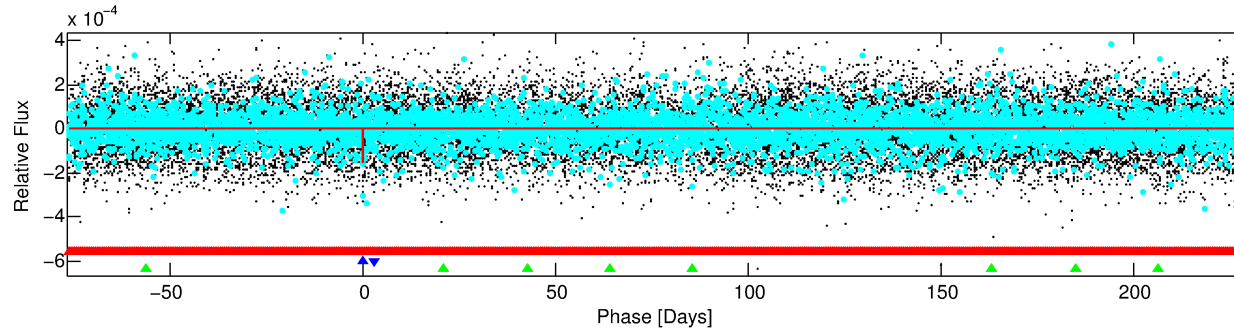
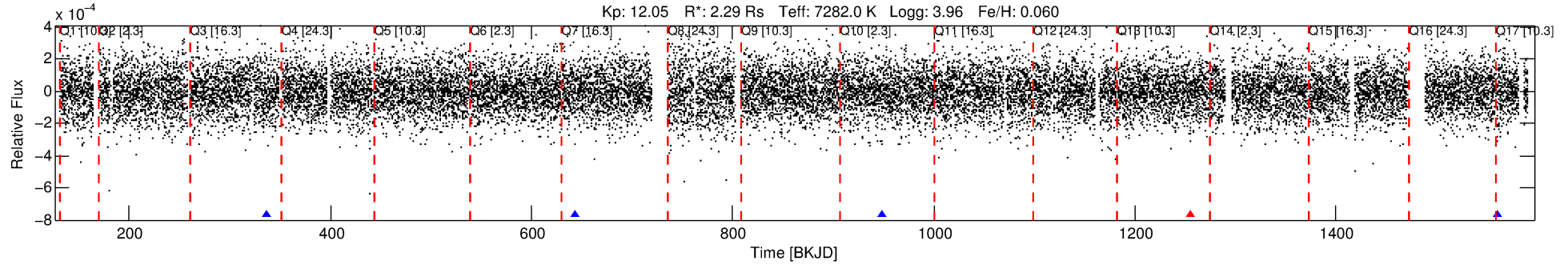
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002306463-02

No Significant Match Found

DV One-Page Summary

KIC: 2306463 Candidate: 2 of 3 Period: 306.086 d



DV Fit Results:

Period = 306.08568 [0.00918] d
Epoch = 336.7005 [0.0224] BKJD
Rp/R* = 0.0128 [0.0128]
a/R* = 318.31 [2012.97]
b = 0.88 [1.68]
Seff = 11.56 [4.62]
Teq = 470 [47] K
Rp = 3.19 [3.33] Re
a = 1.0704 [0.2556] AU
Ag = 4803.61 [9954.66] [0.48 σ]
Teffp = 6052 [3098] K [1.80 σ]

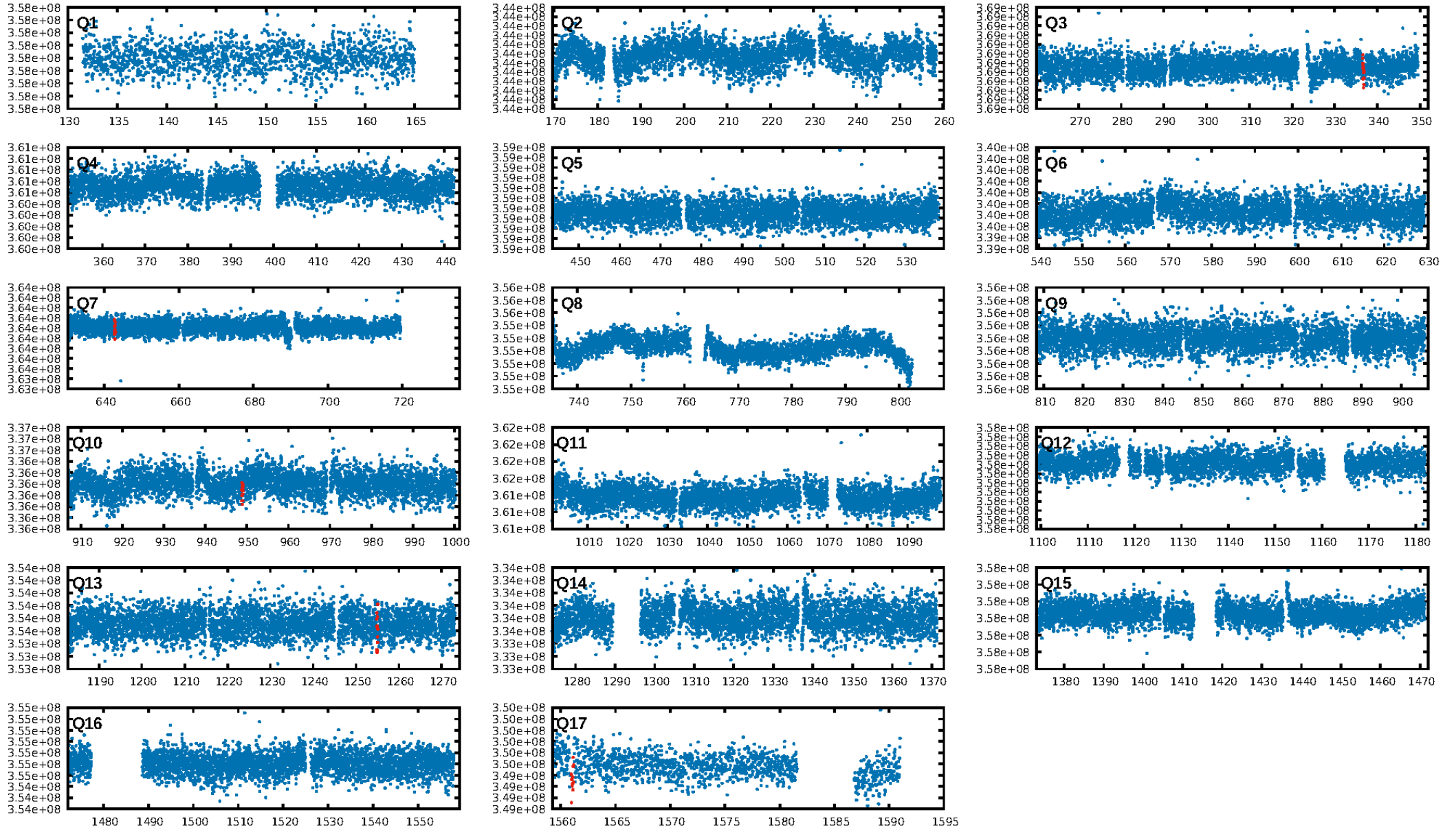
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [780.15 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 26.3%
ModelChiSquareGof-sig: 77.9%
Bootstrap-pfa: 2.07e-09
RollingBand-fgt: 0.75 [3/4]
GhostDiagnostic-chr: -0.01793
Centroid-sig: 3.7%
Centroid-so: 1.416 arcsec [0.84 σ]
OotOffset-rm: 1.909 arcsec [2.04 σ]
KicOffset-rm: 1.472 arcsec [1.63 σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.00 [0/4]

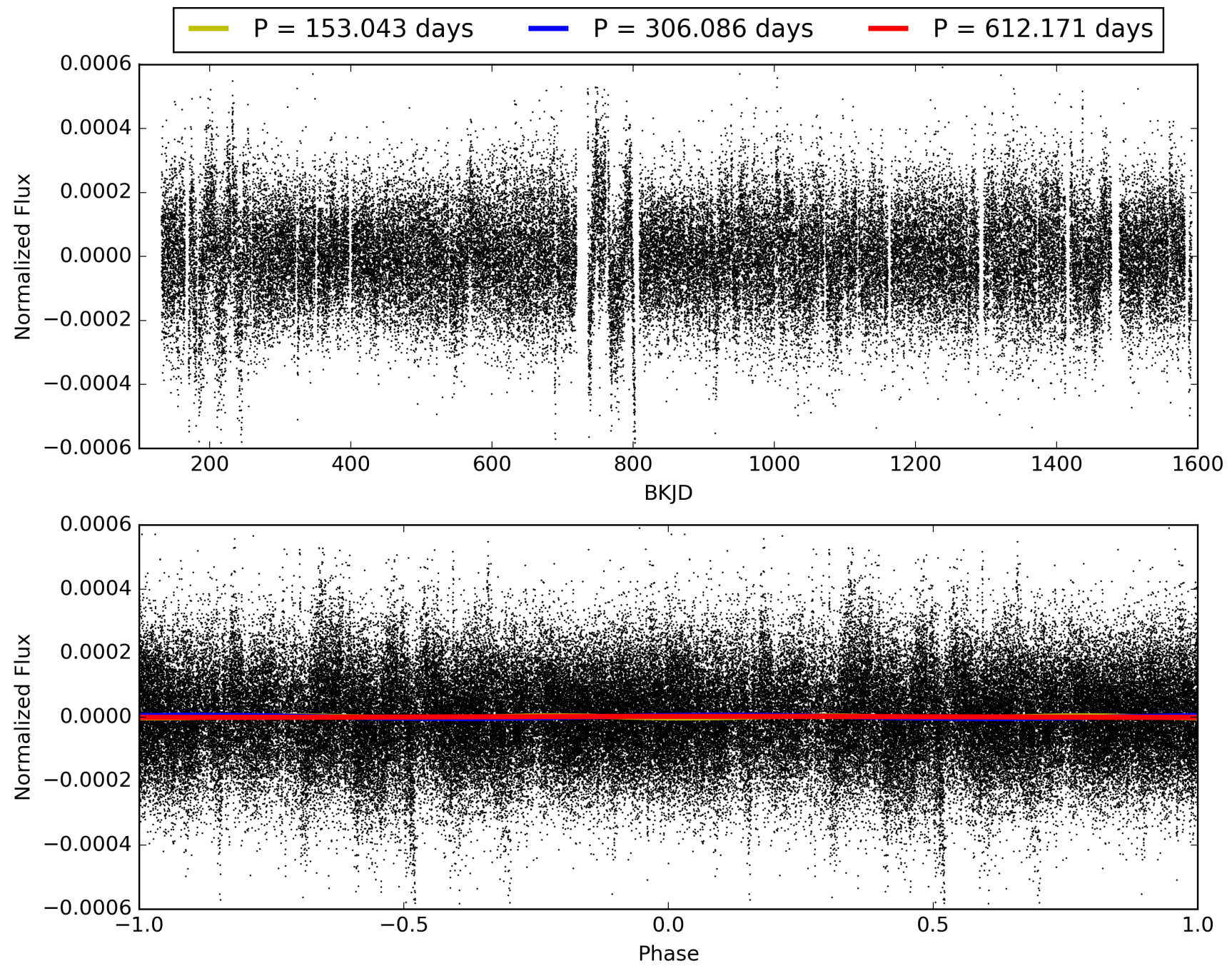
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:18:02 Z

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

TCE 002306463-02, PDC Light Curves

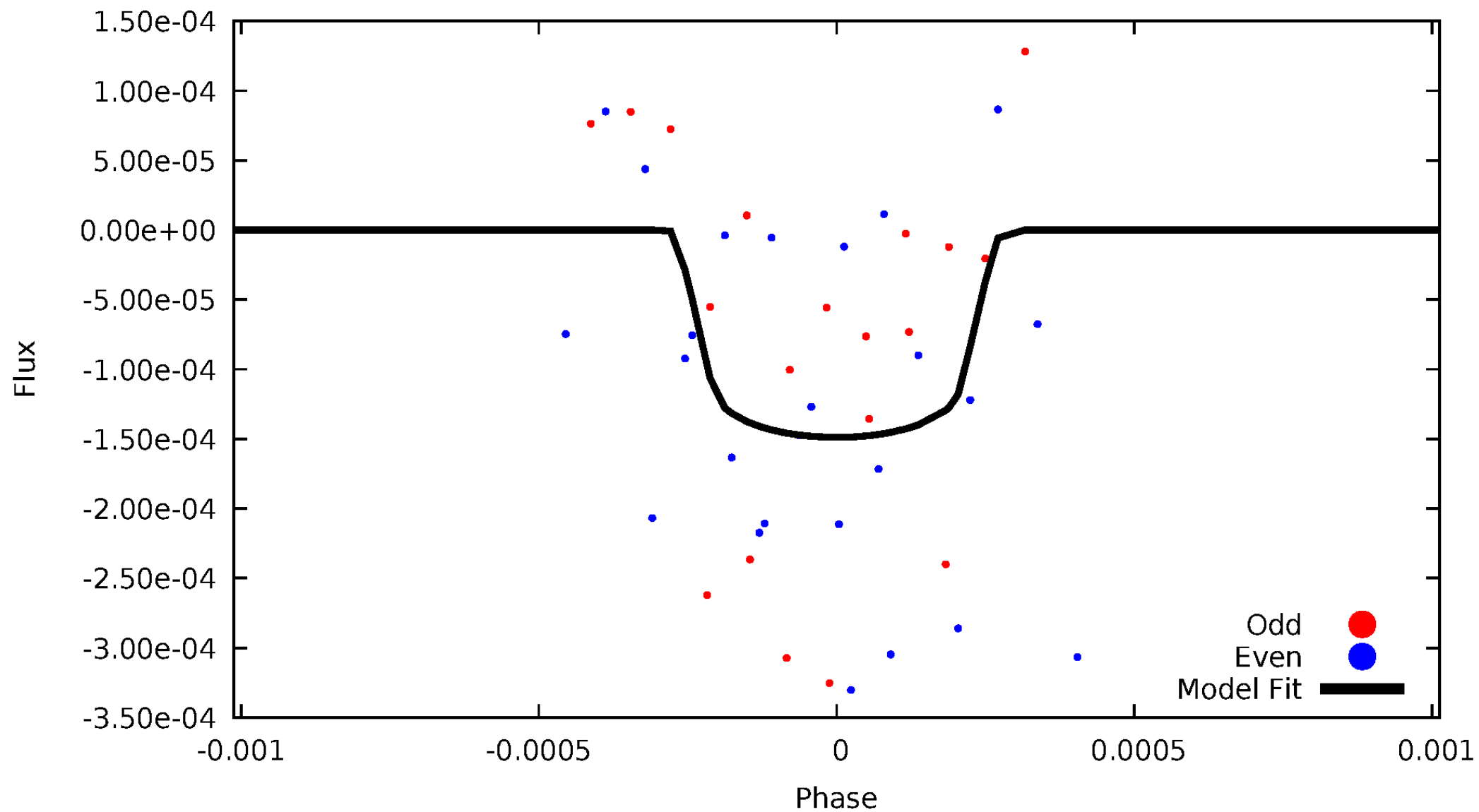


TCE 002306463-02



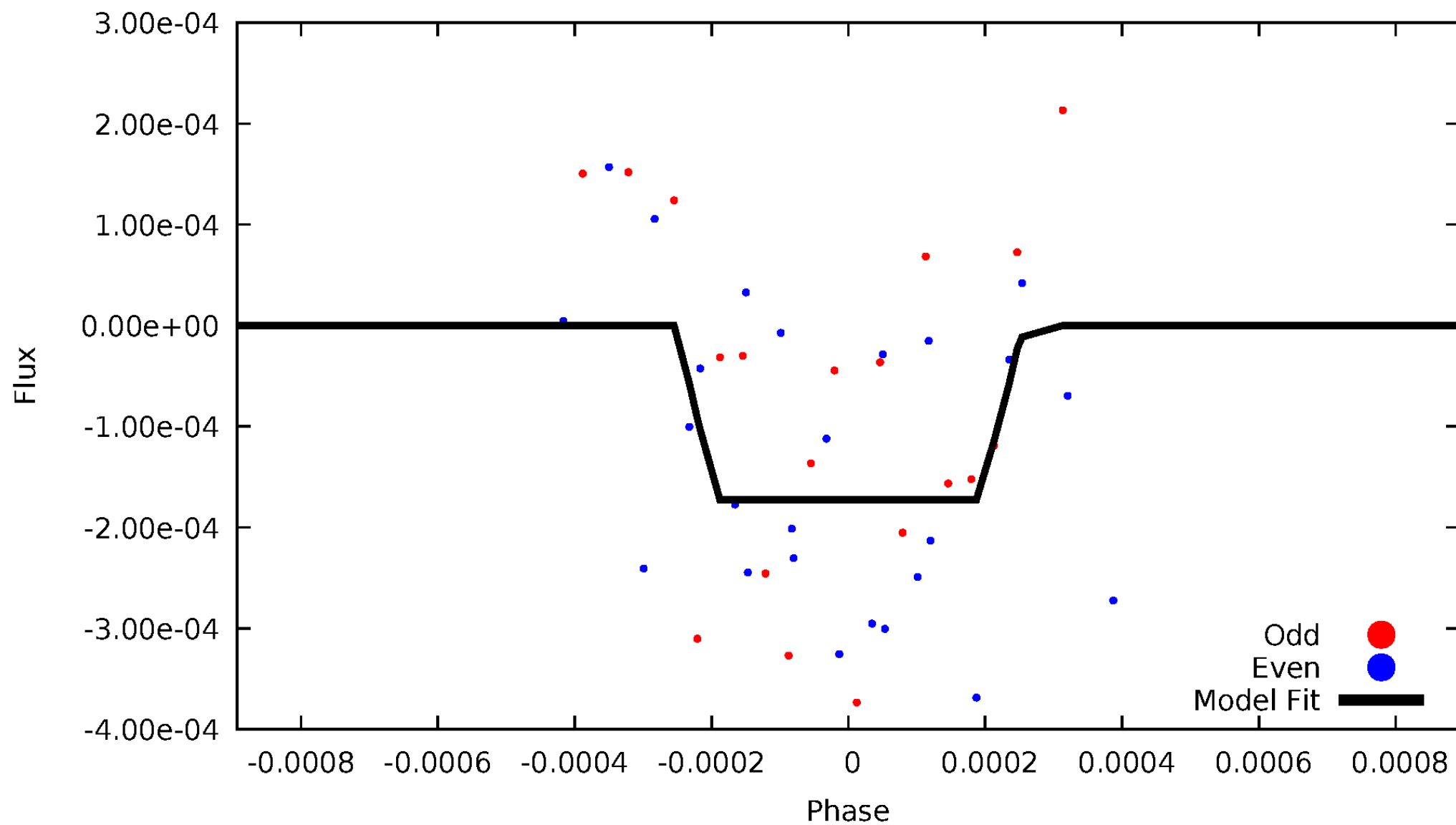
DV Odd/Even

TCE 002306463-02



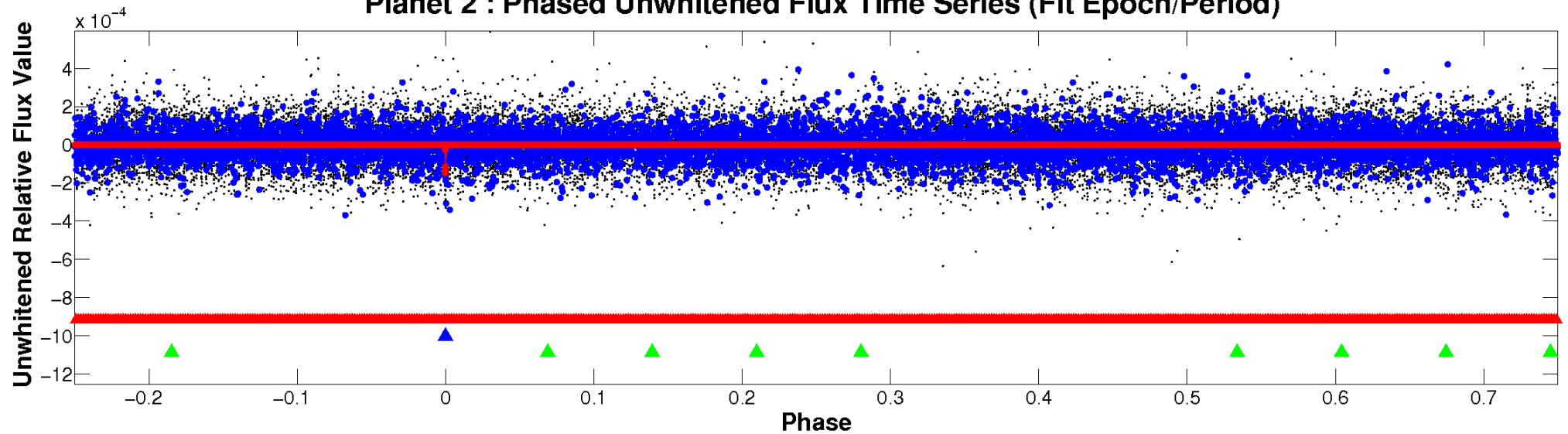
ALT Odd/Even

TCE 002306463-02

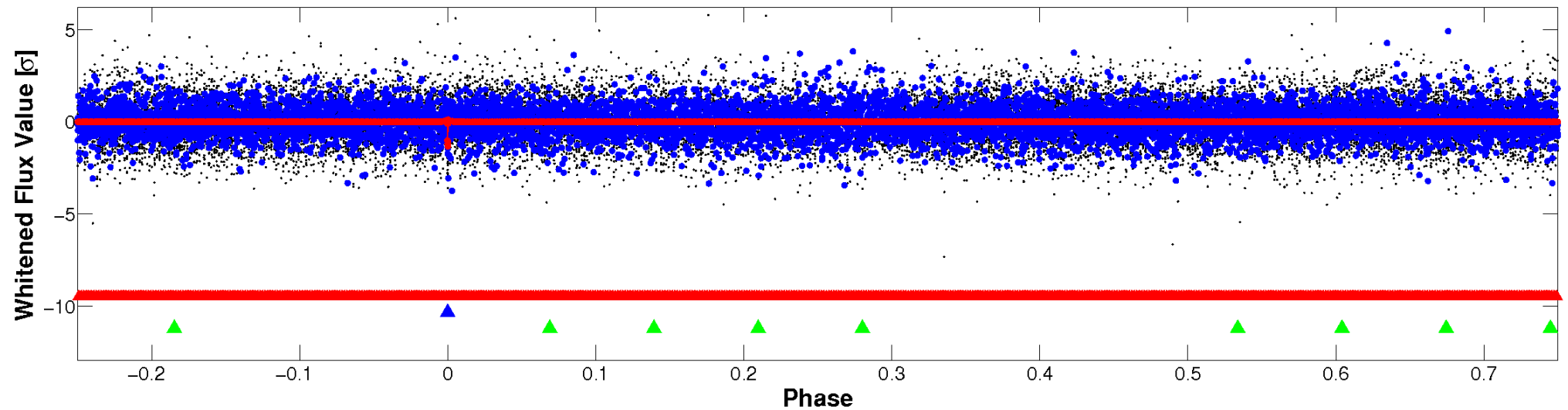


Non-Whitened Vs. Whitened Light Curve

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

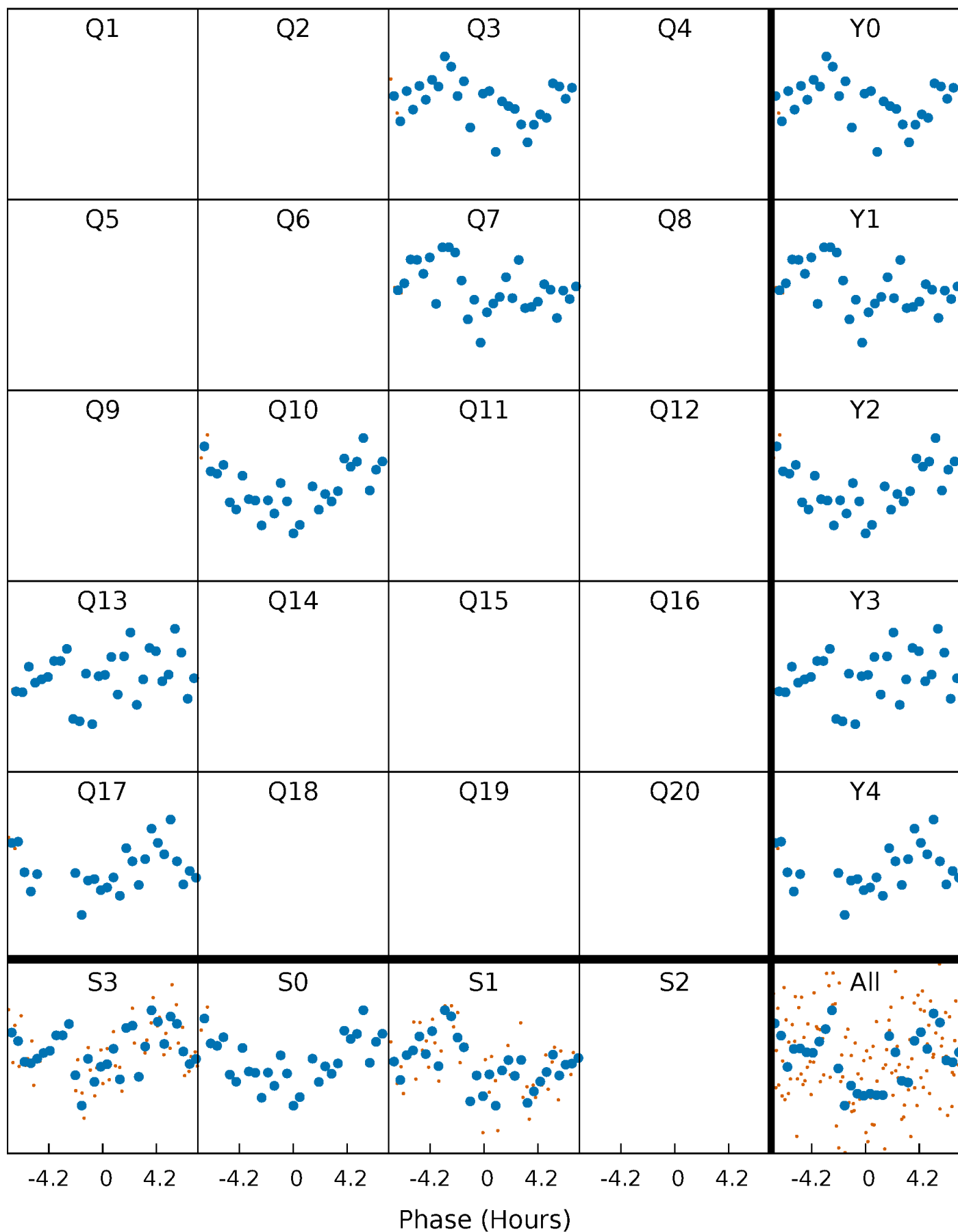


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



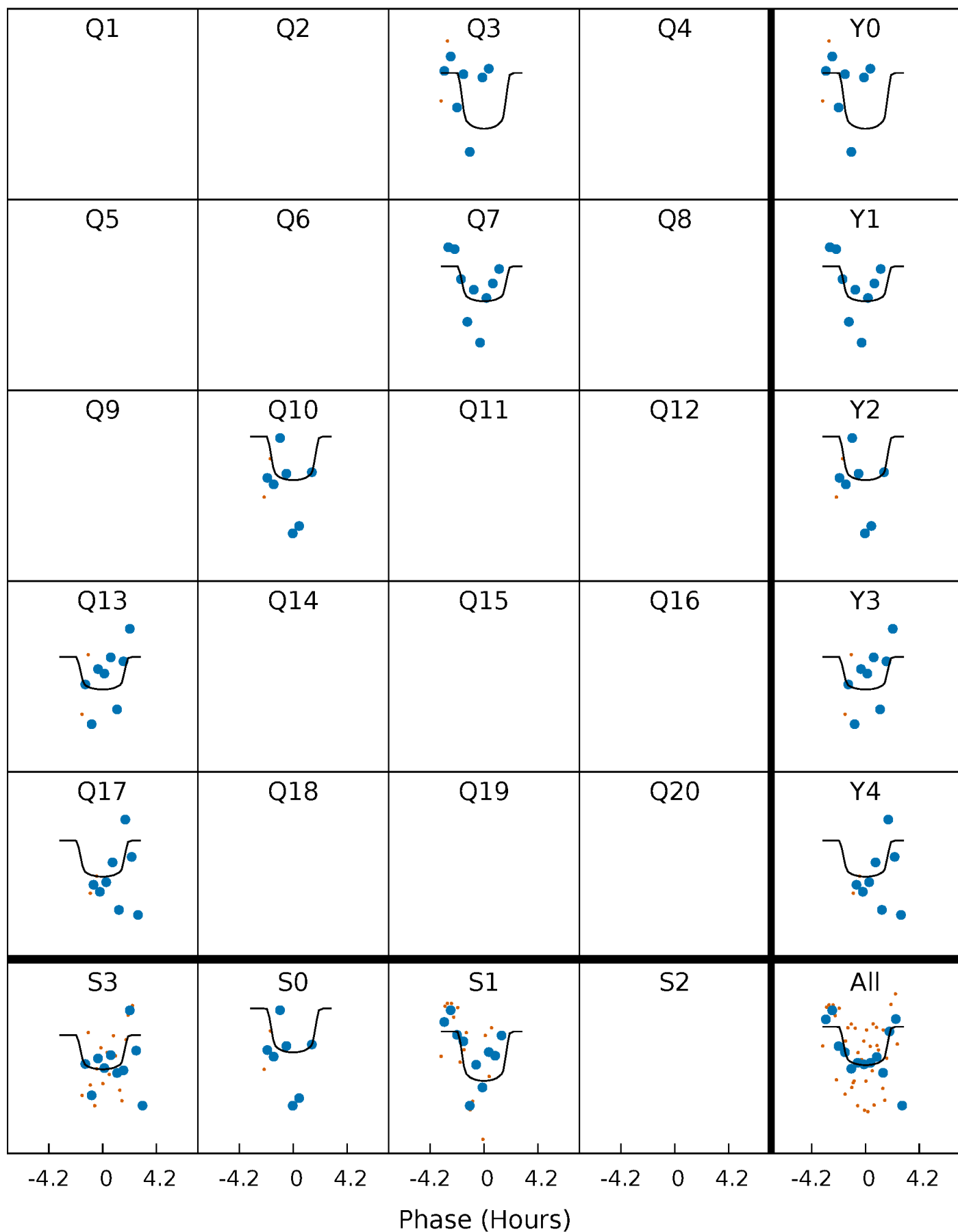
PDC Quarter-Phased Transit Curves

TCE 002306463-02 $P=306.085677$ Days $T_0=336.700518$ (BKJD)



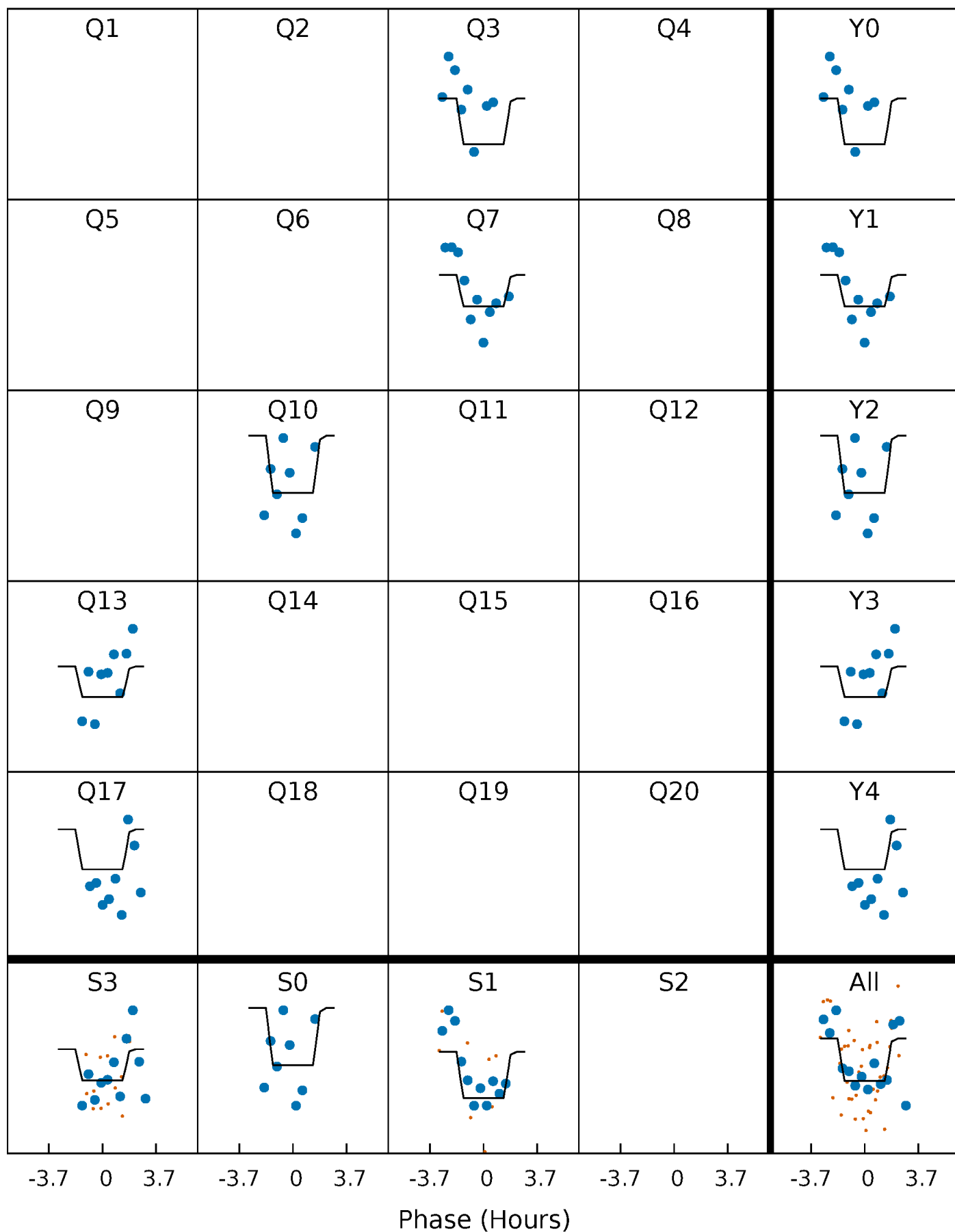
DV Quarter-Phased Transit Curves

TCE 002306463-02 P=306.085677 Days $T_0=336.700518$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

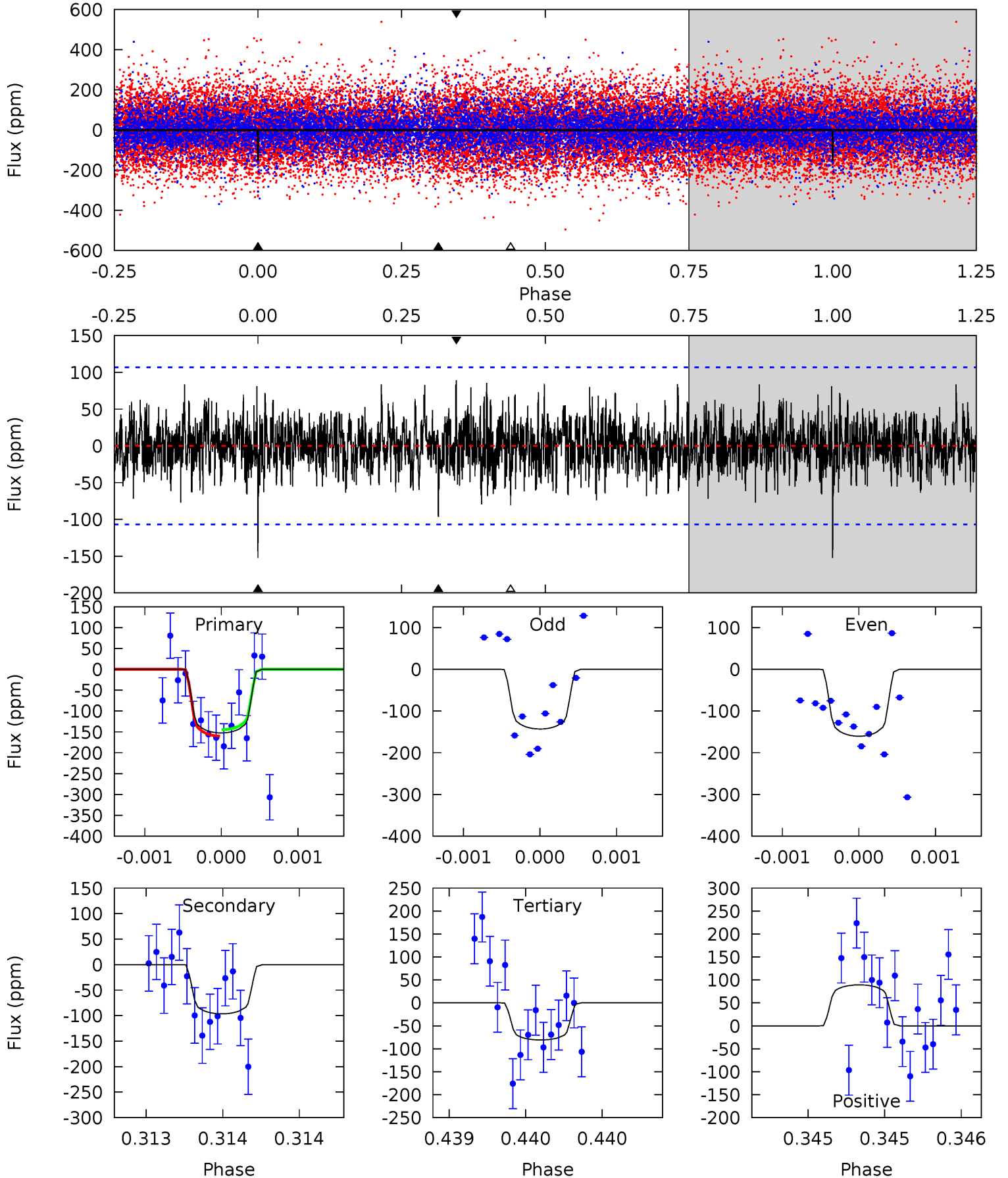
TCE 002306463-02 P=306.089899 Days $T_0=336.688821$ (BKJD)



DV Model-Shift Uniqueness Test

002306463-02, P = 306.085677 Days, E = 30.614841 Days

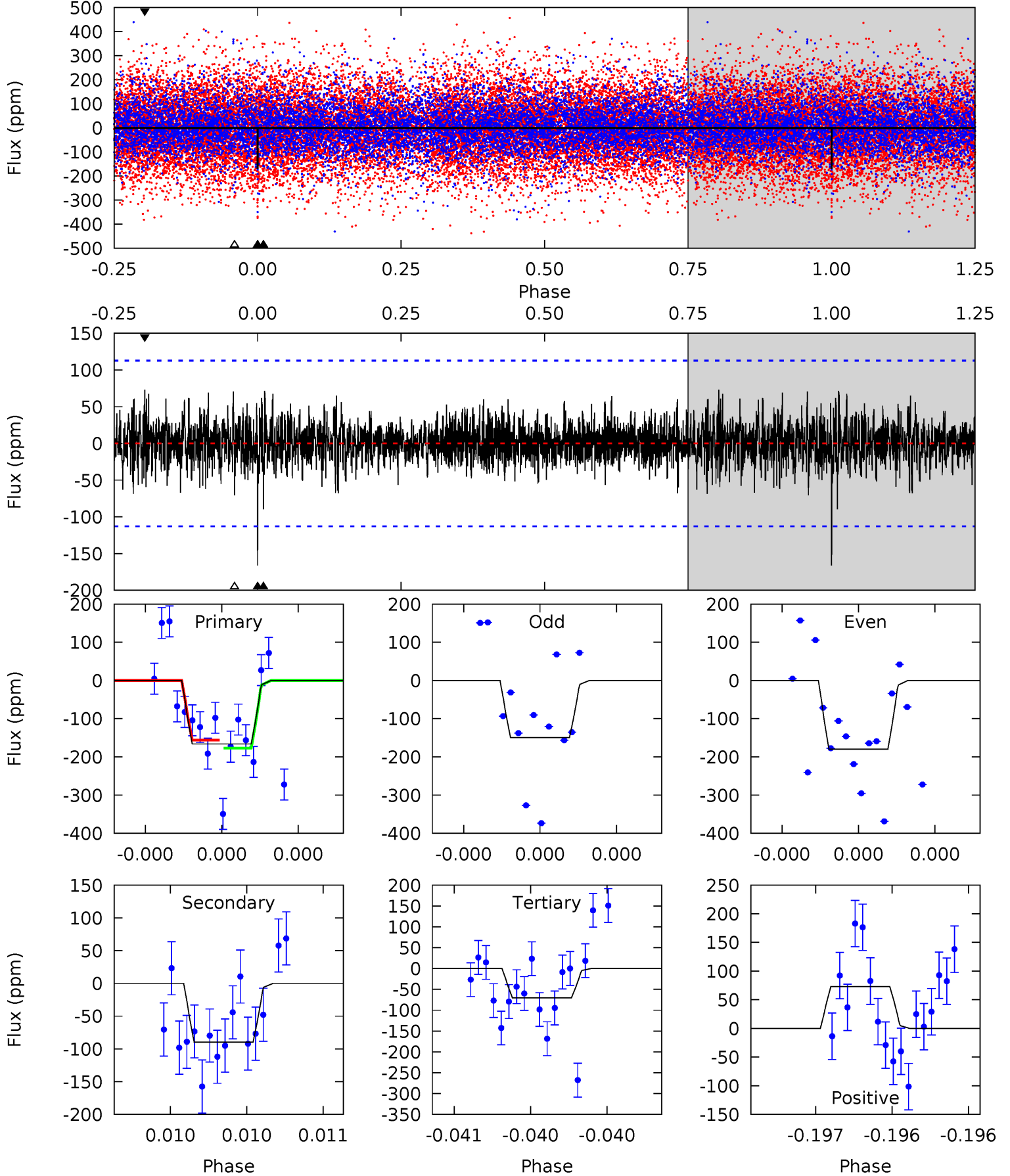
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.91	5.01	4.19	4.63	5.54	3.43	1.34	3.72	3.28	0.81	0.38	0.45	0.98	0.37	0.40



Alt Model-Shift Uniqueness Test

002306463-02, P = 306.089899 Days, E = 30.598922 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.22	4.43	3.48	3.61	5.58	3.49	1.01	4.74	4.62	0.94	0.82	0.75	0.95	0.30	0.51



Stellar Parameters For KIC 002306463

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7282^{+232}_{-309}	$3.959^{+0.204}_{-0.167}$	$0.060^{+0.200}_{-0.300}$	$2.293^{+0.558}_{-0.620}$	$1.744^{+0.197}_{-0.296}$	$0.204^{+0.274}_{-0.088}$
	+3%/-4%	+5%/-4%	+333%/-500%	+24%/-27%	+11%/-17%	+135%/-43%
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 002306463-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-97 ± 19	$3.62^{+3.02}_{-2.23}$	653^{+47}_{-49}	5855^{+4735}_{-1370}	4515^{+27335}_{-3166}
Alt.	-89 ± 20	$3.70^{+3.24}_{-2.30}$	652^{+55}_{-49}	5543^{+4056}_{-1167}	3769^{+23647}_{-2667}

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

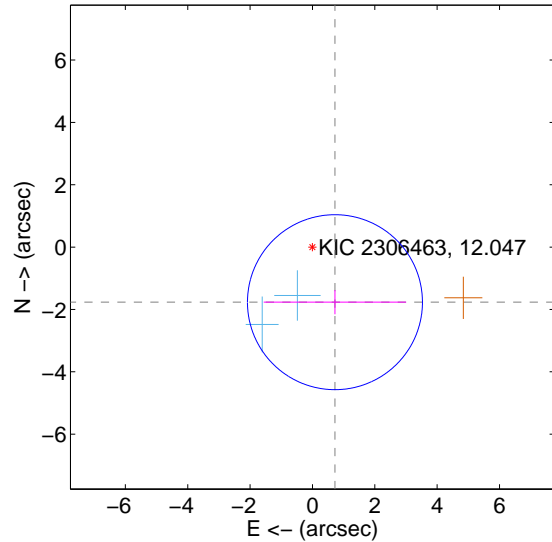
Supplemental centroid analysis for 002306463-02. Kepler magnitude: 12.05. Transit SNR 6.54

There are 2 quarters with good PRF difference image offsets

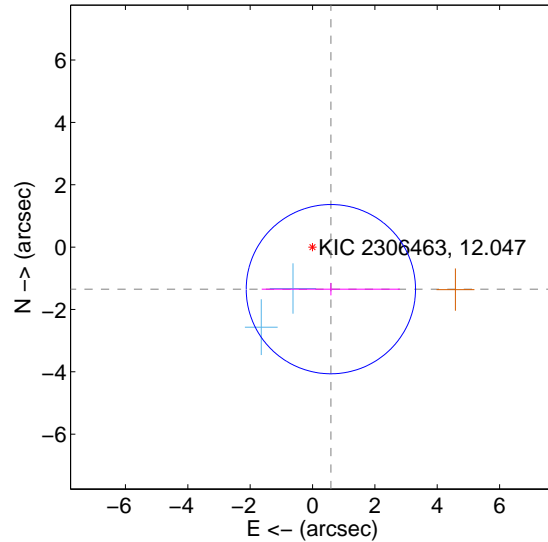
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.909 ± 0.935	2.04	-0.722 ± 2.285	-1.767 ± 0.387
PRF-fit source offset from KIC position	1.472 ± 0.905	1.63	-0.588 ± 2.217	-1.349 ± 0.200
photometric centroid source offset	1.42 ± 1.68	0.84	0.77 ± 1.34	-1.19 ± 1.81

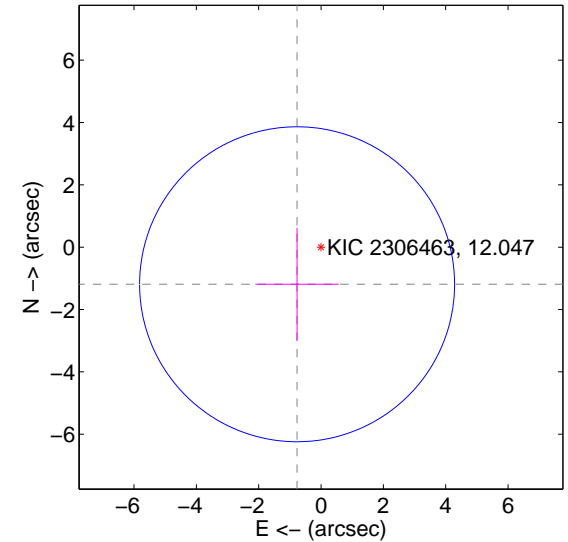
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

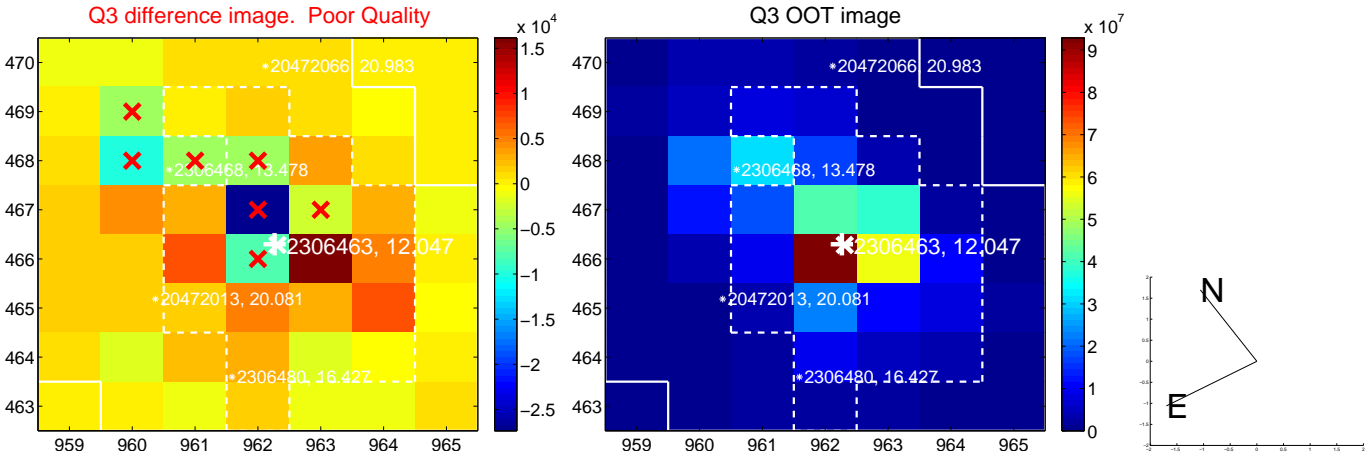


offset from photometric centroids

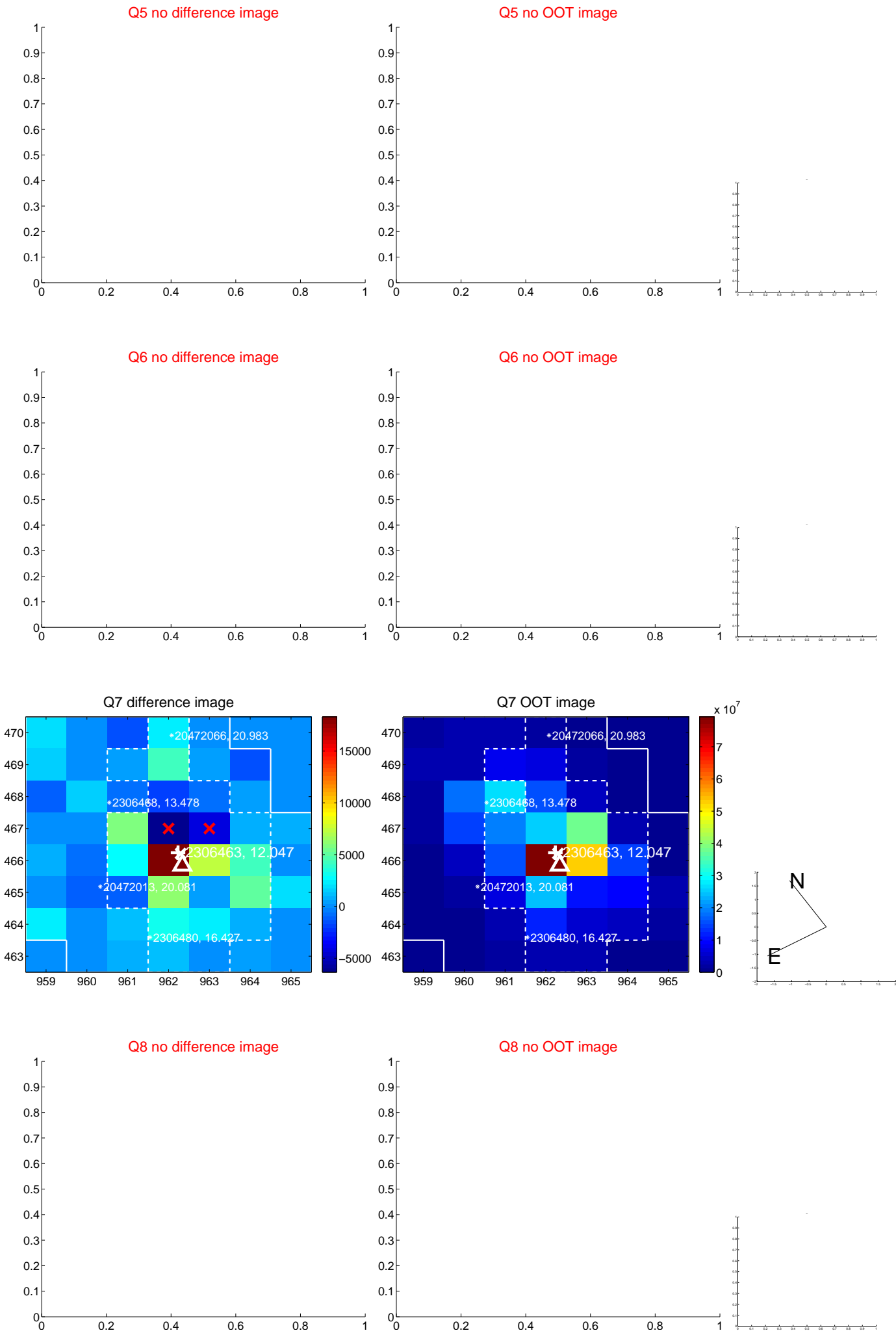


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

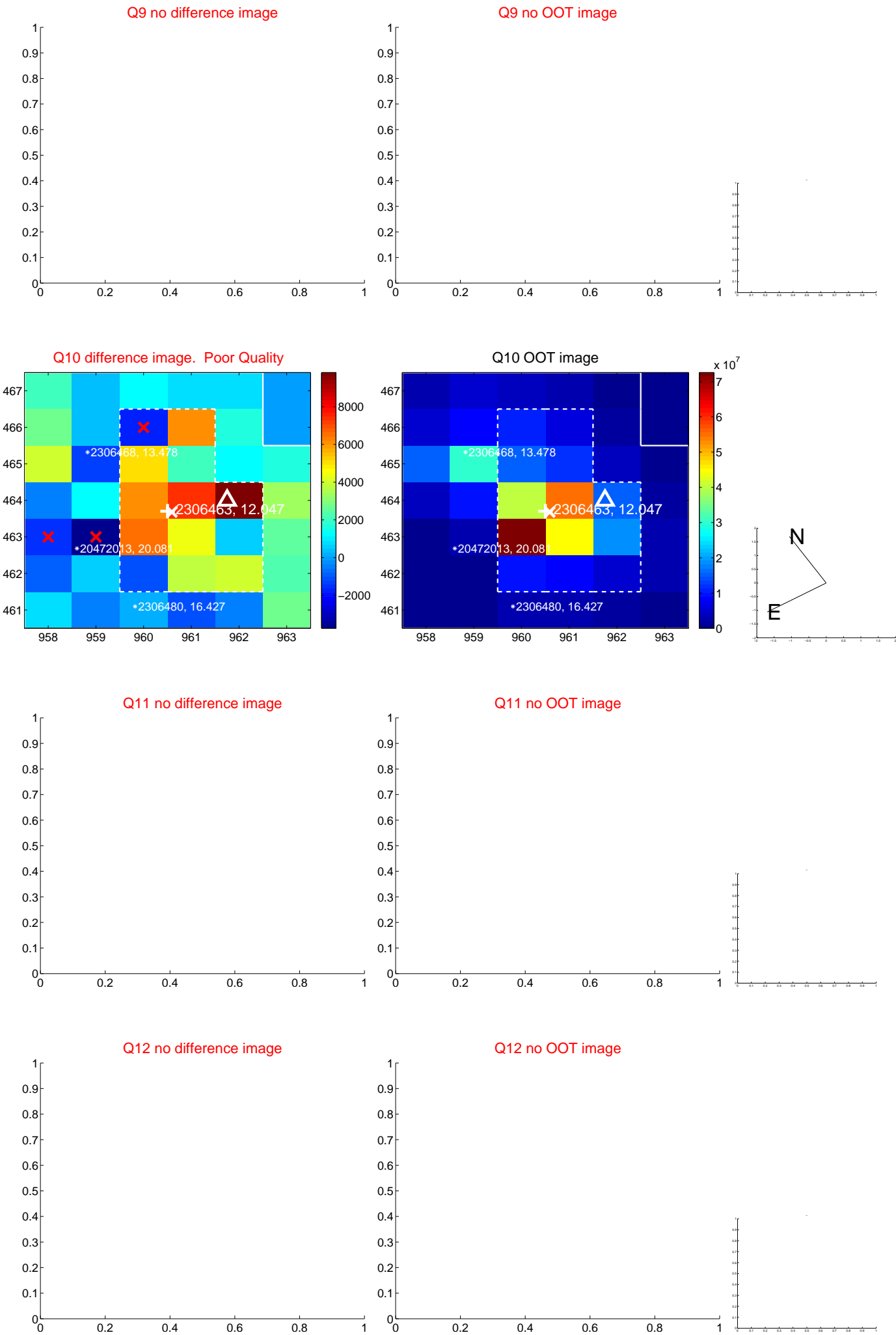
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



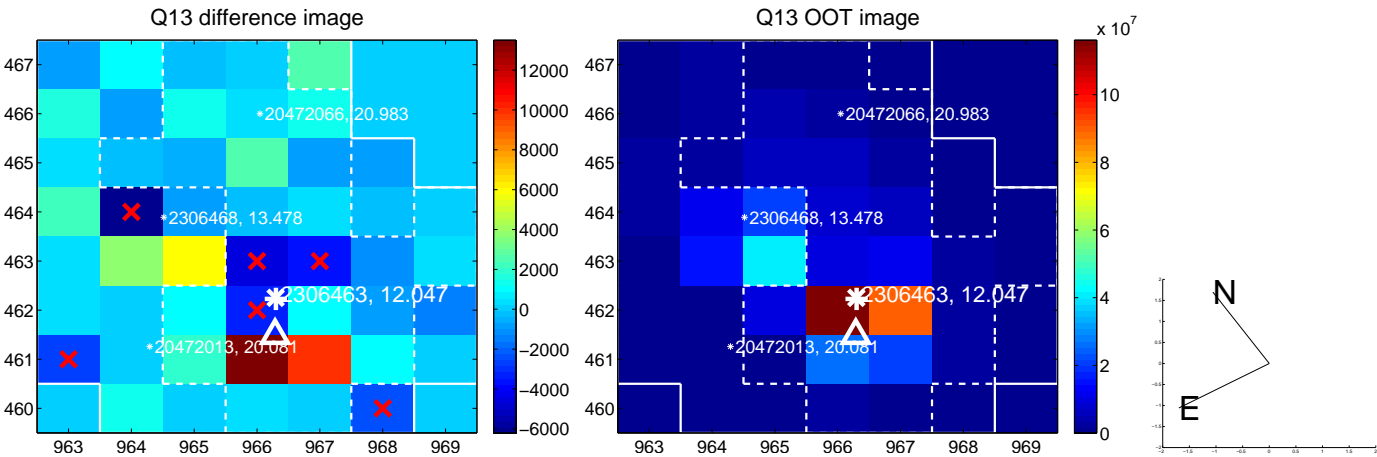
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



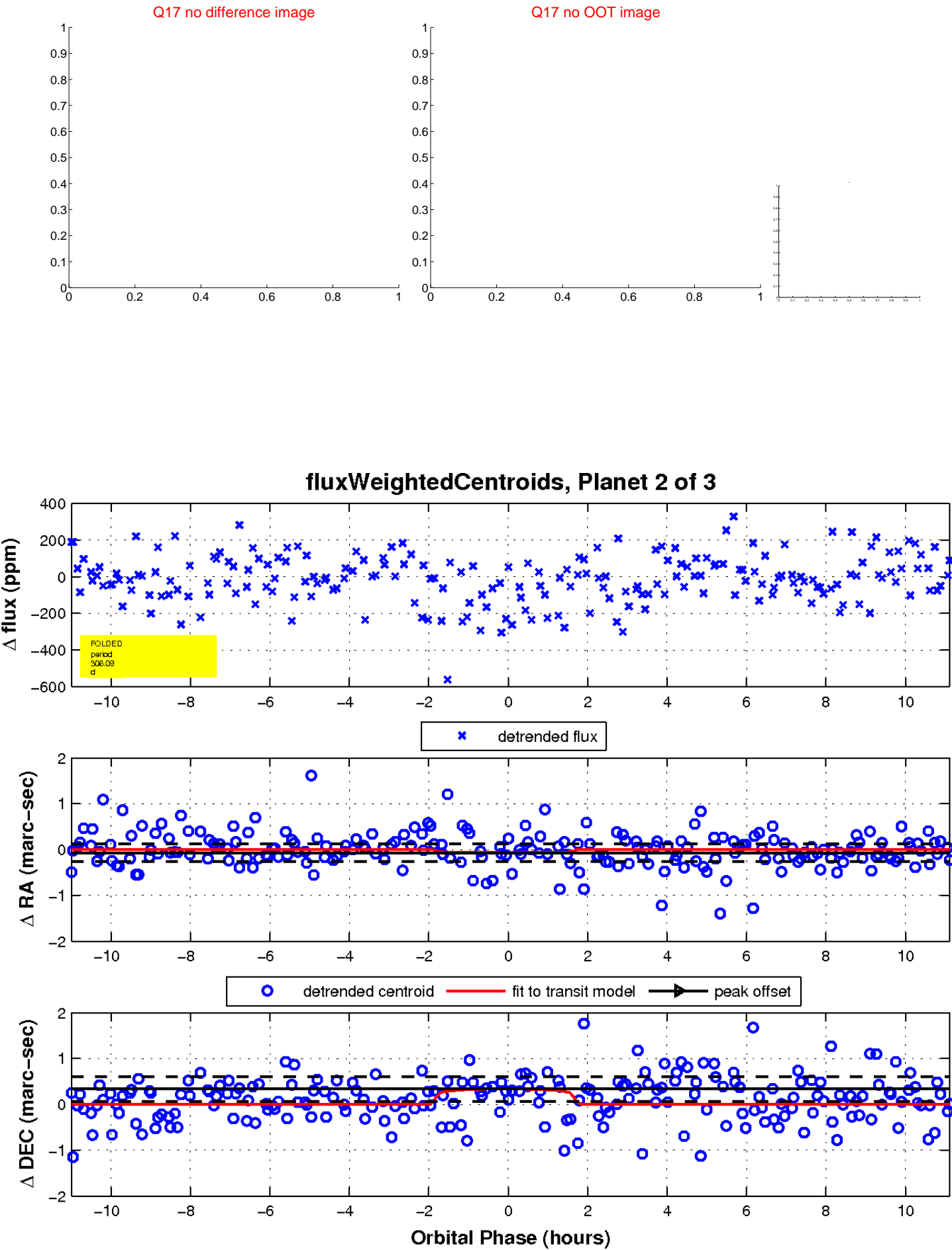
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

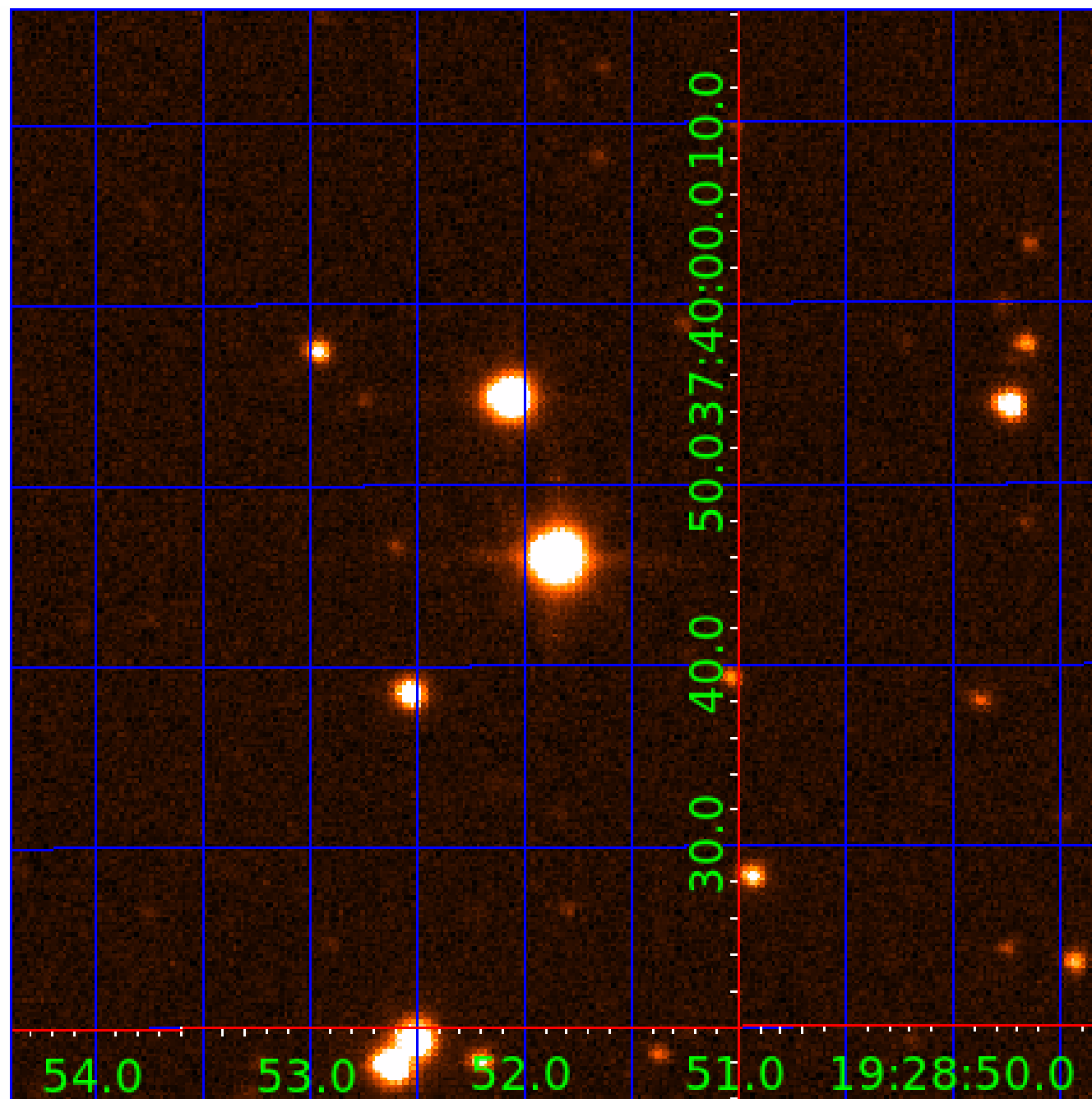


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002306463

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})
002306463-01	OBS	No	0.513609	131.966103	6.7	2.430	8.0	4.7	2.29	7282	0.60	57985.94
002306463-02	OBS	No	306.085677	336.700518	148.9	3.717	7.2	6.5	2.29	7282	3.19	11.56
002306463-03	OBS	No	163.816745	193.992503	174.8	2.311	7.1	8.2	2.29	7282	3.52	26.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002306463-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
002306463-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
002306463-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_ALT

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

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

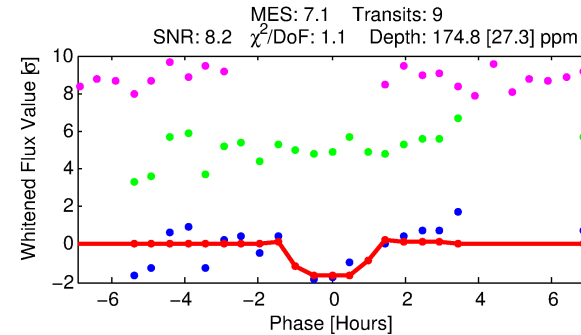
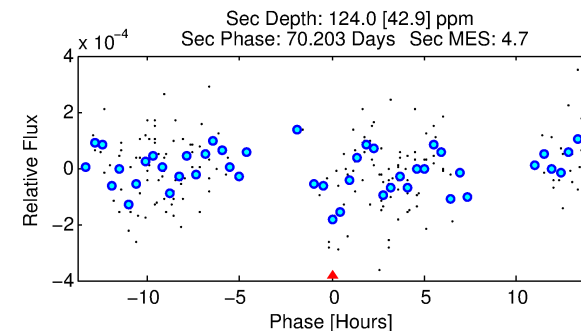
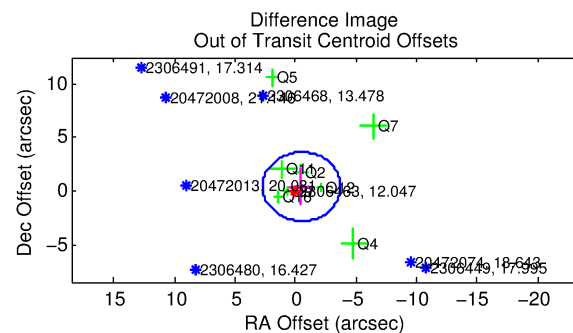
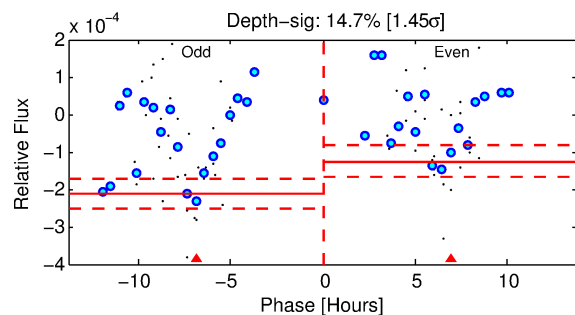
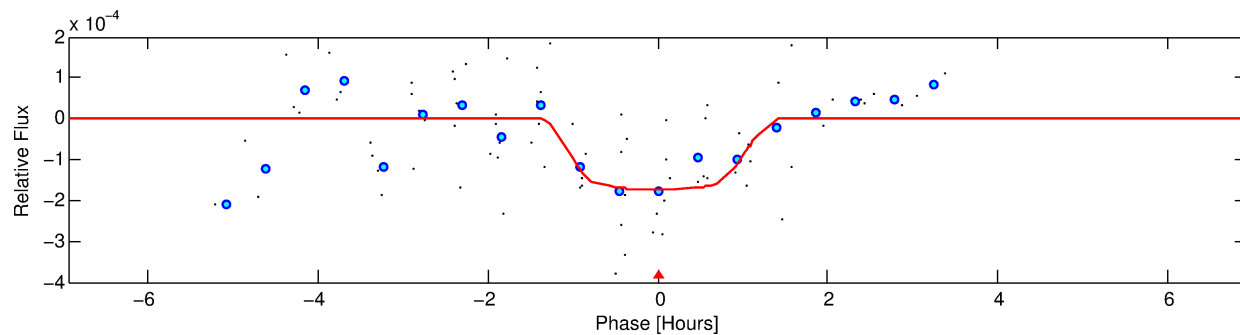
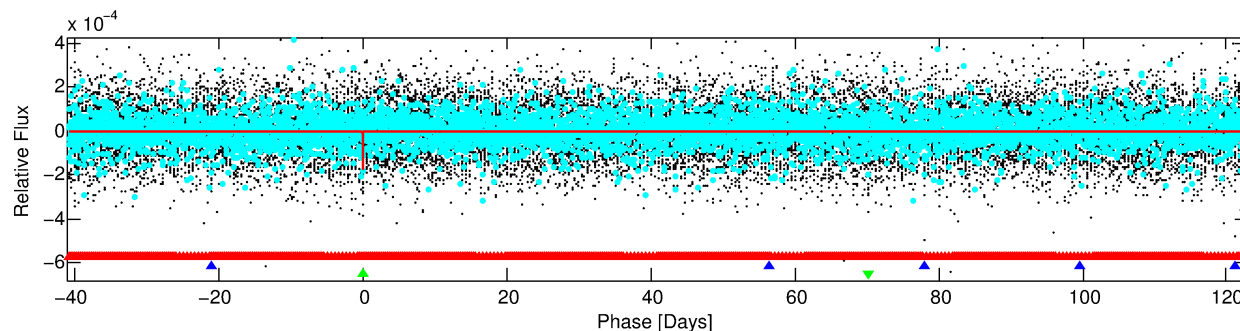
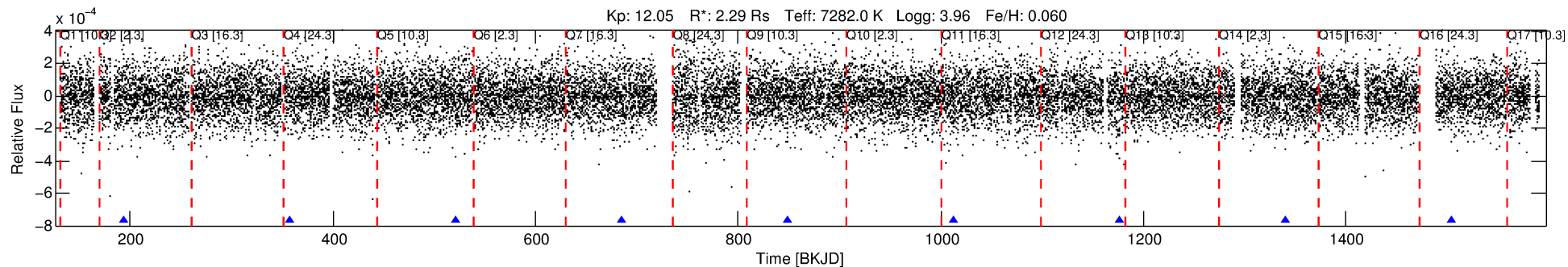
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002306463-03

No Significant Match Found

DV One-Page Summary

KIC: 2306463 Candidate: 3 of 3 Period: 163.817 d



DV Fit Results:

Period = 163.81675 [0.00192] d
Epoch = 193.9925 [0.0106] BKJD
Rp/R* = 0.0141 [0.0100]
a/R* = 253.08 [1153.85]
b = 0.90 [0.97]
Seff = 26.61 [10.62]
Teq = 579 [58] K
Rp = 3.52 [2.68] Re
a = 0.7056 [0.1685] AU
Ag = 2746.34 [4148.47] [0.66 σ]
Teffp = 6482 [2393] K [2.47 σ]

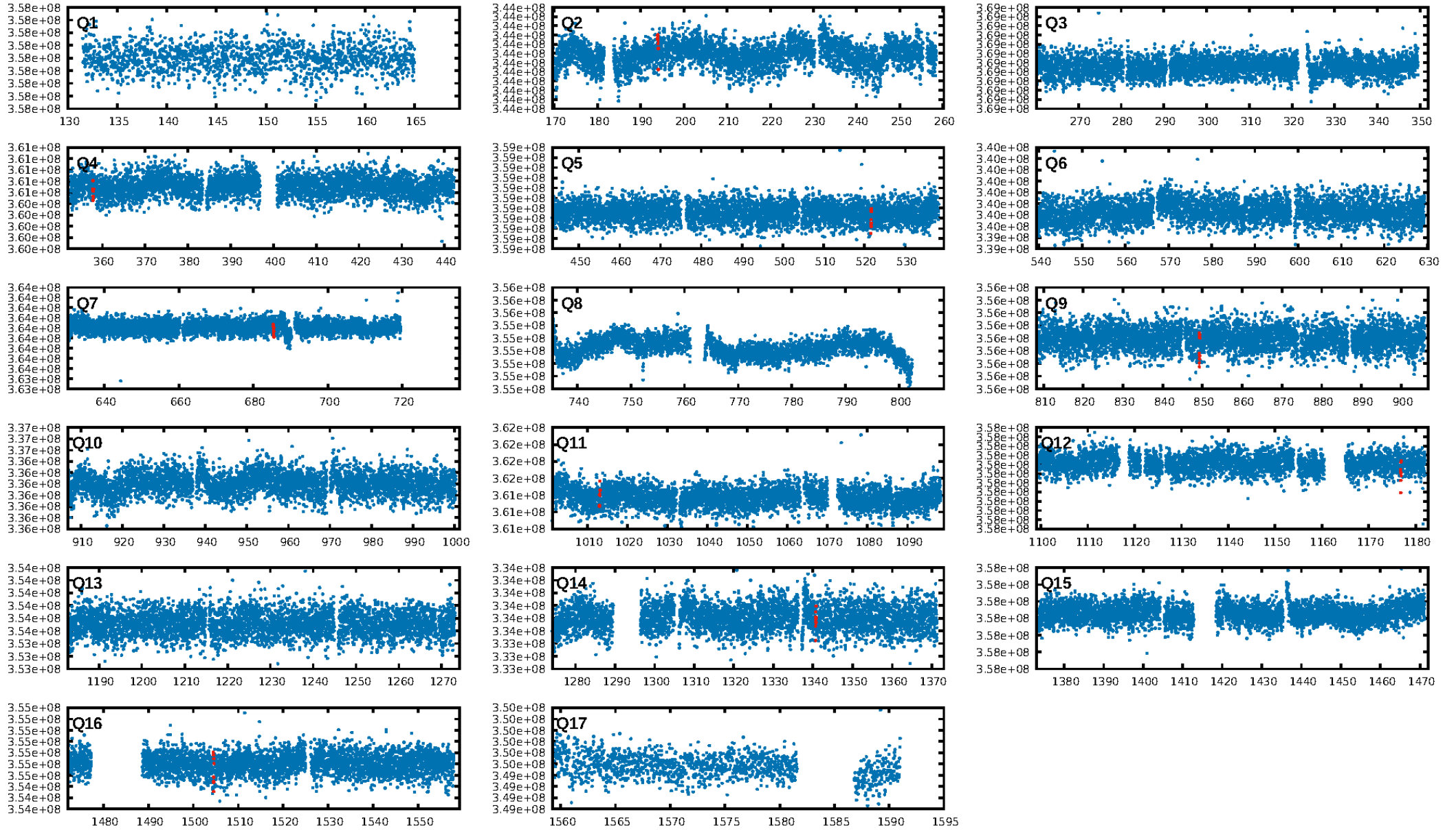
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1168.80 σ]
LongPeriod-sig: 100.0% [780.15 σ]
ModelChiSquare2-sig: 33.2%
ModelChiSquareGof-sig: 99.5%
Bootstrap-pfa: 5.88e-09
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: -4.035
Centroid-sig: 72.0%
Centroid-so: 1.671 arcsec [1.26 σ]
OotOffset-rm: 0.634 arcsec [0.59 σ]
KicOffset-rm: 0.676 arcsec [0.49 σ]
OotOffset-st: 1/2/3/2 [8]
KicOffset-st: 1/2/3/2 [8]
DiffImageQuality-fgm: 0.38 [3/8]
DiffImageOverlap-fno: 0.00 [0/9]

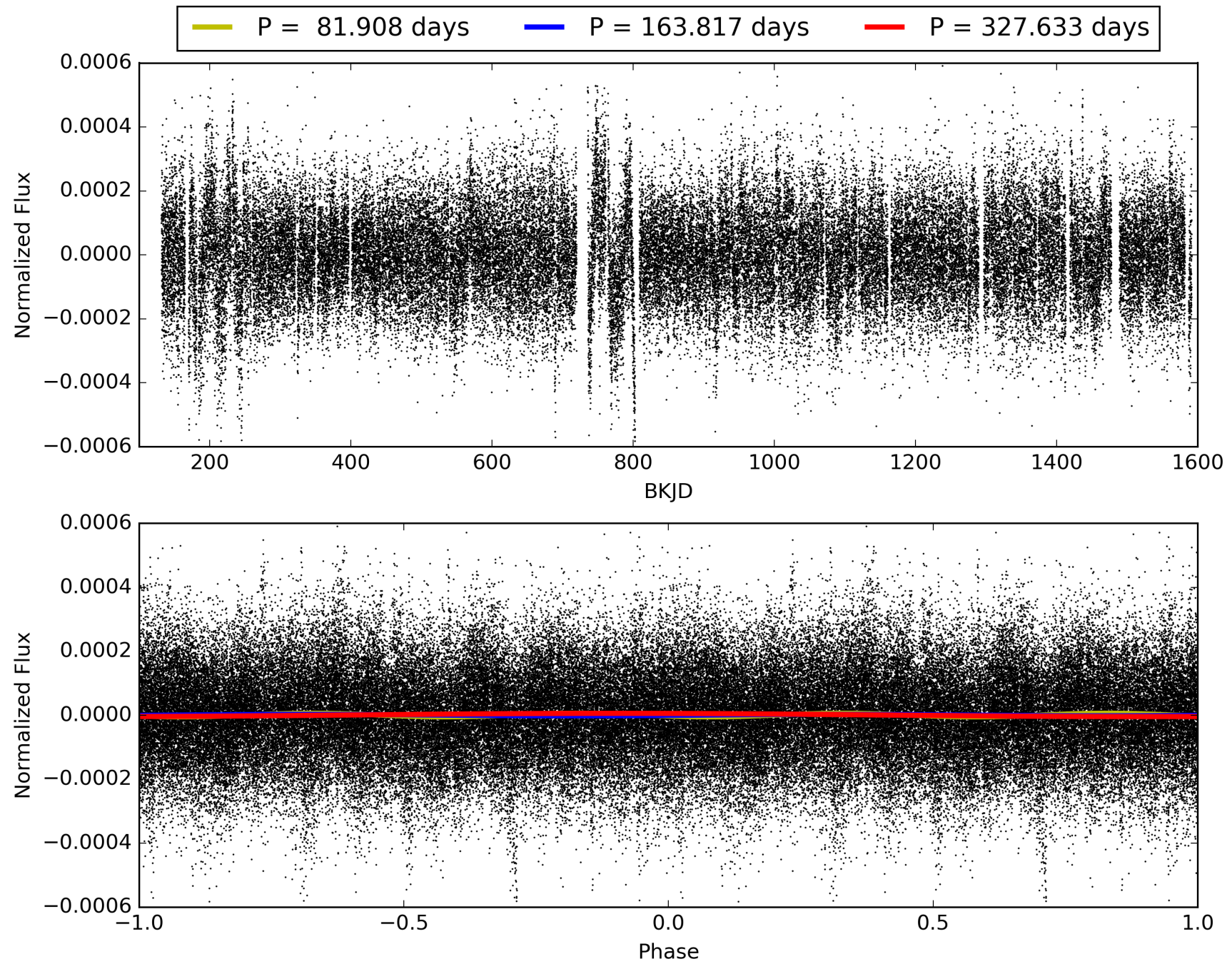
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 10:18:08 Z

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

TCE 002306463-03, PDC Light Curves

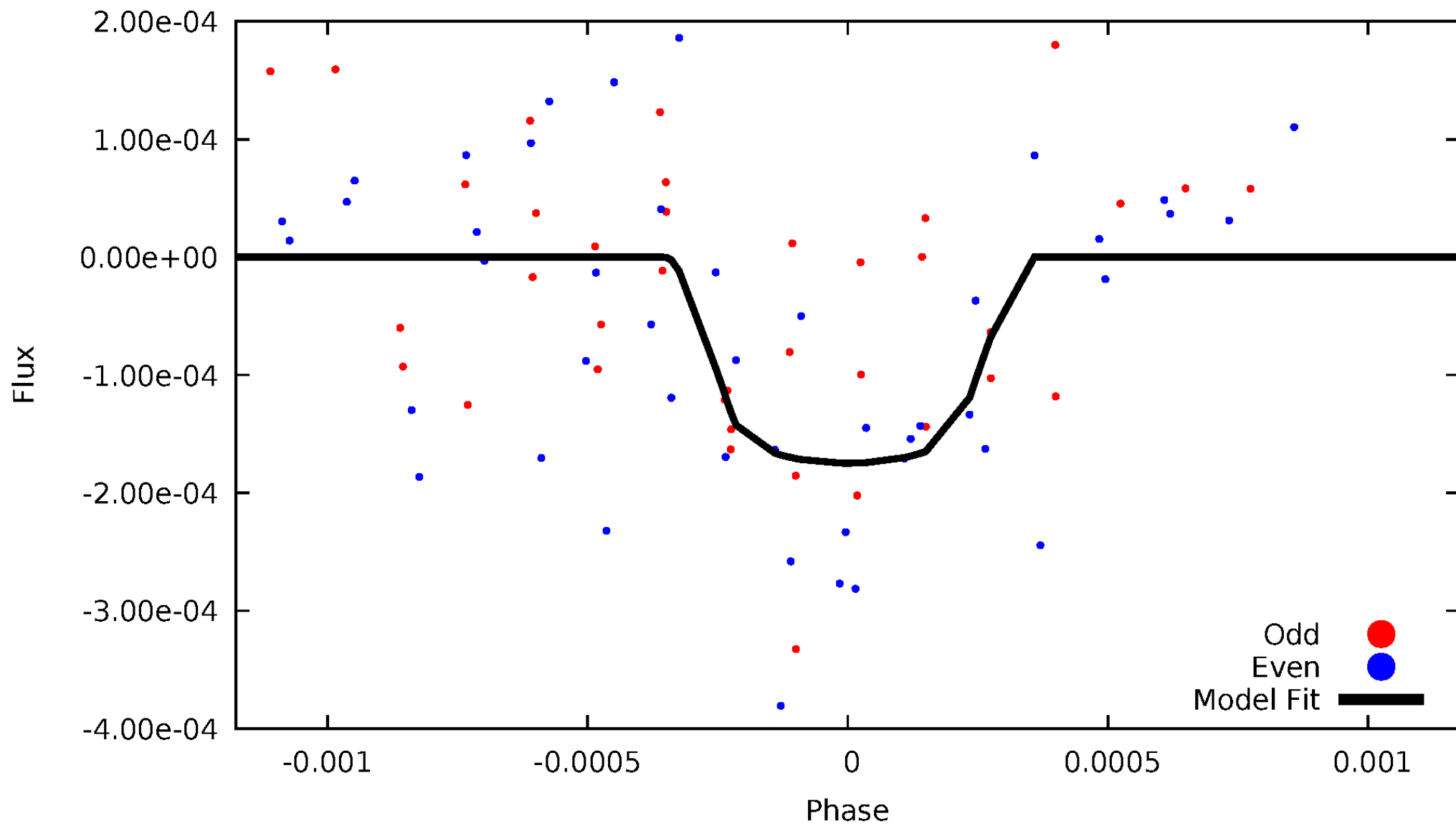


TCE 002306463-03



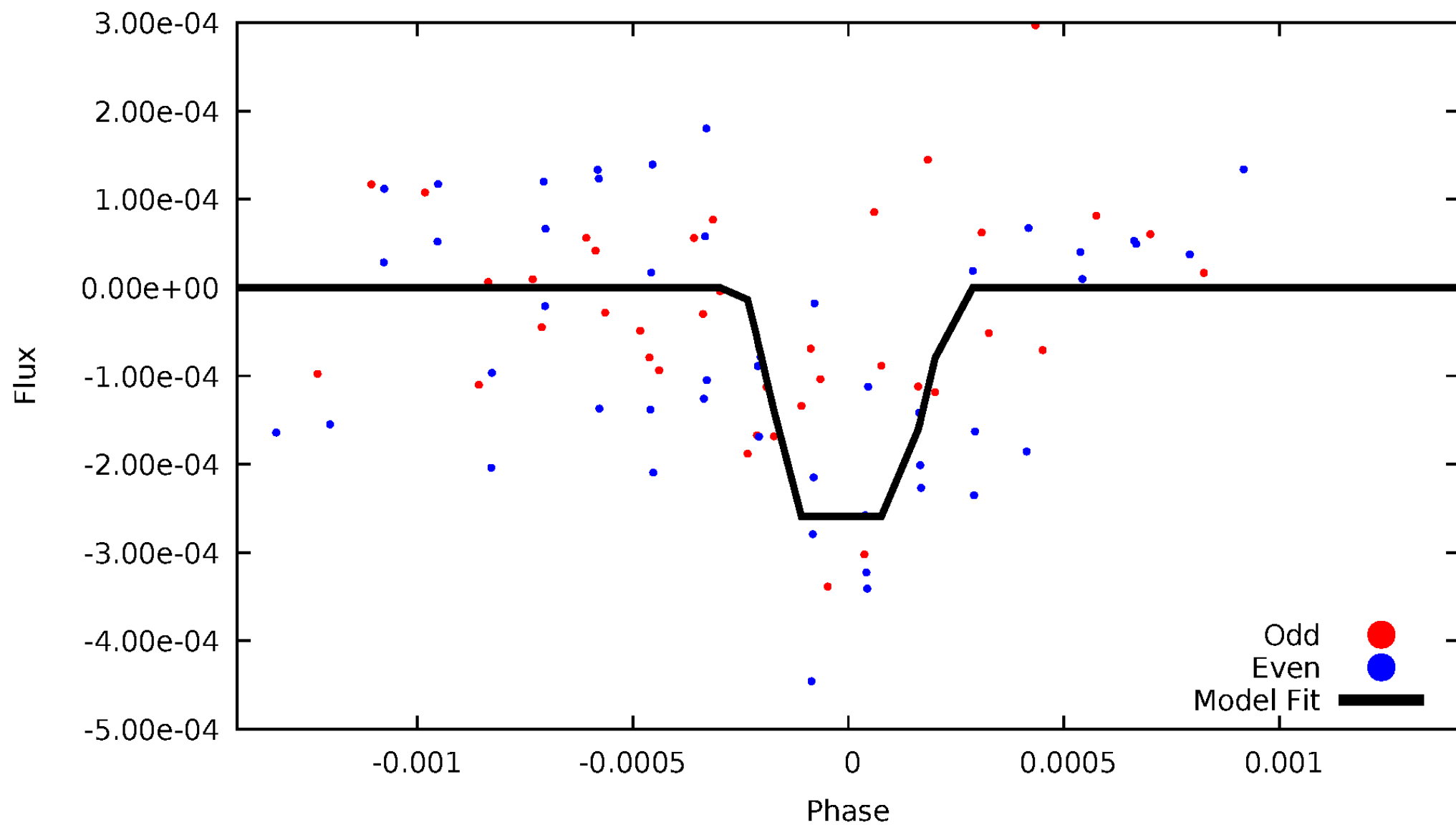
DV Odd/Even

TCE 002306463-03

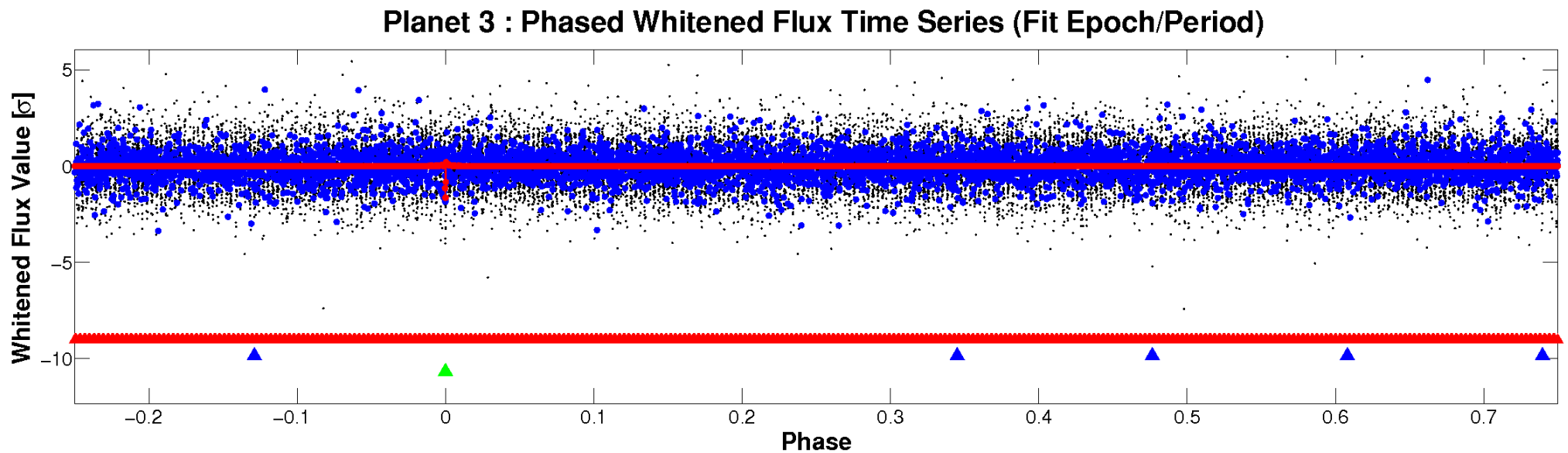
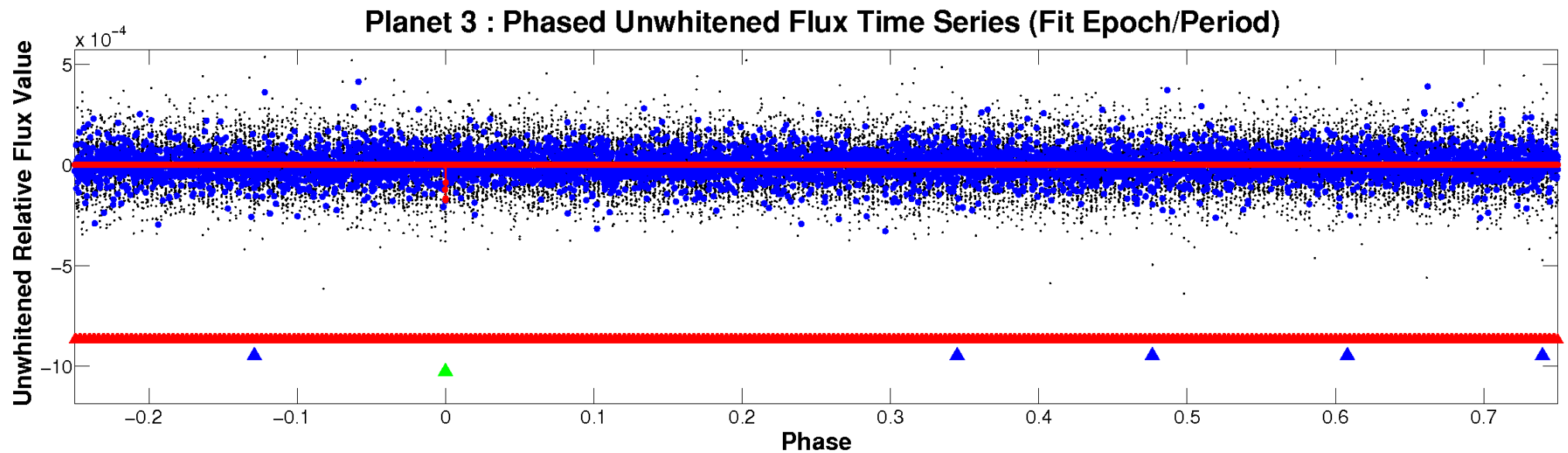


ALT Odd/Even

TCE 002306463-03

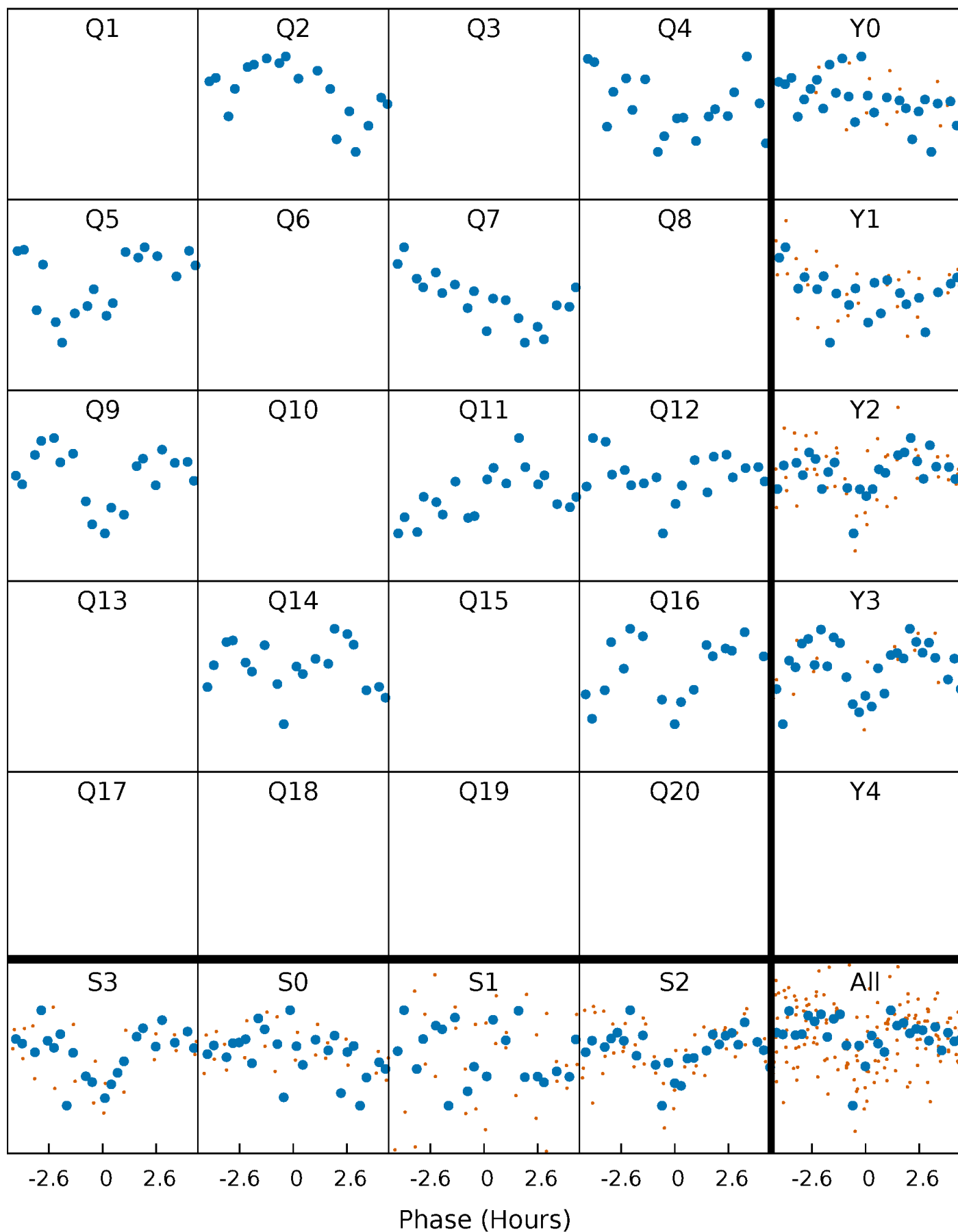


Non-Whitened Vs. Whitened Light Curve



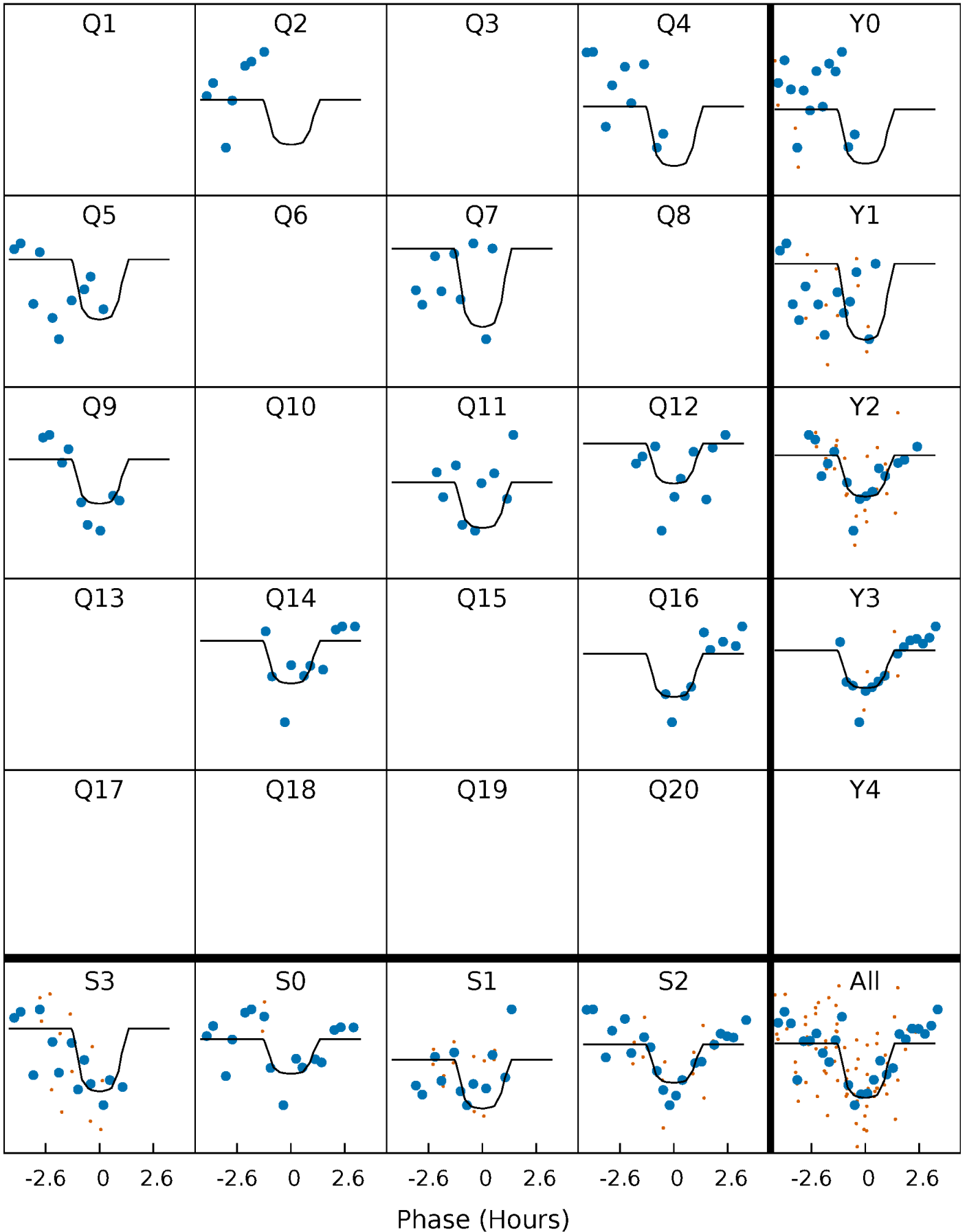
PDC Quarter-Phased Transit Curves

TCE 002306463-03 P=163.816745 Days $T_0=193.992503$ (BKJD)



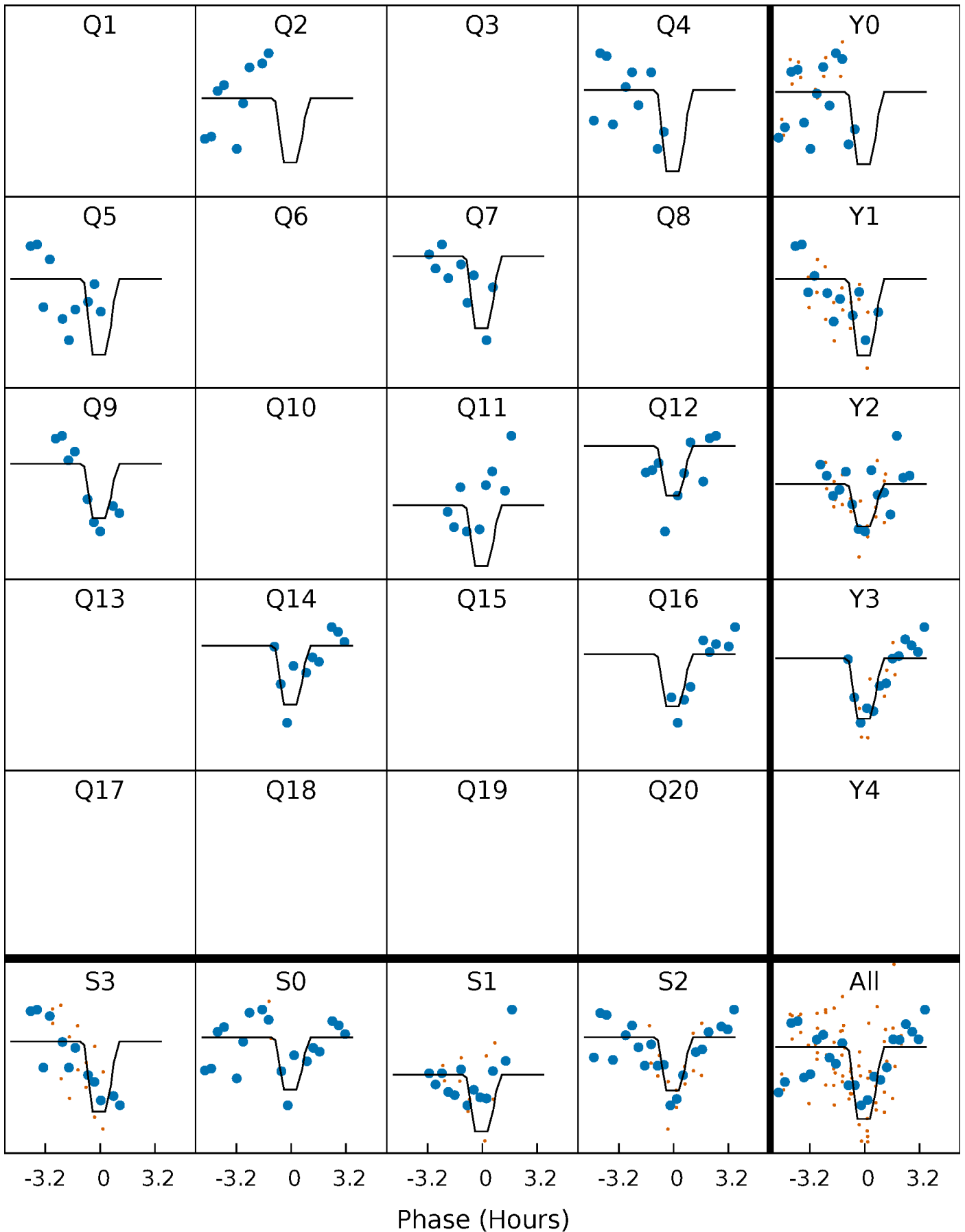
DV Quarter-Phased Transit Curves

TCE 002306463-03 P=163.816745 Days $T_0=193.992503$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

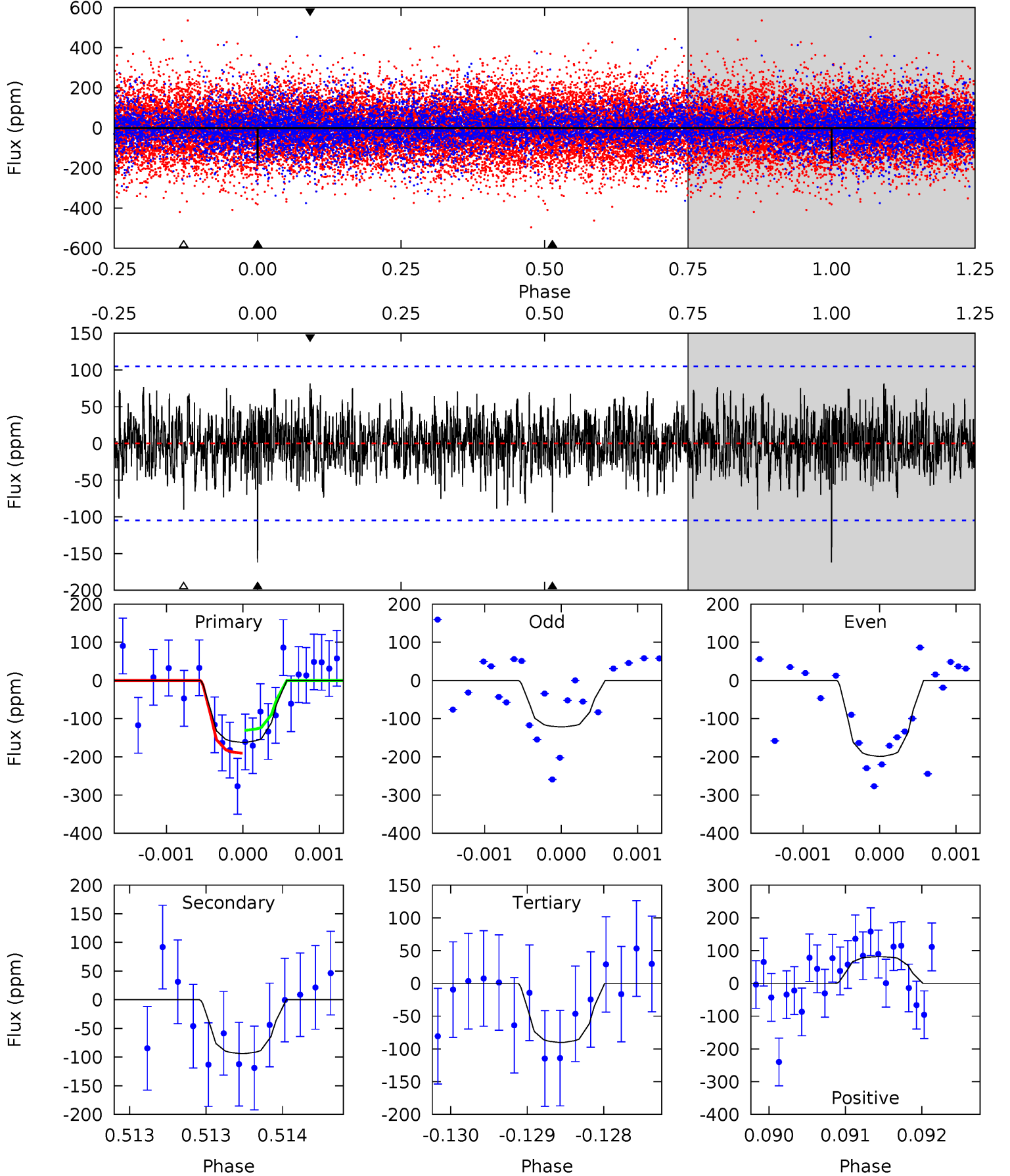
TCE 002306463-03 P=163.815420 Days $T_0=193.993368$ (BKJD)



DV Model-Shift Uniqueness Test

002306463-03, P = 163.816745 Days, E = 30.175758 Days

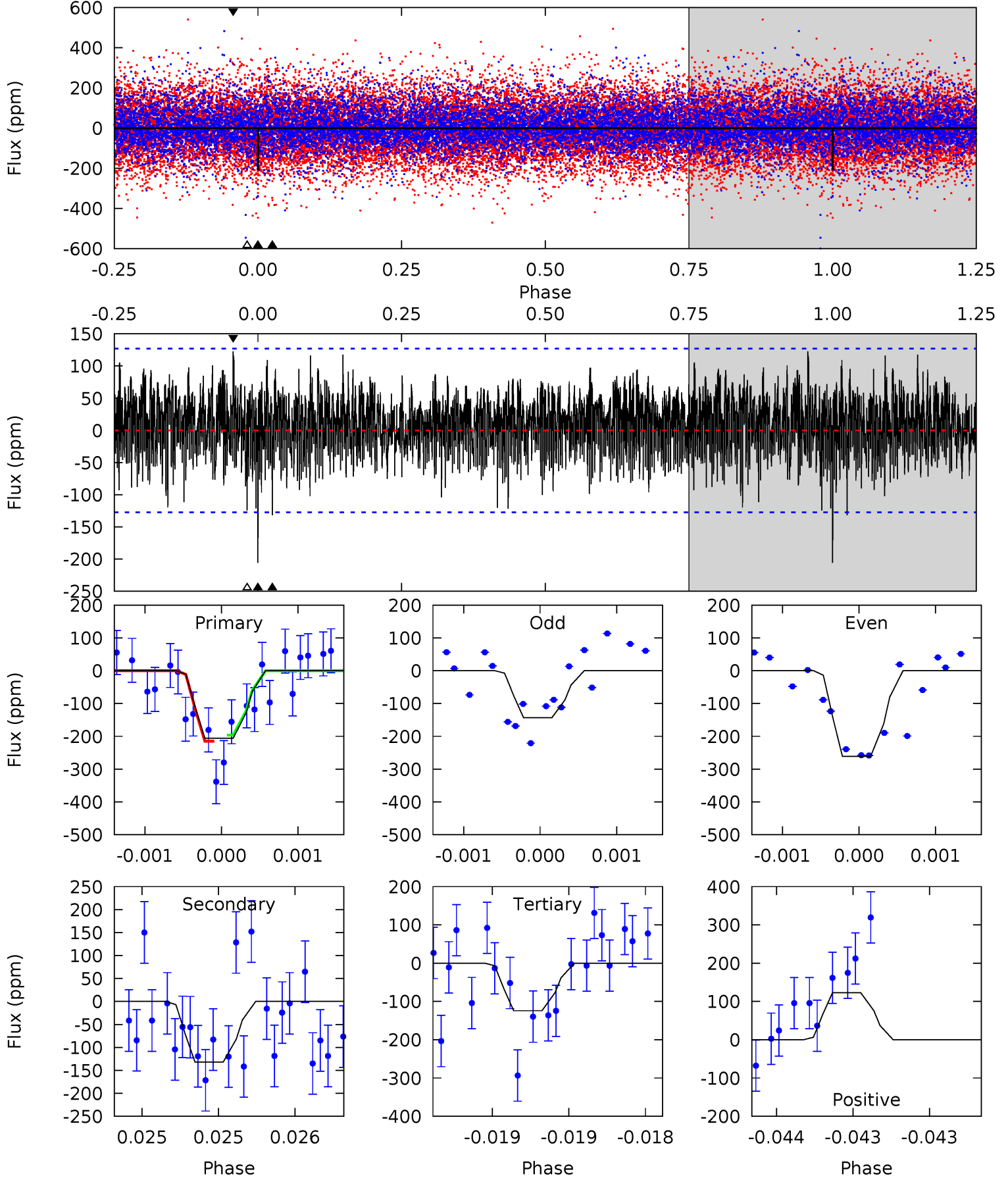
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.55	4.96	4.76	4.31	5.53	3.42	1.36	3.79	4.25	0.20	0.65	2.03	1.00	0.33	1.57



Alt Model-Shift Uniqueness Test

002306463-03, P = 163.815420 Days, E = 30.177948 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.02	5.78	5.44	5.37	5.57	3.48	1.61	3.58	3.64	0.33	0.40	2.60	0.93	0.37	0.40



Stellar Parameters For KIC 002306463

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7282^{+232}_{-309}	$3.959^{+0.204}_{-0.167}$	$0.060^{+0.200}_{-0.300}$	$2.293^{+0.558}_{-0.620}$	$1.744^{+0.197}_{-0.296}$	$0.204^{+0.274}_{-0.088}$
	+3%/-4%	+5%/-4%	+333%/-500%	+24%/-27%	+11%/-17%	+135%/-43%
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 002306463-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-94 ± 19	$3.62^{+2.53}_{-2.05}$	805^{+61}_{-64}	5770^{+3370}_{-1112}	1878^{+8370}_{-1218}
Alt.	-132 ± 23	$4.19^{+2.60}_{-2.36}$	805^{+61}_{-64}	5941^{+3482}_{-1109}	2060^{+8198}_{-1266}

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

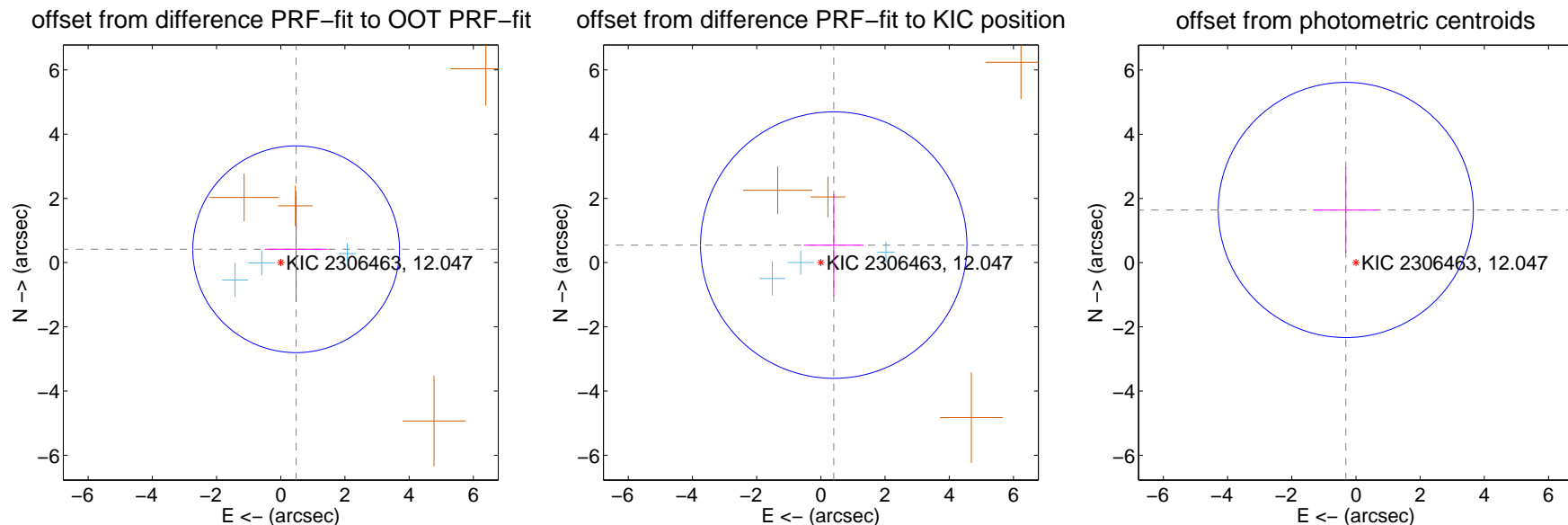
DV Centroid Data

Supplemental centroid analysis for 002306463-03. Kepler magnitude: 12.05. Transit SNR 8.21

There are 3 quarters with good PRF difference image offsets

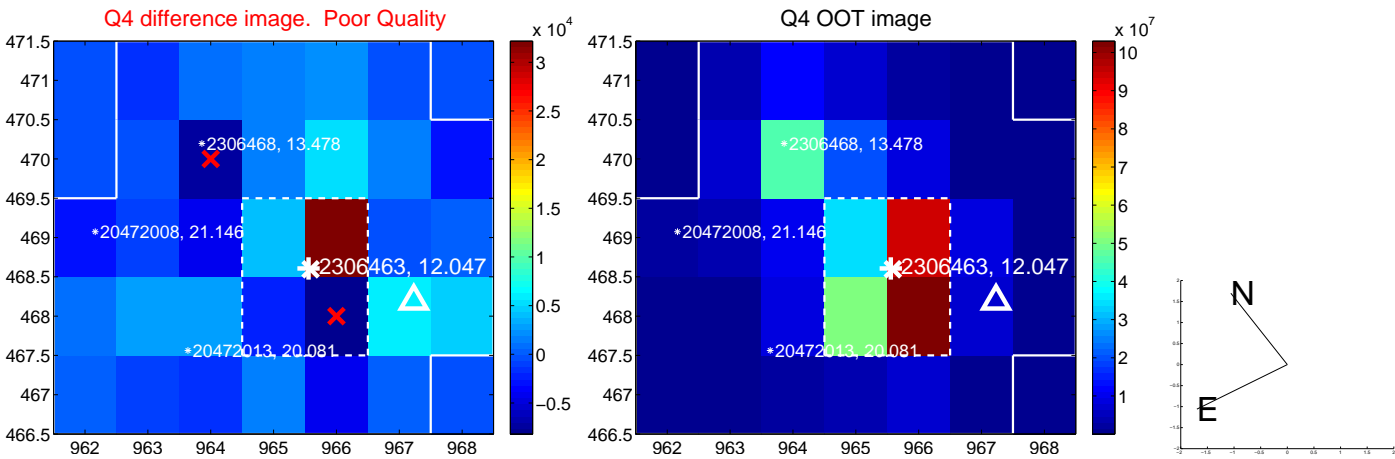
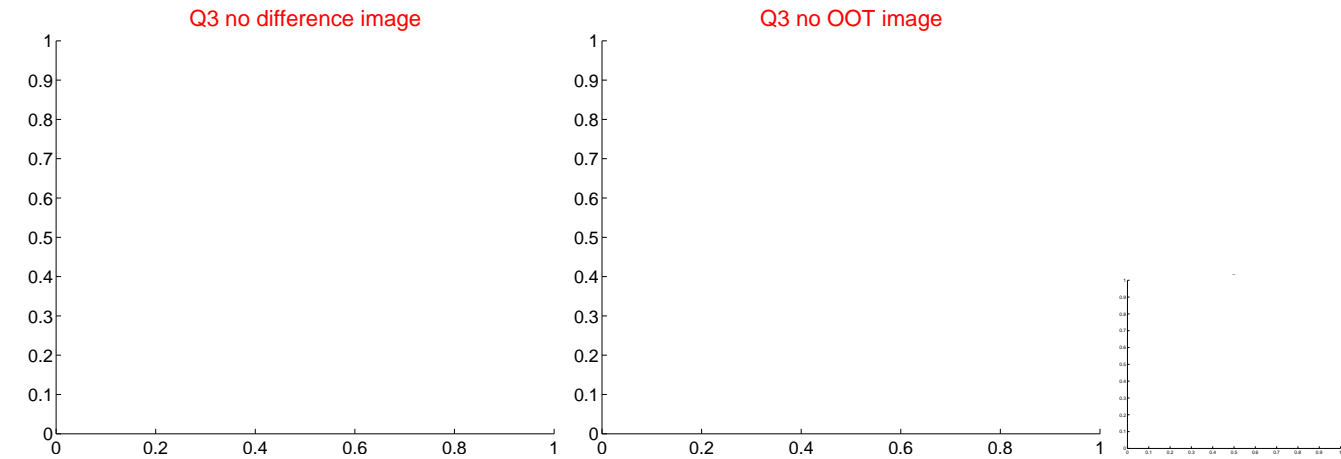
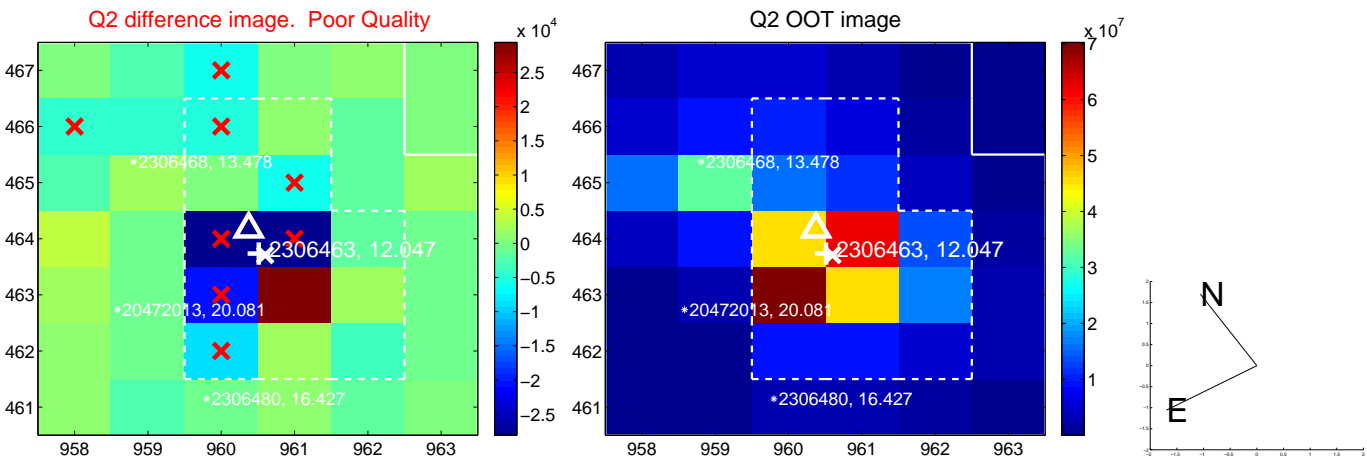
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.634 ± 1.073	0.59	-0.479 ± 0.971	0.415 ± 1.629
PRF-fit source offset from KIC position	0.676 ± 1.383	0.49	-0.401 ± 0.931	0.545 ± 1.579
photometric centroid source offset	1.67 ± 1.32	1.26	0.32 ± 1.02	1.64 ± 1.33

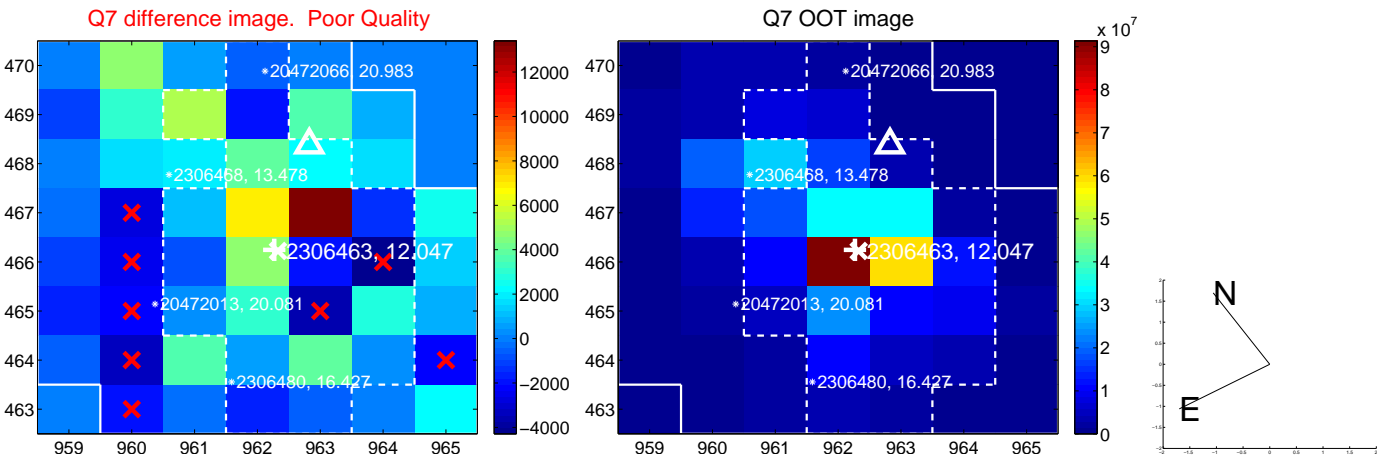
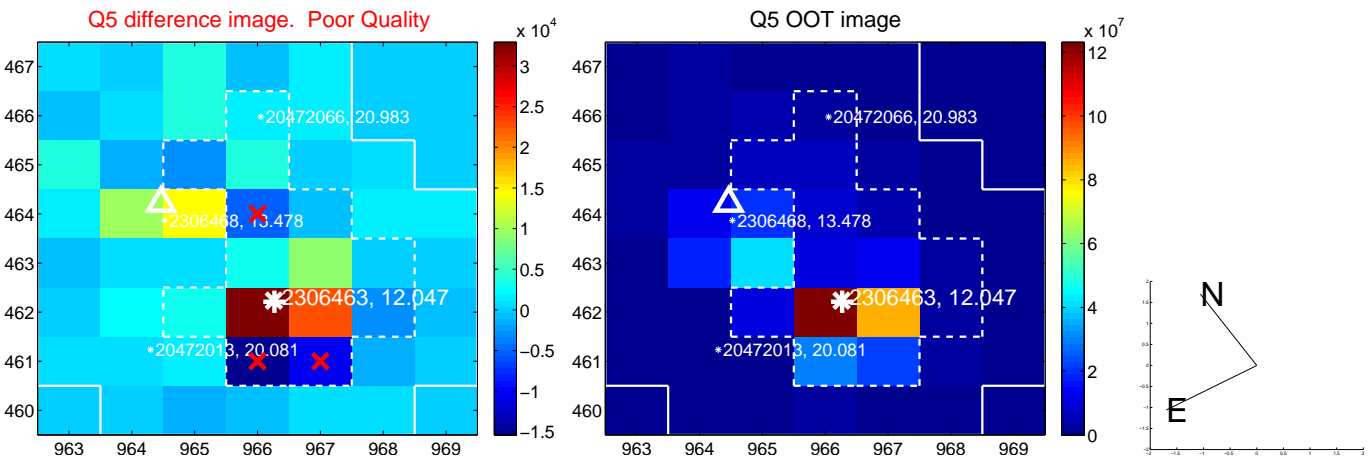


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

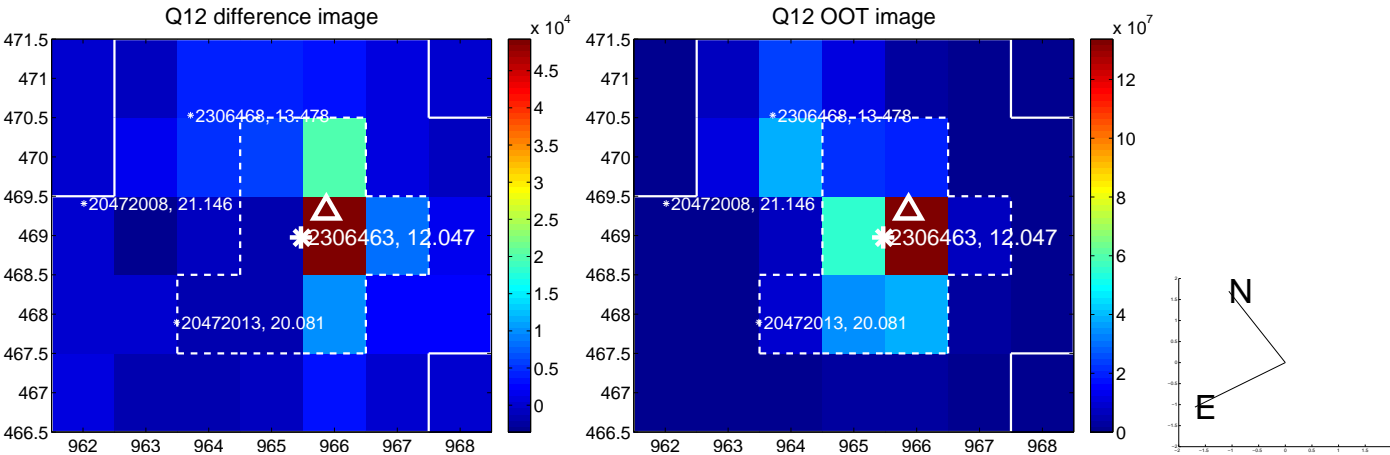
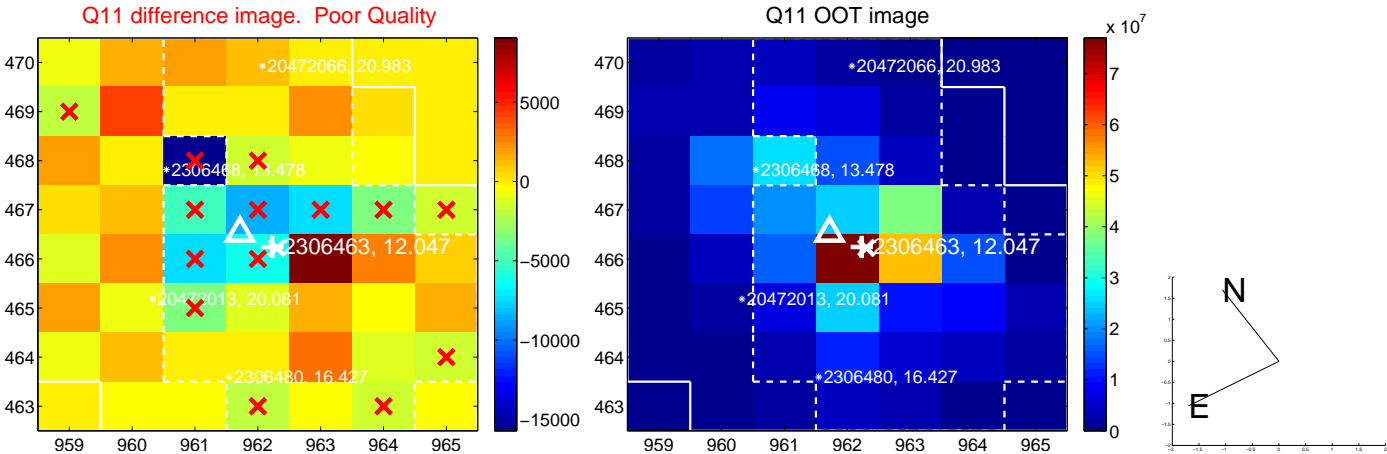
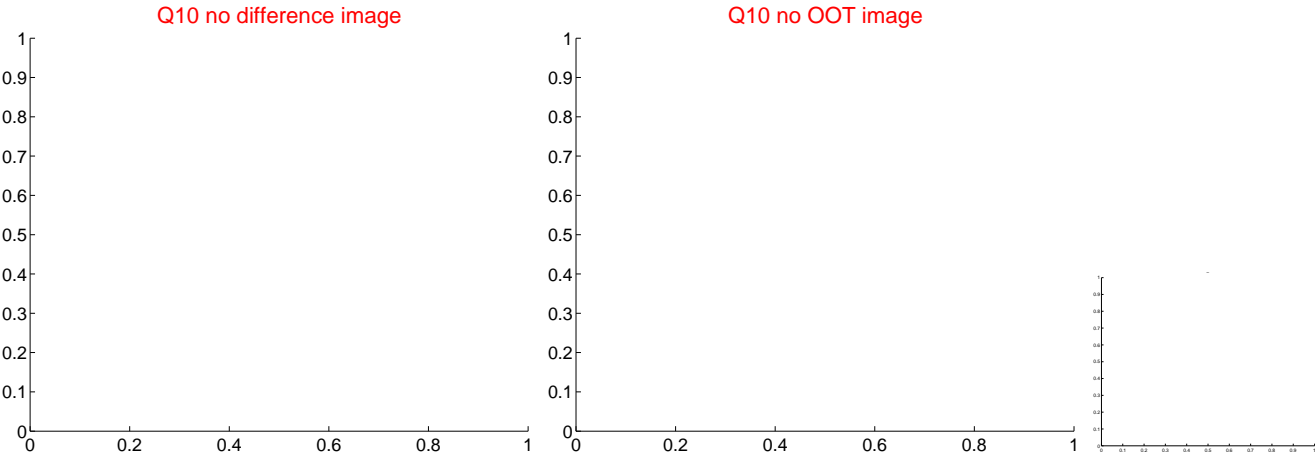
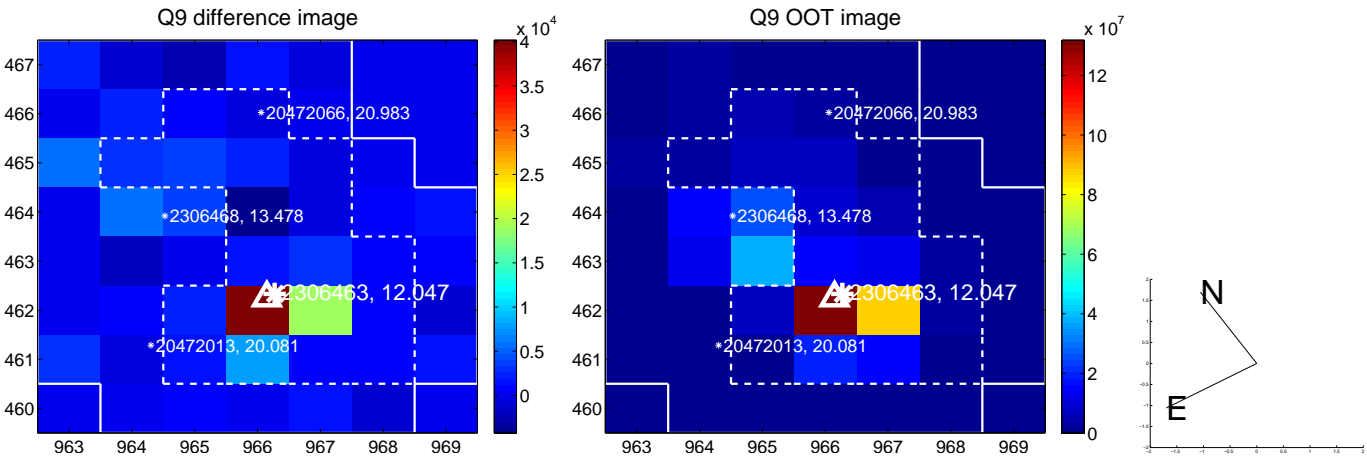
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



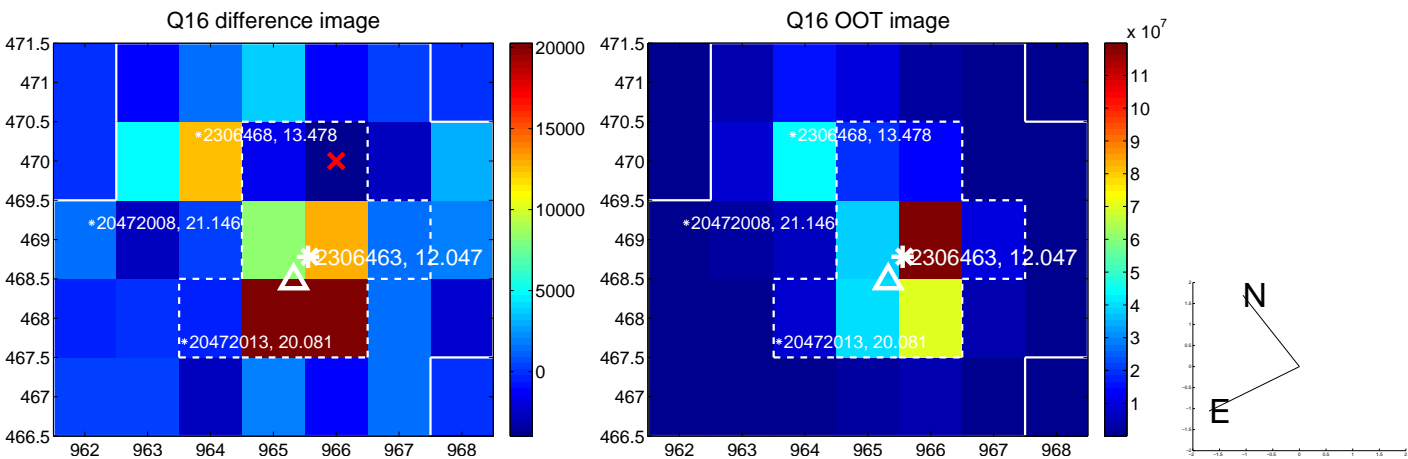
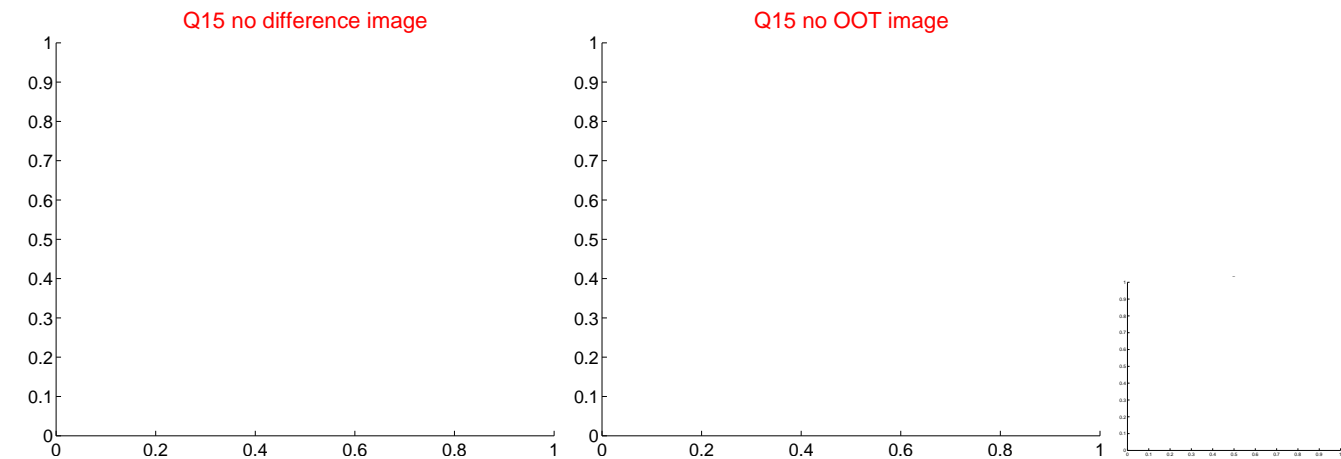
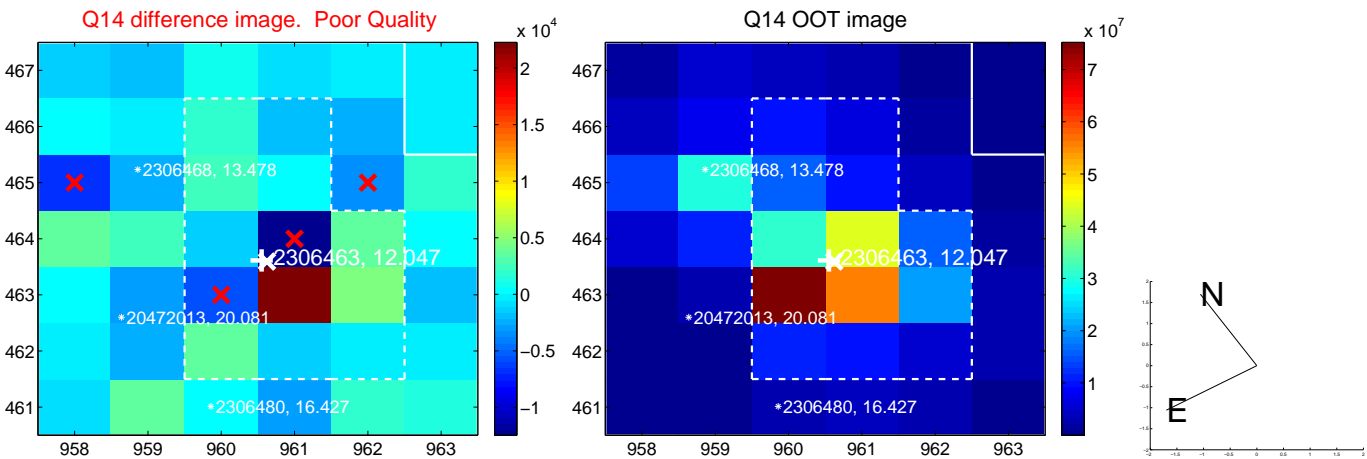
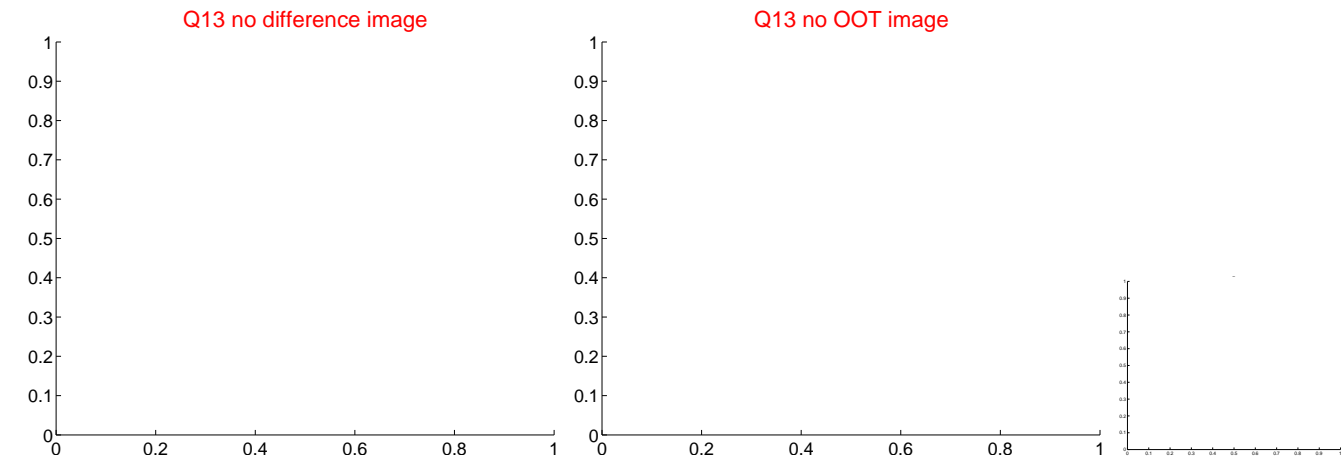
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



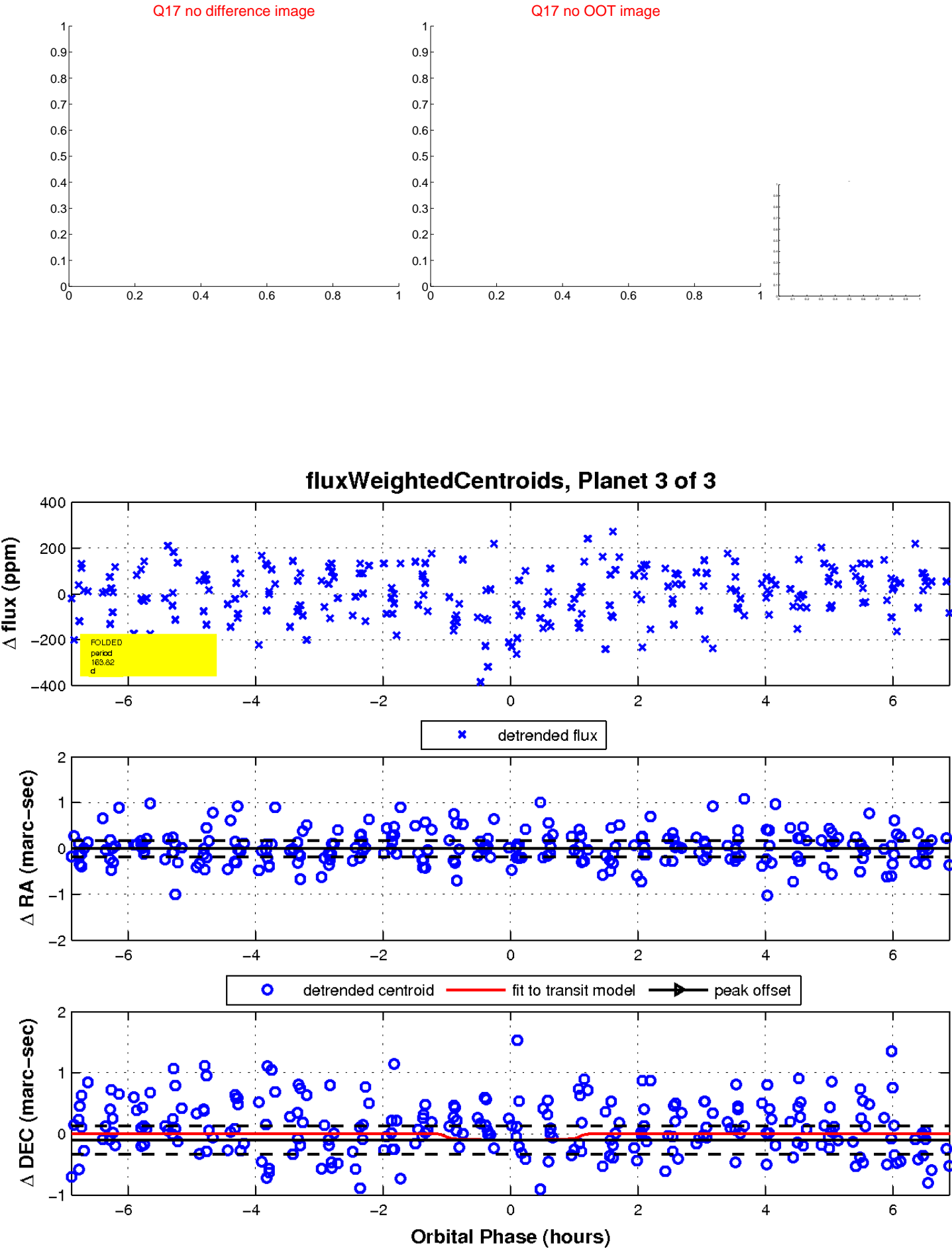
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

