

KIC 005306383

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})
005306383-01	OBS	4158.01	0.842297	131.775720	35.1	1.917	12.0	11.5	1.00	5765	0.70	3359.12
005306383-02	OBS	No	0.842340	132.163963	41.3	1.573	11.6	13.2	1.00	5765	0.76	3358.89
005306383-03	OBS	No	664.403617	237.672859	444.8	7.153	9.4	5.5	1.00	5765	2.33	0.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005306383-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—HAS_SEC_TCE—CENT_RESOLVED_OFFSET
005306383-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET
005306383-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—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.

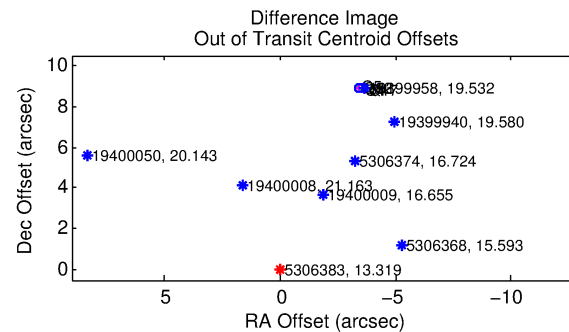
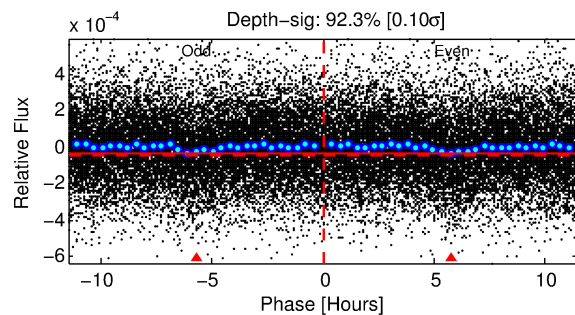
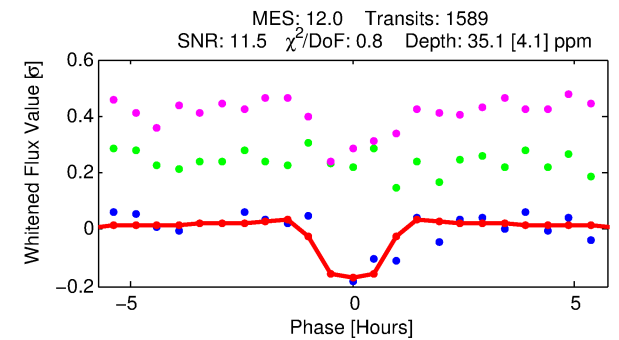
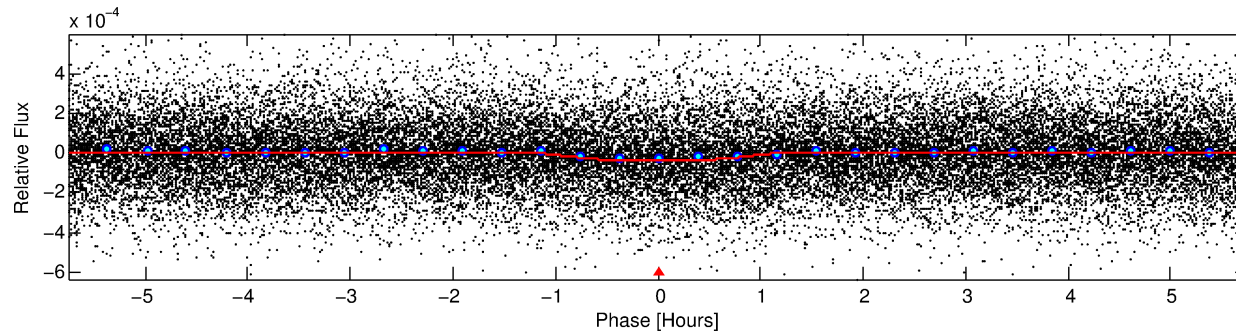
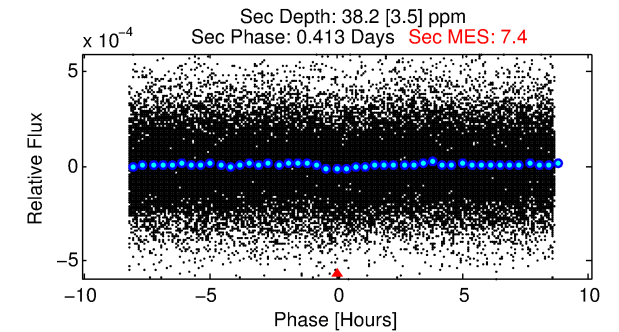
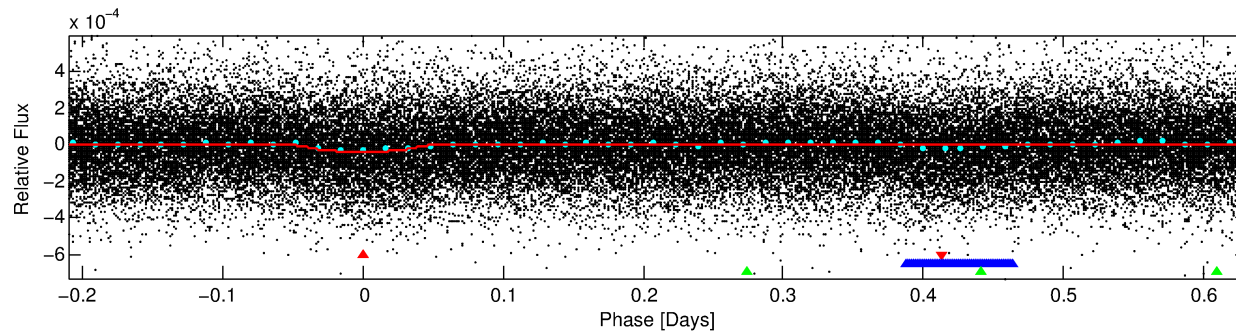
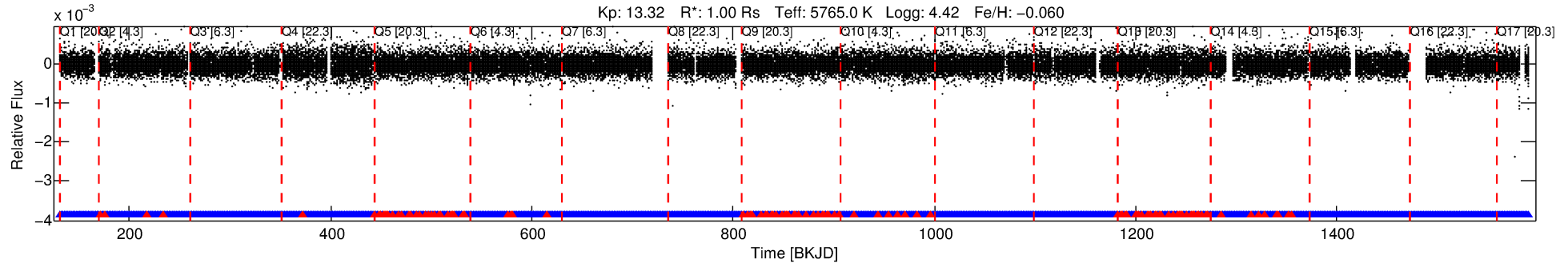
Ephemeris Match Information For 005306383-01

No Significant Match Found

DV One-Page Summary

KIC: 5306383 Candidate: 1 of 3 Period: 0.842 d
KOI: K04158.01 Corr: 0.758

Kp: 13.32 R*: 1.00 Rs Teff: 5765.0 K Logg: 4.42 Fe/H: -0.060



DV Fit Results:

Period = 0.84230 [0.00001] d
Epoch = 131.7757 [0.0020] BKJD
Rp/R* = 0.0065 [0.0028]
a/R* = 1.78 [2.59]
b = 0.90 [0.46]
Seff = 3359.12 [1216.70]
Teq = 1941 [176] K
Rp = 0.70 [0.36] Re
a = 0.0171 [0.0040] AU
Ag = 12.44 [11.79] [0.97σ]
Teff = 5637 [1257] K [2.91σ]

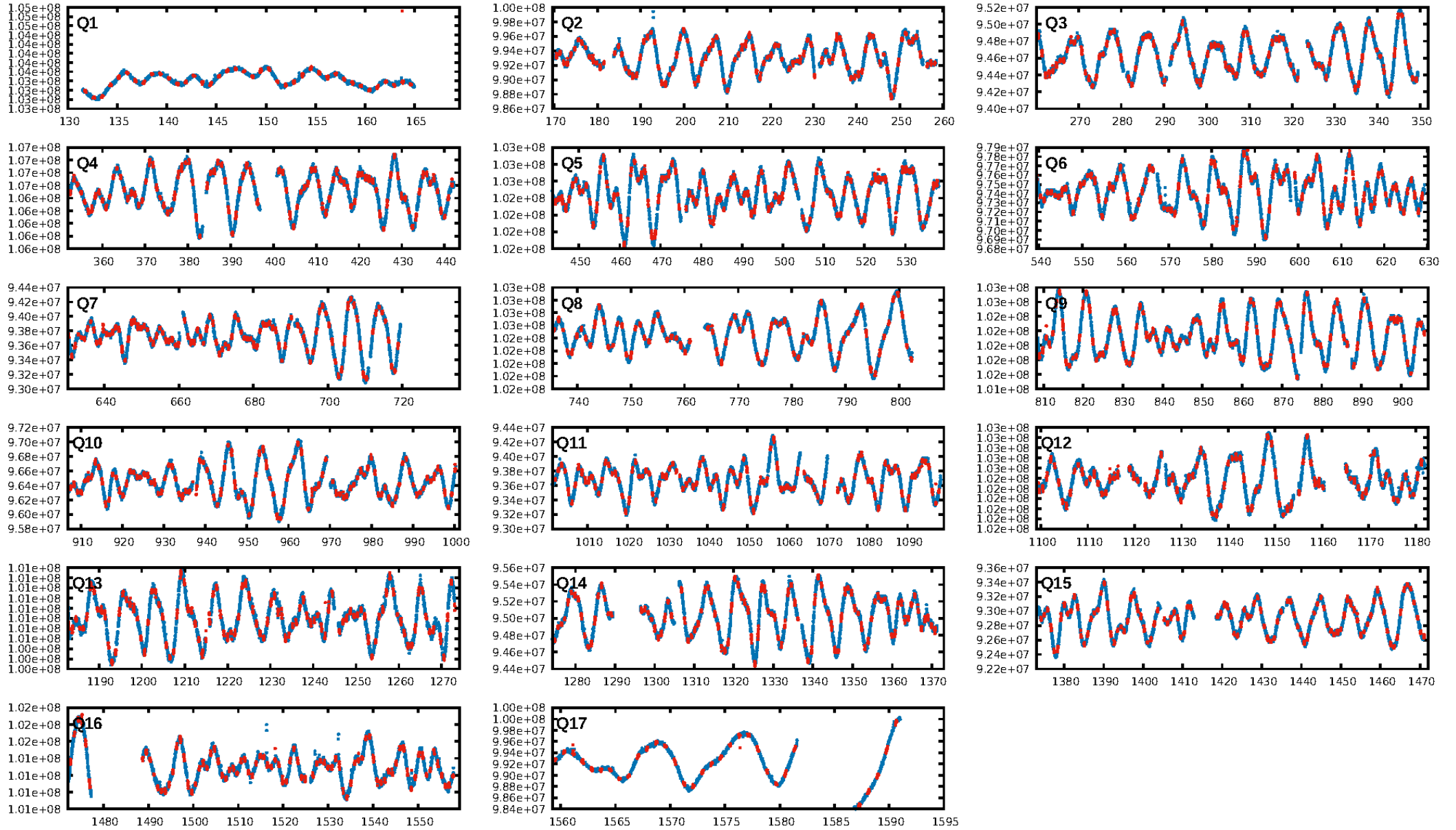
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.51e-31
RollingBand-fgt: 0.92 [1394/1517]
GhostDiagnostic-chr: -2.906
Centroid-sig: 0.0%
Centroid-so: 5.162 arcsec [5.73σ]
OotOffset-rm: 9.526 arcsec [137.28σ]
KicOffset-rm: 9.581 arcsec [138.92σ]
OotOffset-st: 0/0/3/5 [8]
KicOffset-st: 0/0/3/5 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [17/17]

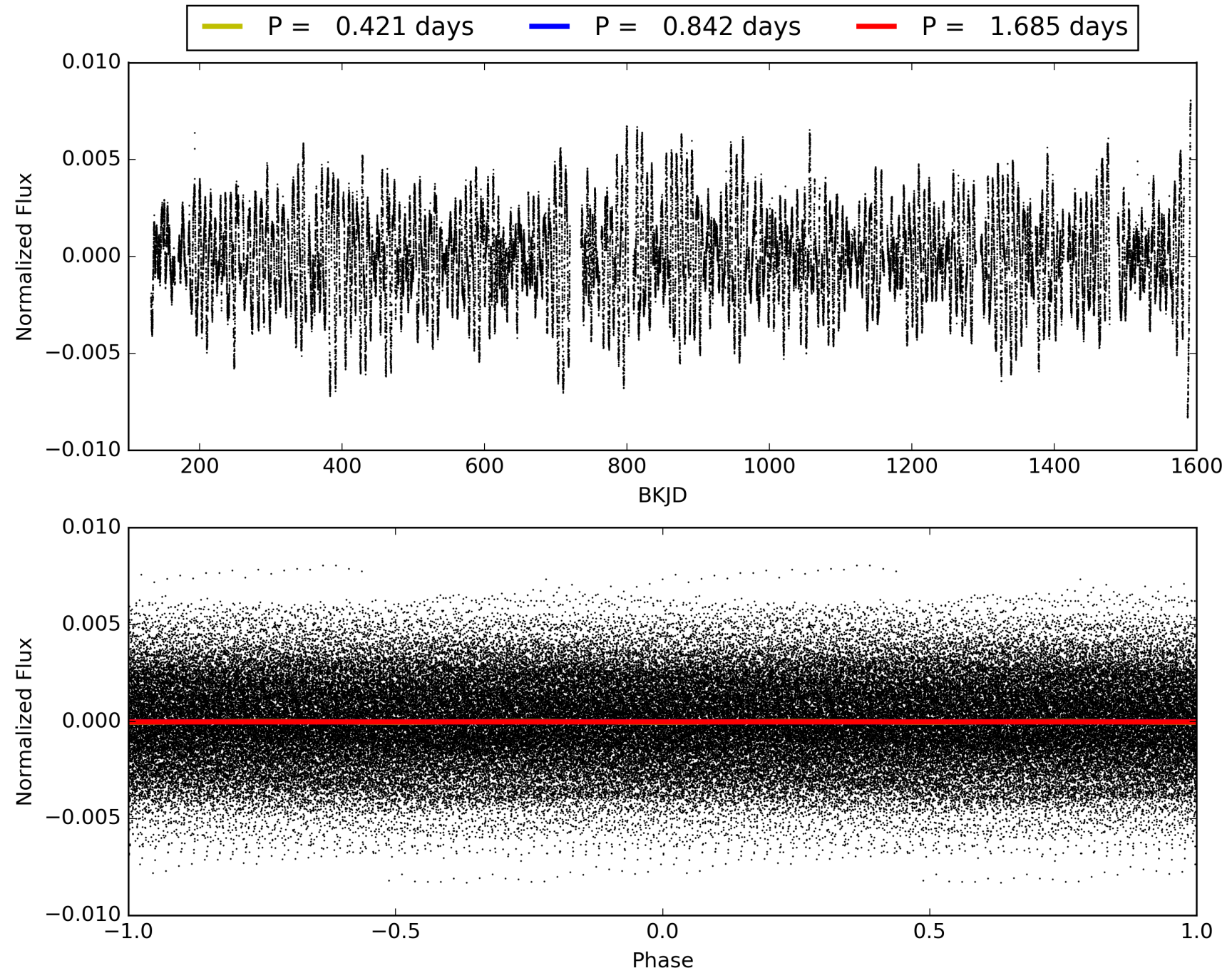
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:18:28 Z

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

TCE 005306383-01, PDC Light Curves

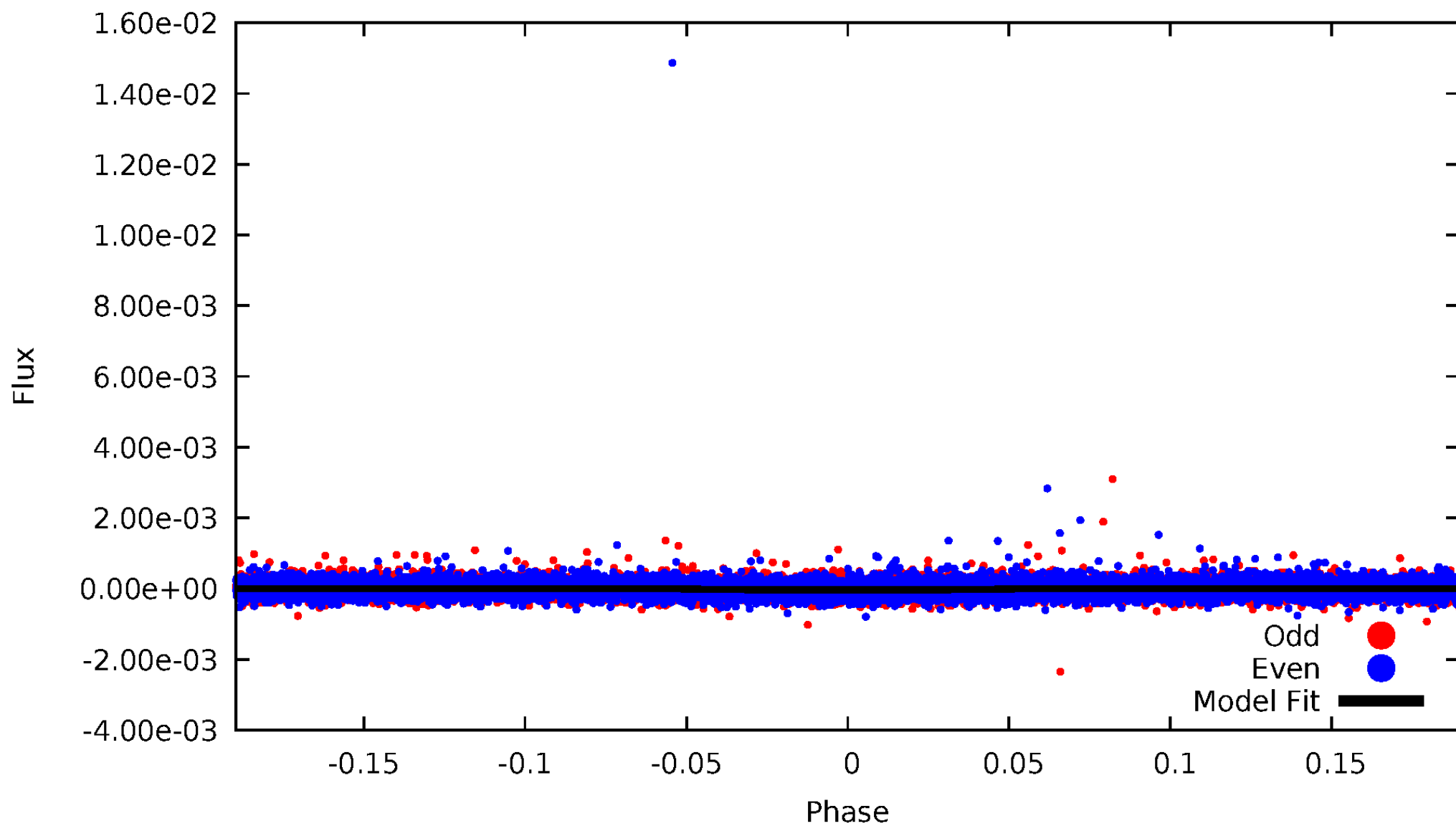


TCE 005306383-01



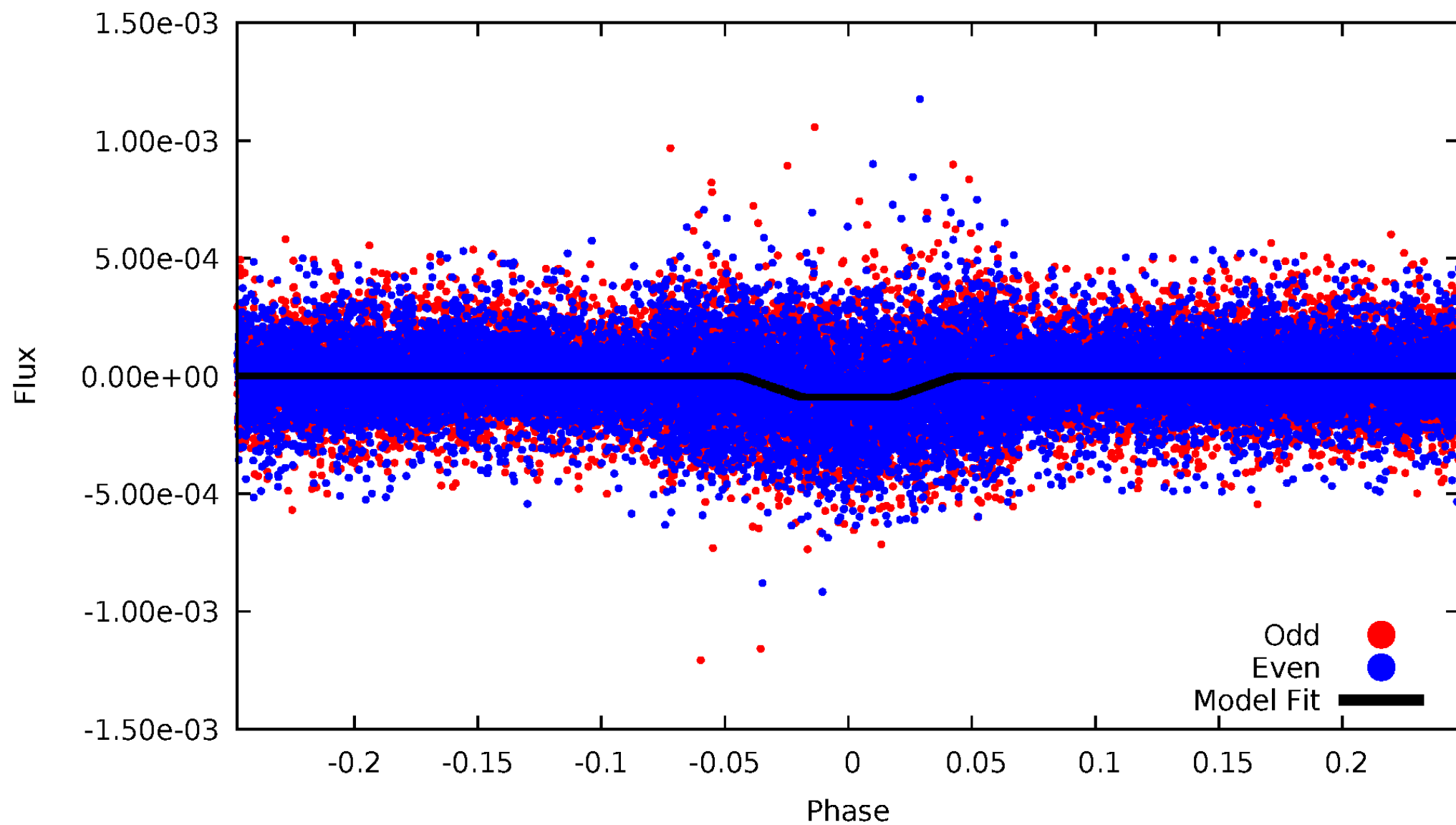
DV Odd/Even

TCE 005306383-01



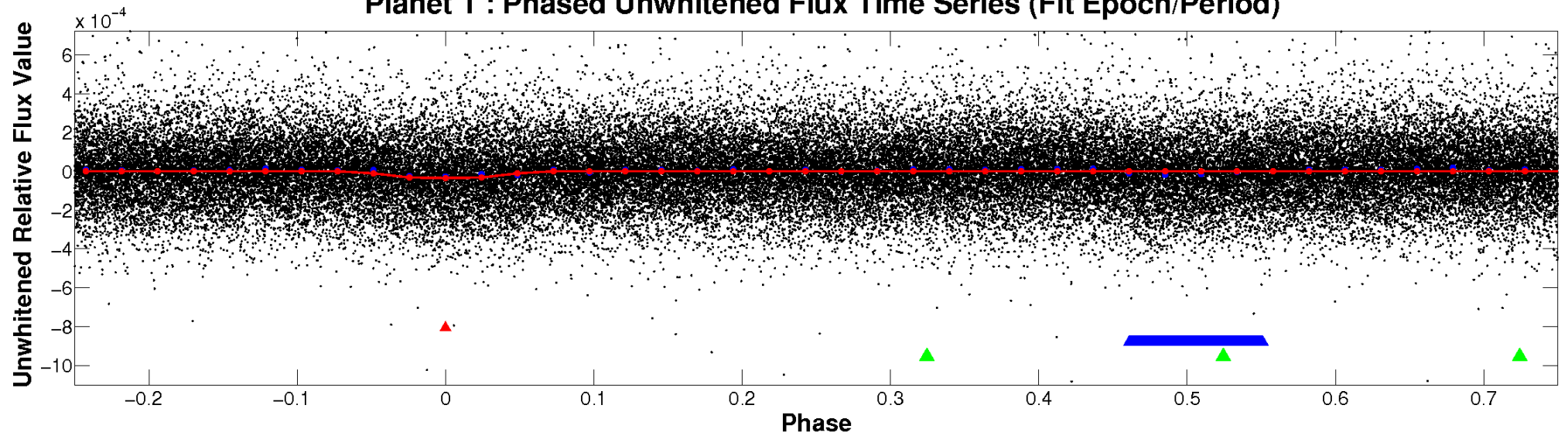
ALT Odd/Even

TCE 005306383-01

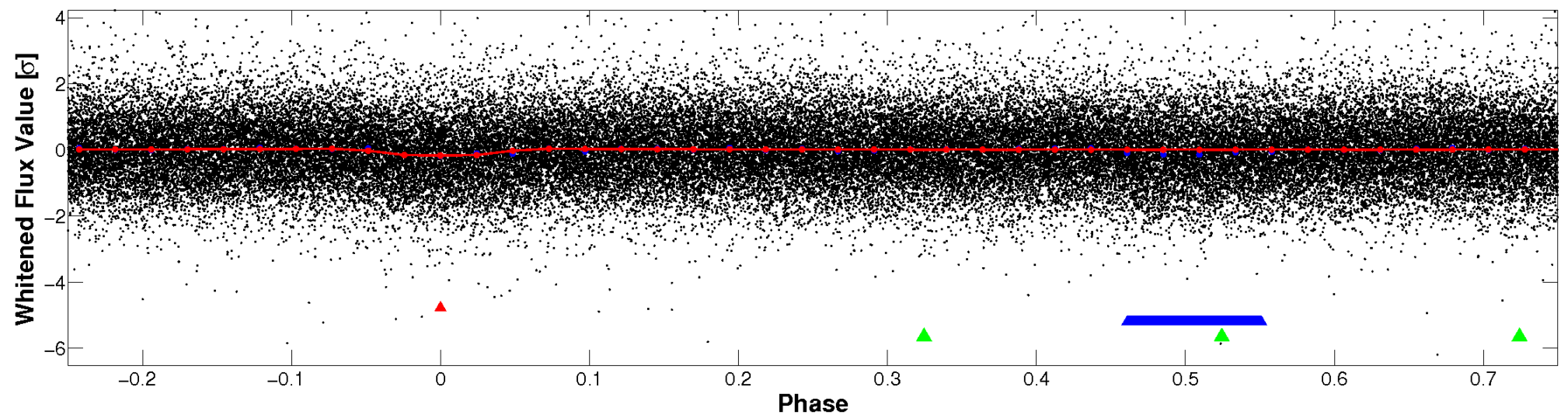


Non-Whitened Vs. Whitened Light Curve

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

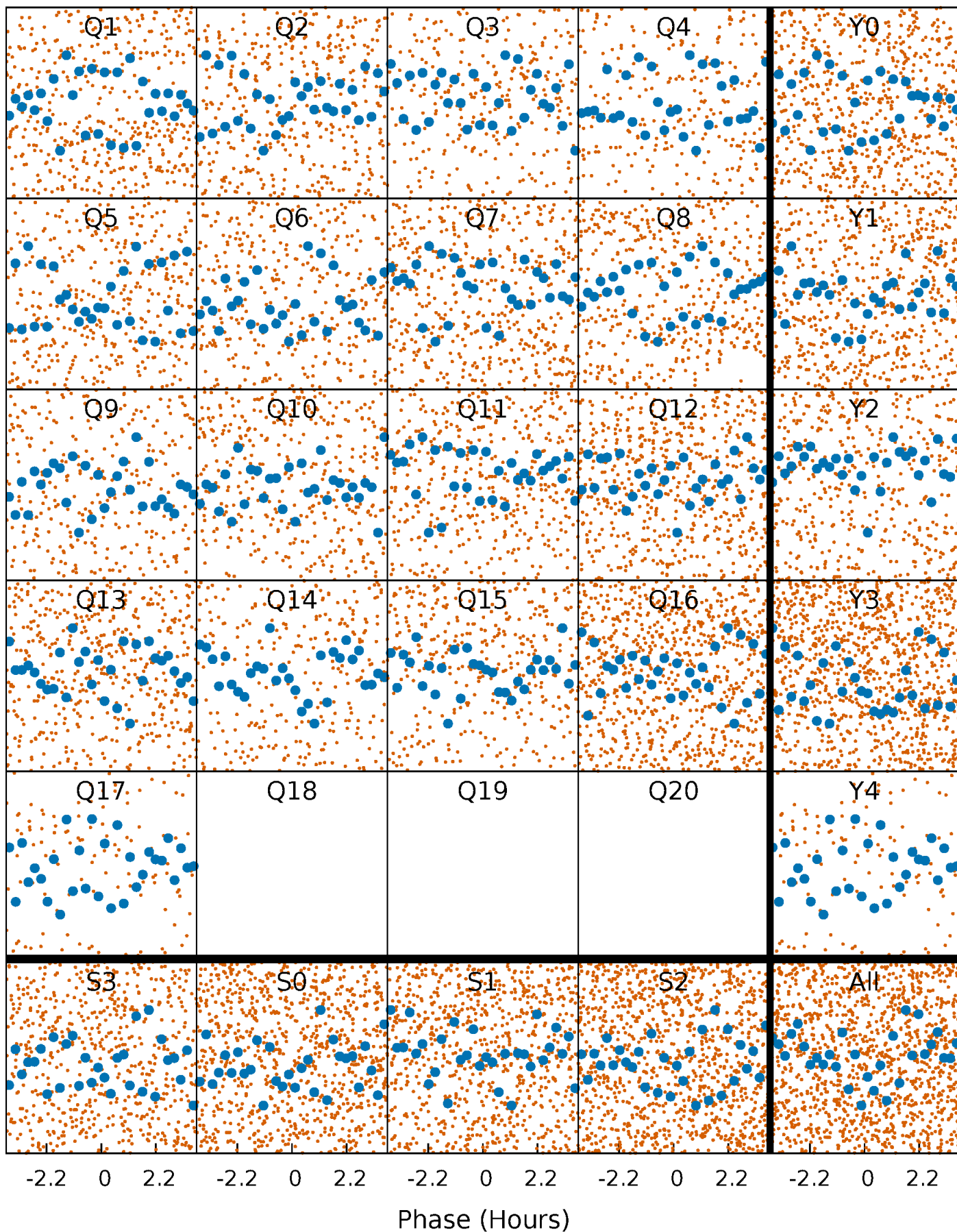


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



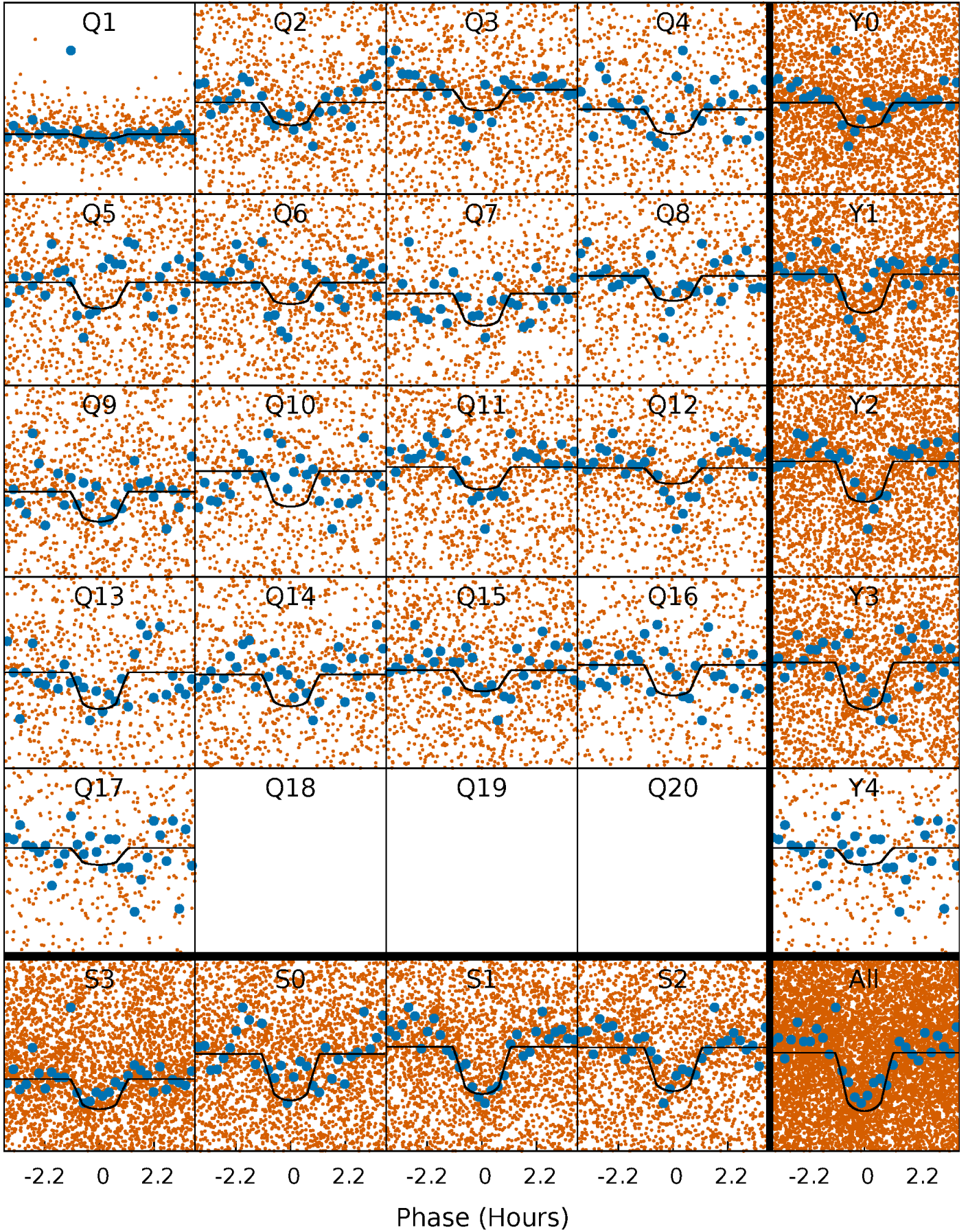
PDC Quarter-Phased Transit Curves

TCE 005306383-01 P= 0.842297 Days $T_0=131.775721$ (BKJD)



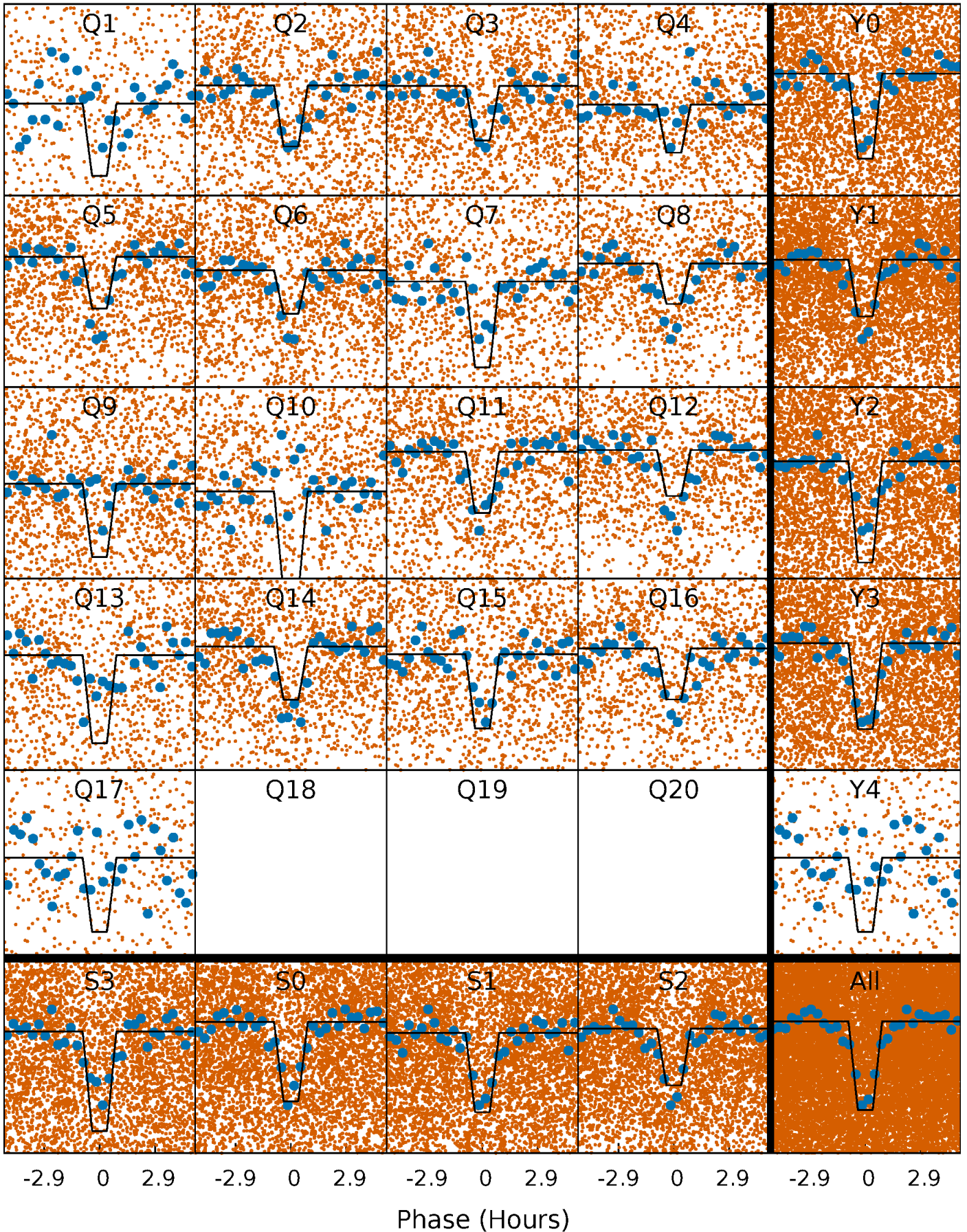
DV Quarter-Phased Transit Curves

TCE 005306383-01 P= 0.842297 Days $T_0=131.775721$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

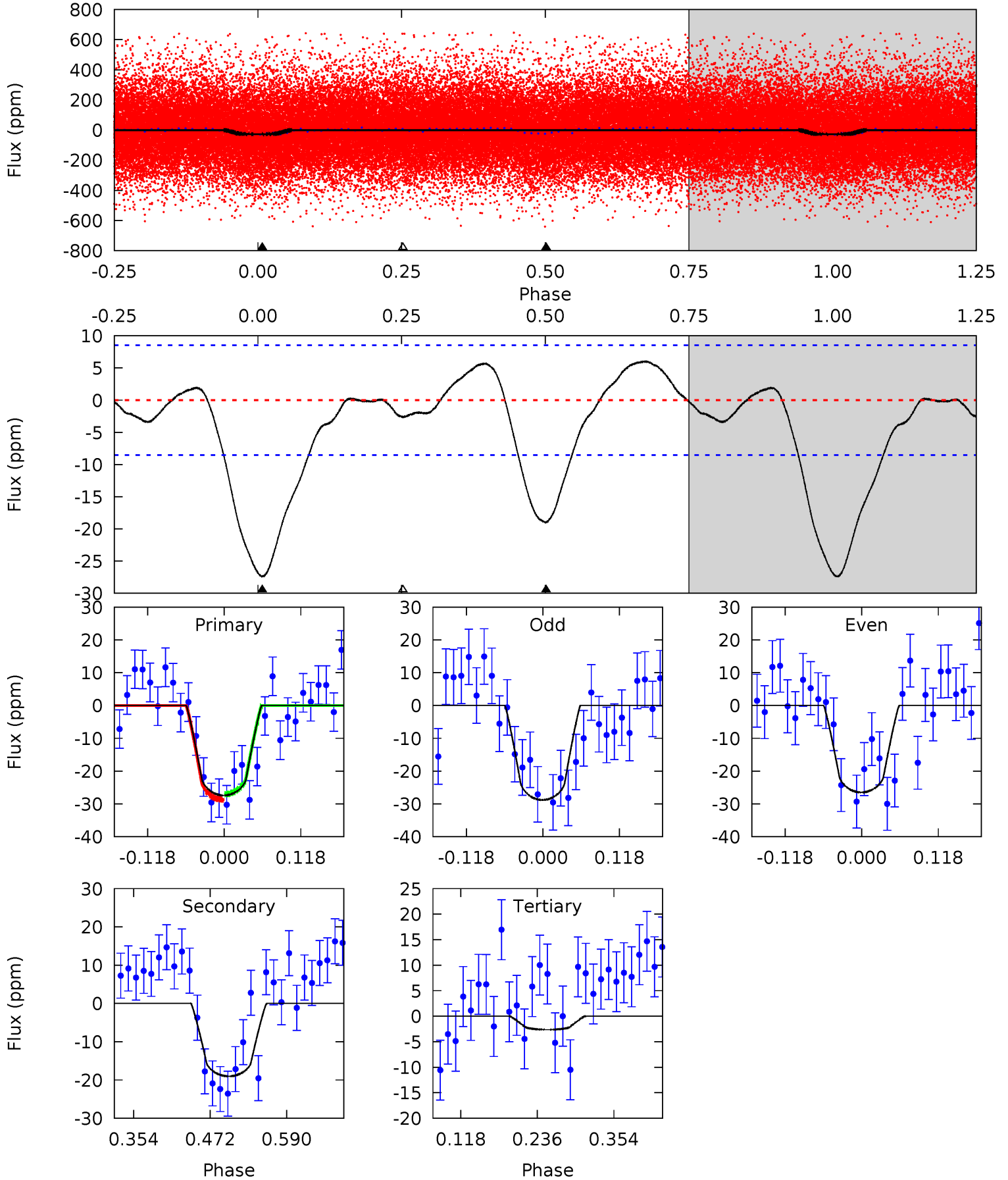
TCE 005306383-01 P= 0.842333 Days $T_0=131.741159$ (BKJD)



DV Model-Shift Uniqueness Test

005306383-01, P = 0.842297 Days, E = 130.933424 Days

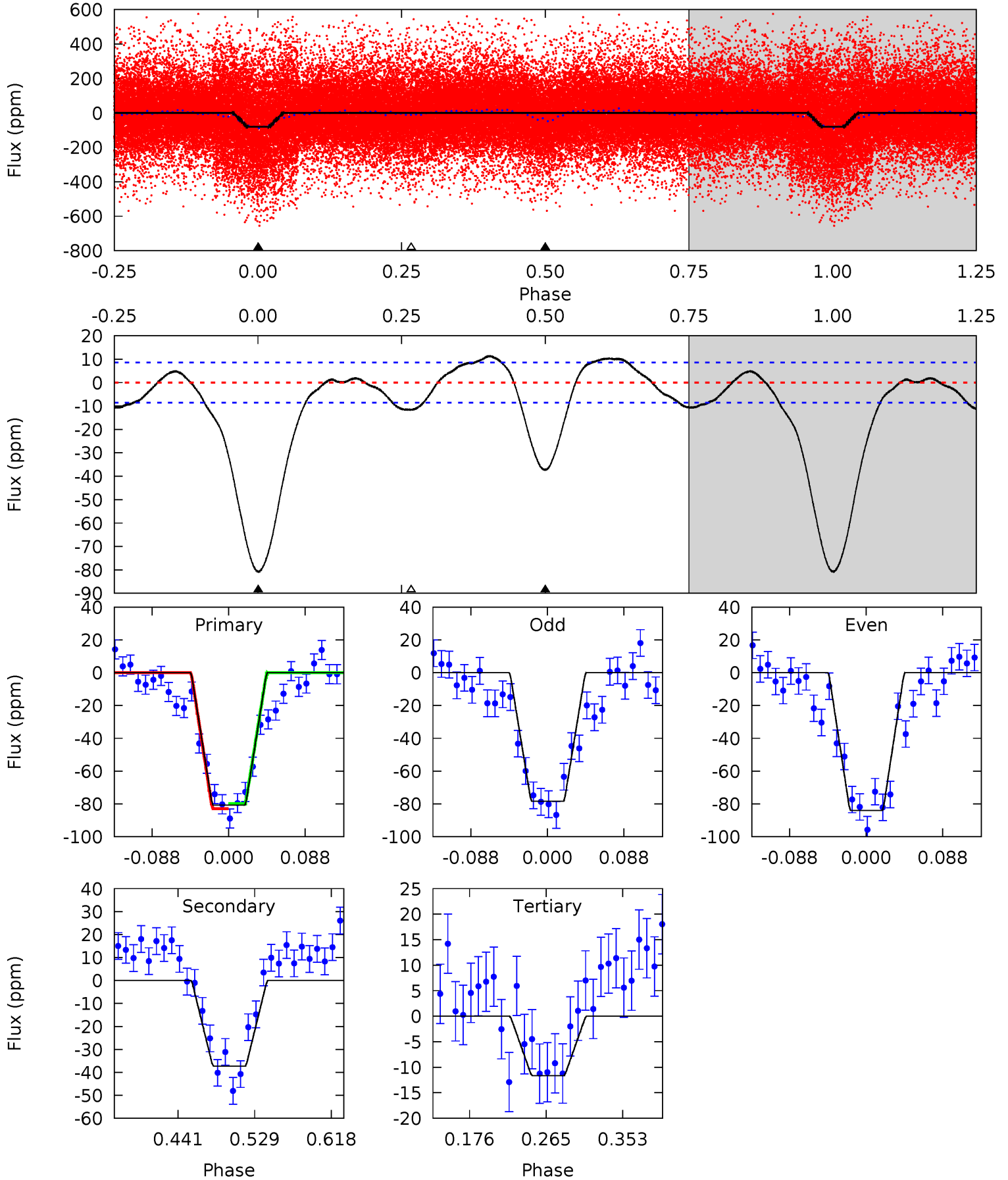
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.6	10.1	1.40	0	4.53	1.56	1.48	13.2	14.6	8.69	10.1	0.62	0.81	0.18	0.44



Alt Model-Shift Uniqueness Test

005306383-01, P = 0.842333 Days, E = 130.898826 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.2	19.9	6.21	0	4.59	1.70	3.61	37.0	43.2	13.7	19.9	1.48	0.96	0.12	0.83



Stellar Parameters For KIC 005306383

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5765^{+156}_{-173}	$4.415^{+0.101}_{-0.188}$	$-0.060^{+0.300}_{-0.300}$	$0.998^{+0.274}_{-0.147}$	$0.943^{+0.124}_{-0.093}$	$1.337^{+0.601}_{-0.623}$
	+3%/-3%	+2%/-4%	+500%/-500%	+27%/-15%	+13%/-10%	+45%/-47%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005306383-01 / KOI 4158.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-19 ± 2	$0.72^{+0.35}_{-0.30}$	2734^{+196}_{-137}	4779^{+1470}_{-668}	$5.821^{+12.902}_{-3.129}$
Alt.	-37 ± 2	$1.04^{+0.35}_{-0.34}$	2740^{+186}_{-144}	4706^{+850}_{-492}	$5.522^{+6.526}_{-2.482}$

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

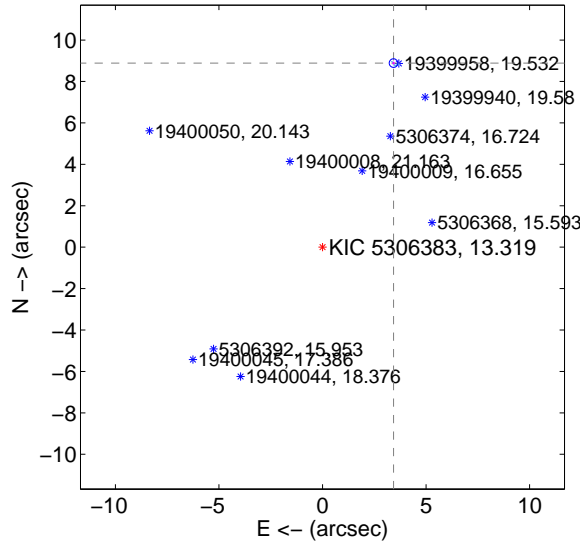
Supplemental centroid analysis for 005306383-01. Kepler magnitude: 13.32. Transit SNR 11.46

There are 8 quarters with good PRF difference image offsets

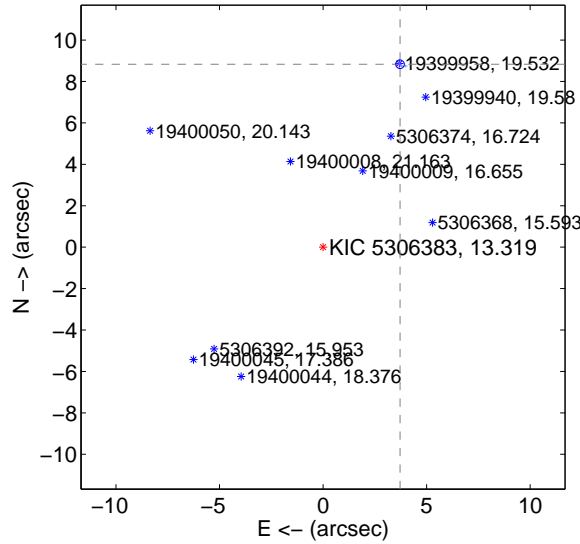
The direct PRF centroid is offset from the target star catalog position by about 0.35 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.526 ± 0.069	137.28	-3.429 ± 0.069	8.887 ± 0.069
PRF-fit source offset from KIC position	9.581 ± 0.069	138.92	-3.716 ± 0.069	8.831 ± 0.069
photometric centroid source offset	5.16 ± 0.90	5.73	-0.89 ± 1.01	5.09 ± 0.90

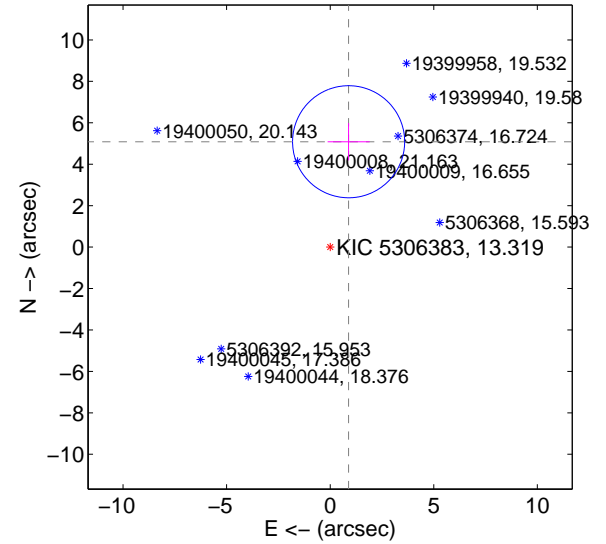
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

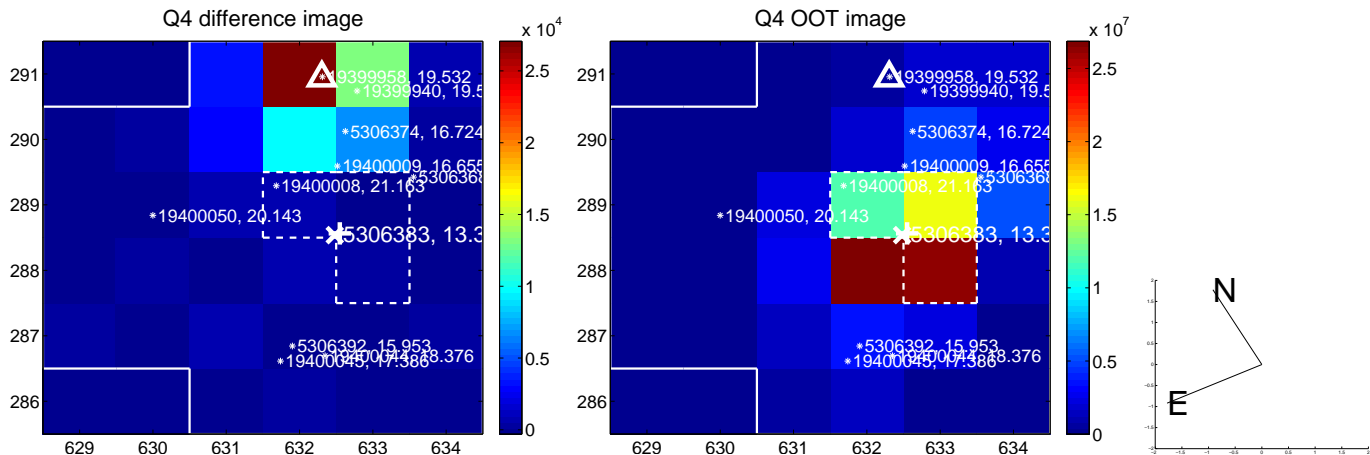
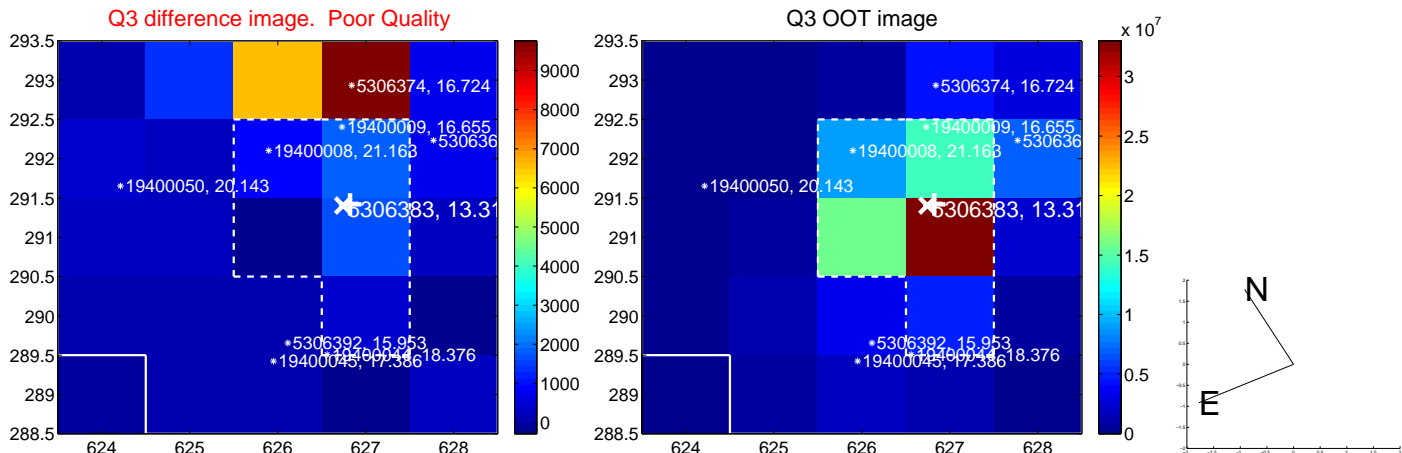
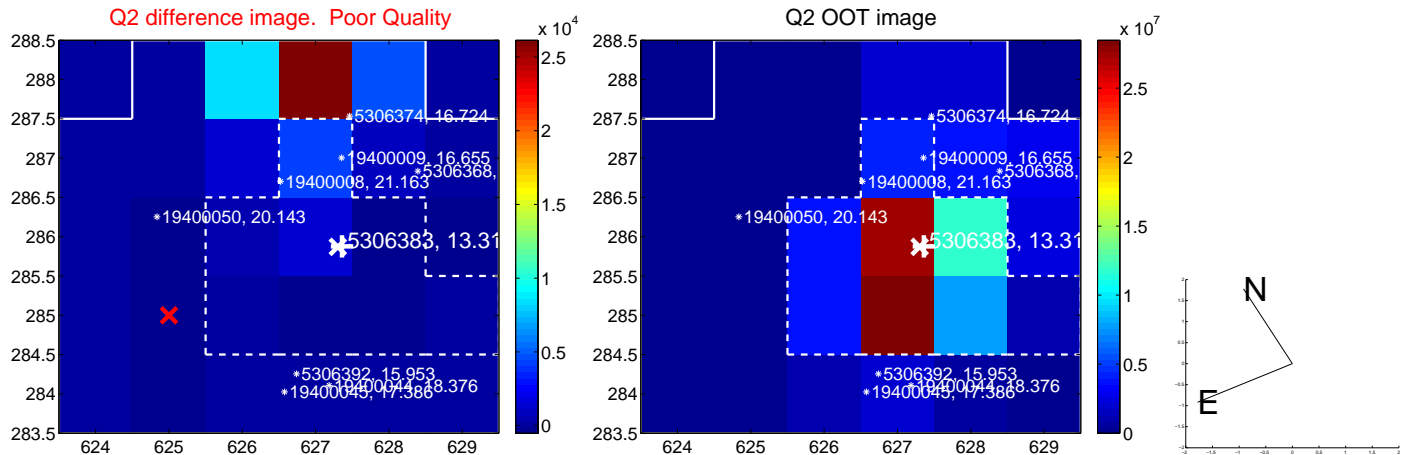
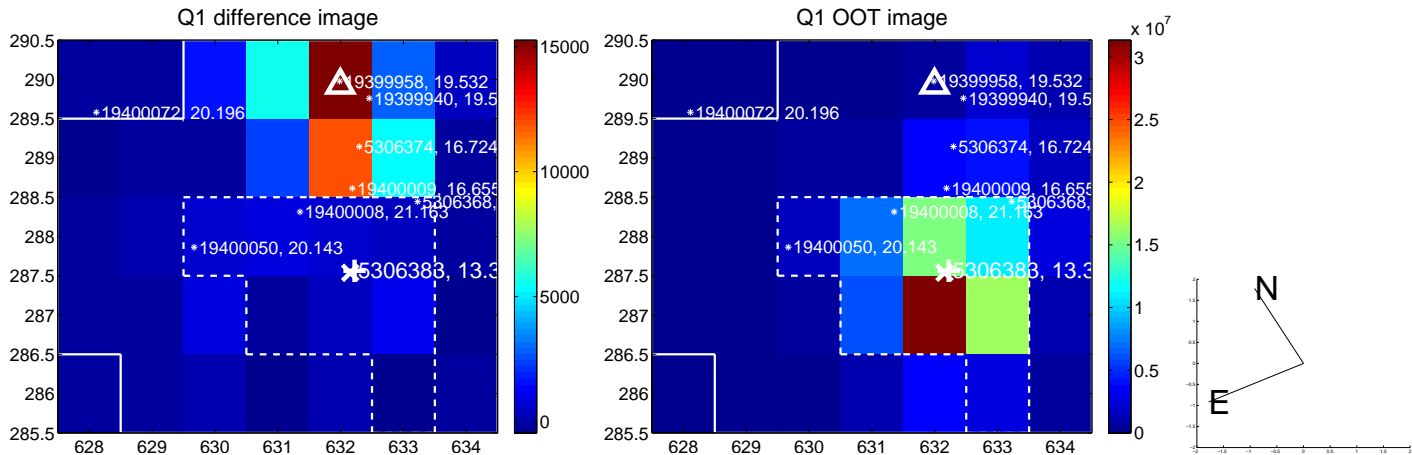


offset from photometric centroids

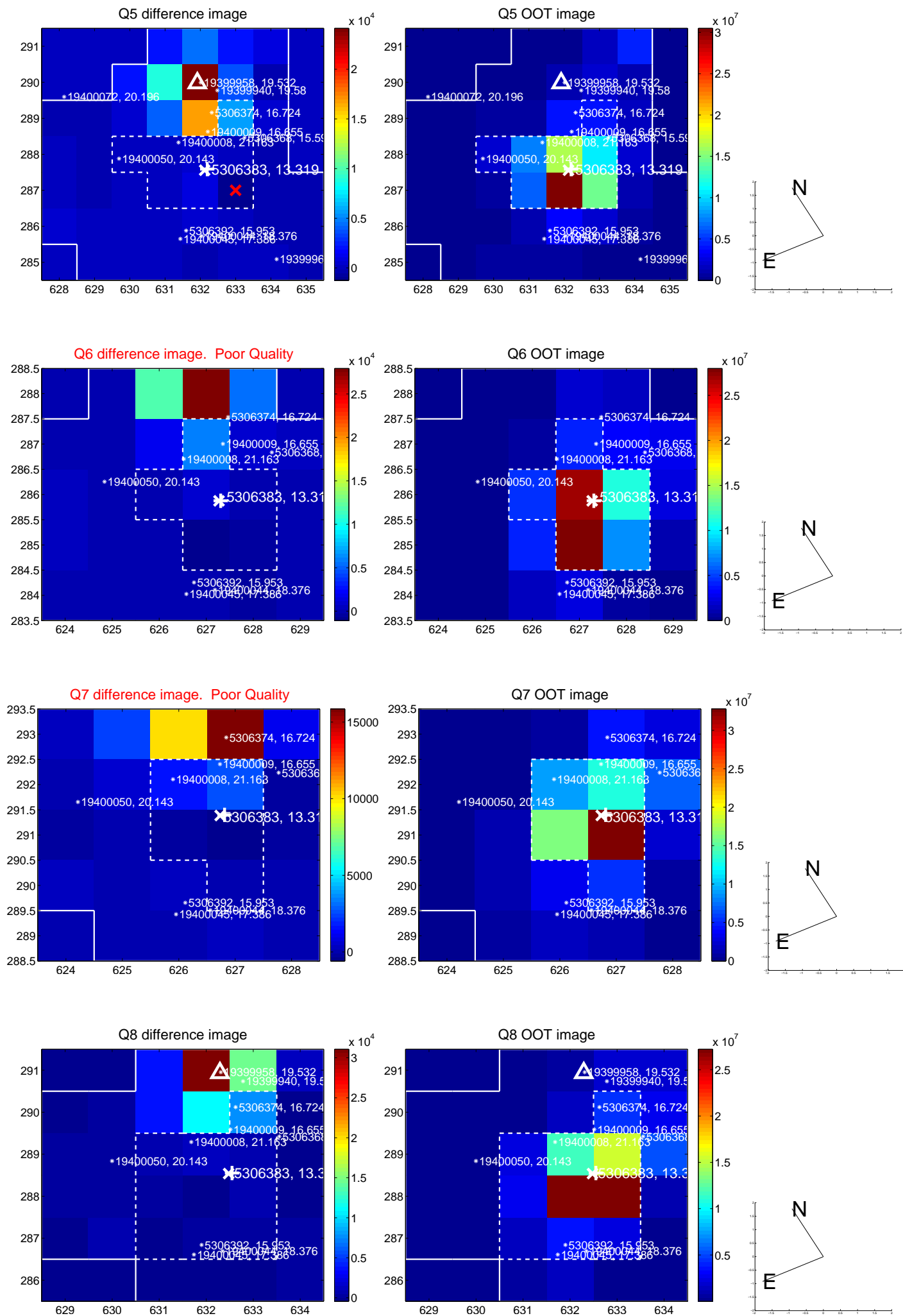


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

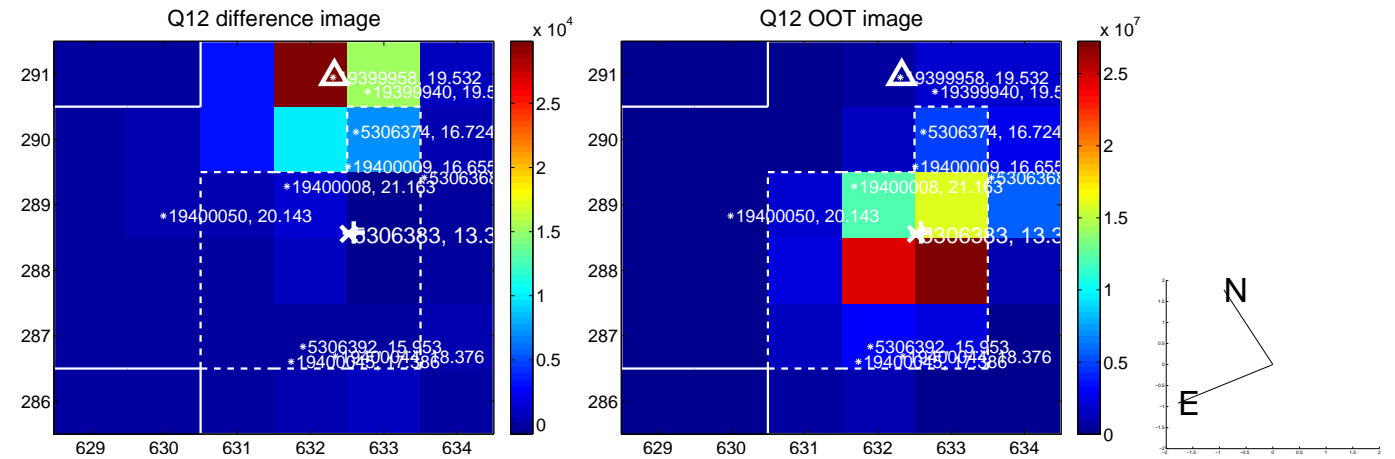
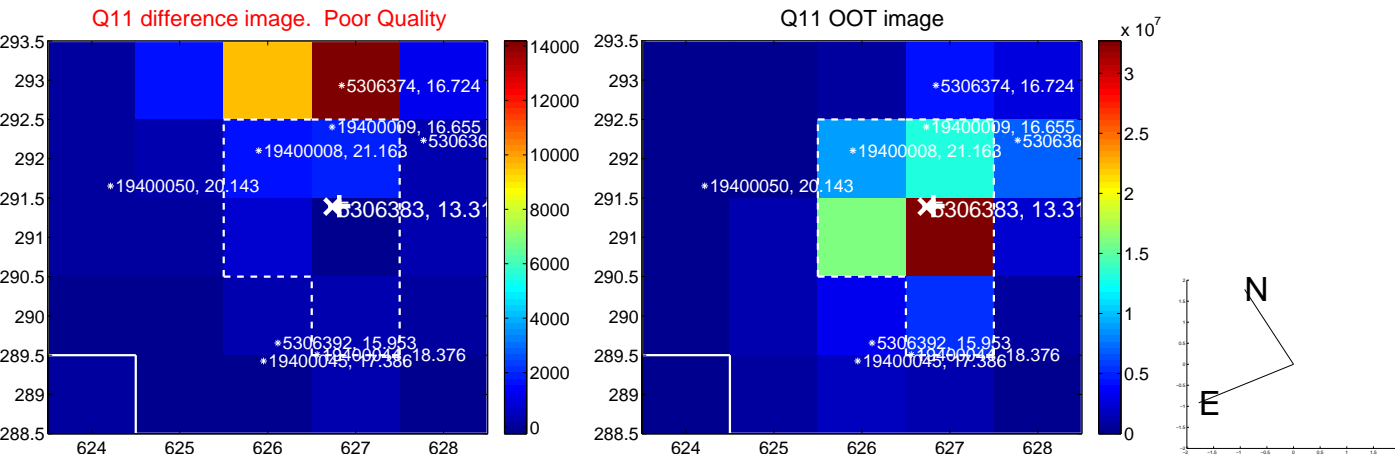
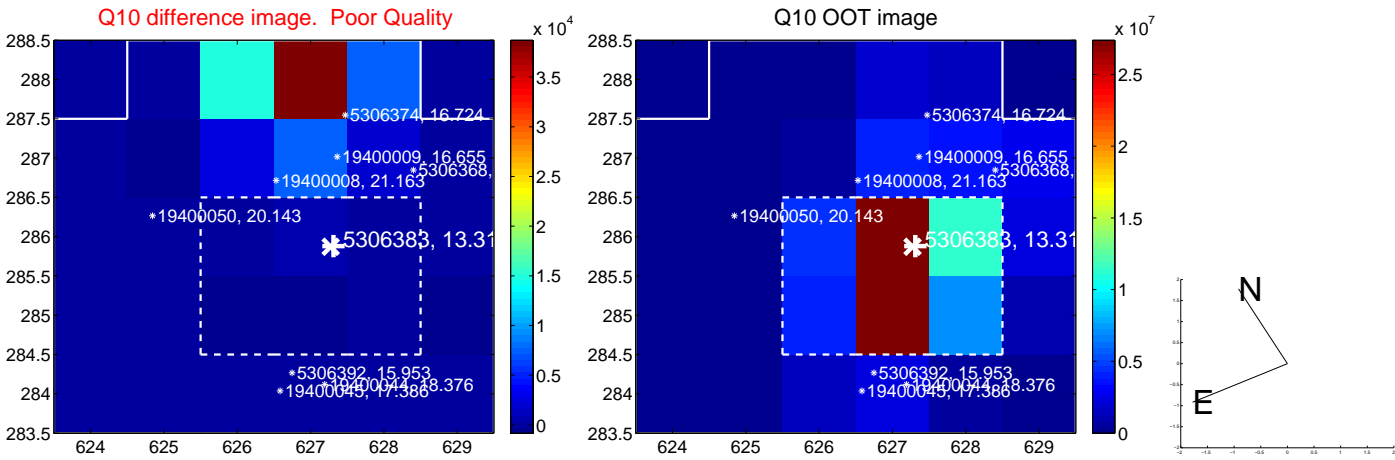
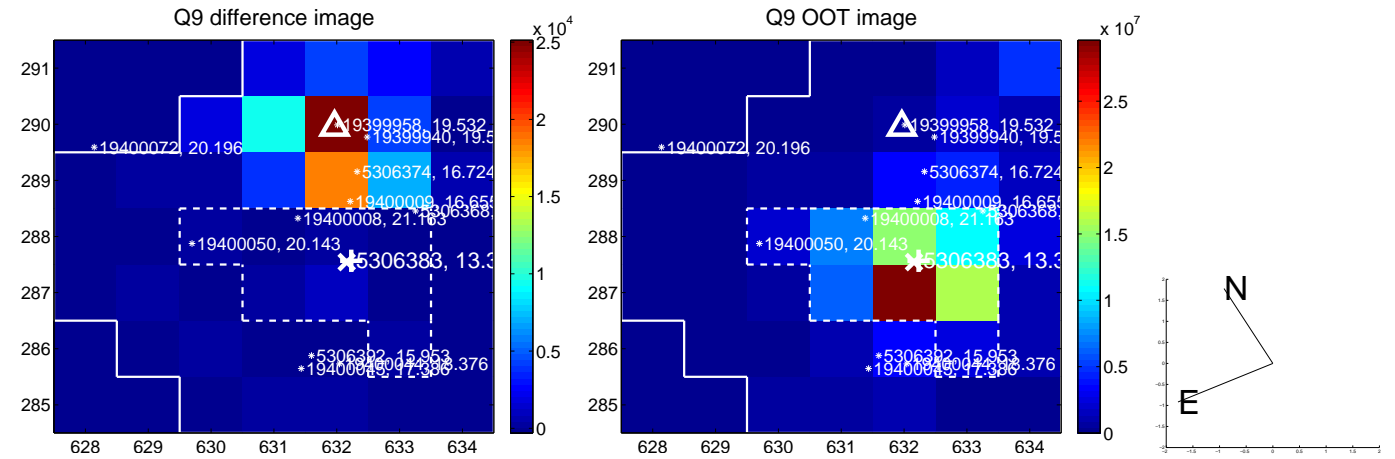
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



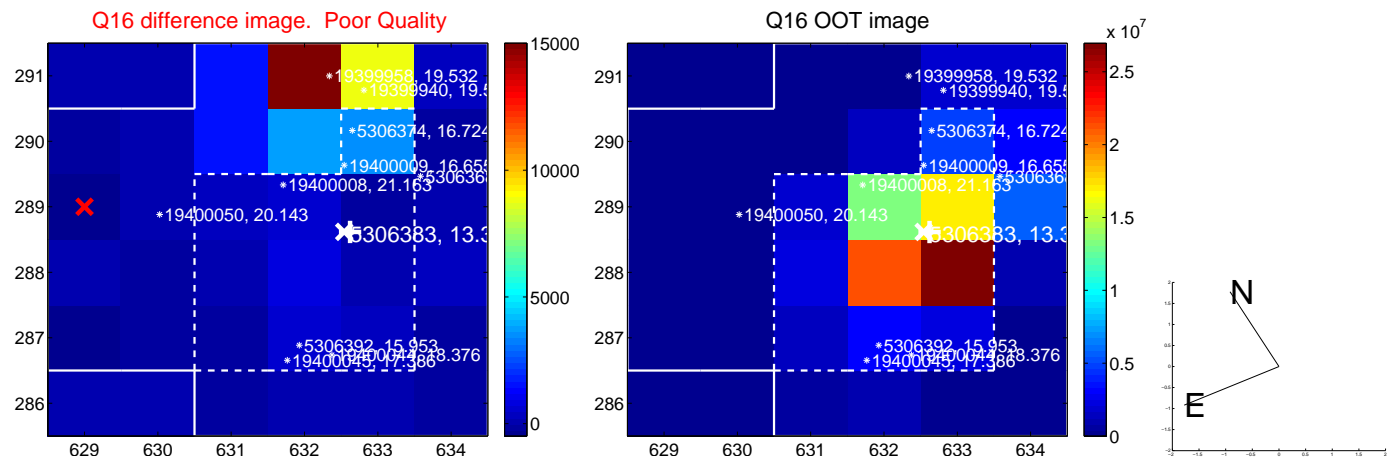
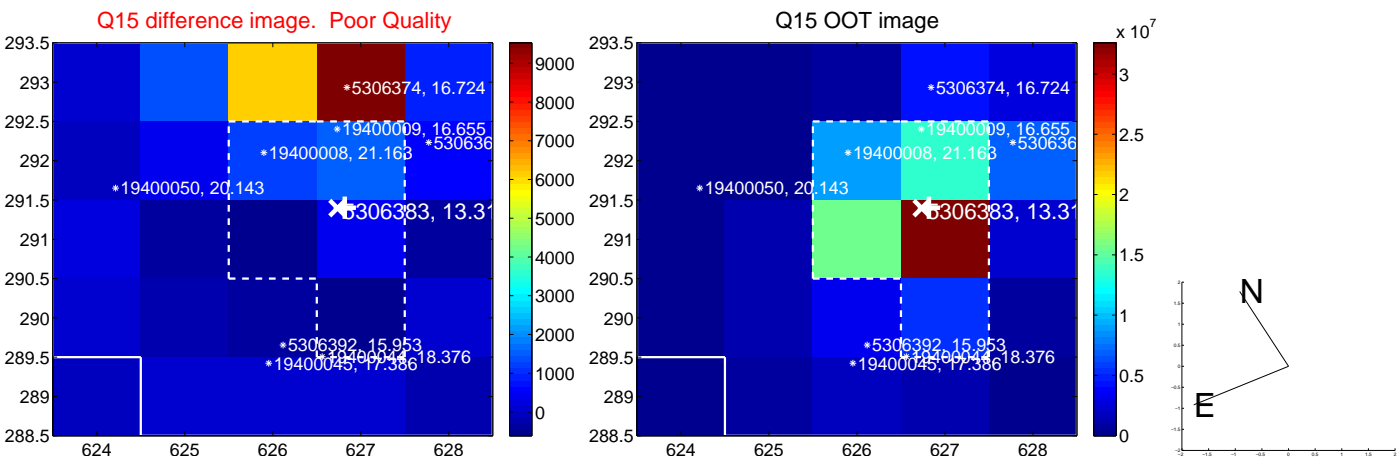
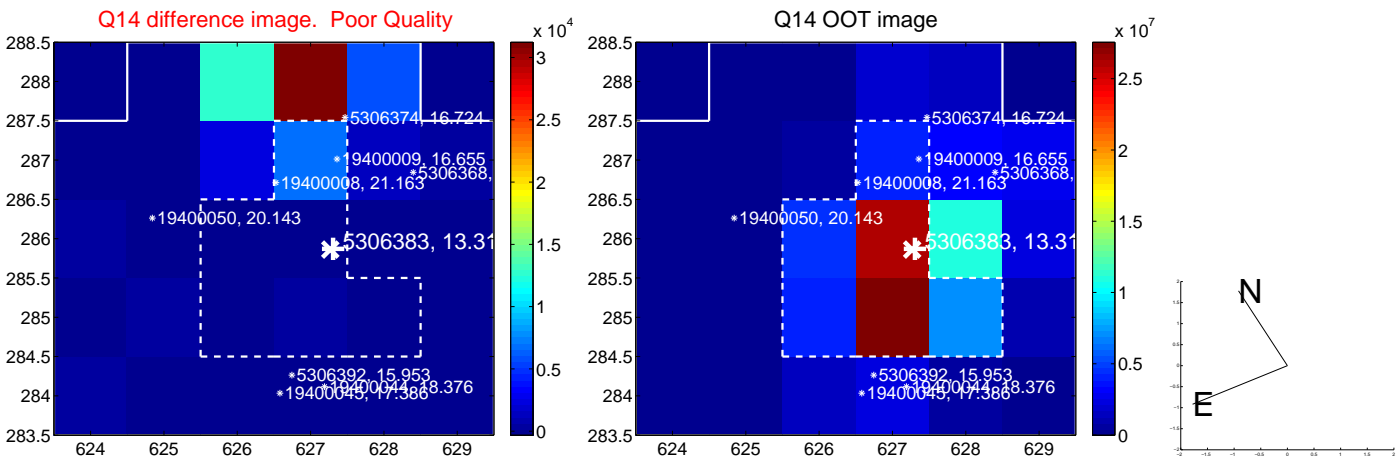
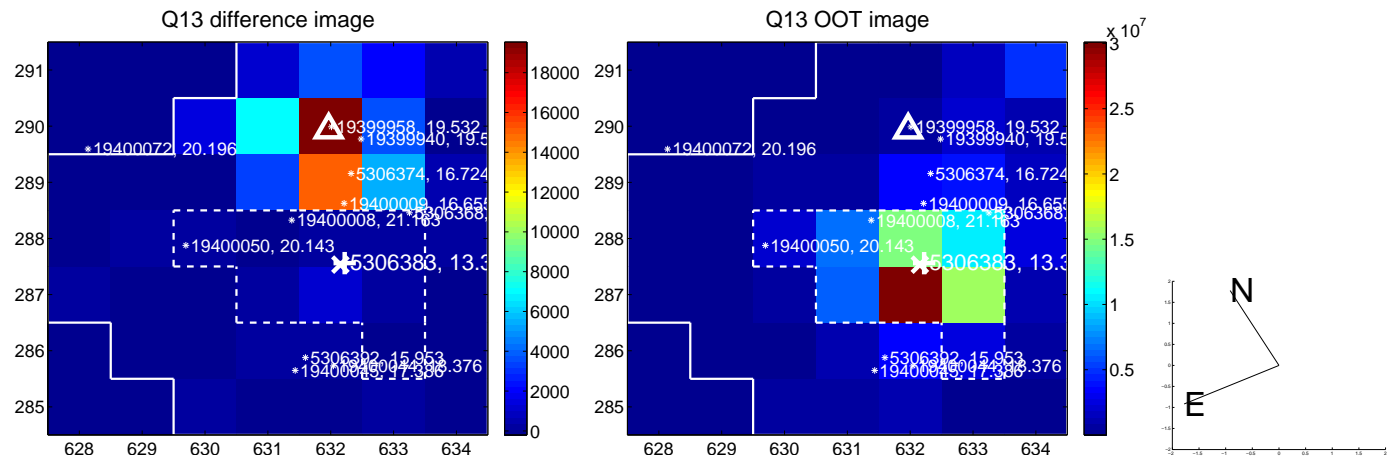
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



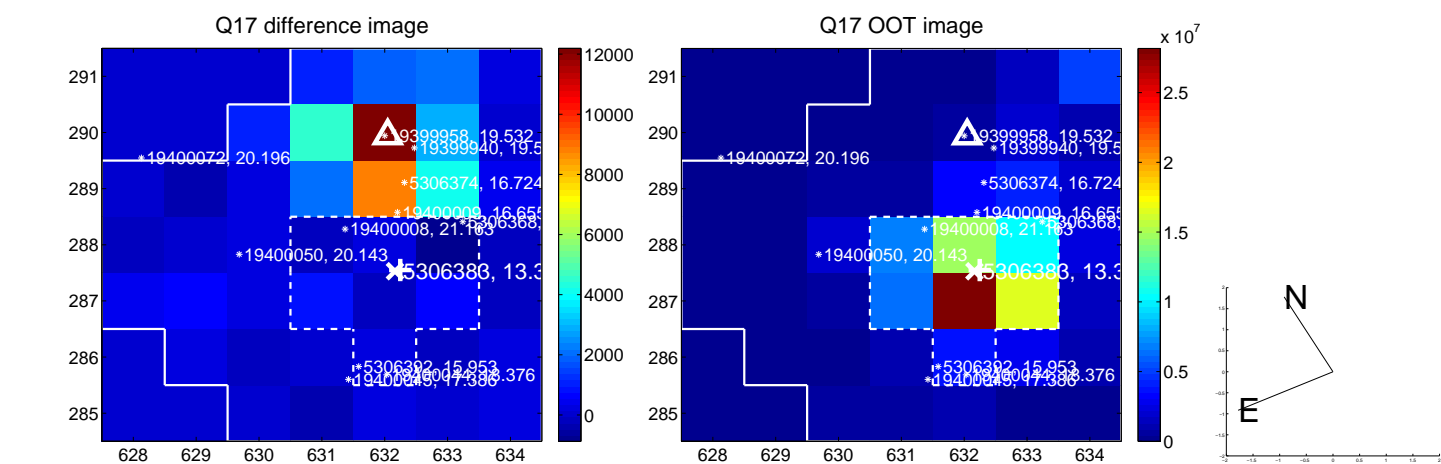
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



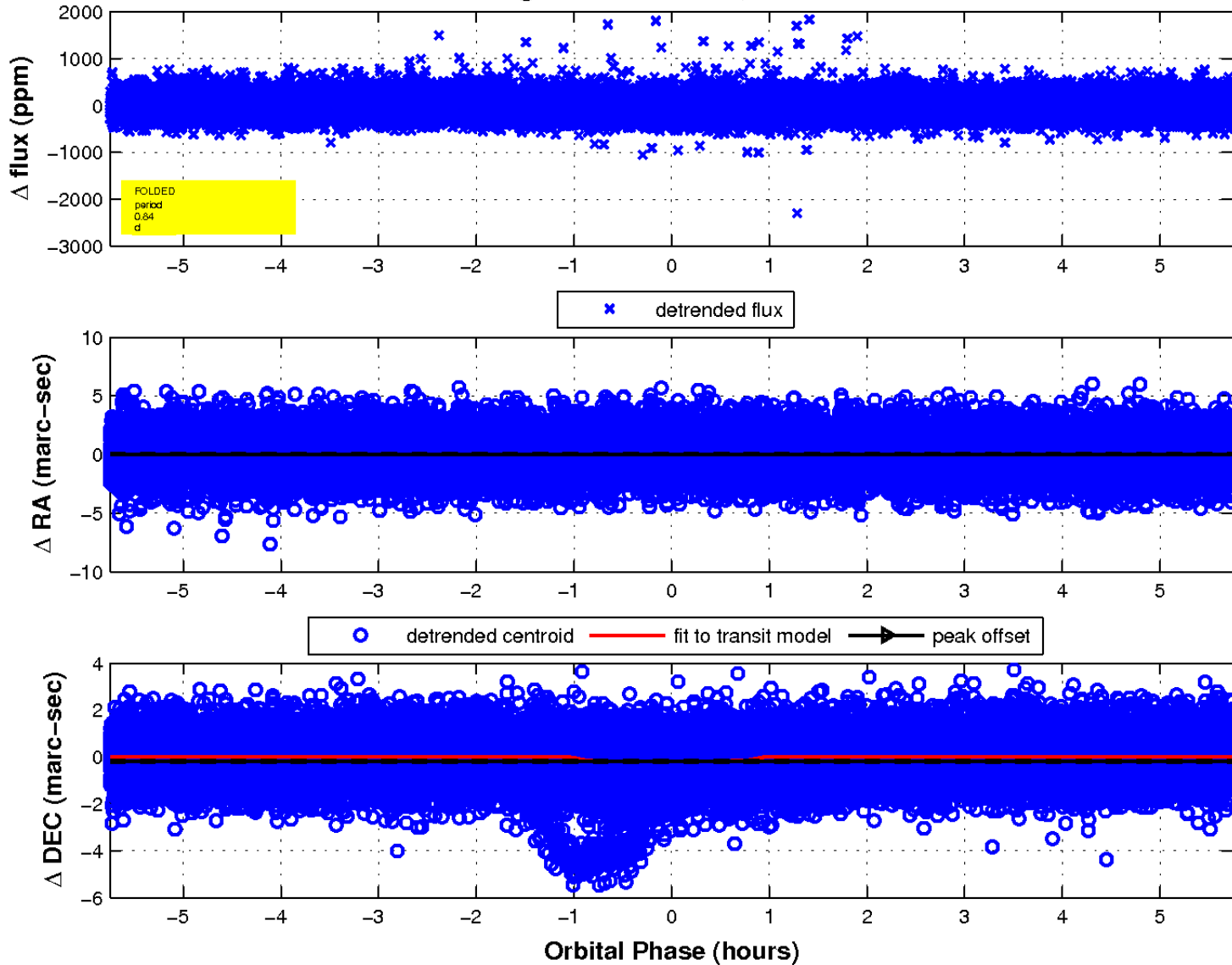
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



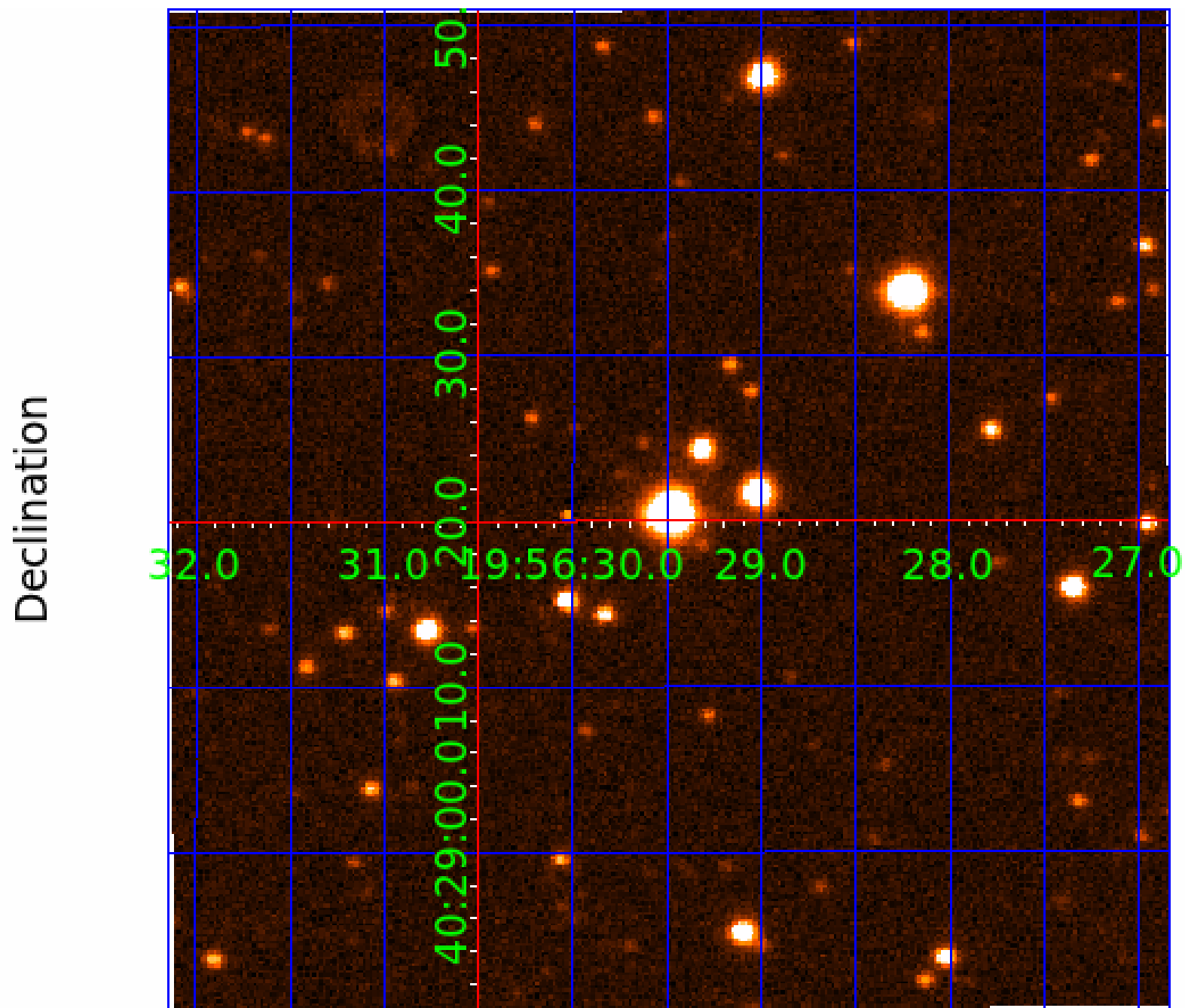
white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 3



UKIRT Image



KIC 005306383

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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005306383-03	OBS	No	664.403617	237.672859	444.8	7.153	9.4	5.5	1.00	5765	2.33	0.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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005306383-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET
005306383-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—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.

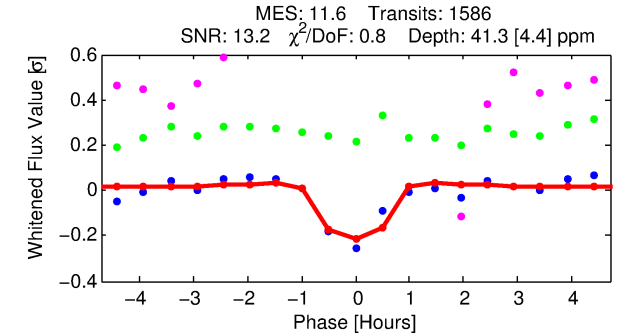
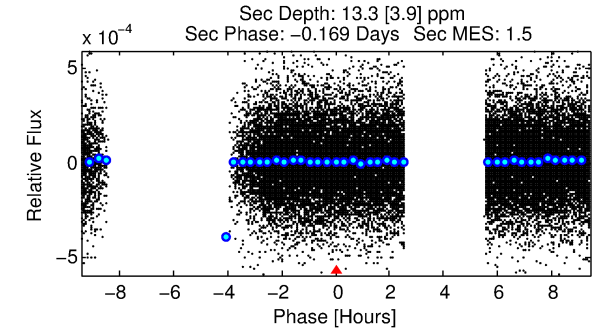
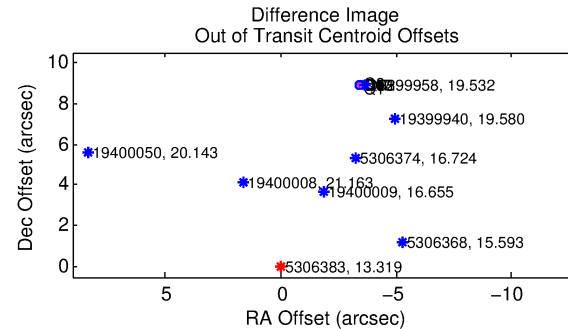
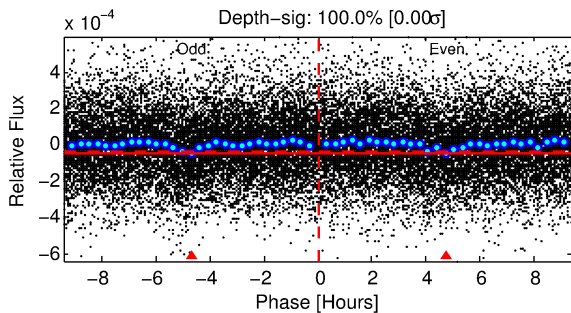
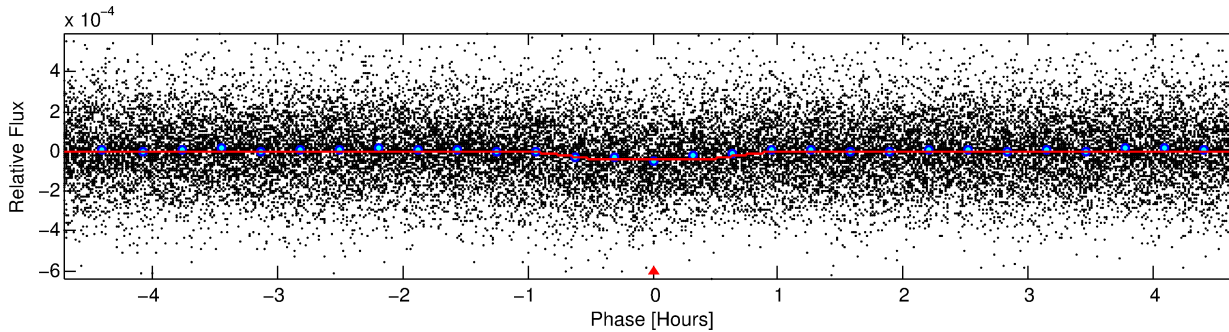
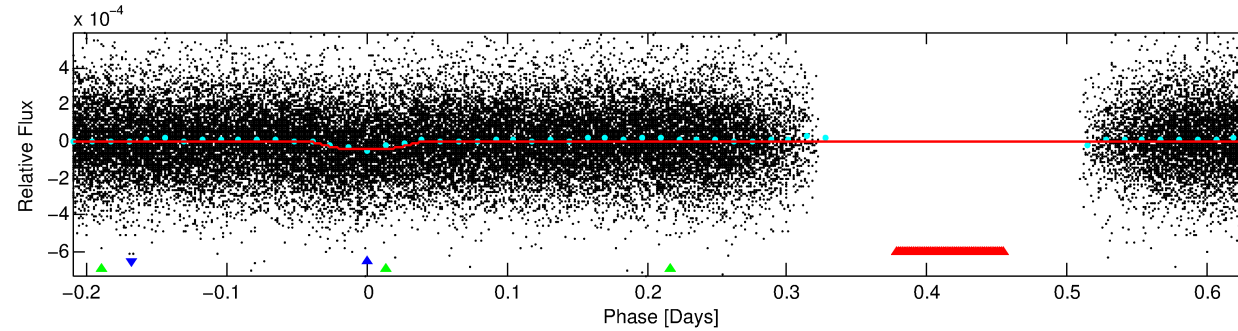
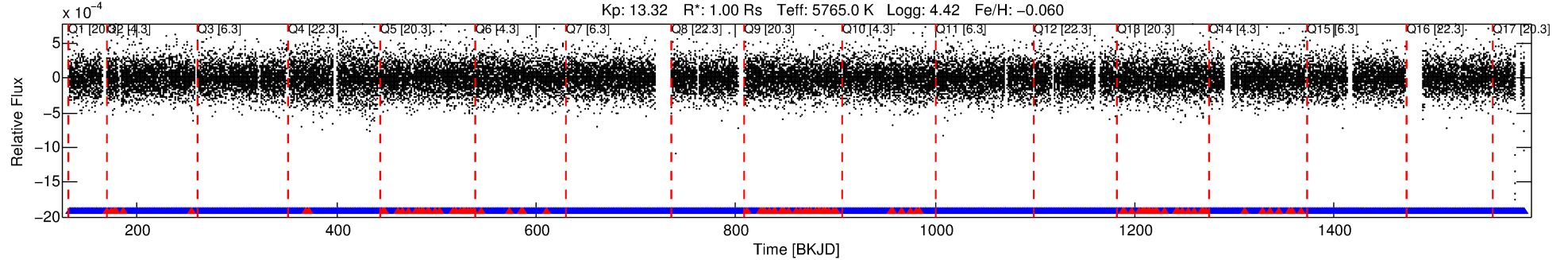
Ephemeris Match Information For 005306383-02

No Significant Match Found

DV One-Page Summary

KIC: 5306383 Candidate: 2 of 3 Period: 0.842 d
KOI: K04158 Corr: No Ephemeris Match

Kp: 13.32 R*: 1.00 Rs Teff: 5765.0 K Logg: 4.42 Fe/H: -0.060



DV Fit Results:

Period = 0.84234 [0.00001] d
Epoch = 132.1640 [0.0016] BKJD
Rp/R* = 0.0070 [0.0029]
a/R* = 2.07 [3.20]
b = 0.90 [0.43]
Seff = 3358.89 [1216.61]
Teq = 1941 [176] K
Rp = 0.76 [0.38] Re
a = 0.0171 [0.0040] AU
Ag = 3.67 [3.48] [0.77σ]
Teff = 4155 [926] K [2.35σ]

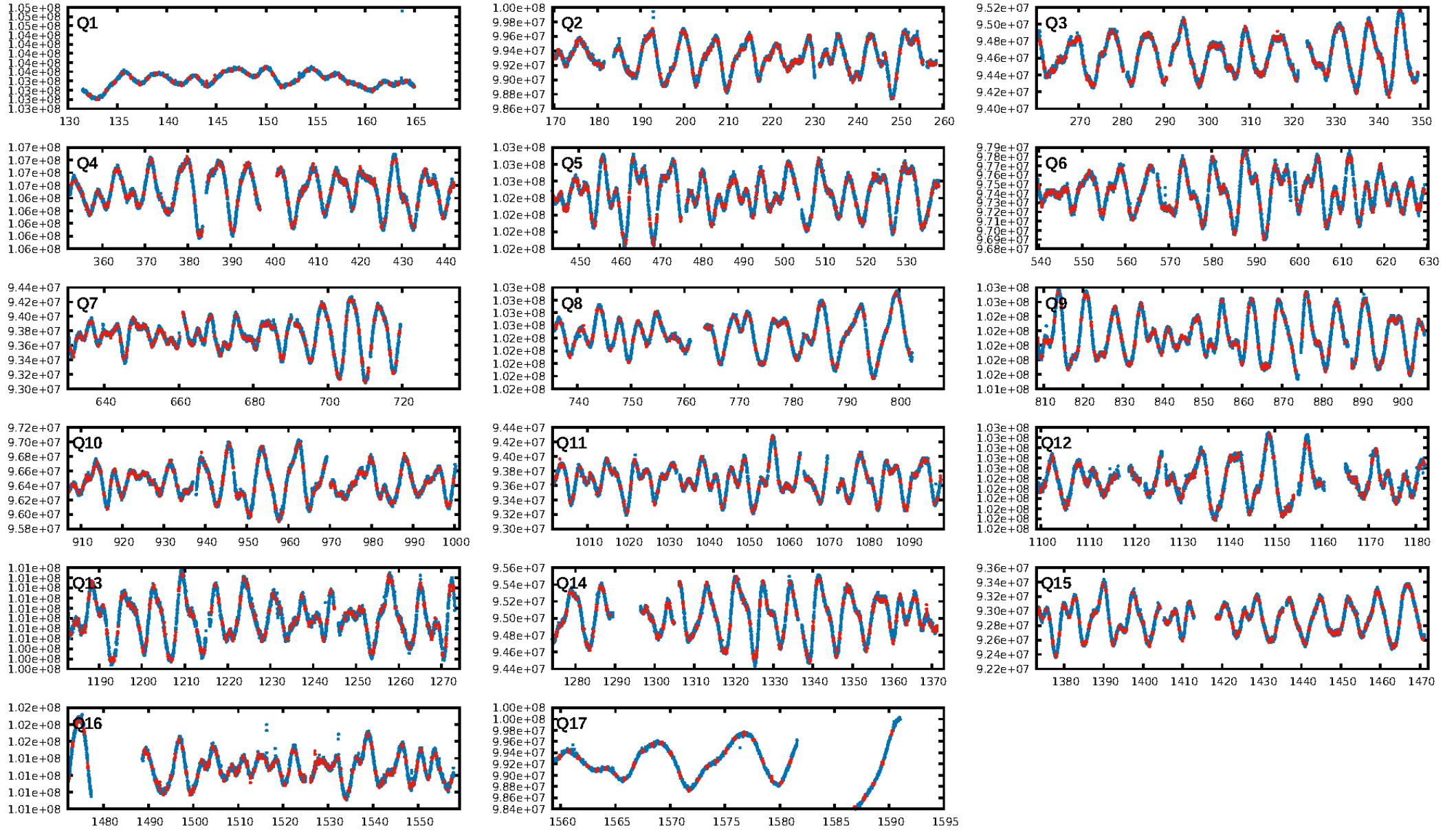
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [2174.48σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.01e-28
RollingBand-fgt: 0.93 [1408/1515]
GhostDiagnostic-chr: -1.039
Centroid-sig: 0.0%
Centroid-so: 5.423 arcsec [6.33σ]
OotOffset-rm: 9.528 arcsec [134.76σ]
KicOffset-rm: 9.599 arcsec [138.77σ]
OotOffset-st: 0/0/3/5 [8]
KicOffset-st: 0/0/3/5 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [17/17]

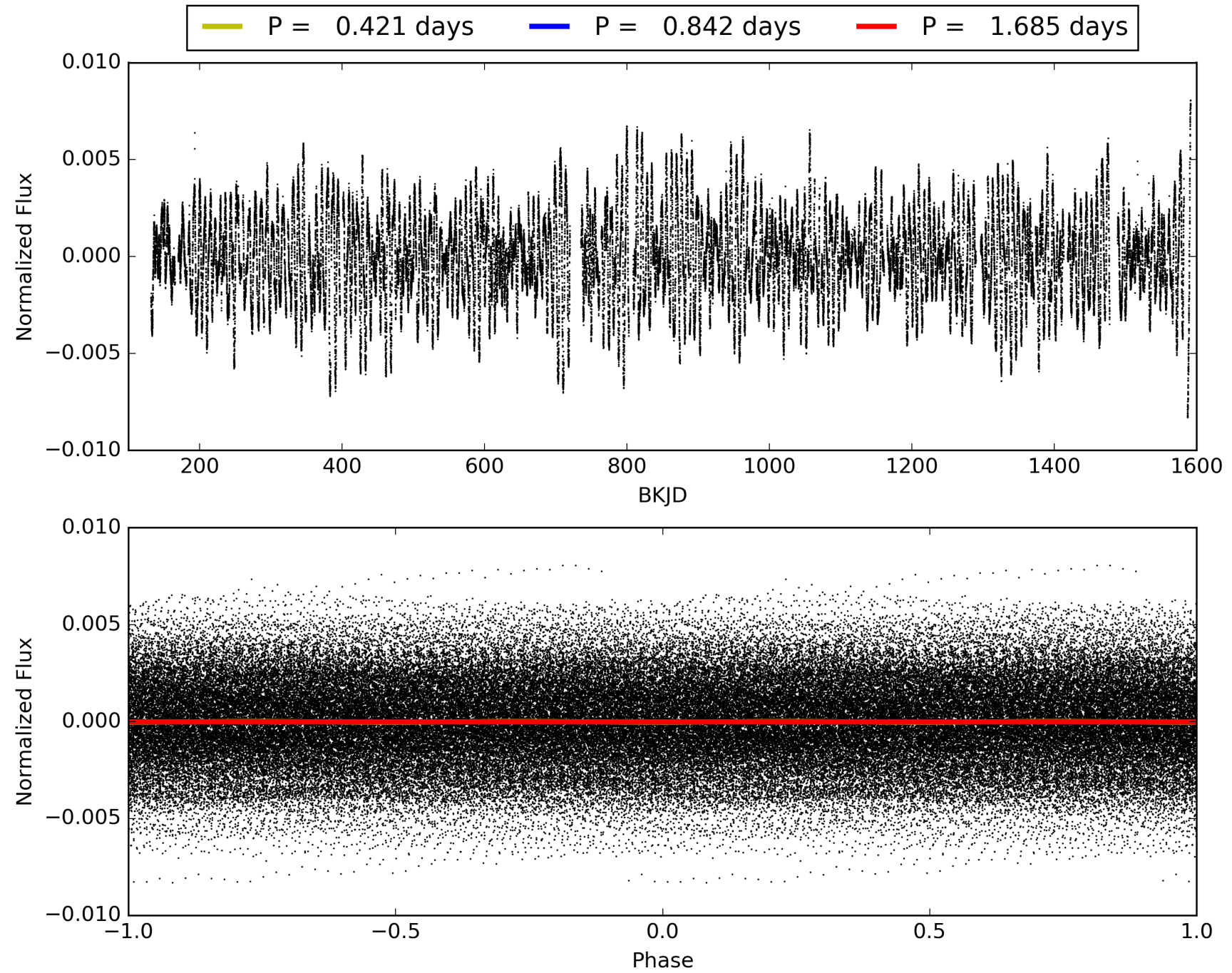
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:18:39 Z

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

TCE 005306383-02, PDC Light Curves

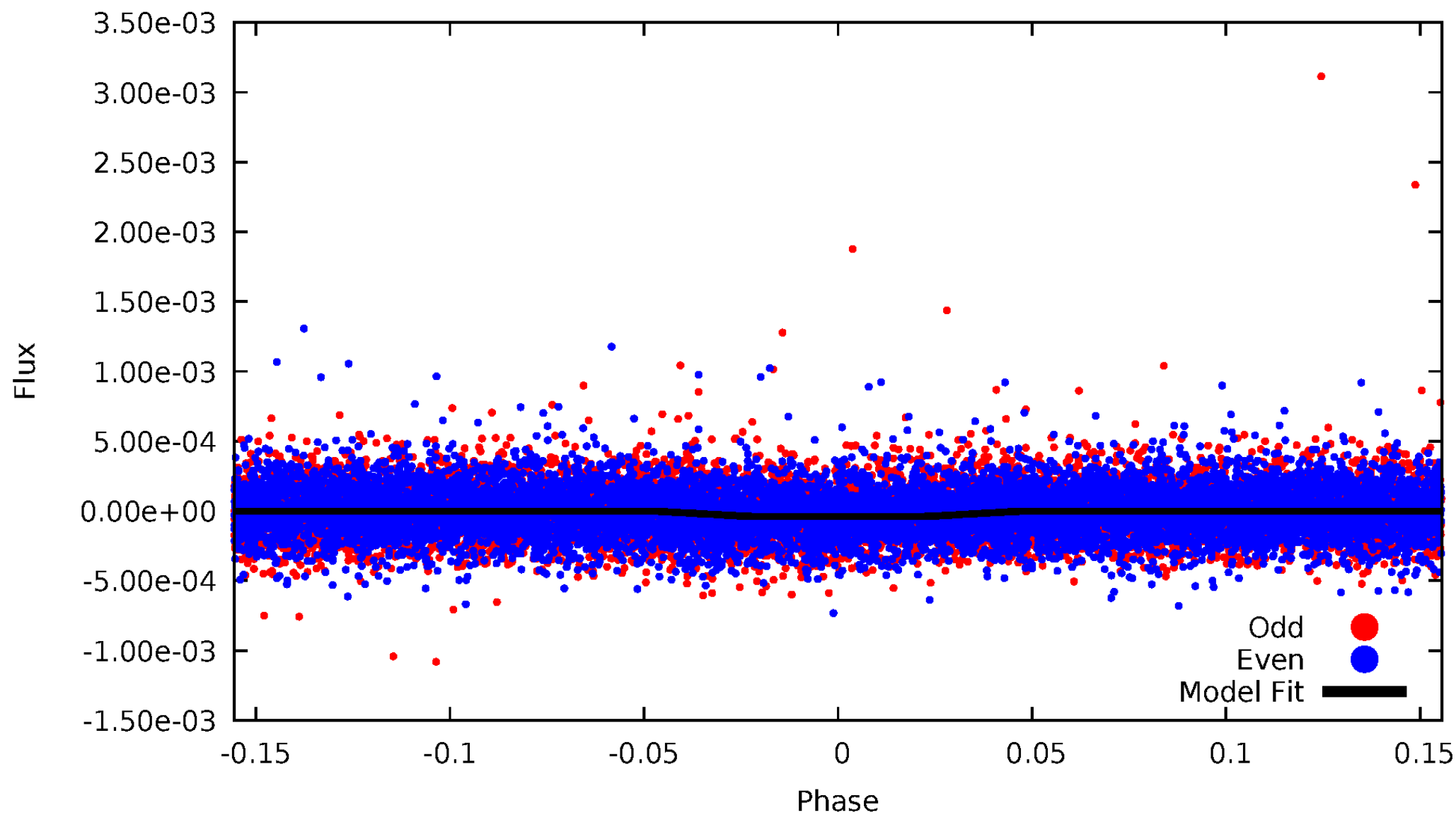


TCE 005306383-02



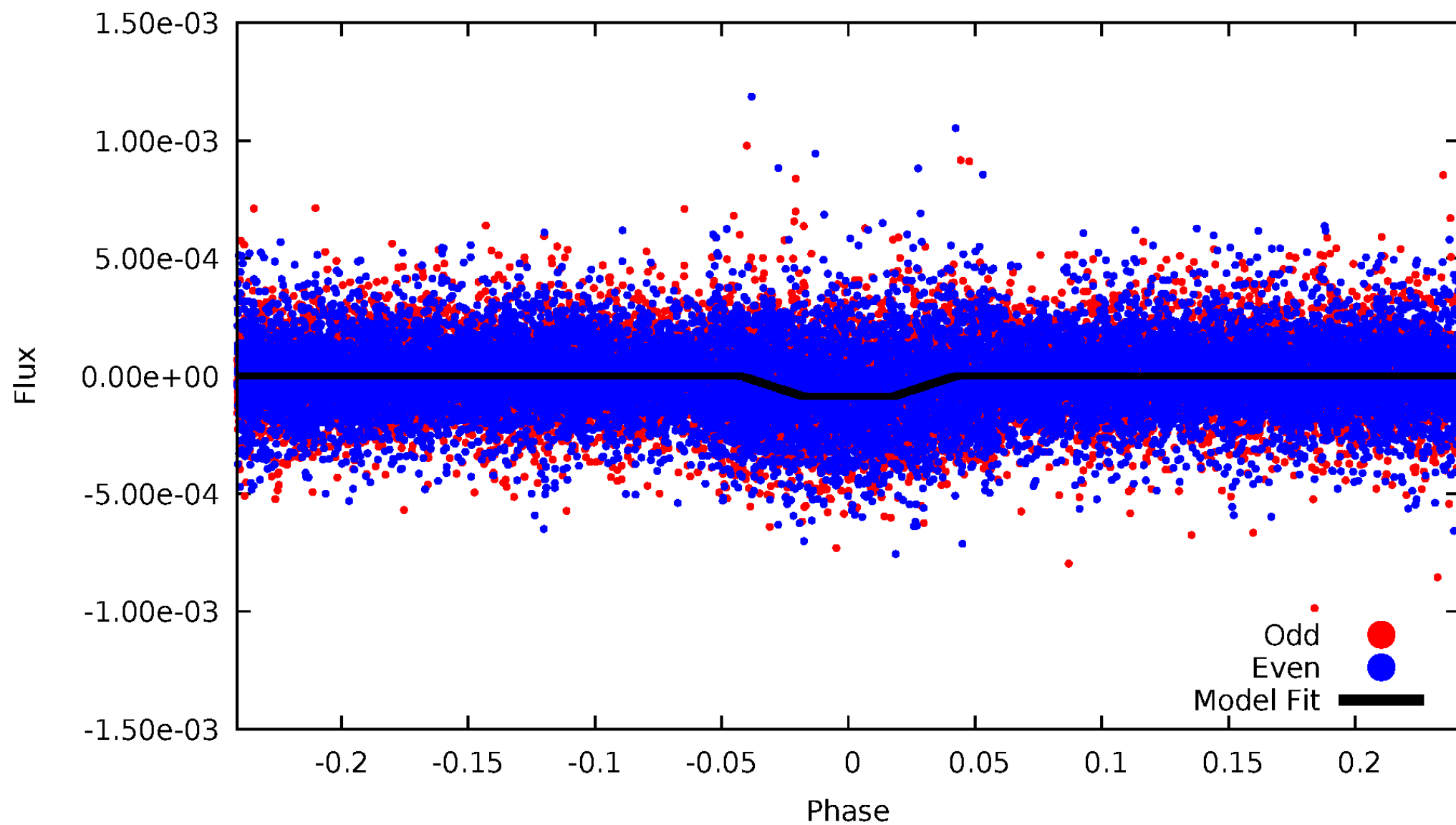
DV Odd/Even

TCE 005306383-02



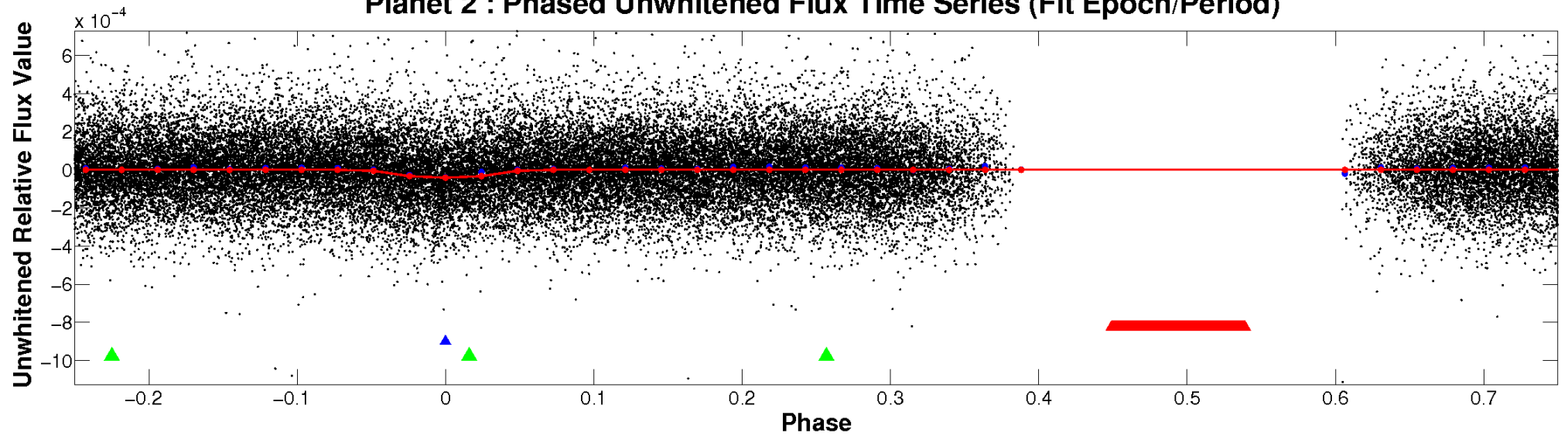
ALT Odd/Even

TCE 005306383-02

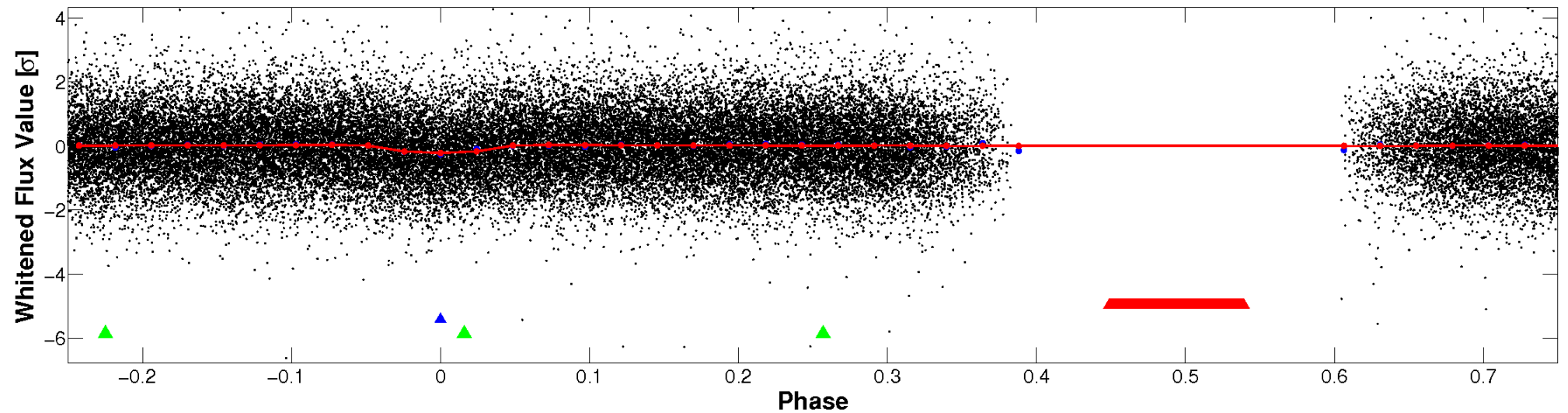


Non-Whitened Vs. Whitened Light Curve

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

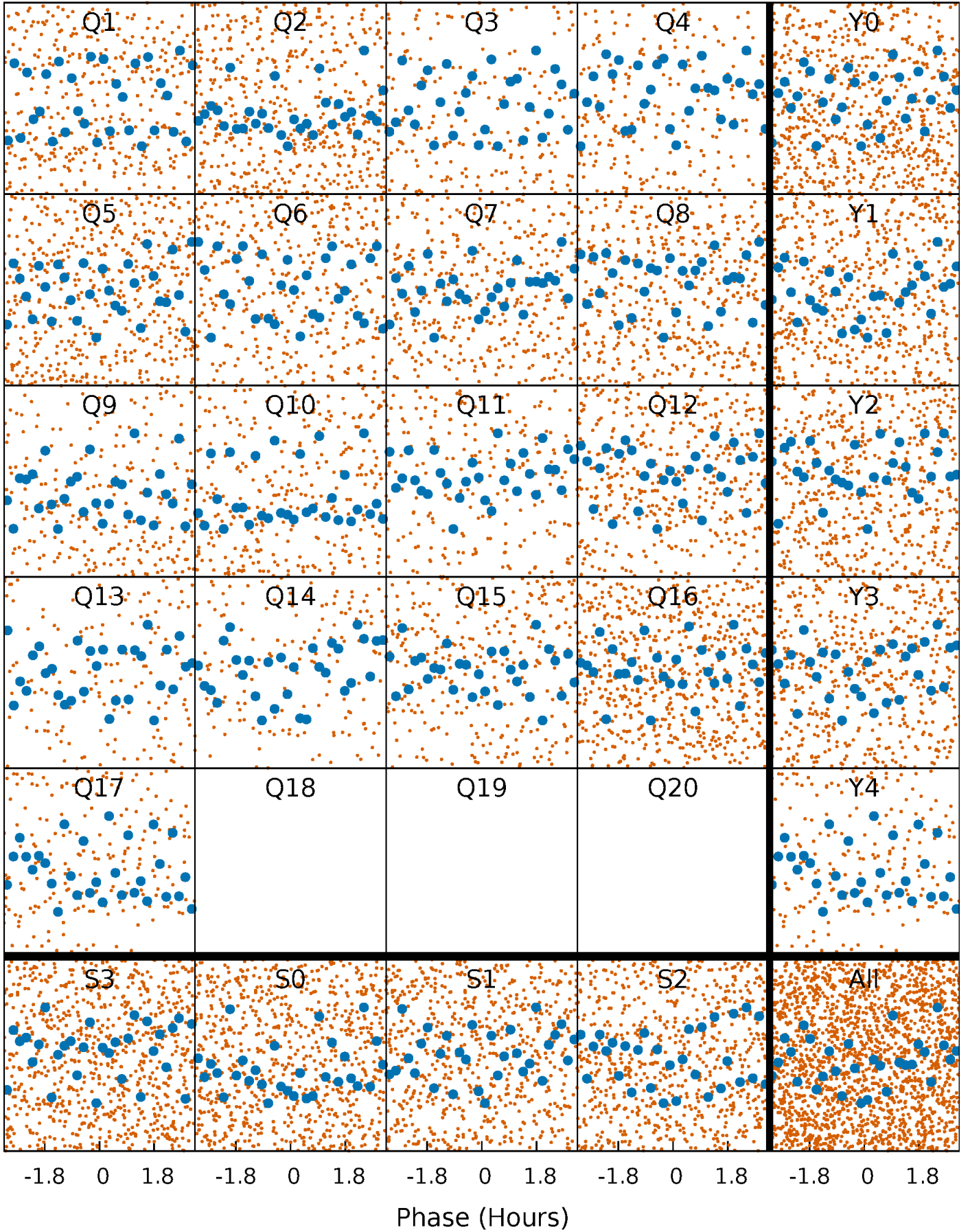


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



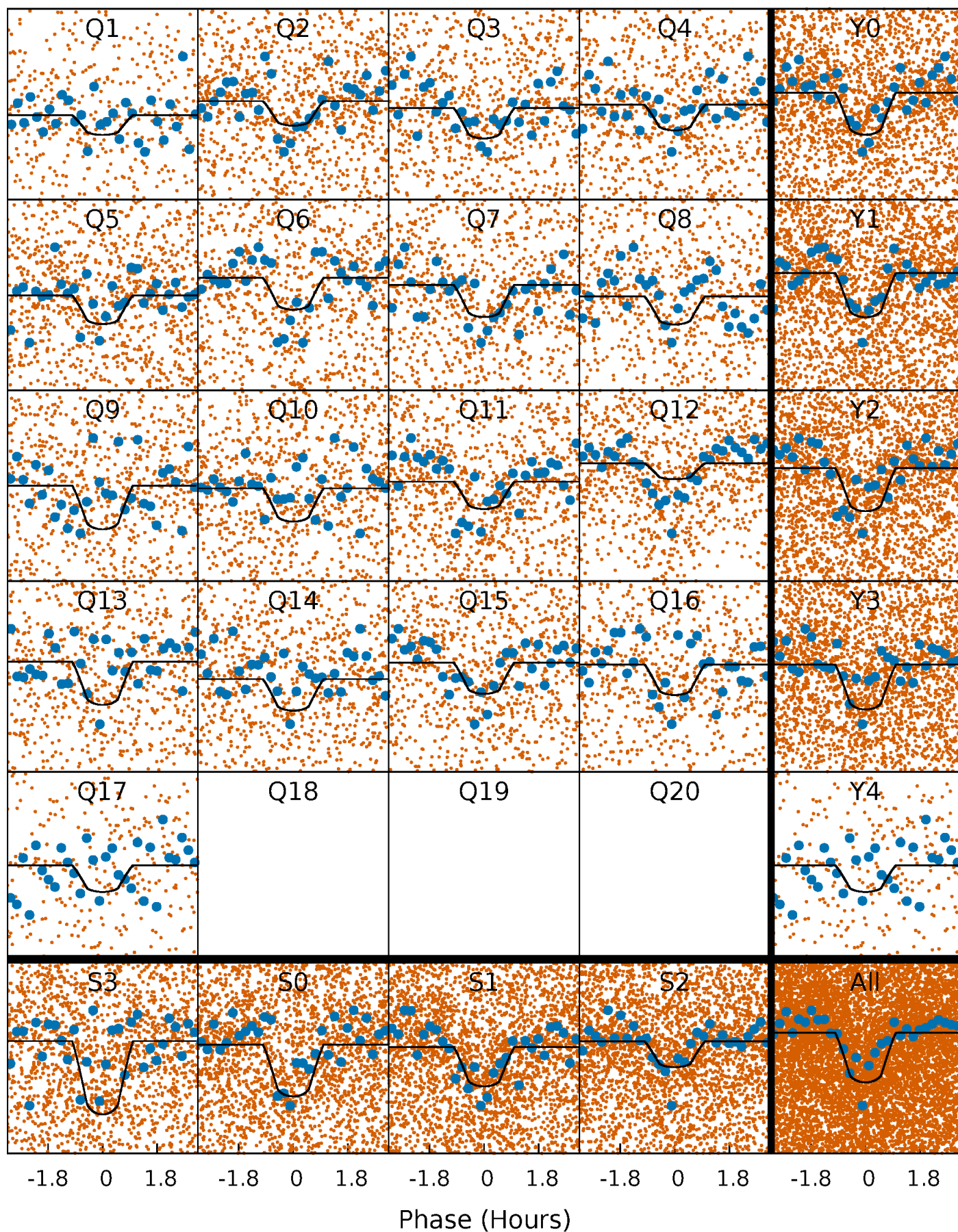
PDC Quarter-Phased Transit Curves

TCE 005306383-02 P= 0.842340 Days $T_0=132.163963$ (BKJD)



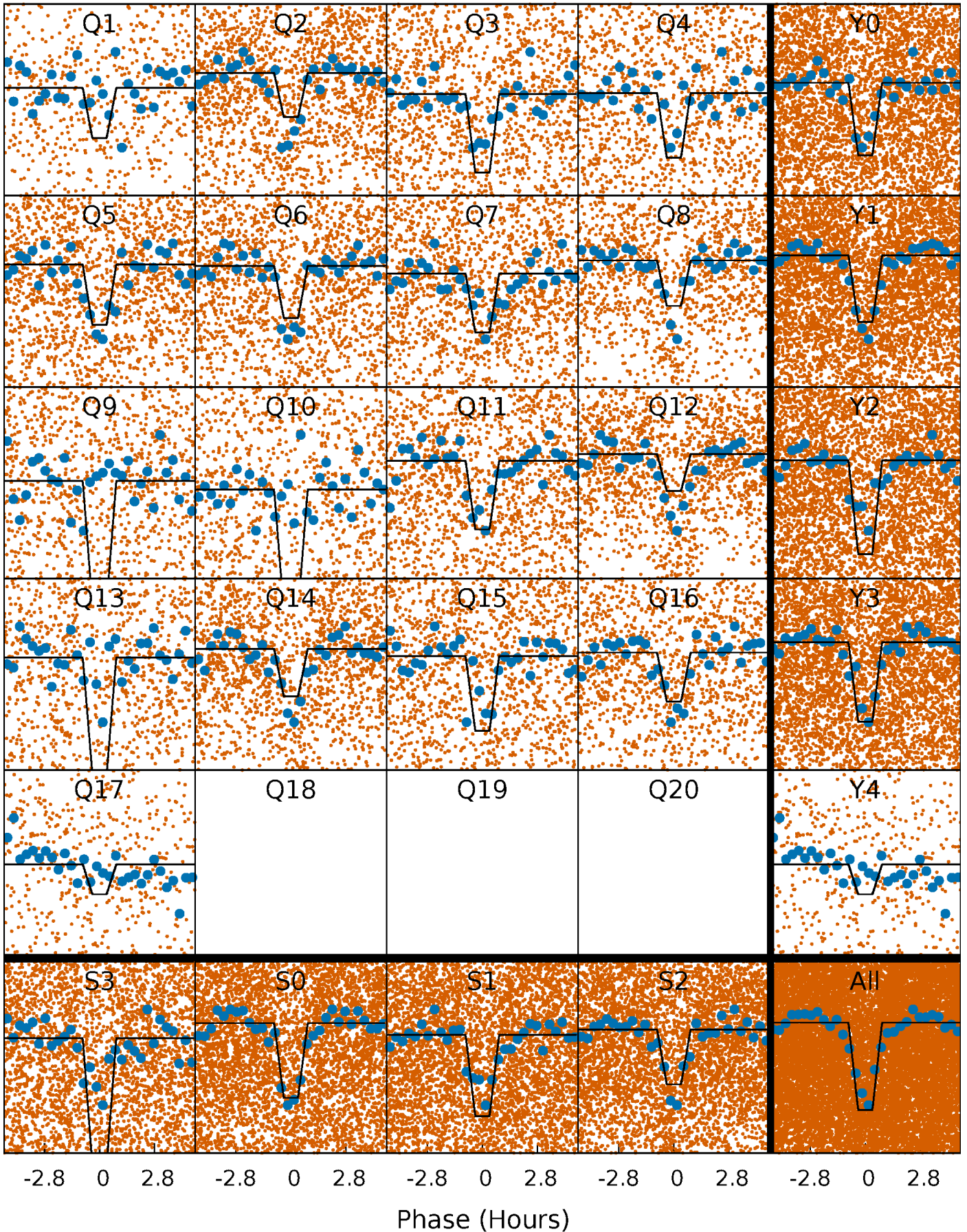
DV Quarter-Phased Transit Curves

TCE 005306383-02 P= 0.842340 Days $T_0=132.163963$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

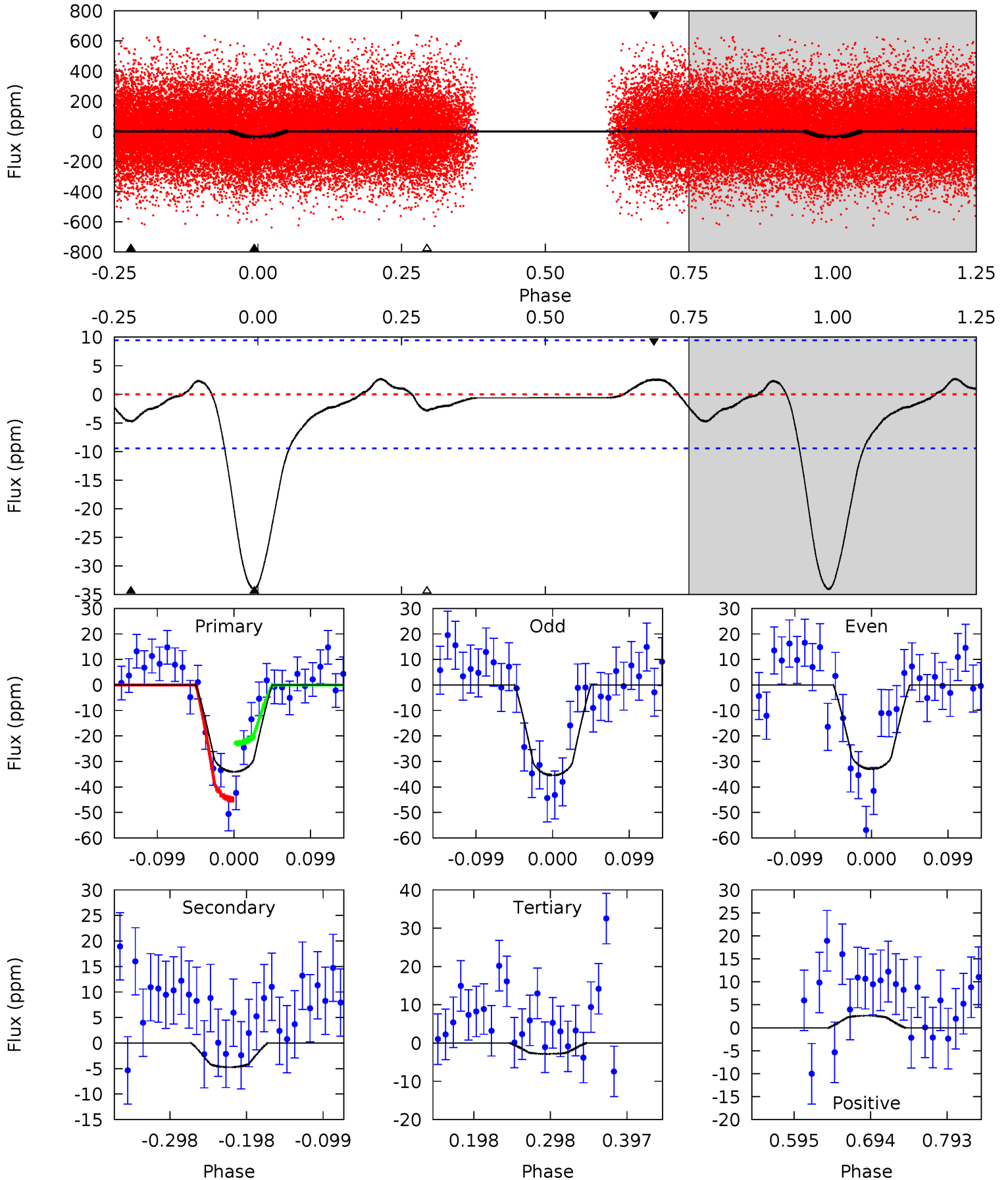
TCE 005306383-02 $P = 0.842330$ Days $T_0 = 132.164712$ (BKJD)



DV Model-Shift Uniqueness Test

005306383-02, P = 0.842340 Days, E = 131.321623 Days

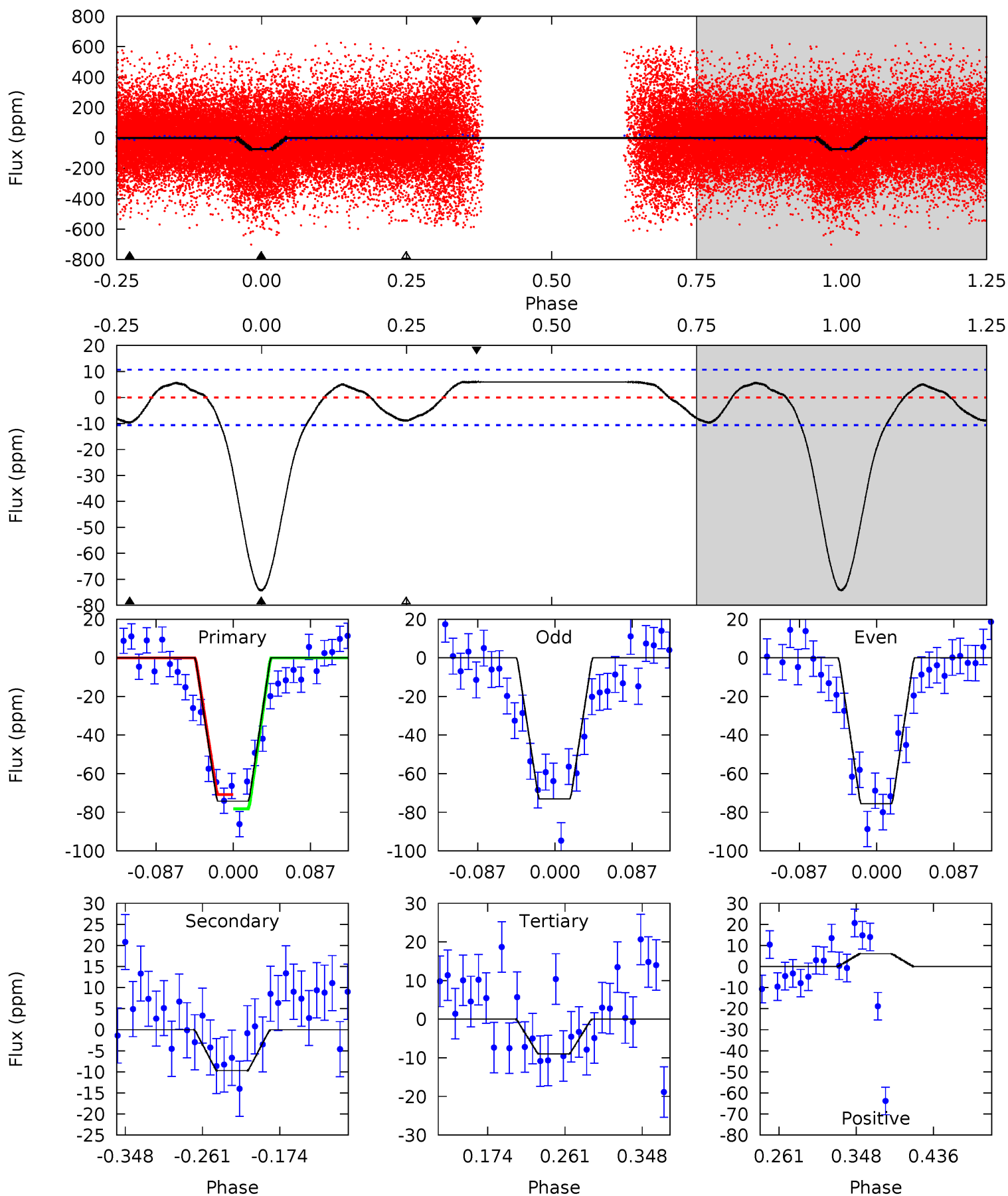
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.5	2.29	1.37	1.26	4.57	1.65	0.92	15.1	15.2	0.91	1.03	0.60	0.86	0.07	5.36



Alt Model-Shift Uniqueness Test

005306383-02, P = 0.842330 Days, E = 131.322382 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.9	4.17	3.85	2.60	4.59	1.71	1.99	28.1	29.3	0.32	1.57	0.56	0.95	0.08	1.81



Stellar Parameters For KIC 005306383

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5765^{+156}_{-173}	$4.415^{+0.101}_{-0.188}$	$-0.060^{+0.300}_{-0.300}$	$0.998^{+0.274}_{-0.147}$	$0.943^{+0.124}_{-0.093}$	$1.337^{+0.601}_{-0.623}$
	+3%/-3%	+2%/-4%	+500%/-500%	+27%/-15%	+13%/-10%	+45%/-47%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005306383-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-5 ± 2	$0.78^{+0.35}_{-0.30}$	2741^{+196}_{-143}	3438^{+829}_{-692}	$1.171^{+2.241}_{-0.706}$
Alt.	-10 ± 2	$1.00^{+0.38}_{-0.30}$	2739^{+185}_{-145}	3616^{+631}_{-459}	$1.542^{+1.727}_{-0.774}$

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

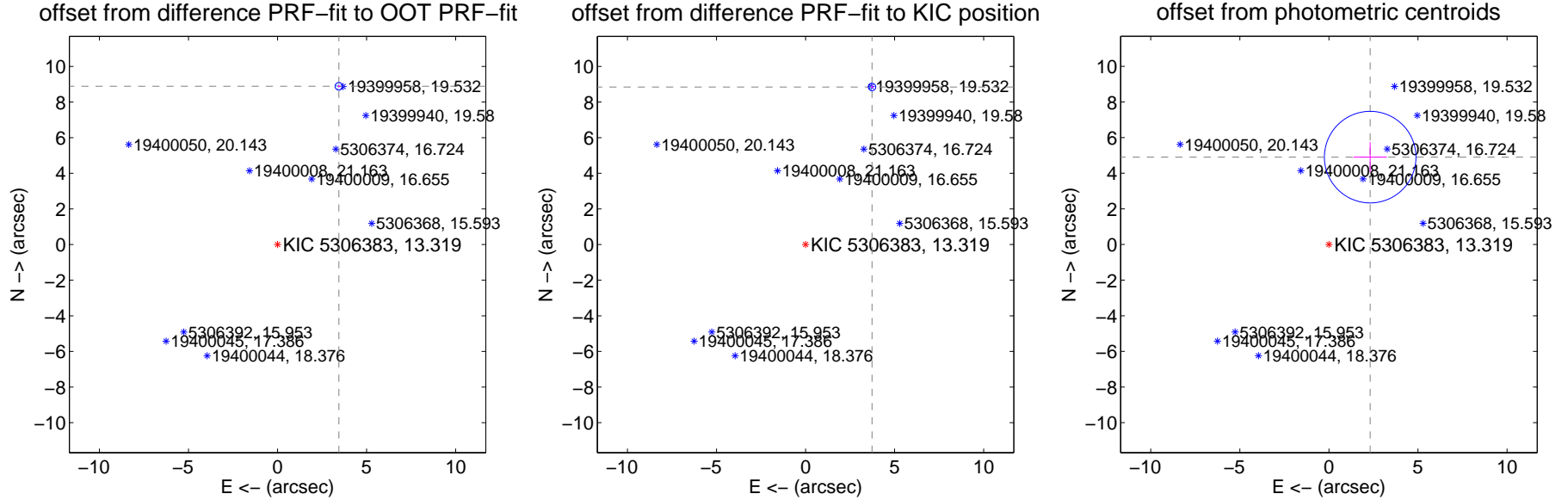
DV Centroid Data

Supplemental centroid analysis for 005306383-02. Kepler magnitude: 13.32. Transit SNR 13.16

There are 8 quarters with good PRF difference image offsets

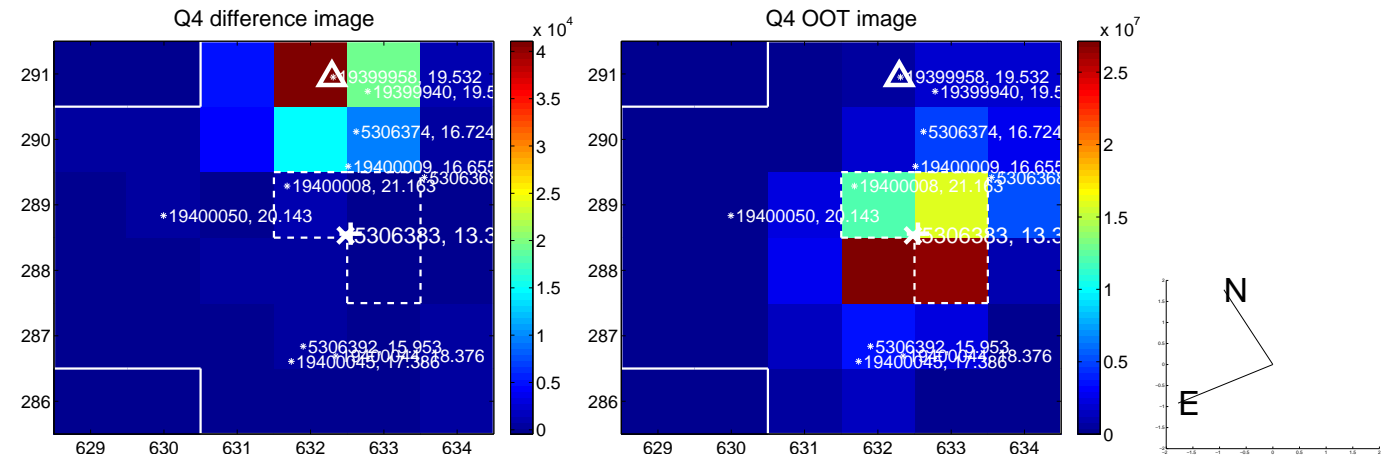
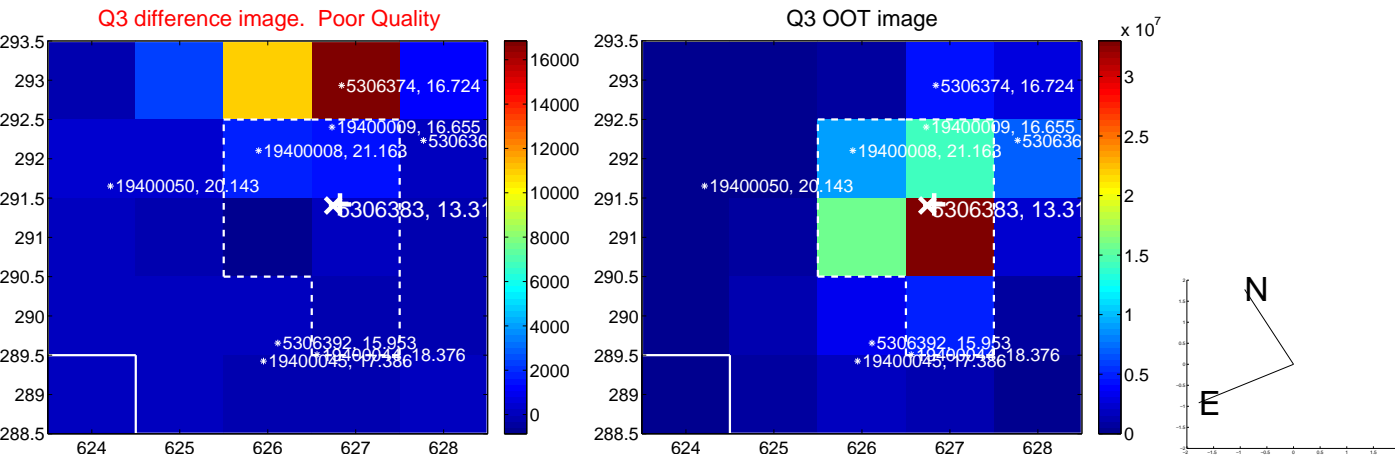
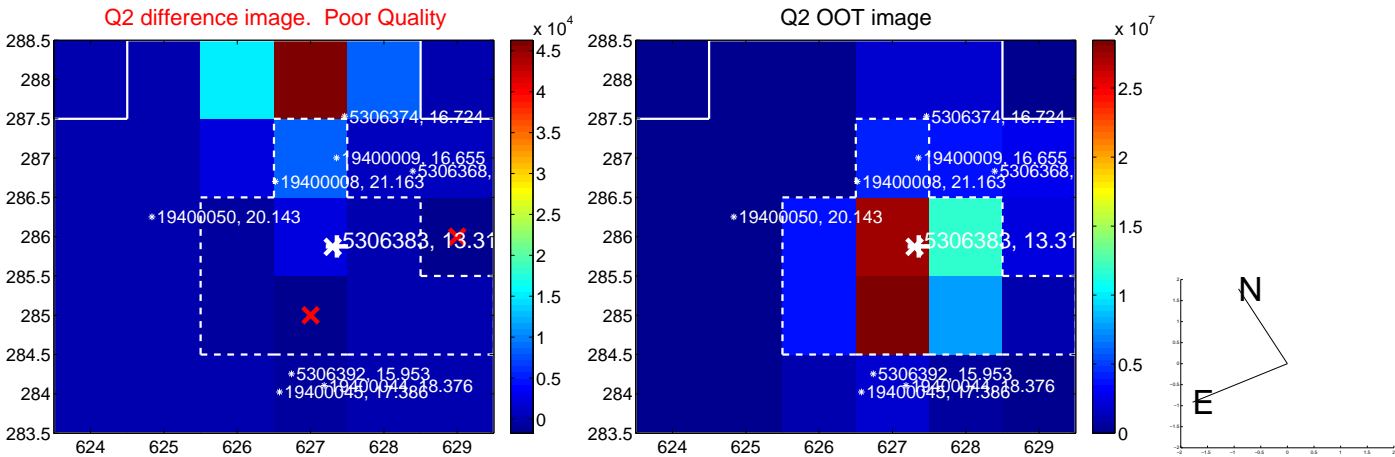
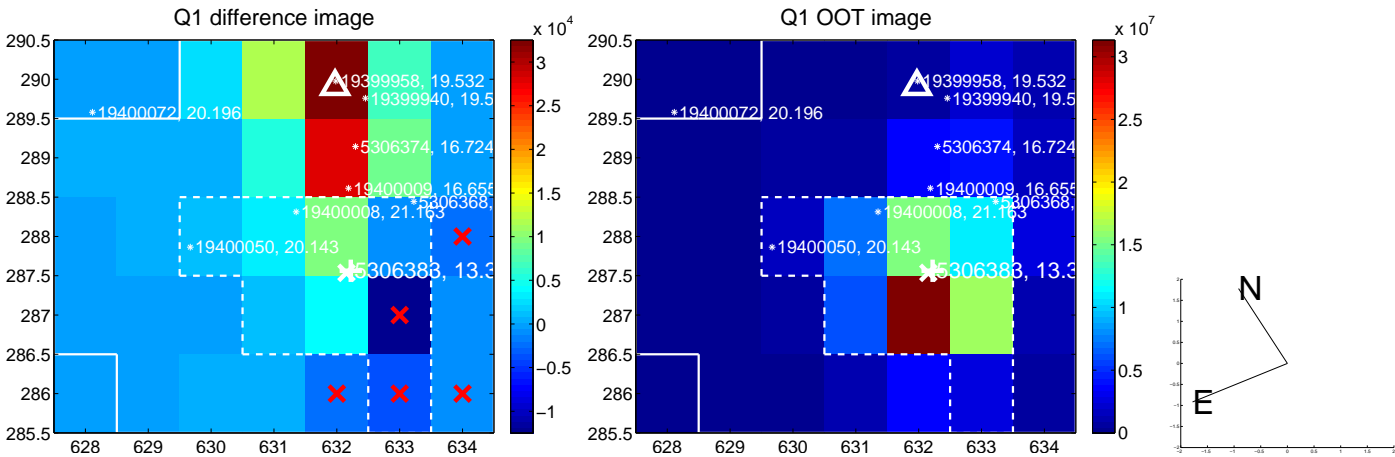
The direct PRF centroid is offset from the target star catalog position by about 0.35 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.528 ± 0.071	134.76	-3.441 ± 0.069	8.885 ± 0.071
PRF-fit source offset from KIC position	9.599 ± 0.069	138.77	-3.732 ± 0.068	8.844 ± 0.069
photometric centroid source offset	5.42 ± 0.86	6.33	-2.32 ± 0.94	4.90 ± 0.84

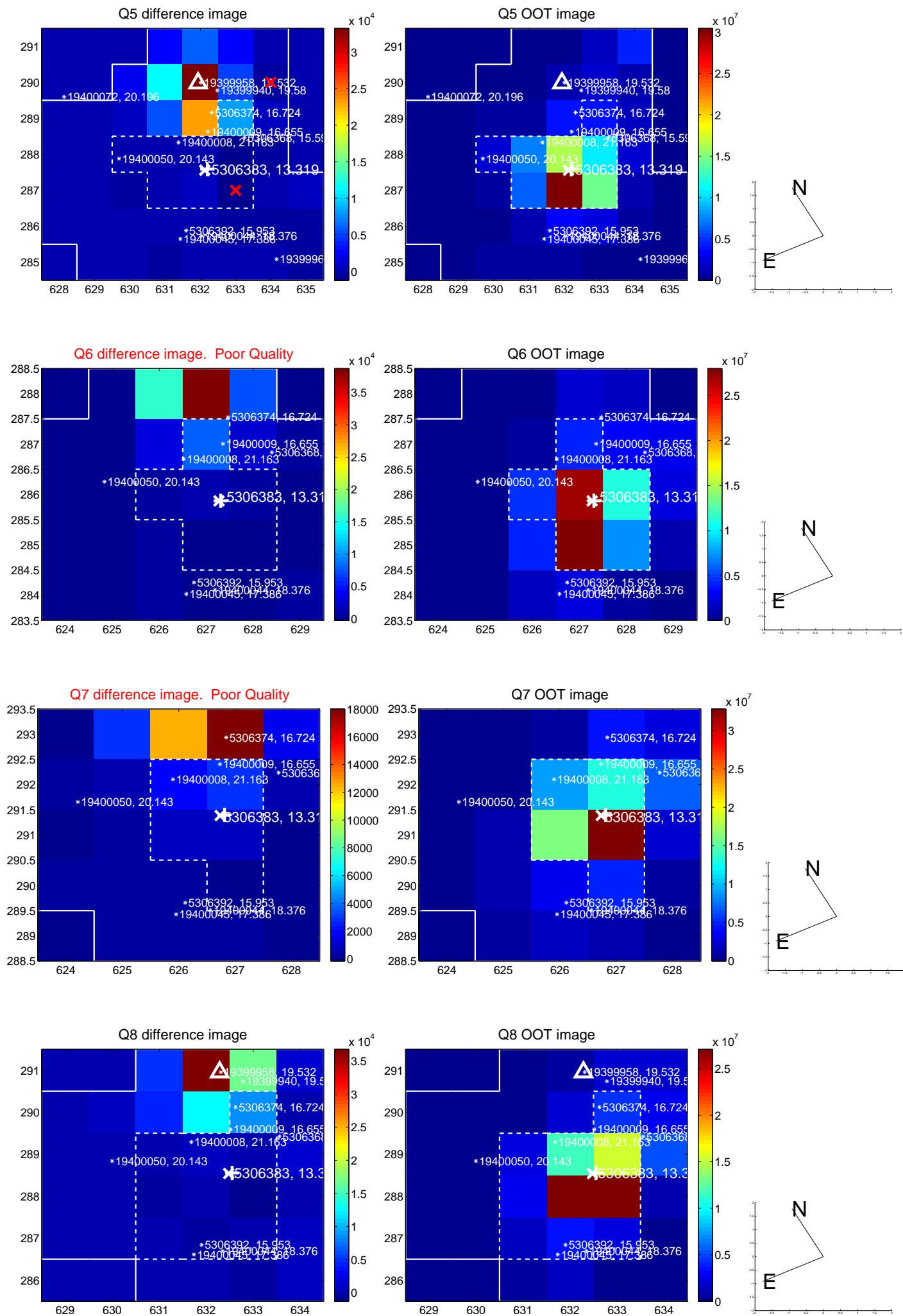


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

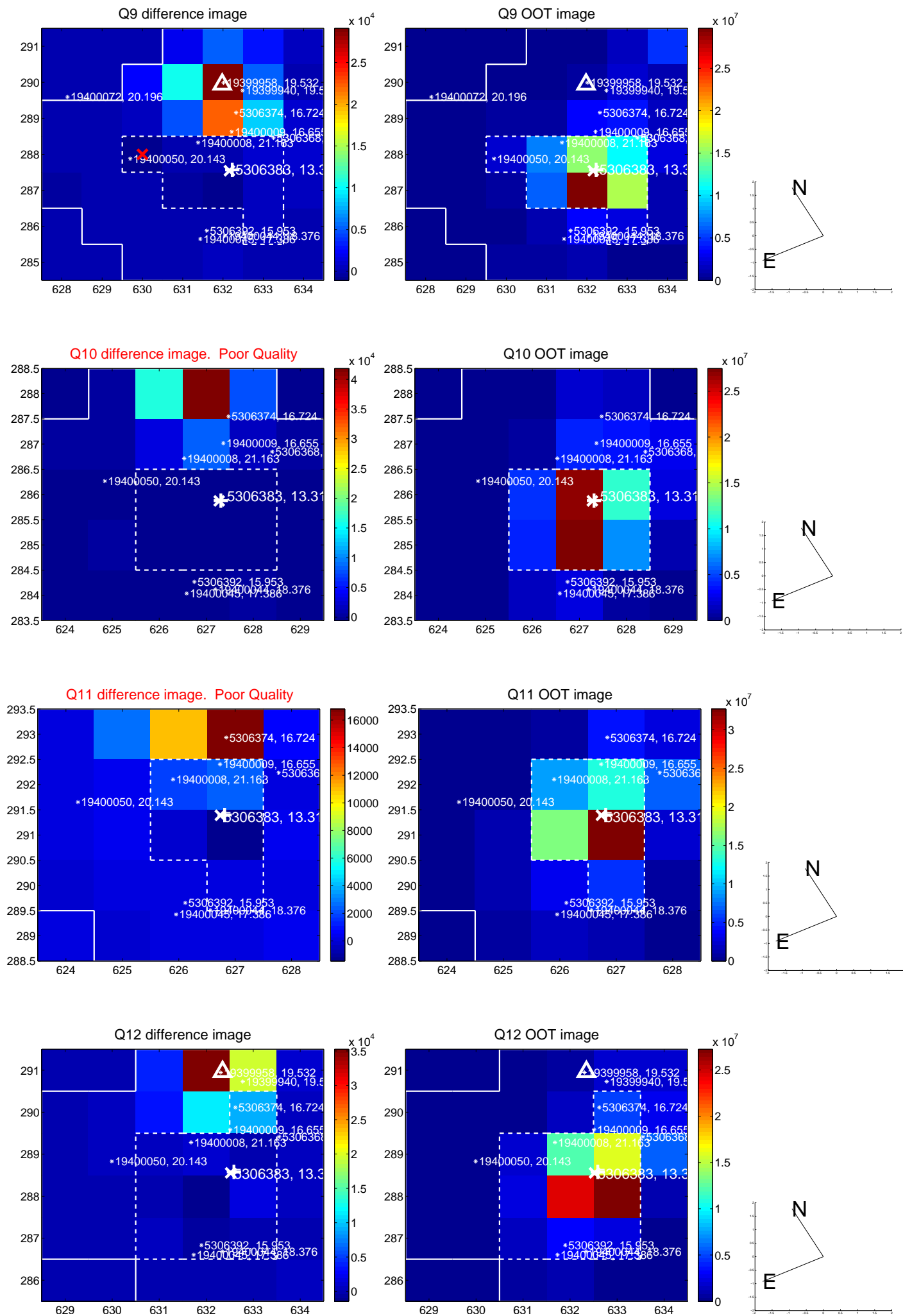
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



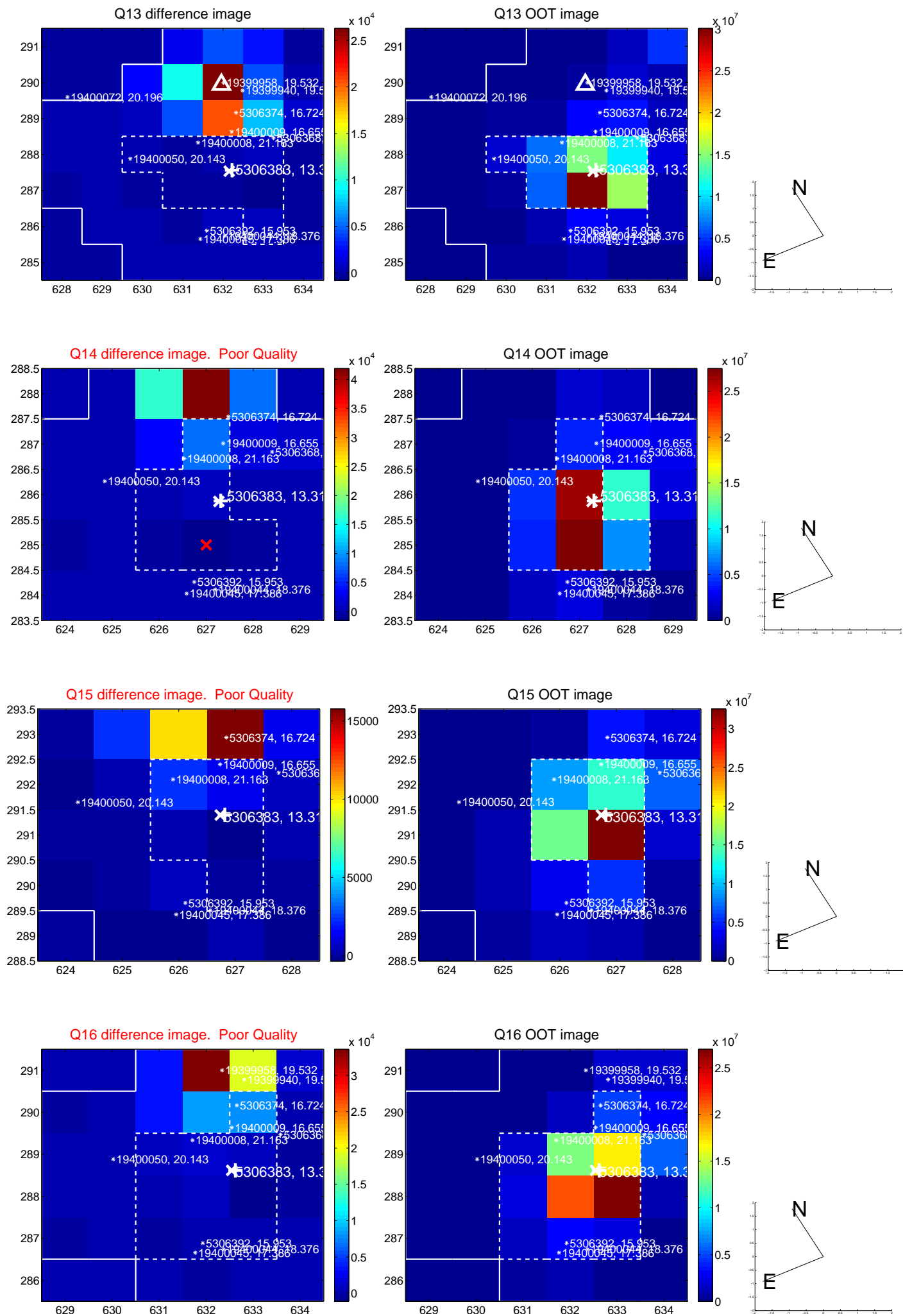
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



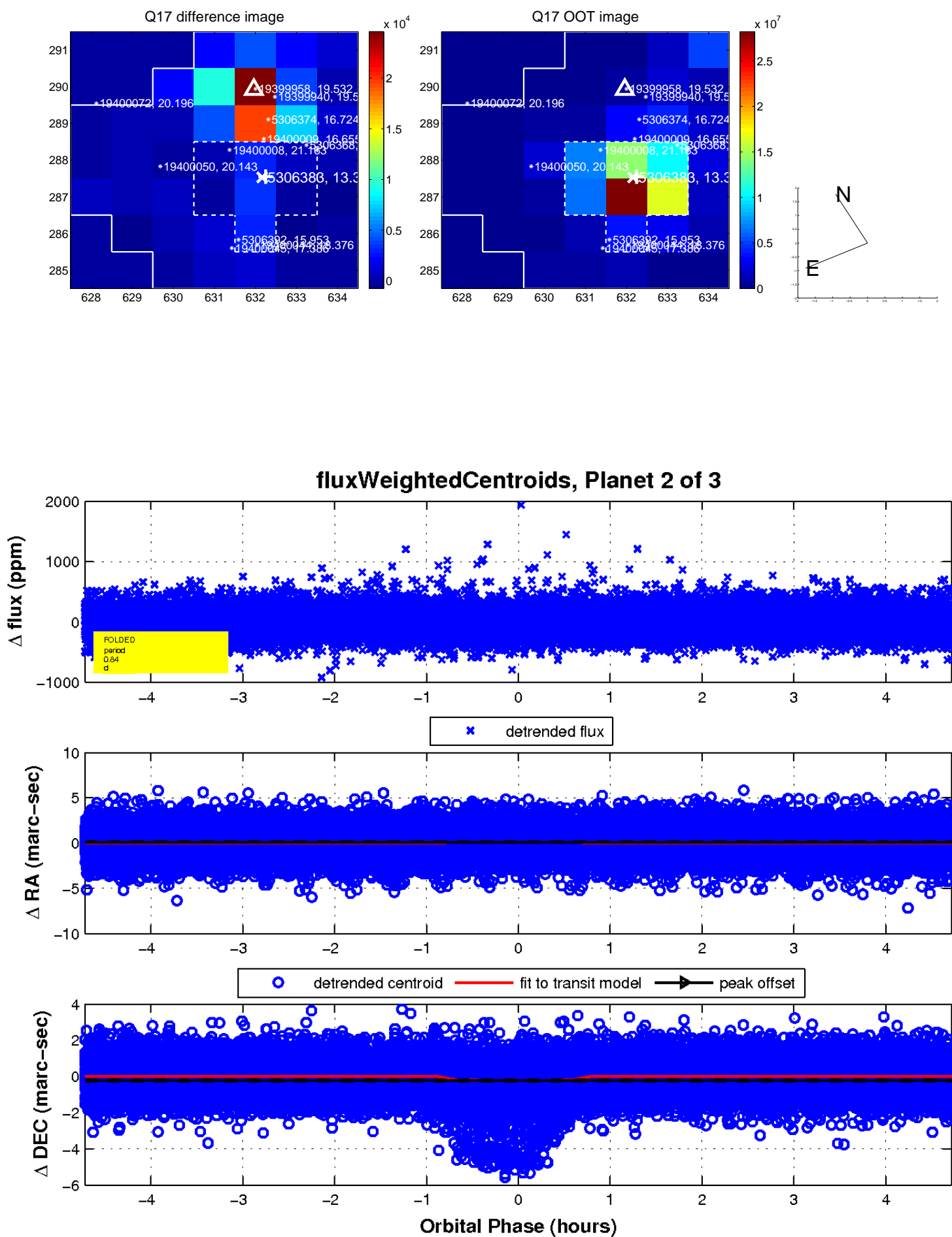
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



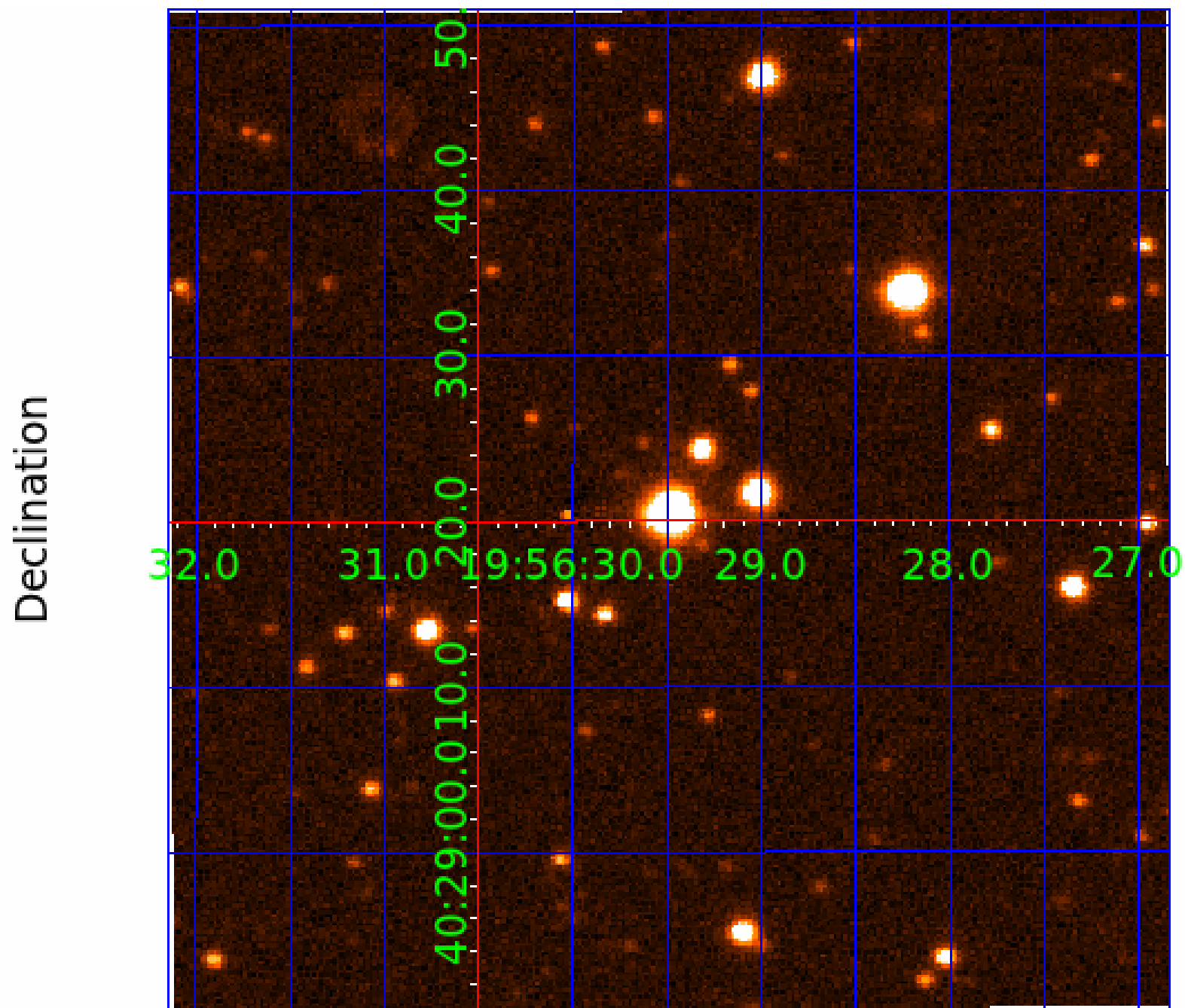
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 005306383

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})
005306383-01	OBS	4158.01	0.842297	131.775720	35.1	1.917	12.0	11.5	1.00	5765	0.70	3359.12
005306383-02	OBS	No	0.842340	132.163963	41.3	1.573	11.6	13.2	1.00	5765	0.76	3358.89
005306383-03	OBS	No	664.403617	237.672859	444.8	7.153	9.4	5.5	1.00	5765	2.33	0.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005306383-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—HAS_SEC_TCE—CENT_RESOLVED_OFFSET
005306383-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET
005306383-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—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.

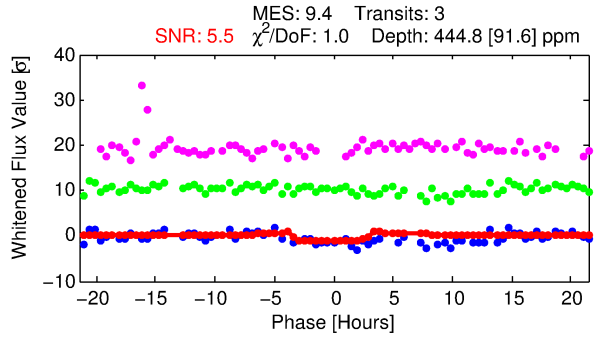
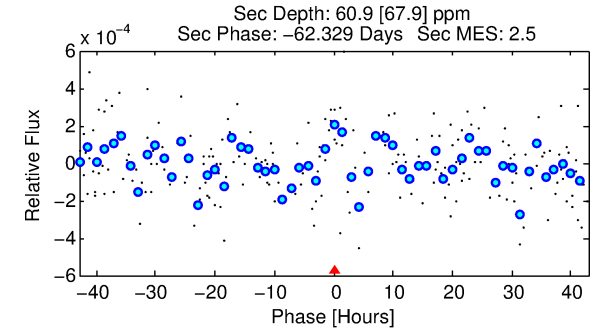
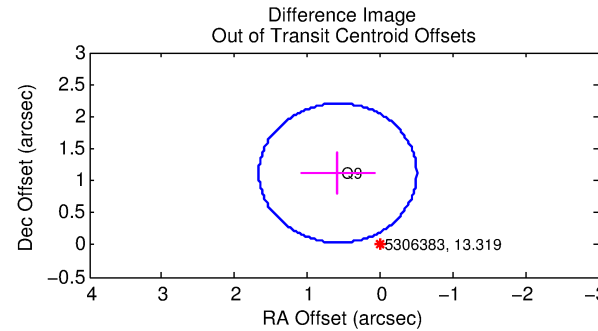
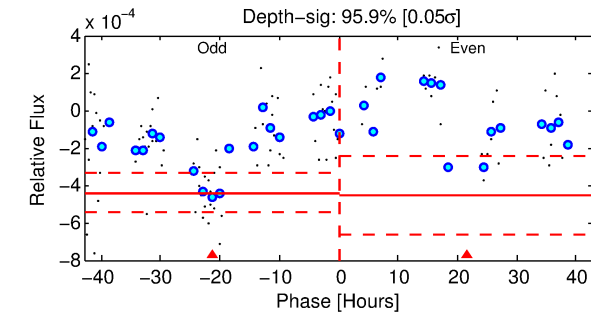
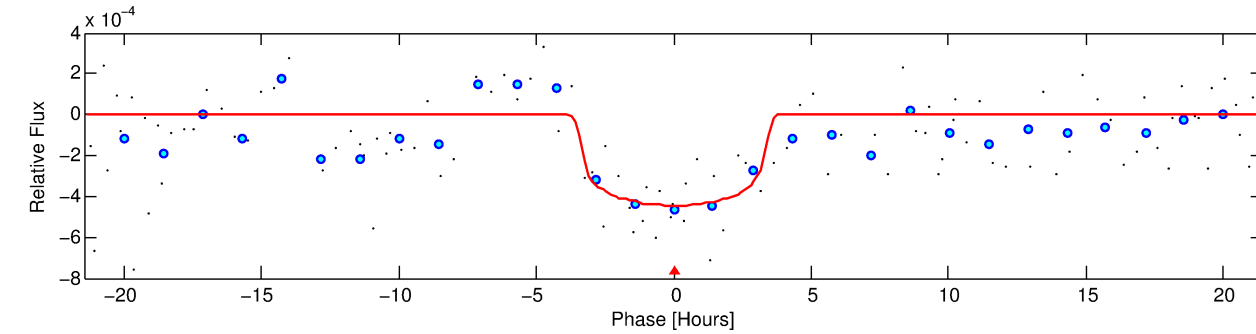
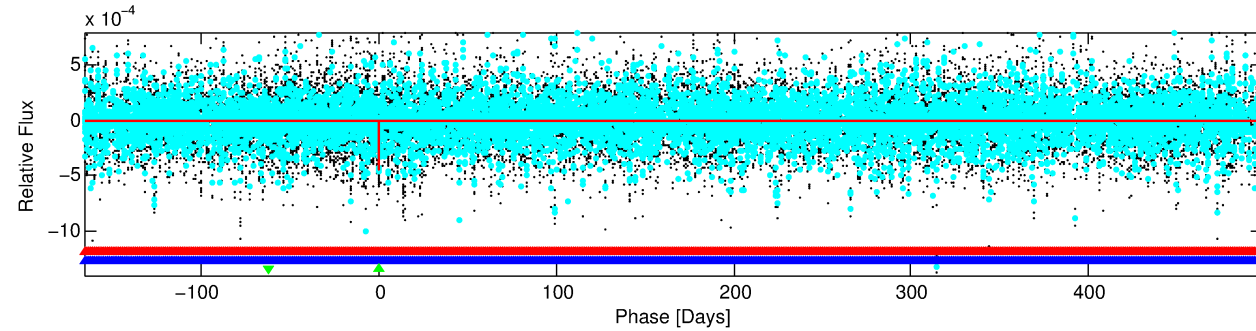
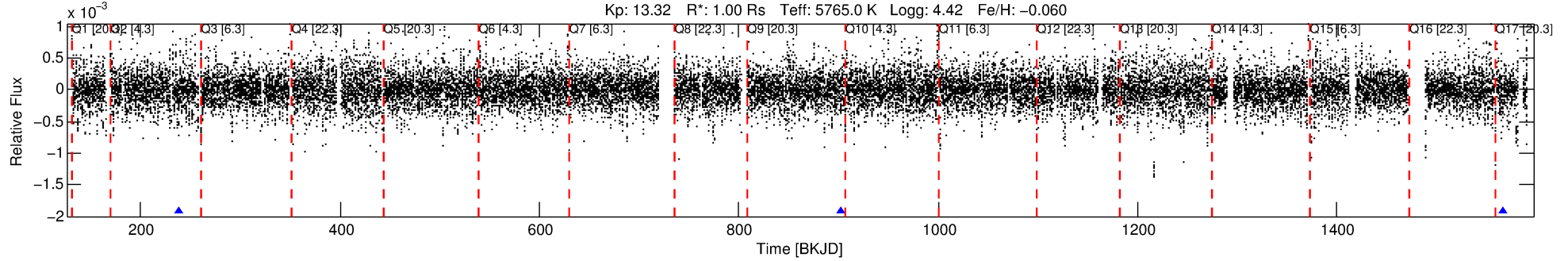
Ephemeris Match Information For 005306383-03

No Significant Match Found

DV One-Page Summary

KIC: 5306383 Candidate: 3 of 3 Period: 664.404 d
KOI: K04158 Corr: No Ephemeris Match

Kp: 13.32 R*: 1.00 Rs Teff: 5765.0 K Logg: 4.42 Fe/H: -0.060



DV Fit Results:

Period = 664.40362 [0.05961] d
Epoch = 237.6729 [0.0615] BKJD
Rp/R* = 0.0214 [0.0159]
a/R* = 452.89 [1491.32]
b = 0.80 [1.51]
Seff = 0.46 [0.17]
Teq = 210 [19] K
Rp = 2.33 [1.85] Re
a = 1.4624 [0.3408] AU
Ag = 13166.20 [24894.60] [0.53σ]
Teffp = 3480 [1621] K [2.02σ]

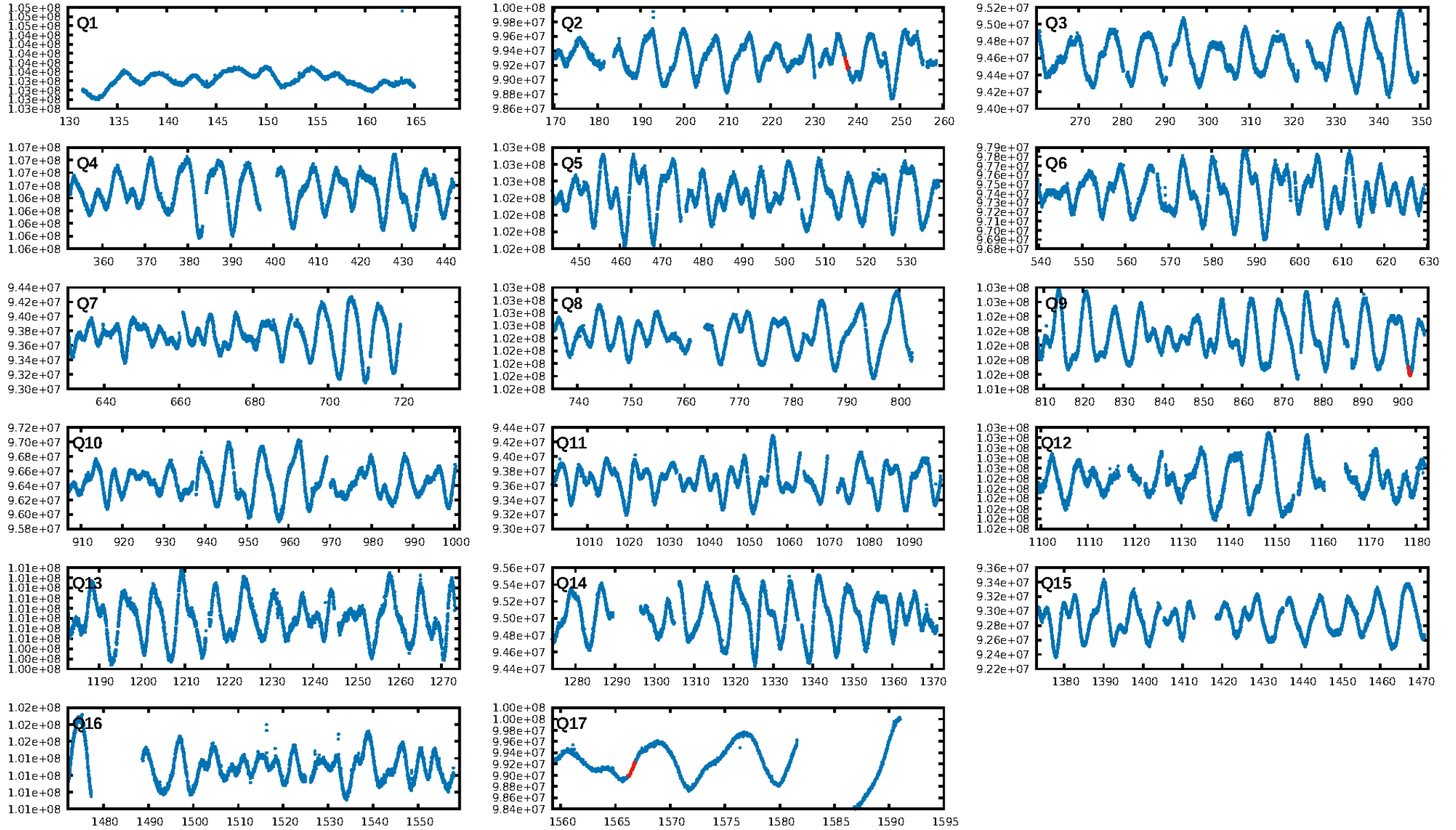
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [2174.48σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 4.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.65e-08
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -5.109
Centroid-sig: 44.7%
Centroid-so: 1.265 arcsec [0.98σ]
OotOffset-rm: 1.260 arcsec [3.49σ]
KicOffset-rm: 1.085 arcsec [3.28σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 0.00 [0/3]

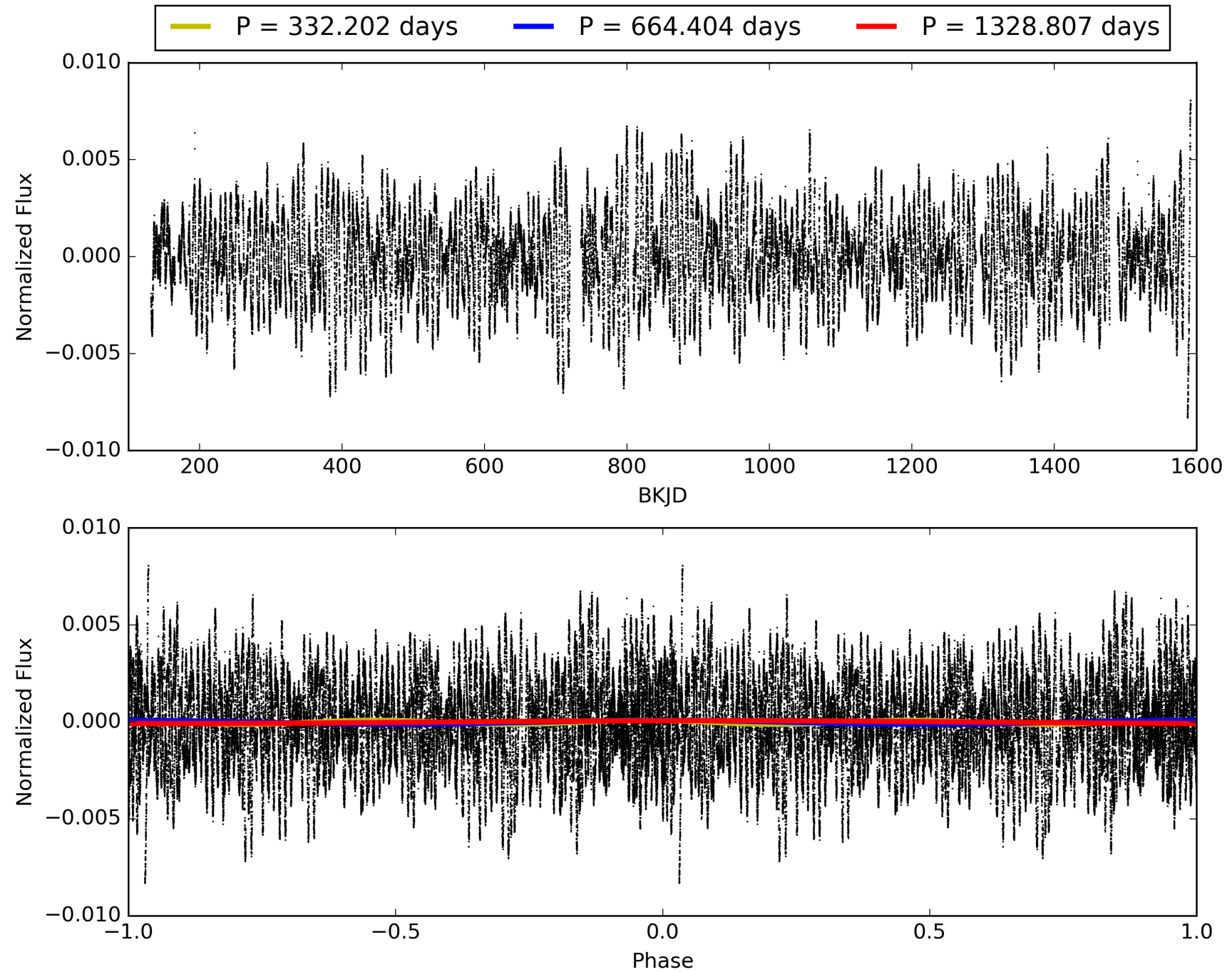
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:18:59 Z

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

TCE 005306383-03, PDC Light Curves

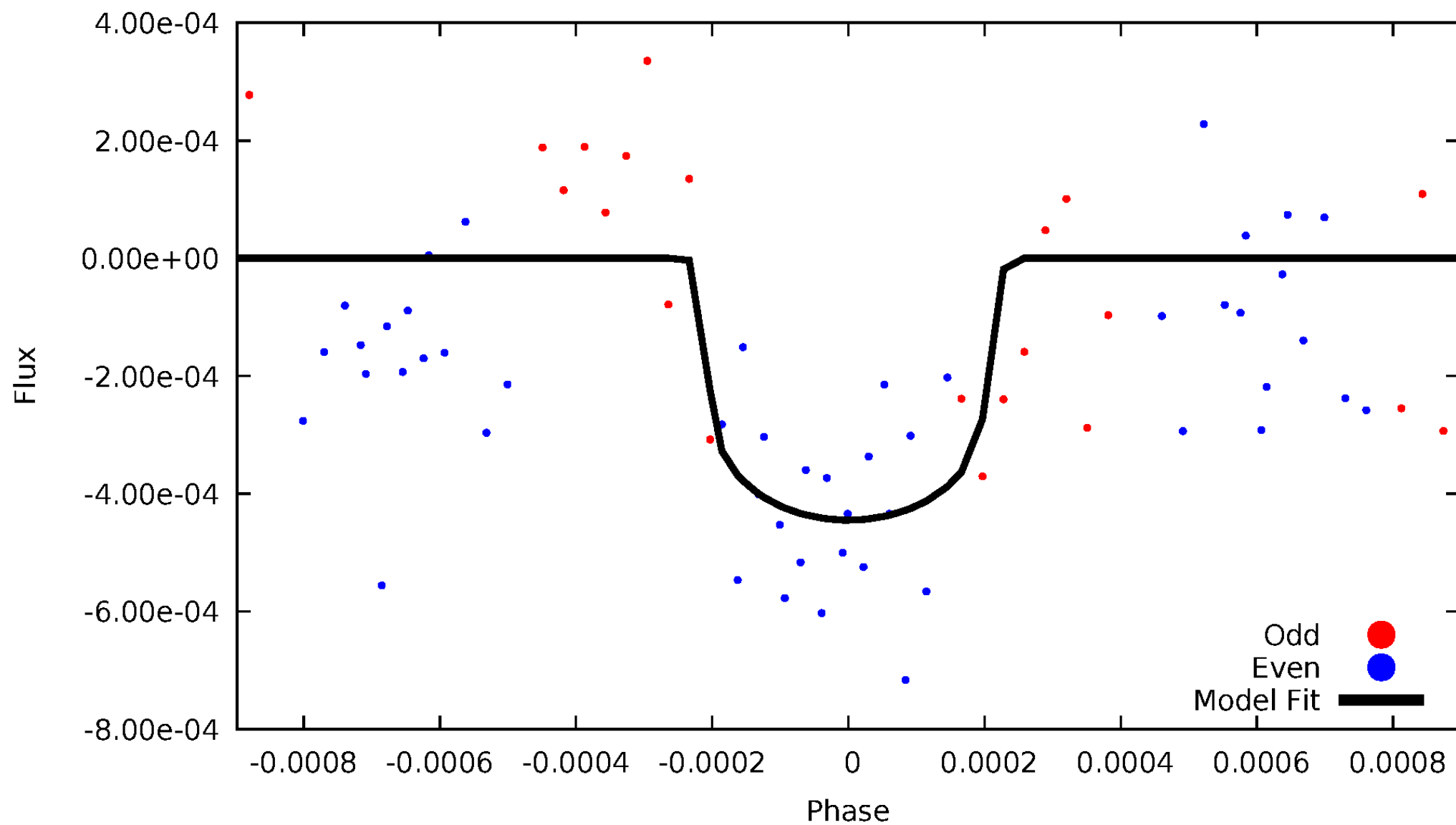


TCE 005306383-03



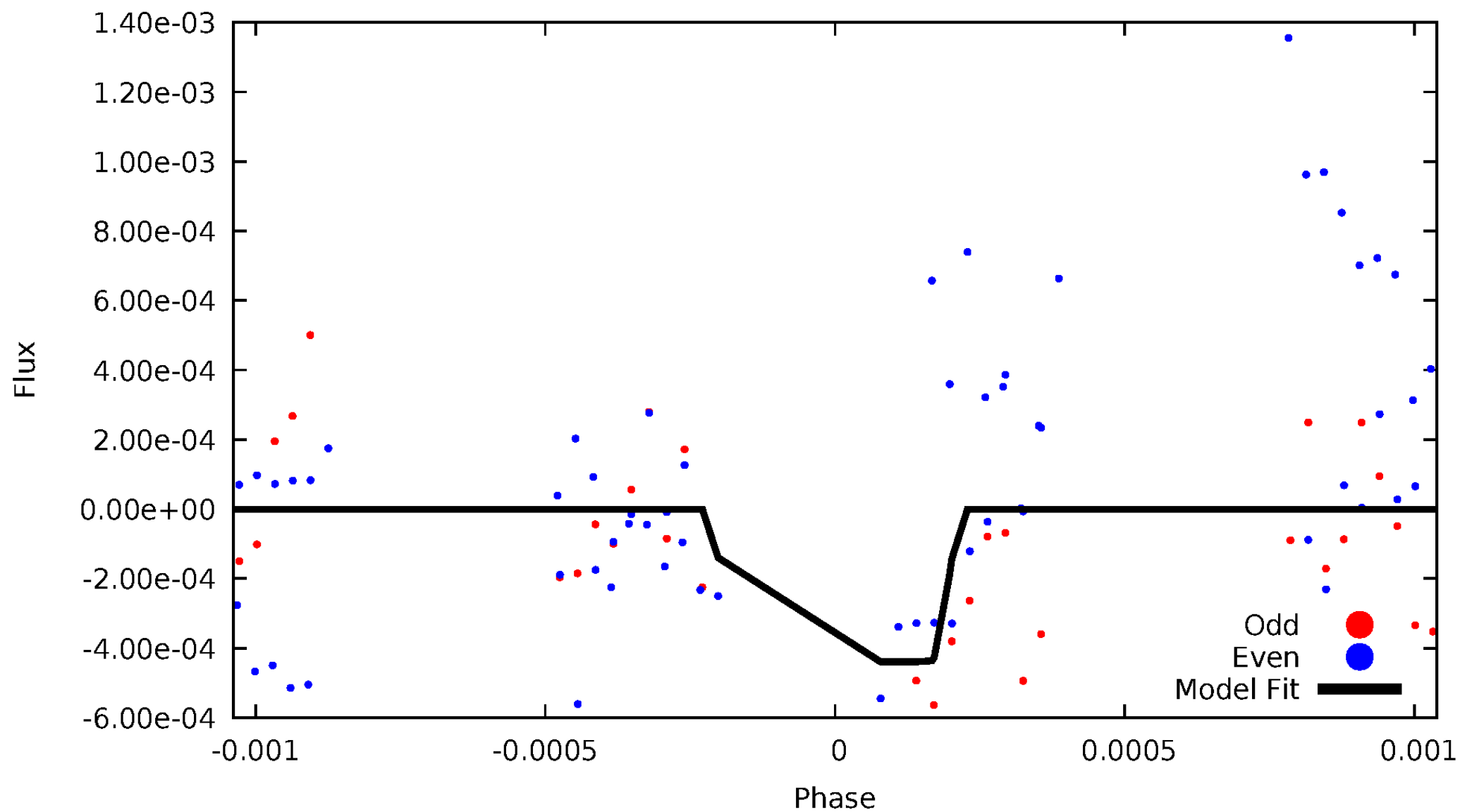
DV Odd/Even

TCE 005306383-03



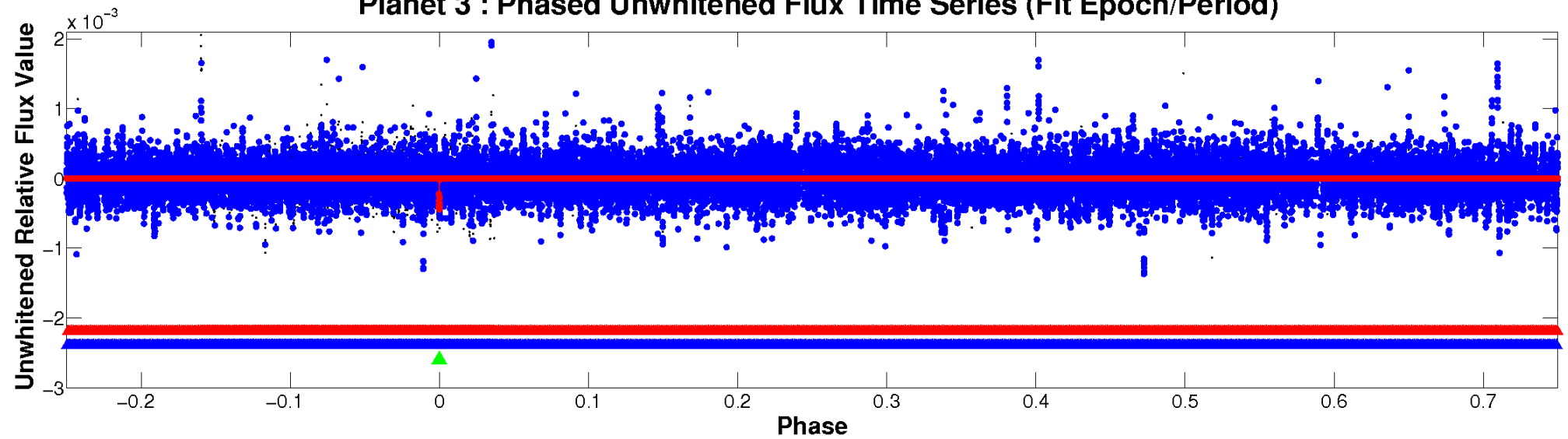
ALT Odd/Even

TCE 005306383-03

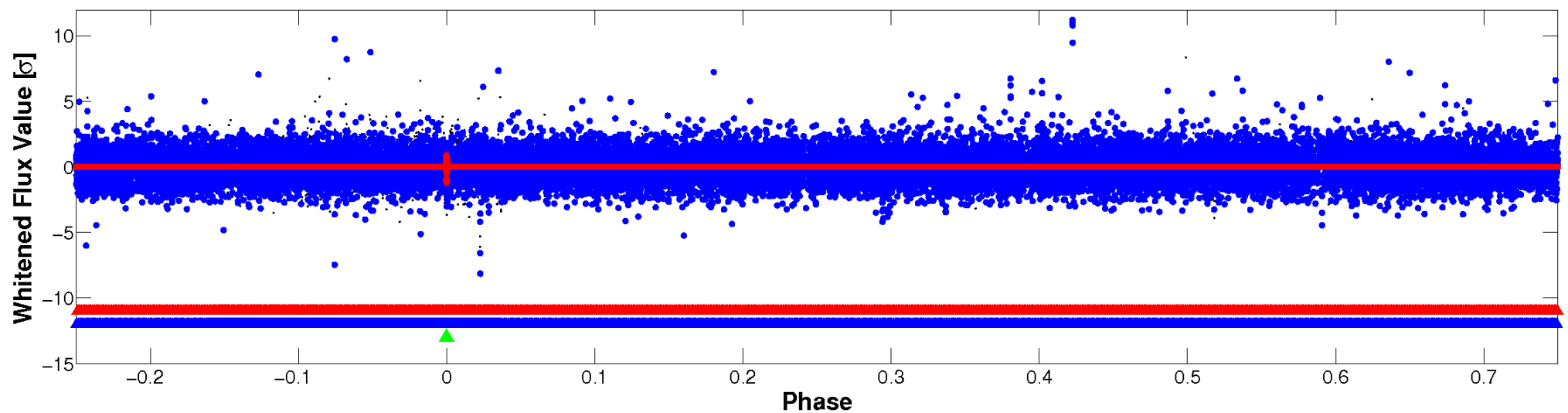


Non-Whitened Vs. Whitened Light Curve

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

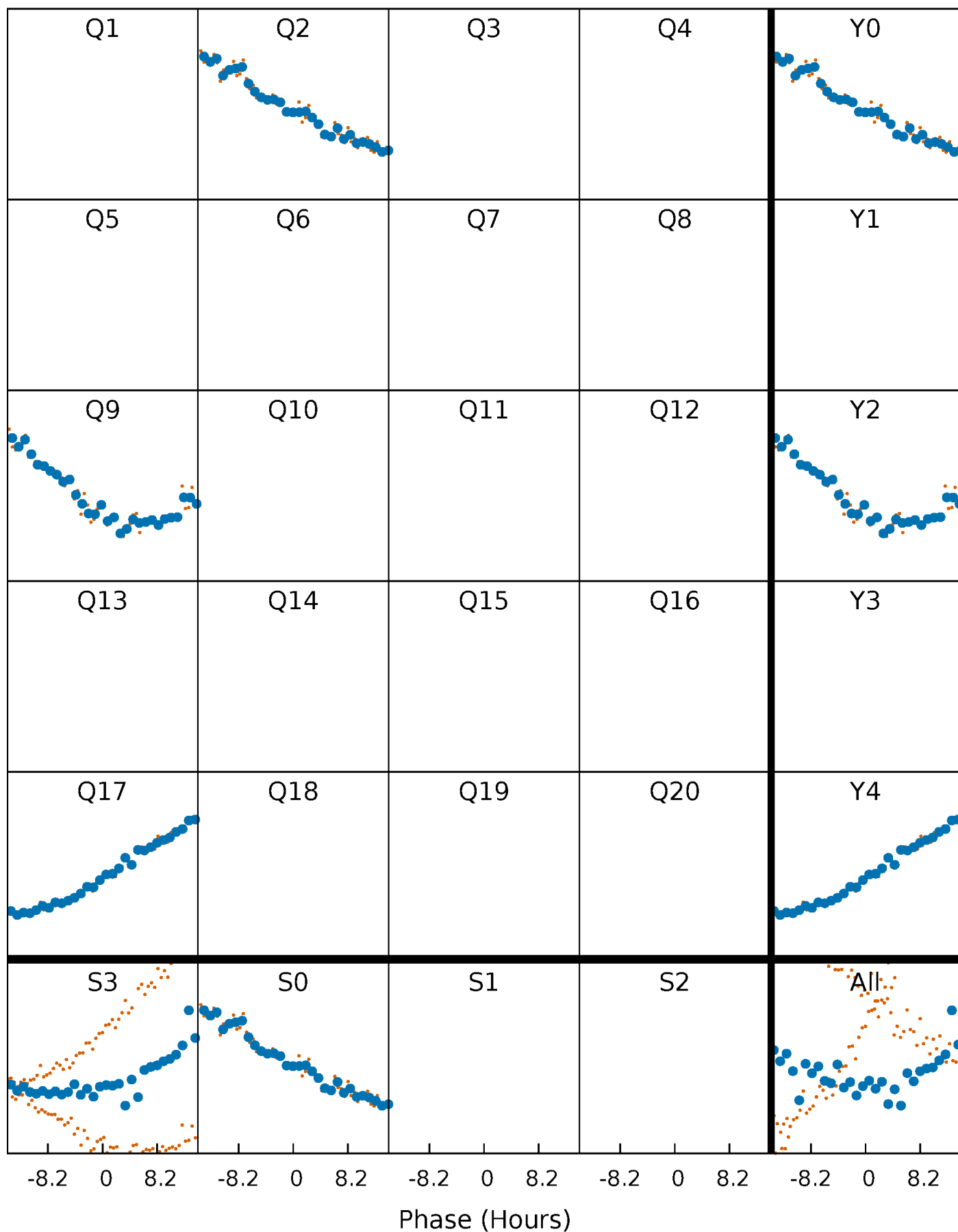


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



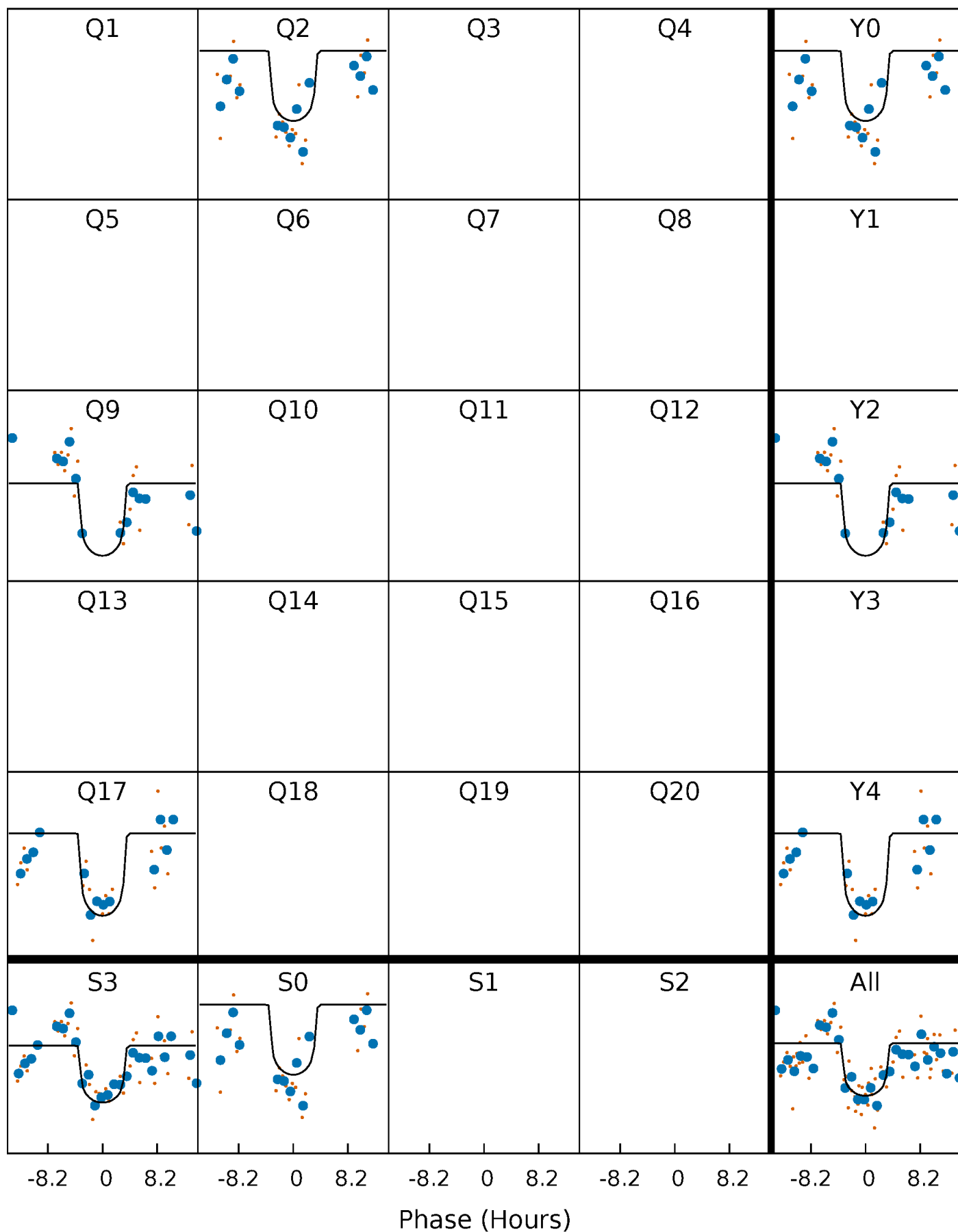
PDC Quarter-Phased Transit Curves

TCE 005306383-03 P=664.403617 Days $T_0=237.672859$ (BKJD)



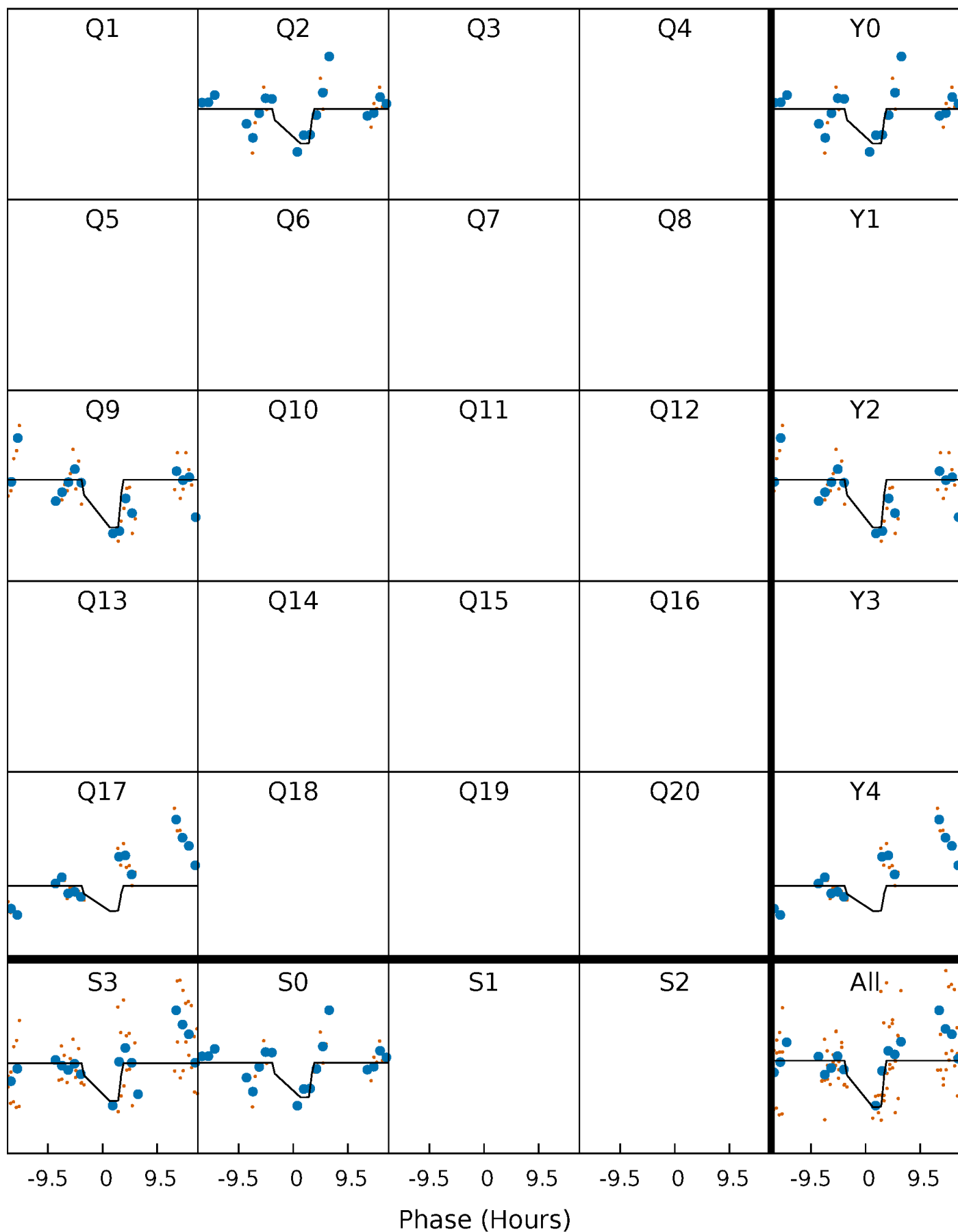
DV Quarter-Phased Transit Curves

TCE 005306383-03 $P=664.403617$ Days $T_0=237.672859$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

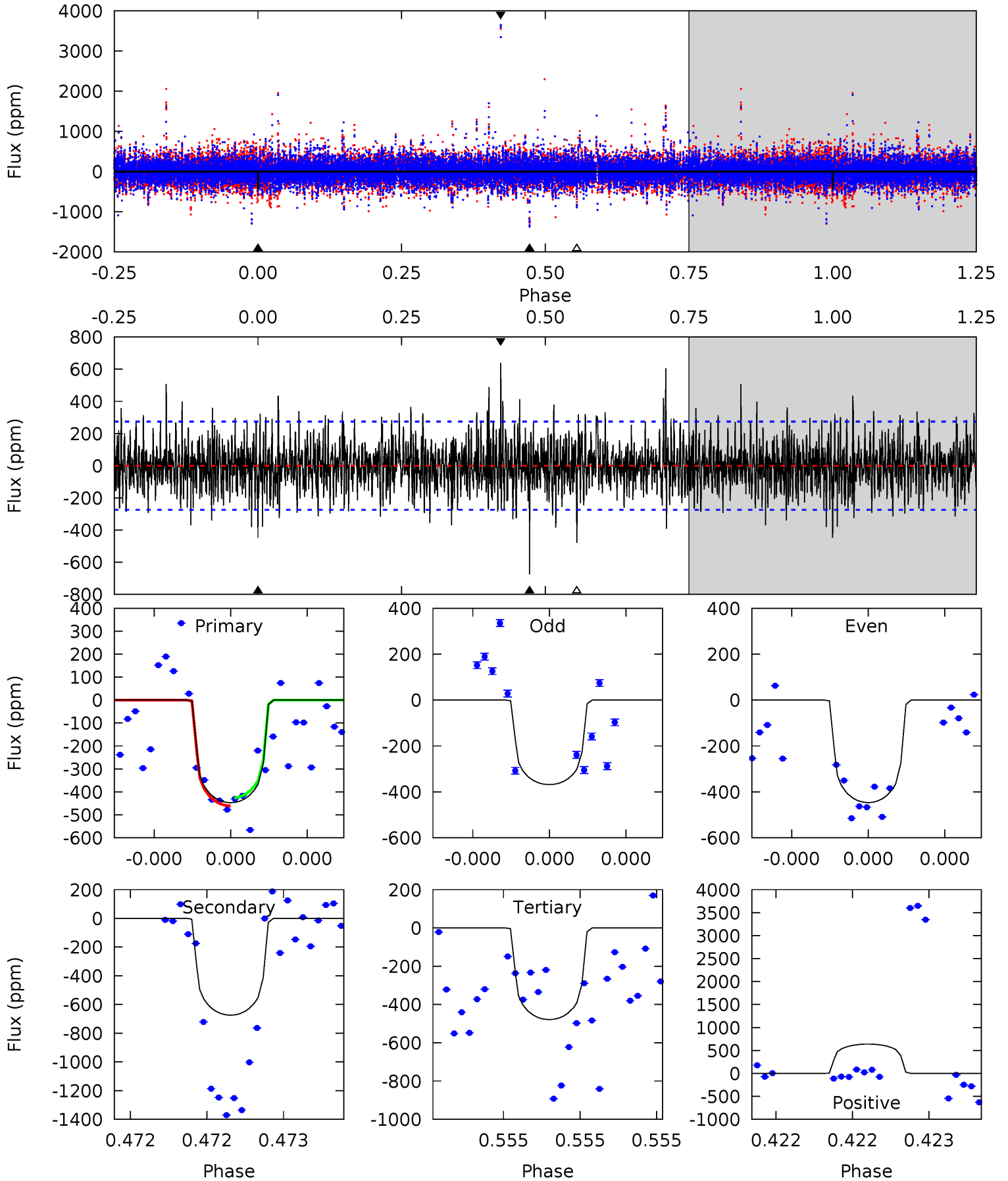
TCE 005306383-03 P=664.581105 Days $T_0=237.512743$ (BKJD)



DV Model-Shift Uniqueness Test

005306383-03, P = 664.403617 Days, E = 237.672859 Days

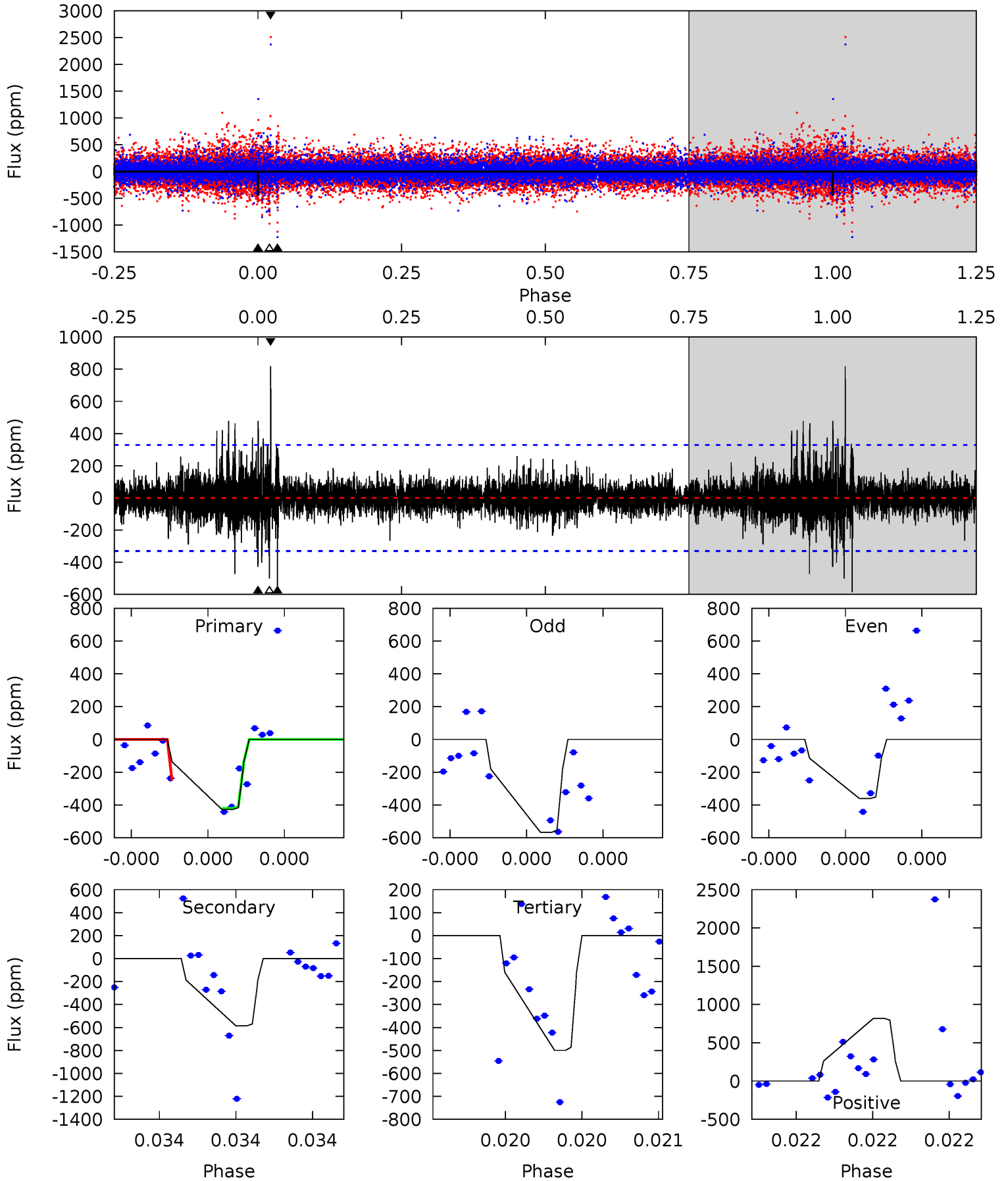
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.10	13.7	9.74	13.0	5.59	3.50	2.38	-0.65	-3.90	3.98	0.73	0.54	0.99	0.49	0.34



Alt Model-Shift Uniqueness Test

005306383-03, P = 664.581105 Days, E = 237.512743 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.26	9.95	8.49	13.9	5.60	3.52	1.16	-1.23	-6.65	1.46	-3.96	1.74	0.33	0.58	0.00



Stellar Parameters For KIC 005306383

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5765^{+156}_{-173}	$4.415^{+0.101}_{-0.188}$	$-0.060^{+0.300}_{-0.300}$	$0.998^{+0.274}_{-0.147}$	$0.943^{+0.124}_{-0.093}$	$1.337^{+0.601}_{-0.623}$
	+3%/-3%	+2%/-4%	+500%/-500%	+27%/-15%	+13%/-10%	+45%/-47%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005306383-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-674 ± 49	$2.64^{+1.72}_{-1.42}$	297^{+21}_{-16}	6067^{+3478}_{-1219}	$112487^{+410722}_{-71399}$
Alt.	-586 ± 59	$2.58^{+1.60}_{-1.54}$	297^{+20}_{-16}	5915^{+4361}_{-1152}	$106053^{+549940}_{-67517}$

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

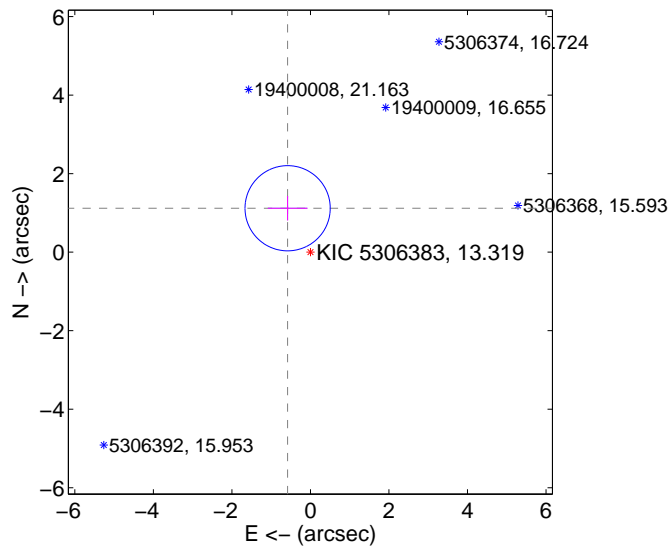
Supplemental centroid analysis for 005306383-03. Kepler magnitude: 13.32. Transit SNR 5.52

There are 1 quarters with good PRF difference image offsets

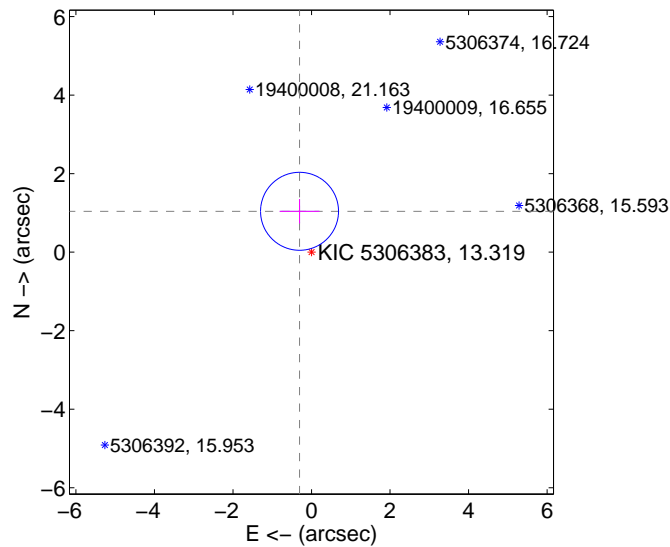
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.260 ± 0.362	3.49	0.581 ± 0.506	1.118 ± 0.311
PRF-fit source offset from KIC position	1.085 ± 0.331	3.28	0.305 ± 0.506	1.041 ± 0.311
photometric centroid source offset	1.26 ± 1.29	0.98	1.20 ± 1.30	-0.40 ± 1.16

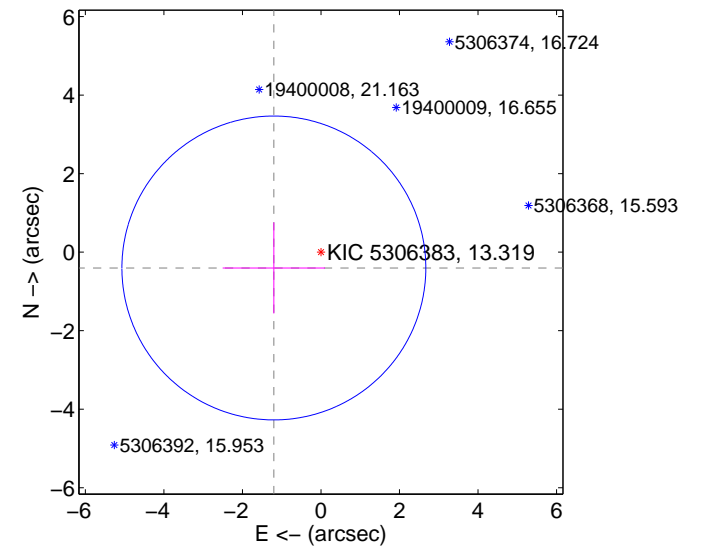
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

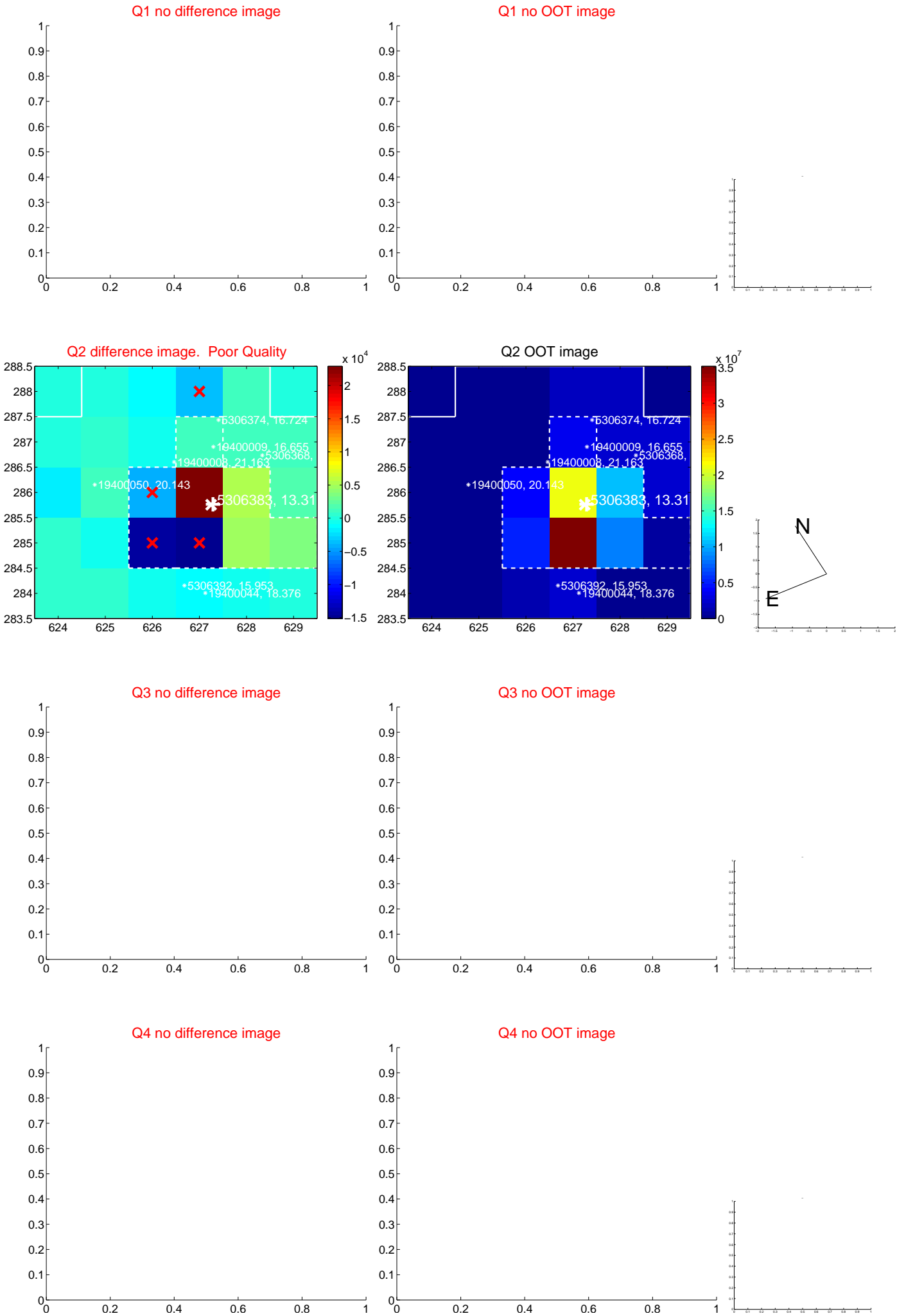


offset from photometric centroids



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.

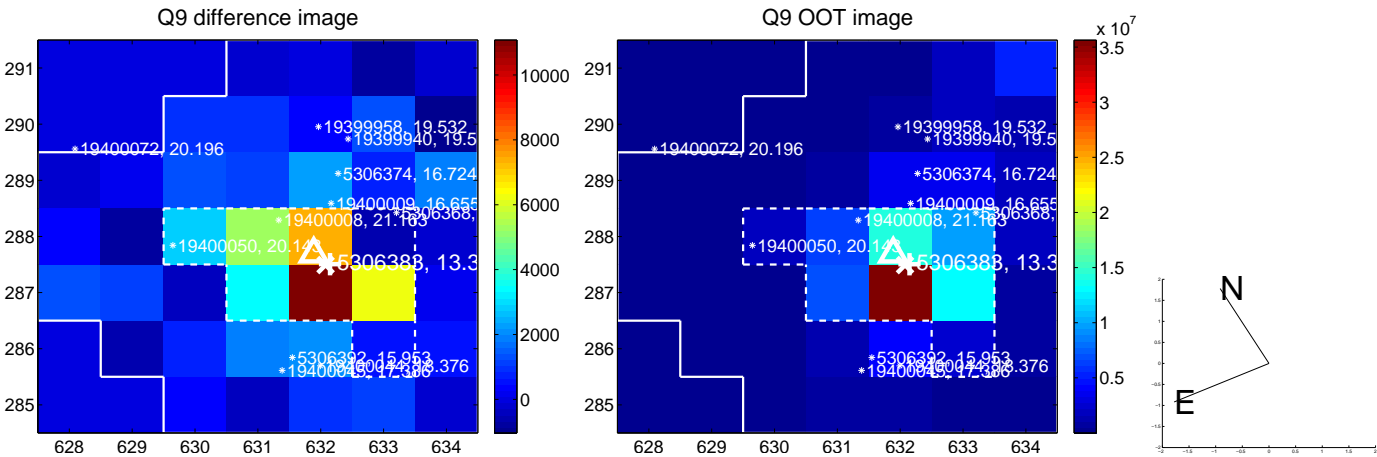
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



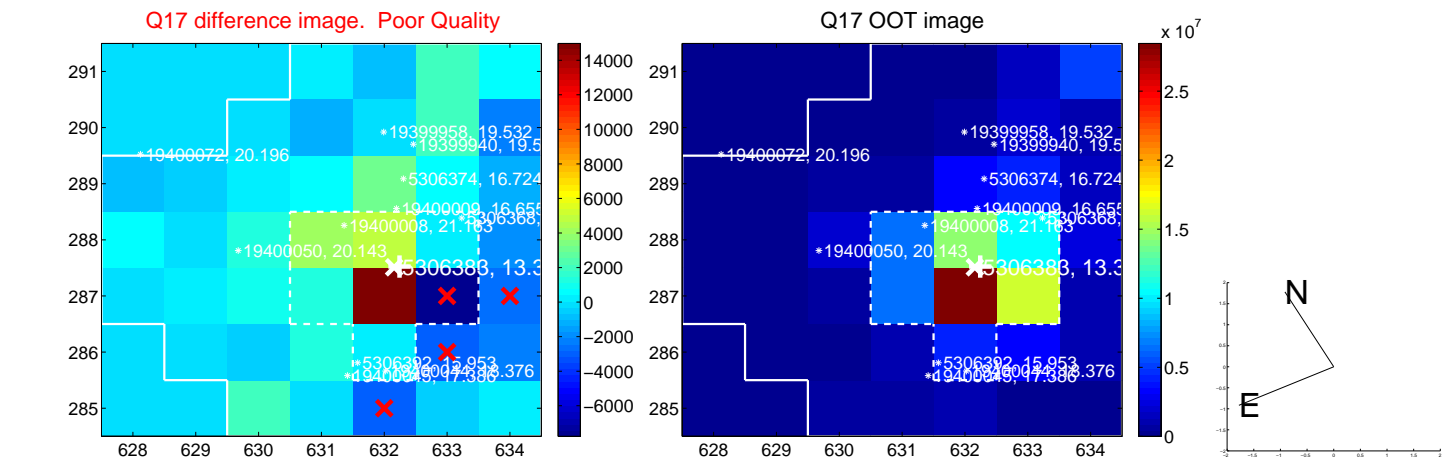
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



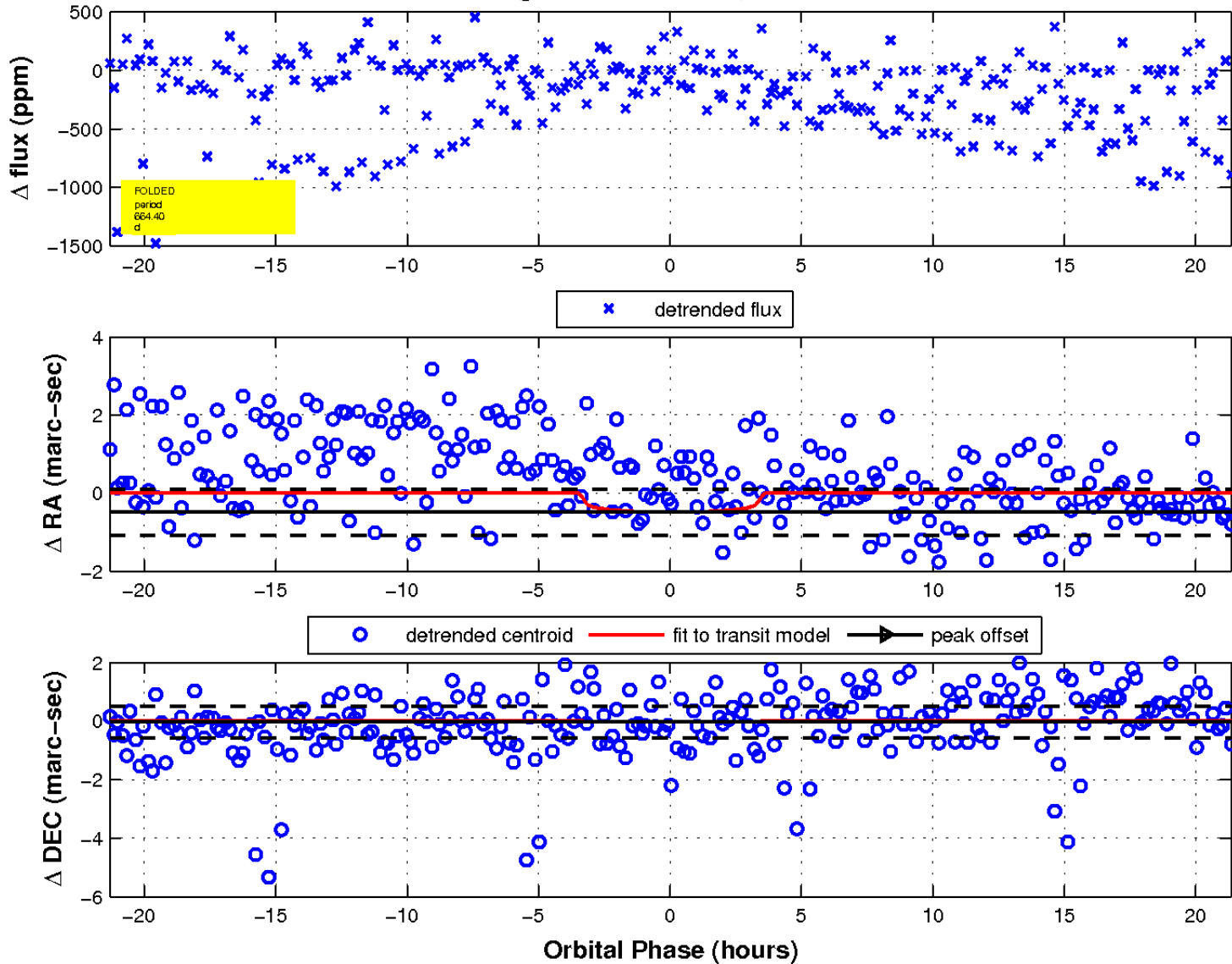
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

