

KIC 003098015

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})
003098015-01	OBS	No	0.523868	131.614617	55.5	0.666	13.1	5.4	3.25	7617	2.85	117085.12
003098015-02	OBS	No	0.523869	131.879284	95.0	1.059	9.7	11.5	3.25	7617	3.25	117084.87
003098015-03	OBS	No	0.786125	132.110622	207.8	1.953	8.5	10.9	3.25	7617	5.46	68151.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003098015-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003098015-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD—CENT_SATURATED
003098015-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED

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

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

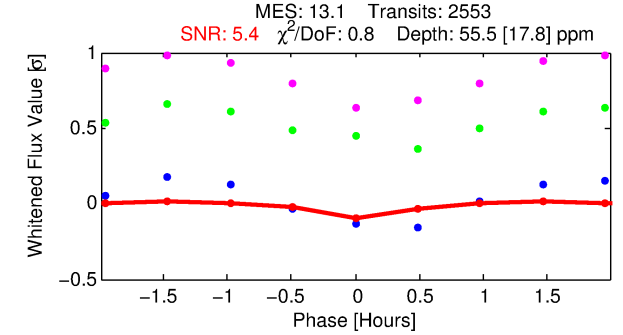
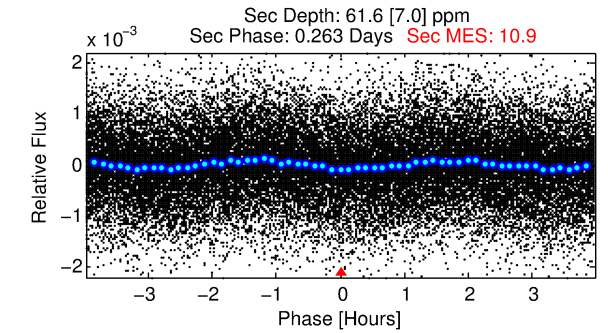
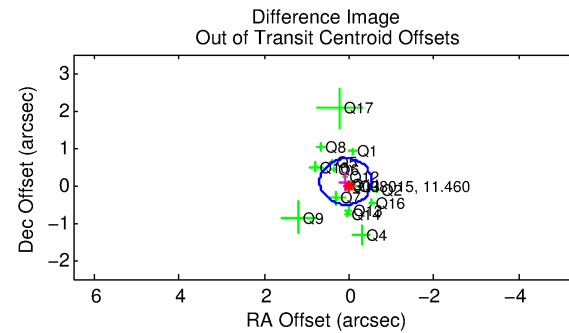
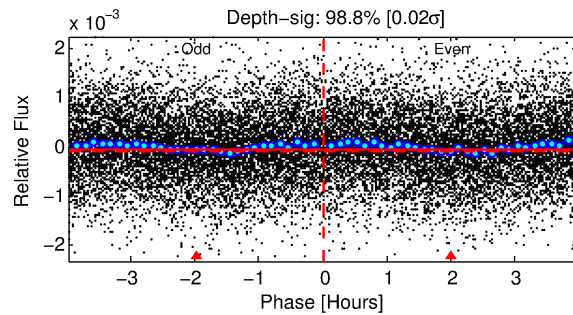
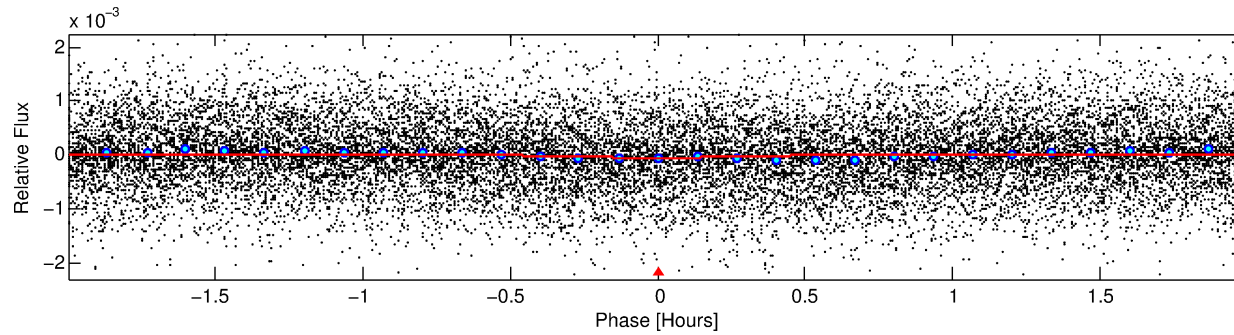
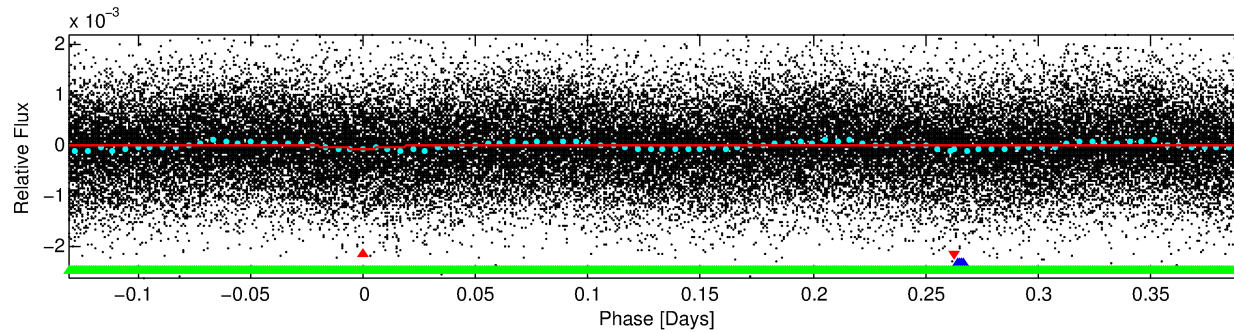
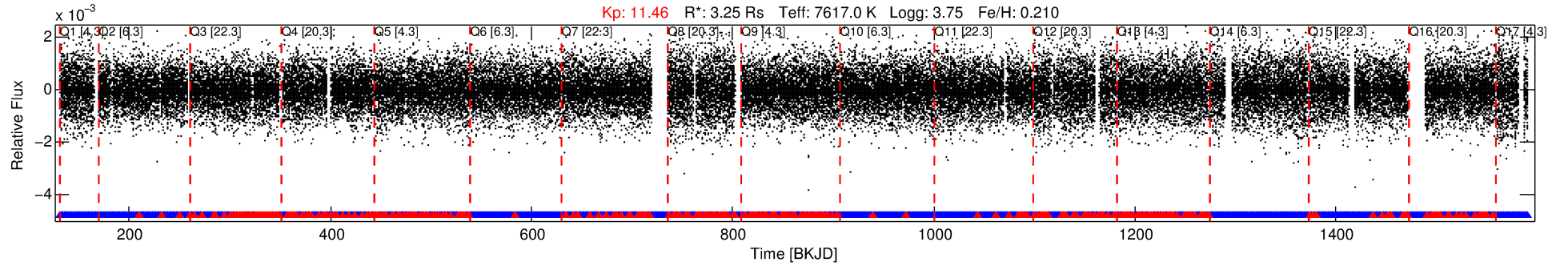
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003098015-01

No Significant Match Found

DV One-Page Summary

KIC: 3098015 Candidate: 1 of 3 Period: 0.524 d



DV Fit Results:

Period = 0.52387 [0.00002] d
Epoch = 131.6146 [0.0029] BKJD
Rp/R* = 0.0080 [0.0038]
a/R* = 2.98 [7.74]
b = 0.89 [0.68]
Seff = 117085.12 [74629.00]
Teq = 4717 [752] K
Rp = 2.85 [1.83] Re
a = 0.0165 [0.0065] AU
Ag = 1.14 [1.30] [0.11 σ]
Teffp = 7532 [1851] K [1.41 σ]

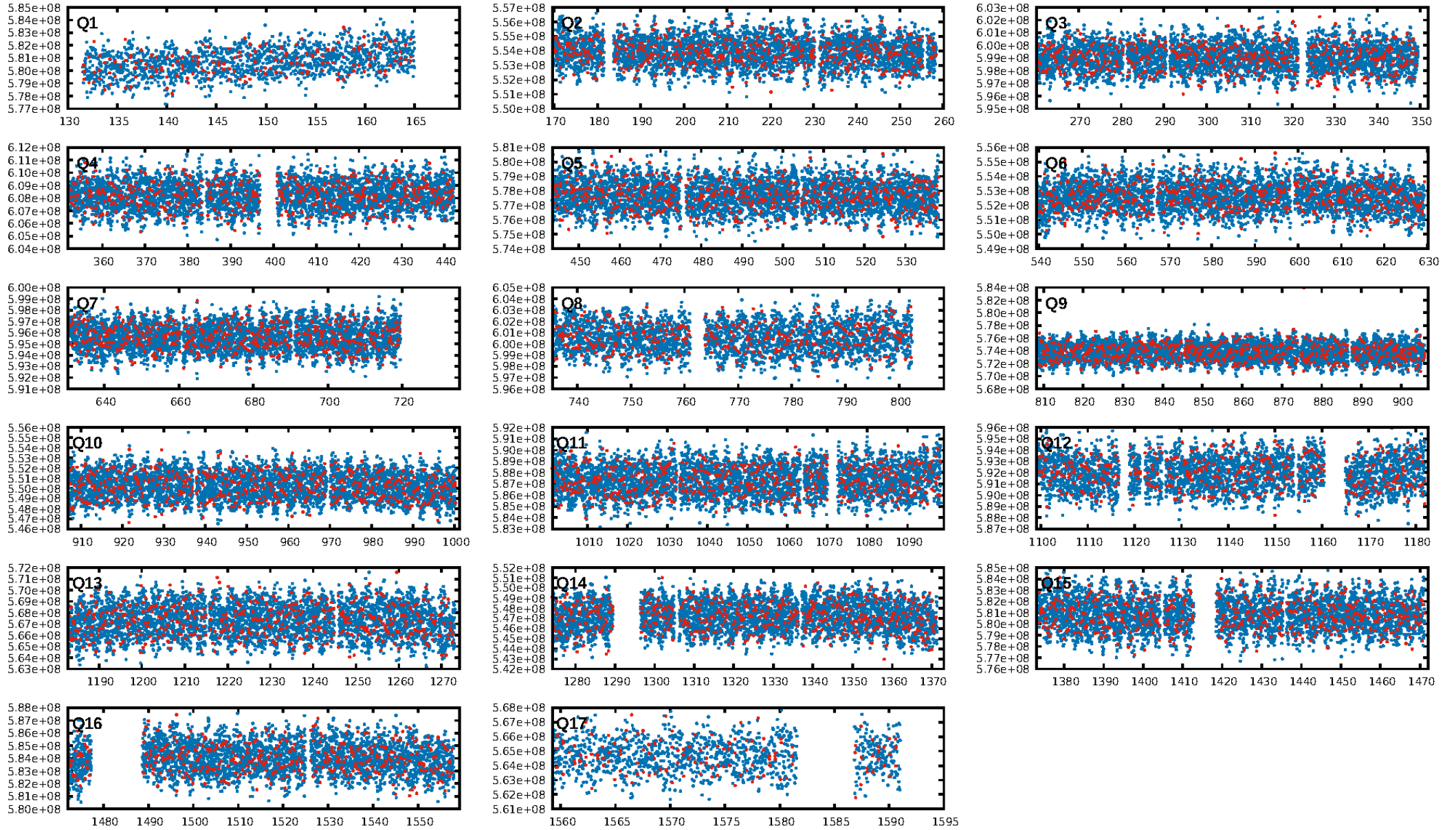
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.48e-21
RollingBand-fgt: 0.84 [2044/2439]
GhostDiagnostic-chr: 1.35
Centroid-sig: 83.2%
Centroid-so: 0.186 arcsec [0.52 σ]
OotOffset-rm: 0.122 arcsec [0.60 σ]
OotOffset-st: 4/3/4/5 [16]
KicOffset-rm: 0.225 arcsec [1.09 σ]
KicOffset-st: 4/3/4/5 [16]
DiffImageQuality-fgm: 0.44 [7/16]
DiffImageOverlap-fno: 1.00 [17/17]

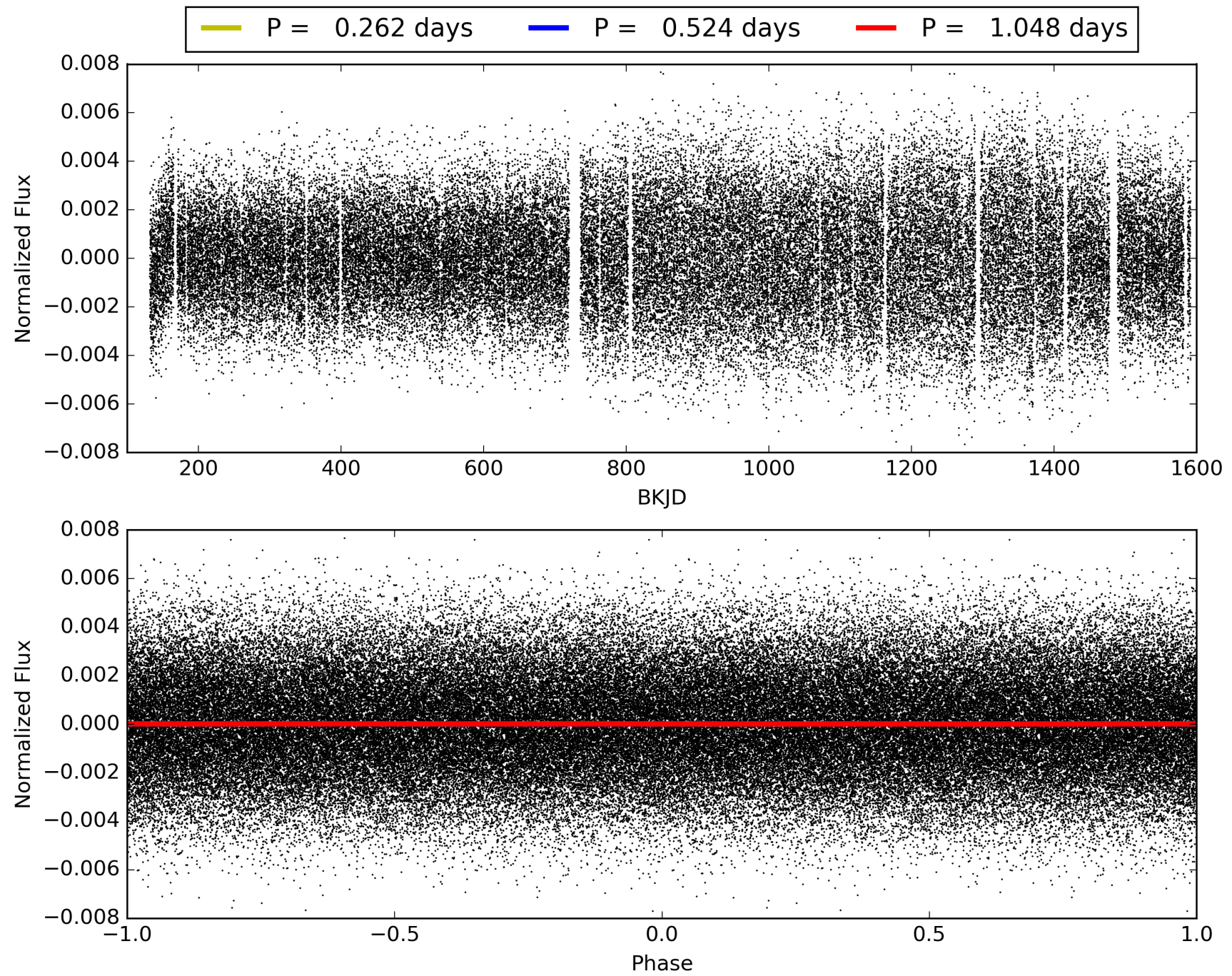
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 003098015-01, PDC Light Curves

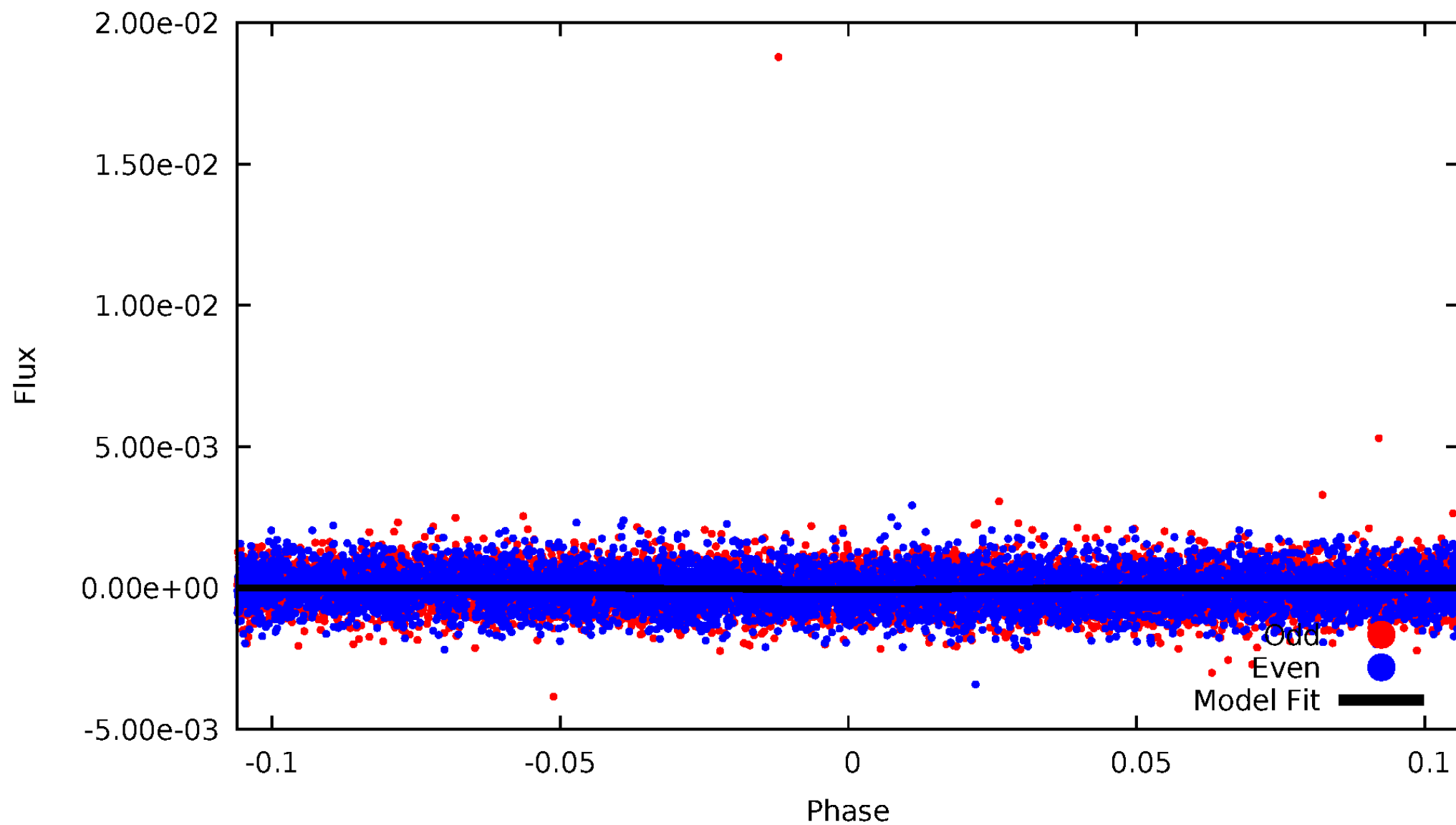


TCE 003098015-01



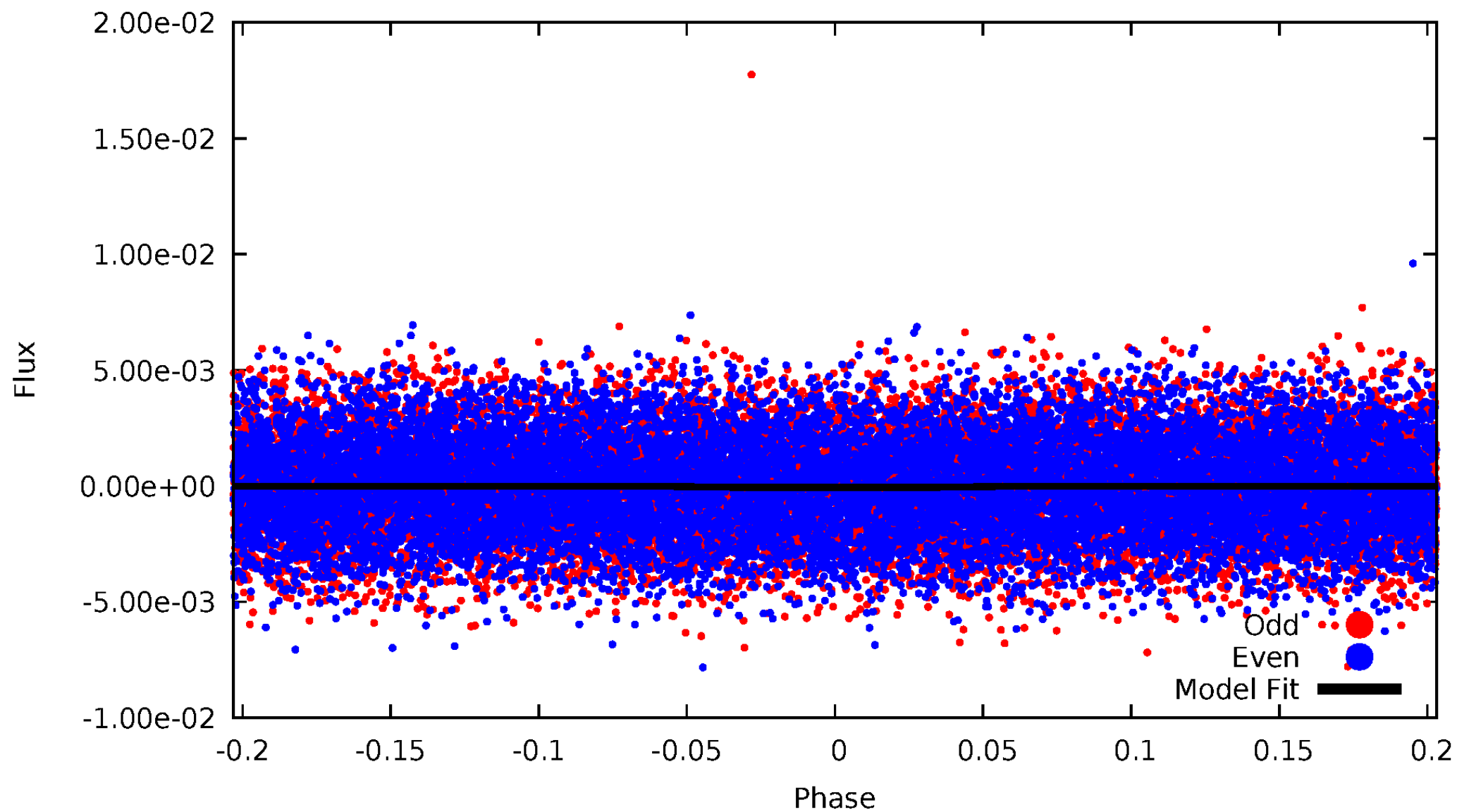
DV Odd/Even

TCE 003098015-01

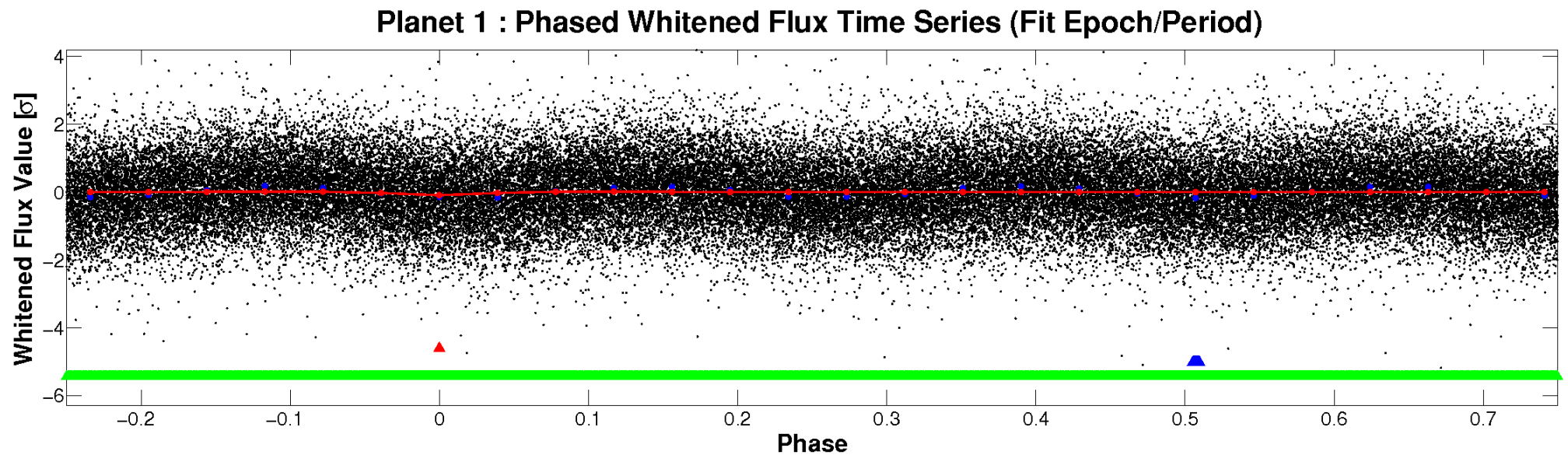
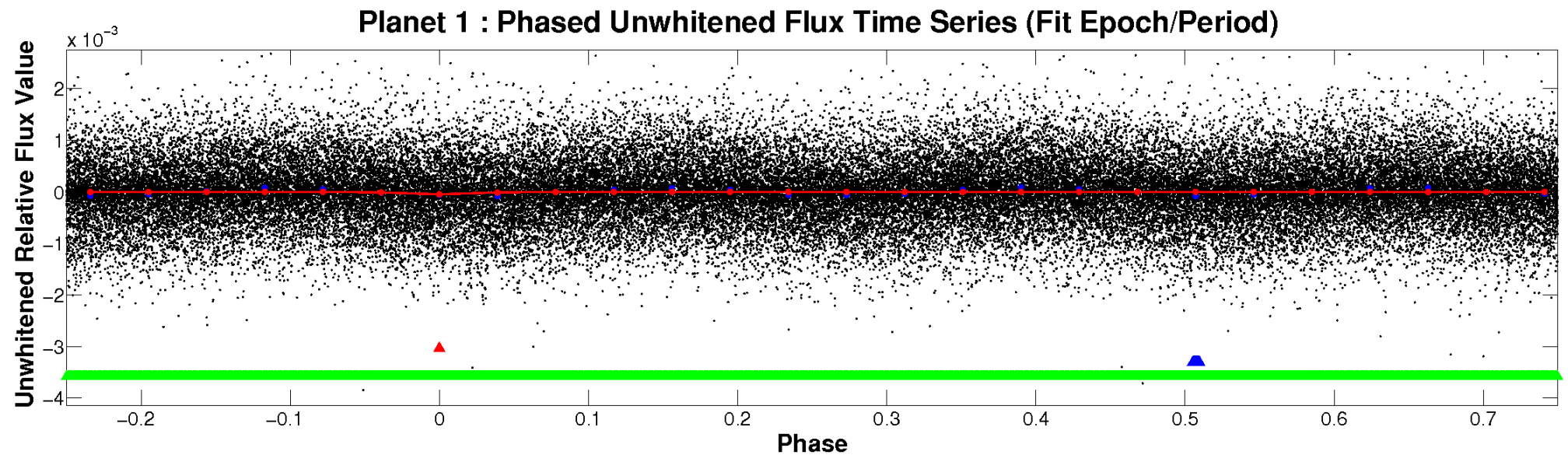


ALT Odd/Even

TCE 003098015-01

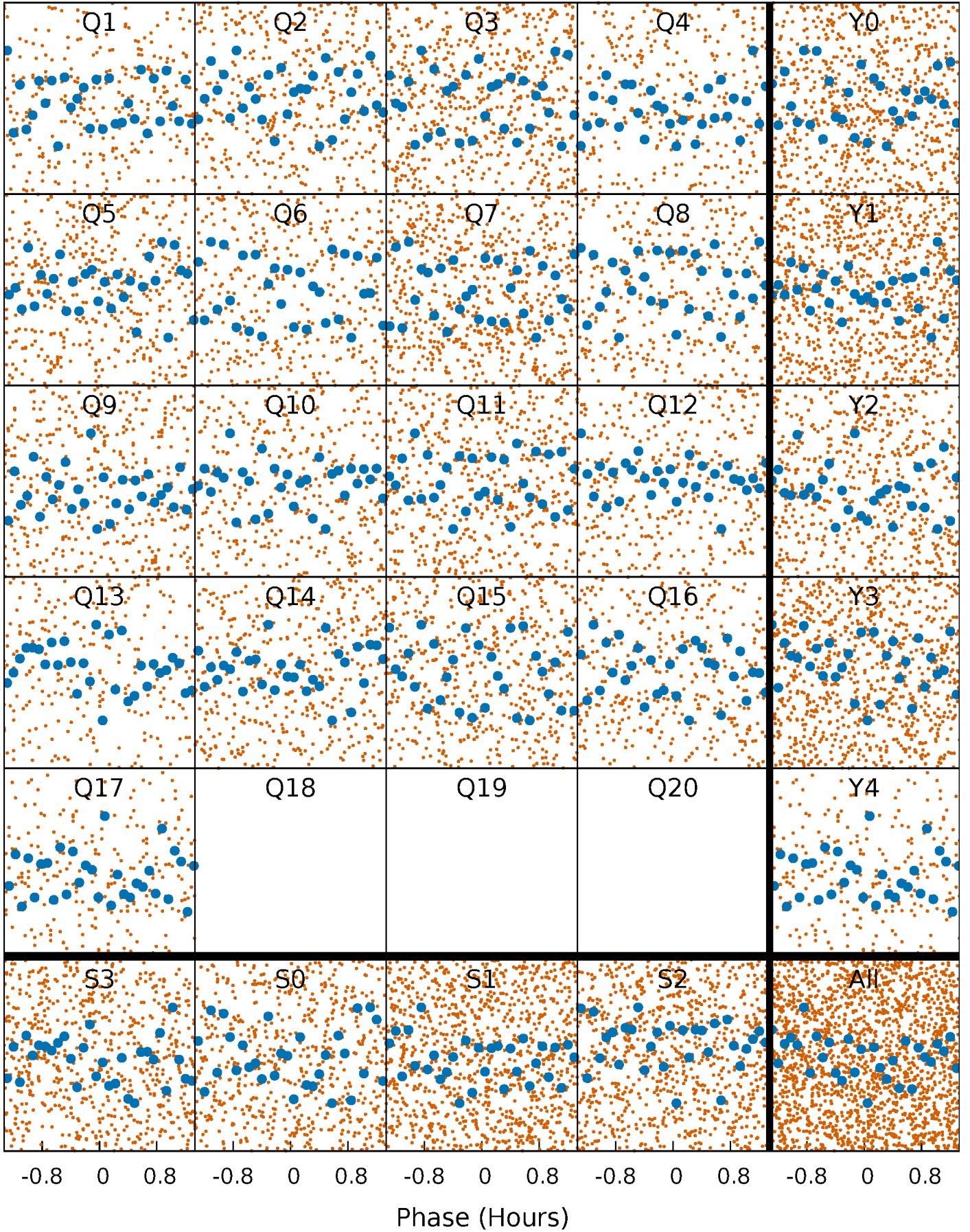


Non-Whitened Vs. Whitened Light Curve



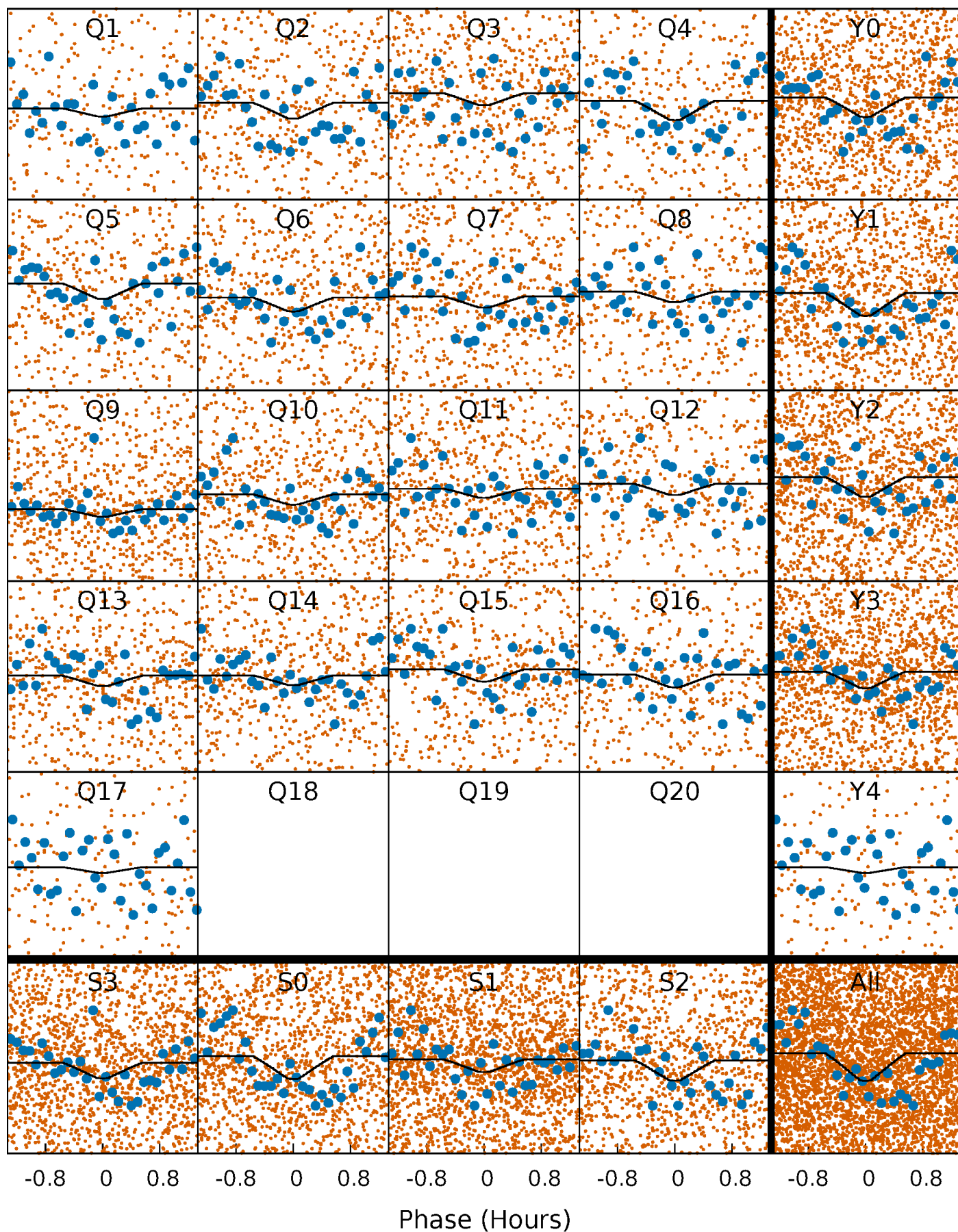
PDC Quarter-Phased Transit Curves

TCE 003098015-01 P= 0.523868 Days $T_0=131.614617$ (BKJD)



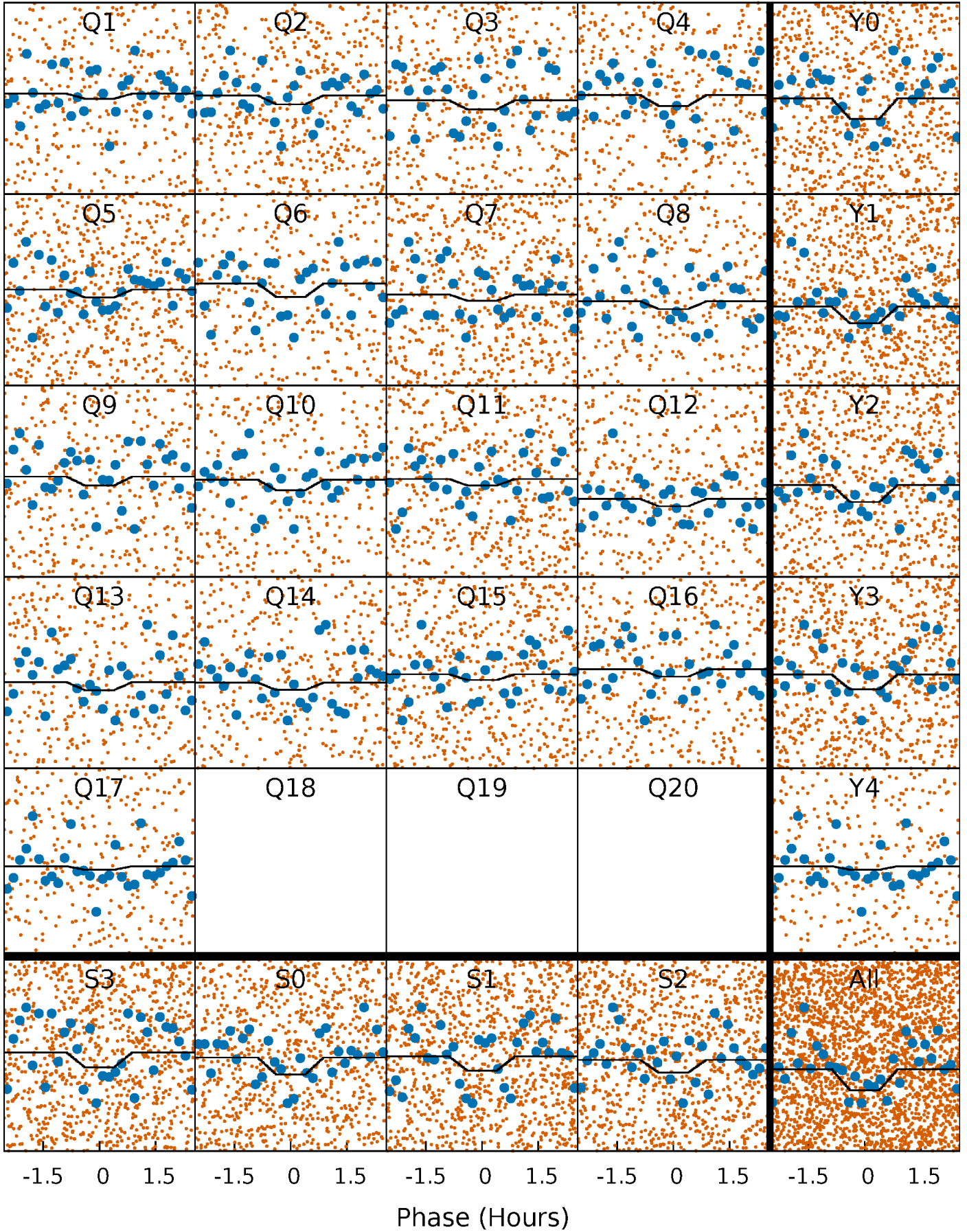
DV Quarter-Phased Transit Curves

TCE 003098015-01 P= 0.523868 Days $T_0=131.614617$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

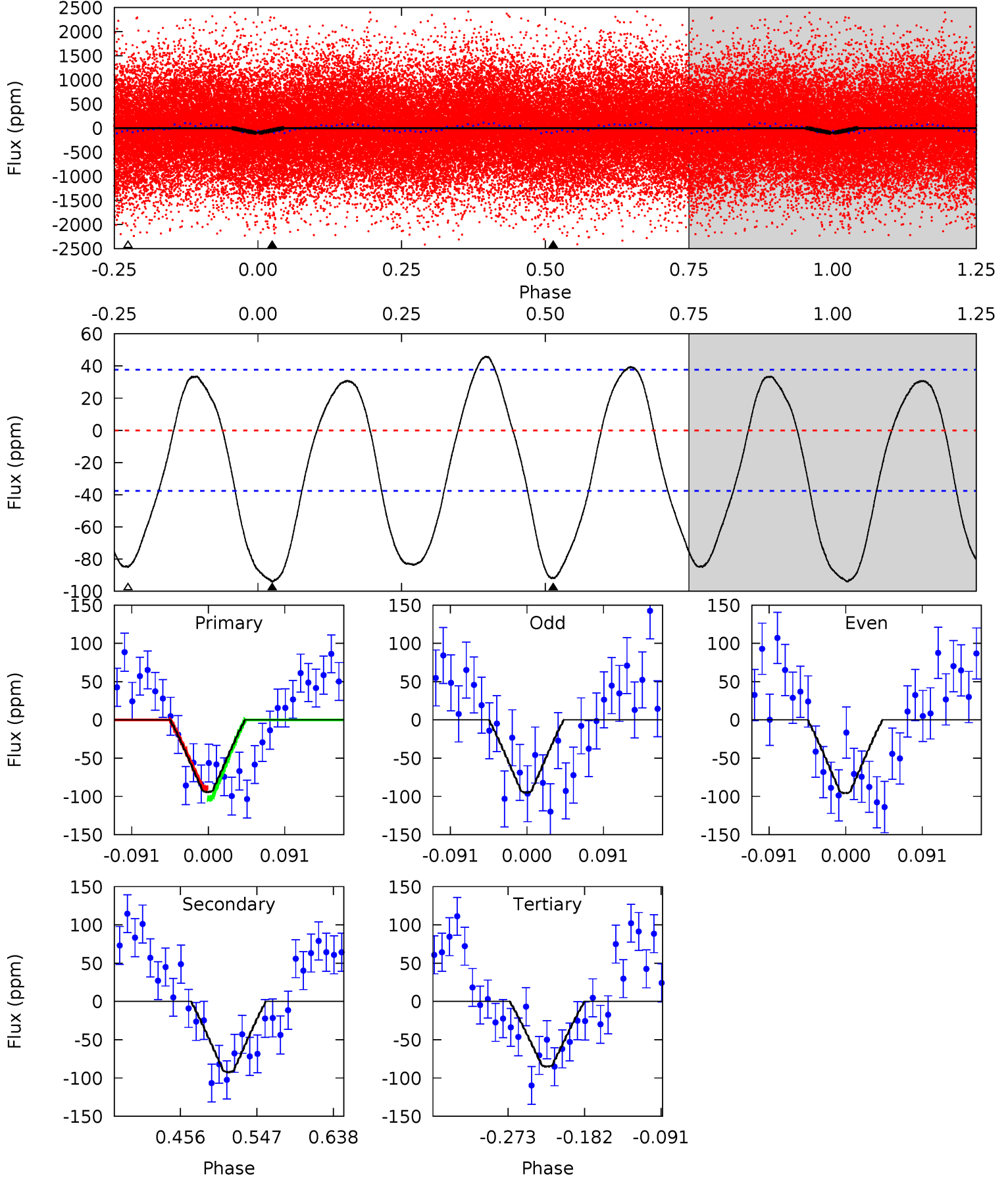
TCE 003098015-01 P= 0.523874 Days $T_0=131.614436$ (BKJD)



DV Model-Shift Uniqueness Test

003098015-01, P = 0.523868 Days, E = 131.090749 Days

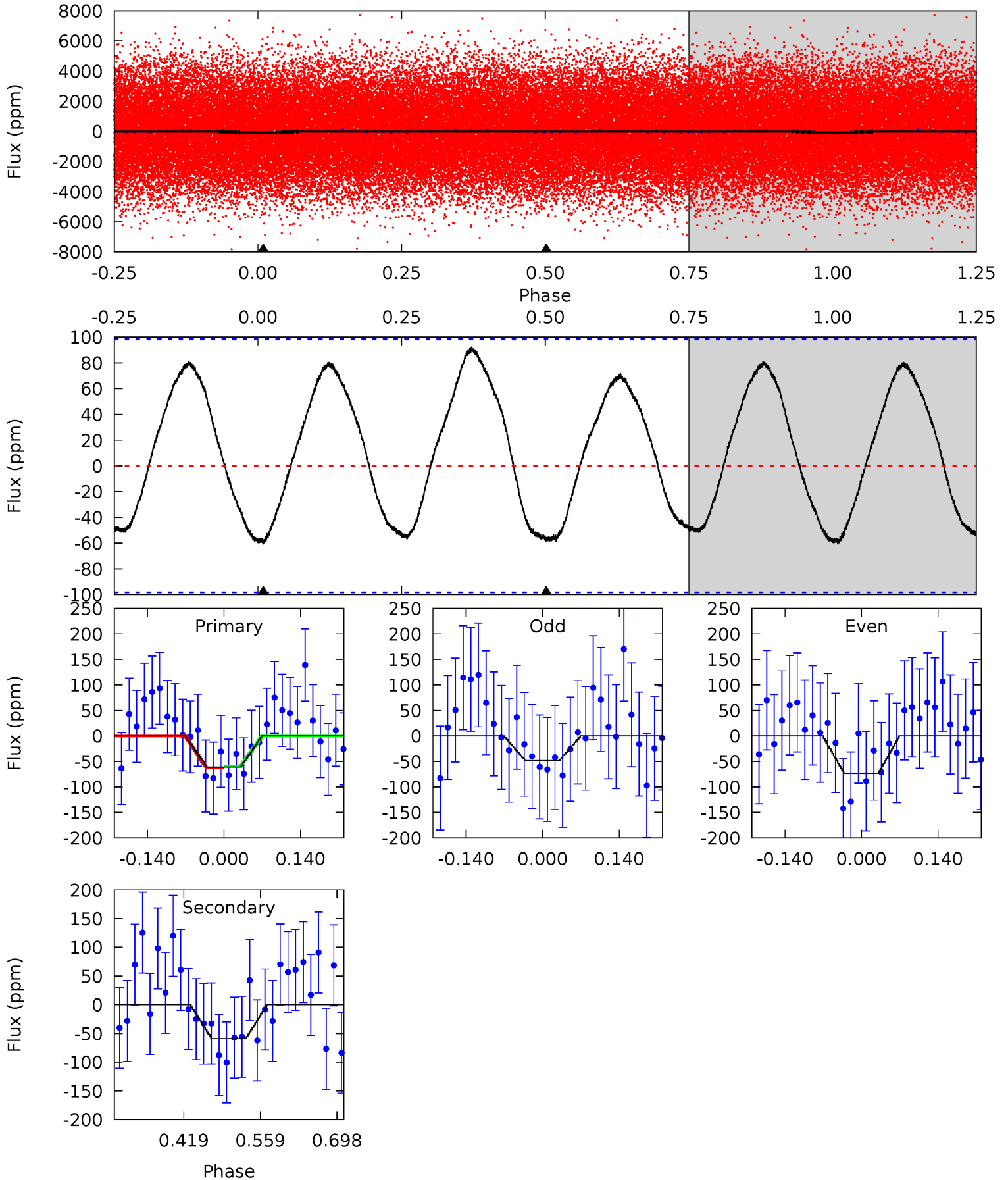
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	11.2	10.4	0	4.58	1.69	5.42	1.12	11.5	0.88	11.2	0.04	1.06	0.33	0.80



Alt Model-Shift Uniqueness Test

003098015-01, P = 0.523874 Days, E = 131.090562 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.78	2.70	0	0	4.49	1.48	1.92	2.78	2.78	2.70	2.70	0.58	1.26	0.60	0.08



Stellar Parameters For KIC 003098015

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7617^{+211}_{-344}	$3.753^{+0.352}_{-0.117}$	$0.210^{+0.150}_{-0.400}$	$3.252^{+0.598}_{-1.394}$	$2.185^{+0.245}_{-0.573}$	$0.089^{+0.266}_{-0.034}$
	+3%/-5%	+9%/-3%	+71%/-190%	+18%/-43%	+11%/-26%	+297%/-38%
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 003098015-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-92 ± 8	$2.69^{+1.50}_{-1.34}$	6447^{+437}_{-653}	7924^{+5141}_{-2037}	$1.912^{+5.120}_{-1.130}$
Alt.	-59 ± 22	$2.54^{+1.36}_{-1.20}$	6430^{+457}_{-709}	6771^{+4335}_{-1902}	$1.258^{+3.816}_{-0.748}$

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 $A_{obs} \gg 1.0$

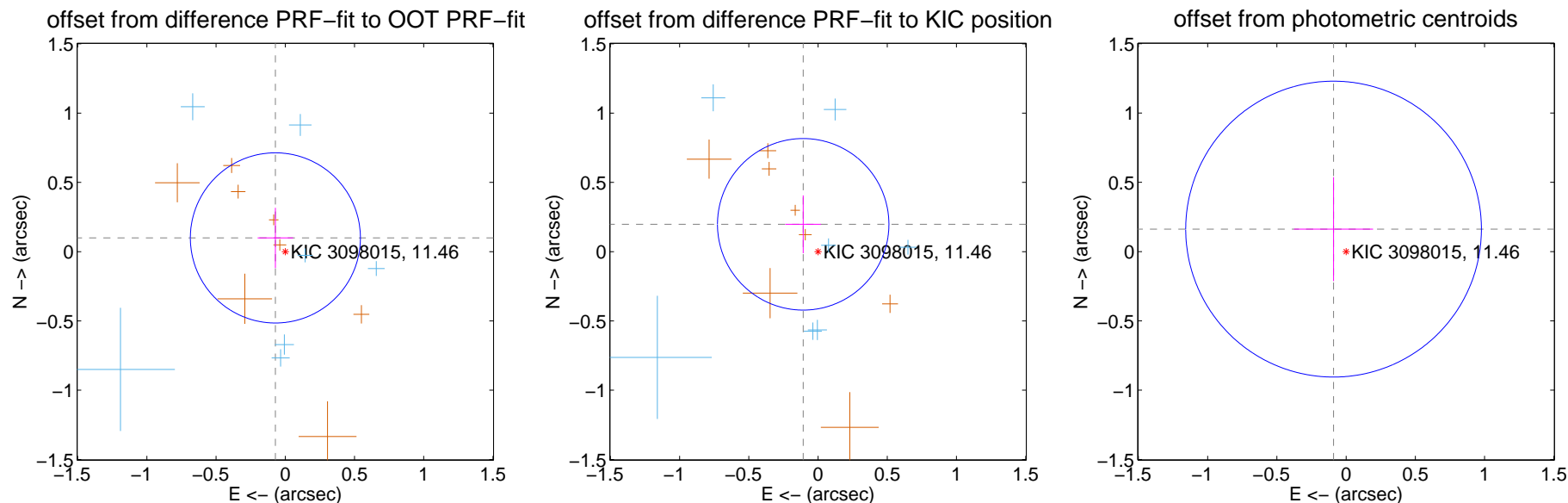
DV Centroid Data

Supplemental centroid analysis for 003098015-01. **Kepler magnitude: 11.46.** Transit SNR 5.38

There are 7 quarters with good PRF difference image offsets

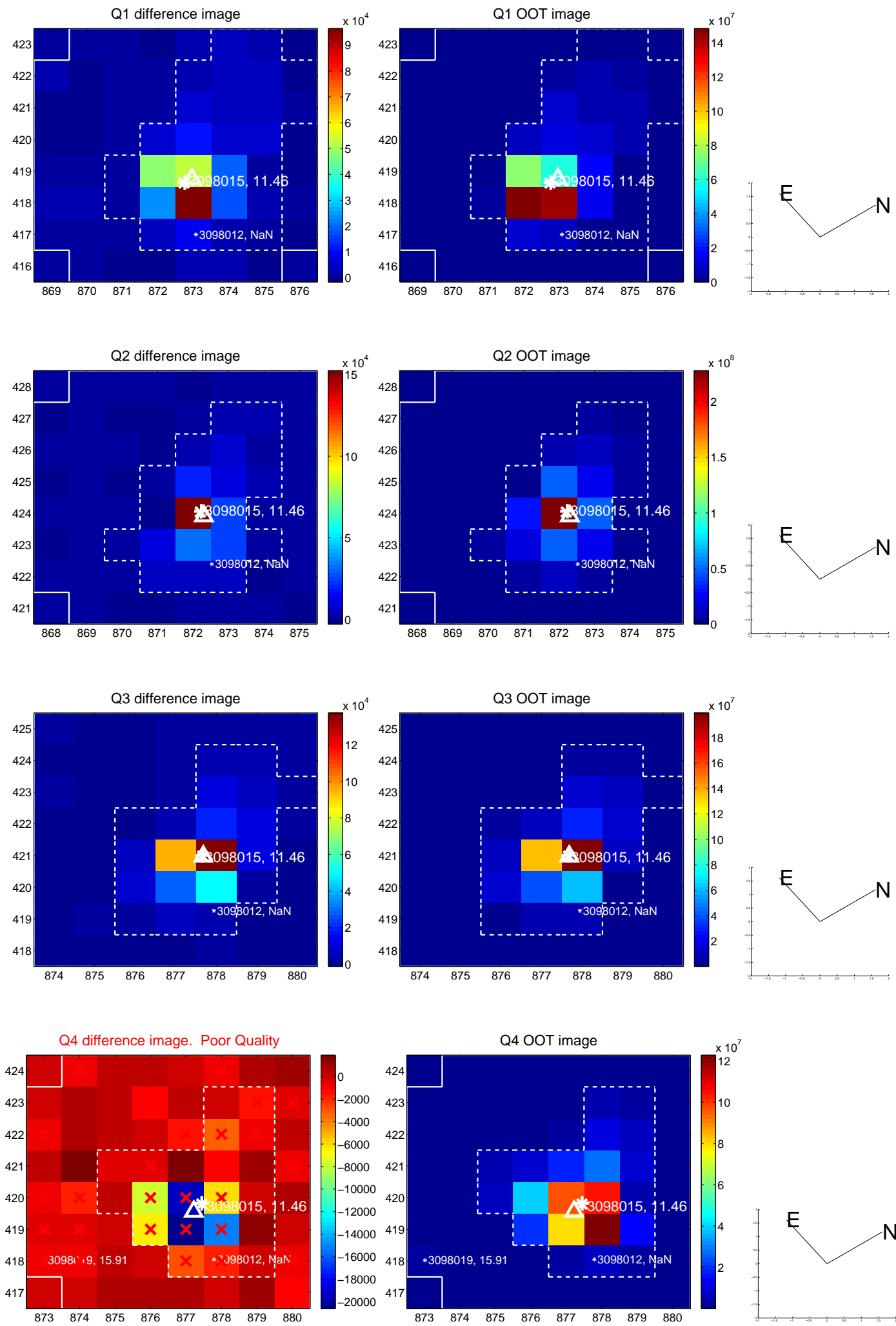
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.122 ± 0.205	0.60	0.072 ± 0.128	0.099 ± 0.217
PRF-fit source offset from KIC position	0.225 ± 0.206	1.09	0.107 ± 0.129	0.197 ± 0.209
photometric centroid source offset	0.19 ± 0.36	0.52	0.09 ± 0.29	0.16 ± 0.38

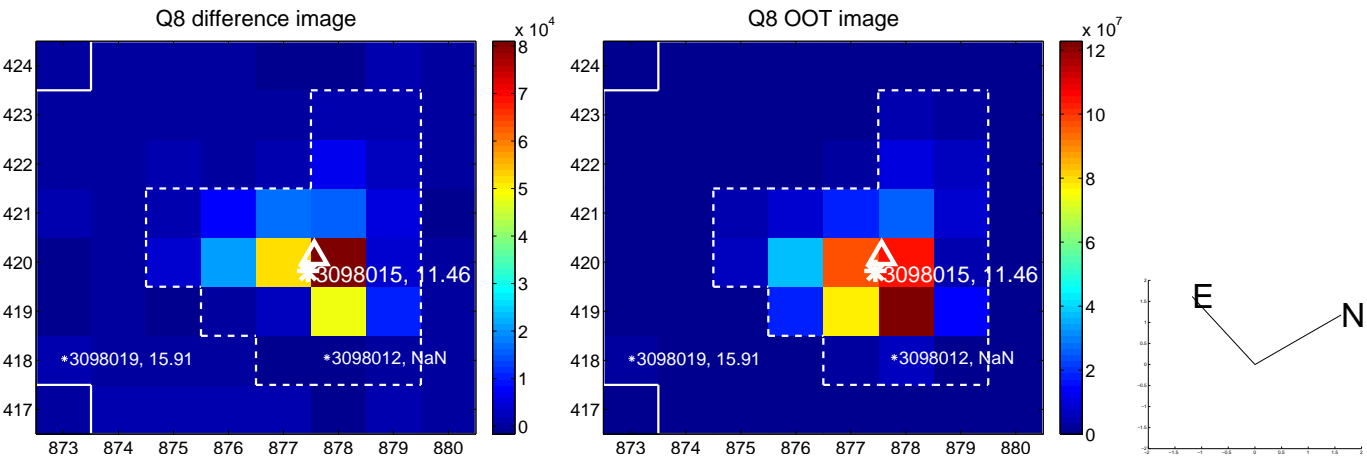
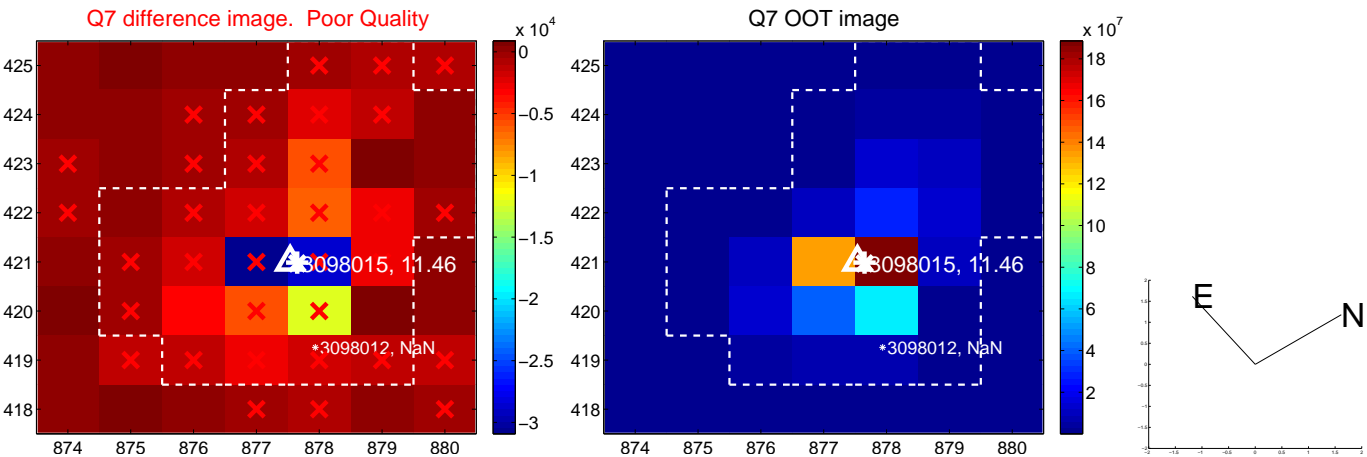
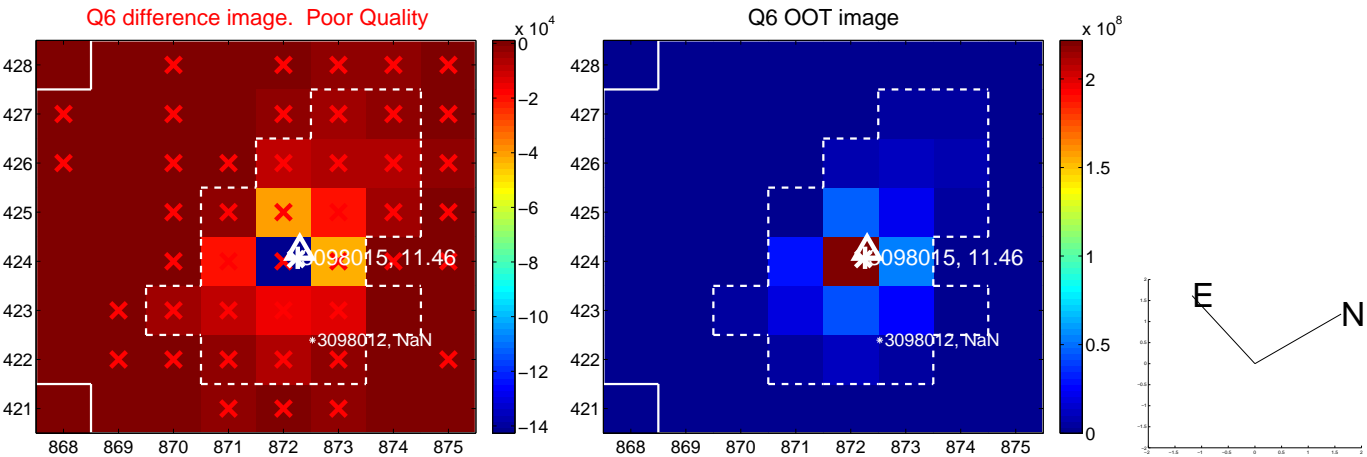
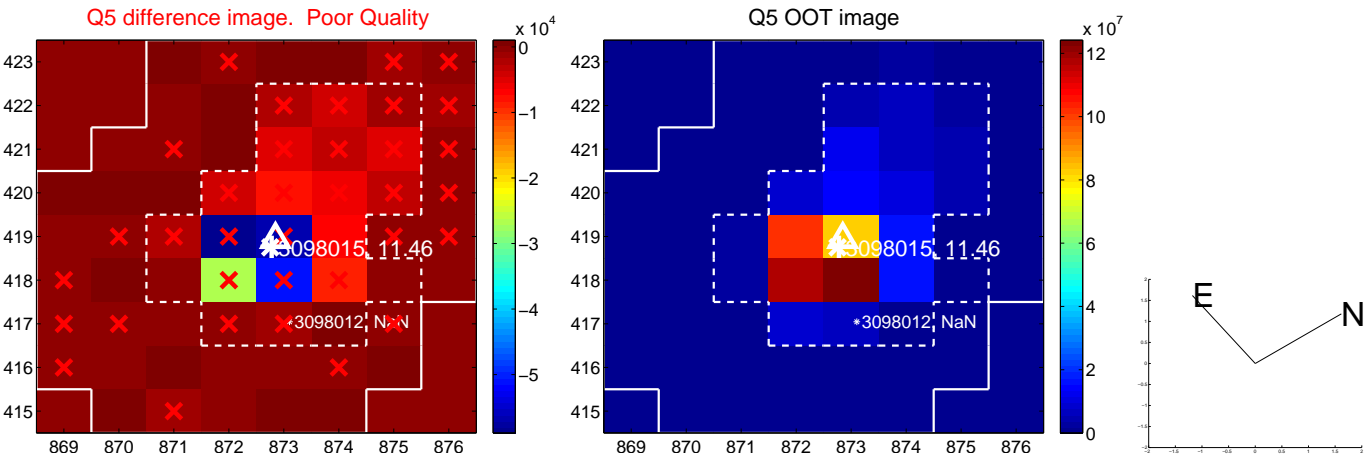


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

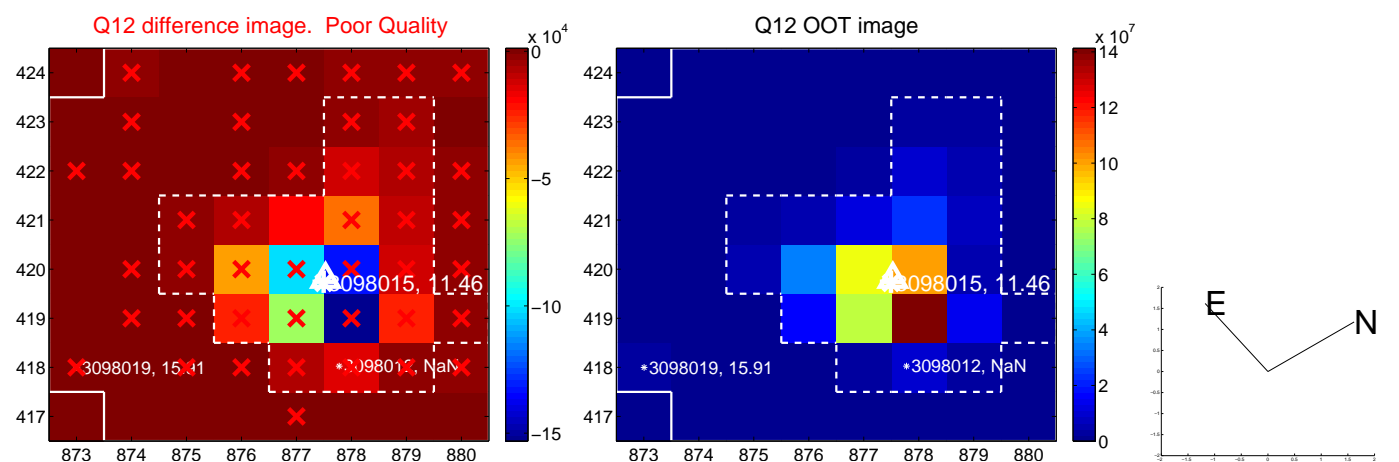
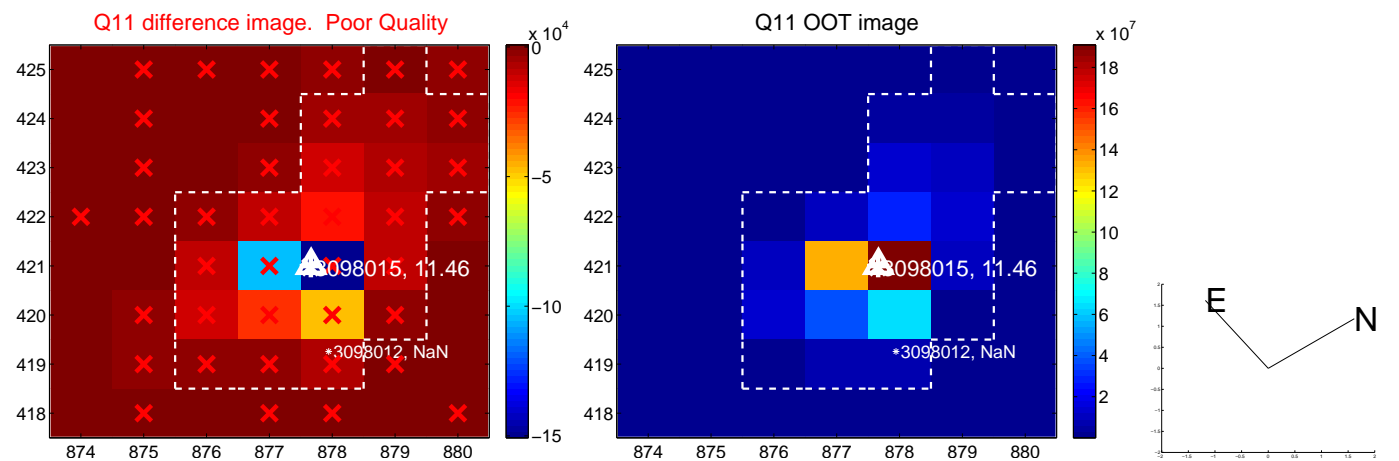
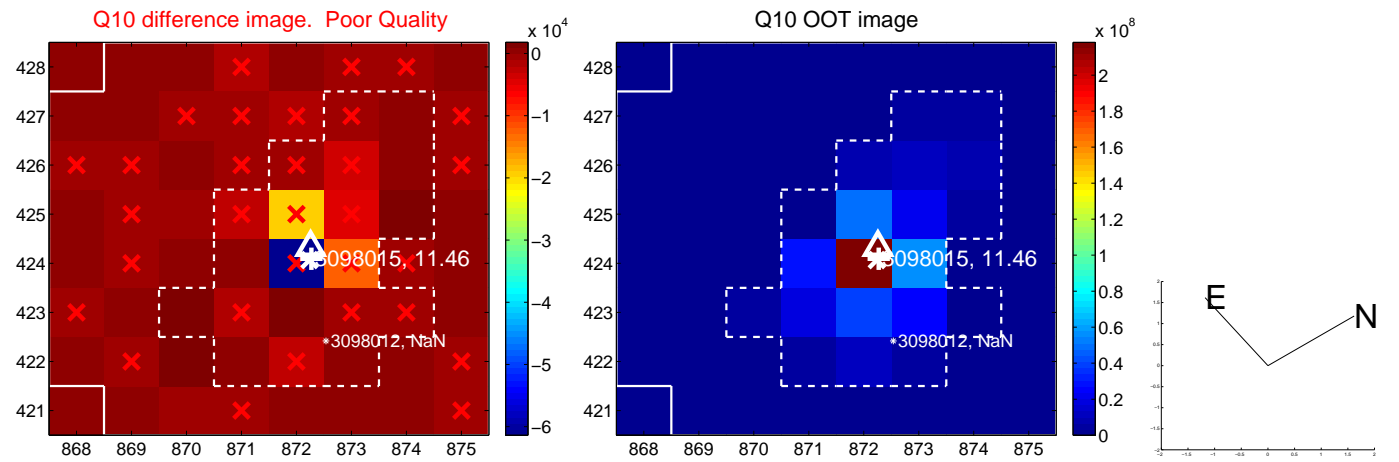
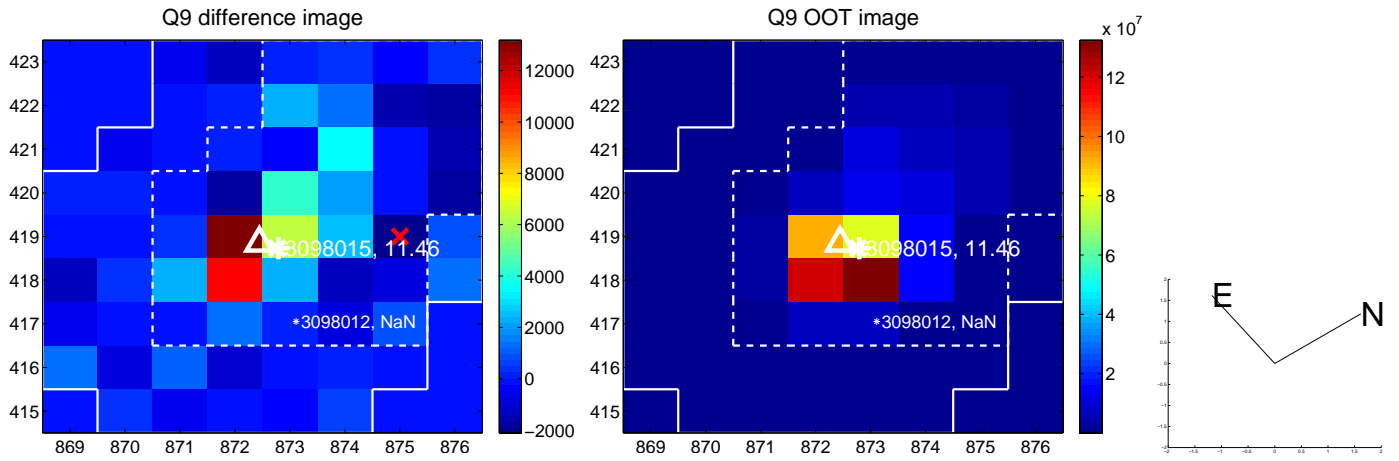
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



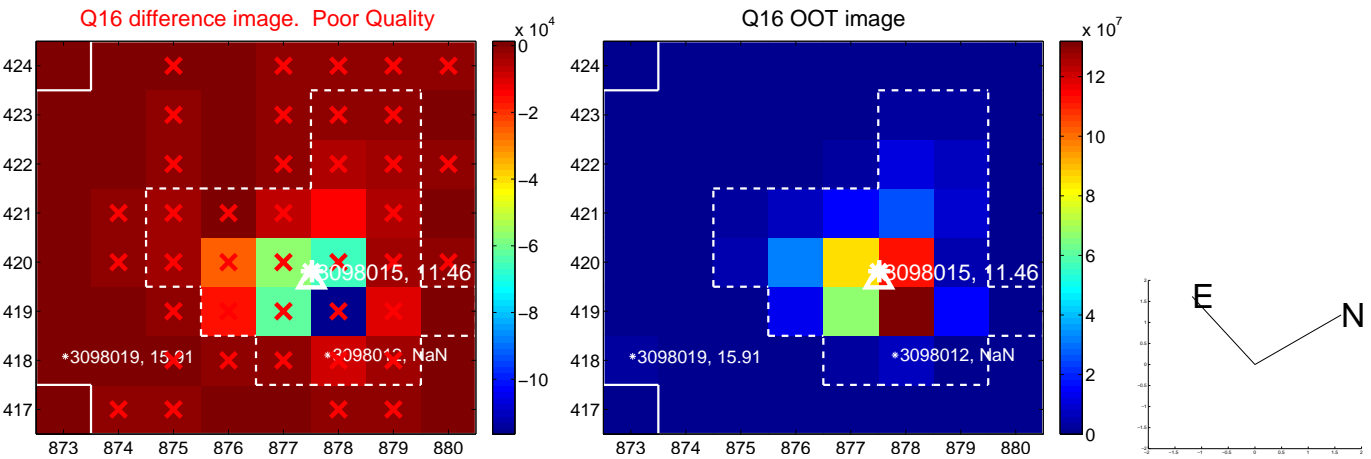
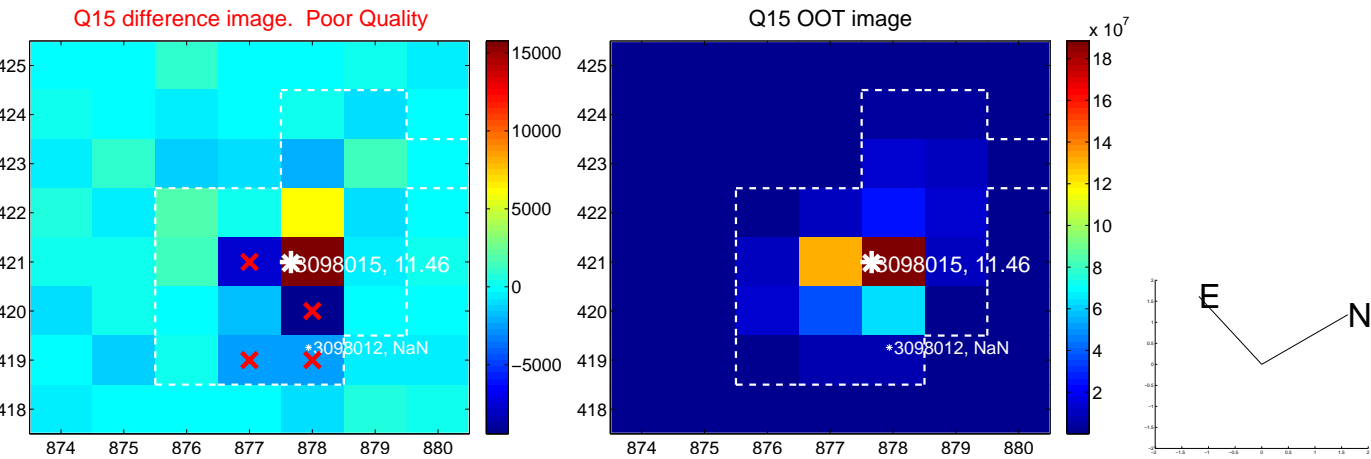
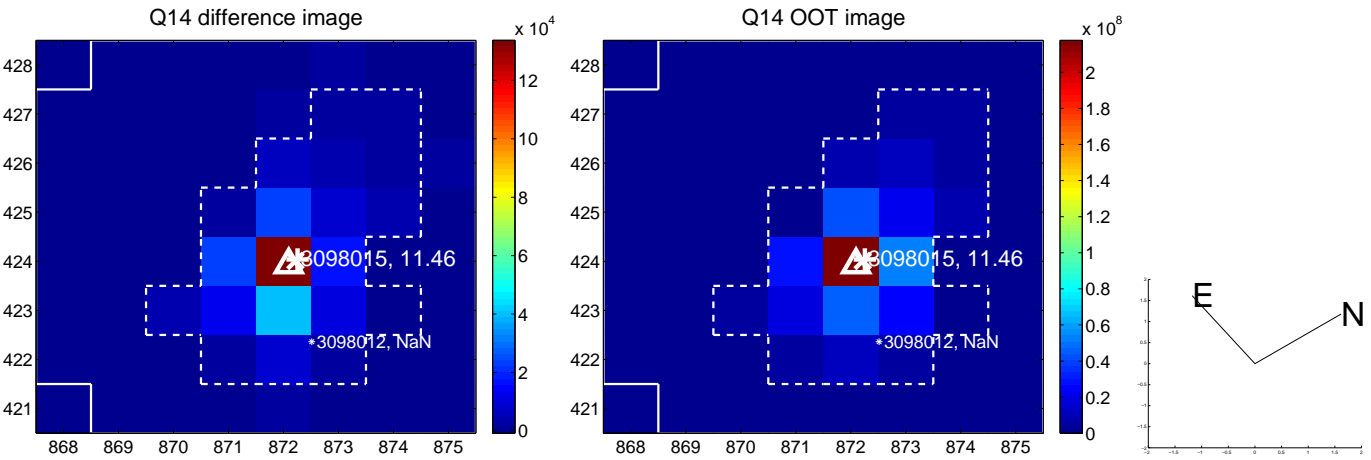
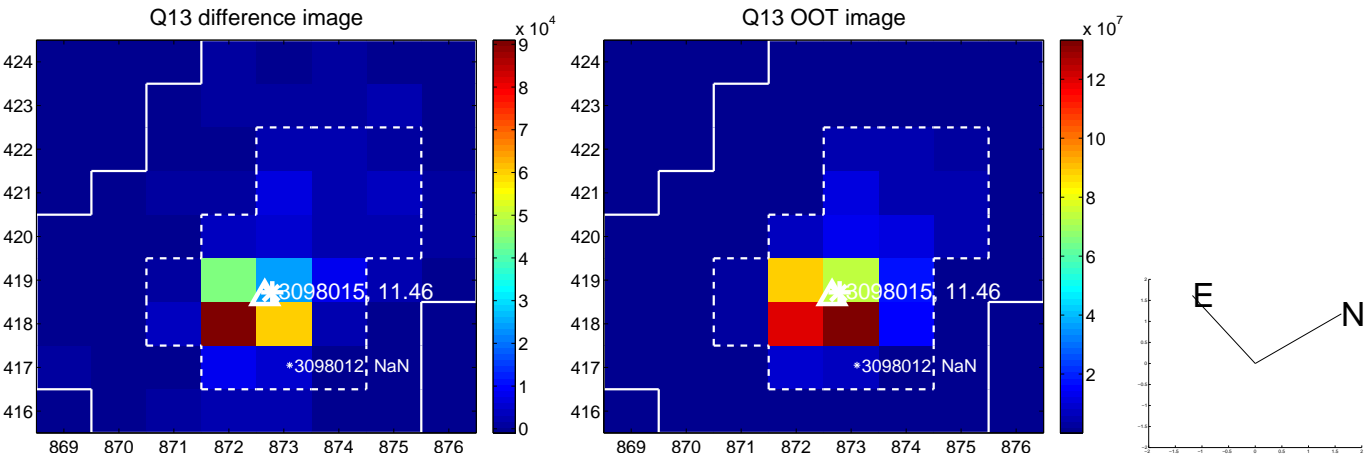
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



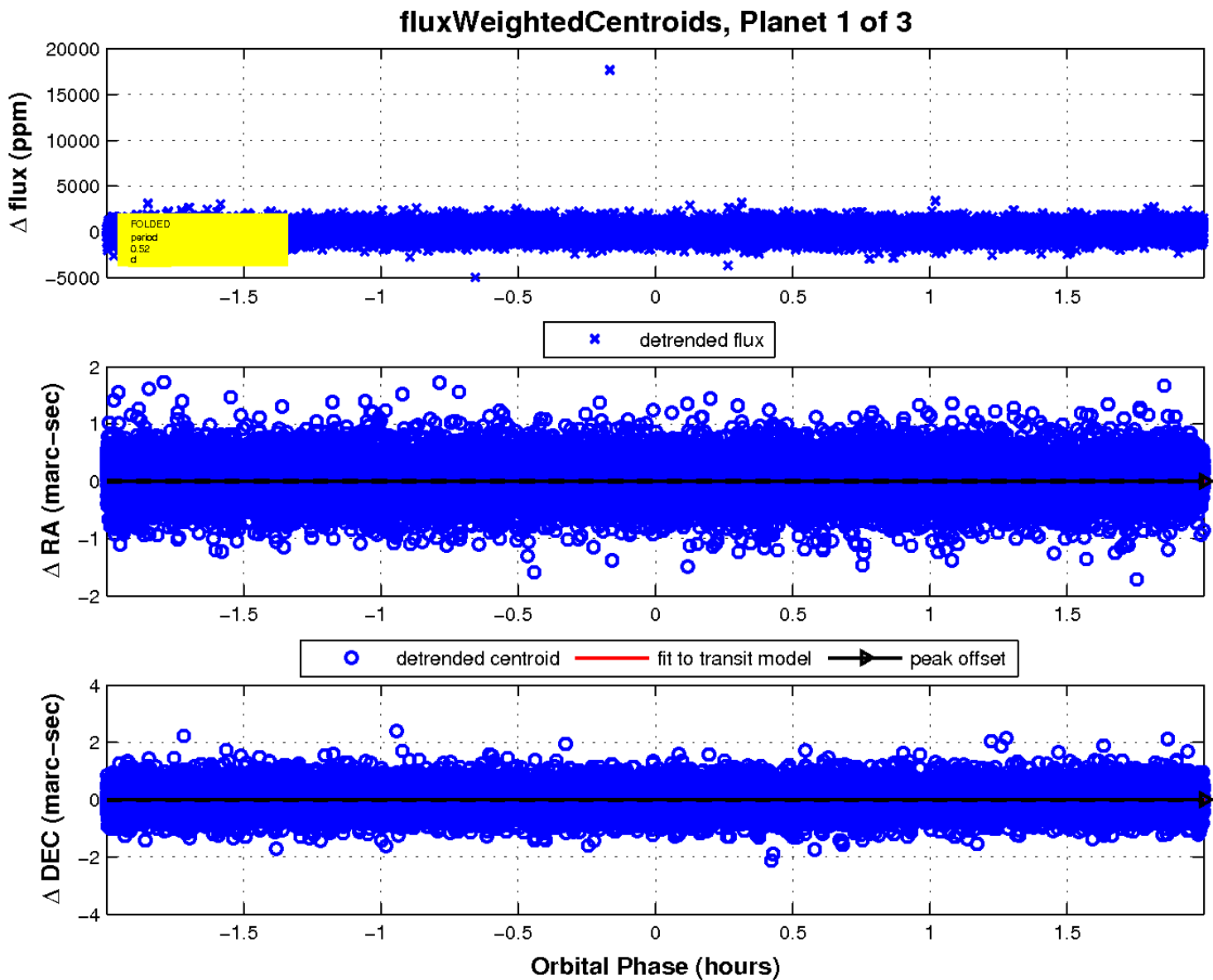
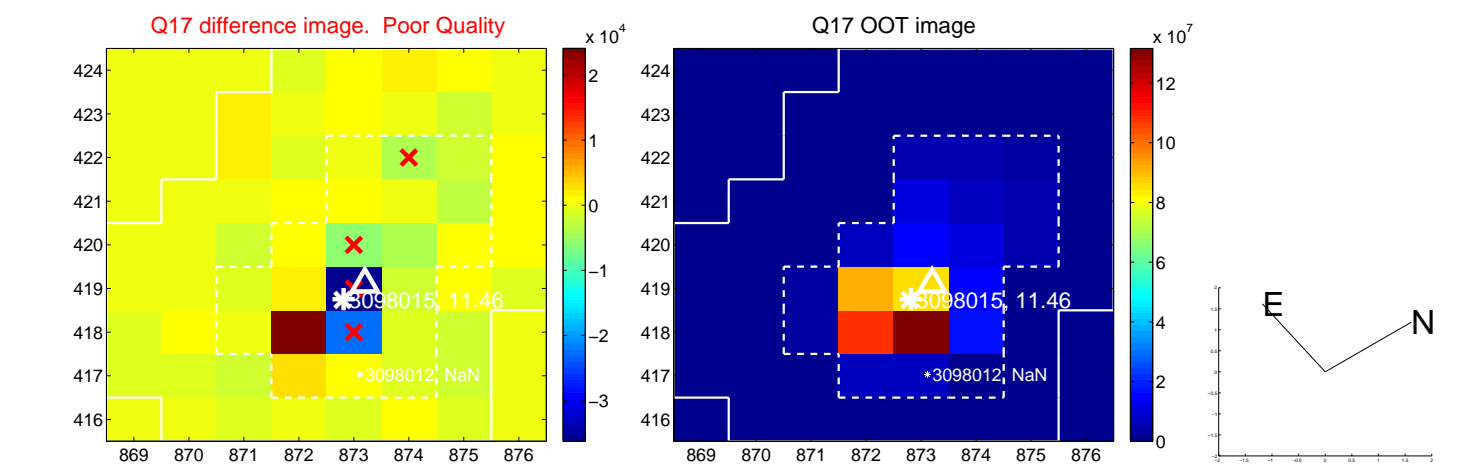
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

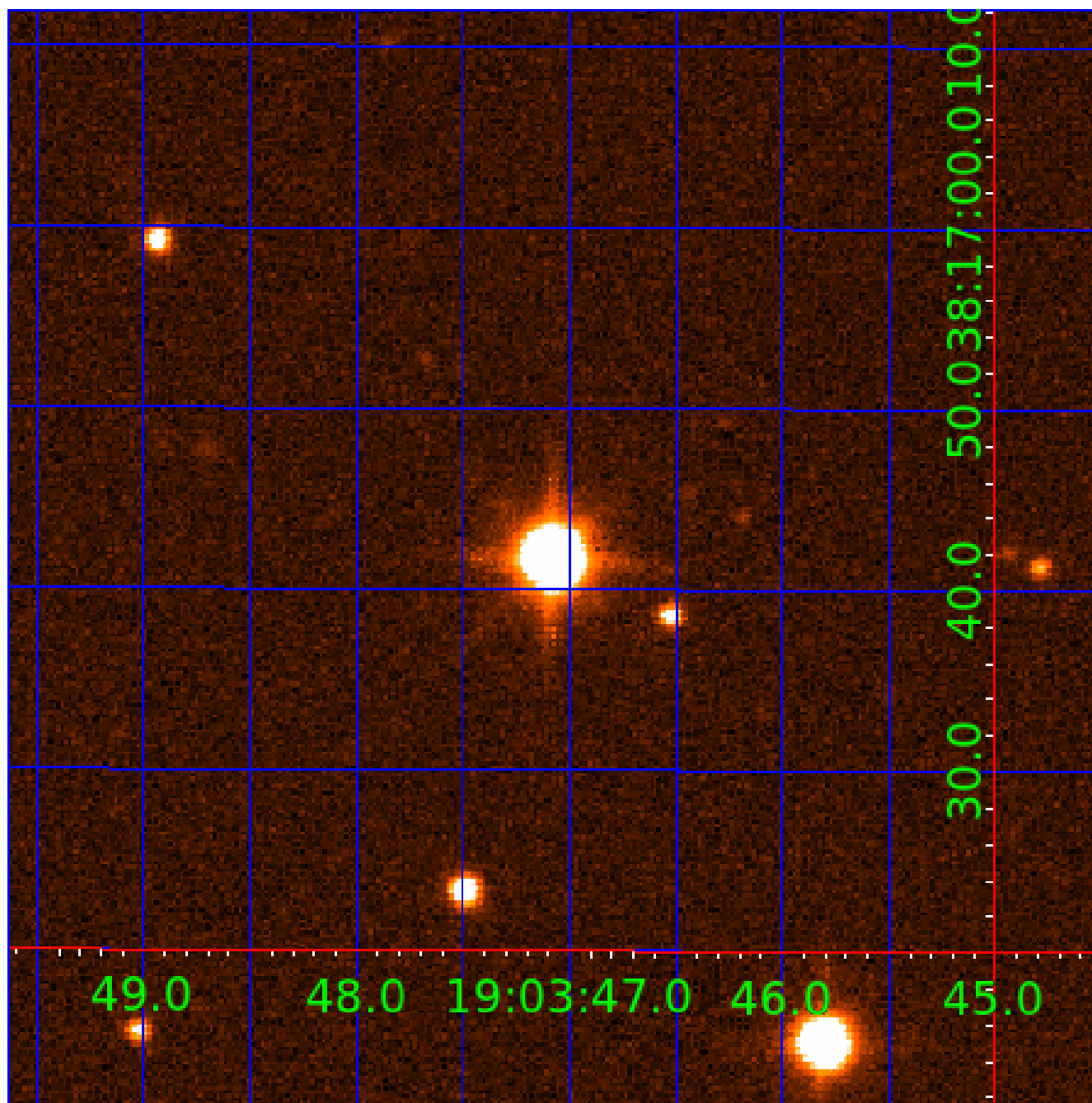


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003098015

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})
003098015-01	OBS	No	0.523868	131.614617	55.5	0.666	13.1	5.4	3.25	7617	2.85	117085.12
003098015-02	OBS	No	0.523869	131.879284	95.0	1.059	9.7	11.5	3.25	7617	3.25	117084.87
003098015-03	OBS	No	0.786125	132.110622	207.8	1.953	8.5	10.9	3.25	7617	5.46	68151.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003098015-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003098015-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD—CENT_SATURATED
003098015-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED

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

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

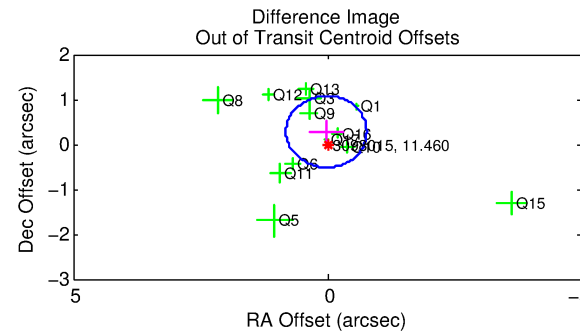
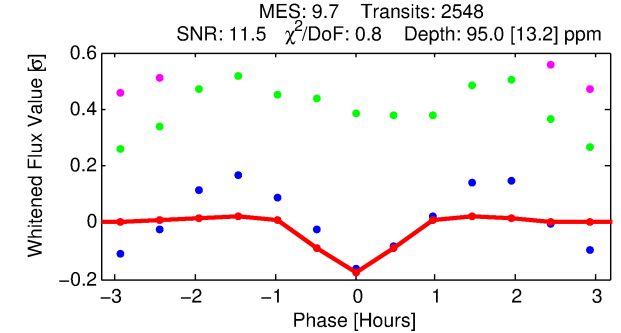
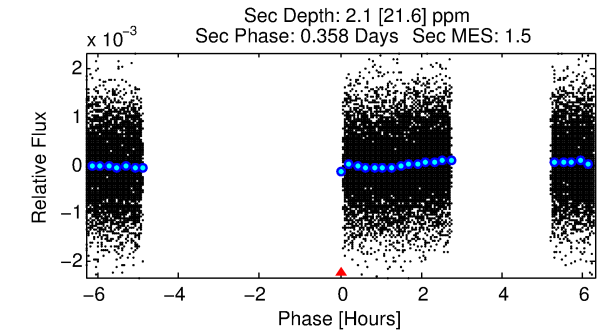
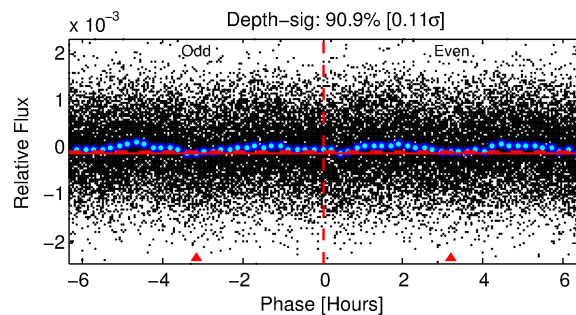
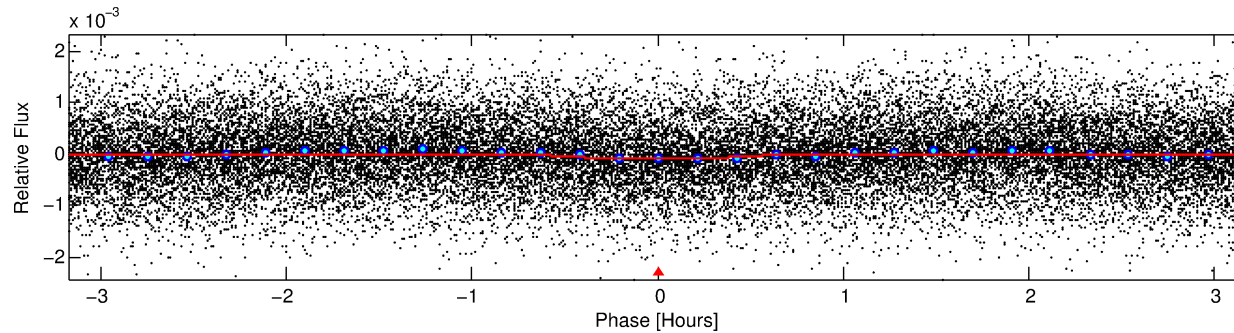
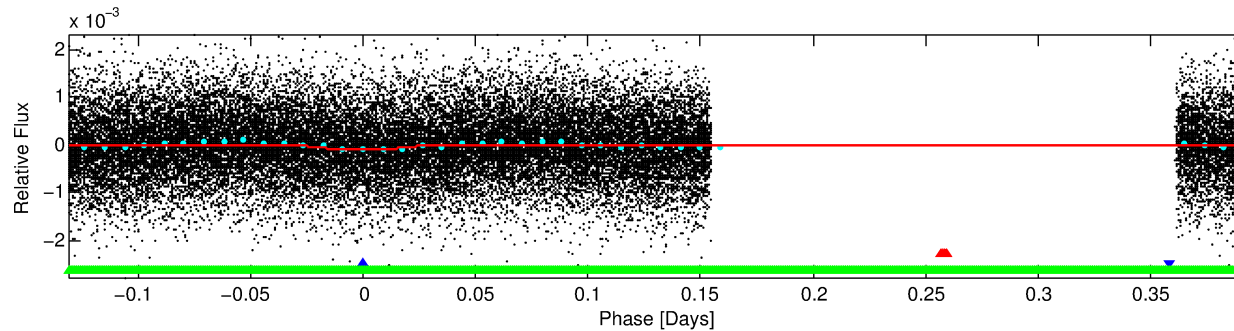
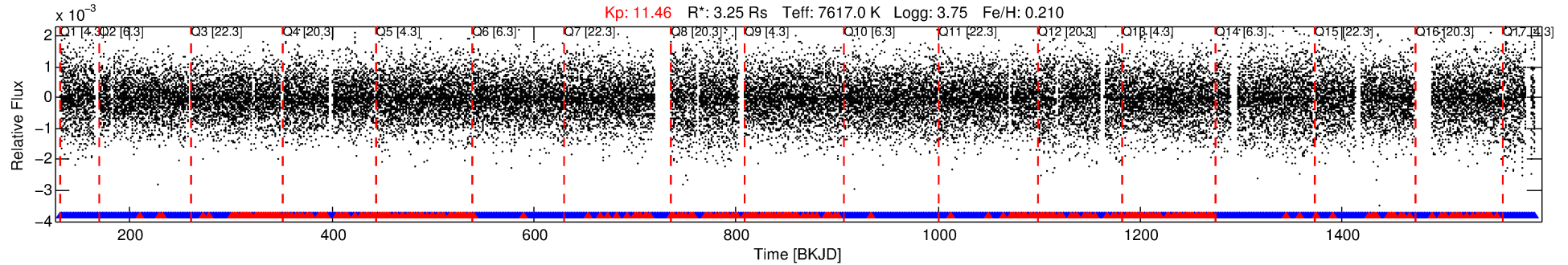
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003098015-02

No Significant Match Found

DV One-Page Summary

KIC: 3098015 Candidate: 2 of 3 Period: 0.524 d



DV Fit Results:

Period = 0.52387 [0.00001] d
Epoch = 131.8793 [0.0017] BKJD
Rp/R* = 0.0092 [0.0066]
a/R* = 3.70 [14.31]
b = 0.30 [12.94]
Seff = 117084.87 [74628.84]
Teq = 4717 [752] K
Rp = 3.25 [2.74] Re
a = 0.0165 [0.0065] AU
Ag = 0.03 [0.31] [-3.14 σ]
Teffp = 3020 [7920] K [-0.21 σ]

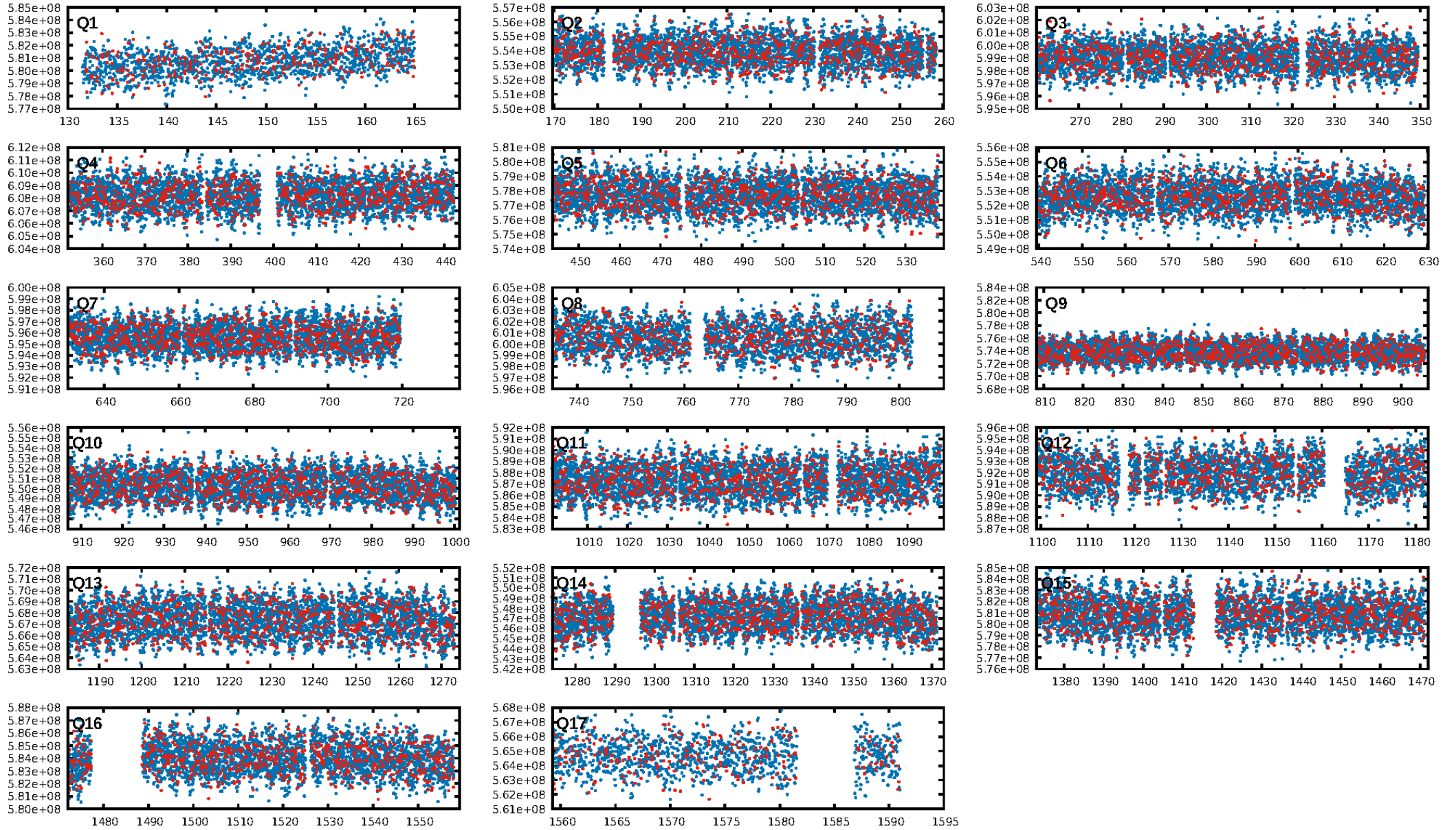
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: 99.5% [2.83 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.54e-09
RollingBand-fgt: 0.84 [2047/2433]
GhostDiagnostic-chr: 3.041
Centroid-sig: 61.8%
Centroid-so: 0.174 arcsec [1.28 σ]
OotOffset-rm: 0.278 arcsec [1.05 σ]
KicOffset-rm: 0.388 arcsec [1.45 σ]
OotOffset-st: 2/3/3/5 [13]
KicOffset-st: 2/3/3/5 [13]
DiffImageQuality-fgm: 0.46 [6/13]
DiffImageOverlap-fno: 1.00 [17/17]

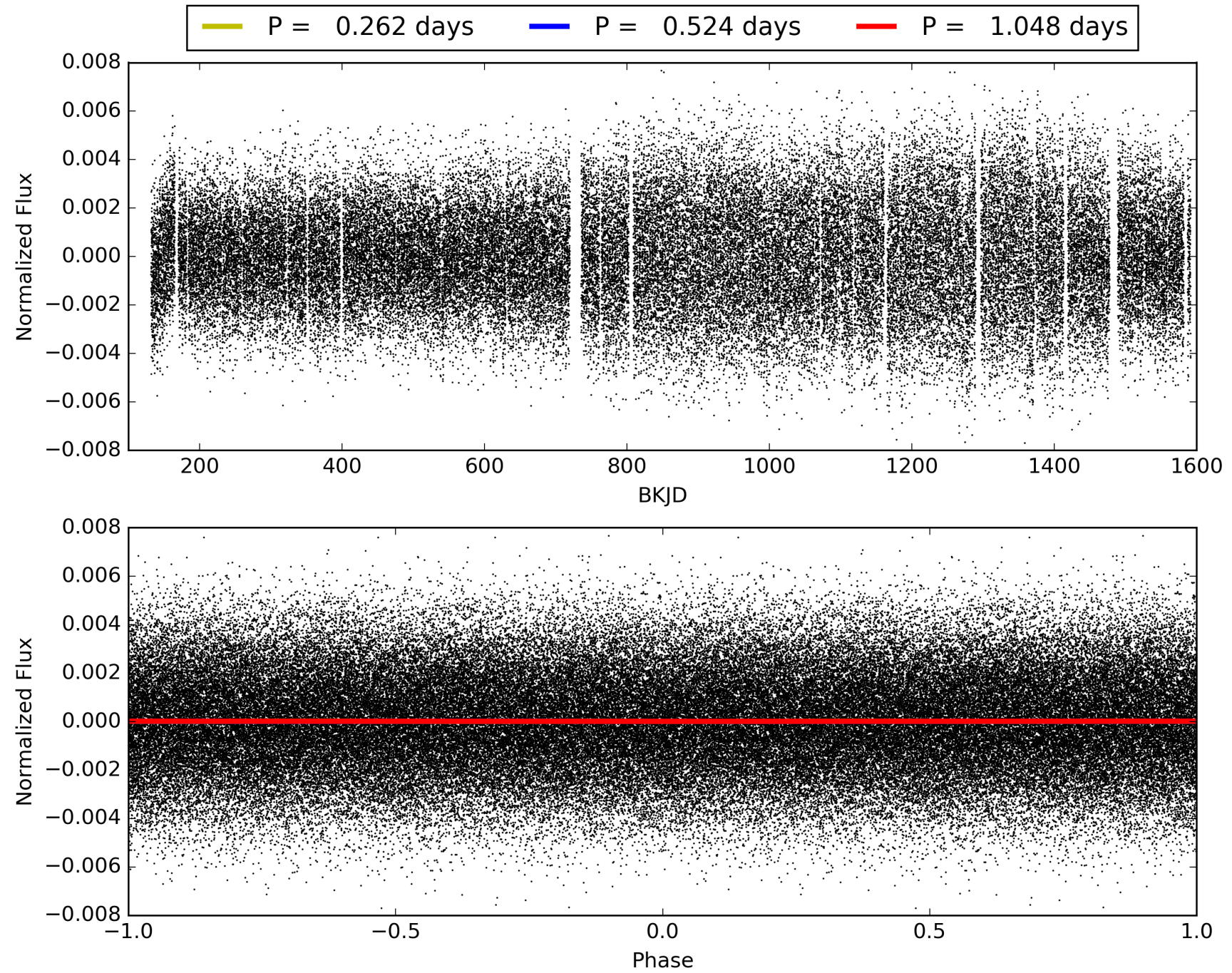
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 17:48:02 Z

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

TCE 003098015-02, PDC Light Curves

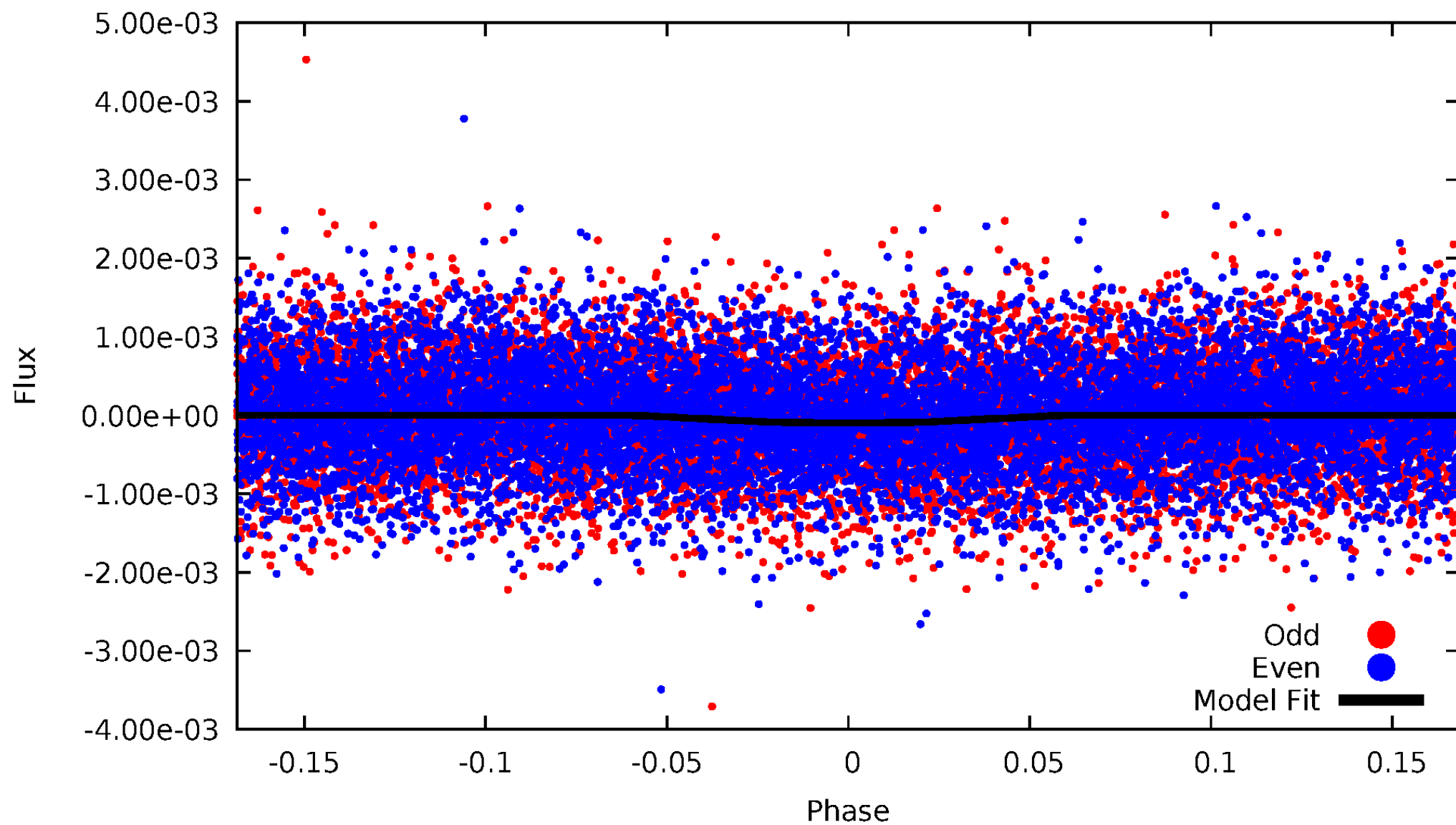


TCE 003098015-02



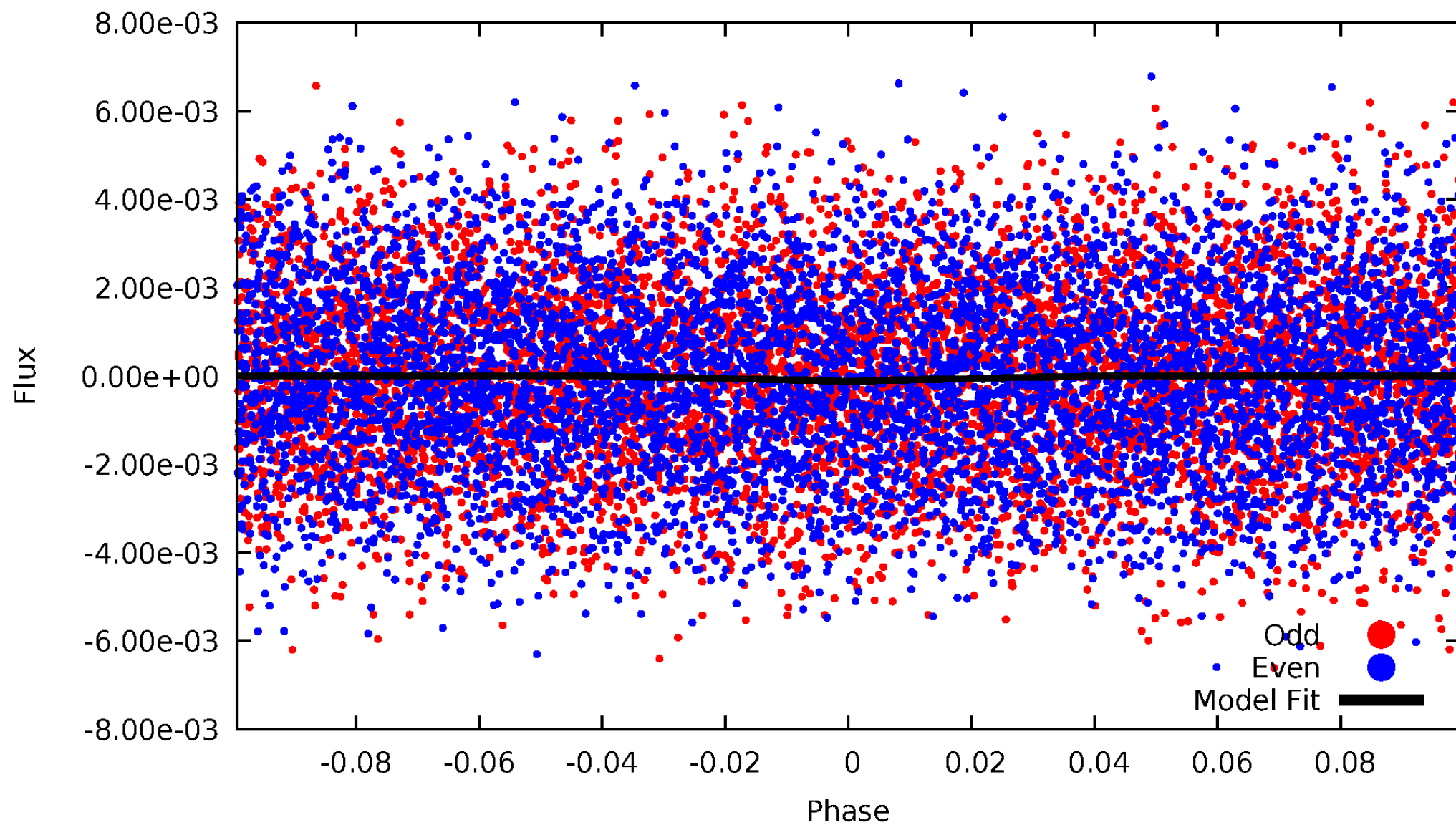
DV Odd/Even

TCE 003098015-02



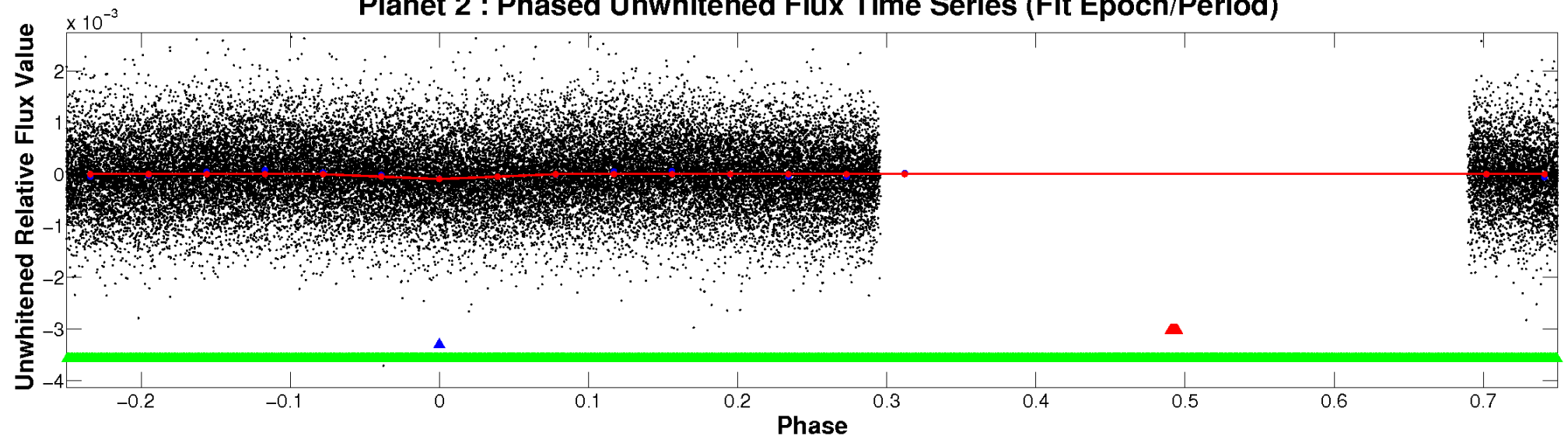
ALT Odd/Even

TCE 003098015-02

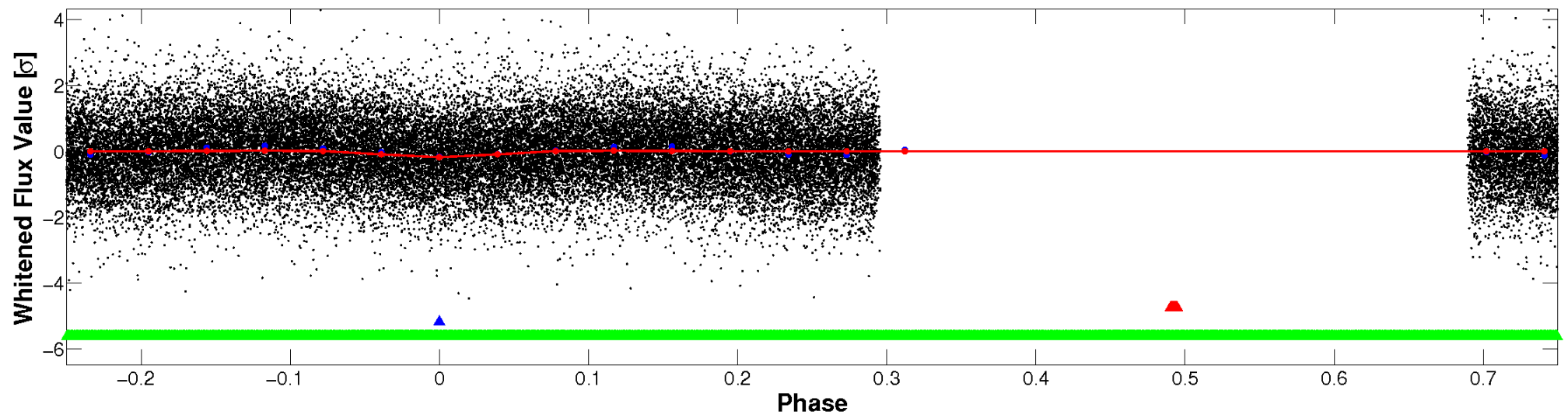


Non-Whitened Vs. Whitened Light Curve

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

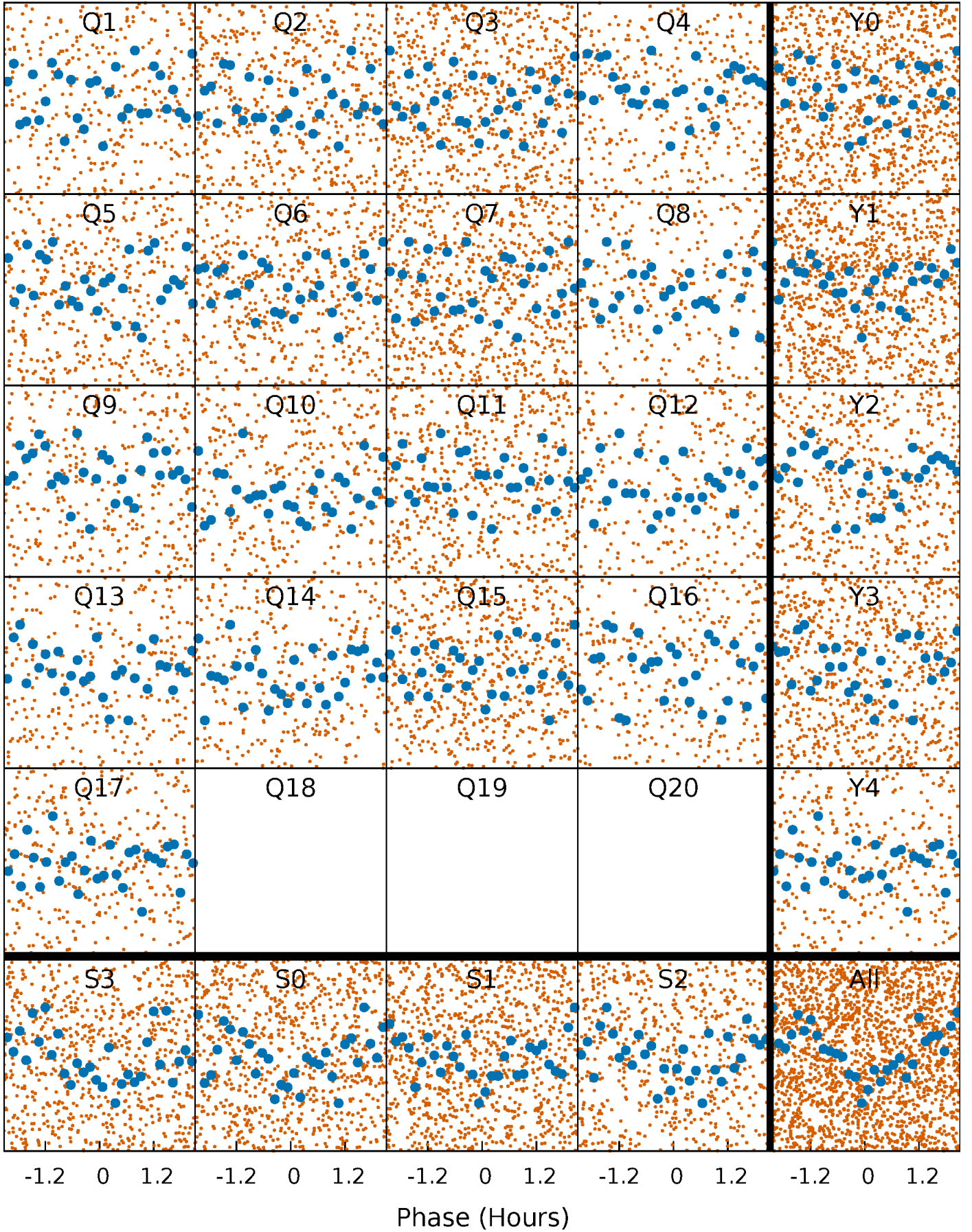


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



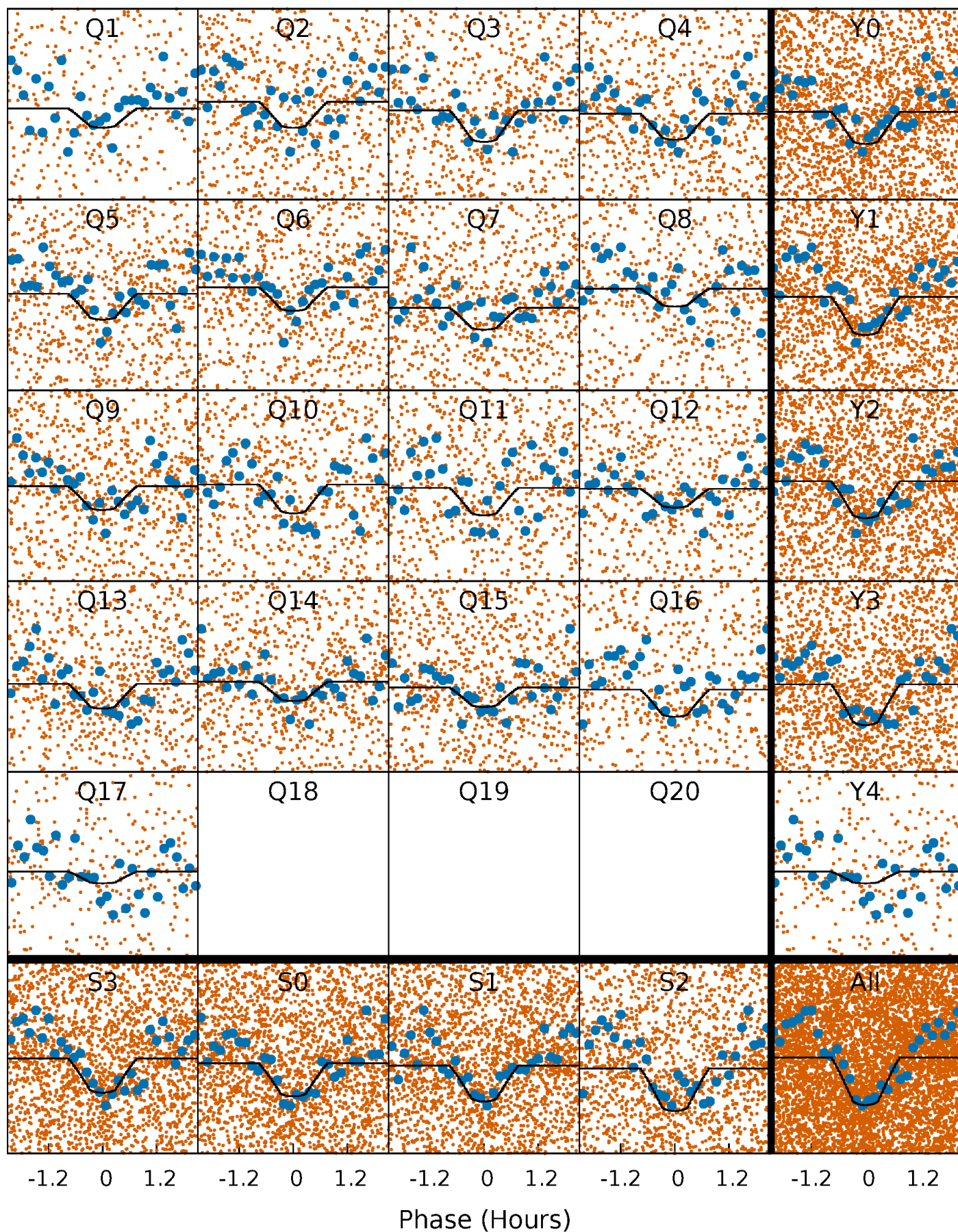
PDC Quarter-Phased Transit Curves

TCE 003098015-02 P= 0.523869 Days $T_0=131.879284$ (BKJD)



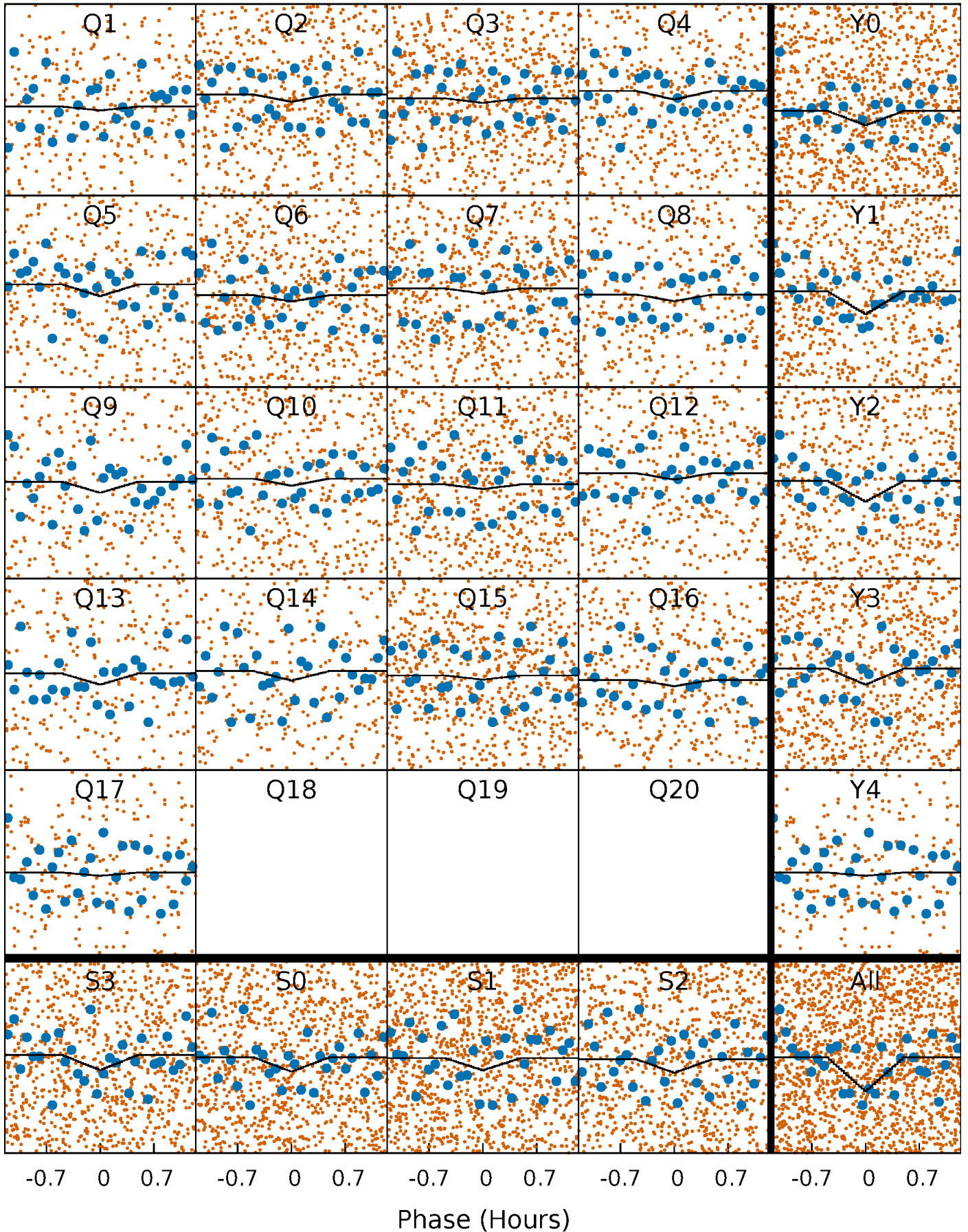
DV Quarter-Phased Transit Curves

TCE 003098015-02 P= 0.523869 Days $T_0=131.879284$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

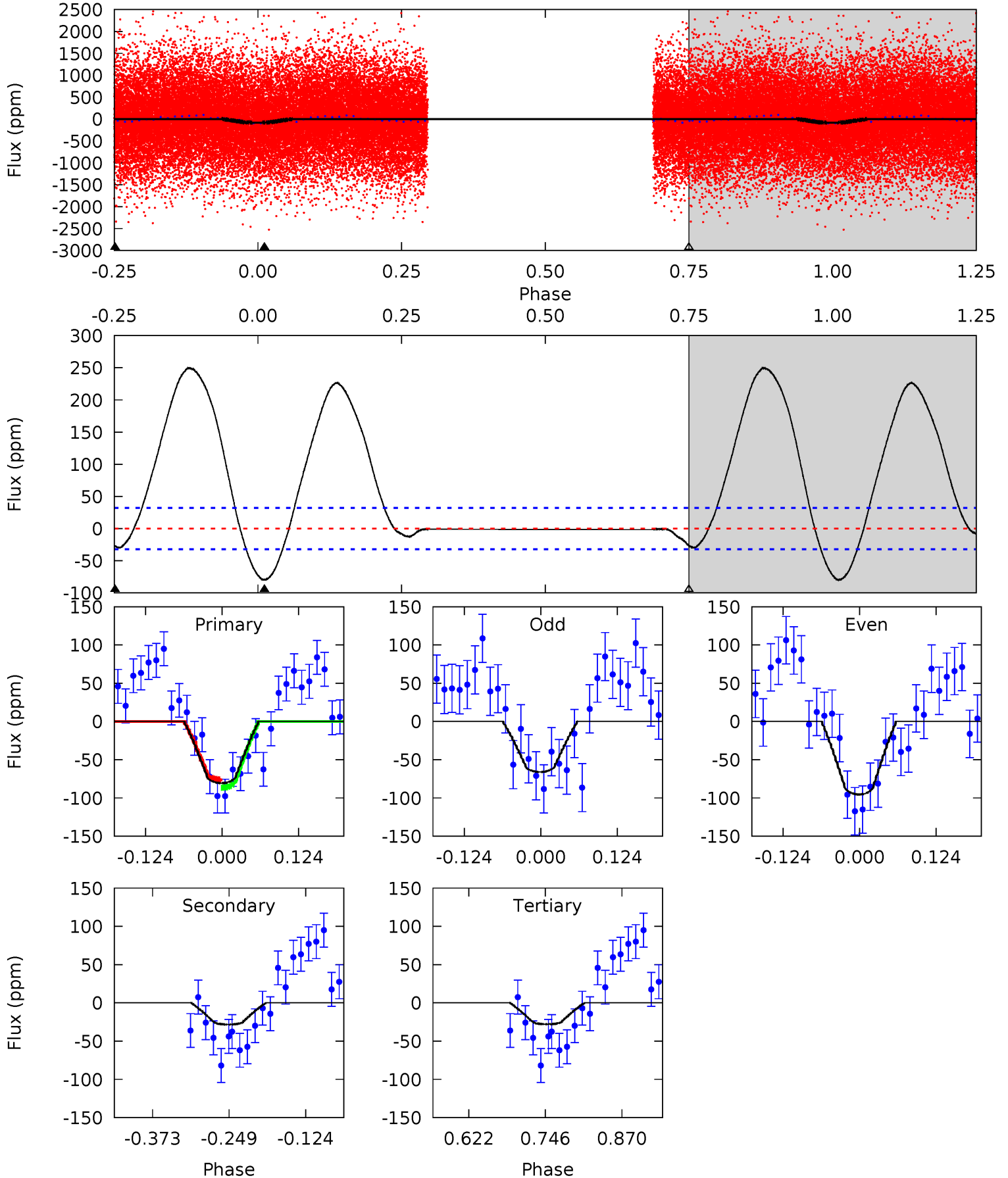
TCE 003098015-02 $P = 0.523874$ Days $T_0 = 131.872629$ (BKJD)



DV Model-Shift Uniqueness Test

003098015-02, P = 0.523869 Days, E = 131.355415 Days

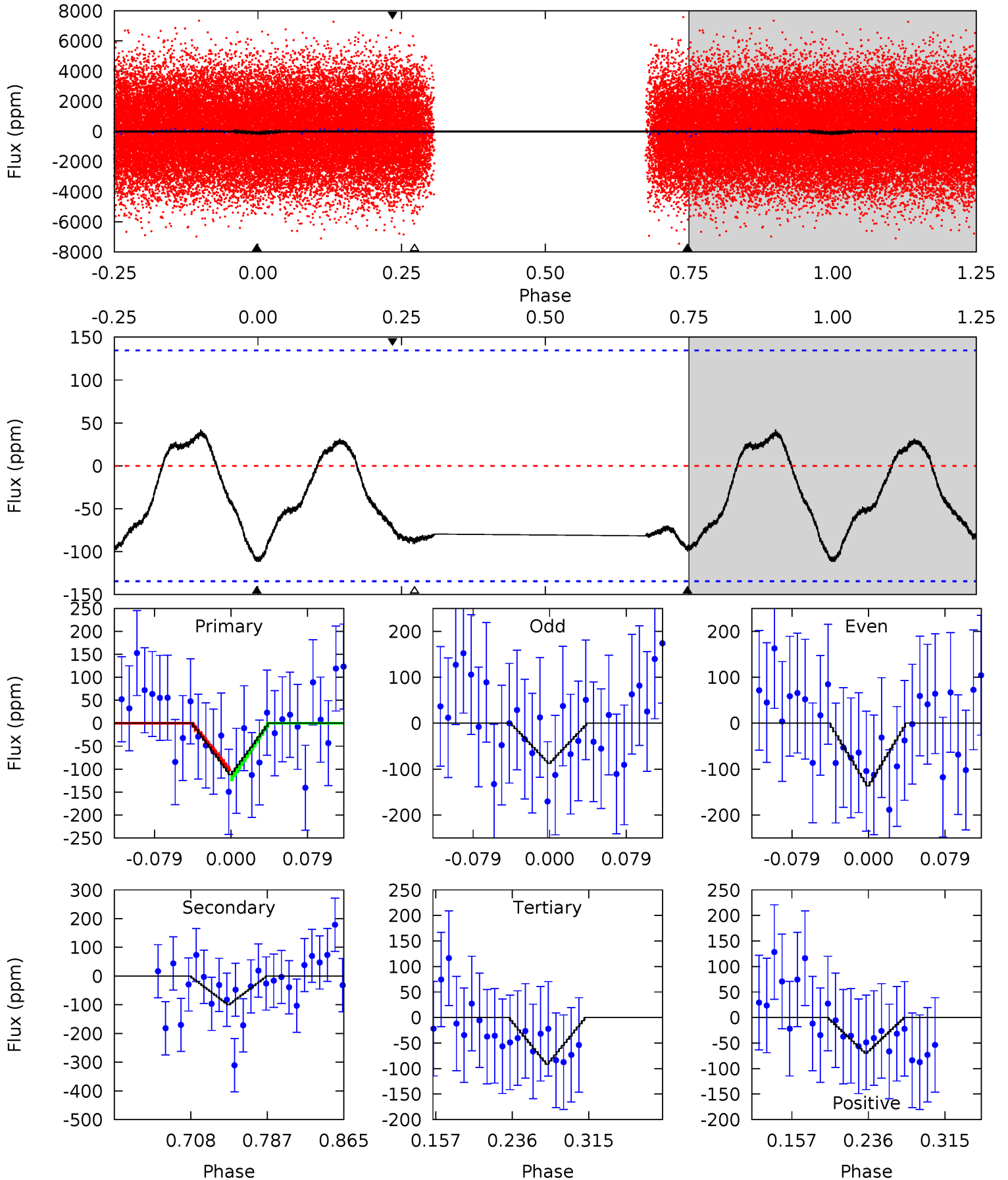
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	3.98	3.93	0	4.52	1.54	12.9	7.42	11.3	0.05	3.98	2.07	1.03	0.76	0.71



Alt Model-Shift Uniqueness Test

003098015-02, P = 0.523874 Days, E = 131.348755 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.84	3.42	3.13	-2.40	4.61	1.76	1.48	0.71	6.24	0.29	5.82	0.85	1.20	0.28	0.36



Stellar Parameters For KIC 003098015

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7617^{+211}_{-344}	$3.753^{+0.352}_{-0.117}$	$0.210^{+0.150}_{-0.400}$	$3.252^{+0.598}_{-1.394}$	$2.185^{+0.245}_{-0.573}$	$0.089^{+0.266}_{-0.034}$
	+3%/-5%	+9%/-3%	+71%/-190%	+18%/-43%	+11%/-26%	+297%/-38%
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 003098015-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-28 ± 7	$3.07^{+2.15}_{-1.80}$	6440^{+463}_{-724}	4199^{+4709}_{-8821}	$0.407^{+2.331}_{-0.263}$
Alt.	-100 ± 29	$3.59^{+2.41}_{-1.83}$	6394^{+496}_{-688}	6453^{+4299}_{-2246}	$1.106^{+3.505}_{-0.713}$

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 $A_{obs} \gg 1.0$

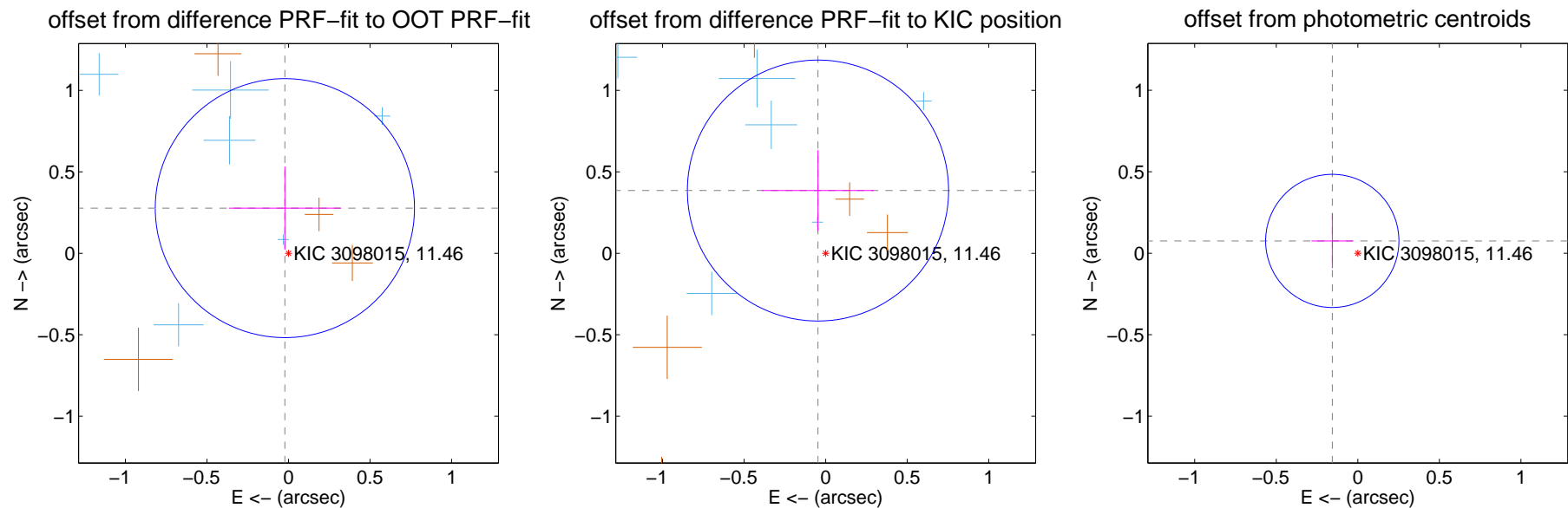
DV Centroid Data

Supplemental centroid analysis for 003098015-02. **Kepler magnitude: 11.46.** Transit SNR 11.51

There are 6 quarters with good PRF difference image offsets

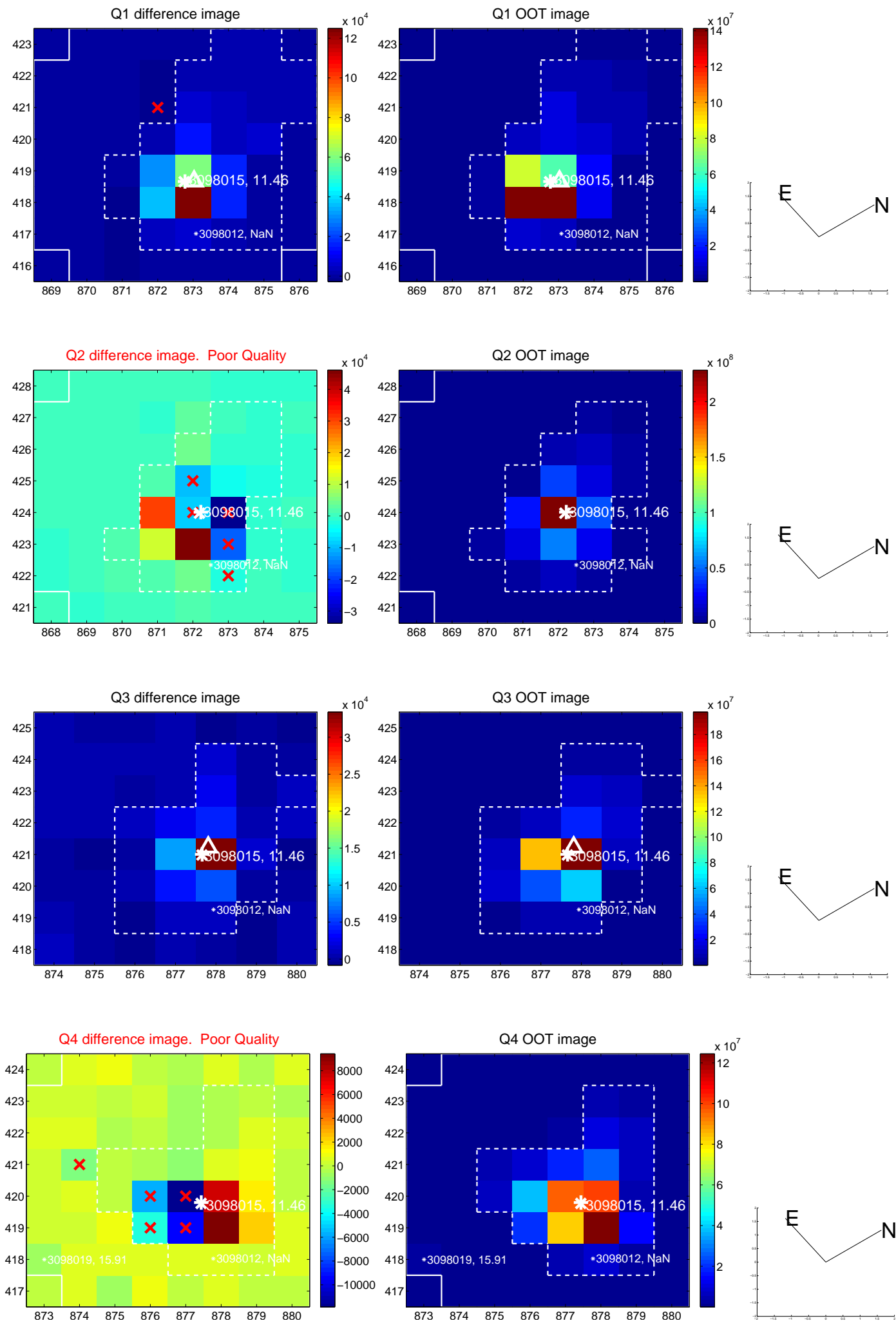
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.278 ± 0.265	1.05	0.022 ± 0.342	0.277 ± 0.255
PRF-fit source offset from KIC position	0.388 ± 0.267	1.45	0.047 ± 0.344	0.385 ± 0.248
photometric centroid source offset	0.17 ± 0.14	1.28	0.16 ± 0.13	0.08 ± 0.17

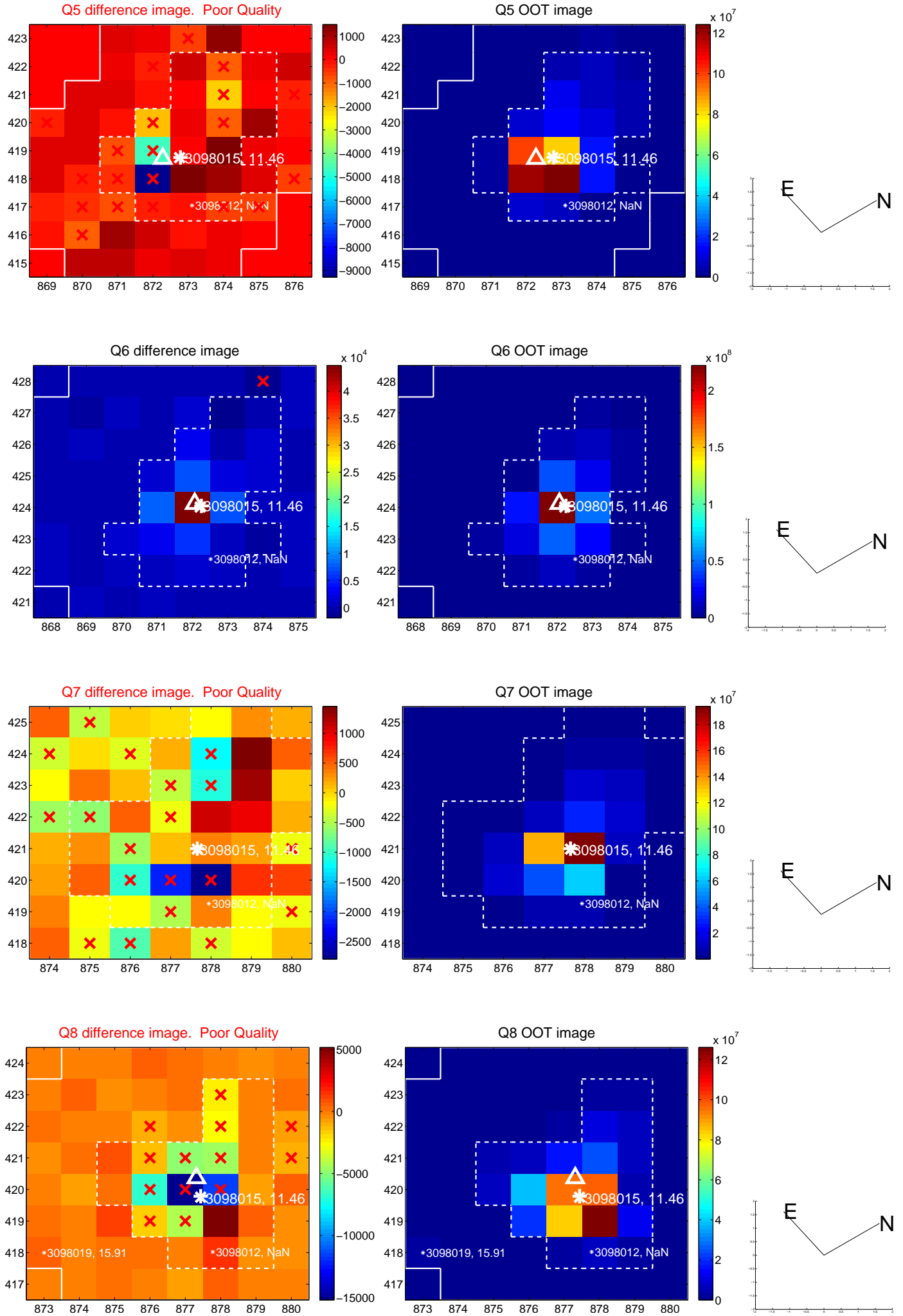


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

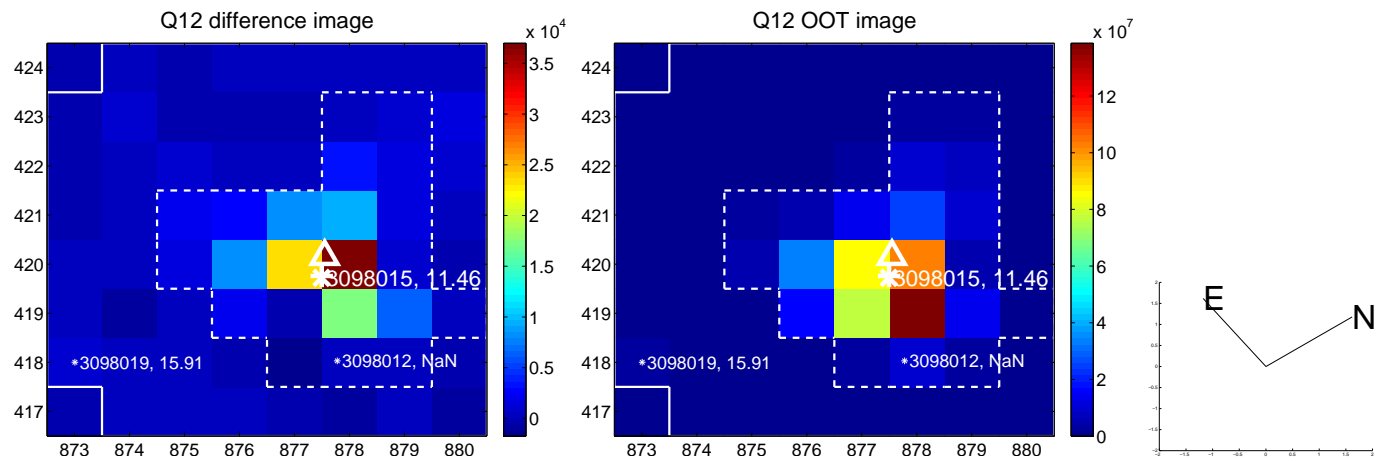
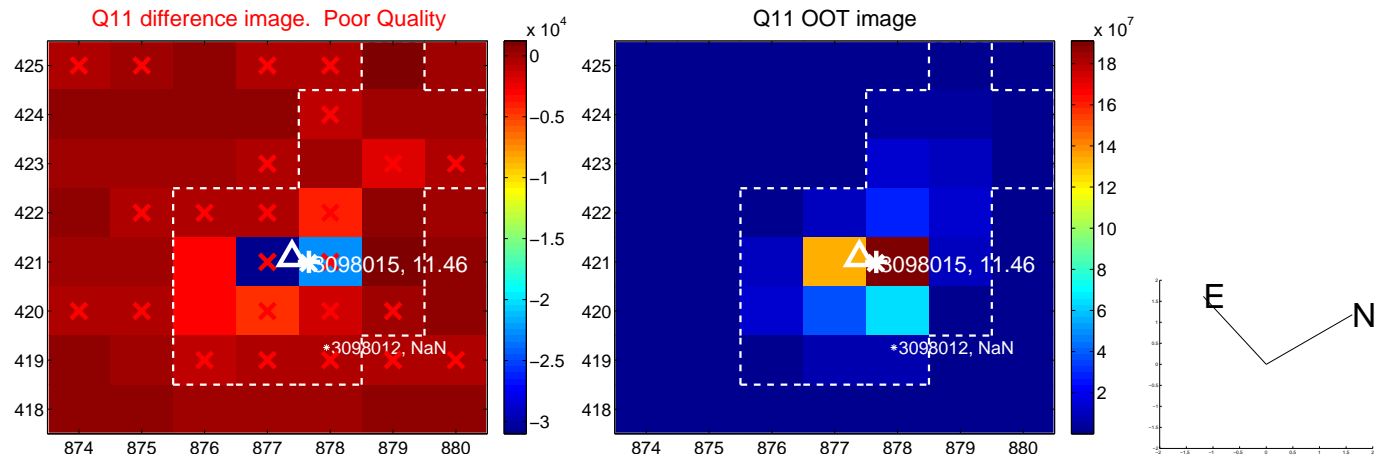
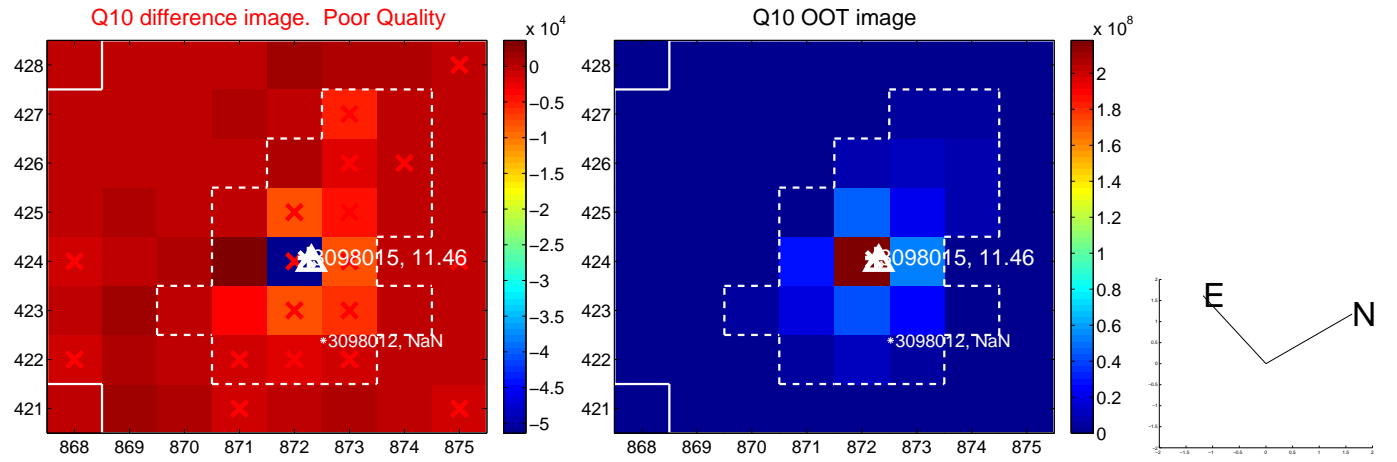
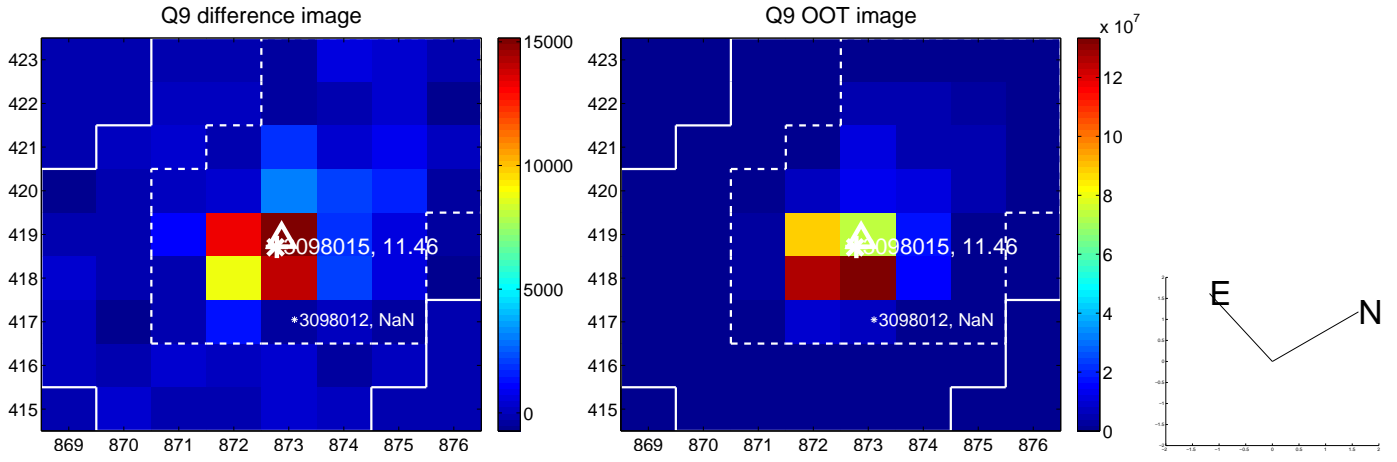
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



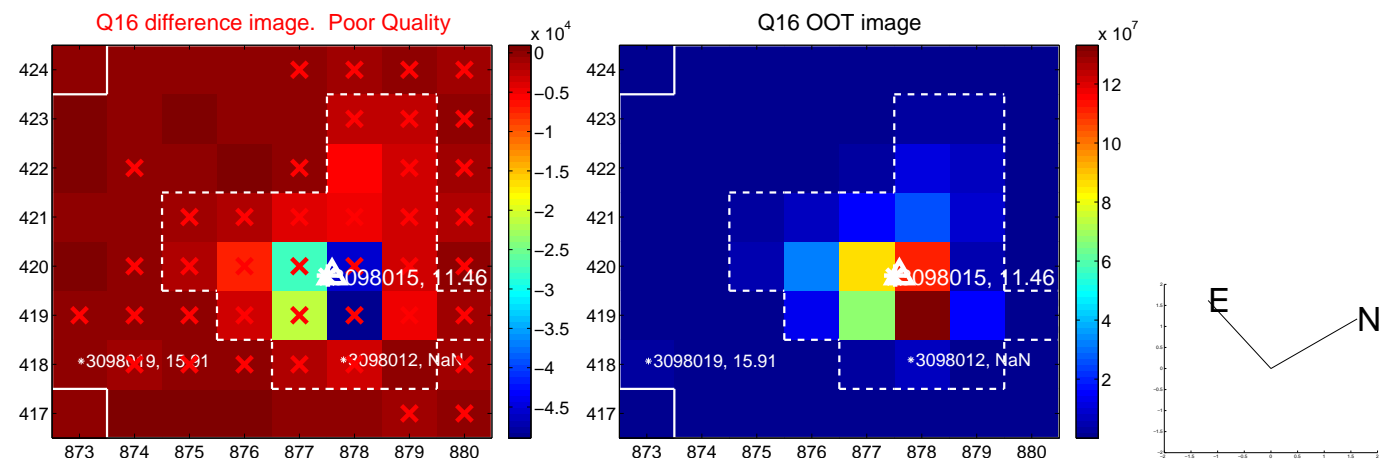
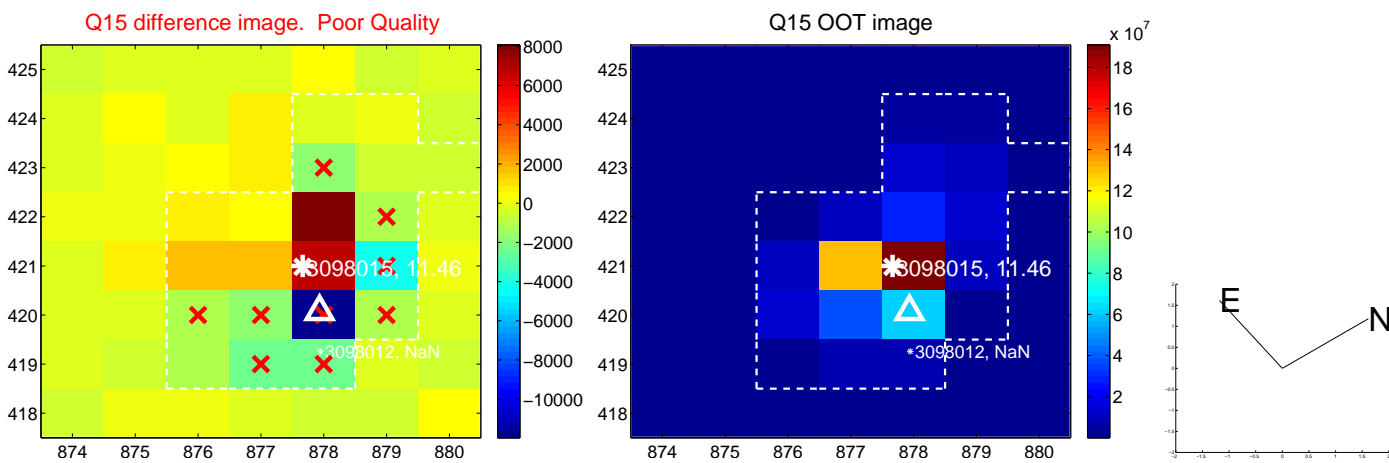
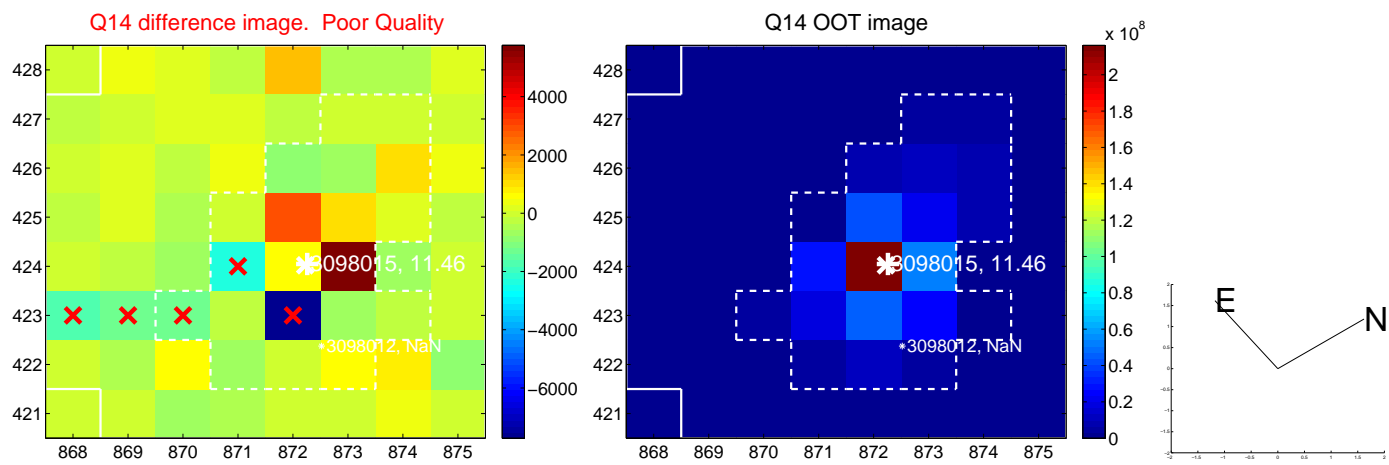
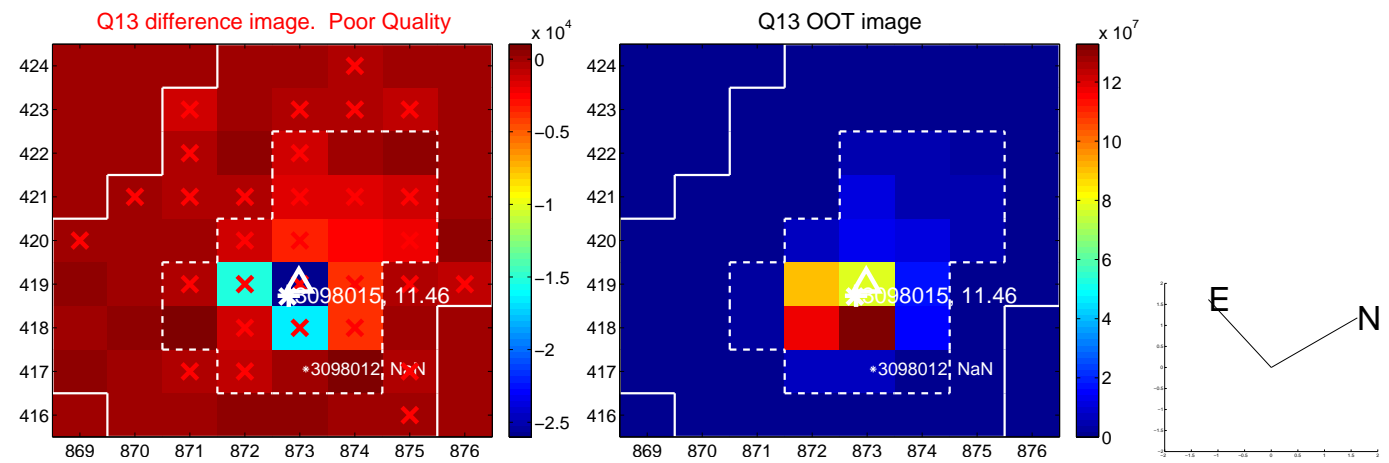
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



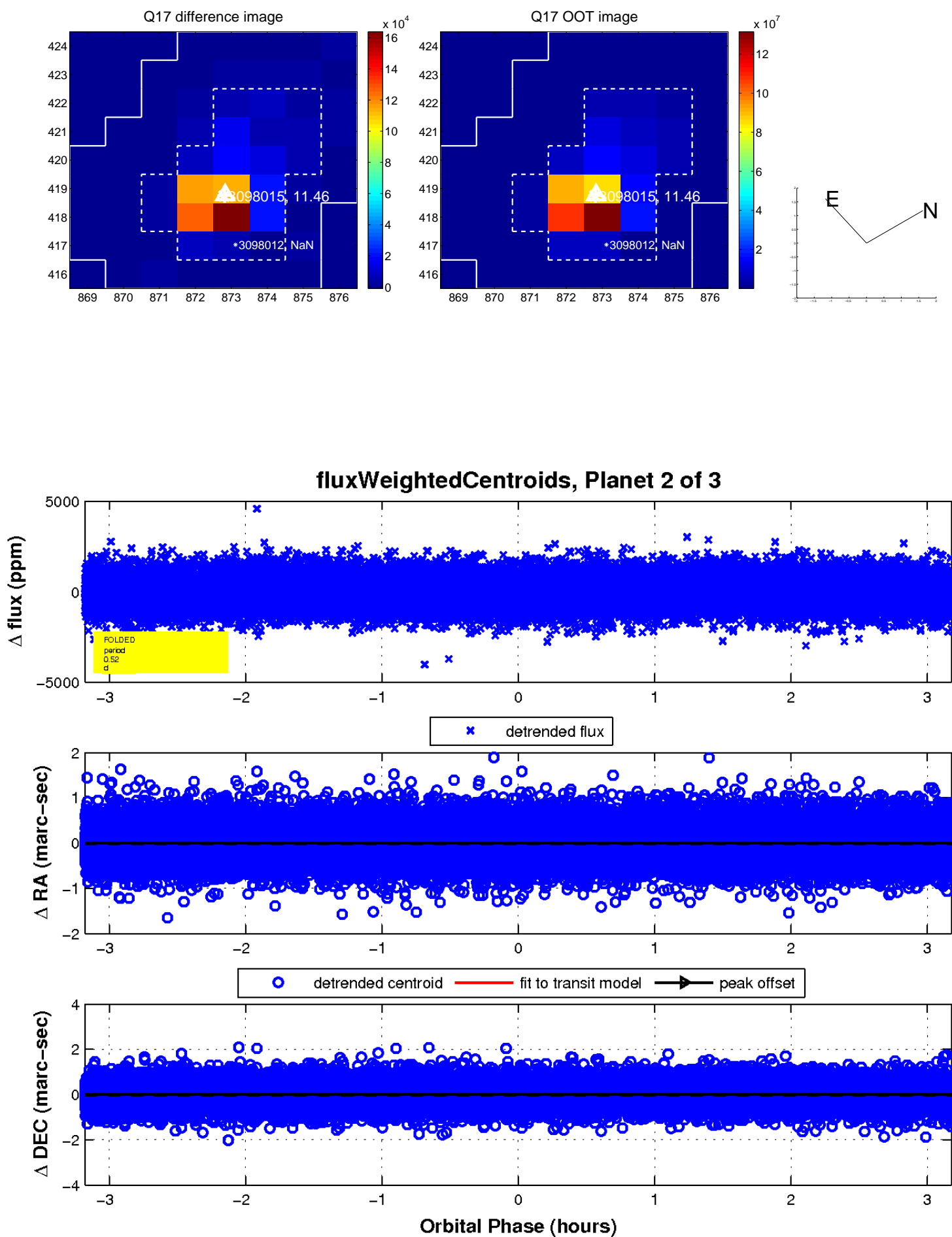
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

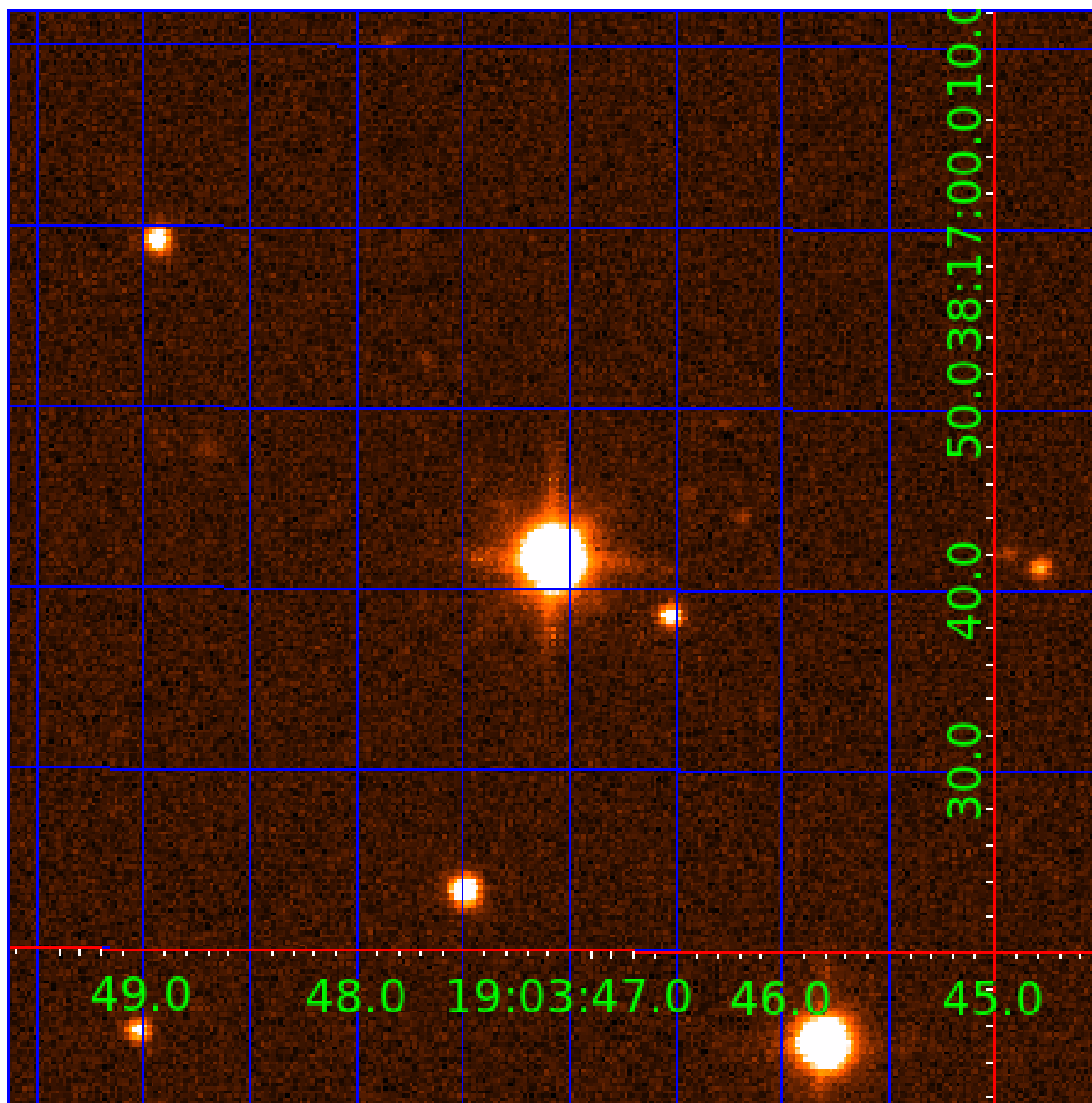


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003098015

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})
003098015-01	OBS	No	0.523868	131.614617	55.5	0.666	13.1	5.4	3.25	7617	2.85	117085.12
003098015-02	OBS	No	0.523869	131.879284	95.0	1.059	9.7	11.5	3.25	7617	3.25	117084.87
003098015-03	OBS	No	0.786125	132.110622	207.8	1.953	8.5	10.9	3.25	7617	5.46	68151.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003098015-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
003098015-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD—CENT_SATURATED
003098015-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED

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

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

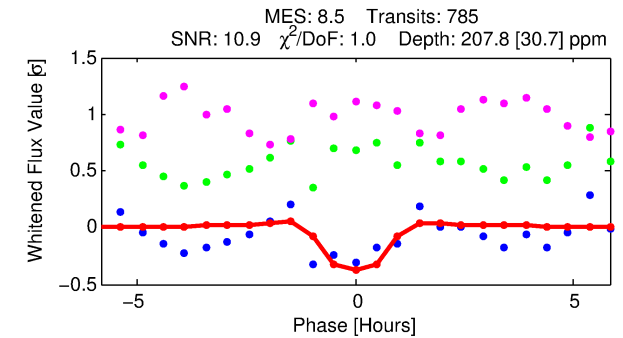
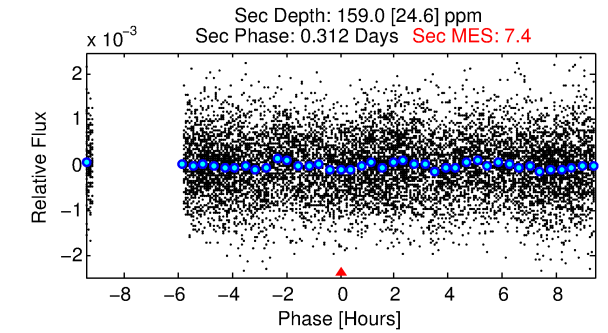
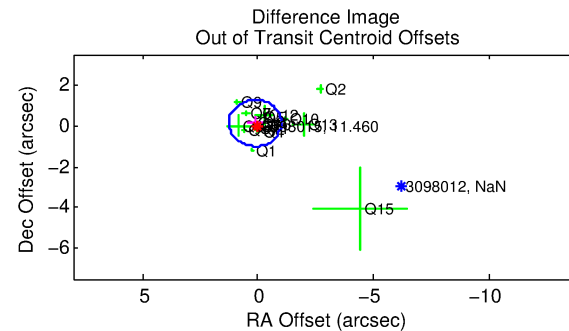
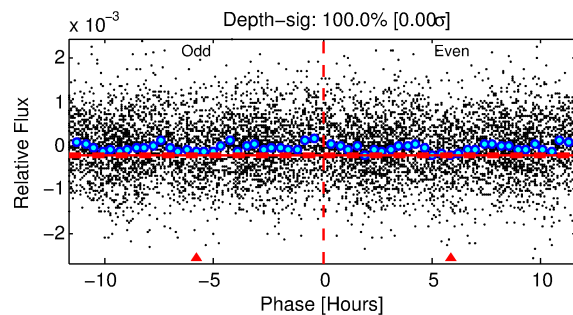
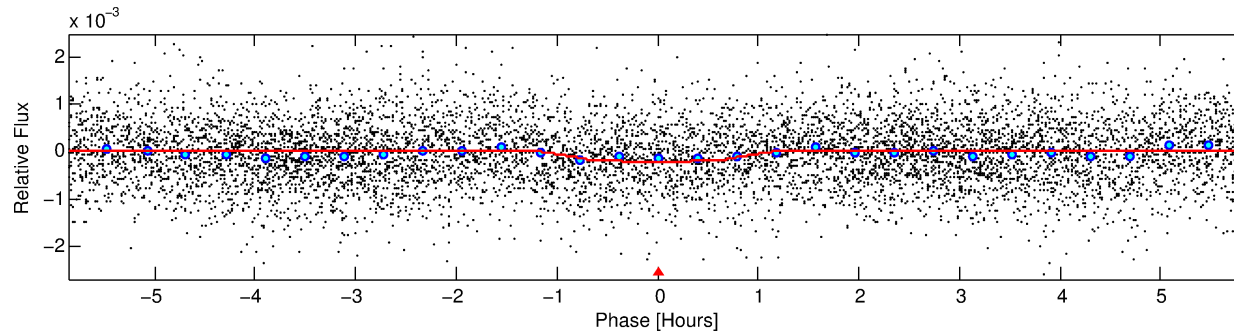
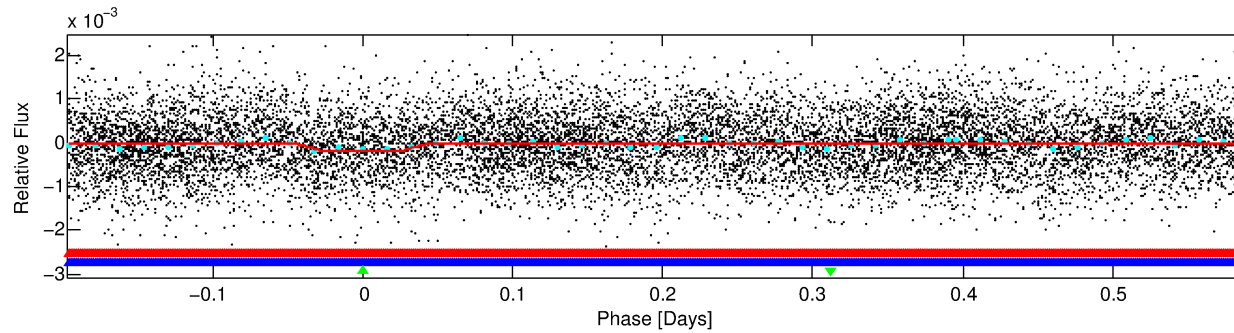
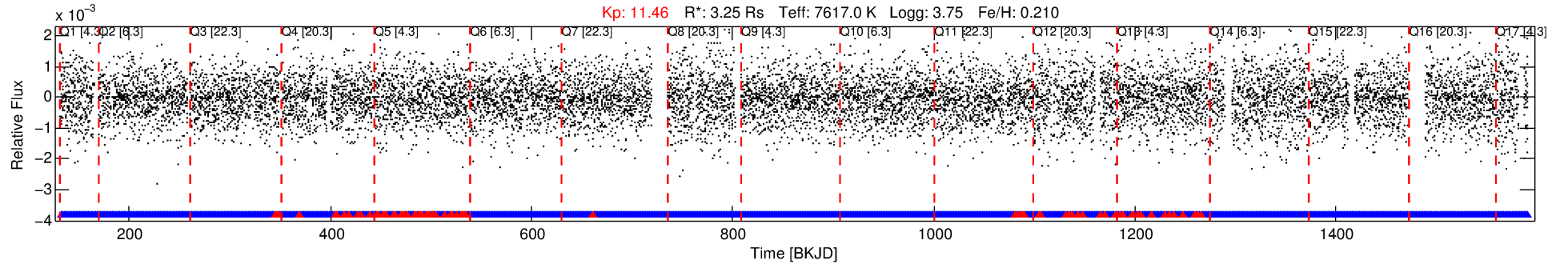
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003098015-03

No Significant Match Found

DV One-Page Summary

KIC: 3098015 Candidate: 3 of 3 Period: 0.786 d



DV Fit Results:

Period = 0.78613 [0.00001] d
Epoch = 132.1106 [0.0028] BKJD
Rp/R* = 0.0154 [0.0093]
a/R* = 1.72 [4.26]
b = 0.90 [0.80]
Seff = 68151.43 [43439.11]
Teq = 4120 [657] K
Rp = 5.45 [4.04] Re
a = 0.0216 [0.0085] AU
Ag = 1.38 [1.88] [0.20 σ]
Teffp = 6899 [2123] K [1.25 σ]

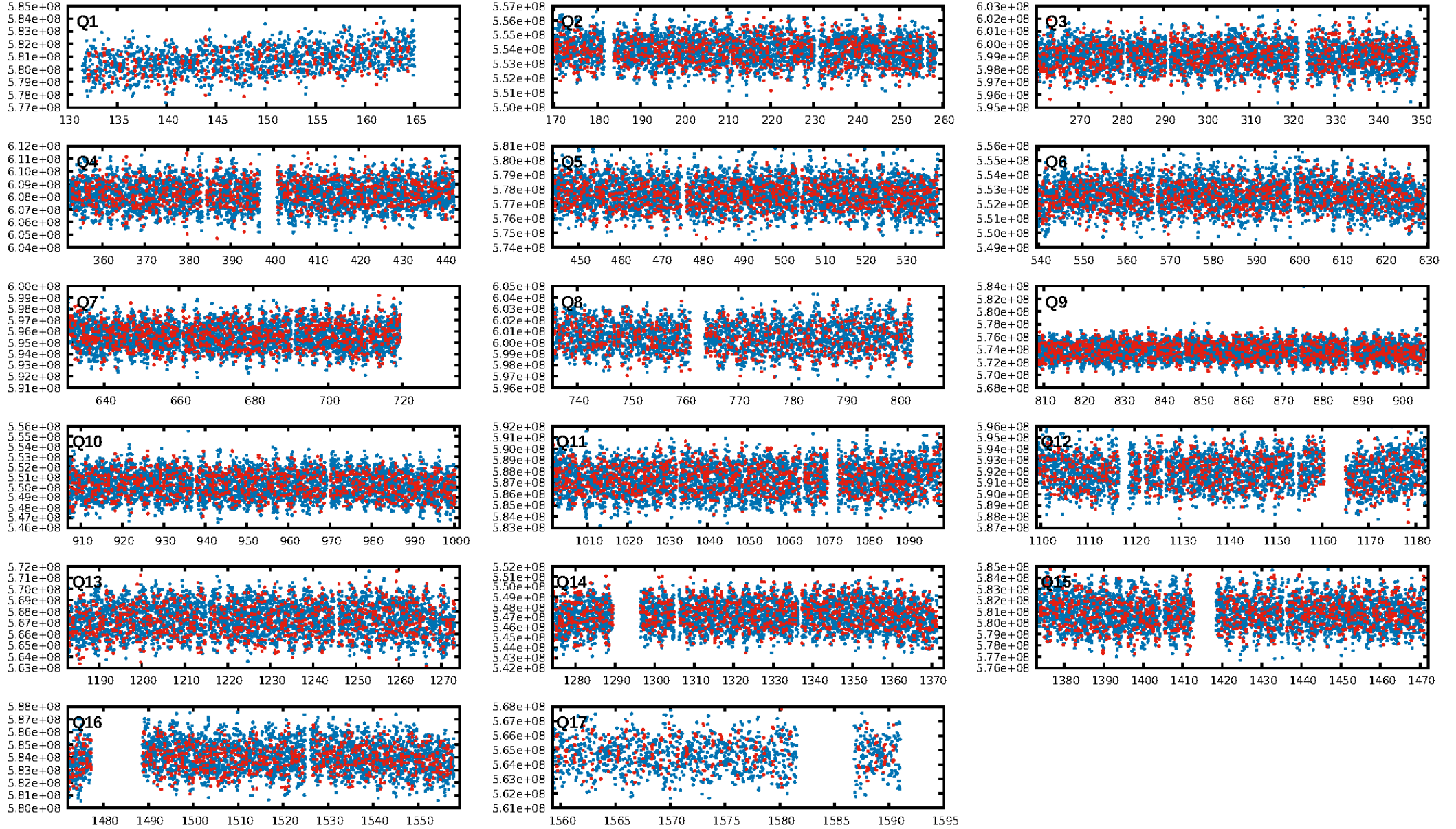
DV Diagnostic Results:

ShortPeriod-sig: 99.5% [2.83 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.88e-12
RollingBand-fgt: 0.91 [711/785]
GhostDiagnostic-chr: -1.573
Centroid-sig: 0.4%
Centroid-so: 0.184 arcsec [3.36 σ]
OotOffset-rm: 0.186 arcsec [0.49 σ]
KicOffset-rm: 0.292 arcsec [0.75 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.35 [6/17]
DiffImageOverlap-fno: 0.00 [0/17]

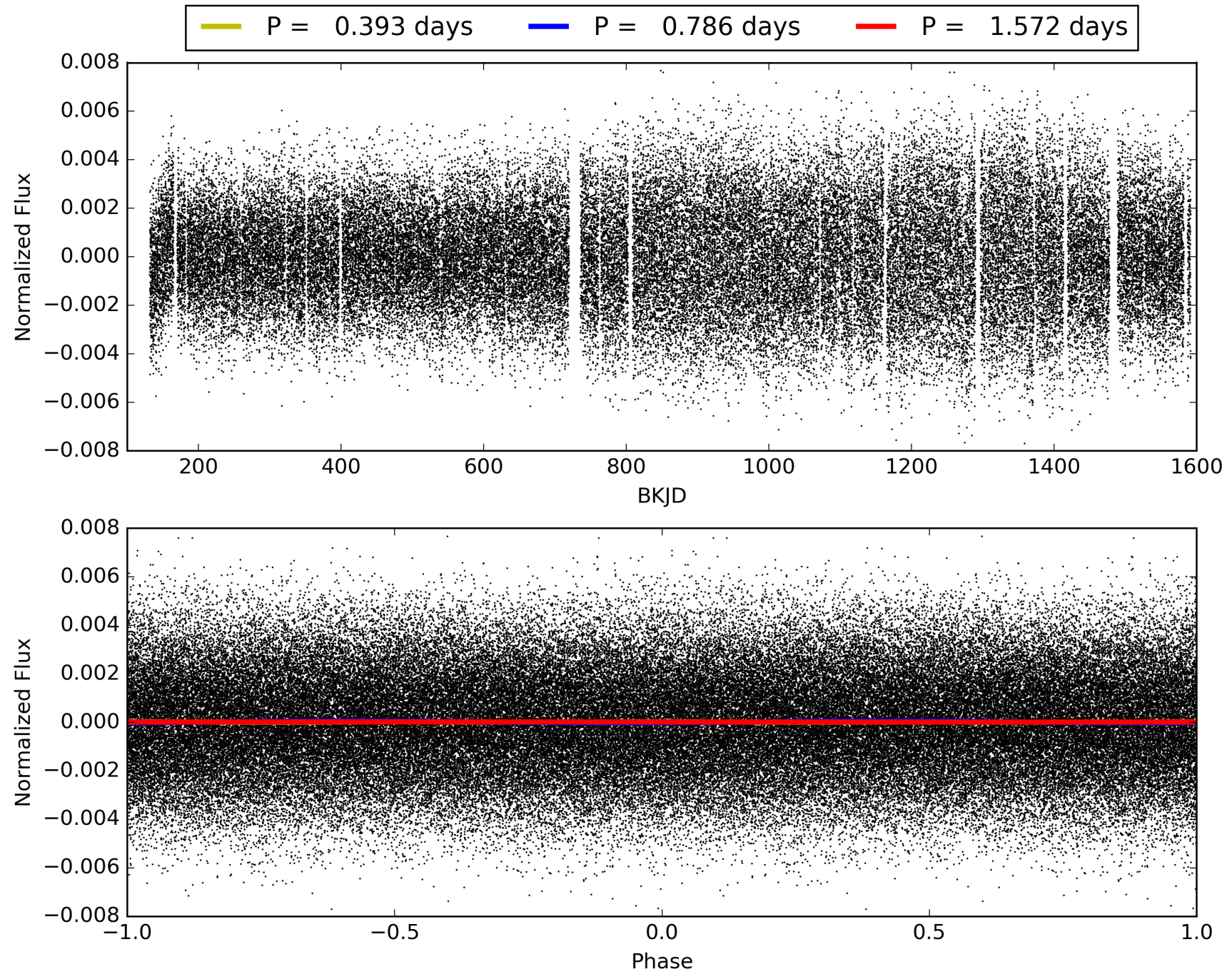
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 17:48:10 Z

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

TCE 003098015-03, PDC Light Curves

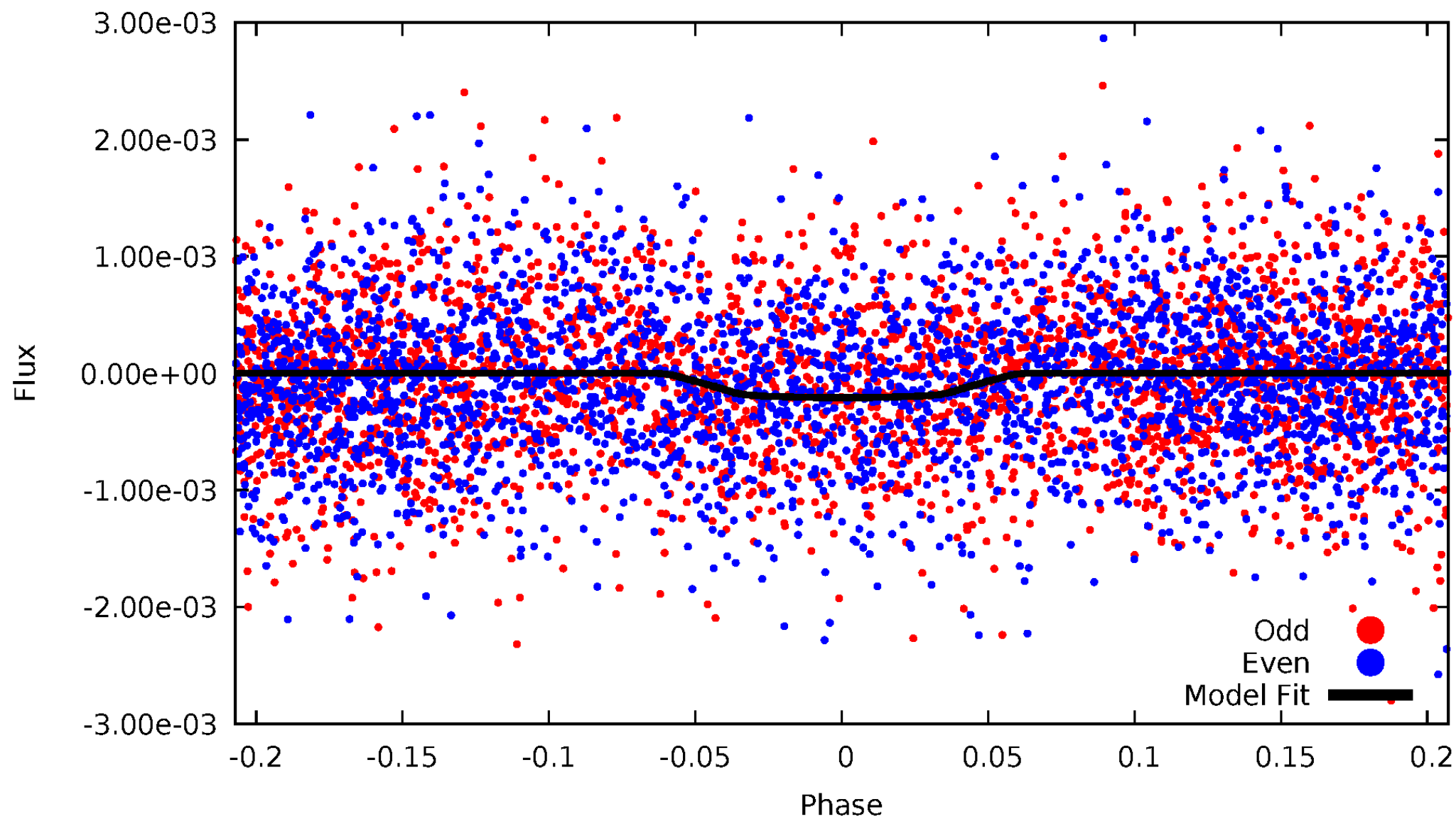


TCE 003098015-03



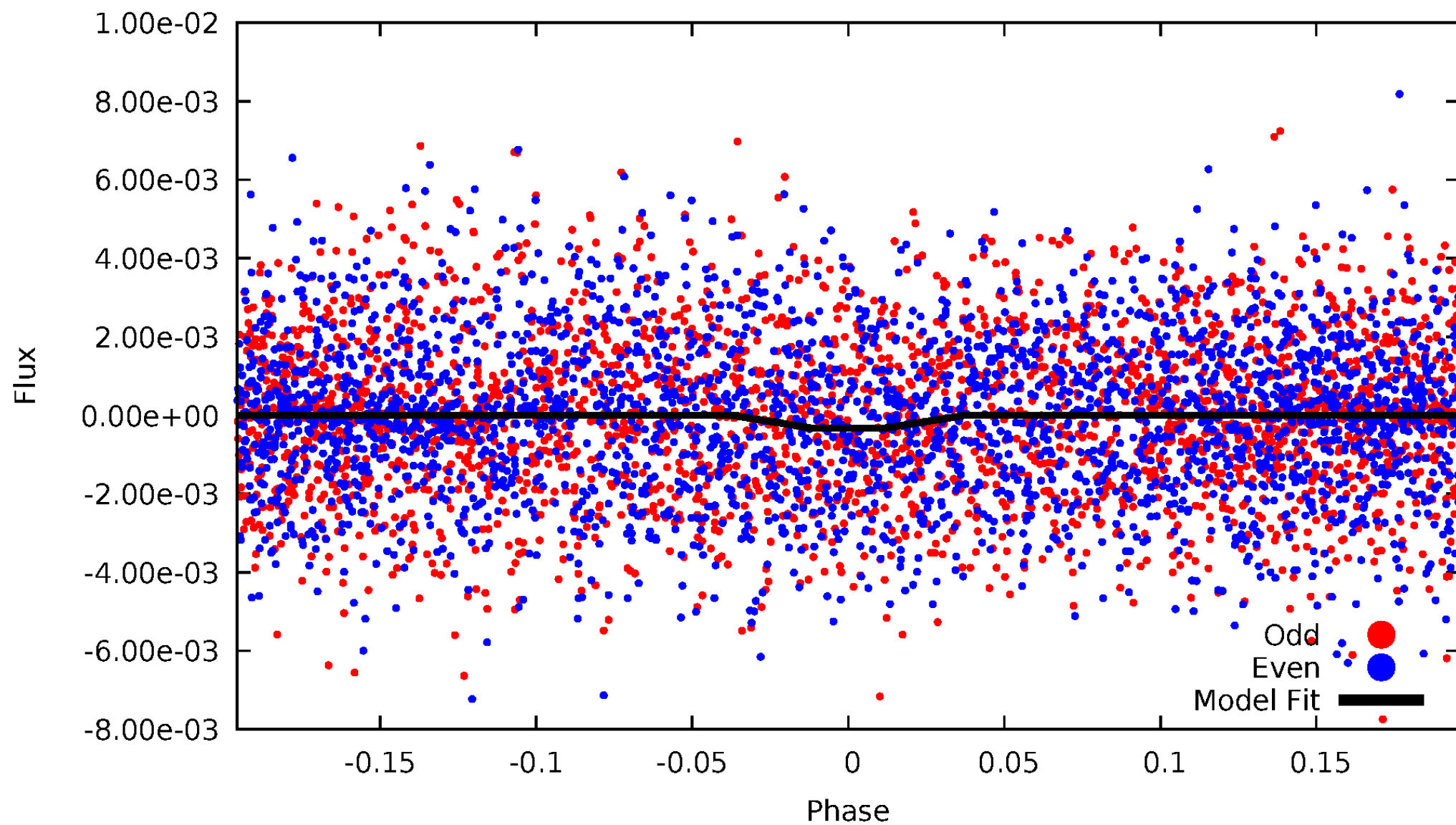
DV Odd/Even

TCE 003098015-03



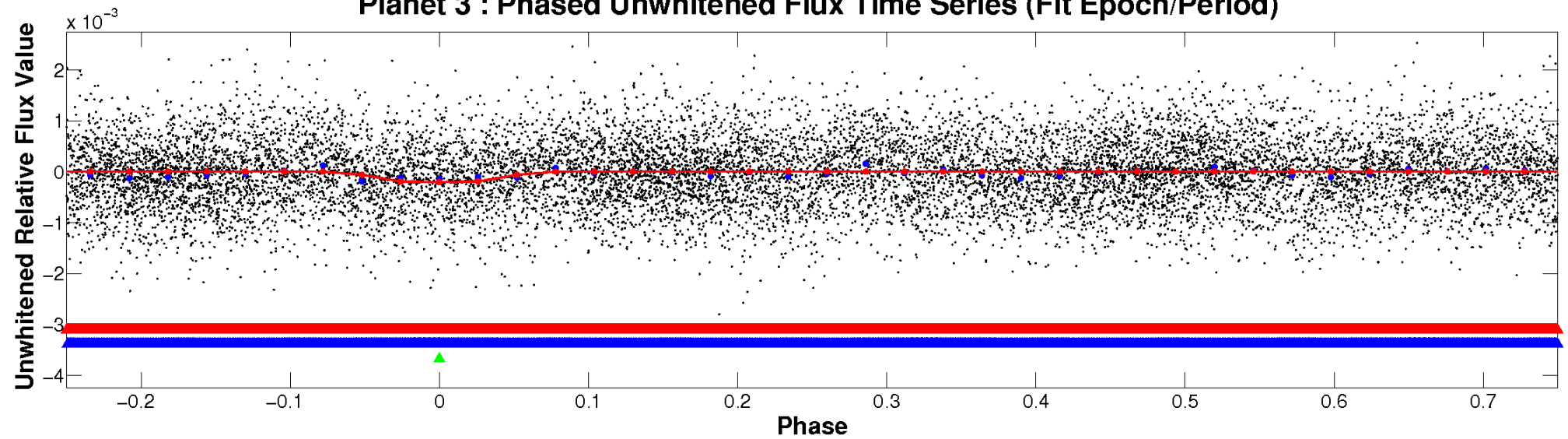
ALT Odd/Even

TCE 003098015-03

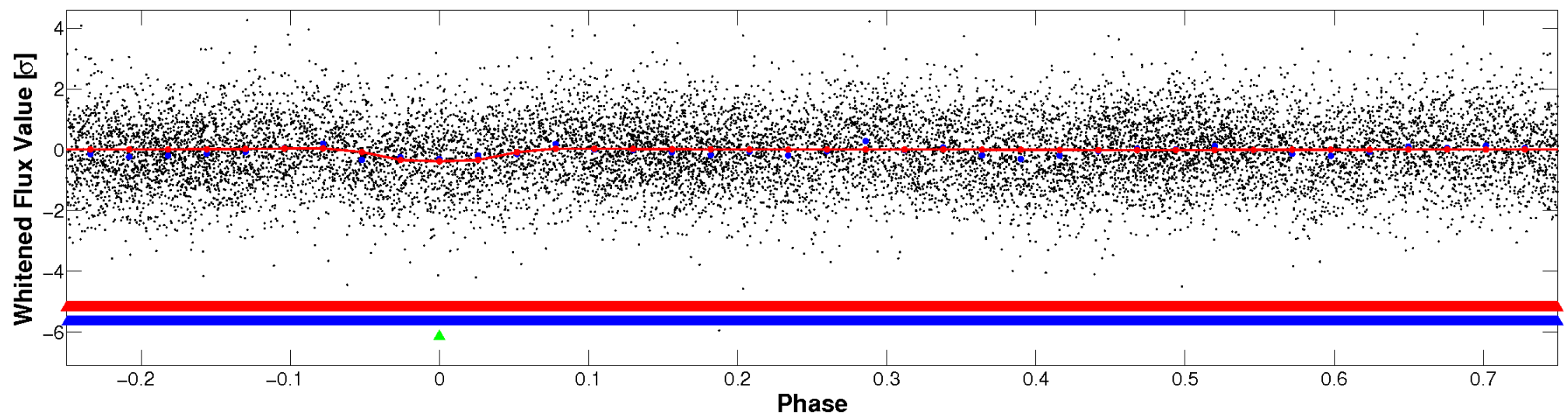


Non-Whitened Vs. Whitened Light Curve

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

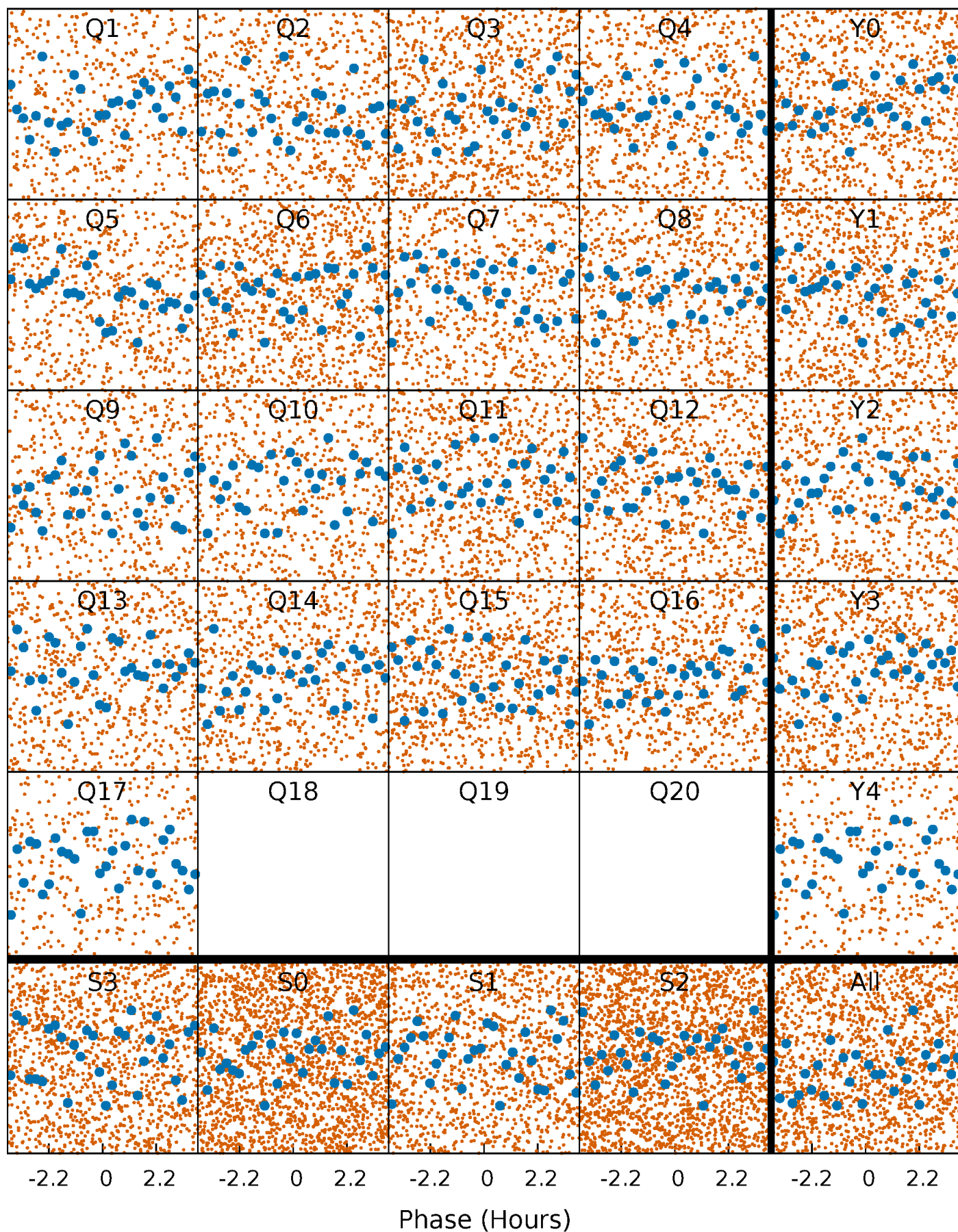


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



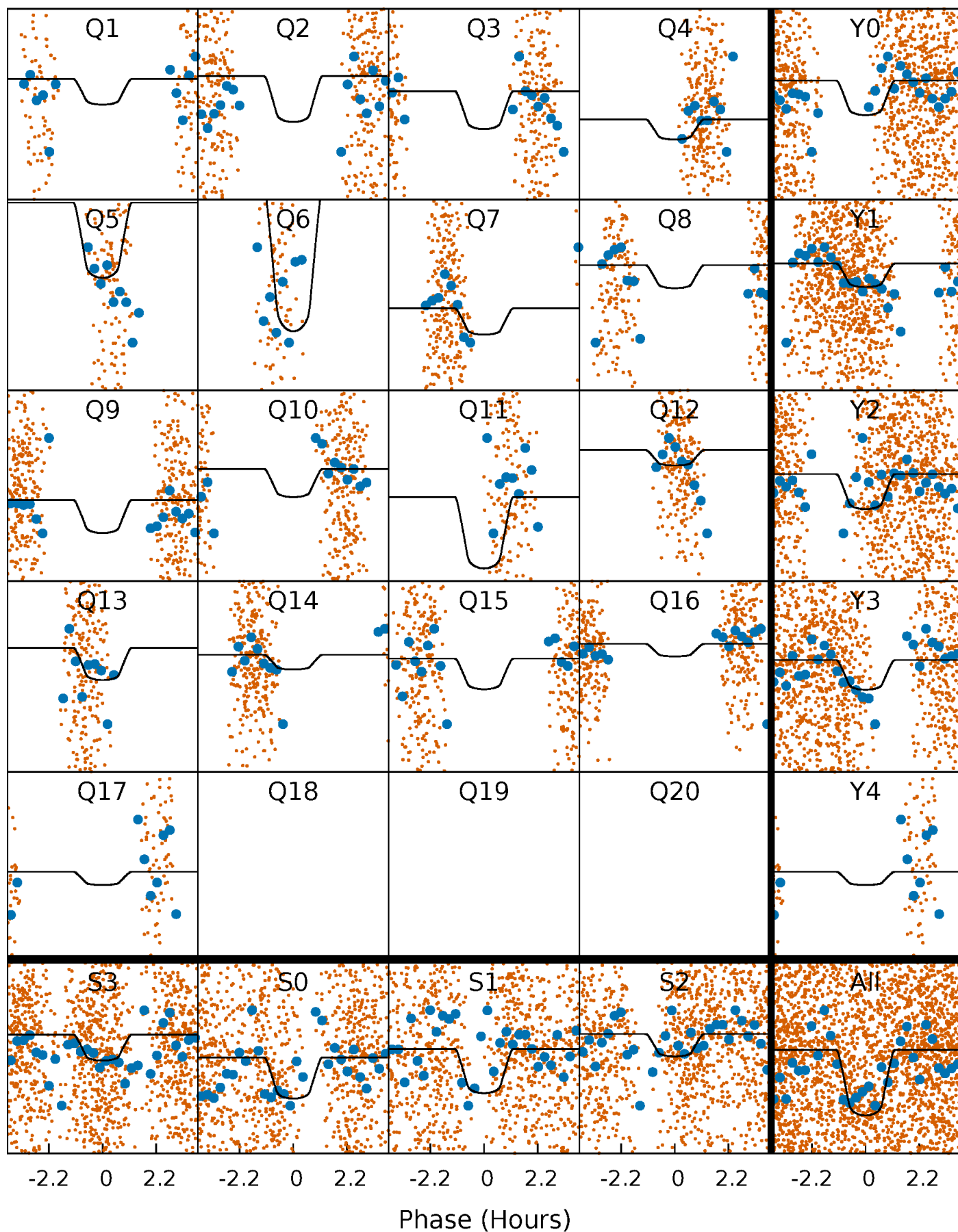
PDC Quarter-Phased Transit Curves

TCE 003098015-03 P= 0.786125 Days $T_0=132.110622$ (BKJD)



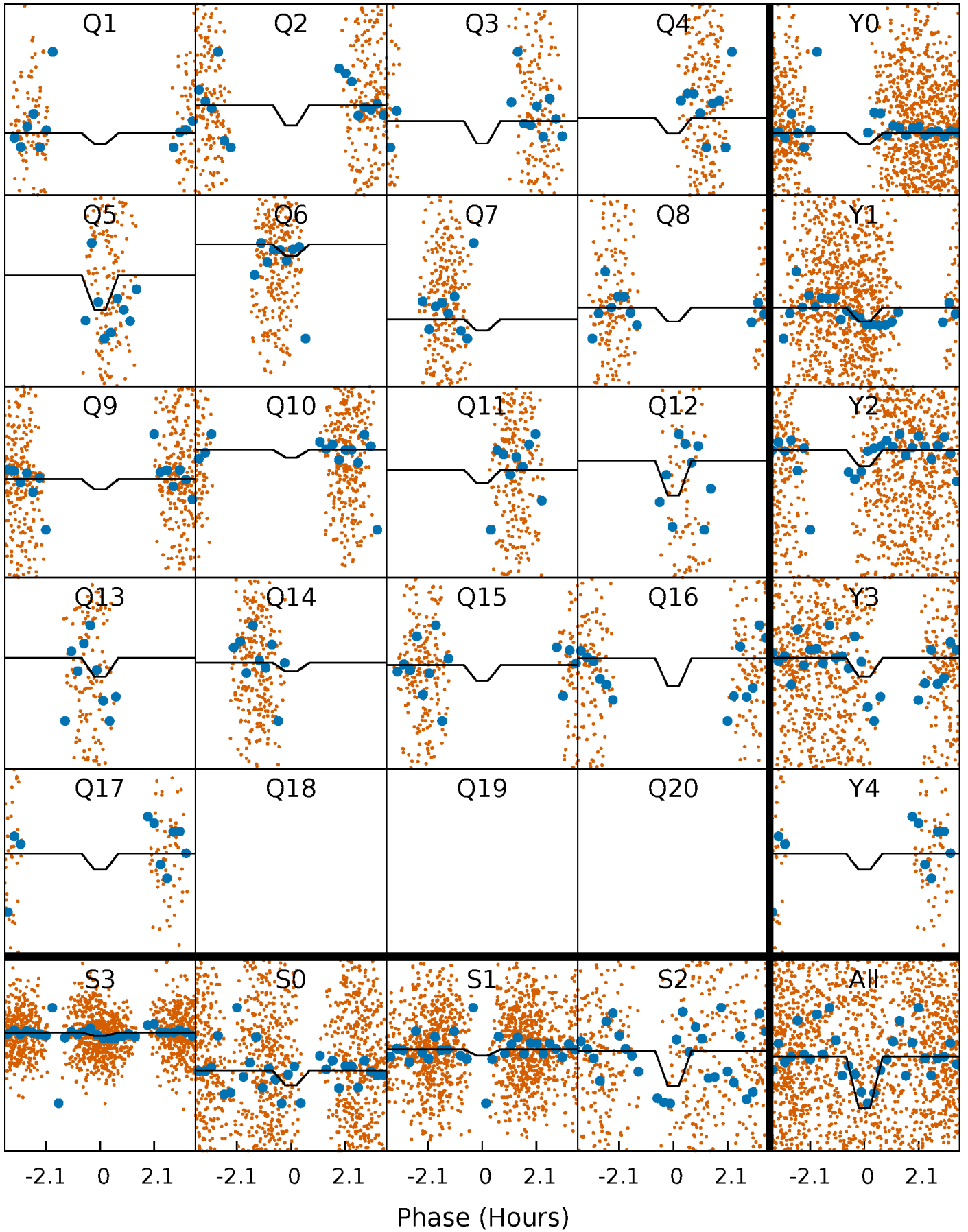
DV Quarter-Phased Transit Curves

TCE 003098015-03 P= 0.786125 Days $T_0=132.110622$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

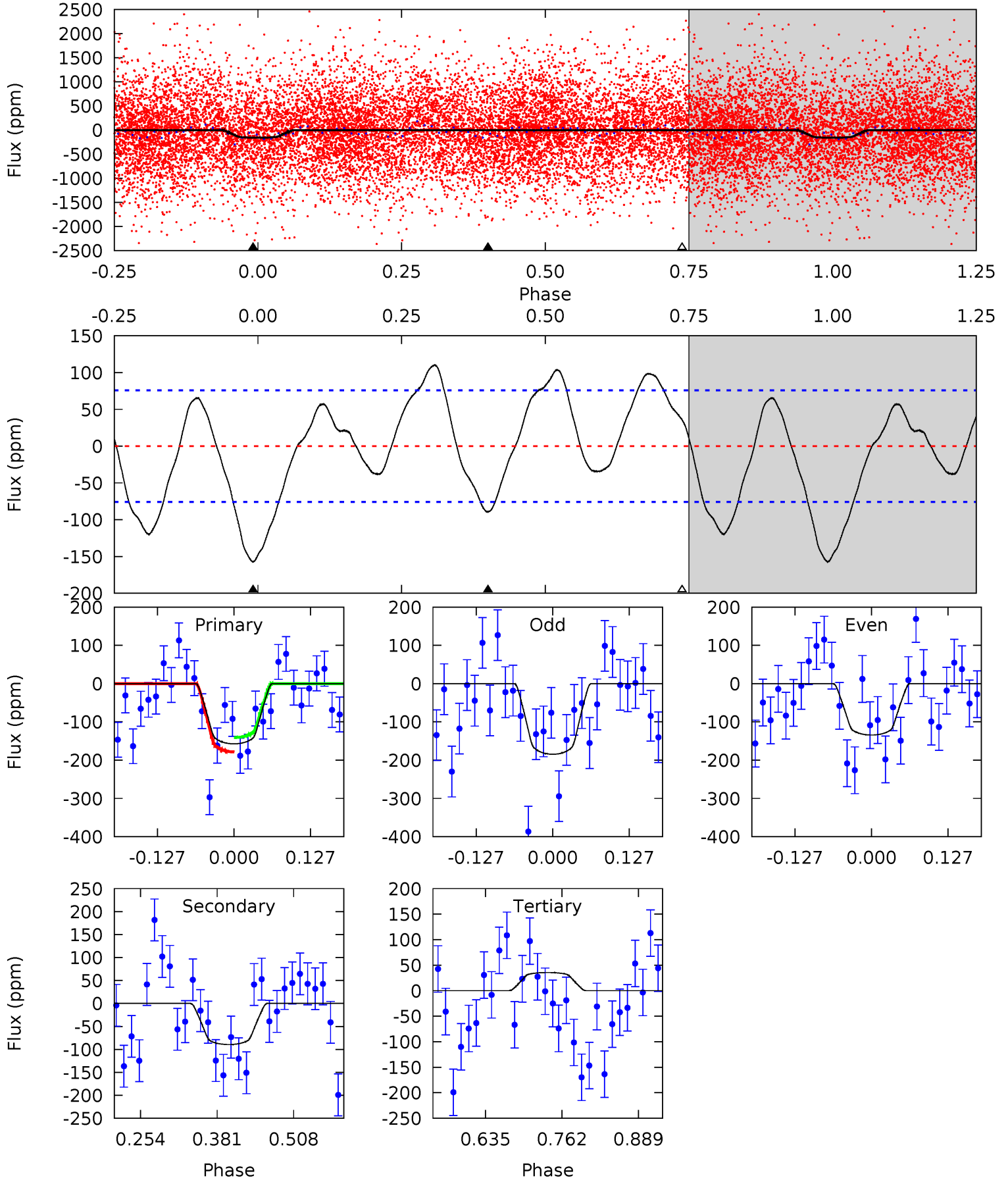
TCE 003098015-03 P= 0.786115 Days $T_0=132.114234$ (BKJD)



DV Model-Shift Uniqueness Test

003098015-03, P = 0.786125 Days, E = 131.324497 Days

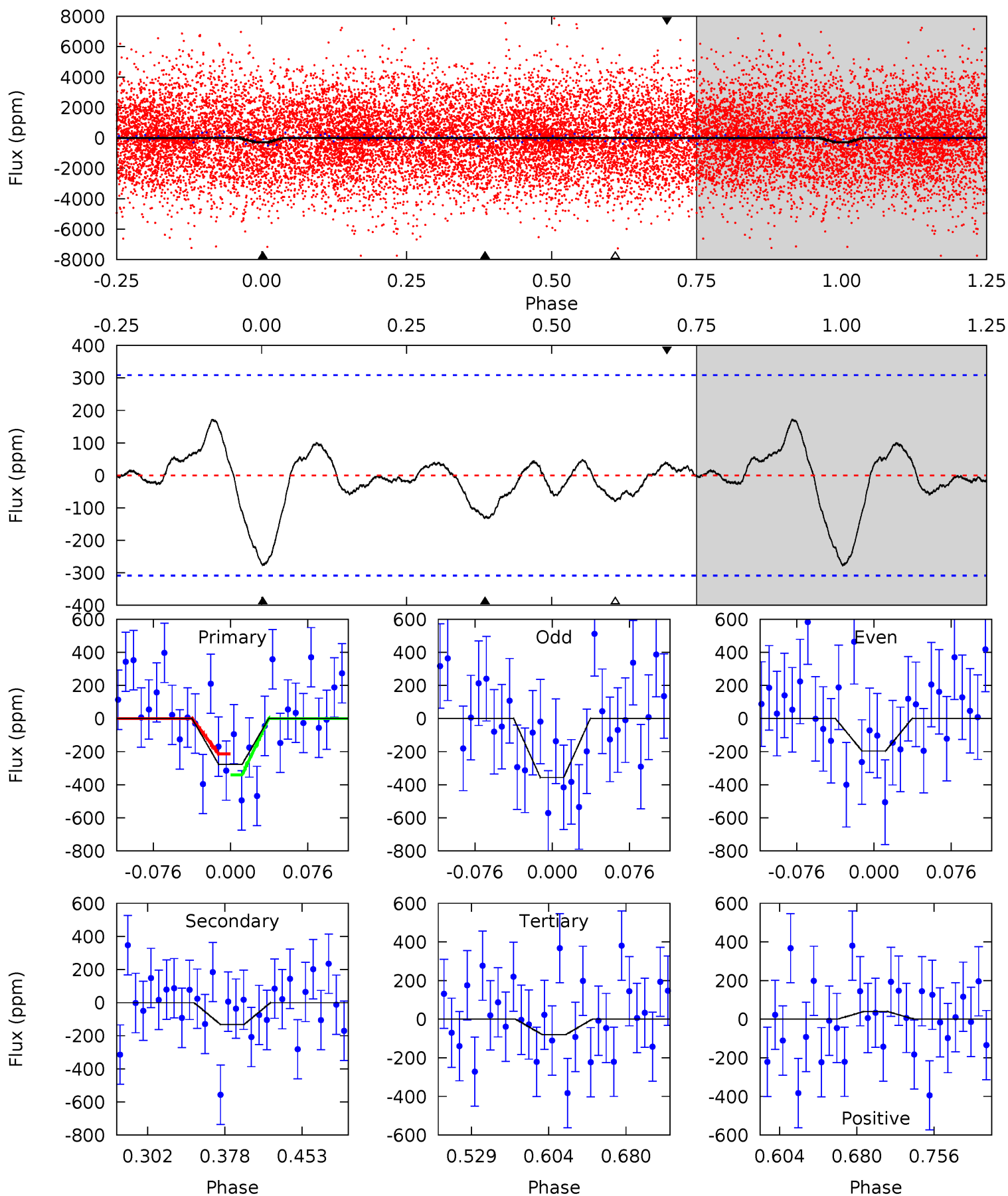
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.37	5.33	-2.12	0	4.51	1.53	3.50	11.5	9.37	7.45	5.33	1.50	0.92	0.41	1.11



Alt Model-Shift Uniqueness Test

003098015-03, P = 0.786115 Days, E = 131.328119 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.15	1.98	1.19	0.59	4.62	1.78	0.71	2.96	3.56	0.78	1.38	1.20	0.97	0.38	0.95



Stellar Parameters For KIC 003098015

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7617^{+211}_{-344}	$3.753^{+0.352}_{-0.117}$	$0.210^{+0.150}_{-0.400}$	$3.252^{+0.598}_{-1.394}$	$2.185^{+0.245}_{-0.573}$	$0.089^{+0.266}_{-0.034}$
	+3%/-5%	+9%/-3%	+71%/-190%	+18%/-43%	+11%/-26%	+297%/-38%
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 003098015-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-89±17	$5.42^{+3.32}_{-2.84}$	5601^{+416}_{-538}	4899^{+3005}_{-7381}	$0.747^{+2.534}_{-0.451}$
Alt.	-132±67	$5.86^{+3.26}_{-2.98}$	5619^{+415}_{-549}	5385^{+2964}_{-7623}	$0.940^{+2.918}_{-0.641}$

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 $A_{obs} \gg 1.0$

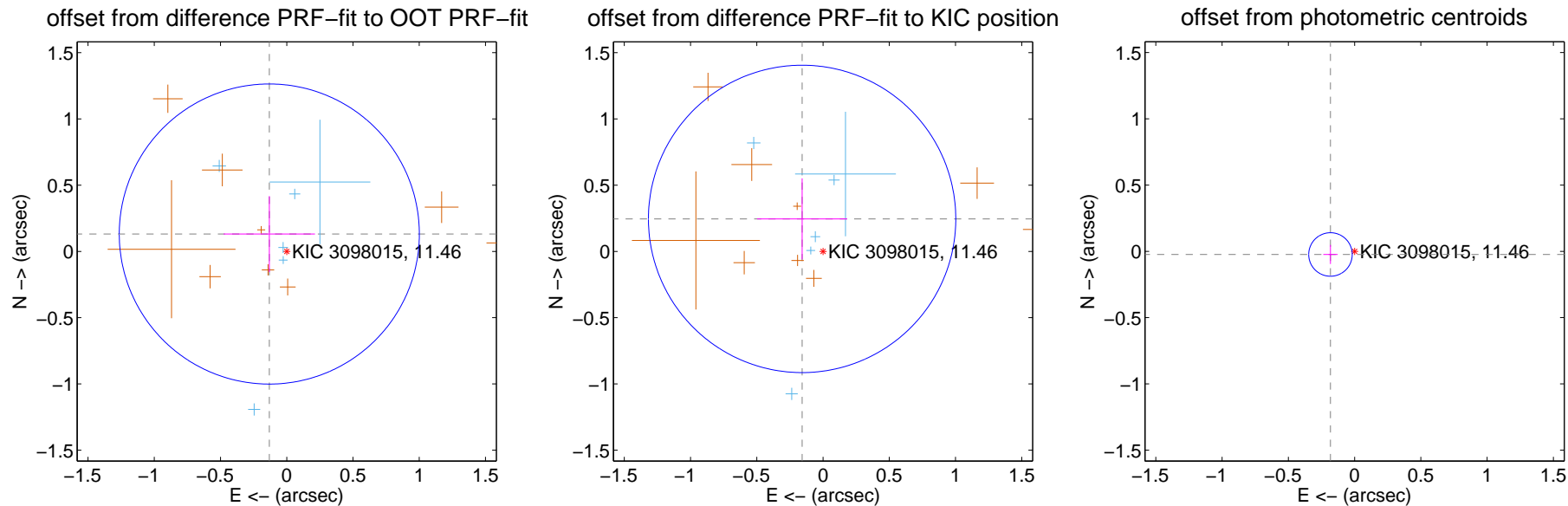
DV Centroid Data

Supplemental centroid analysis for 003098015-03. **Kepler magnitude: 11.46.** Transit SNR 10.89

There are 6 quarters with good PRF difference image offsets

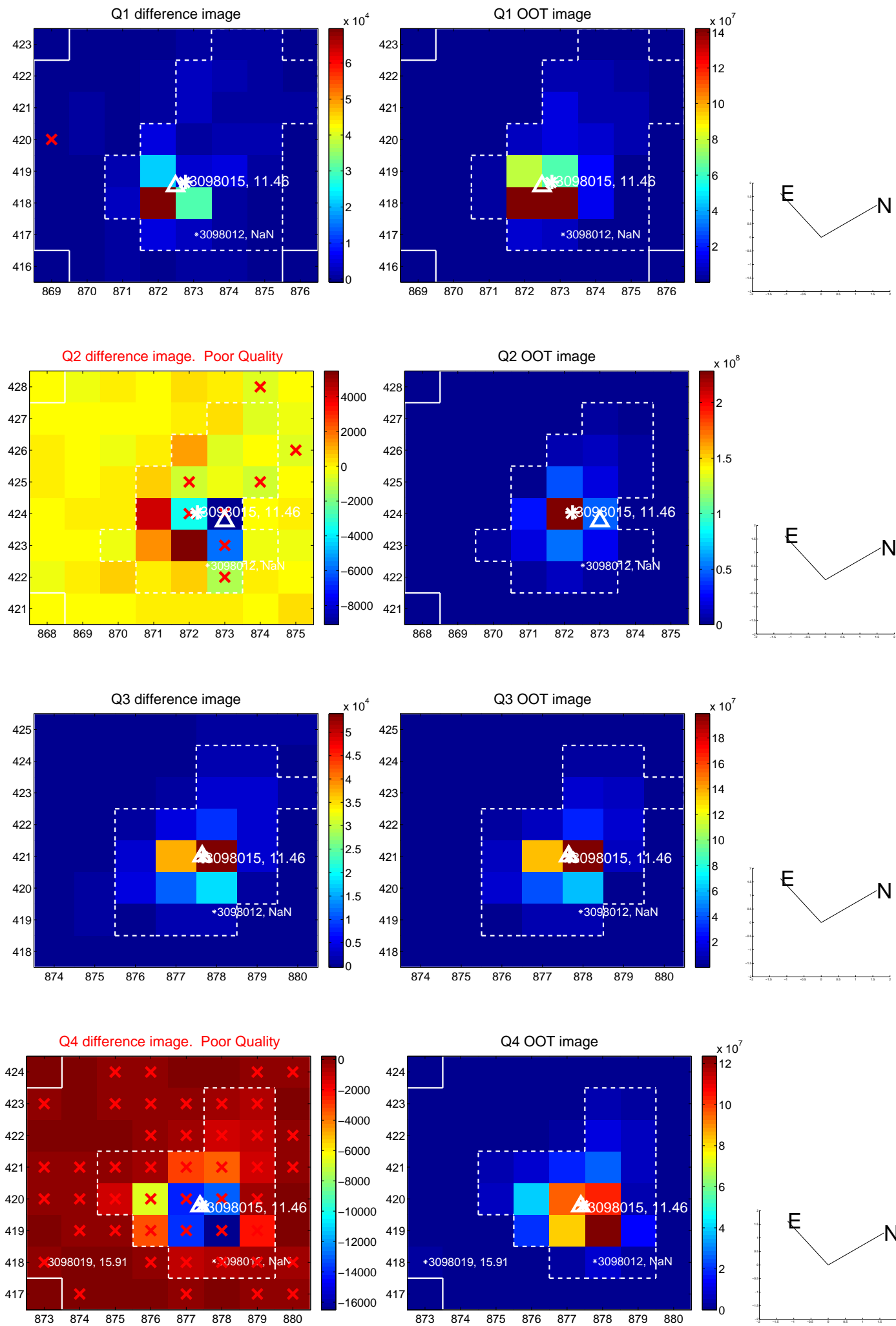
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.186 ± 0.378	0.49	0.132 ± 0.345	0.131 ± 0.286
PRF-fit source offset from KIC position	0.292 ± 0.387	0.75	0.158 ± 0.340	0.245 ± 0.306
photometric centroid source offset	0.18 ± 0.05	3.36	0.18 ± 0.05	-0.02 ± 0.07

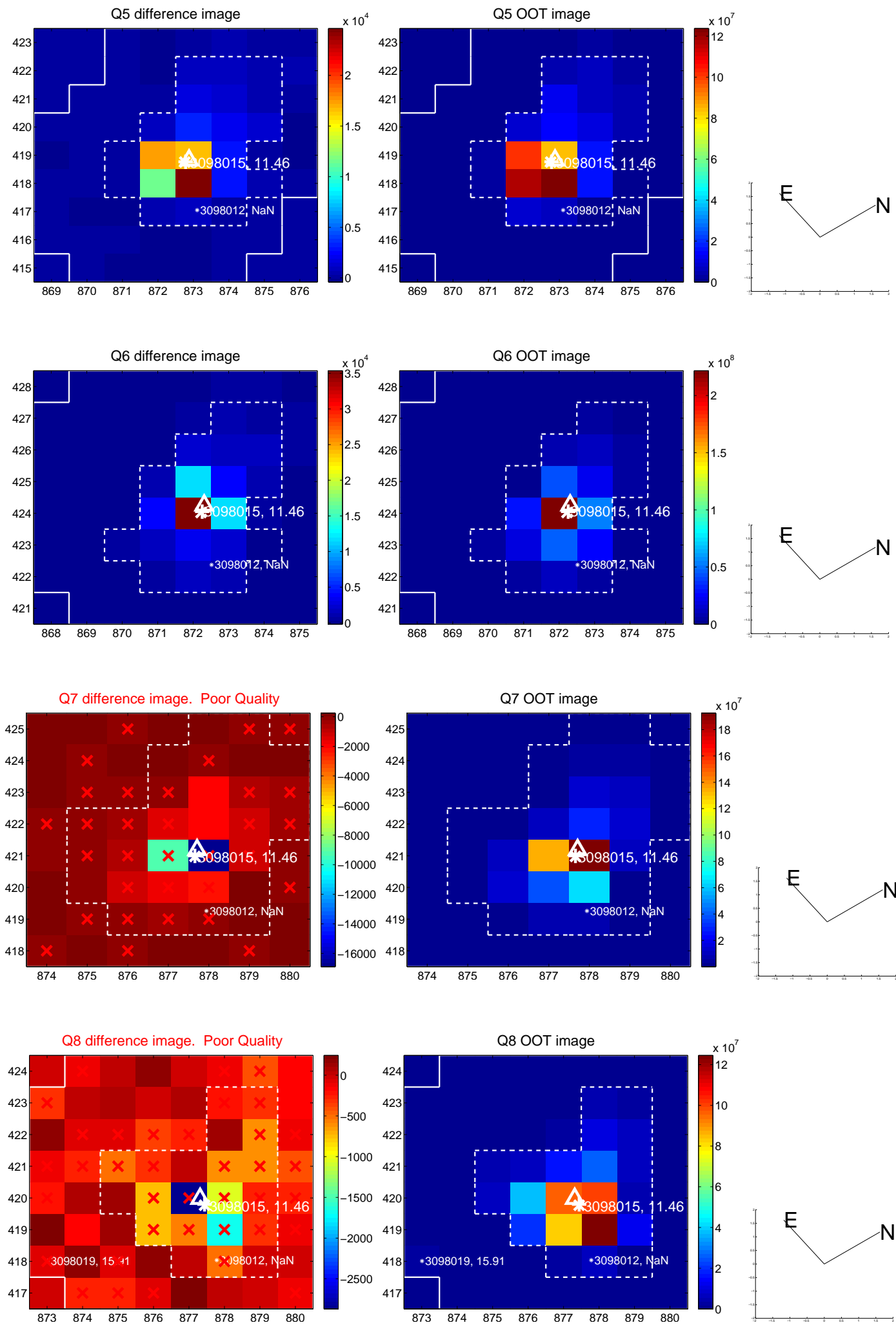


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

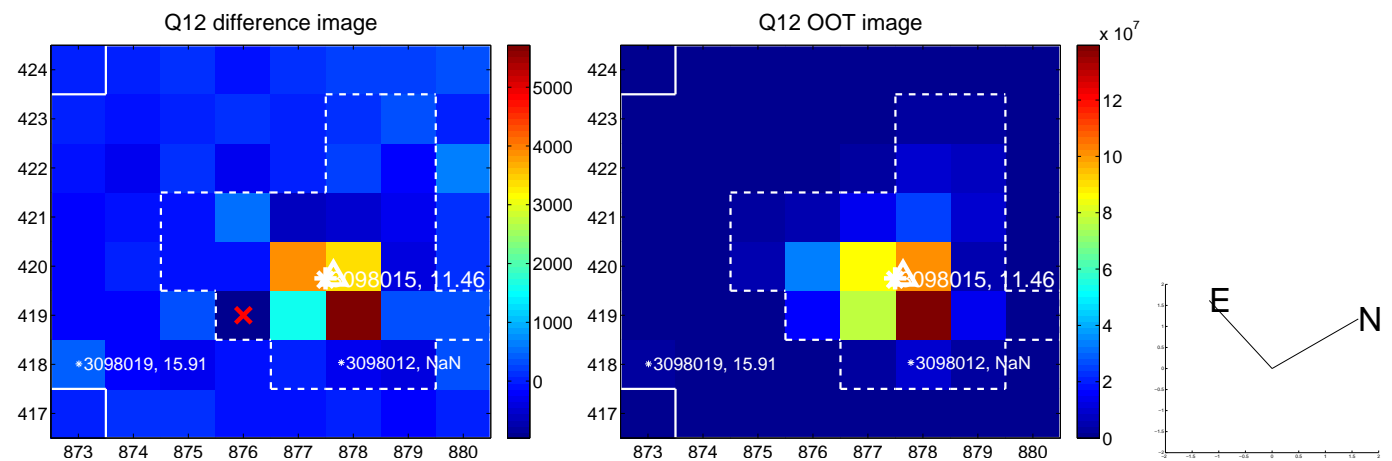
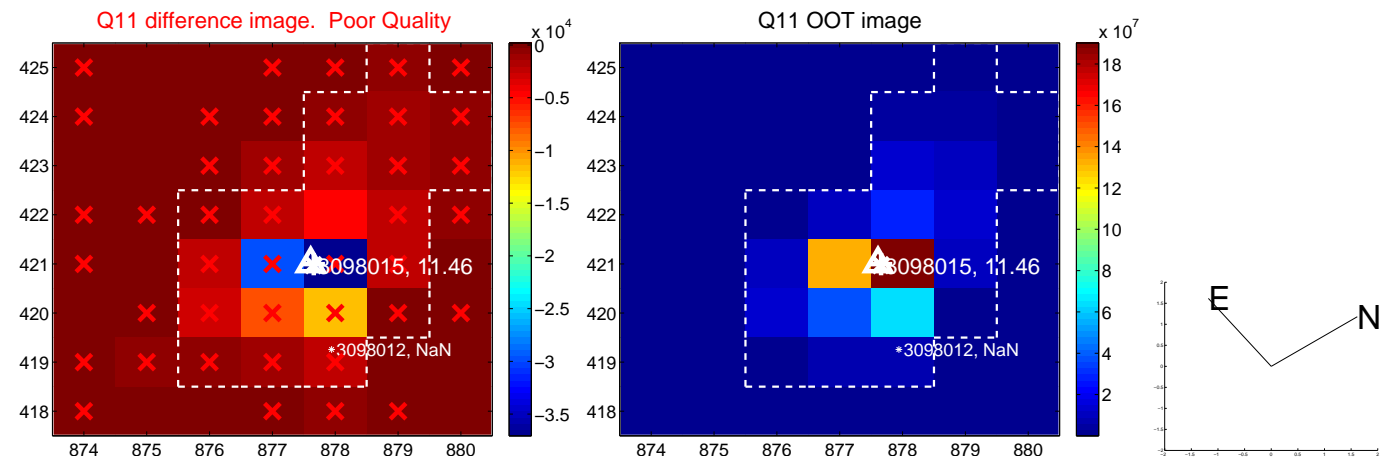
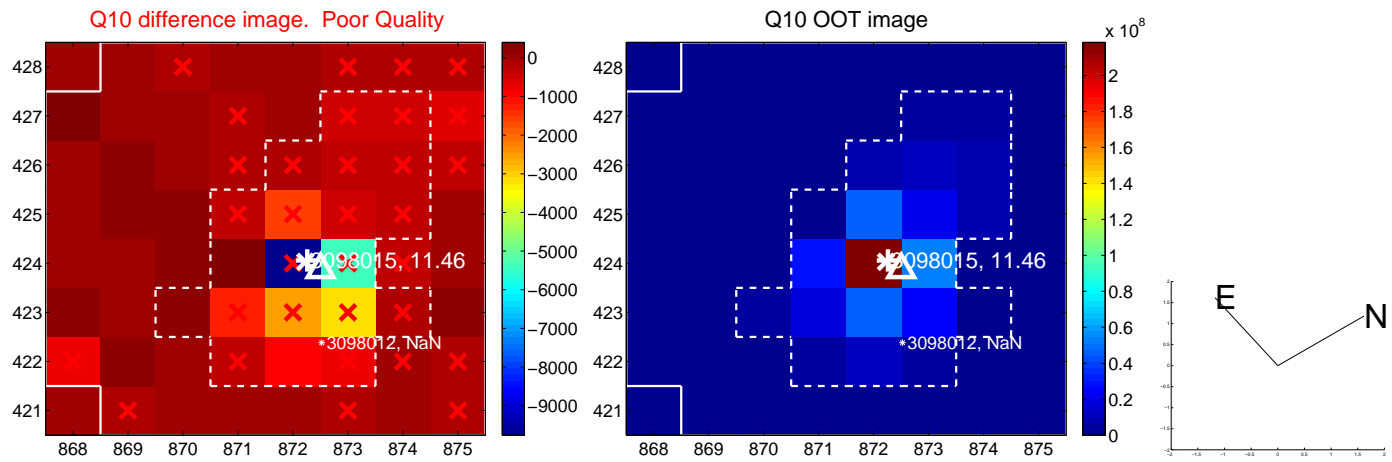
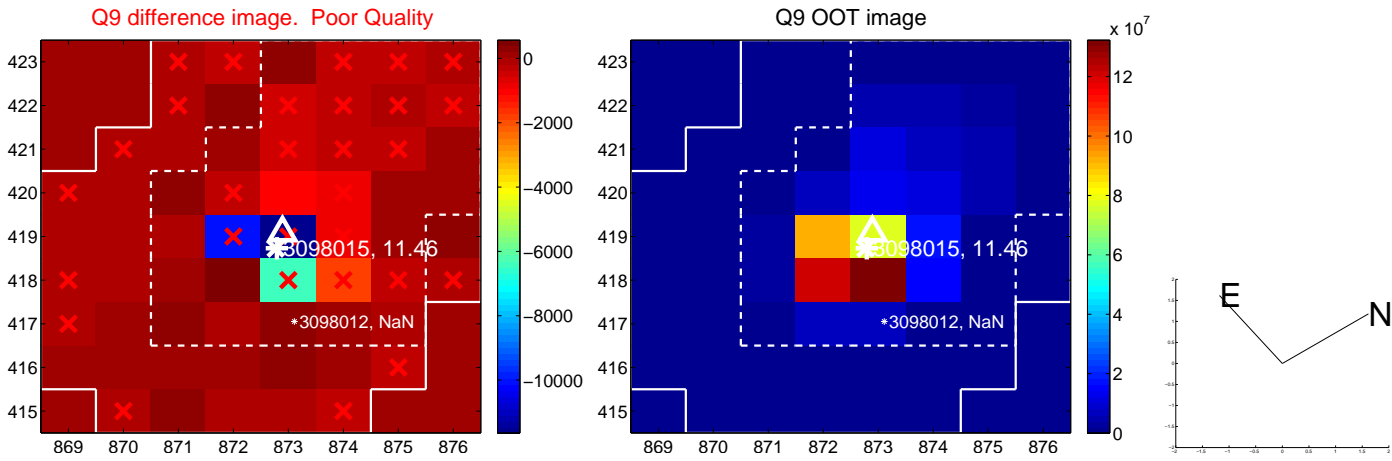
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



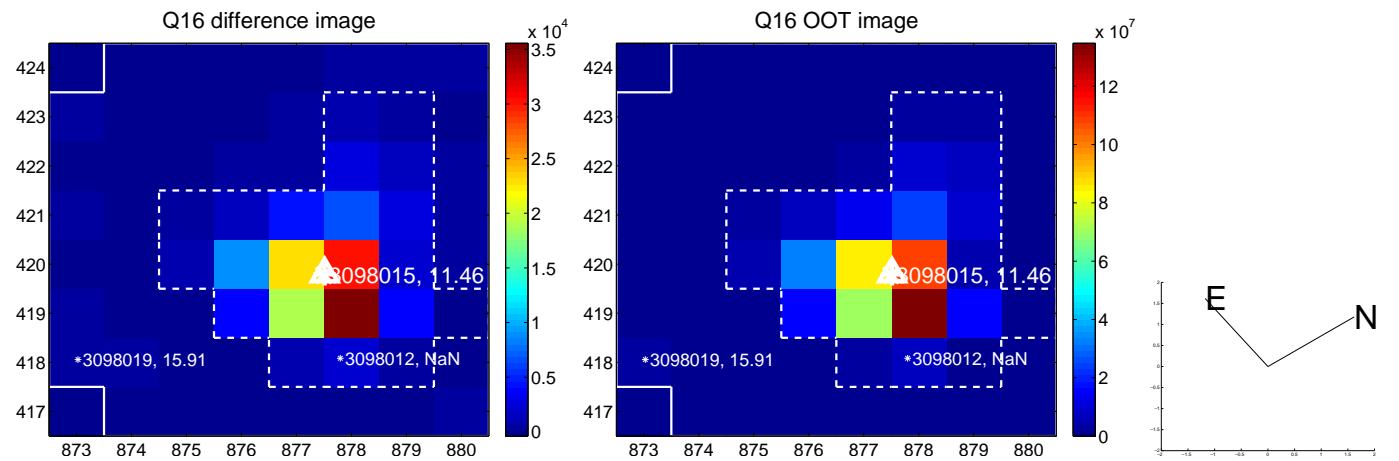
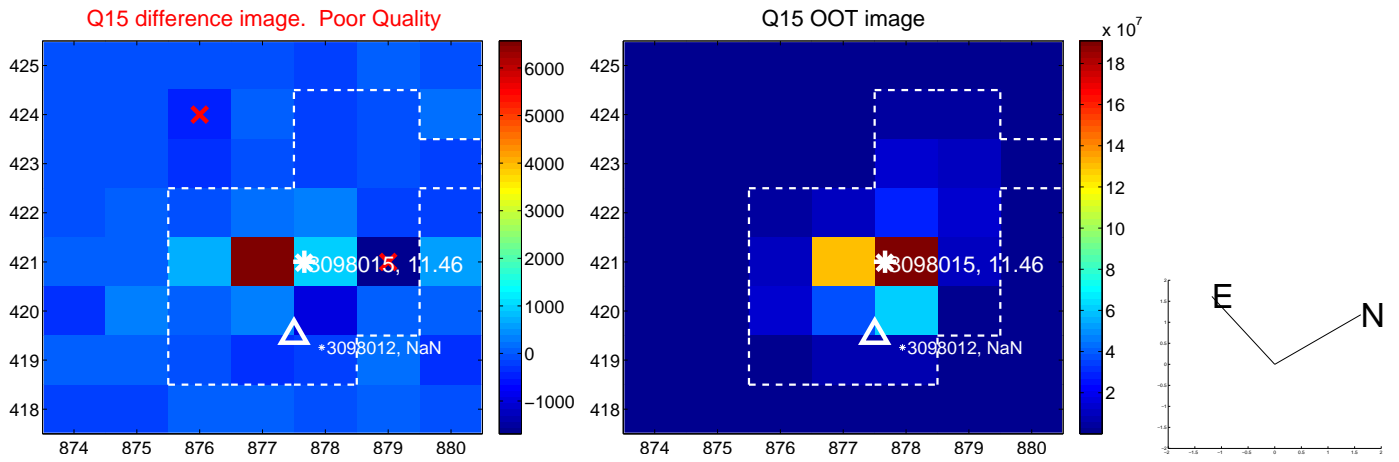
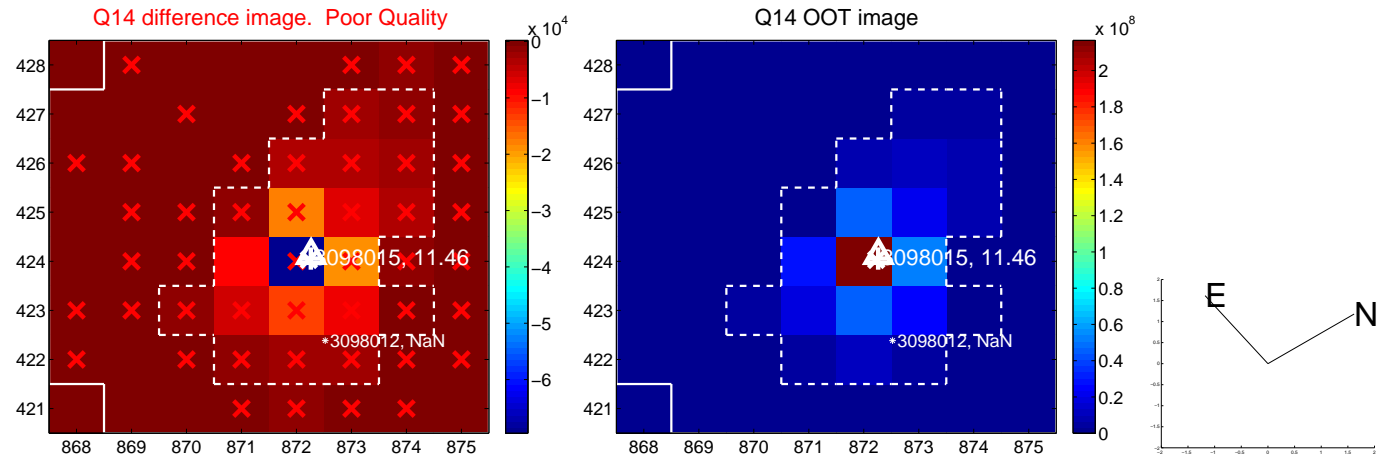
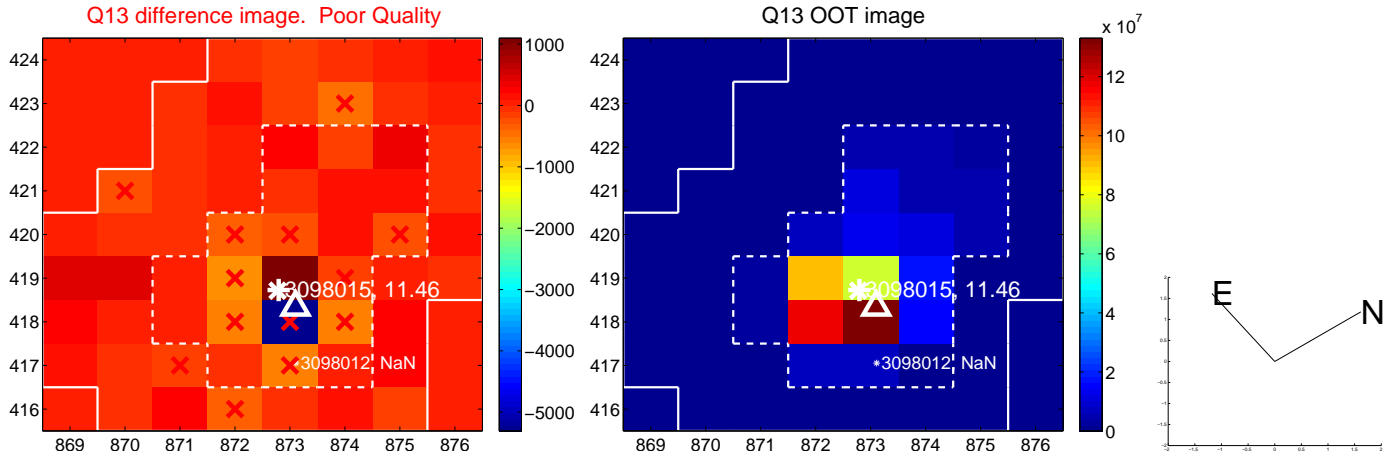
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



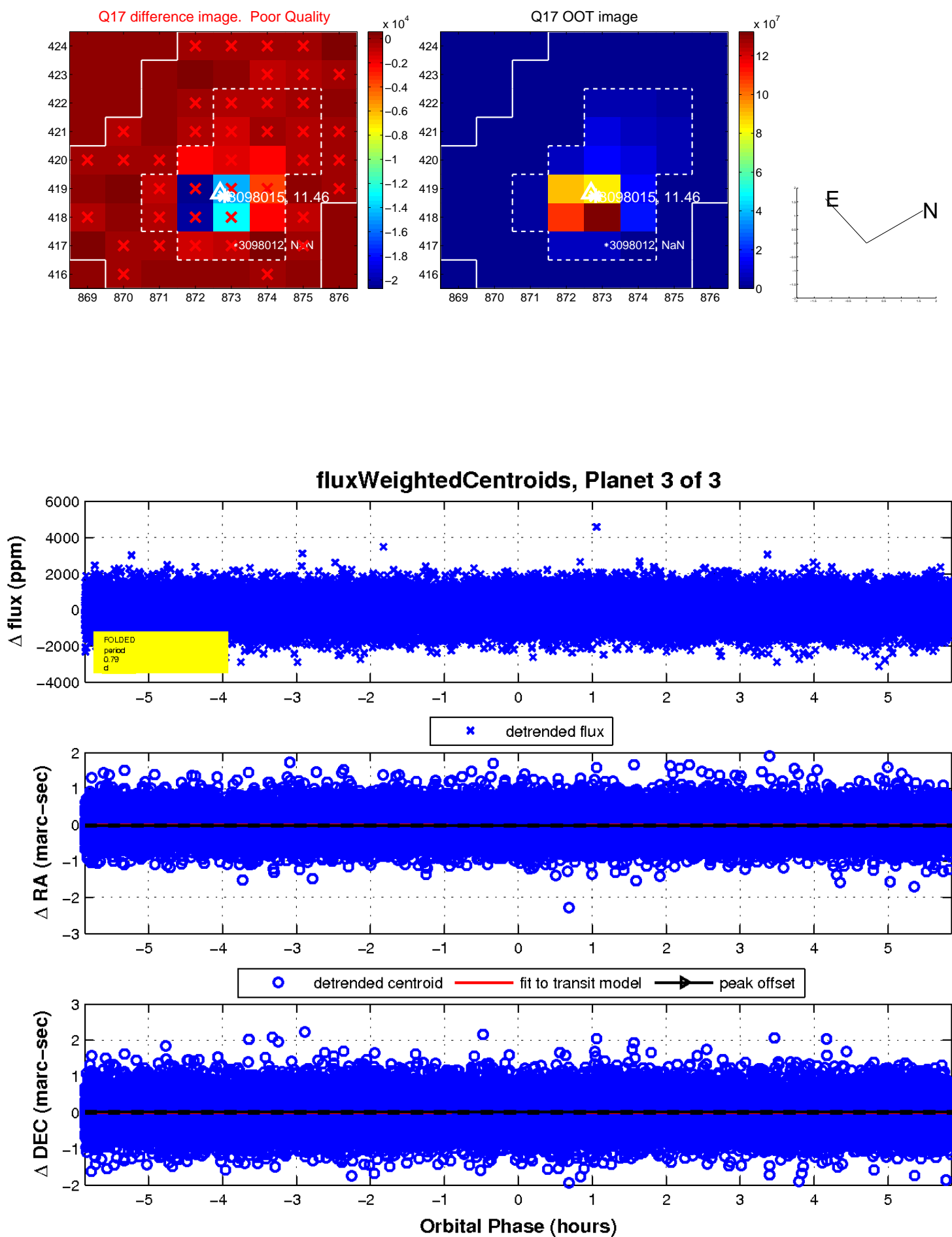
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

