

KIC 008524712

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})
008524712-01	OBS	No	0.809990	132.045659	130.4	6.197	15.2	20.2	0.49	4330	0.56	409.21
008524712-02	OBS	No	9.364359	140.457394	1643.1	0.972	17.3	21.8	0.49	4330	2.38	15.65
008524712-03	OBS	No	2.425579	132.714119	2288.4	2.500	13.9	-1.0	0.49	4330	2.34	94.80
008524712-04	OBS	No	28.018951	141.280261	1535.0	3.639	14.2	20.1	0.49	4330	1.95	3.63
008524712-05	OBS	No	9.238195	131.749482	2006.3	0.735	16.8	24.9	0.49	4330	2.46	15.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008524712-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008524712-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_FEW_DIFFS
008524712-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
008524712-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
008524712-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_RESOLVED_OFFSET

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

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

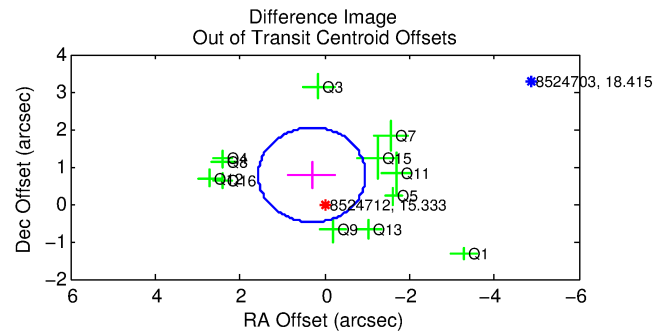
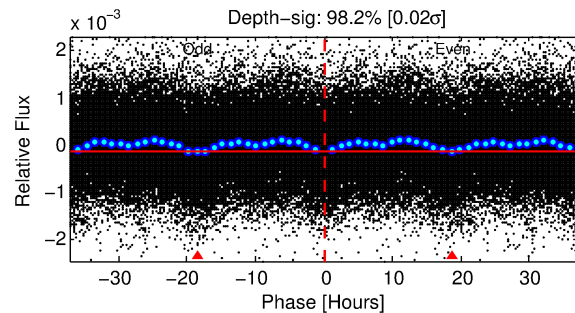
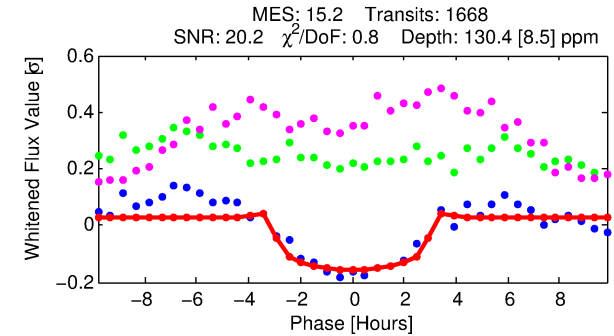
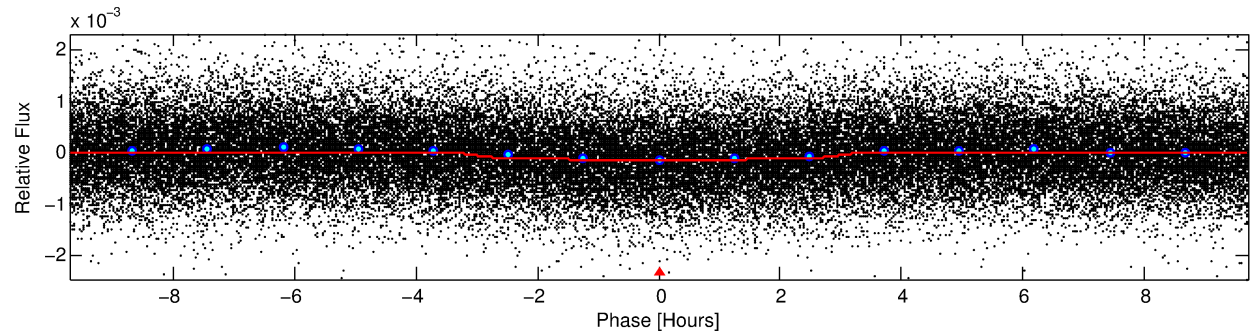
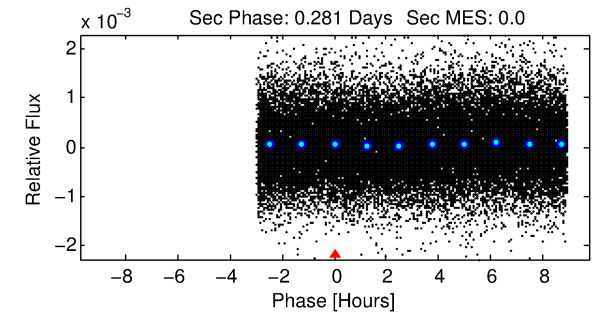
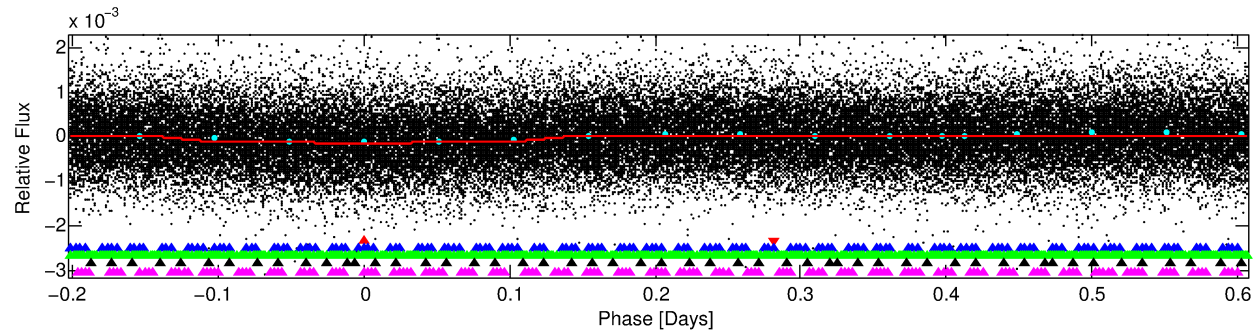
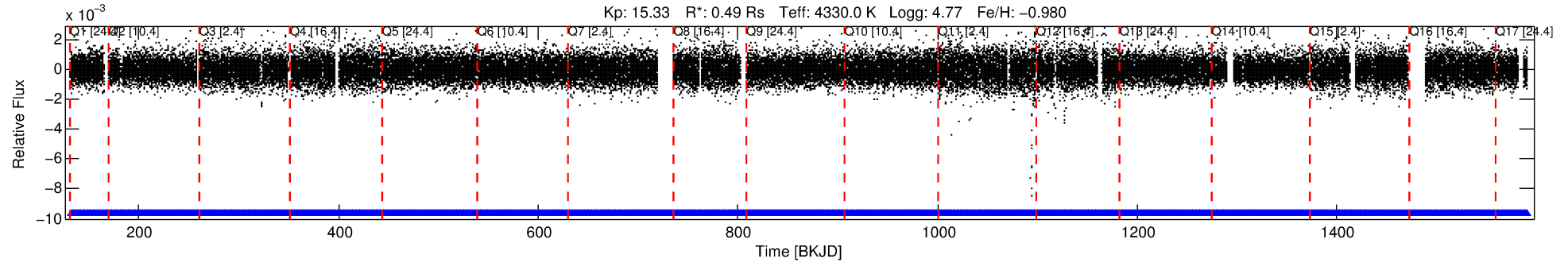
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008524712-01

No Significant Match Found

DV One-Page Summary

KIC: 8524712 Candidate: 1 of 5 Period: 0.810 d



DV Fit Results:

Period = 0.80999 [0.00001] d
 Epoch = 132.0457 [0.0028] BKJD
 Rp/R* = 0.0103 [0.0040]
 a/R* = 1.19 [0.55]
 b = 0.18 [8.67]
 Seff = 409.21 [68.78]
 Teq = 1147 [48] K
 Rp = 0.56 [0.22] Re
 a = 0.0137 [0.0010] AU
 Ag = N/A
 Tefp = N/A

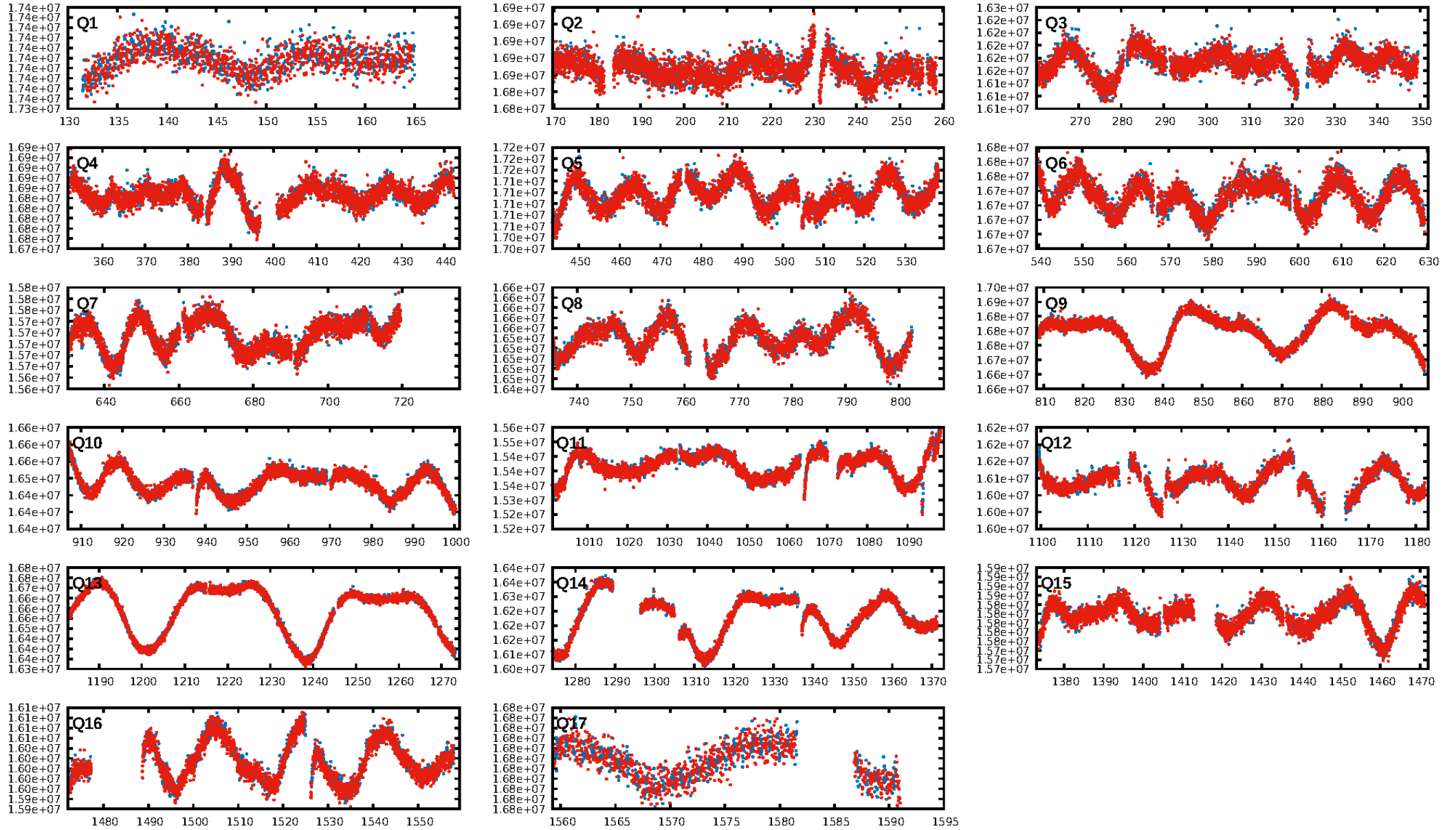
DV Diagnostic Results:

ShortPeriod-sig: N/A
 LongPeriod-sig: 100.0% [5.80σ]
 ModelChiSquare2-sig: N/A
 ModelChiSquareGof-sig: N/A
 Bootstrap-pfa: 9.49e-08
 RollingBand-fgt: 1.00 [1593/1593]
 GhostDiagnostic-chr: 1.58
 Centroid-sig: 1.2%
 Centroid-so: 0.948 arcsec [1.83σ]
 OotOffset-rm: 0.836 arcsec [1.98σ]
 KicOffset-rm: 0.975 arcsec [2.19σ]
 OotOffset-st: 0/4/4/4 [12]
 KicOffset-st: 0/4/4/4 [12]
 DiffImageQuality-fgm: 0.75 [9/12]
 DiffImageOverlap-fno: 1.00 [17/17]

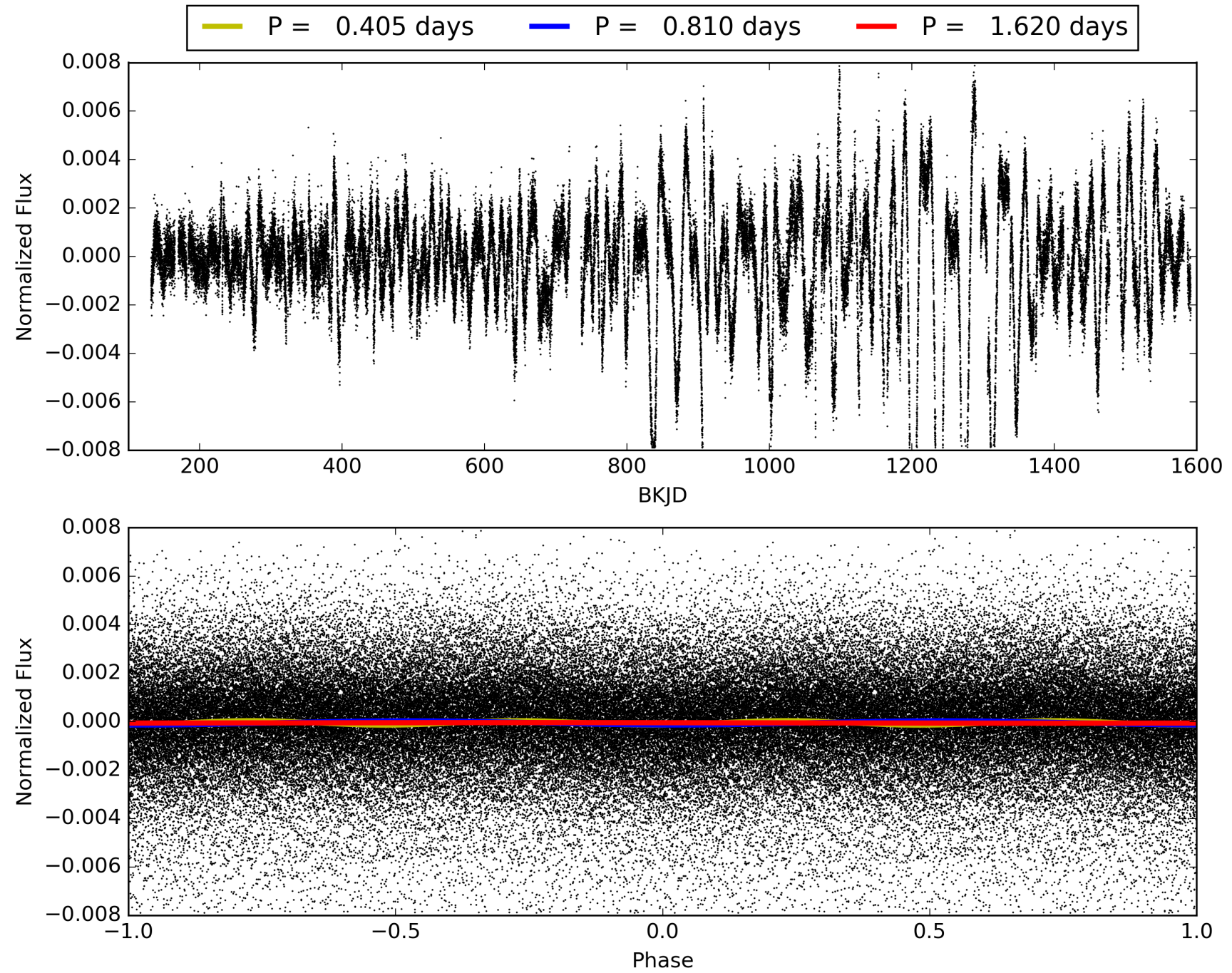
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:32:09 Z

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

TCE 008524712-01, PDC Light Curves

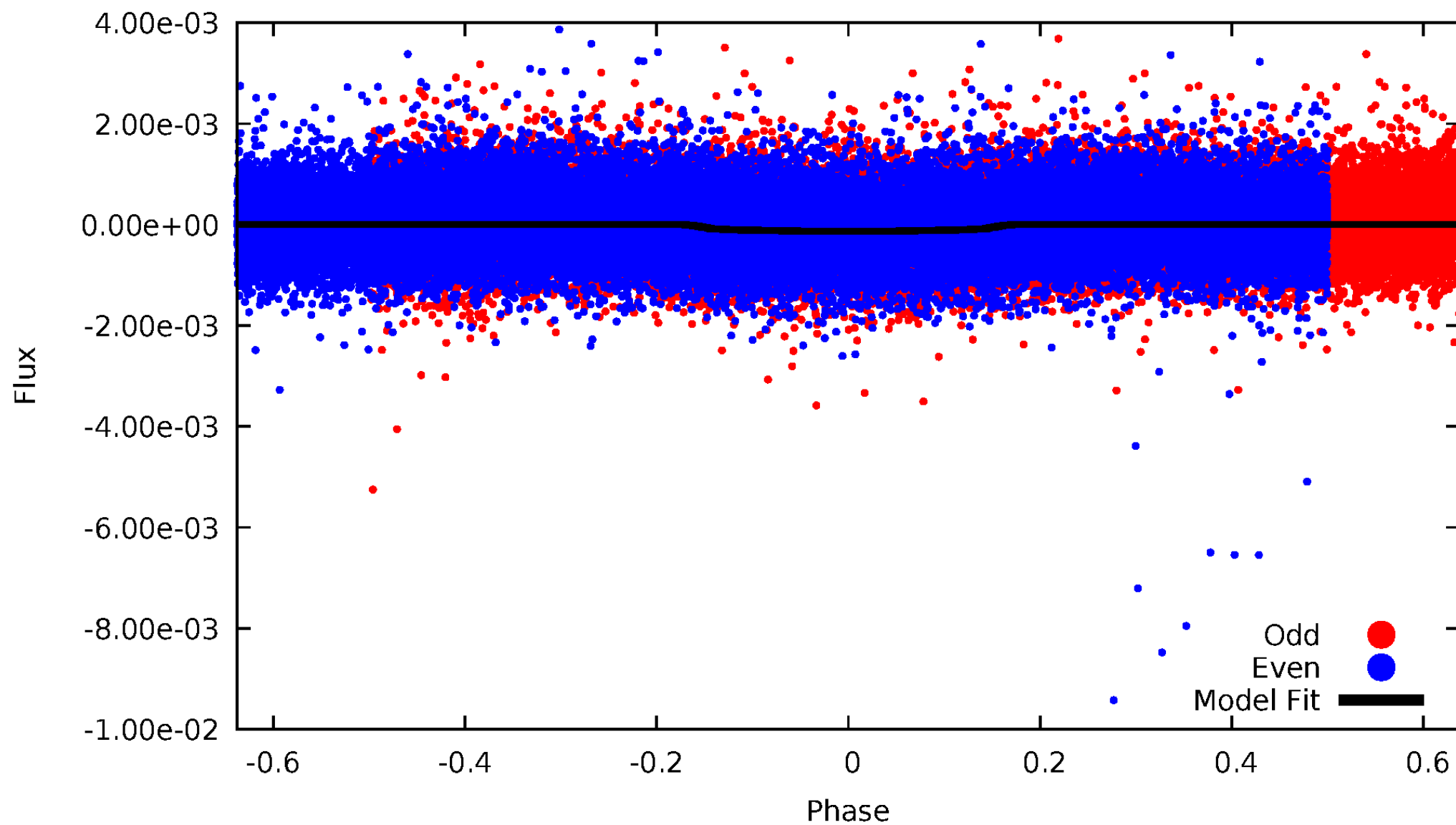


TCE 008524712-01



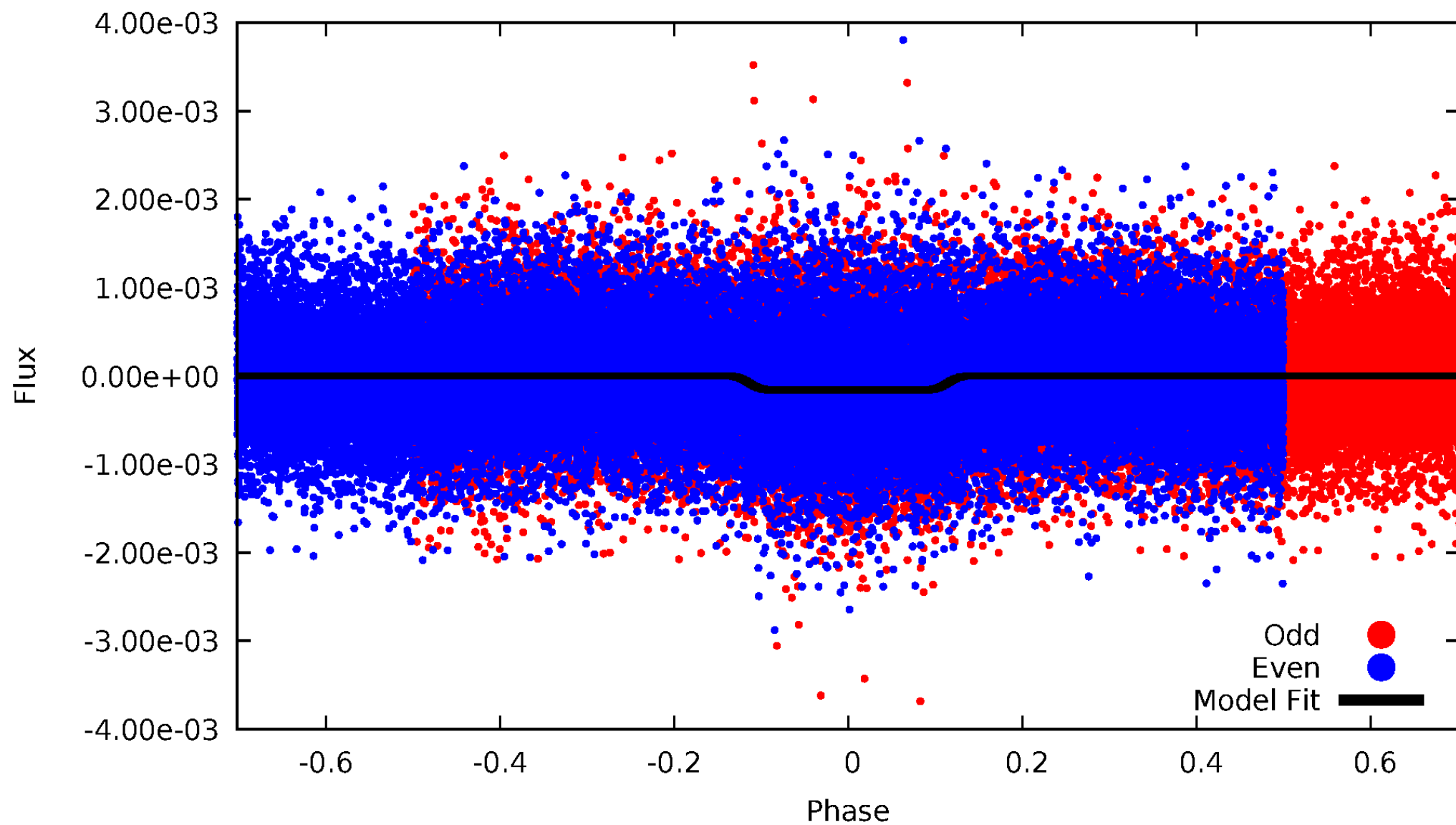
DV Odd/Even

TCE 008524712-01



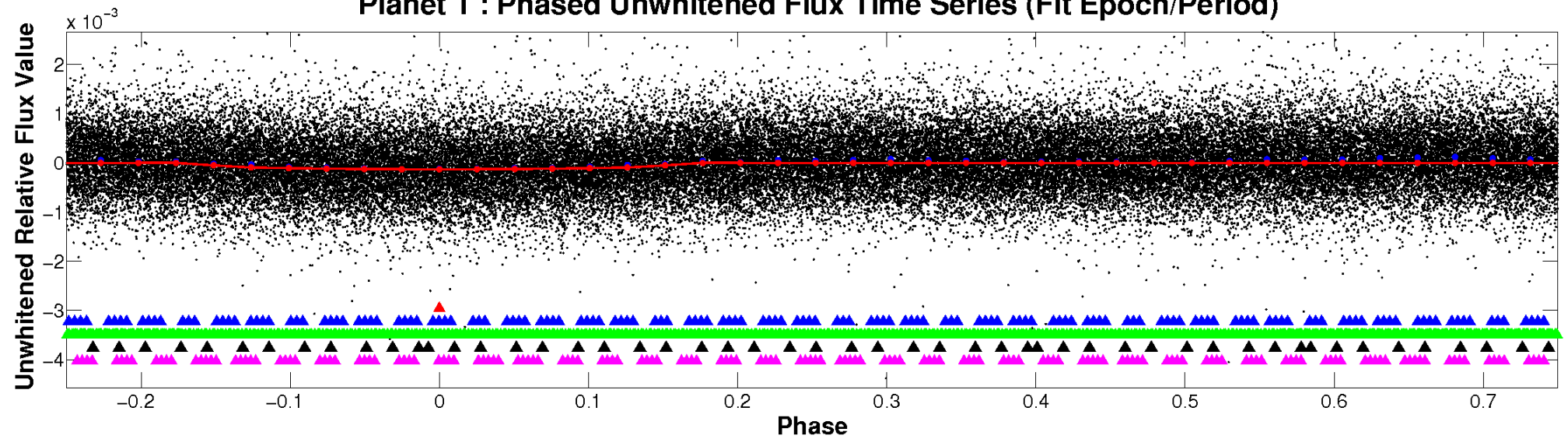
ALT Odd/Even

TCE 008524712-01

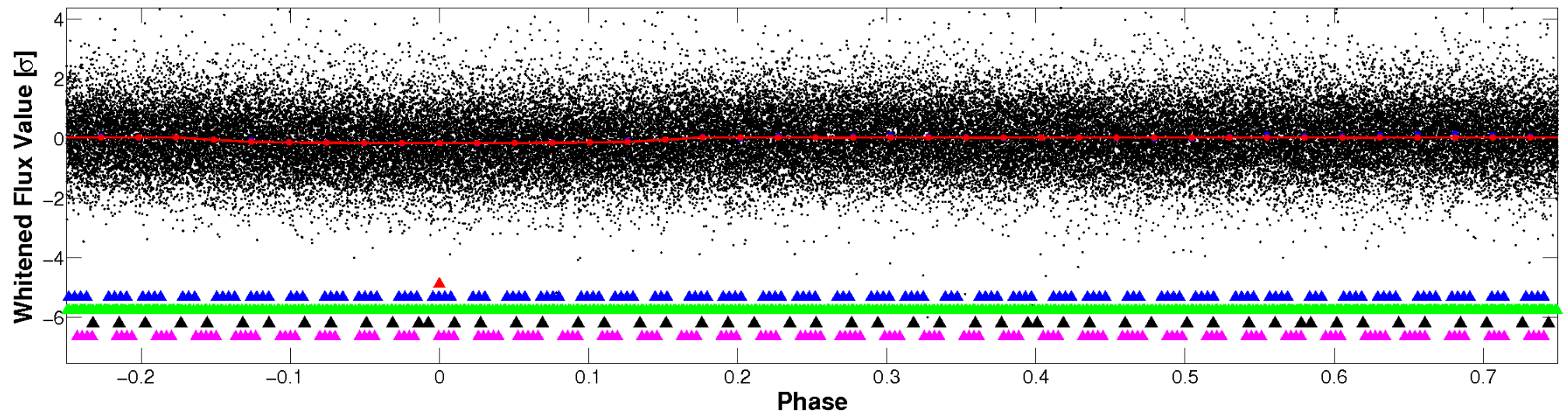


Non-Whitened Vs. Whitened Light Curve

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

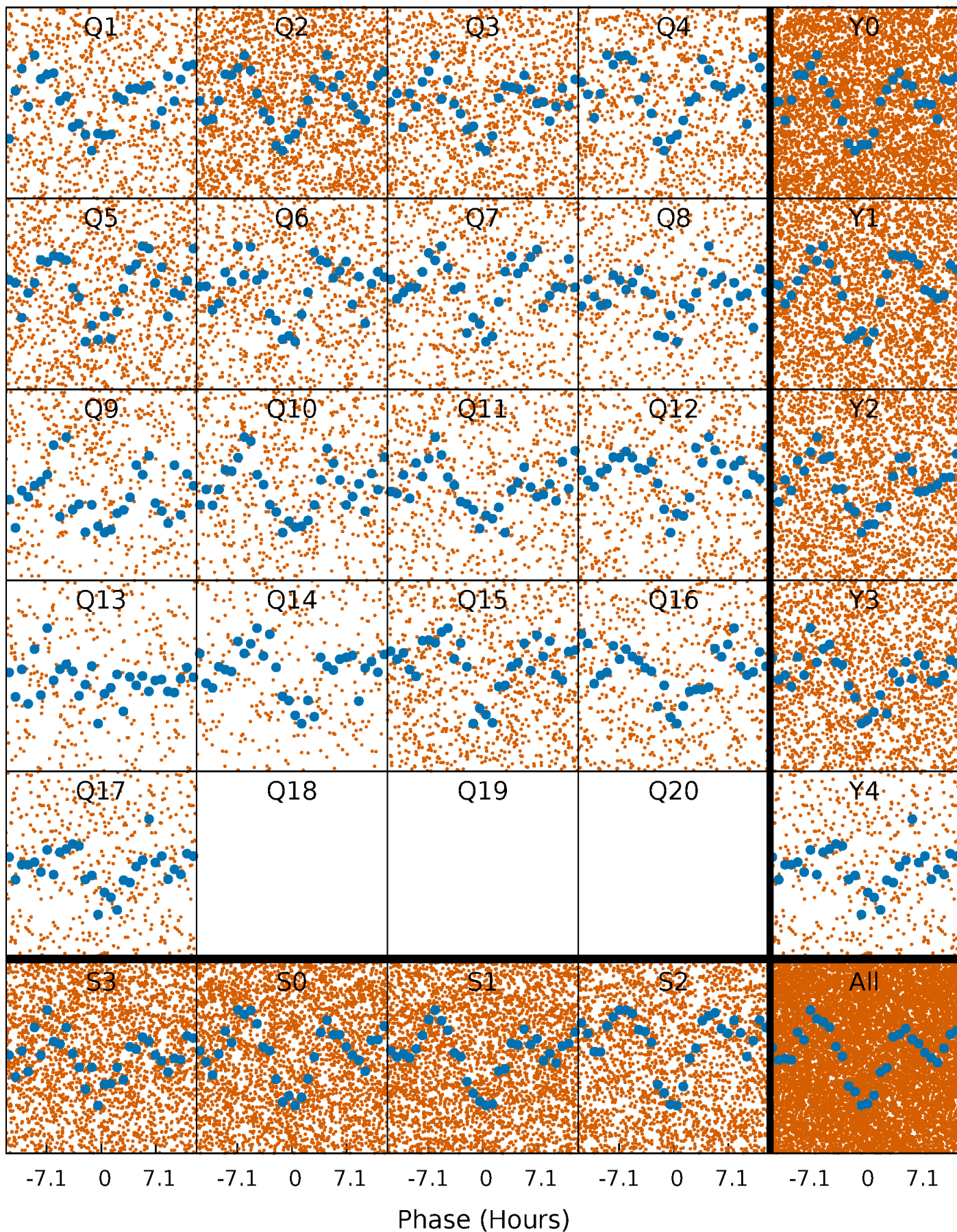


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



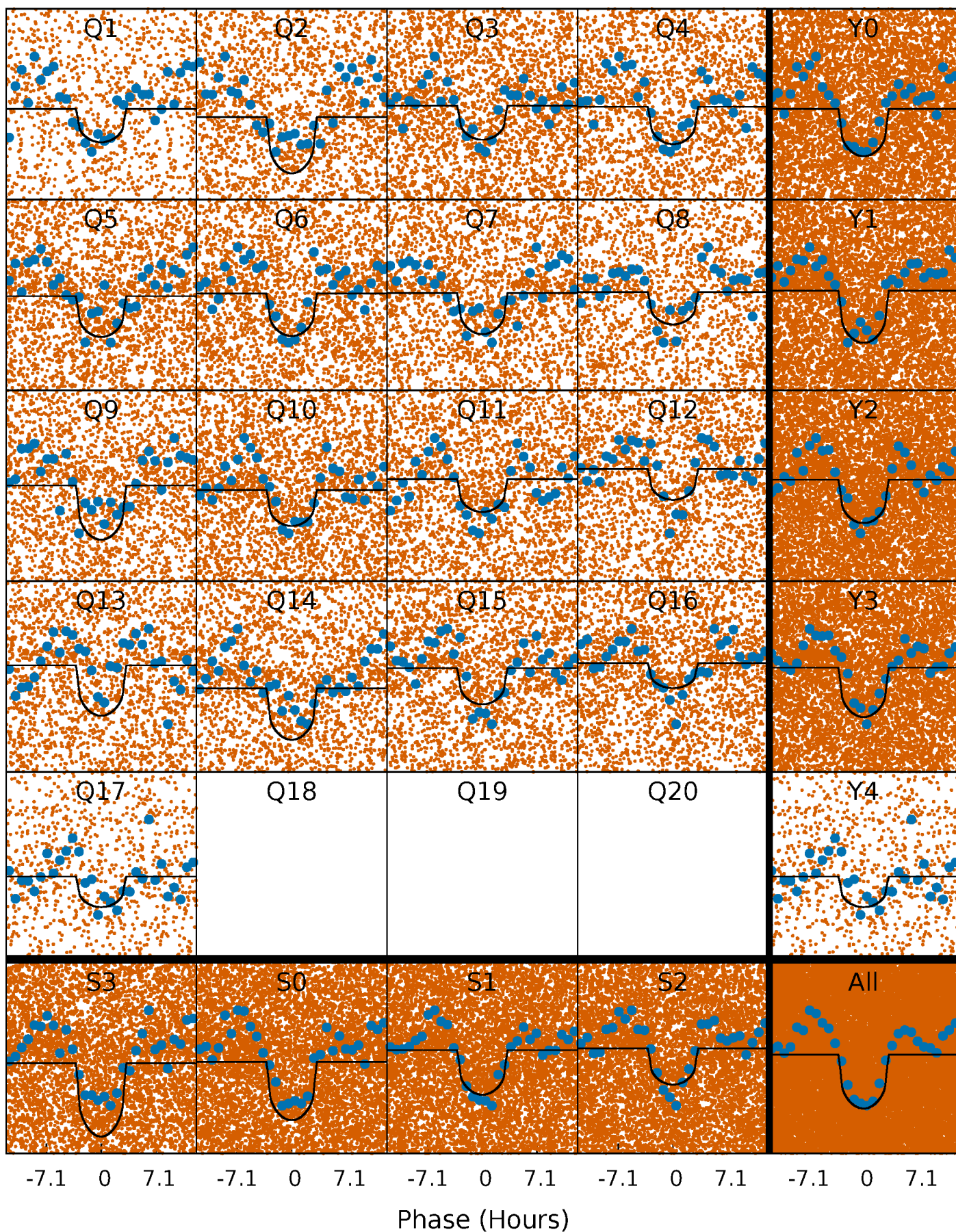
PDC Quarter-Phased Transit Curves

TCE 008524712-01 P= 0.809990 Days $T_0=132.045659$ (BKJD)



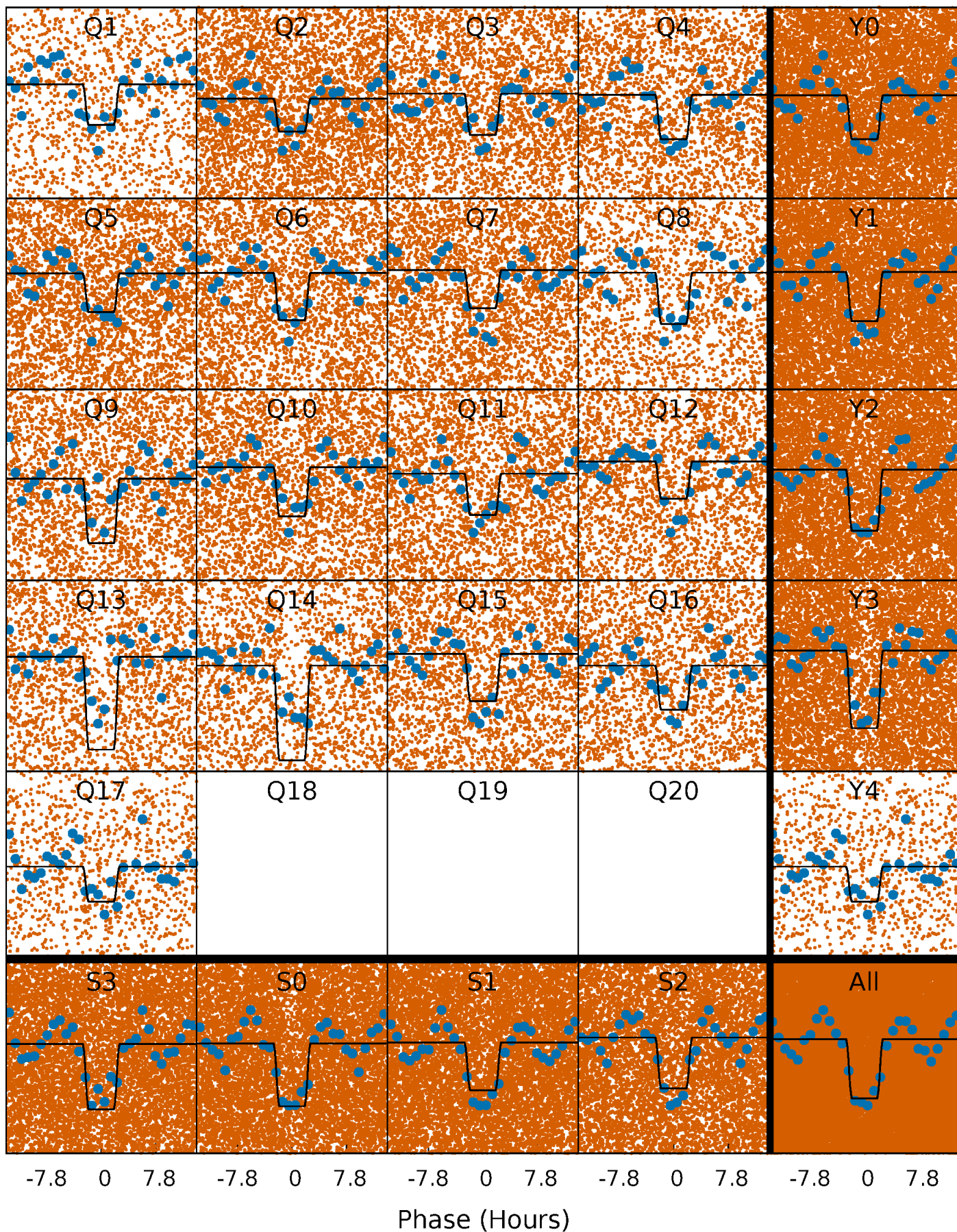
DV Quarter-Phased Transit Curves

TCE 008524712-01 P= 0.809990 Days $T_0=132.045659$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

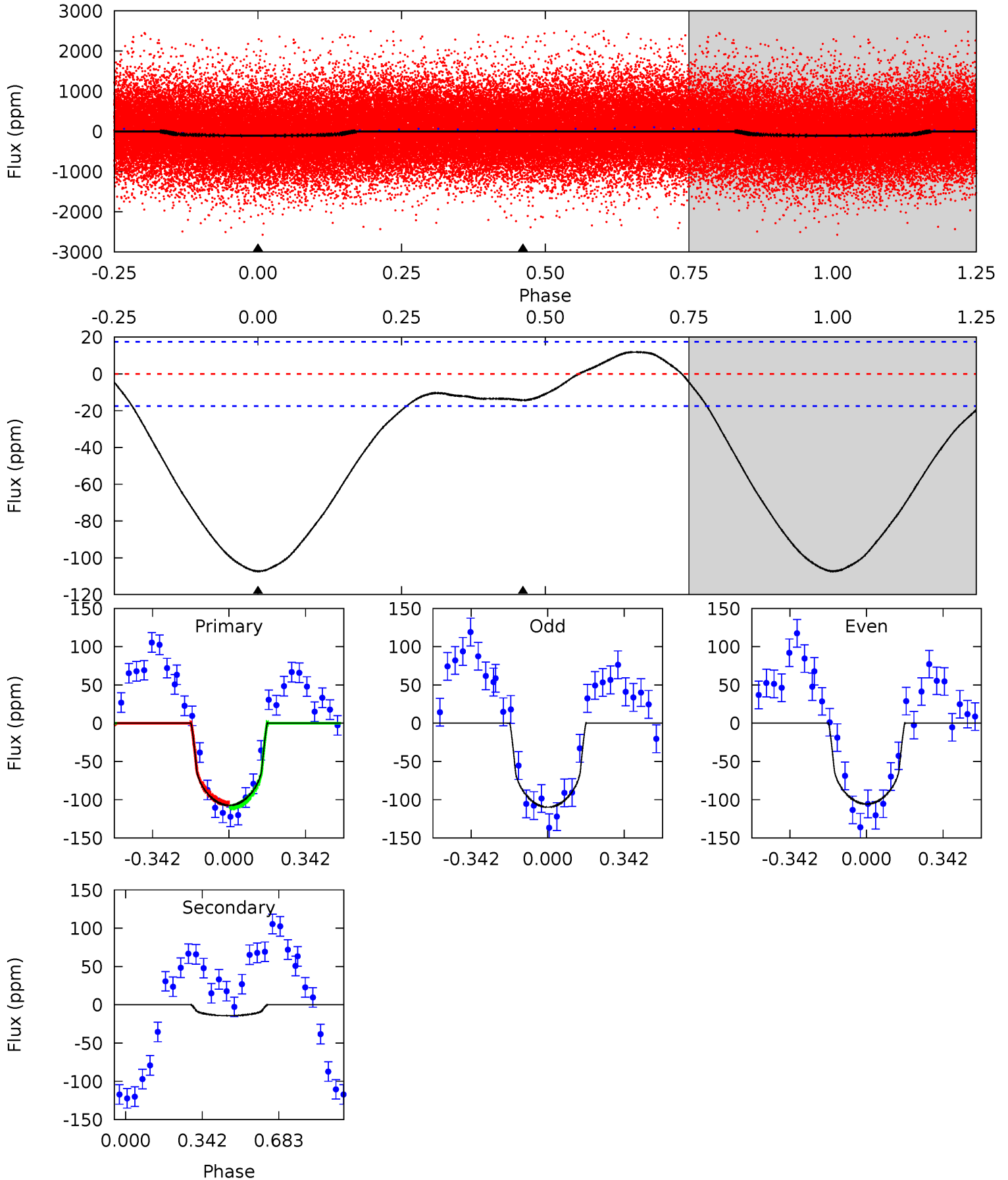
TCE 008524712-01 P= 0.810008 Days $T_0=132.022469$ (BKJD)



DV Model-Shift Uniqueness Test

008524712-01, P = 0.809990 Days, E = 131.235669 Days

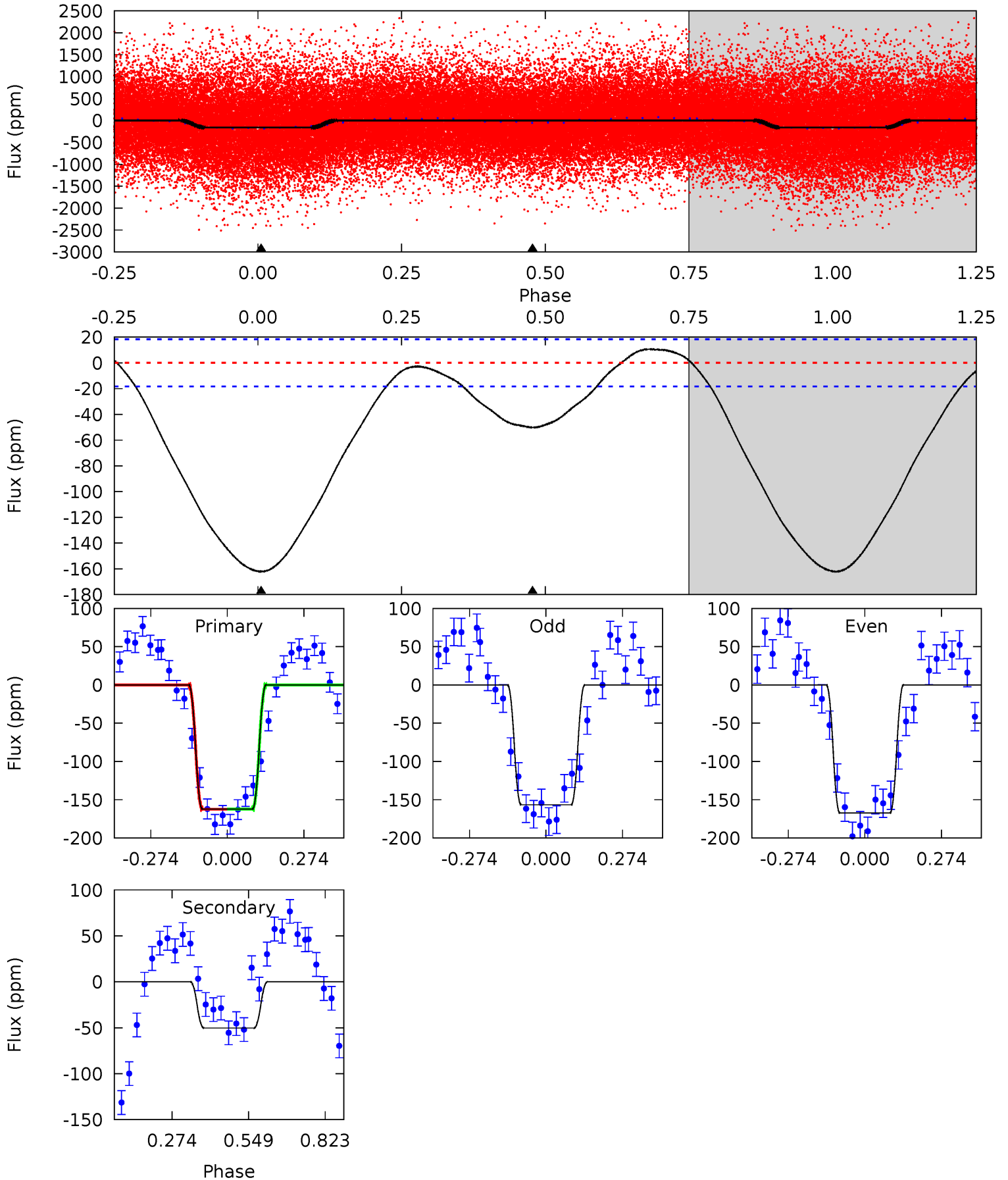
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.4	3.52	0	0	4.30	0.95	2.75	26.4	26.4	3.52	3.52	0.51	1.02	0.10	0.63



Alt Model-Shift Uniqueness Test

008524712-01, P = 0.810008 Days, E = 131.212461 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.5	11.9	0	0	4.35	1.09	1.97	38.5	38.5	11.9	11.9	1.29	0.90	0.06	0.03



Stellar Parameters For KIC 008524712

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4330^{+130}_{-143}	$4.770^{+0.045}_{-0.055}$	$-0.980^{+0.300}_{-0.300}$	$0.495^{+0.045}_{-0.045}$	$0.527^{+0.034}_{-0.043}$	$6.111^{+1.339}_{-1.209}$
	+3%/-3%	+1%/-1%	+31%/-31%	+9%/-9%	+6%/-8%	+22%/-20%
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 008524712-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-14 ± 4	$0.56^{+0.22}_{-0.21}$	1601^{+63}_{-60}	3074^{+538}_{-324}	$4.670^{+7.854}_{-2.367}$
Alt.	-50 ± 4	$0.68^{+0.22}_{-0.22}$	1608^{+54}_{-64}	3531^{+511}_{-309}	11^{+13}_{-5}

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 $A_{obs} \gg 1.0$

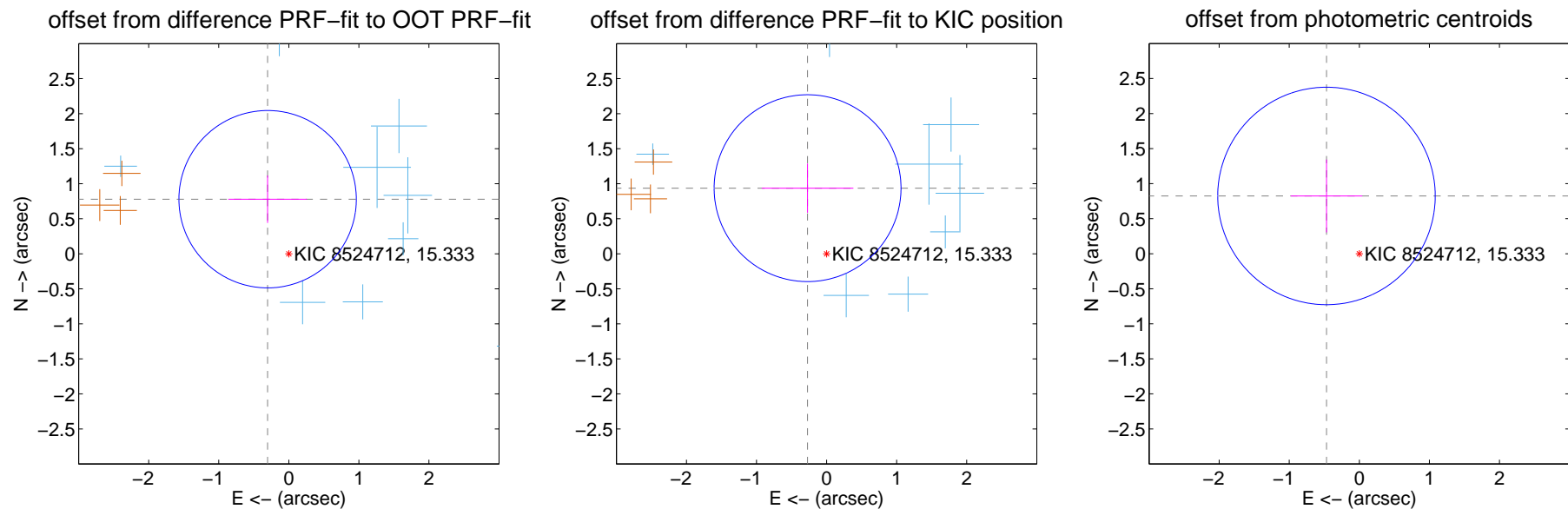
DV Centroid Data

Supplemental centroid analysis for 008524712-01. Kepler magnitude: 15.33. Transit SNR 20.19

There are 9 quarters with good PRF difference image offsets

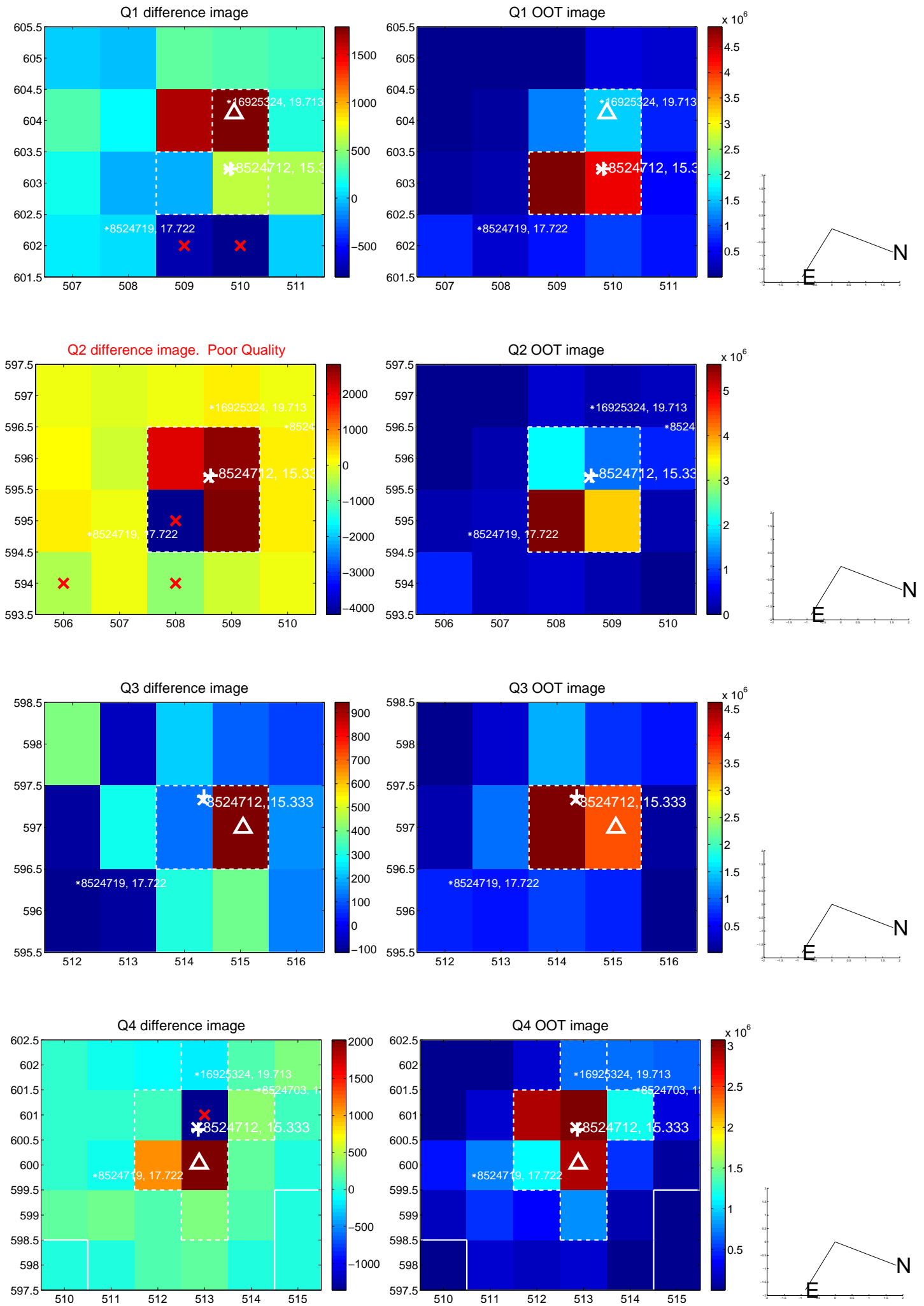
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.836 ± 0.422	1.98	0.303 ± 0.561	0.779 ± 0.338
PRF-fit source offset from KIC position	0.975 ± 0.444	2.19	0.271 ± 0.653	0.937 ± 0.351
photometric centroid source offset	0.95 ± 0.52	1.83	0.47 ± 0.51	0.82 ± 0.52

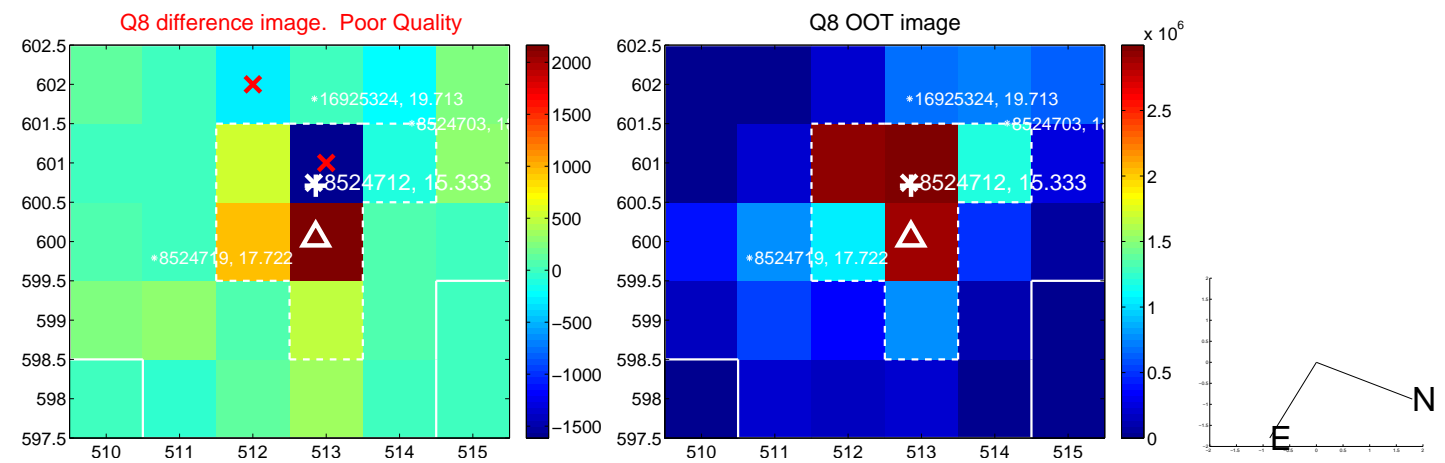
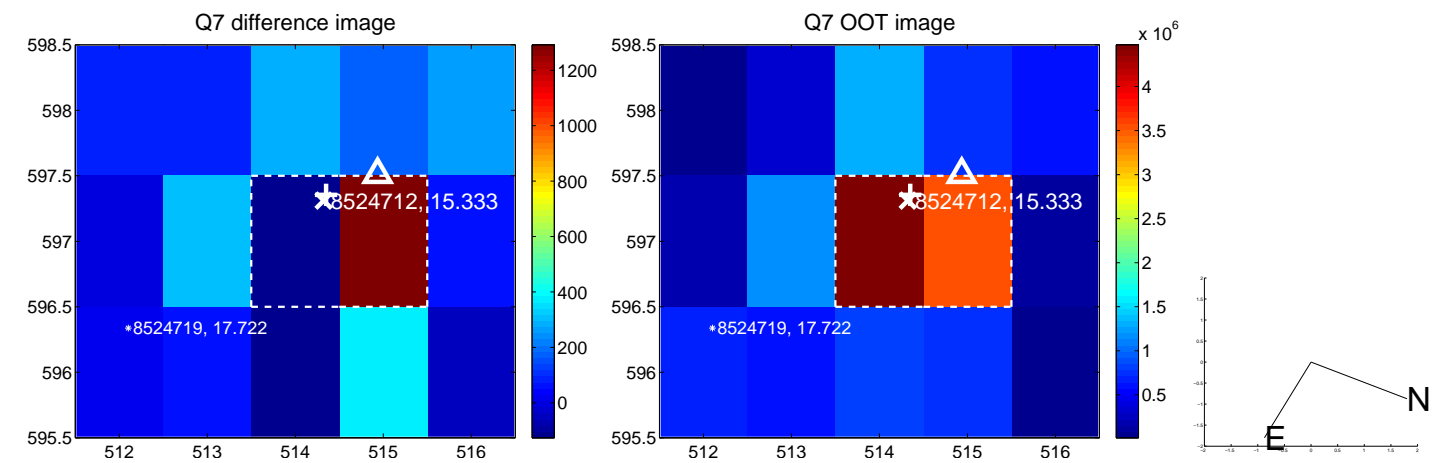
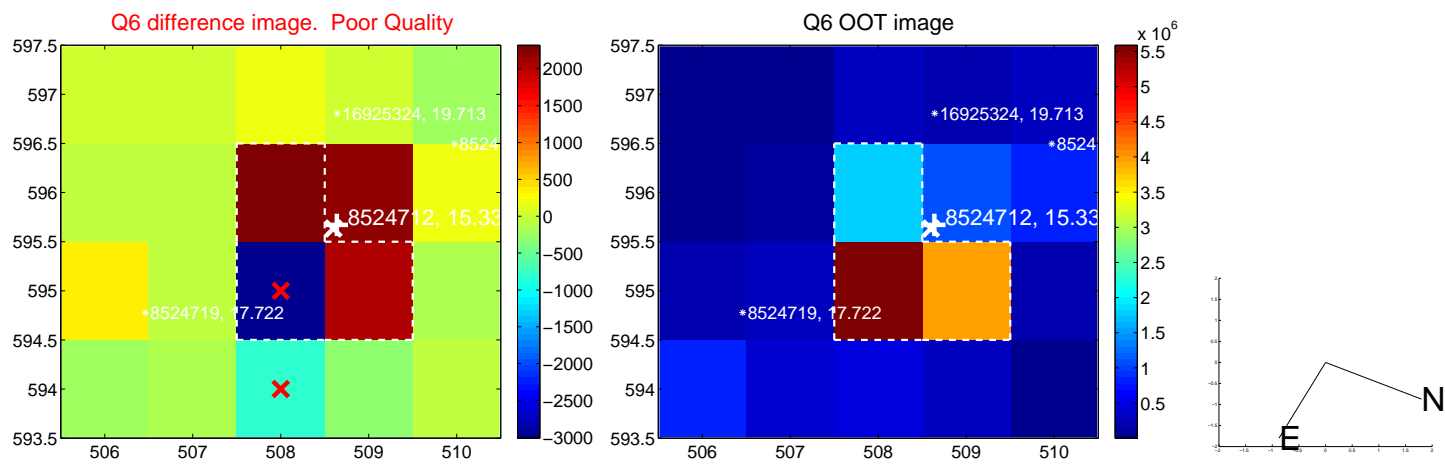
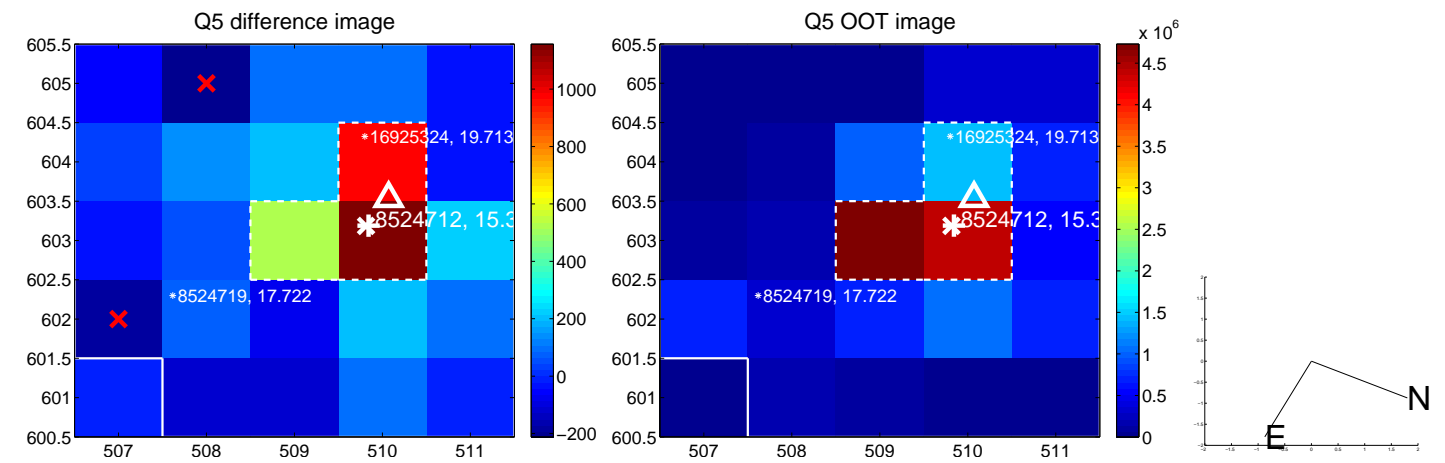


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

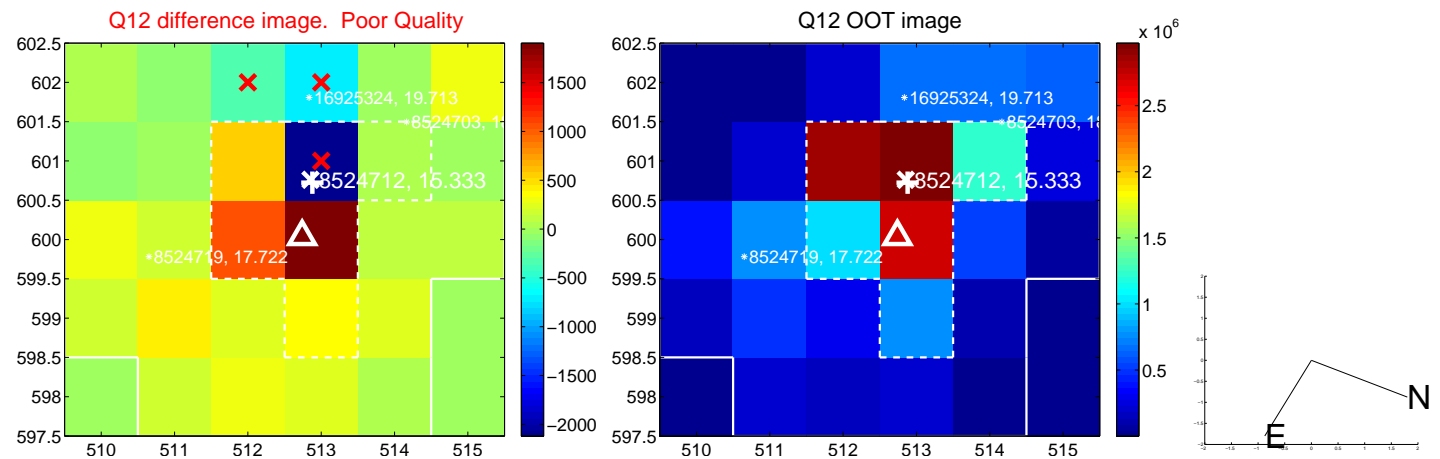
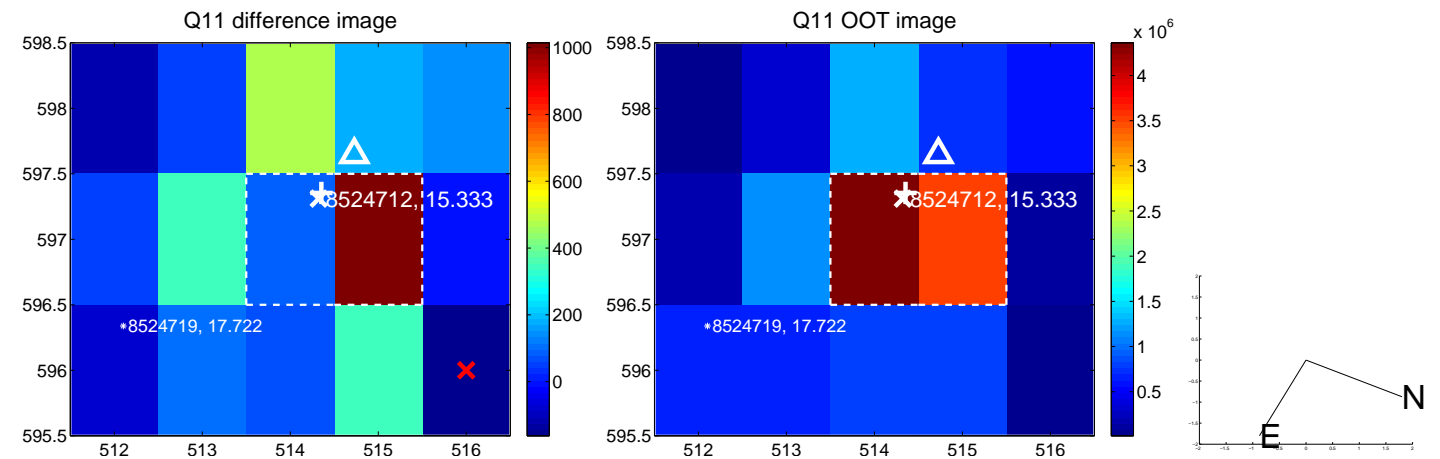
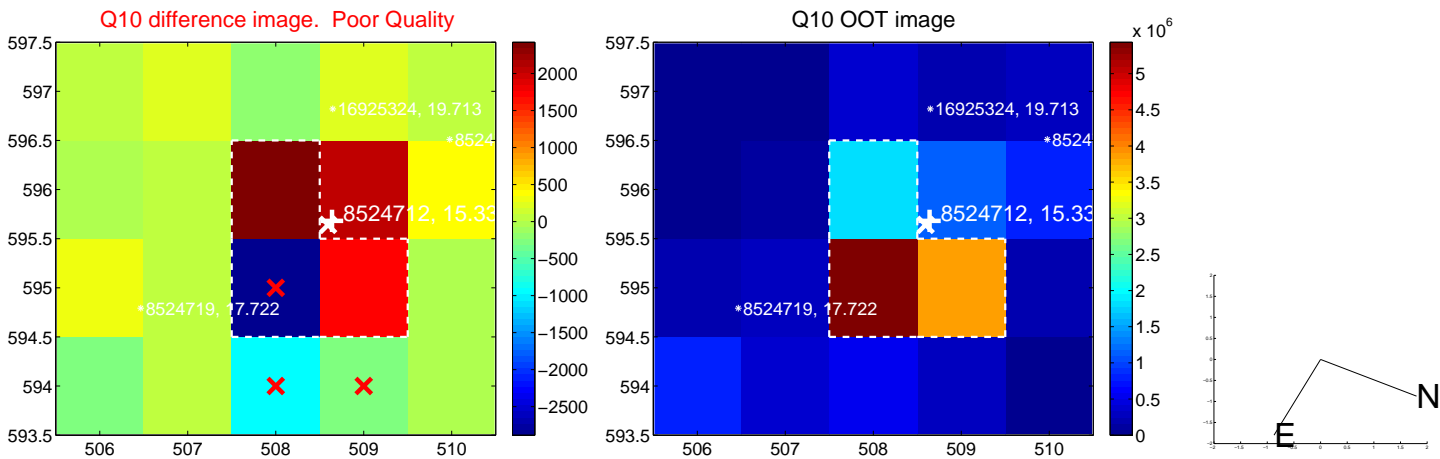
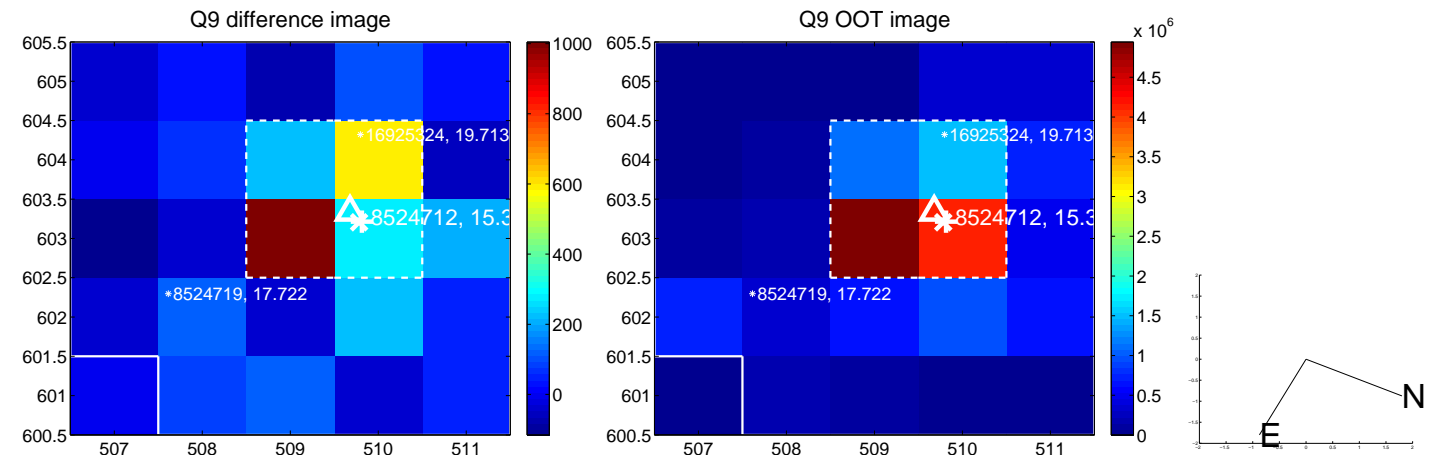
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



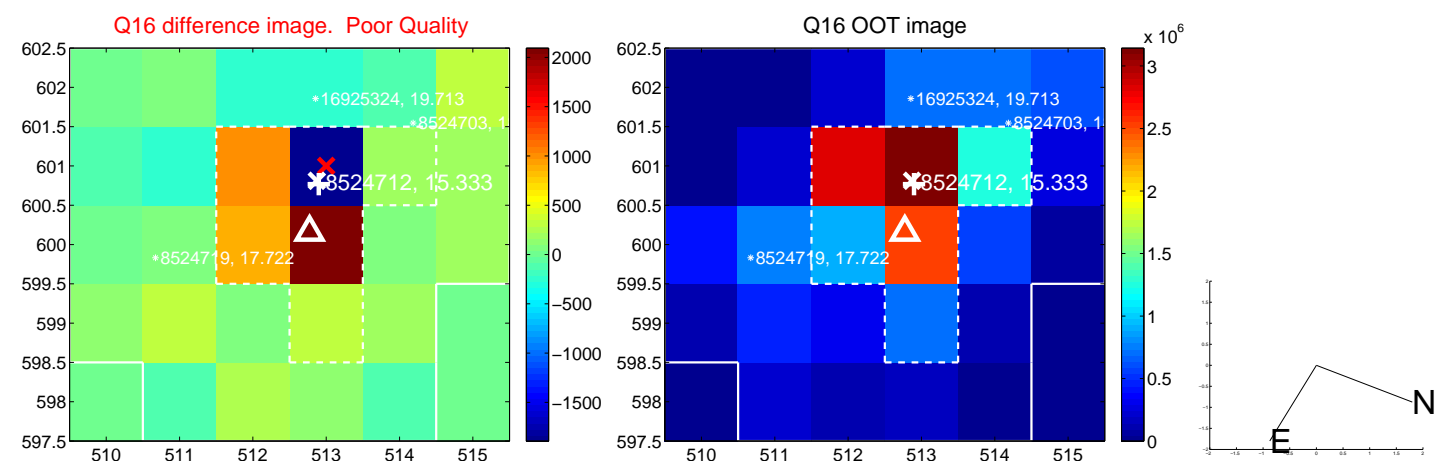
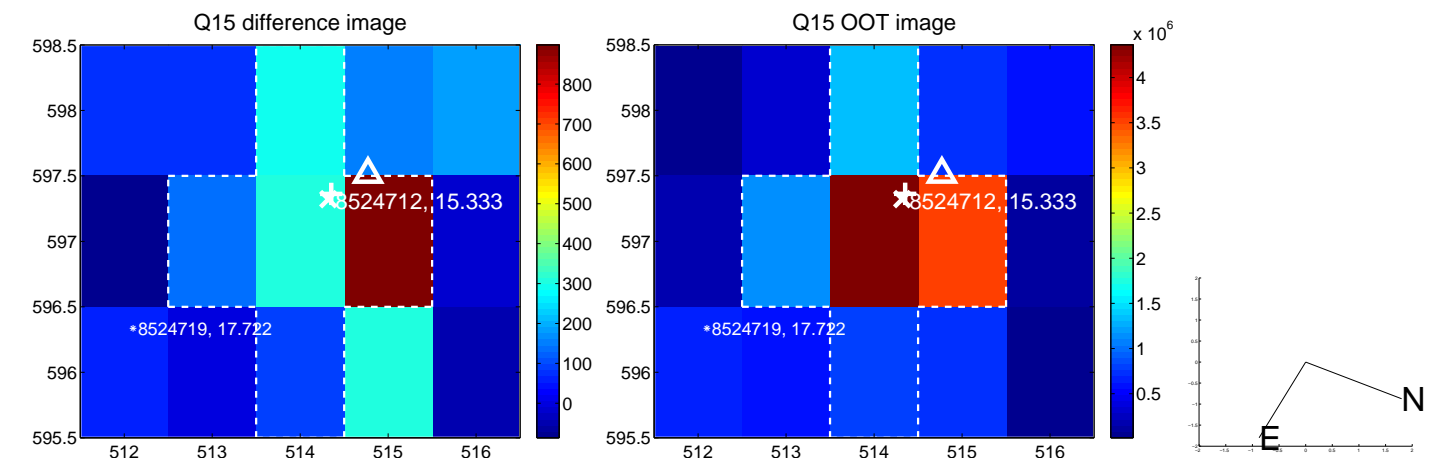
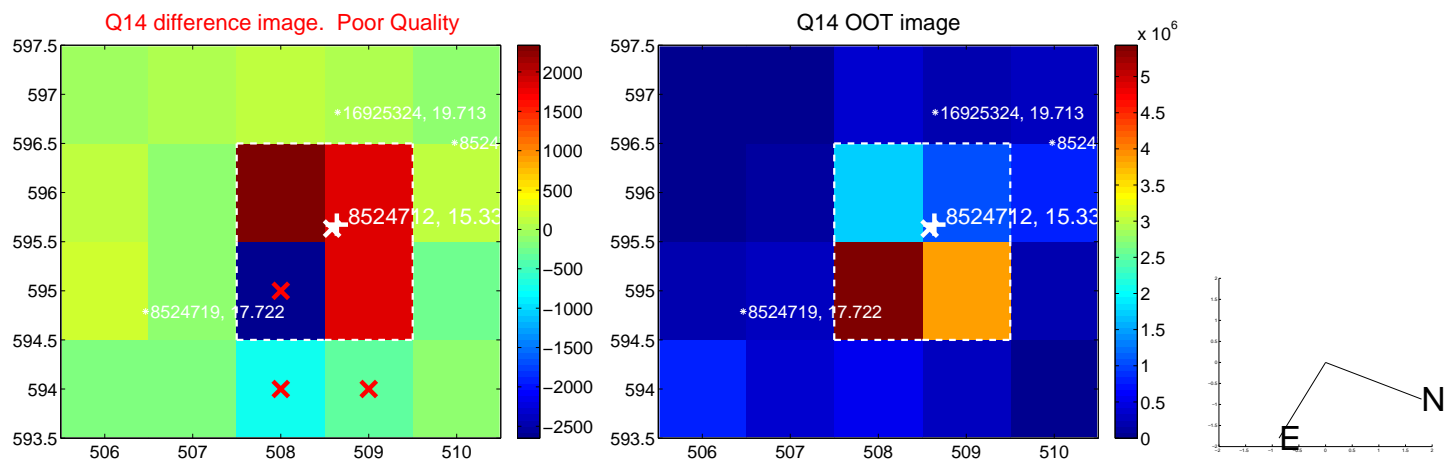
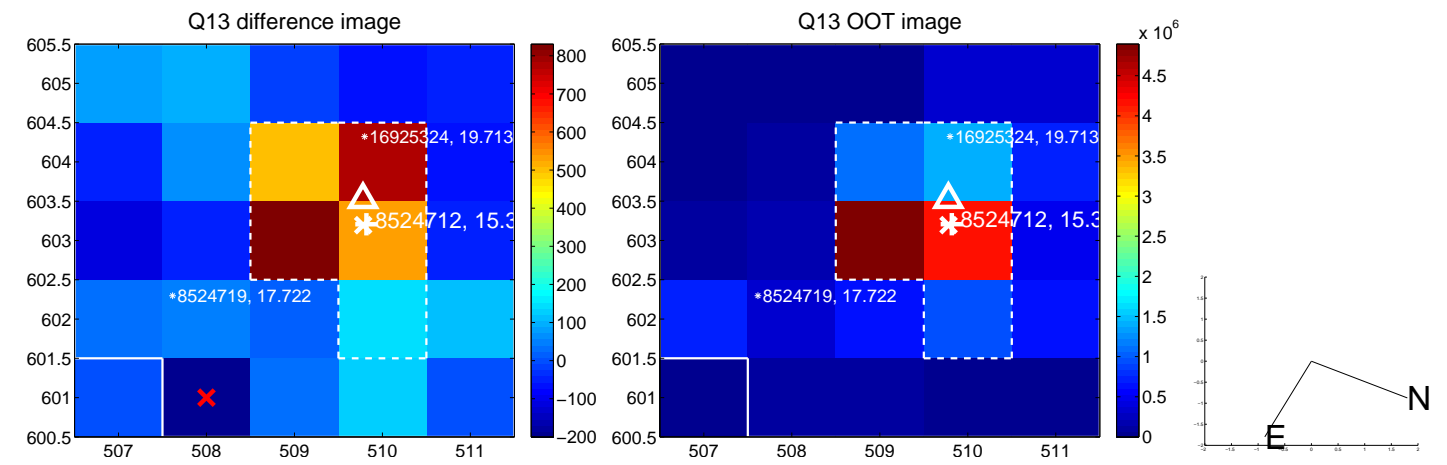
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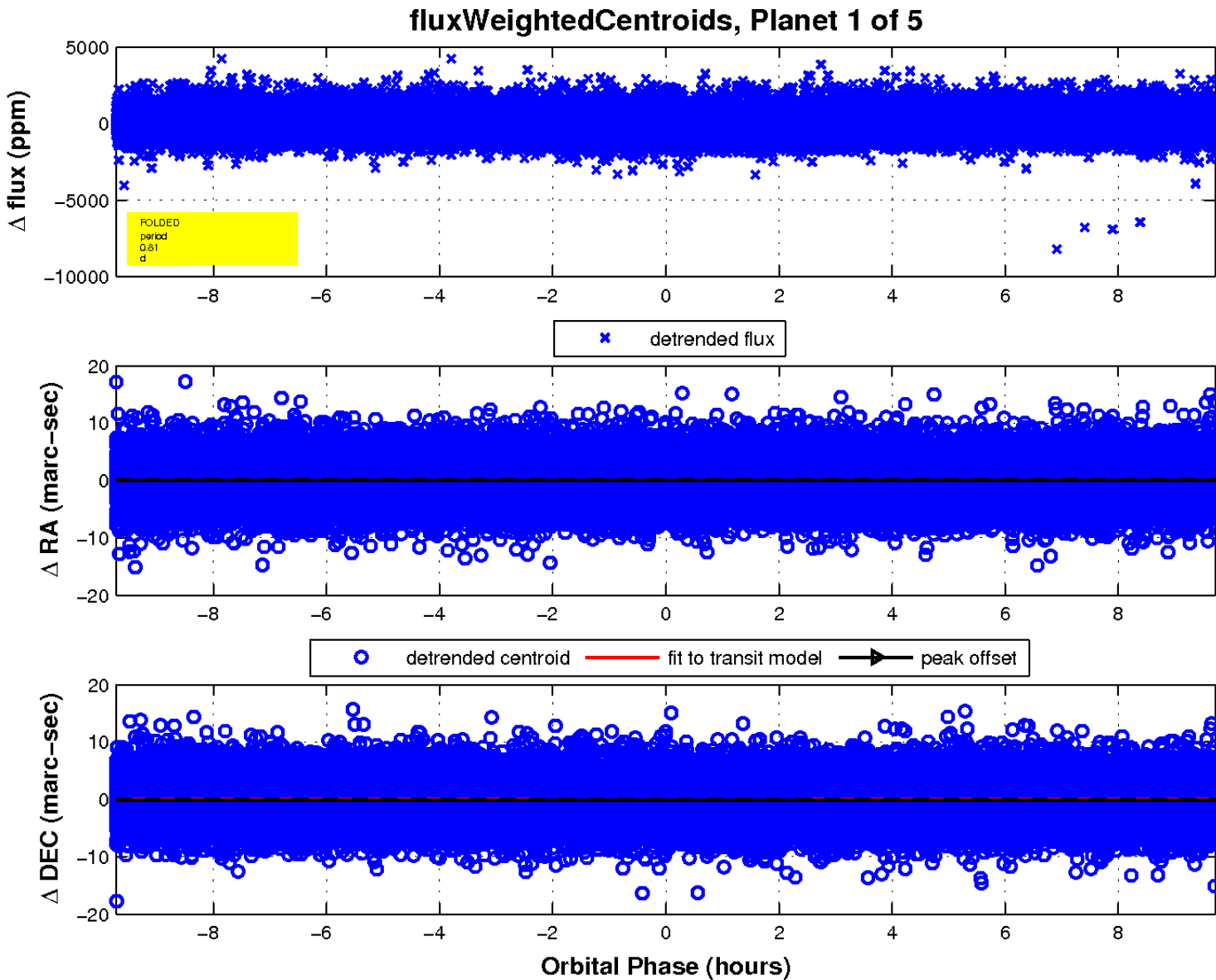
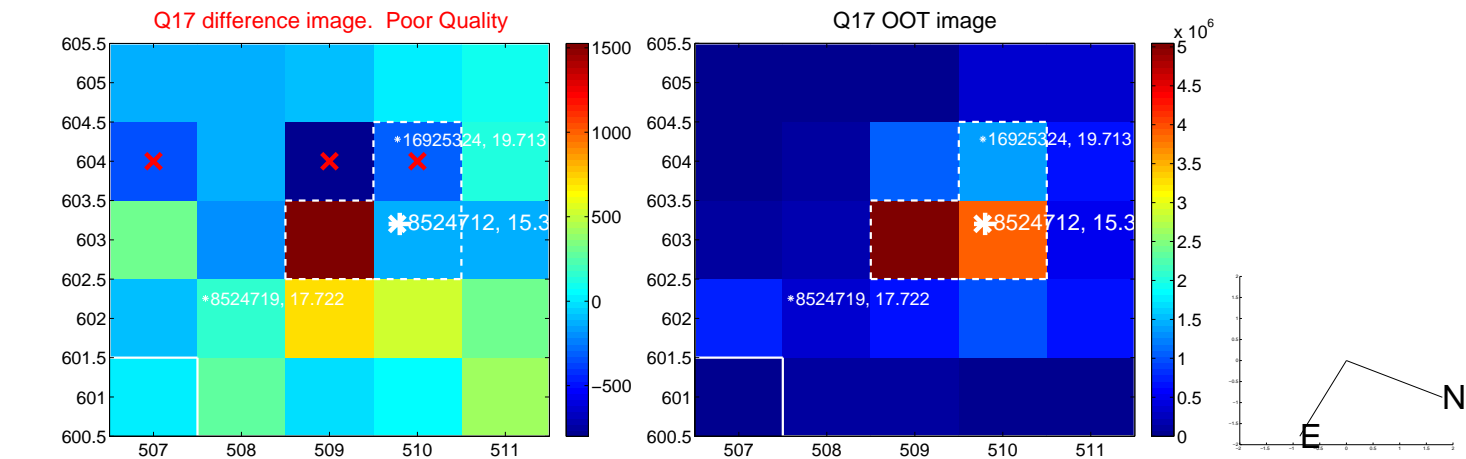
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

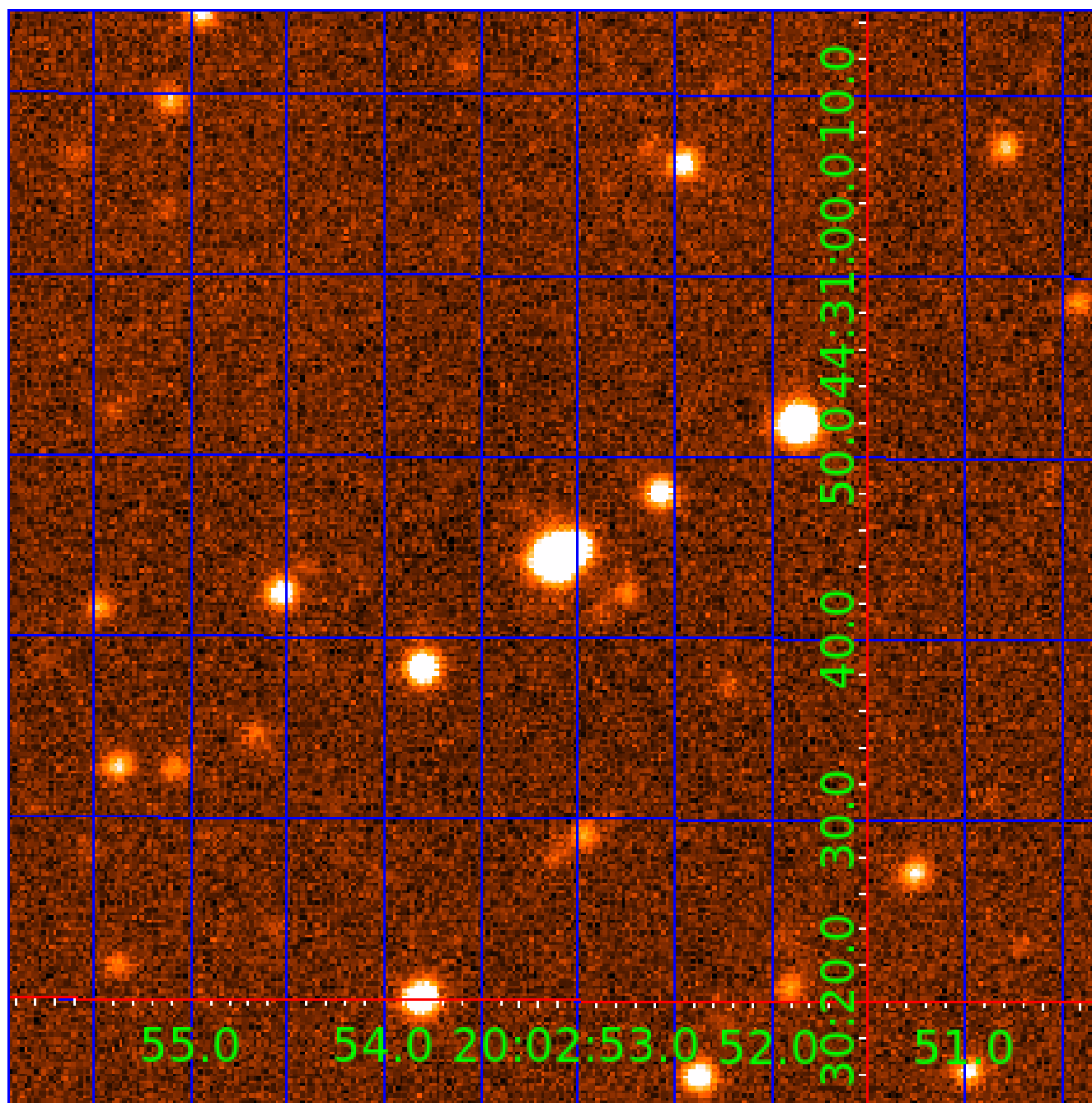


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



UKIRT Image

Declination



KIC 008524712

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})
008524712-01	OBS	No	0.809990	132.045659	130.4	6.197	15.2	20.2	0.49	4330	0.56	409.21
008524712-02	OBS	No	9.364359	140.457394	1643.1	0.972	17.3	21.8	0.49	4330	2.38	15.65
008524712-03	OBS	No	2.425579	132.714119	2288.4	2.500	13.9	-1.0	0.49	4330	2.34	94.80
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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008524712-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_FEW_DIFFS
008524712-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
008524712-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
008524712-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_RESOLVED_OFFSET

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

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

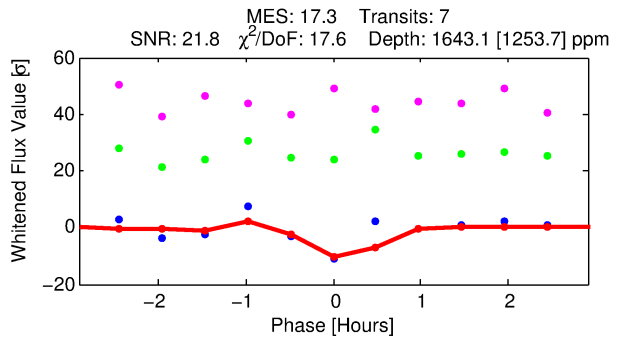
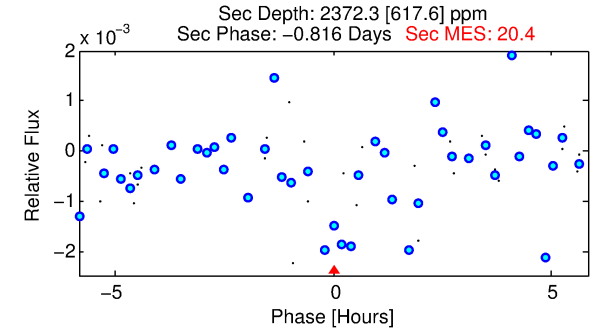
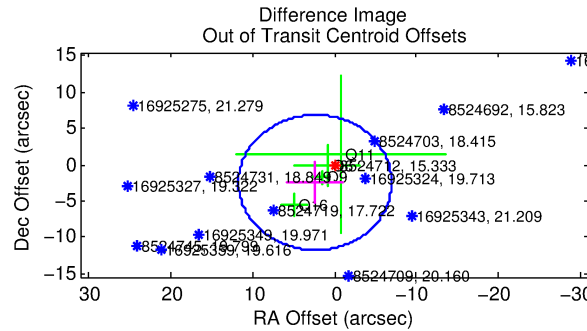
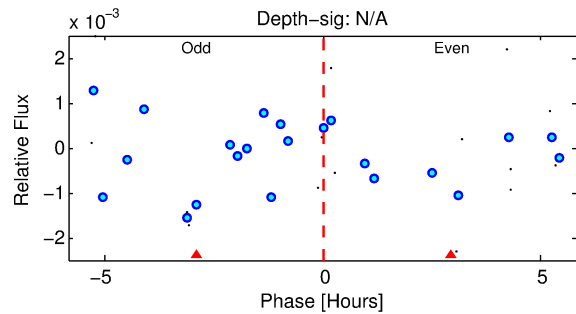
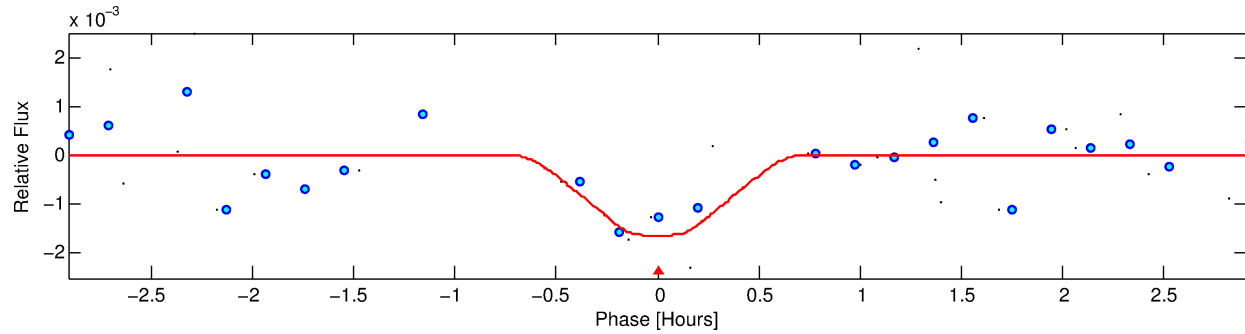
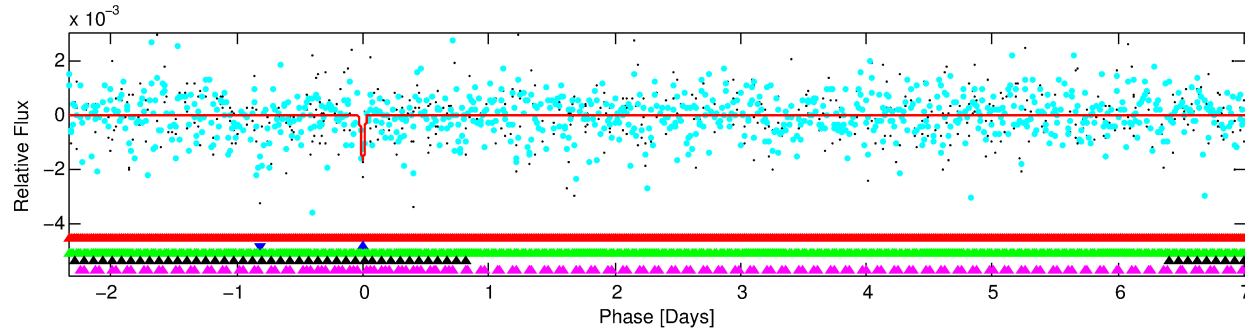
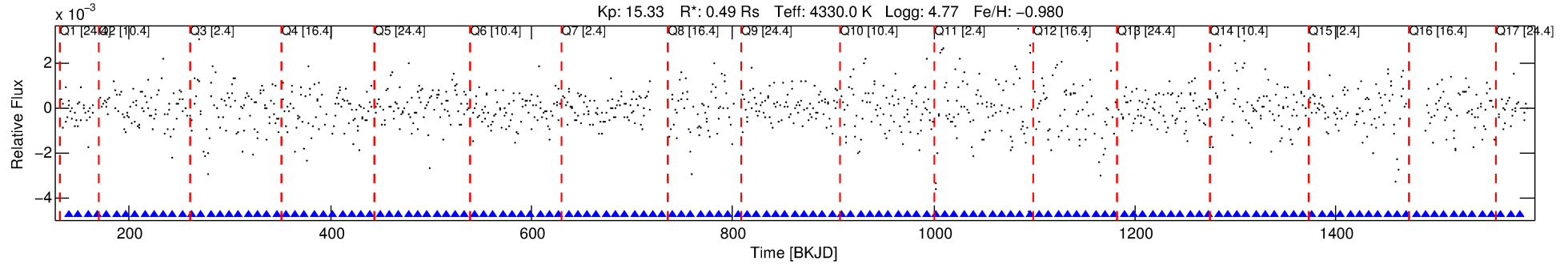
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008524712-02

No Significant Match Found

DV One-Page Summary

KIC: 8524712 Candidate: 2 of 5 Period: 9.364 d



DV Fit Results:

Period = 9.36436 [0.00015] d
Epoch = 140.4574 [0.0102] BKJD
Rp/R* = 0.0441 [0.1256]
a/R* = 41.43 [487.31]
b = 0.88 [3.10]
Seff = 15.65 [2.63]
Teq = 507 [21] K
Rp = 2.38 [6.79] Re
a = 0.0702 [0.0052] AU
Ag = 1133.45 [6464.16] [0.18σ]
Teffp = 4550 [6488] K [0.62σ]

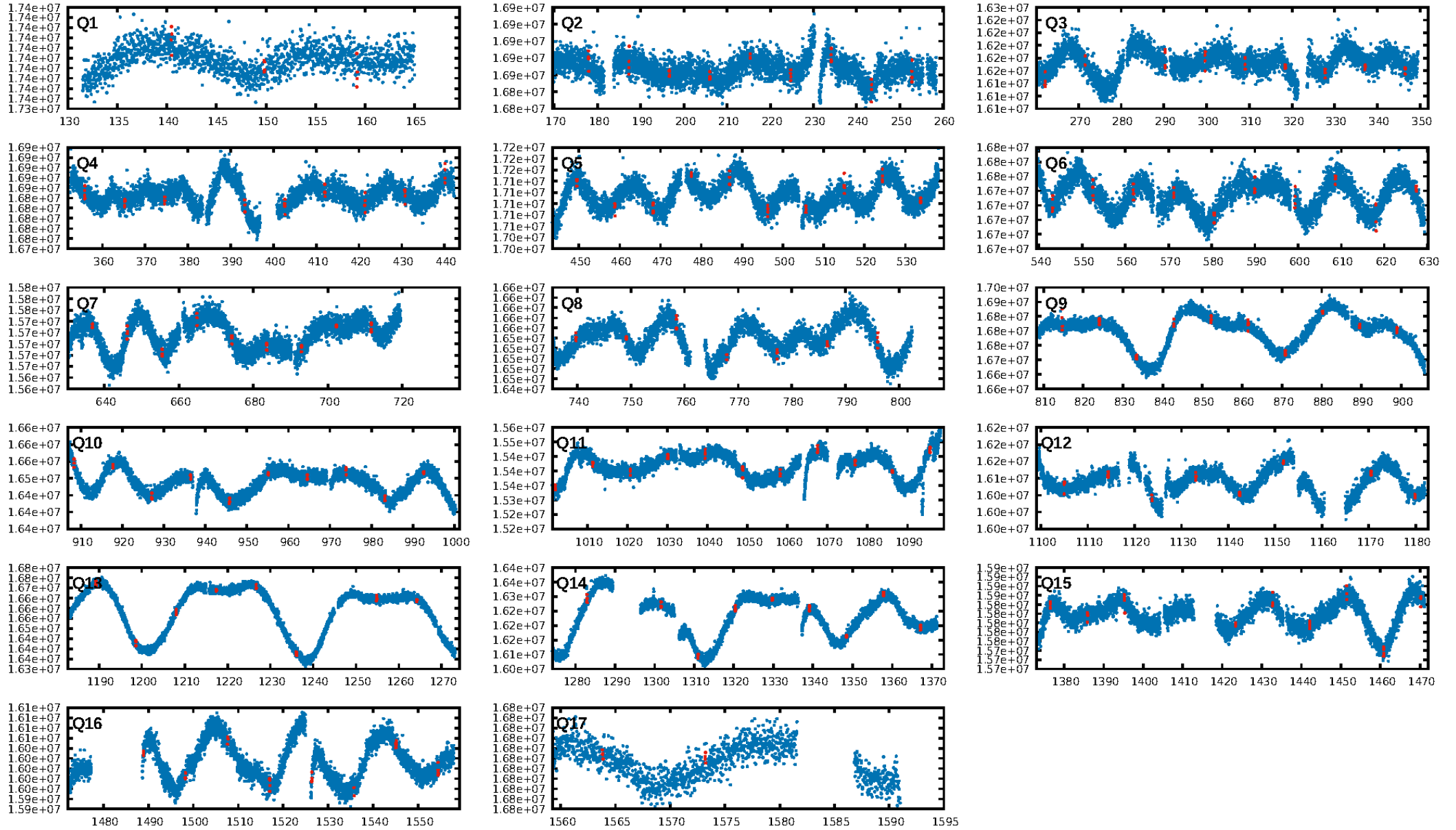
DV Diagnostic Results:

ShortPeriod-sig: 98.7% [2.49σ]
LongPeriod-sig: 100.0% [118.88σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 1.8%
Bootstrap-pfa: 1.18e-06
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -0.6737
Centroid-sig: 4.2%
Centroid-so: 0.661 arcsec [1.77σ]
OotOffset-rm: 3.421 arcsec [1.10σ]
KicOffset-rm: 3.337 arcsec [1.07σ]
OotOffset-st: 1/1/1/1 [4]
KicOffset-st: 1/1/1/1 [4]
DiffImageQuality-fgm: 0.00 [0/4]
DiffImageOverlap-fno: 0.69 [11/16]

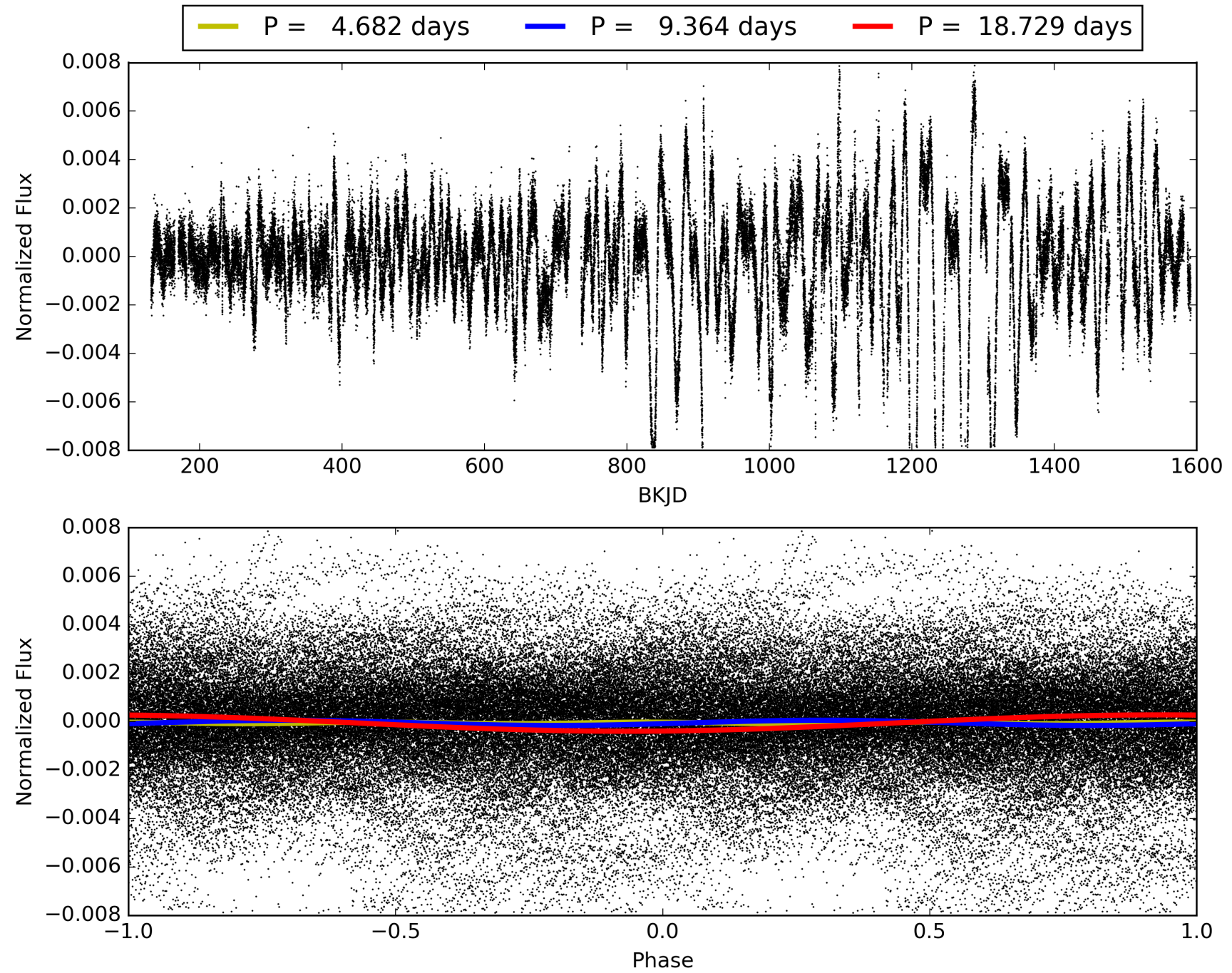
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:32:20 Z

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

TCE 008524712-02, PDC Light Curves

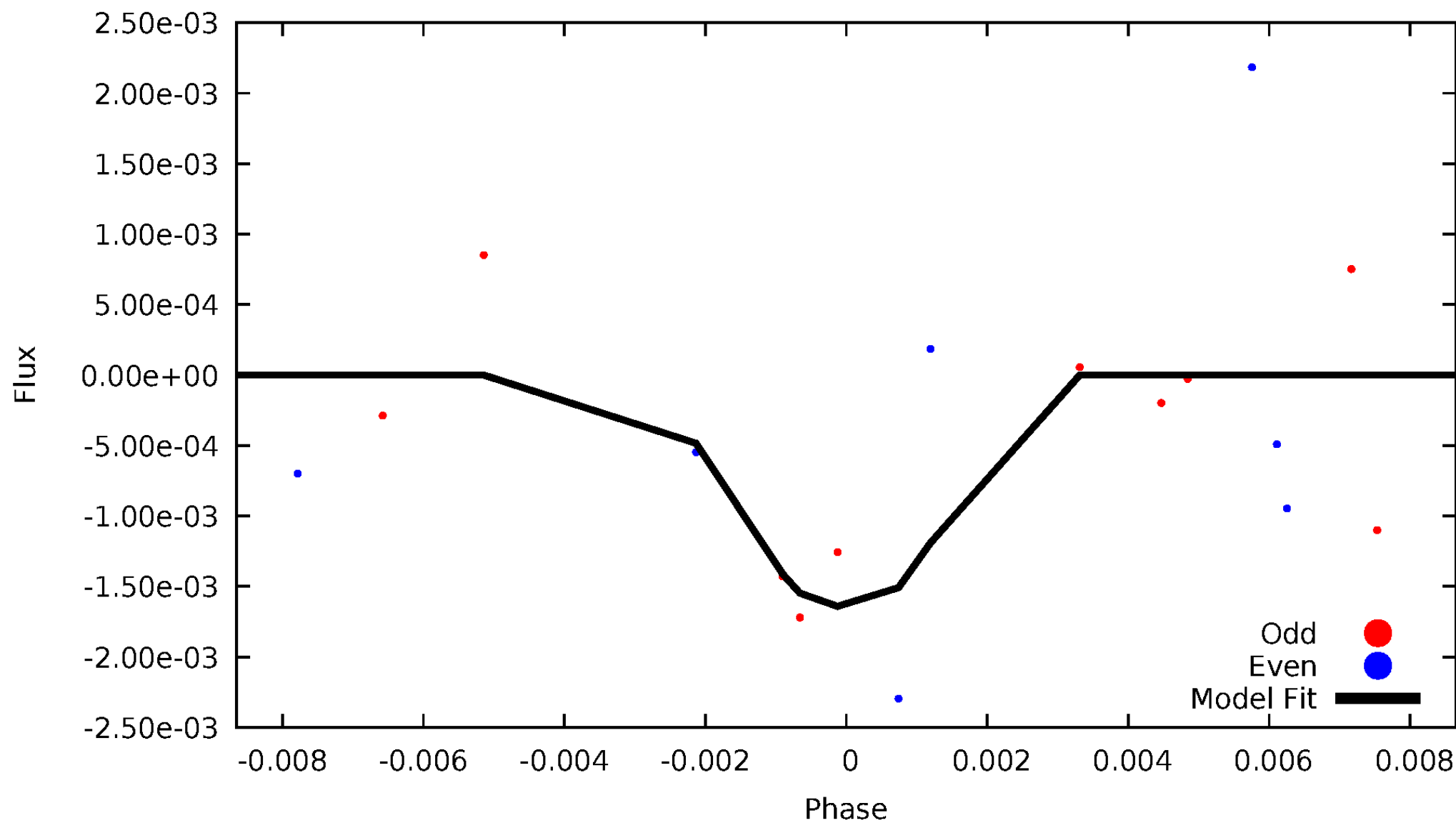


TCE 008524712-02



DV Odd/Even

TCE 008524712-02

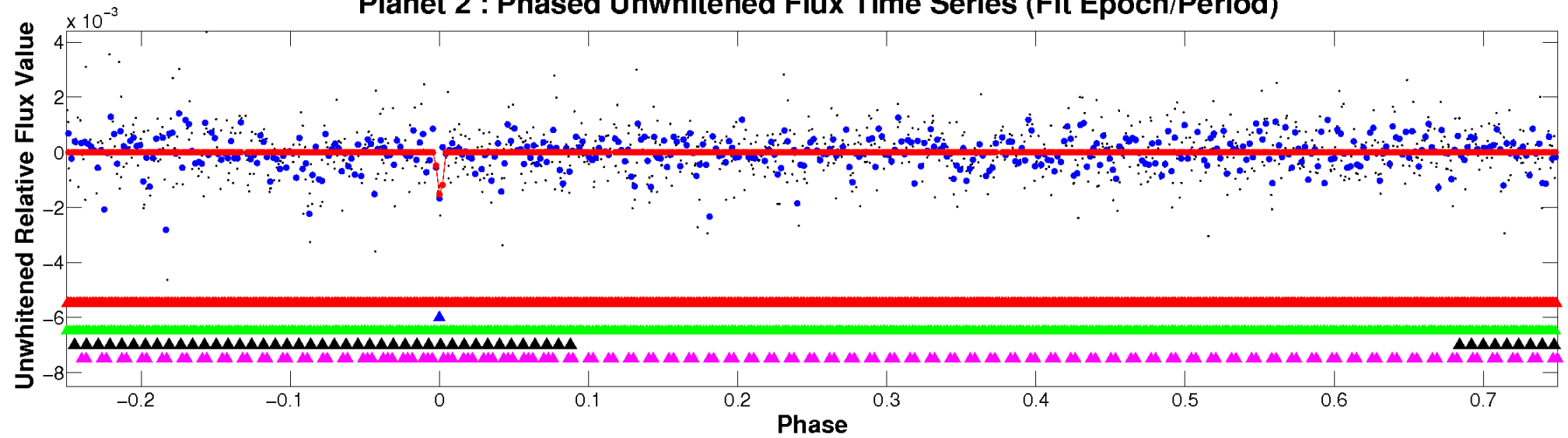


ALT Odd/Even

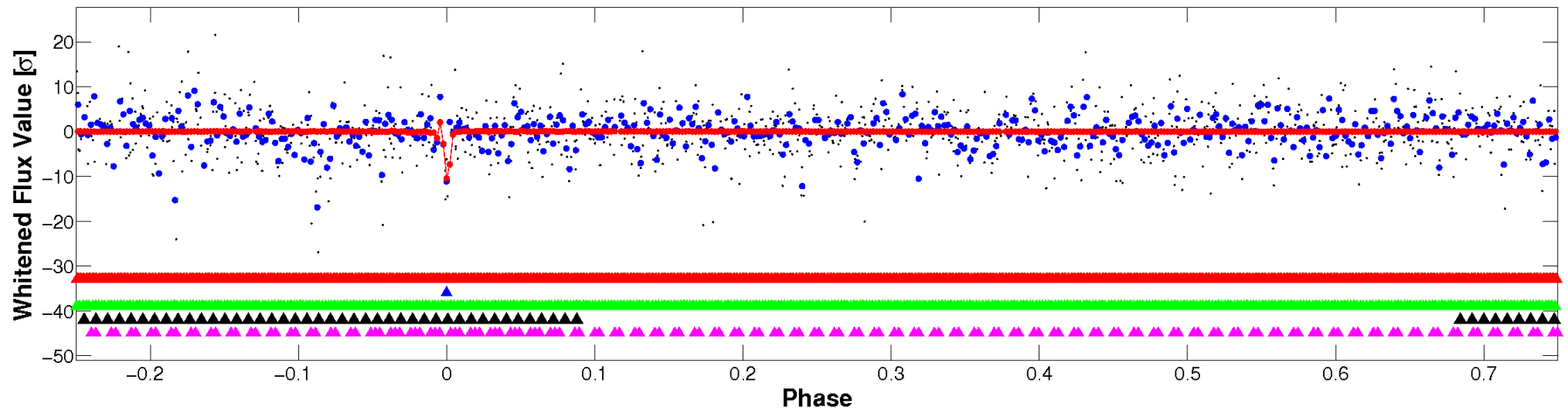
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

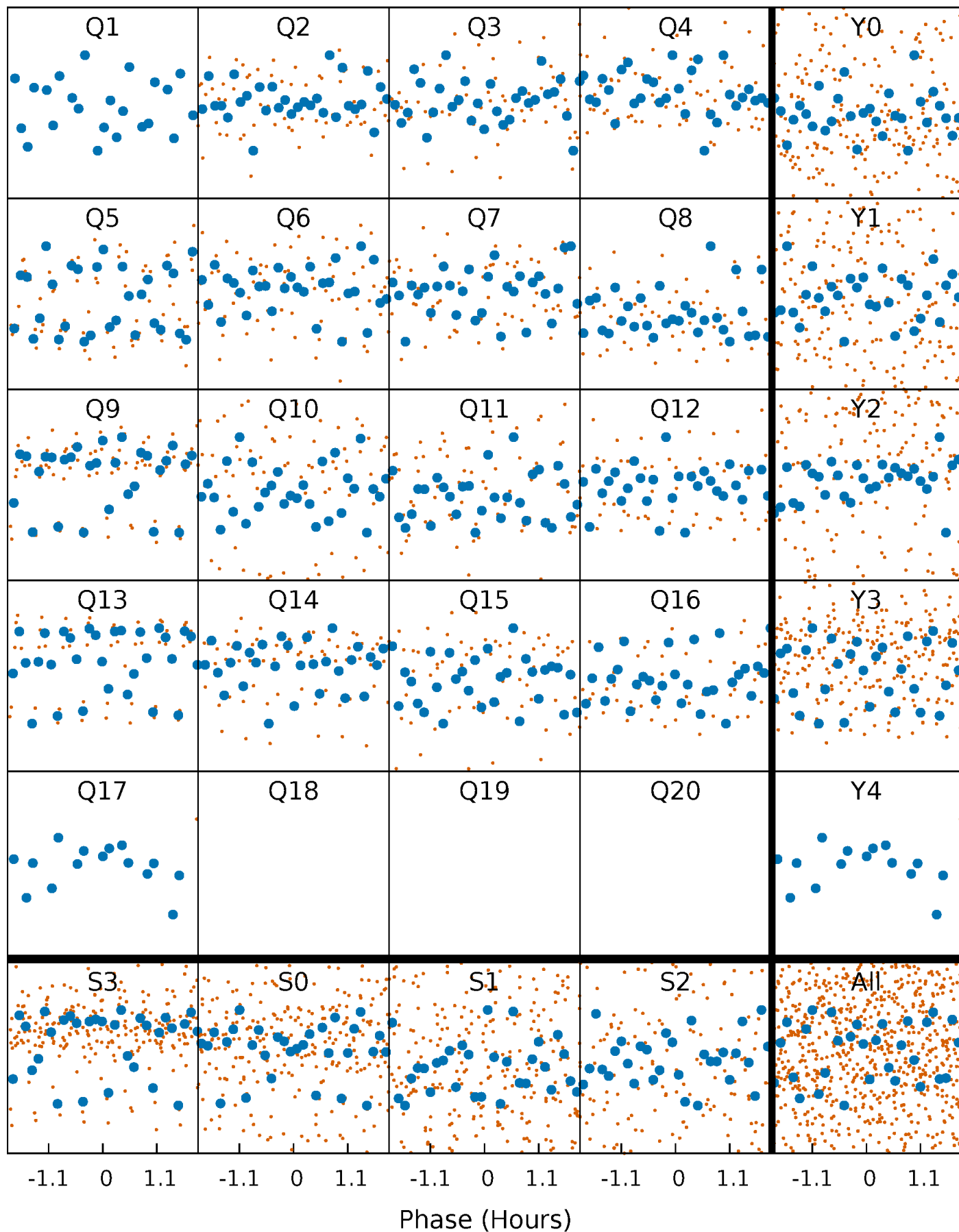


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



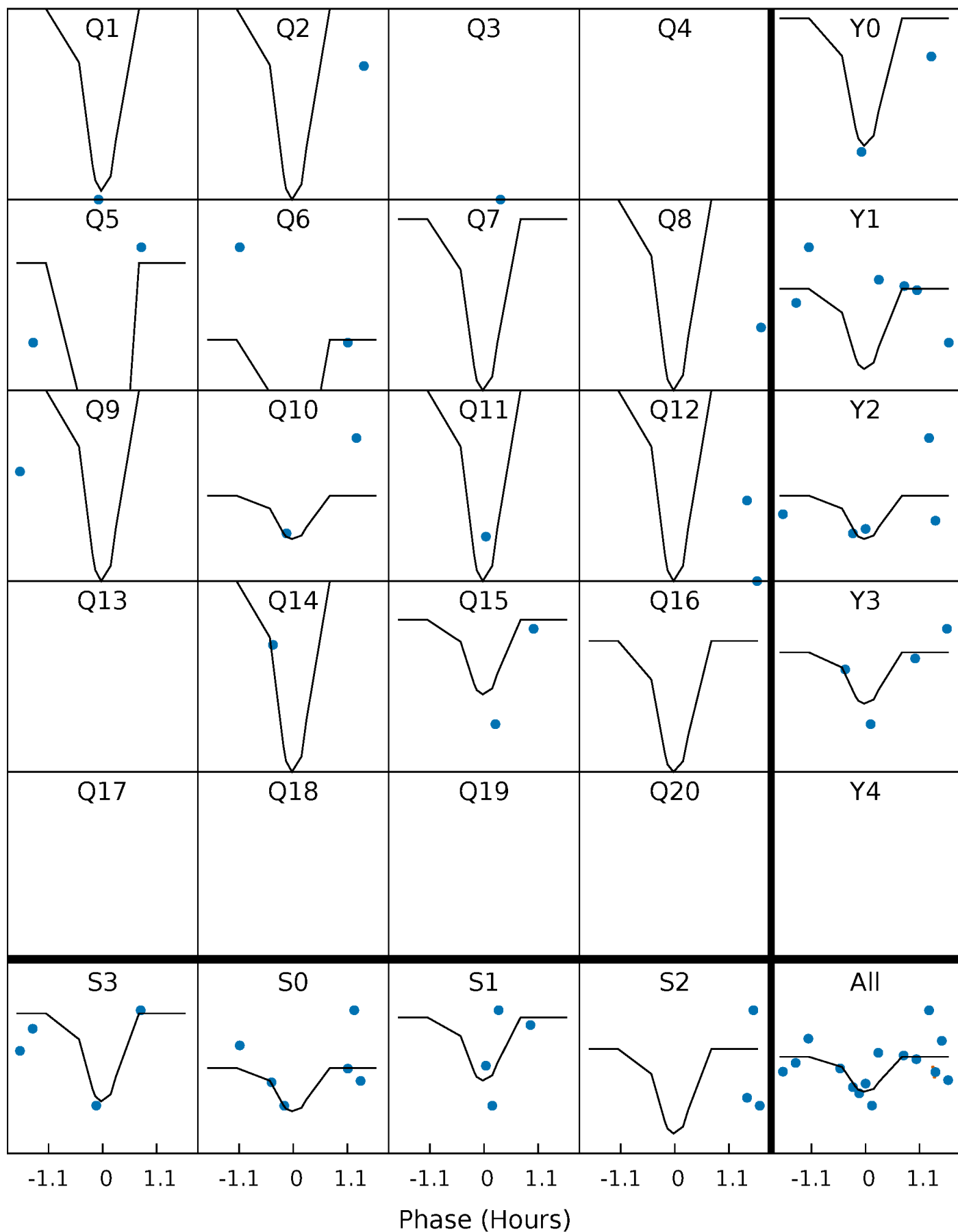
PDC Quarter-Phased Transit Curves

TCE 008524712-02 P= 9.364359 Days $T_0=140.457394$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008524712-02 P= 9.364359 Days $T_0=140.457394$ (BKJD)

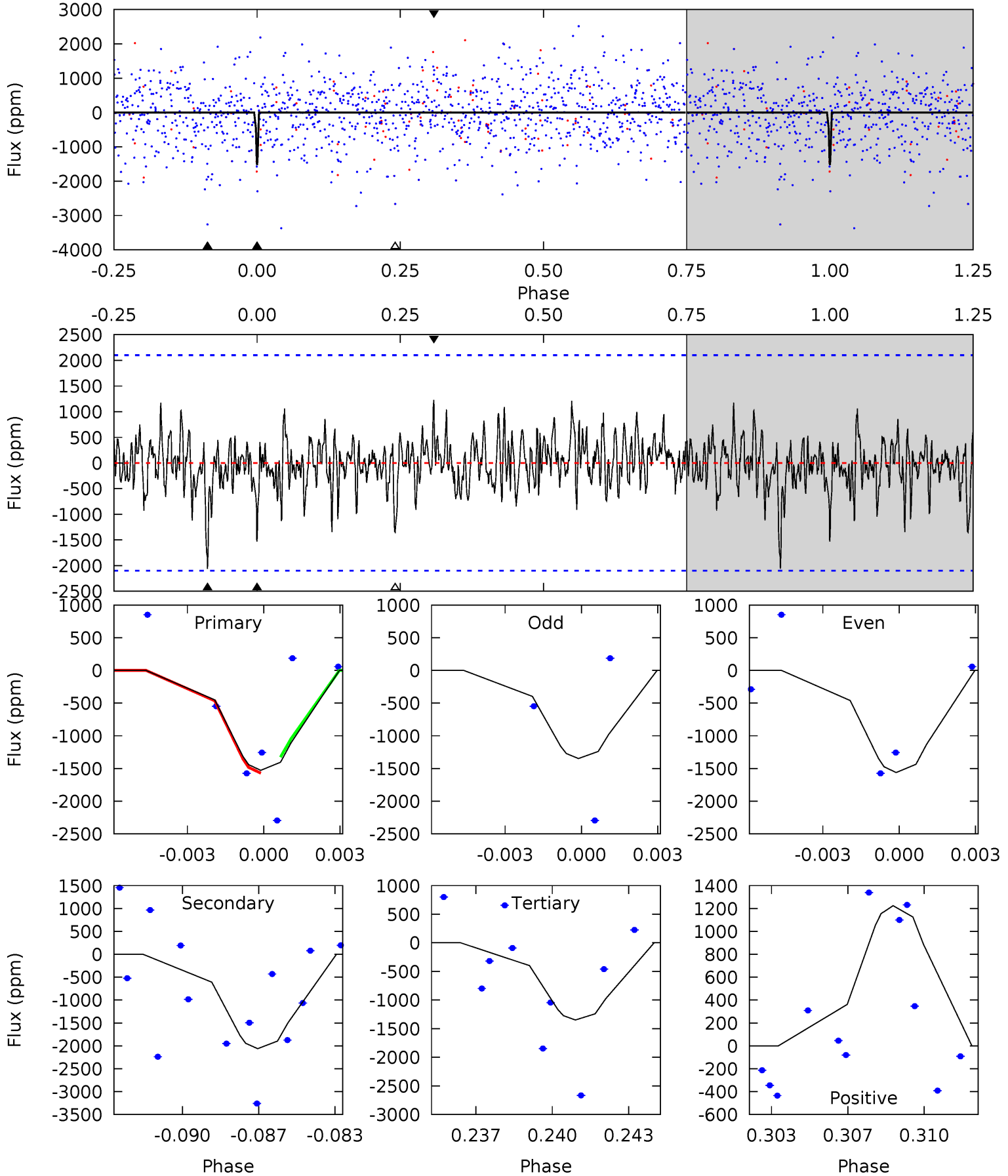


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

008524712-02, P = 9.364359 Days, E = 131.093035 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.81	5.14	3.36	3.05	5.23	2.94	1.03	0.45	0.76	1.78	2.09	0.22	0	0.37	0.27



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 008524712

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4330^{+130}_{-143}	$4.770^{+0.045}_{-0.055}$	$-0.980^{+0.300}_{-0.300}$	$0.495^{+0.045}_{-0.045}$	$0.527^{+0.034}_{-0.043}$	$6.111^{+1.339}_{-1.209}$
	+3%/-3%	+1%/-1%	+31%/-31%	+9%/-9%	+6%/-8%	+22%/-20%
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 008524712-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2062 ± 401	$5.70^{+5.30}_{-3.89}$	711^{+26}_{-26}	3260^{+1611}_{-564}	170^{+1496}_{-127}
Alt.	N/A	N/A	N/A	N/A	N/A

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

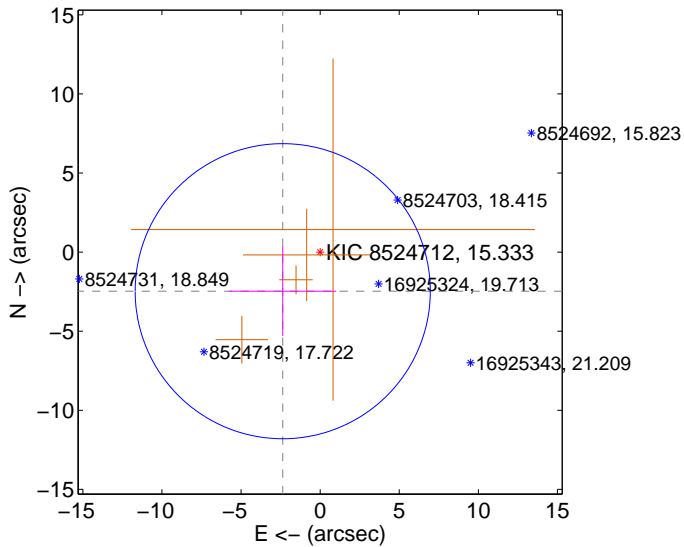
Supplemental centroid analysis for 008524712-02. Kepler magnitude: 15.33. Transit SNR 21.79

There are 0 quarters with good PRF difference image offsets

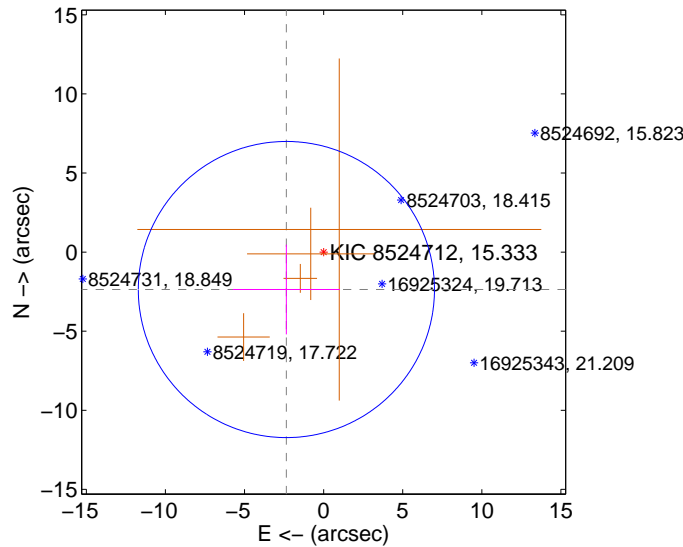
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.421 ± 3.109	1.10	2.365 ± 3.383	-2.472 ± 2.835
PRF-fit source offset from KIC position	3.337 ± 3.120	1.07	2.354 ± 3.383	-2.366 ± 2.835
photometric centroid source offset	0.66 ± 0.37	1.77	0.53 ± 0.37	-0.40 ± 0.38

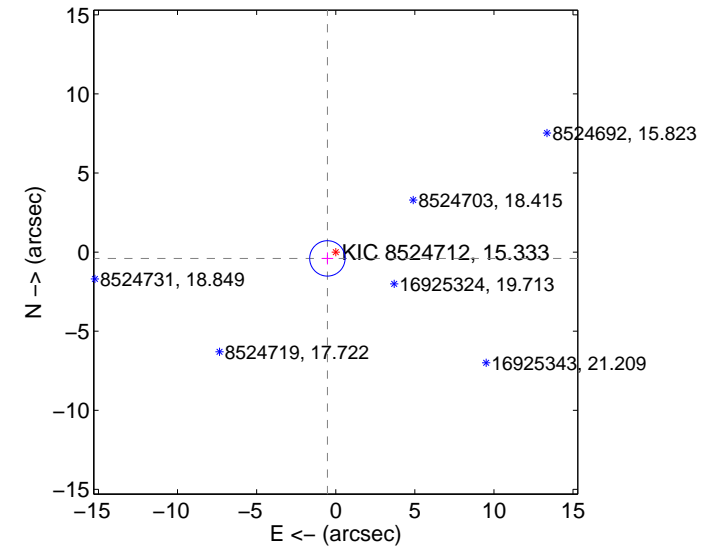
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

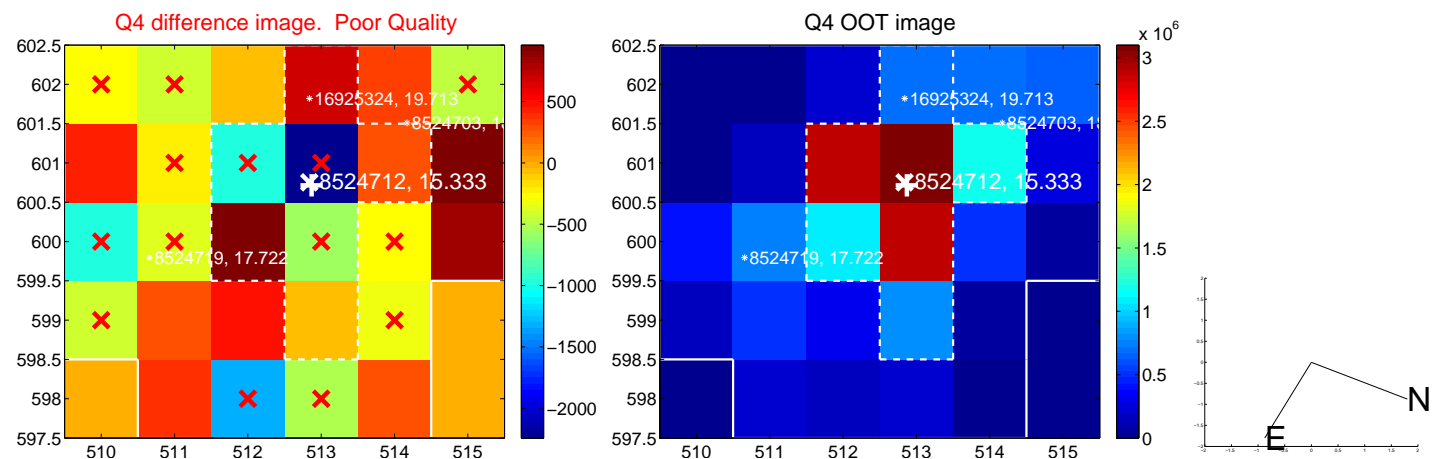
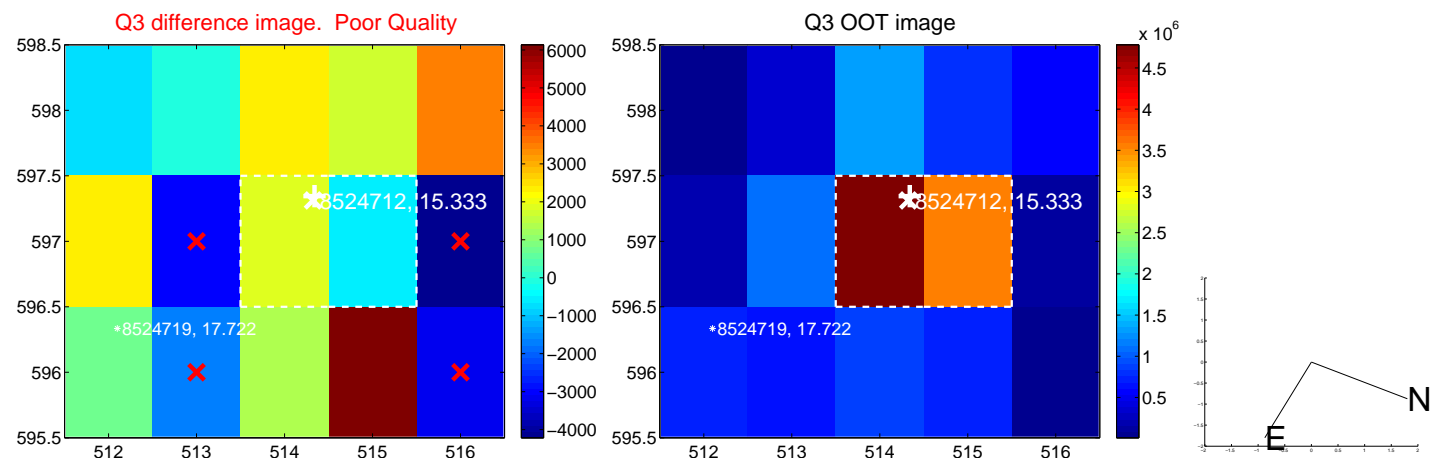
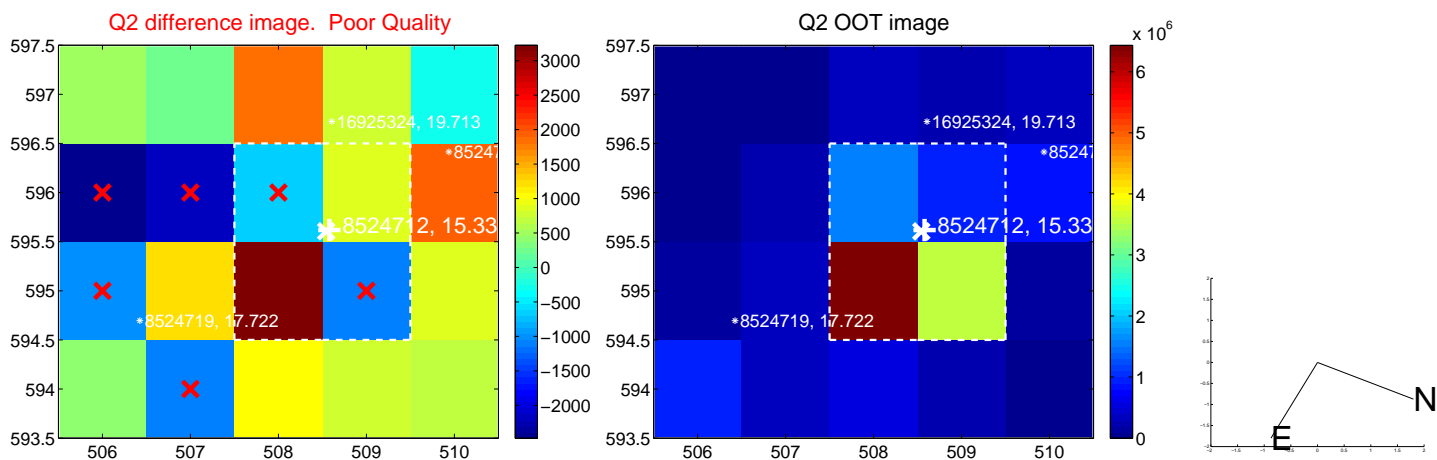
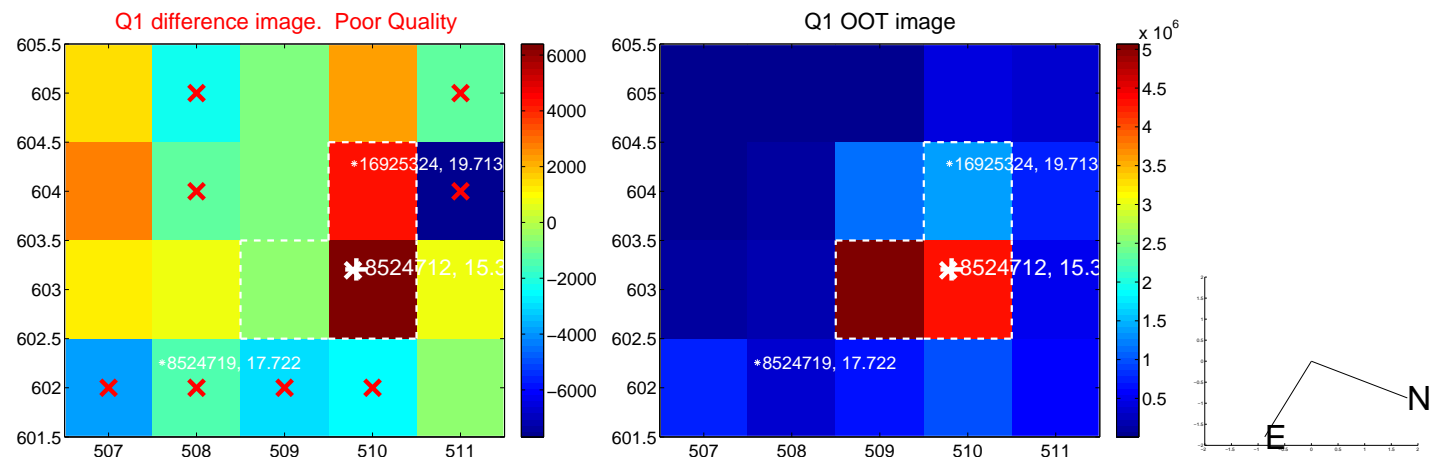


offset from photometric centroids

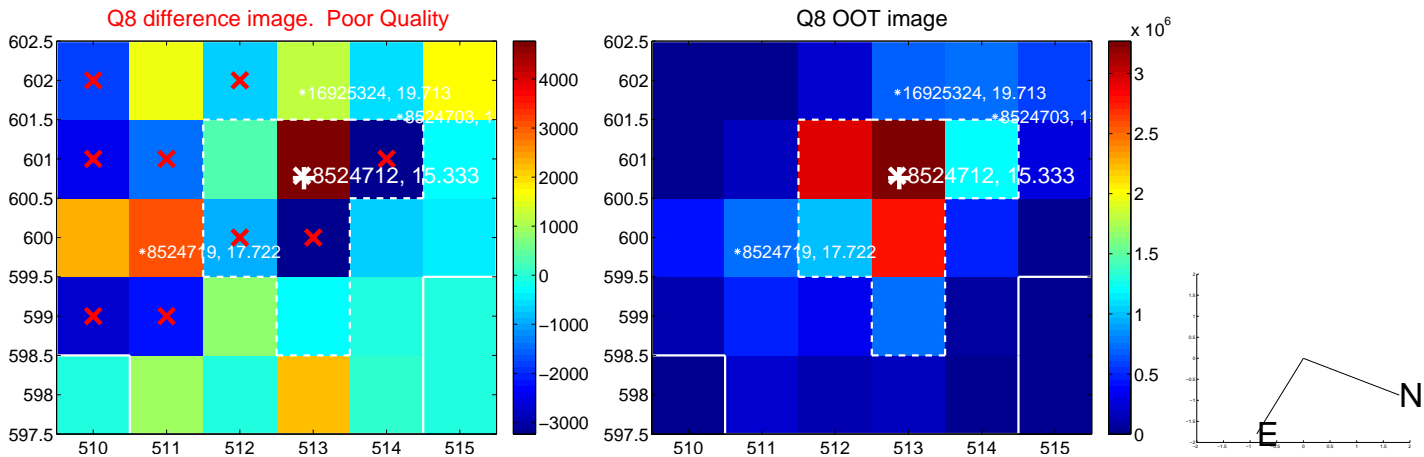
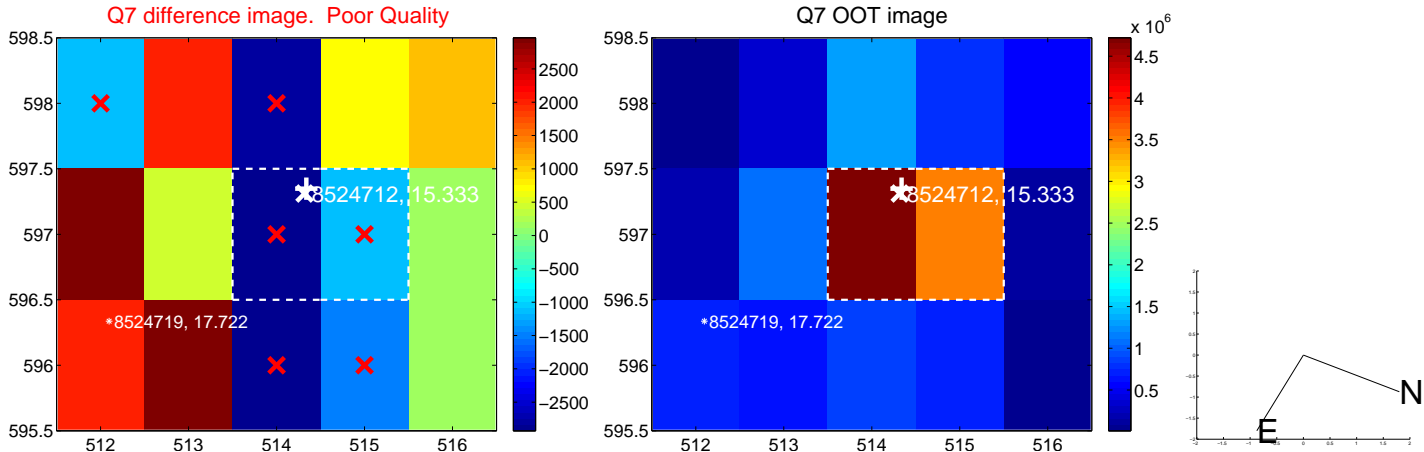
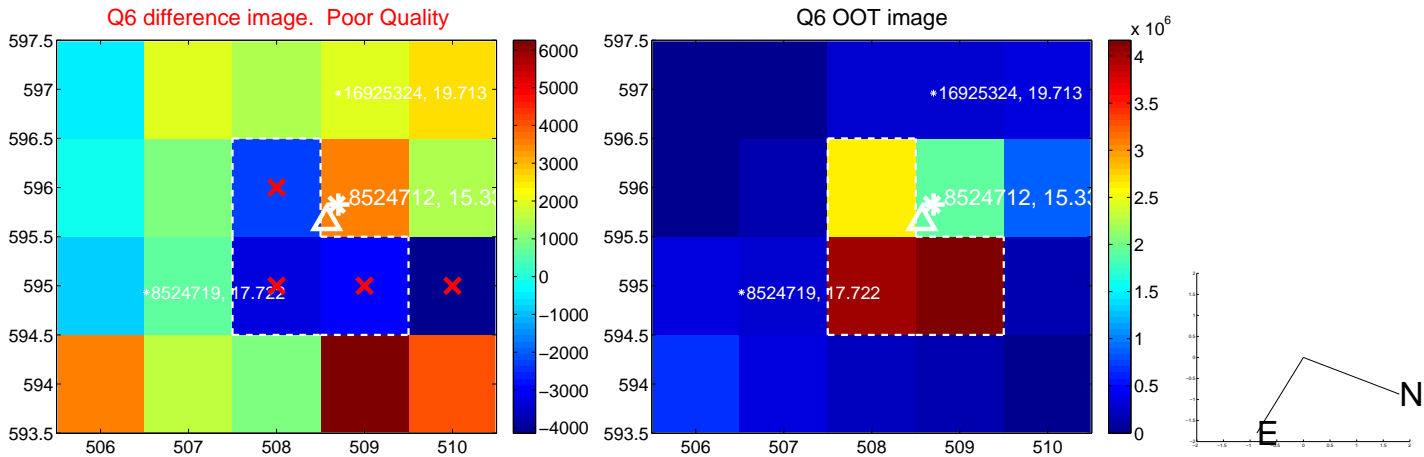
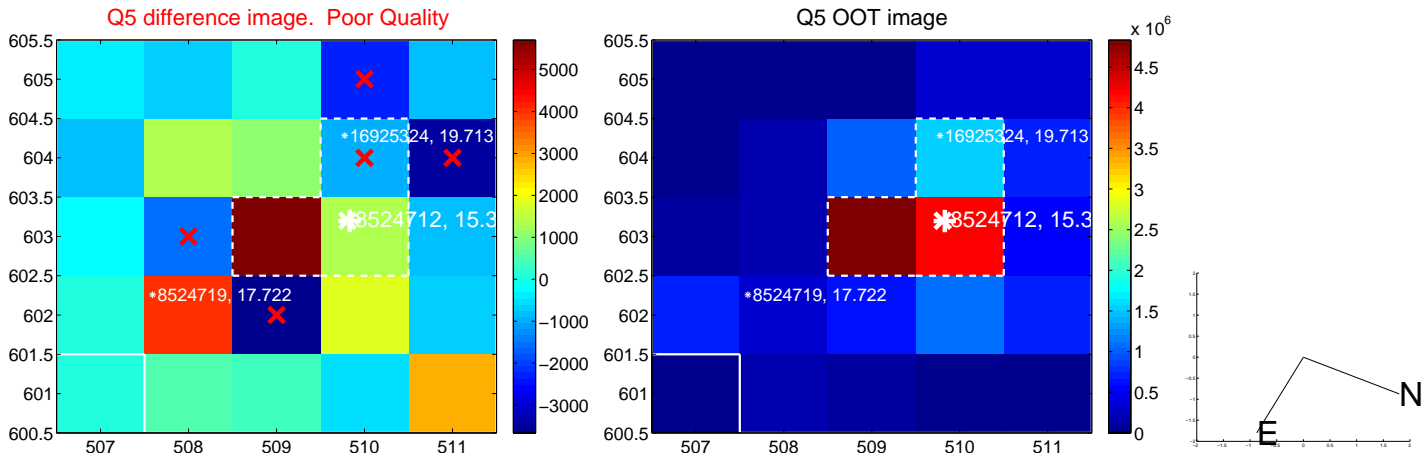


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

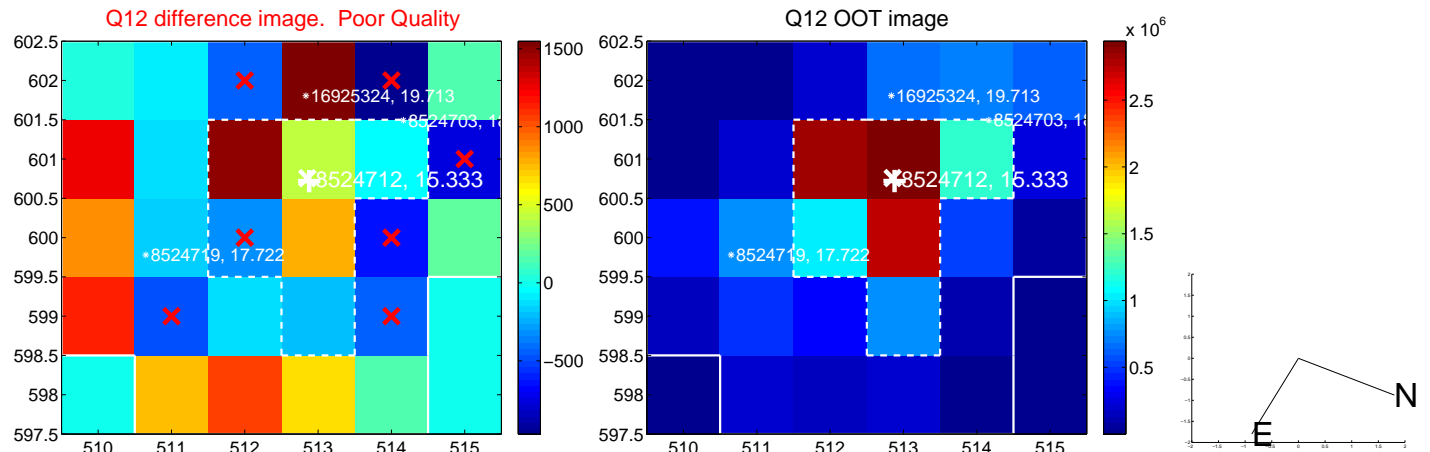
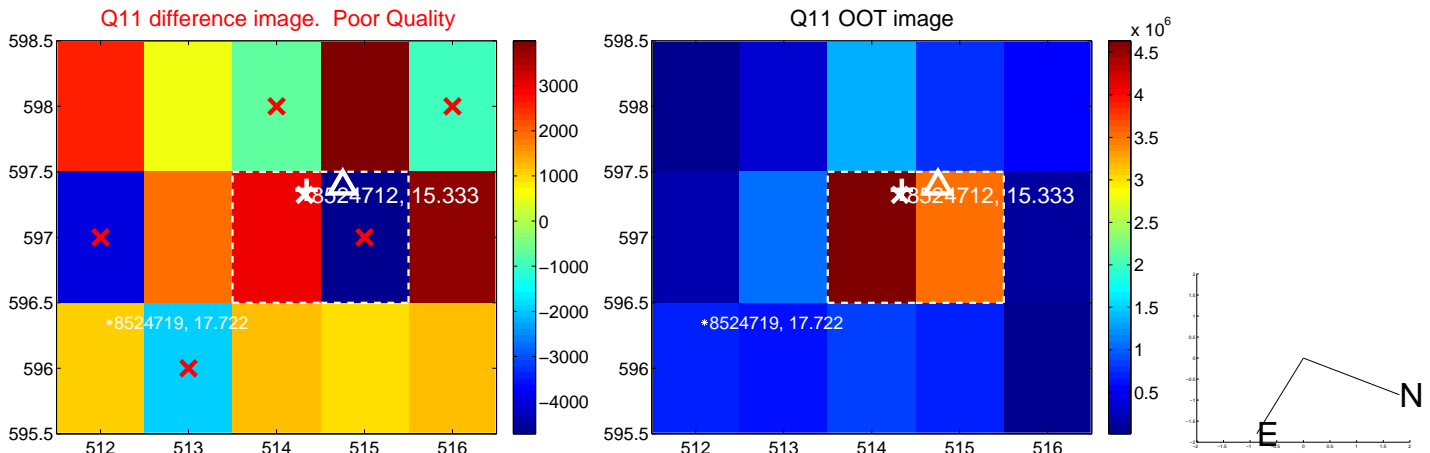
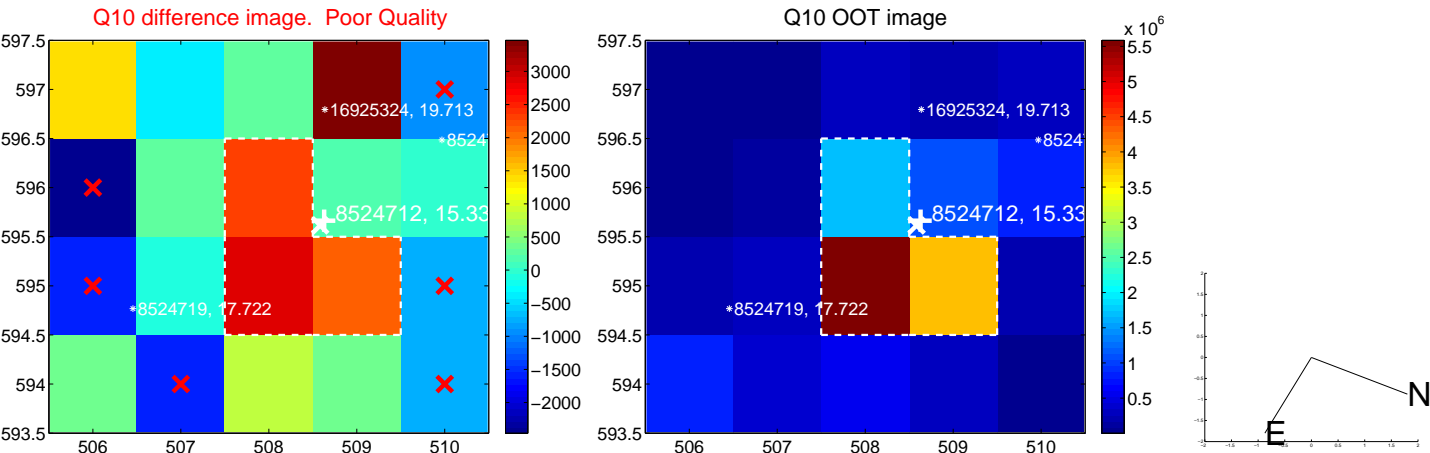
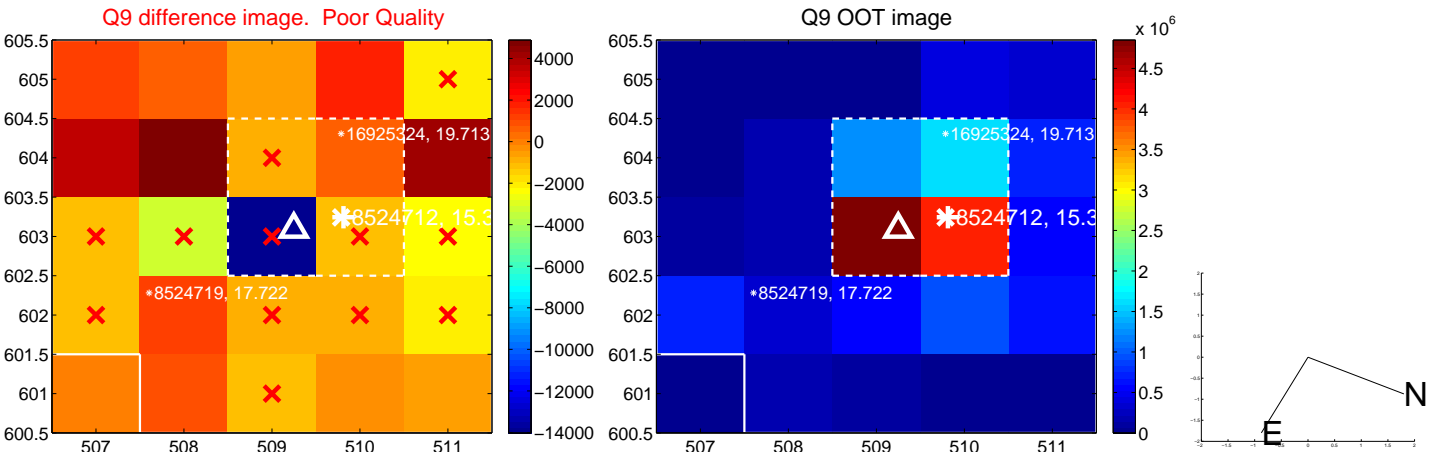
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



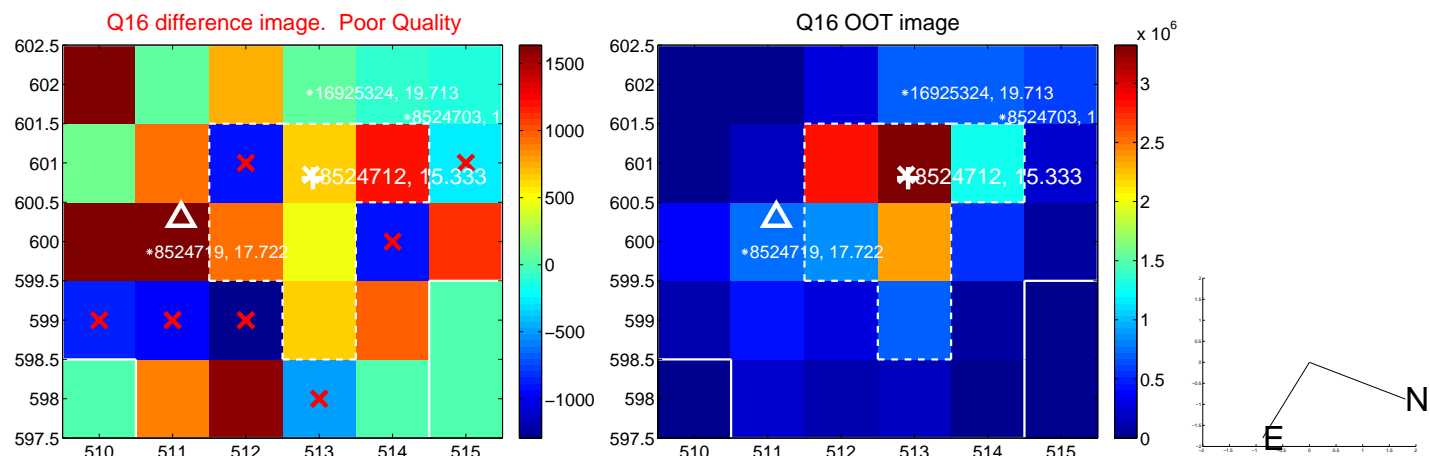
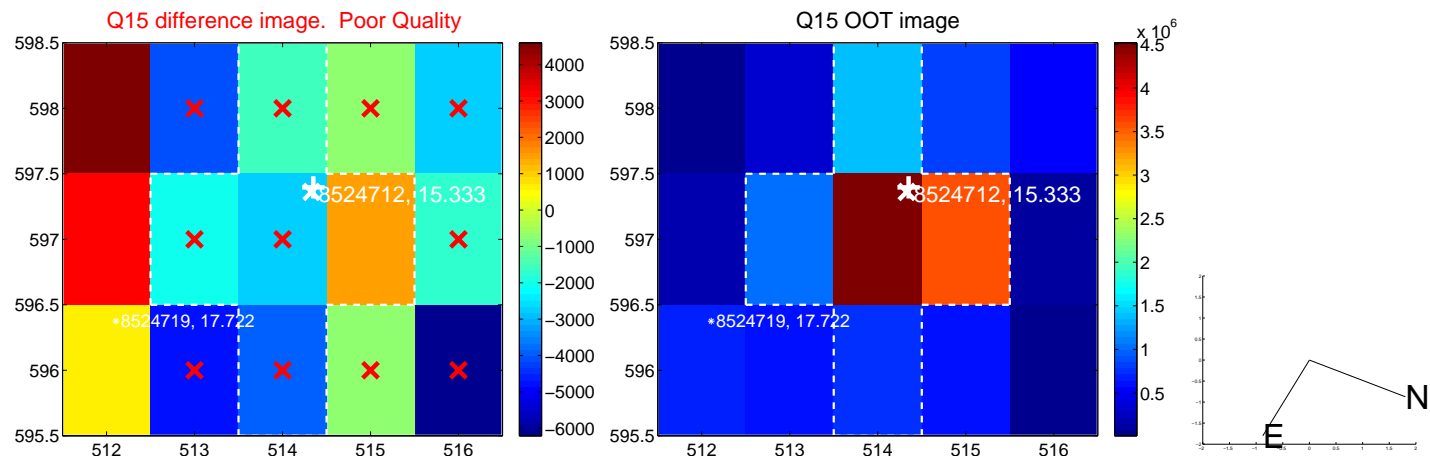
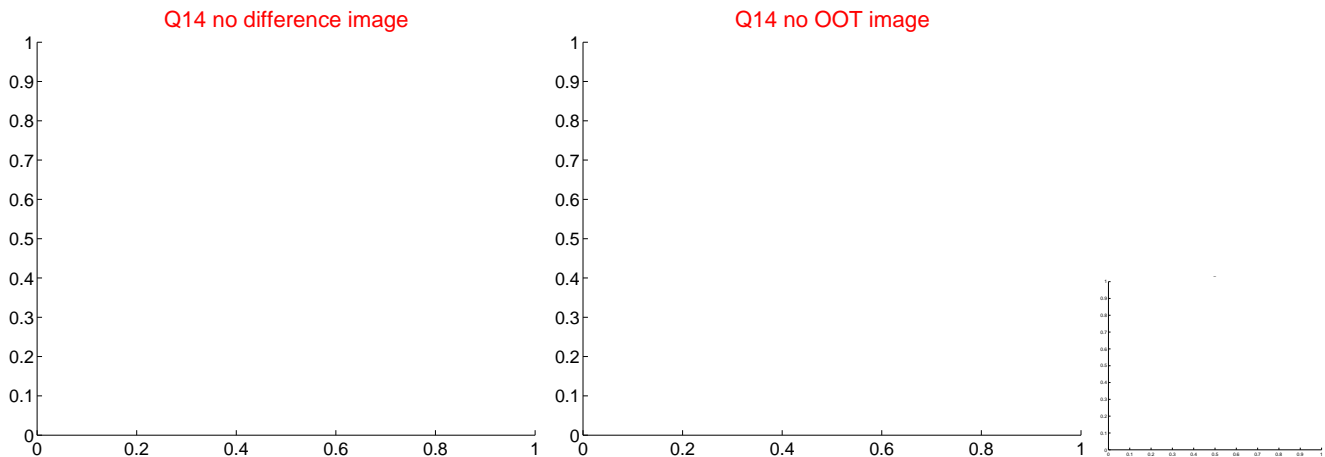
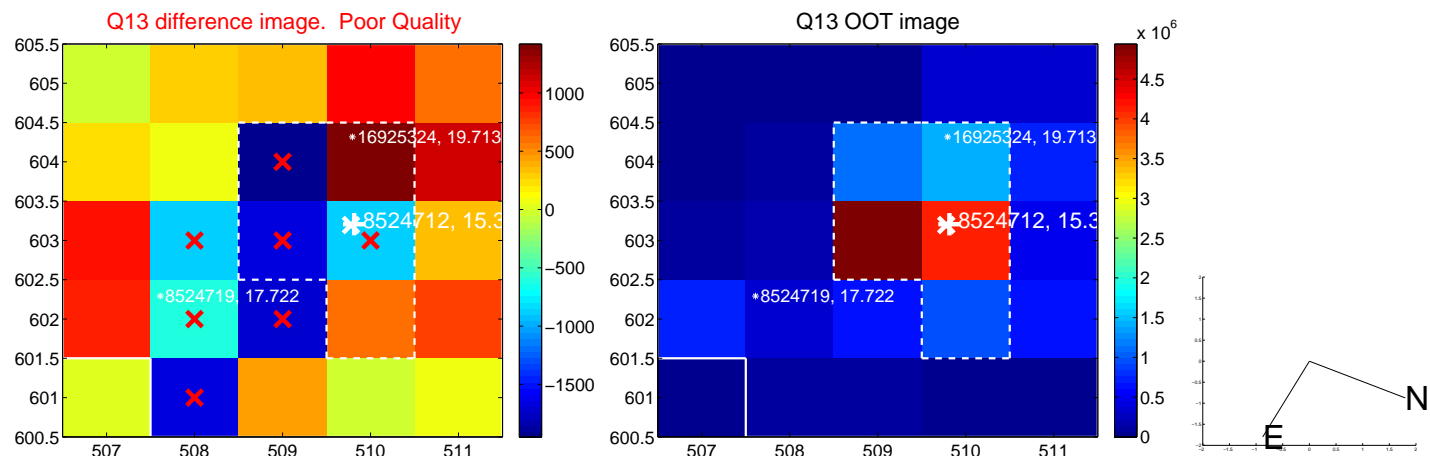
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



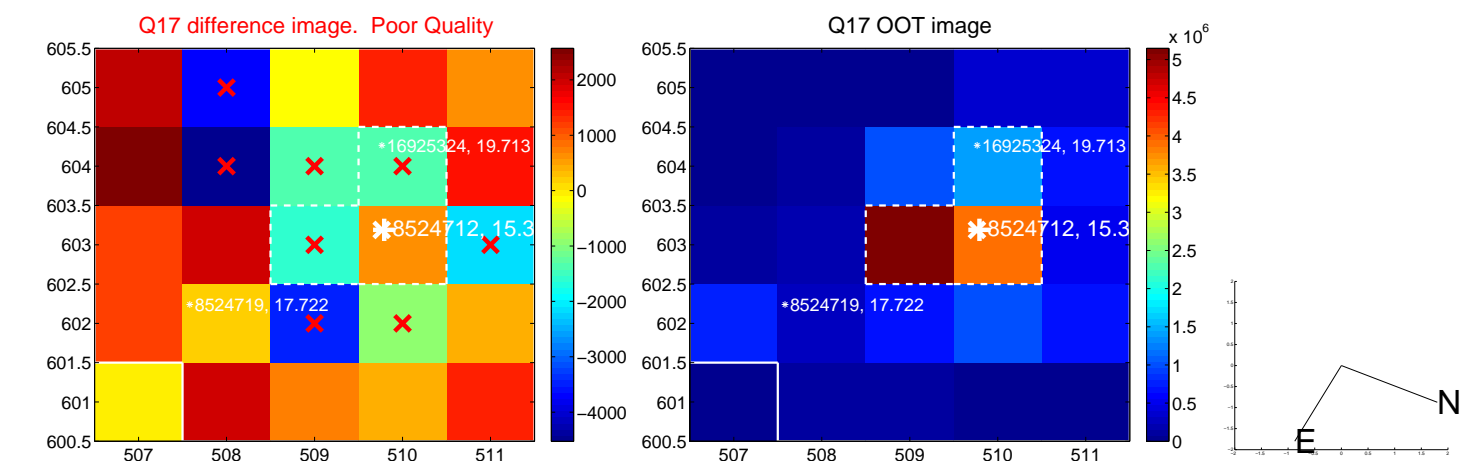
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



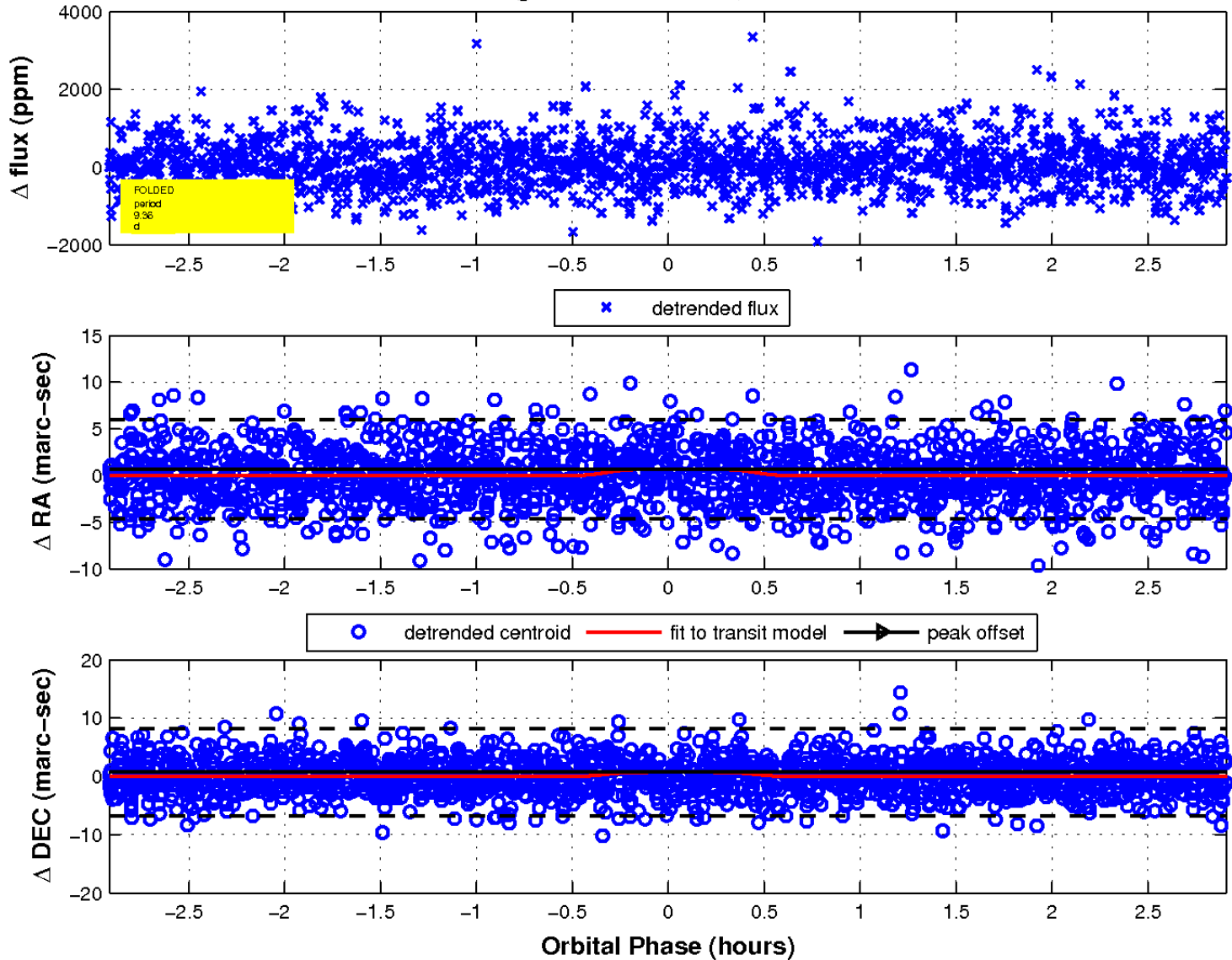
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

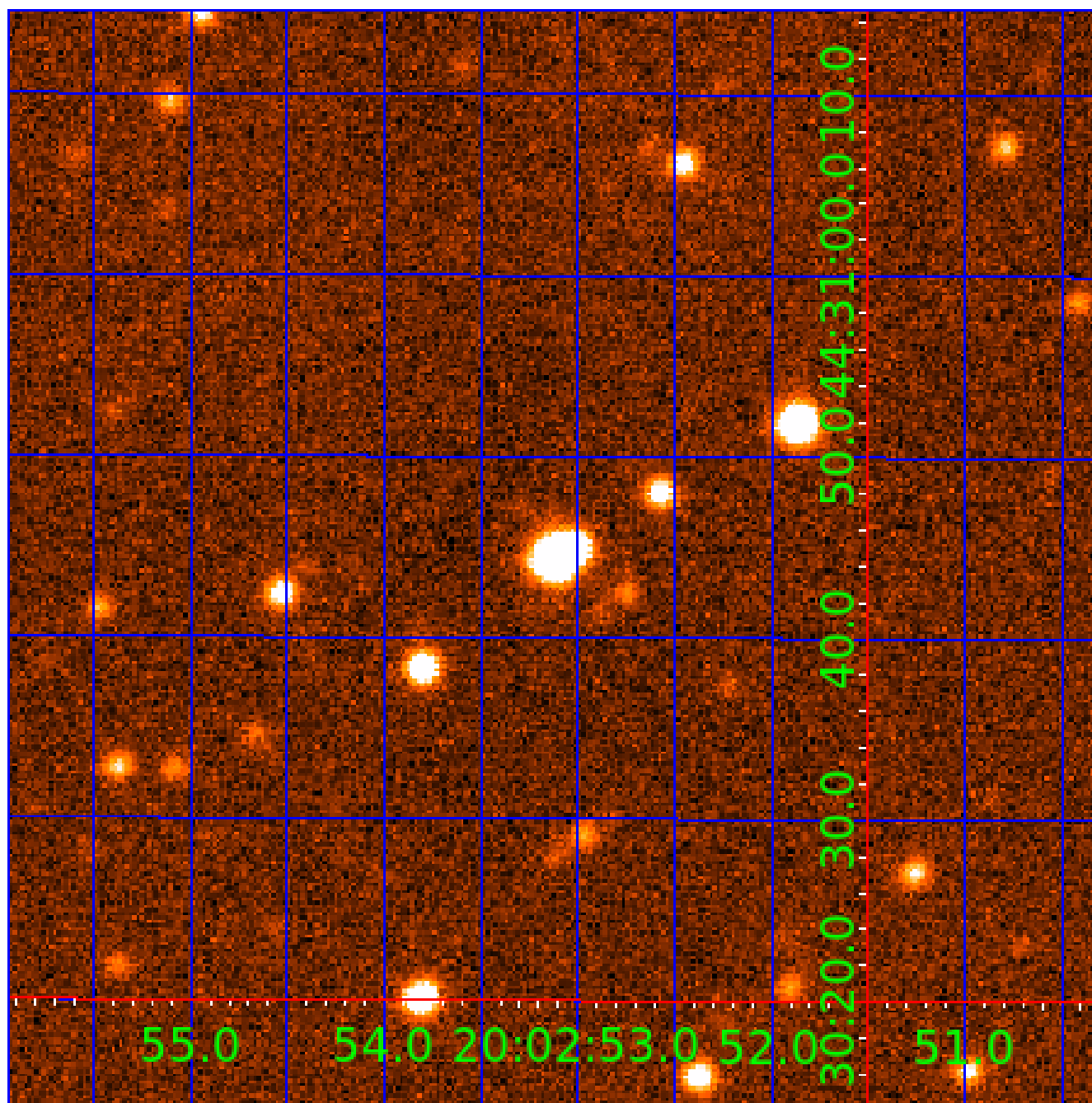


fluxWeightedCentroids, Planet 2 of 5



UKIRT Image

Declination



KIC 008524712

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})
008524712-01	OBS	No	0.809990	132.045659	130.4	6.197	15.2	20.2	0.49	4330	0.56	409.21
008524712-02	OBS	No	9.364359	140.457394	1643.1	0.972	17.3	21.8	0.49	4330	2.38	15.65
008524712-03	OBS	No	2.425579	132.714119	2288.4	2.500	13.9	-1.0	0.49	4330	2.34	94.80
008524712-04	OBS	No	28.018951	141.280261	1535.0	3.639	14.2	20.1	0.49	4330	1.95	3.63
008524712-05	OBS	No	9.238195	131.749482	2006.3	0.735	16.8	24.9	0.49	4330	2.46	15.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008524712-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008524712-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_FEW_DIFFS
008524712-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
008524712-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
008524712-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_RESOLVED_OFFSET

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

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

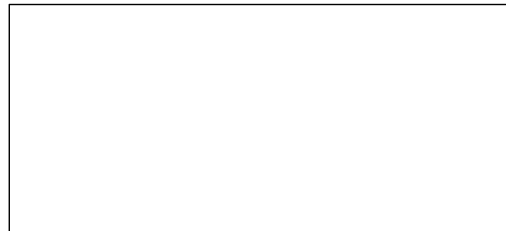
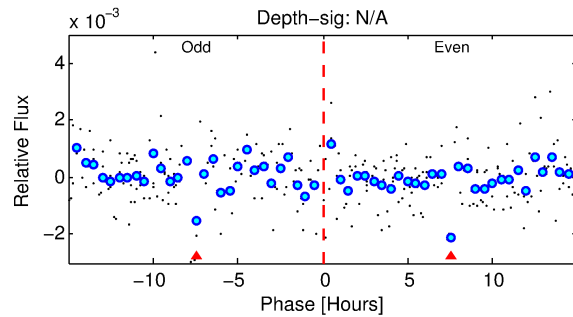
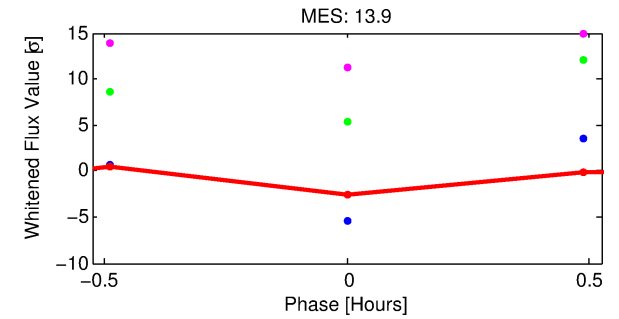
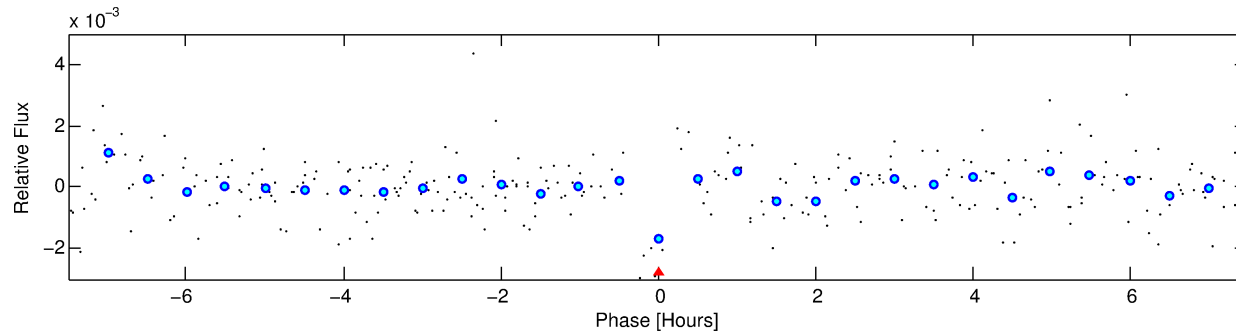
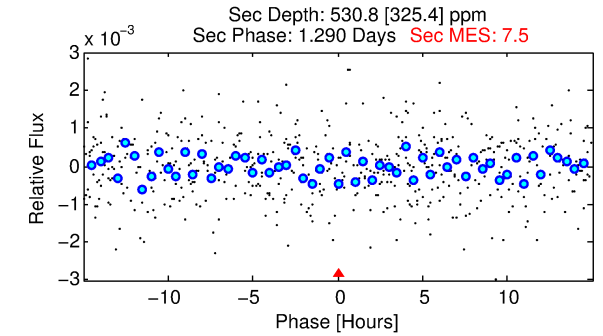
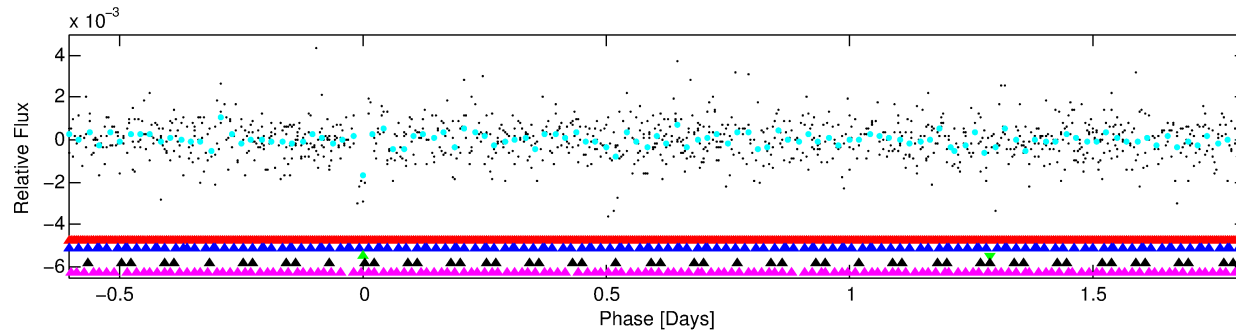
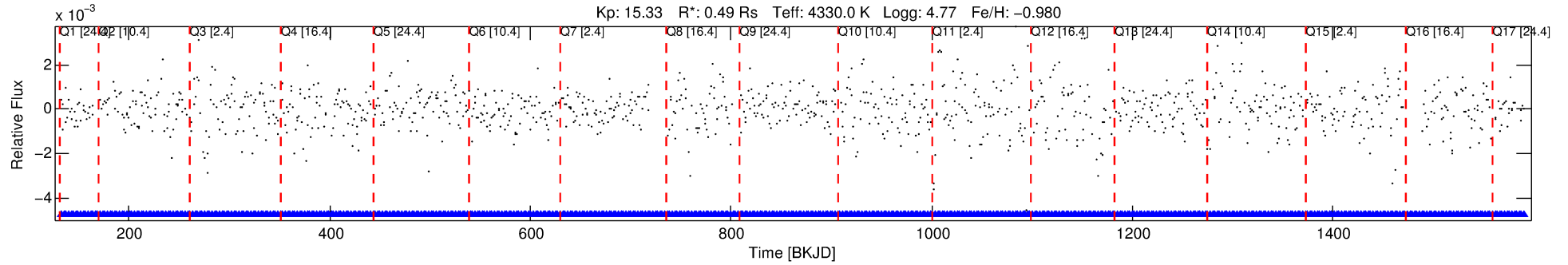
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008524712-03

No Significant Match Found

DV One-Page Summary

KIC: 8524712 Candidate: 3 of 5 Period: 2.426 d



TPS TCE Results:

Period = 2.42558 d
Epoch = 132.7141 BKJD

DV fit results are unavailable

DV Diagnostic Results:

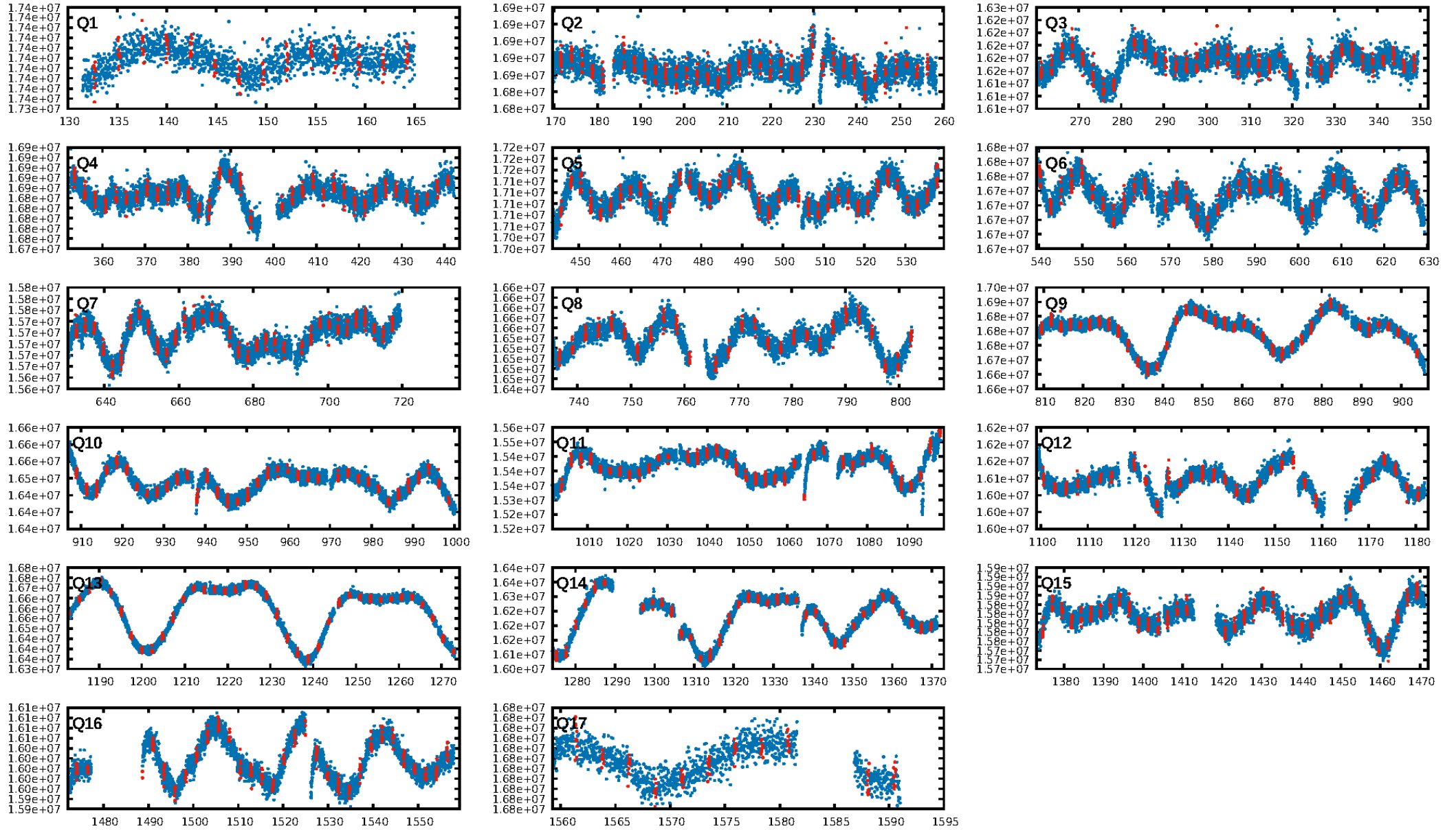
ShortPeriod-sig: 100.0% [5.80 σ]
LongPeriod-sig: 100.0% [62.75 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.07e-06
RollingBand-fgt: N/A
GhostDiagnostic-chr: N/A

Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: N/A

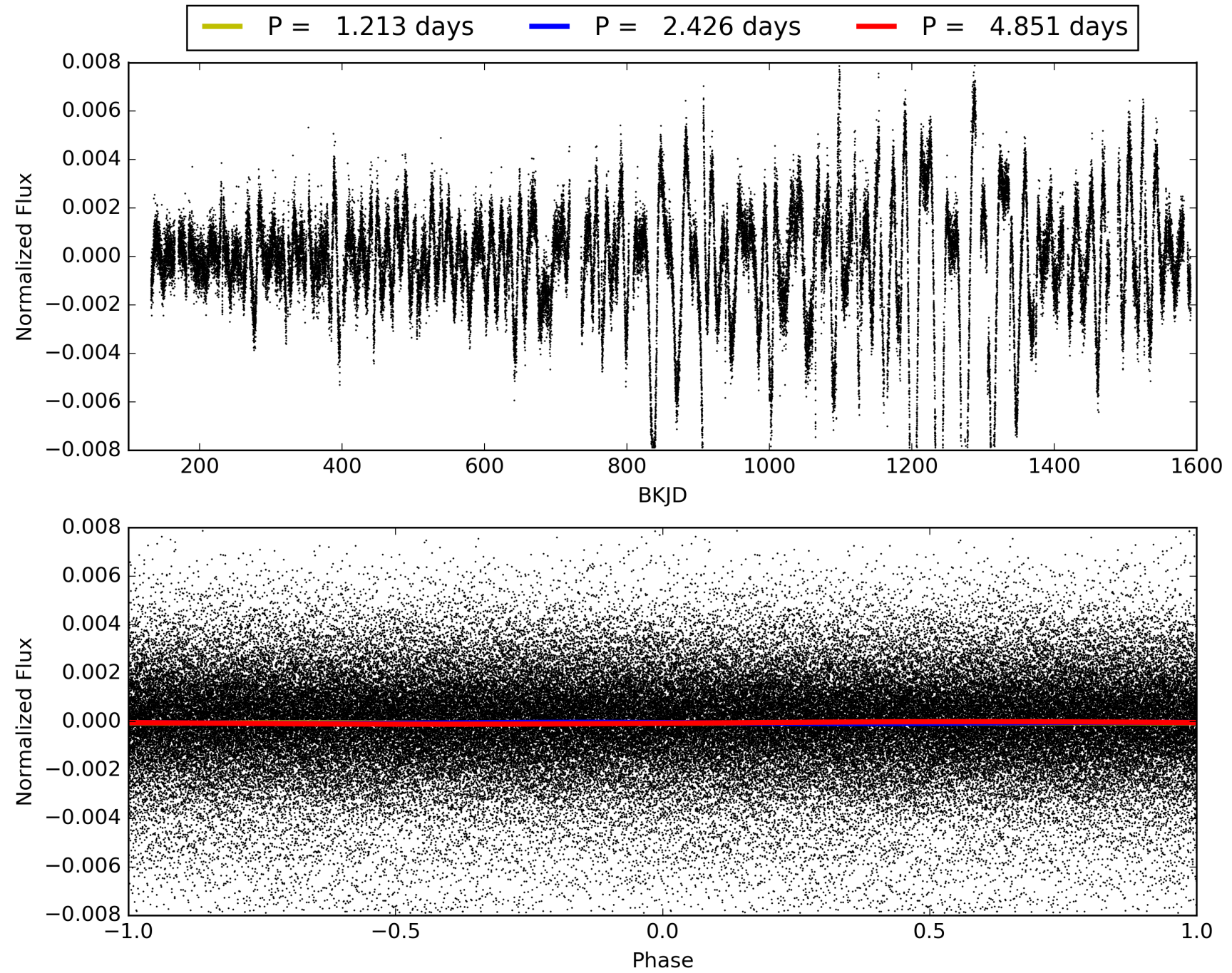
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:32:22 Z

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

TCE 008524712-03, PDC Light Curves

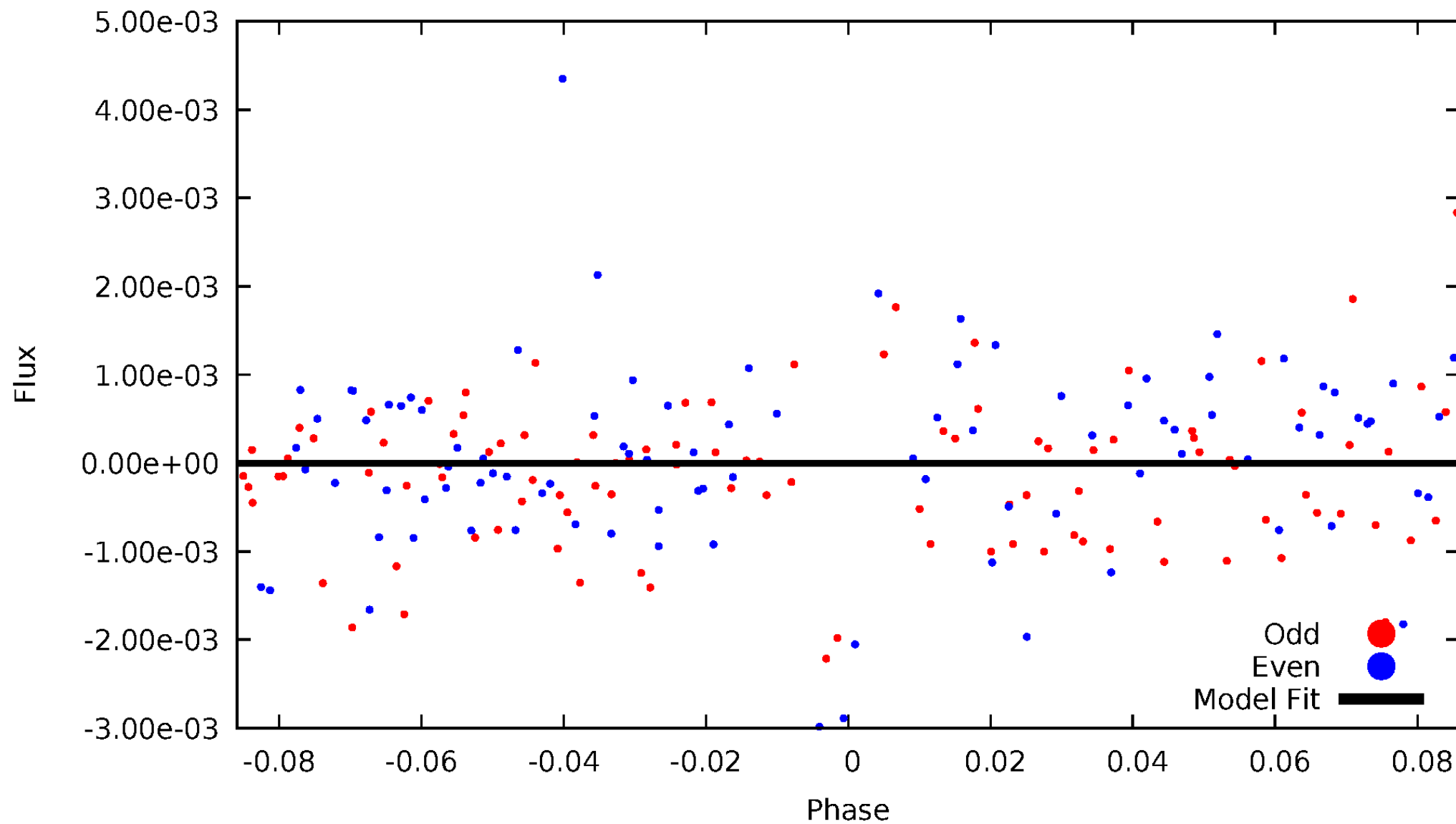


TCE 008524712-03



DV Odd/Even

TCE 008524712-03

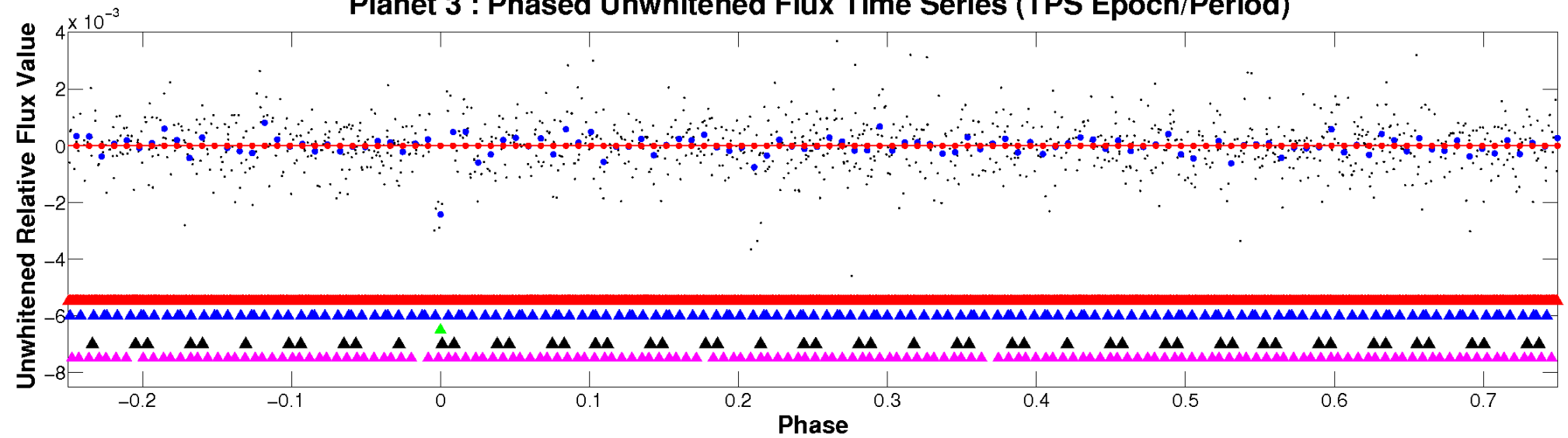


ALT Odd/Even

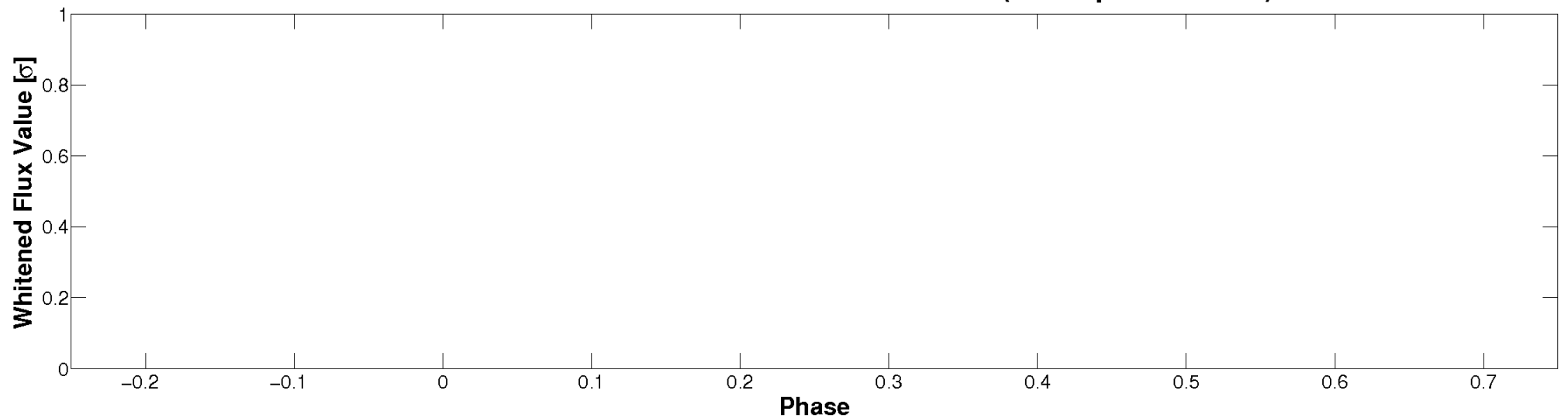
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

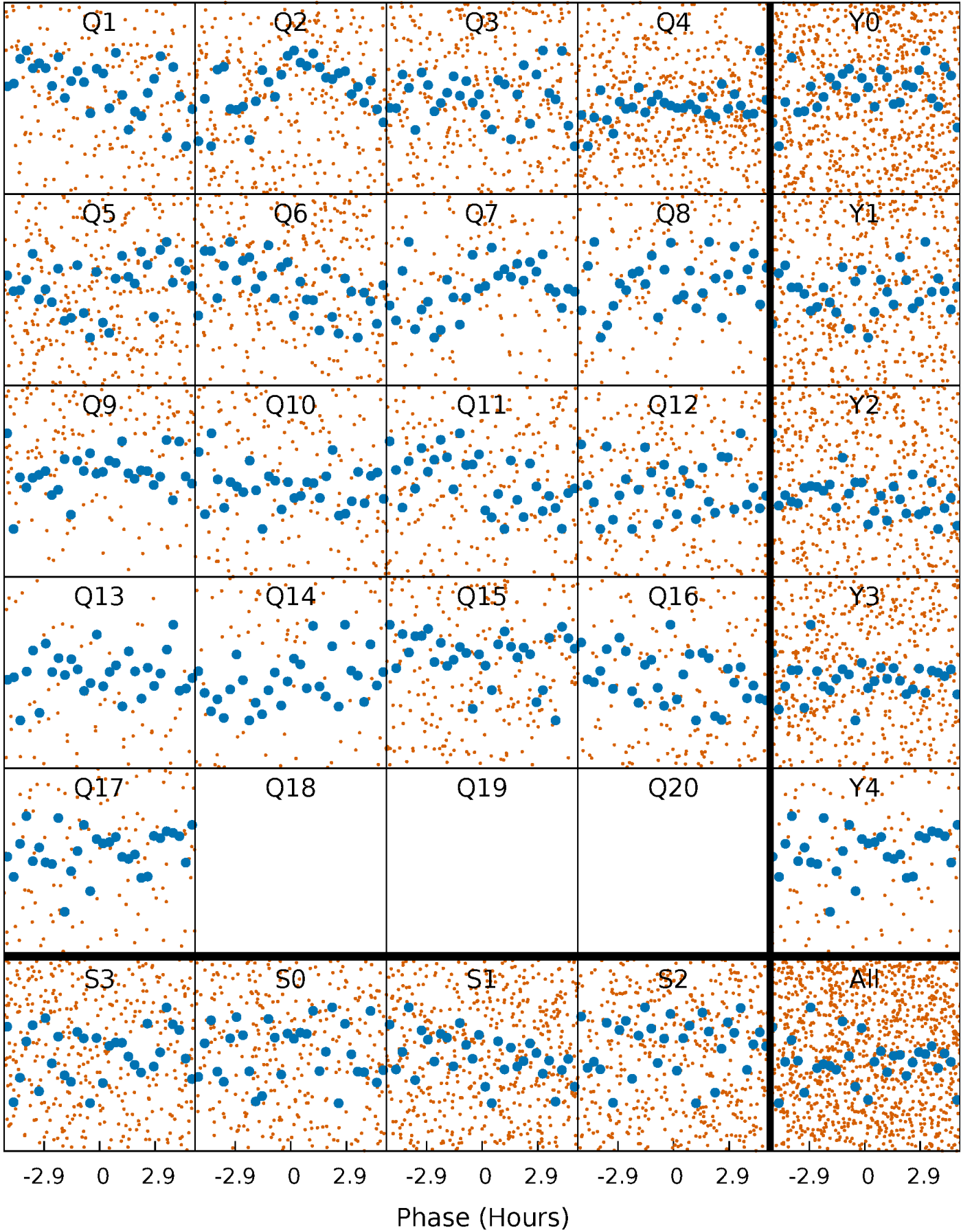


Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)



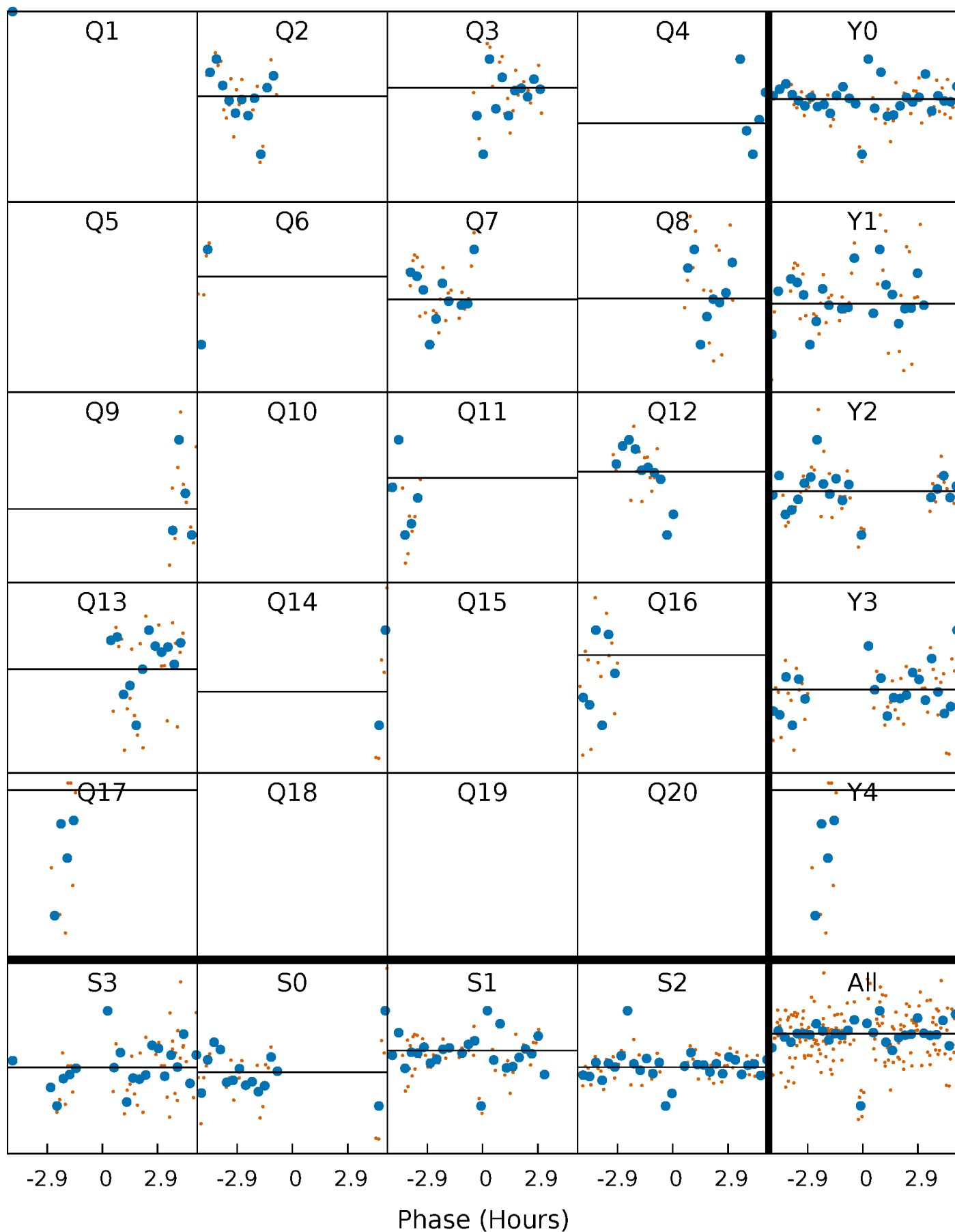
PDC Quarter-Phased Transit Curves

TCE 008524712-03 P= 2.425579 Days $T_0=132.714119$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008524712-03 P= 2.425579 Days $T_0=132.714119$ (BKJD)

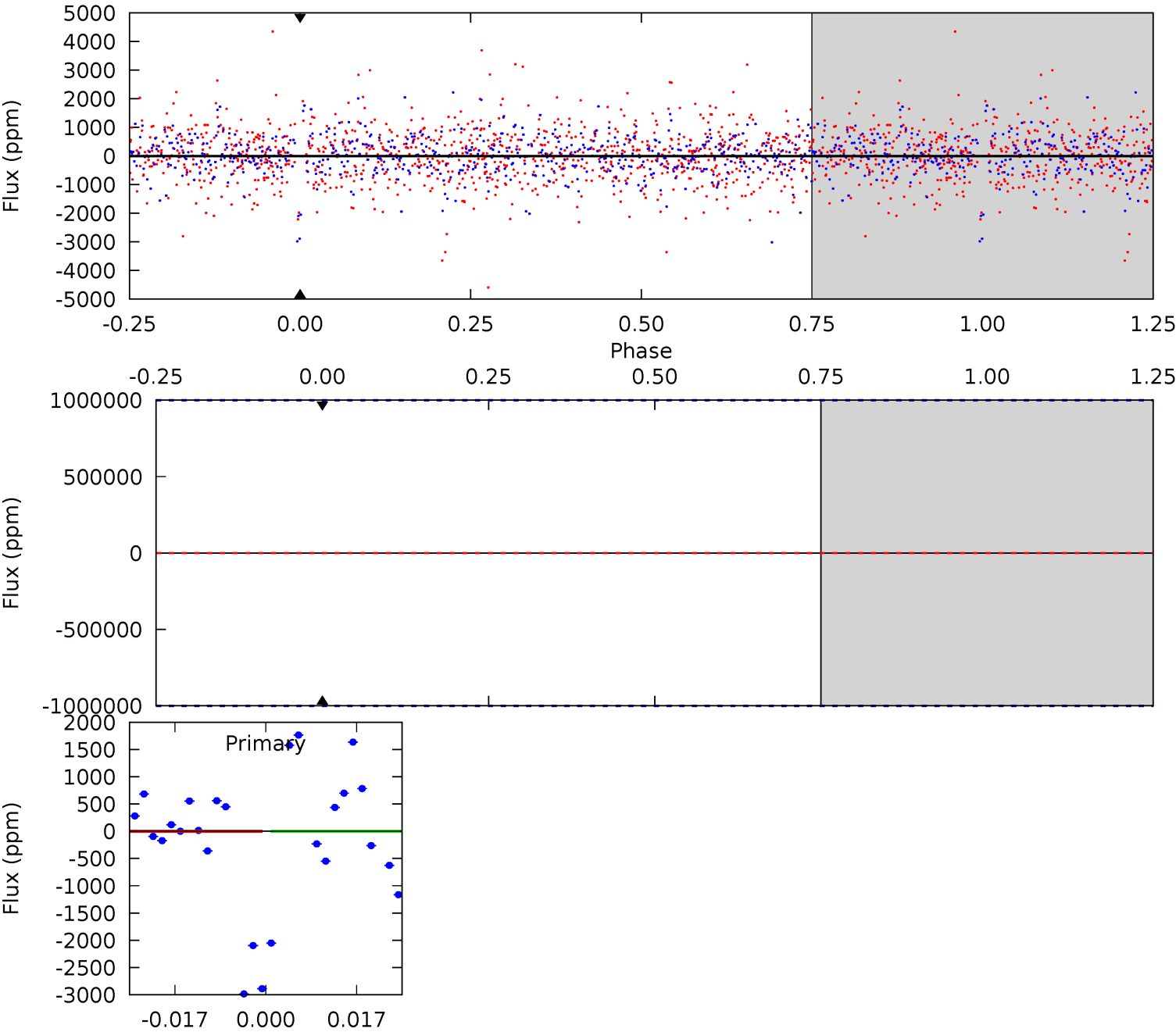


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

008524712-03, P = 2.425579 Days, E = 130.288540 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 008524712

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4330^{+130}_{-143}	$4.770^{+0.045}_{-0.055}$	$-0.980^{+0.300}_{-0.300}$	$0.495^{+0.045}_{-0.045}$	$0.527^{+0.034}_{-0.043}$	$6.111^{+1.339}_{-1.209}$
	+3%/-3%	+1%/-1%	+31%/-31%	+9%/-9%	+6%/-8%	+22%/-20%
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 008524712-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$4.55^{+4.32}_{-2.94}$	1114^{+43}_{-42}	-2923^{+12868}_{-6305}	$-15.410^{+3561.779}_{-3102.978}$
Alt.	N/A	N/A	N/A	N/A	N/A

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

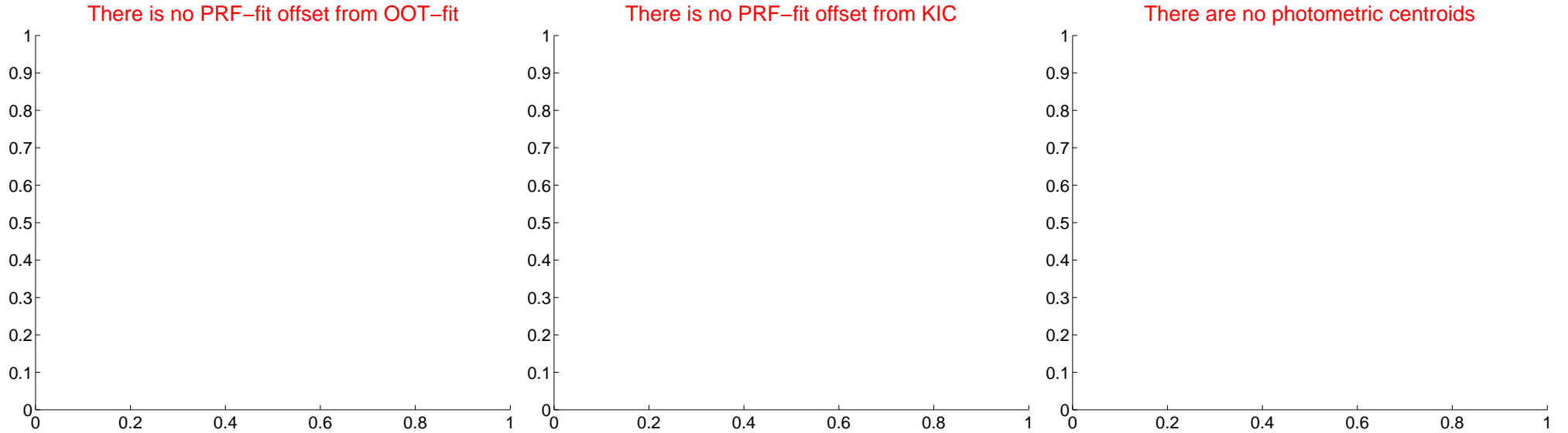
DV Centroid Data

Supplemental centroid analysis for 008524712-03. Kepler magnitude: 15.33. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	—	—	—	—



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.



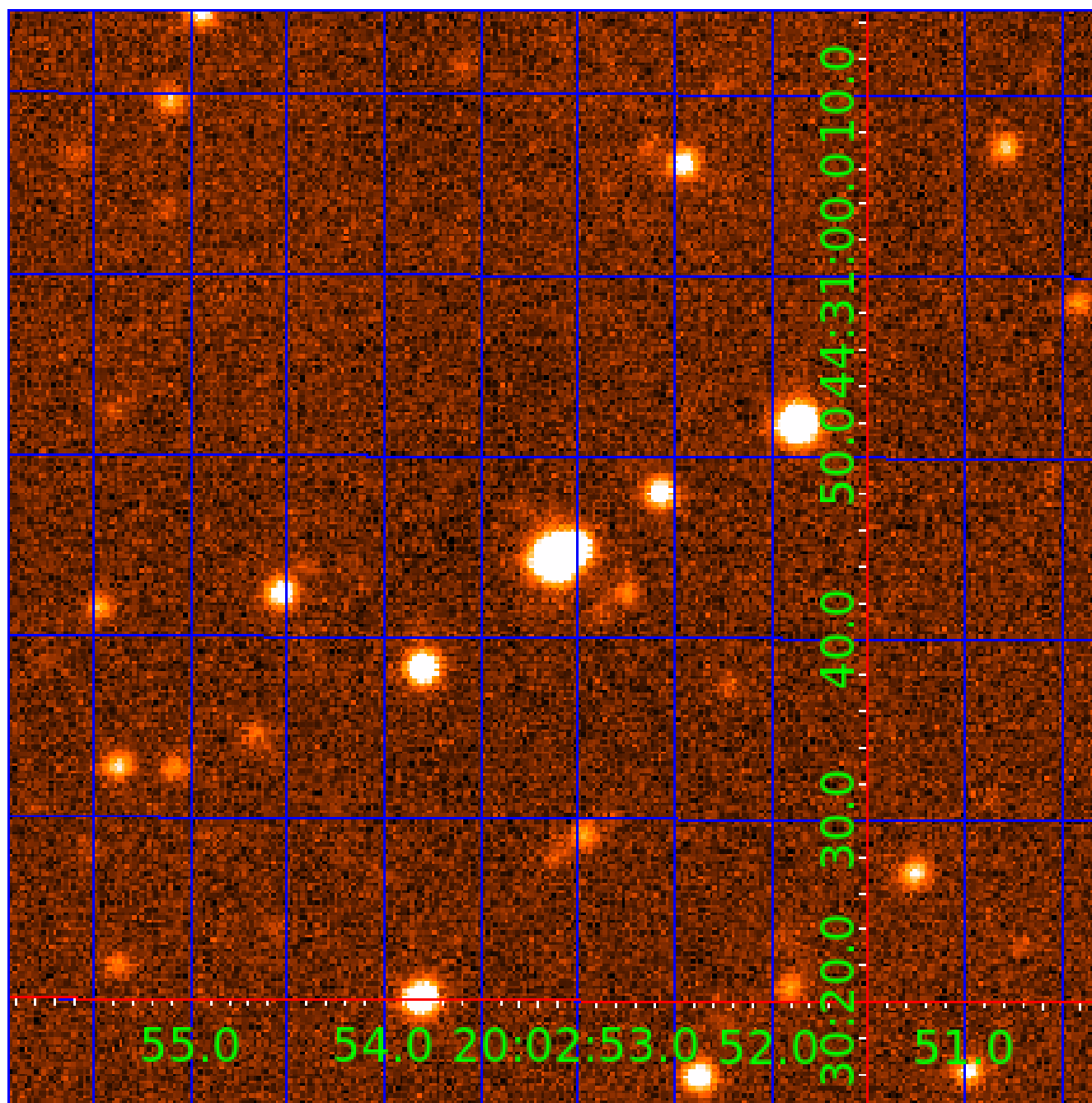
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 008524712

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})
008524712-01	OBS	No	0.809990	132.045659	130.4	6.197	15.2	20.2	0.49	4330	0.56	409.21
008524712-02	OBS	No	9.364359	140.457394	1643.1	0.972	17.3	21.8	0.49	4330	2.38	15.65
008524712-03	OBS	No	2.425579	132.714119	2288.4	2.500	13.9	-1.0	0.49	4330	2.34	94.80
008524712-04	OBS	No	28.018951	141.280261	1535.0	3.639	14.2	20.1	0.49	4330	1.95	3.63
008524712-05	OBS	No	9.238195	131.749482	2006.3	0.735	16.8	24.9	0.49	4330	2.46	15.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008524712-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008524712-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_FEW_DIFFS
008524712-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
008524712-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
008524712-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_RESOLVED_OFFSET

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

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

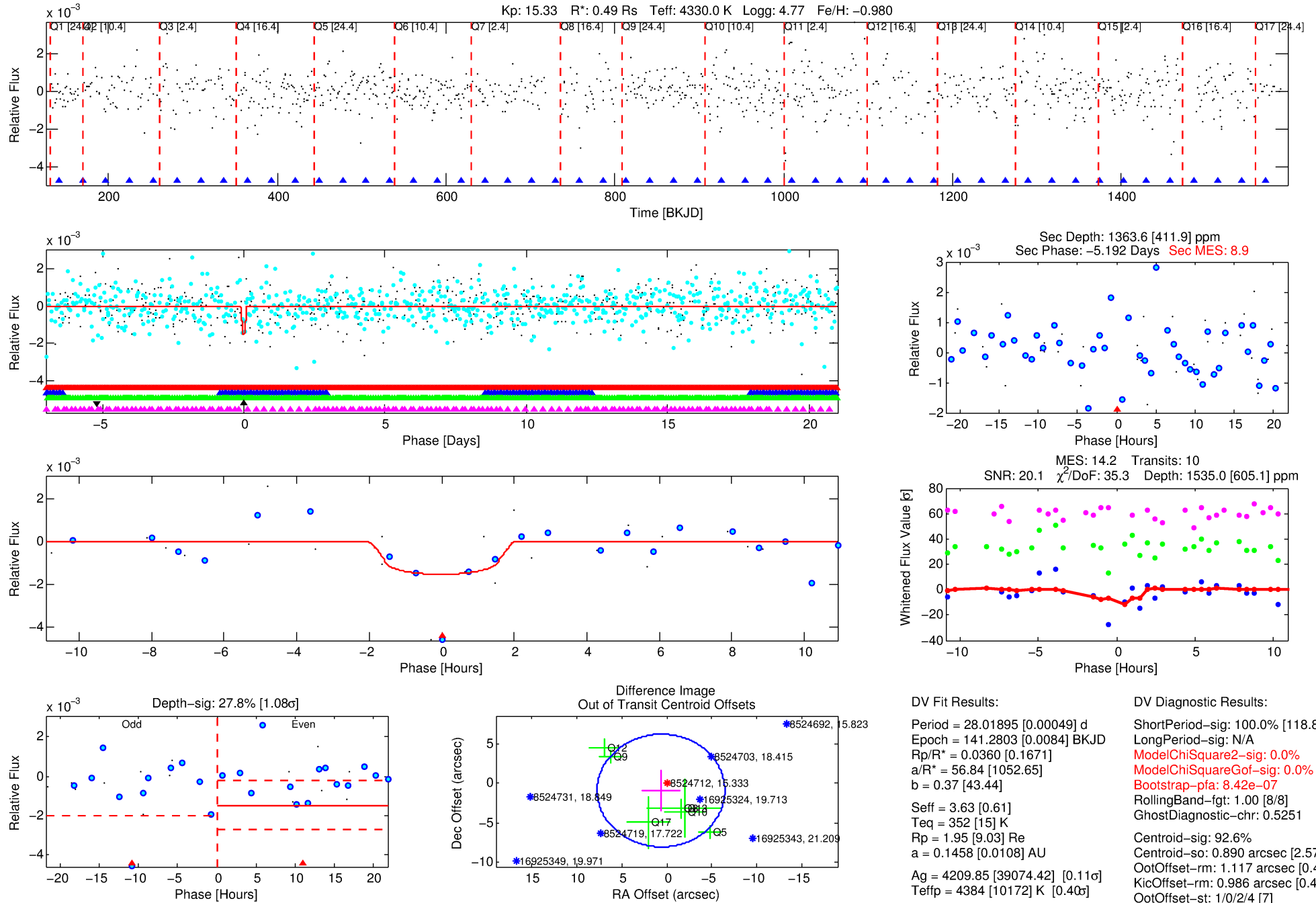
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008524712-04

No Significant Match Found

DV One-Page Summary

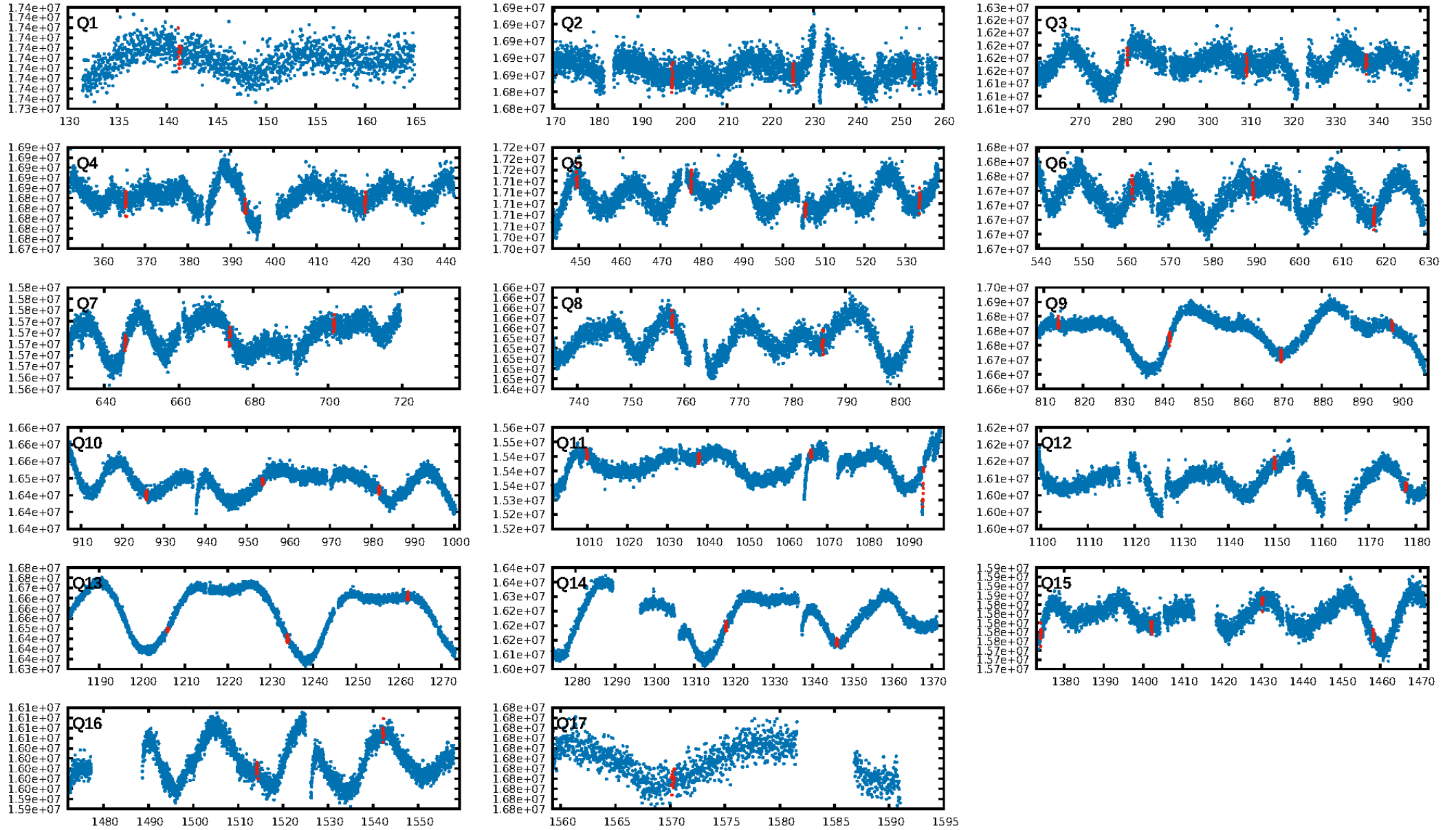
KIC: 8524712 Candidate: 4 of 5 Period: 28.019 d



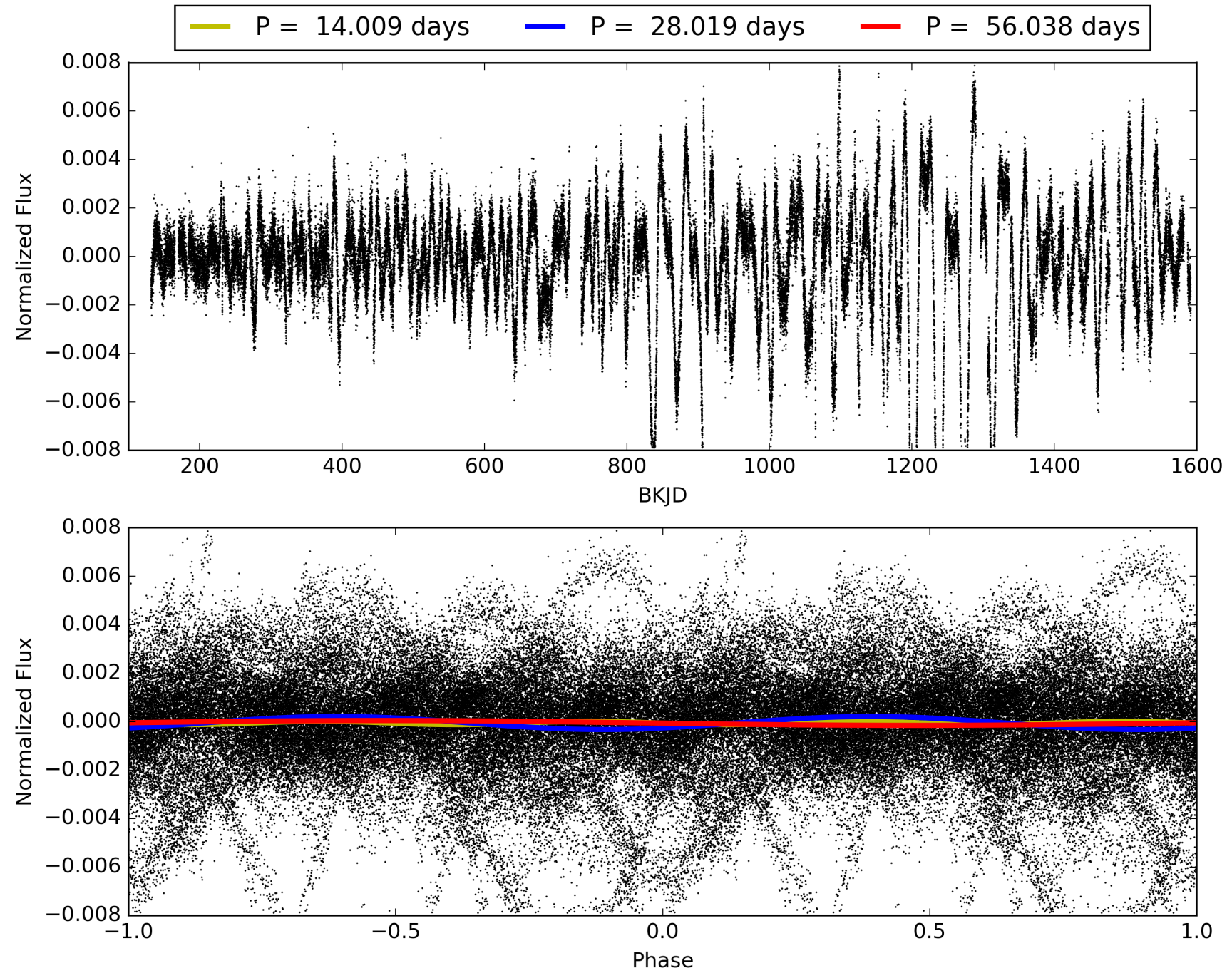
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:32:25 Z

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

TCE 008524712-04, PDC Light Curves

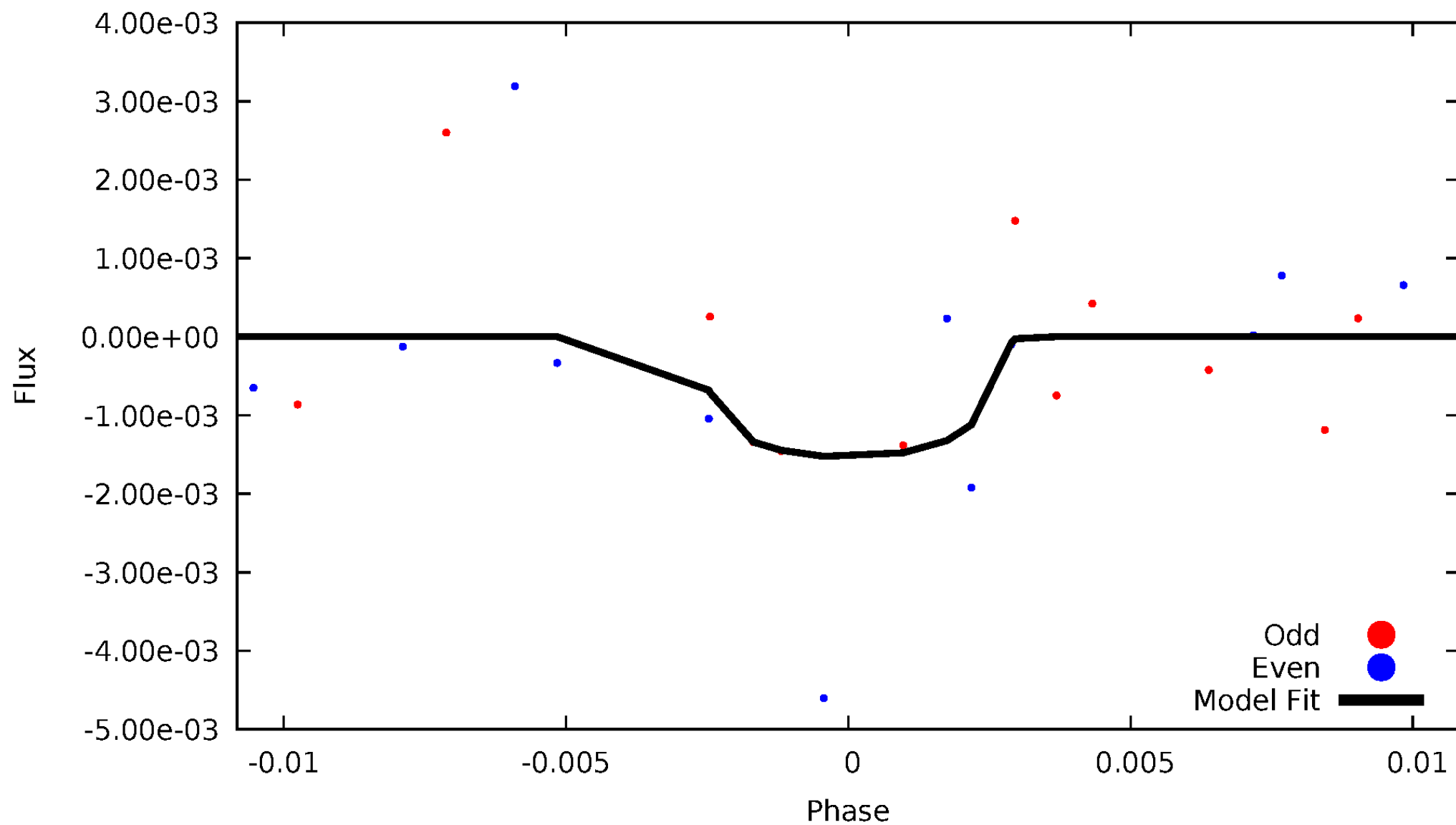


TCE 008524712-04



DV Odd/Even

TCE 008524712-04

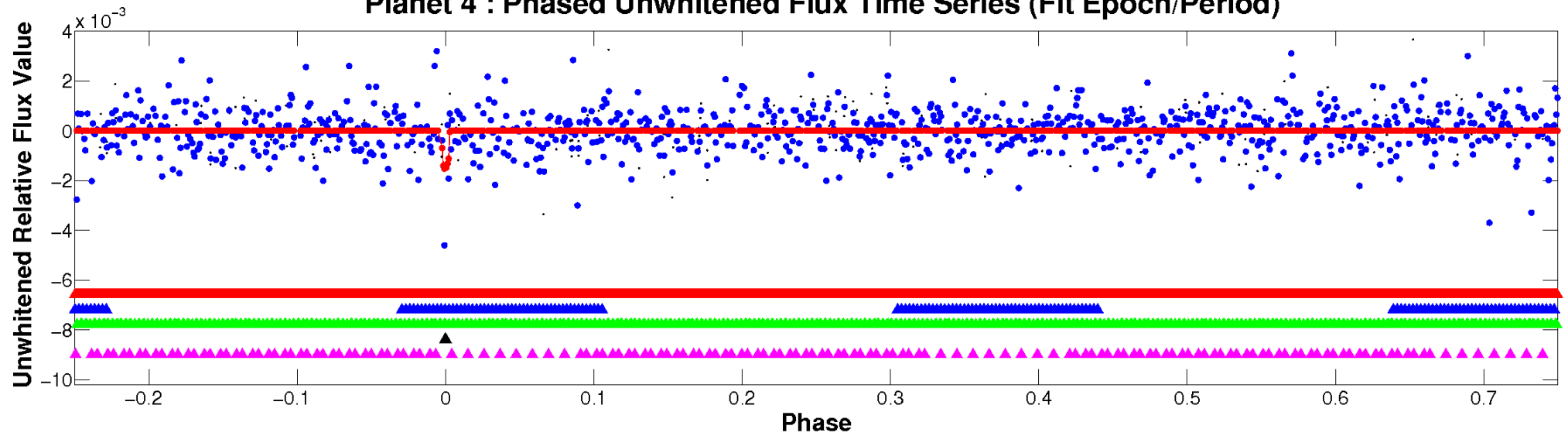


ALT Odd/Even

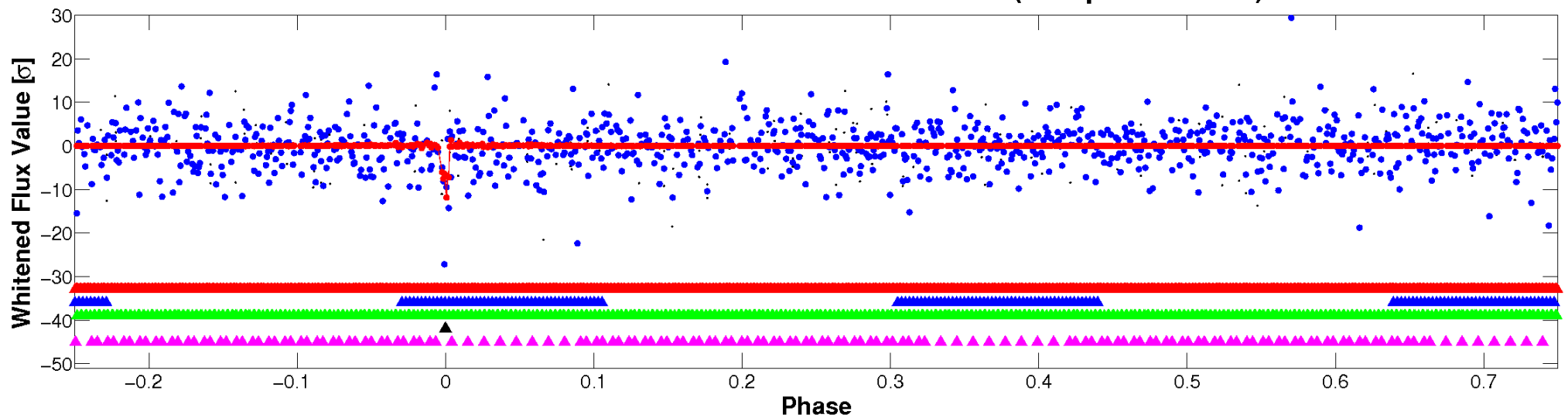
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

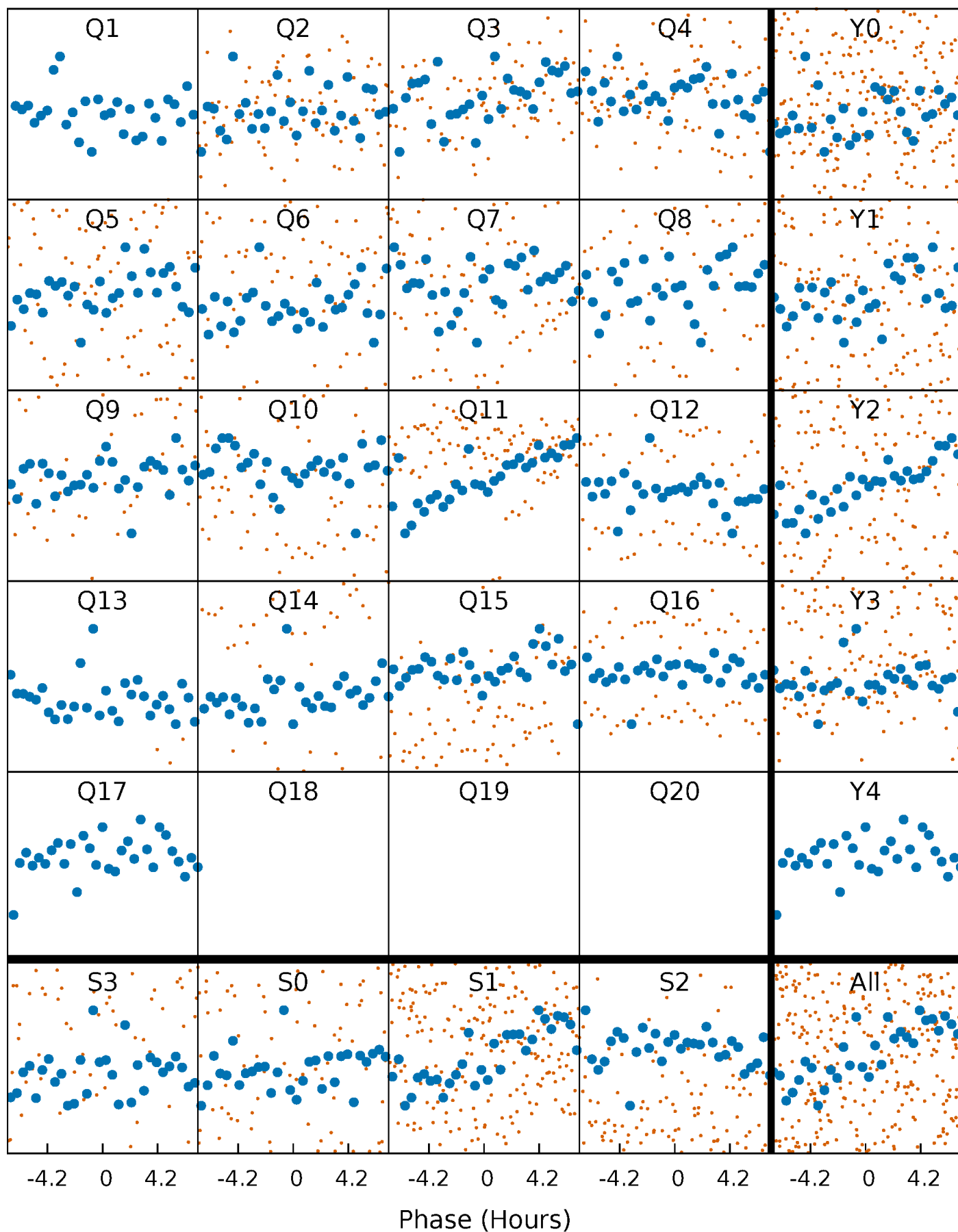


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



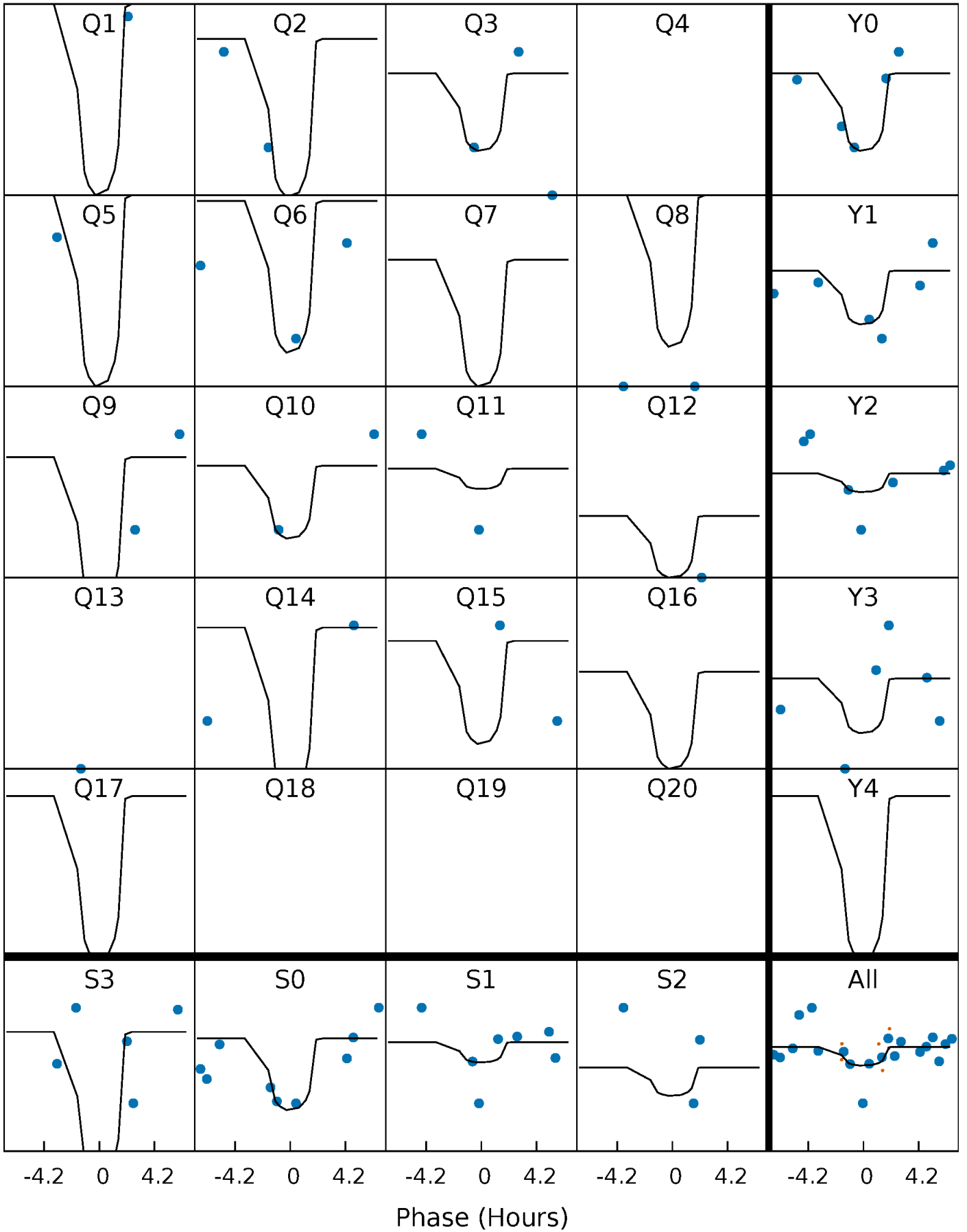
PDC Quarter-Phased Transit Curves

TCE 008524712-04 P= 28.018951 Days $T_0=141.280261$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008524712-04 P= 28.018951 Days $T_0=141.280261$ (BKJD)

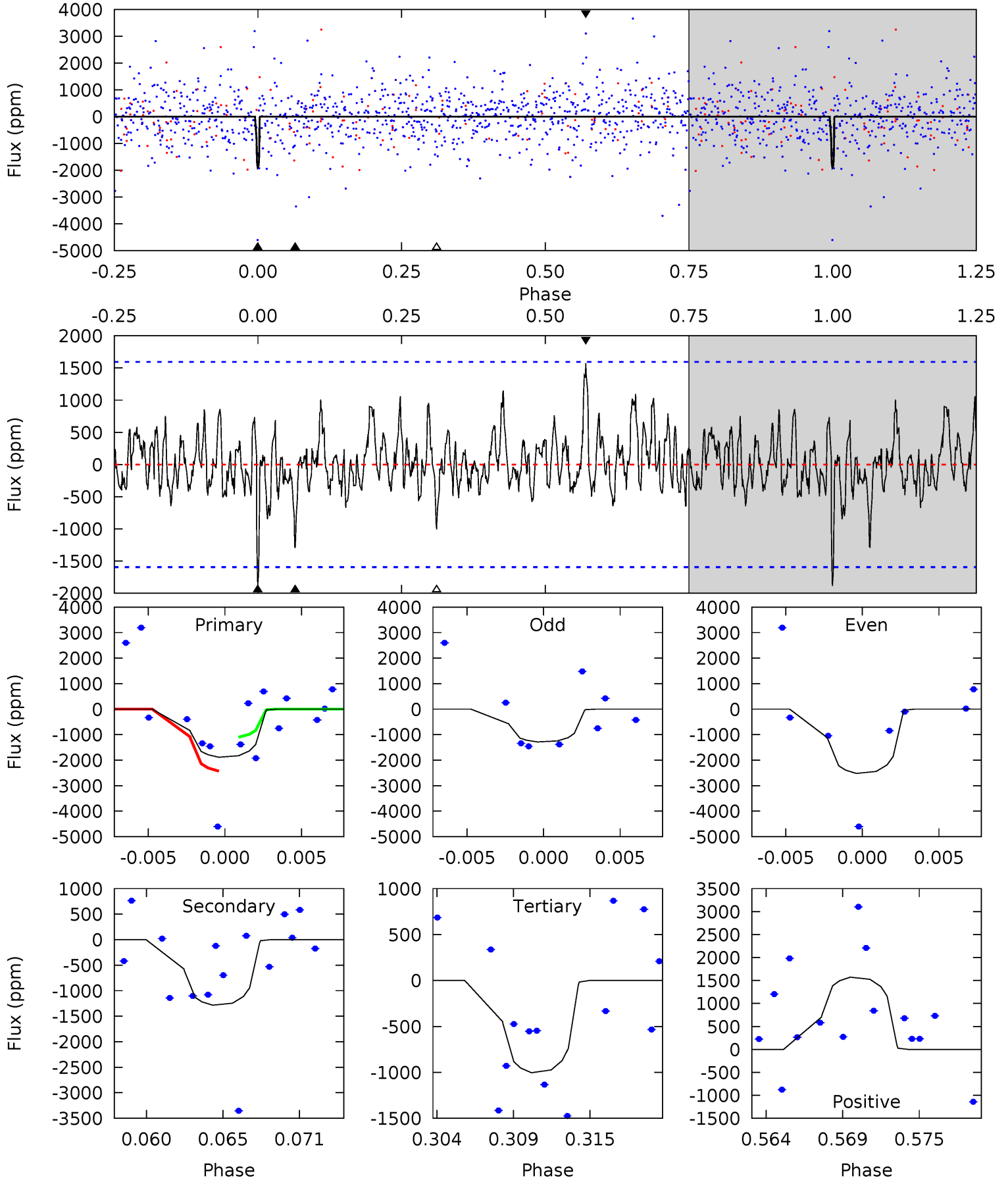


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

008524712-04, P = 28.018951 Days, E = 113.261310 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.08	4.14	3.24	5.07	5.14	2.78	1.21	2.84	1.01	0.90	-0.93	1.99	0	0.45	2.15



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 008524712

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4330^{+130}_{-143}	$4.770^{+0.045}_{-0.055}$	$-0.980^{+0.300}_{-0.300}$	$0.495^{+0.045}_{-0.045}$	$0.527^{+0.034}_{-0.043}$	$6.111^{+1.339}_{-1.209}$
	+3%/-3%	+1%/-1%	+31%/-31%	+9%/-9%	+6%/-8%	+22%/-20%
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 008524712-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1285 ± 310	$6.67^{+7.40}_{-4.87}$	493^{+18}_{-20}	2915^{+1467}_{-526}	335^{+4399}_{-262}
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

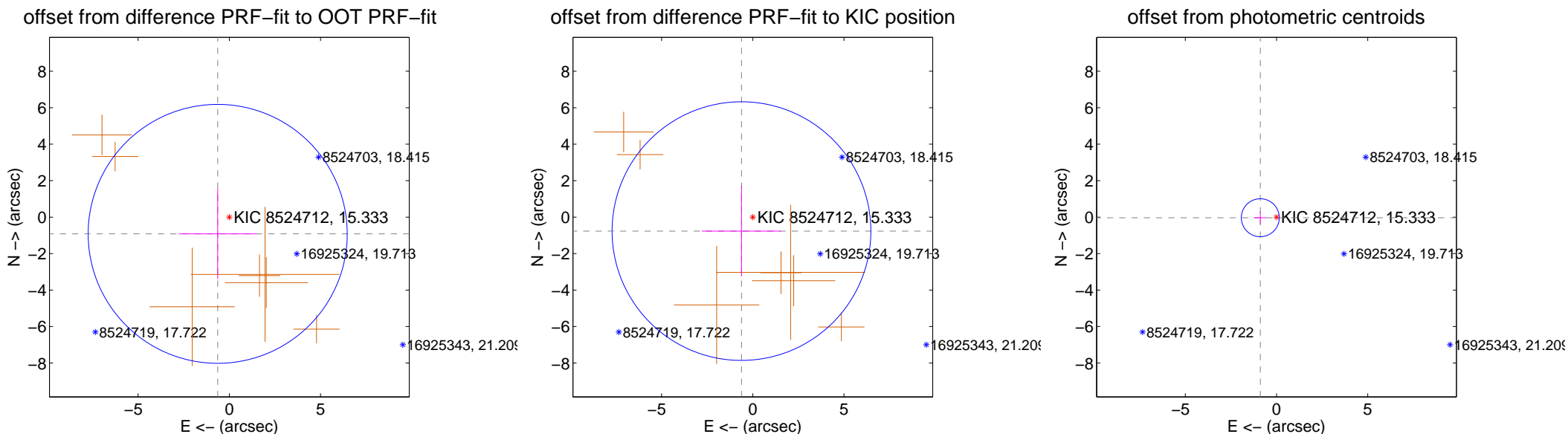
DV Centroid Data

Supplemental centroid analysis for 008524712-04. Kepler magnitude: 15.33. Transit SNR 20.13

There are 0 quarters with good PRF difference image offsets

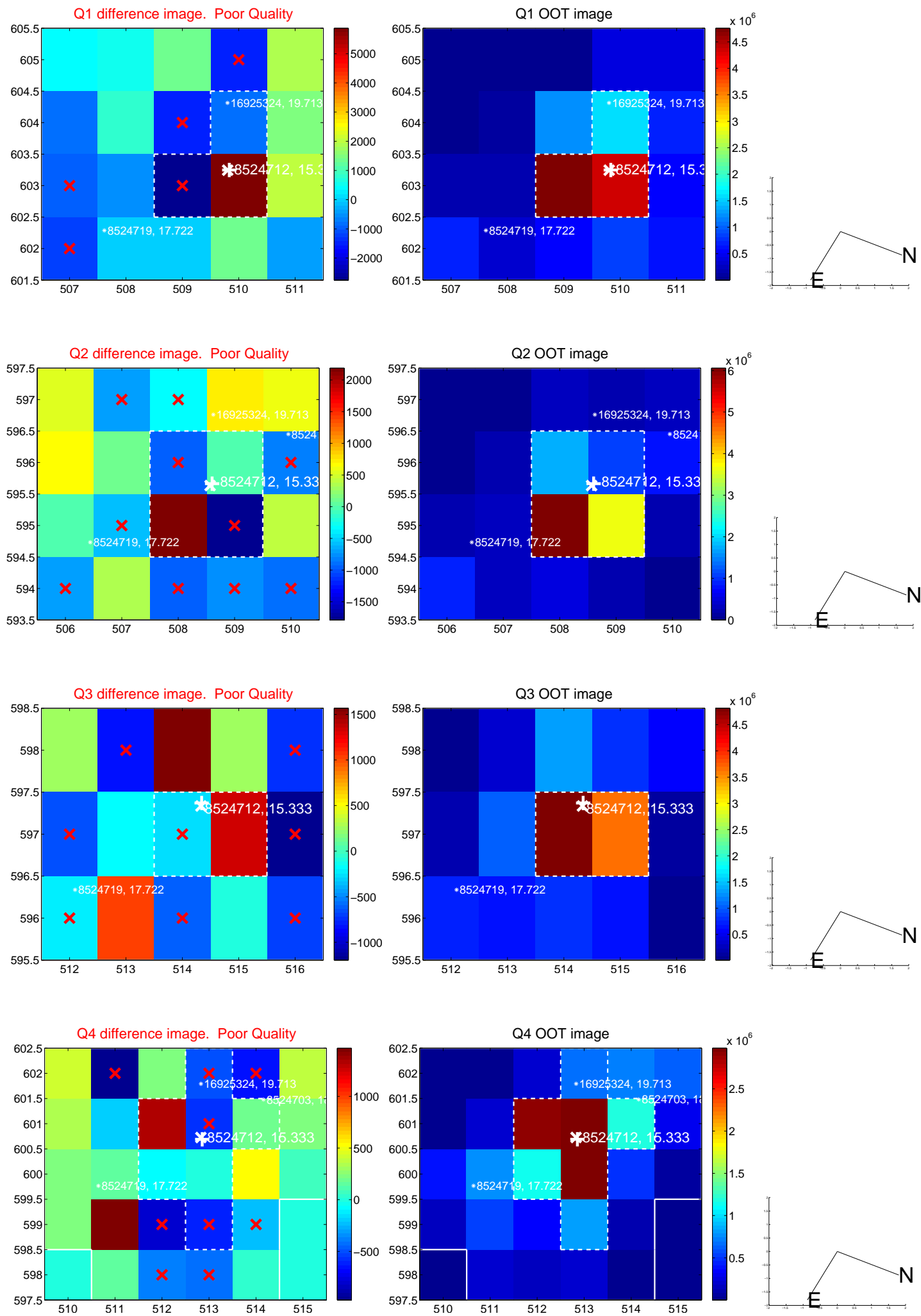
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.117 ± 2.366	0.47	0.637 ± 2.127	-0.917 ± 2.473
PRF-fit source offset from KIC position	0.986 ± 2.364	0.42	0.620 ± 2.171	-0.766 ± 2.482
photometric centroid source offset	0.89 ± 0.35	2.57	0.89 ± 0.35	-0.03 ± 0.34

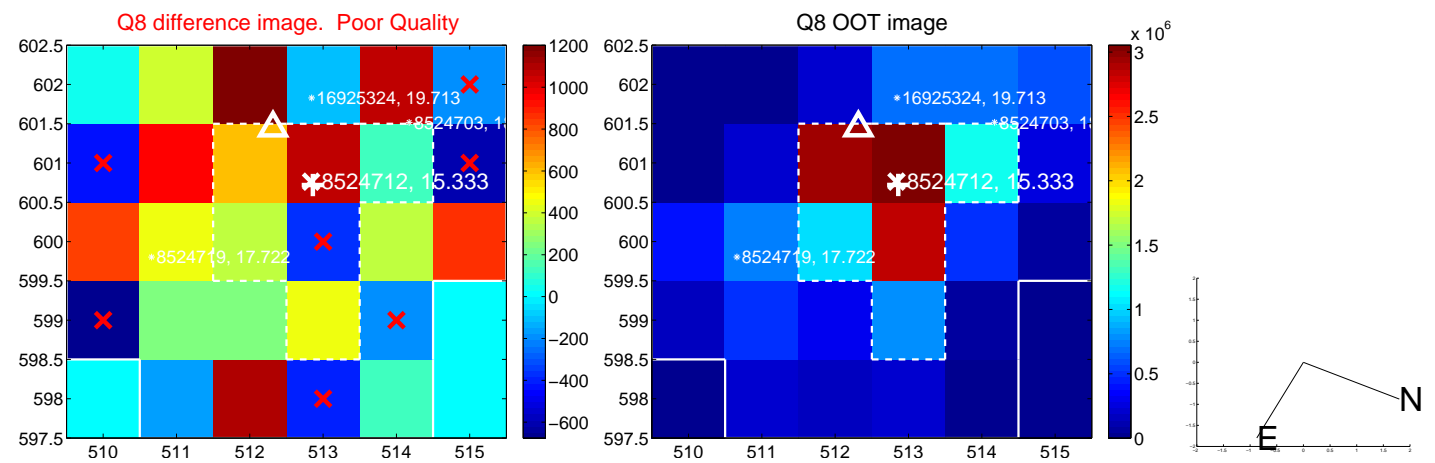
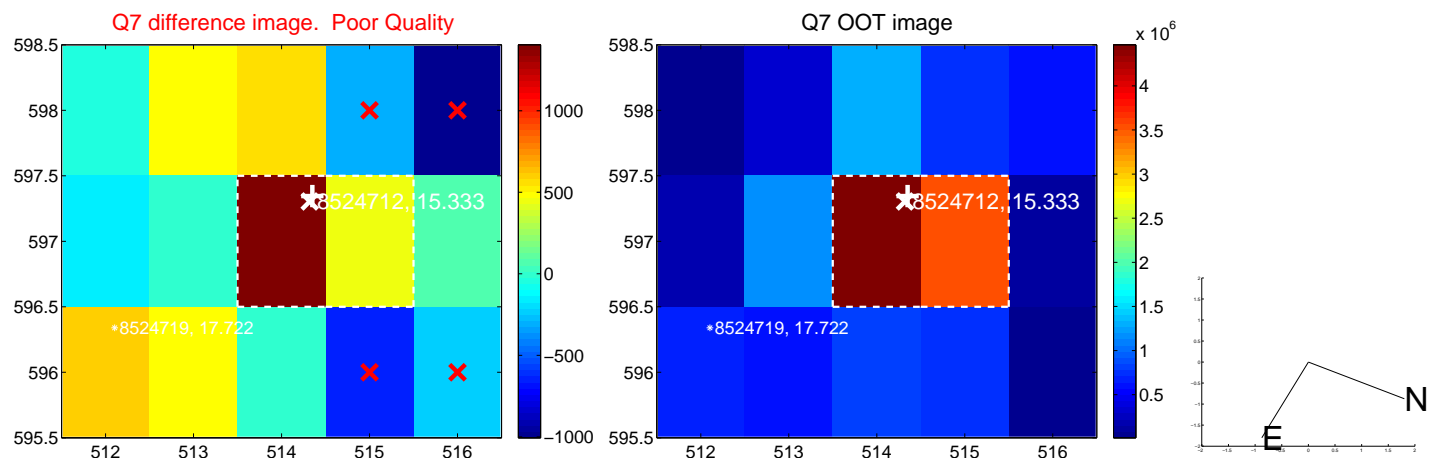
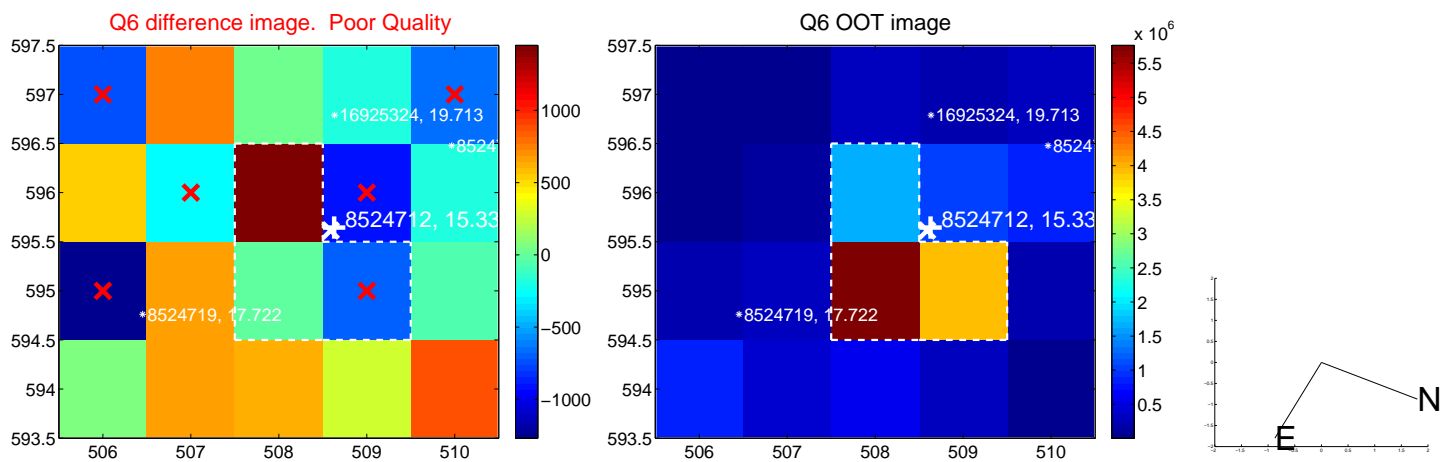
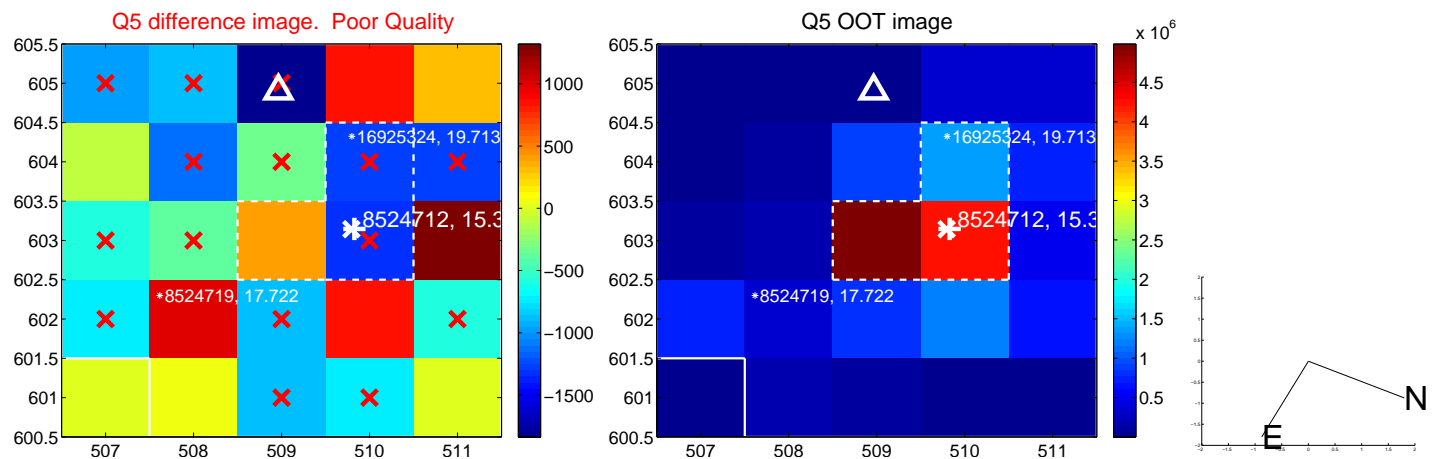


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

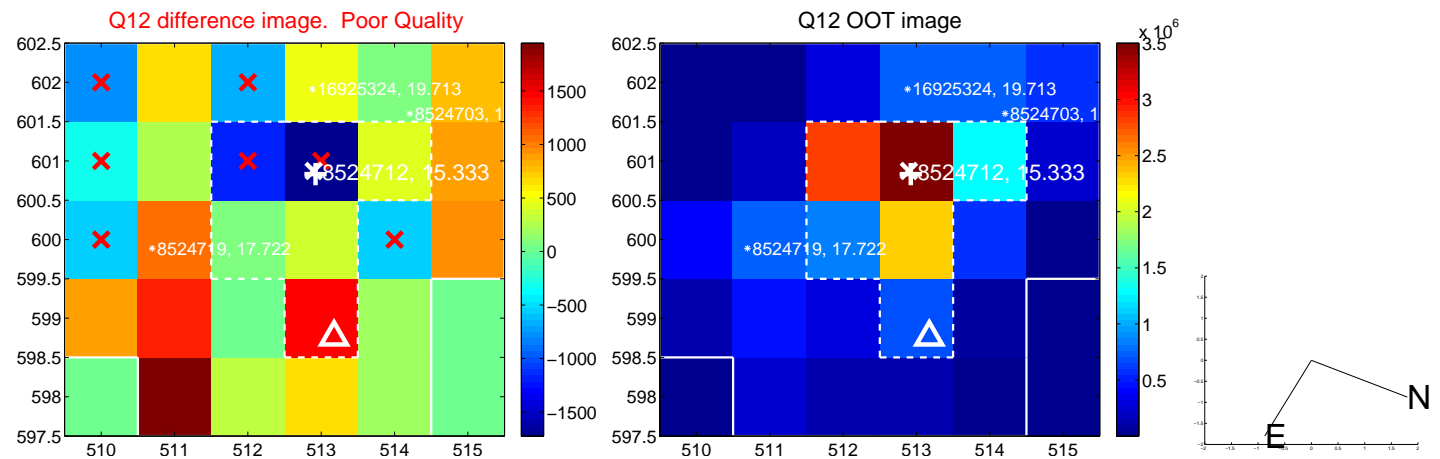
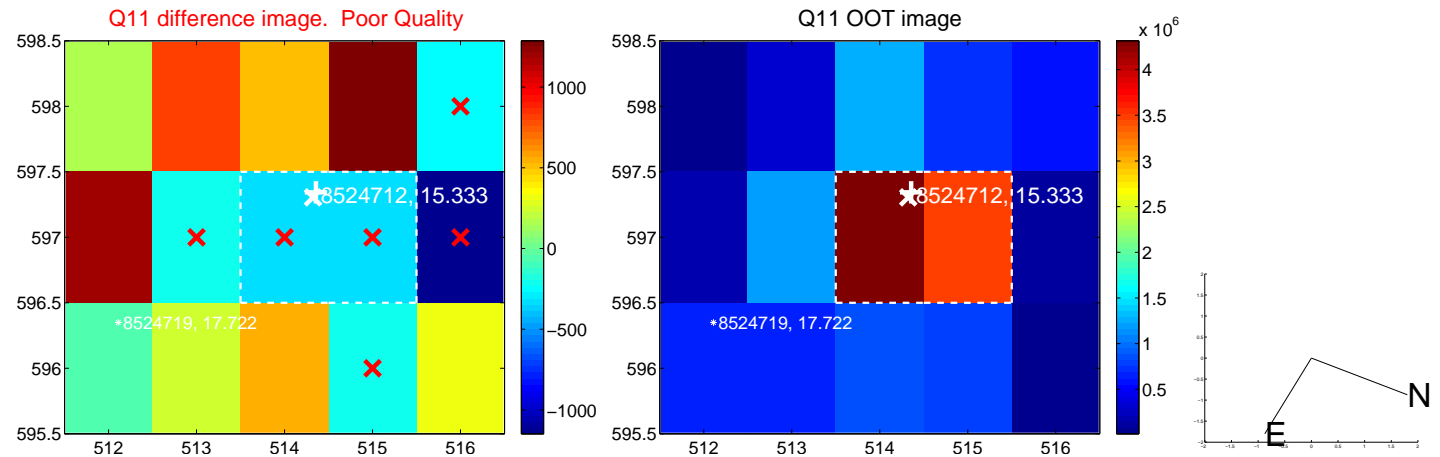
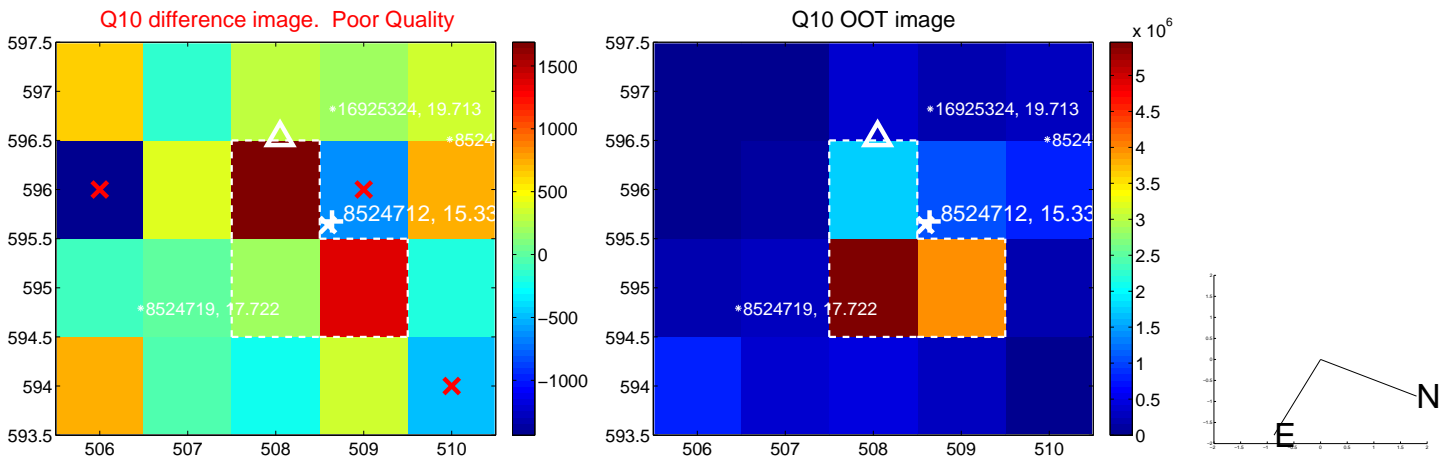
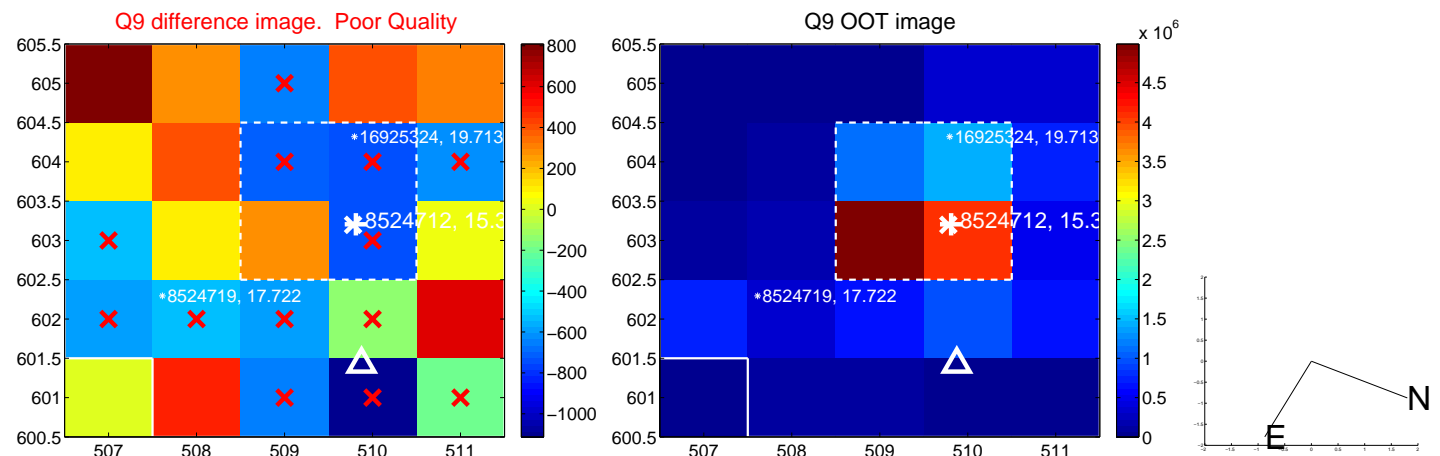
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



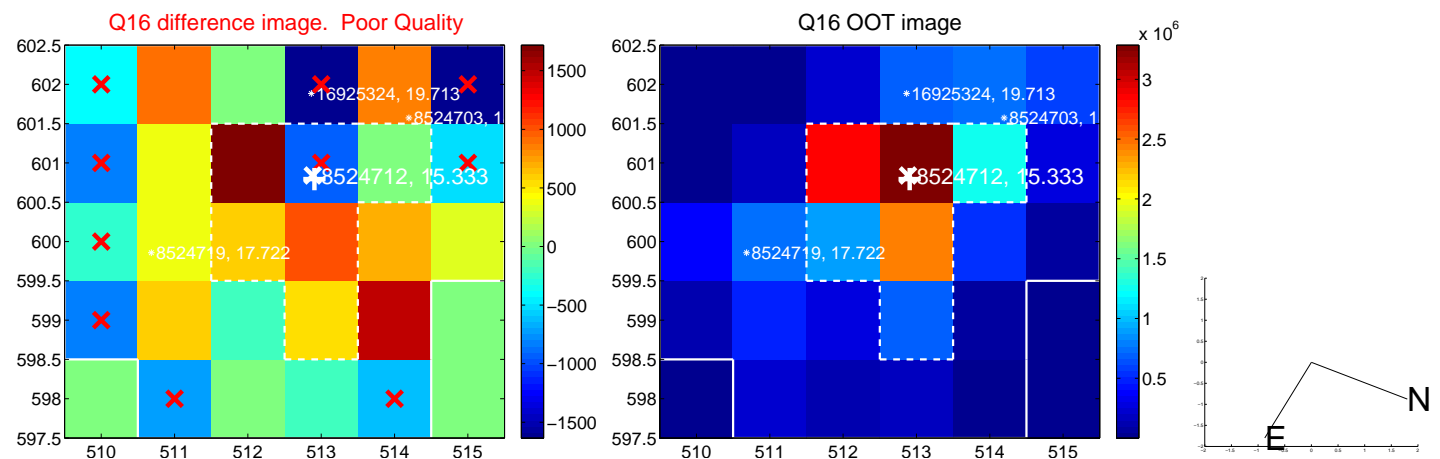
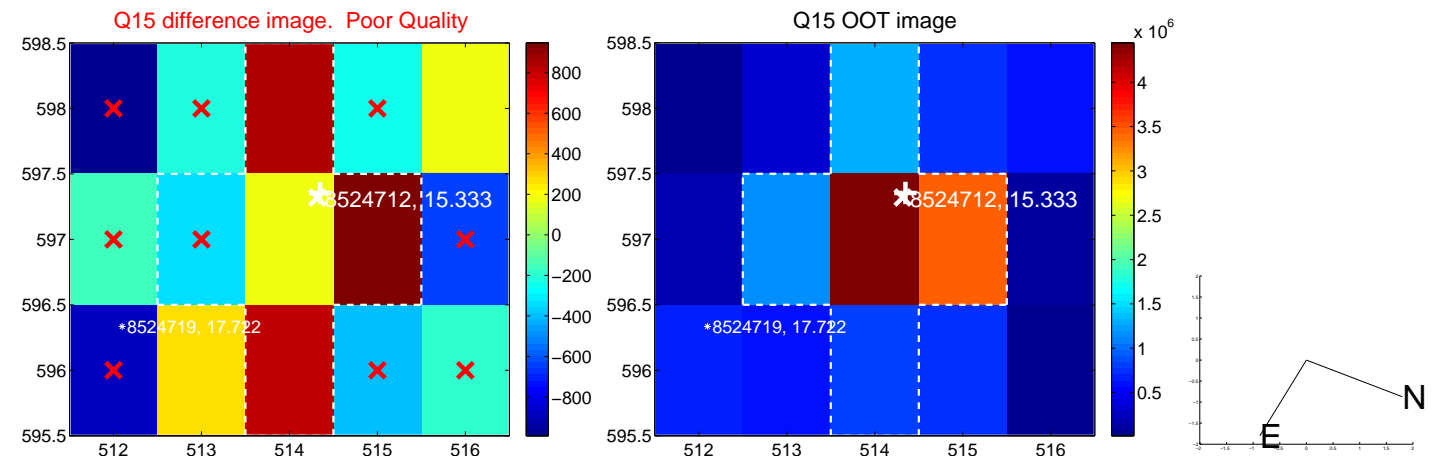
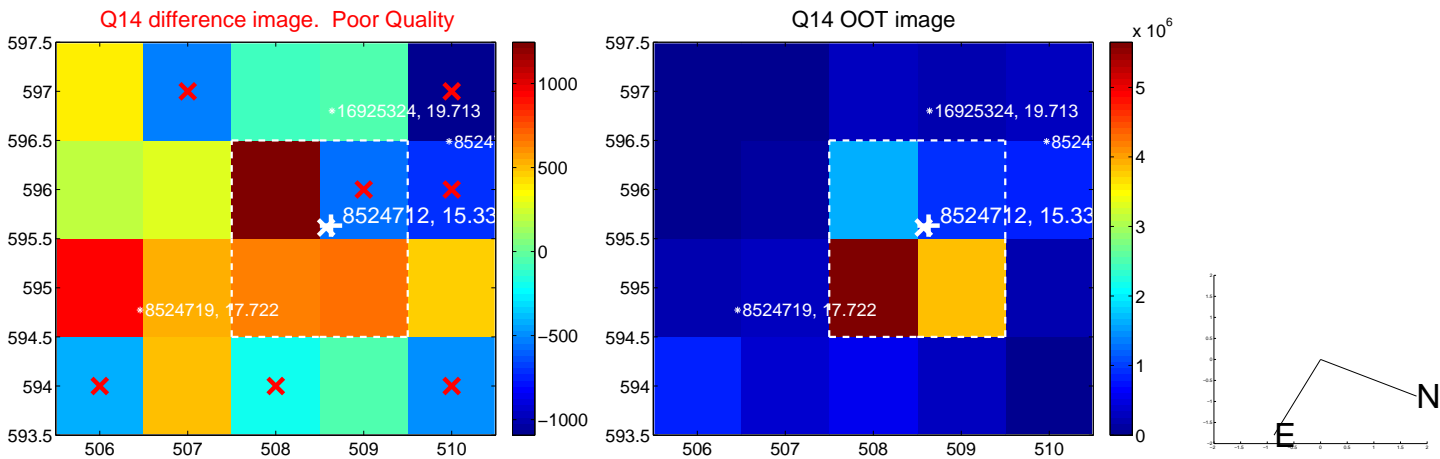
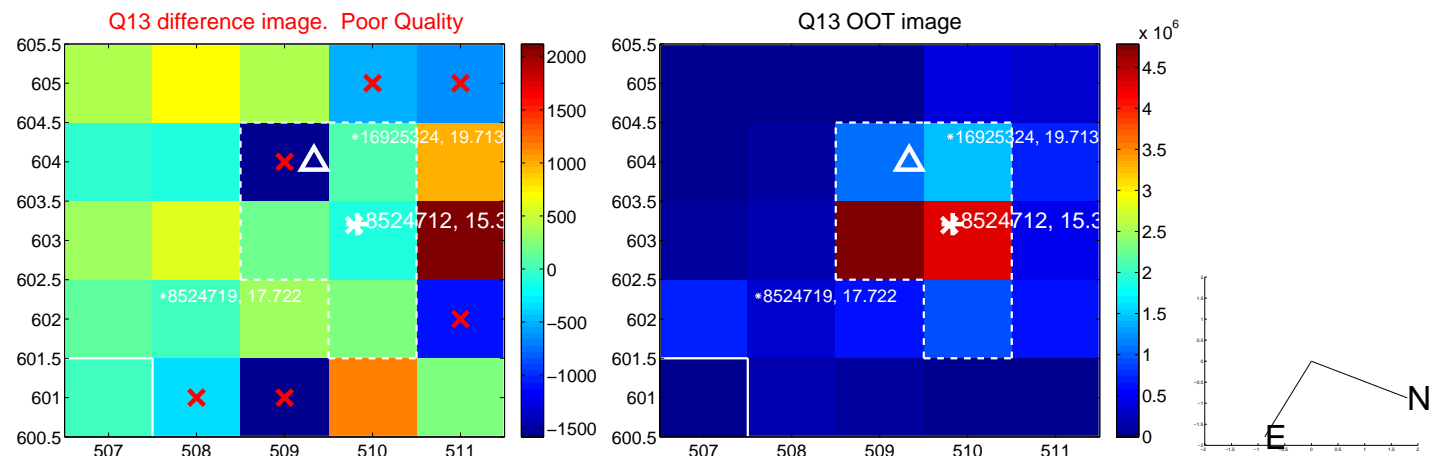
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



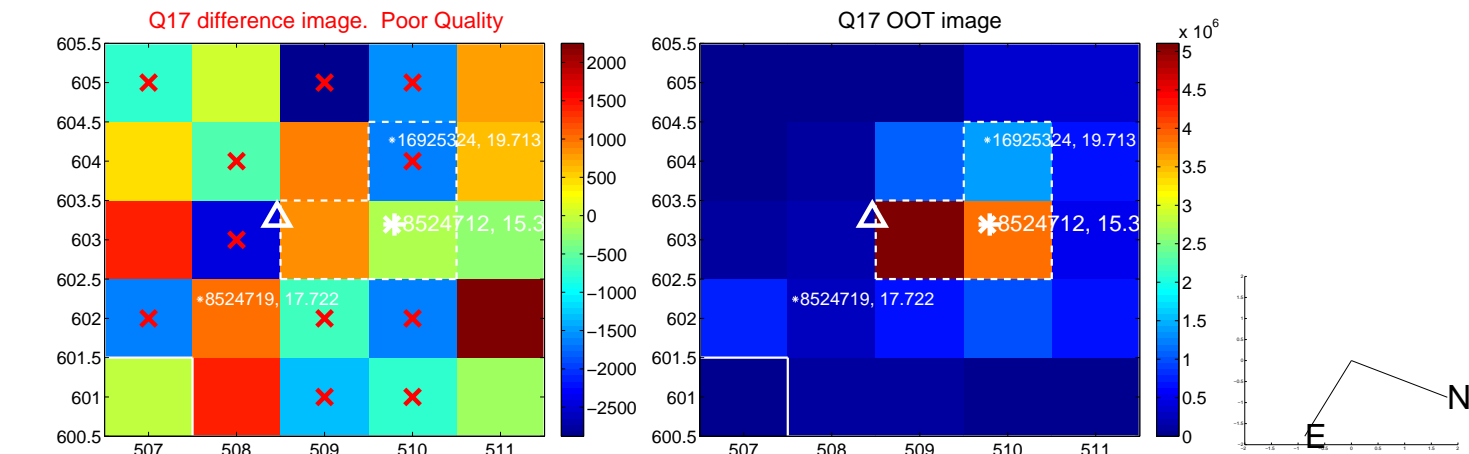
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



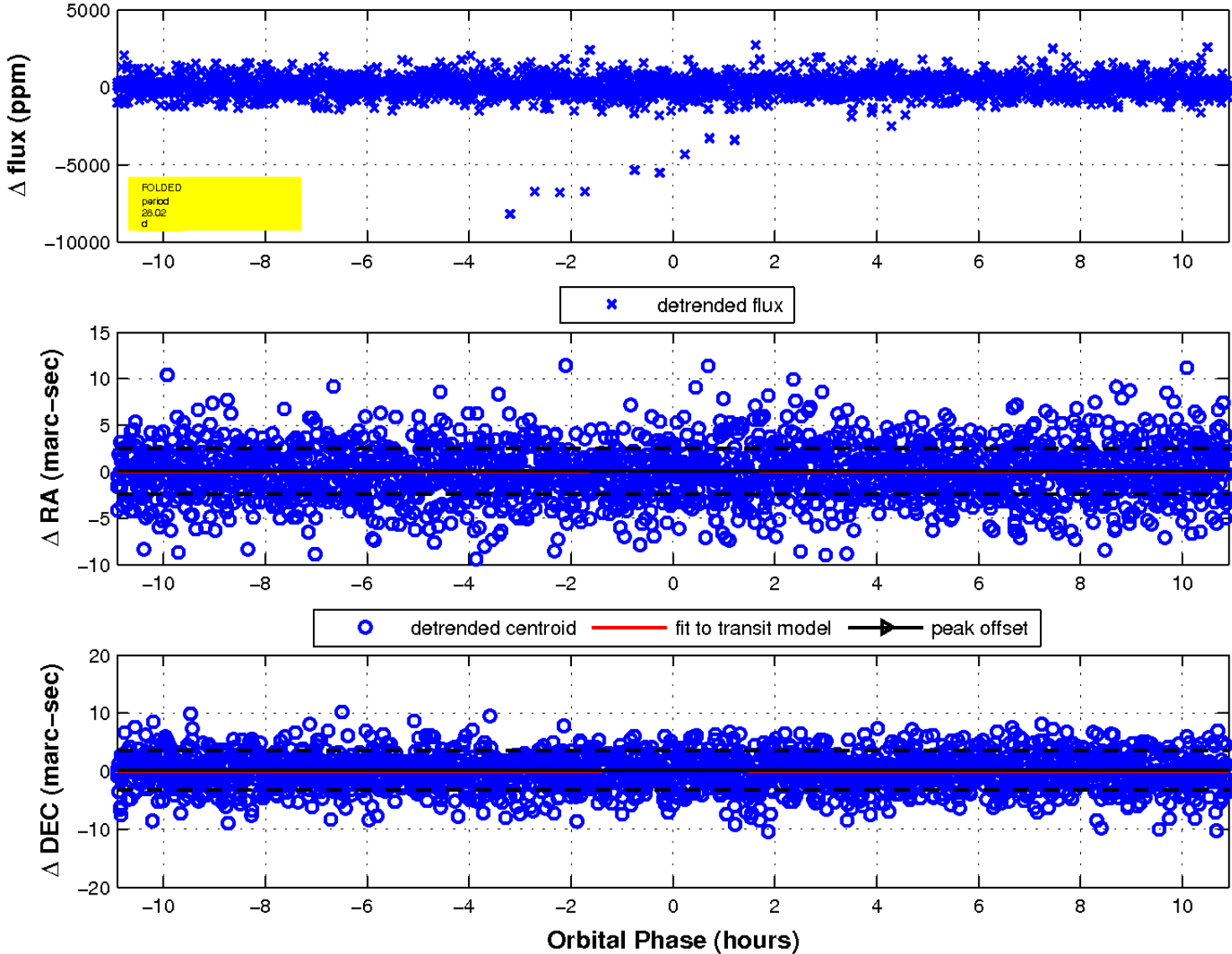
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

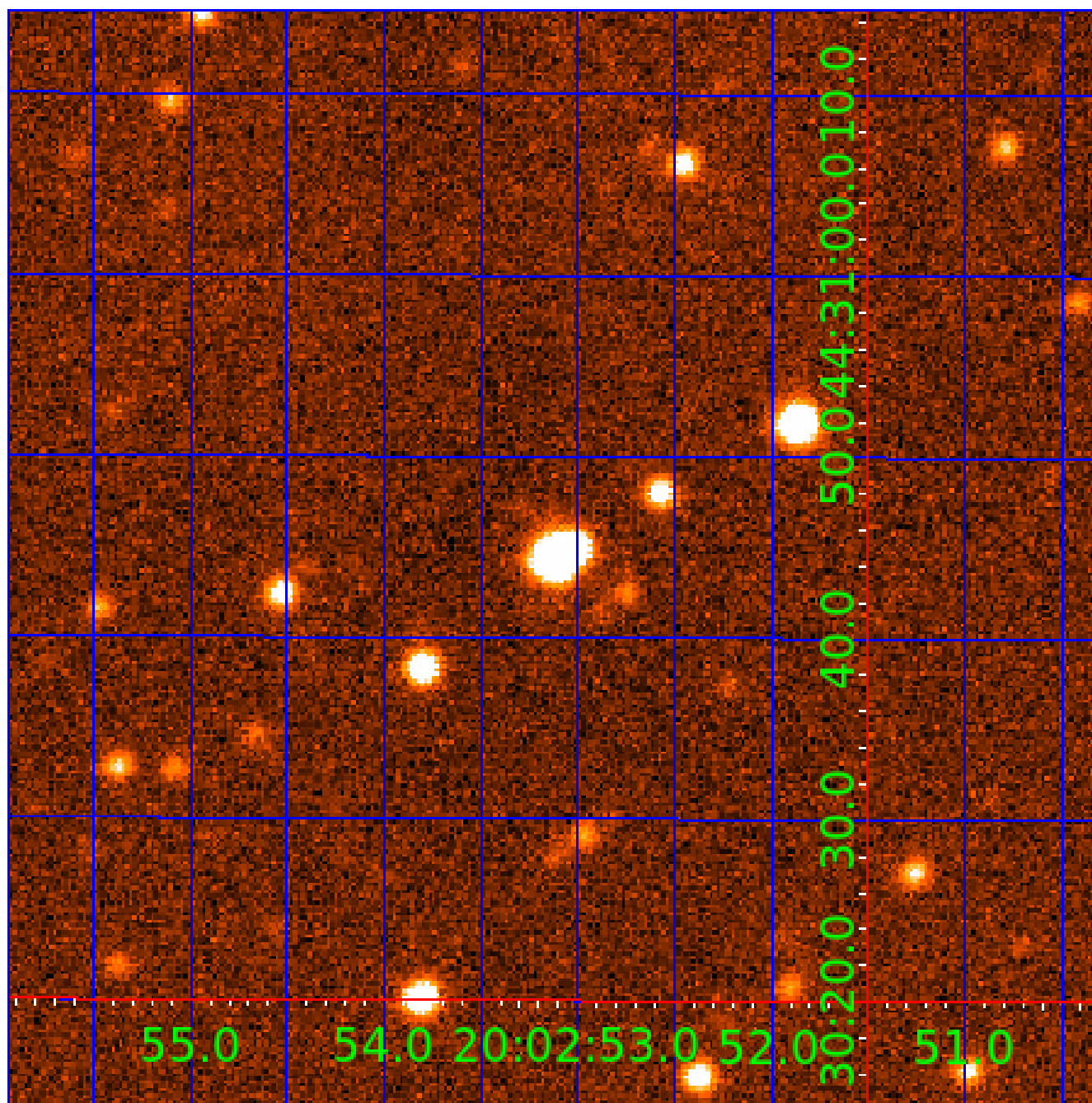


fluxWeightedCentroids, Planet 4 of 5



UKIRT Image

Declination



KIC 008524712

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})
008524712-01	OBS	No	0.809990	132.045659	130.4	6.197	15.2	20.2	0.49	4330	0.56	409.21
008524712-02	OBS	No	9.364359	140.457394	1643.1	0.972	17.3	21.8	0.49	4330	2.38	15.65
008524712-03	OBS	No	2.425579	132.714119	2288.4	2.500	13.9	-1.0	0.49	4330	2.34	94.80
008524712-04	OBS	No	28.018951	141.280261	1535.0	3.639	14.2	20.1	0.49	4330	1.95	3.63
008524712-05	OBS	No	9.238195	131.749482	2006.3	0.735	16.8	24.9	0.49	4330	2.46	15.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008524712-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008524712-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_FEW_DIFFS
008524712-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
008524712-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
008524712-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—CENT_RESOLVED_OFFSET

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

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

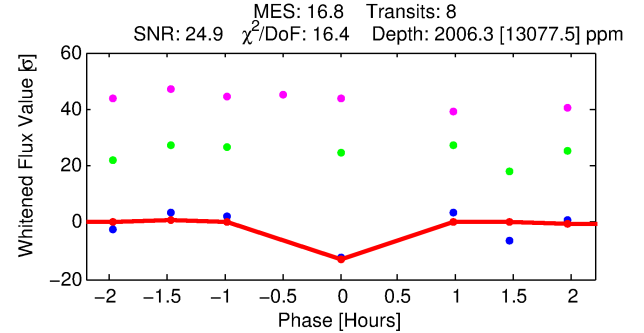
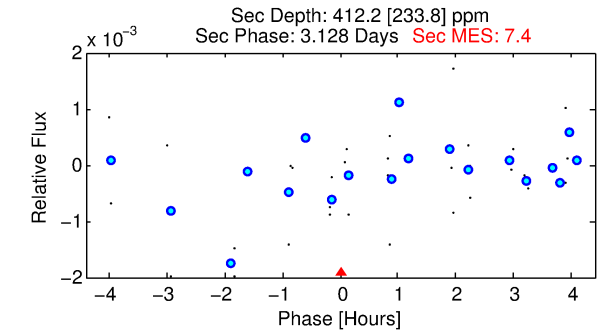
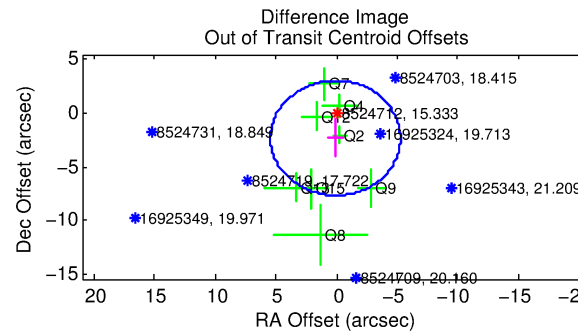
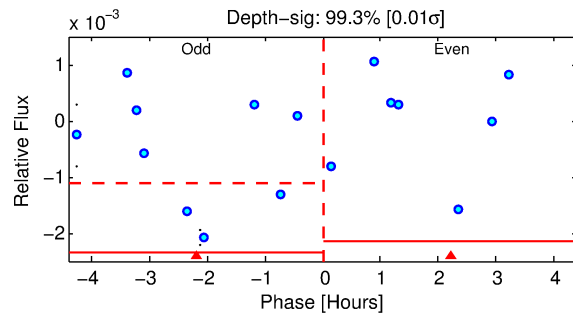
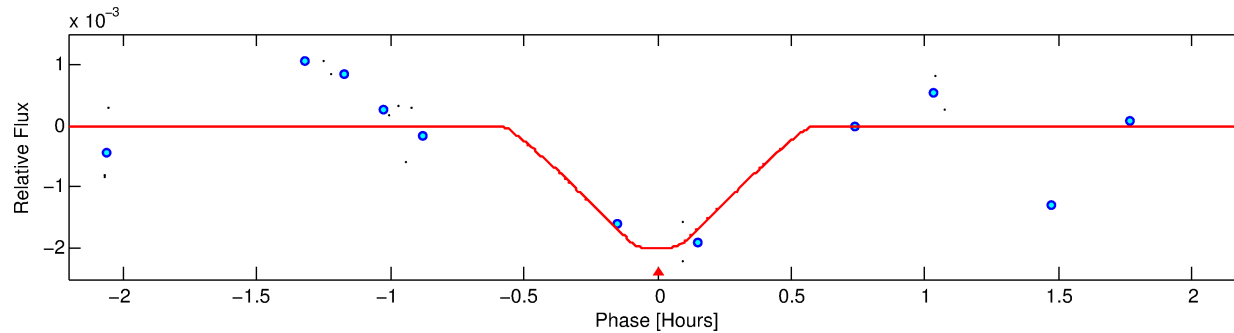
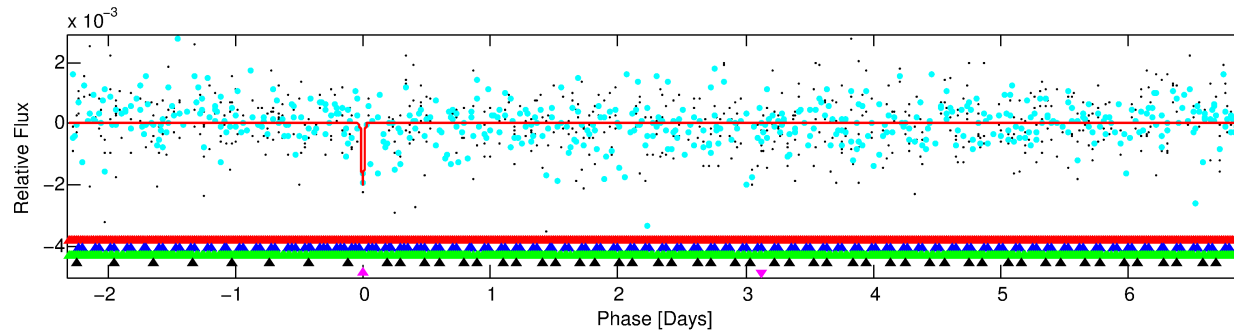
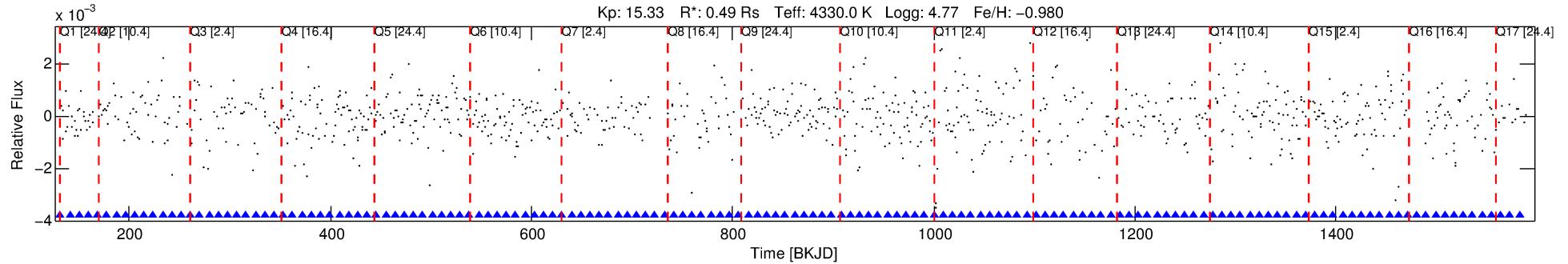
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008524712-05

No Significant Match Found

DV One-Page Summary

KIC: 8524712 Candidate: 5 of 5 Period: 9.238 d



DV Fit Results:

Period = 9.23820 [0.00047] d
Epoch = 131.7495 [0.0489] BKJD
Rp/R* = 0.0455 [1.0776]
a/R* = 71.34 [5814.40]
b = 0.74 [55.60]
Seff = 15.94 [2.68]
Teq = 509 [21] K
Rp = 2.46 [58.21] Re
a = 0.0696 [0.0051] AU
Ag = 181.96 [8624.01] [0.02σ]
Teffp = 2893 [34281] K [0.07σ]

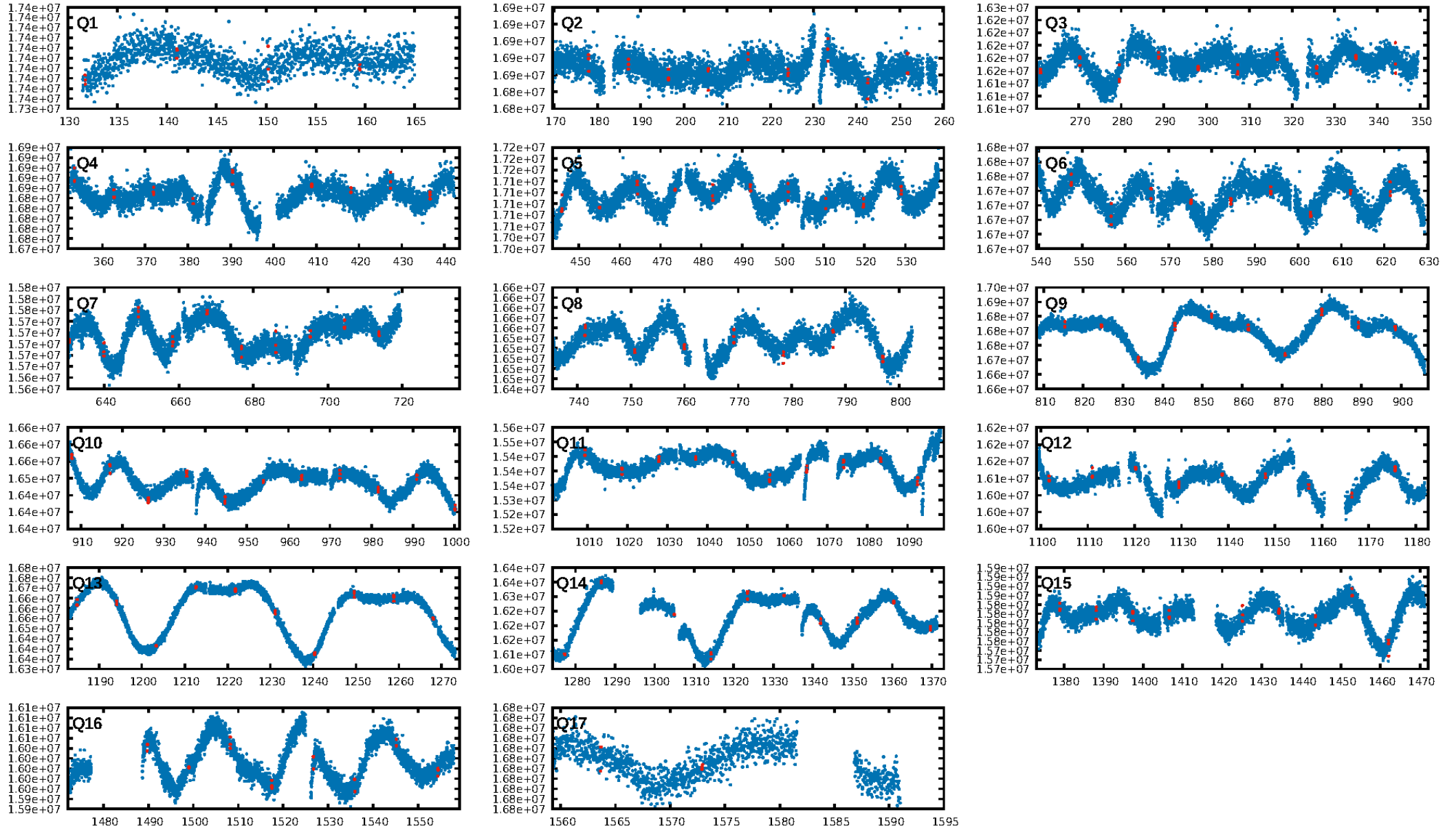
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [62.75σ]
LongPeriod-sig: 98.7% [2.49σ]
ModelChiSquare2-sig: 0.5%
ModelChiSquareGof-sig: 30.2%
Bootstrap-pfa: 2.43e-06
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: -2.883
Centroid-sig: 26.1%
Centroid-so: 0.752 arcsec [2.27σ]
OotOffset-rm: 2.329 arcsec [1.30σ]
OotOffset-st: 1/2/3/2 [8]
KicOffset-rm: 2.208 arcsec [1.54σ]
KicOffset-st: 1/2/3/2 [8]
DiffImageQuality-fgm: 0.12 [1/8]
DiffImageOverlap-fno: 0.56 [9/16]

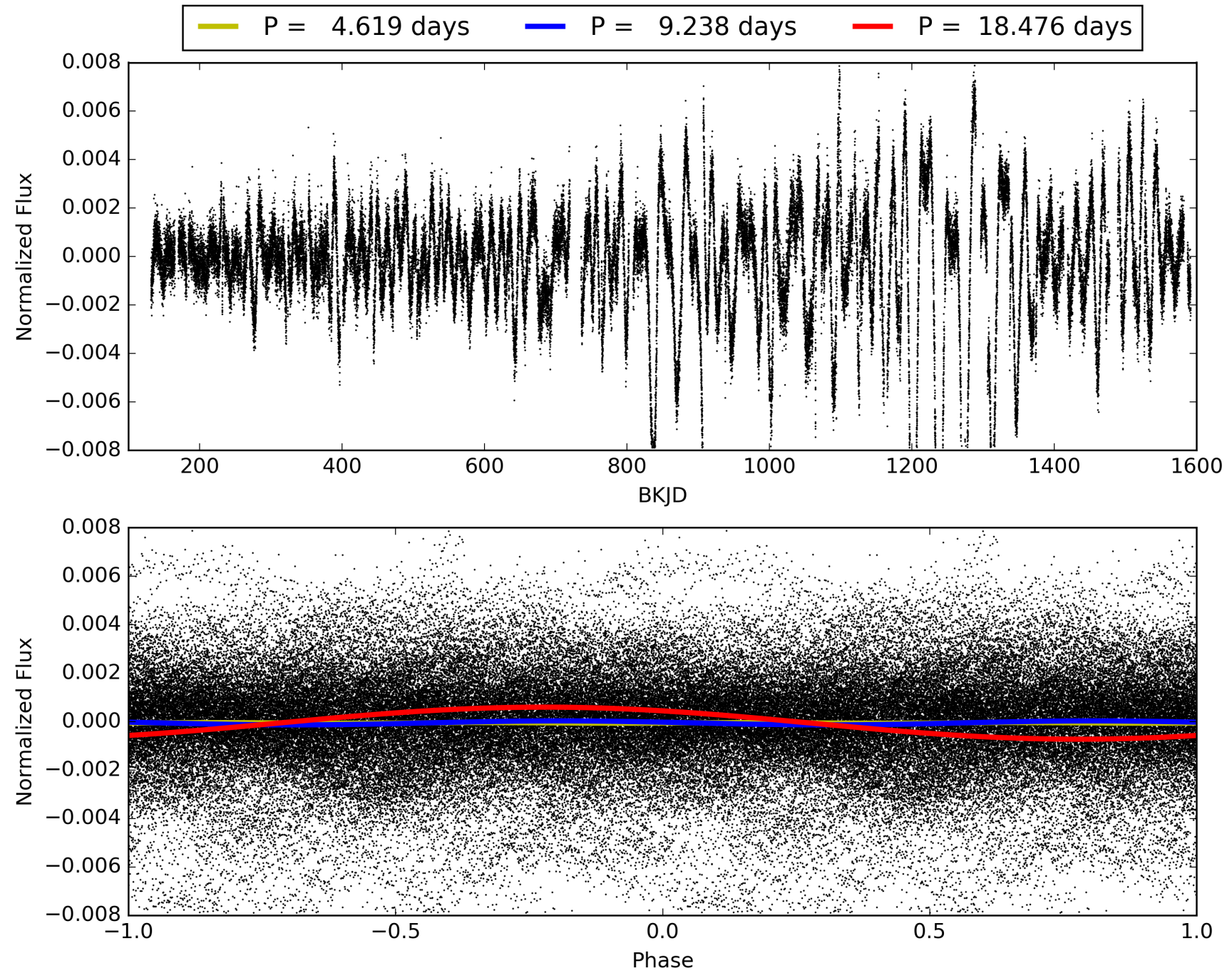
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:32:29 Z

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

TCE 008524712-05, PDC Light Curves

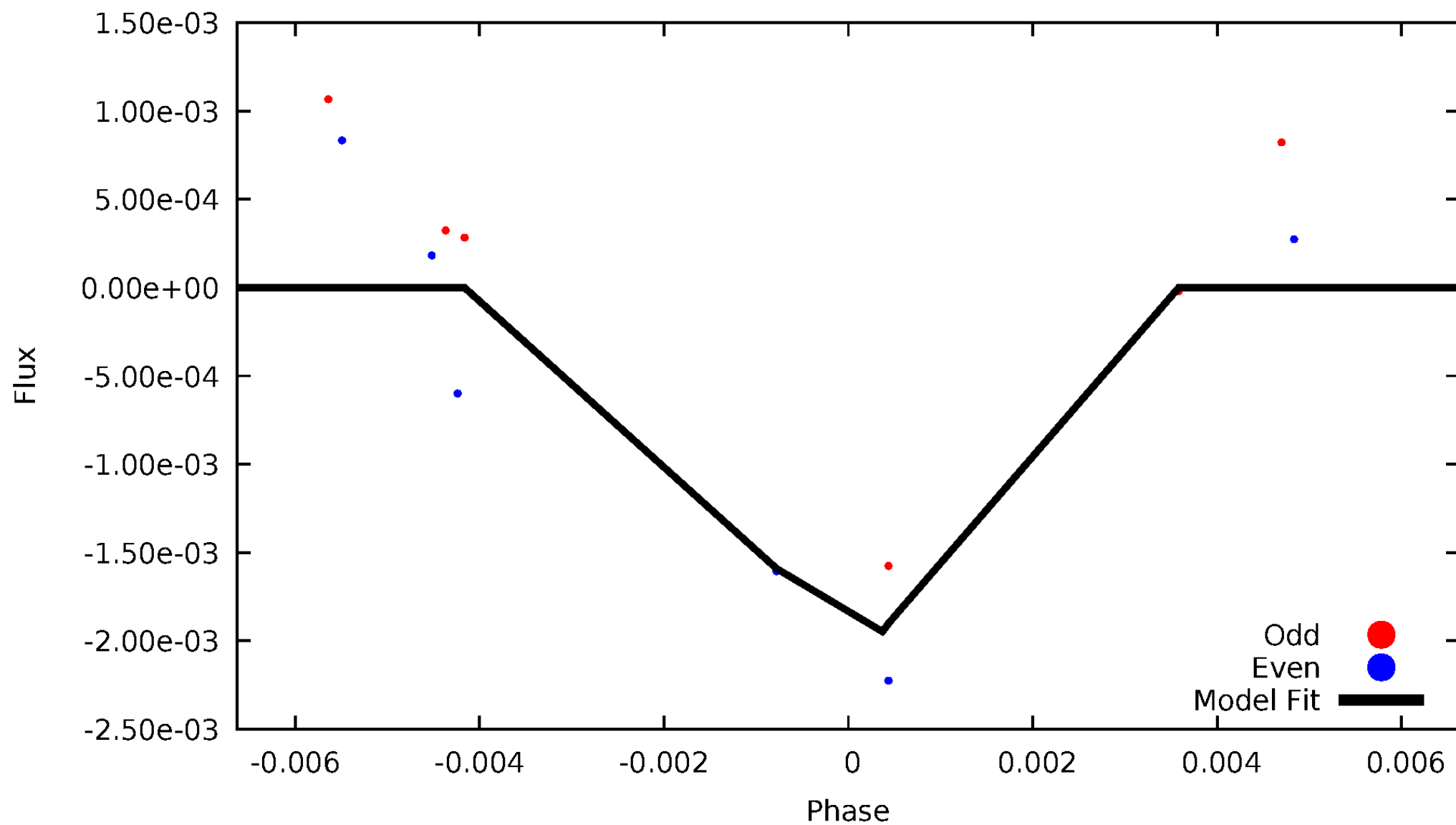


TCE 008524712-05



DV Odd/Even

TCE 008524712-05

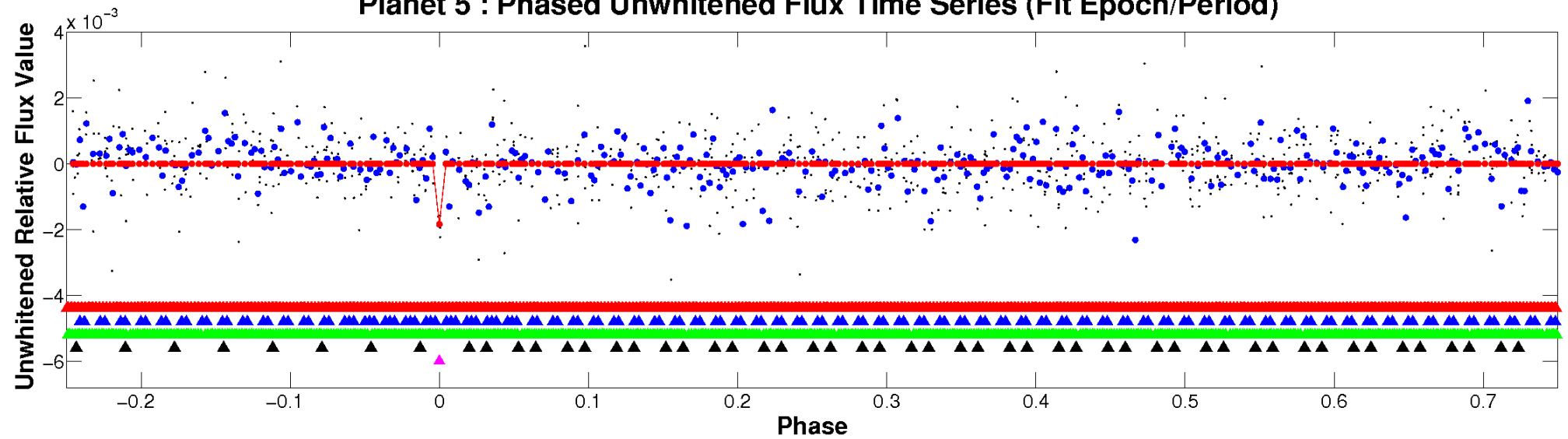


ALT Odd/Even

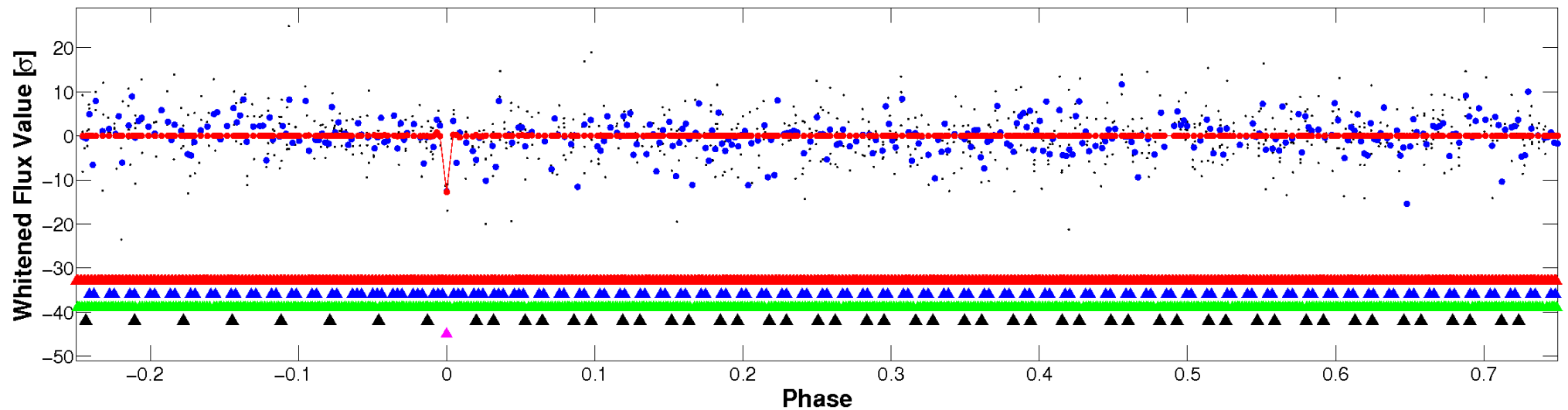
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

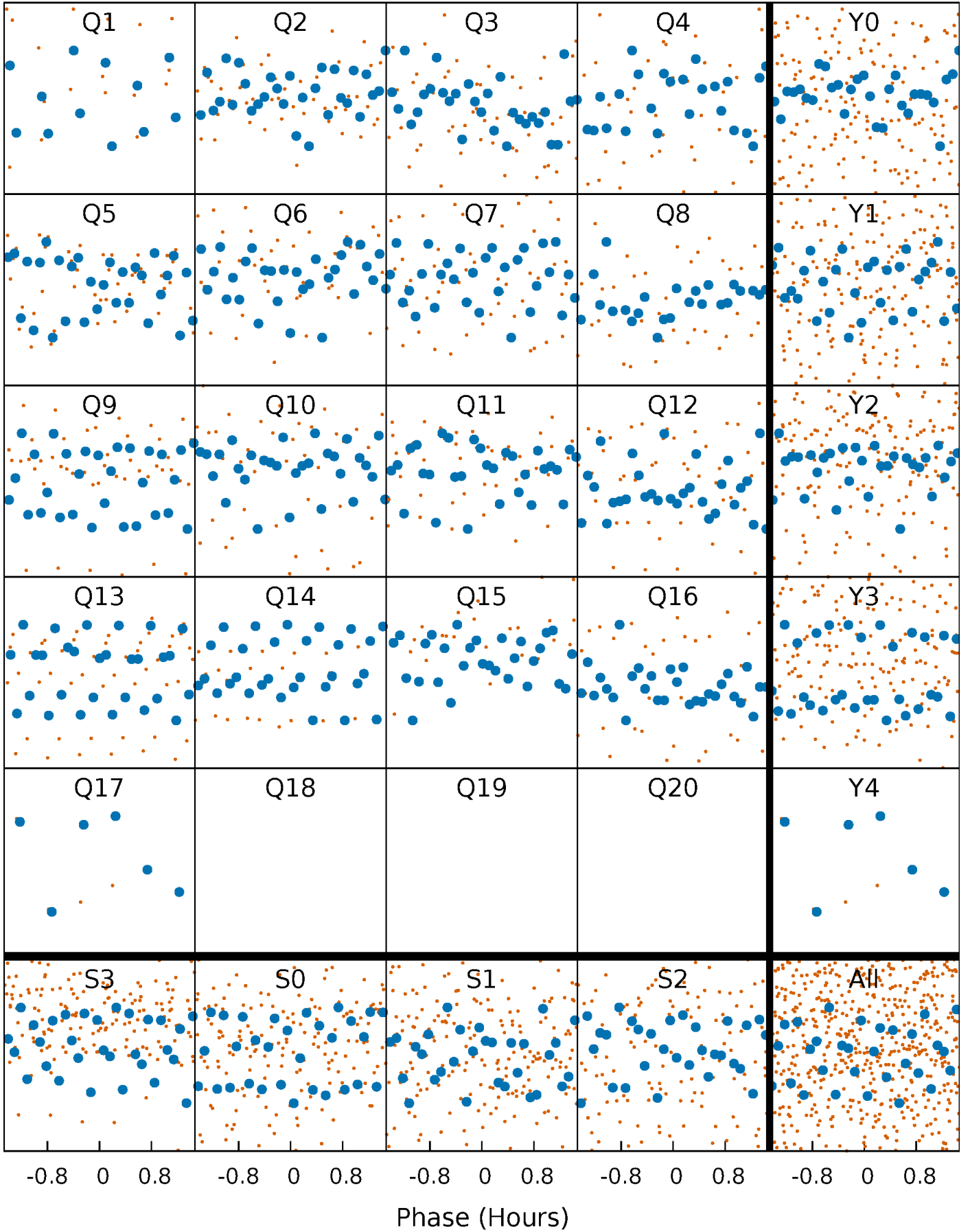


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



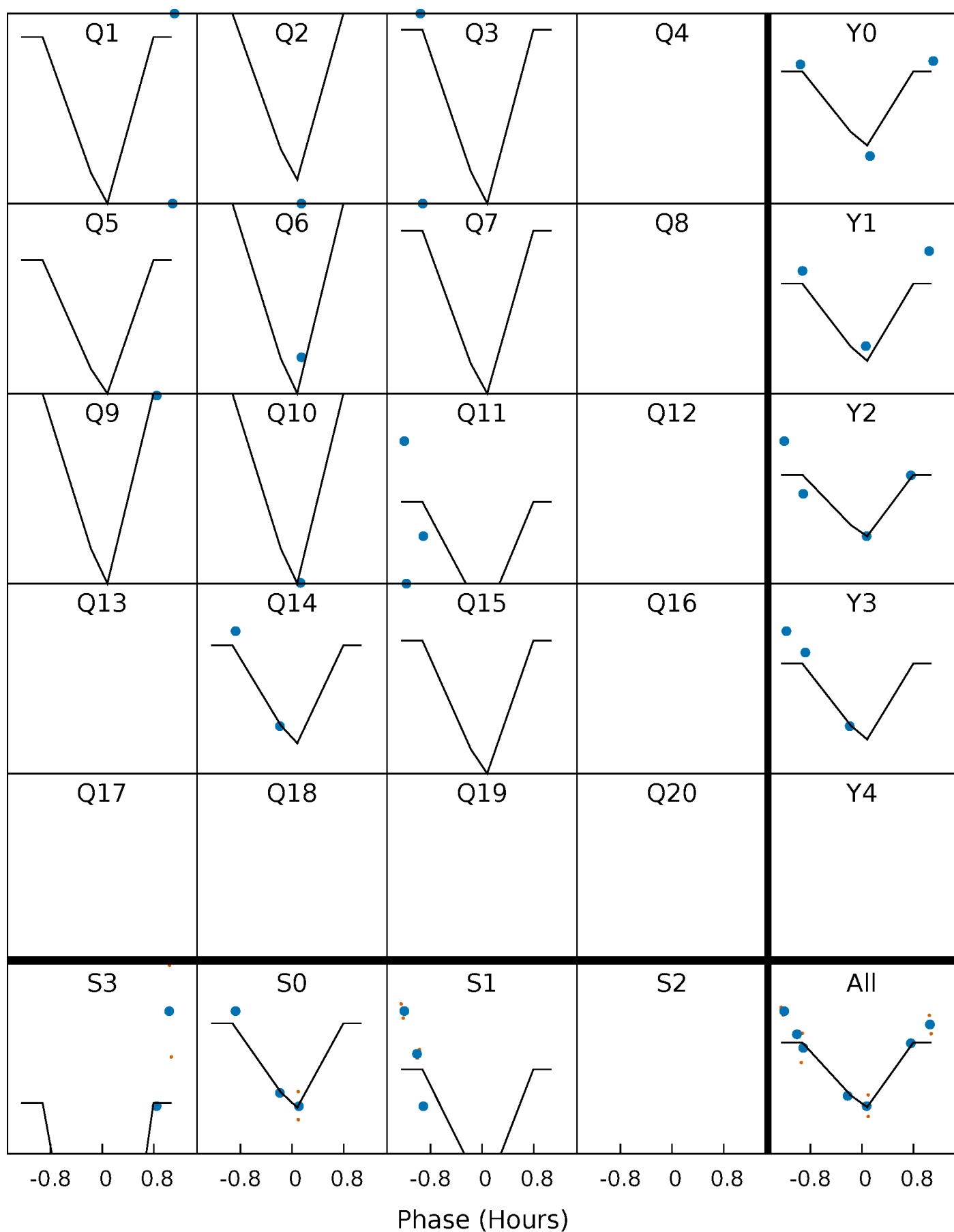
PDC Quarter-Phased Transit Curves

TCE 008524712-05 $P = 9.238195$ Days $T_0 = 131.749482$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008524712-05 P= 9.238195 Days $T_0=131.749482$ (BKJD)

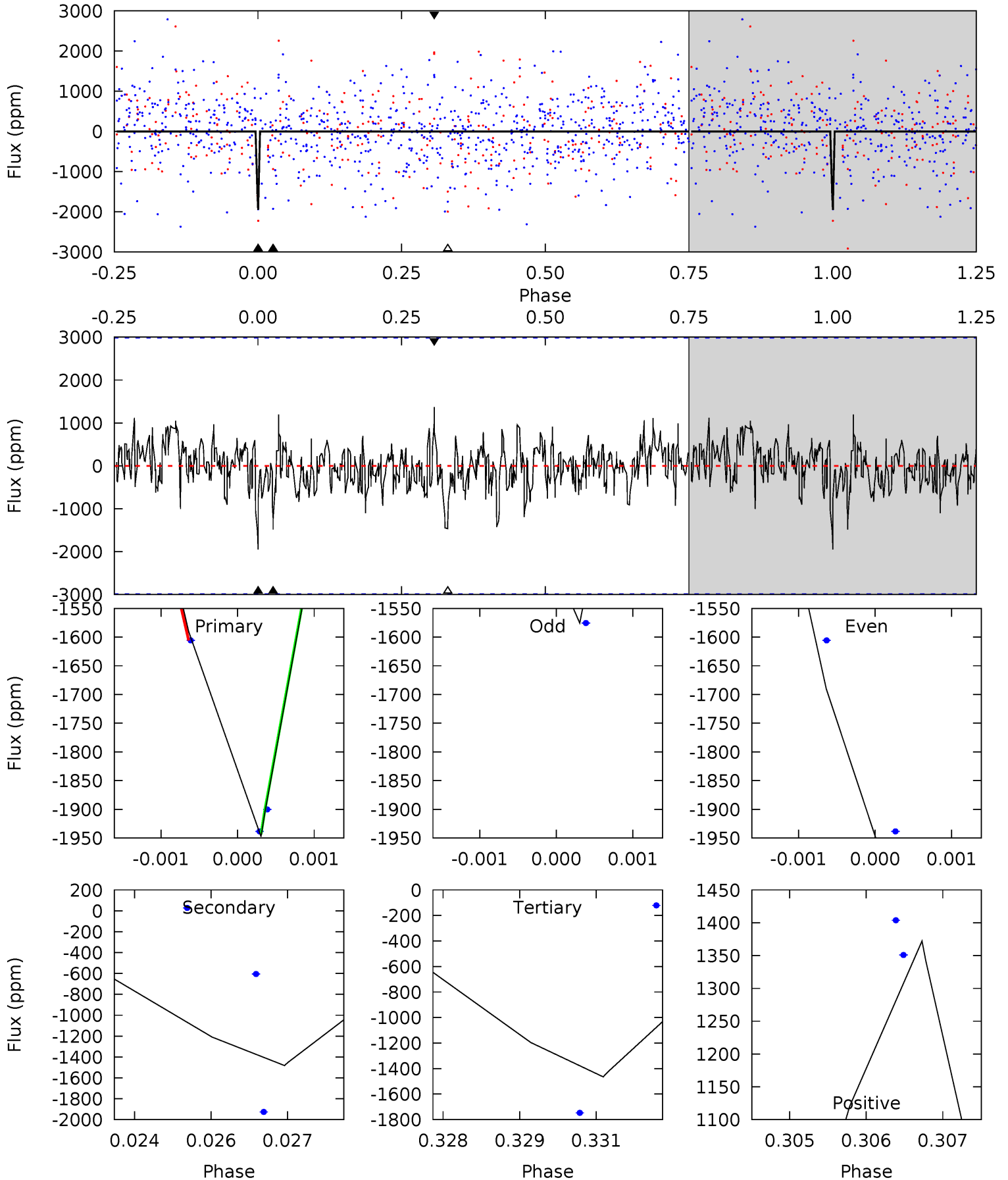


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

008524712-05, P = 9.238195 Days, E = 122.511287 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.53	2.68	2.65	2.48	5.42	3.24	0.76	0.87	1.04	0.03	0.20	0.63	0	0.41	0.00



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 008524712

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4330^{+130}_{-143}	$4.770^{+0.045}_{-0.055}$	$-0.980^{+0.300}_{-0.300}$	$0.495^{+0.045}_{-0.045}$	$0.527^{+0.034}_{-0.043}$	$6.111^{+1.339}_{-1.209}$
	+3%/-3%	+1%/-1%	+31%/-31%	+9%/-9%	+6%/-8%	+22%/-20%
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 008524712-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1482 ± 552	$41.02^{+45.18}_{-27.15}$	714^{+26}_{-28}	1888^{+574}_{-373}	$2.178^{+18.907}_{-1.718}$
Alt.	N/A	N/A	N/A	N/A	N/A

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

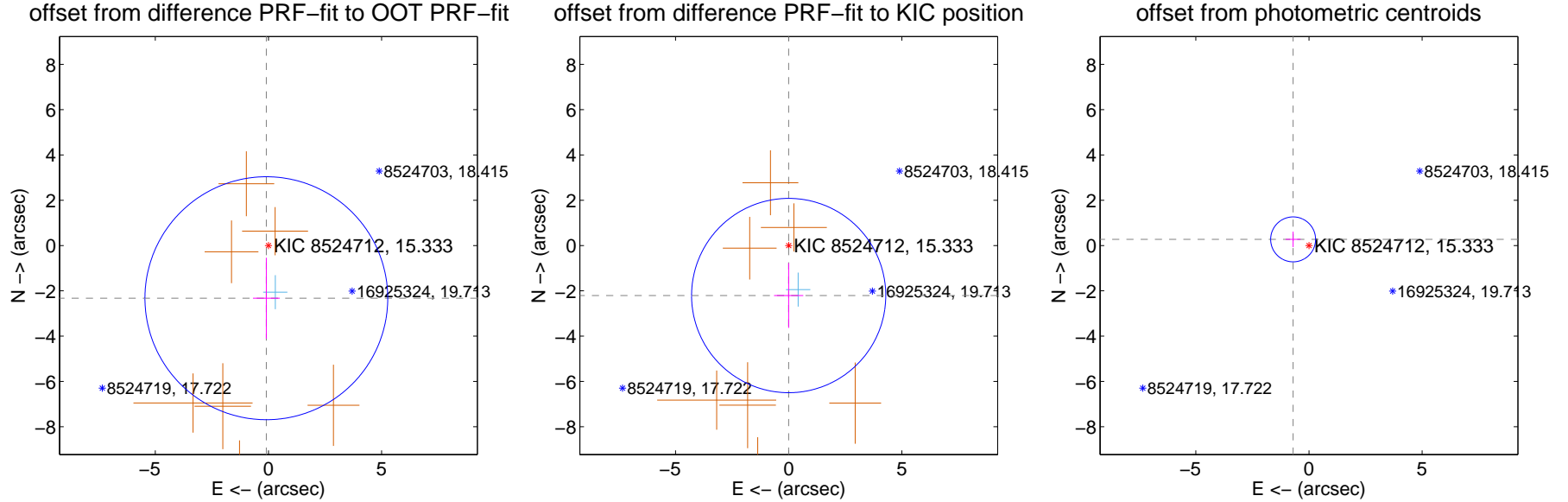
DV Centroid Data

Supplemental centroid analysis for 008524712-05. Kepler magnitude: 15.33. Transit SNR 24.89

There are 1 quarters with good PRF difference image offsets

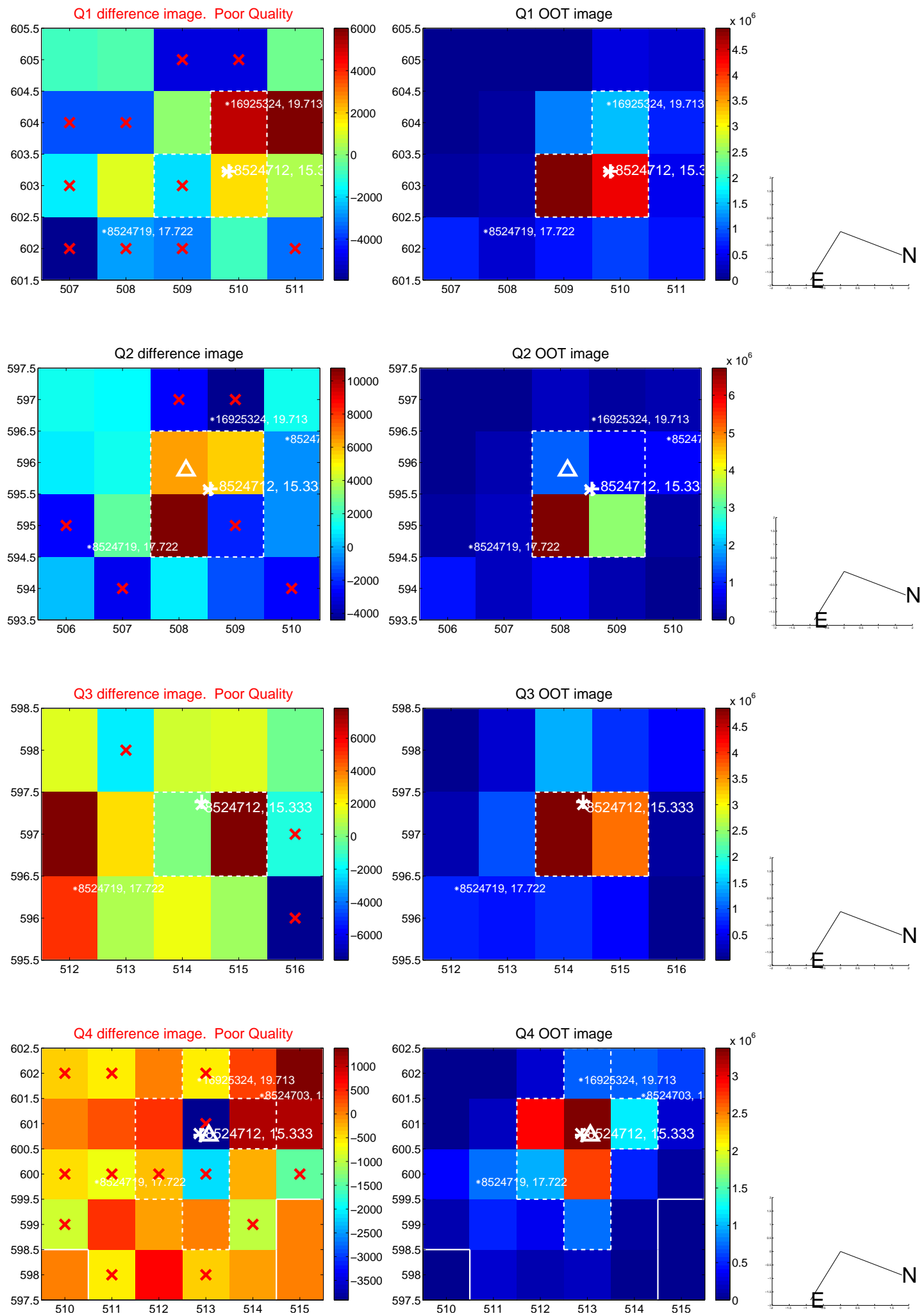
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.329 ± 1.788	1.30	0.093 ± 0.593	-2.327 ± 1.786
PRF-fit source offset from KIC position	2.208 ± 1.430	1.54	0.002 ± 0.646	-2.208 ± 1.430
photometric centroid source offset	0.75 ± 0.33	2.27	0.70 ± 0.33	0.27 ± 0.34

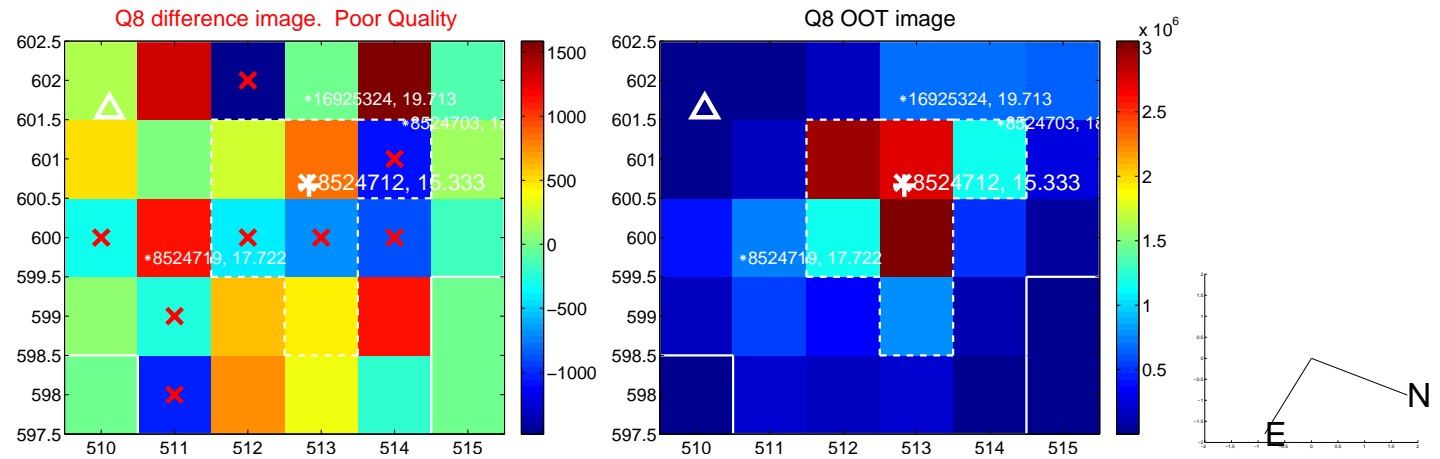
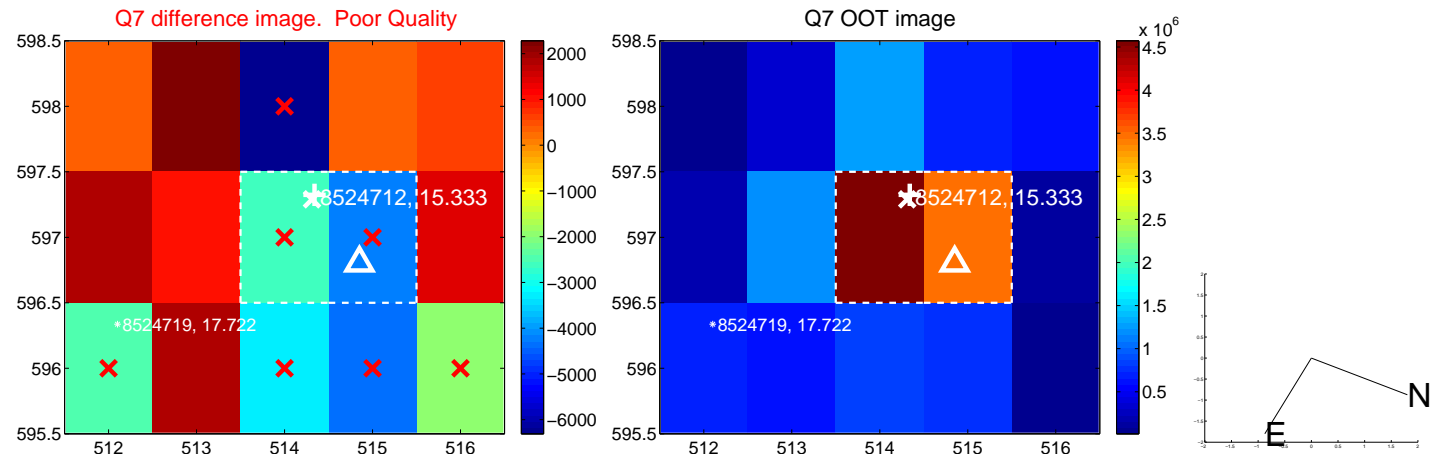
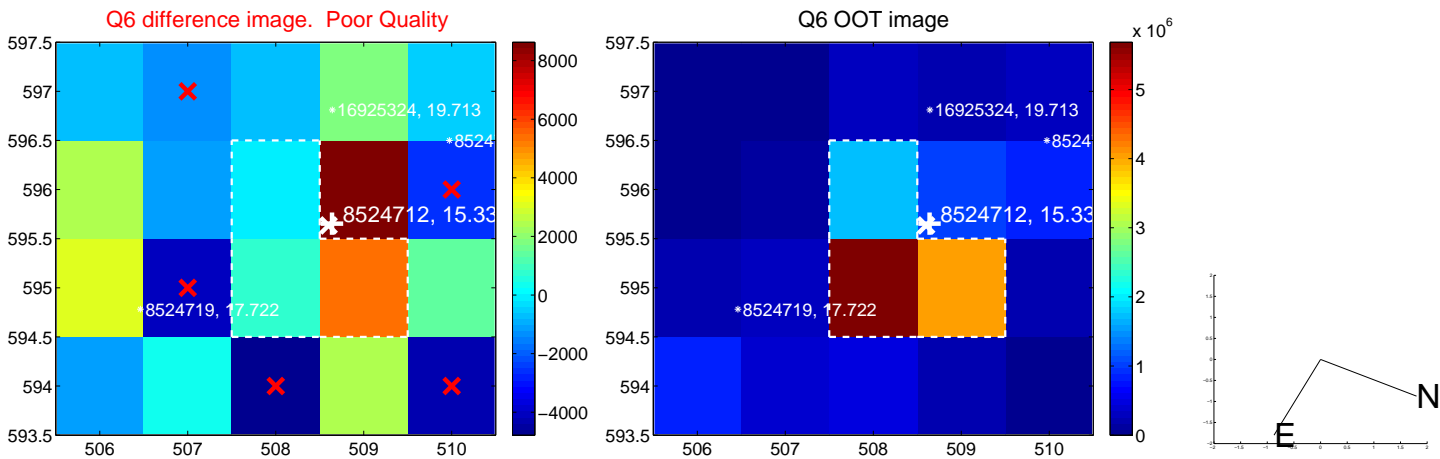
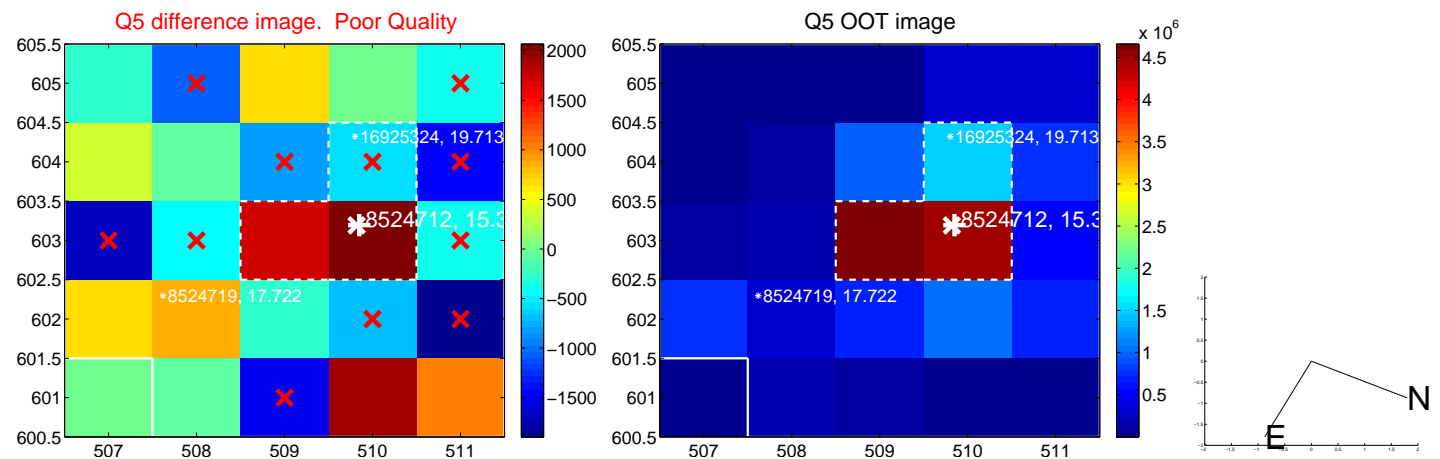


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

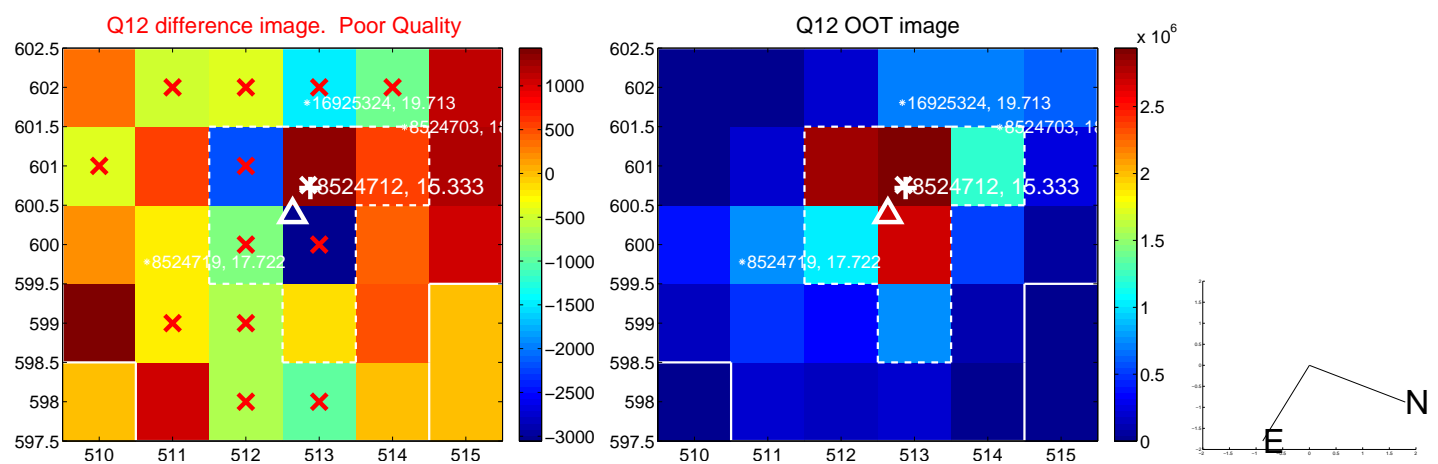
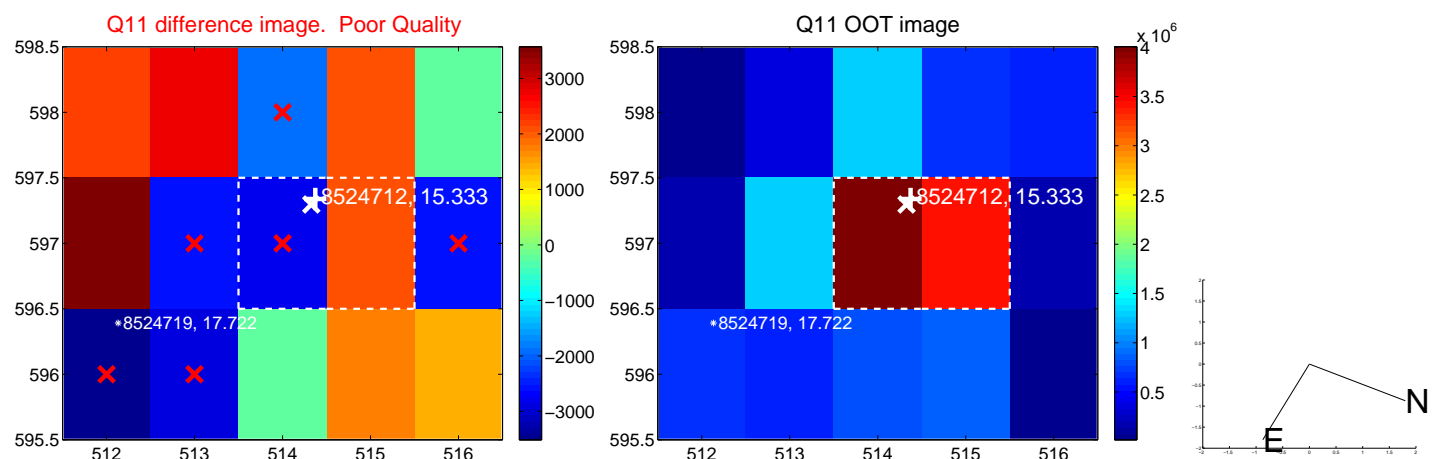
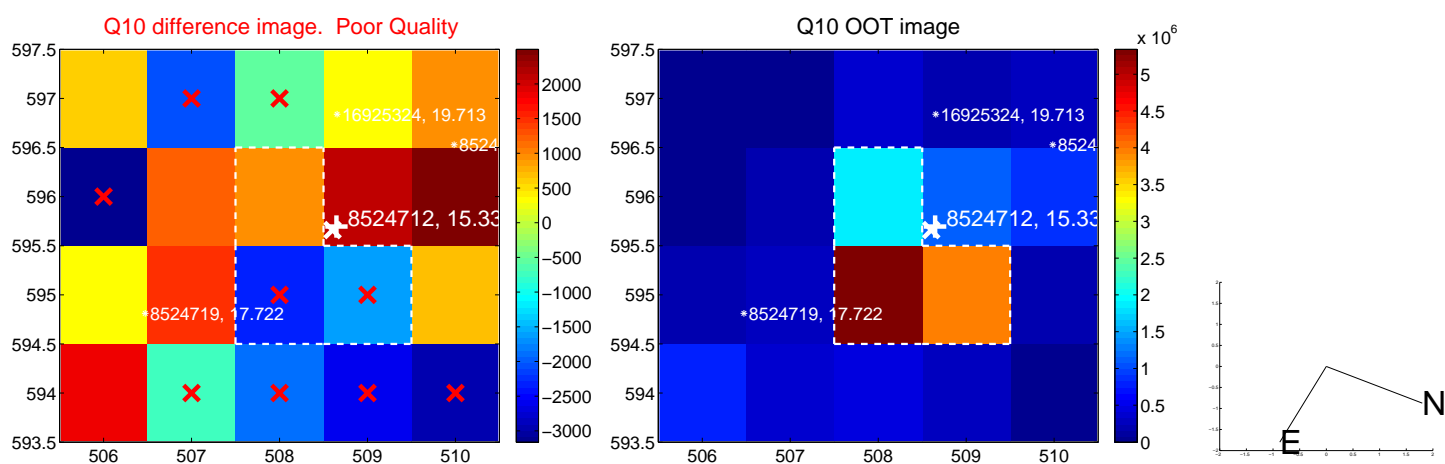
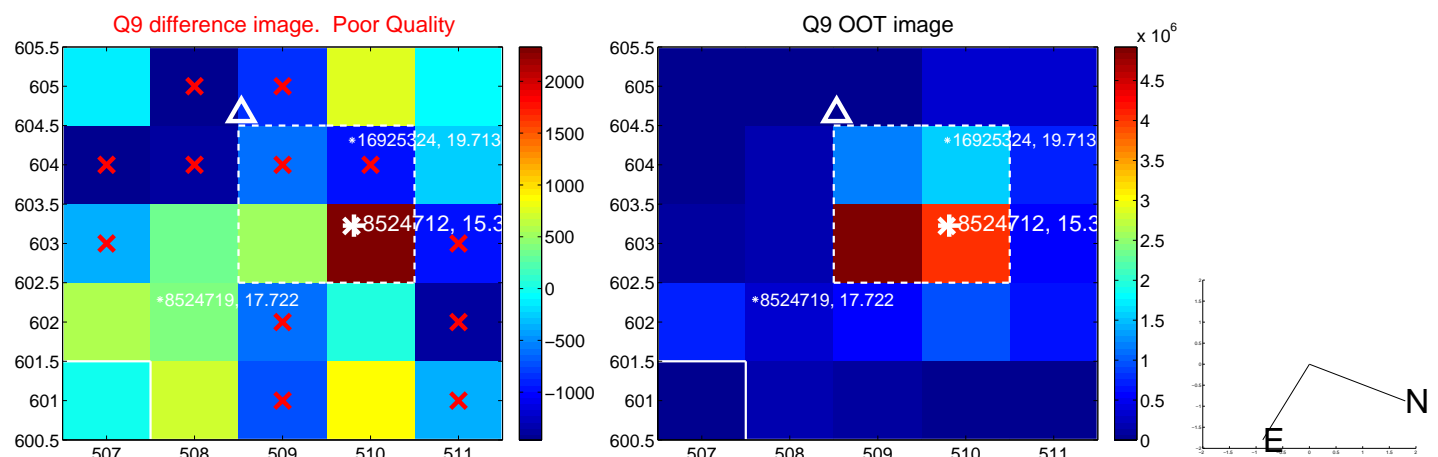
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



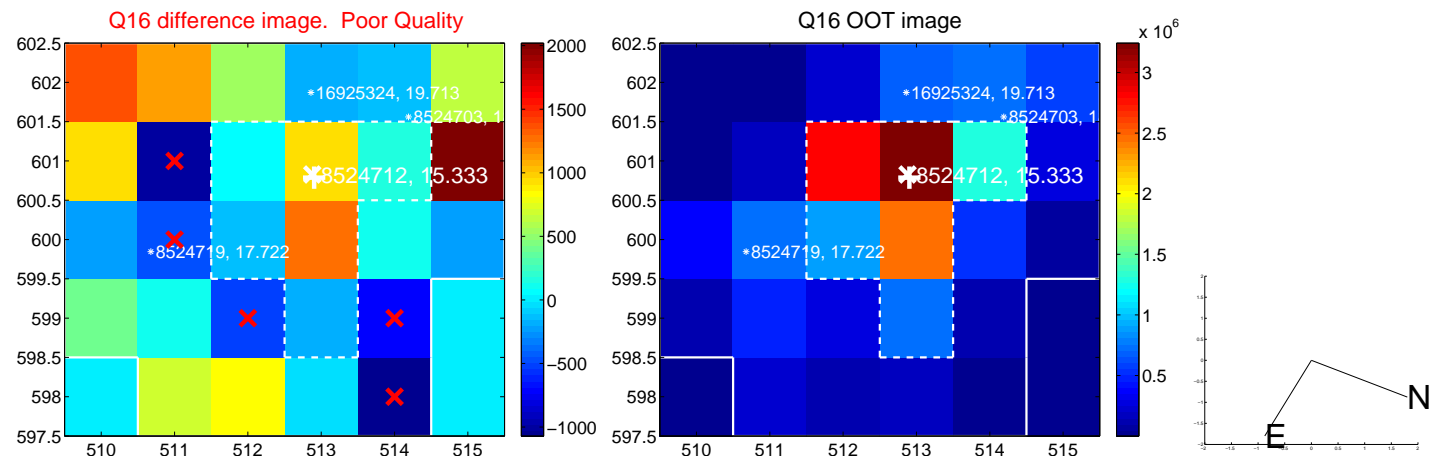
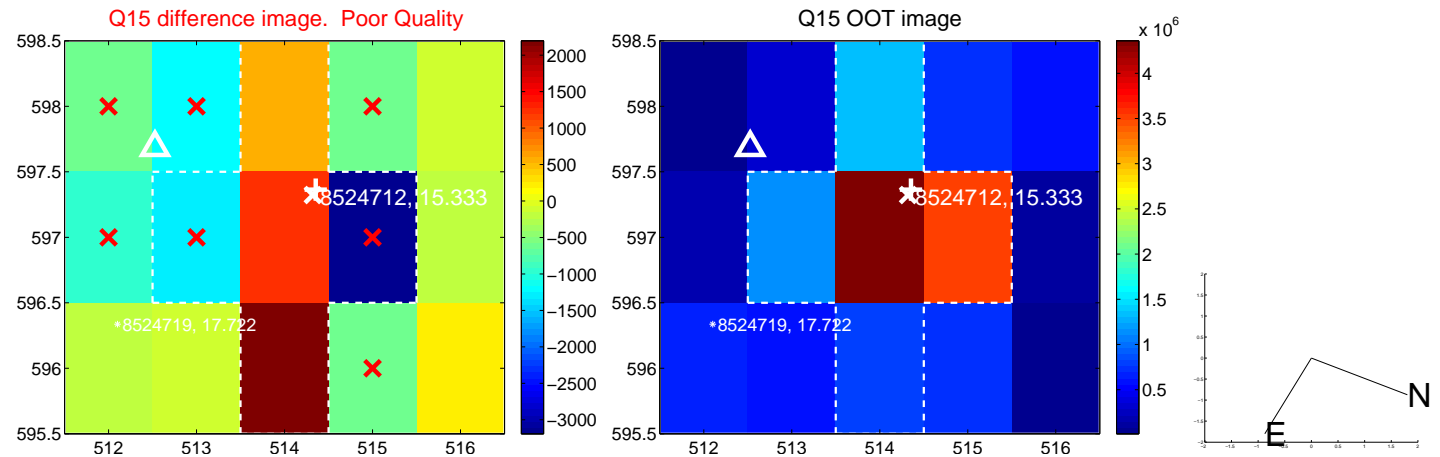
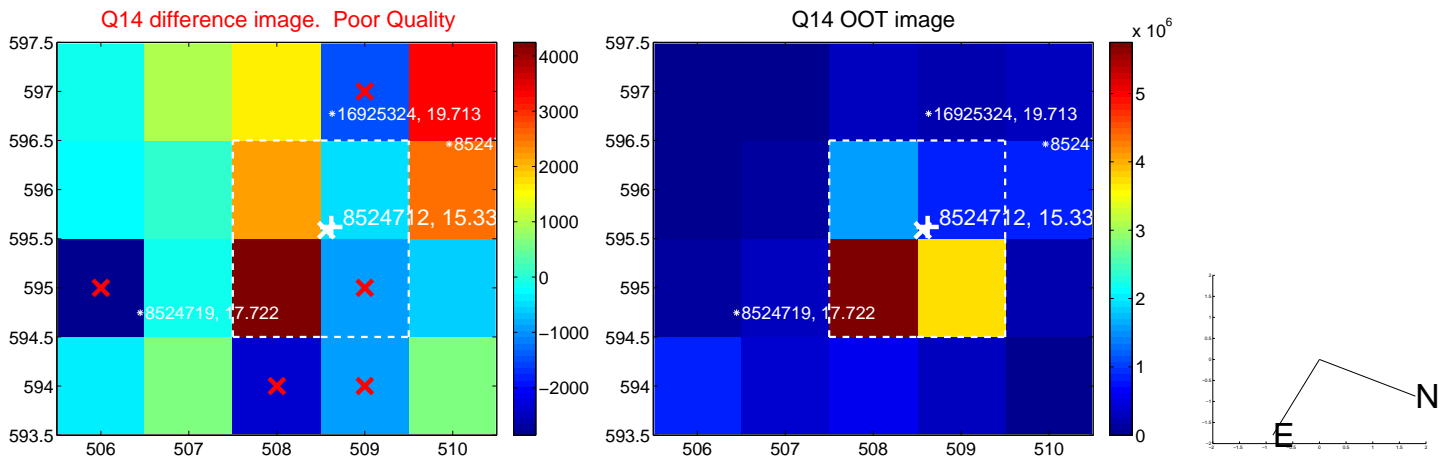
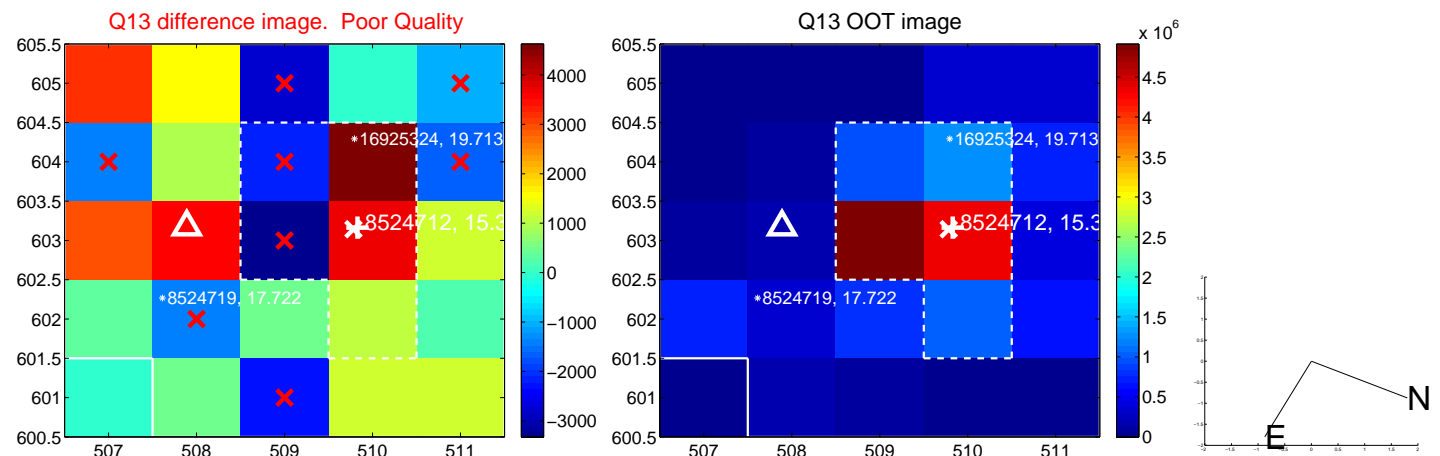
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



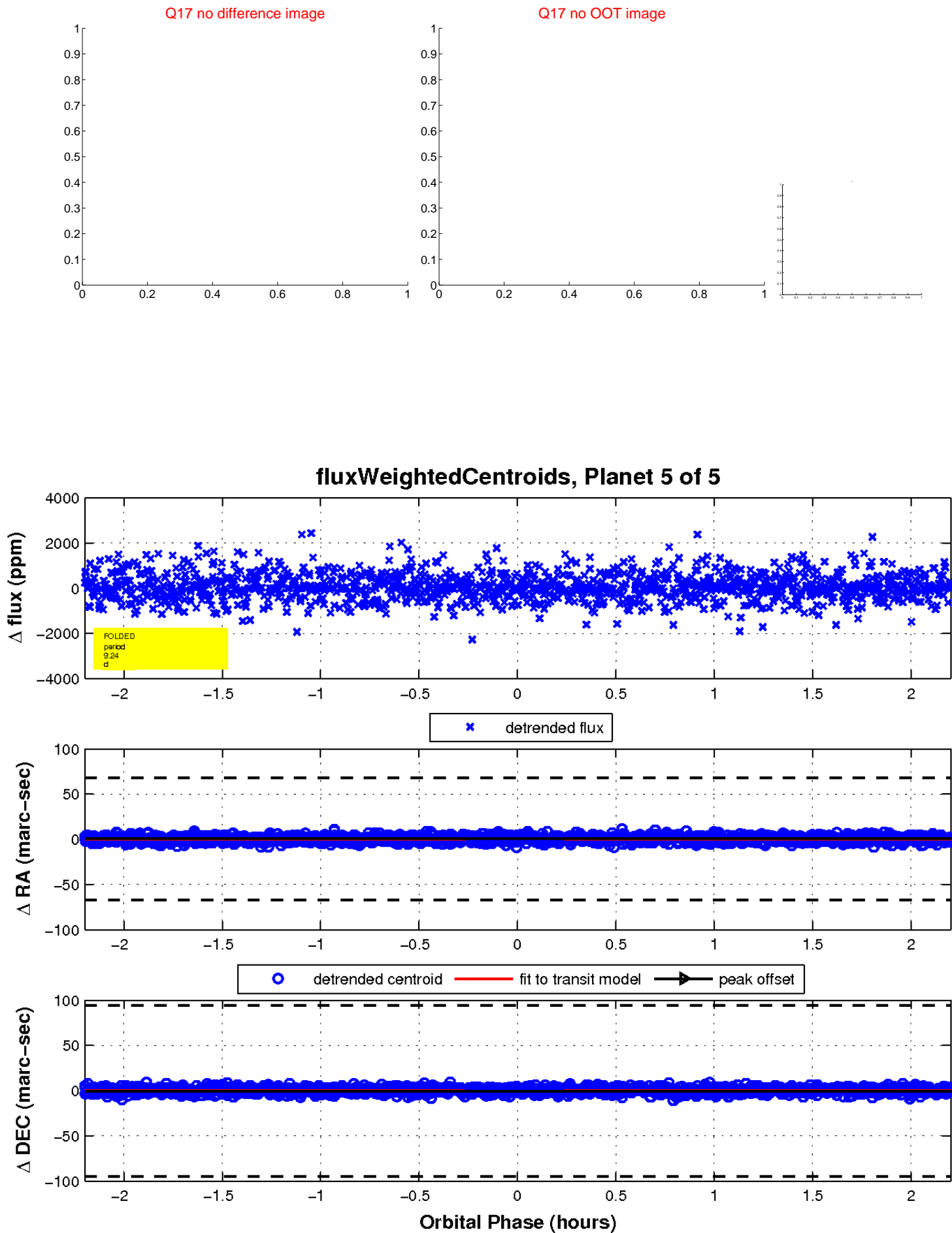
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

