

KIC 012505621

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})
012505621-01	OBS	No	0.948876	132.066805	72.0	4.266	9.8	12.4	1.88	6637	1.68	13505.27
012505621-02	OBS	No	0.954416	132.421062	121.0	5.778	9.5	12.0	1.88	6637	4.13	13400.84
012505621-03	OBS	No	40.769418	157.492195	732.5	1.569	9.8	9.0	1.88	6637	5.73	89.74
012505621-04	OBS	No	16.279505	138.311964	318.0	5.000	9.3	-1.0	1.88	6637	3.37	305.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012505621-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
012505621-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
012505621-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED
012505621-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS

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

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

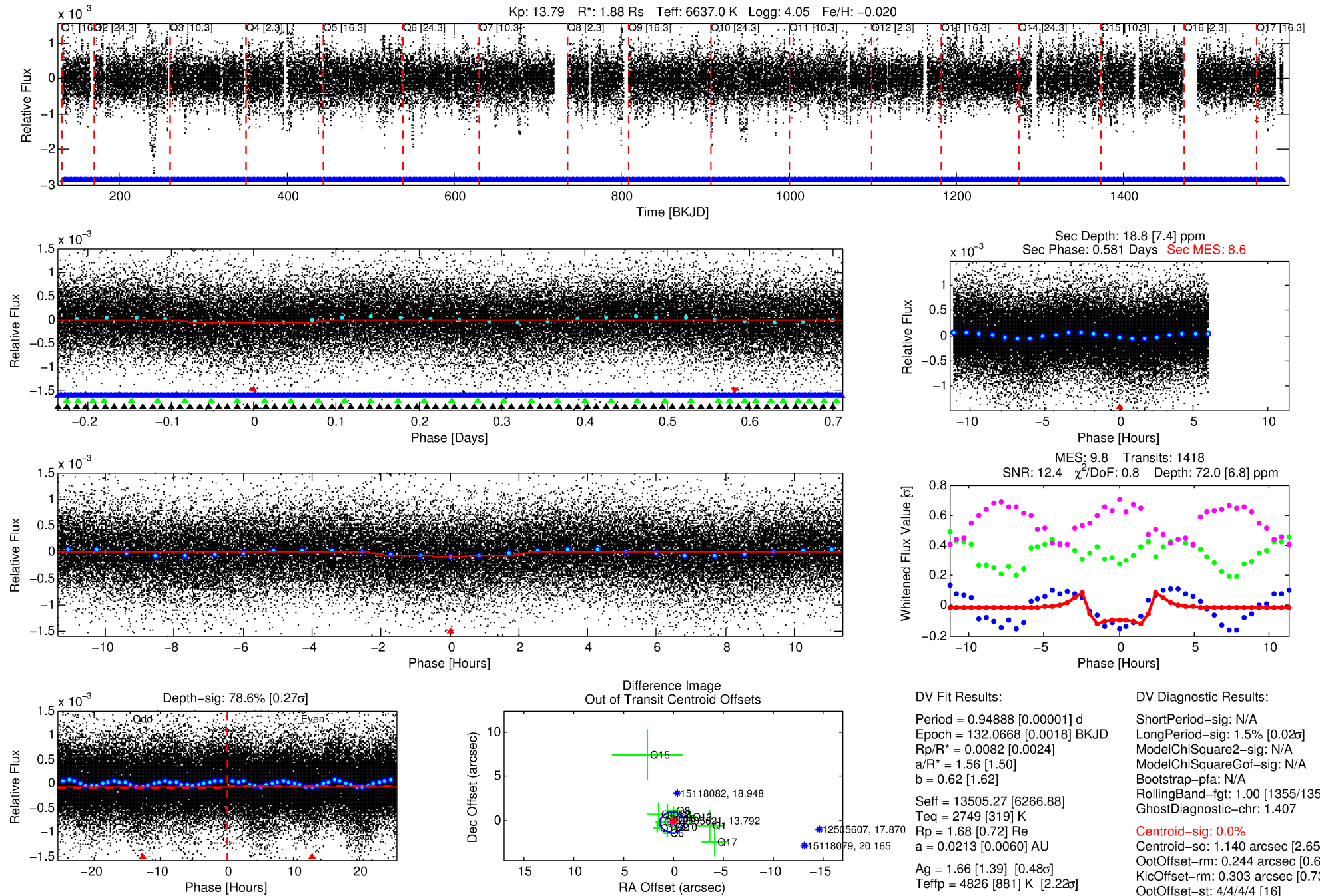
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012505621-01

No Significant Match Found

DV One-Page Summary

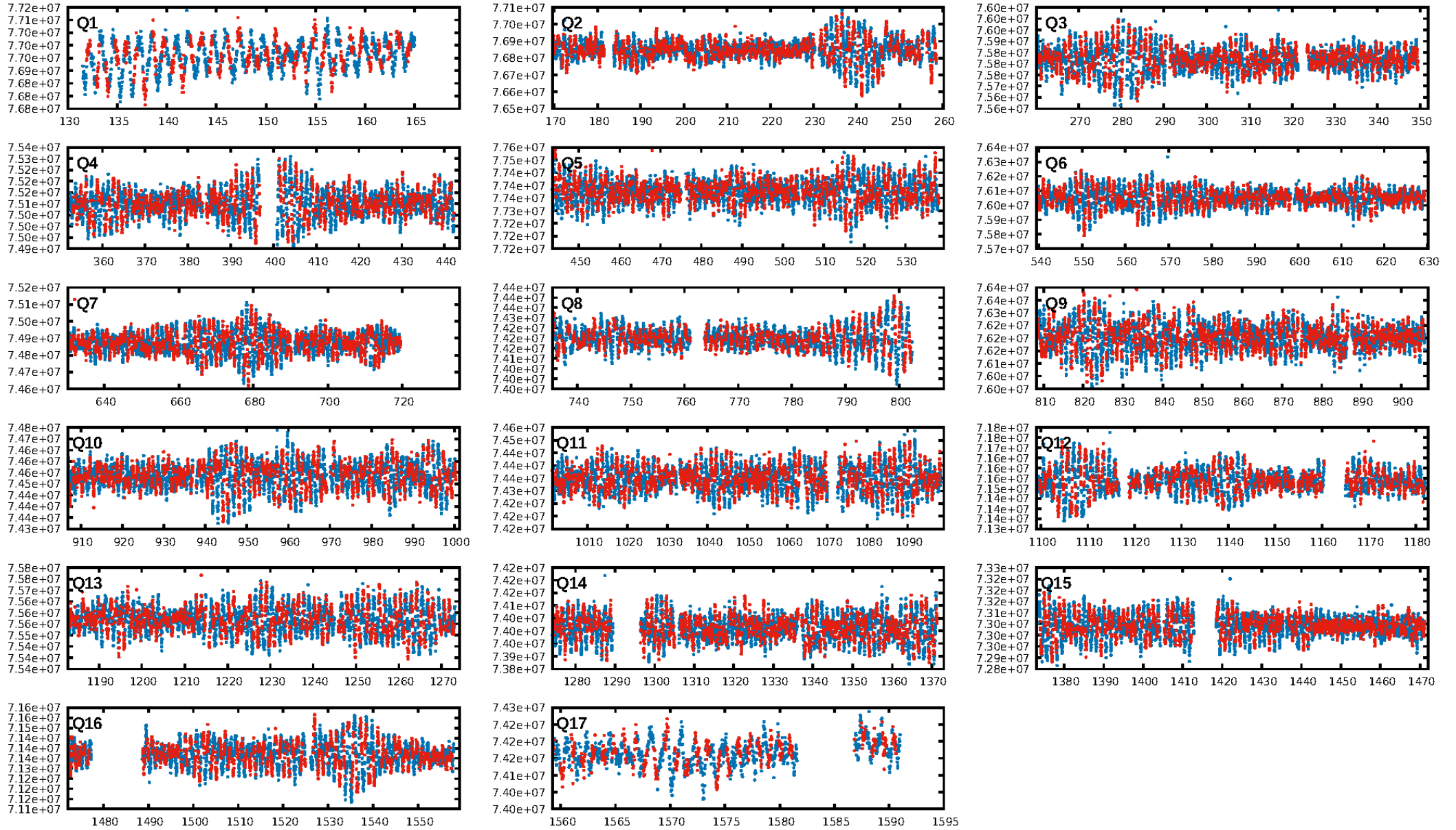
KIC: 12505621 Candidate: 1 of 4 Period: 0.949 d



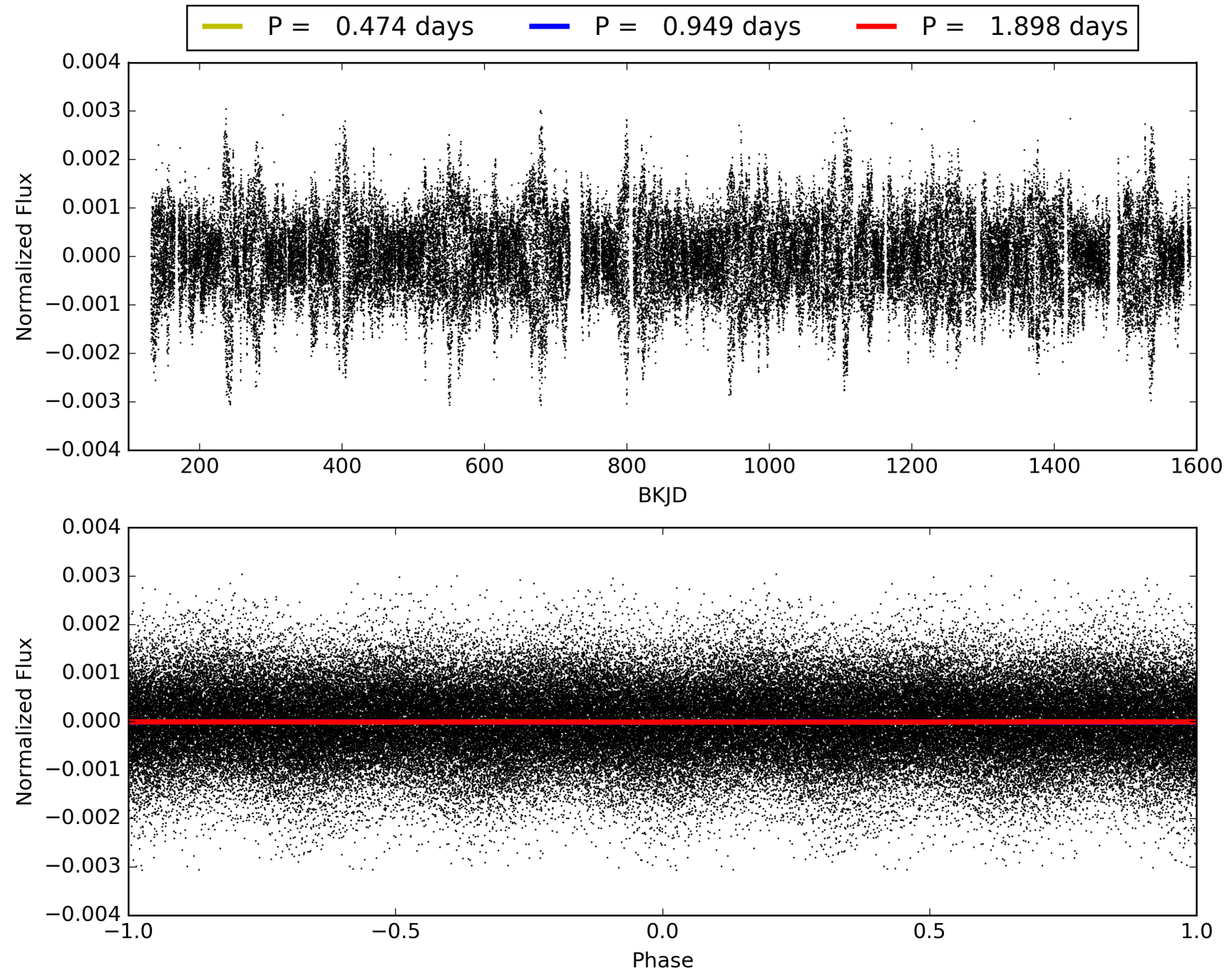
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:09:05 Z

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

TCE 012505621-01, PDC Light Curves

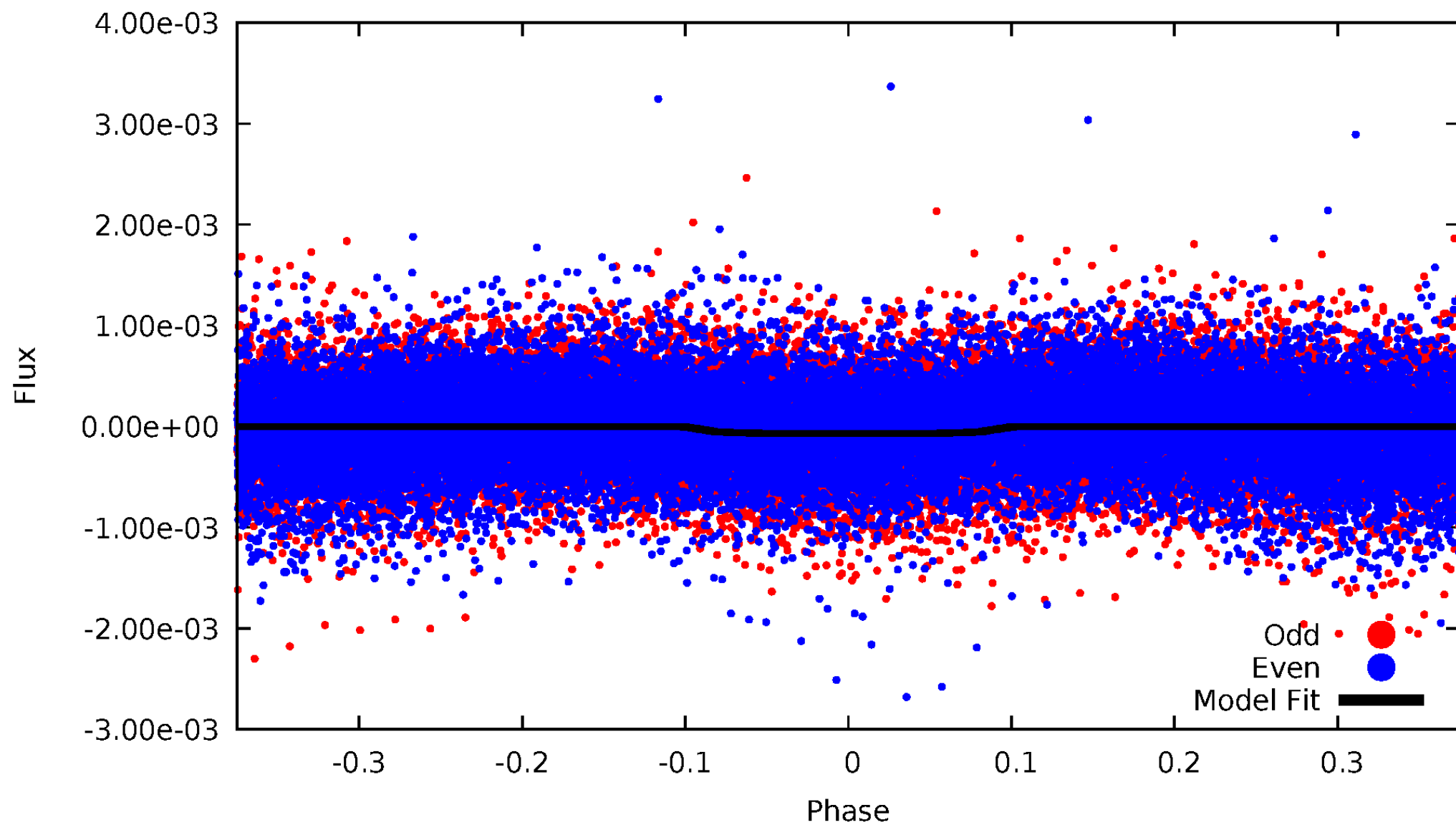


TCE 012505621-01



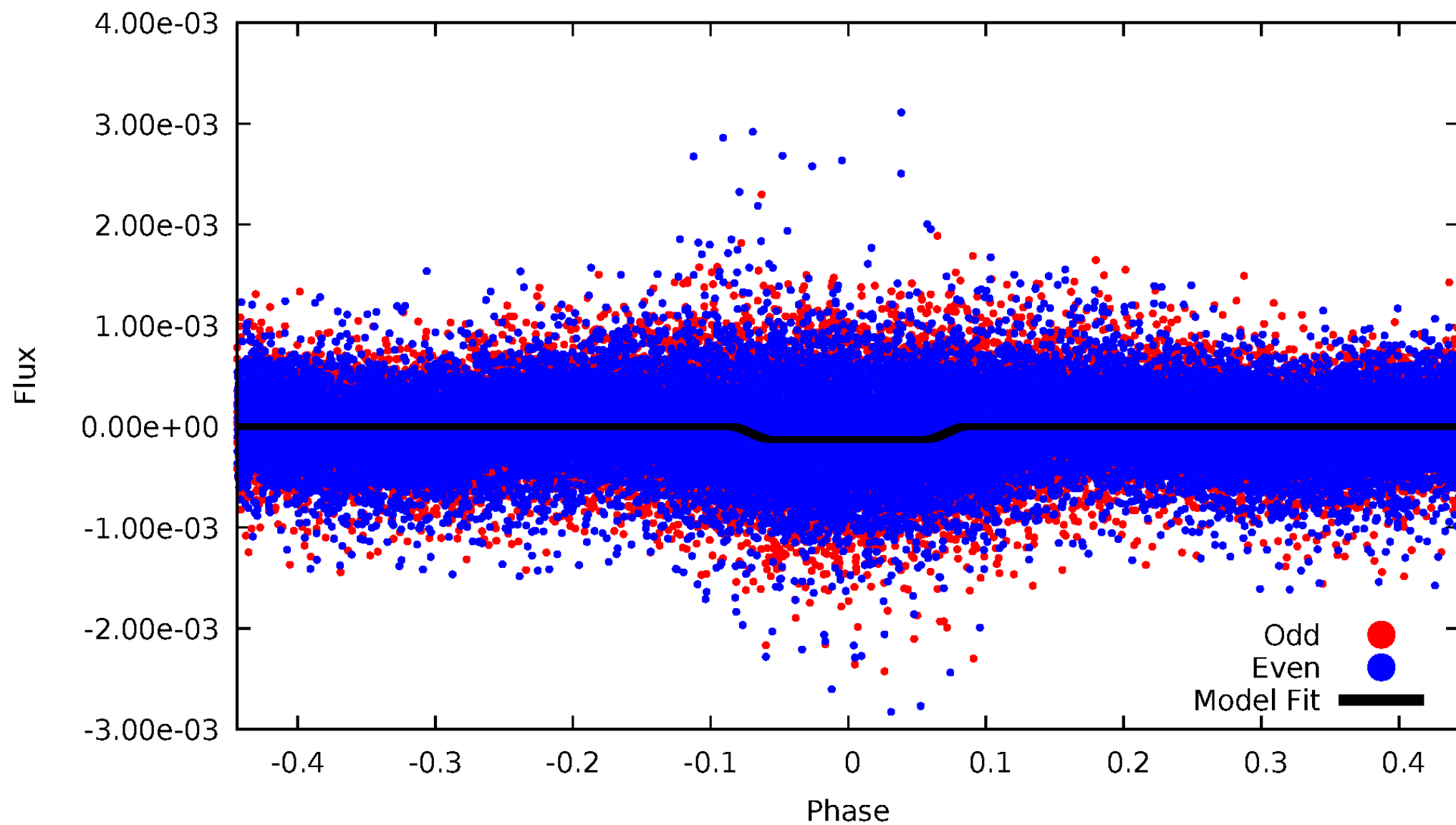
DV Odd/Even

TCE 012505621-01



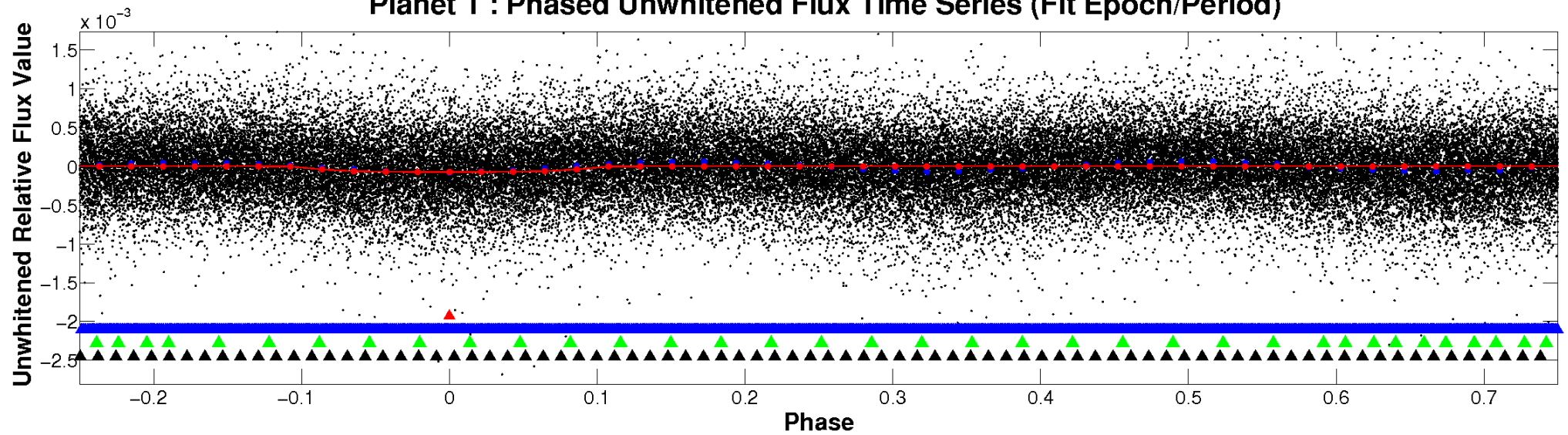
ALT Odd/Even

TCE 012505621-01

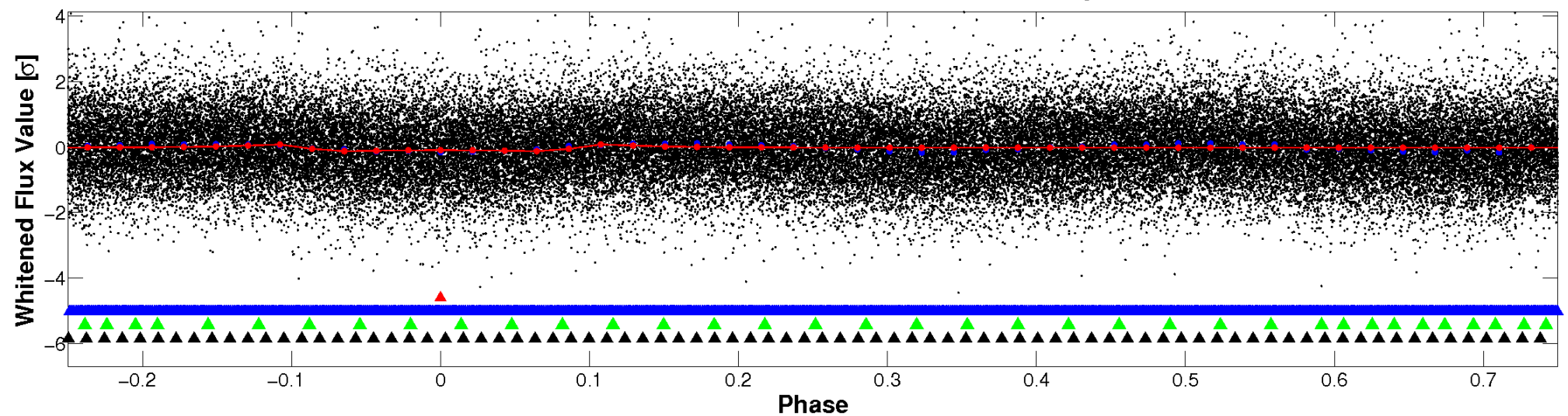


Non-Whitened Vs. Whitened Light Curve

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

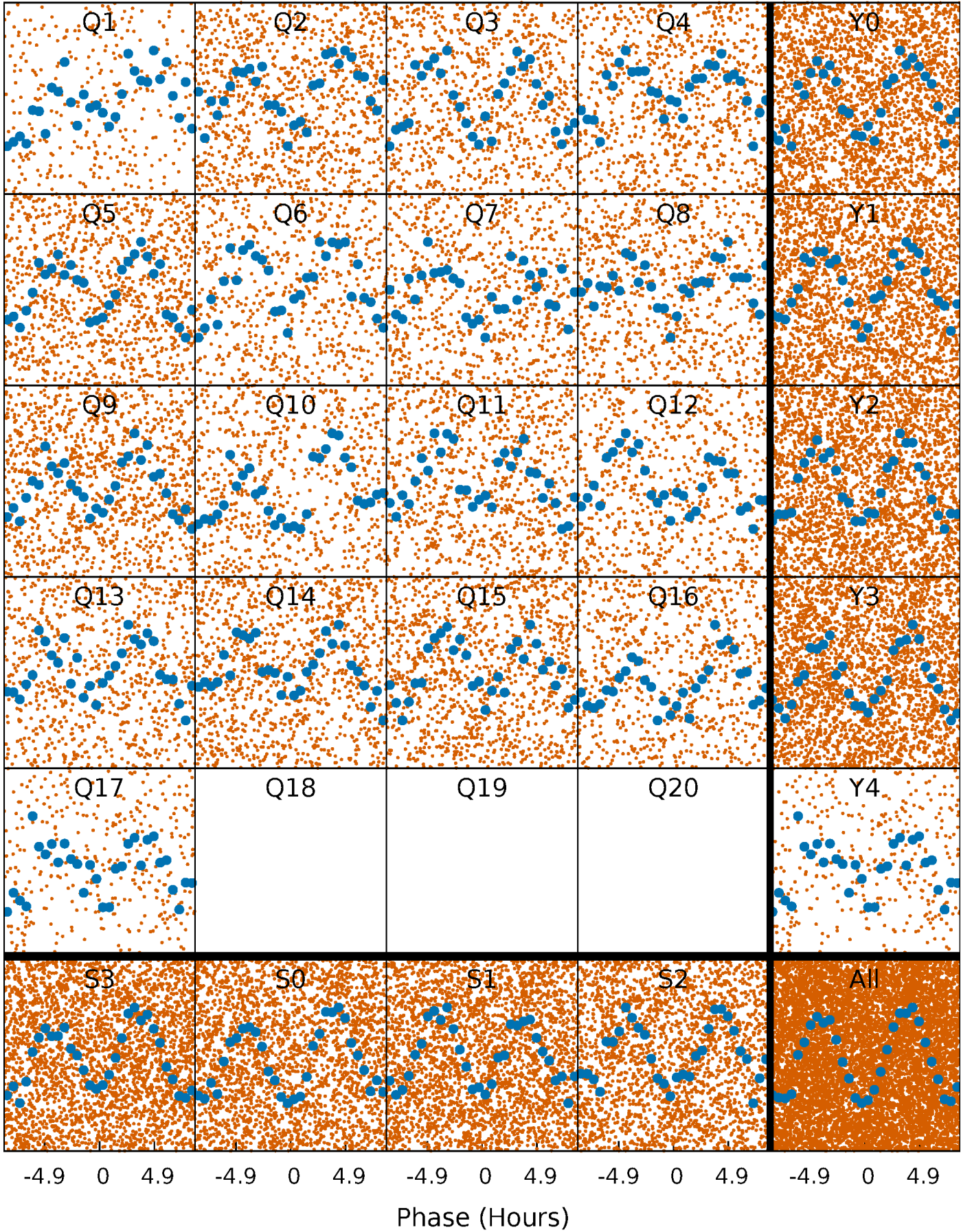


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



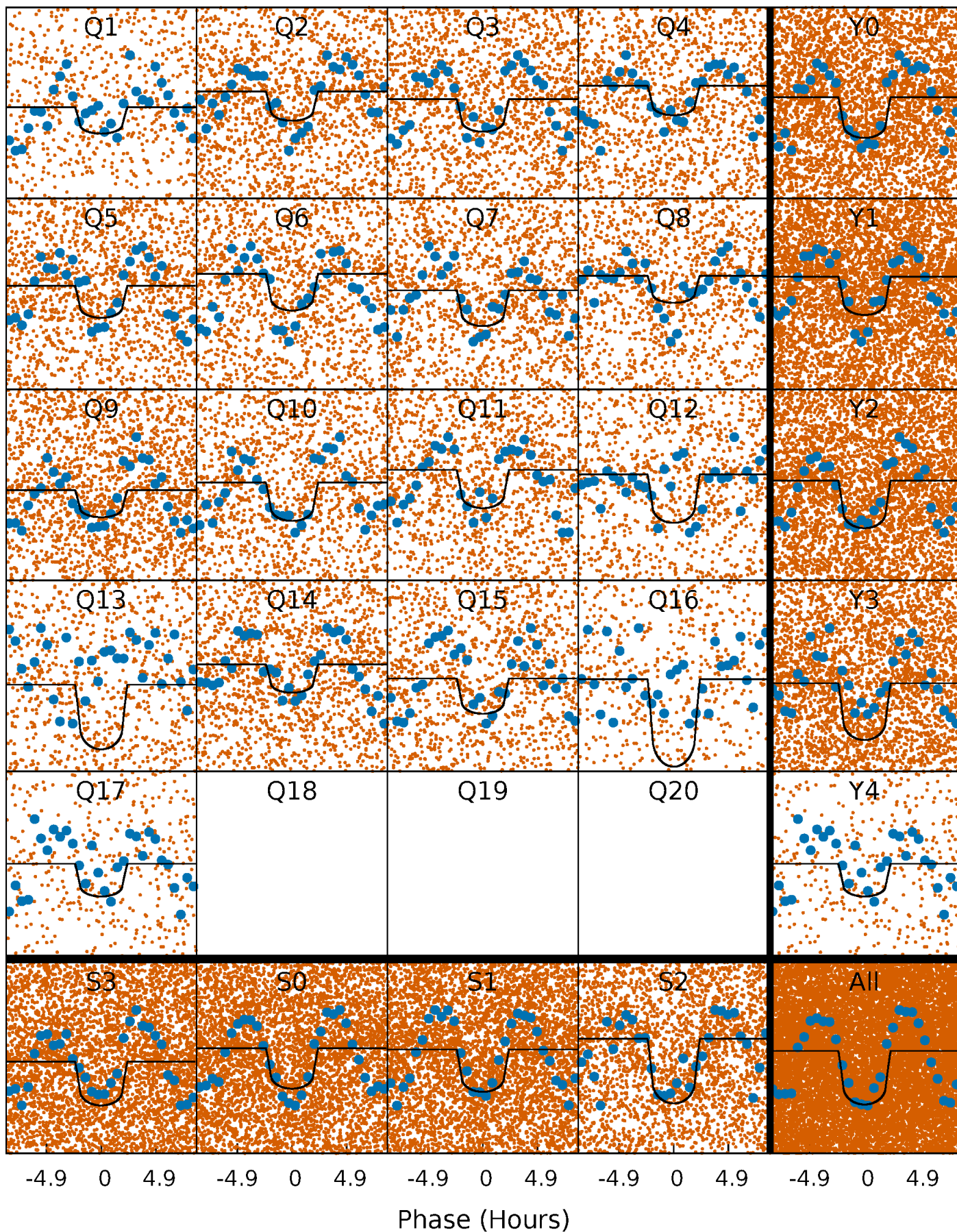
PDC Quarter-Phased Transit Curves

TCE 012505621-01 P= 0.948876 Days $T_0=132.066805$ (BKJD)



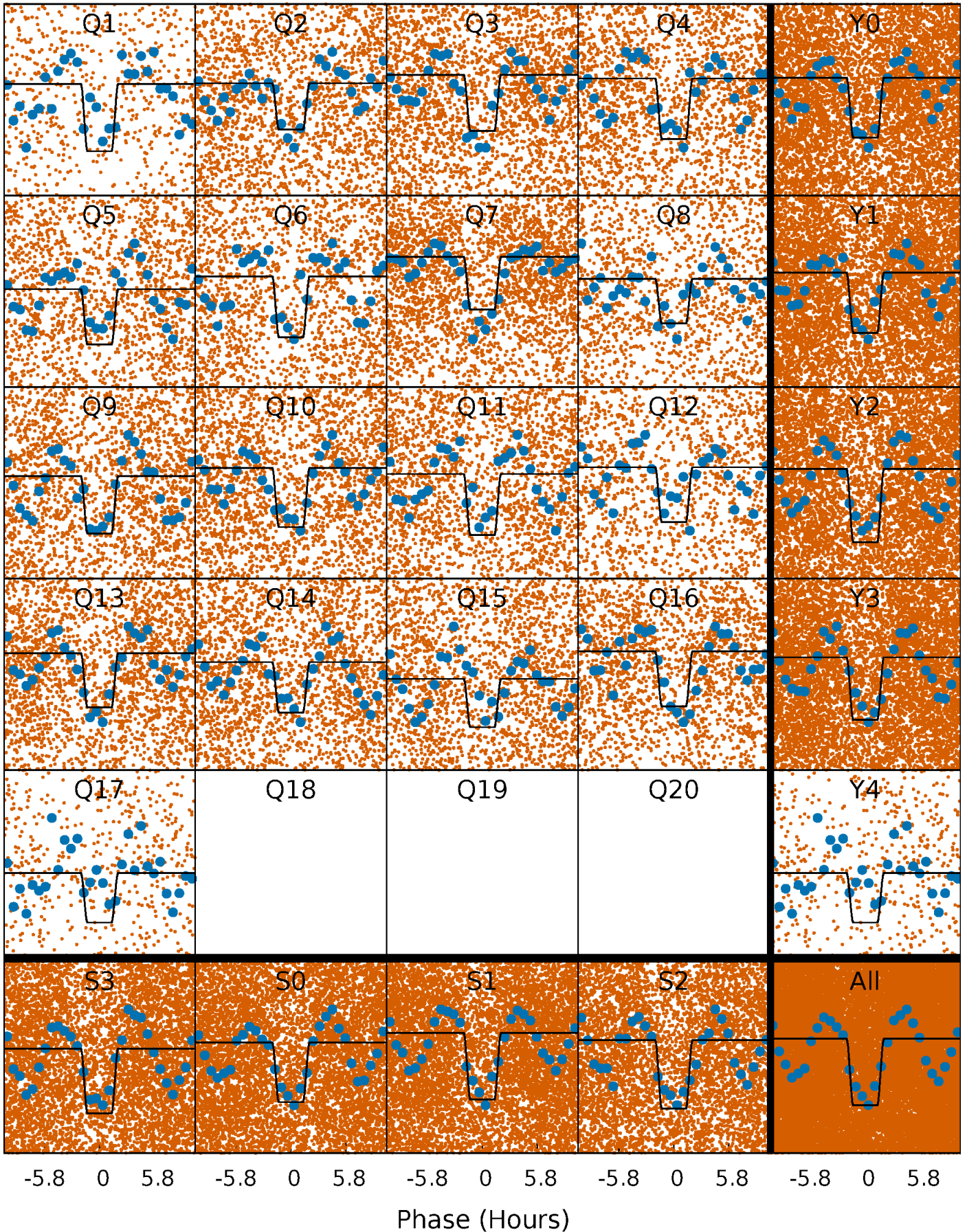
DV Quarter-Phased Transit Curves

TCE 012505621-01 P= 0.948876 Days $T_0=132.066805$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

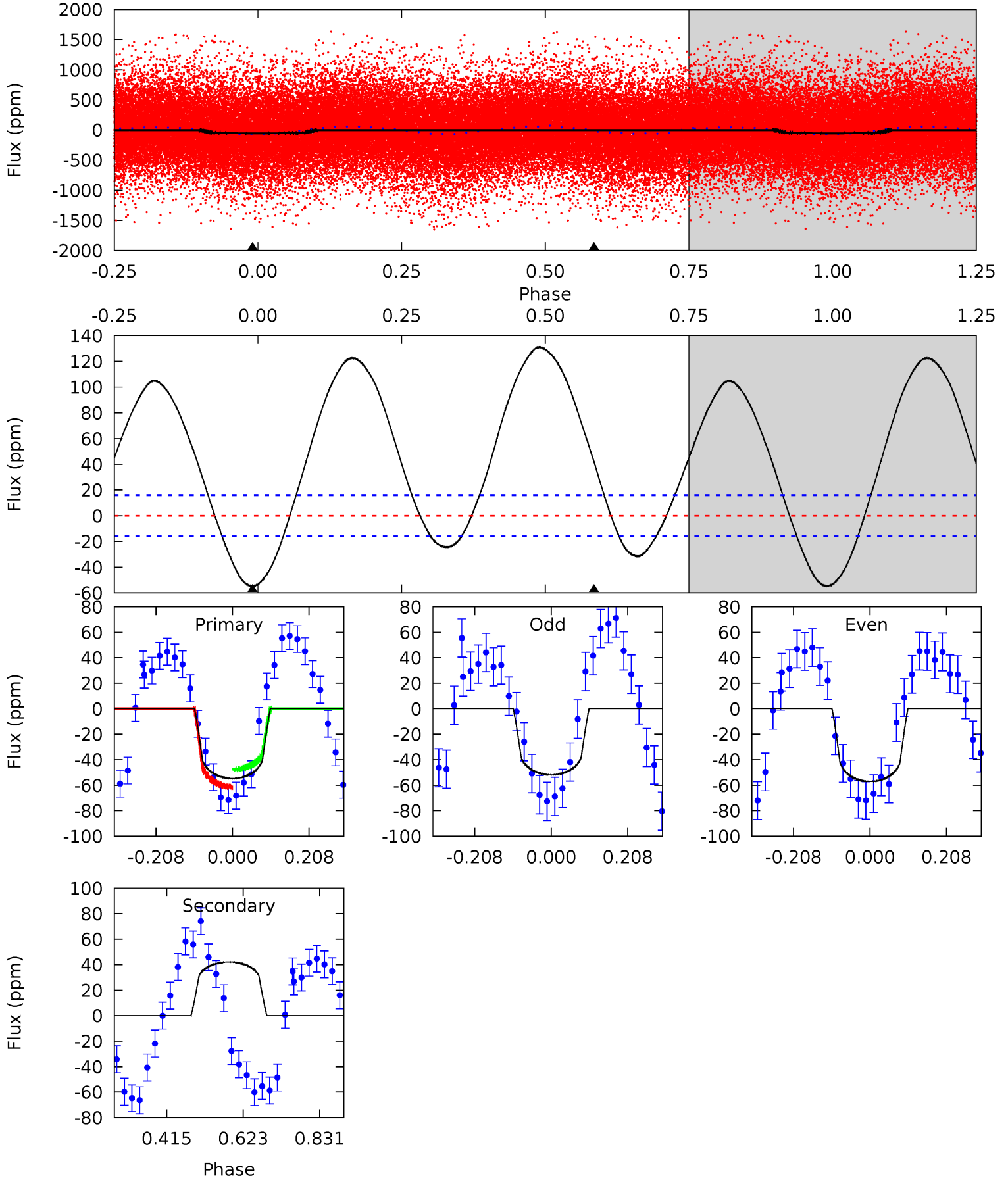
TCE 012505621-01 P= 0.948859 Days $T_0=132.073220$ (BKJD)



DV Model-Shift Uniqueness Test

012505621-01, P = 0.948876 Days, E = 131.117929 Days

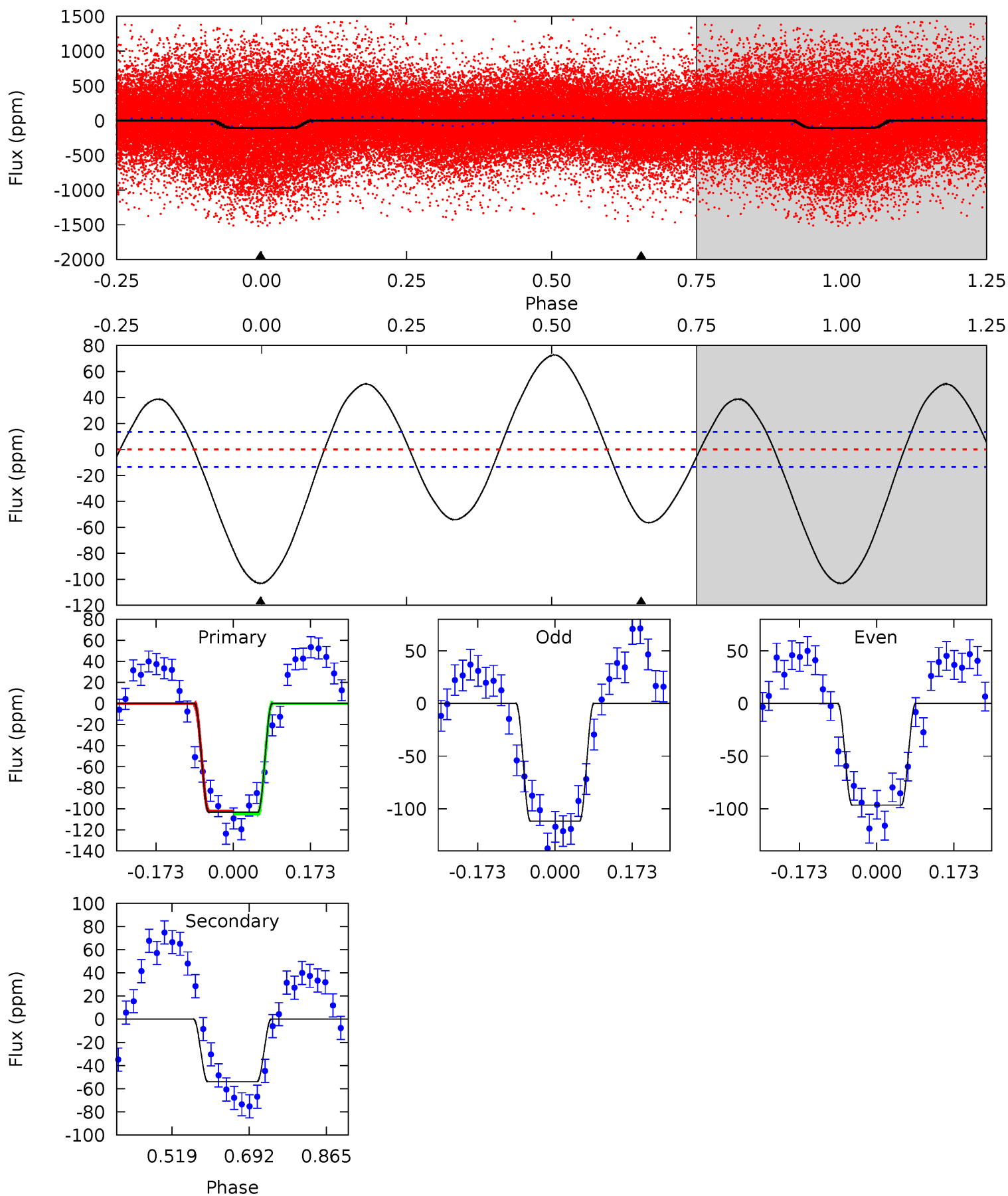
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	-11.6	0	0	4.41	1.26	11.6	15.1	15.1	-11.6	-11.6	0.74	1.13	0.71	1.92



Alt Model-Shift Uniqueness Test

012505621-01, P = 0.948859 Days, E = 131.124361 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.9	17.7	0	0	4.45	1.36	12.8	33.9	33.9	17.7	17.7	2.50	1.00	0.41	0.44



Stellar Parameters For KIC 012505621

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6637^{+187}_{-258}	$4.046^{+0.252}_{-0.168}$	$-0.020^{+0.250}_{-0.300}$	$1.875^{+0.573}_{-0.573}$	$1.429^{+0.192}_{-0.288}$	$0.305^{+0.483}_{-0.141}$
	+3%/-4%	+6%/-4%	+1250%/-1500%	+31%/-31%	+13%/-20%	+158%/-46%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 012505621-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	42 ± 4	$1.60^{+0.64}_{-0.56}$	3816^{+299}_{-347}	-6034^{+696}_{-1304}	$-4.019^{+1.978}_{-5.439}$
Alt.	-54 ± 3	$2.24^{+0.67}_{-0.54}$	3807^{+296}_{-308}	5201^{+719}_{-492}	$2.621^{+1.928}_{-1.005}$

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

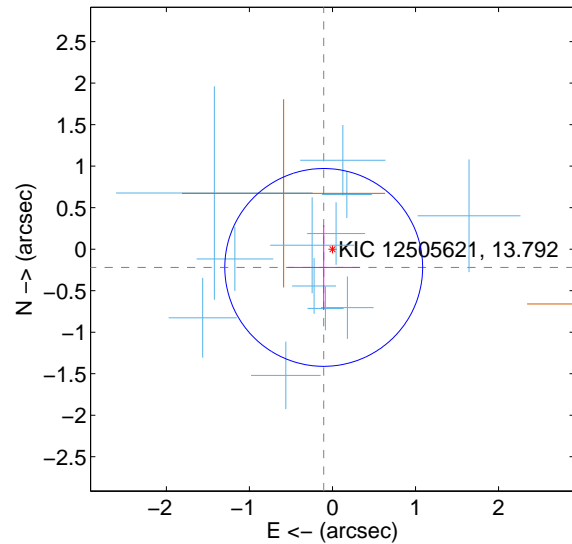
Supplemental centroid analysis for 012505621-01. Kepler magnitude: 13.79. Transit SNR 12.36

There are 12 quarters with good PRF difference image offsets

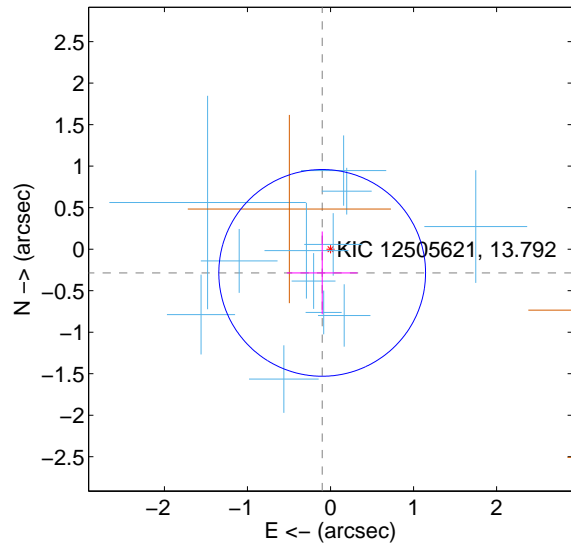
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.244 ± 0.397	0.61	0.106 ± 0.433	-0.220 ± 0.510
PRF-fit source offset from KIC position	0.303 ± 0.415	0.73	0.100 ± 0.426	-0.286 ± 0.499
photometric centroid source offset	1.14 ± 0.43	2.65	0.78 ± 0.41	-0.83 ± 0.45

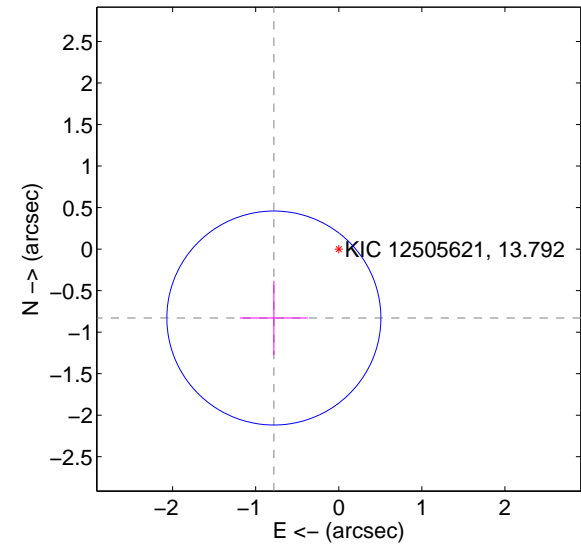
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

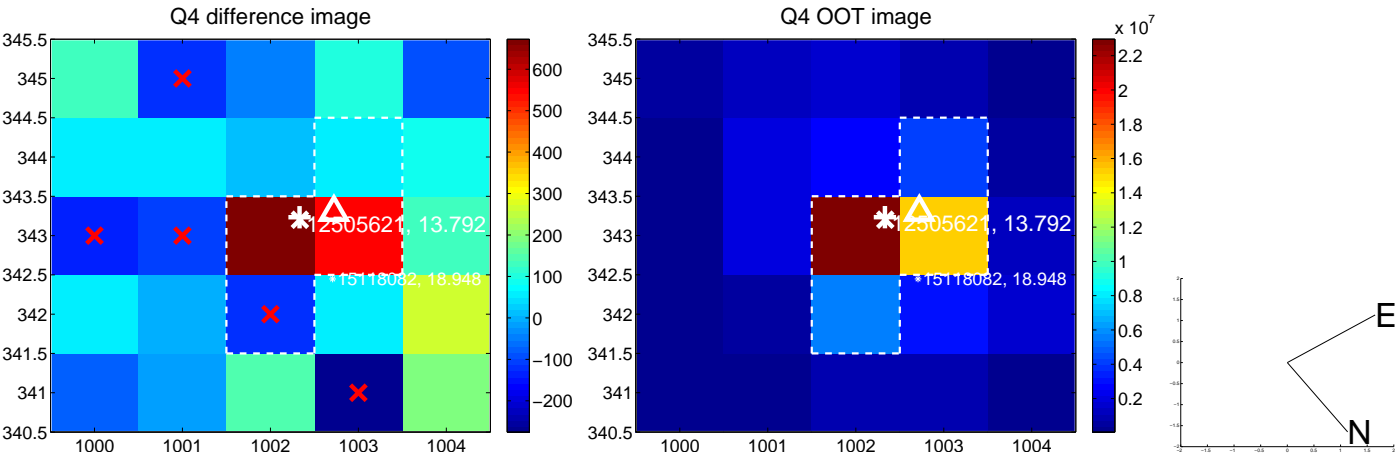
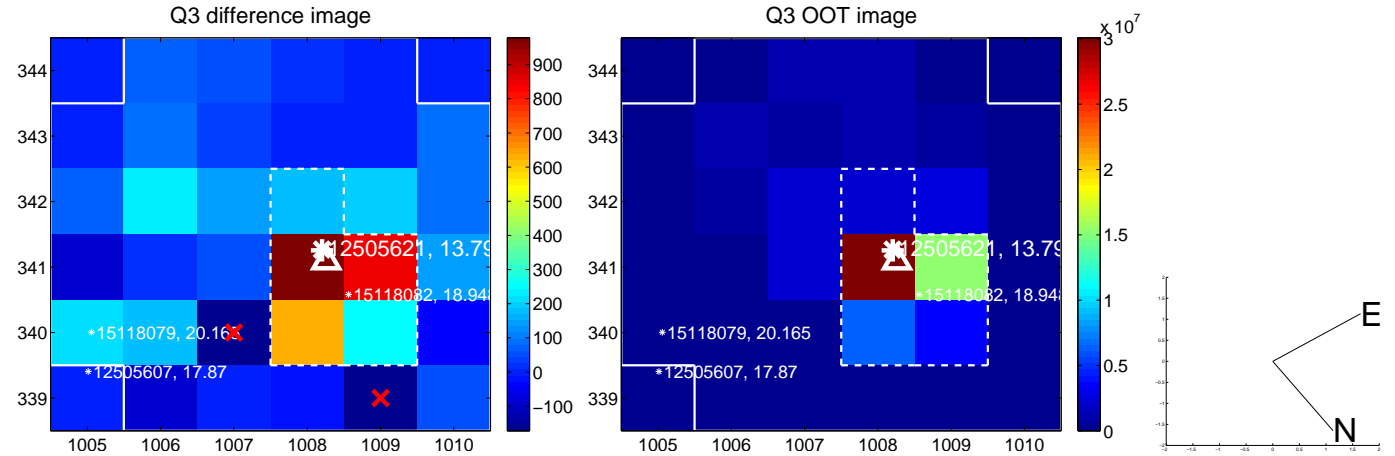
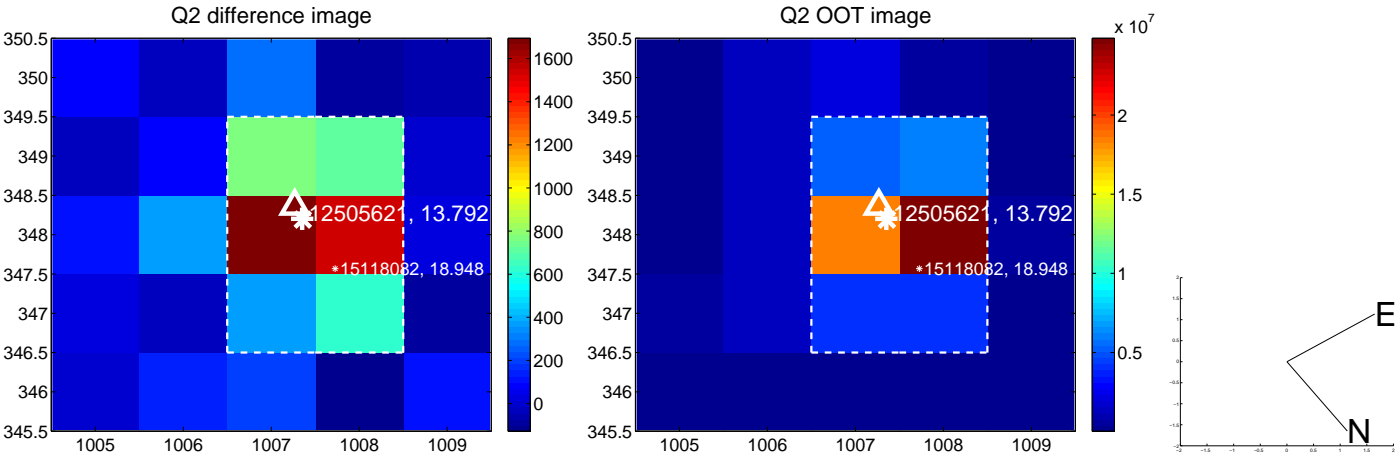
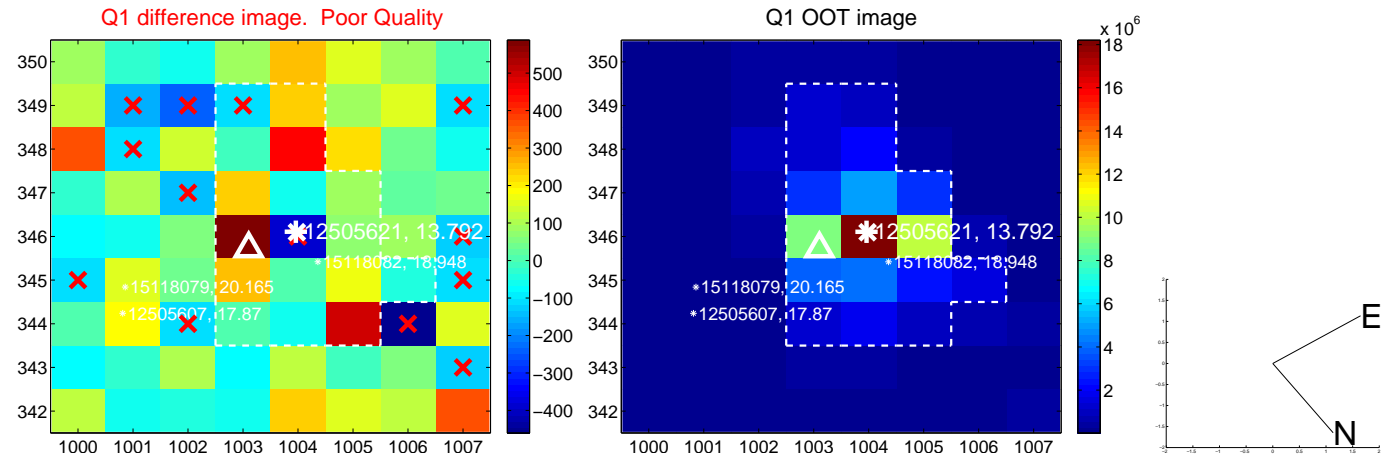


offset from photometric centroids

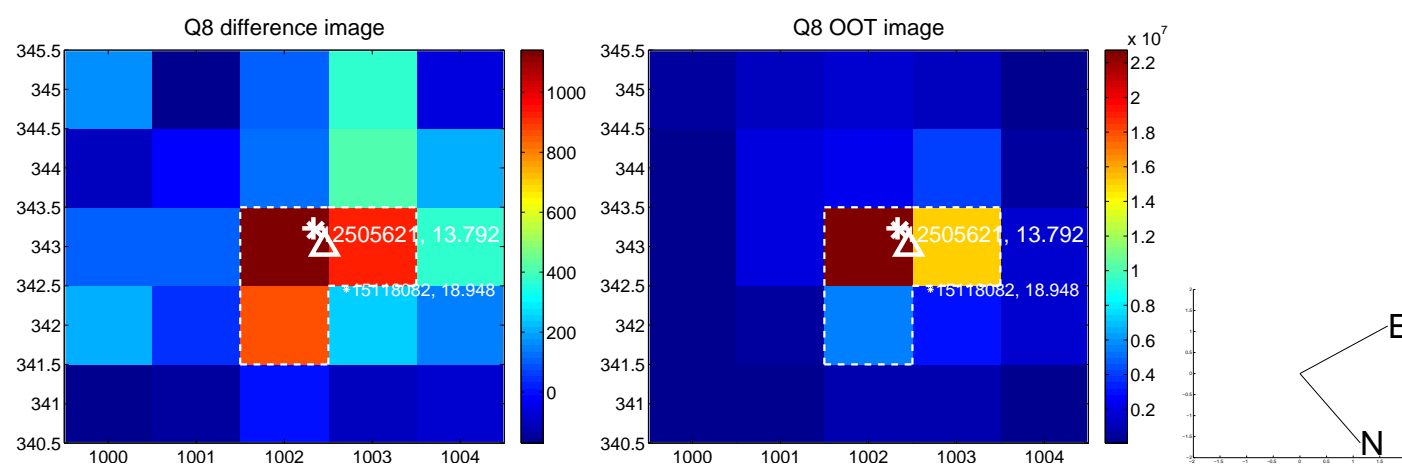
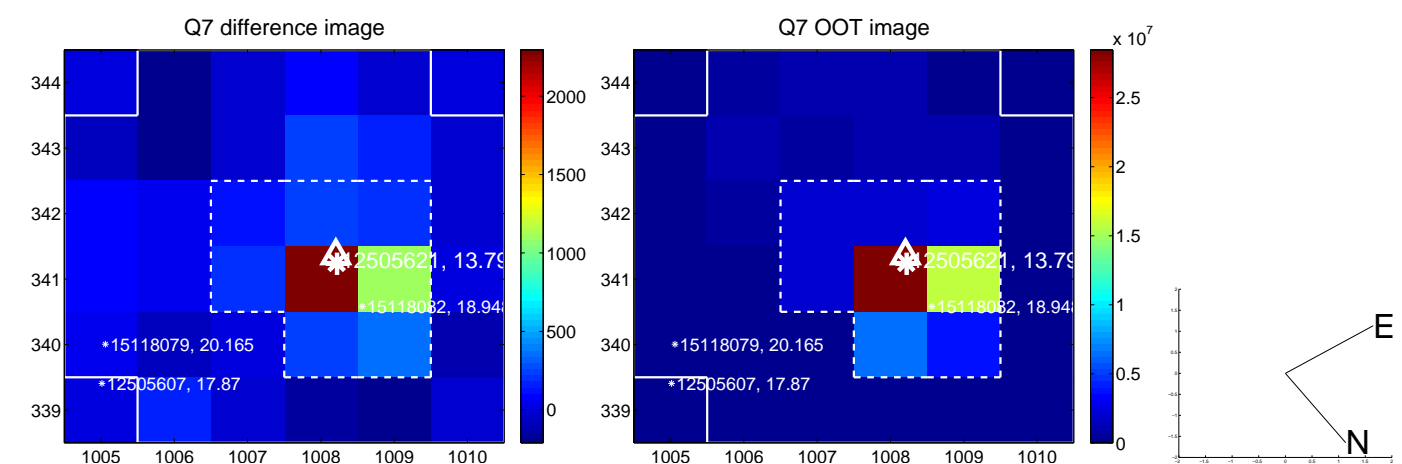
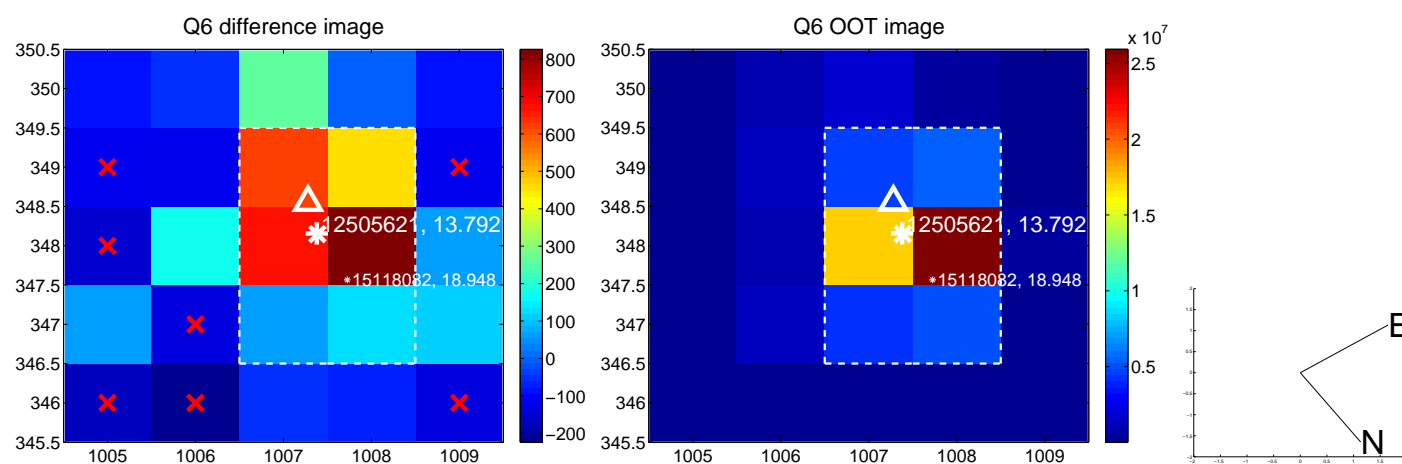
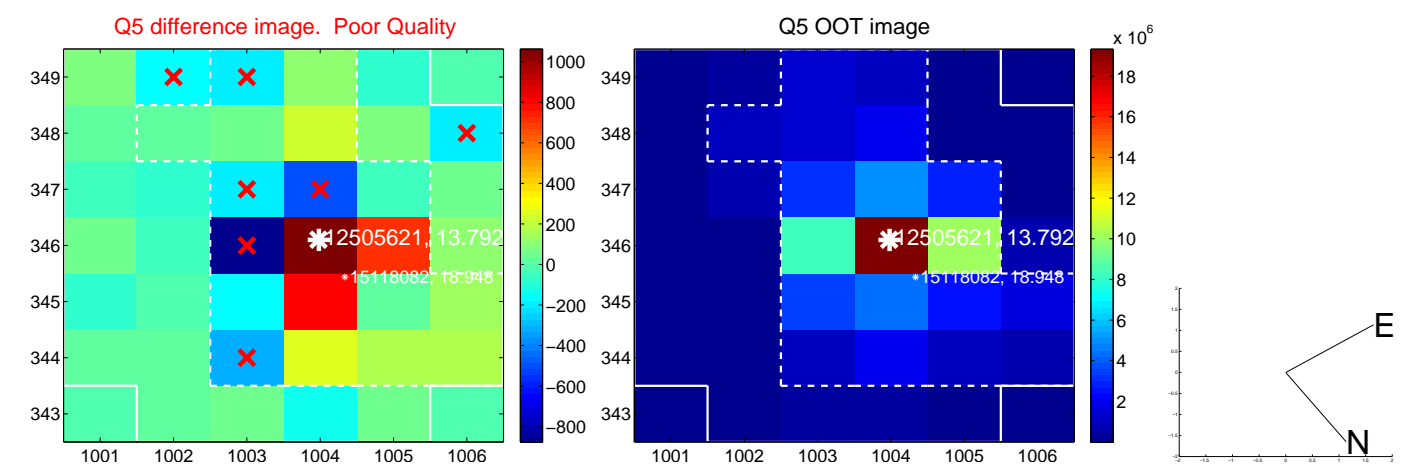


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

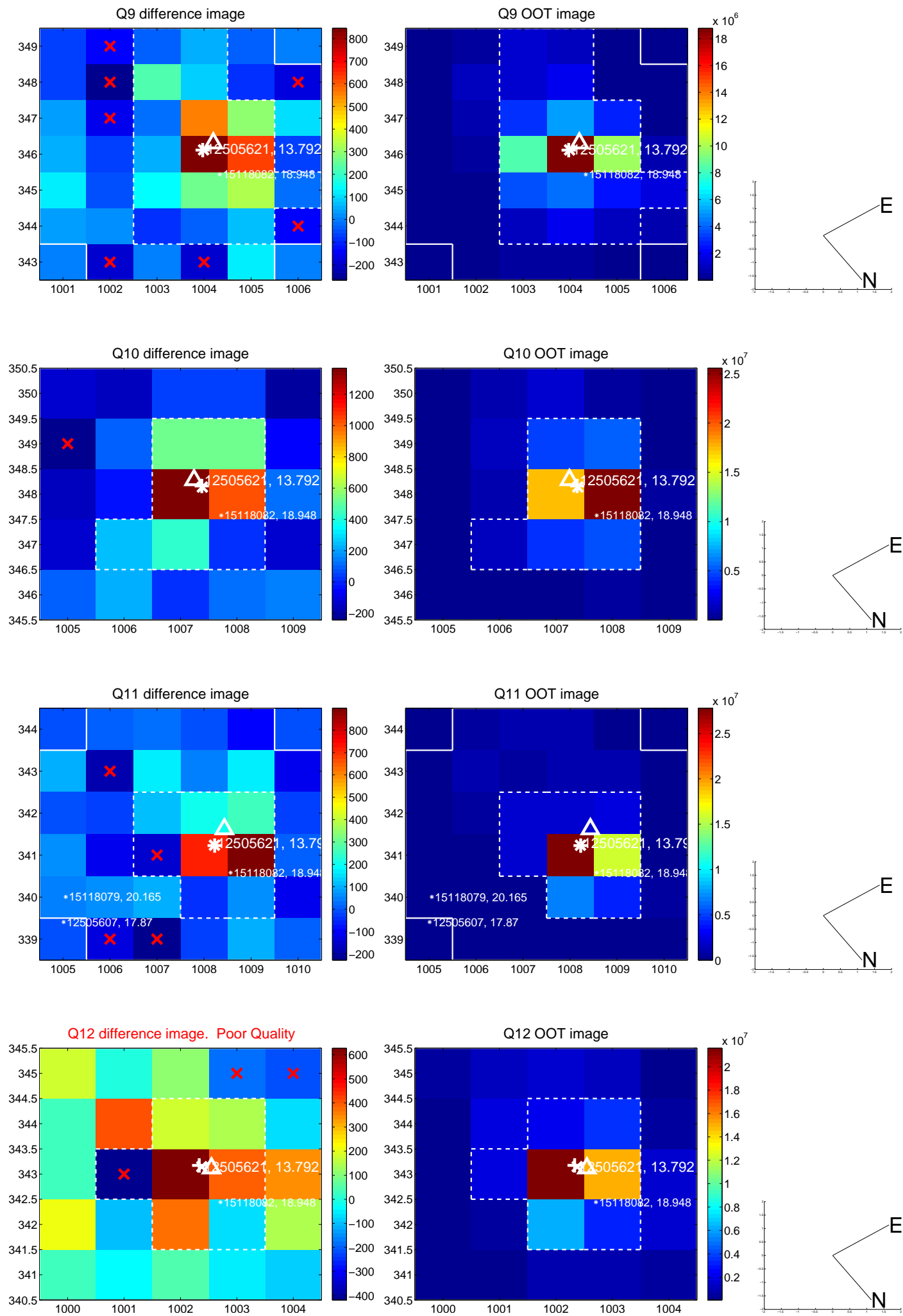
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



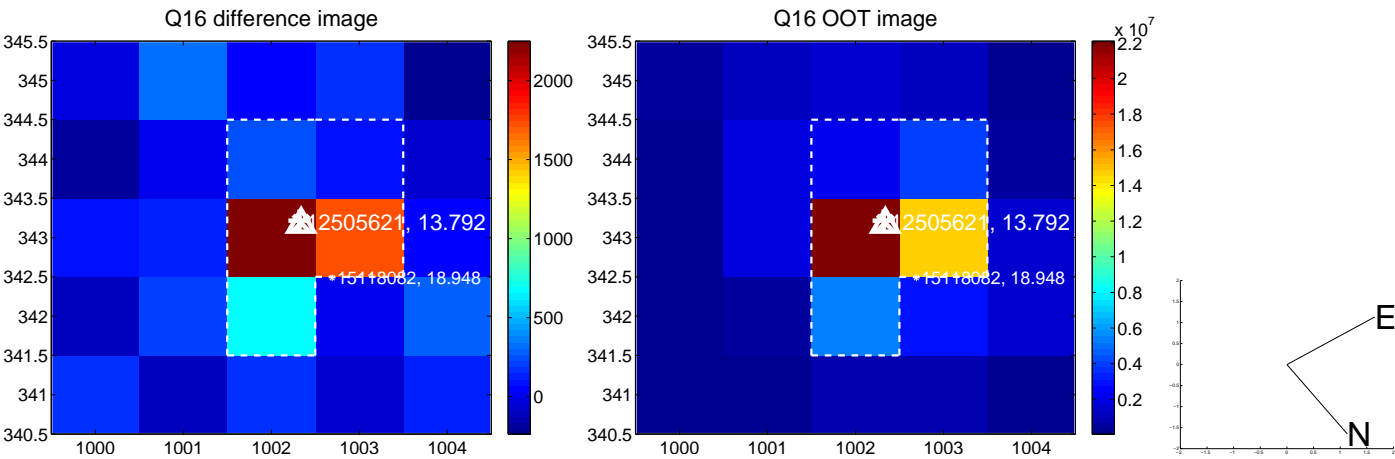
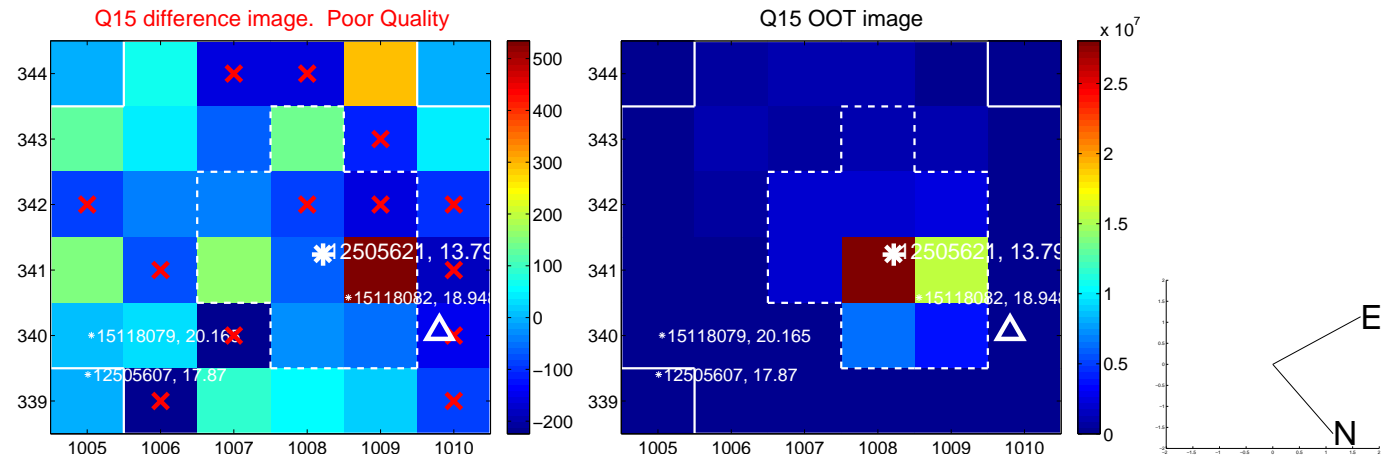
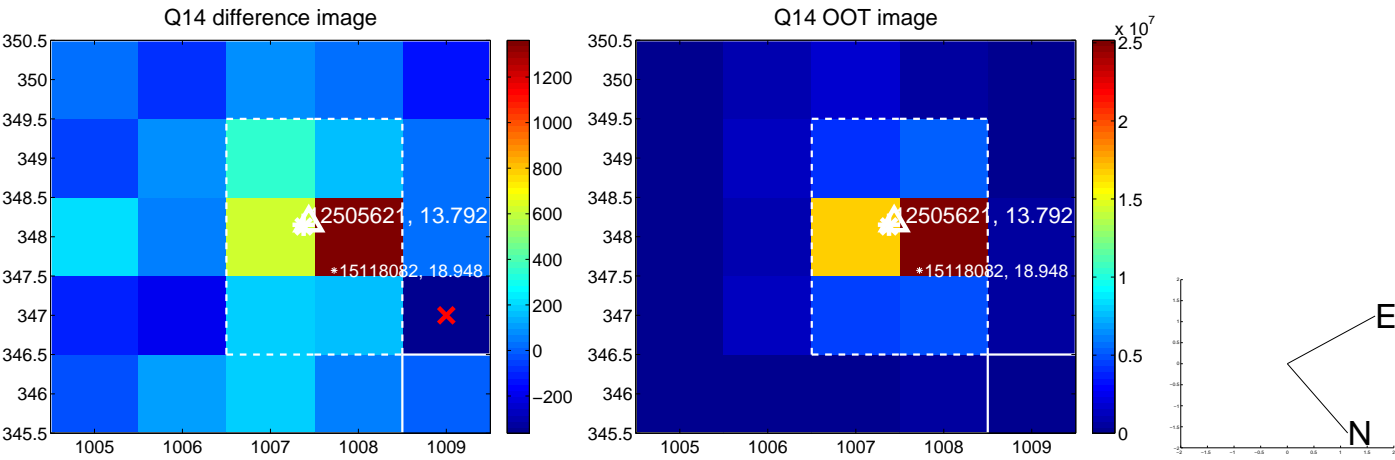
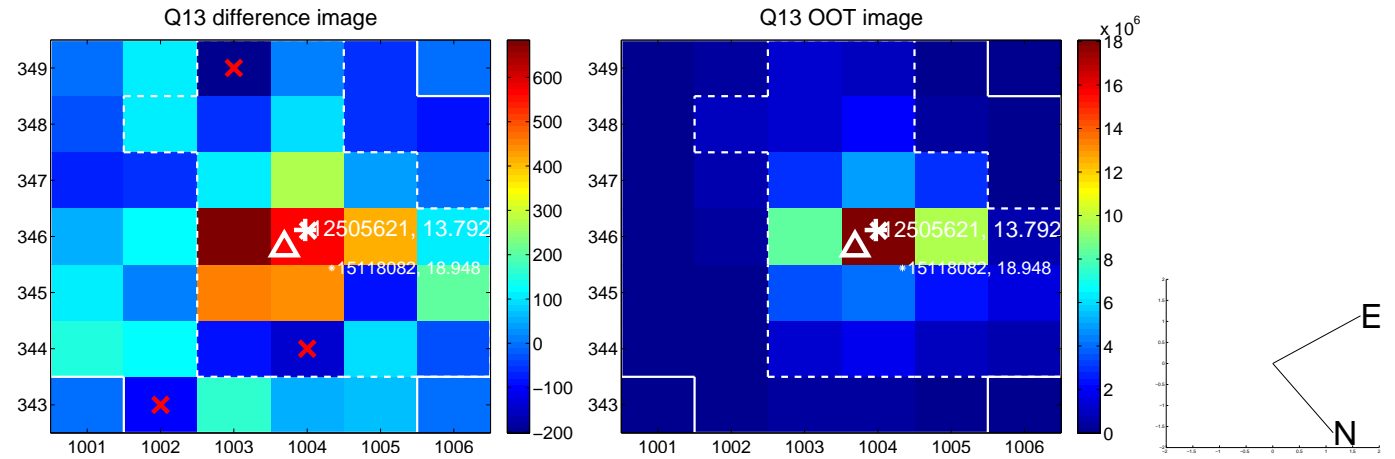
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



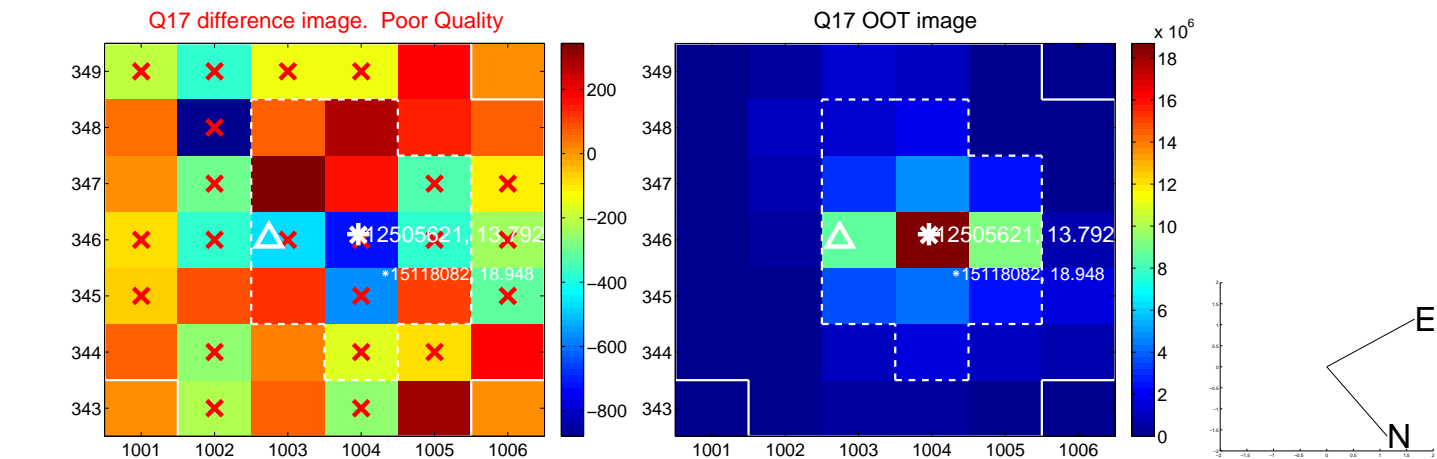
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



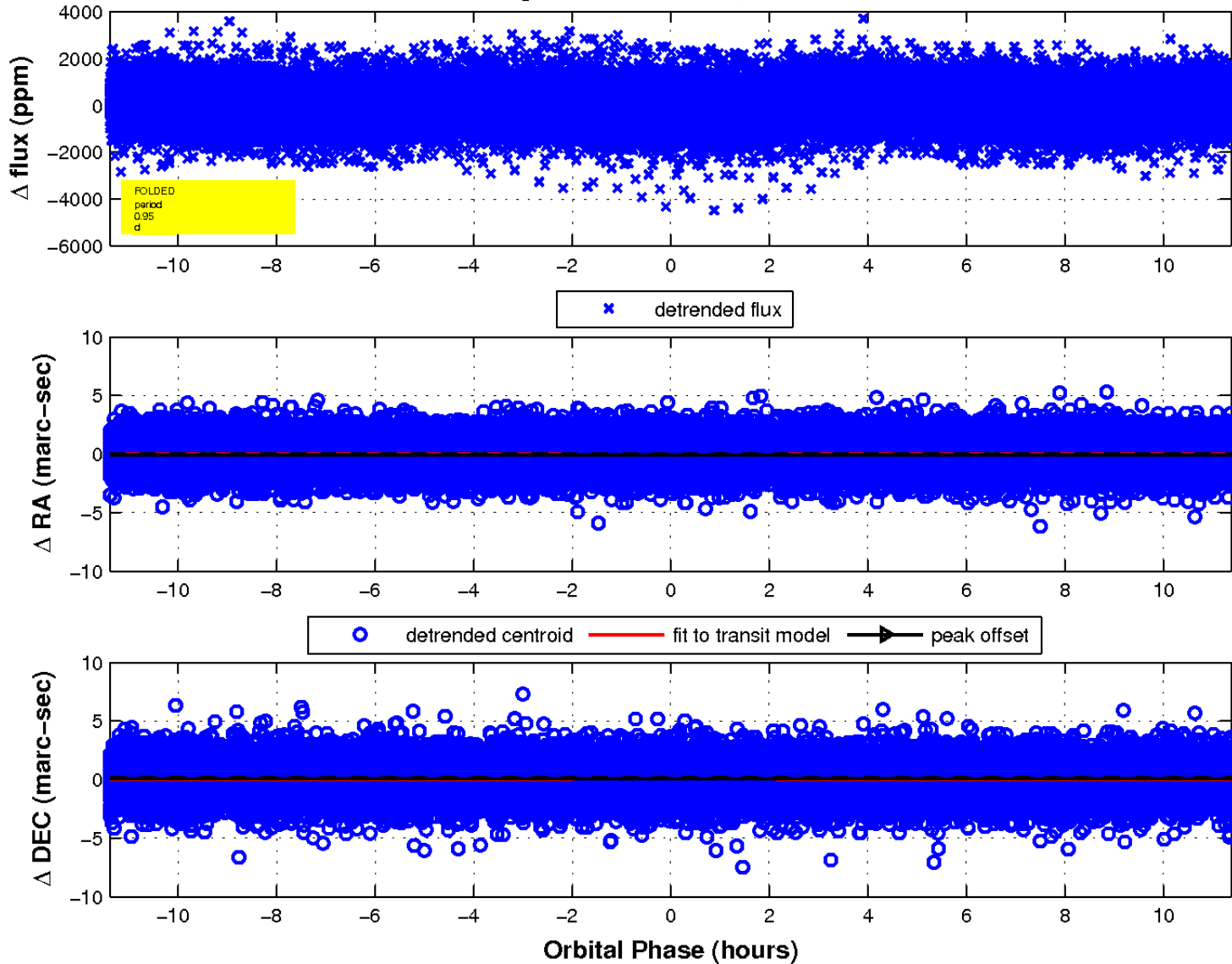
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

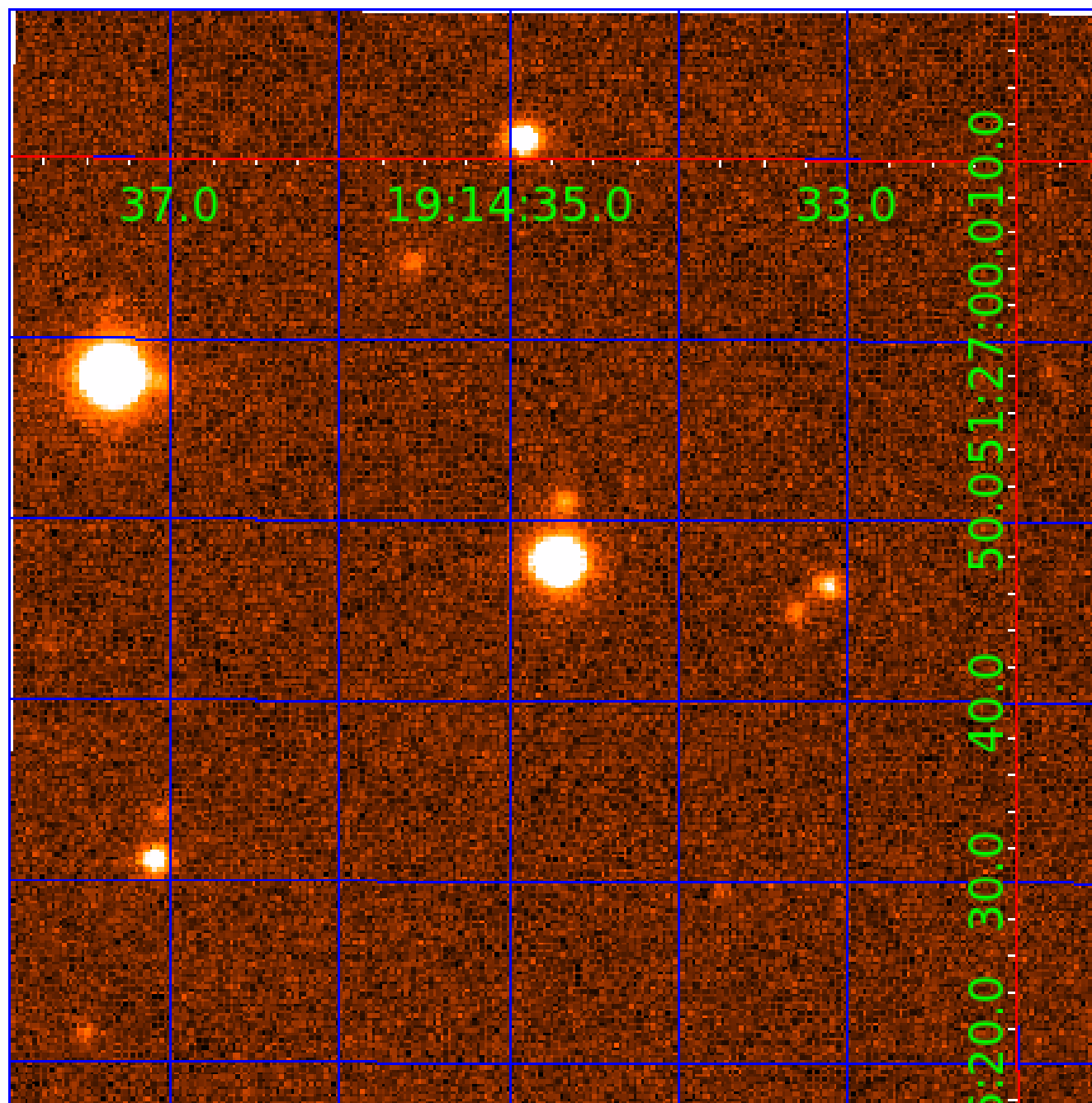


fluxWeightedCentroids, Planet 1 of 4



UKIRT Image

Declination



KIC 012505621

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})
012505621-01	OBS	No	0.948876	132.066805	72.0	4.266	9.8	12.4	1.88	6637	1.68	13505.27
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012505621-03	OBS	No	40.769418	157.492195	732.5	1.569	9.8	9.0	1.88	6637	5.73	89.74
012505621-04	OBS	No	16.279505	138.311964	318.0	5.000	9.3	-1.0	1.88	6637	3.37	305.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012505621-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
012505621-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
012505621-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED
012505621-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS

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

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

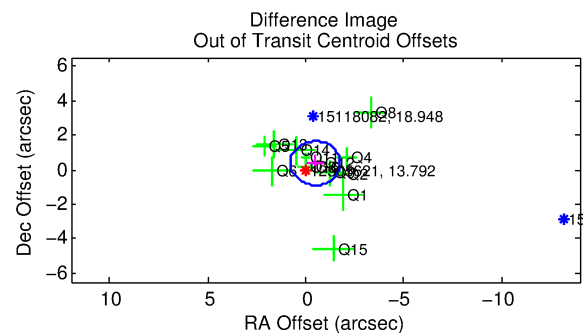
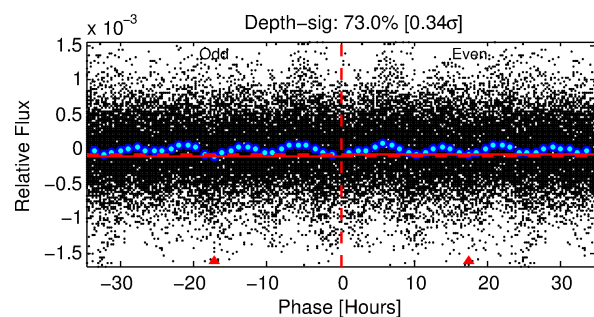
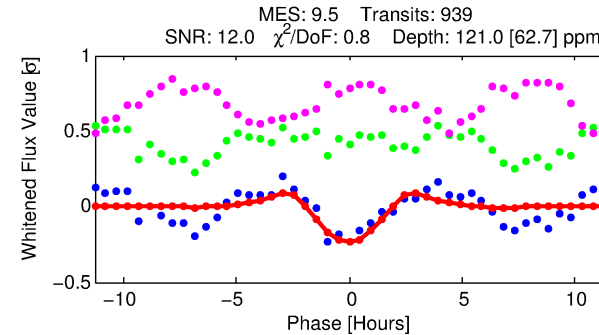
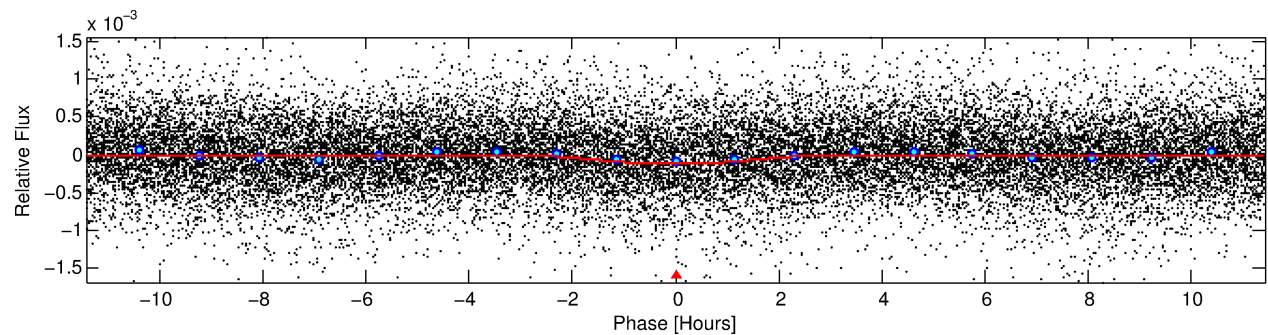
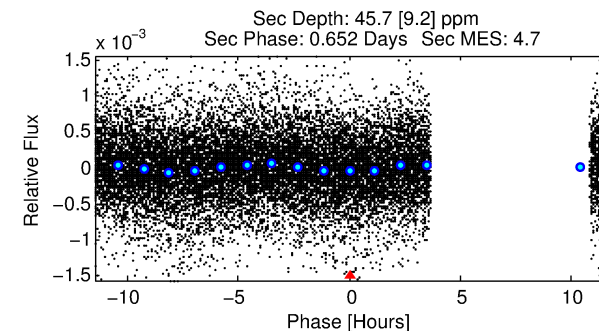
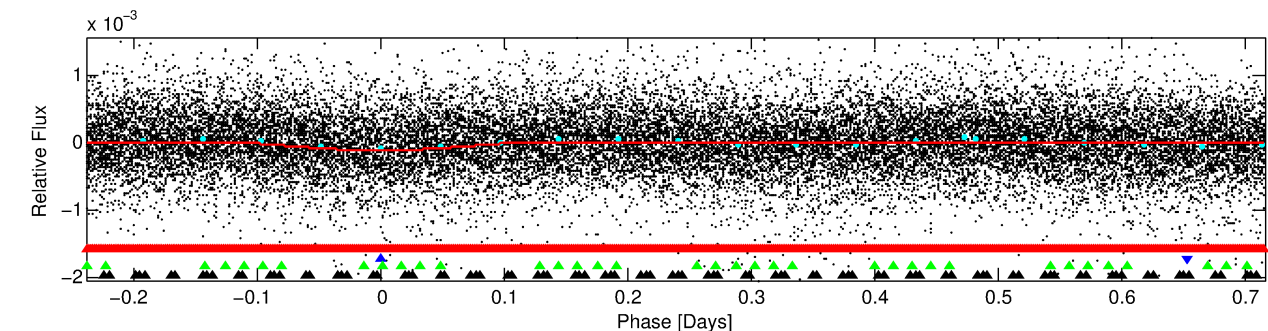
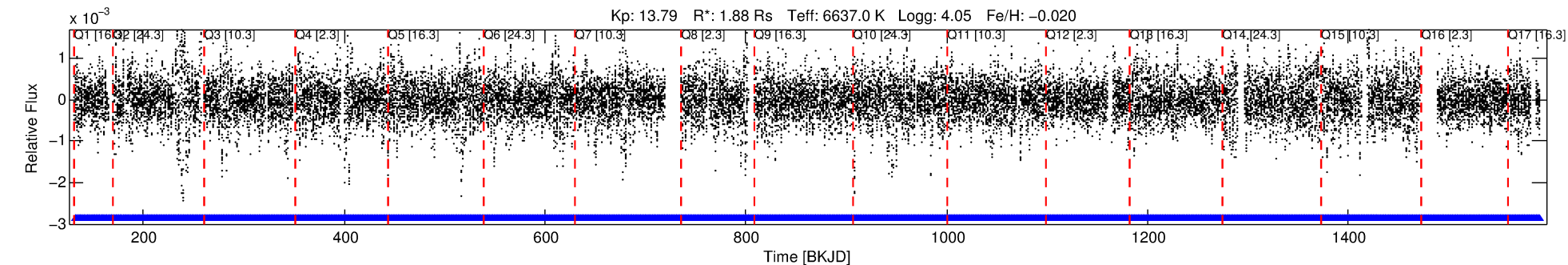
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012505621-02

No Significant Match Found

DV One-Page Summary

KIC: 12505621 Candidate: 2 of 4 Period: 0.954 d



DV Fit Results:

Period = 0.95442 [0.00001] d
Epoch = 132.4211 [0.0043] BKJD
Rp/R* = 0.0202 [0.0285]
a/R* = 1.04 [0.01]
b = 1.00 [0.03]
Seff = 13400.84 [6218.42]
Teff = 2744 [318] K
Rp = 4.13 [5.97] Re
a = 0.0214 [0.0060] AU
Ag = 0.67 [1.93] [-0.17σ]
Teffp = 3841 [2727] K [0.40σ]

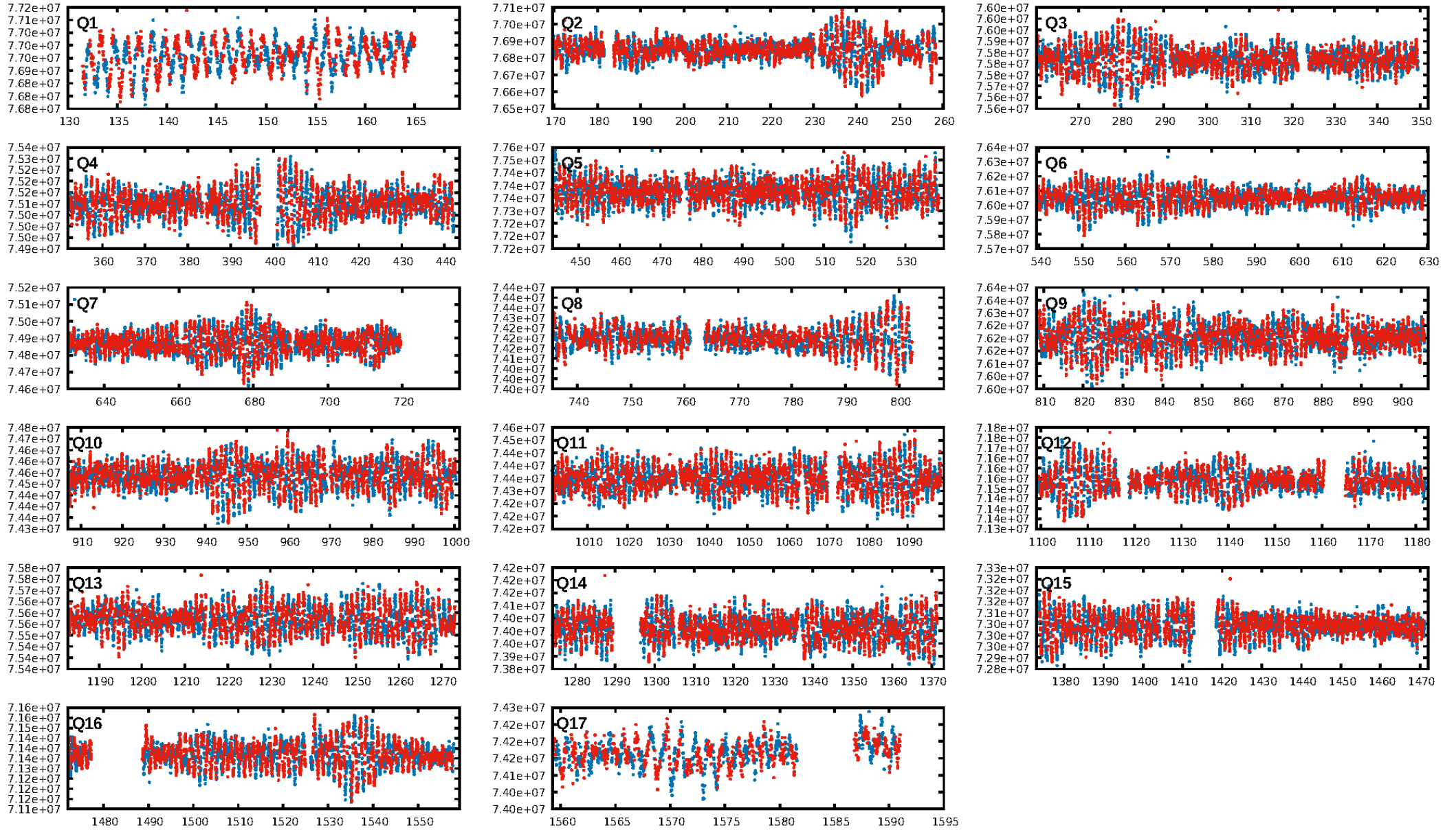
DV Diagnostic Results:

ShortPeriod-sig: 1.5% [0.02σ]
LongPeriod-sig: 100.0% [48.14σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [884/884]
GhostDiagnostic-chr: 1.115
Centroid-sig: 0.2%
Centroid-so: 1.054 arcsec [3.39σ]
OotOffset-rm: 0.600 arcsec [1.42σ]
KicOffset-rm: 0.601 arcsec [1.63σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 0.64 [9/14]
DiffImageOverlap-fno: 0.00 [0/17]

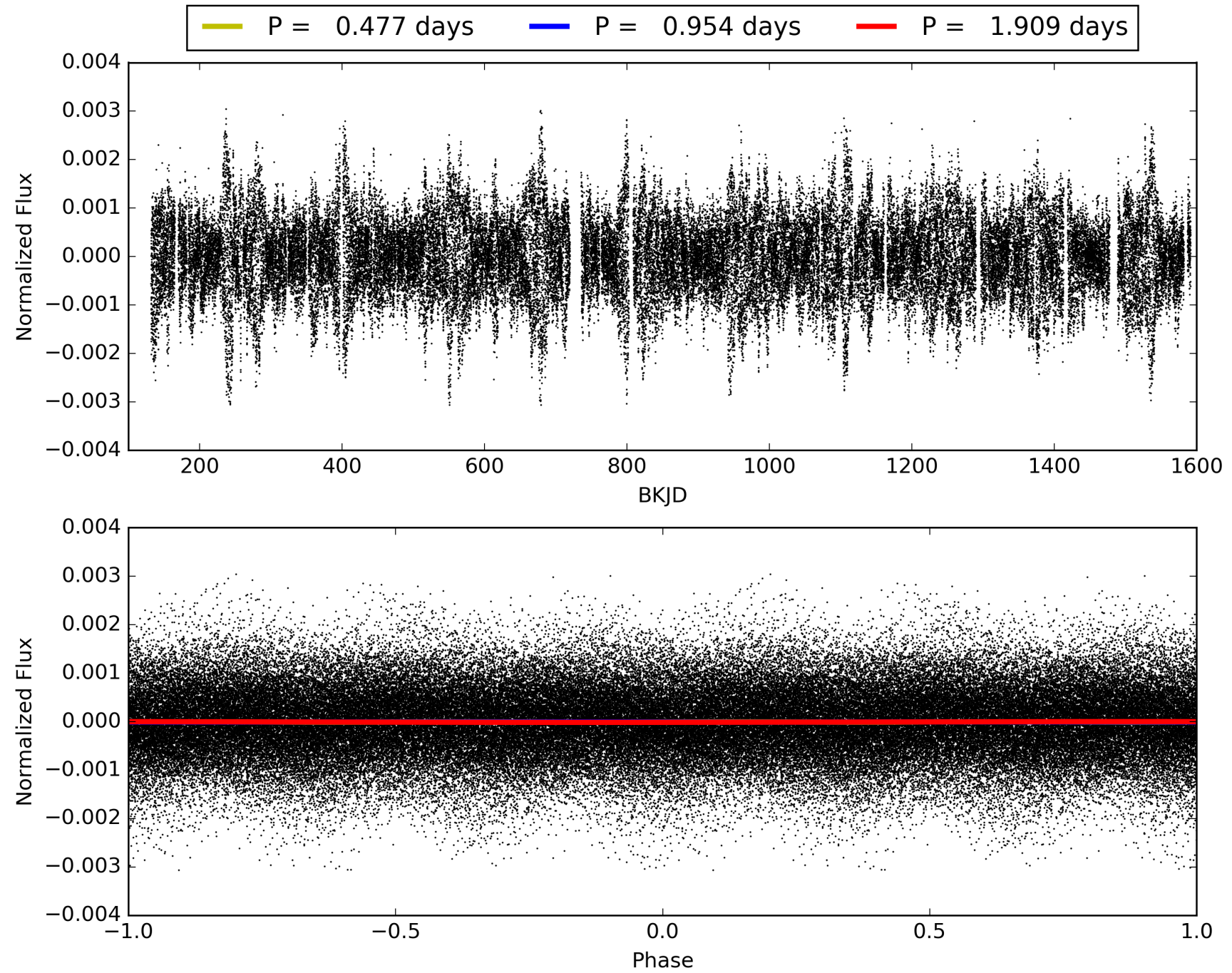
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:09:19 Z

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

TCE 012505621-02, PDC Light Curves

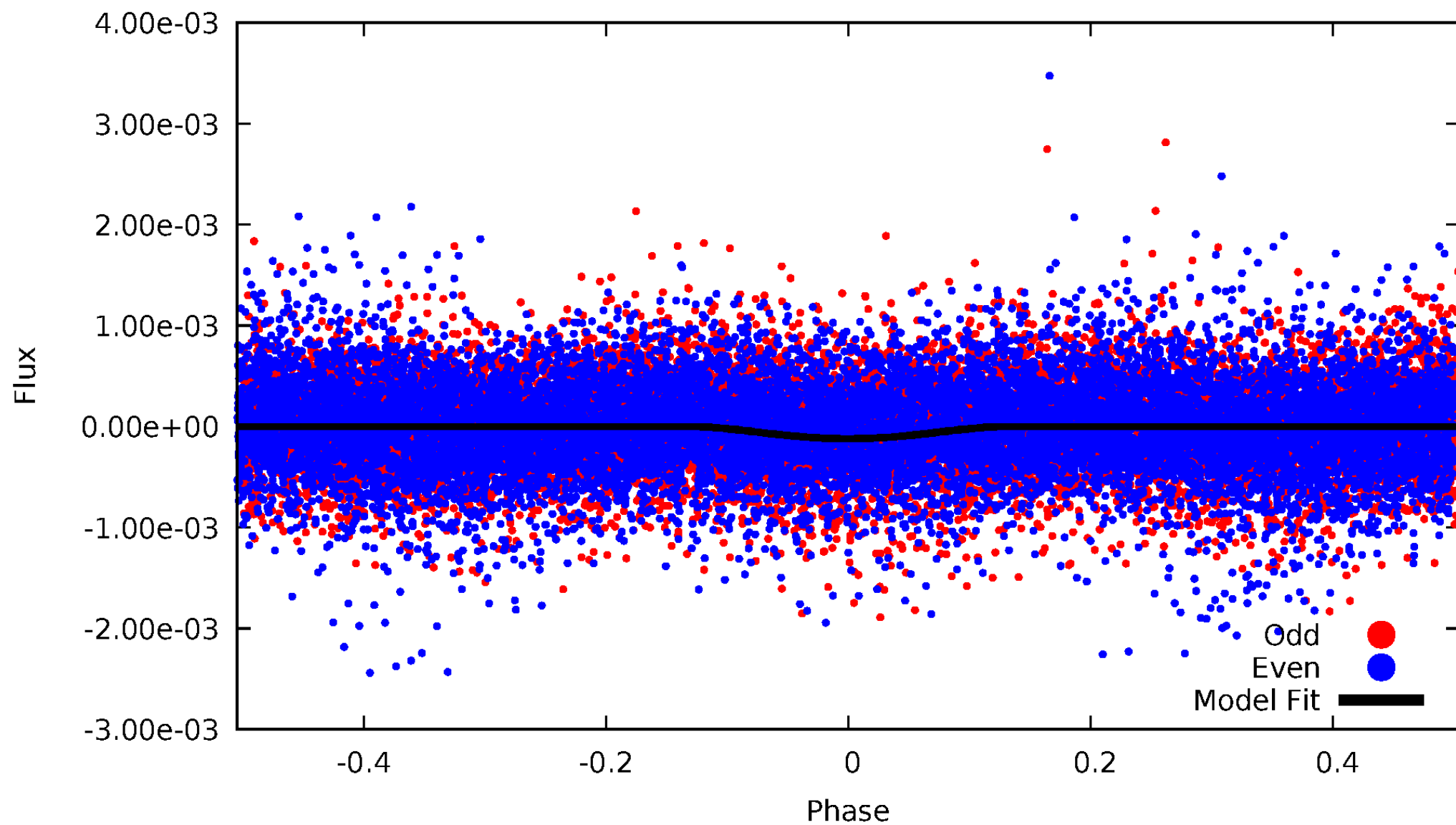


TCE 012505621-02



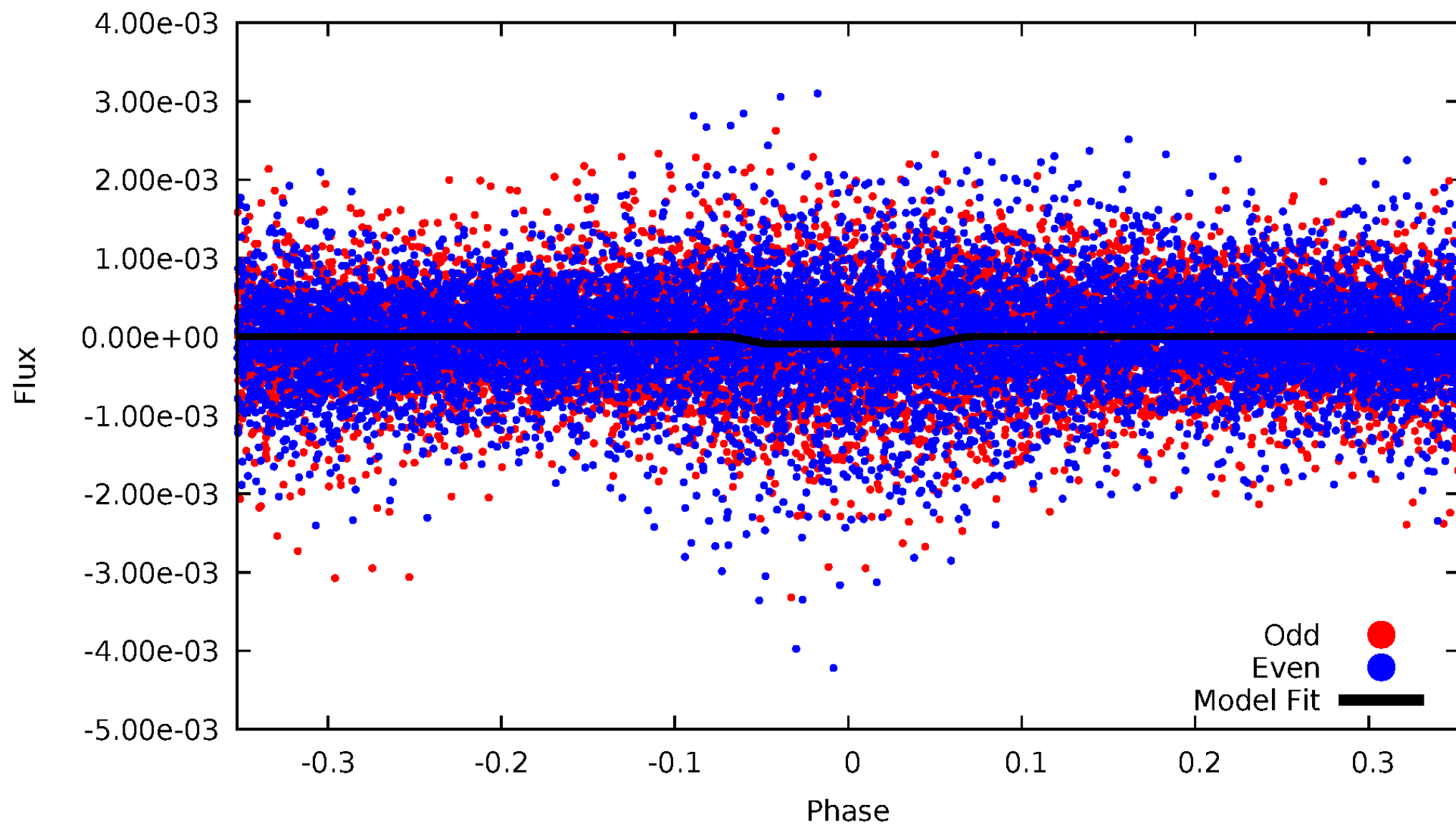
DV Odd/Even

TCE 012505621-02



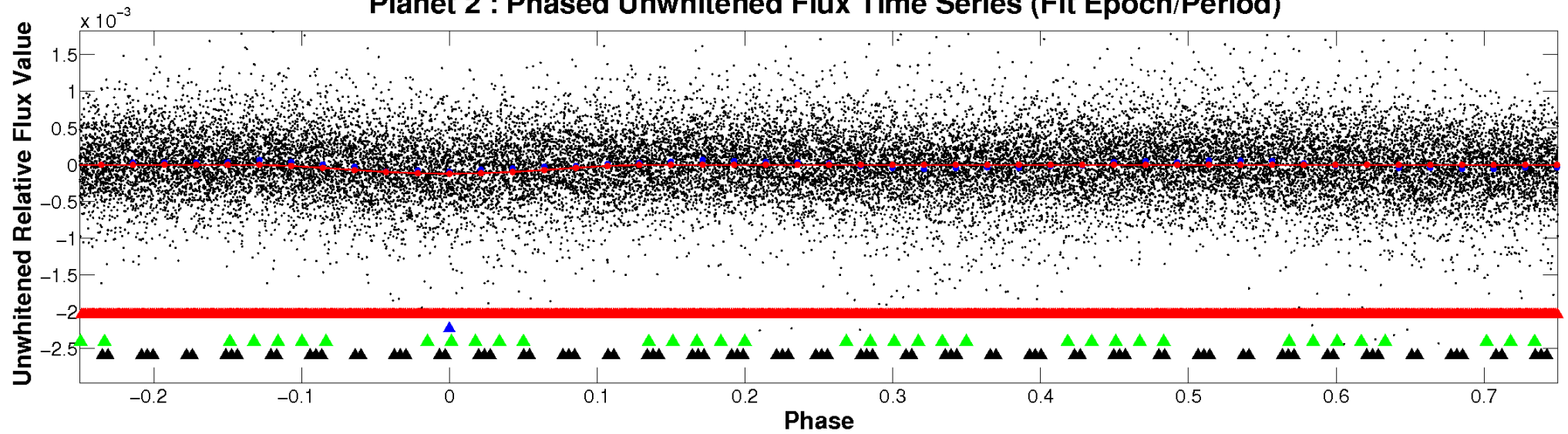
ALT Odd/Even

TCE 012505621-02

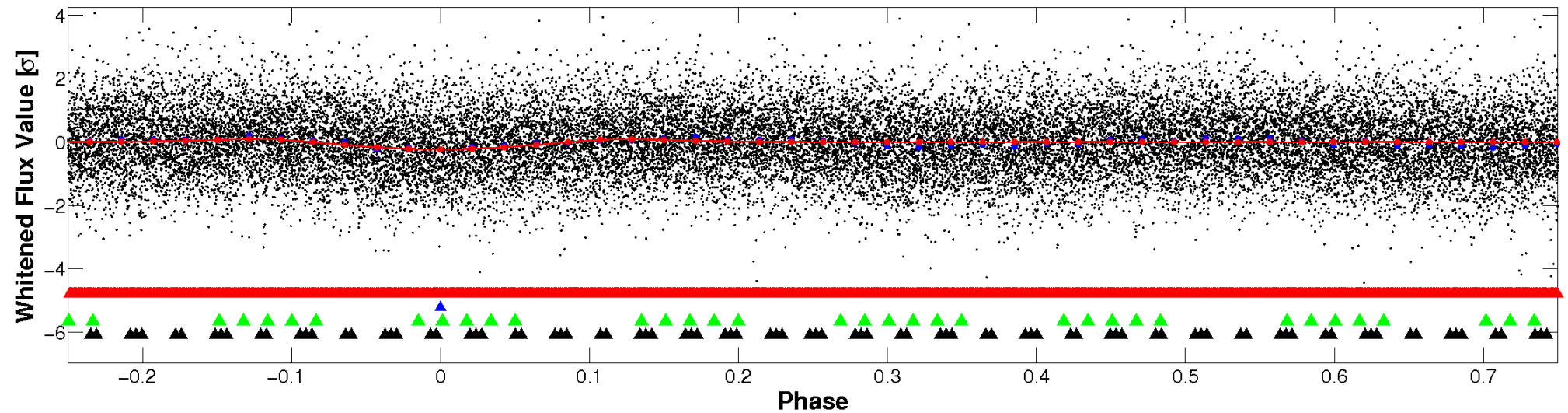


Non-Whitened Vs. Whitened Light Curve

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

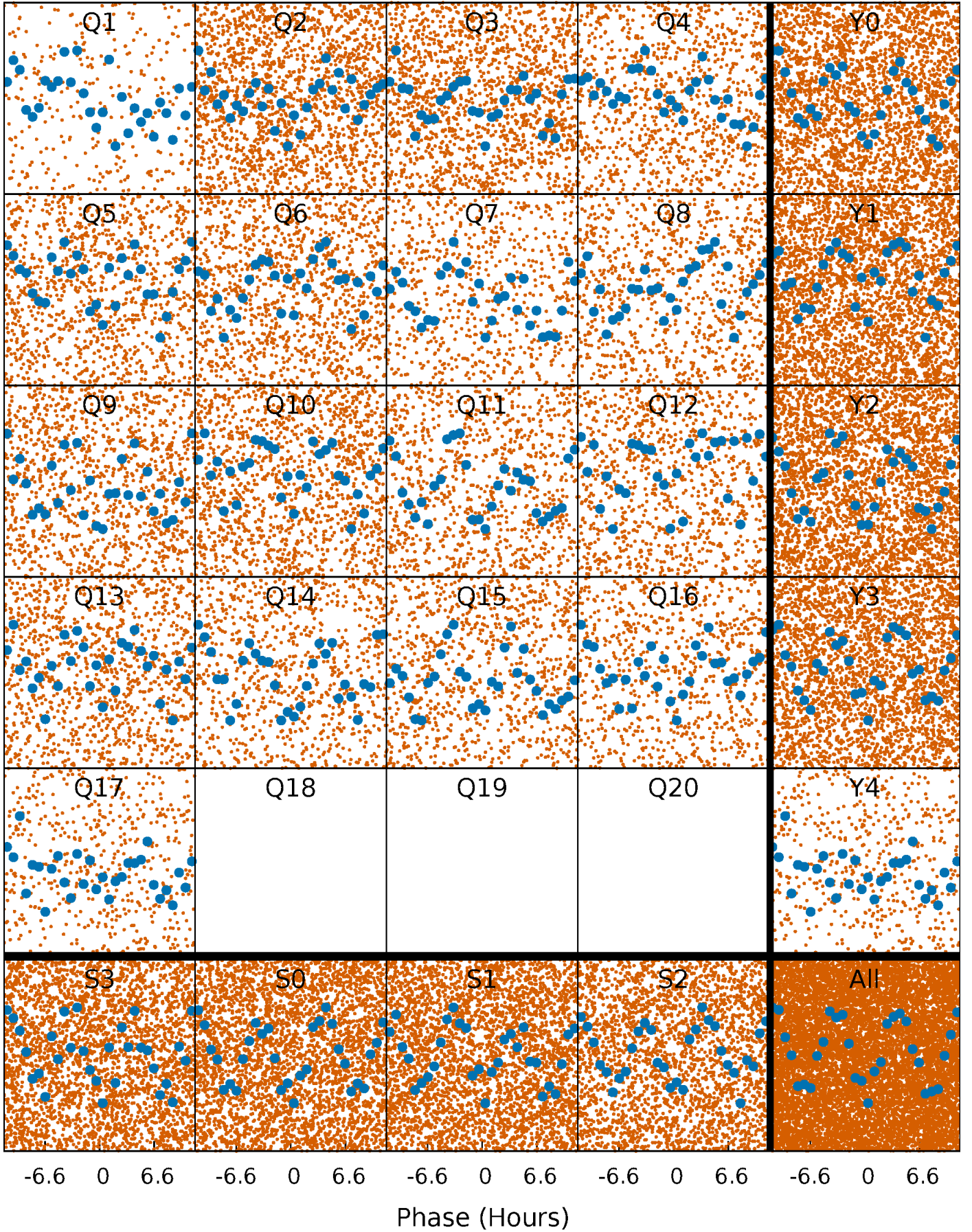


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



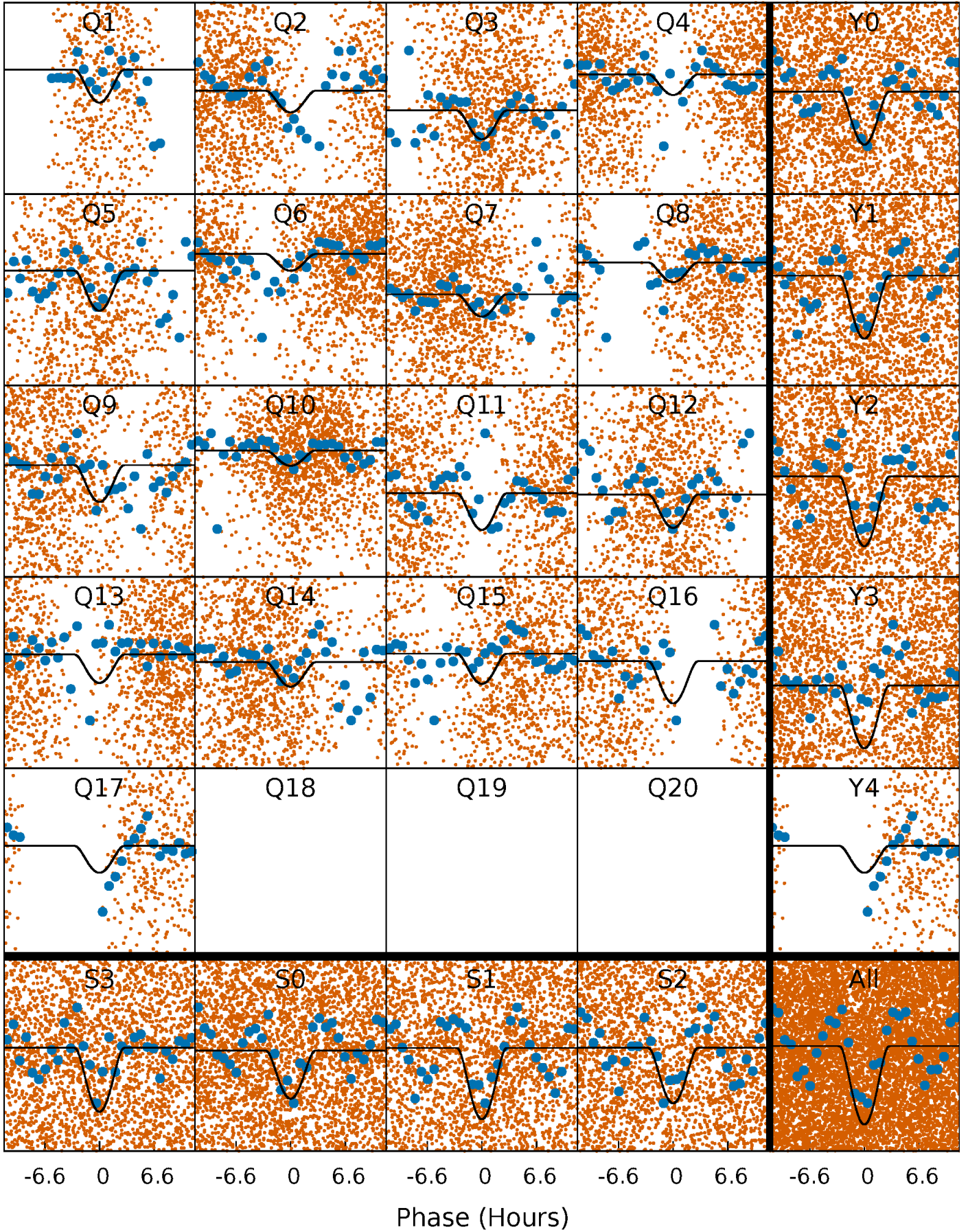
PDC Quarter-Phased Transit Curves

TCE 012505621-02 P= 0.954416 Days $T_0=132.421062$ (BKJD)



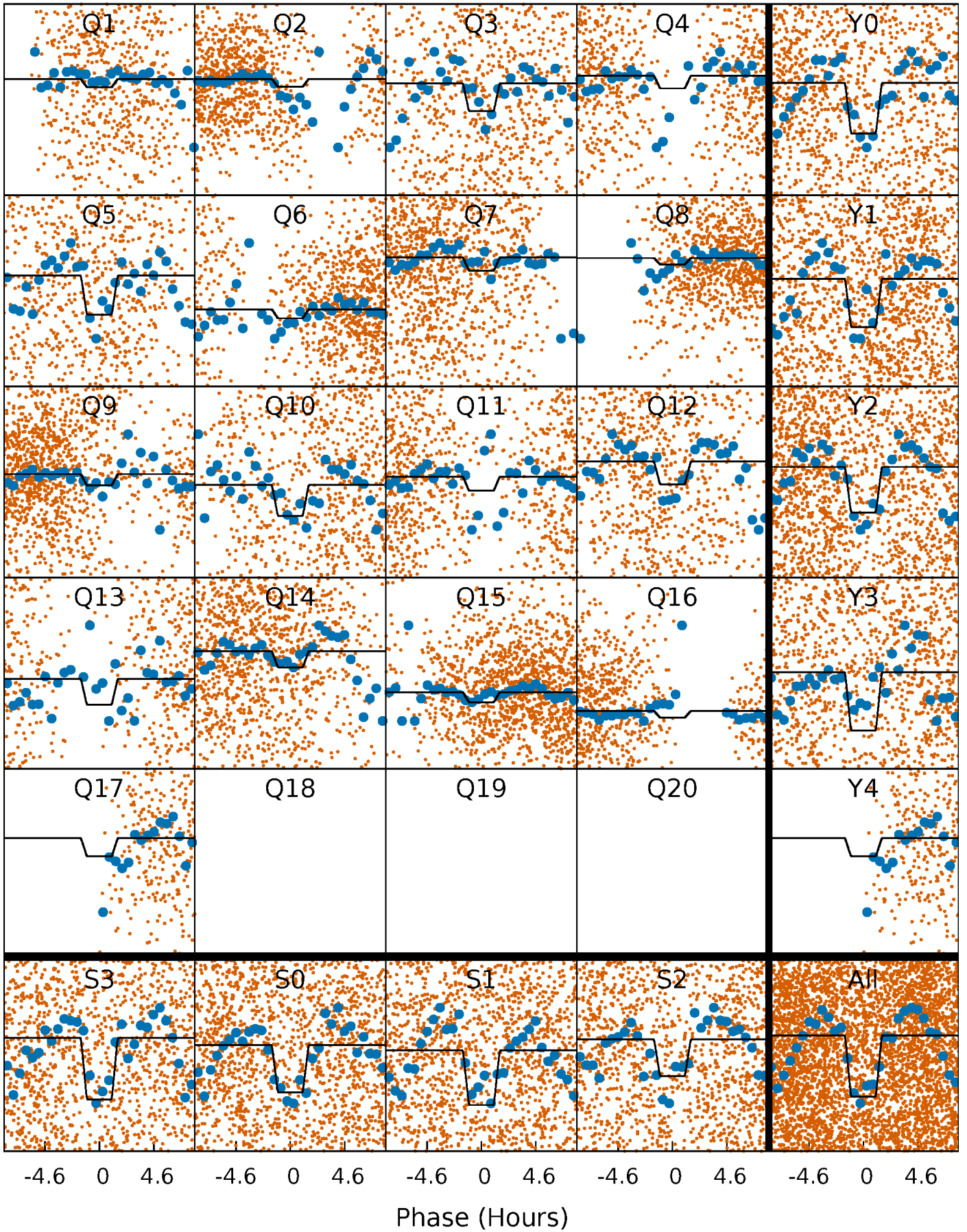
DV Quarter-Phased Transit Curves

TCE 012505621-02 $P = 0.954416$ Days $T_0 = 132.421062$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

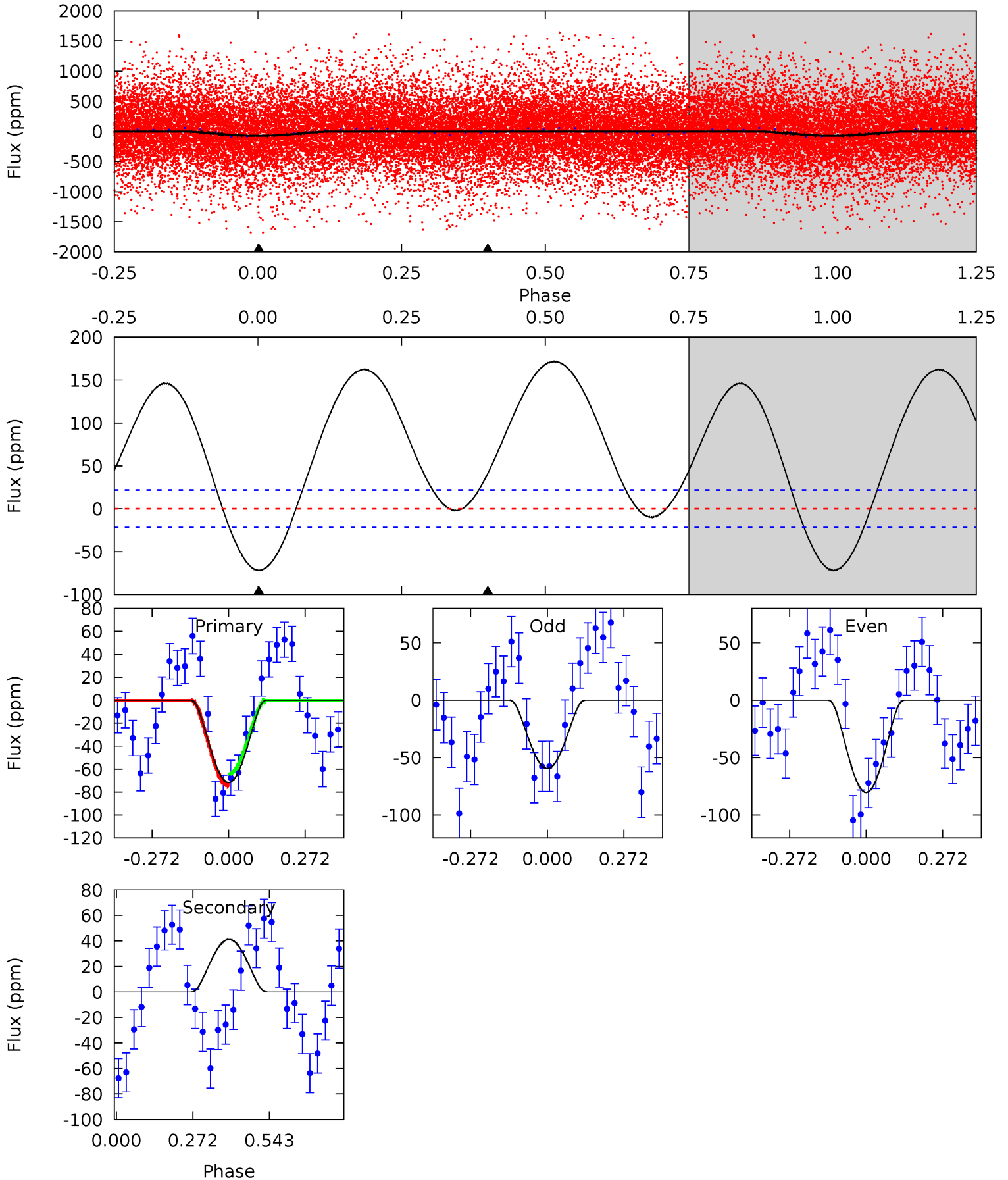
TCE 012505621-02 P= 0.954432 Days $T_0=132.402779$ (BKJD)



DV Model-Shift Uniqueness Test

012505621-02, P = 0.954416 Days, E = 131.466646 Days

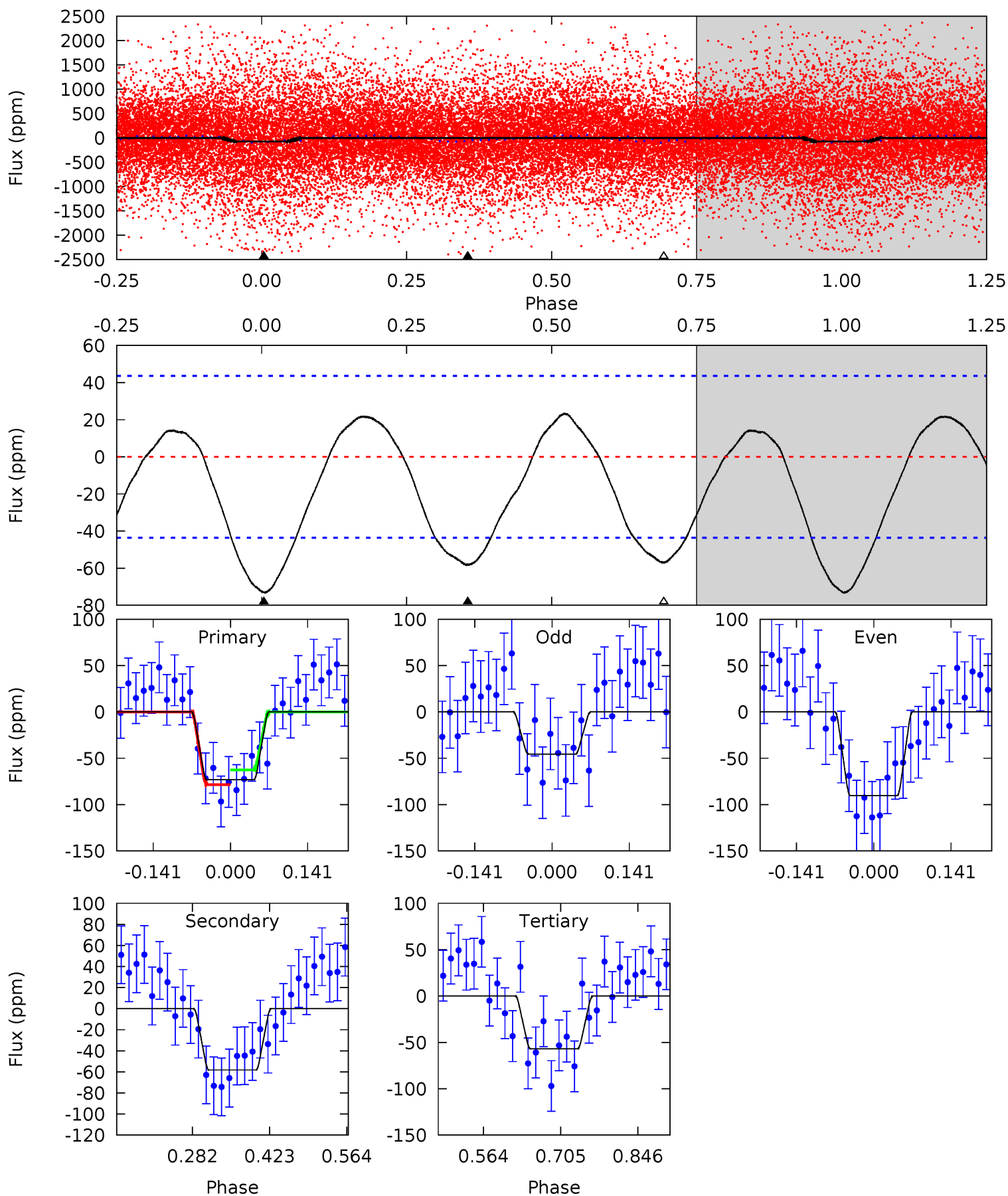
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	-8.19	0	0	4.35	1.10	3.05	14.2	14.2	-8.19	-8.19	2.12	0.69	0.71	1.00



Alt Model-Shift Uniqueness Test

012505621-02, P = 0.954432 Days, E = 131.448347 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.54	6.00	5.87	0	4.49	1.47	2.87	1.67	7.54	0.13	6.00	2.17	1.41	0.24	0.81



Stellar Parameters For KIC 012505621

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6637^{+187}_{-258}	$4.046^{+0.252}_{-0.168}$	$-0.020^{+0.250}_{-0.300}$	$1.875^{+0.573}_{-0.573}$	$1.429^{+0.192}_{-0.288}$	$0.305^{+0.483}_{-0.141}$
	+3%/-4%	+6%/-4%	+1250%/-1500%	+31%/-31%	+13%/-20%	+158%/-46%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 012505621-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	41 ± 5	$5.46^{+4.90}_{-3.57}$	3790^{+297}_{-335}	-4075^{+372}_{-1529}	$-0.343^{+0.249}_{-2.496}$
Alt.	-58 ± 10	$4.56^{+4.61}_{-3.06}$	3787^{+315}_{-321}	3693^{+3133}_{-6854}	$0.704^{+5.989}_{-0.537}$

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

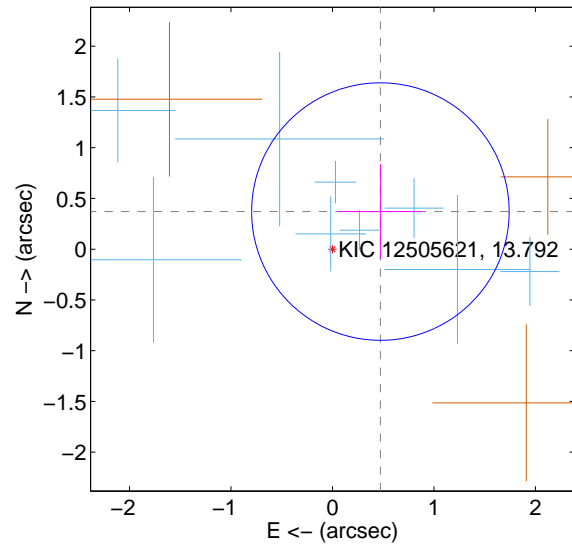
Supplemental centroid analysis for 012505621-02. Kepler magnitude: 13.79. Transit SNR 11.95

There are 9 quarters with good PRF difference image offsets

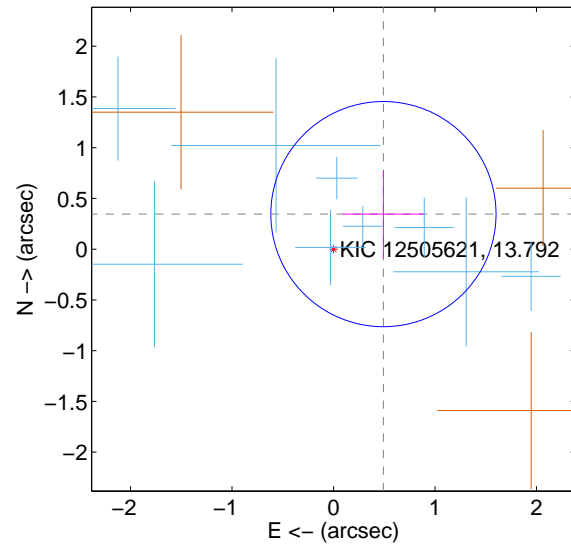
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.600 ± 0.423	1.42	-0.472 ± 0.411	0.371 ± 0.469
PRF-fit source offset from KIC position	0.601 ± 0.370	1.63	-0.492 ± 0.397	0.345 ± 0.431
photometric centroid source offset	1.05 ± 0.31	3.39	-0.29 ± 0.29	1.01 ± 0.31

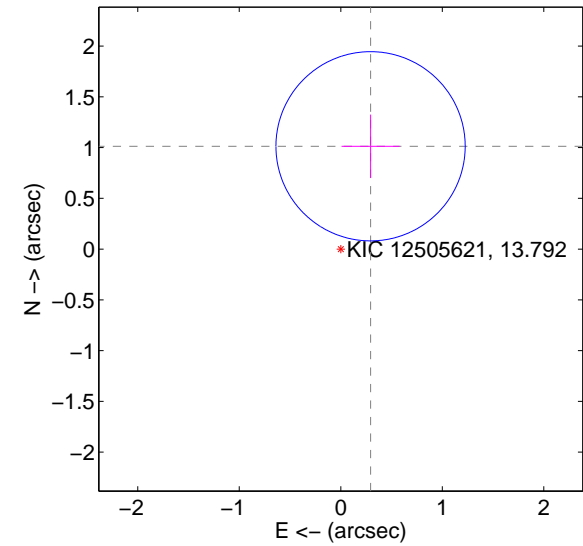
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

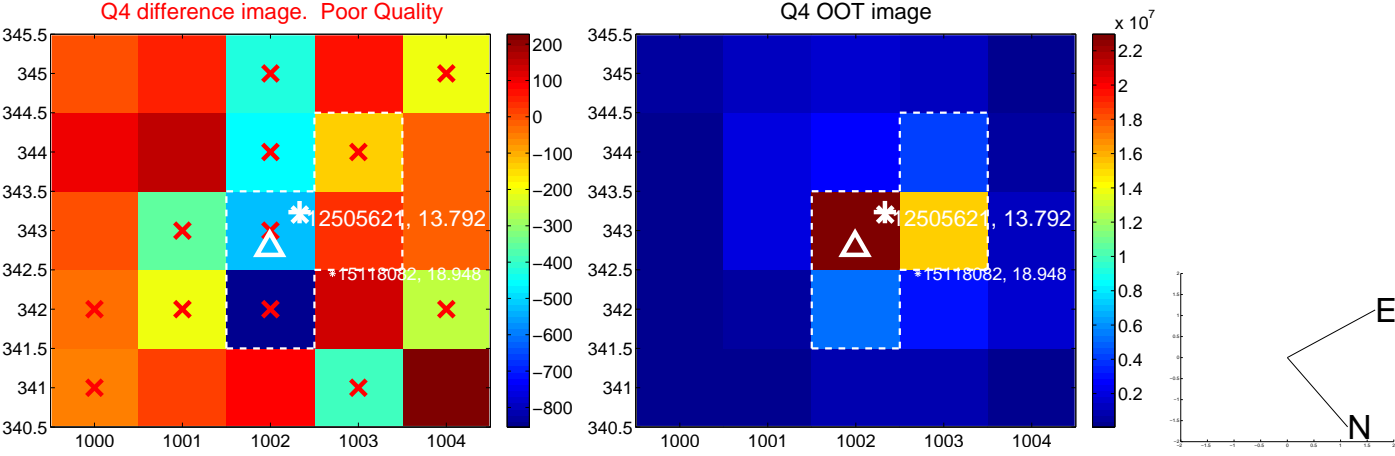
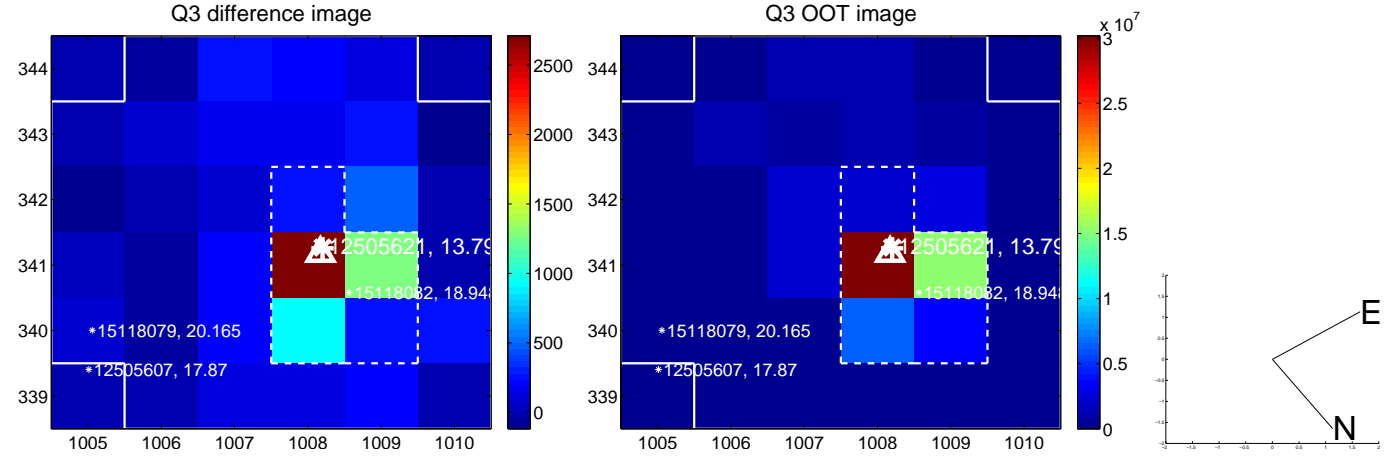
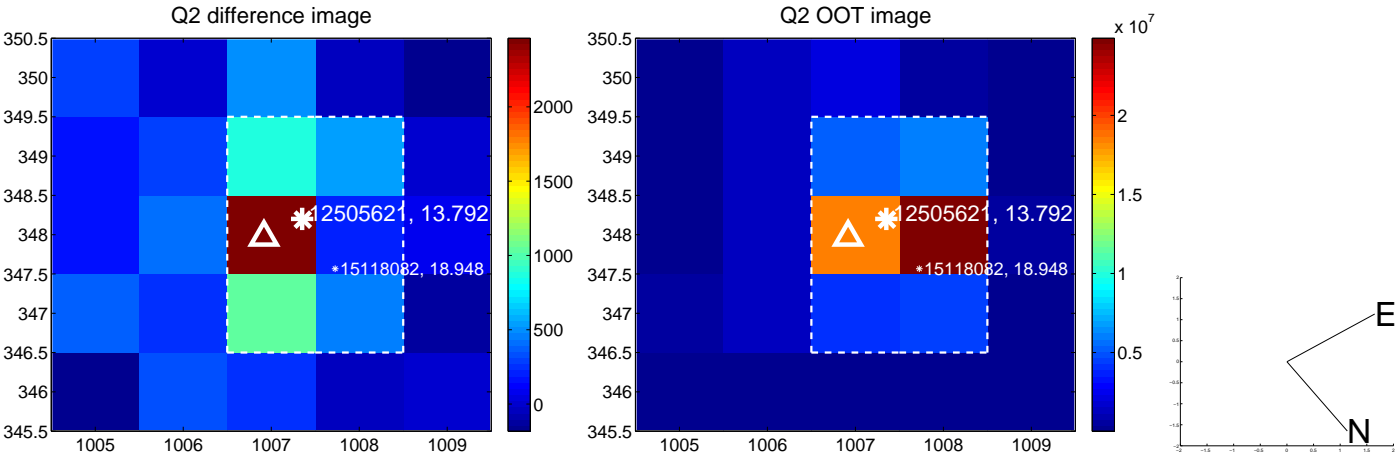
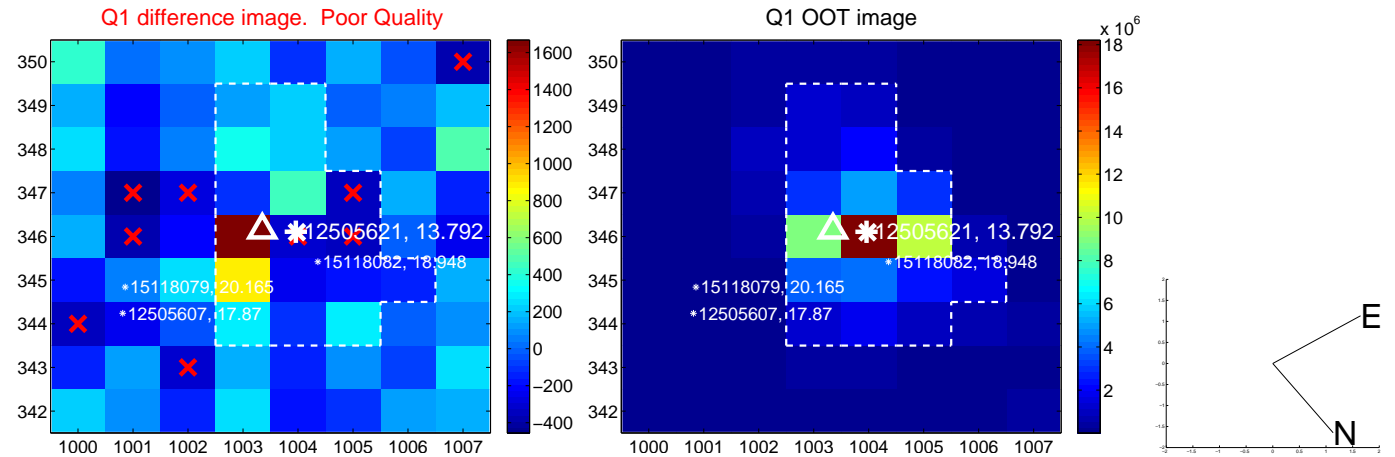


offset from photometric centroids

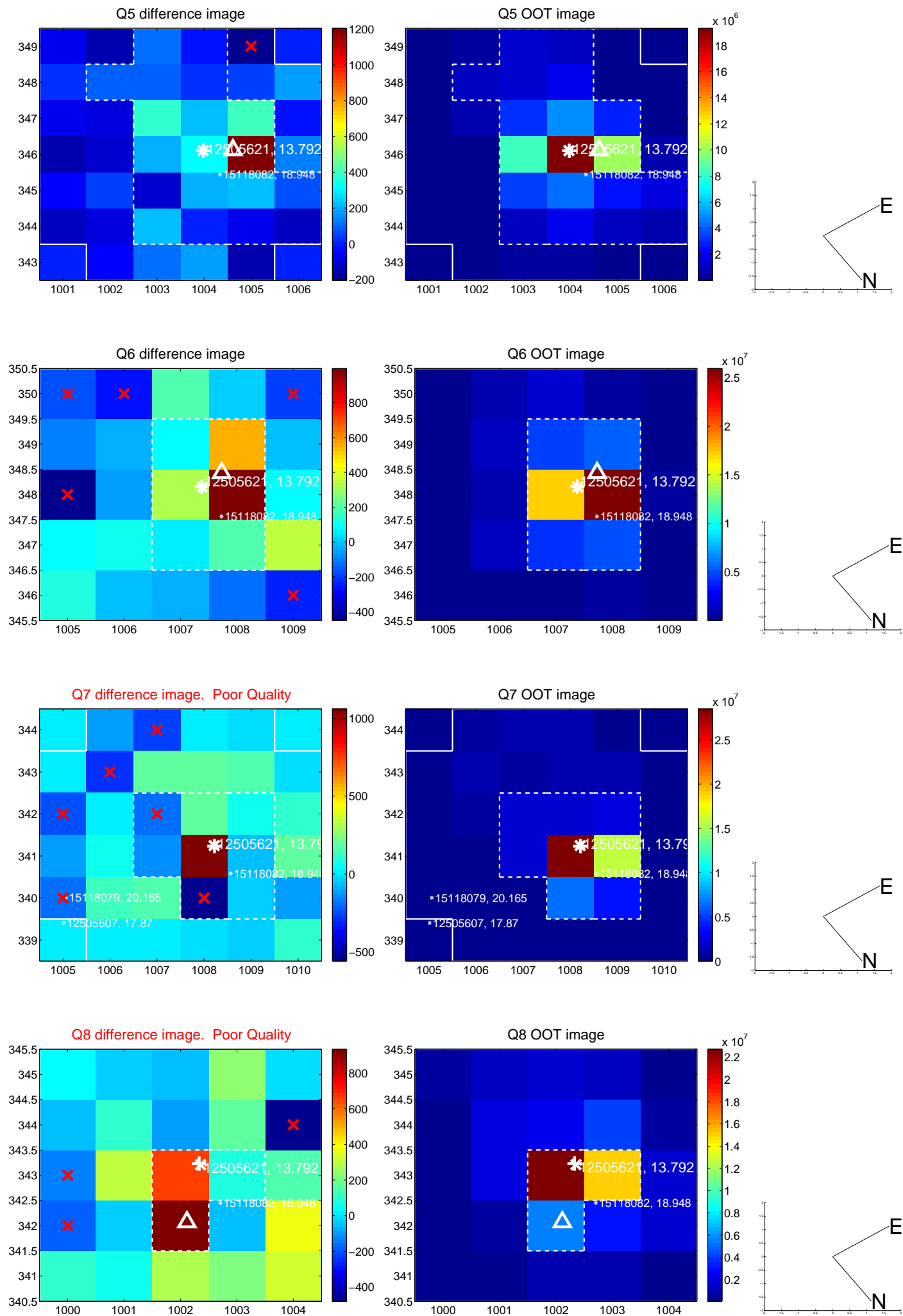


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

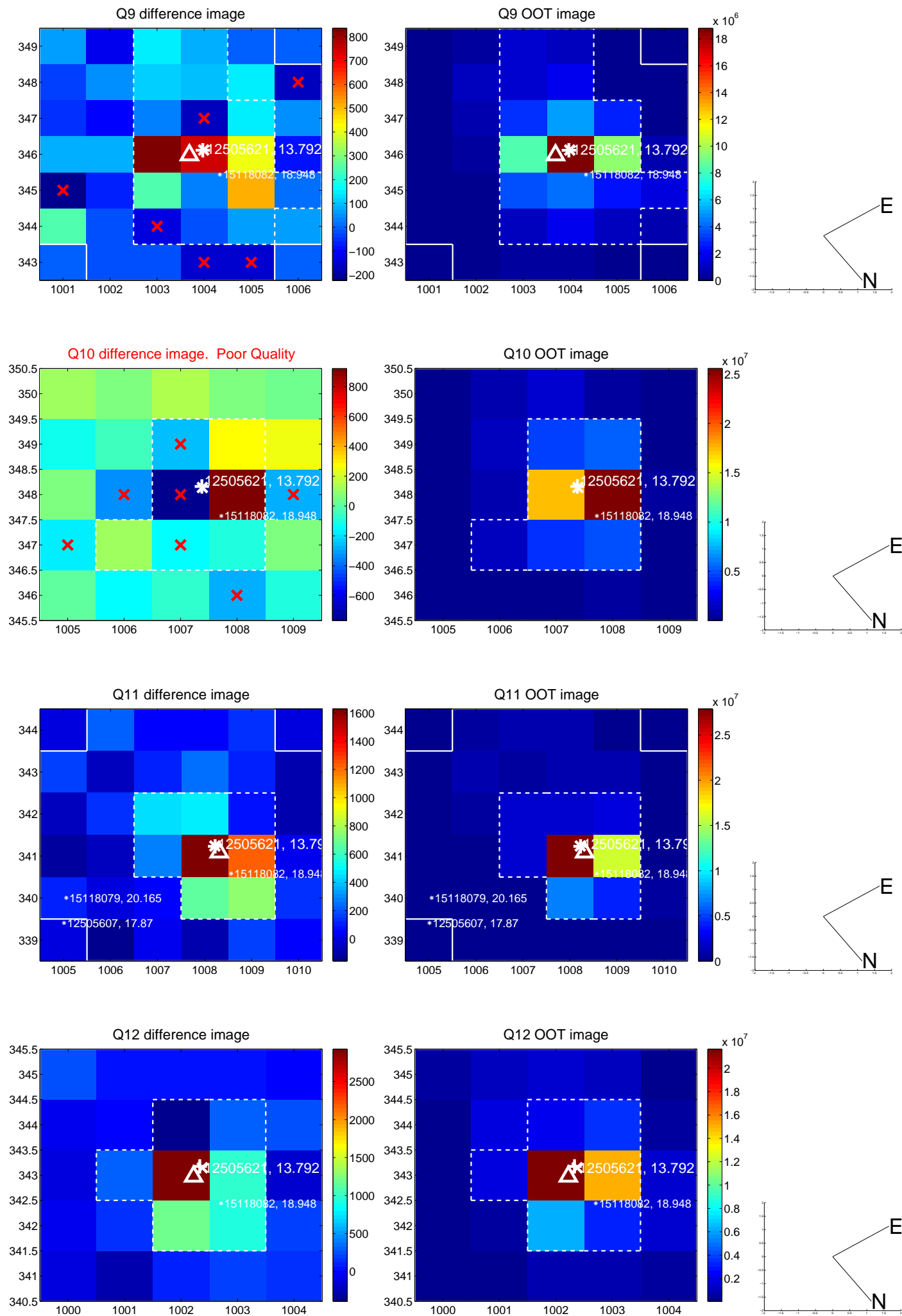
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



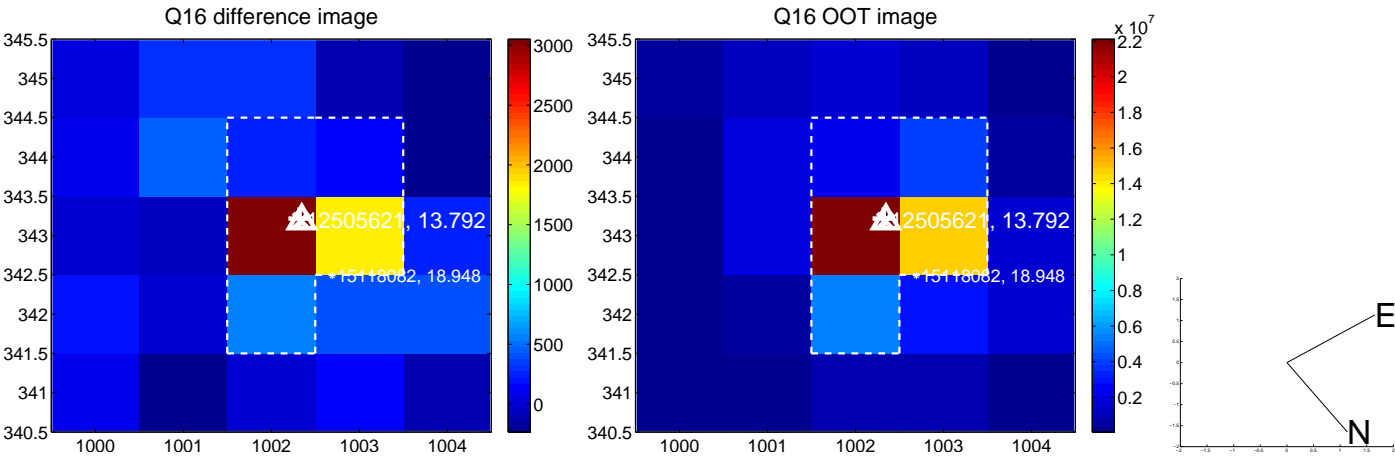
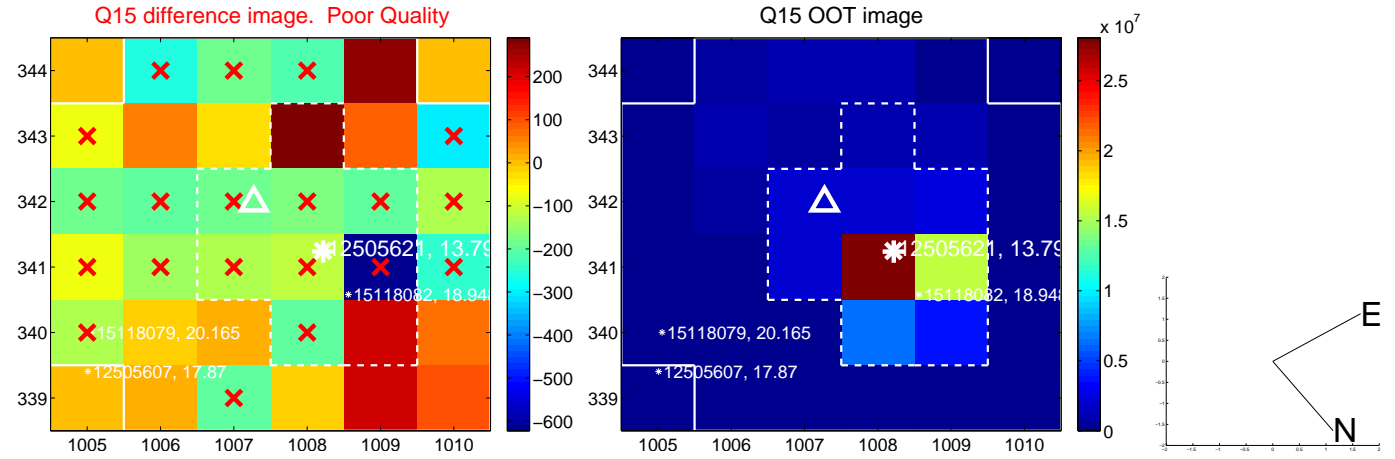
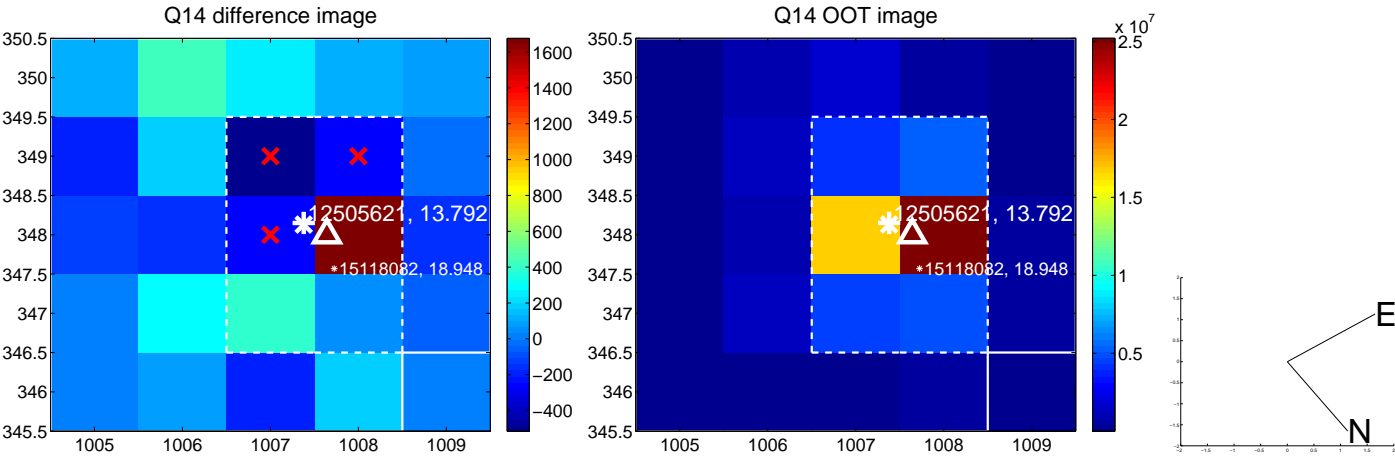
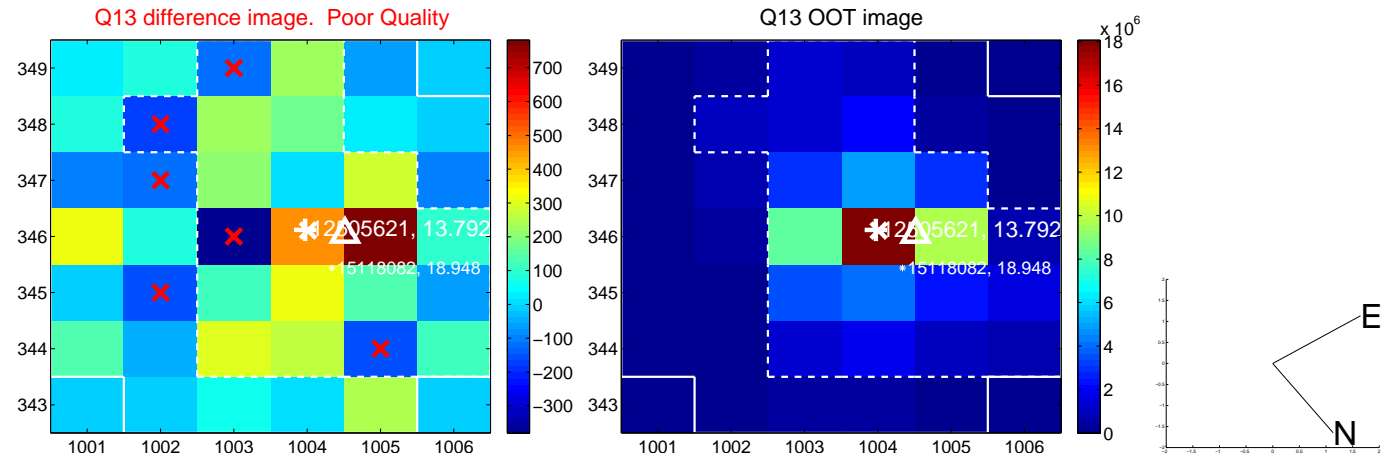
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



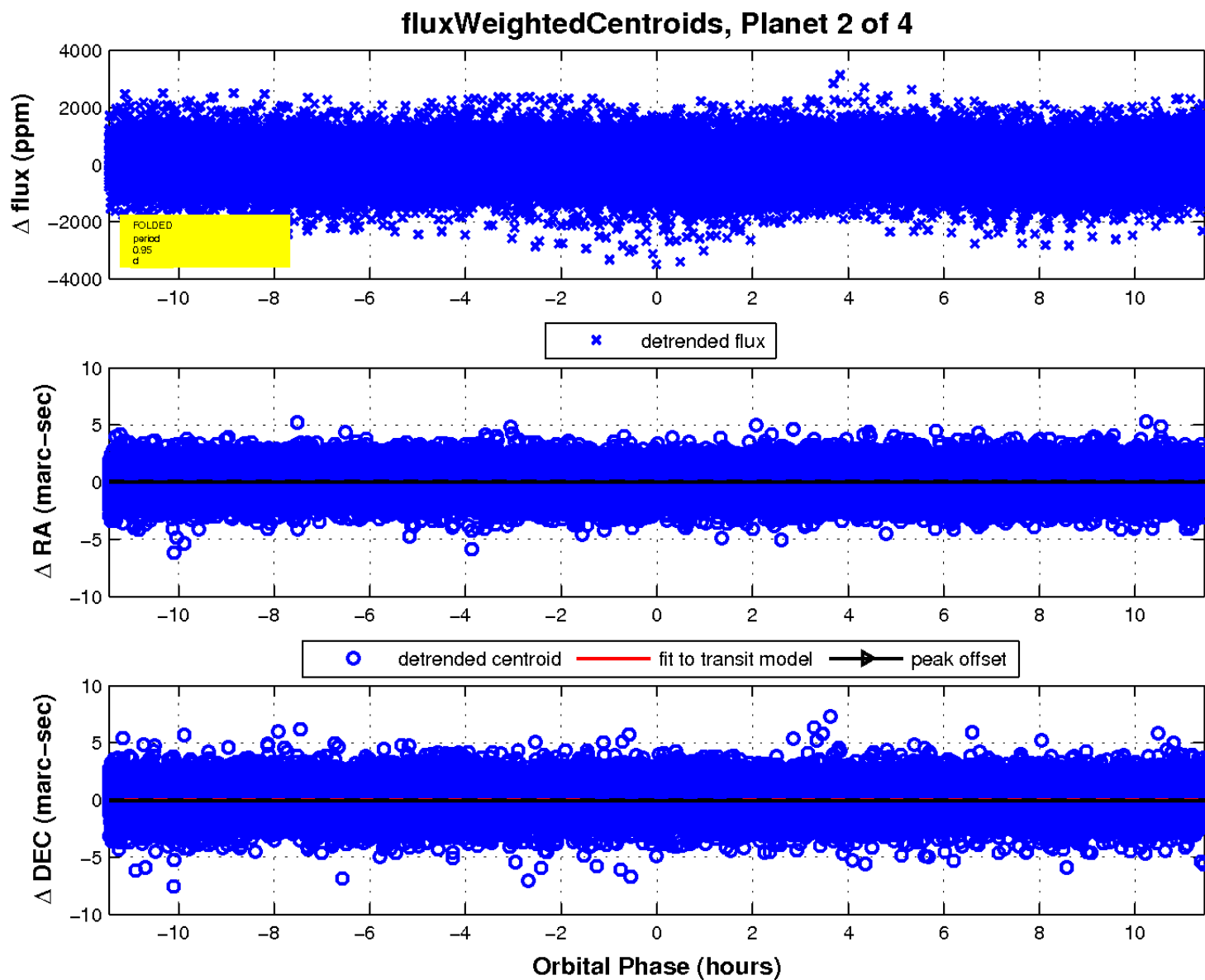
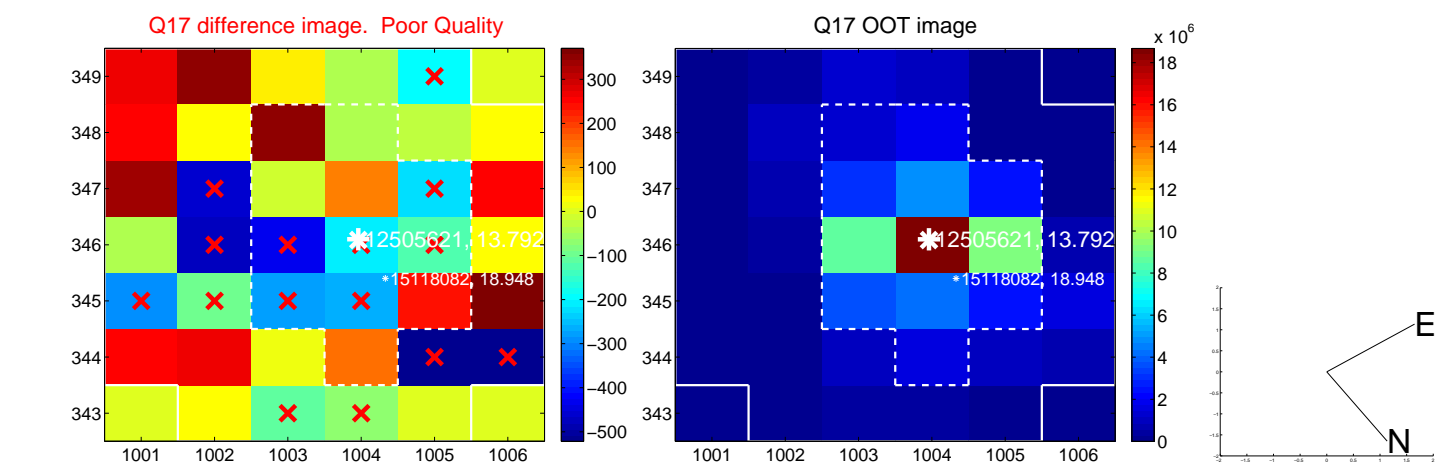
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

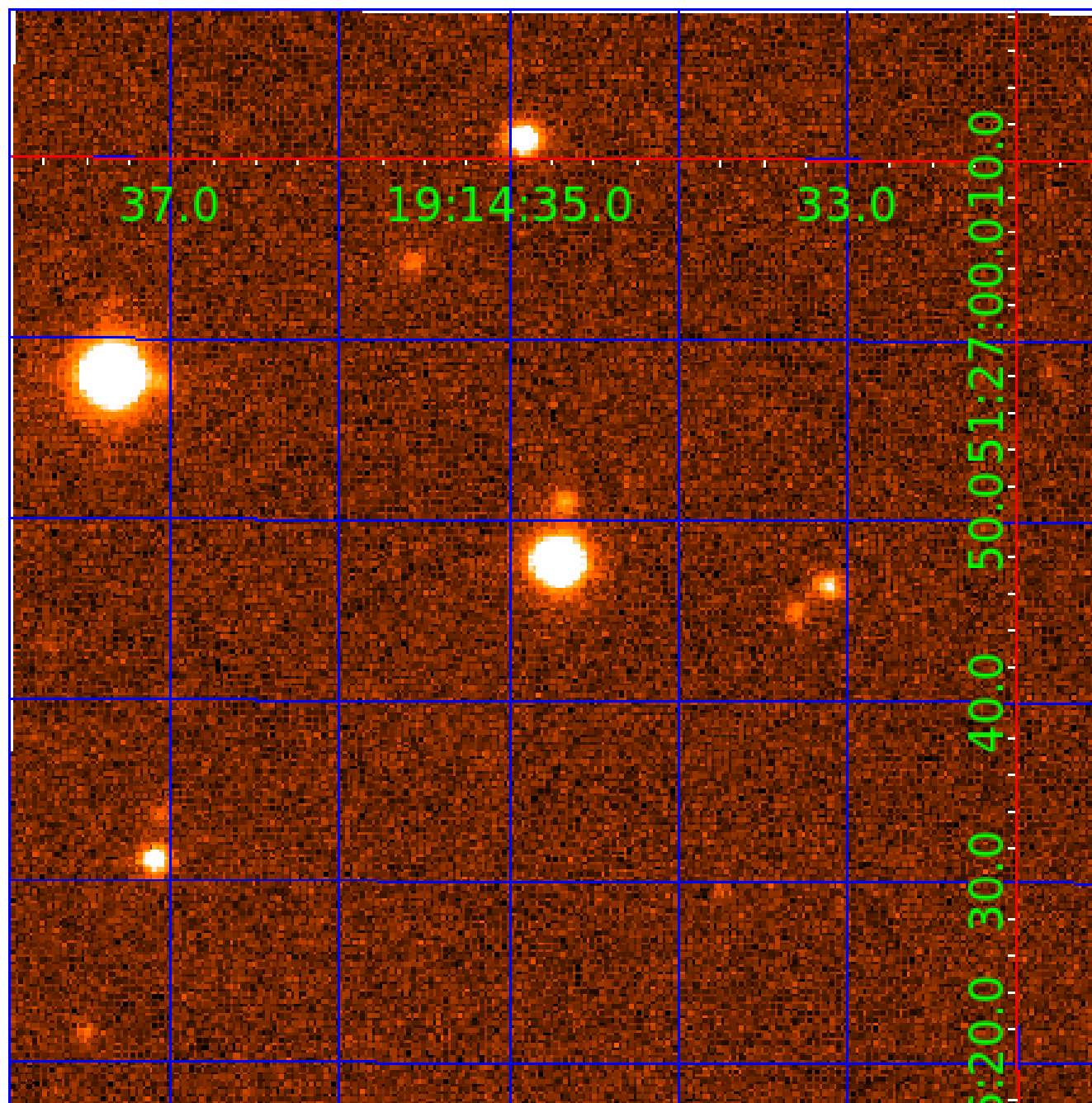


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 012505621

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})
012505621-01	OBS	No	0.948876	132.066805	72.0	4.266	9.8	12.4	1.88	6637	1.68	13505.27
012505621-02	OBS	No	0.954416	132.421062	121.0	5.778	9.5	12.0	1.88	6637	4.13	13400.84
012505621-03	OBS	No	40.769418	157.492195	732.5	1.569	9.8	9.0	1.88	6637	5.73	89.74
012505621-04	OBS	No	16.279505	138.311964	318.0	5.000	9.3	-1.0	1.88	6637	3.37	305.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012505621-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
012505621-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
012505621-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED
012505621-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS

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

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

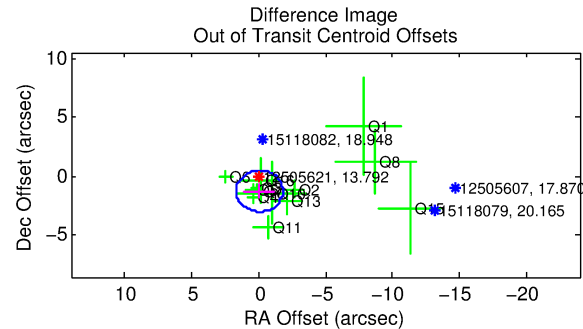
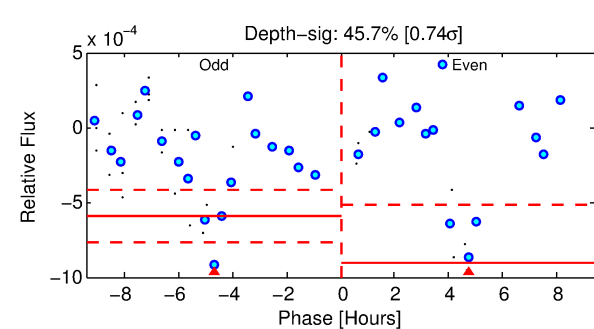
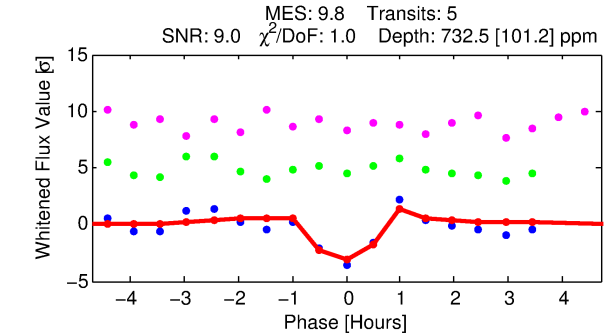
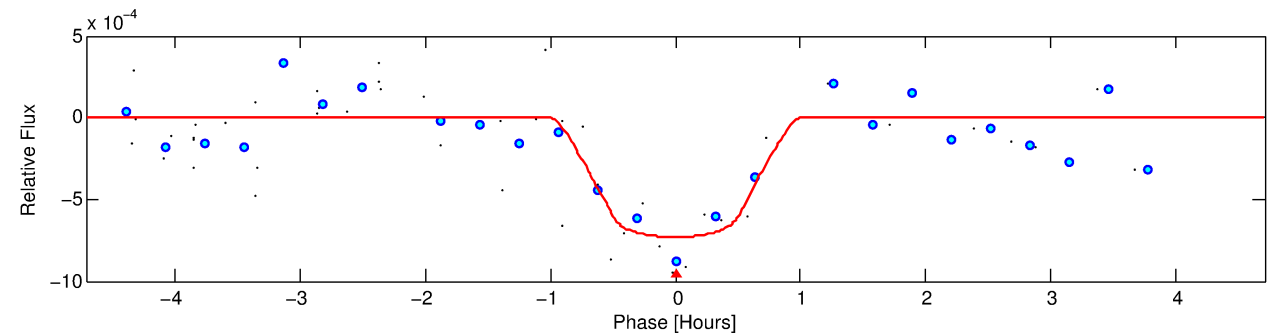
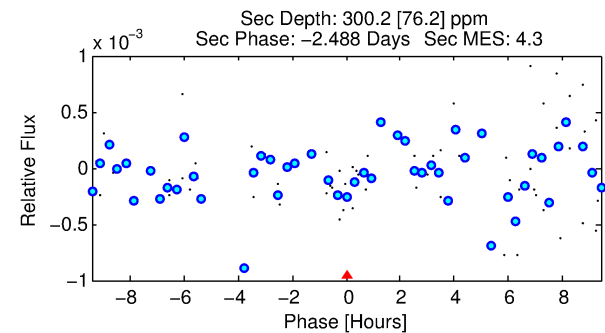
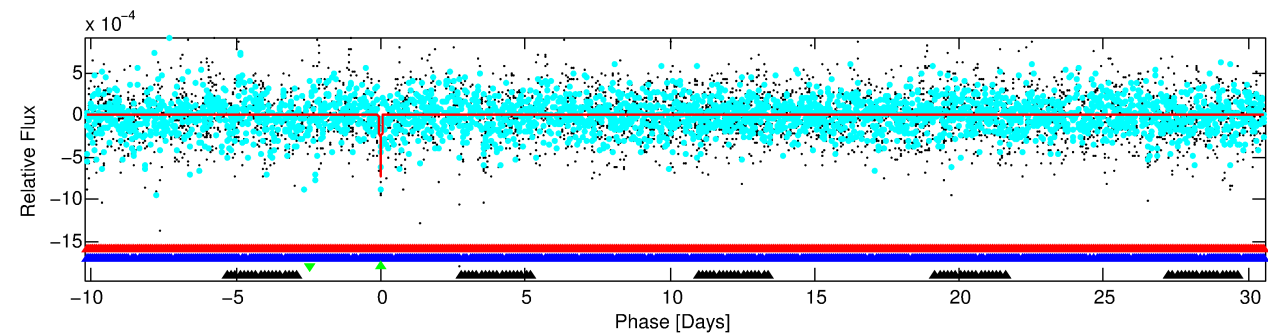
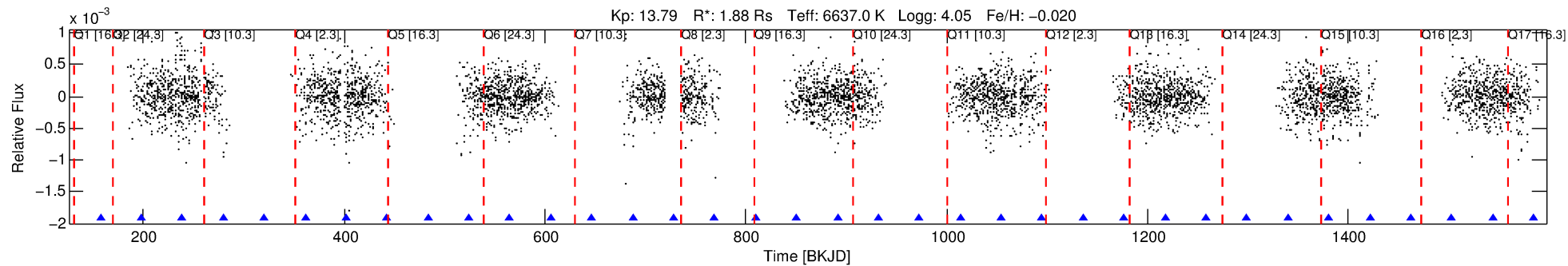
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012505621-03

No Significant Match Found

DV One-Page Summary

KIC: 12505621 Candidate: 3 of 4 Period: 40.769 d



DV Fit Results:

Period = 40.76942 [0.00047] d
Epoch = 157.4922 [0.0056] BKJD
Rp/R* = 0.0280 [0.0367]
a/R* = 117.29 [869.18]
b = 0.84 [2.60]
Seff = 89.74 [41.64]
Teff = 785 [91] K
Rp = 5.73 [7.71] Re
a = 0.2610 [0.0733] AU
Ag = 343.07 [916.28] [0.37 σ]
Teffp = 5222 [3446] K [1.29 σ]

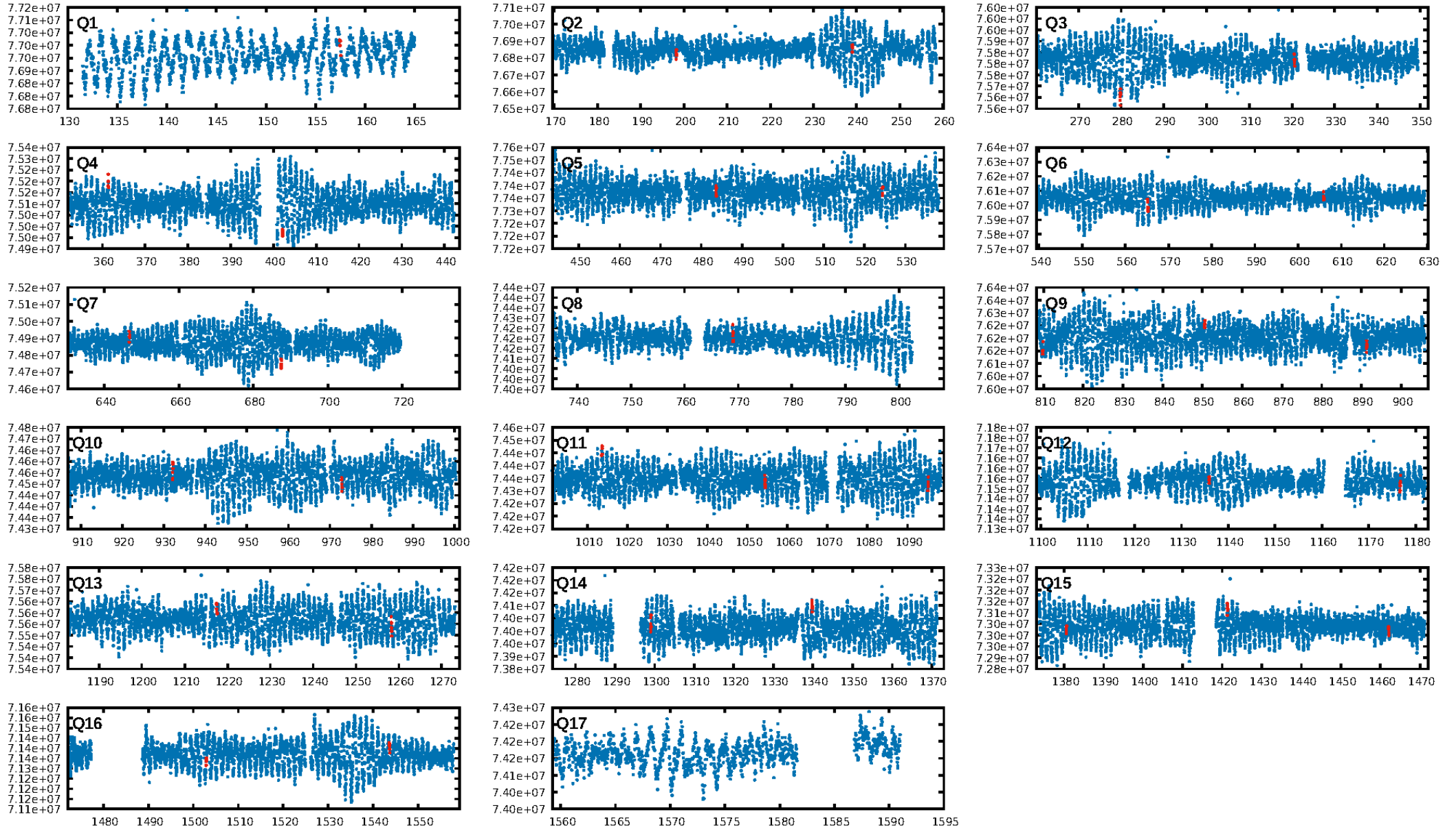
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [112.16 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 64.3%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 2.404
Centroid-sig: 0.4%
Centroid-so: 0.680 arcsec [1.49 σ]
OotOffset-rm: 1.237 arcsec [2.12 σ]
KicOffset-rm: 1.214 arcsec [2.17 σ]
OotOffset-st: 3/4/3/3 [13]
KicOffset-st: 3/4/3/3 [13]
DiffImageQuality-fgm: 0.46 [6/13]
DiffImageOverlap-fno: 0.19 [3/16]

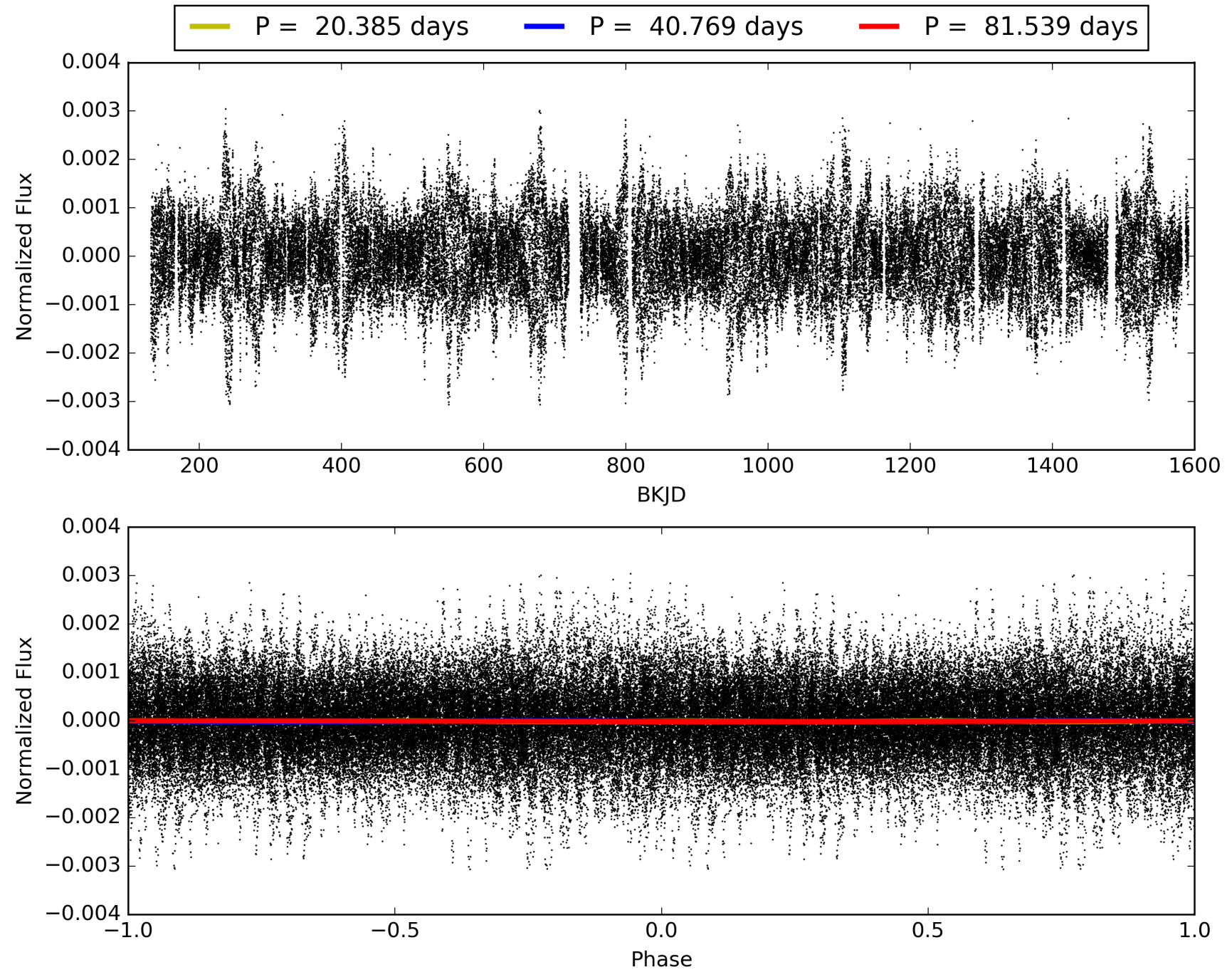
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:09:27 Z

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

TCE 012505621-03, PDC Light Curves

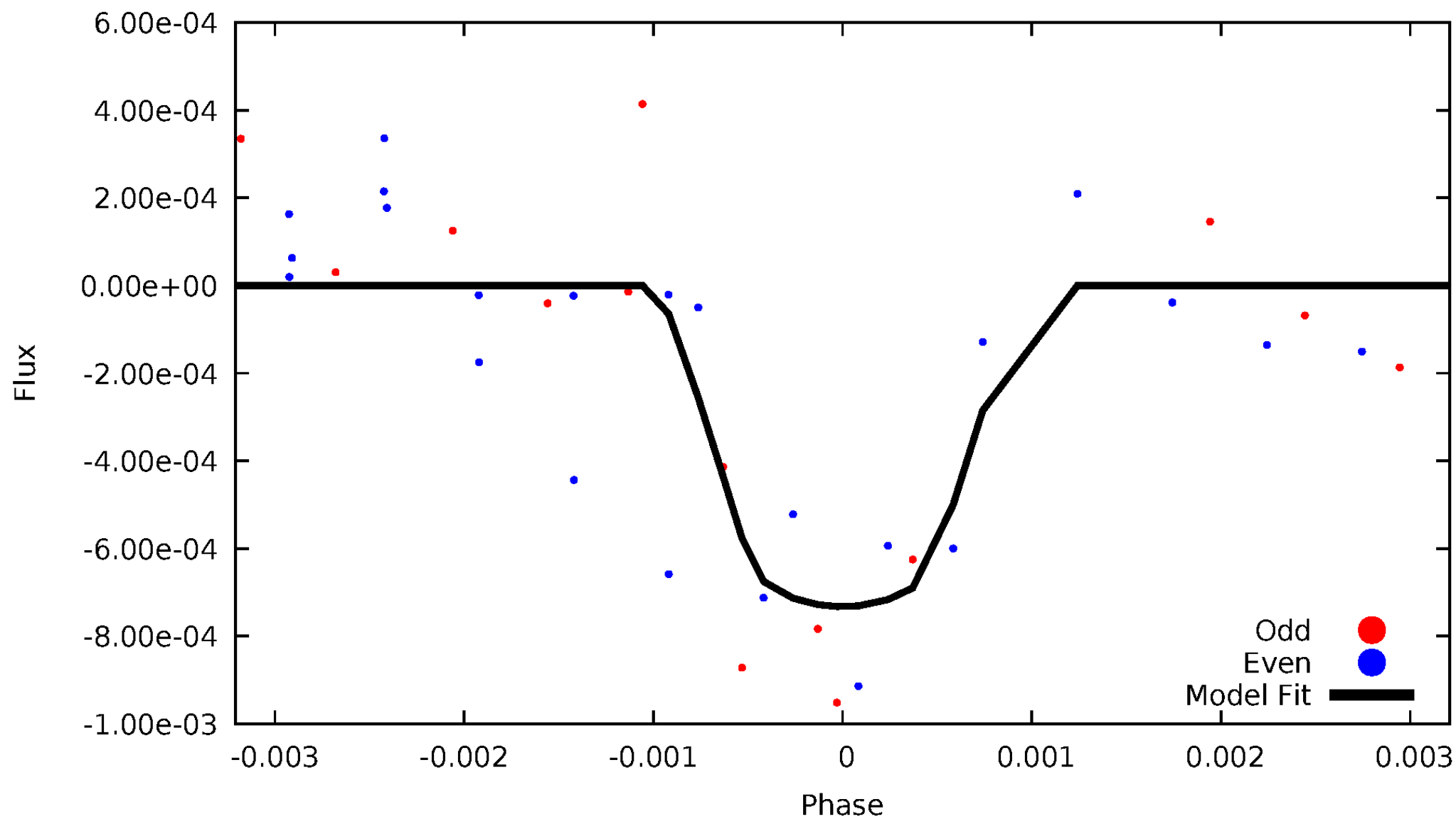


TCE 012505621-03



DV Odd/Even

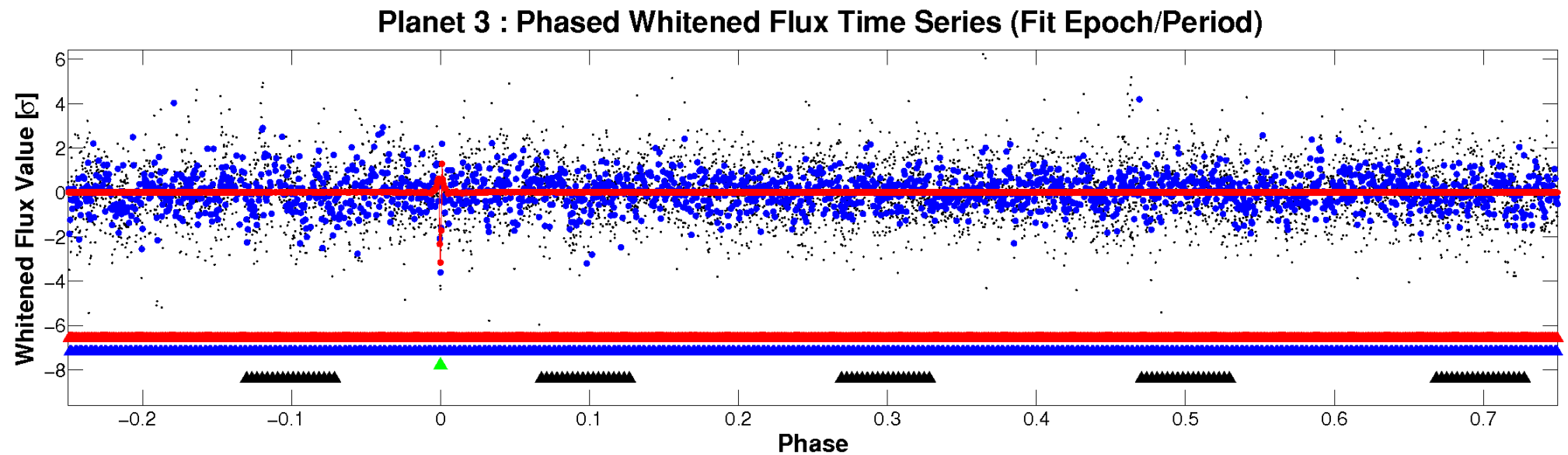
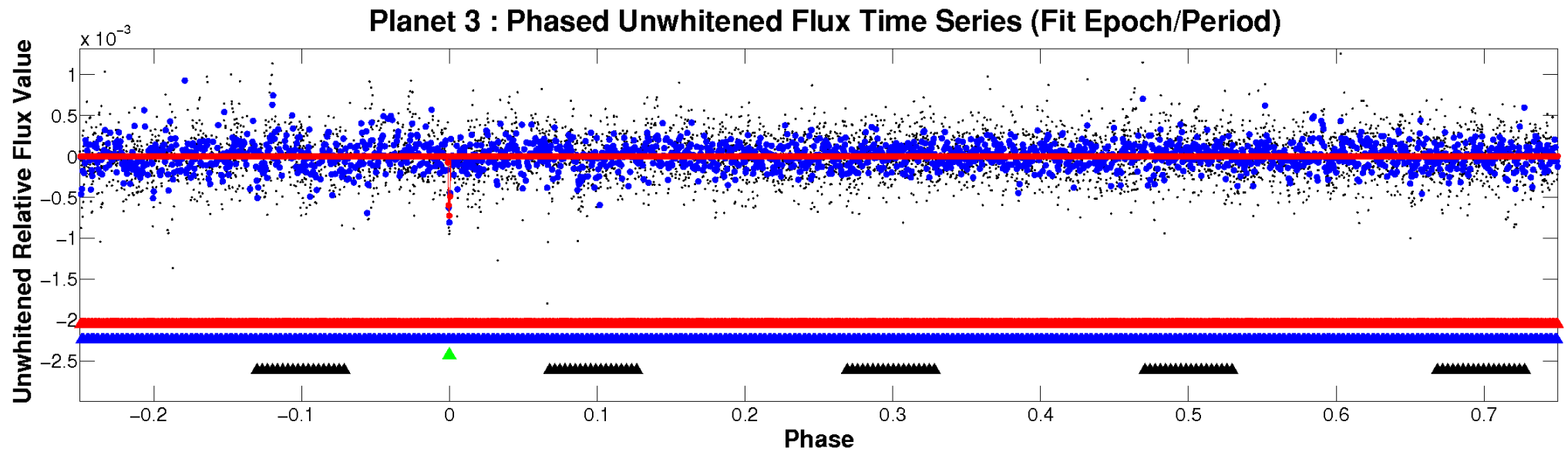
TCE 012505621-03



ALT Odd/Even

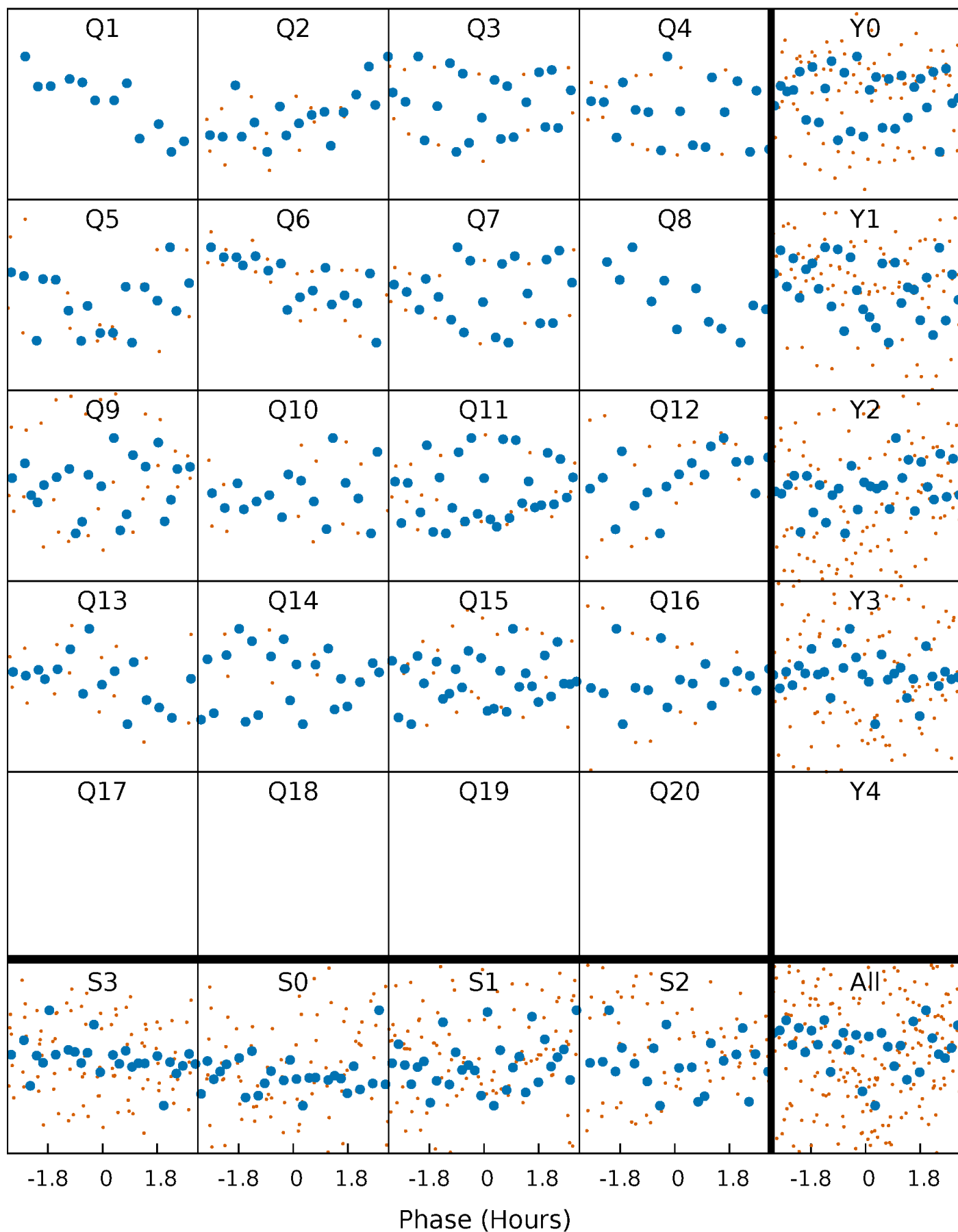
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve



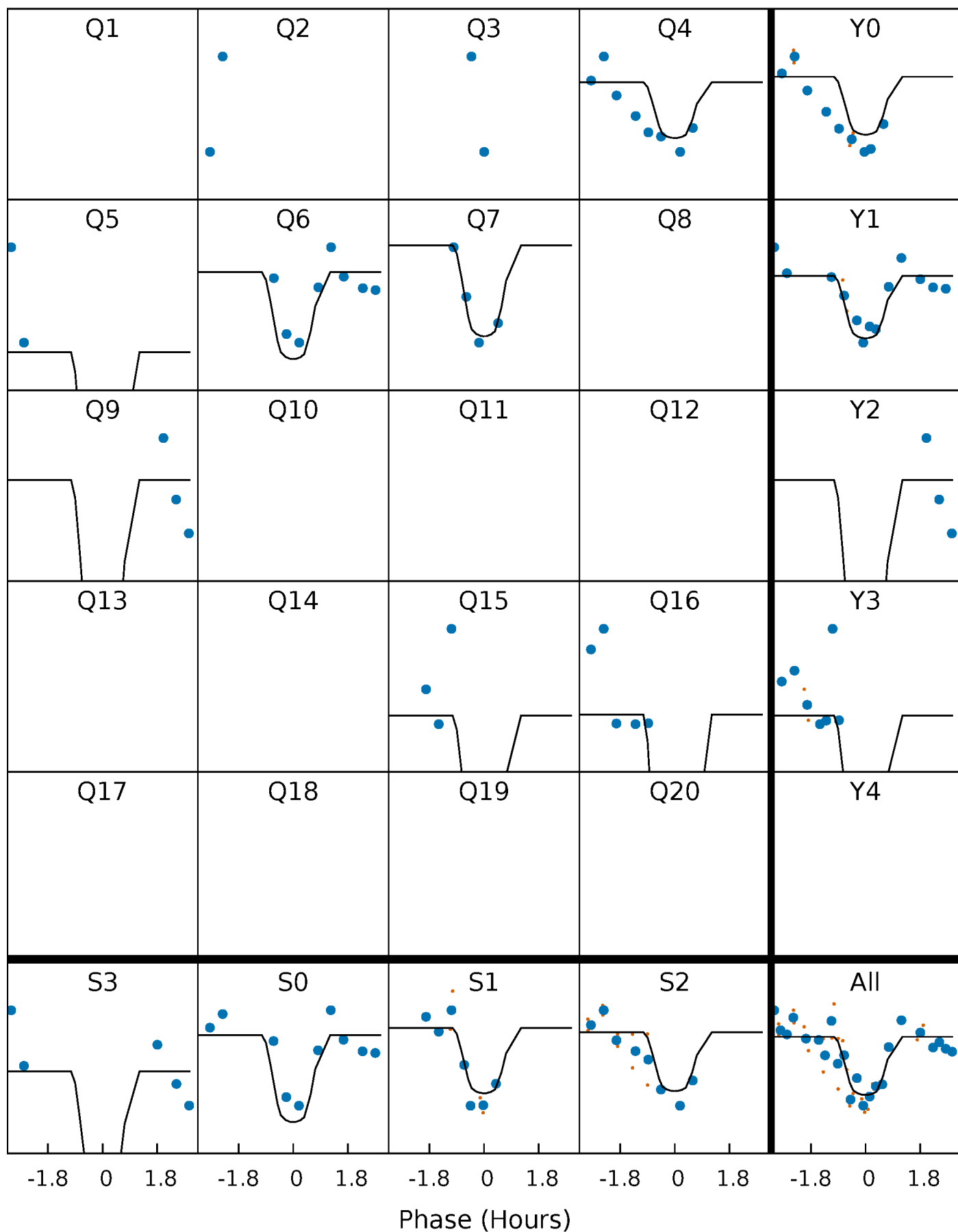
PDC Quarter-Phased Transit Curves

TCE 012505621-03 P= 40.769418 Days $T_0=157.492195$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 012505621-03 P= 40.769418 Days $T_0=157.492195$ (BKJD)

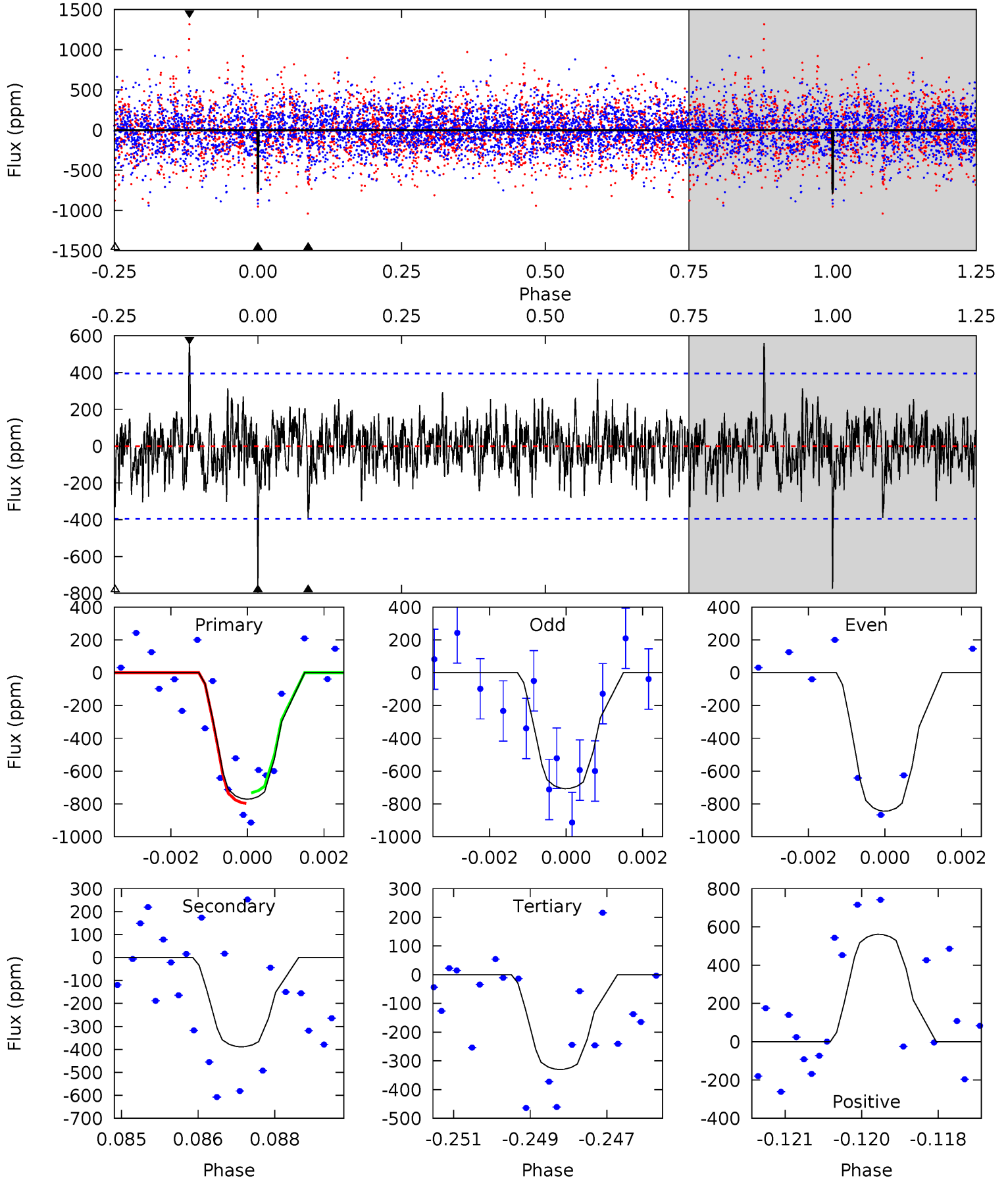


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

012505621-03, P = 40.769418 Days, E = 157.492195 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	5.28	4.48	7.62	5.36	3.15	1.42	5.99	2.85	0.80	-2.34	0.92	0.98	0.42	0.42



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 012505621

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6637^{+187}_{-258}	$4.046^{+0.252}_{-0.168}$	$-0.020^{+0.250}_{-0.300}$	$1.875^{+0.573}_{-0.573}$	$1.429^{+0.192}_{-0.288}$	$0.305^{+0.483}_{-0.141}$
	+3%/-4%	+6%/-4%	+1250%/-1500%	+31%/-31%	+13%/-20%	+158%/-46%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 012505621-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-389 ± 74	$8.08^{+6.43}_{-5.34}$	1084^{+82}_{-93}	4720^{+3385}_{-920}	227^{+1699}_{-159}
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 $A_{obs} \gg 1.0$

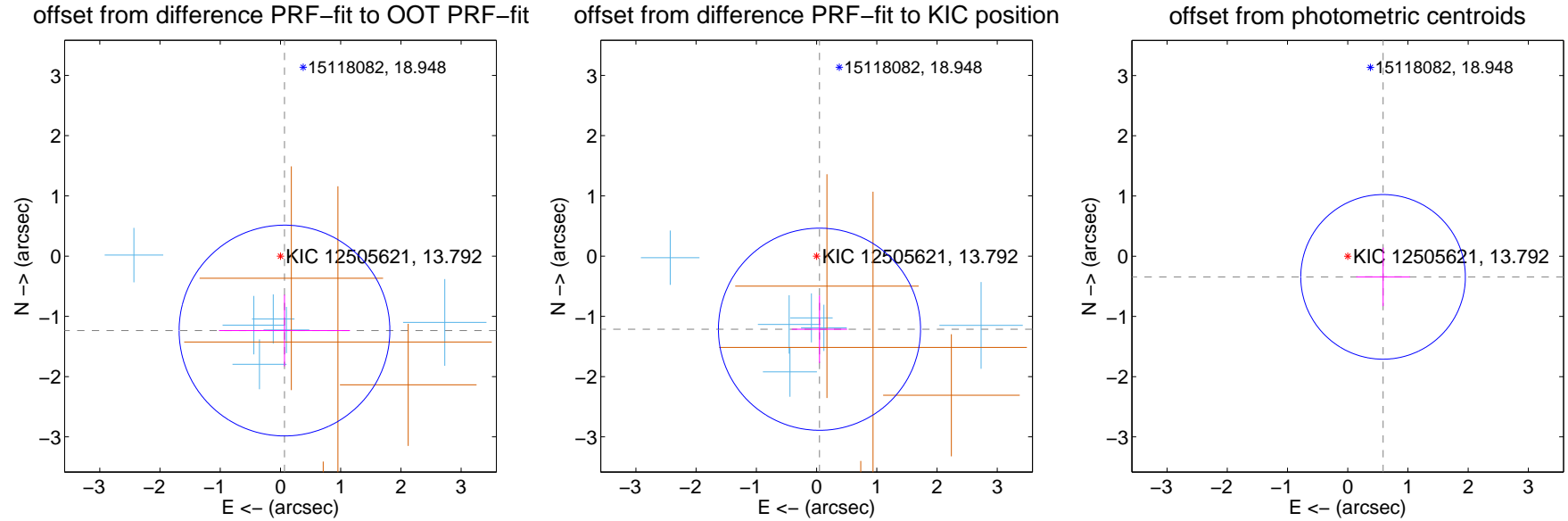
DV Centroid Data

Supplemental centroid analysis for 012505621-03. Kepler magnitude: 13.79. Transit SNR 8.97

There are 6 quarters with good PRF difference image offsets

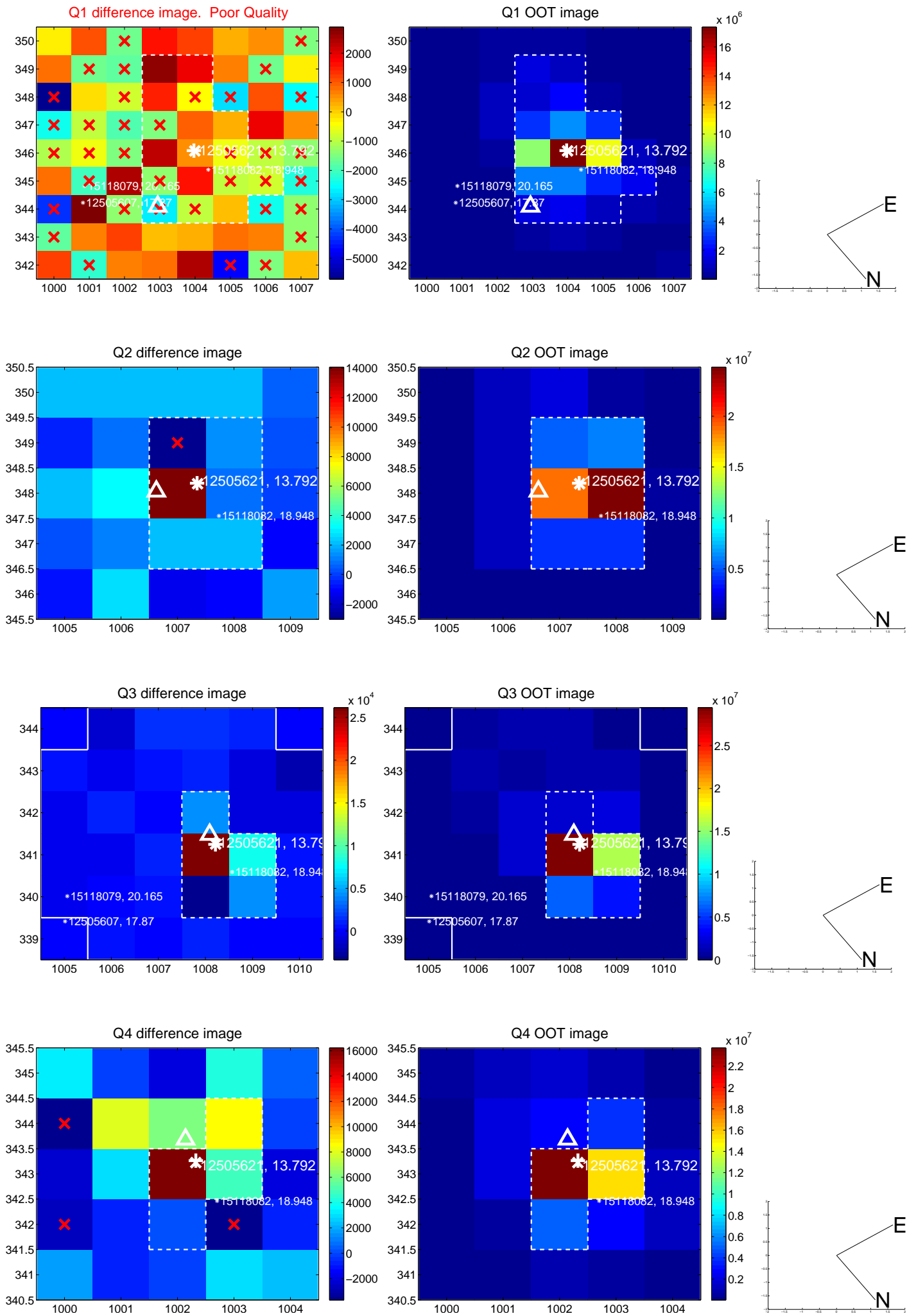
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.237 ± 0.583	2.12	-0.067 ± 1.087	-1.235 ± 0.593
PRF-fit source offset from KIC position	1.214 ± 0.559	2.17	-0.048 ± 0.458	-1.214 ± 0.559
photometric centroid source offset	0.68 ± 0.46	1.49	-0.59 ± 0.45	-0.34 ± 0.49

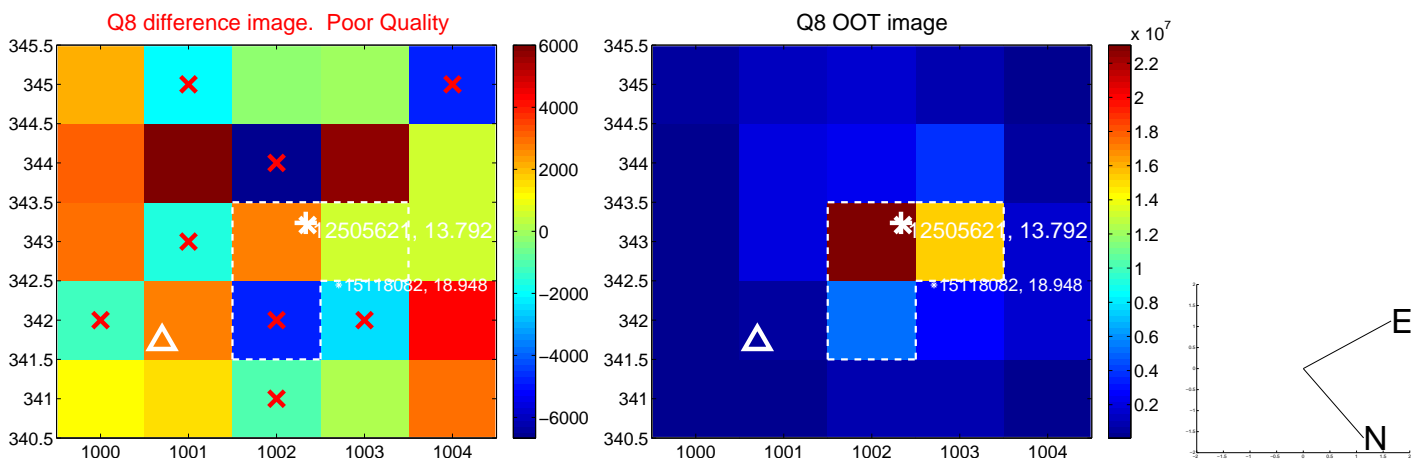
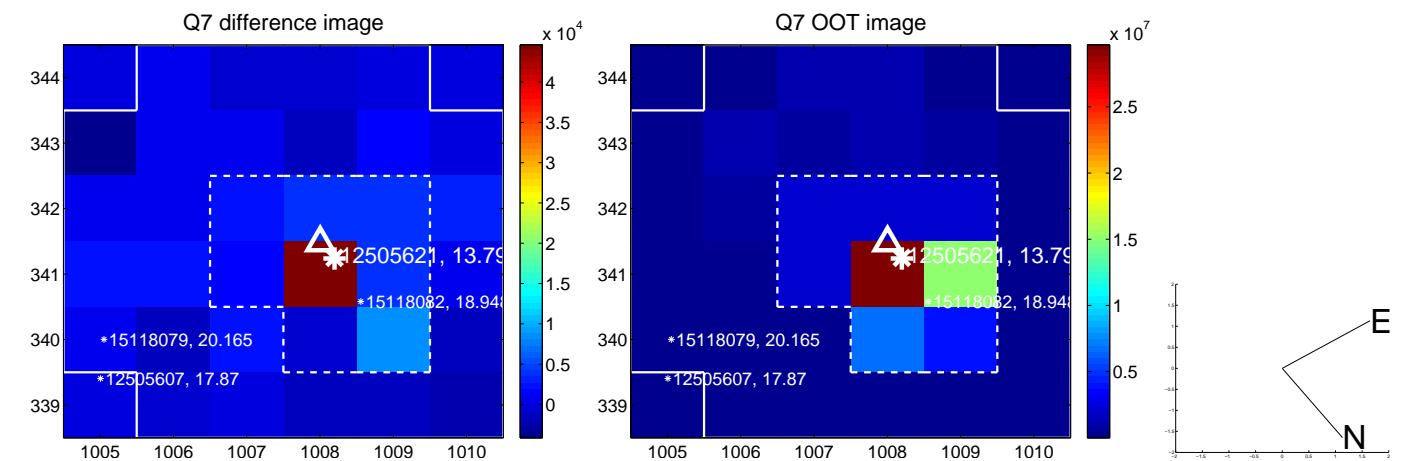
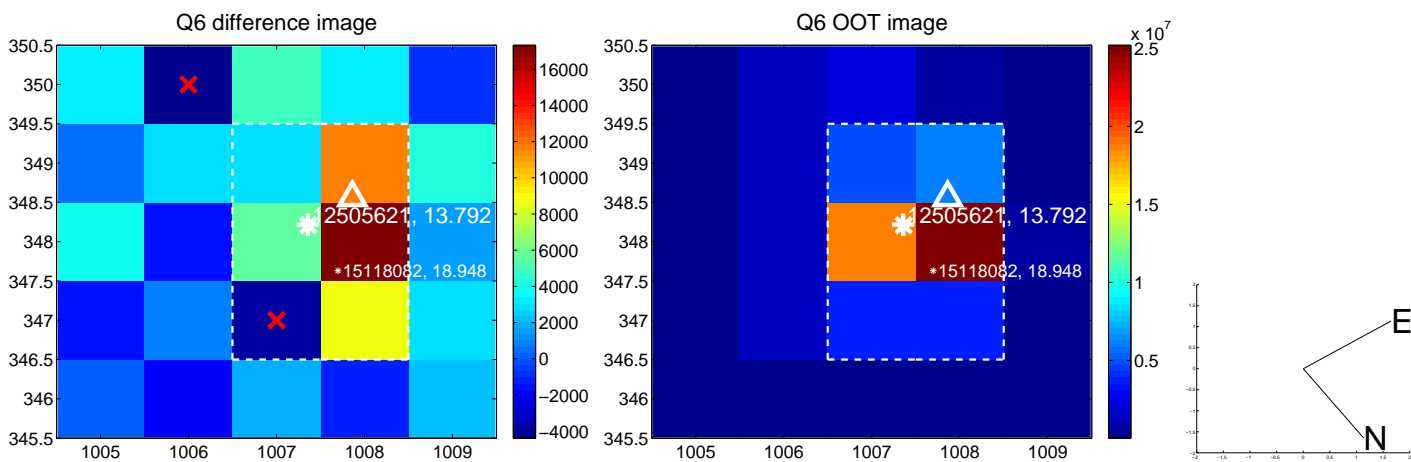
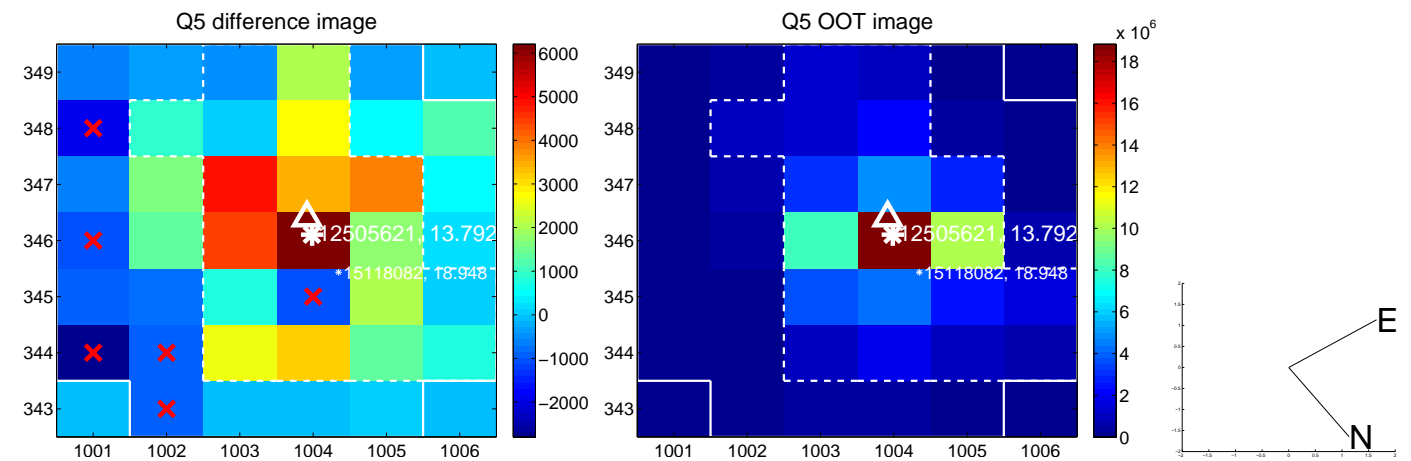


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

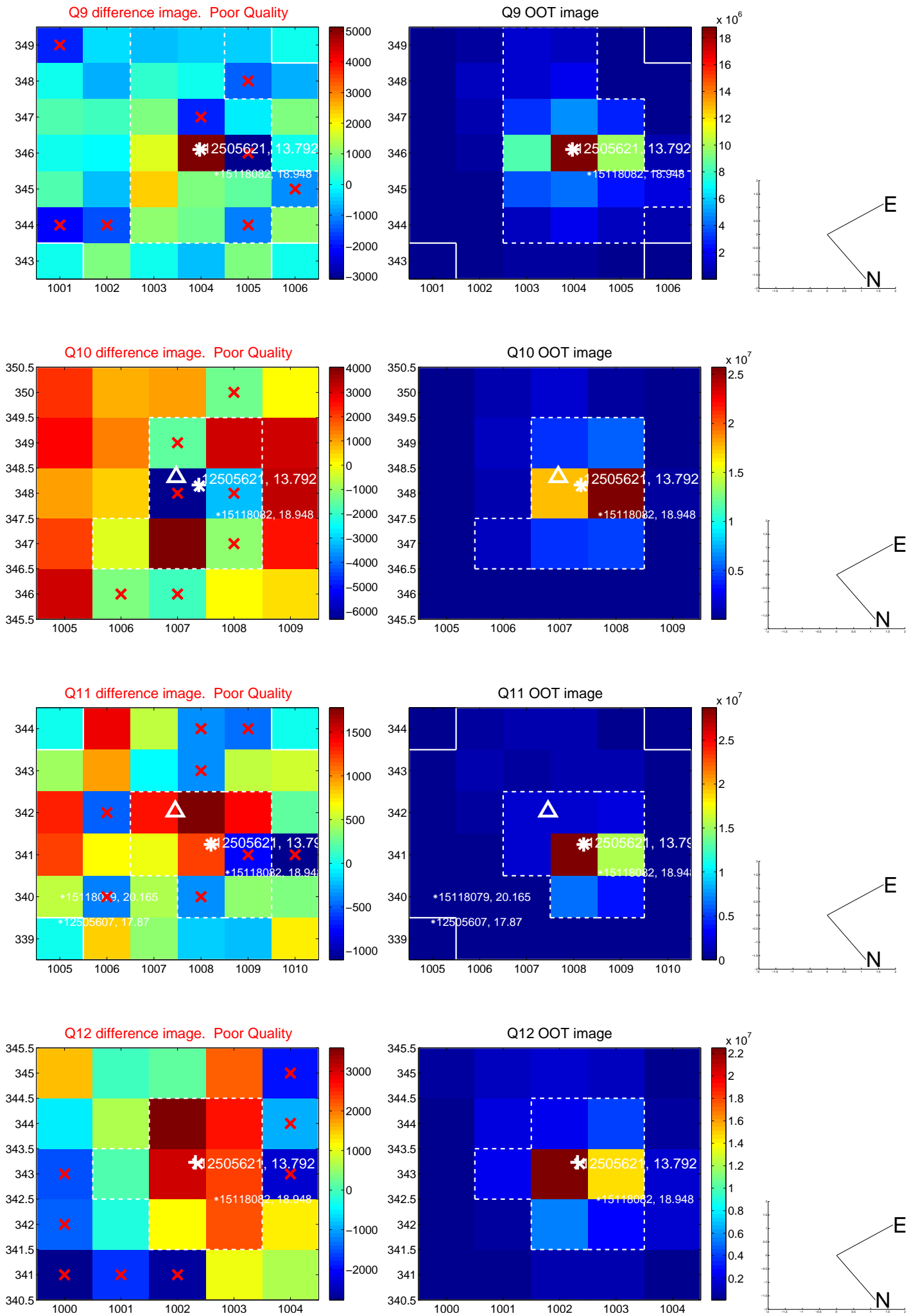
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



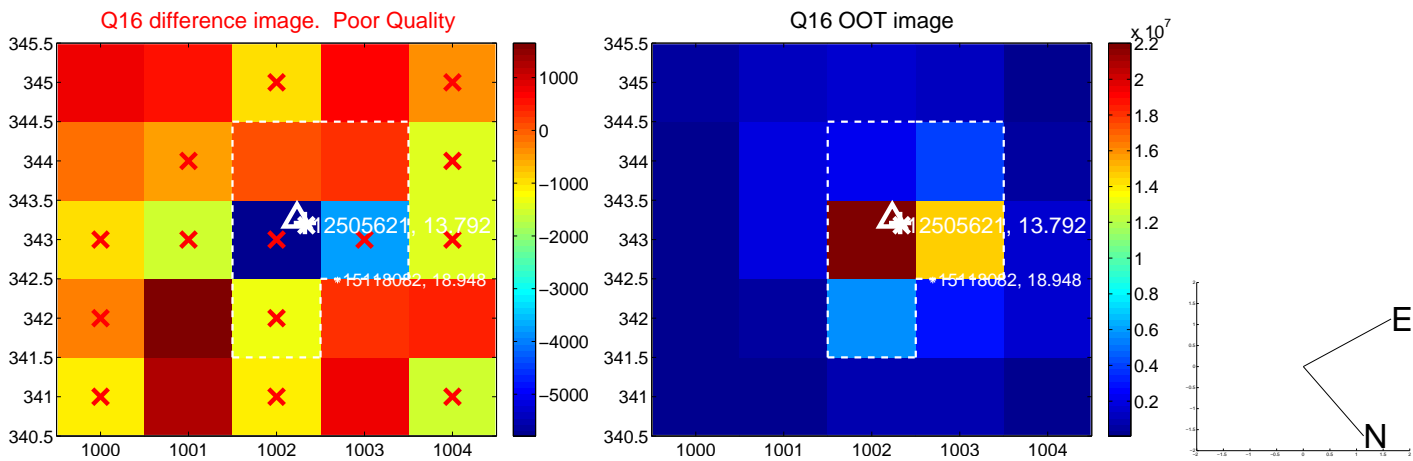
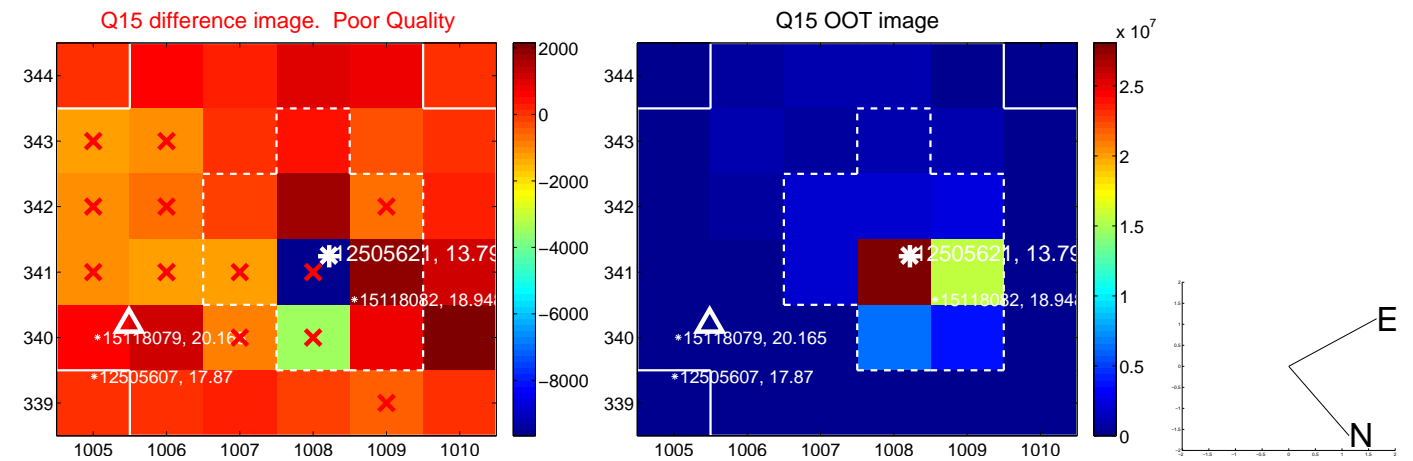
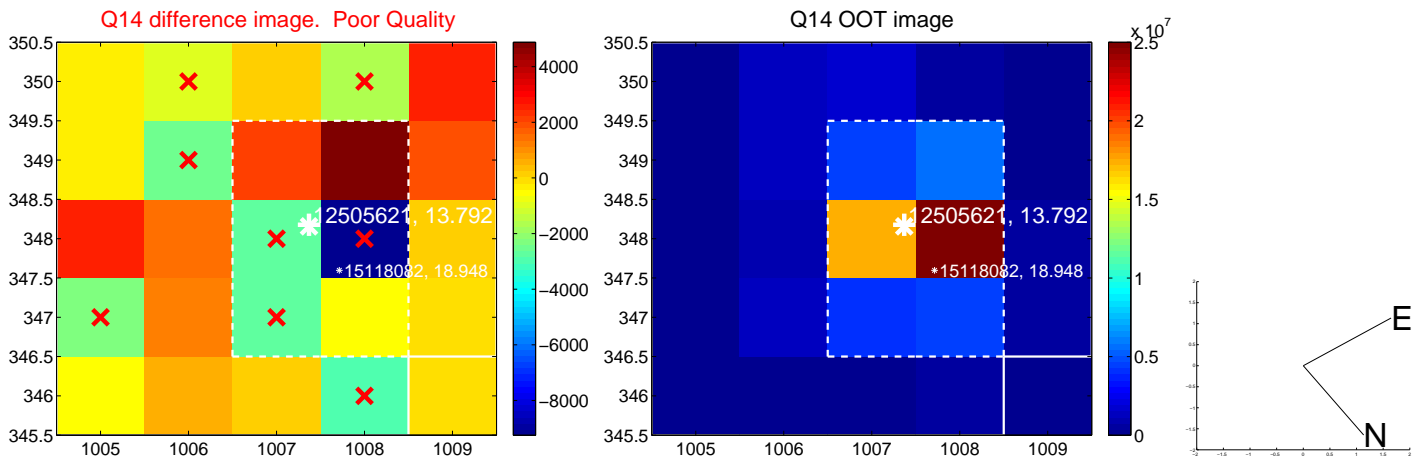
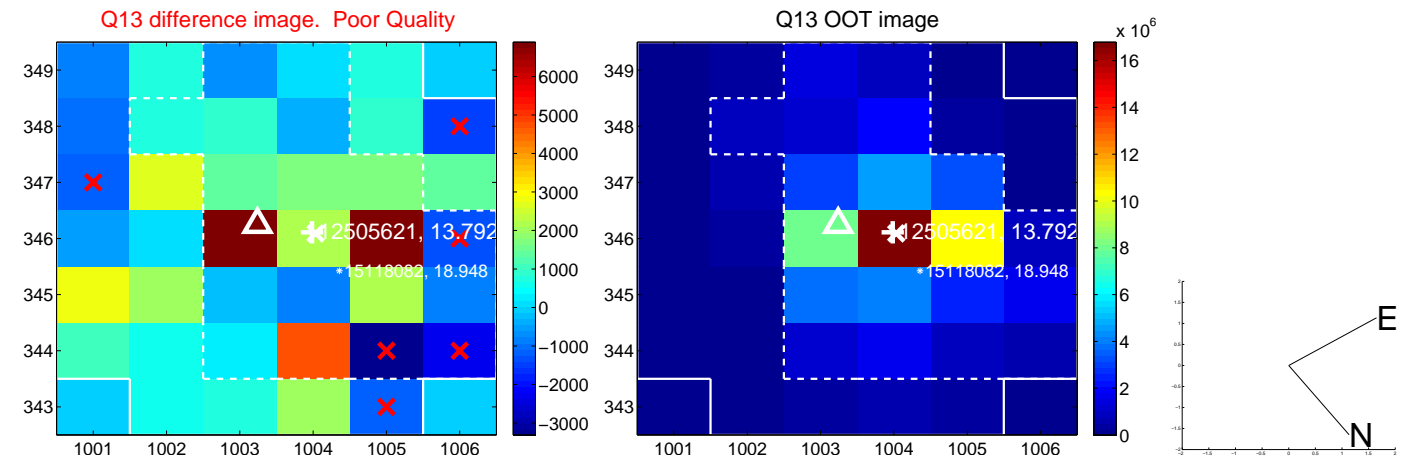
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



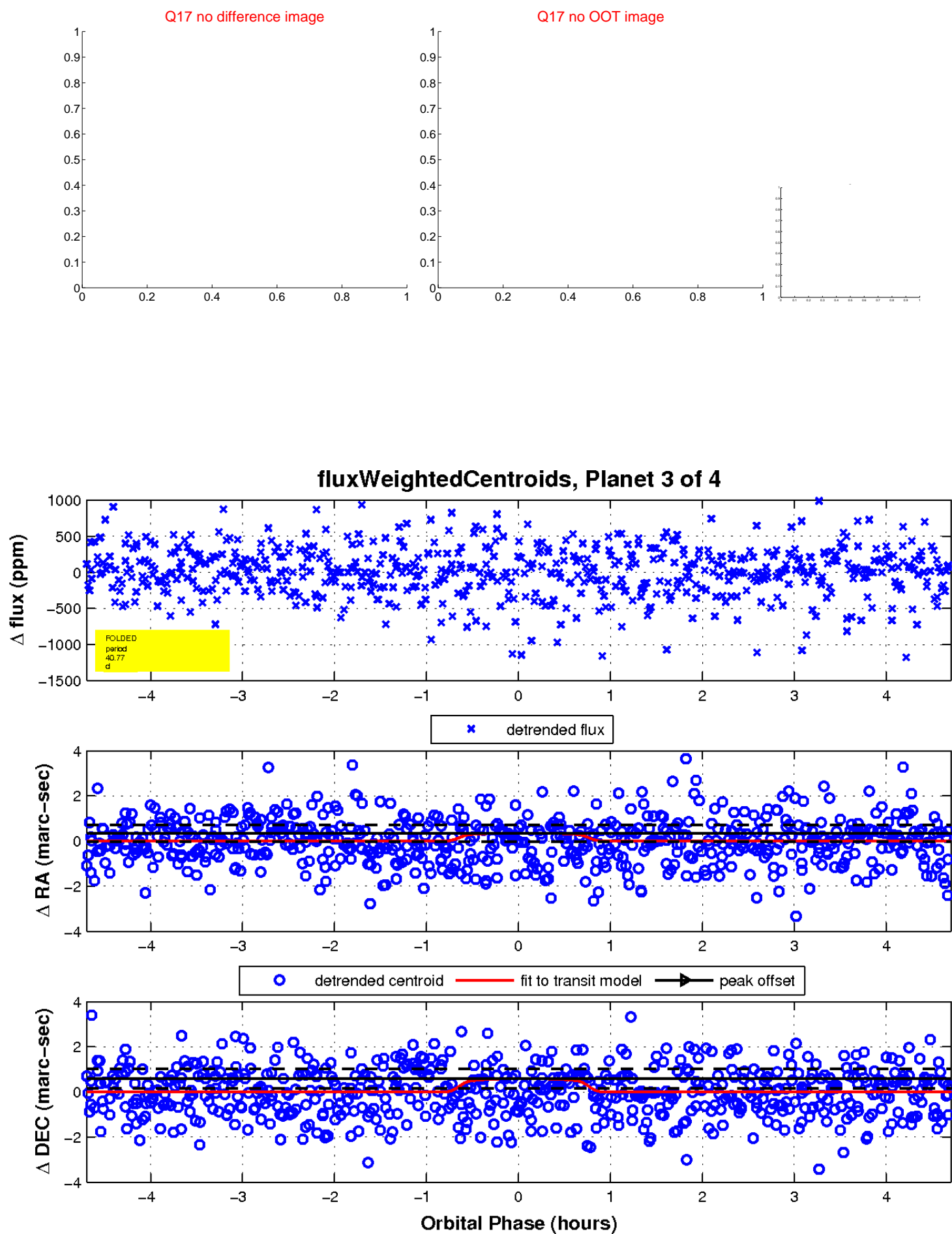
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

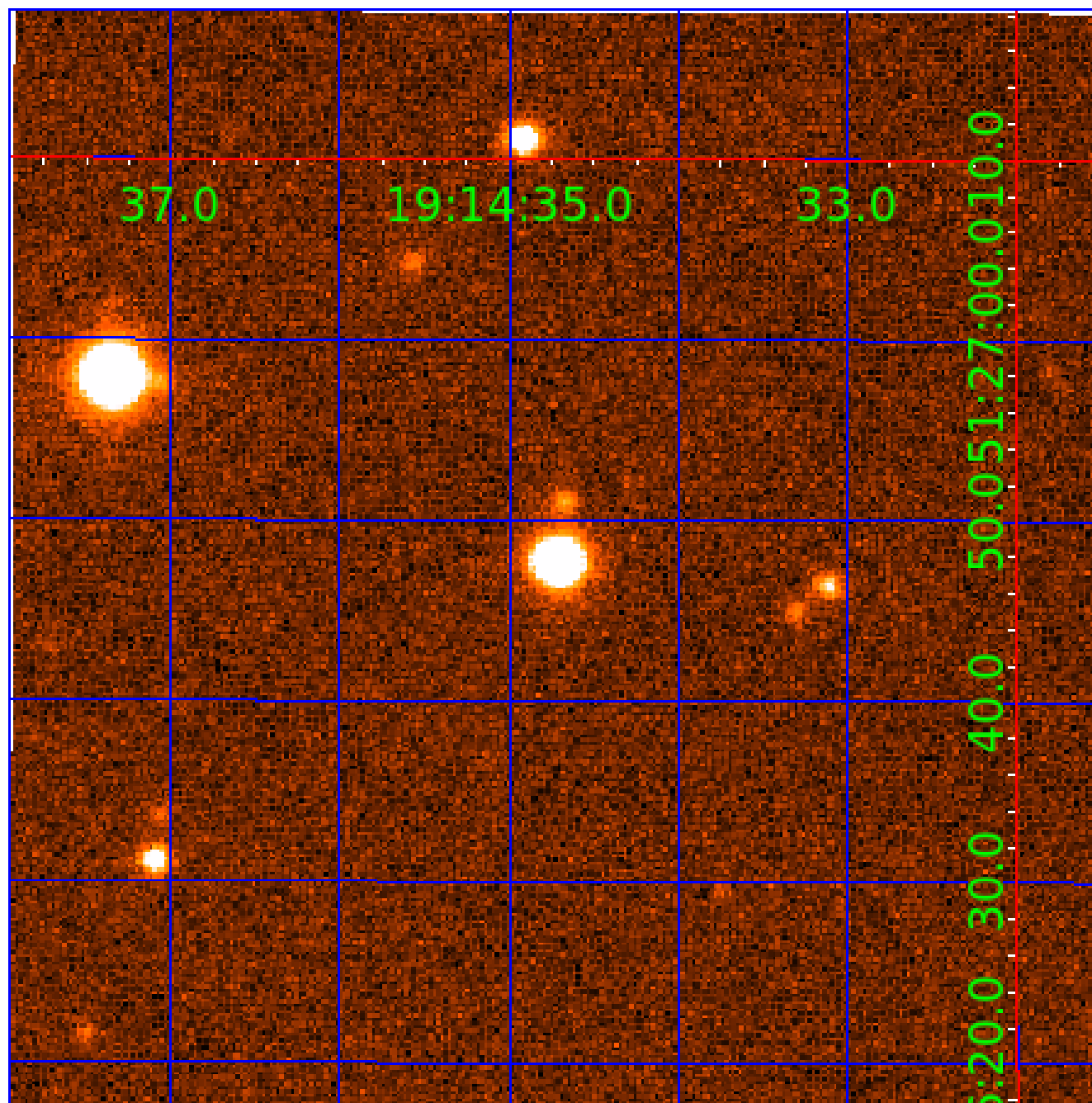


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 012505621

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})
012505621-01	OBS	No	0.948876	132.066805	72.0	4.266	9.8	12.4	1.88	6637	1.68	13505.27
012505621-02	OBS	No	0.954416	132.421062	121.0	5.778	9.5	12.0	1.88	6637	4.13	13400.84
012505621-03	OBS	No	40.769418	157.492195	732.5	1.569	9.8	9.0	1.88	6637	5.73	89.74
012505621-04	OBS	No	16.279505	138.311964	318.0	5.000	9.3	-1.0	1.88	6637	3.37	305.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012505621-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
012505621-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
012505621-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED
012505621-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS

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

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

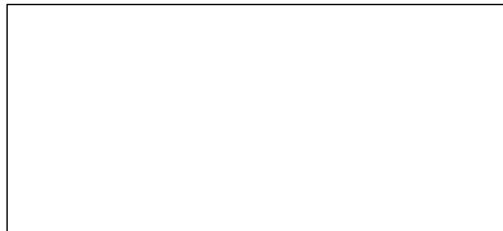
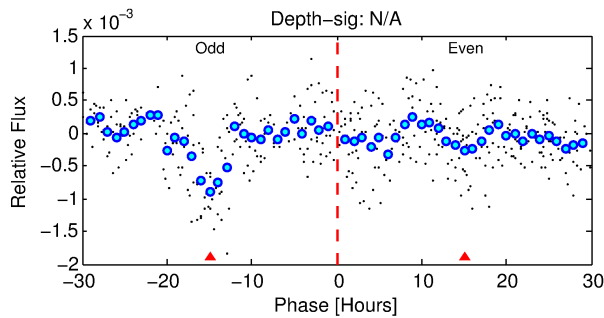
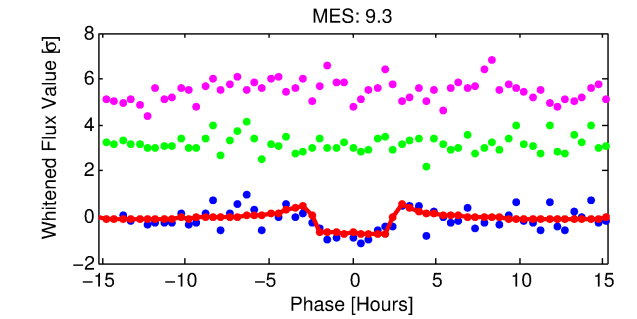
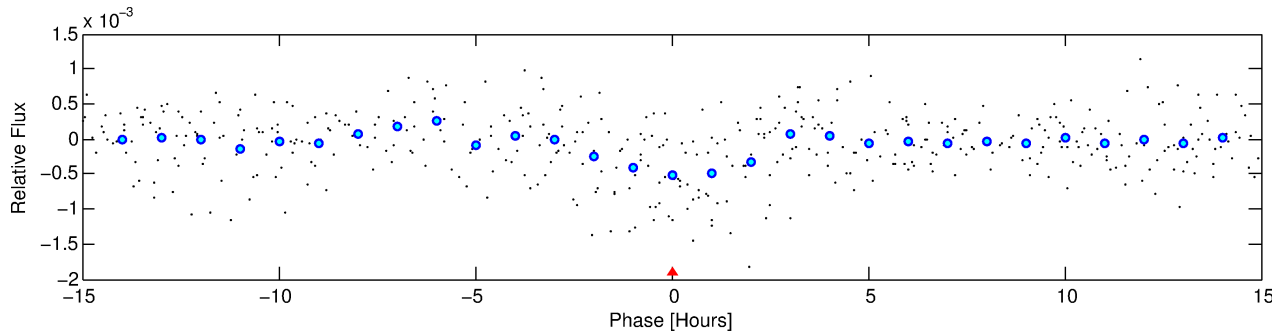
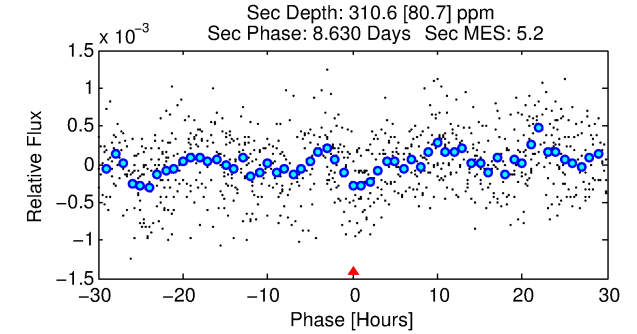
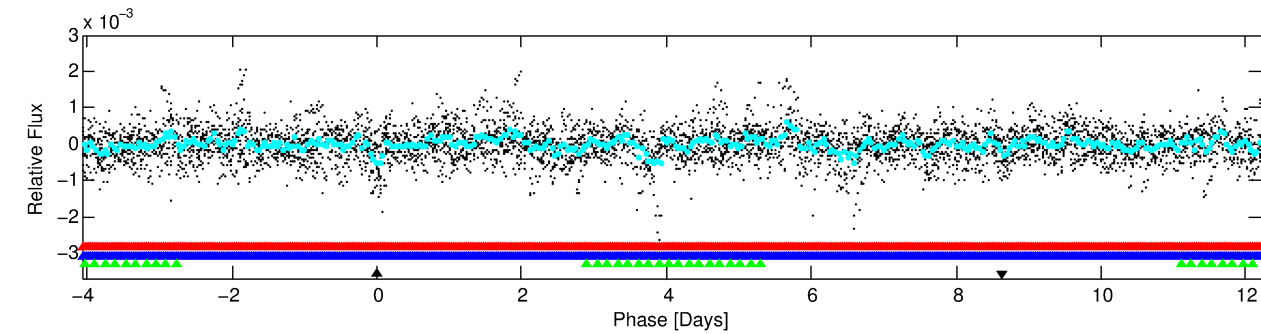
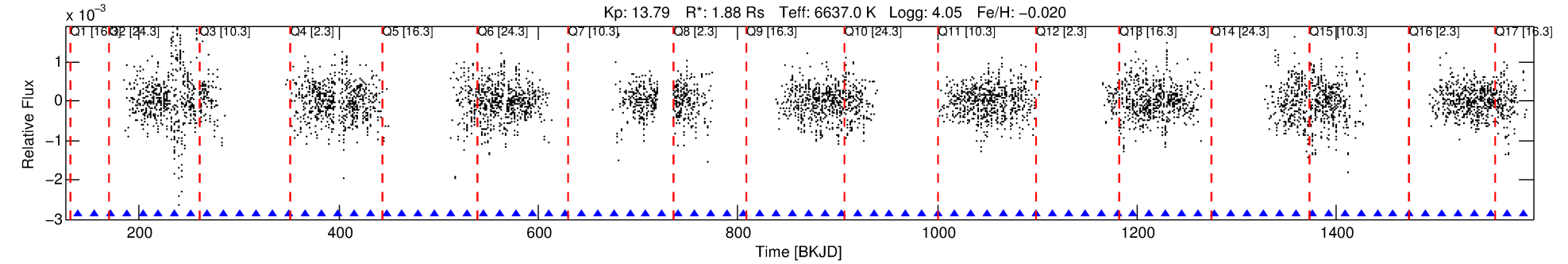
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012505621-04

No Significant Match Found

DV One-Page Summary

KIC: 12505621 Candidate: 4 of 4 Period: 16.280 d



TPS TCE Results:

Period = 16.27951 d
Epoch = 138.3120 BKJD

DV fit results are unavailable

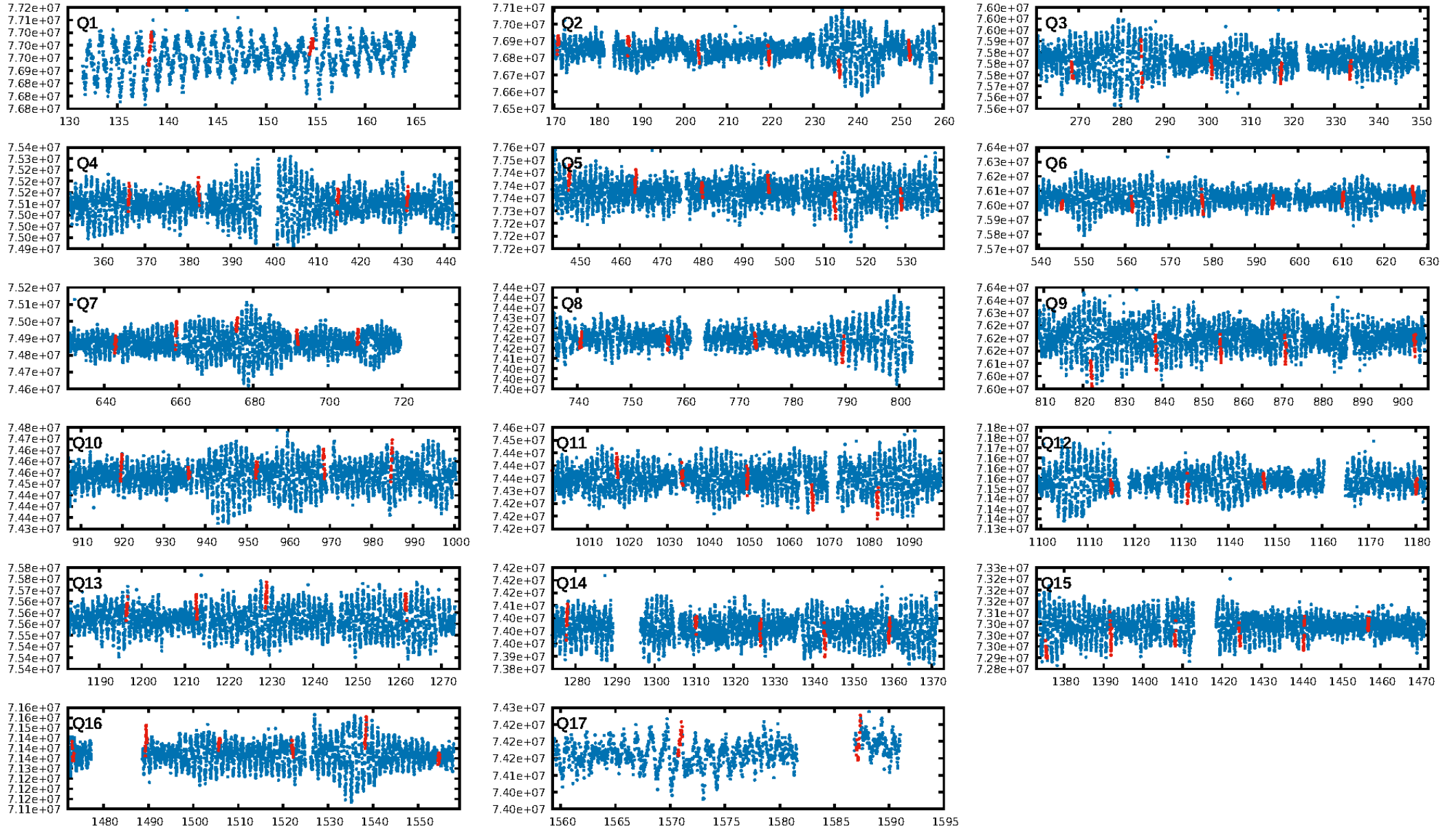
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [48.14σ]
LongPeriod-sig: 100.0% [112.16σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: N/A
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]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: N/A

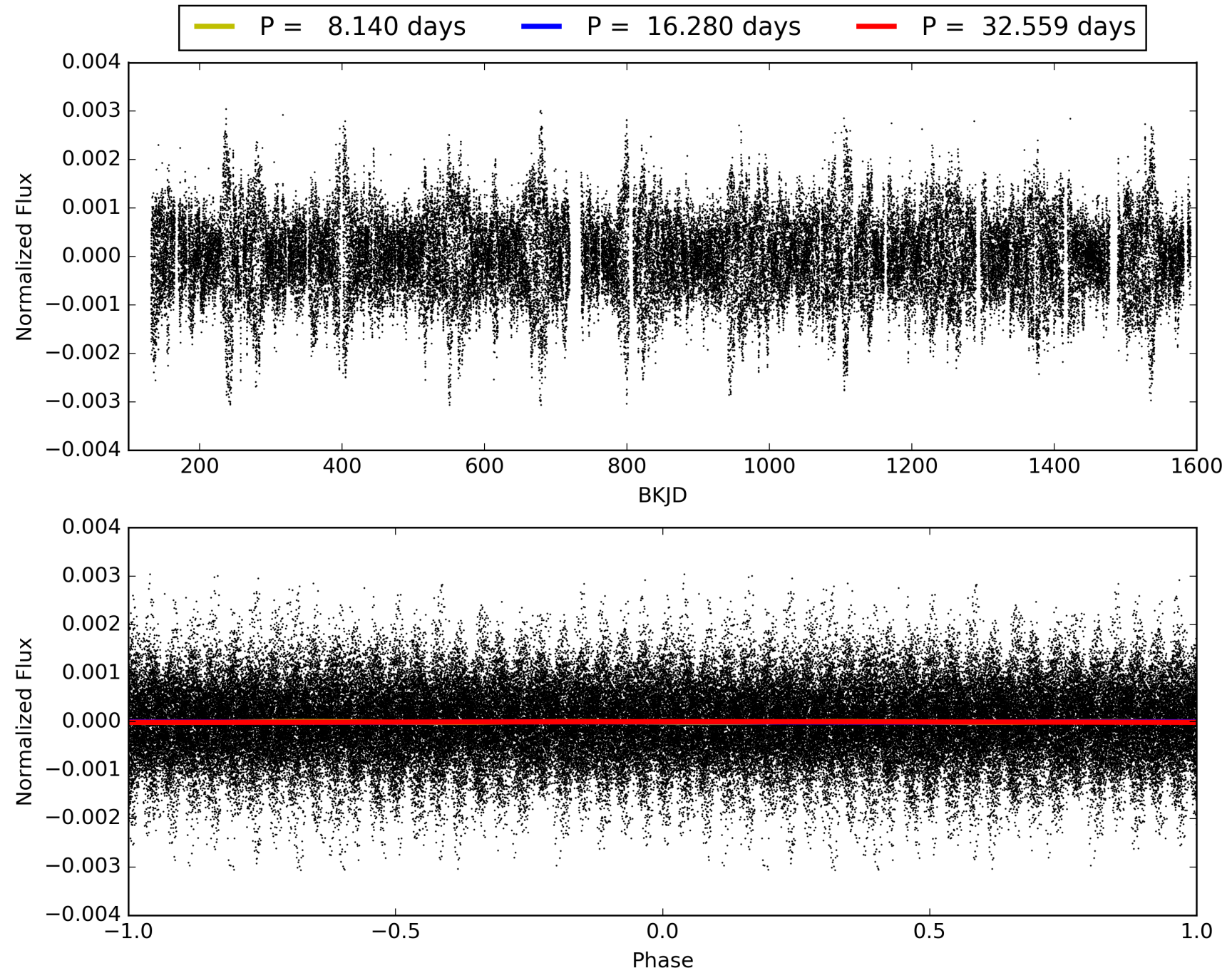
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:09:30 Z

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

TCE 012505621-04, PDC Light Curves

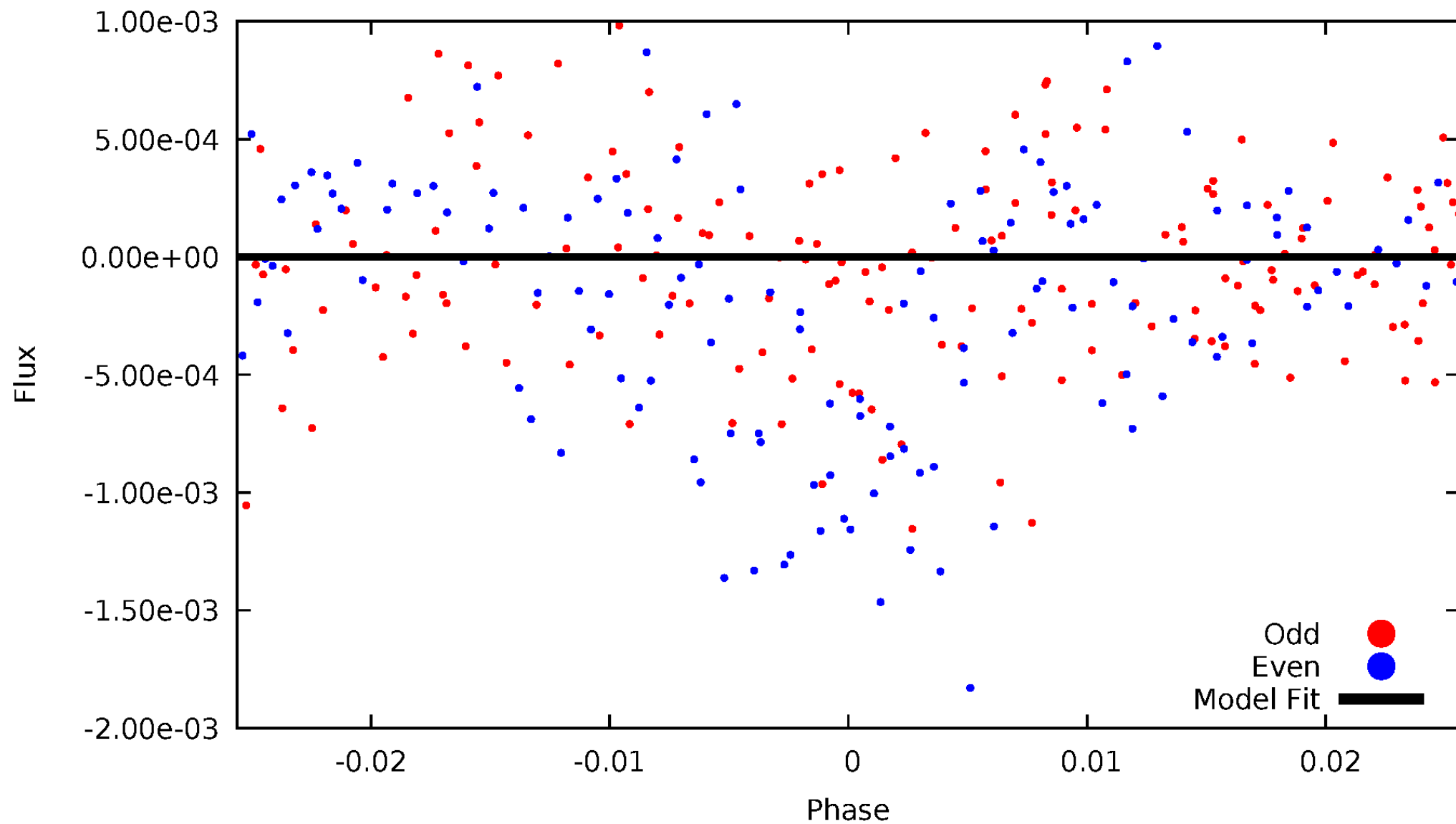


TCE 012505621-04



DV Odd/Even

TCE 012505621-04

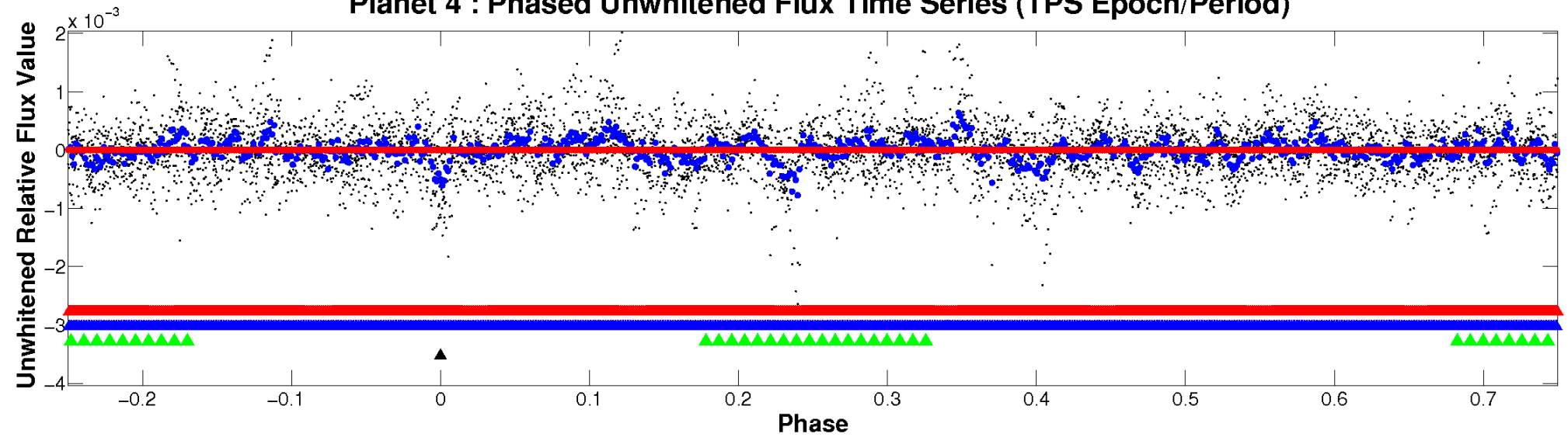


ALT Odd/Even

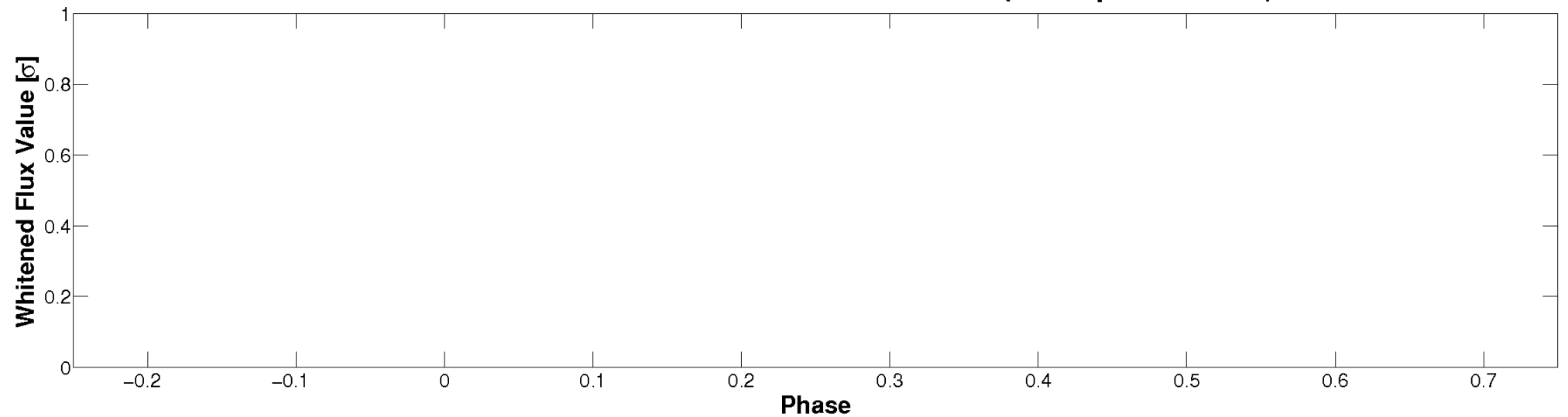
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

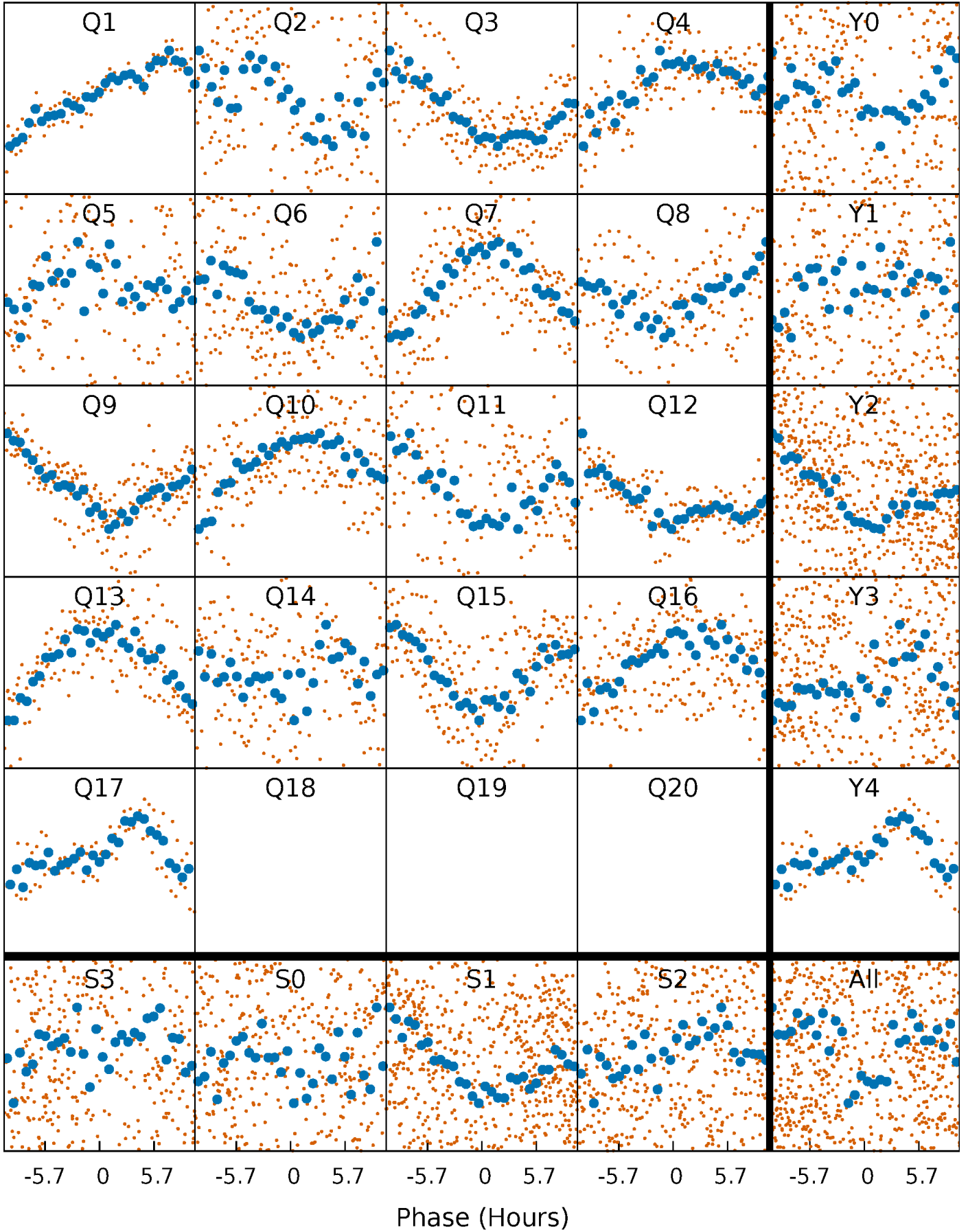


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



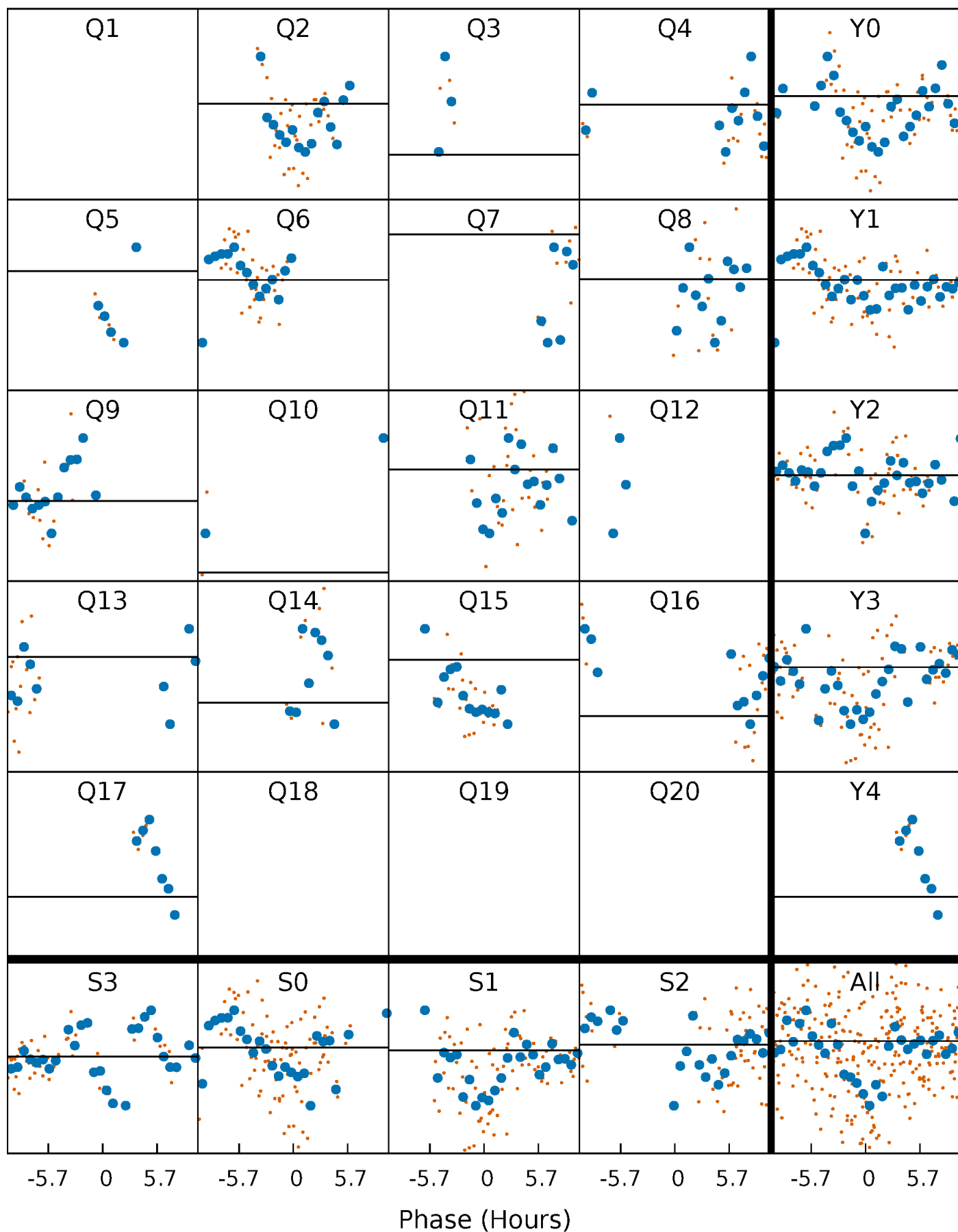
PDC Quarter-Phased Transit Curves

TCE 012505621-04 P= 16.279505 Days $T_0=138.311964$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 012505621-04 P= 16.279505 Days $T_0=138.311964$ (BKJD)

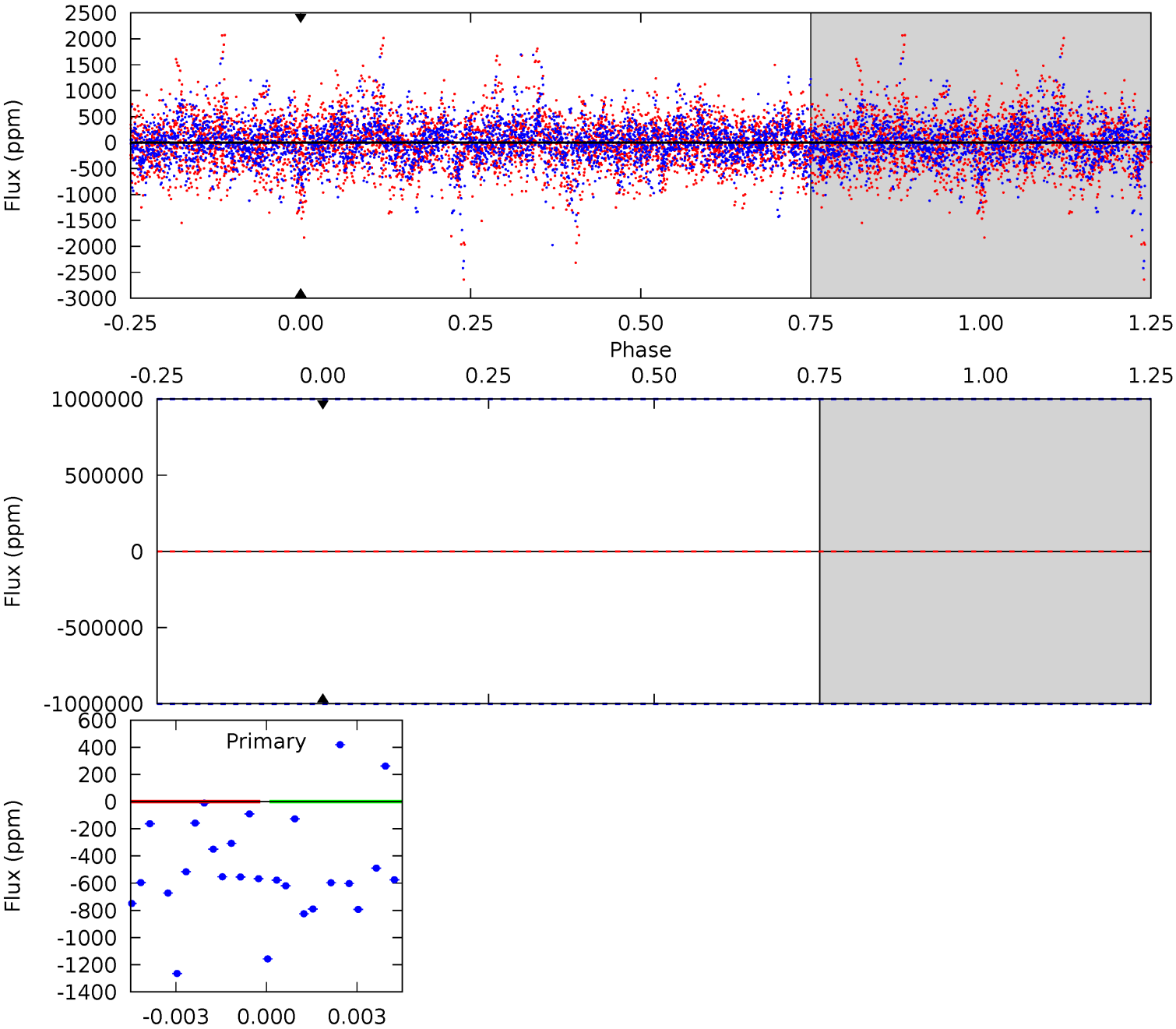


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

012505621-04, P = 16.279505 Days, E = 138.311964 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 012505621

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6637^{+187}_{-258}	$4.046^{+0.252}_{-0.168}$	$-0.020^{+0.250}_{-0.300}$	$1.875^{+0.573}_{-0.573}$	$1.429^{+0.192}_{-0.288}$	$0.305^{+0.483}_{-0.141}$
	+3%/-4%	+6%/-4%	+1250%/-1500%	+31%/-31%	+13%/-20%	+158%/-46%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 012505621-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$13.51^{+17.22}_{-9.58}$	1474^{+119}_{-134}	4932^{+33533}_{-33739}	76^{+12789}_{-9015}
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 $A_{obs} \gg 1.0$

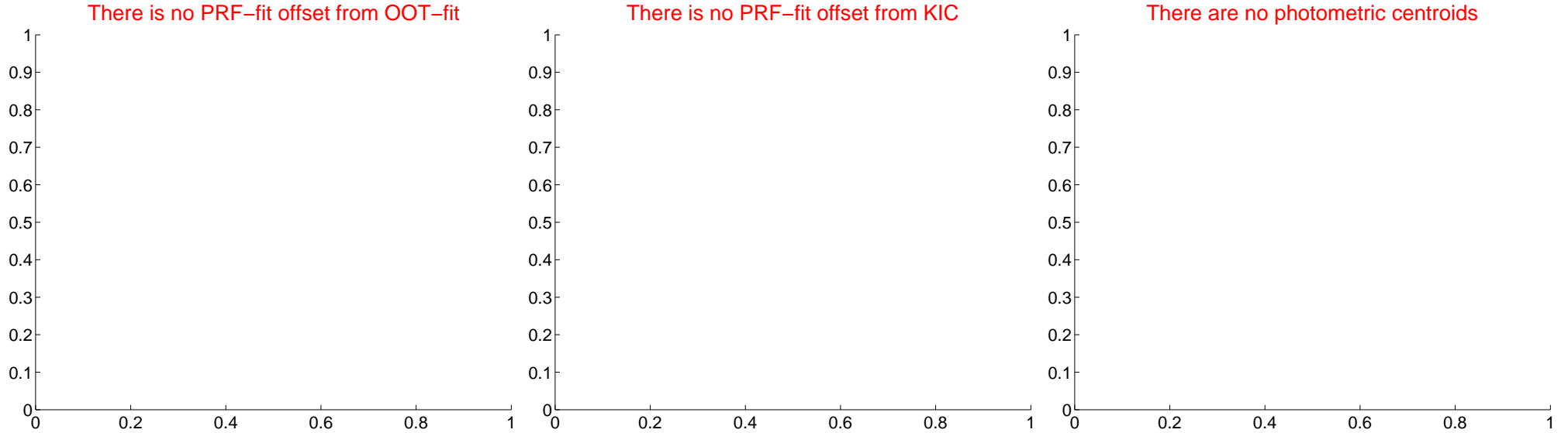
DV Centroid Data

Supplemental centroid analysis for 012505621-04. Kepler magnitude: 13.79. 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

