

KIC 009651374

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})
009651374-01	OBS	No	0.688632	132.205699	6.9	5.248	14.0	6.2	2.59	7100	0.70	48619.58
009651374-02	OBS	No	17.076454	140.599779	275.0	2.193	18.1	26.2	2.59	7100	4.92	672.35
009651374-03	OBS	No	5.339272	135.794486	91.2	0.806	15.7	10.2	2.59	7100	2.91	3168.24
009651374-04	OBS	No	21.349528	142.760997	294.0	1.500	12.9	-1.0	2.59	7100	4.49	499.20
009651374-05	OBS	No	10.930089	135.842245	323.7	1.500	18.0	-1.0	2.59	7100	4.71	1218.88
009651374-07	OBS	No	6.092397	133.456136	101.0	1.192	13.4	11.6	2.59	7100	2.79	2657.11
009651374-08	OBS	No	5.454224	133.685652	203.5	1.052	11.8	20.7	2.59	7100	3.85	3079.52
009651374-09	OBS	No	2.723803	132.373994	77.0	1.062	13.3	12.3	2.59	7100	2.43	7772.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009651374-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT
009651374-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
009651374-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
009651374-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
009651374-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
009651374-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
009651374-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
009651374-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

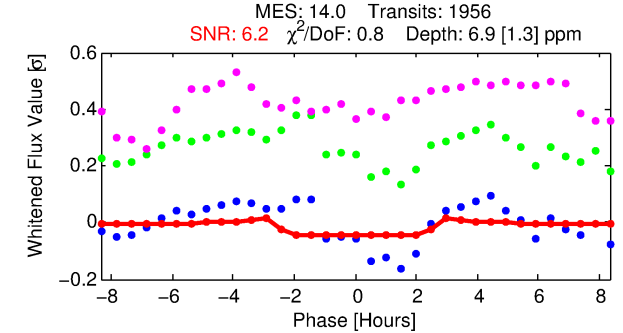
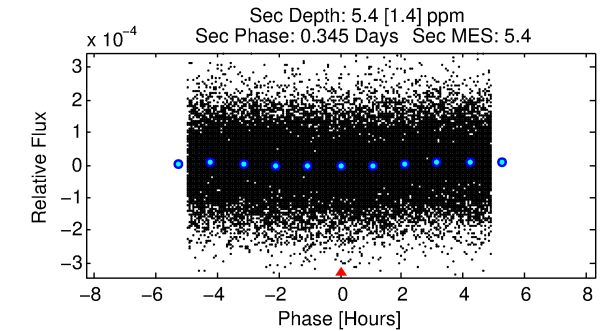
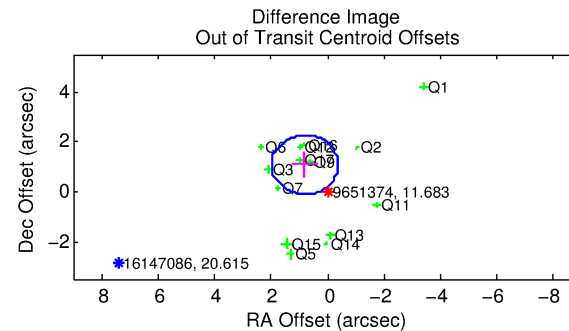
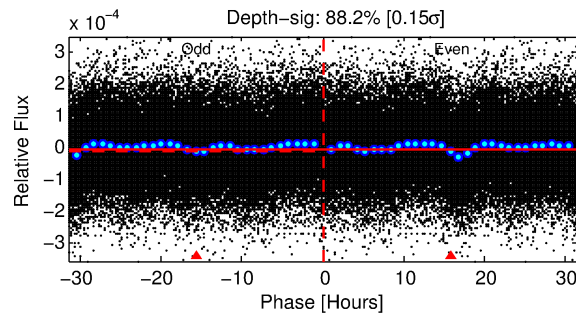
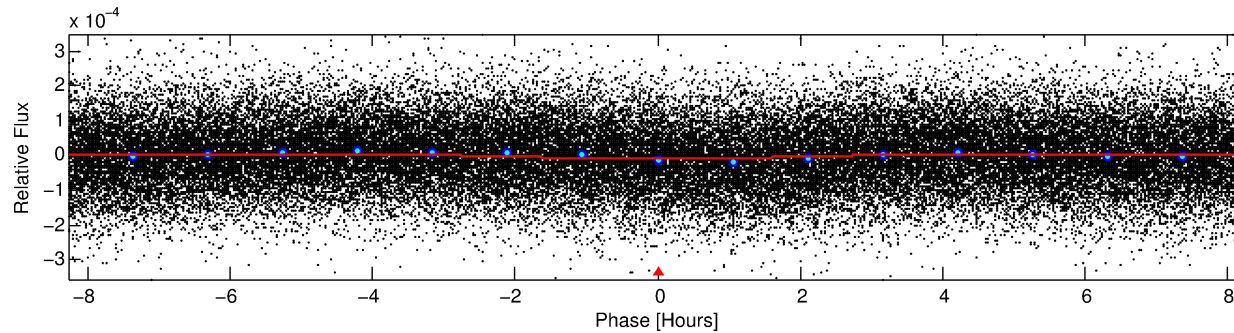
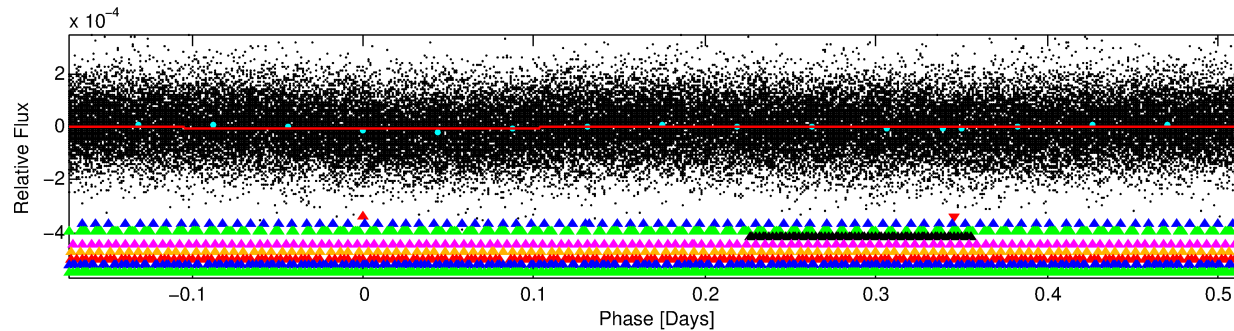
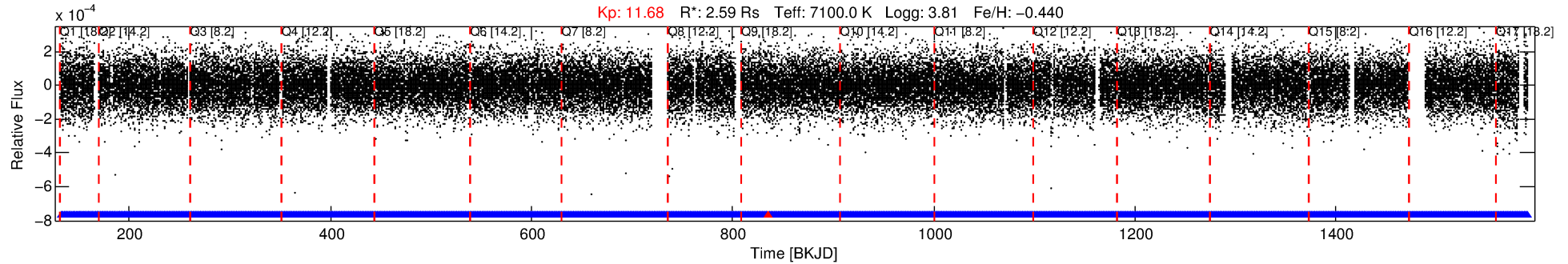
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009651374-01

No Significant Match Found

DV One-Page Summary

KIC: 9651374 Candidate: 1 of 9 Period: 0.689 d



DV Fit Results:

Period = 0.68863 [0.00002] d
Epoch = 132.2057 [0.0059] BKJD
Rp/R* = 0.0025 [0.0016]
a/R* = 1.14 [0.92]
b = 0.53 [4.69]
Seff = 48619.58 [25034.45]
Teq = 3786 [487] K
Rp = 0.71 [0.51] Re
a = 0.0177 [0.0057] AU
Ag = 1.86 [2.55] [0.34 σ]
Teffp = 6841 [2186] K [1.36 σ]

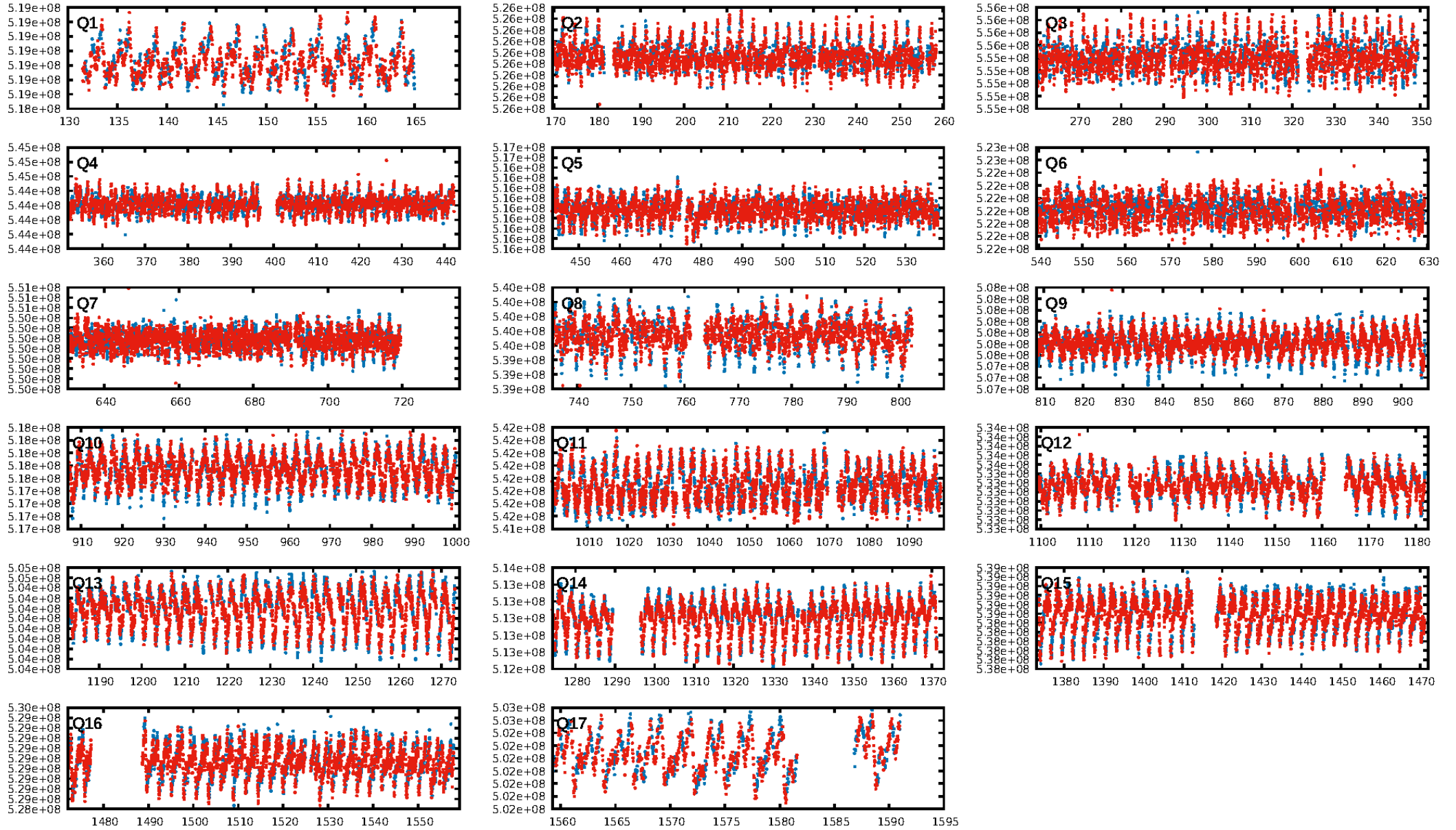
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [9.12 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1868/1869]
GhostDiagnostic-chr: -10.36
Centroid-sig: 13.1%
Centroid-so: 1.181 arcsec [1.32 σ]
OotOffset-rm: 1.341 arcsec [3.40 σ]
KicOffset-rm: 1.449 arcsec [3.48 σ]
OotOffset-st: 3/4/2/5 [14]
KicOffset-st: 3/4/2/5 [14]
DiffImageQuality-fgm: 0.57 [8/14]
DiffImageOverlap-fno: 1.00 [17/17]

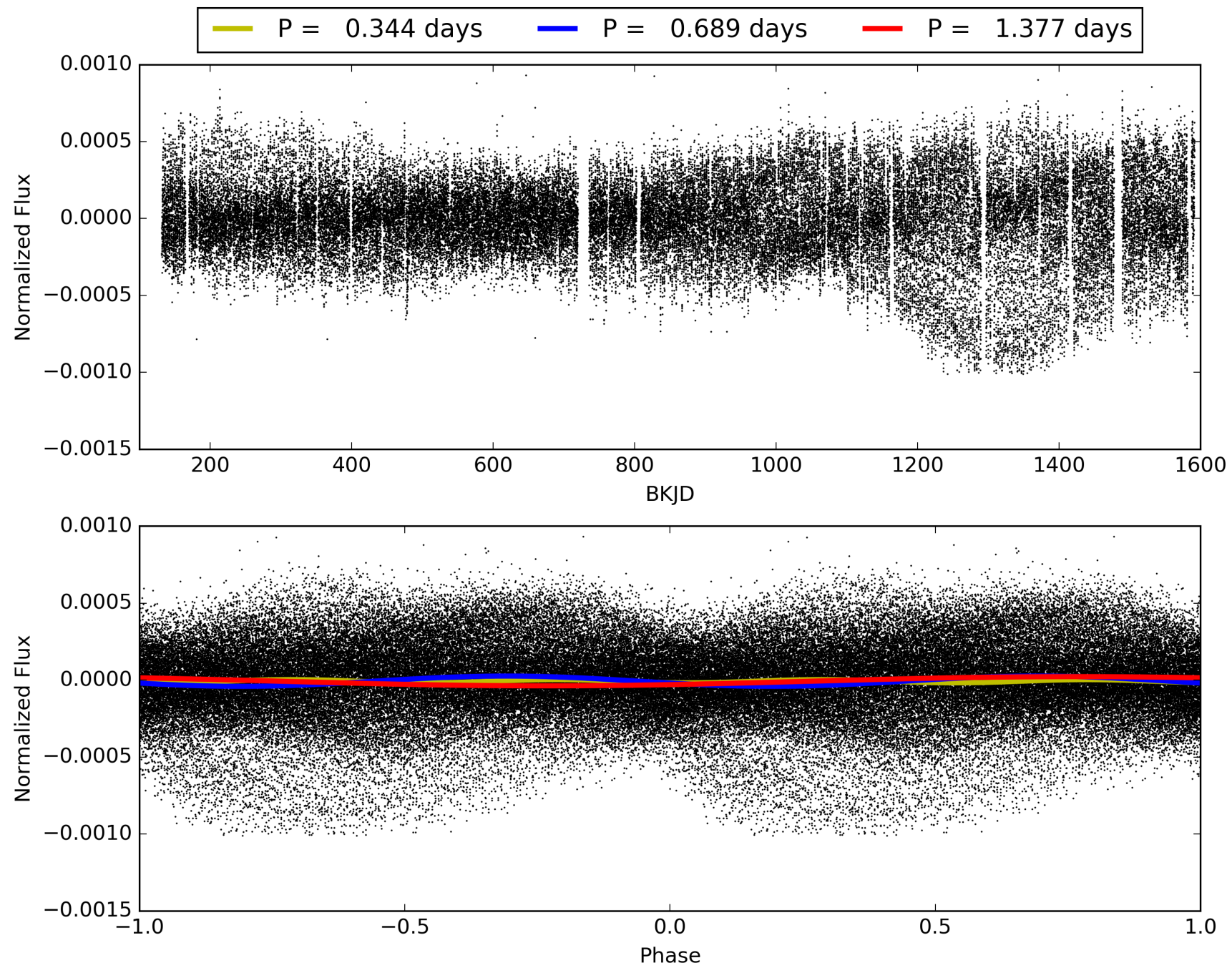
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:59:23 Z

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

TCE 009651374-01, PDC Light Curves

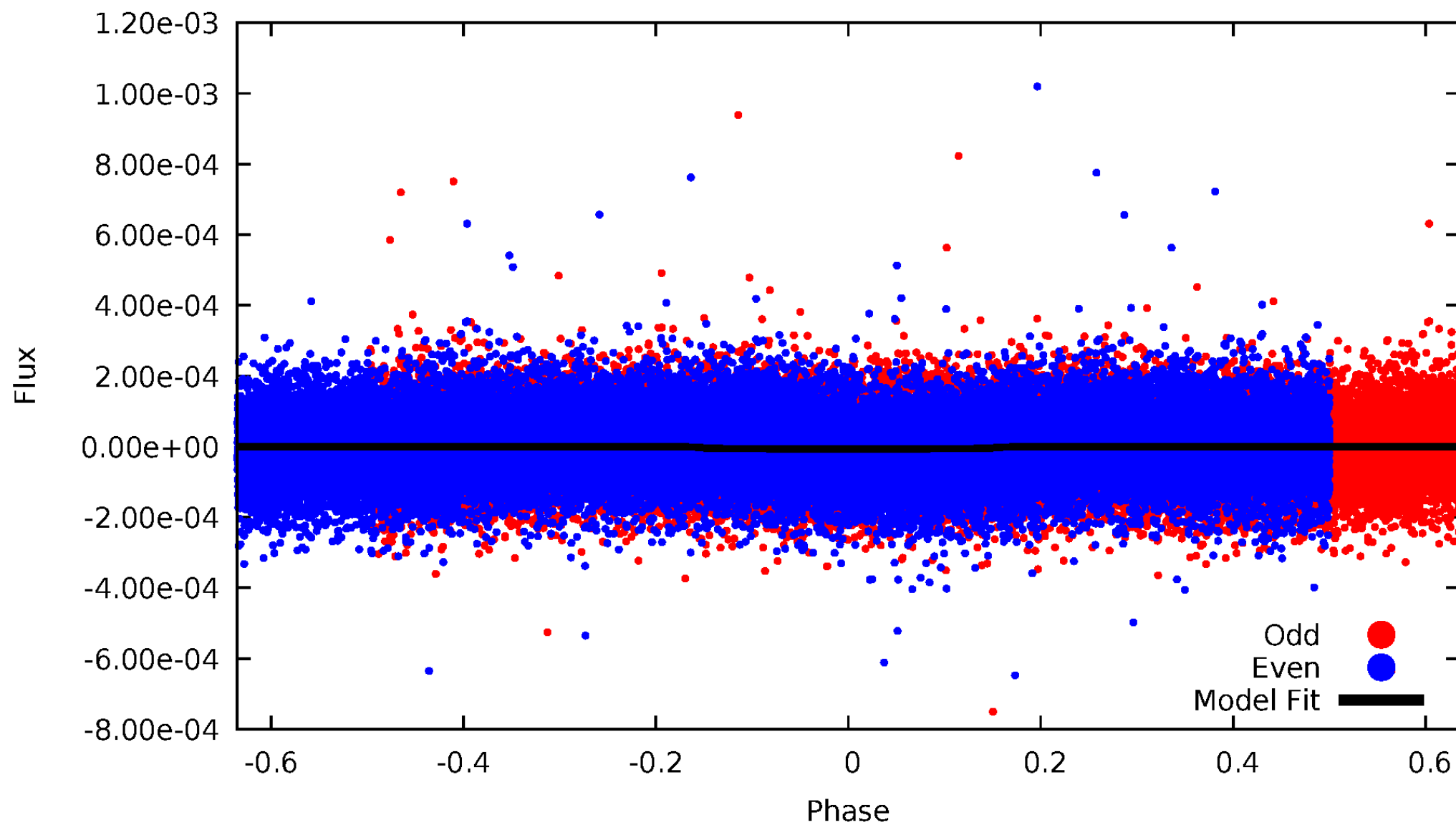


TCE 009651374-01



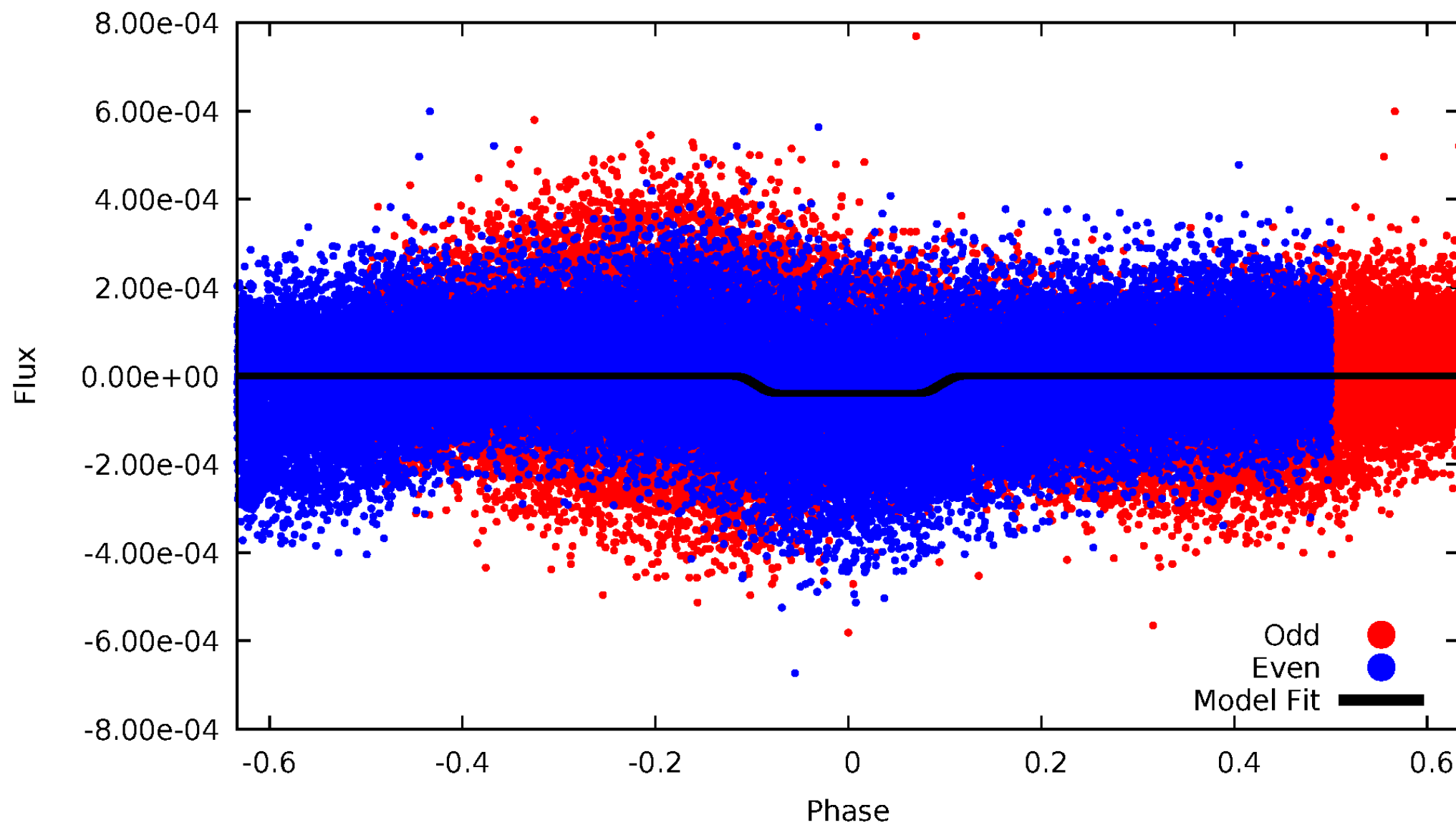
DV Odd/Even

TCE 009651374-01

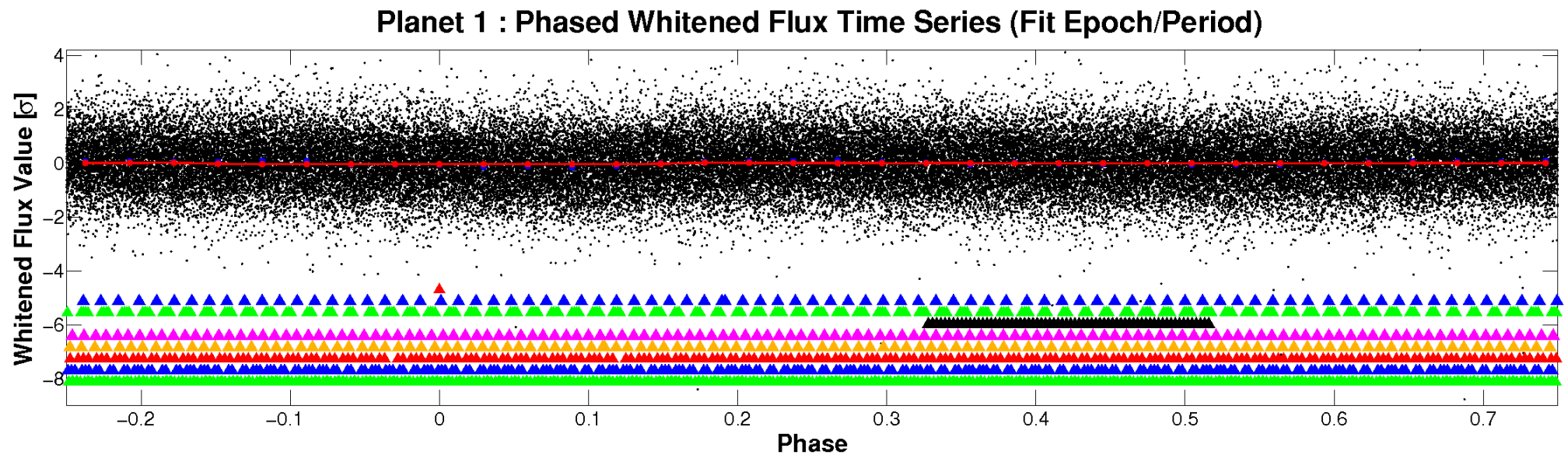
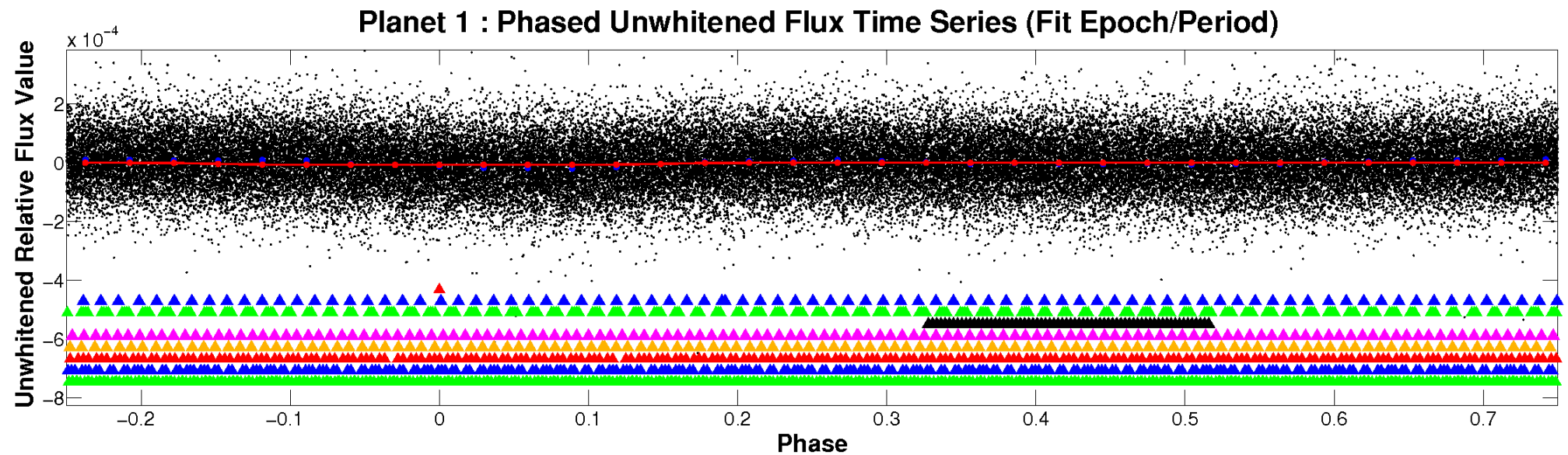


ALT Odd/Even

TCE 009651374-01

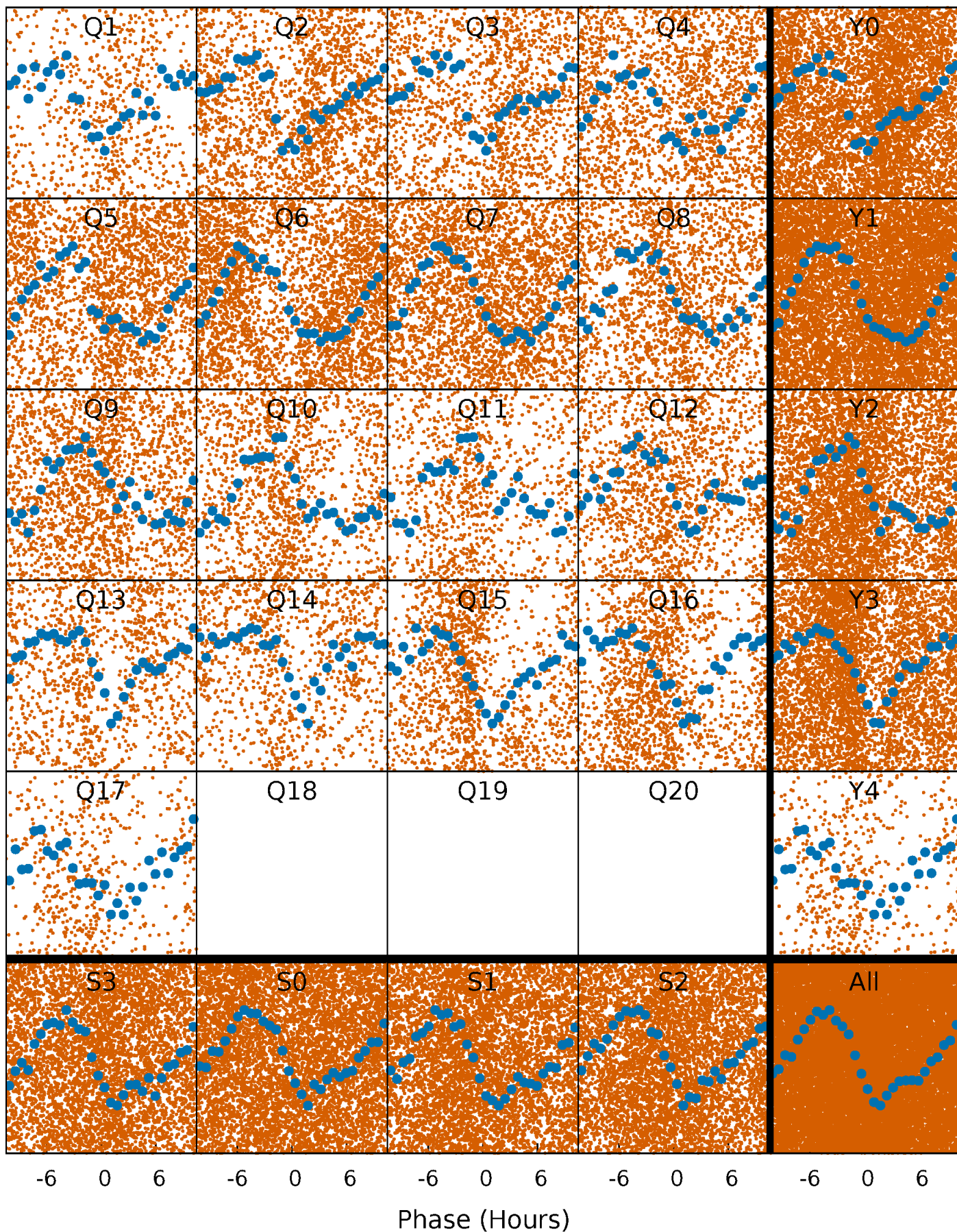


Non-Whitened Vs. Whitened Light Curve



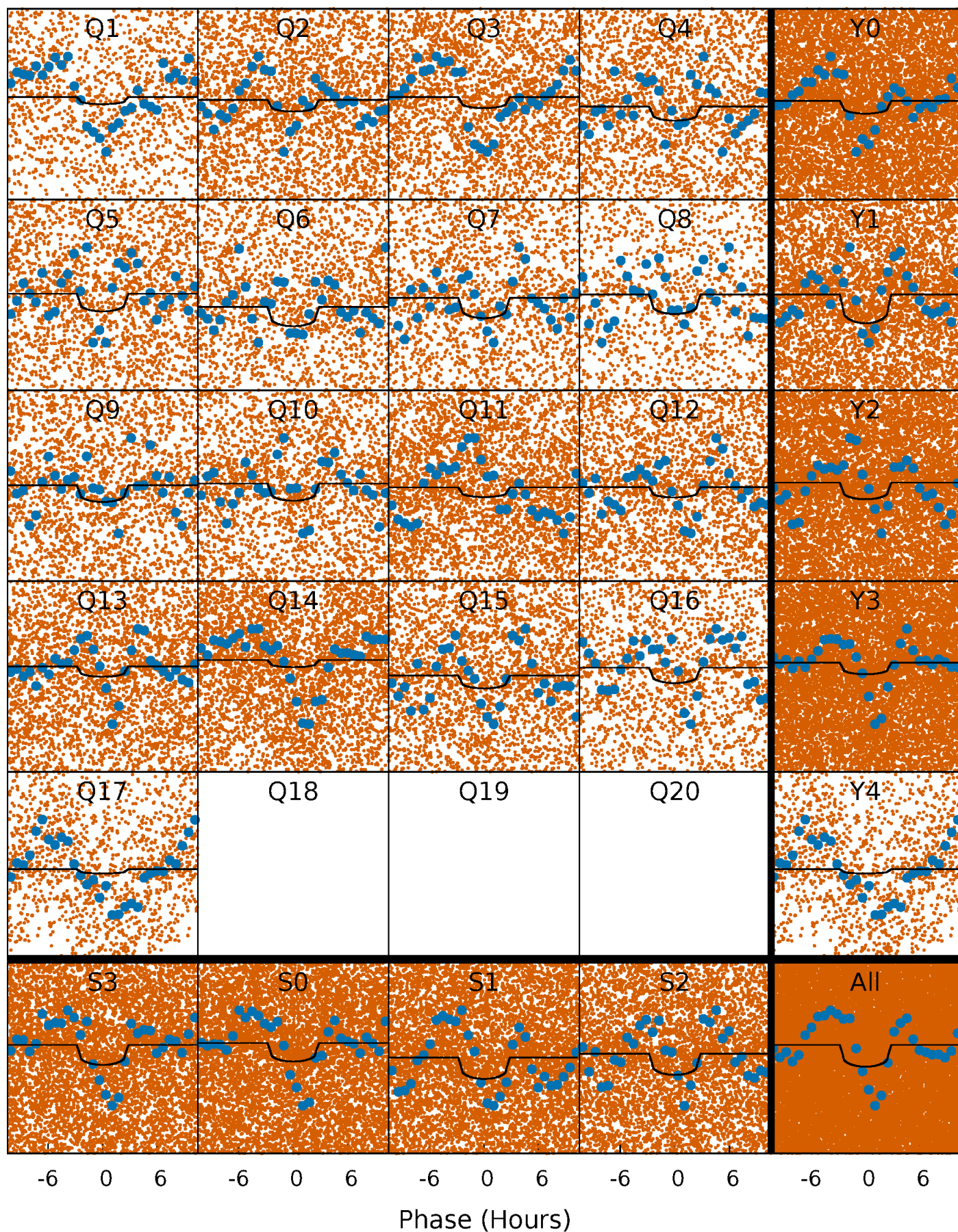
PDC Quarter-Phased Transit Curves

TCE 009651374-01 P= 0.688632 Days $T_0=132.205699$ (BKJD)



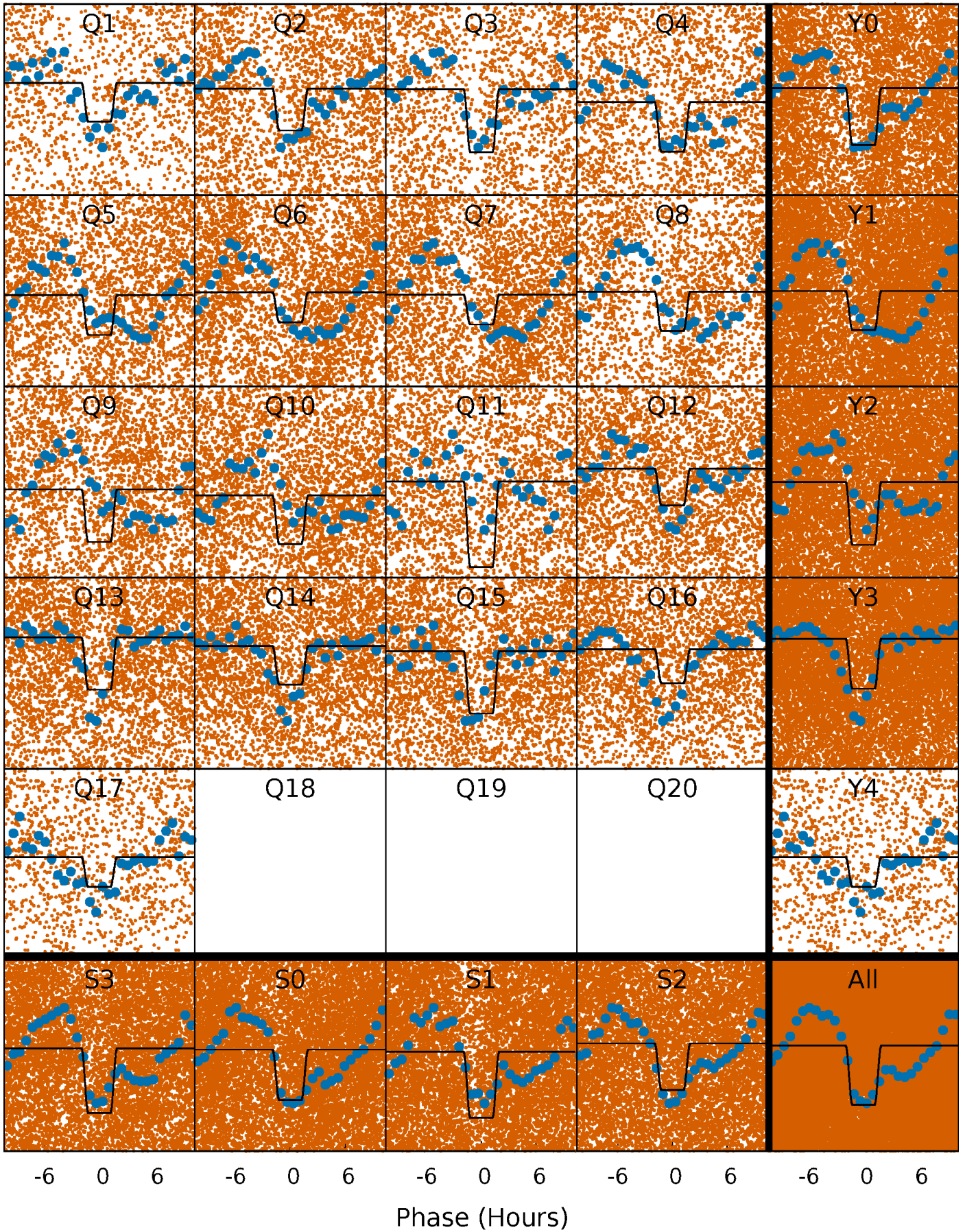
DV Quarter-Phased Transit Curves

TCE 009651374-01 P= 0.688632 Days $T_0=132.205699$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

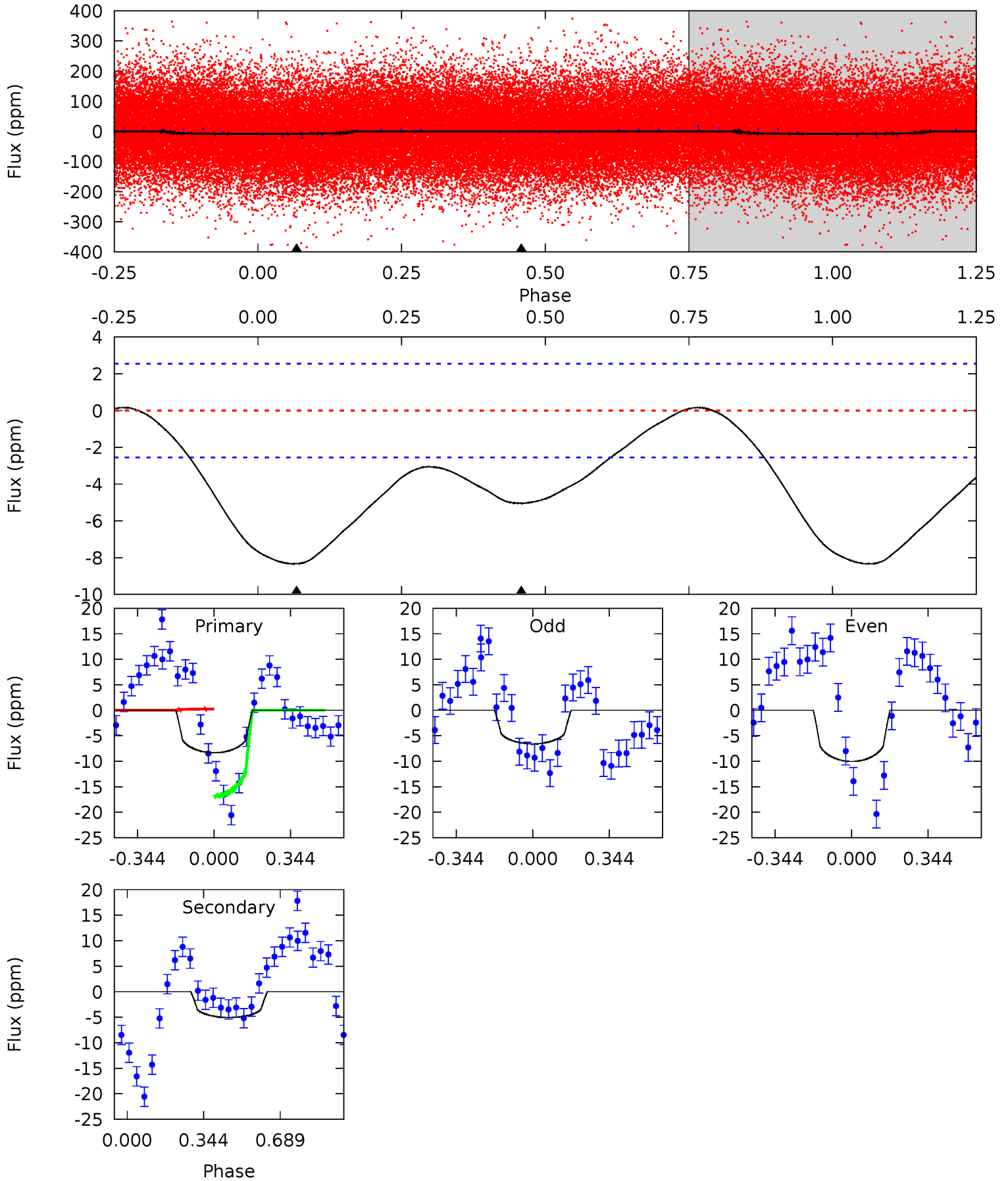
TCE 009651374-01 P= 0.688677 Days $T_0=132.205192$ (BKJD)



DV Model-Shift Uniqueness Test

009651374-01, P = 0.688632 Days, E = 130.828435 Days

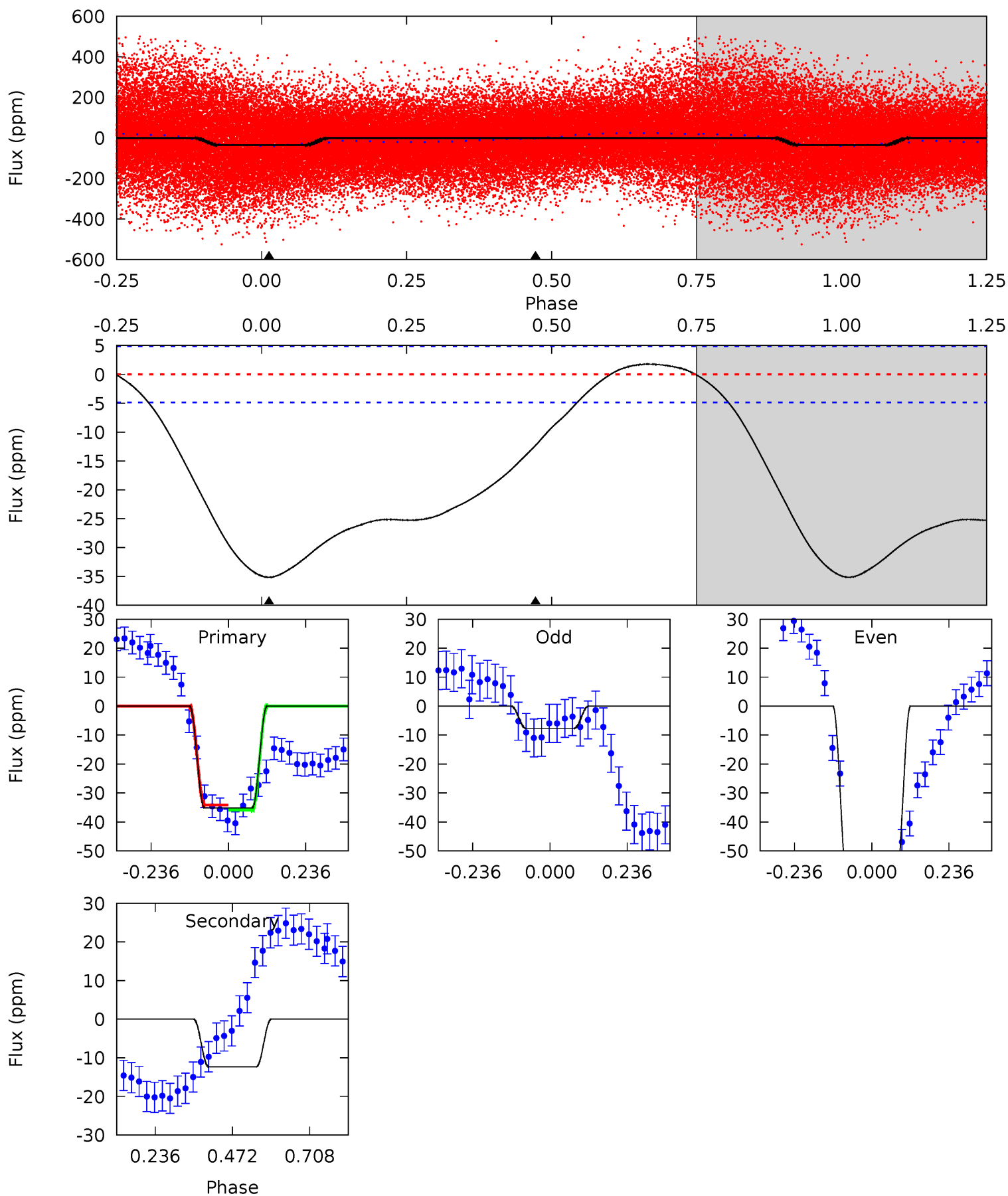
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.1	8.51	0	0	4.30	0.95	0.30	14.1	14.1	8.51	8.51	2.86	1.17	0.02	13.6



Alt Model-Shift Uniqueness Test

009651374-01, P = 0.688677 Days, E = 130.827838 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.6	11.1	0	0	4.38	1.18	7.10	31.6	31.6	11.1	11.1	24.9	1.07	0.05	0.84



Stellar Parameters For KIC 009651374

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7100^{+192}_{-235}	$3.806^{+0.285}_{-0.095}$	$-0.440^{+0.300}_{-0.250}$	$2.590^{+0.395}_{-0.921}$	$1.565^{+0.217}_{-0.325}$	$0.127^{+0.255}_{-0.039}$
	+3%/-3%	+7%/-2%	+68%/-57%	+15%/-36%	+14%/-21%	+201%/-31%
Source	PHO1	FLK73	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 009651374-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-5 ± 1	$0.71^{+0.44}_{-0.41}$	5217^{+322}_{-446}	6259^{+4633}_{-1641}	$1.737^{+8.141}_{-1.078}$
Alt.	-12 ± 1	$1.67^{+0.53}_{-0.51}$	5219^{+291}_{-466}	4753^{+1142}_{-825}	$0.756^{+0.825}_{-0.315}$

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

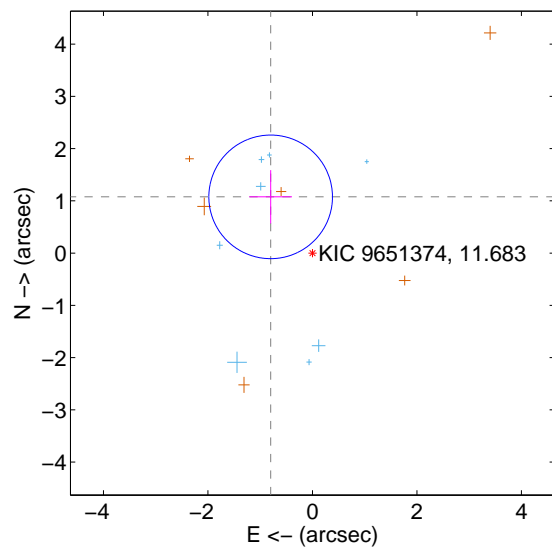
Supplemental centroid analysis for 009651374-01. **Kepler magnitude: 11.68.** Transit SNR 6.17

There are 8 quarters with good PRF difference image offsets

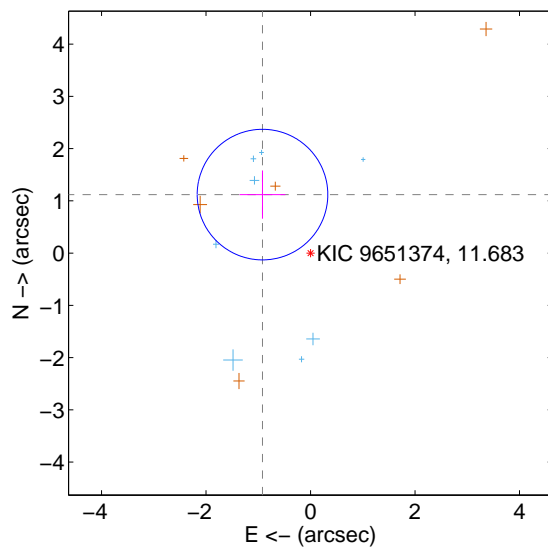
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.341 ± 0.394	3.40	0.800 ± 0.409	1.076 ± 0.511
PRF-fit source offset from KIC position	1.449 ± 0.417	3.48	0.919 ± 0.438	1.120 ± 0.462
photometric centroid source offset	1.18 ± 0.89	1.32	-1.16 ± 0.89	0.25 ± 0.92

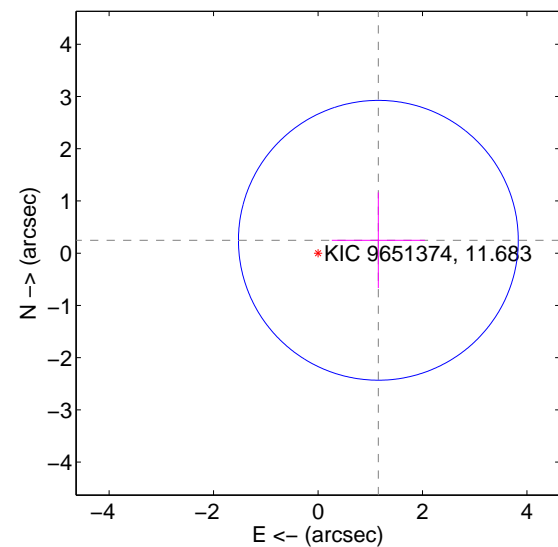
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

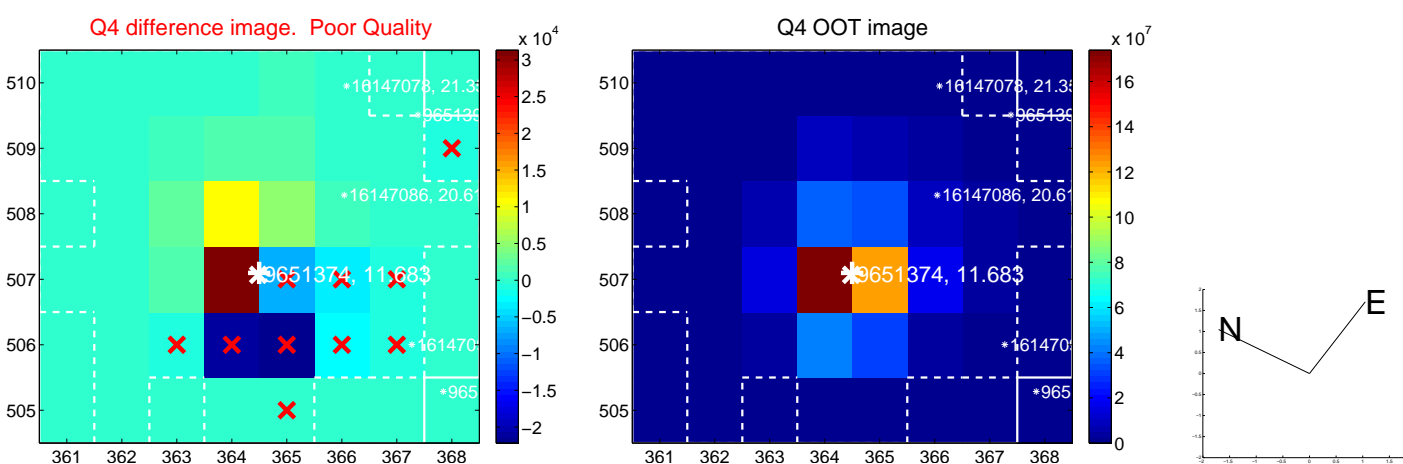
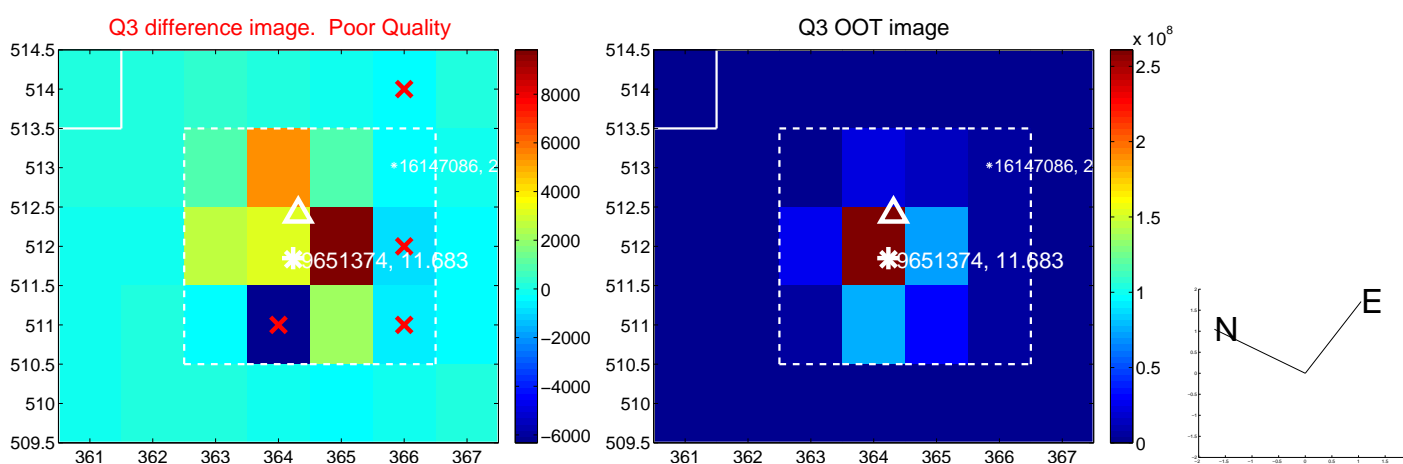
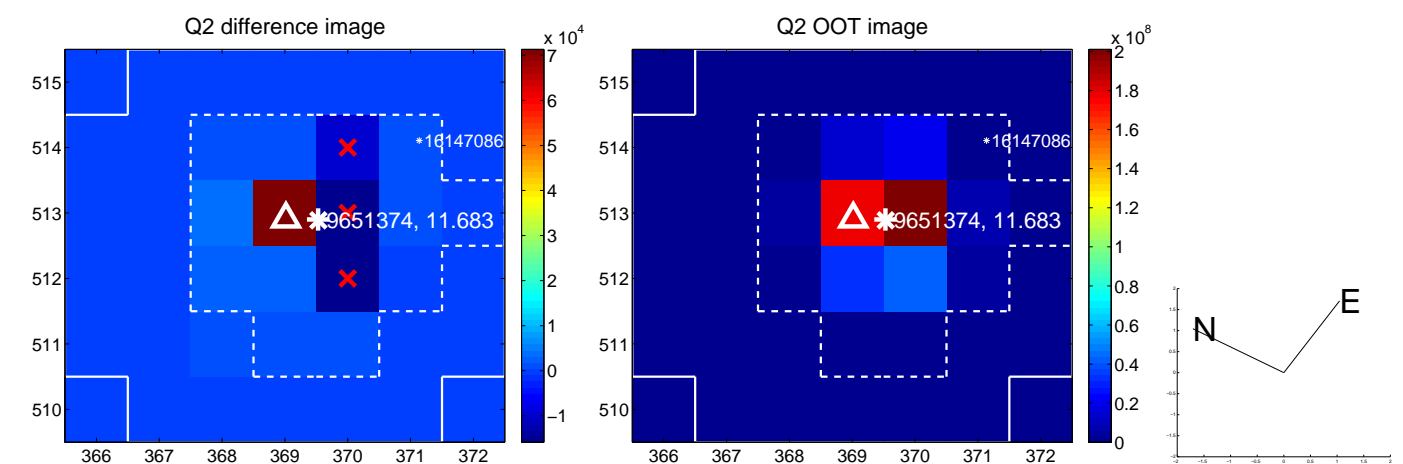
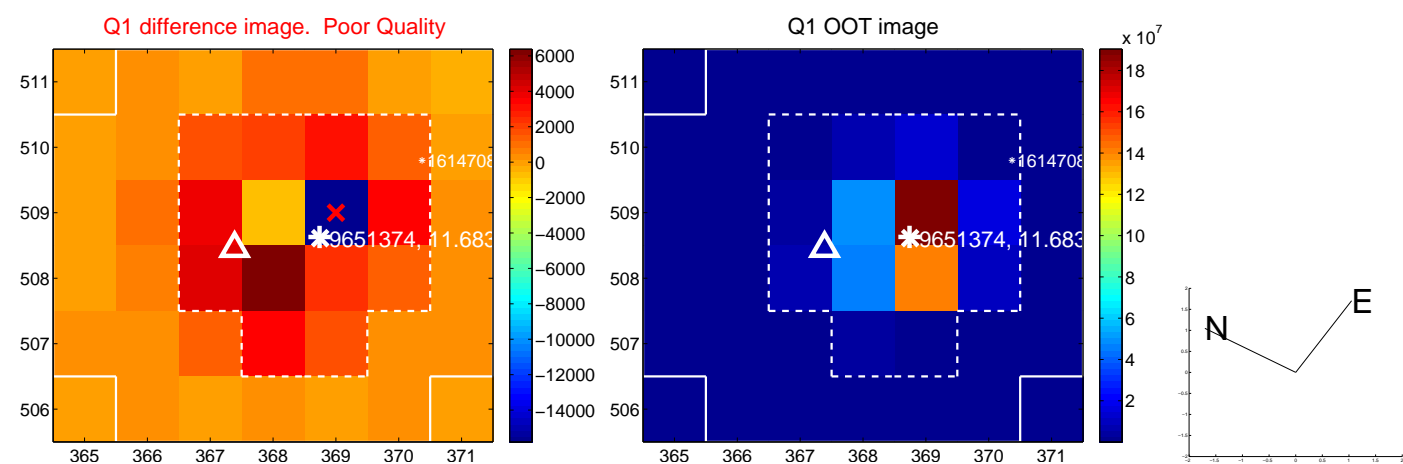


offset from photometric centroids

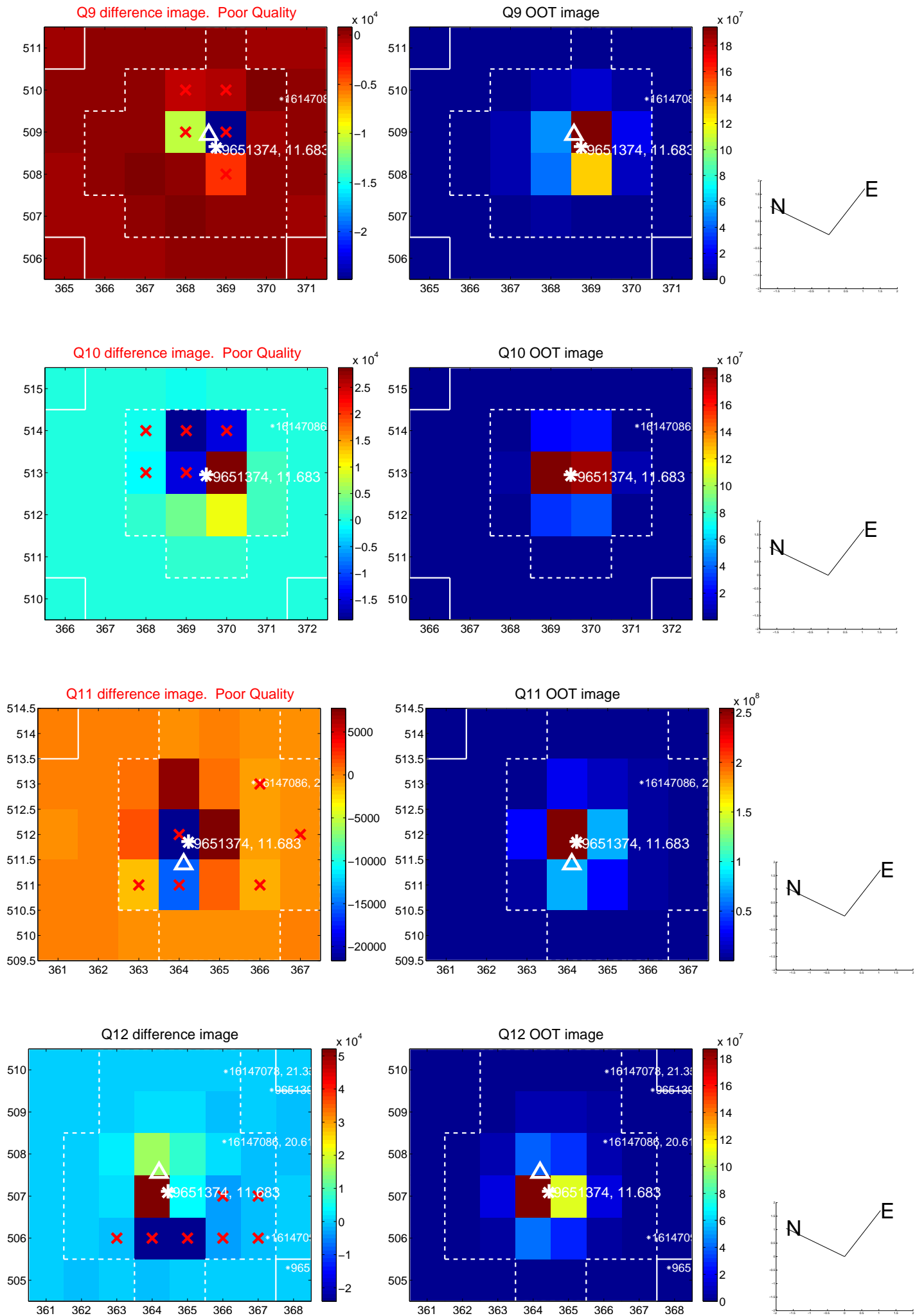


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

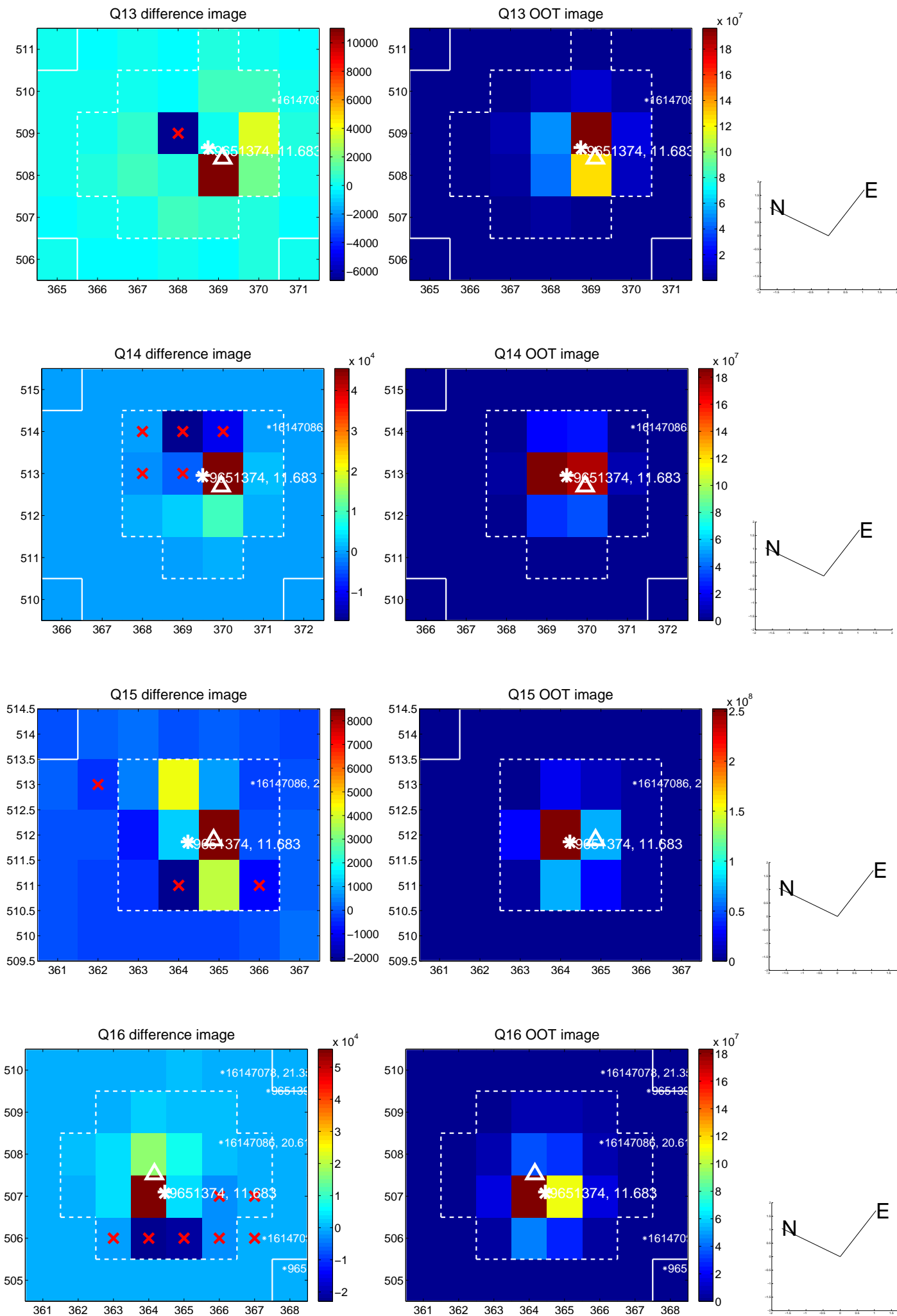
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



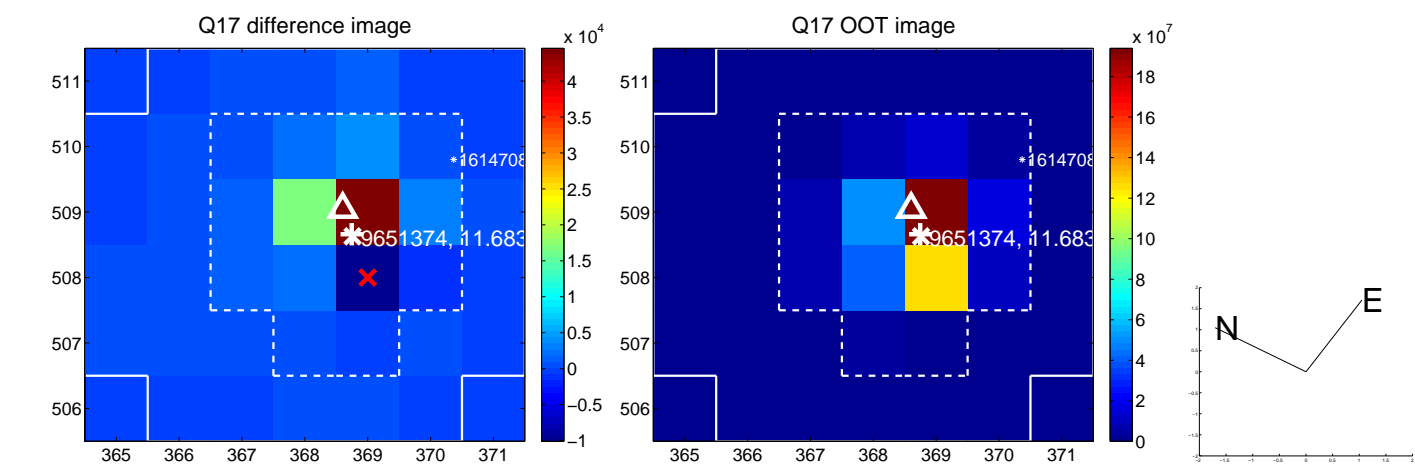
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



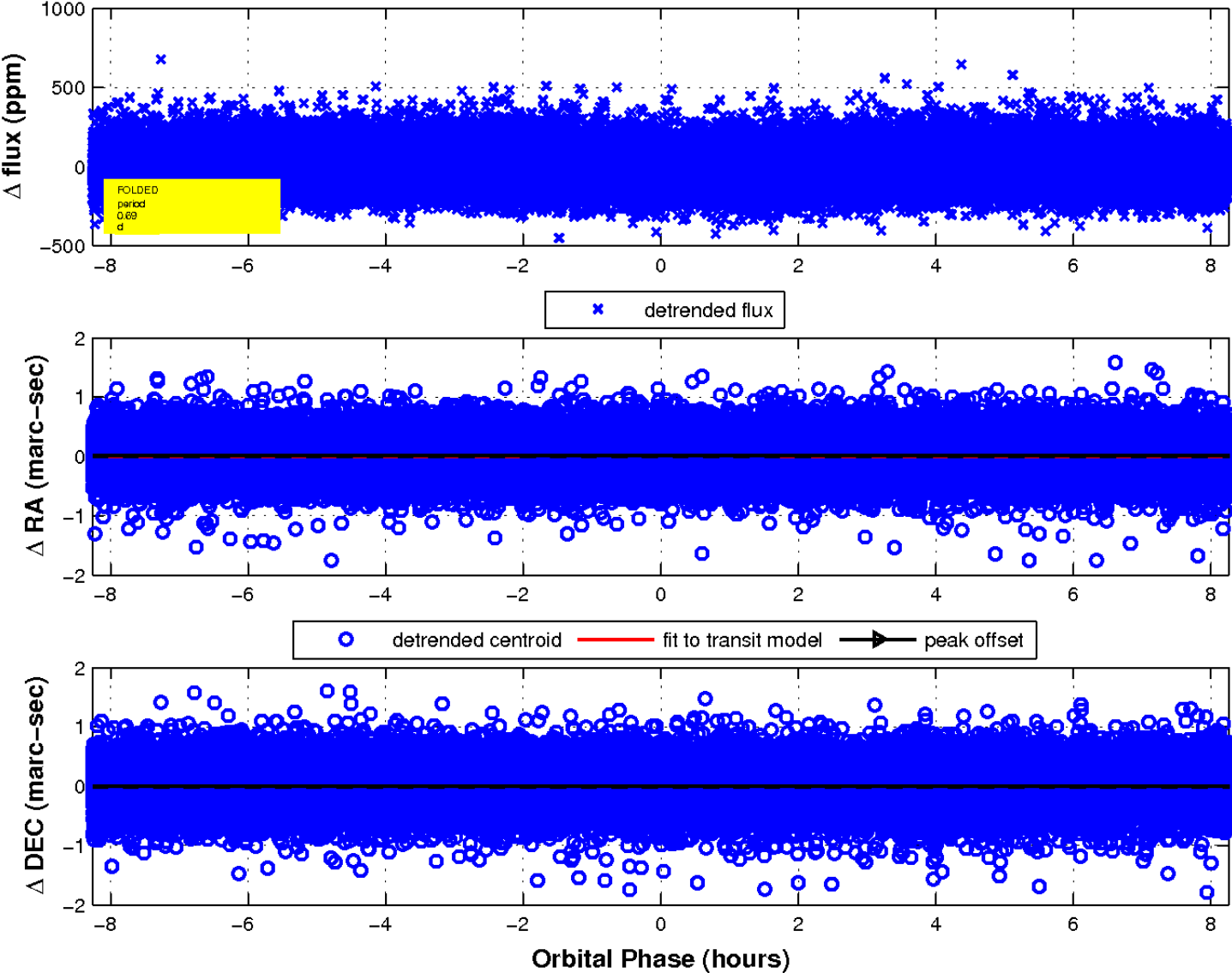
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



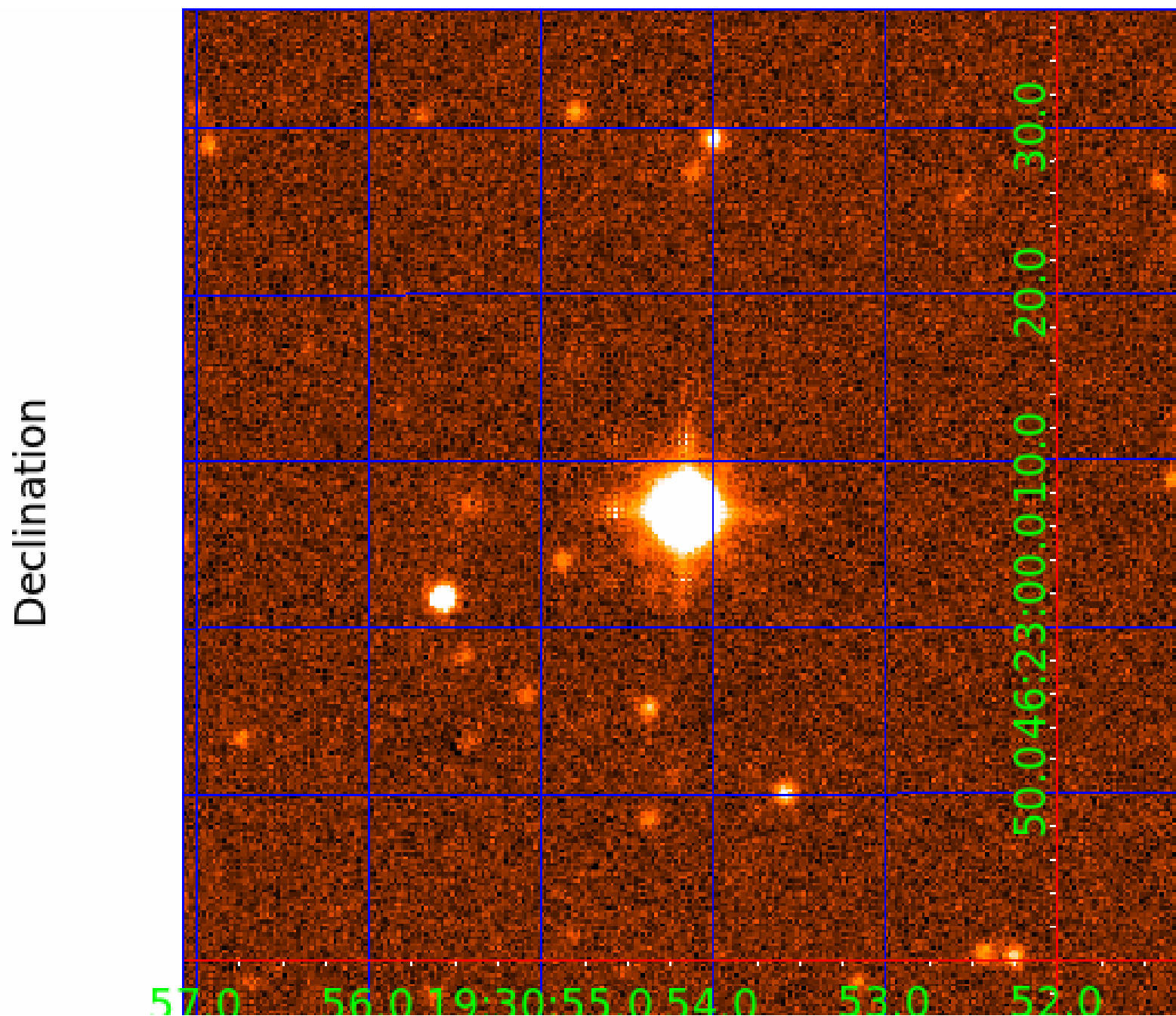
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 9



UKIRT Image



KIC 009651374

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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009651374-04	OBS	No	21.349528	142.760997	294.0	1.500	12.9	-1.0	2.59	7100	4.49	499.20
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009651374-08	OBS	No	5.454224	133.685652	203.5	1.052	11.8	20.7	2.59	7100	3.85	3079.52
009651374-09	OBS	No	2.723803	132.373994	77.0	1.062	13.3	12.3	2.59	7100	2.43	7772.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009651374-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT
009651374-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
009651374-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
009651374-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
009651374-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
009651374-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
009651374-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
009651374-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

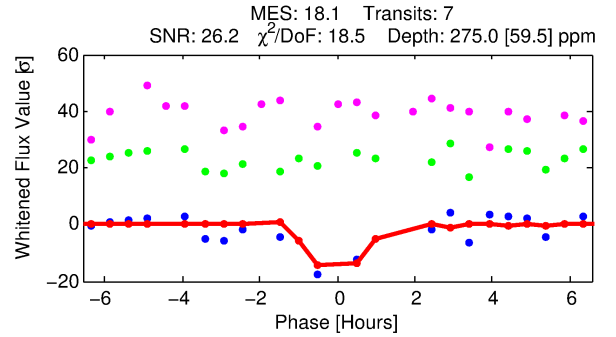
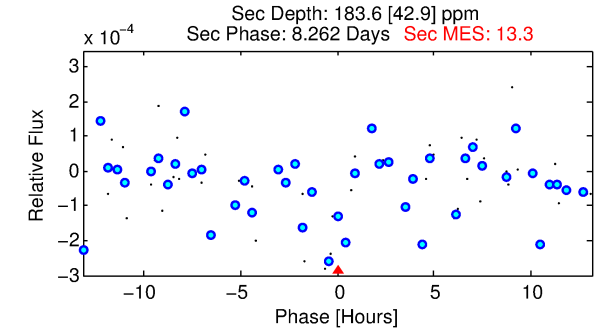
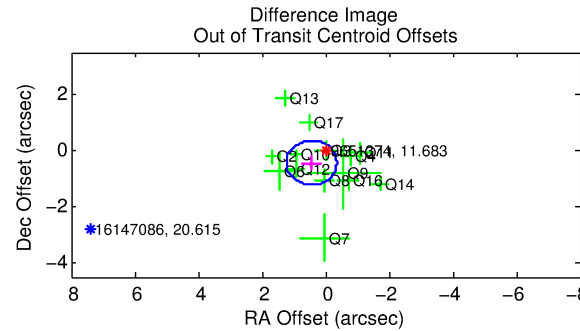
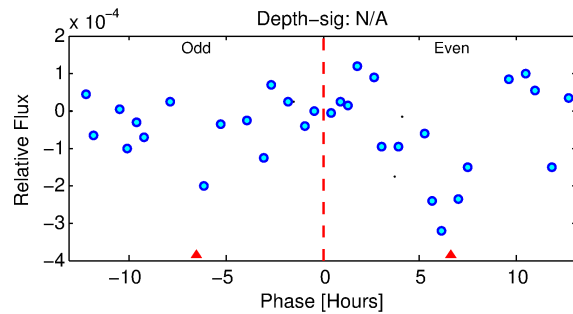
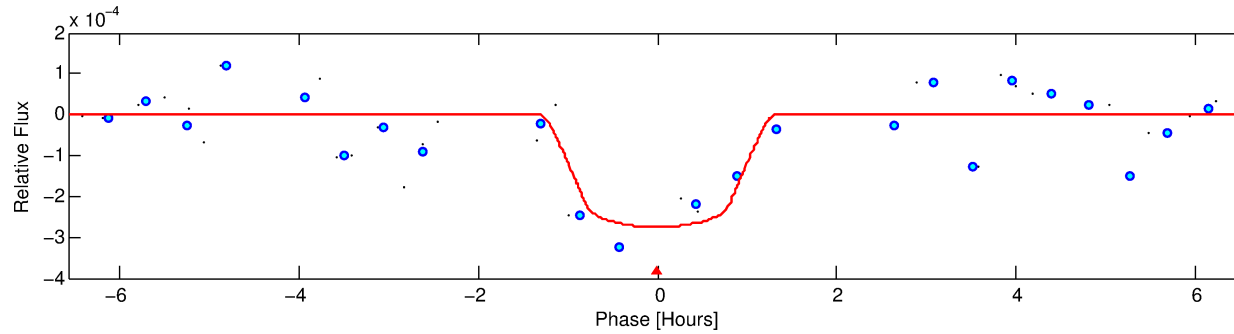
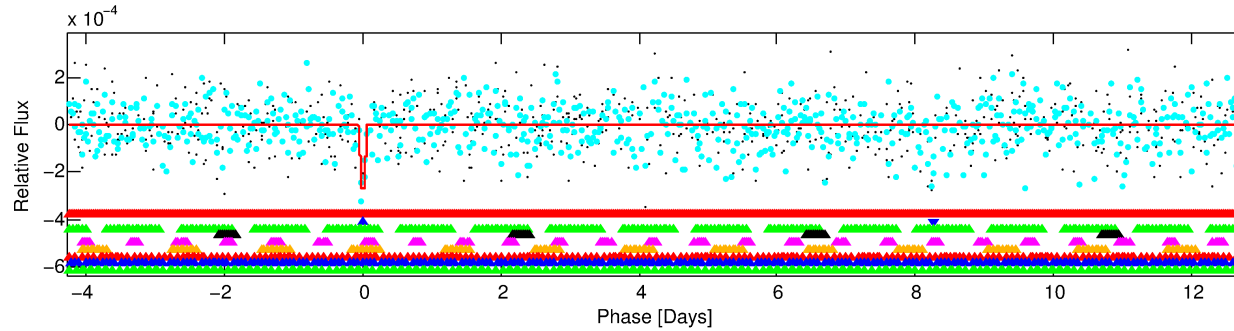
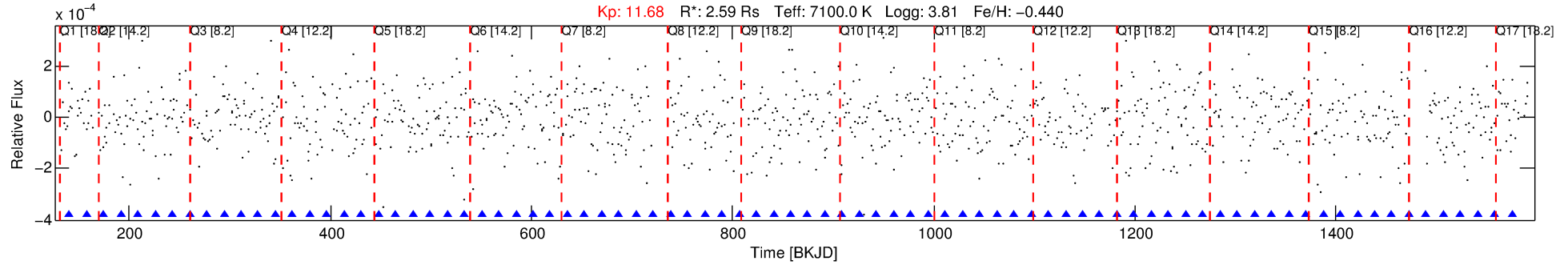
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009651374-02

No Significant Match Found

DV One-Page Summary

KIC: 9651374 Candidate: 2 of 9 Period: 17.076 d



DV Fit Results:

Period = 17.07645 [0.00096] d
Epoch = 140.5998 [0.0329] BKJD
Rp/R* = 0.0174 [0.0332]
a/R* = 31.04 [343.73]
b = 0.87 [3.09]
Seff = 672.35 [346.20]
Teq = 1298 [167] K
Rp = 4.92 [9.54] Re
a = 0.1507 [0.0486] AU
Ag = 94.58 [363.94] [0.26σ]
Teffp = 6261 [5976] K [0.83σ]

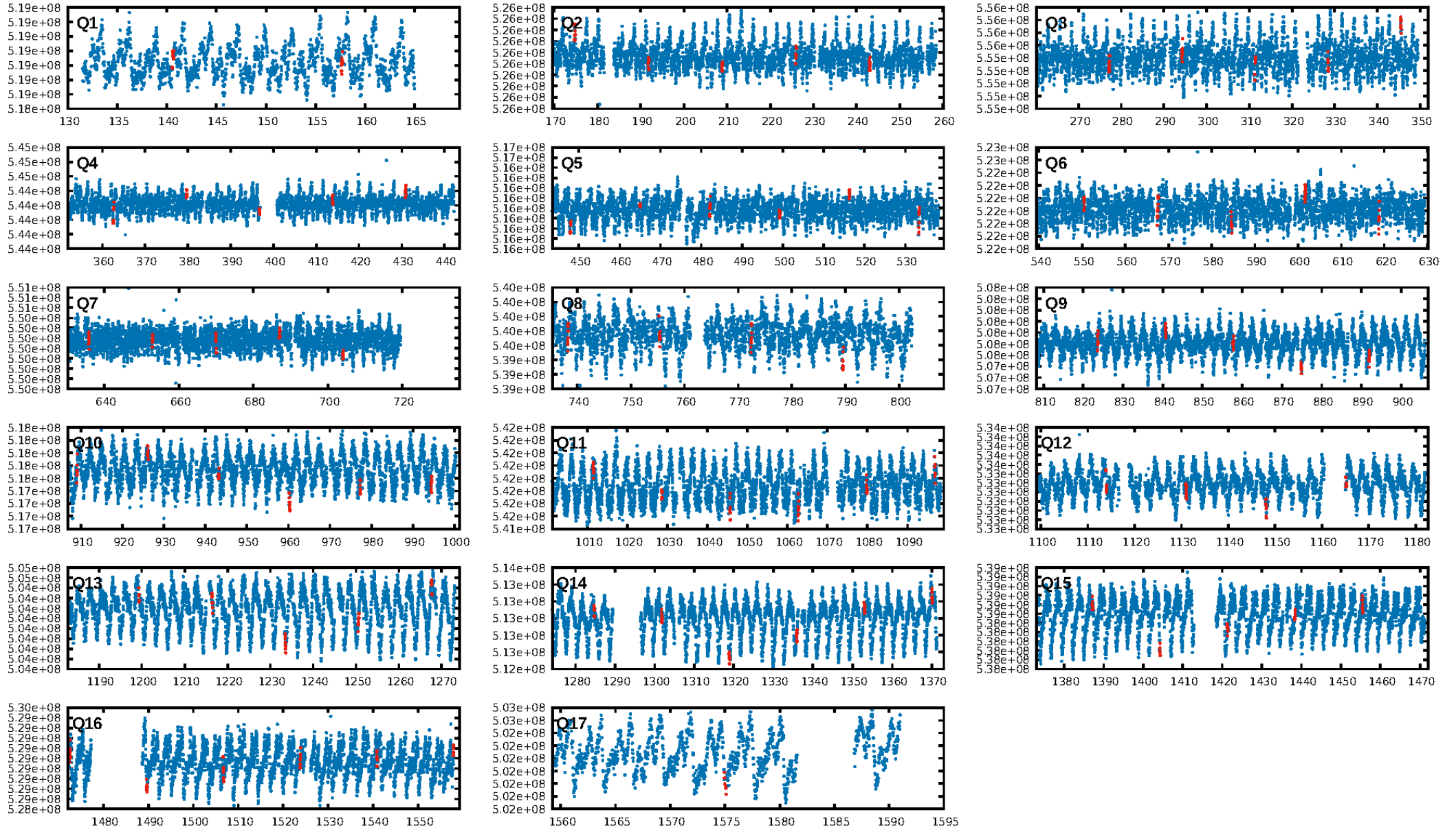
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [53.87σ]
LongPeriod-sig: 100.0% [38.60σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 3.5%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 0.1621
Centroid-sig: 1.7%
Centroid-so: 0.335 arcsec [2.02σ]
OotOffset-rm: 0.620 arcsec [2.34σ]
KicOffset-rm: 0.664 arcsec [2.41σ]
OotOffset-st: 4/3/4/3 [14]
KicOffset-st: 4/3/4/3 [14]
DiffImageQuality-fgm: 0.79 [11/14]
DiffImageOverlap-fno: 0.00 [0/17]

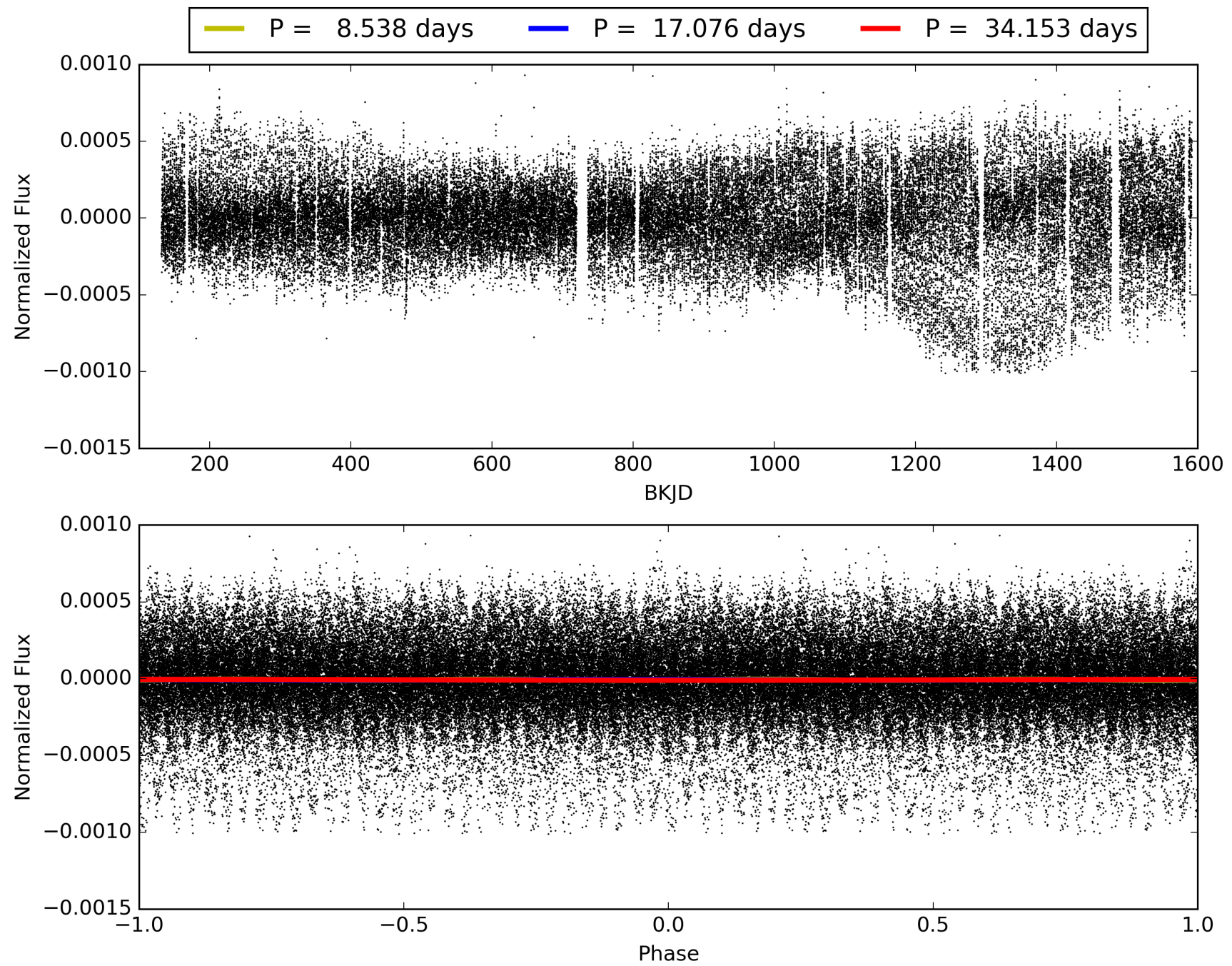
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:59:34 Z

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

TCE 009651374-02, PDC Light Curves

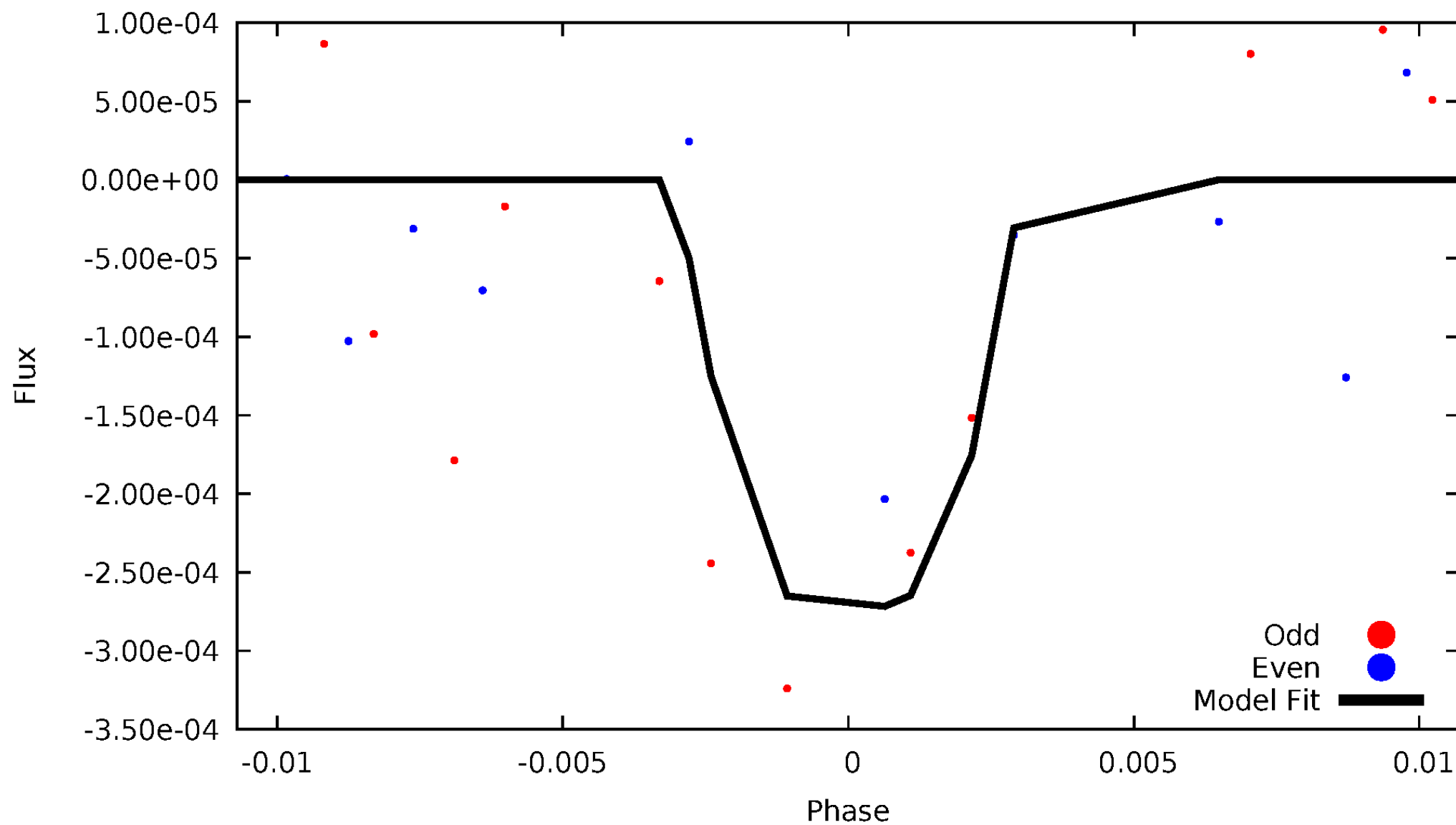


TCE 009651374-02



DV Odd/Even

TCE 009651374-02

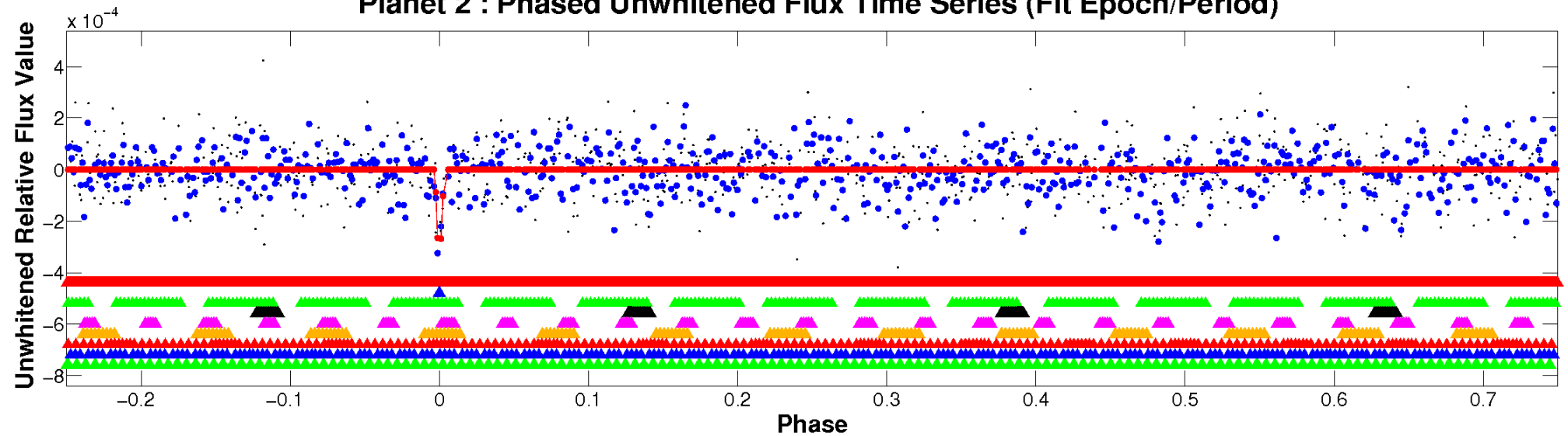


ALT Odd/Even

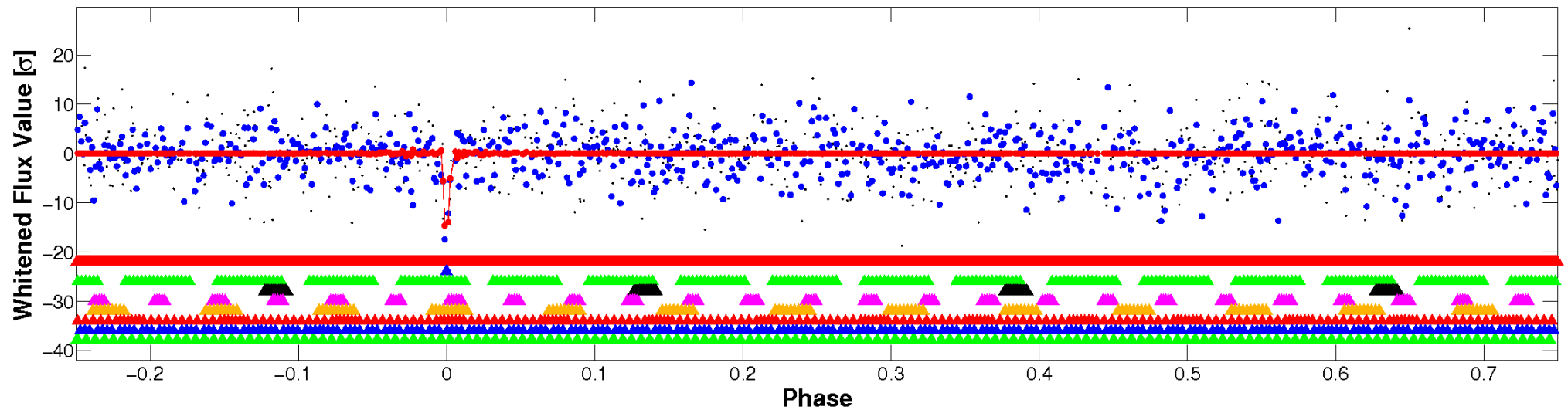
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

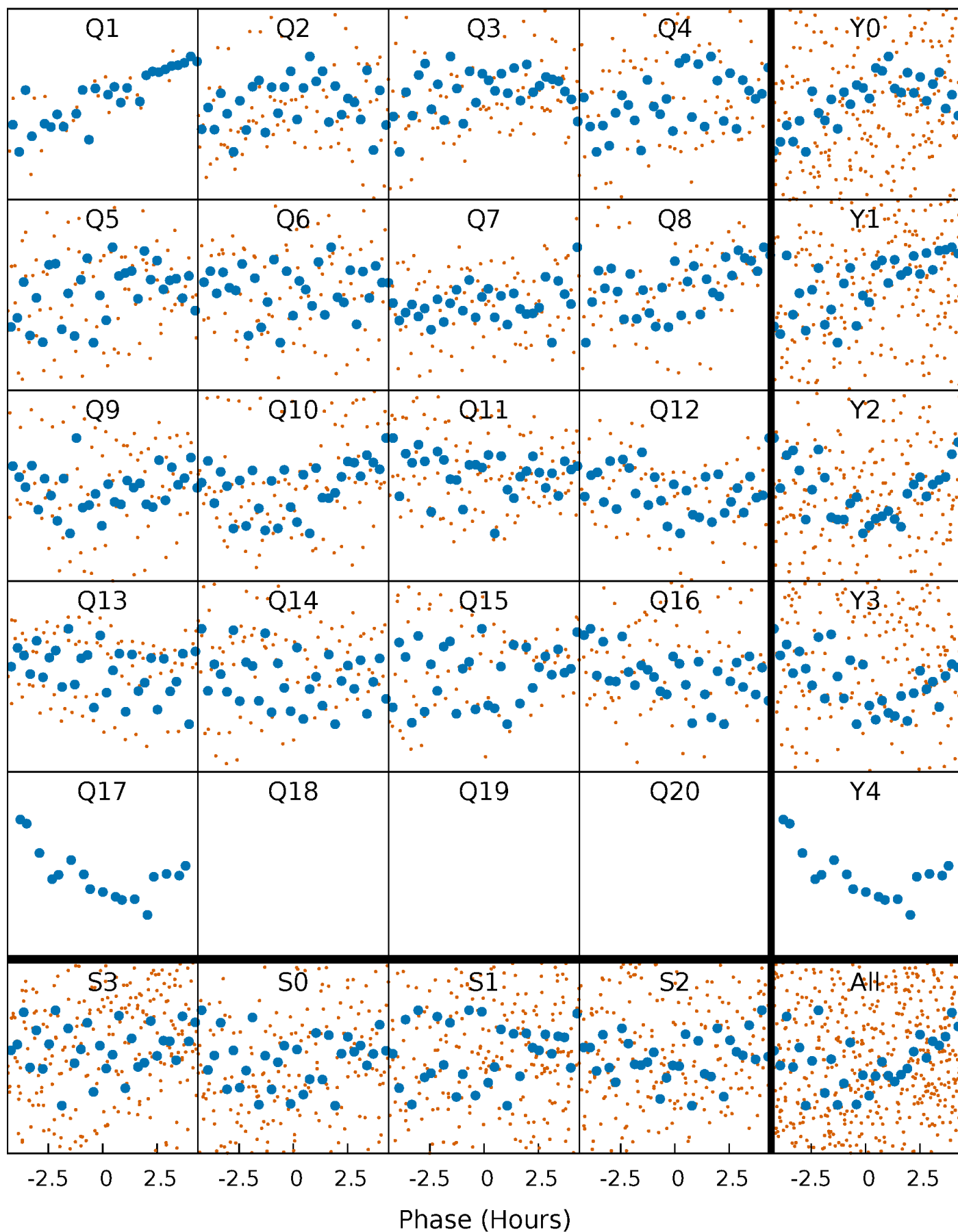


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



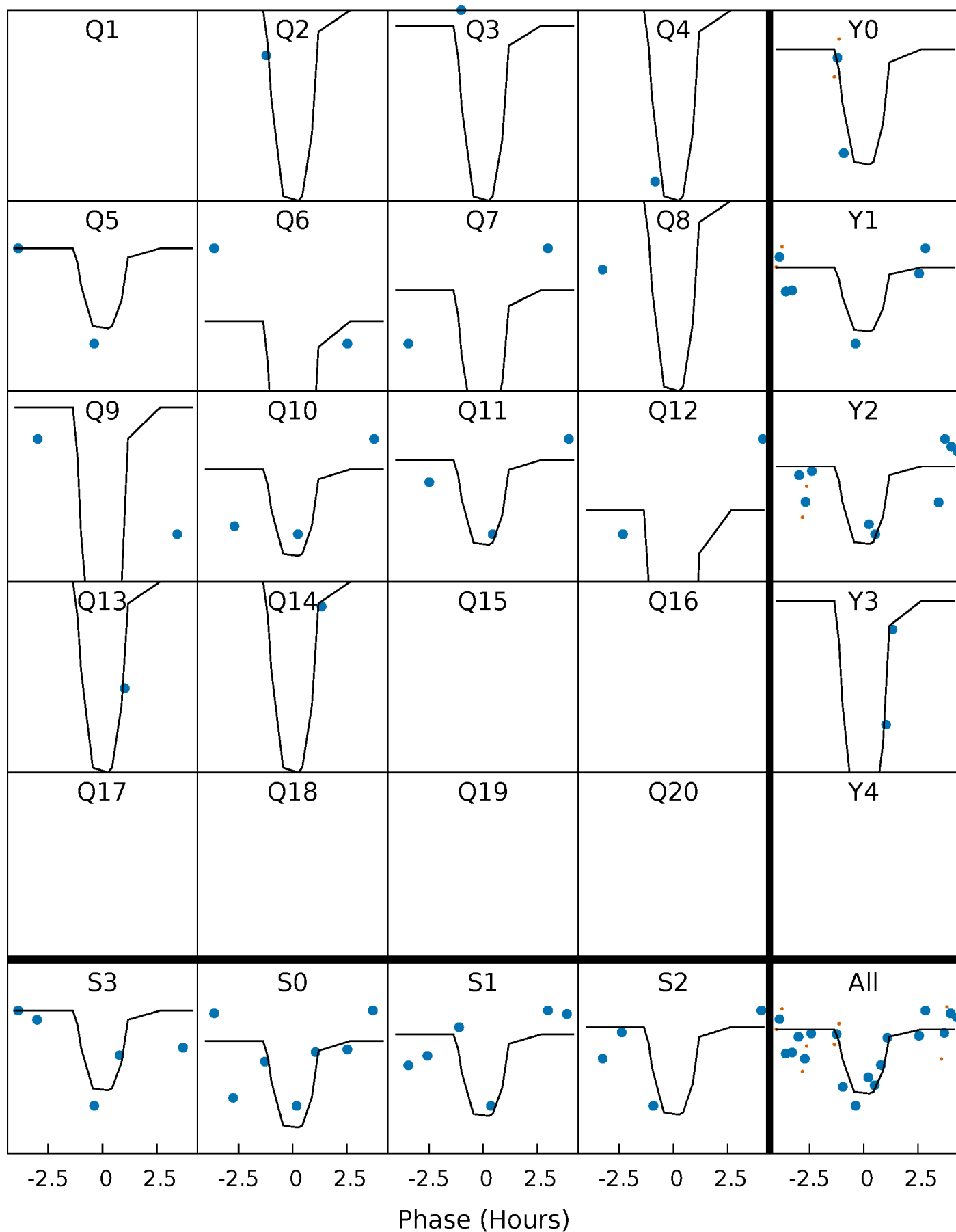
PDC Quarter-Phased Transit Curves

TCE 009651374-02 P= 17.076454 Days $T_0=140.599779$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 009651374-02 P= 17.076454 Days $T_0=140.599779$ (BKJD)

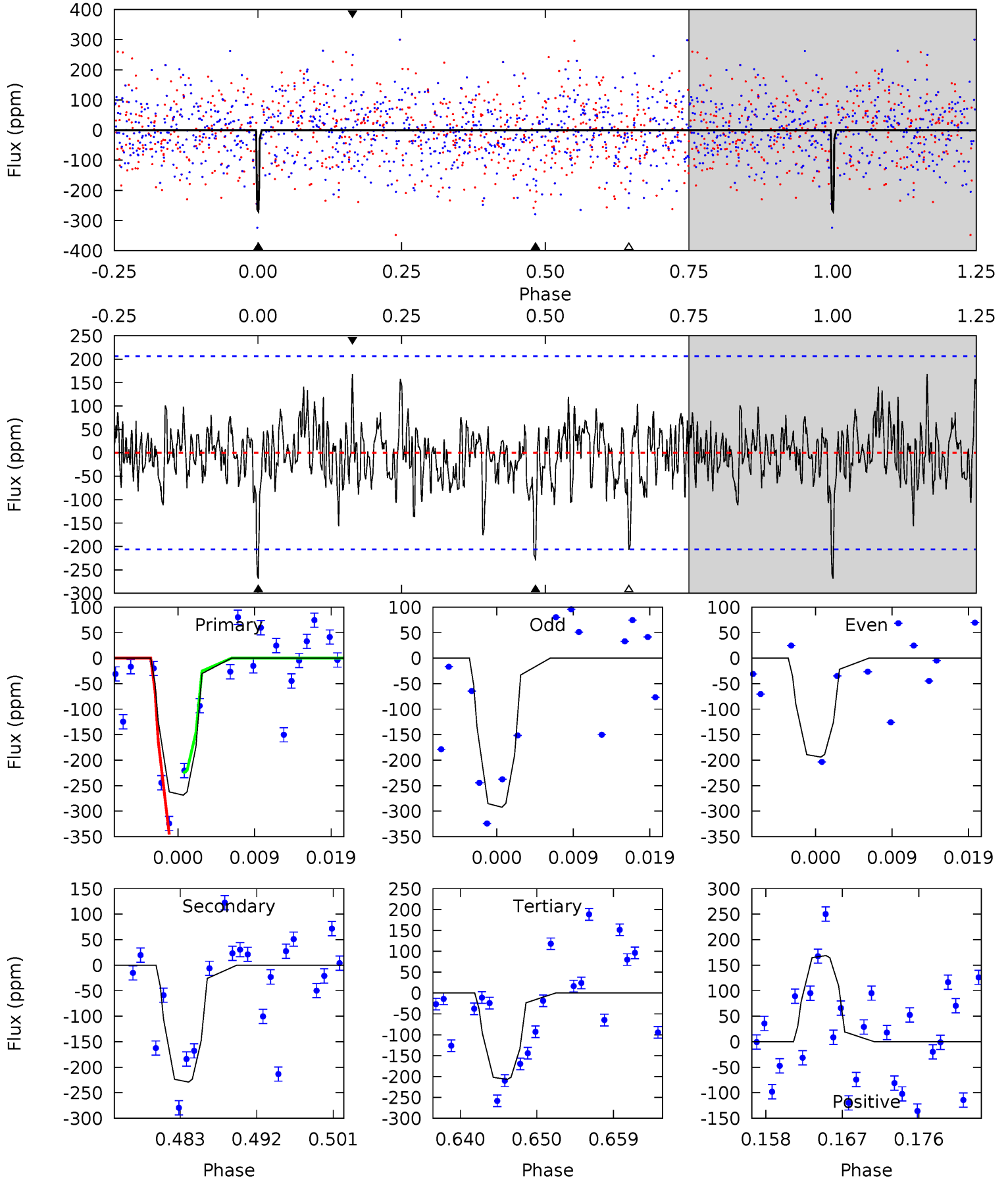


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

009651374-02, P = 17.076454 Days, E = 123.523325 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.56	5.60	5.05	4.12	5.04	2.60	1.27	1.51	2.44	0.54	1.47	1.10	0	0.39	1.39



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 009651374

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7100^{+192}_{-235}	$3.806^{+0.285}_{-0.095}$	$-0.440^{+0.300}_{-0.250}$	$2.590^{+0.395}_{-0.921}$	$1.565^{+0.217}_{-0.325}$	$0.127^{+0.255}_{-0.039}$
	+3%/-3%	+7%/-2%	+68%/-57%	+15%/-36%	+14%/-21%	+201%/-31%
Source	PHO1	FLK73	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 009651374-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-229 ± 41	$7.60^{+8.28}_{-5.11}$	1789^{+104}_{-144}	5162^{+4292}_{-1257}	49^{+393}_{-38}
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 $A_{\text{obs}} \gg 1.0$

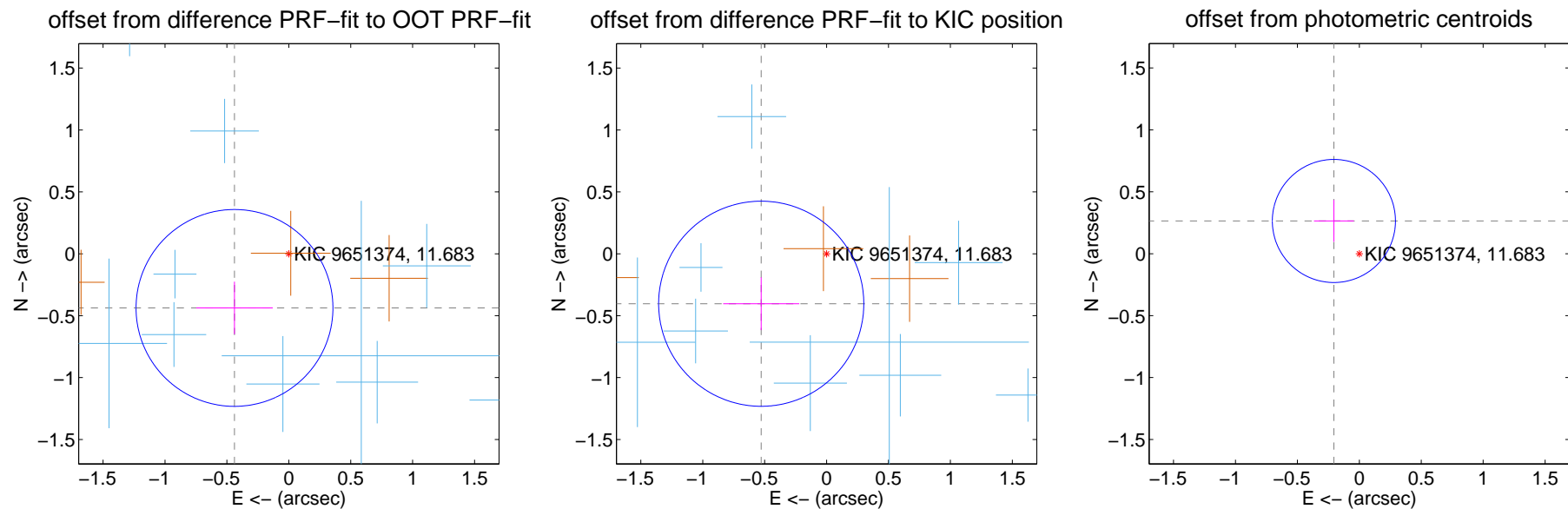
DV Centroid Data

Supplemental centroid analysis for 009651374-02. **Kepler magnitude: 11.68.** Transit SNR 26.25

There are 11 quarters with good PRF difference image offsets

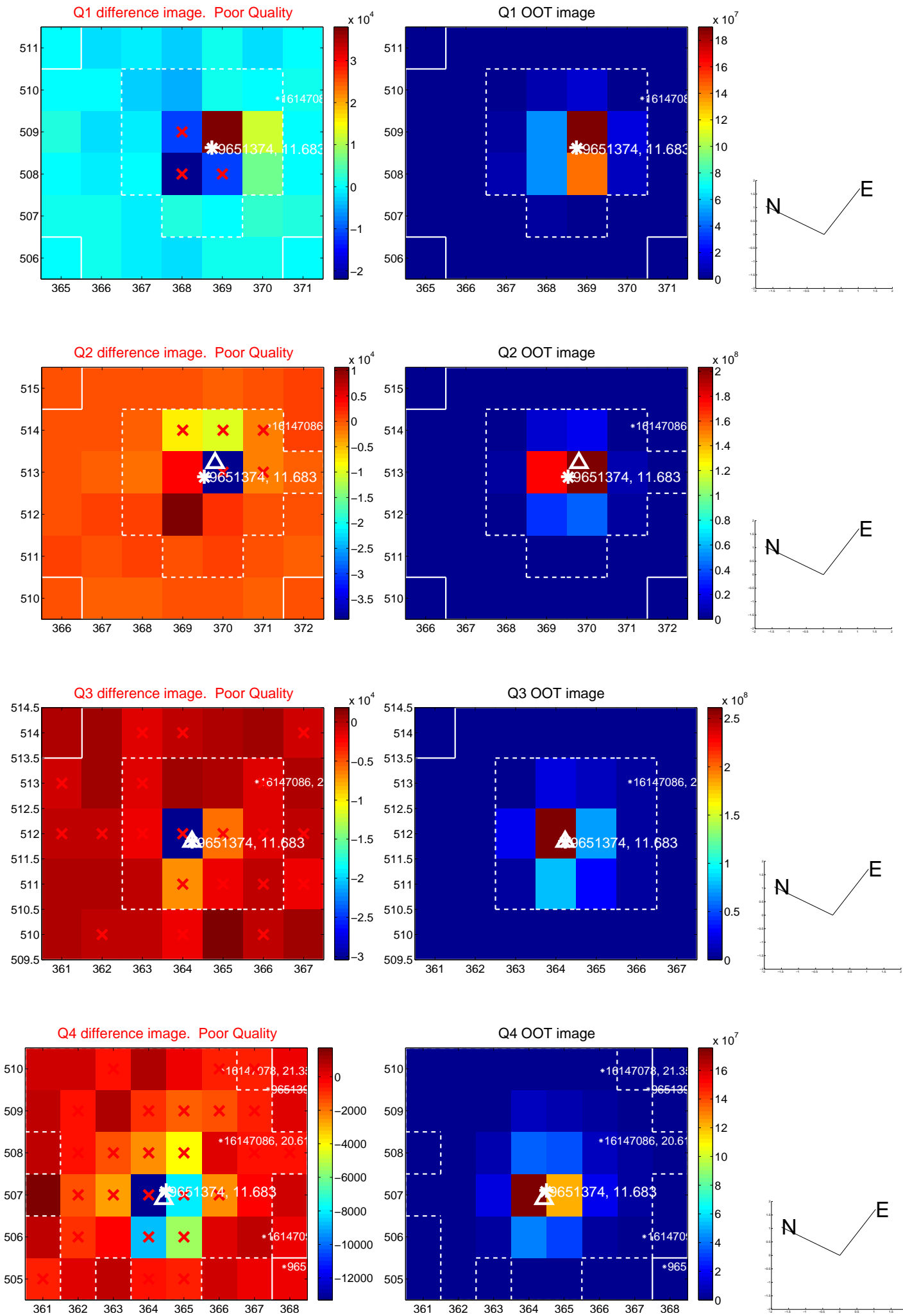
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.620 ± 0.265	2.34	0.439 ± 0.309	-0.437 ± 0.212
PRF-fit source offset from KIC position	0.664 ± 0.276	2.41	0.528 ± 0.307	-0.403 ± 0.213
photometric centroid source offset	0.33 ± 0.17	2.02	0.21 ± 0.16	0.26 ± 0.17

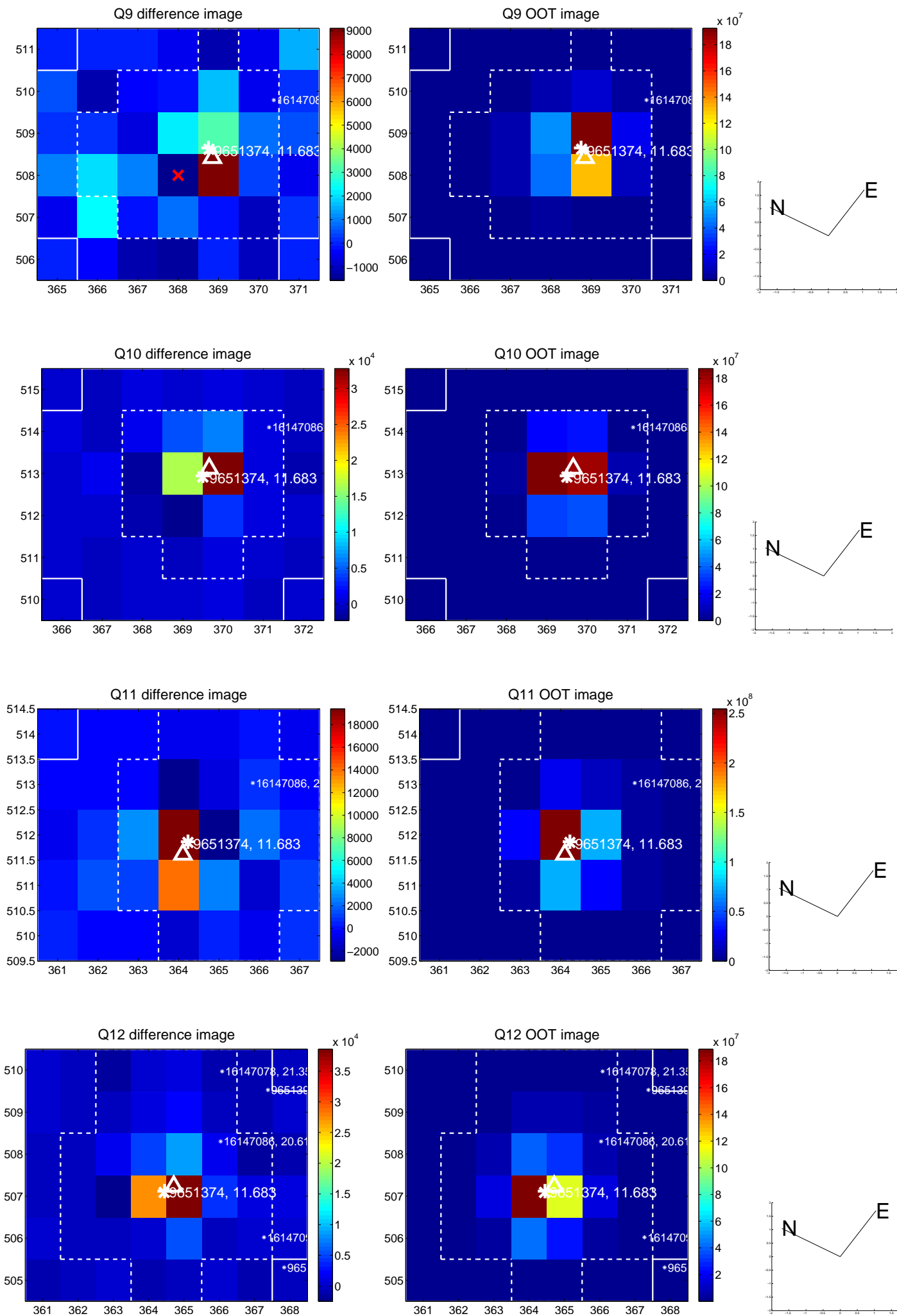


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

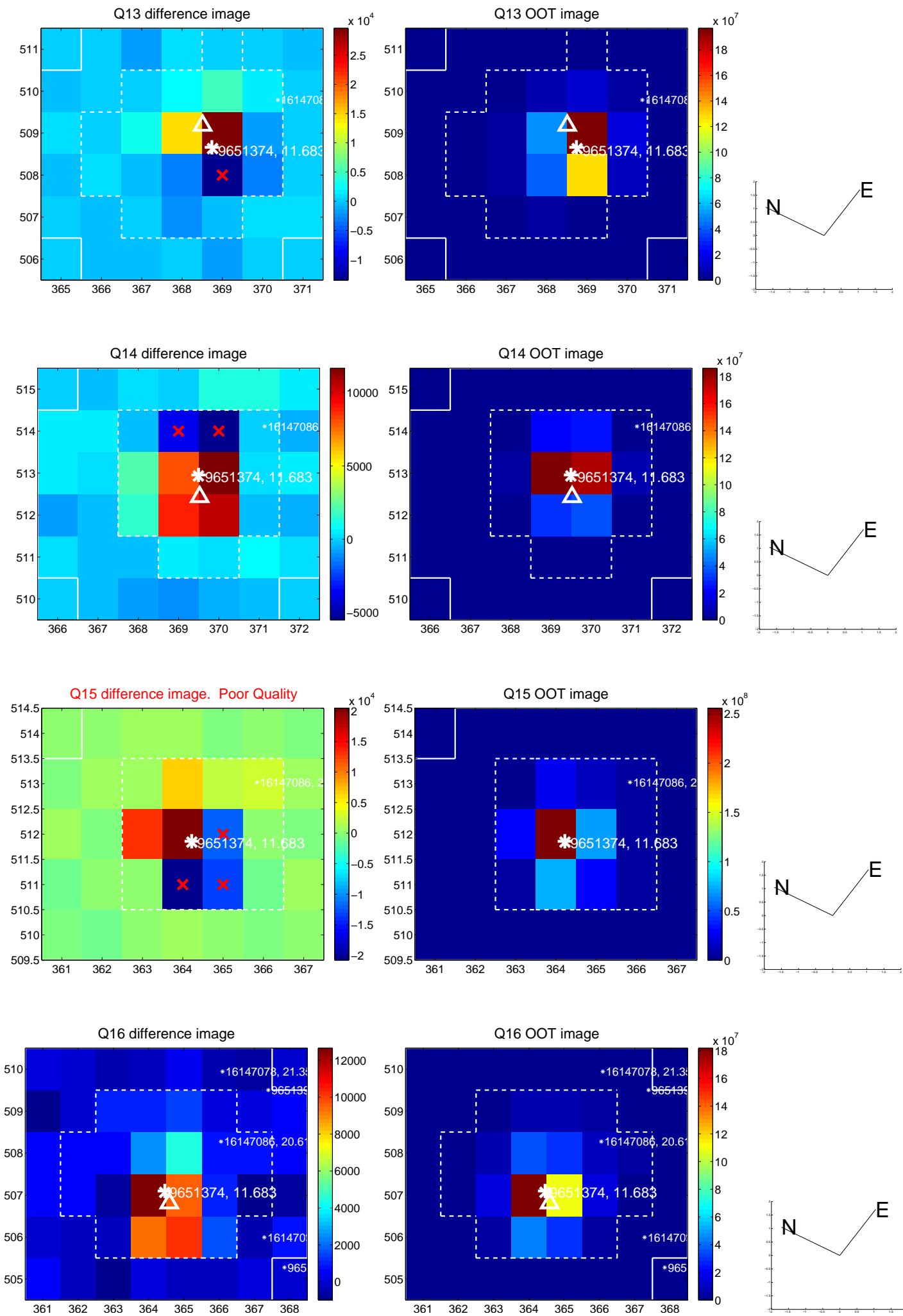
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



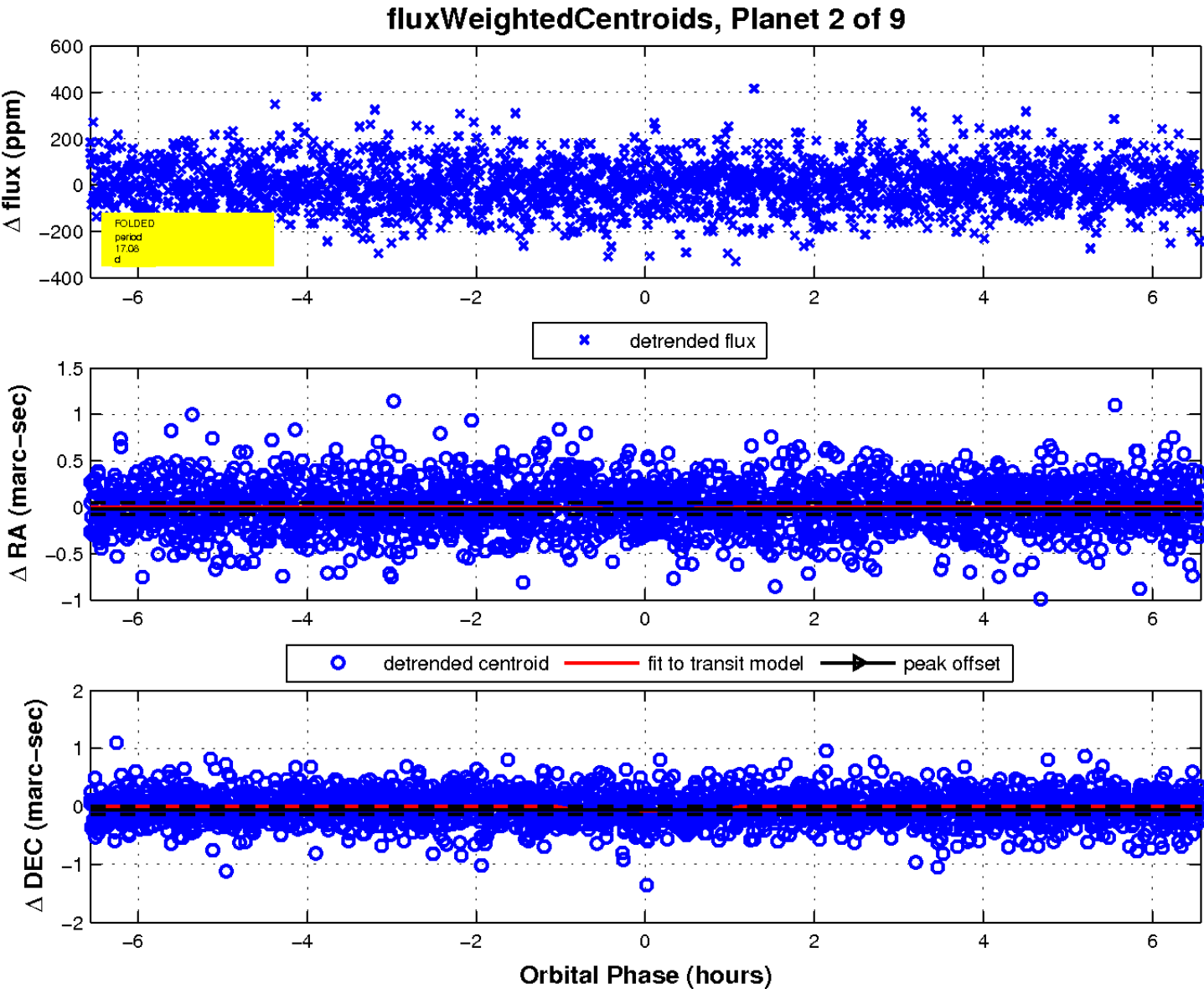
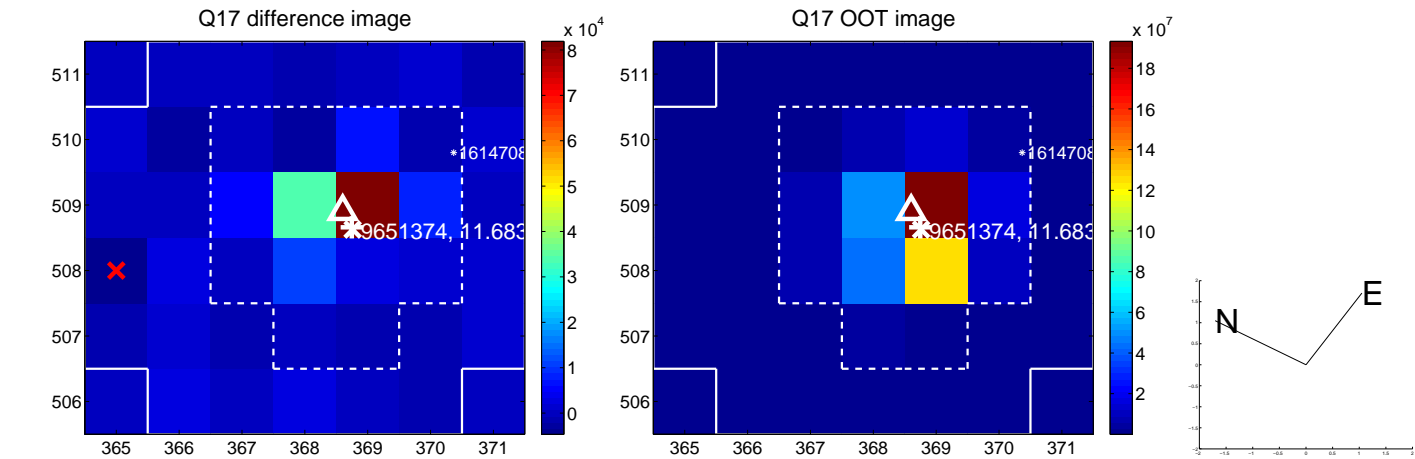
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



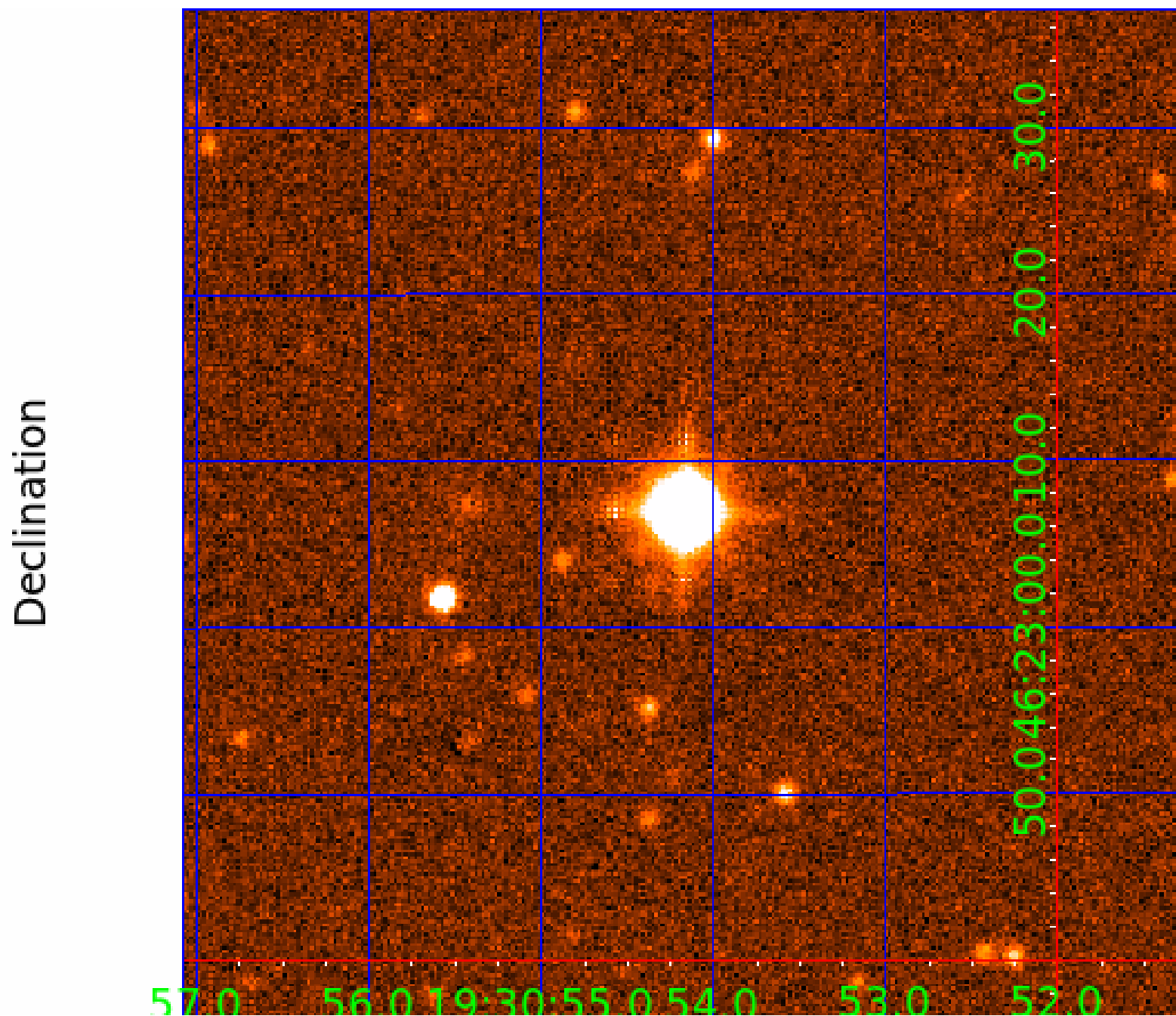
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 009651374

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})
009651374-01	OBS	No	0.688632	132.205699	6.9	5.248	14.0	6.2	2.59	7100	0.70	48619.58
009651374-02	OBS	No	17.076454	140.599779	275.0	2.193	18.1	26.2	2.59	7100	4.92	672.35
009651374-03	OBS	No	5.339272	135.794486	91.2	0.806	15.7	10.2	2.59	7100	2.91	3168.24
009651374-04	OBS	No	21.349528	142.760997	294.0	1.500	12.9	-1.0	2.59	7100	4.49	499.20
009651374-05	OBS	No	10.930089	135.842245	323.7	1.500	18.0	-1.0	2.59	7100	4.71	1218.88
009651374-07	OBS	No	6.092397	133.456136	101.0	1.192	13.4	11.6	2.59	7100	2.79	2657.11
009651374-08	OBS	No	5.454224	133.685652	203.5	1.052	11.8	20.7	2.59	7100	3.85	3079.52
009651374-09	OBS	No	2.723803	132.373994	77.0	1.062	13.3	12.3	2.59	7100	2.43	7772.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009651374-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT
009651374-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
009651374-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
009651374-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
009651374-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
009651374-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
009651374-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
009651374-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

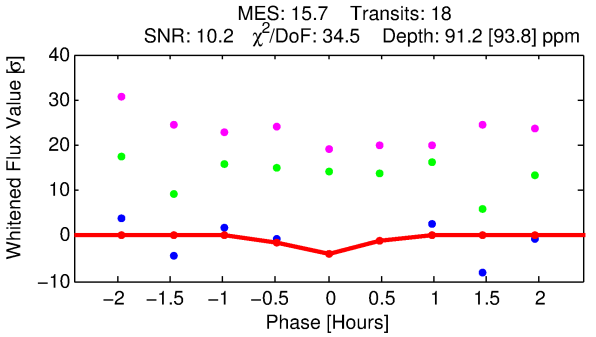
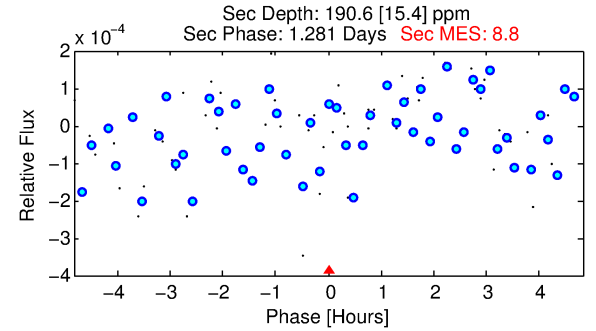
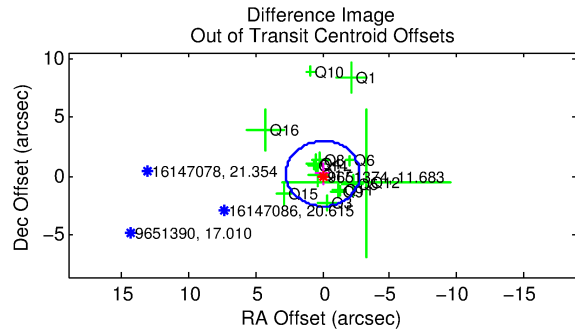
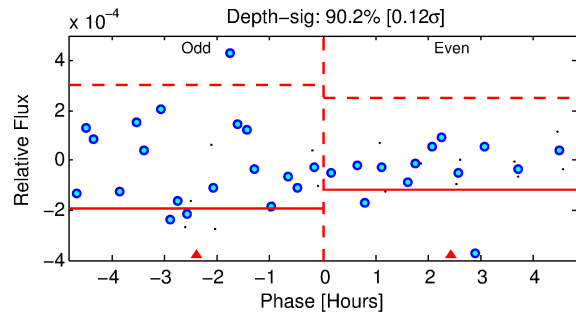
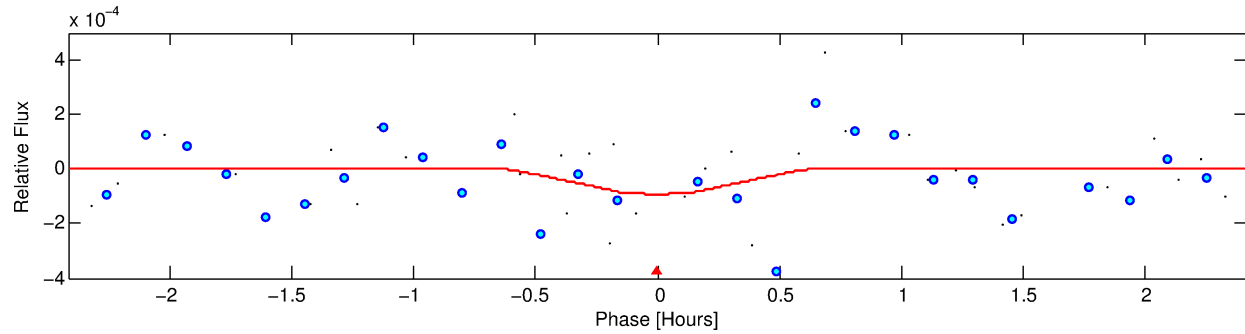
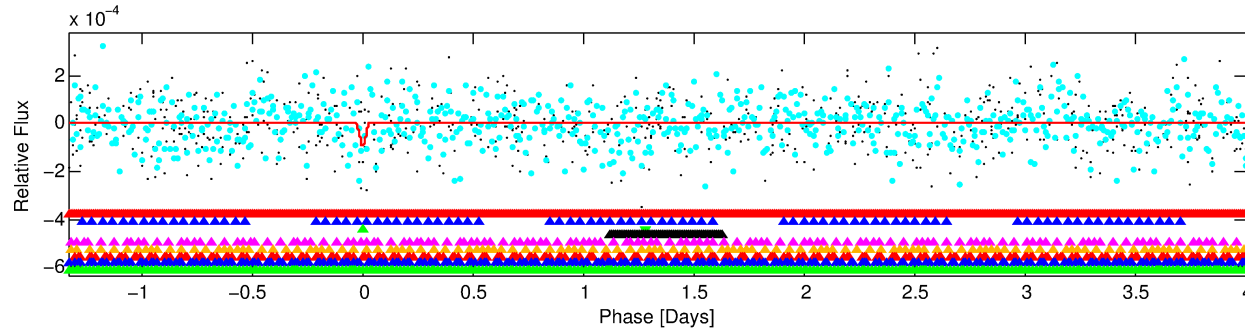
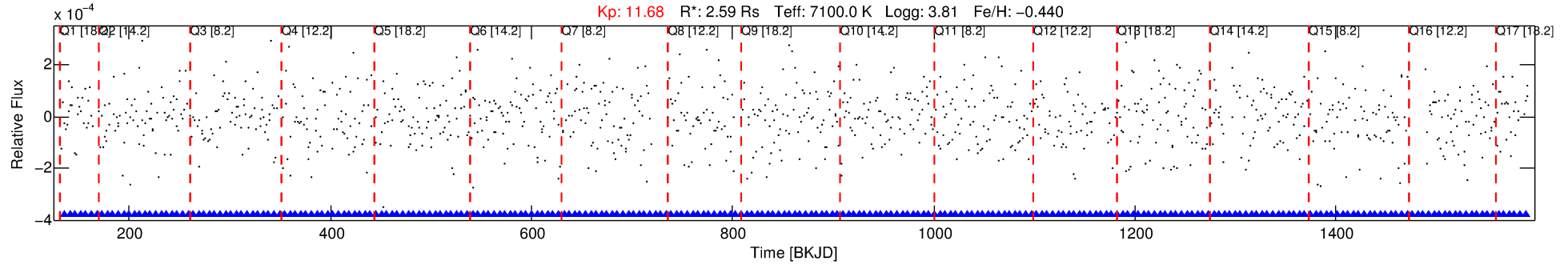
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009651374-03

No Significant Match Found

DV One-Page Summary

KIC: 9651374 Candidate: 3 of 9 Period: 5.339 d



DV Fit Results:

Period = 5.33927 [0.00013] d
Epoch = 135.7945 [0.0161] BKJD
Rp/R* = 0.0103 [0.0141]
a/R* = 23.69 [193.09]
b = 0.90 [1.83]
Seff = 3168.24 [1631.34]
Teq = 1913 [246] K
Rp = 2.91 [4.13] Re
a = 0.0694 [0.0224] AU
Ag = 59.65 [166.52] [0.35 σ]
Teffp = 8220 [5651] K [1.1 σ]

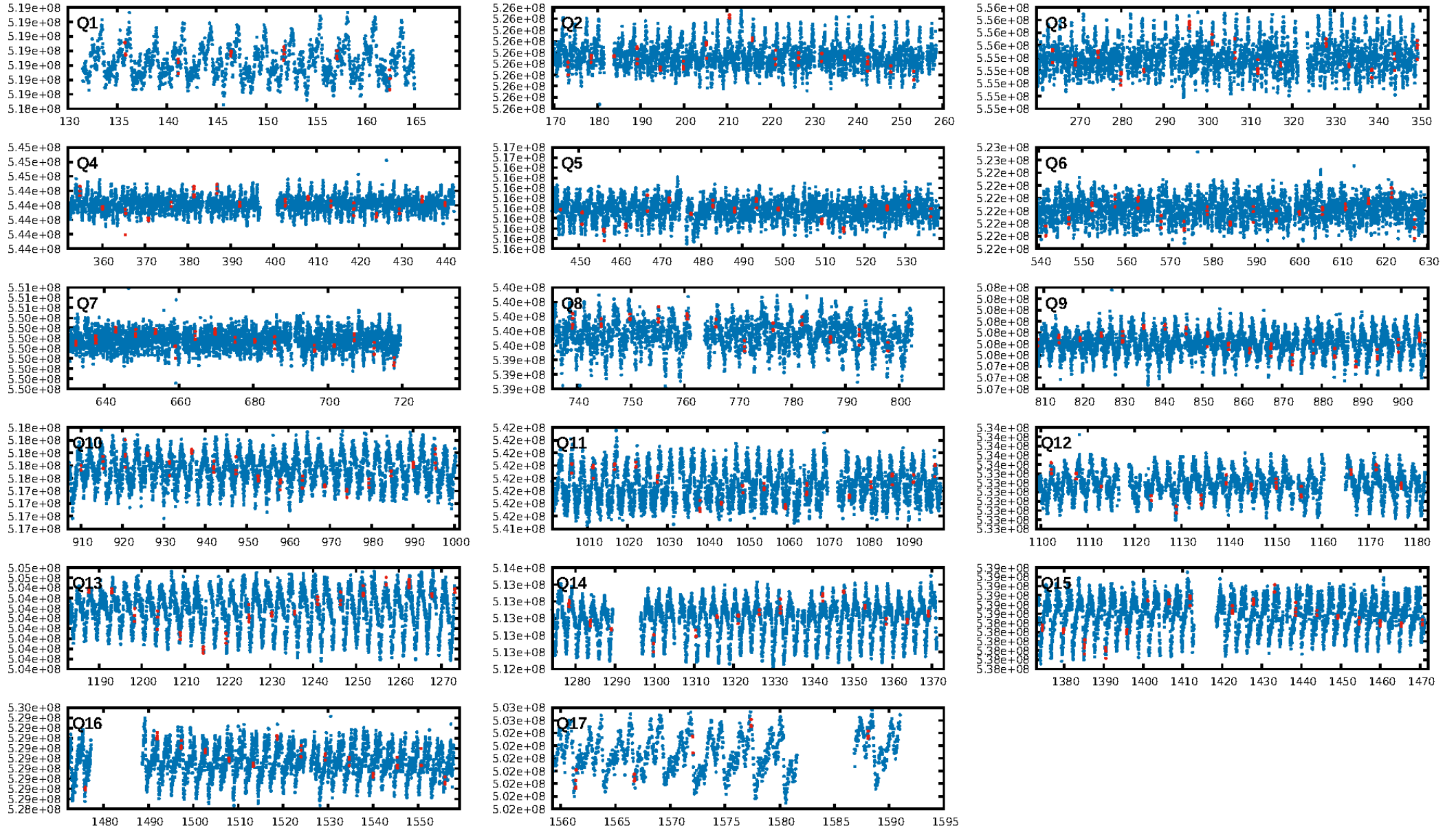
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [47.07 σ]
LongPeriod-sig: 96.3% [2.08 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [18/18]
GhostDiagnostic-chr: 15.61
Centroid-sig: 0.0%
Centroid-so: 1.628 arcsec [3.48 σ]
OotOffset-rm: 0.229 arcsec [0.25 σ]
KicOffset-rm: 0.273 arcsec [0.31 σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 0.29 [4/14]
DiffImageOverlap-fno: 0.12 [2/17]

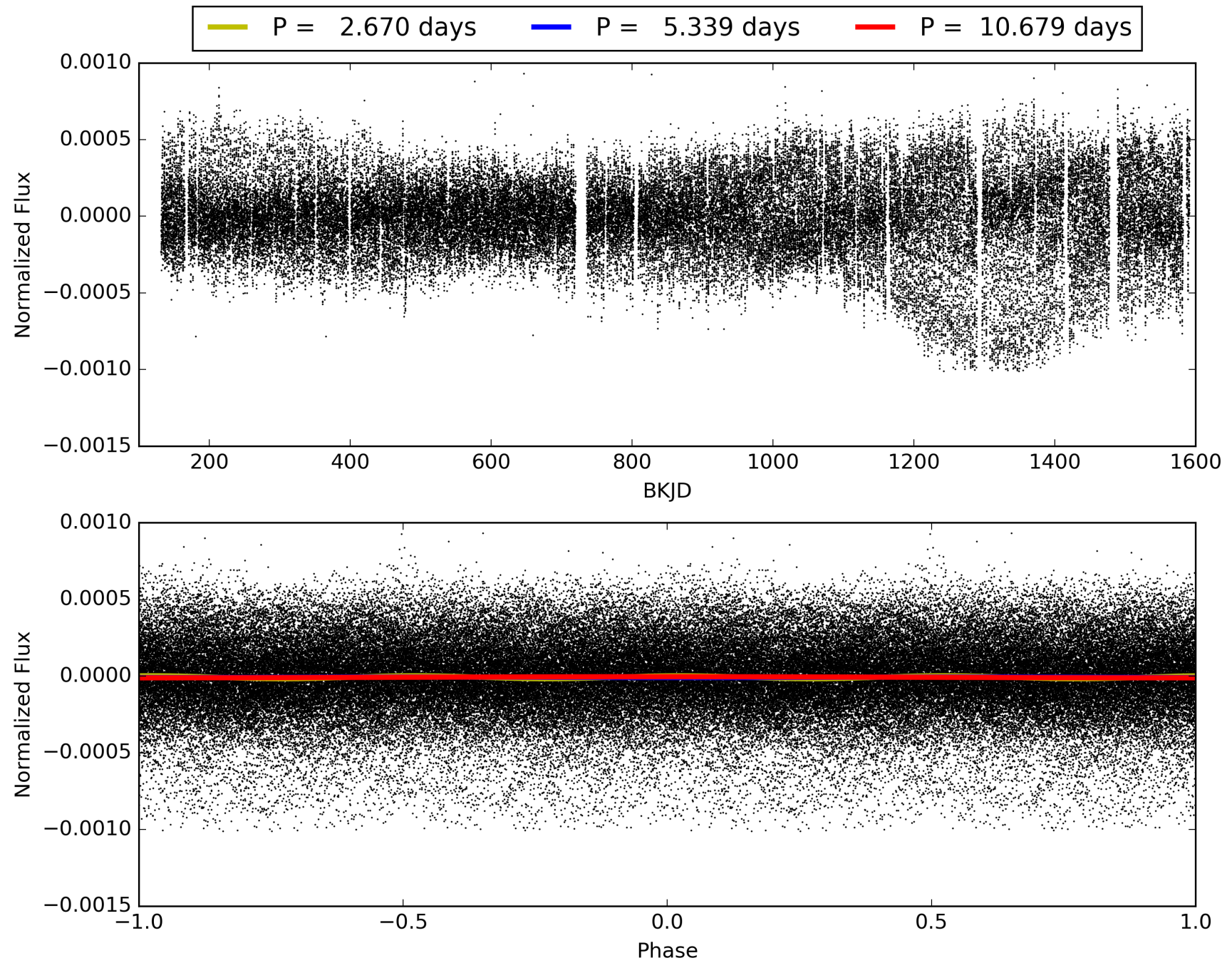
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:59:37 Z

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

TCE 009651374-03, PDC Light Curves

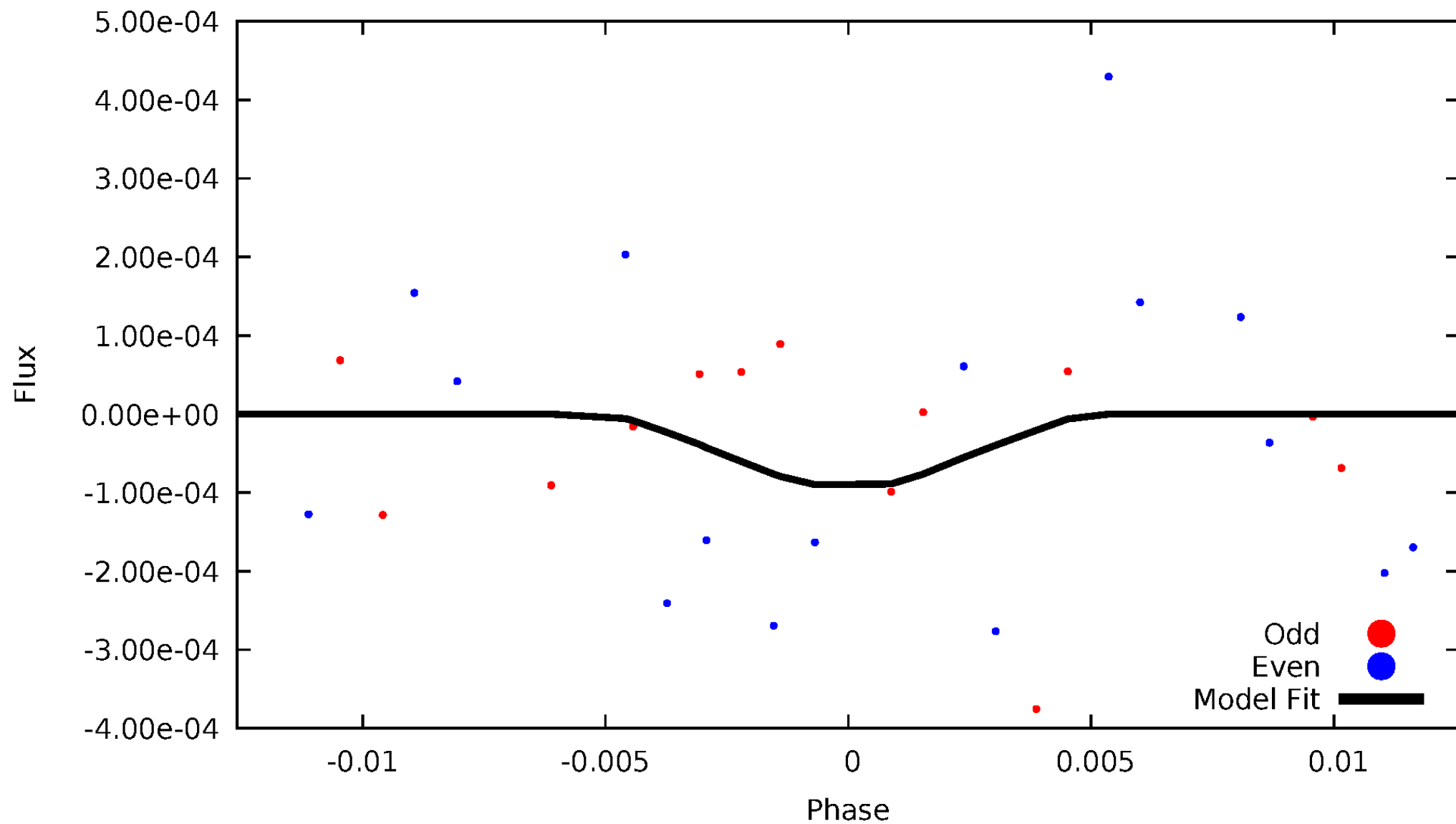


TCE 009651374-03



DV Odd/Even

TCE 009651374-03

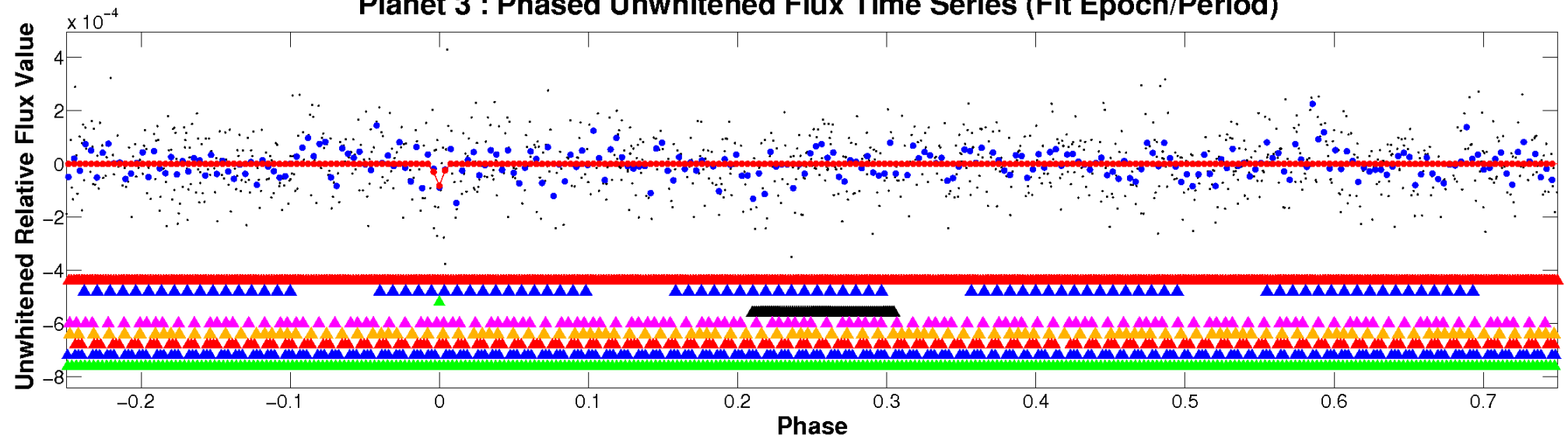


ALT Odd/Even

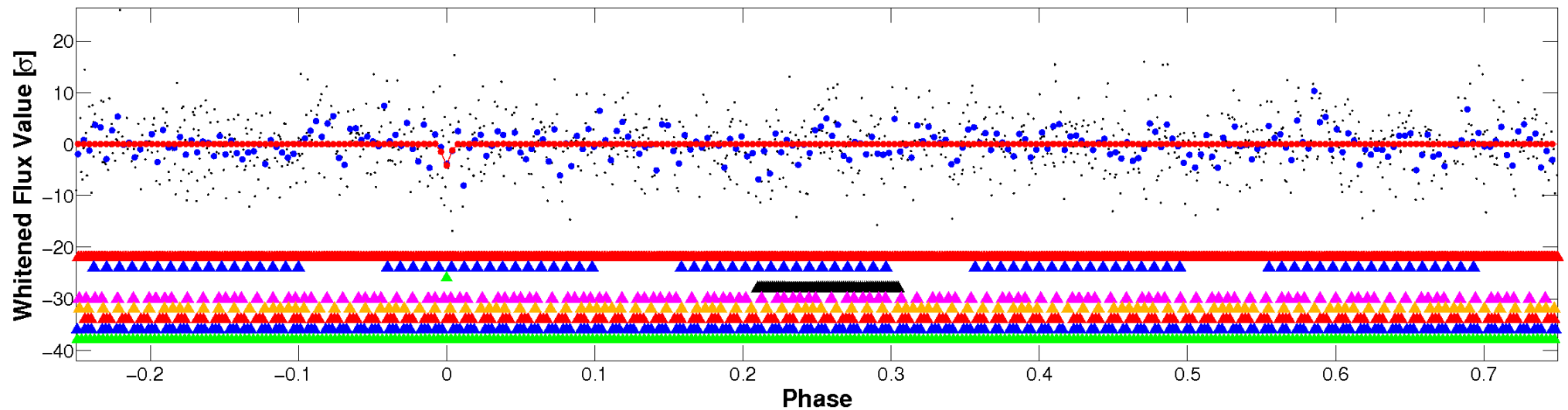
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

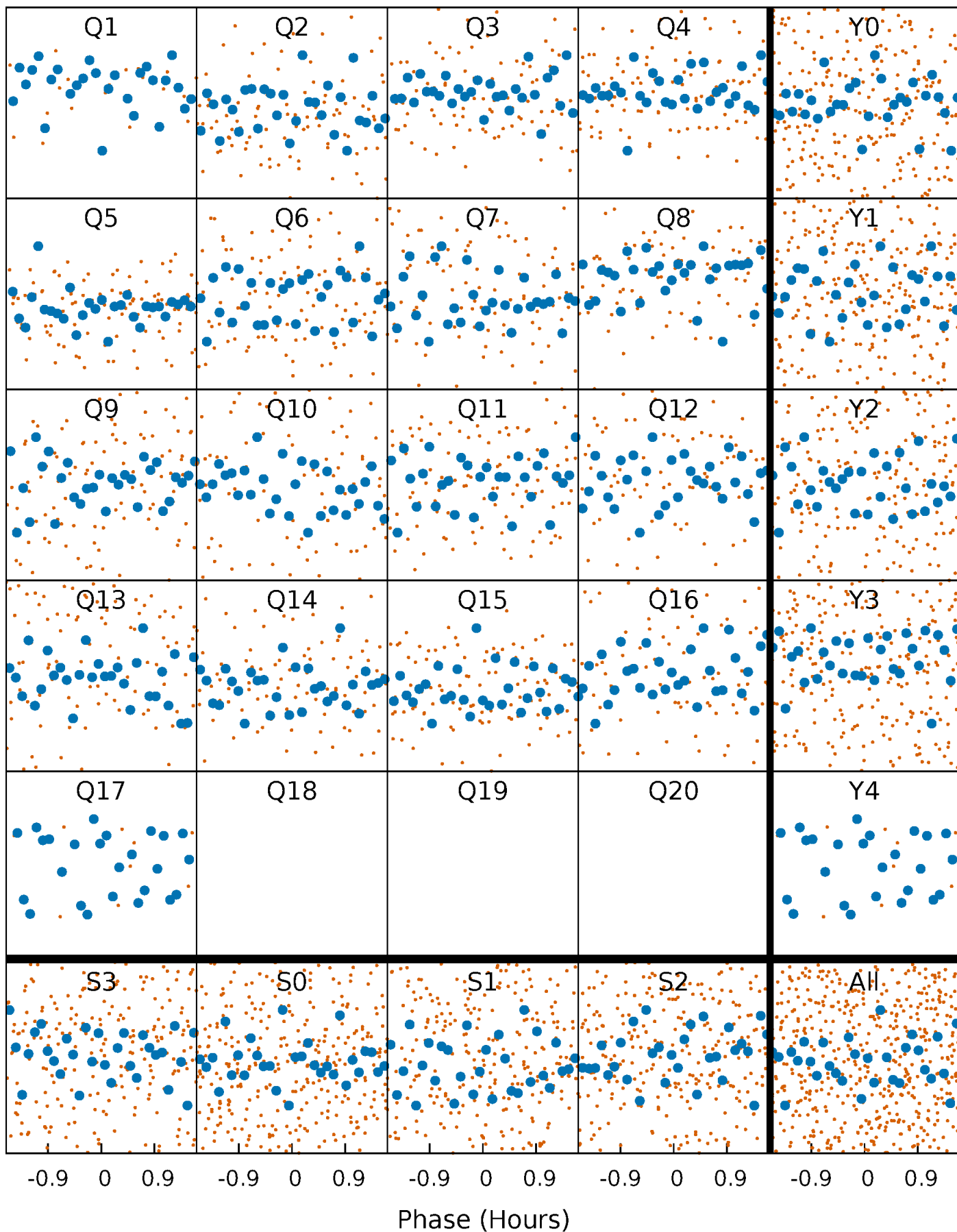


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



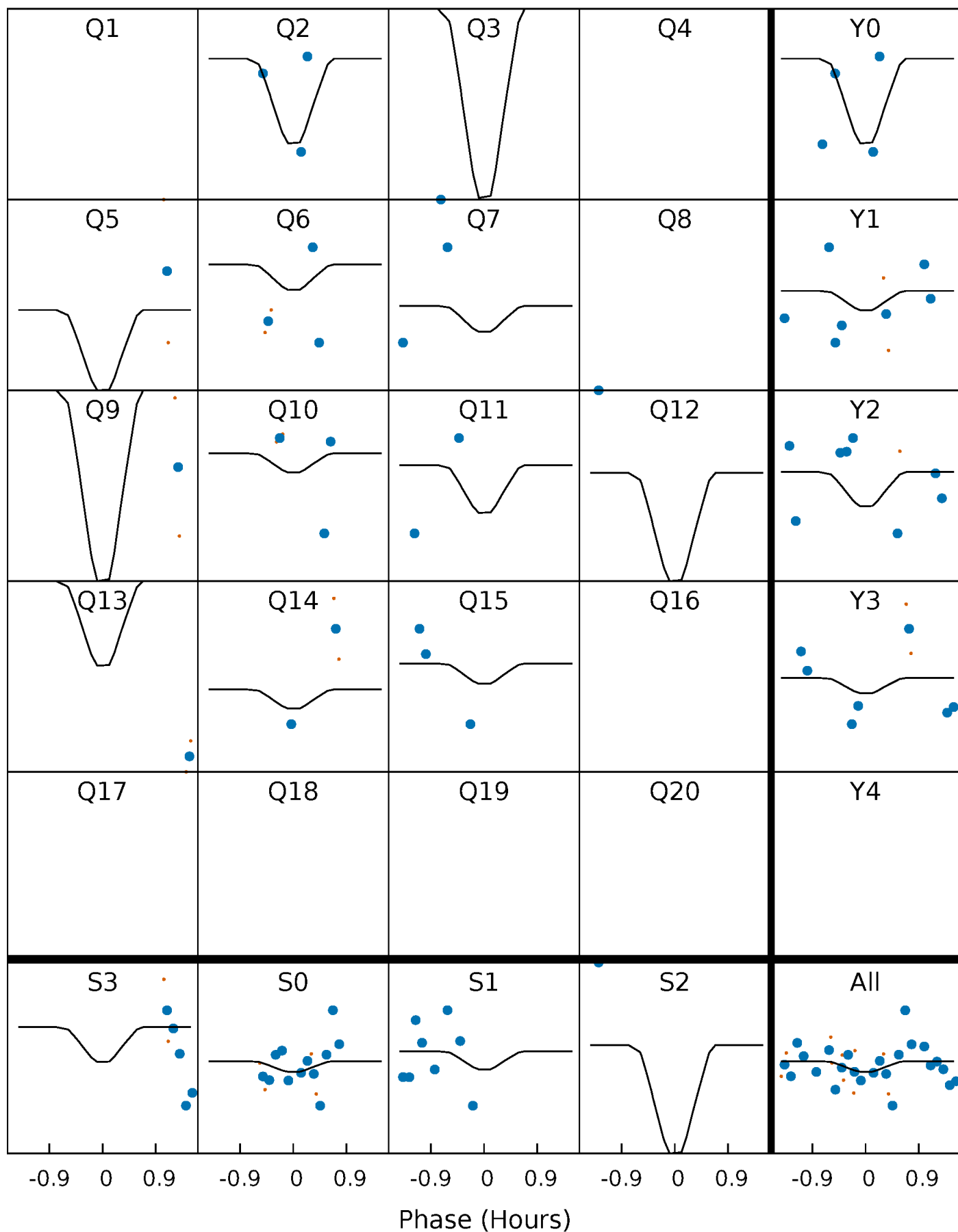
PDC Quarter-Phased Transit Curves

TCE 009651374-03 P= 5.339272 Days $T_0=135.794486$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 009651374-03 P= 5.339272 Days $T_0=135.794486$ (BKJD)

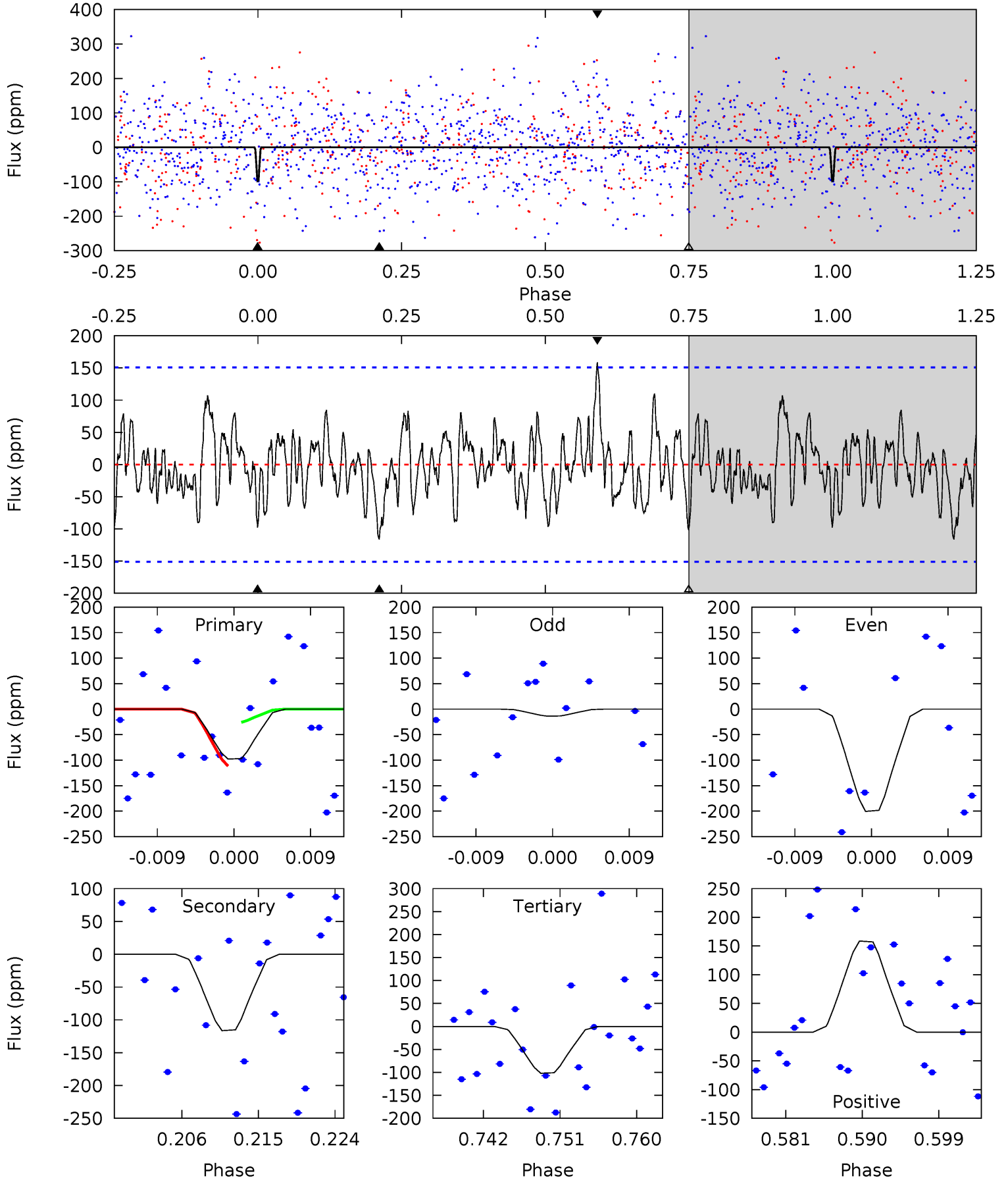


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

009651374-03, P = 5.339272 Days, E = 130.455214 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.27	3.89	3.40	5.31	5.05	2.61	1.41	-0.13	-2.04	0.49	-1.42	2.99	0	0.58	1.26



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 009651374

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7100^{+192}_{-235}	$3.806^{+0.285}_{-0.095}$	$-0.440^{+0.300}_{-0.250}$	$2.590^{+0.395}_{-0.921}$	$1.565^{+0.217}_{-0.325}$	$0.127^{+0.255}_{-0.039}$
	+3%/-3%	+7%/-2%	+68%/-57%	+15%/-36%	+14%/-21%	+201%/-31%
Source	PHO1	FLK73	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 009651374-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-116 ± 30	$3.77^{+3.16}_{-2.41}$	2627^{+168}_{-229}	6006^{+5069}_{-1472}	21^{+141}_{-15}
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 $A_{\text{obs}} \gg 1.0$

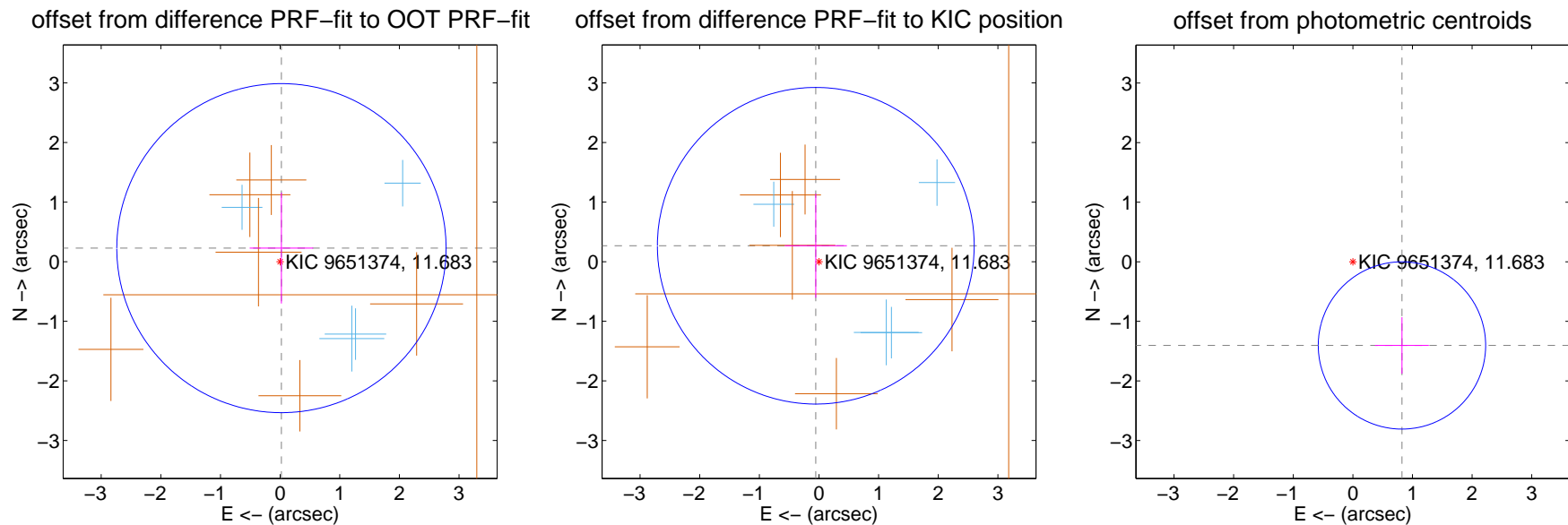
DV Centroid Data

Supplemental centroid analysis for 009651374-03. **Kepler magnitude: 11.68.** Transit SNR 10.21

There are 4 quarters with good PRF difference image offsets

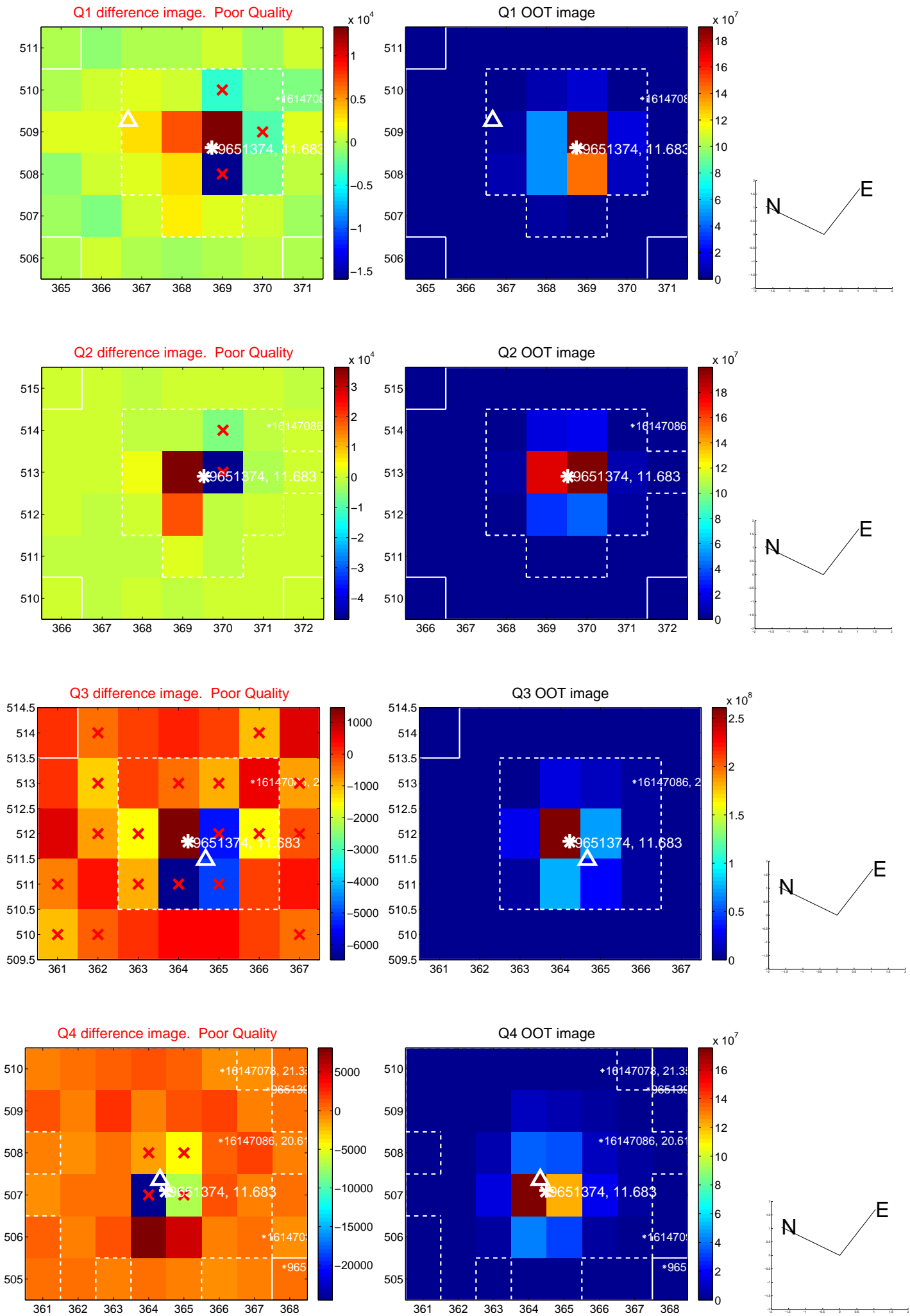
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.229 ± 0.920	0.25	-0.022 ± 0.533	0.227 ± 0.930
PRF-fit source offset from KIC position	0.273 ± 0.885	0.31	0.054 ± 0.521	0.268 ± 0.873
photometric centroid source offset	1.63 ± 0.47	3.48	-0.82 ± 0.45	-1.40 ± 0.47

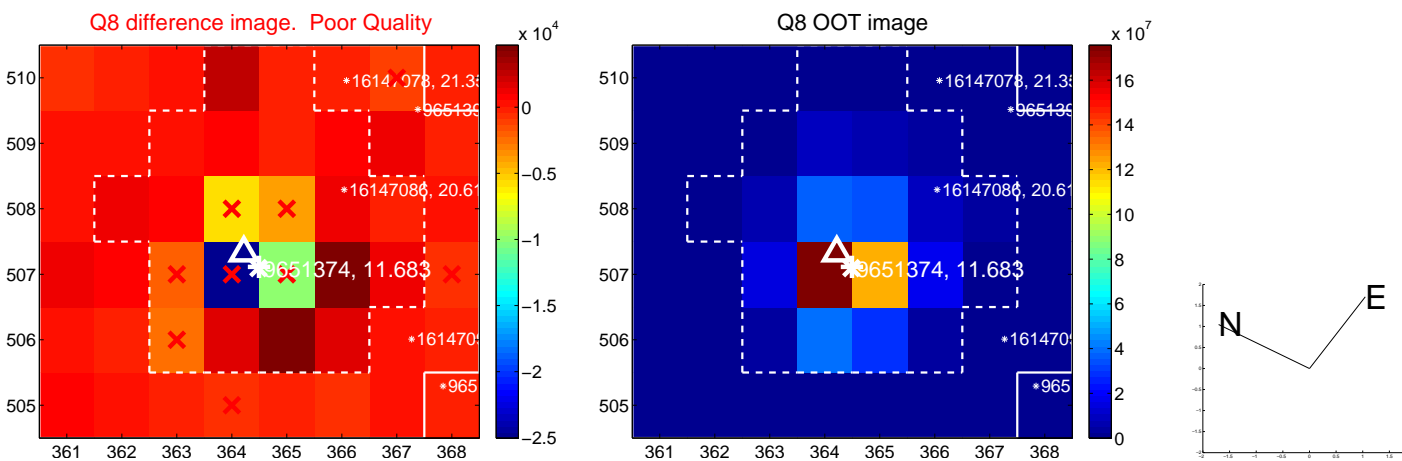
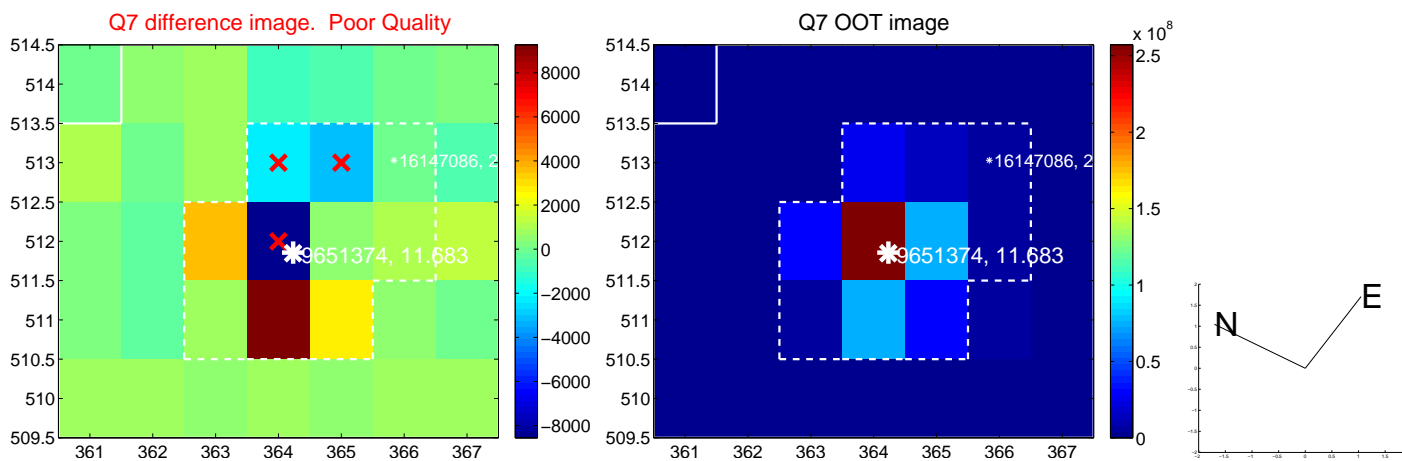
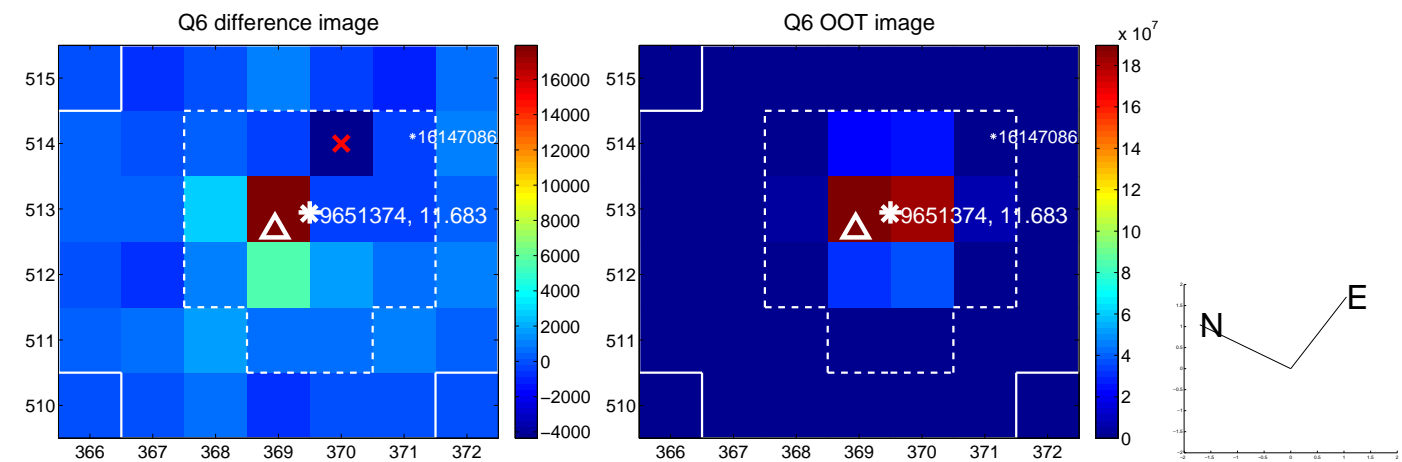
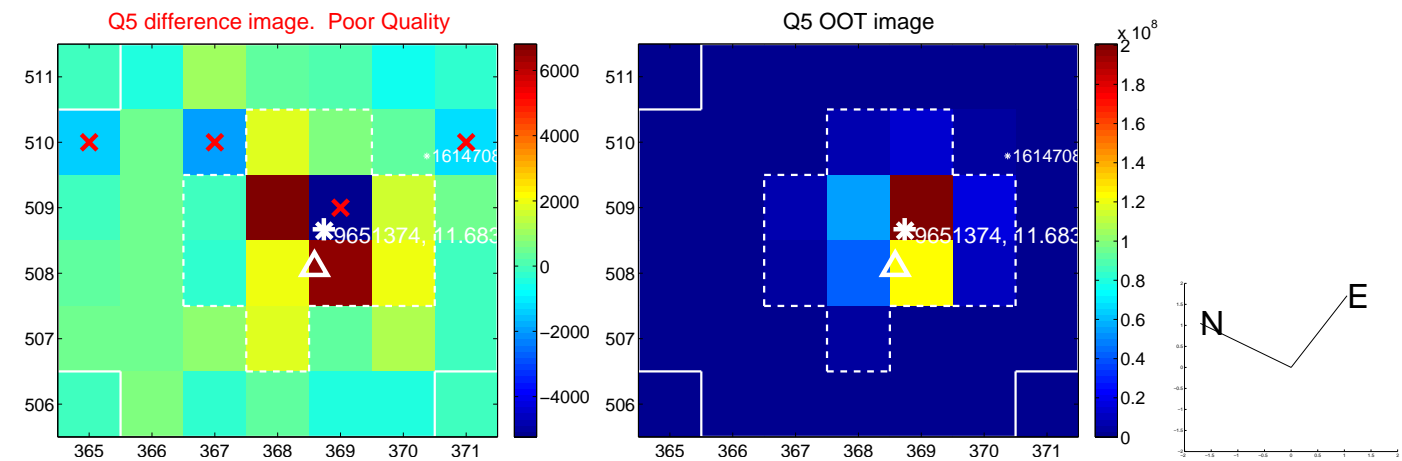


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

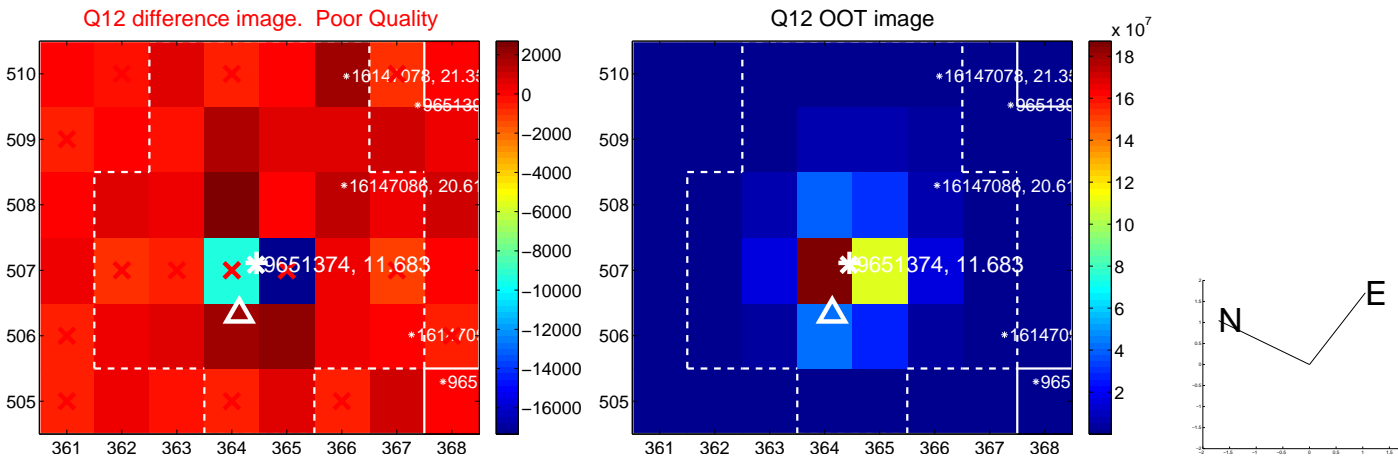
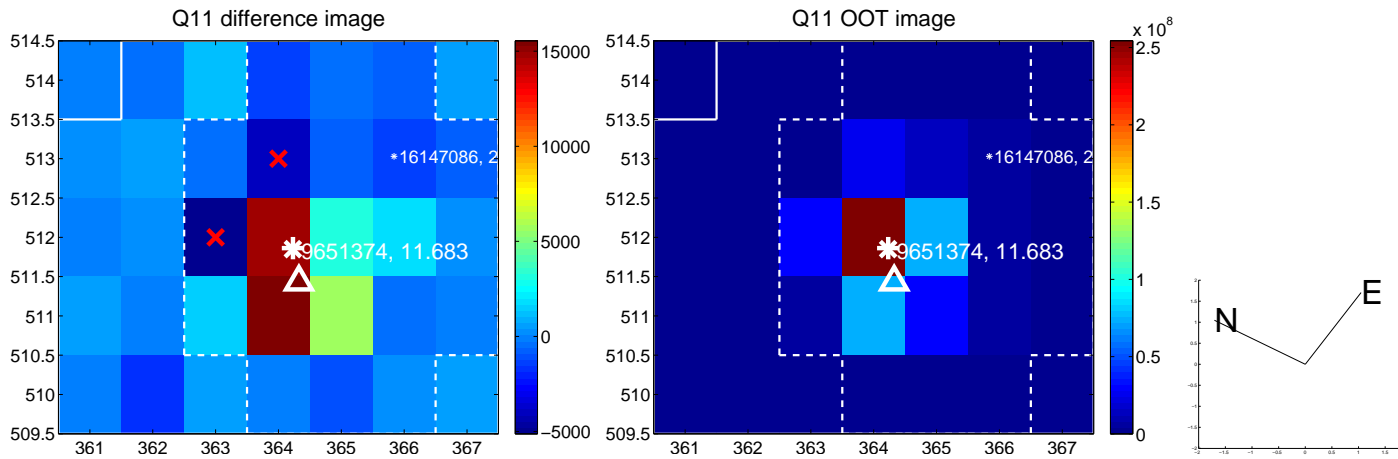
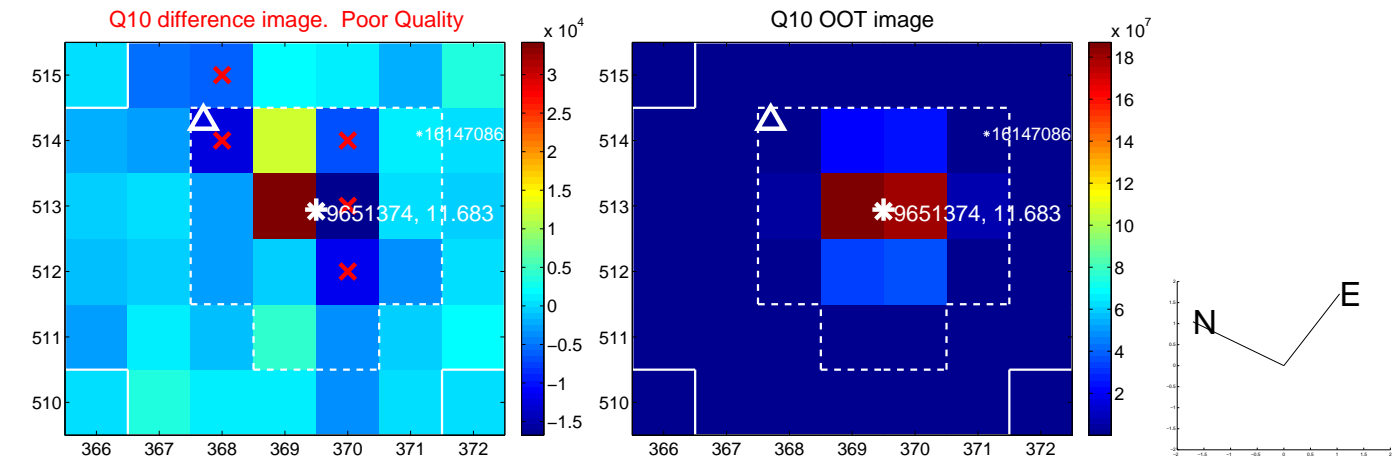
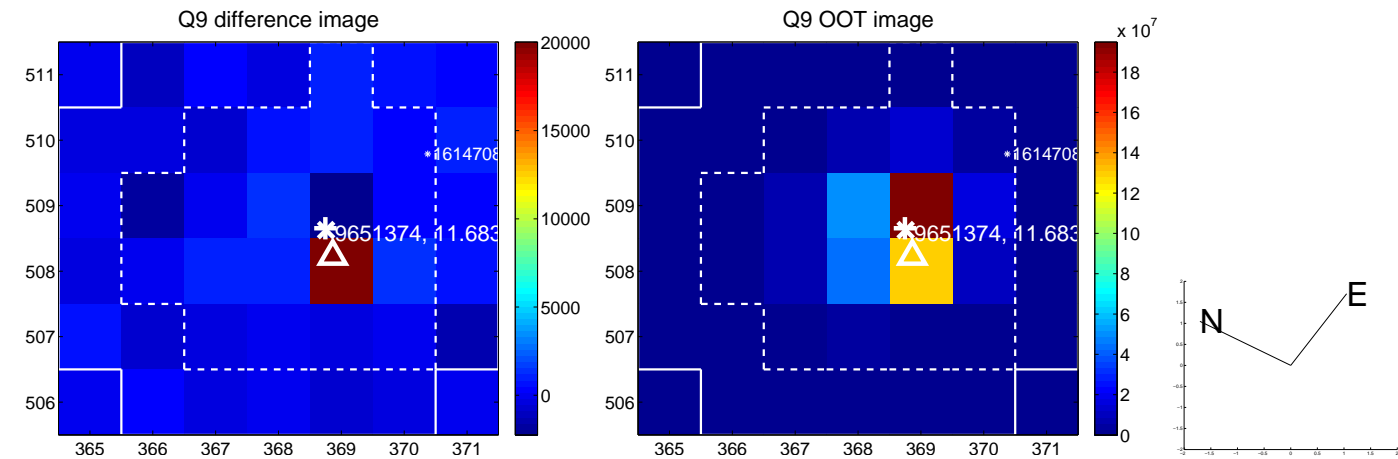
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



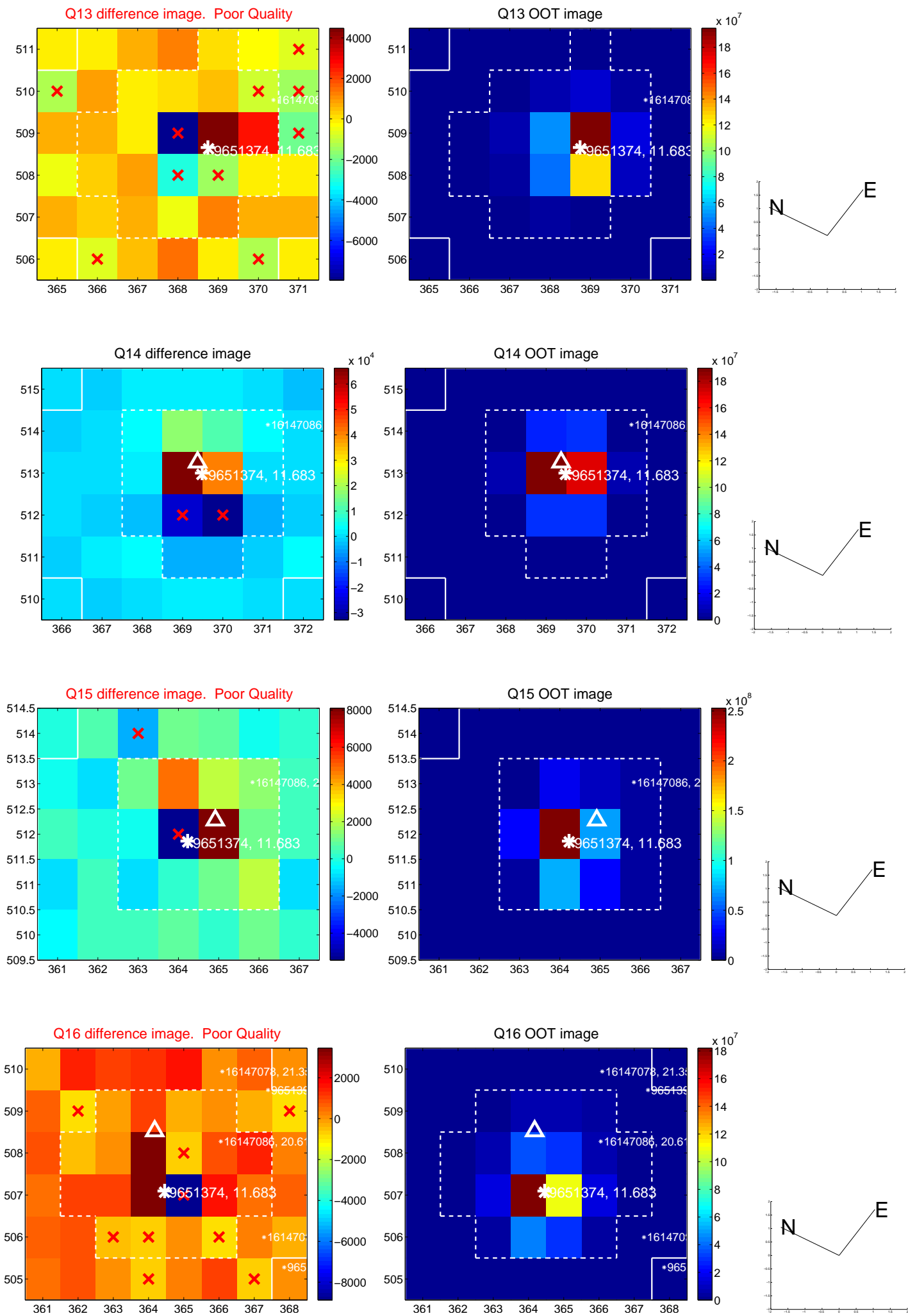
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



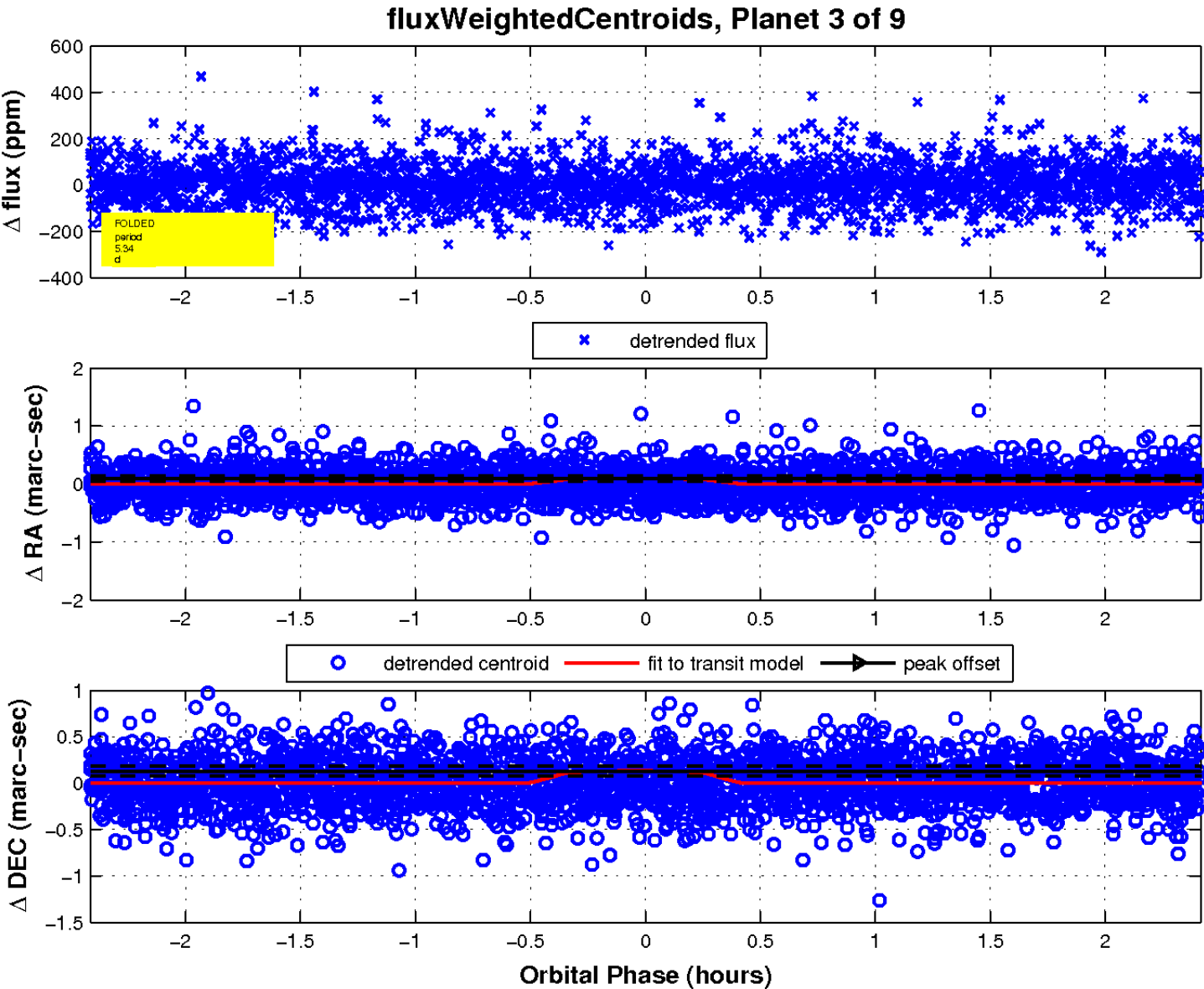
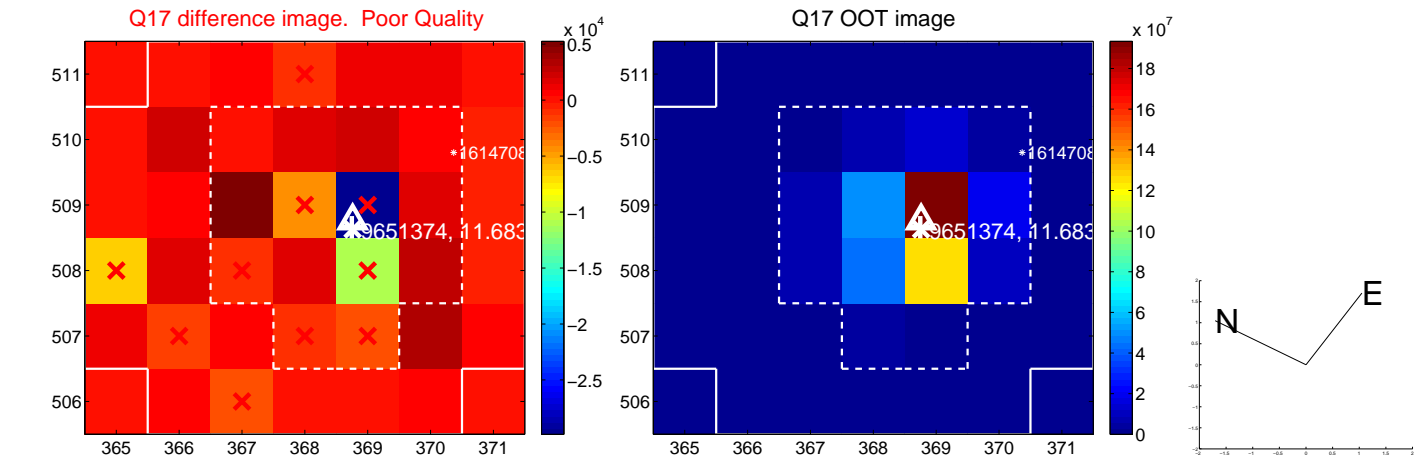
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



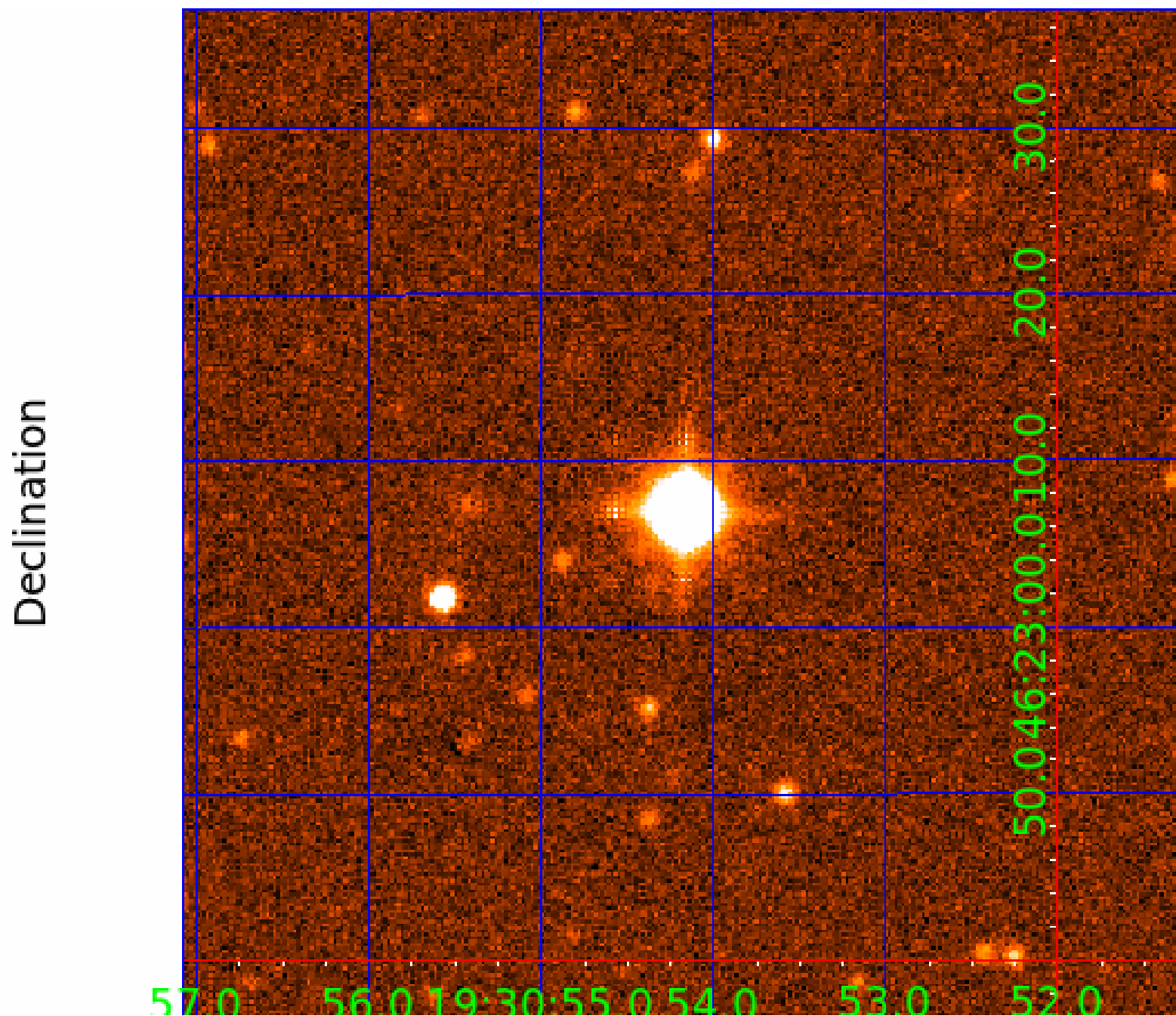
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 009651374

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})
009651374-01	OBS	No	0.688632	132.205699	6.9	5.248	14.0	6.2	2.59	7100	0.70	48619.58
009651374-02	OBS	No	17.076454	140.599779	275.0	2.193	18.1	26.2	2.59	7100	4.92	672.35
009651374-03	OBS	No	5.339272	135.794486	91.2	0.806	15.7	10.2	2.59	7100	2.91	3168.24
009651374-04	OBS	No	21.349528	142.760997	294.0	1.500	12.9	-1.0	2.59	7100	4.49	499.20
009651374-05	OBS	No	10.930089	135.842245	323.7	1.500	18.0	-1.0	2.59	7100	4.71	1218.88
009651374-07	OBS	No	6.092397	133.456136	101.0	1.192	13.4	11.6	2.59	7100	2.79	2657.11
009651374-08	OBS	No	5.454224	133.685652	203.5	1.052	11.8	20.7	2.59	7100	3.85	3079.52
009651374-09	OBS	No	2.723803	132.373994	77.0	1.062	13.3	12.3	2.59	7100	2.43	7772.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009651374-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT
009651374-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
009651374-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
009651374-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
009651374-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
009651374-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
009651374-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
009651374-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

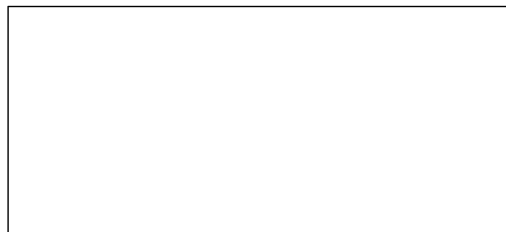
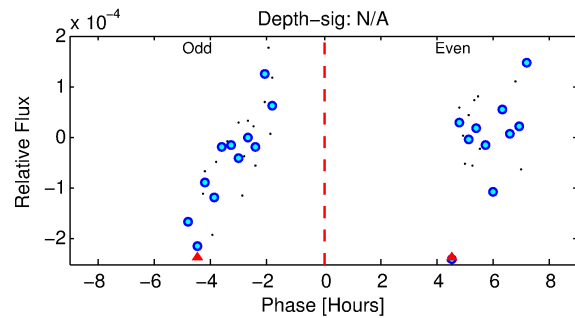
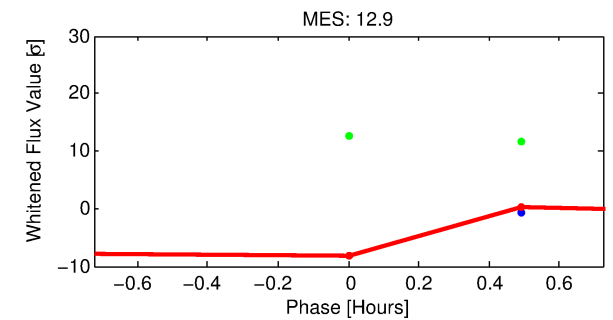
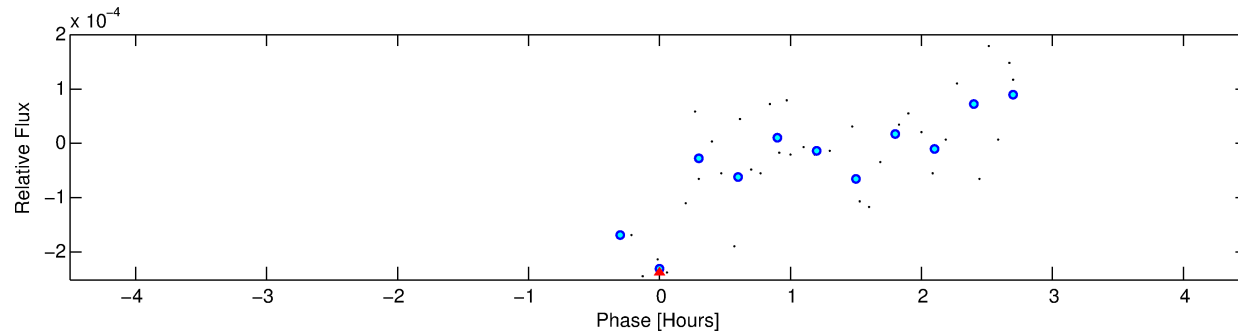
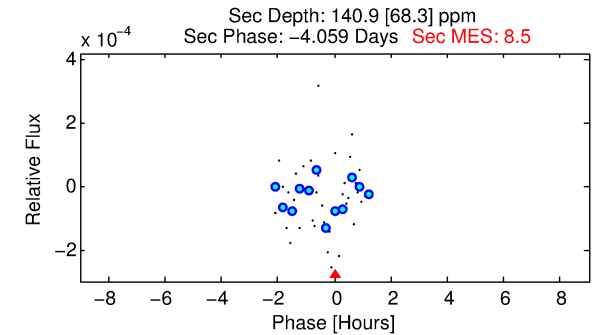
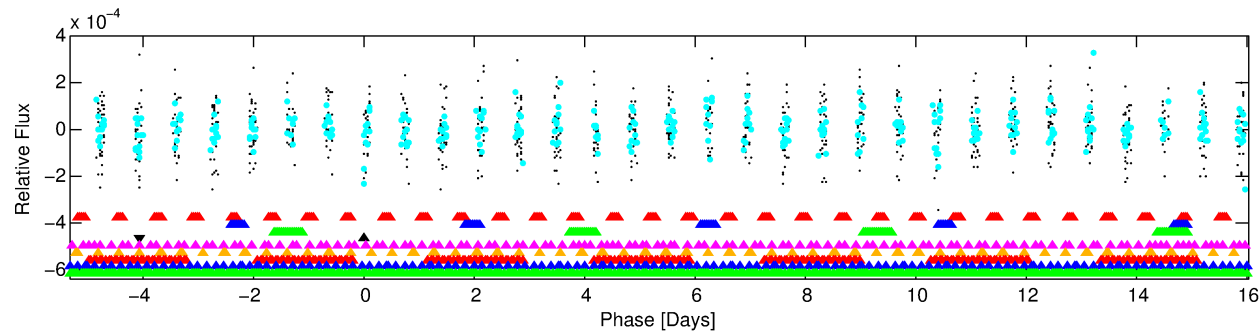
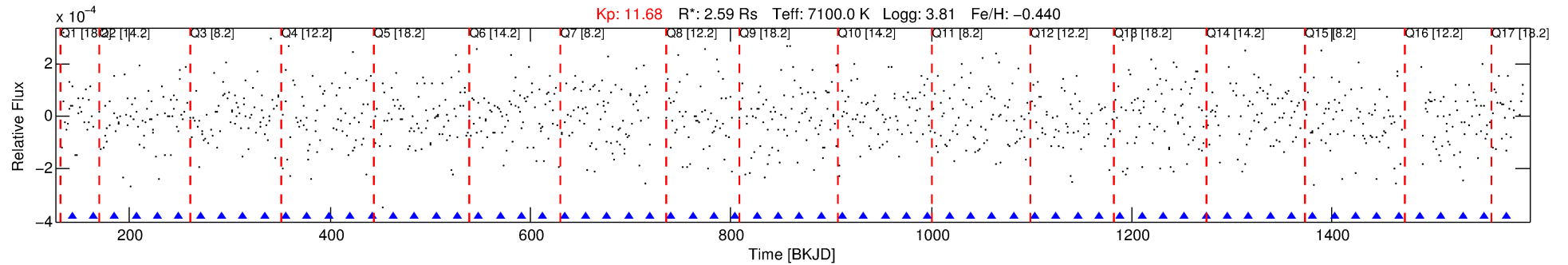
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009651374-04

No Significant Match Found

DV One-Page Summary

KIC: 9651374 Candidate: 4 of 9 Period: 21.350 d



TPS TCE Results:

Period = 21.34953 d
Epoch = 142.7610 BKJD

DV fit results are unavailable

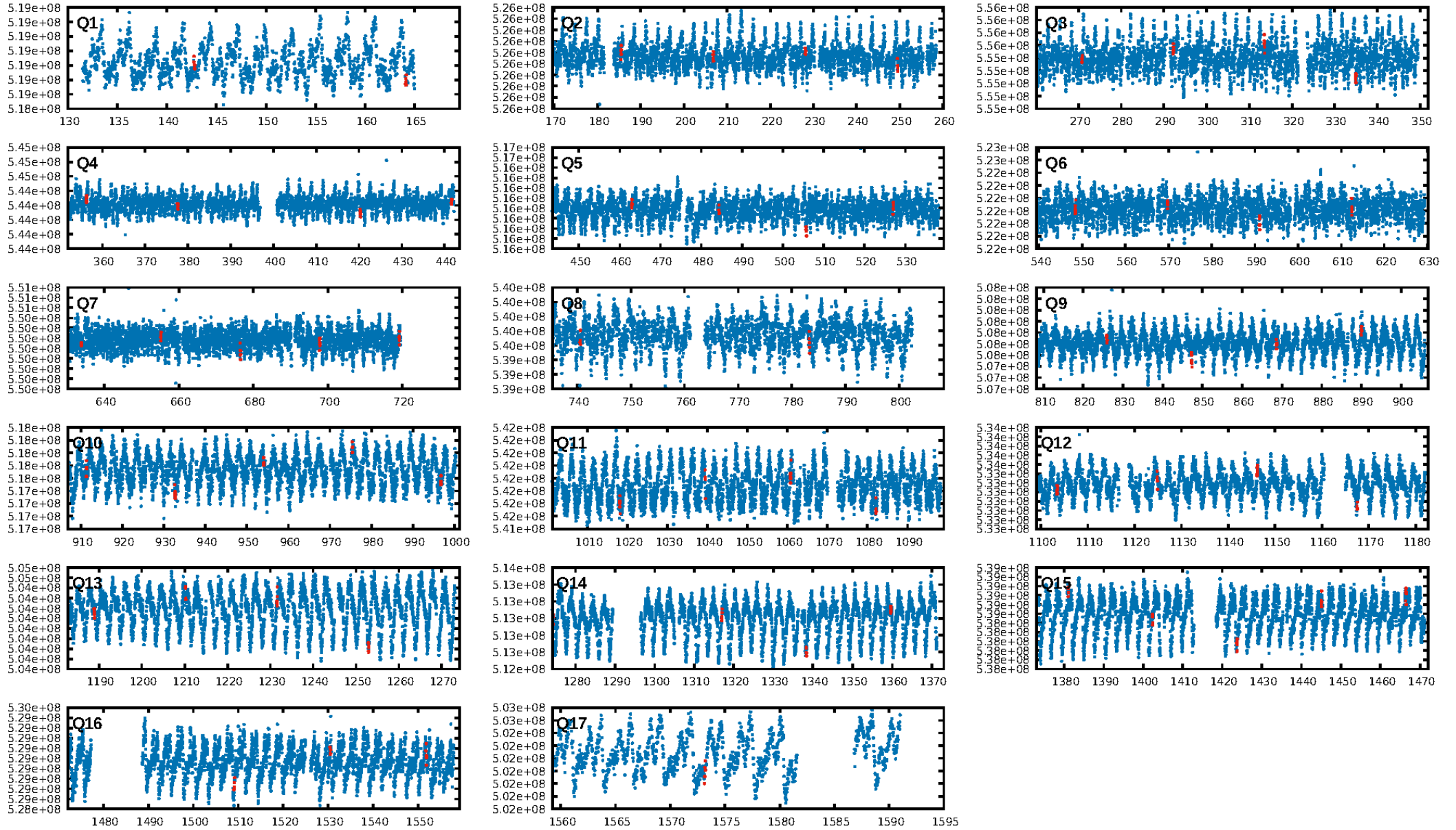
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [38.60σ]
LongPeriod-sig: N/A
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 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: N/A

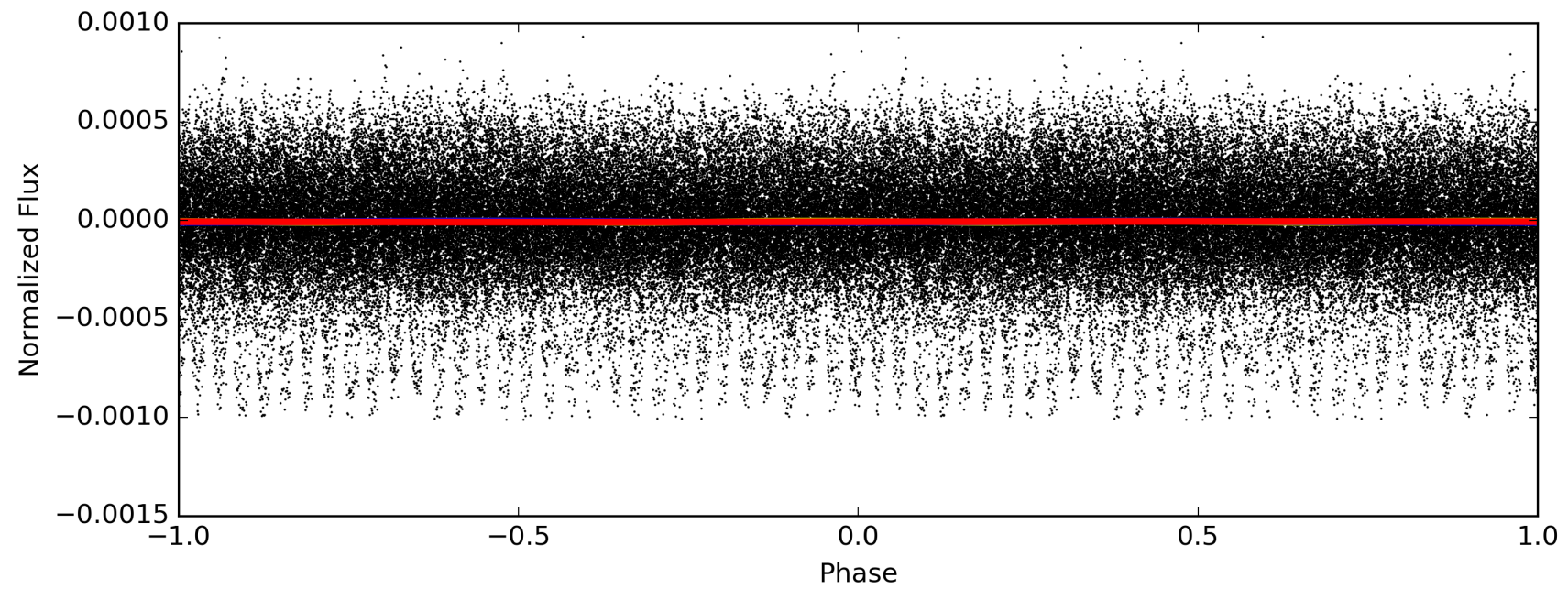
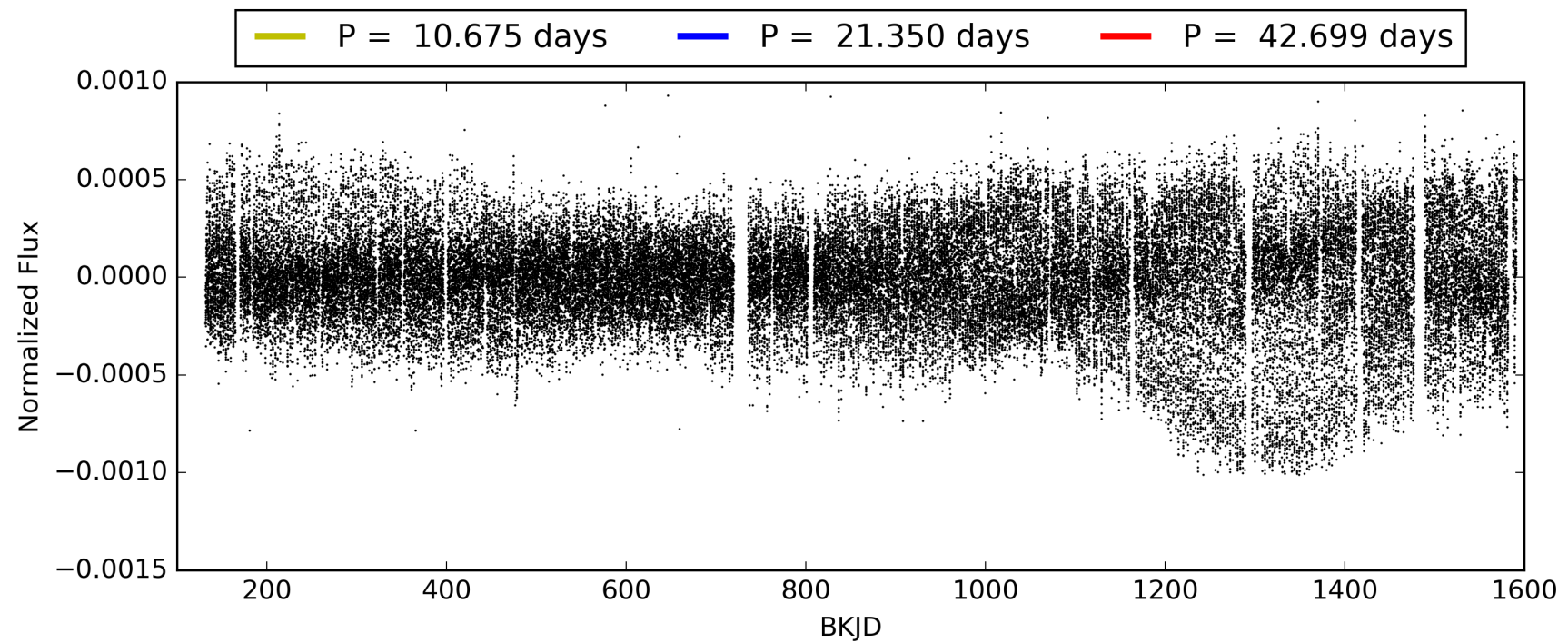
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:59:39 Z

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

TCE 009651374-04, PDC Light Curves

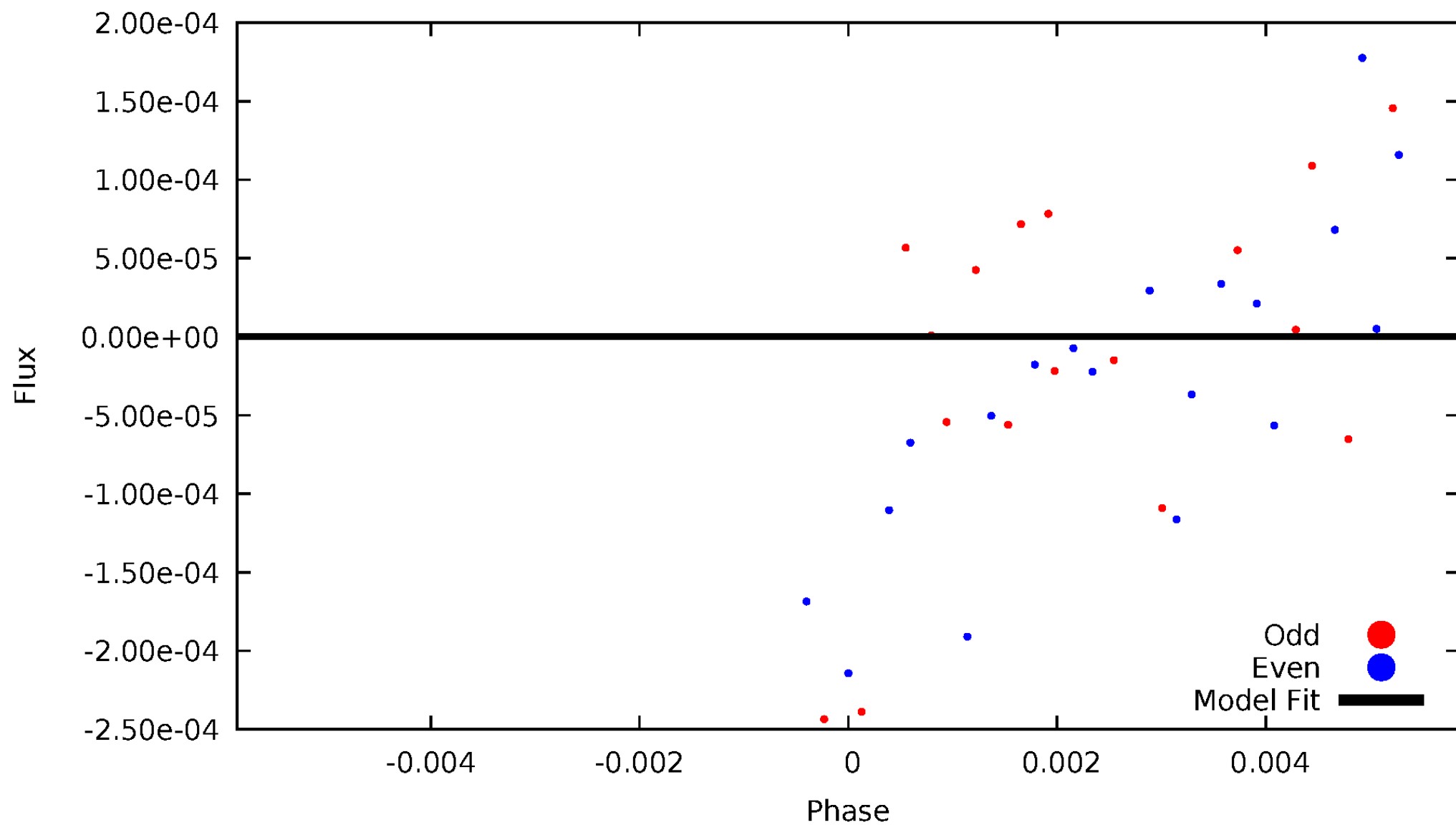


TCE 009651374-04



DV Odd/Even

TCE 009651374-04

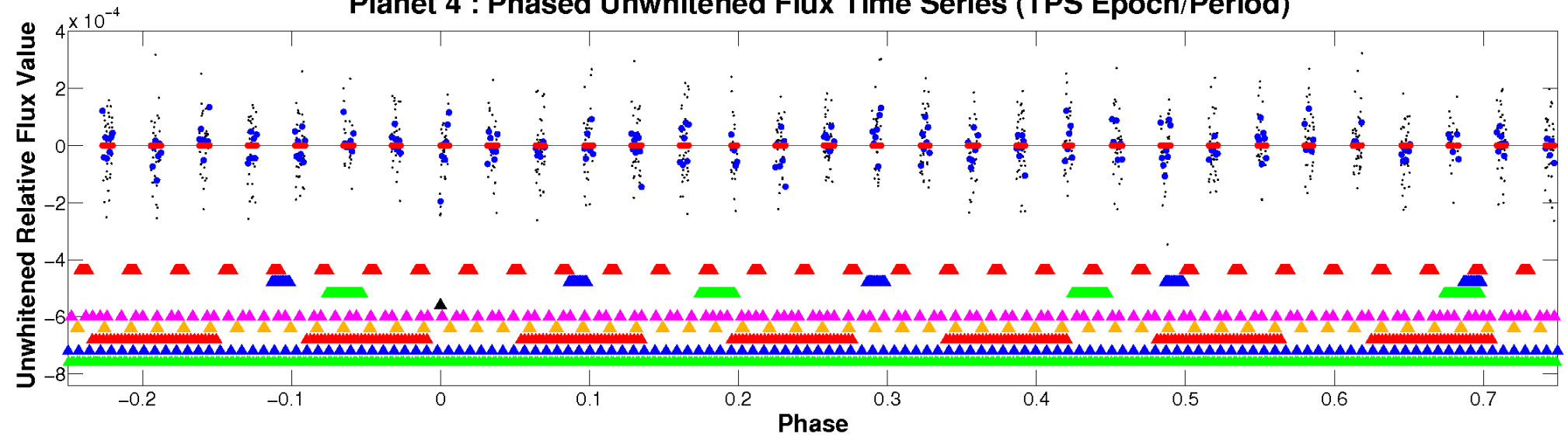


ALT Odd/Even

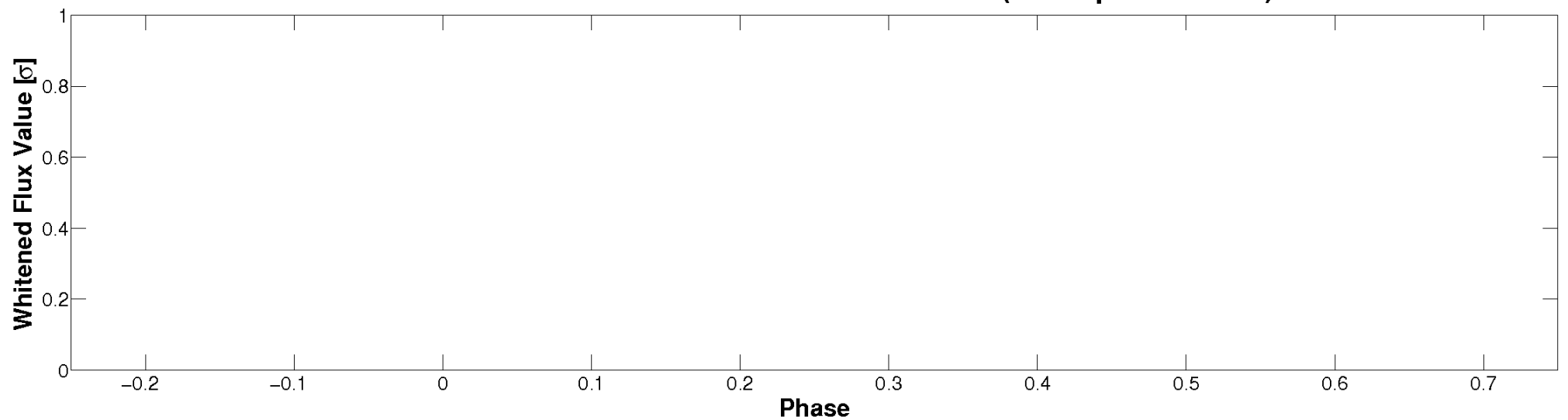
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

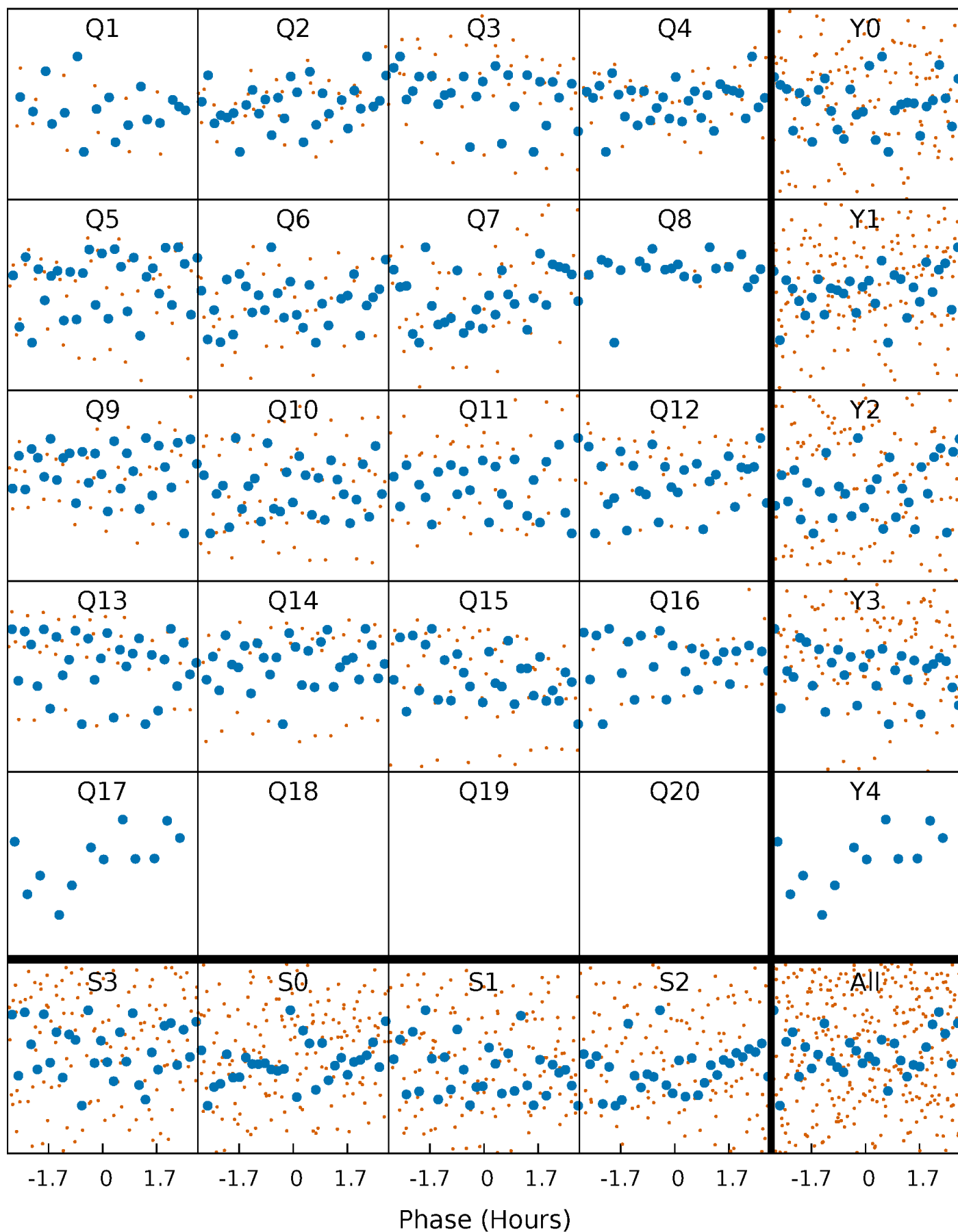


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



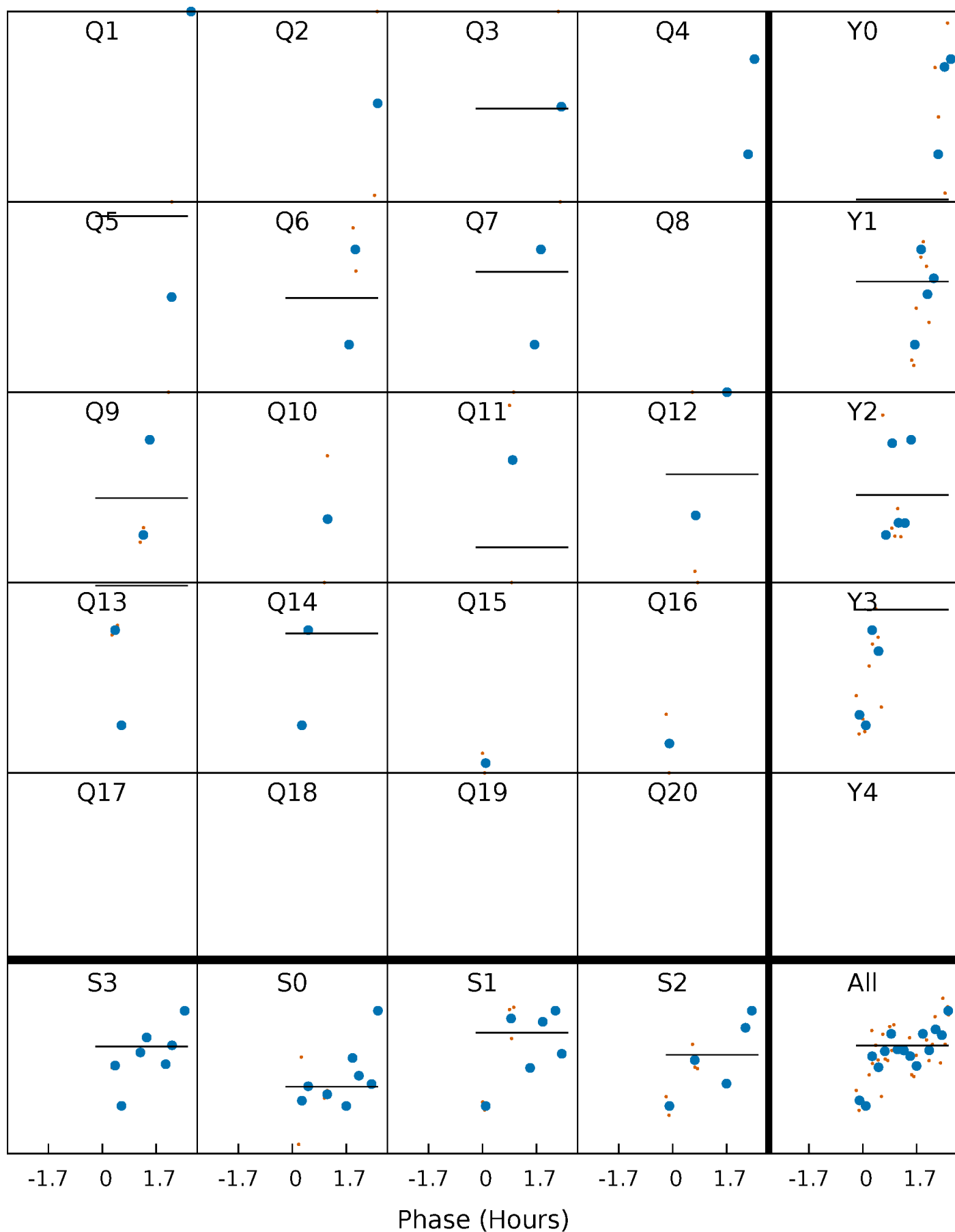
PDC Quarter-Phased Transit Curves

TCE 009651374-04 P= 21.349528 Days $T_0=142.760997$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 009651374-04 P= 21.349528 Days $T_0=142.760997$ (BKJD)

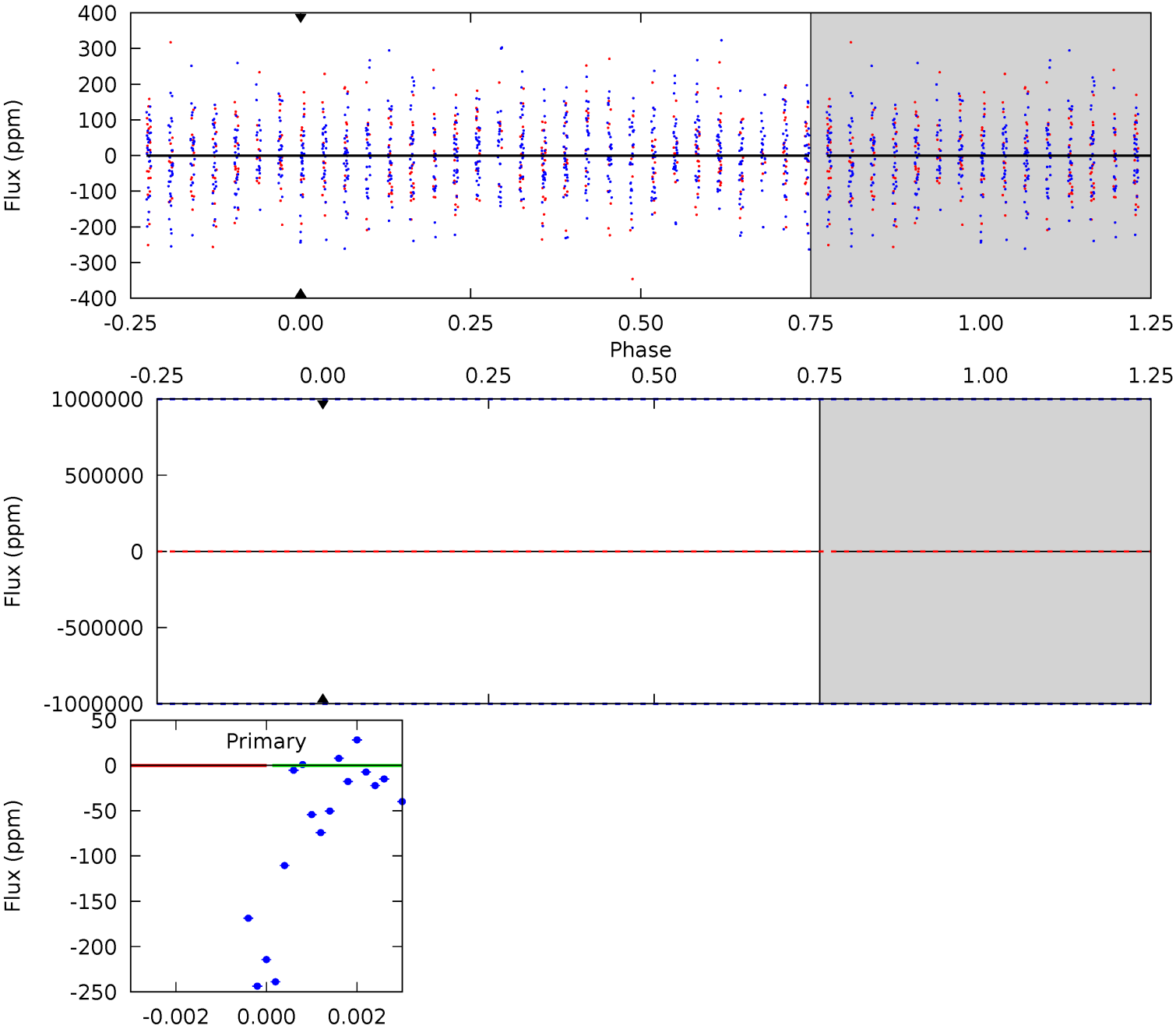


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

009651374-04, P = 21.349528 Days, E = 121.411469 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 009651374

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7100^{+192}_{-235}	$3.806^{+0.285}_{-0.095}$	$-0.440^{+0.300}_{-0.250}$	$2.590^{+0.395}_{-0.921}$	$1.565^{+0.217}_{-0.325}$	$0.127^{+0.255}_{-0.039}$
	+3%/-3%	+7%/-2%	+68%/-57%	+15%/-36%	+14%/-21%	+201%/-31%
Source	PHO1	FLK73	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 009651374-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$18.56^{+21.36}_{-12.97}$	1653^{+105}_{-138}	6887^{+40879}_{-37267}	211^{+12473}_{-6163}
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 $A_{obs} \gg 1.0$

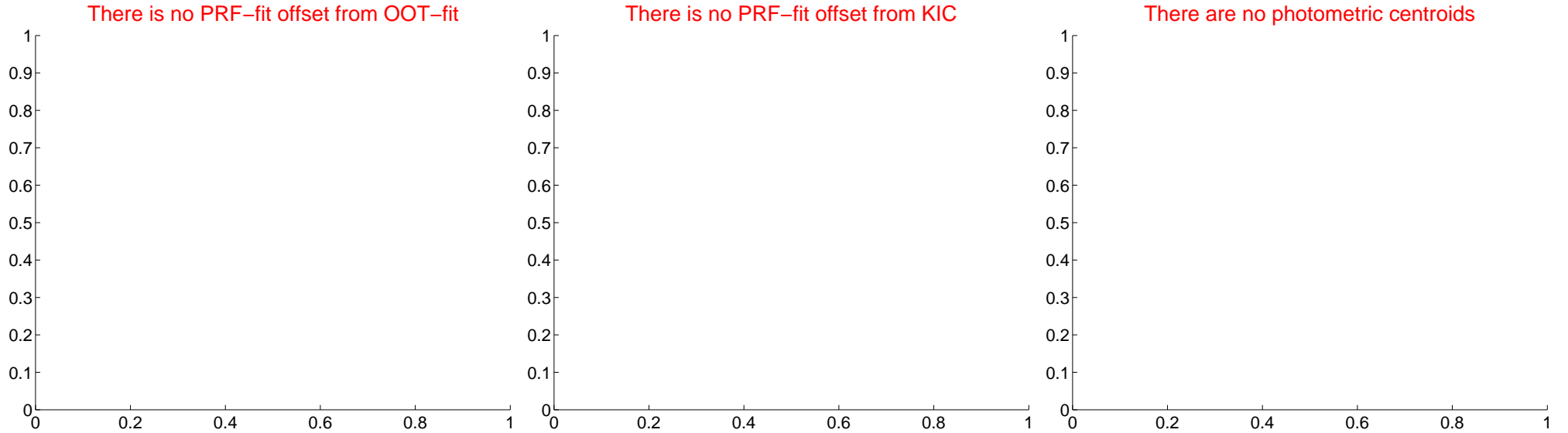
DV Centroid Data

Supplemental centroid analysis for 009651374-04. **Kepler magnitude: 11.68.** Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

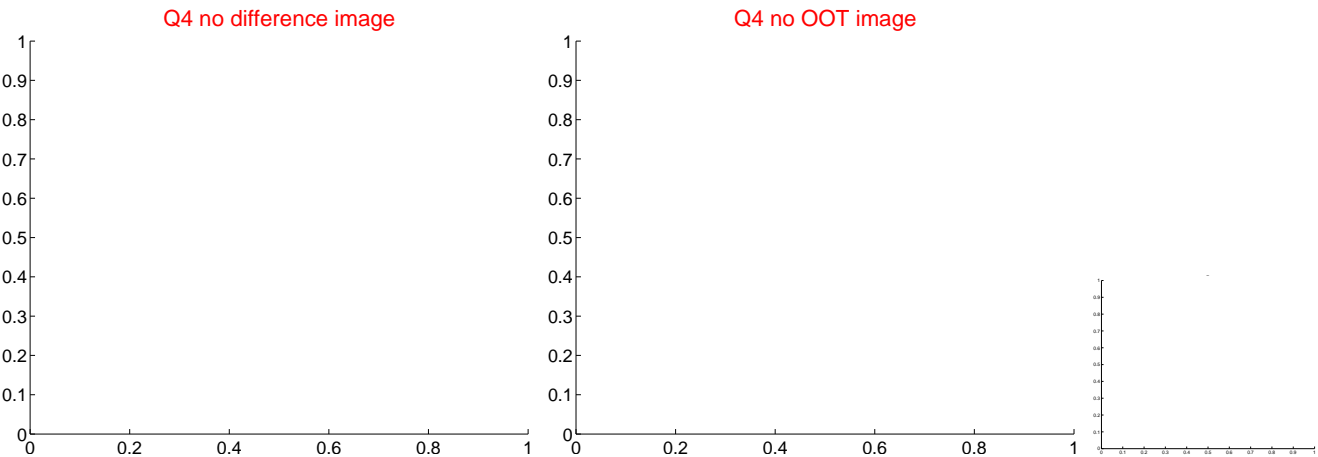
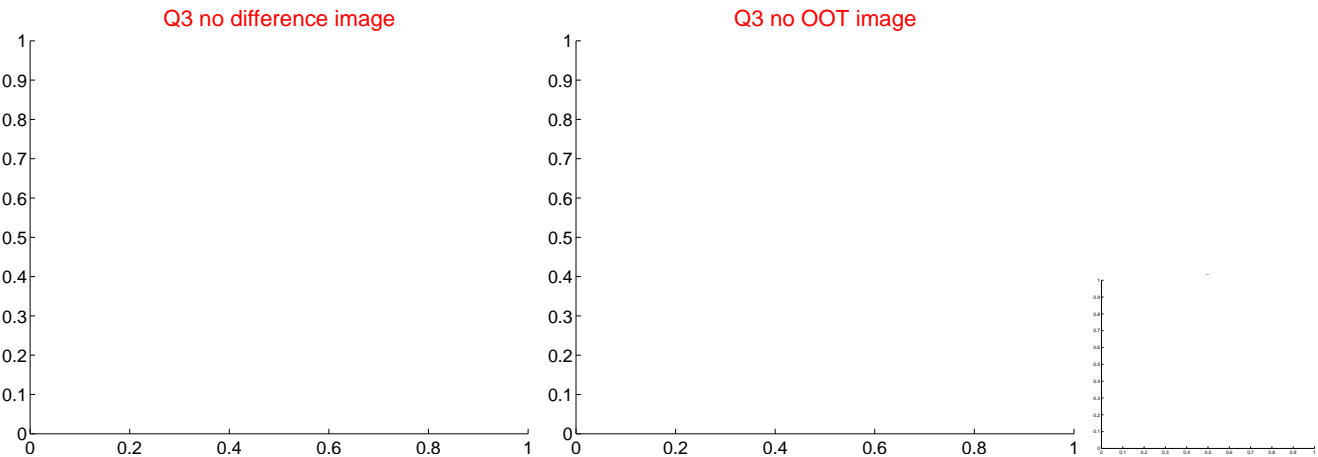
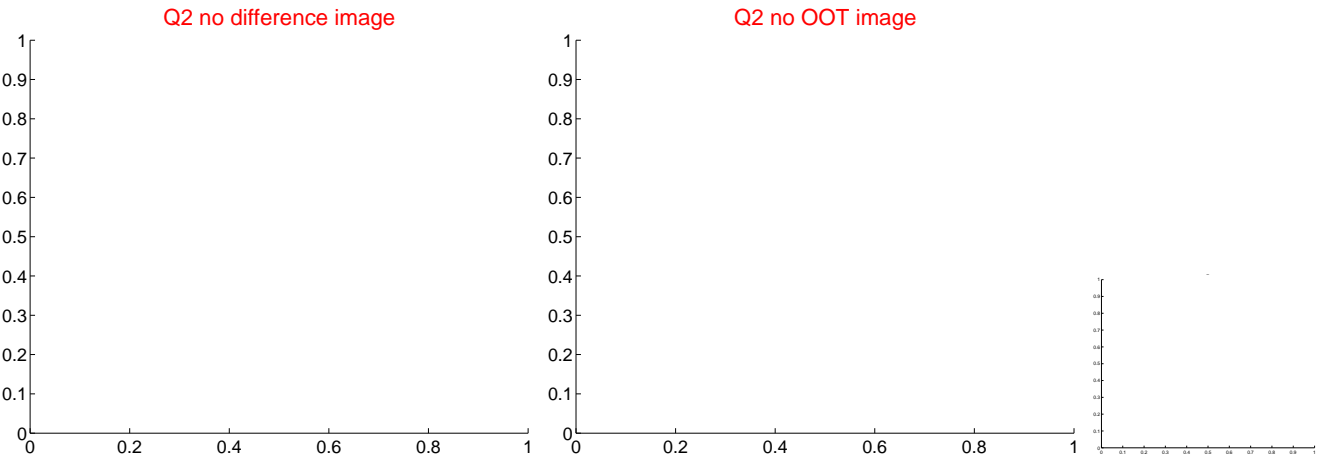
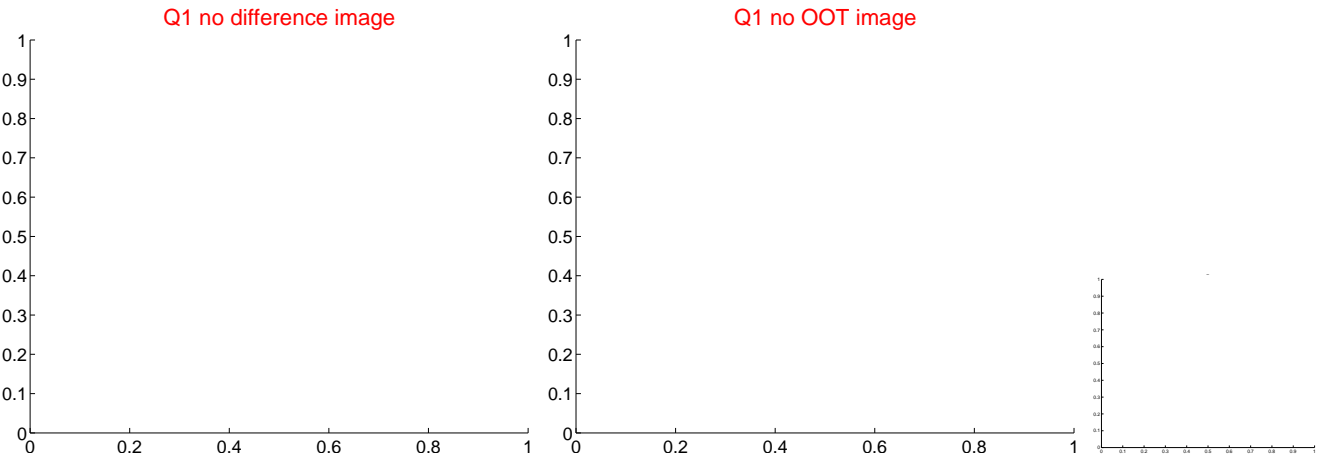
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	—	—	—	—

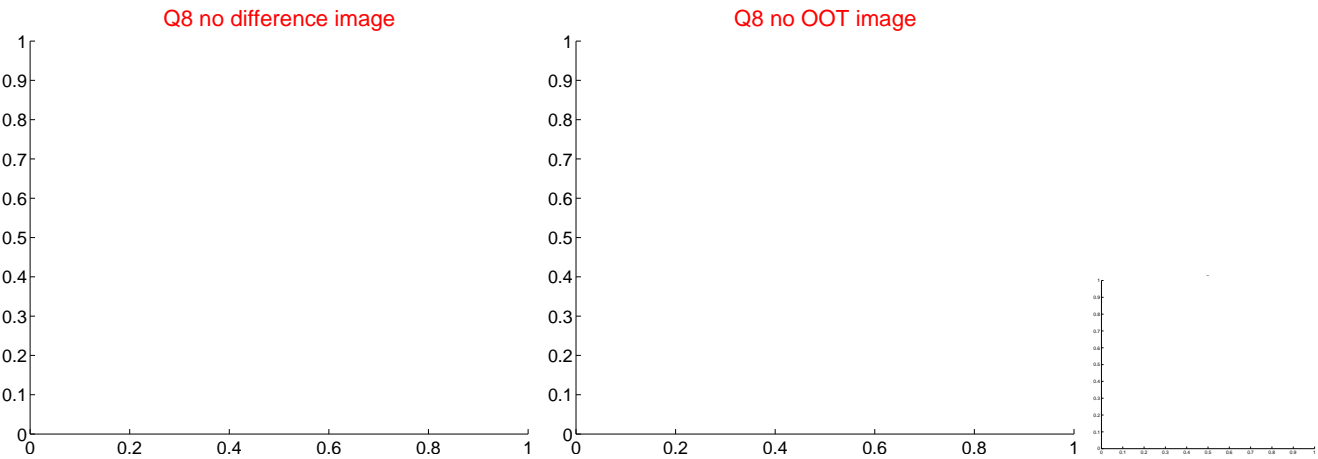
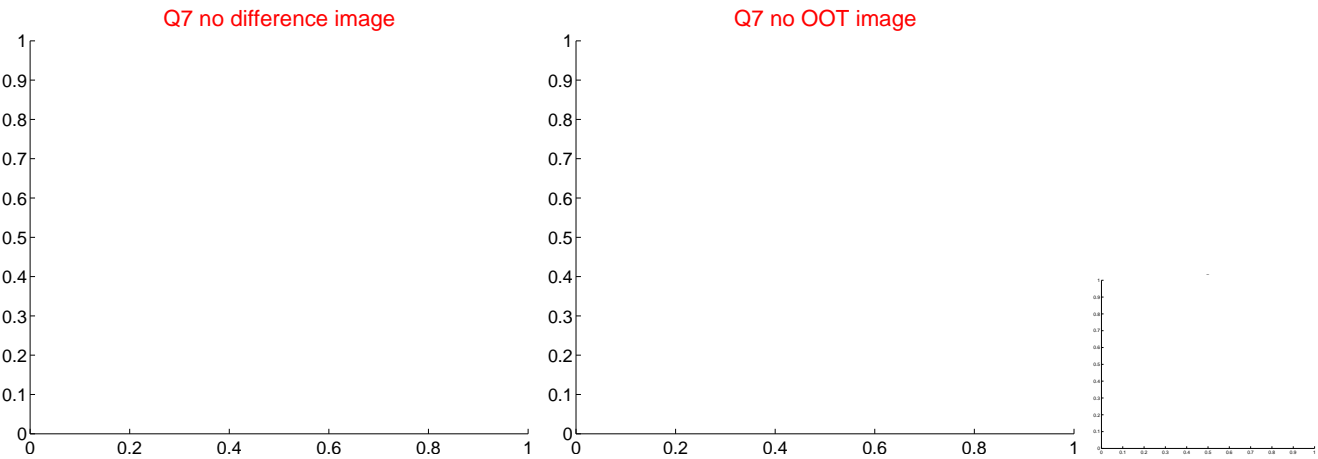
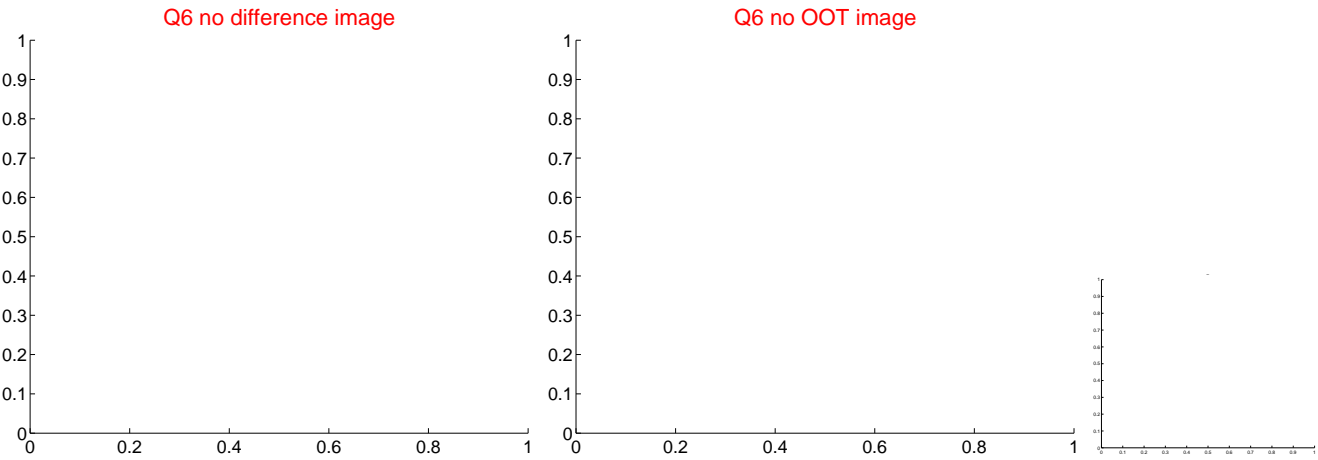
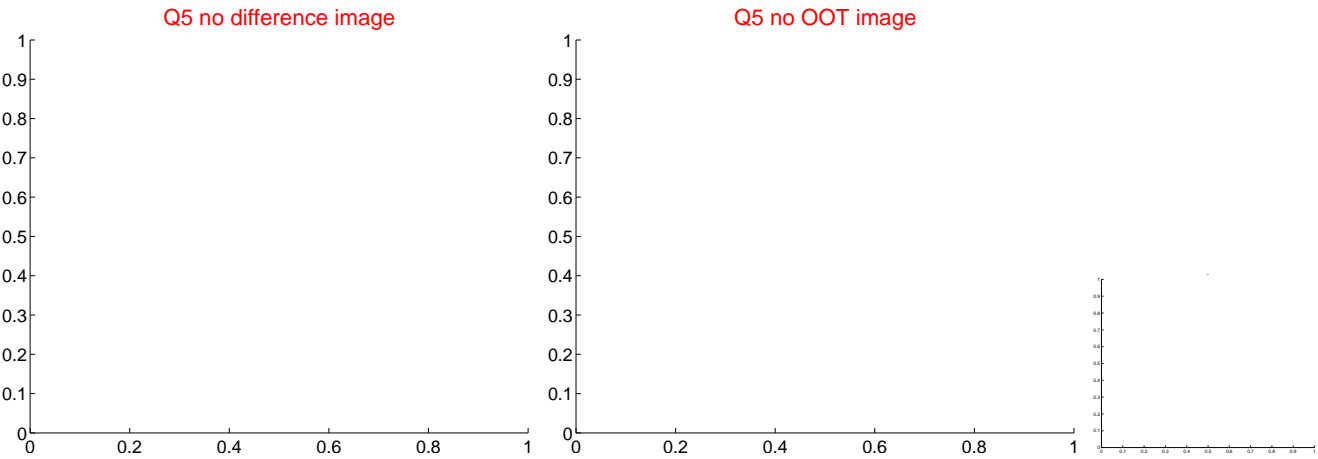


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

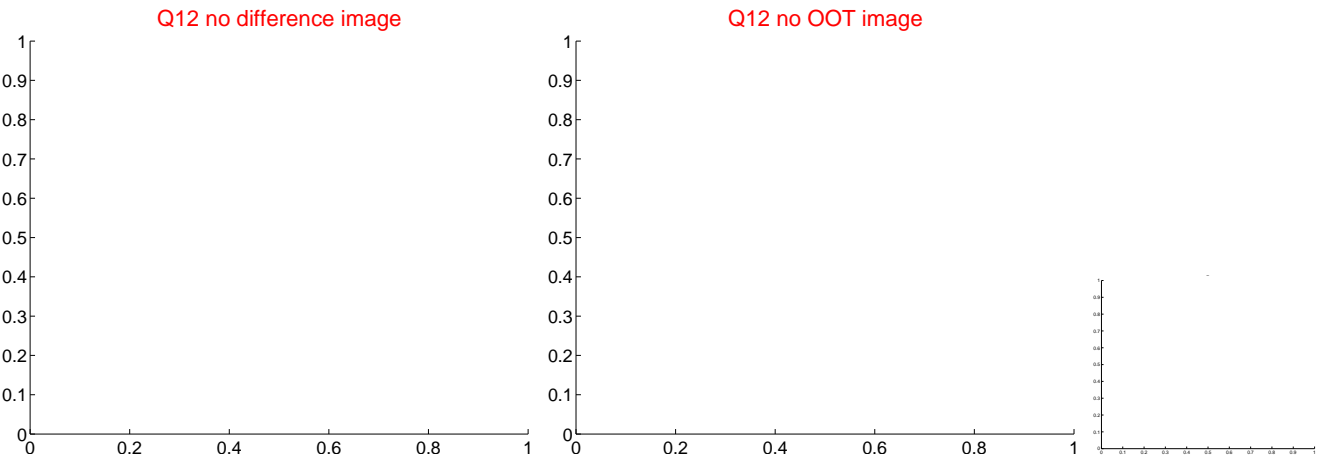
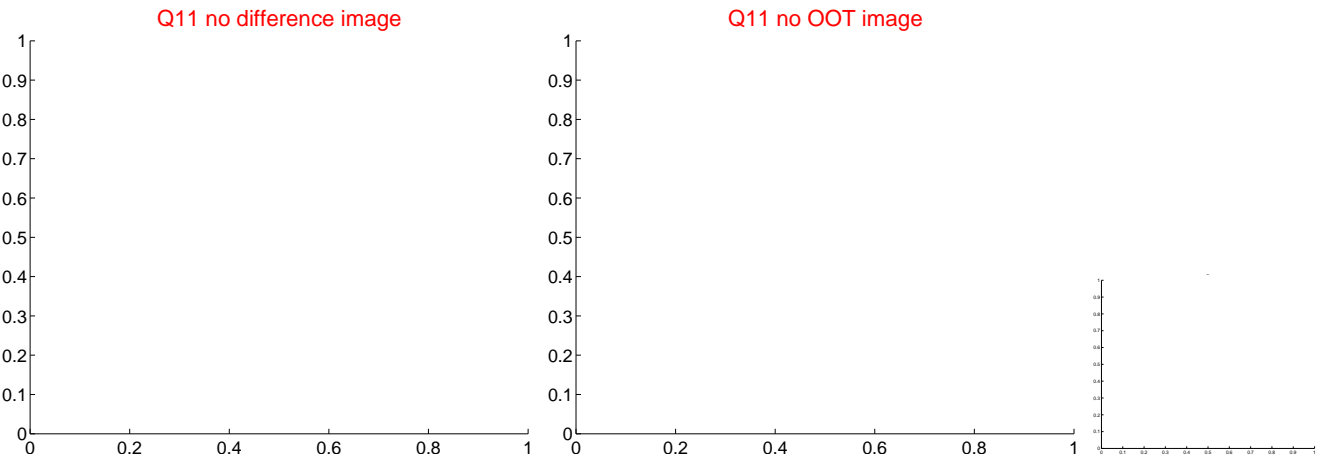
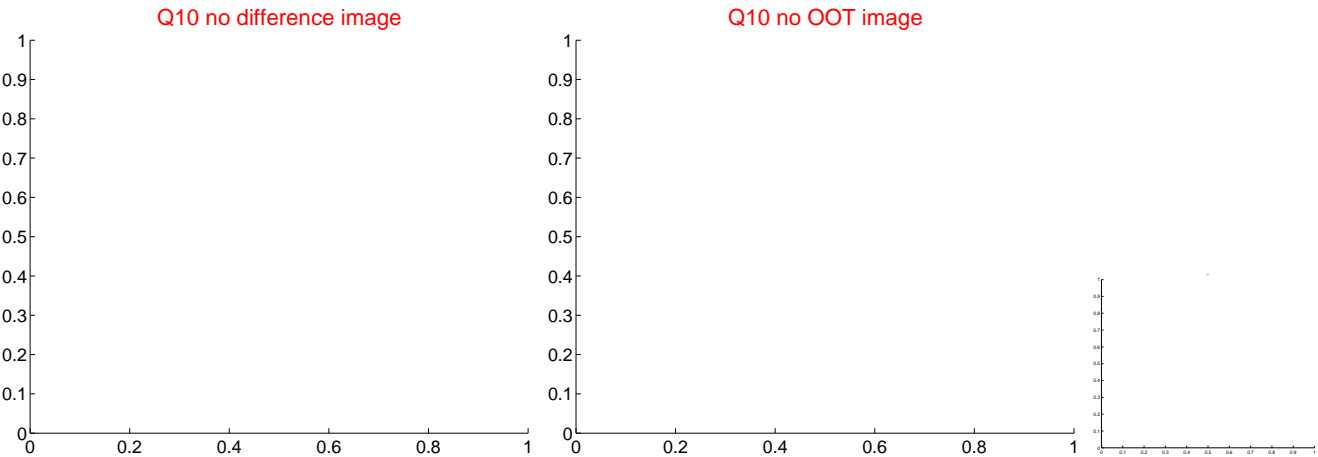
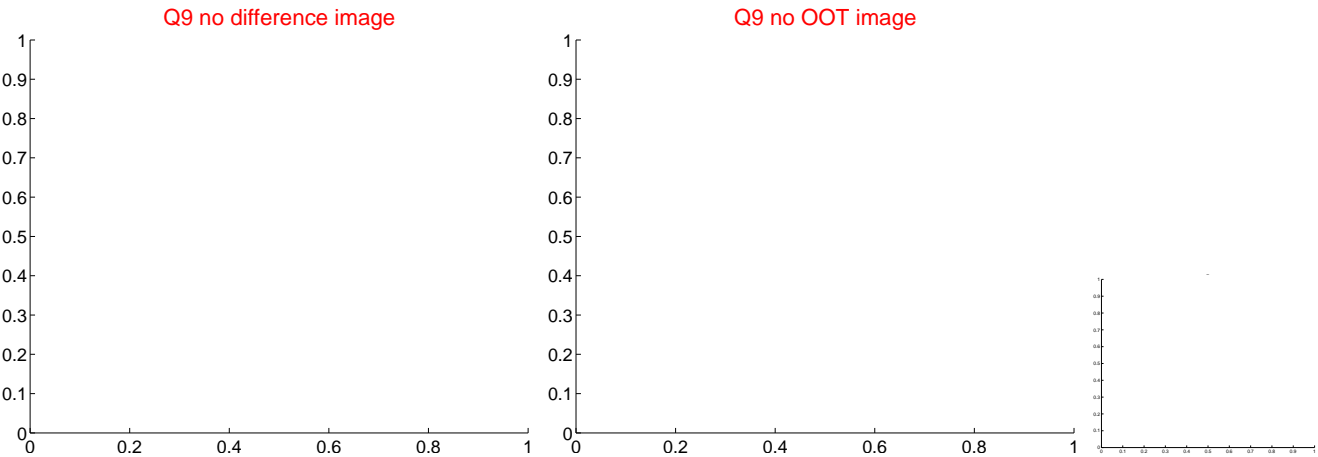
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



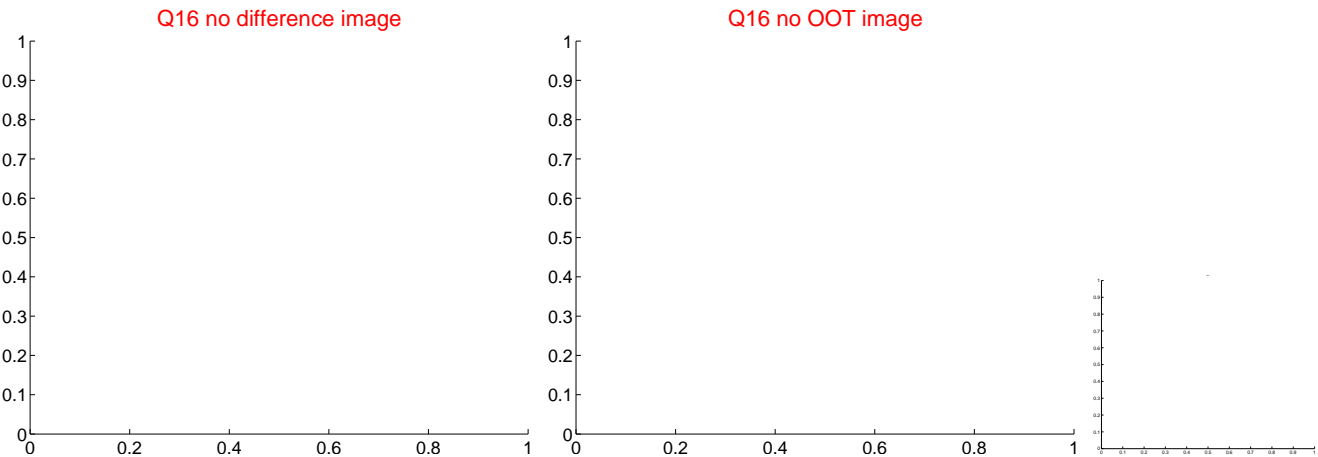
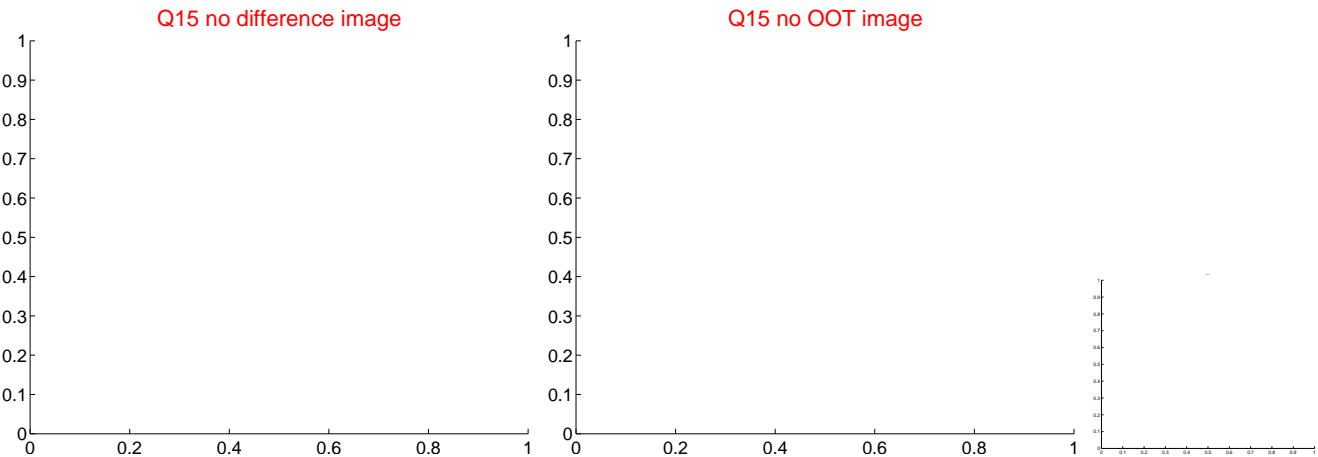
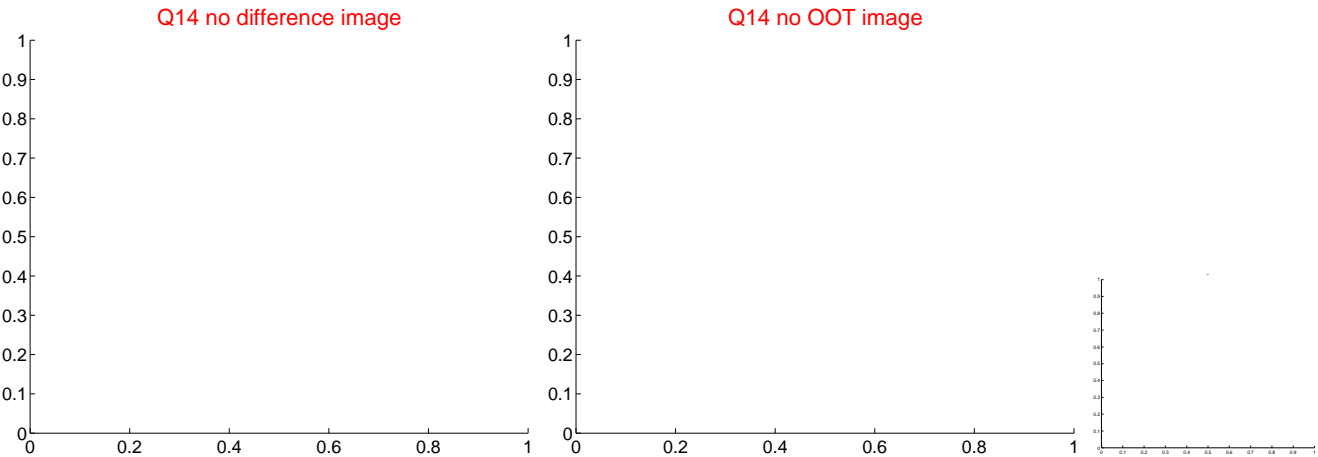
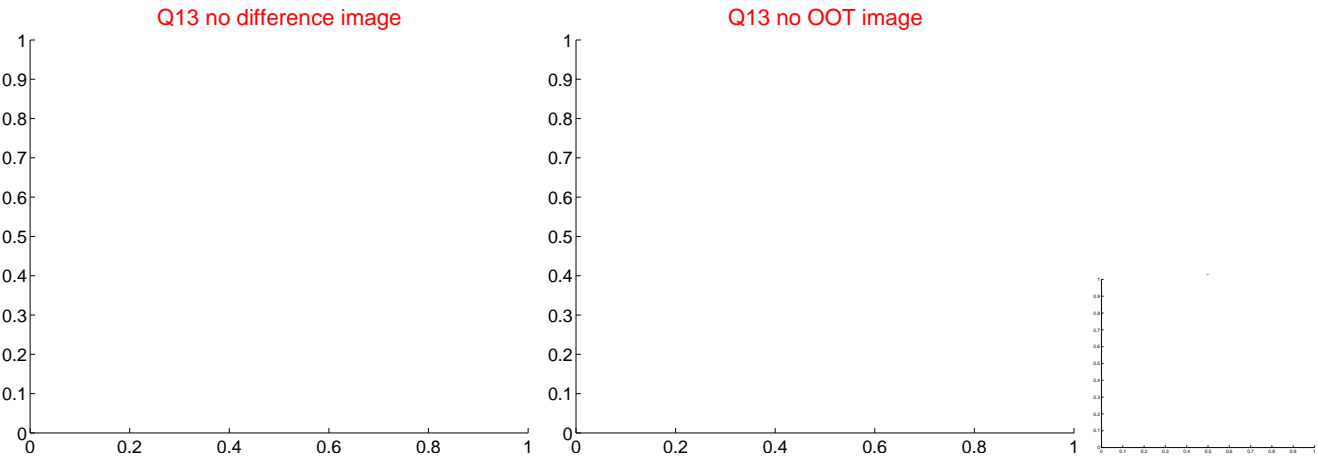
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



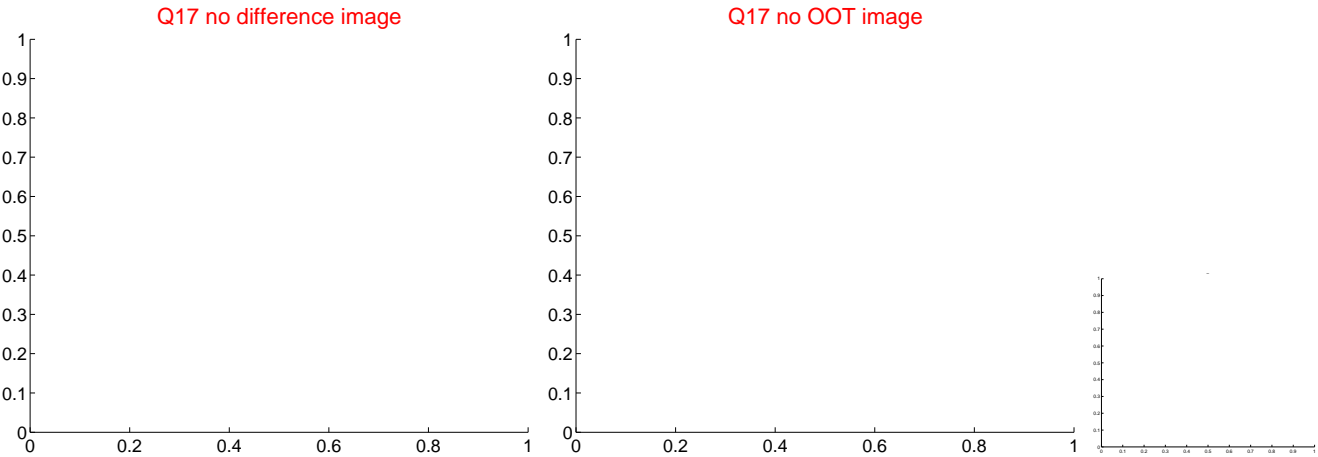
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

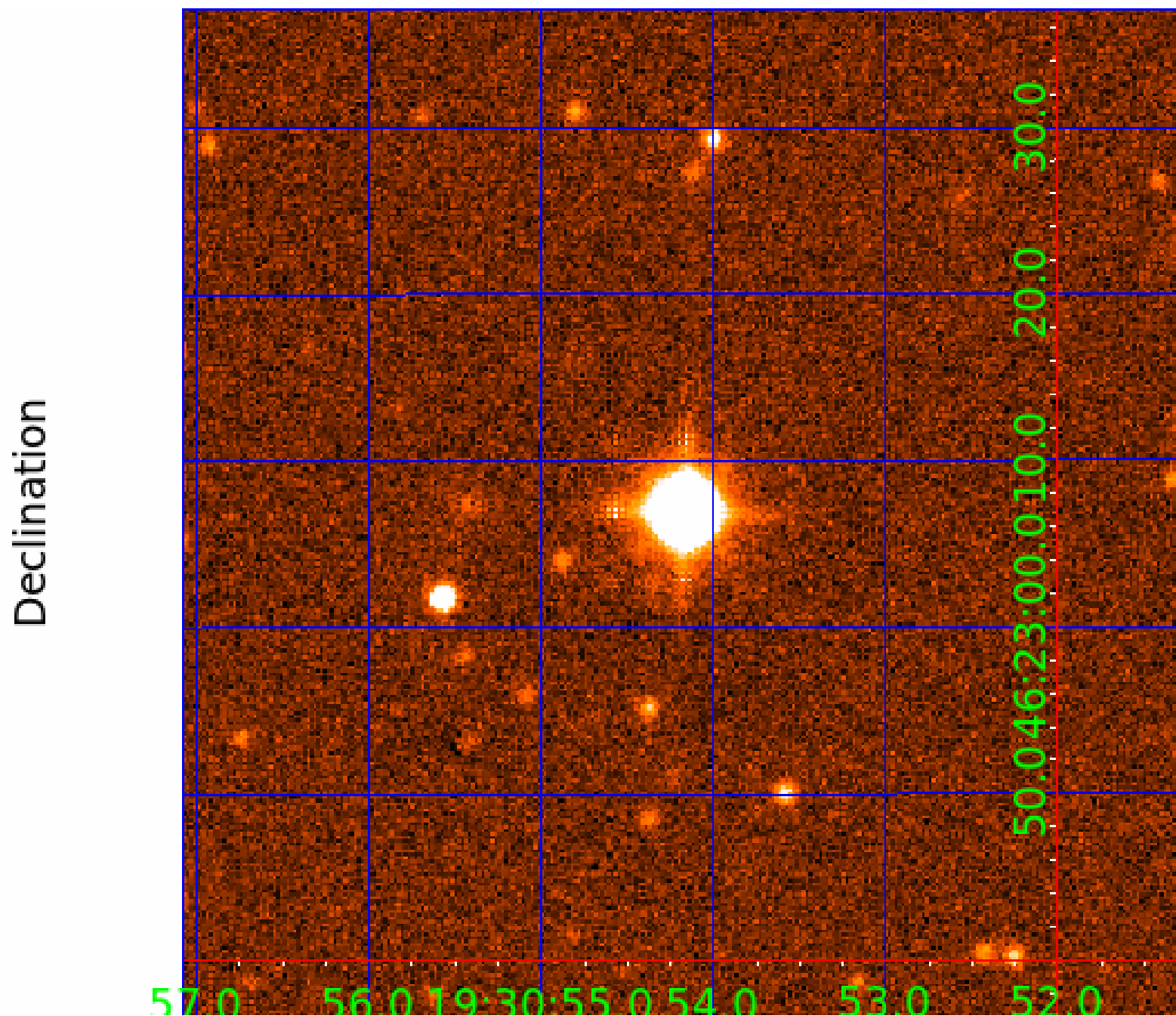


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image



KIC 009651374

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})
009651374-01	OBS	No	0.688632	132.205699	6.9	5.248	14.0	6.2	2.59	7100	0.70	48619.58
009651374-02	OBS	No	17.076454	140.599779	275.0	2.193	18.1	26.2	2.59	7100	4.92	672.35
009651374-03	OBS	No	5.339272	135.794486	91.2	0.806	15.7	10.2	2.59	7100	2.91	3168.24
009651374-04	OBS	No	21.349528	142.760997	294.0	1.500	12.9	-1.0	2.59	7100	4.49	499.20
009651374-05	OBS	No	10.930089	135.842245	323.7	1.500	18.0	-1.0	2.59	7100	4.71	1218.88
009651374-07	OBS	No	6.092397	133.456136	101.0	1.192	13.4	11.6	2.59	7100	2.79	2657.11
009651374-08	OBS	No	5.454224	133.685652	203.5	1.052	11.8	20.7	2.59	7100	3.85	3079.52
009651374-09	OBS	No	2.723803	132.373994	77.0	1.062	13.3	12.3	2.59	7100	2.43	7772.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009651374-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT
009651374-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
009651374-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
009651374-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
009651374-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
009651374-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
009651374-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
009651374-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

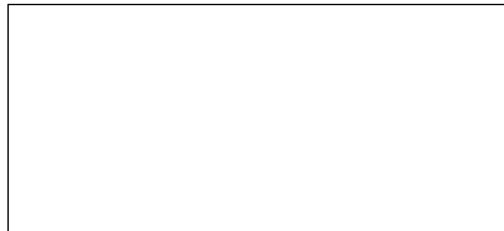
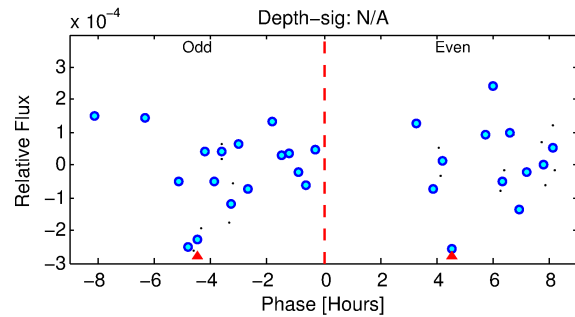
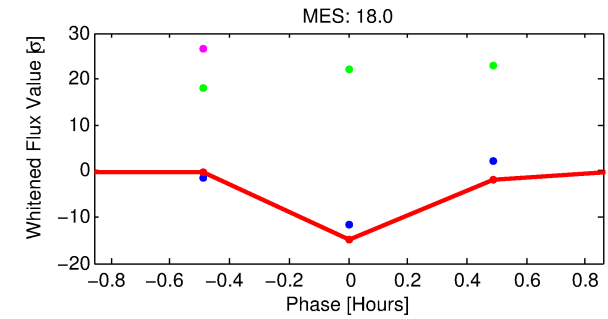
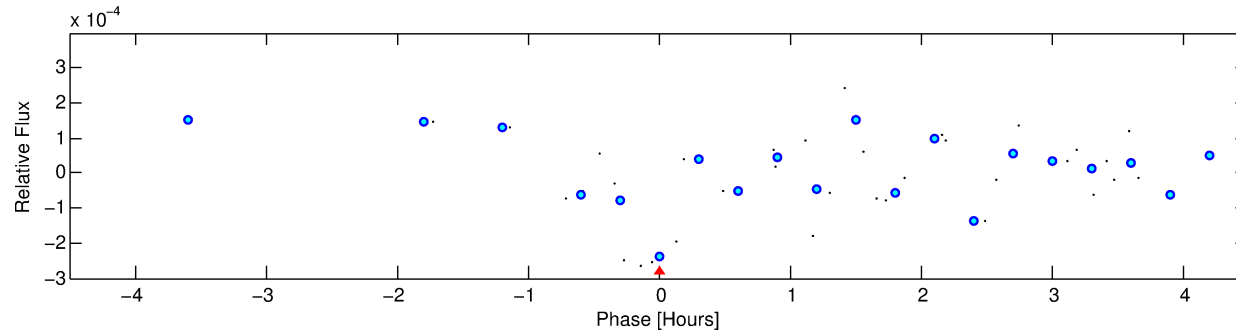
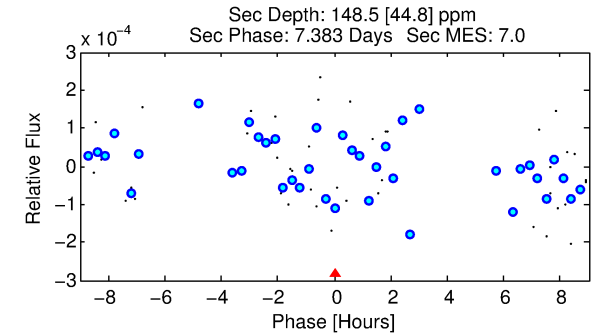
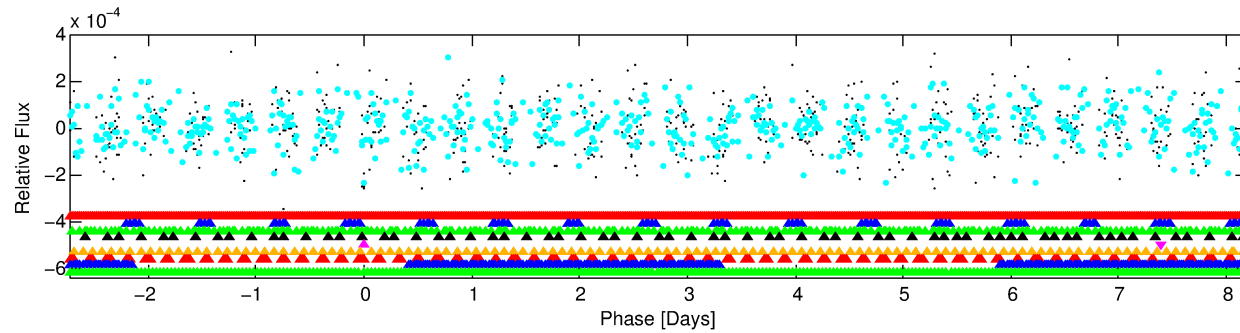
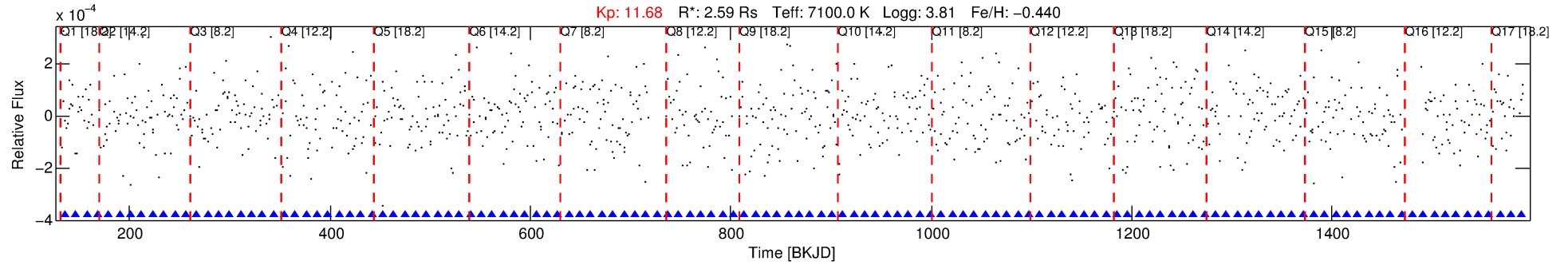
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009651374-05

No Significant Match Found

DV One-Page Summary

KIC: 9651374 Candidate: 5 of 9 Period: 10.930 d



TPS TCE Results:

Period = 10.93009 d
Epoch = 135.8422 BKJD

DV fit results are unavailable

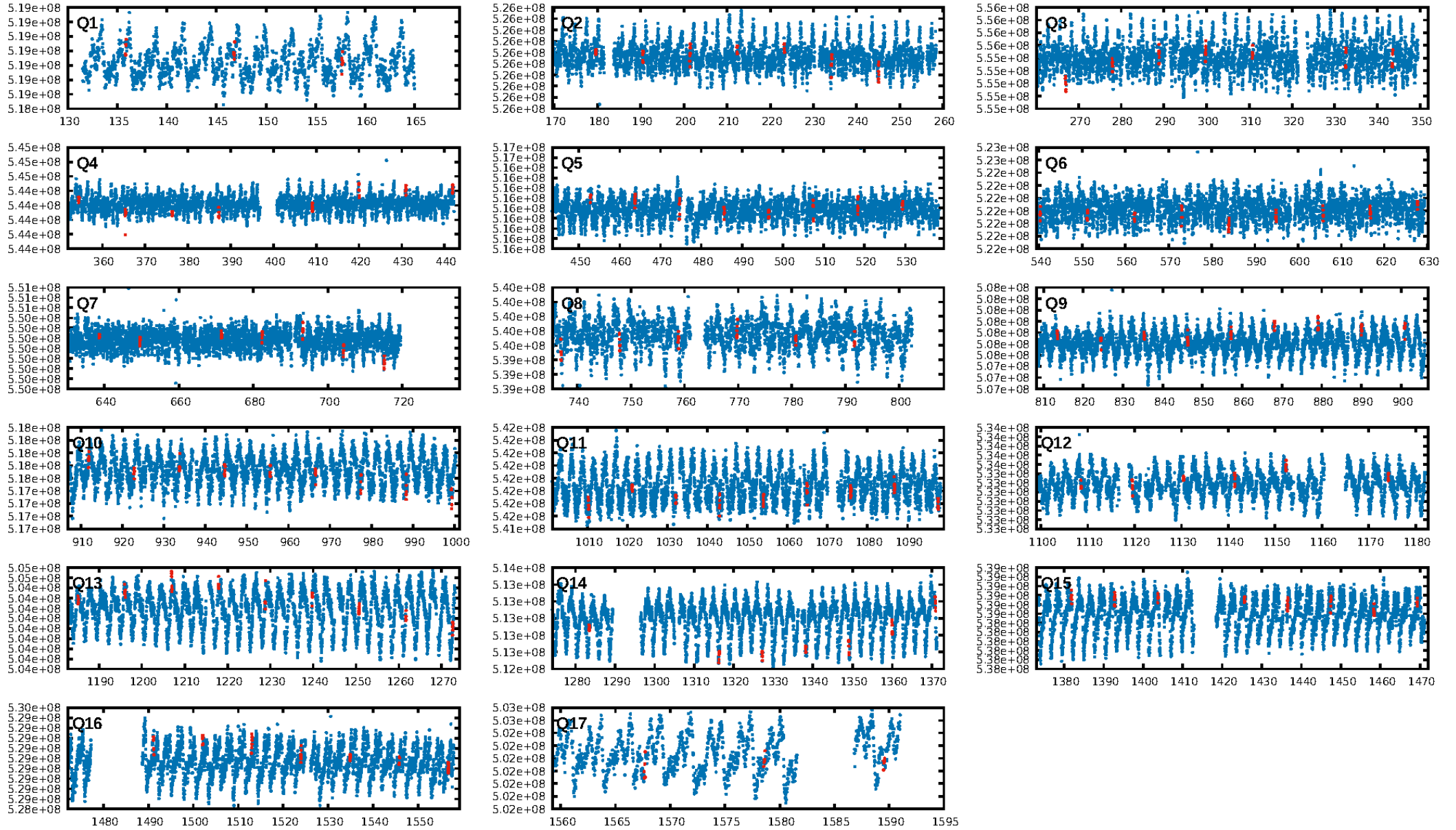
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [60.60σ]
LongPeriod-sig: 100.0% [12.47σ]
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
OotOffset-st: 0/0/0/0 [0]
KicOffset-rm: N/A
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: N/A

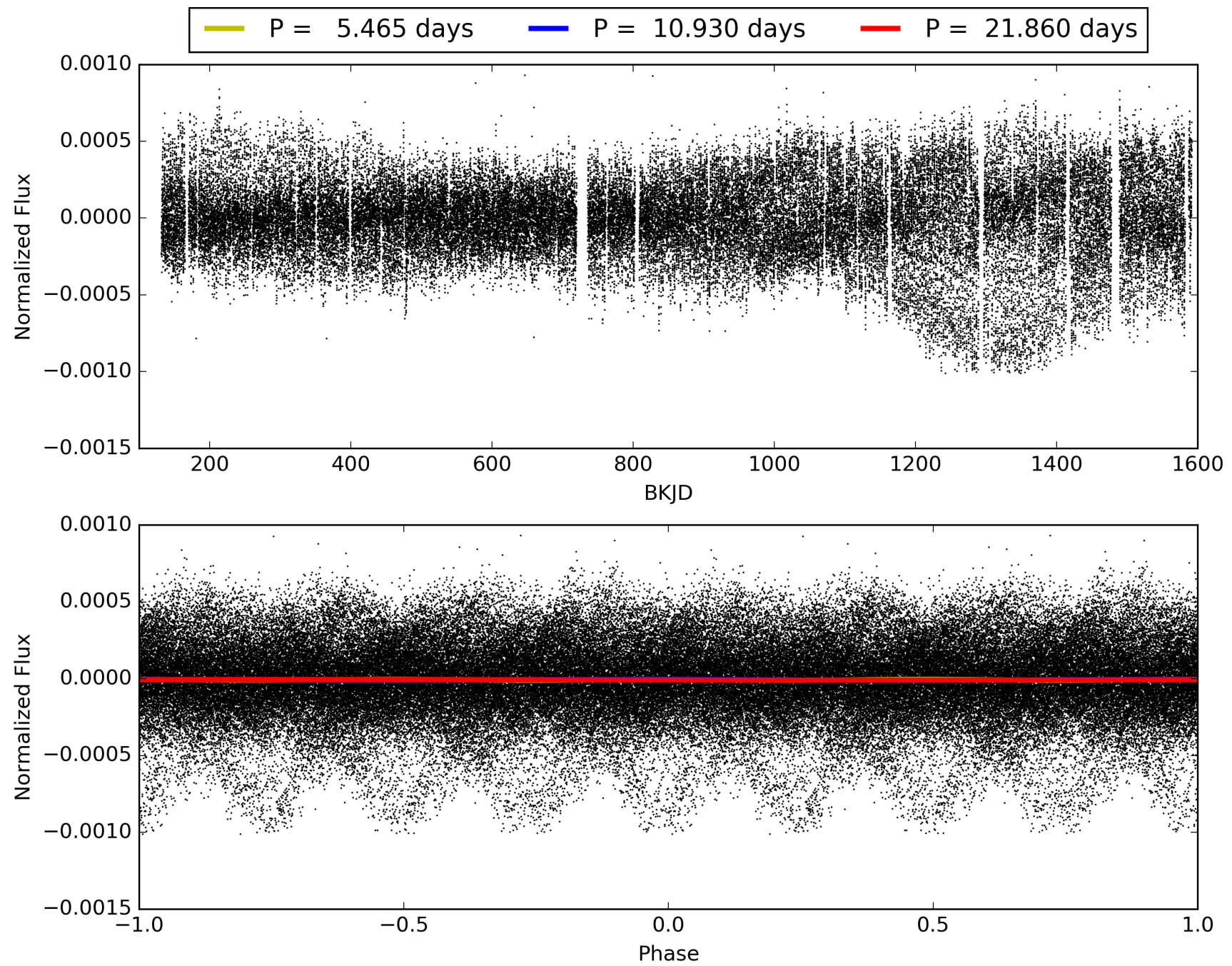
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:59:41 Z

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

TCE 009651374-05, PDC Light Curves

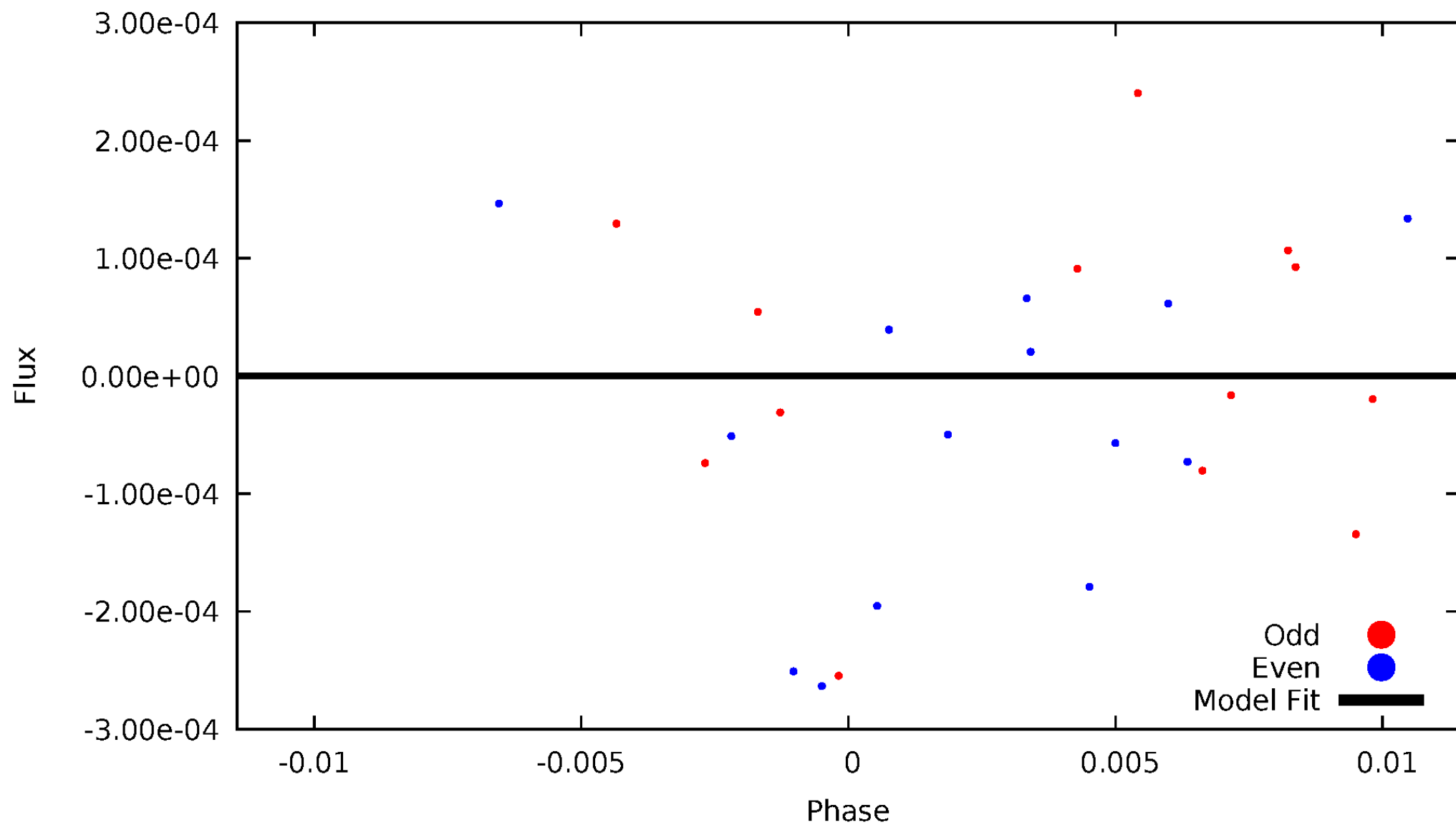


TCE 009651374-05



DV Odd/Even

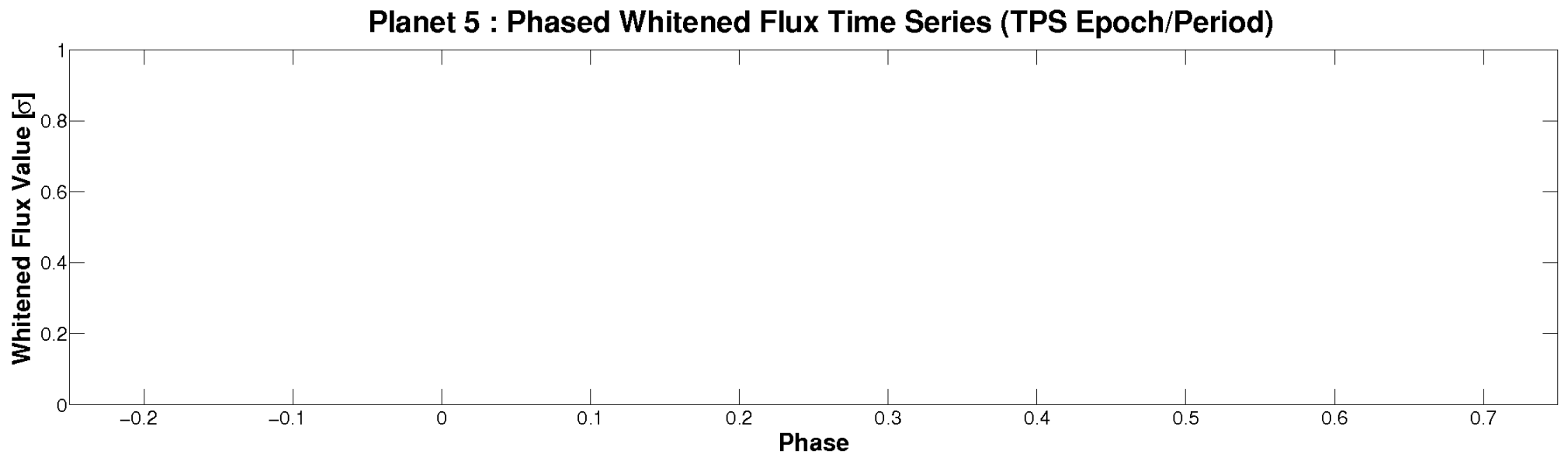
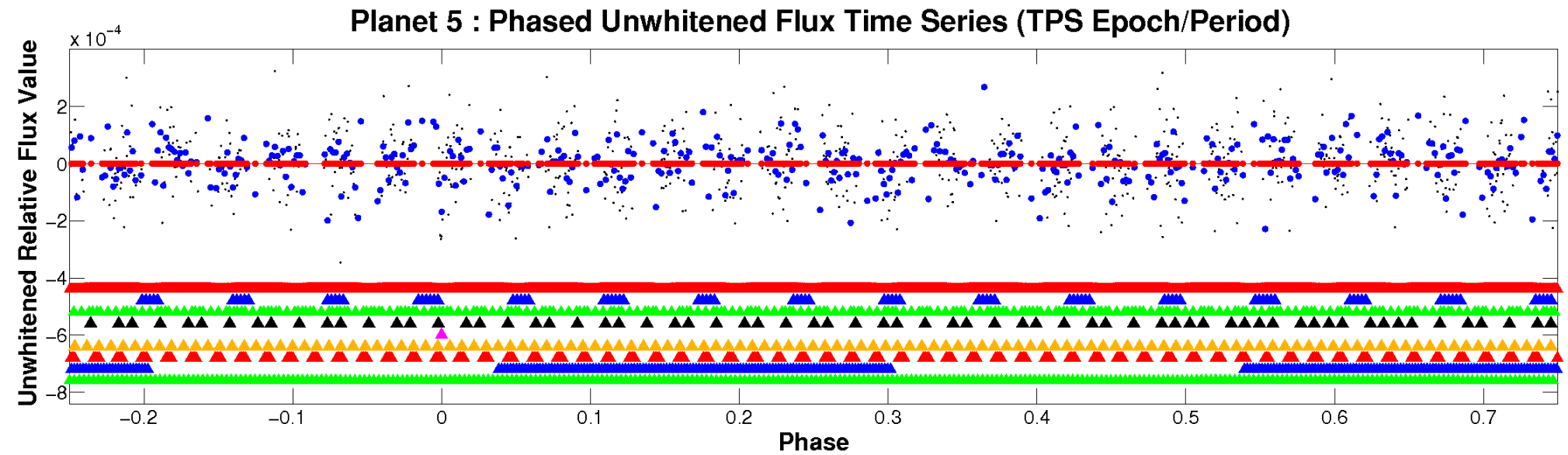
TCE 009651374-05



ALT Odd/Even

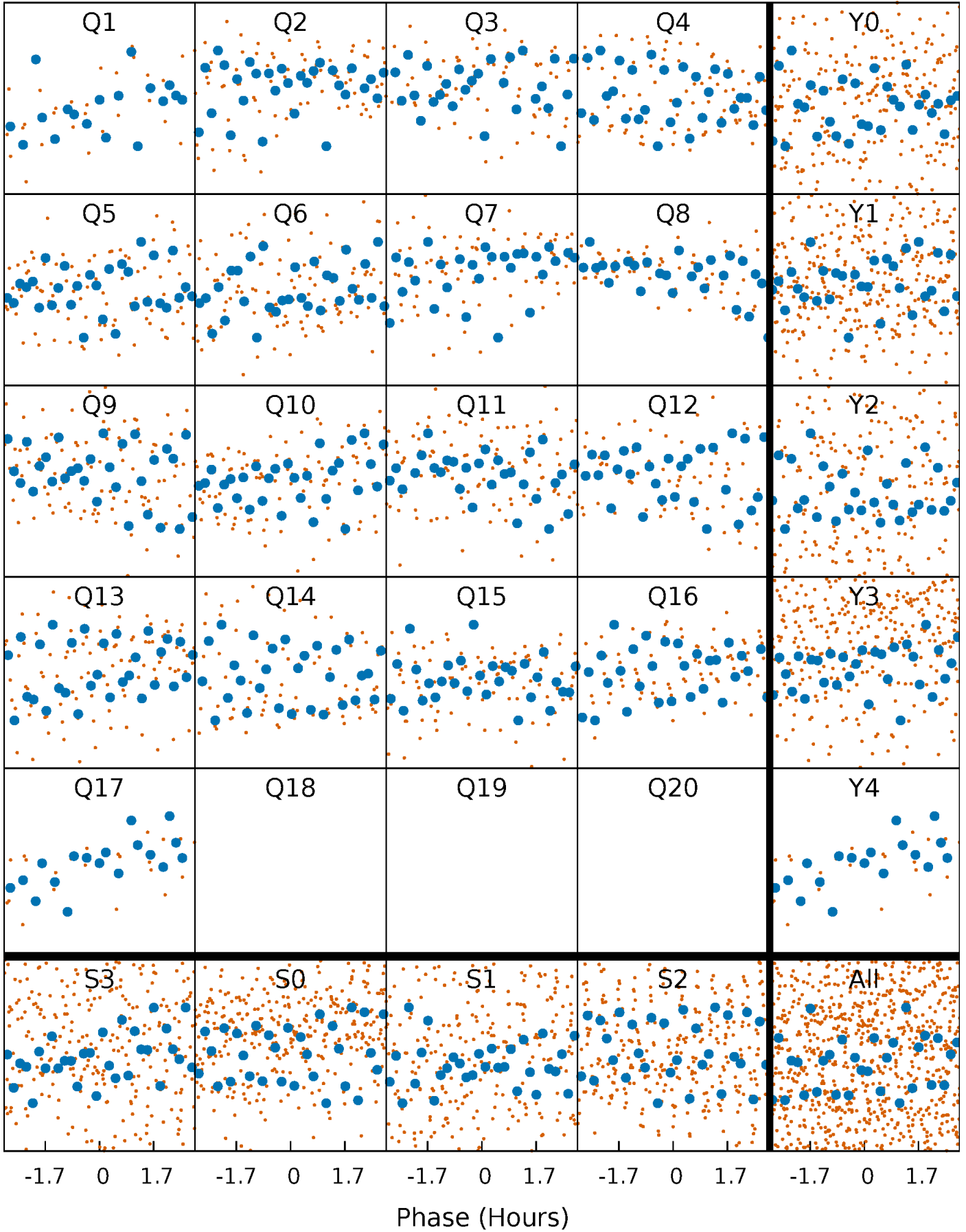
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve



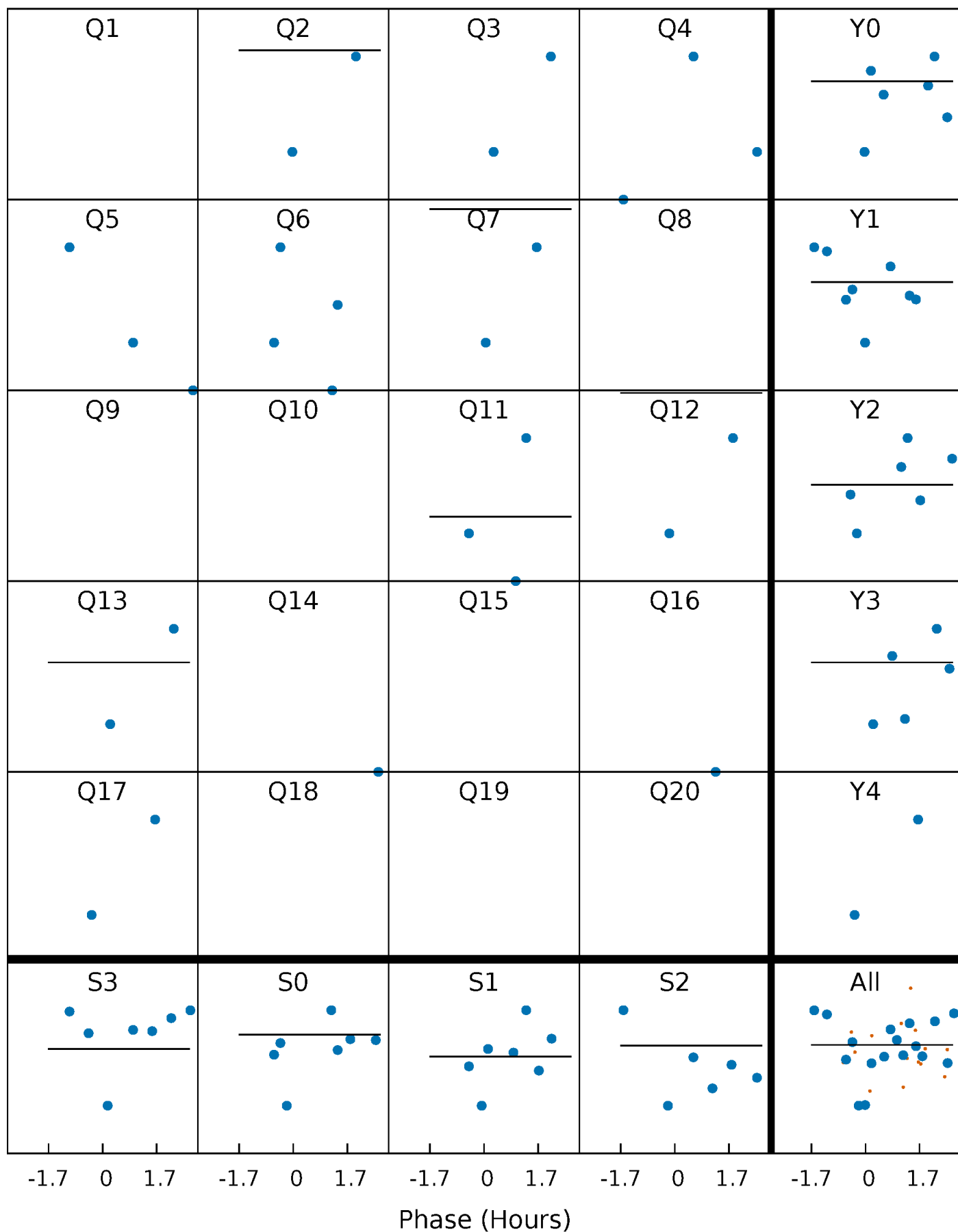
PDC Quarter-Phased Transit Curves

TCE 009651374-05 P= 10.930089 Days $T_0=135.842245$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 009651374-05 $P = 10.930089$ Days $T_0 = 135.842245$ (BKJD)

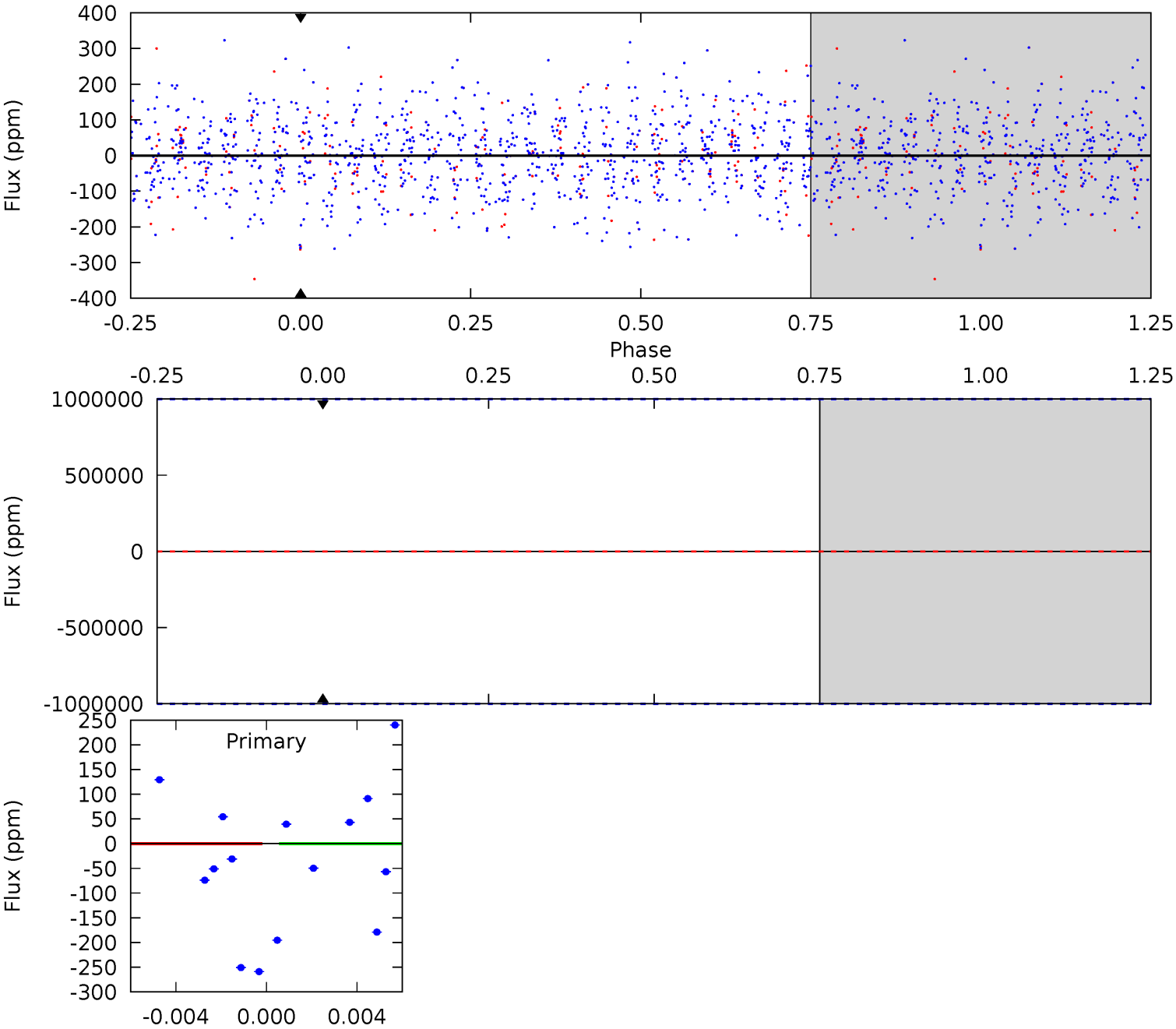


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

009651374-05, P = 10.930089 Days, E = 124.912156 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 009651374

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7100^{+192}_{-235}	$3.806^{+0.285}_{-0.095}$	$-0.440^{+0.300}_{-0.250}$	$2.590^{+0.395}_{-0.921}$	$1.565^{+0.217}_{-0.325}$	$0.127^{+0.255}_{-0.039}$
	+3%/-3%	+7%/-2%	+68%/-57%	+15%/-36%	+14%/-21%	+201%/-31%
Source	PHO1	FLK73	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 009651374-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$20.34^{+22.32}_{-14.65}$	2064^{+123}_{-181}	4424^{+33403}_{-32073}	13^{+4180}_{-2133}
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 $A_{\text{obs}} \gg 1.0$

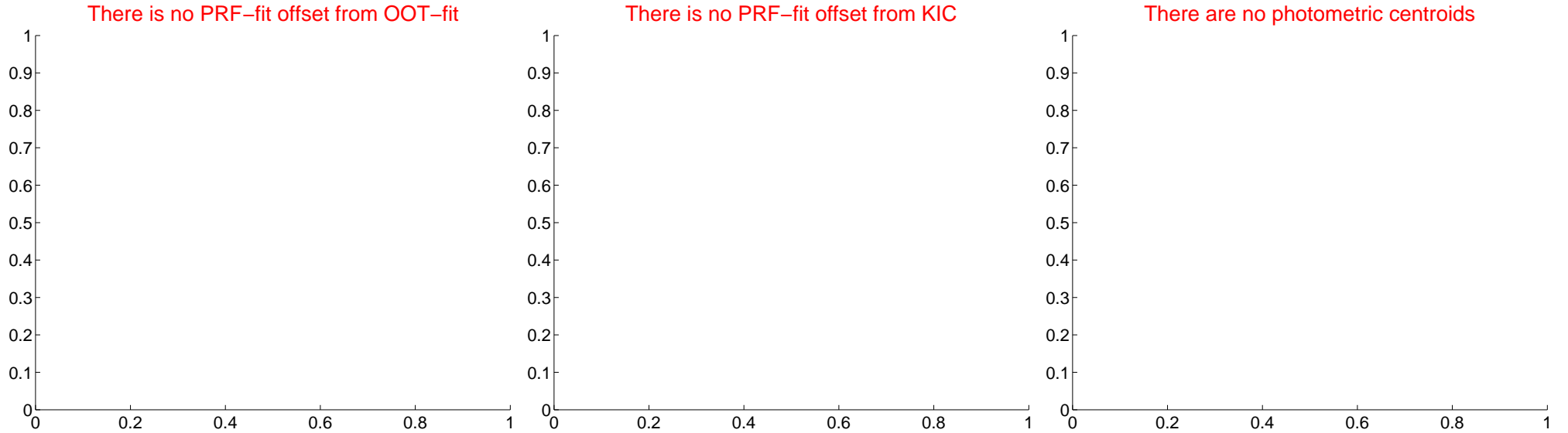
DV Centroid Data

Supplemental centroid analysis for 009651374-05. **Kepler magnitude: 11.68.** Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

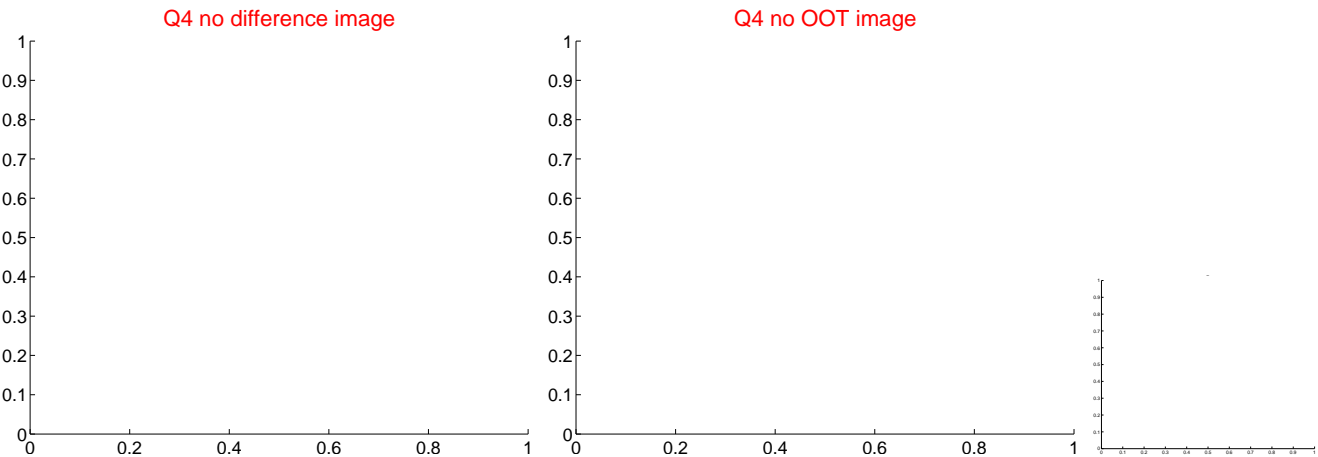
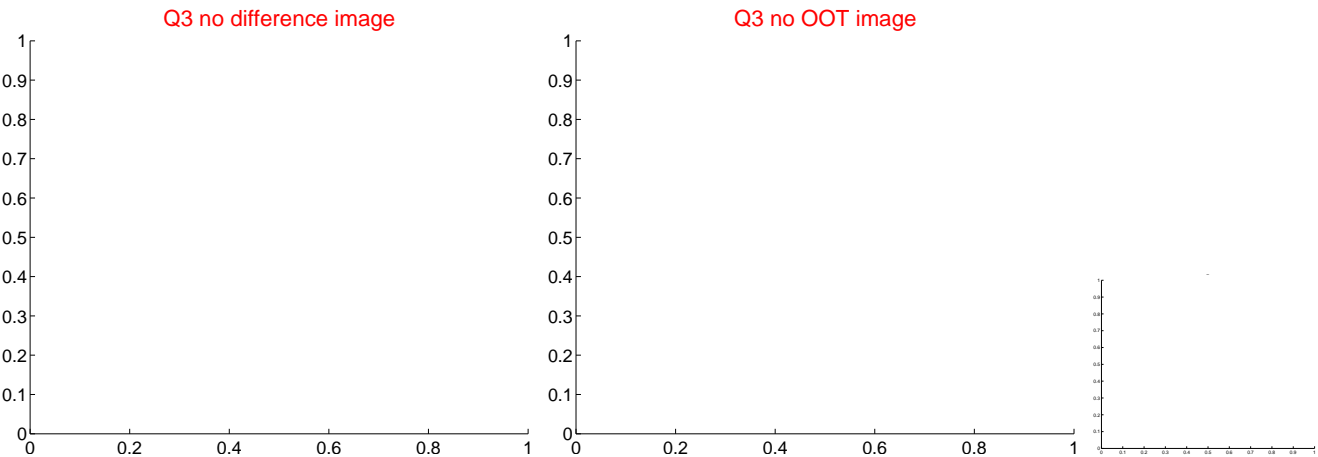
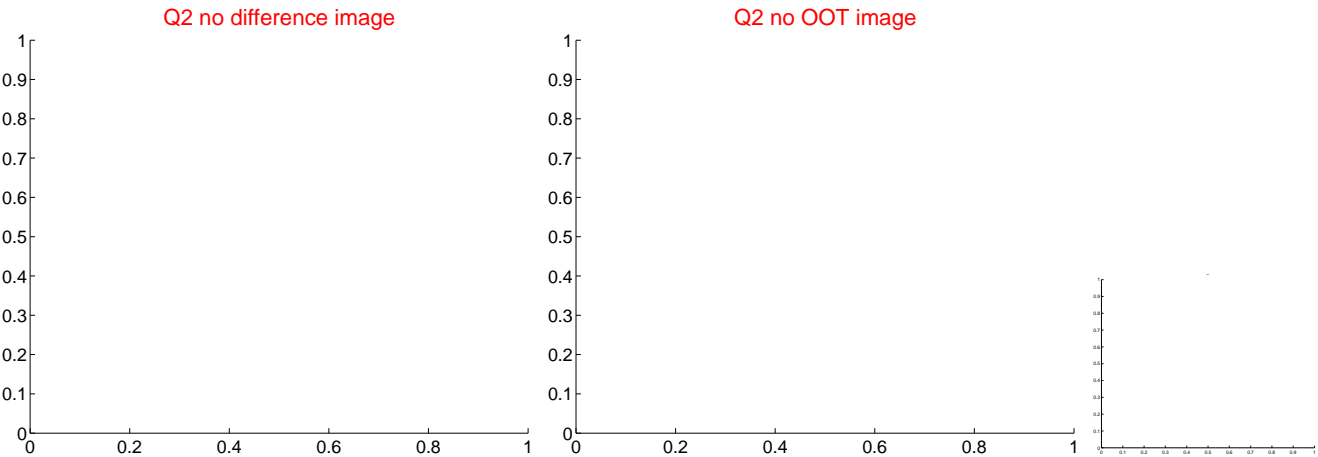
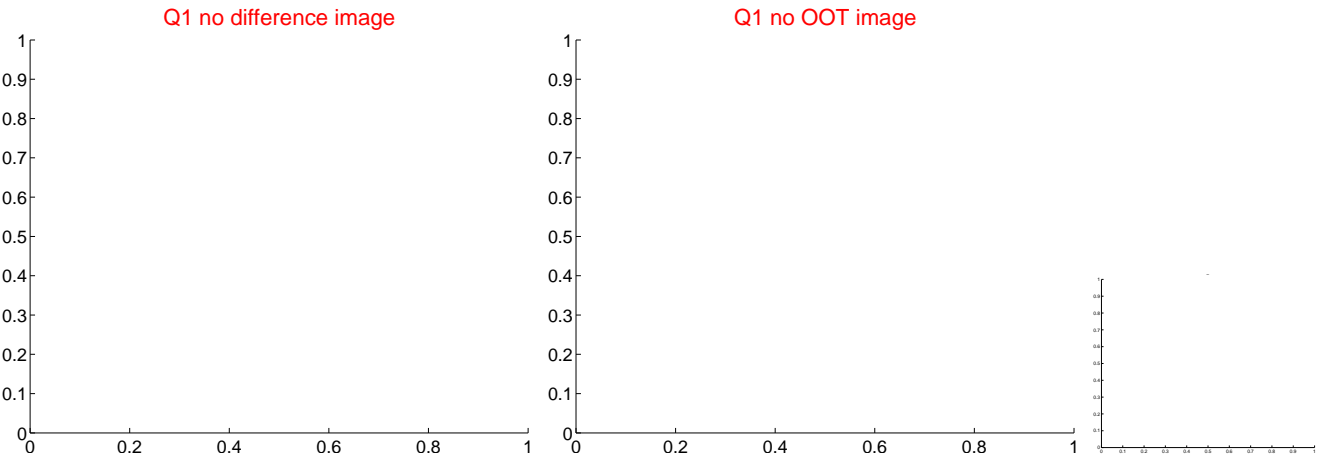
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	—	—	—	—

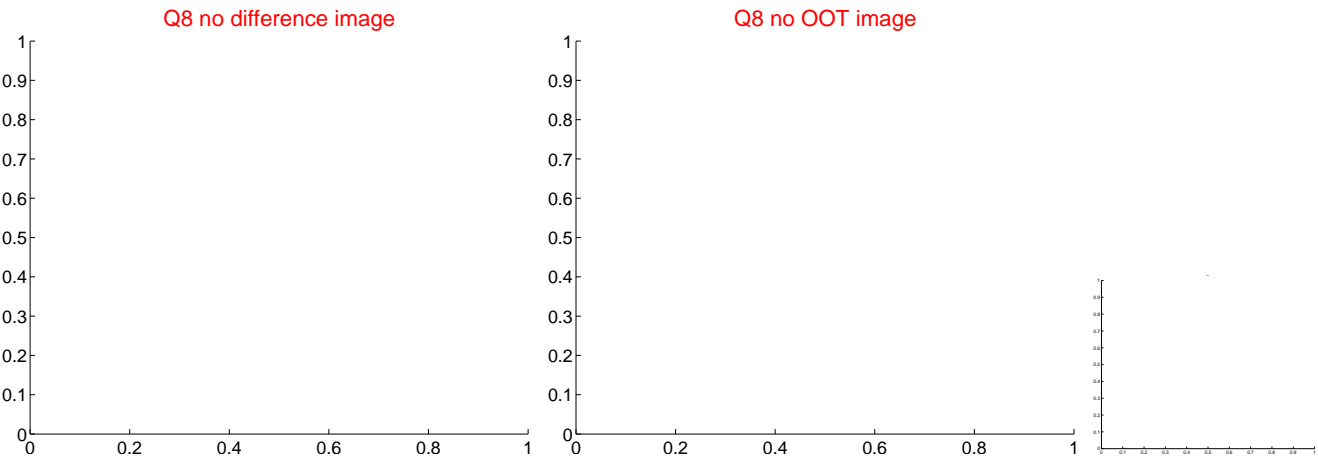
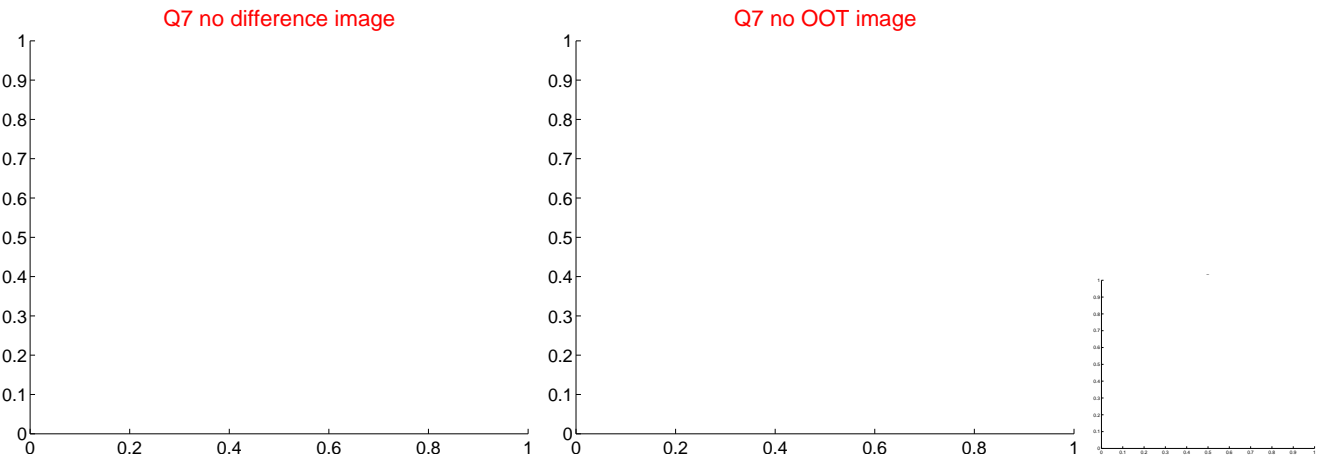
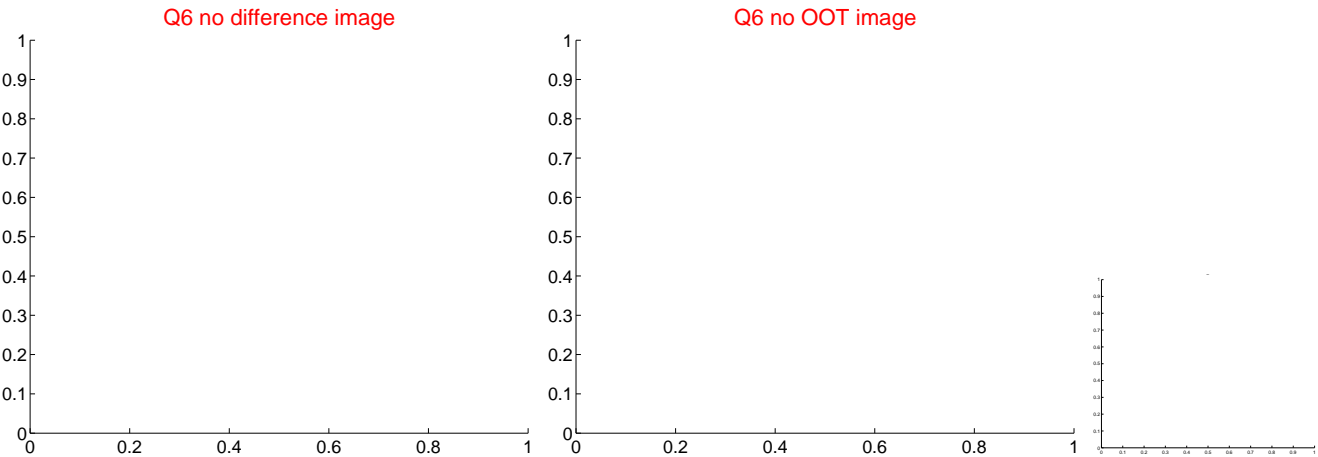
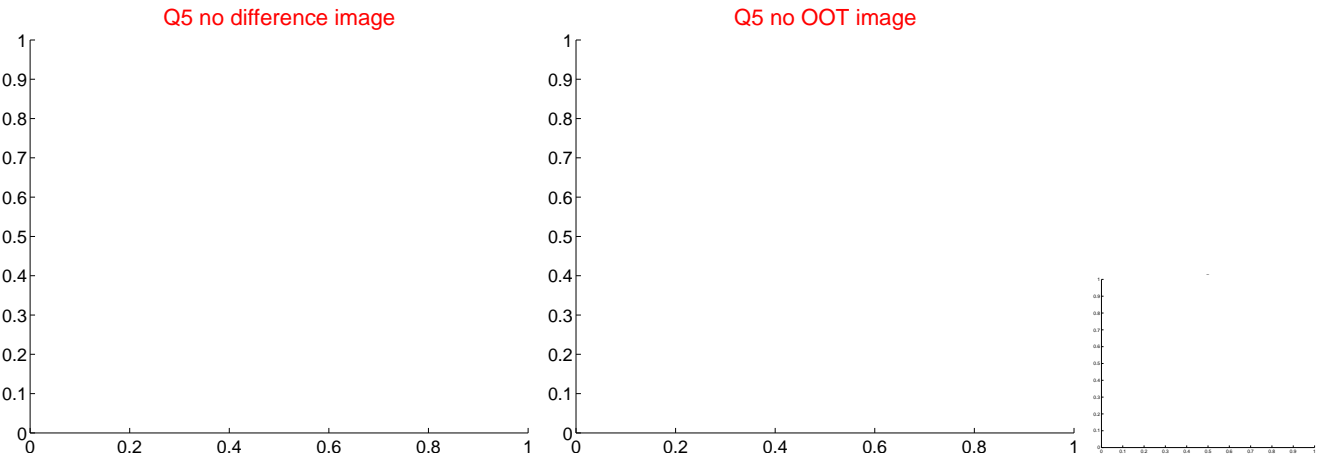


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

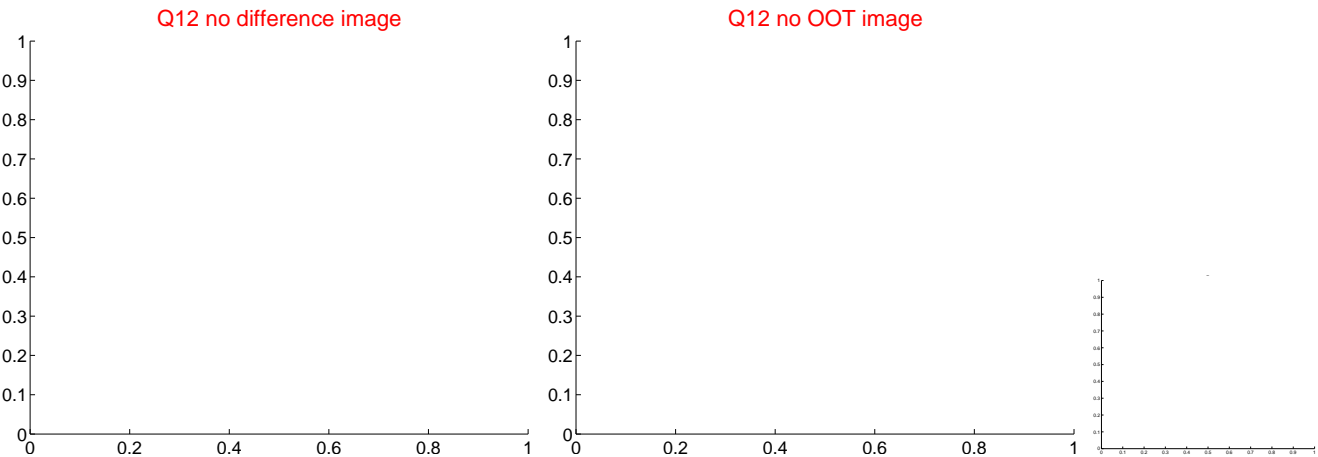
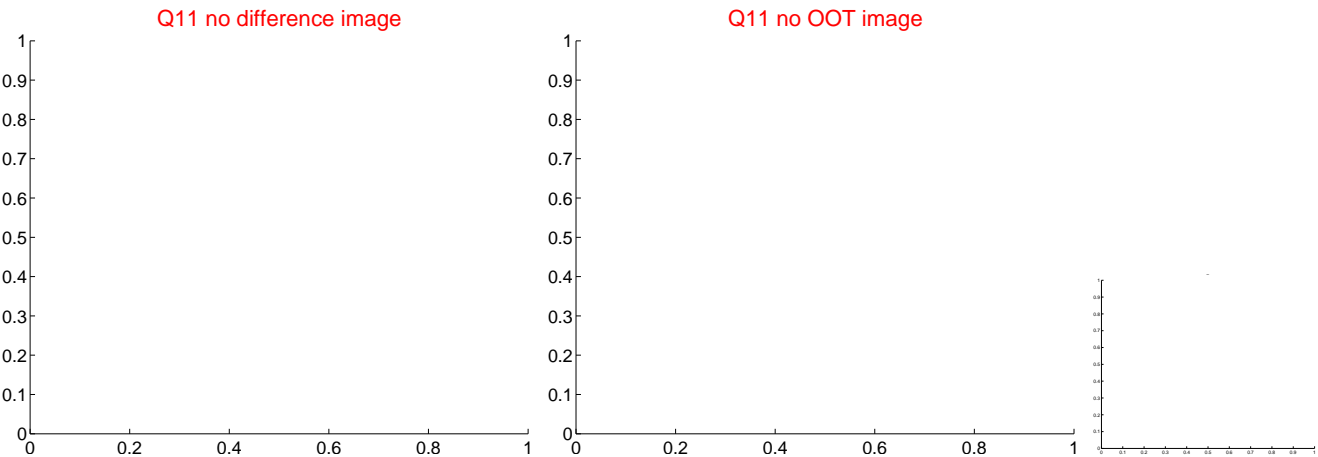
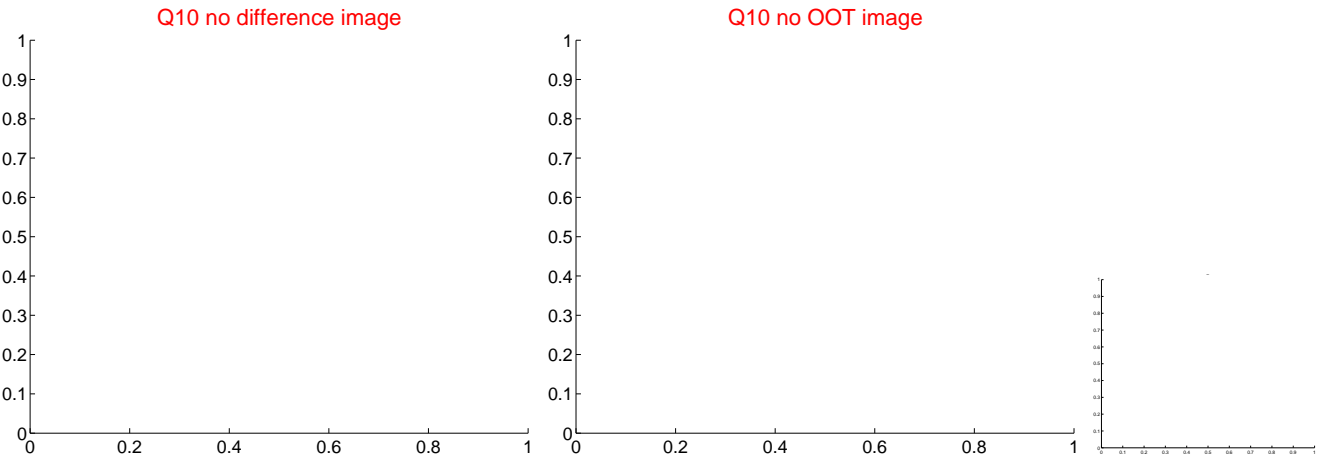
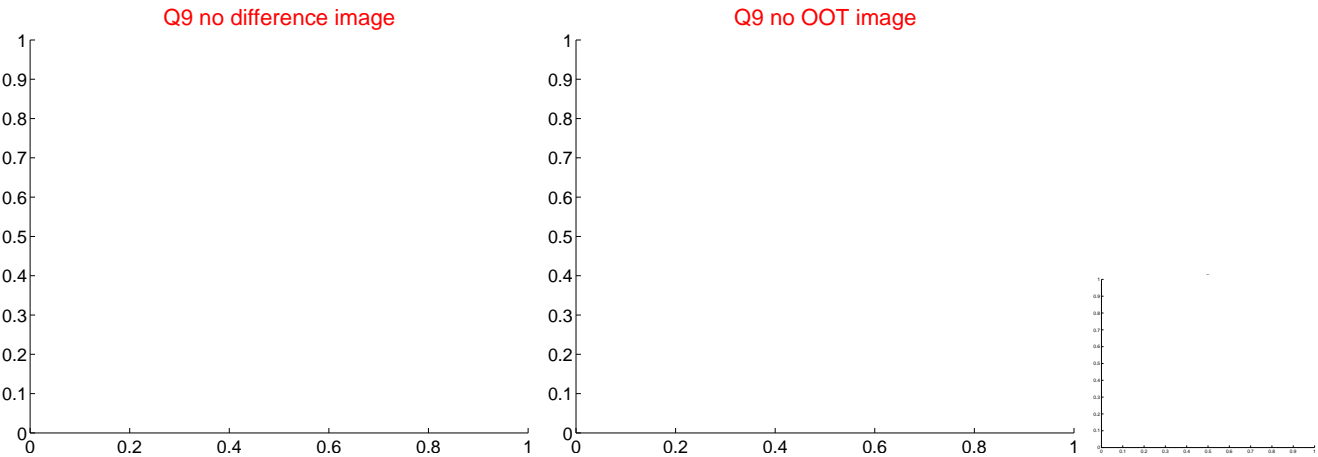
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



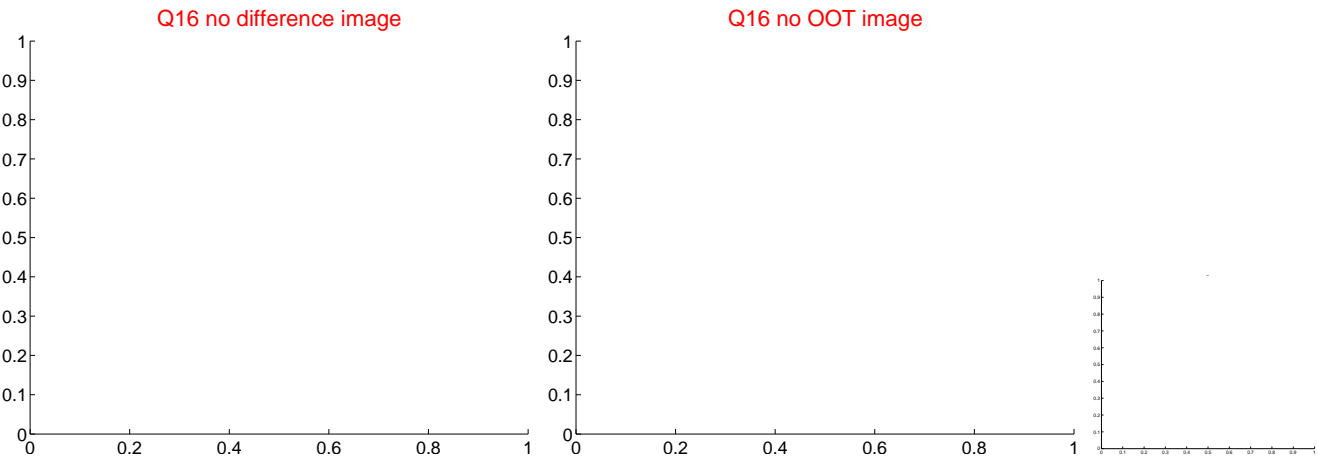
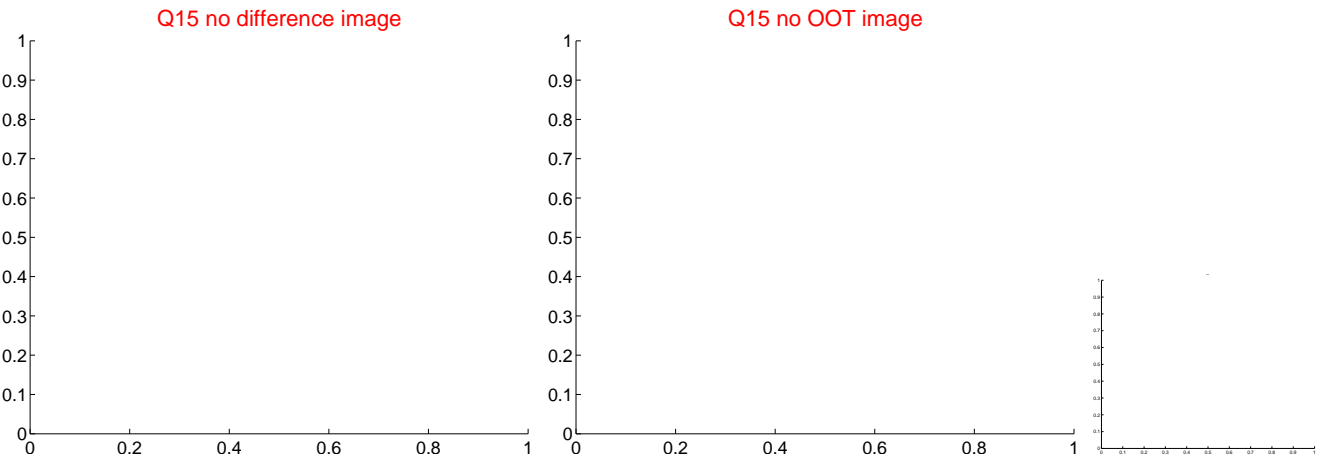
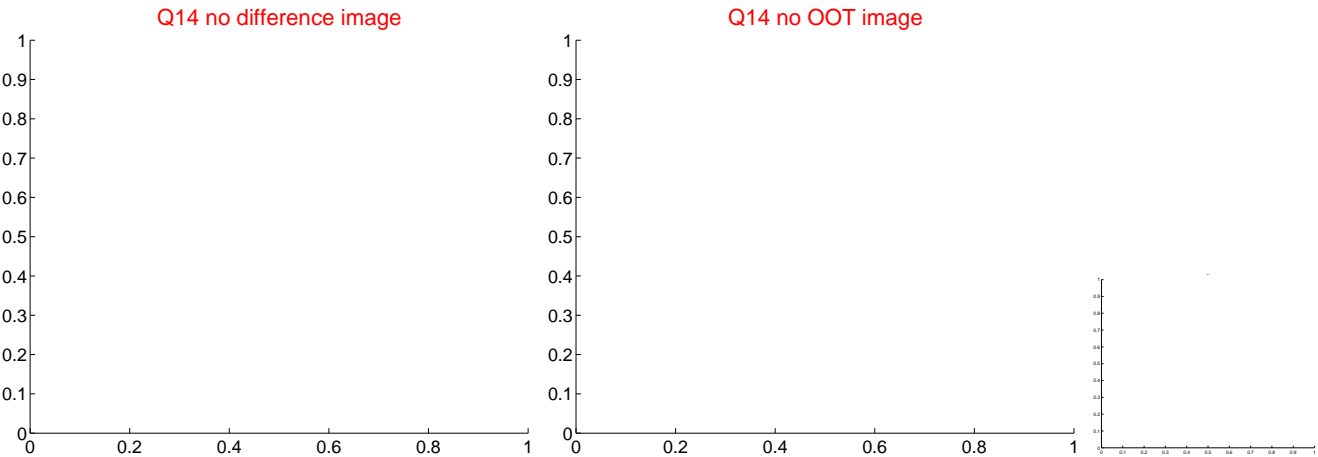
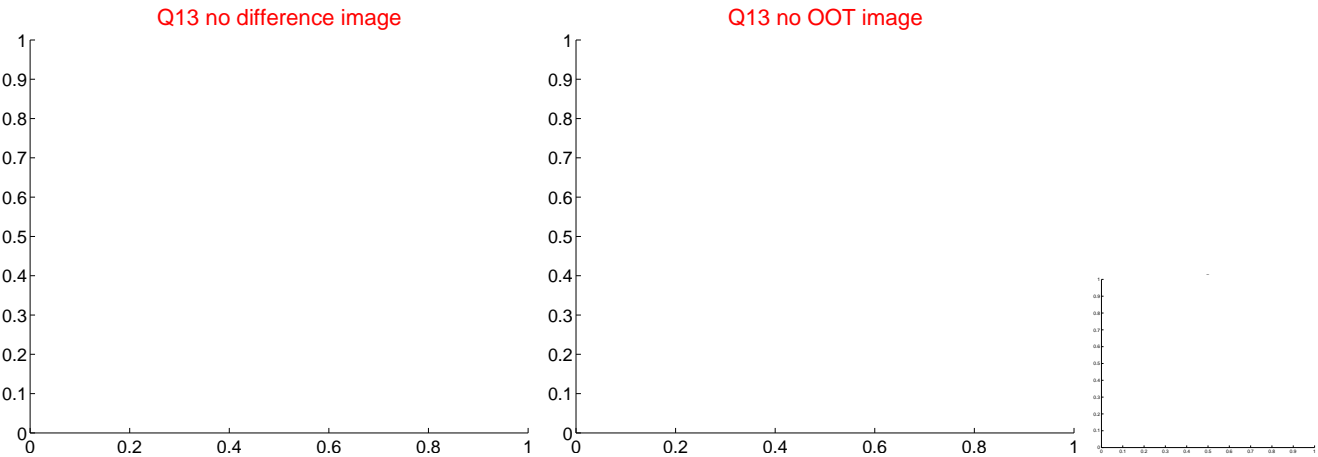
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



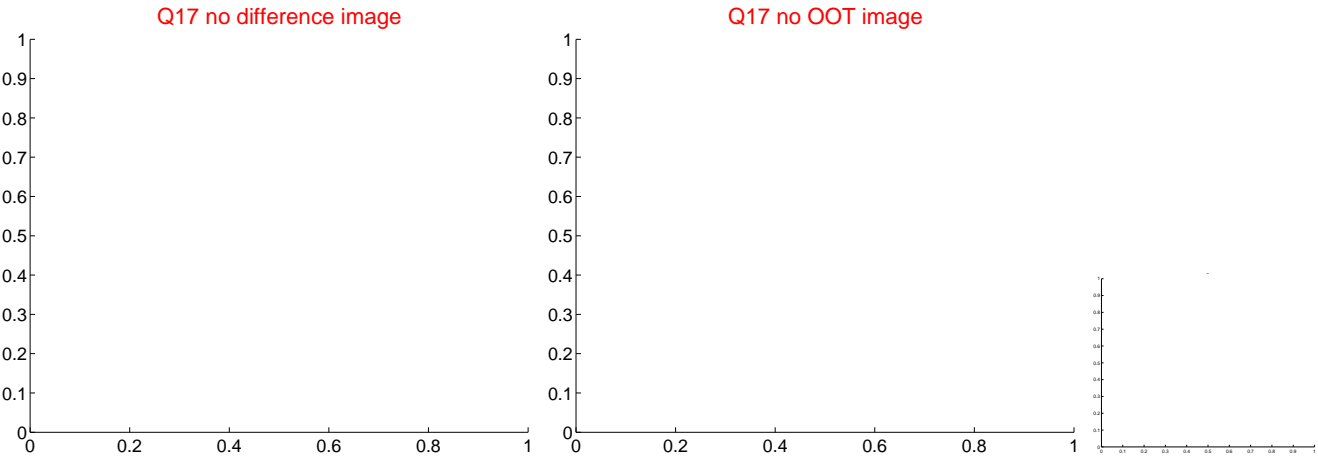
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

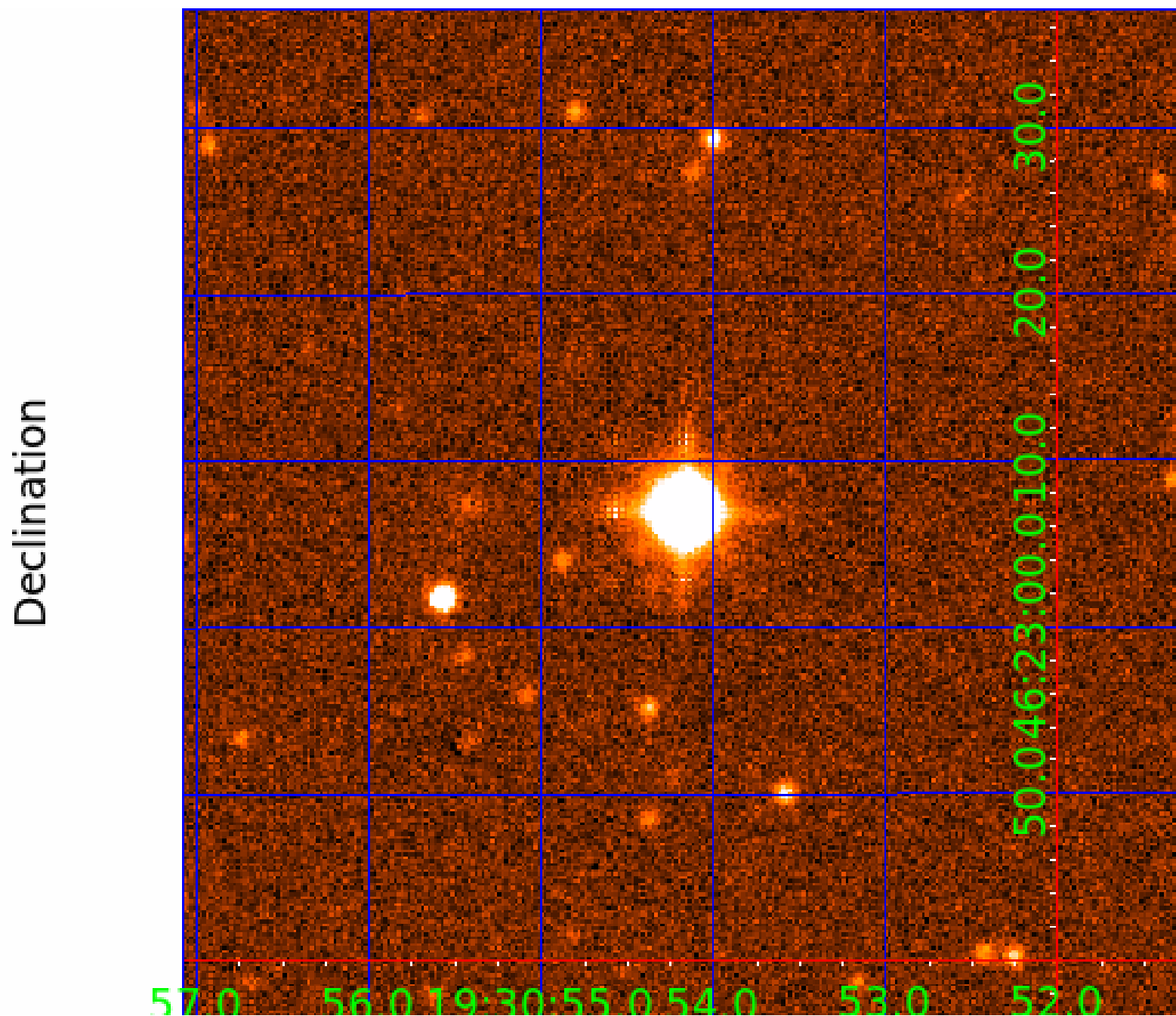


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image



KIC 009651374

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})
009651374-01	OBS	No	0.688632	132.205699	6.9	5.248	14.0	6.2	2.59	7100	0.70	48619.58
009651374-02	OBS	No	17.076454	140.599779	275.0	2.193	18.1	26.2	2.59	7100	4.92	672.35
009651374-03	OBS	No	5.339272	135.794486	91.2	0.806	15.7	10.2	2.59	7100	2.91	3168.24
009651374-04	OBS	No	21.349528	142.760997	294.0	1.500	12.9	-1.0	2.59	7100	4.49	499.20
009651374-05	OBS	No	10.930089	135.842245	323.7	1.500	18.0	-1.0	2.59	7100	4.71	1218.88
009651374-07	OBS	No	6.092397	133.456136	101.0	1.192	13.4	11.6	2.59	7100	2.79	2657.11
009651374-08	OBS	No	5.454224	133.685652	203.5	1.052	11.8	20.7	2.59	7100	3.85	3079.52
009651374-09	OBS	No	2.723803	132.373994	77.0	1.062	13.3	12.3	2.59	7100	2.43	7772.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009651374-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT
009651374-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
009651374-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
009651374-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
009651374-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
009651374-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
009651374-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
009651374-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

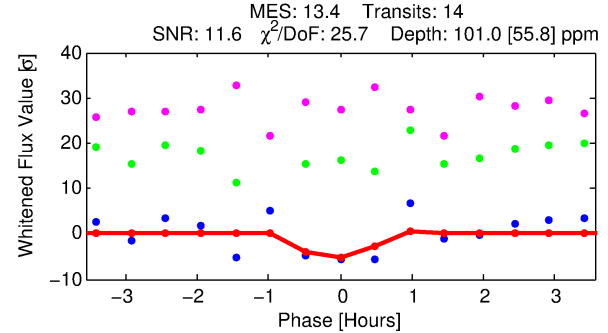
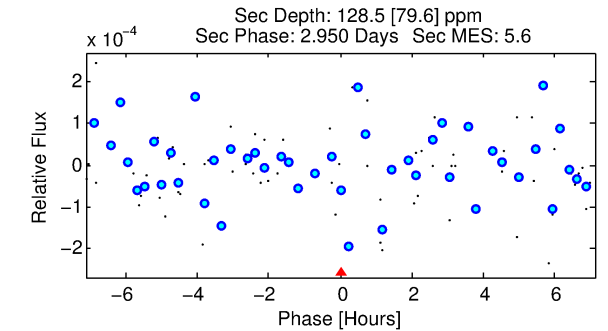
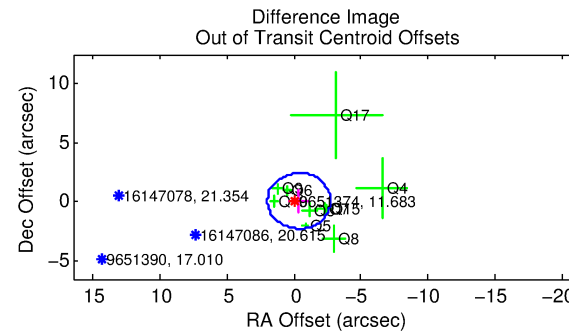
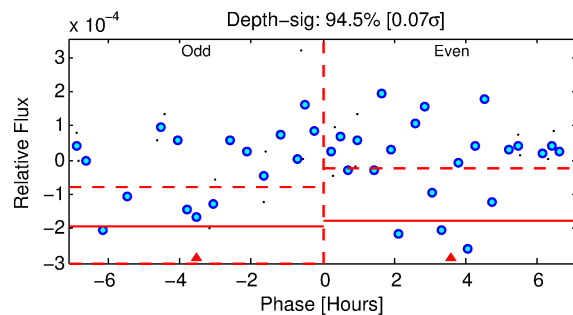
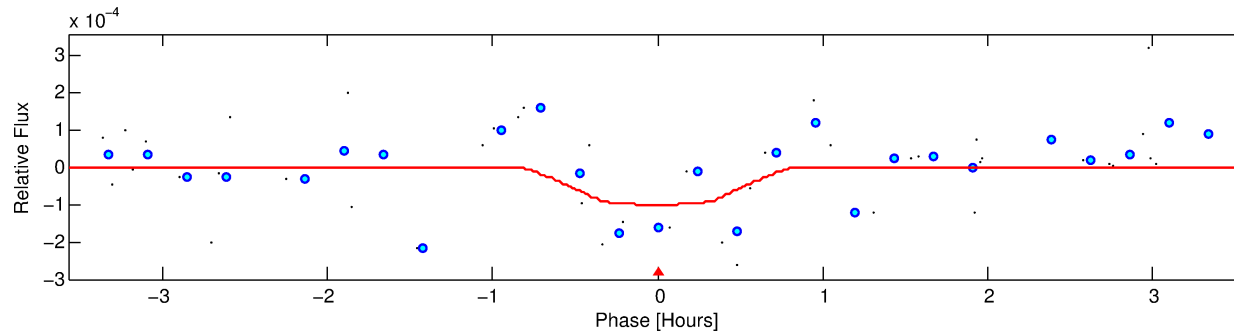
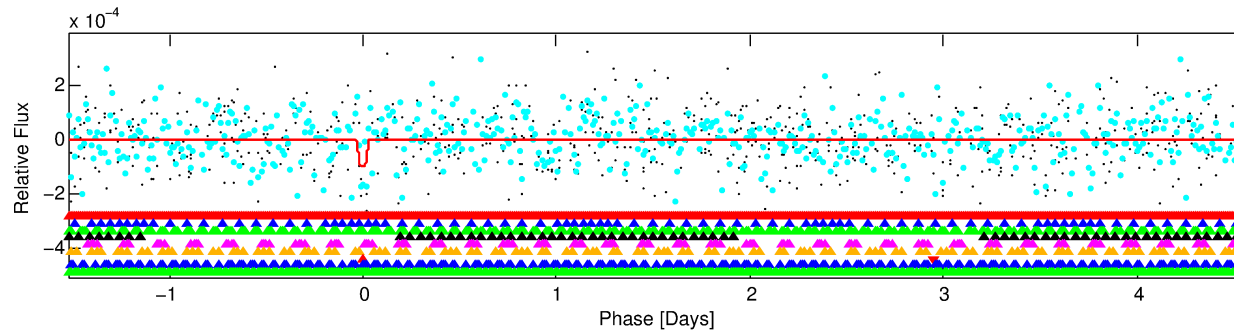
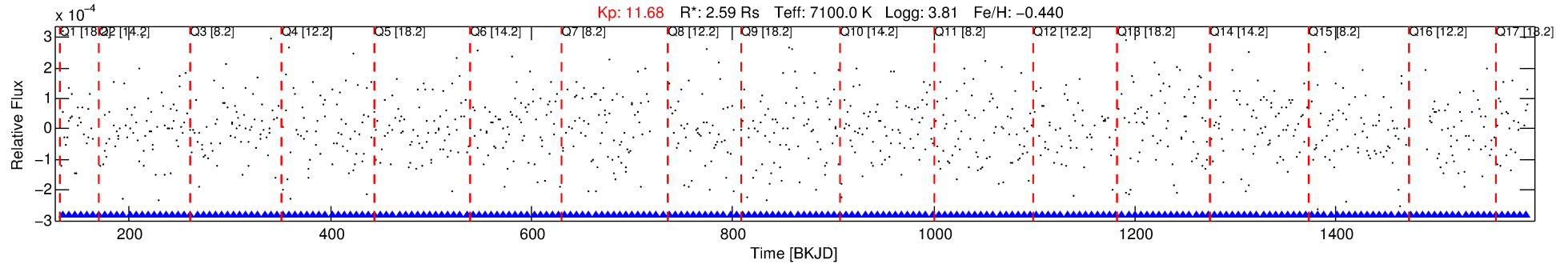
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009651374-07

No Significant Match Found

DV One-Page Summary

KIC: 9651374 Candidate: 7 of 9 Period: 6.092 d



DV Fit Results:

Period = 6.09240 [0.00016] d
Epoch = 133.4561 [0.0160] BKJD
Rp/R* = 0.0099 [0.0159]
a/R* = 29.00 [258.61]
b = 0.68 [7.13]
Seff = 2657.11 [1368.16]
Teq = 1831 [236] K
Rp = 2.79 [4.60] Re
a = 0.0758 [0.0245] AU
Ag = 52.13 [172.88] [0.30 σ]
Teffp = 7606 [6239] K [0.92 σ]

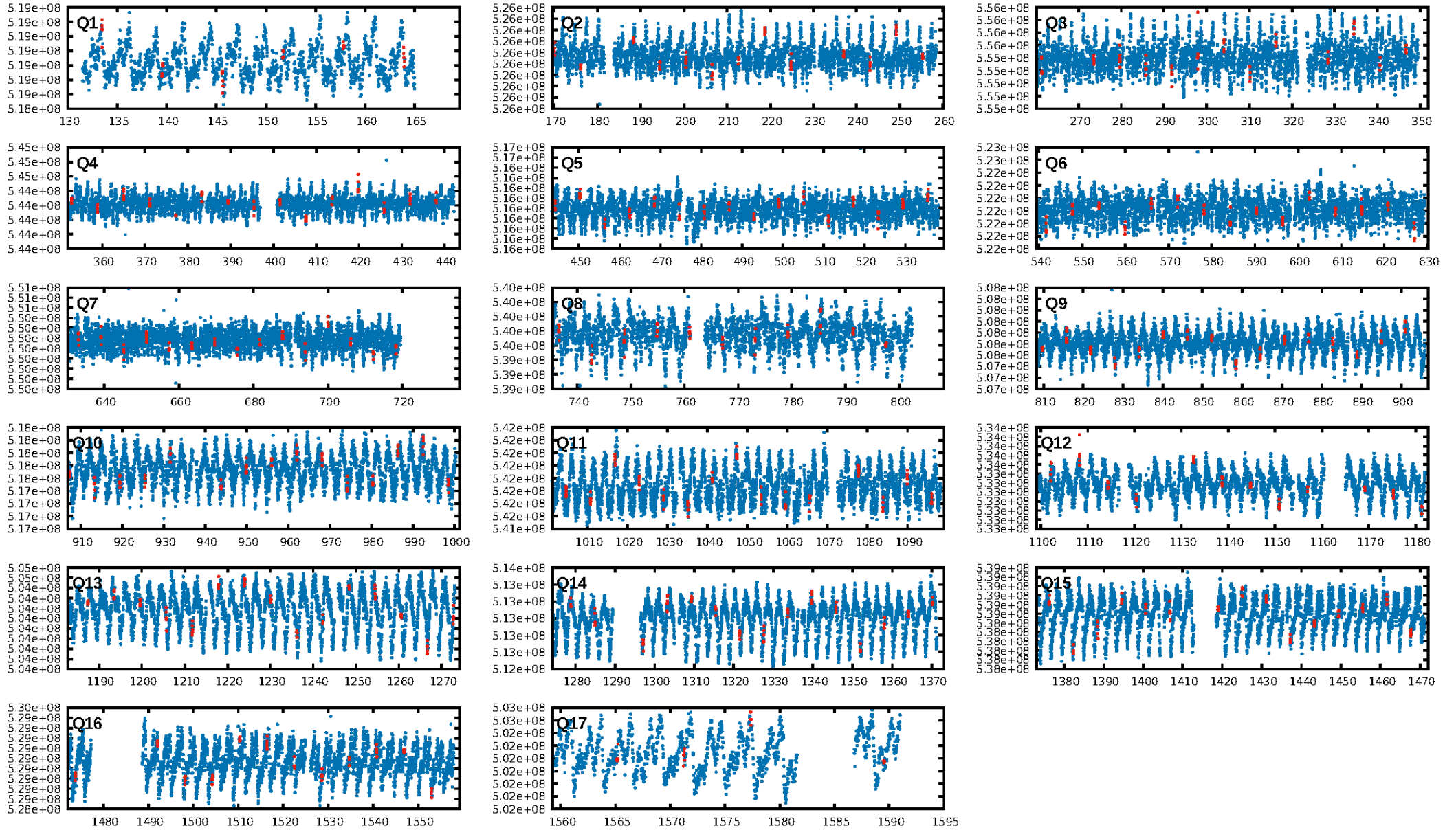
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [9.63 σ]
LongPeriod-sig: 100.0% [60.60 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [13/13]
GhostDiagnostic-chr: 1.615
Centroid-sig: 6.9%
Centroid-so: 0.434 arcsec [1.20 σ]
OotOffset-rm: 0.376 arcsec [0.48 σ]
KicOffset-rm: 0.330 arcsec [0.43 σ]
OotOffset-st: 2/3/2/3 [10]
KicOffset-st: 2/3/2/3 [10]
DiffImageQuality-fgm: 0.40 [4/10]
DiffImageOverlap-fno: 0.06 [1/17]

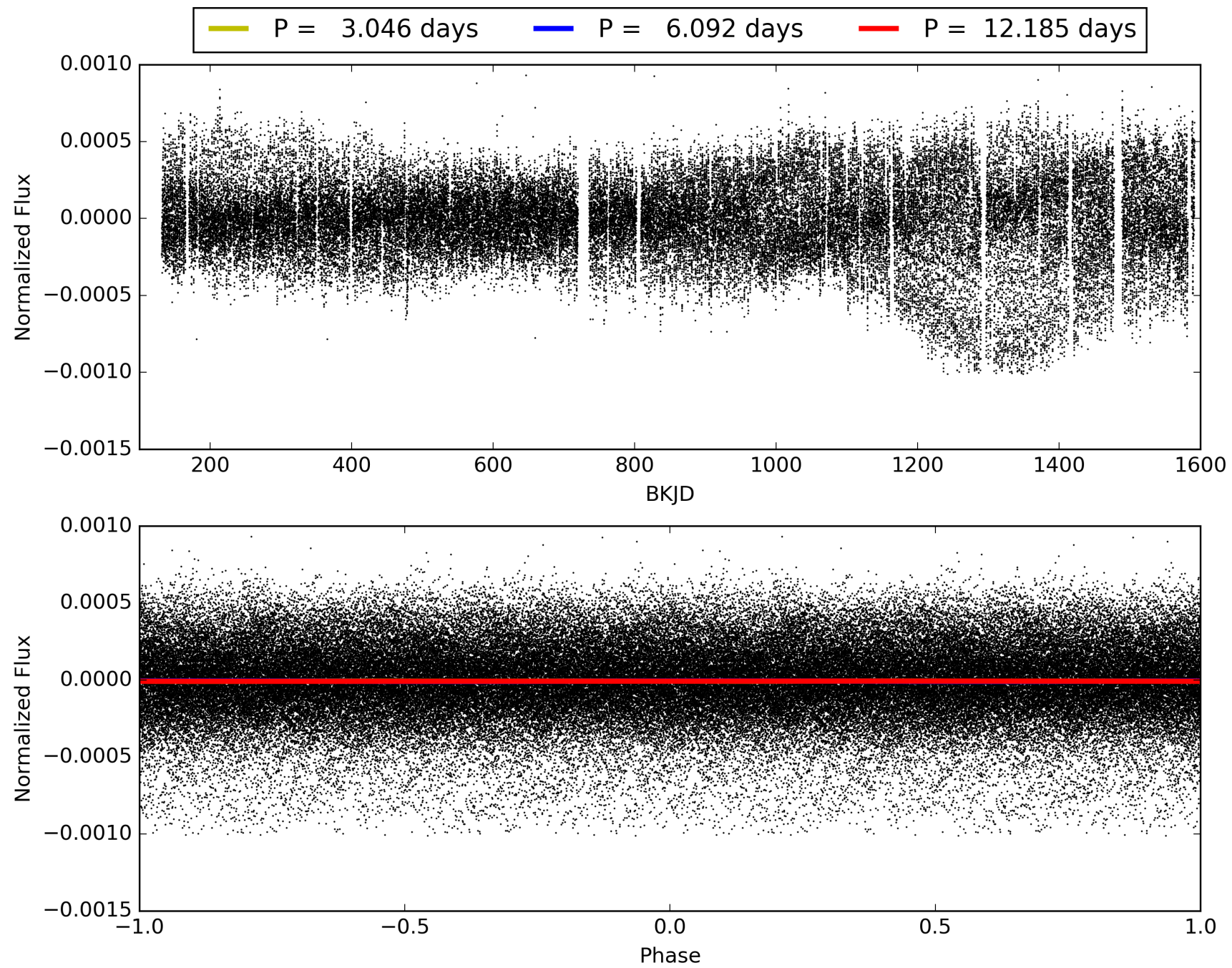
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:59:47 Z

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

TCE 009651374-07, PDC Light Curves

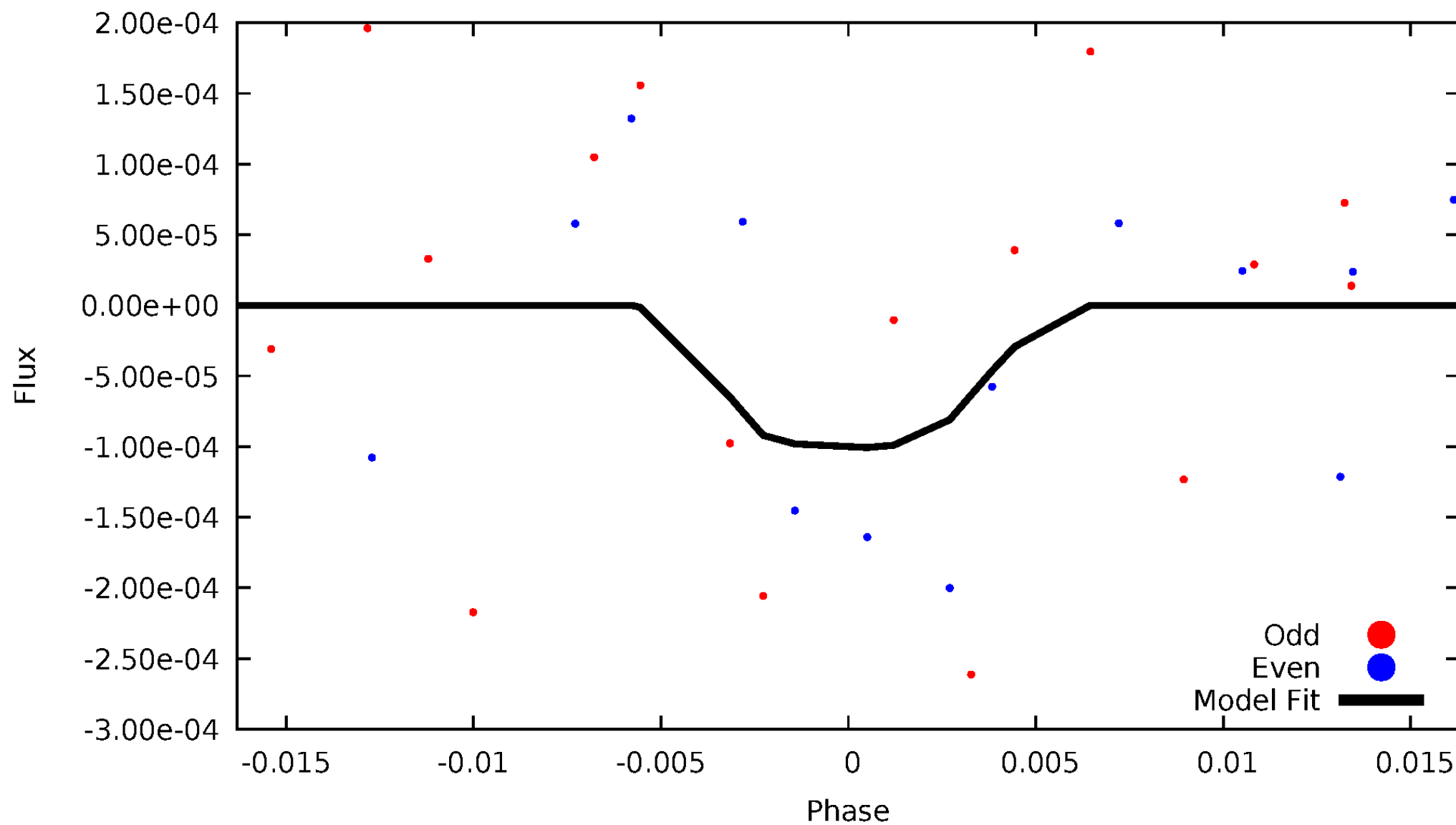


TCE 009651374-07



DV Odd/Even

TCE 009651374-07

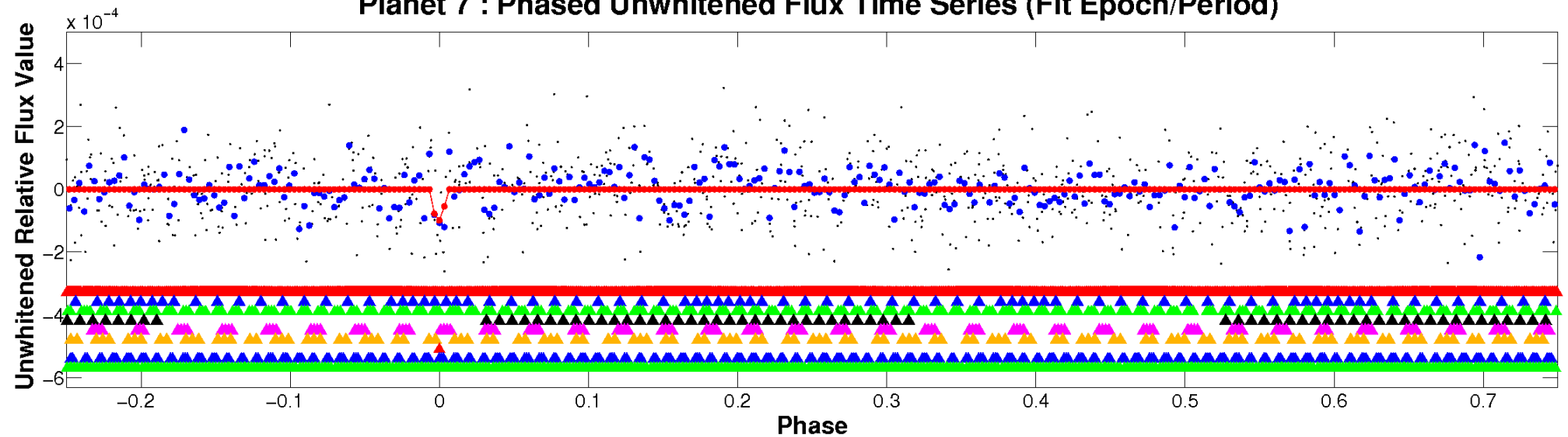


ALT Odd/Even

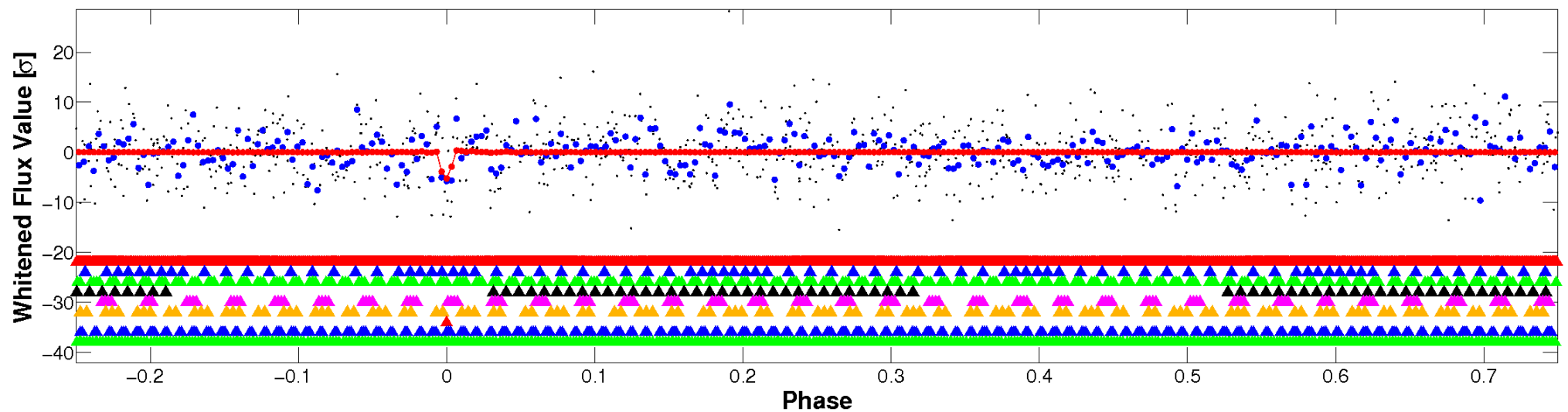
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

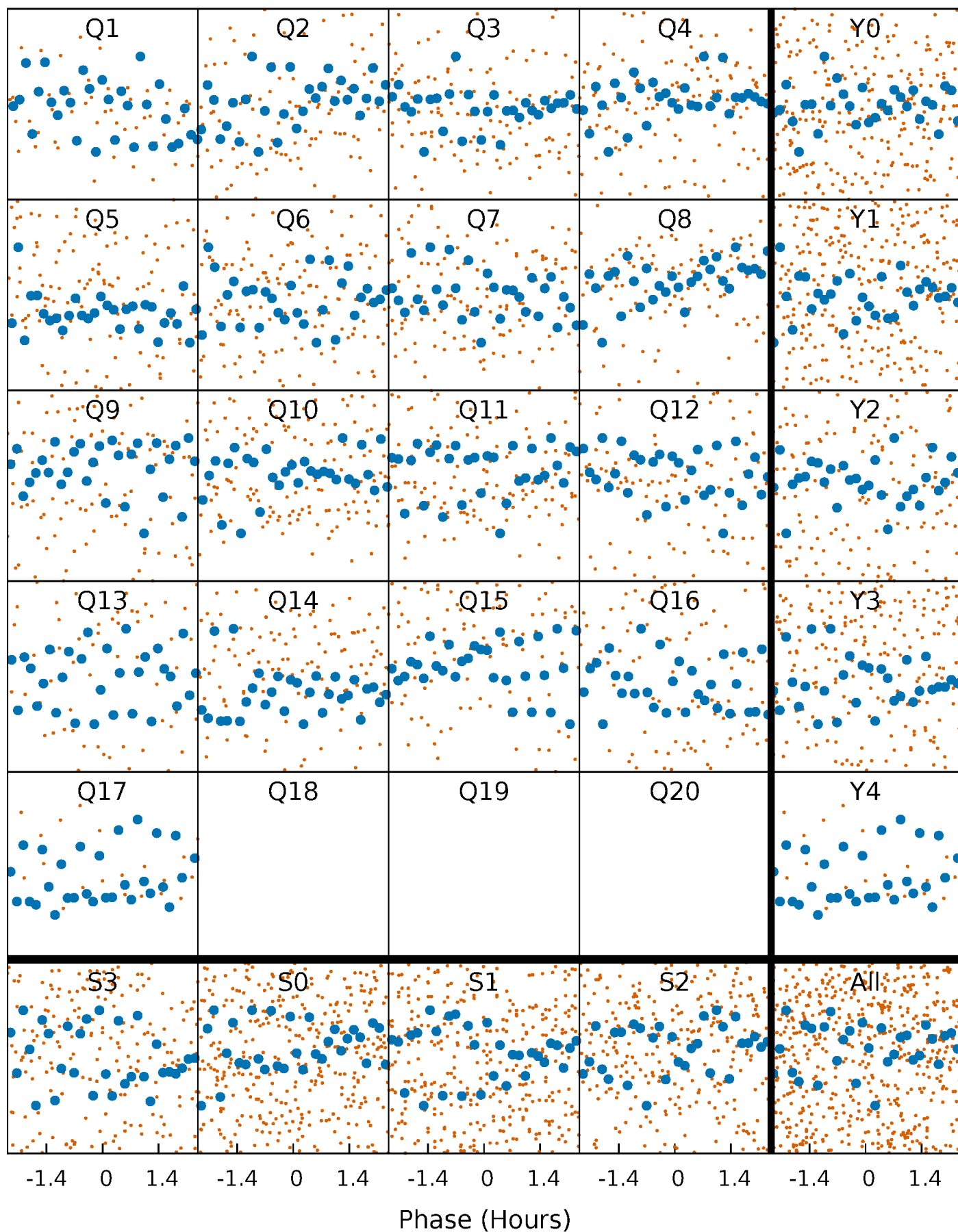


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



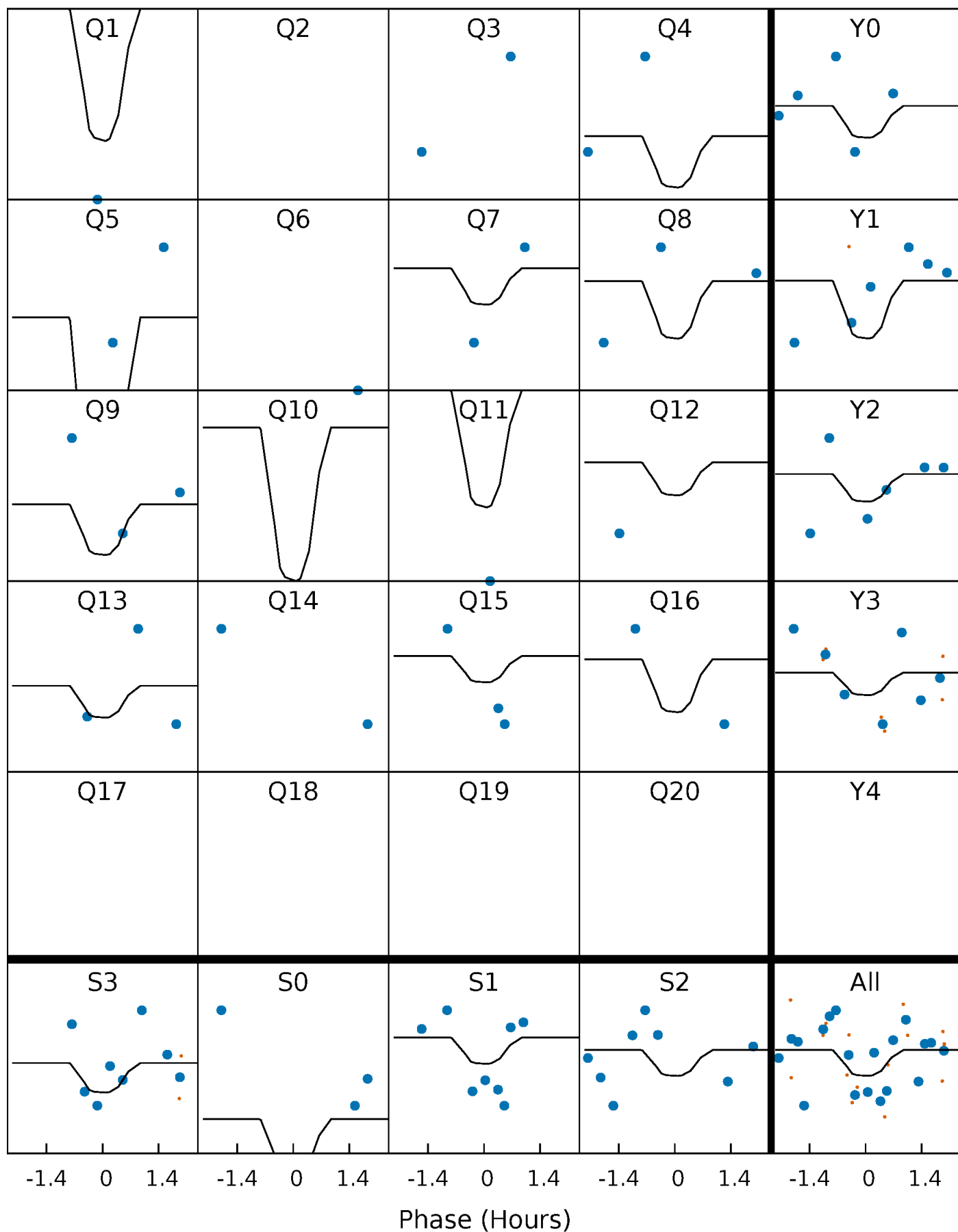
PDC Quarter-Phased Transit Curves

TCE 009651374-07 P= 6.092397 Days $T_0=133.456136$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 009651374-07 P= 6.092397 Days $T_0=133.456136$ (BKJD)

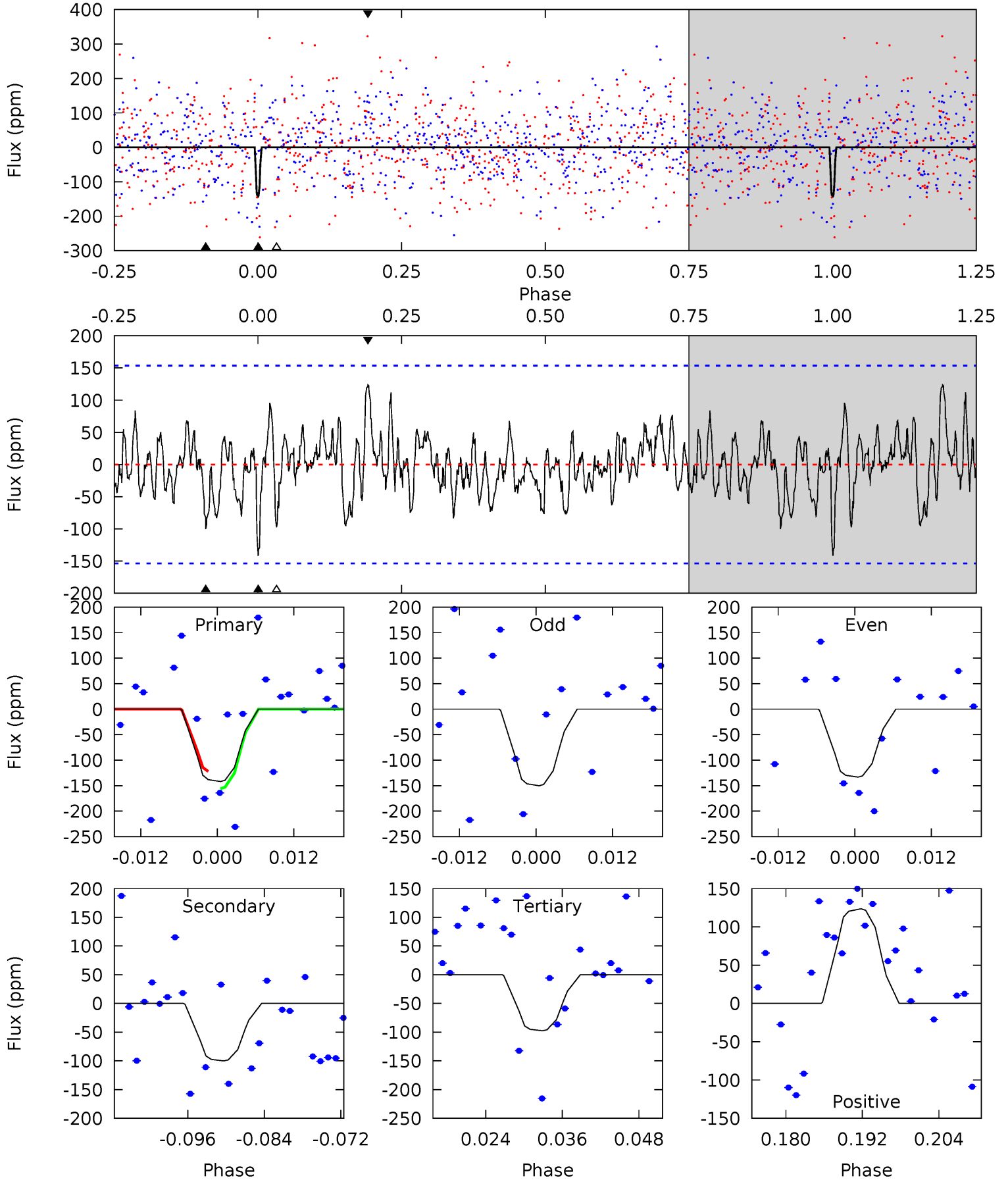


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

009651374-07, P = 6.092397 Days, E = 127.363739 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.61	3.25	3.17	4.02	4.99	2.51	1.24	1.44	0.59	0.08	-0.77	0.28	0	0.47	0.54



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 009651374

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7100^{+192}_{-235}	$3.806^{+0.285}_{-0.095}$	$-0.440^{+0.300}_{-0.250}$	$2.590^{+0.395}_{-0.921}$	$1.565^{+0.217}_{-0.325}$	$0.127^{+0.255}_{-0.039}$
	+3%/-3%	+7%/-2%	+68%/-57%	+15%/-36%	+14%/-21%	+201%/-31%
Source	PHO1	FLK73	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 009651374-07 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-100 ± 31	$4.04^{+3.87}_{-2.65}$	2520^{+144}_{-234}	5672^{+4792}_{-1481}	18^{+148}_{-14}
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

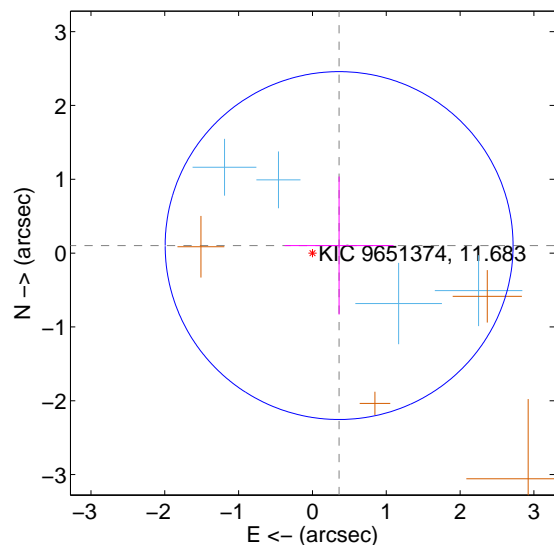
Supplemental centroid analysis for 009651374-07. **Kepler magnitude: 11.68.** Transit SNR 11.63

There are 4 quarters with good PRF difference image offsets

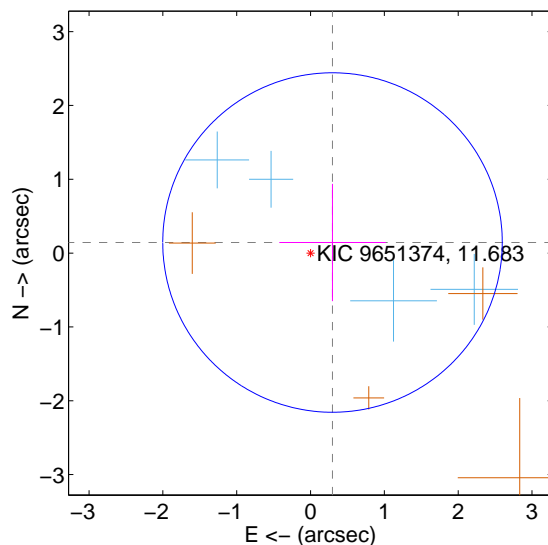
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.376 ± 0.785	0.48	-0.361 ± 0.737	0.102 ± 0.934
PRF-fit source offset from KIC position	0.330 ± 0.766	0.43	-0.298 ± 0.721	0.143 ± 0.795
photometric centroid source offset	0.43 ± 0.36	1.20	0.01 ± 0.34	0.43 ± 0.36

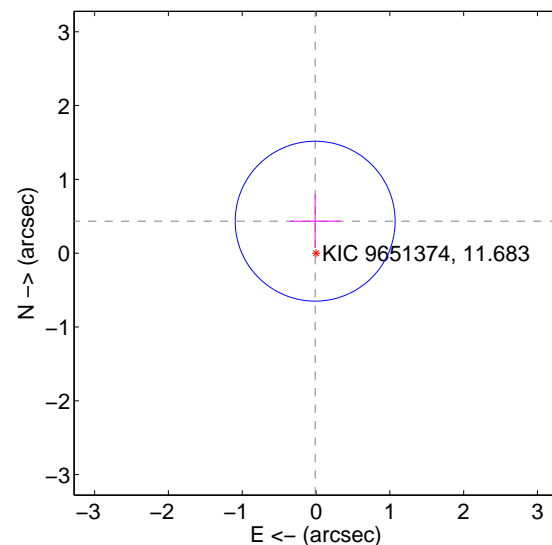
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

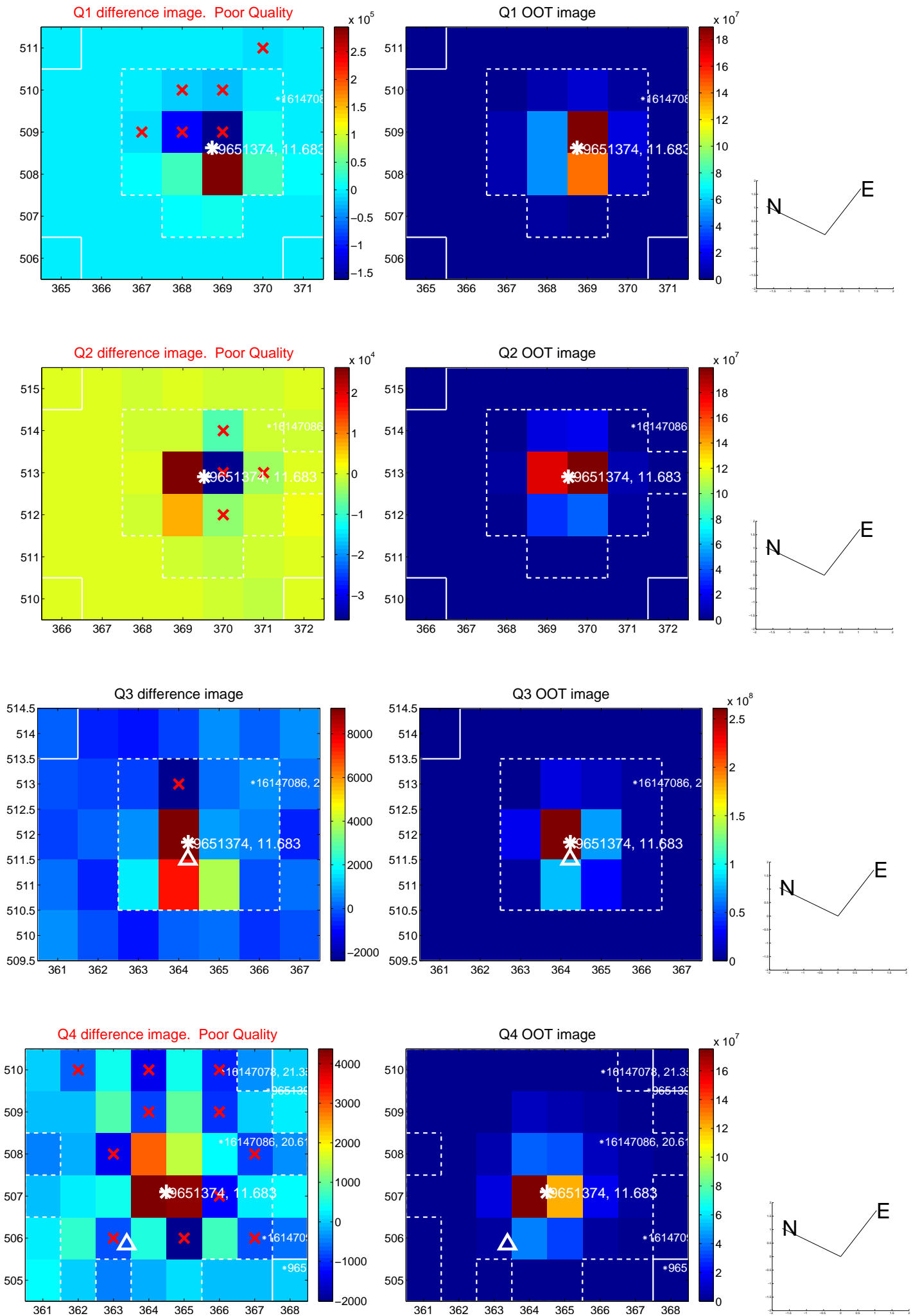


offset from photometric centroids

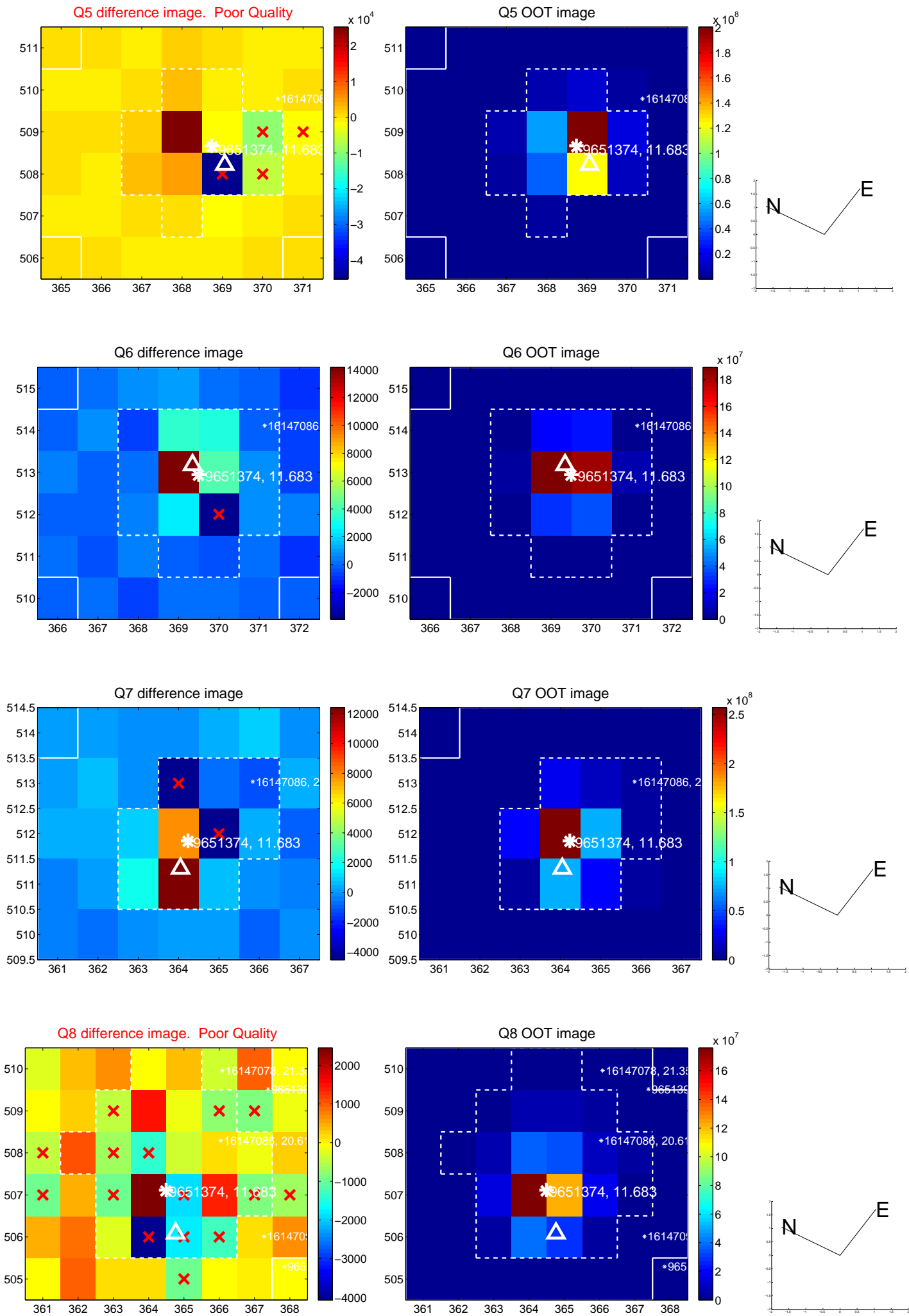


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

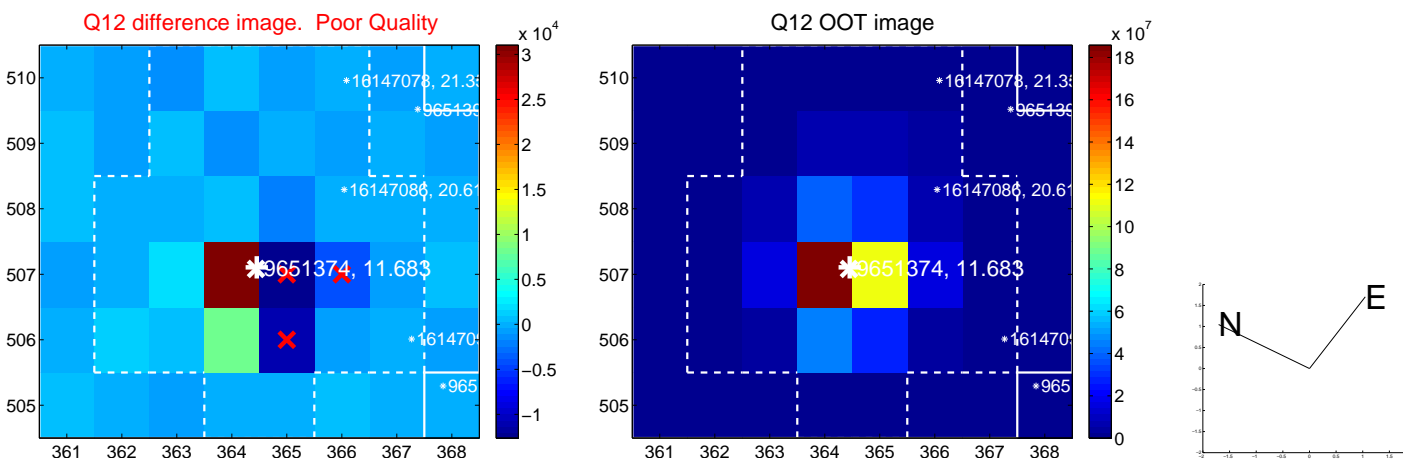
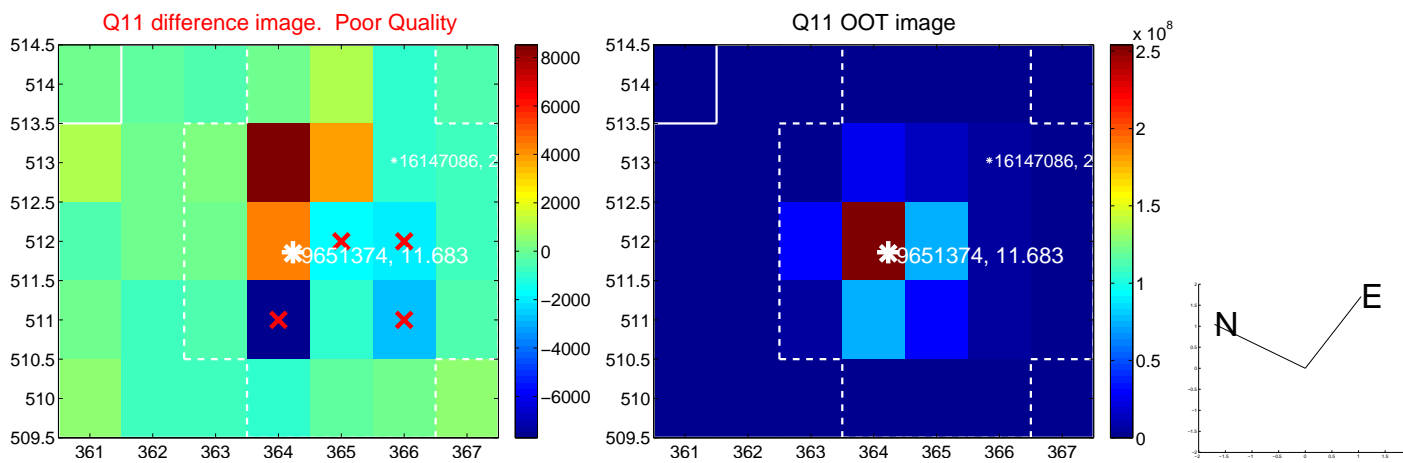
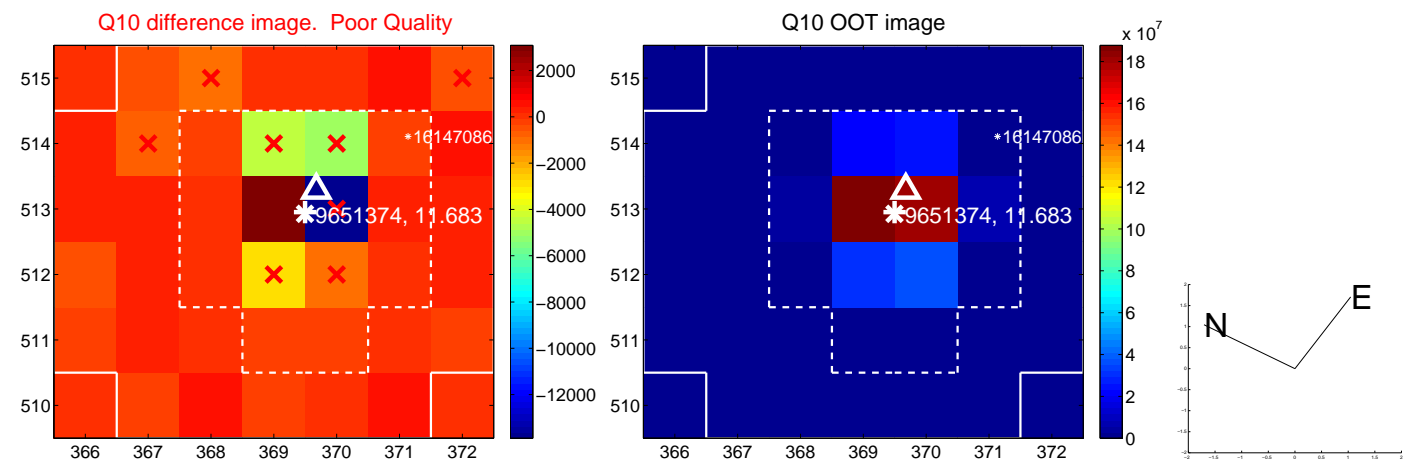
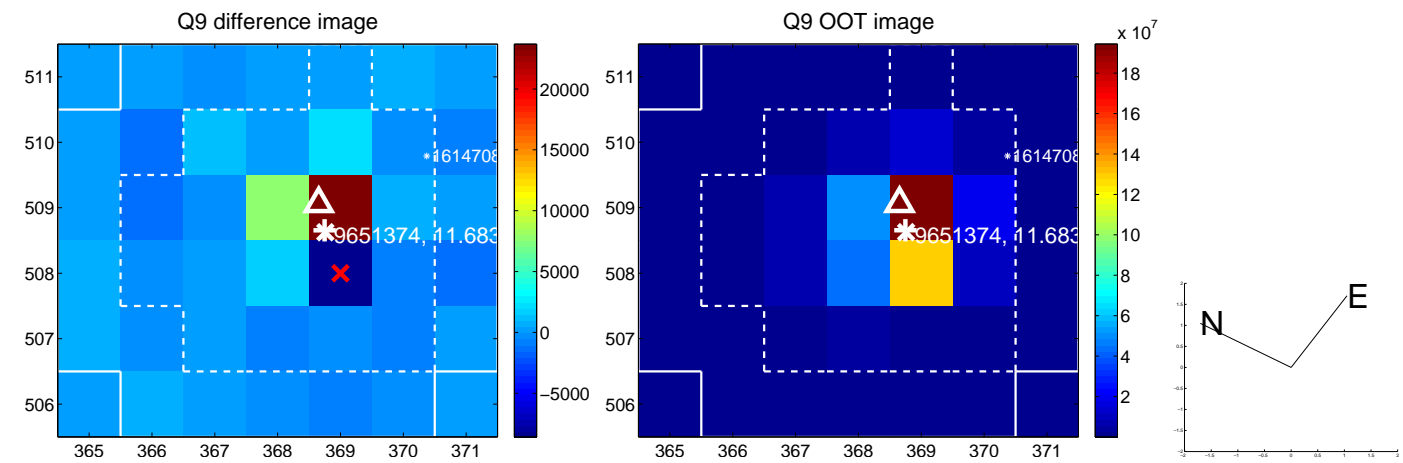
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



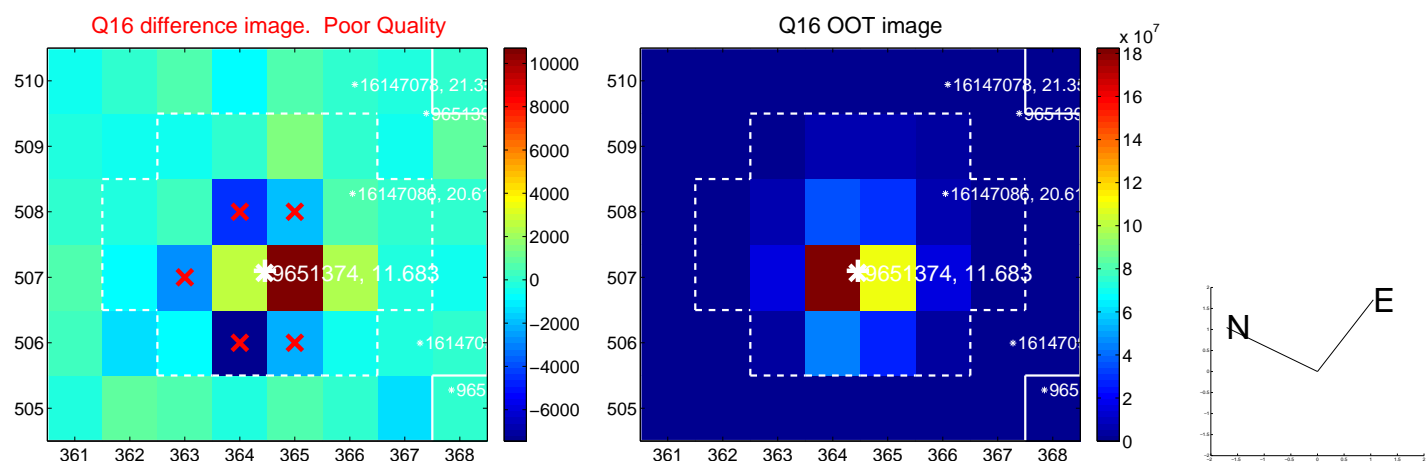
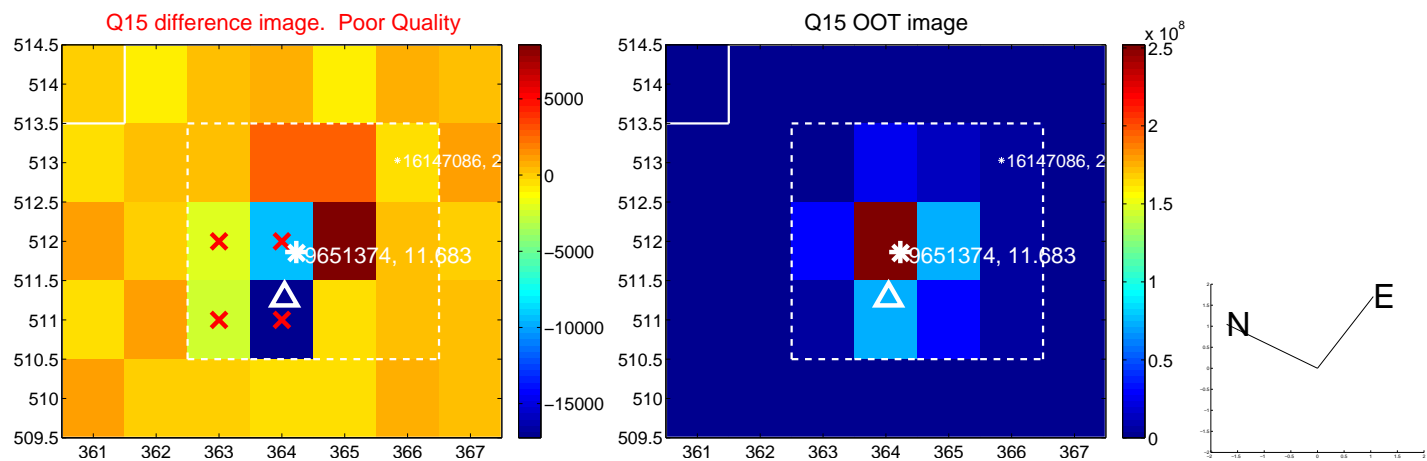
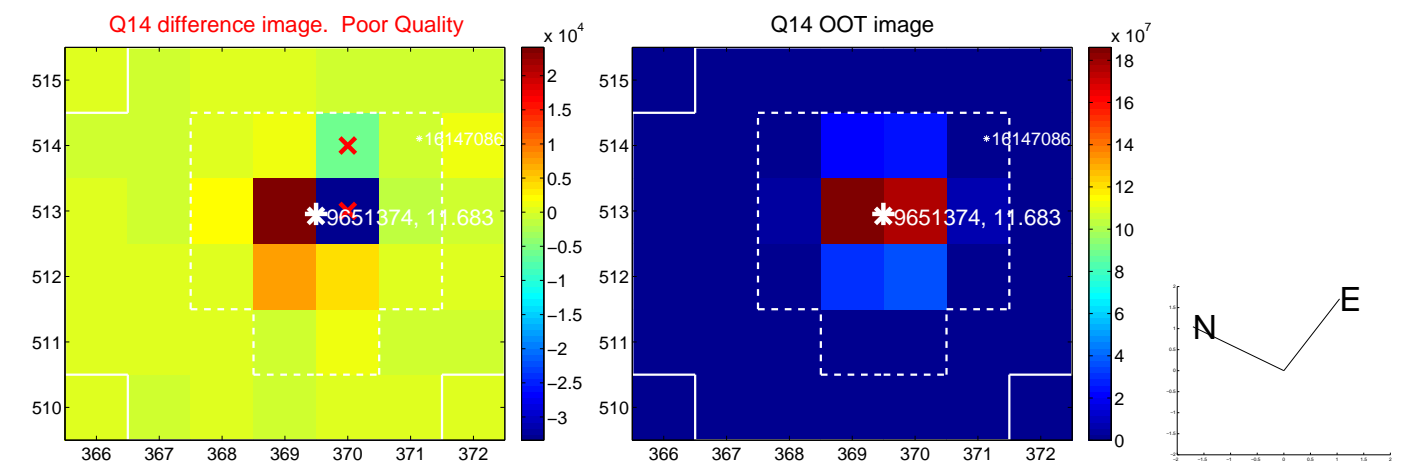
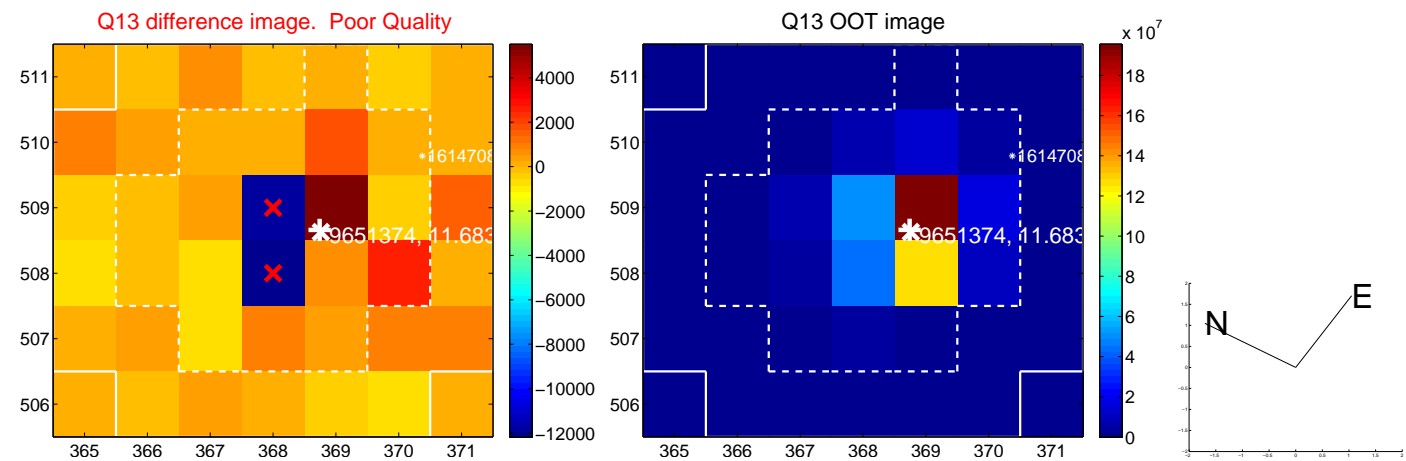
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



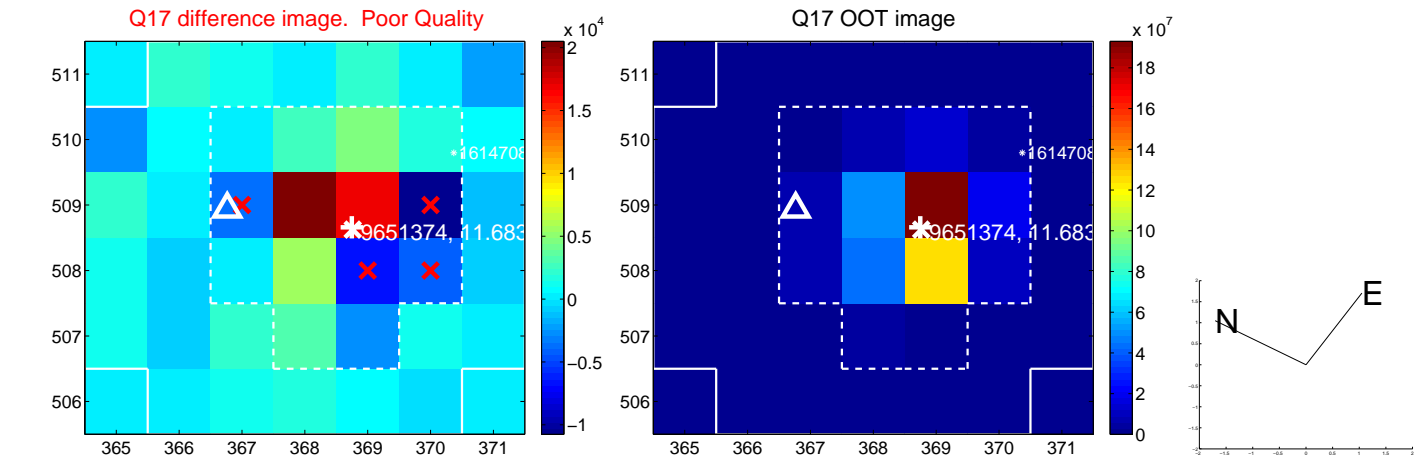
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



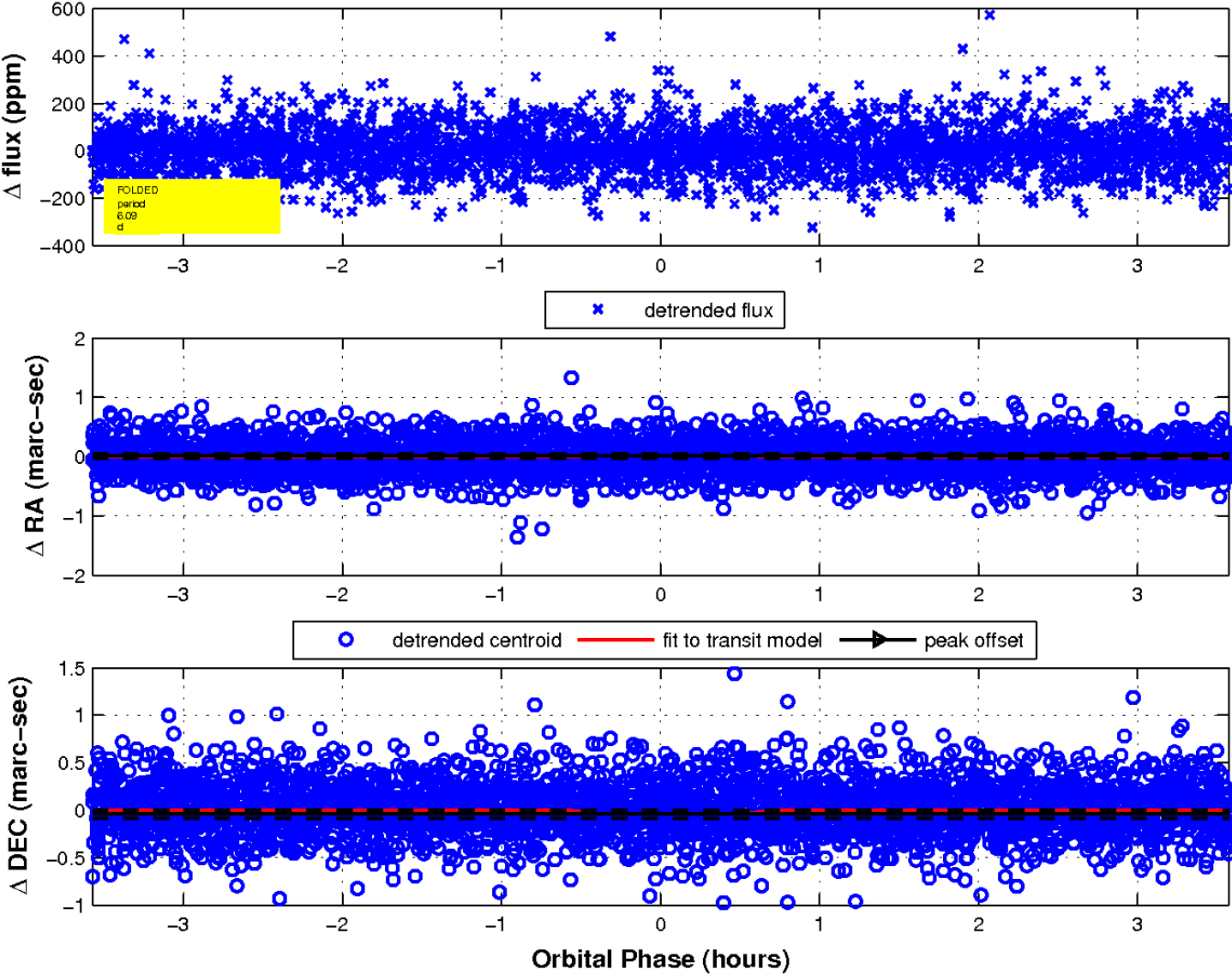
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



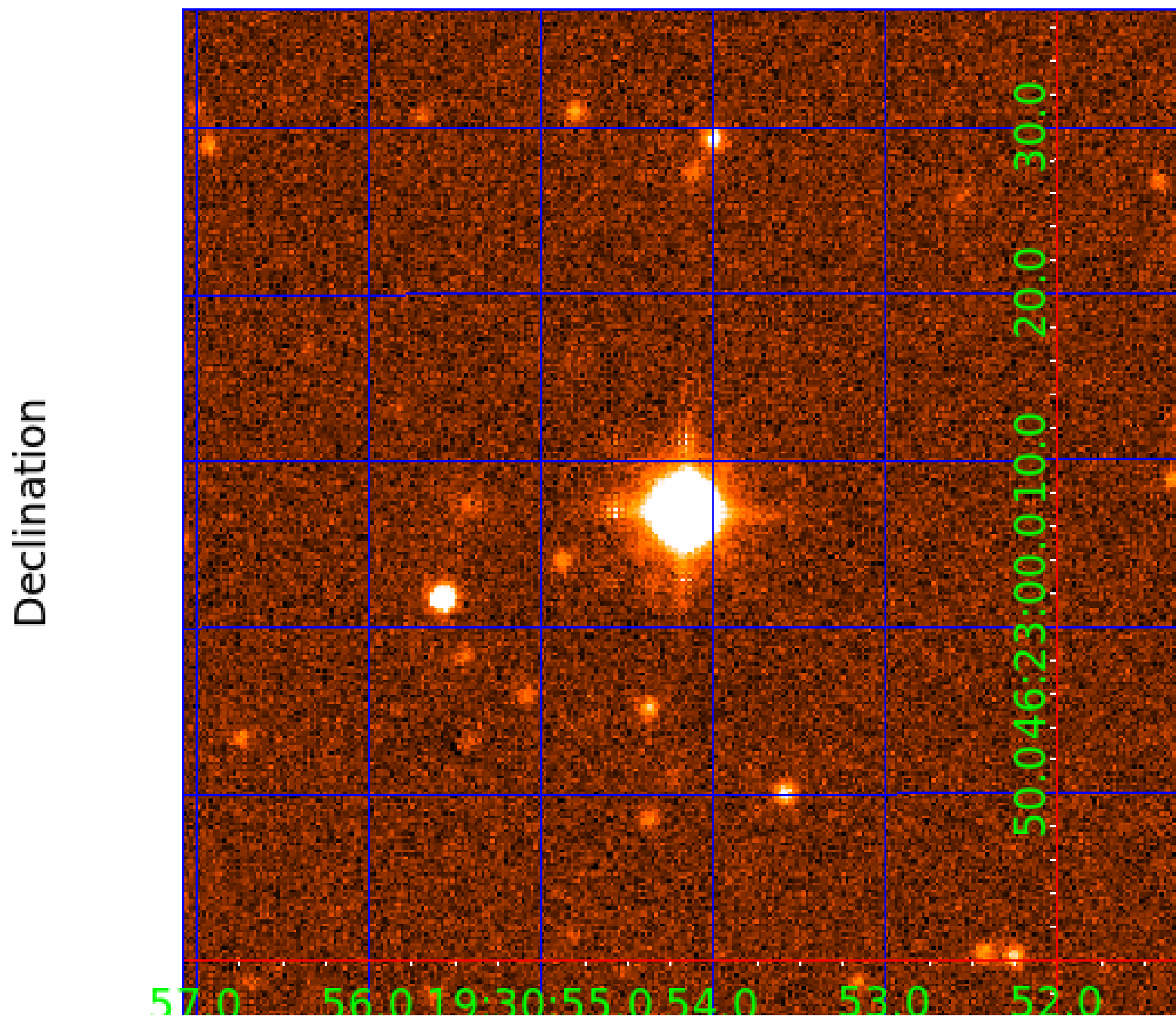
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 7 of 9



UKIRT Image



KIC 009651374

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})
009651374-01	OBS	No	0.688632	132.205699	6.9	5.248	14.0	6.2	2.59	7100	0.70	48619.58
009651374-02	OBS	No	17.076454	140.599779	275.0	2.193	18.1	26.2	2.59	7100	4.92	672.35
009651374-03	OBS	No	5.339272	135.794486	91.2	0.806	15.7	10.2	2.59	7100	2.91	3168.24
009651374-04	OBS	No	21.349528	142.760997	294.0	1.500	12.9	-1.0	2.59	7100	4.49	499.20
009651374-05	OBS	No	10.930089	135.842245	323.7	1.500	18.0	-1.0	2.59	7100	4.71	1218.88
009651374-07	OBS	No	6.092397	133.456136	101.0	1.192	13.4	11.6	2.59	7100	2.79	2657.11
009651374-08	OBS	No	5.454224	133.685652	203.5	1.052	11.8	20.7	2.59	7100	3.85	3079.52
009651374-09	OBS	No	2.723803	132.373994	77.0	1.062	13.3	12.3	2.59	7100	2.43	7772.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009651374-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT
009651374-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
009651374-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
009651374-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
009651374-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
009651374-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
009651374-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
009651374-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

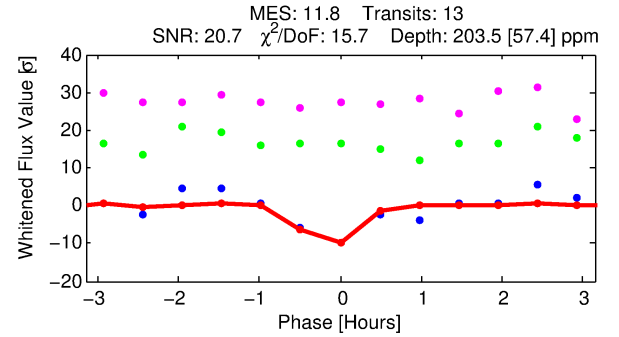
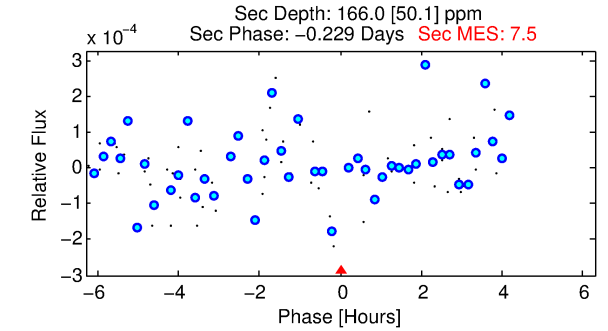
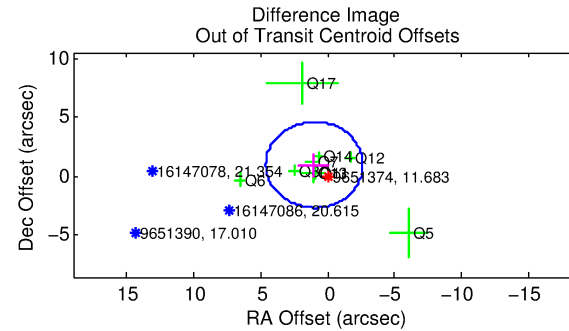
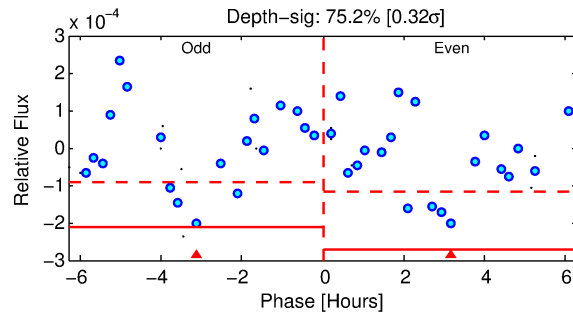
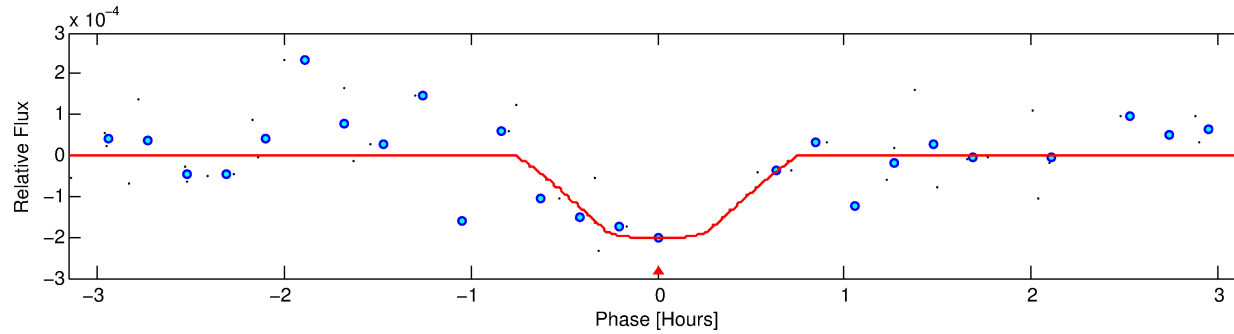
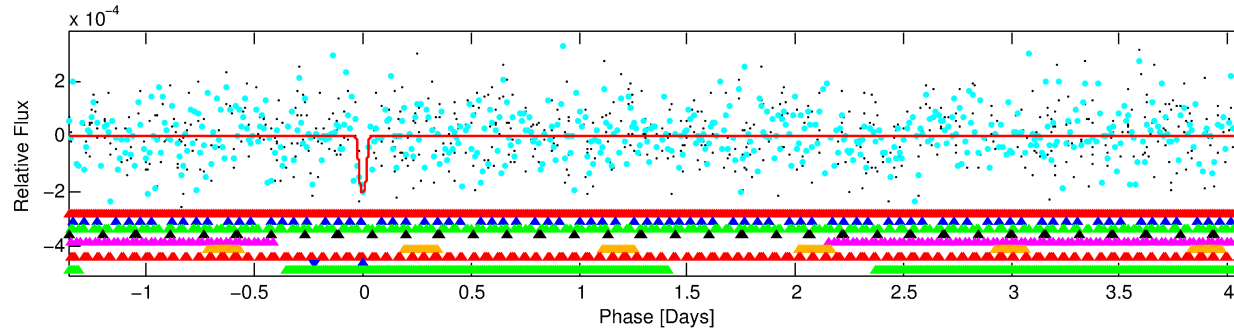
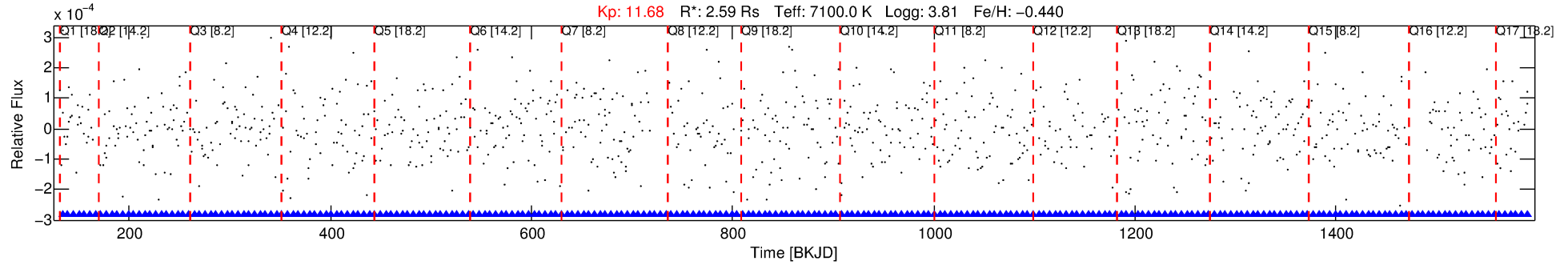
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009651374-08

No Significant Match Found

DV One-Page Summary

KIC: 9651374 Candidate: 8 of 9 Period: 5.454 d



DV Fit Results:

Period = 5.45422 [0.00007] d
Epoch = 133.6857 [0.0093] BKJD
Rp/R* = 0.0136 [0.0417]
a/R* = 34.93 [565.89]
b = 0.50 [24.99]
Seff = 3079.52 [1585.66]
Teq = 1900 [245] K
Rp = 3.85 [11.88] Re
a = 0.0704 [0.0227] AU
Ag = 30.61 [188.62] [0.16 σ]
Teff = 6908 [10608] K [0.47 σ]

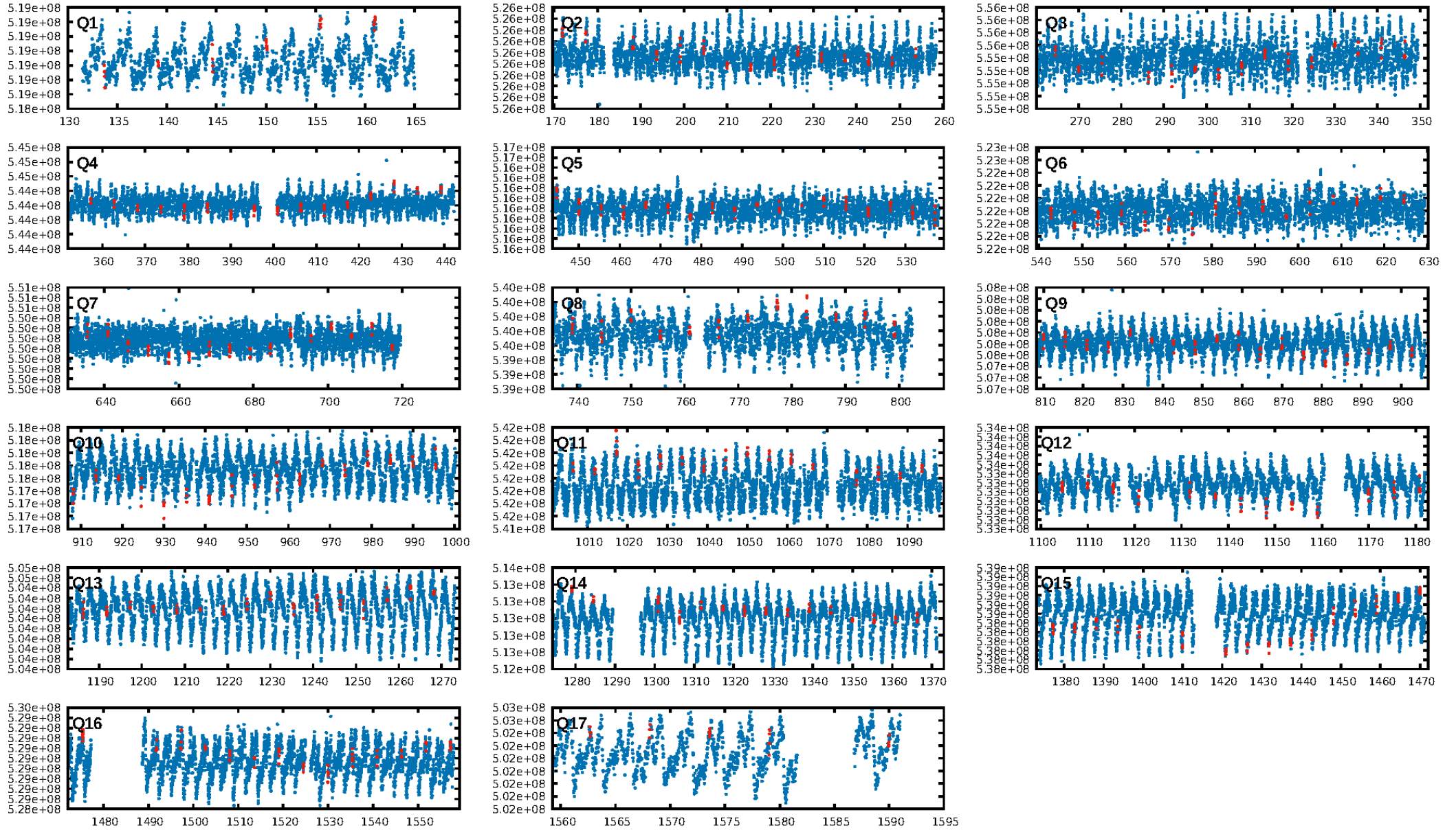
DV Diagnostic Results:

ShortPeriod-sig: 96.3% [2.08 σ]
LongPeriod-sig: 100.0% [9.63 σ]
ModelChiSquare2-sig: 31.5%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [13/13]
GhostDiagnostic-chr: 8.359
Centroid-sig: 18.9%
Centroid-so: 0.229 arcsec [1.28 σ]
OotOffset-rm: 1.392 arcsec [1.15 σ]
KicOffset-rm: 1.485 arcsec [1.10 σ]
OotOffset-st: 2/2/2/3 [9]
KicOffset-st: 2/2/2/3 [9]
DiffImageQuality-fgm: 0.22 [2/9]
DiffImageOverlap-fno: 0.18 [3/17]

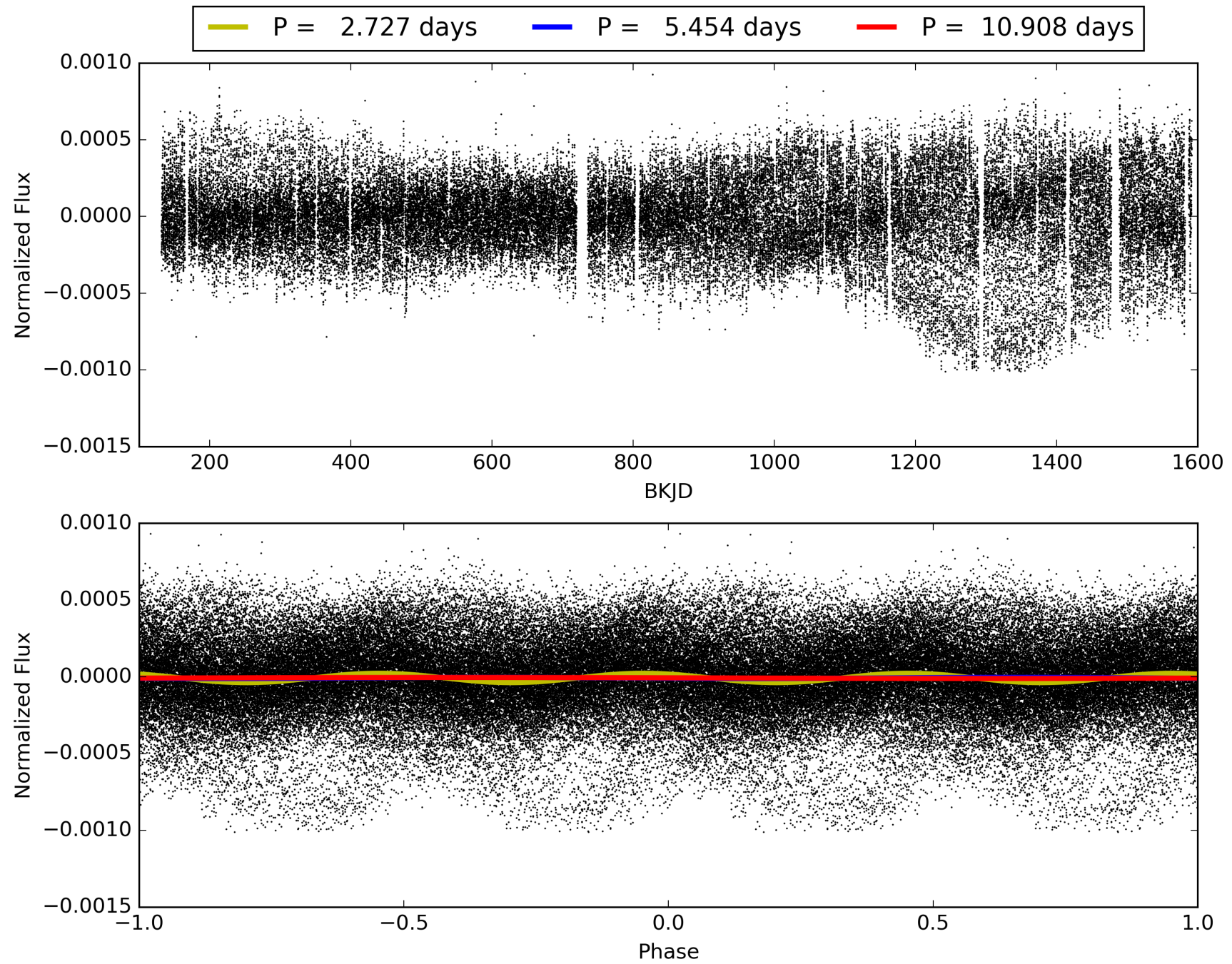
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:59:50 Z

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

TCE 009651374-08, PDC Light Curves

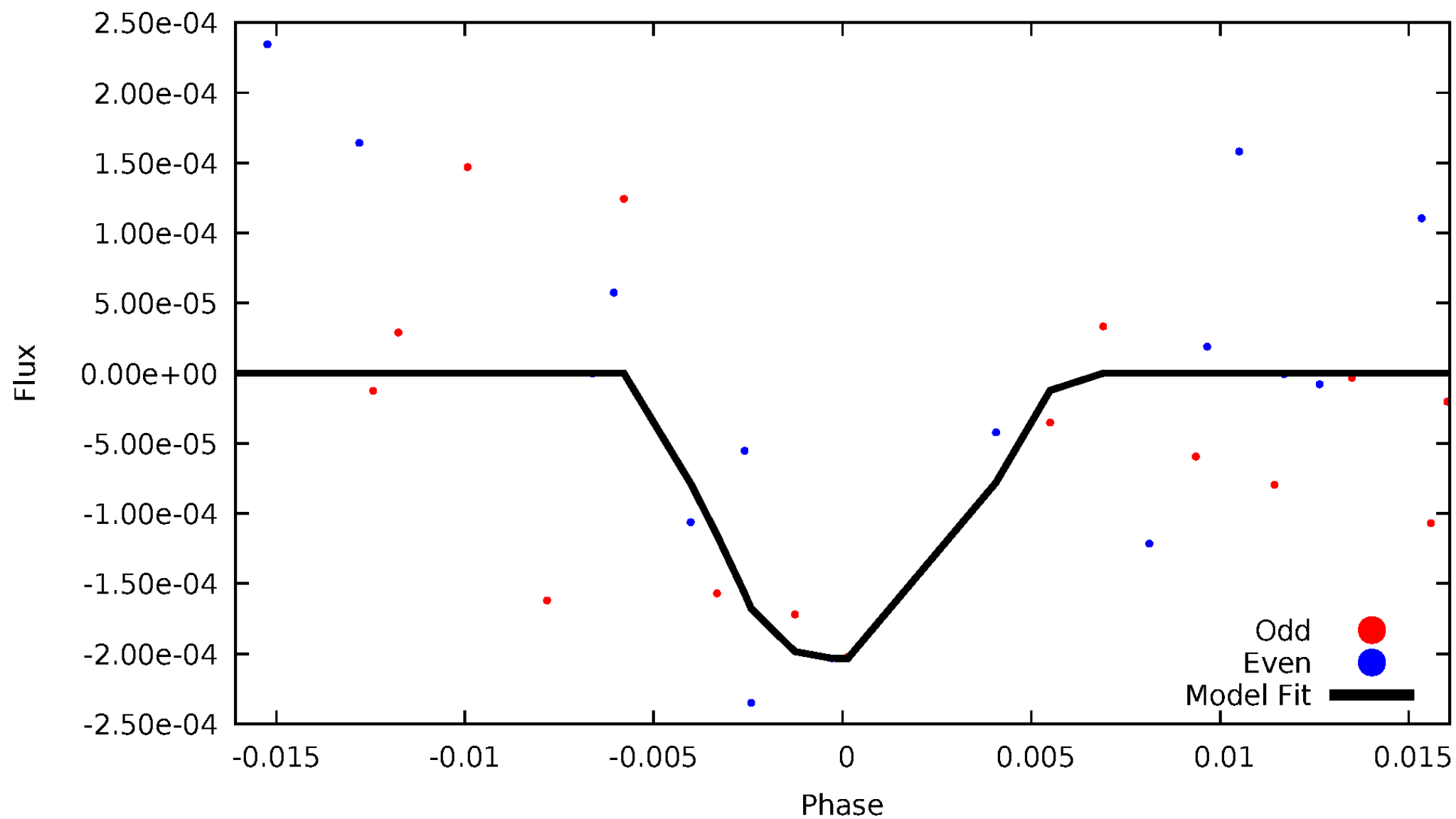


TCE 009651374-08



DV Odd/Even

TCE 009651374-08

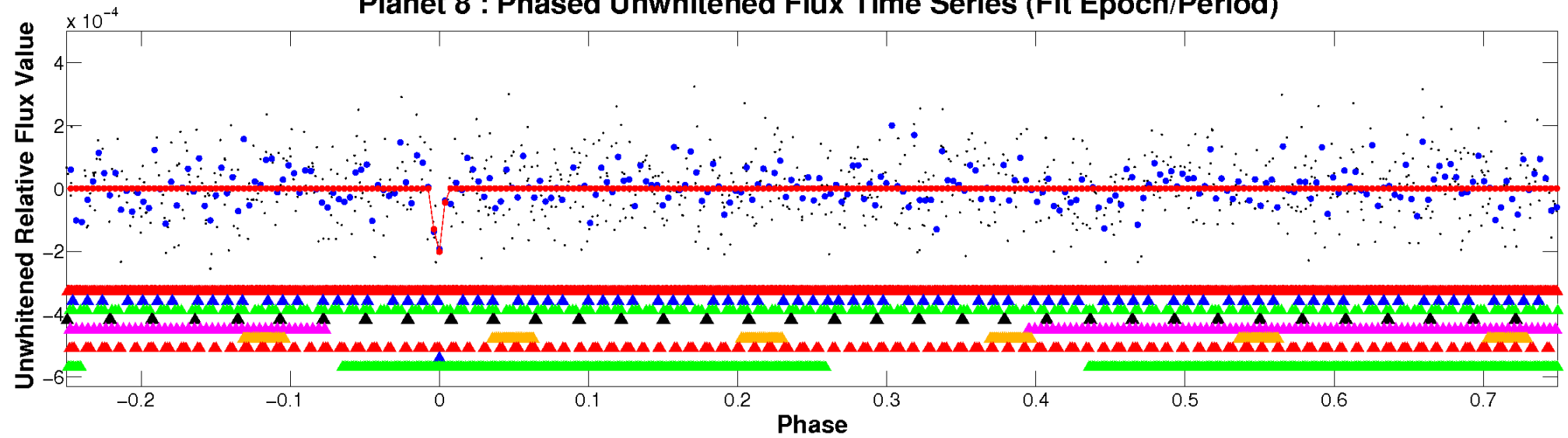


ALT Odd/Even

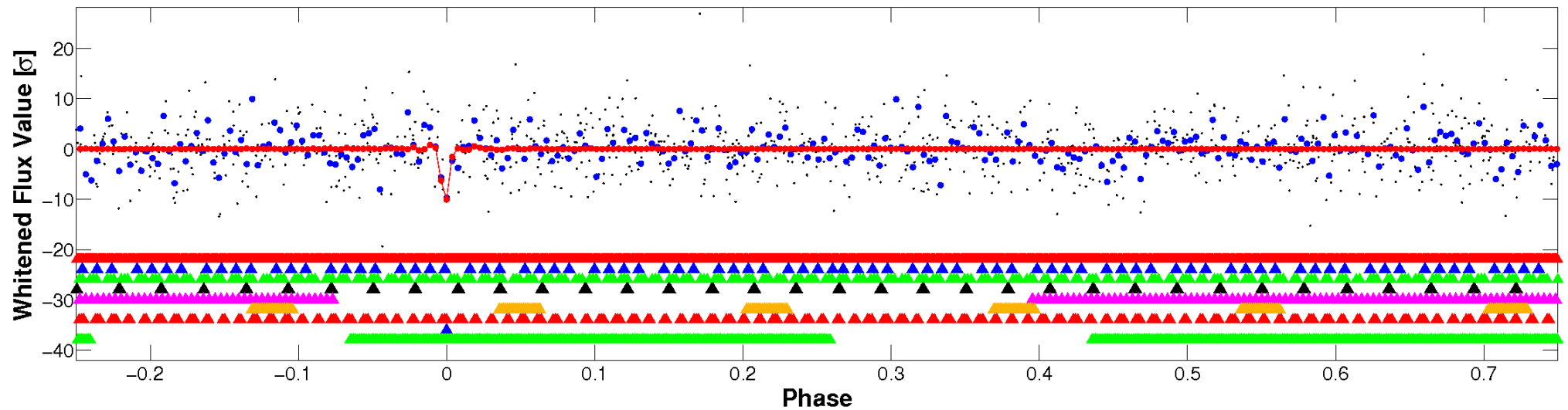
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

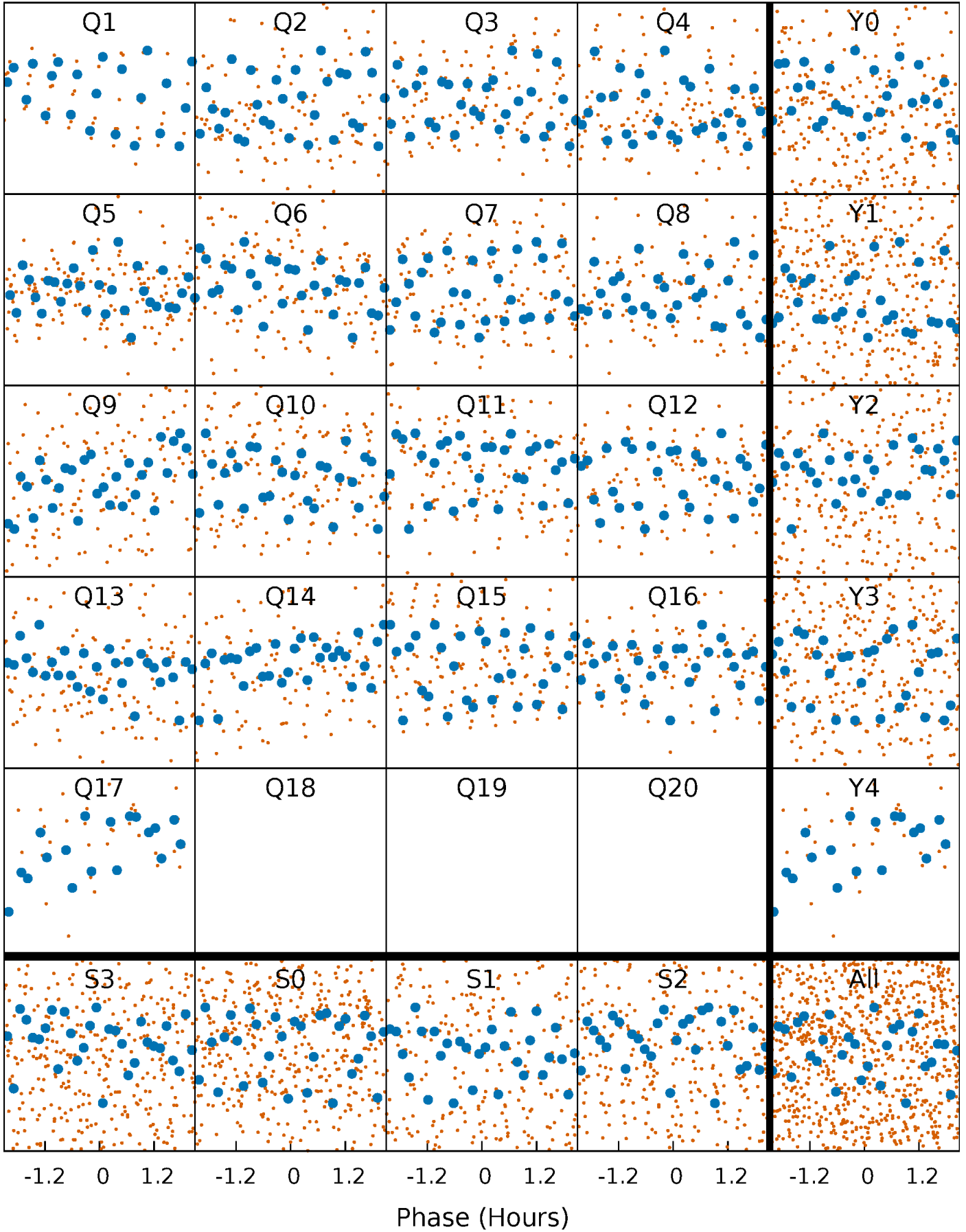


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



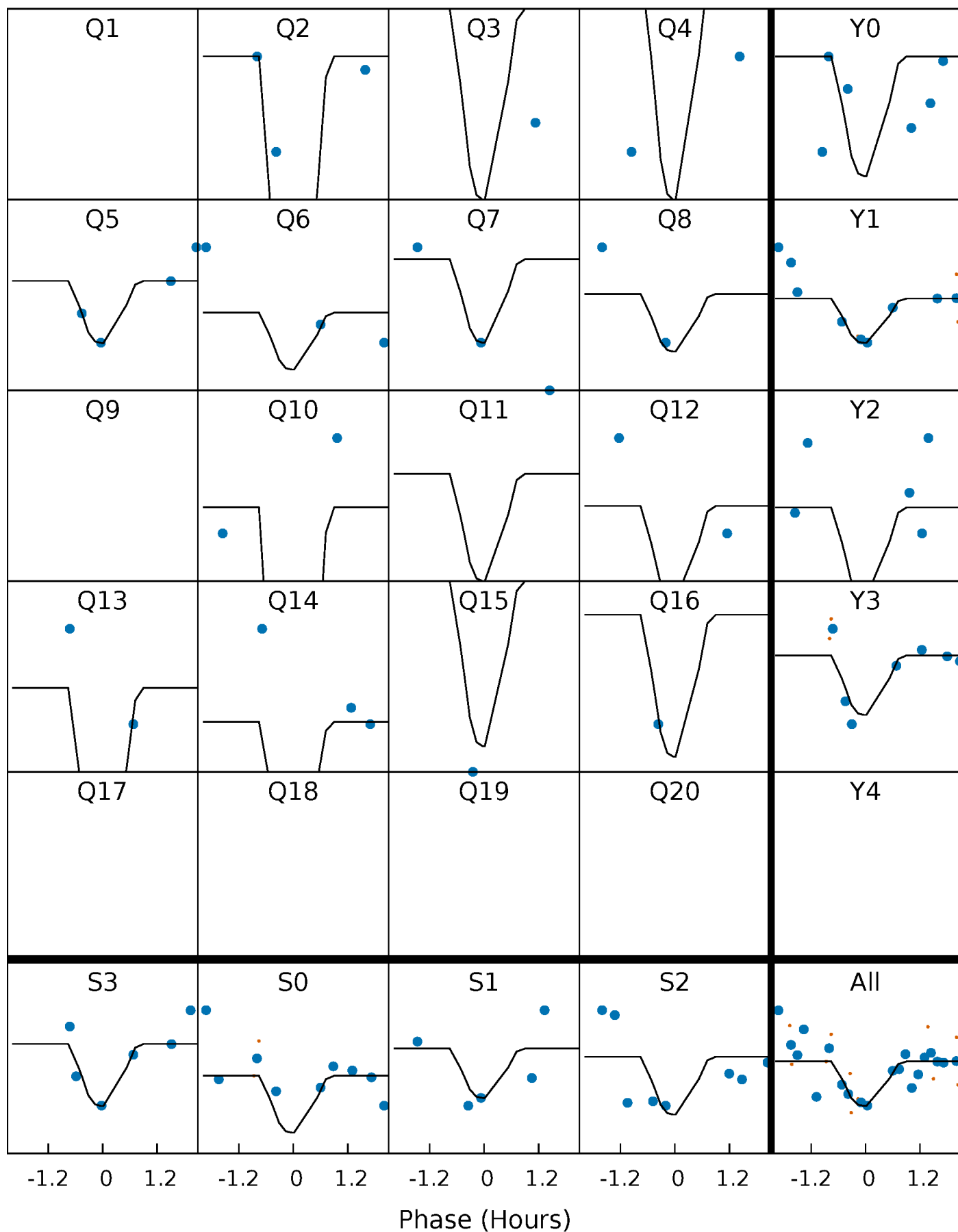
PDC Quarter-Phased Transit Curves

TCE 009651374-08 P= 5.454224 Days $T_0=133.685652$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 009651374-08 P= 5.454224 Days $T_0=133.685652$ (BKJD)

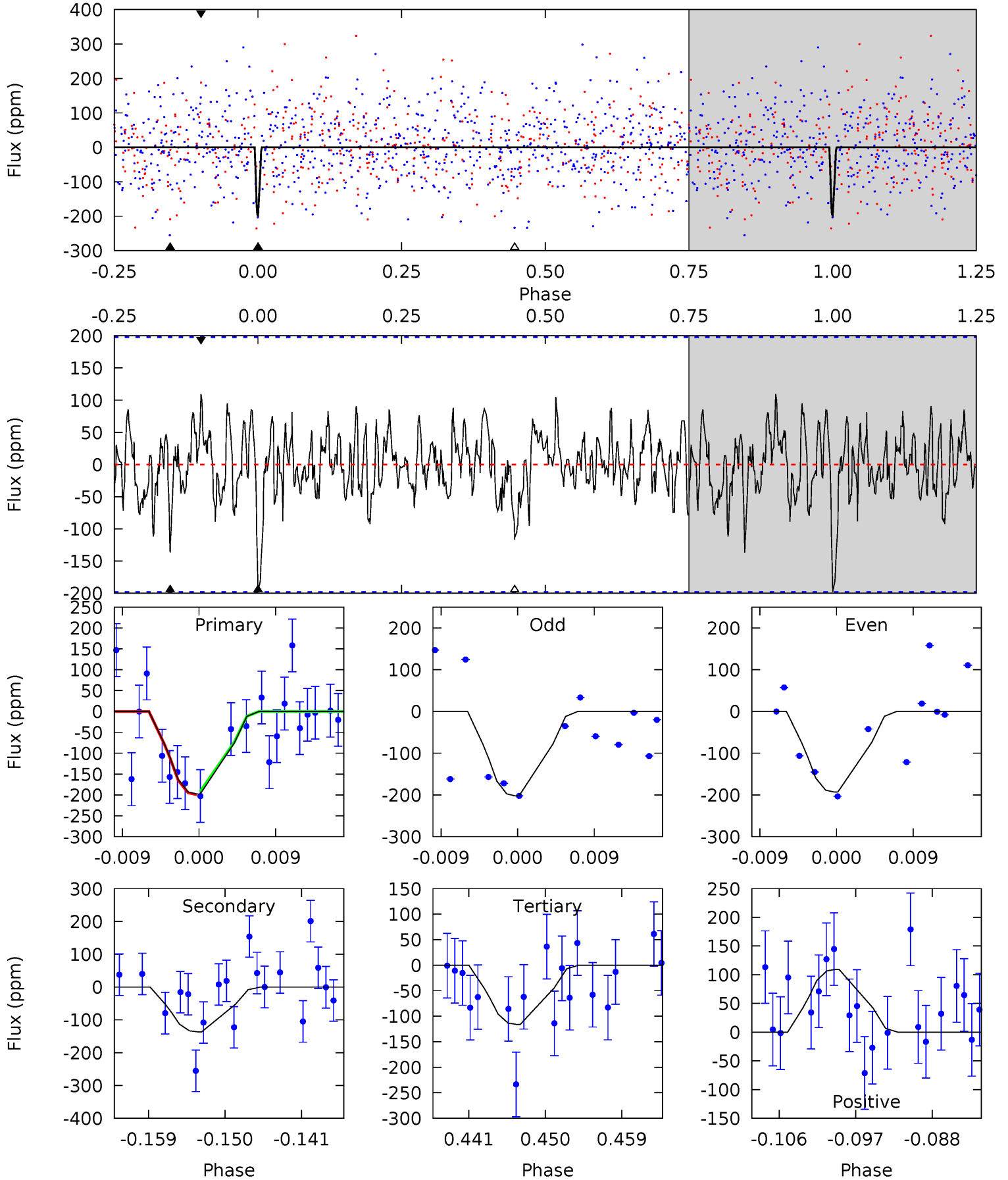


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

009651374-08, P = 5.454224 Days, E = 128.231428 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.04	3.49	2.96	2.79	5.05	2.62	1.05	2.08	2.25	0.53	0.70	0.11	0	0.36	0.09



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 009651374

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7100^{+192}_{-235}	$3.806^{+0.285}_{-0.095}$	$-0.440^{+0.300}_{-0.250}$	$2.590^{+0.395}_{-0.921}$	$1.565^{+0.217}_{-0.325}$	$0.127^{+0.255}_{-0.039}$
	+3%/-3%	+7%/-2%	+68%/-57%	+15%/-36%	+14%/-21%	+201%/-31%
Source	PHO1	FLK73	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 009651374-08 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-137 ± 39	$9.25^{+9.03}_{-6.28}$	2607^{+155}_{-213}	4231^{+2856}_{-965}	$4.414^{+38.103}_{-3.358}$
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 $A_{obs} \gg 1.0$

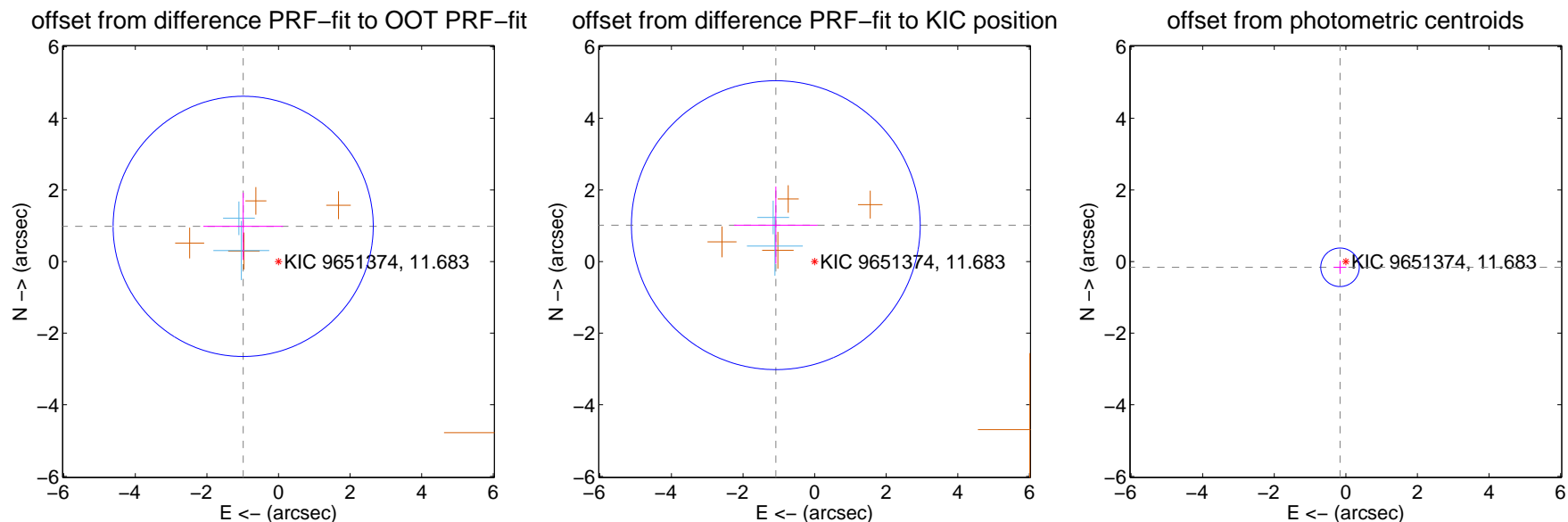
DV Centroid Data

Supplemental centroid analysis for 009651374-08. **Kepler magnitude: 11.68.** Transit SNR 20.72

There are 2 quarters with good PRF difference image offsets

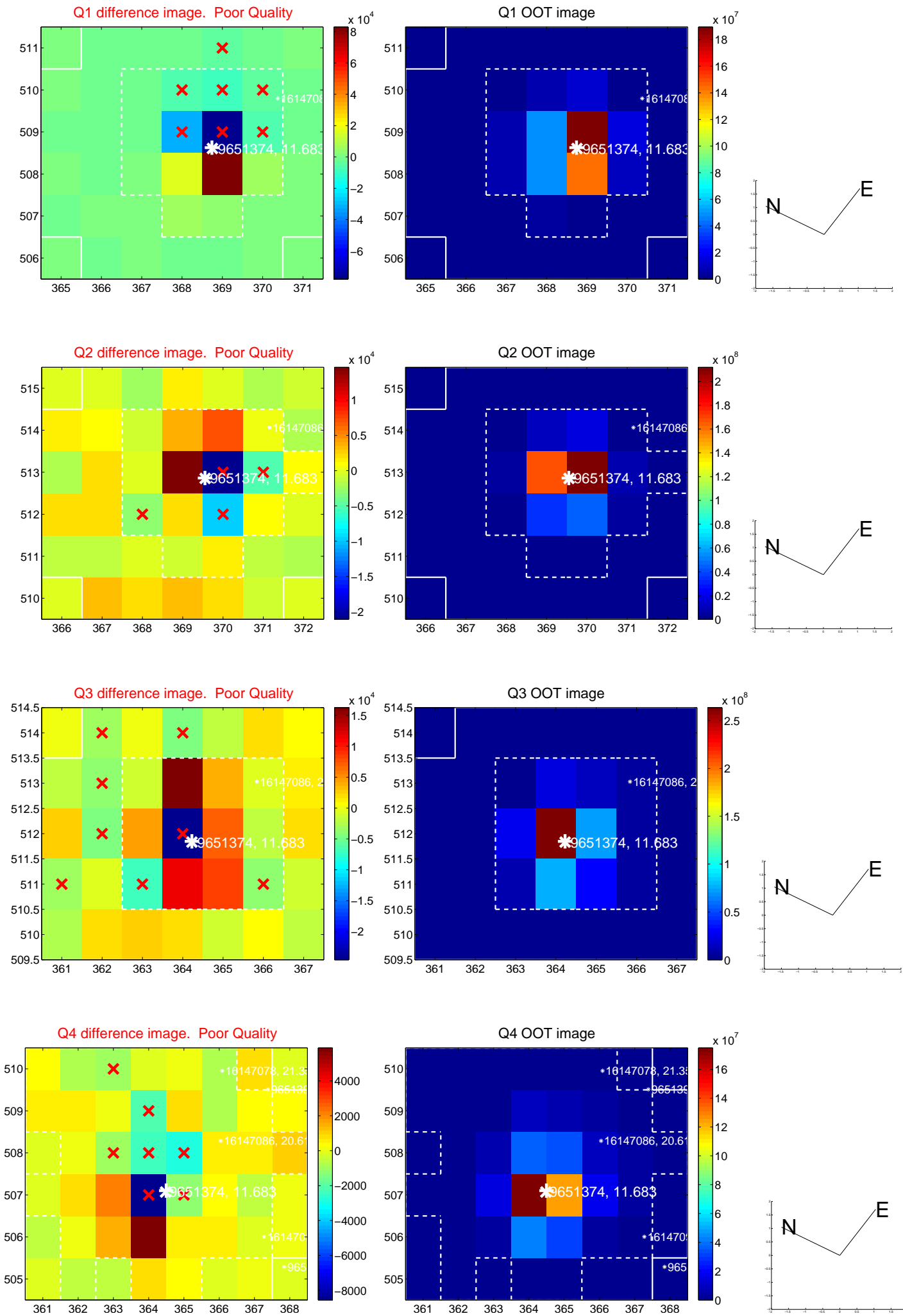
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.392 ± 1.211	1.15	0.986 ± 1.114	0.982 ± 0.937
PRF-fit source offset from KIC position	1.485 ± 1.344	1.10	1.084 ± 1.166	1.016 ± 1.078
photometric centroid source offset	0.23 ± 0.18	1.28	0.16 ± 0.18	-0.16 ± 0.18

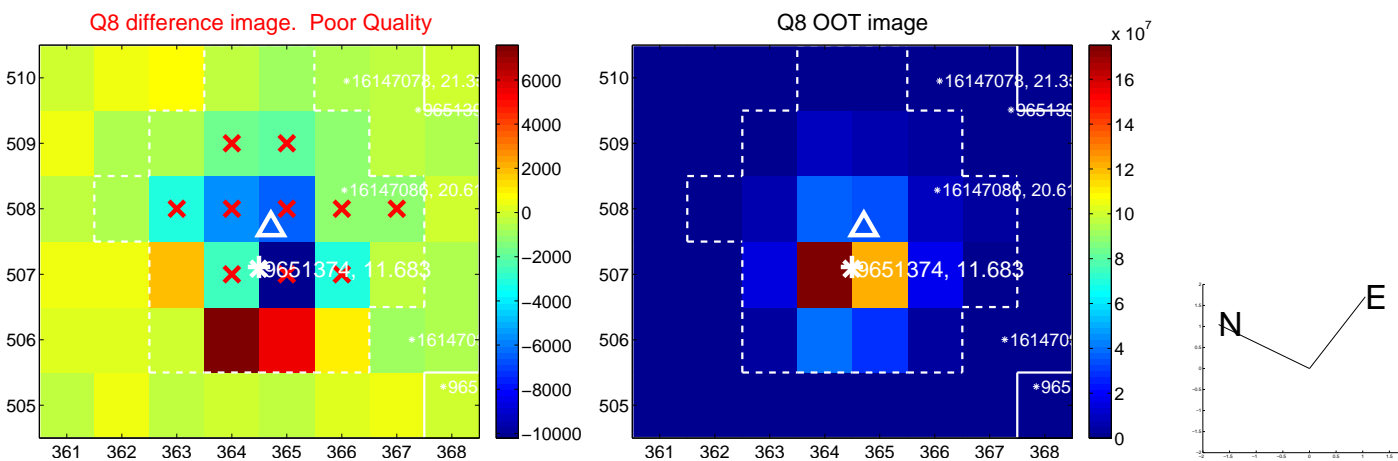
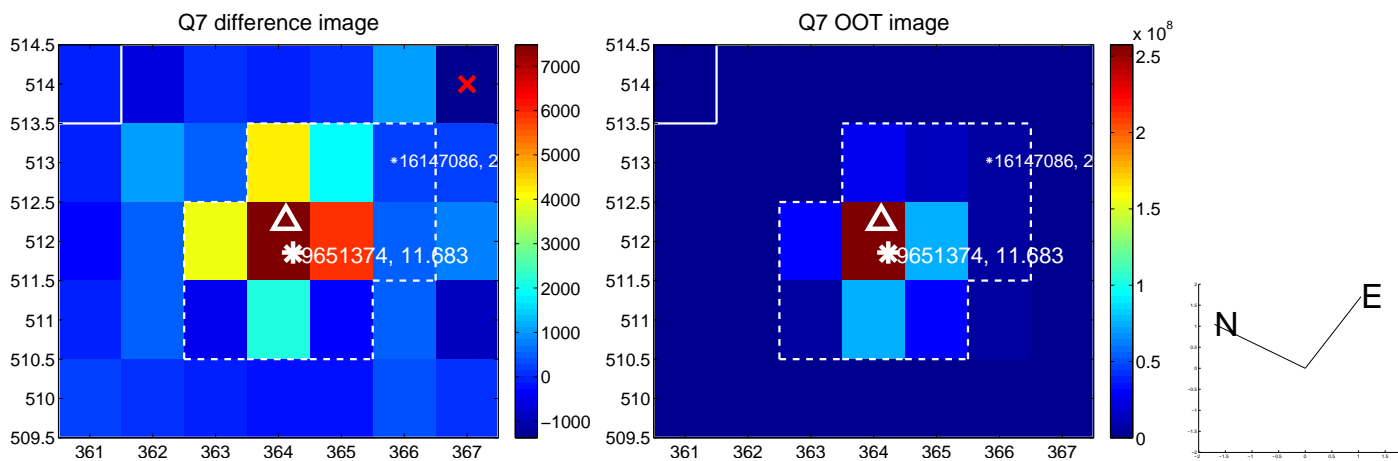
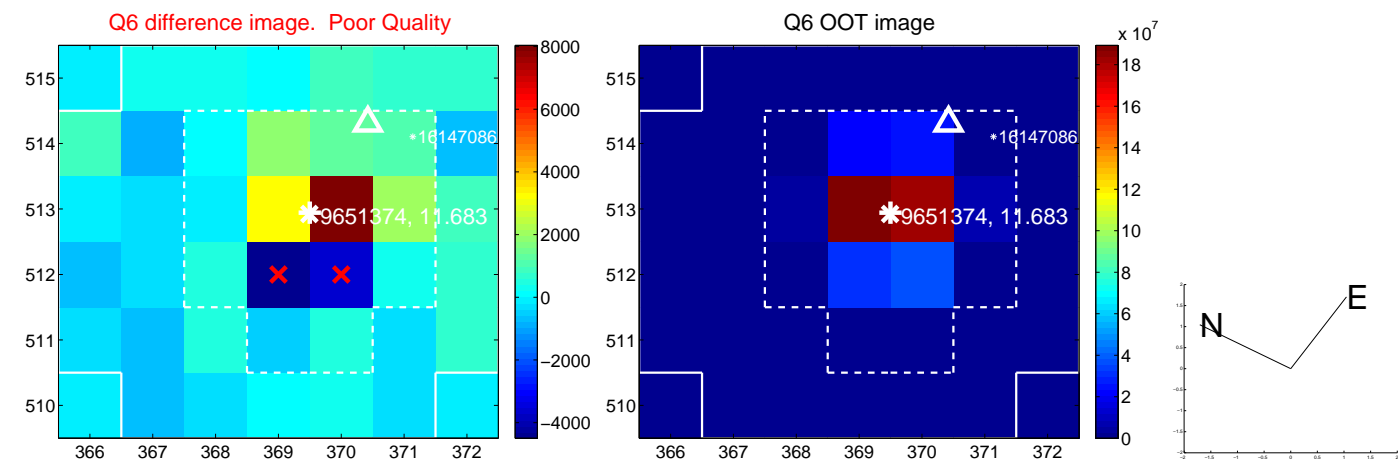
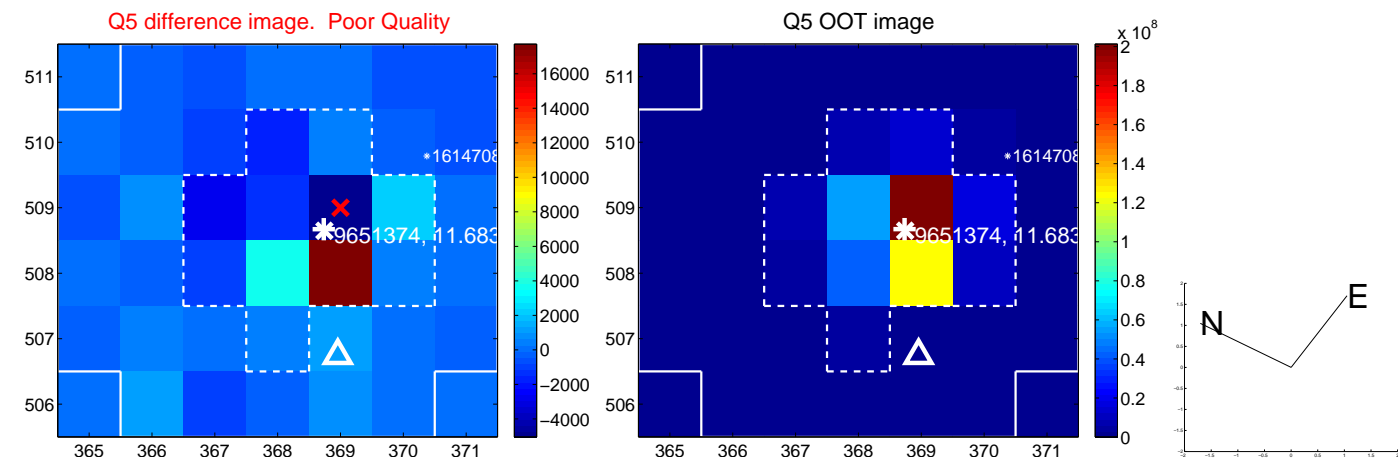


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

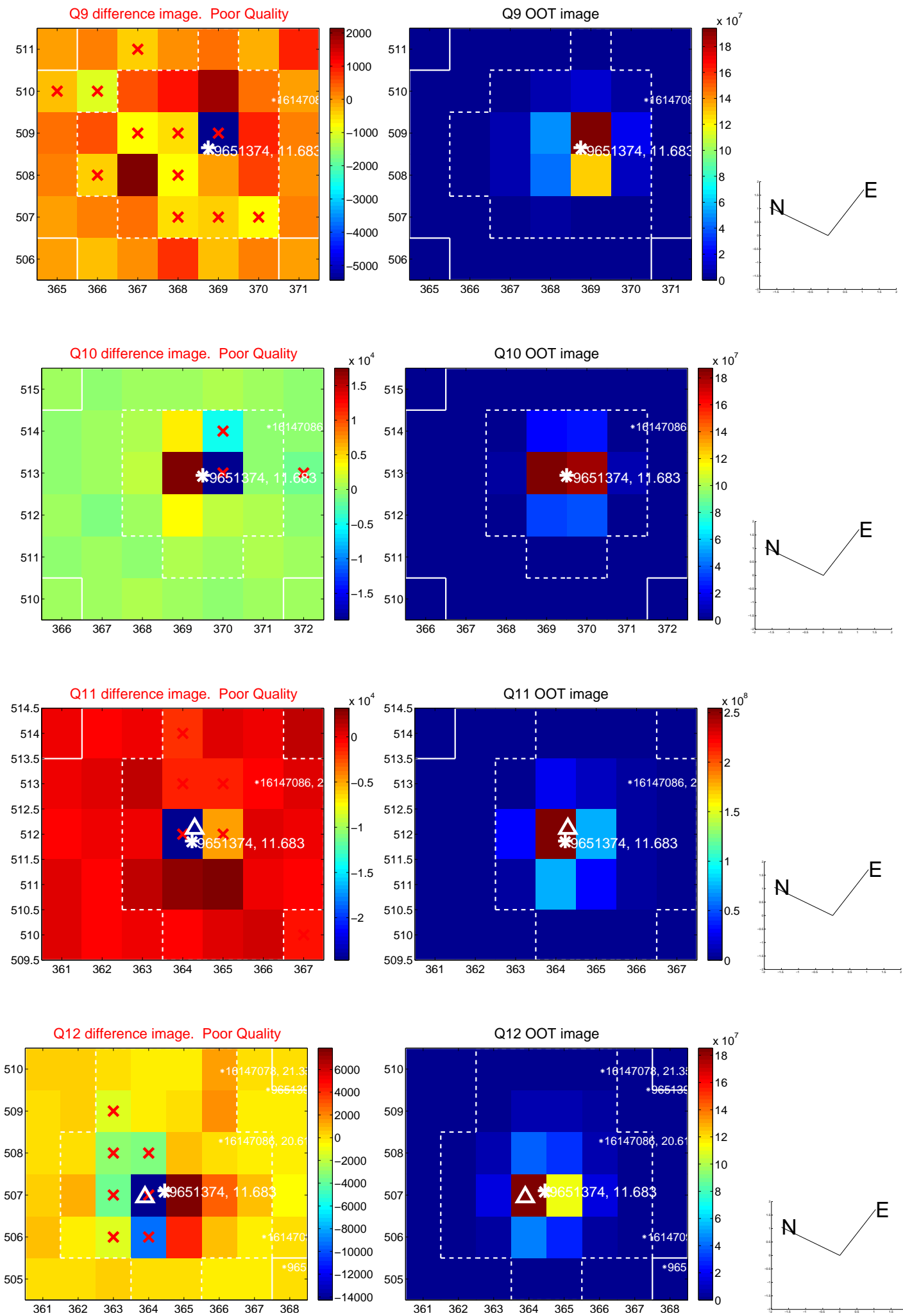
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



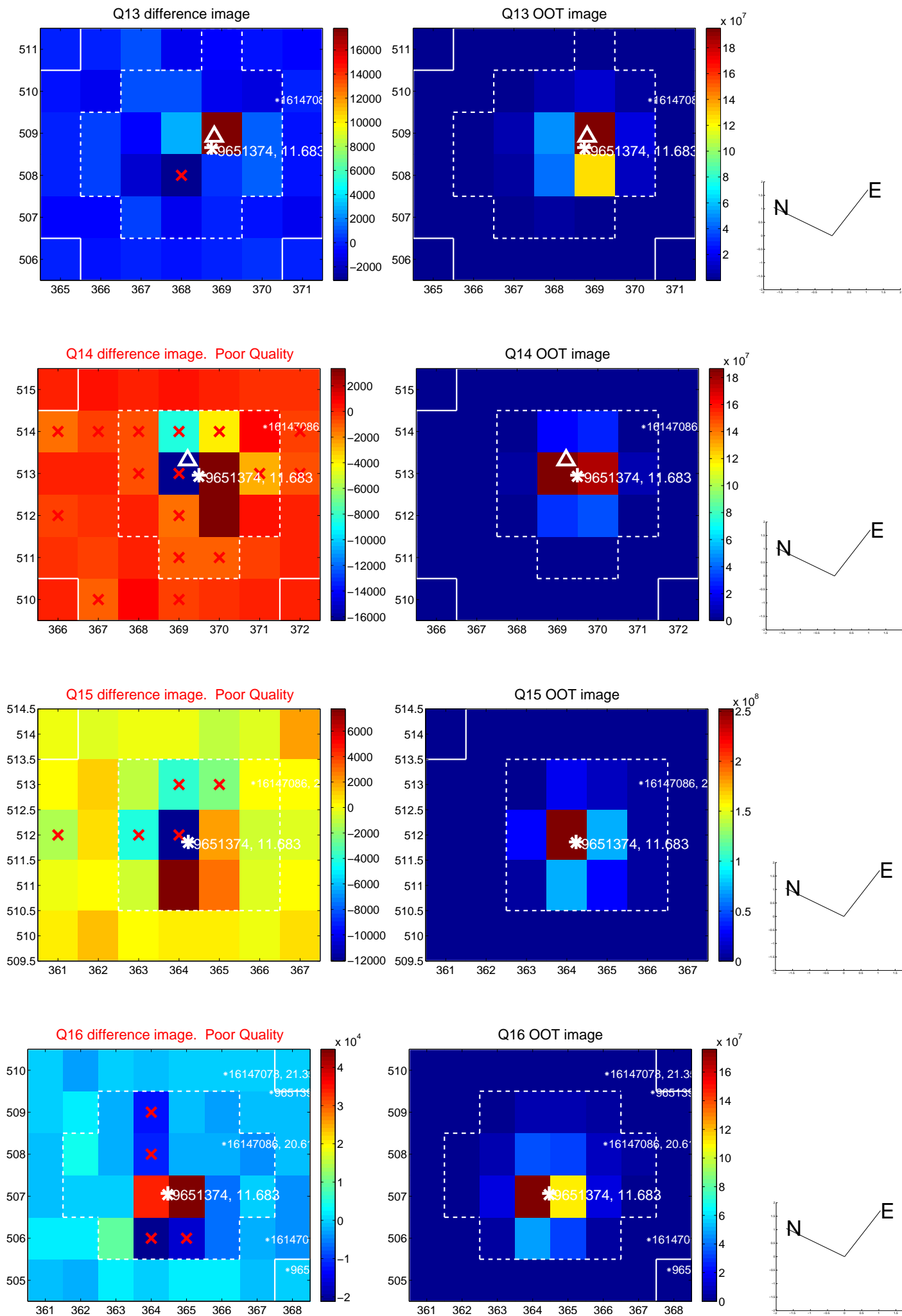
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



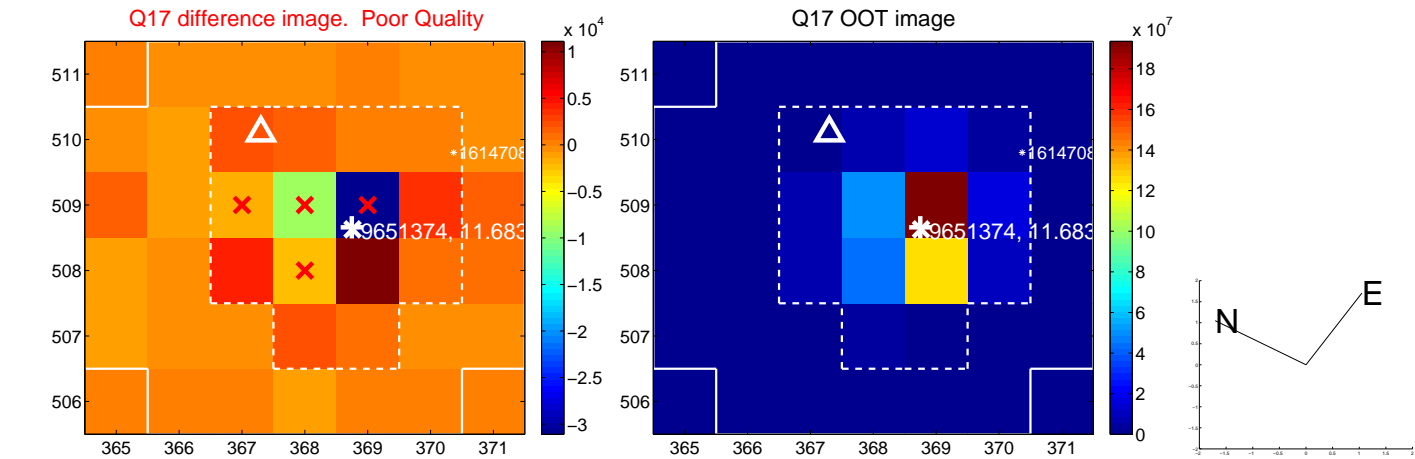
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



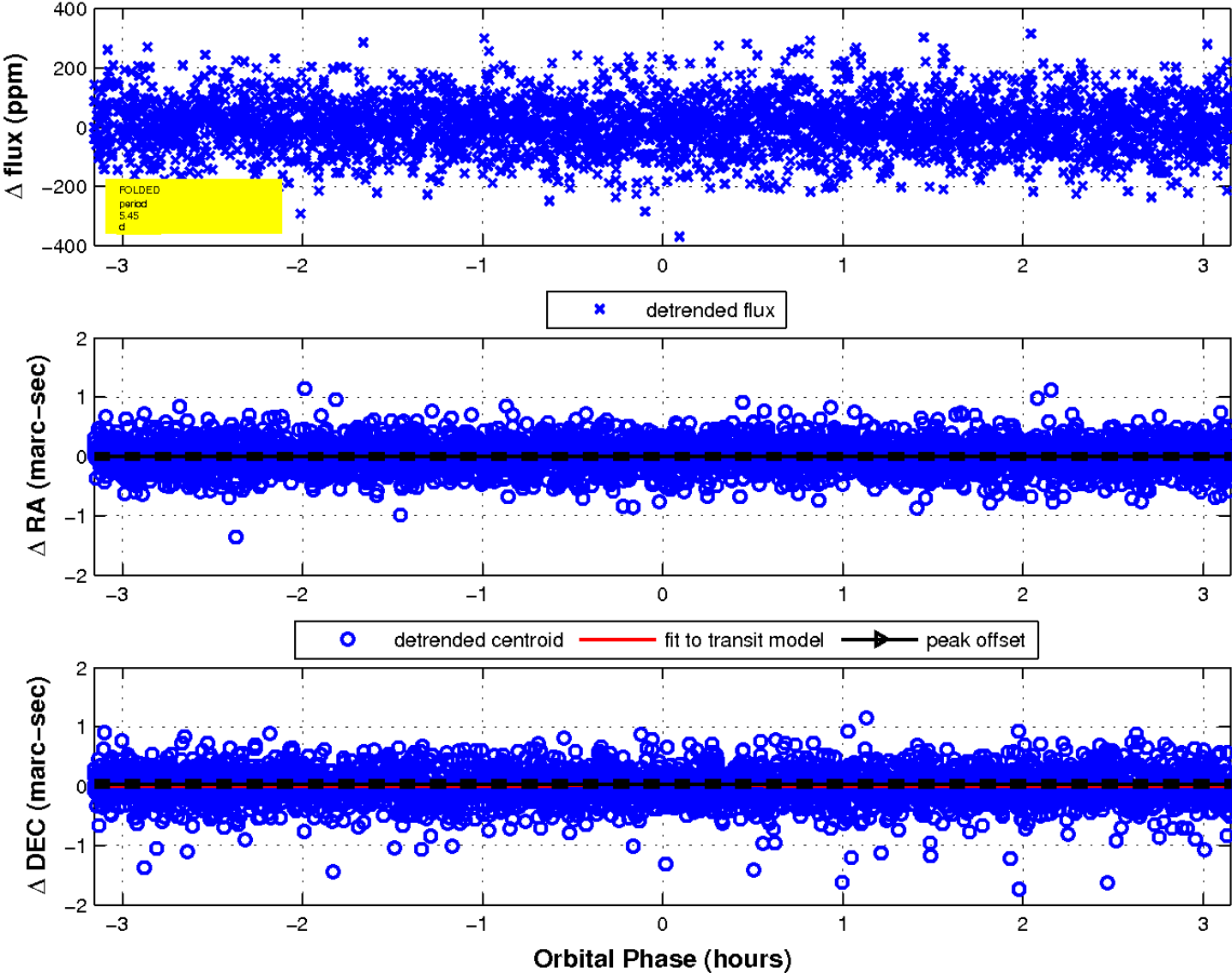
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



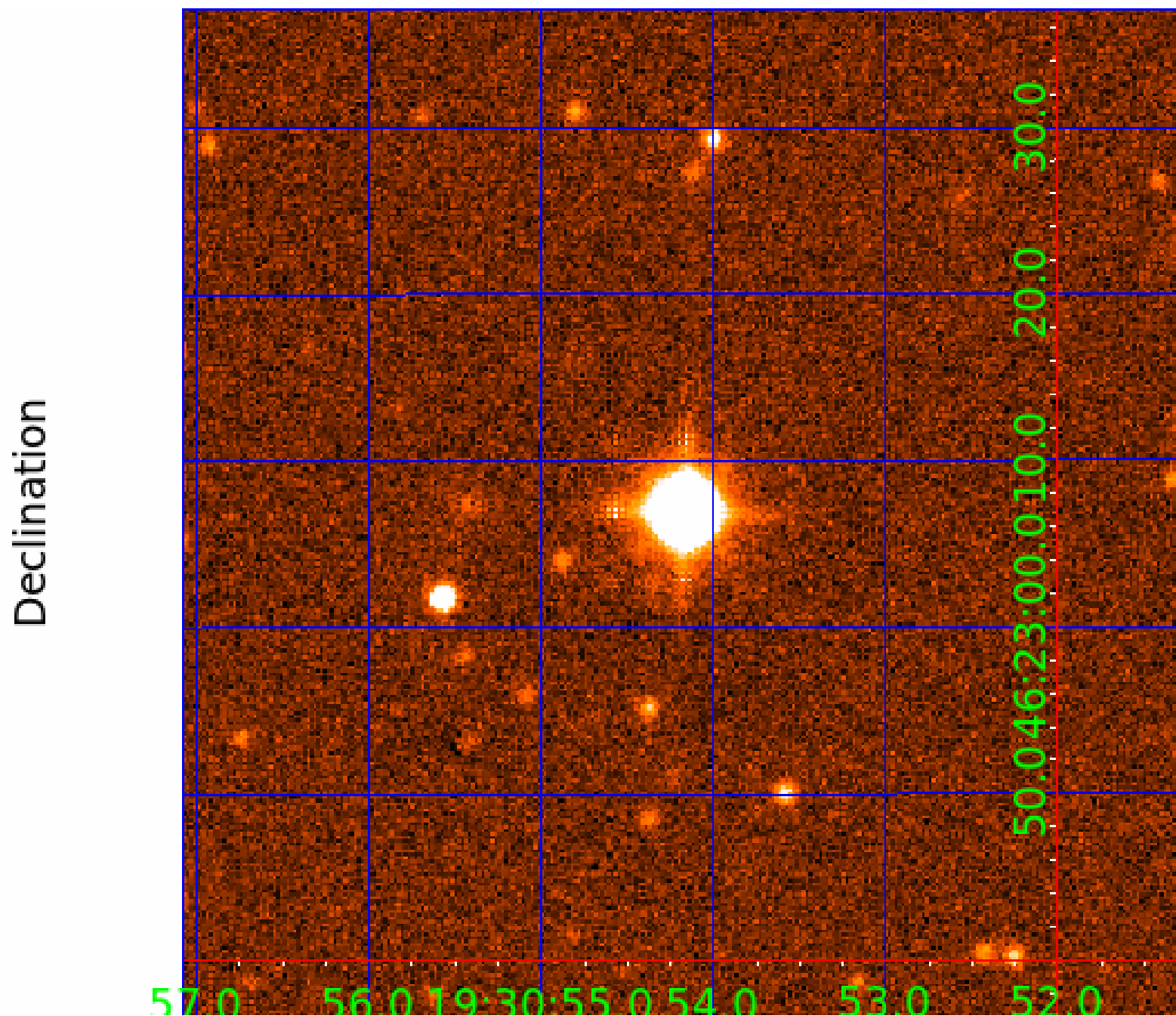
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 8 of 9



UKIRT Image



KIC 009651374

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})
009651374-01	OBS	No	0.688632	132.205699	6.9	5.248	14.0	6.2	2.59	7100	0.70	48619.58
009651374-02	OBS	No	17.076454	140.599779	275.0	2.193	18.1	26.2	2.59	7100	4.92	672.35
009651374-03	OBS	No	5.339272	135.794486	91.2	0.806	15.7	10.2	2.59	7100	2.91	3168.24
009651374-04	OBS	No	21.349528	142.760997	294.0	1.500	12.9	-1.0	2.59	7100	4.49	499.20
009651374-05	OBS	No	10.930089	135.842245	323.7	1.500	18.0	-1.0	2.59	7100	4.71	1218.88
009651374-07	OBS	No	6.092397	133.456136	101.0	1.192	13.4	11.6	2.59	7100	2.79	2657.11
009651374-08	OBS	No	5.454224	133.685652	203.5	1.052	11.8	20.7	2.59	7100	3.85	3079.52
009651374-09	OBS	No	2.723803	132.373994	77.0	1.062	13.3	12.3	2.59	7100	2.43	7772.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009651374-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT
009651374-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST
009651374-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV
009651374-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
009651374-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
009651374-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
009651374-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
009651374-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

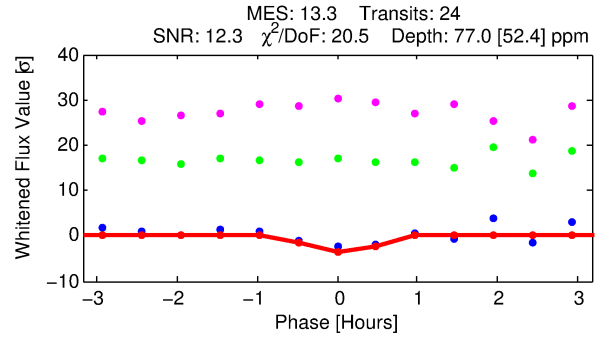
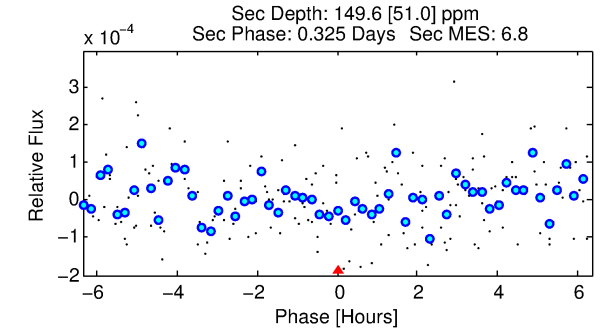
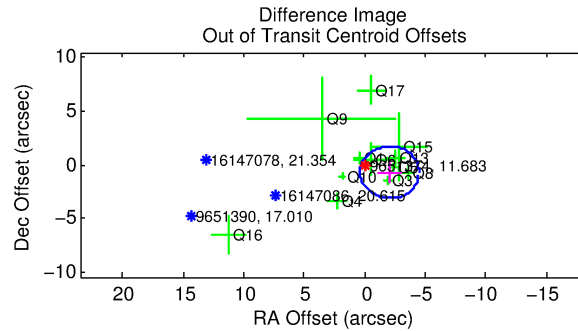
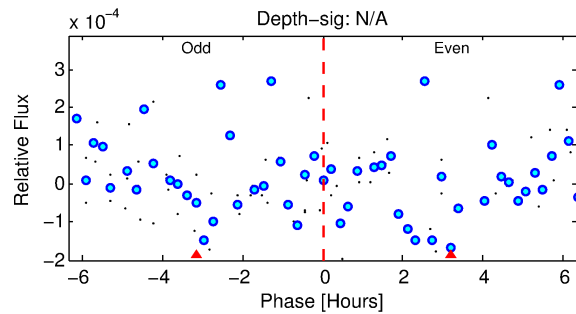
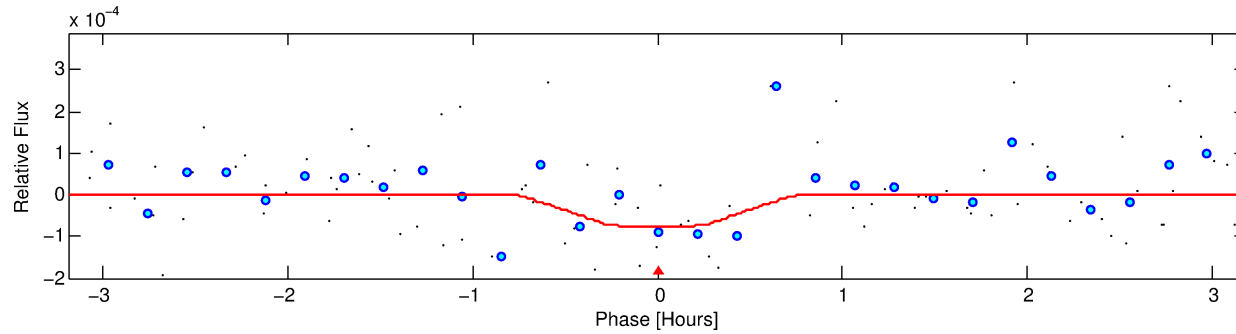
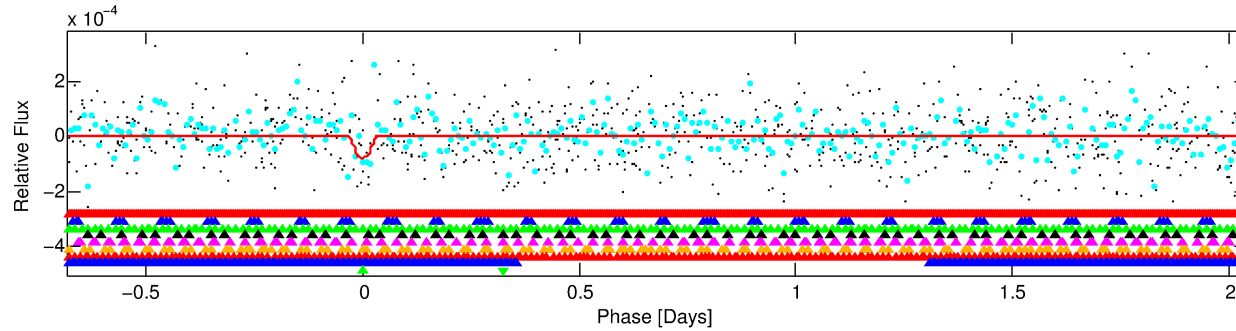
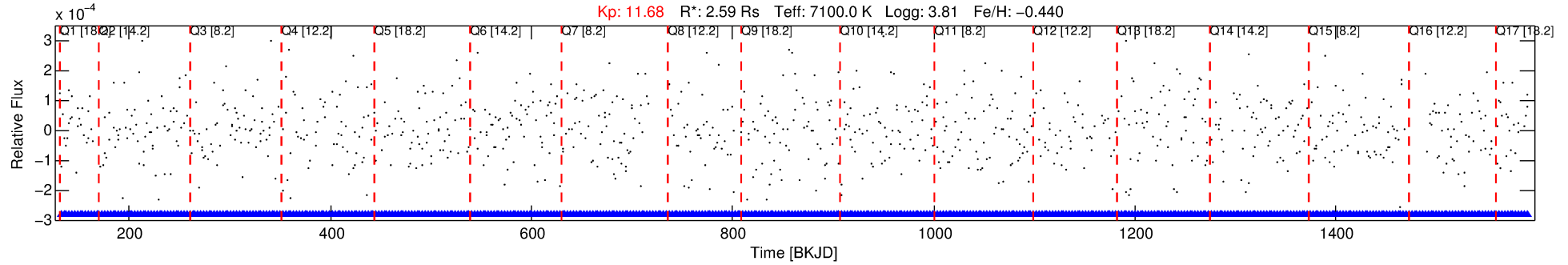
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009651374-09

No Significant Match Found

DV One-Page Summary

KIC: 9651374 Candidate: 9 of 9 Period: 2.724 d



DV Fit Results:

Period = 2.72380 [0.00006] d
Epoch = 132.3740 [0.0110] BKJD
Rp/R* = 0.0086 [0.0093]
a/R* = 14.91 [87.73]
b = 0.66 [4.96]
Seff = 7772.49 [4002.09]
Teq = 2394 [308] K
Rp = 2.43 [2.76] Re
a = 0.0443 [0.0143] AU
Ag = 27.40 [61.42] [0.43σ]
Teffp = 8469 [4637] K [1.31σ]

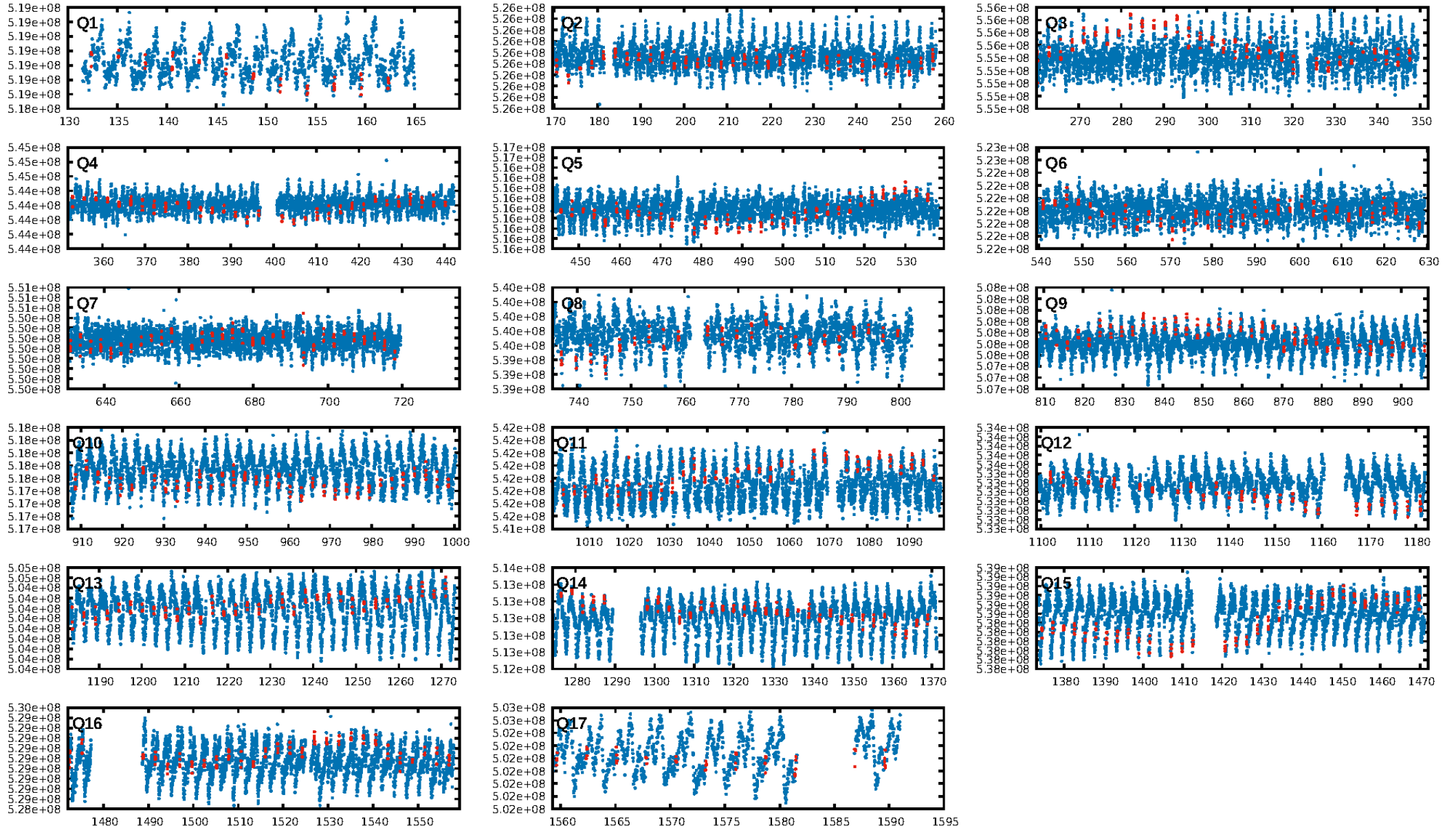
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [9.12σ]
LongPeriod-sig: 100.0% [47.07σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [23/23]
GhostDiagnostic-chr: -3.034
Centroid-sig: 34.0%
Centroid-so: 0.319 arcsec [0.97σ]
OotOffset-rm: 2.159 arcsec [2.67σ]
KicOffset-rm: 2.084 arcsec [2.10σ]
OotOffset-st: 2/2/3/5 [12]
KicOffset-st: 2/2/3/5 [12]
DiffImageQuality-fgm: 0.25 [3/12]
DiffImageOverlap-fno: 0.41 [7/17]

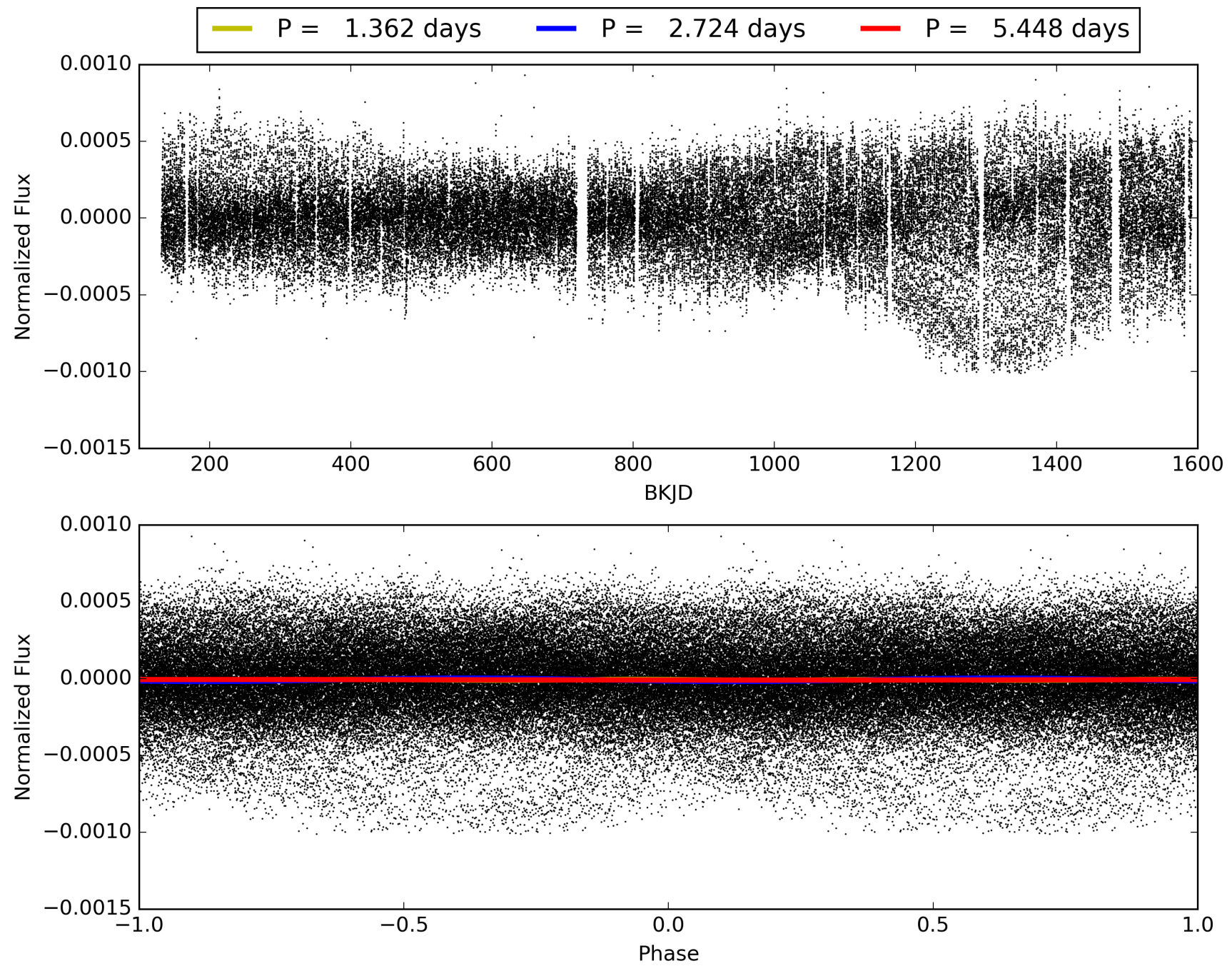
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:59:53 Z

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

TCE 009651374-09, PDC Light Curves

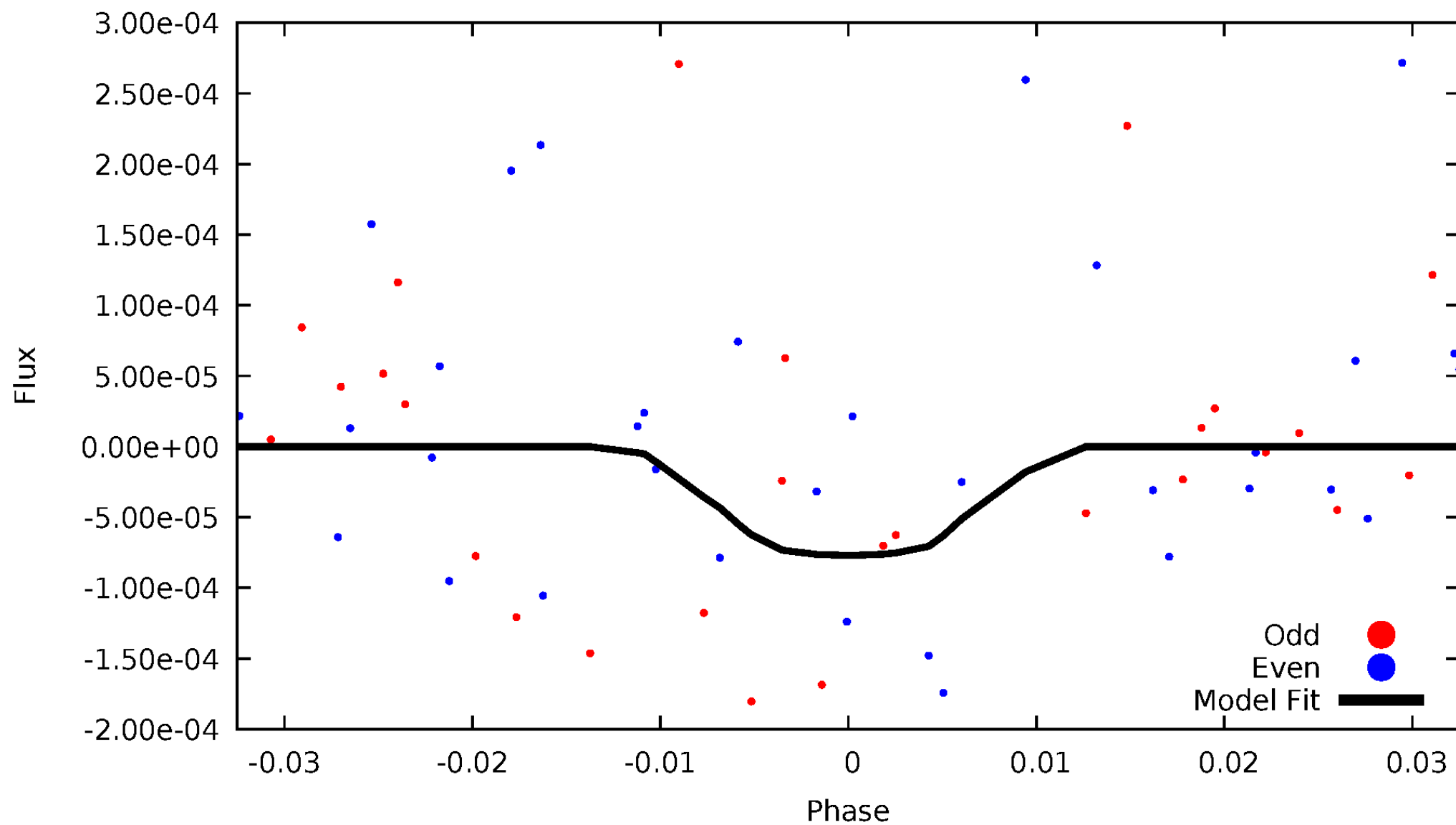


TCE 009651374-09



DV Odd/Even

TCE 009651374-09

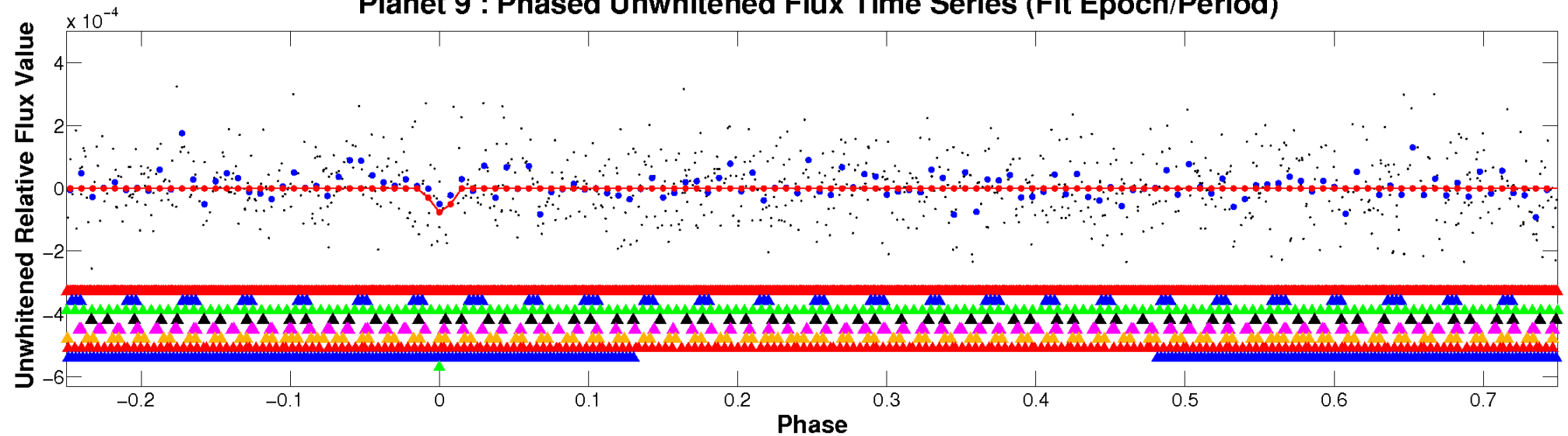


ALT Odd/Even

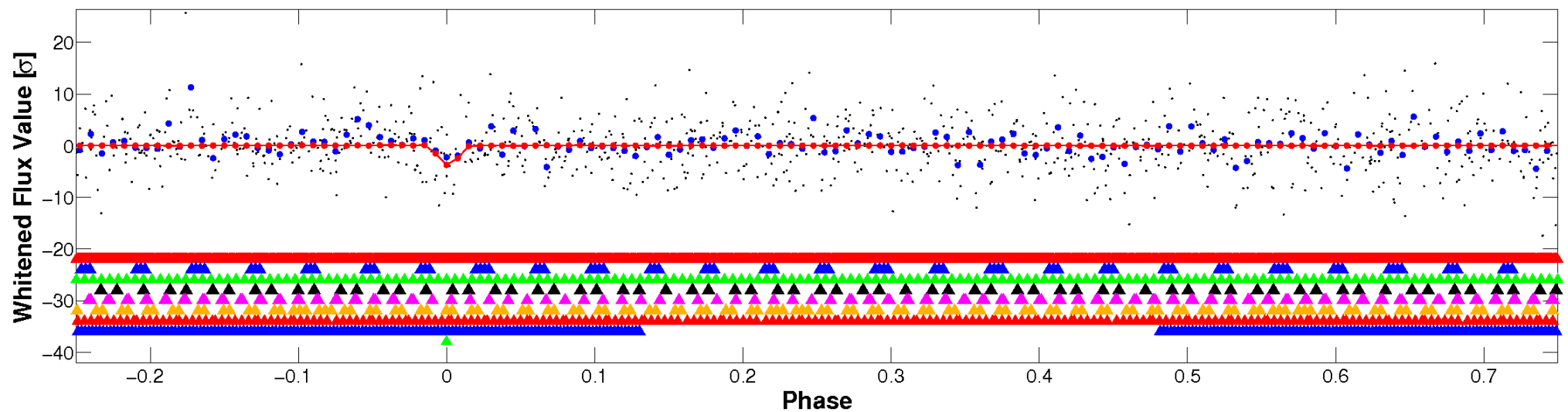
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

Planet 9 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

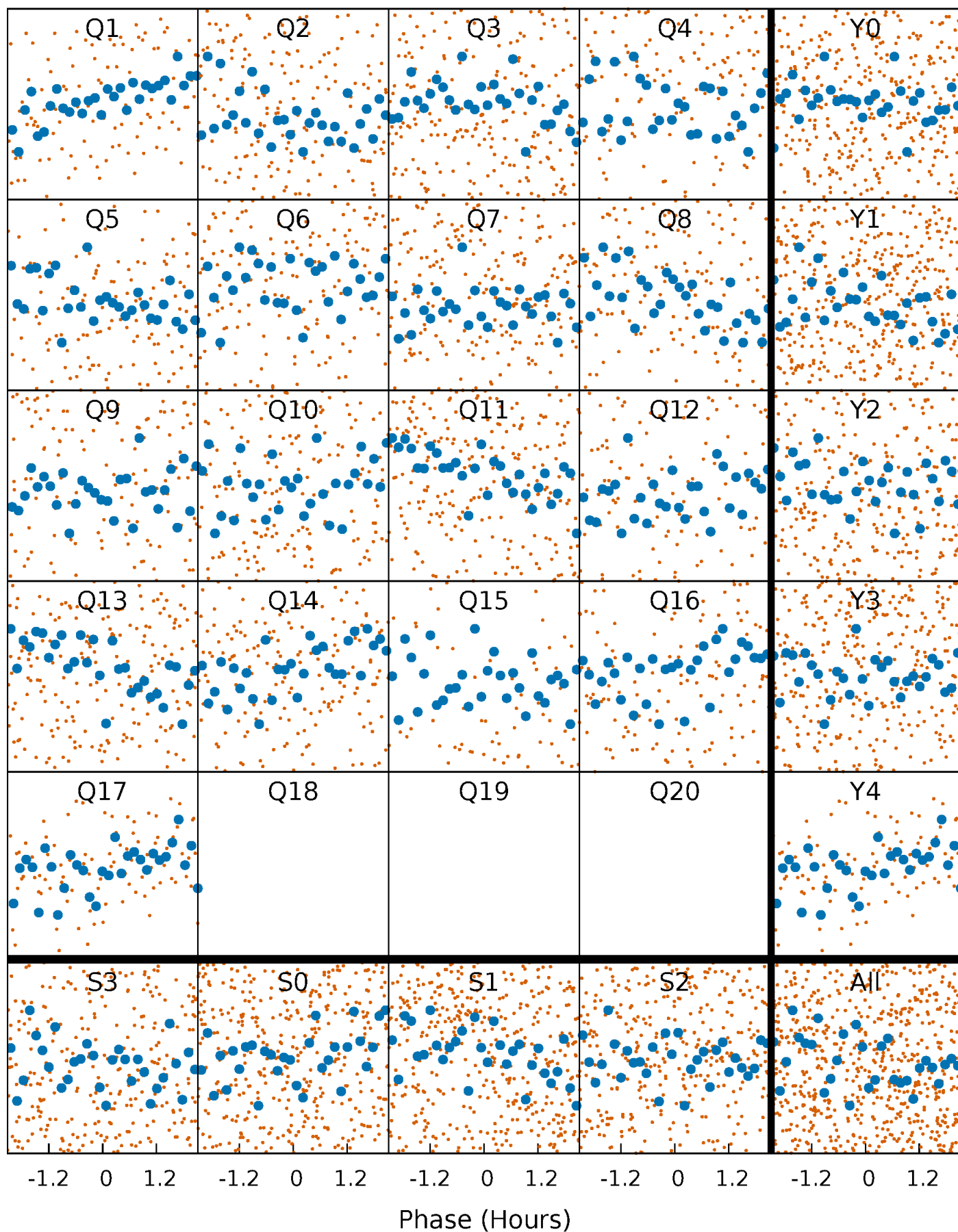


Planet 9 : Phased Whitened Flux Time Series (Fit Epoch/Period)



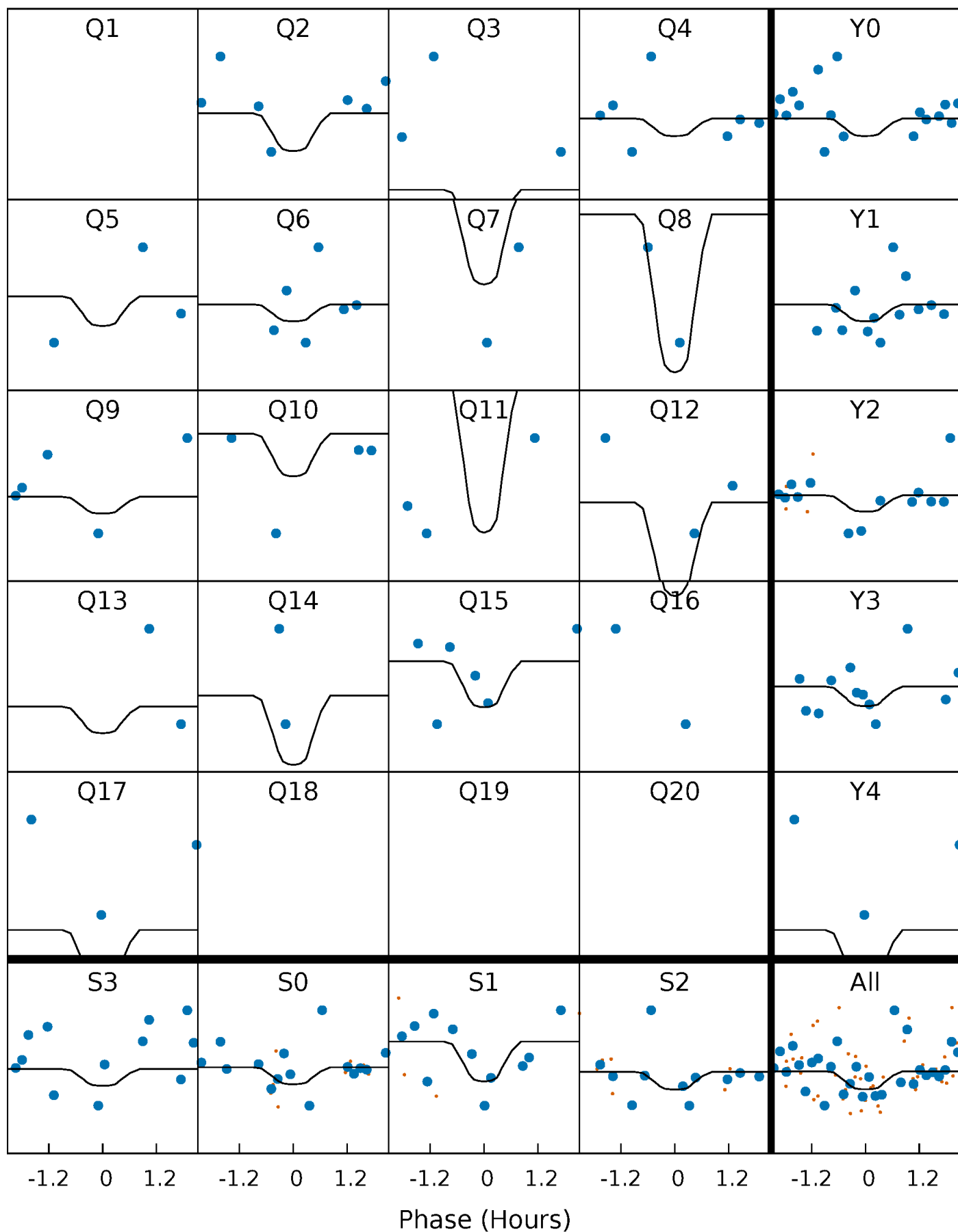
PDC Quarter-Phased Transit Curves

TCE 009651374-09 P= 2.723803 Days $T_0=132.373994$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 009651374-09 P= 2.723803 Days $T_0=132.373994$ (BKJD)

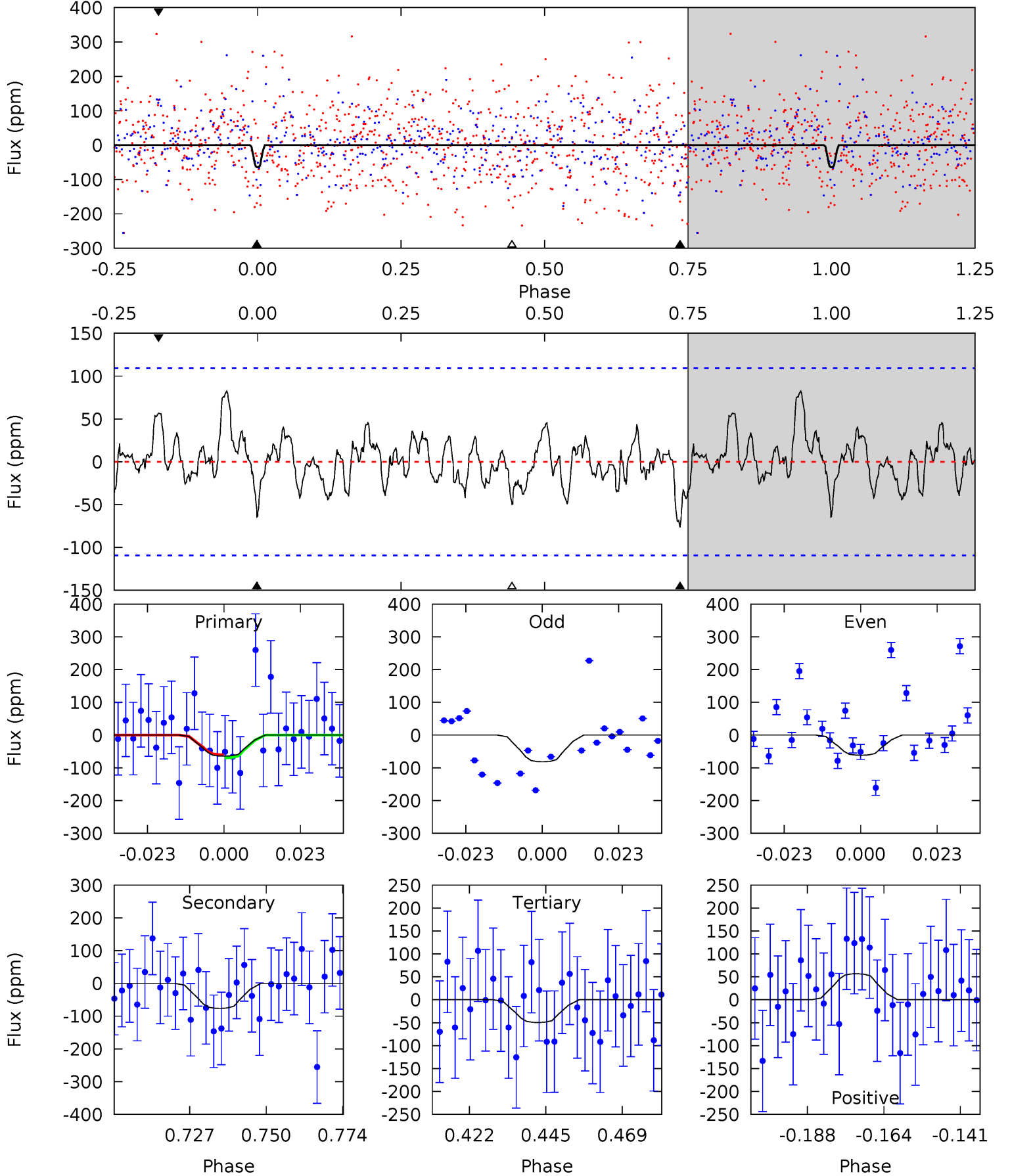


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

009651374-09, P = 2.723803 Days, E = 129.650191 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.87	3.40	2.21	2.52	4.86	2.27	1.00	0.66	0.34	1.19	0.87	0.44	0	0.52	0.21



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 009651374

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7100^{+192}_{-235}	$3.806^{+0.285}_{-0.095}$	$-0.440^{+0.300}_{-0.250}$	$2.590^{+0.395}_{-0.921}$	$1.565^{+0.217}_{-0.325}$	$0.127^{+0.255}_{-0.039}$
	+3%/-3%	+7%/-2%	+68%/-57%	+15%/-36%	+14%/-21%	+201%/-31%
Source	PHO1	FLK73	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 009651374-09 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-76 ± 22	$2.87^{+2.53}_{-1.93}$	3285^{+214}_{-260}	6149^{+7095}_{-1486}	$9.576^{+75.689}_{-6.897}$
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 $A_{obs} \gg 1.0$

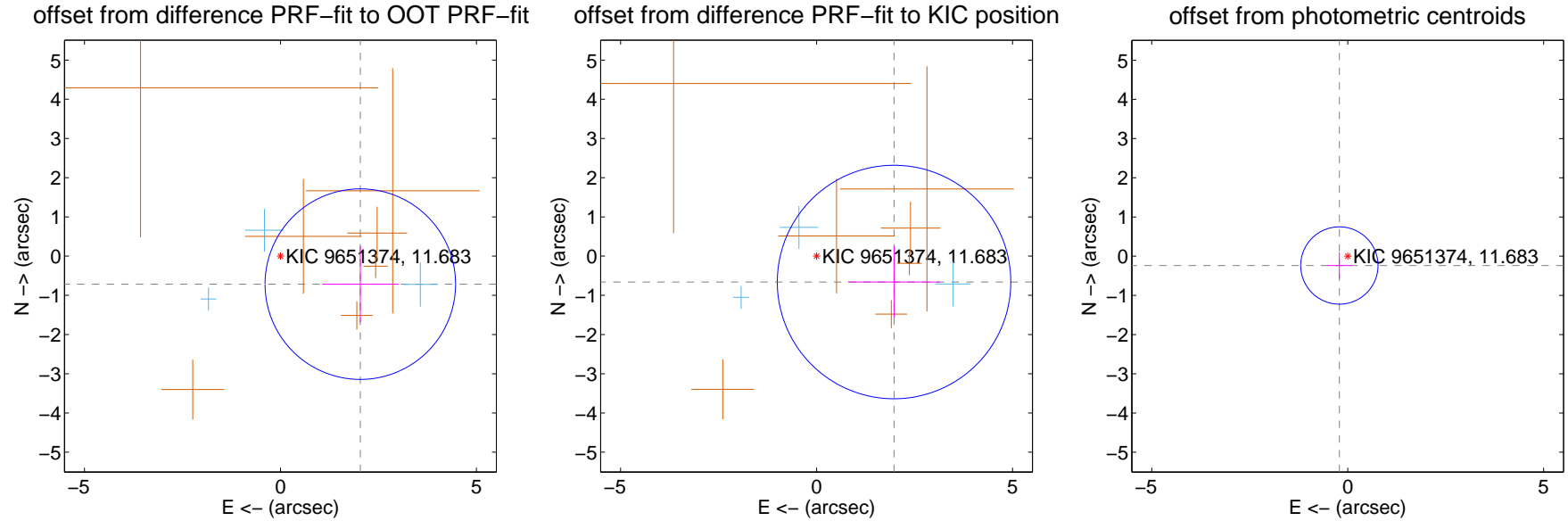
DV Centroid Data

Supplemental centroid analysis for 009651374-09. **Kepler magnitude: 11.68.** Transit SNR 12.34

There are 3 quarters with good PRF difference image offsets

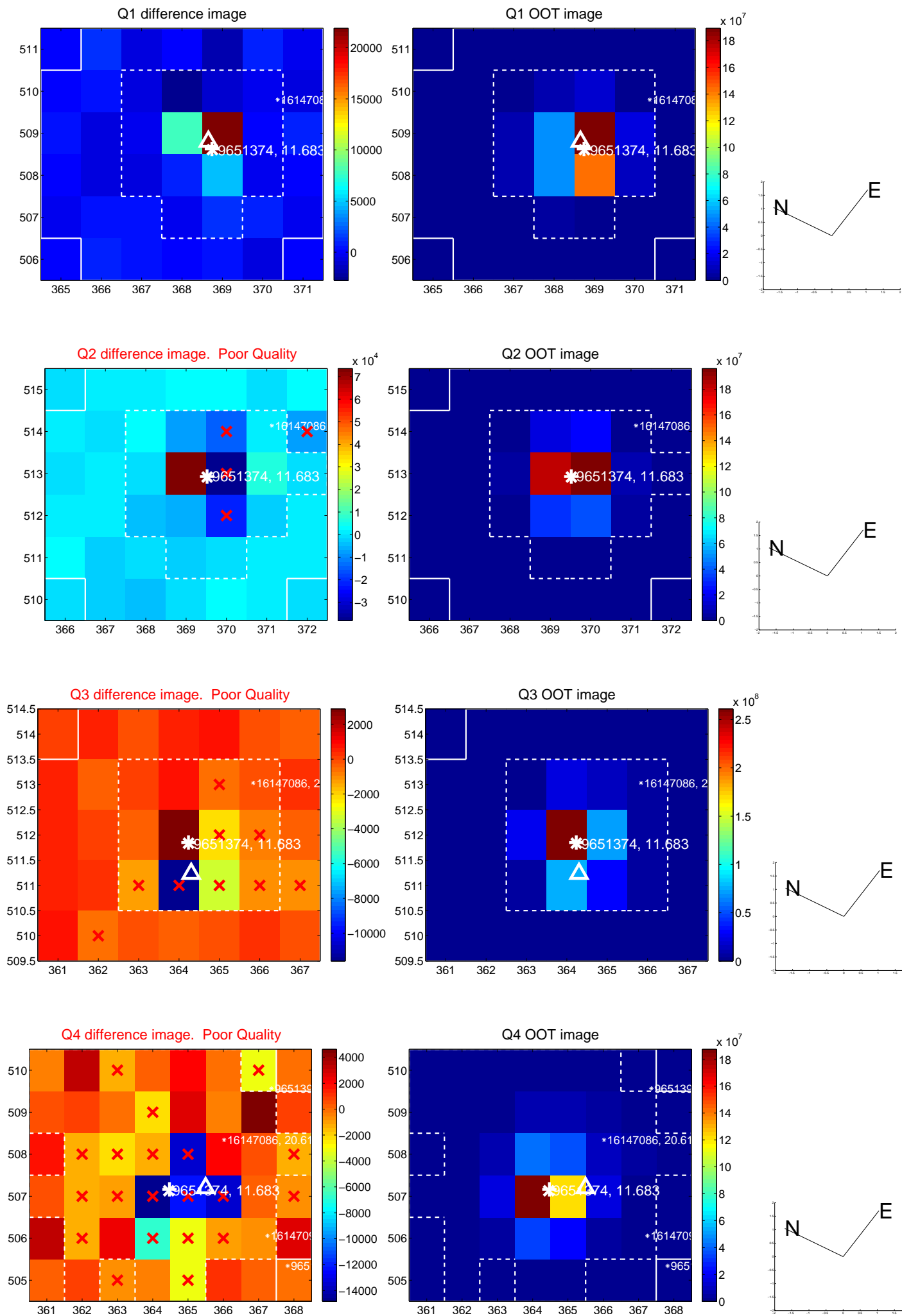
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.159 ± 0.810	2.67	-2.037 ± 0.974	-0.714 ± 0.972
PRF-fit source offset from KIC position	2.084 ± 0.993	2.10	-1.976 ± 1.172	-0.660 ± 0.903
photometric centroid source offset	0.32 ± 0.33	0.97	0.21 ± 0.32	-0.24 ± 0.34

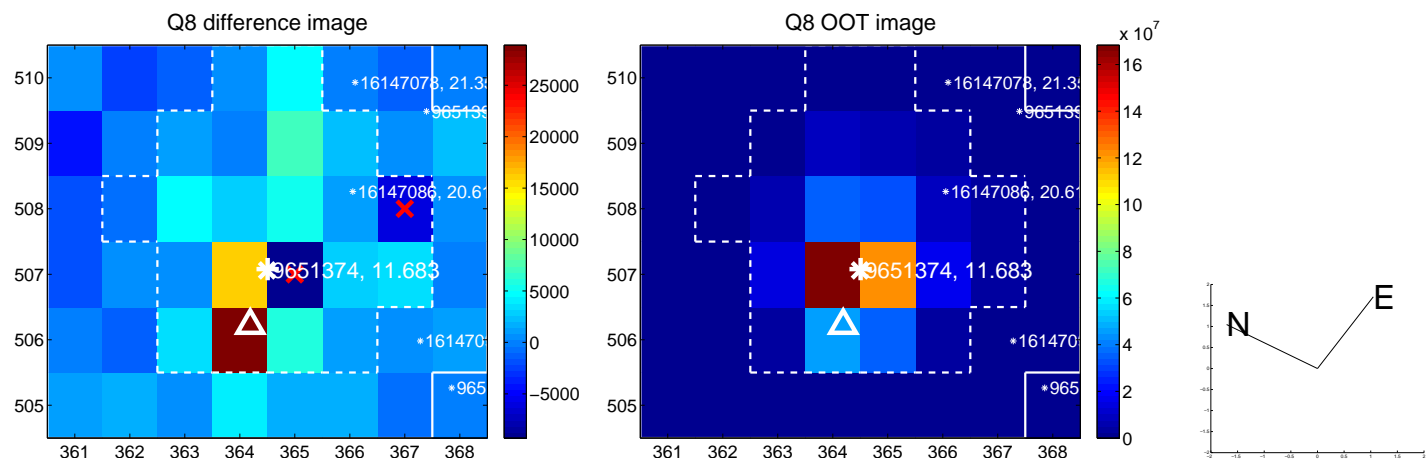
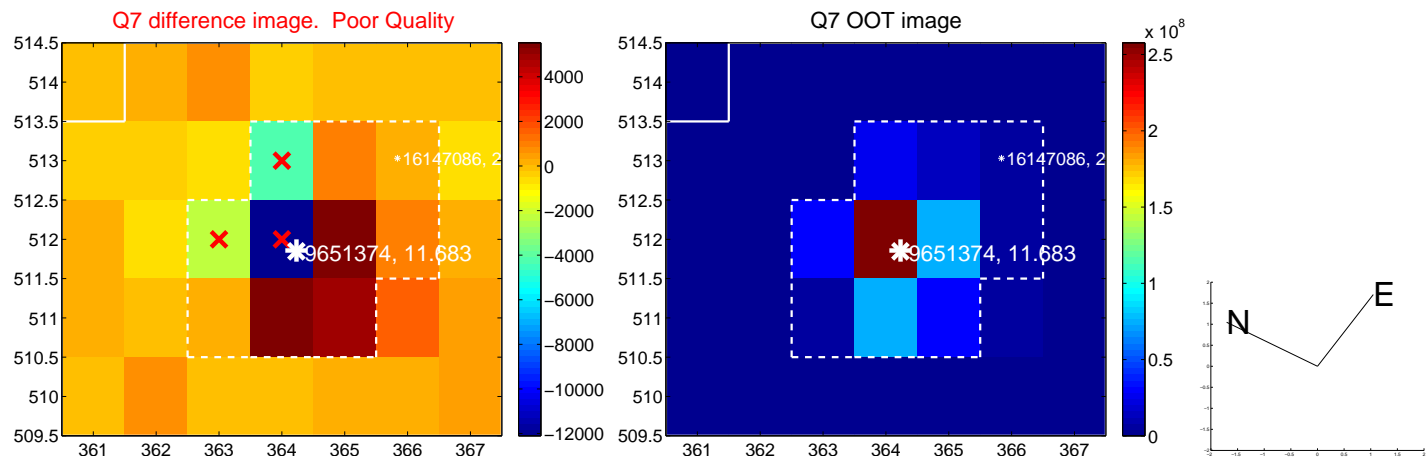
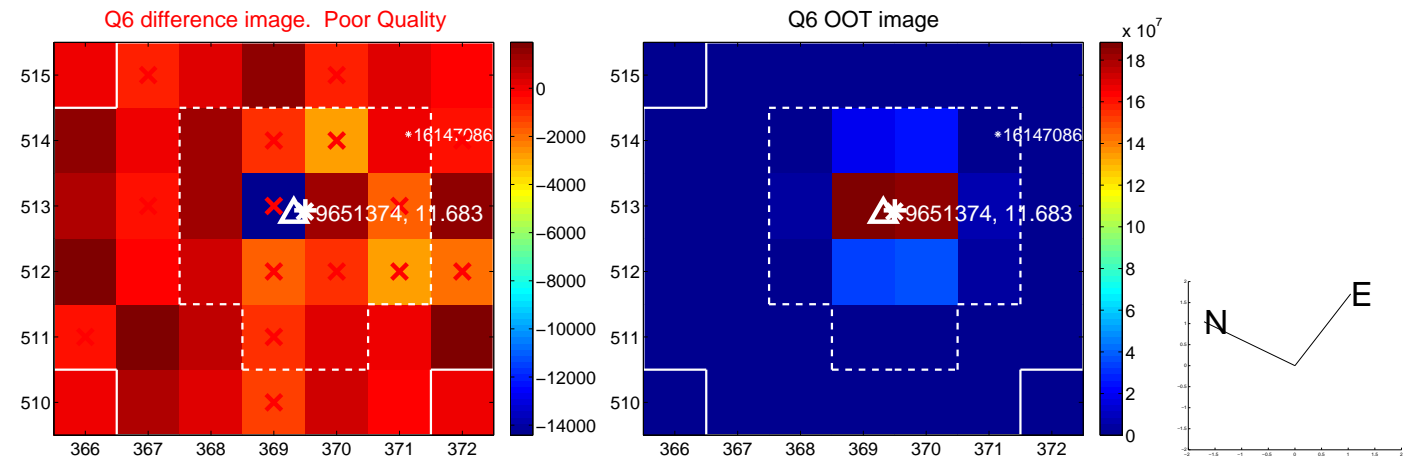
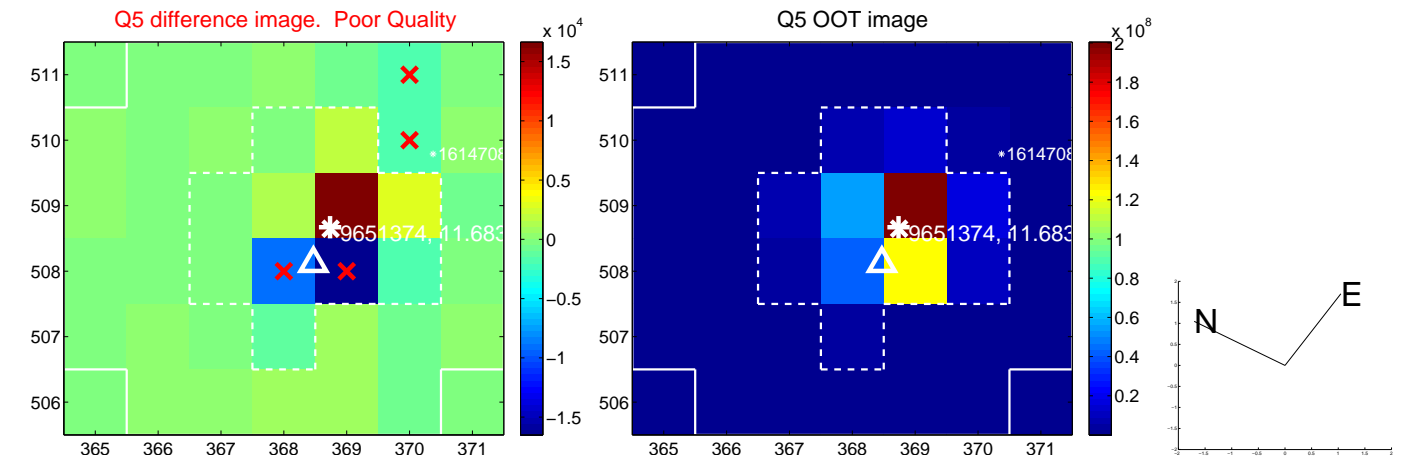


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

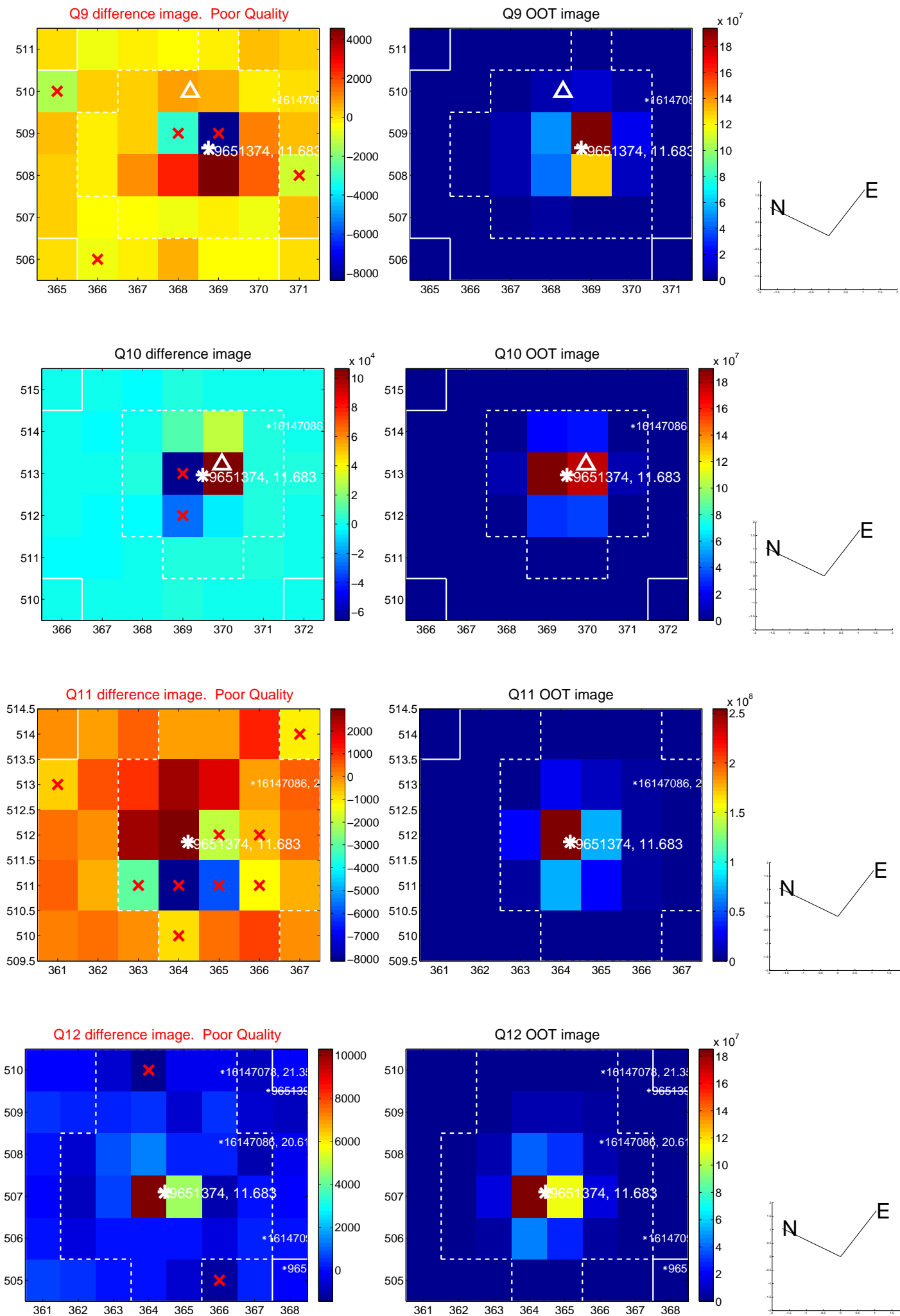
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



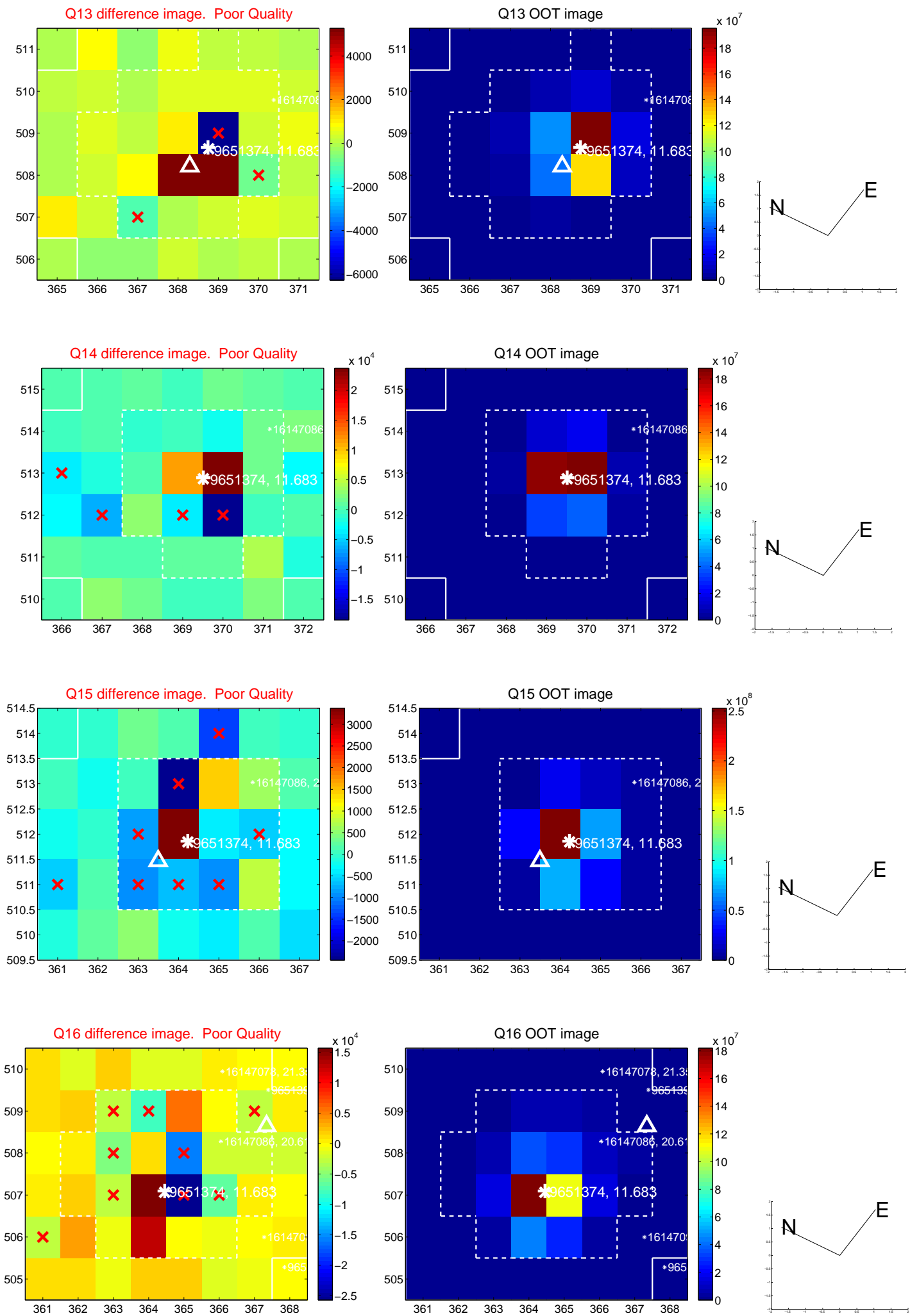
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



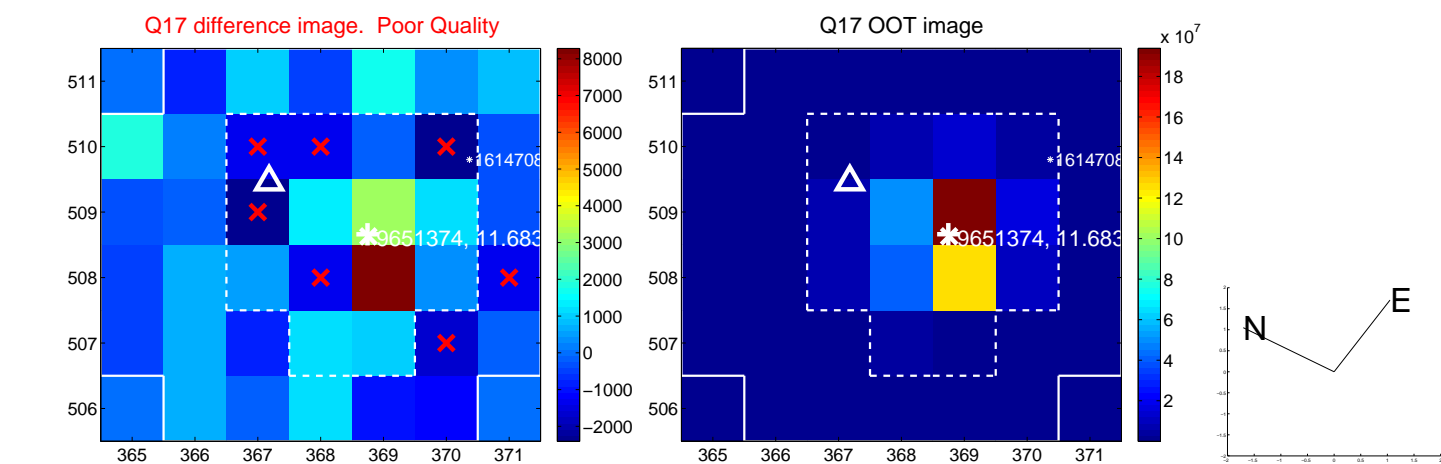
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



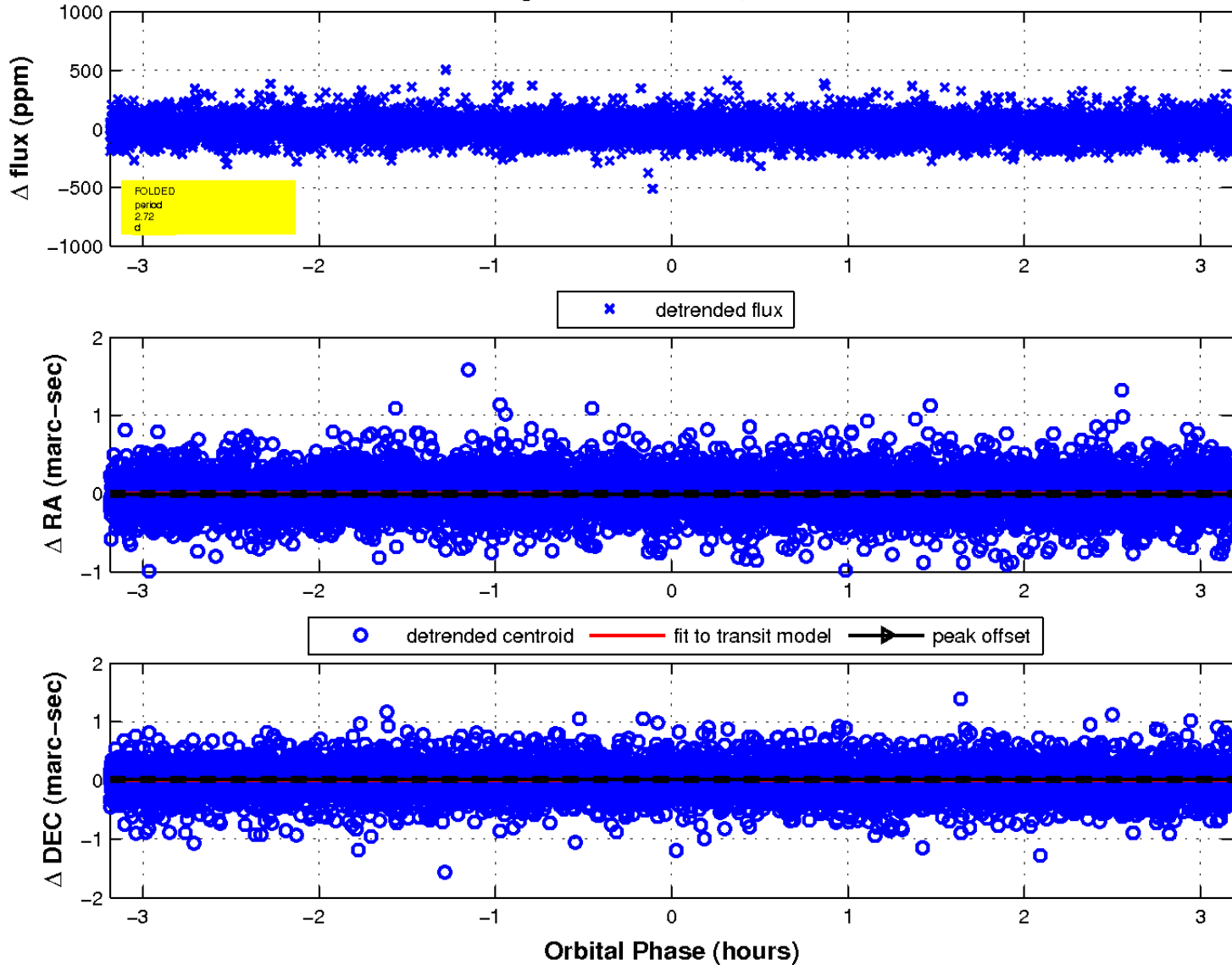
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 9 of 9



UKIRT Image

