

KIC 011974090

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})
011974090-01	OBS	No	0.750265	131.754870	3.4	5.109	7.1	6.6	2.18	9711	0.42	82306.48
011974090-02	OBS	No	51.321017	143.176180	36.2	3.081	21.3	3.7	2.18	9711	1.52	294.21
011974090-04	OBS	No	30.189850	134.656336	63.8	5.719	12.5	8.2	2.18	9711	1.96	596.91
011974090-05	OBS	No	42.976707	138.230489	83.6	3.502	12.2	7.4	2.18	9711	2.28	372.74
011974090-06	OBS	No	35.052964	134.838259	115.4	6.000	10.0	-1.0	2.18	9711	2.40	489.13
011974090-07	OBS	No	81.622333	181.550535	162.3	2.075	13.0	8.2	2.18	9711	3.18	158.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011974090-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED
011974090-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED—HALO_GHOST
011974090-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011974090-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011974090-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011974090-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED—HALO_GHOST

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

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

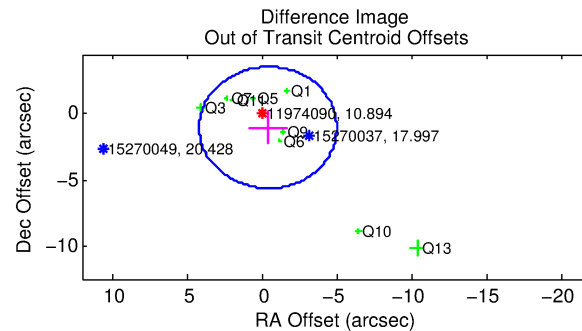
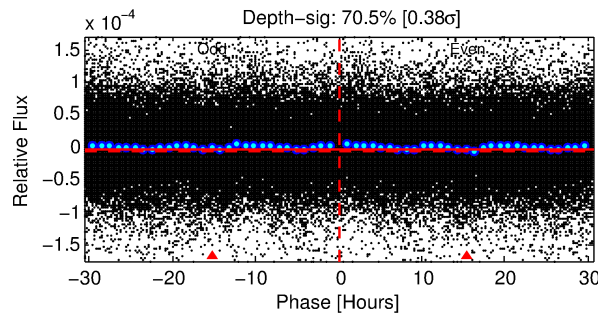
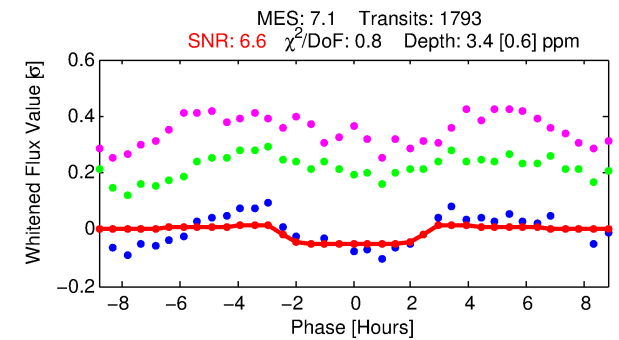
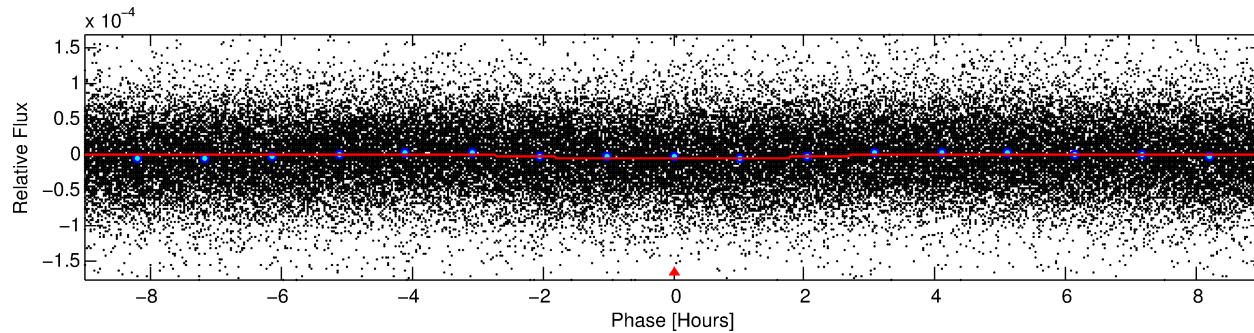
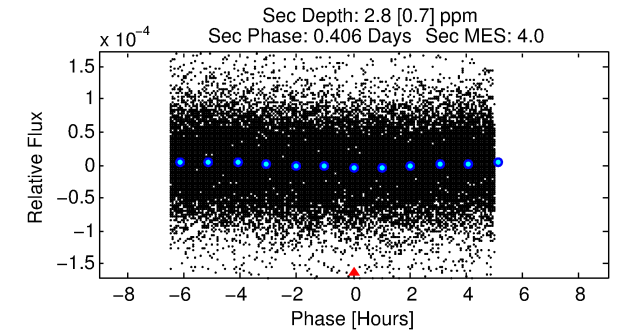
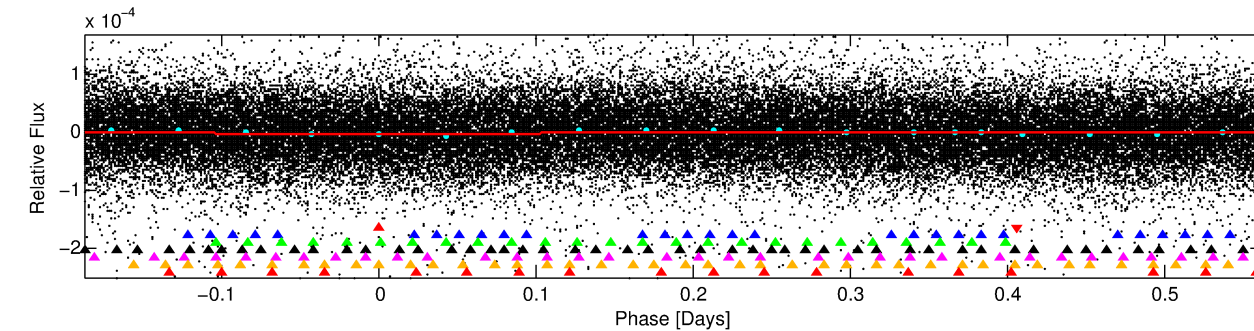
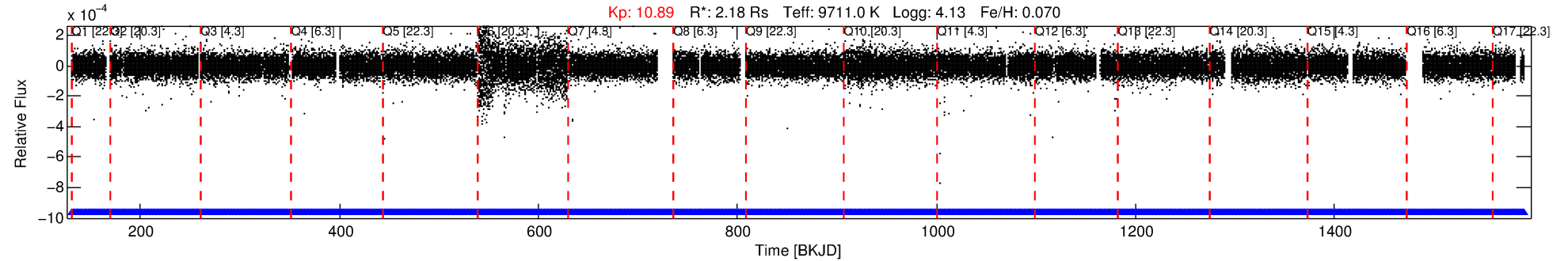
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011974090-01

No Significant Match Found

DV One-Page Summary

KIC: 11974090 Candidate: 1 of 7 Period: 0.750 d



DV Fit Results:

Period = 0.75027 [0.00002] d
Epoch = 131.7549 [0.0060] BKJD
Rp/R* = 0.0018 [0.0005]
a/R* = 1.23 [0.84]
b = 0.47 [3.33]
Seff = 82306.48 [38331.50]
Teq = 4319 [503] K
Rp = 0.42 [0.21] Re
a = 0.0215 [0.0069] AU
Ag = 3.99 [3.09] [0.97σ]
Teffp = 9438 [1580] K [3.09σ]

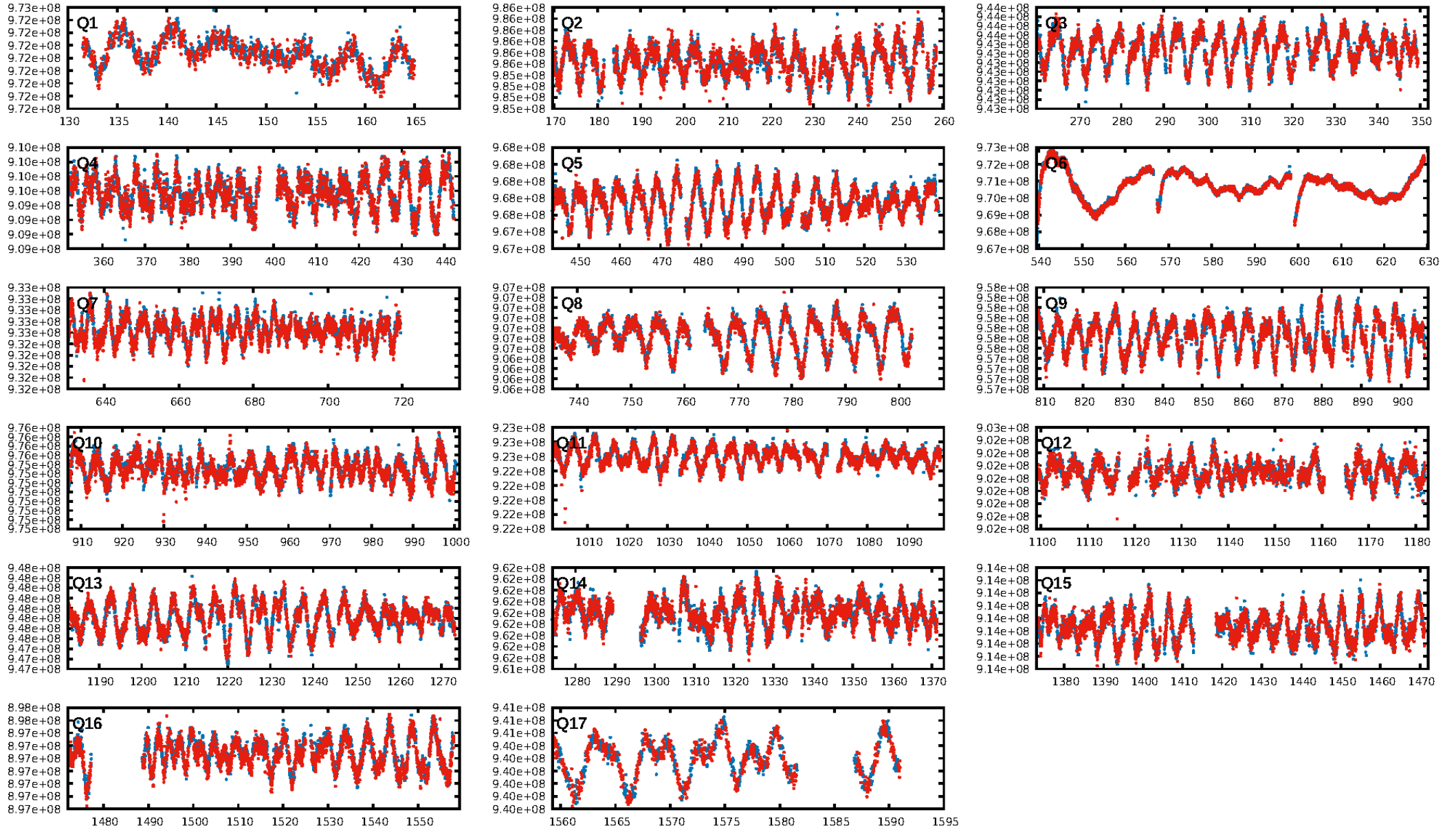
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [92.13σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.80e-05
RollingBand-fgt: 1.00 [1712/1712]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 1.124 arcsec [0.73σ]
KicOffset-rm: 1.183 arcsec [0.60σ]
OotOffset-st: 2/3/0/4 [9]
KicOffset-st: 2/3/0/4 [9]
DiffImageQuality-fgm: 0.56 [5/9]
DiffImageOverlap-fno: 1.00 [17/17]

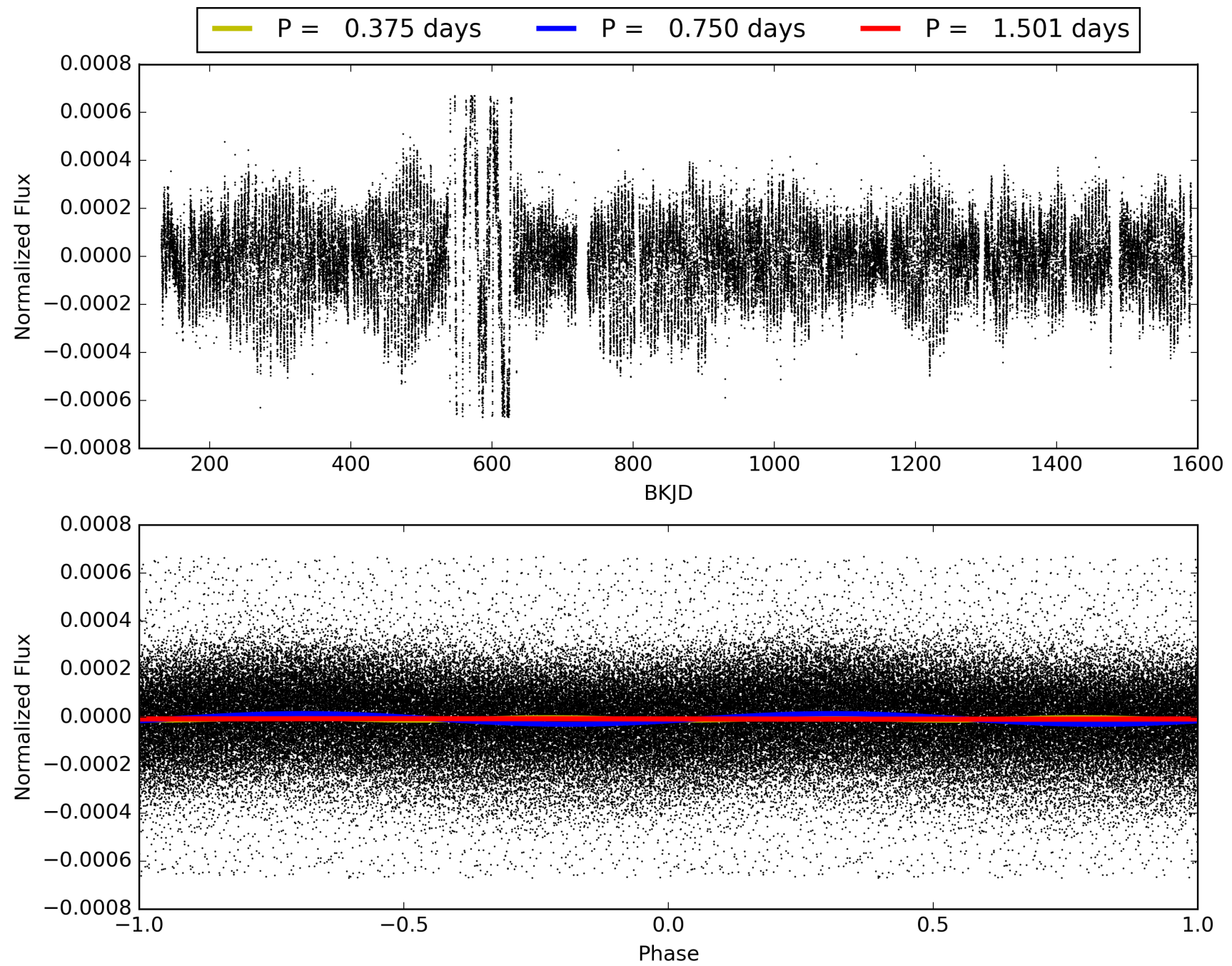
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 011974090-01, PDC Light Curves

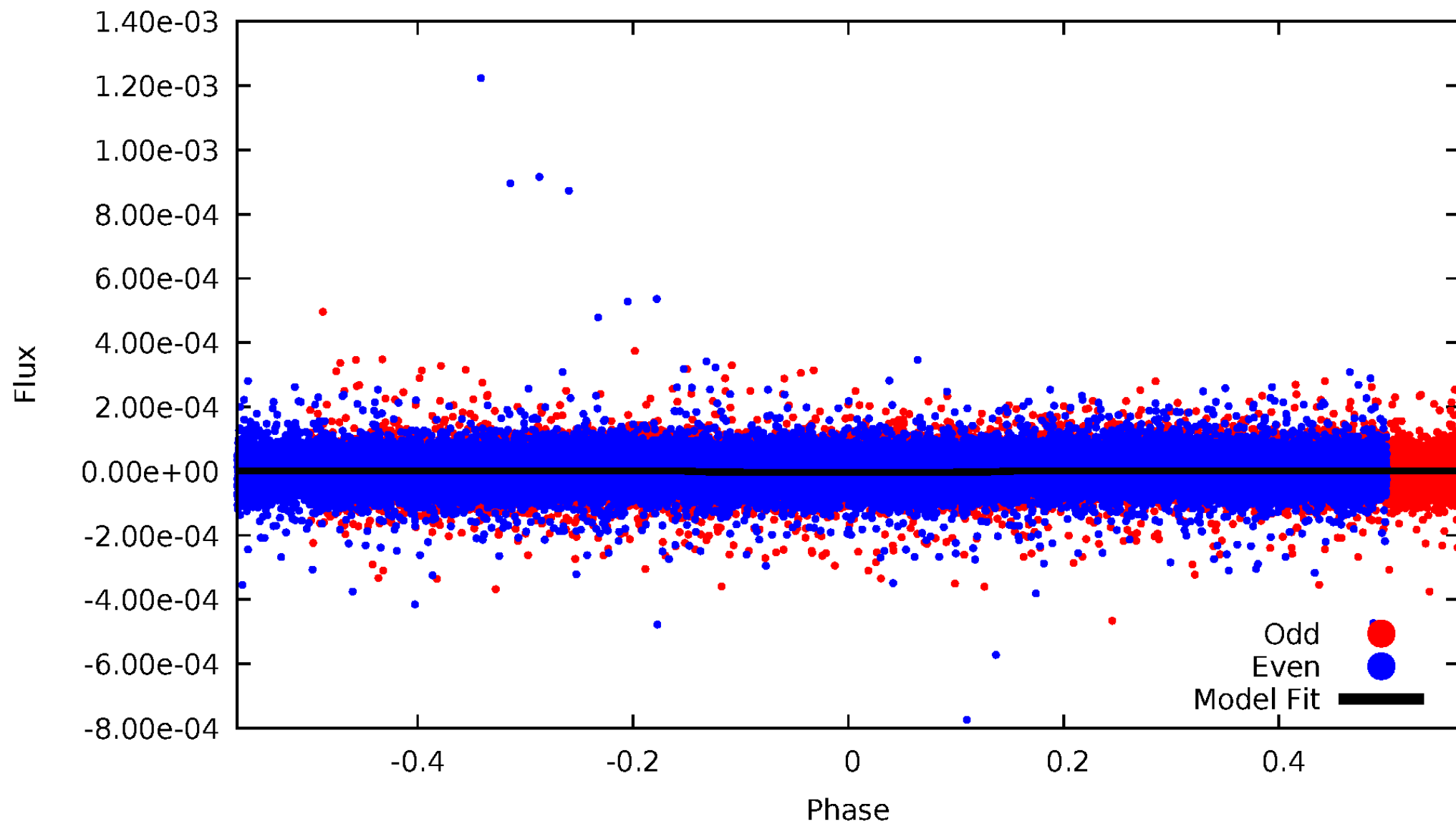


TCE 011974090-01



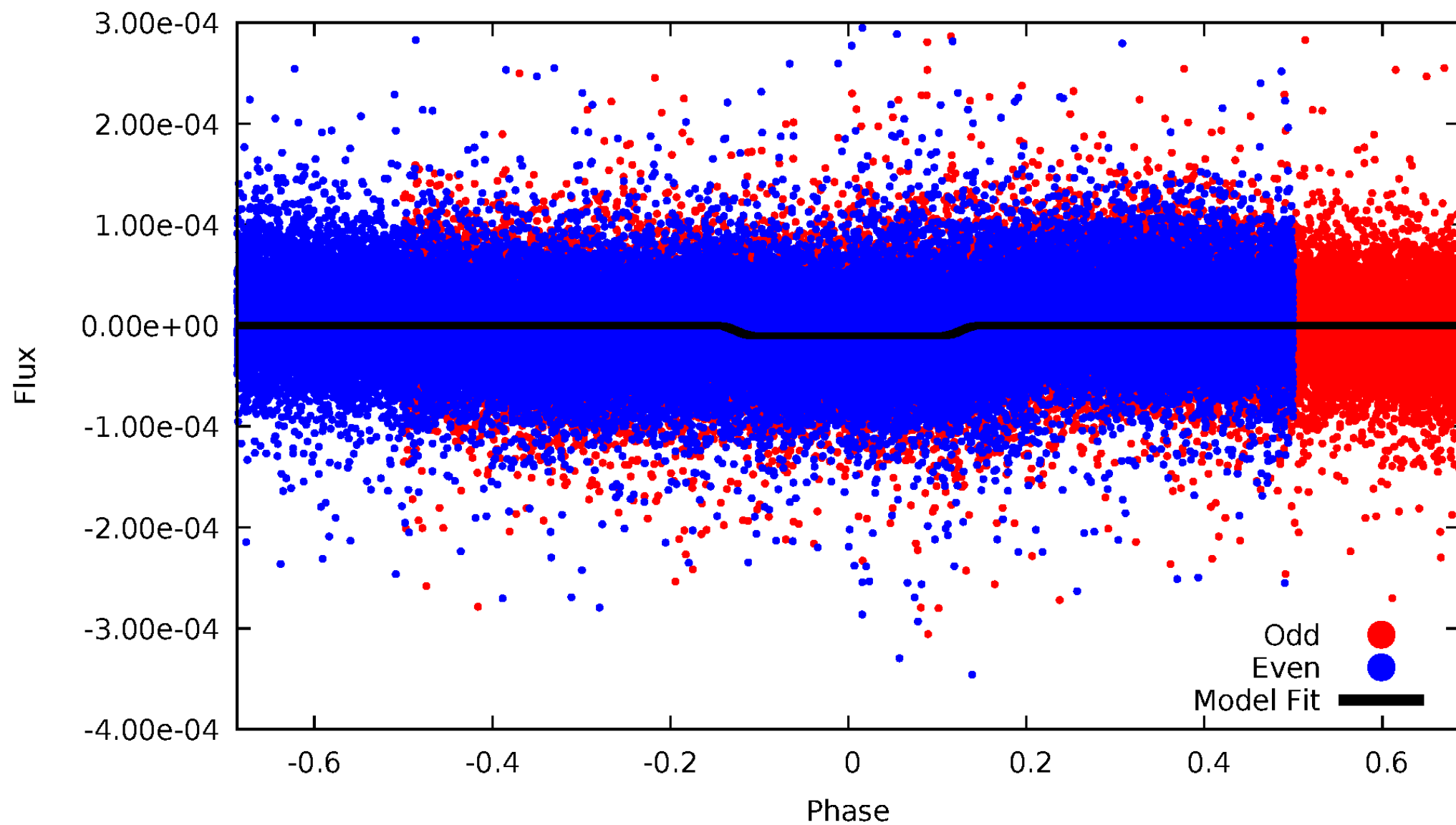
DV Odd/Even

TCE 011974090-01



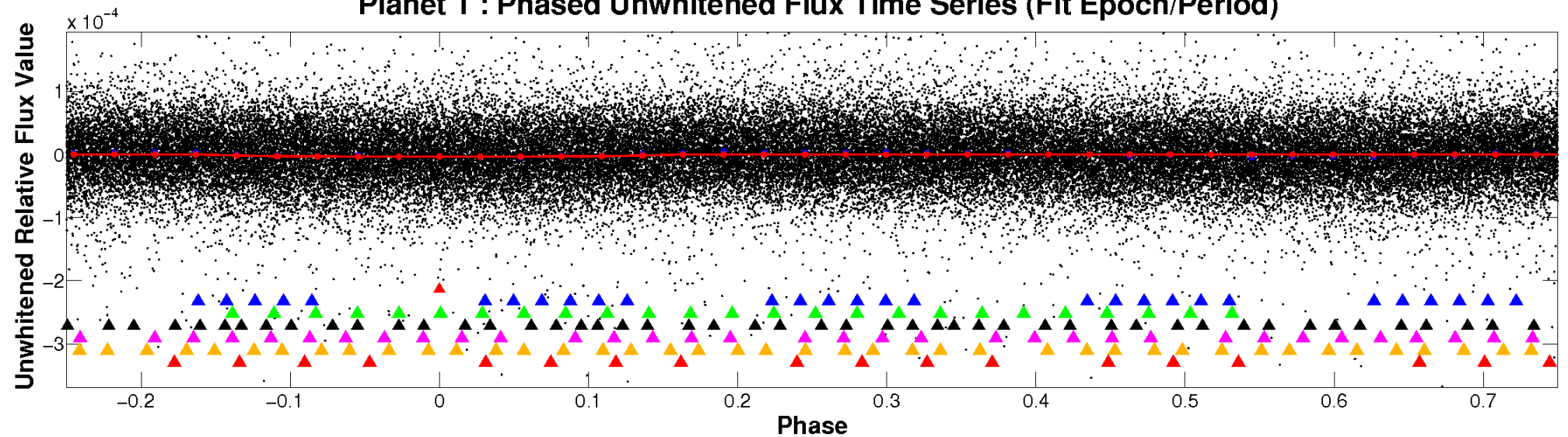
ALT Odd/Even

TCE 011974090-01

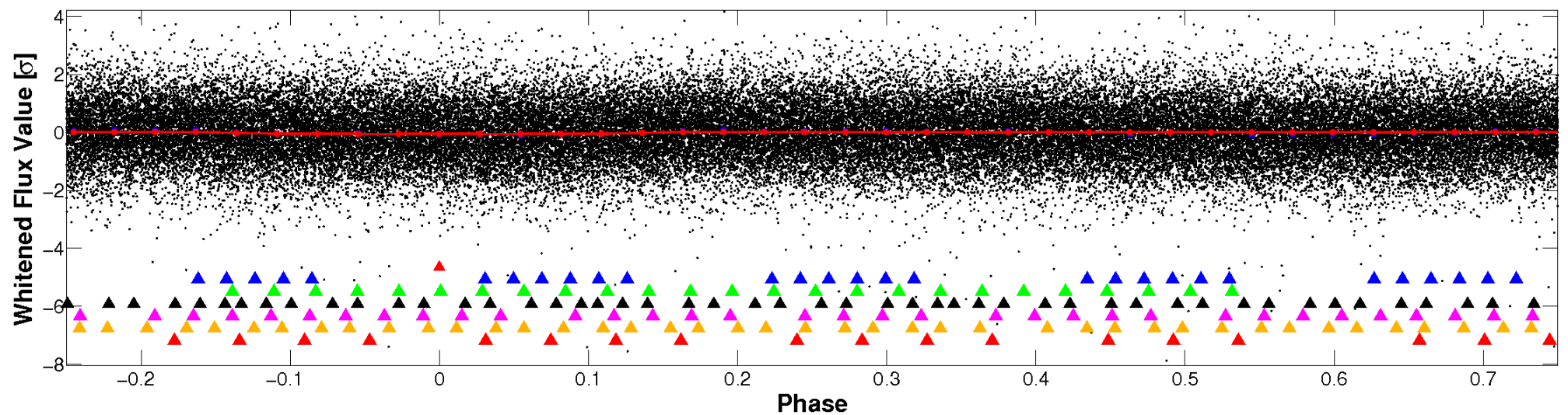


Non-Whitened Vs. Whitened Light Curve

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

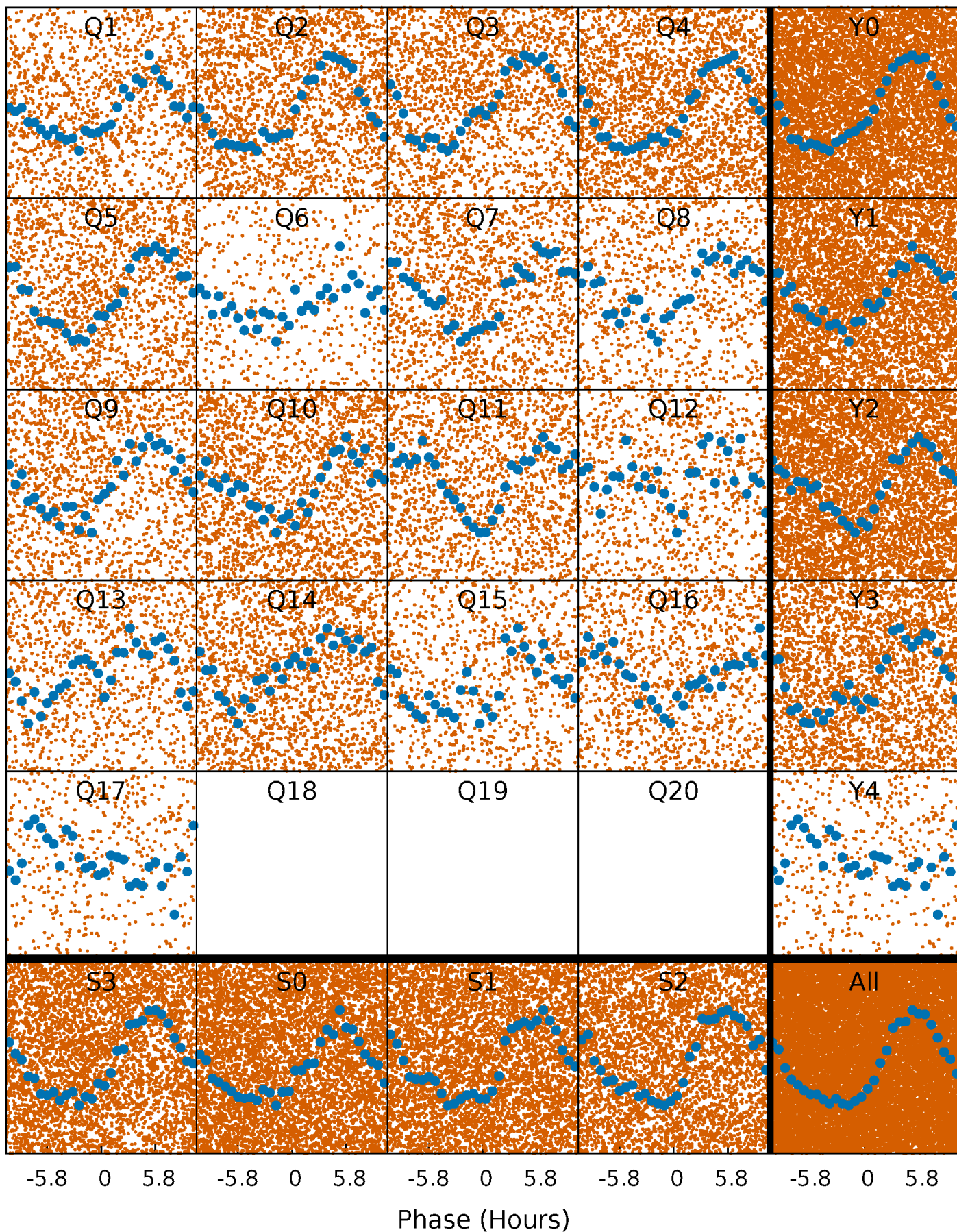


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



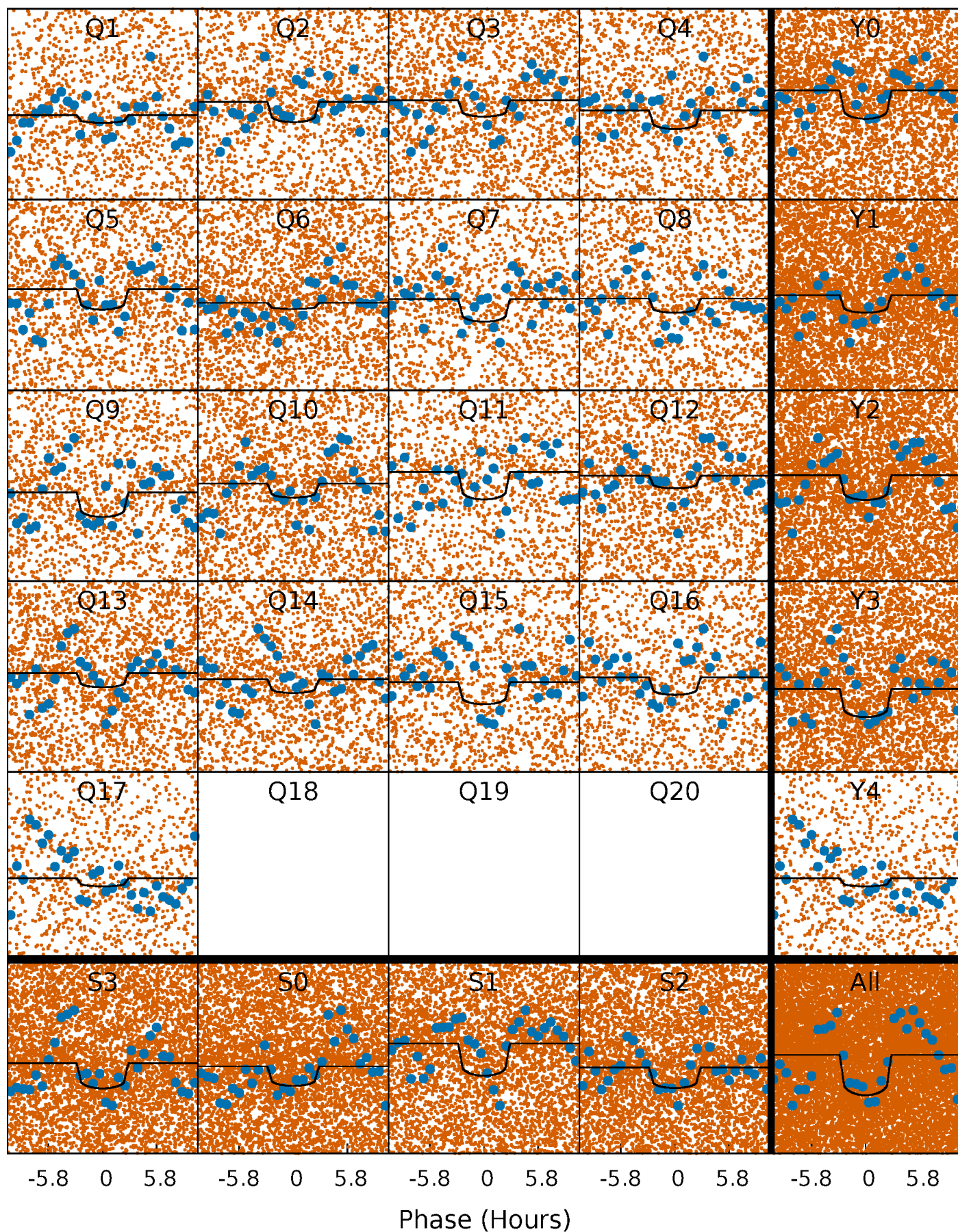
PDC Quarter-Phased Transit Curves

TCE 011974090-01 P= 0.750265 Days $T_0=131.754870$ (BKJD)



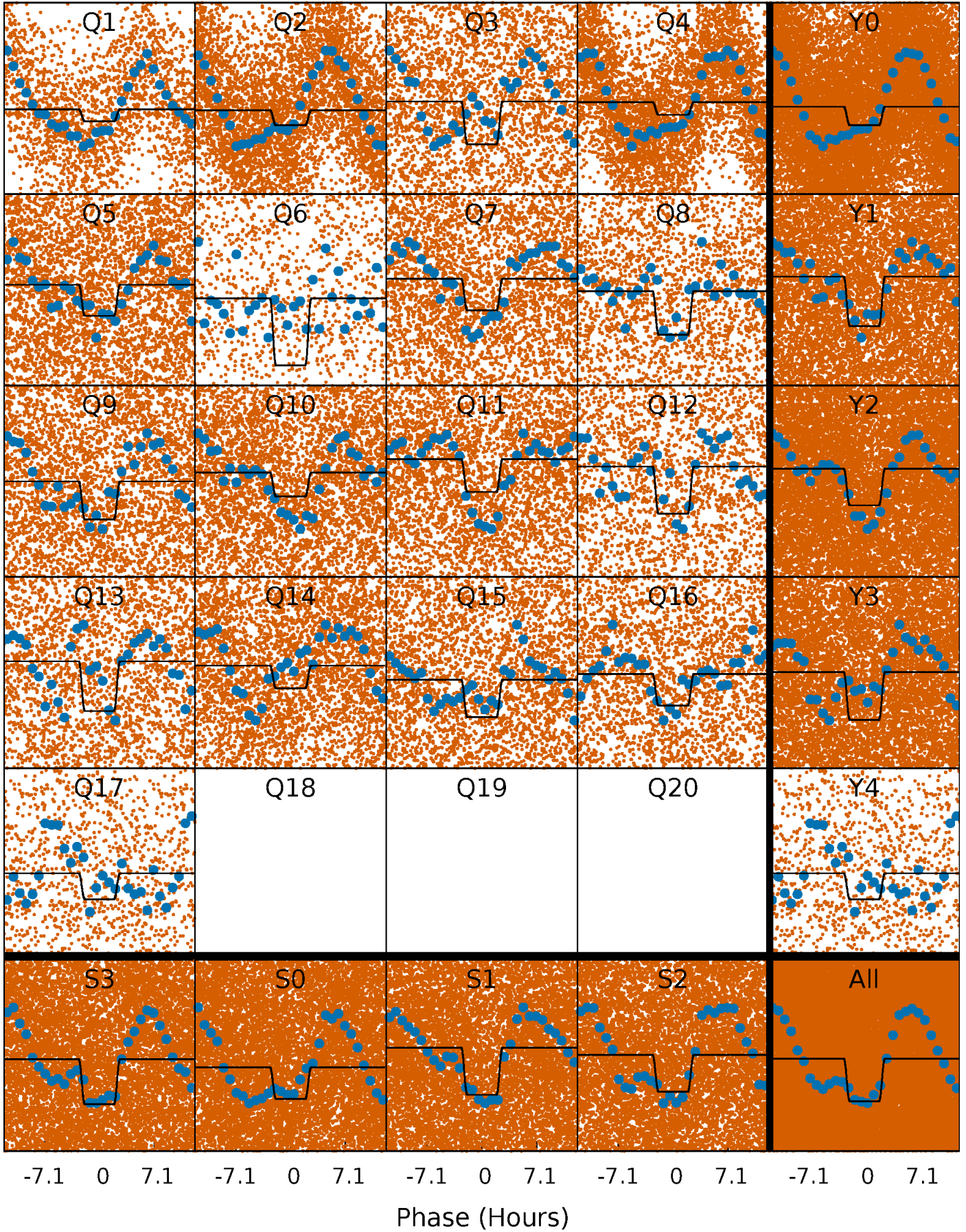
DV Quarter-Phased Transit Curves

TCE 011974090-01 P= 0.750265 Days $T_0=131.754870$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

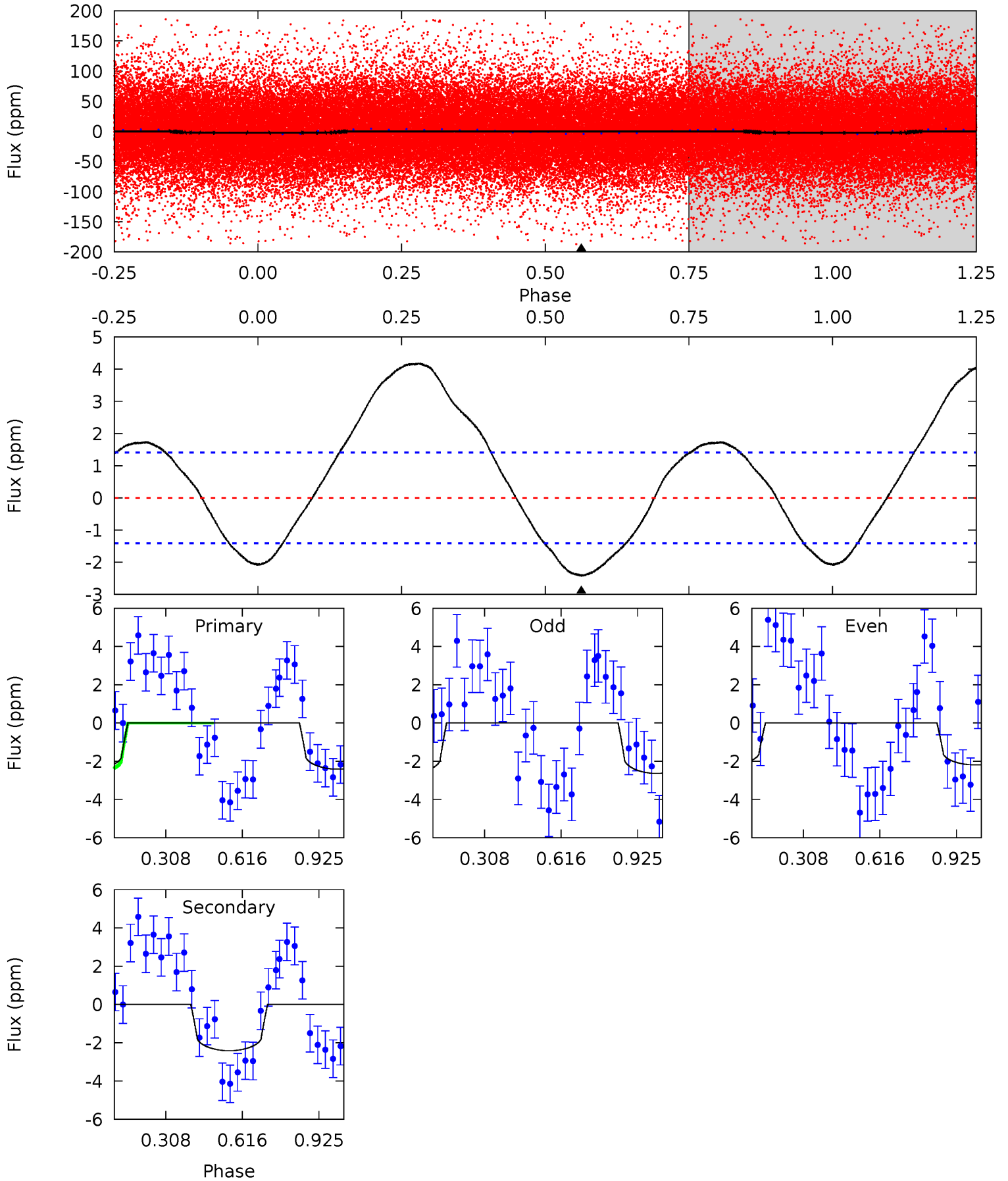
TCE 011974090-01 P= 0.750264 Days $T_0=131.719972$ (BKJD)



DV Model-Shift Uniqueness Test

011974090-01, P = 0.750265 Days, E = 131.004605 Days

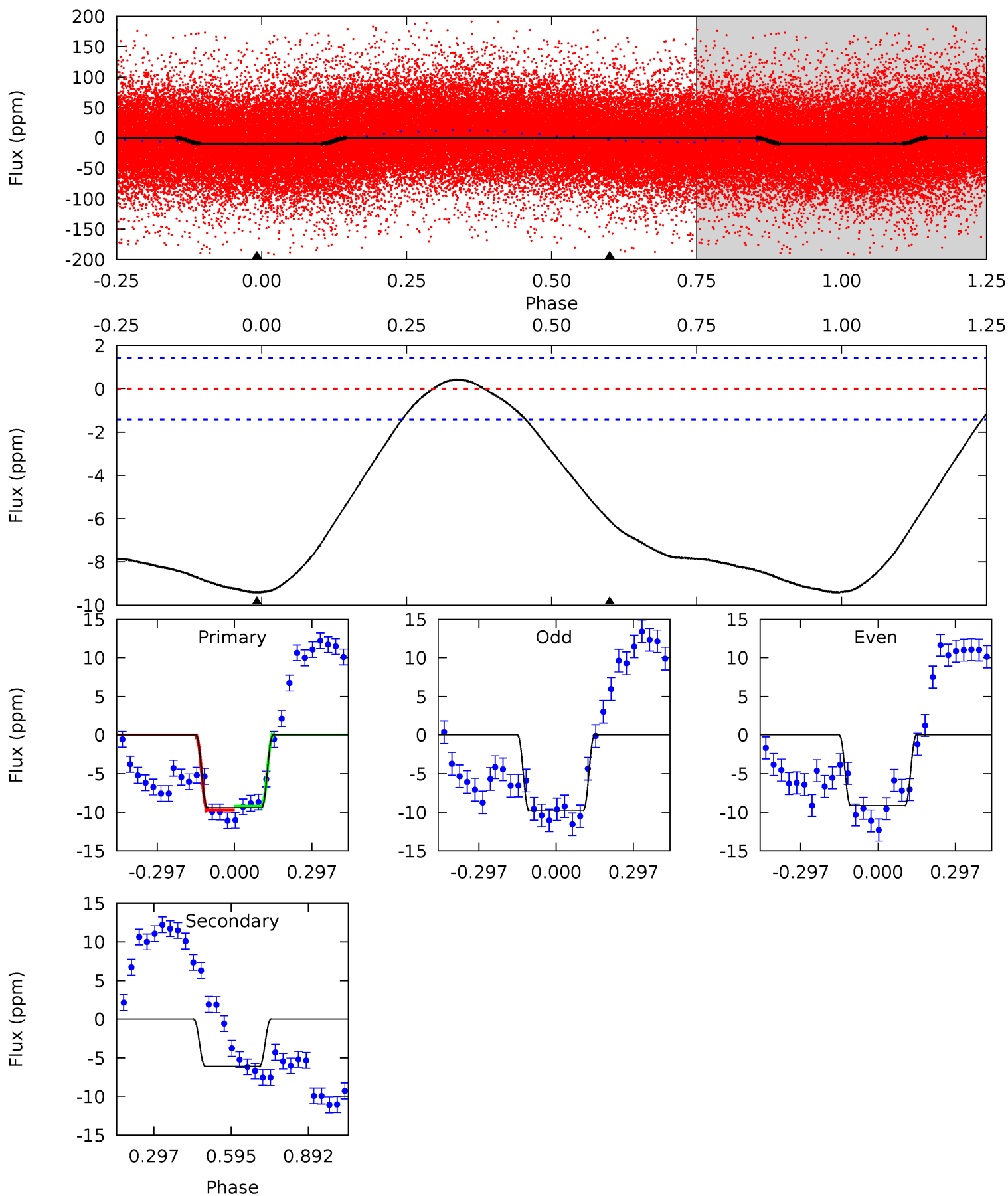
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.39	7.39	0	0	4.32	1.02	5.94	7.39	7.39	7.39	7.39	0.67	1.21	0.63	0.77



Alt Model-Shift Uniqueness Test

011974090-01, P = 0.750264 Days, E = 130.969708 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.5	18.5	0	0	4.33	1.04	1.61	28.5	28.5	18.5	18.5	0.94	1.02	0.04	0.76



Stellar Parameters For KIC 011974090

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	9711^{+306}_{-443}	$4.130^{+0.175}_{-0.214}$	$0.070^{+0.150}_{-0.600}$	$2.181^{+0.900}_{-0.600}$	$2.338^{+0.415}_{-0.622}$	$0.318^{+0.319}_{-0.180}$
	+3%/-5%	+4%/-5%	+214%/-857%	+41%/-28%	+18%/-27%	+100%/-57%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011974090-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2 ± 0	$0.41^{+0.16}_{-0.13}$	6062^{+532}_{-509}	8549^{+2772}_{-1500}	$3.480^{+3.680}_{-1.667}$
Alt.	-6 ± 0	$0.74^{+0.19}_{-0.16}$	6026^{+566}_{-461}	7834^{+1105}_{-799}	$2.699^{+1.504}_{-0.998}$

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

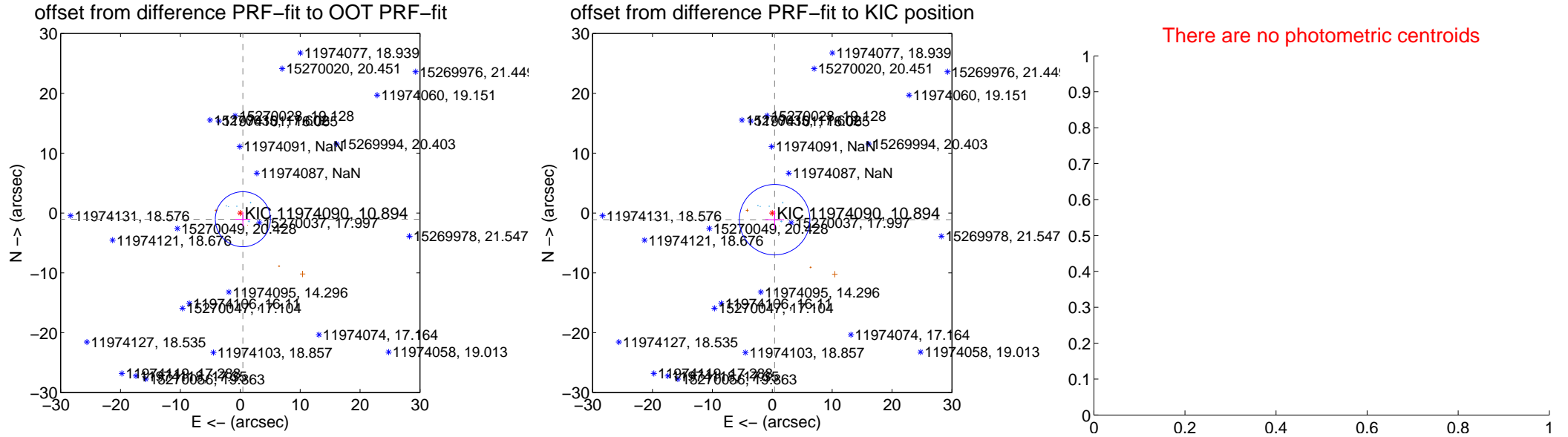
DV Centroid Data

Supplemental centroid analysis for 011974090-01. **Kepler magnitude: 10.89.** Transit SNR 6.58

There are 5 quarters with good PRF difference image offsets

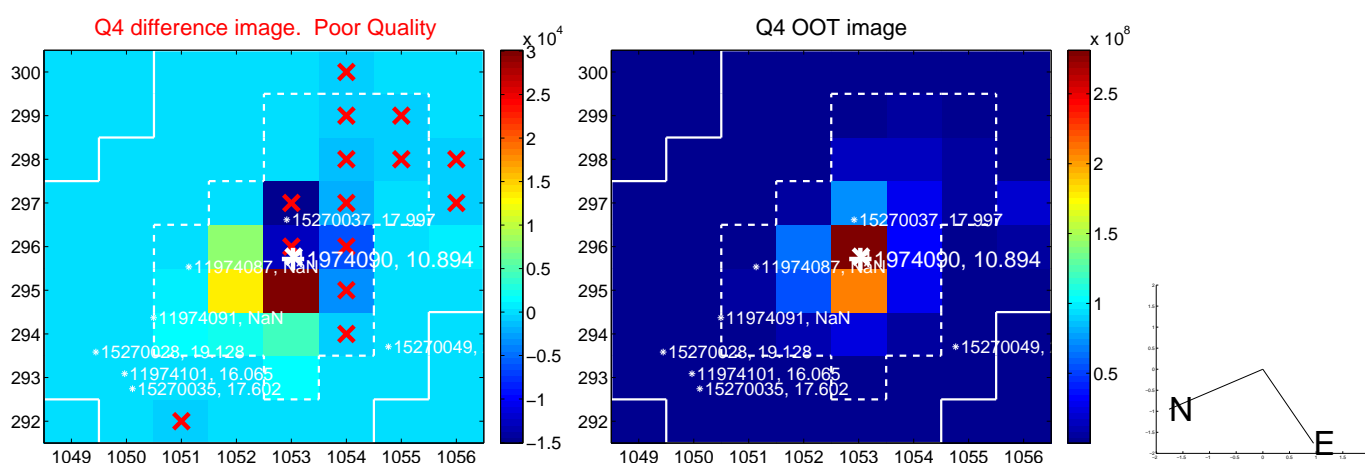
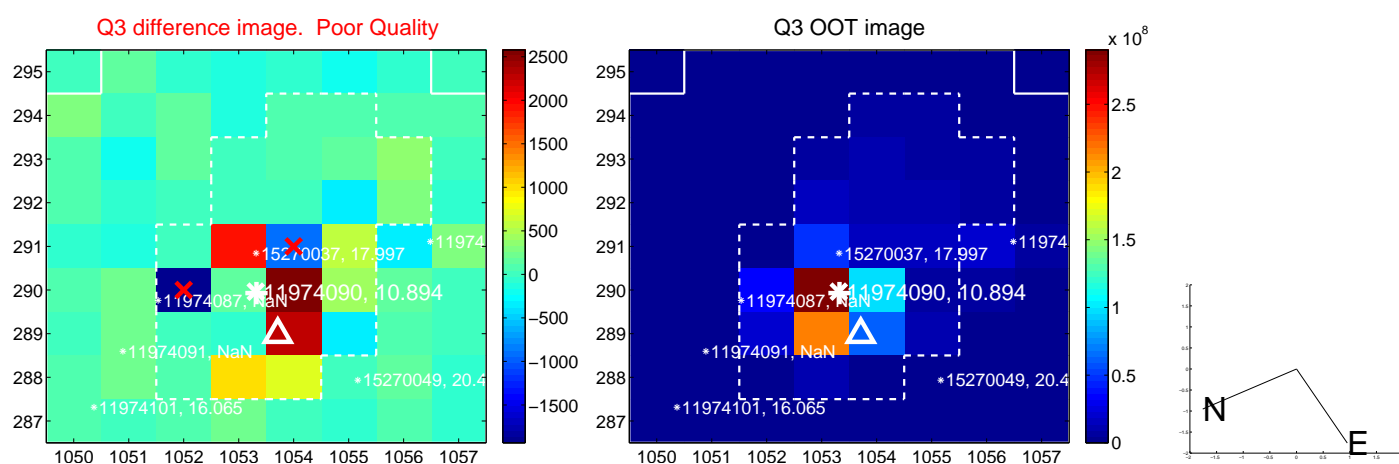
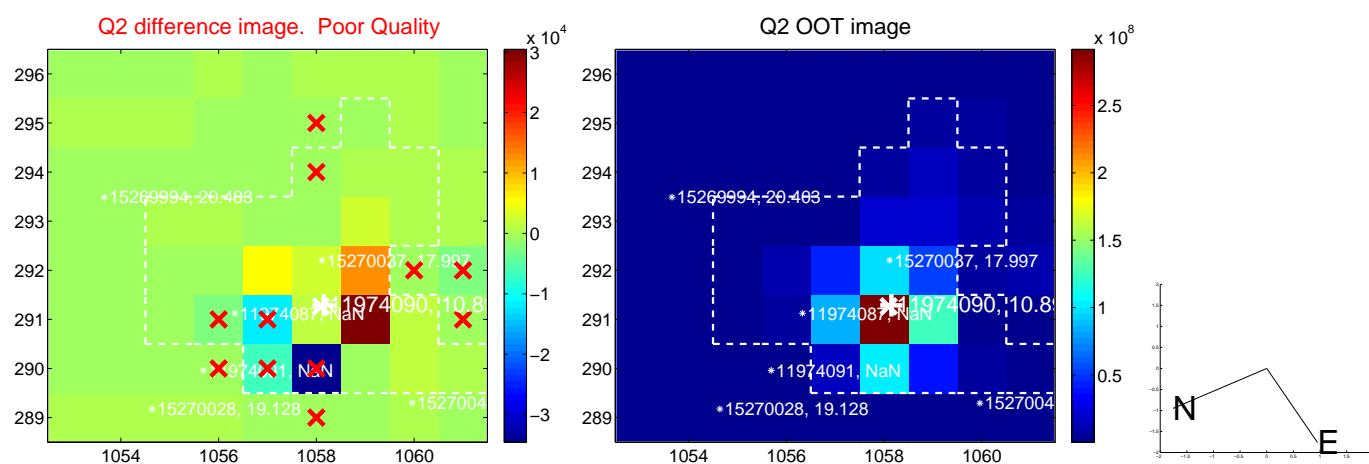
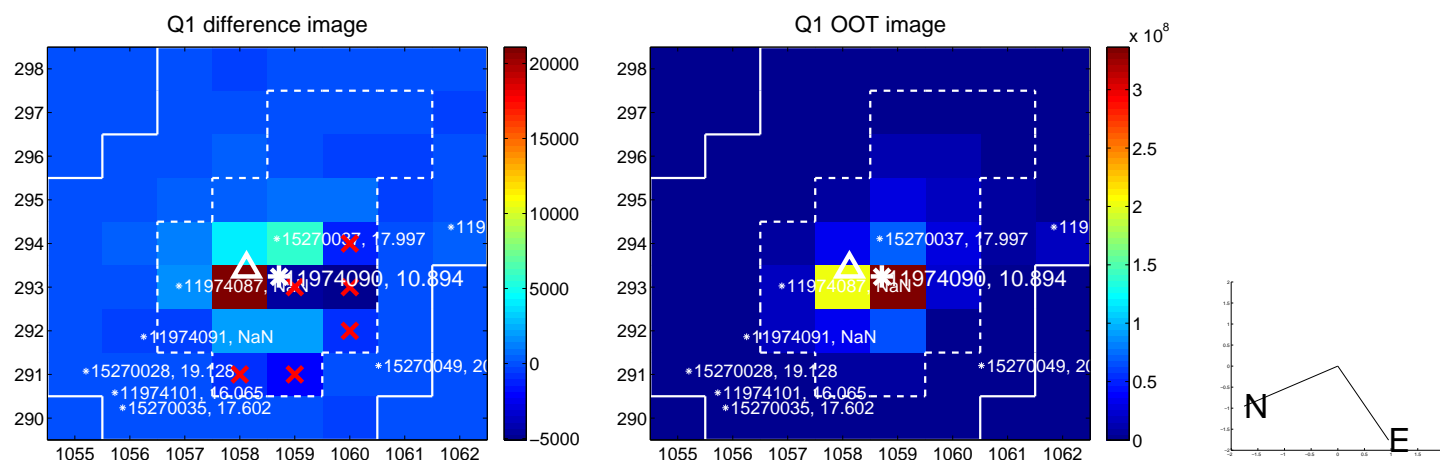
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.124 ± 1.532	0.73	-0.427 ± 1.268	-1.039 ± 1.195
PRF-fit source offset from KIC position	1.183 ± 1.962	0.60	-0.395 ± 1.567	-1.115 ± 1.554
photometric centroid source offset	—	—	—	—

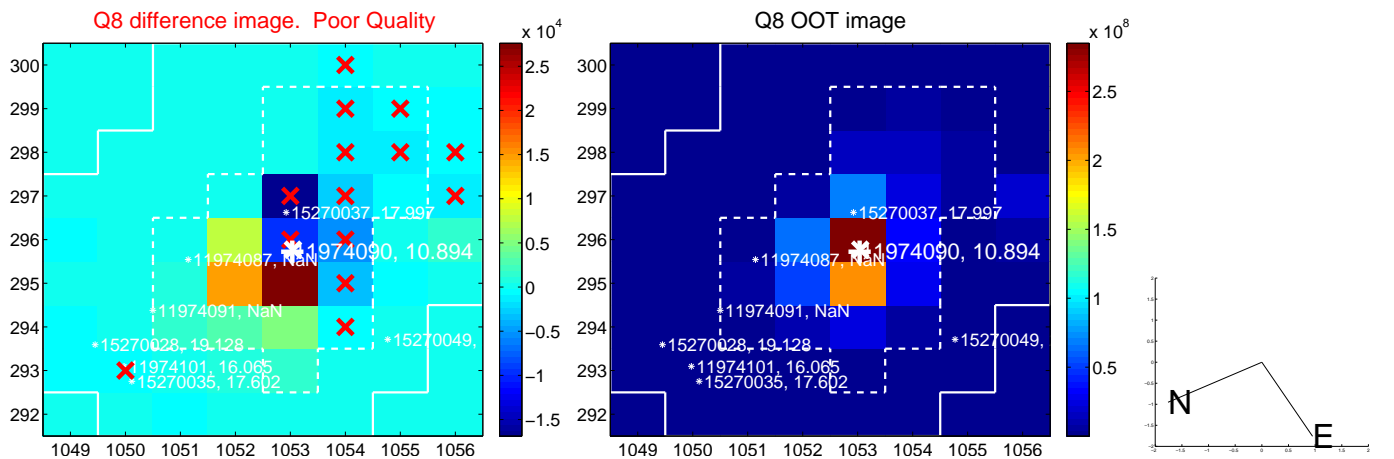
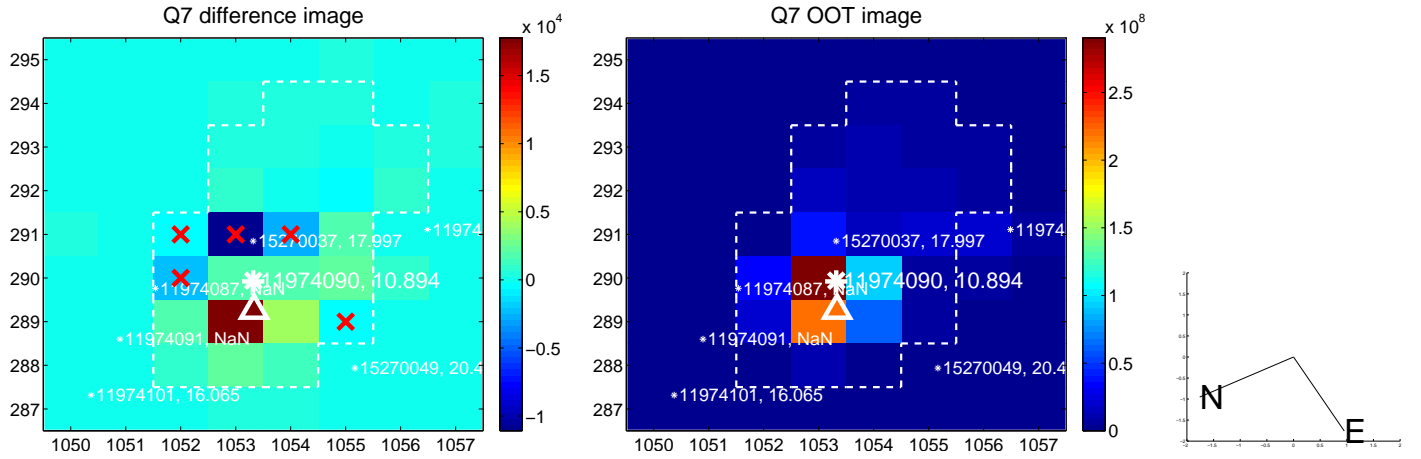
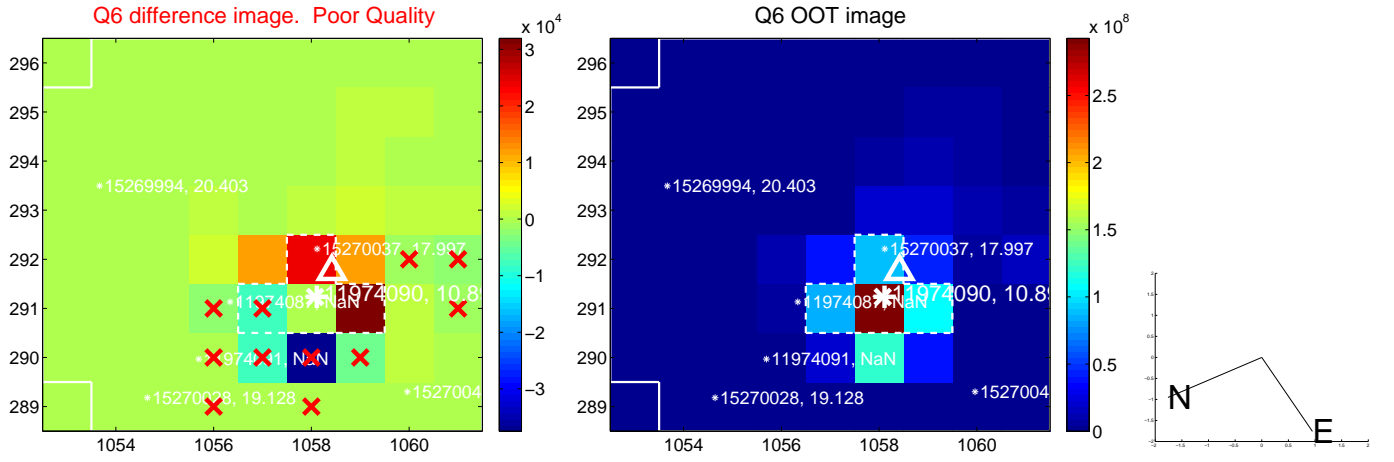
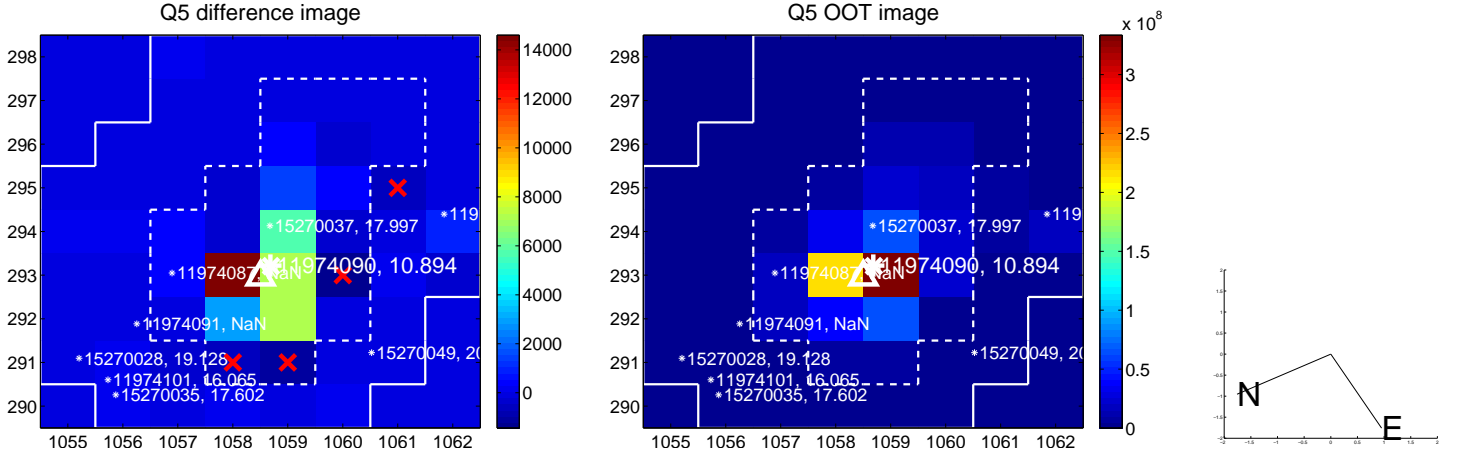


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

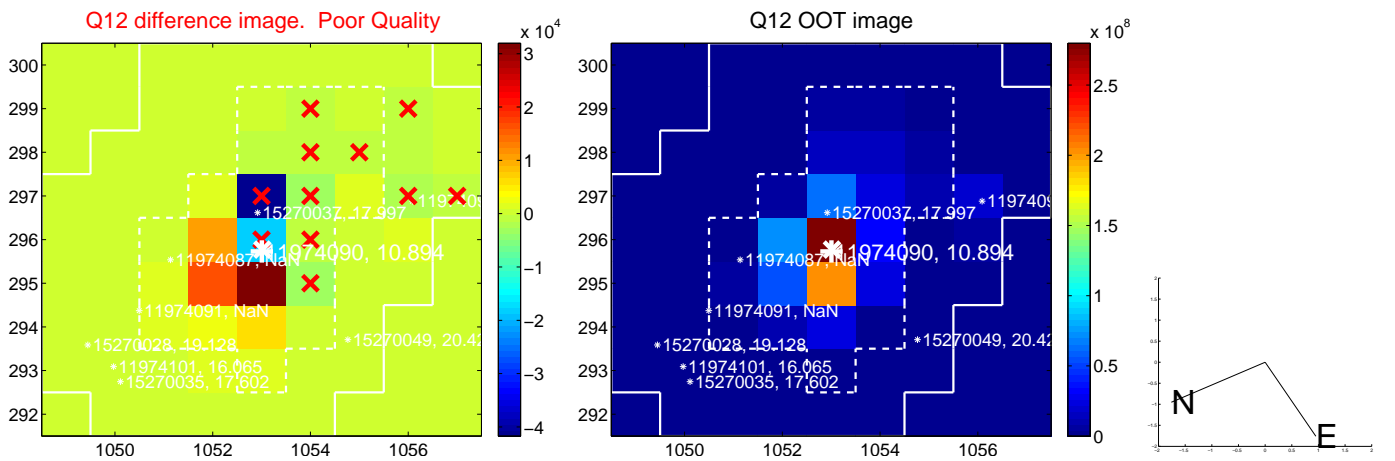
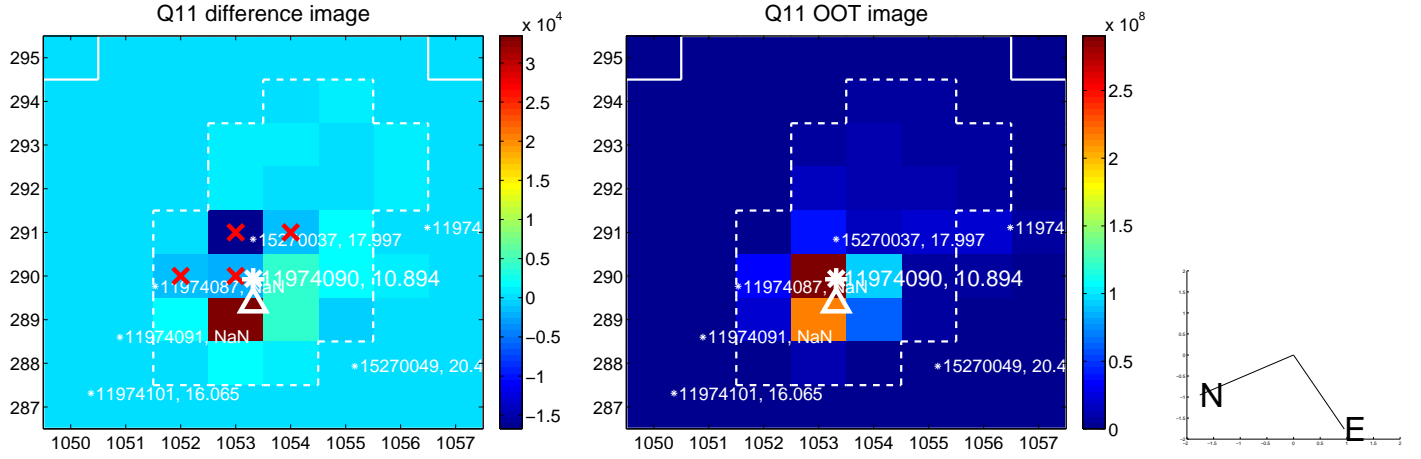
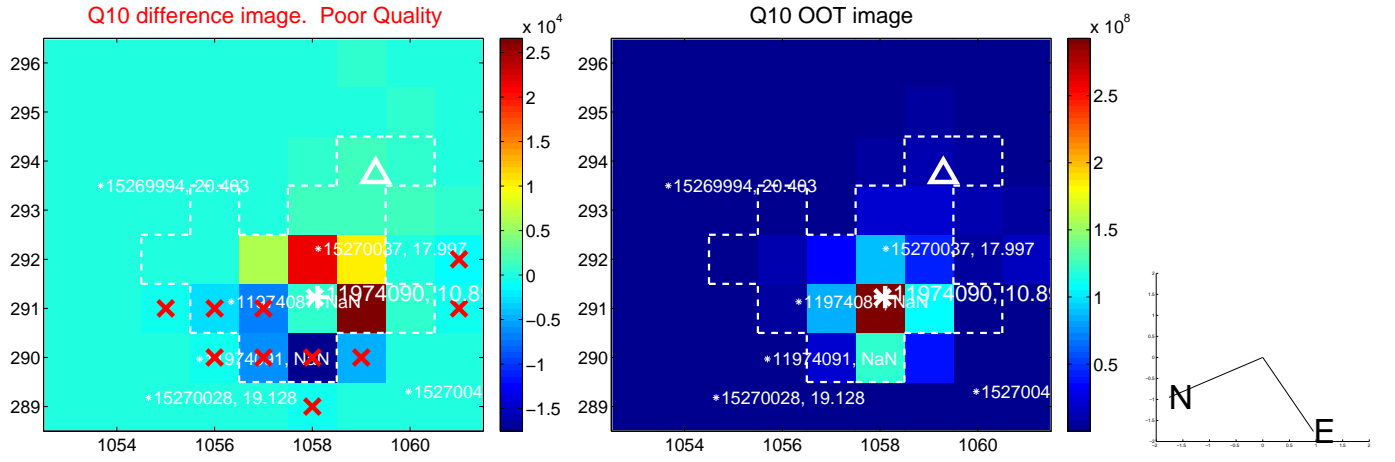
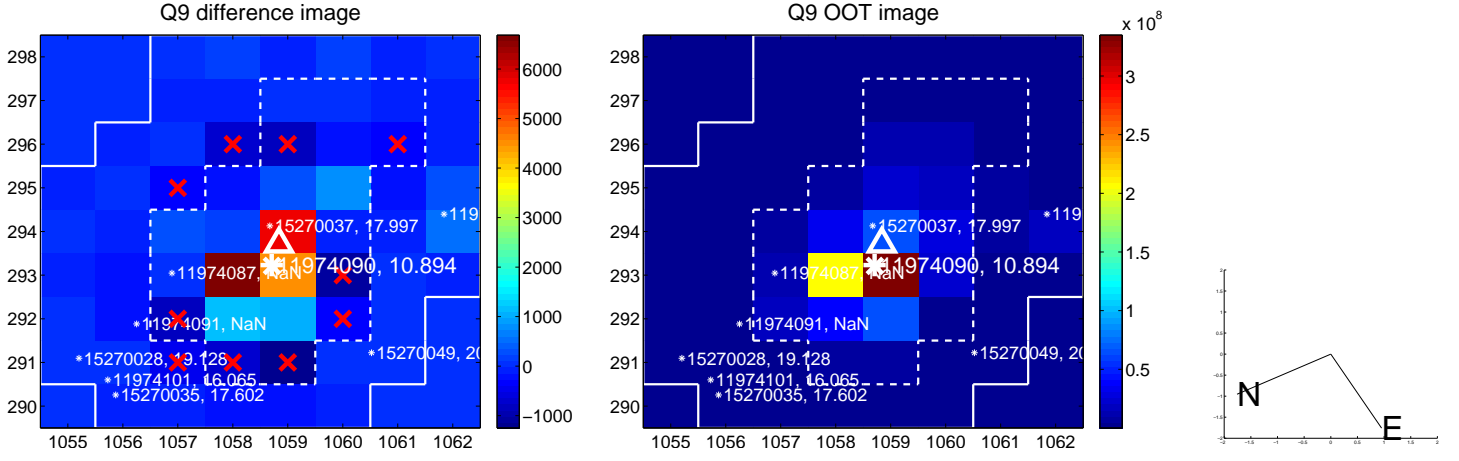
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



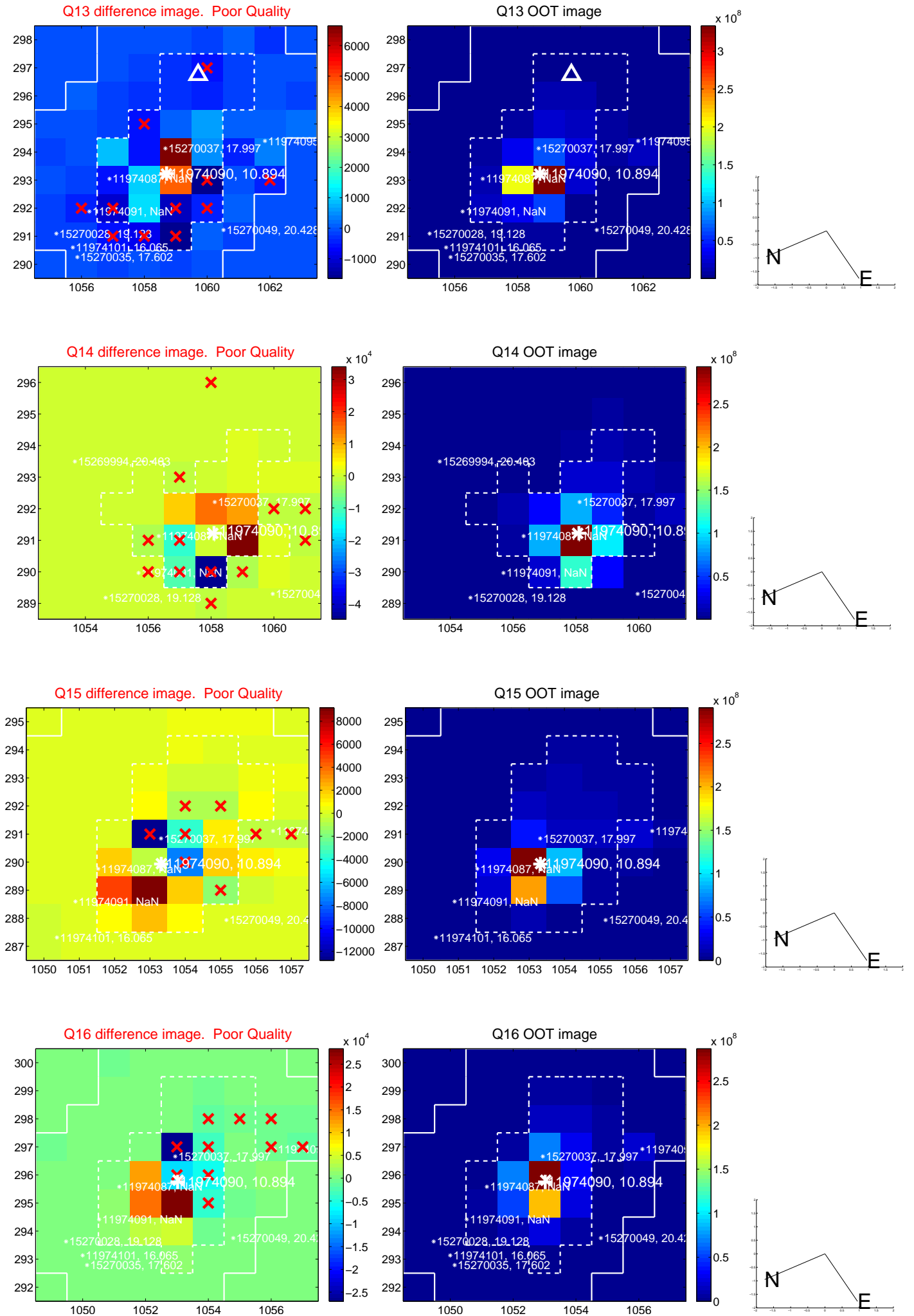
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



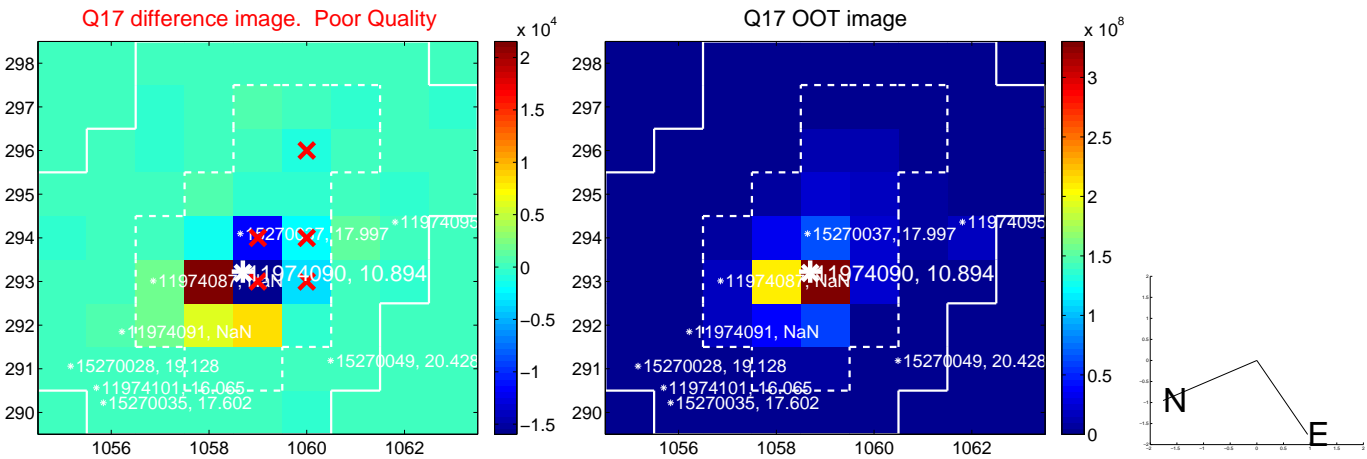
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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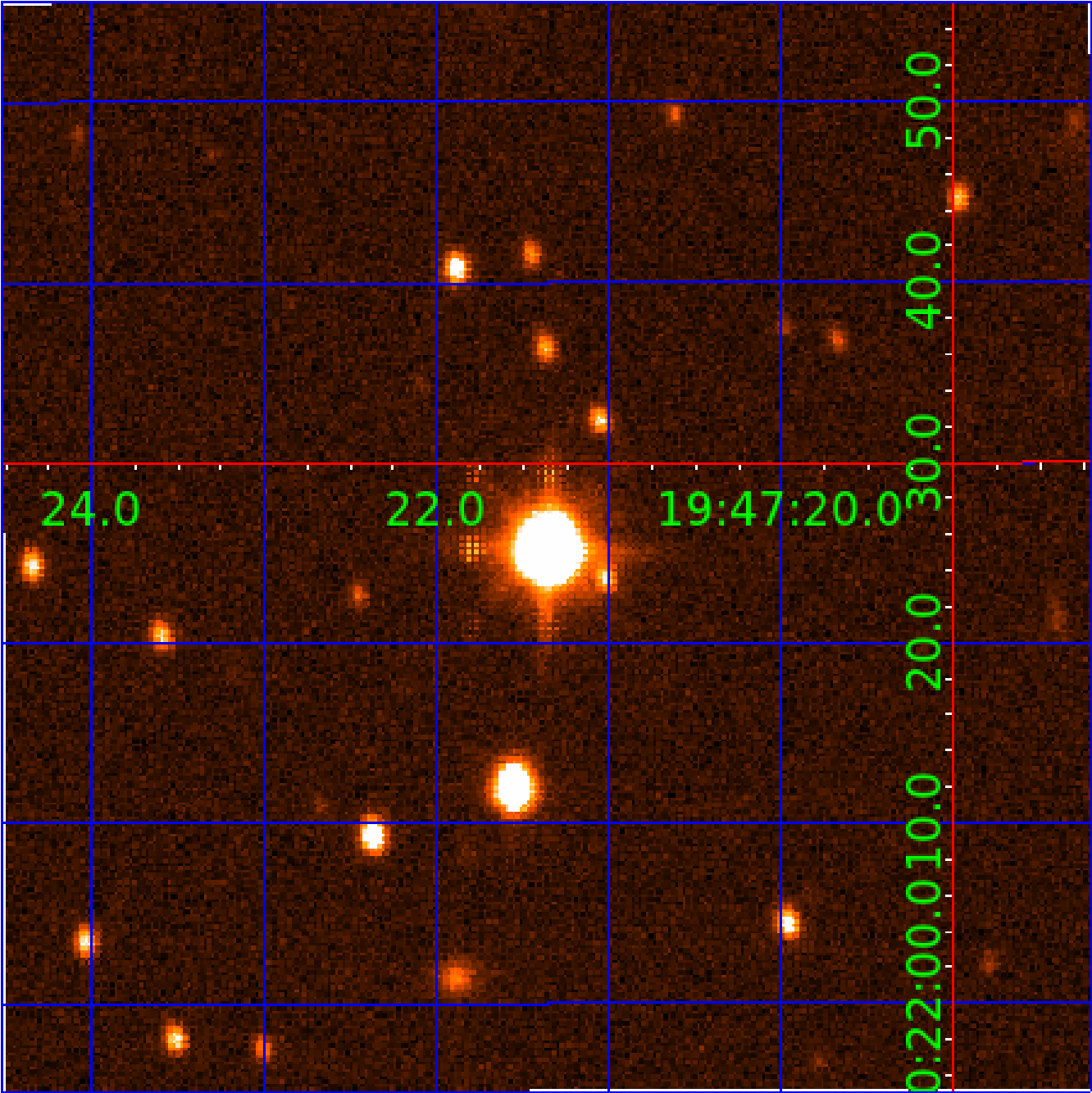
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 011974090

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})
011974090-01	OBS	No	0.750265	131.754870	3.4	5.109	7.1	6.6	2.18	9711	0.42	82306.48
011974090-02	OBS	No	51.321017	143.176180	36.2	3.081	21.3	3.7	2.18	9711	1.52	294.21
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011974090-06	OBS	No	35.052964	134.838259	115.4	6.000	10.0	-1.0	2.18	9711	2.40	489.13
011974090-07	OBS	No	81.622333	181.550535	162.3	2.075	13.0	8.2	2.18	9711	3.18	158.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011974090-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED
011974090-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED—HALO_GHOST
011974090-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011974090-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011974090-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011974090-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED—HALO_GHOST

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

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

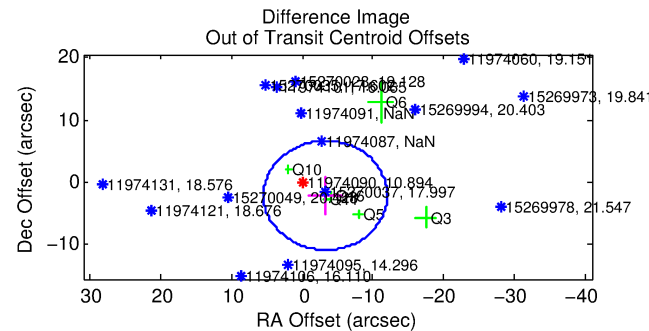
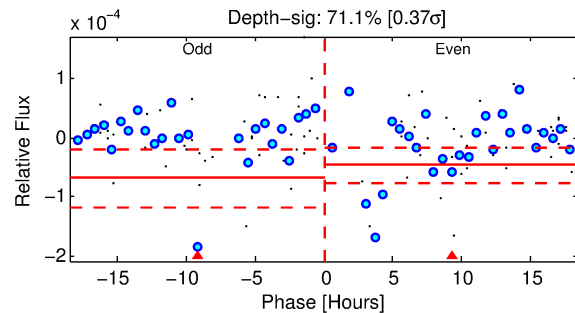
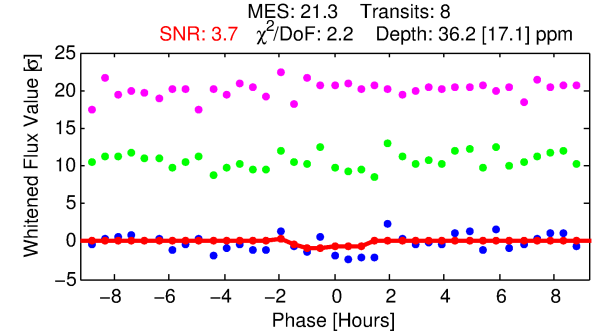
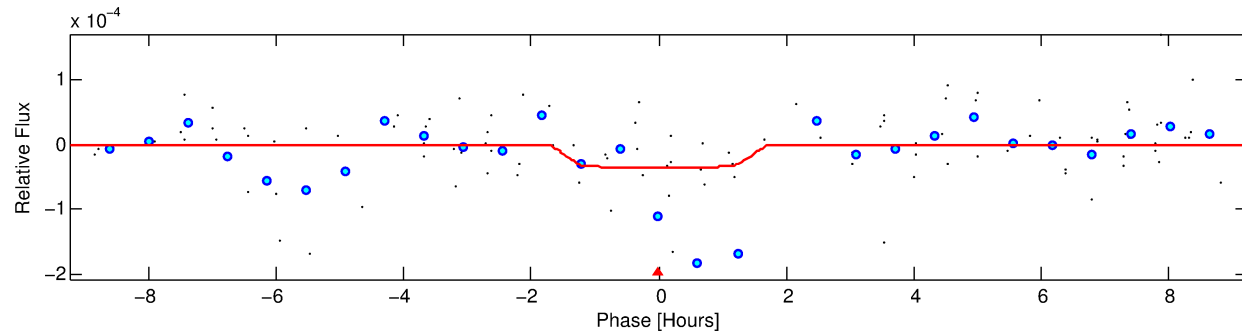
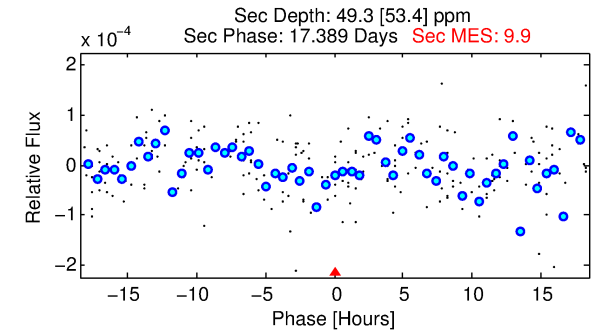
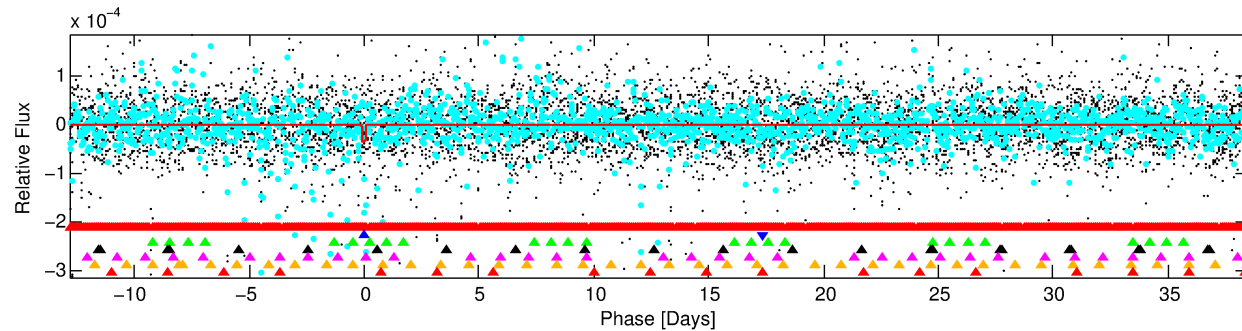
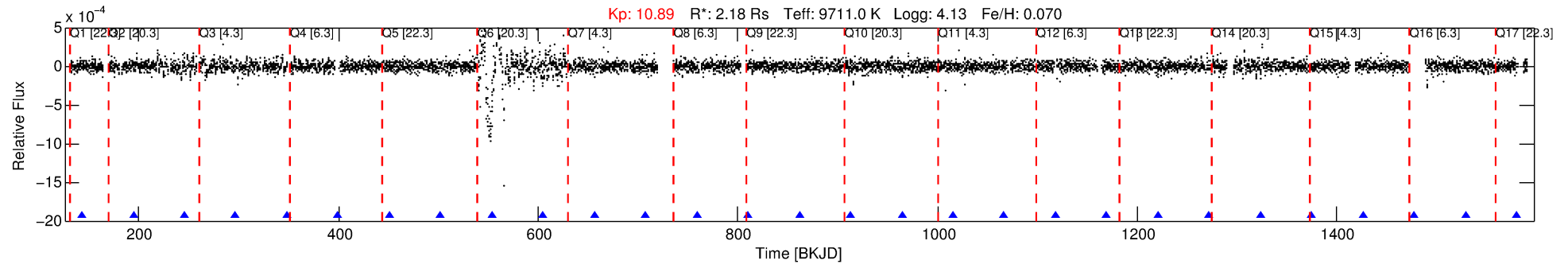
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011974090-02

No Significant Match Found

DV One-Page Summary

KIC: 11974090 Candidate: 2 of 7 Period: 51.321 d



DV Fit Results:

Period = 51.32102 [0.00200] d
Epoch = 143.1762 [0.0331] BKJD
Rp/R* = 0.0064 [0.0201]
a/R* = 54.24 [1371.38]
b = 0.91 [4.76]
Seff = 294.21 [137.02]
Teq = 1056 [123] K
Rp = 1.52 [4.83] Re
a = 0.3589 [0.1150] AU
Ag = 1515.42 [9733.69] [0.16σ]
Teff = 10187 [16329] K [0.56σ]

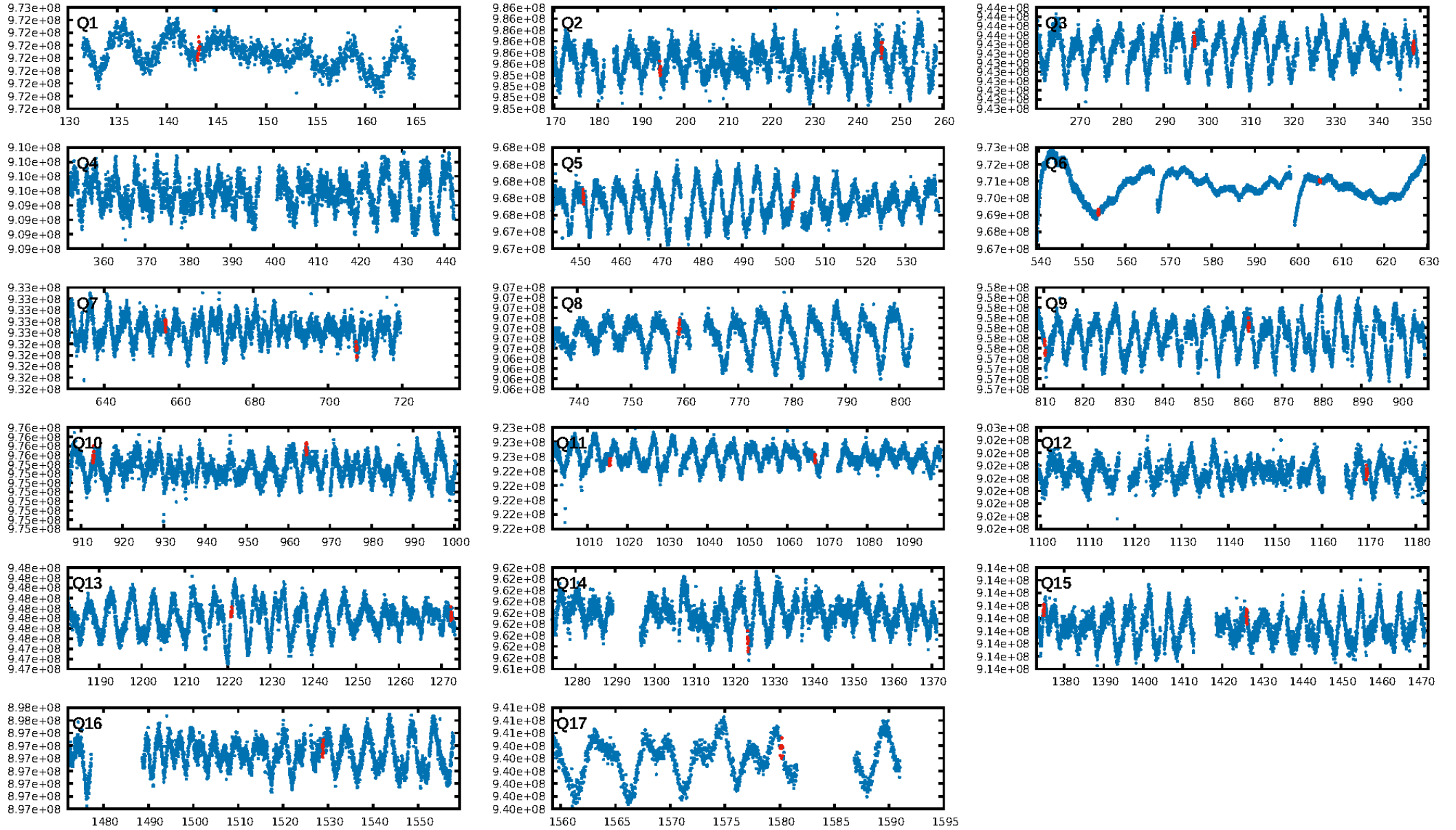
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [42.94σ]
LongPeriod-sig: 100.0% [66.68σ]
ModelChiSquare2-sig: 0.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.58e-55
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: -0.001996
Centroid-sig: 61.0%
Centroid-so: 1.054 arcsec [0.44σ]
OotOffset-rm: 3.890 arcsec [1.33σ]
KicOffset-rm: 3.865 arcsec [1.56σ]
OotOffset-st: 2/2/1/1 [6]
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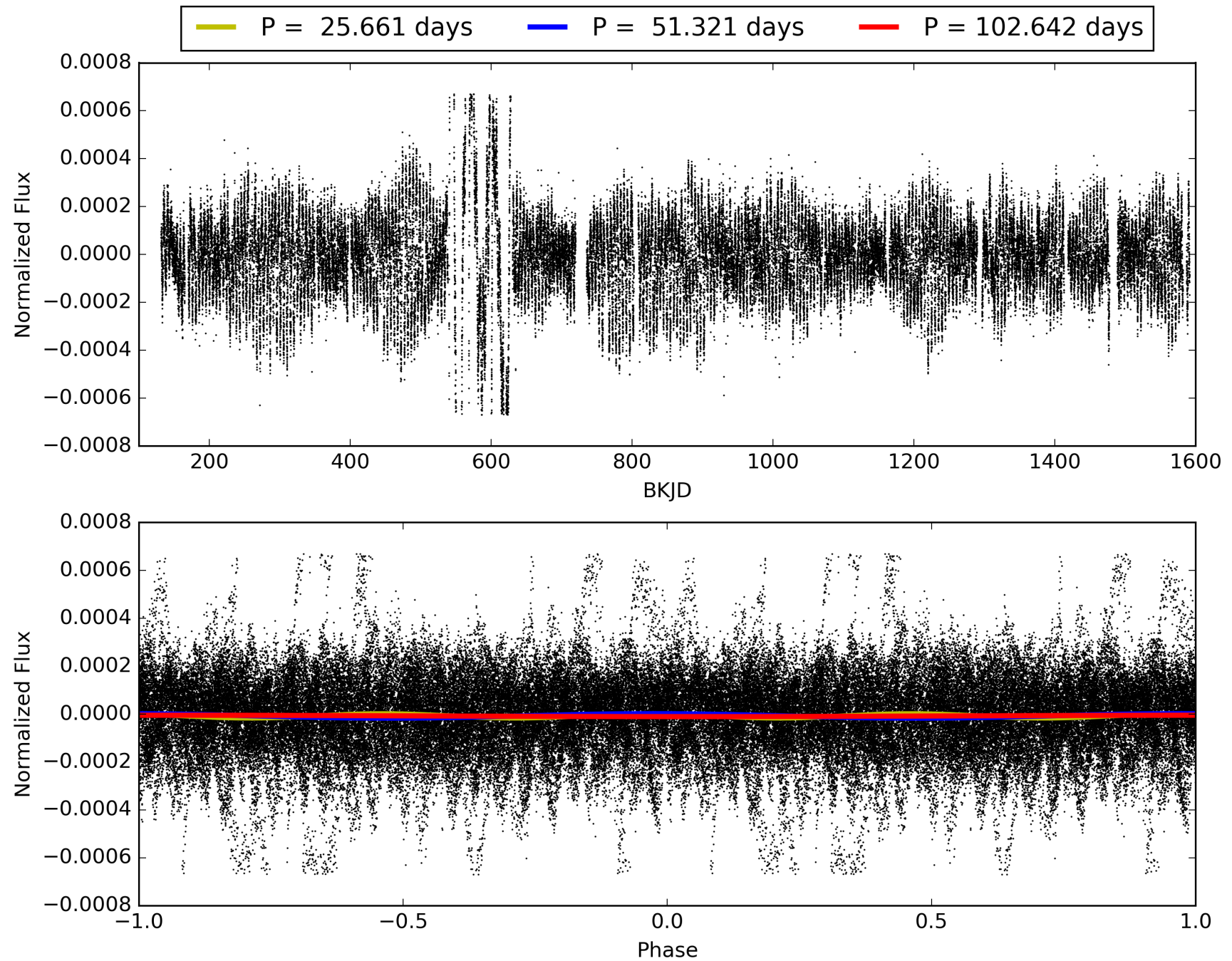
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:41:46 Z

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

TCE 011974090-02, PDC Light Curves

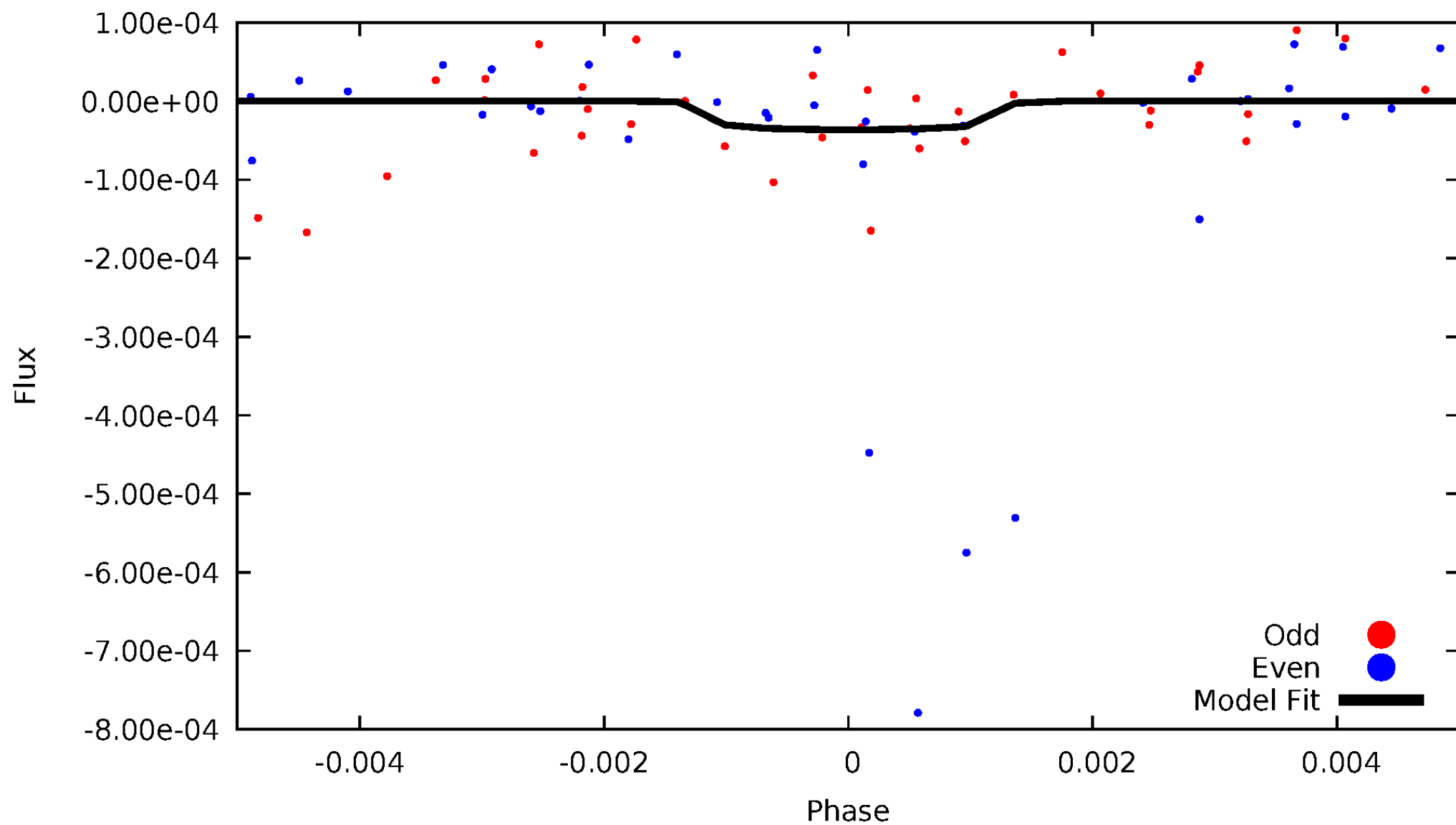


TCE 011974090-02



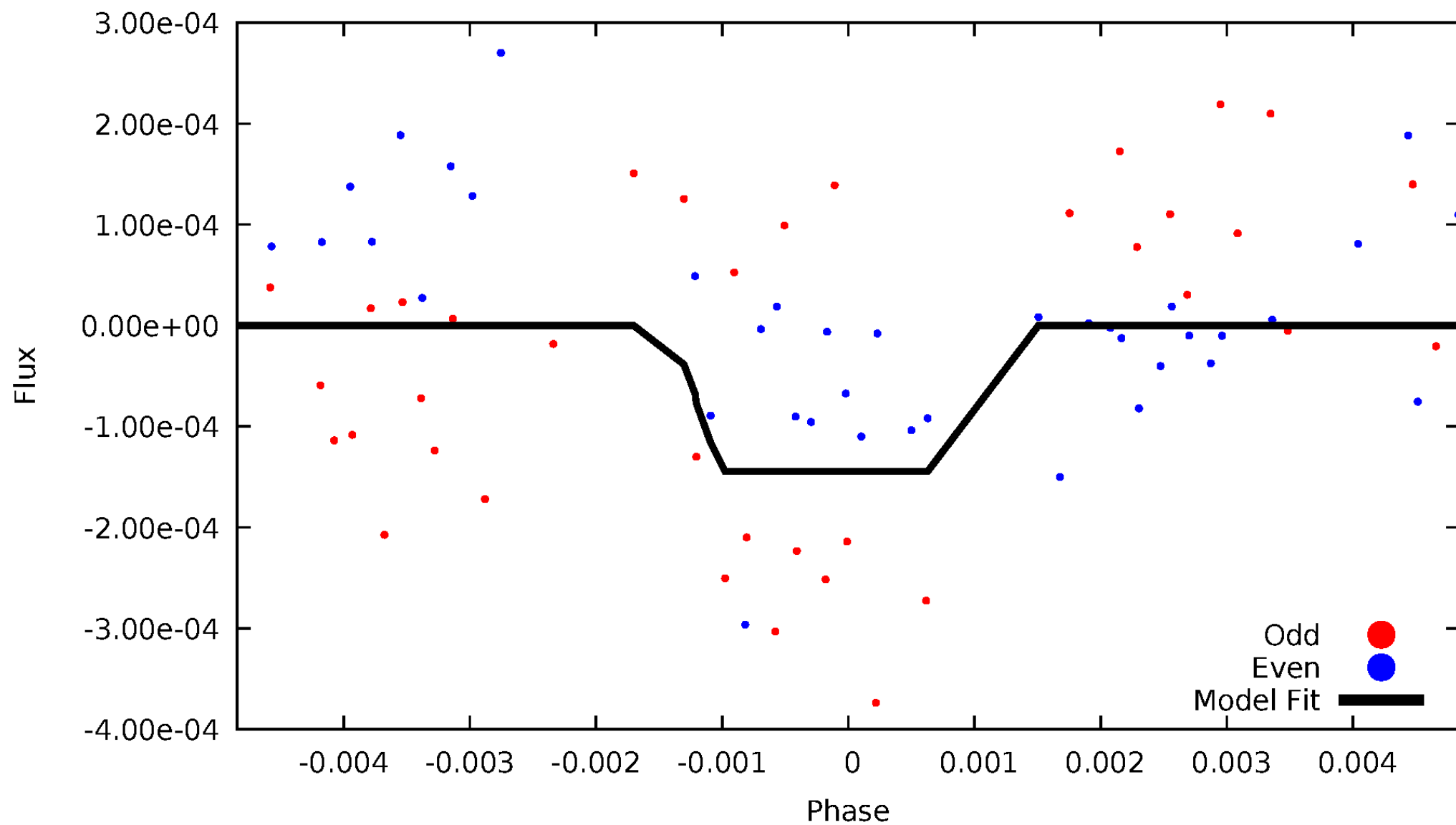
DV Odd/Even

TCE 011974090-02



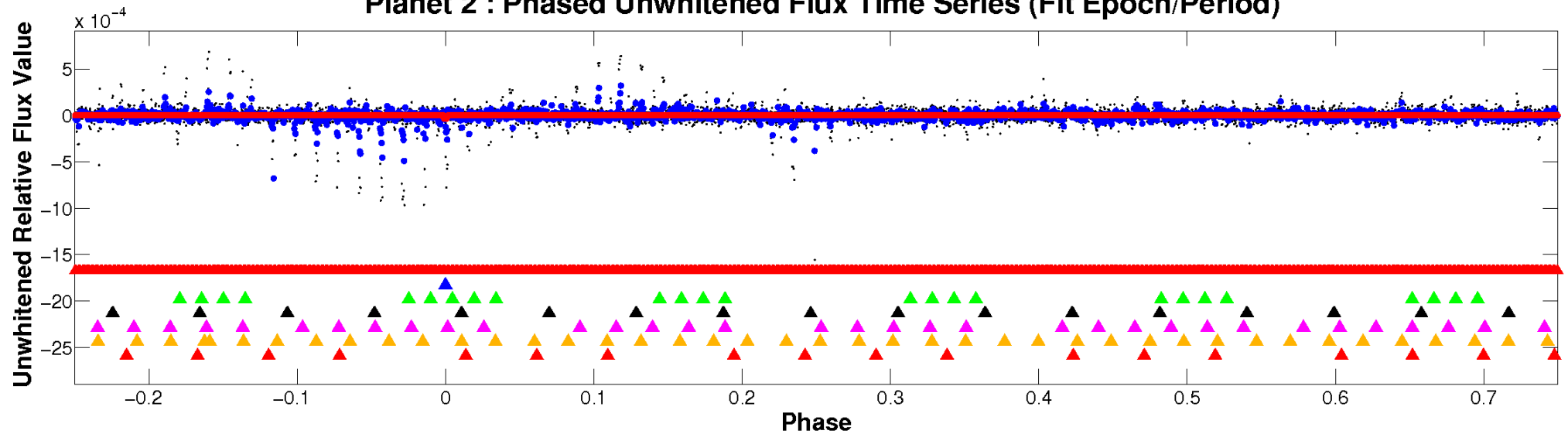
ALT Odd/Even

TCE 011974090-02

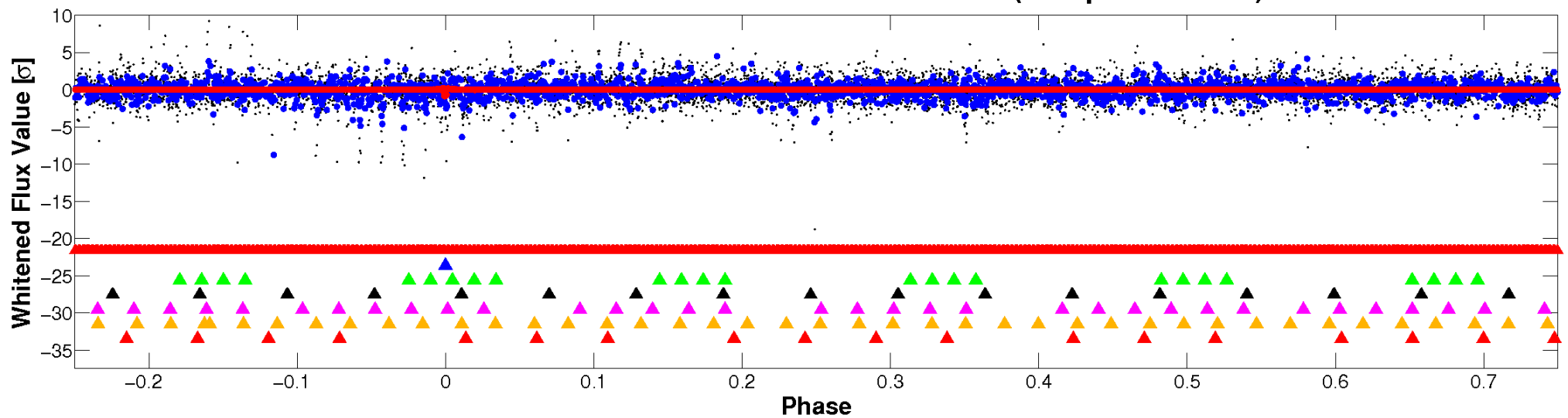


Non-Whitened Vs. Whitened Light Curve

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

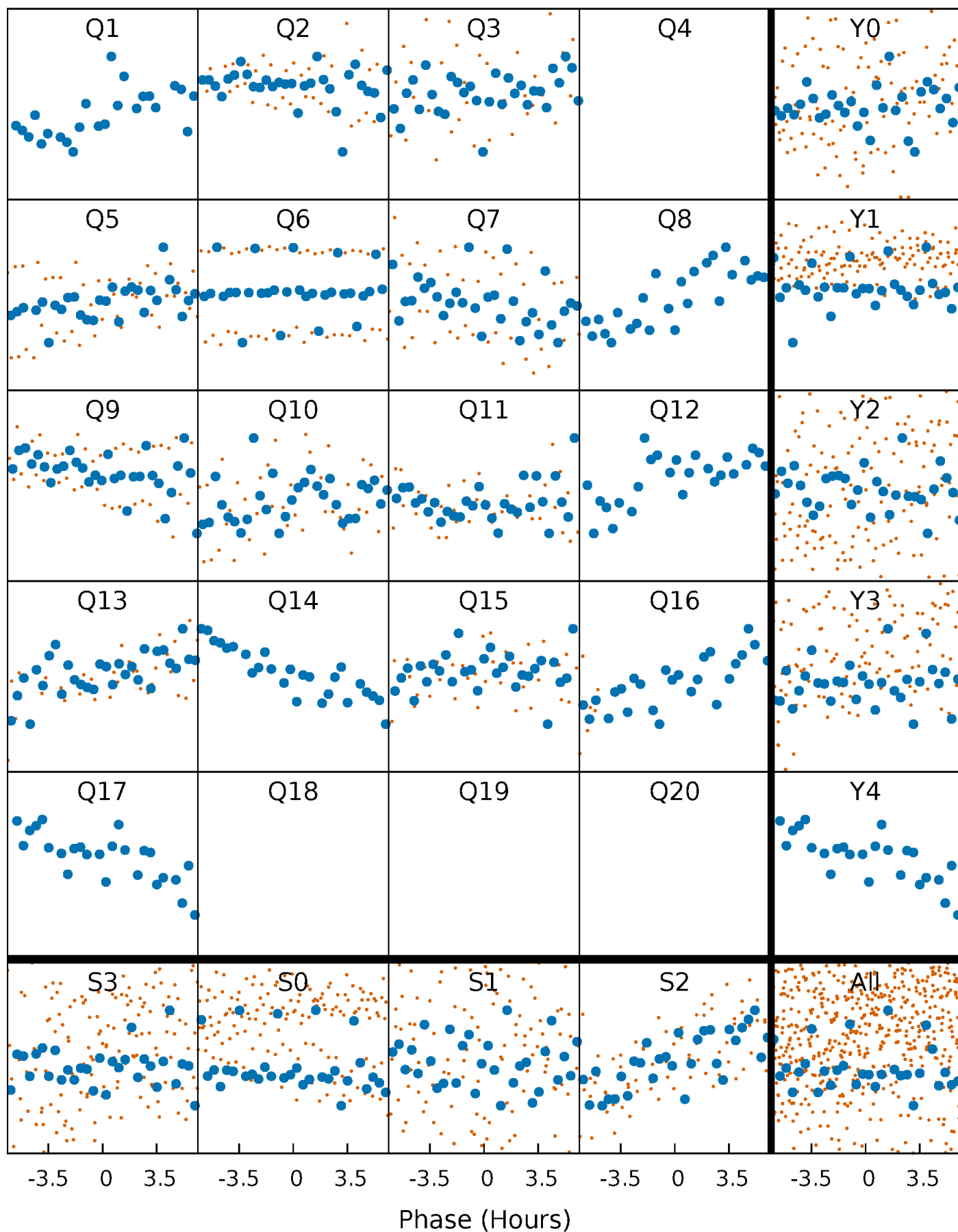


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



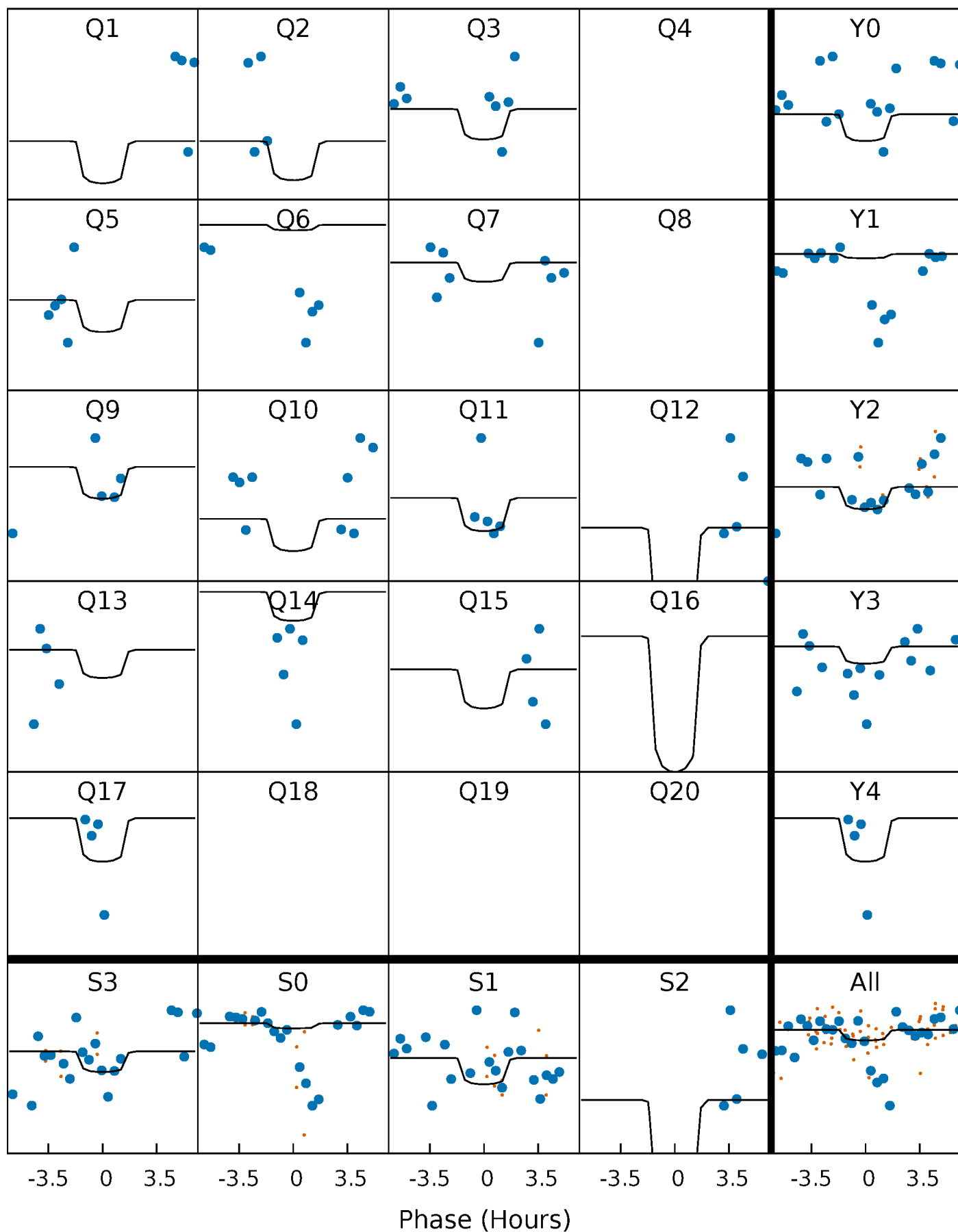
PDC Quarter-Phased Transit Curves

TCE 011974090-02 P= 51.321017 Days $T_0=143.176180$ (BKJD)



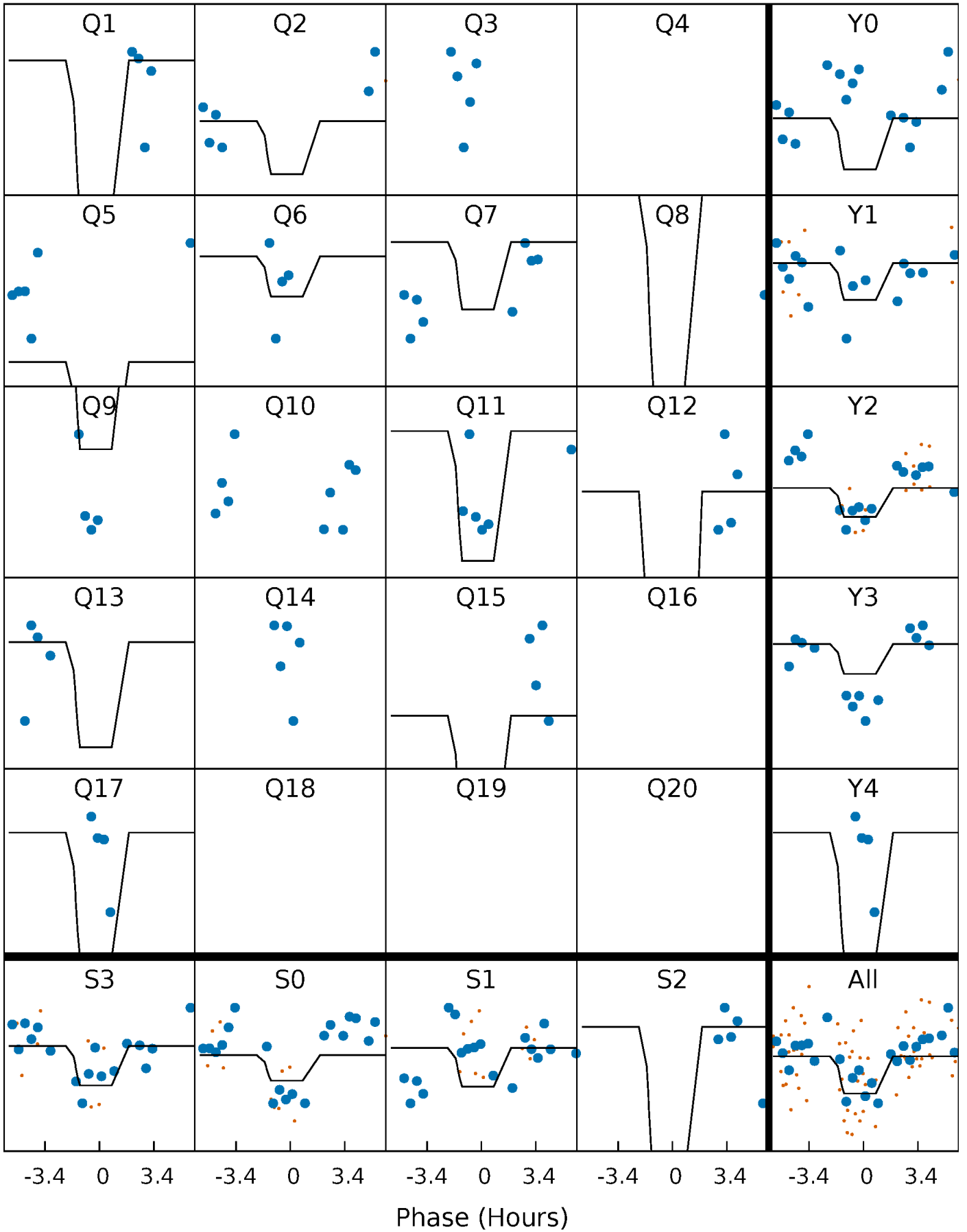
DV Quarter-Phased Transit Curves

TCE 011974090-02 P= 51.321017 Days $T_0=143.176180$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

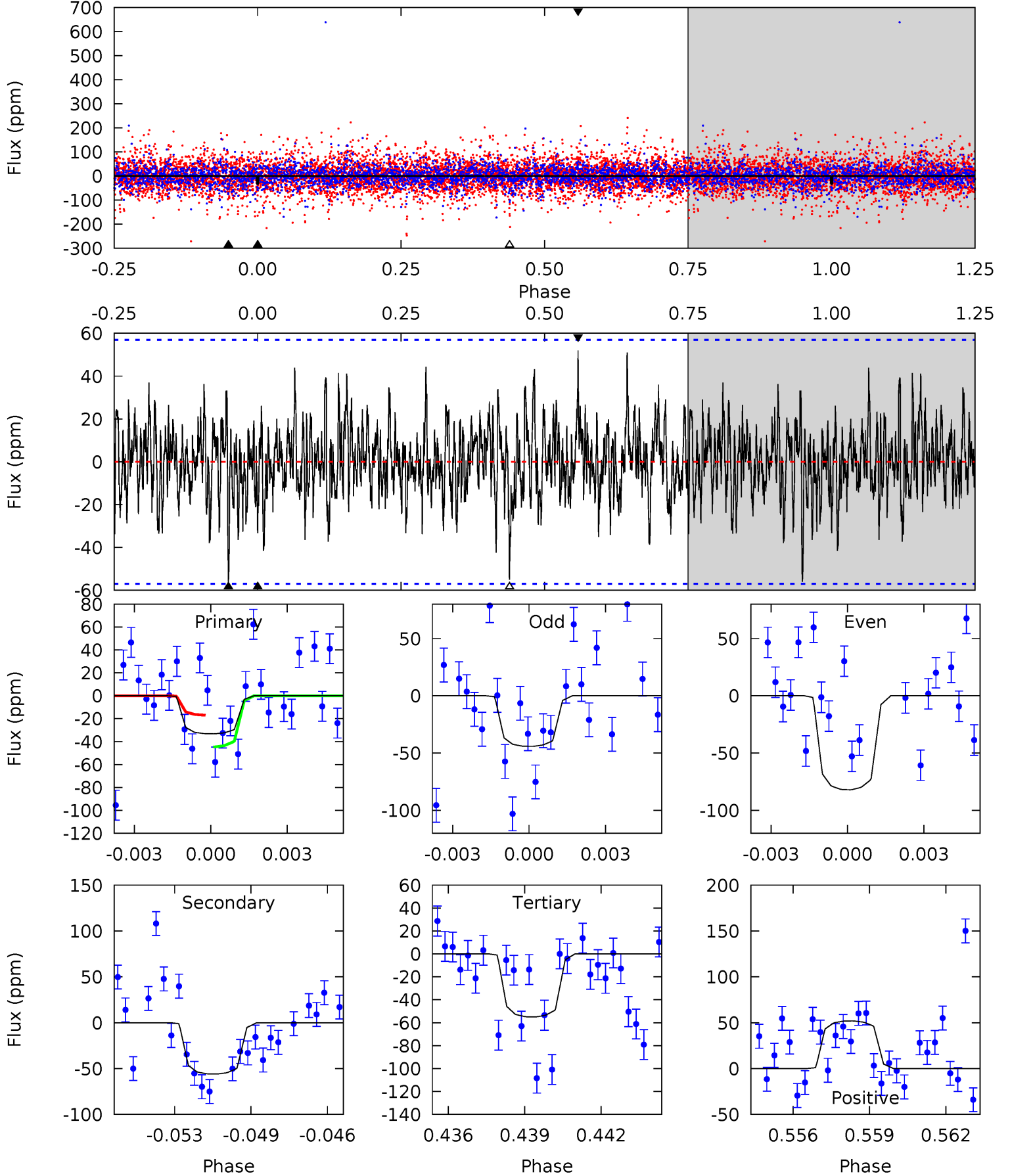
TCE 011974090-02 P= 51.316156 Days $T_0=143.286218$ (BKJD)



DV Model-Shift Uniqueness Test

011974090-02, P = 51.321017 Days, E = 91.855163 Days

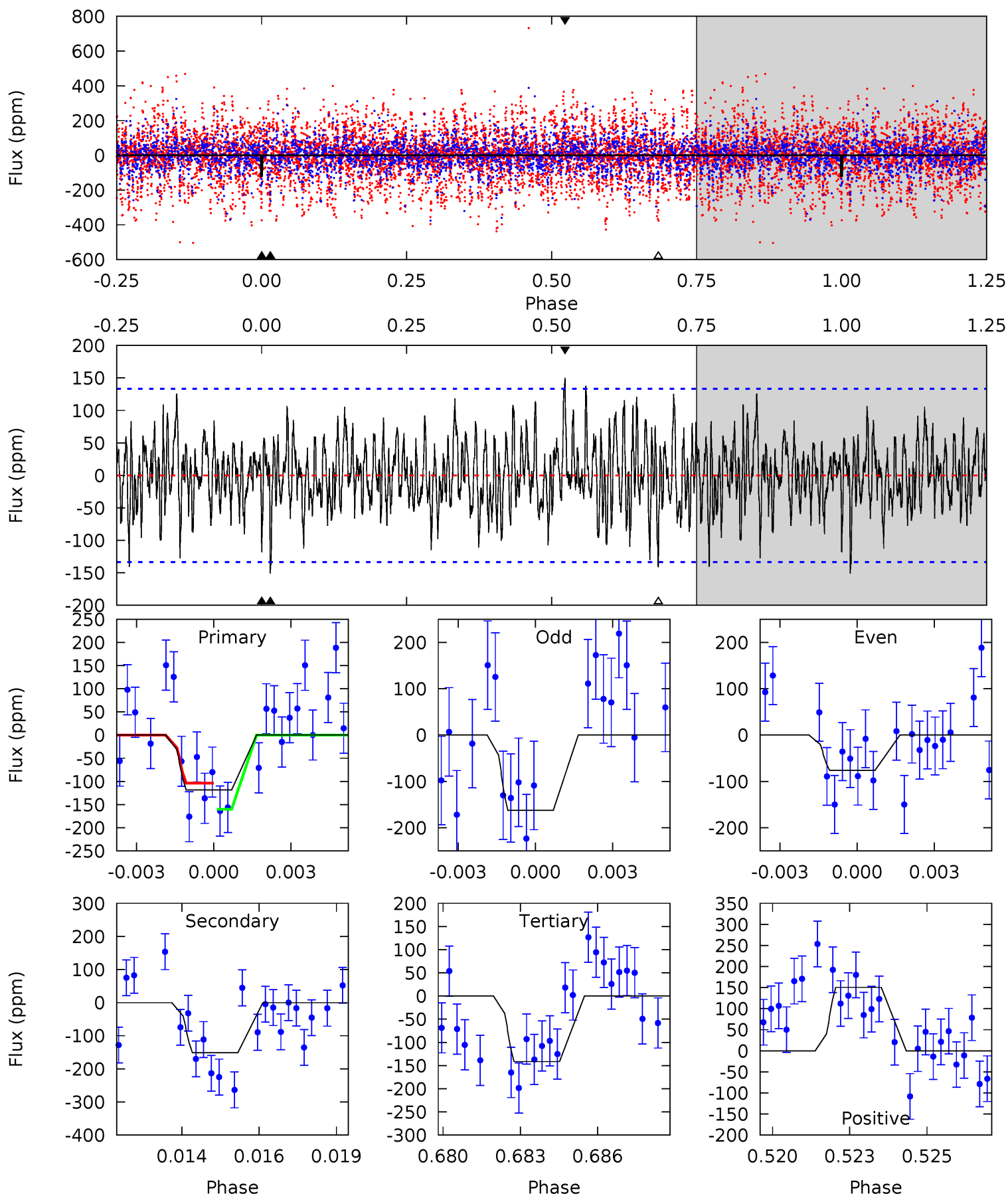
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.06	5.16	5.07	4.78	5.25	2.96	1.34	-2.01	-1.73	0.09	0.38	1.33	6.35	0.48	1.28



Alt Model-Shift Uniqueness Test

011974090-02, P = 51.316156 Days, E = 91.970062 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.67	5.96	5.58	5.94	5.27	3.00	1.81	-0.91	-1.26	0.38	0.03	1.67	0.99	0.50	0.97



Stellar Parameters For KIC 011974090

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	9711^{+306}_{-443}	$4.130^{+0.175}_{-0.214}$	$0.070^{+0.150}_{-0.600}$	$2.181^{+0.900}_{-0.600}$	$2.338^{+0.415}_{-0.622}$	$0.318^{+0.319}_{-0.180}$
	+3%/-5%	+4%/-5%	+214%/-857%	+41%/-28%	+18%/-27%	+100%/-57%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011974090-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-56 ± 11	$3.83^{+3.74}_{-2.57}$	1479^{+126}_{-120}	6170^{+6519}_{-1660}	261^{+2219}_{-195}
Alt.	-151 ± 25	$4.77^{+4.31}_{-3.09}$	1477^{+147}_{-115}	7187^{+8246}_{-2030}	460^{+3181}_{-339}

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

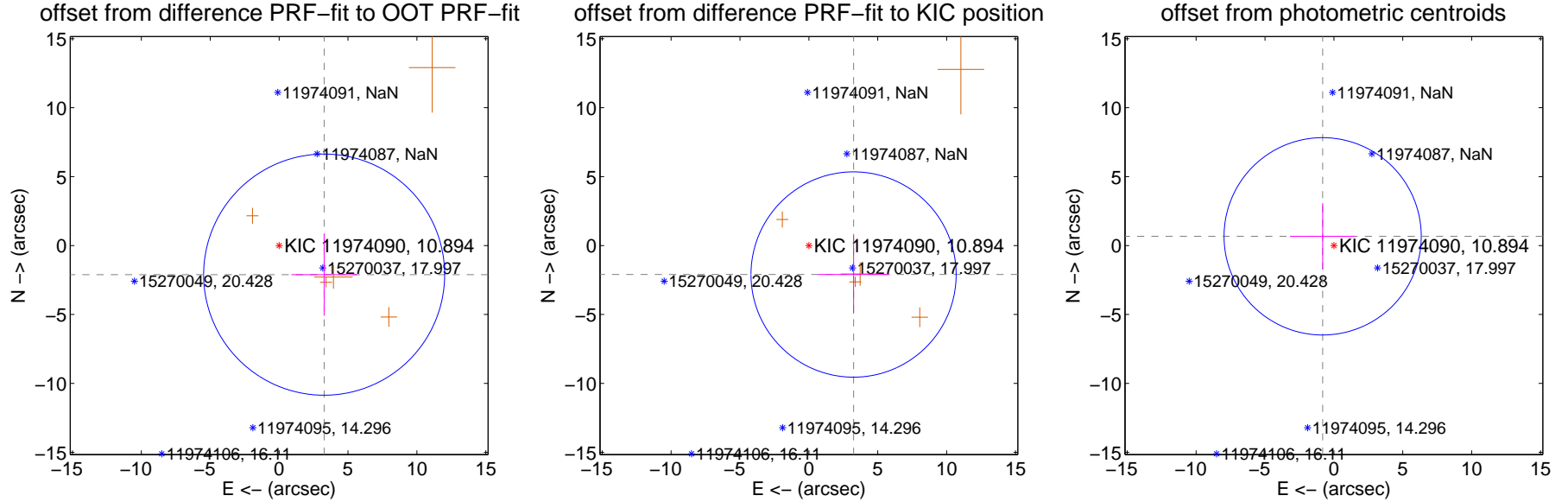
DV Centroid Data

Supplemental centroid analysis for 011974090-02. **Kepler magnitude: 10.89.** Transit SNR 3.75

There are 0 quarters with good PRF difference image offsets

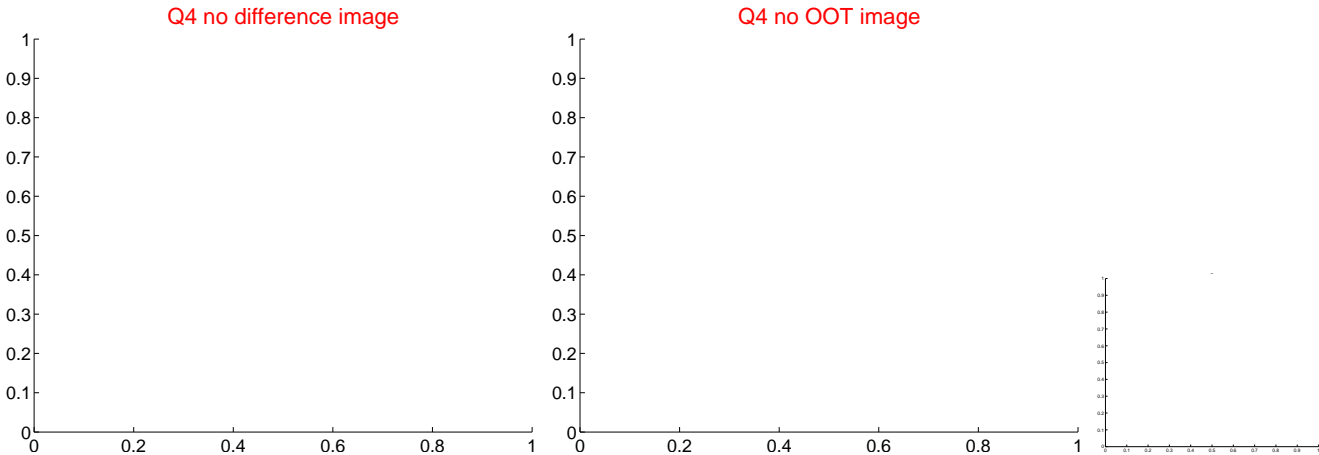
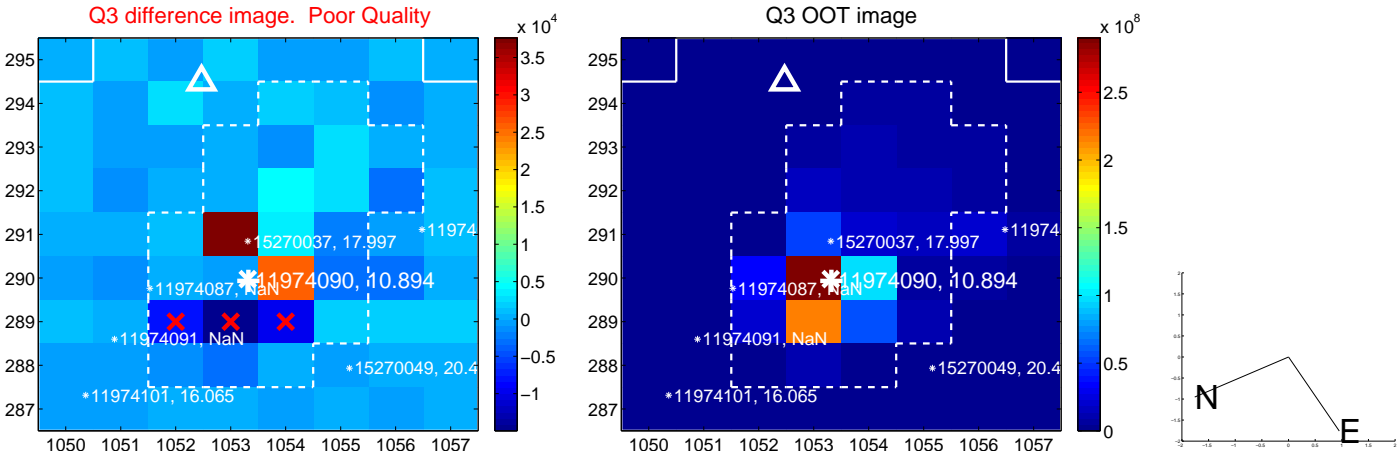
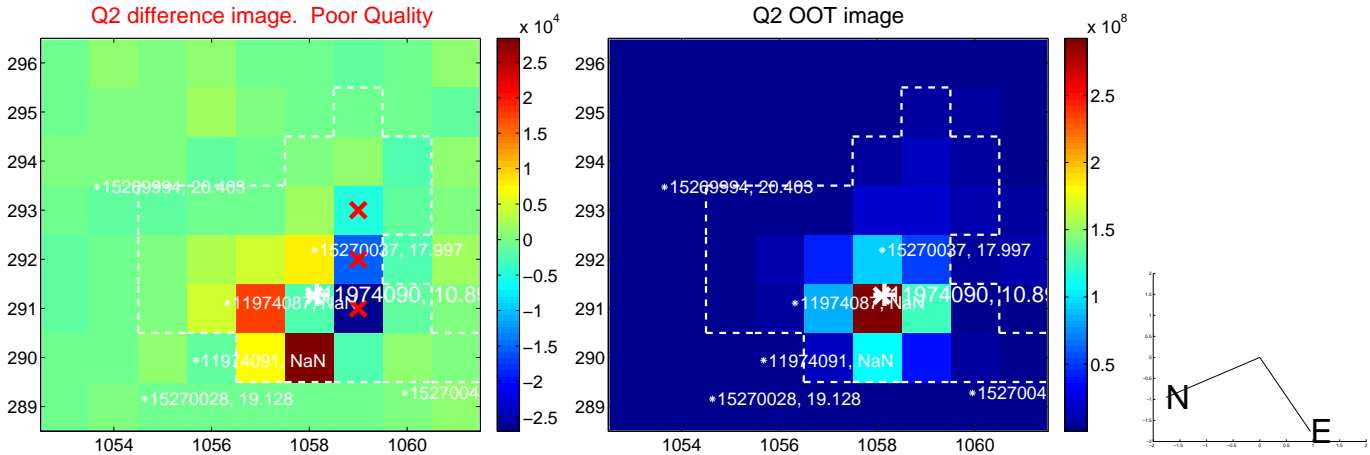
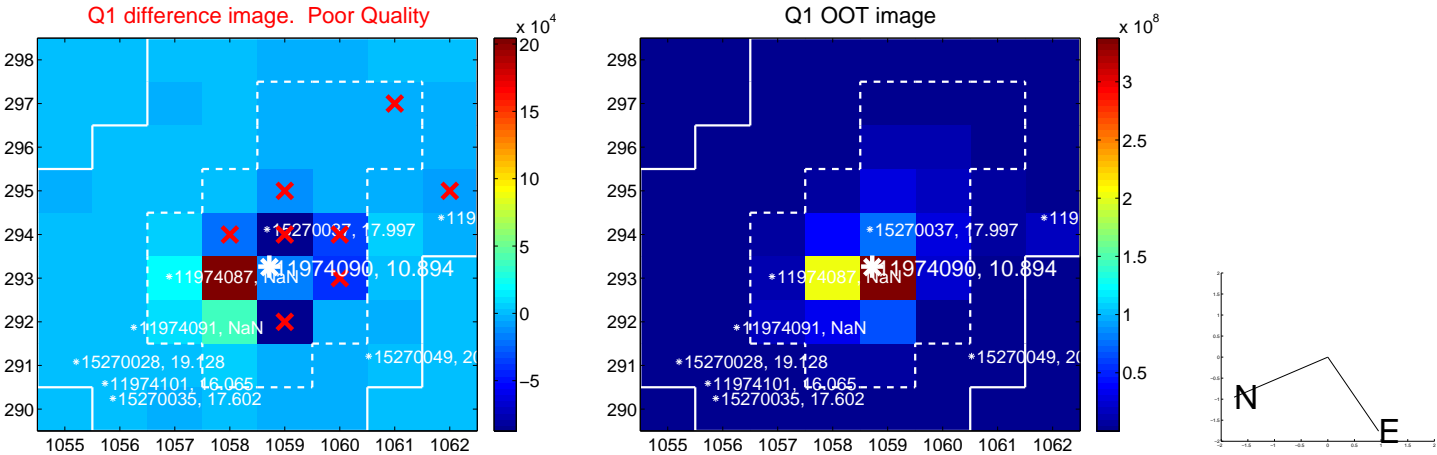
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.890 ± 2.915	1.33	-3.267 ± 2.384	-2.111 ± 2.979
PRF-fit source offset from KIC position	3.865 ± 2.482	1.56	-3.244 ± 2.583	-2.102 ± 2.841
photometric centroid source offset	1.05 ± 2.39	0.44	0.82 ± 2.36	0.67 ± 2.42

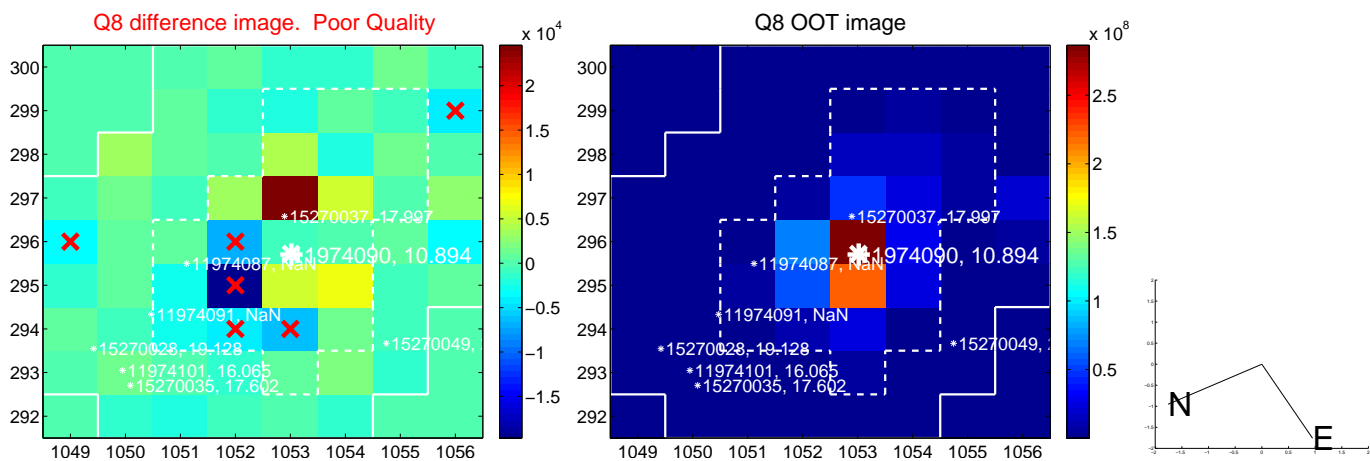
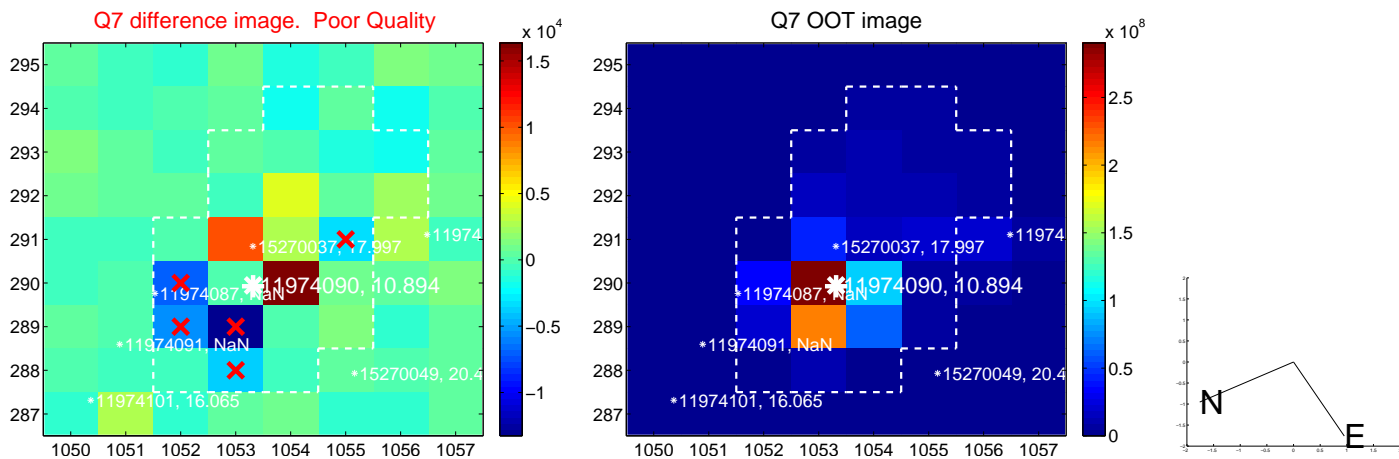
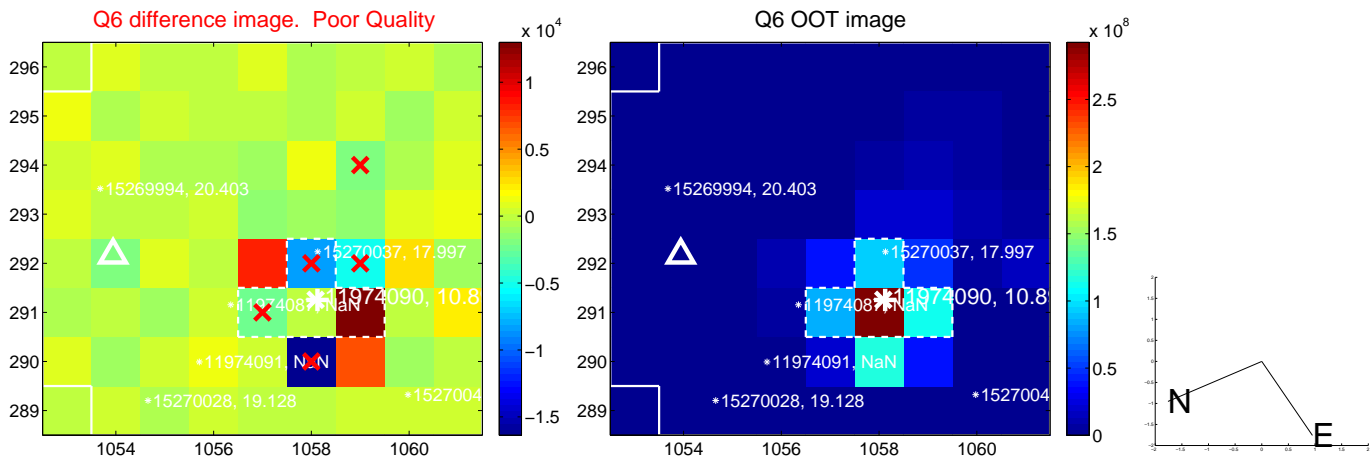
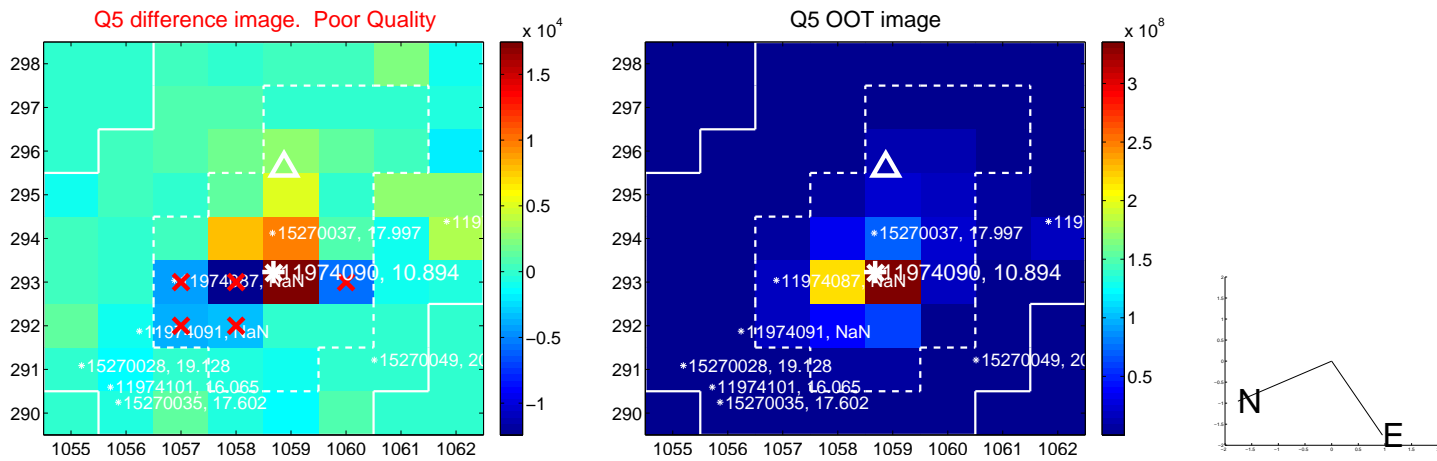


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

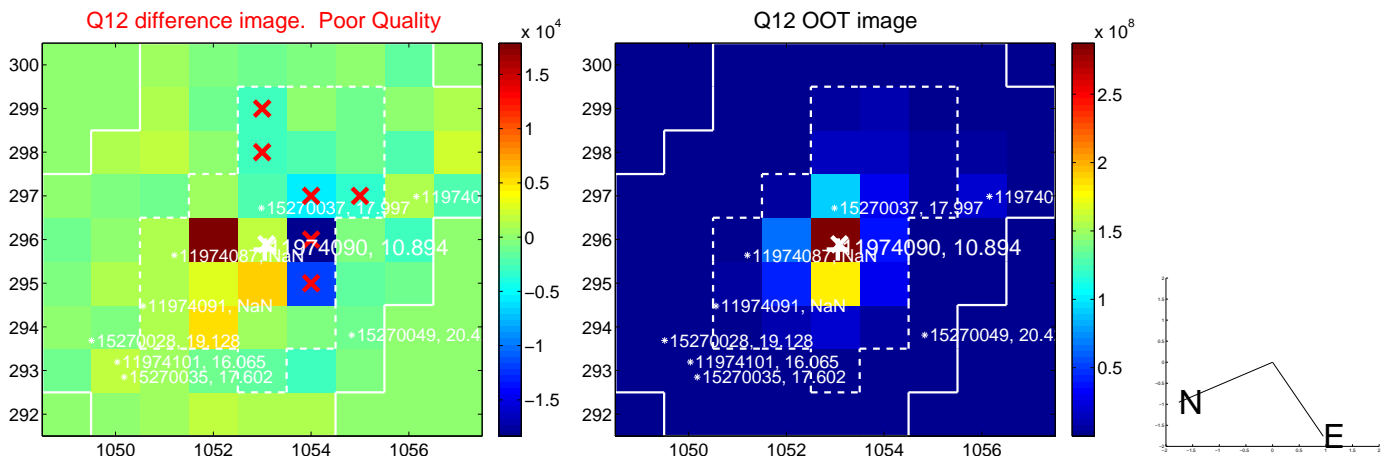
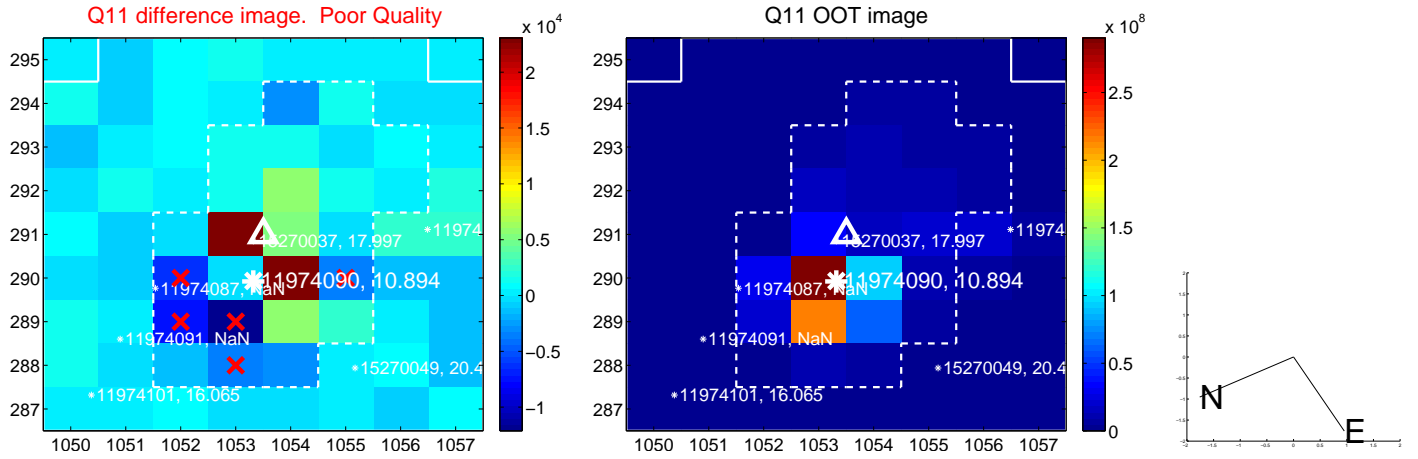
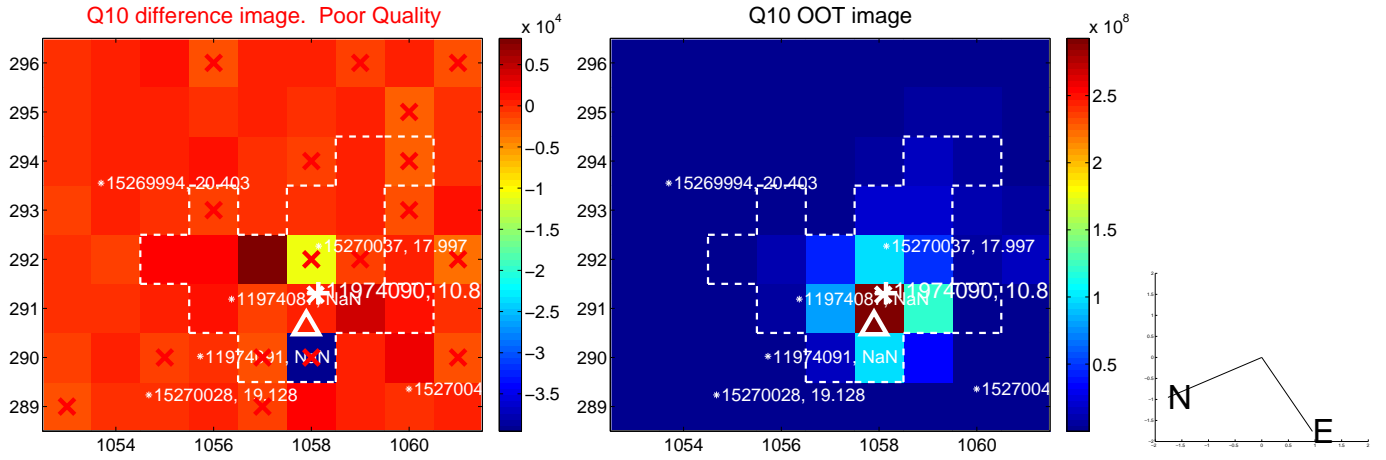
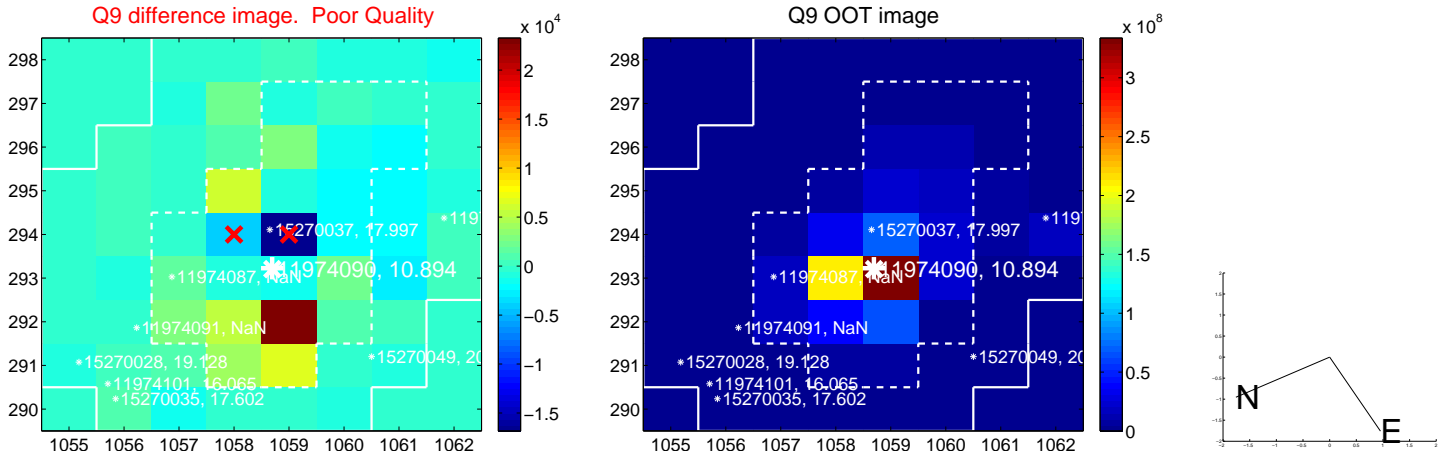
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



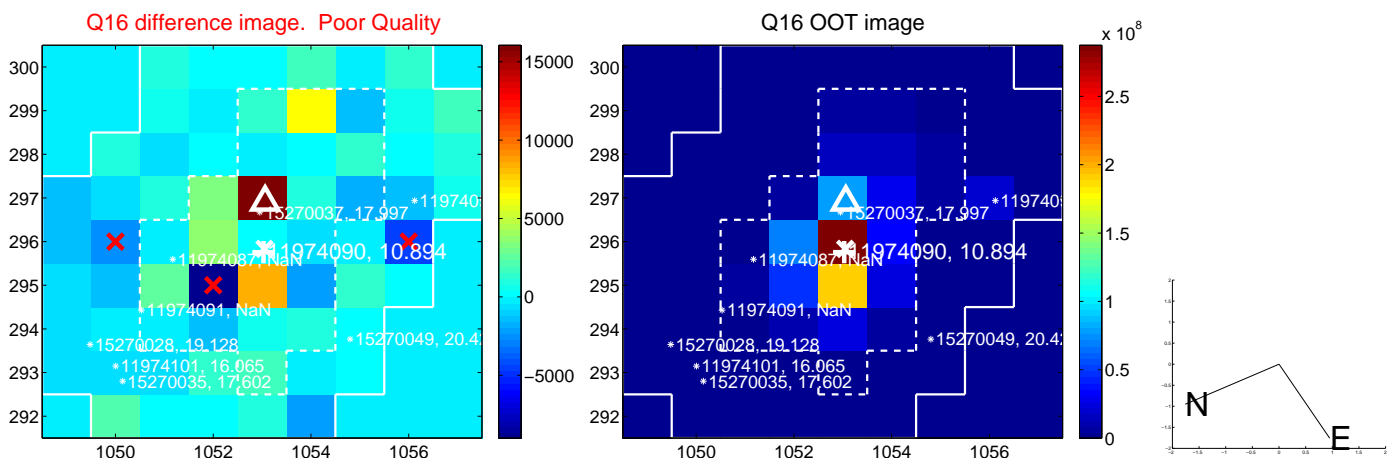
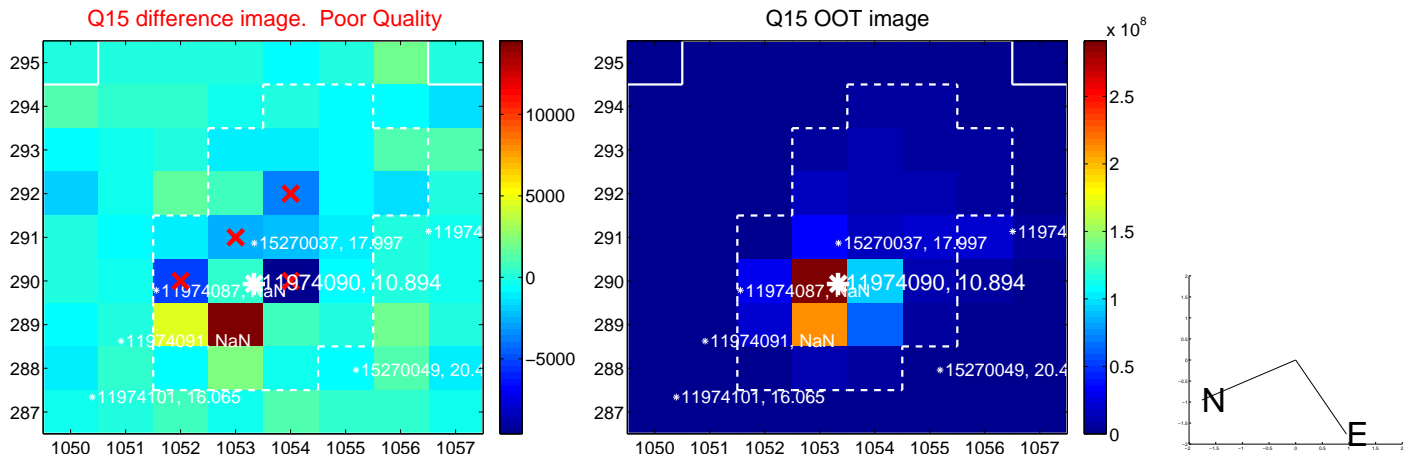
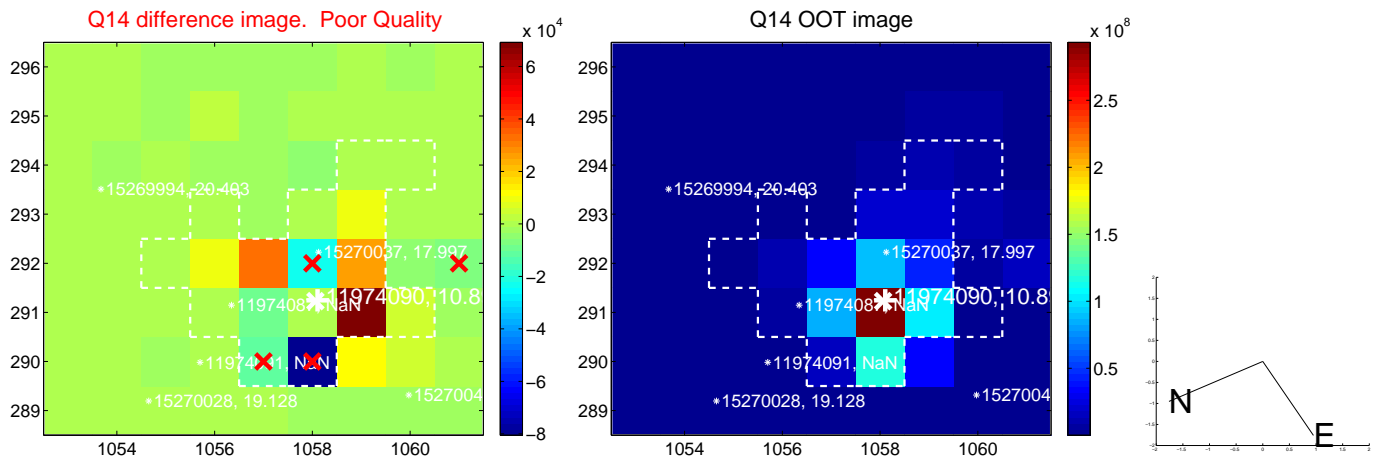
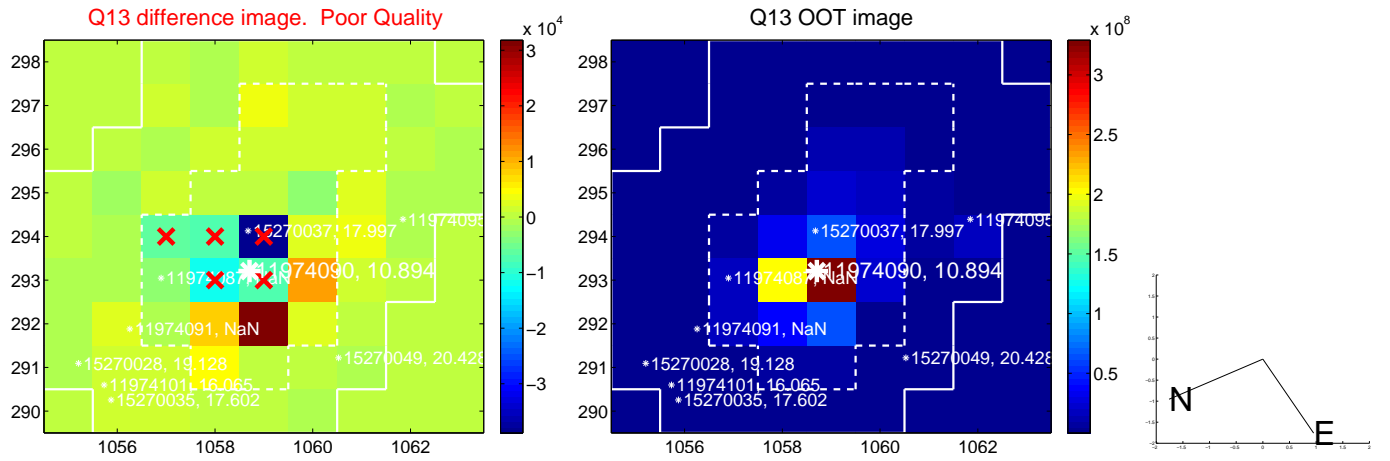
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



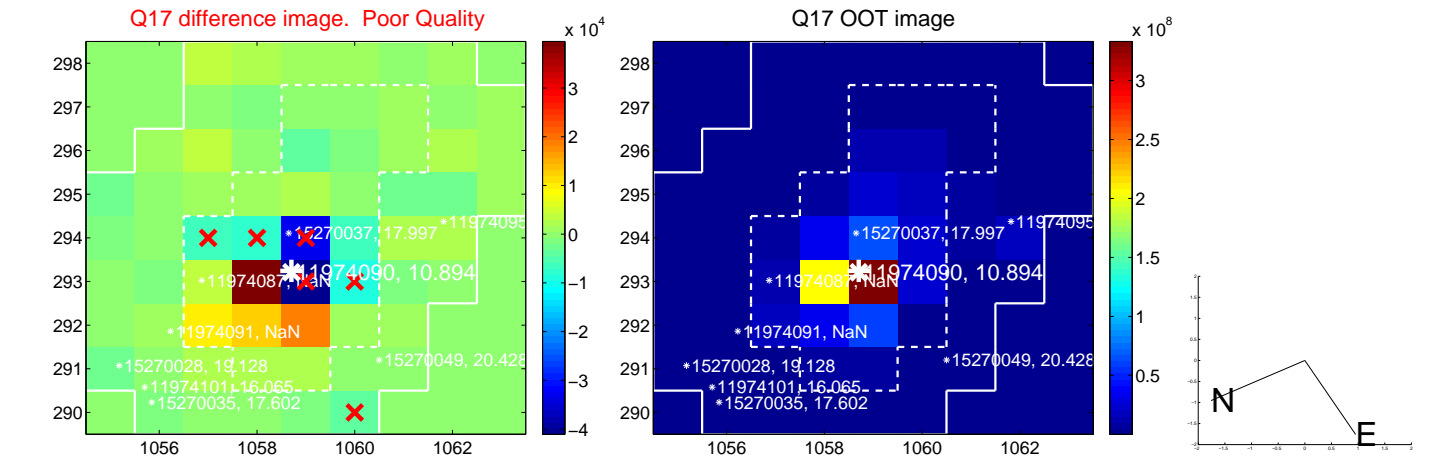
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



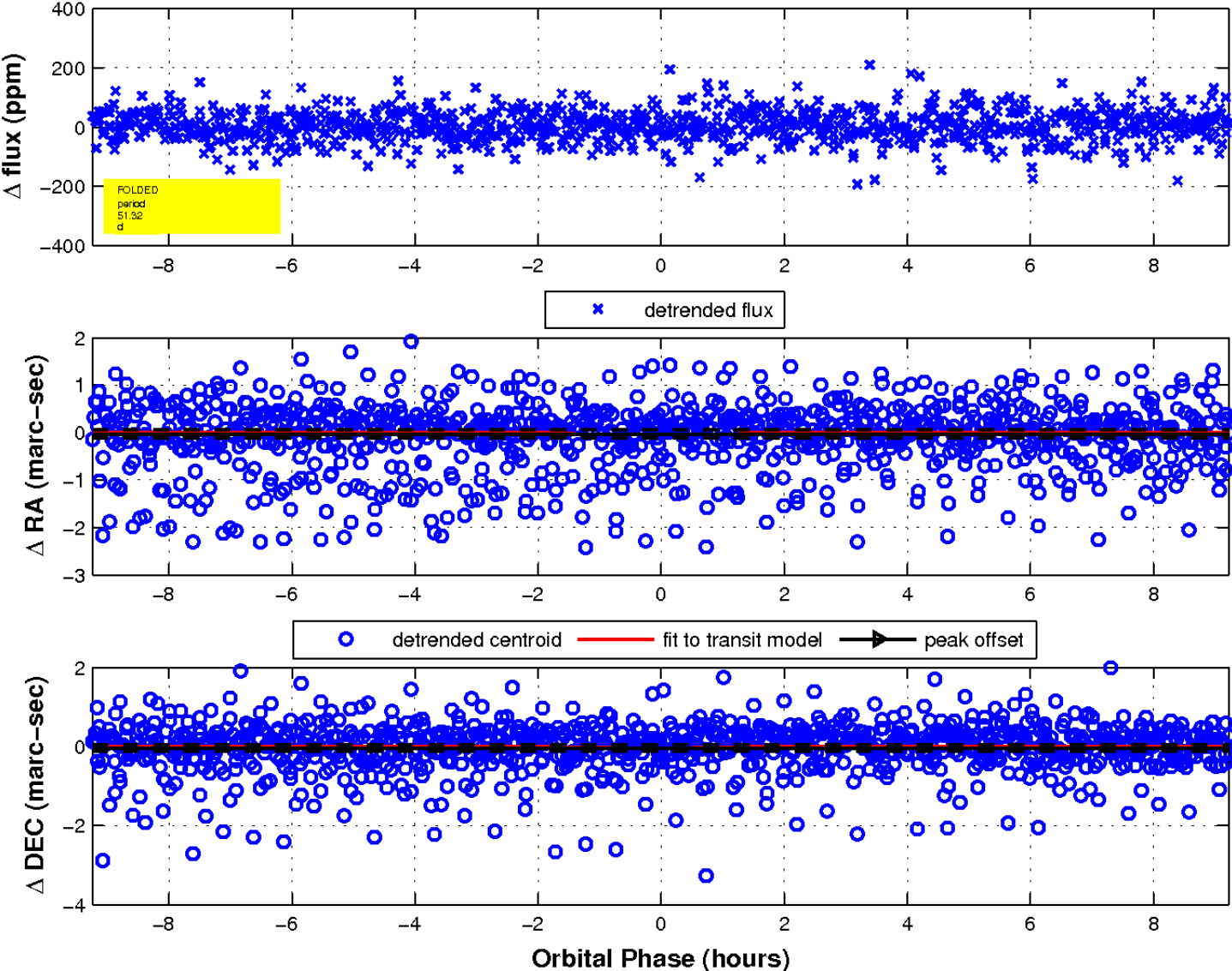
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

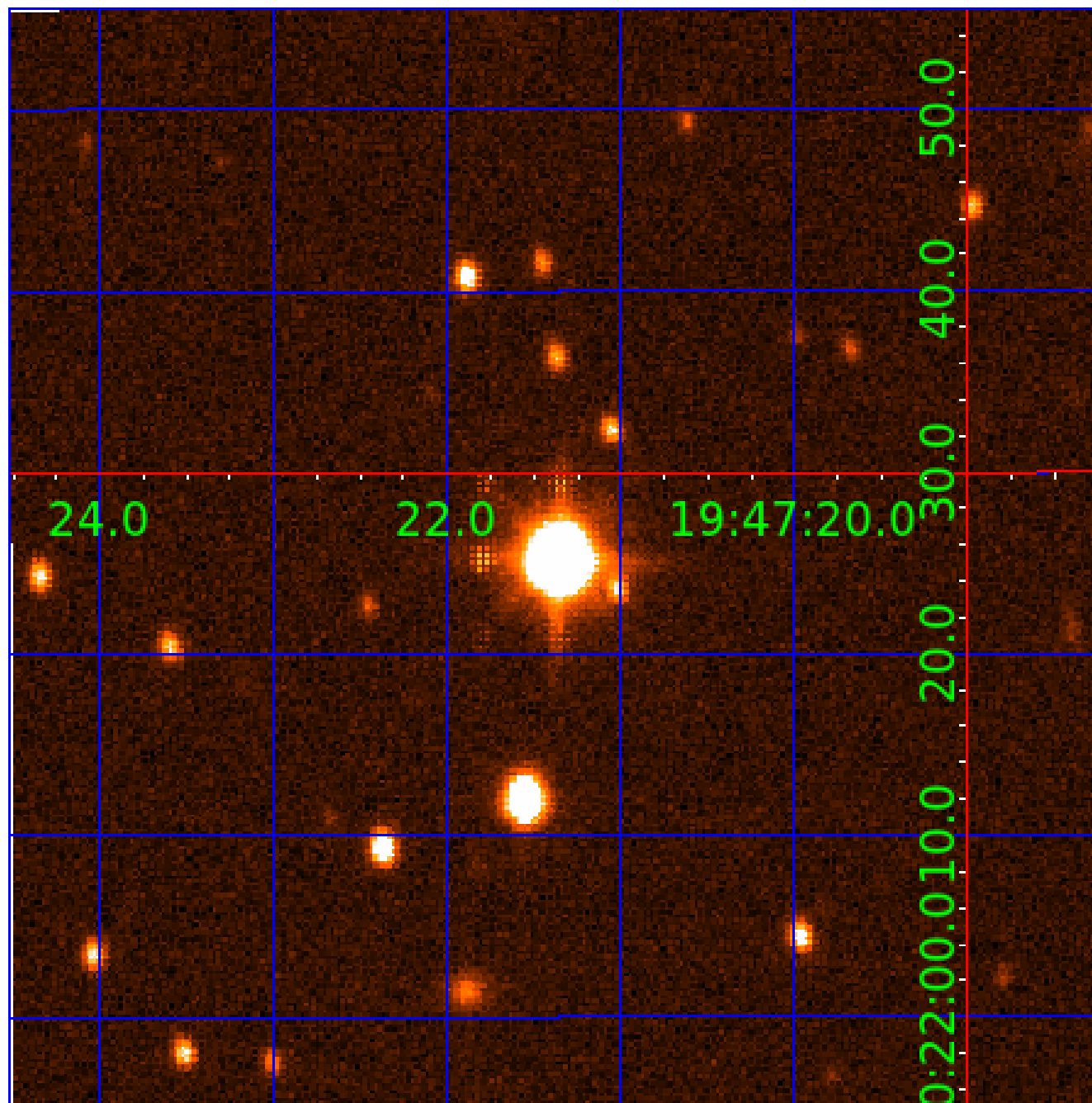


fluxWeightedCentroids, Planet 2 of 7



UKIRT Image

Declination



KIC 011974090

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})
011974090-01	OBS	No	0.750265	131.754870	3.4	5.109	7.1	6.6	2.18	9711	0.42	82306.48
011974090-02	OBS	No	51.321017	143.176180	36.2	3.081	21.3	3.7	2.18	9711	1.52	294.21
011974090-04	OBS	No	30.189850	134.656336	63.8	5.719	12.5	8.2	2.18	9711	1.96	596.91
011974090-05	OBS	No	42.976707	138.230489	83.6	3.502	12.2	7.4	2.18	9711	2.28	372.74
011974090-06	OBS	No	35.052964	134.838259	115.4	6.000	10.0	-1.0	2.18	9711	2.40	489.13
011974090-07	OBS	No	81.622333	181.550535	162.3	2.075	13.0	8.2	2.18	9711	3.18	158.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011974090-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED
011974090-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED—HALO_GHOST
011974090-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011974090-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011974090-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011974090-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED—HALO_GHOST

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

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

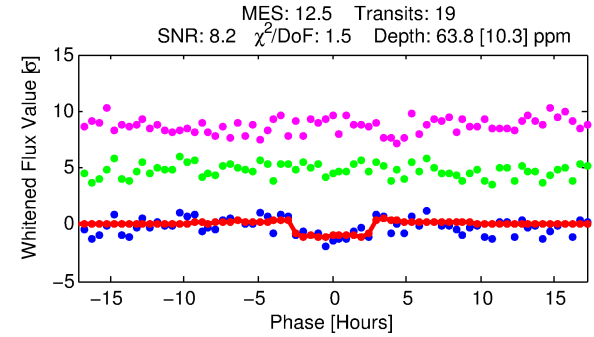
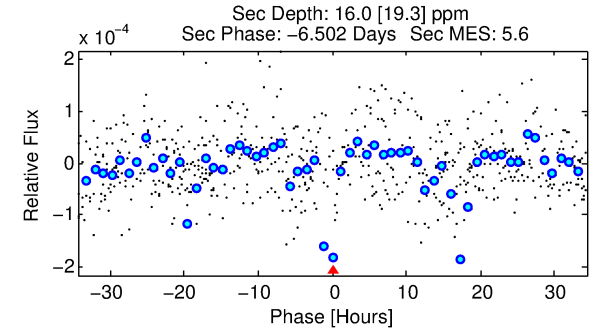
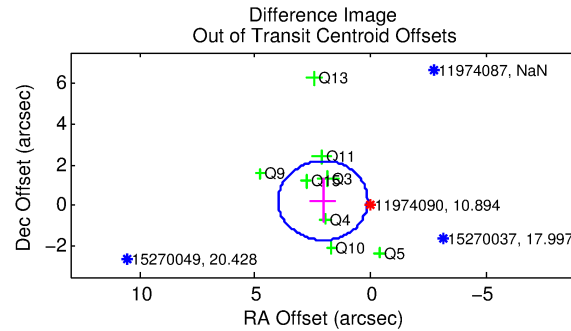
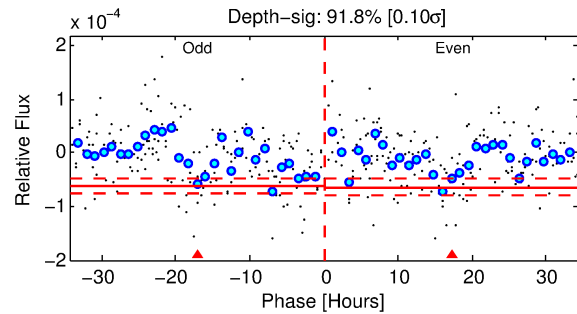
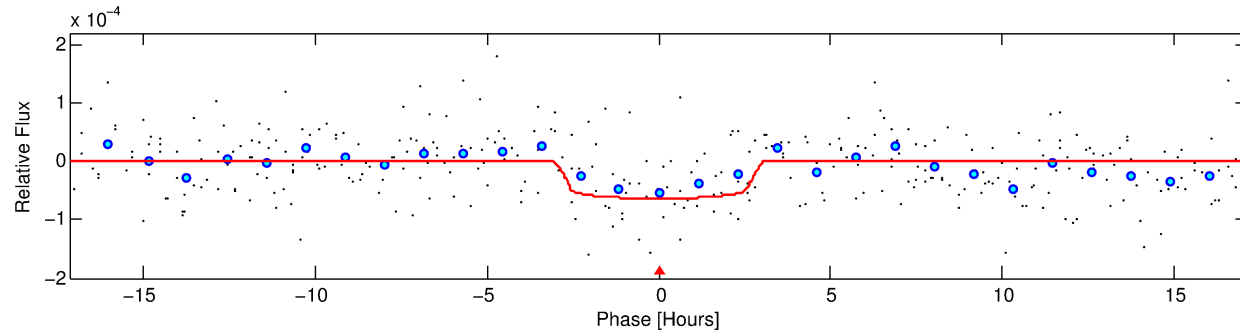
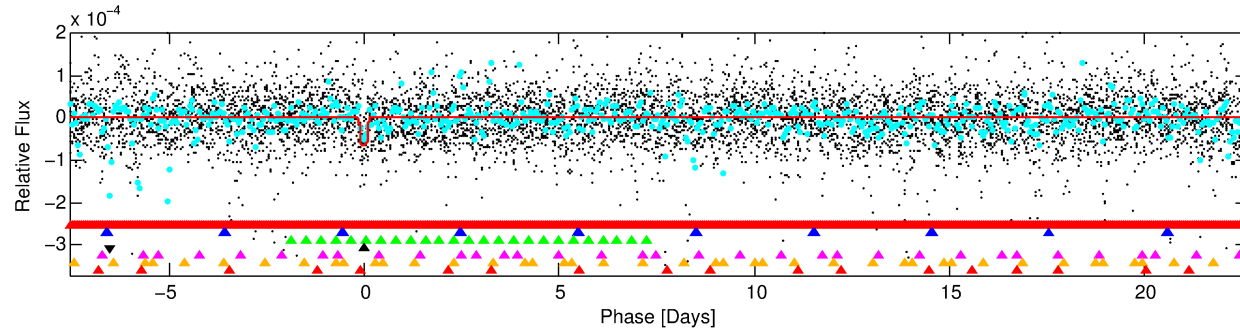
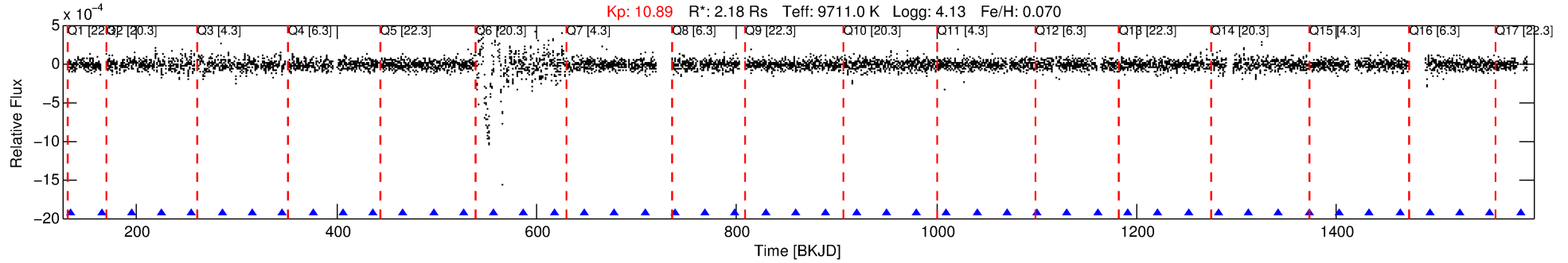
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011974090-04

No Significant Match Found

DV One-Page Summary

KIC: 11974090 Candidate: 4 of 7 Period: 30.190 d



DV Fit Results:

Period = 30.18985 [0.00047] d
Epoch = 134.6563 [0.0129] BKJD
Rp/R* = 0.0082 [0.0026]
a/R* = 21.48 [48.63]
b = 0.86 [0.71]
Seff = 596.91 [277.99]
Teq = 1260 [147] K
Rp = 1.96 [1.01] Re
a = 0.2520 [0.0807] AU
Ag = 146.34 [208.34] [0.70 σ]
Teffp = 6778 [2321] K [2.37 σ]

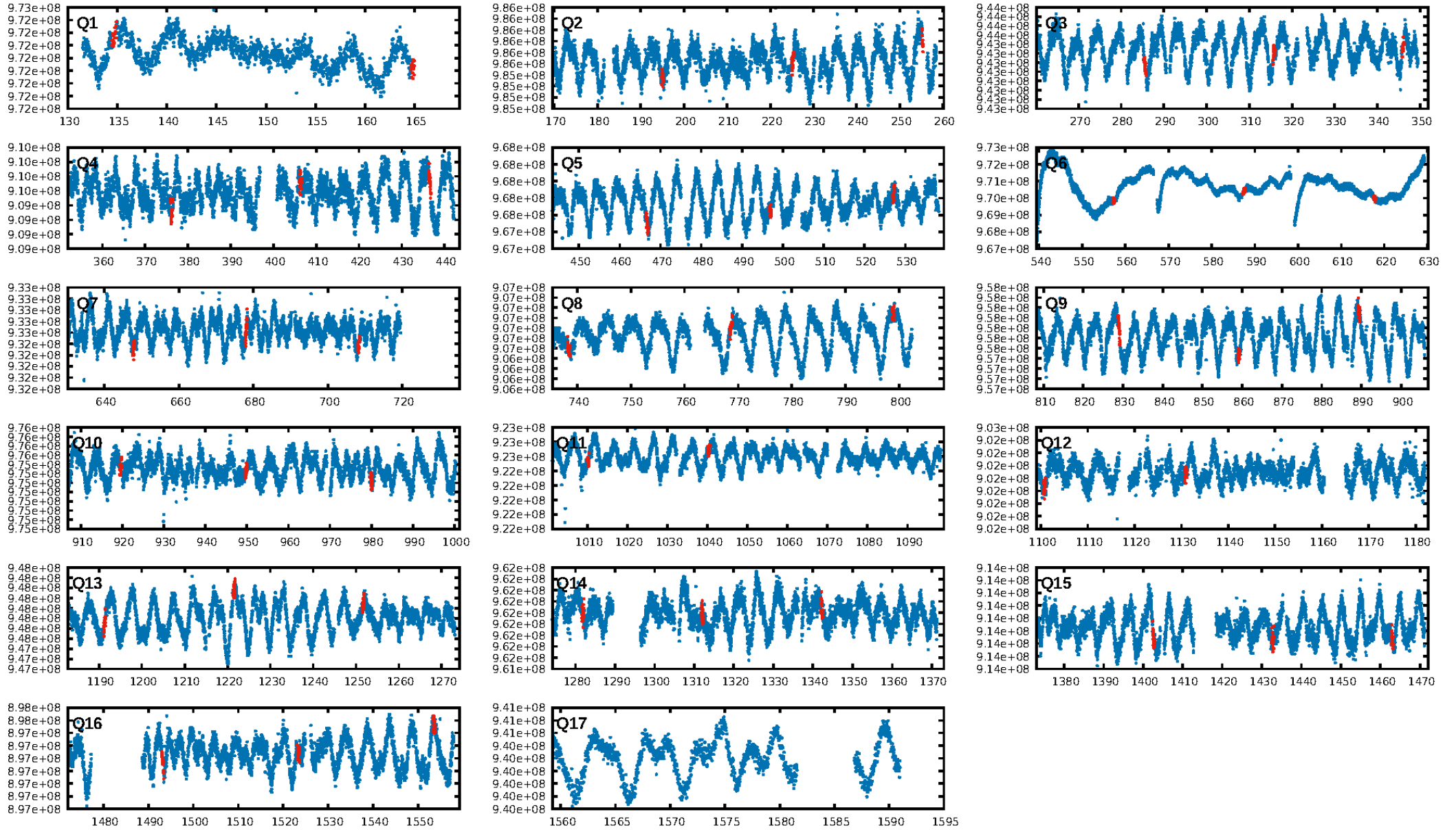
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [92.13 σ]
LongPeriod-sig: 100.0% [14.08 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.37e-20
RollingBand-fgt: 1.00 [19/19]
GhostDiagnostic-chr: 3.232
Centroid-sig: 26.1%
Centroid-so: 1.589 arcsec [1.60 σ]
OotOffset-rm: 2.090 arcsec [3.24 σ]
KicOffset-rm: 2.191 arcsec [4.34 σ]
OotOffset-st: 1/3/1/3 [8]
KicOffset-st: 1/3/1/3 [8]
DiffImageQuality-fgm: 0.50 [4/8]
DiffImageOverlap-fno: 0.00 [0/16]

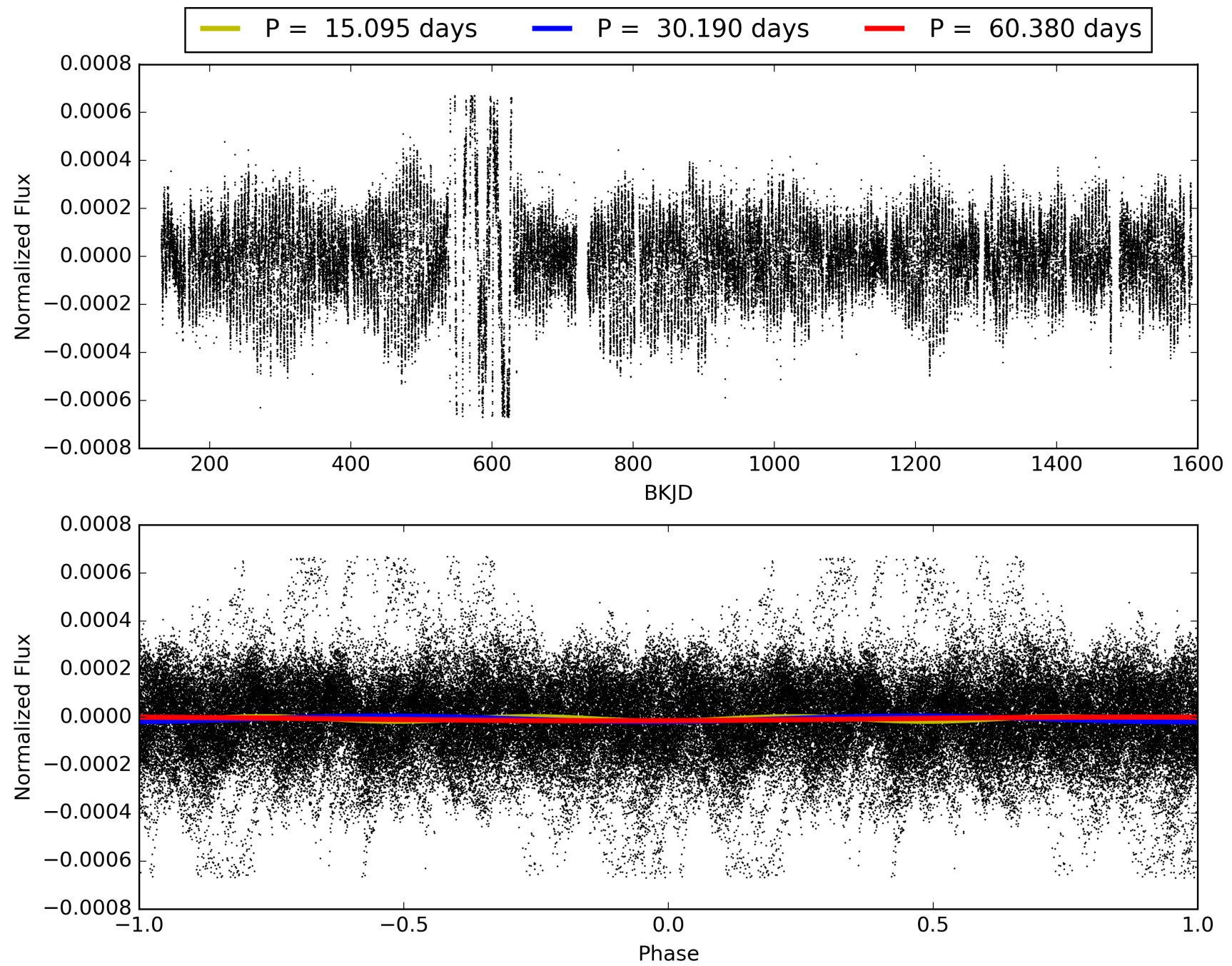
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:41:55 Z

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

TCE 011974090-04, PDC Light Curves

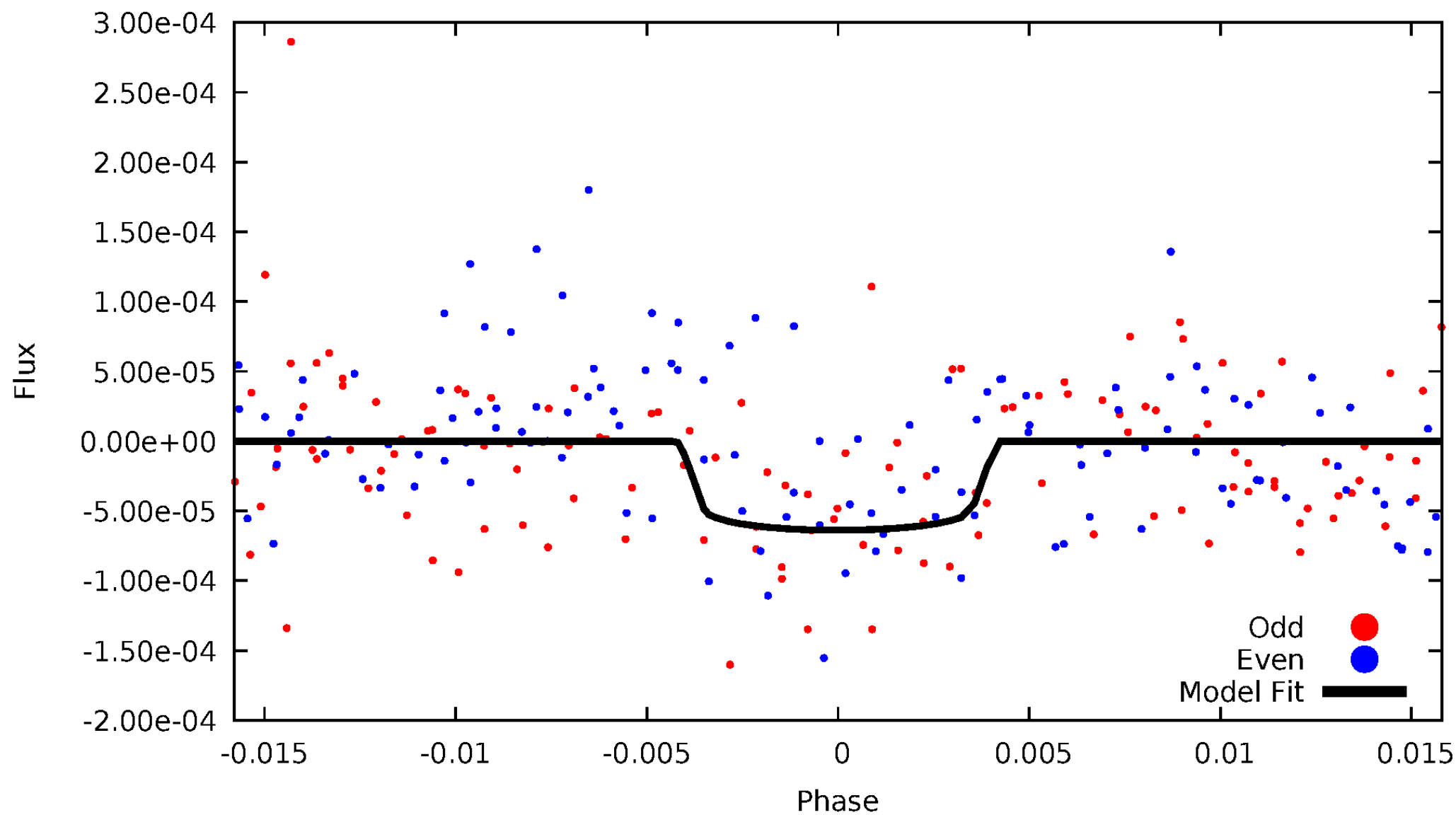


TCE 011974090-04



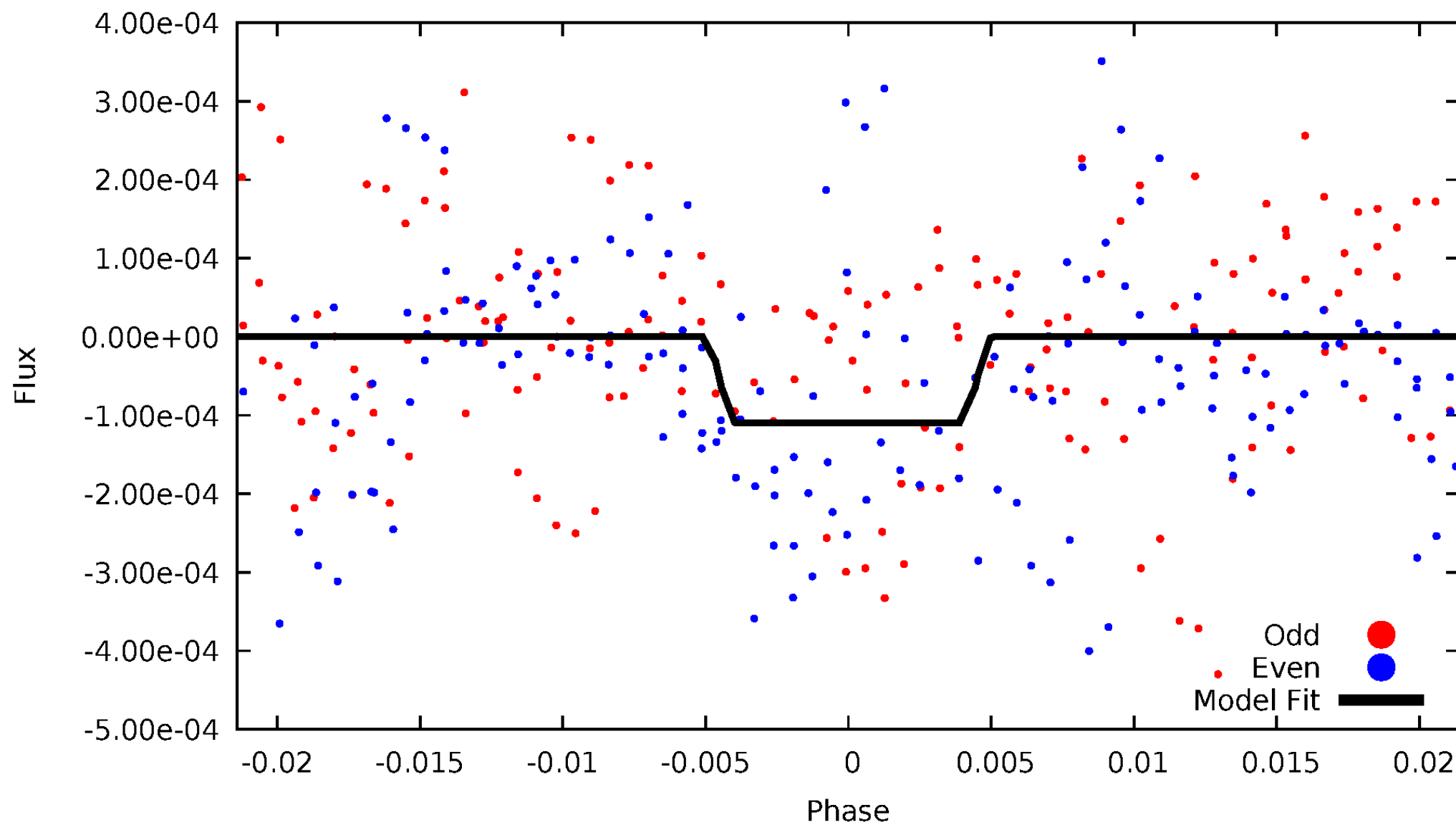
DV Odd/Even

TCE 011974090-04



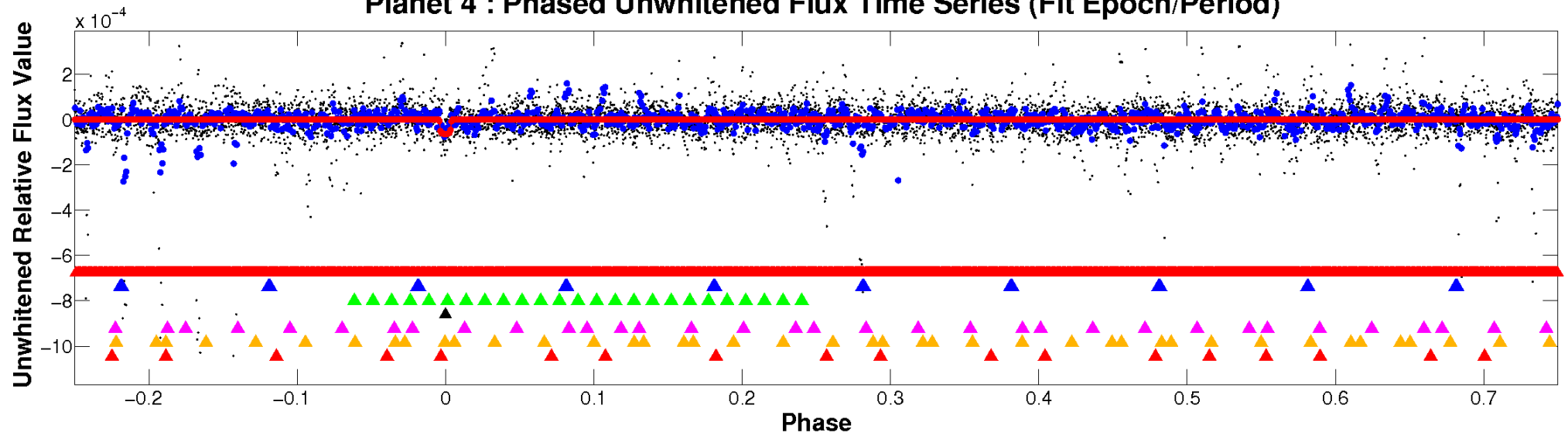
ALT Odd/Even

TCE 011974090-04

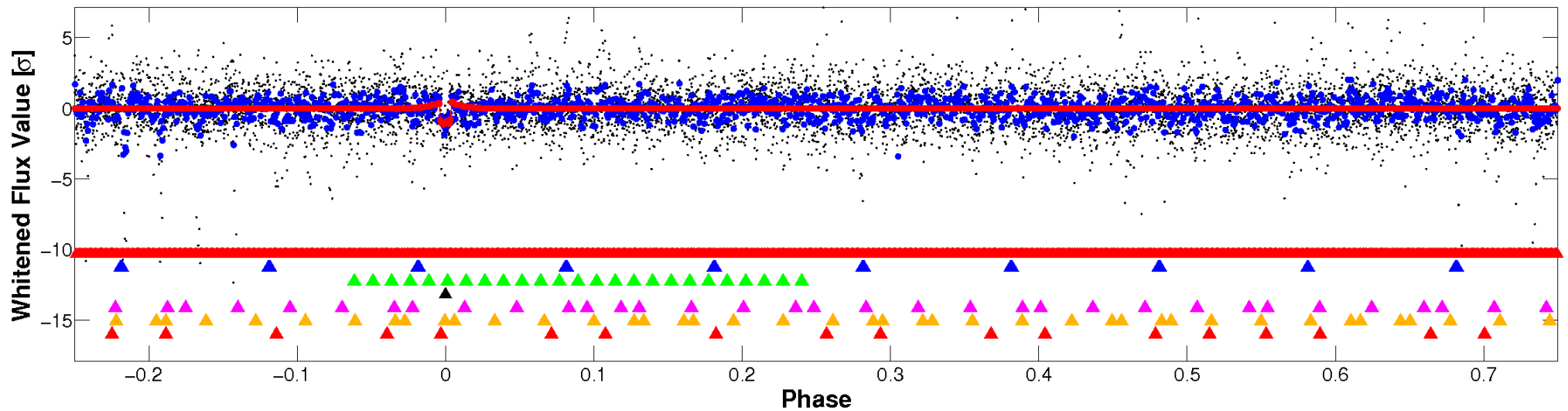


Non-Whitened Vs. Whitened Light Curve

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

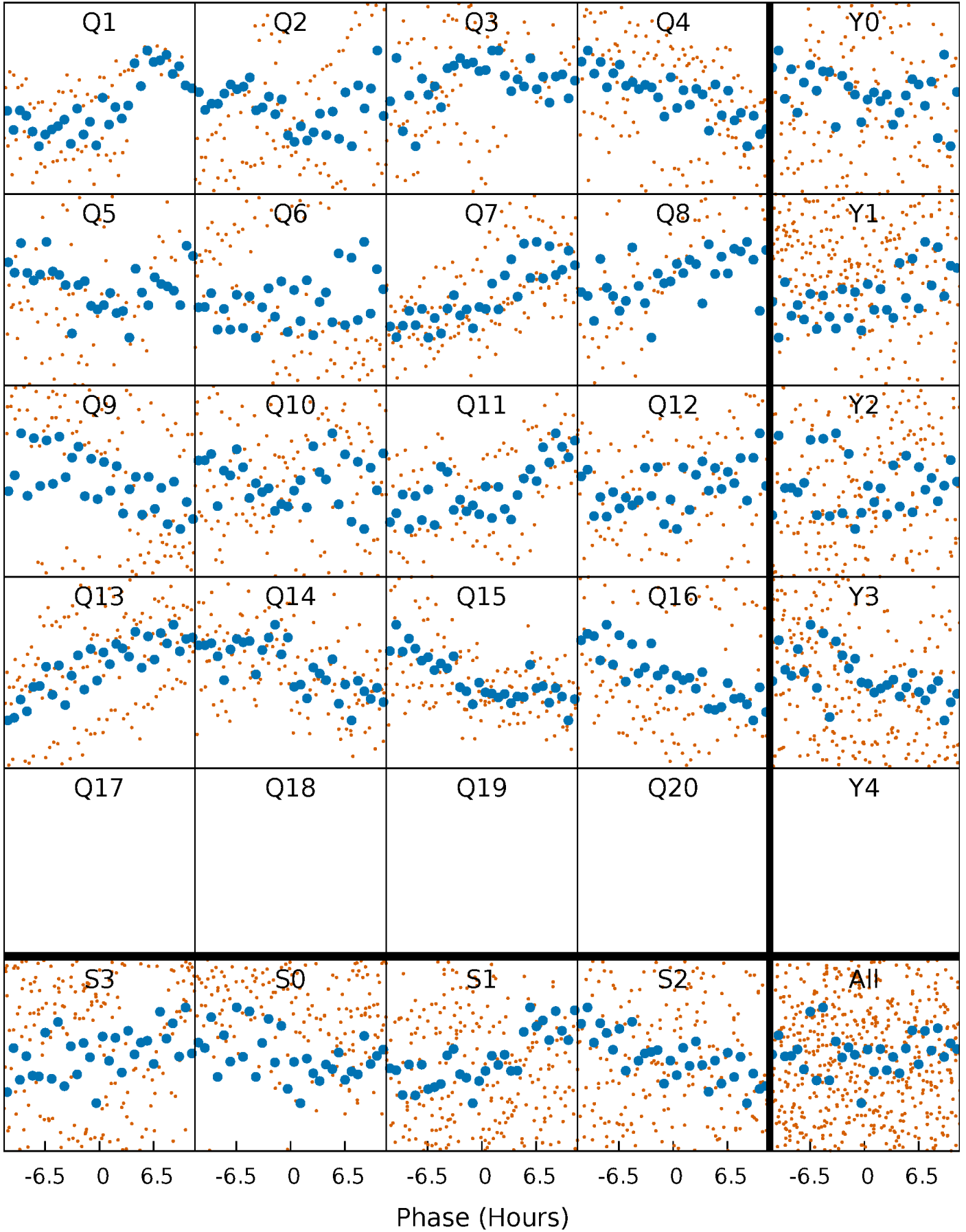


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



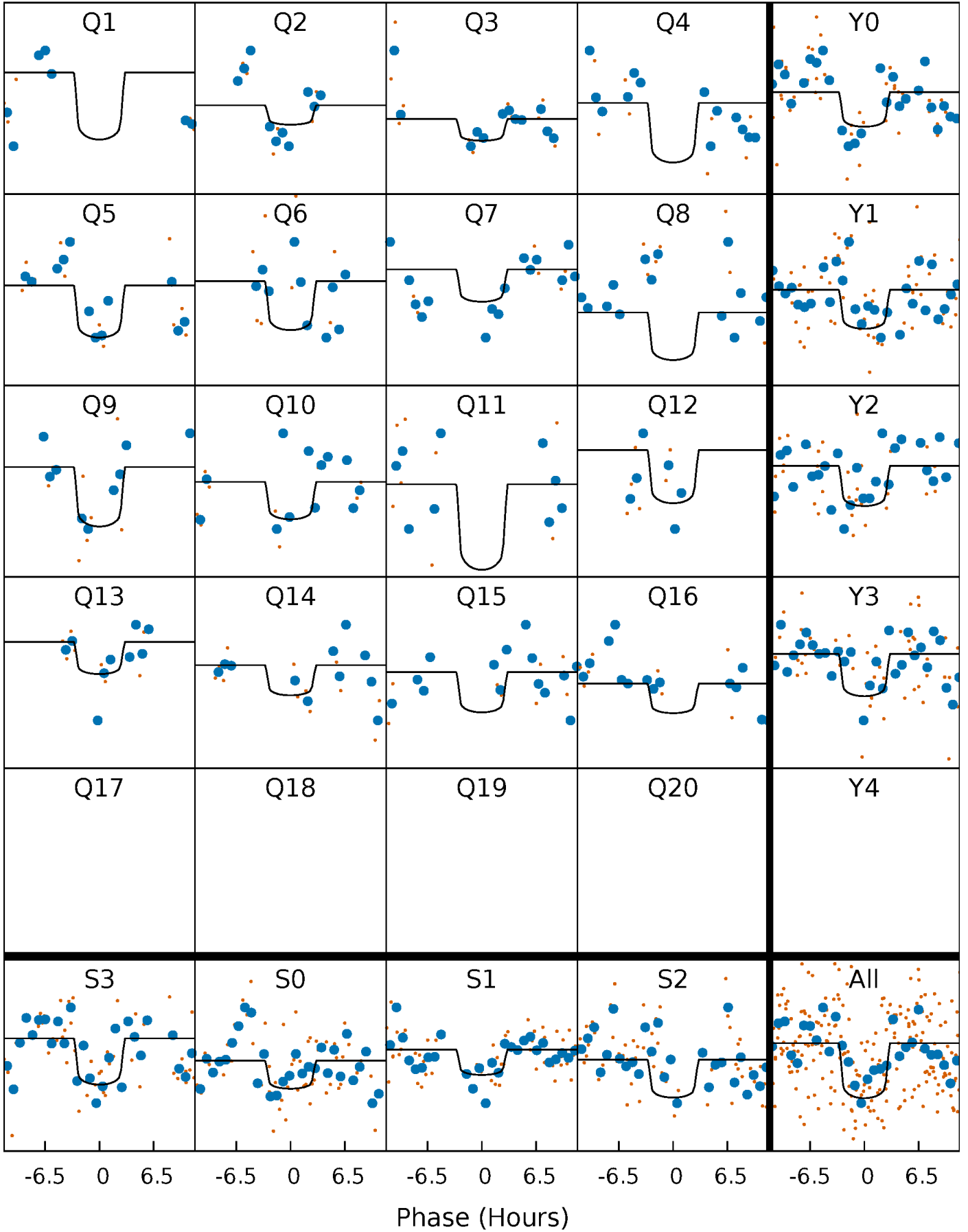
PDC Quarter-Phased Transit Curves

TCE 011974090-04 $P = 30.189850$ Days $T_0 = 134.656336$ (BKJD)



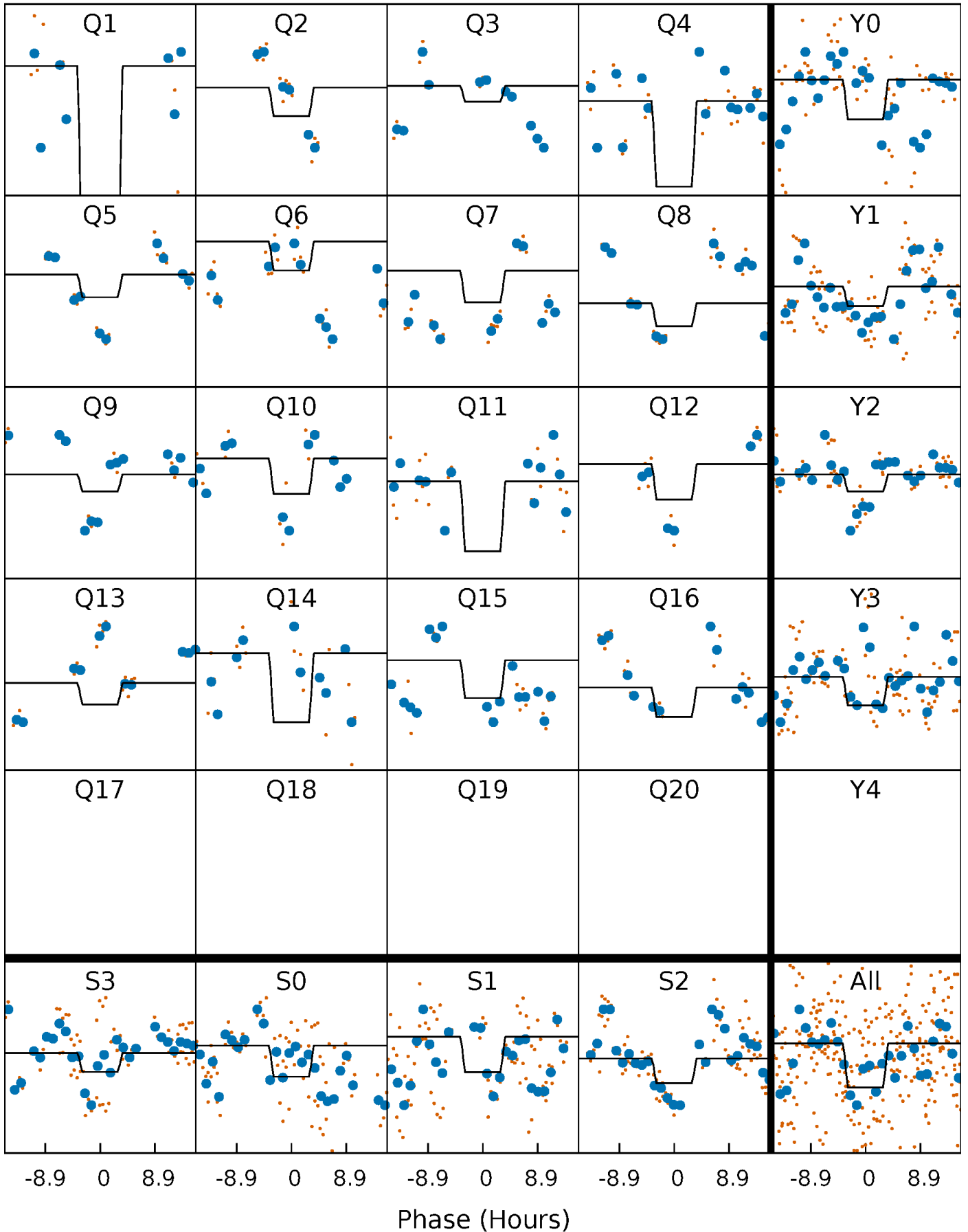
DV Quarter-Phased Transit Curves

TCE 011974090-04 P= 30.189850 Days $T_0=134.656336$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

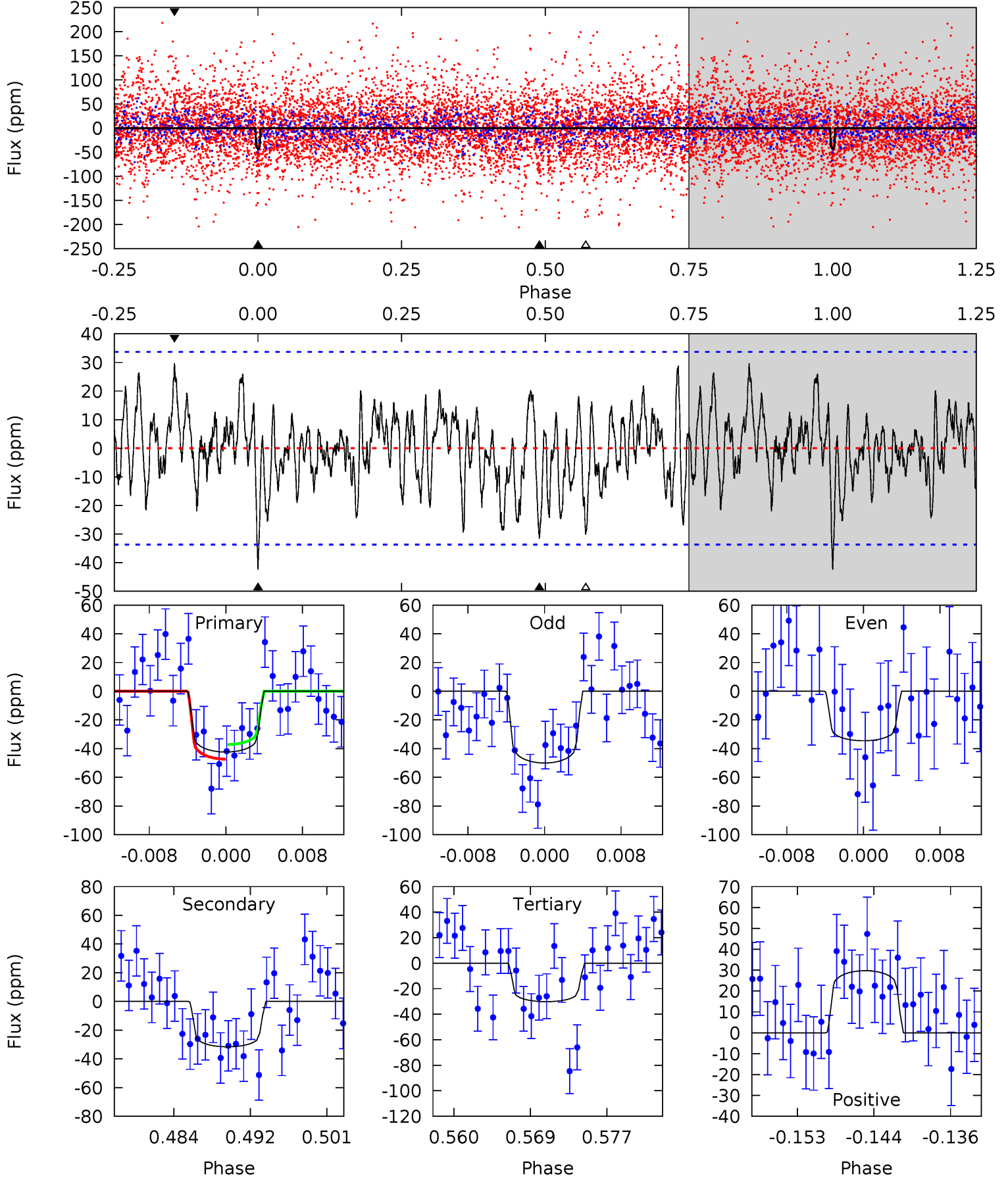
TCE 011974090-04 P= 30.191081 Days $T_0=134.624186$ (BKJD)



DV Model-Shift Uniqueness Test

011974090-04, P = 30.189850 Days, E = 104.466486 Days

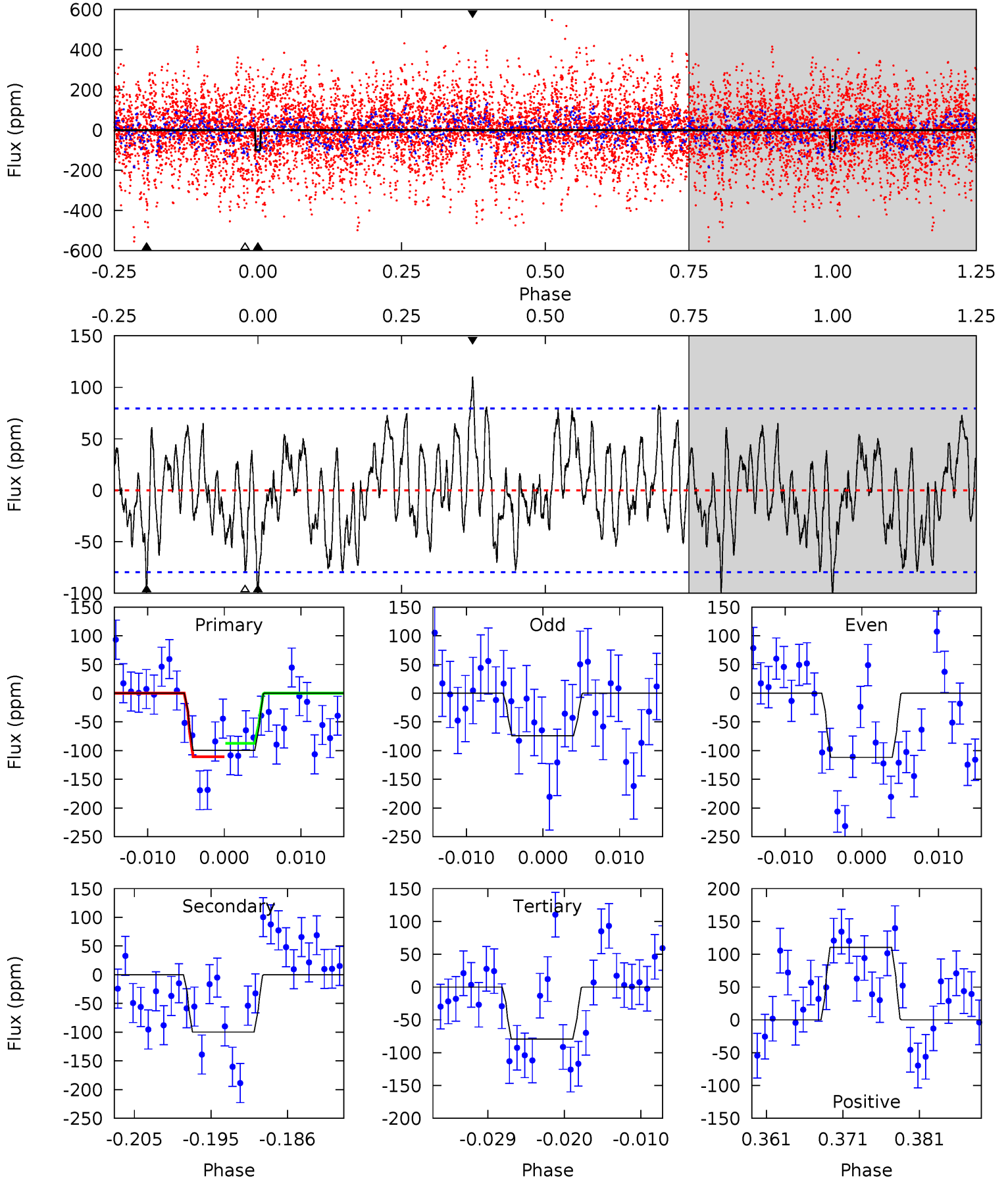
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.36	4.74	4.53	4.46	5.06	2.63	1.67	1.83	1.90	0.21	0.28	1.05	0.86	0.41	0.77



Alt Model-Shift Uniqueness Test

011974090-04, P = 30.191081 Days, E = 104.433105 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.31	6.32	5.01	6.98	5.03	2.58	2.16	1.31	-0.67	1.31	-0.67	1.18	0.85	0.53	0.75



Stellar Parameters For KIC 011974090

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	9711^{+306}_{-443}	$4.130^{+0.175}_{-0.214}$	$0.070^{+0.150}_{-0.600}$	$2.181^{+0.900}_{-0.600}$	$2.338^{+0.415}_{-0.622}$	$0.318^{+0.319}_{-0.180}$
	+3%/-5%	+4%/-5%	+214%/-857%	+41%/-28%	+18%/-27%	+100%/-57%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011974090-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-32 ± 7	$1.94^{+0.73}_{-0.64}$	1776^{+175}_{-145}	7573^{+2049}_{-1119}	279^{+351}_{-137}
Alt.	-100 ± 16	$2.49^{+0.83}_{-0.73}$	1768^{+166}_{-156}	9367^{+2571}_{-1448}	543^{+558}_{-239}

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

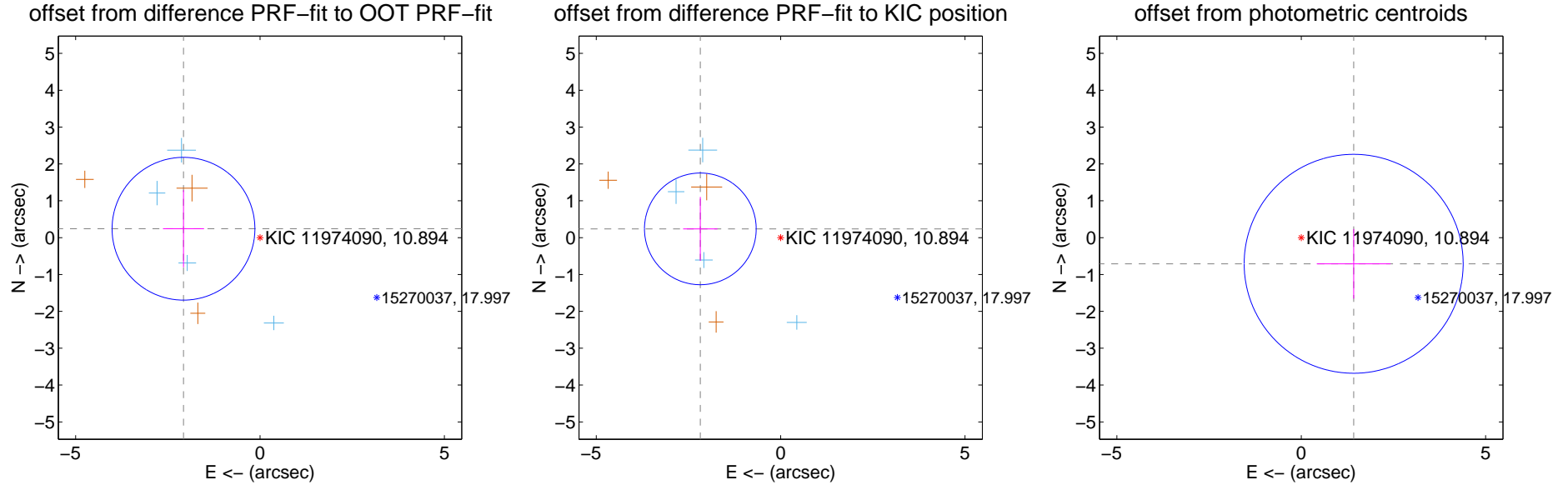
DV Centroid Data

Supplemental centroid analysis for 011974090-04. **Kepler magnitude: 10.89.** Transit SNR 8.21

There are 4 quarters with good PRF difference image offsets

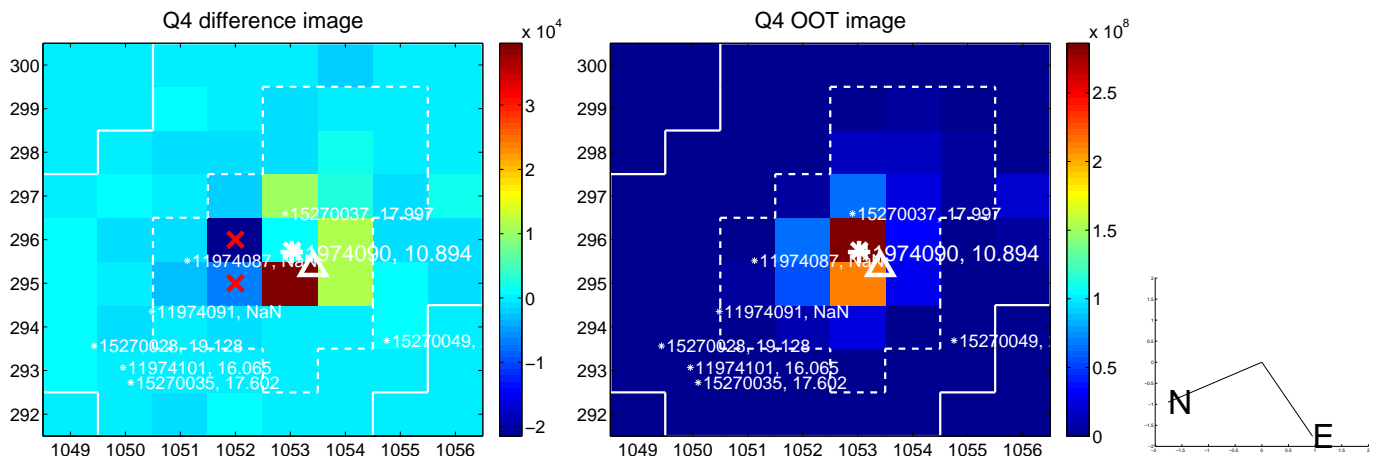
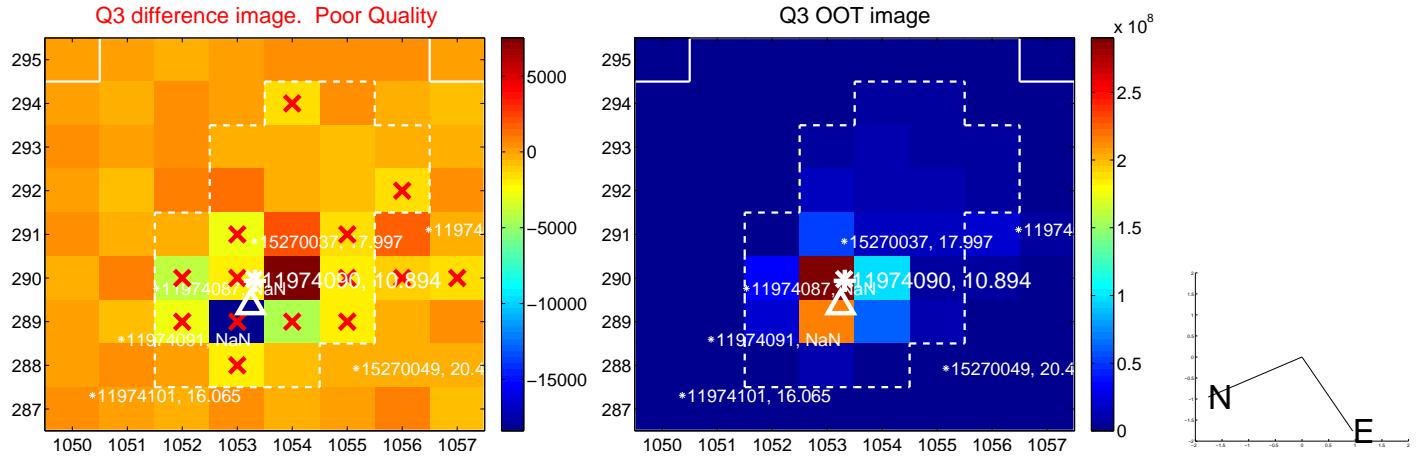
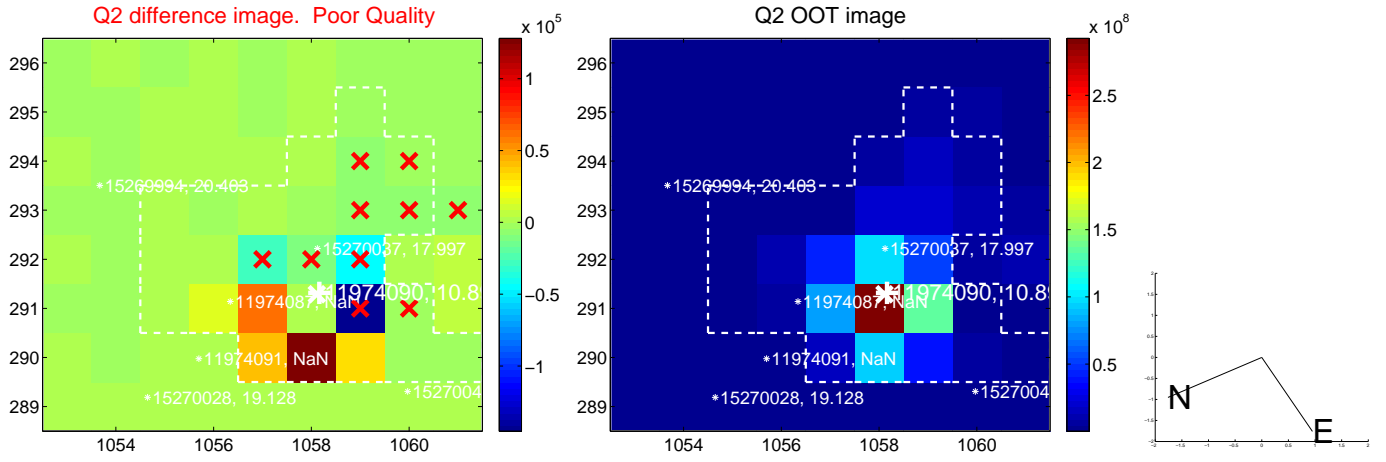
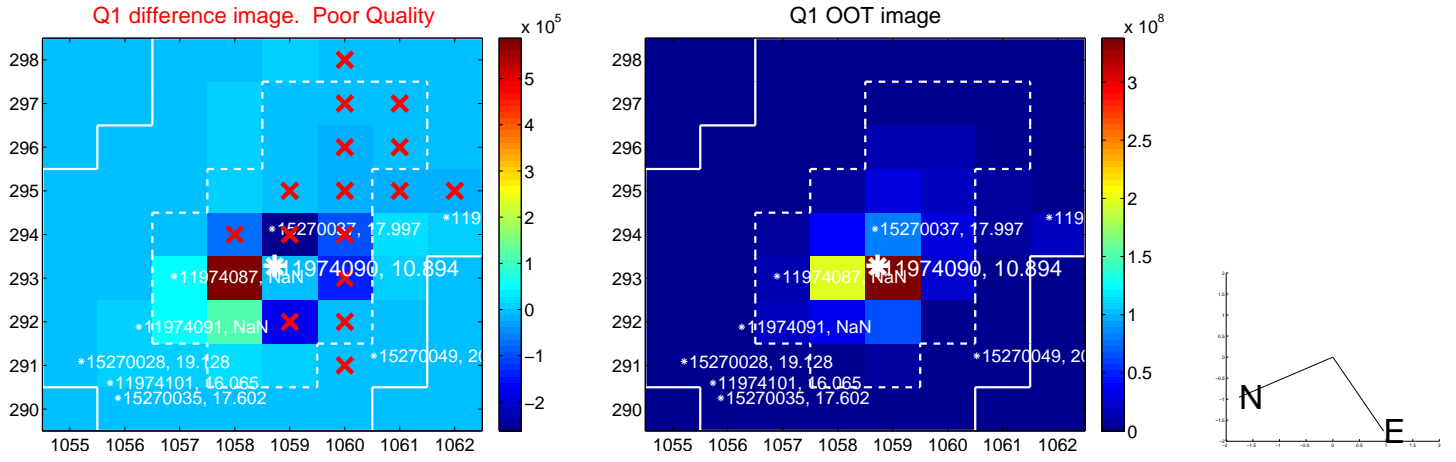
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.090 \pm 0.646	3.24	2.076 \pm 0.557	0.242 \pm 1.047
PRF-fit source offset from KIC position	2.191 \pm 0.505	4.34	2.178 \pm 0.466	0.238 \pm 0.866
photometric centroid source offset	1.59 \pm 0.99	1.60	-1.42 \pm 1.00	-0.71 \pm 0.95

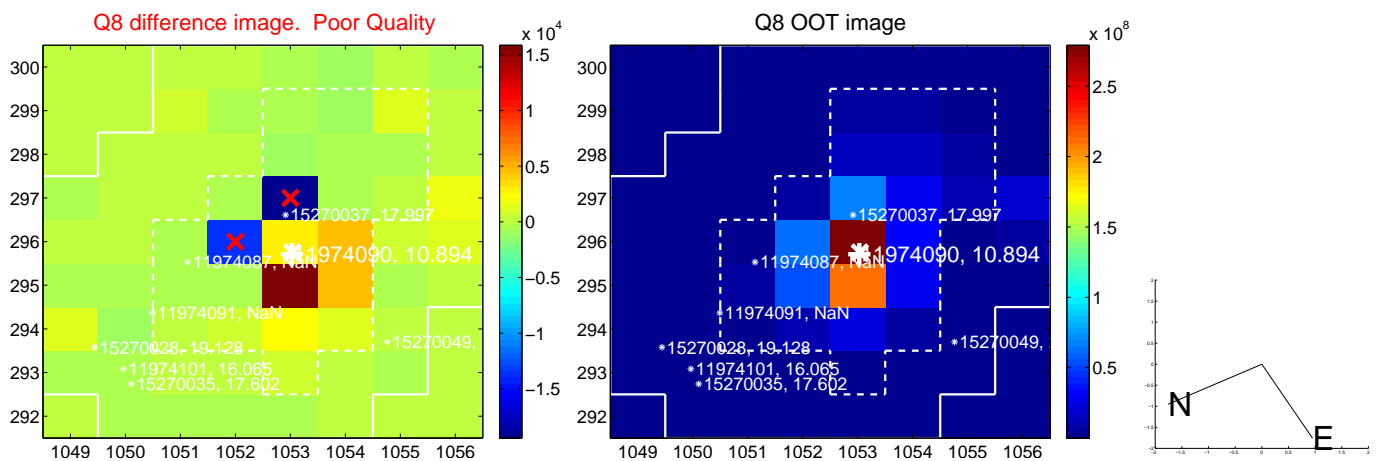
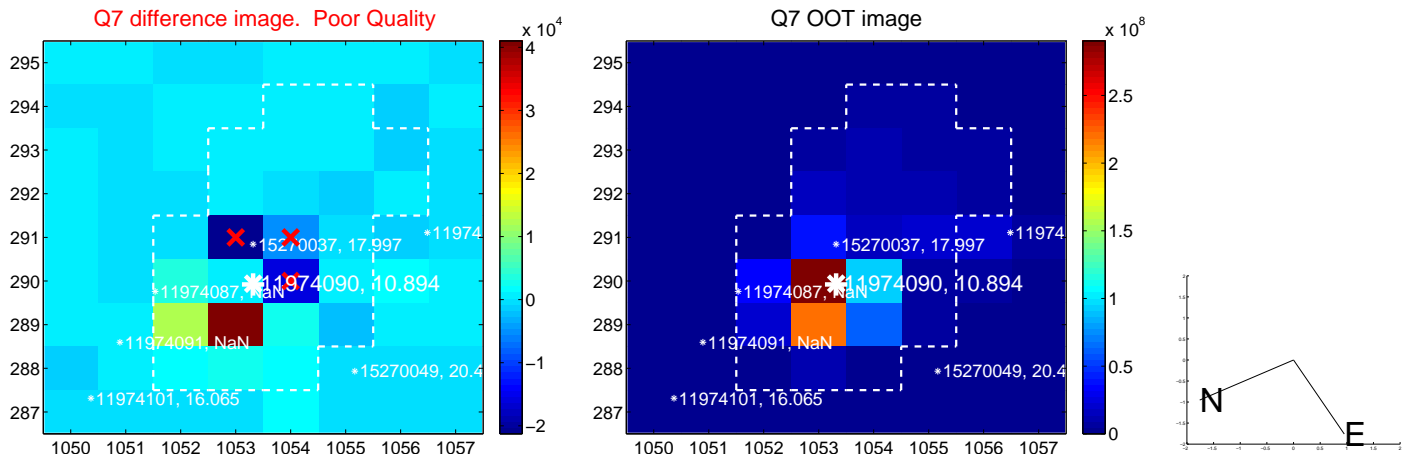
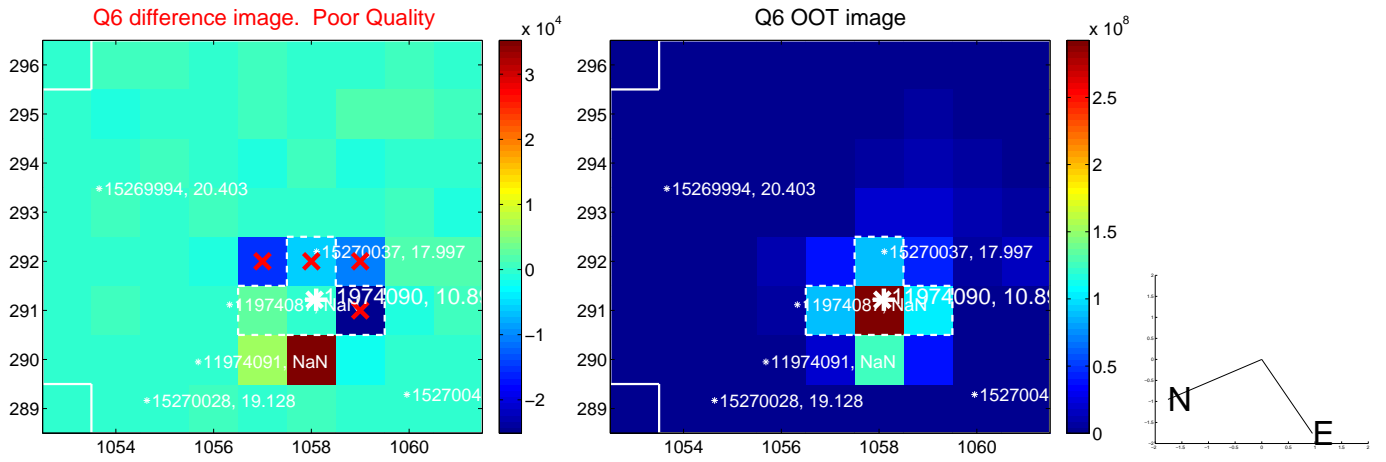
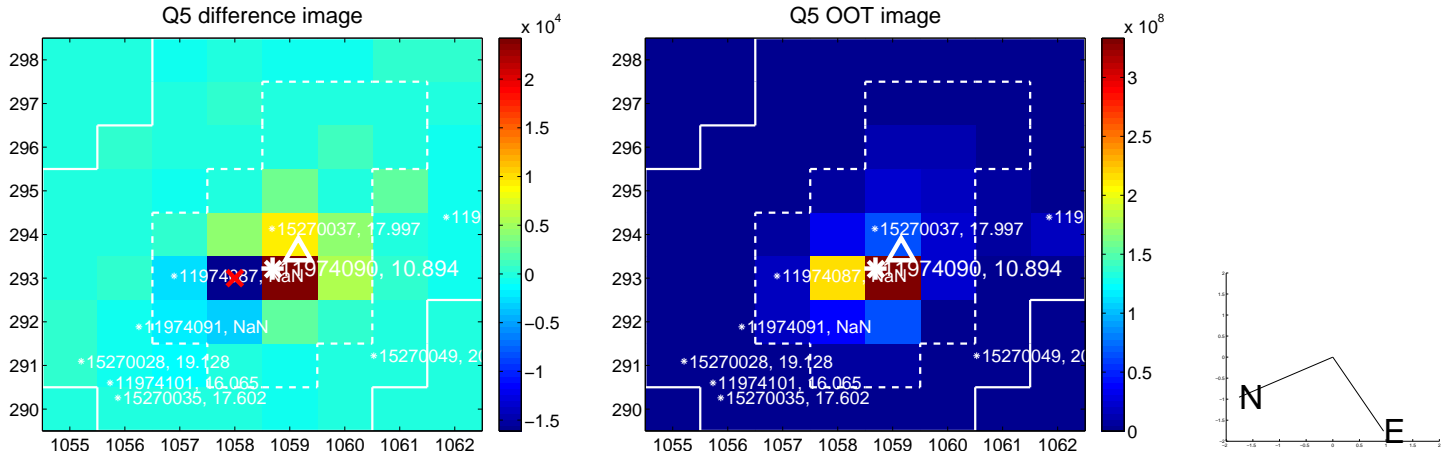


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

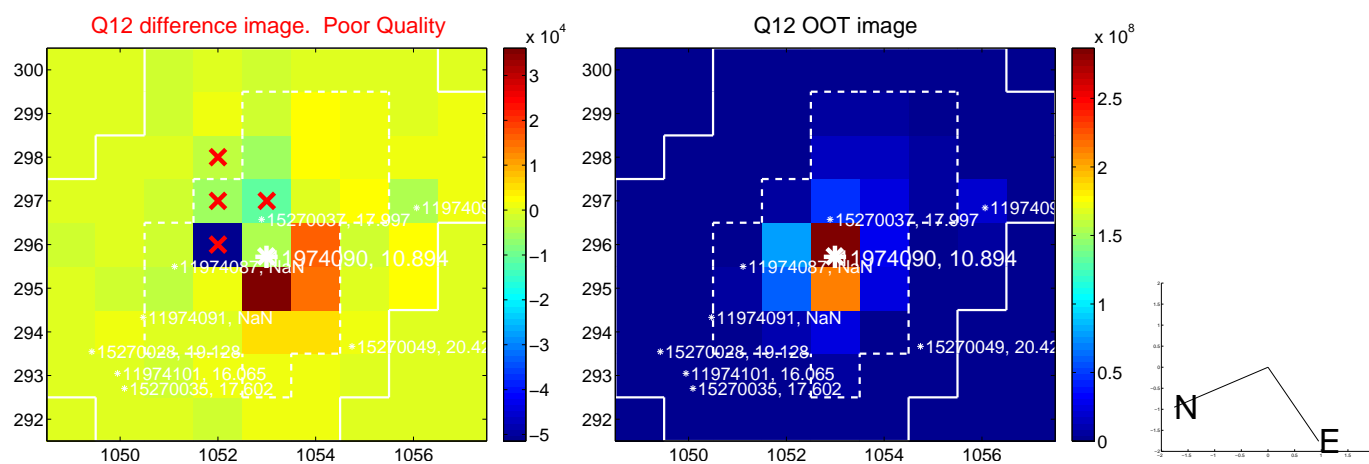
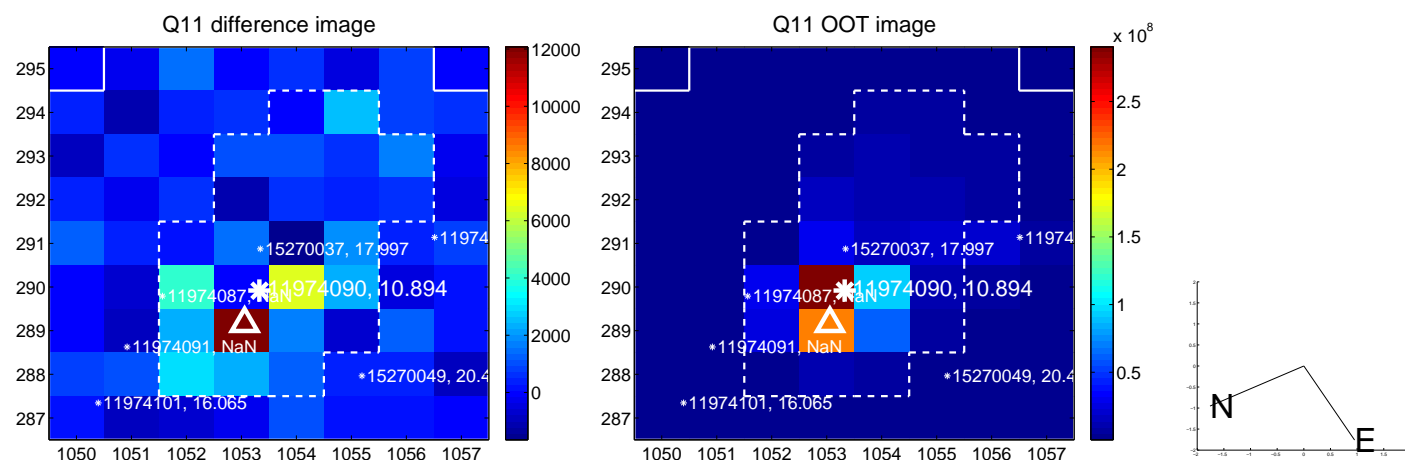
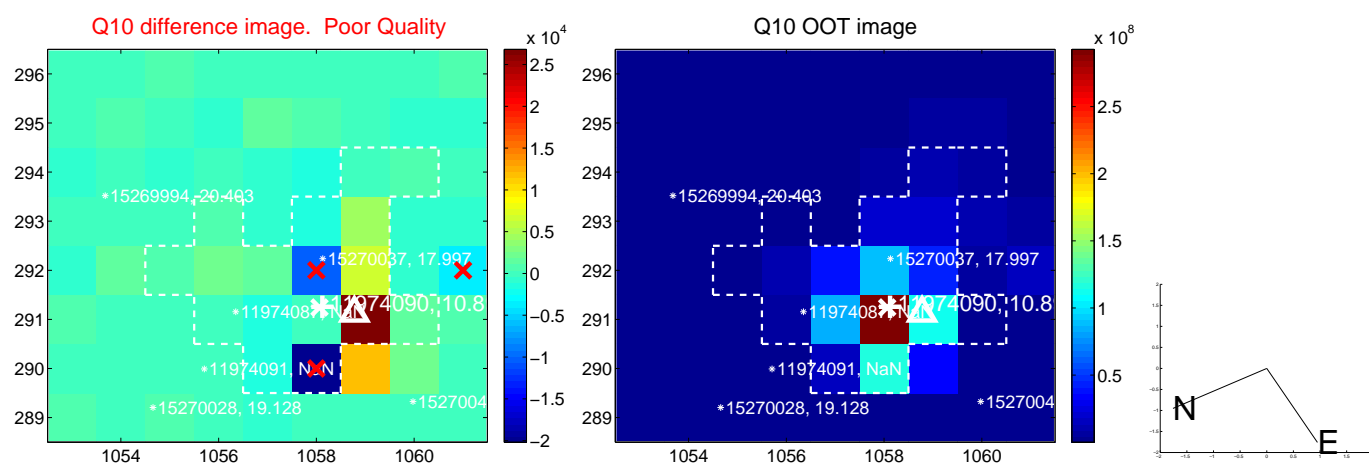
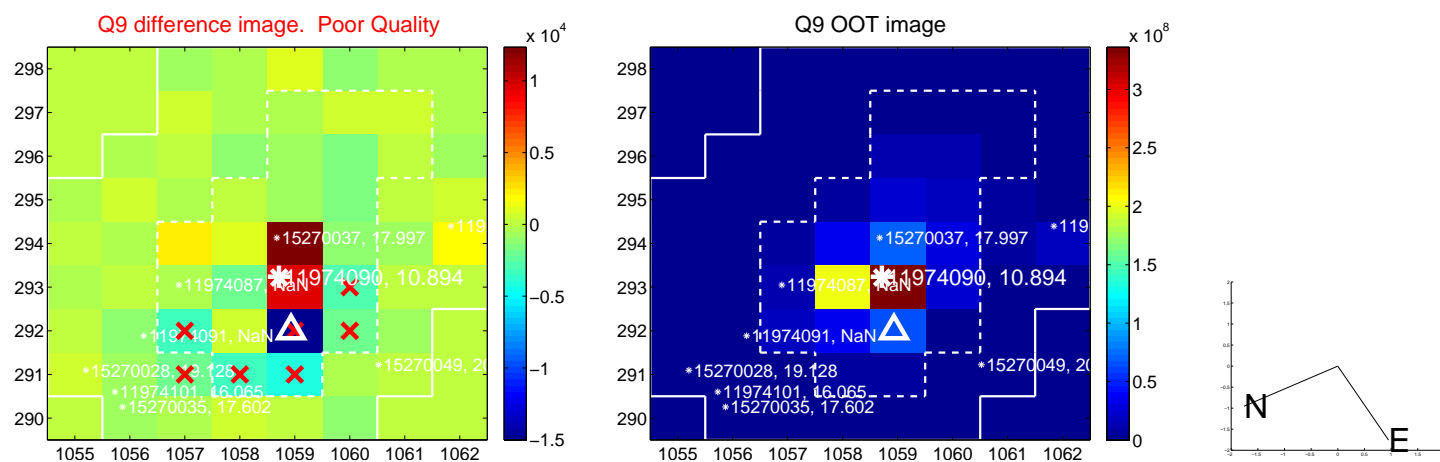
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



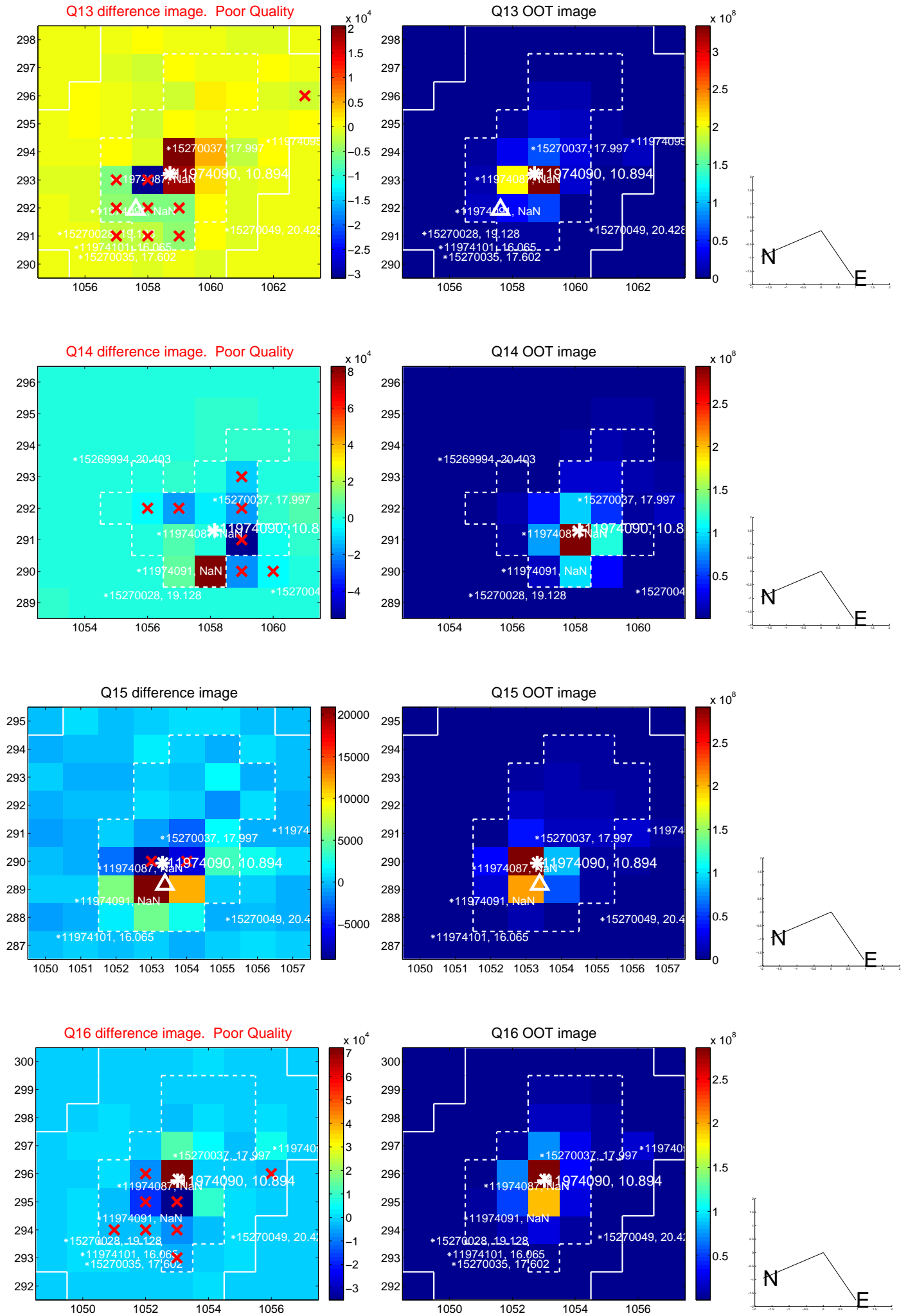
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



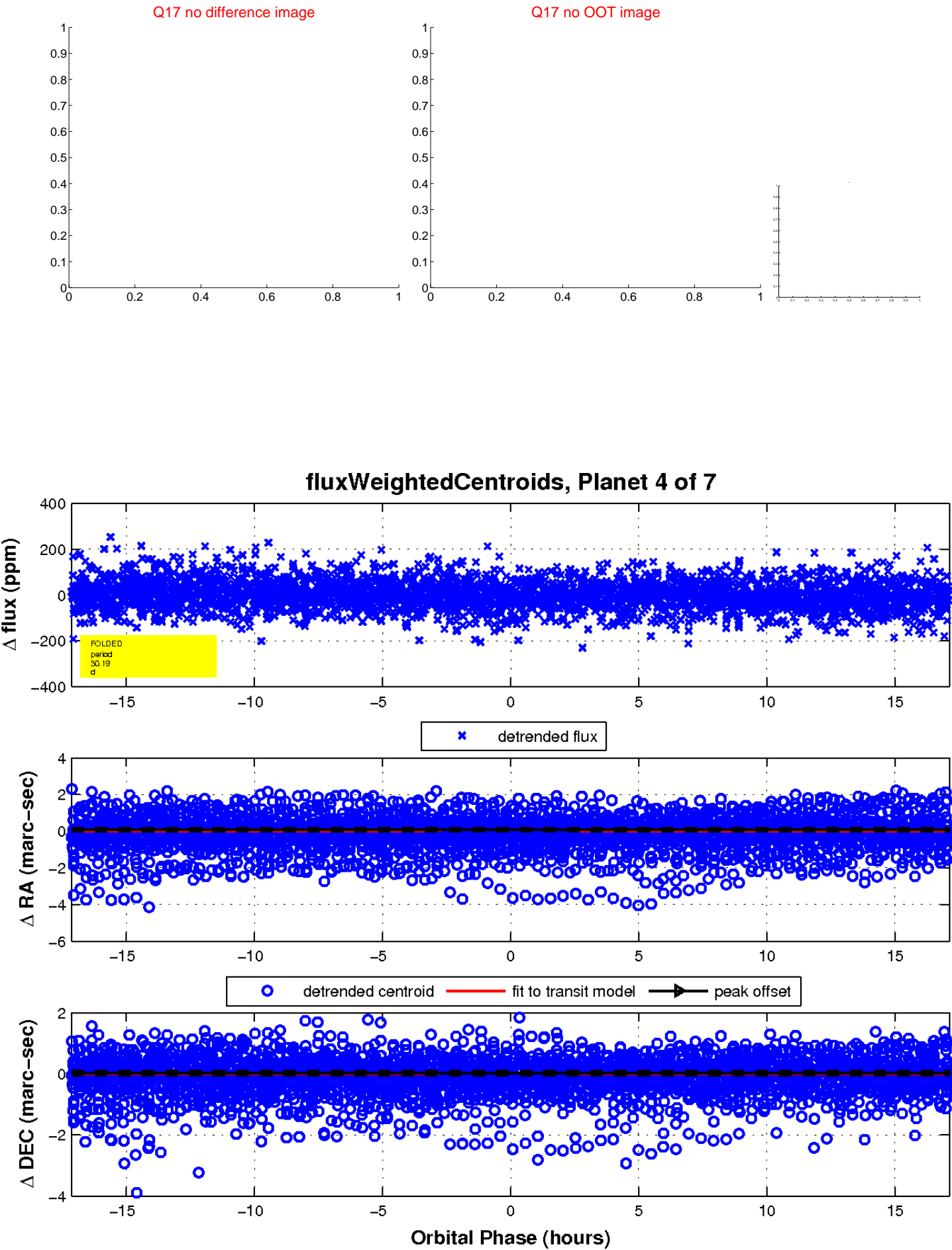
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

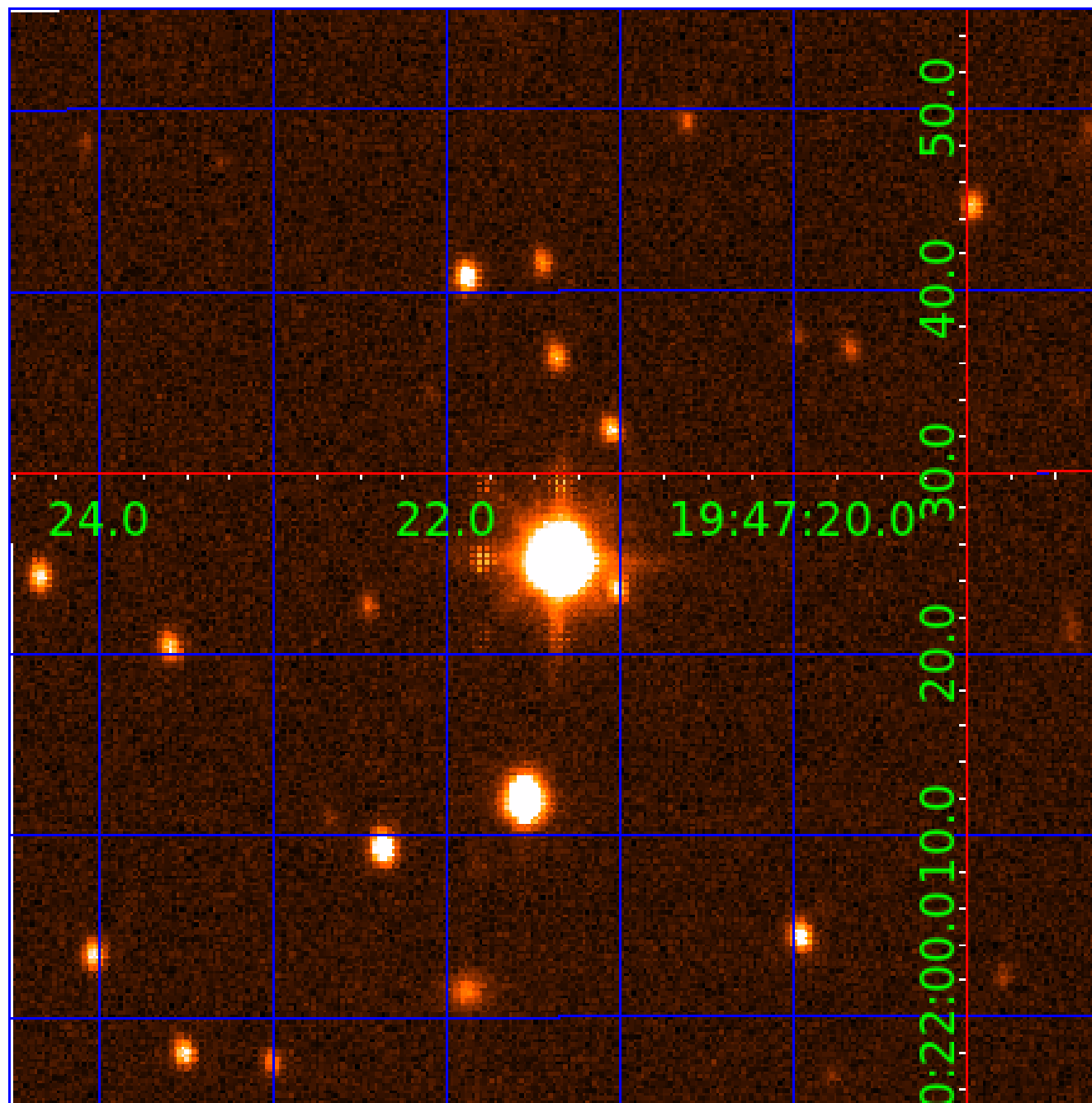


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011974090

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})
011974090-01	OBS	No	0.750265	131.754870	3.4	5.109	7.1	6.6	2.18	9711	0.42	82306.48
011974090-02	OBS	No	51.321017	143.176180	36.2	3.081	21.3	3.7	2.18	9711	1.52	294.21
011974090-04	OBS	No	30.189850	134.656336	63.8	5.719	12.5	8.2	2.18	9711	1.96	596.91
011974090-05	OBS	No	42.976707	138.230489	83.6	3.502	12.2	7.4	2.18	9711	2.28	372.74
011974090-06	OBS	No	35.052964	134.838259	115.4	6.000	10.0	-1.0	2.18	9711	2.40	489.13
011974090-07	OBS	No	81.622333	181.550535	162.3	2.075	13.0	8.2	2.18	9711	3.18	158.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011974090-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED
011974090-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED—HALO_GHOST
011974090-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011974090-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011974090-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011974090-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED—HALO_GHOST

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

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

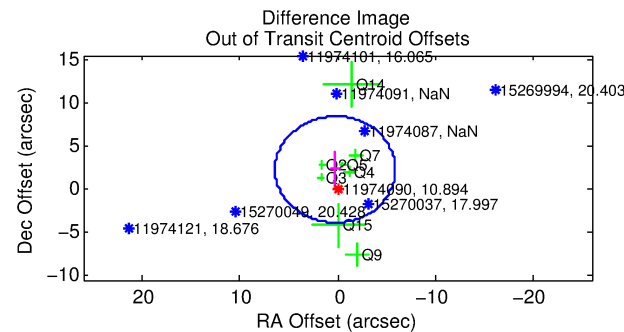
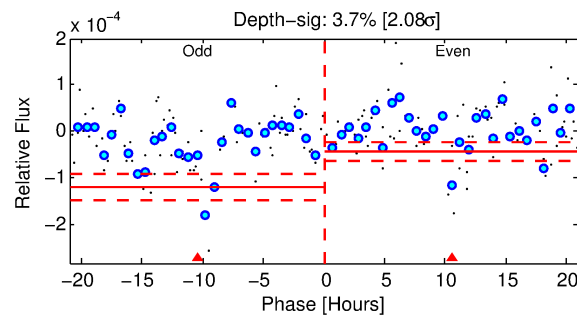
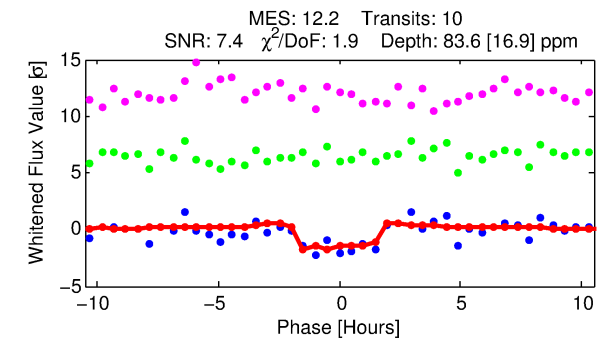
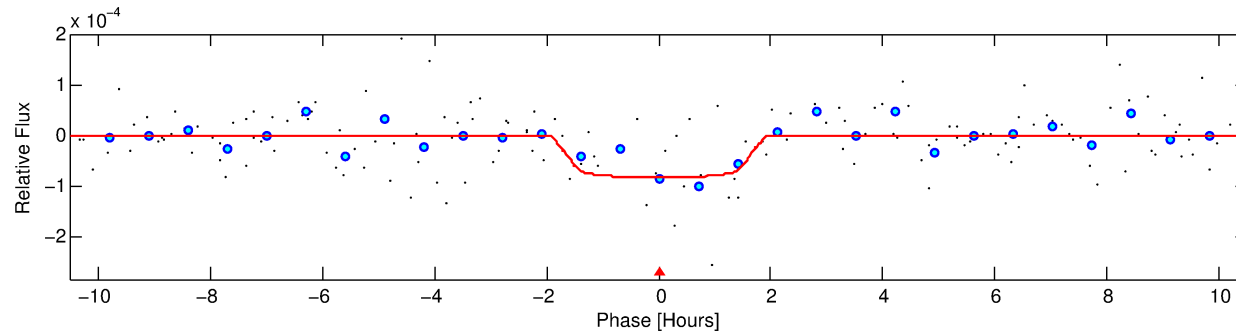
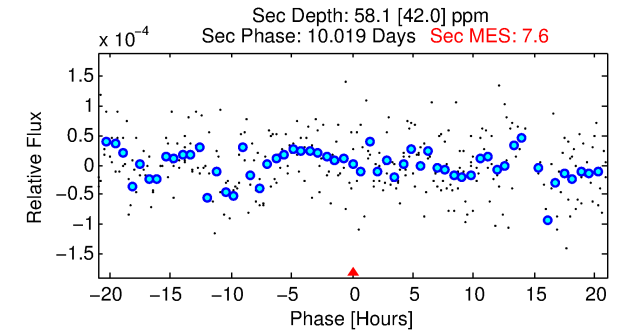
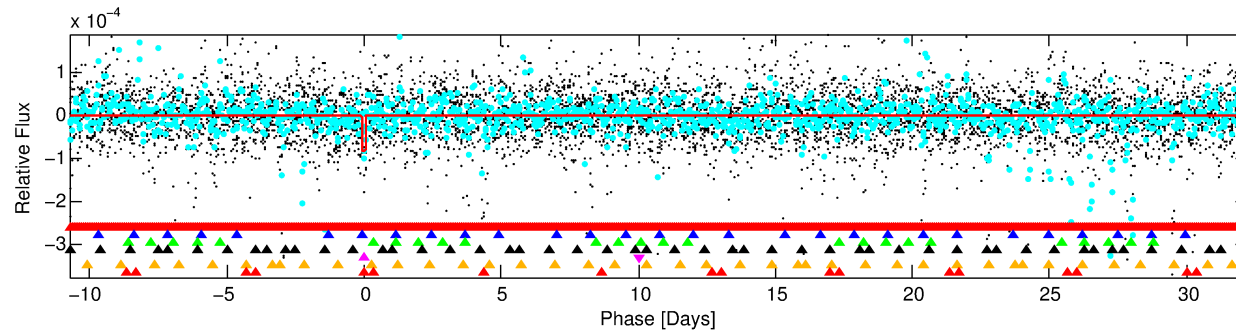
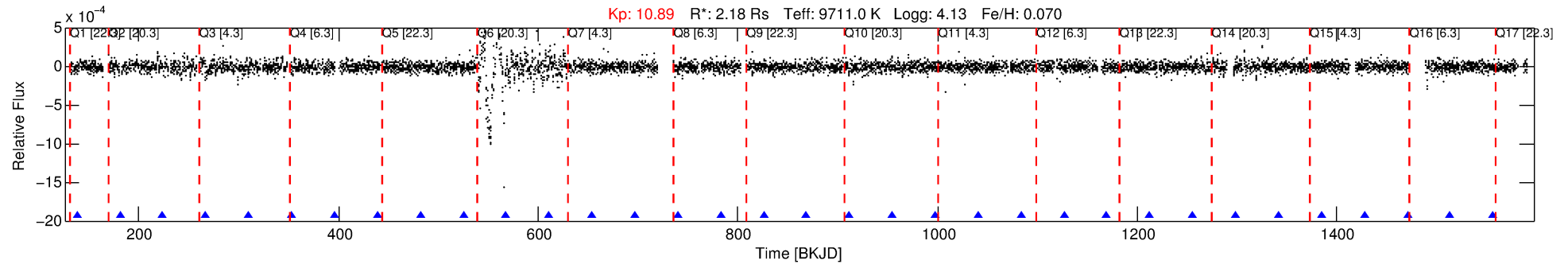
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011974090-05

No Significant Match Found

DV One-Page Summary

KIC: 11974090 Candidate: 5 of 7 Period: 42.977 d



DV Fit Results:

Period = 42.97671 [0.00056] d
Epoch = 138.2305 [0.0121] BKJD
Rp/R* = 0.0096 [0.0075]
a/R* = 44.86 [269.36]
b = 0.89 [1.44]
Seff = 372.74 [173.59]
Teq = 1120 [130] K
Rp = 2.28 [2.02] Re
a = 0.3189 [0.1022] AU
Ag = 627.75 [1121.49] [0.56σ]
Teffp = 8671 [3780] K [2.00σ]

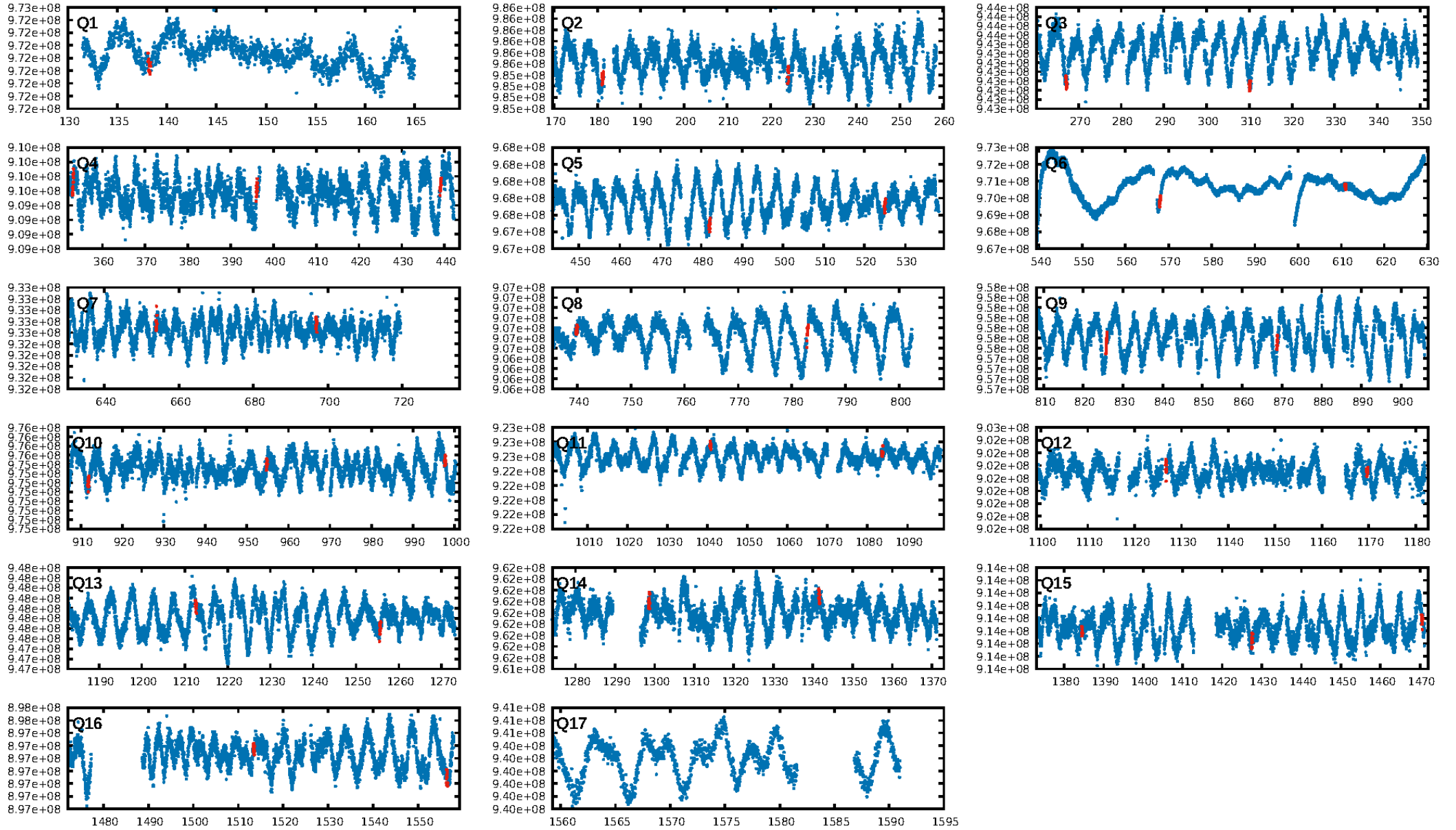
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [27.37σ]
LongPeriod-sig: 100.0% [42.94σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.44e-18
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: -1.198
Centroid-sig: 5.3%
Centroid-so: 1.132 arcsec [1.20σ]
OotOffset-rm: 2.300 arcsec [1.12σ]
KicOffset-rm: 2.294 arcsec [1.09σ]
OotOffset-st: 2/3/1/2 [8]
KicOffset-st: 2/3/1/2 [8]
DiffImageQuality-fgm: 0.25 [2/8]
DiffImageOverlap-fno: 0.00 [0/16]

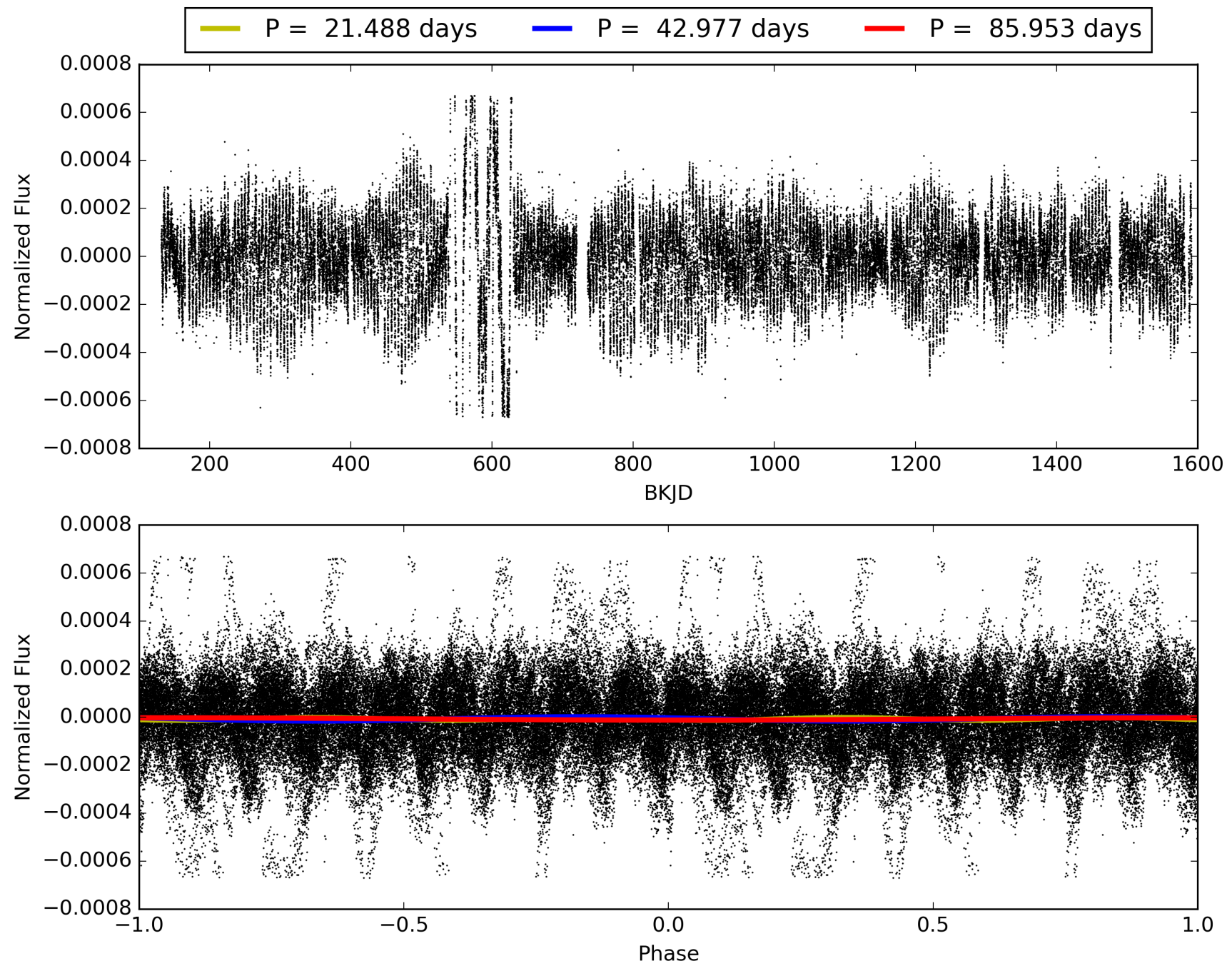
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:41:58 Z

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

TCE 011974090-05, PDC Light Curves

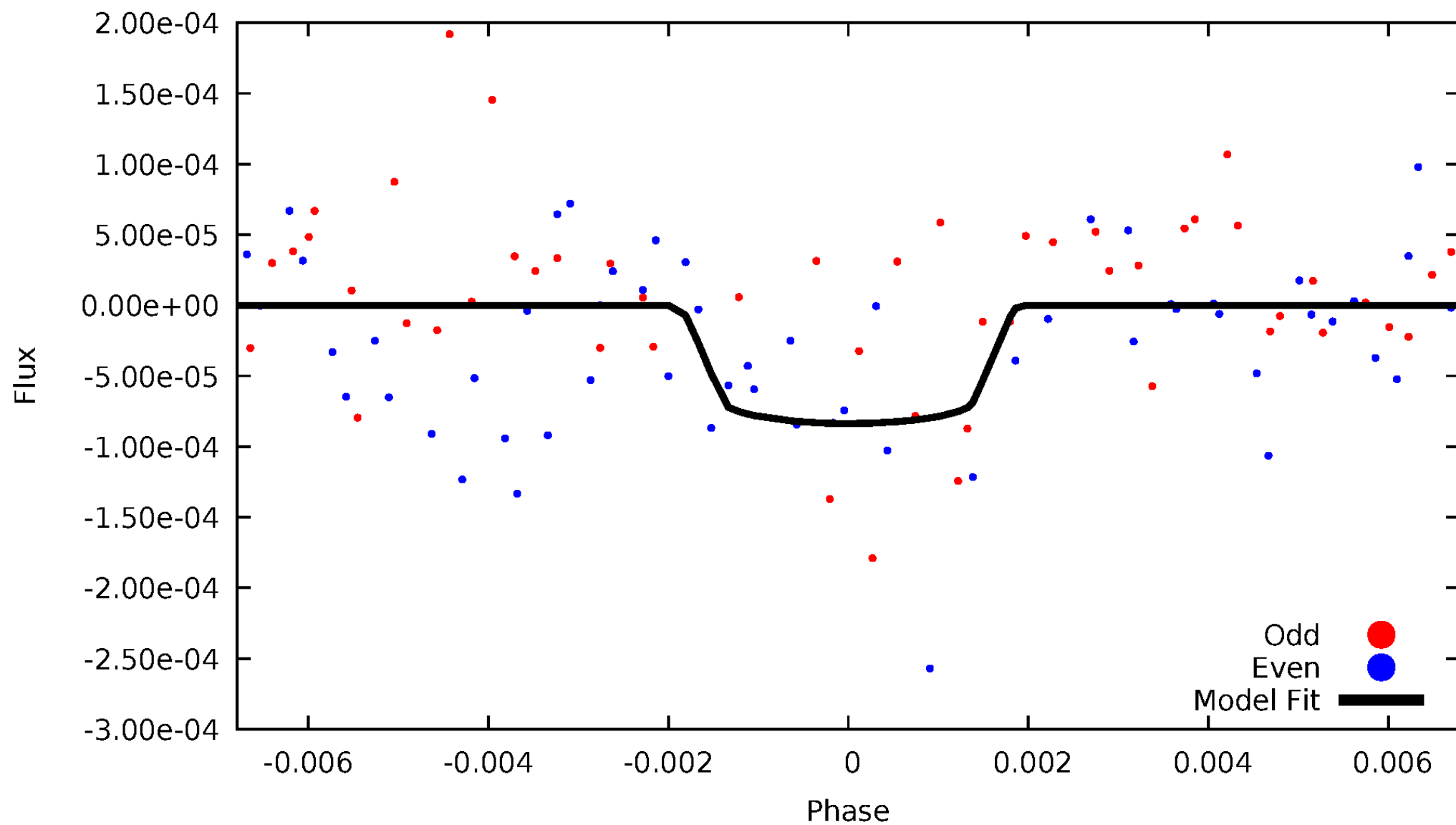


TCE 011974090-05



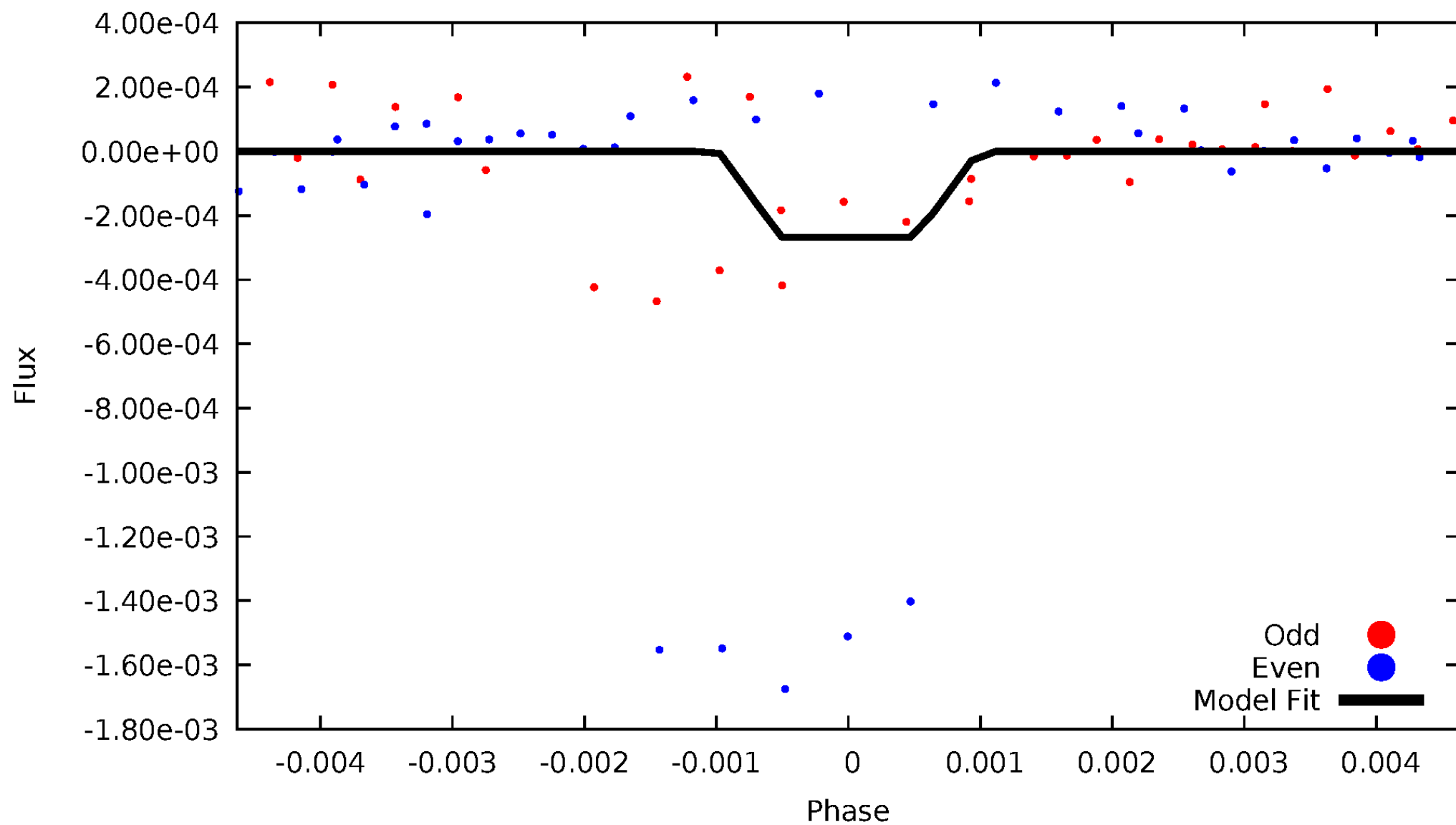
DV Odd/Even

TCE 011974090-05

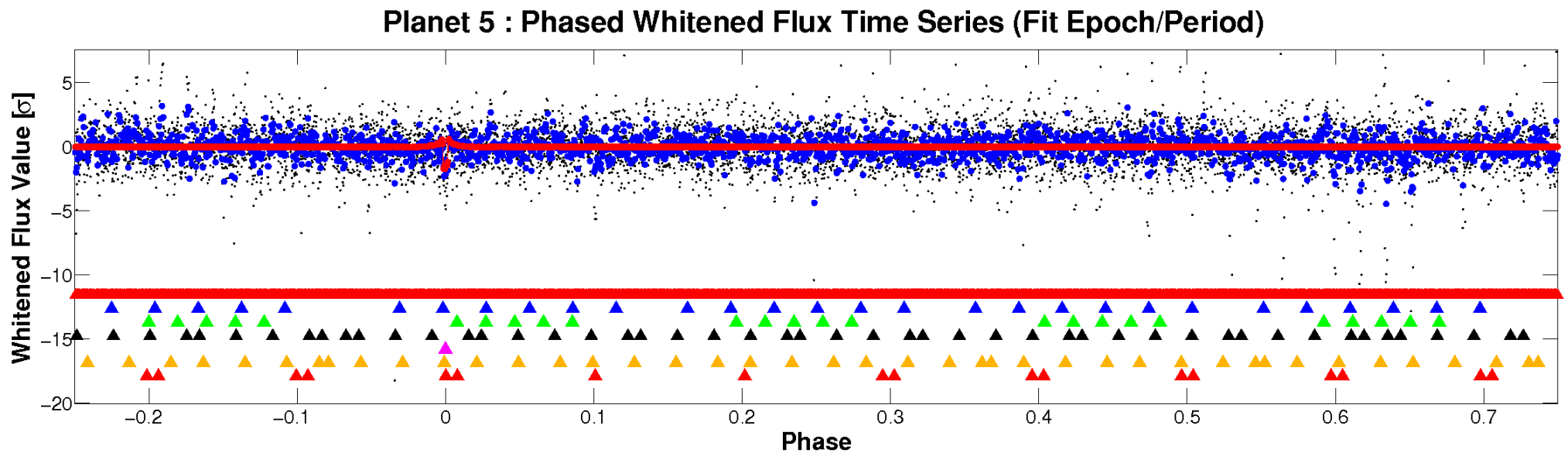
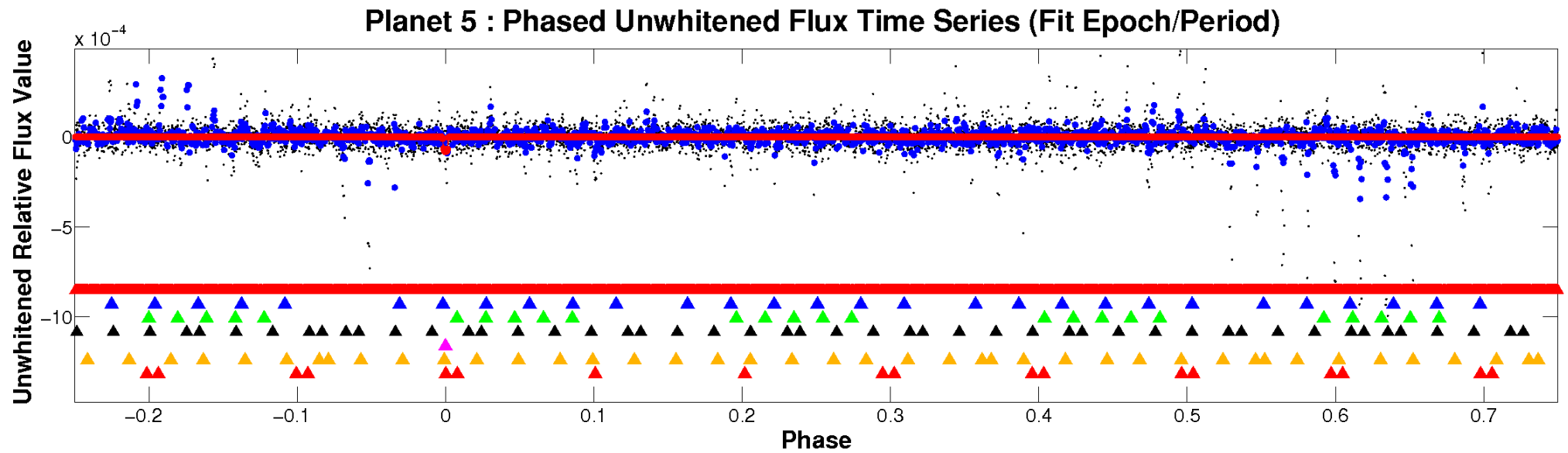


ALT Odd/Even

TCE 011974090-05

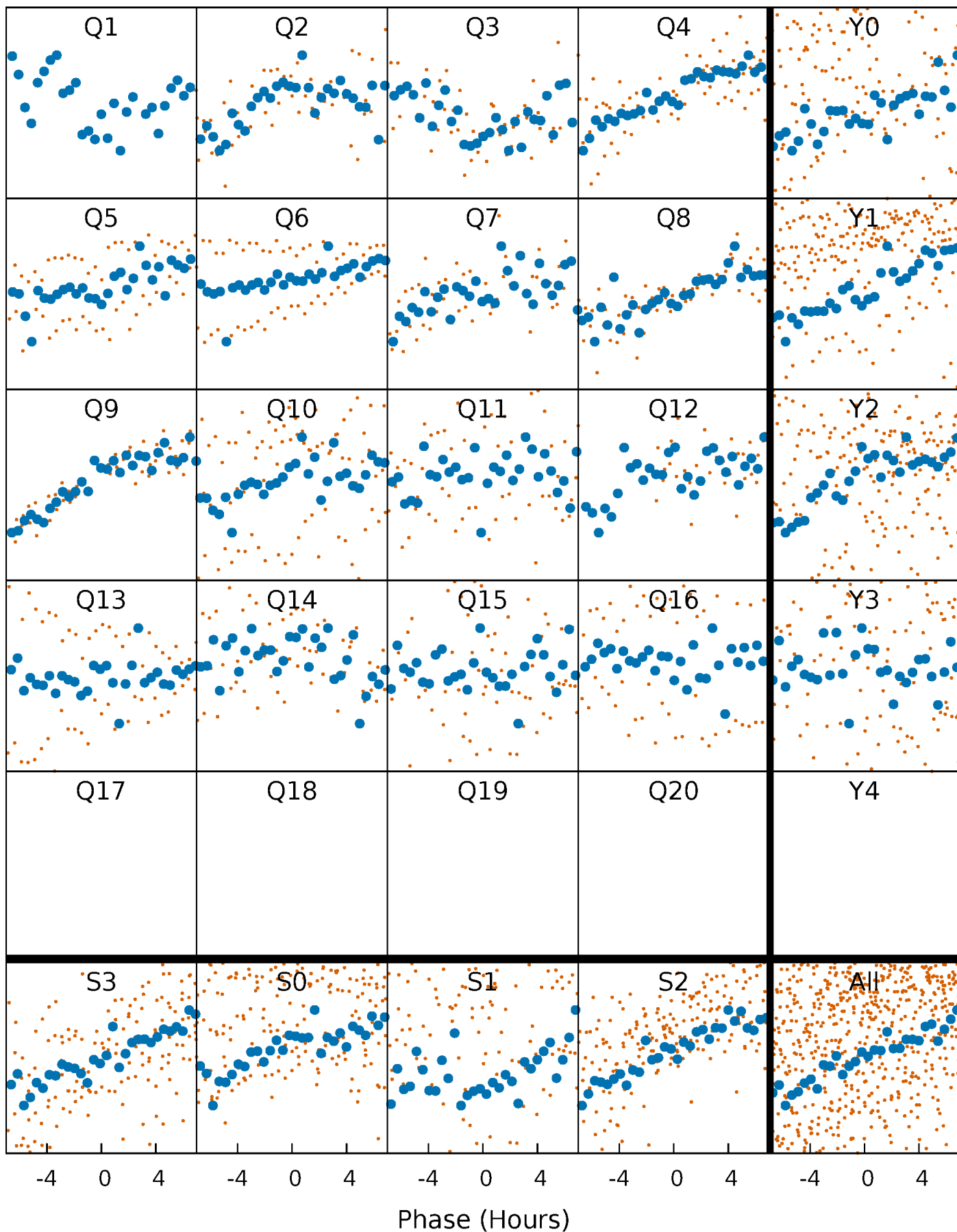


Non-Whitened Vs. Whitened Light Curve



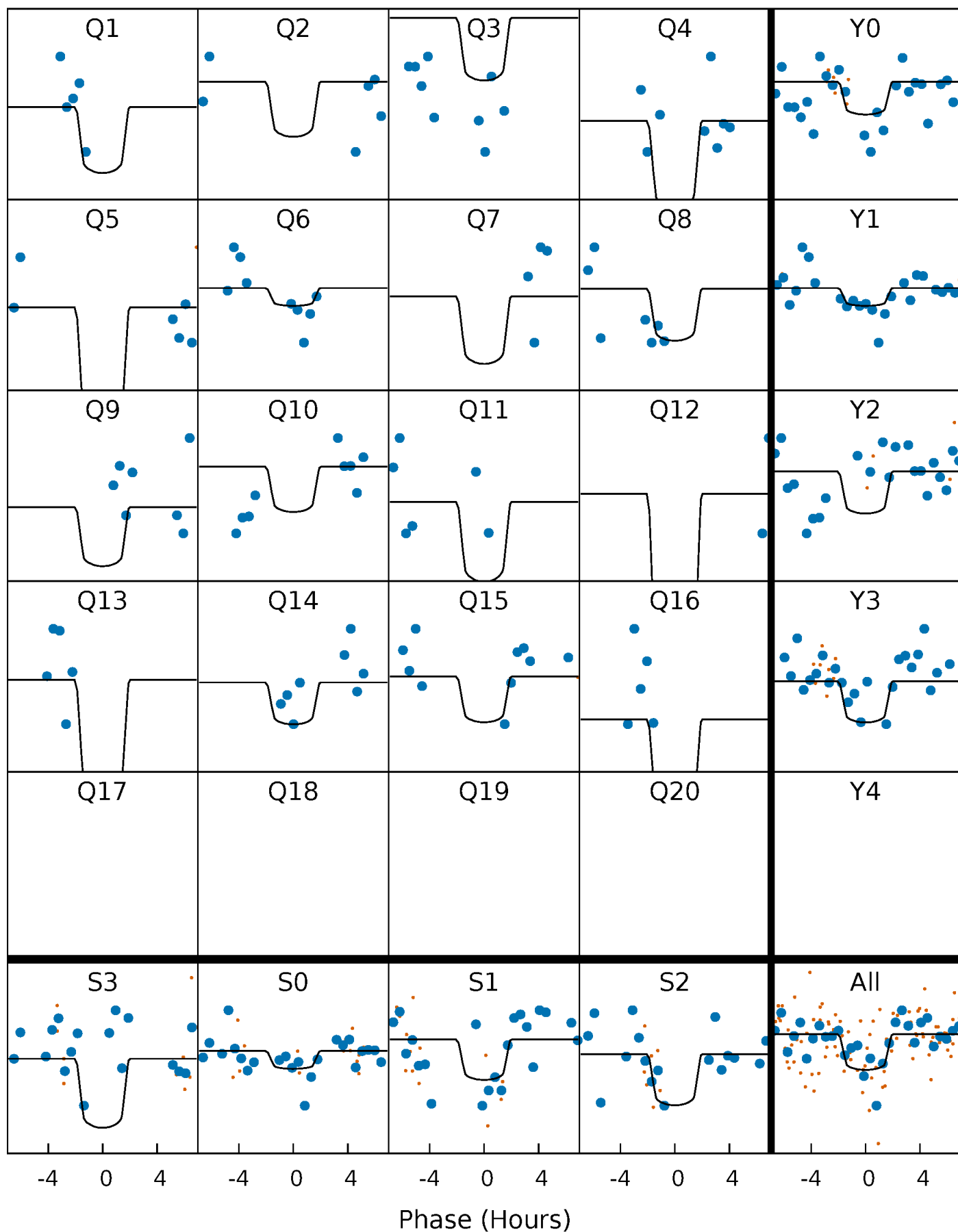
PDC Quarter-Phased Transit Curves

TCE 011974090-05 $P = 42.976707$ Days $T_0 = 138.230489$ (BKJD)



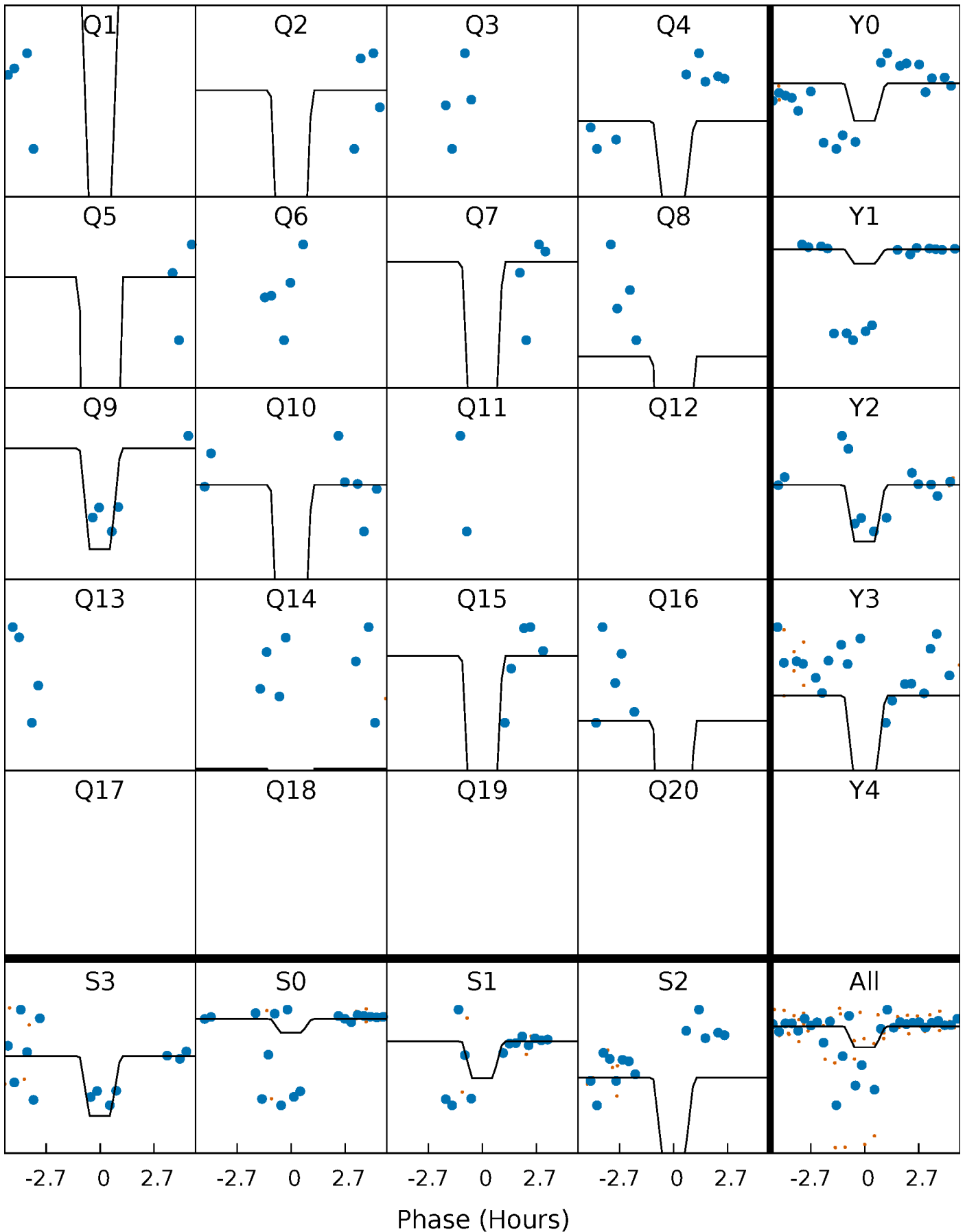
DV Quarter-Phased Transit Curves

TCE 011974090-05 $P = 42.976707$ Days $T_0 = 138.230489$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

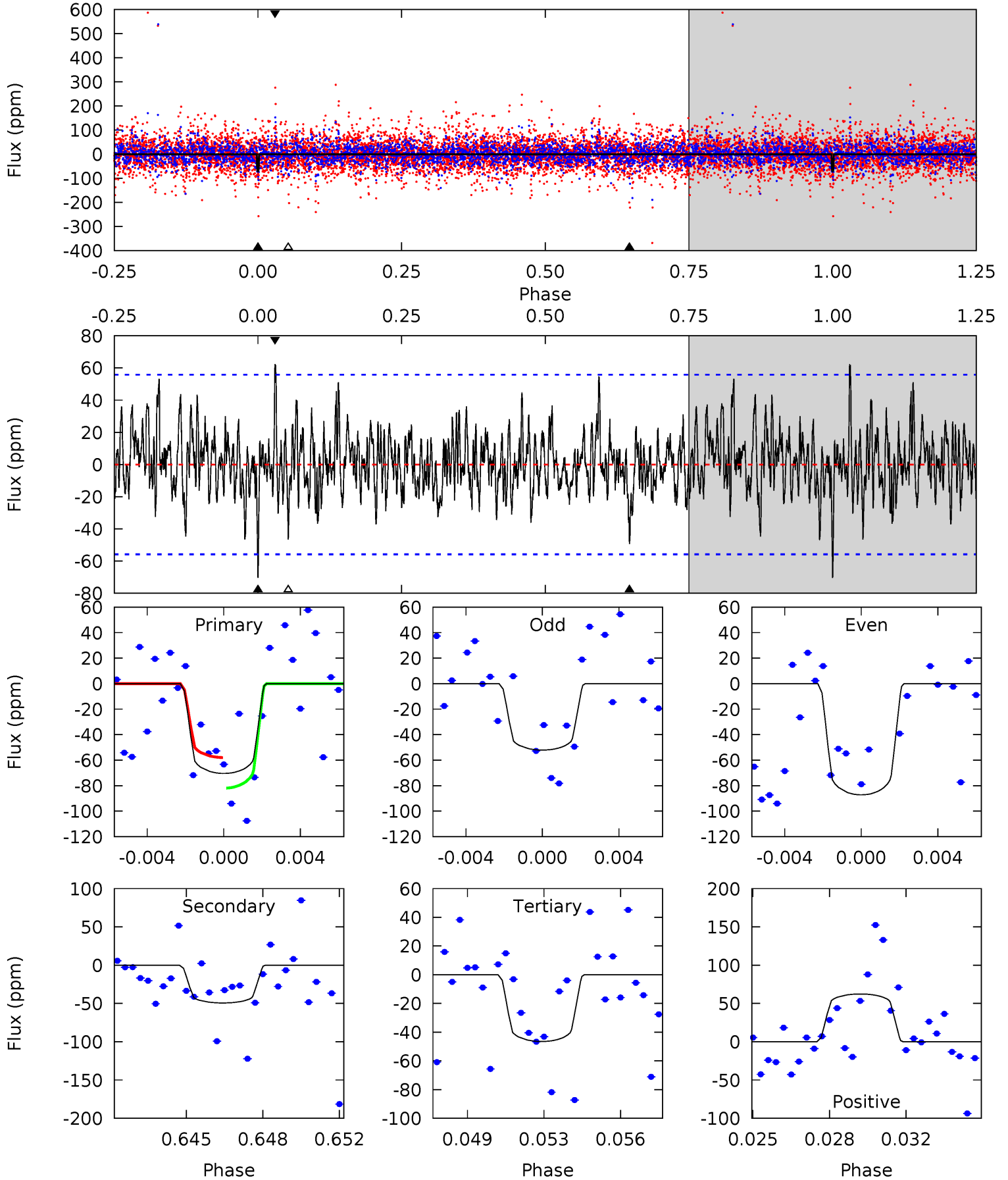
TCE 011974090-05 $P = 42.974669$ Days $T_0 = 138.310472$ (BKJD)



DV Model-Shift Uniqueness Test

011974090-05, P = 42.976707 Days, E = 95.253782 Days

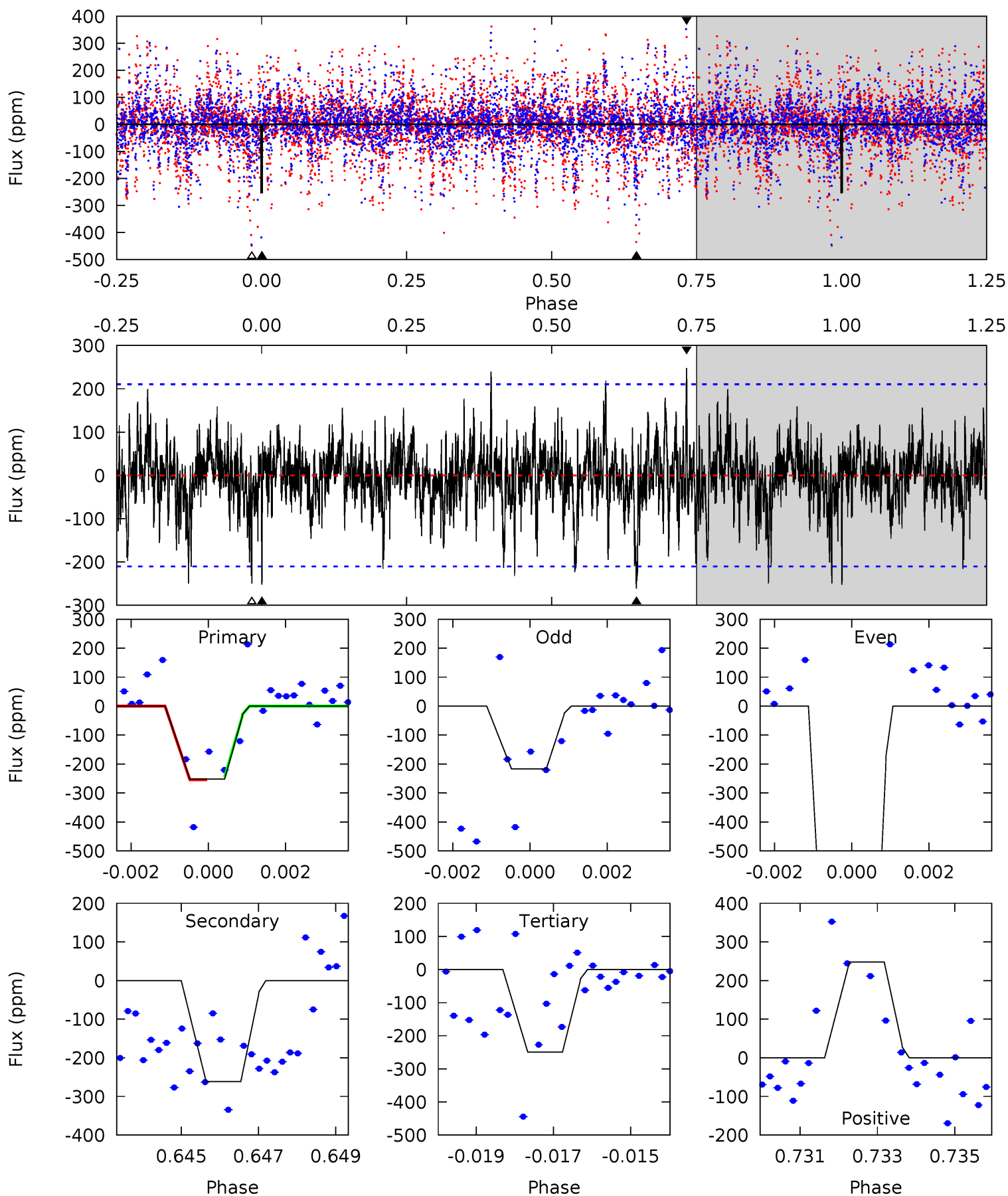
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.59	4.62	4.35	5.83	5.22	2.92	1.46	2.24	0.75	0.27	-1.22	1.34	0.90	0.47	1.13



Alt Model-Shift Uniqueness Test

011974090-05, P = 42.974669 Days, E = 95.335803 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.37	6.61	6.31	6.27	5.32	3.08	1.50	0.06	0.10	0.30	0.34	17.3	1.61	0.49	0



Stellar Parameters For KIC 011974090

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	9711^{+306}_{-443}	$4.130^{+0.175}_{-0.214}$	$0.070^{+0.150}_{-0.600}$	$2.181^{+0.900}_{-0.600}$	$2.338^{+0.415}_{-0.622}$	$0.318^{+0.319}_{-0.180}$
	+3%/-5%	+4%/-5%	+214%/-857%	+41%/-28%	+18%/-27%	+100%/-57%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011974090-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-49 ± 11	$2.49^{+1.88}_{-1.50}$	1577^{+140}_{-134}	7492^{+6701}_{-1853}	426^{+2369}_{-280}
Alt.	-261 ± 40	$3.89^{+2.09}_{-1.80}$	1565^{+166}_{-118}	9630^{+5687}_{-2298}	914^{+2257}_{-521}

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 $A_{obs} \gg 1.0$

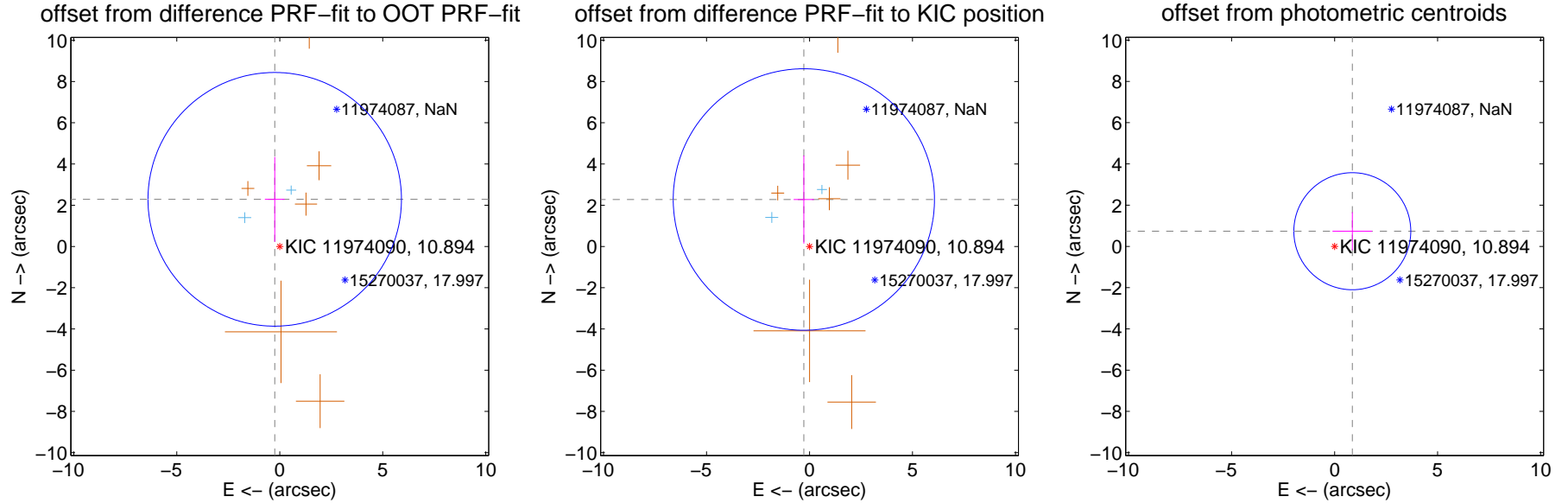
DV Centroid Data

Supplemental centroid analysis for 011974090-05. **Kepler magnitude: 10.89.** Transit SNR 7.40

There are 2 quarters with good PRF difference image offsets

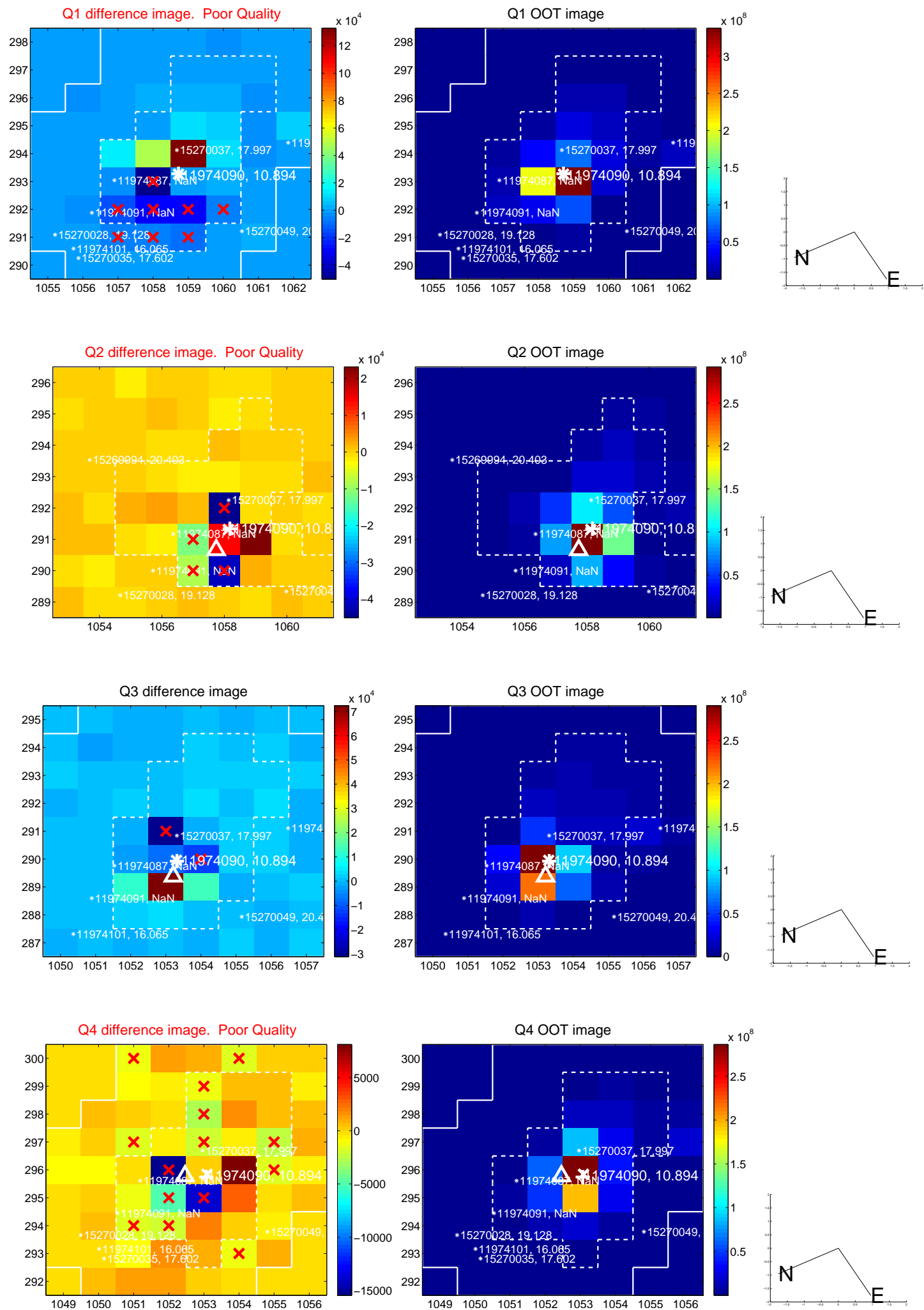
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.300 ± 2.050	1.12	0.245 ± 0.476	2.287 ± 2.057
PRF-fit source offset from KIC position	2.294 ± 2.114	1.09	0.275 ± 0.495	2.277 ± 2.135
photometric centroid source offset	1.13 ± 0.95	1.20	-0.86 ± 0.96	0.74 ± 0.92

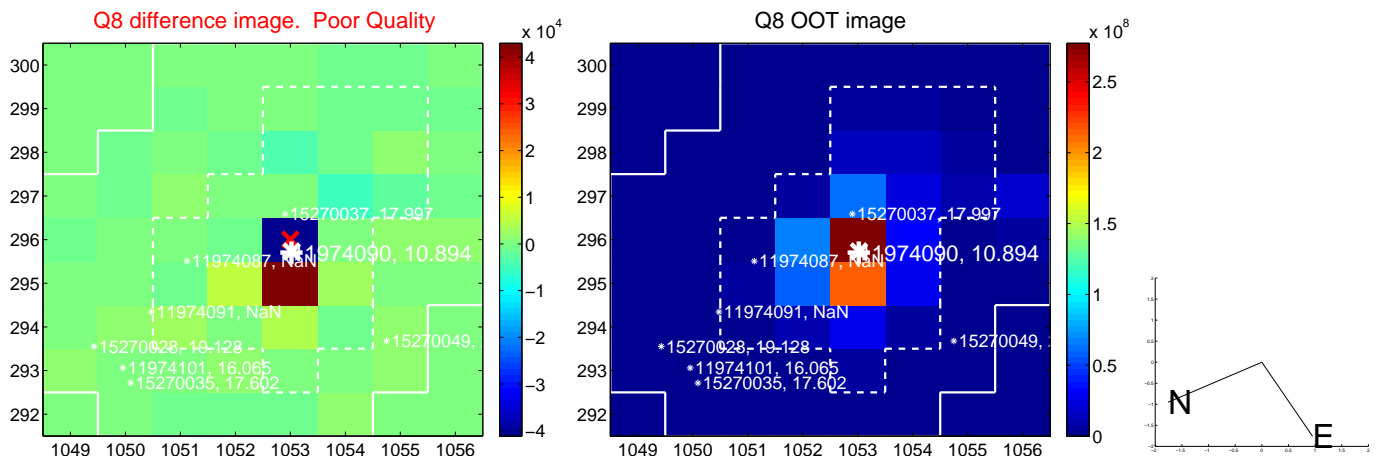
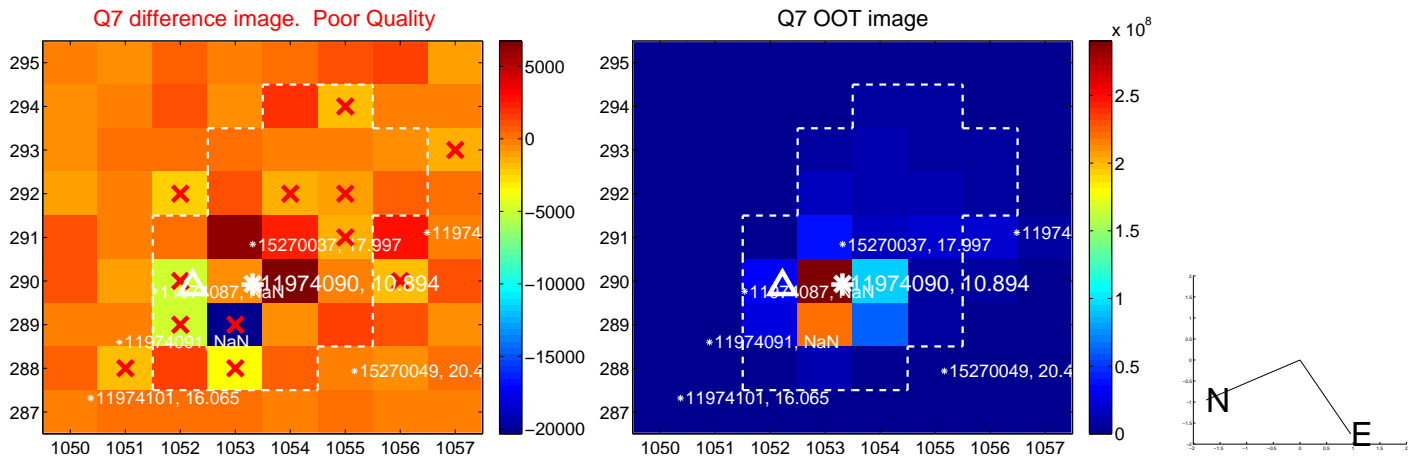
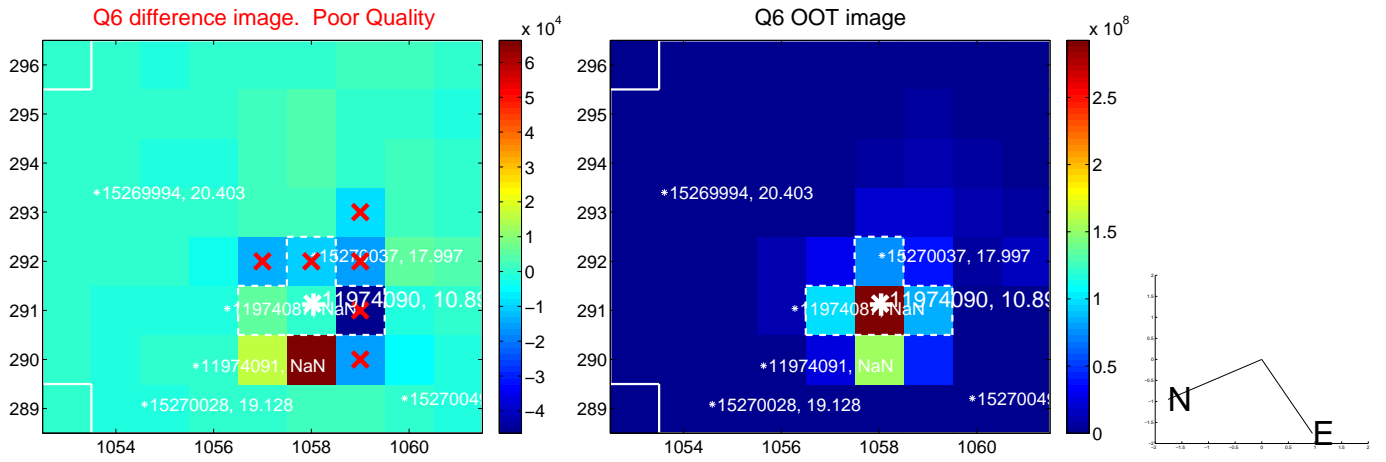
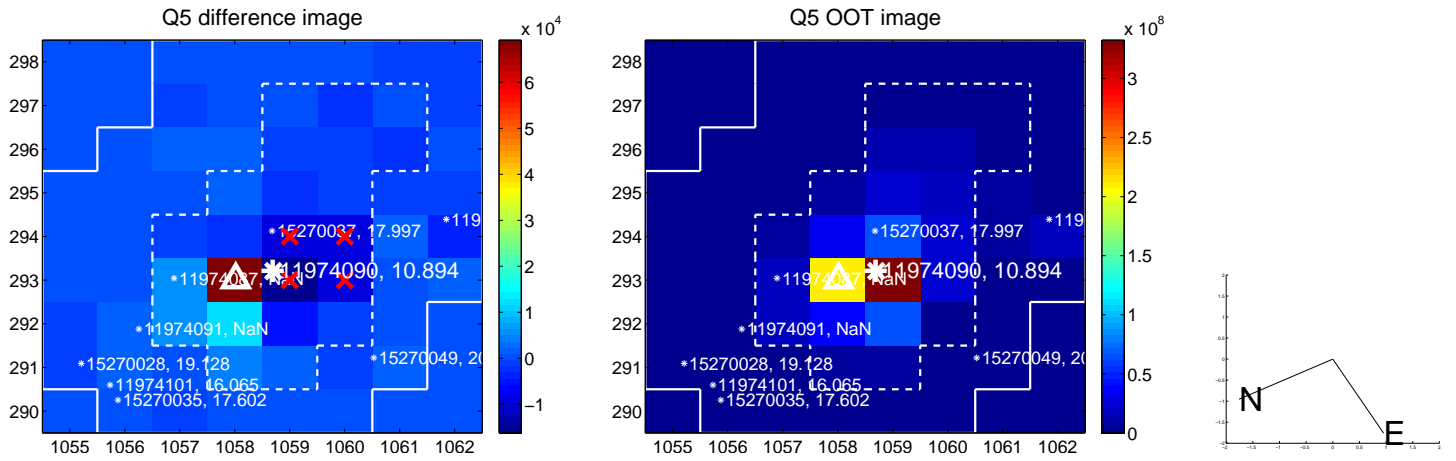


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

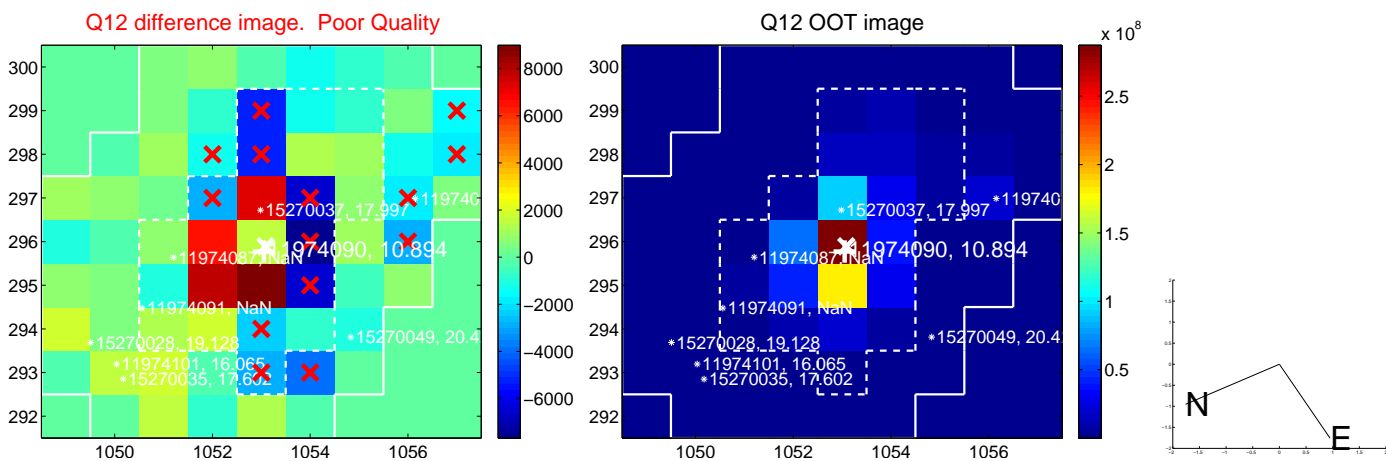
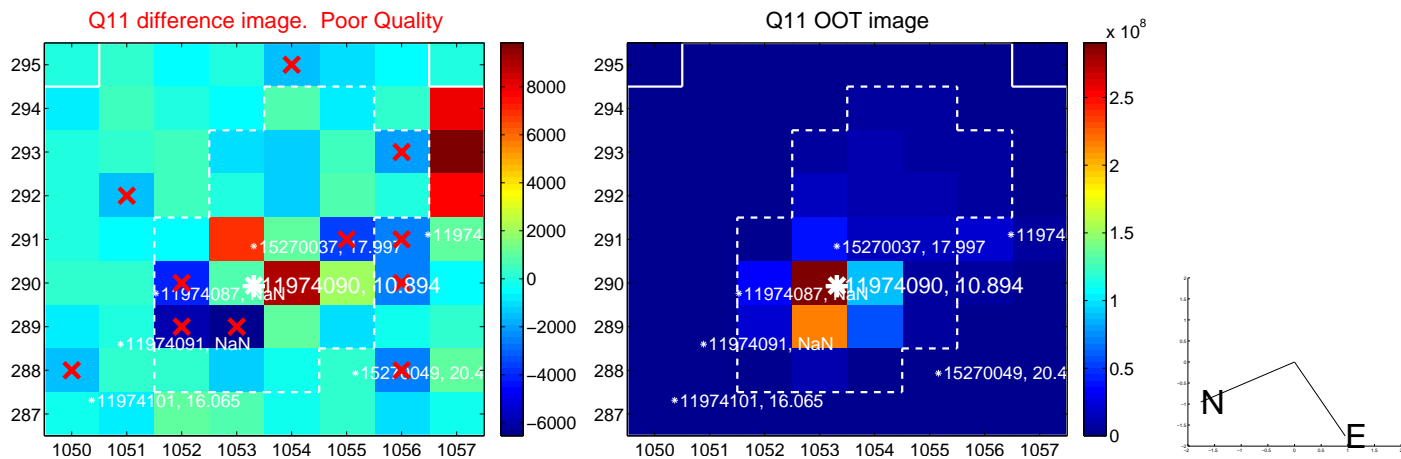
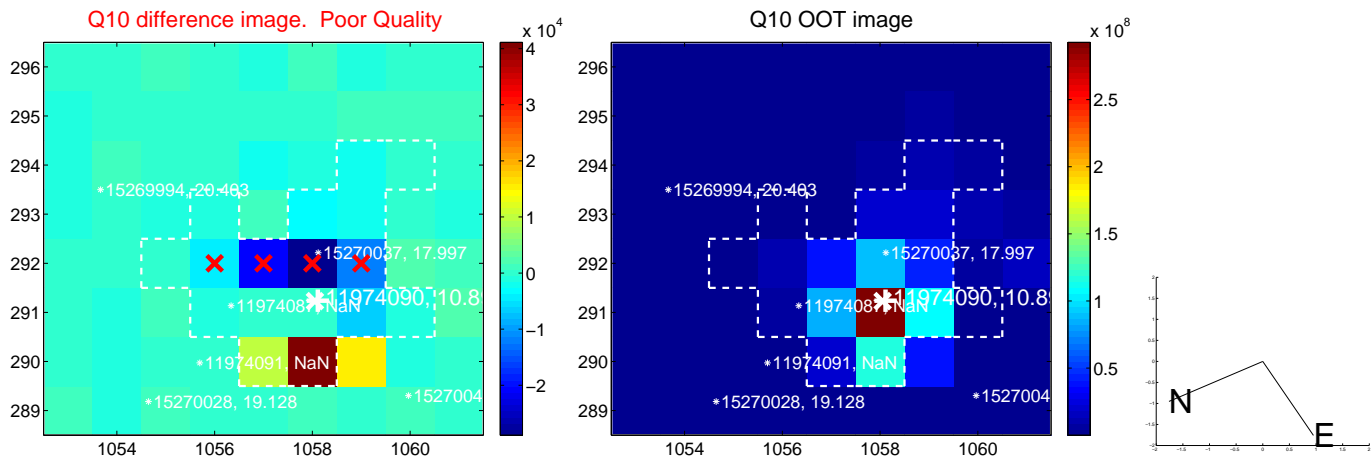
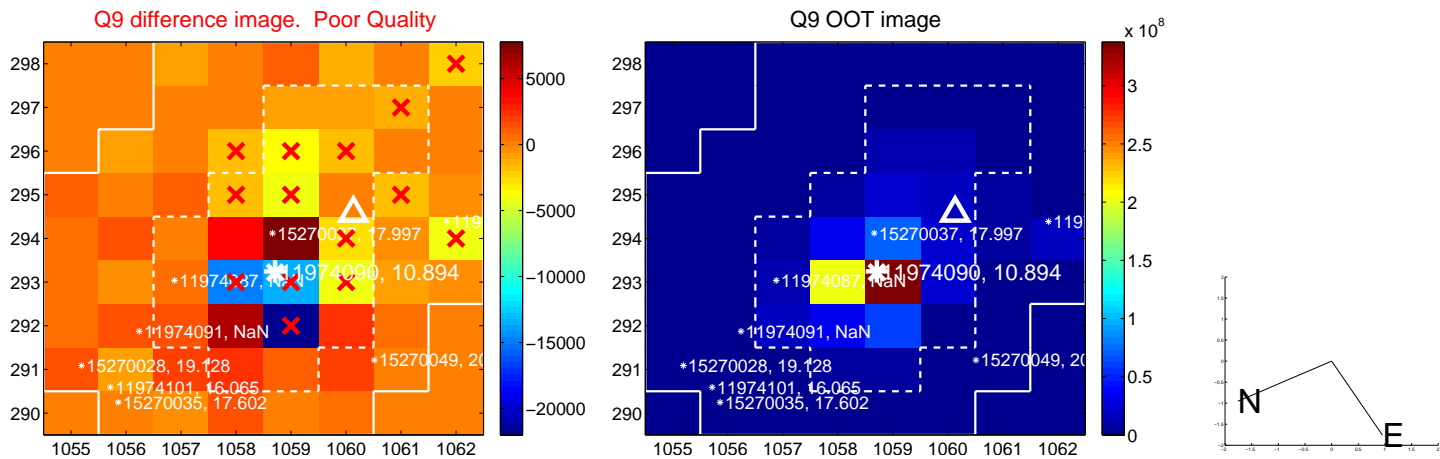
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



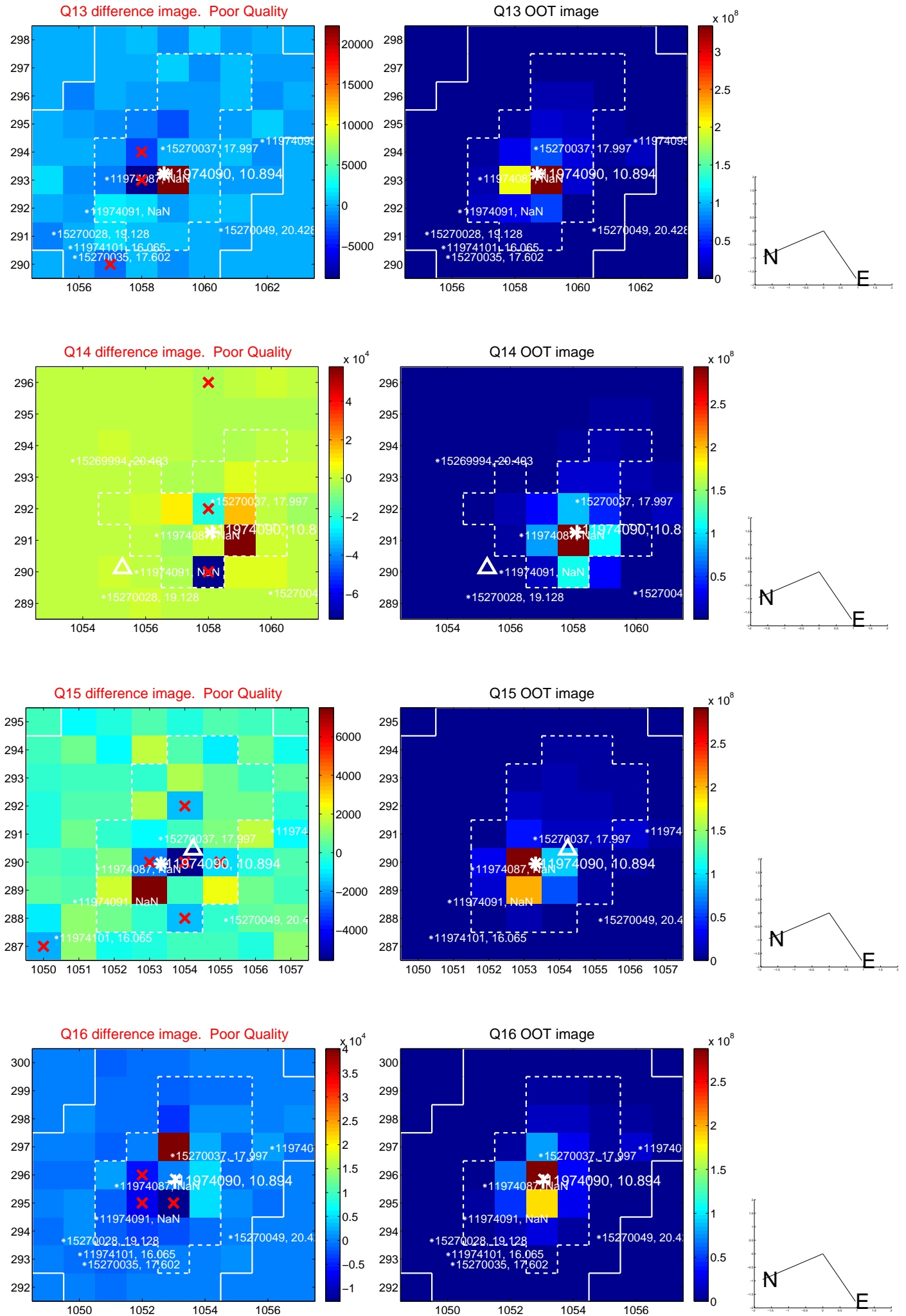
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



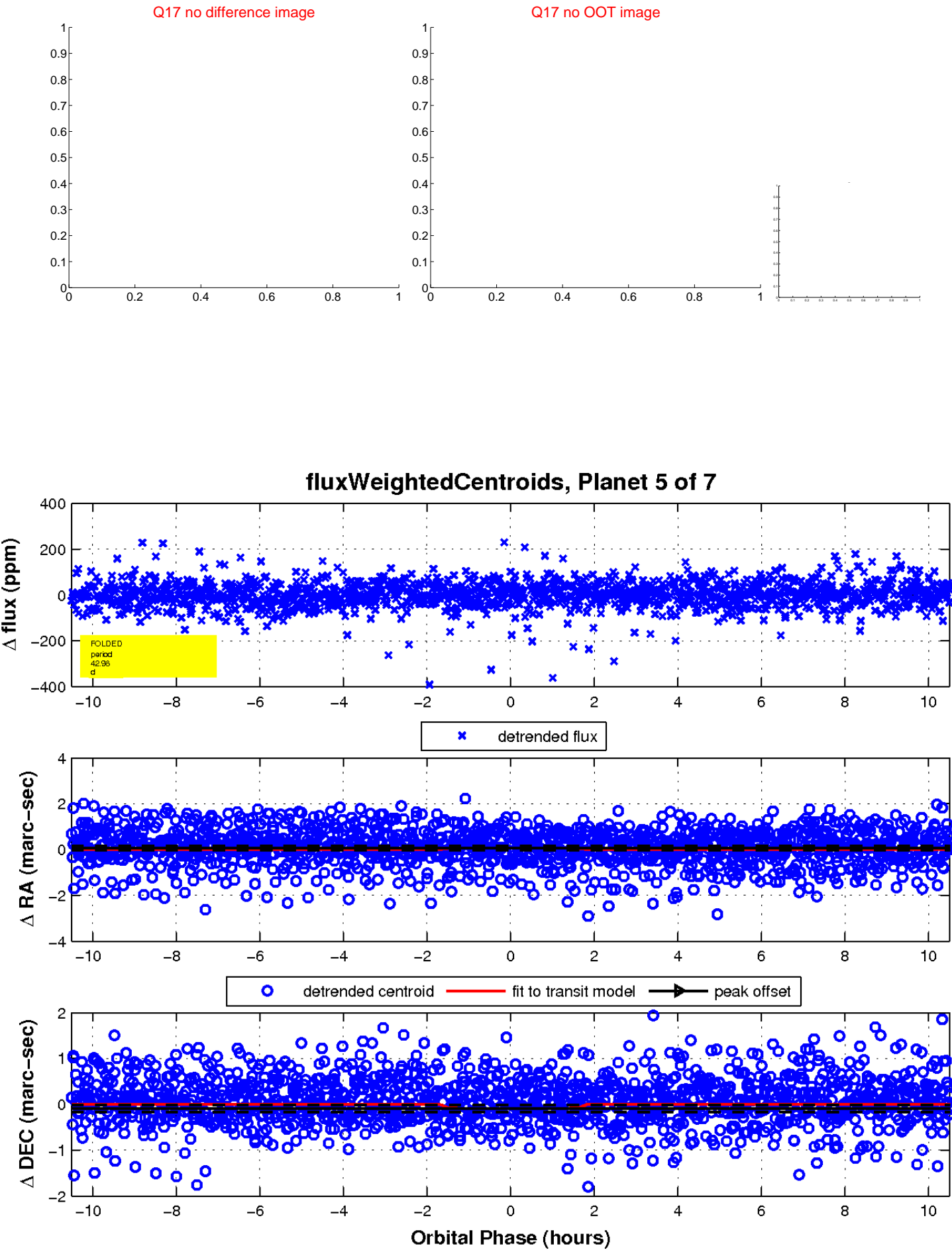
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

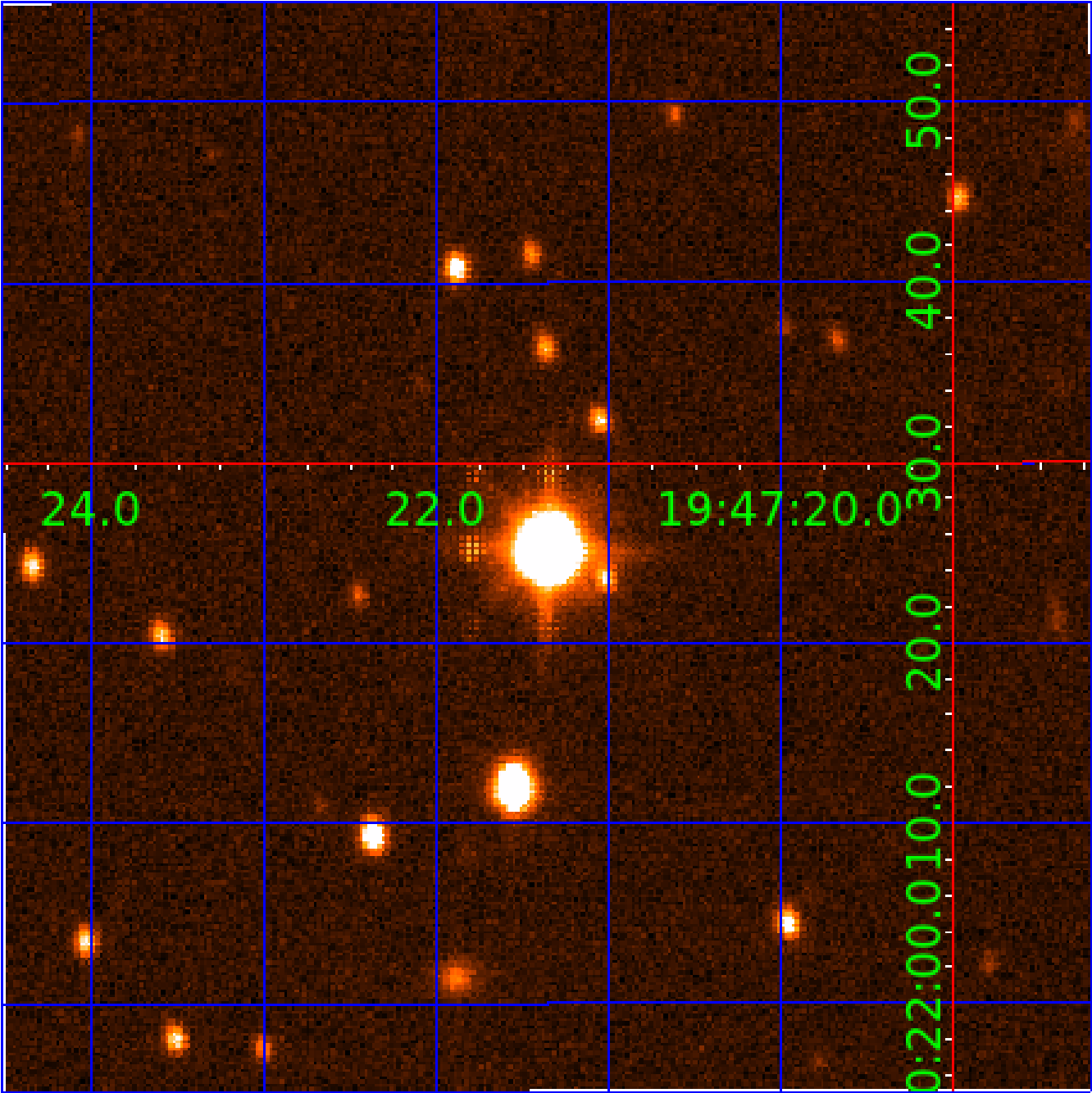


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011974090

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})
011974090-01	OBS	No	0.750265	131.754870	3.4	5.109	7.1	6.6	2.18	9711	0.42	82306.48
011974090-02	OBS	No	51.321017	143.176180	36.2	3.081	21.3	3.7	2.18	9711	1.52	294.21
011974090-04	OBS	No	30.189850	134.656336	63.8	5.719	12.5	8.2	2.18	9711	1.96	596.91
011974090-05	OBS	No	42.976707	138.230489	83.6	3.502	12.2	7.4	2.18	9711	2.28	372.74
011974090-06	OBS	No	35.052964	134.838259	115.4	6.000	10.0	-1.0	2.18	9711	2.40	489.13
011974090-07	OBS	No	81.622333	181.550535	162.3	2.075	13.0	8.2	2.18	9711	3.18	158.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011974090-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED
011974090-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED—HALO_GHOST
011974090-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011974090-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011974090-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011974090-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED—HALO_GHOST

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

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

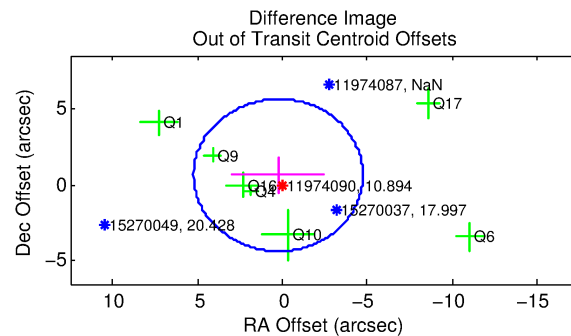
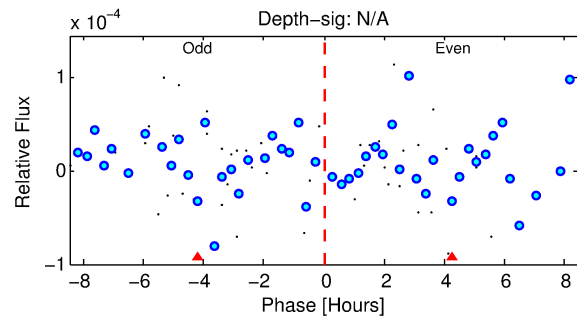
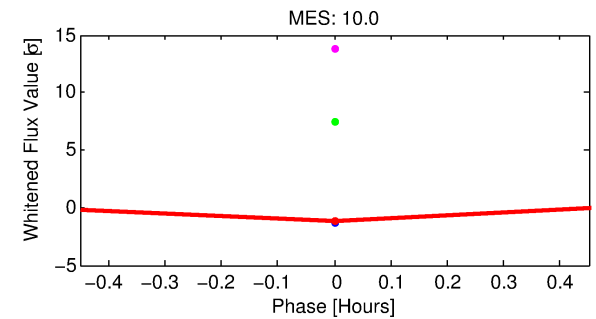
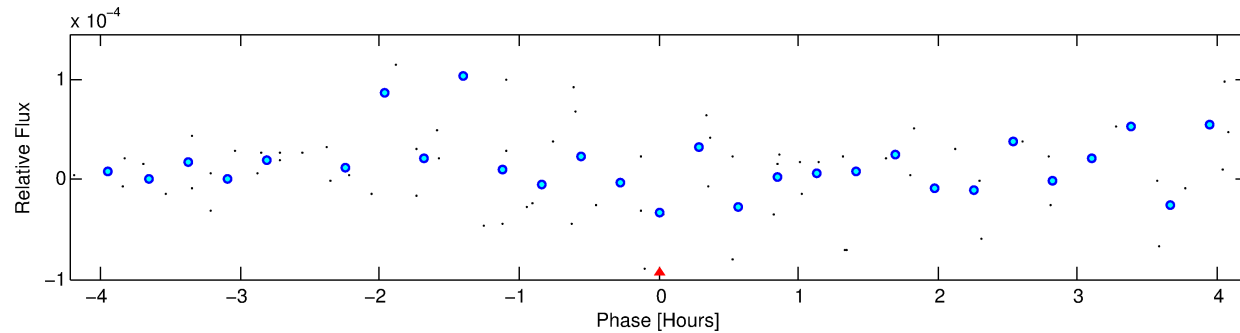
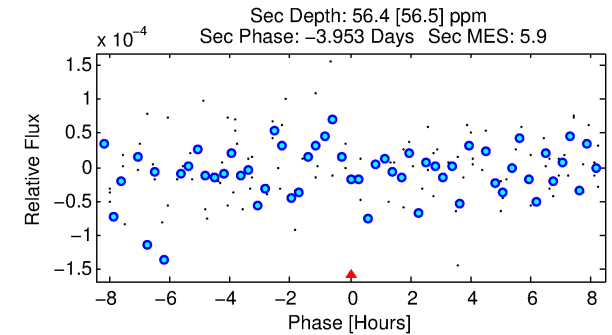
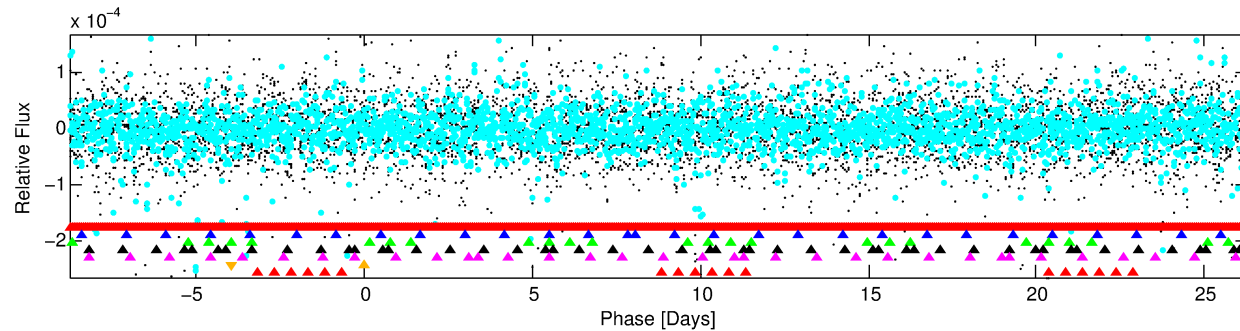
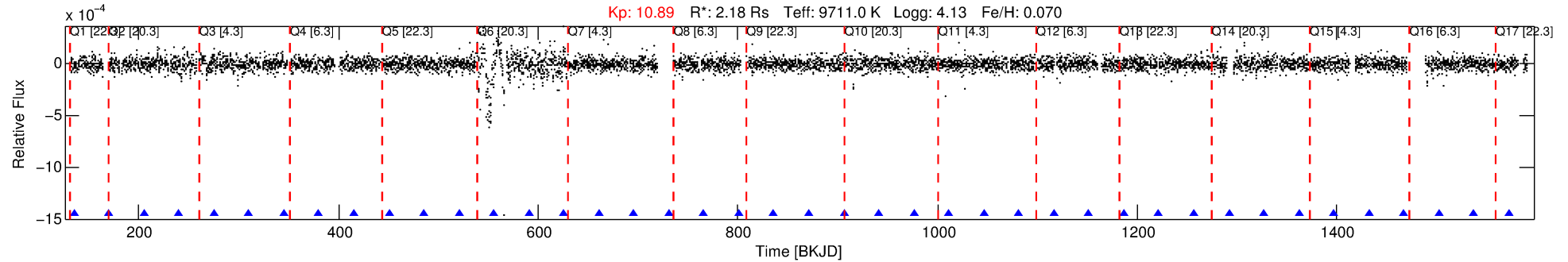
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011974090-06

No Significant Match Found

DV One-Page Summary

KIC: 11974090 Candidate: 6 of 7 Period: 35.053 d



TPS TCE Results:

Period = 35.05296 d
Epoch = 134.8383 BKJD

DV fit results are unavailable

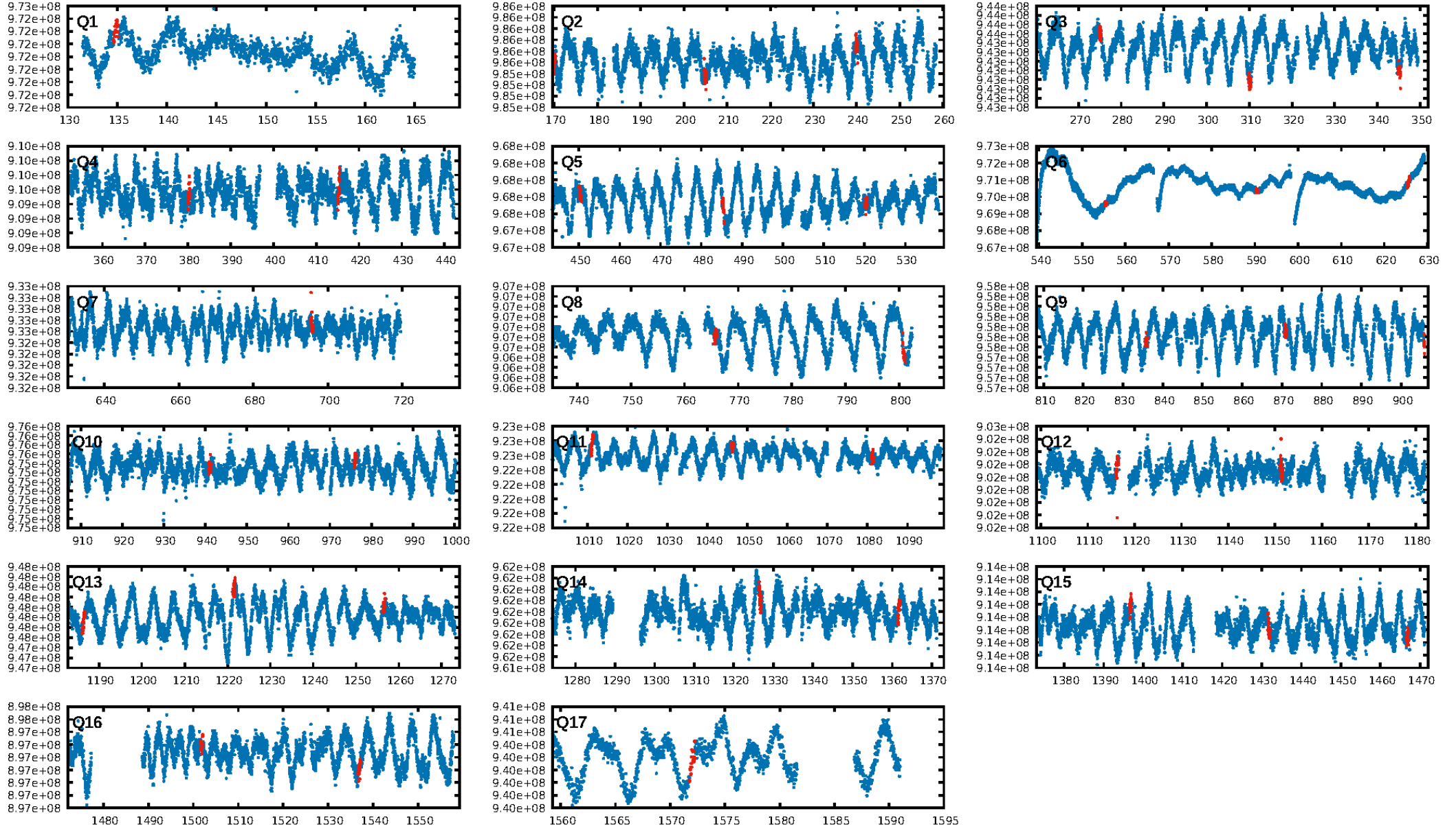
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [14.08σ]
LongPeriod-sig: 100.0% [27.37σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.21e-13
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: -0.9014
Centroid-sig: 84.1%
Centroid-so: 2.263 arcsec [0.29σ]
OotOffset-rm: 0.682 arcsec [0.41σ]
KicOffset-rm: 0.650 arcsec [0.40σ]
OotOffset-st: 2/0/2/3 [7]
KicOffset-st: 2/0/2/3 [7]
DiffImageQuality-fgm: 0.14 [1/7]
DiffImageOverlap-fno: 0.29 [5/17]

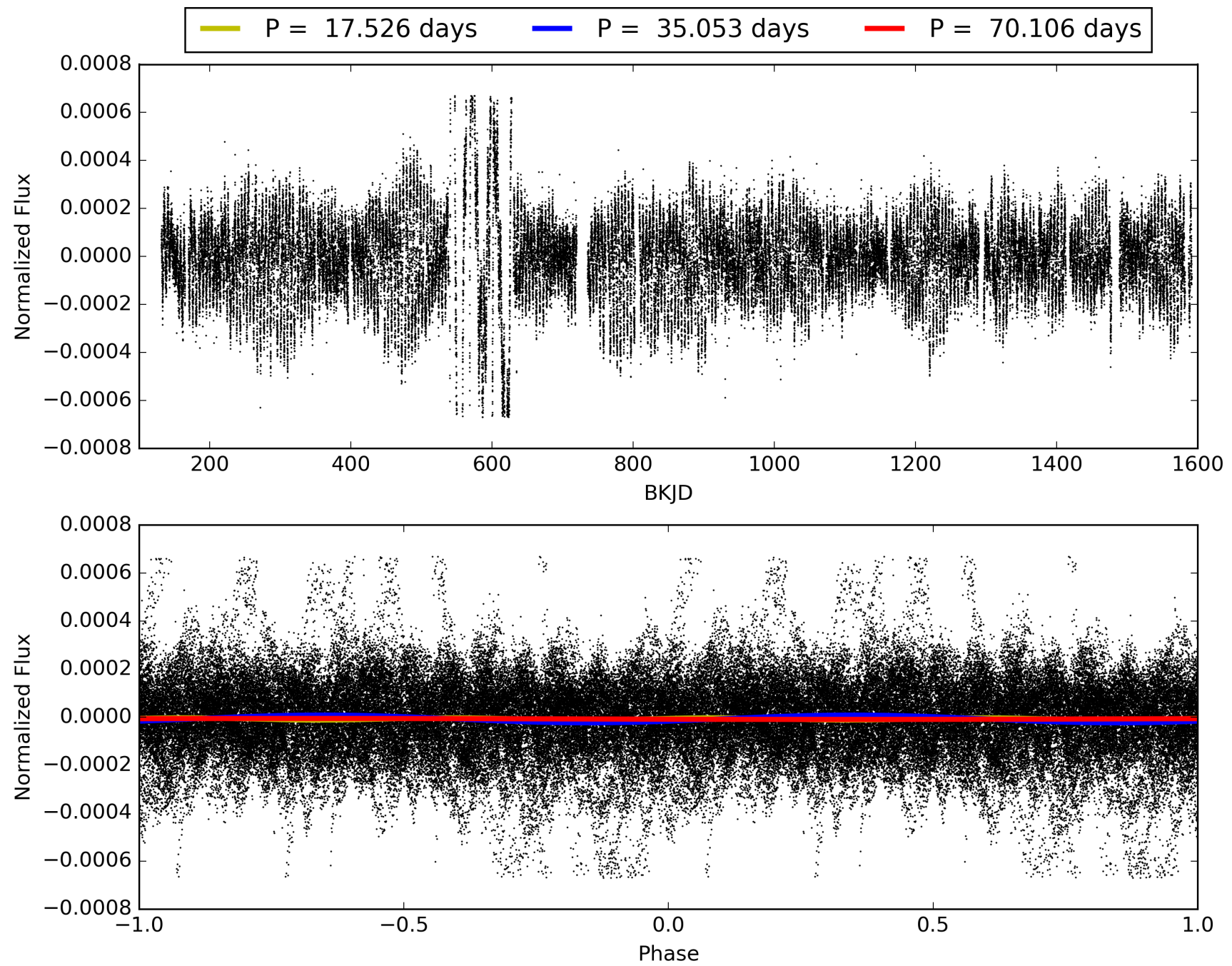
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:42:01 Z

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

TCE 011974090-06, PDC Light Curves

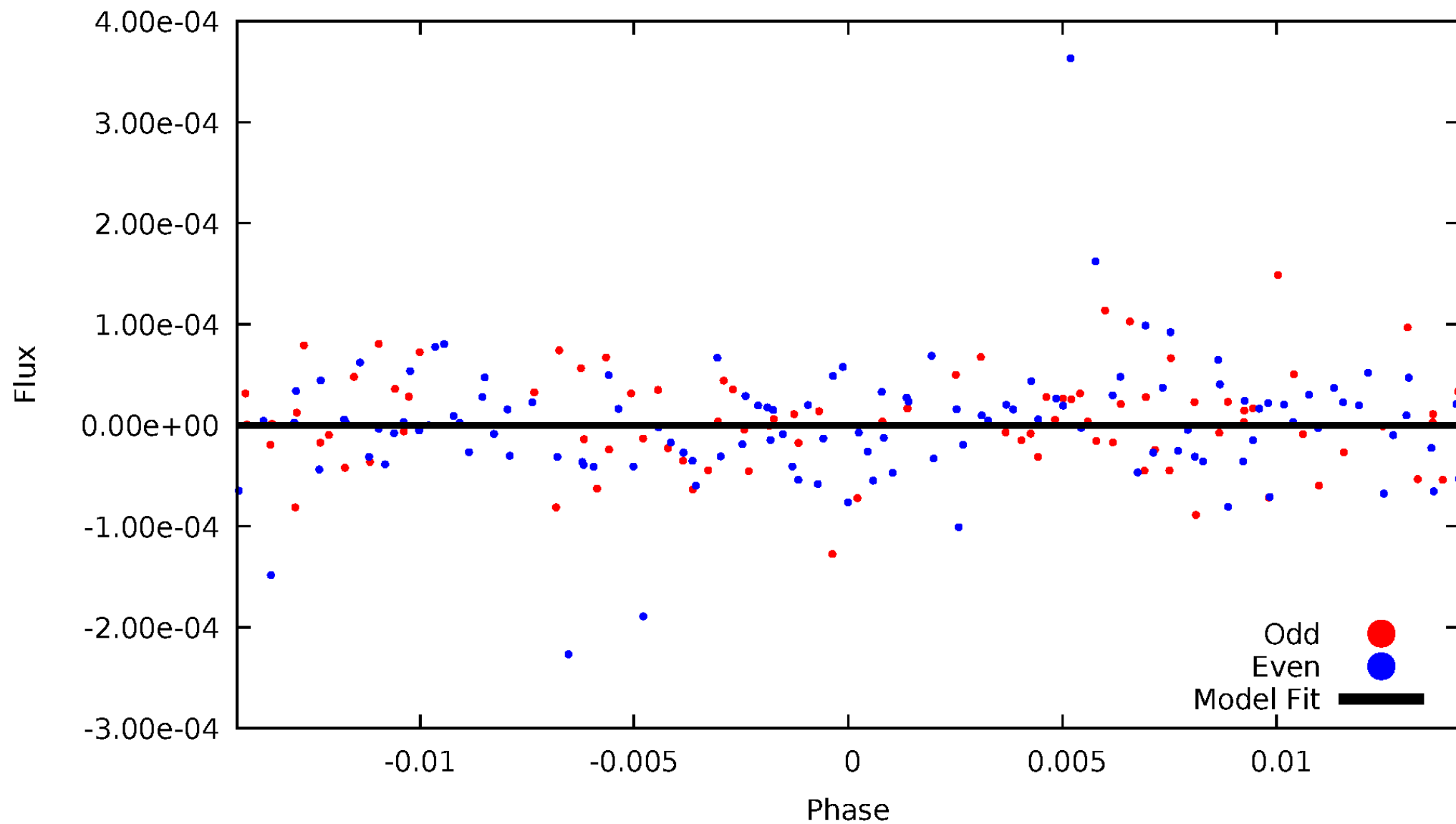


TCE 011974090-06



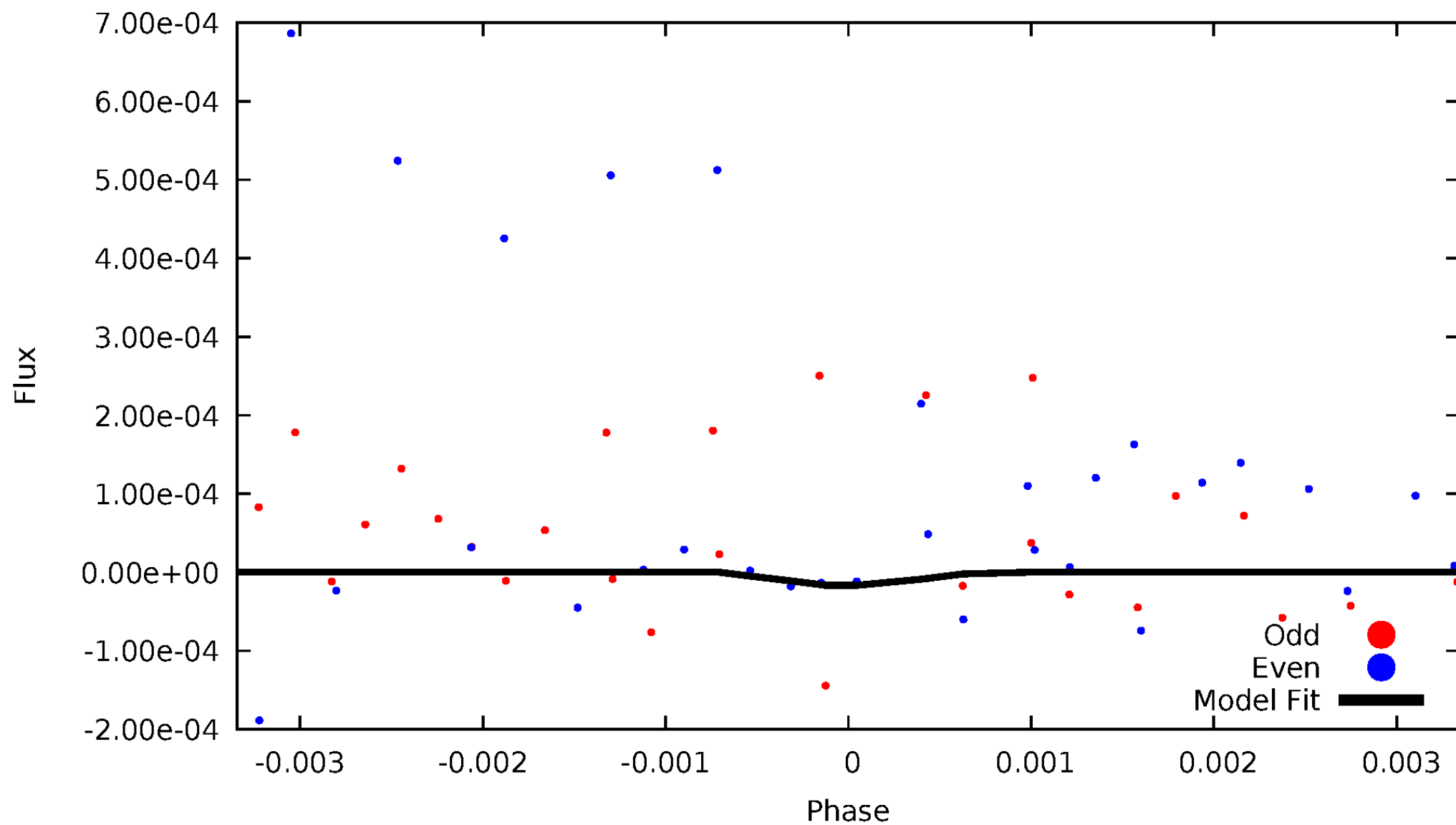
DV Odd/Even

TCE 011974090-06



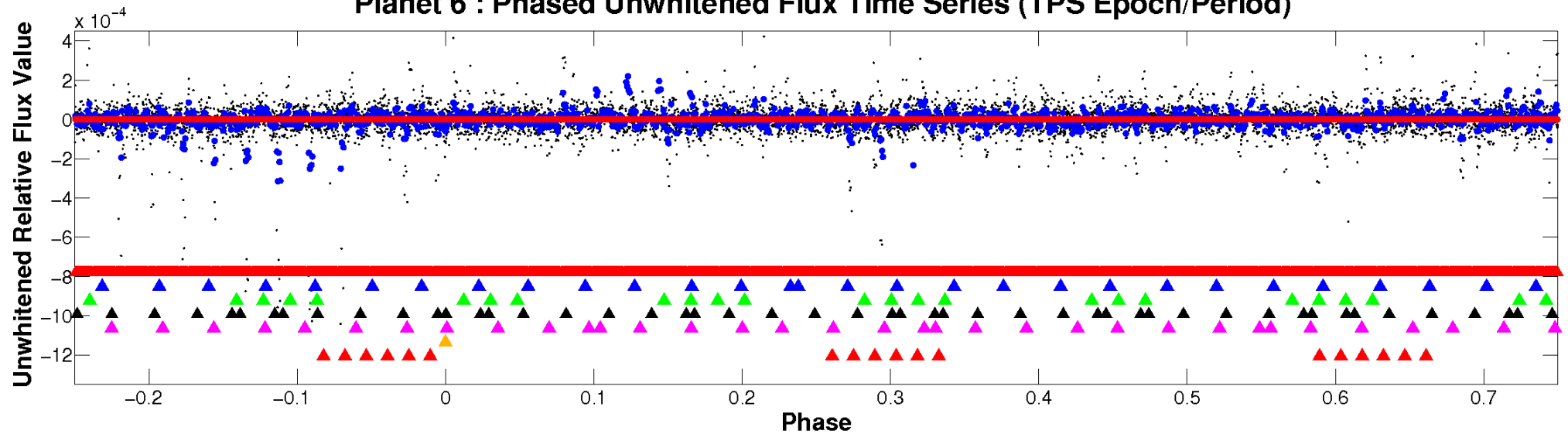
ALT Odd/Even

TCE 011974090-06

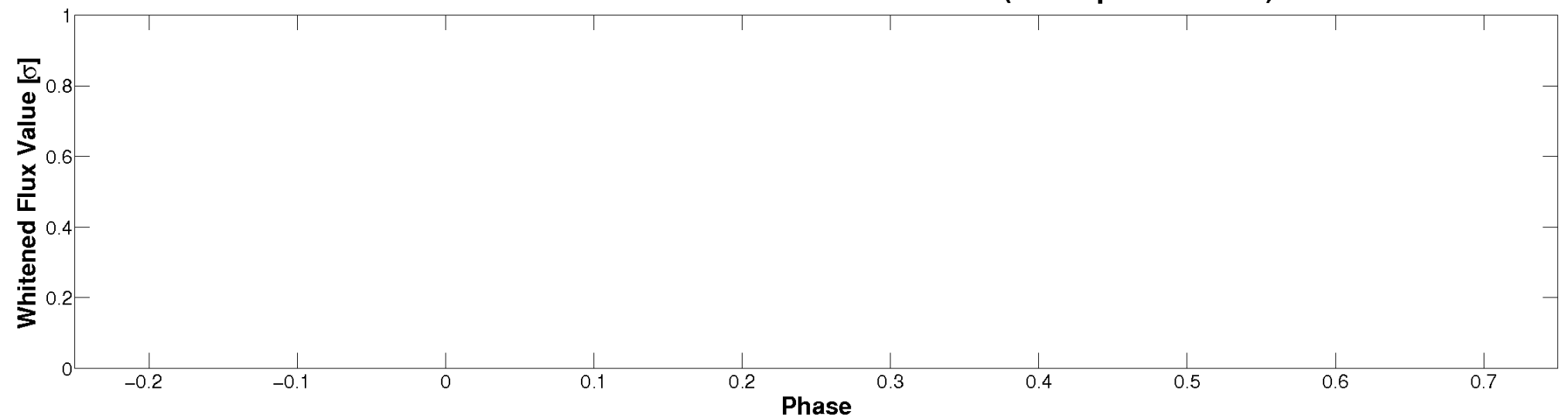


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

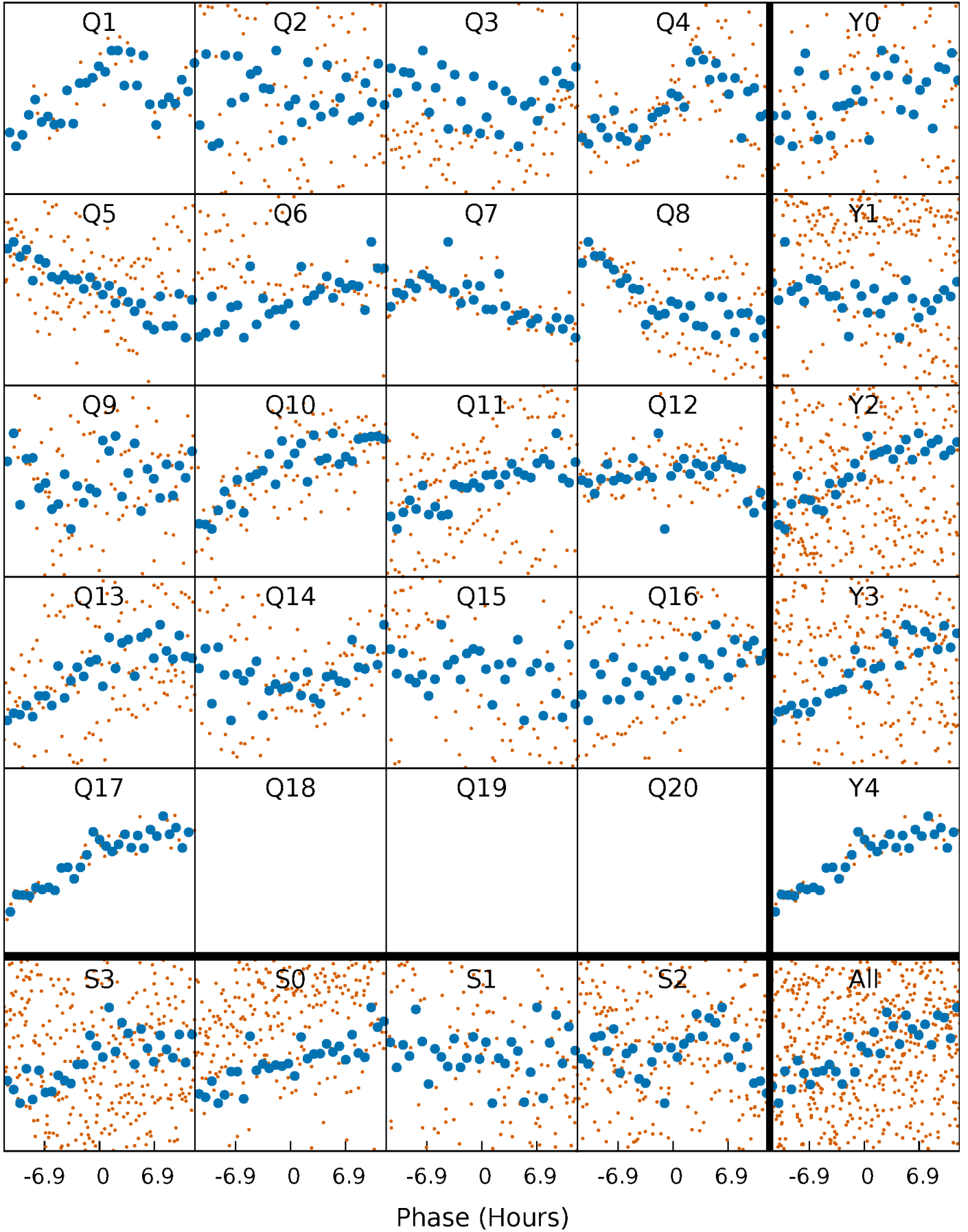


Planet 6 : Phased Whitened Flux Time Series (TPS Epoch/Period)



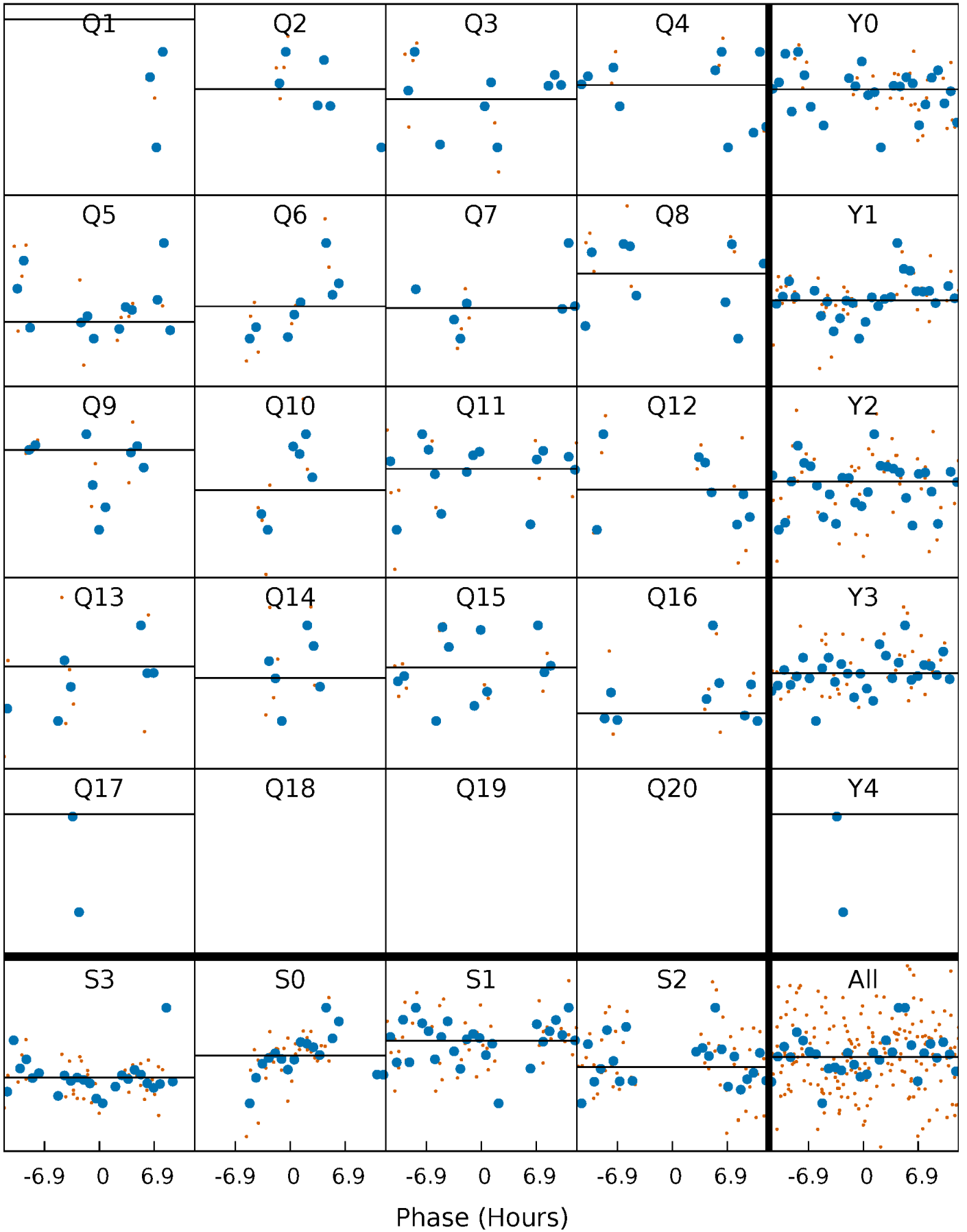
PDC Quarter-Phased Transit Curves

TCE 011974090-06 $P = 35.052964$ Days $T_0 = 134.838258$ (BKJD)



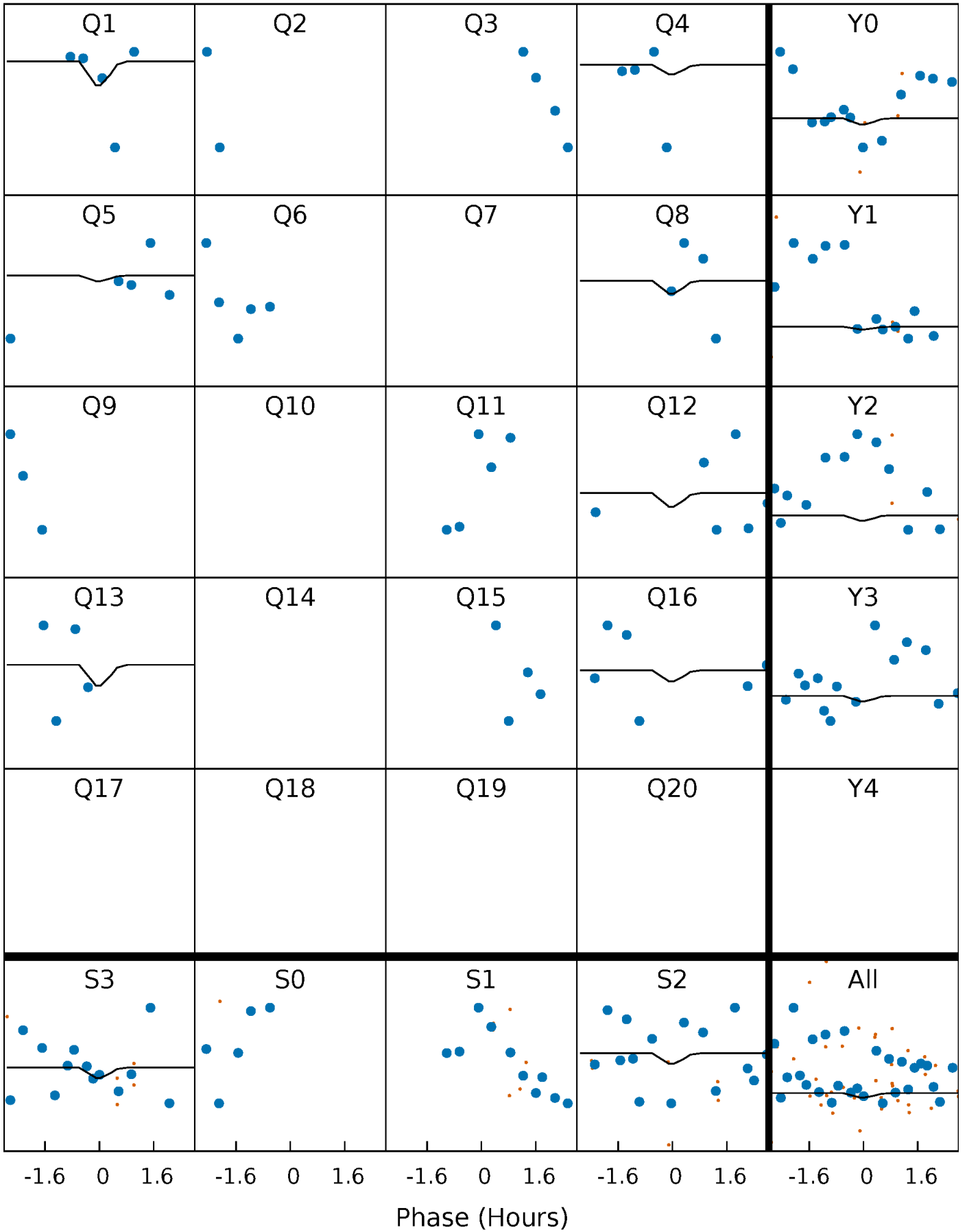
DV Quarter-Phased Transit Curves

TCE 011974090-06 P= 35.052964 Days $T_0=134.838258$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

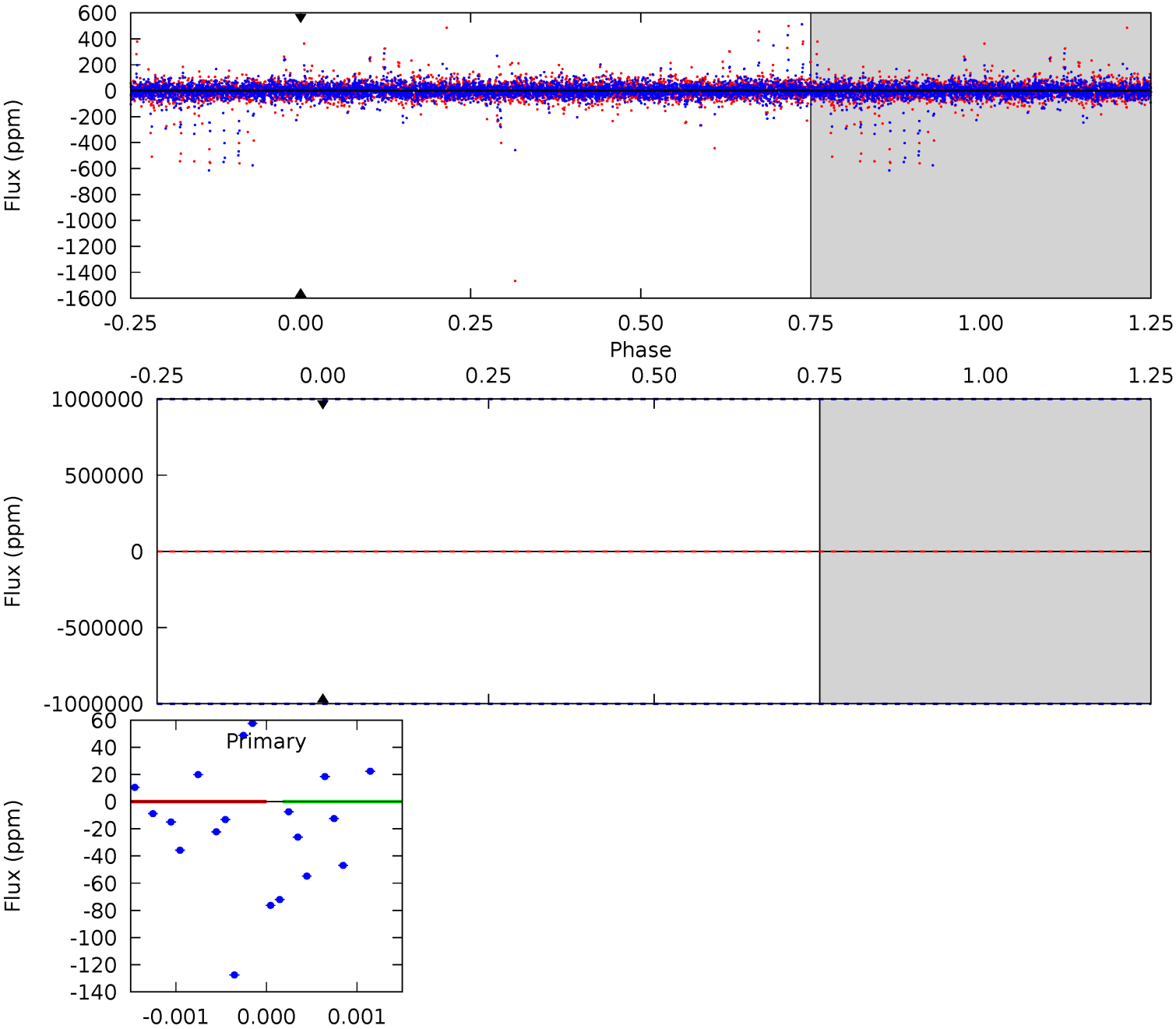
TCE 011974090-06 $P = 35.052964$ Days $T_0 = 135.126930$ (BKJD)



DV Model-Shift Uniqueness Test

011974090-06, P = 35.052964 Days, E = 99.785294 Days

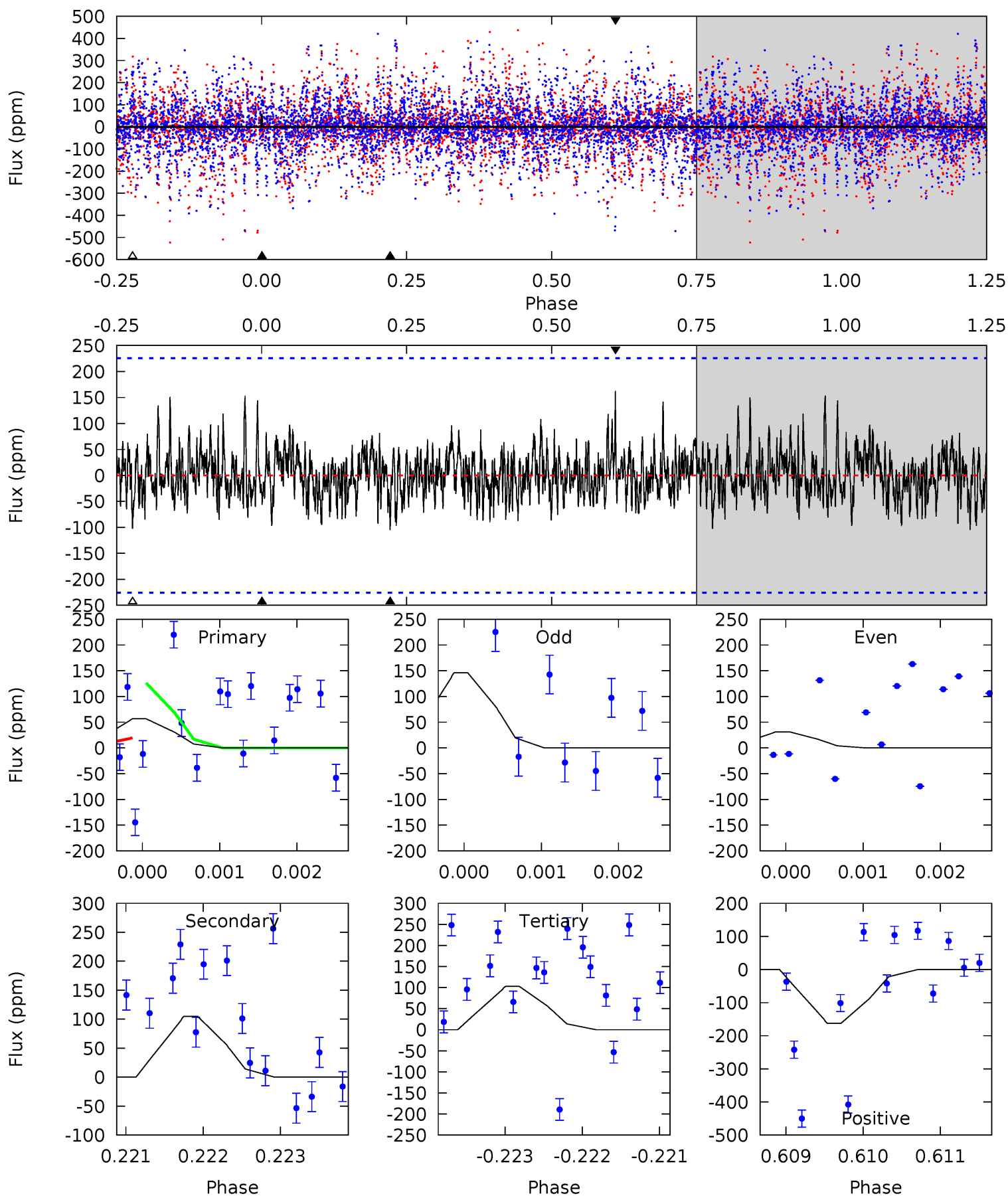
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

011974090-06, $P = 35.052964$ Days, $E = 100.073966$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.37	2.54	2.49	3.93	5.46	3.31	0.92	-1.12	-2.56	0.05	-1.39	0.84	12.0	0.61	1.26



Stellar Parameters For KIC 011974090

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	9711^{+306}_{-443}	$4.130^{+0.175}_{-0.214}$	$0.070^{+0.150}_{-0.600}$	$2.181^{+0.900}_{-0.600}$	$2.338^{+0.415}_{-0.622}$	$0.318^{+0.319}_{-0.180}$
	+3%/-5%	+4%/-5%	+214%/-857%	+41%/-28%	+18%/-27%	+100%/-57%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011974090-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$16.52^{+21.00}_{-10.90}$	1680^{+172}_{-142}	7277^{+68749}_{-77459}	269^{+24702}_{-22009}
Alt.	-105 ± 41	$16.24^{+18.71}_{-11.36}$	1672^{+174}_{-137}	3774^{+2398}_{-808}	16^{+155}_{-13}

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

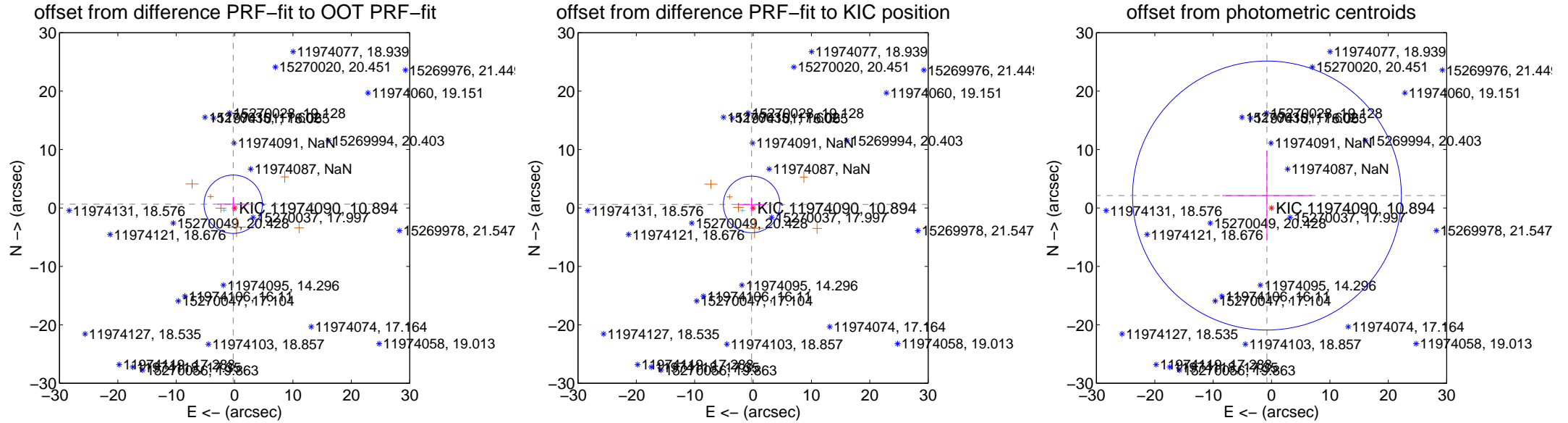
DV Centroid Data

Supplemental centroid analysis for 011974090-06. **Kepler magnitude: 10.89.** Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

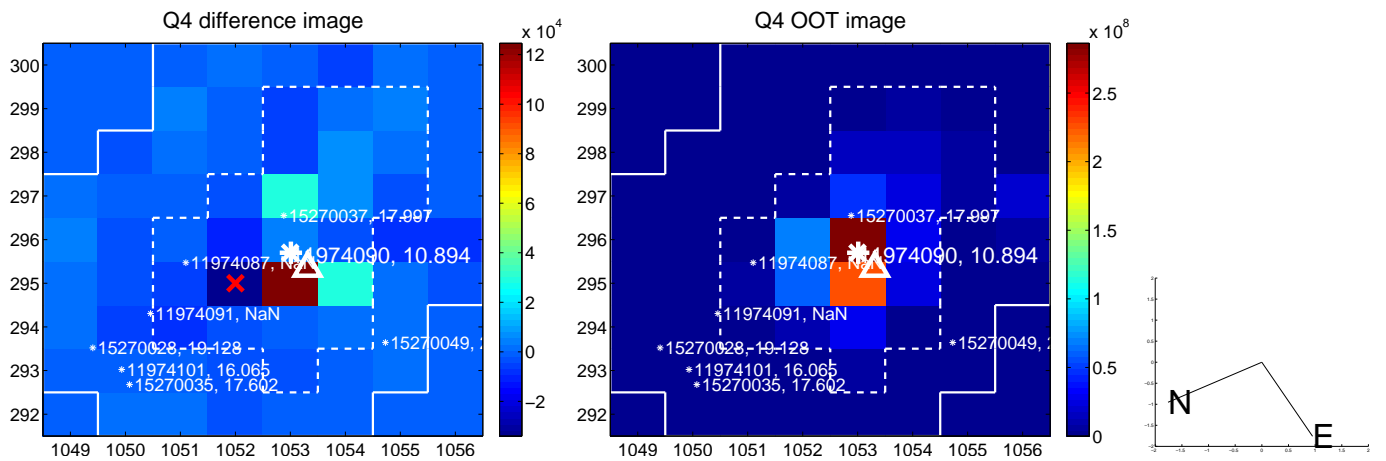
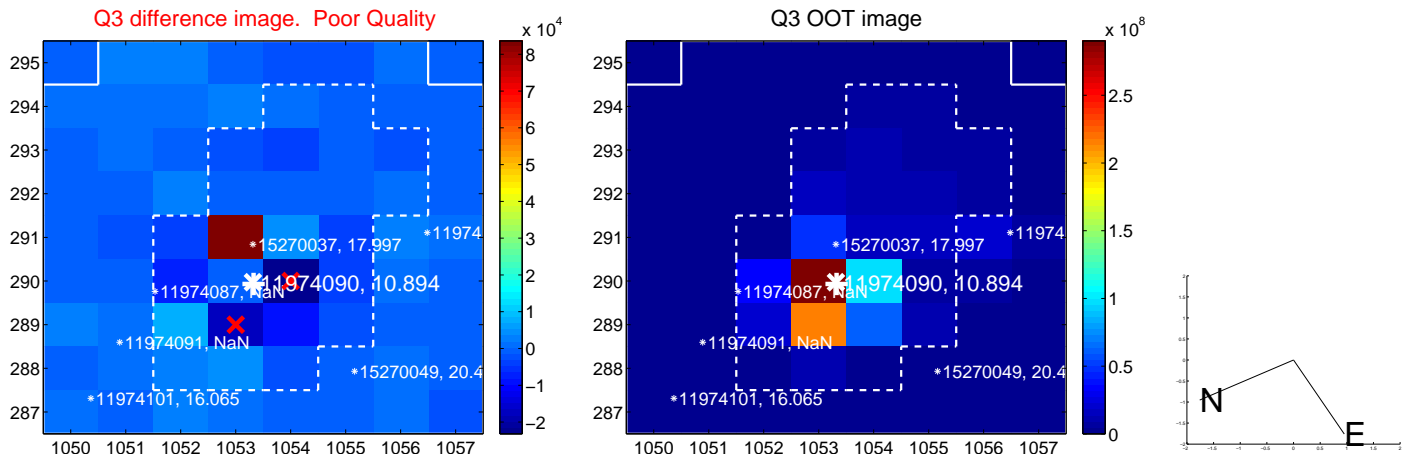
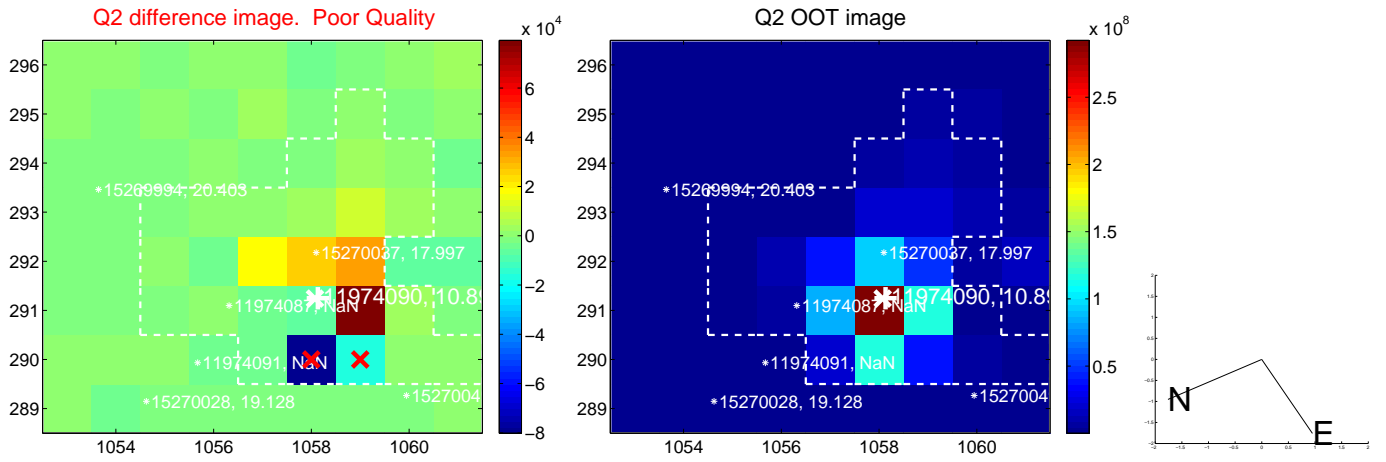
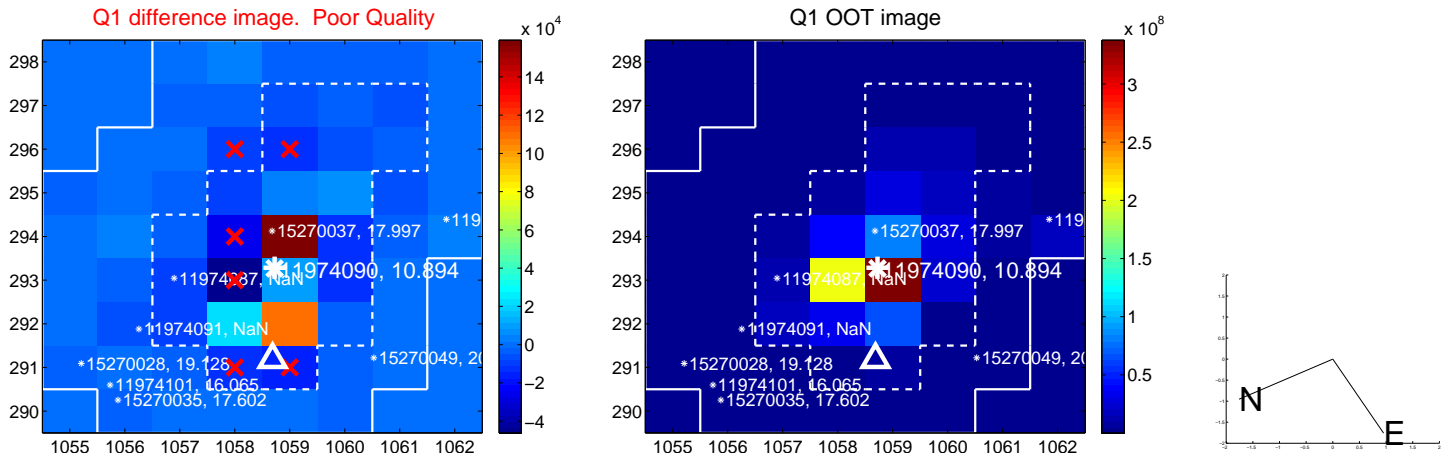
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.682 ± 1.665	0.41	0.236 ± 2.688	0.640 ± 1.211
PRF-fit source offset from KIC position	0.650 ± 1.616	0.40	0.242 ± 2.456	0.603 ± 1.165
photometric centroid source offset	2.26 ± 7.67	0.29	0.78 ± 7.66	2.12 ± 7.67

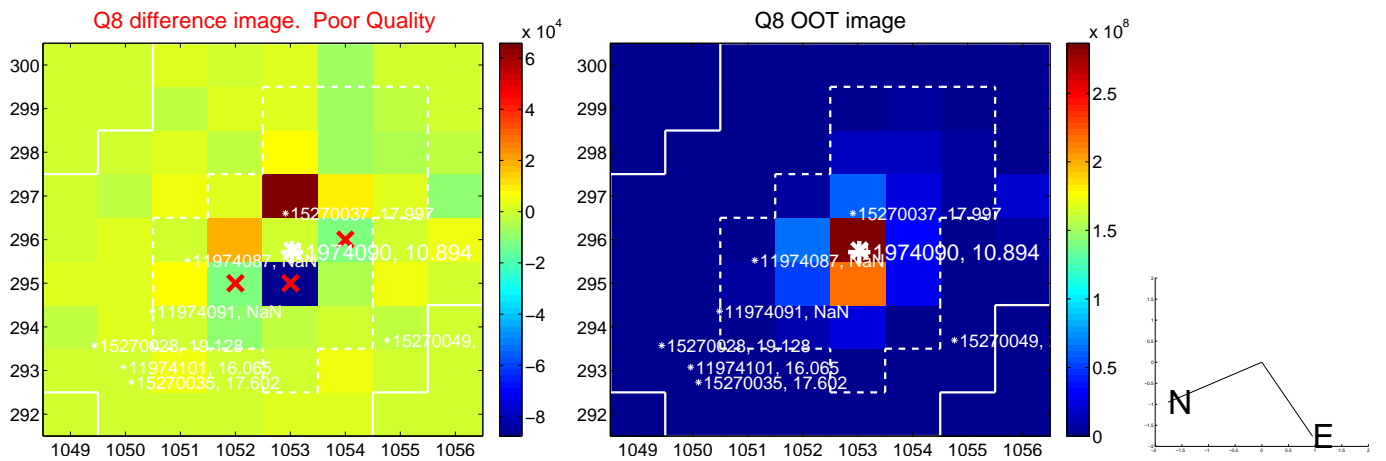
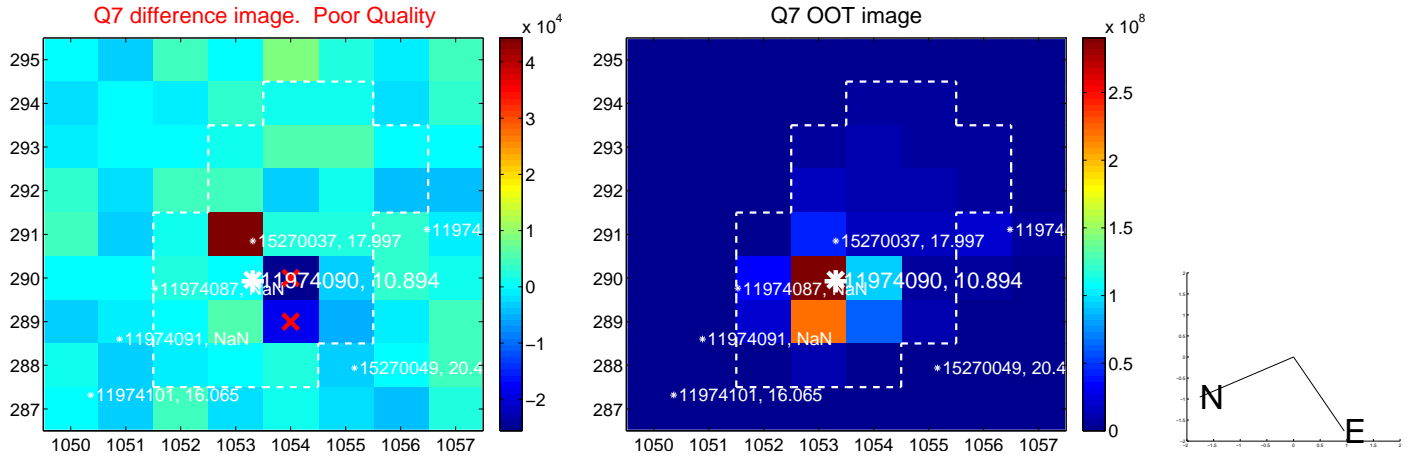
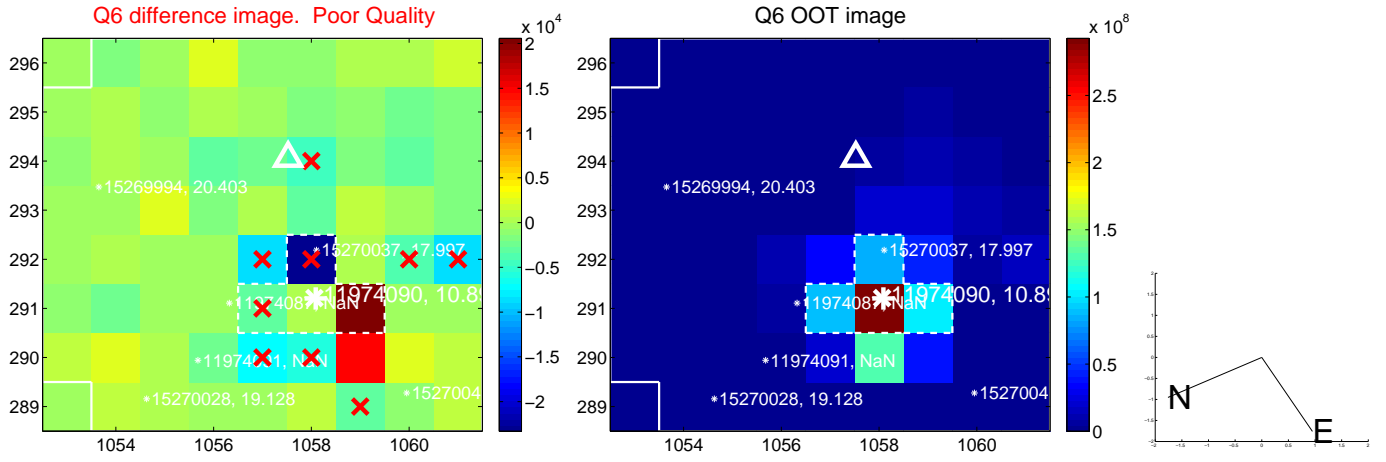
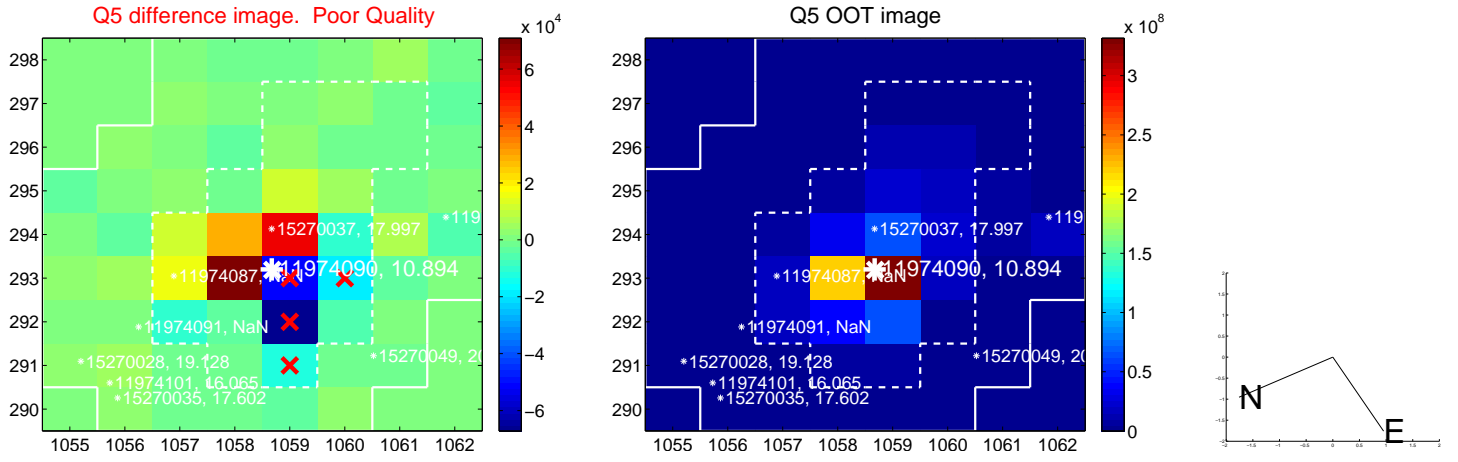


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

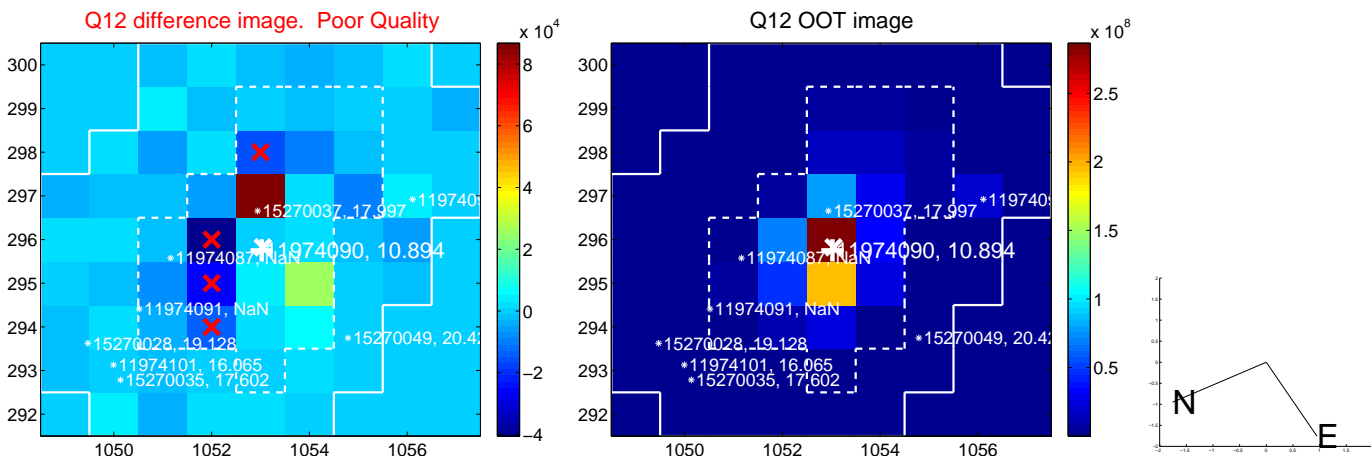
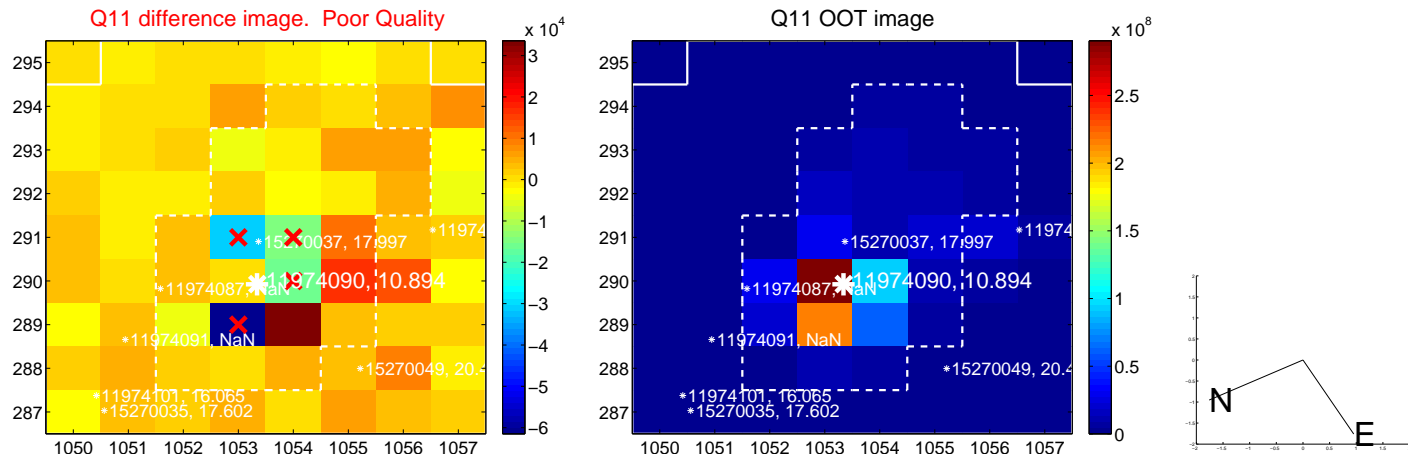
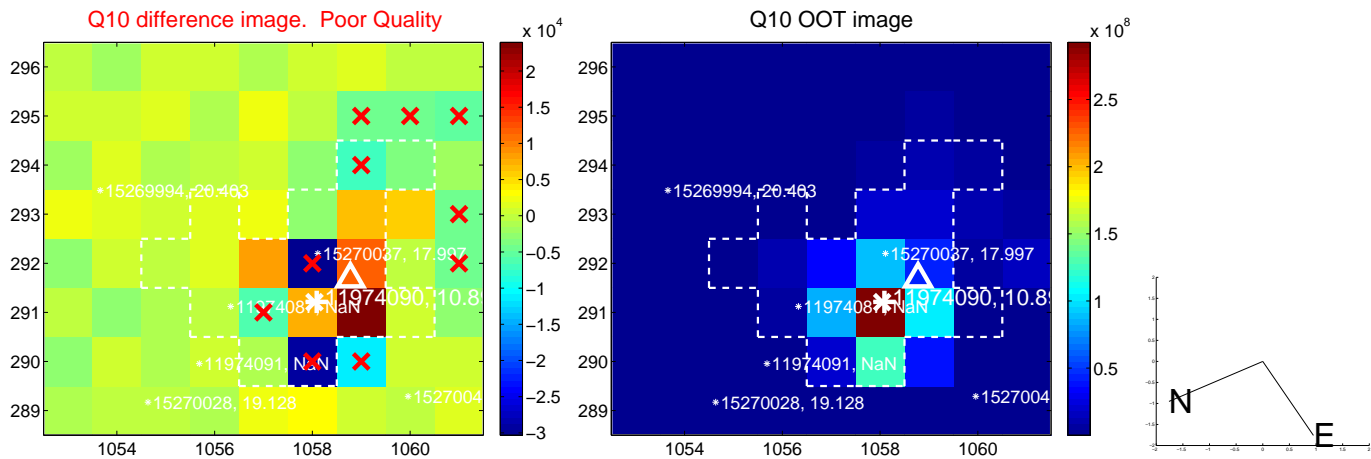
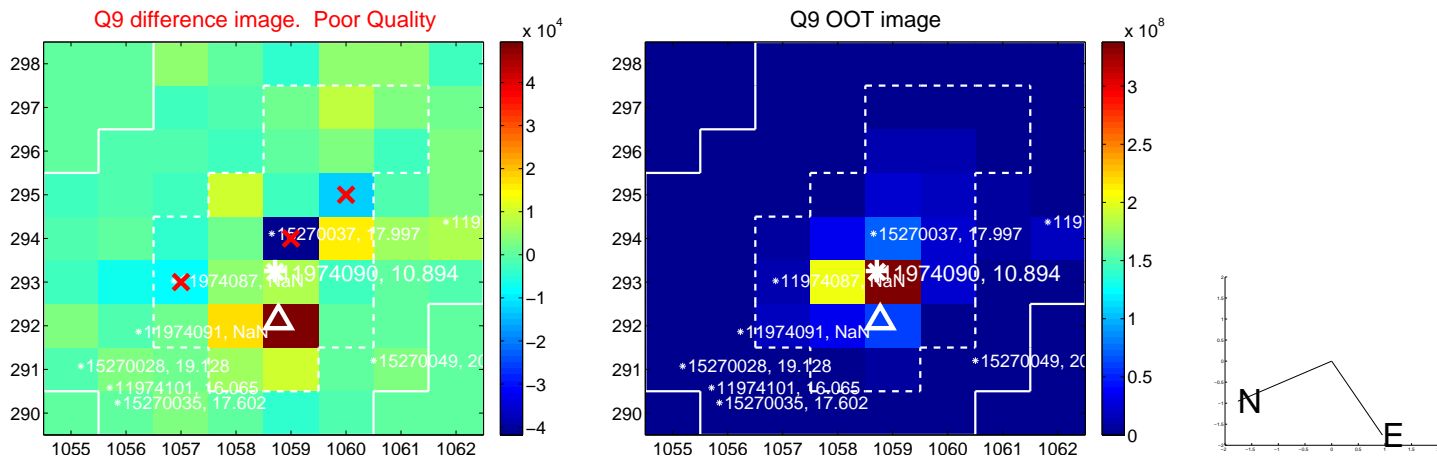
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



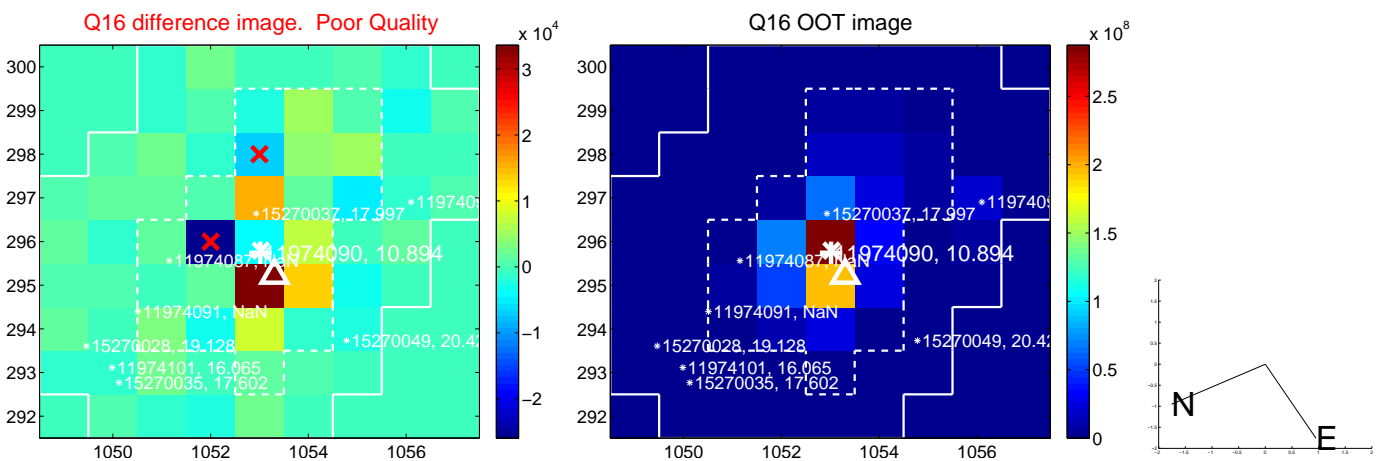
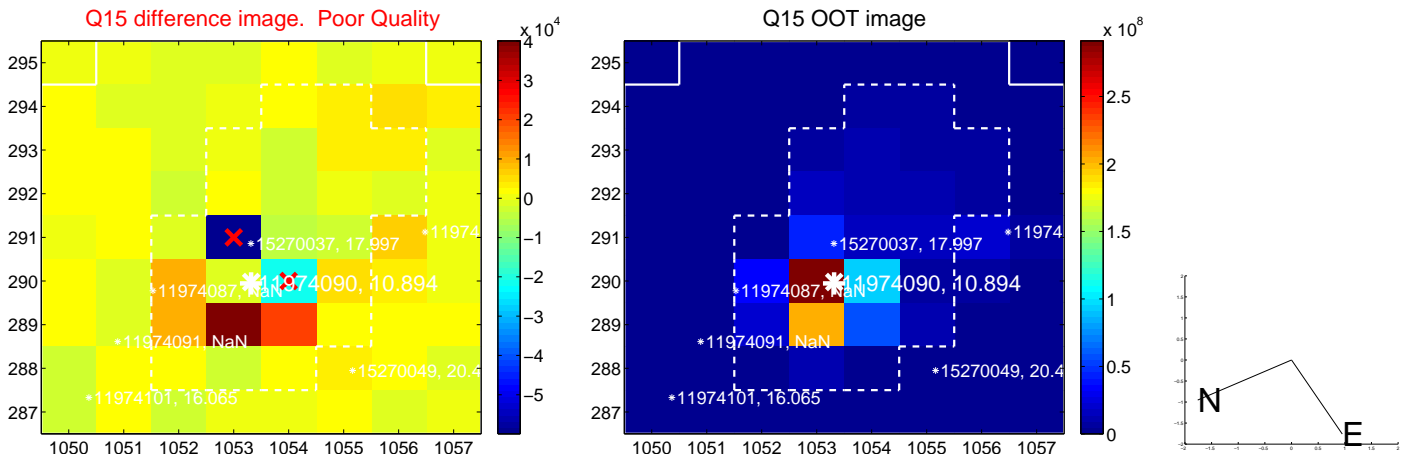
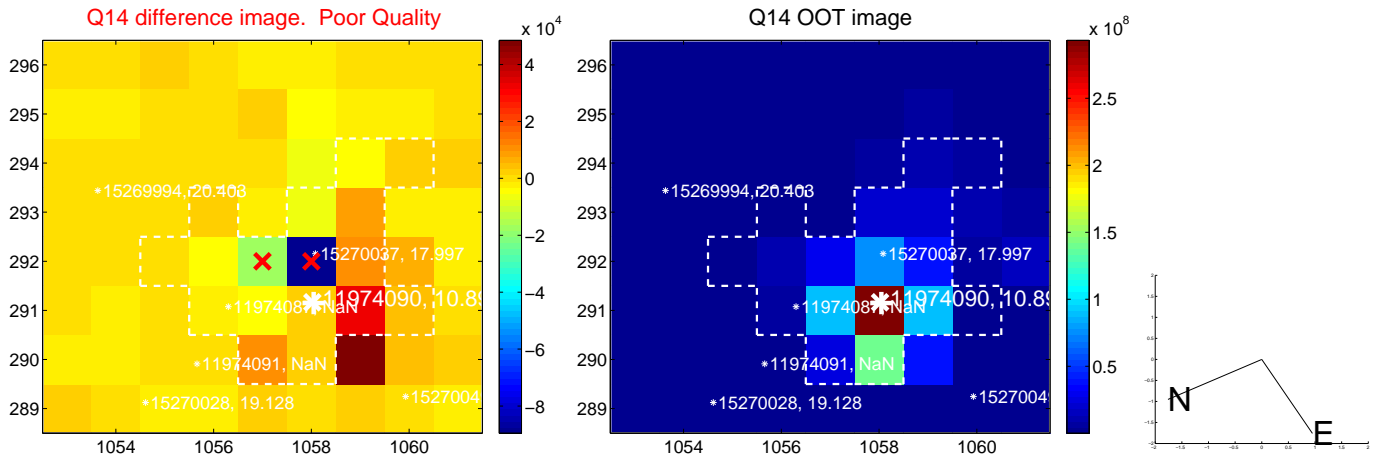
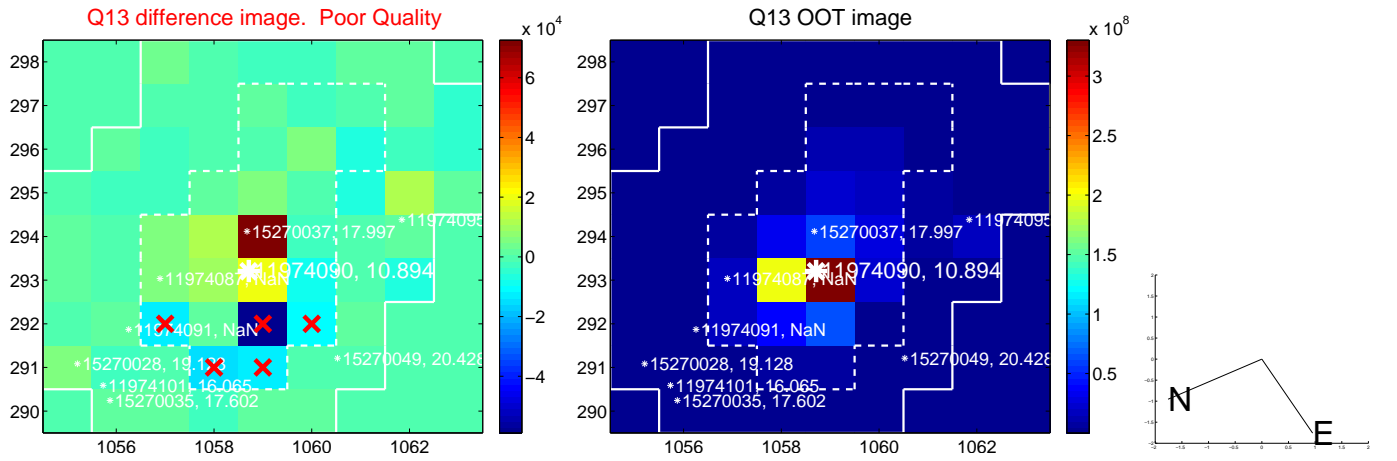
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



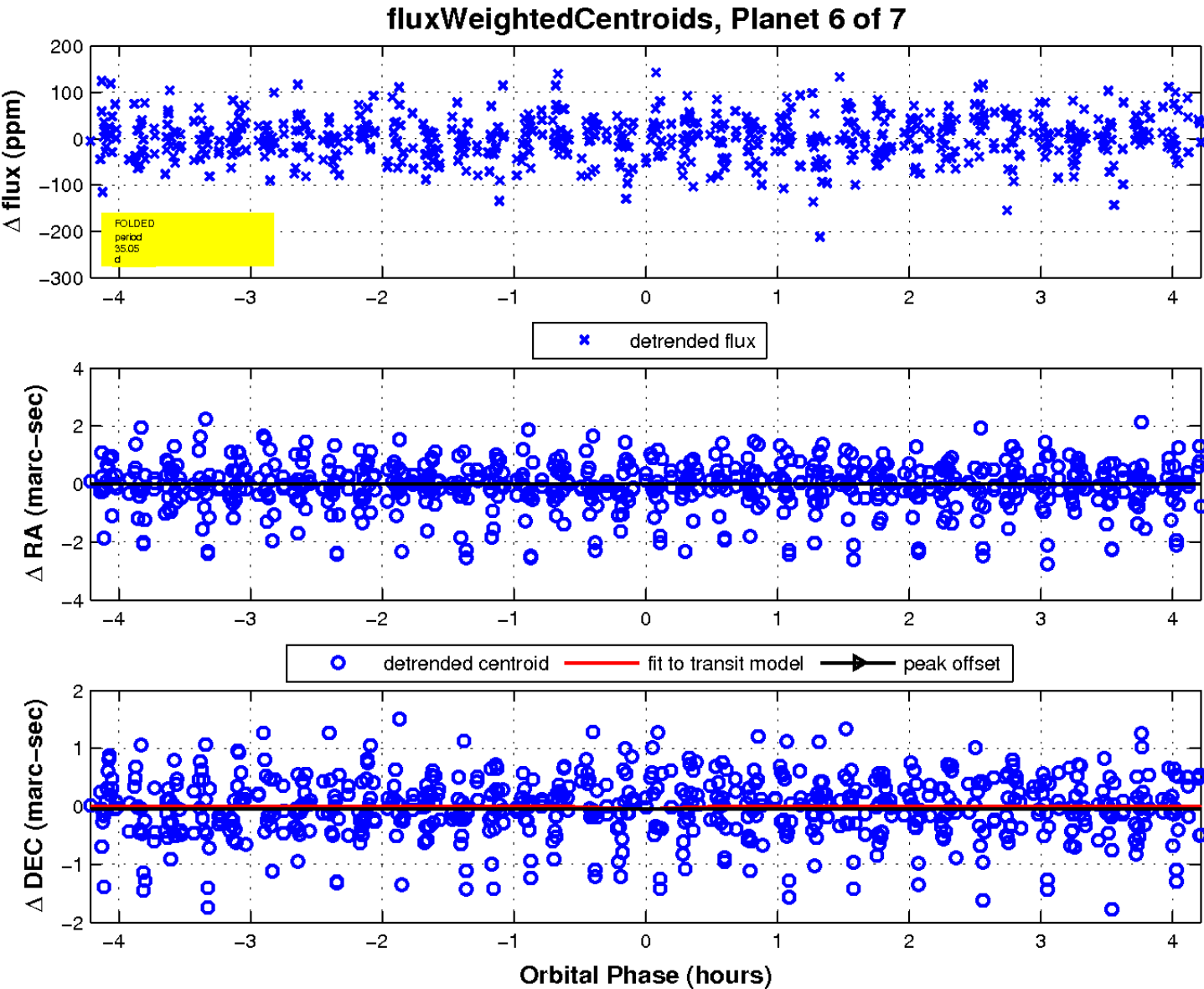
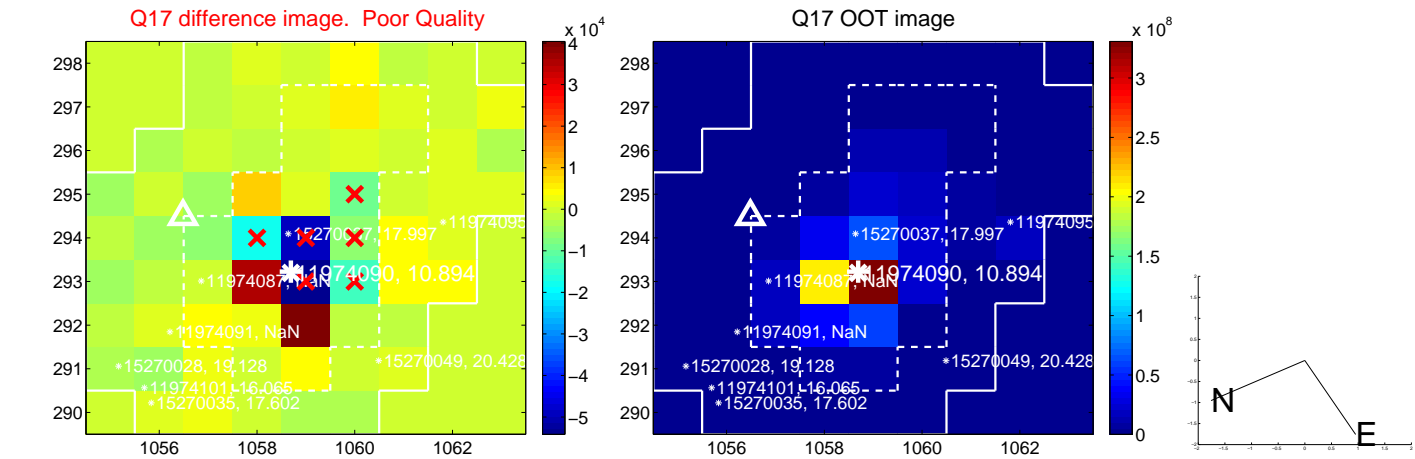
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

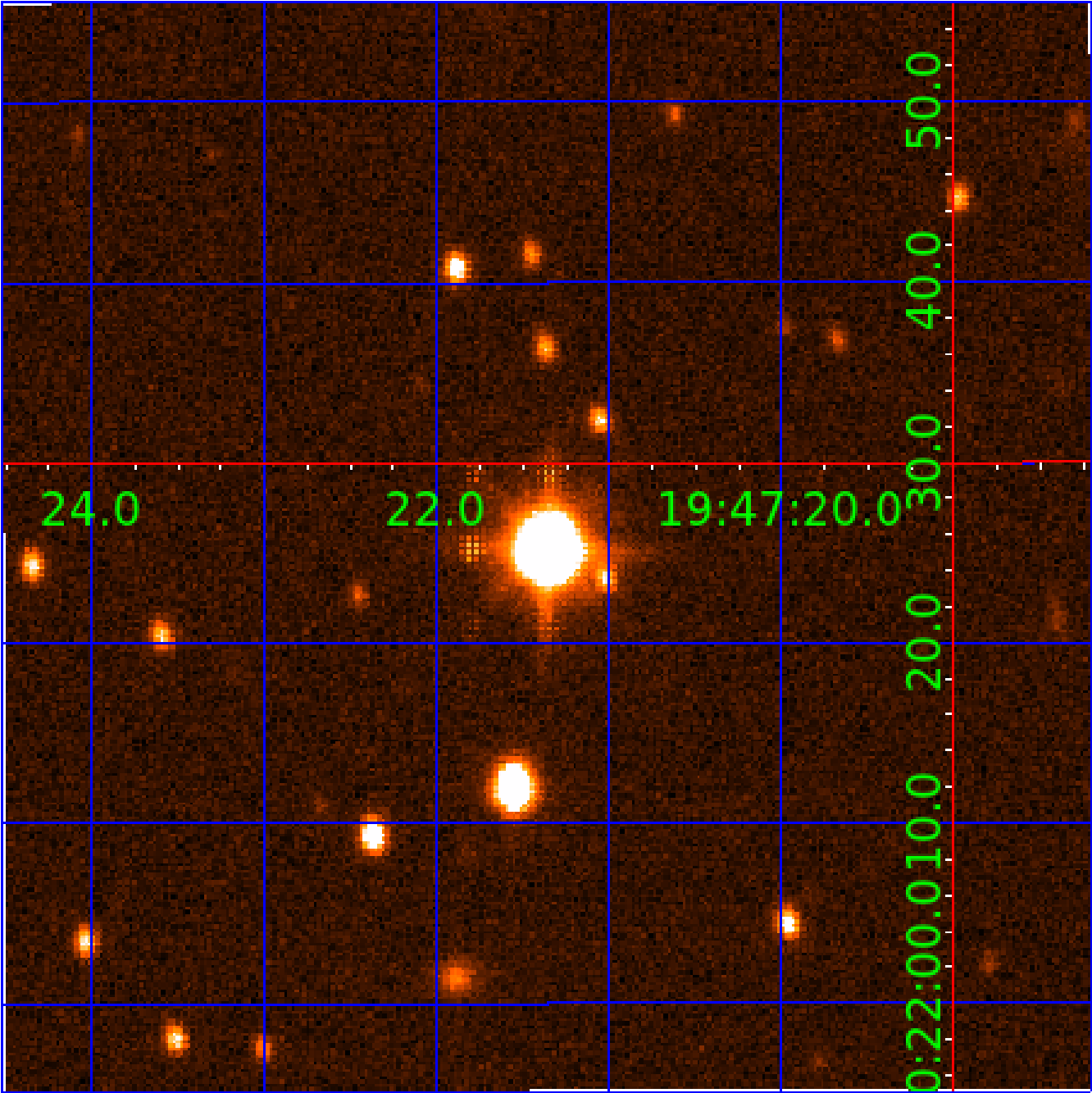


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011974090

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})
011974090-01	OBS	No	0.750265	131.754870	3.4	5.109	7.1	6.6	2.18	9711	0.42	82306.48
011974090-02	OBS	No	51.321017	143.176180	36.2	3.081	21.3	3.7	2.18	9711	1.52	294.21
011974090-04	OBS	No	30.189850	134.656336	63.8	5.719	12.5	8.2	2.18	9711	1.96	596.91
011974090-05	OBS	No	42.976707	138.230489	83.6	3.502	12.2	7.4	2.18	9711	2.28	372.74
011974090-06	OBS	No	35.052964	134.838259	115.4	6.000	10.0	-1.0	2.18	9711	2.40	489.13
011974090-07	OBS	No	81.622333	181.550535	162.3	2.075	13.0	8.2	2.18	9711	3.18	158.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011974090-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED
011974090-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED—HALO_GHOST
011974090-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011974090-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011974090-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
011974090-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED—HALO_GHOST

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

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

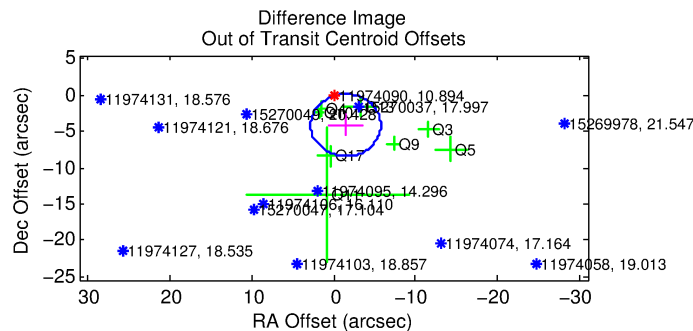
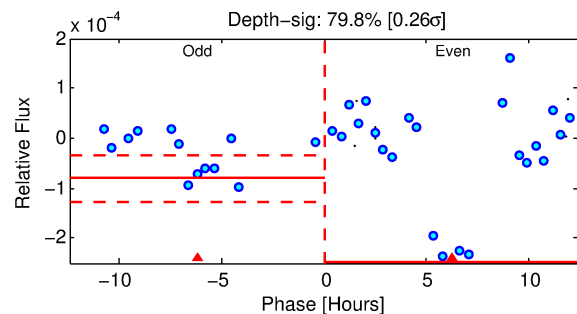
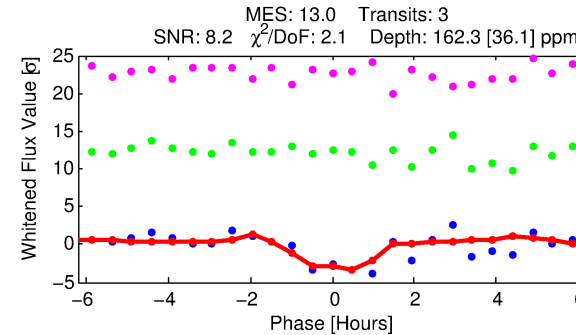
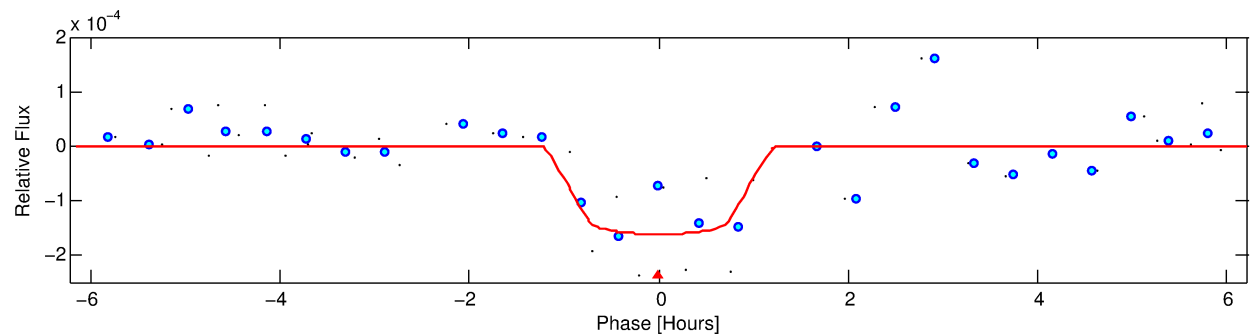
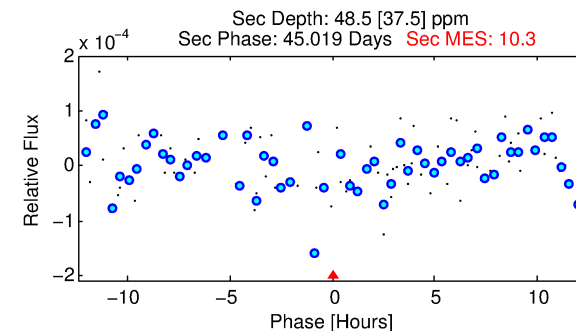
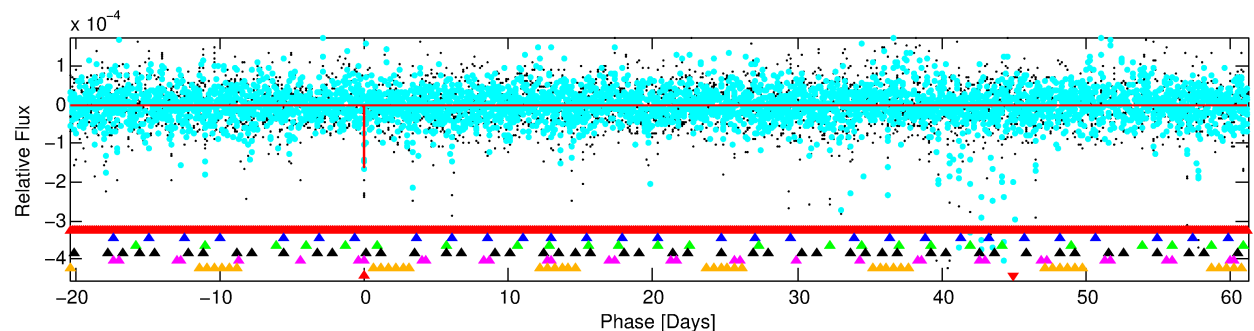
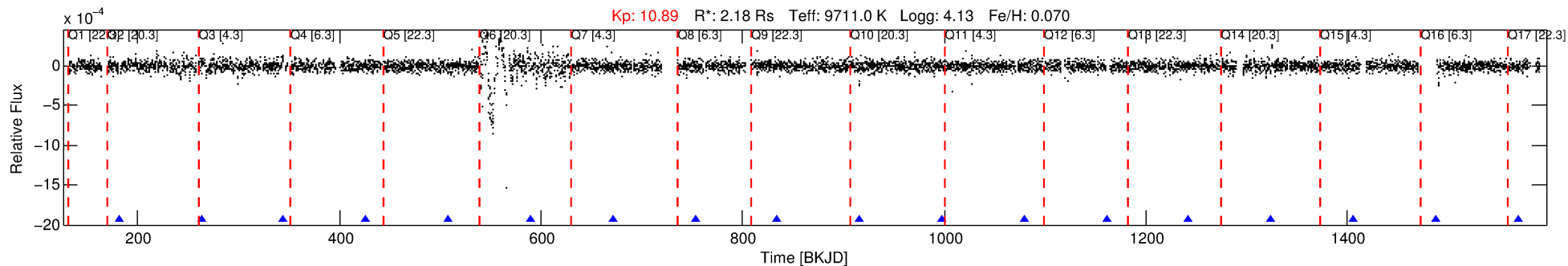
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011974090-07

No Significant Match Found

DV One-Page Summary

KIC: 11974090 Candidate: 7 of 7 Period: 81.622 d



DV Fit Results:

Period = 81.62233 [0.00387] d
Epoch = 181.5505 [0.0345] BKJD
Rp/R* = 0.0134 [0.0154]
a/R* = 142.84 [1217.64]
b = 0.89 [1.96]
Seff = 158.48 [73.81]
Teq = 905 [105] K
Rp = 3.18 [3.89] Re
a = 0.4890 [0.1567] AU
Ag = 629.80 [1550.95] [0.41σ]
Teffp = 7007 [4260] K [1.43σ]

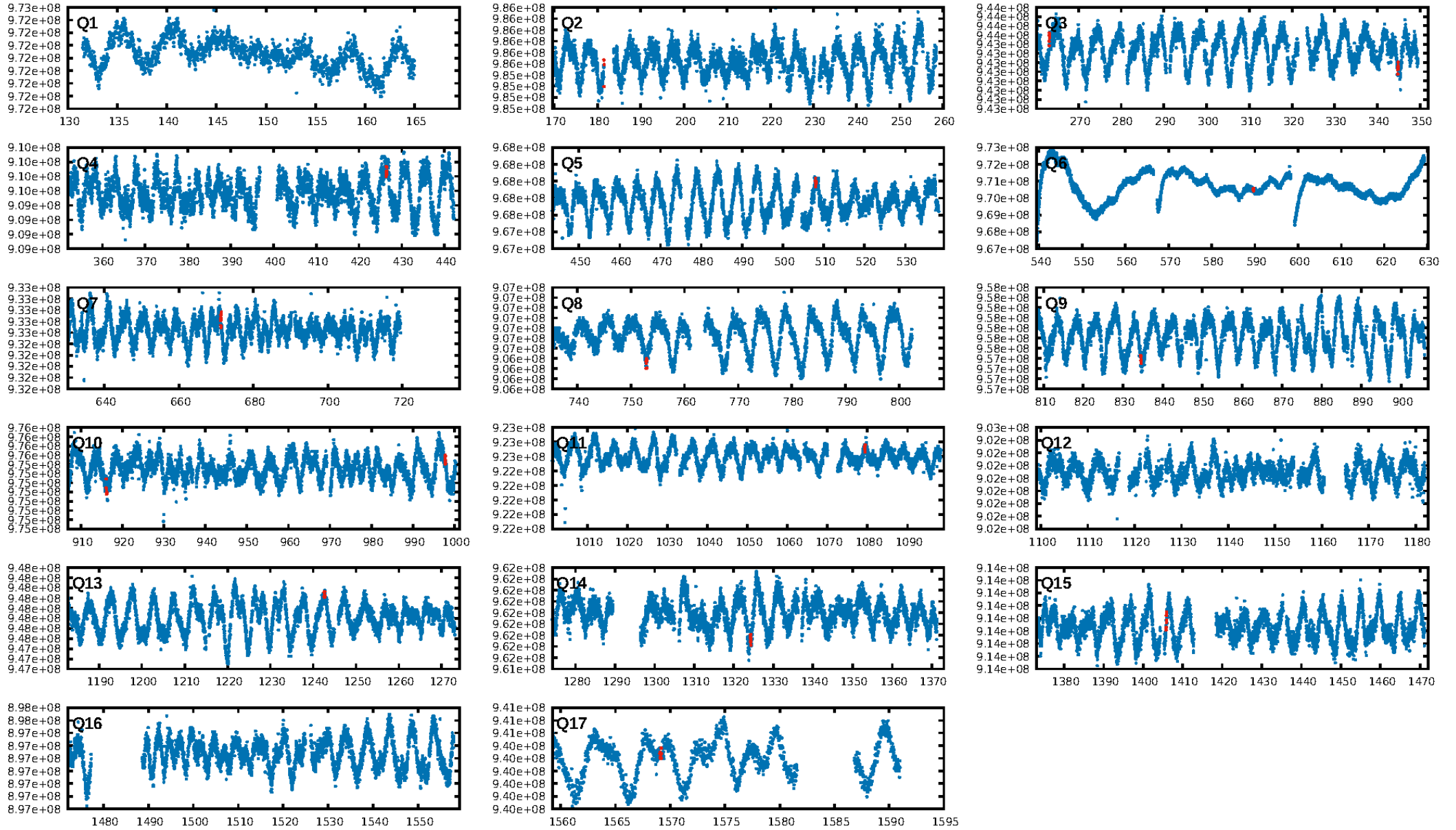
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [242.64σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 46.7%
Bootstrap-pfa: 2.26e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.08248
Centroid-sig: 21.2%
Centroid-so: 1.377 arcsec [1.68σ]
OotOffset-rm: 4.382 arcsec [3.07σ]
KicOffset-rm: 4.336 arcsec [3.29σ]
OotOffset-st: 1/2/1/4 [8]
KicOffset-st: 1/2/1/4 [8]
DiffImageQuality-fgm: 0.00 [0/8]
DiffImageOverlap-fno: 0.00 [0/12]

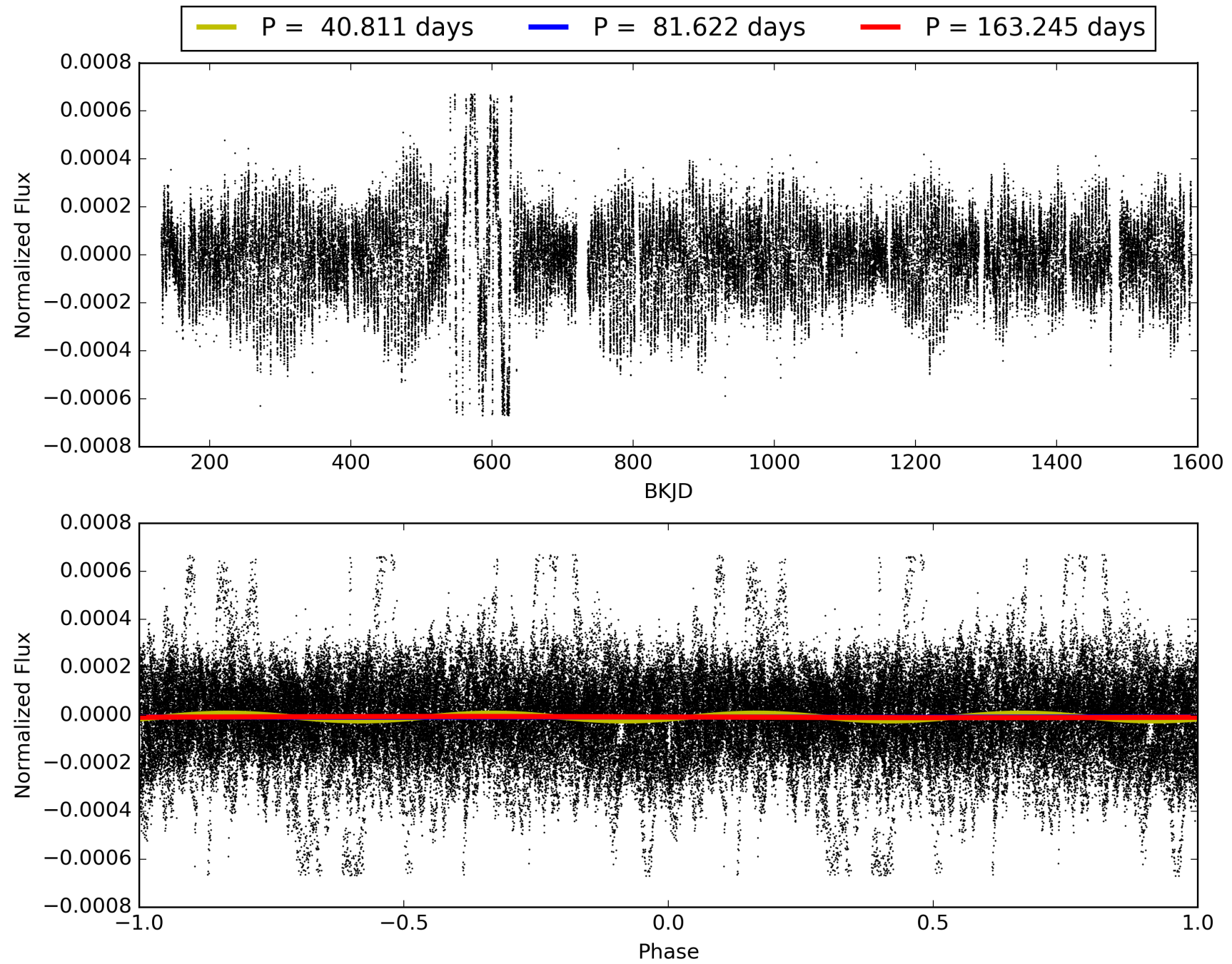
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:42:04 Z

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

TCE 011974090-07, PDC Light Curves

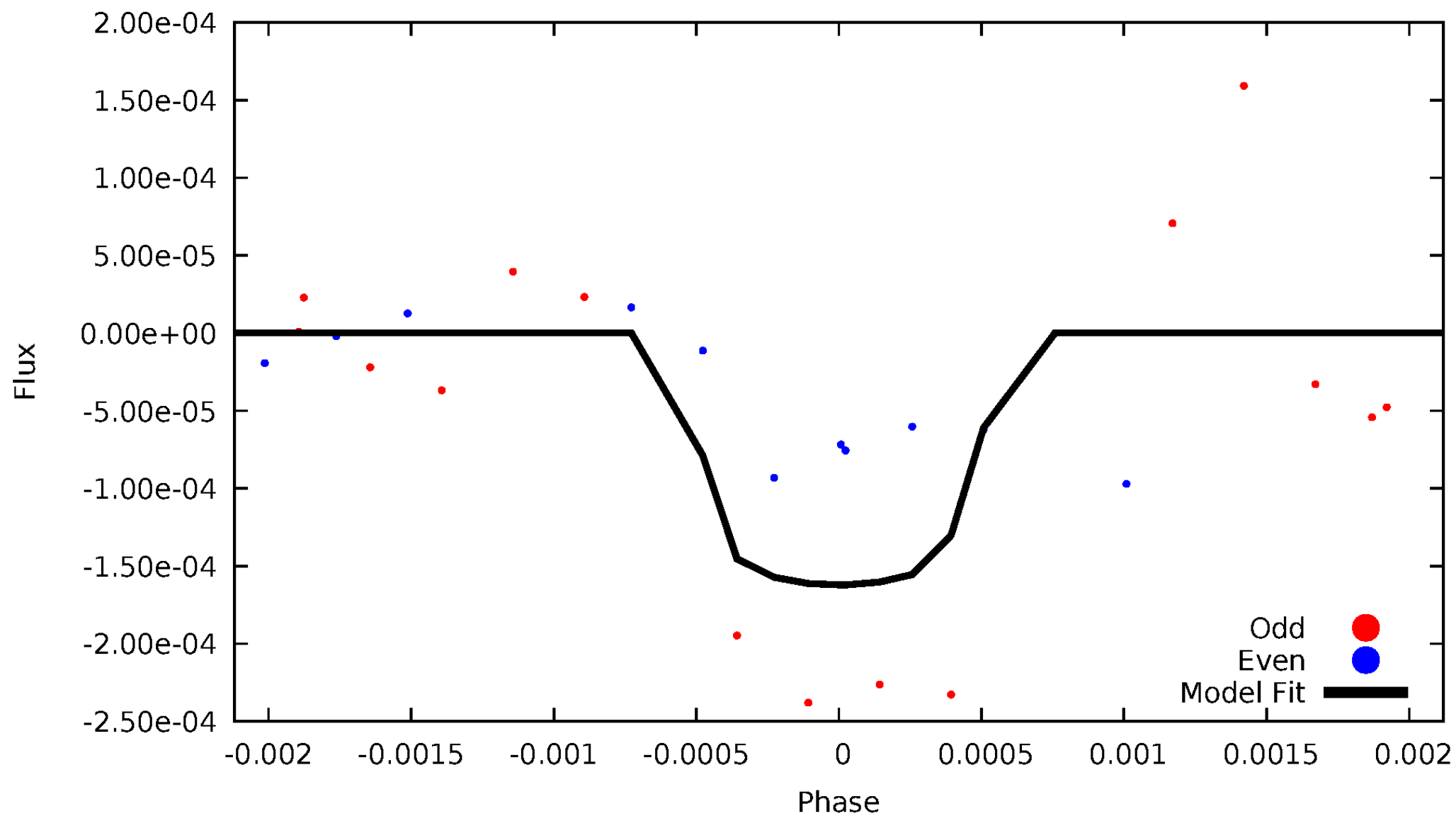


TCE 011974090-07



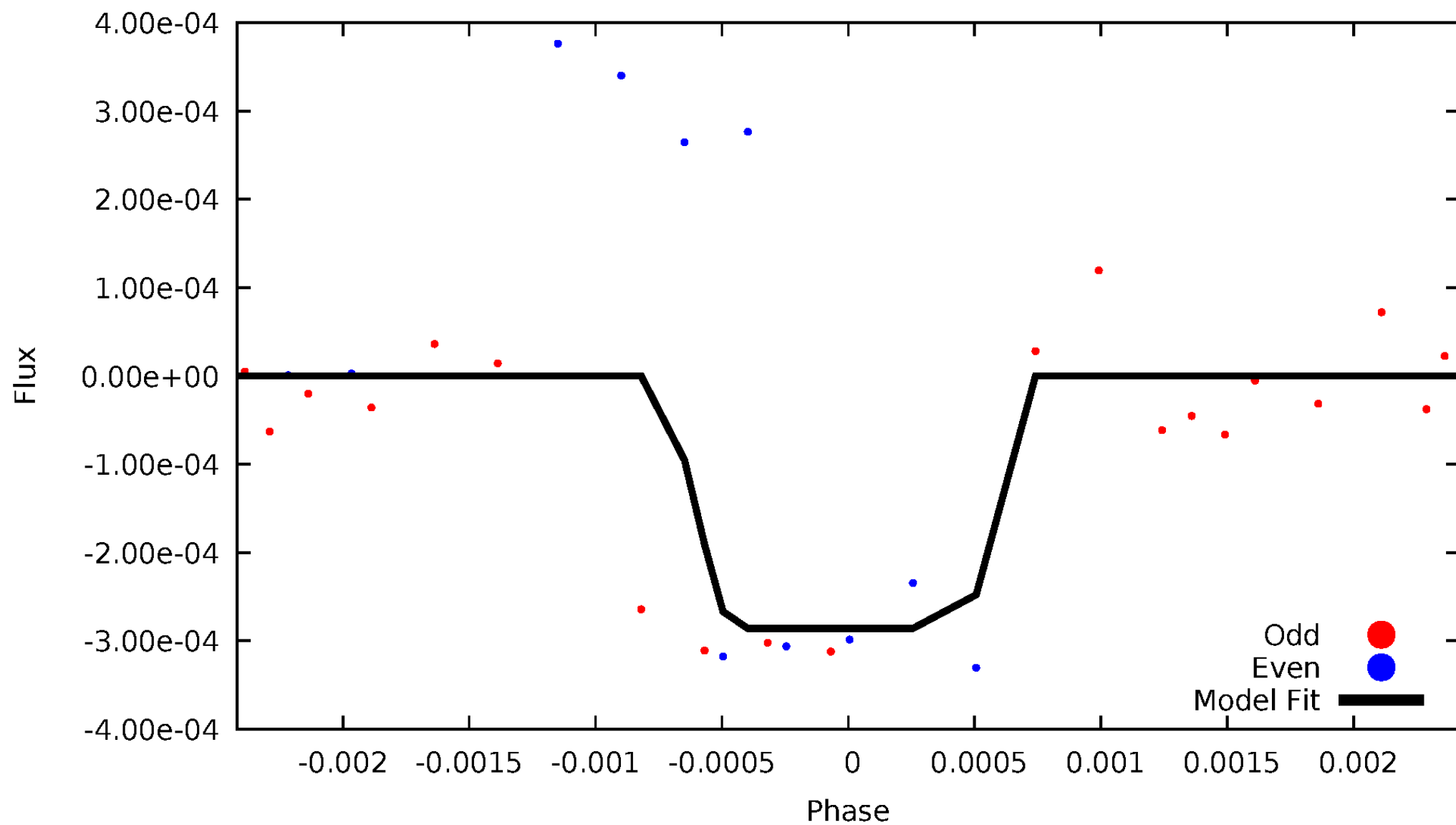
DV Odd/Even

TCE 011974090-07



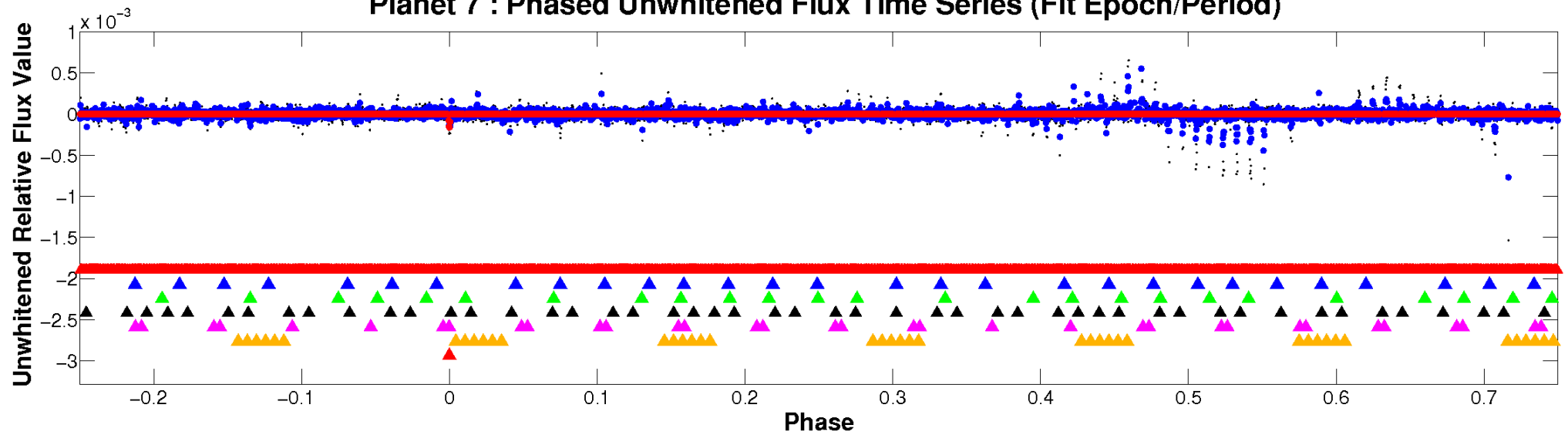
ALT Odd/Even

TCE 011974090-07

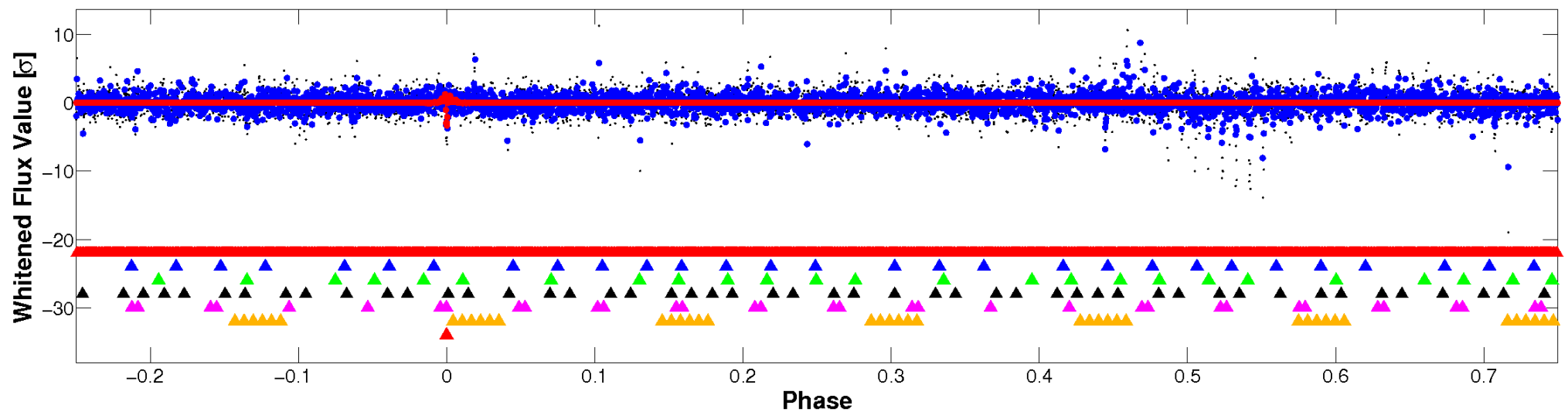


Non-Whitened Vs. Whitened Light Curve

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

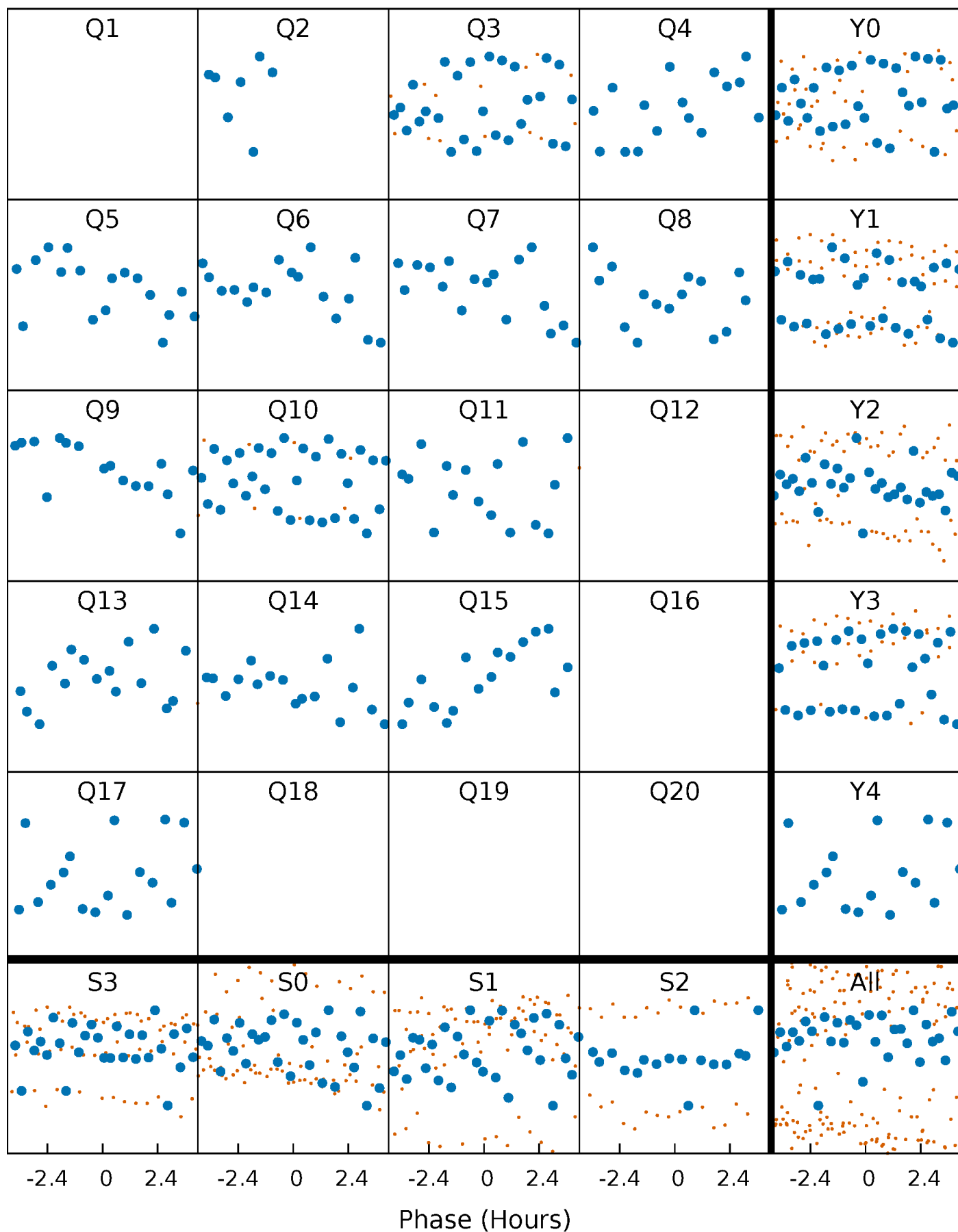


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



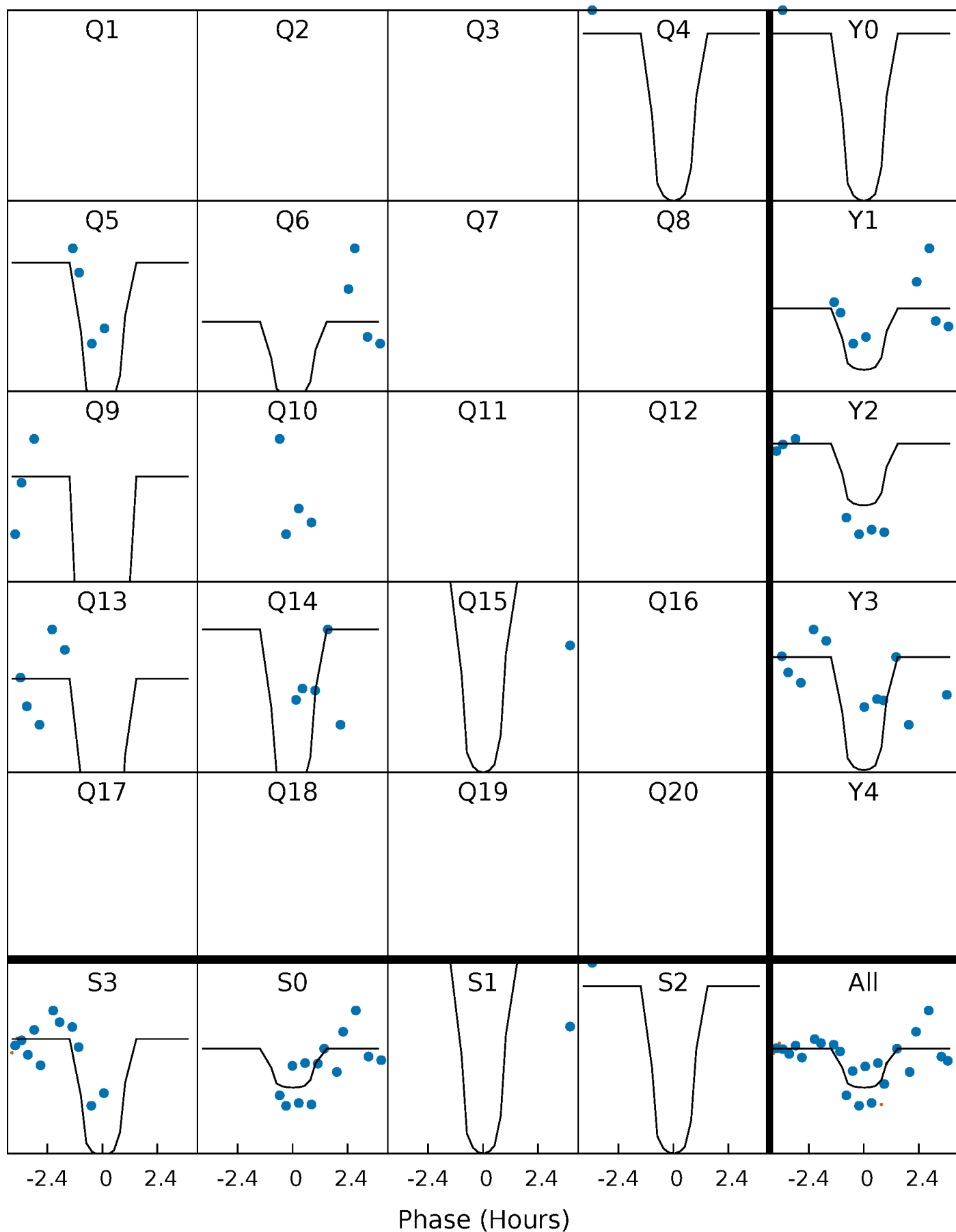
PDC Quarter-Phased Transit Curves

TCE 011974090-07 $P = 81.622333$ Days $T_0 = 181.550535$ (BKJD)



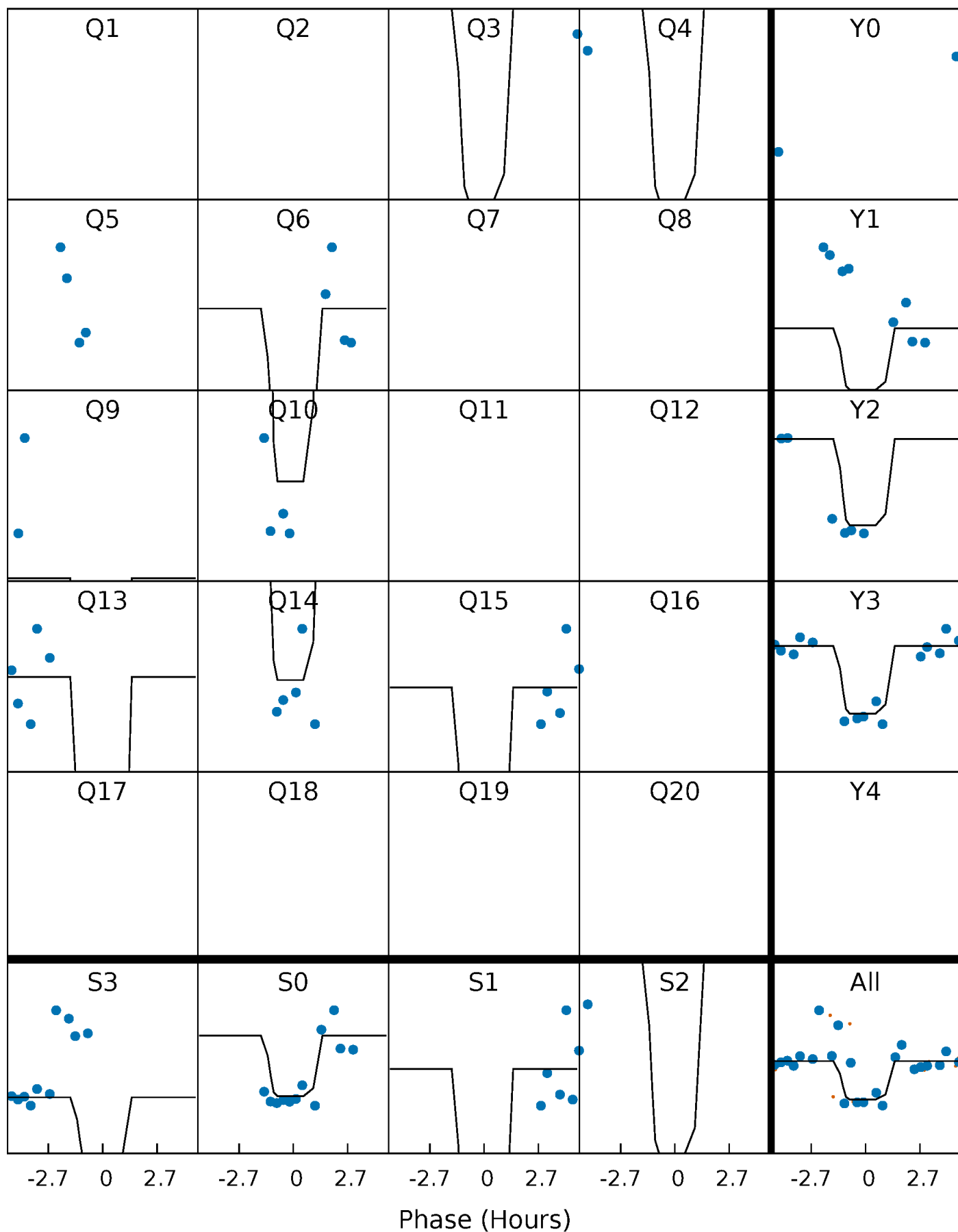
DV Quarter-Phased Transit Curves

TCE 011974090-07 P= 81.622333 Days $T_0=181.550535$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

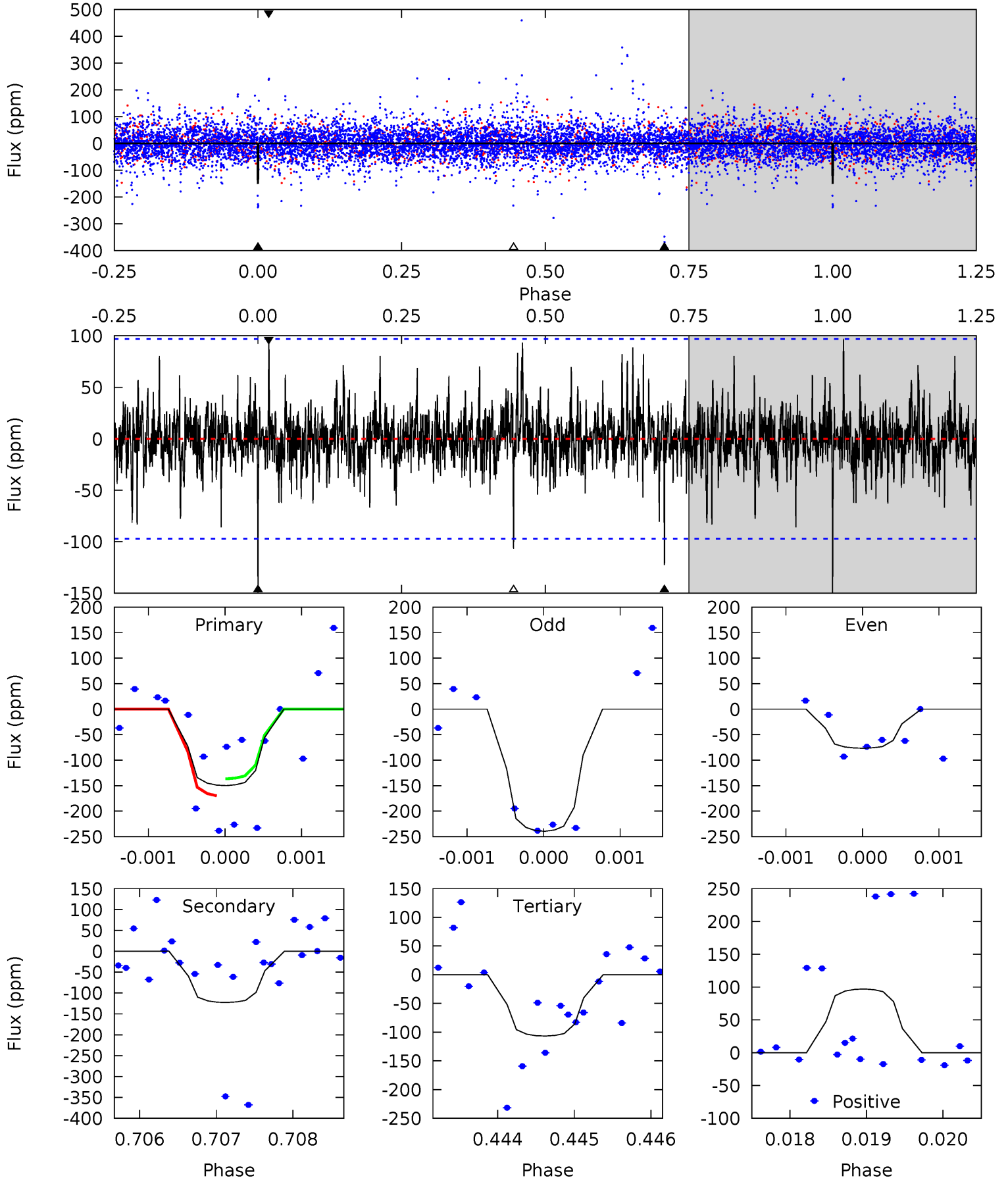
TCE 011974090-07 $P = 81.622994$ Days $T_0 = 181.582310$ (BKJD)



DV Model-Shift Uniqueness Test

011974090-07, P = 81.622333 Days, E = 99.928202 Days

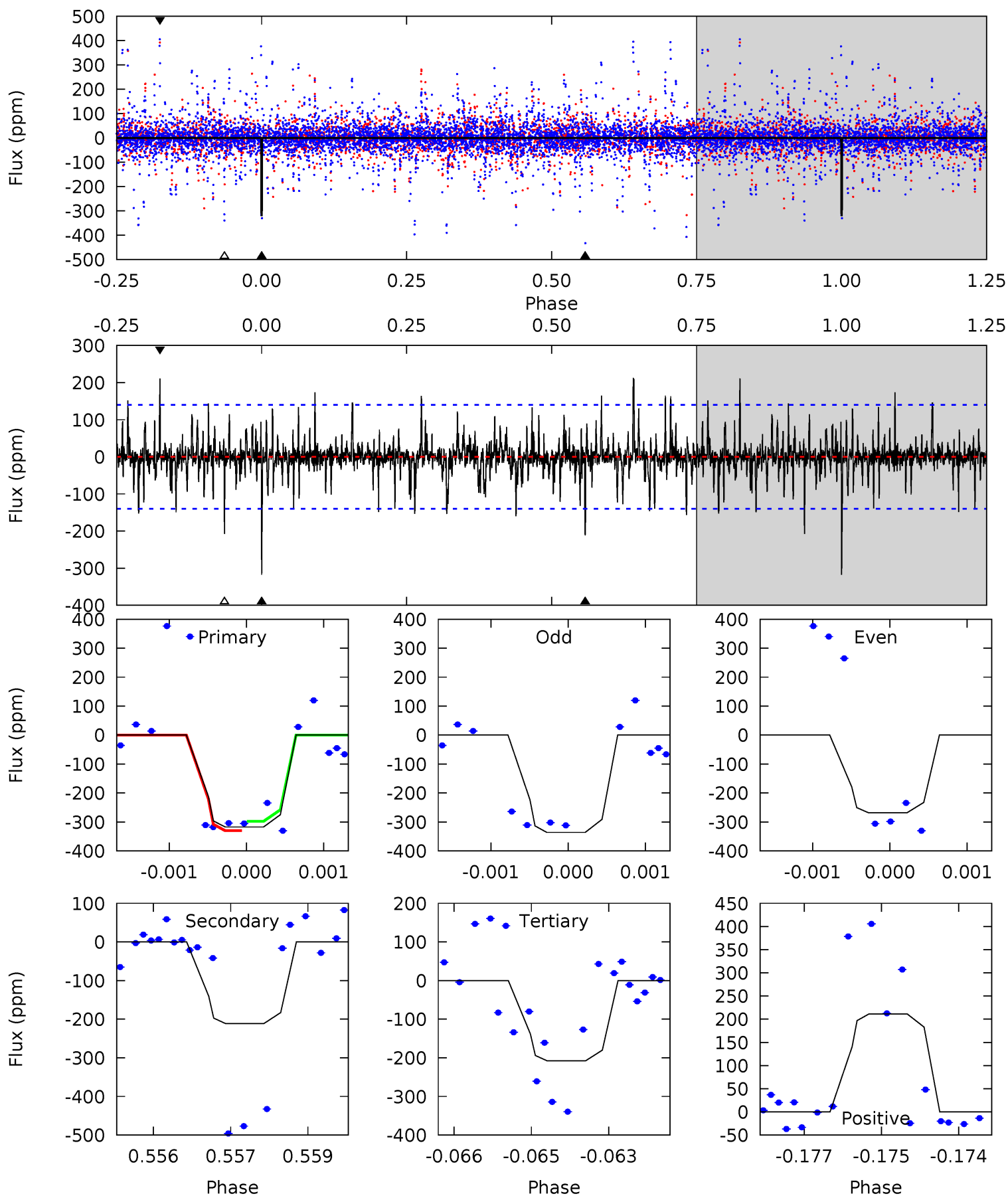
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.43	6.90	6.01	5.46	5.45	3.29	1.20	2.42	2.97	0.90	1.44	3.88	1.67	0.39	0.92



Alt Model-Shift Uniqueness Test

011974090-07, P = 81.622994 Days, E = 99.959316 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.3	8.19	8.06	8.19	5.43	3.25	1.42	4.25	4.13	0.13	0.00	1.16	0.34	0.40	0.59



Stellar Parameters For KIC 011974090

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	9711^{+306}_{-443}	$4.130^{+0.175}_{-0.214}$	$0.070^{+0.150}_{-0.600}$	$2.181^{+0.900}_{-0.600}$	$2.338^{+0.415}_{-0.622}$	$0.318^{+0.319}_{-0.180}$
	+3%/-5%	+4%/-5%	+214%/-857%	+41%/-28%	+18%/-27%	+100%/-57%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 011974090-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-123 ± 18	$3.92^{+3.48}_{-2.40}$	1266^{+110}_{-105}	7415^{+8093}_{-2016}	1013^{+5927}_{-721}
Alt.	-211 ± 26	$4.44^{+3.68}_{-2.71}$	1269^{+117}_{-102}	8179^{+9337}_{-2264}	1340^{+7405}_{-939}

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

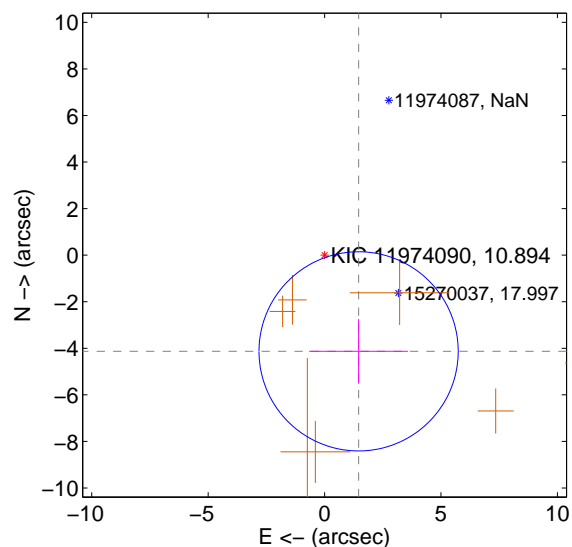
Supplemental centroid analysis for 011974090-07. **Kepler magnitude: 10.89.** Transit SNR 8.19

There are 0 quarters with good PRF difference image offsets

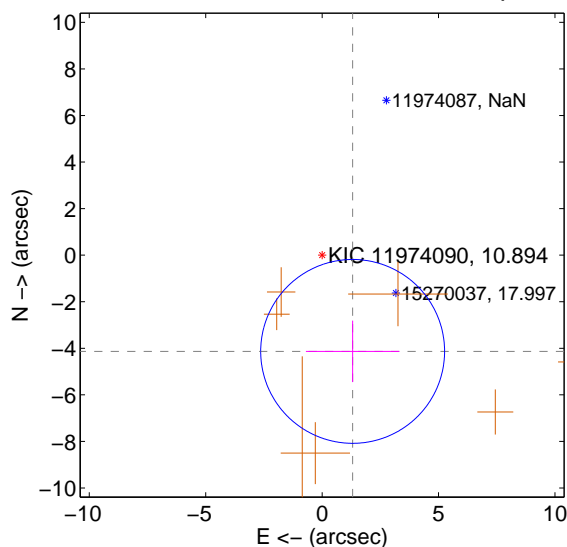
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.382 ± 1.426	3.07	-1.462 ± 2.127	-4.131 ± 1.387
PRF-fit source offset from KIC position	4.336 ± 1.316	3.29	-1.311 ± 2.007	-4.133 ± 1.320
photometric centroid source offset	1.38 ± 0.82	1.68	-1.09 ± 0.83	-0.85 ± 0.80

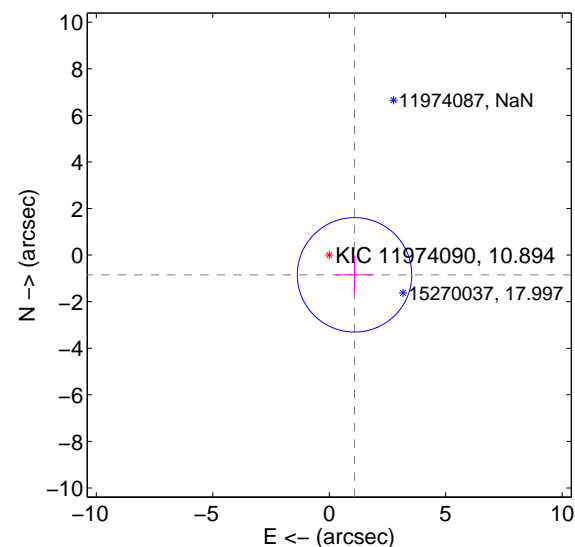
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



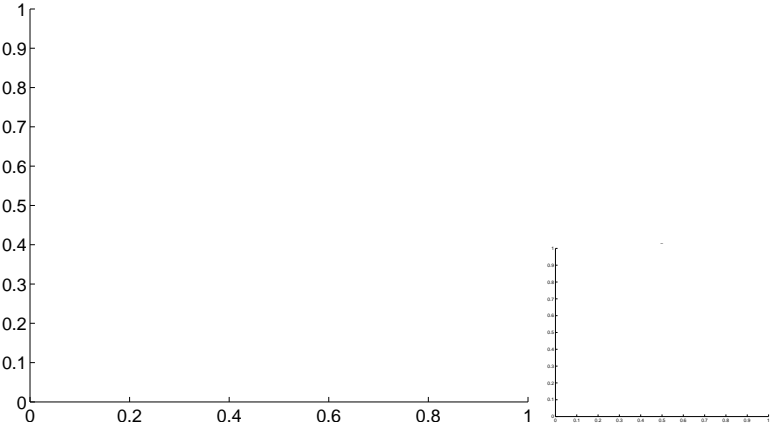
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

Q1 no difference image



Q1 no OOT image



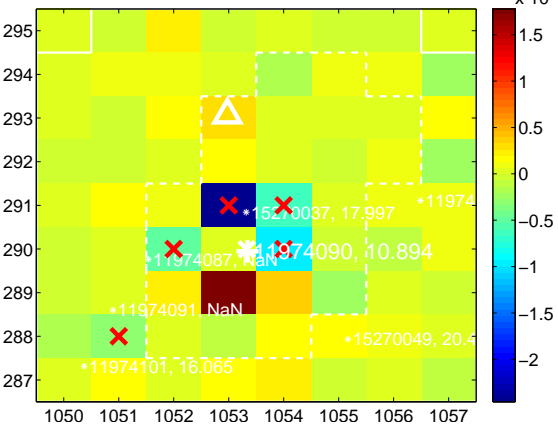
Q2 no difference image



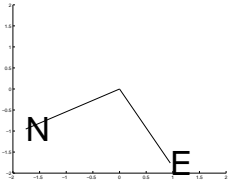
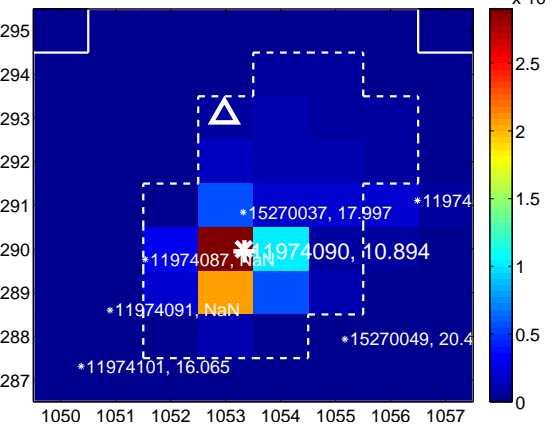
Q2 no OOT image



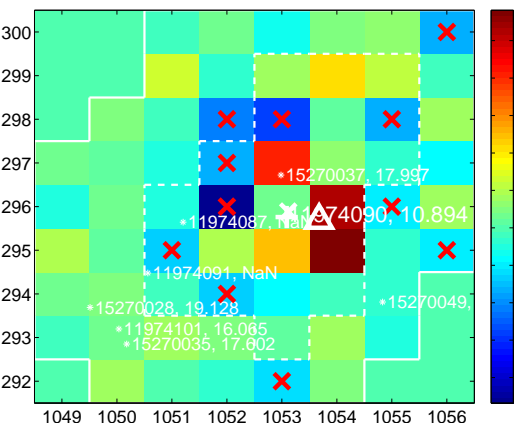
Q3 difference image. Poor Quality



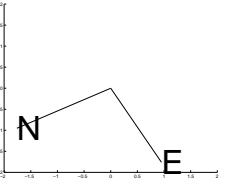
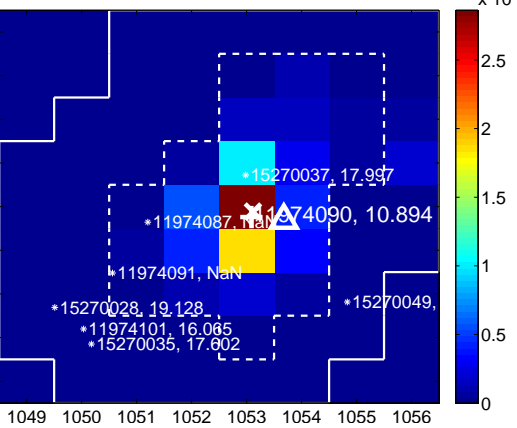
Q3 OOT image



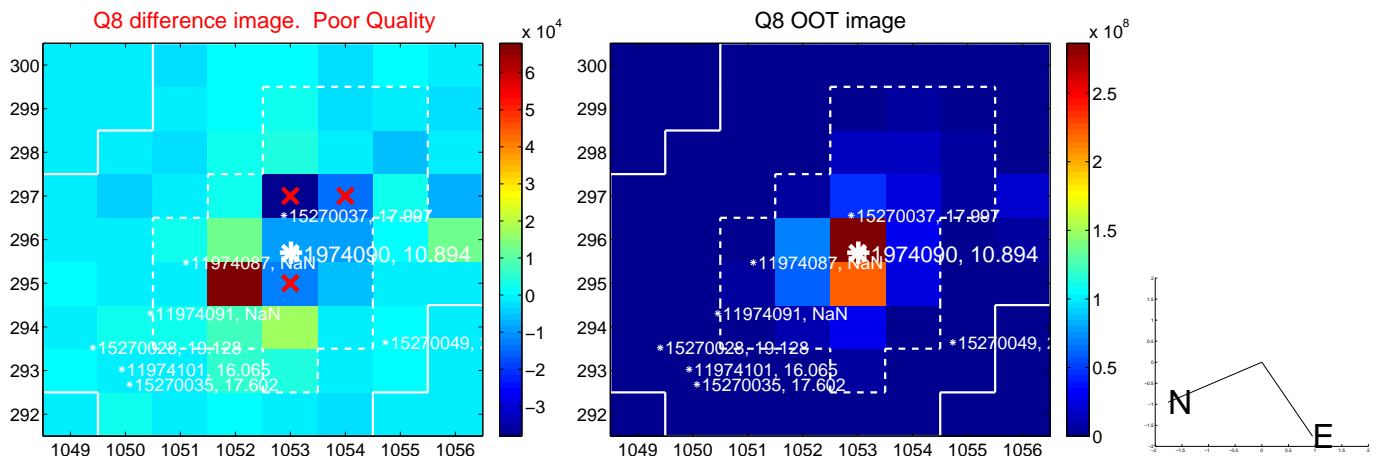
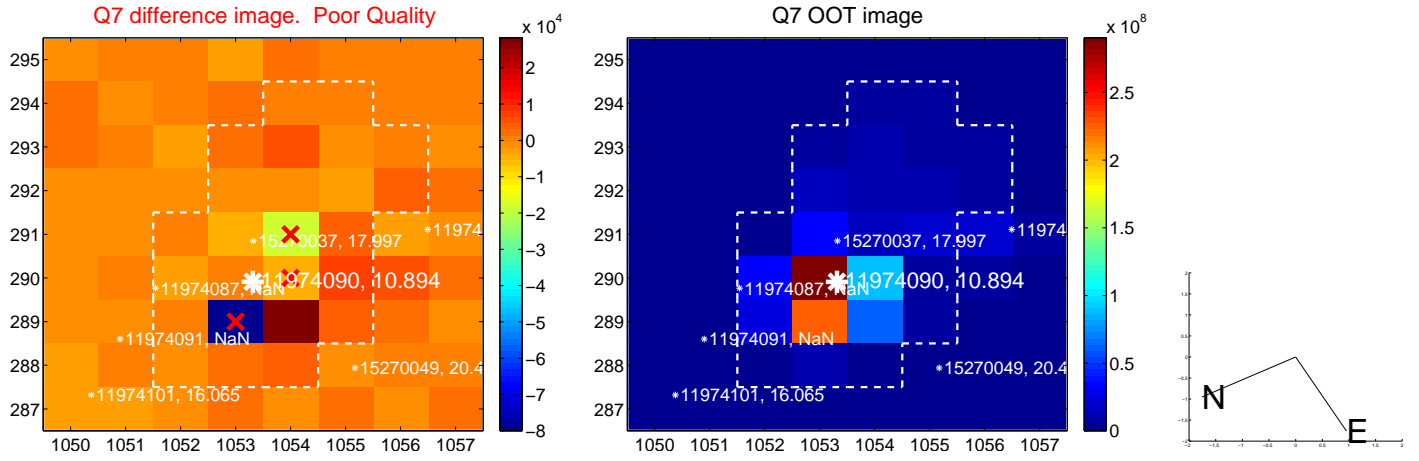
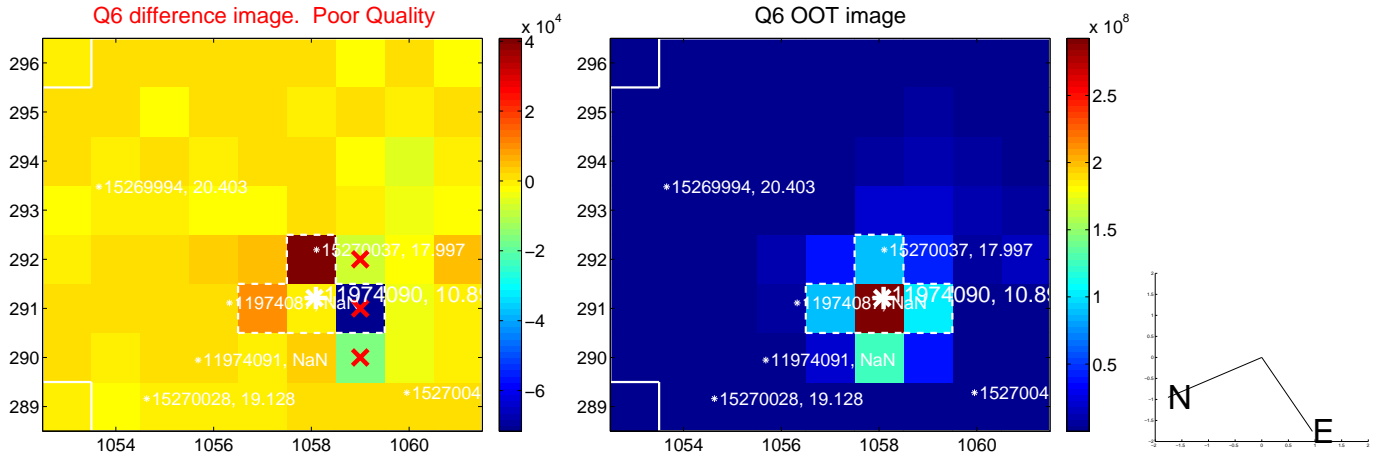
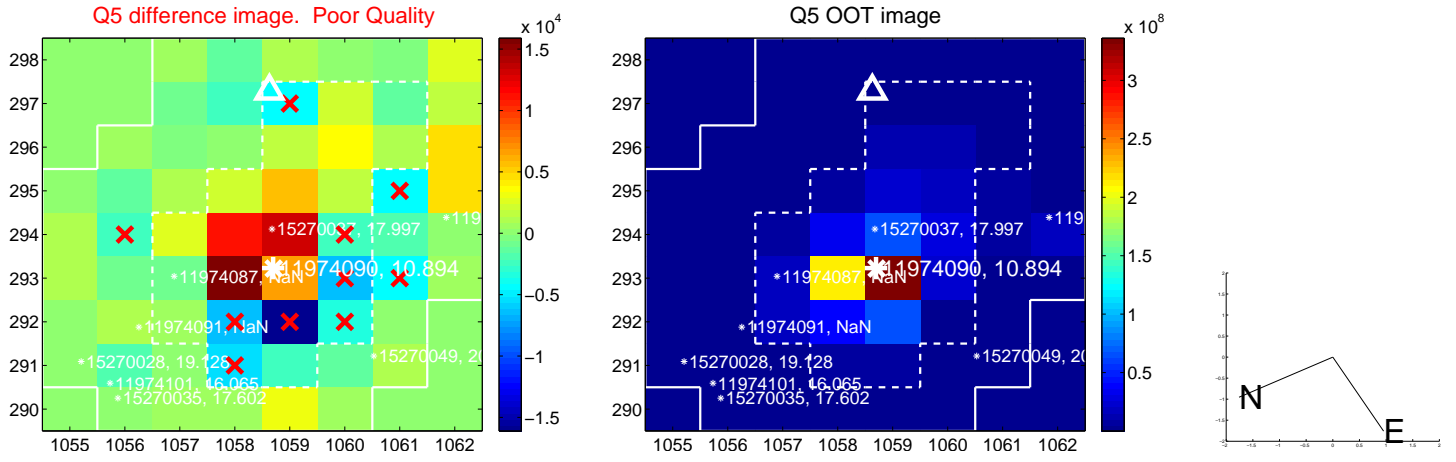
Q4 difference image. Poor Quality



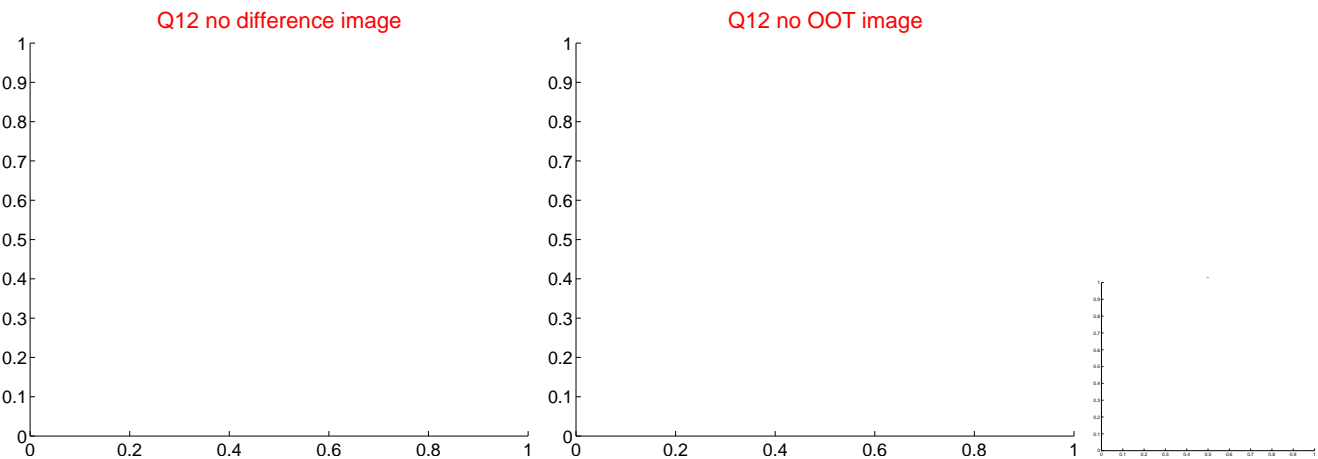
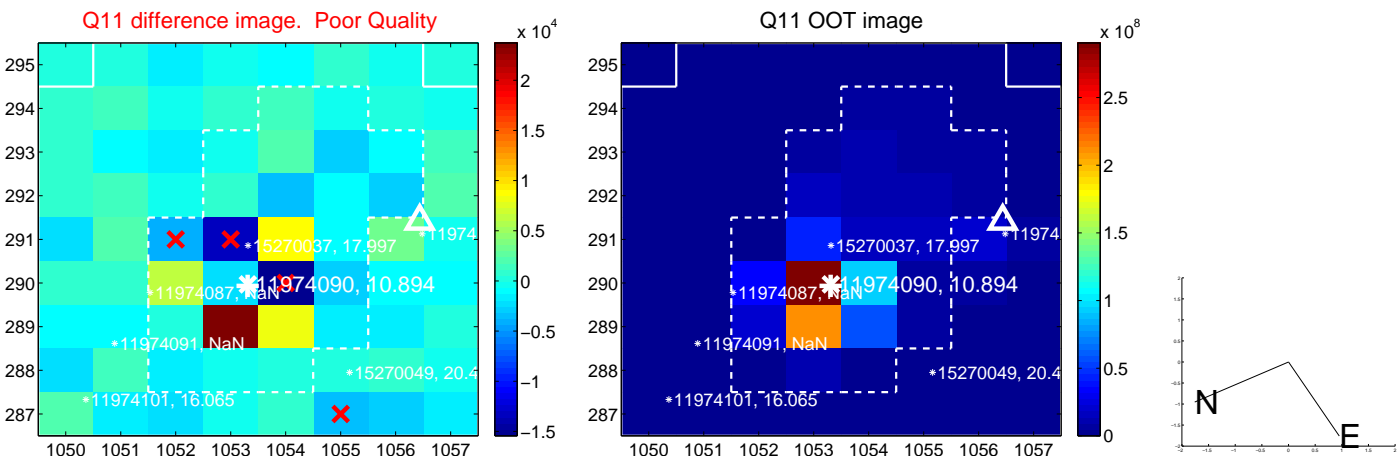
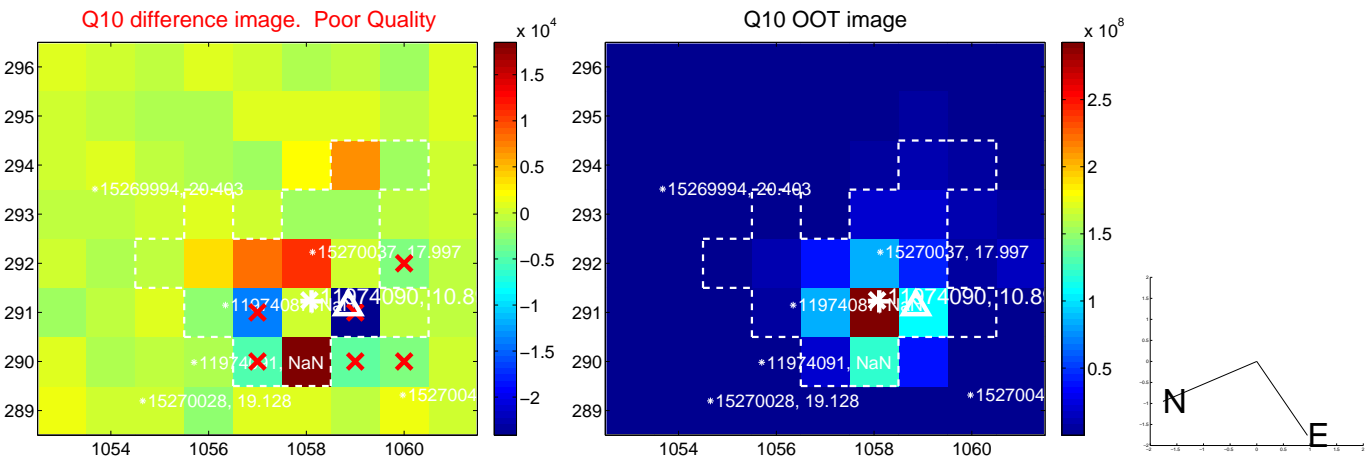
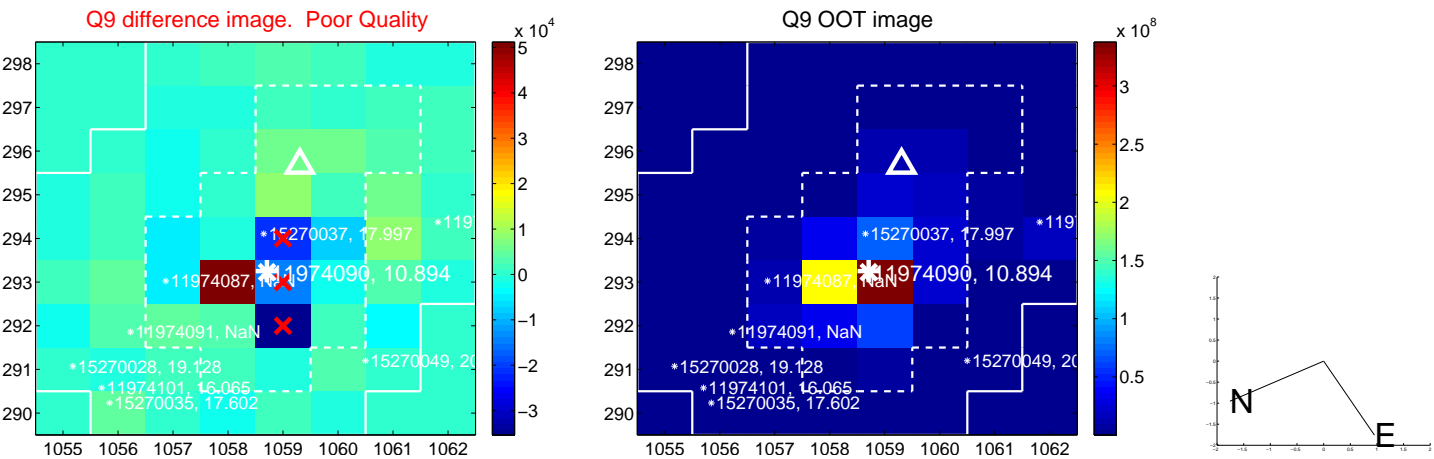
Q4 OOT image



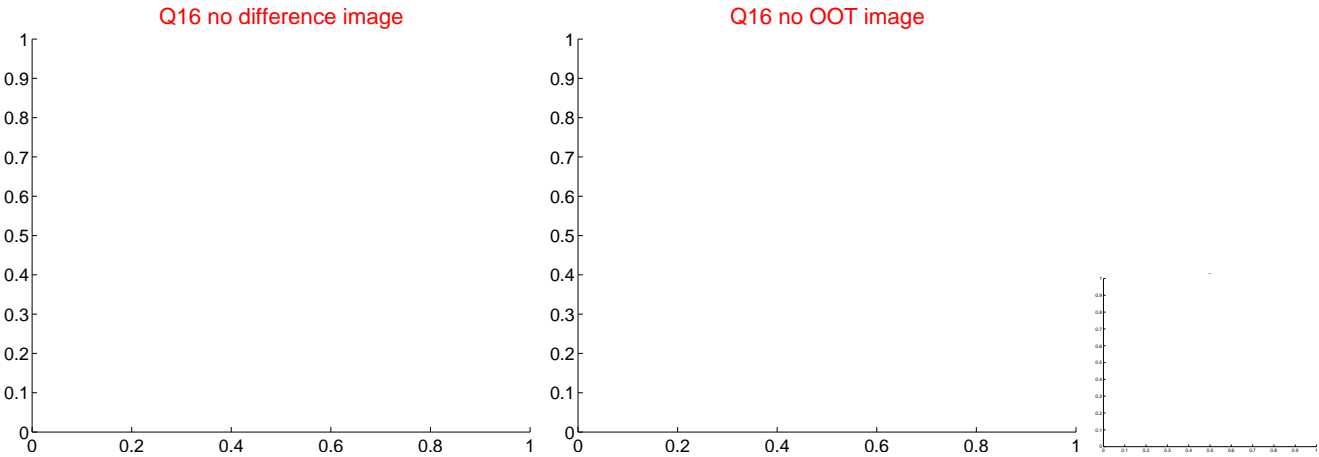
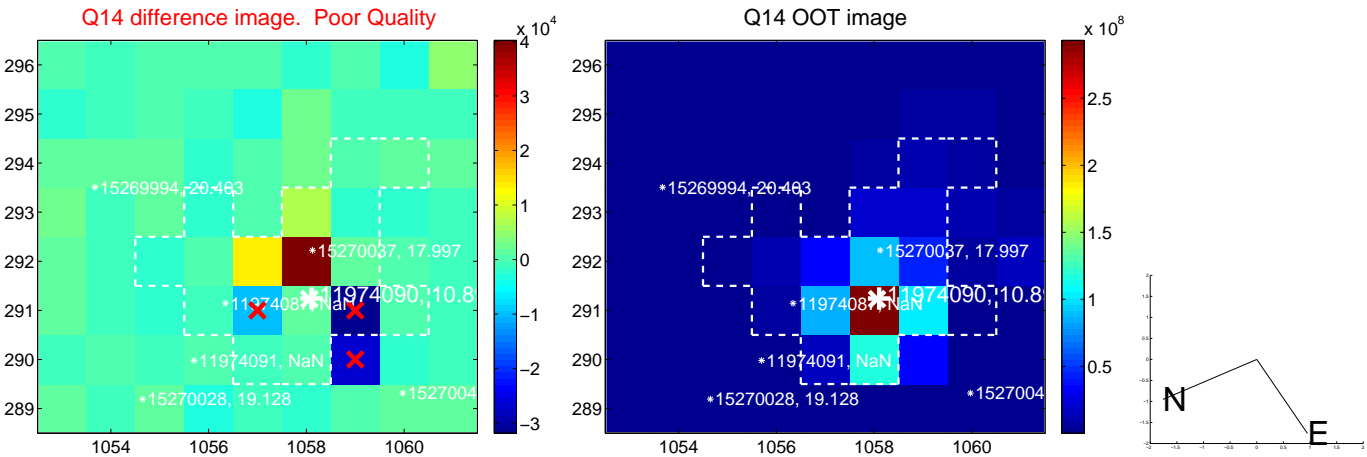
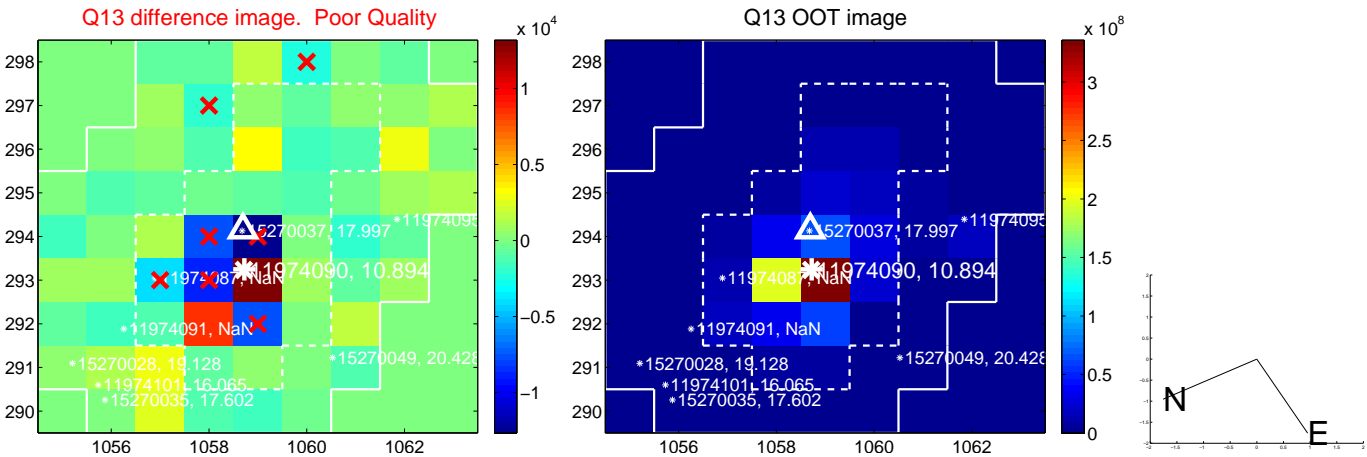
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



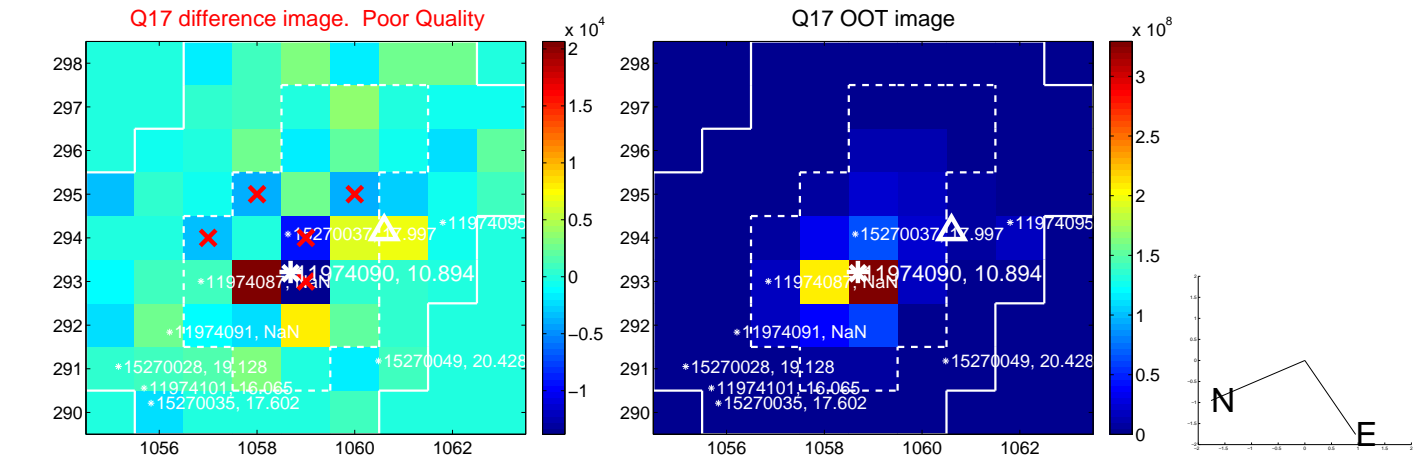
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



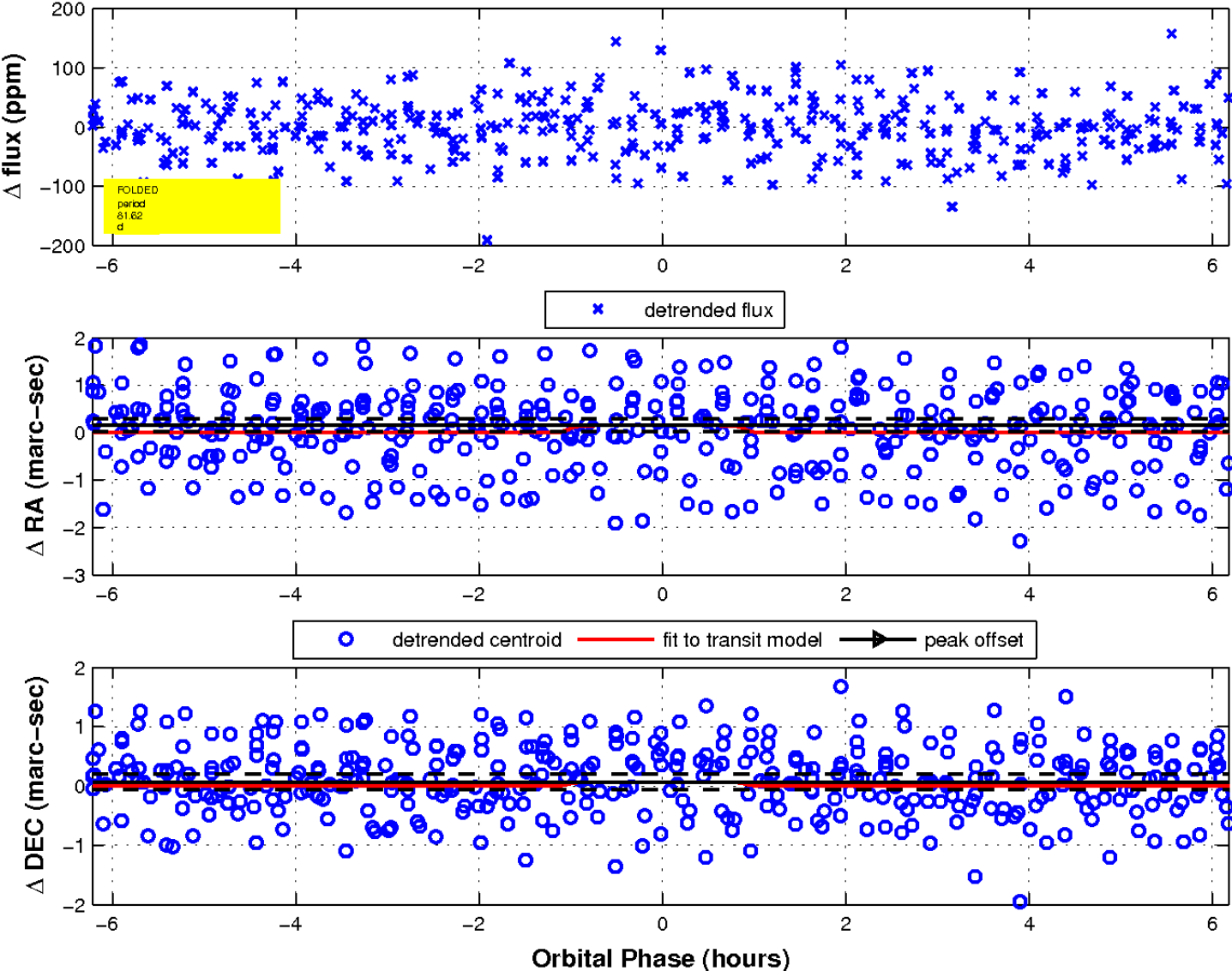
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 7 of 7



UKIRT Image

Declination

