

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})
009349698-01	OBS	No	432.161146	363.303153	1915.6	5.437	20.6	5.9	0.60	5035	2.75	0.23
009349698-02	OBS	No	412.706870	256.023978	2101.2	4.952	16.5	8.5	0.60	5035	2.79	0.25
009349698-03	OBS	No	330.892052	336.790243	234.1	3.169	23.4	1.3	0.60	5035	0.97	0.33
009349698-04	OBS	No	521.449805	346.031582	1635.1	3.742	15.8	7.4	0.60	5035	2.69	0.18
009349698-05	OBS	No	330.649057	336.616258	811.7	4.500	19.9	-1.0	0.60	5035	1.68	0.33
009349698-06	OBS	No	305.965796	288.284013	1224.0	3.063	16.3	5.8	0.60	5035	2.06	0.37
009349698-07	OBS	No	559.538985	418.966910	418.4	5.000	14.9	-1.0	0.60	5035	1.21	0.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009349698-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
009349698-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009349698-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009349698-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
009349698-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
009349698-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
009349698-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST

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

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

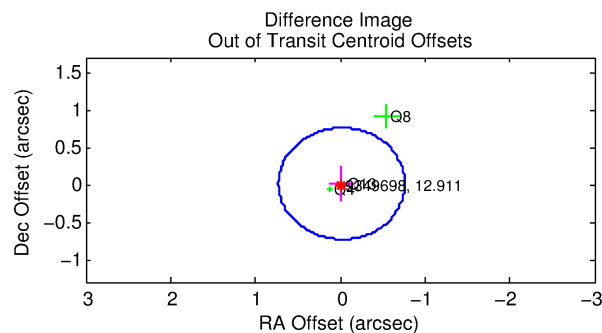
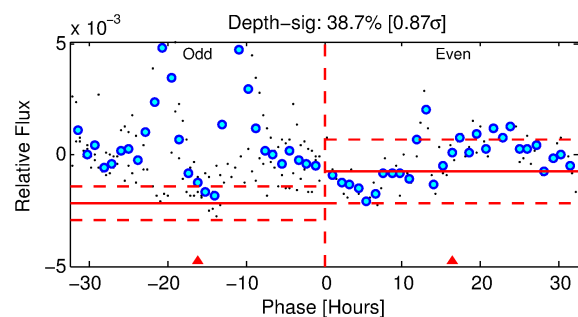
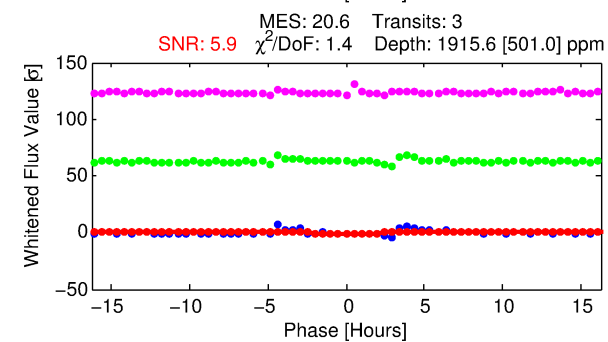
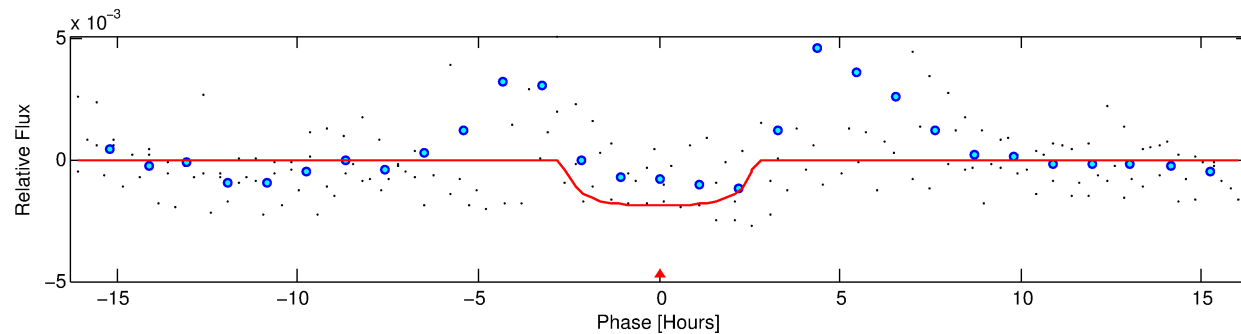
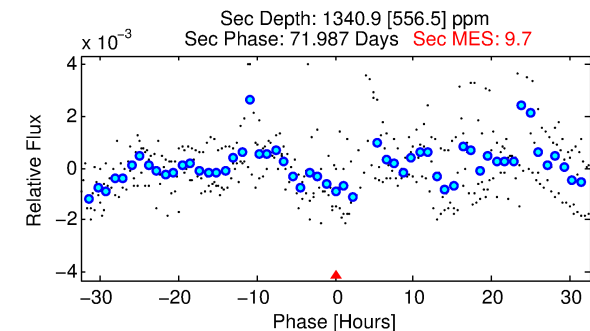
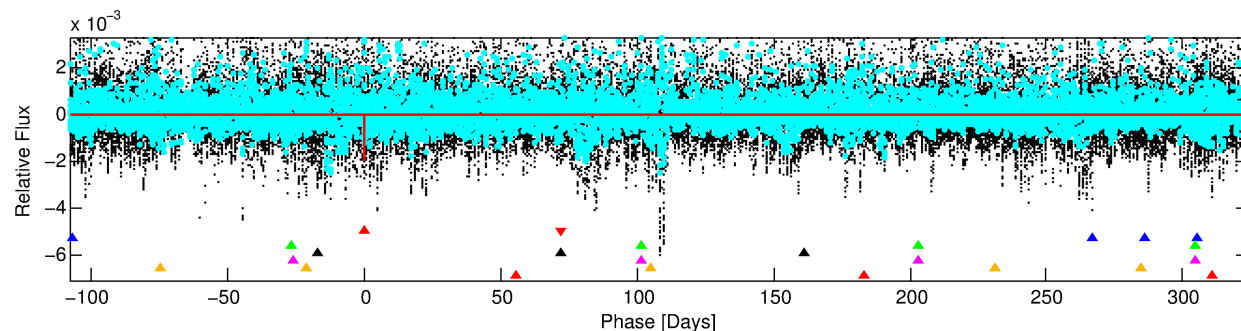
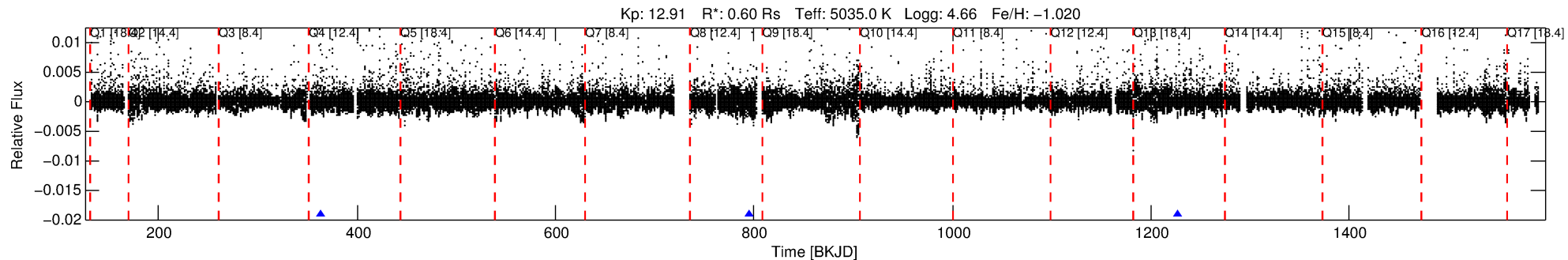
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009349698-01

No Significant Match Found

DV One-Page Summary

KIC: 9349698 Candidate: 1 of 7 Period: 432.161 d



DV Fit Results:

Period = 432.16115 [0.00798] d
Epoch = 363.3032 [0.0125] BKJD
Rp/R* = 0.0420 [0.0262]
a/R* = 500.92 [1183.53]
b = 0.64 [2.21]
Seff = 0.23 [0.04]
Teq = 177 [7] K
Rp = 2.75 [1.72] Re
a = 0.9424 [0.0613] AU
Ag = 86668.92 [114198.77] [0.76 σ]
Teff = 4702 [1551] K [2.92 σ]

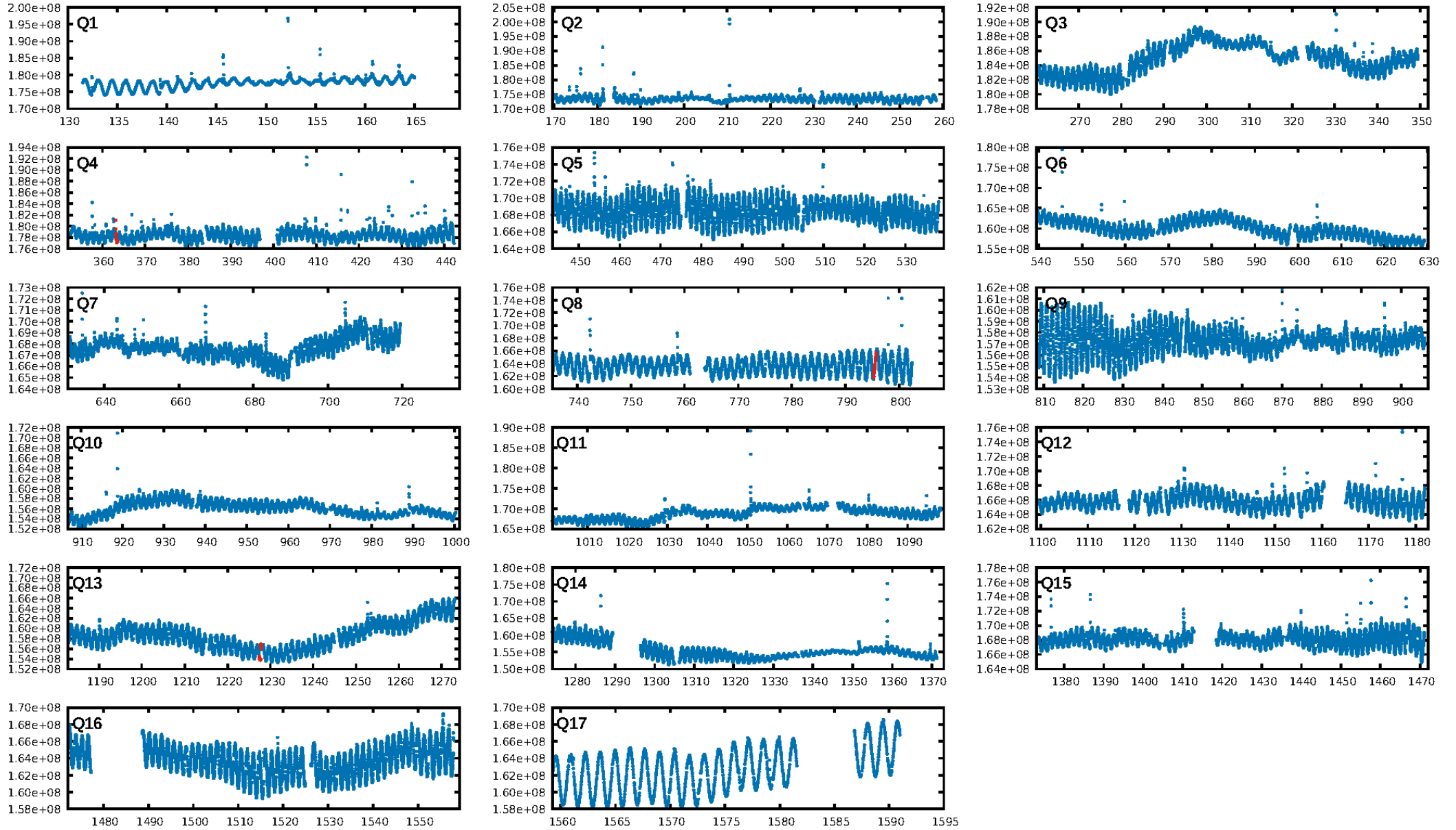
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [63.49 σ]
LongPeriod-sig: 100.0% [324.70 σ]
ModelChiSquare2-sig: 0.6%
ModelChiSquareGof-sig: 81.4%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.064
Centroid-sig: 83.3%
Centroid-so: 0.073 arcsec [0.39 σ]
OotOffset-rm: 0.022 arcsec [0.09 σ]
OotOffset-st: 0/0/2/1 [3]
KicOffset-rm: 0.145 arcsec [1.61 σ]
KicOffset-st: 0/0/2/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

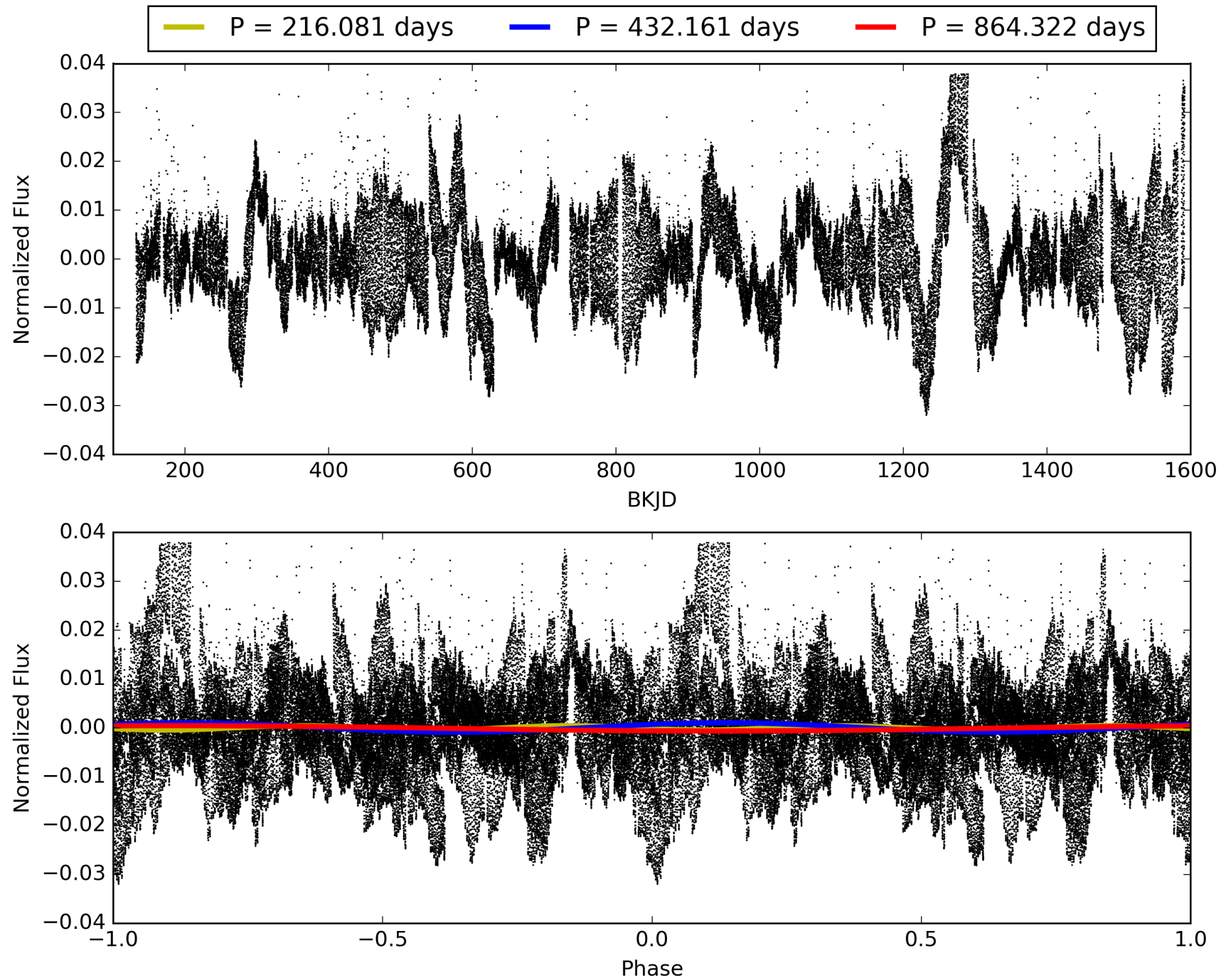
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:48:38 Z

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

TCE 009349698-01, PDC Light Curves

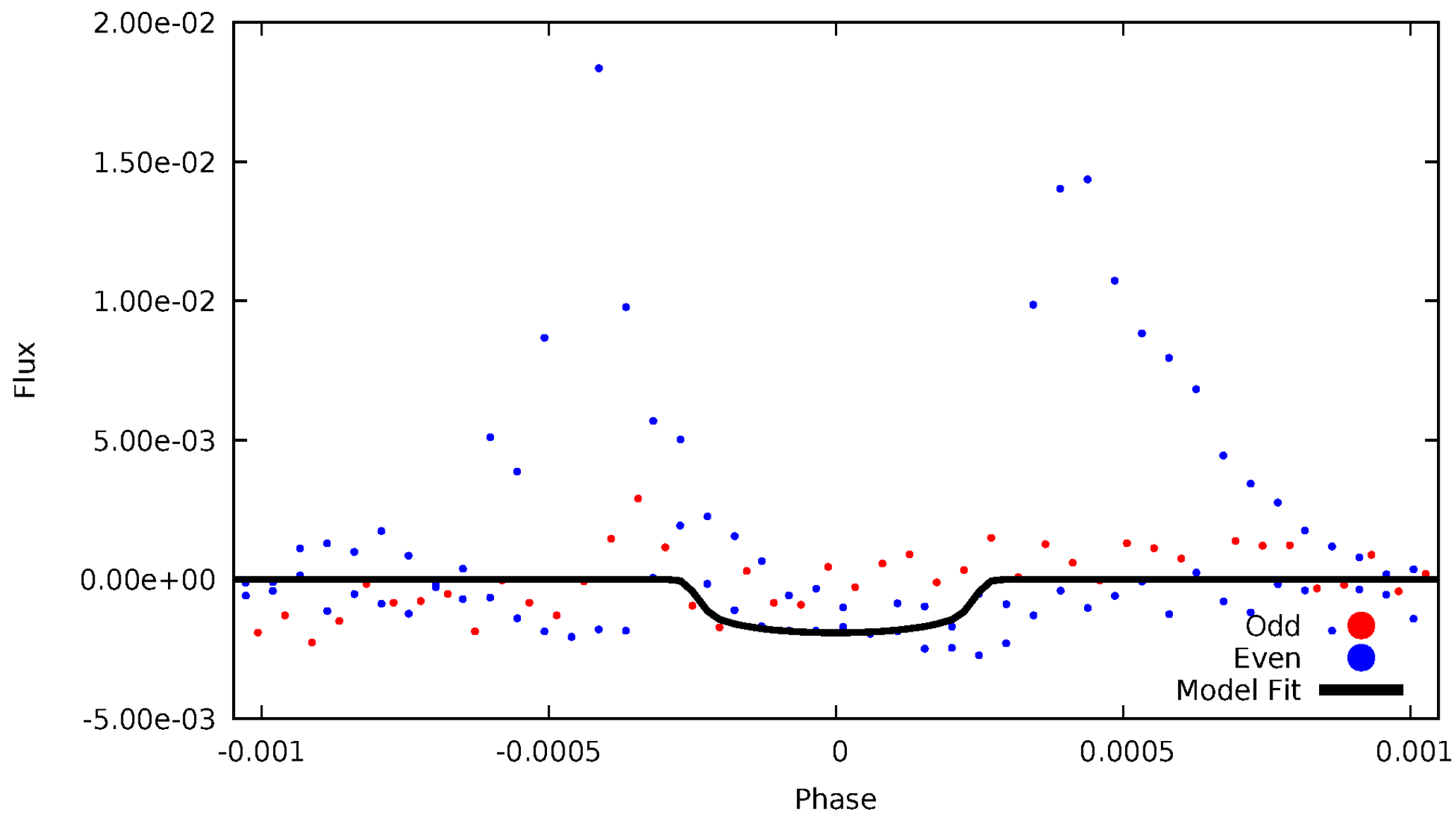


TCE 009349698-01



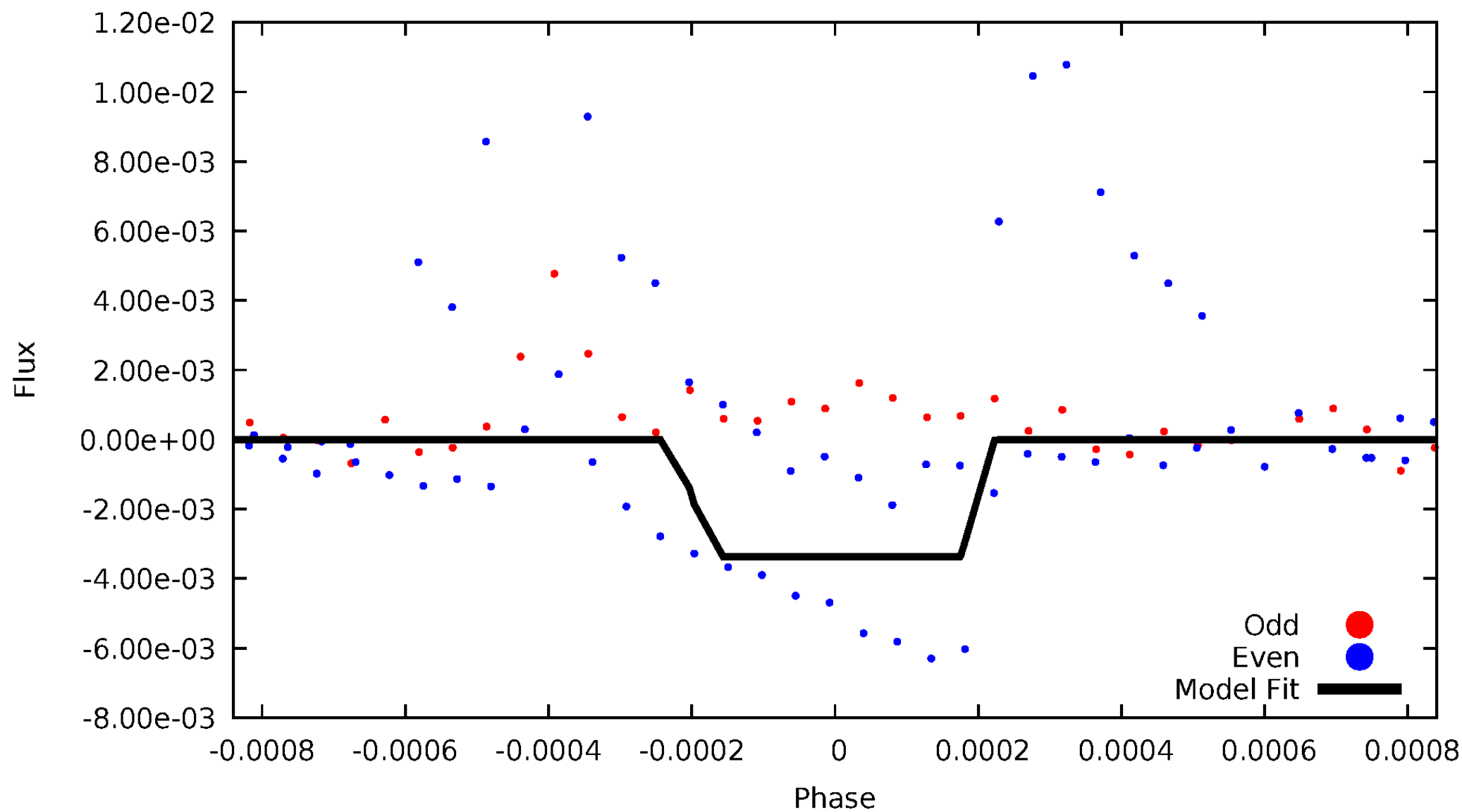
DV Odd/Even

TCE 009349698-01



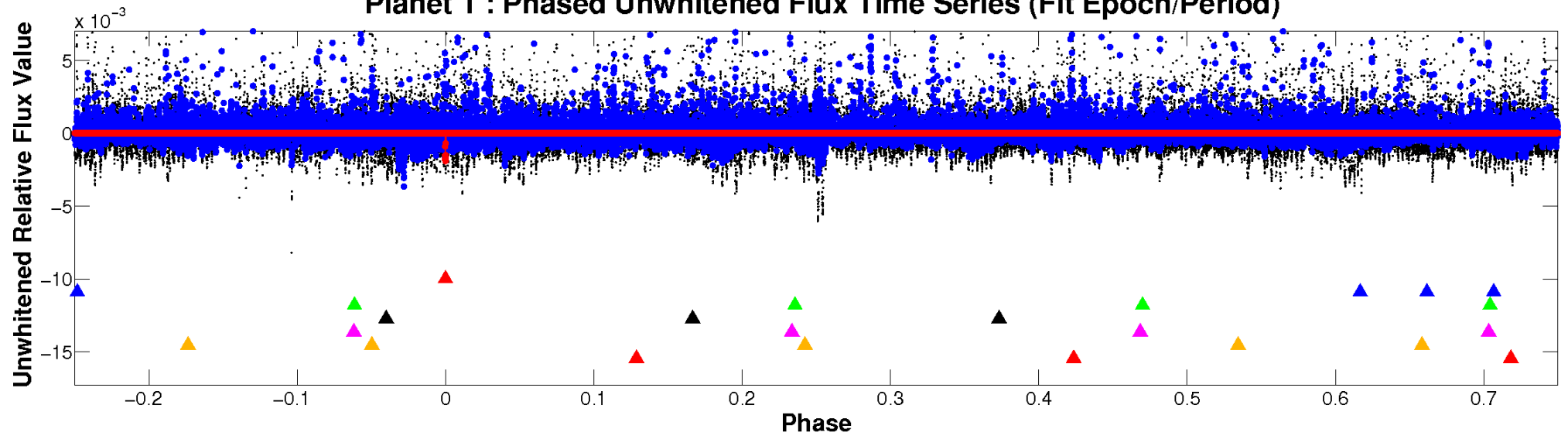
ALT Odd/Even

TCE 009349698-01

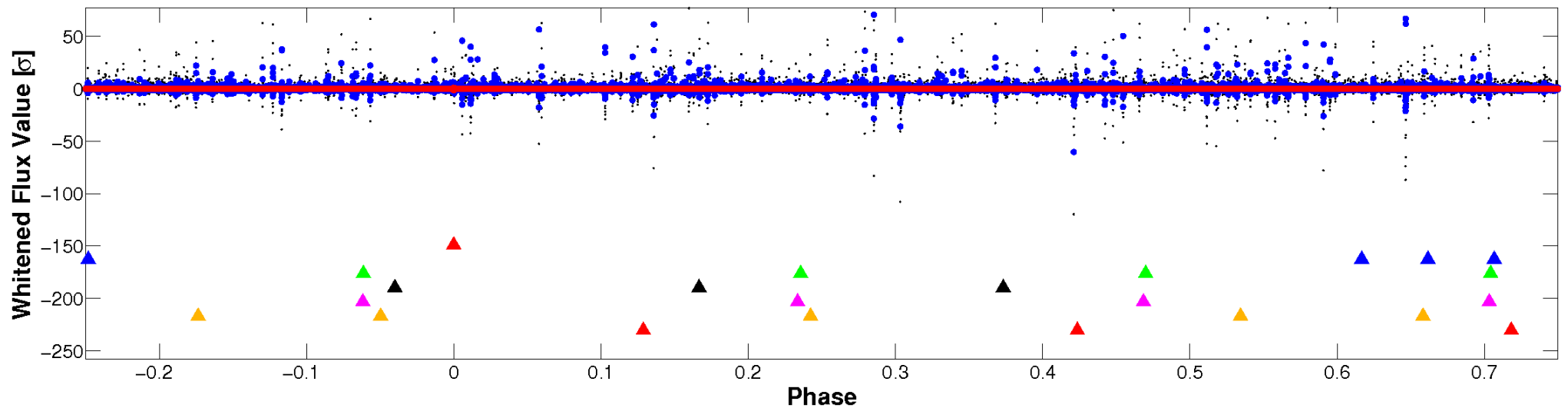


Non-Whitened Vs. Whitened Light Curve

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

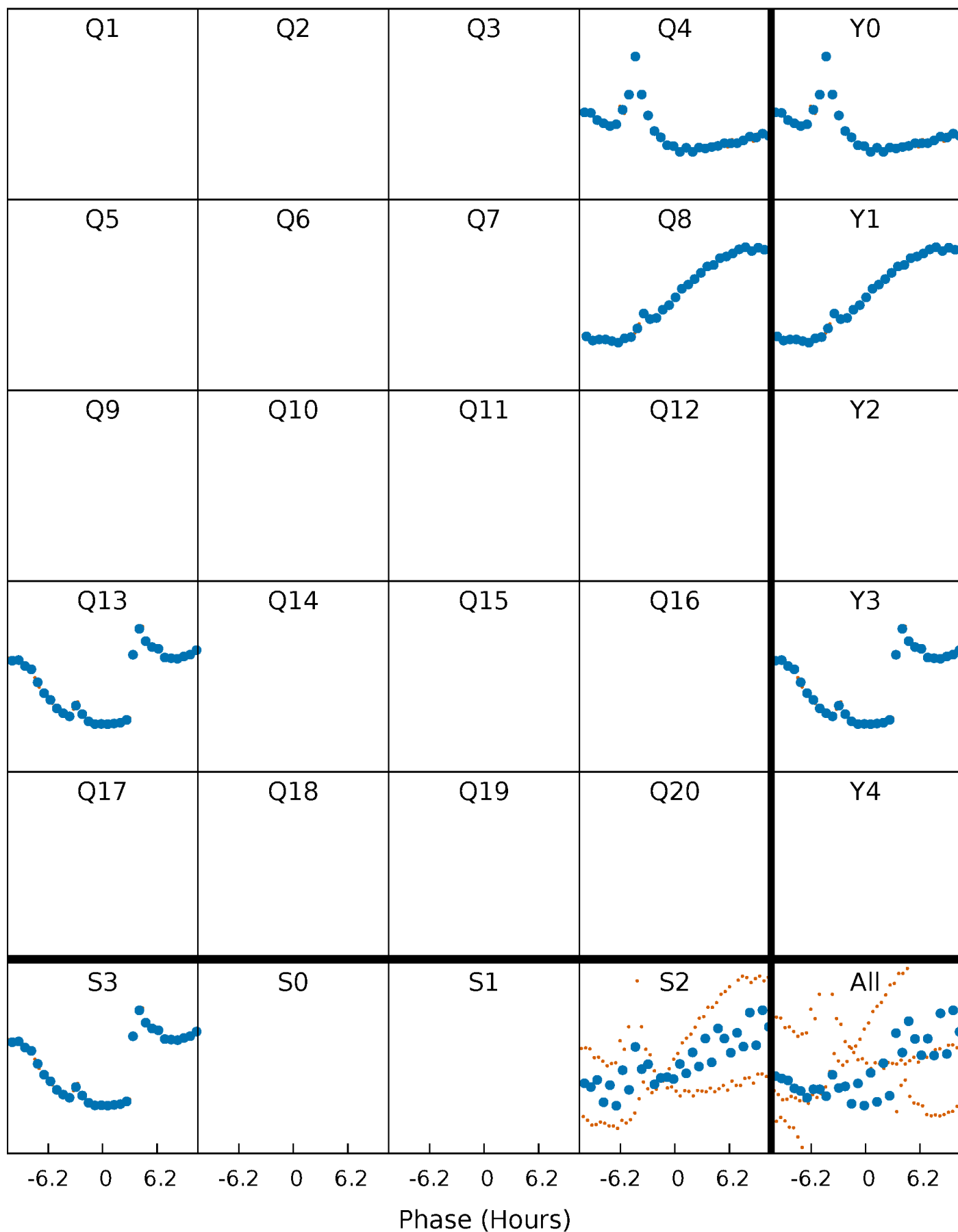


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



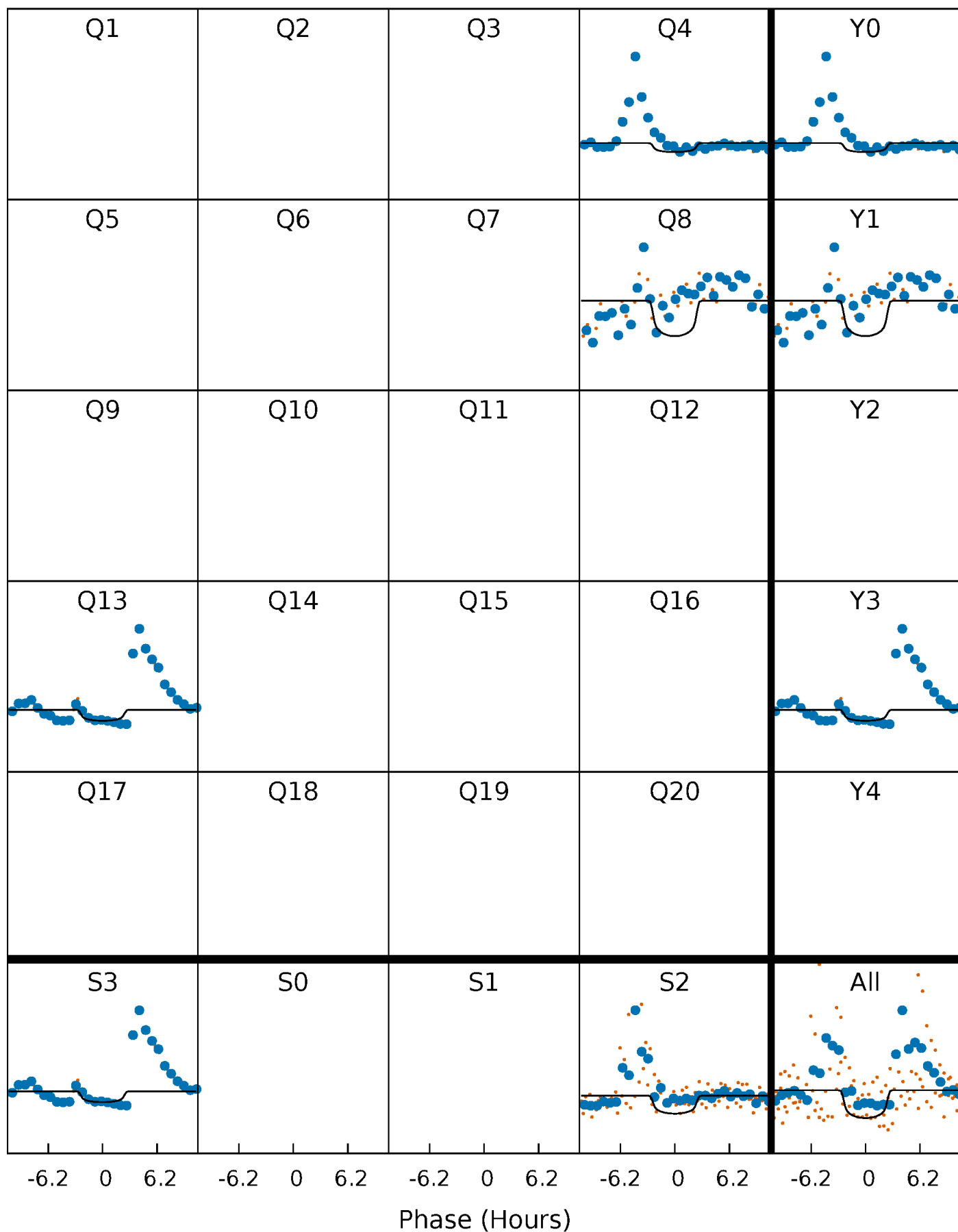
PDC Quarter-Phased Transit Curves

TCE 009349698-01 P=432.161146 Days $T_0=363.303153$ (BKJD)



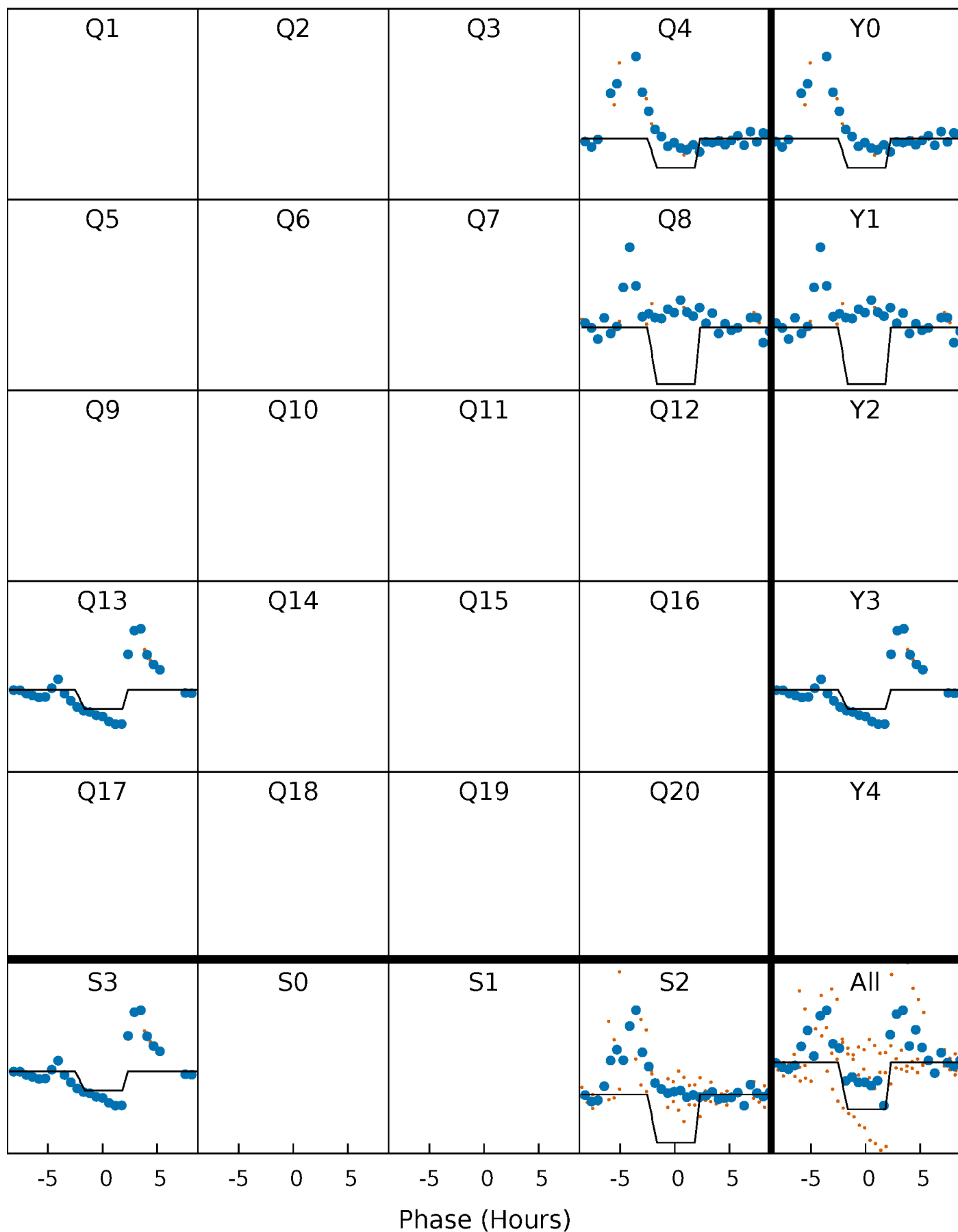
DV Quarter-Phased Transit Curves

TCE 009349698-01 $P=432.161146$ Days $T_0=363.303153$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

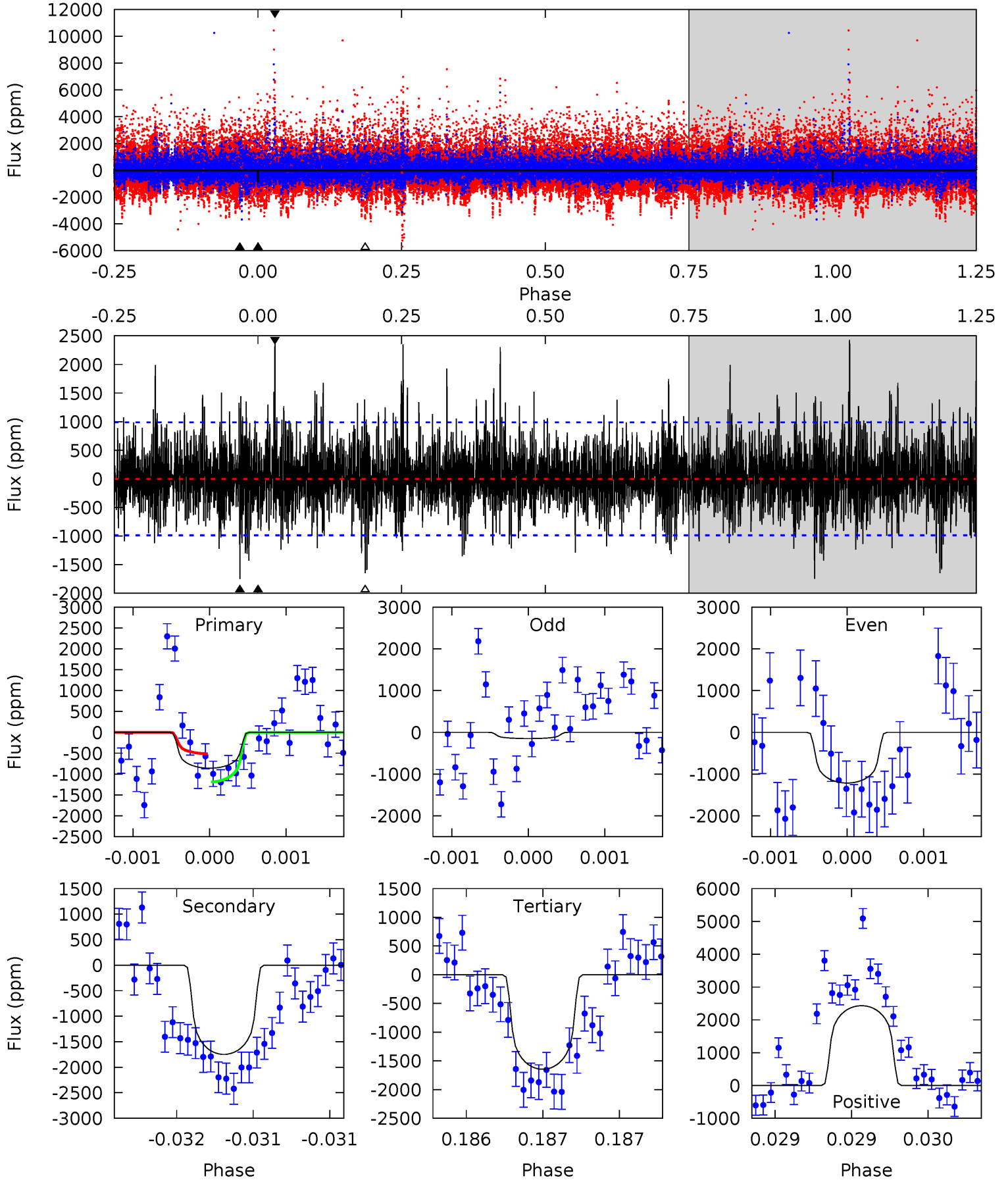
TCE 009349698-01 P=432.190227 Days $T_0=363.294486$ (BKJD)



DV Model-Shift Uniqueness Test

009349698-01, P = 432.161146 Days, E = 363.303153 Days

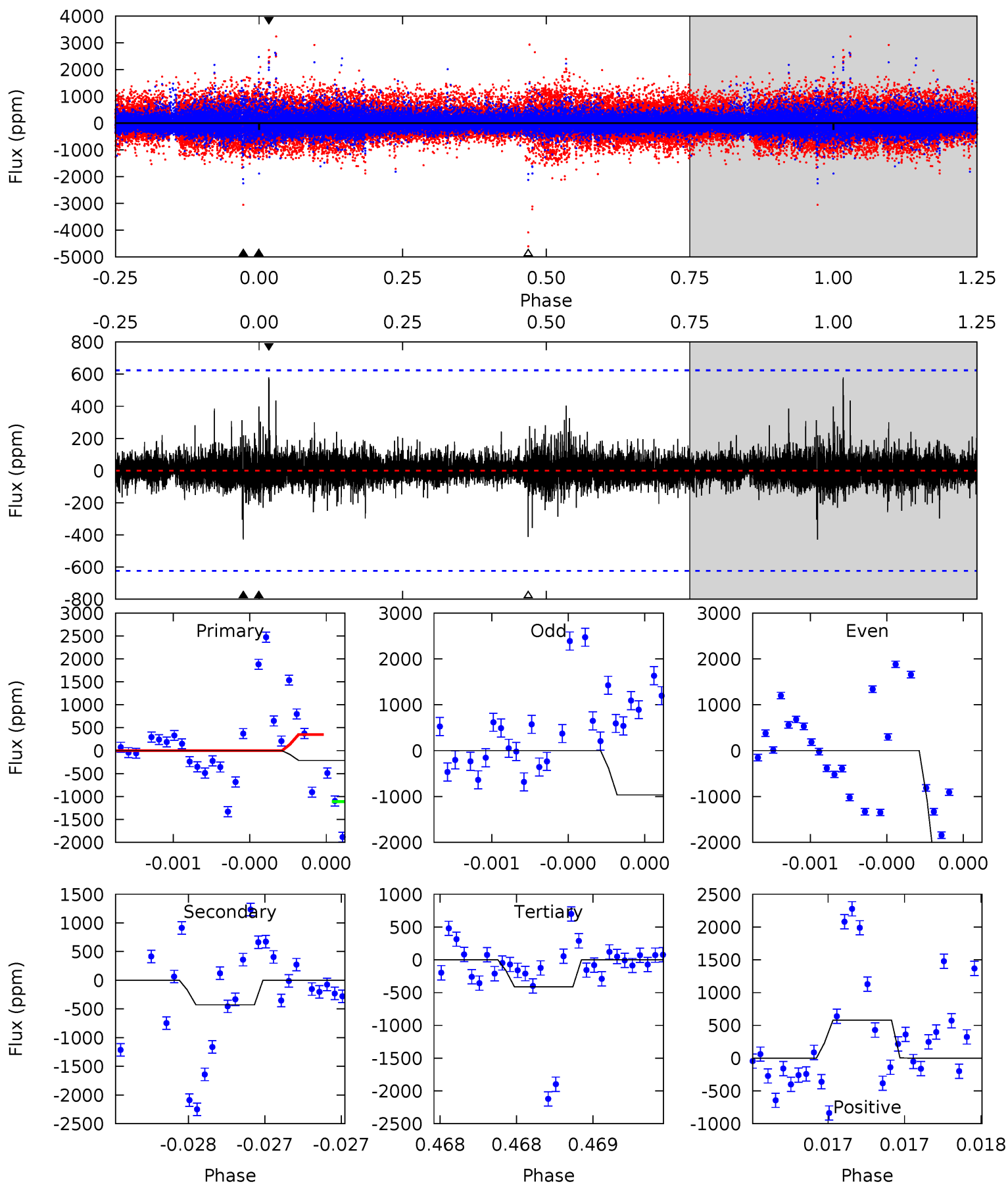
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.84	9.84	9.26	13.7	5.55	3.45	2.51	-4.42	-8.85	0.58	-3.84	2.17	2.02	0.58	1.92



Alt Model-Shift Uniqueness Test

009349698-01, P = 432.190227 Days, E = 363.294486 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.92	3.85	3.69	5.20	5.60	3.52	0.51	-1.77	-3.29	0.16	-1.36	7.70	3.19	0.57	0



Stellar Parameters For KIC 009349698

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5035^{+151}_{-151}	$4.658^{+0.059}_{-0.036}$	$-1.020^{+0.300}_{-0.300}$	$0.600^{+0.042}_{-0.042}$	$0.597^{+0.052}_{-0.022}$	$3.891^{+0.821}_{-0.565}$
	+3%/-3%	+1%/-1%	+29%/-29%	+7%/-7%	+9%/-4%	+21%/-15%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 009349698-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1748 ± 178	$2.96^{+1.50}_{-1.54}$	247^{+9}_{-9}	4870^{+2124}_{-742}	$100559^{+319621}_{-57939}$
Alt.	-428 ± 111	$3.75^{+1.73}_{-1.66}$	247^{+9}_{-8}	3452^{+737}_{-400}	14278^{+28974}_{-7735}

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

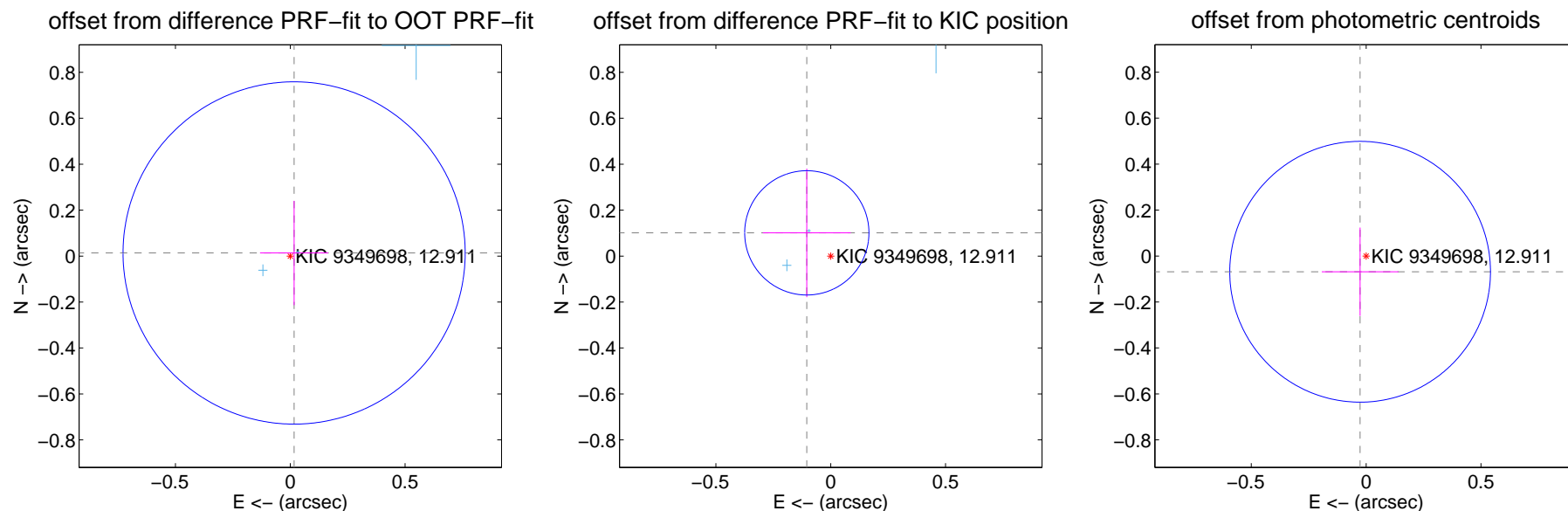
DV Centroid Data

Supplemental centroid analysis for 009349698-01. Kepler magnitude: 12.91. Transit SNR 5.85

There are 3 quarters with good PRF difference image offsets

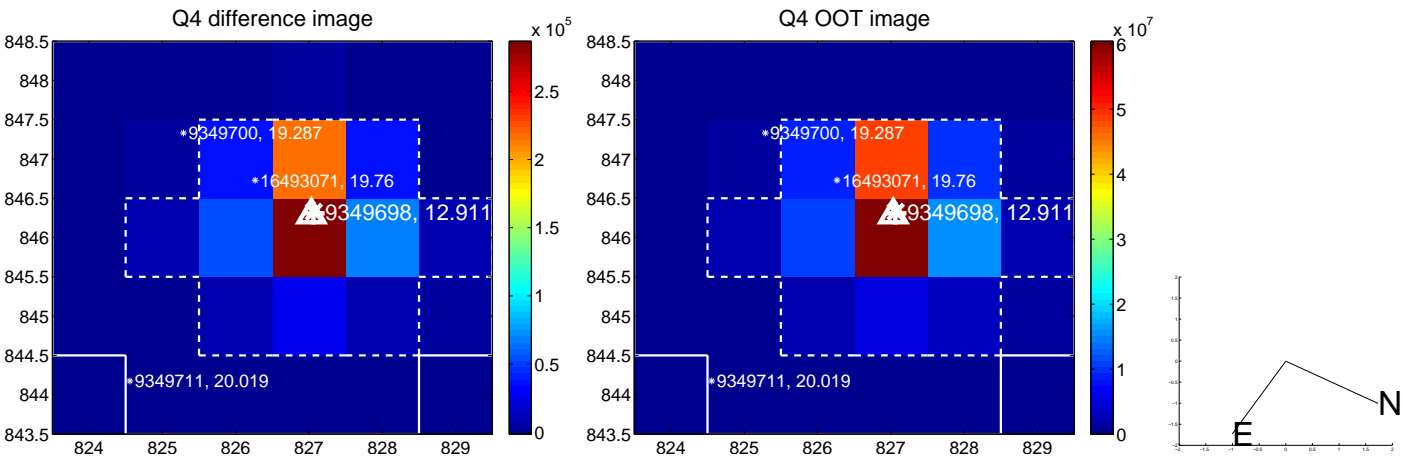
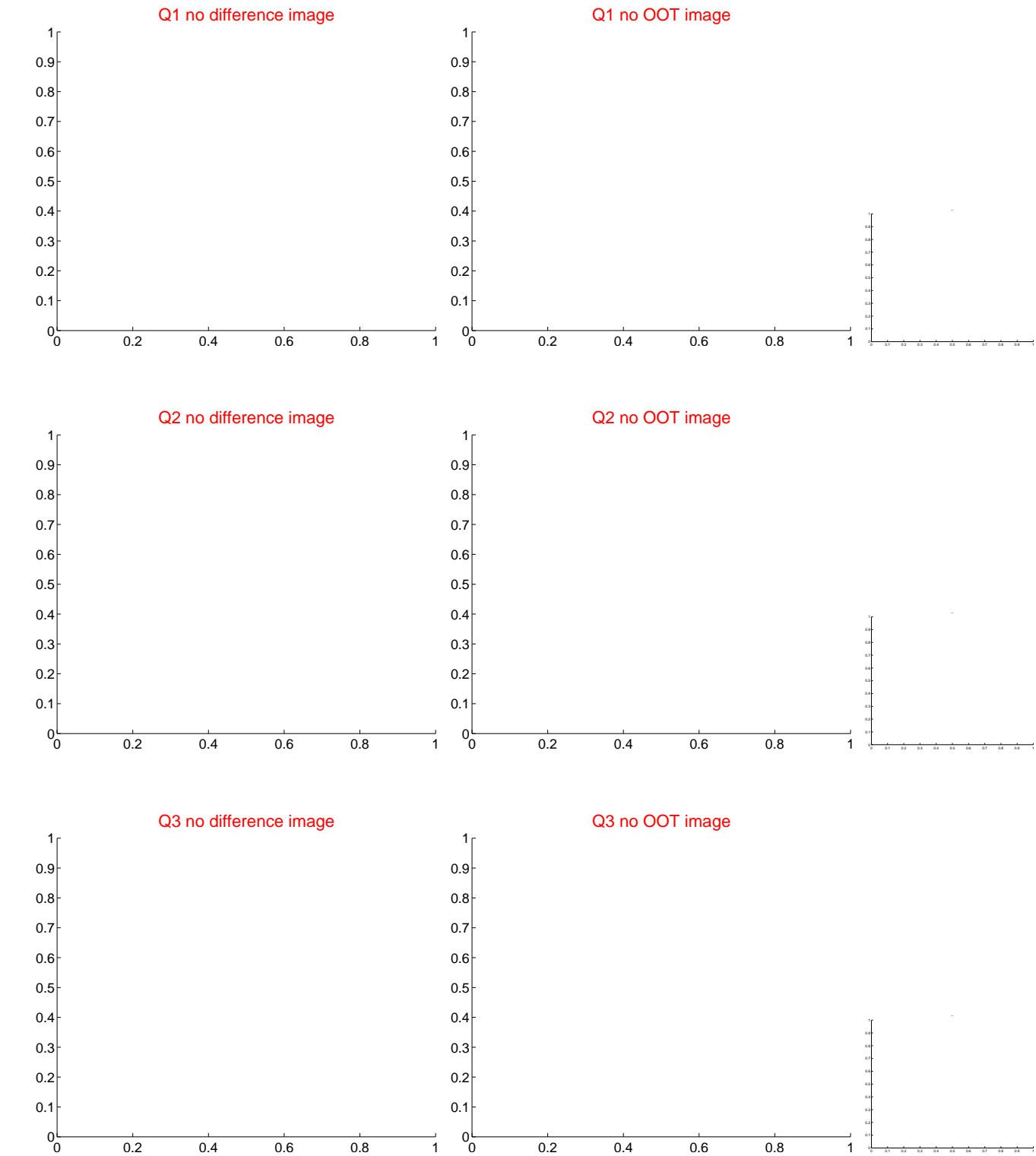
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.022 ± 0.248	0.09	-0.017 ± 0.148	0.014 ± 0.227
PRF-fit source offset from KIC position	0.145 ± 0.090	1.61	0.104 ± 0.191	0.101 ± 0.280
photometric centroid source offset	0.07 ± 0.19	0.39	0.03 ± 0.17	-0.07 ± 0.19

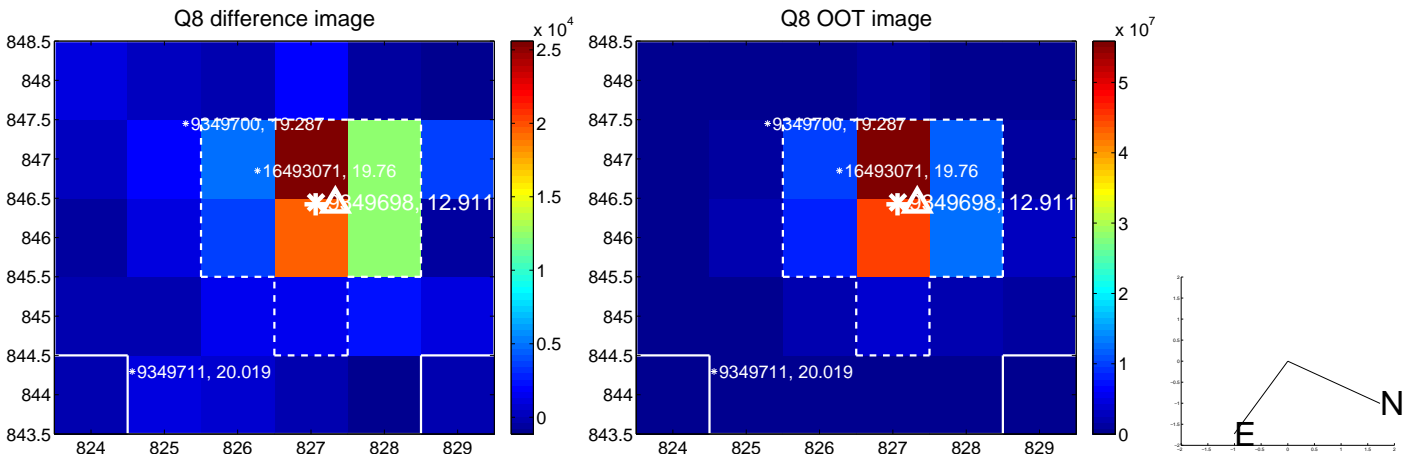
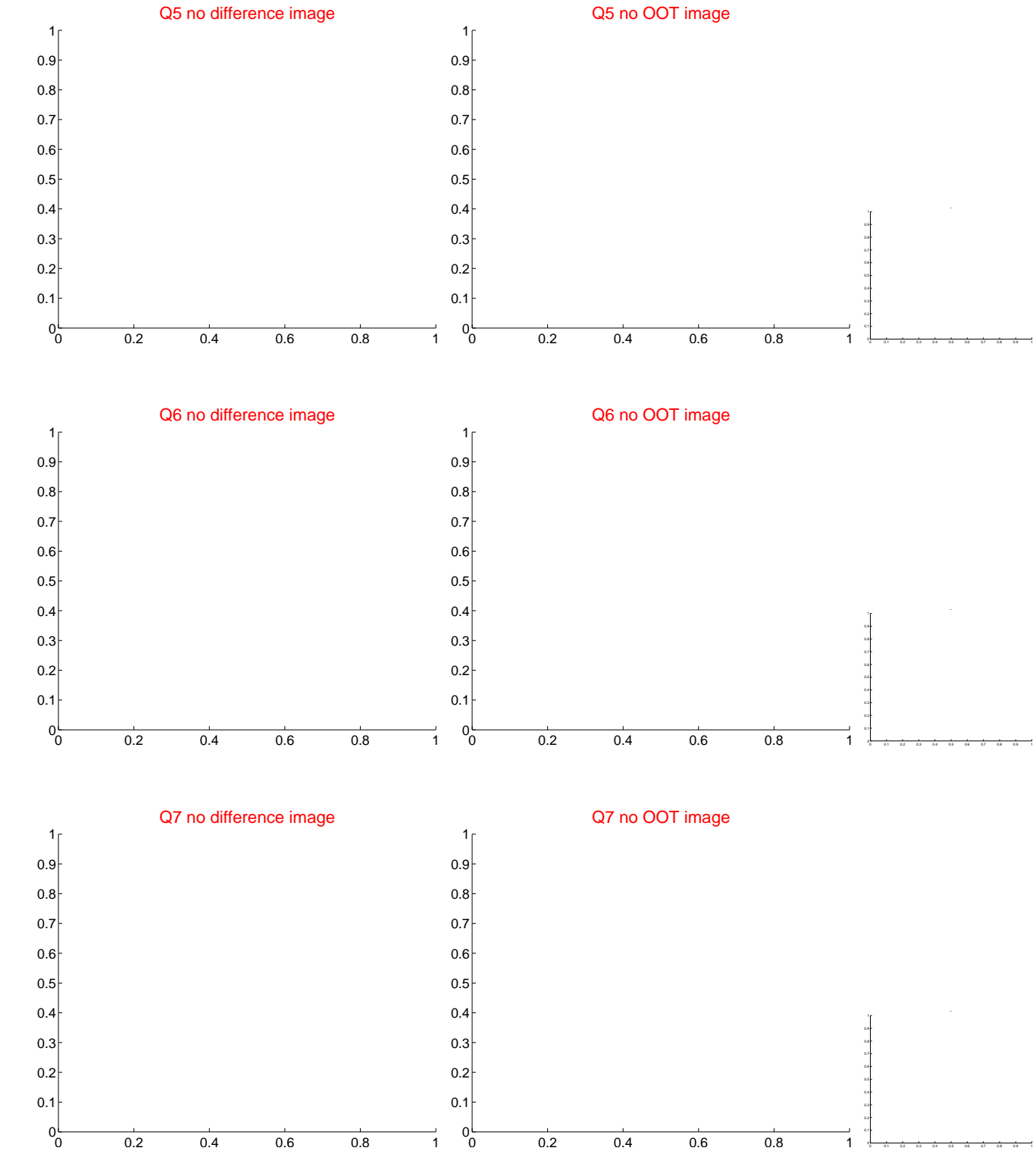


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



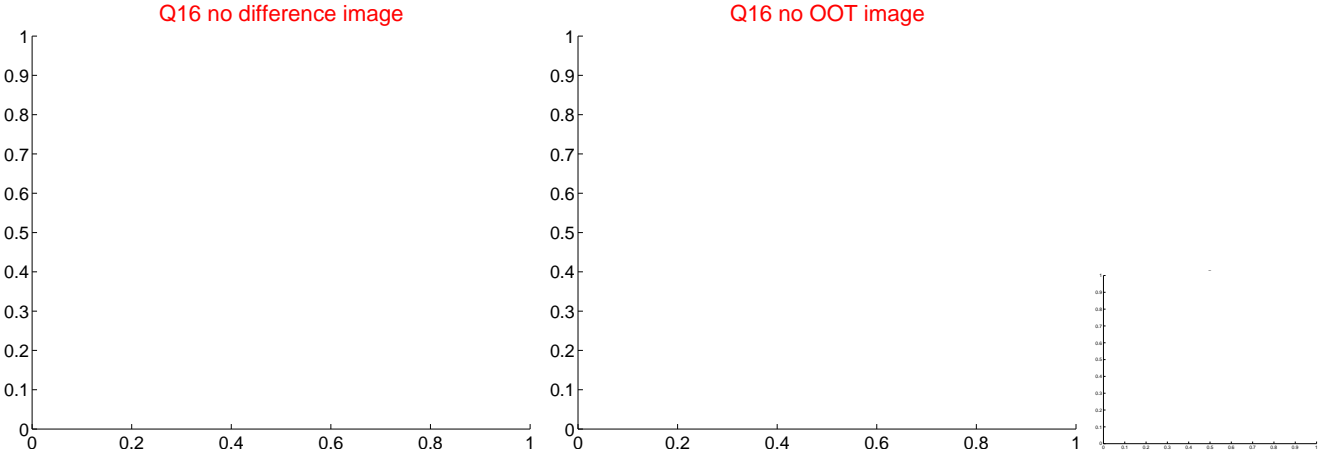
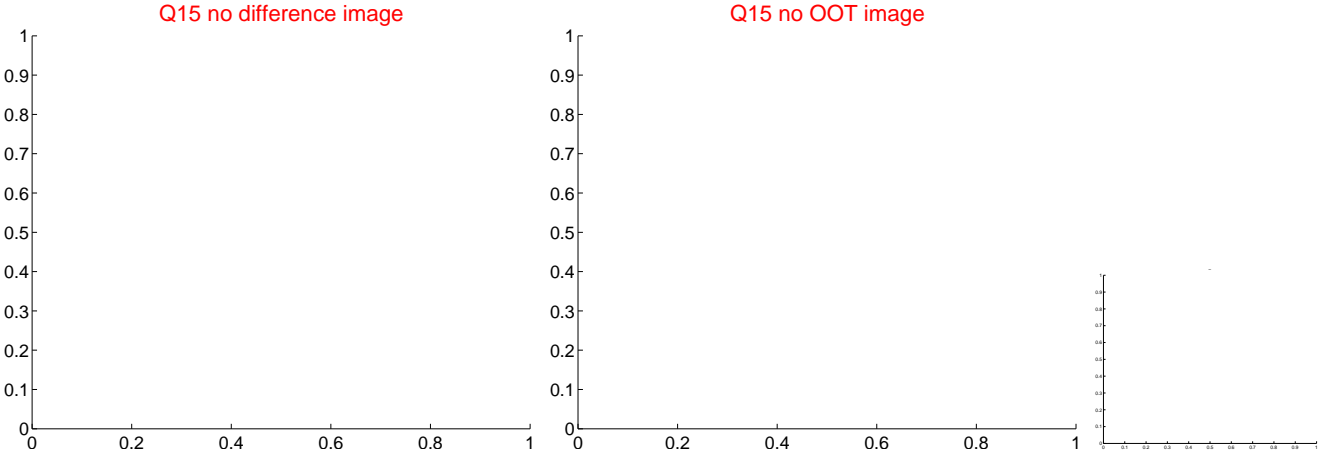
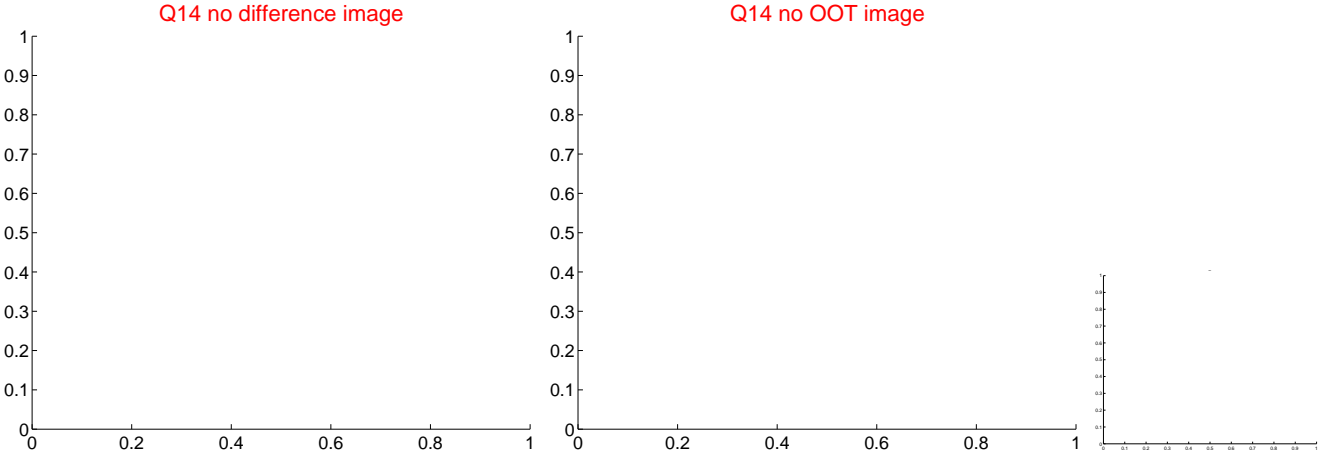
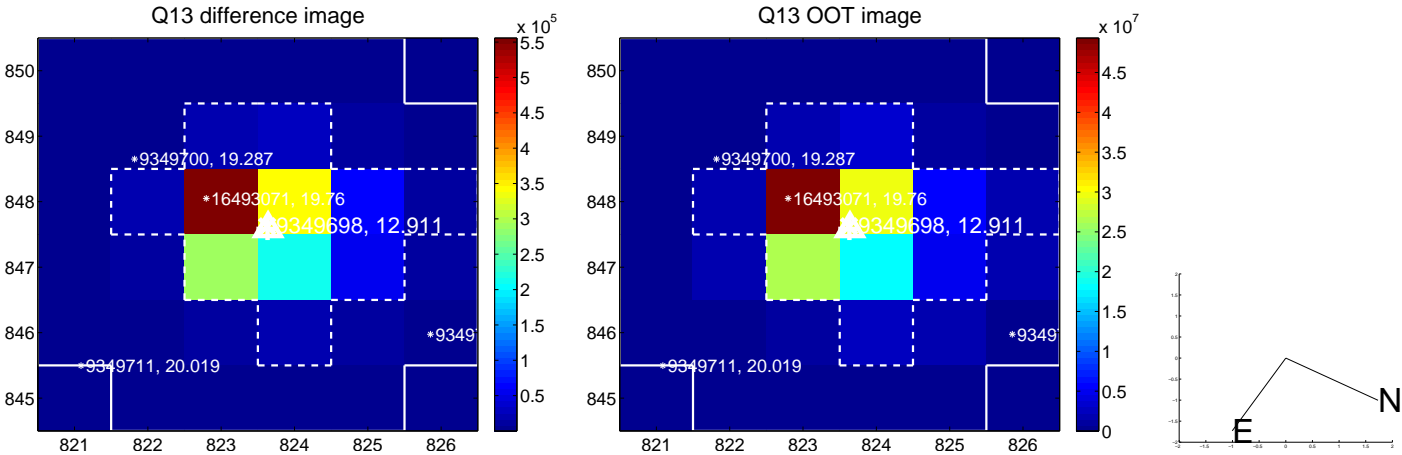
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



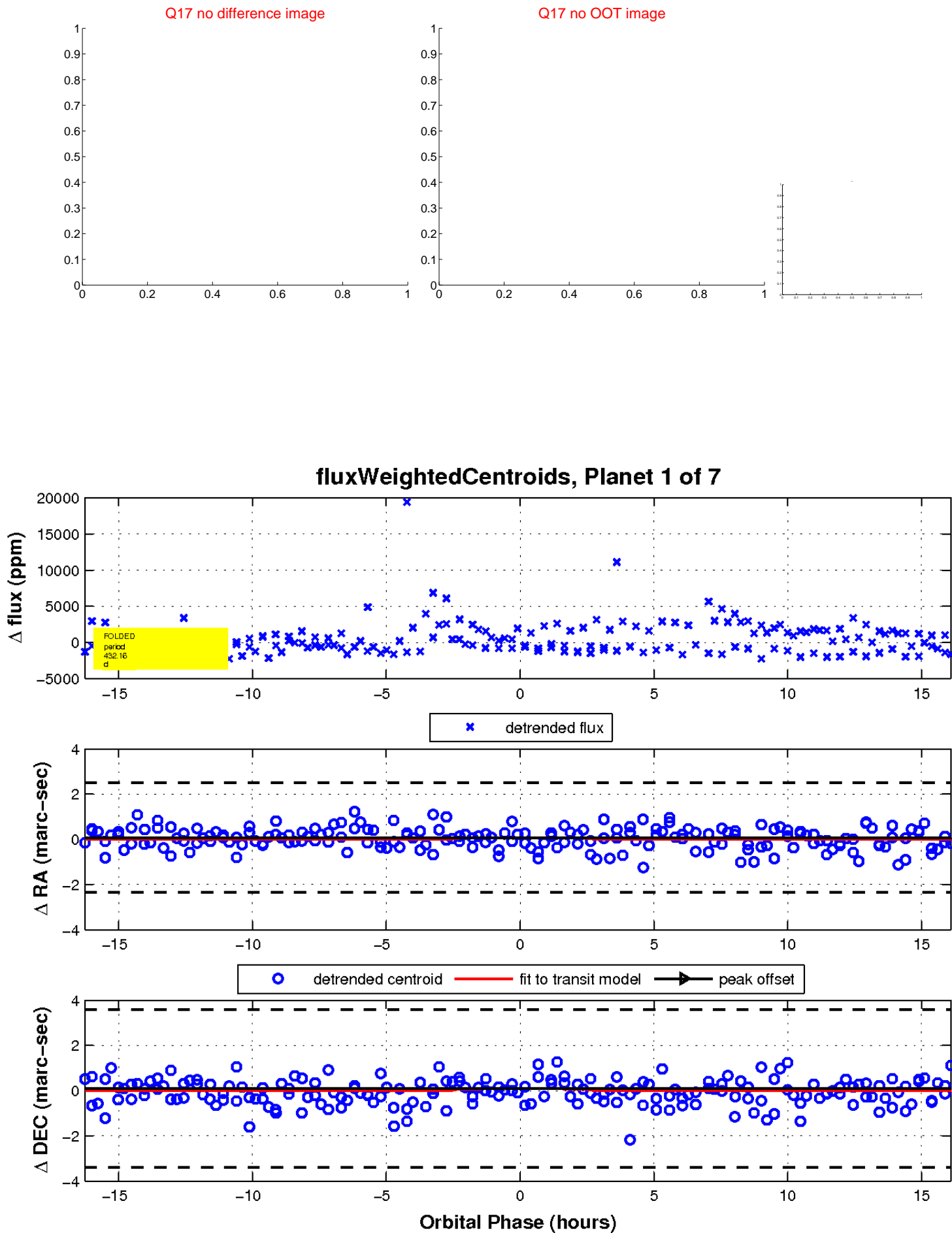
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

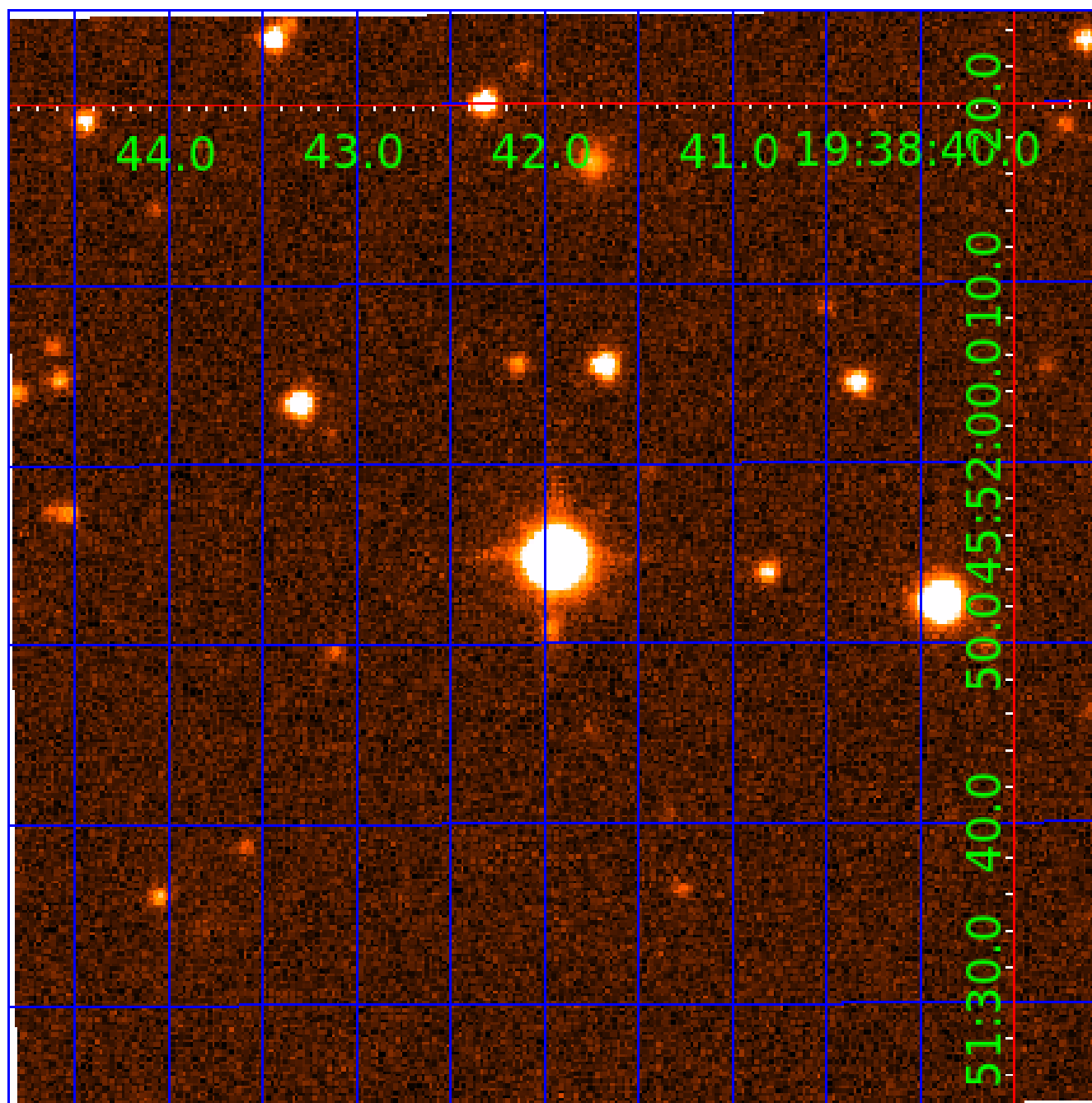


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
009349698-01	OBS	No	432.161146	363.303153	1915.6	5.437	20.6	5.9	0.60	5035	2.75	0.23
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009349698-06	OBS	No	305.965796	288.284013	1224.0	3.063	16.3	5.8	0.60	5035	2.06	0.37
009349698-07	OBS	No	559.538985	418.966910	418.4	5.000	14.9	-1.0	0.60	5035	1.21	0.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009349698-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
009349698-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009349698-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009349698-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
009349698-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
009349698-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
009349698-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST

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

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

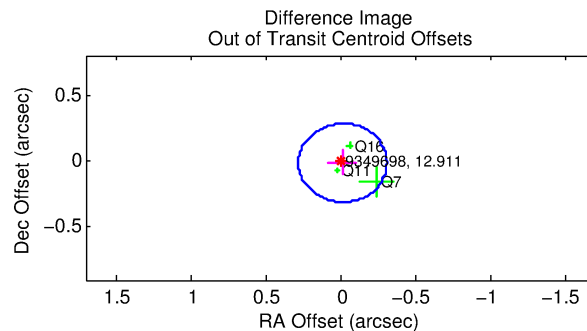
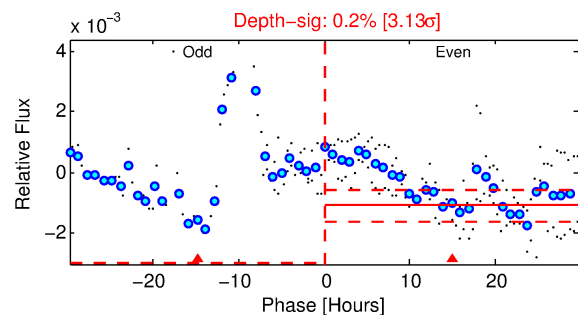
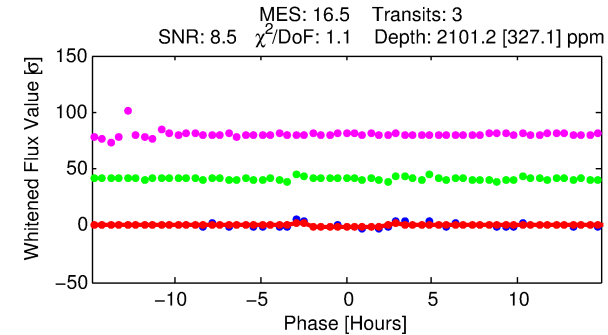
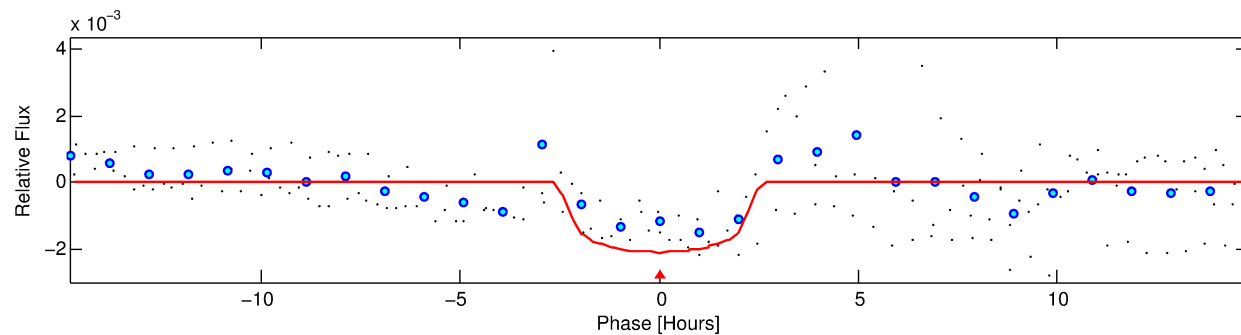
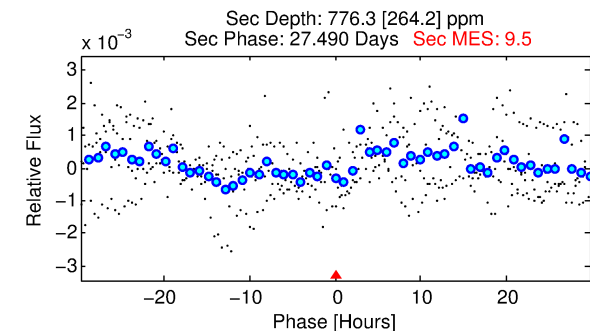
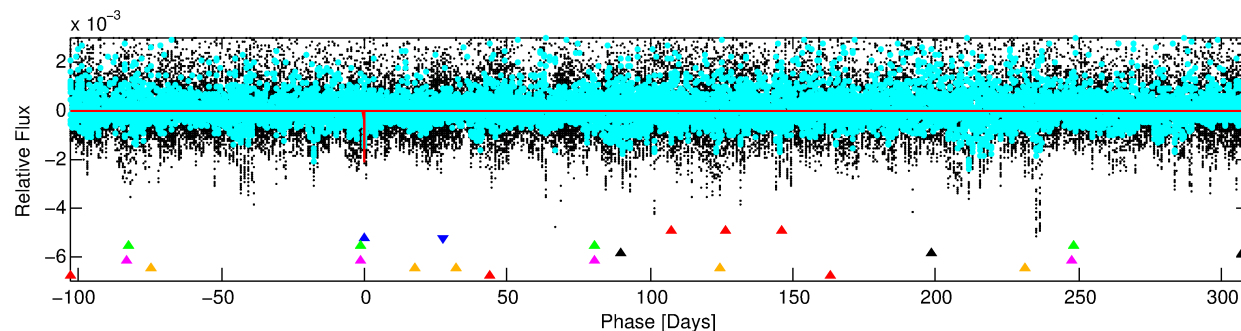
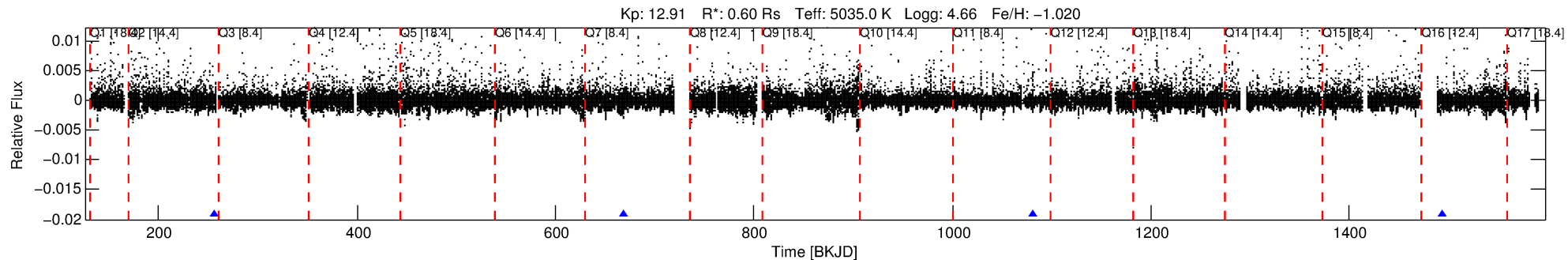
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009349698-02

No Significant Match Found

DV One-Page Summary

KIC: 9349698 Candidate: 2 of 7 Period: 412.707 d



DV Fit Results:

Period = 412.70687 [0.00311] d
Epoch = 256.0240 [0.0070] BKJD
Rp/R* = 0.0426 [0.0544]
a/R* = 588.40 [2995.01]
b = 0.48 [8.17]
Seff = 0.25 [0.04]
Teq = 180 [7] K
Rp = 2.79 [3.57] Re
a = 0.9139 [0.0594] AU
Ag = 45778.38 [118003.13] [0.39 σ]
Teff = 4070 [2624] K [1.48 σ]

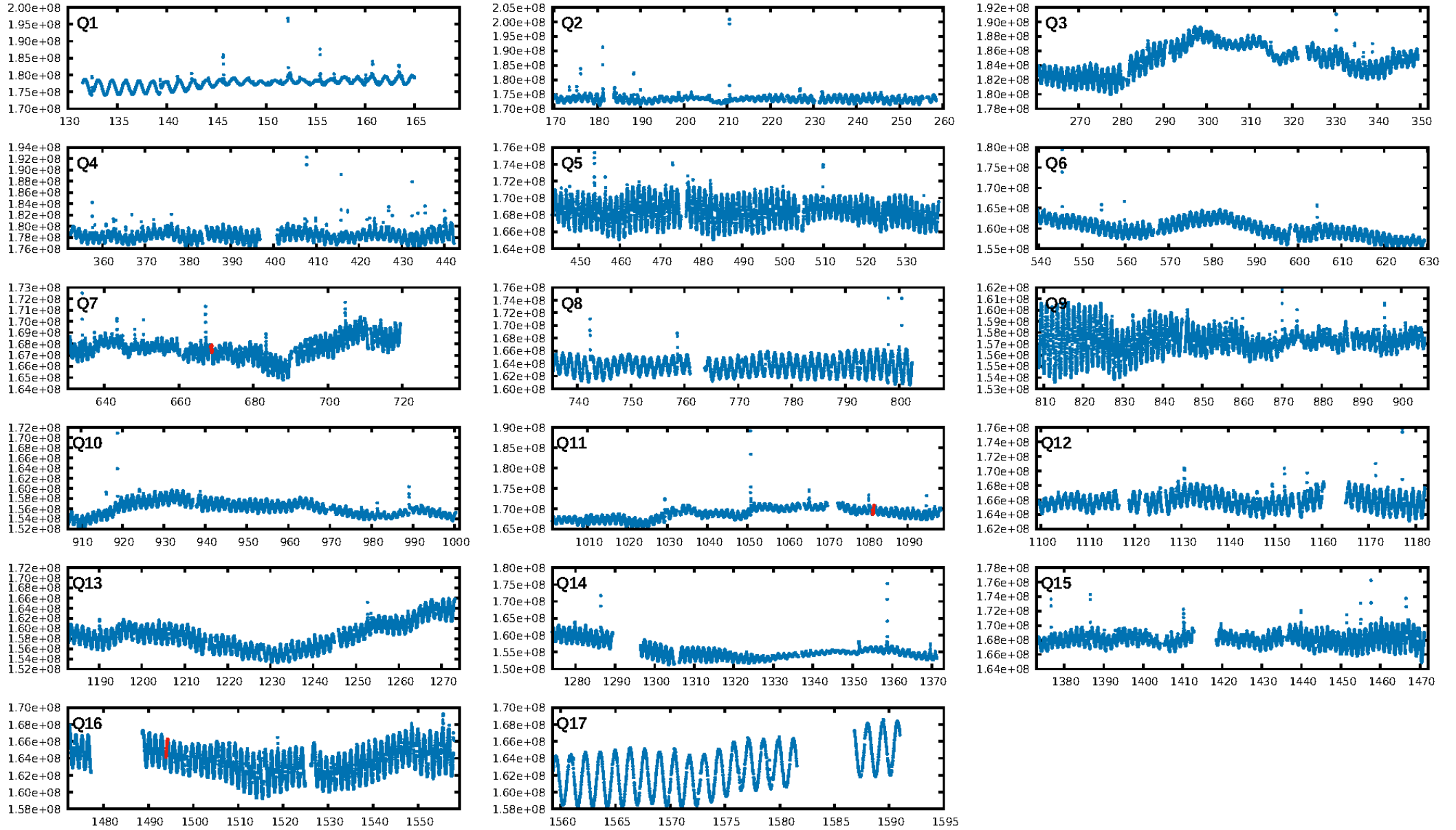
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [334.00 σ]
LongPeriod-sig: 100.0% [63.49 σ]
ModelChiSquare2-sig: 0.6%
ModelChiSquareGof-sig: 59.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.222
Centroid-sig: 7.8%
Centroid-so: 0.146 arcsec [1.17 σ]
OotOffset-rm: 0.022 arcsec [0.22 σ]
KicOffset-rm: 0.082 arcsec [0.71 σ]
OotOffset-st: 0/2/1/0 [3]
KicOffset-st: 0/2/1/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

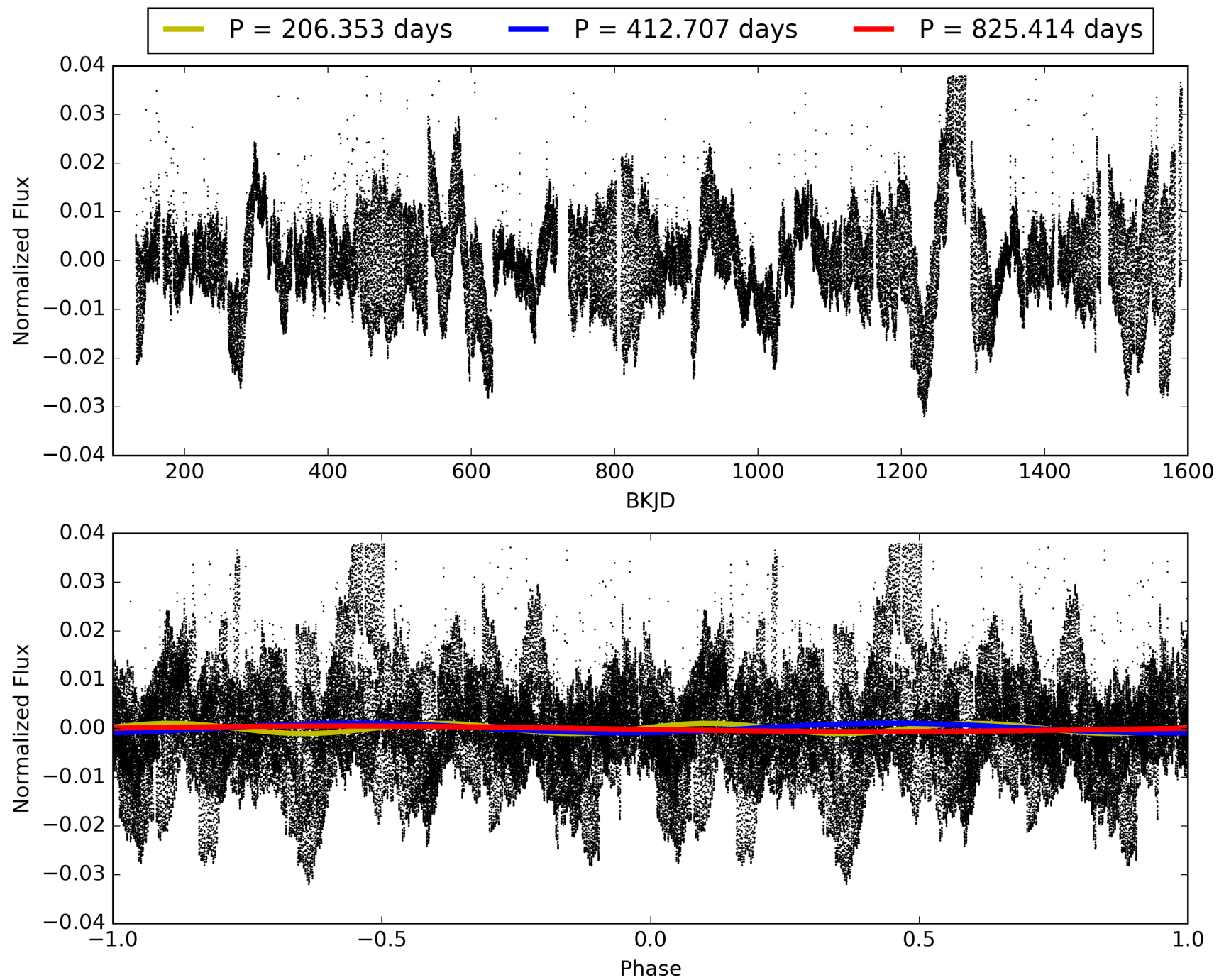
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:48:52 Z

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

TCE 009349698-02, PDC Light Curves

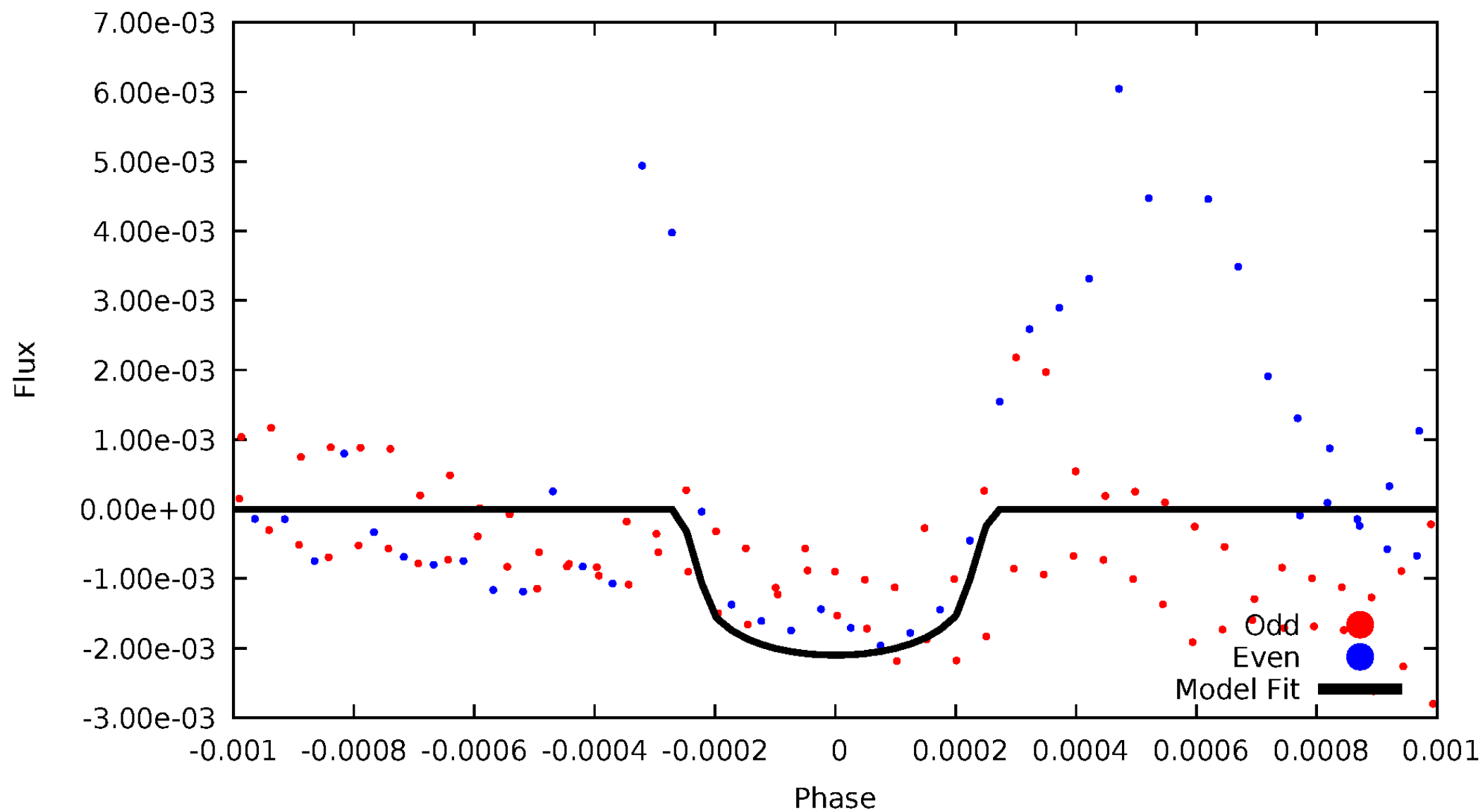


TCE 009349698-02



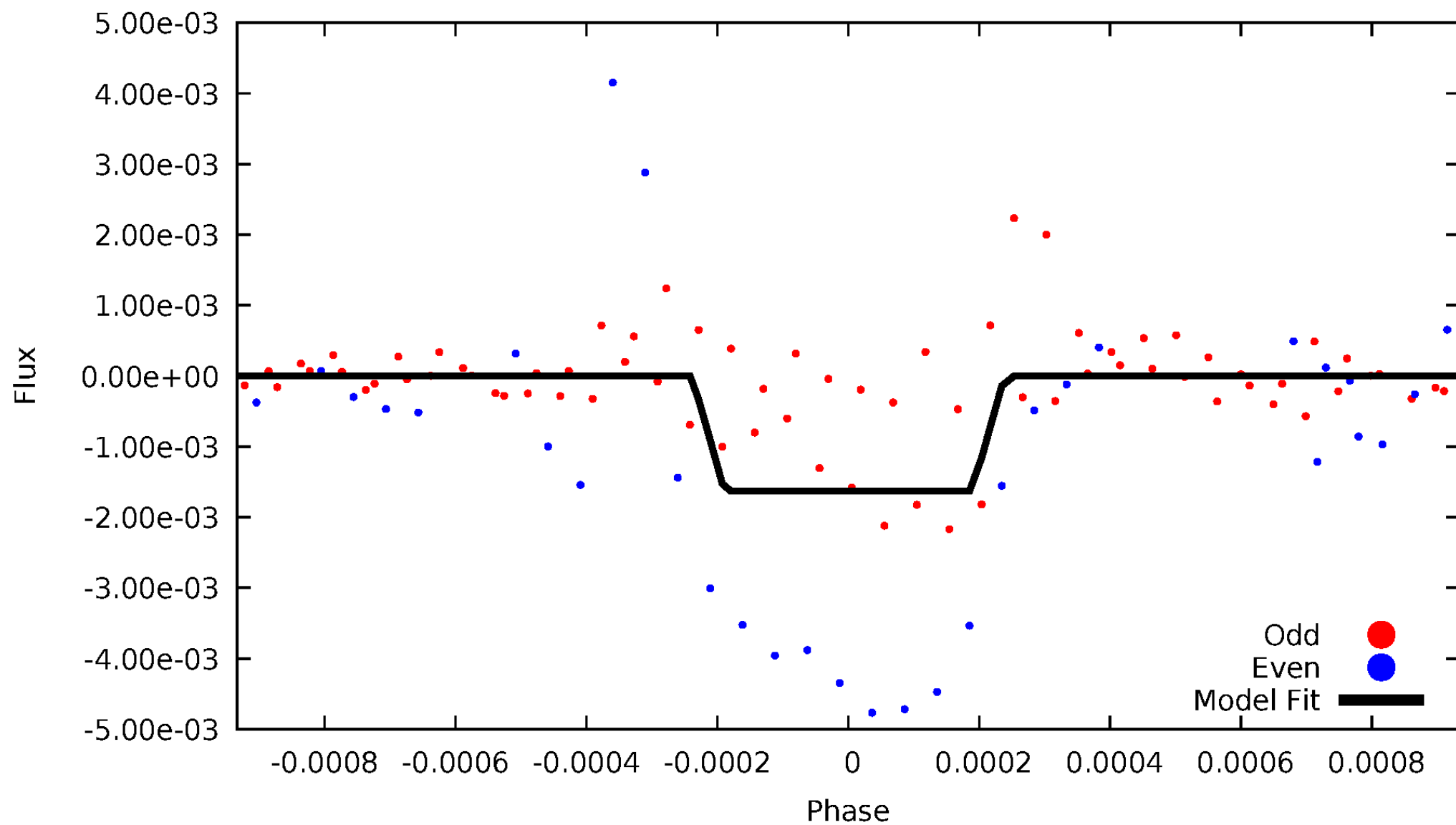
DV Odd/Even

TCE 009349698-02



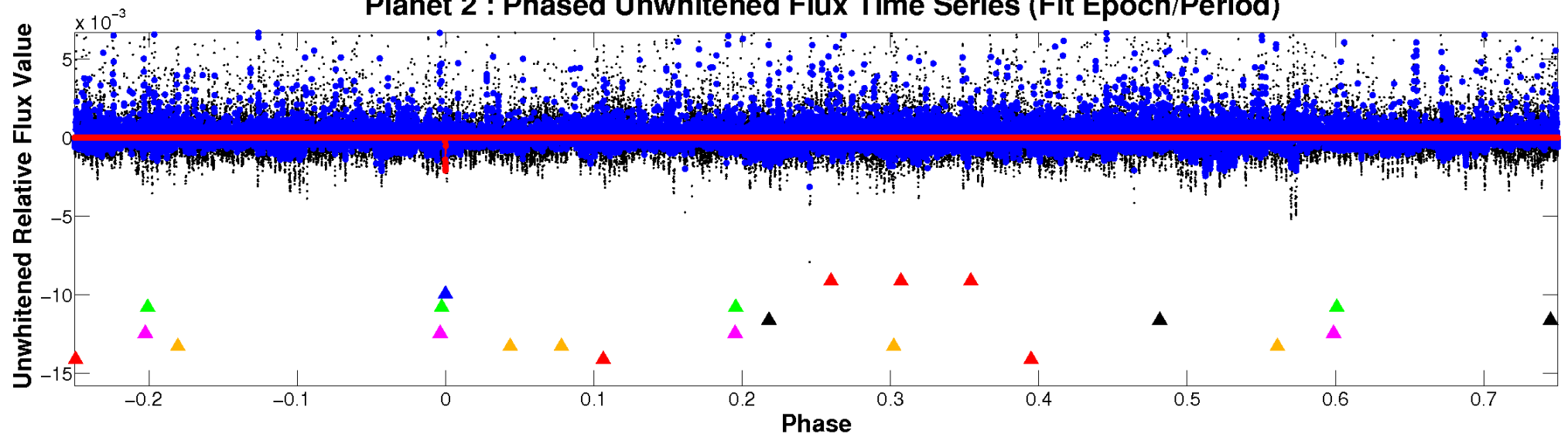
ALT Odd/Even

TCE 009349698-02

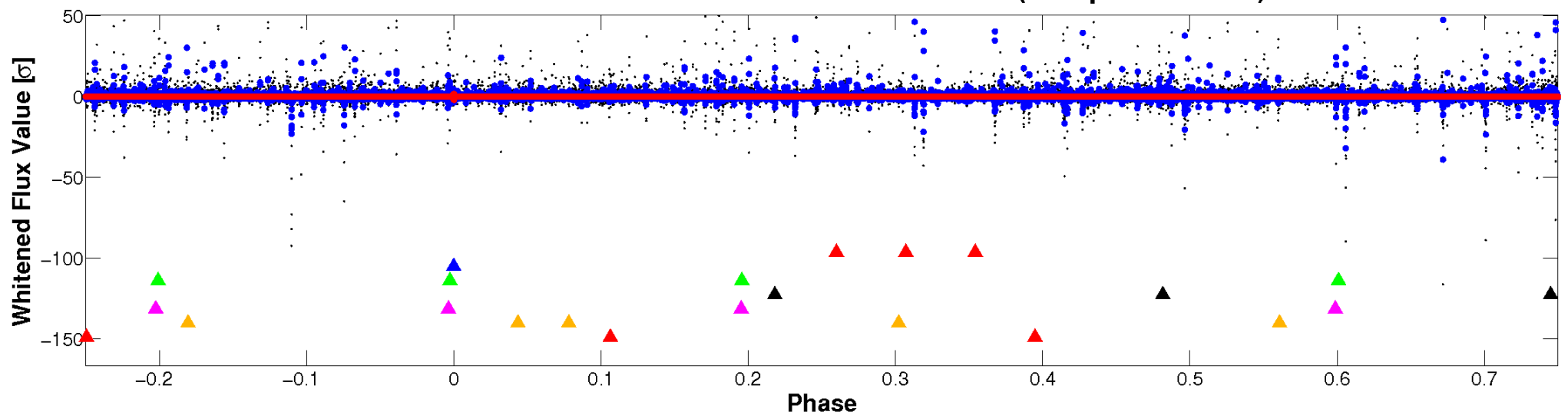


Non-Whitened Vs. Whitened Light Curve

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

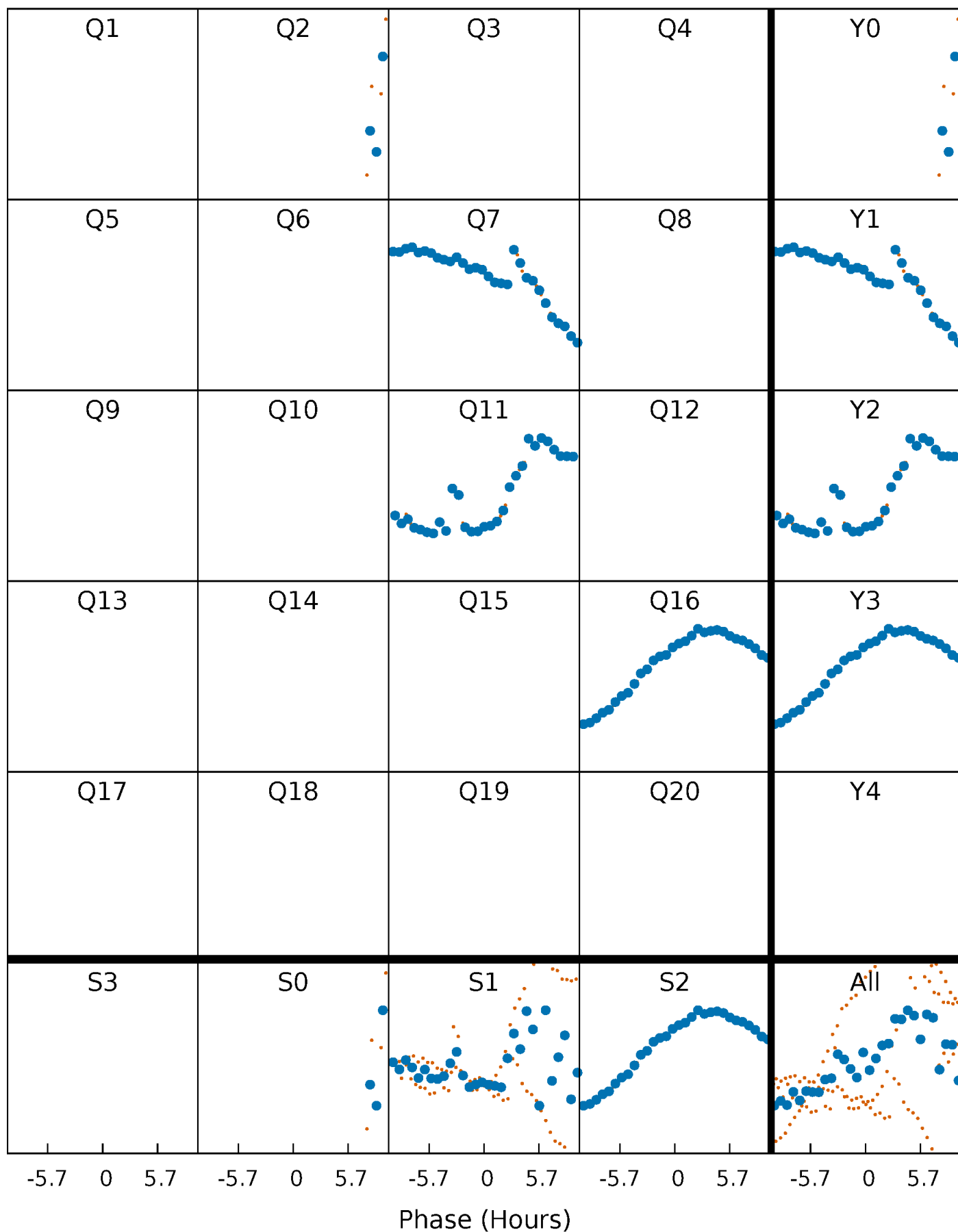


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



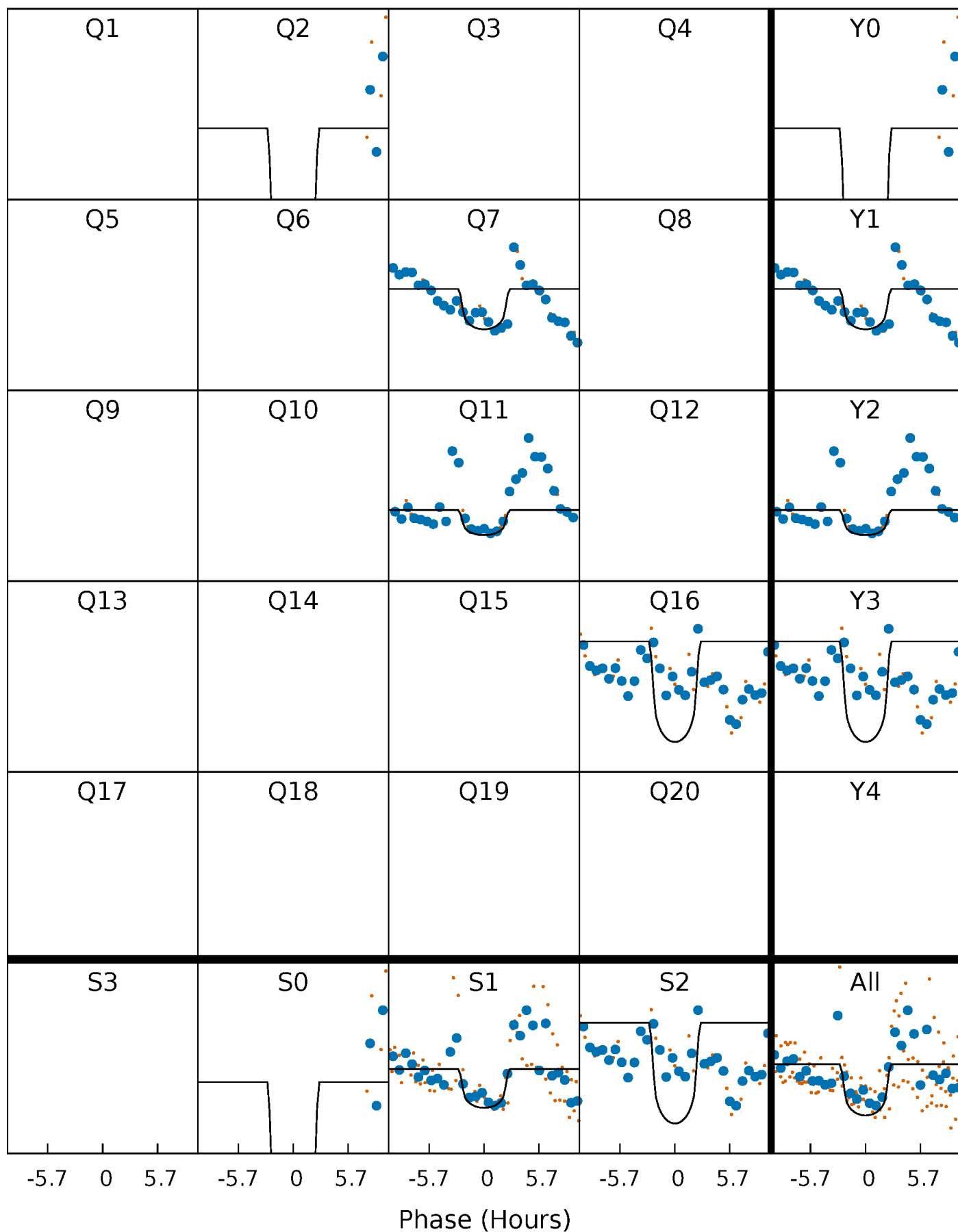
PDC Quarter-Phased Transit Curves

TCE 009349698-02 $P=412.706870$ Days $T_0=256.023978$ (BKJD)



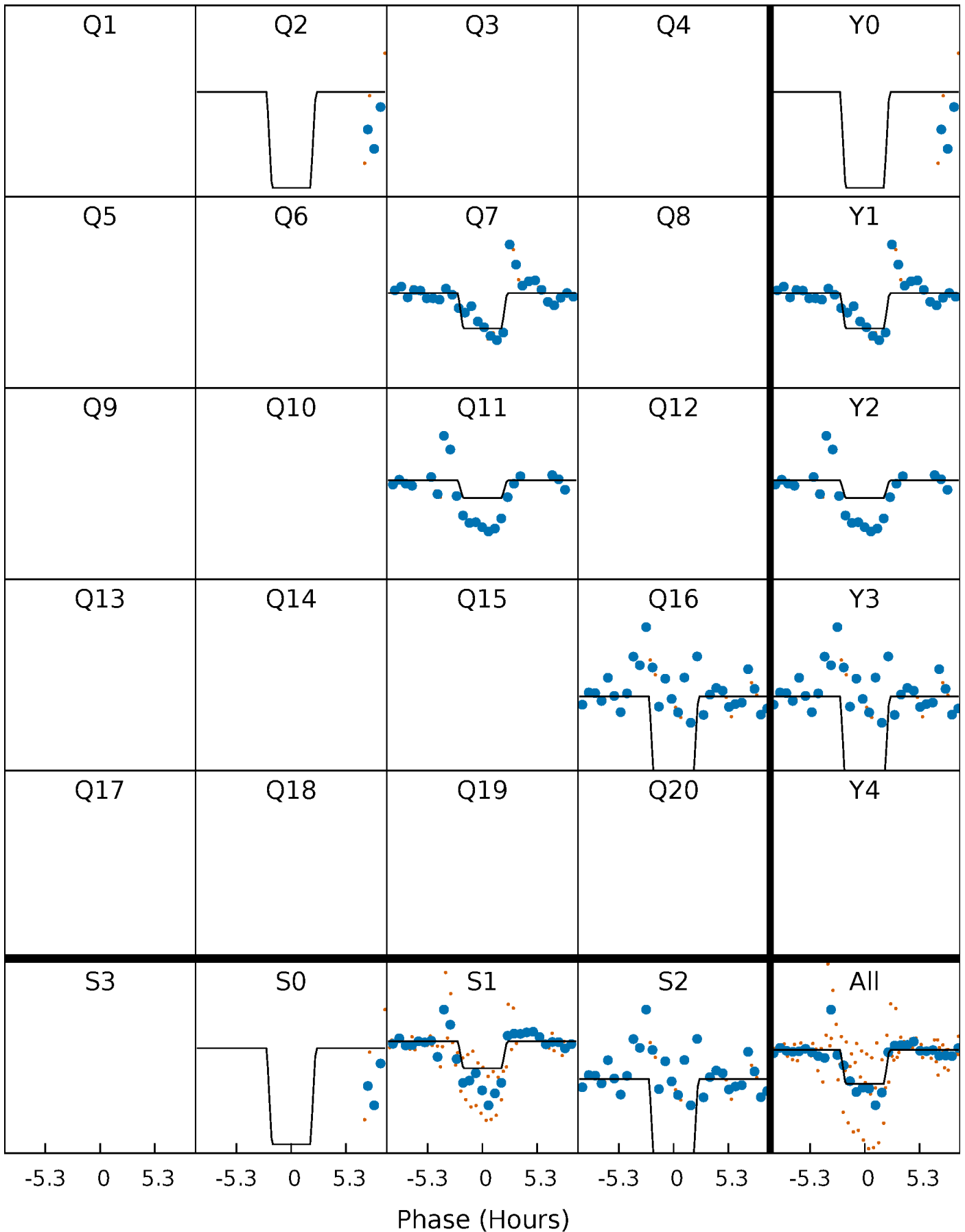
DV Quarter-Phased Transit Curves

TCE 009349698-02 $P=412.706870$ Days $T_0=256.023978$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

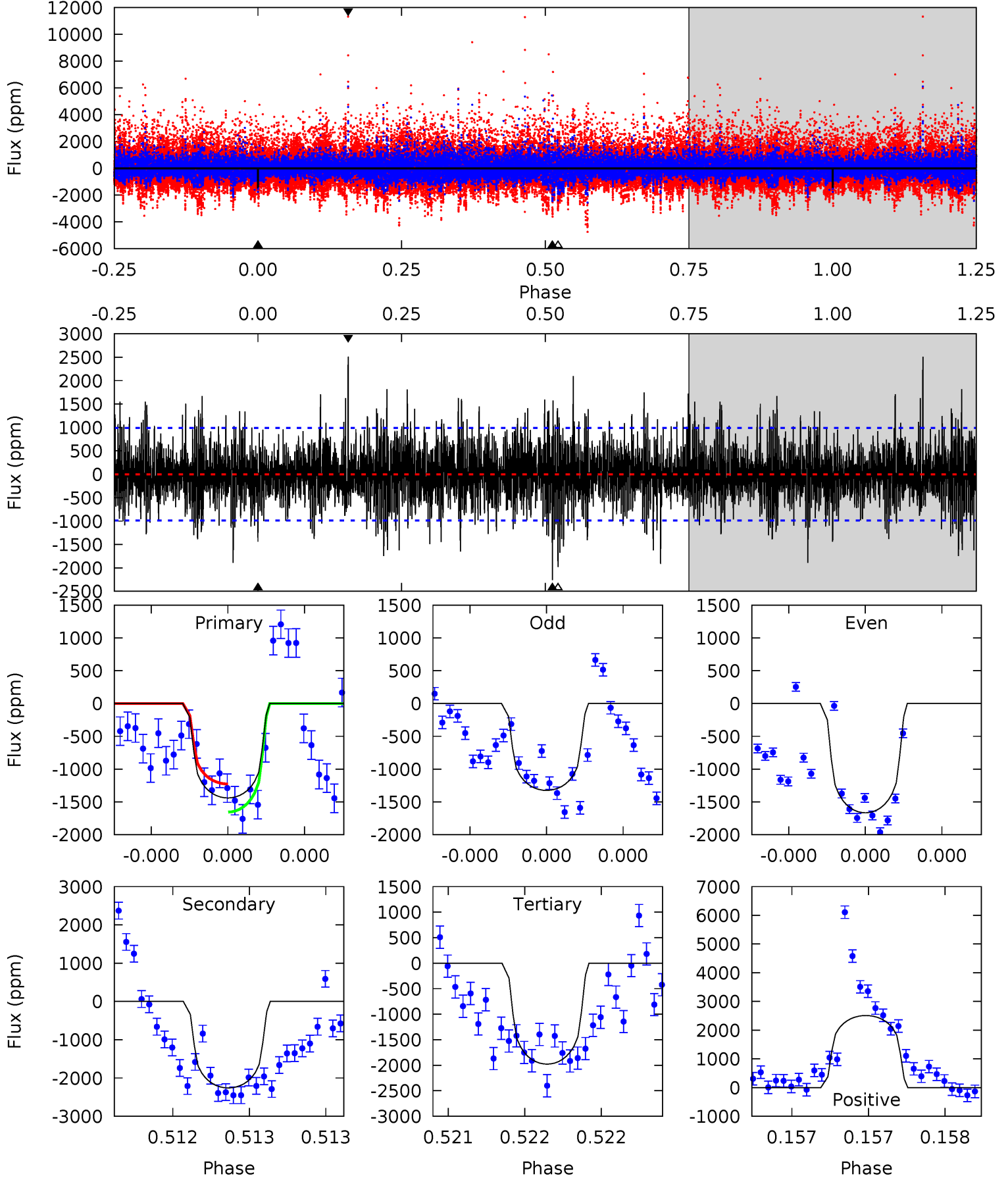
TCE 009349698-02 $P=412.703422$ Days $T_0=256.046881$ (BKJD)



DV Model-Shift Uniqueness Test

009349698-02, P = 412.706870 Days, E = 256.023978 Days

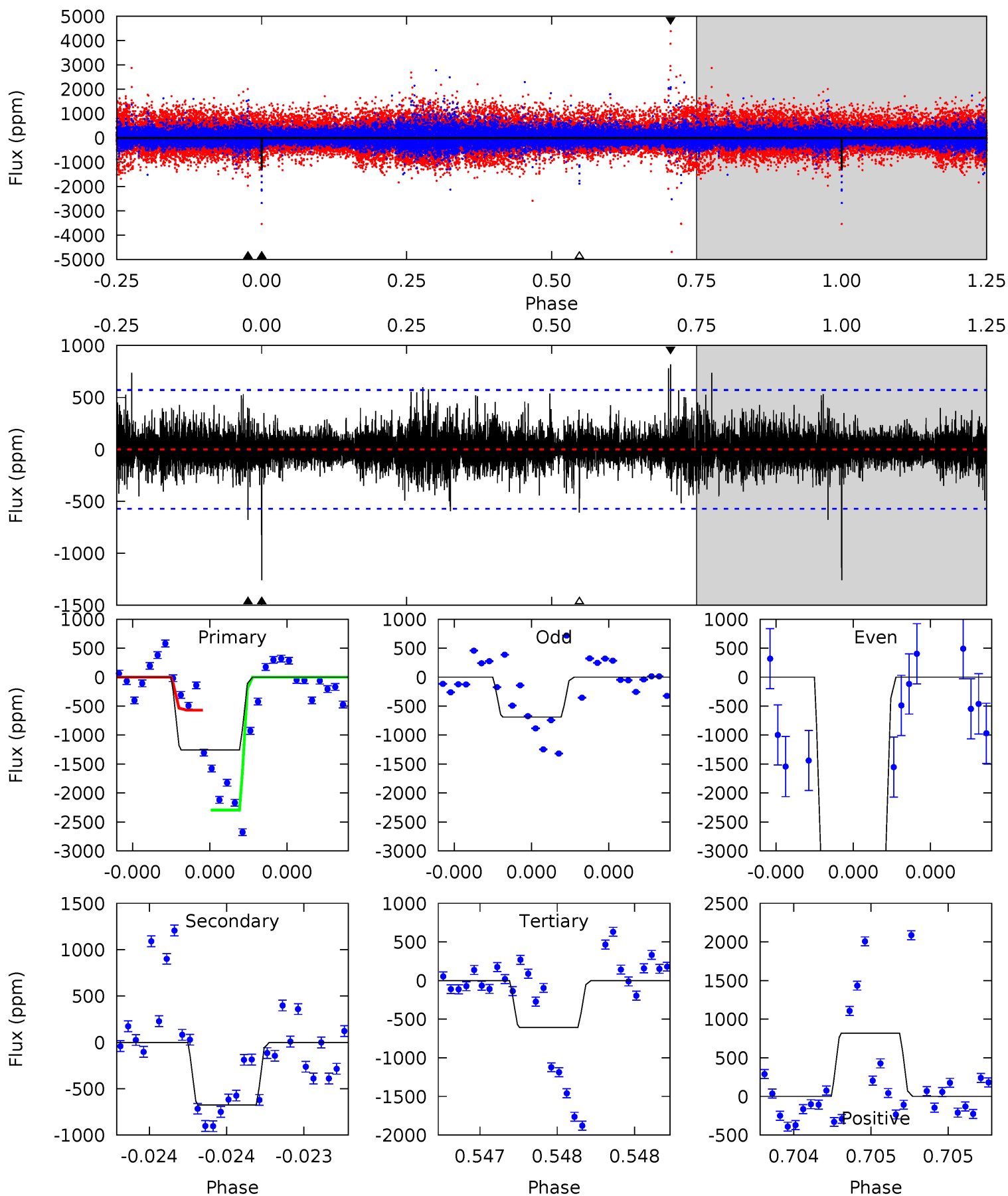
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.13	12.8	11.2	14.2	5.57	3.48	2.71	-3.04	-6.04	1.59	-1.41	0.67	0.86	0.53	1.22



Alt Model-Shift Uniqueness Test

009349698-02, P = 412.703422 Days, E = 256.046881 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	6.60	5.93	7.99	5.58	3.49	1.12	6.36	4.30	0.67	-1.39	15.8	1.26	0.39	0



Stellar Parameters For KIC 009349698

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5035^{+151}_{-151}	$4.658^{+0.059}_{-0.036}$	$-1.020^{+0.300}_{-0.300}$	$0.600^{+0.042}_{-0.042}$	$0.597^{+0.052}_{-0.022}$	$3.891^{+0.821}_{-0.565}$
	+3%/-3%	+1%/-1%	+29%/-29%	+7%/-7%	+9%/-4%	+21%/-15%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 009349698-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2260 ± 177	$3.80^{+3.35}_{-2.51}$	251^{+9}_{-9}	4669^{+3067}_{-974}	$74568^{+524304}_{-53491}$
Alt.	-676 ± 102	$3.66^{+2.92}_{-2.36}$	251^{+9}_{-9}	3753^{+1863}_{-630}	$23507^{+153907}_{-16159}$

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 $A_{obs} \gg 1.0$

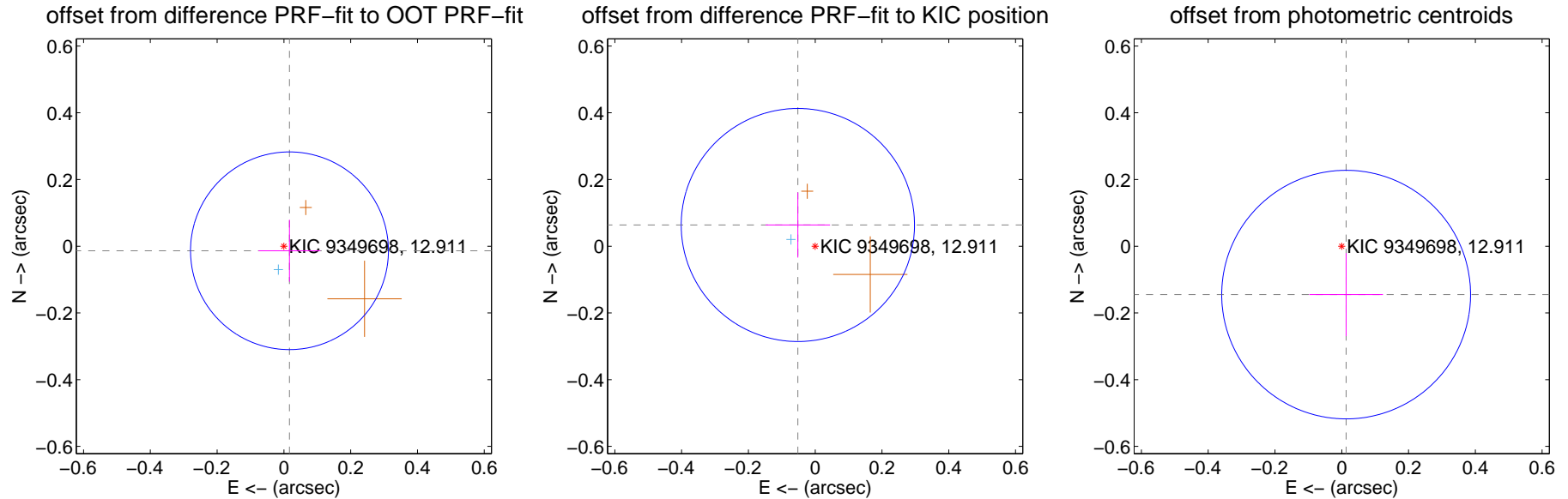
DV Centroid Data

Supplemental centroid analysis for 009349698-02. Kepler magnitude: 12.91. Transit SNR 8.54

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.022 ± 0.099	0.22	-0.017 ± 0.092	-0.014 ± 0.093
PRF-fit source offset from KIC position	0.082 ± 0.116	0.71	0.052 ± 0.097	0.064 ± 0.098
photometric centroid source offset	0.15 ± 0.12	1.17	-0.01 ± 0.11	-0.15 ± 0.12

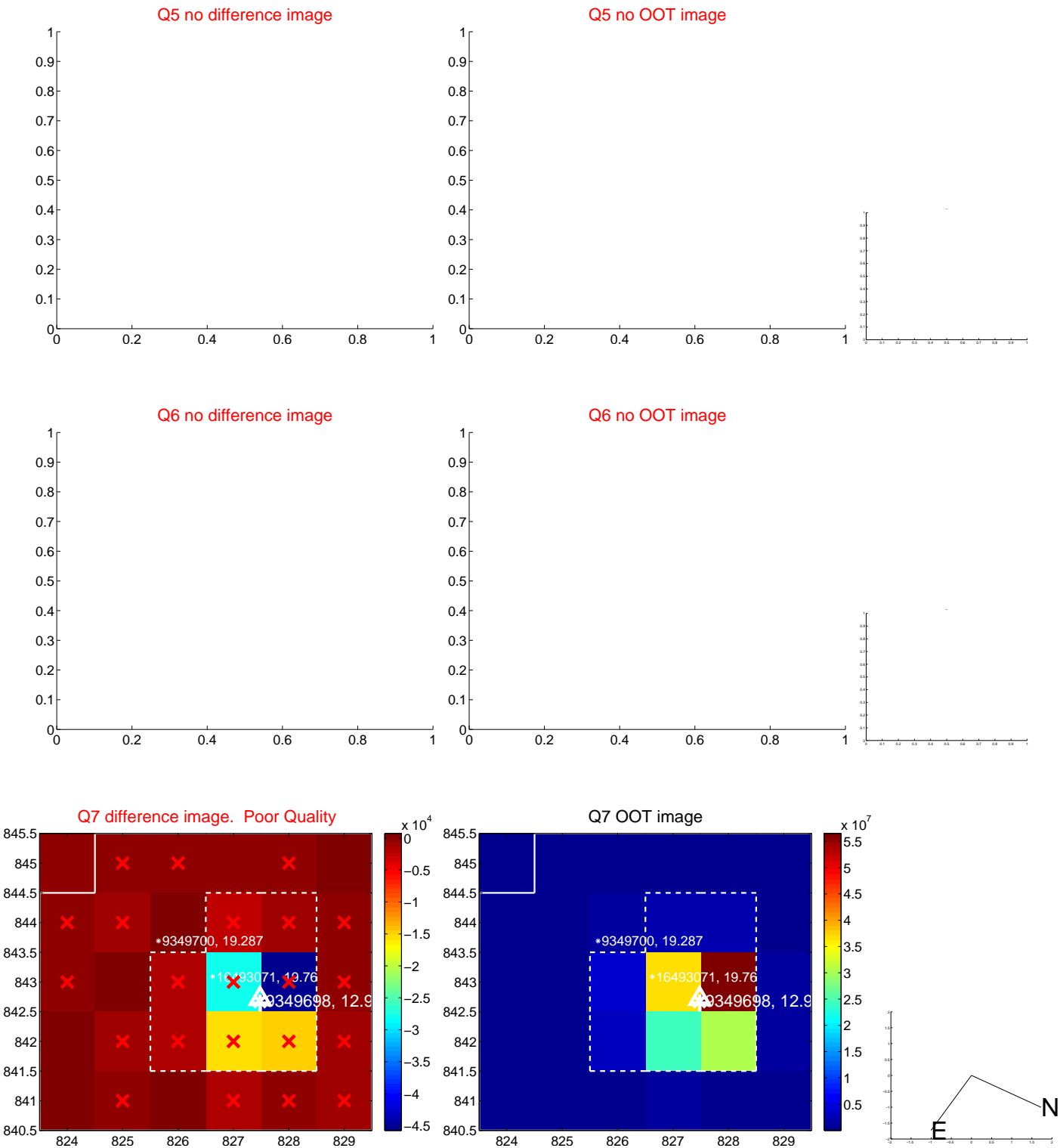


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

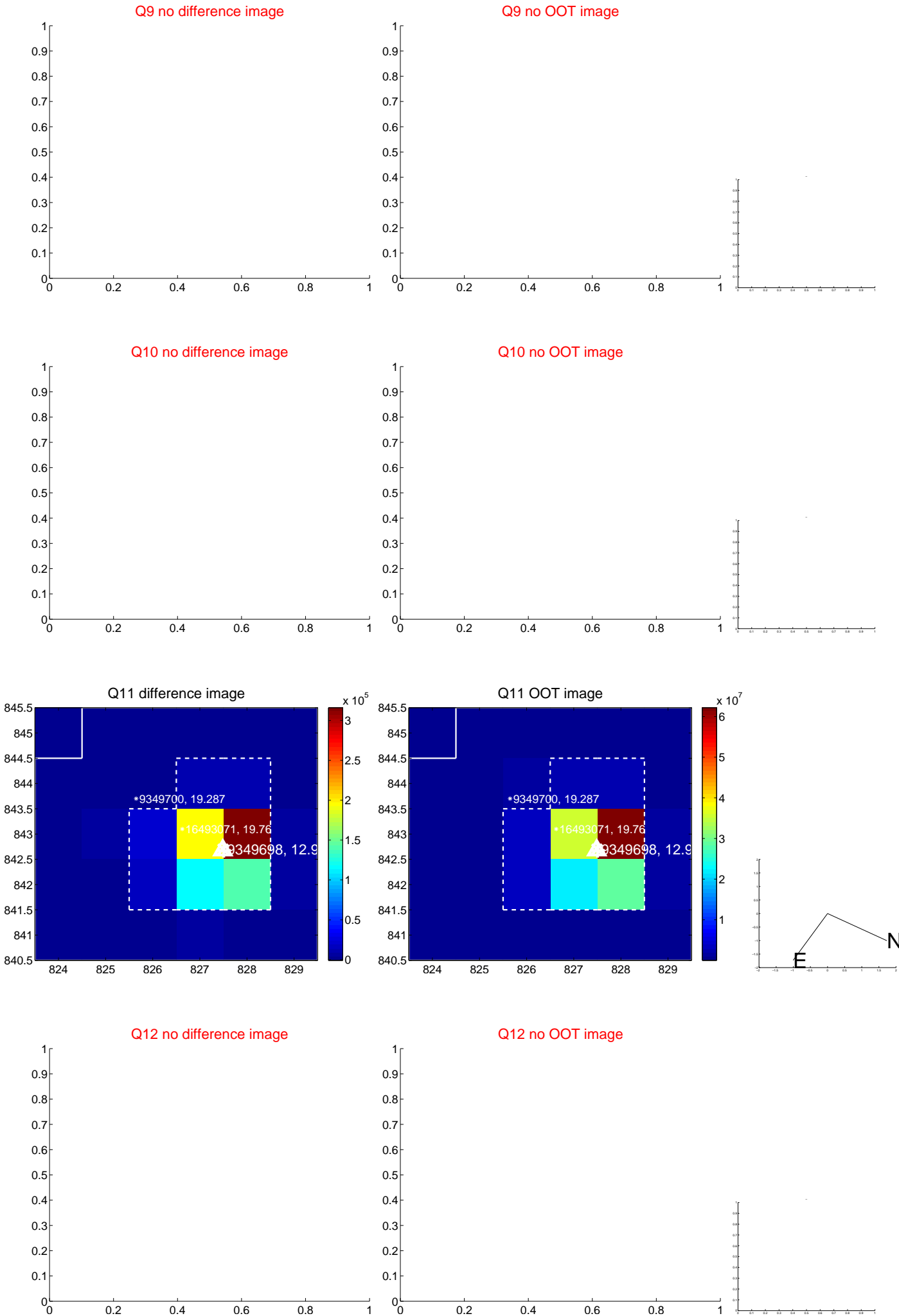
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



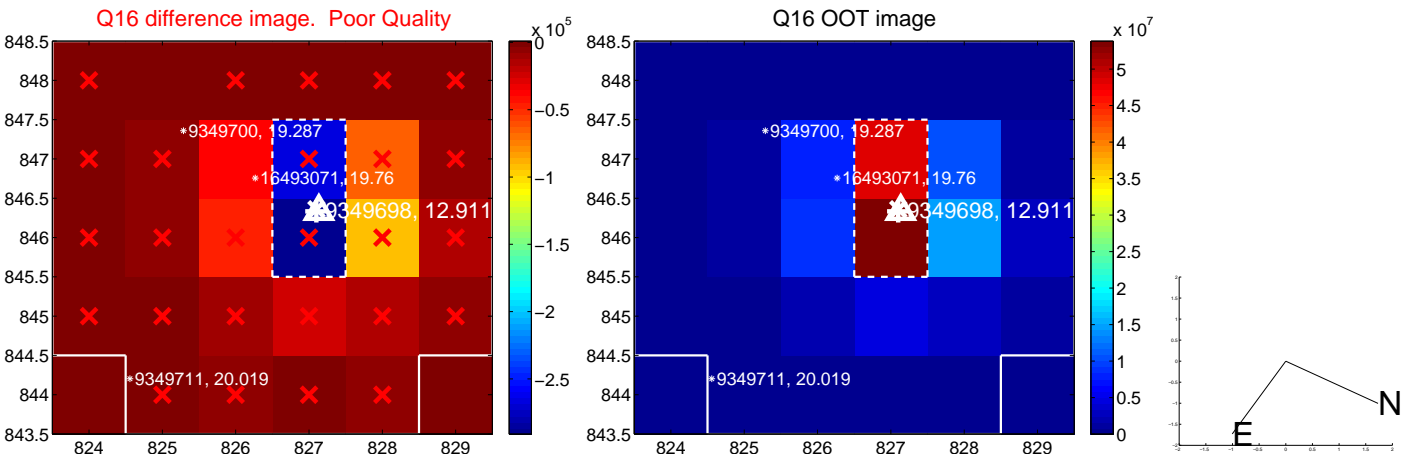
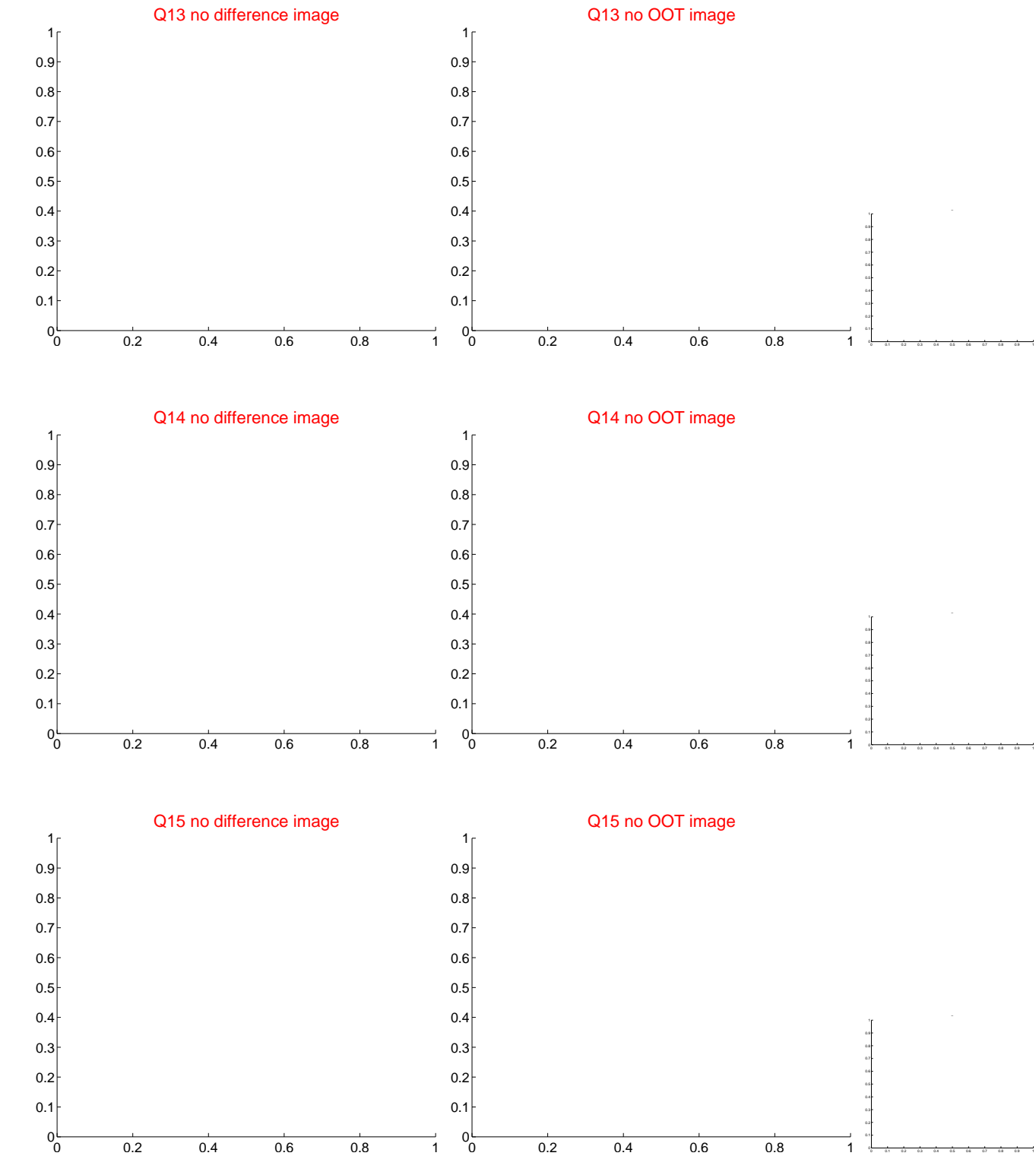
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



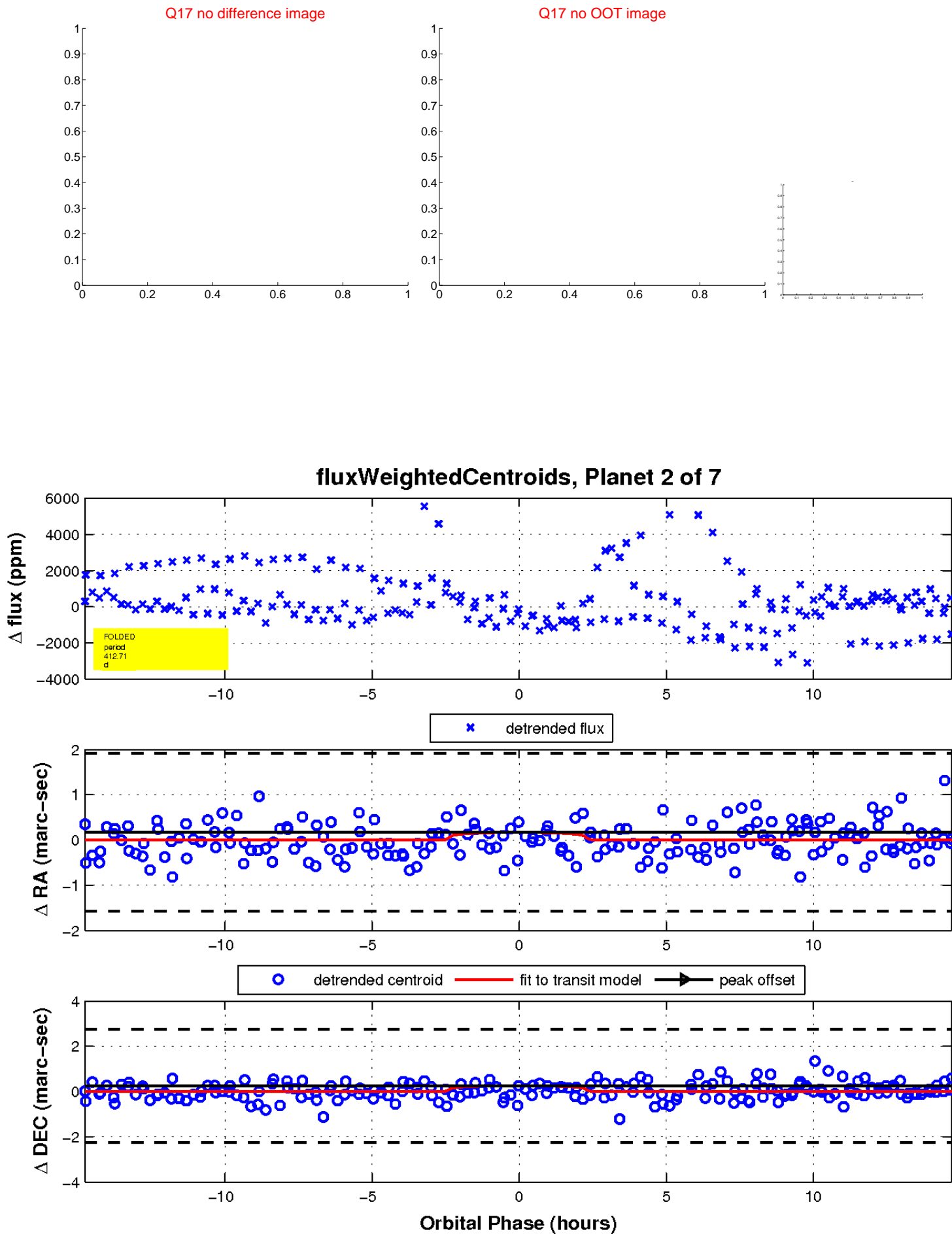
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

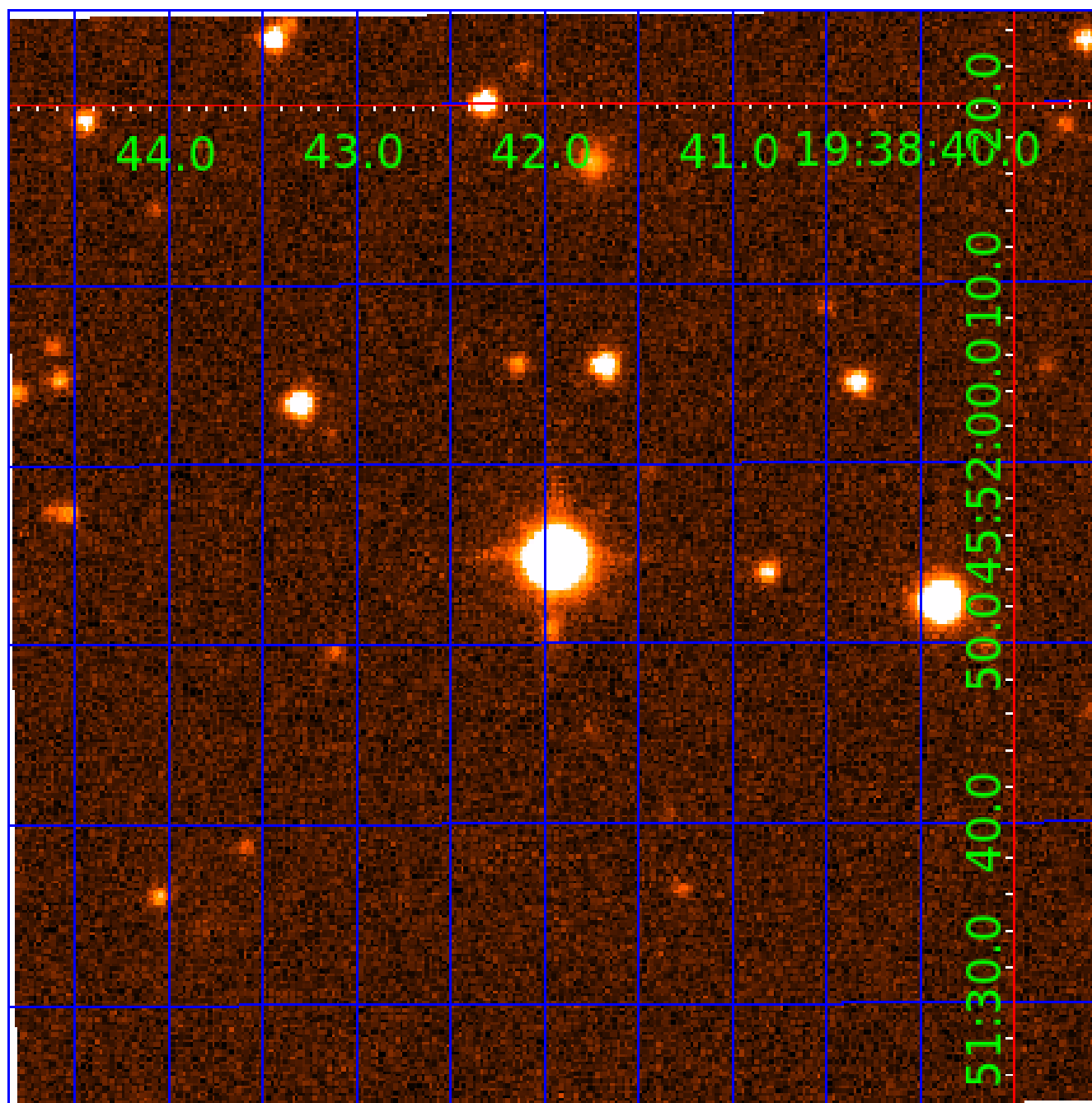


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
009349698-01	OBS	No	432.161146	363.303153	1915.6	5.437	20.6	5.9	0.60	5035	2.75	0.23
009349698-02	OBS	No	412.706870	256.023978	2101.2	4.952	16.5	8.5	0.60	5035	2.79	0.25
009349698-03	OBS	No	330.892052	336.790243	234.1	3.169	23.4	1.3	0.60	5035	0.97	0.33
009349698-04	OBS	No	521.449805	346.031582	1635.1	3.742	15.8	7.4	0.60	5035	2.69	0.18
009349698-05	OBS	No	330.649057	336.616258	811.7	4.500	19.9	-1.0	0.60	5035	1.68	0.33
009349698-06	OBS	No	305.965796	288.284013	1224.0	3.063	16.3	5.8	0.60	5035	2.06	0.37
009349698-07	OBS	No	559.538985	418.966910	418.4	5.000	14.9	-1.0	0.60	5035	1.21	0.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009349698-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
009349698-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009349698-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009349698-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
009349698-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
009349698-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
009349698-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST

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

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

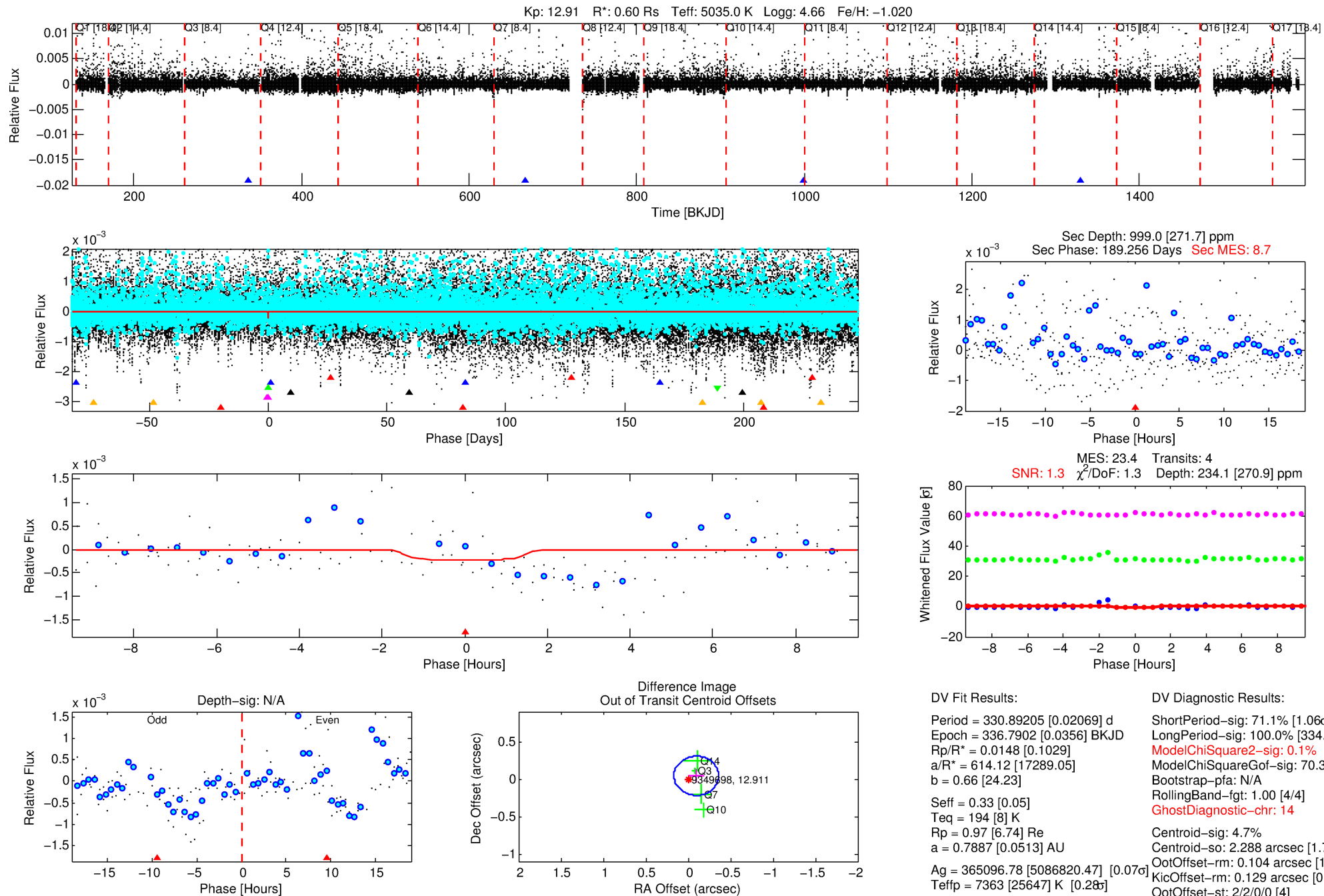
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009349698-03

No Significant Match Found

DV One-Page Summary

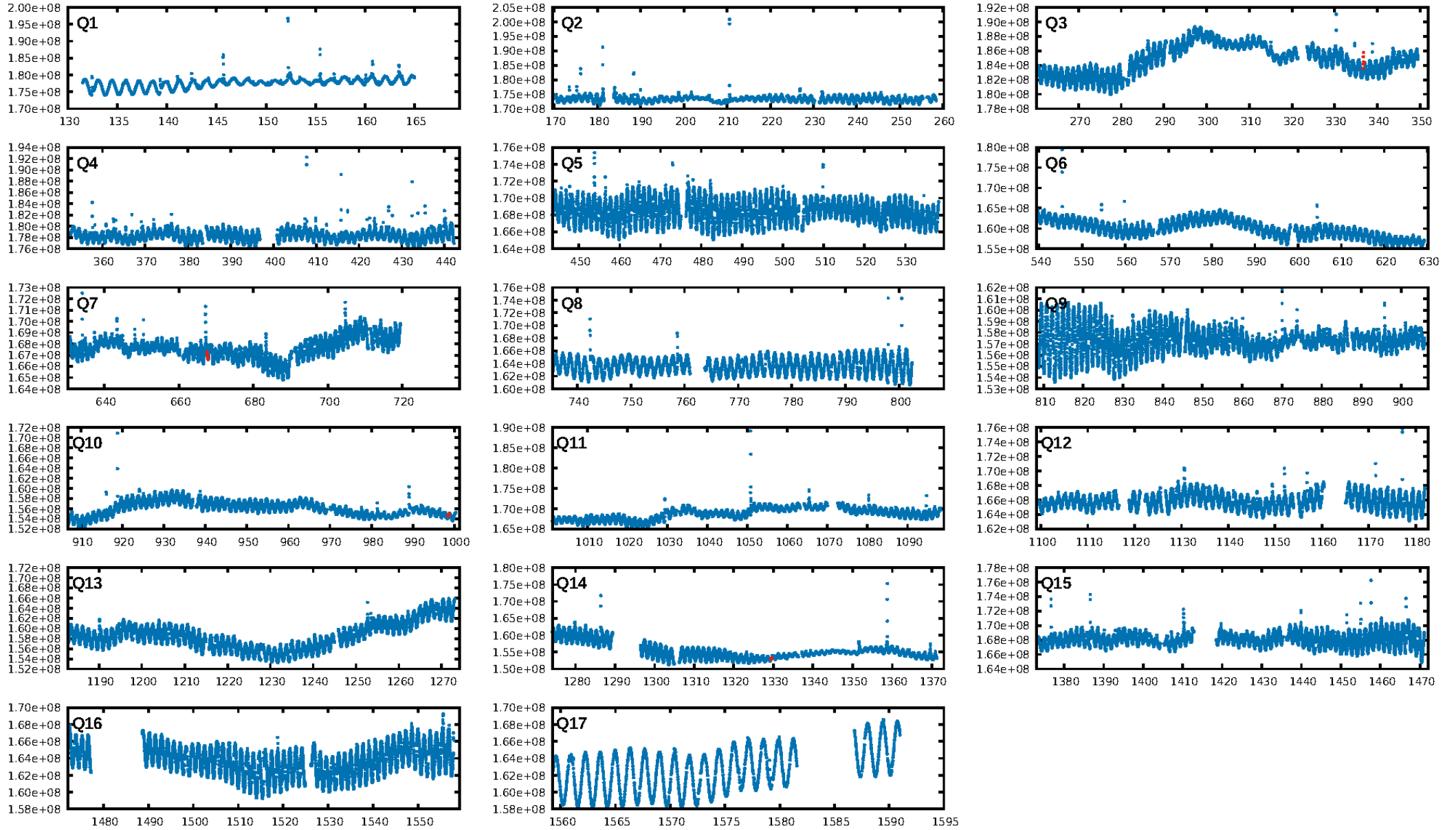
KIC: 9349698 Candidate: 3 of 7 Period: 330.892 d



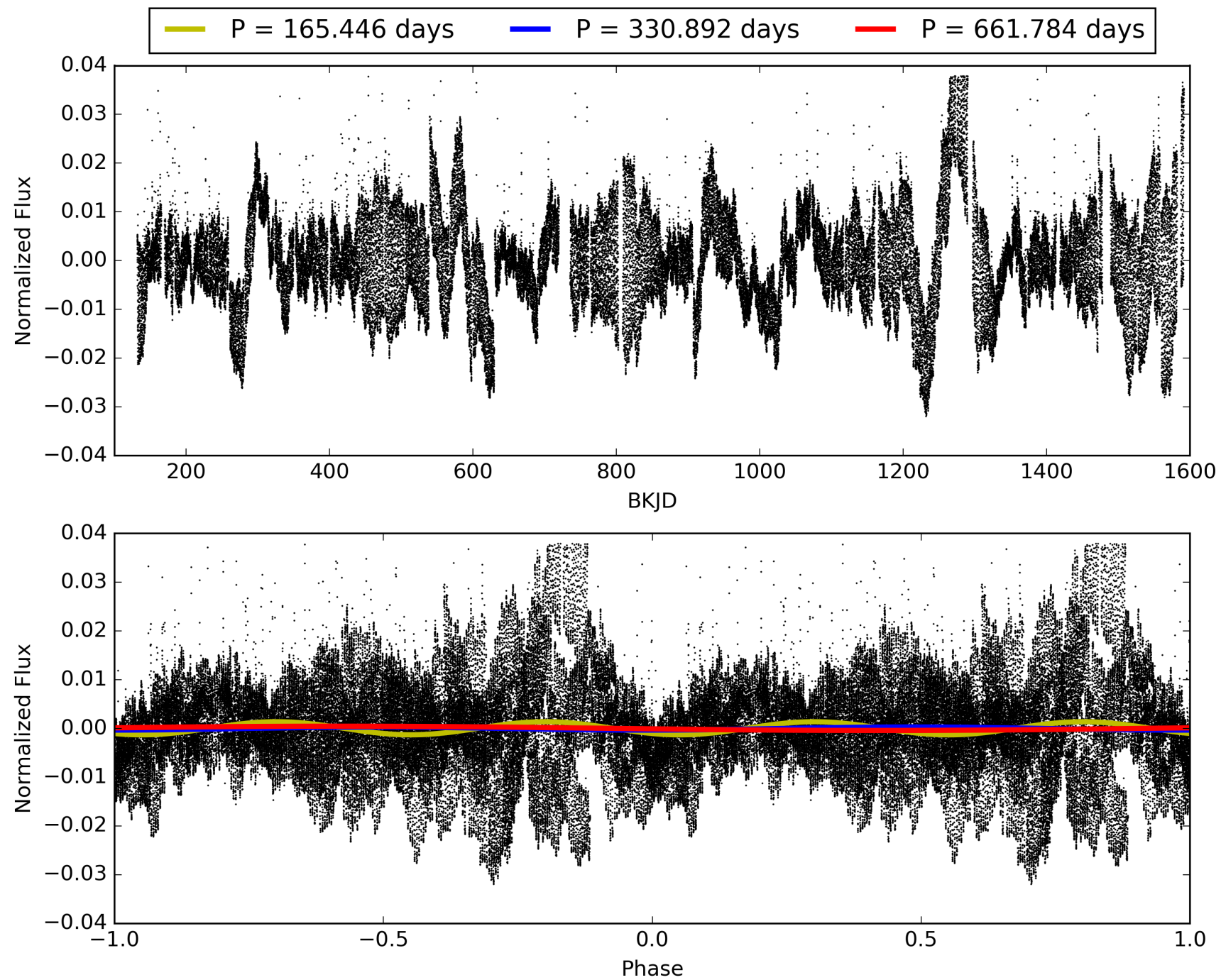
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:49:08 Z

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

TCE 009349698-03, PDC Light Curves

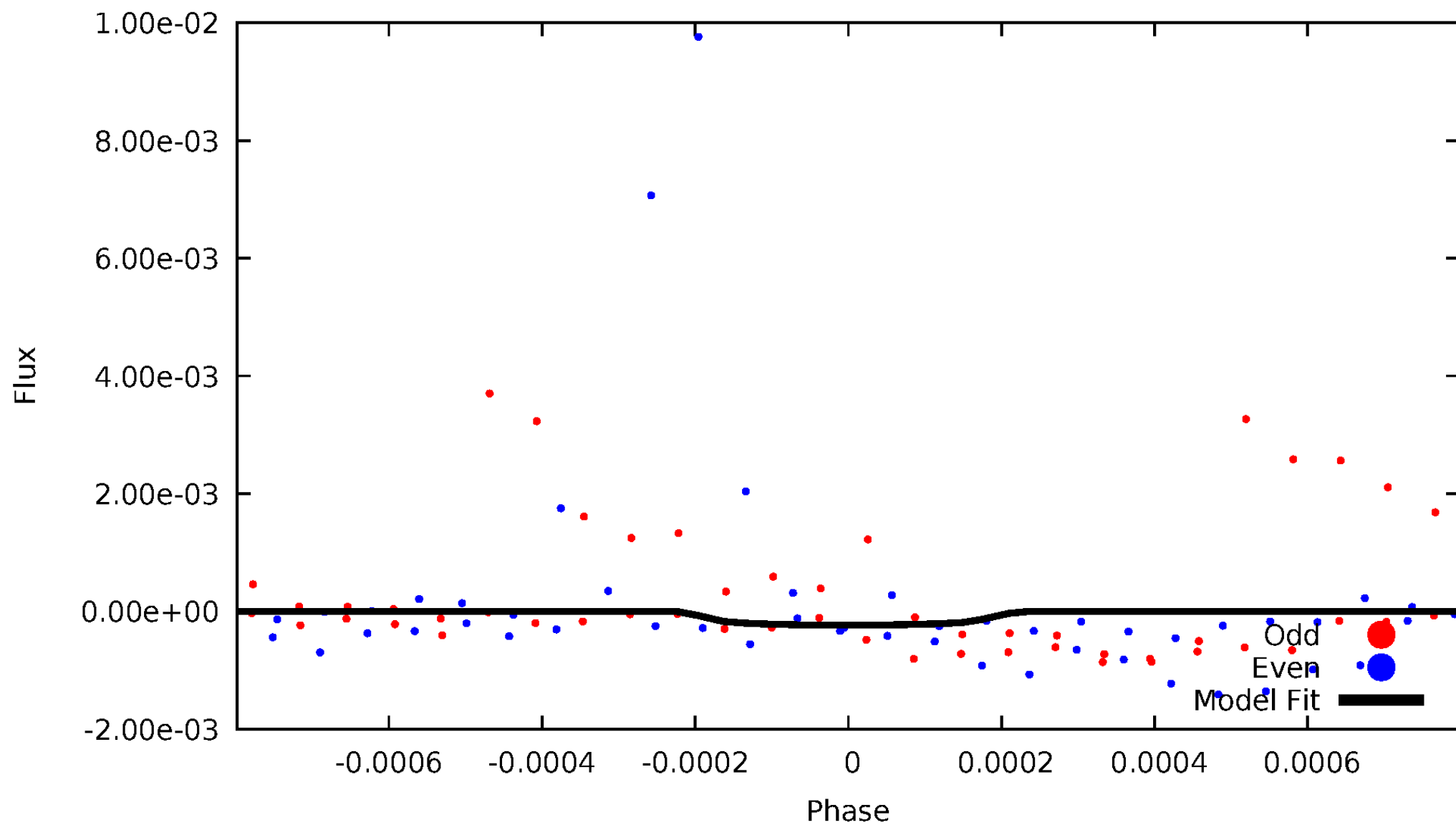


TCE 009349698-03



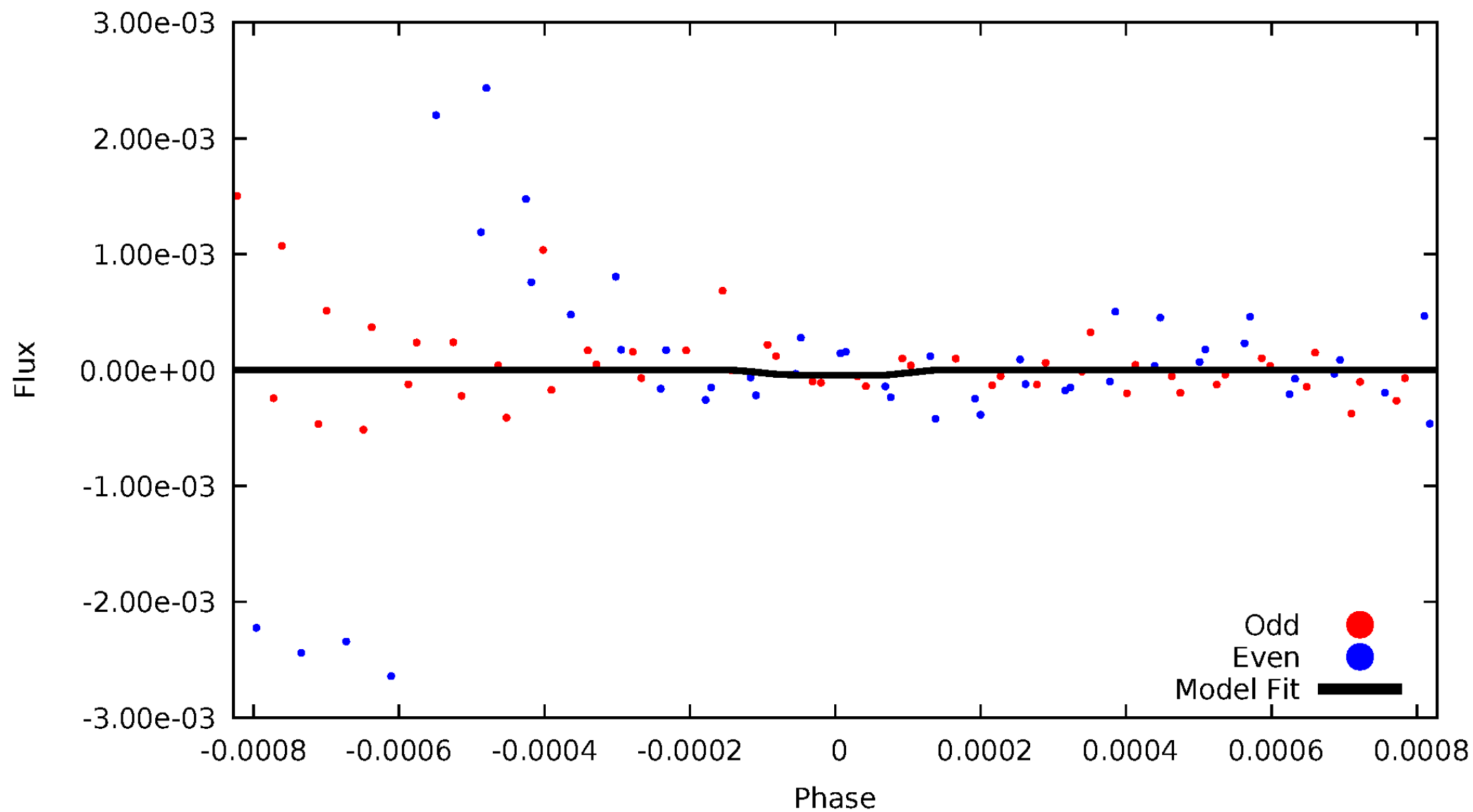
DV Odd/Even

TCE 009349698-03



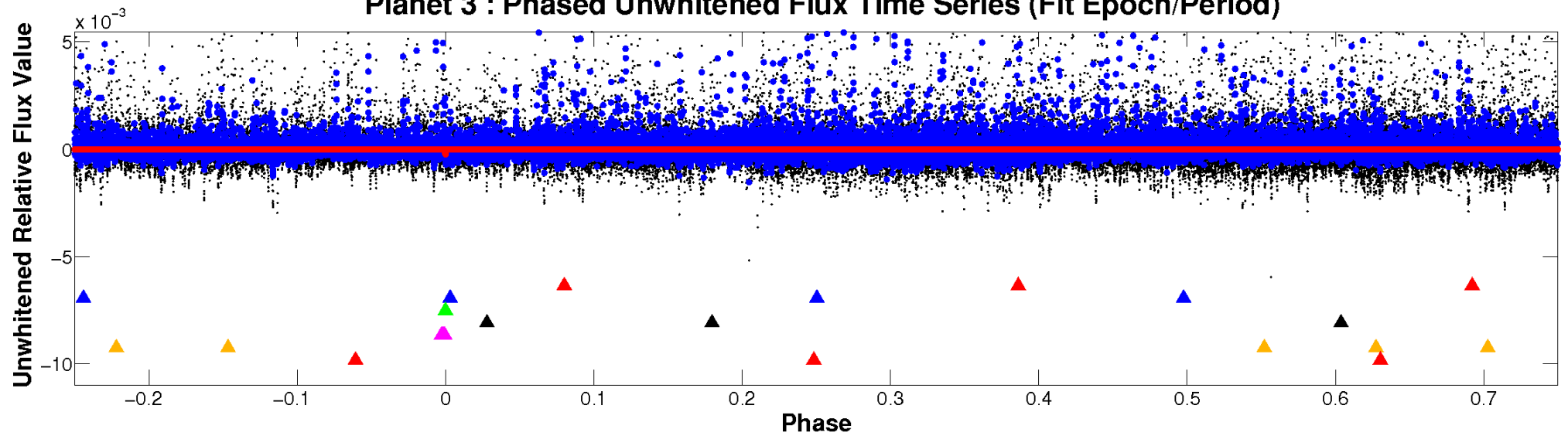
ALT Odd/Even

TCE 009349698-03

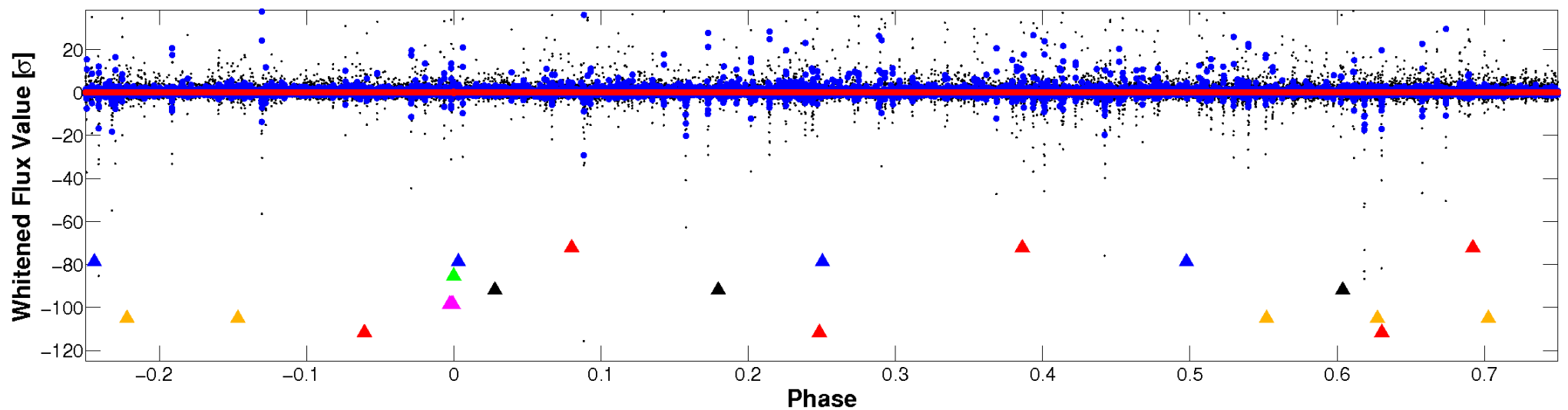


Non-Whitened Vs. Whitened Light Curve

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

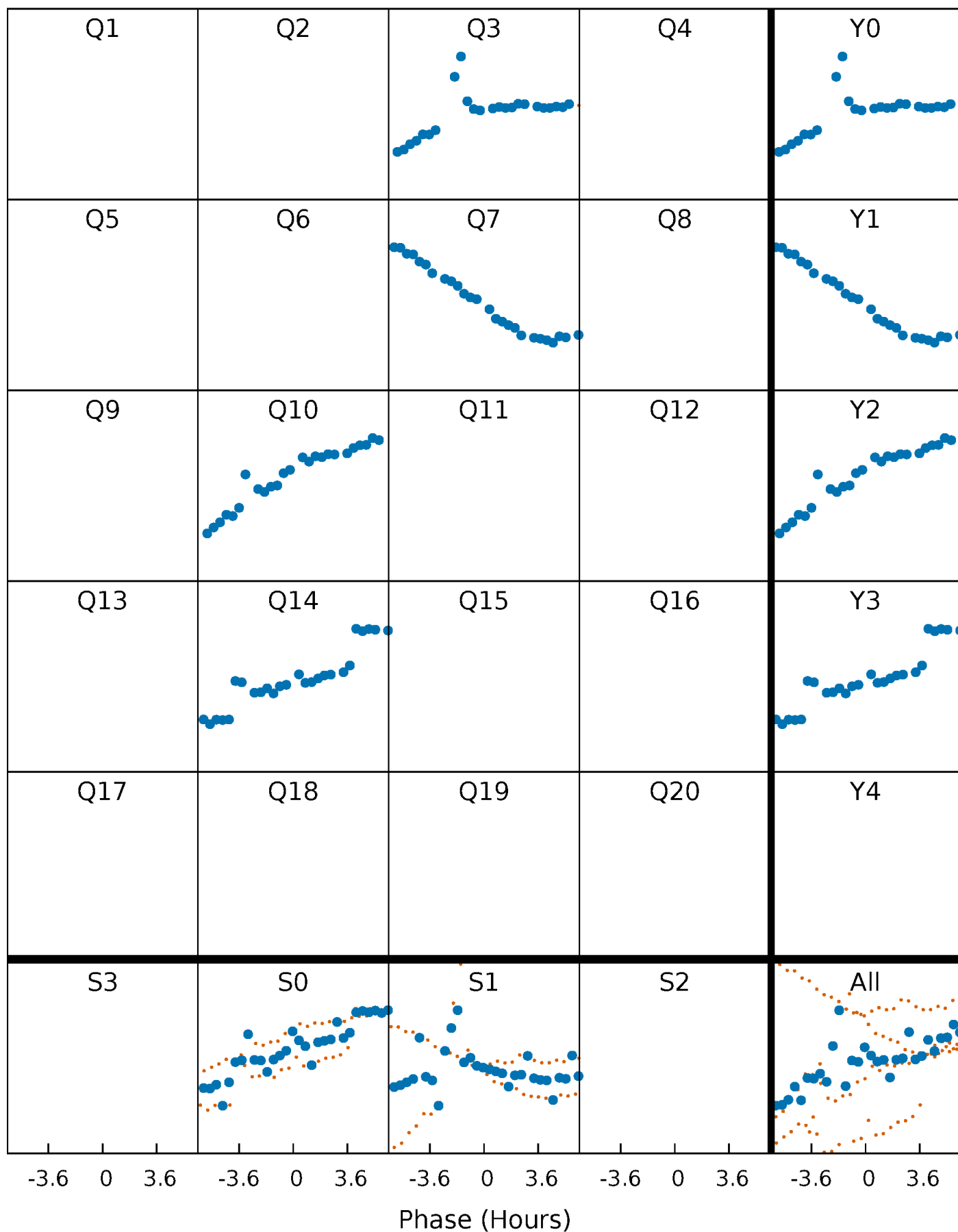


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



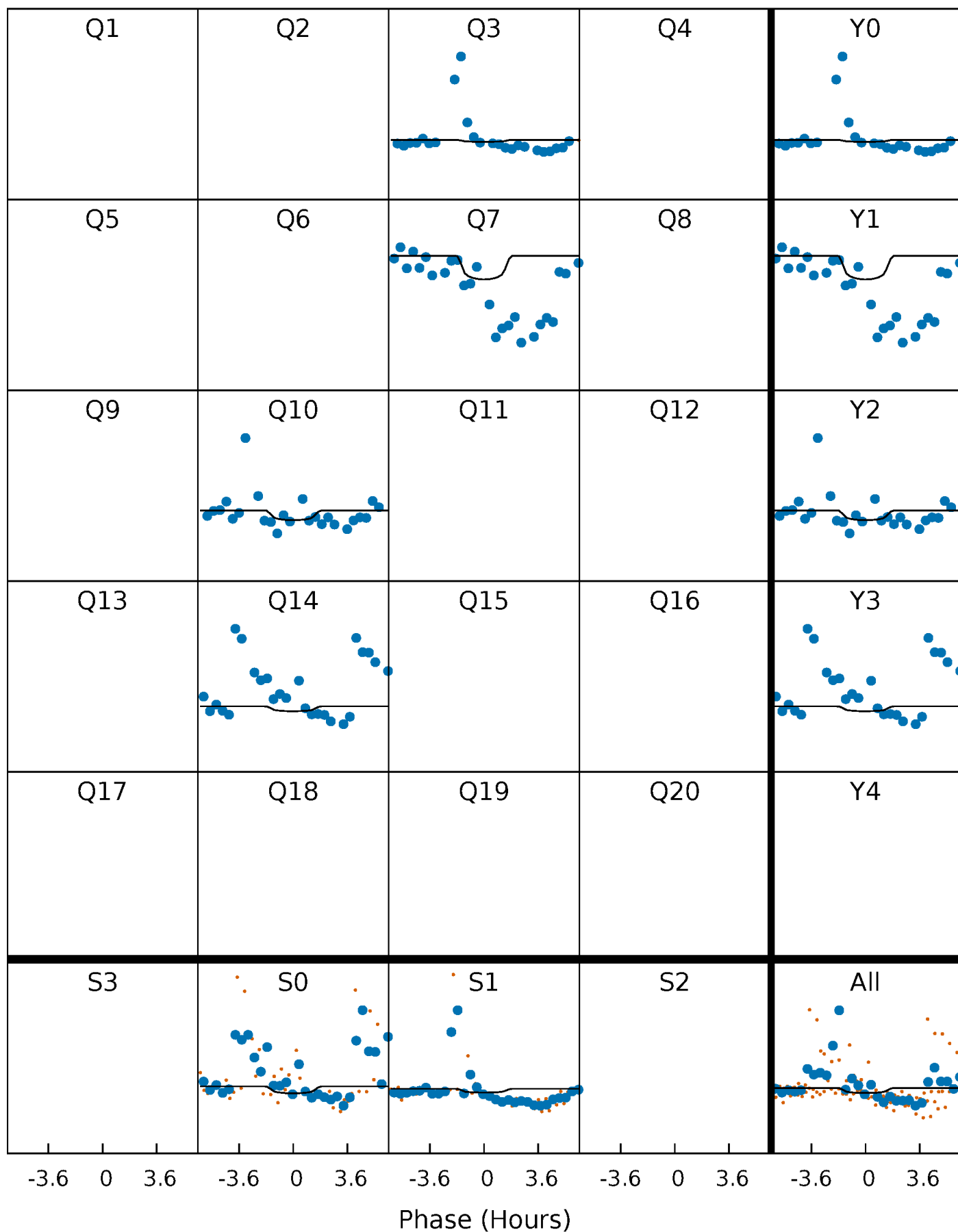
PDC Quarter-Phased Transit Curves

TCE 009349698-03 P=330.892052 Days $T_0=336.790243$ (BKJD)



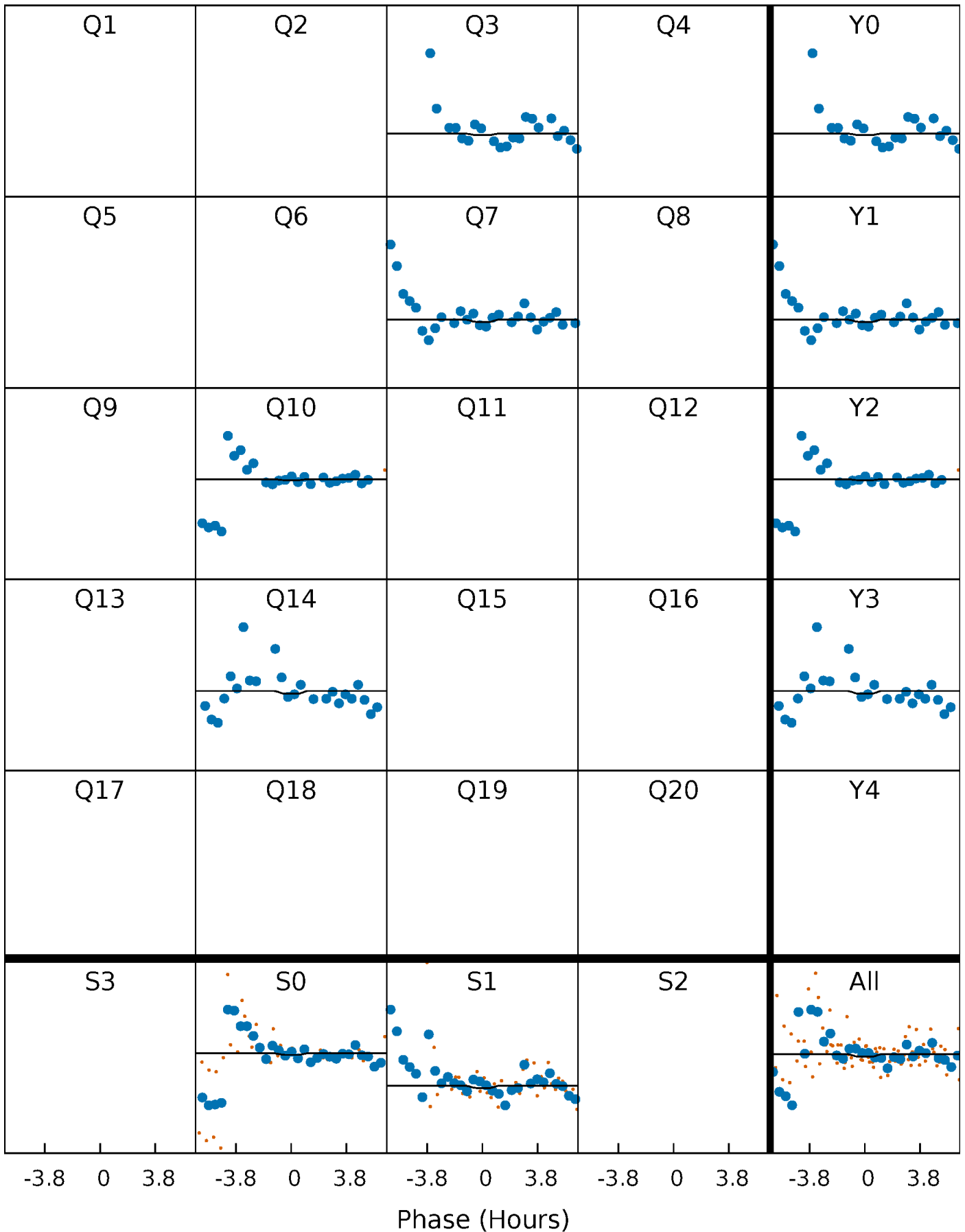
DV Quarter-Phased Transit Curves

TCE 009349698-03 $P=330.892052$ Days $T_0=336.790243$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

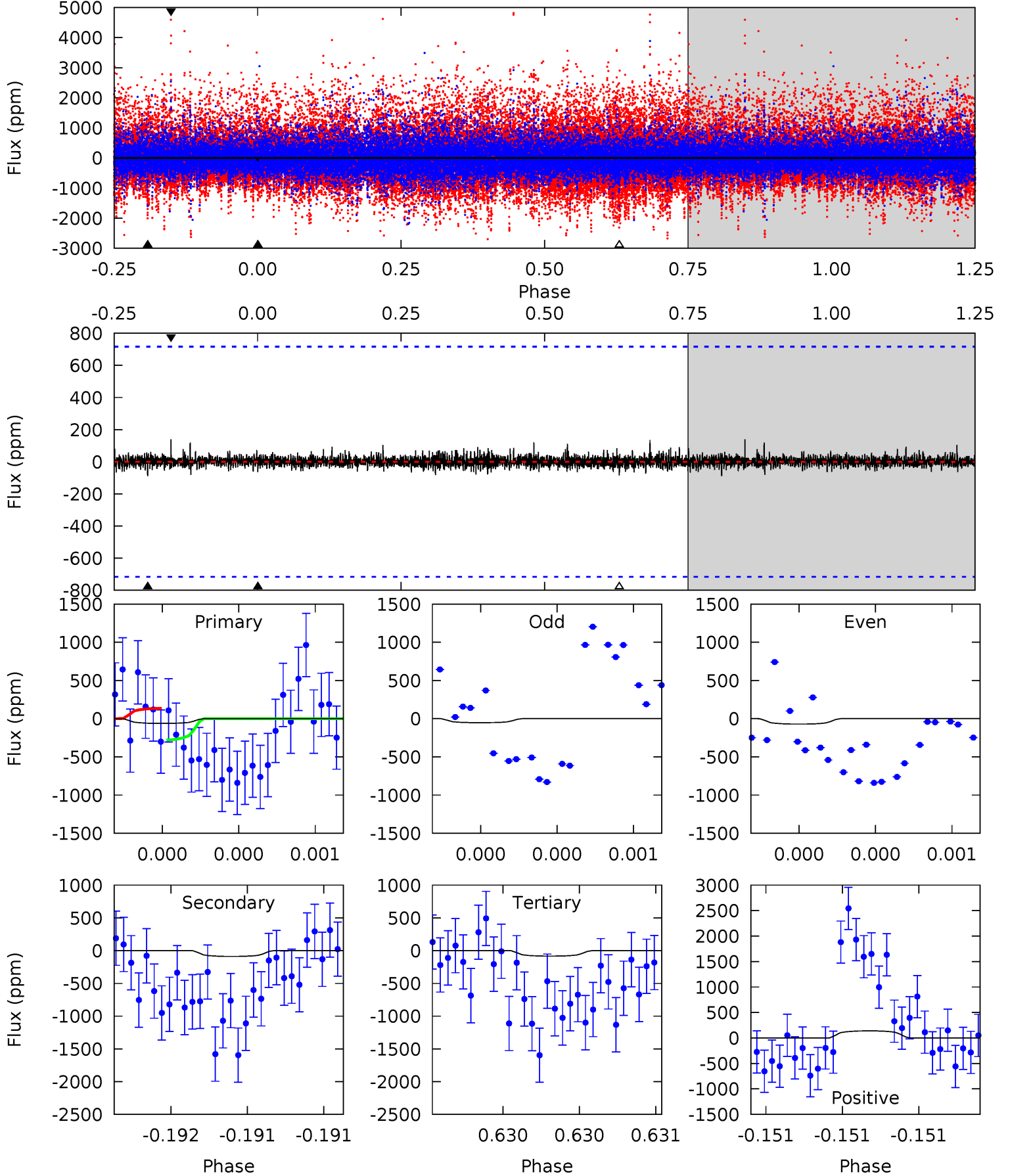
TCE 009349698-03 $P=330.649057$ Days $T_0=336.904512$ (BKJD)



DV Model-Shift Uniqueness Test

009349698-03, P = 330.892052 Days, E = 5.898191 Days

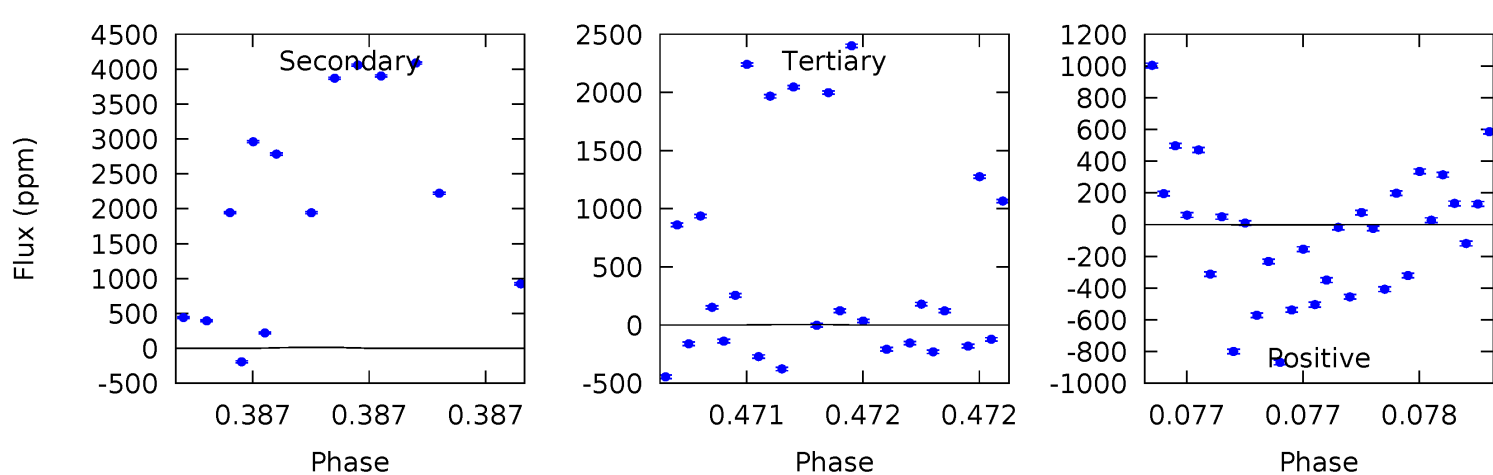
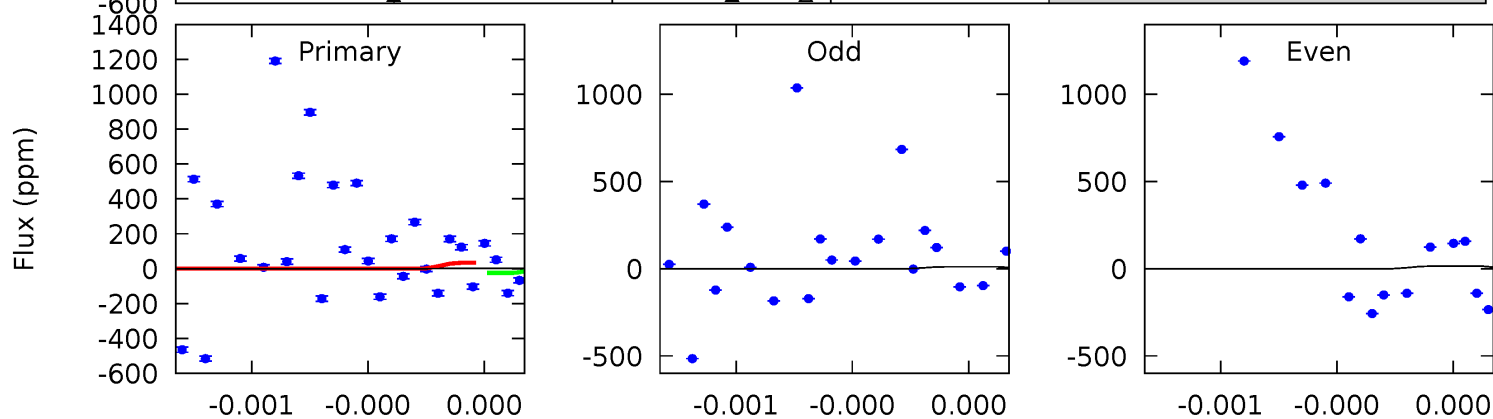
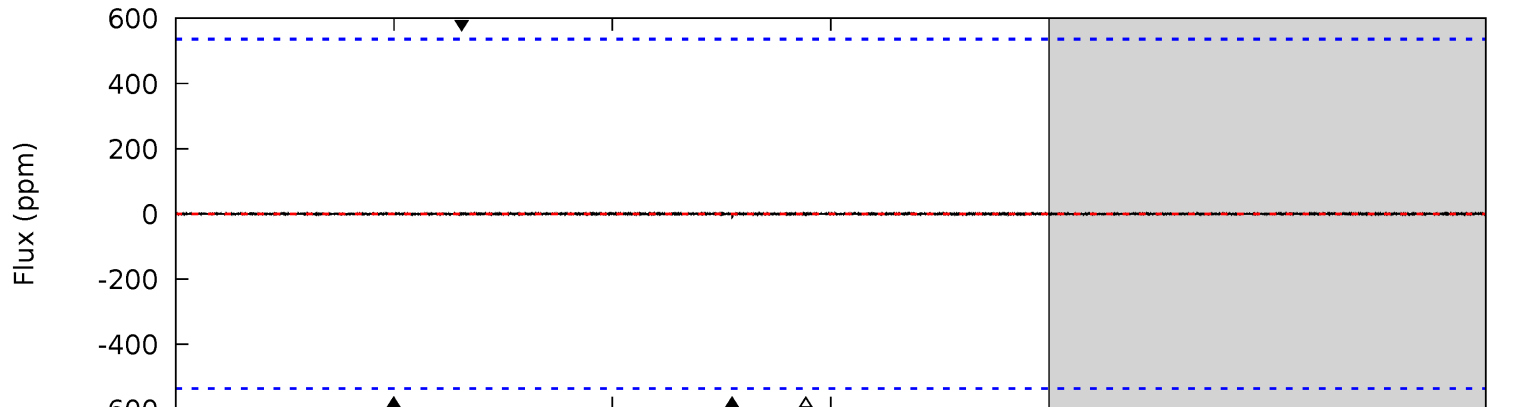
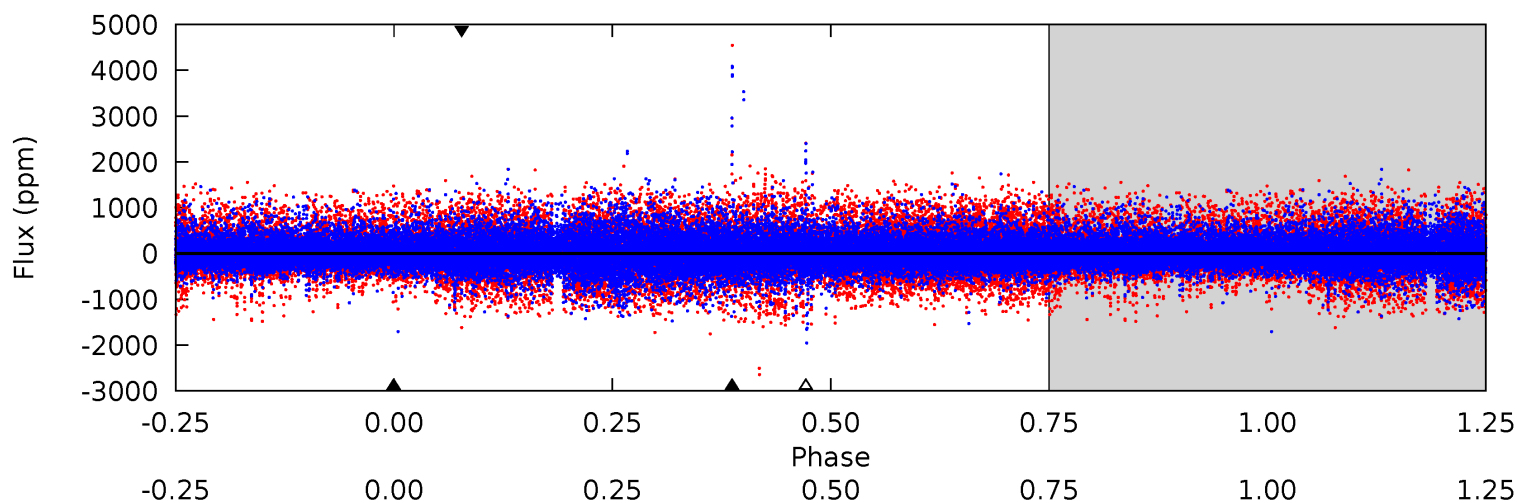
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.48	0.69	0.66	1.09	5.60	3.52	0.18	-0.17	-0.61	0.04	-0.40	0.06	0.92	0.61	0.57



Alt Model-Shift Uniqueness Test

009349698-03, P = 330.649057 Days, E = 6.255455 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.02	0.12	0.05	0.03	5.68	3.64	0.01	-0.03	-0.01	0.07	0.09	0.01	0.41	0.18	0.05



Stellar Parameters For KIC 009349698

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5035^{+151}_{-151}	$4.658^{+0.059}_{-0.036}$	$-1.020^{+0.300}_{-0.300}$	$0.600^{+0.042}_{-0.042}$	$0.597^{+0.052}_{-0.022}$	$3.891^{+0.821}_{-0.565}$
	+3%/-3%	+1%/-1%	+29%/-29%	+7%/-7%	+9%/-4%	+21%/-15%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 009349698-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-89 ± 128	$4.94^{+5.05}_{-3.47}$	269^{+10}_{-9}	2419^{+1012}_{-4629}	751^{+9426}_{-1111}
Alt.	-11 ± 94	$4.61^{+5.57}_{-3.06}$	270^{+10}_{-10}	2002^{+978}_{-4665}	120^{+3388}_{-1579}

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 $A_{obs} \gg 1.0$

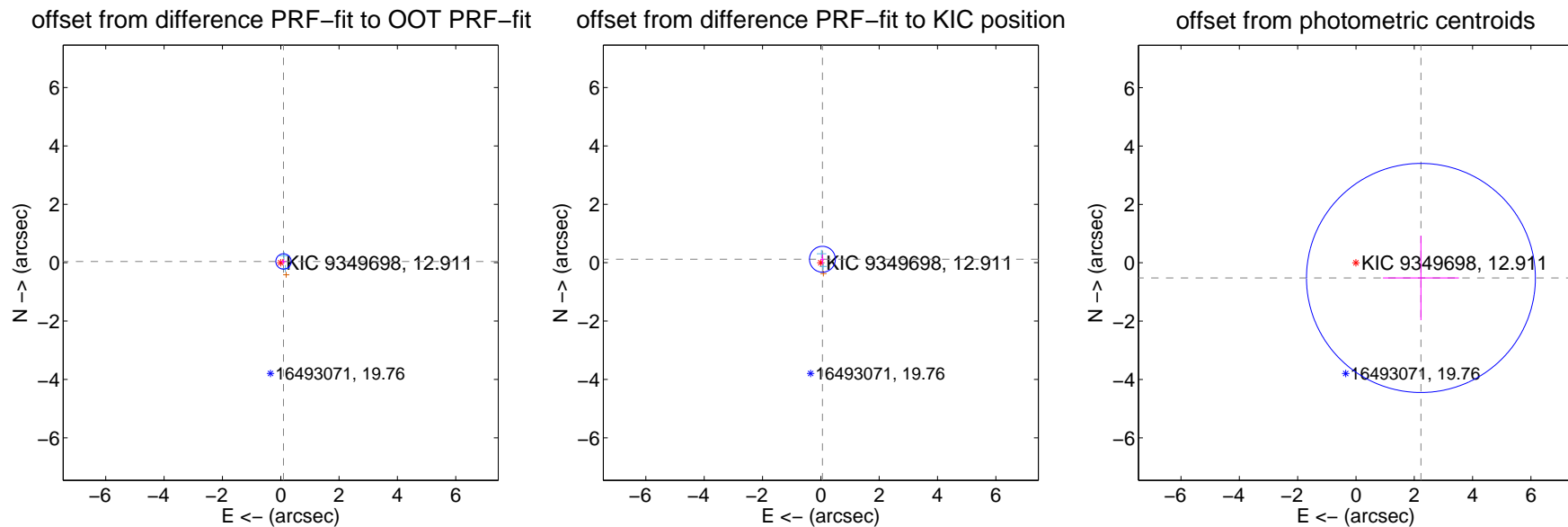
DV Centroid Data

Supplemental centroid analysis for 009349698-03. Kepler magnitude: 12.91. Transit SNR 1.29

There are 2 quarters with good PRF difference image offsets

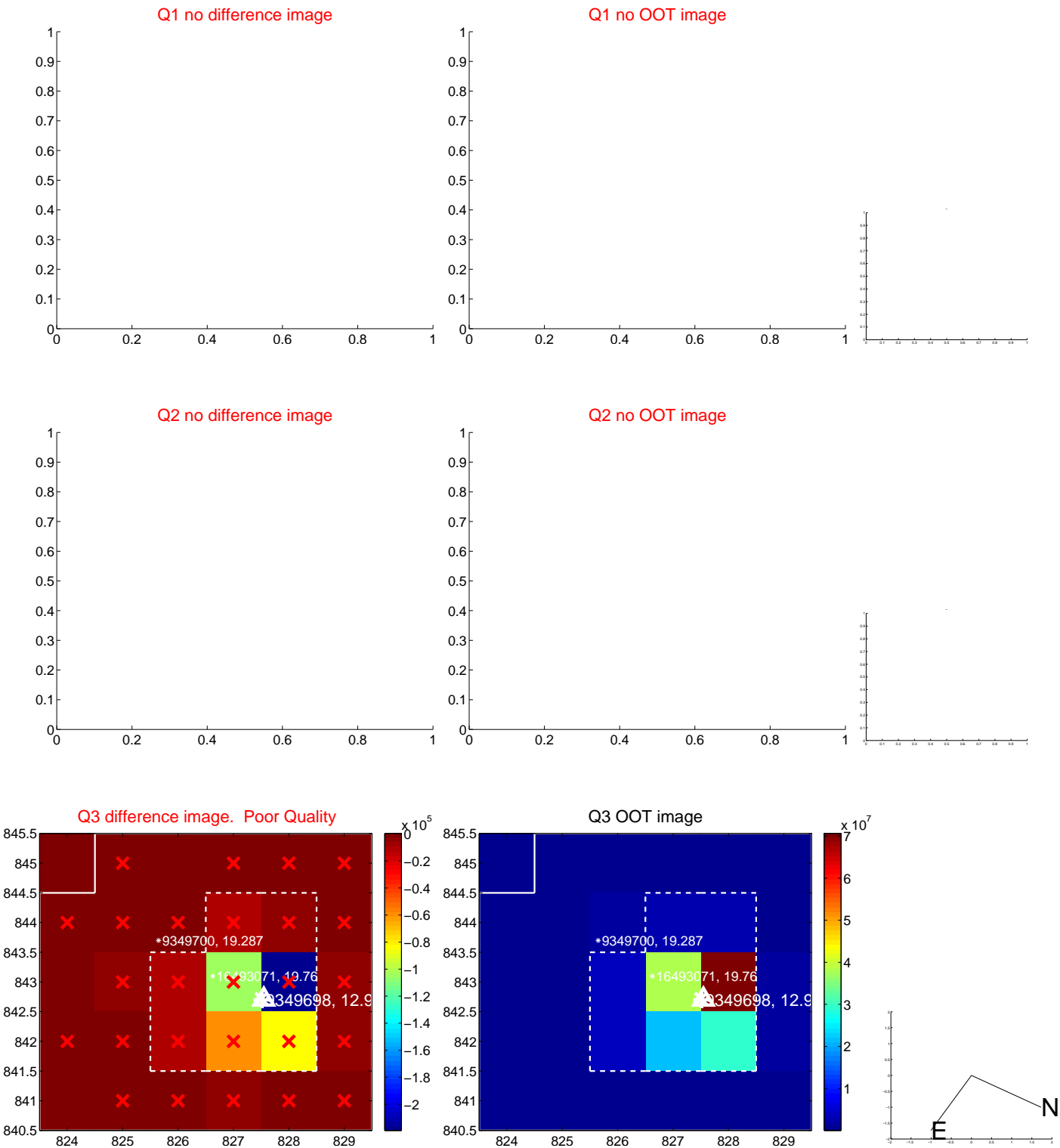
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.104 ± 0.088	1.19	-0.095 ± 0.088	0.042 ± 0.085
PRF-fit source offset from KIC position	0.129 ± 0.148	0.88	-0.054 ± 0.068	0.118 ± 0.165
photometric centroid source offset	2.29 ± 1.31	1.75	-2.23 ± 1.30	-0.52 ± 1.45

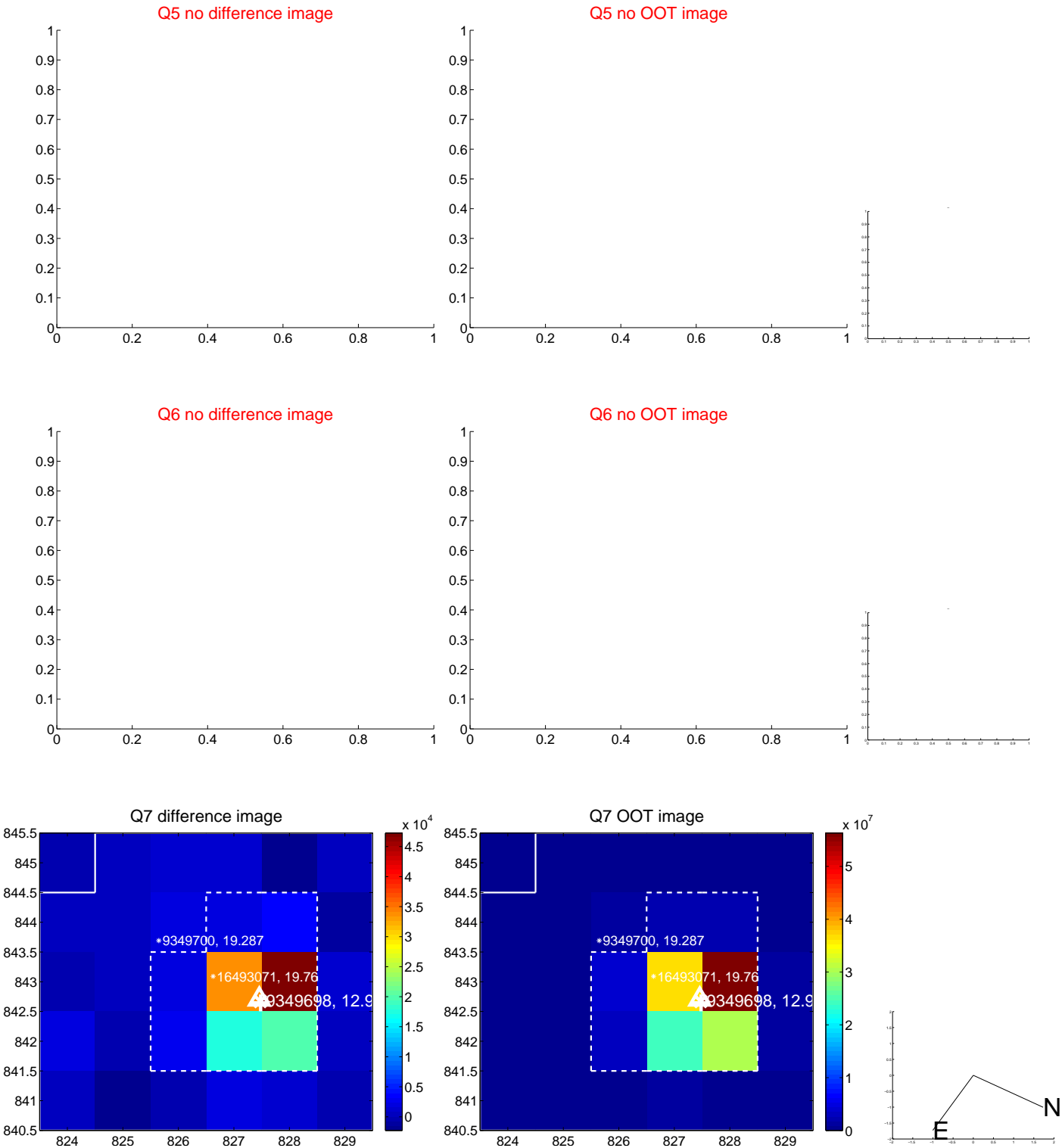


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

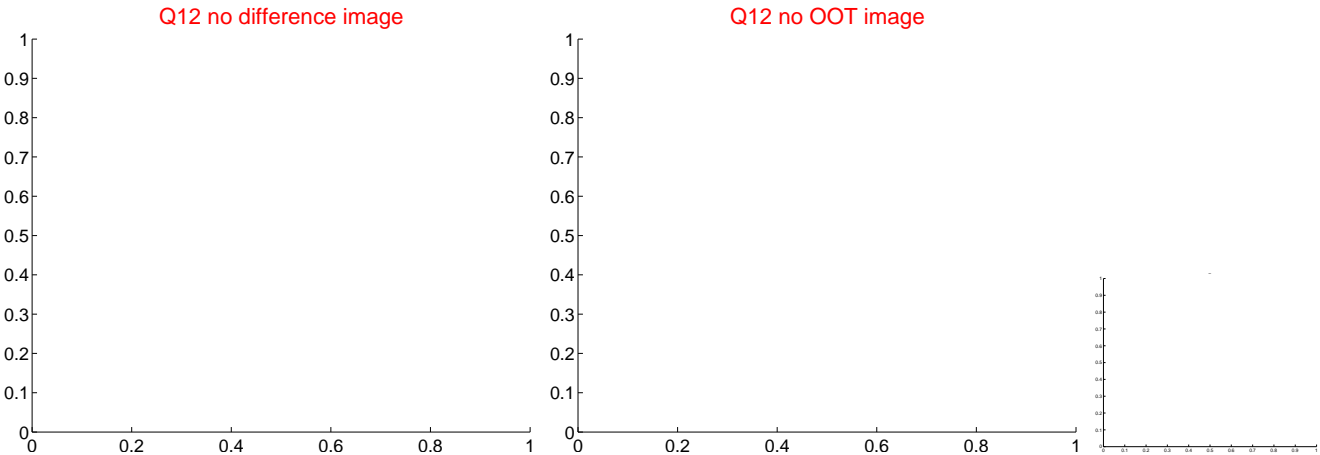
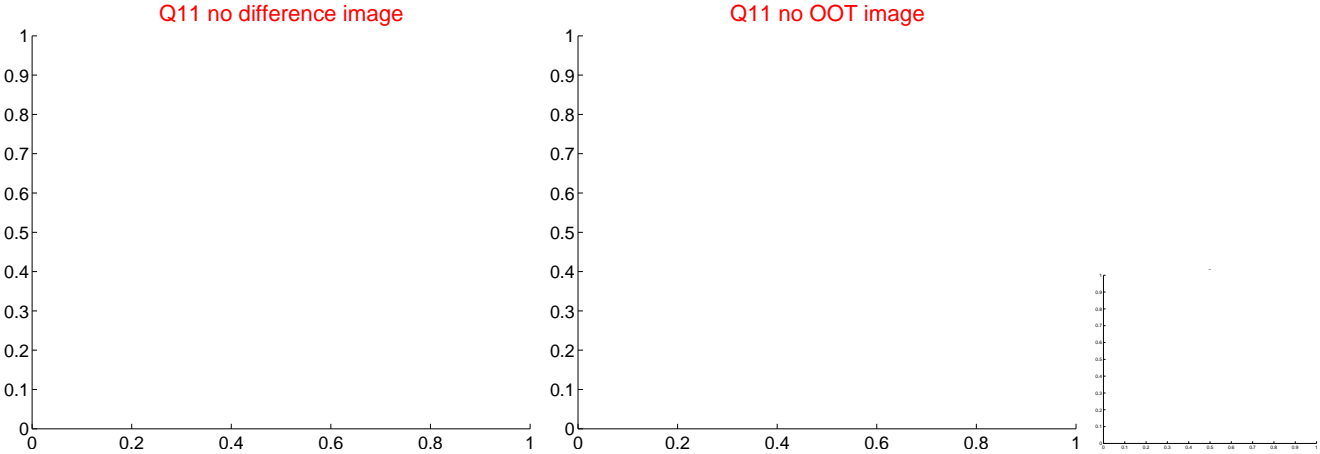
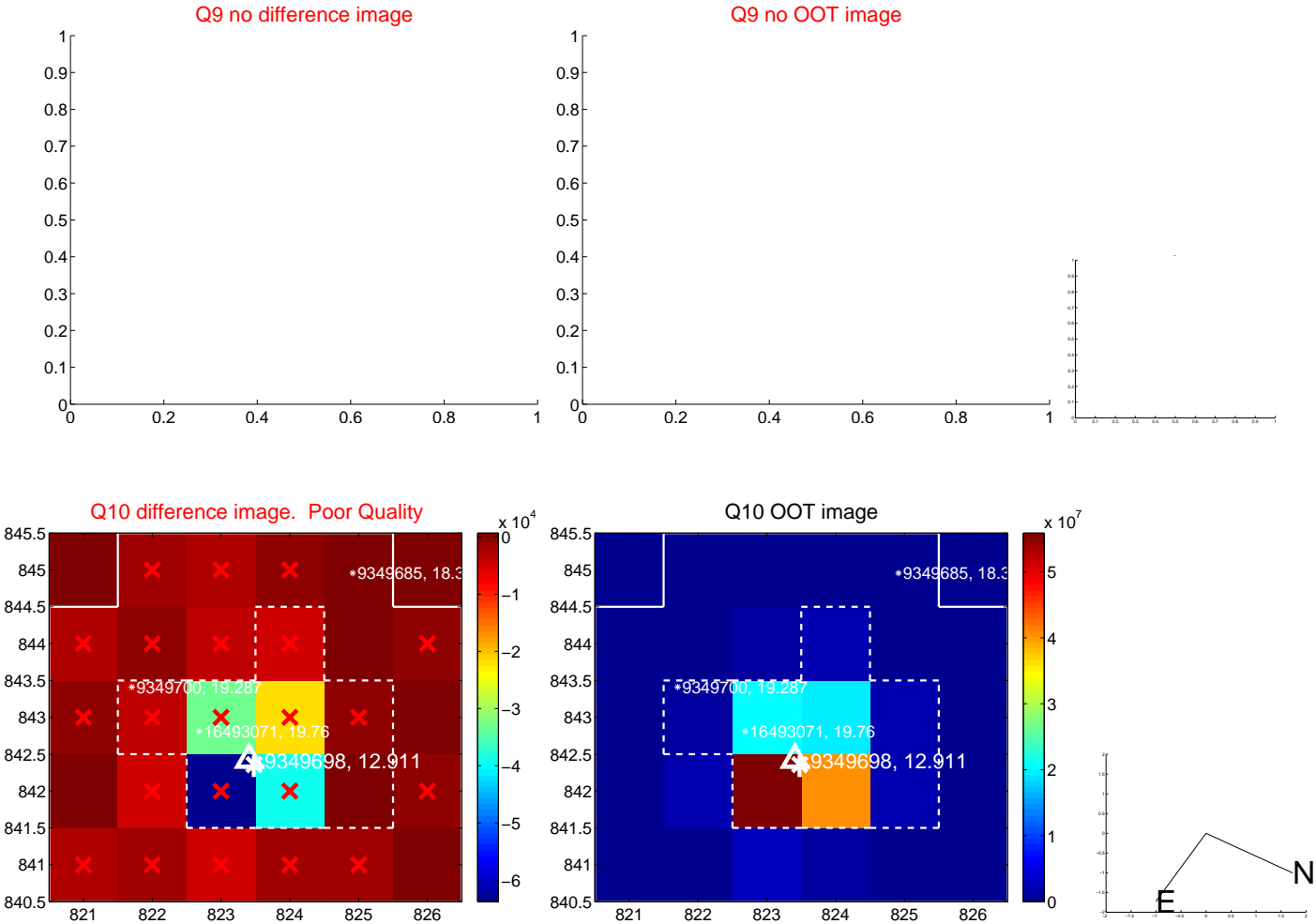
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



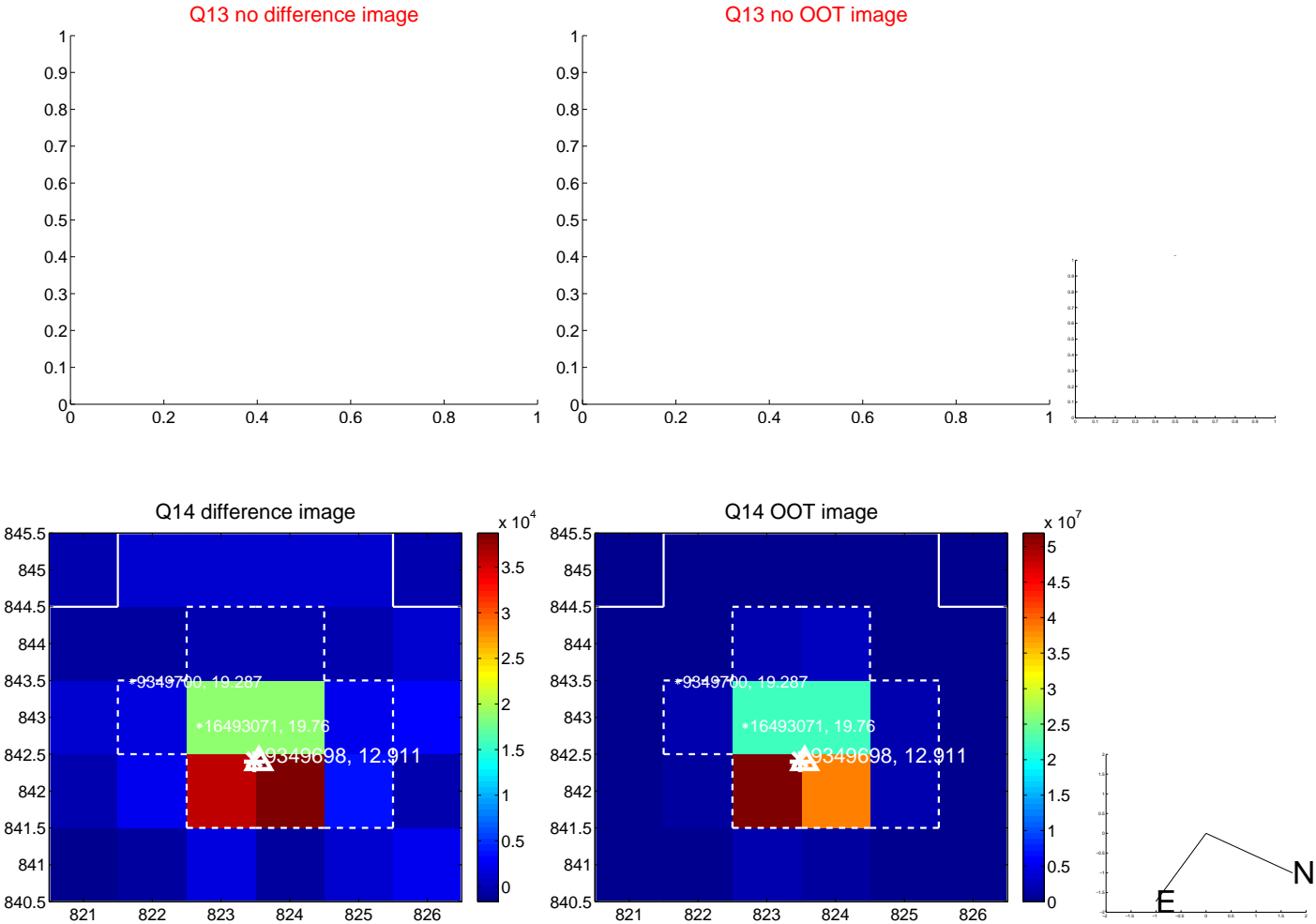
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



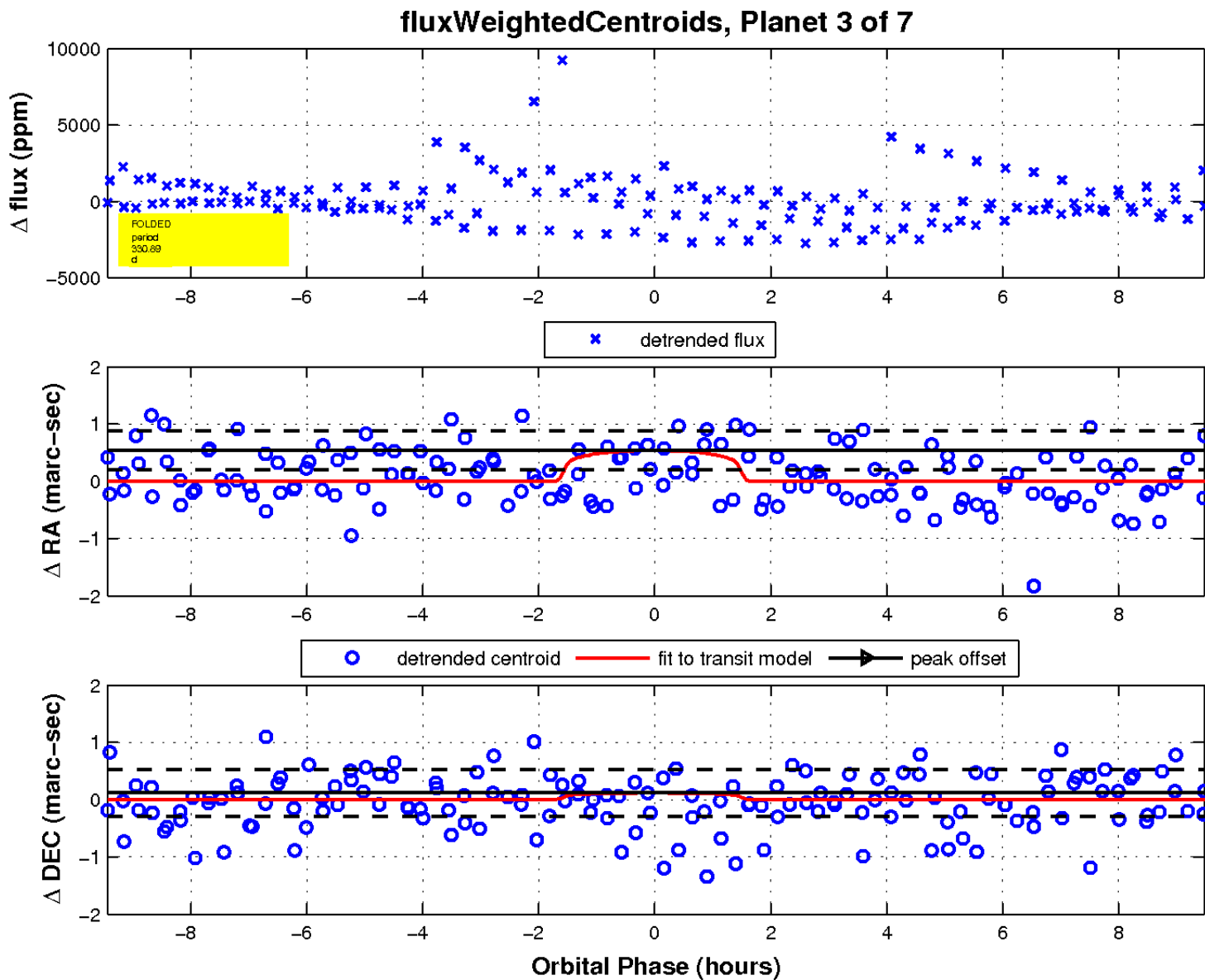
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

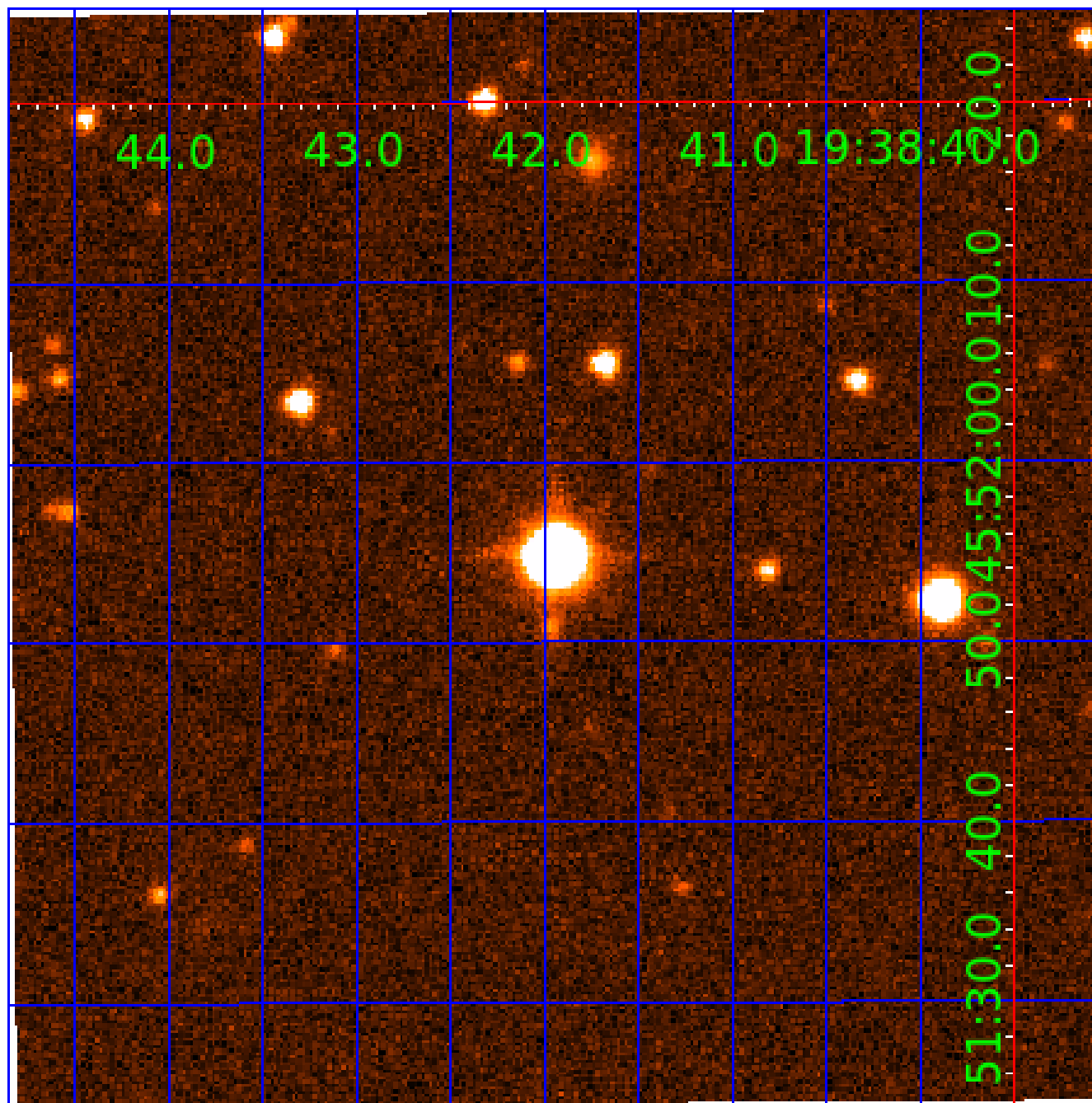


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009349698

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})
009349698-01	OBS	No	432.161146	363.303153	1915.6	5.437	20.6	5.9	0.60	5035	2.75	0.23
009349698-02	OBS	No	412.706870	256.023978	2101.2	4.952	16.5	8.5	0.60	5035	2.79	0.25
009349698-03	OBS	No	330.892052	336.790243	234.1	3.169	23.4	1.3	0.60	5035	0.97	0.33
009349698-04	OBS	No	521.449805	346.031582	1635.1	3.742	15.8	7.4	0.60	5035	2.69	0.18
009349698-05	OBS	No	330.649057	336.616258	811.7	4.500	19.9	-1.0	0.60	5035	1.68	0.33
009349698-06	OBS	No	305.965796	288.284013	1224.0	3.063	16.3	5.8	0.60	5035	2.06	0.37
009349698-07	OBS	No	559.538985	418.966910	418.4	5.000	14.9	-1.0	0.60	5035	1.21	0.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009349698-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
009349698-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009349698-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009349698-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
009349698-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
009349698-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
009349698-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST

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

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

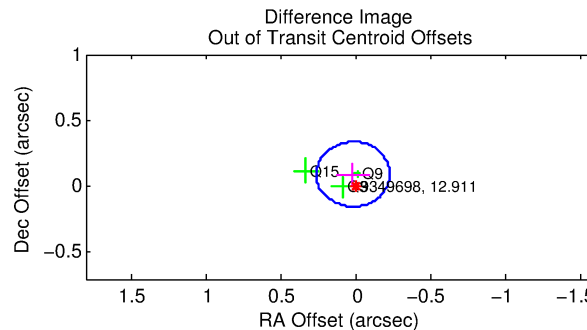
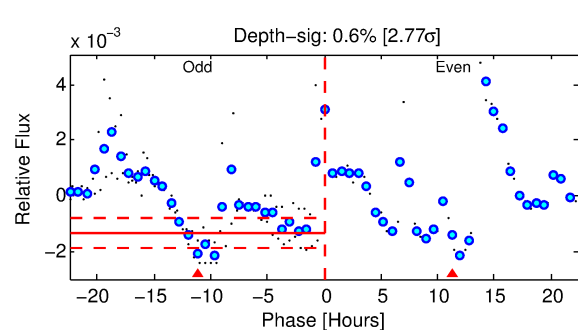
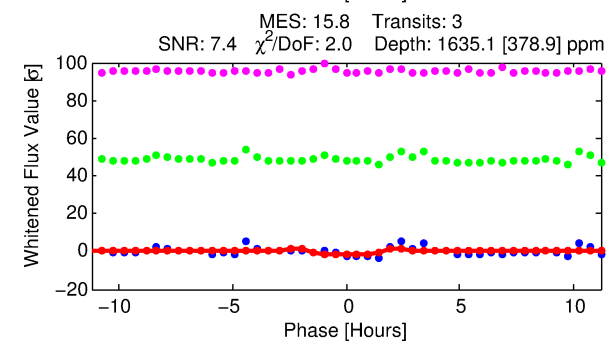
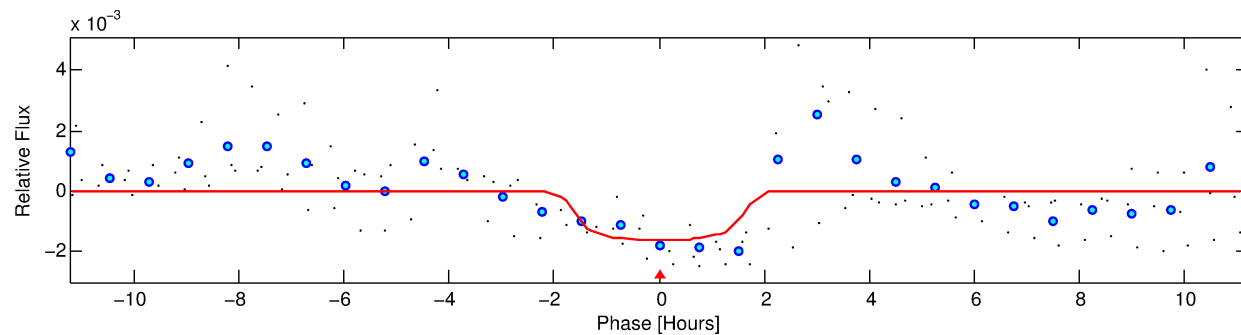
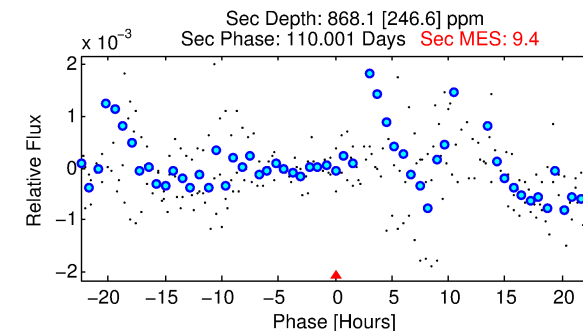
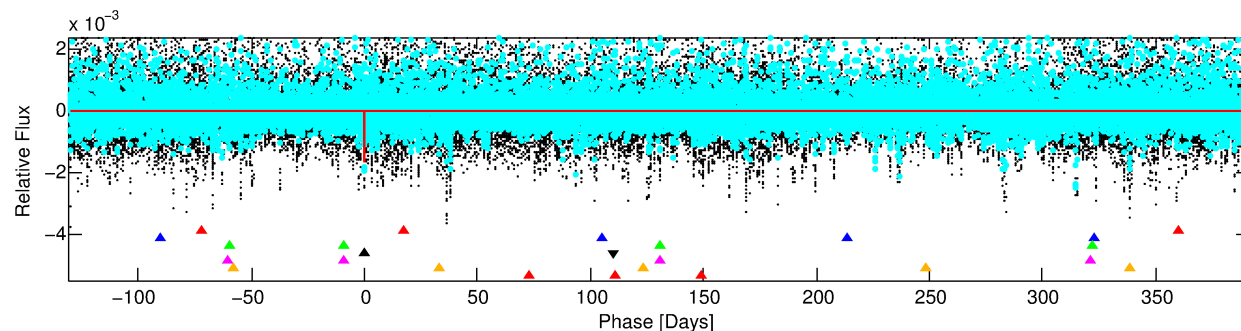
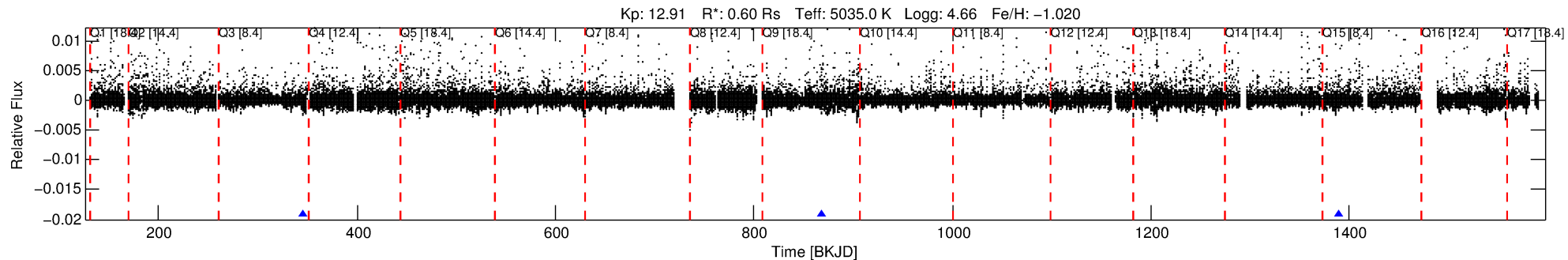
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009349698-04

No Significant Match Found

DV One-Page Summary

KIC: 9349698 Candidate: 4 of 7 Period: 521.450 d



DV Fit Results:

Period = 521.44980 [0.00561] d
Epoch = 346.0316 [0.0062] BKJD
Rp/R* = 0.0411 [0.0233]
a/R* = 718.68 [1561.34]
b = 0.79 [1.04]
Seff = 0.18 [0.03]
Teq = 166 [7] K
Rp = 2.69 [1.54] Re
a = 1.0681 [0.0695] AU
Ag = 75256.26 [88240.19] [0.85σ]
Teff = 4263 [1252] K [3.27σ]

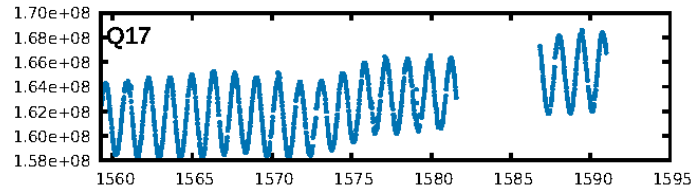
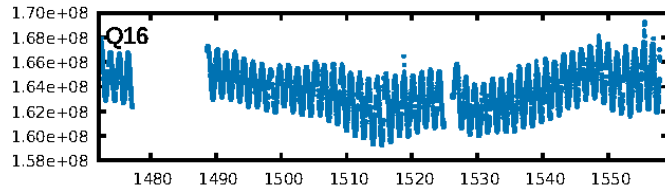
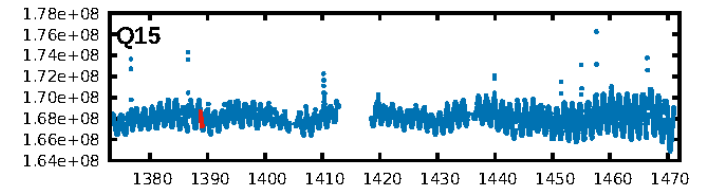
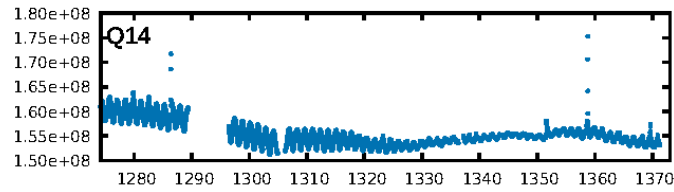
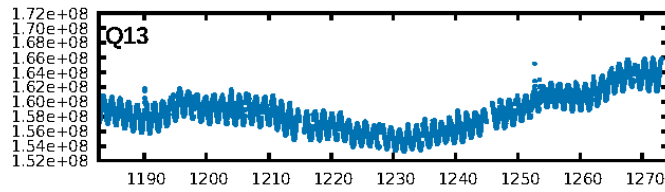
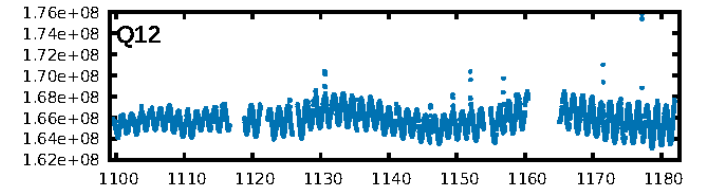
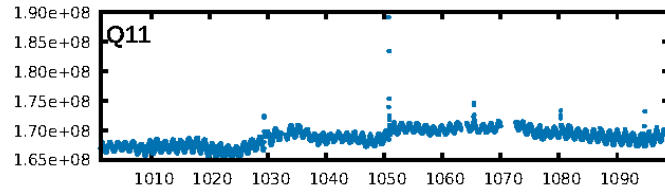
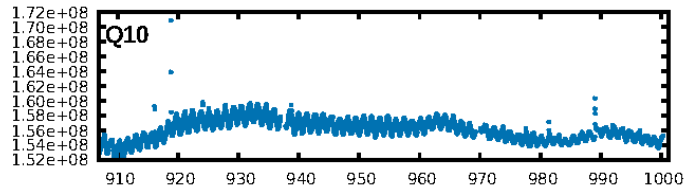
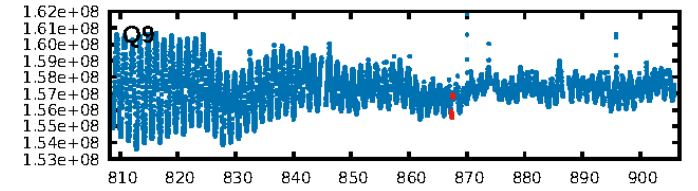
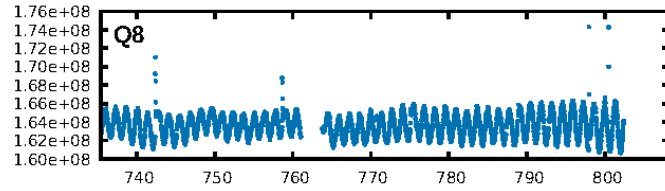
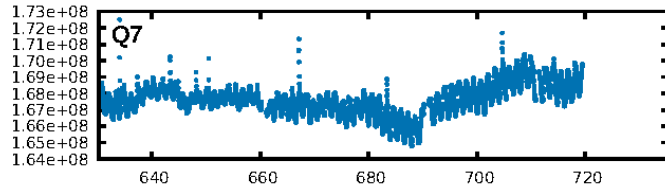
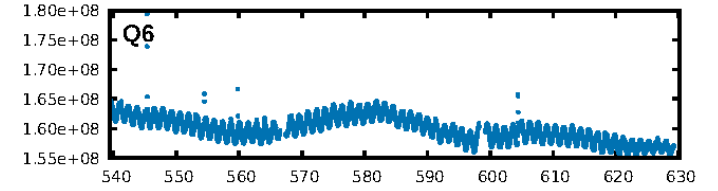
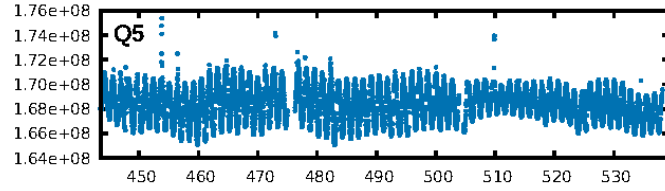
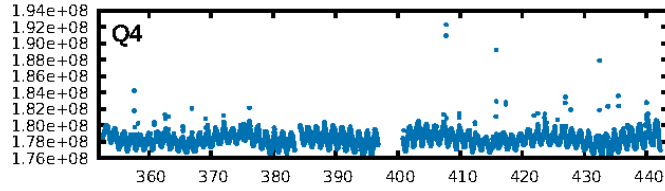
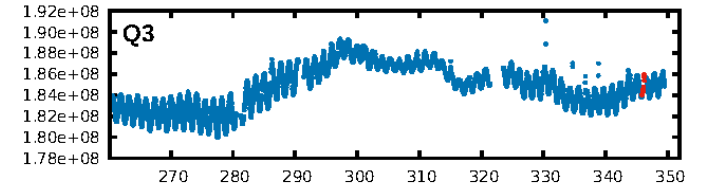
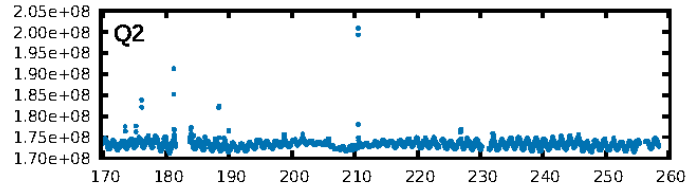
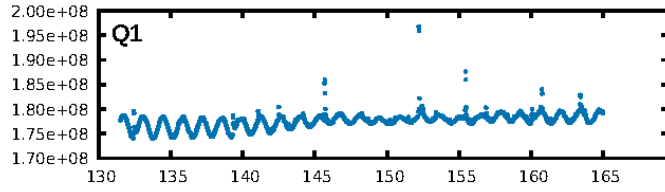
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [324.70σ]
LongPeriod-sig: 100.0% [146.38σ]
ModelChiSquare2-sig: 1.7%
ModelChiSquareGof-sig: 7.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.295
Centroid-sig: 55.0%
Centroid-so: 0.189 arcsec [0.92σ]
OotOffset-rm: 0.094 arcsec [1.14σ]
OotOffset-st: 0/2/0/1 [3]
KicOffset-rm: 0.174 arcsec [1.97σ]
KicOffset-st: 0/2/0/1 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

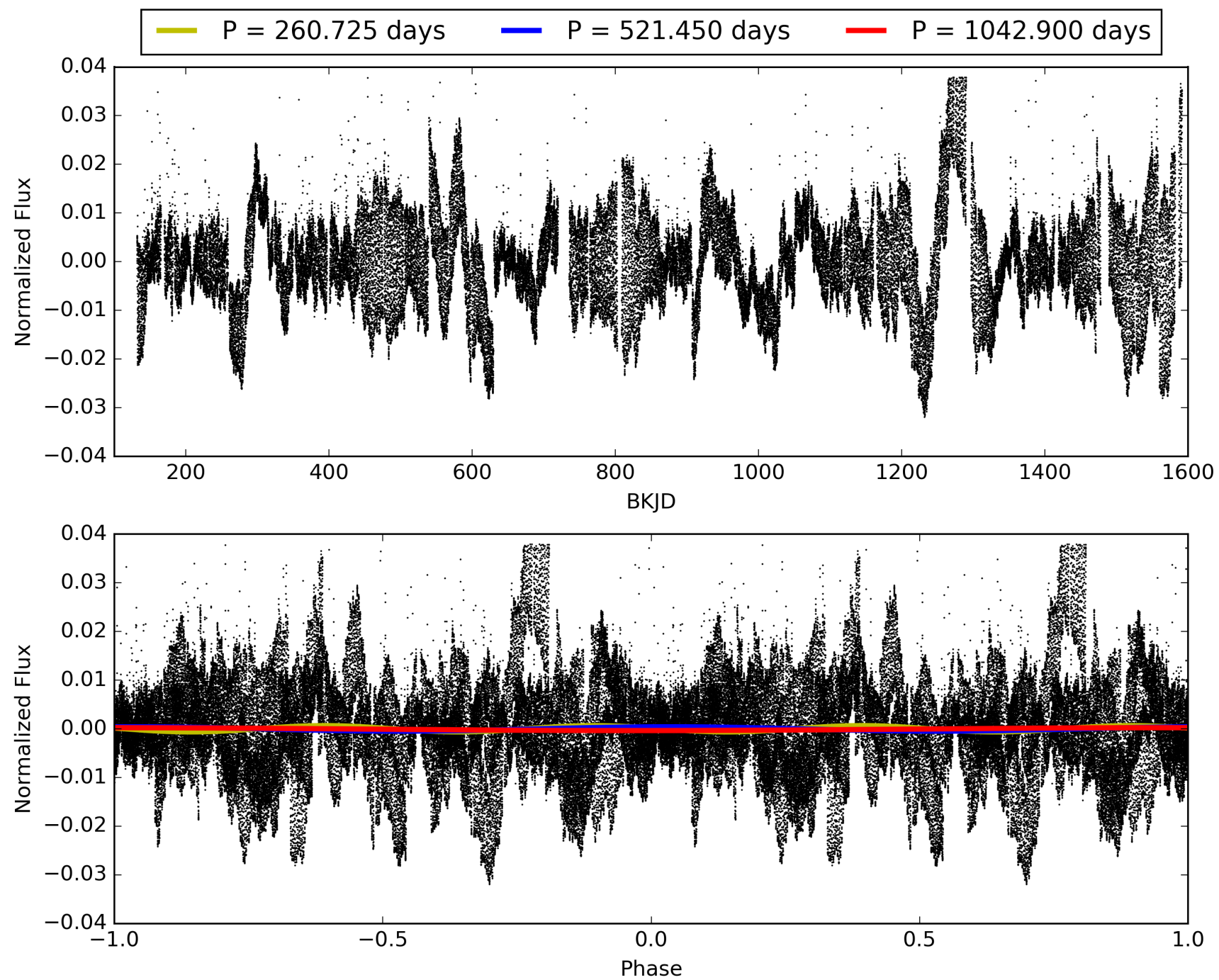
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:49:27 Z

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

TCE 009349698-04, PDC Light Curves

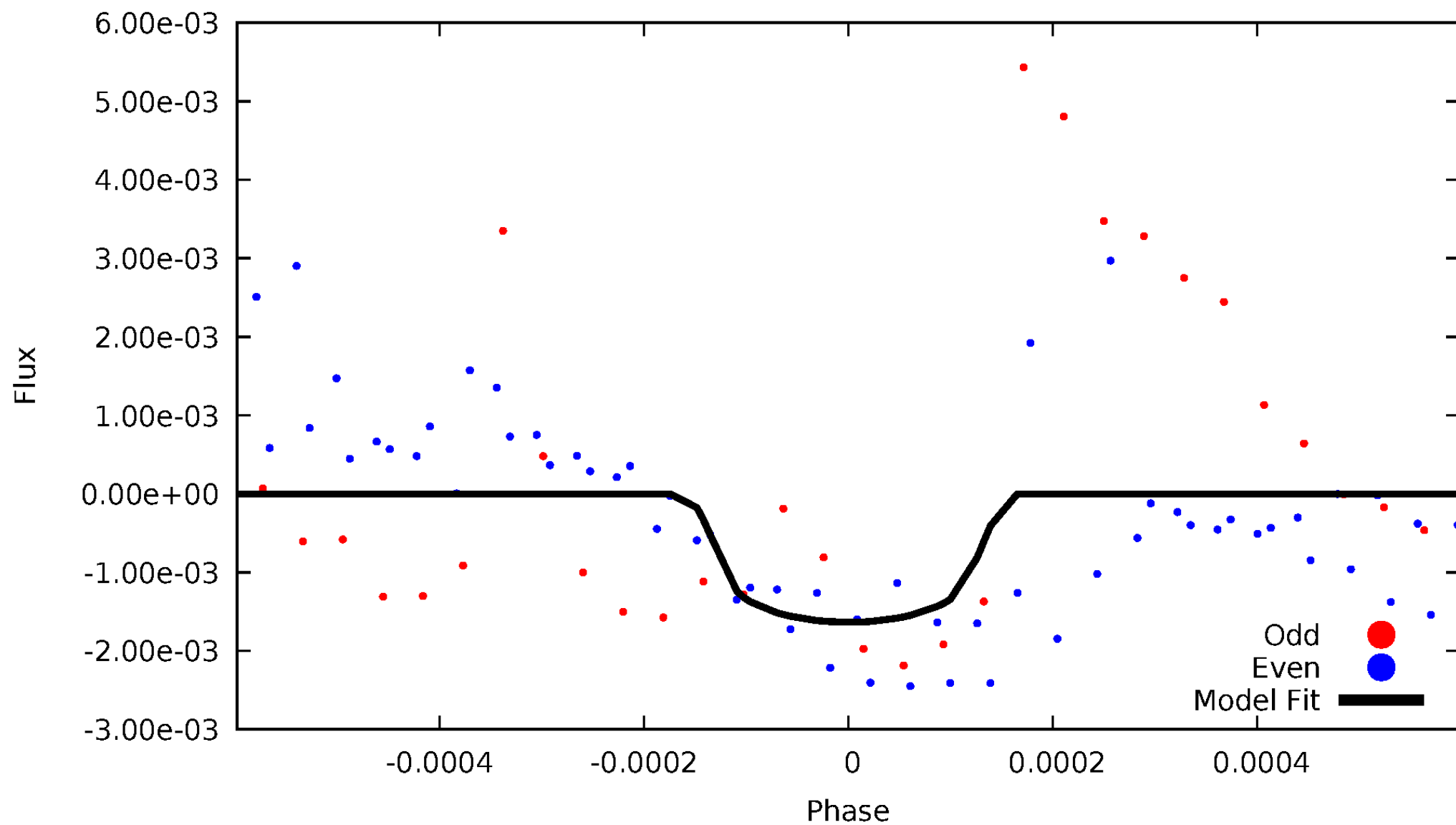


TCE 009349698-04



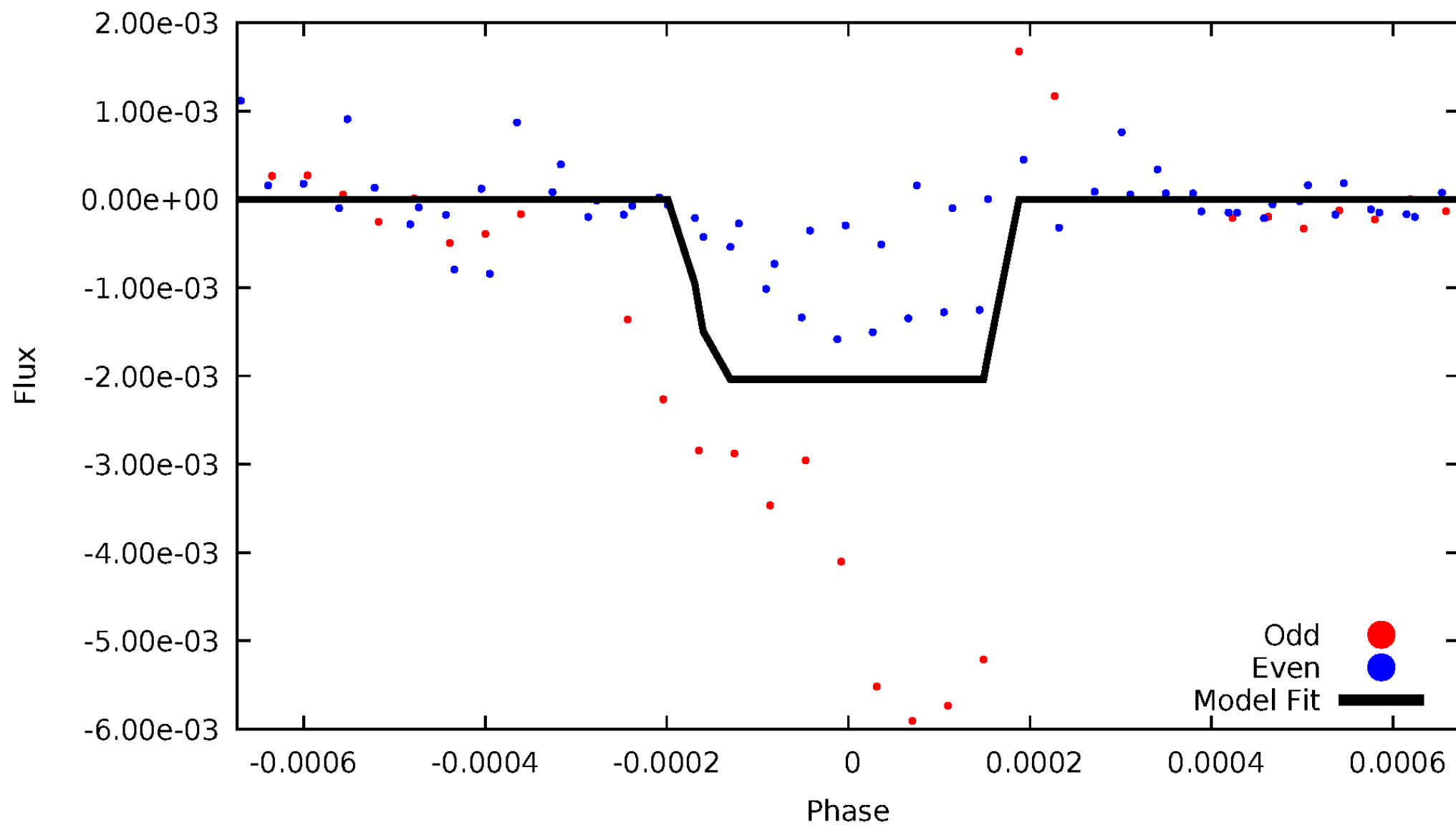
DV Odd/Even

TCE 009349698-04



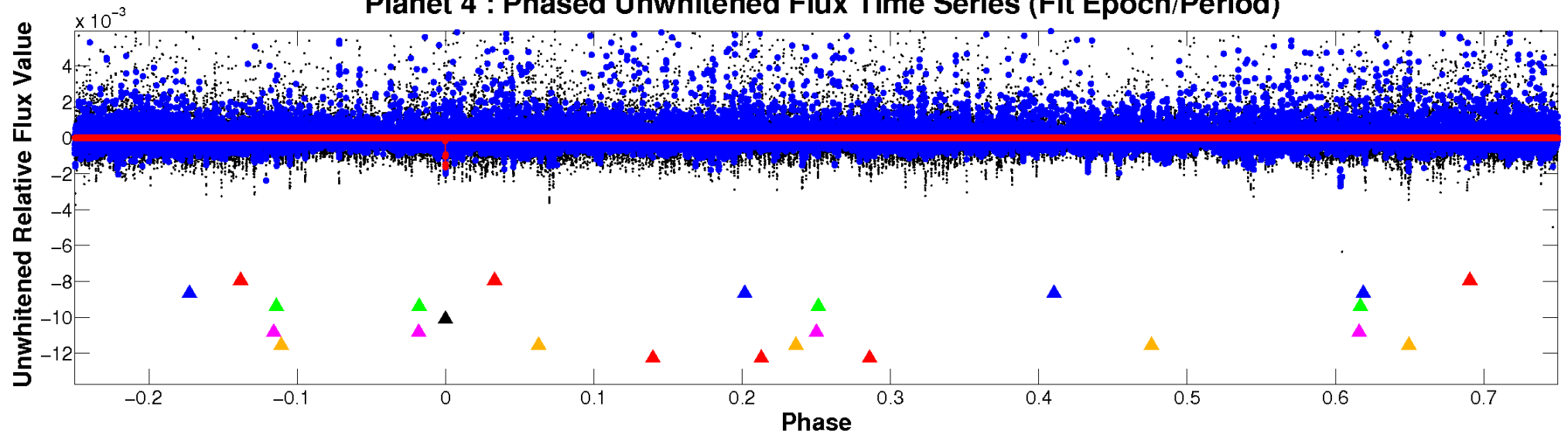
ALT Odd/Even

TCE 009349698-04

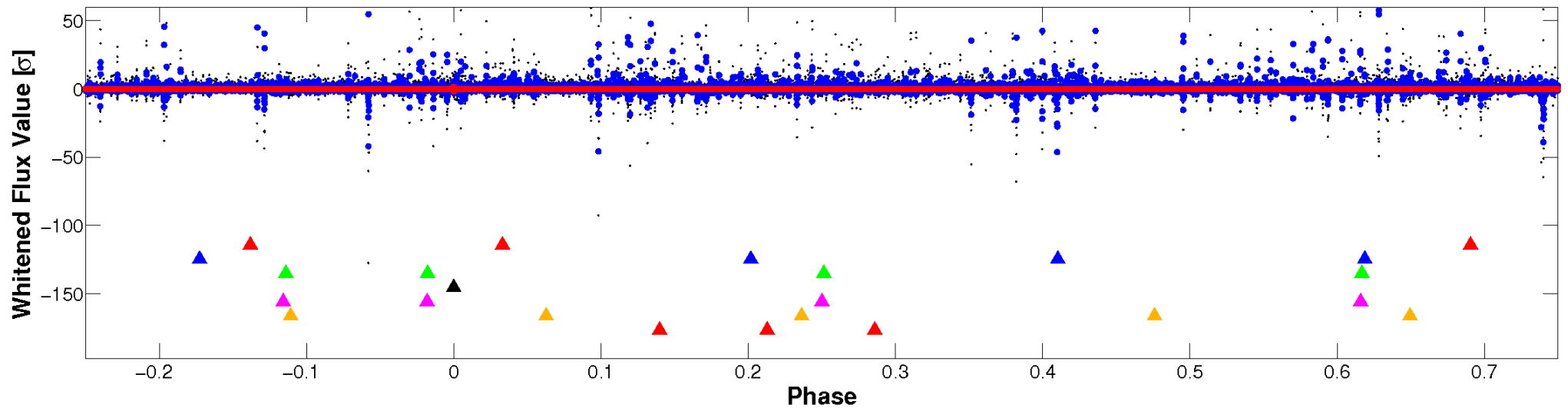


Non-Whitened Vs. Whitened Light Curve

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

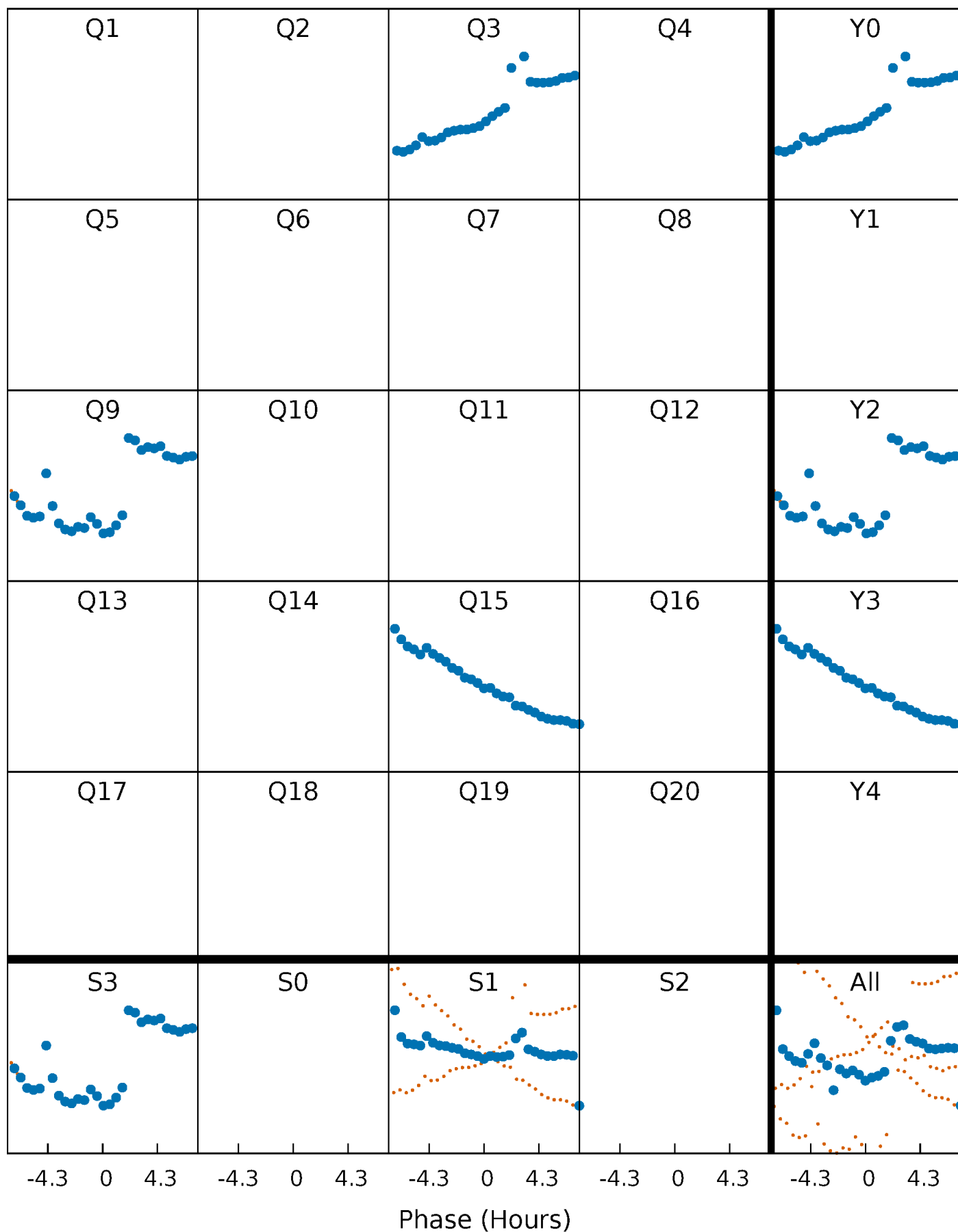


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



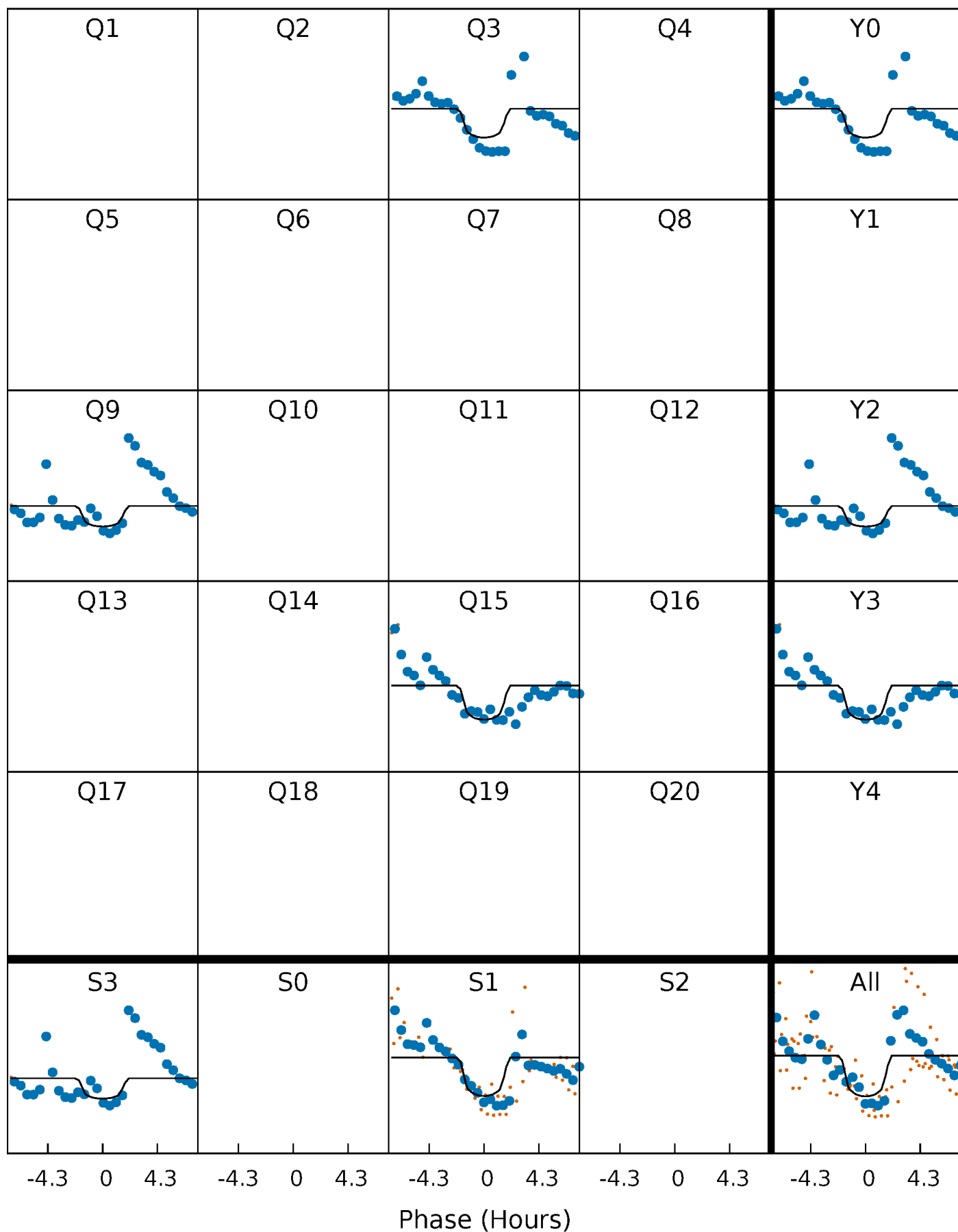
PDC Quarter-Phased Transit Curves

TCE 009349698-04 $P=521.449805$ Days $T_0=346.031582$ (BKJD)



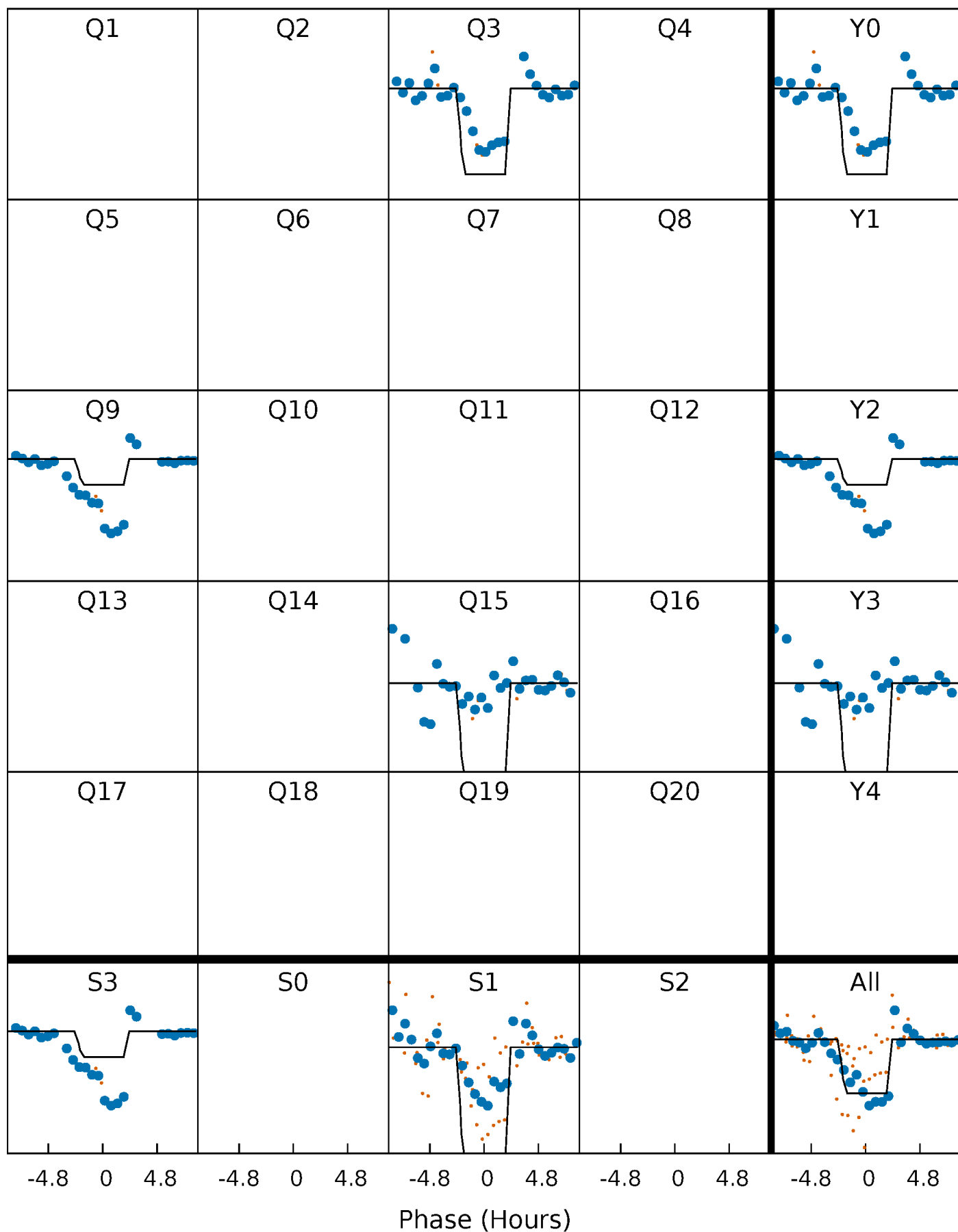
DV Quarter-Phased Transit Curves

TCE 009349698-04 P=521.449805 Days $T_0=346.031582$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

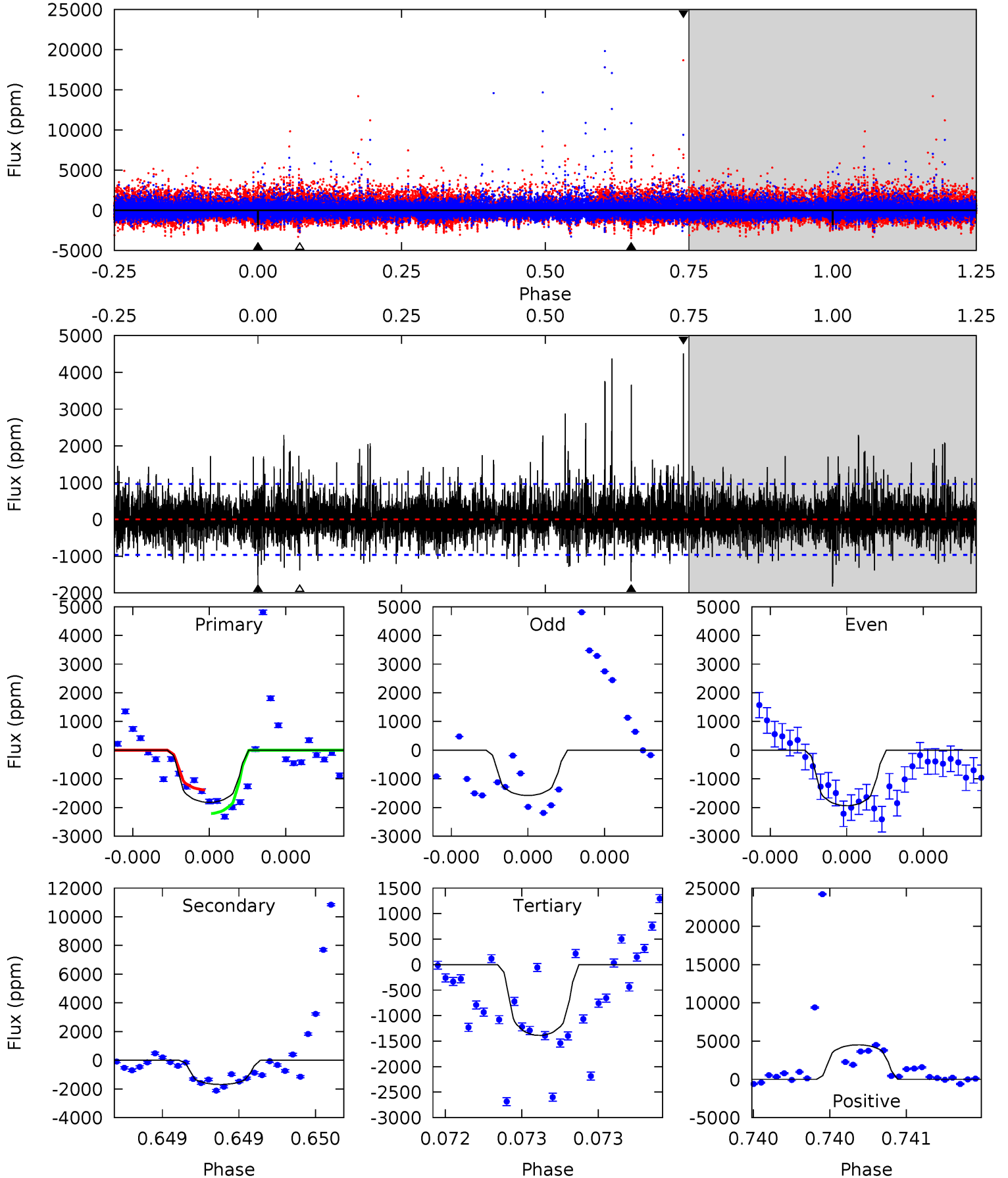
TCE 009349698-04 P=521.444018 Days $T_0=346.028776$ (BKJD)



DV Model-Shift Uniqueness Test

009349698-04, P = 521.449805 Days, E = 346.031582 Days

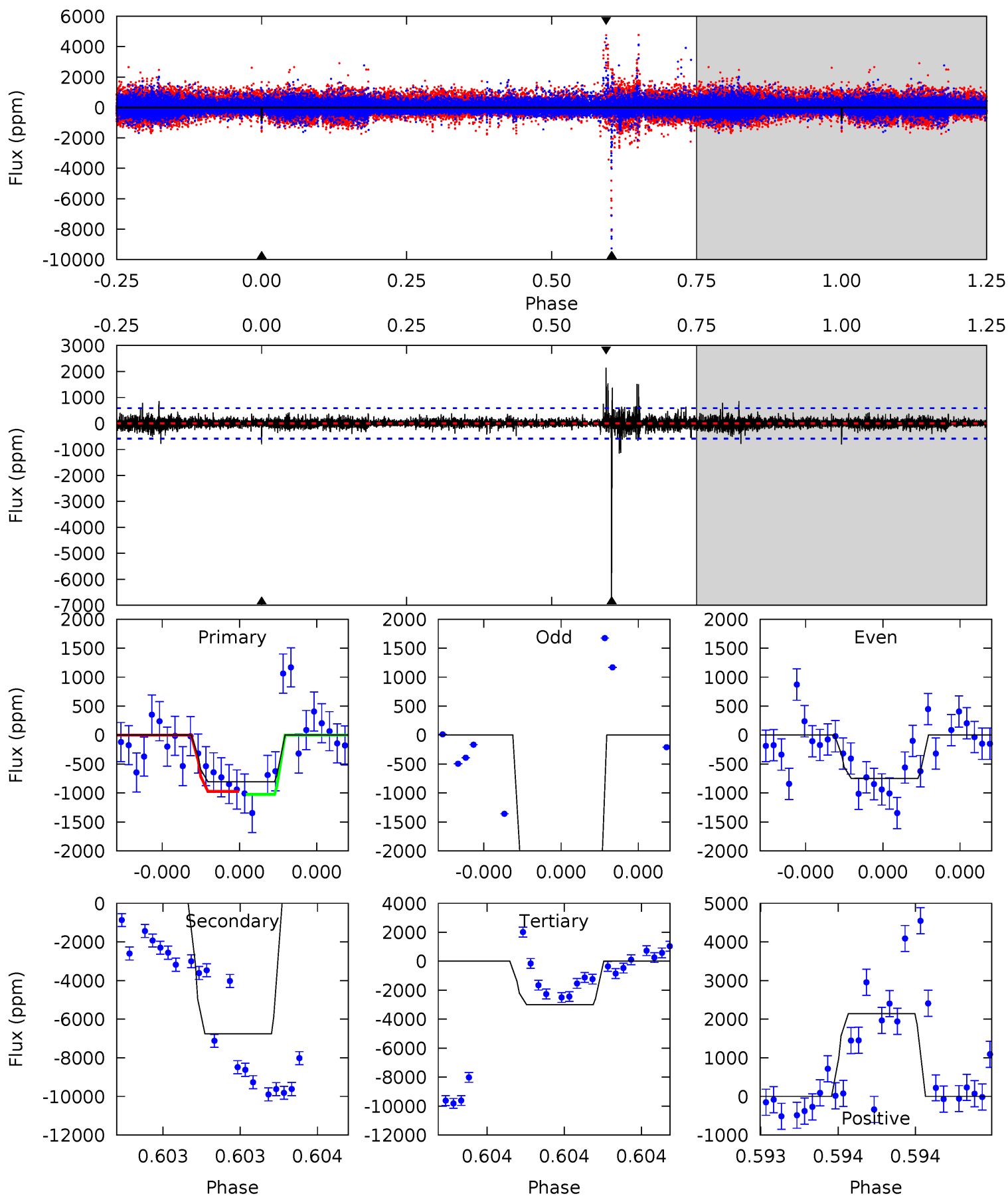
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.6	9.86	8.12	26.4	5.65	3.60	2.54	2.53	-15.8	1.74	-16.6	0.59	1.15	0.71	2.44



Alt Model-Shift Uniqueness Test

009349698-04, P = 521.444018 Days, E = 346.028776 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.77	65.0	28.9	20.6	5.65	3.60	1.31	-21.1	-12.9	36.2	44.4	18.4	1.65	0.24	0.24



Stellar Parameters For KIC 009349698

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5035^{+151}_{-151}	$4.658^{+0.059}_{-0.036}$	$-1.020^{+0.300}_{-0.300}$	$0.600^{+0.042}_{-0.042}$	$0.597^{+0.052}_{-0.022}$	$3.891^{+0.821}_{-0.565}$
	+3%/-3%	+1%/-1%	+29%/-29%	+7%/-7%	+9%/-4%	+21%/-15%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 009349698-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1684 ± 171	$2.72^{+1.54}_{-1.39}$	232^{+9}_{-9}	5015^{+2023}_{-831}	$144307^{+464501}_{-87441}$
Alt.	-6759 ± 104	$3.02^{+1.35}_{-1.37}$	231^{+9}_{-8}	6646^{+2927}_{-1161}	$472912^{+1115011}_{-249533}$

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

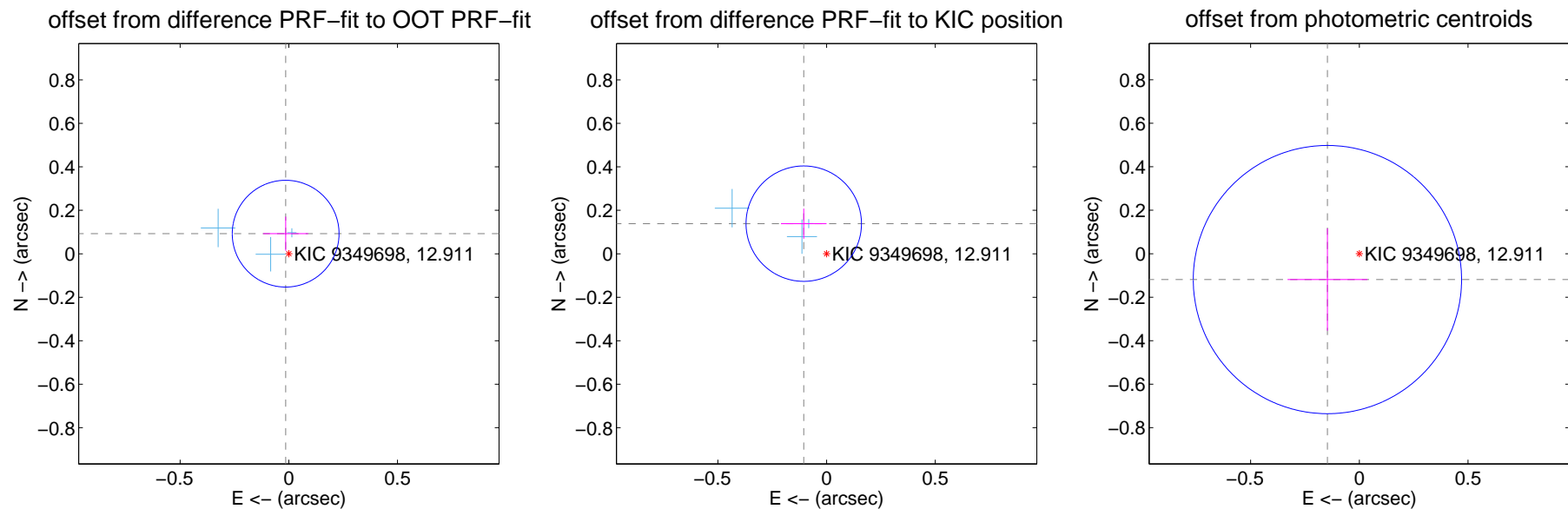
DV Centroid Data

Supplemental centroid analysis for 009349698-04. Kepler magnitude: 12.91. Transit SNR 7.38

There are 3 quarters with good PRF difference image offsets

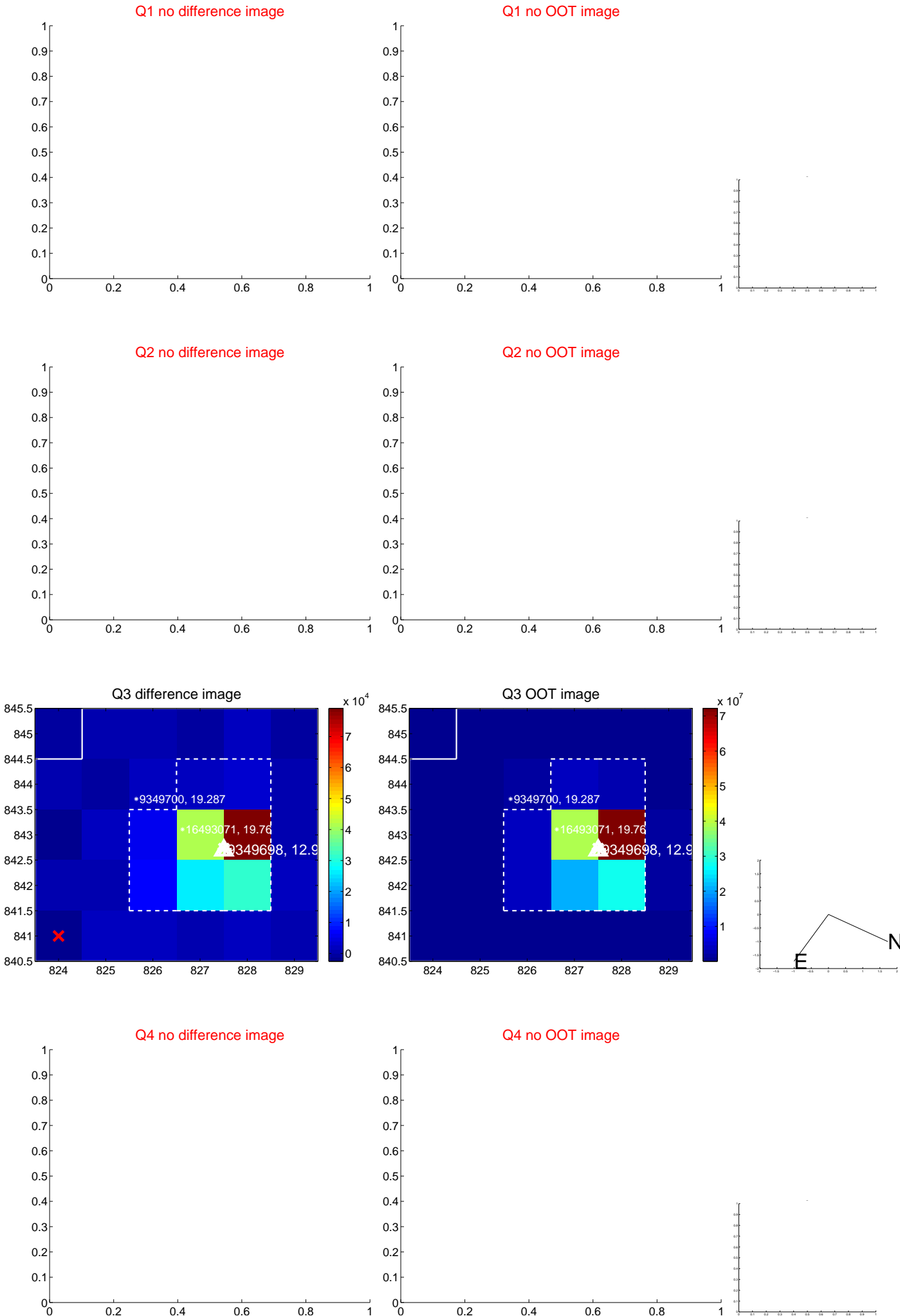
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.094 ± 0.082	1.14	0.015 ± 0.104	0.093 ± 0.078
PRF-fit source offset from KIC position	0.174 ± 0.088	1.97	0.105 ± 0.105	0.139 ± 0.069
photometric centroid source offset	0.19 ± 0.21	0.92	0.15 ± 0.18	-0.12 ± 0.24



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.

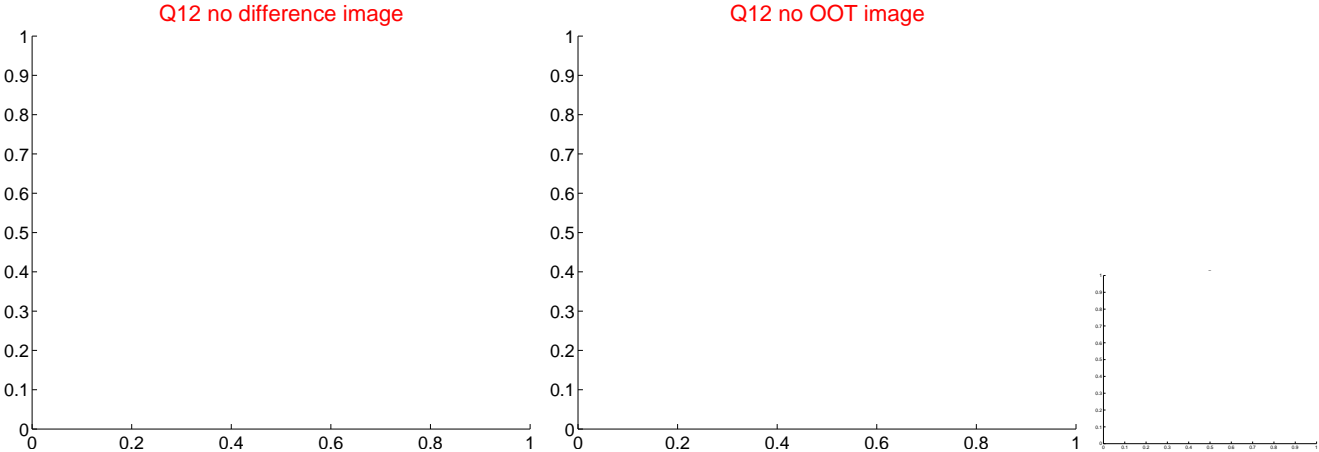
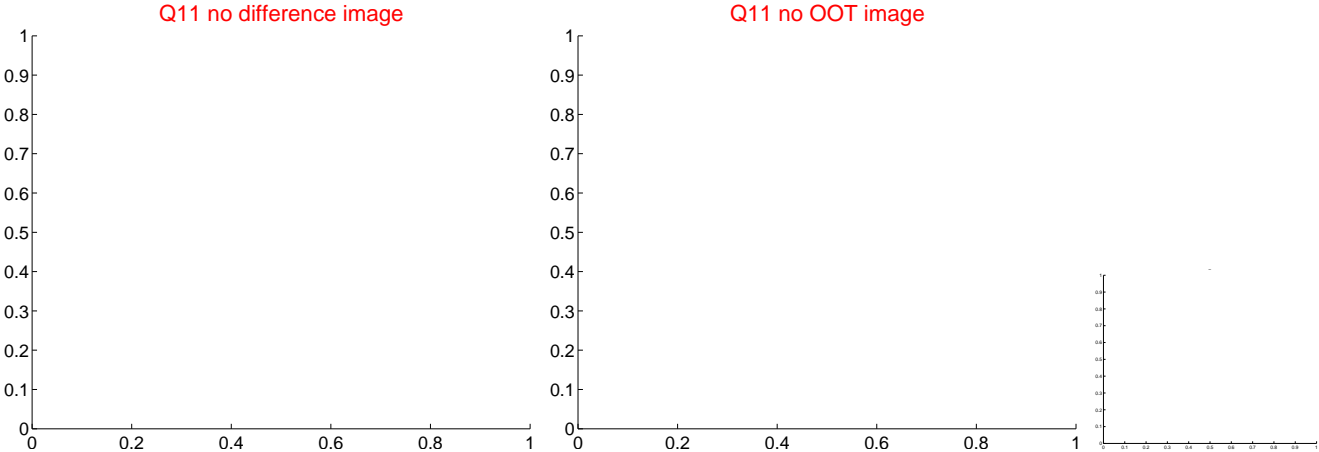
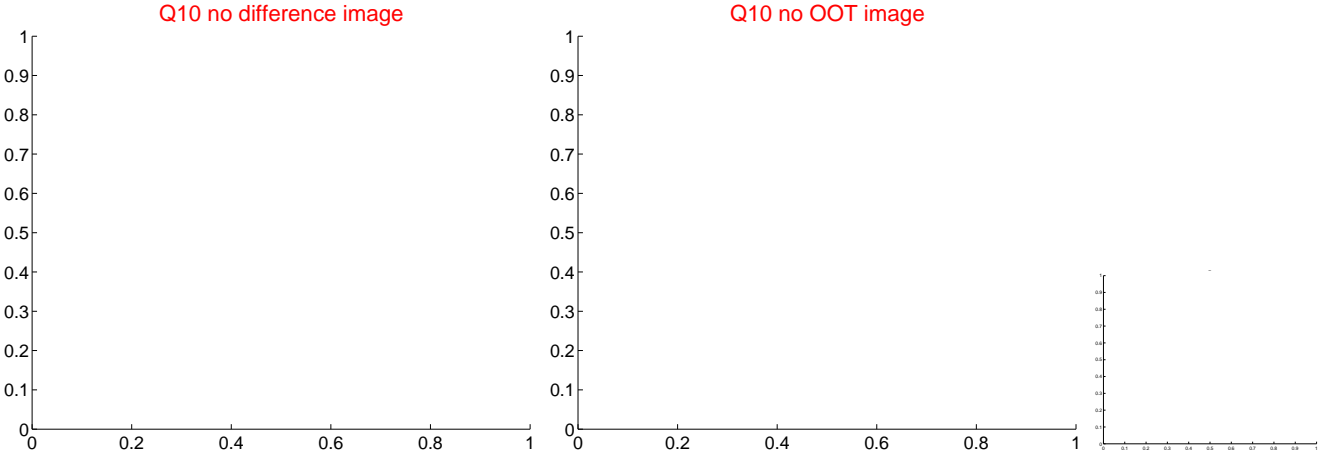
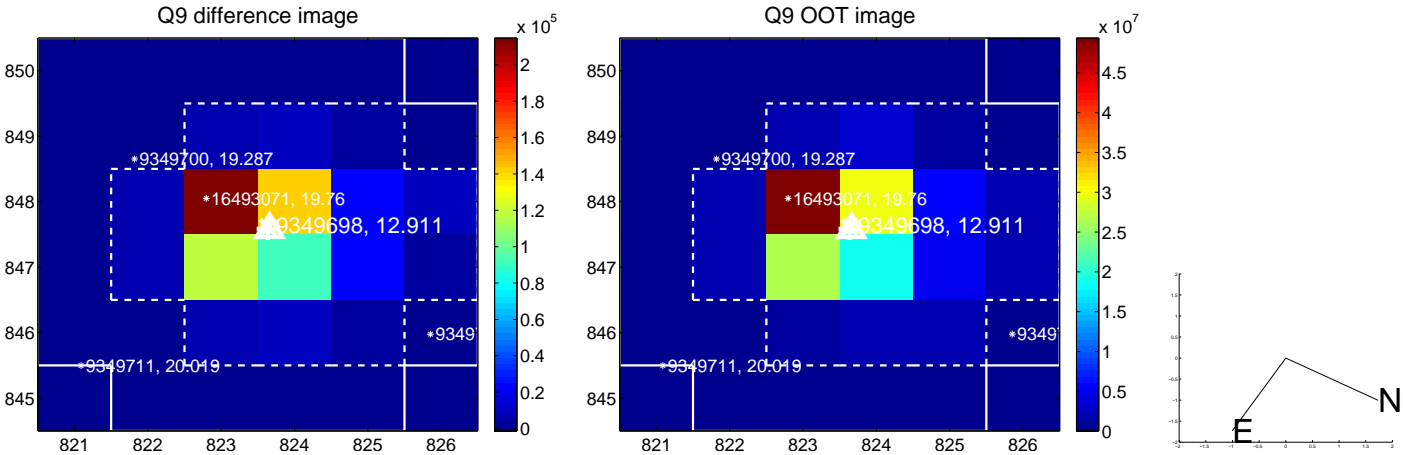
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



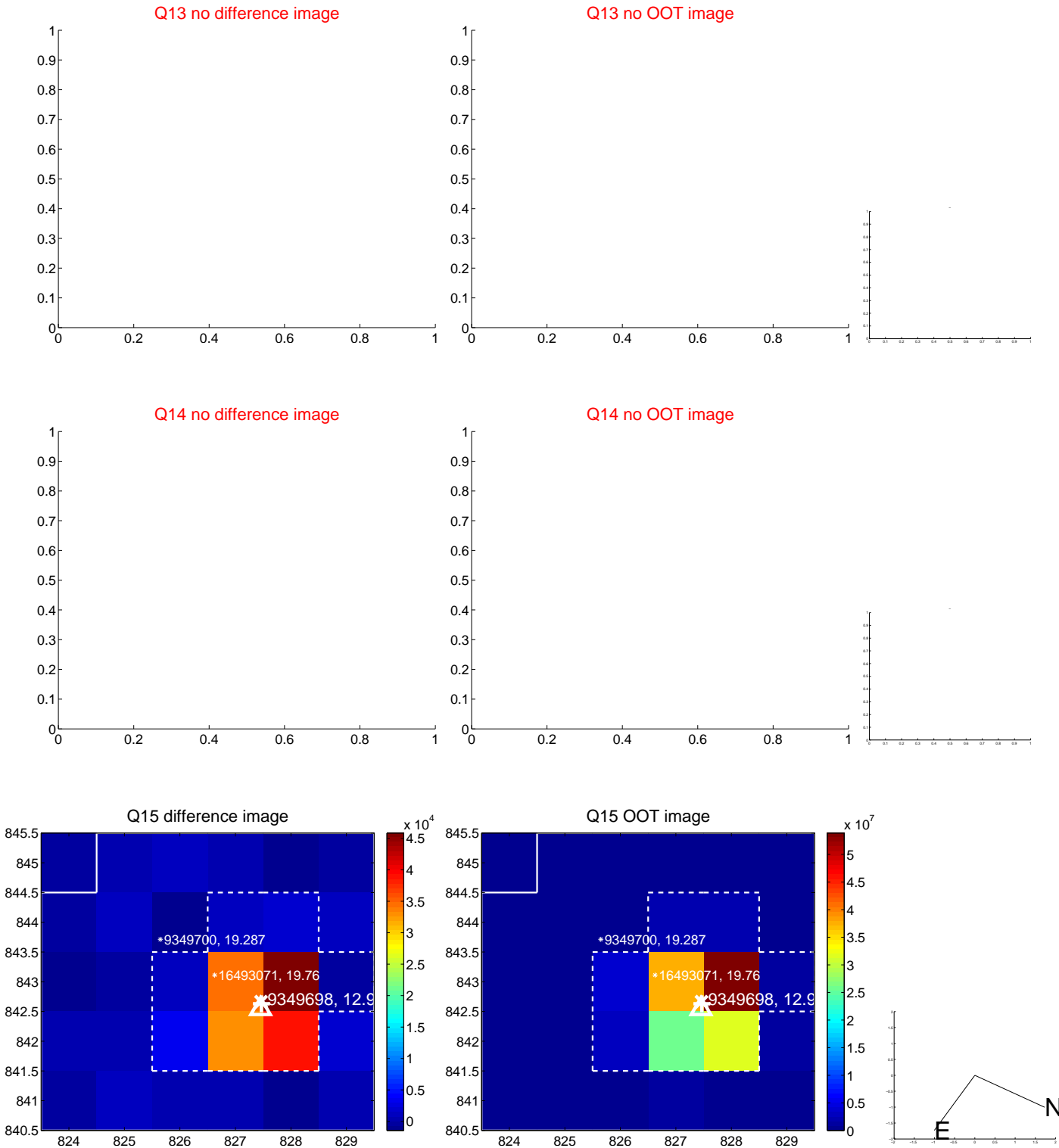
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



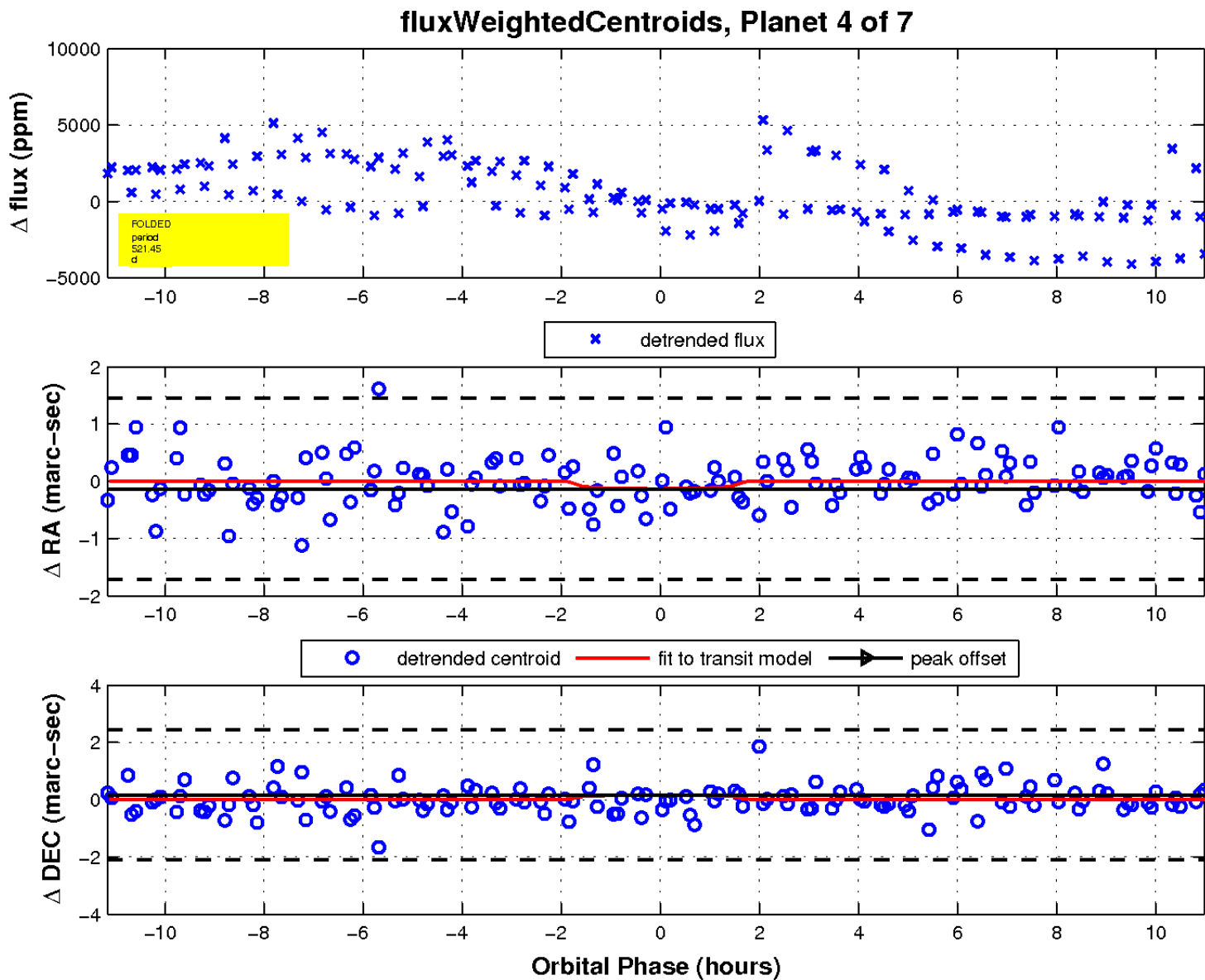
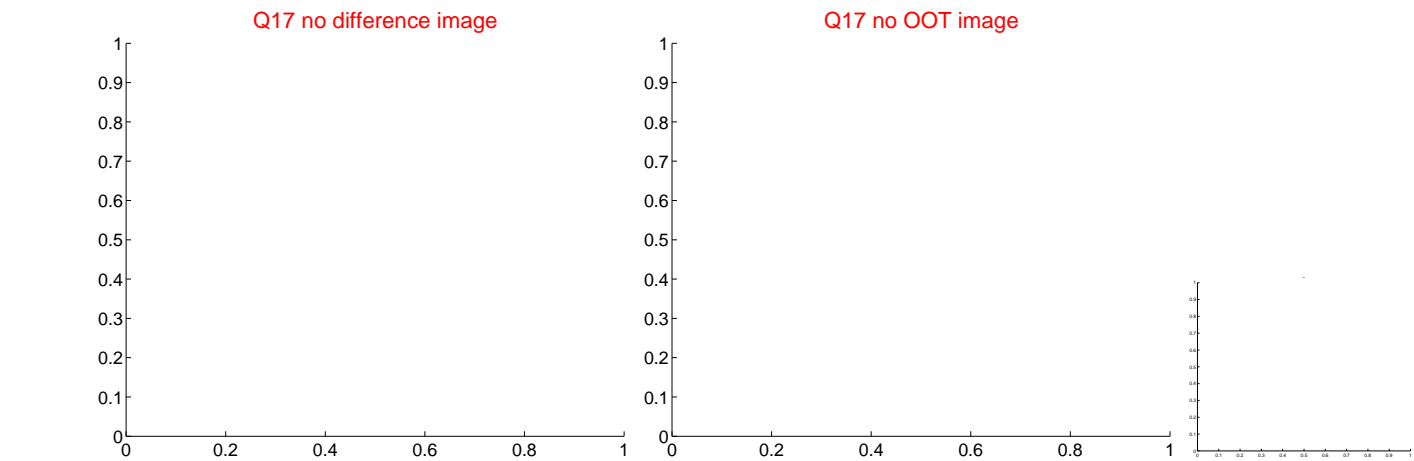
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

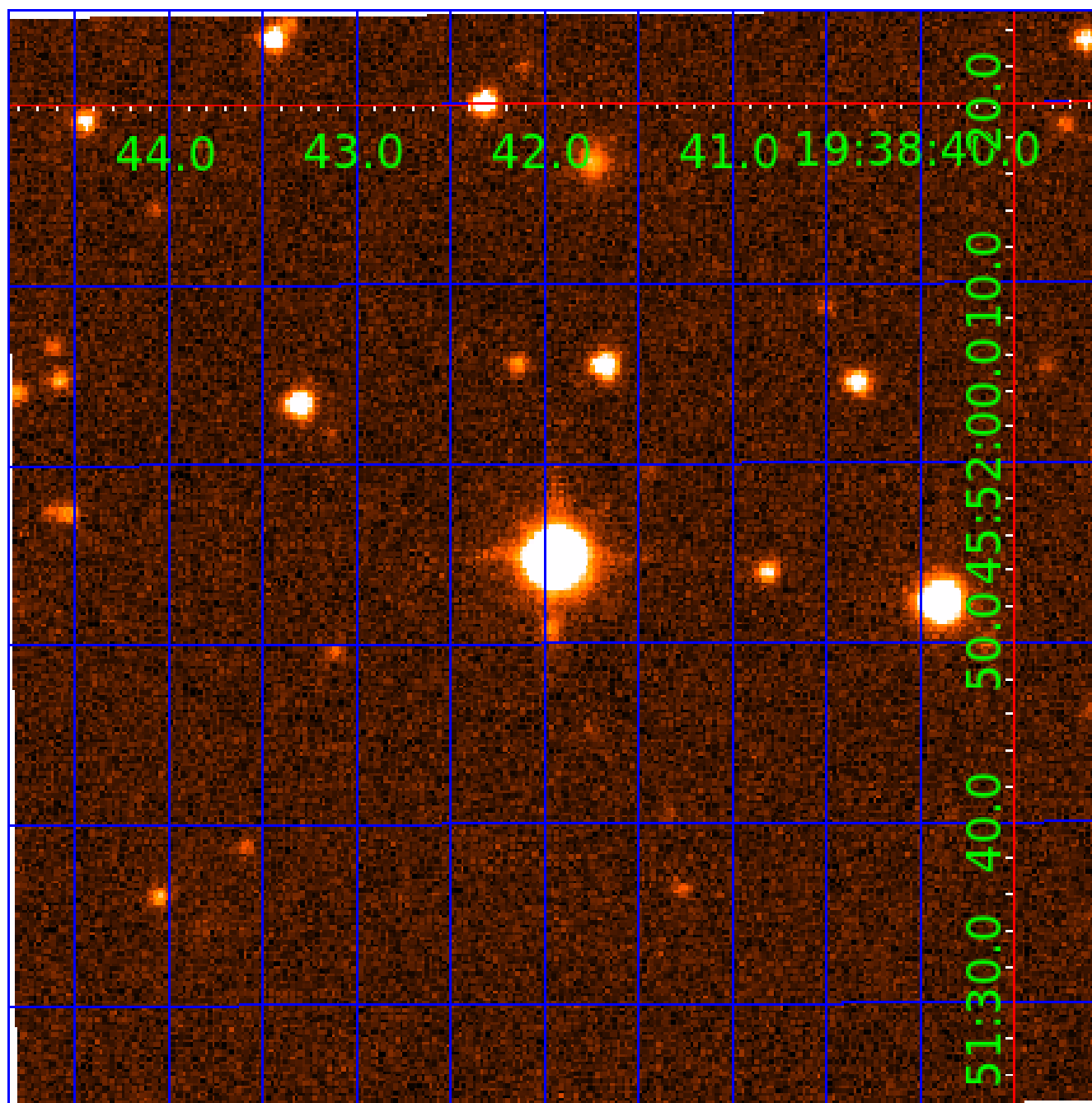


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
009349698-01	OBS	No	432.161146	363.303153	1915.6	5.437	20.6	5.9	0.60	5035	2.75	0.23
009349698-02	OBS	No	412.706870	256.023978	2101.2	4.952	16.5	8.5	0.60	5035	2.79	0.25
009349698-03	OBS	No	330.892052	336.790243	234.1	3.169	23.4	1.3	0.60	5035	0.97	0.33
009349698-04	OBS	No	521.449805	346.031582	1635.1	3.742	15.8	7.4	0.60	5035	2.69	0.18
009349698-05	OBS	No	330.649057	336.616258	811.7	4.500	19.9	-1.0	0.60	5035	1.68	0.33
009349698-06	OBS	No	305.965796	288.284013	1224.0	3.063	16.3	5.8	0.60	5035	2.06	0.37
009349698-07	OBS	No	559.538985	418.966910	418.4	5.000	14.9	-1.0	0.60	5035	1.21	0.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009349698-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
009349698-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009349698-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009349698-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
009349698-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
009349698-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
009349698-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST

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

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

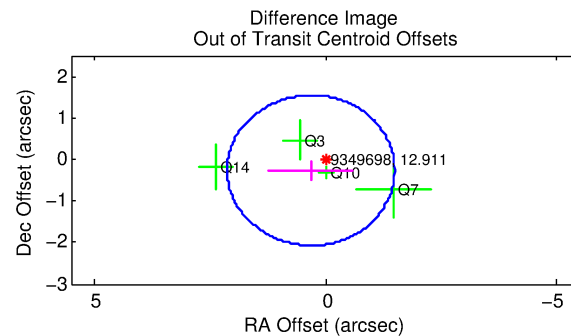
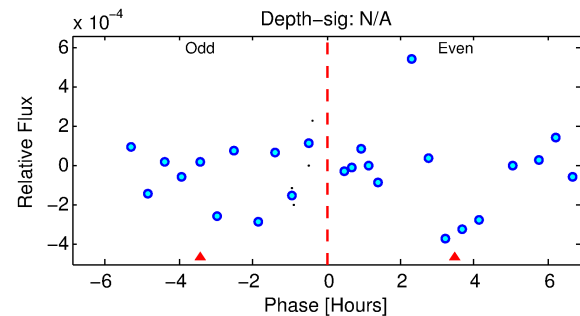
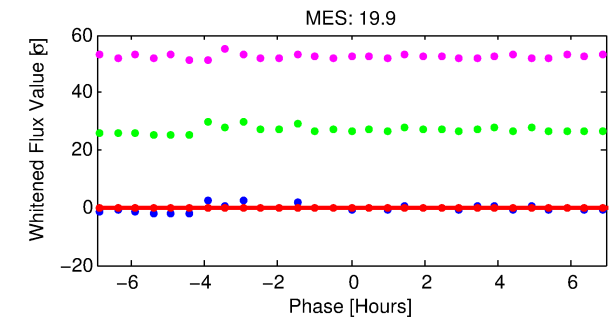
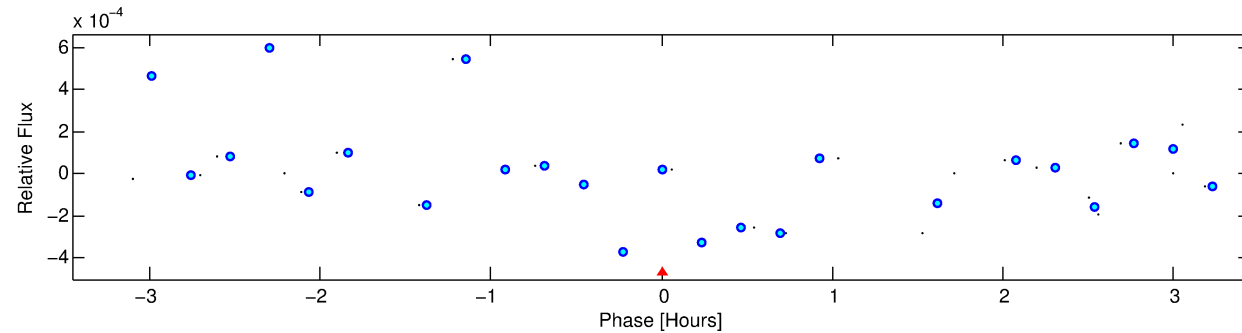
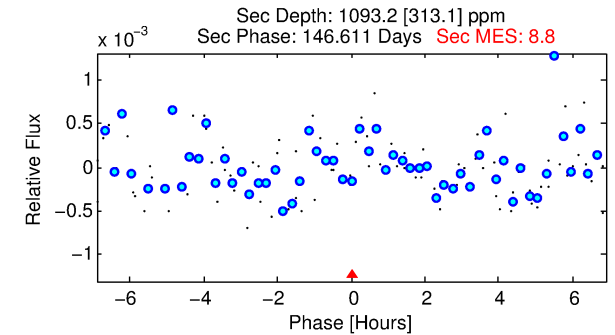
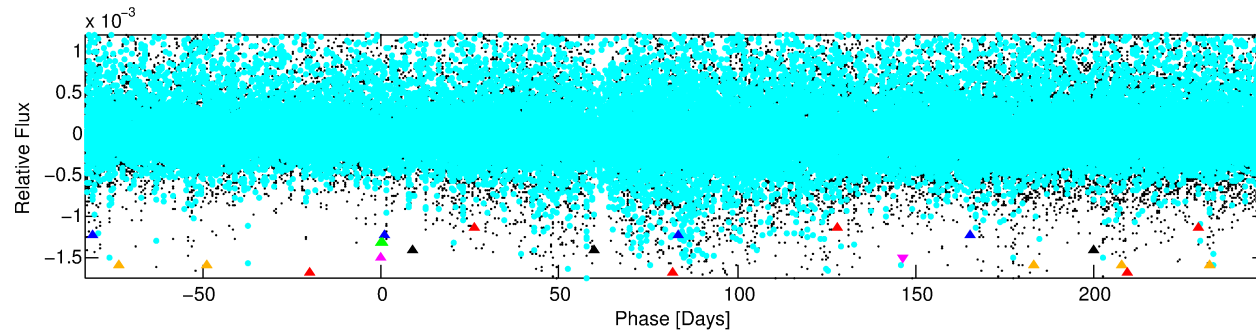
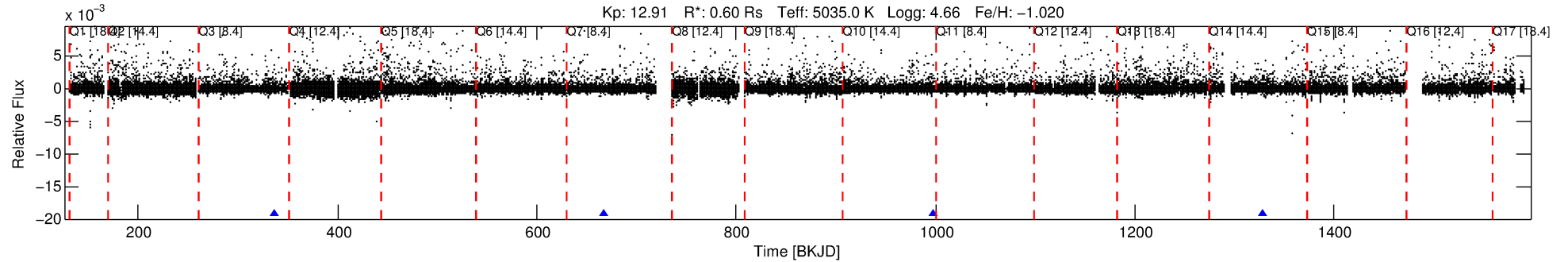
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009349698-05

No Significant Match Found

DV One-Page Summary

KIC: 9349698 Candidate: 5 of 7 Period: 330.649 d



TPS TCE Results:

Period = 330.64906 d
Epoch = 336.6163 BKJD

DV fit results are unavailable

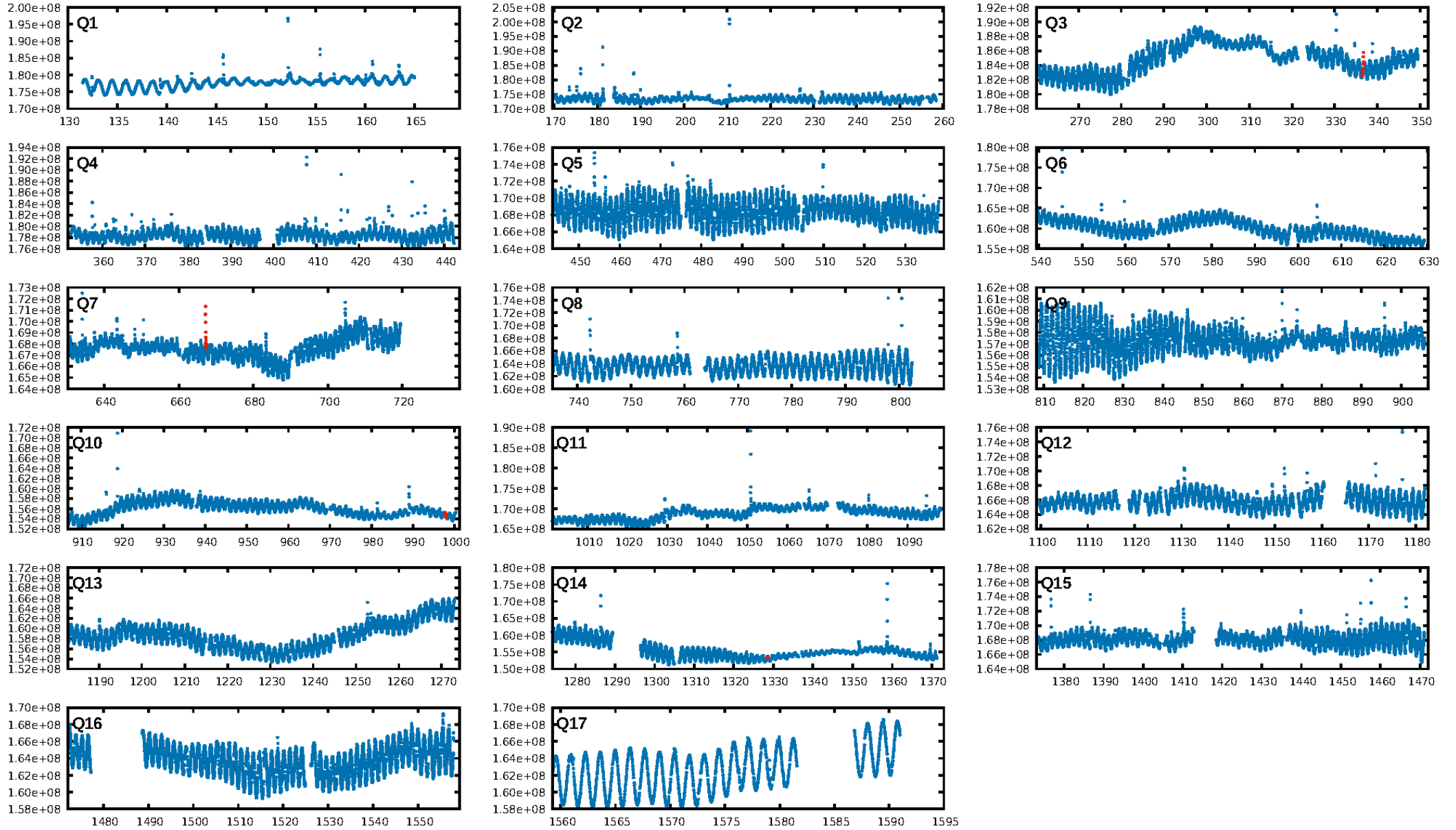
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [108.83σ]
LongPeriod-sig: 71.1% [1.06σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.409 arcsec [0.68σ]
KicOffset-rm: 0.452 arcsec [0.78σ]
OotOffset-st: 2/2/0/0 [4]
KicOffset-st: 2/2/0/0 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 0.50 [2/4]

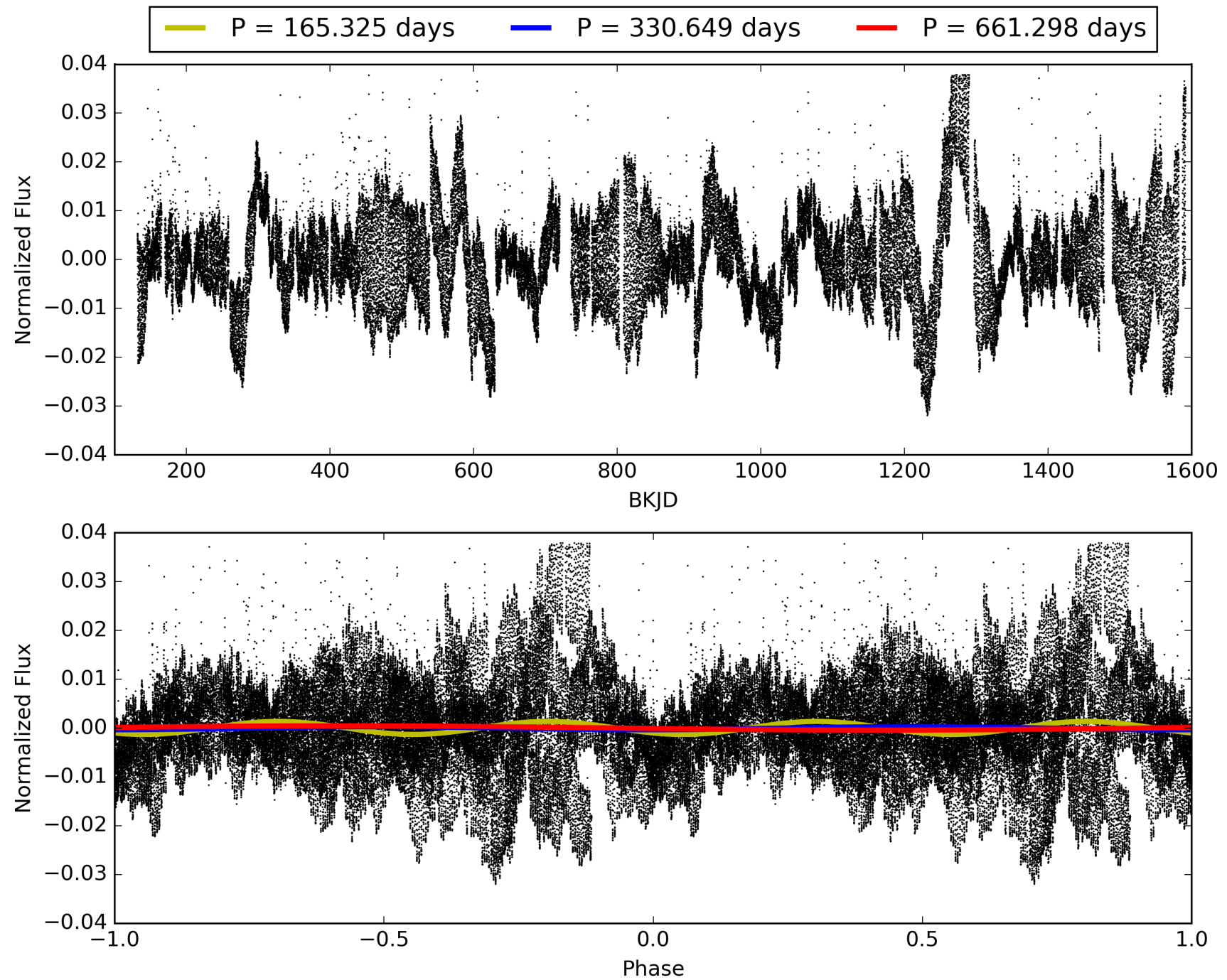
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:50:03 Z

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

TCE 009349698-05, PDC Light Curves

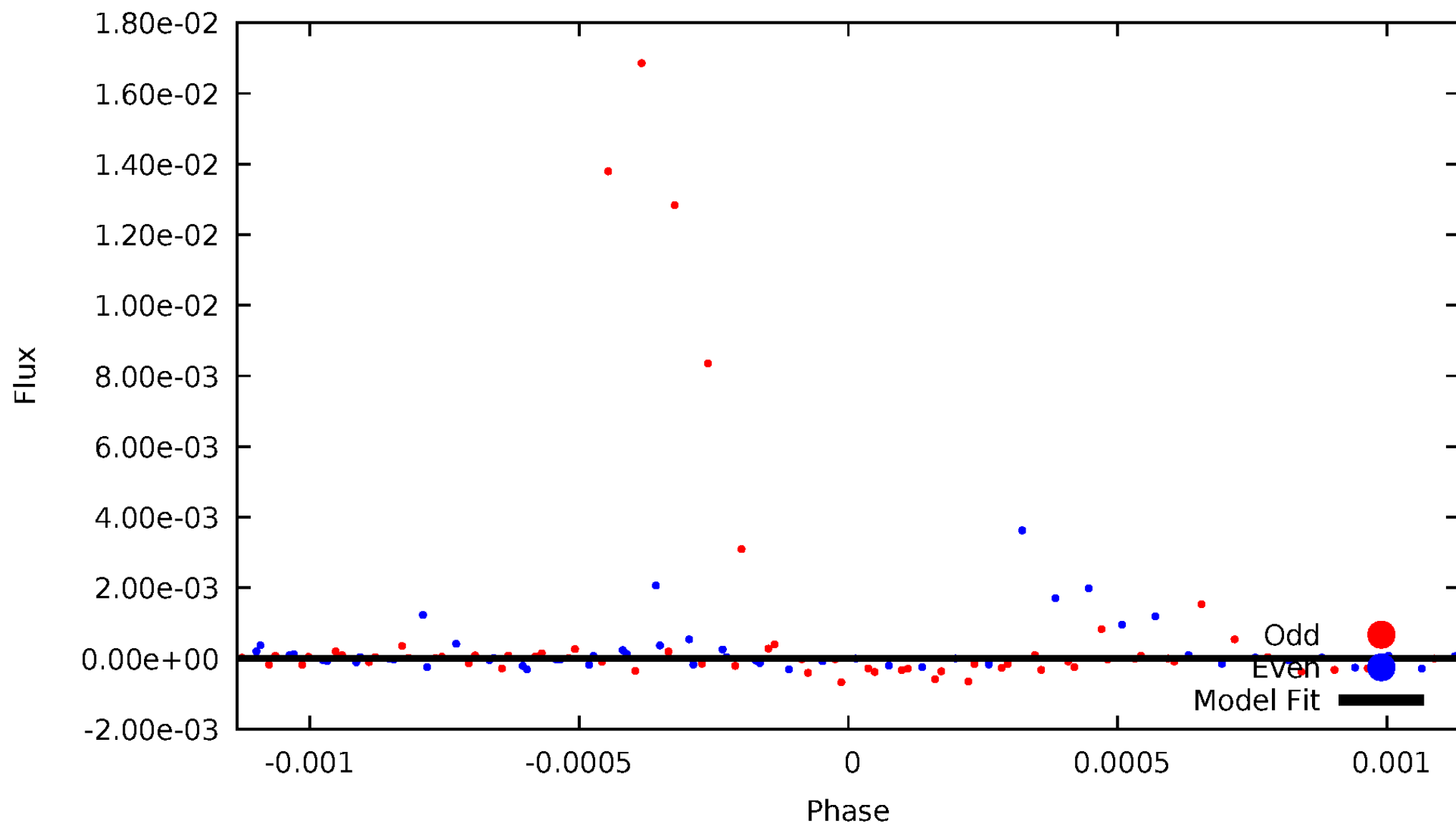


TCE 009349698-05



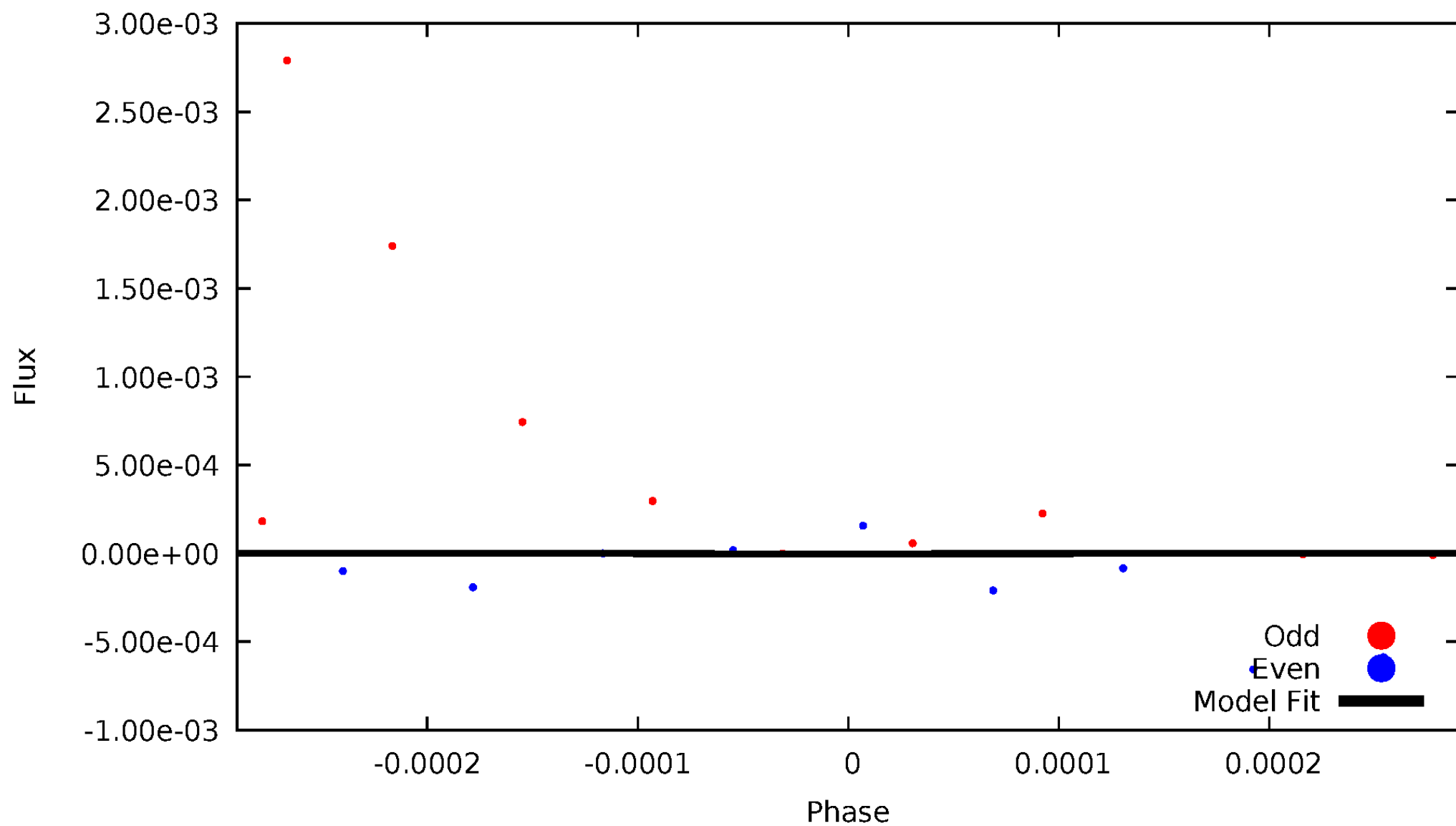
DV Odd/Even

TCE 009349698-05

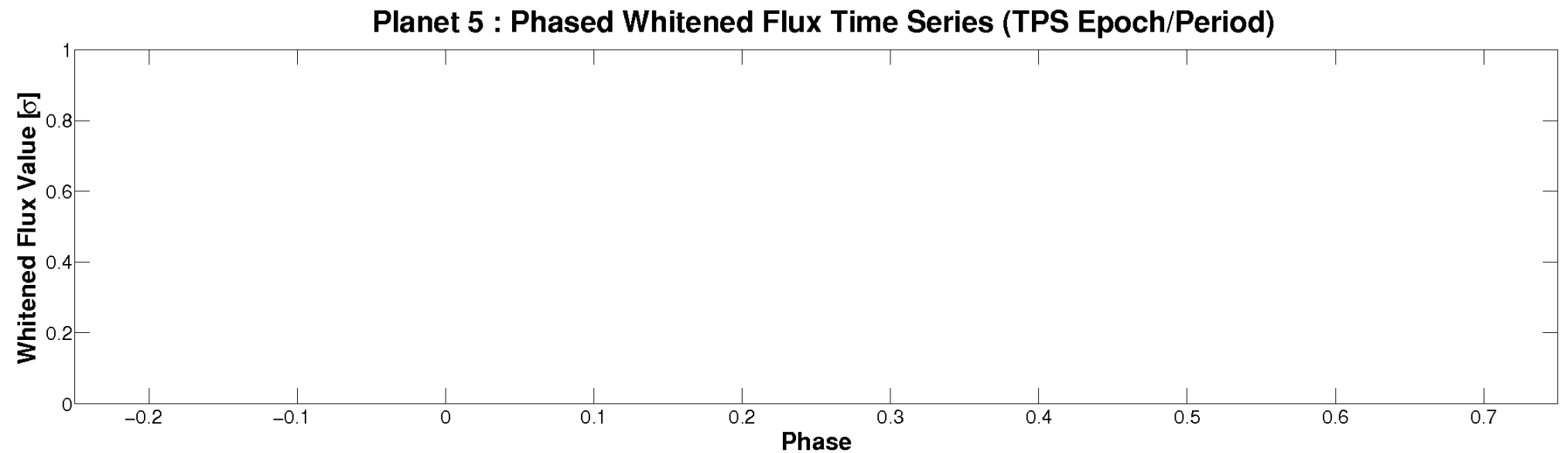
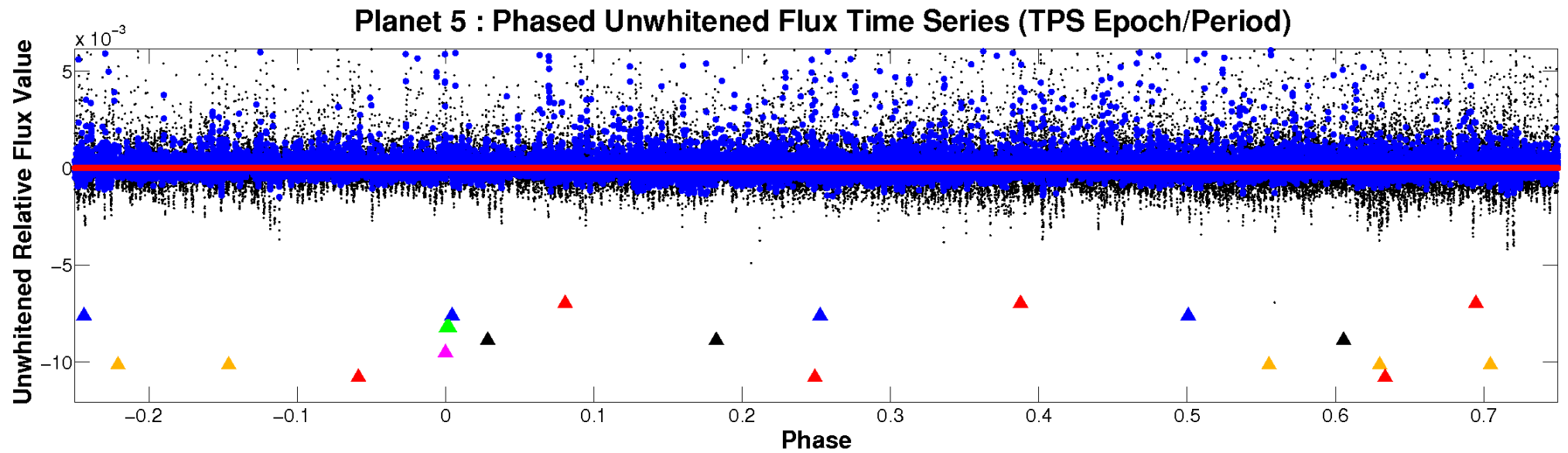


ALT Odd/Even

TCE 009349698-05

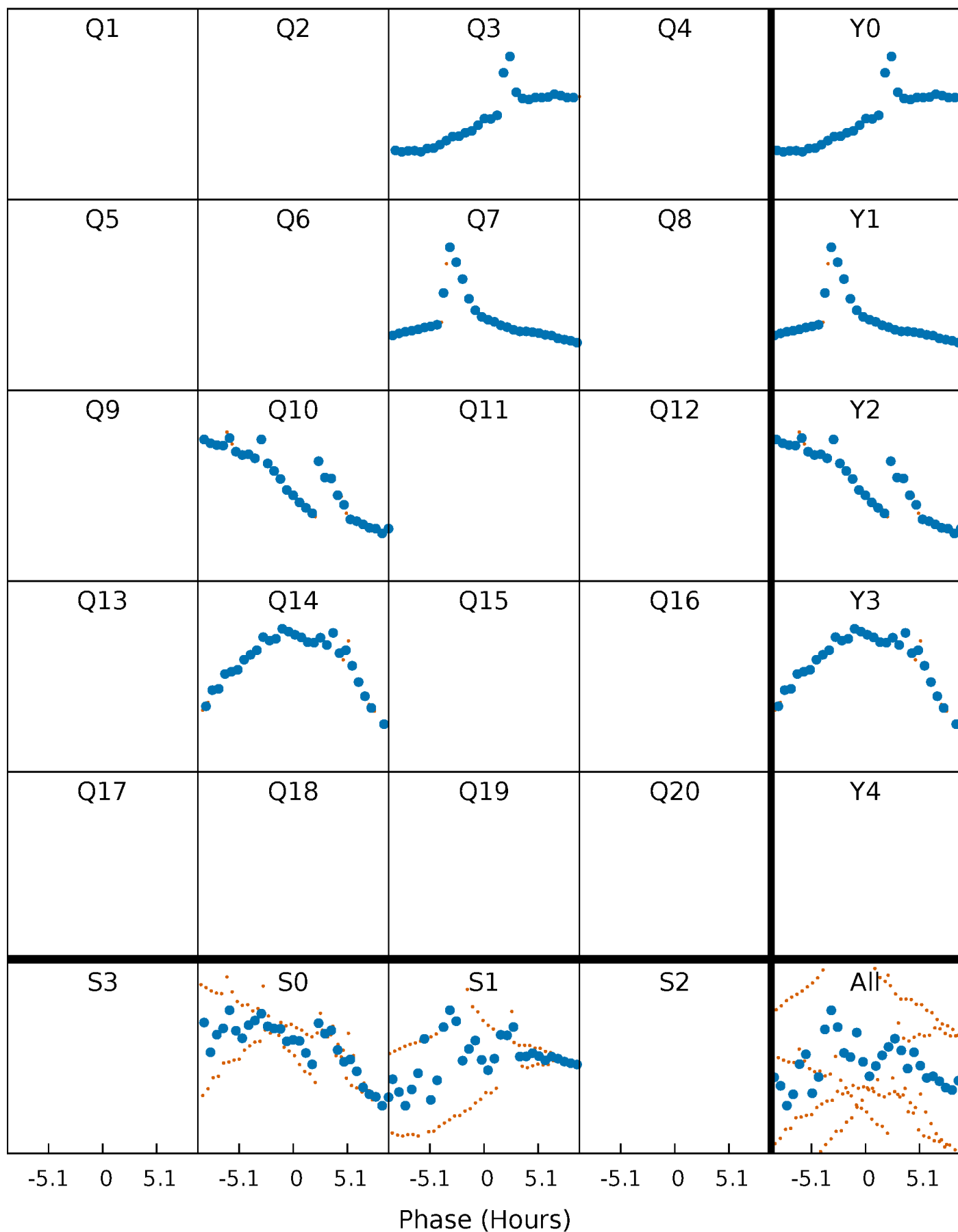


Non-Whitened Vs. Whitened Light Curve



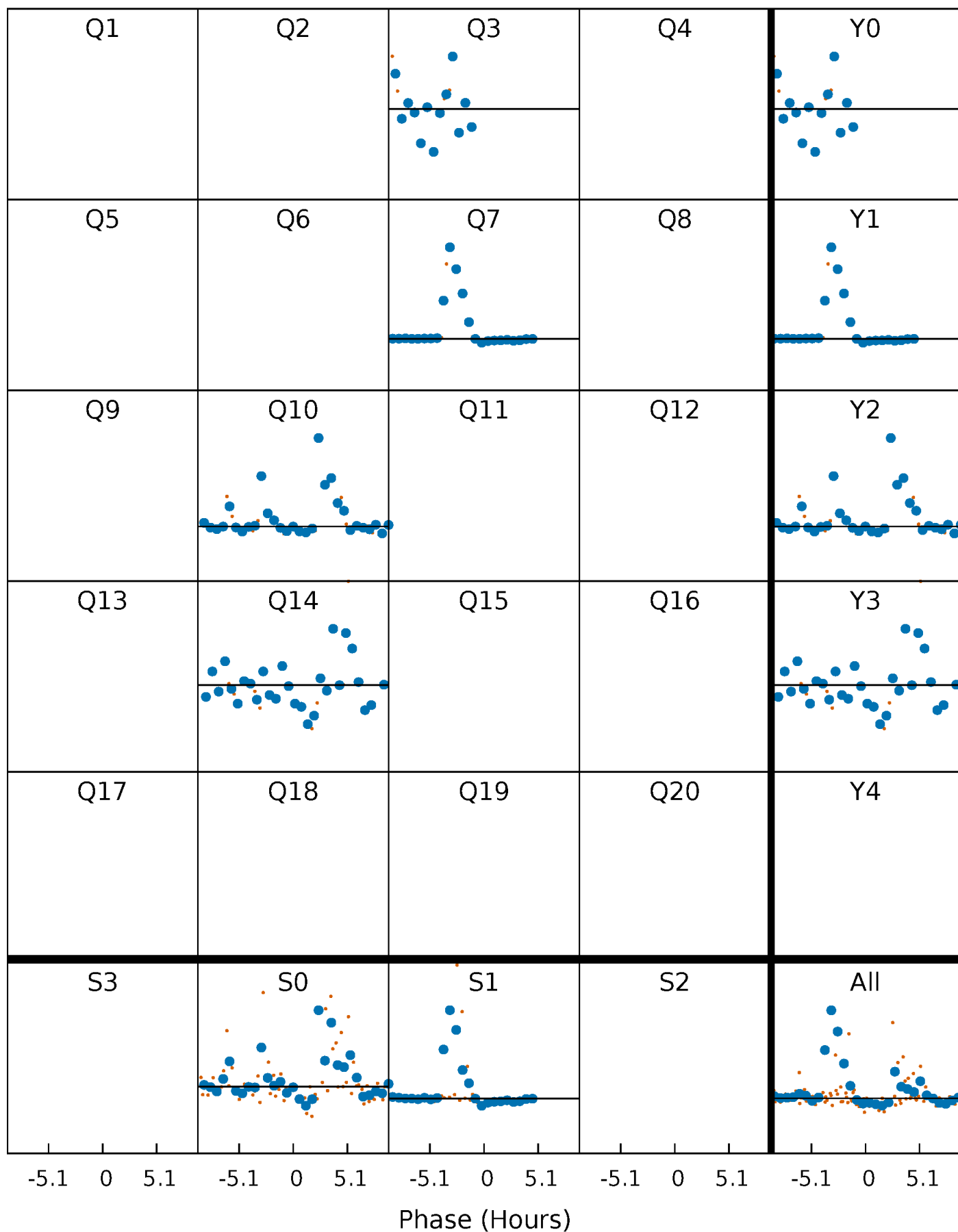
PDC Quarter-Phased Transit Curves

TCE 009349698-05 $P=330.649057$ Days $T_0=336.616258$ (BKJD)



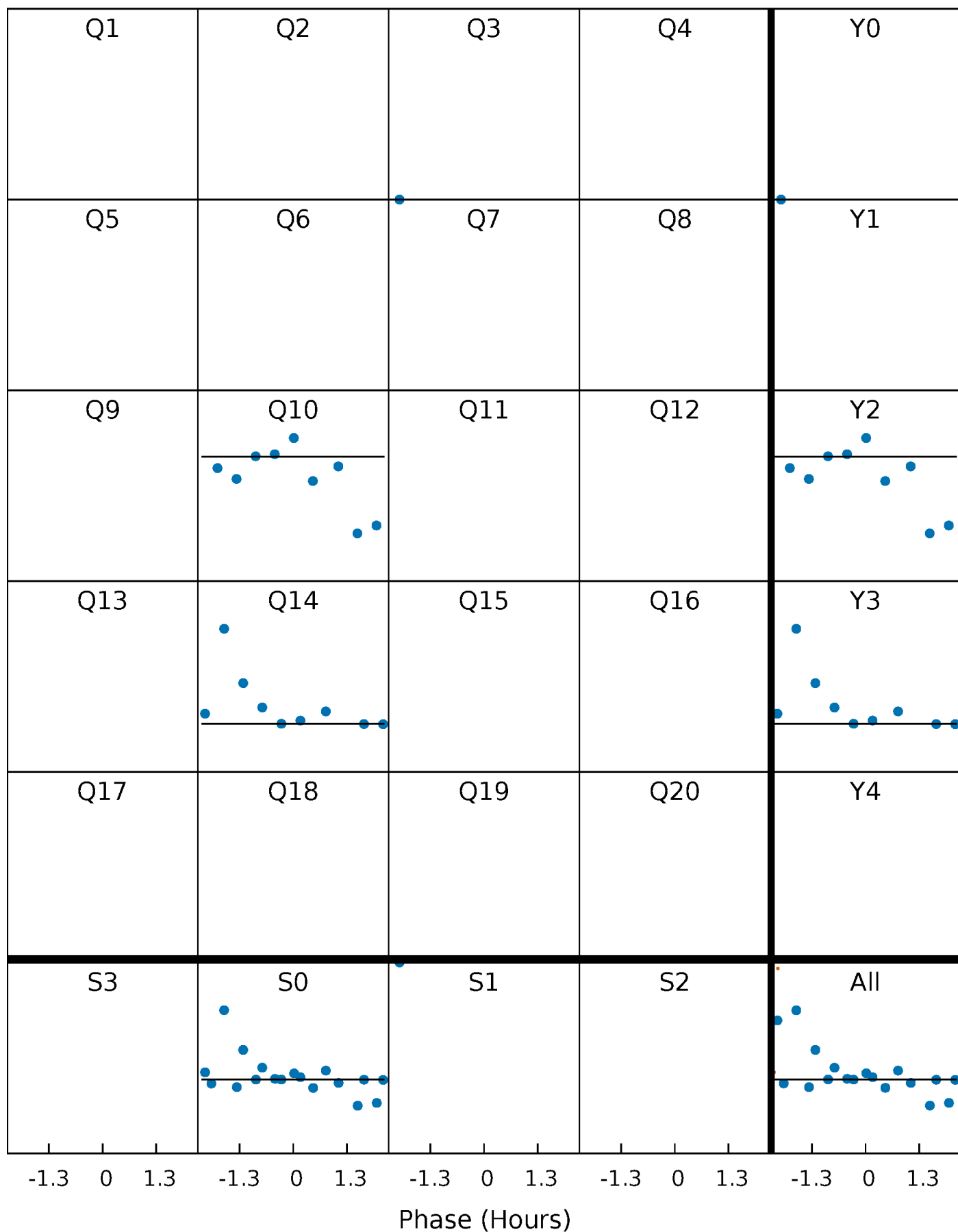
DV Quarter-Phased Transit Curves

TCE 009349698-05 $P=330.649057$ Days $T_0=336.616258$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

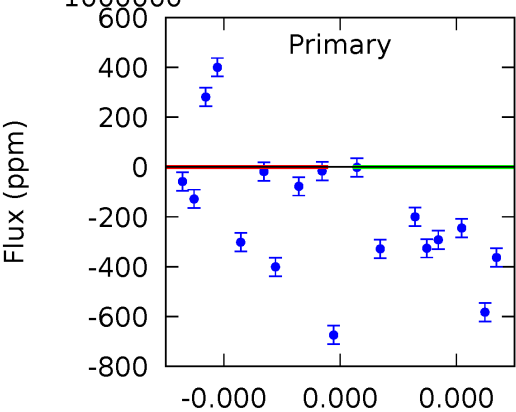
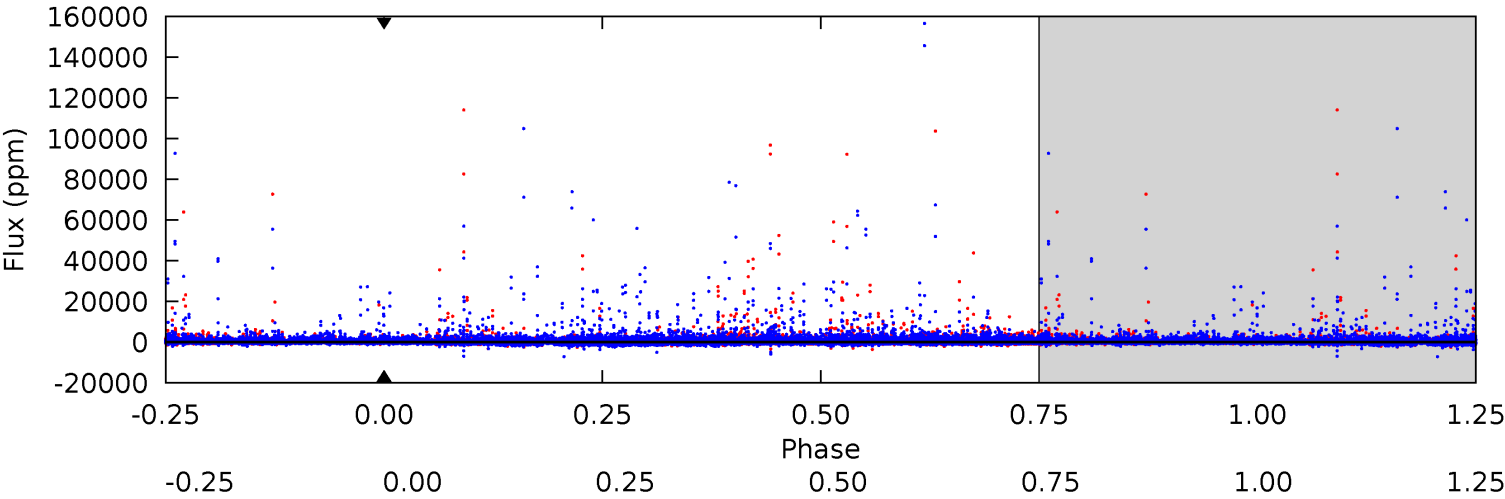
TCE 009349698-05 P=330.649057 Days $T_0=336.904515$ (BKJD)



DV Model-Shift Uniqueness Test

009349698-05, P = 330.649057 Days, E = 5.967201 Days

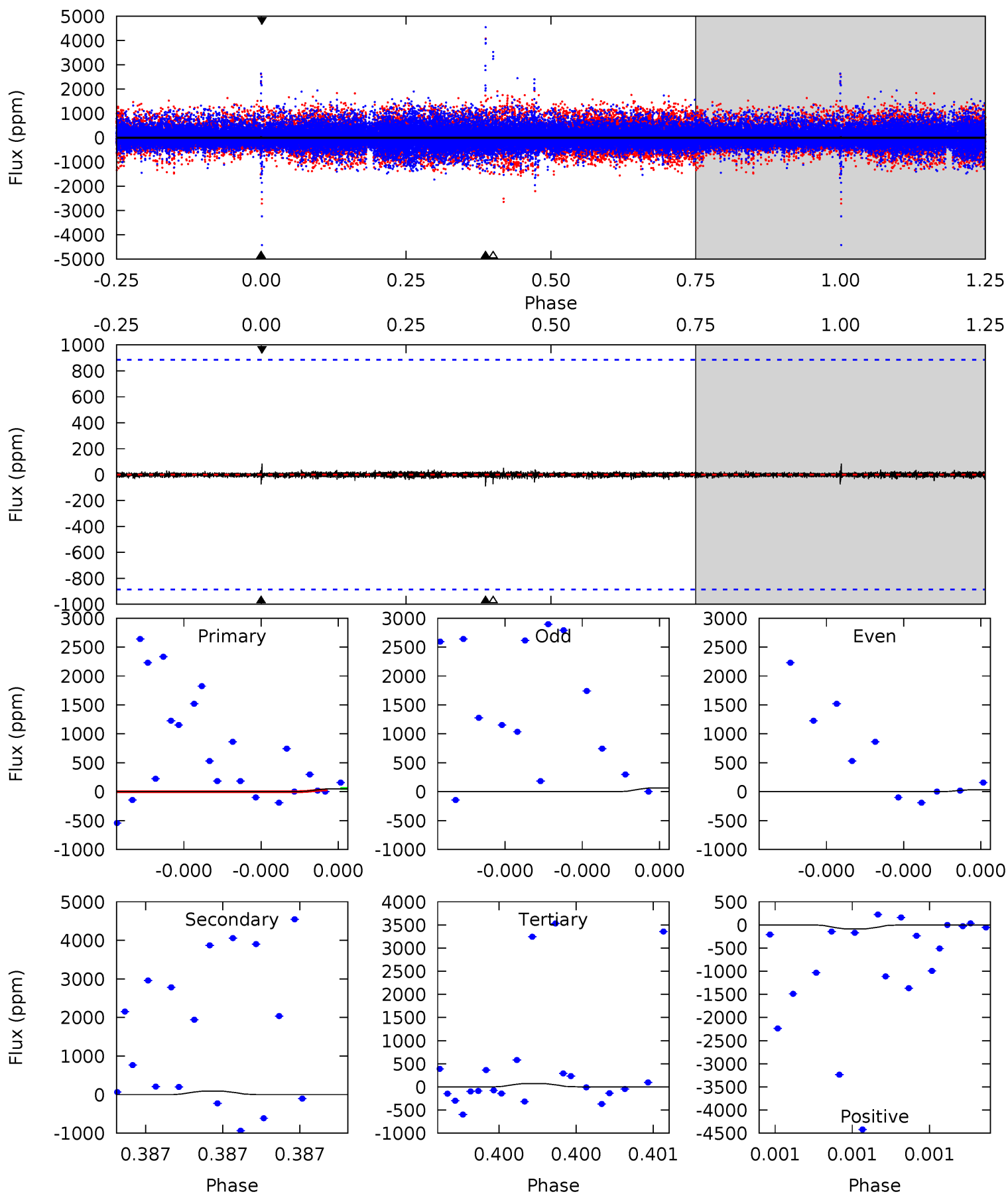
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

009349698-05, P = 330.649057 Days, E = 6.255458 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.31	0.58	0.47	0.54	5.71	3.69	0.05	-0.16	-0.23	0.10	0.03	0.08	1.00	0.49	0.07



Stellar Parameters For KIC 009349698

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5035^{+151}_{-151}	$4.658^{+0.059}_{-0.036}$	$-1.020^{+0.300}_{-0.300}$	$0.600^{+0.042}_{-0.042}$	$0.597^{+0.052}_{-0.022}$	$3.891^{+0.821}_{-0.565}$
	+3%/-3%	+1%/-1%	+29%/-29%	+7%/-7%	+9%/-4%	+21%/-15%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 009349698-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$4.92^{+5.59}_{-3.30}$	270^{+9}_{-10}	2413^{+12987}_{-16287}	$684^{+2692780}_{-2084152}$
Alt.	-89 ± 155	$4.32^{+4.61}_{-3.02}$	270^{+8}_{-10}	2468^{+1159}_{-5028}	843^{+12608}_{-2042}

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 $A_{obs} \gg 1.0$

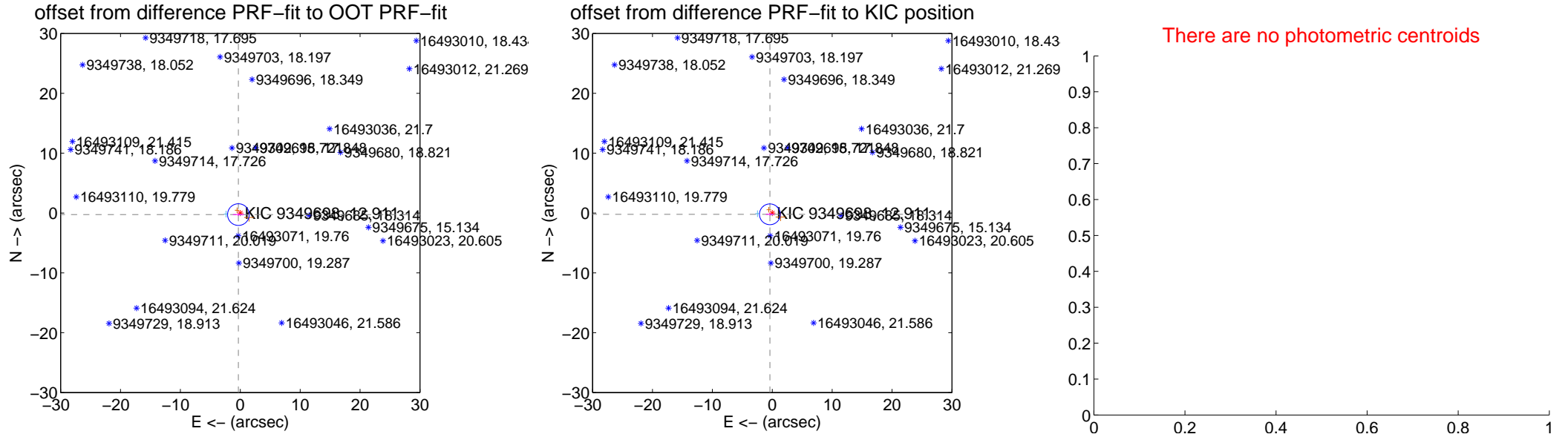
DV Centroid Data

Supplemental centroid analysis for 009349698-05. Kepler magnitude: 12.91. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.409 ± 0.604	0.68	0.313 ± 0.910	-0.264 ± 0.218
PRF-fit source offset from KIC position	0.452 ± 0.579	0.78	0.397 ± 0.678	-0.217 ± 0.198
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.

Q1 no difference image



Q1 no OOT image



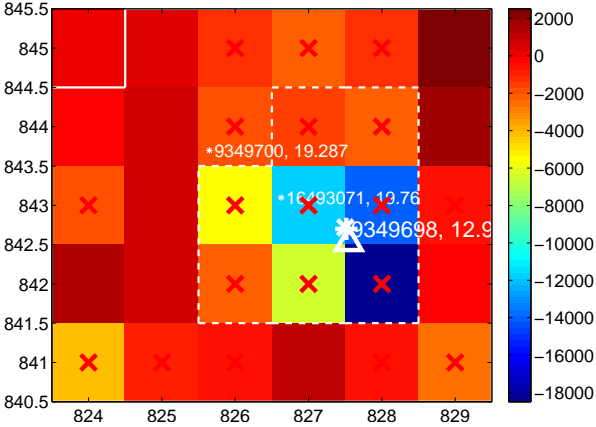
Q2 no difference image



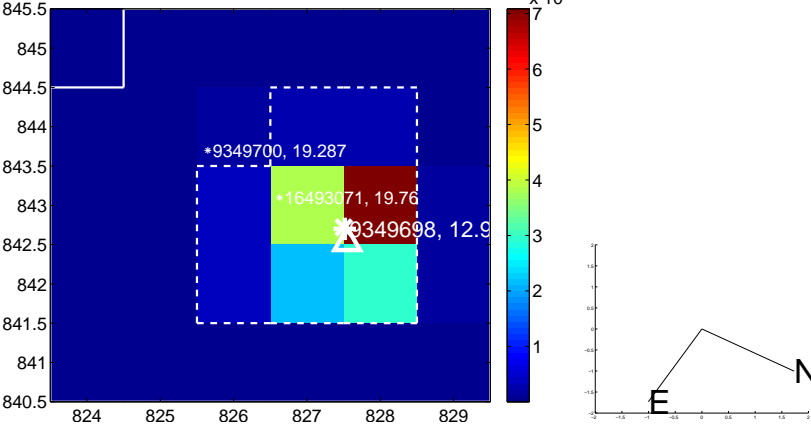
Q2 no OOT image



Q3 difference image. Poor Quality



Q3 OOT image



Q4 no difference image

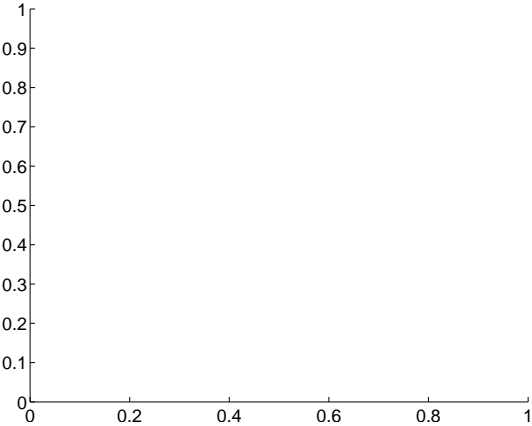


Q4 no OOT image

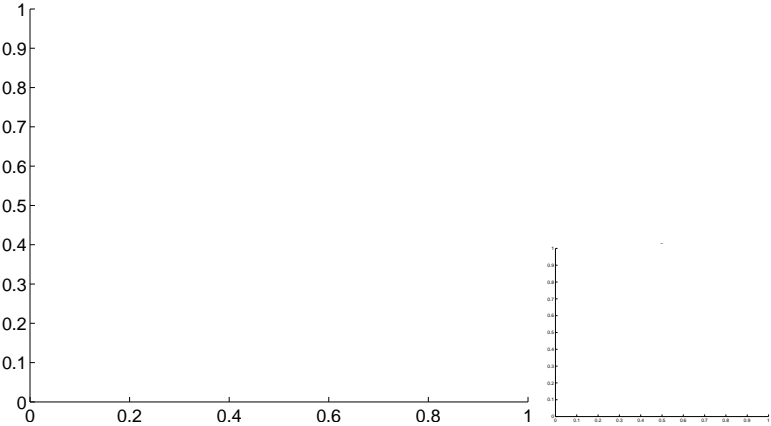


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

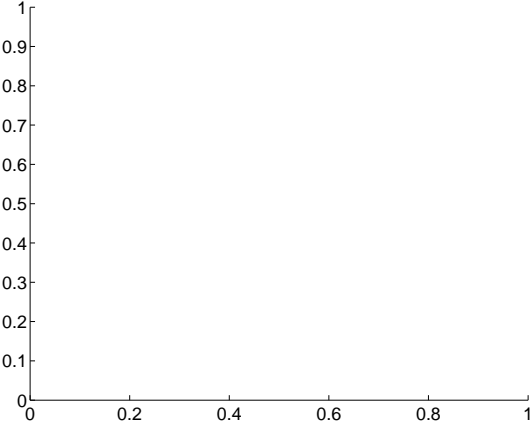
Q5 no difference image



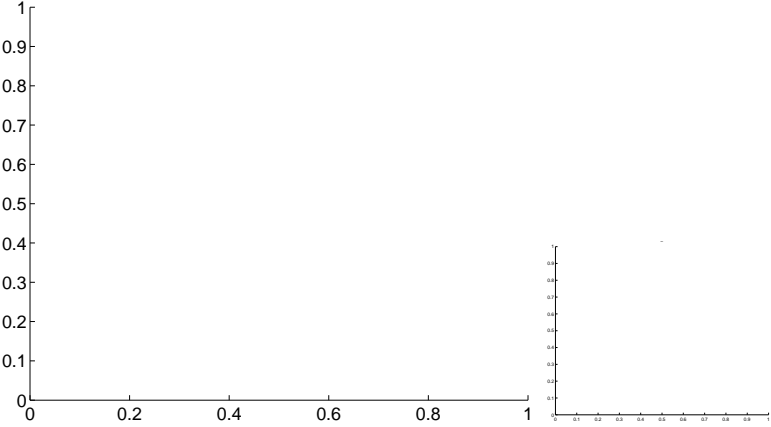
Q5 no OOT image



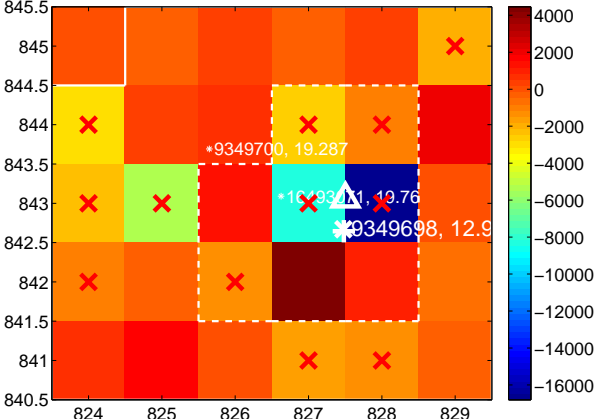
Q6 no difference image



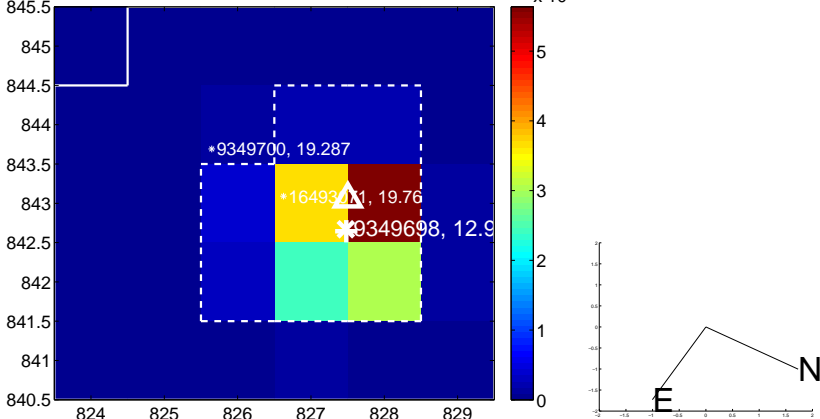
Q6 no OOT image



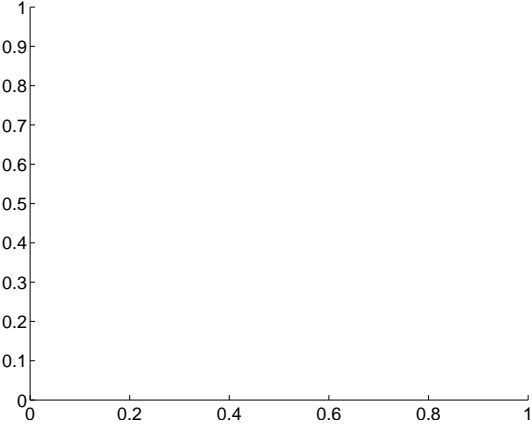
Q7 difference image. Poor Quality



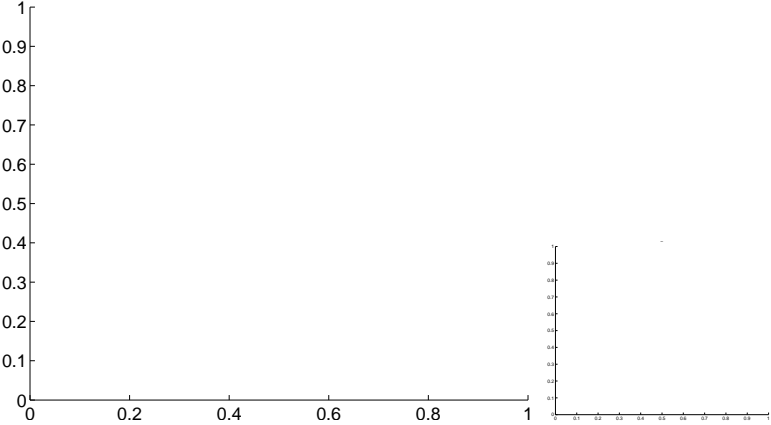
Q7 OOT image



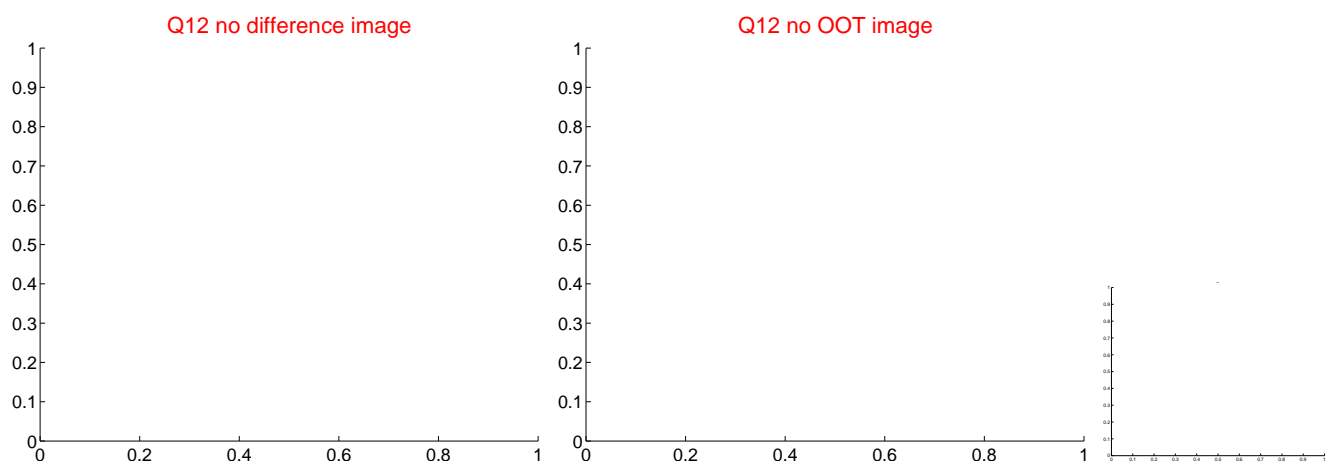
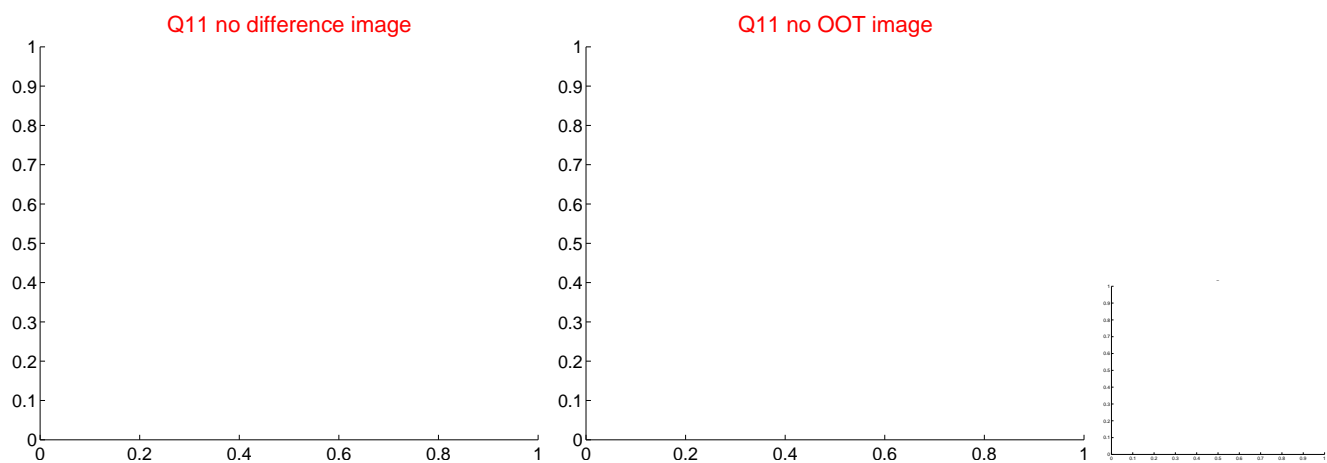
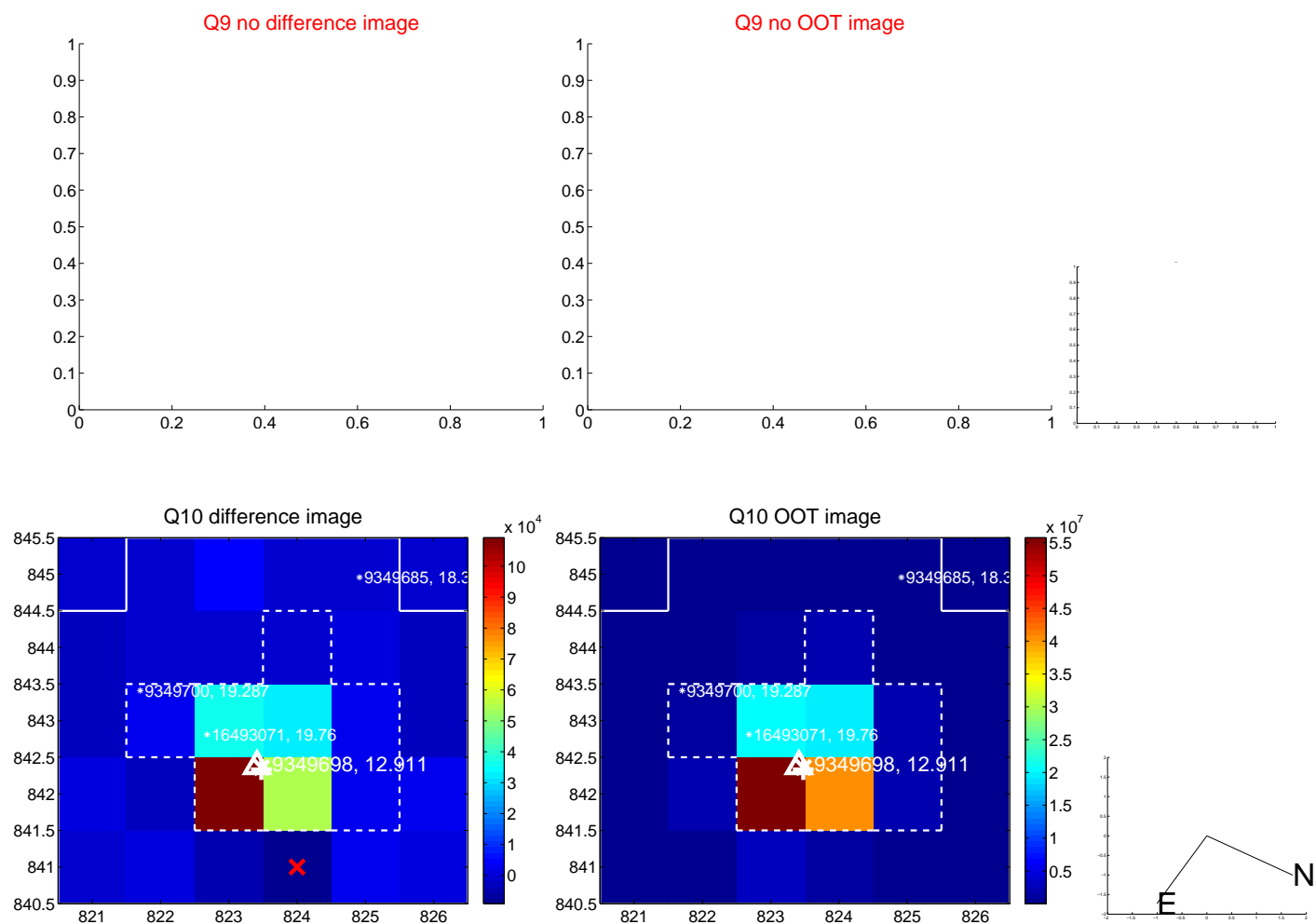
Q8 no difference image



Q8 no OOT image

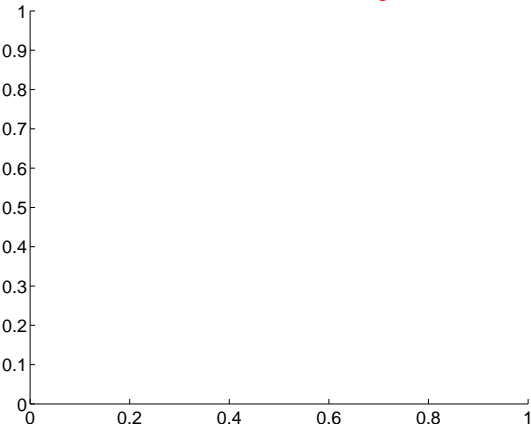


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value

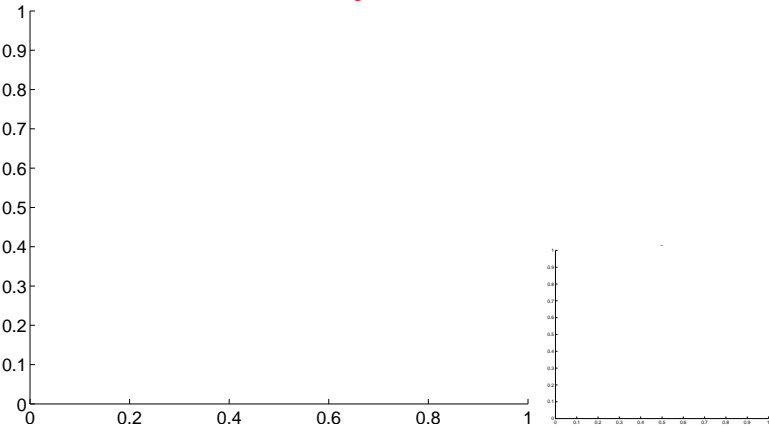


white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.

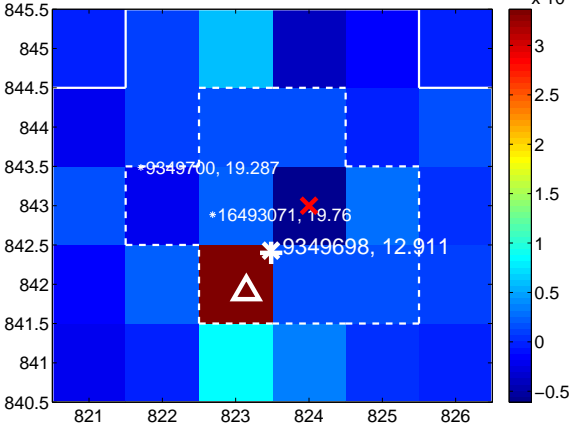
Q13 no difference image



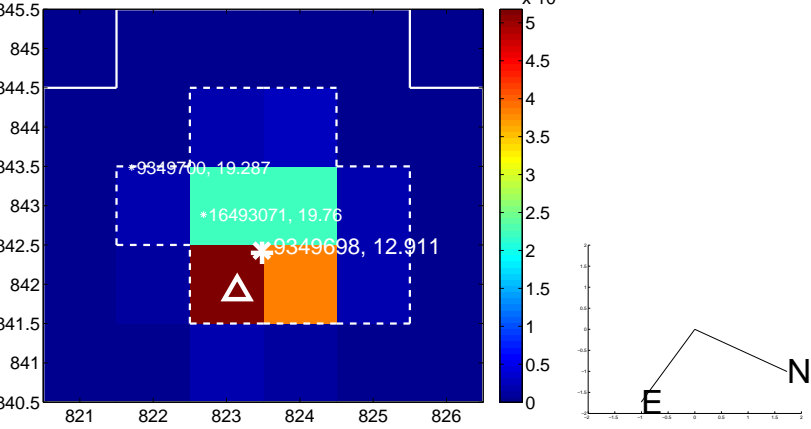
Q13 no OOT image



Q14 difference image



Q14 OOT image



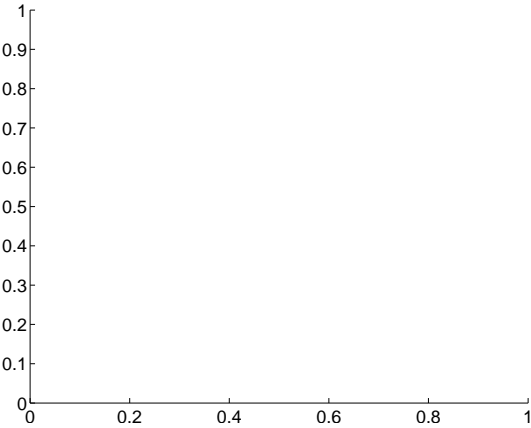
Q15 no difference image



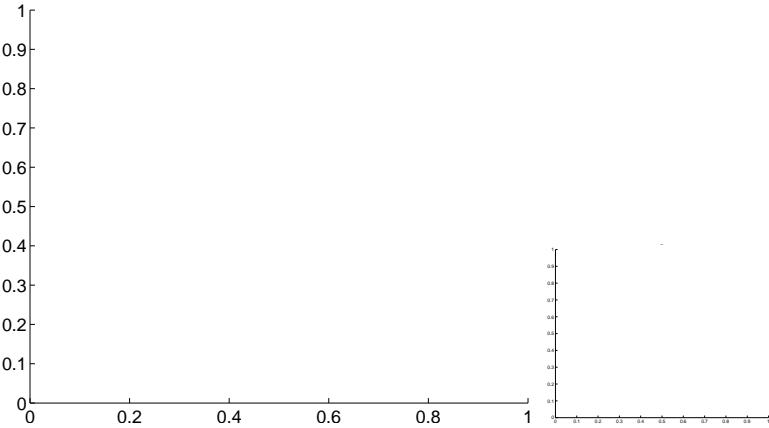
Q15 no OOT image



Q16 no difference image



Q16 no OOT image



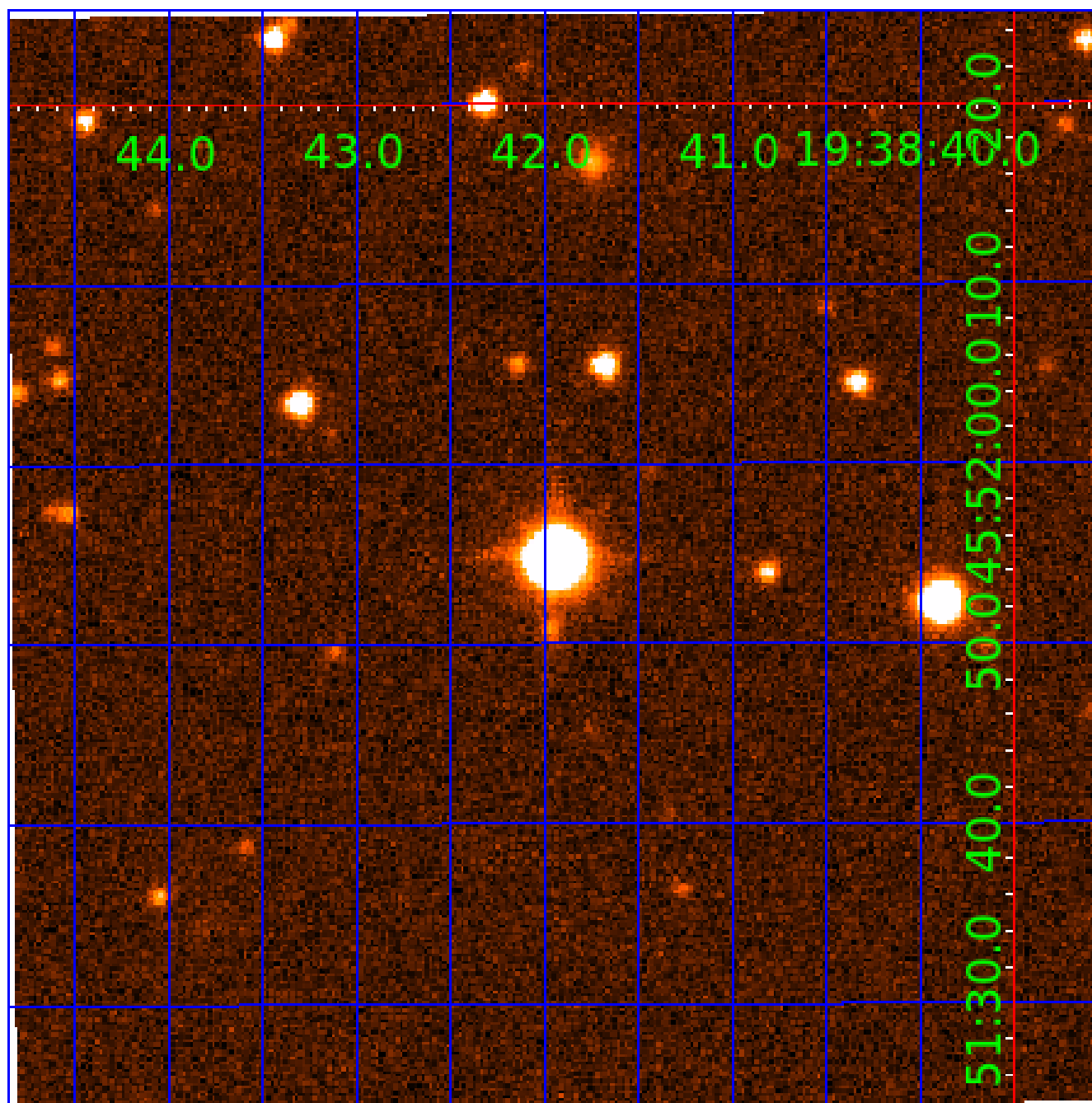
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



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})
009349698-01	OBS	No	432.161146	363.303153	1915.6	5.437	20.6	5.9	0.60	5035	2.75	0.23
009349698-02	OBS	No	412.706870	256.023978	2101.2	4.952	16.5	8.5	0.60	5035	2.79	0.25
009349698-03	OBS	No	330.892052	336.790243	234.1	3.169	23.4	1.3	0.60	5035	0.97	0.33
009349698-04	OBS	No	521.449805	346.031582	1635.1	3.742	15.8	7.4	0.60	5035	2.69	0.18
009349698-05	OBS	No	330.649057	336.616258	811.7	4.500	19.9	-1.0	0.60	5035	1.68	0.33
009349698-06	OBS	No	305.965796	288.284013	1224.0	3.063	16.3	5.8	0.60	5035	2.06	0.37
009349698-07	OBS	No	559.538985	418.966910	418.4	5.000	14.9	-1.0	0.60	5035	1.21	0.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009349698-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
009349698-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009349698-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009349698-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
009349698-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
009349698-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
009349698-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST

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

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

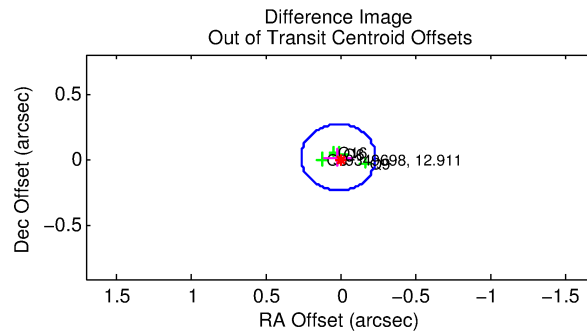
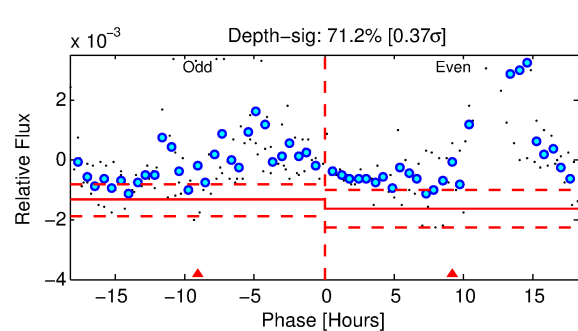
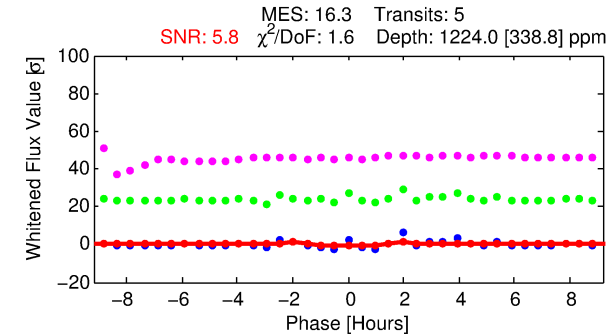
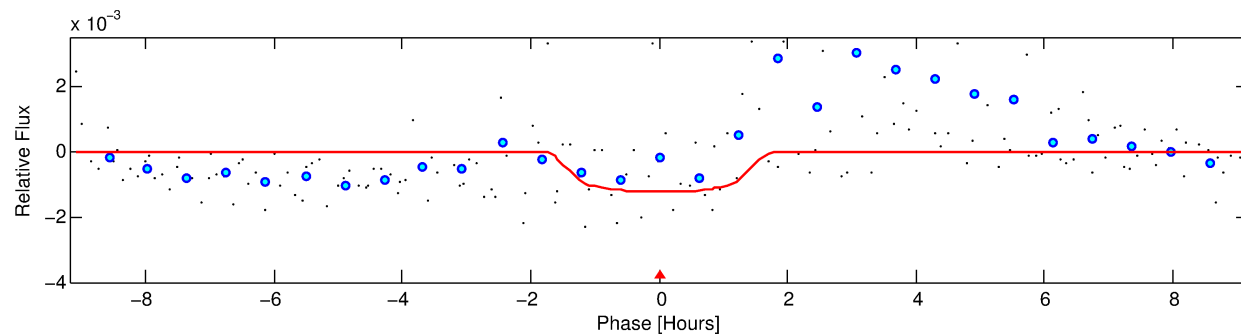
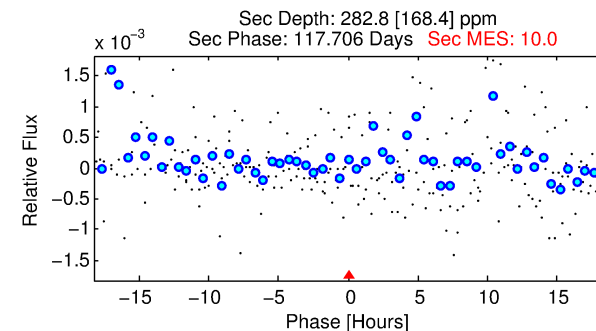
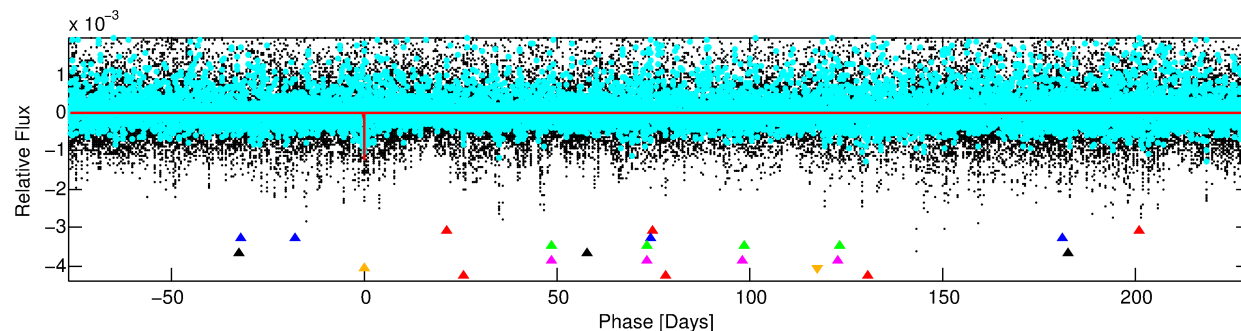
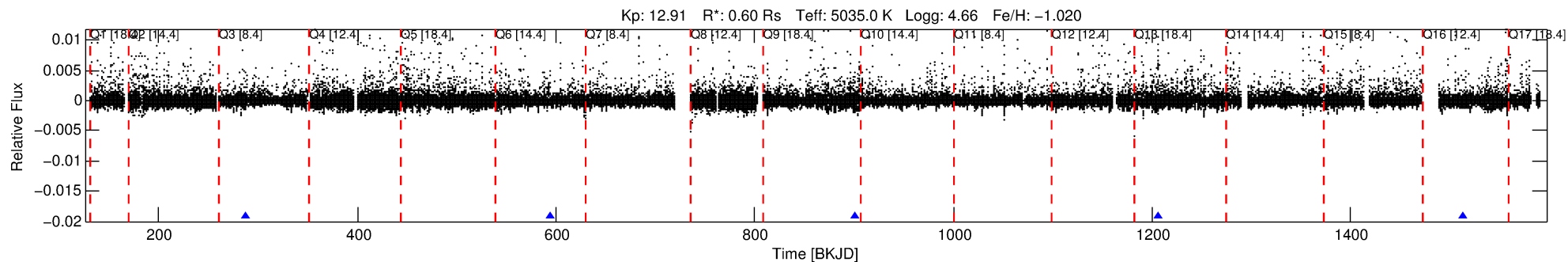
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009349698-06

No Significant Match Found

DV One-Page Summary

KIC: 9349698 Candidate: 6 of 7 Period: 305.966 d



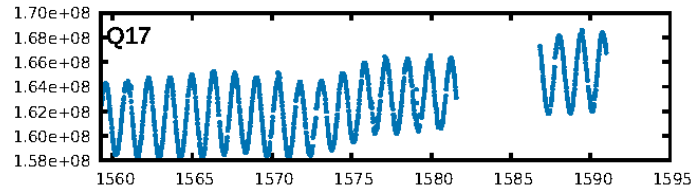
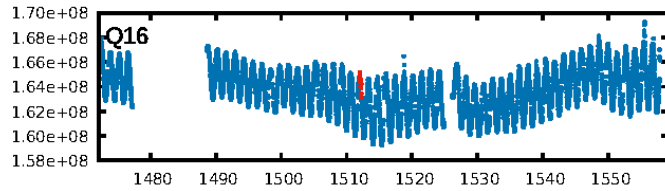
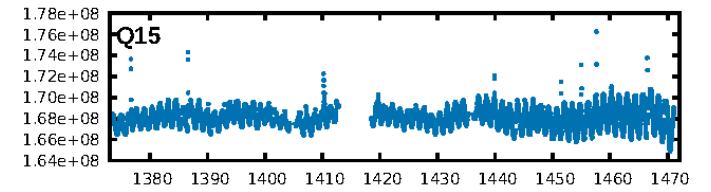
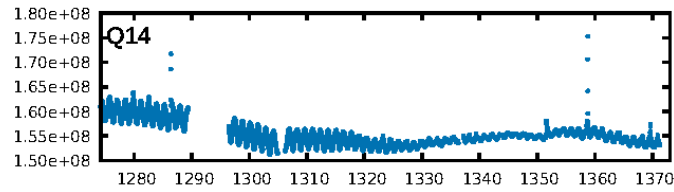
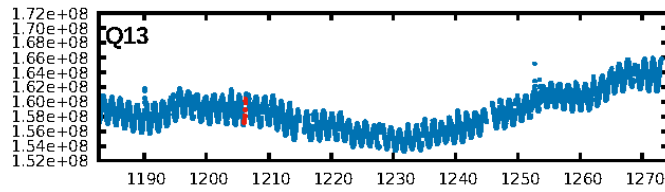
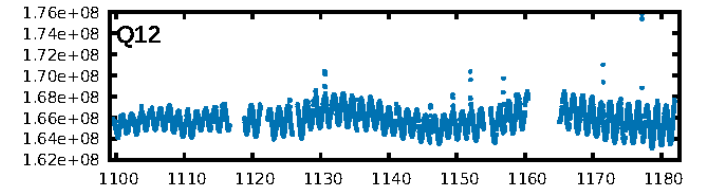
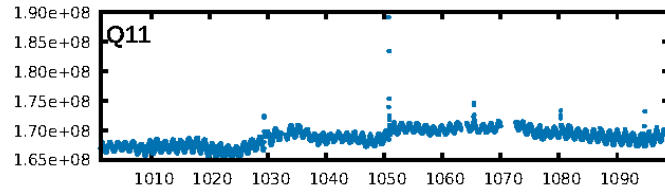
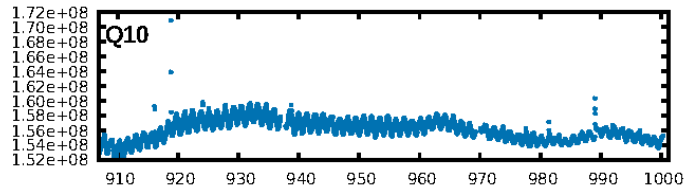
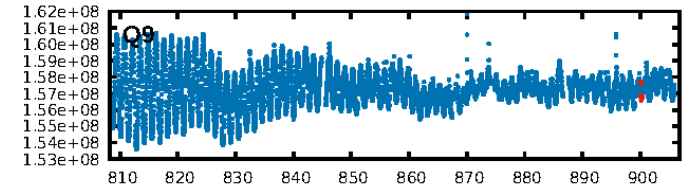
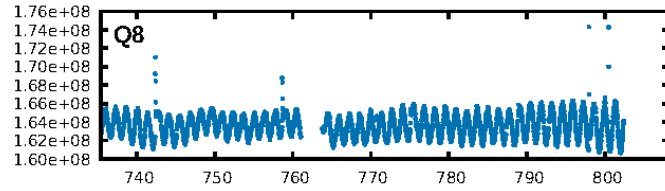
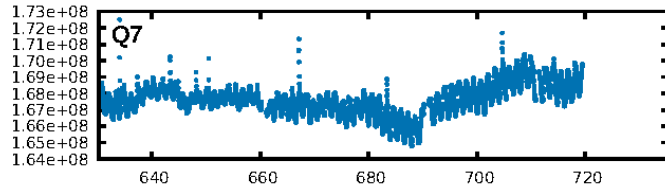
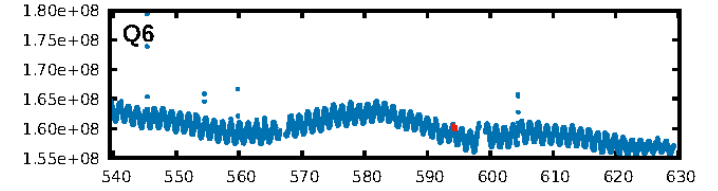
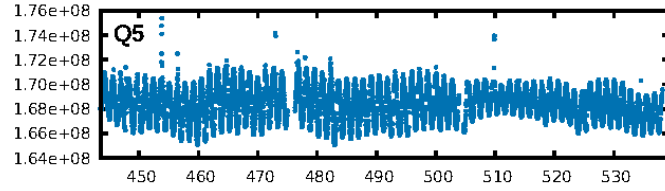
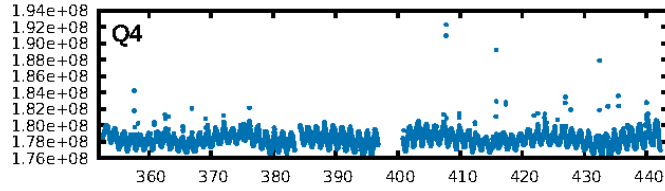
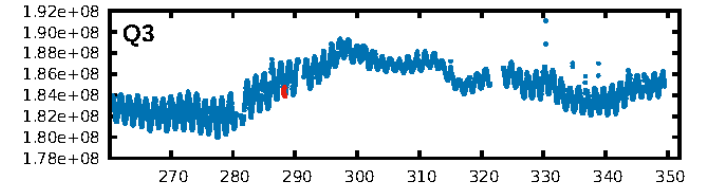
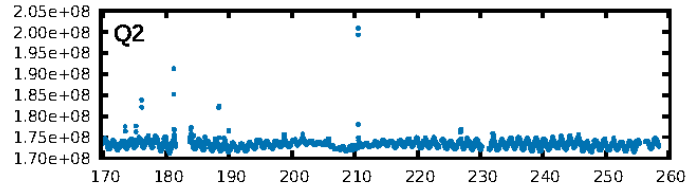
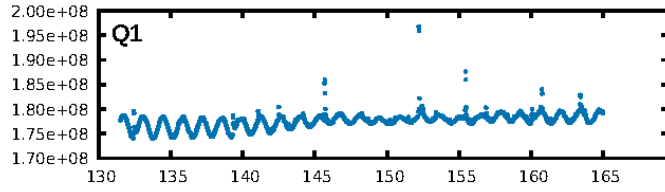
DV Fit Results:

Period = 305.96580 [0.00326] d
Epoch = 288.2840 [0.0067] BKJD
Rp/R* = 0.0315 [0.0619]
a/R* = 787.09 [6290.48]
b = 0.02 [408.08]
Seff = 0.37 [0.06]
Teq = 199 [8] K
Rp = 2.07 [4.06] Re
a = 0.7486 [0.0487] AU
Ag = 20439.14 [81159.33] [0.25σ]
Teffp = 3676 [3650] K [0.95σ]

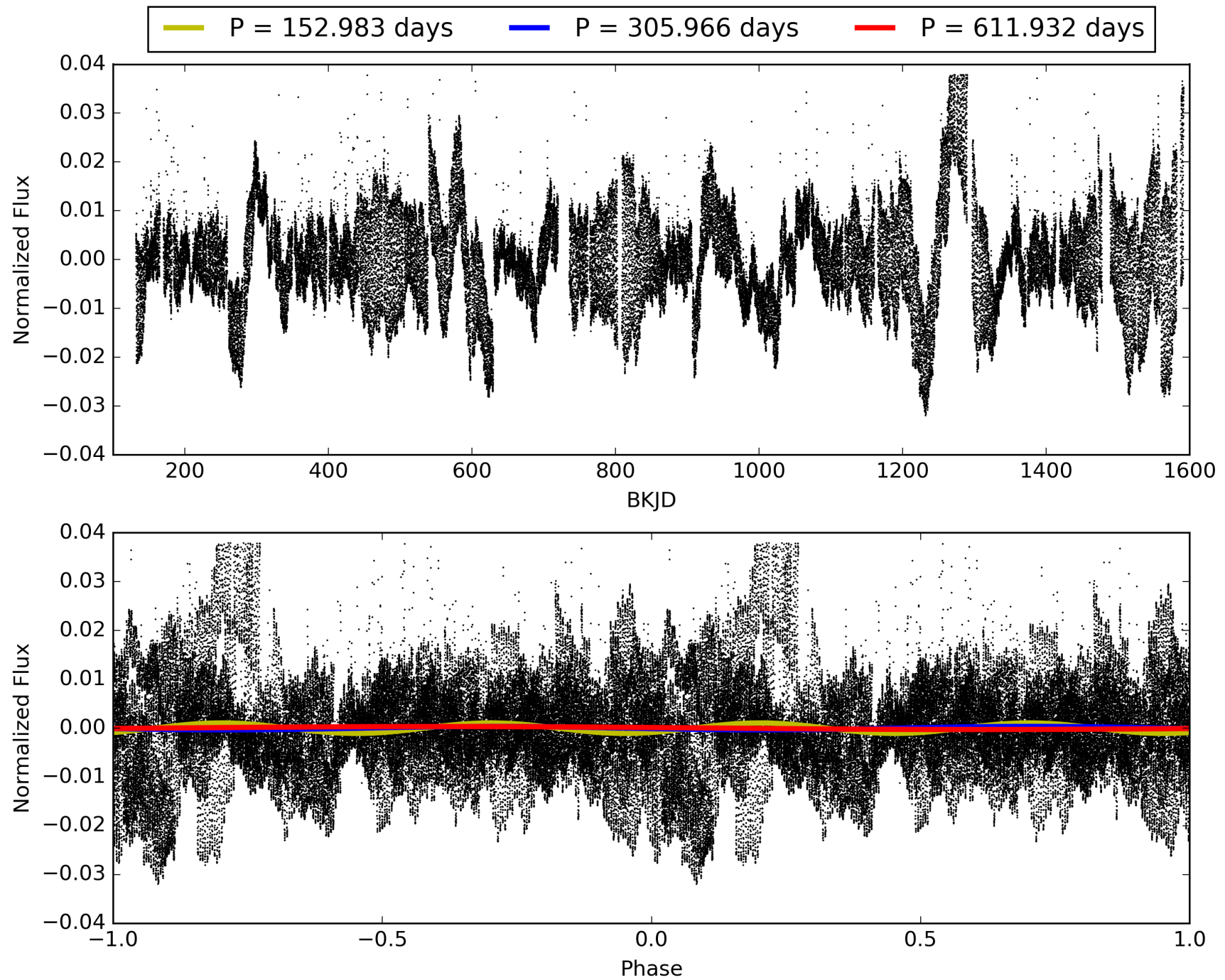
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [108.83σ]
ModelChiSquare2-sig: 39.4%
ModelChiSquareGof-sig: 25.4%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -4.454
Centroid-sig: 59.5%
Centroid-so: 0.213 arcsec [0.93σ]
OotOffset-rm: 0.025 arcsec [0.30σ]
KicOffset-st: 1/1/1/1 [4]
KicOffset-st: 1/1/1/1 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 1.00 [4/4]

TCE 009349698-06, PDC Light Curves

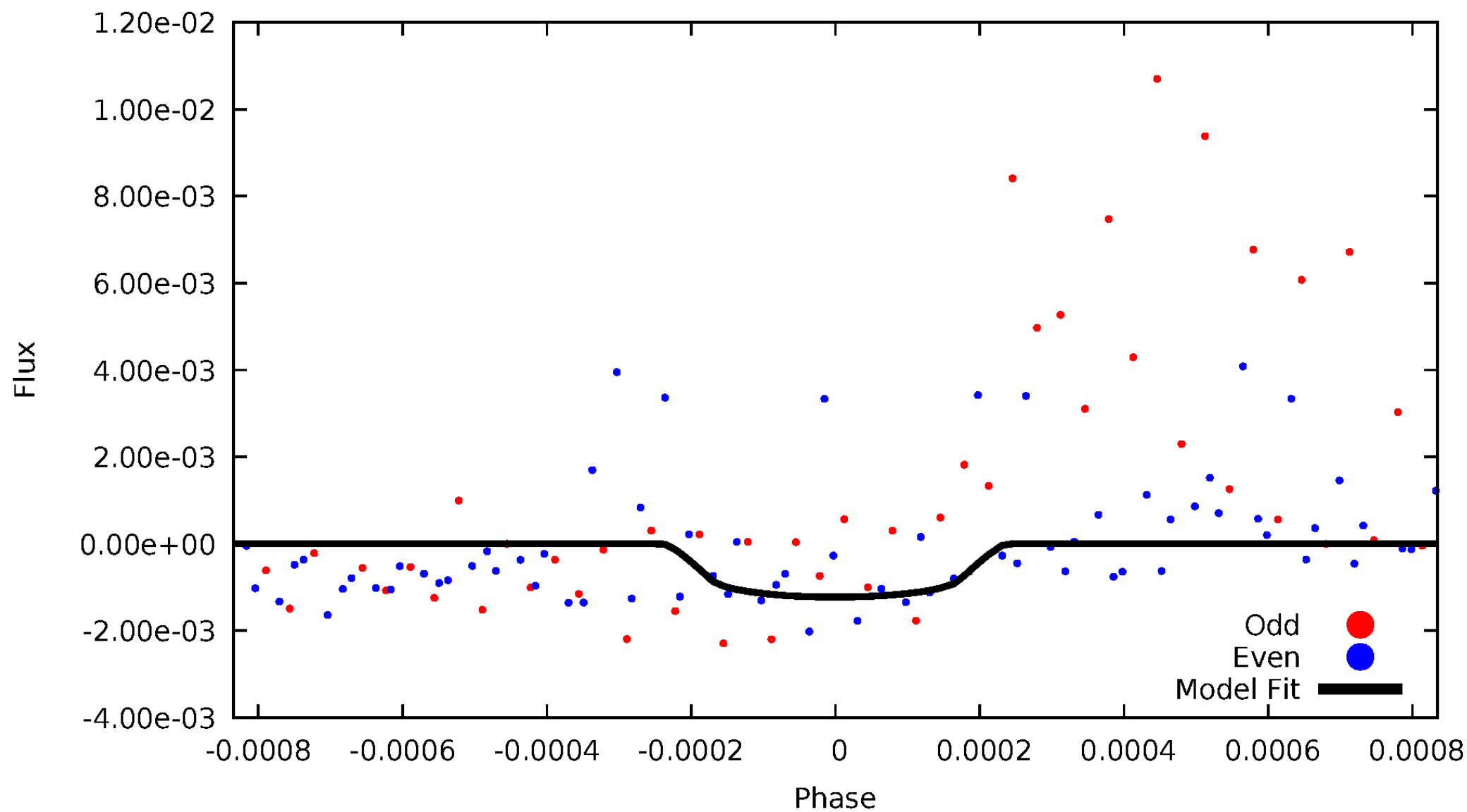


TCE 009349698-06



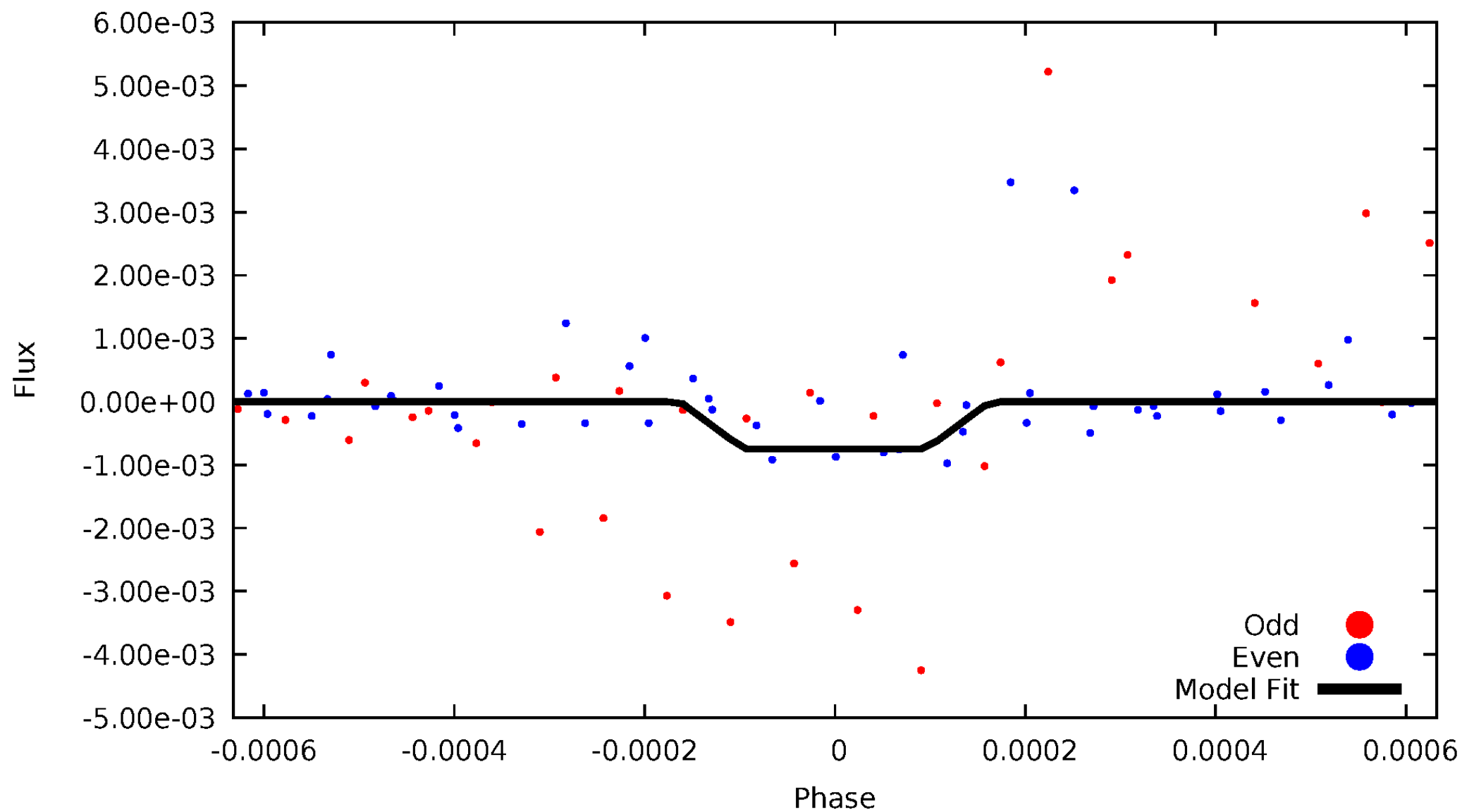
DV Odd/Even

TCE 009349698-06



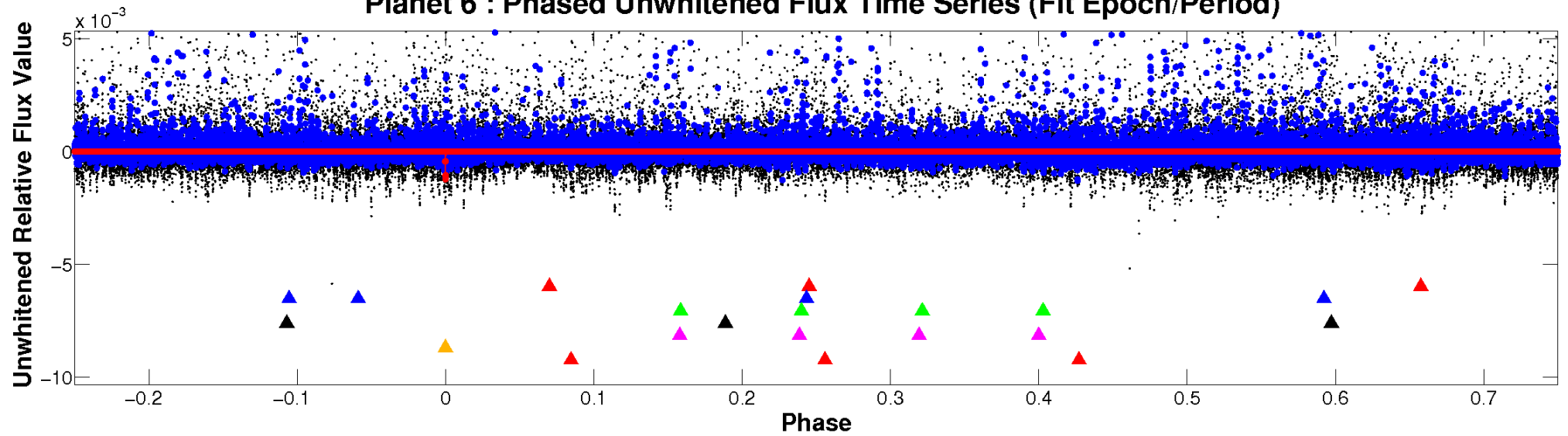
ALT Odd/Even

TCE 009349698-06

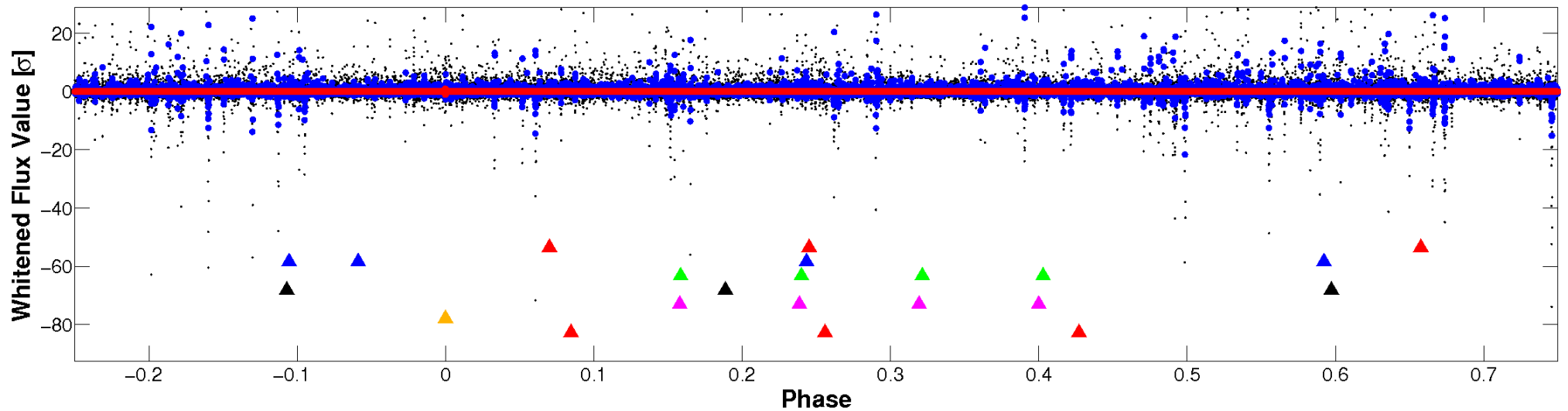


Non-Whitened Vs. Whitened Light Curve

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

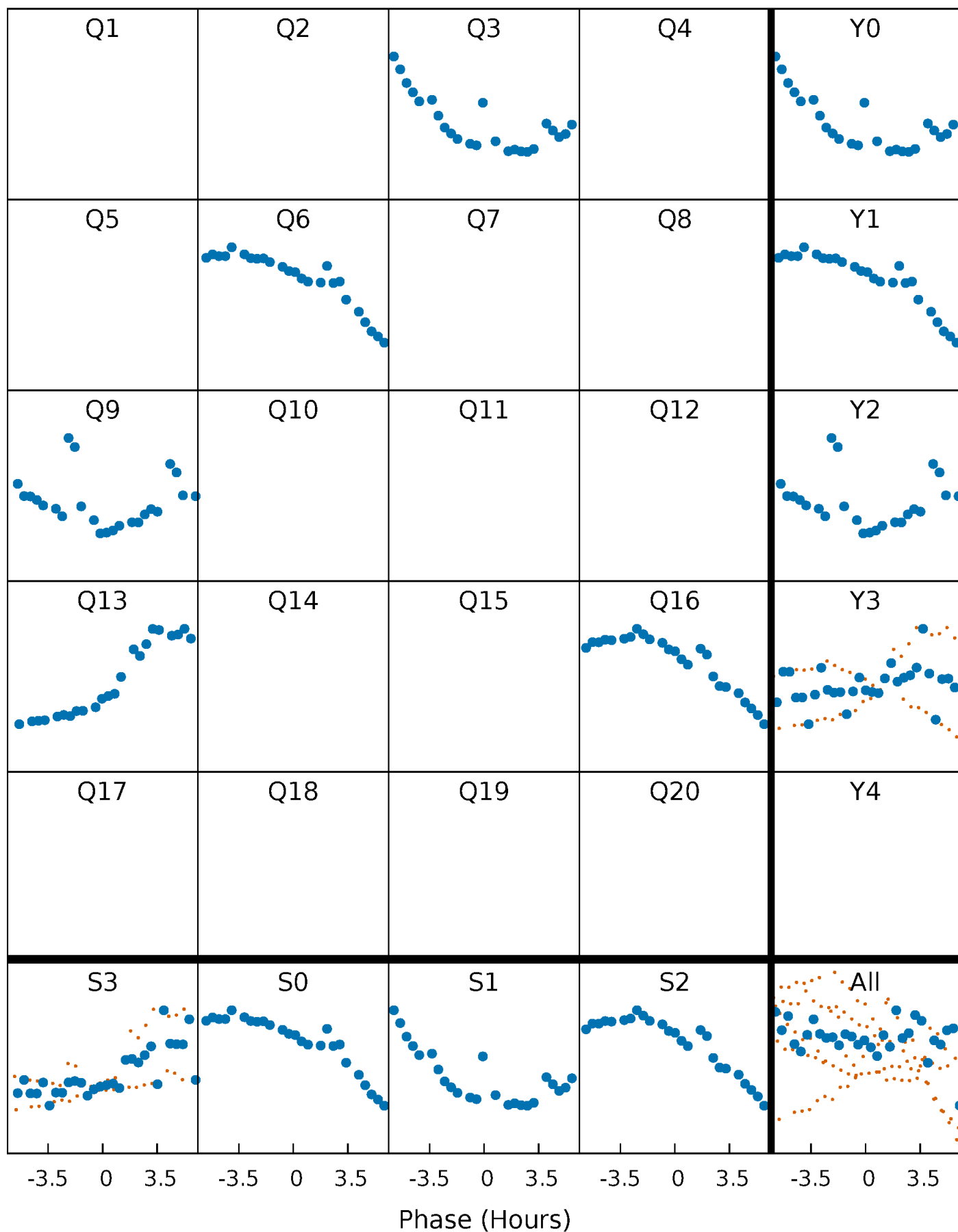


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



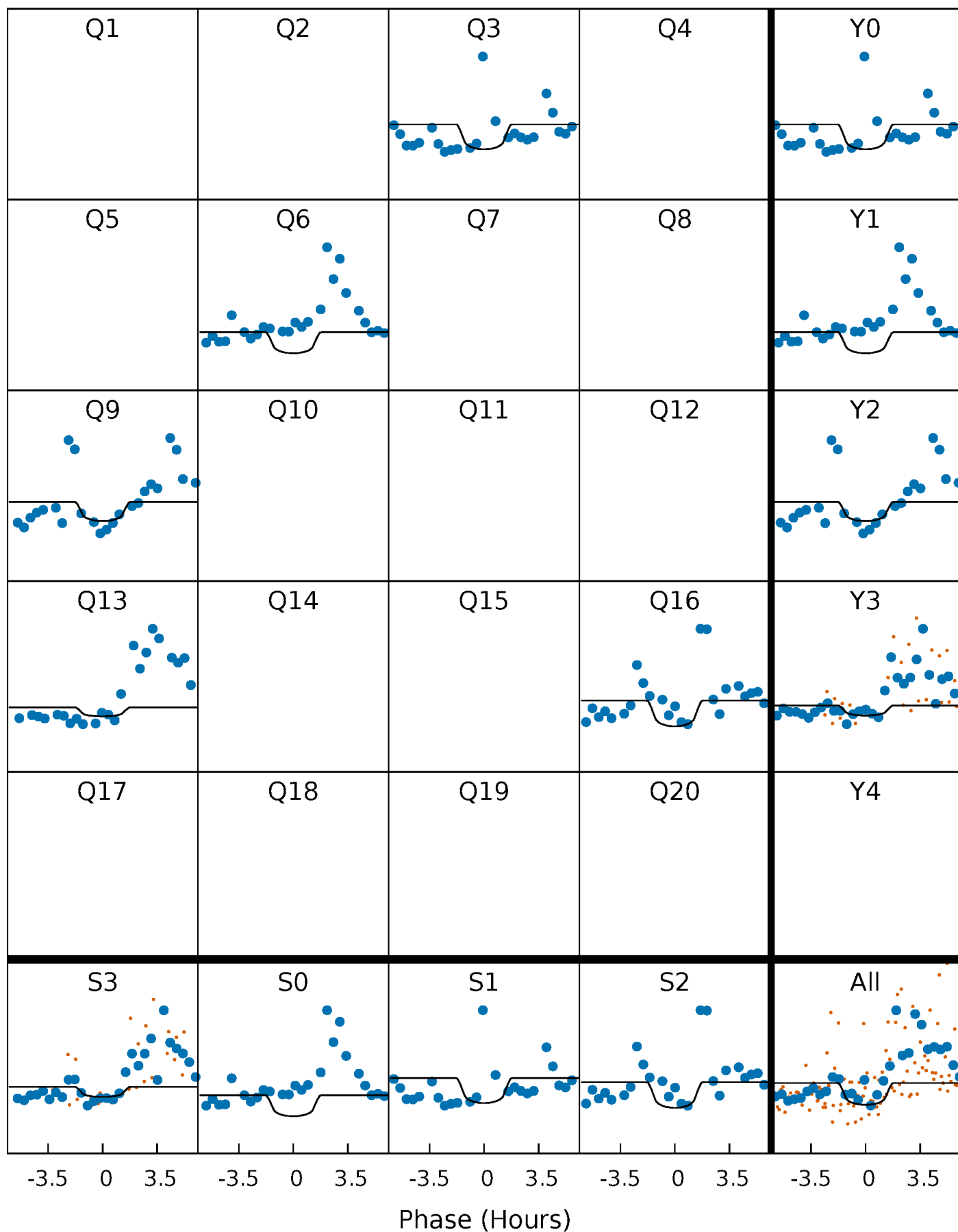
PDC Quarter-Phased Transit Curves

TCE 009349698-06 $P=305.965796$ Days $T_0=288.284013$ (BKJD)



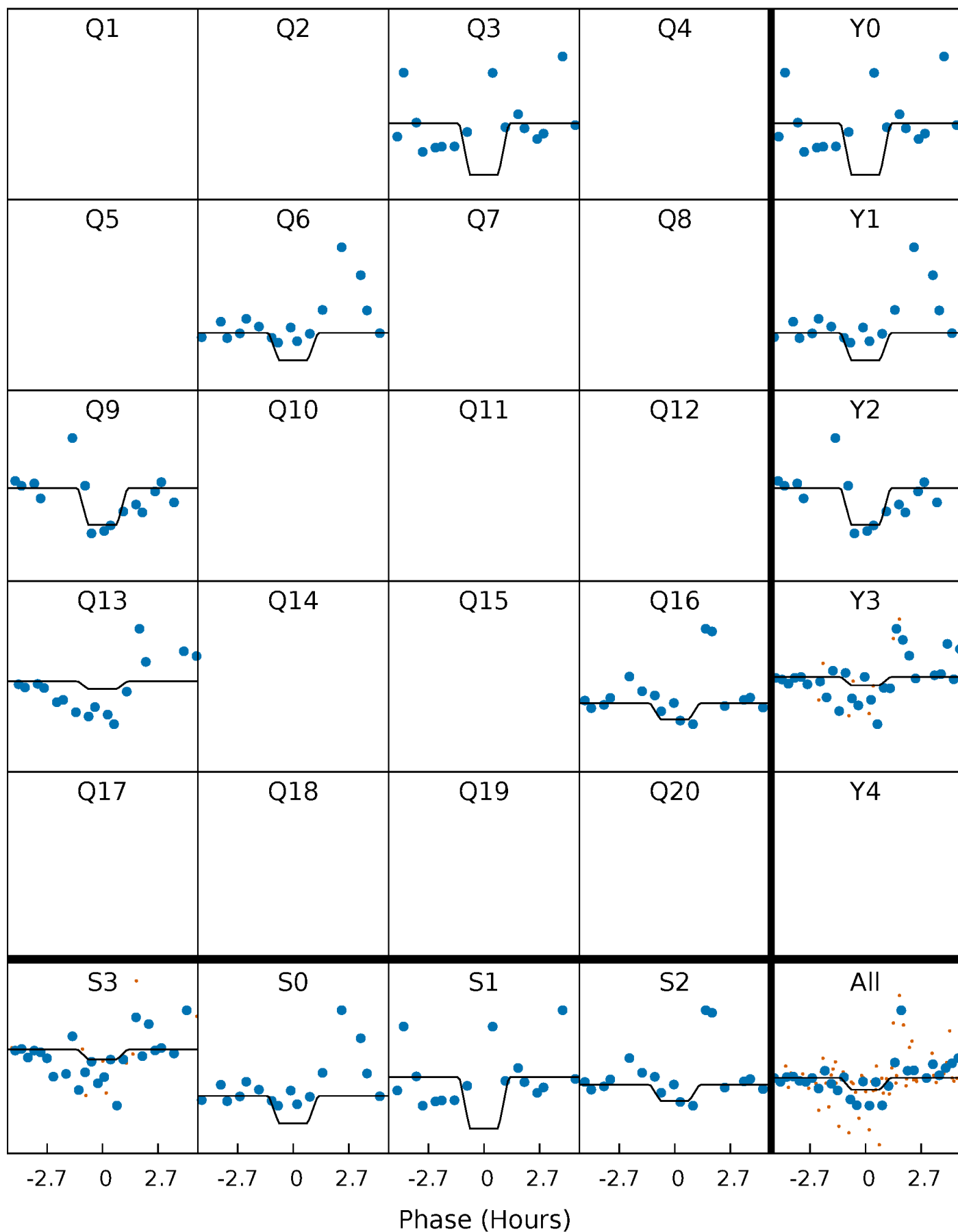
DV Quarter-Phased Transit Curves

TCE 009349698-06 P=305.965796 Days $T_0=288.284013$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

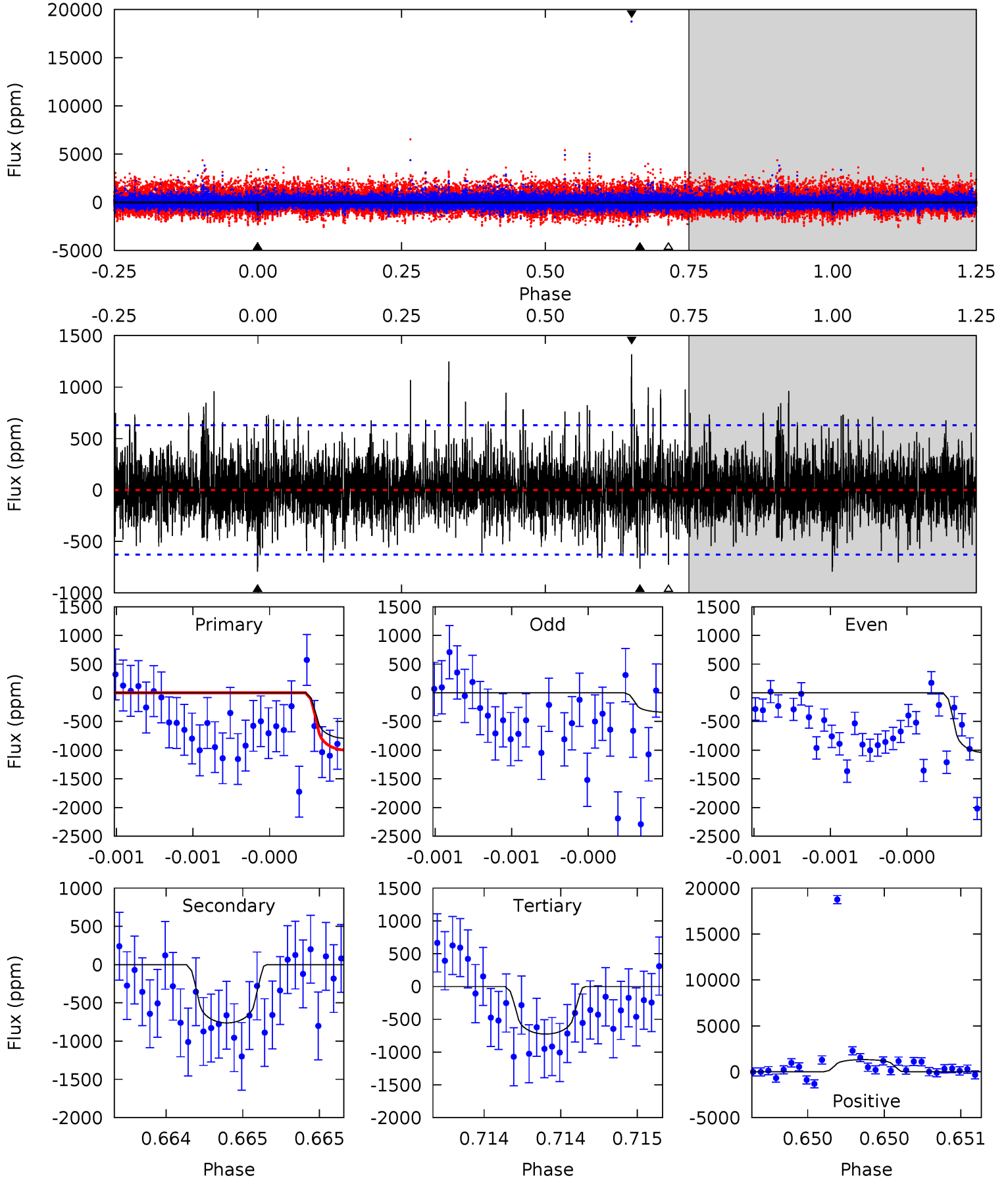
TCE 009349698-06 P=305.963173 Days $T_0=288.298388$ (BKJD)



DV Model-Shift Uniqueness Test

009349698-06, P = 305.965796 Days, E = 288.284013 Days

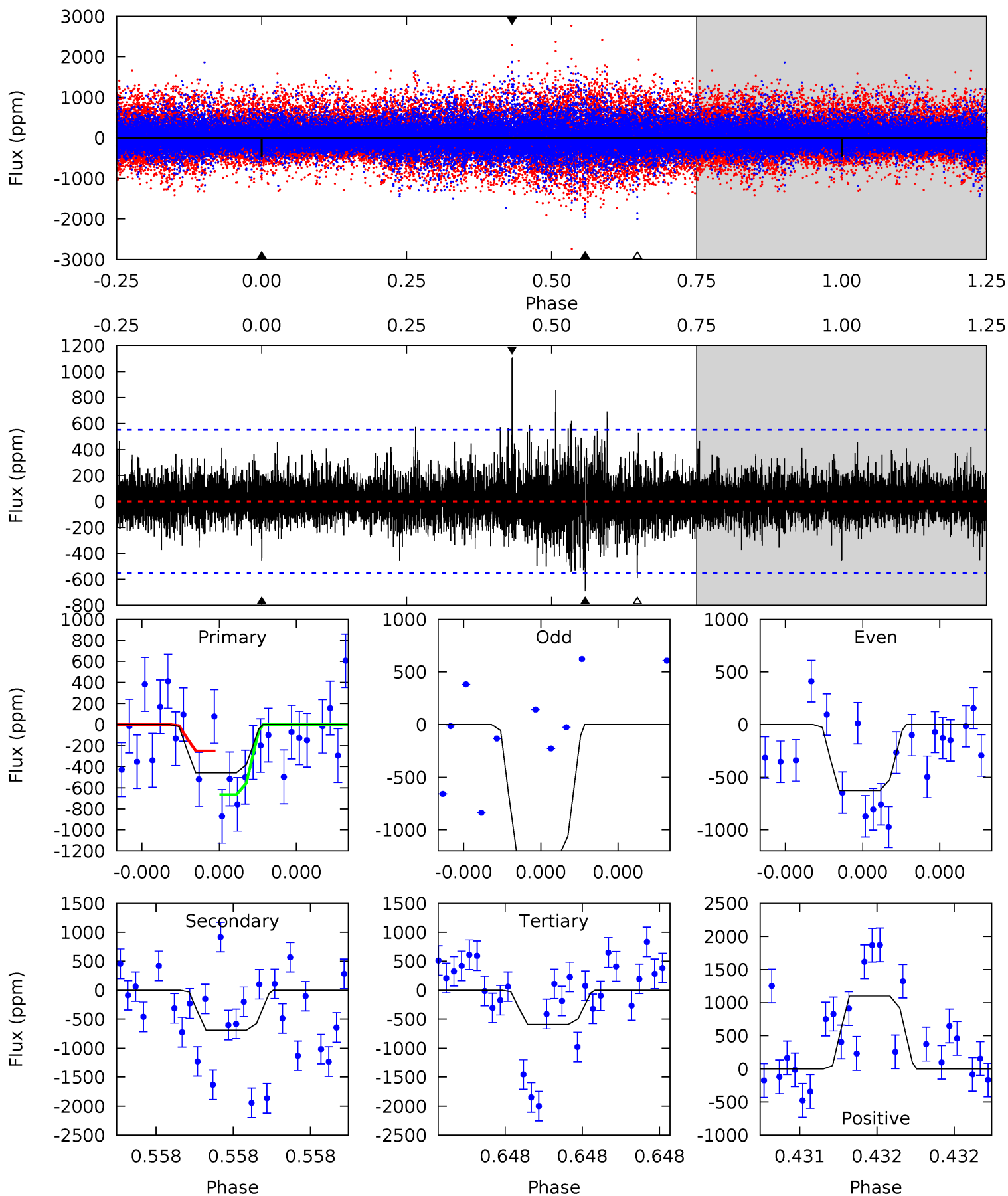
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.05	6.77	6.44	11.7	5.58	3.49	1.91	0.61	-4.65	0.33	-4.93	2.57	1.49	0.62	1.94



Alt Model-Shift Uniqueness Test

009349698-06, P = 305.963173 Days, E = 288.298388 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.71	7.08	6.08	11.3	5.66	3.61	1.24	-1.37	-6.59	1.00	-4.21	3.15	1.80	0.61	2.14



Stellar Parameters For KIC 009349698

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5035^{+151}_{-151}	$4.658^{+0.059}_{-0.036}$	$-1.020^{+0.300}_{-0.300}$	$0.600^{+0.042}_{-0.042}$	$0.597^{+0.052}_{-0.022}$	$3.891^{+0.821}_{-0.565}$
	+3%/-3%	+1%/-1%	+29%/-29%	+7%/-7%	+9%/-4%	+21%/-15%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 009349698-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-762 ± 113	$3.81^{+3.28}_{-2.58}$	276^{+11}_{-9}	3788^{+2215}_{-676}	$16769^{+141262}_{-12107}$
Alt.	-689 ± 97	$3.65^{+2.93}_{-2.45}$	277^{+9}_{-10}	3817^{+2117}_{-696}	$16523^{+129562}_{-11808}$

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

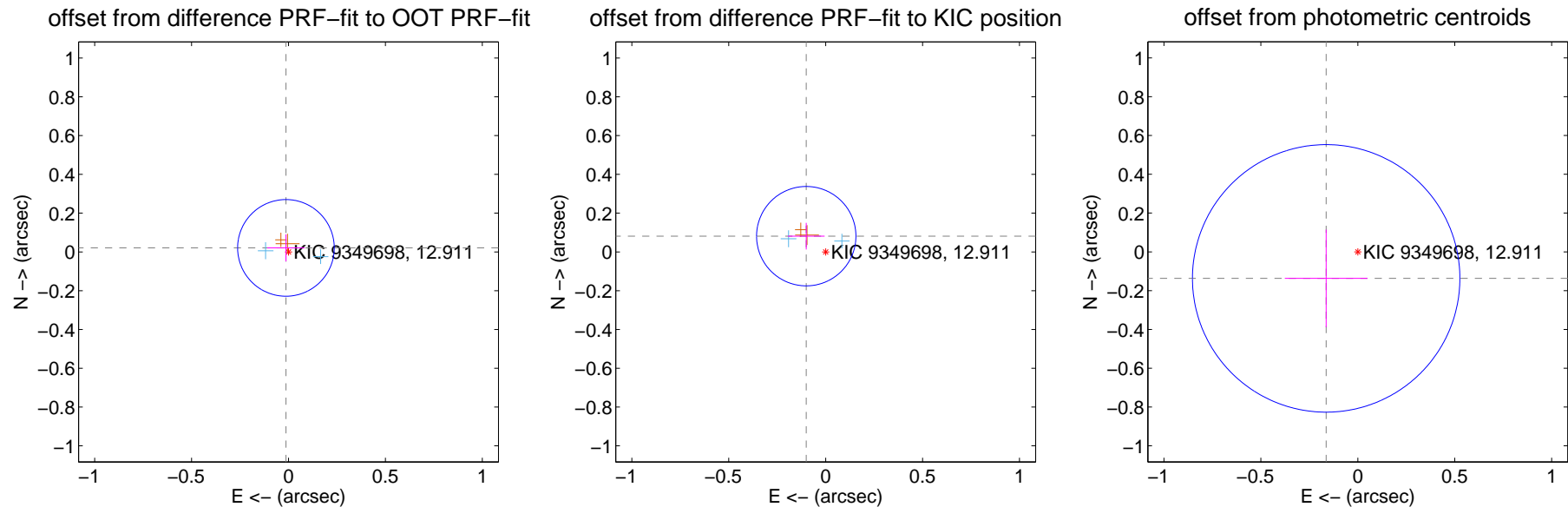
DV Centroid Data

Supplemental centroid analysis for 009349698-06. Kepler magnitude: 12.91. Transit SNR 5.82

There are 2 quarters with good PRF difference image offsets

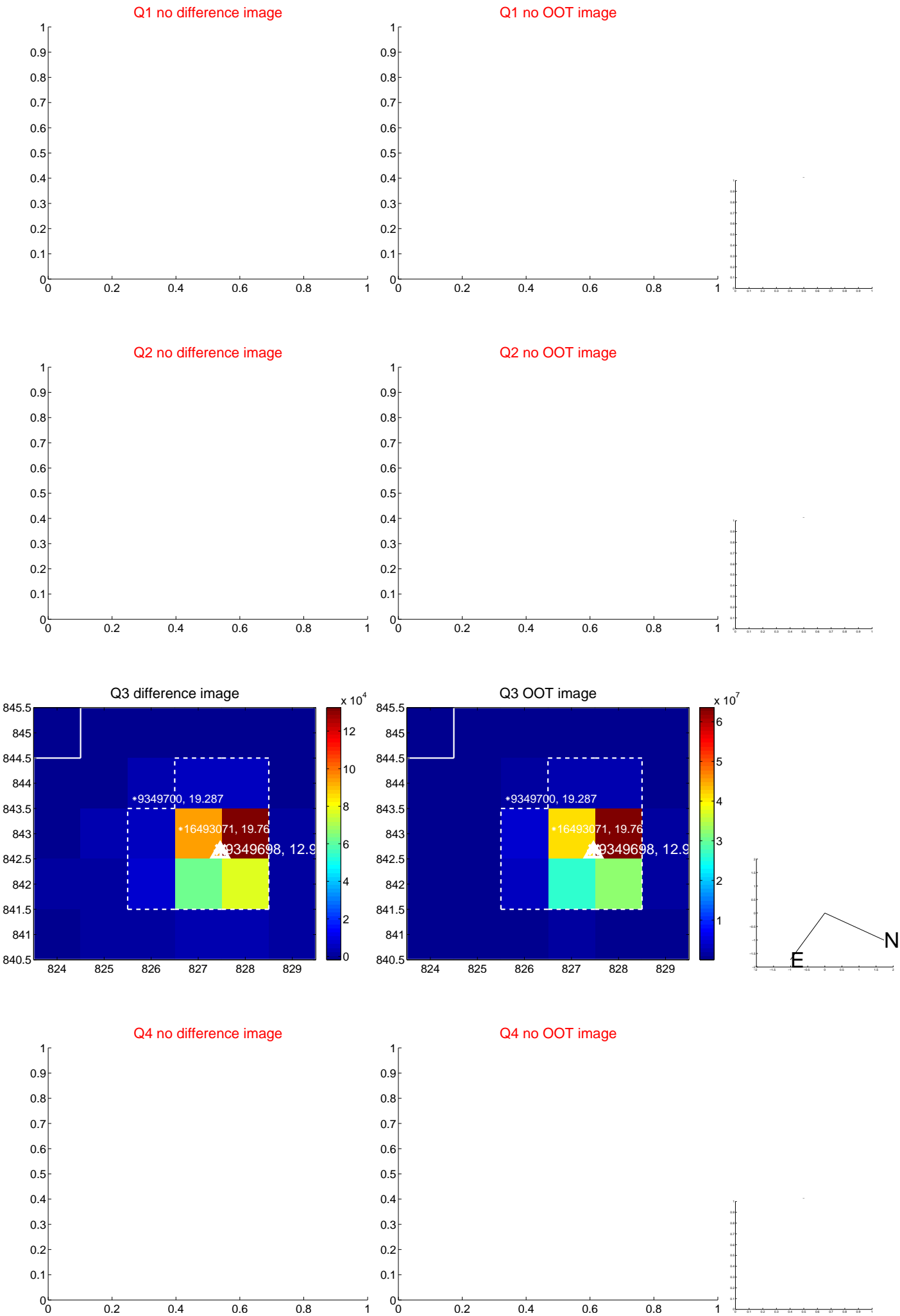
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.025 ± 0.083	0.30	0.013 ± 0.096	0.021 ± 0.070
PRF-fit source offset from KIC position	0.129 ± 0.085	1.51	0.100 ± 0.095	0.081 ± 0.069
photometric centroid source offset	0.21 ± 0.23	0.93	0.16 ± 0.21	-0.14 ± 0.25

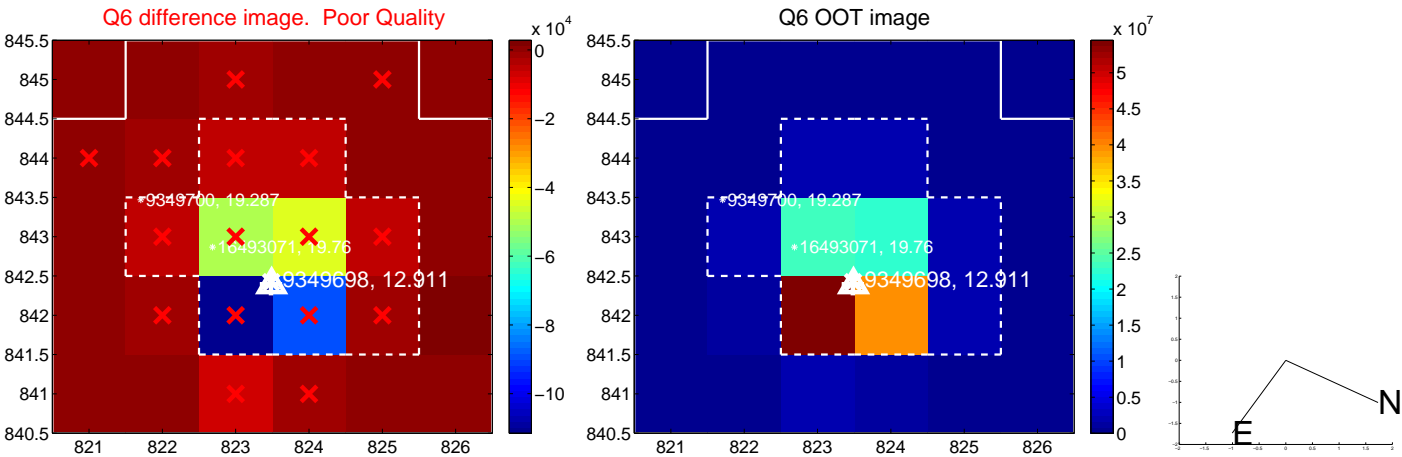
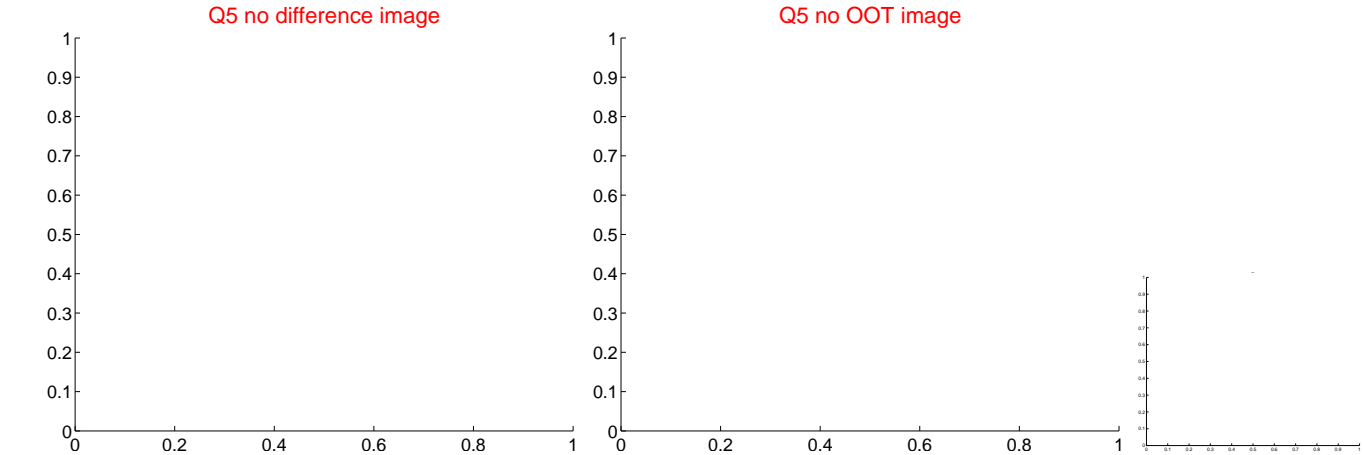


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



Q6 difference image. Poor Quality

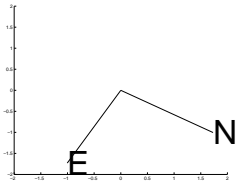
Q6 OOT image

Q7 no difference image

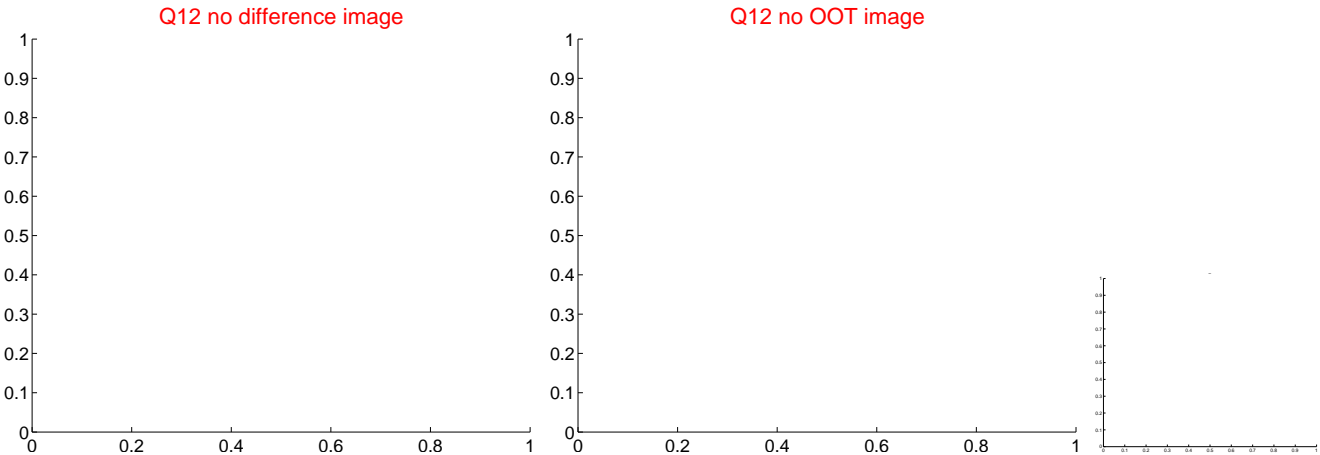
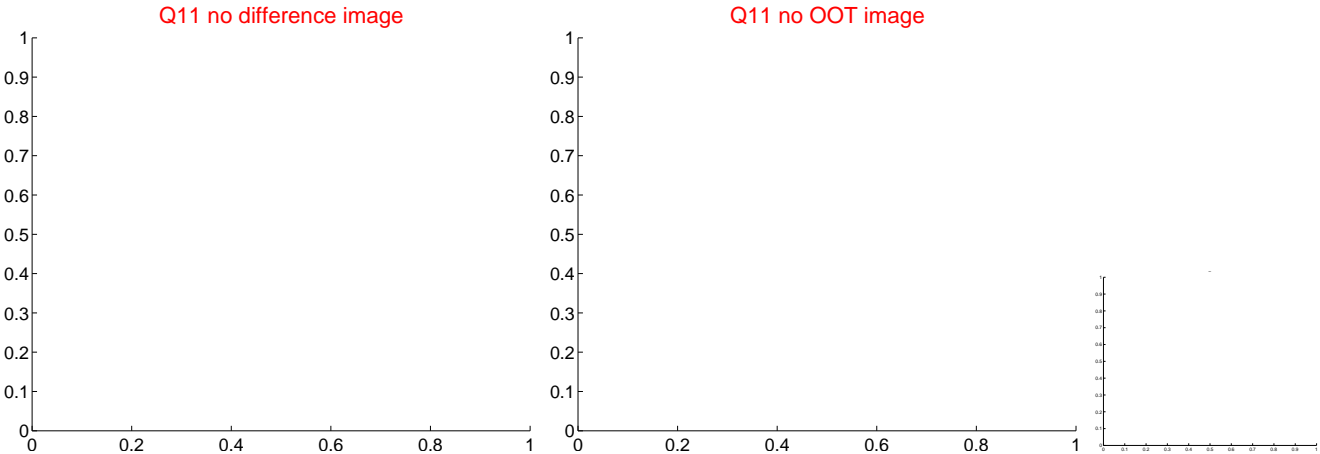
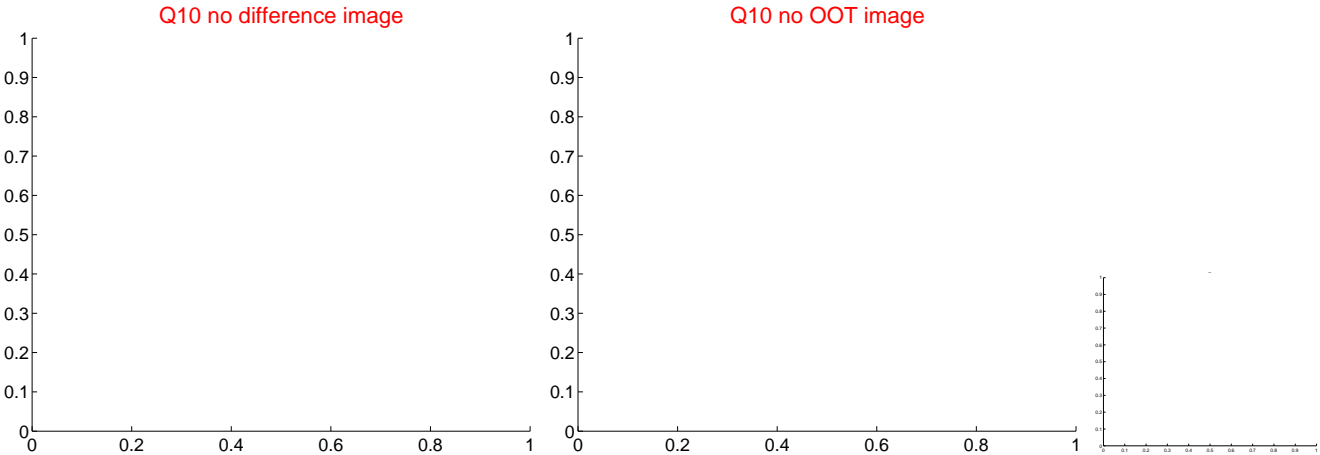
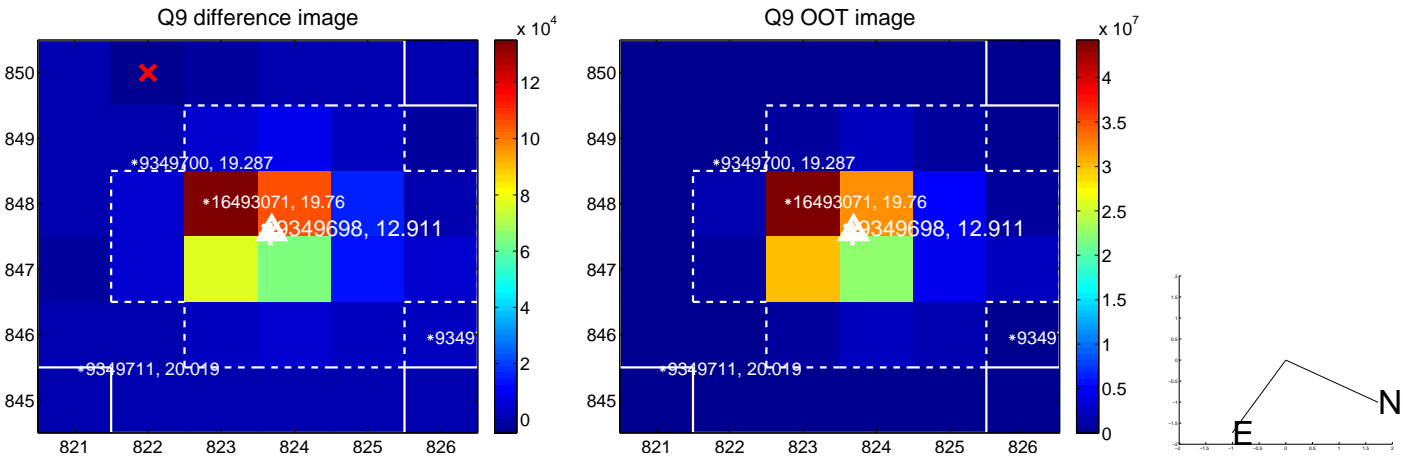
Q7 no OOT image

Q8 no difference image

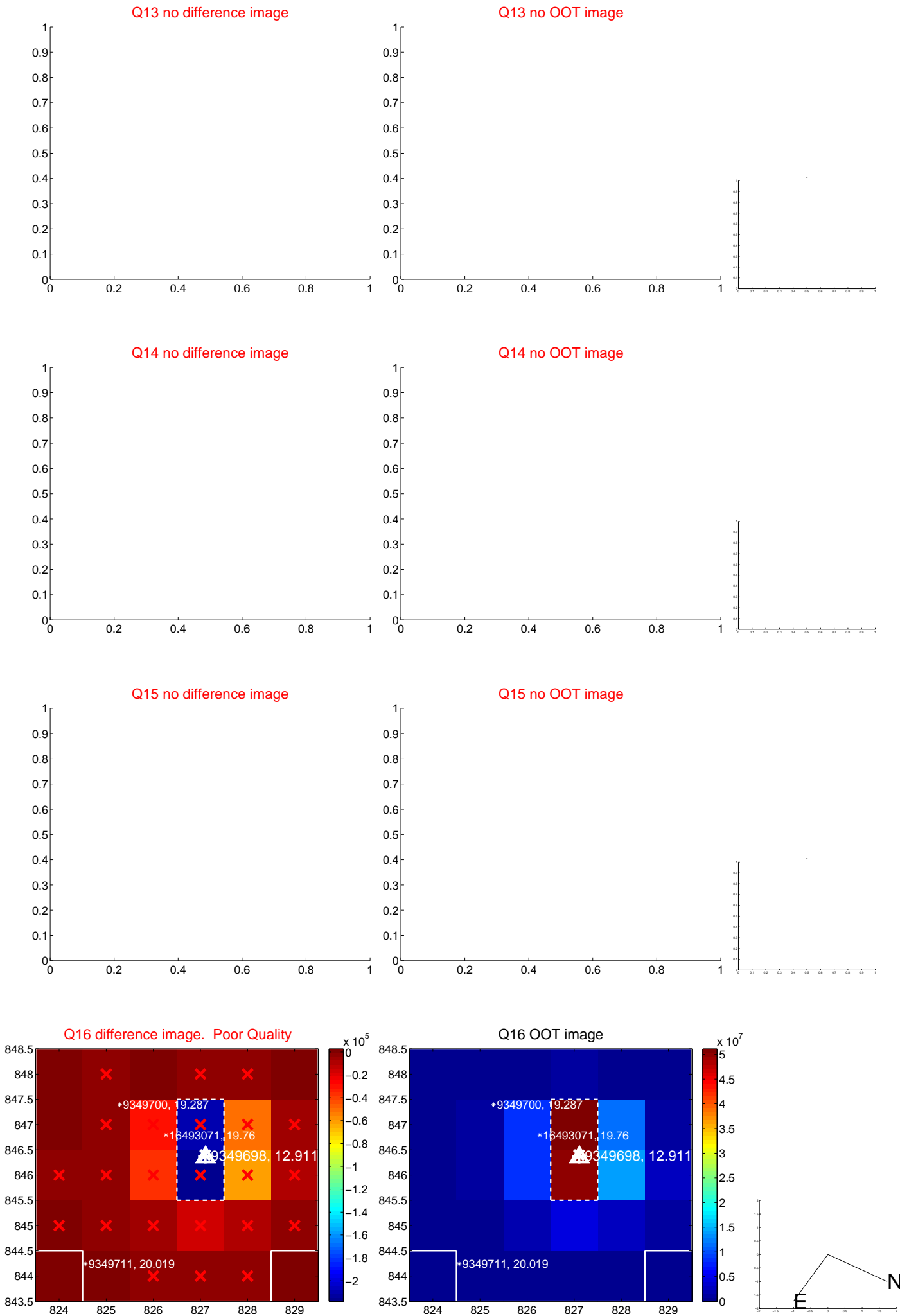
Q8 no OOT image



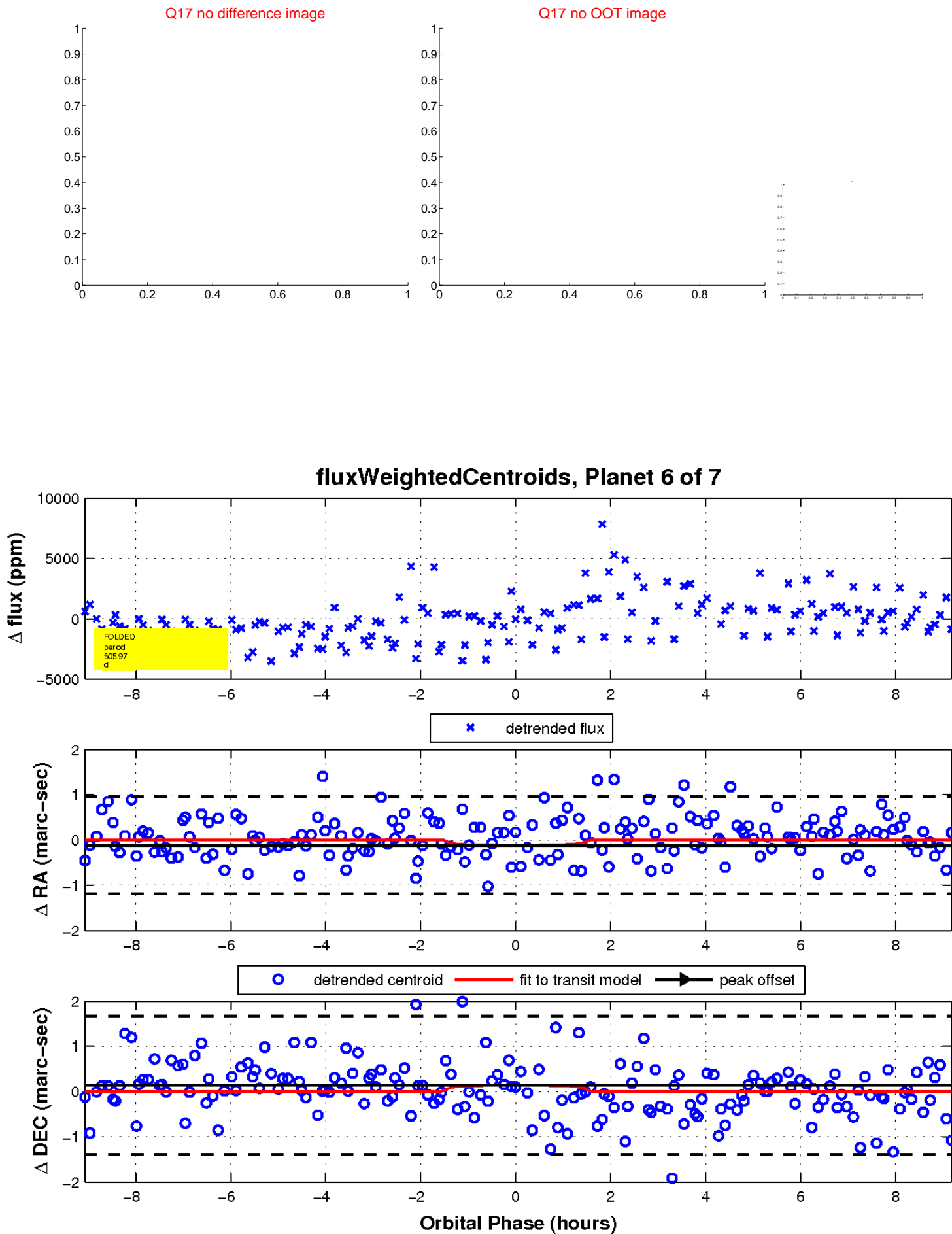
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

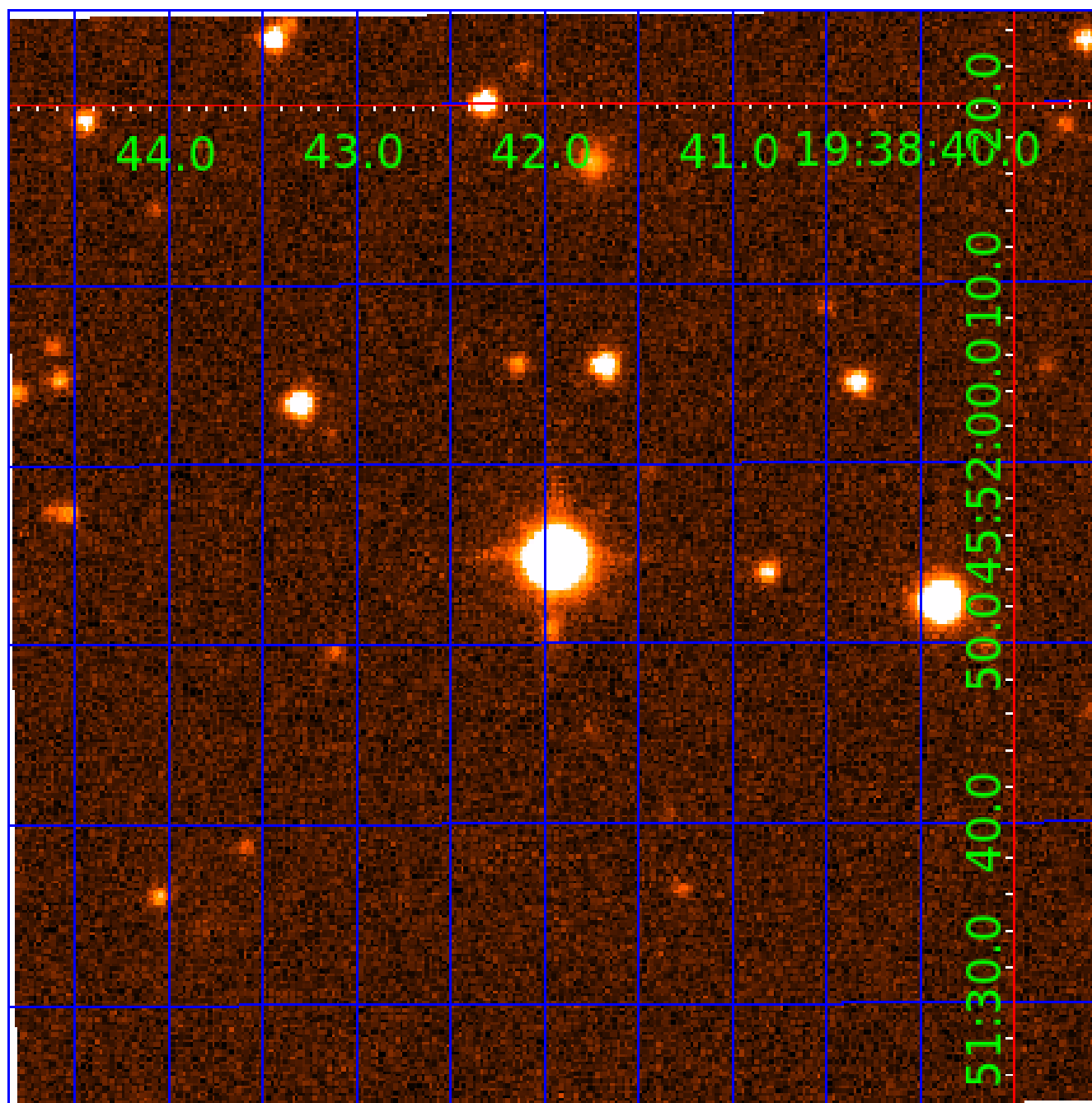


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



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})
009349698-01	OBS	No	432.161146	363.303153	1915.6	5.437	20.6	5.9	0.60	5035	2.75	0.23
009349698-02	OBS	No	412.706870	256.023978	2101.2	4.952	16.5	8.5	0.60	5035	2.79	0.25
009349698-03	OBS	No	330.892052	336.790243	234.1	3.169	23.4	1.3	0.60	5035	0.97	0.33
009349698-04	OBS	No	521.449805	346.031582	1635.1	3.742	15.8	7.4	0.60	5035	2.69	0.18
009349698-05	OBS	No	330.649057	336.616258	811.7	4.500	19.9	-1.0	0.60	5035	1.68	0.33
009349698-06	OBS	No	305.965796	288.284013	1224.0	3.063	16.3	5.8	0.60	5035	2.06	0.37
009349698-07	OBS	No	559.538985	418.966910	418.4	5.000	14.9	-1.0	0.60	5035	1.21	0.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009349698-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
009349698-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009349698-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009349698-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
009349698-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
009349698-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
009349698-07	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST

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

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

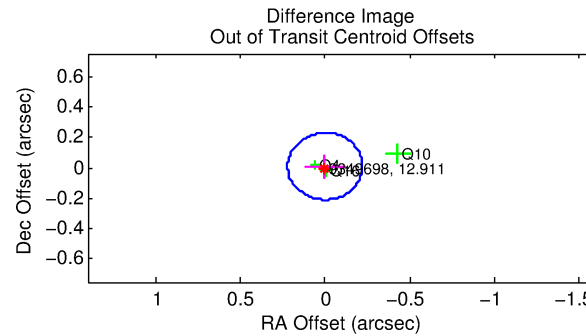
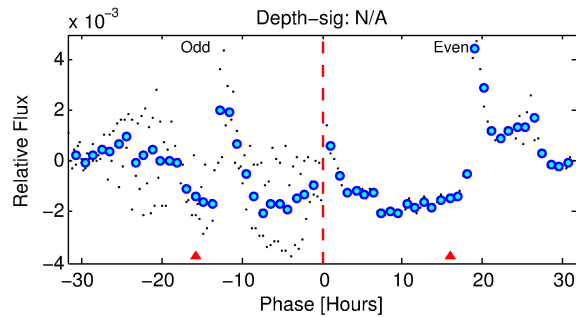
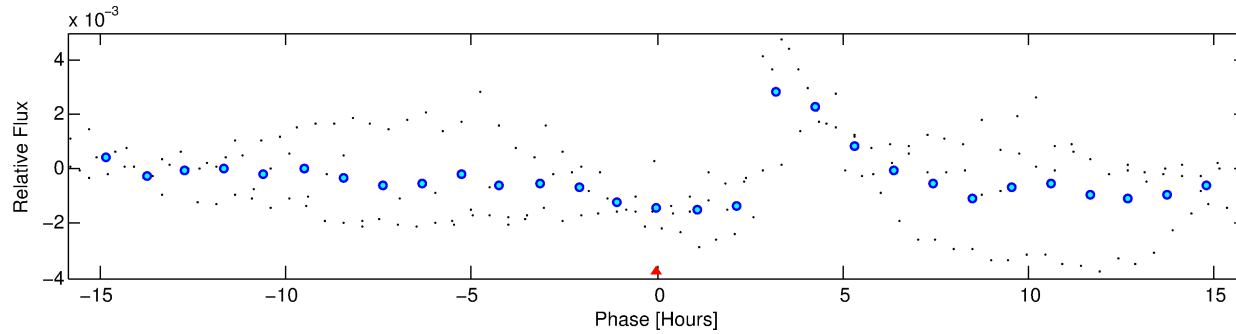
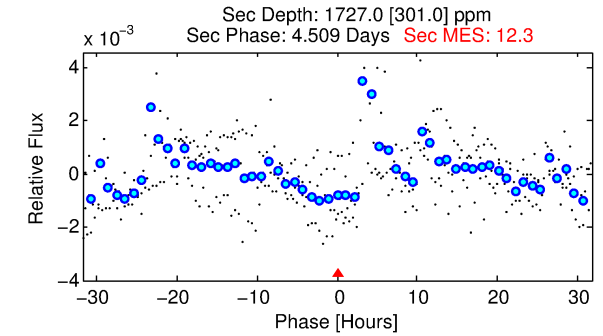
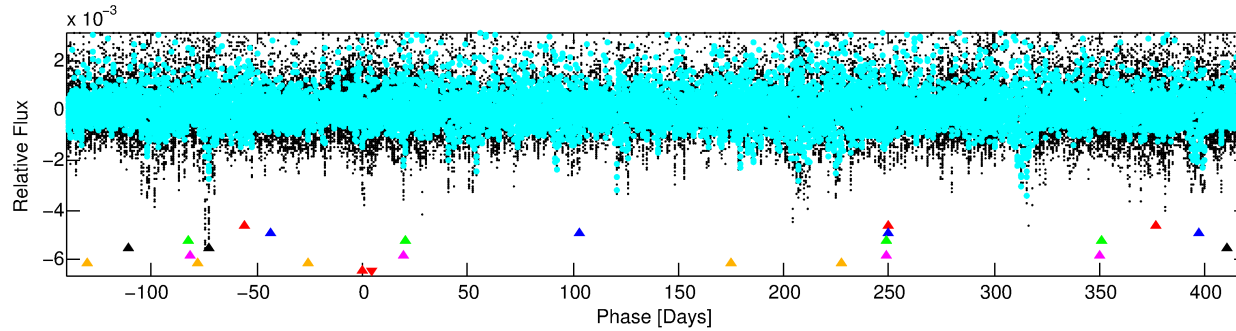
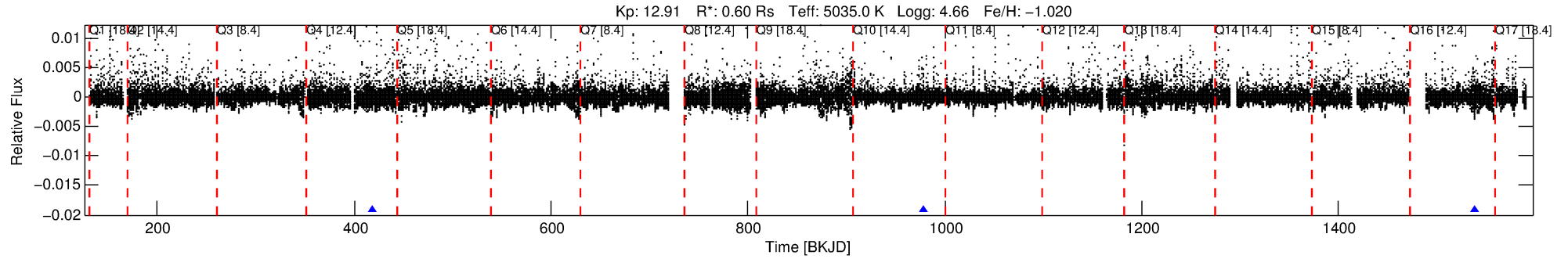
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009349698-07

No Significant Match Found

DV One-Page Summary

KIC: 9349698 Candidate: 7 of 7 Period: 559.539 d



TPS TCE Results:

Period = 559.53898 d
Epoch = 418.9669 BKJD

DV fit results are unavailable

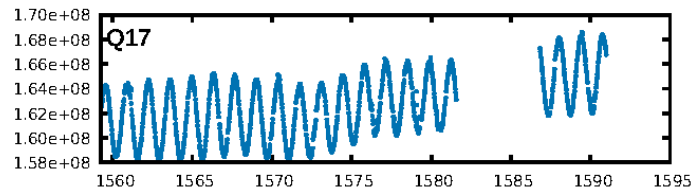
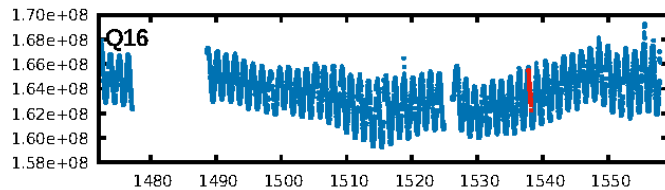
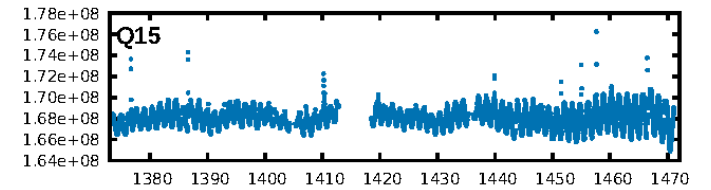
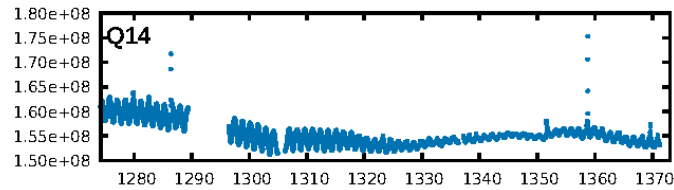
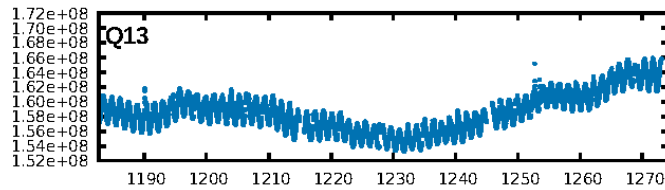
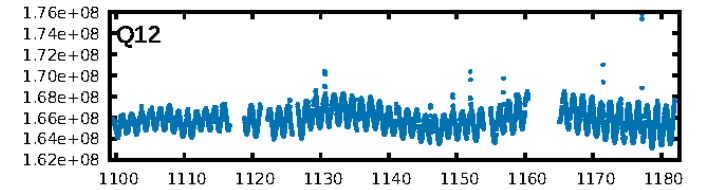
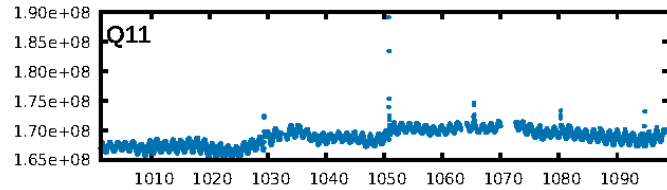
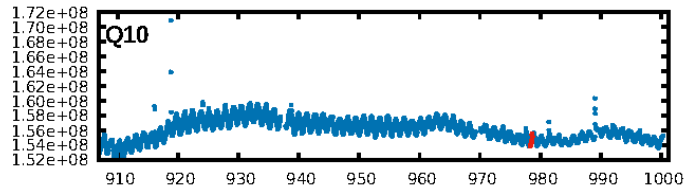
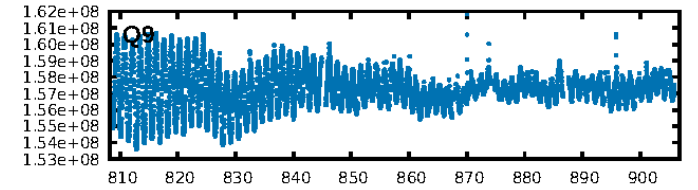
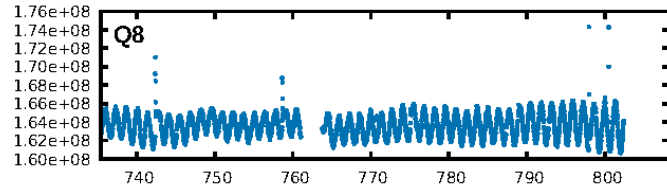
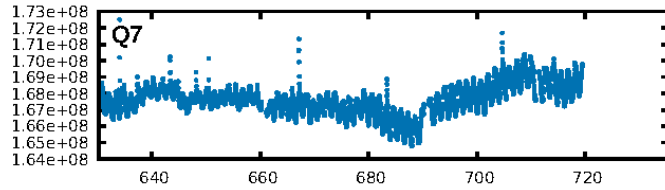
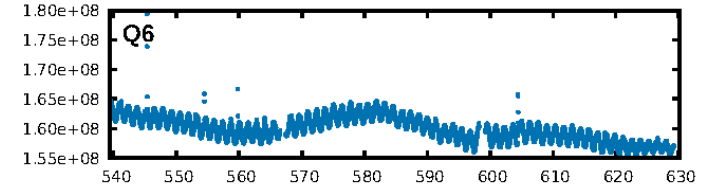
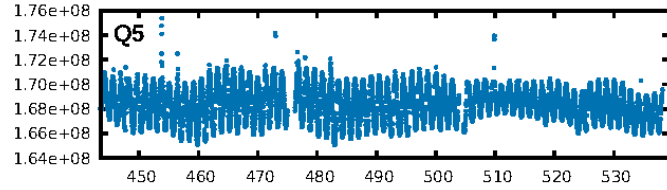
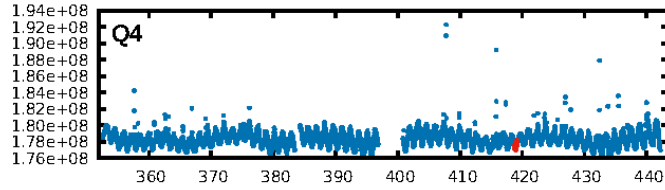
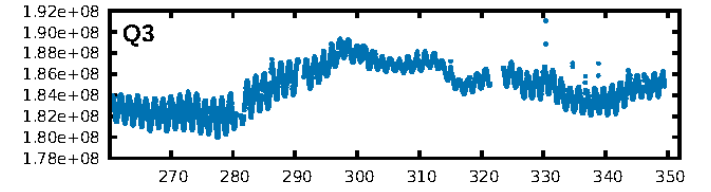
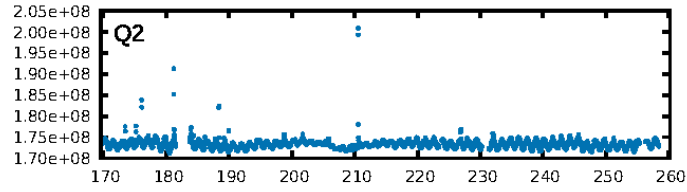
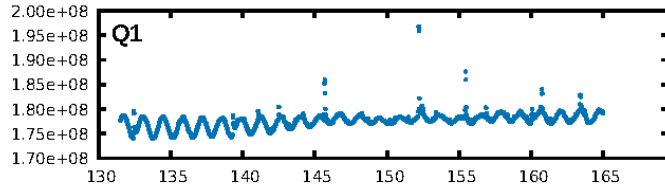
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [146.38 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.1501
Centroid-sig: 58.3%
Centroid-so: 0.039 arcsec [0.28 σ]
OotOffset-rm: 0.010 arcsec [0.14 σ]
KicOffset-rm: 0.101 arcsec [0.75 σ]
OotOffset-st: 1/0/2/0 [3]
KicOffset-st: 1/0/2/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

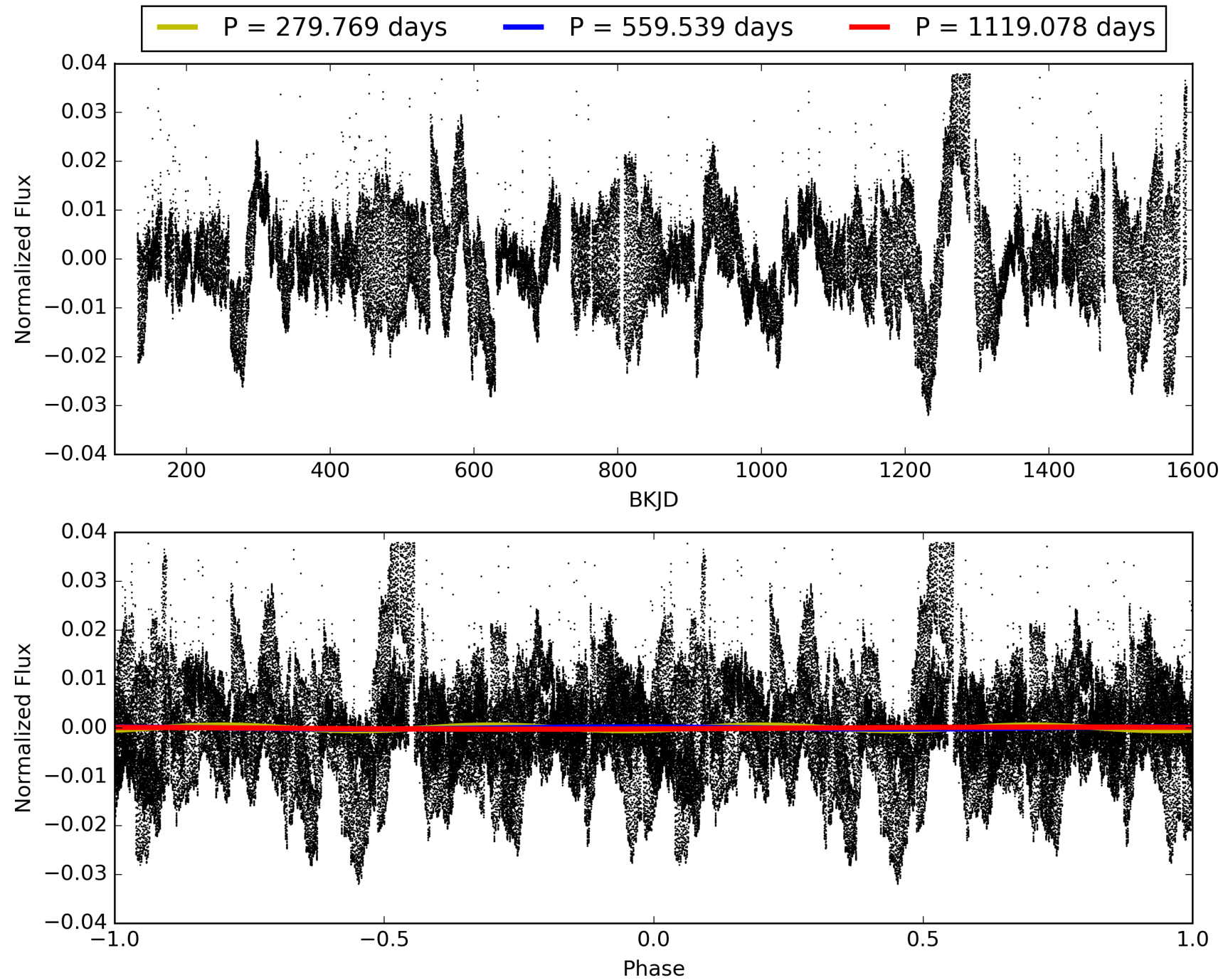
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:50:35 Z

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

TCE 009349698-07, PDC Light Curves

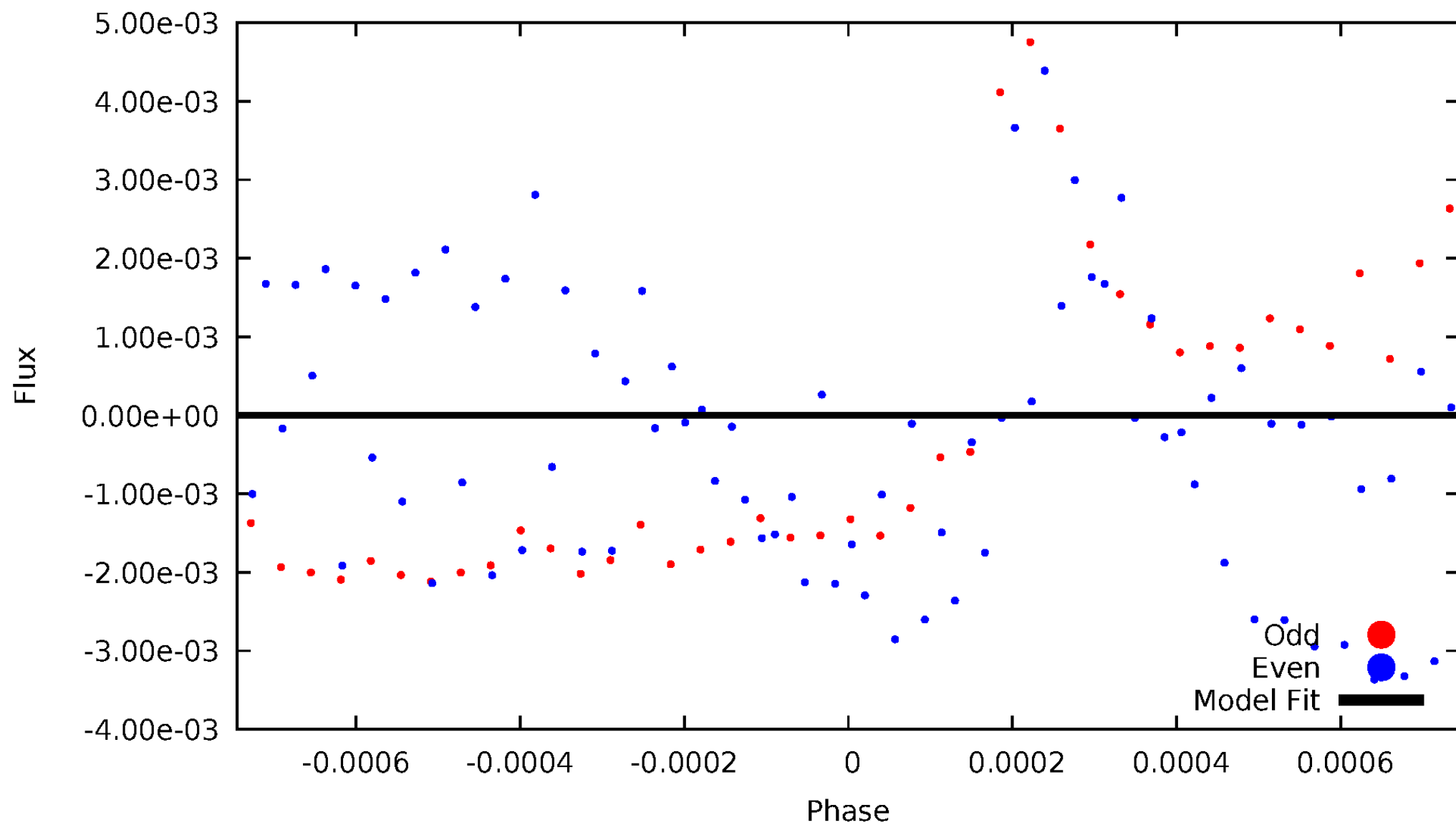


TCE 009349698-07



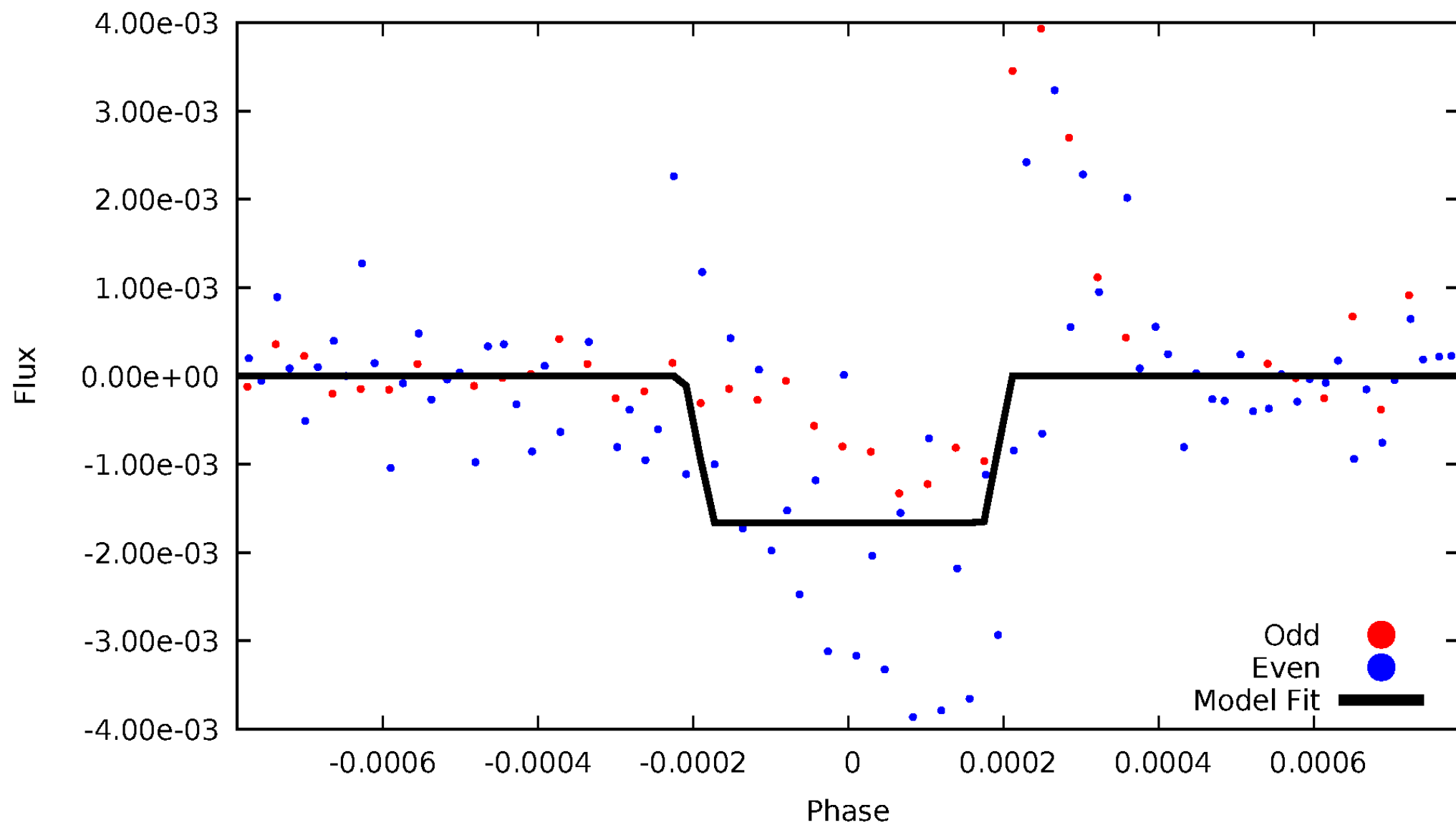
DV Odd/Even

TCE 009349698-07

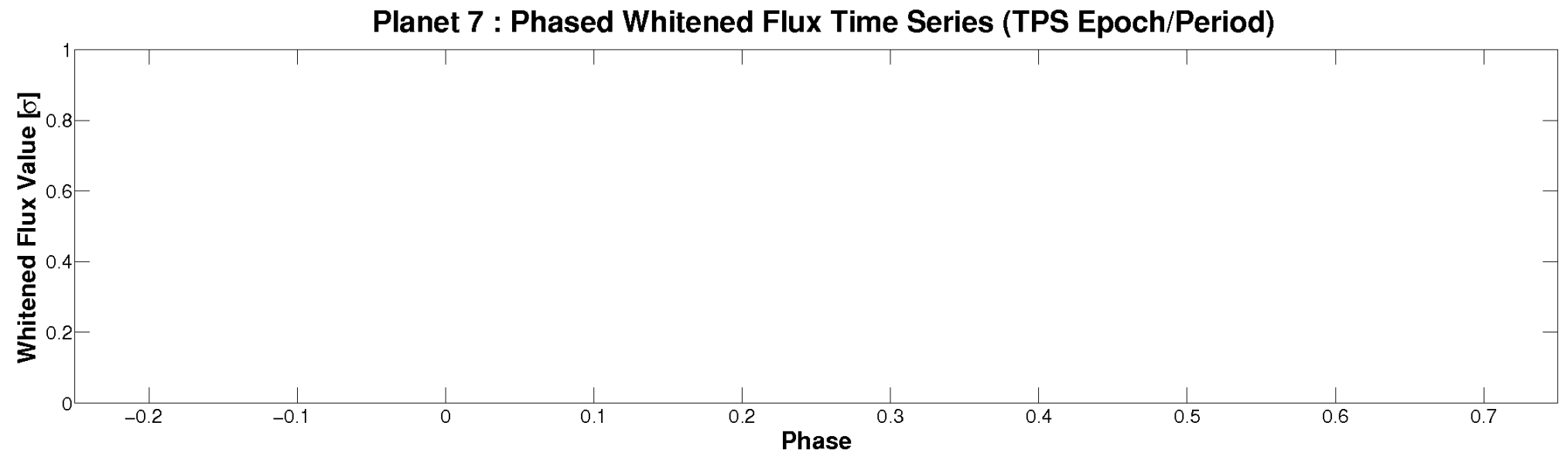
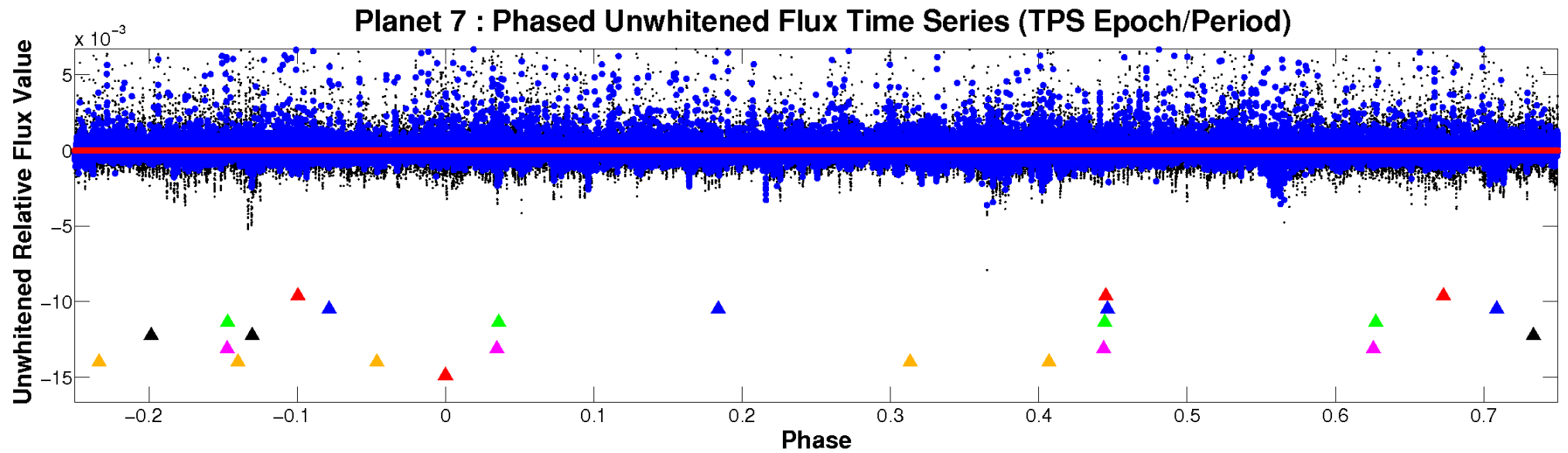


ALT Odd/Even

TCE 009349698-07

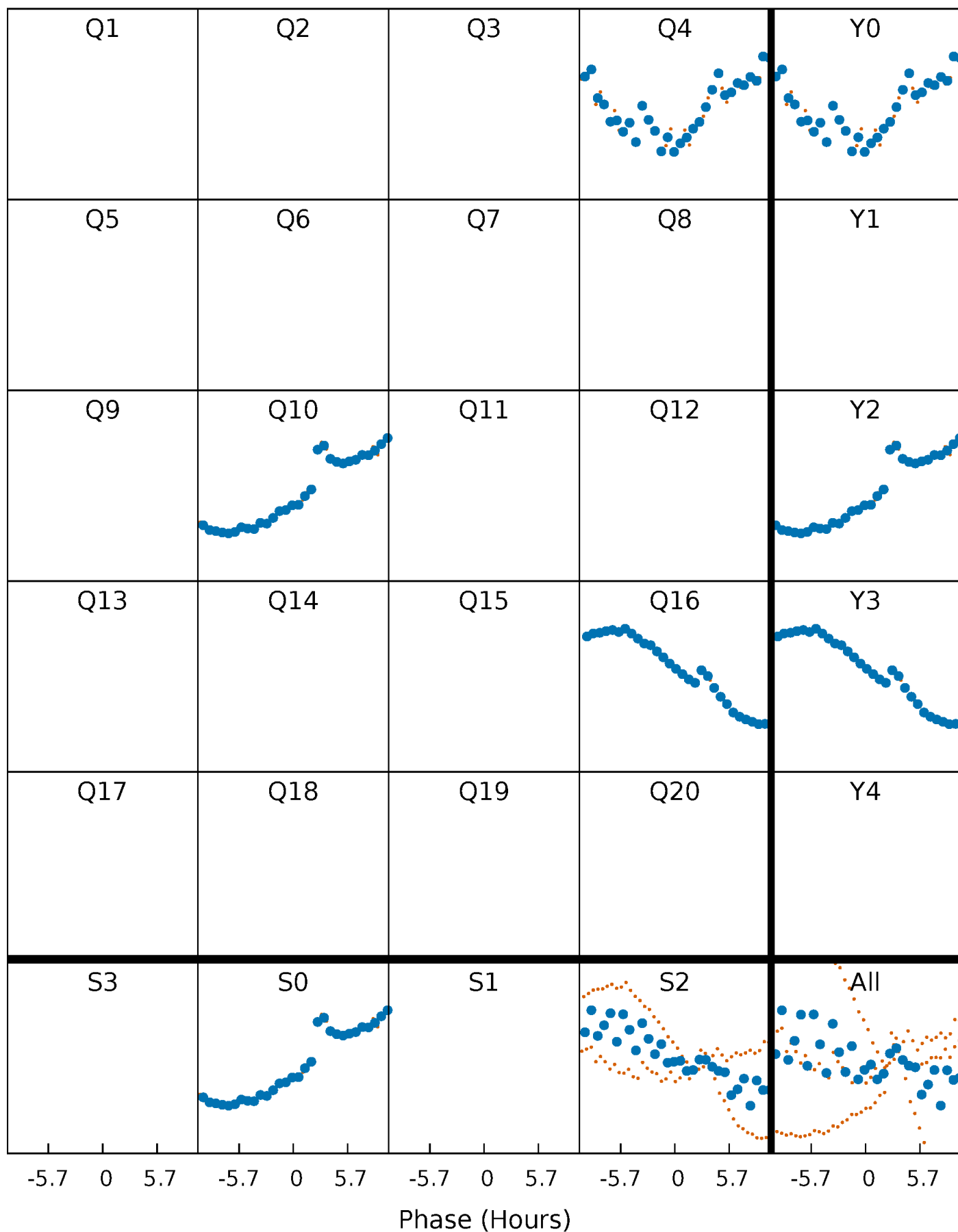


Non-Whitened Vs. Whitened Light Curve



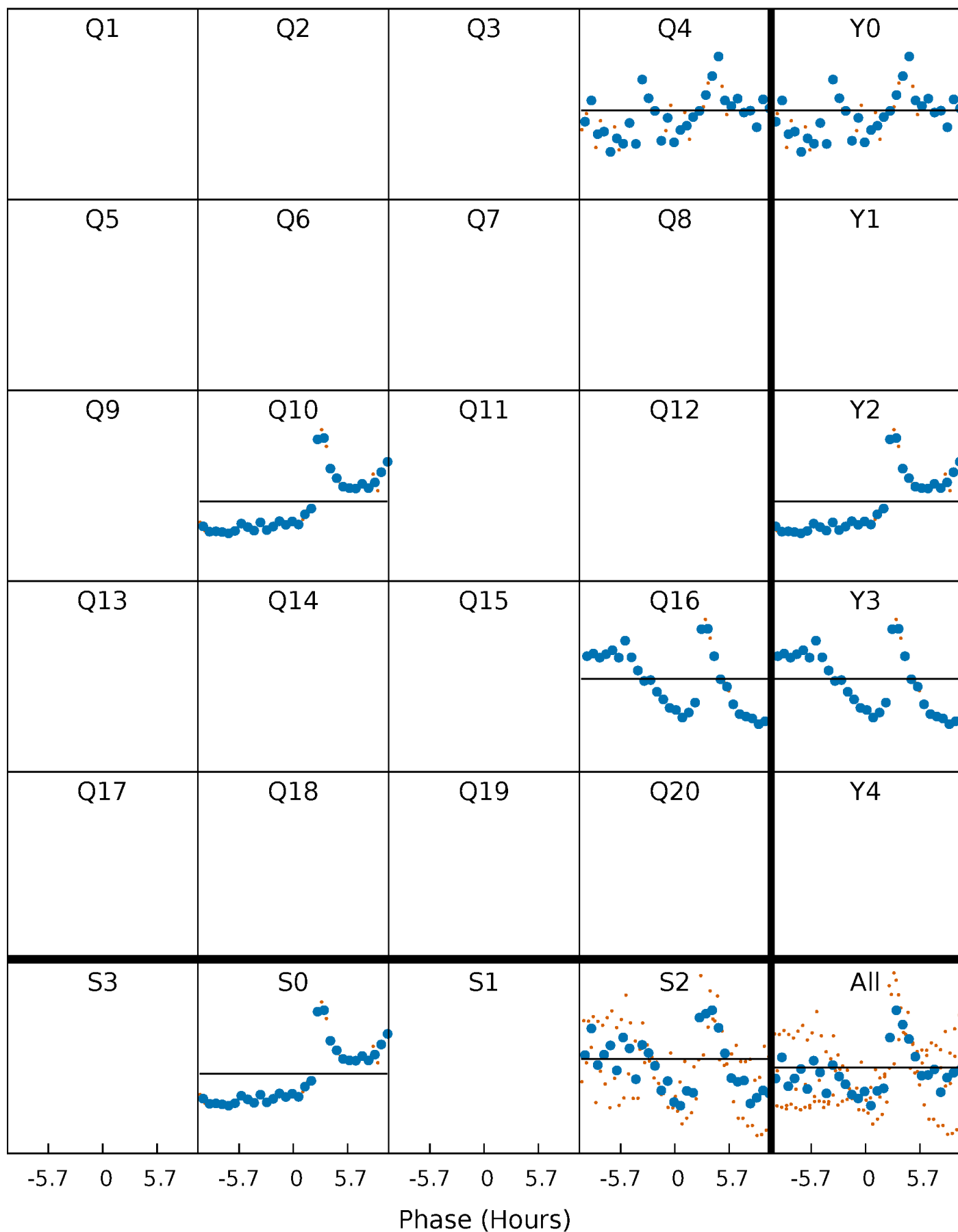
PDC Quarter-Phased Transit Curves

TCE 009349698-07 P=559.538985 Days $T_0=418.966910$ (BKJD)



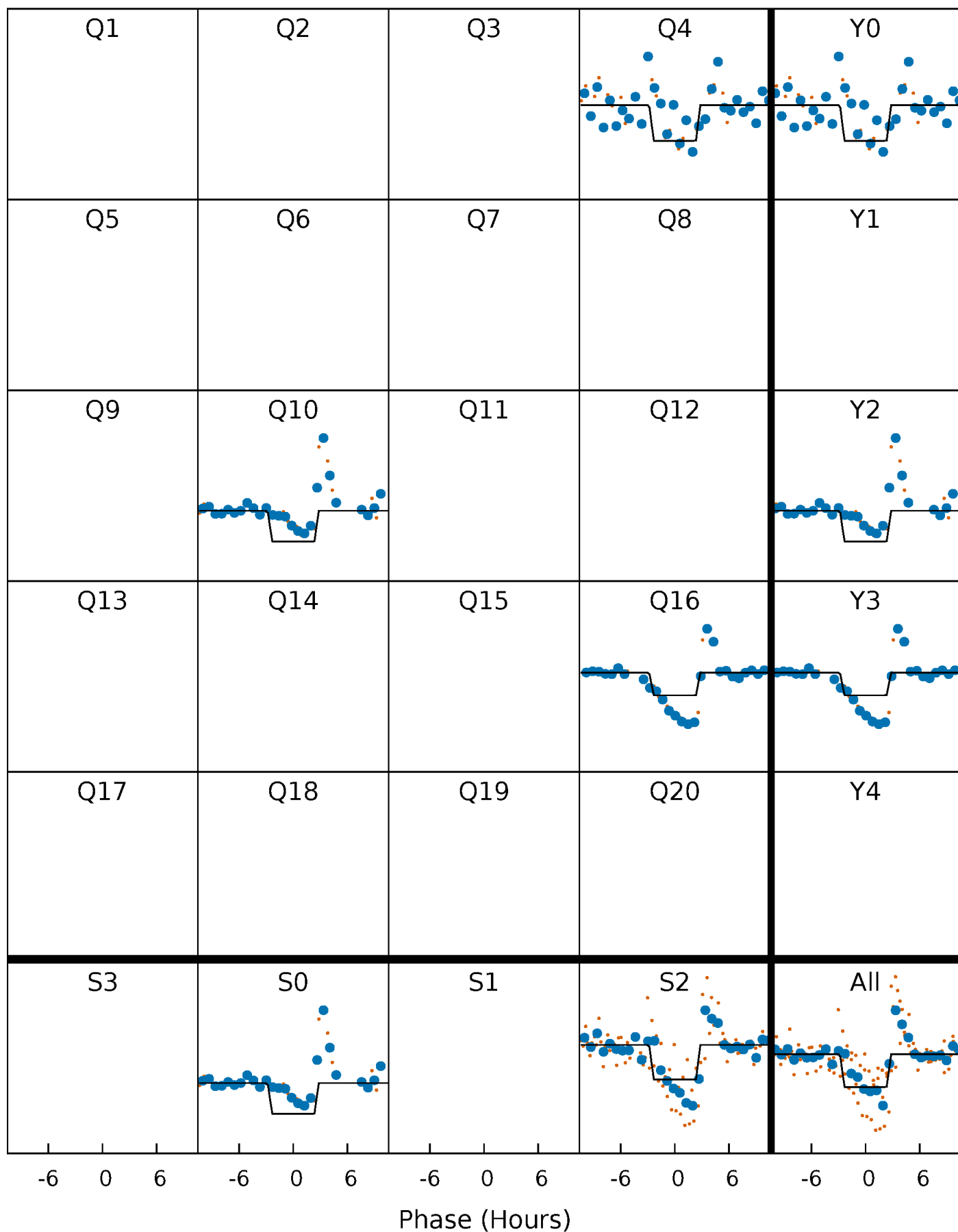
DV Quarter-Phased Transit Curves

TCE 009349698-07 $P=559.538985$ Days $T_0=418.966910$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

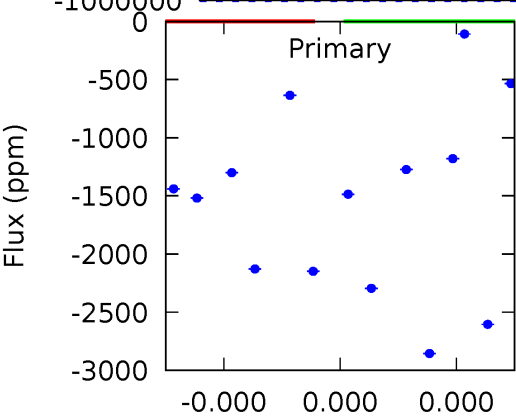
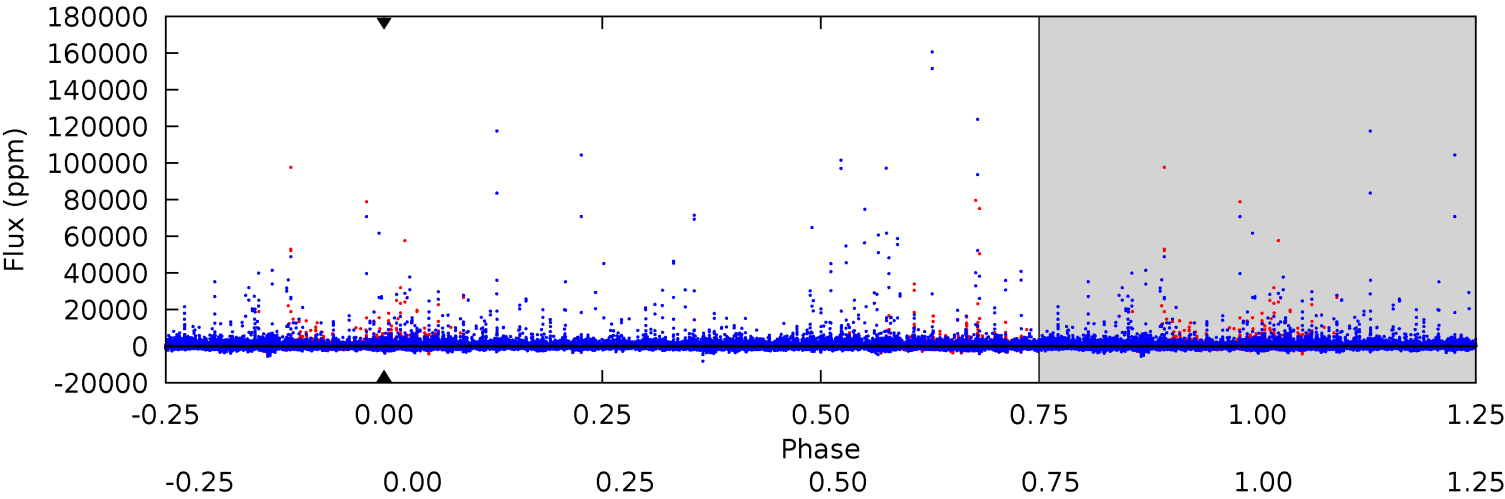
TCE 009349698-07 P=559.538985 Days $T_0=418.952057$ (BKJD)



DV Model-Shift Uniqueness Test

009349698-07, P = 559.538985 Days, E = 418.966910 Days

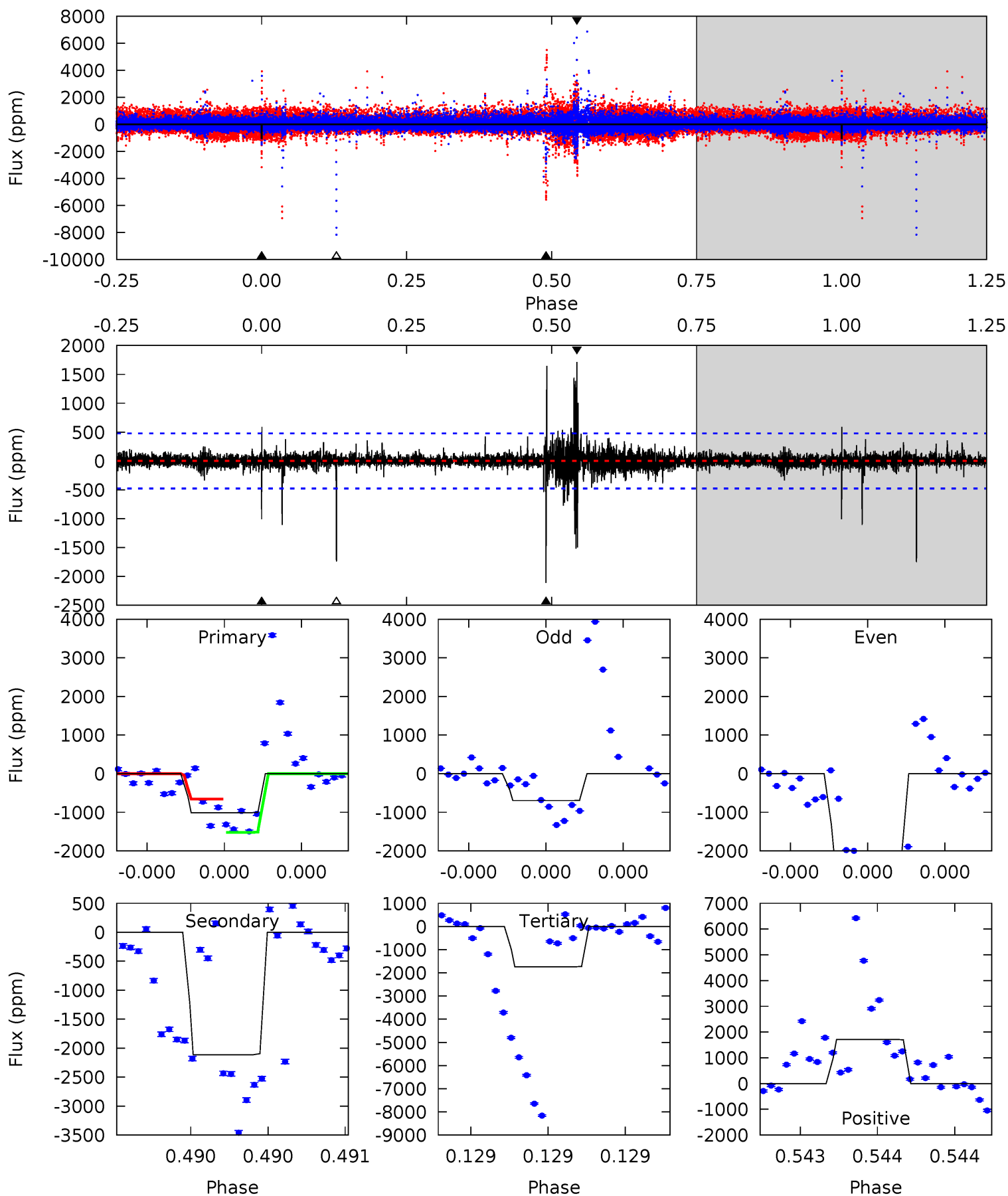
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

009349698-07, P = 559.538985 Days, E = 418.952057 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.9	24.8	20.4	20.1	5.61	3.54	1.52	-8.58	-8.28	4.39	4.69	6.59	1.70	0.45	5.07



Stellar Parameters For KIC 009349698

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5035^{+151}_{-151}	$4.658^{+0.059}_{-0.036}$	$-1.020^{+0.300}_{-0.300}$	$0.600^{+0.042}_{-0.042}$	$0.597^{+0.052}_{-0.022}$	$3.891^{+0.821}_{-0.565}$
	+3%/-3%	+1%/-1%	+29%/-29%	+7%/-7%	+9%/-4%	+21%/-15%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 009349698-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$4.77^{+5.26}_{-3.45}$	226^{+8}_{-8}	-3536^{+17671}_{-12312}	$-25978.727^{+4700906.460}_{-5316766.790}$
Alt.	-2113 ± 85	$5.43^{+5.52}_{-3.69}$	226^{+8}_{-8}	4012^{+2606}_{-832}	$50277^{+450243}_{-37996}$

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 $A_{obs} \gg 1.0$

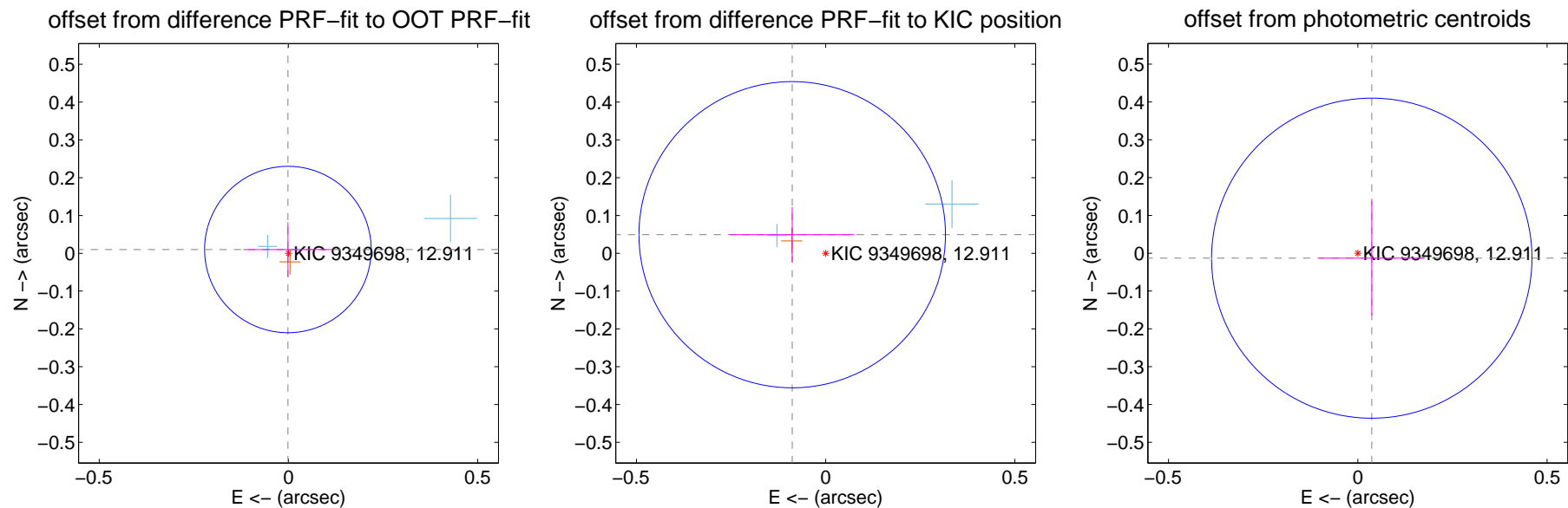
DV Centroid Data

Supplemental centroid analysis for 009349698-07. Kepler magnitude: 12.91. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

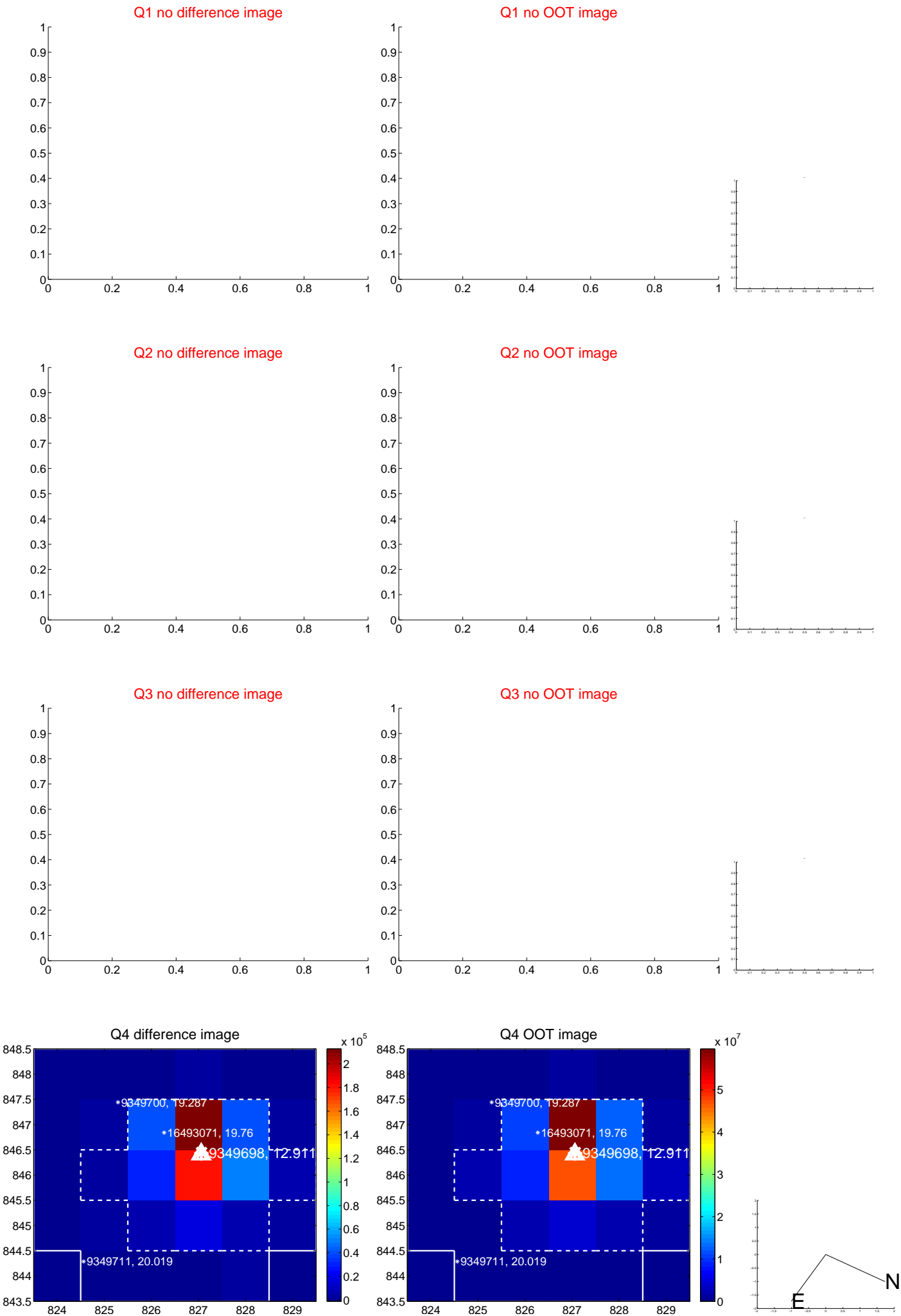
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.010 ± 0.073	0.14	0.002 ± 0.118	0.010 ± 0.072
PRF-fit source offset from KIC position	0.101 ± 0.135	0.75	0.088 ± 0.165	0.049 ± 0.073
photometric centroid source offset	0.04 ± 0.14	0.28	-0.04 ± 0.14	-0.01 ± 0.15



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.

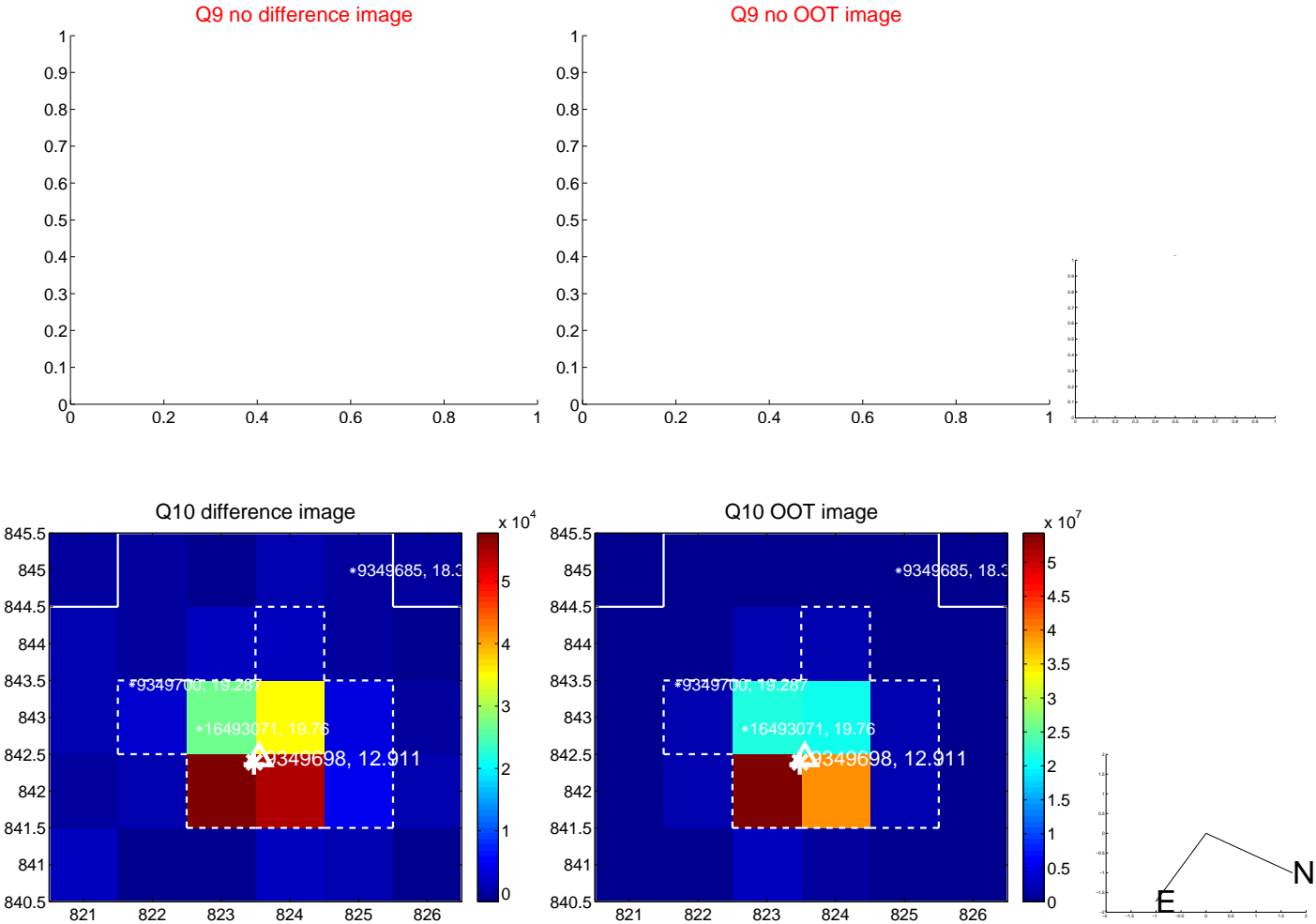
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



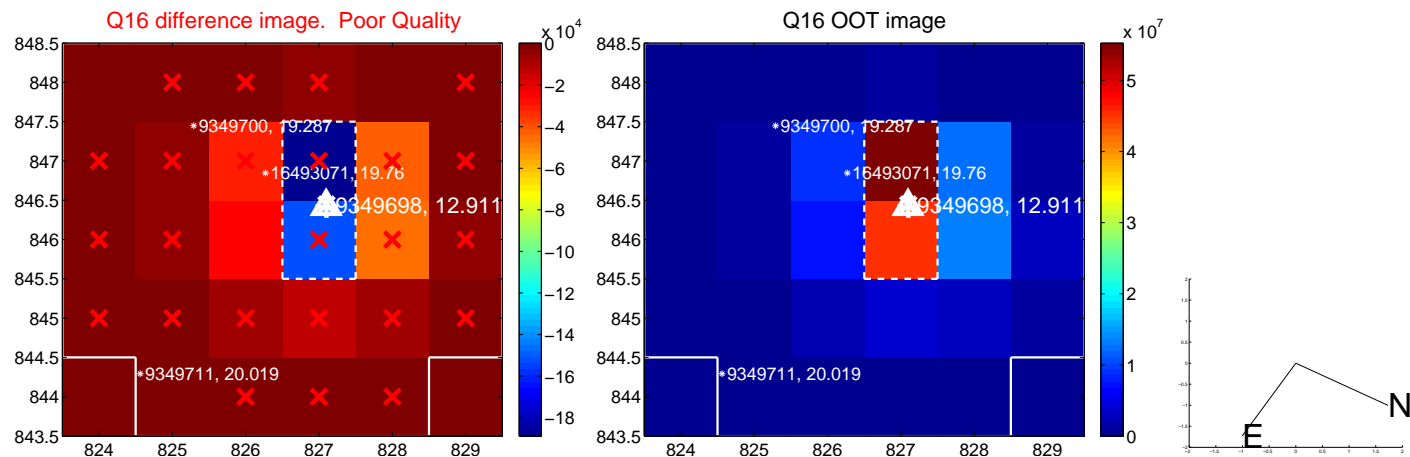
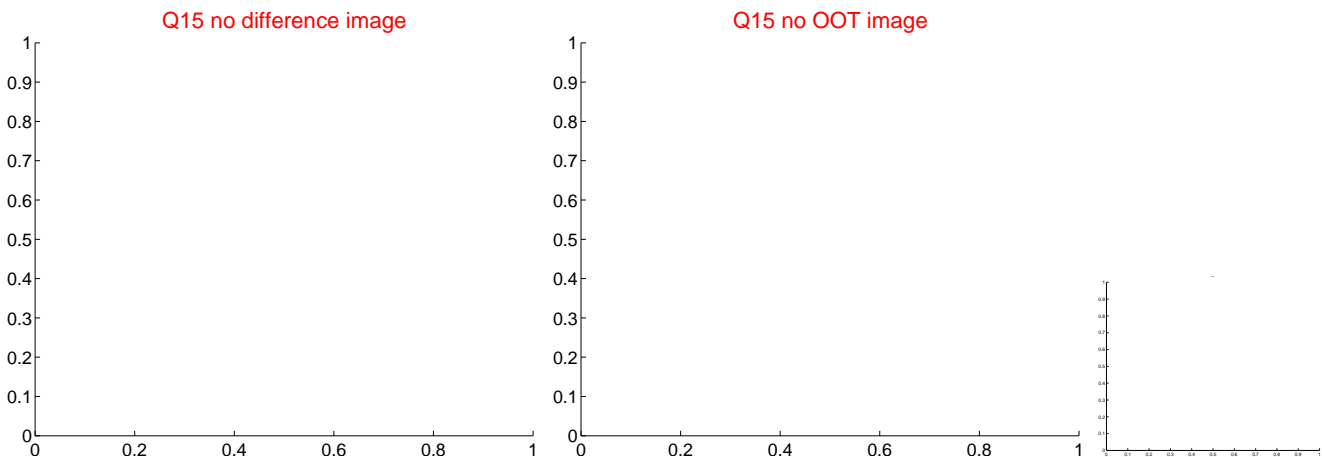
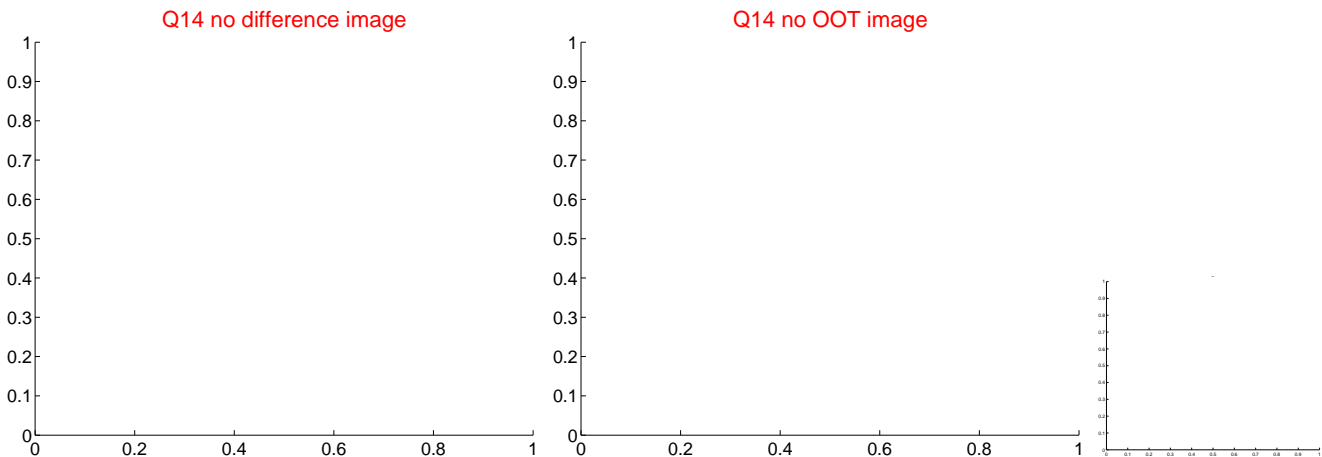
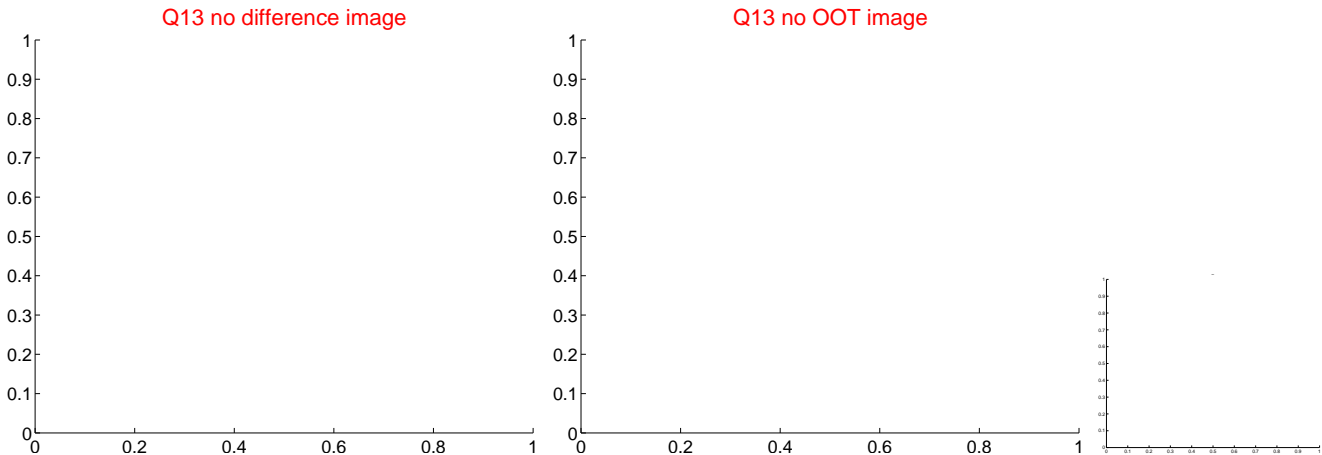
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



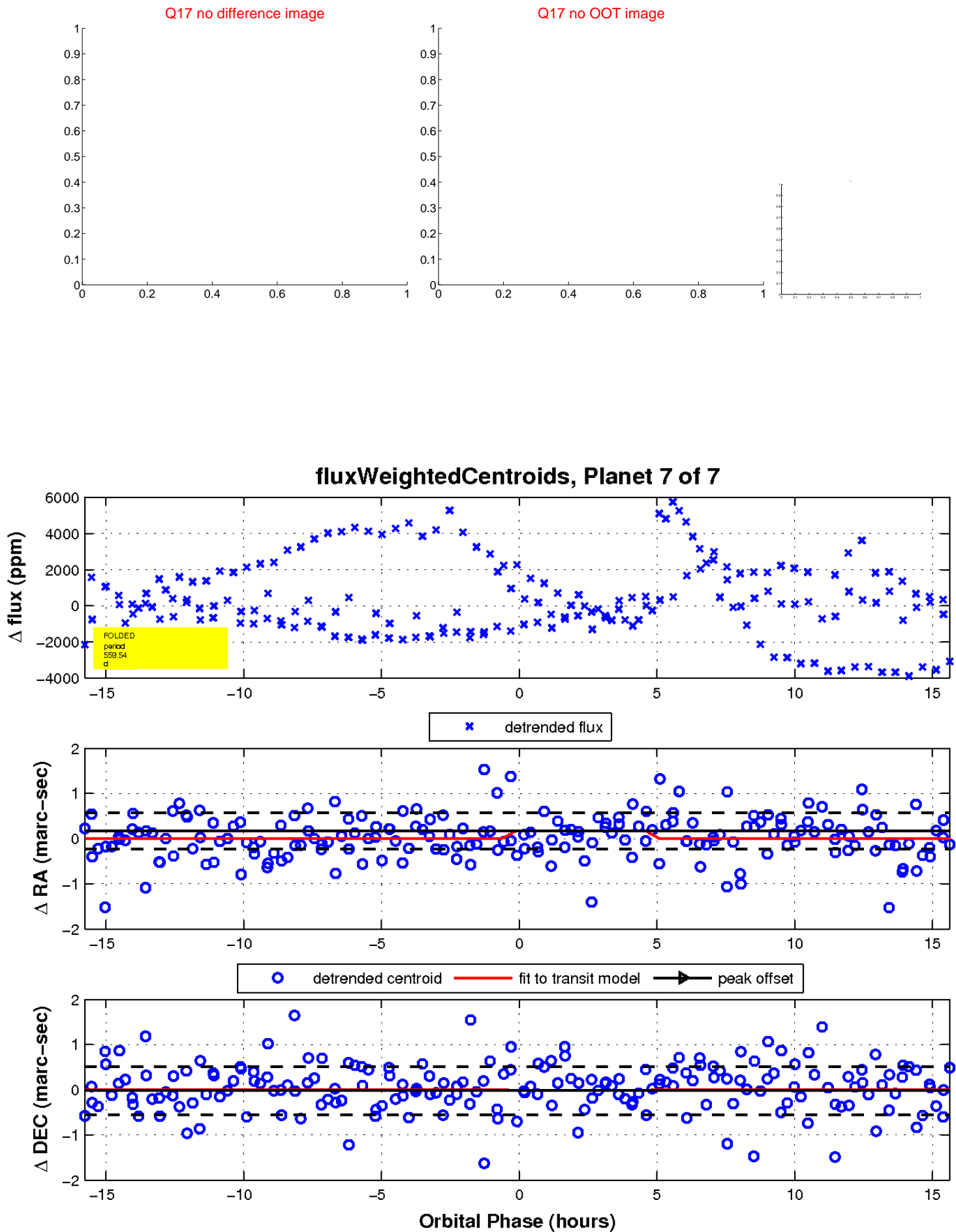
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

