

KIC 011390941

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})
011390941-01	OBS	No	2.717287	132.307590	15.2	7.781	9.4	5.7	1.44	7204	0.65	2847.38
011390941-02	OBS	No	274.552239	279.581144	169.8	16.498	11.5	6.7	1.44	7204	2.06	6.05
011390941-03	OBS	No	2.717261	133.165593	9.9	13.278	9.1	4.6	1.44	7204	0.54	2847.41
011390941-04	OBS	No	83.203247	165.084441	106.1	4.414	10.2	4.8	1.44	7204	1.64	29.72
011390941-05	OBS	No	168.389732	150.908998	117.6	13.132	8.3	7.2	1.44	7204	1.62	11.61
011390941-06	OBS	No	41.729120	131.993576	264.8	1.071	7.4	8.1	1.44	7204	2.40	74.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011390941-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
011390941-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS
011390941-03	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
011390941-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011390941-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— HALO_GHOST
011390941-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV

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

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

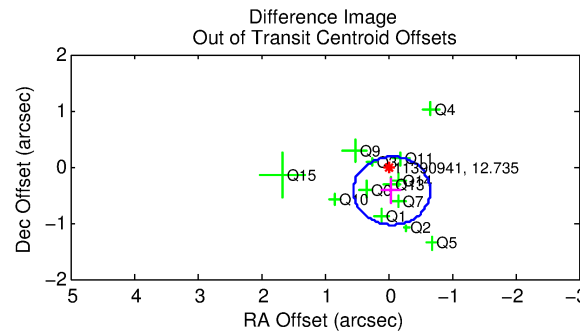
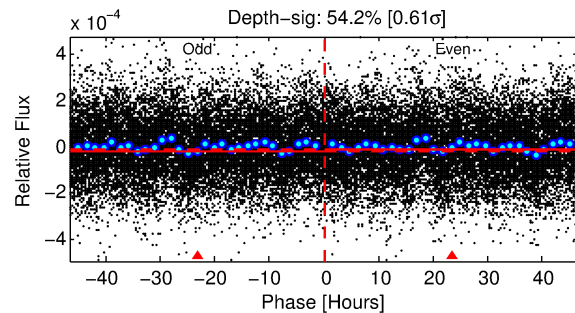
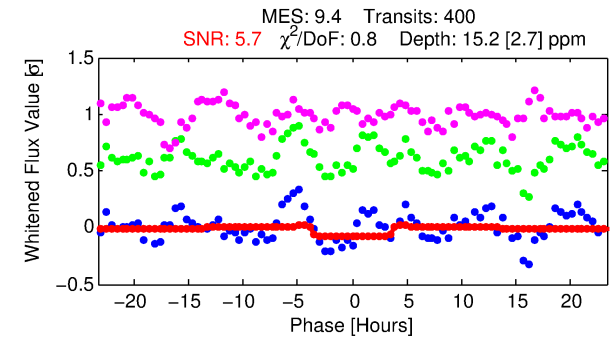
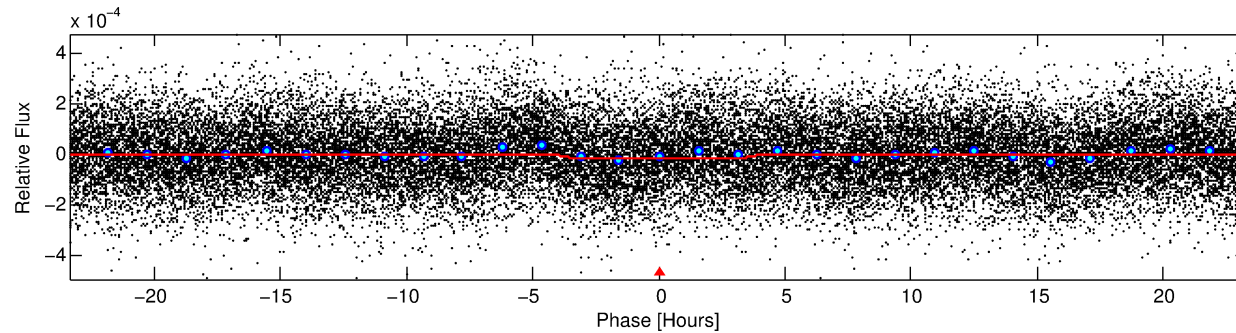
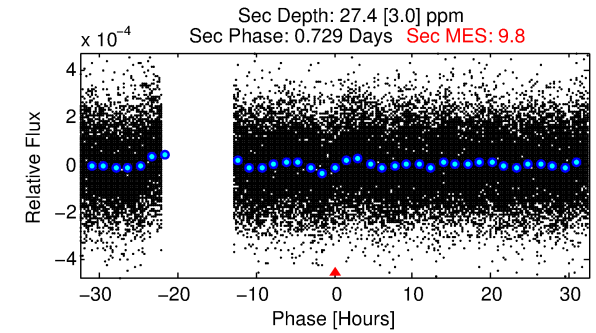
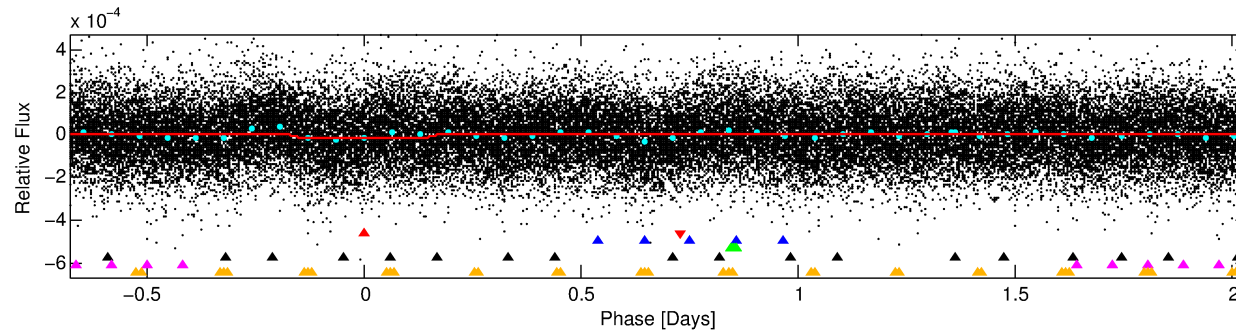
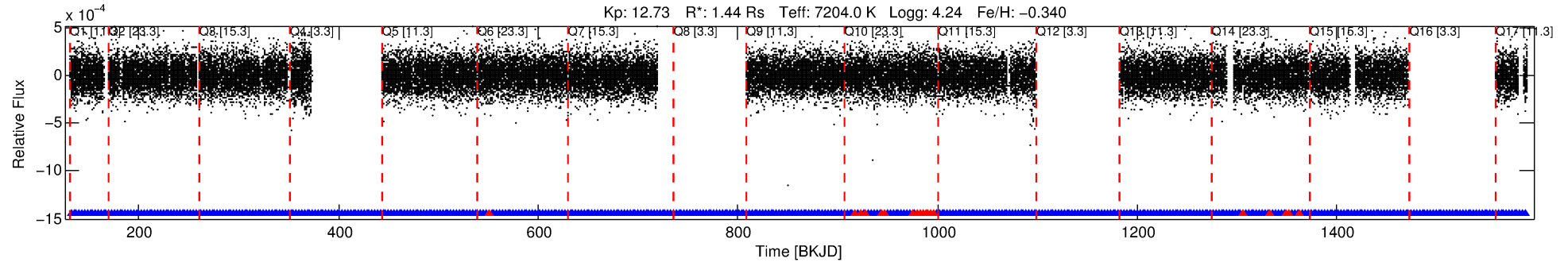
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011390941-01

No Significant Match Found

DV One-Page Summary

KIC: 11390941 Candidate: 1 of 6 Period: 2.717 d



DV Fit Results:

Period = 2.71729 [0.00005] d
Epoch = 132.3076 [0.0095] BKJD
Rp/R* = 0.0041 [0.0012]
a/R* = 1.53 [1.51]
b = 0.90 [0.38]
Seff = 2847.38 [1129.32]
Teq = 1863 [185] K
Rp = 0.65 [0.28] Re
a = 0.0418 [0.0111] AU
Ag = 62.88 [43.16] [1.43σ]
Teffp = 8110 [1206] K [5.12σ]

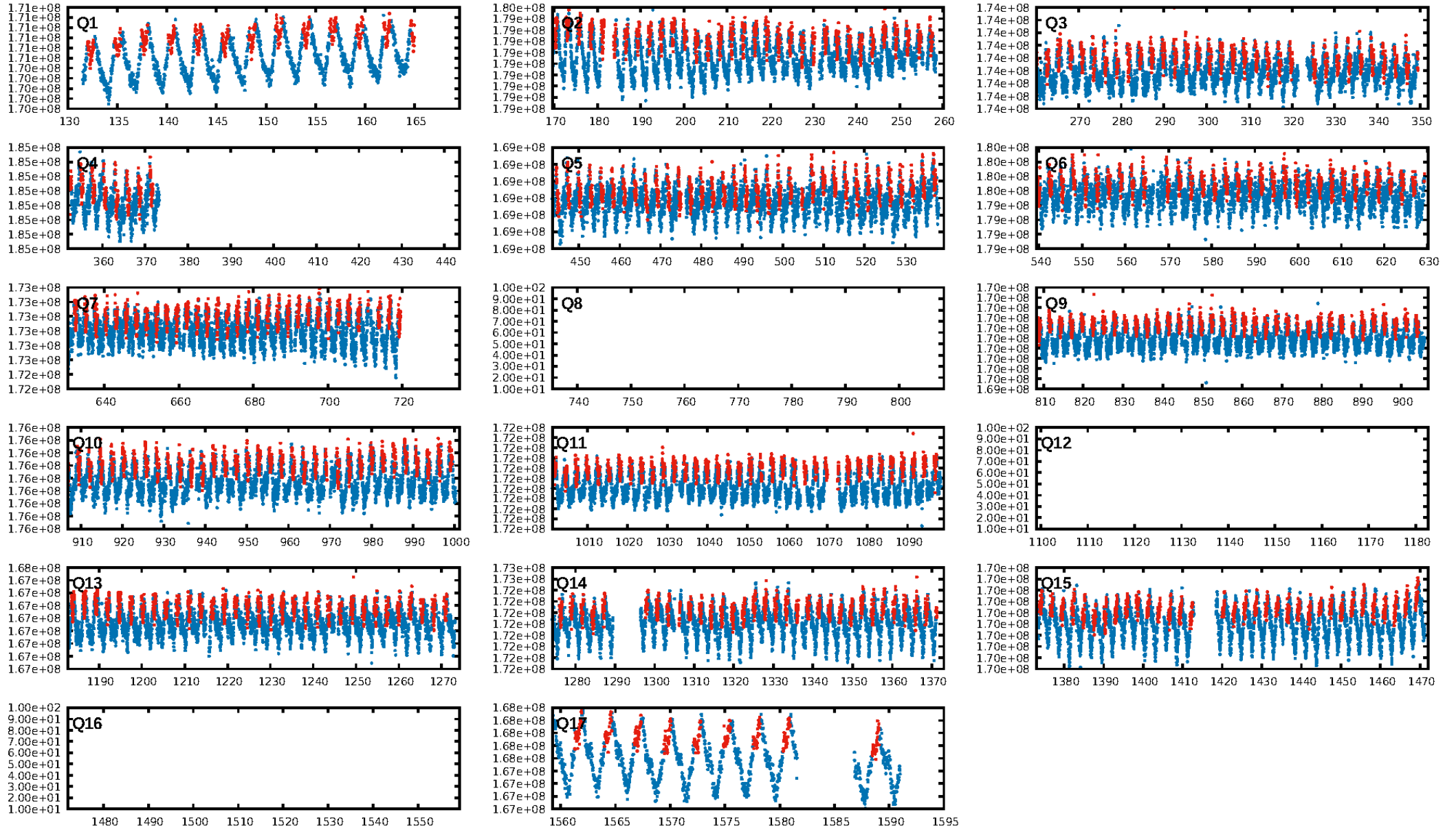
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [119.21σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.49e-11
RollingBand-fgt: 0.95 [351/370]
GhostDiagnostic-chr: 1.011
Centroid-sig: 29.9%
Centroid-so: 1.688 arcsec [1.05σ]
OotOffset-rm: 0.434 arcsec [2.15σ]
KicOffset-rm: 0.510 arcsec [2.44σ]
OotOffset-st: 4/4/1/4 [13]
KicOffset-st: 4/4/1/4 [13]
DiffImageQuality-fgm: 0.92 [12/13]
DiffImageOverlap-fno: 0.00 [0/14]

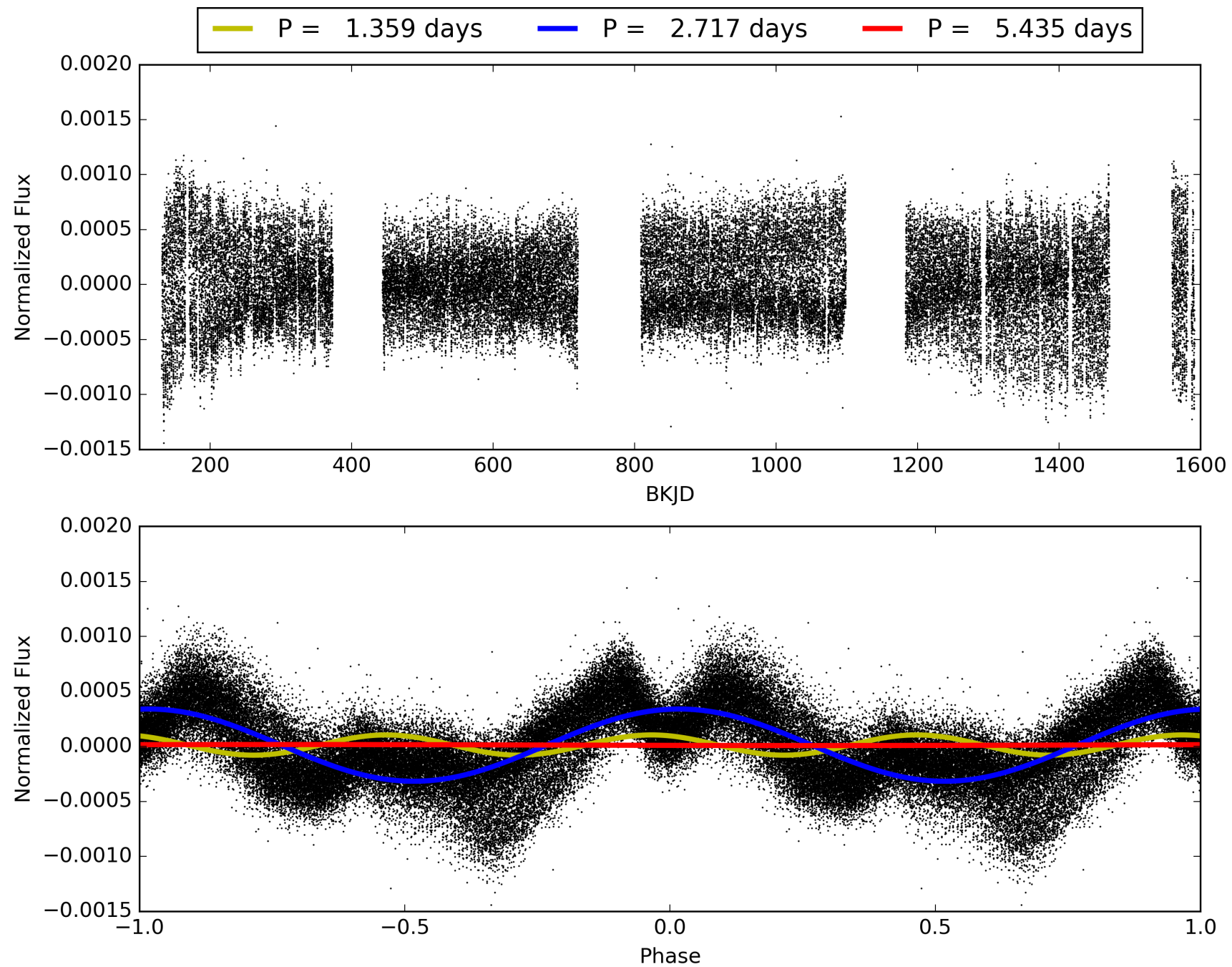
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:49:21 Z

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

TCE 011390941-01, PDC Light Curves

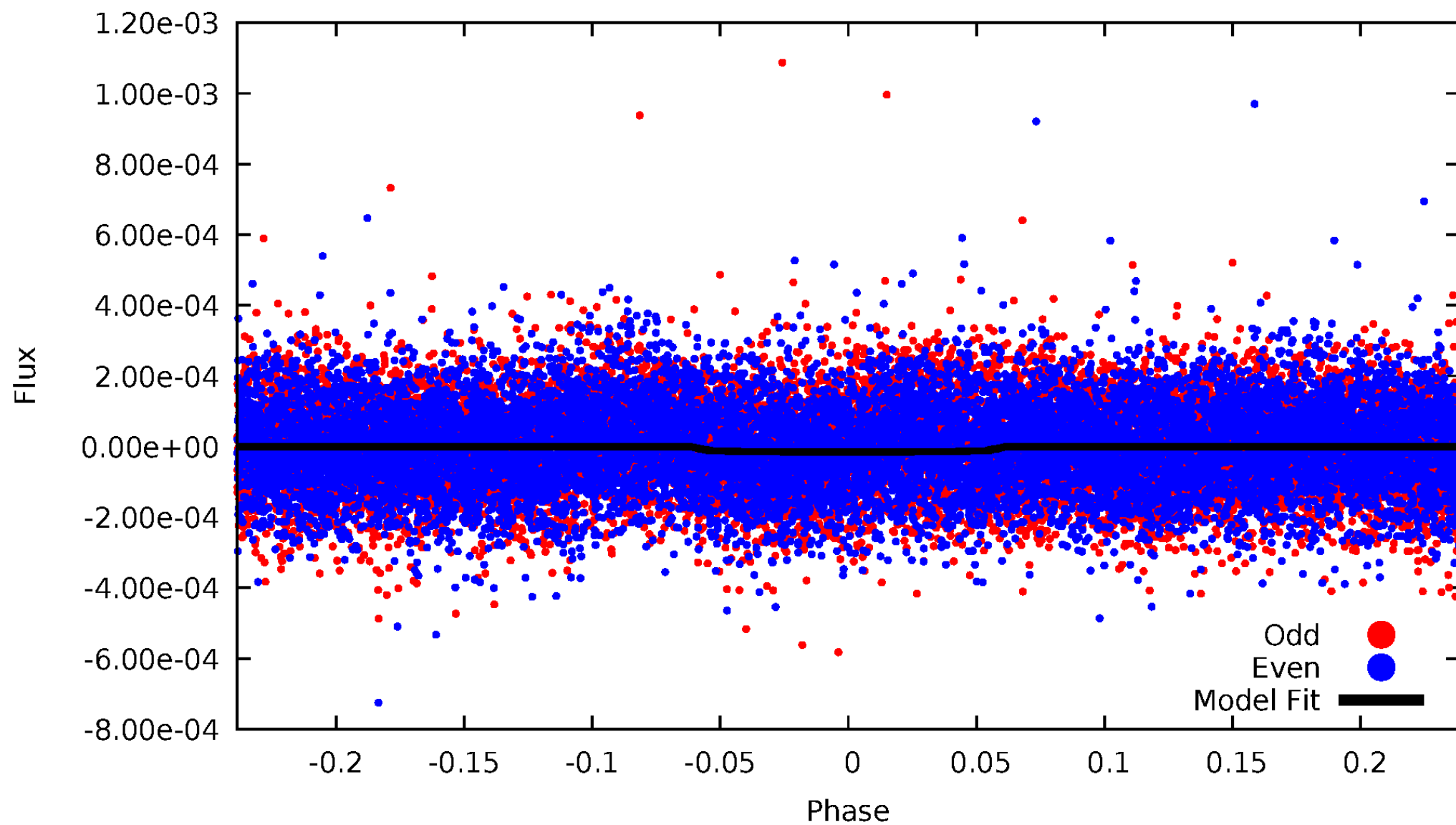


TCE 011390941-01



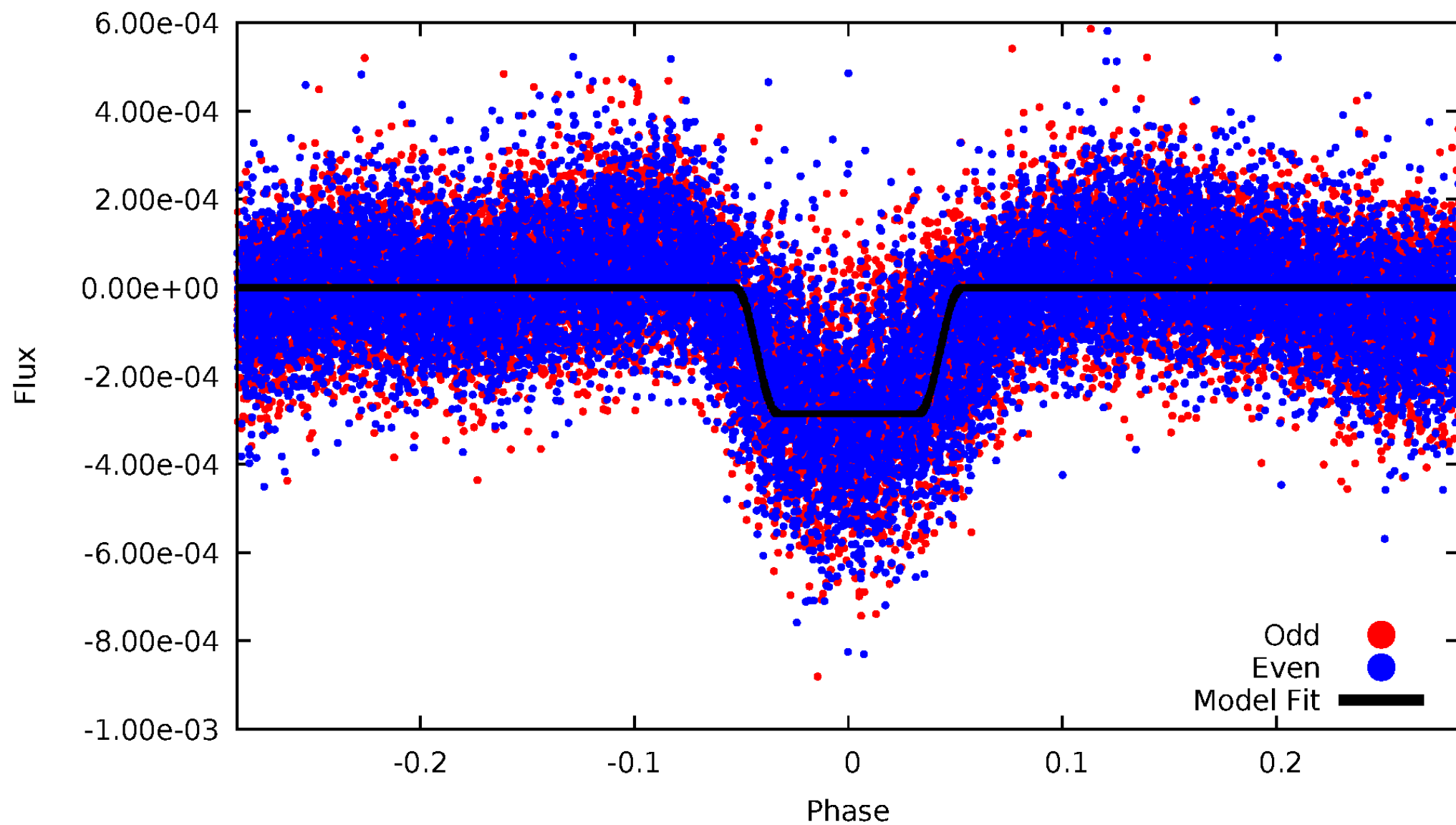
DV Odd/Even

TCE 011390941-01



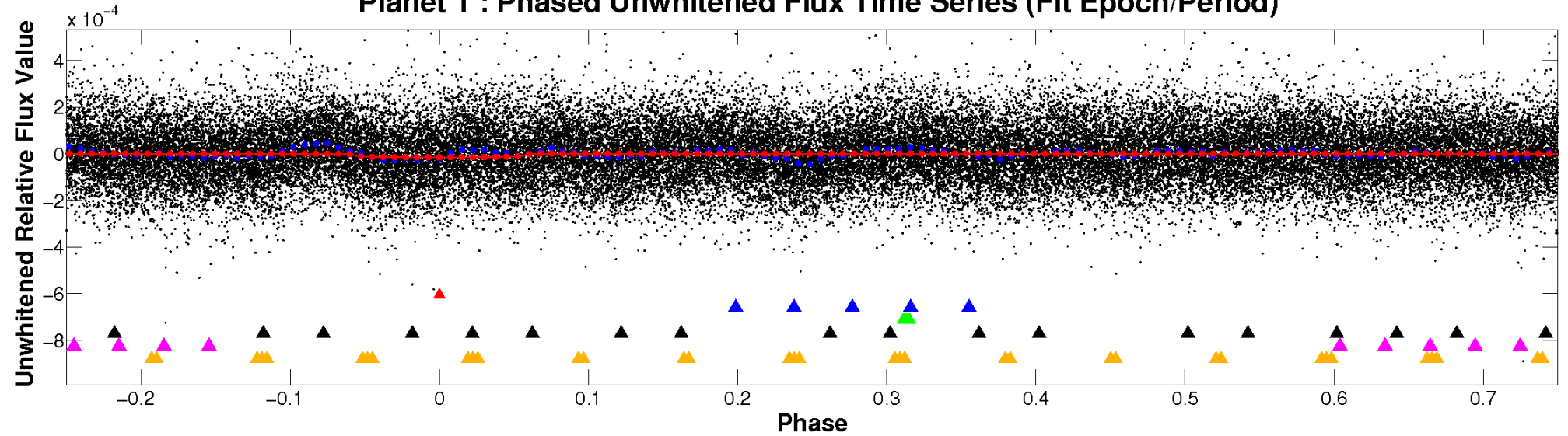
ALT Odd/Even

TCE 011390941-01

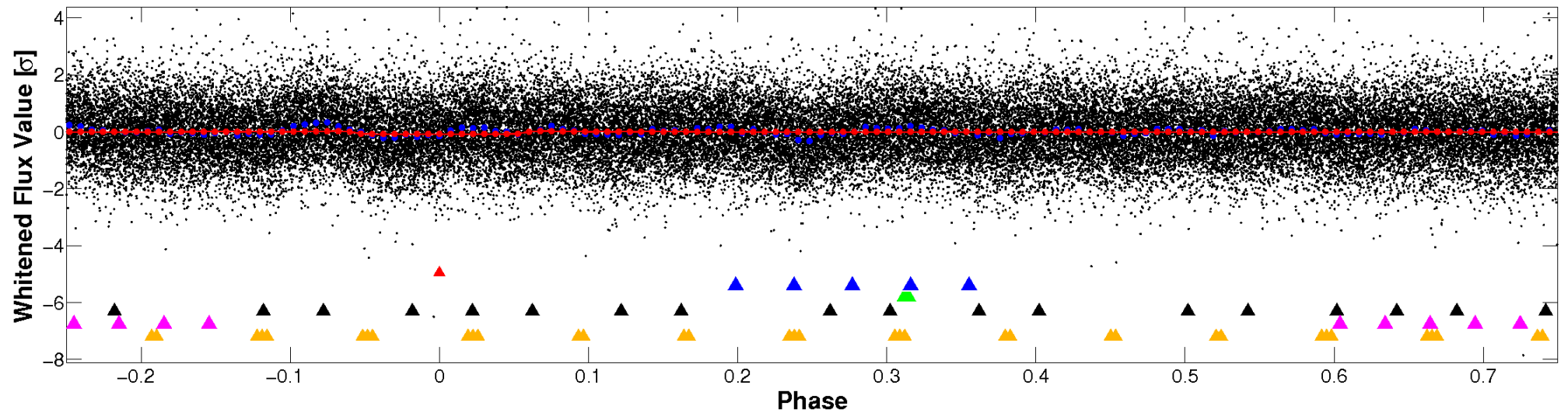


Non-Whitened Vs. Whitened Light Curve

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

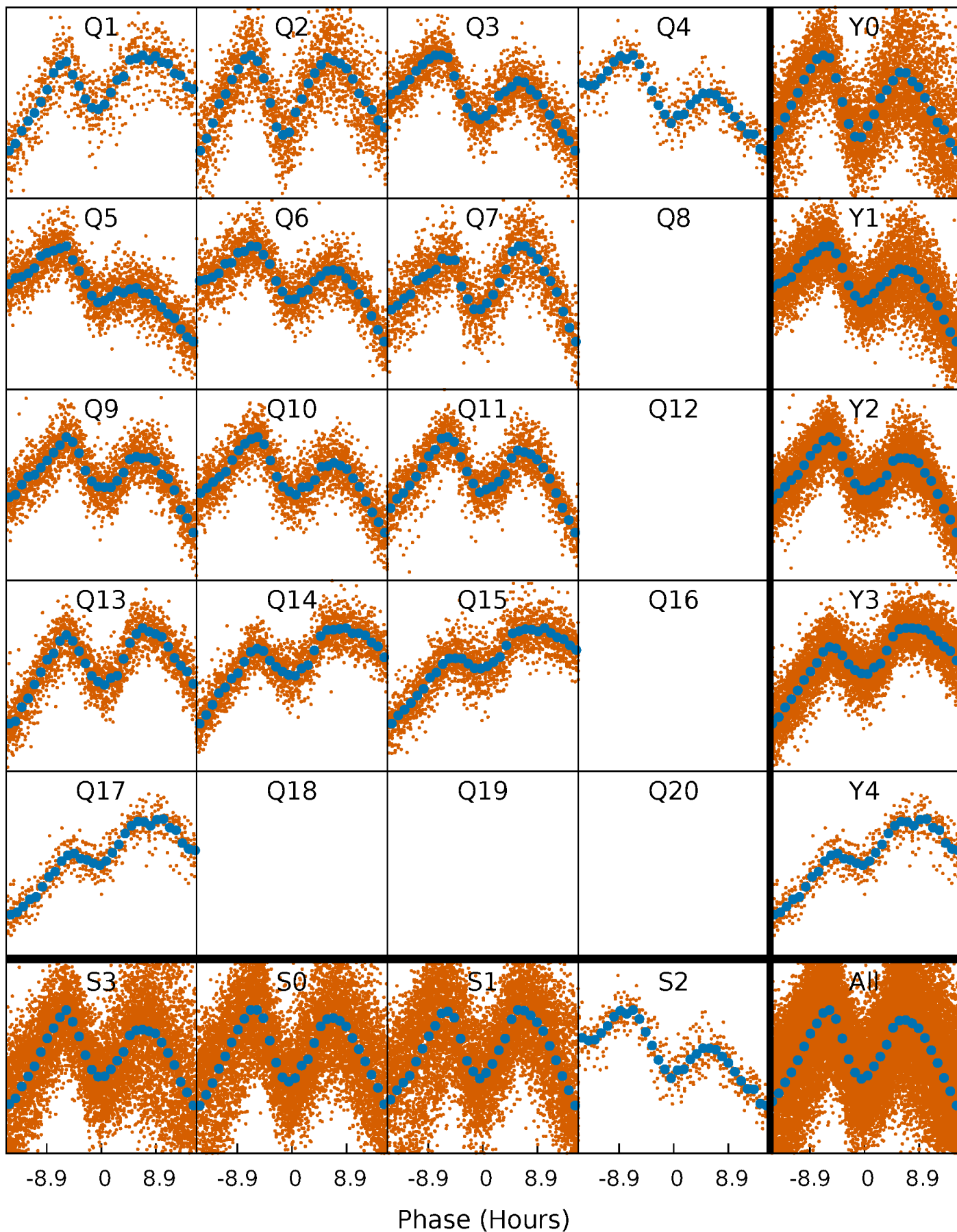


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



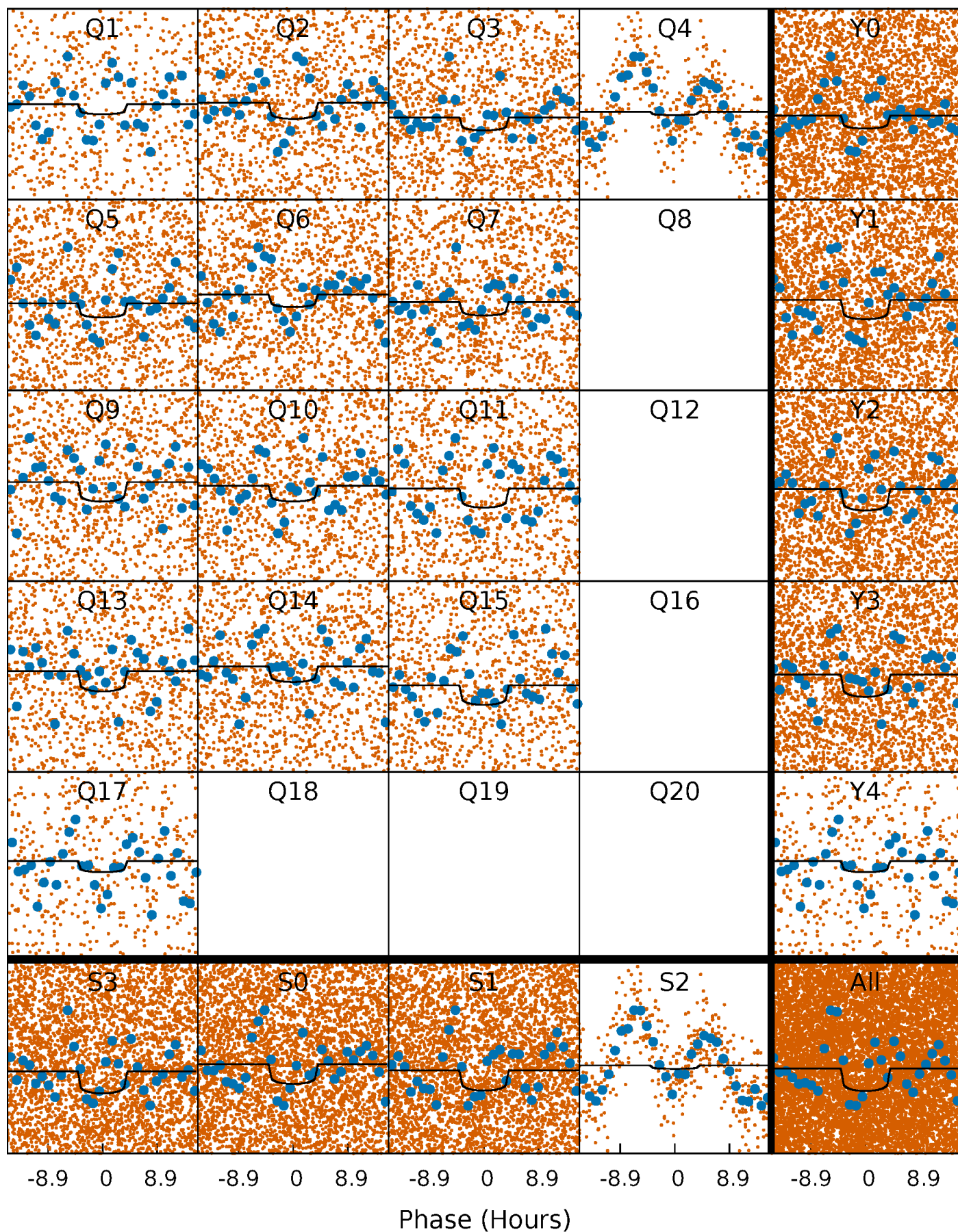
PDC Quarter-Phased Transit Curves

TCE 011390941-01 P= 2.717287 Days $T_0=132.307590$ (BKJD)



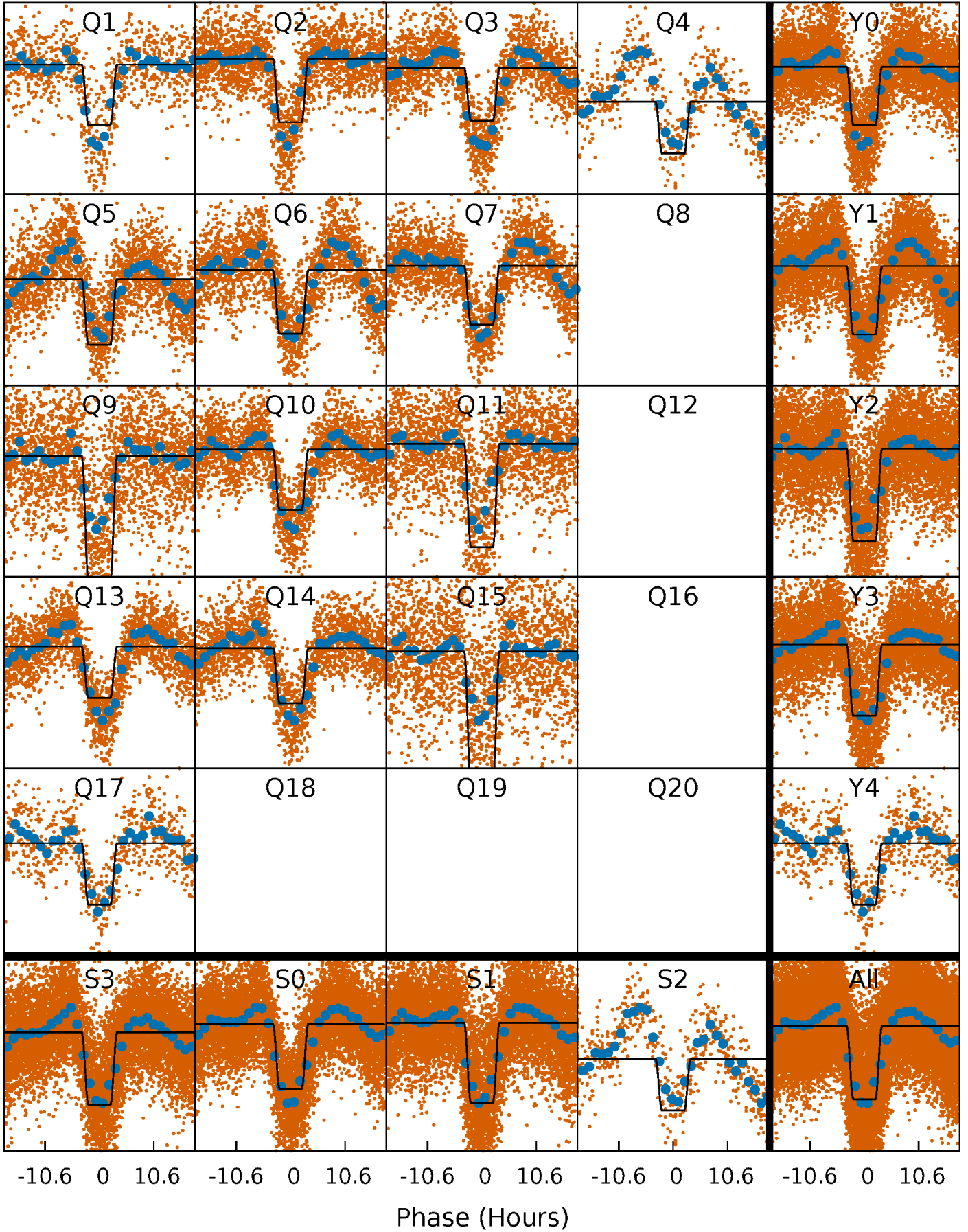
DV Quarter-Phased Transit Curves

TCE 011390941-01 P= 2.717287 Days $T_0=132.307590$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

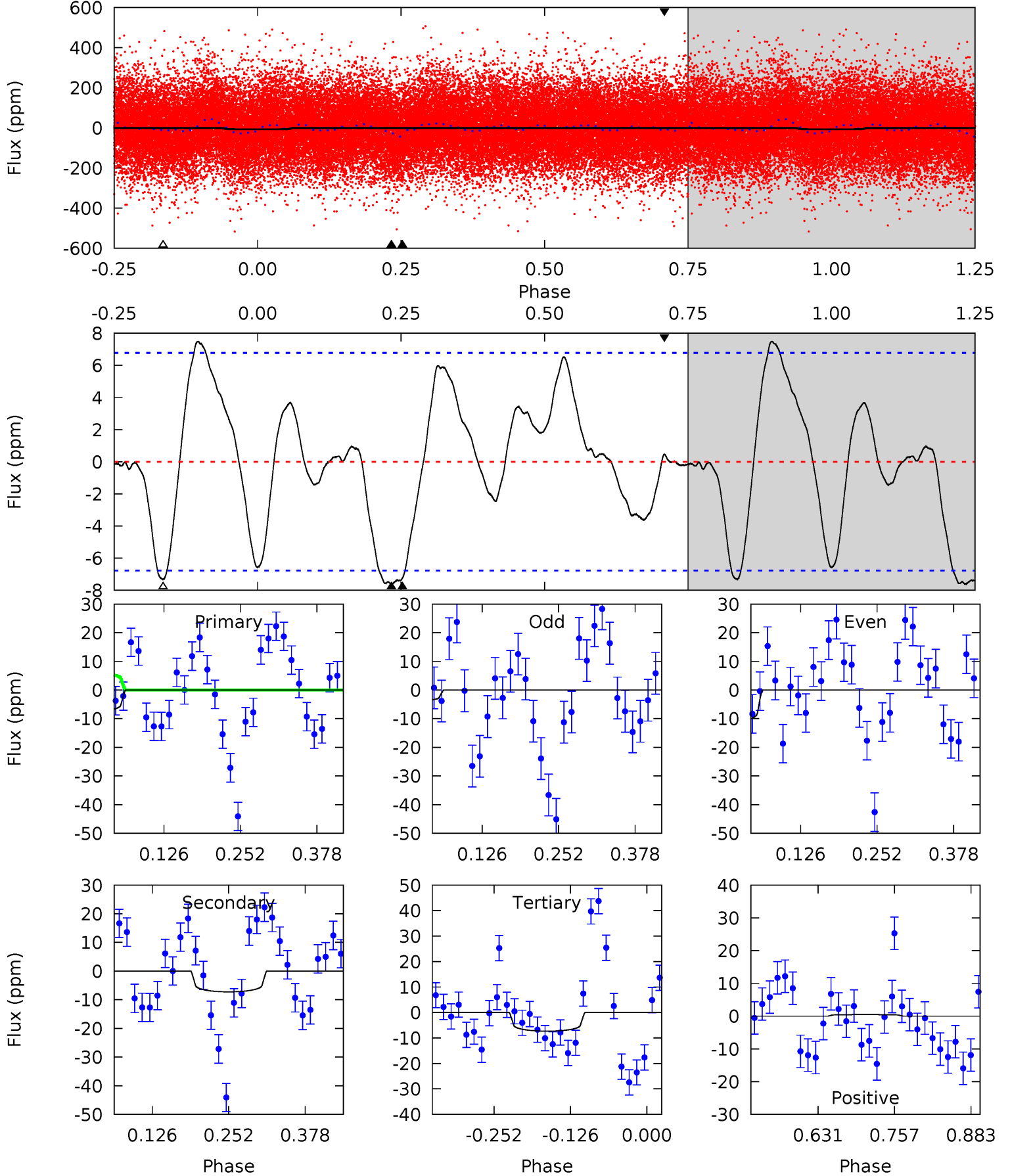
TCE 011390941-01 P= 2.717355 Days $T_0=132.273654$ (BKJD)



DV Model-Shift Uniqueness Test

011390941-01, P = 2.717287 Days, E = 129.590303 Days

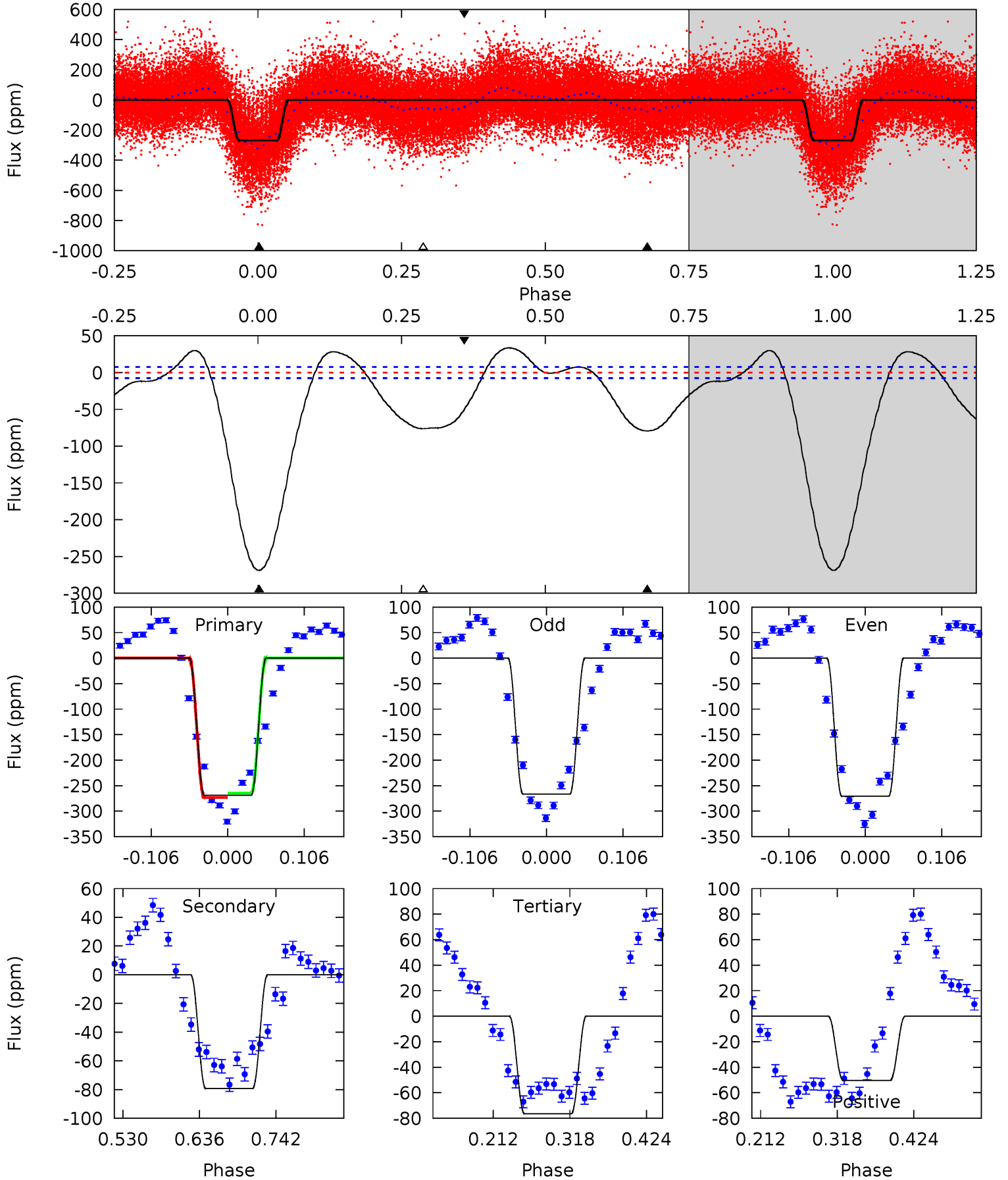
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.06	4.83	4.87	0.31	4.52	1.53	2.25	0.19	4.76	-0.04	4.52	2.56	2.08	0.50	5.14



Alt Model-Shift Uniqueness Test

011390941-01, P = 2.717355 Days, E = 129.556299 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
161.4	47.6	45.8	-30.2	4.55	1.62	21.4	115.6	191.6	1.75	77.8	1.25	0.97	0.11	0



Stellar Parameters For KIC 011390941

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	7204^{+203}_{-254}	$4.244^{+0.105}_{-0.195}$	$-0.340^{+0.250}_{-0.350}$	$1.436^{+0.471}_{-0.253}$	$1.324^{+0.198}_{-0.198}$	$0.630^{+0.309}_{-0.332}$
	+3%/-4%	+2%/-5%	+74%/-103%	+33%/-18%	+15%/-15%	+49%/-53%
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 011390941-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-7 ± 2	$0.66^{+0.23}_{-0.20}$	2633^{+187}_{-152}	5724^{+1095}_{-680}	15^{+16}_{-7}
Alt.	-79 ± 2	$2.73^{+0.45}_{-0.35}$	2644^{+204}_{-168}	5192^{+217}_{-189}	10^{+3}_{-2}

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 $A_{obs} \gg 1.0$

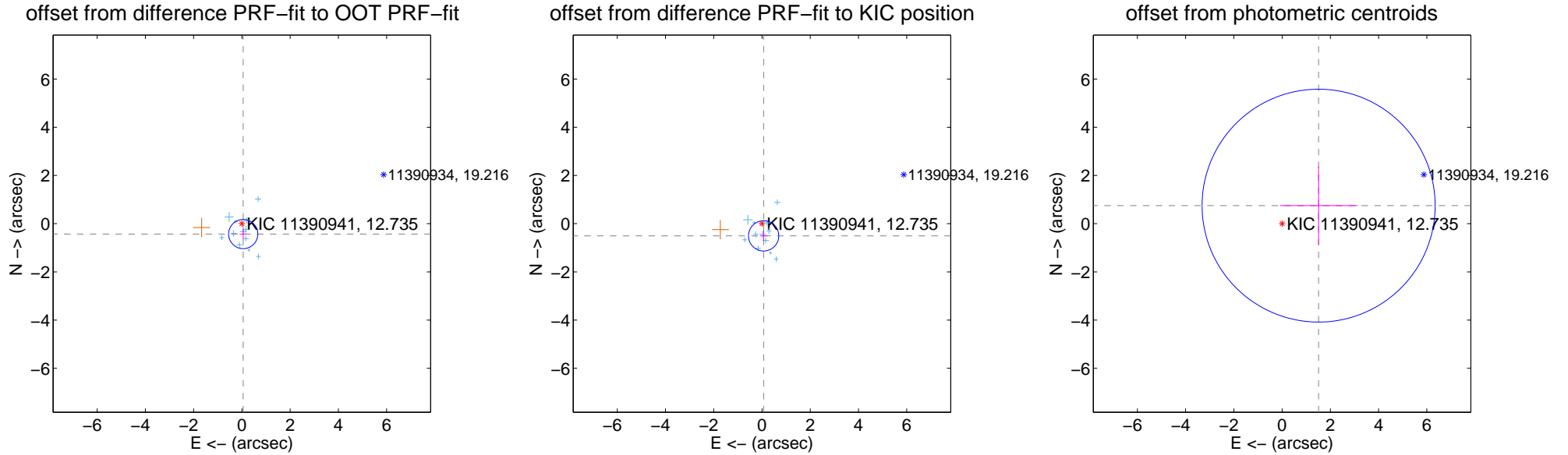
DV Centroid Data

Supplemental centroid analysis for 011390941-01. Kepler magnitude: 12.73. Transit SNR 5.68

There are 12 quarters with good PRF difference image offsets

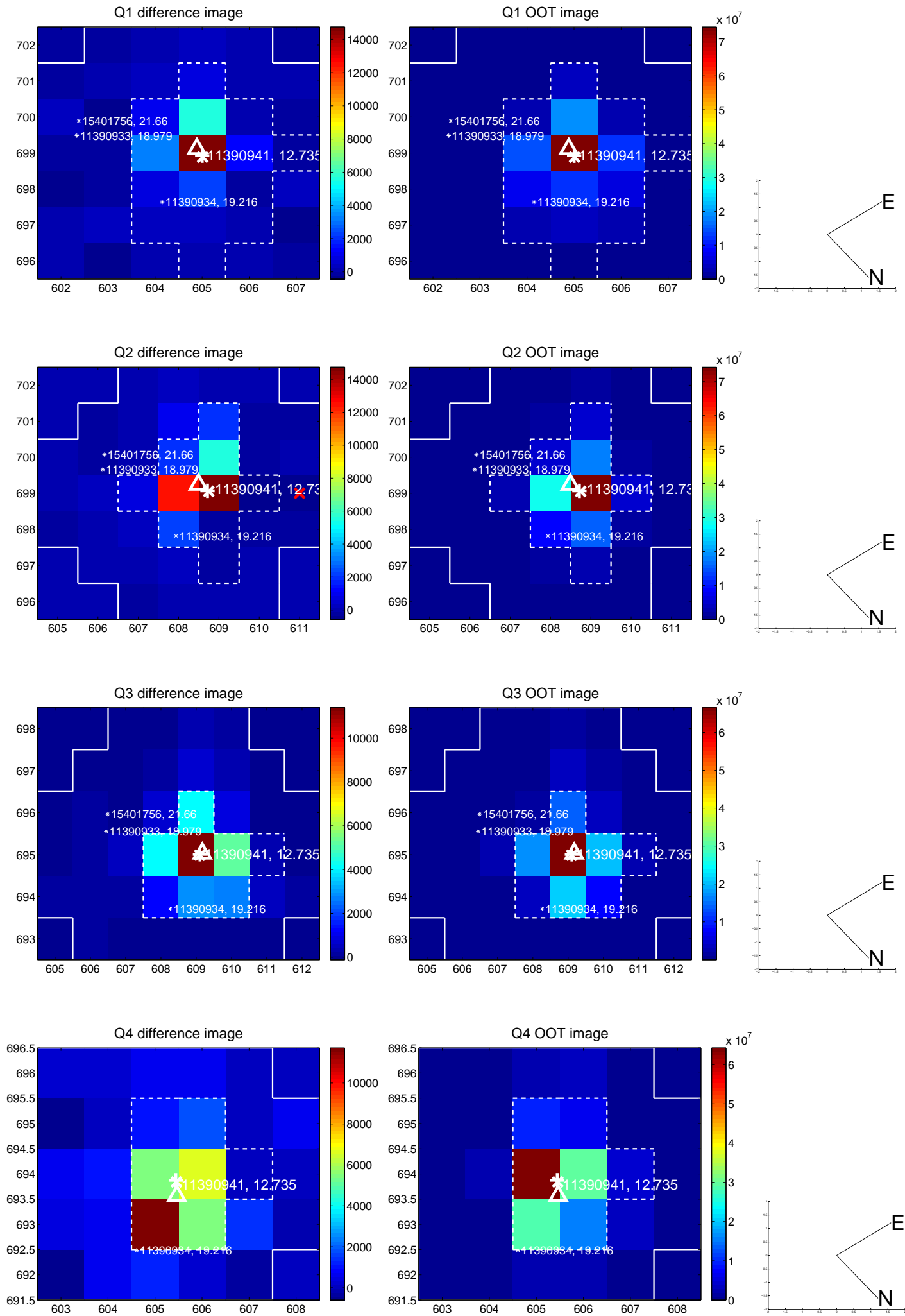
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.434 ± 0.202	2.15	-0.055 ± 0.150	-0.431 ± 0.202
PRF-fit source offset from KIC position	0.510 ± 0.209	2.44	-0.068 ± 0.152	-0.506 ± 0.210
photometric centroid source offset	1.69 ± 1.61	1.05	-1.51 ± 1.60	0.75 ± 1.63

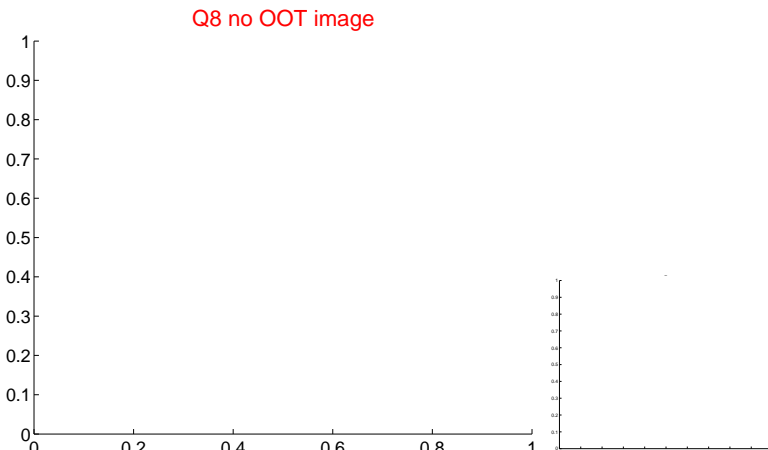
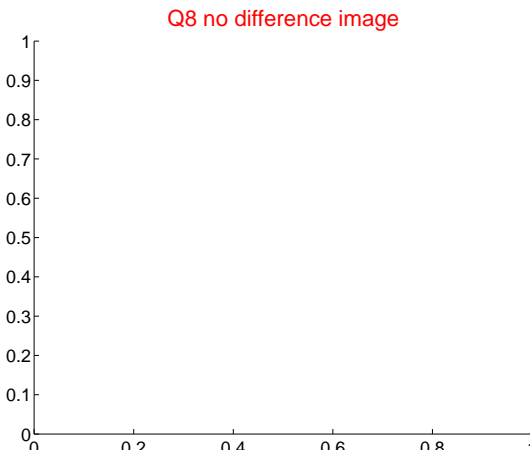
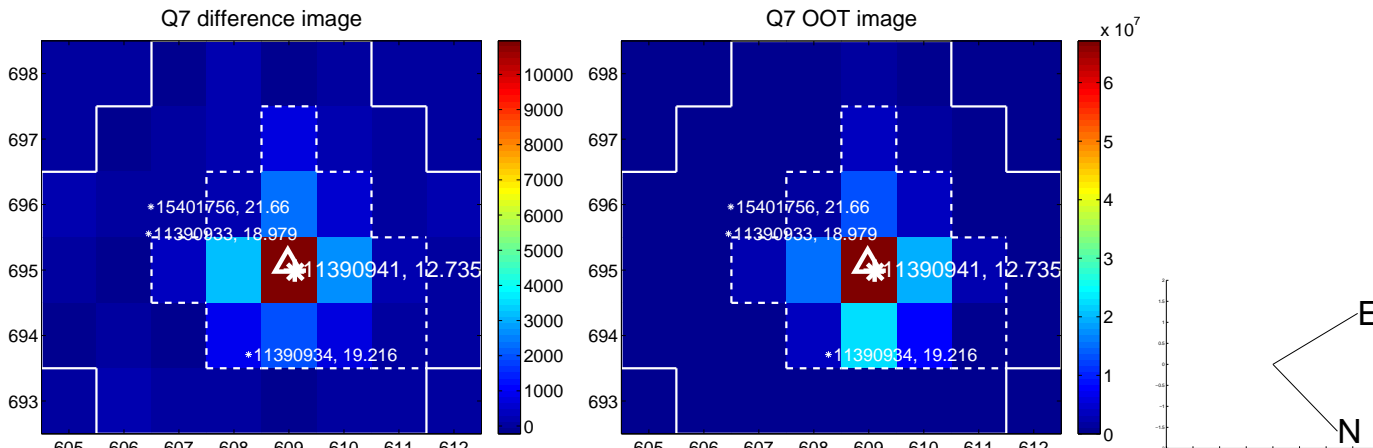
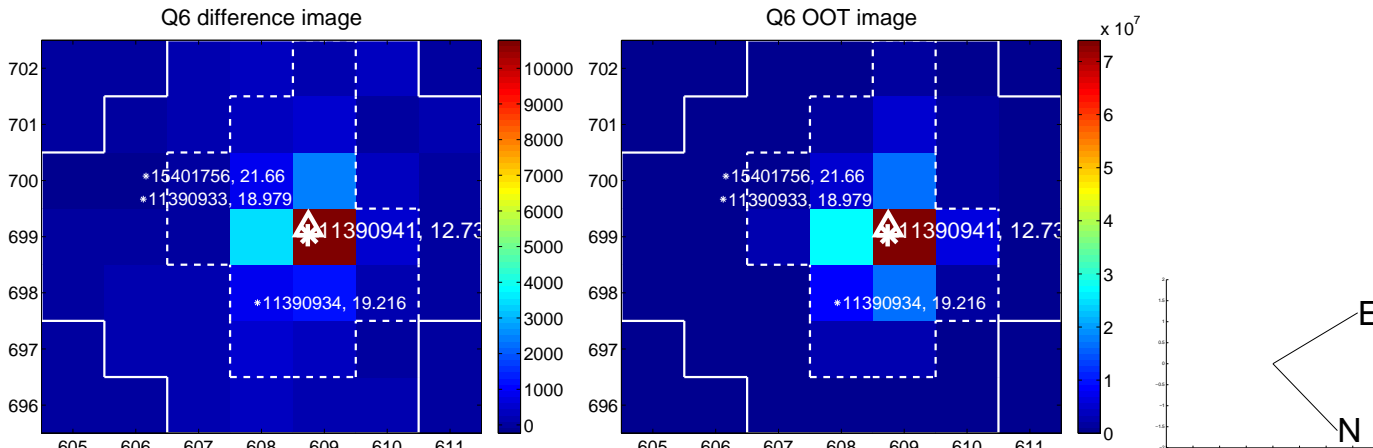
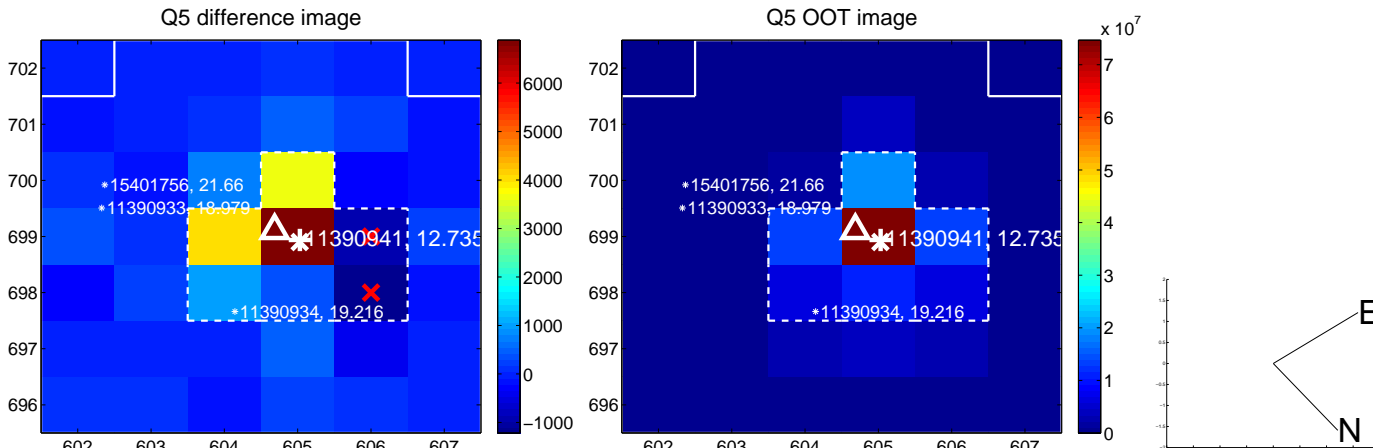


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

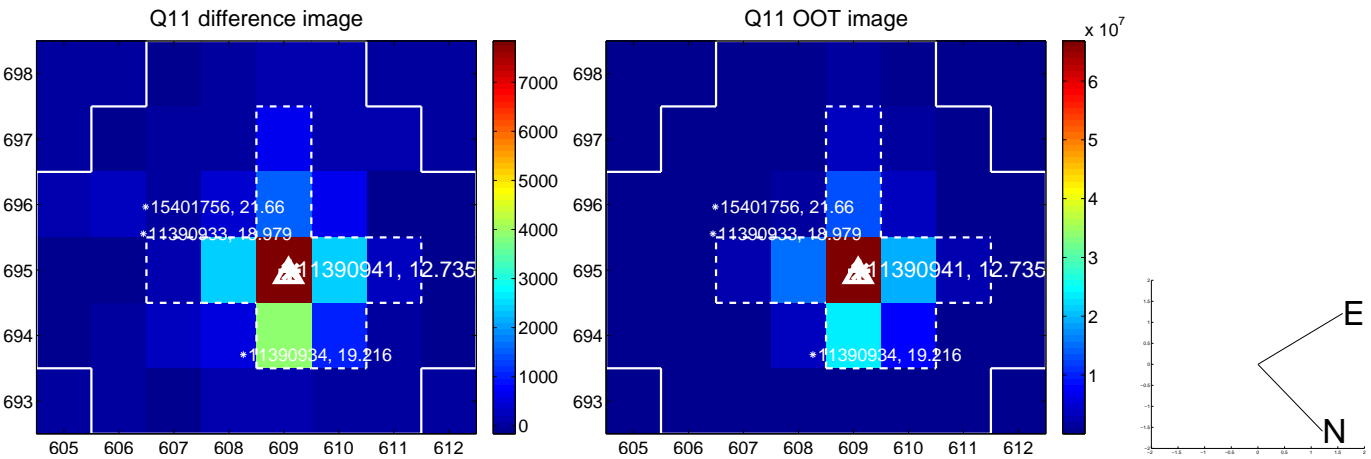
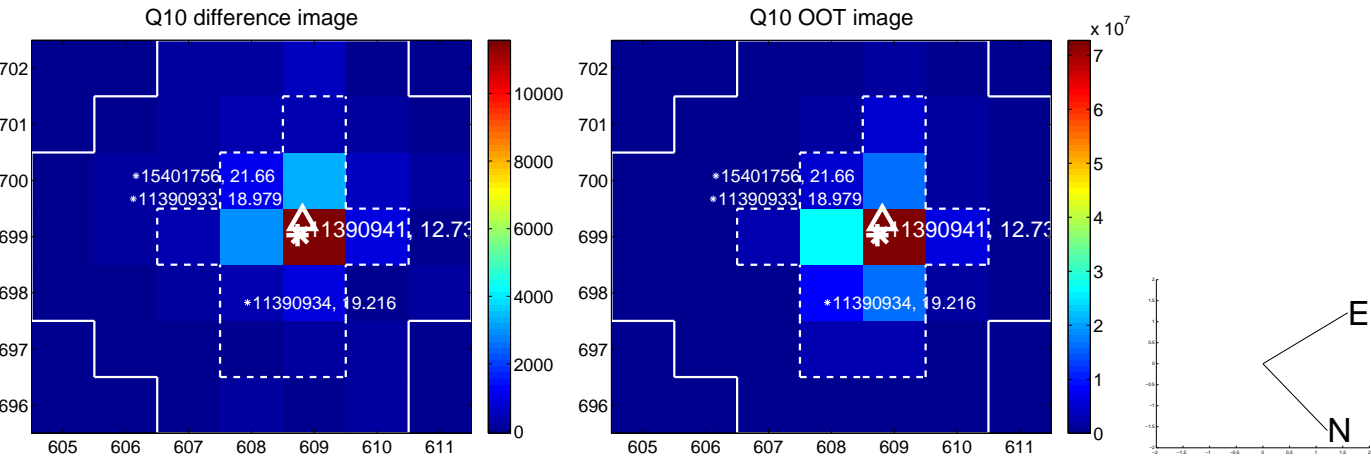
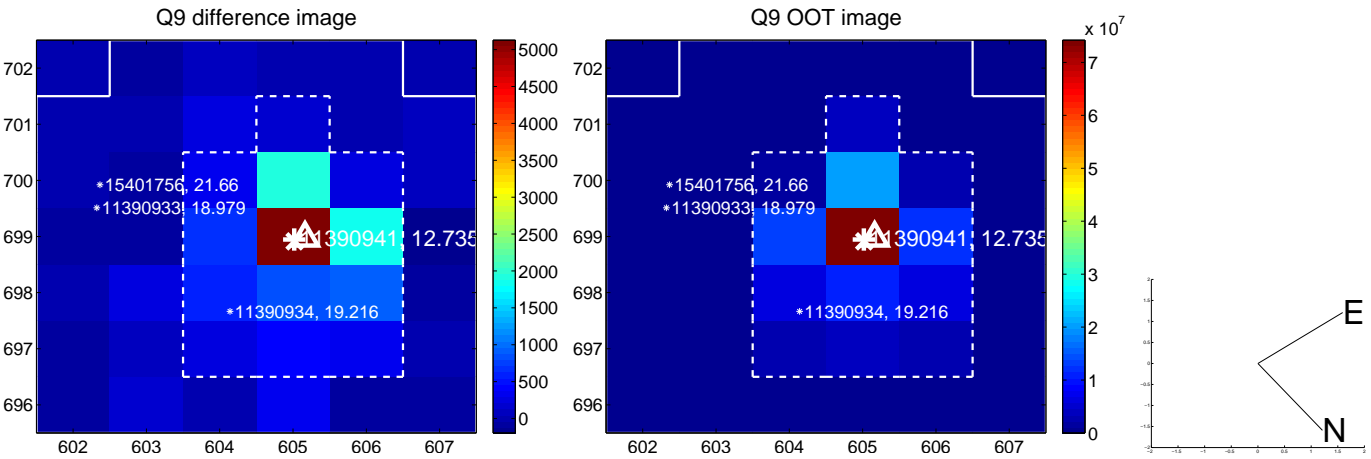
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



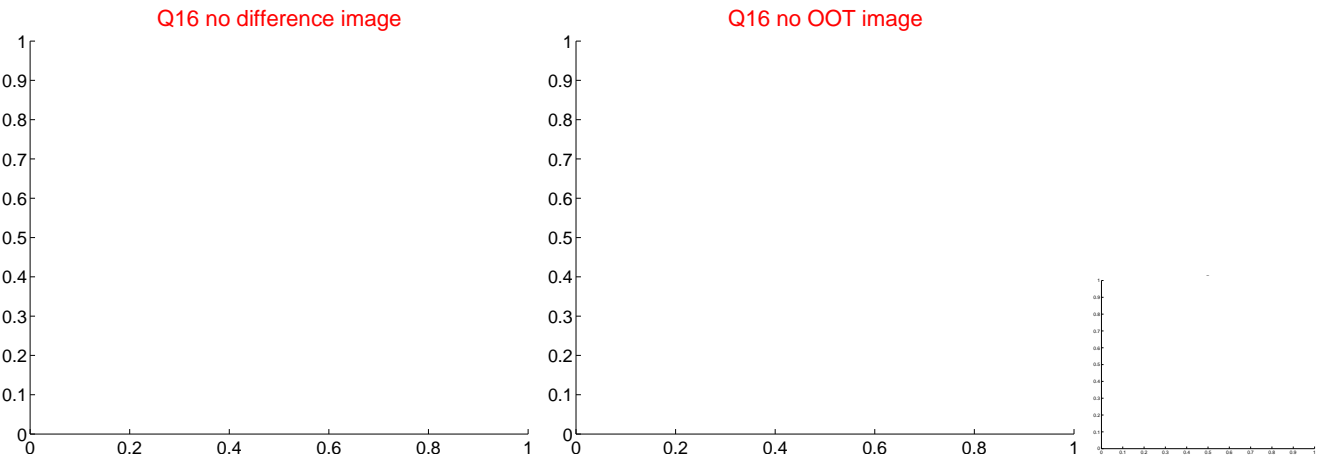
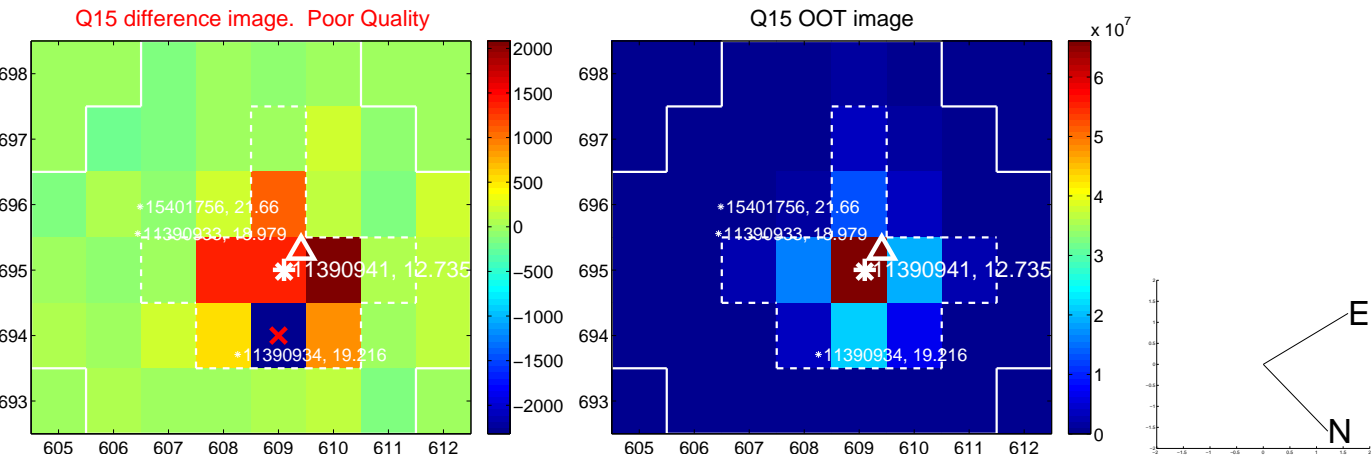
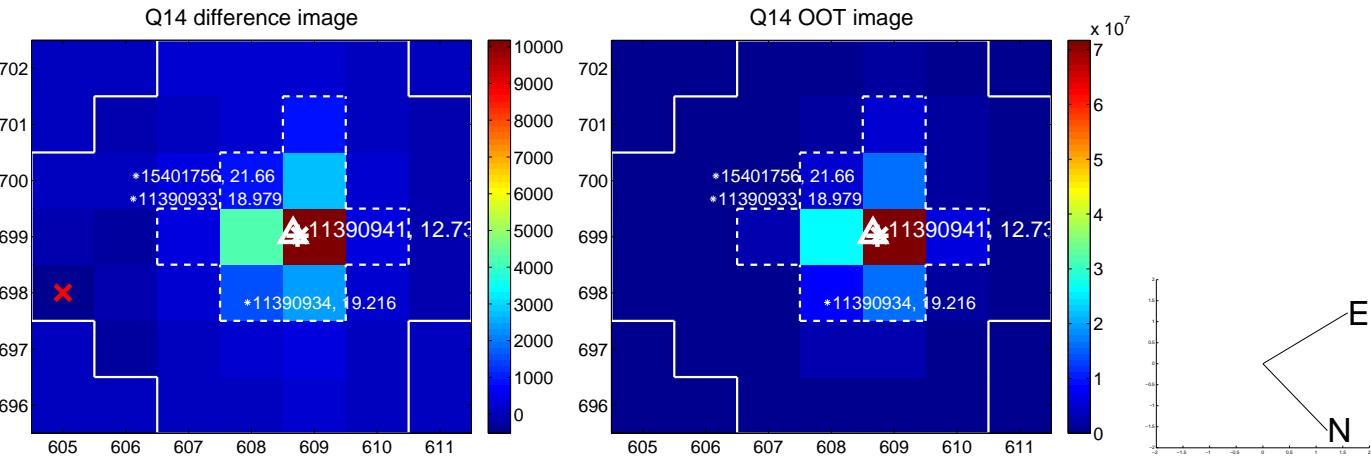
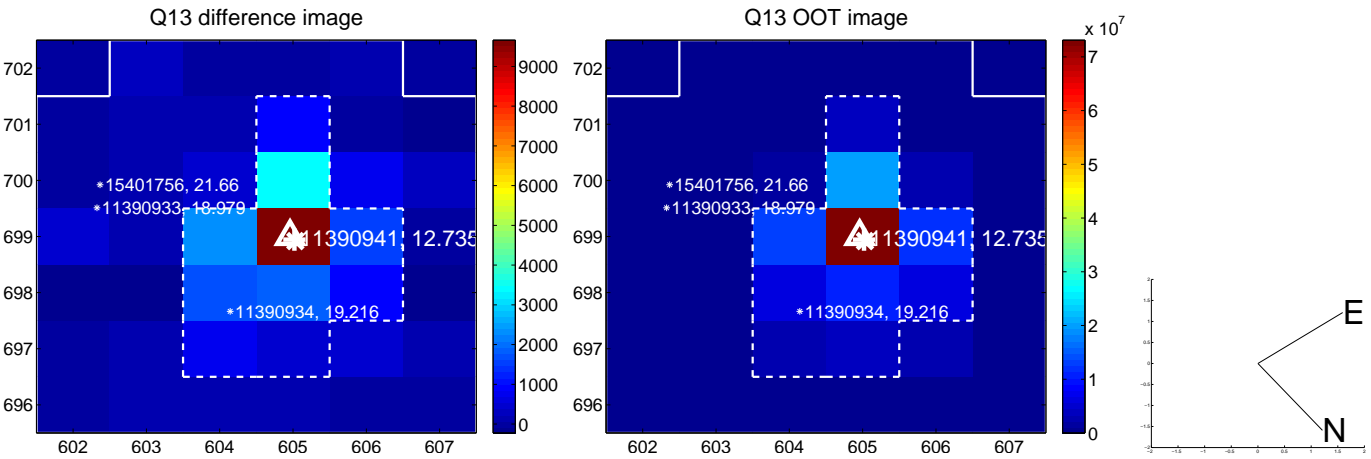
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



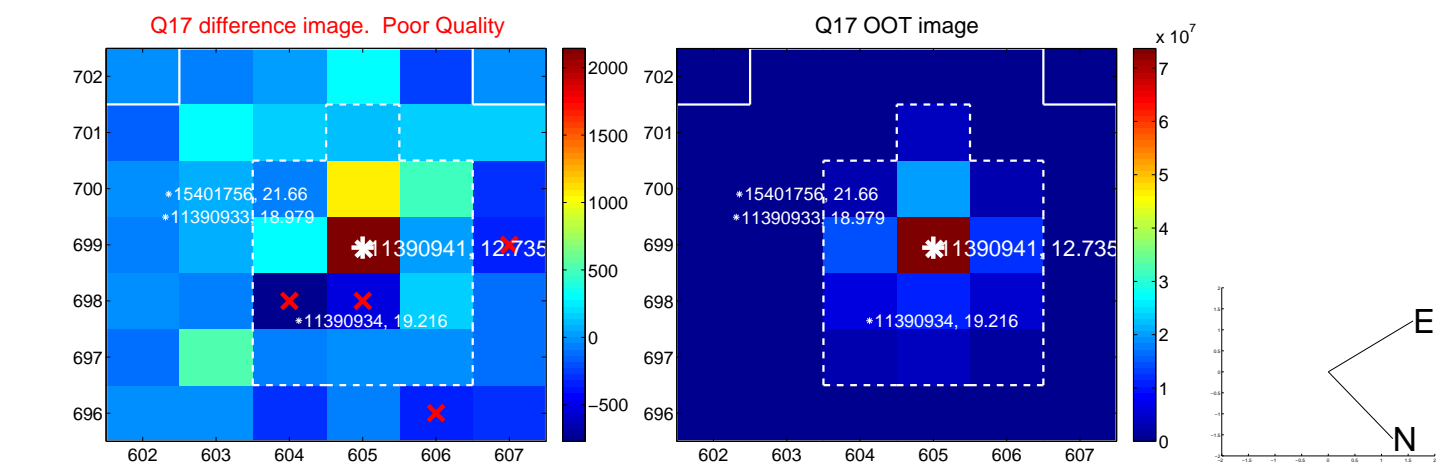
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



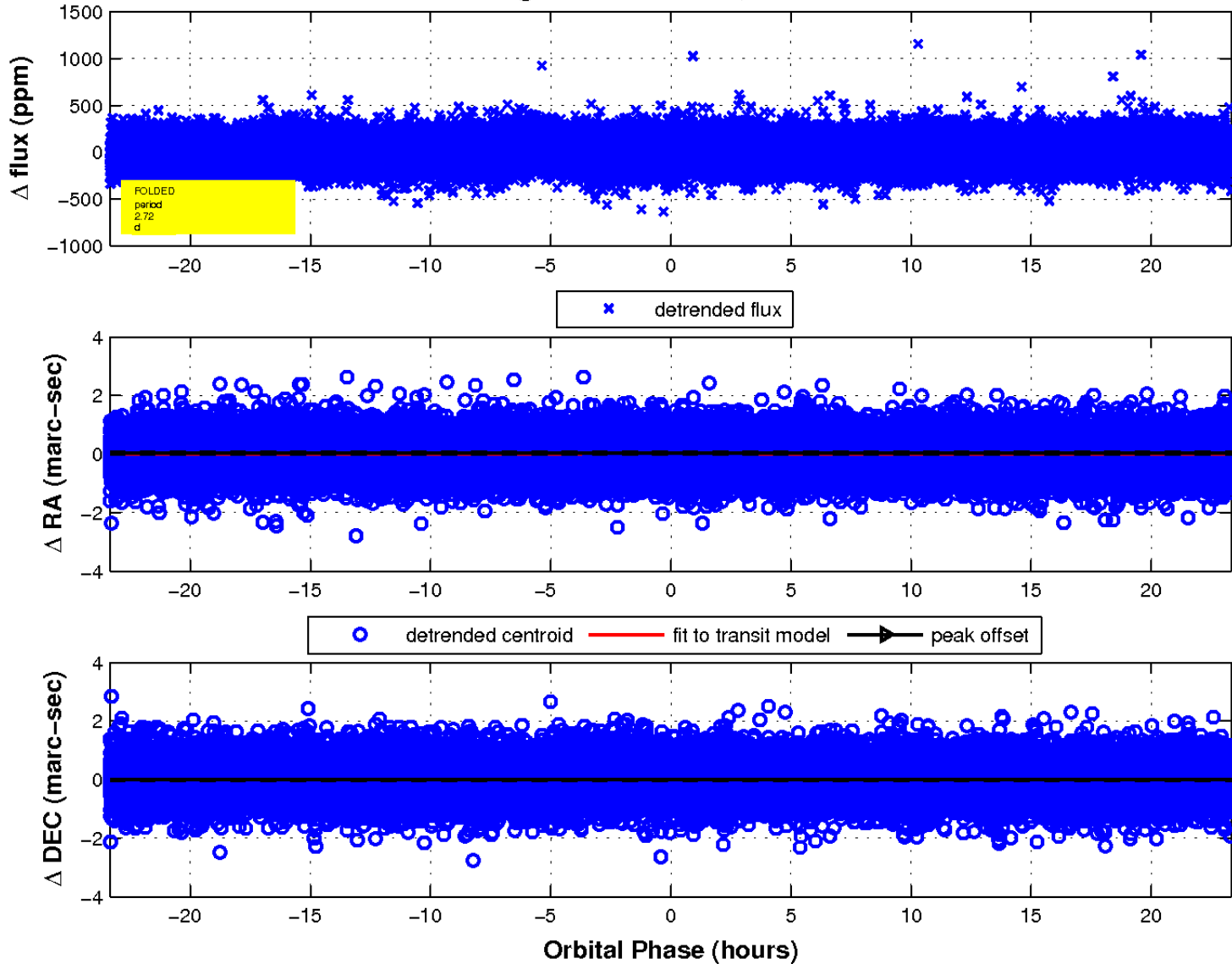
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

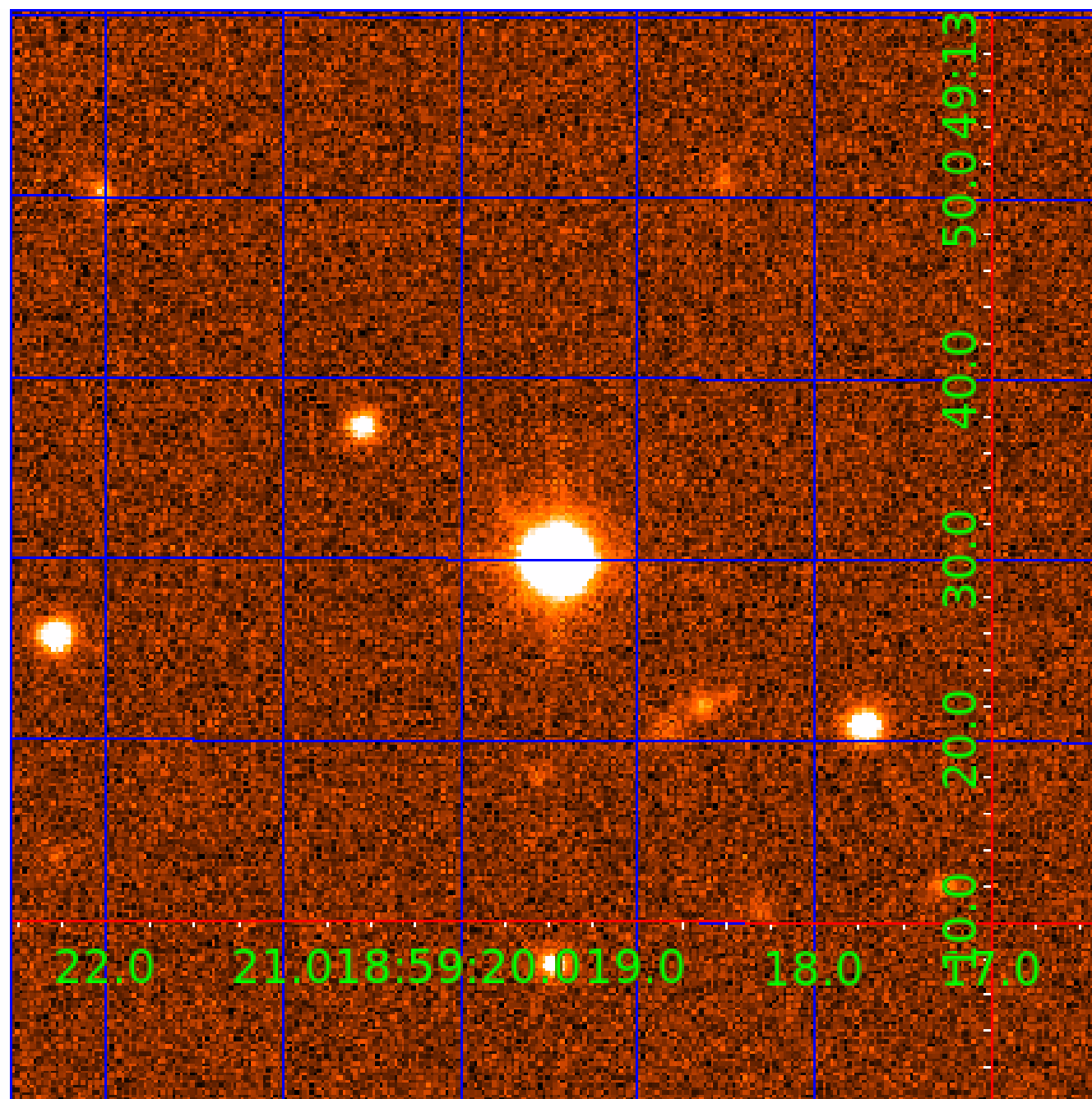


fluxWeightedCentroids, Planet 1 of 6



UKIRT Image

Declination



KIC 011390941

Q1-17 DR25 TCE Parameters

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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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011390941-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS
011390941-03	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
011390941-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011390941-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— HALO_GHOST
011390941-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV

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

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

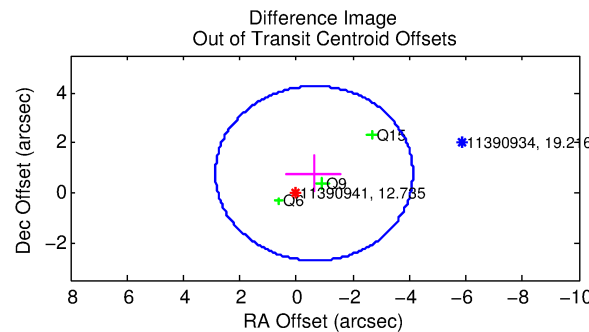
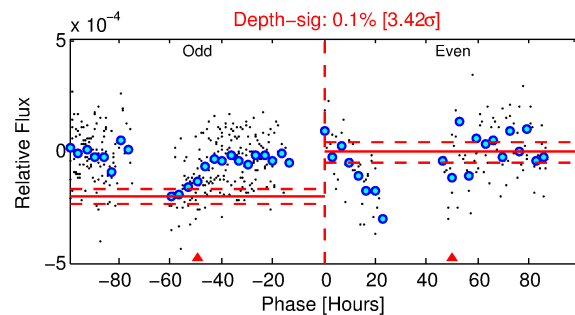
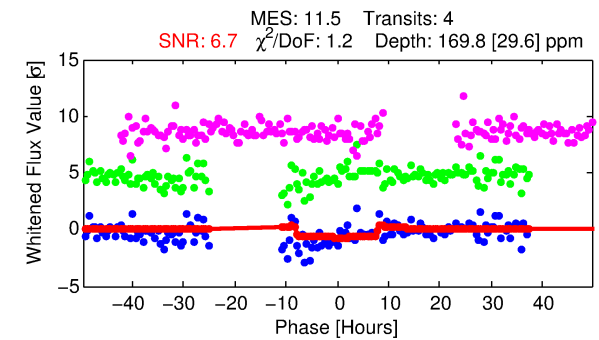
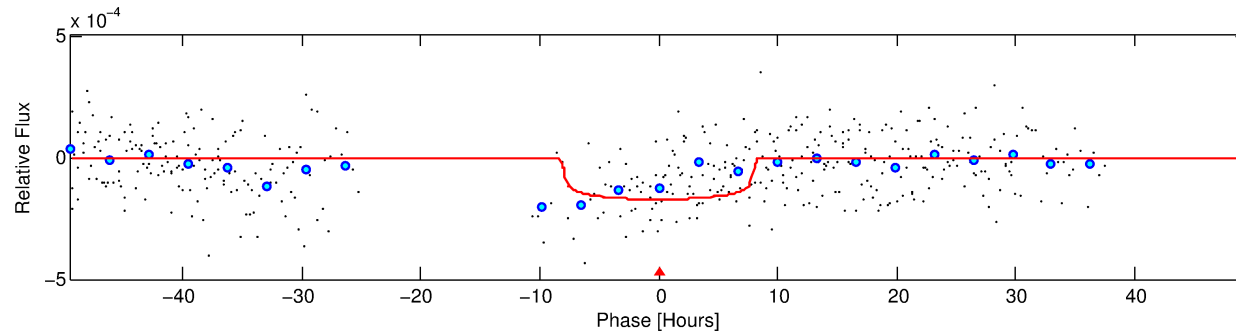
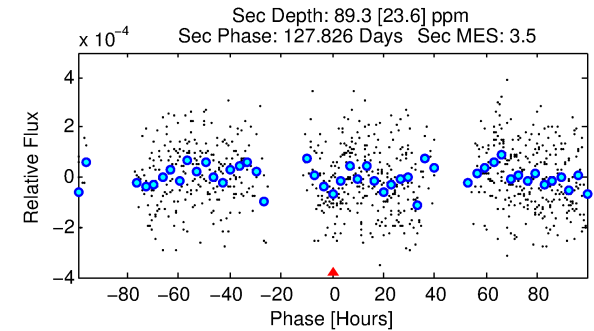
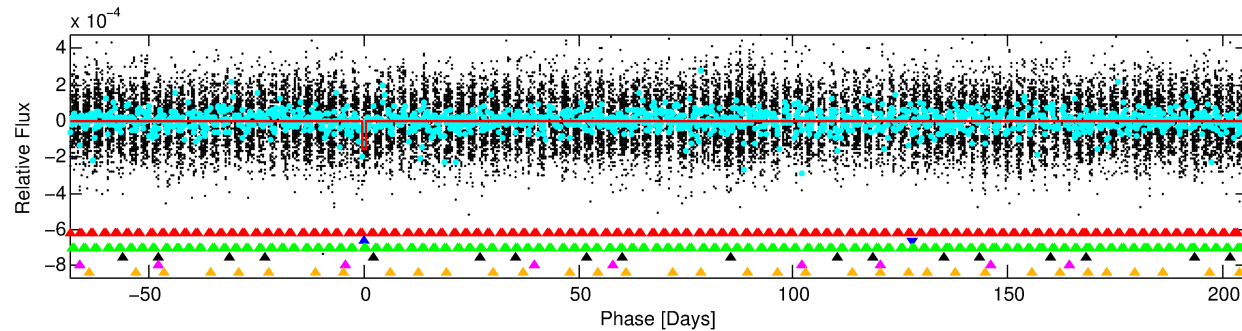
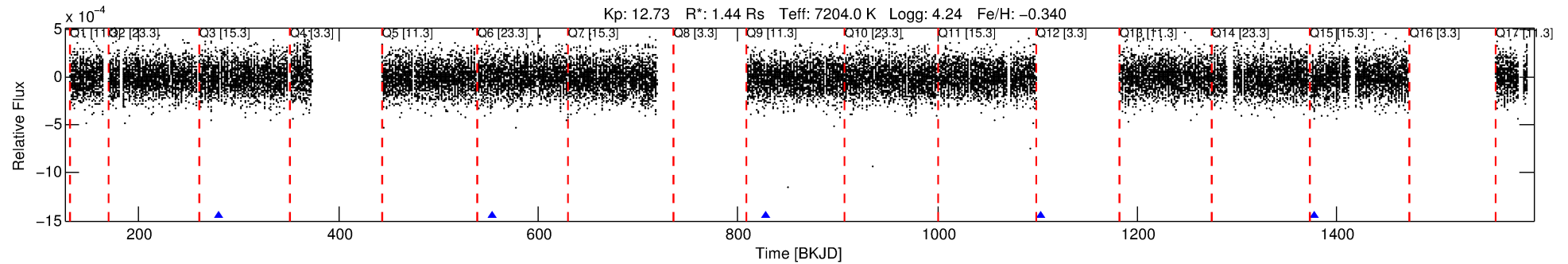
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011390941-02

No Significant Match Found

DV One-Page Summary

KIC: 11390941 Candidate: 2 of 6 Period: 274.552 d



DV Fit Results:

Period = 274.55224 [0.01030] d
Epoch = 279.5811 [0.0358] BKJD
Rp/R* = 0.0132 [0.0027]
a/R* = 79.27 [85.82]
b = 0.80 [0.49]
Seff = 6.05 [2.40]
Teq = 400 [40] K
Rp = 2.06 [0.79] Re
a = 0.9069 [0.2403] AU
Ag = 9515.49 [5791.23] [1.64σ]
Teffp = 6107 [768] K [7.42σ]

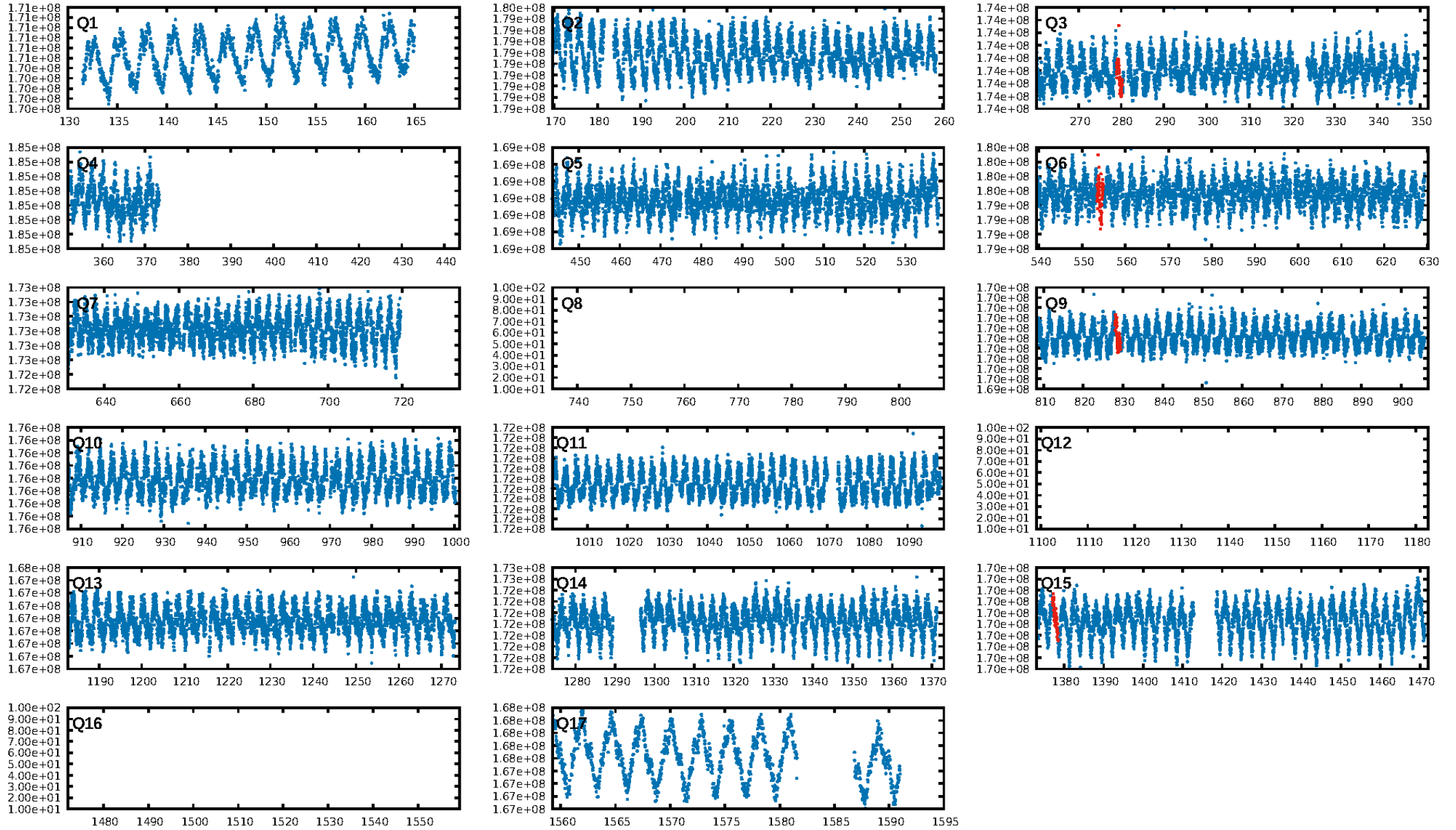
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [120.83σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 2.34e-16
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.312
Centroid-sig: 34.8%
Centroid-so: 1.485 arcsec [1.23σ]
OotOffset-rm: 0.994 arcsec [0.85σ]
KicOffset-rm: 0.906 arcsec [0.68σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.00 [0/3]

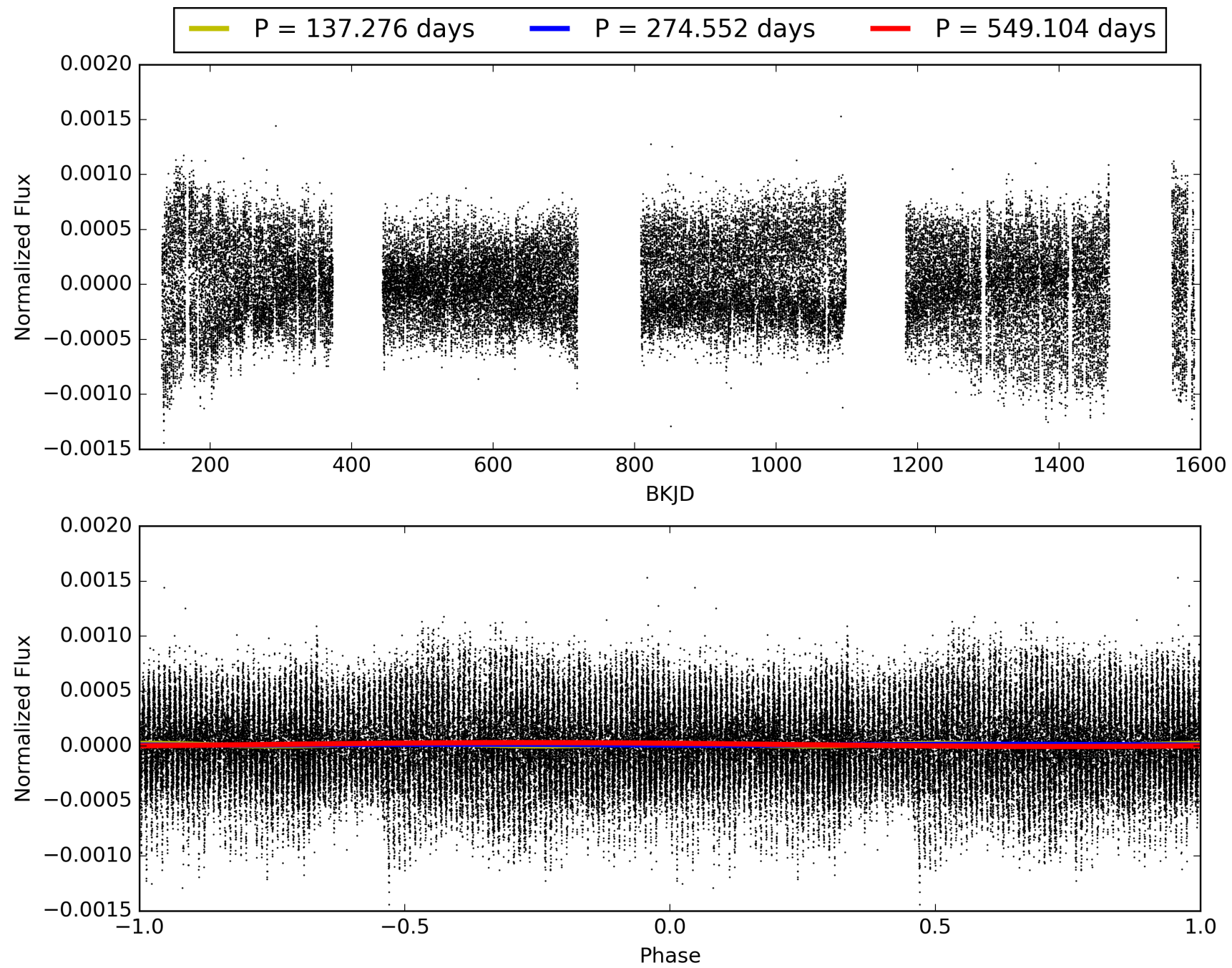
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:49:30 Z

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

TCE 011390941-02, PDC Light Curves

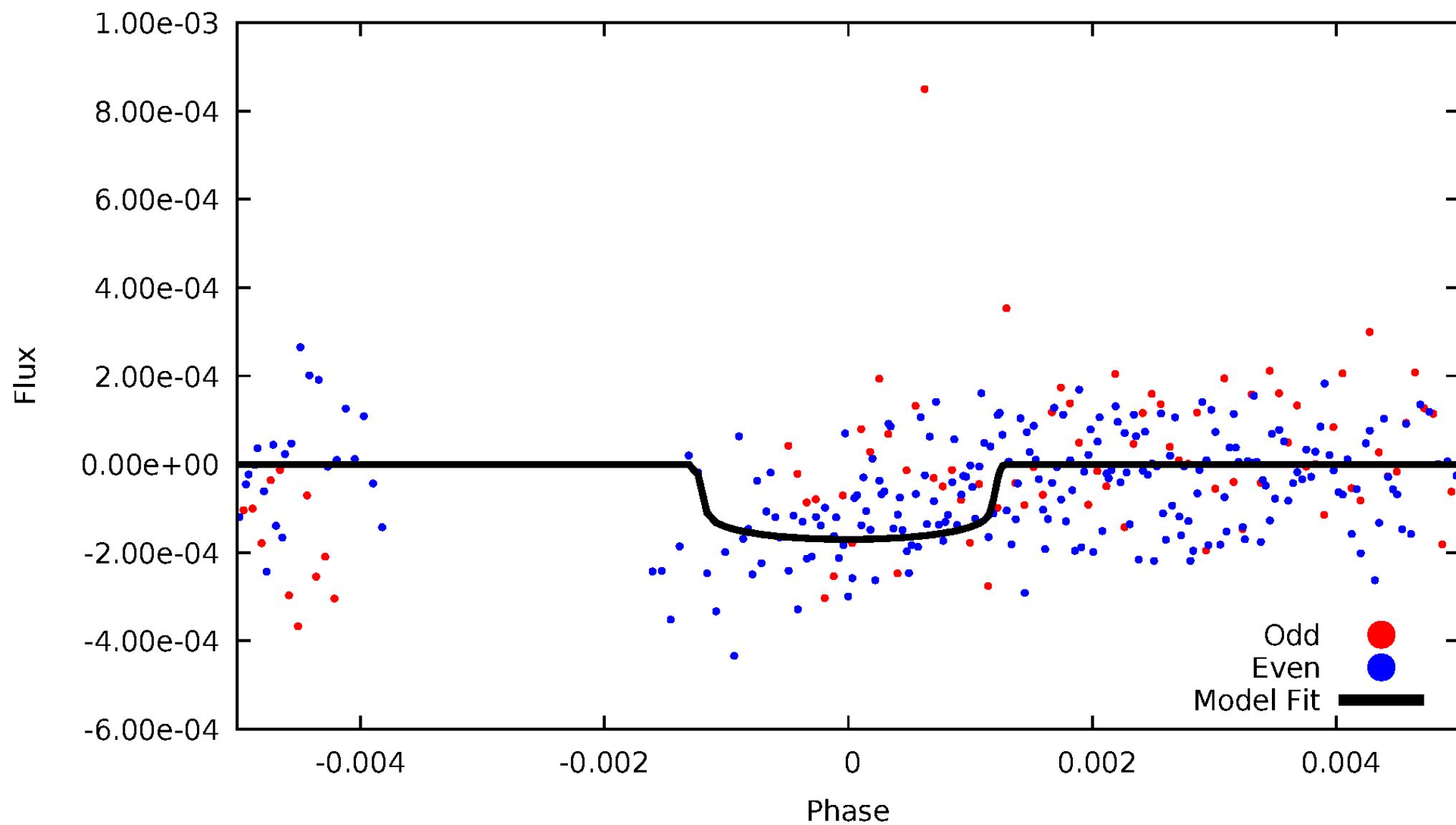


TCE 011390941-02



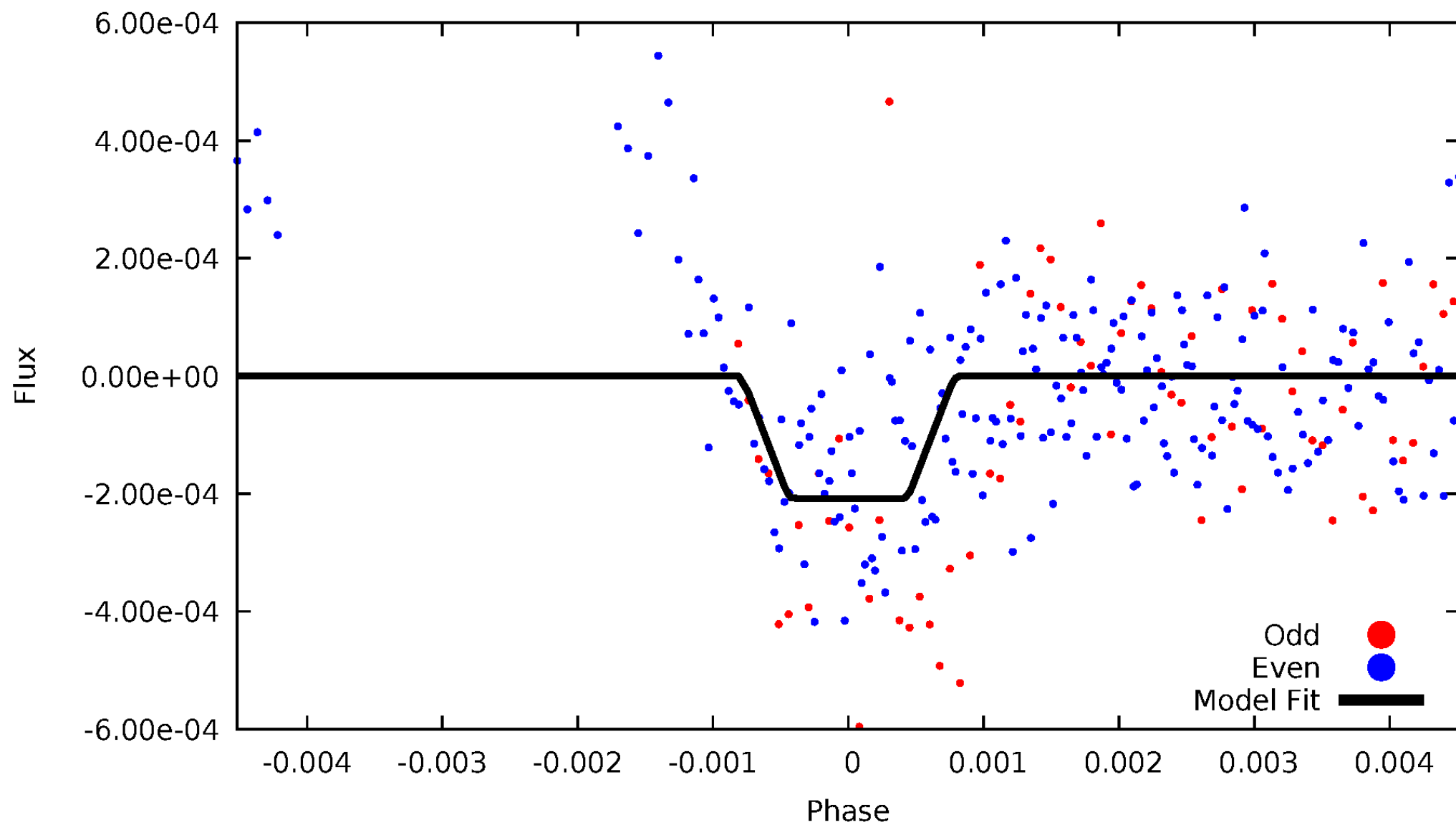
DV Odd/Even

TCE 011390941-02



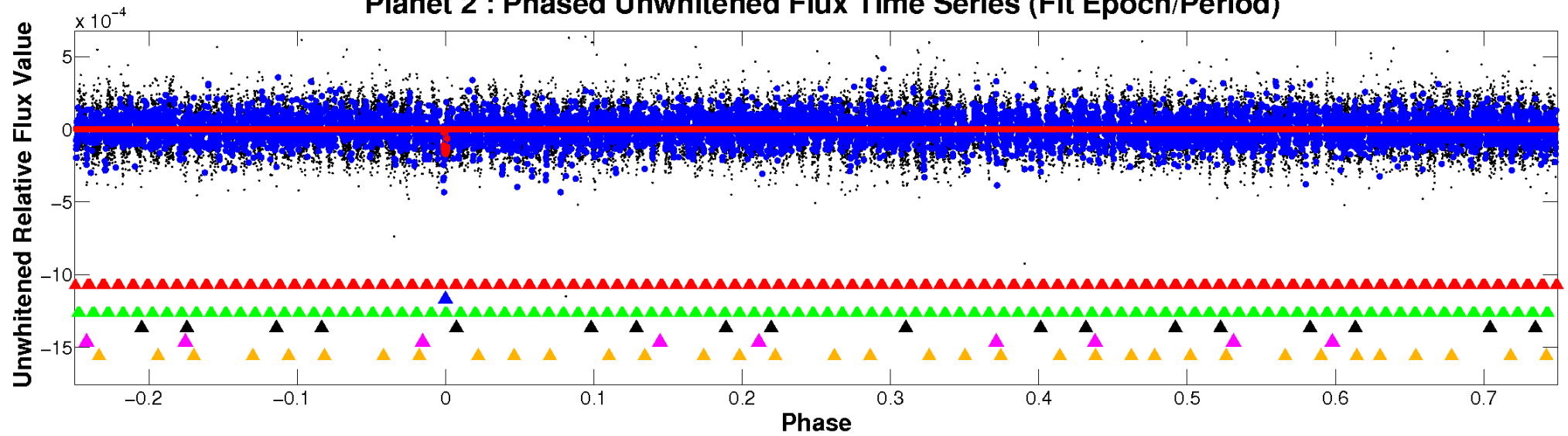
ALT Odd/Even

TCE 011390941-02

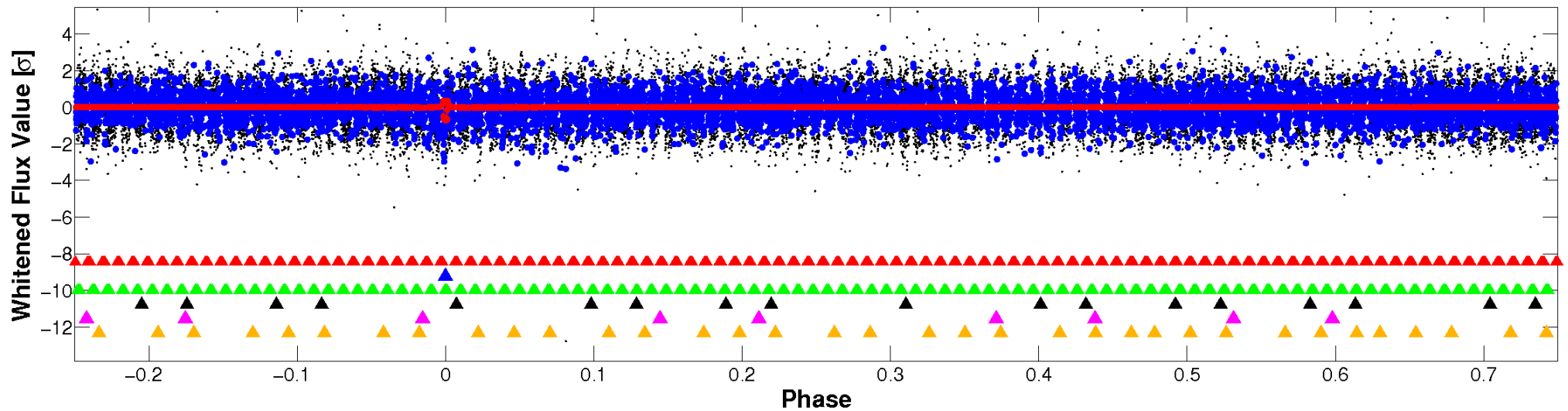


Non-Whitened Vs. Whitened Light Curve

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 011390941-02 $P=274.552239$ Days $T_0=279.581144$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 011390941-02 $P=274.552239$ Days $T_0=279.581144$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

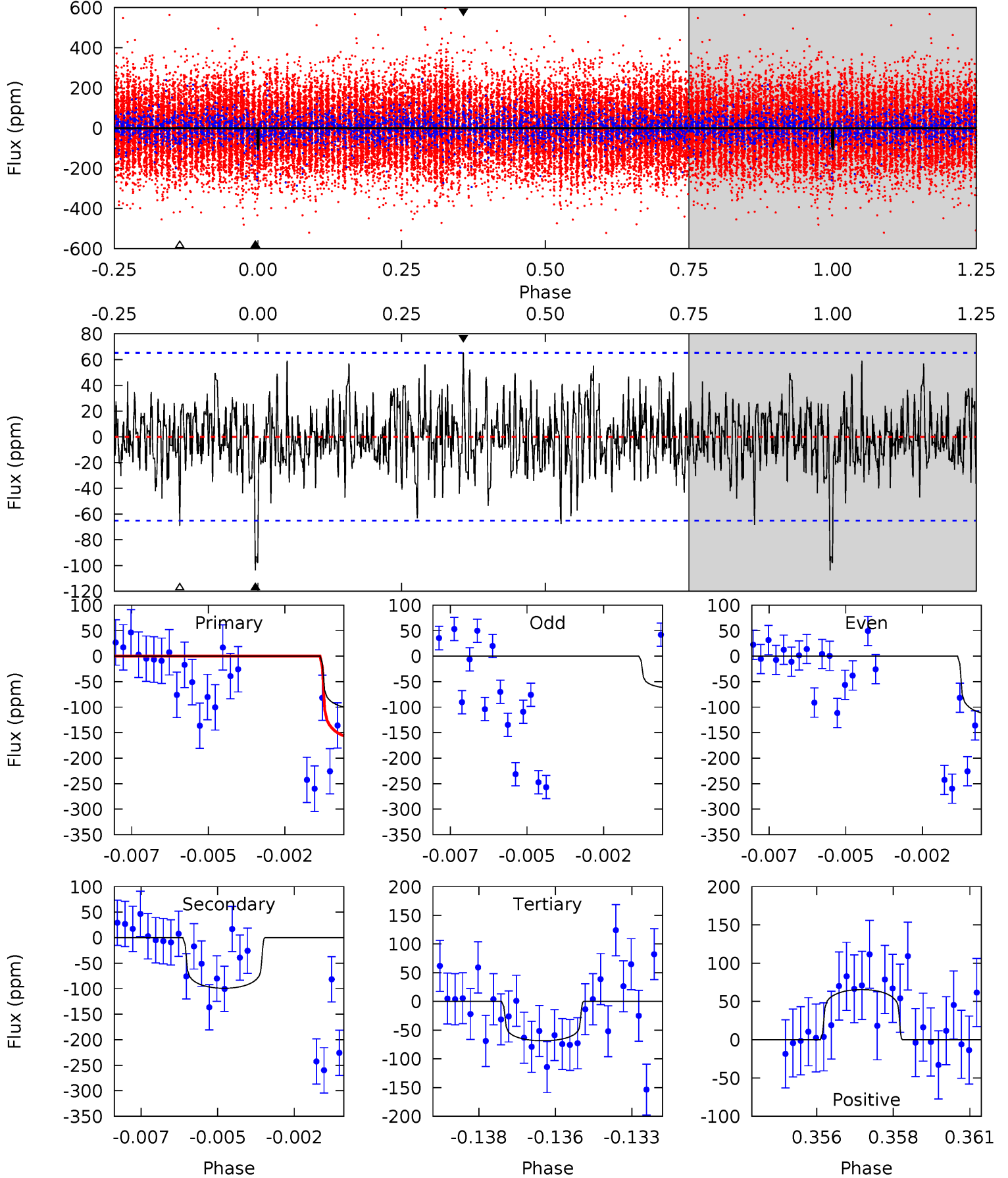
TCE 011390941-02 $P=274.531690$ Days $T_0=279.690108$ (BKJD)



DV Model-Shift Uniqueness Test

011390941-02, P = 274.552239 Days, E = 5.028905 Days

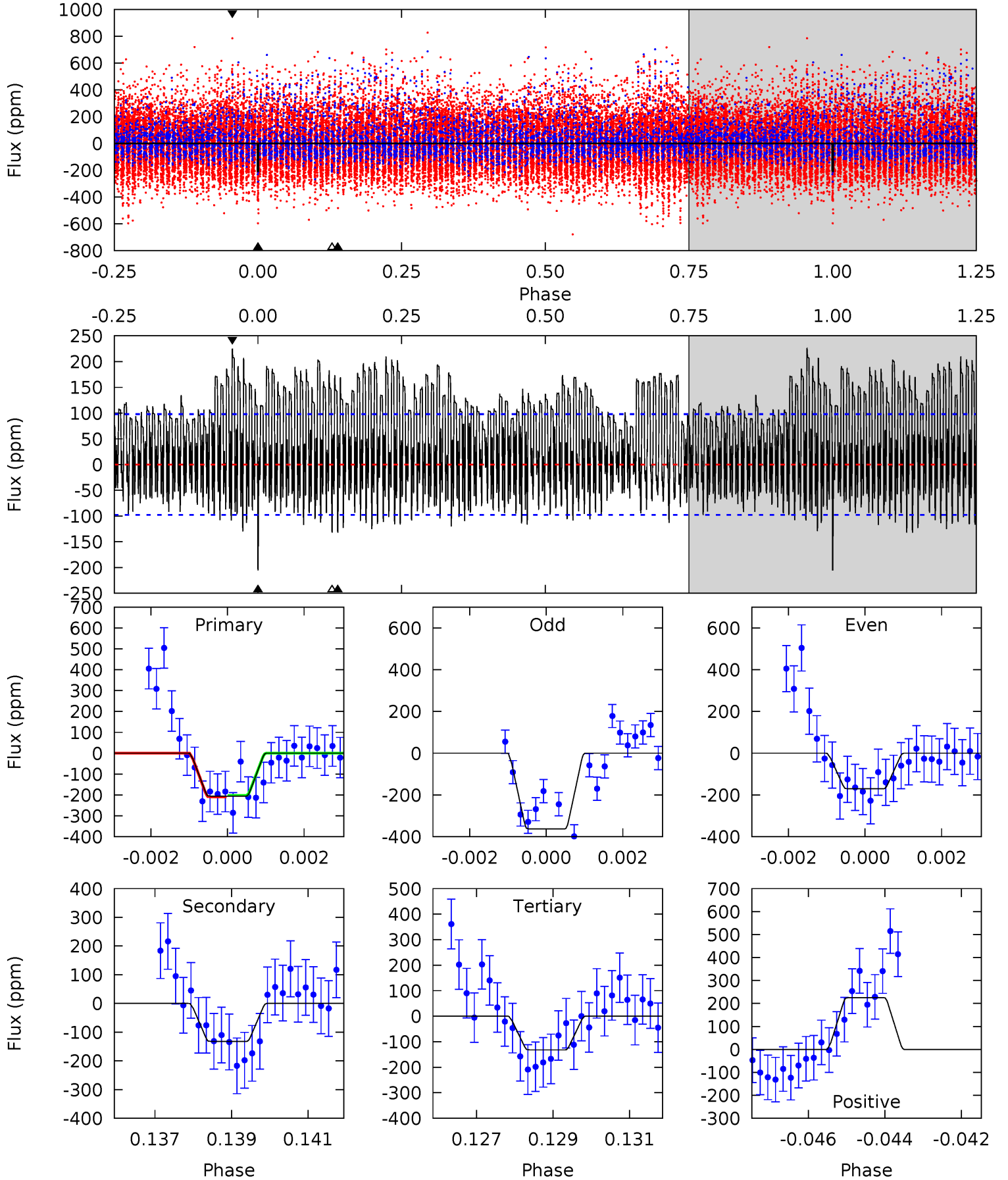
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.42	8.05	5.56	5.32	5.29	3.03	1.63	2.86	3.10	2.49	2.73	1.77	1.09	0.39	3.66



Alt Model-Shift Uniqueness Test

011390941-02, P = 274.531690 Days, E = 5.158418 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	7.25	7.24	12.4	5.36	3.15	3.67	4.04	-1.09	0.01	-5.12	4.47	0.95	0.52	0.19



Stellar Parameters For KIC 011390941

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	7204^{+203}_{-254}	$4.244^{+0.105}_{-0.195}$	$-0.340^{+0.250}_{-0.350}$	$1.436^{+0.471}_{-0.253}$	$1.324^{+0.198}_{-0.198}$	$0.630^{+0.309}_{-0.332}$
	+3%/-4%	+2%/-5%	+74%/-103%	+33%/-18%	+15%/-15%	+49%/-53%
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 011390941-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-99±12	$2.12^{+0.59}_{-0.50}$	566^{+46}_{-32}	6173^{+925}_{-594}	9833^{+6941}_{-3816}
Alt.	-132±18	$2.34^{+0.55}_{-0.51}$	564^{+42}_{-33}	6326^{+755}_{-595}	10780^{+6469}_{-3926}

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 $A_{obs} \gg 1.0$

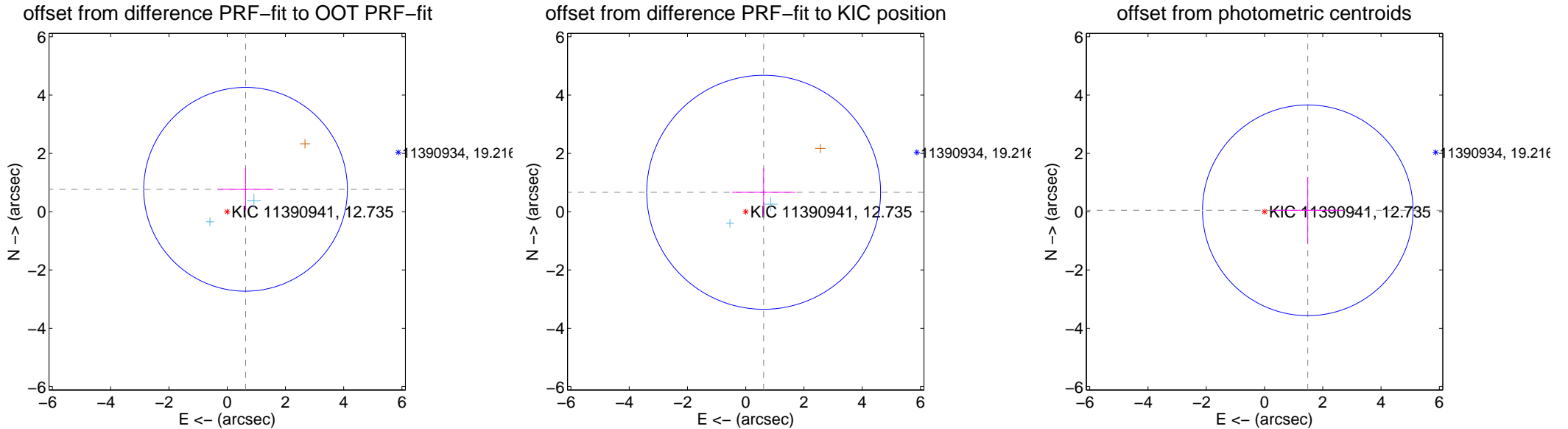
DV Centroid Data

Supplemental centroid analysis for 011390941-02. Kepler magnitude: 12.73. Transit SNR 6.68

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.994 ± 1.165	0.85	-0.631 ± 0.958	0.768 ± 0.730
PRF-fit source offset from KIC position	0.906 ± 1.338	0.68	-0.616 ± 1.088	0.665 ± 0.822
photometric centroid source offset	1.48 ± 1.20	1.23	-1.48 ± 1.20	0.05 ± 1.14

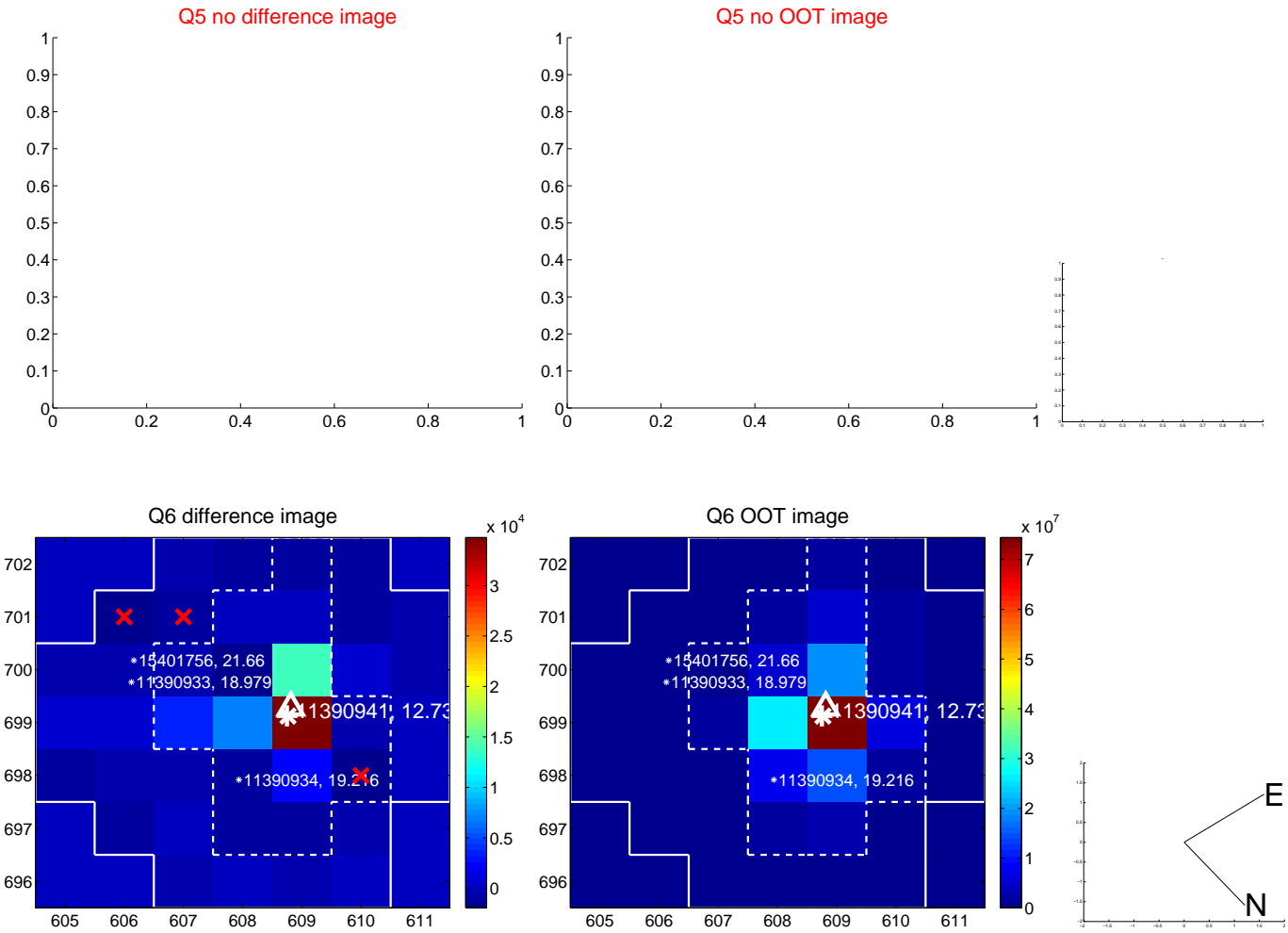


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

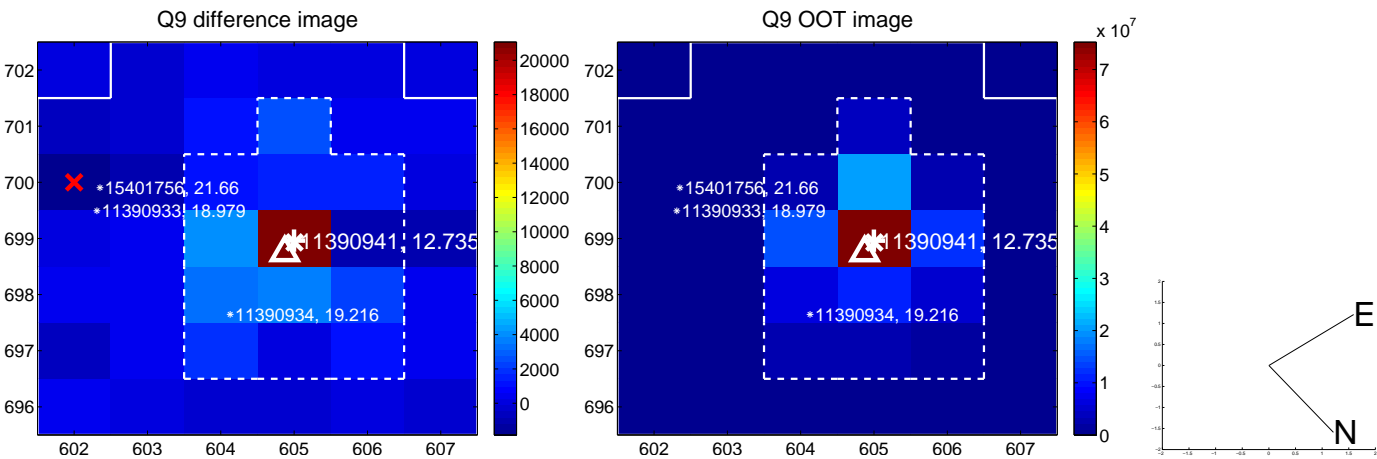
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



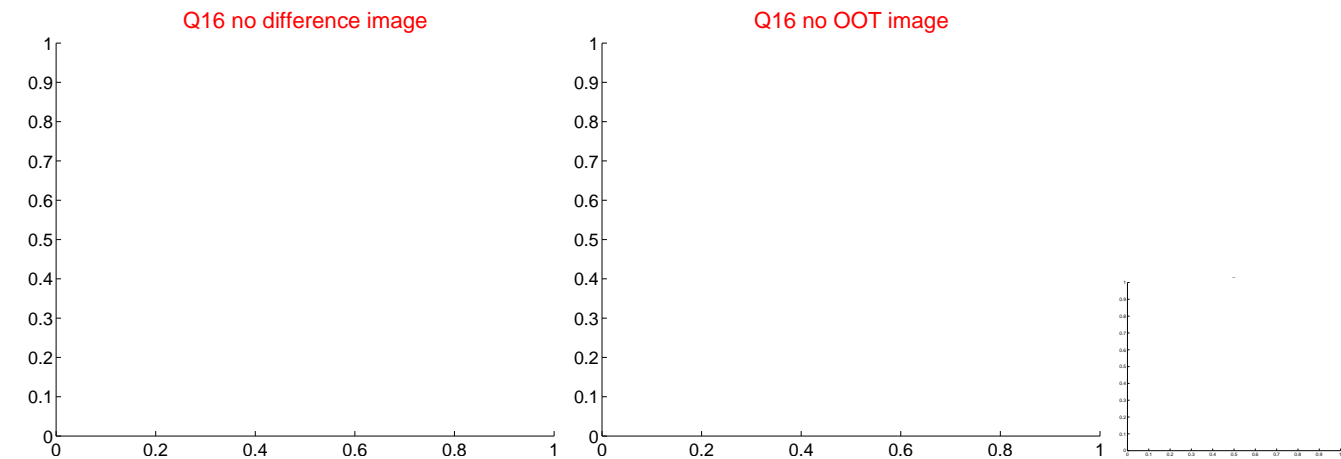
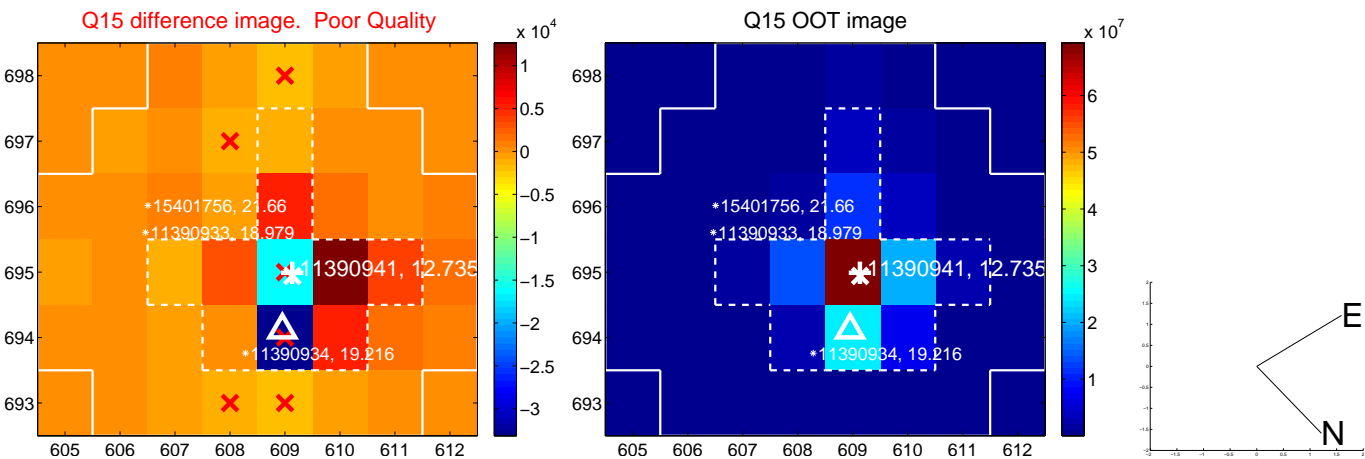
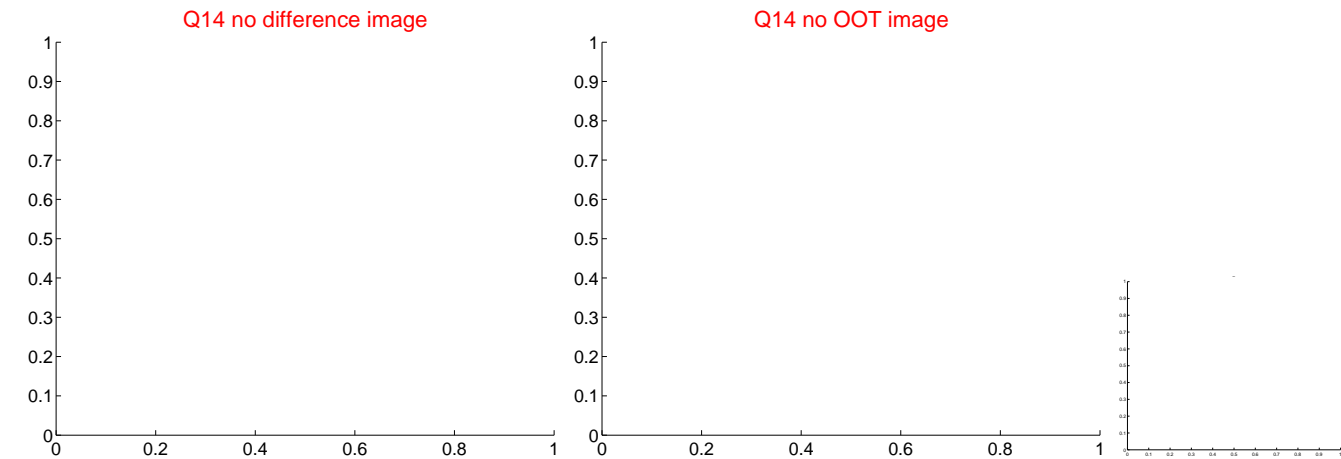
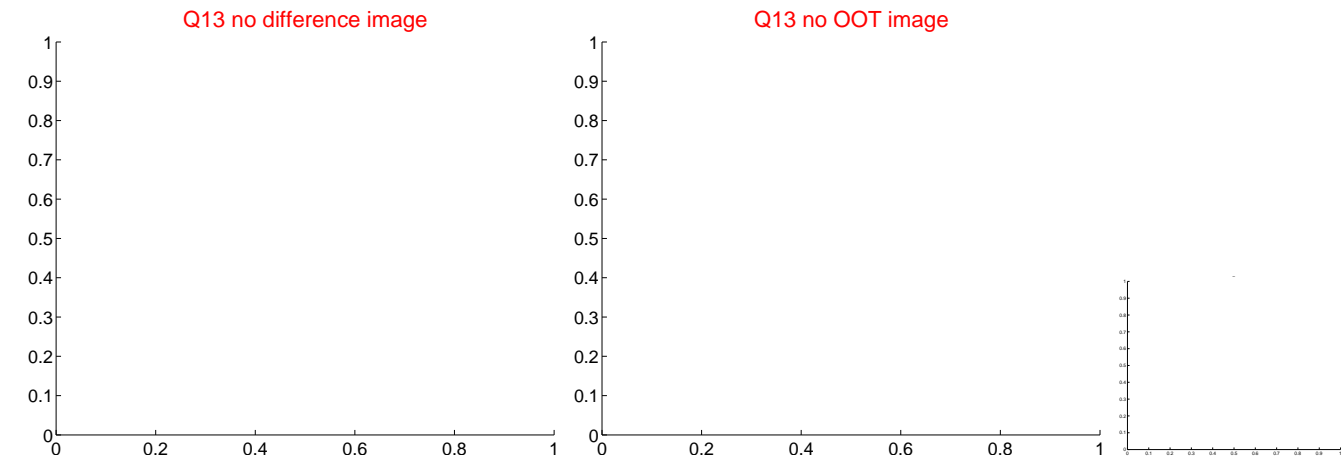
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



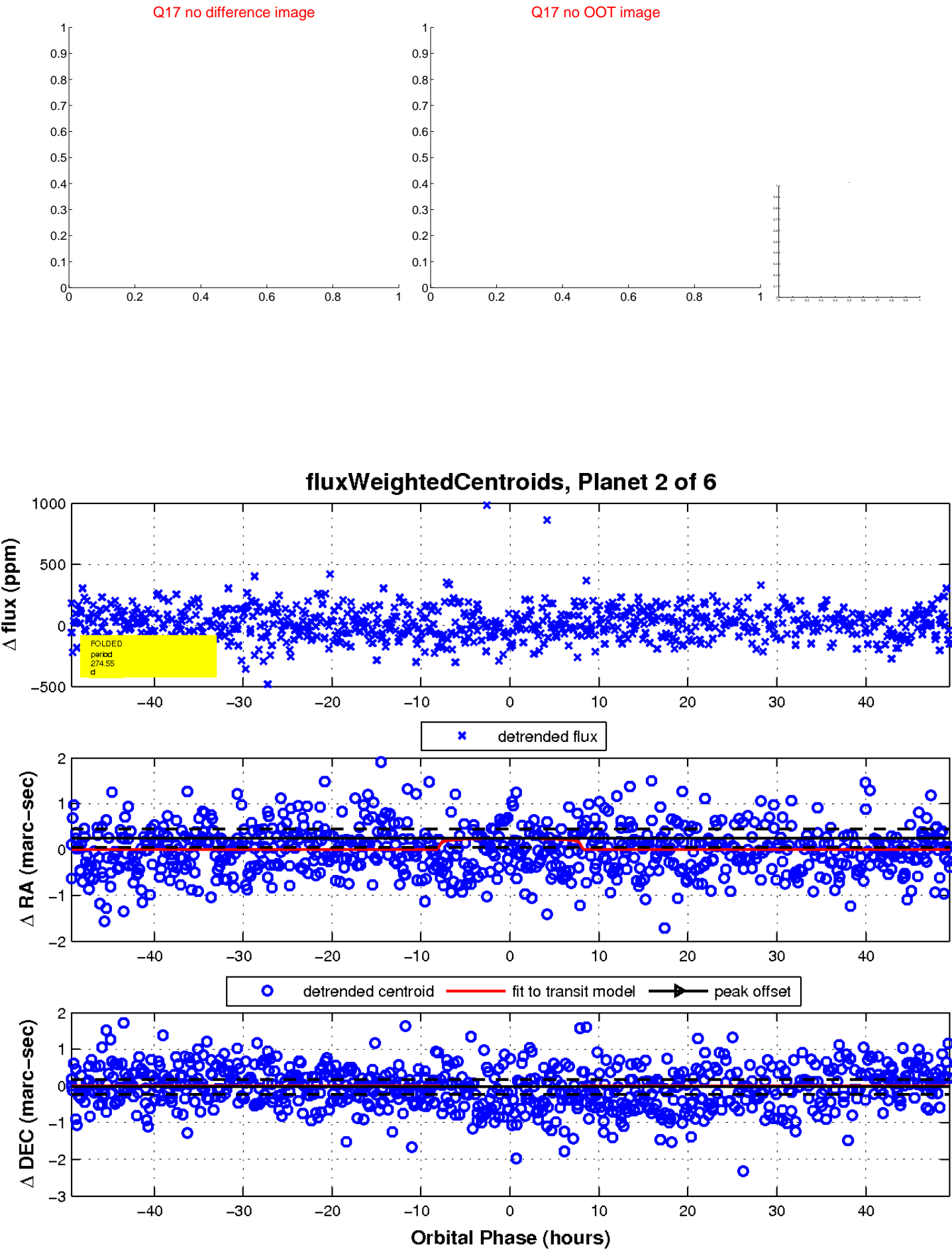
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

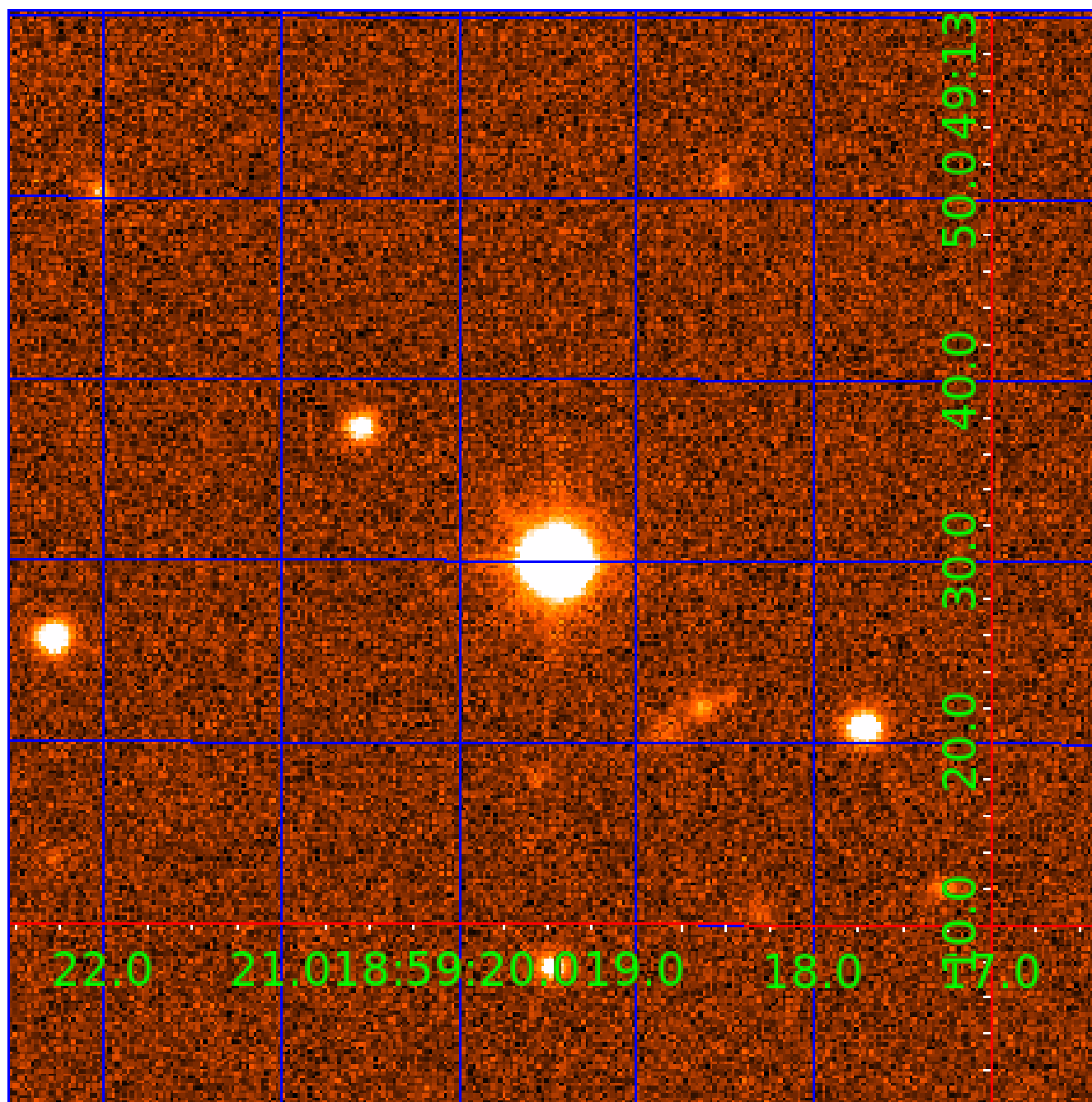


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011390941

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})
011390941-01	OBS	No	2.717287	132.307590	15.2	7.781	9.4	5.7	1.44	7204	0.65	2847.38
011390941-02	OBS	No	274.552239	279.581144	169.8	16.498	11.5	6.7	1.44	7204	2.06	6.05
011390941-03	OBS	No	2.717261	133.165593	9.9	13.278	9.1	4.6	1.44	7204	0.54	2847.41
011390941-04	OBS	No	83.203247	165.084441	106.1	4.414	10.2	4.8	1.44	7204	1.64	29.72
011390941-05	OBS	No	168.389732	150.908998	117.6	13.132	8.3	7.2	1.44	7204	1.62	11.61
011390941-06	OBS	No	41.729120	131.993576	264.8	1.071	7.4	8.1	1.44	7204	2.40	74.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011390941-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
011390941-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS
011390941-03	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
011390941-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011390941-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— HALO_GHOST
011390941-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV

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

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

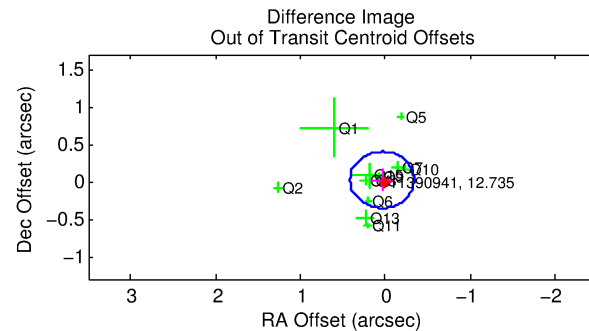
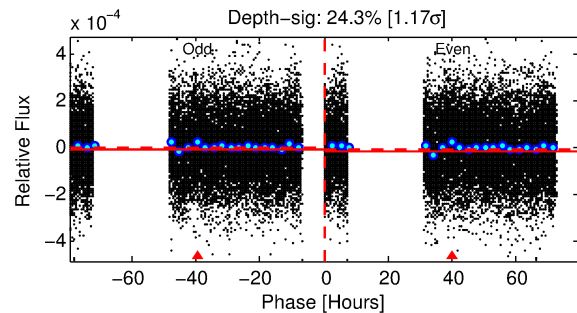
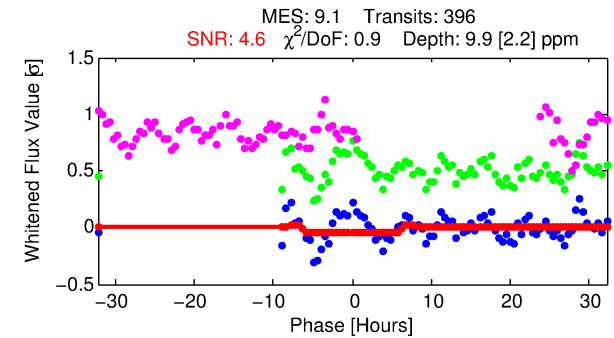
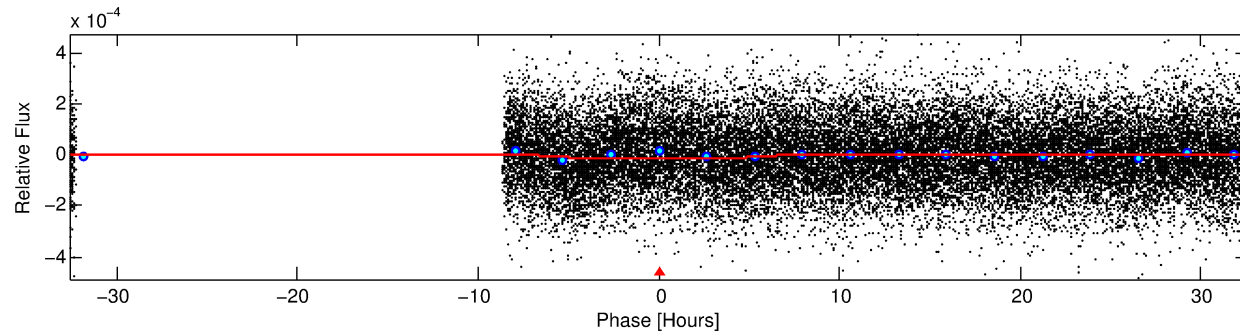
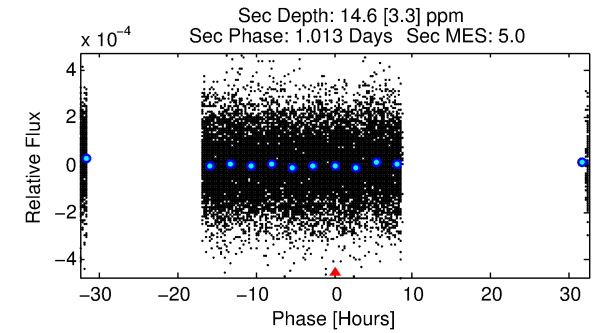
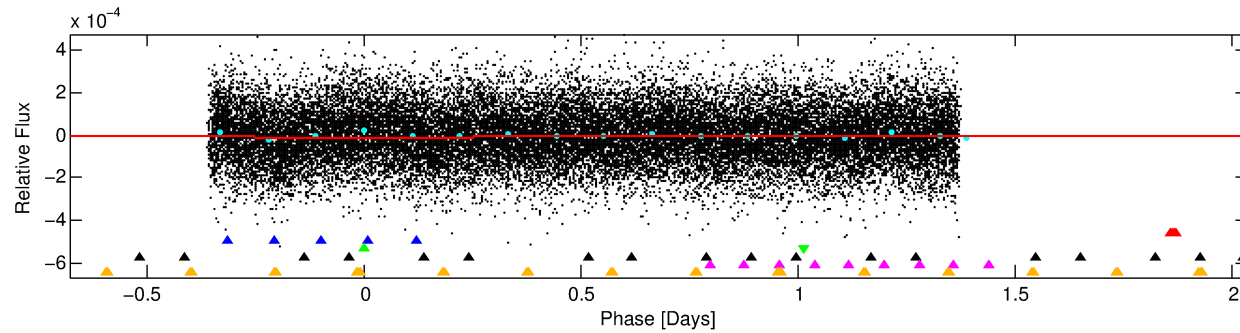
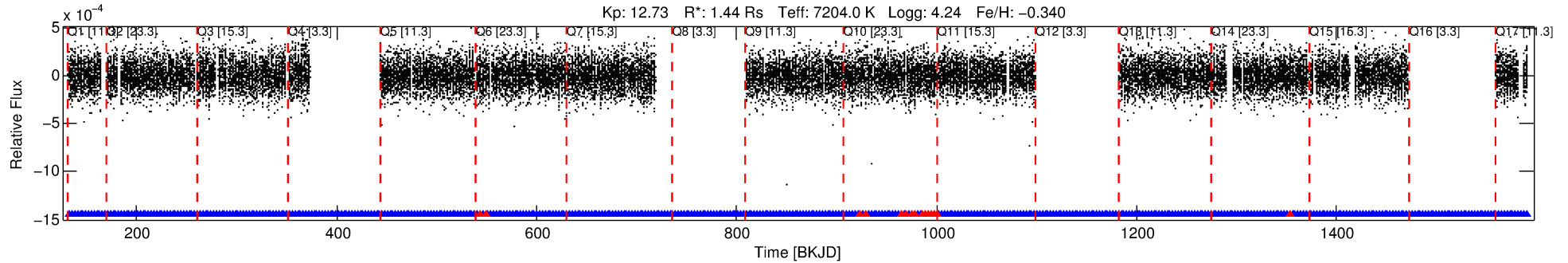
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011390941-03

No Significant Match Found

DV One-Page Summary

KIC: 11390941 Candidate: 3 of 6 Period: 2.717 d



DV Fit Results:

Period = 2.71726 [0.00008] d
Epoch = 133.1656 [0.0165] BKJD
Rp/R* = 0.0034 [0.0010]
a/R* = 1.13 [0.43]
b = 0.92 [0.27]
Seff = 2847.41 [1129.33]
Teff = 1863 [185] K
Rp = 0.53 [0.23] Re
a = 0.0418 [0.0111] AU
Ag = 49.11 [35.32] [1.36σ]
Teffp = 7624 [1205] K [4.72σ]

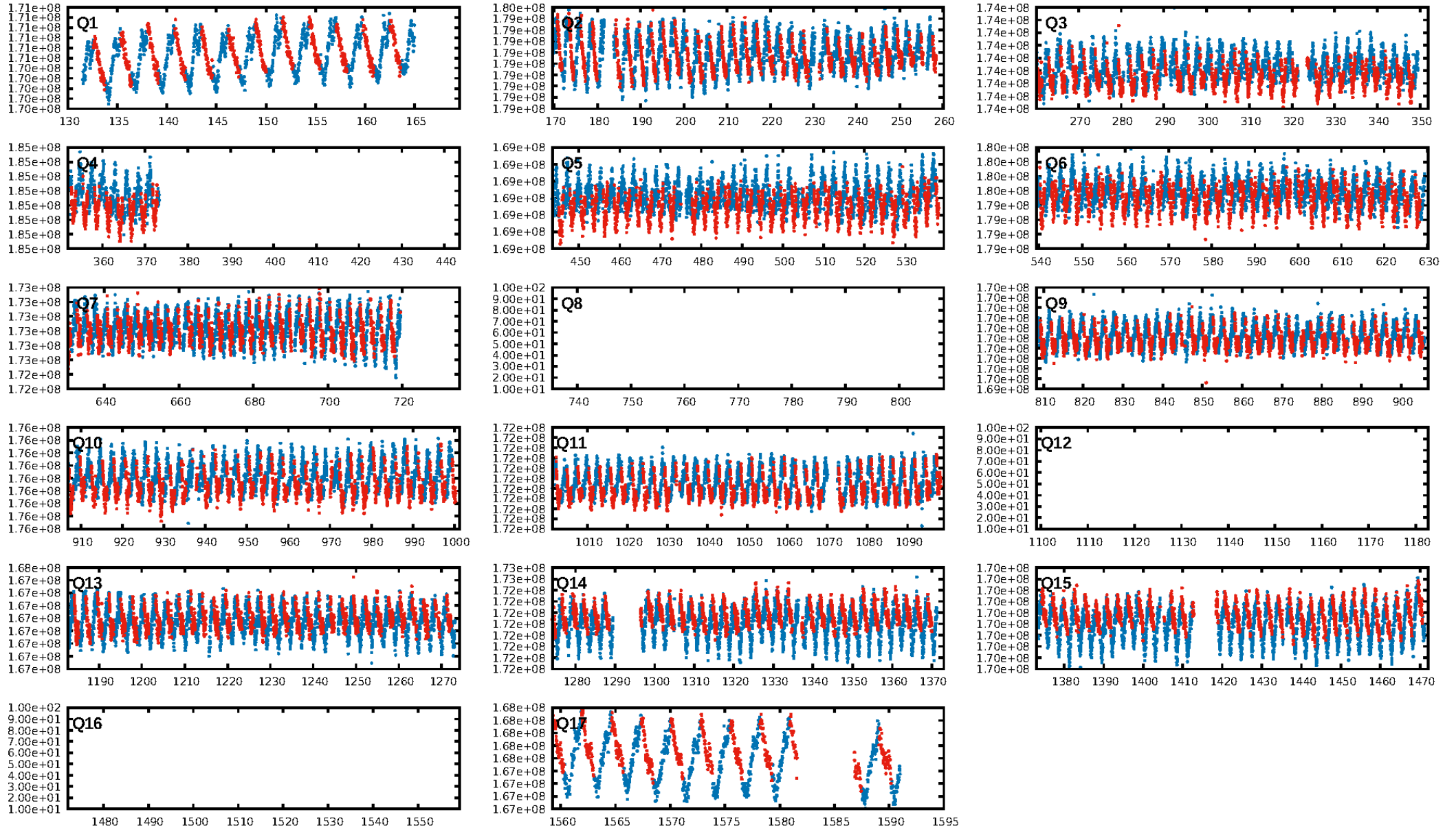
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.49e-11
RollingBand-fgt: 0.96 [350/365]
GhostDiagnostic-chr: -0.4761
Centroid-sig: 2.9%
Centroid-so: 3.497 arcsec [1.71σ]
OotOffset-rm: 0.043 arcsec [0.34σ]
KicOffset-rm: 0.135 arcsec [1.00σ]
OotOffset-st: 3/4/1/4 [12]
KicOffset-st: 3/4/1/4 [12]
DiffImageQuality-fgm: 0.83 [10/12]
DiffImageOverlap-fno: 0.00 [0/14]

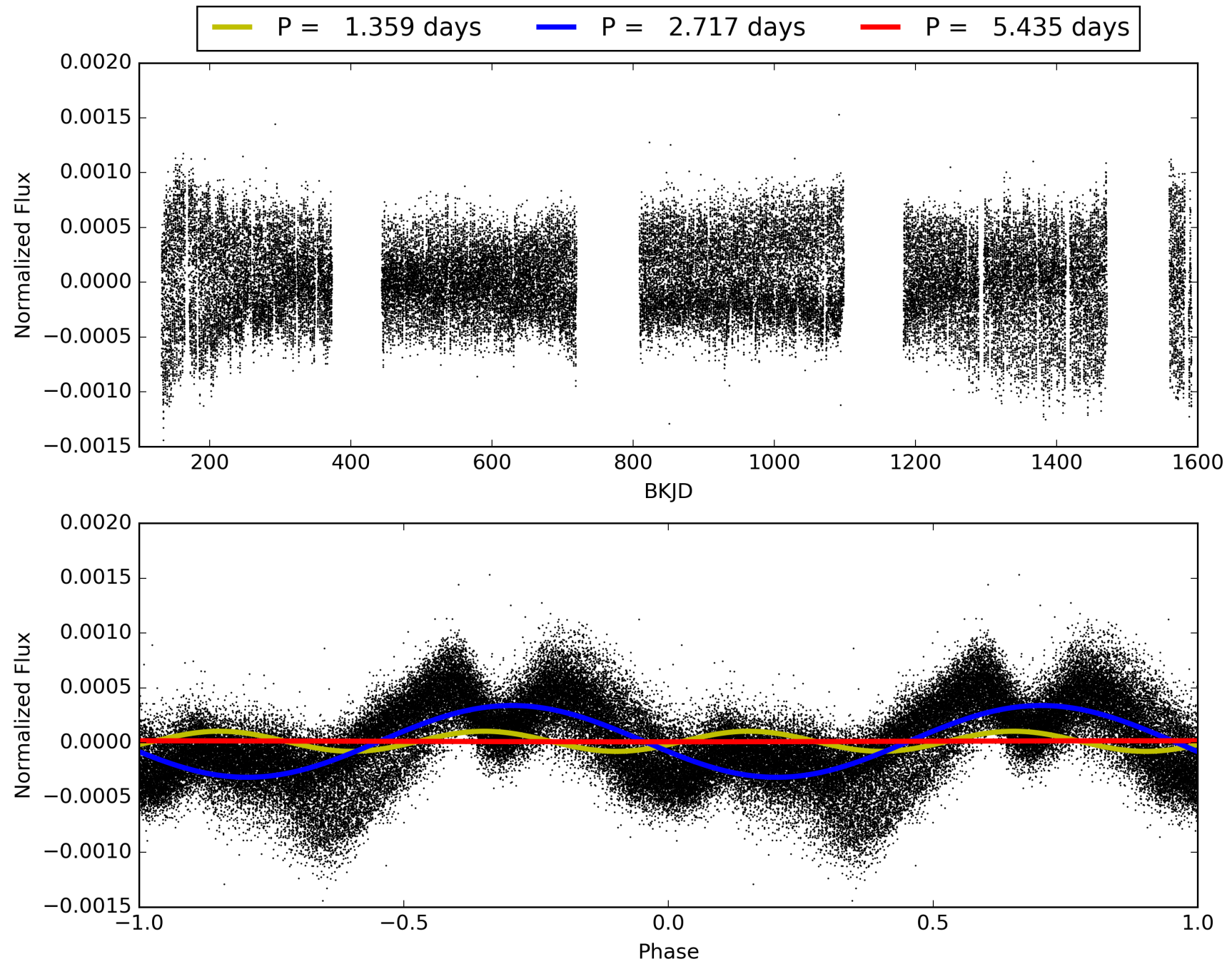
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:49:38 Z

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

TCE 011390941-03, PDC Light Curves

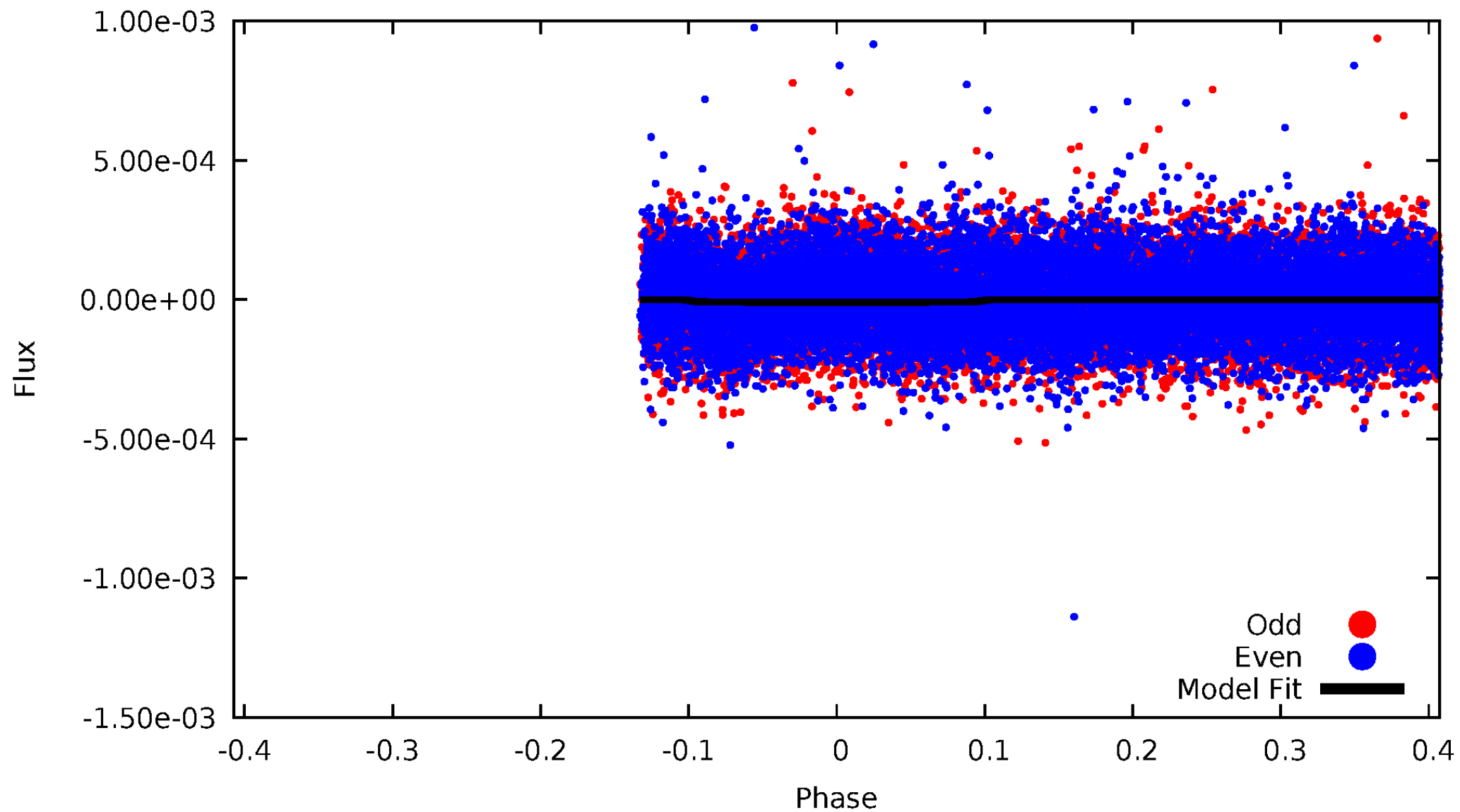


TCE 011390941-03



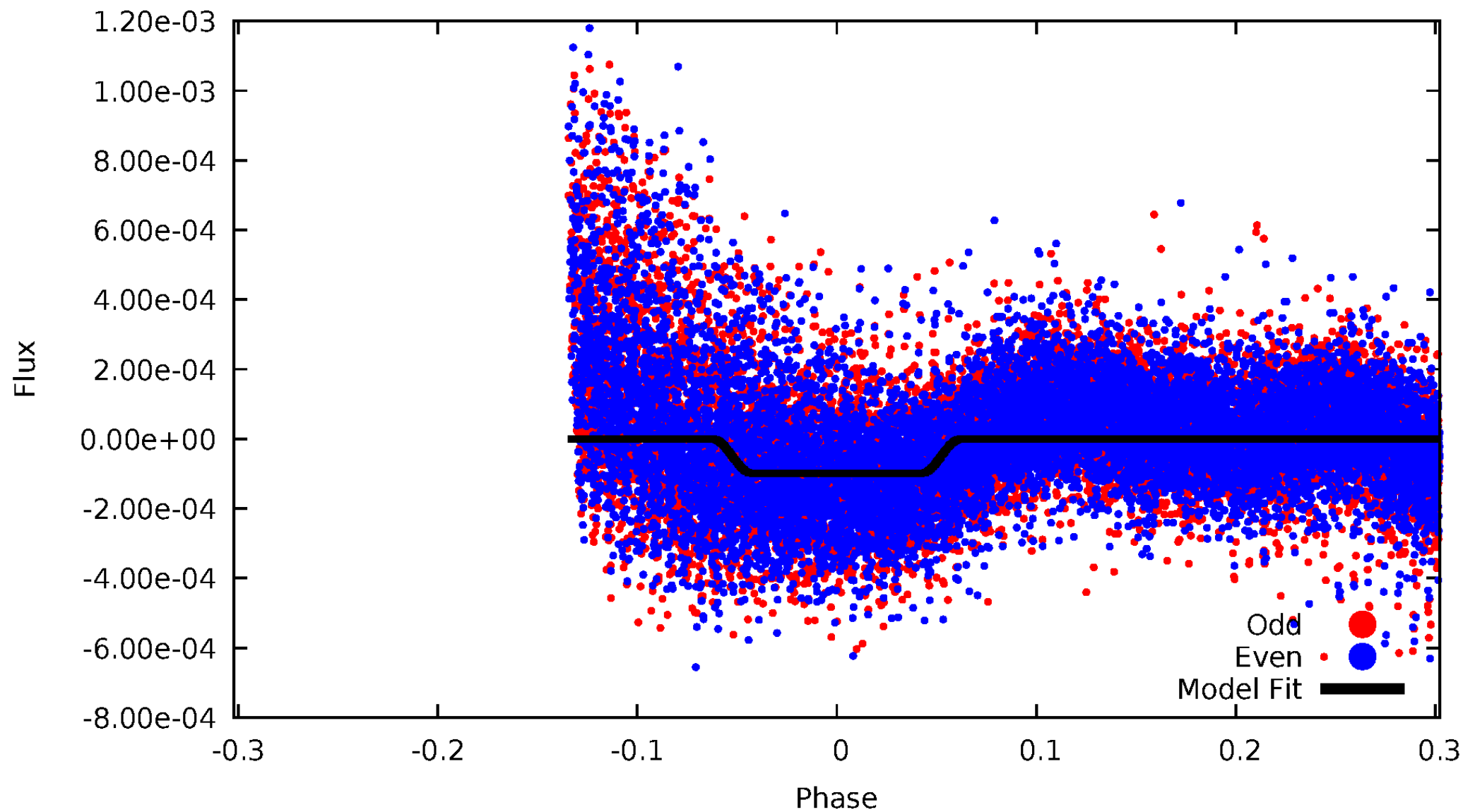
DV Odd/Even

TCE 011390941-03



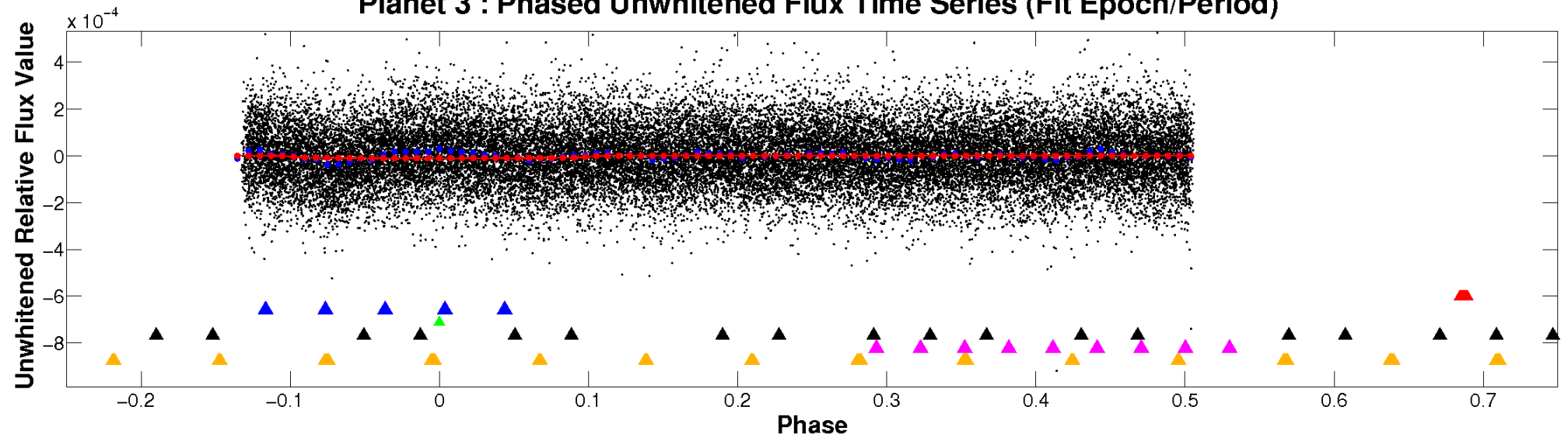
ALT Odd/Even

TCE 011390941-03

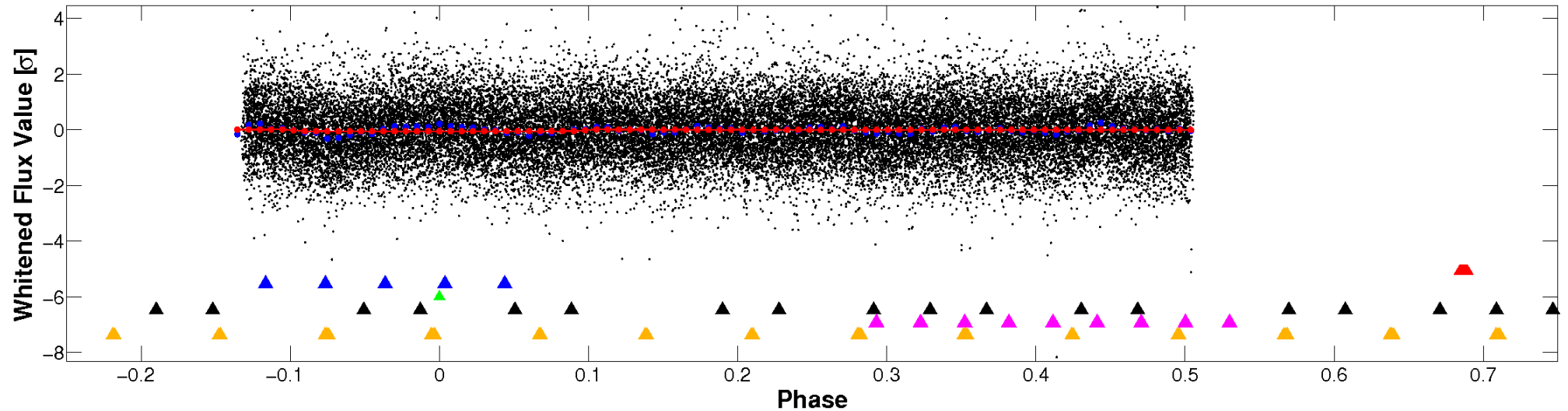


Non-Whitened Vs. Whitened Light Curve

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

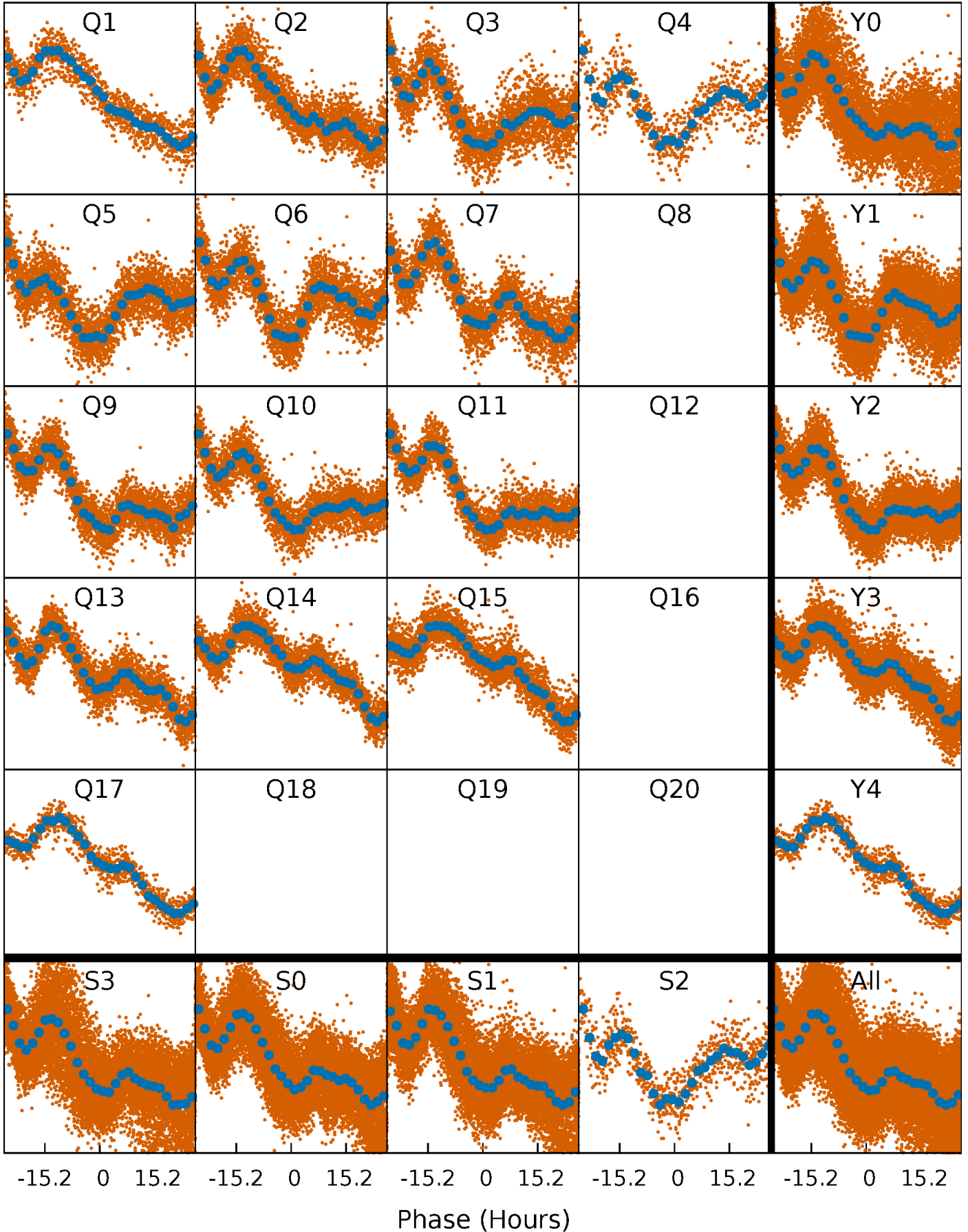


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



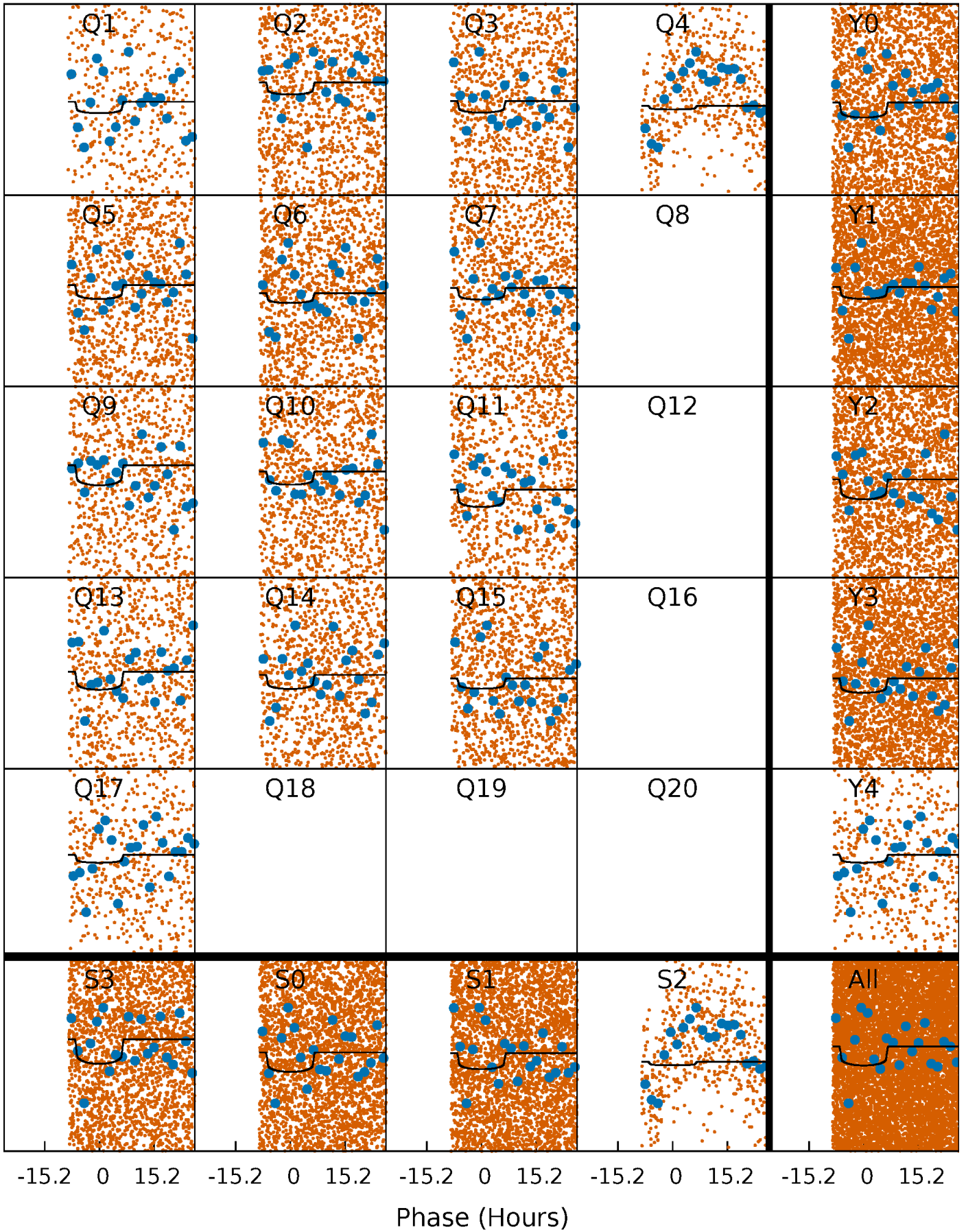
PDC Quarter-Phased Transit Curves

TCE 011390941-03 P= 2.717261 Days $T_0=133.165593$ (BKJD)



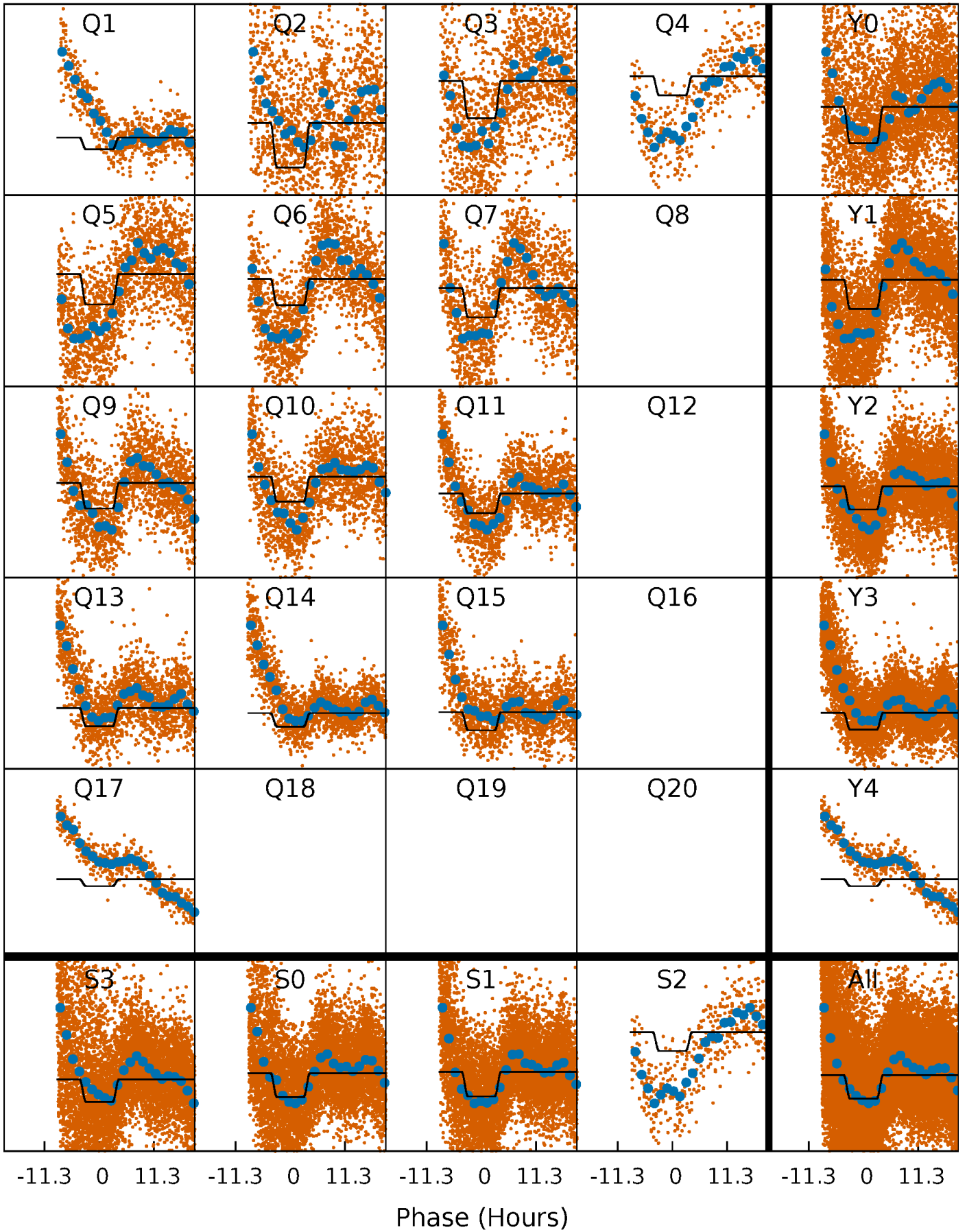
DV Quarter-Phased Transit Curves

TCE 011390941-03 $P = 2.717261$ Days $T_0 = 133.165593$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

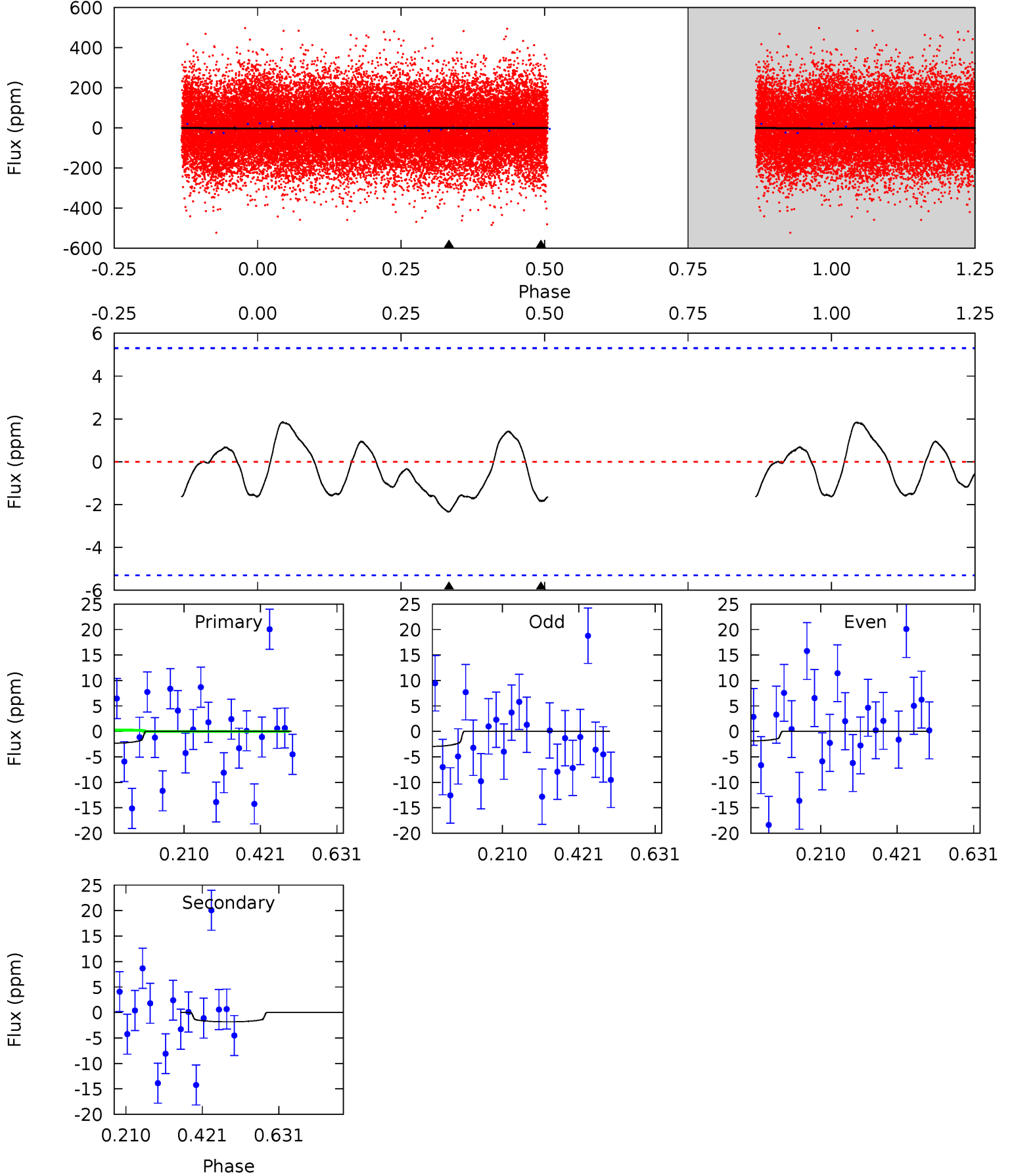
TCE 011390941-03 P= 2.717331 Days $T_0=133.150752$ (BKJD)



DV Model-Shift Uniqueness Test

011390941-03, P = 2.717261 Days, E = 130.448332 Days

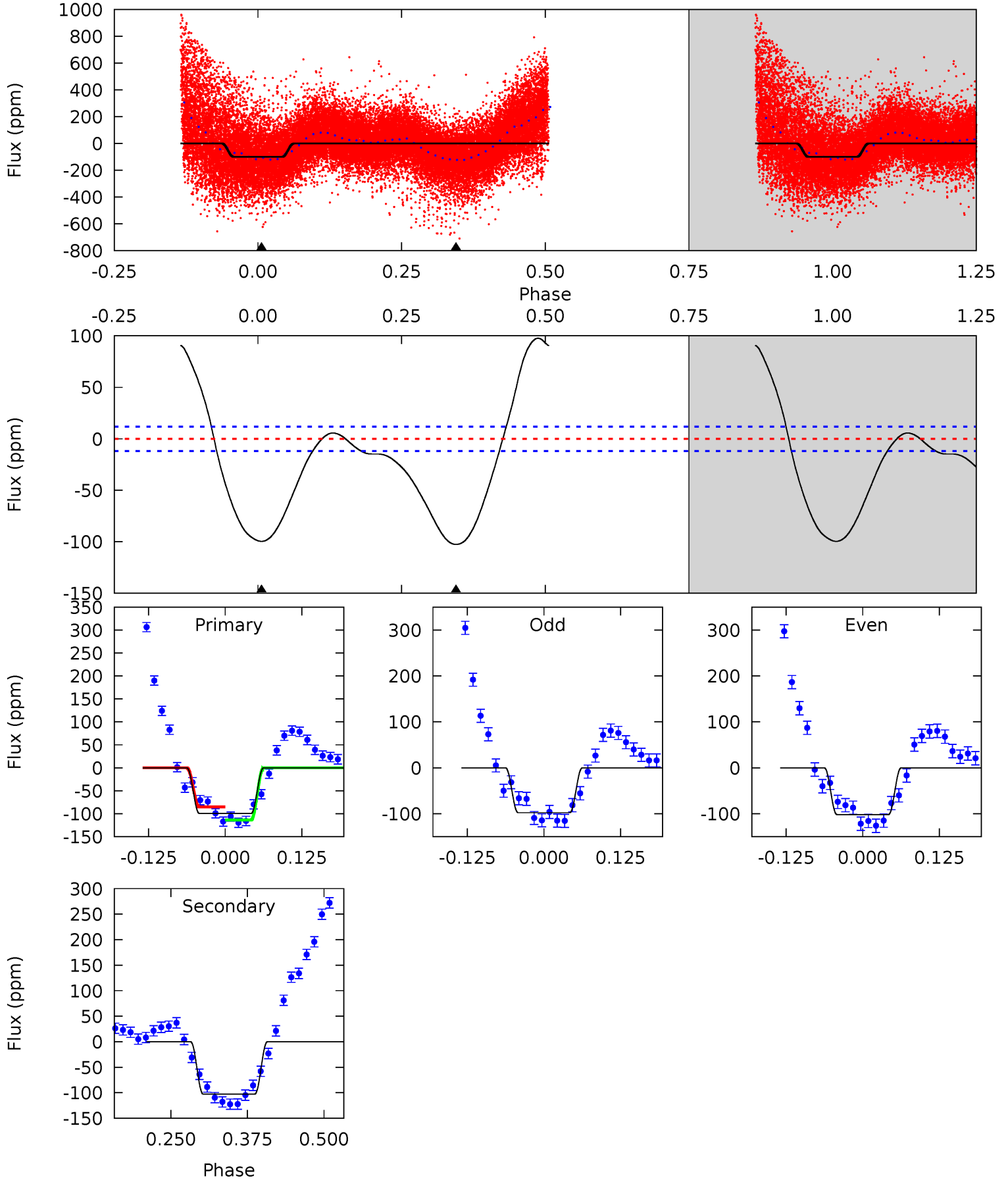
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.94	1.52	0	0	4.41	1.25	0.83	1.94	1.94	1.52	1.52	0.46	1.58	0.44	2.02



Alt Model-Shift Uniqueness Test

011390941-03, P = 2.717331 Days, E = 130.433421 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.1	39.2	0	0	4.52	1.53	18.3	38.1	38.1	39.2	39.2	0.75	0.81	0.49	3.58



Stellar Parameters For KIC 011390941

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7204^{+203}_{-254}	$4.244^{+0.105}_{-0.195}$	$-0.340^{+0.250}_{-0.350}$	$1.436^{+0.471}_{-0.253}$	$1.324^{+0.198}_{-0.198}$	$0.630^{+0.309}_{-0.332}$
	+3%/-4%	+2%/-5%	+74%/-103%	+33%/-18%	+15%/-15%	+49%/-53%
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 011390941-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2 ± 1	$0.55^{+0.18}_{-0.16}$	2636^{+188}_{-152}	4547^{+914}_{-1073}	$5.345^{+7.790}_{-3.945}$
Alt.	-103 ± 3	$1.58^{+0.29}_{-0.23}$	2623^{+196}_{-153}	7258^{+489}_{-441}	39^{+13}_{-11}

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 $A_{obs} \gg 1.0$

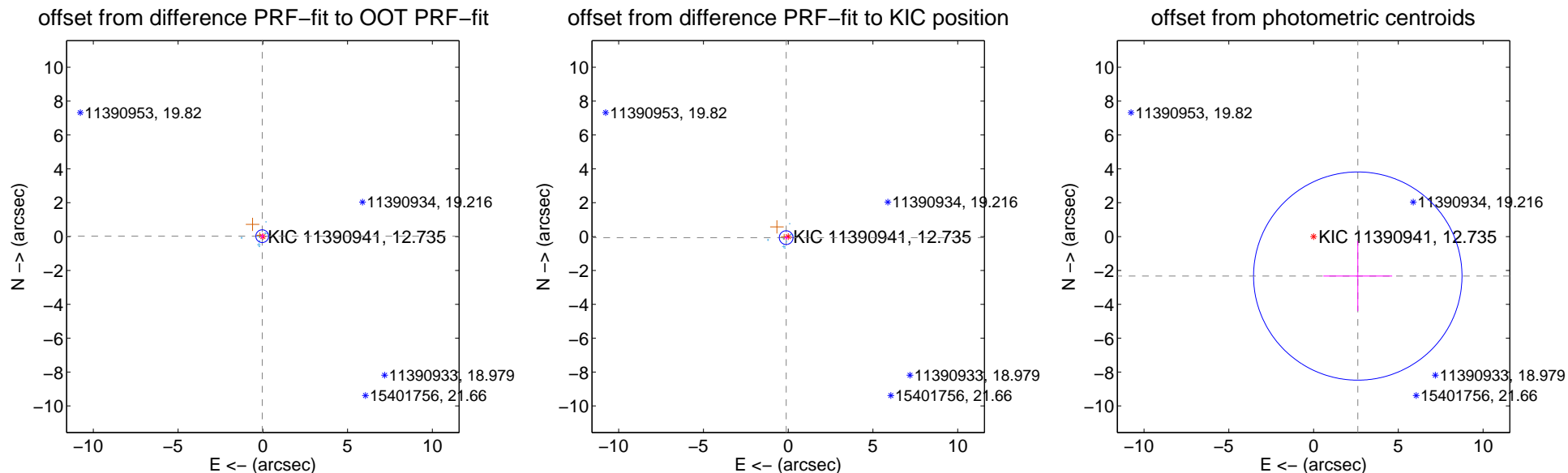
DV Centroid Data

Supplemental centroid analysis for 011390941-03. Kepler magnitude: 12.73. Transit SNR 4.61

There are 10 quarters with good PRF difference image offsets

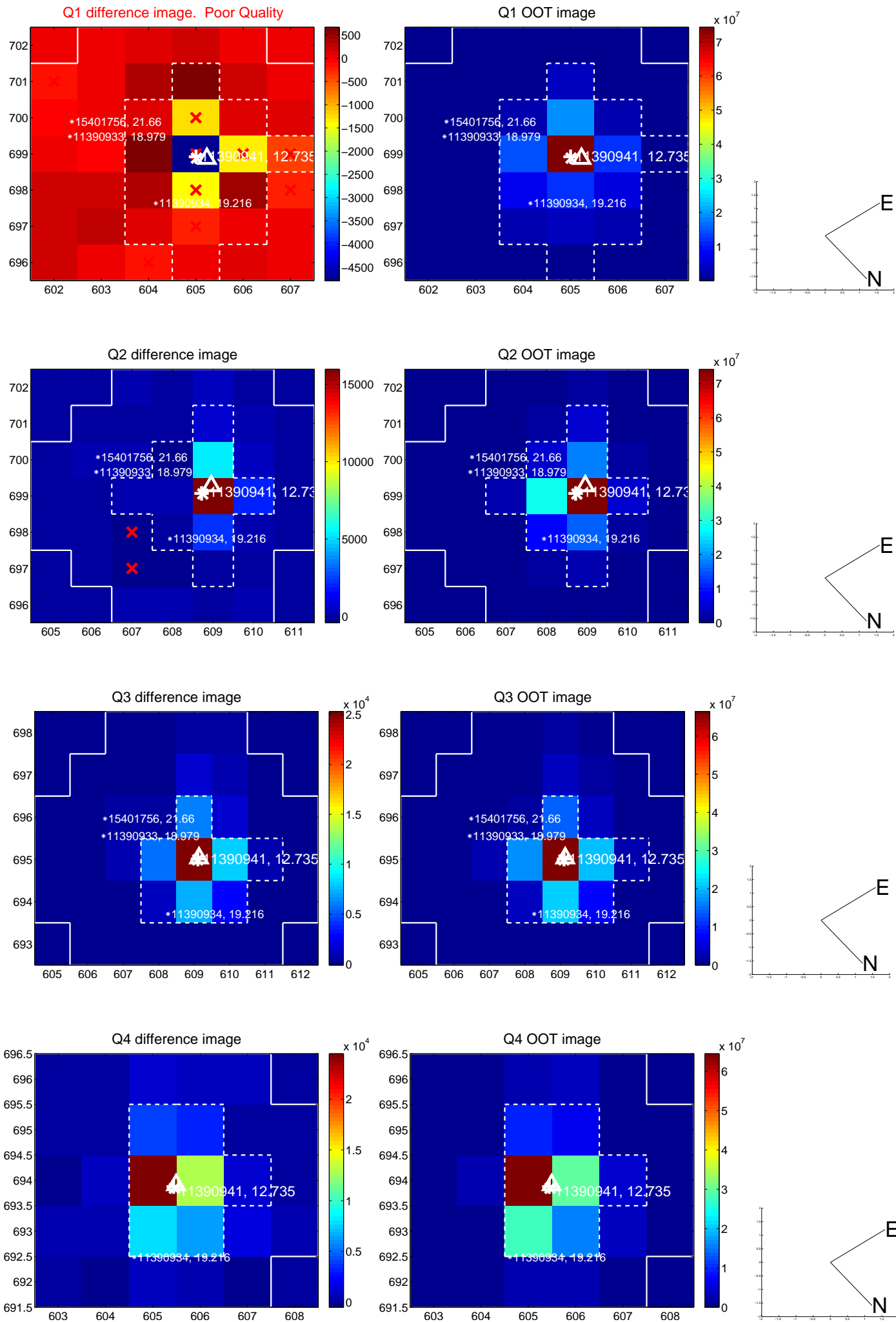
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.043 ± 0.126	0.34	0.036 ± 0.124	0.023 ± 0.142
PRF-fit source offset from KIC position	0.135 ± 0.135	1.00	0.120 ± 0.125	-0.062 ± 0.128
photometric centroid source offset	3.50 ± 2.05	1.71	-2.61 ± 2.03	-2.33 ± 2.07

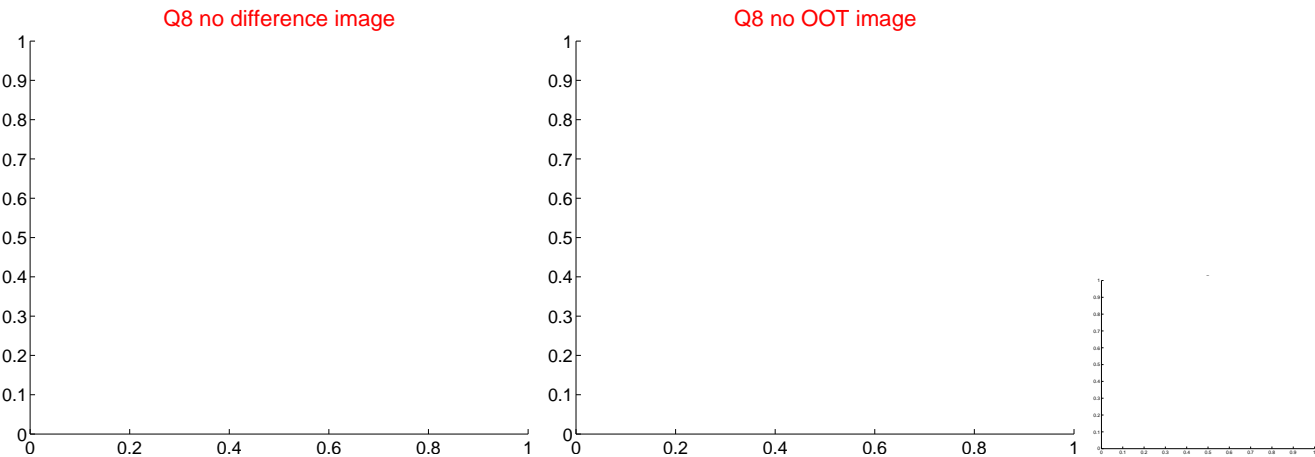
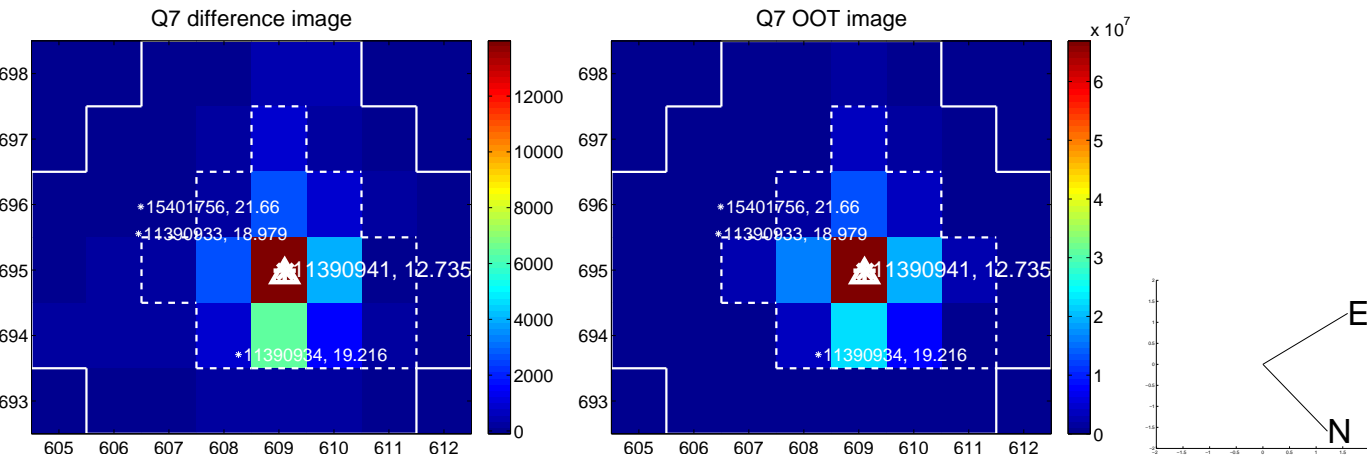
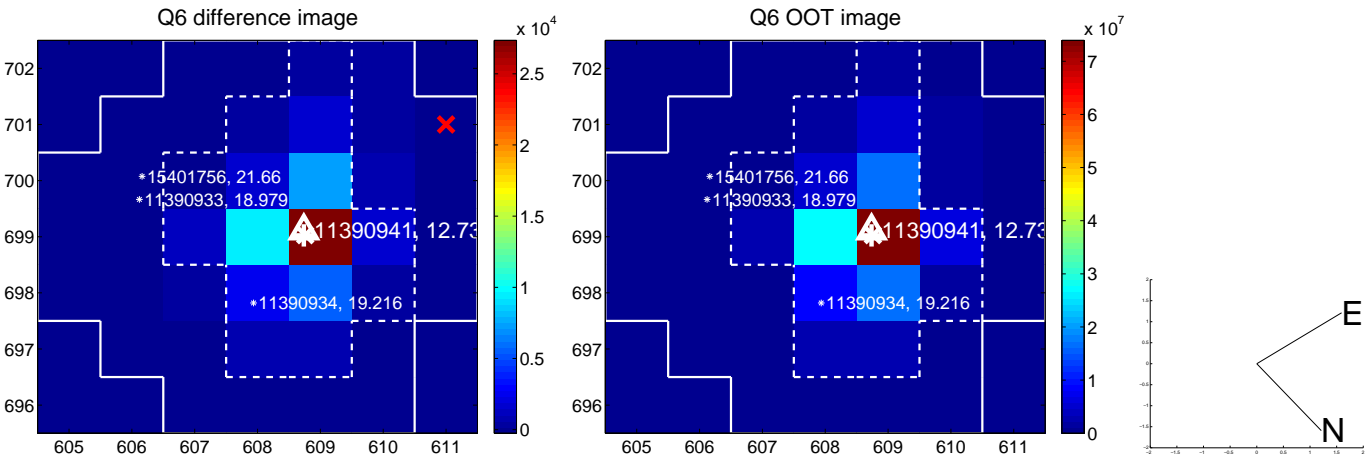
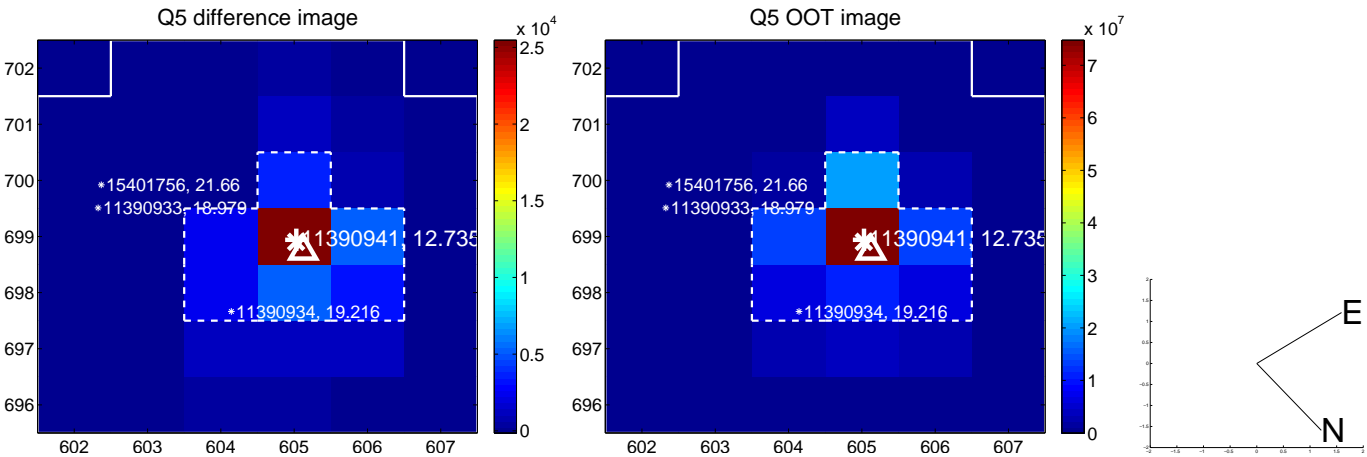


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

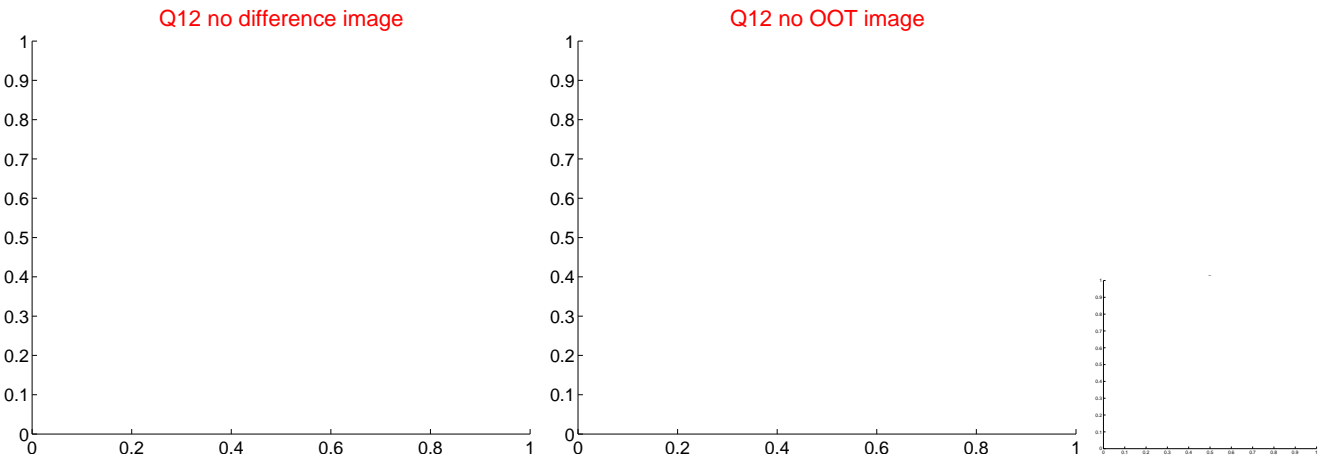
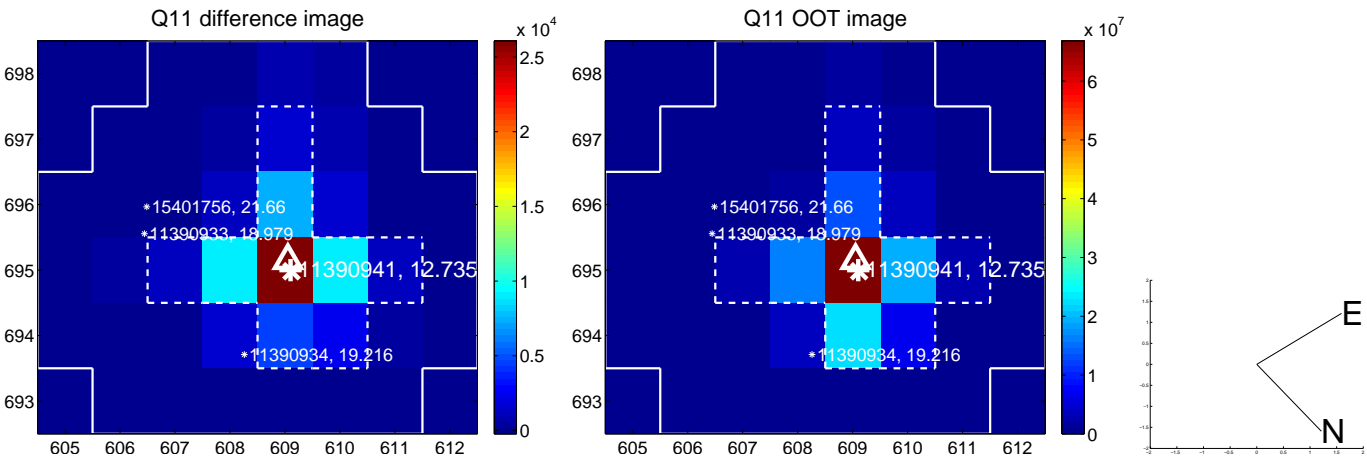
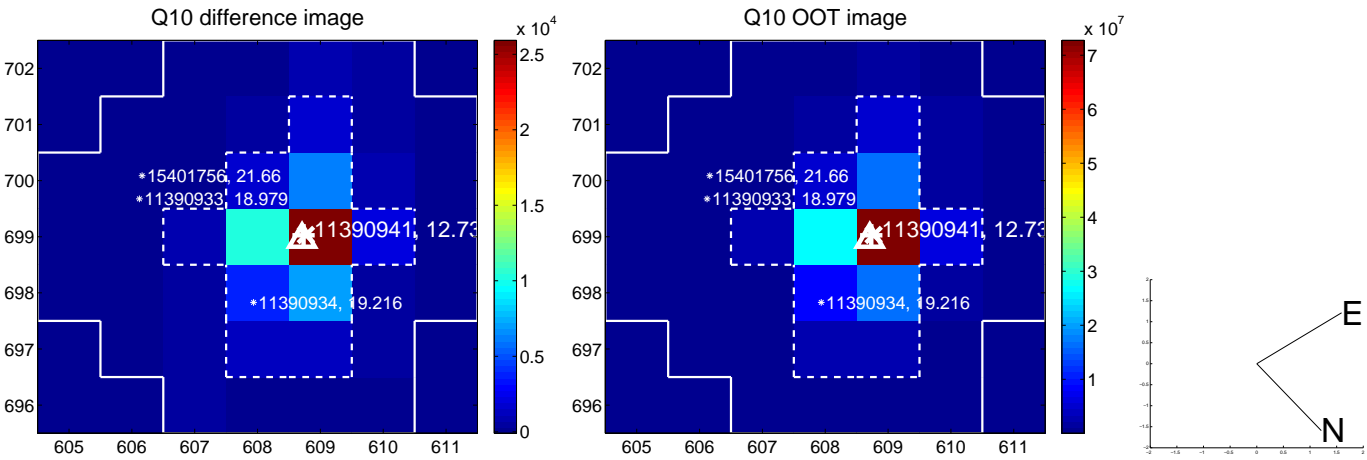
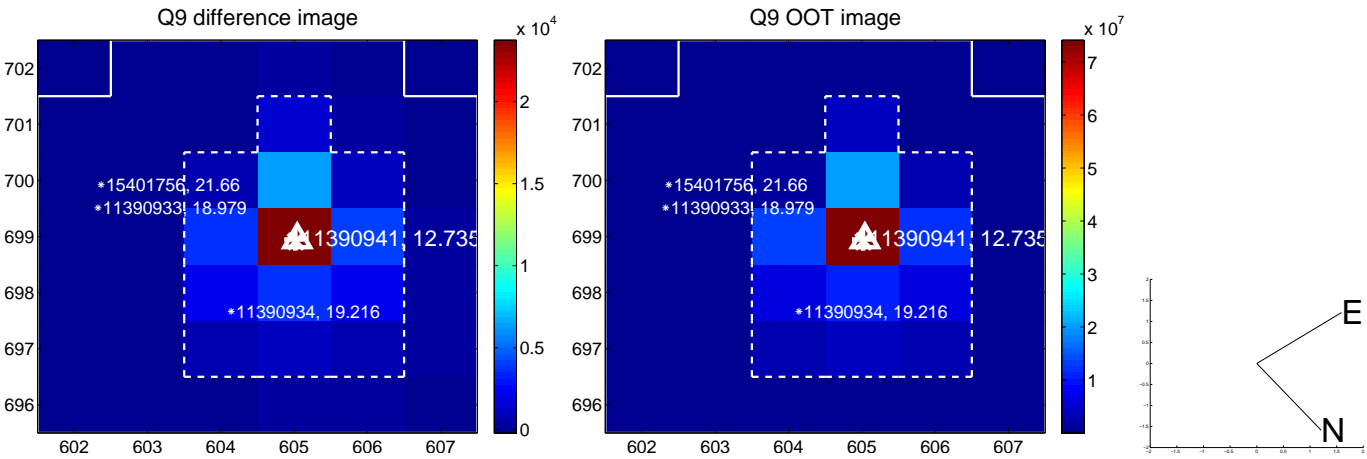
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



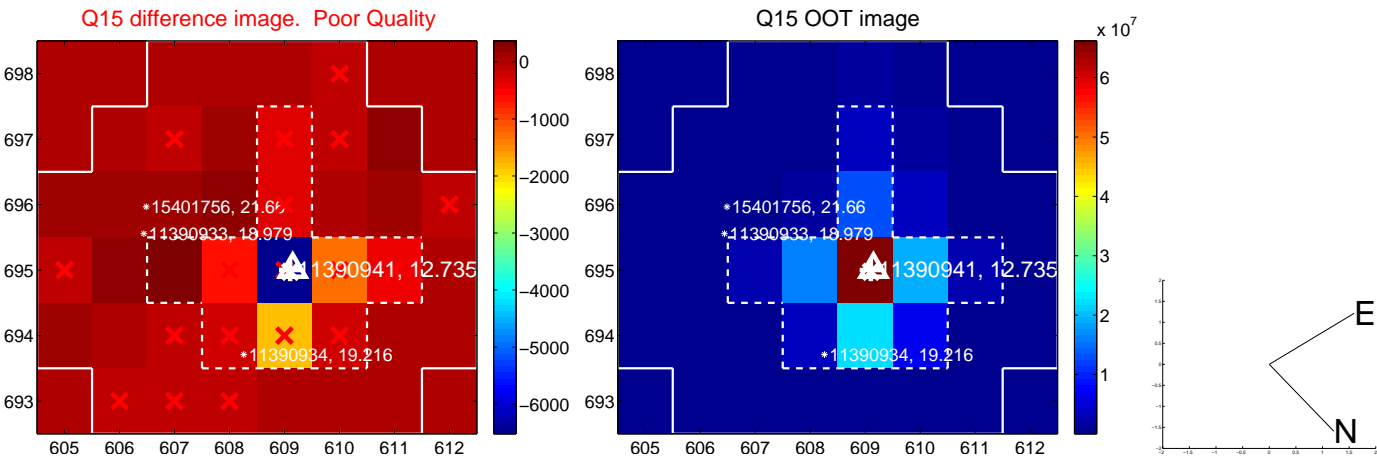
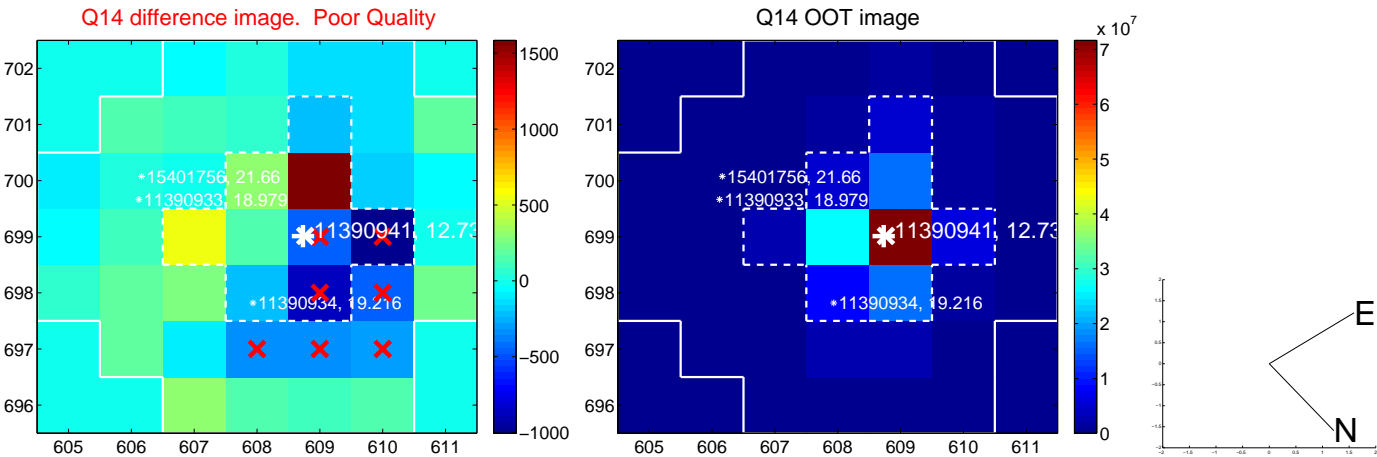
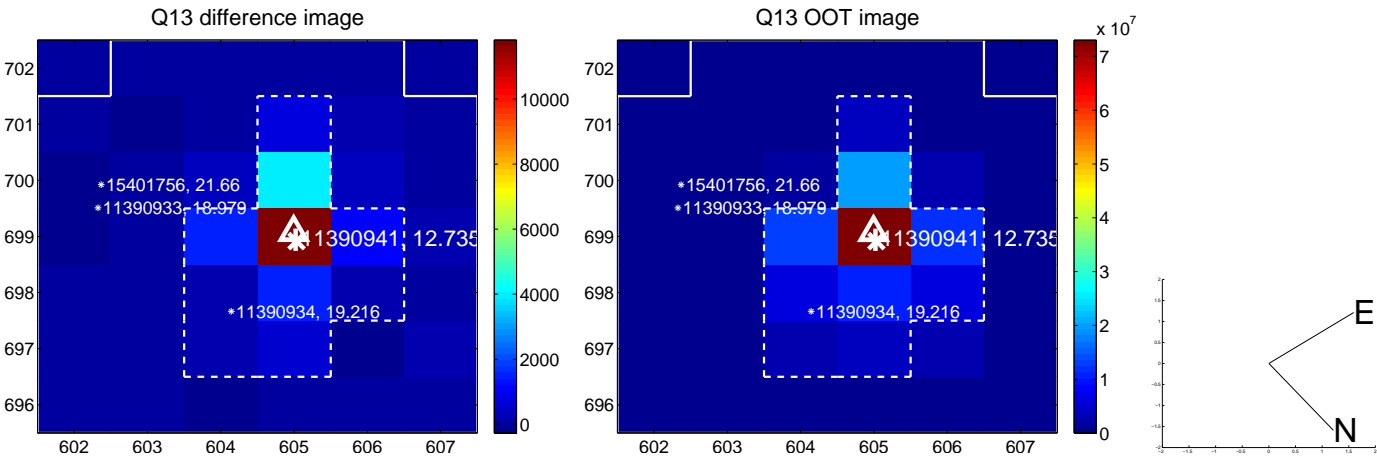
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



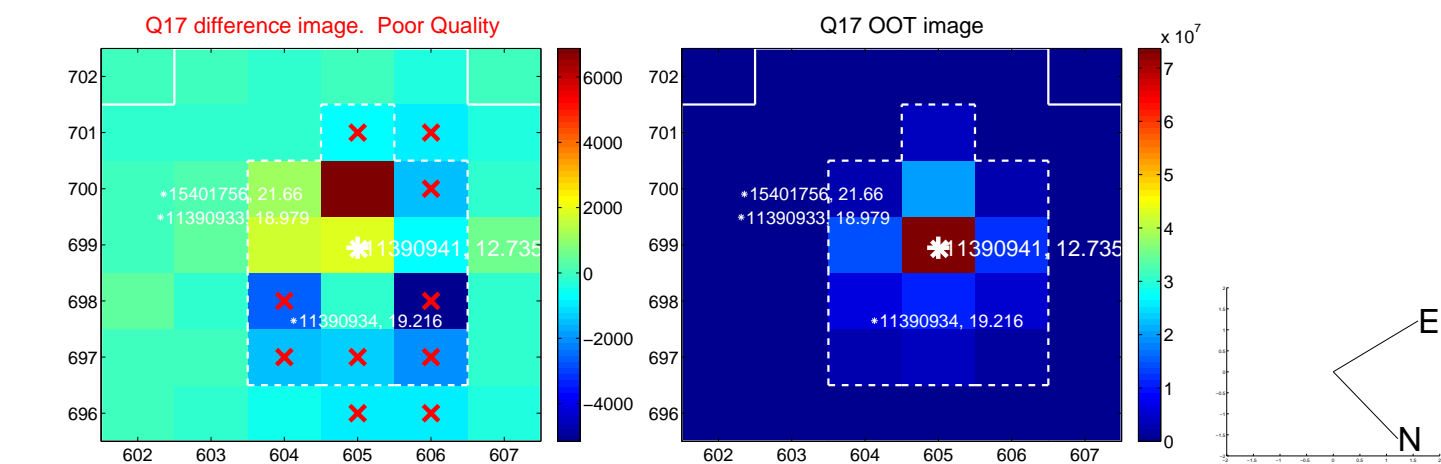
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



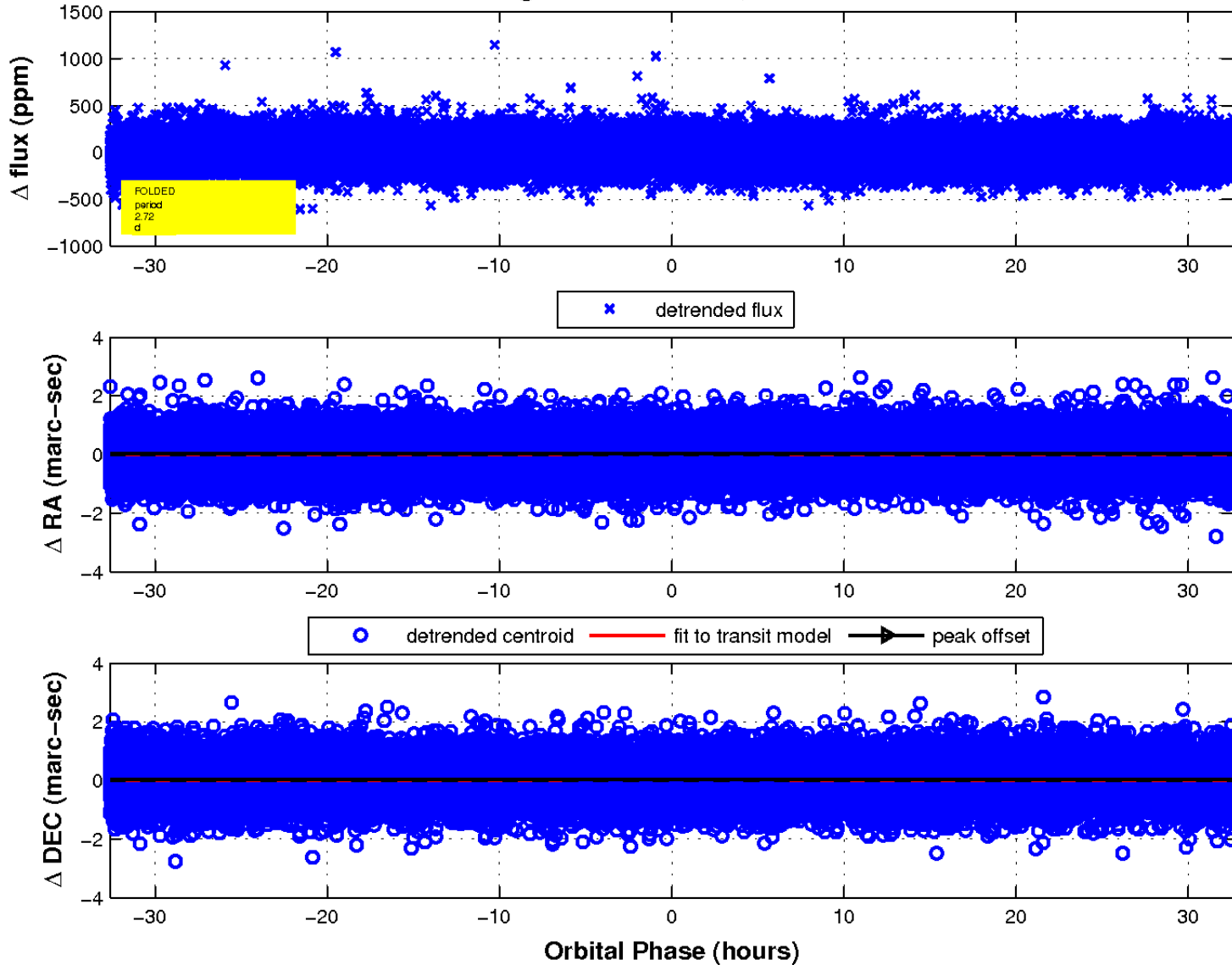
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

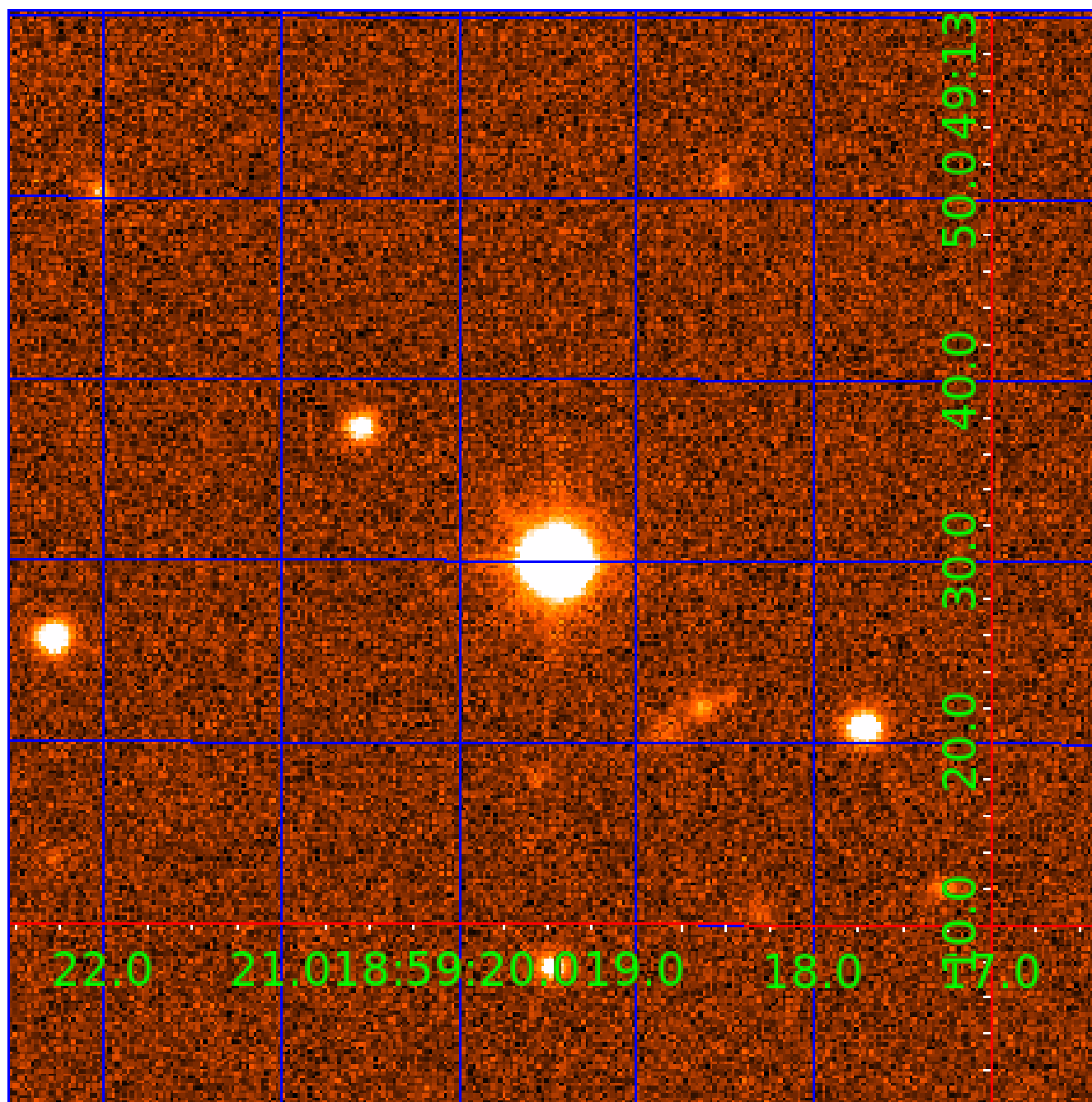


fluxWeightedCentroids, Planet 3 of 6



UKIRT Image

Declination



KIC 011390941

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})
011390941-01	OBS	No	2.717287	132.307590	15.2	7.781	9.4	5.7	1.44	7204	0.65	2847.38
011390941-02	OBS	No	274.552239	279.581144	169.8	16.498	11.5	6.7	1.44	7204	2.06	6.05
011390941-03	OBS	No	2.717261	133.165593	9.9	13.278	9.1	4.6	1.44	7204	0.54	2847.41
011390941-04	OBS	No	83.203247	165.084441	106.1	4.414	10.2	4.8	1.44	7204	1.64	29.72
011390941-05	OBS	No	168.389732	150.908998	117.6	13.132	8.3	7.2	1.44	7204	1.62	11.61
011390941-06	OBS	No	41.729120	131.993576	264.8	1.071	7.4	8.1	1.44	7204	2.40	74.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011390941-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
011390941-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS
011390941-03	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
011390941-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011390941-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— HALO_GHOST
011390941-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV

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

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

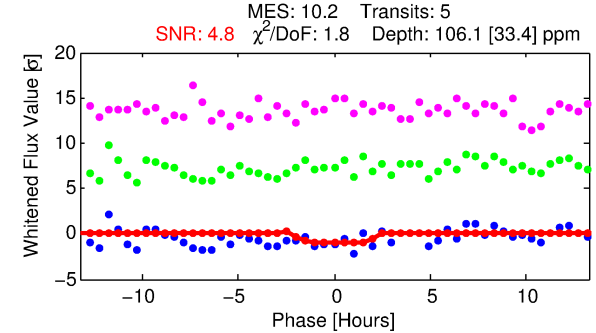
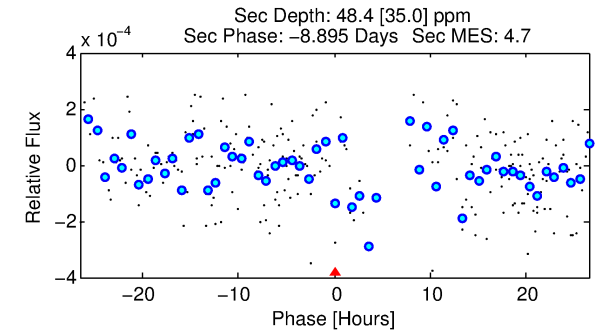
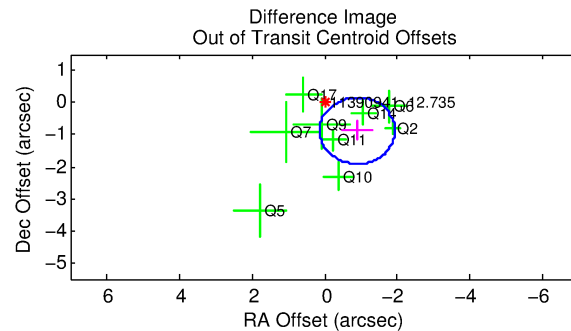
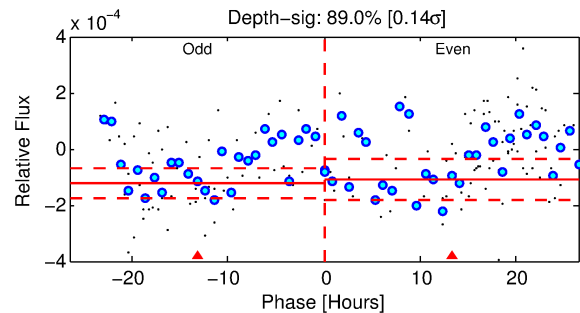
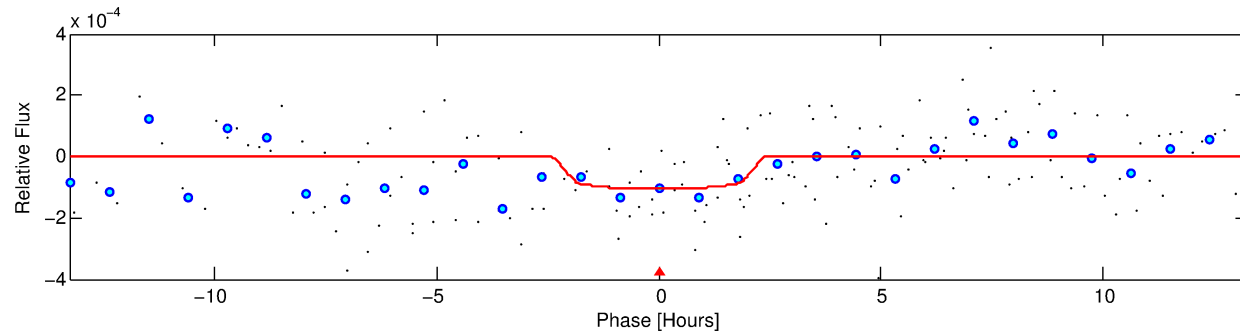
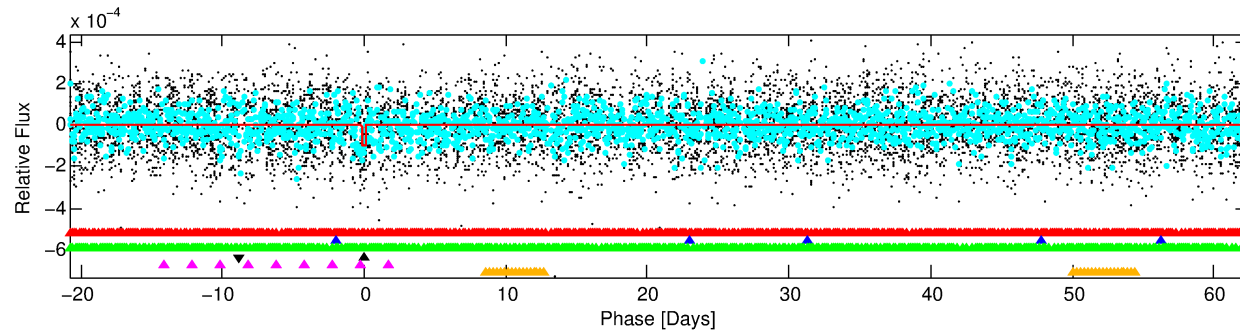
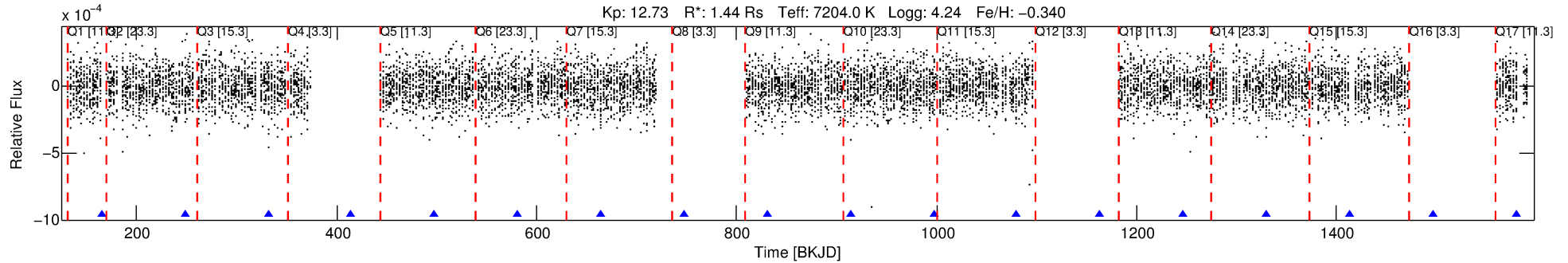
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011390941-04

No Significant Match Found

DV One-Page Summary

KIC: 11390941 Candidate: 4 of 6 Period: 83.203 d



DV Fit Results:

Period = 83.20325 [0.00225] d
Epoch = 165.0844 [0.0215] BKJD
Rp/R* = 0.0105 [0.0157]
a/R* = 86.15 [796.52]
b = 0.81 [3.88]
Seff = 29.72 [11.79]
Teff = 595 [59] K
Rp = 1.64 [2.52] Re
a = 0.4092 [0.1084] AU
Ag = 1658.90 [5155.99] [0.32 σ]
Teffp = 5875 [4537] K [1.16 σ]

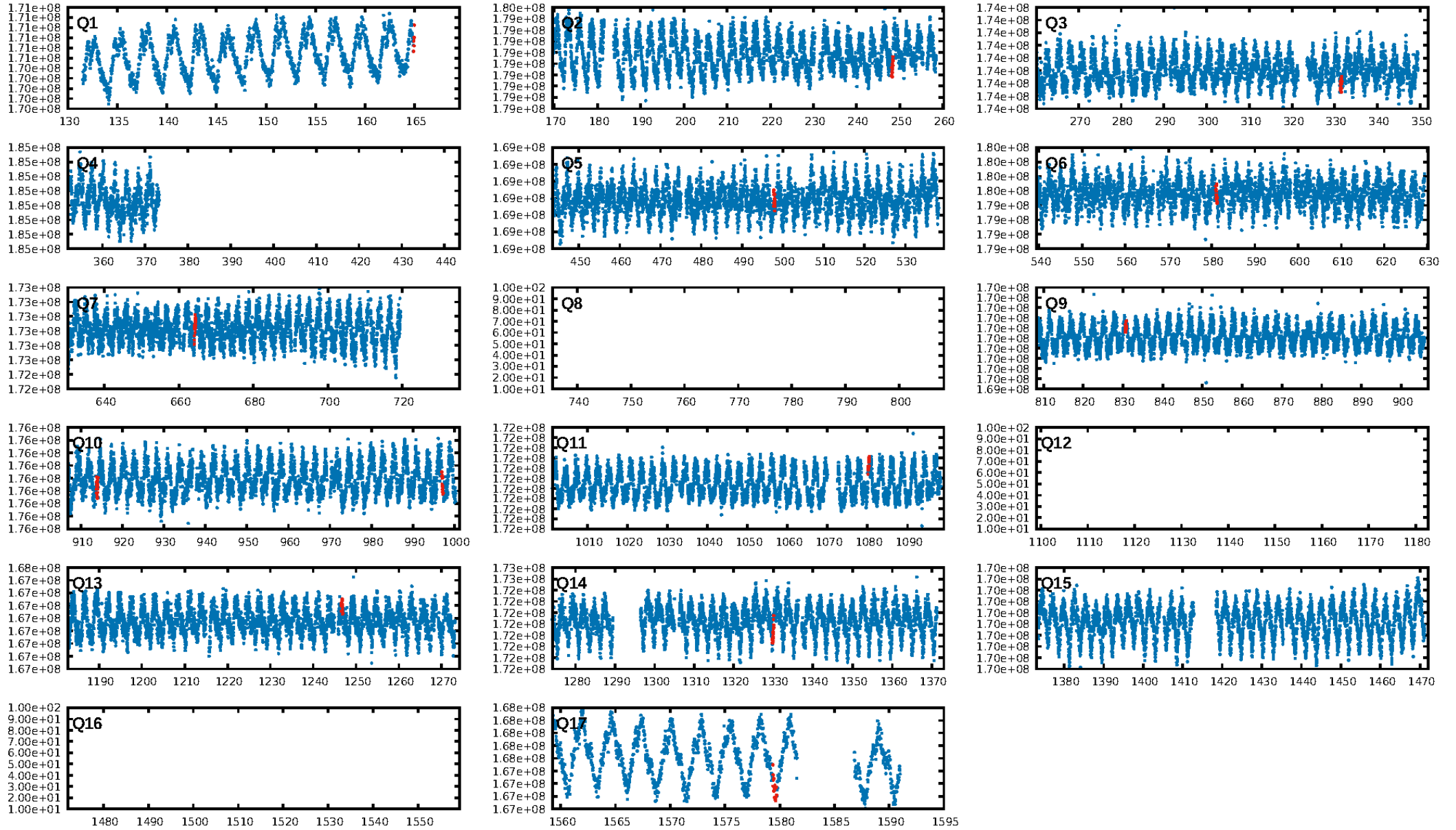
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [219.14 σ]
LongPeriod-sig: 100.0% [147.57 σ]
ModelChiSquare2-sig: 78.3%
ModelChiSquareGof-sig: 92.7%
Bootstrap-pfa: 8.63e-16
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.578
Centroid-sig: 35.7%
Centroid-so: 1.700 arcsec [0.97 σ]
OotOffset-rm: 1.255 arcsec [3.62 σ]
KicOffset-rm: 1.376 arcsec [3.91 σ]
OotOffset-st: 4/2/0/3 [9]
KicOffset-st: 4/2/0/3 [9]
DiffImageQuality-fgm: 0.44 [4/9]
DiffImageOverlap-fno: 0.40 [4/10]

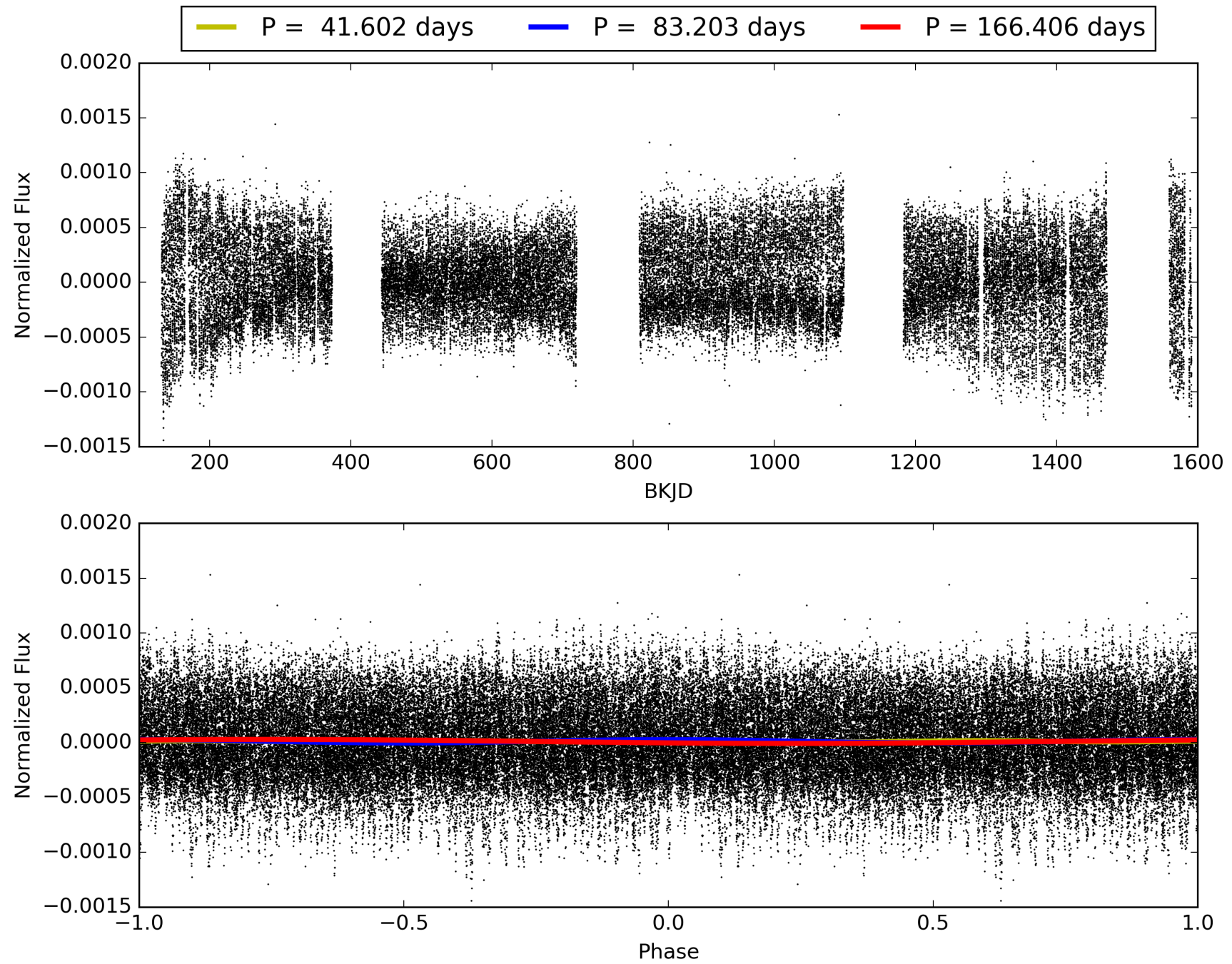
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:49:46 Z

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

TCE 011390941-04, PDC Light Curves

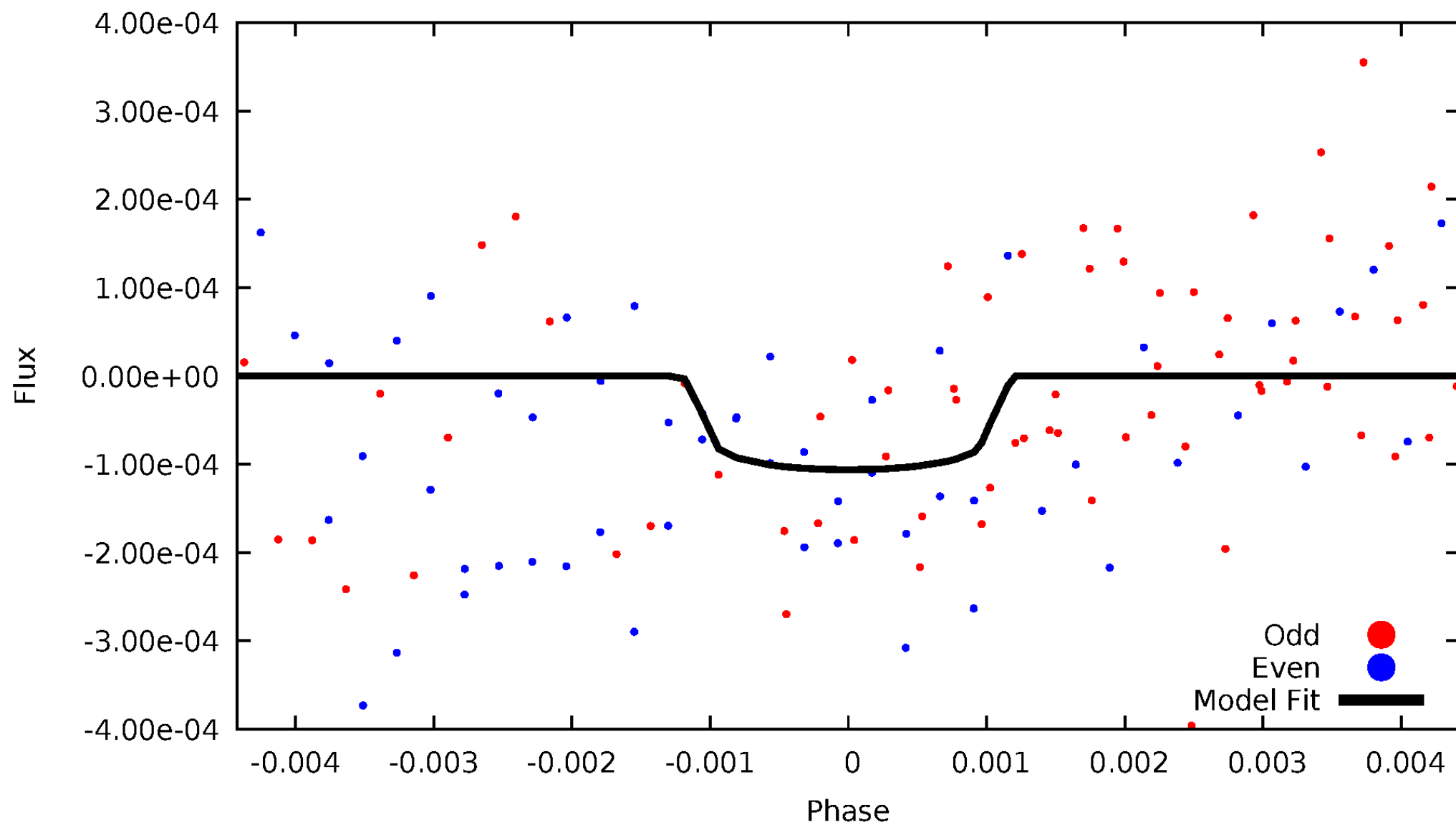


TCE 011390941-04



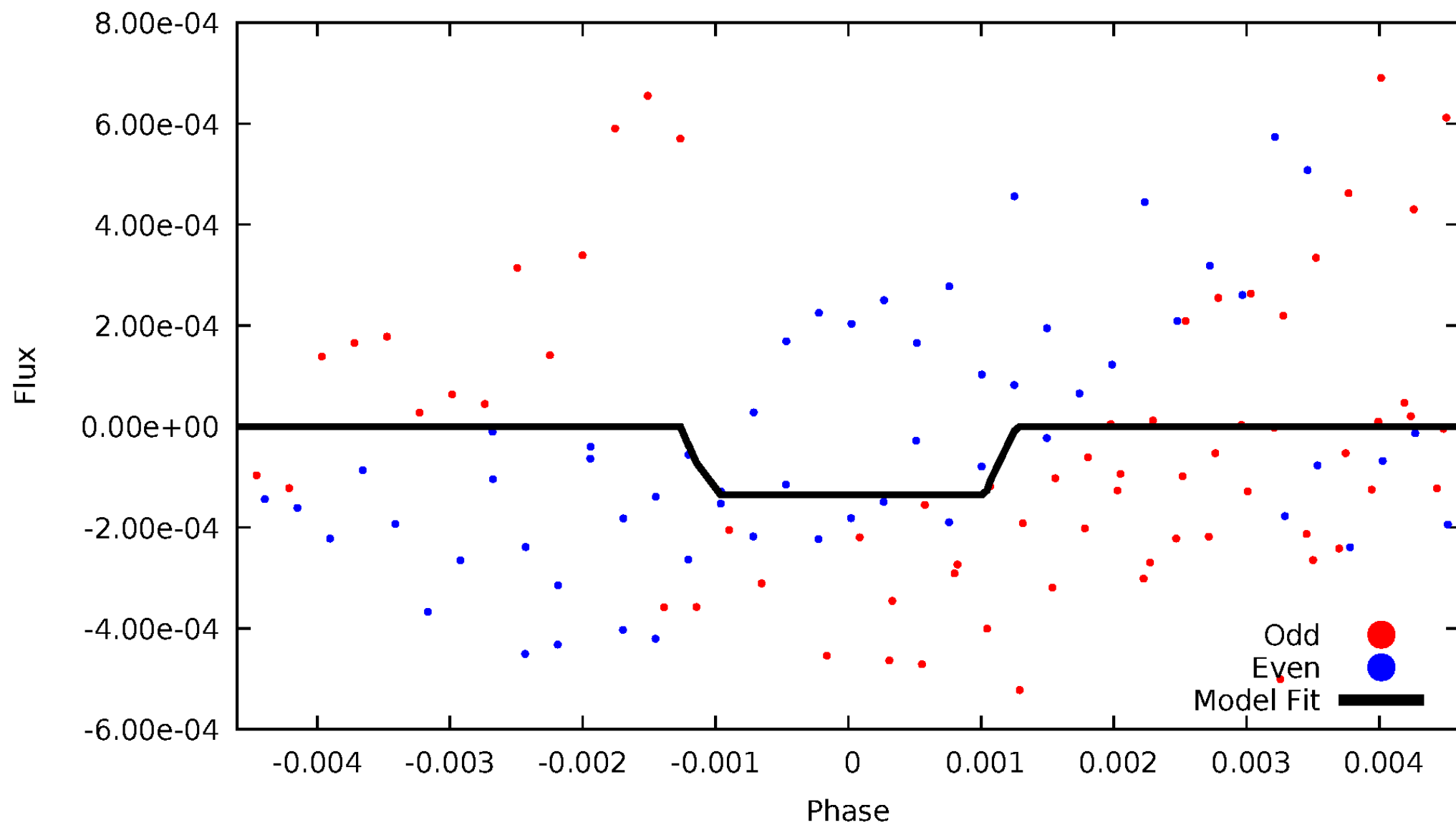
DV Odd/Even

TCE 011390941-04



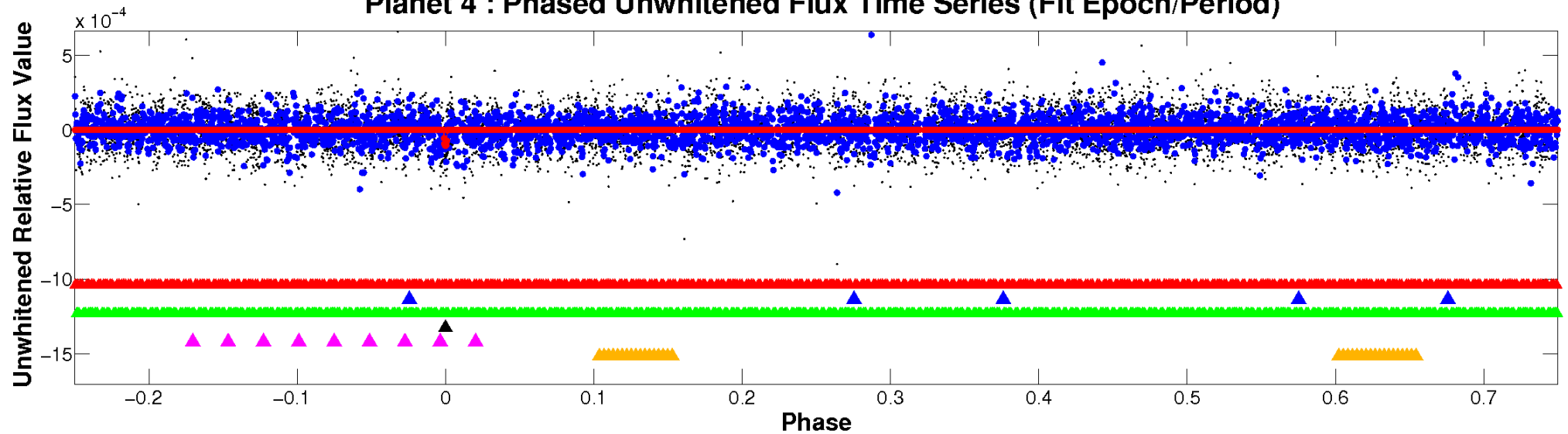
ALT Odd/Even

TCE 011390941-04

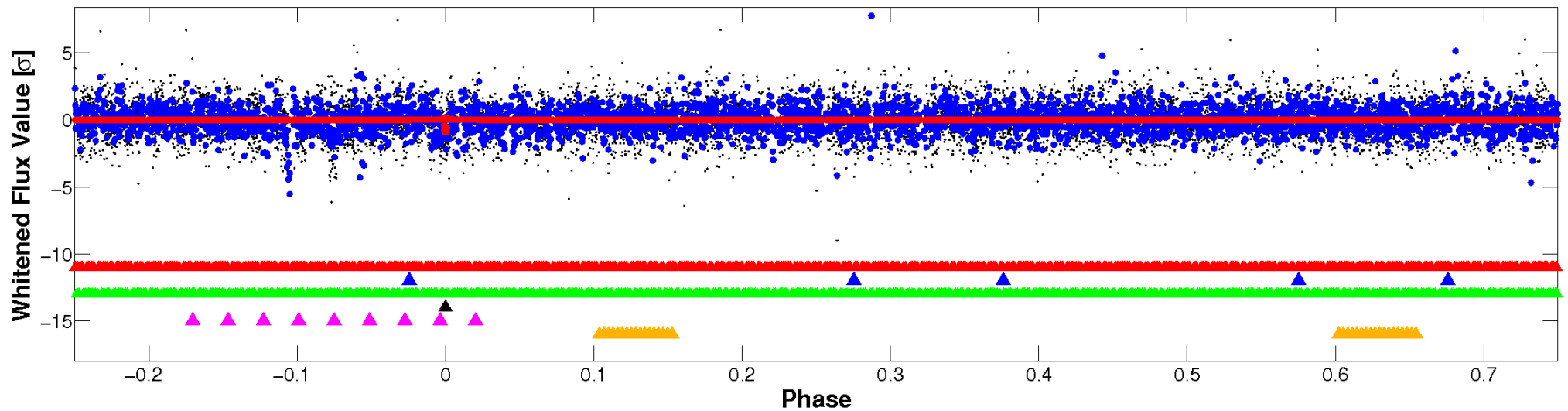


Non-Whitened Vs. Whitened Light Curve

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

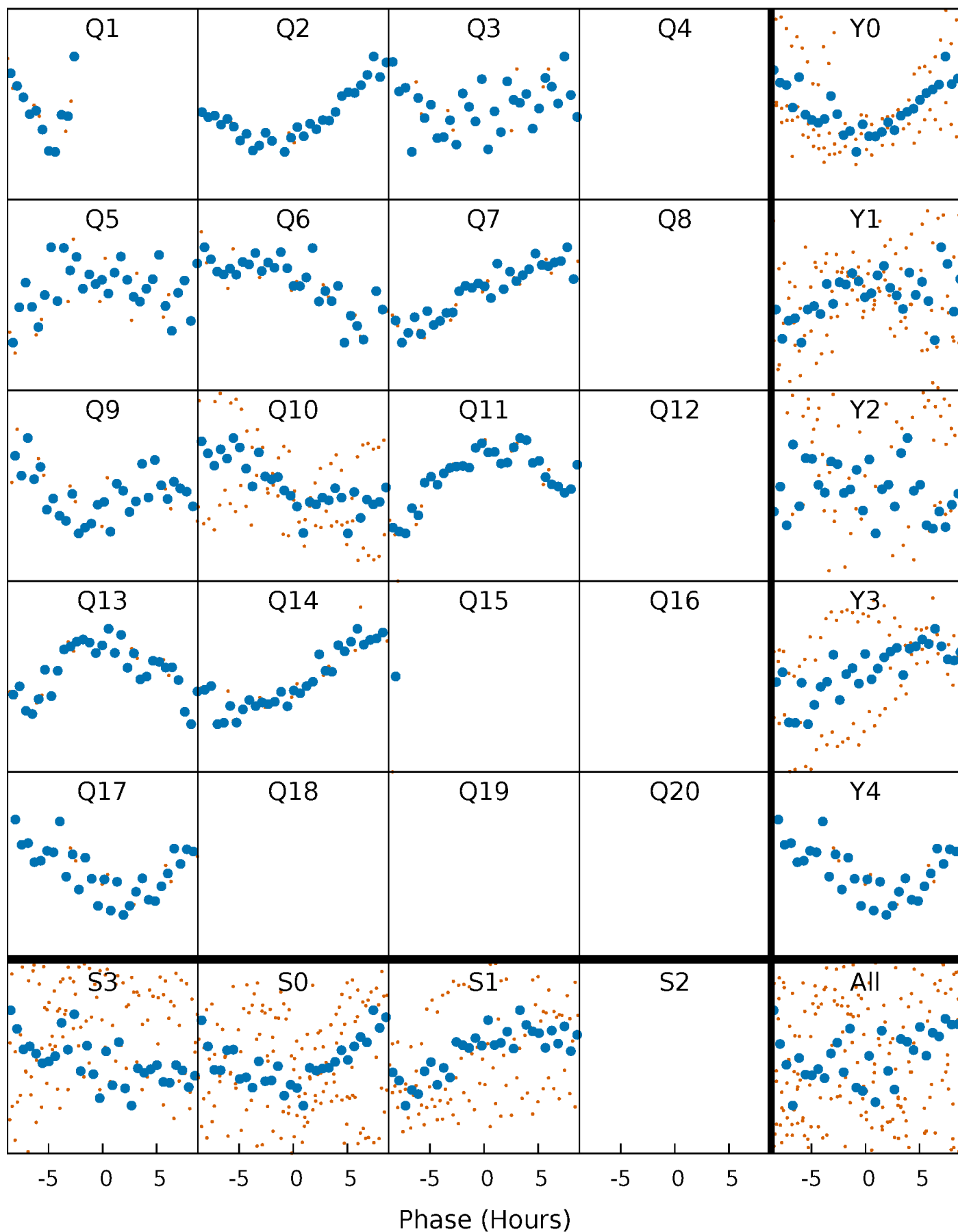


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



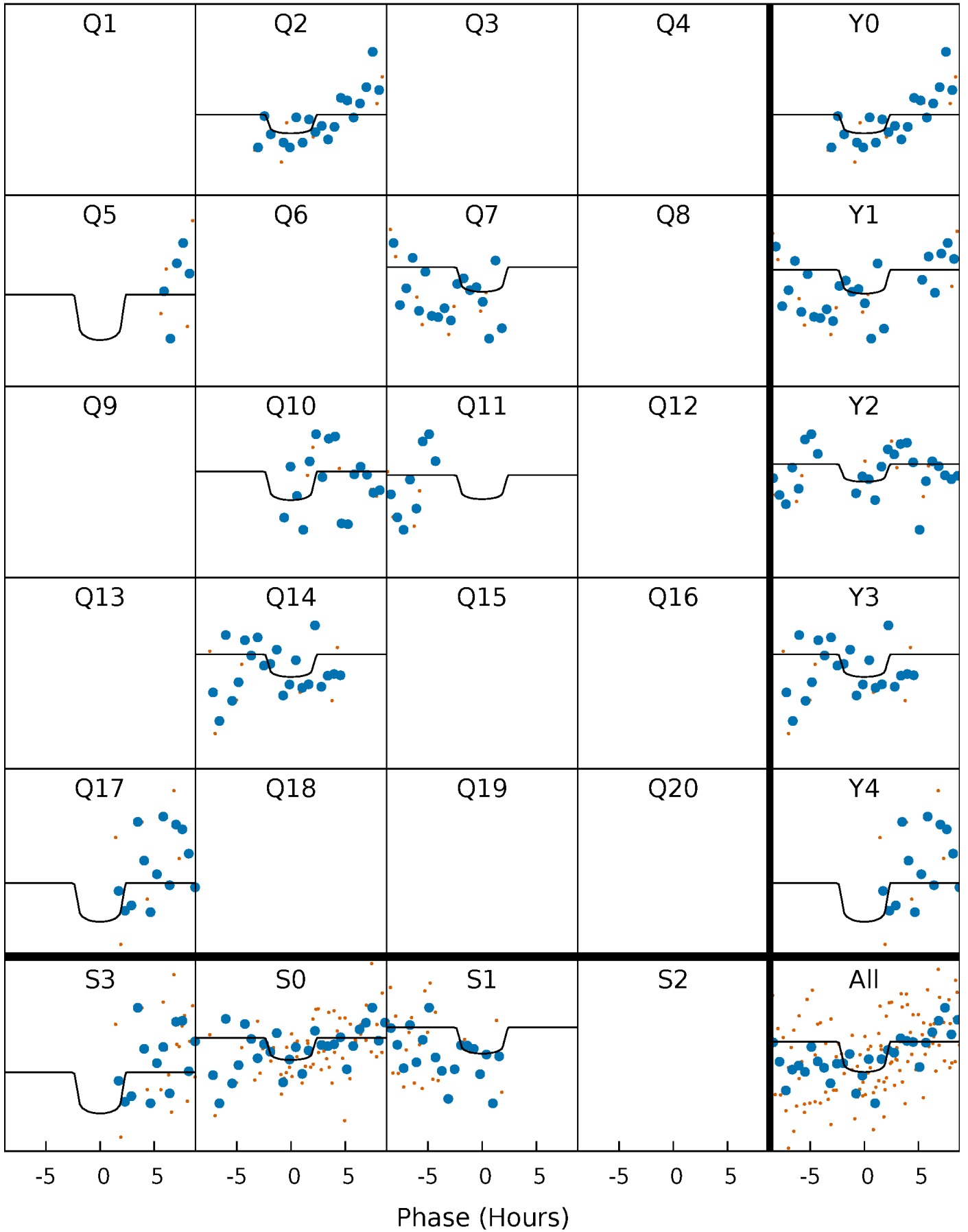
PDC Quarter-Phased Transit Curves

TCE 011390941-04 $P = 83.203247$ Days $T_0 = 165.084441$ (BKJD)



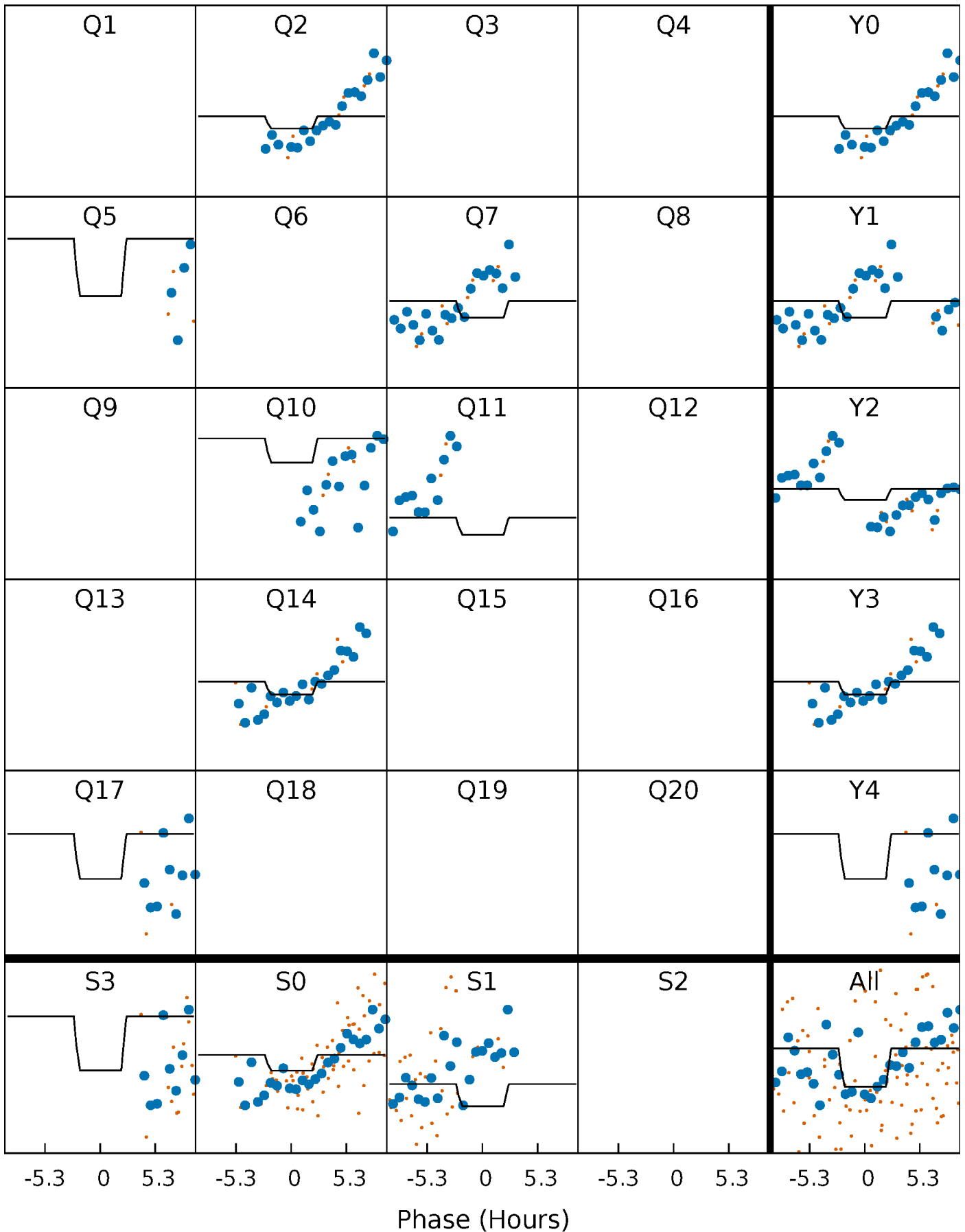
DV Quarter-Phased Transit Curves

TCE 011390941-04 P= 83.203247 Days $T_0=165.084441$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

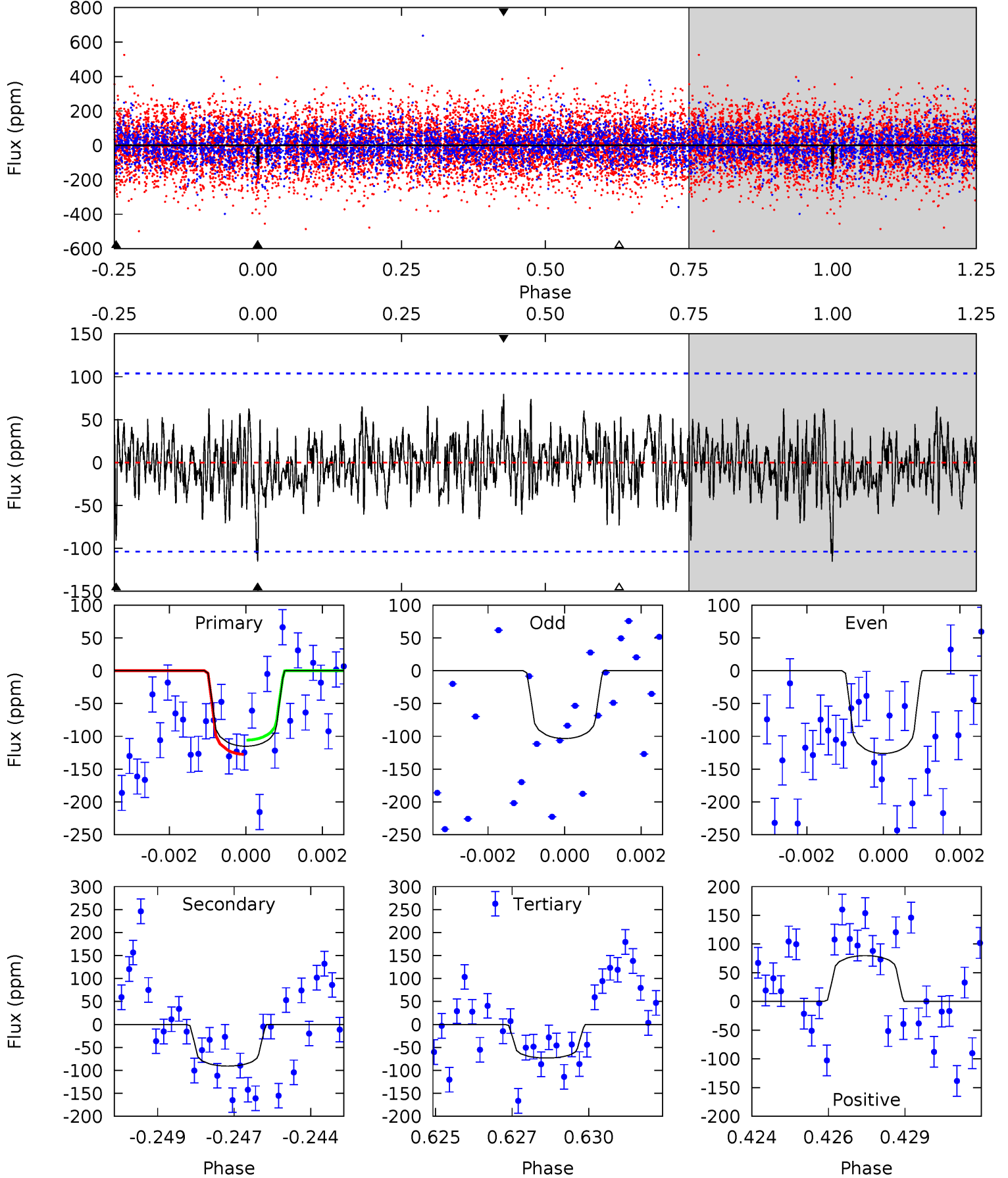
TCE 011390941-04 P= 83.198195 Days $T_0=165.065592$ (BKJD)



DV Model-Shift Uniqueness Test

011390941-04, P = 83.203247 Days, E = 81.881194 Days

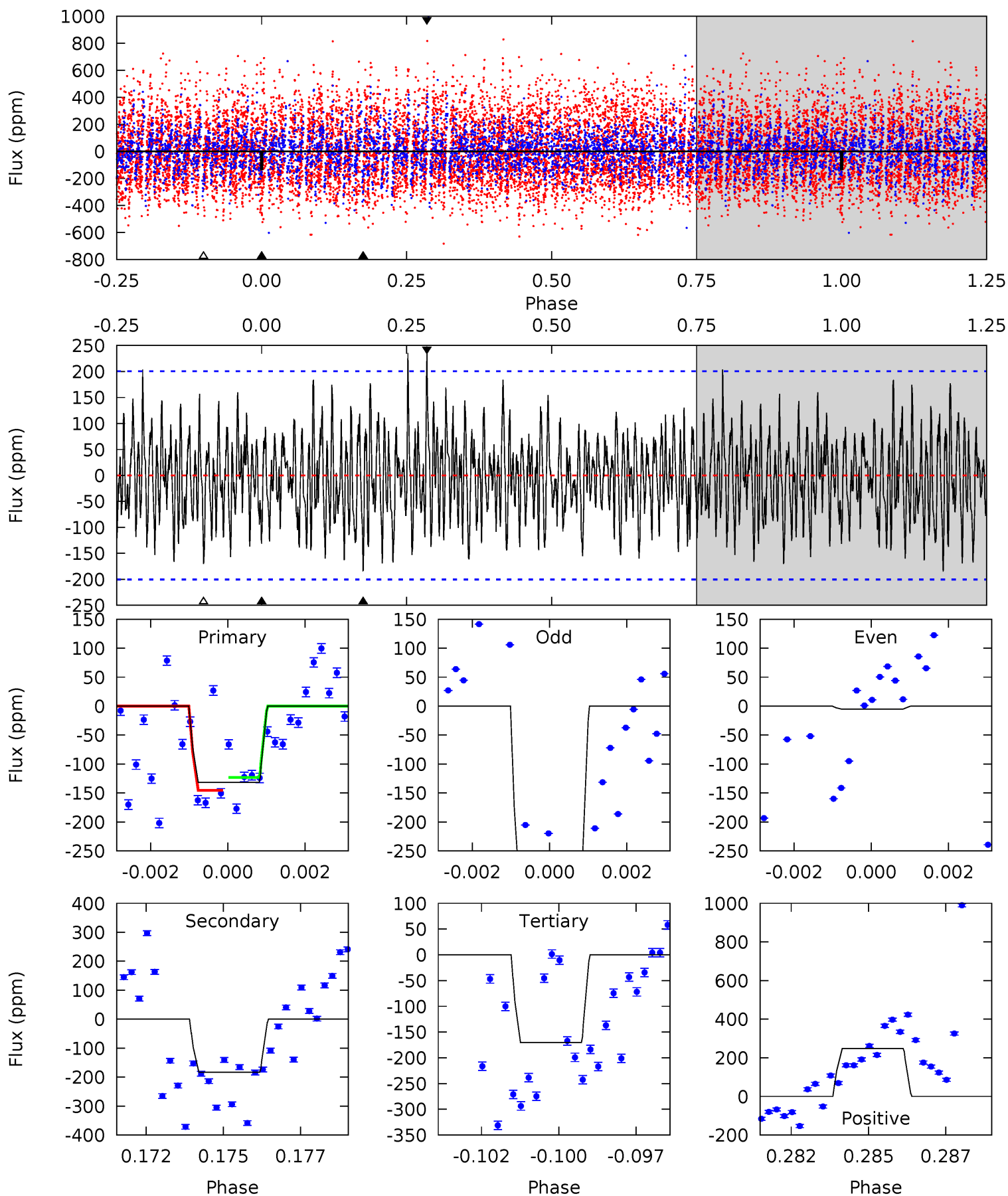
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.88	4.63	3.73	4.07	5.29	3.04	1.28	2.14	1.81	0.89	0.56	0.58	0.88	0.41	0.55



Alt Model-Shift Uniqueness Test

011390941-04, P = 83.198195 Days, E = 81.867397 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.48	4.83	4.49	6.54	5.29	3.02	1.79	-1.02	-3.07	0.33	-1.72	4.15	0.81	0.58	0.29



Stellar Parameters For KIC 011390941

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7204^{+203}_{-254}	$4.244^{+0.105}_{-0.195}$	$-0.340^{+0.250}_{-0.350}$	$1.436^{+0.471}_{-0.253}$	$1.324^{+0.198}_{-0.198}$	$0.630^{+0.309}_{-0.332}$
	+3%/-4%	+2%/-5%	+74%/-103%	+33%/-18%	+15%/-15%	+49%/-53%
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 011390941-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-91 ± 20	$2.67^{+2.21}_{-1.78}$	842^{+62}_{-49}	5421^{+4637}_{-1179}	1151^{+9596}_{-811}
Alt.	-183 ± 38	$2.60^{+2.04}_{-1.57}$	841^{+68}_{-52}	6455^{+5498}_{-1520}	2459^{+13468}_{-1729}

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 $A_{obs} \gg 1.0$

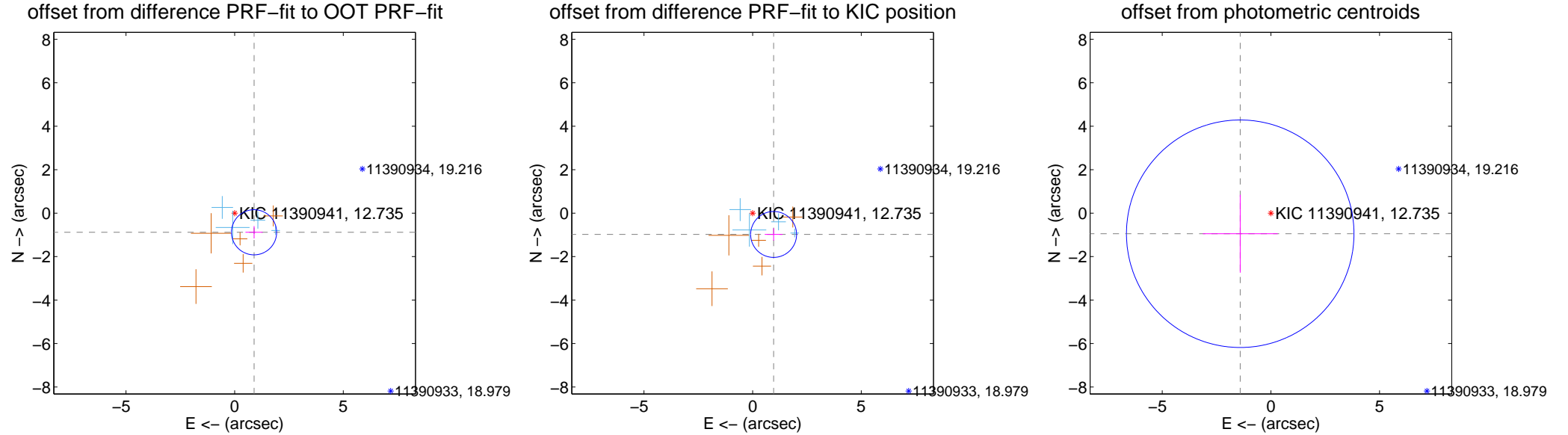
DV Centroid Data

Supplemental centroid analysis for 011390941-04. Kepler magnitude: 12.73. Transit SNR 4.81

There are 4 quarters with good PRF difference image offsets

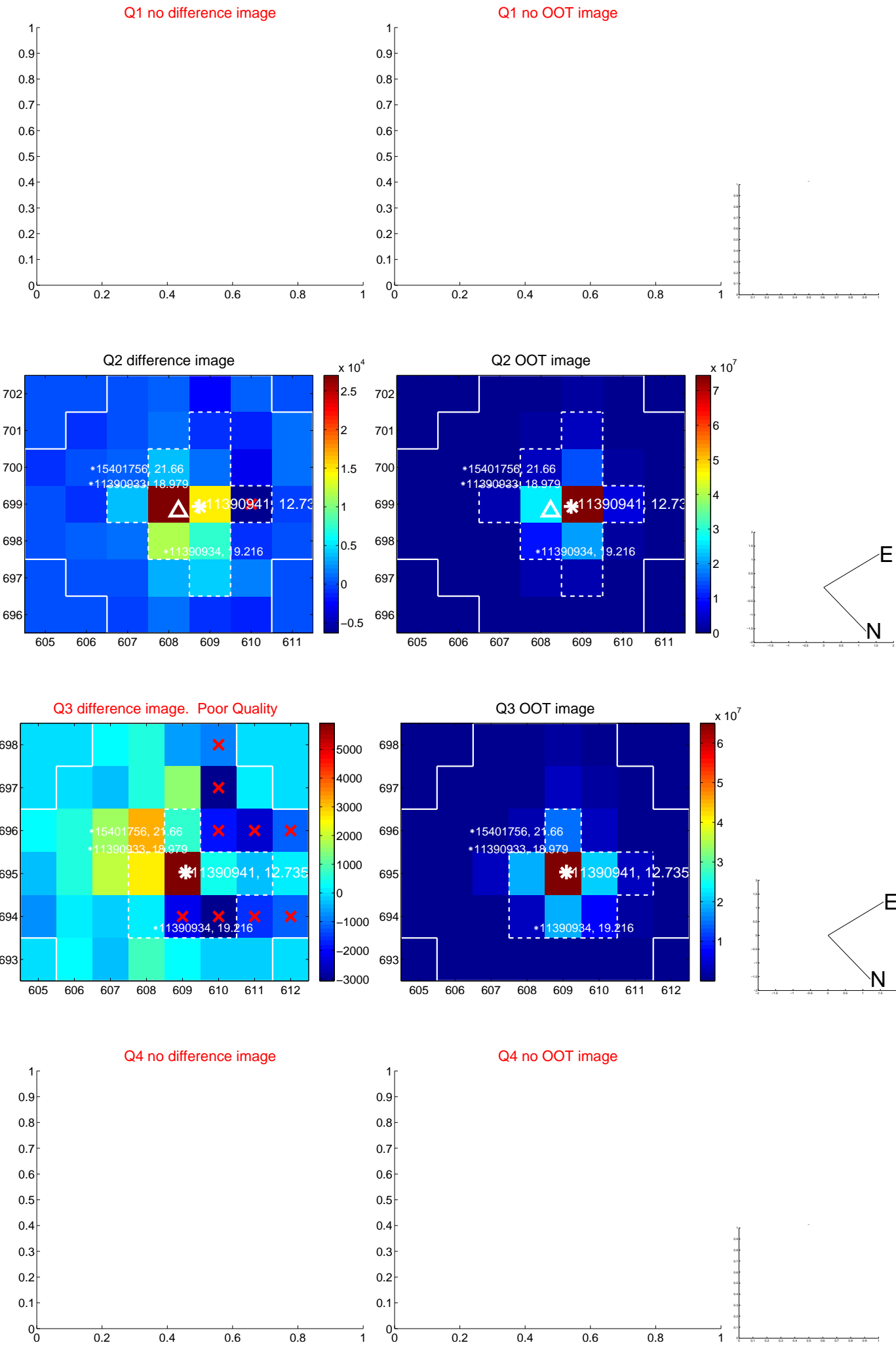
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.255 ± 0.346	3.62	-0.894 ± 0.397	-0.881 ± 0.285
PRF-fit source offset from KIC position	1.376 ± 0.352	3.91	-0.966 ± 0.409	-0.980 ± 0.286
photometric centroid source offset	1.70 ± 1.74	0.97	1.41 ± 1.72	-0.95 ± 1.79

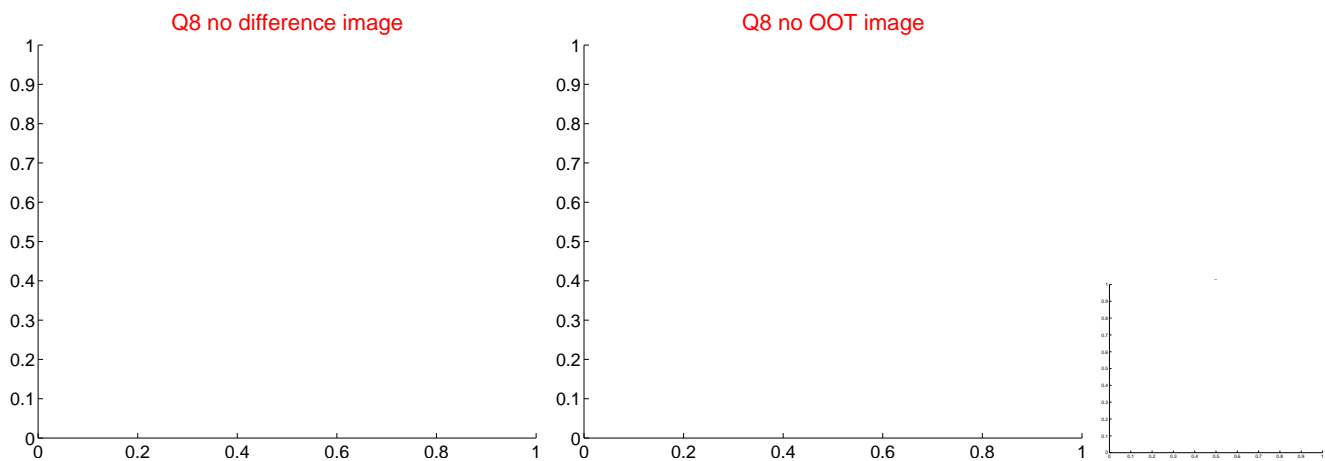
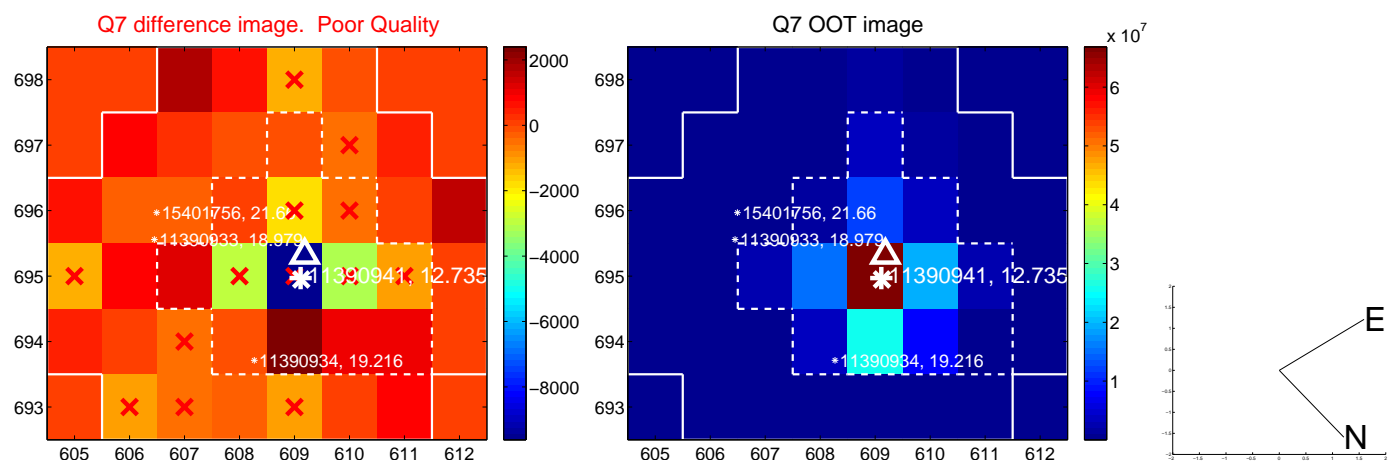
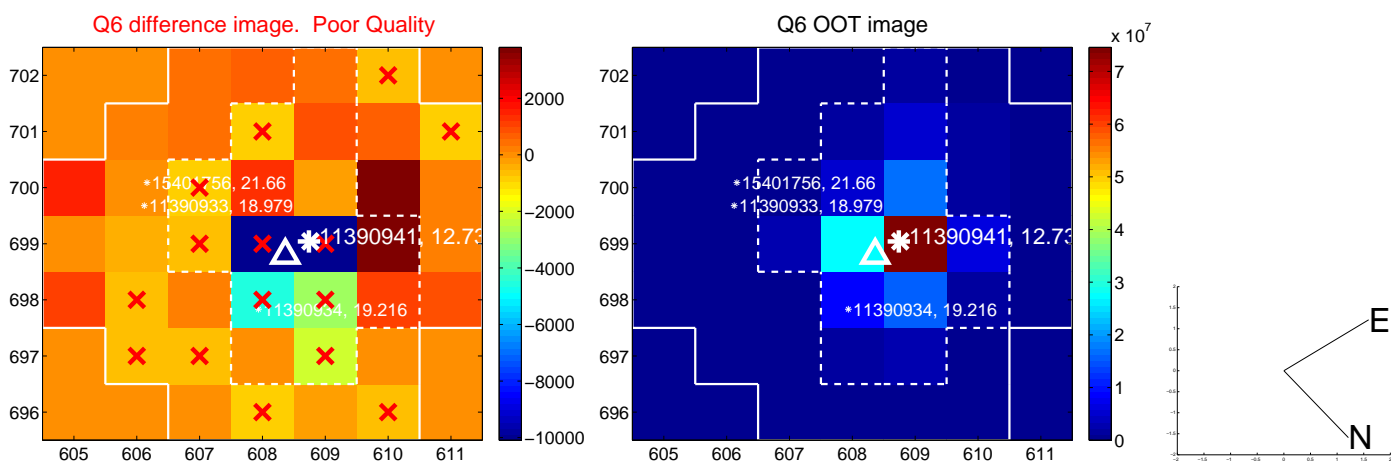
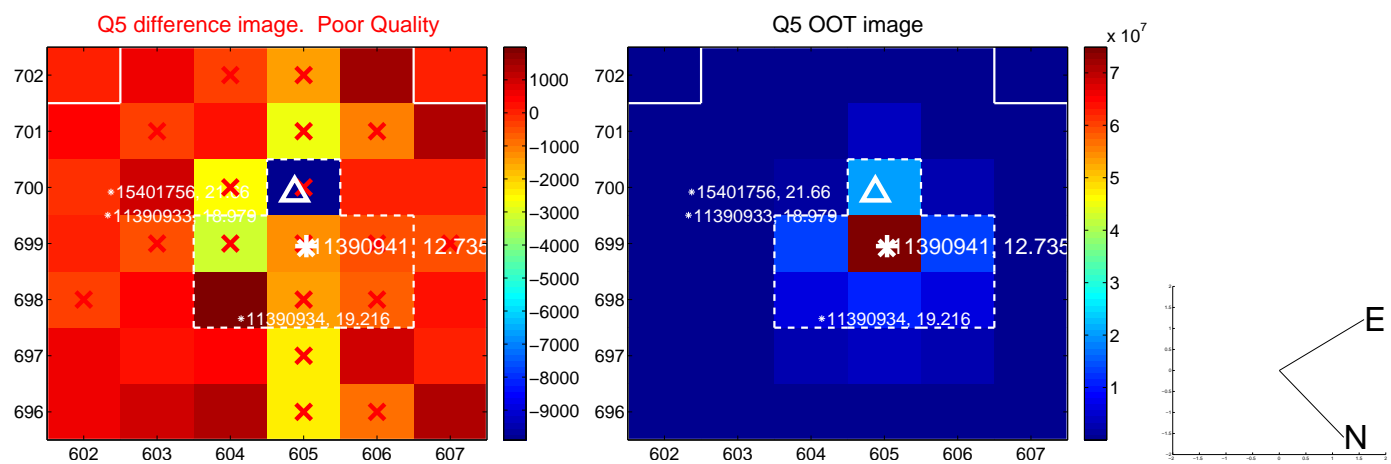


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

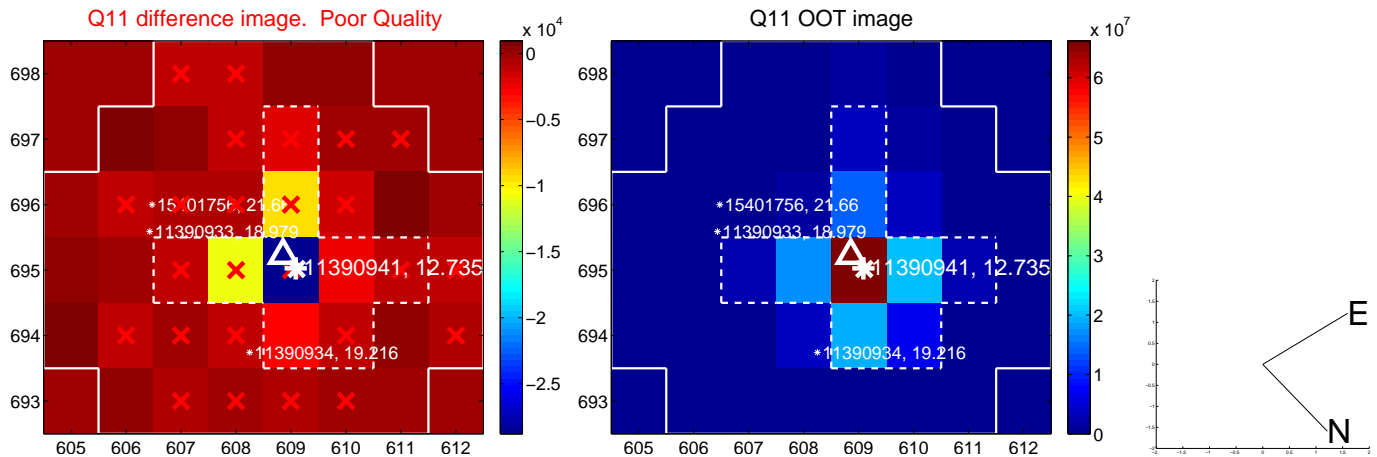
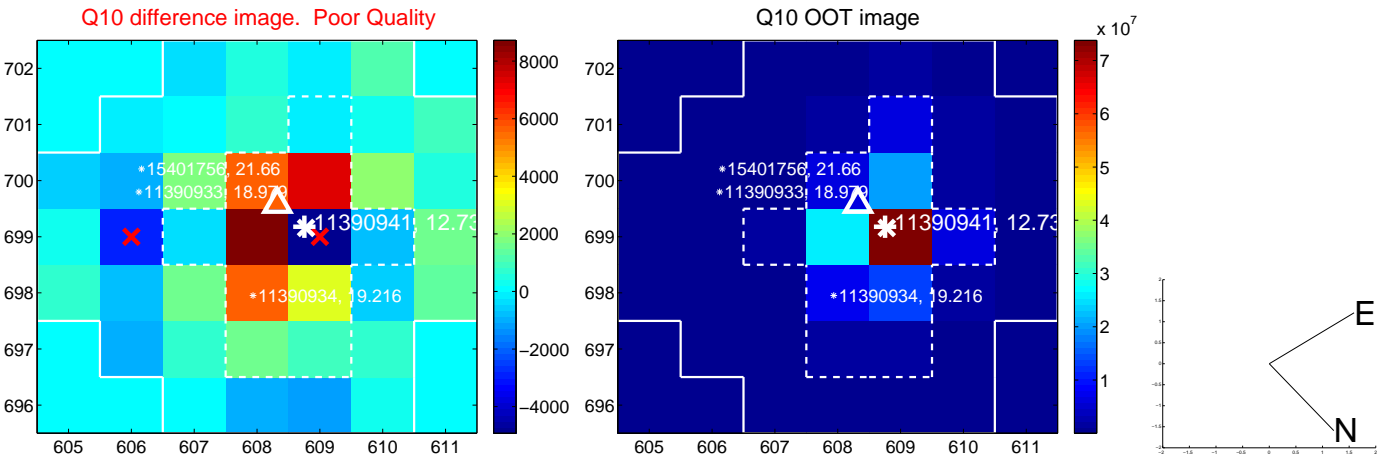
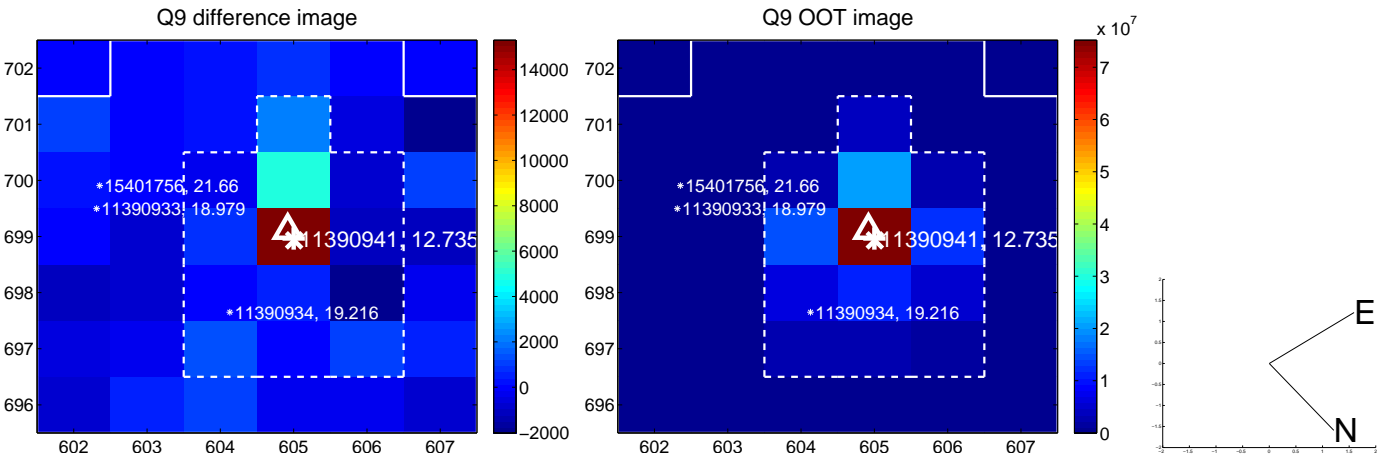
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



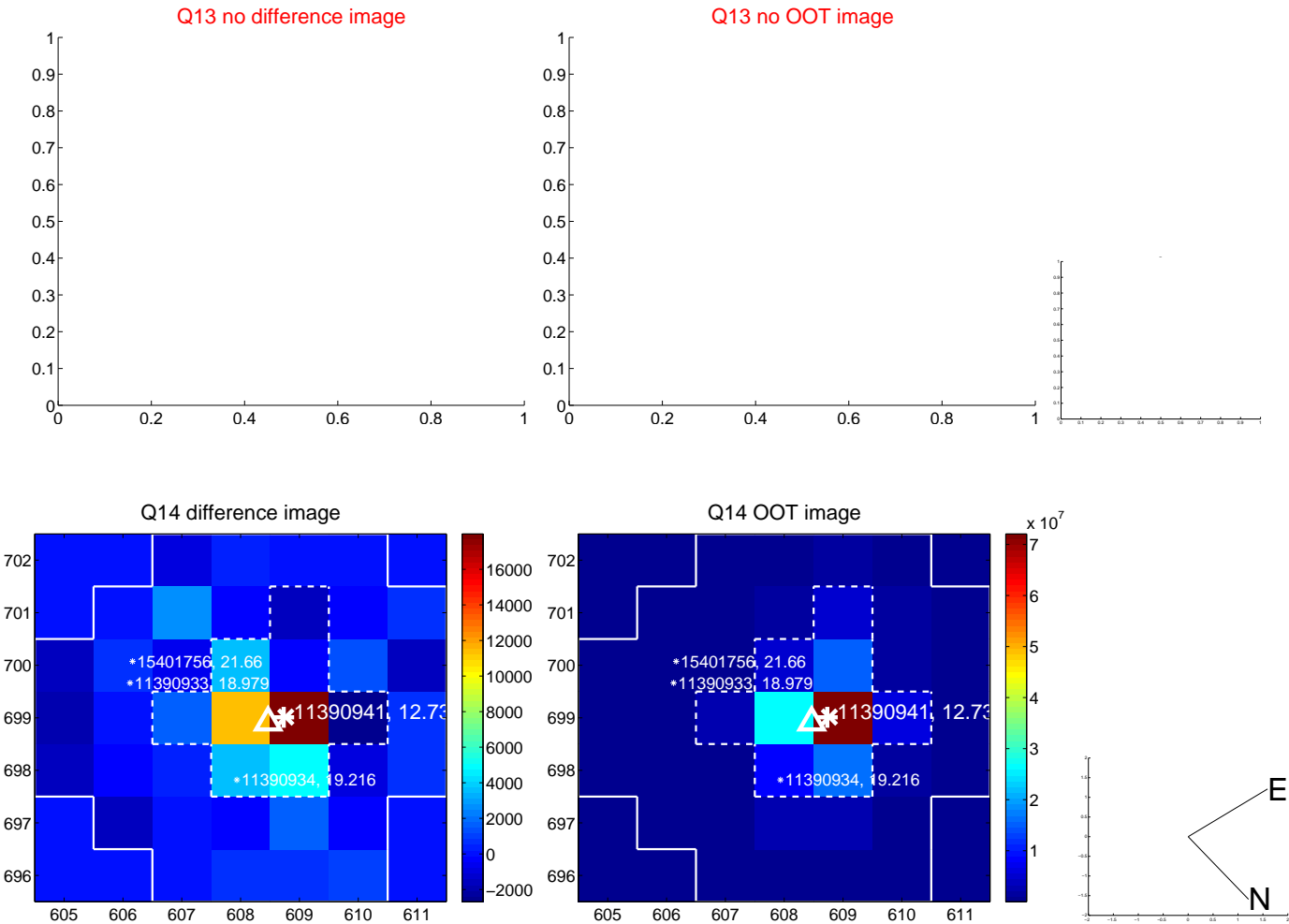
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



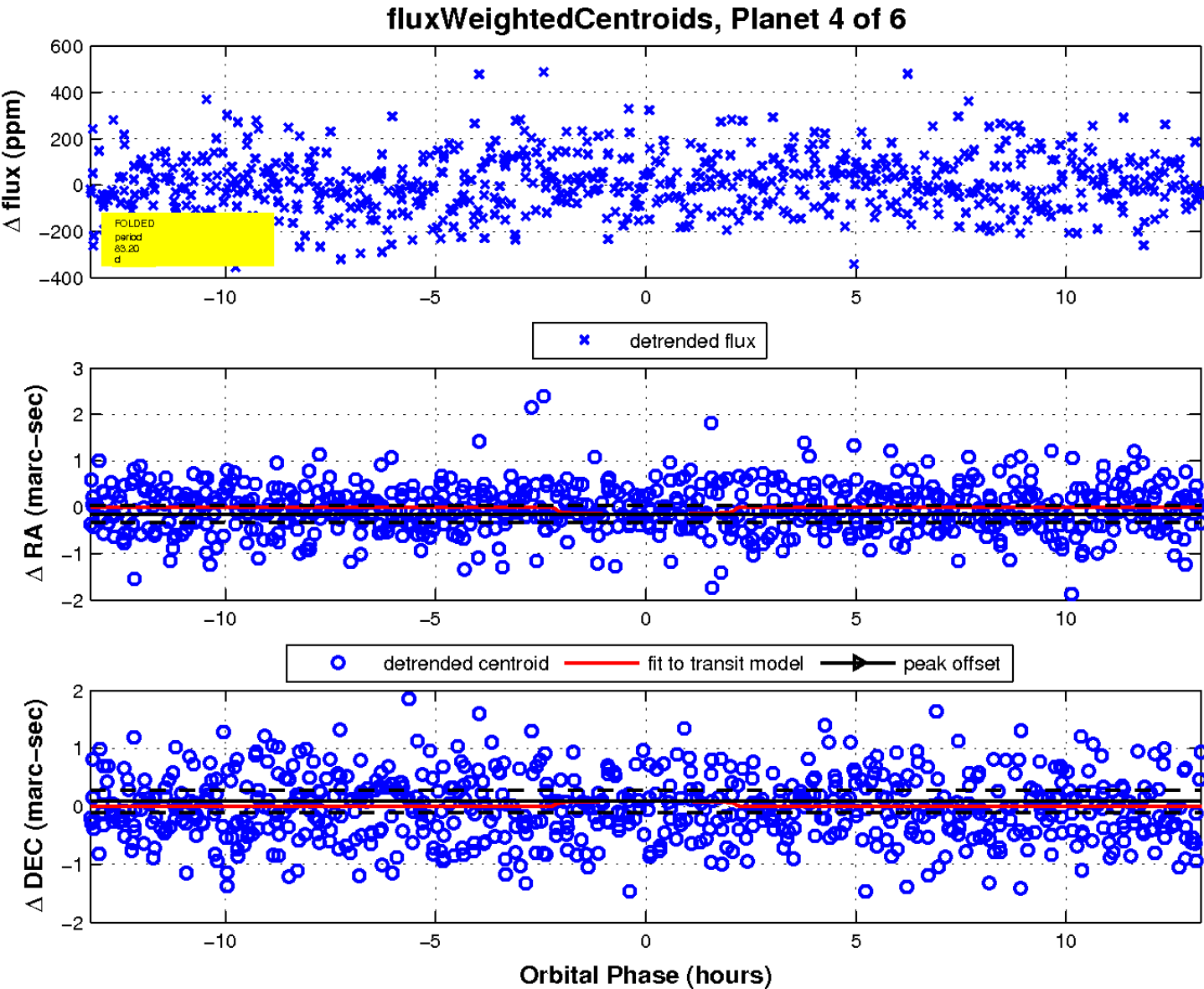
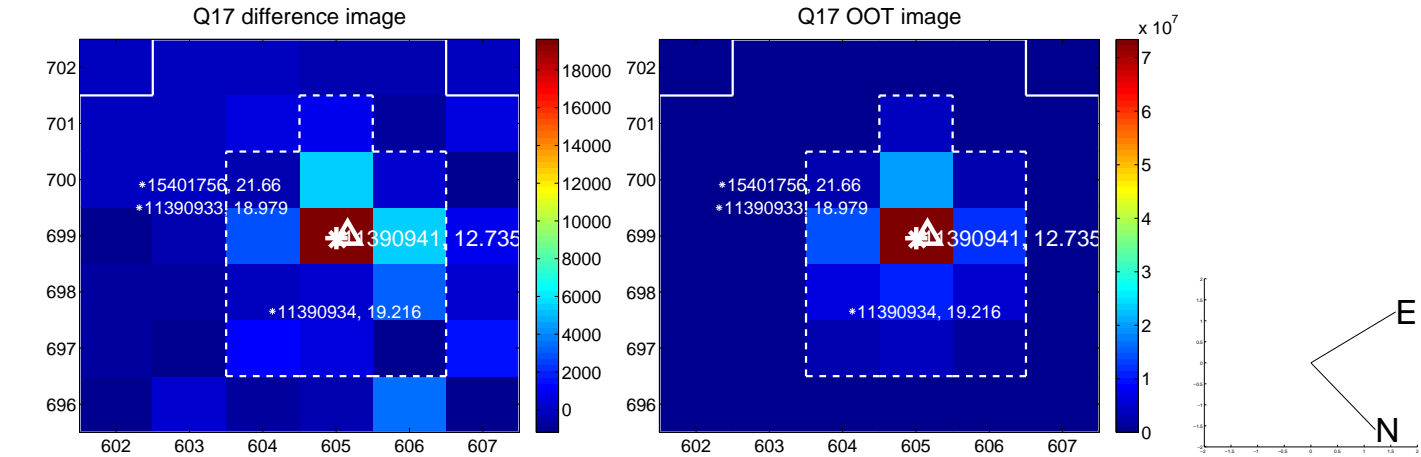
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

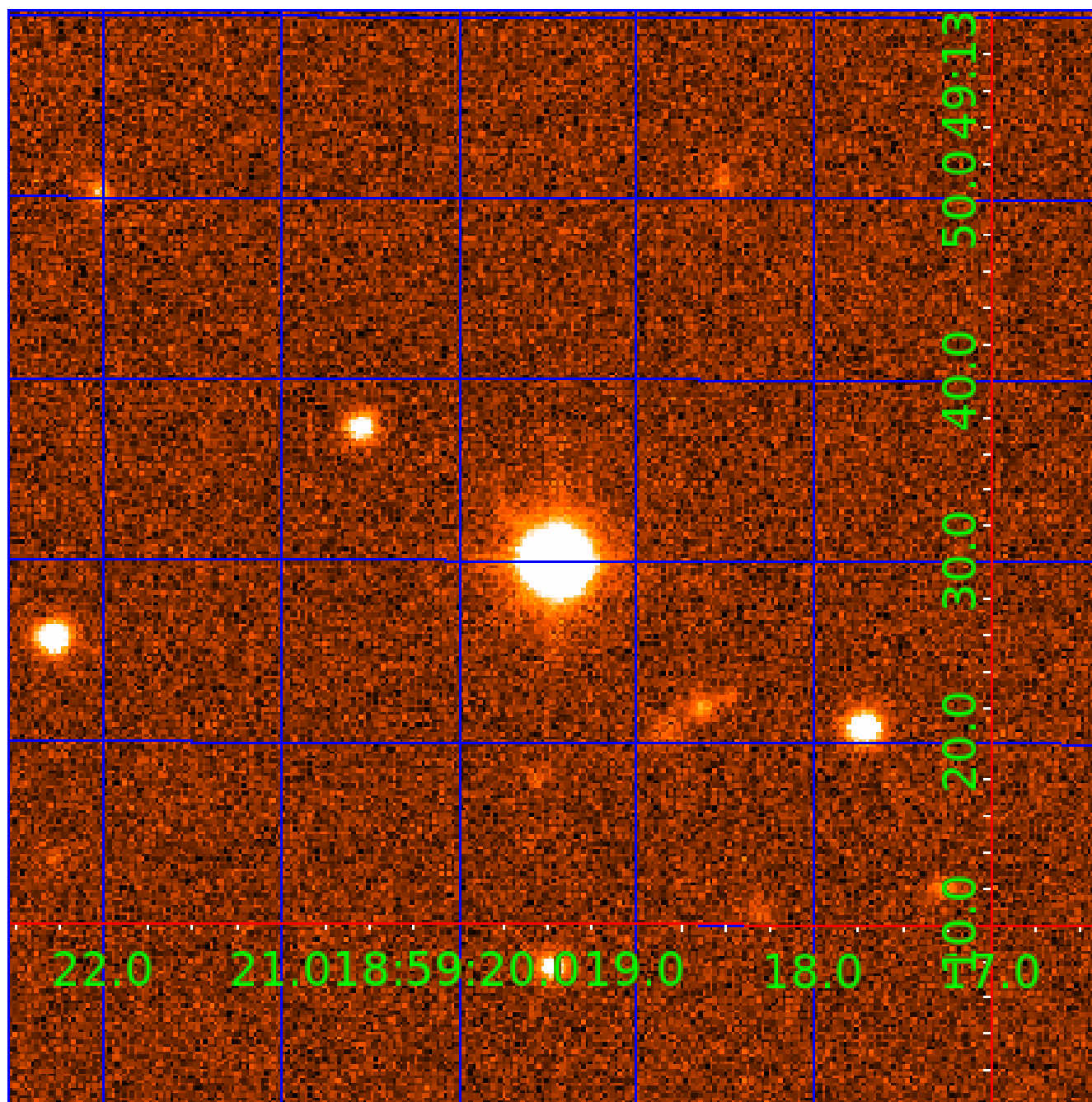


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011390941

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})
011390941-01	OBS	No	2.717287	132.307590	15.2	7.781	9.4	5.7	1.44	7204	0.65	2847.38
011390941-02	OBS	No	274.552239	279.581144	169.8	16.498	11.5	6.7	1.44	7204	2.06	6.05
011390941-03	OBS	No	2.717261	133.165593	9.9	13.278	9.1	4.6	1.44	7204	0.54	2847.41
011390941-04	OBS	No	83.203247	165.084441	106.1	4.414	10.2	4.8	1.44	7204	1.64	29.72
011390941-05	OBS	No	168.389732	150.908998	117.6	13.132	8.3	7.2	1.44	7204	1.62	11.61
011390941-06	OBS	No	41.729120	131.993576	264.8	1.071	7.4	8.1	1.44	7204	2.40	74.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011390941-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
011390941-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS
011390941-03	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
011390941-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011390941-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— HALO_GHOST
011390941-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV

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

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

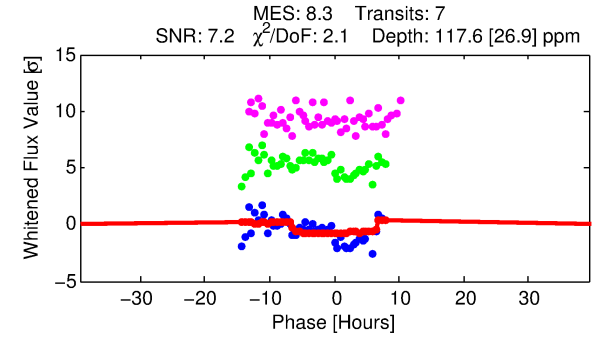
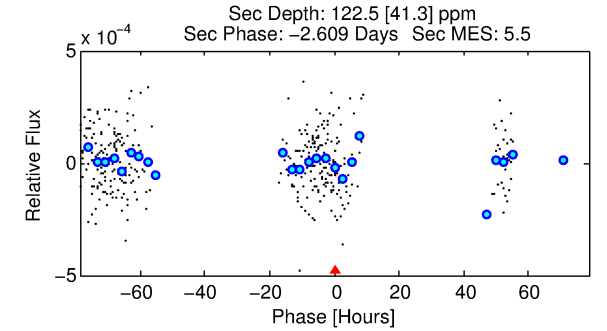
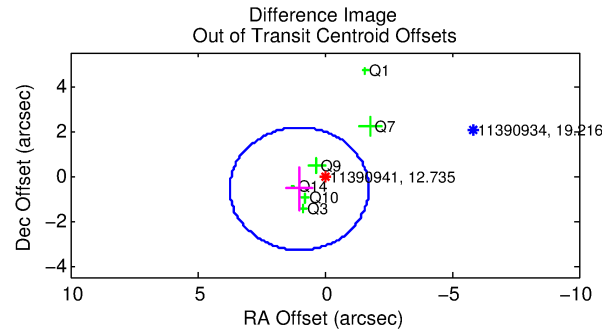
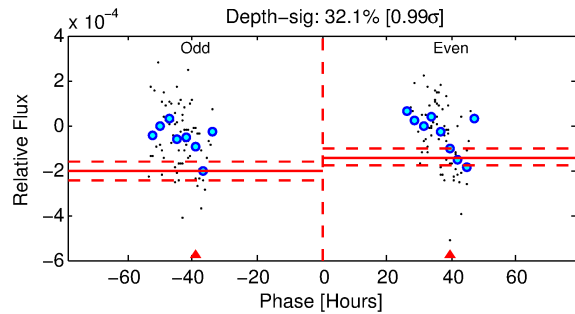
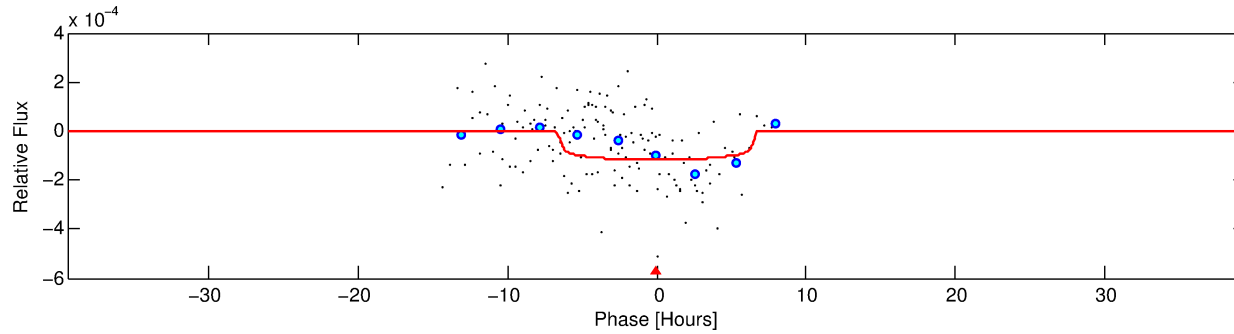
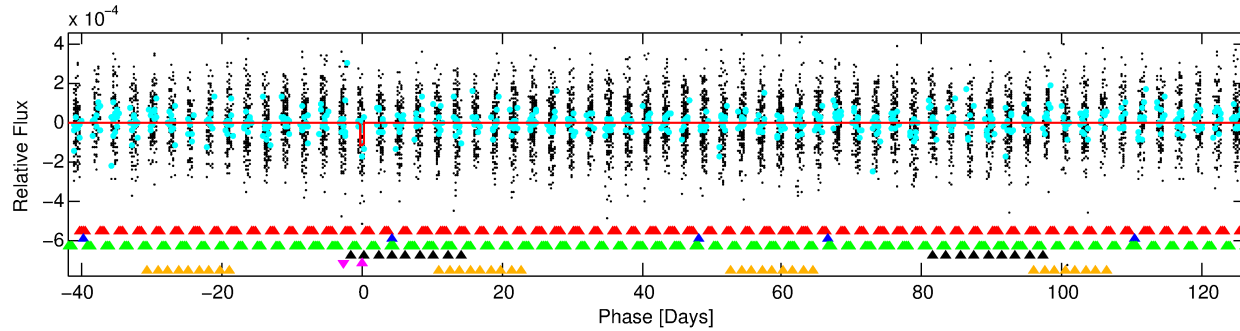
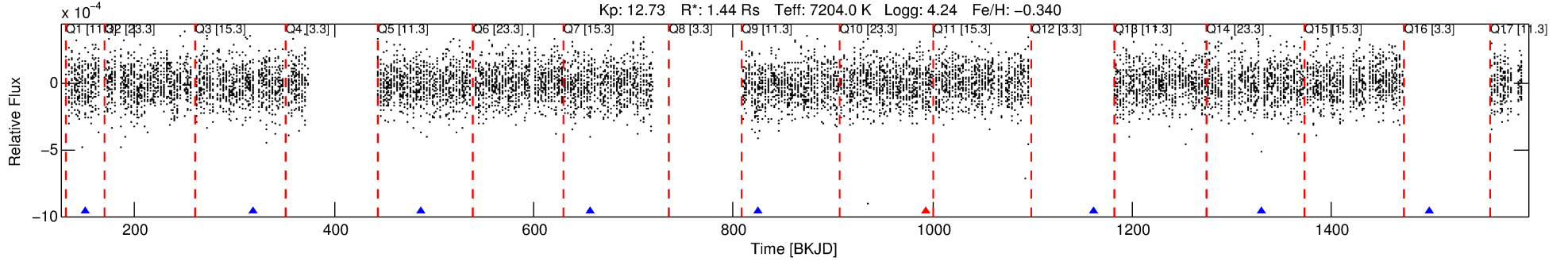
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011390941-05

No Significant Match Found

DV One-Page Summary

KIC: 11390941 Candidate: 5 of 6 Period: 168.390 d



DV Fit Results:

Period = 168.38973 [0.02502] d
Epoch = 150.9090 [0.0870] BKJD
Rp/R* = 0.0103 [0.0113]
a/R* = 85.66 [559.44]
b = 0.51 [9.80]
Seff = 11.61 [4.61]
Teq = 471 [47] K
Rp = 1.62 [1.85] Re
a = 0.6547 [0.1735] AU
Ag = 11044.94 [24835.91] [0.44 σ]
Teffp = 7461 [4145] K [1.69 σ]

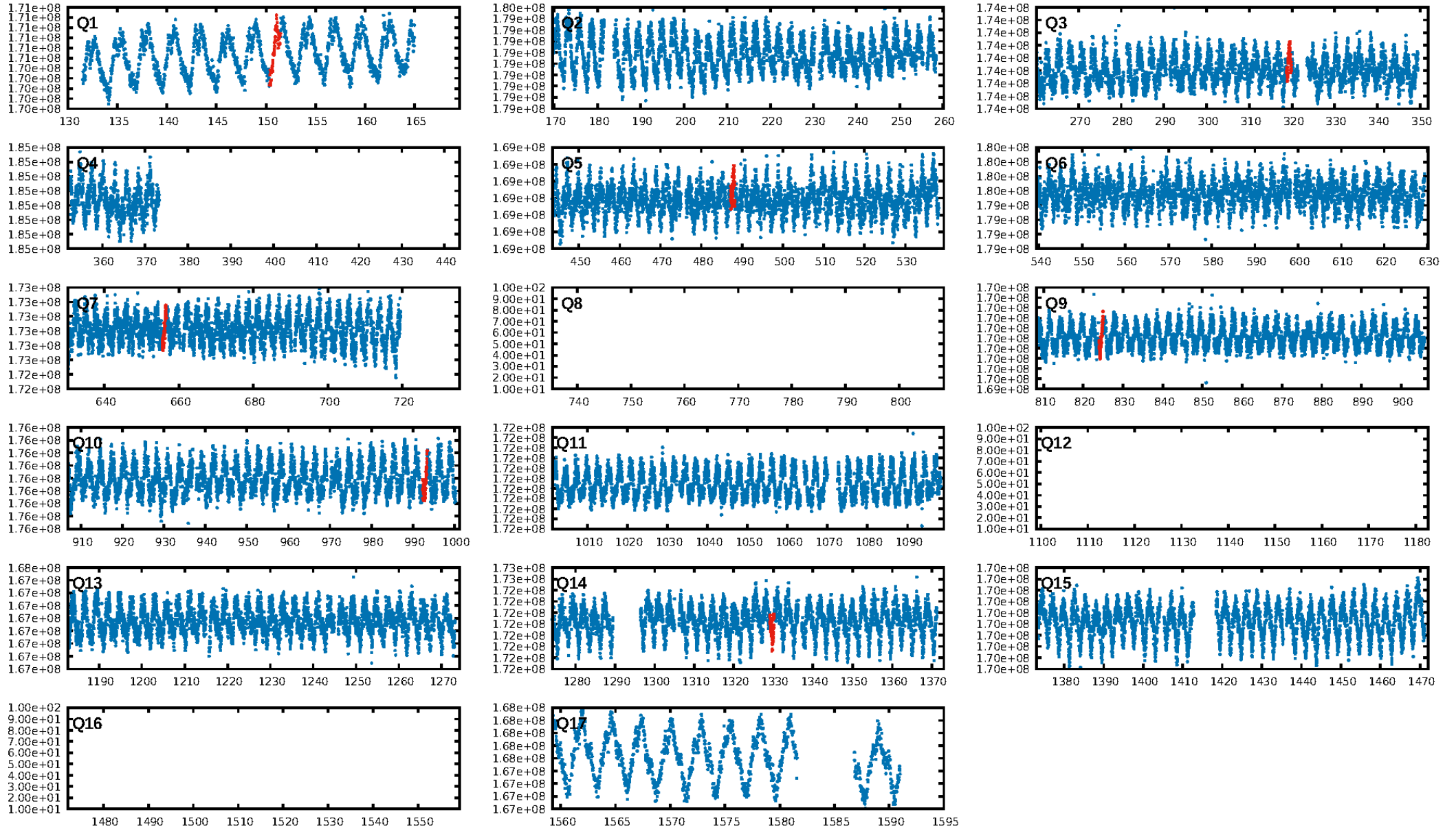
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [147.57 σ]
LongPeriod-sig: 100.0% [120.83 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGoF-sig: 73.3%
Bootstrap-pfa: 2.53e-09
RollingBand-fgt: 0.83 [5/6]
GhostDiagnostic-chr: 0.1225
Centroid-sig: 59.5%
Centroid-so: 1.067 arcsec [0.80 σ]
OotOffset-rm: 1.152 arcsec [1.27 σ]
KicOffset-rm: 1.133 arcsec [1.80 σ]
OotOffset-st: 2/2/0/2 [6]
KicOffset-st: 2/2/0/2 [6]
DiffImageQuality-fgm: 0.67 [4/6]
DiffImageOverlap-fno: 0.00 [0/7]

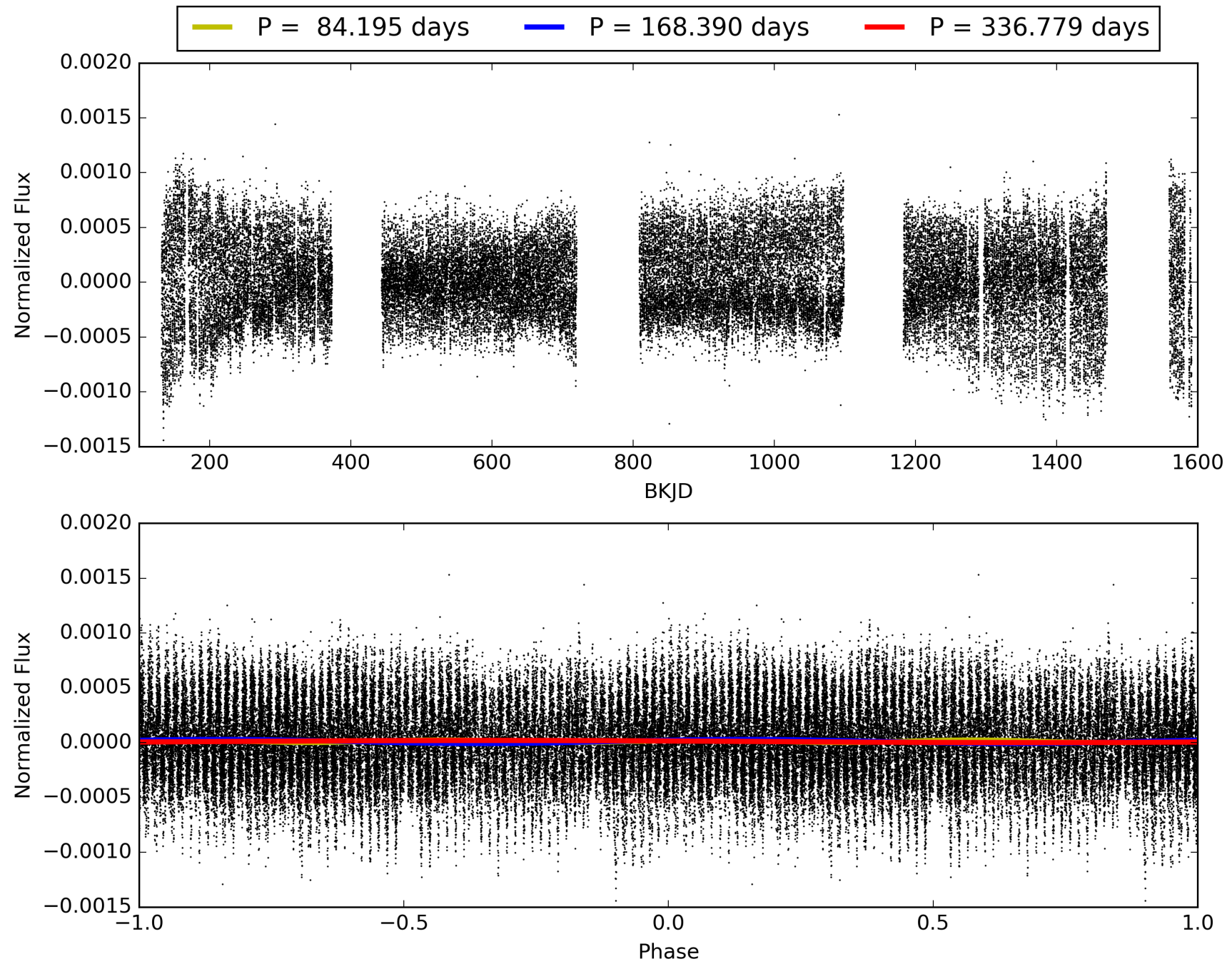
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:49:50 Z

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

TCE 011390941-05, PDC Light Curves

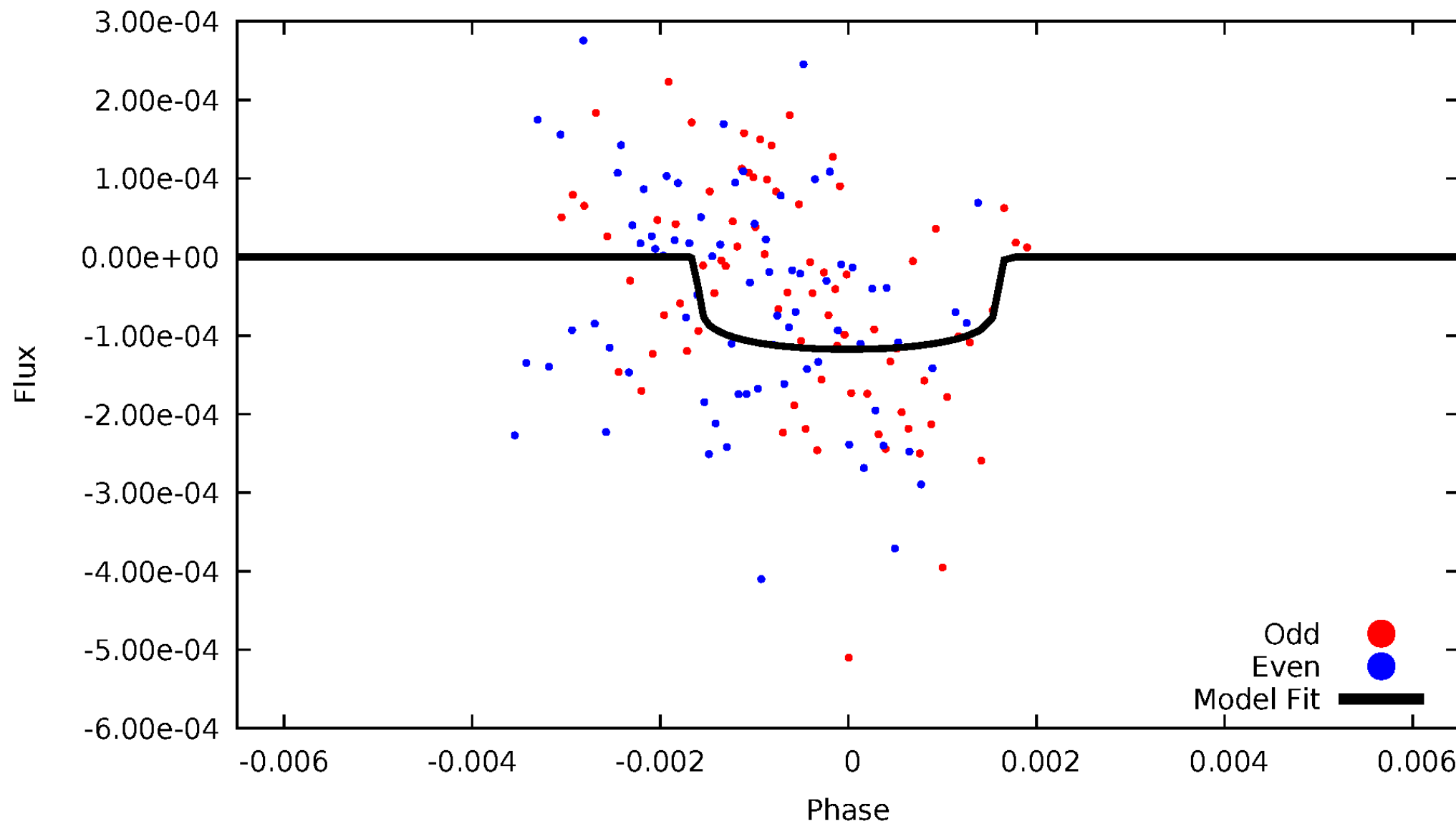


TCE 011390941-05



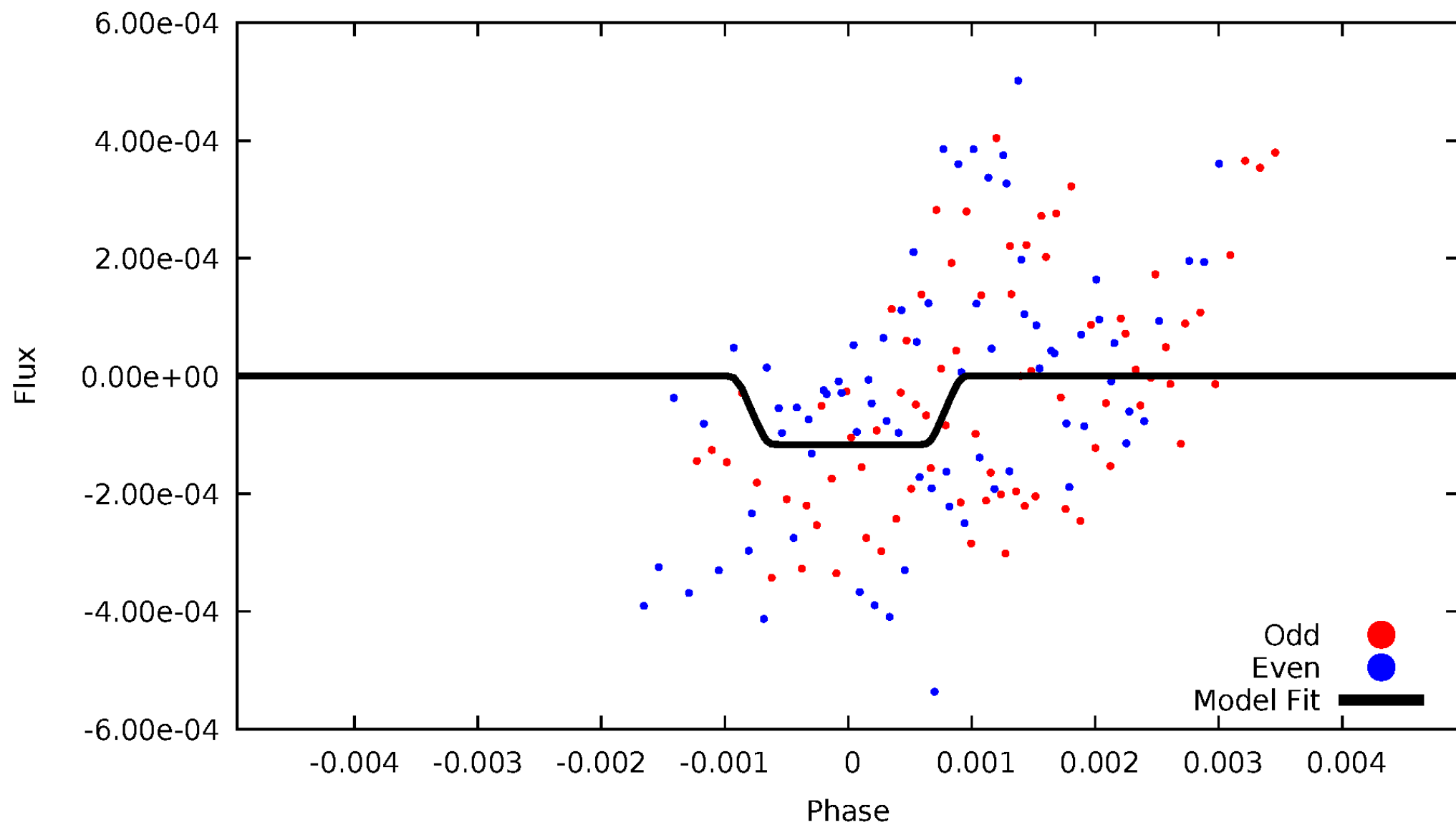
DV Odd/Even

TCE 011390941-05



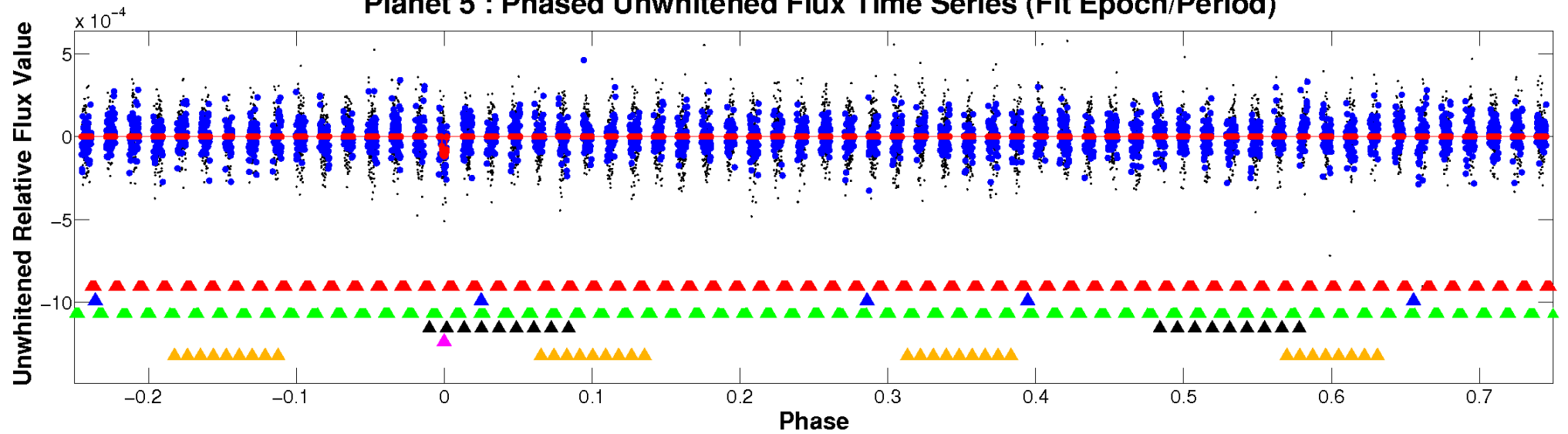
ALT Odd/Even

TCE 011390941-05

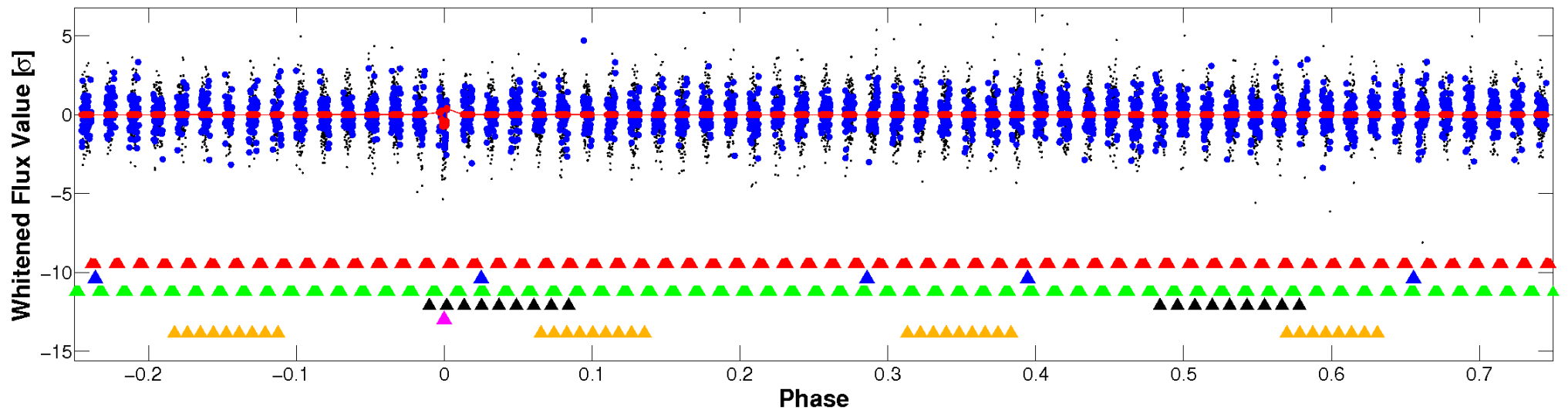


Non-Whitened Vs. Whitened Light Curve

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

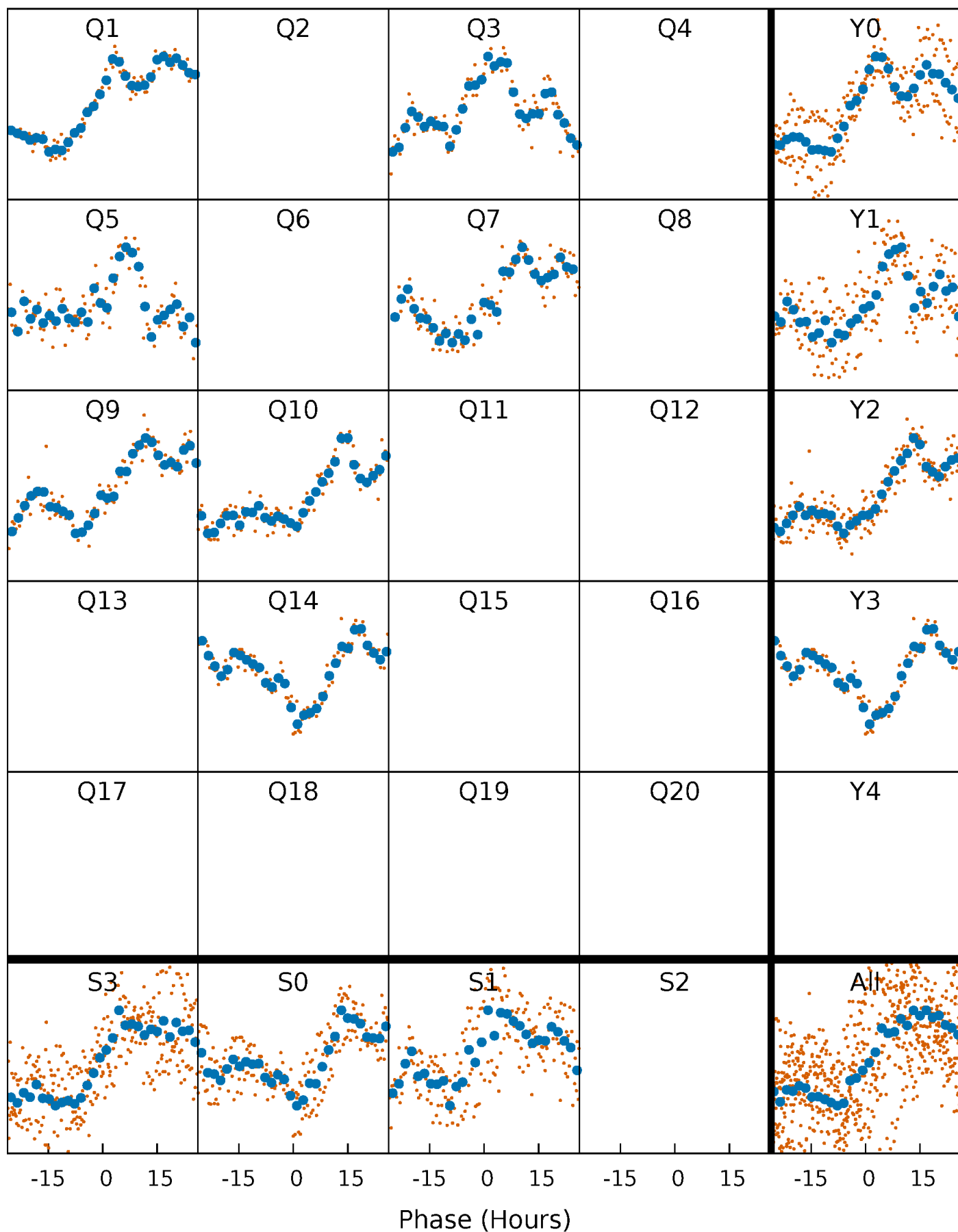


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



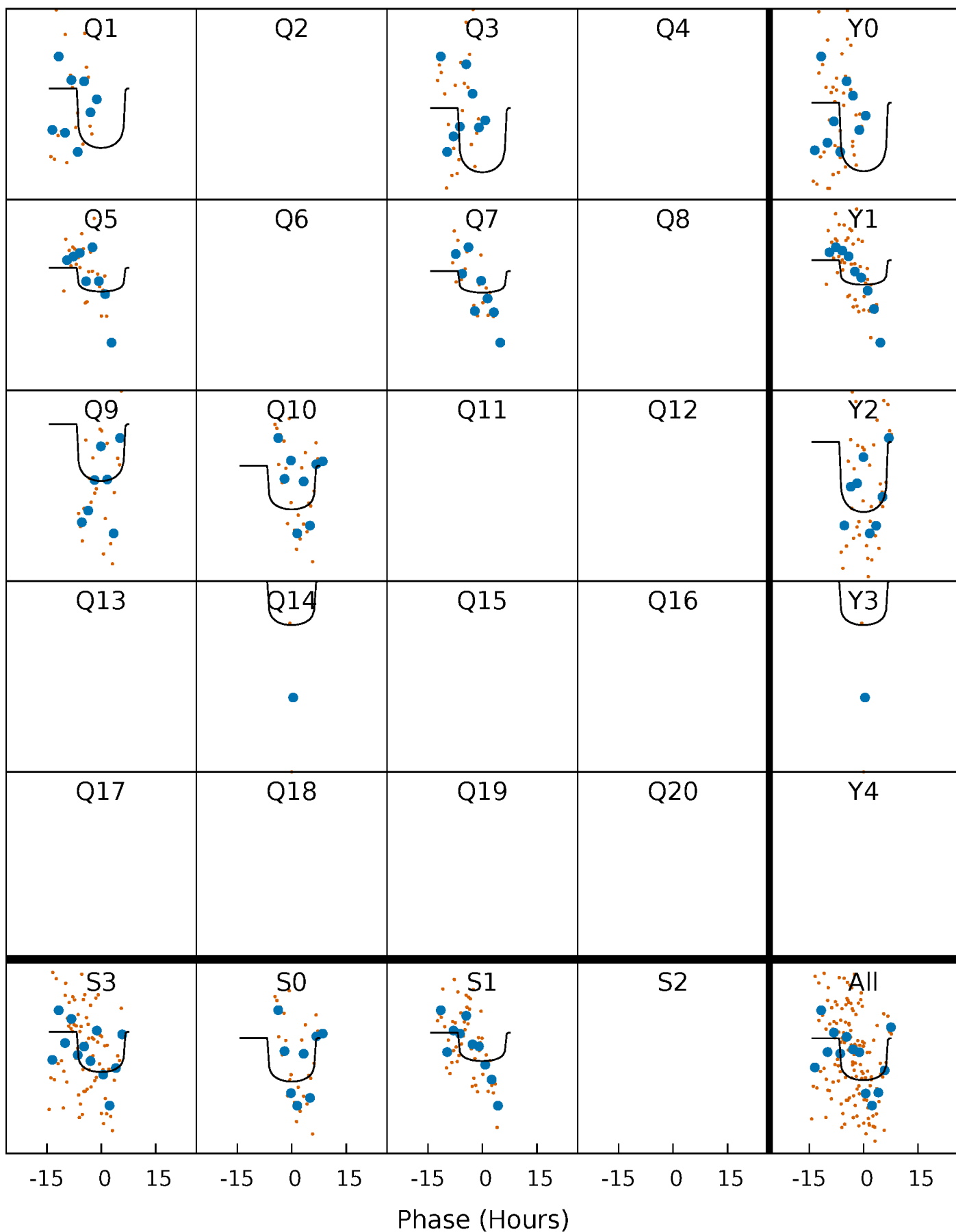
PDC Quarter-Phased Transit Curves

TCE 011390941-05 $P=168.389732$ Days $T_0=150.908998$ (BKJD)



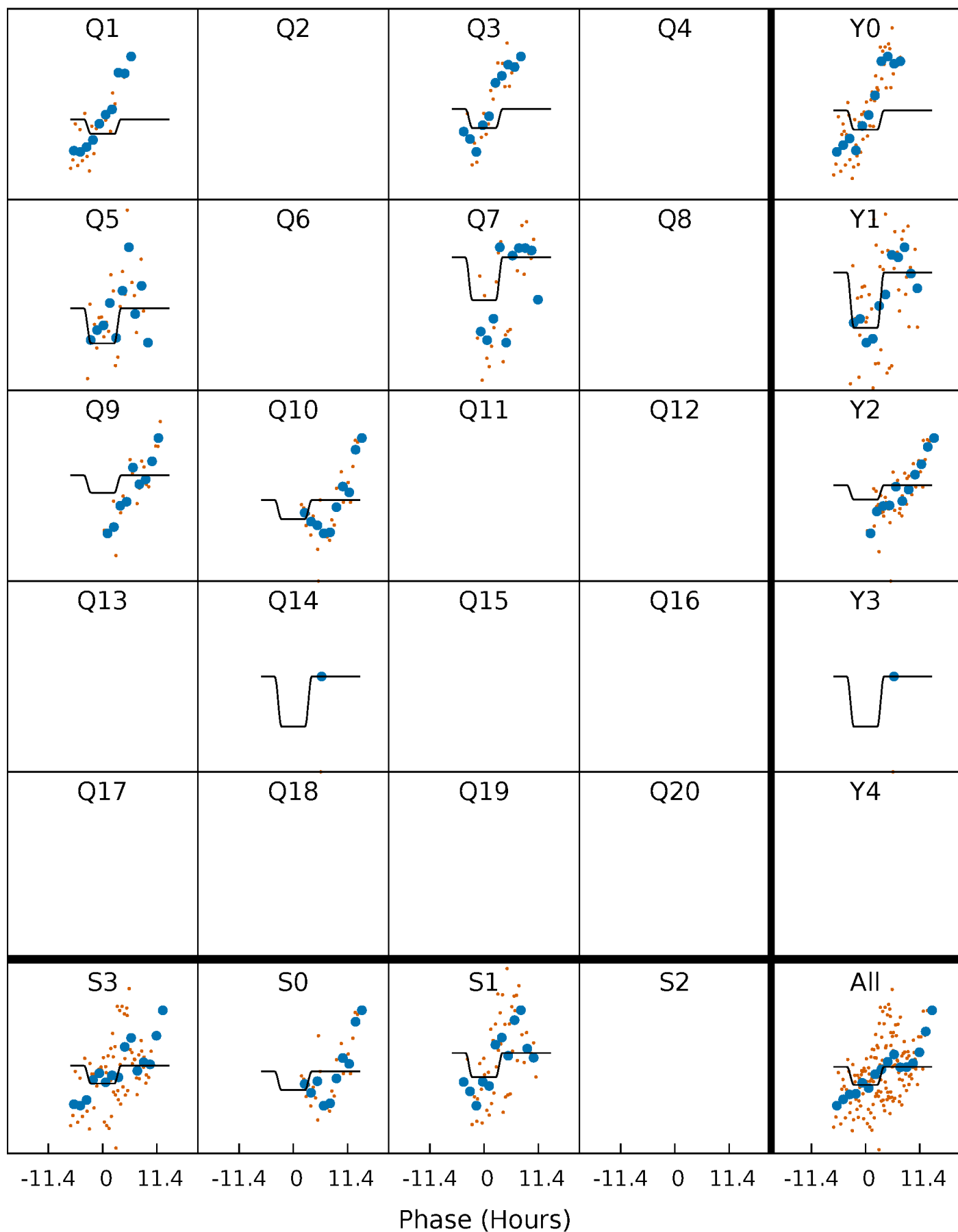
DV Quarter-Phased Transit Curves

TCE 011390941-05 $P=168.389732$ Days $T_0=150.908998$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

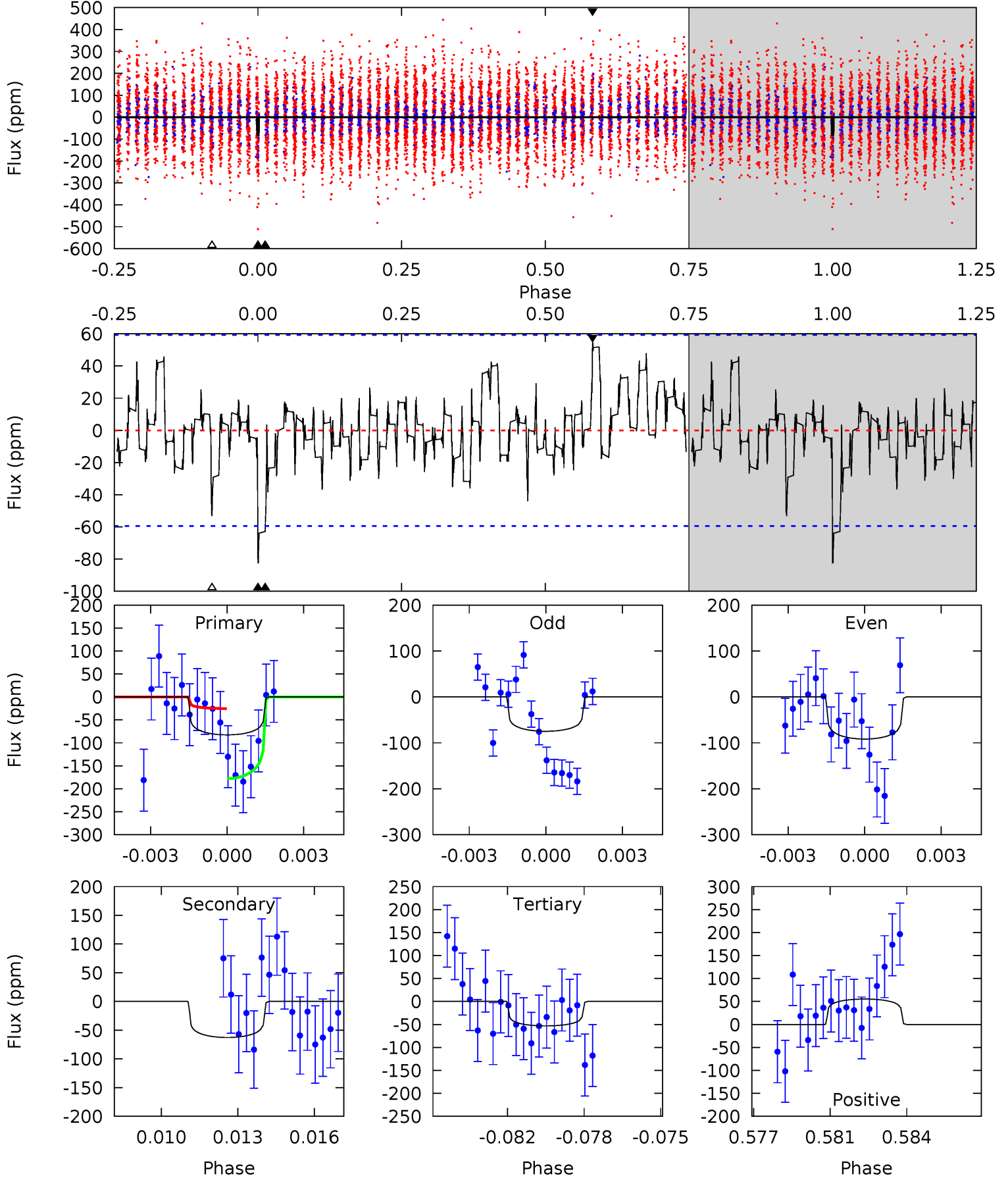
TCE 011390941-05 P=168.400901 Days $T_0=150.590763$ (BKJD)



DV Model-Shift Uniqueness Test

011390941-05, P = 168.389732 Days, E = 150.908998 Days

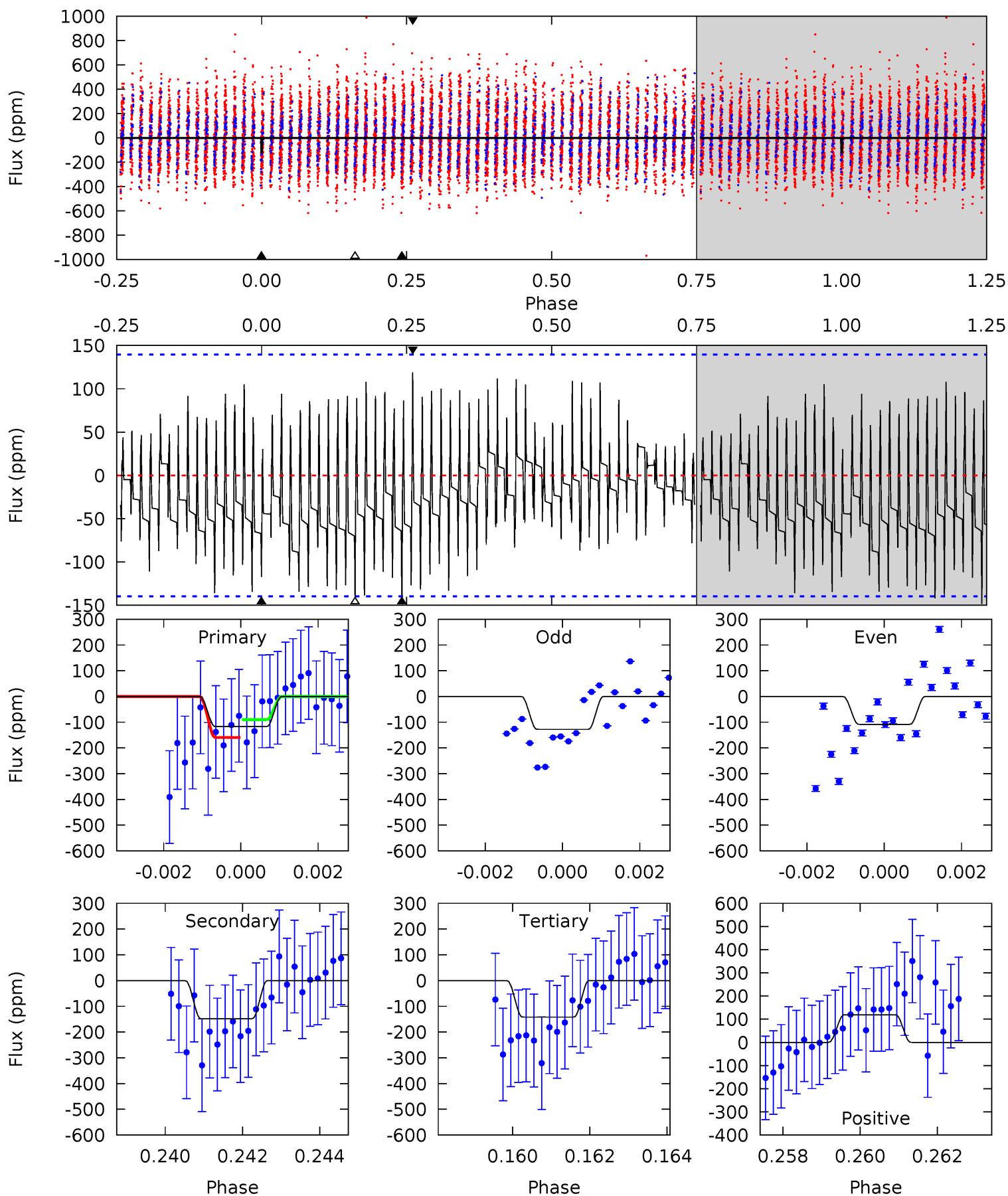
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.28	5.53	4.69	4.88	5.24	2.94	1.50	2.59	2.40	0.84	0.66	0.74	1.54	0.40	6.36



Alt Model-Shift Uniqueness Test

011390941-05, P = 168.400901 Days, E = 150.590763 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.48	5.67	5.43	4.56	5.34	3.12	2.03	-0.95	-0.07	0.24	1.12	0.37	1.54	0.45	1.27



Stellar Parameters For KIC 011390941

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7204^{+203}_{-254}	$4.244^{+0.105}_{-0.195}$	$-0.340^{+0.250}_{-0.350}$	$1.436^{+0.471}_{-0.253}$	$1.324^{+0.198}_{-0.198}$	$0.630^{+0.309}_{-0.332}$
	+3%/-4%	+2%/-5%	+74%/-103%	+33%/-18%	+15%/-15%	+49%/-53%
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 011390941-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-63 ± 11	$2.15^{+1.55}_{-1.35}$	662^{+46}_{-37}	5466^{+3953}_{-1111}	3184^{+19252}_{-2130}
Alt.	-148 ± 26	$2.11^{+1.77}_{-1.34}$	662^{+49}_{-38}	6846^{+6913}_{-1702}	7551^{+48654}_{-5285}

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 $A_{obs} \gg 1.0$

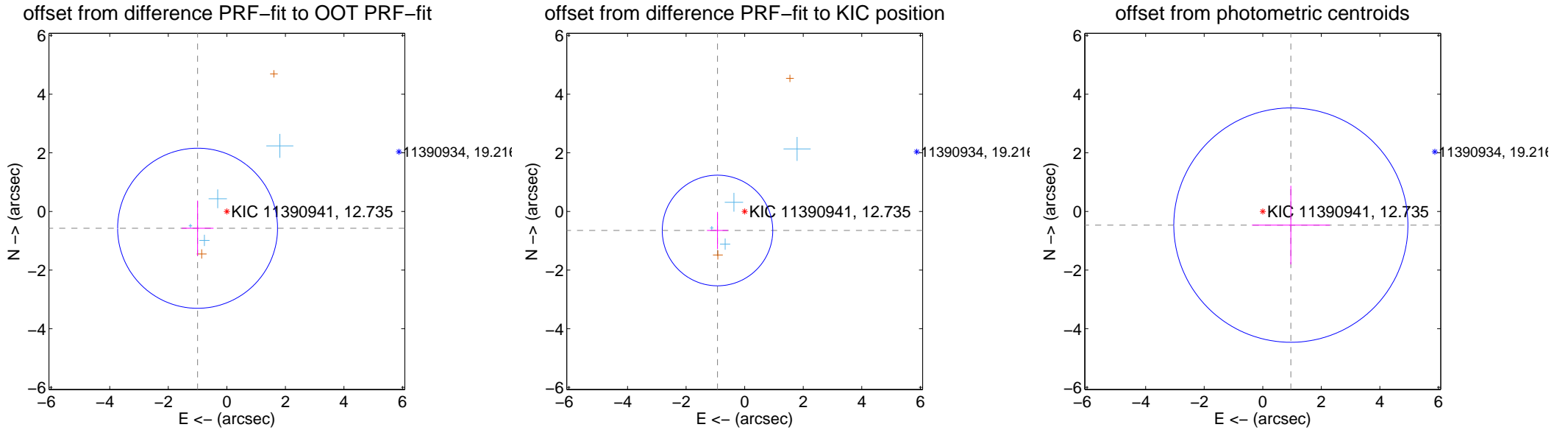
DV Centroid Data

Supplemental centroid analysis for 011390941-05. Kepler magnitude: 12.73. Transit SNR 7.17

There are 4 quarters with good PRF difference image offsets

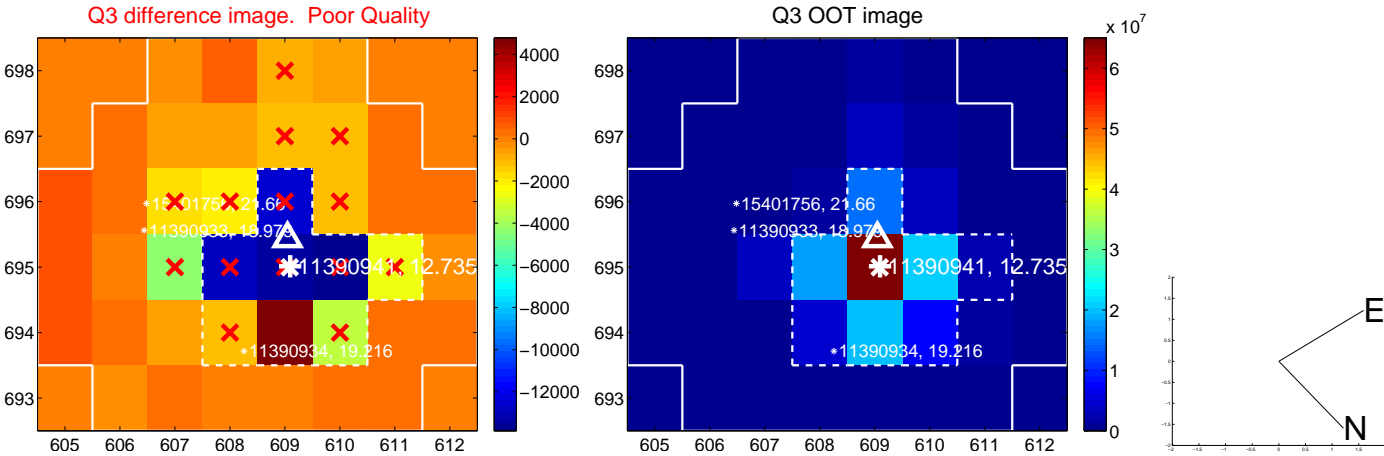
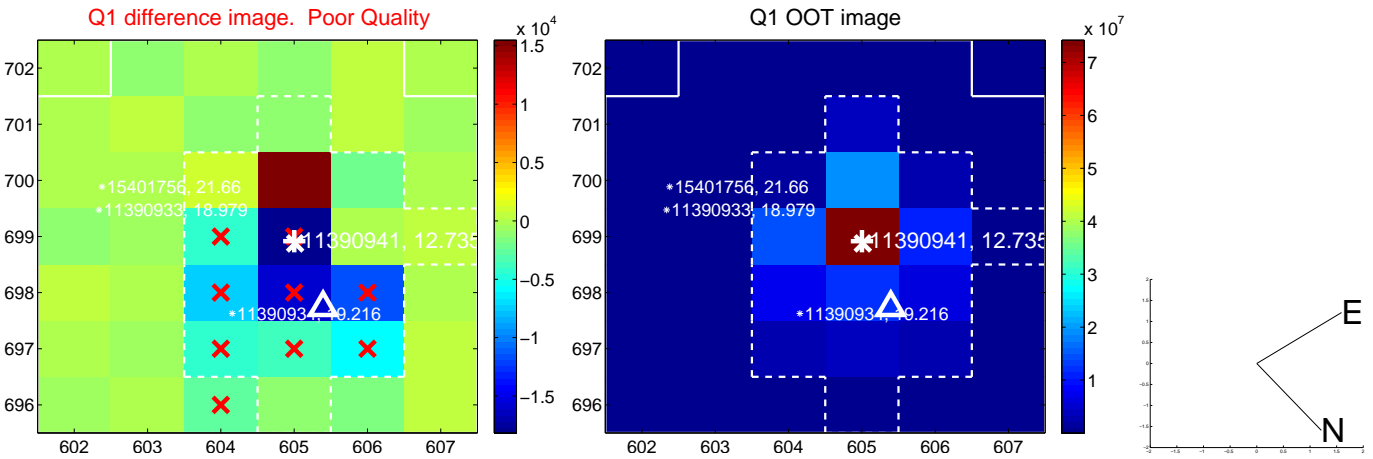
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.152 ± 0.910	1.27	0.999 ± 0.544	-0.573 ± 0.943
PRF-fit source offset from KIC position	1.133 ± 0.629	1.80	0.928 ± 0.359	-0.650 ± 0.635
photometric centroid source offset	1.07 ± 1.33	0.80	-0.96 ± 1.33	-0.47 ± 1.34

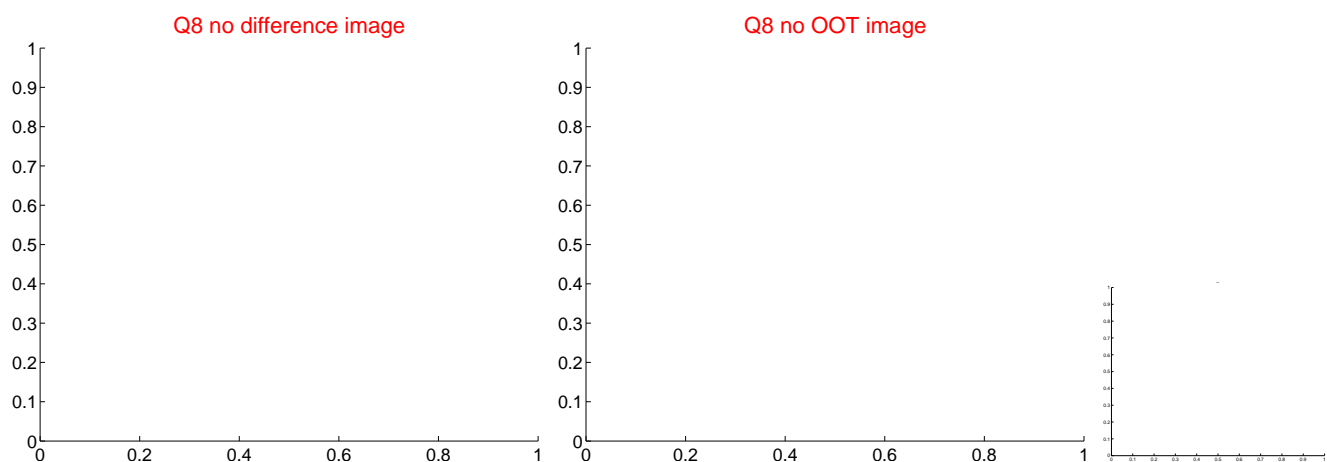
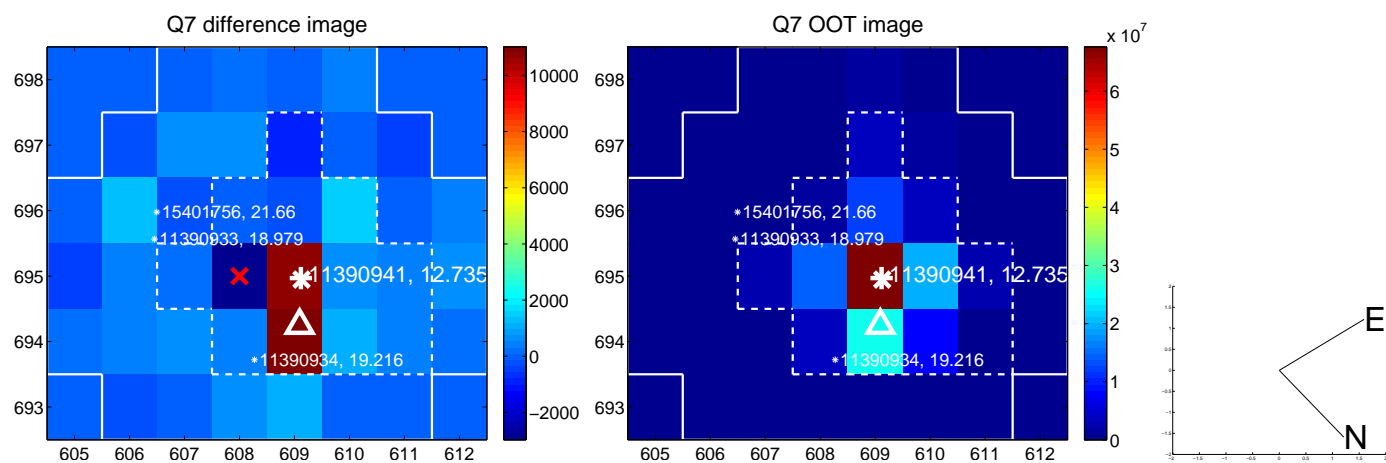
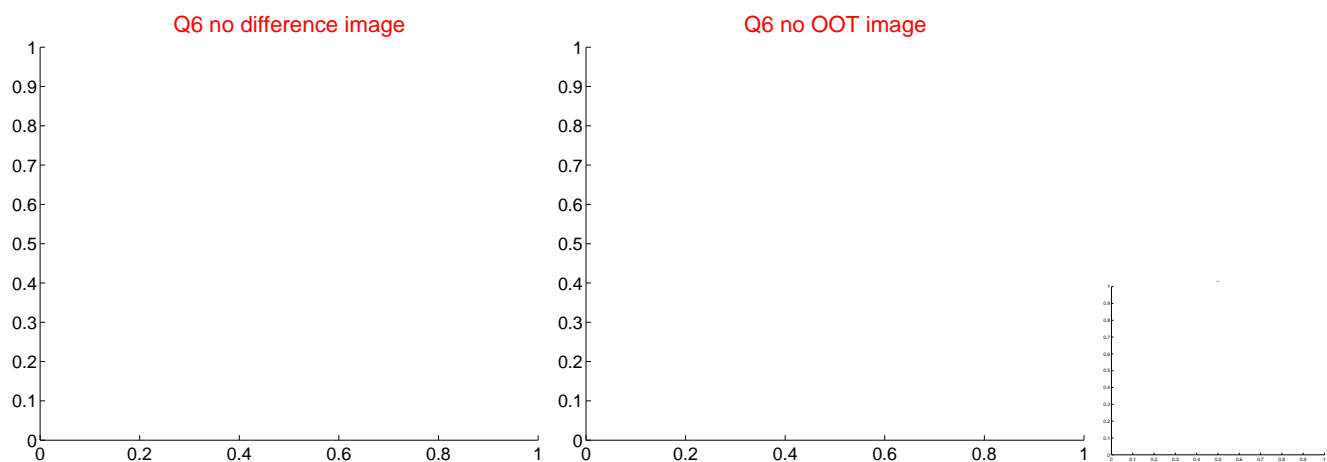
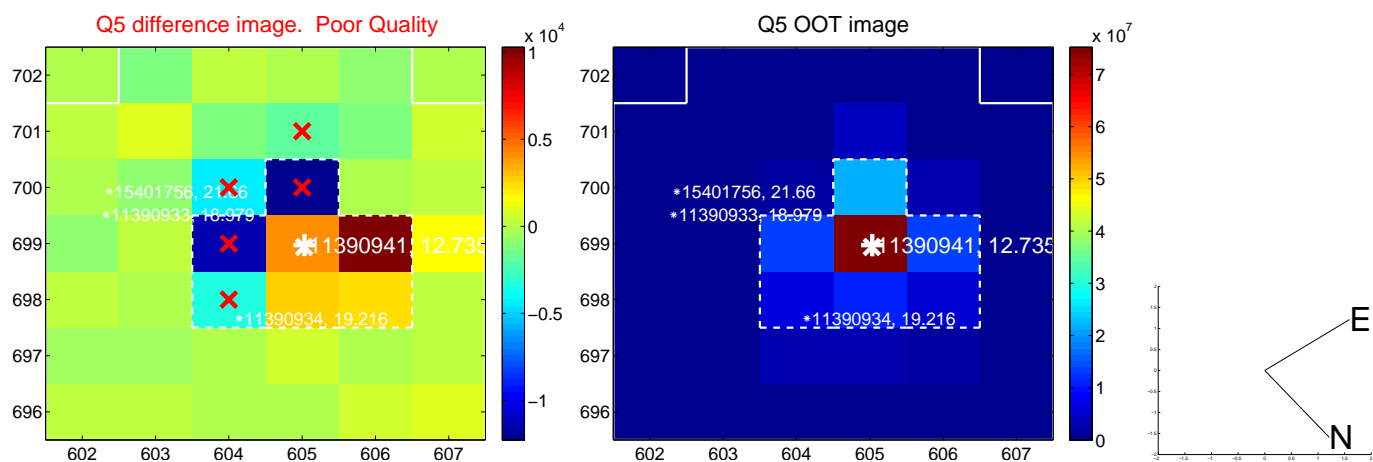


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

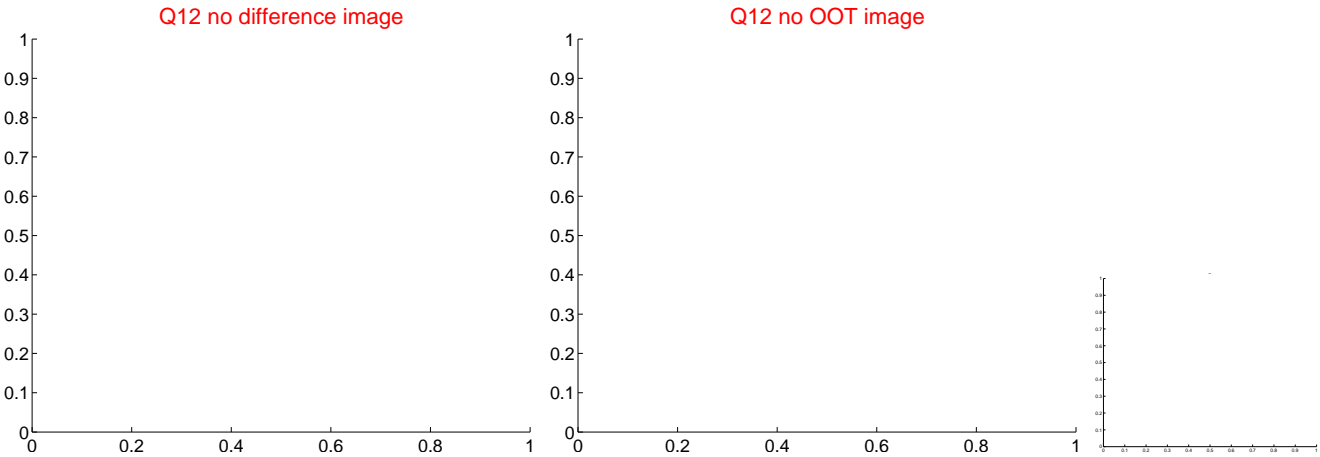
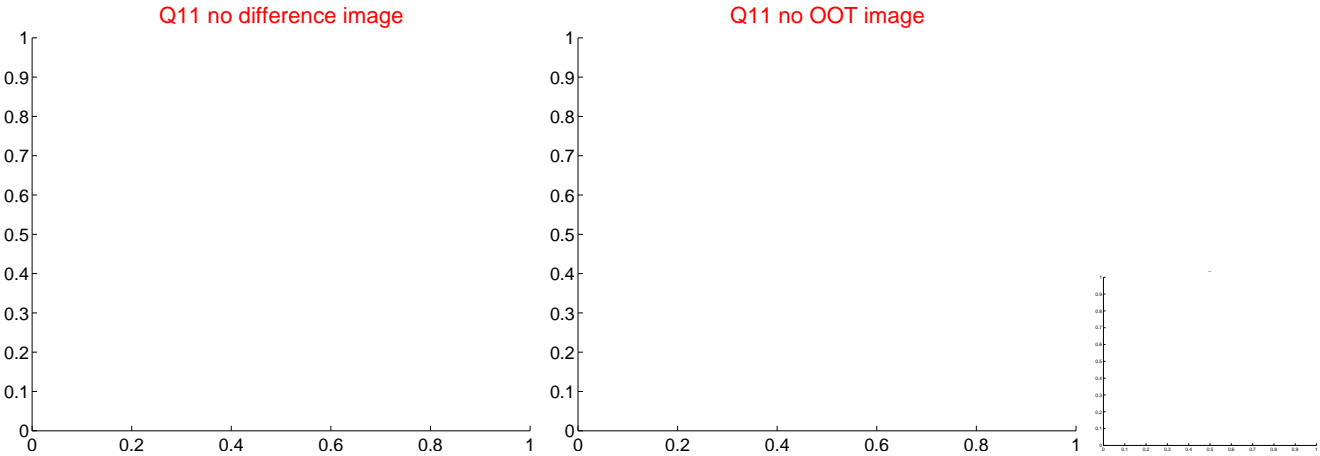
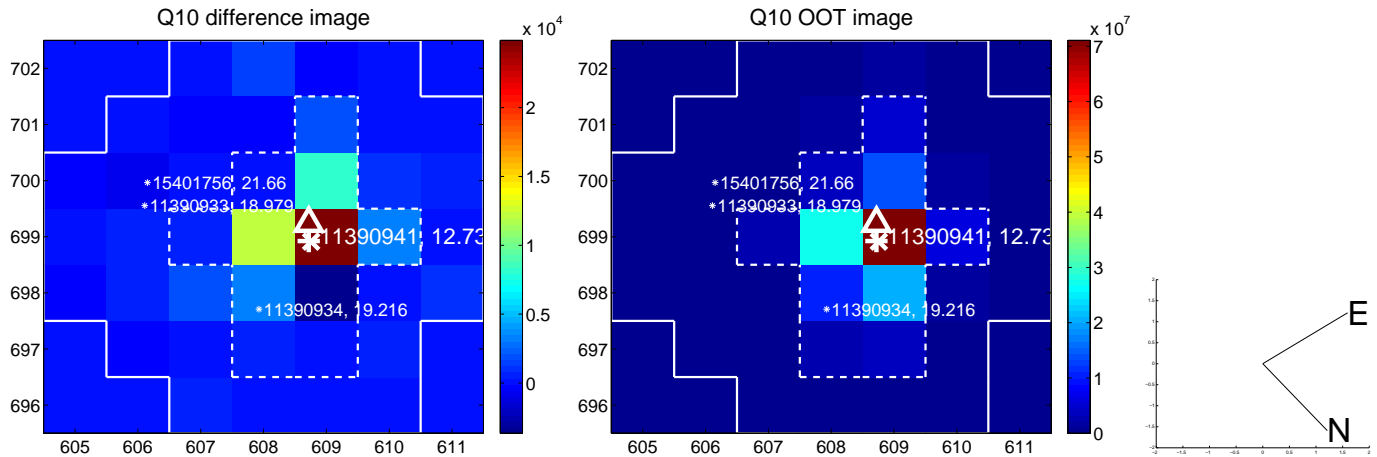
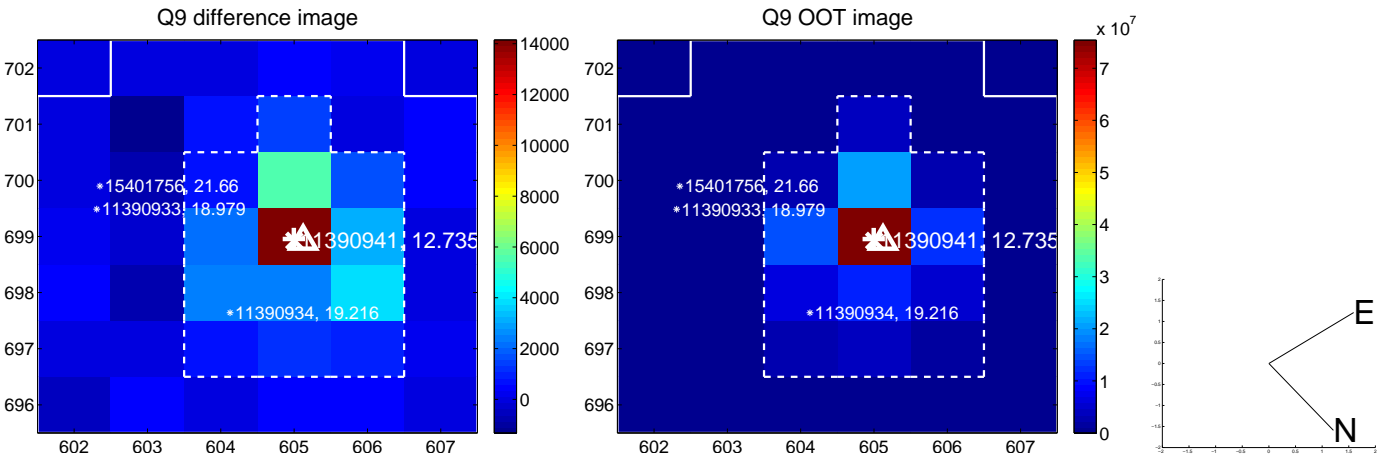
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



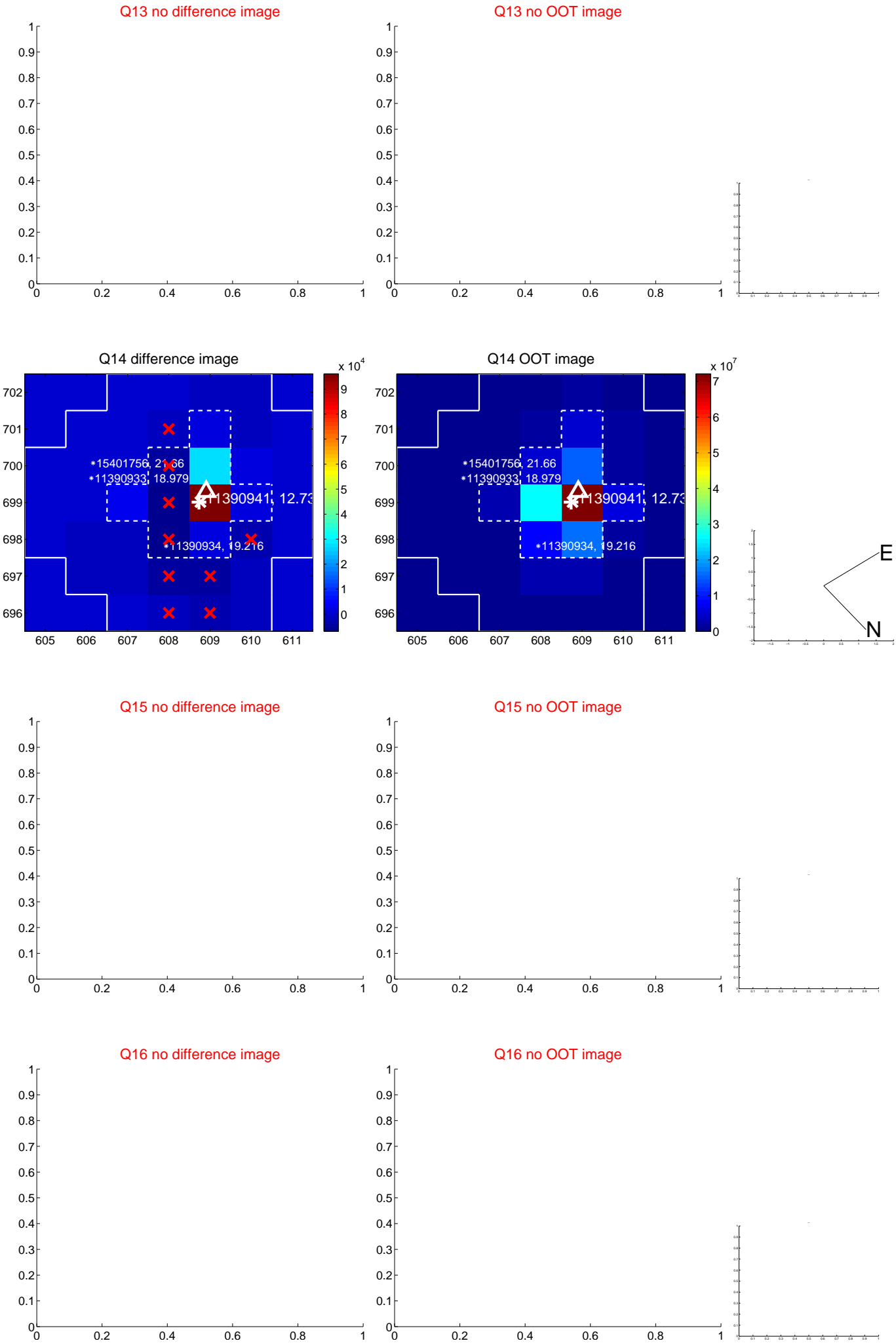
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



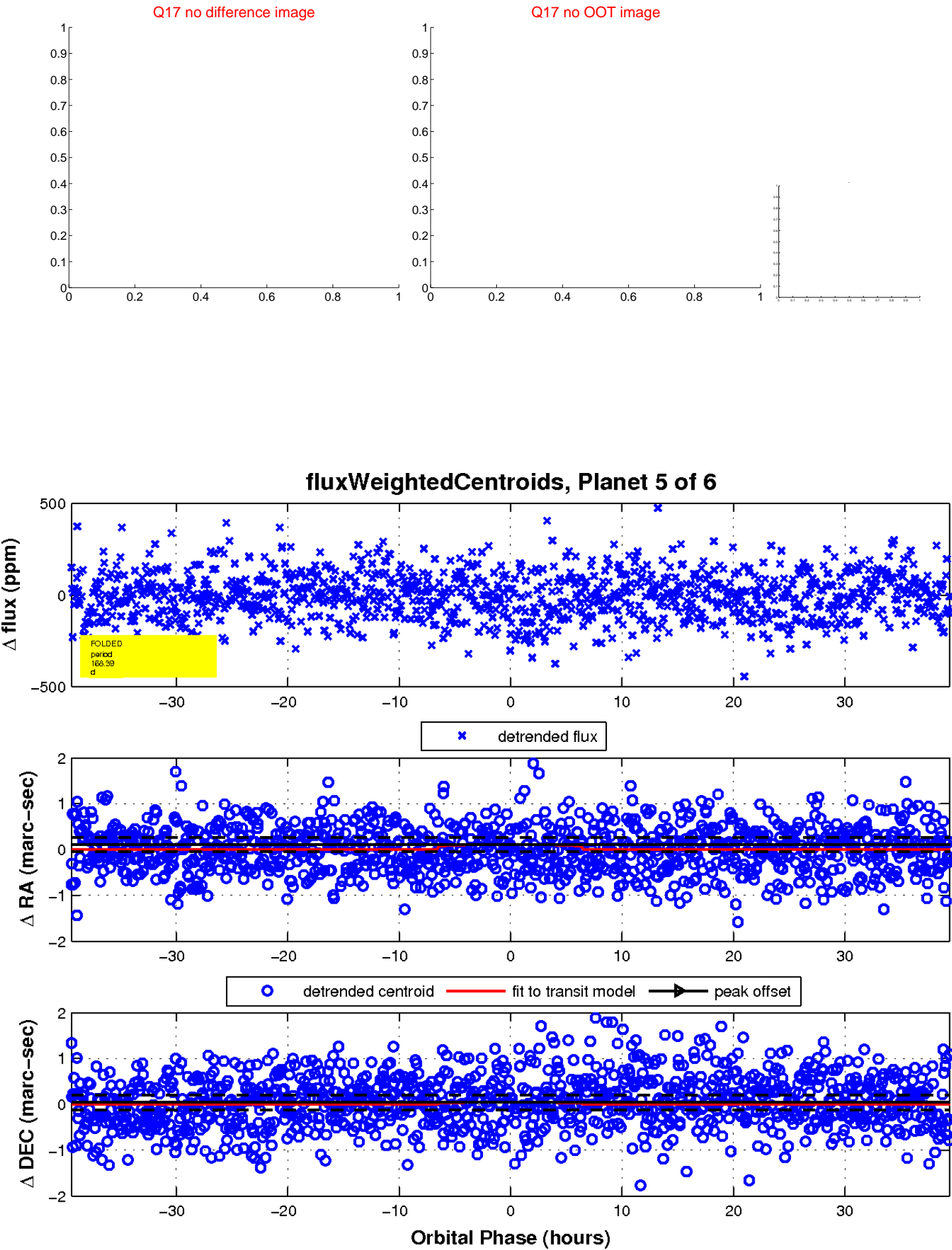
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

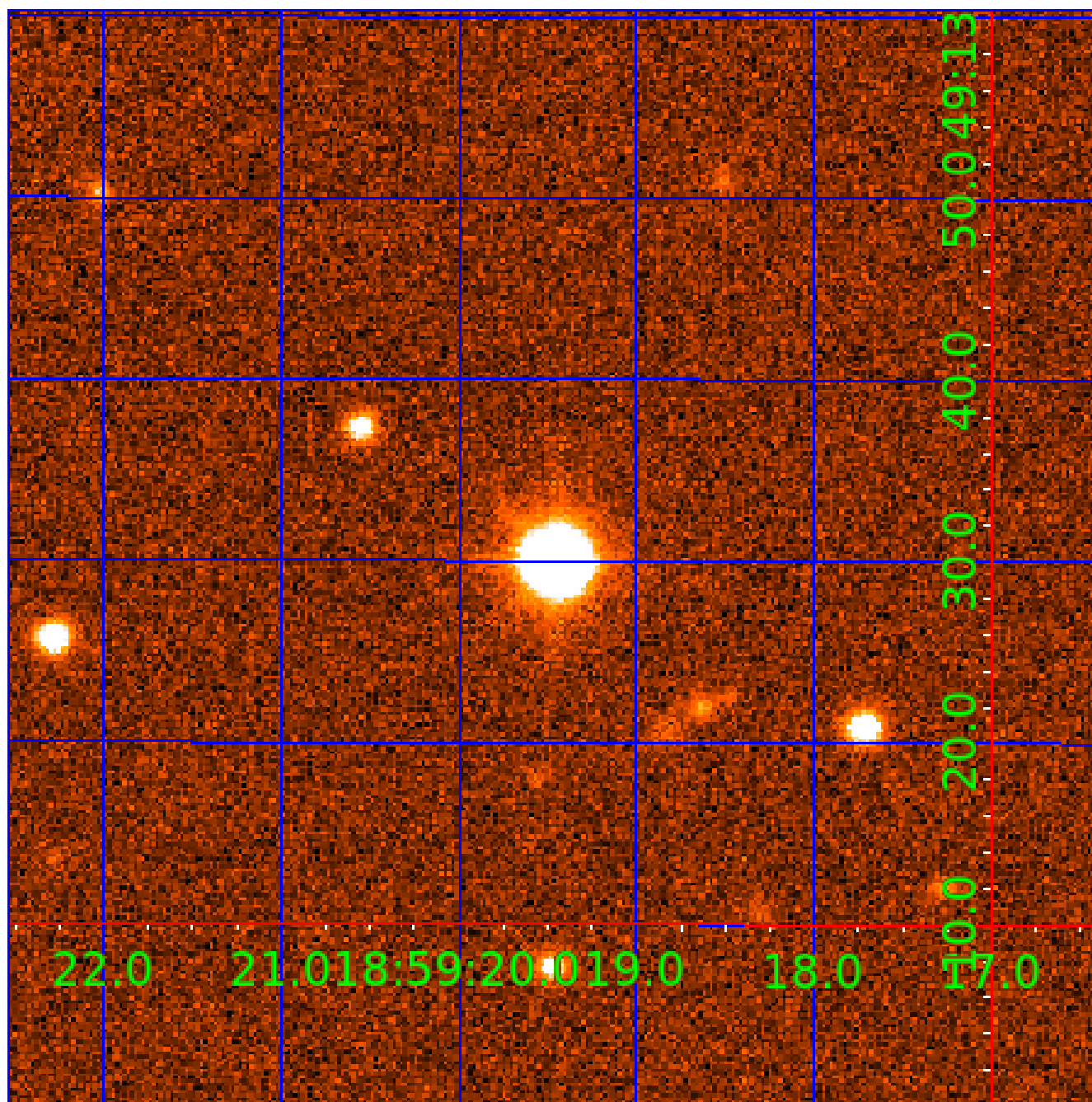


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011390941

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})
011390941-01	OBS	No	2.717287	132.307590	15.2	7.781	9.4	5.7	1.44	7204	0.65	2847.38
011390941-02	OBS	No	274.552239	279.581144	169.8	16.498	11.5	6.7	1.44	7204	2.06	6.05
011390941-03	OBS	No	2.717261	133.165593	9.9	13.278	9.1	4.6	1.44	7204	0.54	2847.41
011390941-04	OBS	No	83.203247	165.084441	106.1	4.414	10.2	4.8	1.44	7204	1.64	29.72
011390941-05	OBS	No	168.389732	150.908998	117.6	13.132	8.3	7.2	1.44	7204	1.62	11.61
011390941-06	OBS	No	41.729120	131.993576	264.8	1.071	7.4	8.1	1.44	7204	2.40	74.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011390941-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
011390941-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS
011390941-03	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
011390941-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
011390941-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— HALO_GHOST
011390941-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV

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

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

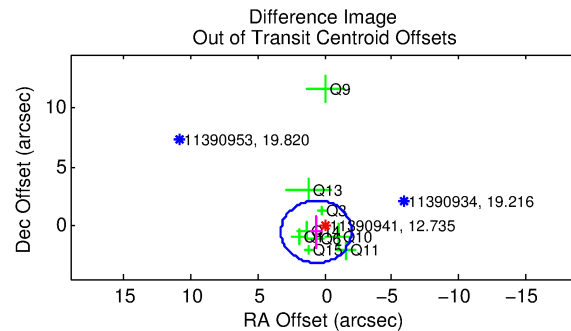
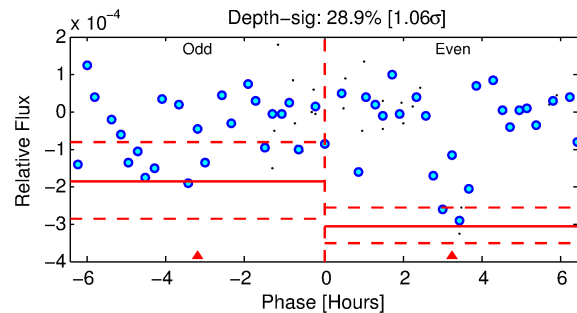
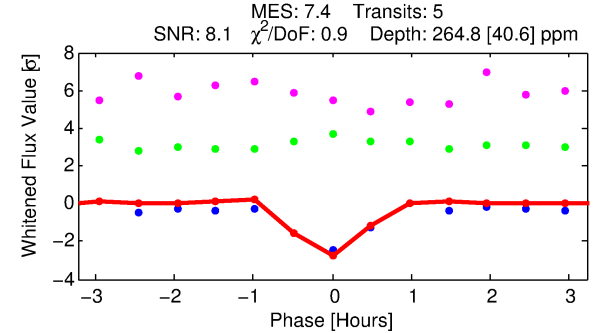
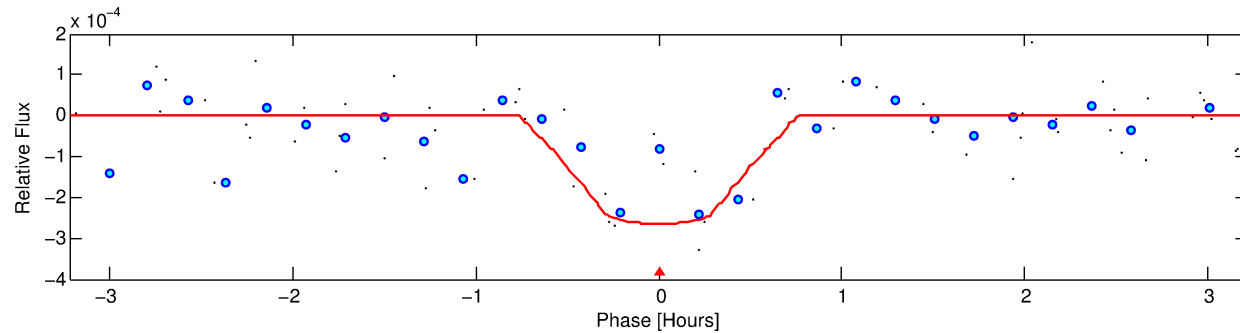
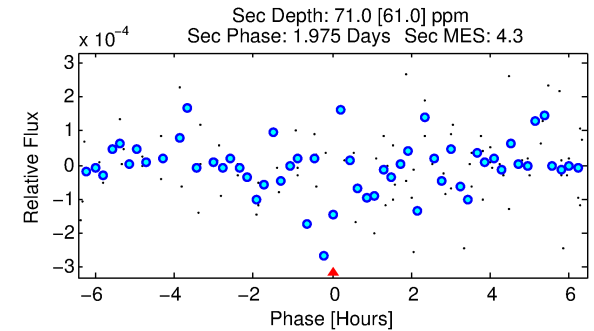
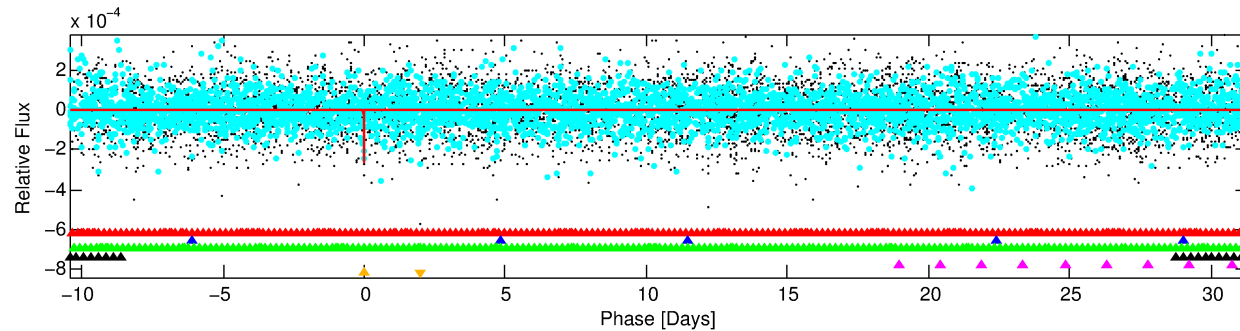
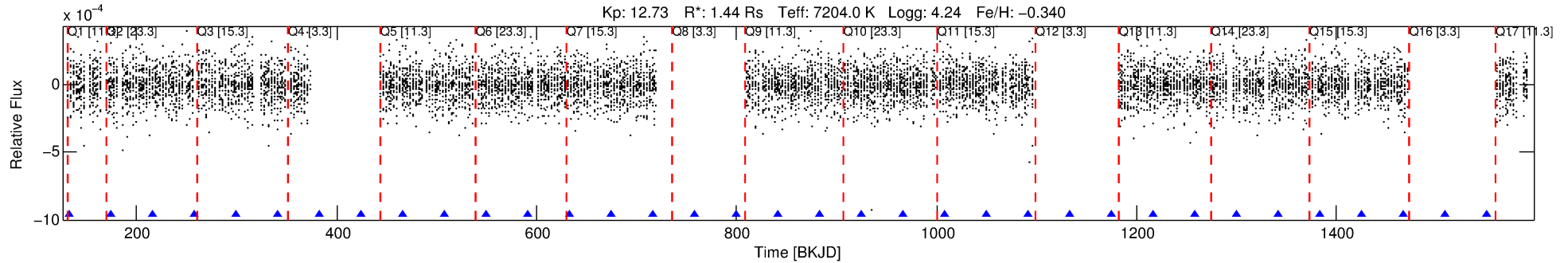
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011390941-06

No Significant Match Found

DV One-Page Summary

KIC: 11390941 Candidate: 6 of 6 Period: 41.729 d



DV Fit Results:

Period = 41.72912 [0.00037] d
Epoch = 131.9936 [0.0065] BKJD
Rp/R* = 0.0153 [0.0145]
a/R* = 287.96 [1592.56]
b = 0.31 [16.43]
Seff = 74.59 [29.59]
Teq = 749 [74] K
Rp = 2.40 [2.40] Re
a = 0.2583 [0.0684] AU
Ag = 452.09 [952.02] [0.47σ]
Teffp = 5343 [2775] K [1.65σ]

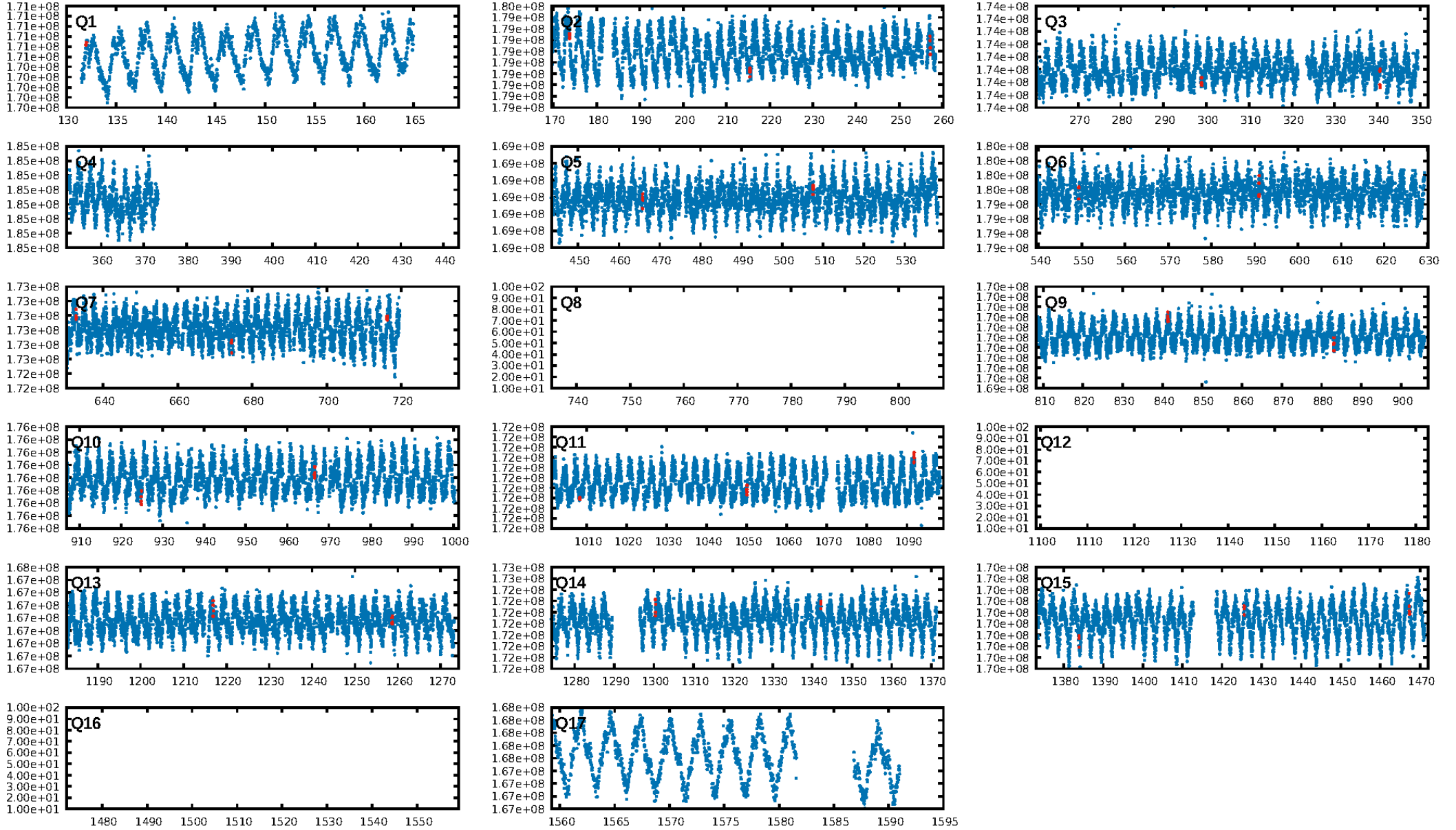
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [119.21σ]
LongPeriod-sig: 100.0% [219.14σ]
ModelChiSquare2-sig: 24.7%
ModelChiSquareGof-sig: 94.6%
Bootstrap-pfa: 4.01e-09
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.4311
Centroid-sig: 56.3%
Centroid-so: 0.552 arcsec [0.62σ]
OotOffset-rm: 0.811 arcsec [0.92σ]
OotOffset-st: 3/3/0/3 [9]
KicOffset-rm: 0.885 arcsec [1.10σ]
KicOffset-st: 3/3/0/3 [9]
DiffImageQuality-fgm: 0.44 [4/9]
DiffImageOverlap-fno: 0.75 [9/12]

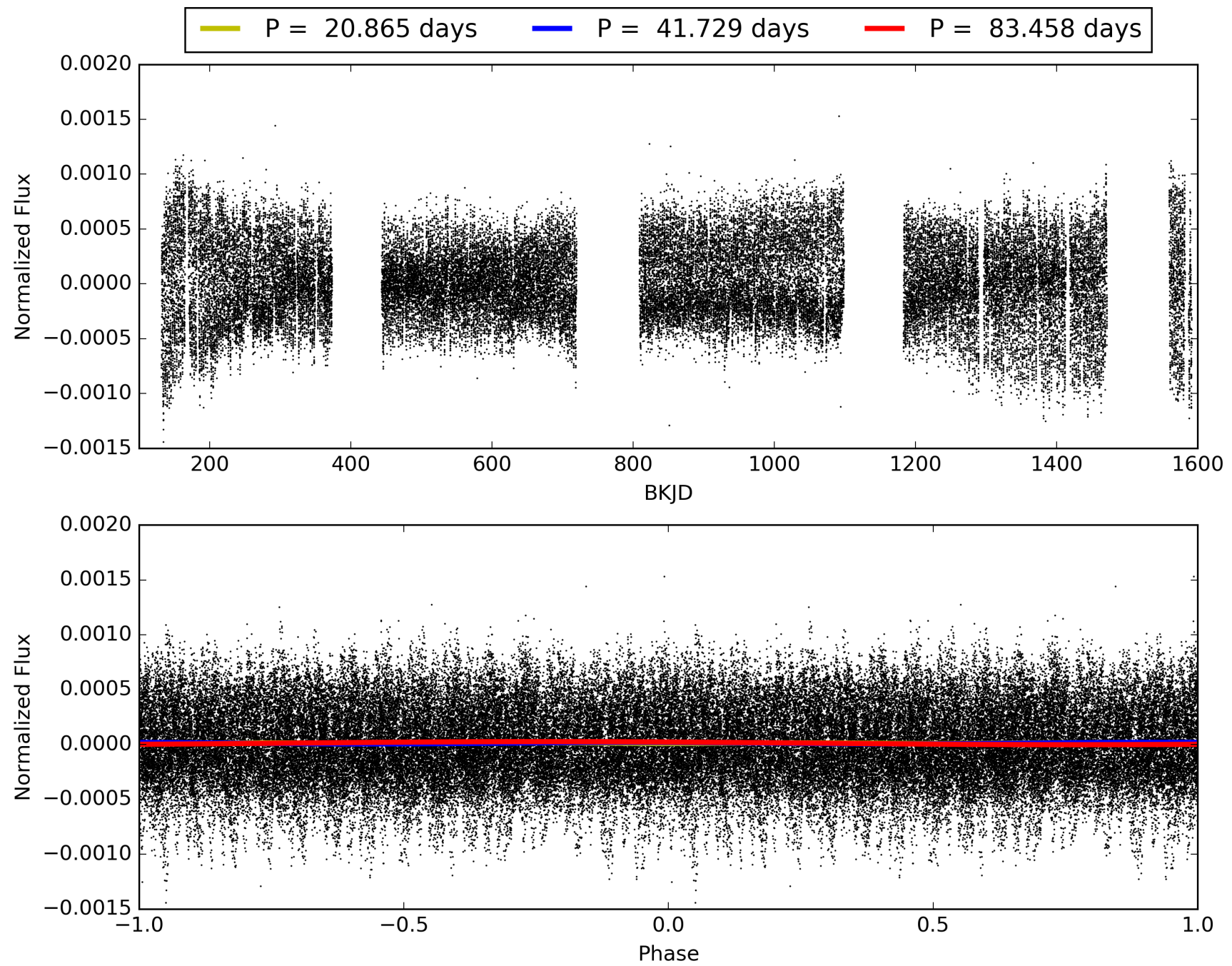
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 13:49:54 Z

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

TCE 011390941-06, PDC Light Curves

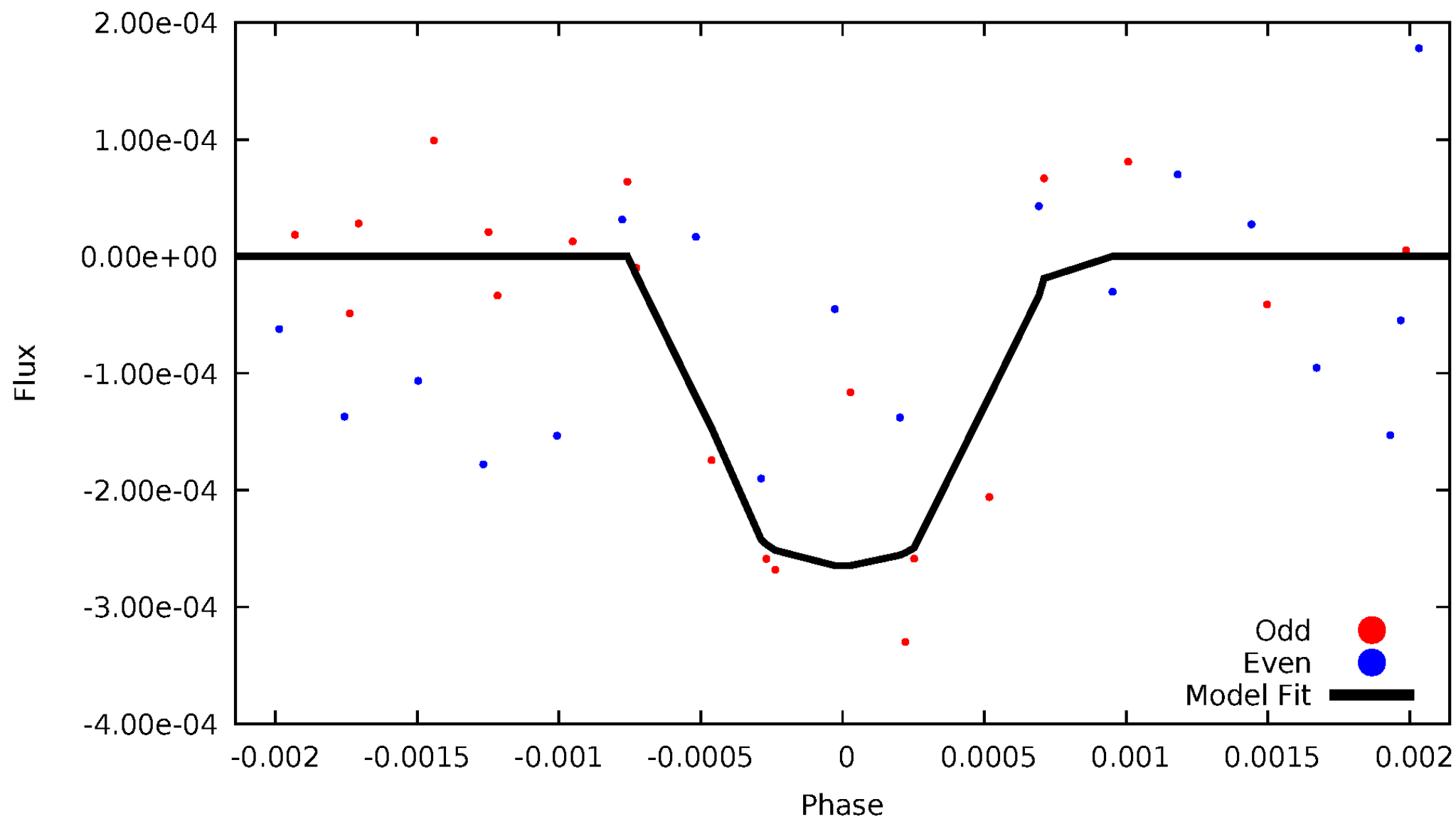


TCE 011390941-06



DV Odd/Even

TCE 011390941-06

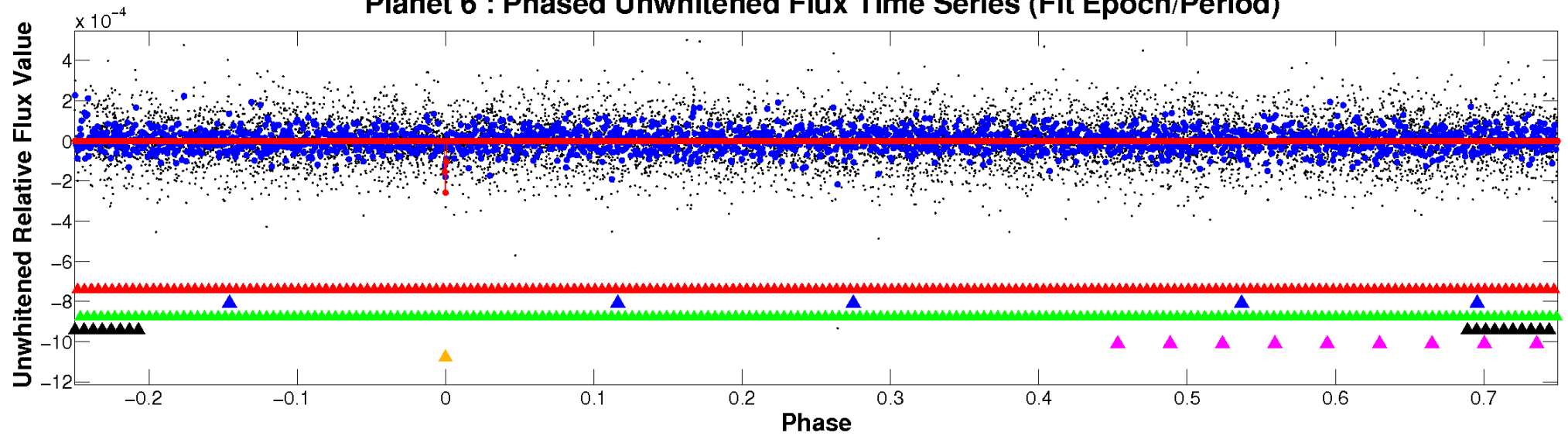


ALT Odd/Even

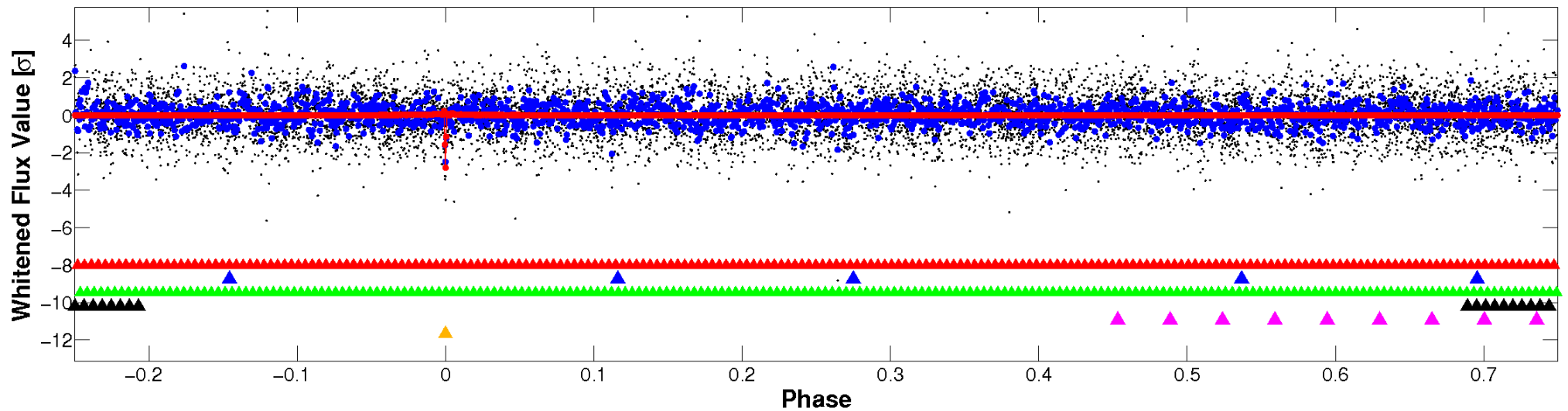
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

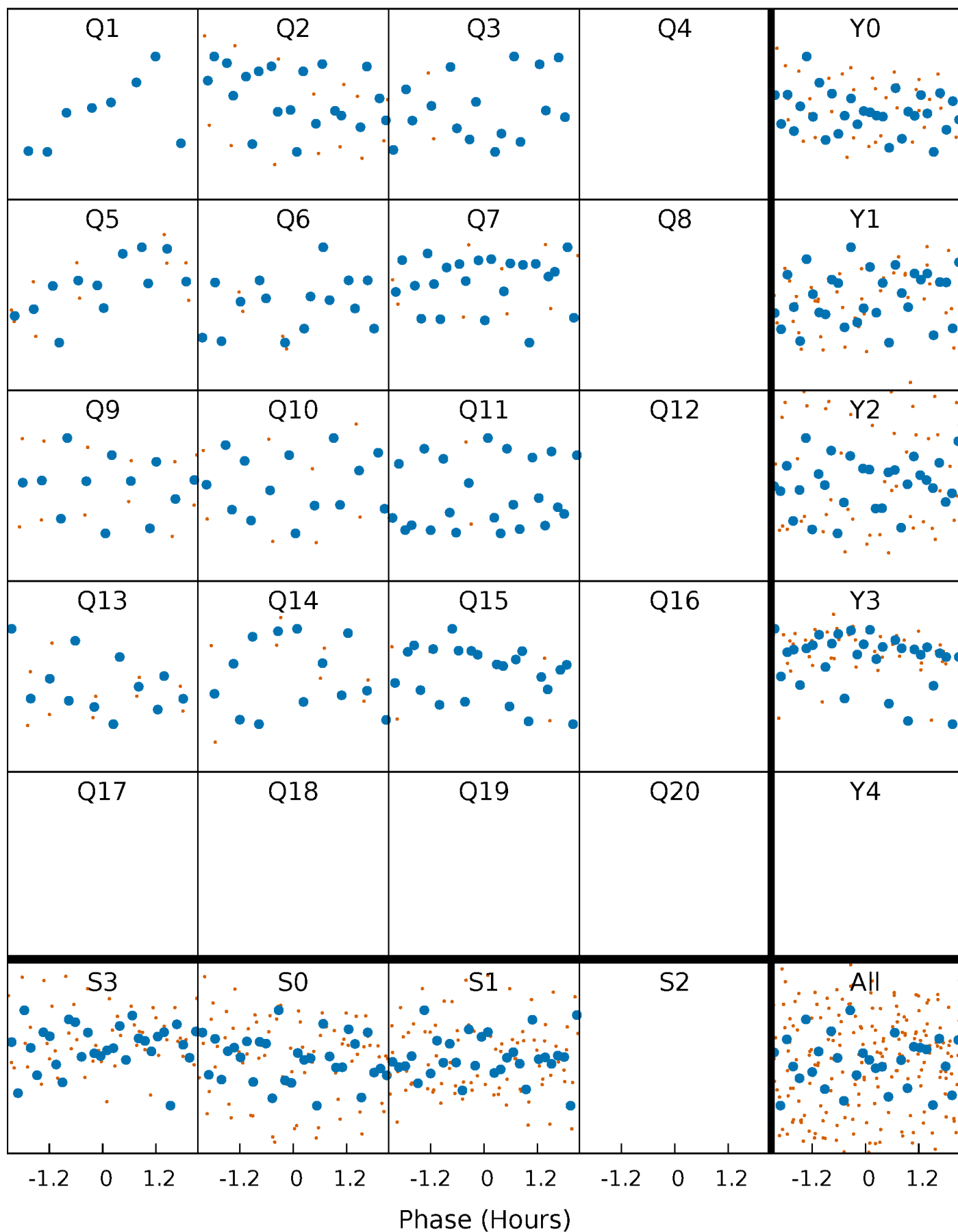


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



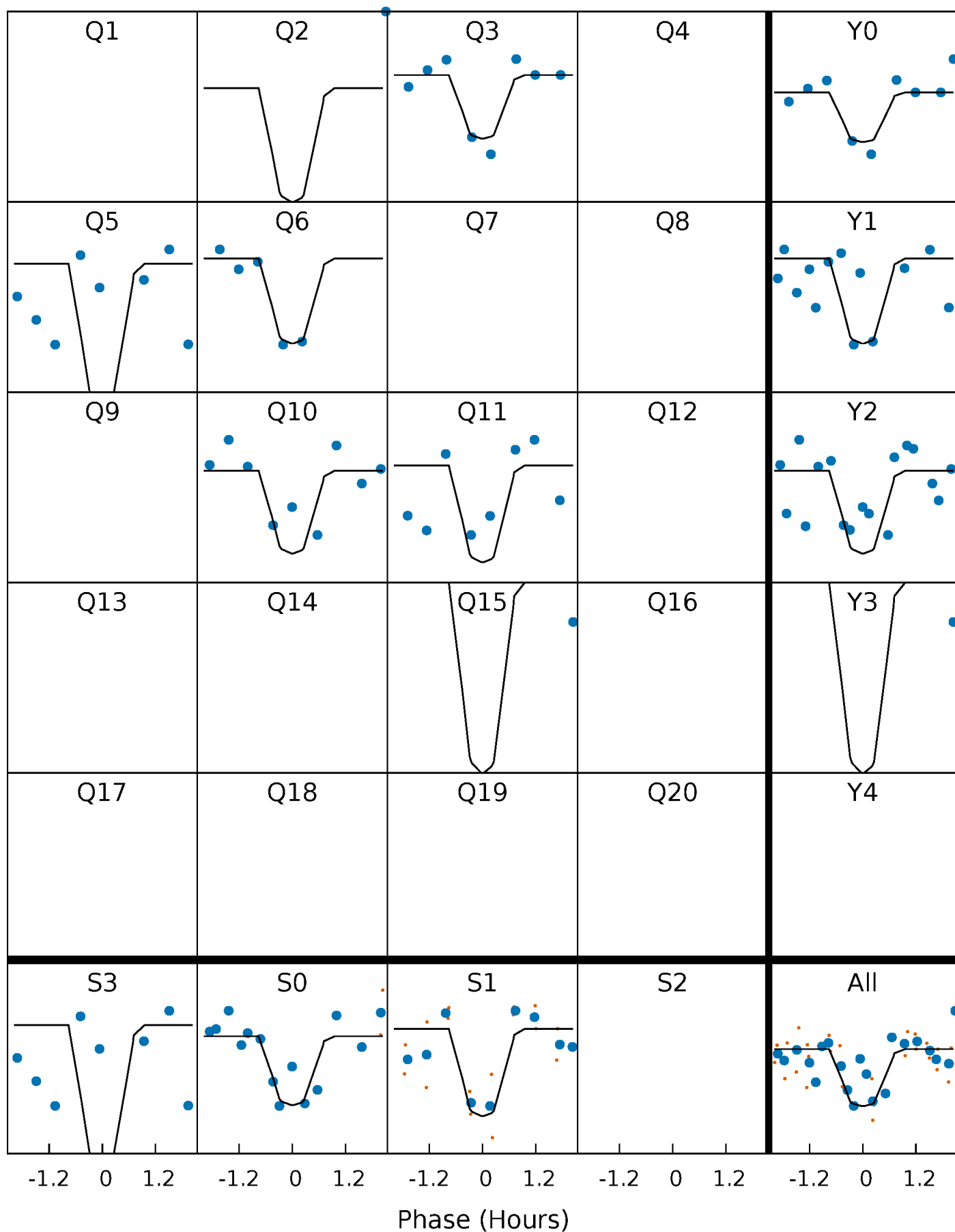
PDC Quarter-Phased Transit Curves

TCE 011390941-06 P= 41.729120 Days $T_0=131.993576$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 011390941-06 P= 41.729120 Days $T_0=131.993576$ (BKJD)

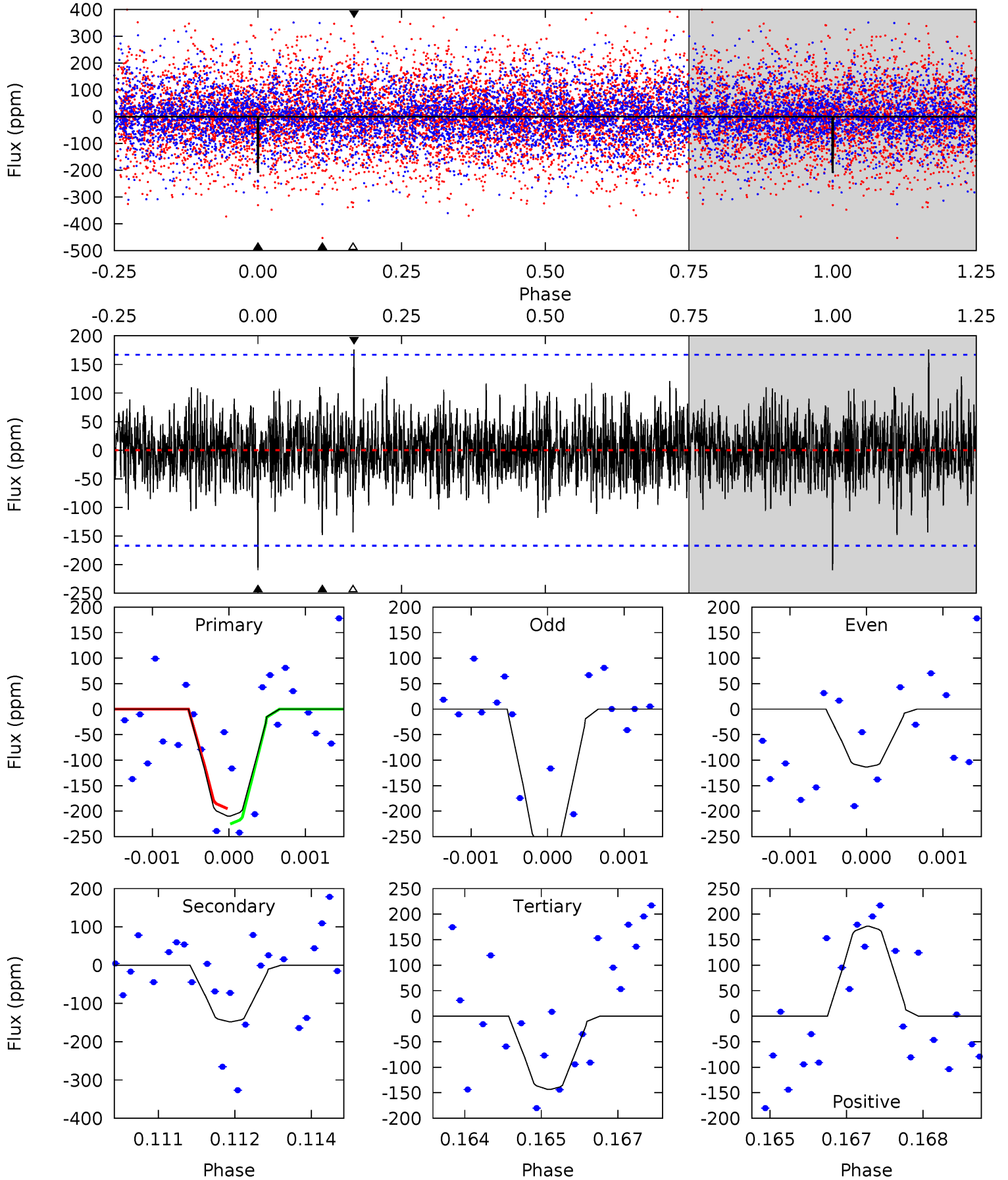


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

011390941-06, P = 41.729120 Days, E = 90.264456 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.78	4.78	4.63	5.69	5.39	3.19	1.25	2.14	1.09	0.14	-0.91	2.44	0.98	0.46	0.49



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 011390941

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7204^{+203}_{-254}	$4.244^{+0.105}_{-0.195}$	$-0.340^{+0.250}_{-0.350}$	$1.436^{+0.471}_{-0.253}$	$1.324^{+0.198}_{-0.198}$	$0.630^{+0.309}_{-0.332}$
	+3%/-4%	+2%/-5%	+74%/-103%	+33%/-18%	+15%/-15%	+49%/-53%
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 011390941-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-148 ± 31	$2.94^{+2.03}_{-1.85}$	1055^{+83}_{-61}	5868^{+4332}_{-1264}	649^{+3760}_{-429}
Alt.	N/A	N/A	N/A	N/A	N/A

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

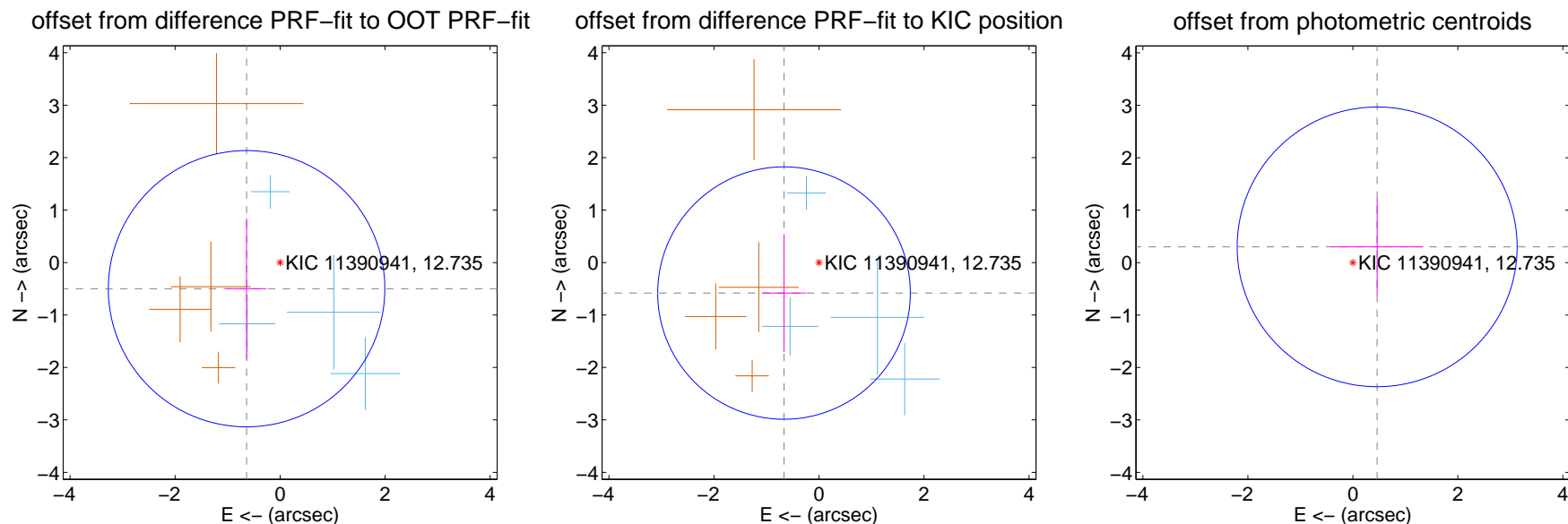
DV Centroid Data

Supplemental centroid analysis for 011390941-06. Kepler magnitude: 12.73. Transit SNR 8.06

There are 4 quarters with good PRF difference image offsets

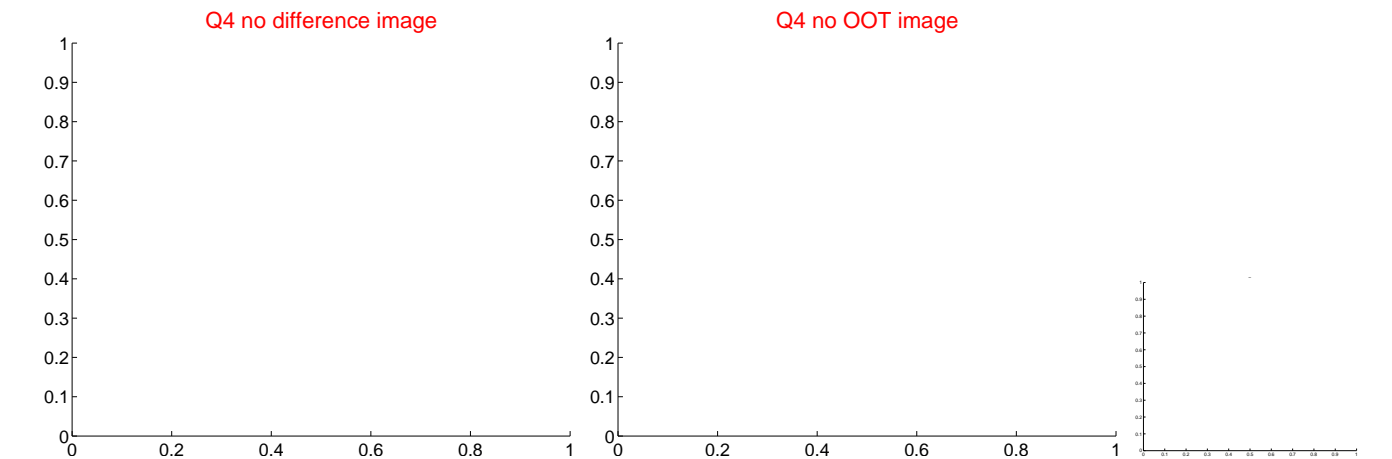
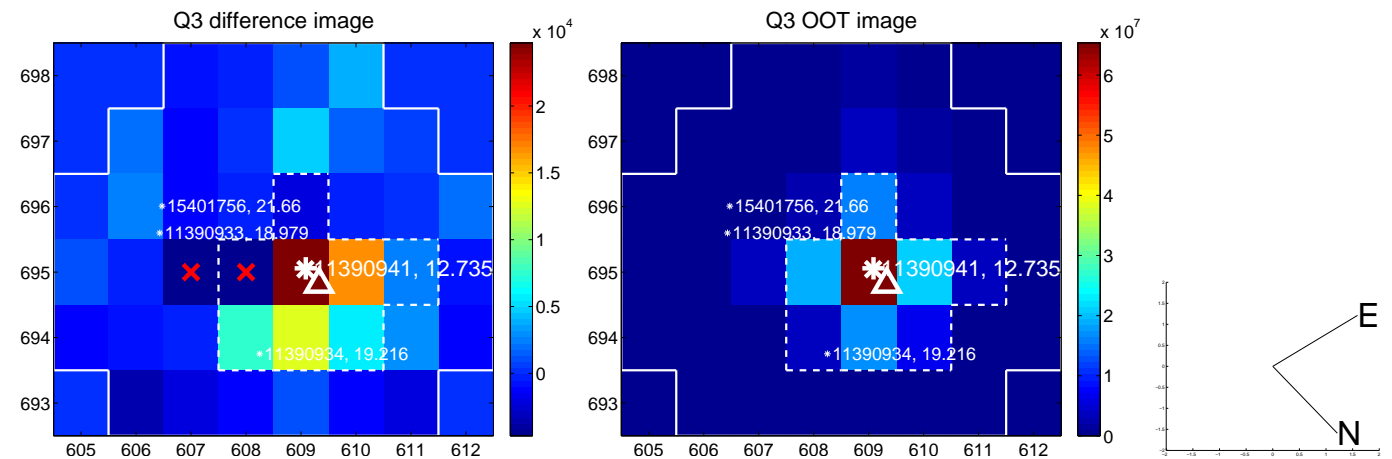
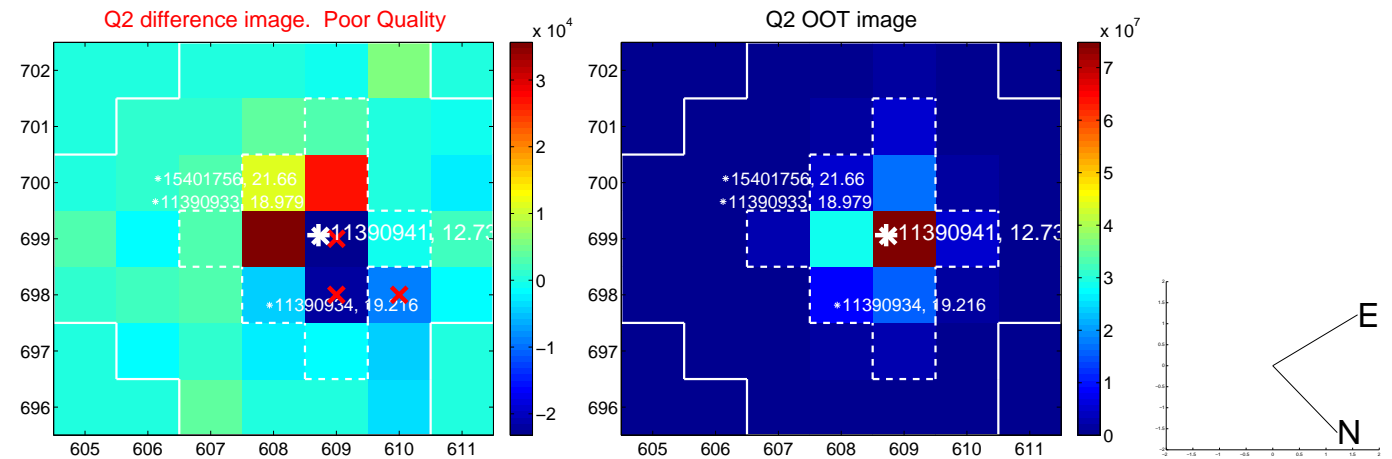
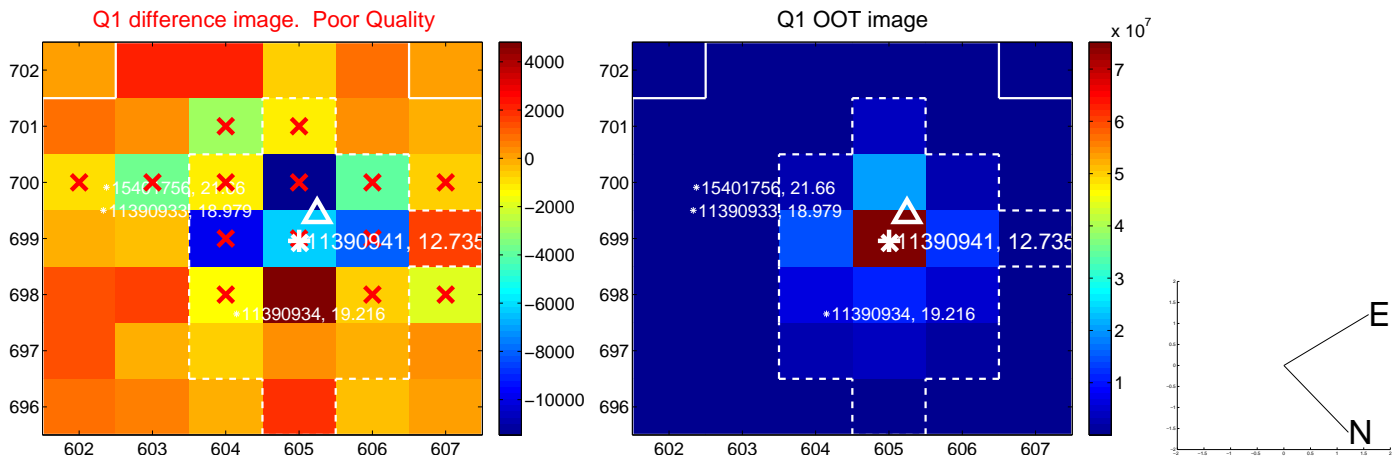
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.811 ± 0.878	0.92	0.639 ± 0.380	-0.499 ± 1.345
PRF-fit source offset from KIC position	0.885 ± 0.802	1.10	0.666 ± 0.418	-0.582 ± 1.122
photometric centroid source offset	0.55 ± 0.89	0.62	-0.46 ± 0.87	0.30 ± 0.92

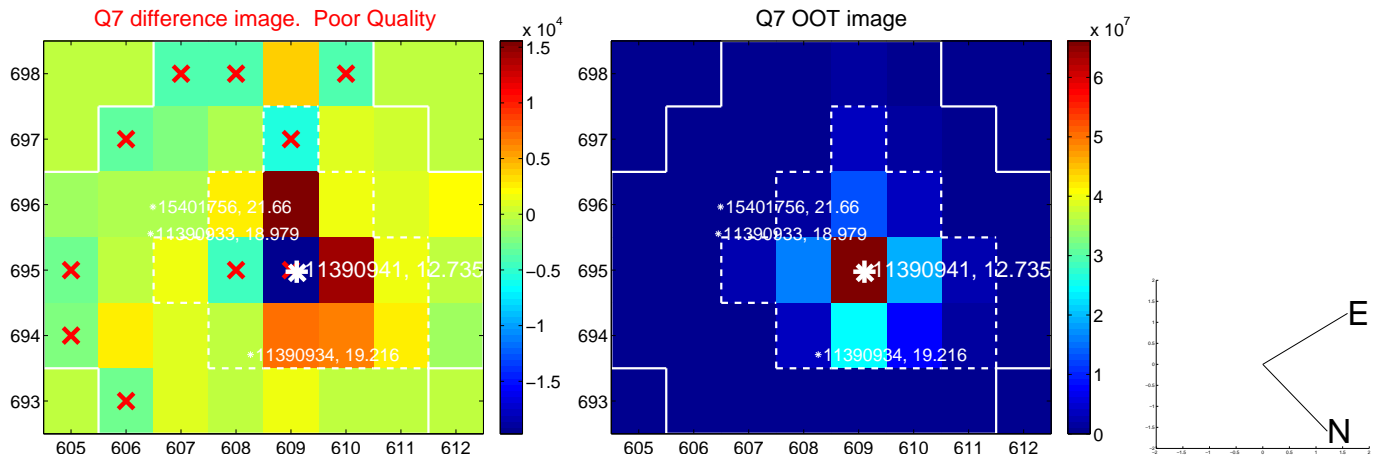
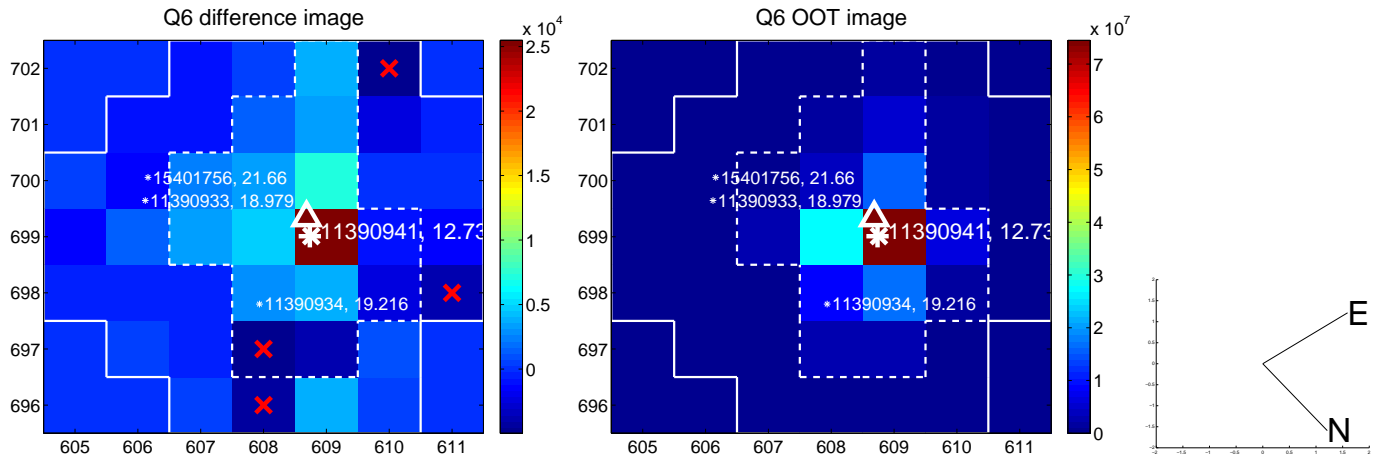
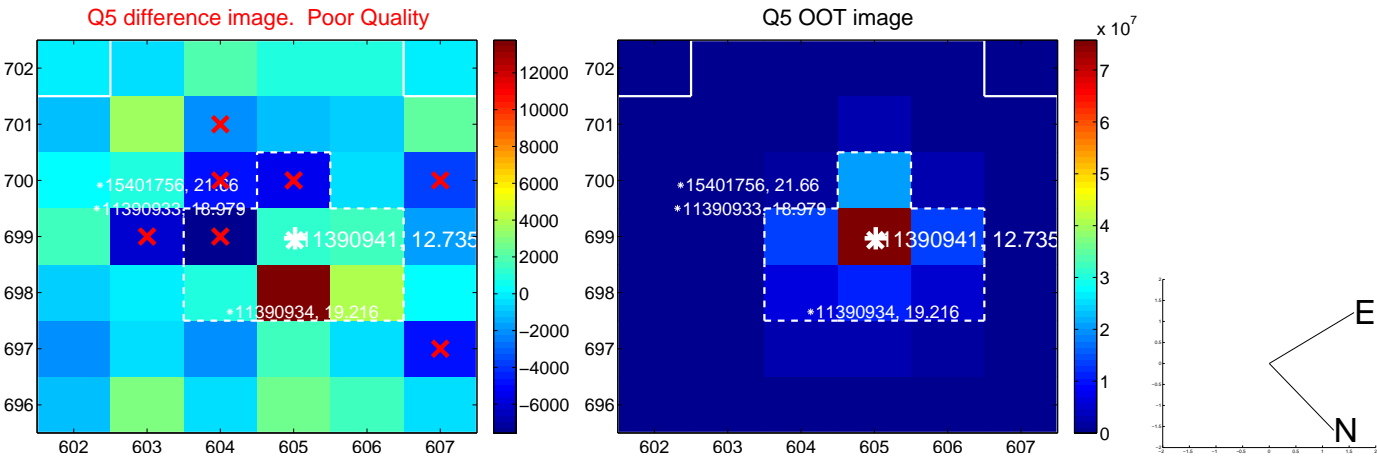


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

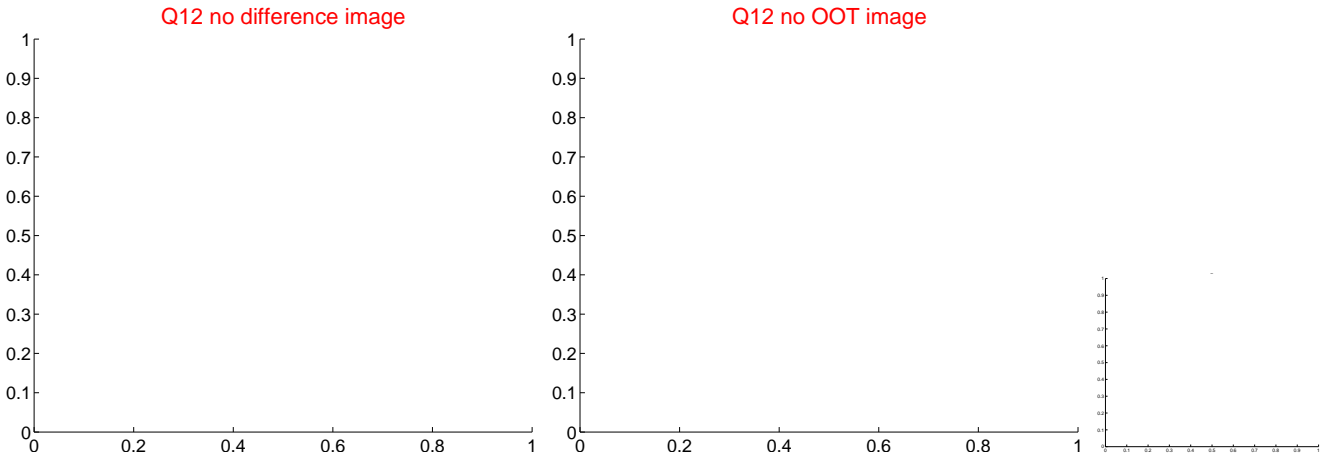
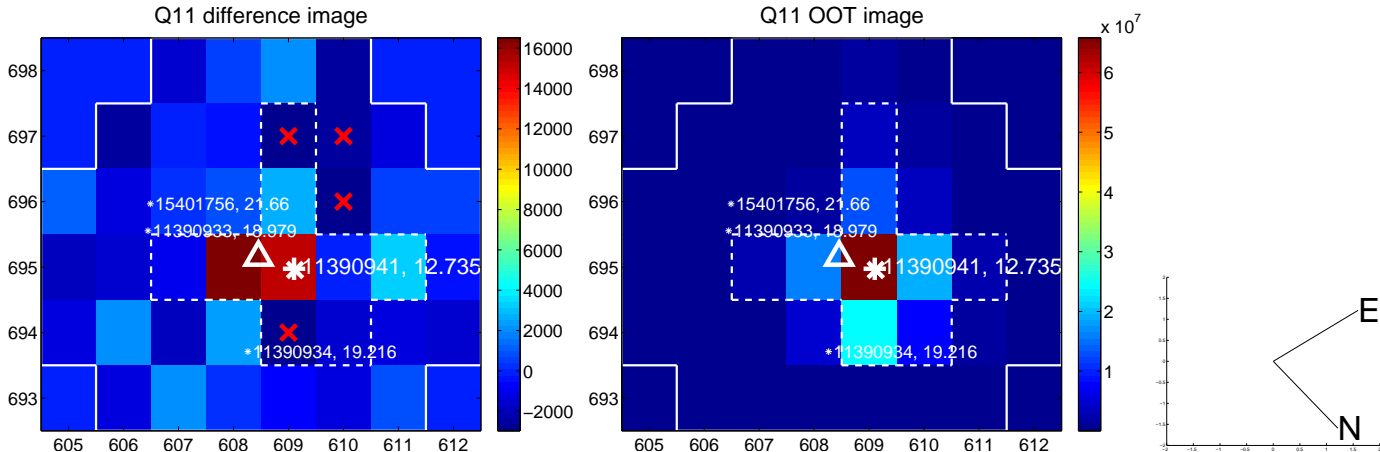
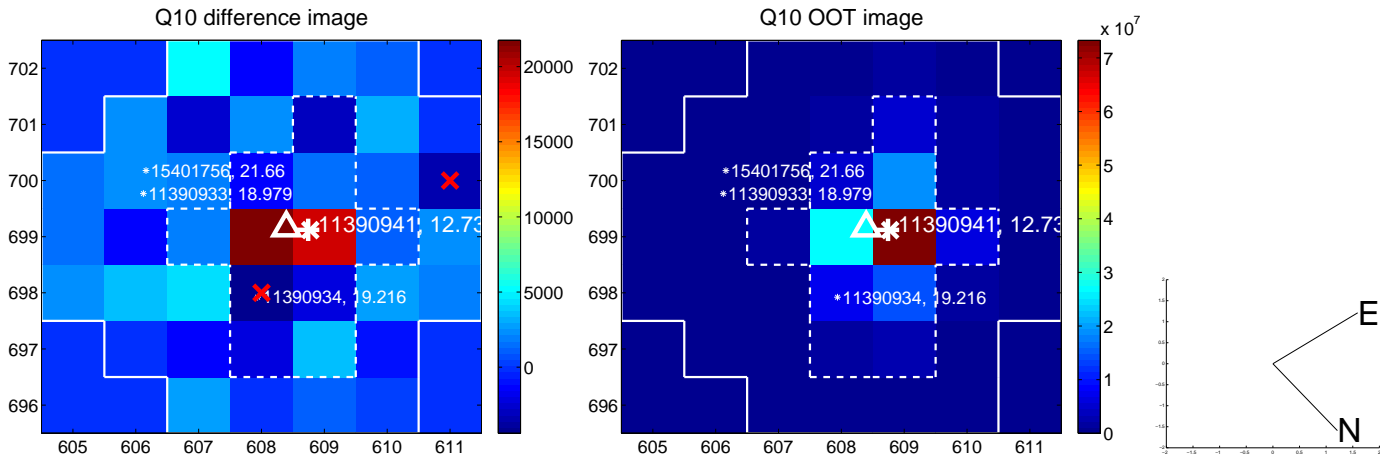
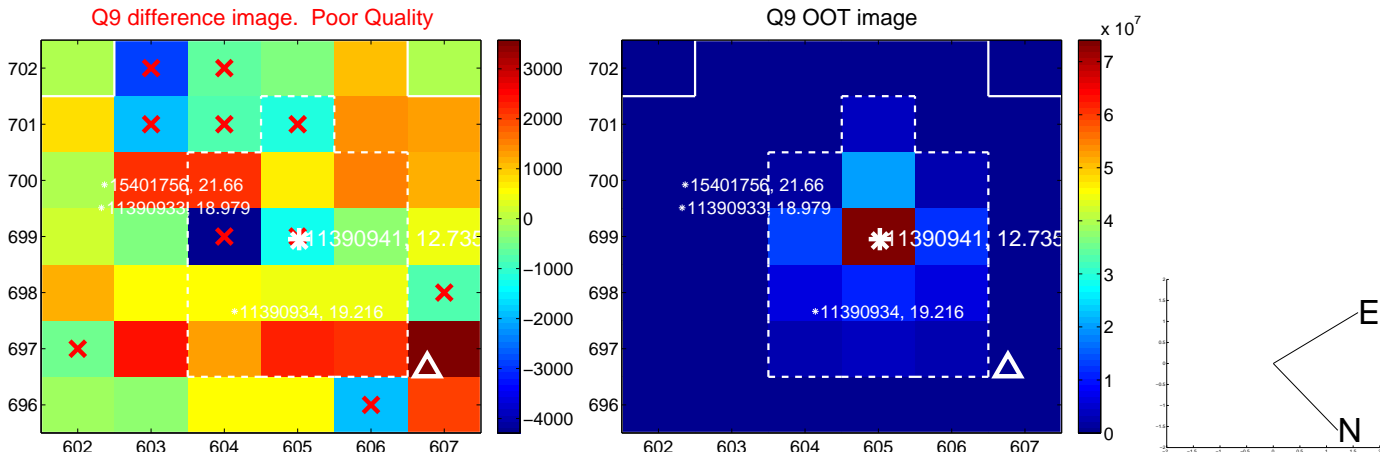
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



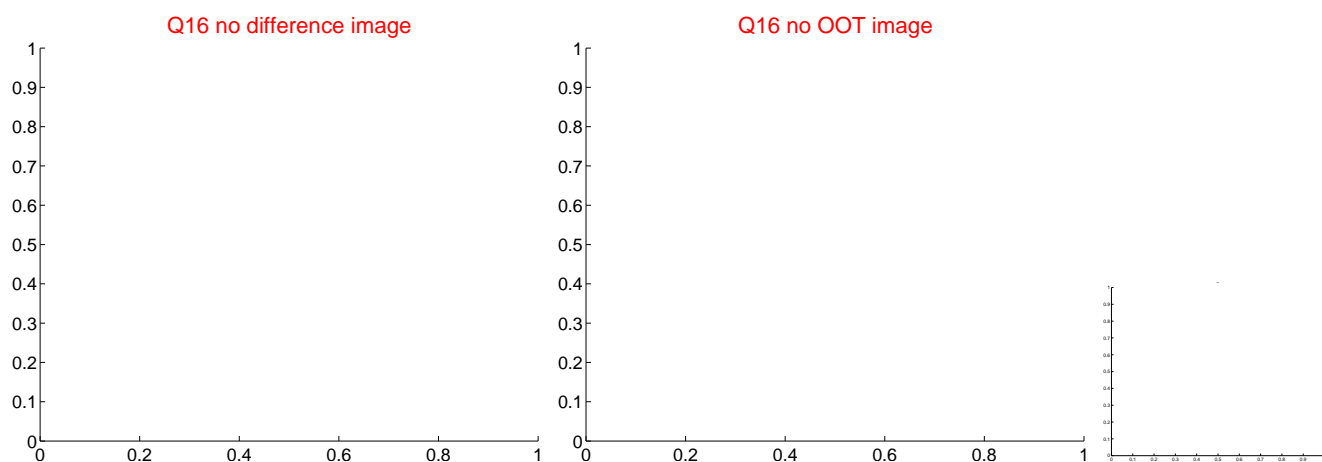
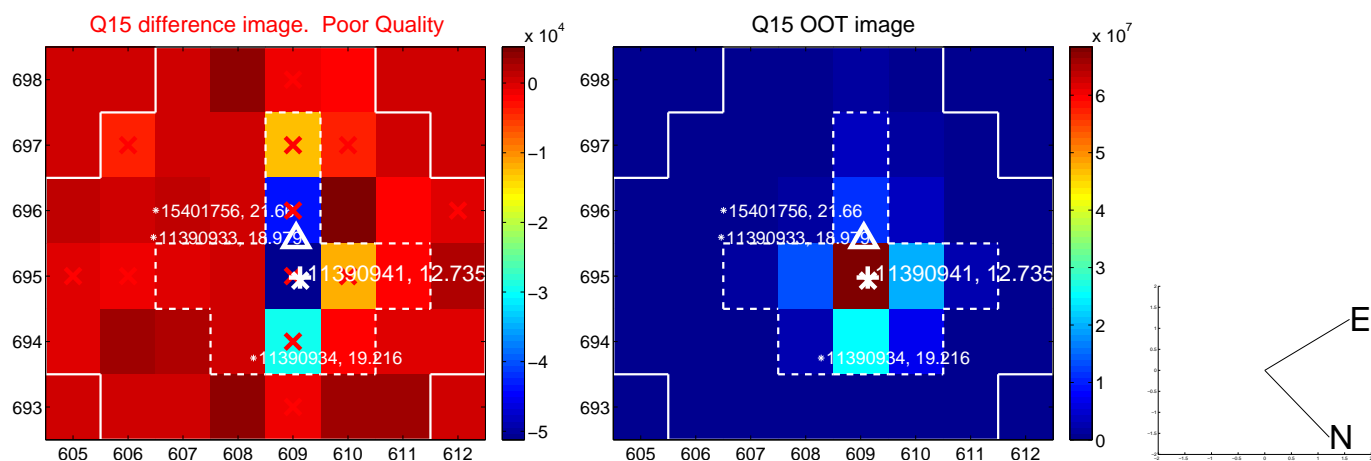
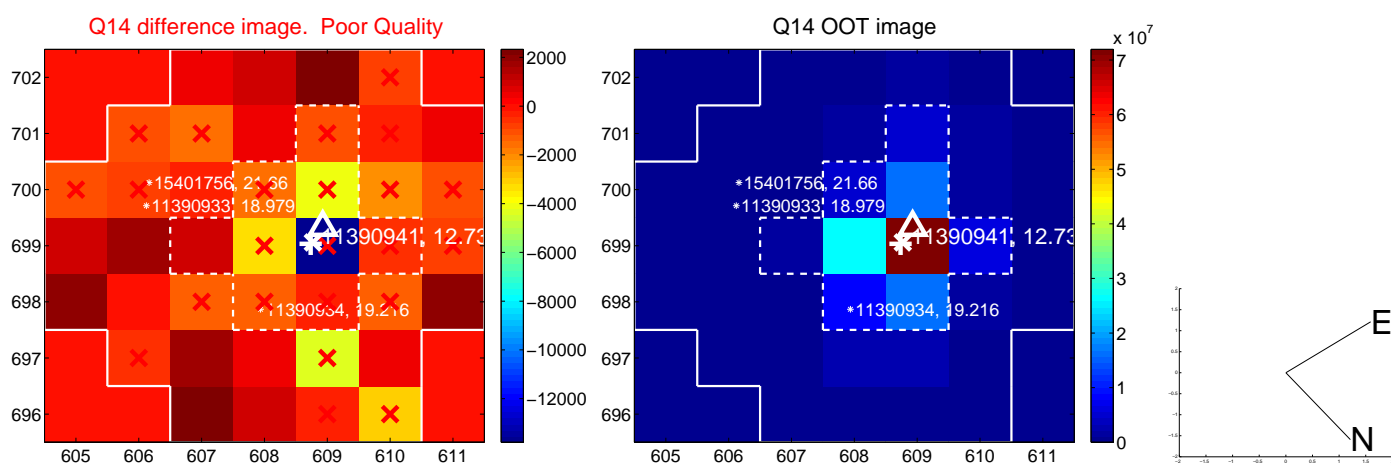
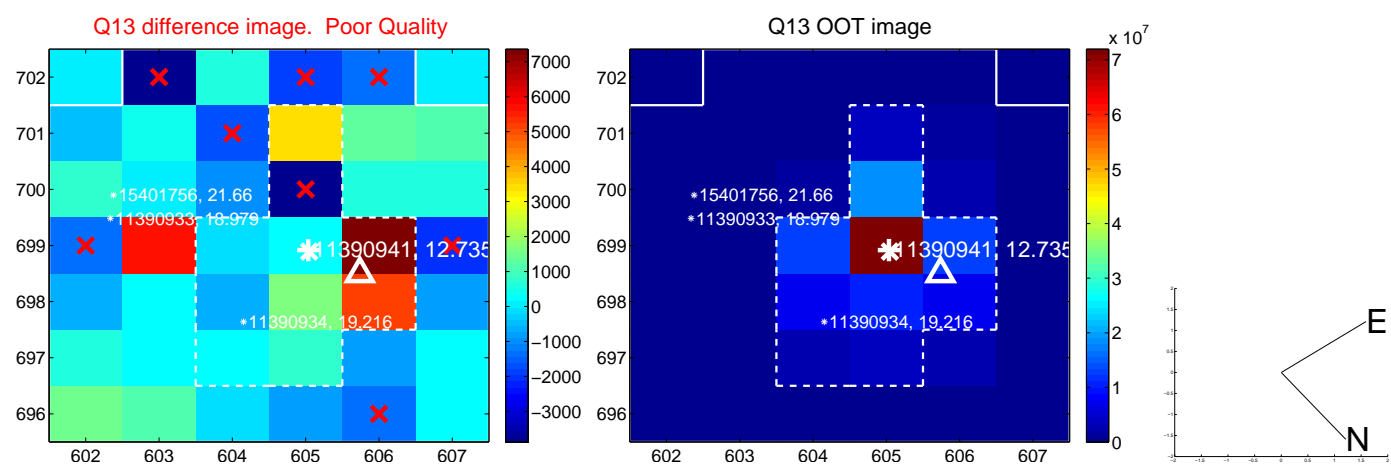
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



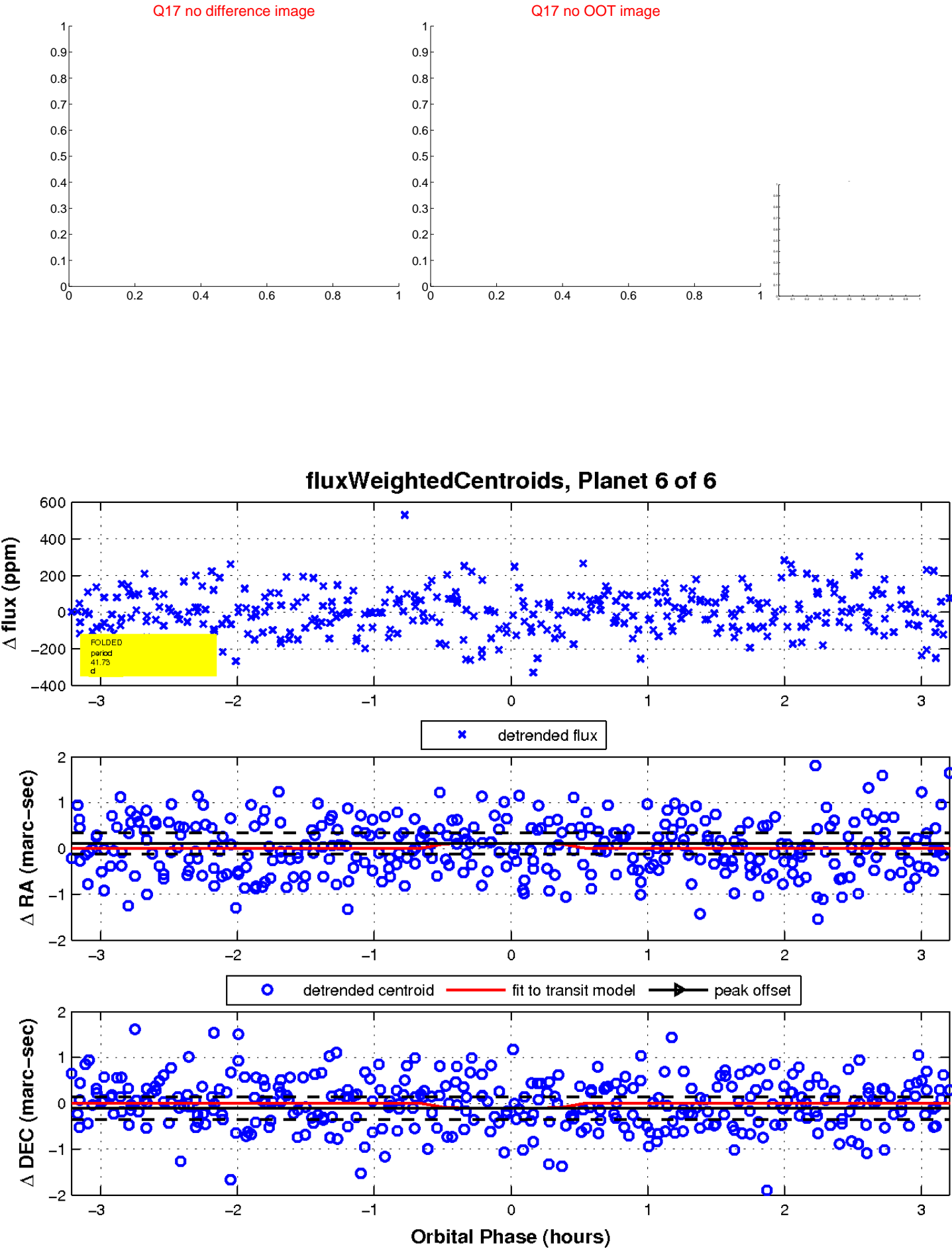
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

