

KIC 010614890

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})
010614890-01	OBS	No	0.986132	131.616721	0.3	5.707	8.1	0.0	0.64	5279	0.04	1034.85
010614890-02	OBS	No	29.859465	154.150902	580.7	2.503	8.3	2.3	0.64	5279	1.60	10.96
010614890-03	OBS	No	29.871605	153.075385	76.5	0.941	7.9	0.2	0.64	5279	0.57	10.96
010614890-04	OBS	No	50.269695	178.700656	568.4	4.680	8.2	2.1	0.64	5279	1.81	5.47
010614890-05	OBS	No	10.488865	139.308617	1520.9	6.521	7.5	9.6	0.64	5279	4.75	44.24
010614890-06	OBS	No	29.880301	153.074881	156.8	1.514	8.0	0.2	0.64	5279	0.80	10.96

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010614890-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT
010614890-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
010614890-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
010614890-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010614890-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010614890-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS—HALO_GHOST

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

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

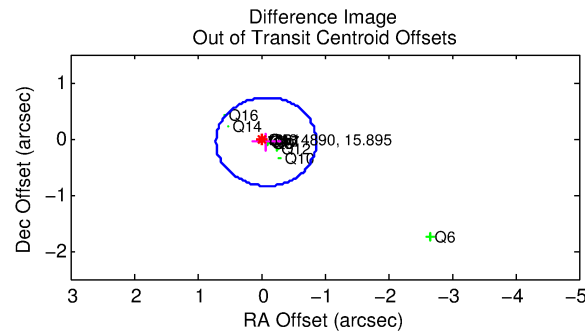
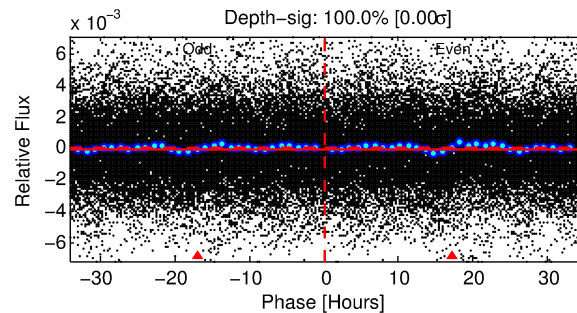
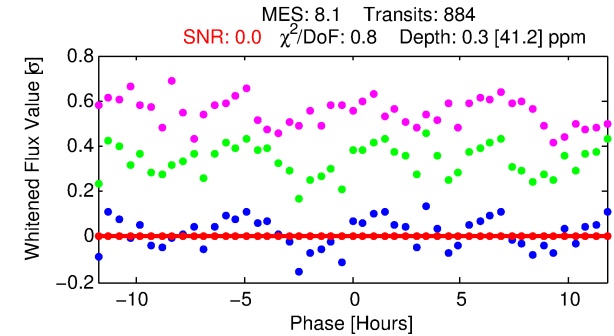
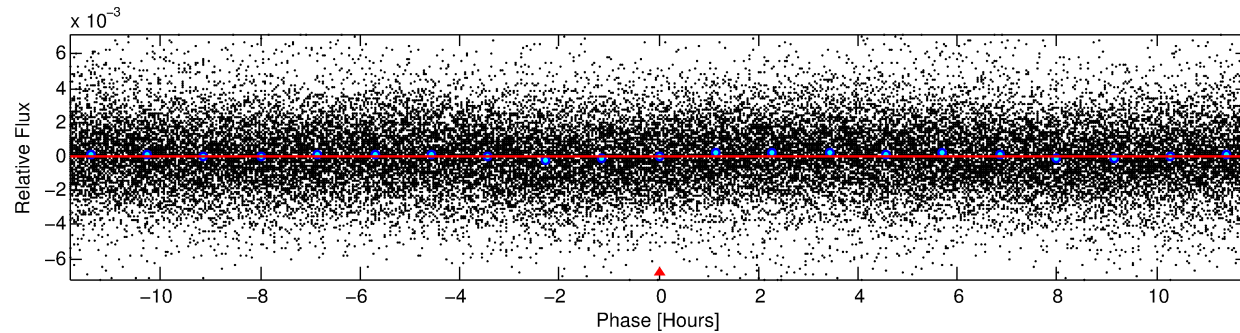
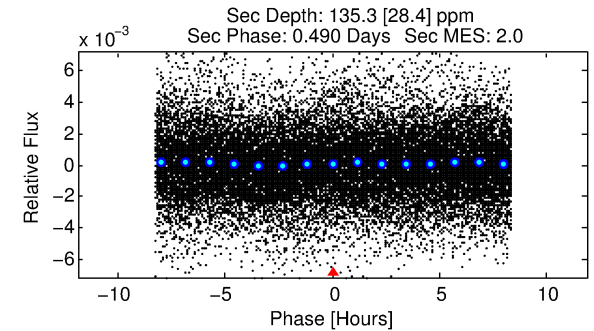
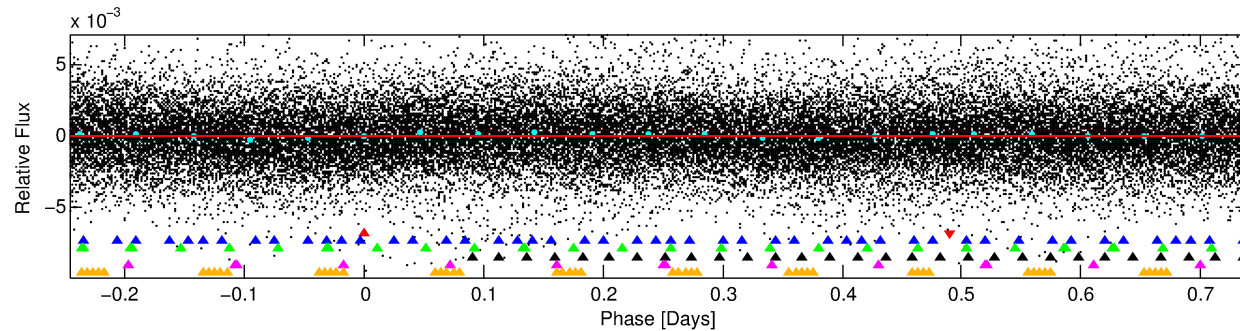
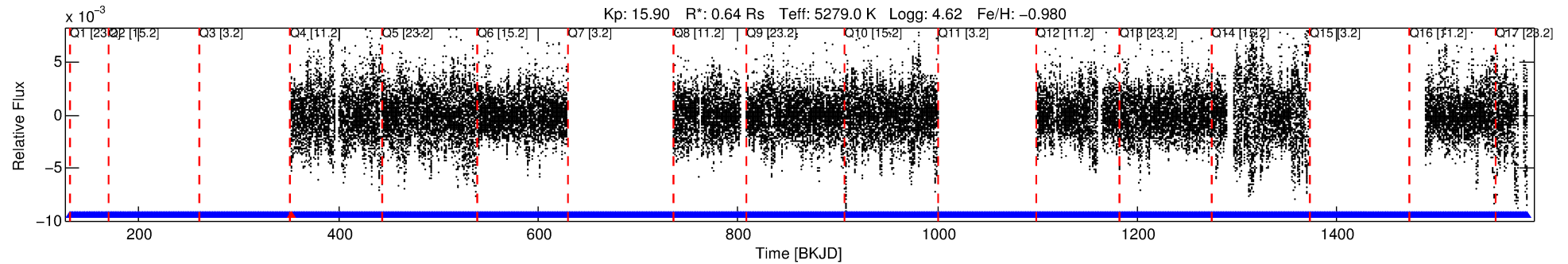
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010614890-01

No Significant Match Found

DV One-Page Summary

KIC: 10614890 Candidate: 1 of 6 Period: 0.986 d



DV Fit Results:

Period = 0.98613 [0.01096] d
Epoch = 131.6167 [2.2830] BKJD
Rp/R* = 0.0005 [0.0805]
a/R* = 1.46 [516.55]
b = 0.05 [13631.79]
Seff = 1034.85 [188.25]
Teq = 1446 [66] K
Rp = 0.03 [5.64] Re
a = 0.0166 [0.0013] AU
Ag = 17037.04 [5524691.01] [0.00σ]
Teffp = 25547 [2071064] K [0.01σ]

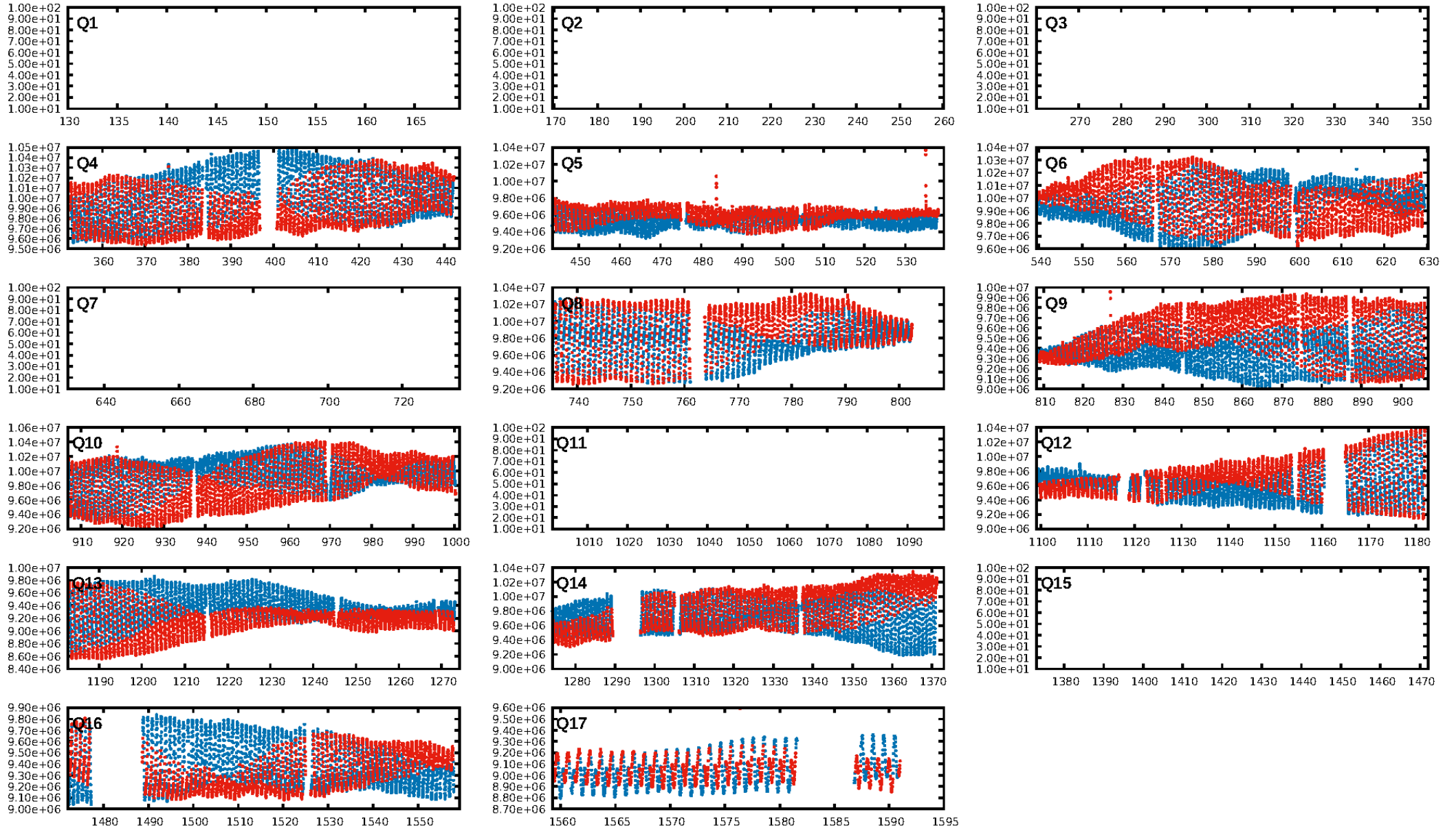
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [26.32σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.00e-11
RollingBand-fgt: 1.00 [855/856]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.098 arcsec [0.37σ]
KicOffset-rm: 0.106 arcsec [1.03σ]
OotOffset-st: 3/0/4/4 [11]
KicOffset-st: 3/0/4/4 [11]
DiffImageQuality-fgm: 0.45 [5/11]
DiffImageOverlap-fno: 1.00 [11/11]

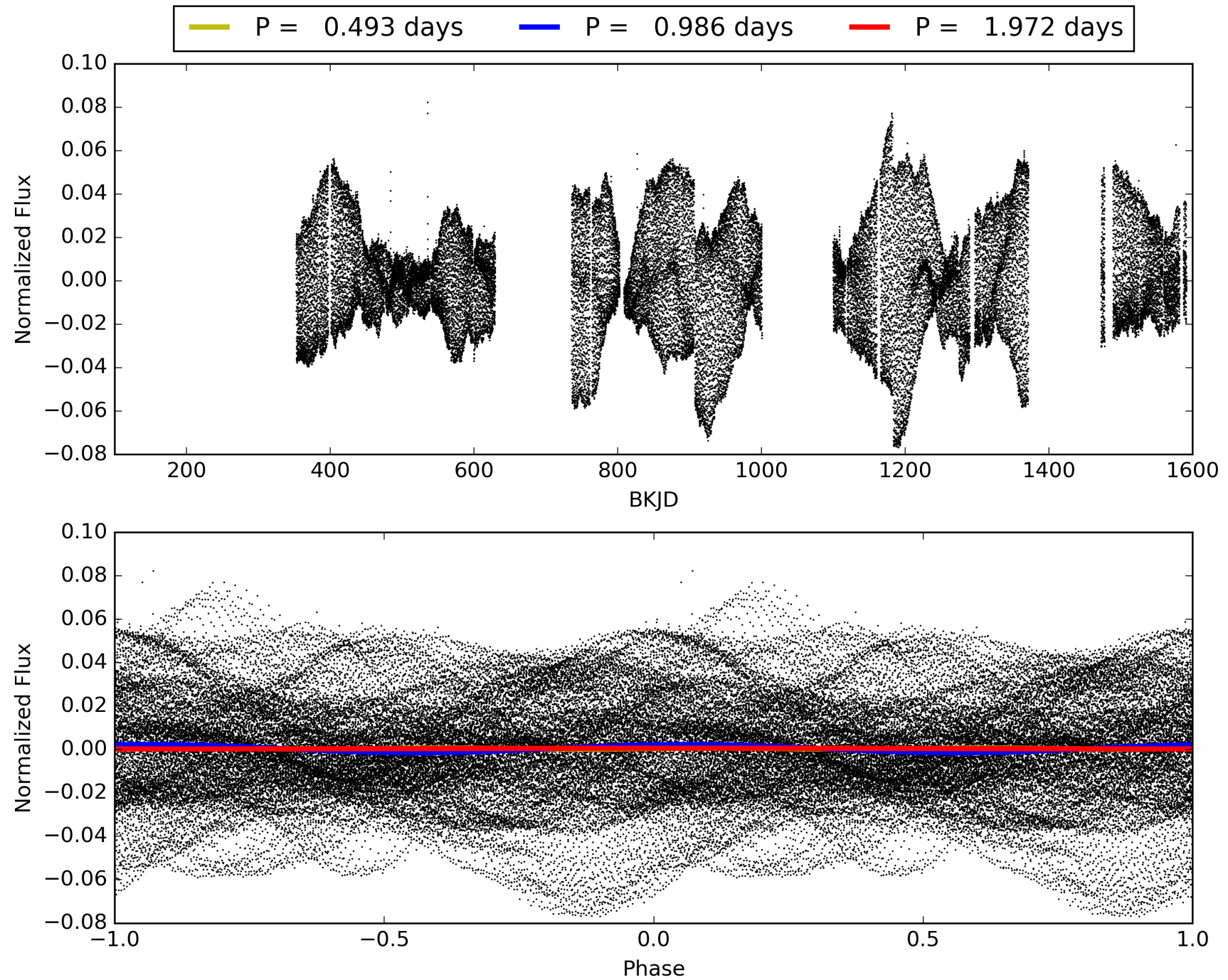
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:01:26 Z

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

TCE 010614890-01, PDC Light Curves

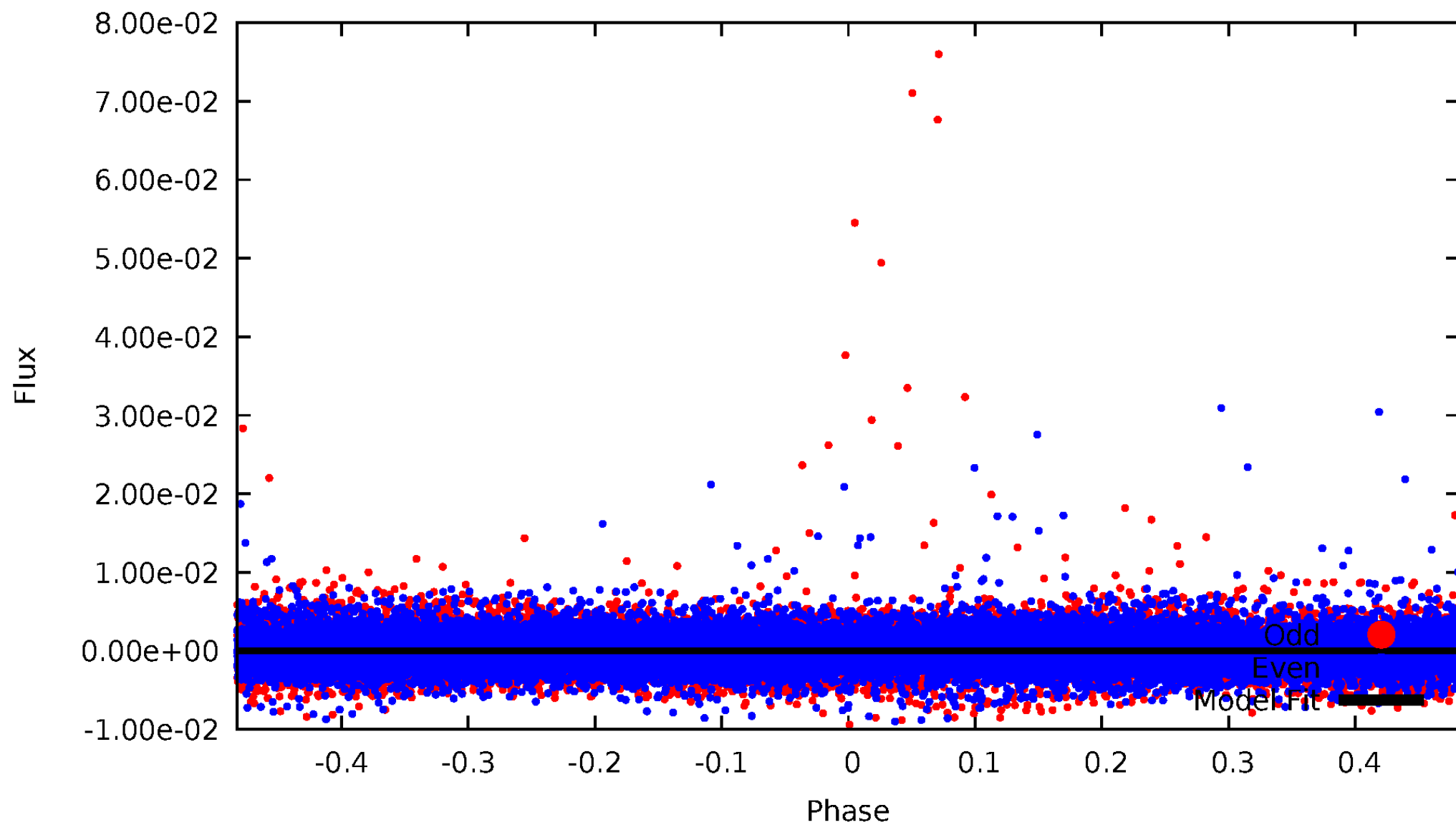


TCE 010614890-01



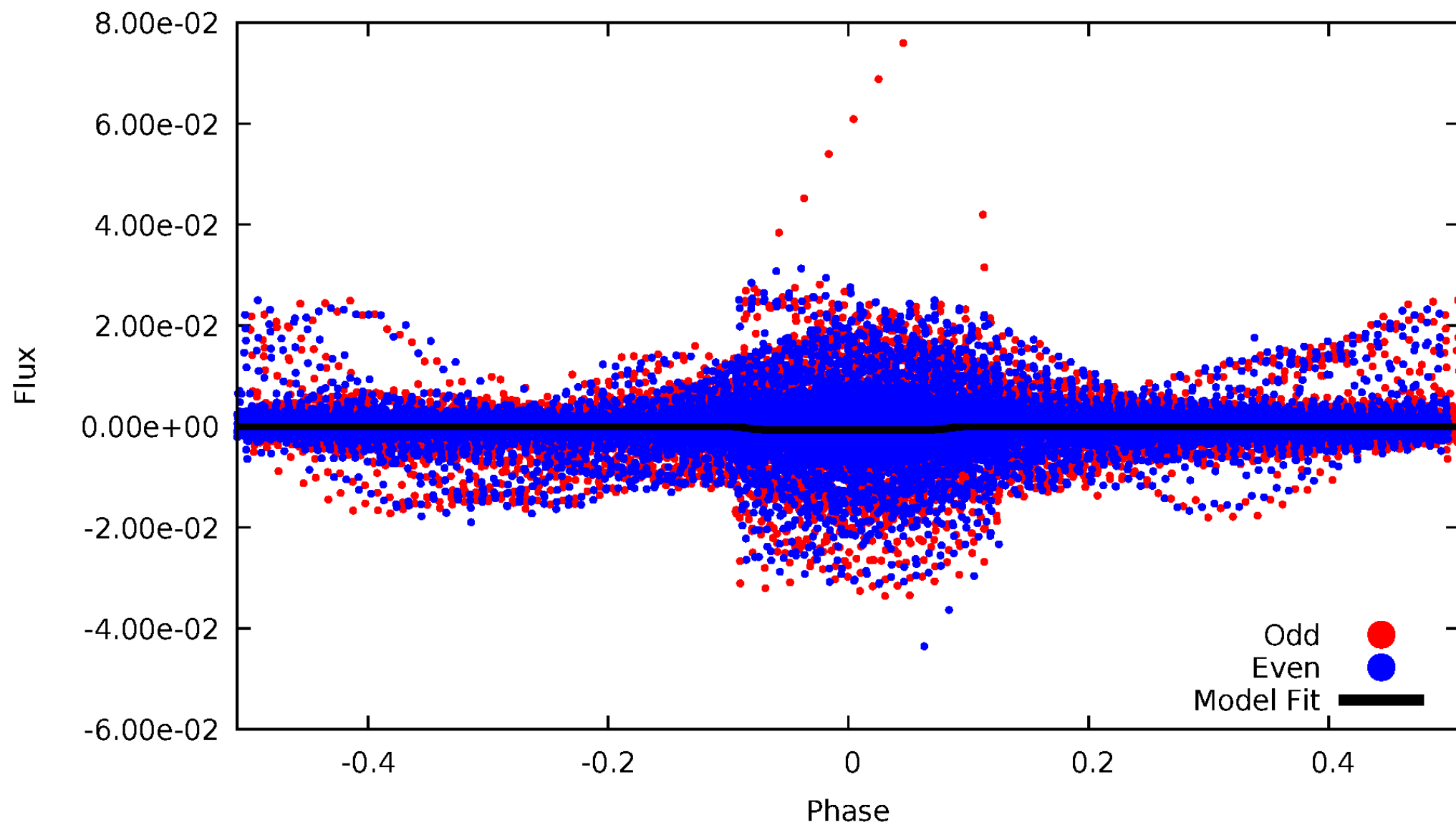
DV Odd/Even

TCE 010614890-01

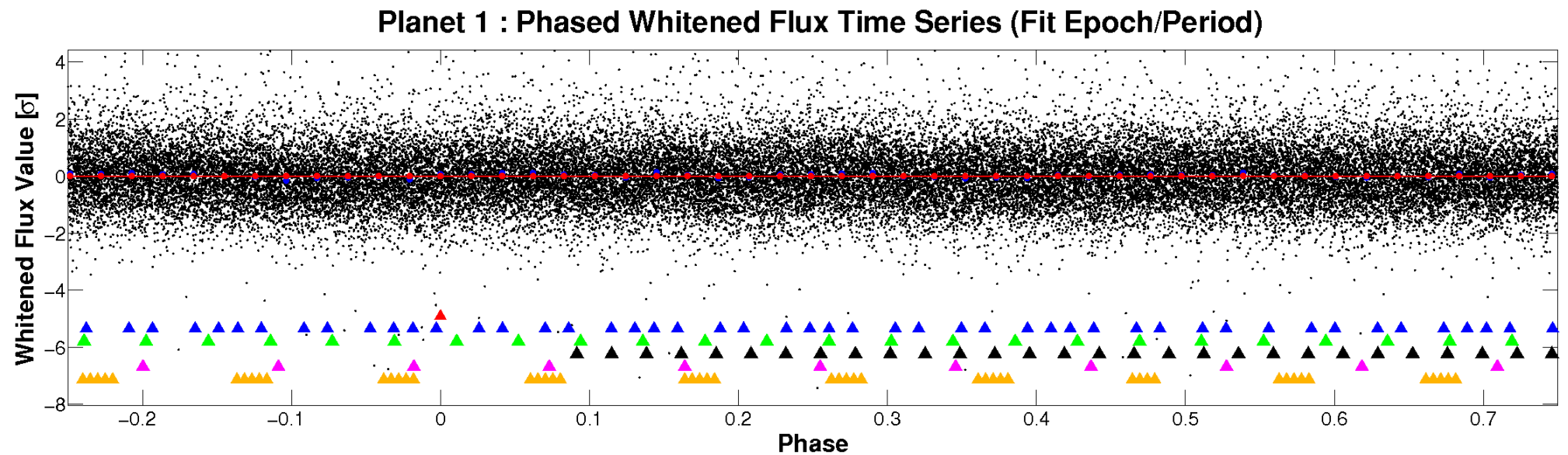
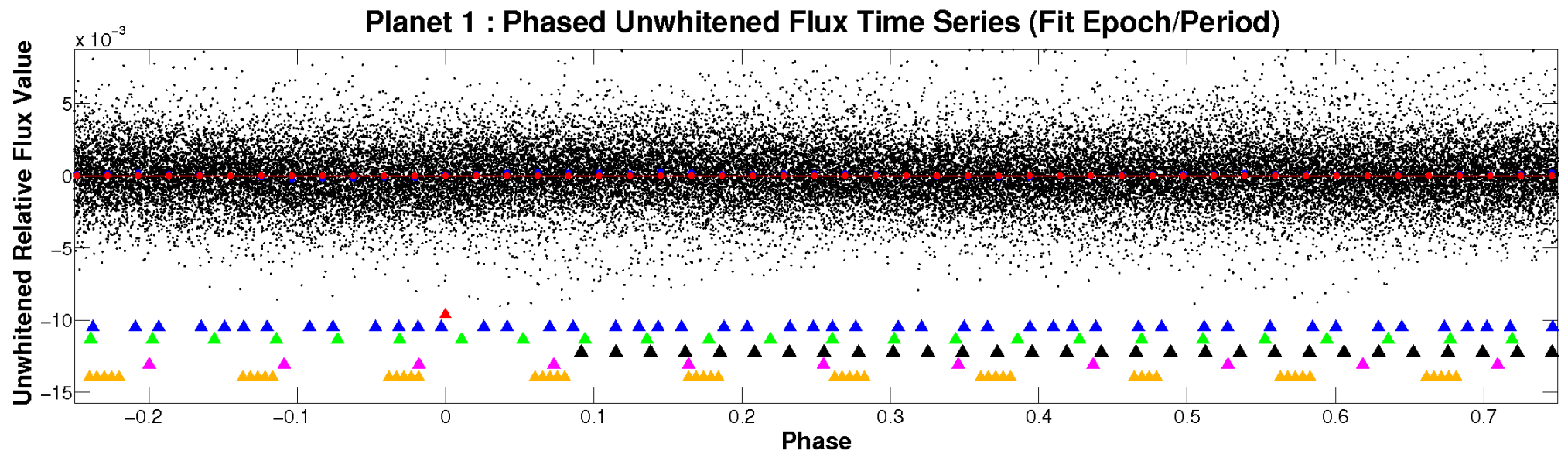


ALT Odd/Even

TCE 010614890-01

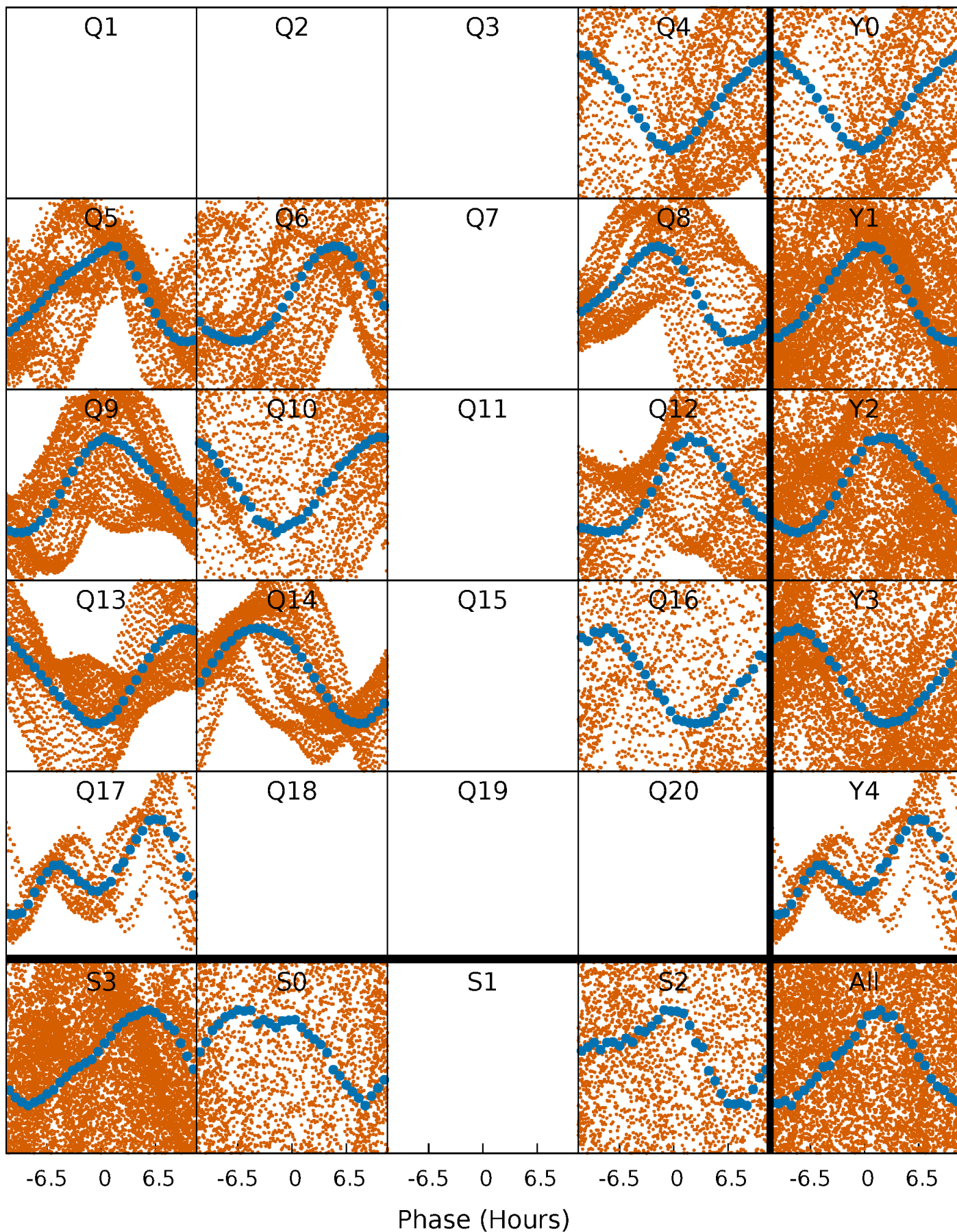


Non-Whitened Vs. Whitened Light Curve



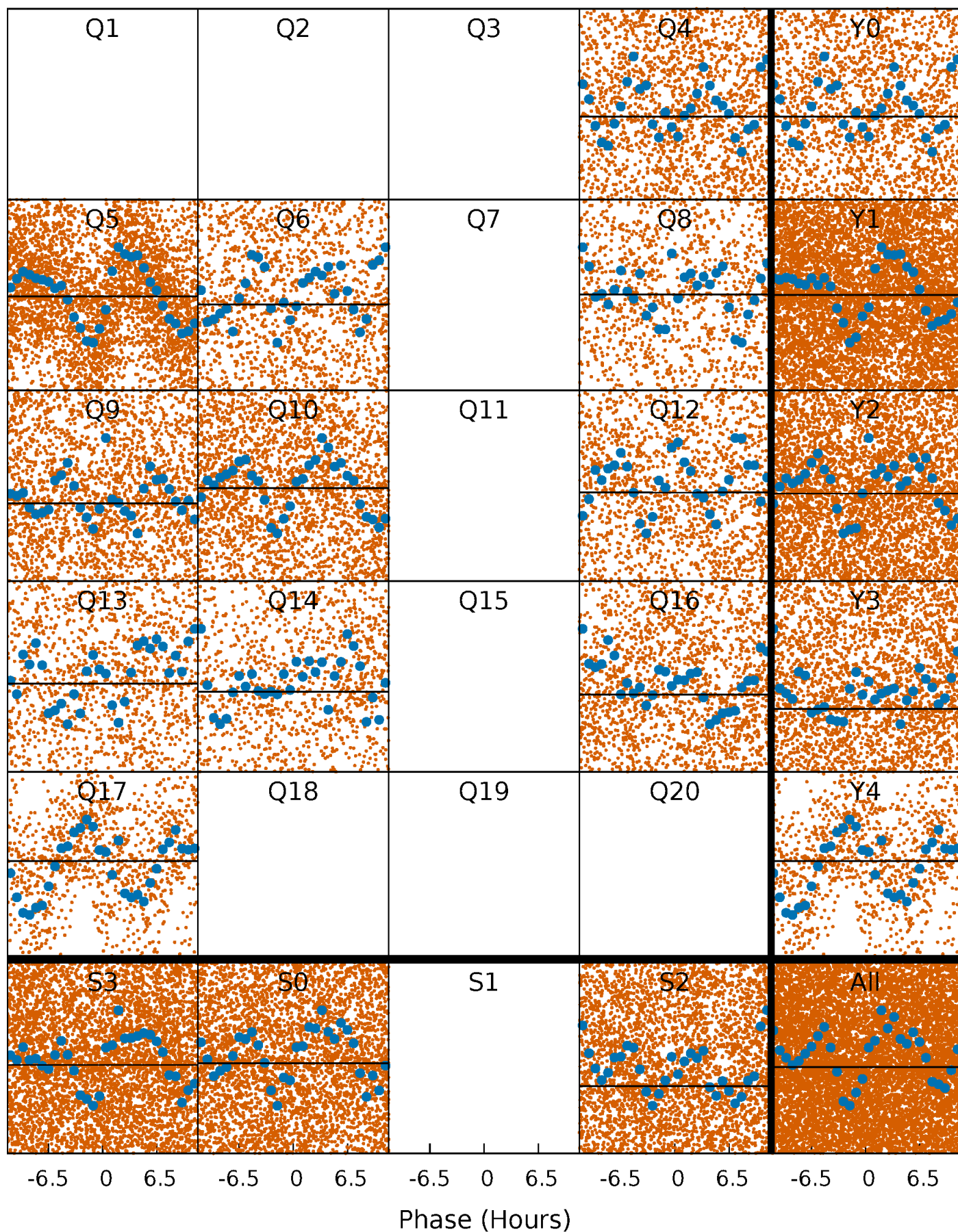
PDC Quarter-Phased Transit Curves

TCE 010614890-01 P= 0.986132 Days $T_0=131.616721$ (BKJD)



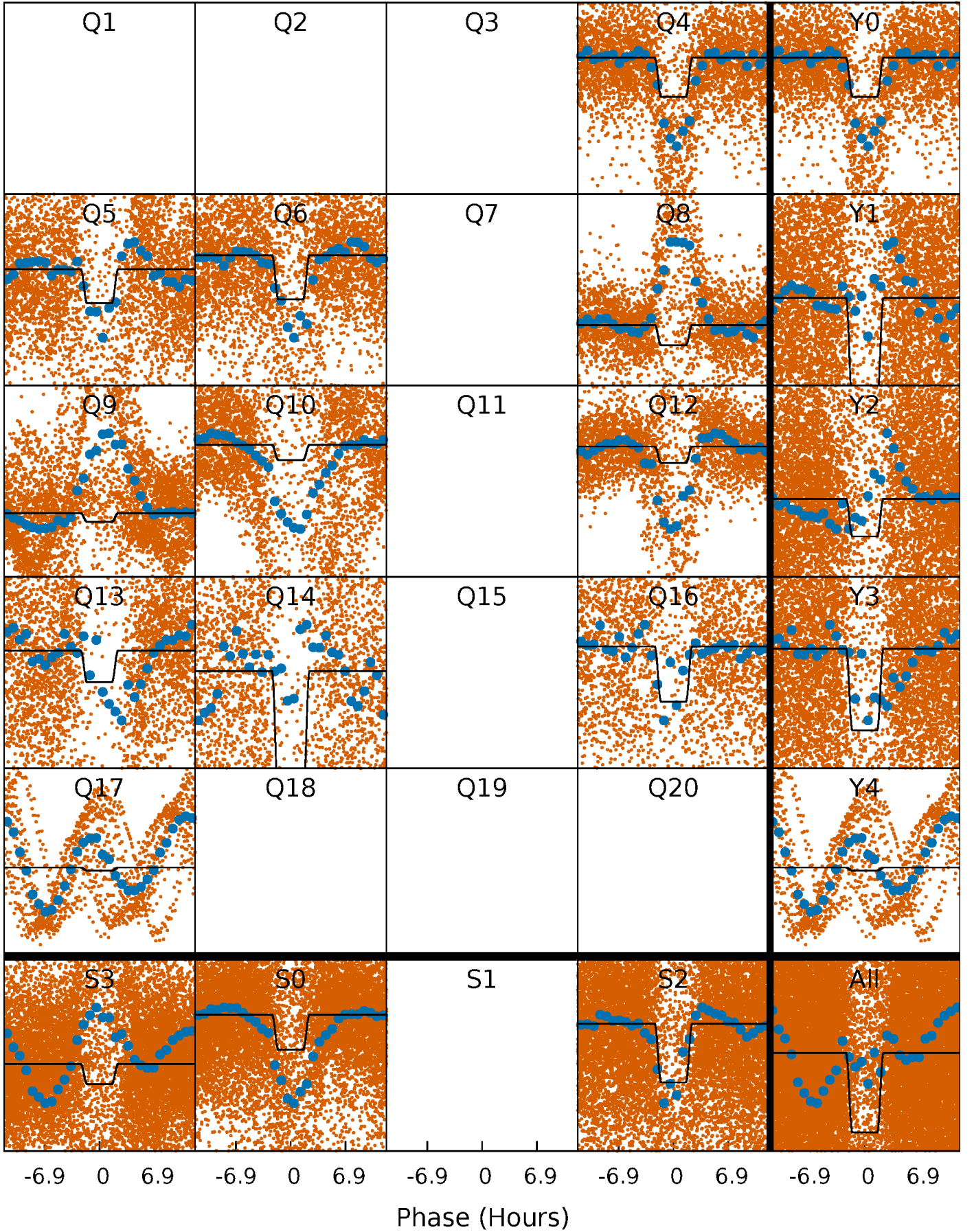
DV Quarter-Phased Transit Curves

TCE 010614890-01 P= 0.986132 Days $T_0=131.616721$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

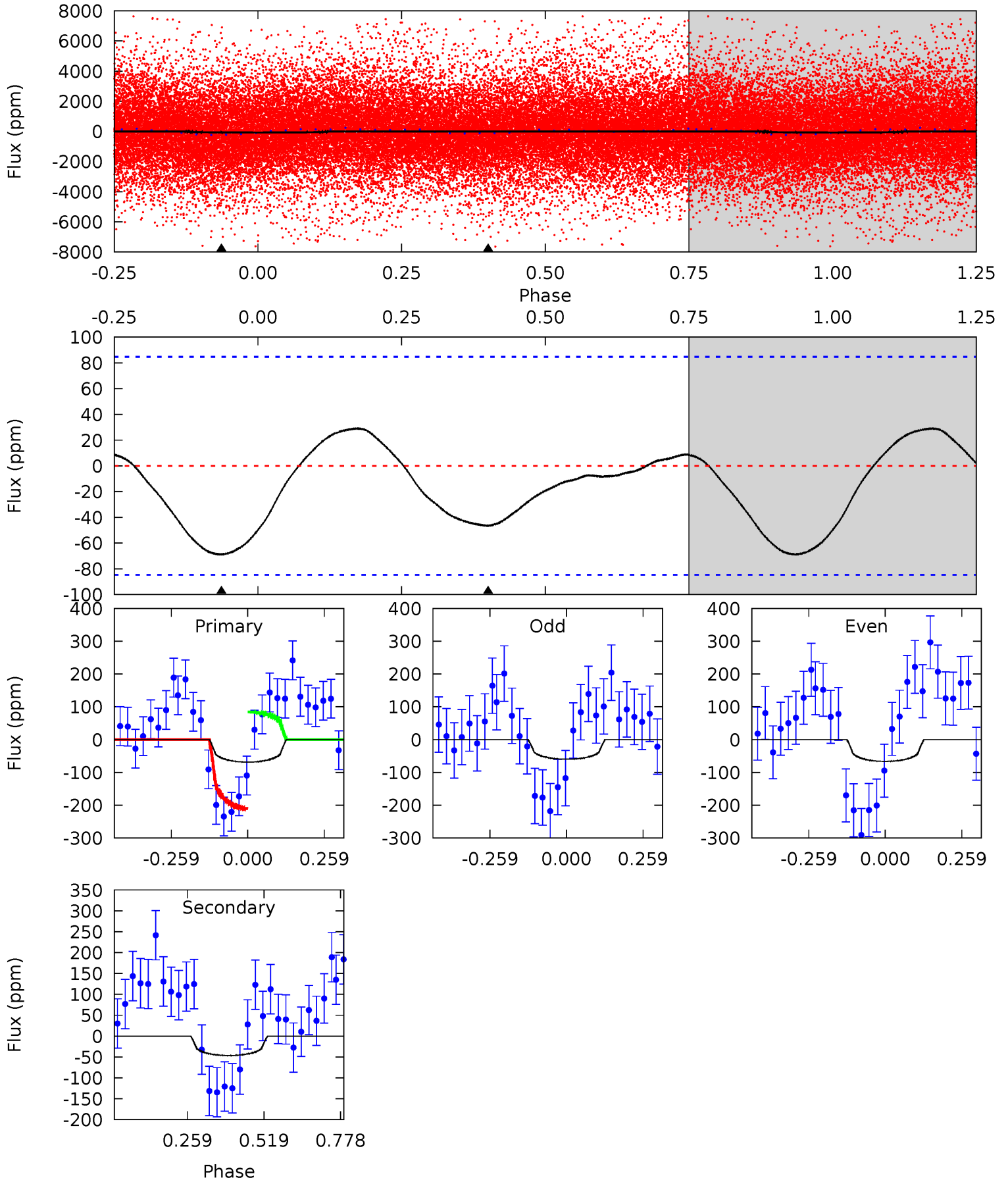
TCE 010614890-01 P= 0.986039 Days $T_0=131.576803$ (BKJD)



DV Model-Shift Uniqueness Test

010614890-01, P = 0.986132 Days, E = 131.616721 Days

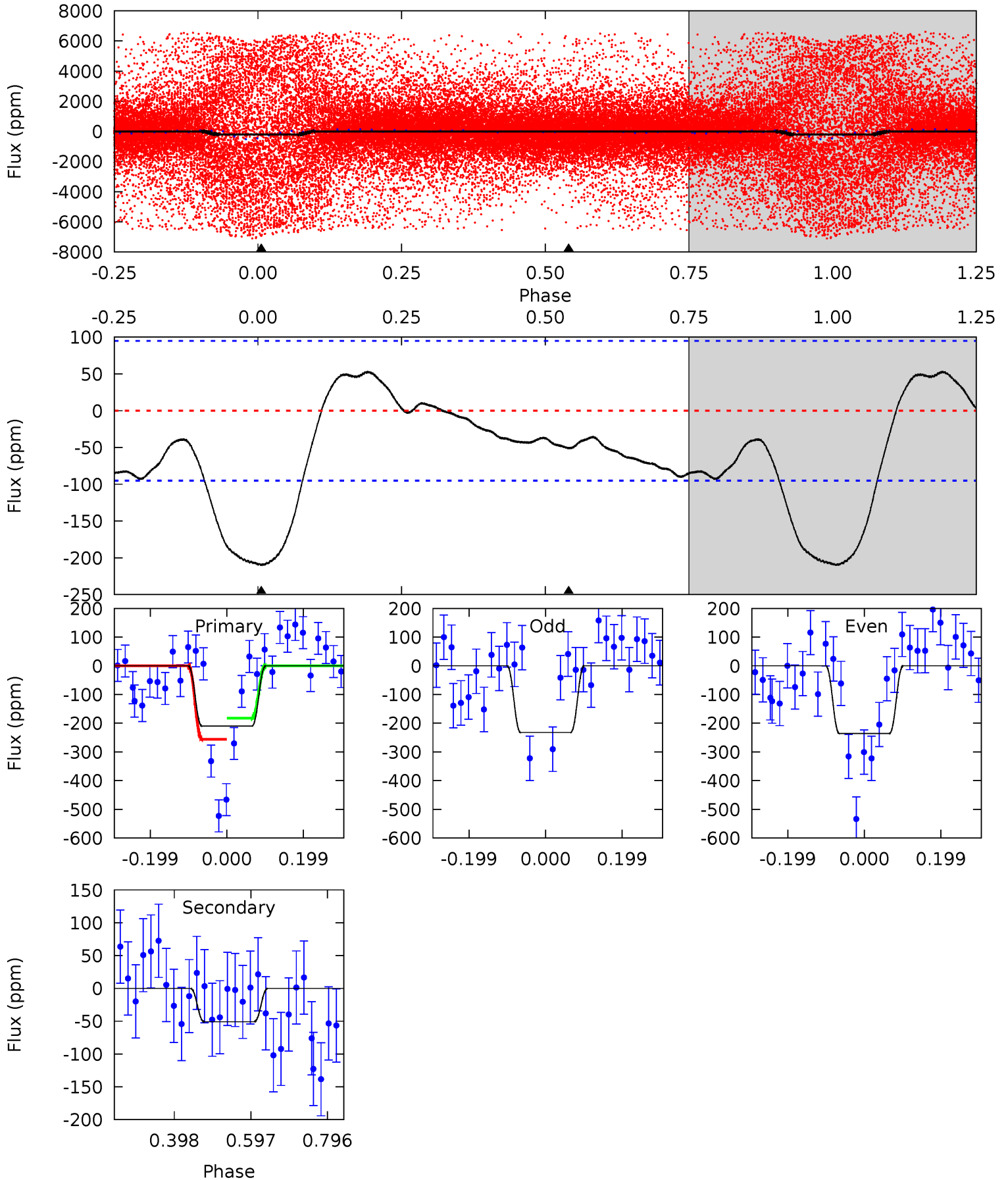
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.54	2.40	0	0	4.36	1.13	0.58	3.54	3.54	2.40	2.40	0.17	-0.93	0.30	3.35



Alt Model-Shift Uniqueness Test

010614890-01, P = 0.986039 Days, E = 131.576803 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.76	2.37	0	0	4.42	1.28	2.19	9.76	9.76	2.37	2.37	0.09	0.55	0.20	1.71



Stellar Parameters For KIC 010614890

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5279^{+183}_{-183}	$4.624^{+0.066}_{-0.048}$	$-0.980^{+0.300}_{-0.300}$	$0.642^{+0.056}_{-0.051}$	$0.632^{+0.065}_{-0.028}$	$3.371^{+0.871}_{-0.579}$
	+3%/-3%	+1%/-1%	+31%/-31%	+9%/-8%	+10%/-4%	+26%/-17%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010614890-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-47 ± 19	$3.77^{+4.22}_{-2.58}$	2010^{+82}_{-80}	2279^{+1309}_{-4653}	$0.441^{+4.149}_{-0.342}$
Alt.	-51 ± 22	$4.50^{+4.72}_{-3.06}$	2015^{+84}_{-78}	2024^{+1423}_{-4435}	$0.350^{+3.111}_{-0.280}$

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

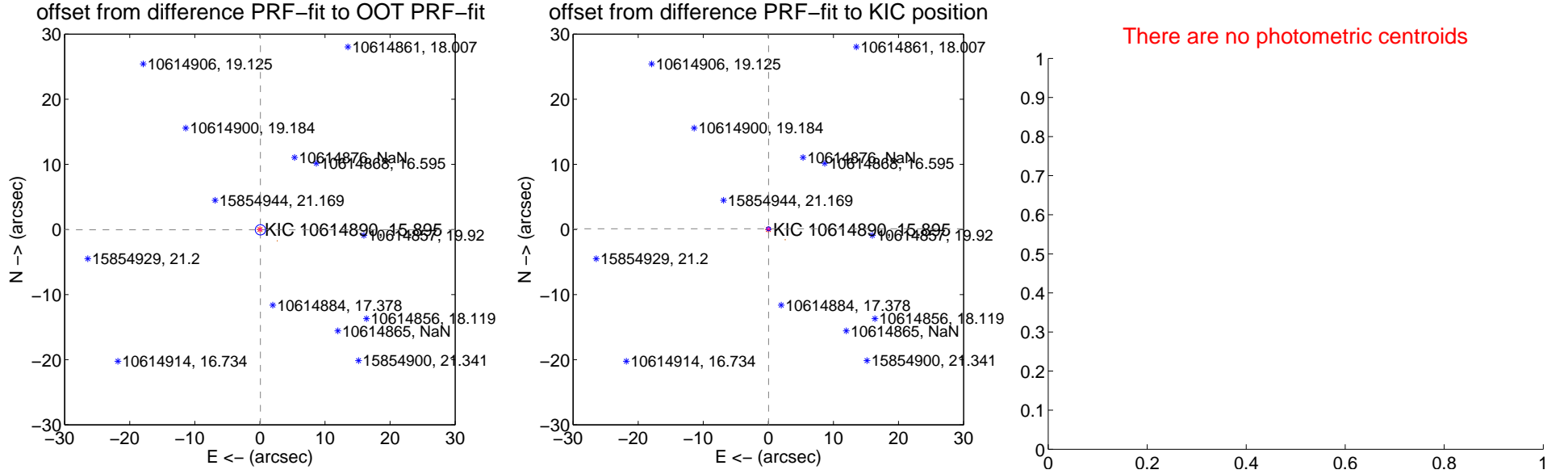
DV Centroid Data

Supplemental centroid analysis for 010614890-01. Kepler magnitude: 15.89. Transit SNR 0.01

There are 5 quarters with good PRF difference image offsets

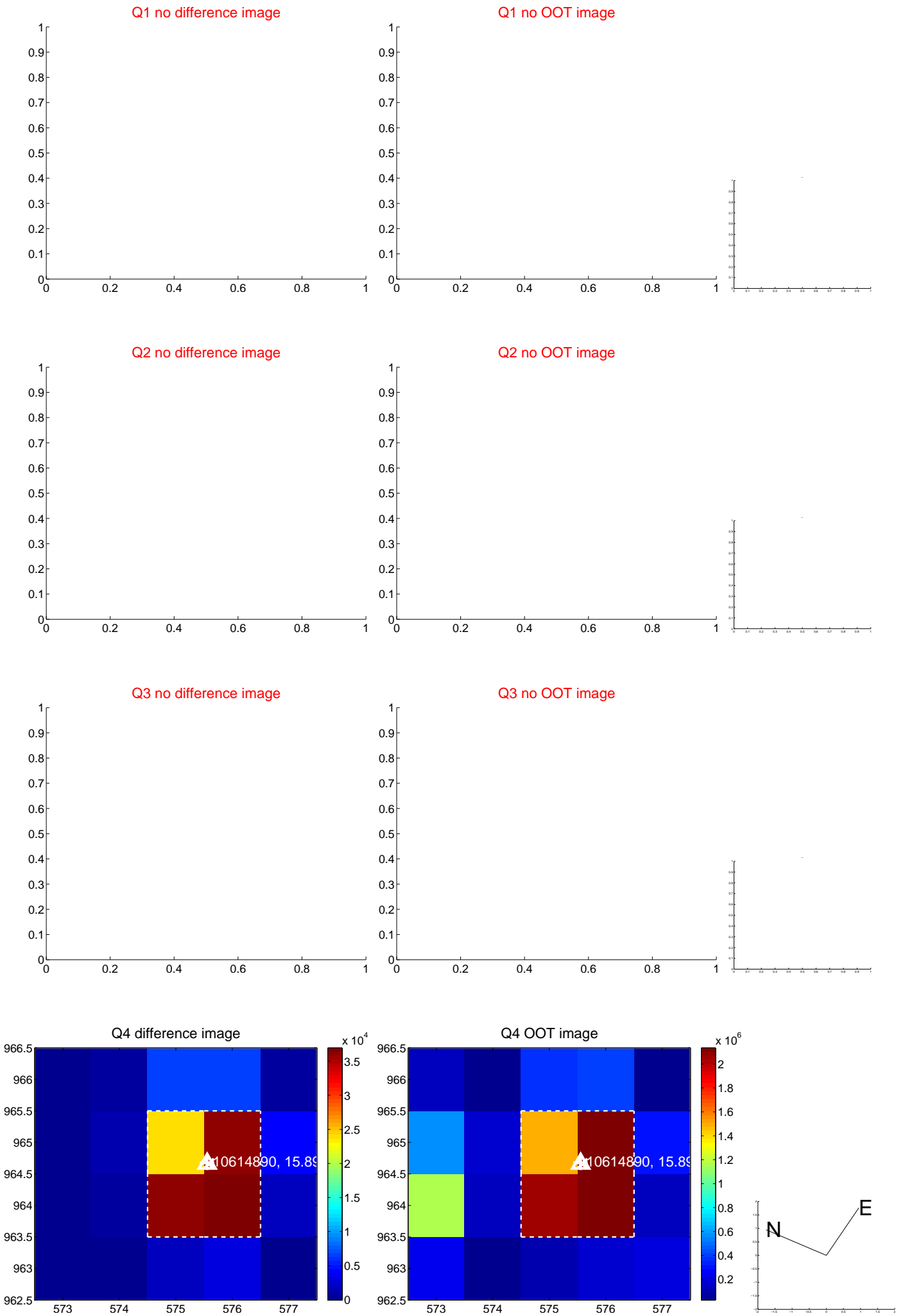
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.098 ± 0.263	0.37	-0.080 ± 0.223	-0.055 ± 0.155
PRF-fit source offset from KIC position	0.106 ± 0.102	1.03	-0.029 ± 0.229	0.102 ± 0.157
photometric centroid source offset	—	—	—	—

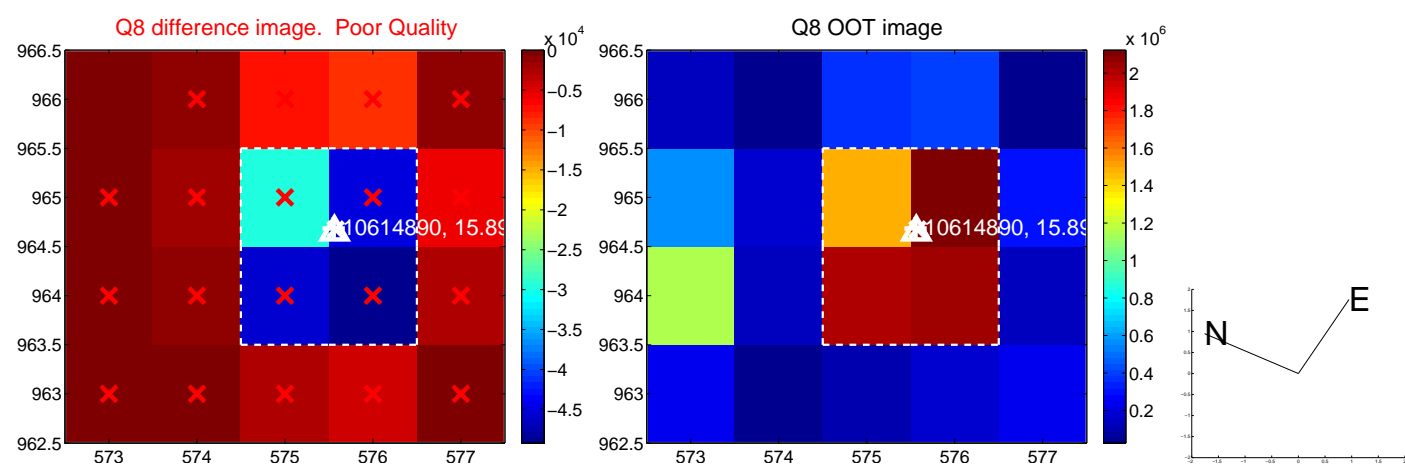
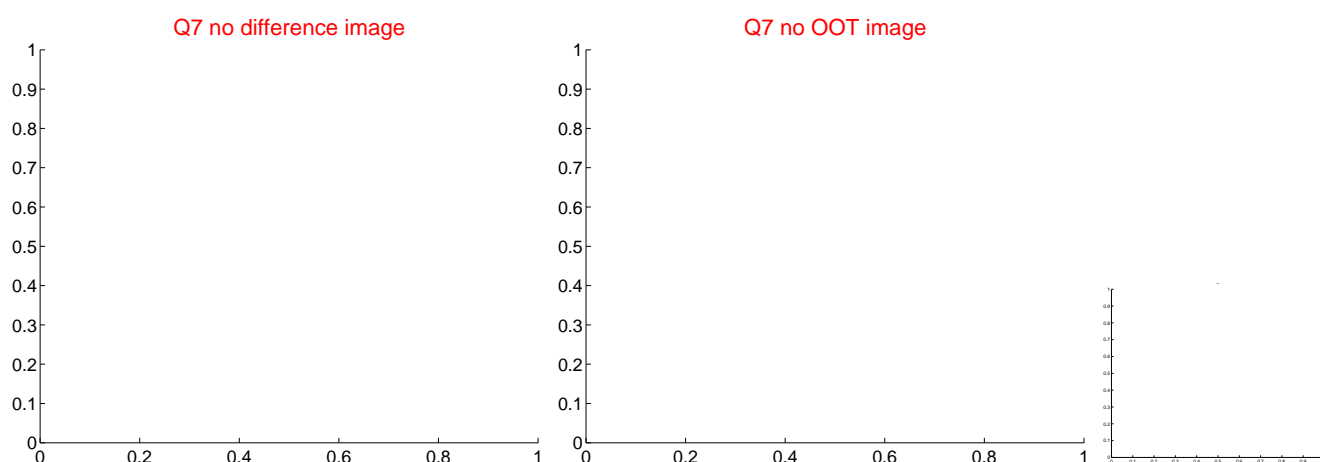
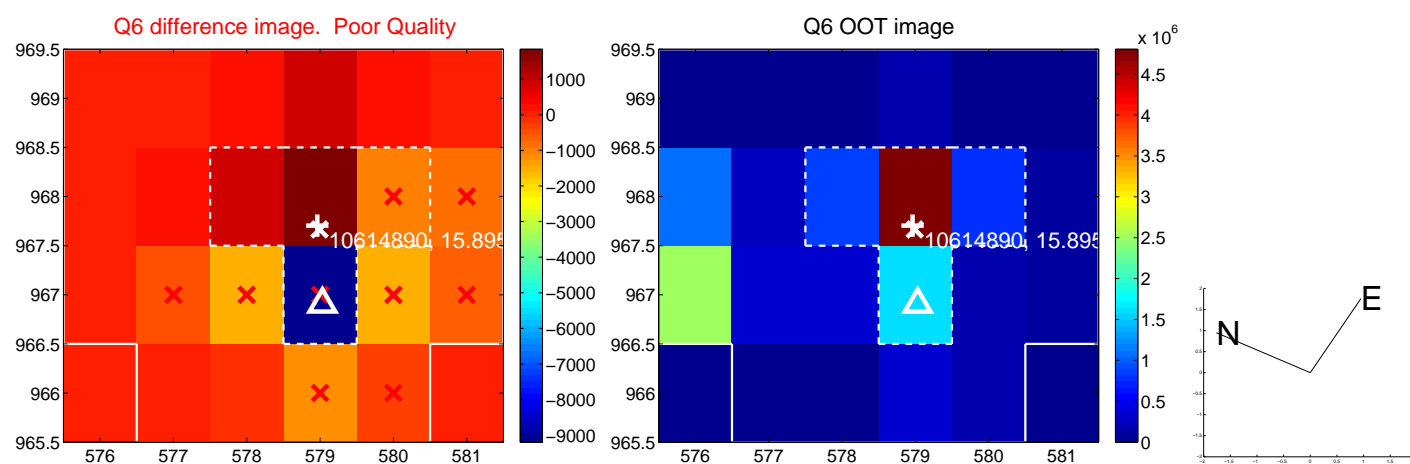
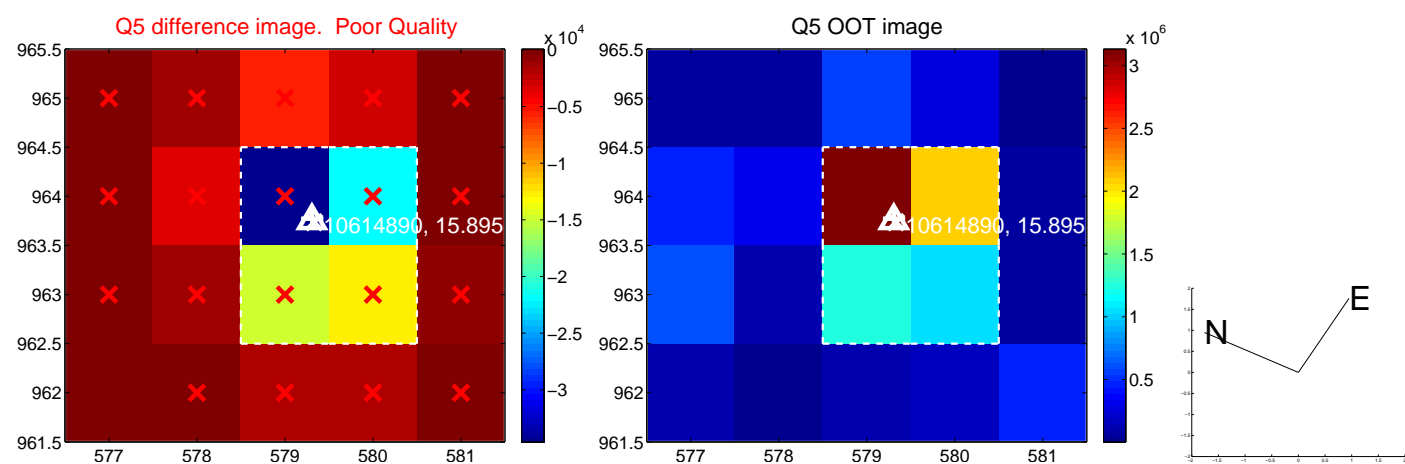


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

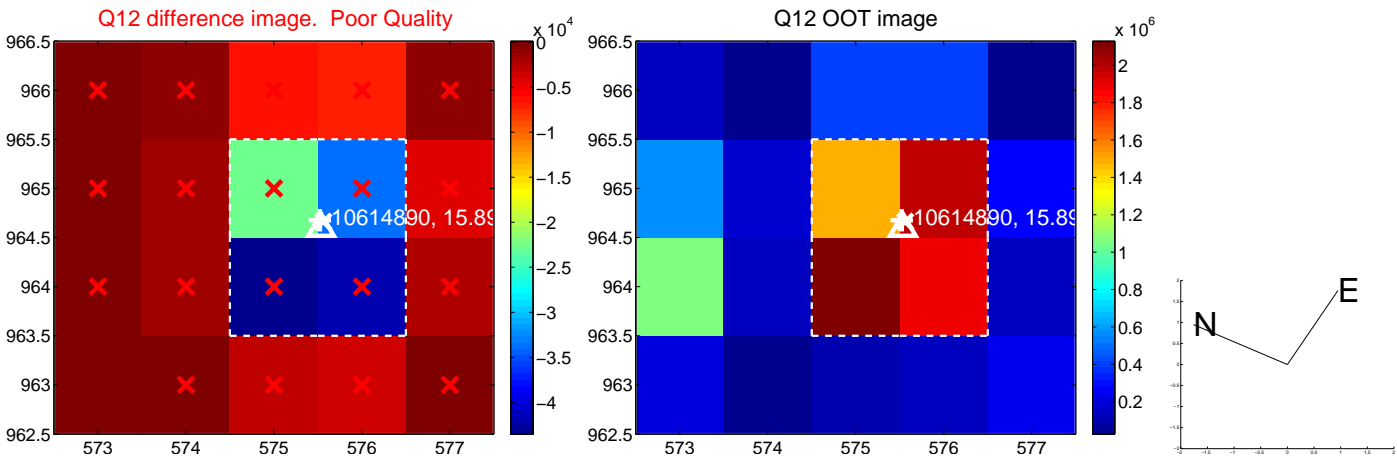
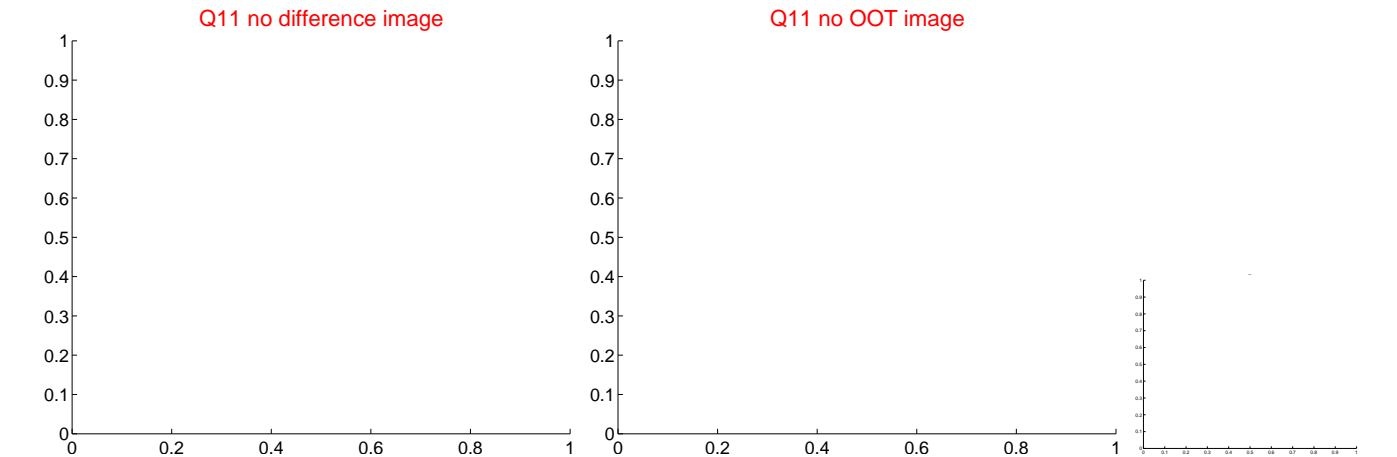
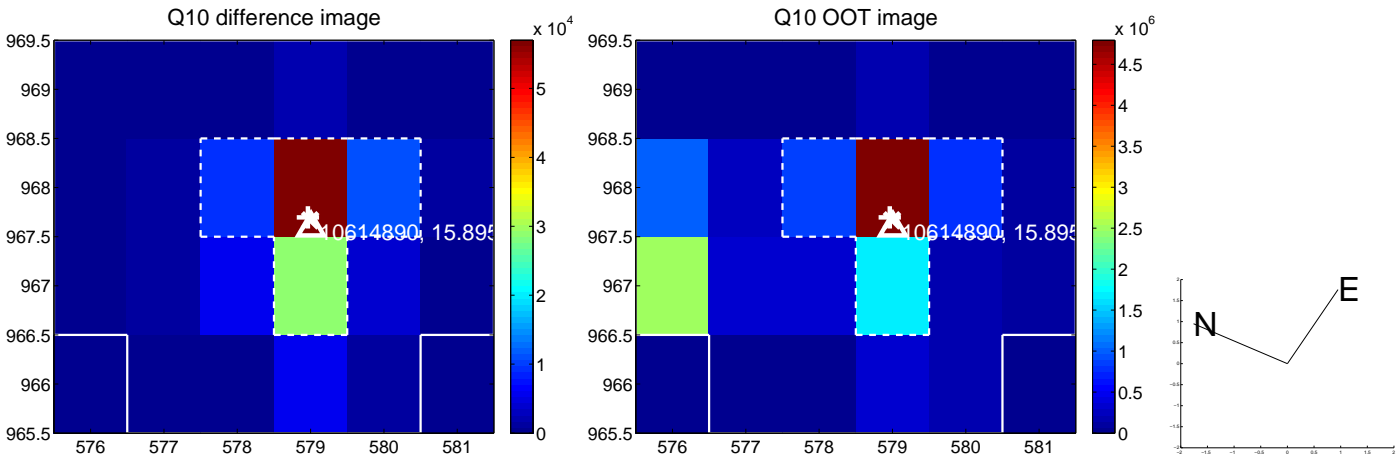
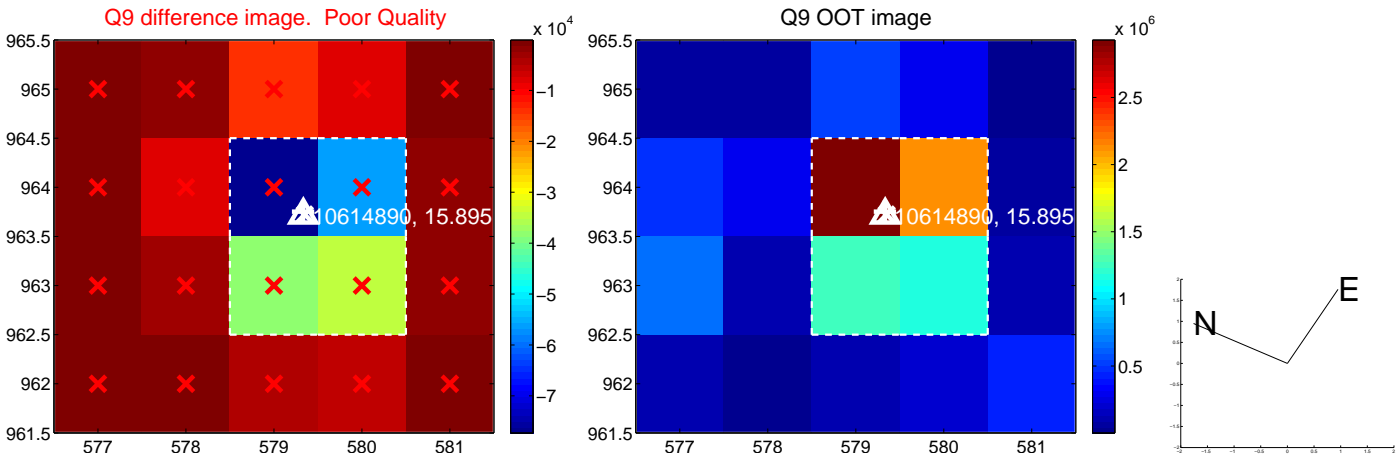
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



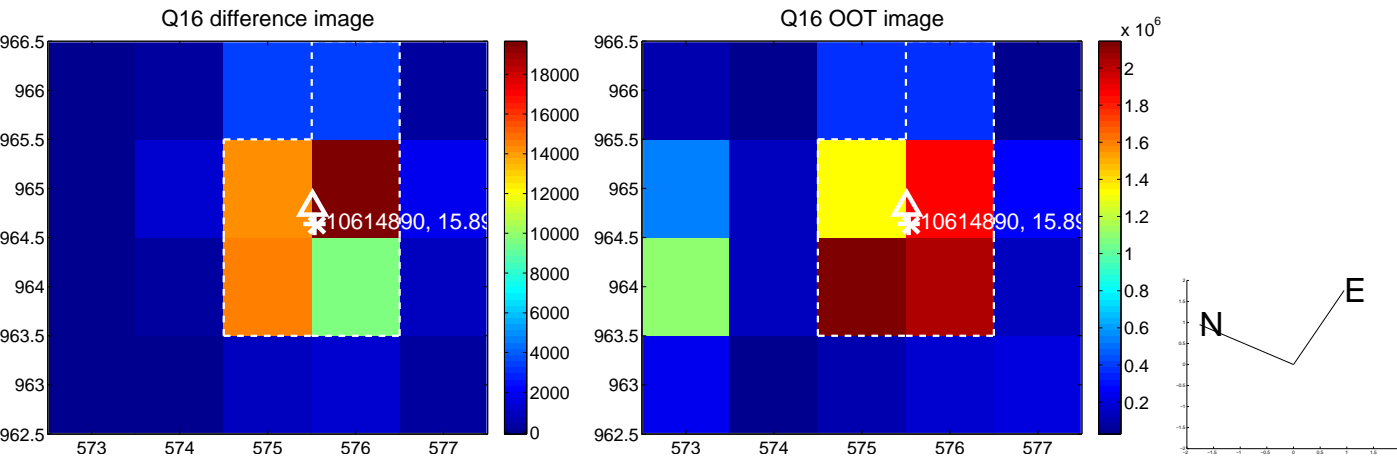
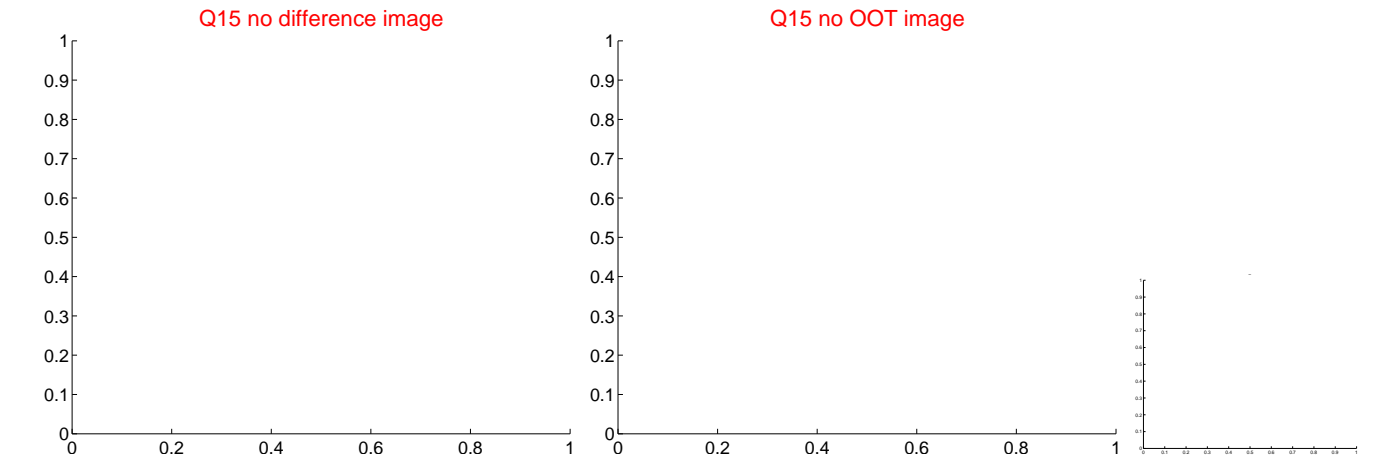
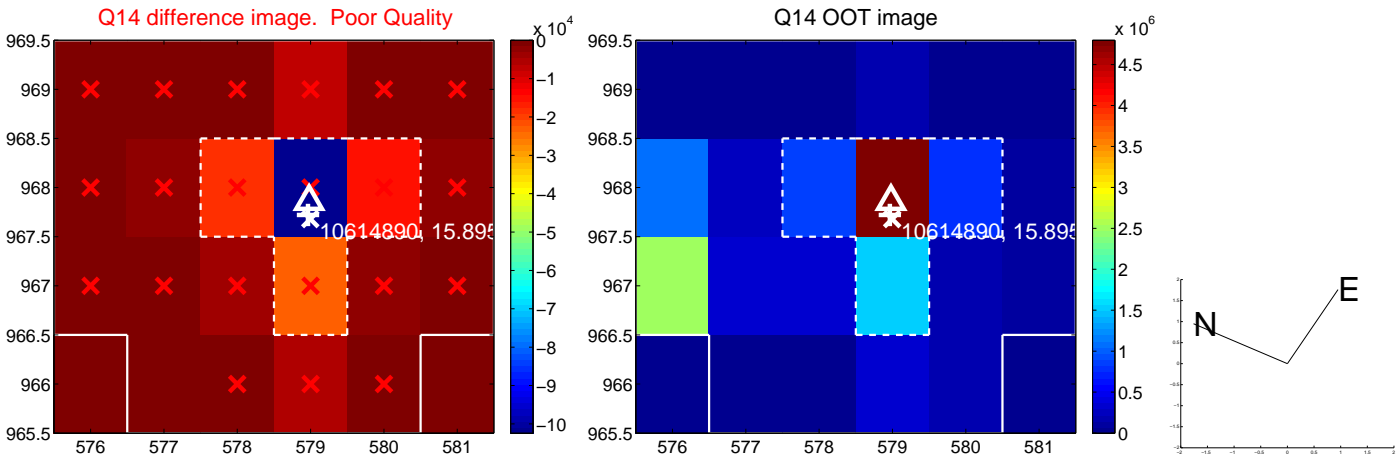
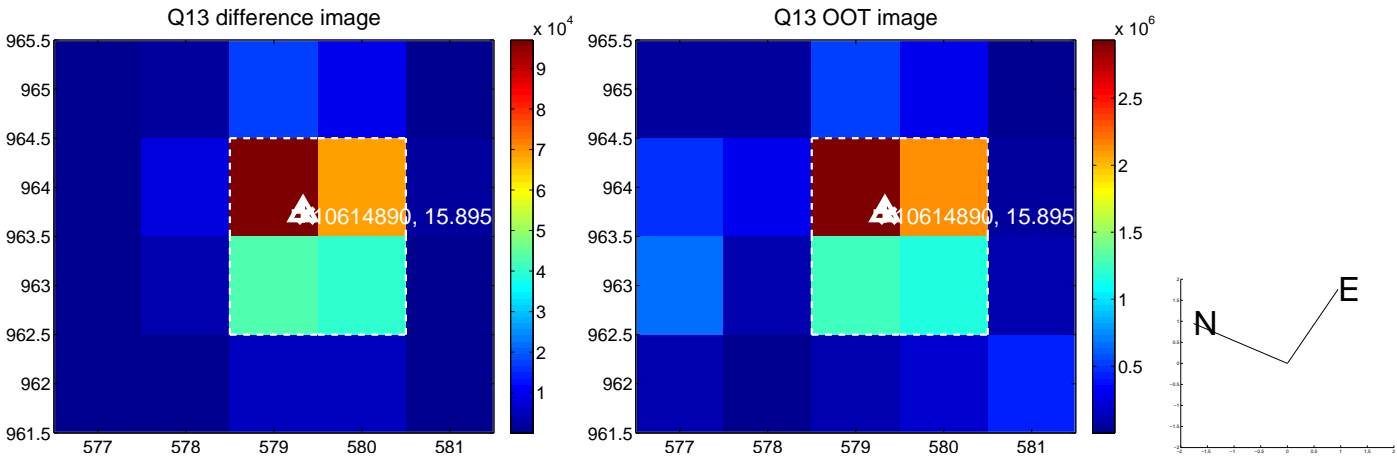
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



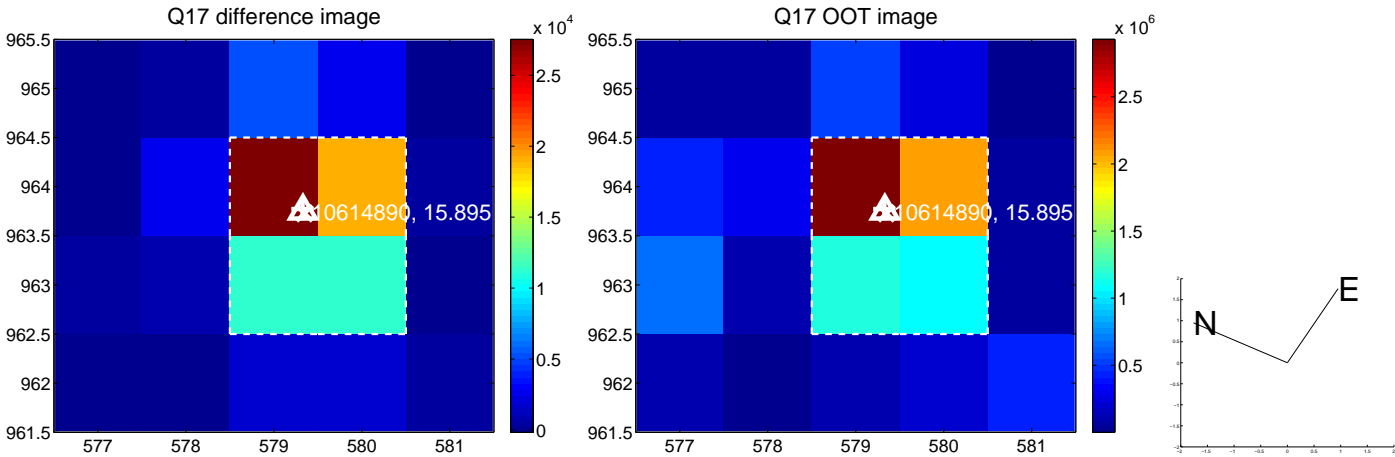
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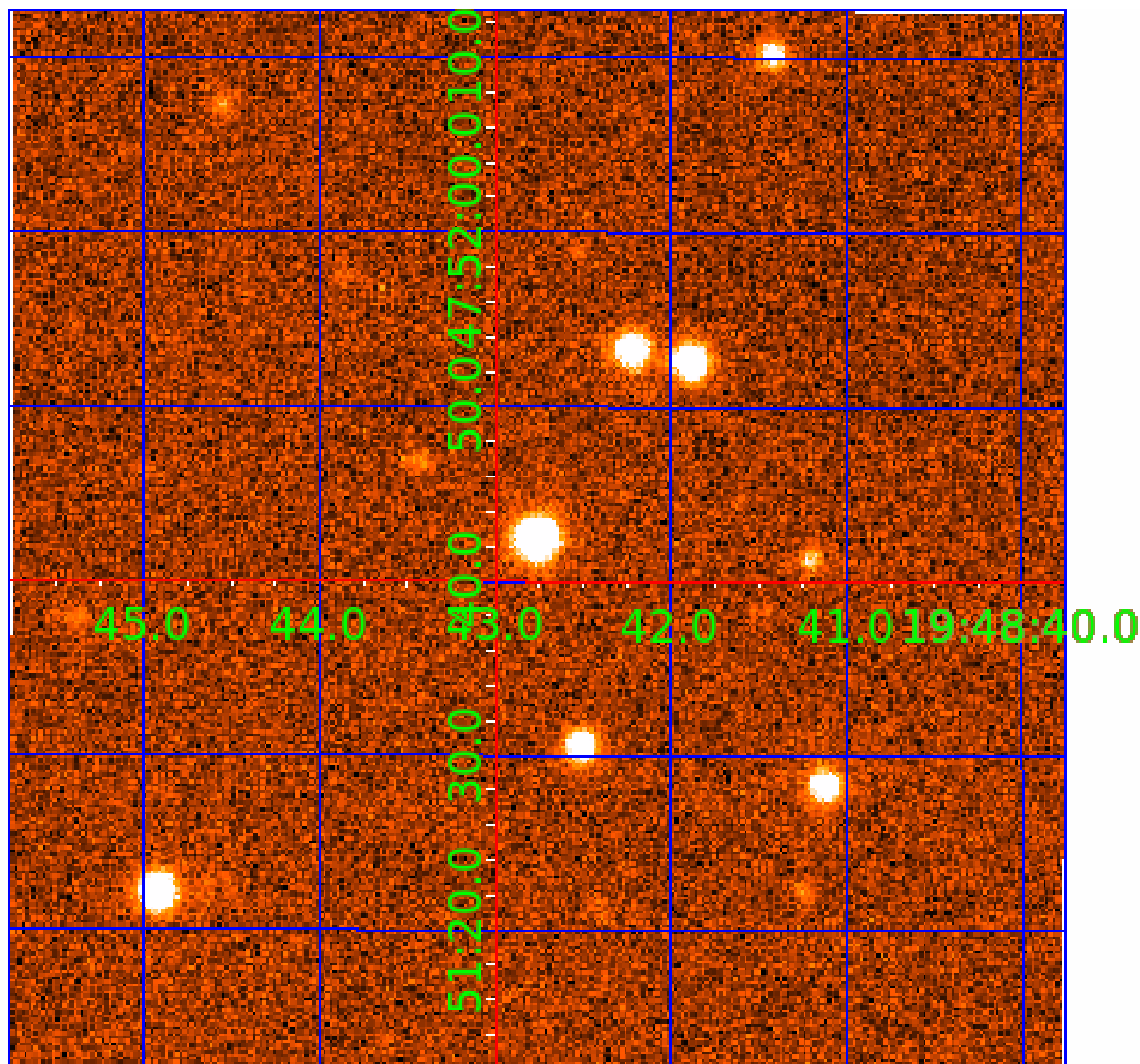
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 010614890

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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010614890-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
010614890-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
010614890-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010614890-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010614890-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS—HALO_GHOST

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

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

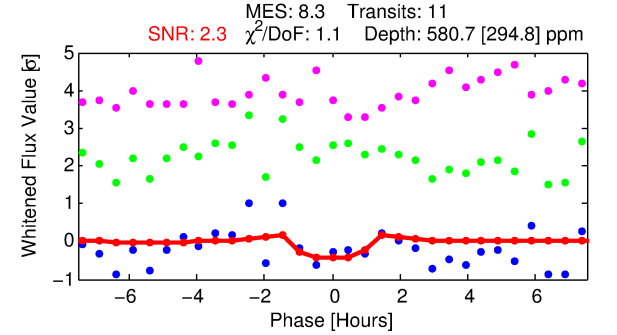
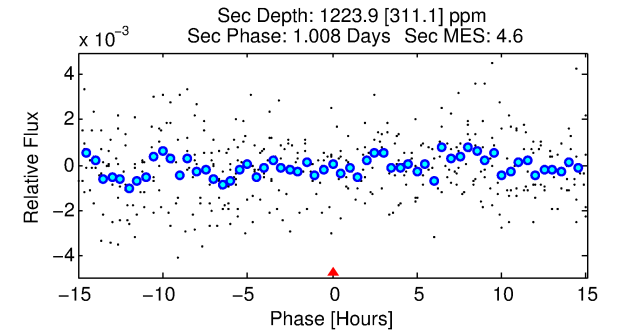
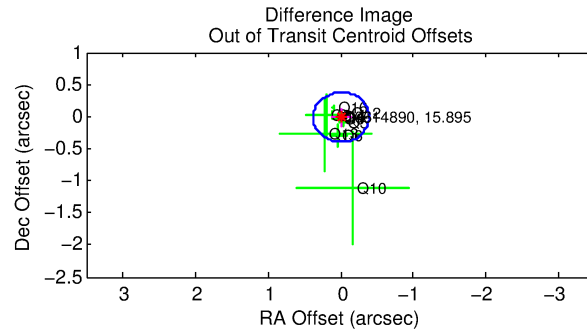
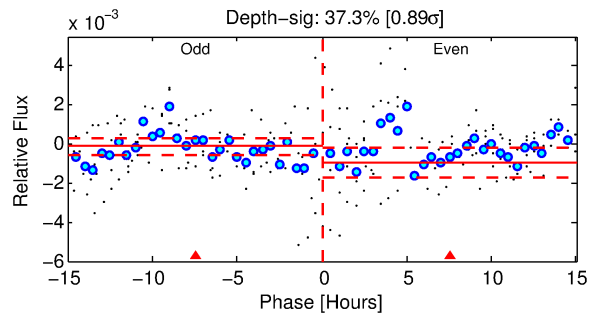
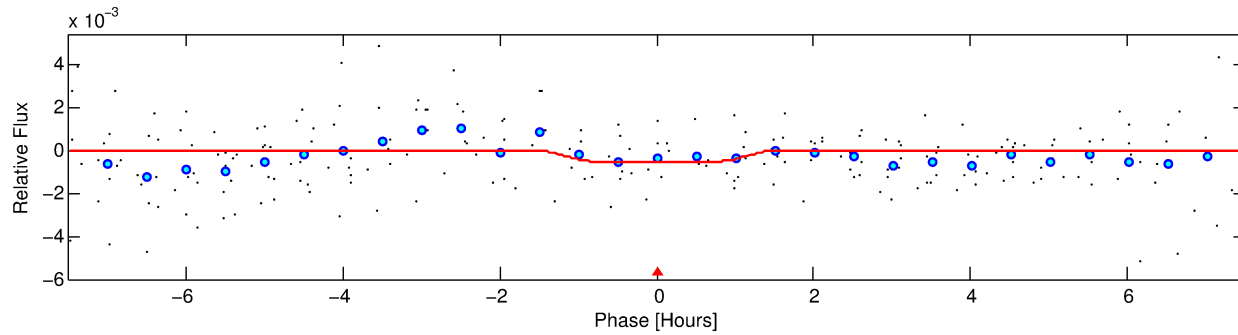
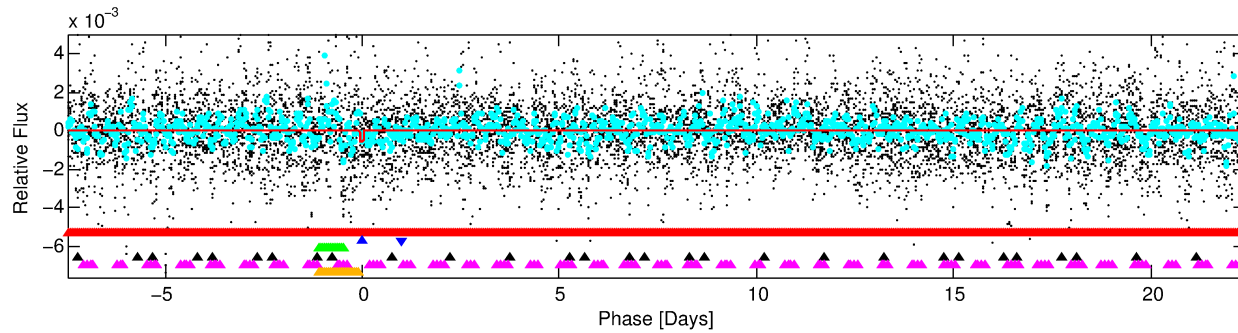
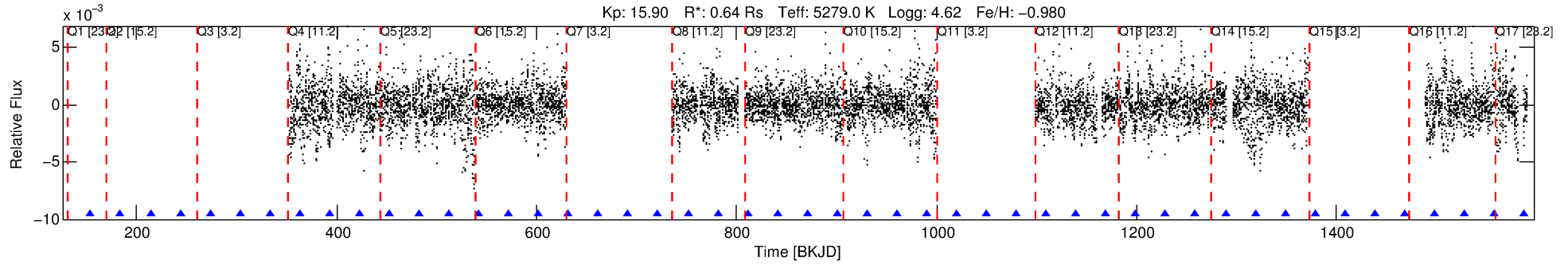
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010614890-02

No Significant Match Found

DV One-Page Summary

KIC: 10614890 Candidate: 2 of 6 Period: 29.859 d



DV Fit Results:

Period = 29.85946 [0.00100] d
Epoch = 154.1509 [0.0295] BKJD
Rp/R* = 0.0228 [0.1179]
a/R* = 78.41 [1794.65]
b = 0.55 [28.96]
Seff = 10.97 [1.99]
Teq = 464 [21] K
Rp = 1.60 [8.26] Re
a = 0.1617 [0.0125] AU
Ag = 6903.38 [71452.05] [0.10 σ]
Teffp = 6539 [16922] K [0.36 σ]

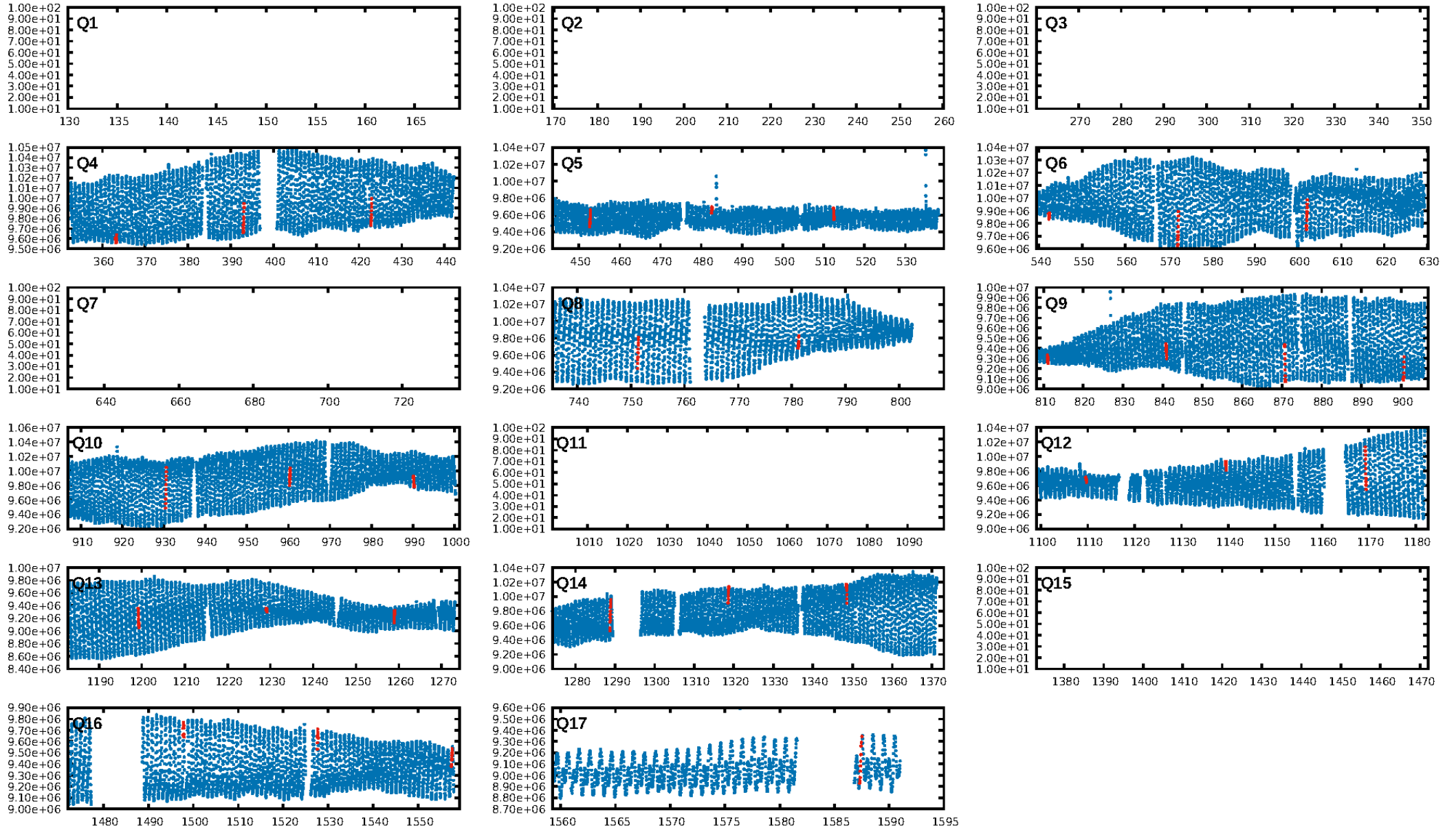
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [66.55 σ]
LongPeriod-sig: 8.7% [0.11 σ]
ModelChiSquare2-sig: 41.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.50e-09
RollingBand-fgt: 1.00 [11/11]
GhostDiagnostic-chr: 0.0006225
Centroid-sig: 1.9%
Centroid-so: 2.956 arcsec [1.57 σ]
OotOffset-rm: 0.013 arcsec [0.10 σ]
OotOffset-st: 3/0/4/3 [10]
KicOffset-rm: 0.164 arcsec [1.27 σ]
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DiffImageOverlap-fno: 0.30 [3/10]

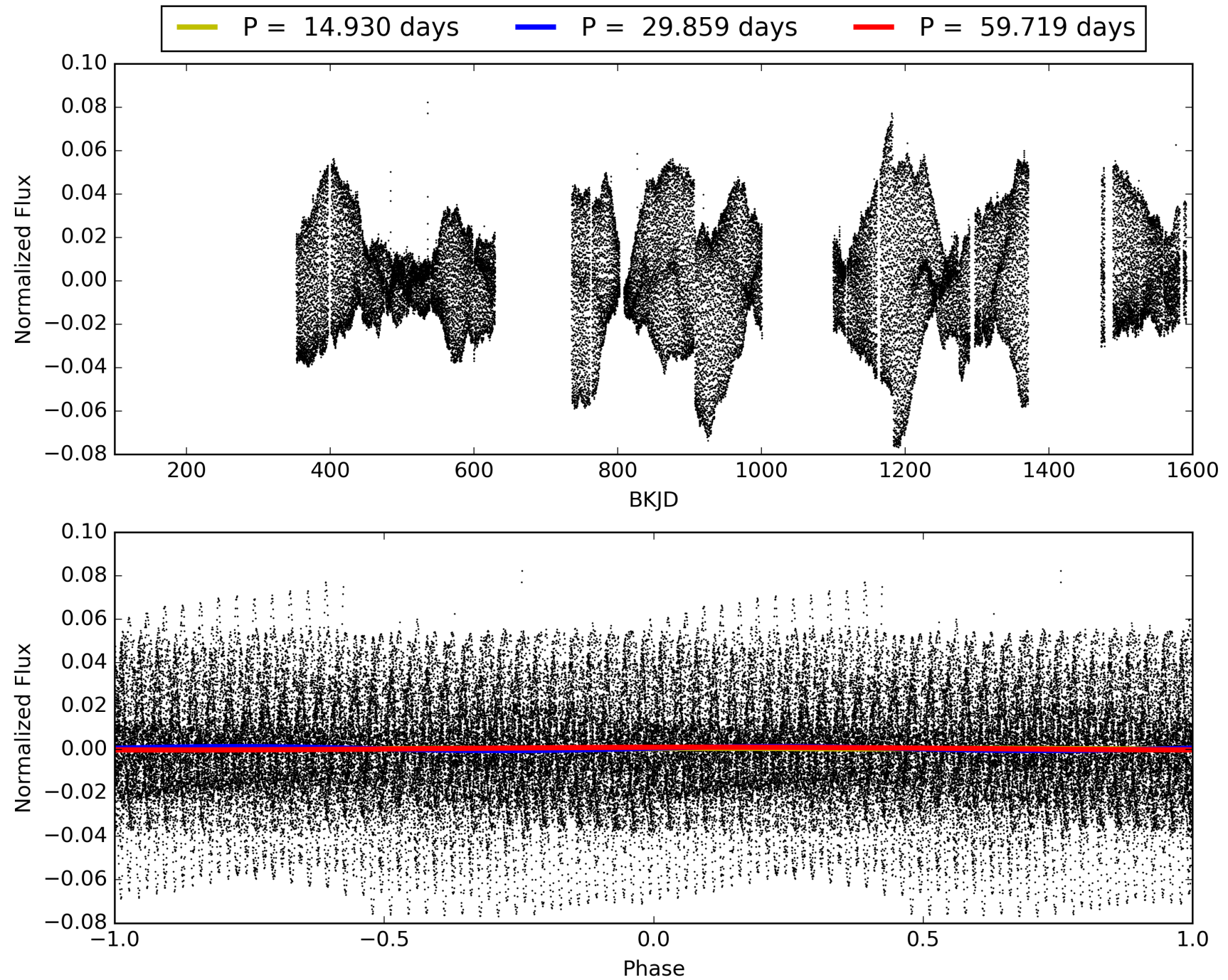
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:01:35 Z

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

TCE 010614890-02, PDC Light Curves

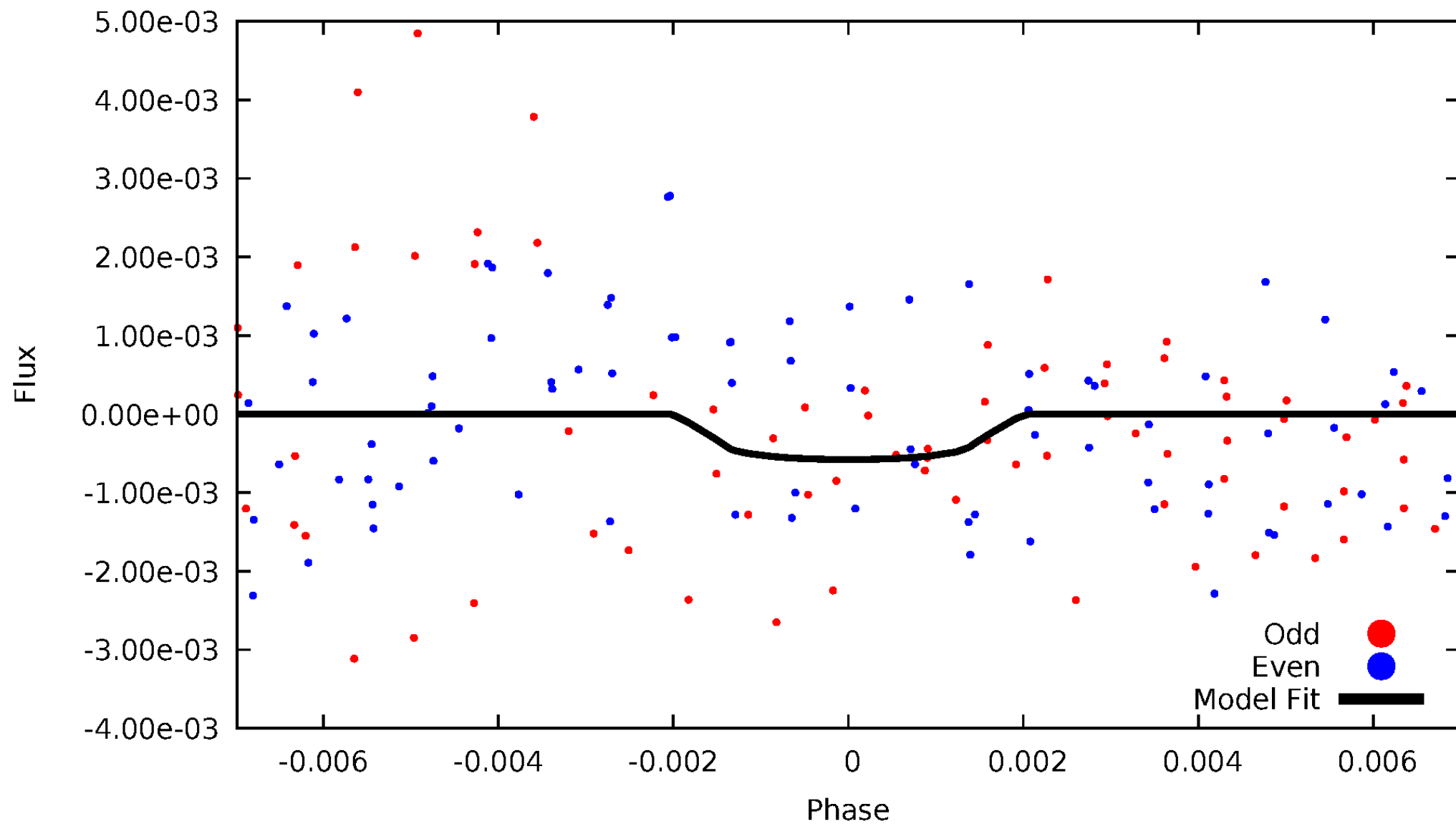


TCE 010614890-02



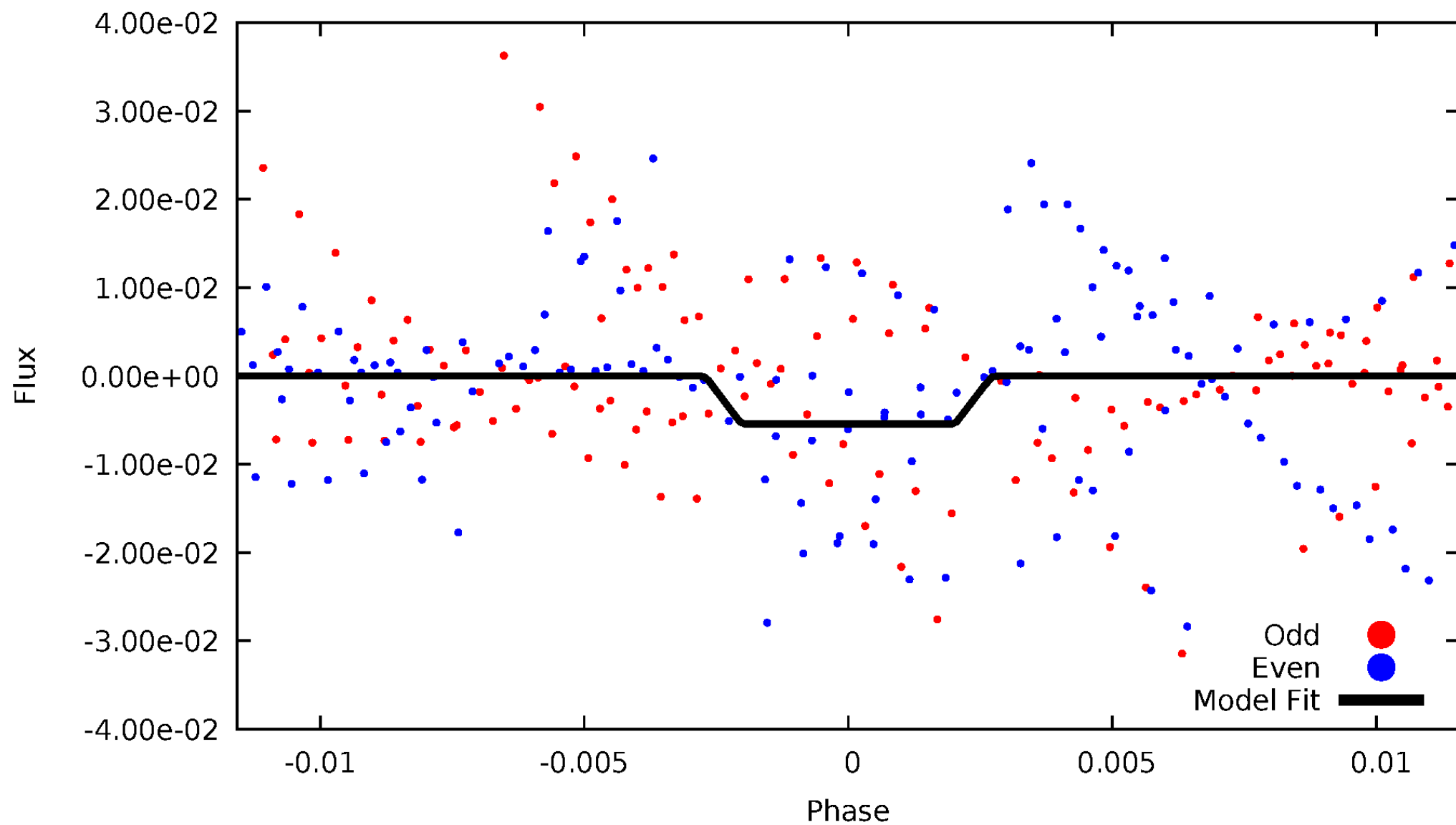
DV Odd/Even

TCE 010614890-02



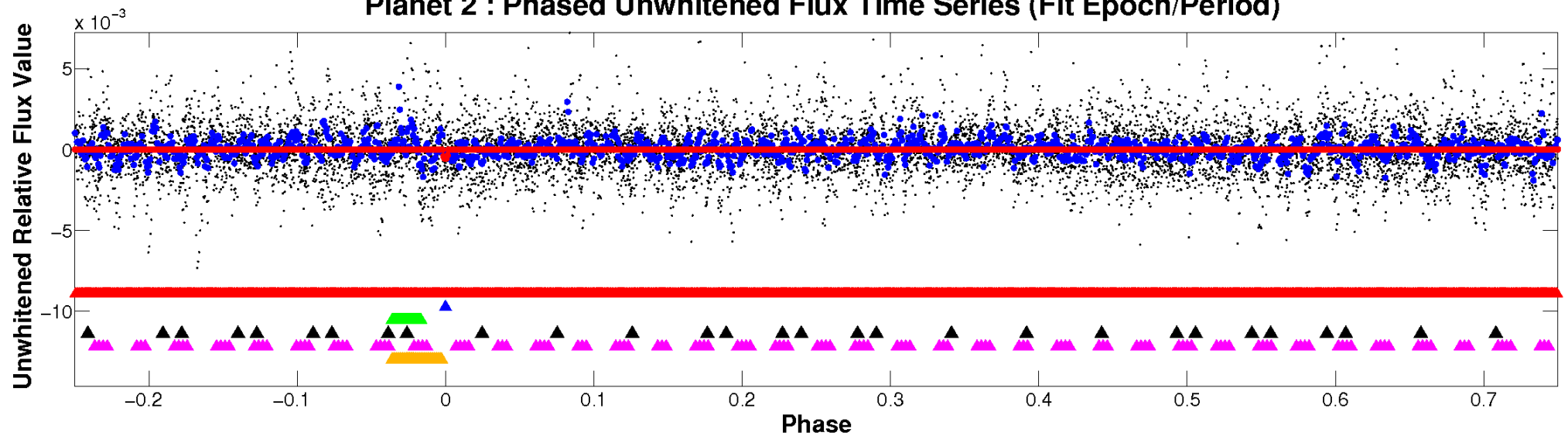
ALT Odd/Even

TCE 010614890-02

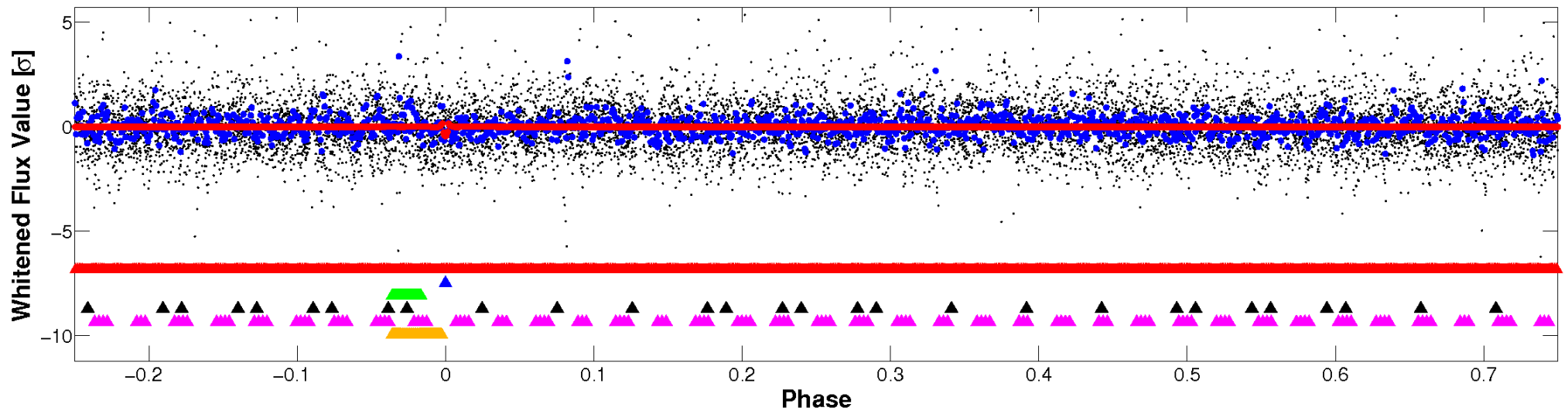


Non-Whitened Vs. Whitened Light Curve

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

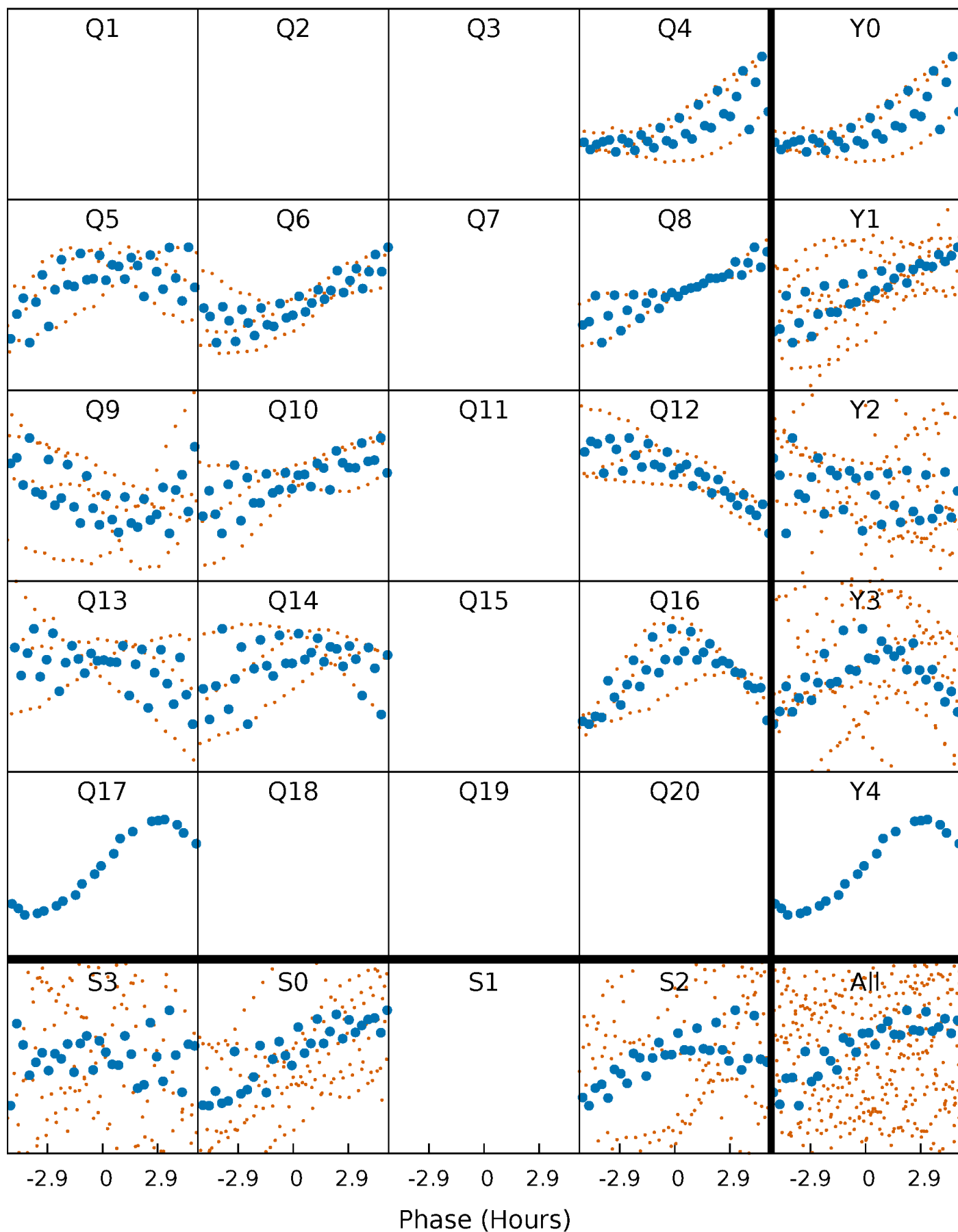


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



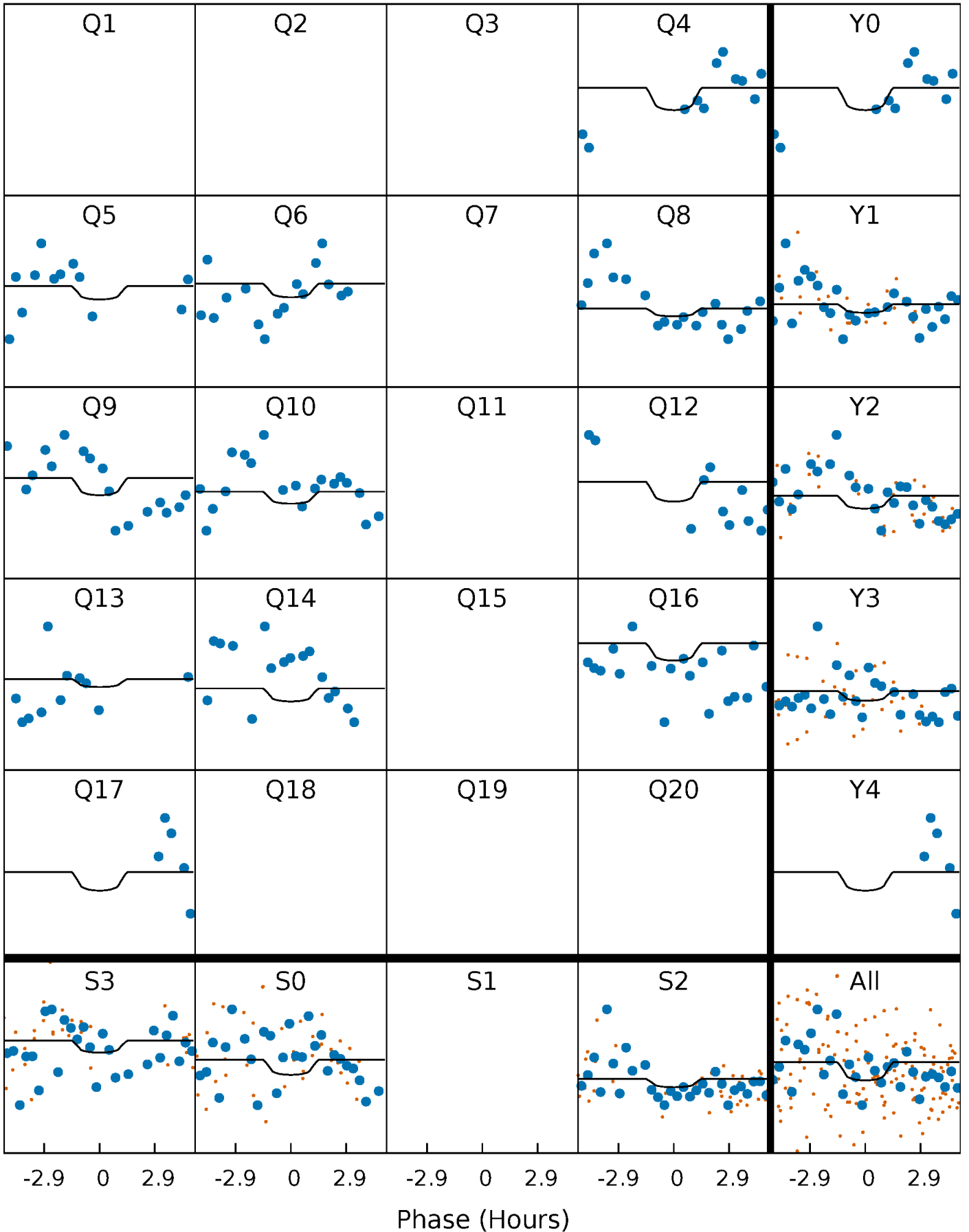
PDC Quarter-Phased Transit Curves

TCE 010614890-02 $P = 29.859465$ Days $T_0 = 154.150902$ (BKJD)



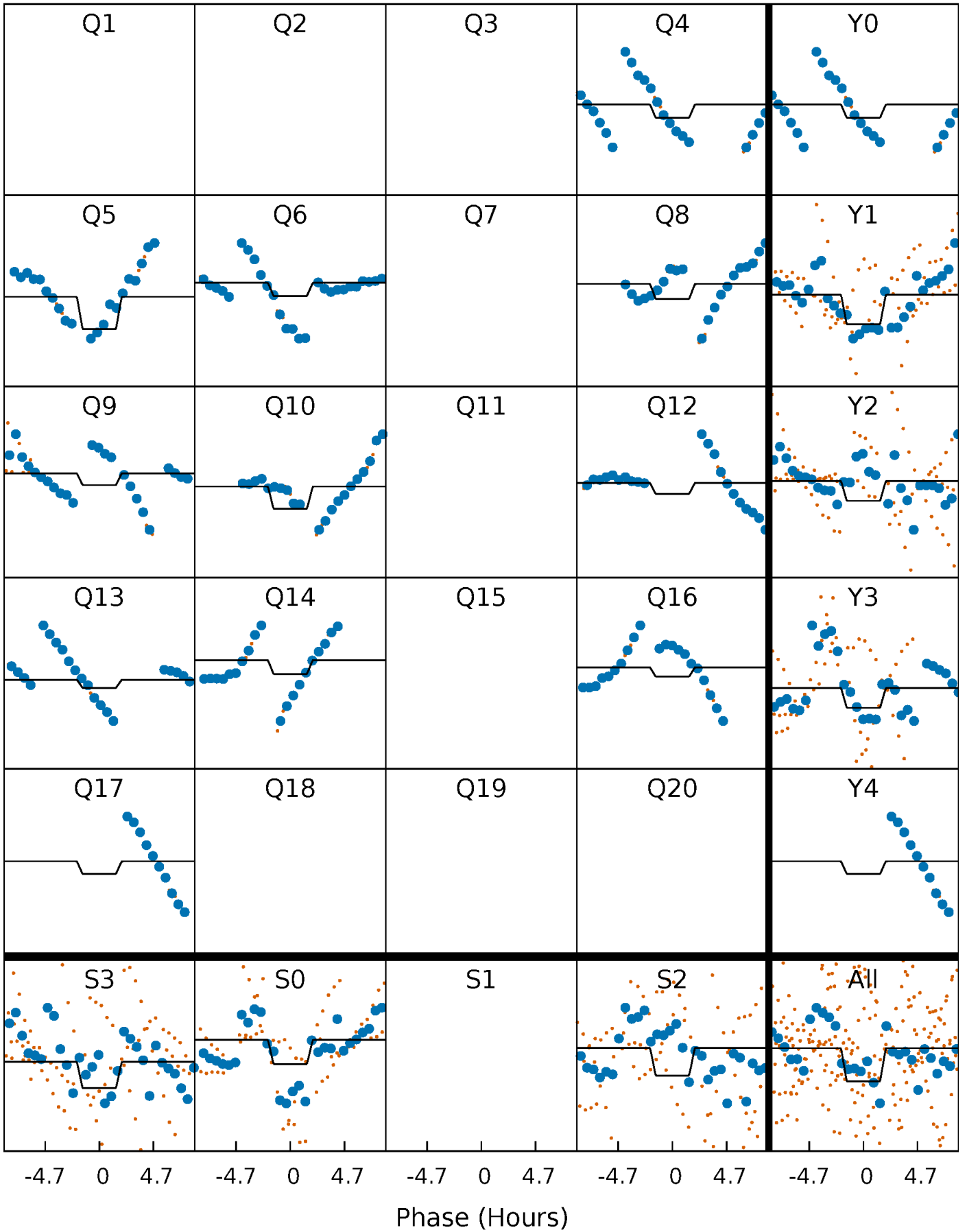
DV Quarter-Phased Transit Curves

TCE 010614890-02 $P = 29.859465$ Days $T_0 = 154.150902$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

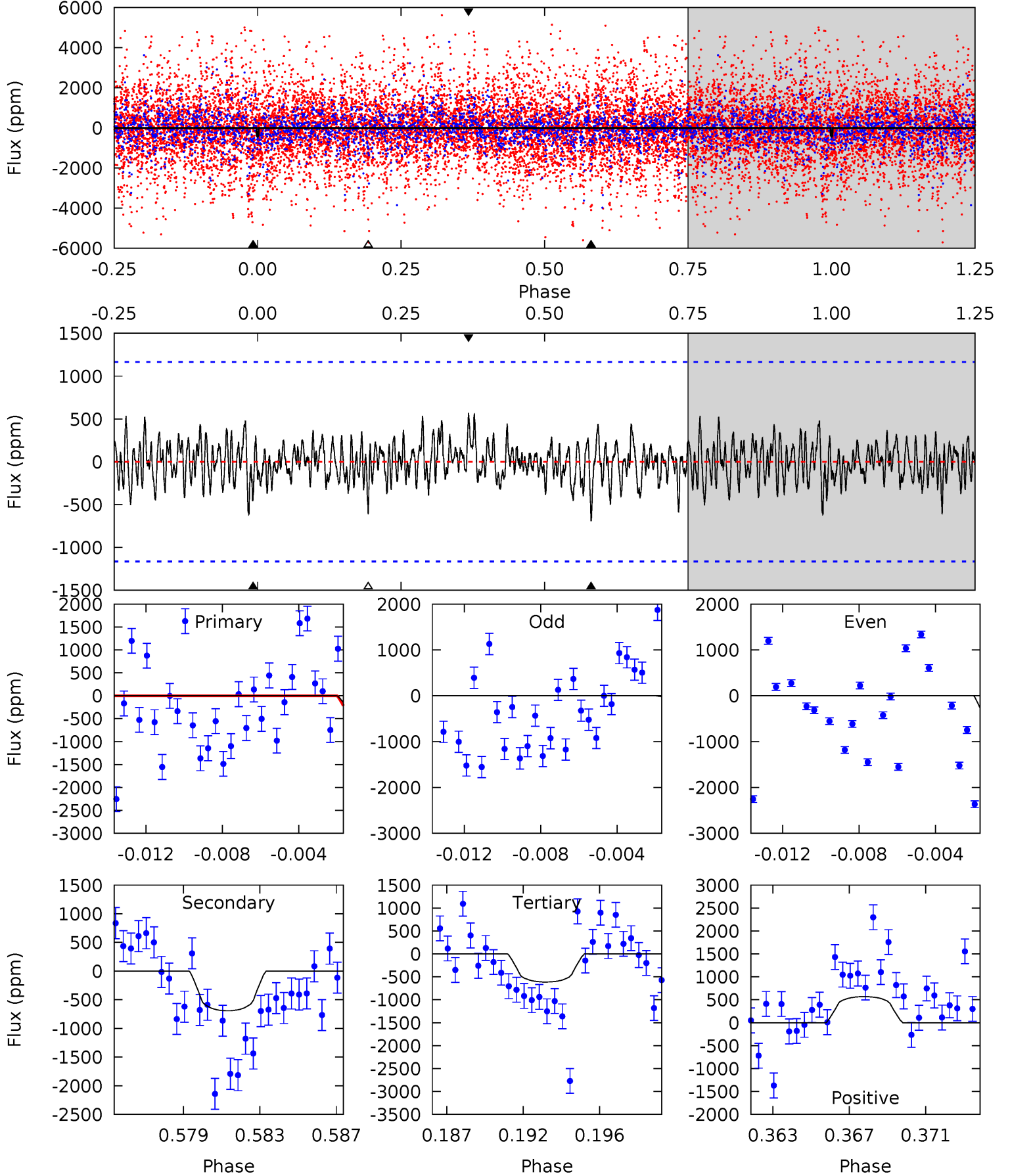
TCE 010614890-02 P= 29.866180 Days $T_0=153.860233$ (BKJD)



DV Model-Shift Uniqueness Test

010614890-02, P = 29.859465 Days, E = 154.150902 Days

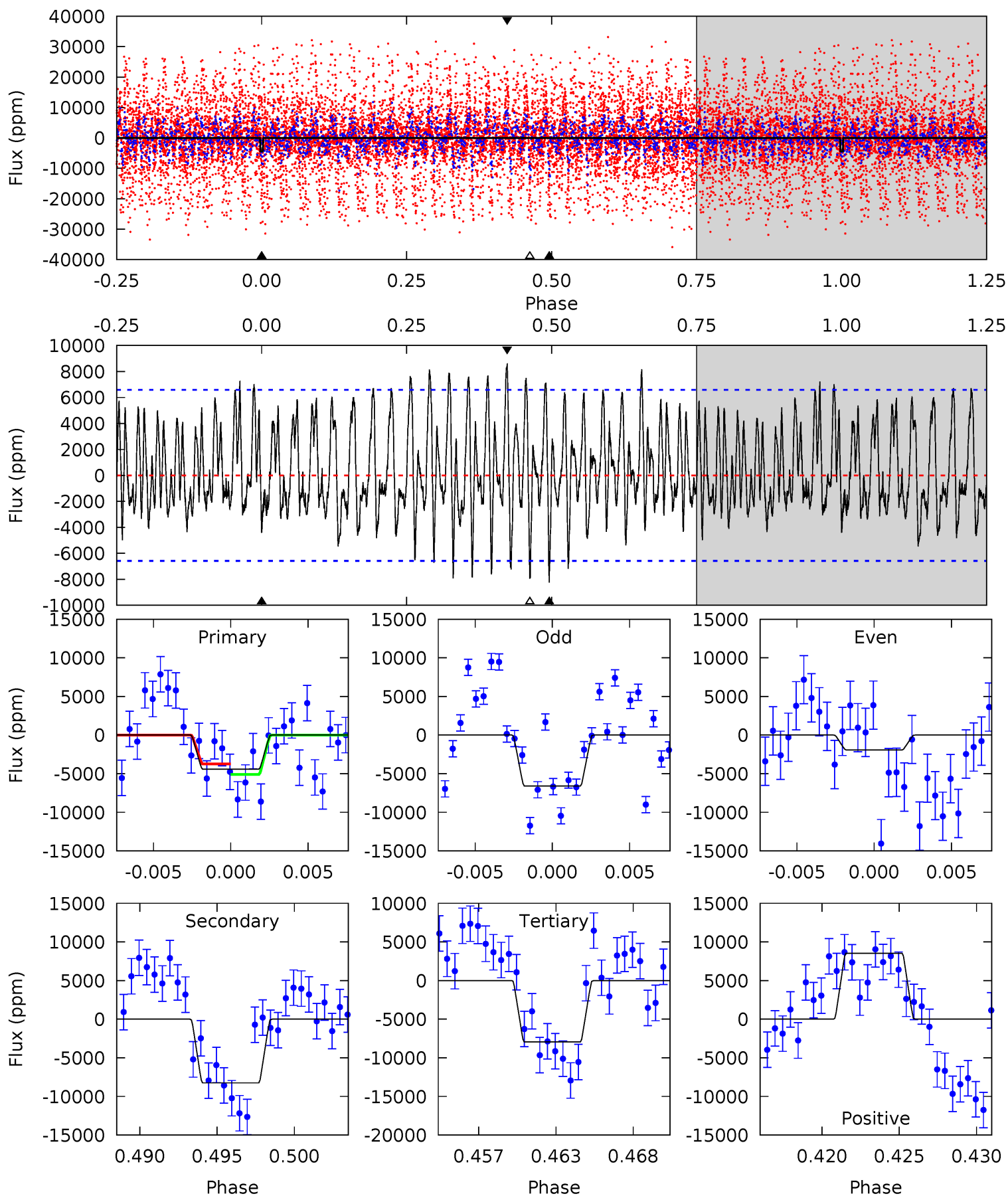
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.92	3.09	2.74	2.54	5.20	2.87	0.86	-0.81	-0.61	0.35	0.55	1.66	0.75	0.45	0.90



Alt Model-Shift Uniqueness Test

010614890-02, P = 29.866180 Days, E = 153.860233 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.45	6.45	6.21	6.68	5.14	2.78	2.47	-2.76	-3.23	0.24	-0.23	1.83	0.87	0.51	0.54



Stellar Parameters For KIC 010614890

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5279^{+183}_{-183}	$4.624^{+0.066}_{-0.048}$	$-0.980^{+0.300}_{-0.300}$	$0.642^{+0.056}_{-0.051}$	$0.632^{+0.065}_{-0.028}$	$3.371^{+0.871}_{-0.579}$
	+3%/-3%	+1%/-1%	+31%/-31%	+9%/-8%	+10%/-4%	+26%/-17%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010614890-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-693 ± 224	$6.13^{+6.77}_{-4.20}$	646^{+26}_{-26}	3375^{+1830}_{-676}	258^{+2530}_{-201}
Alt.	-8250 ± 1280	$8.08^{+6.54}_{-5.26}$	646^{+25}_{-27}	4751^{+3364}_{-913}	1872^{+13144}_{-1297}

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 $A_{obs} \gg 1.0$

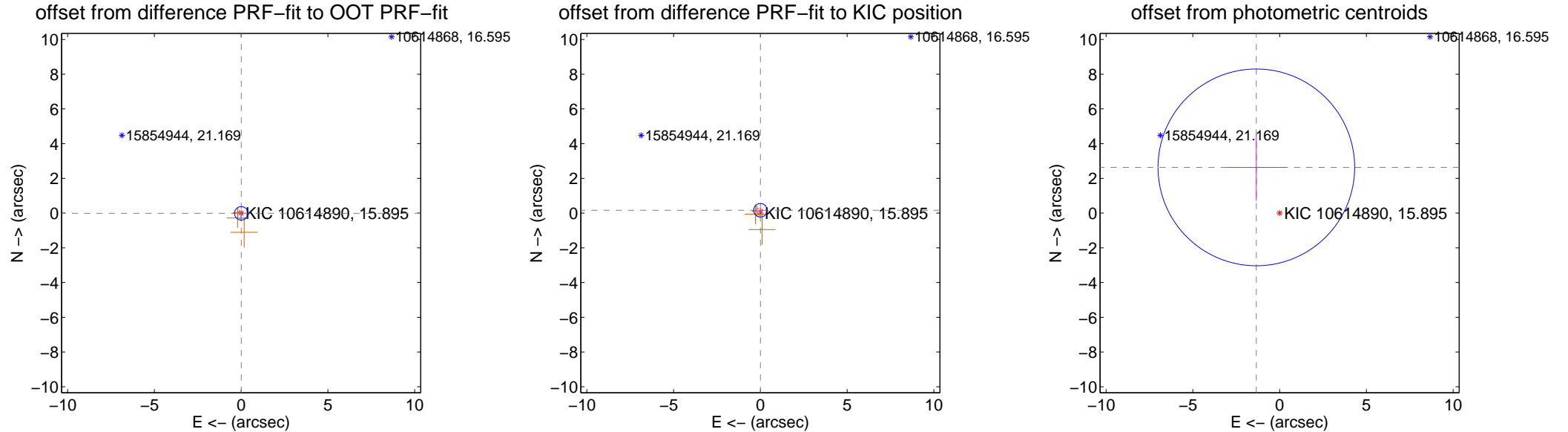
DV Centroid Data

Supplemental centroid analysis for 010614890-02. Kepler magnitude: 15.89. Transit SNR 2.34

There are 3 quarters with good PRF difference image offsets

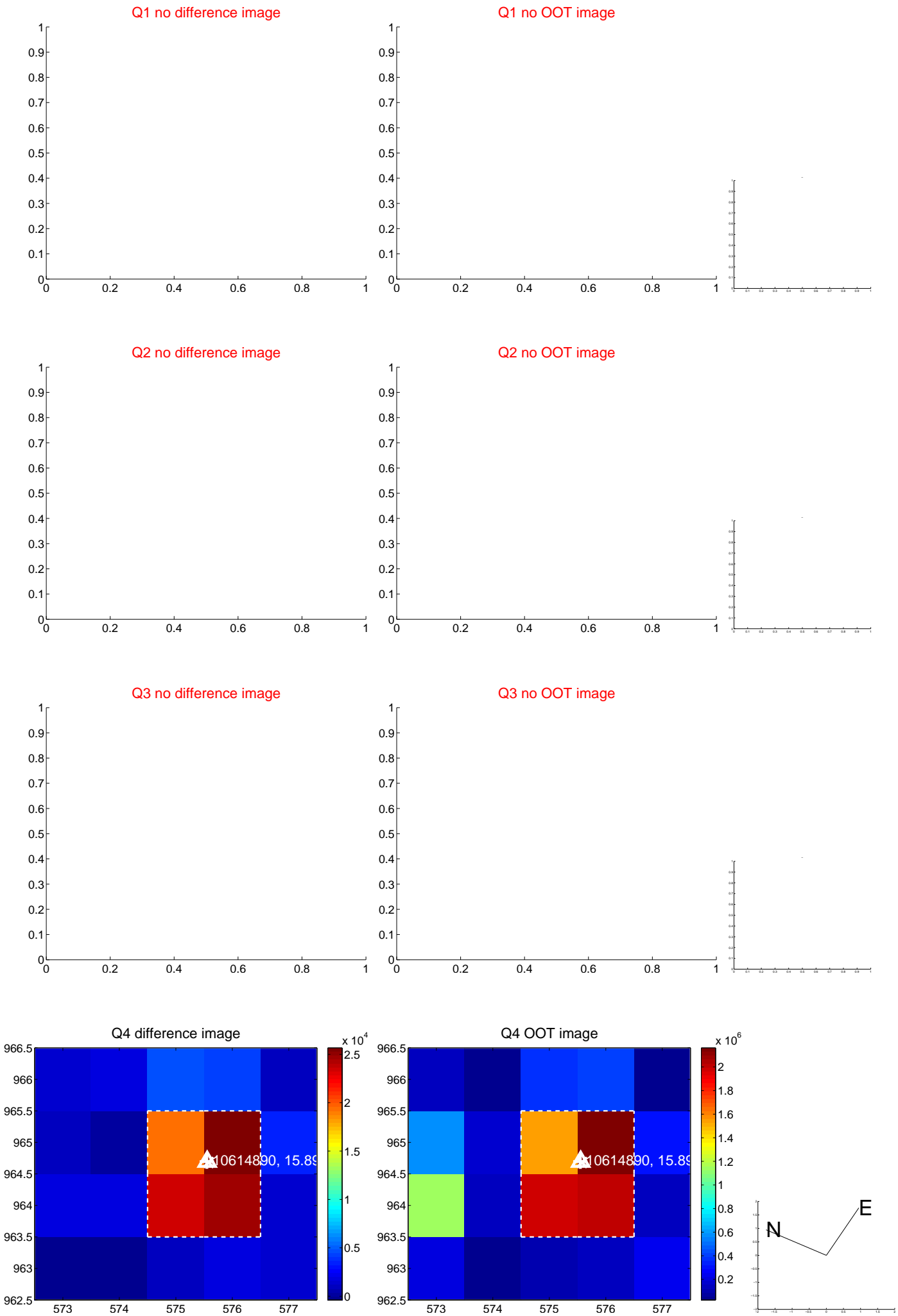
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.013 ± 0.129	0.10	-0.005 ± 0.125	-0.012 ± 0.130
PRF-fit source offset from KIC position	0.164 ± 0.130	1.27	-0.001 ± 0.125	0.164 ± 0.130
photometric centroid source offset	2.96 ± 1.89	1.57	1.34 ± 1.75	2.63 ± 1.92

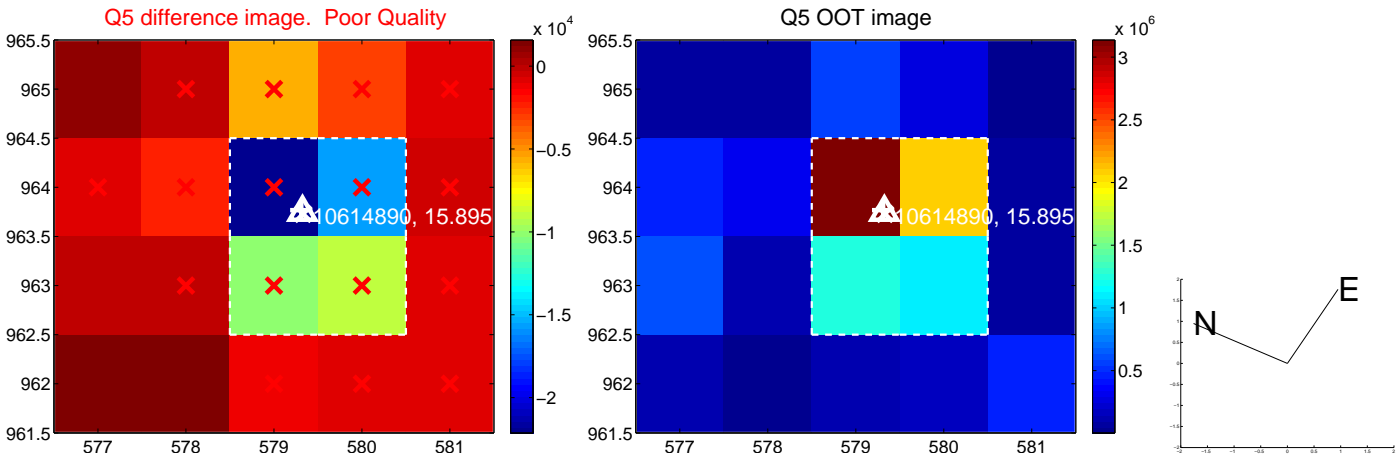


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

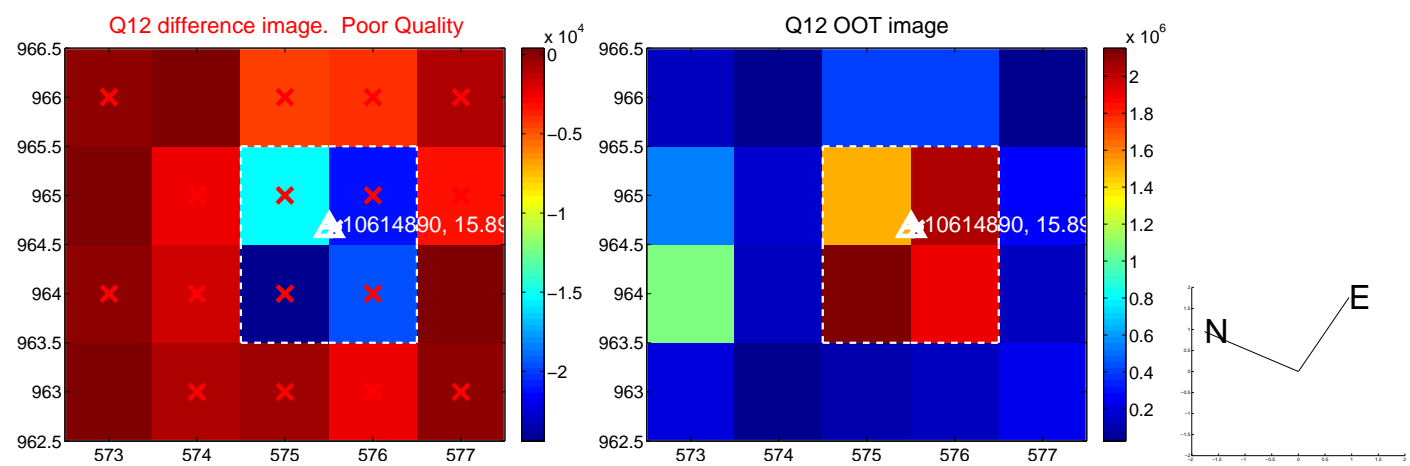
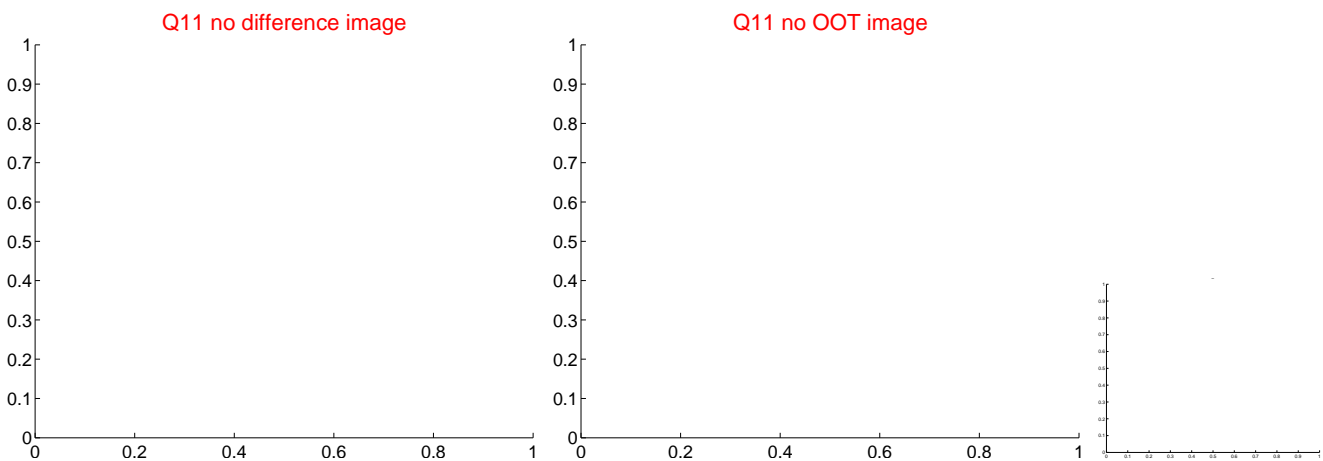
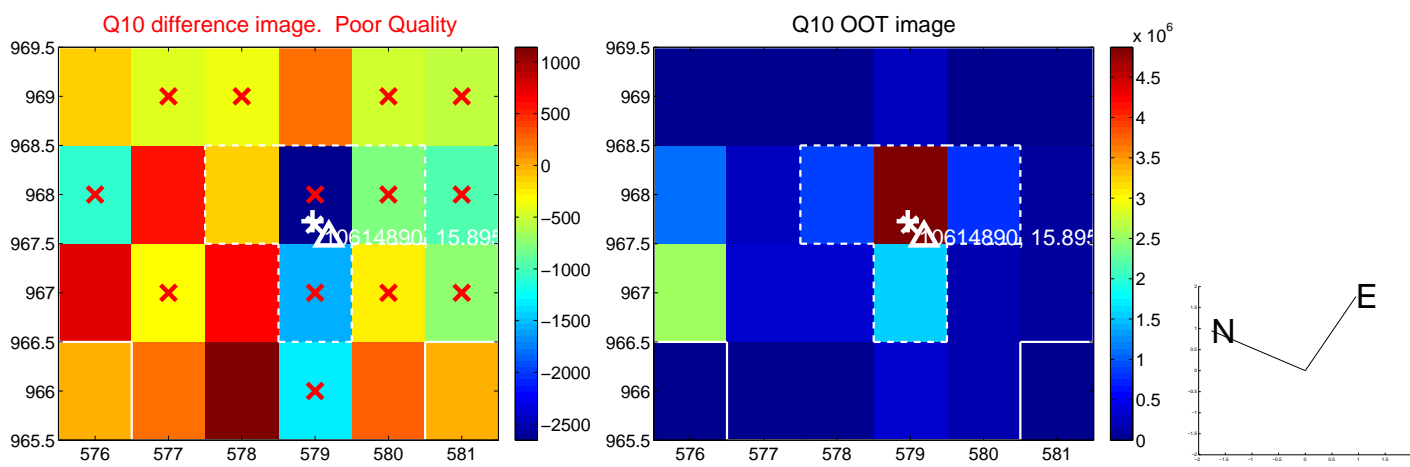
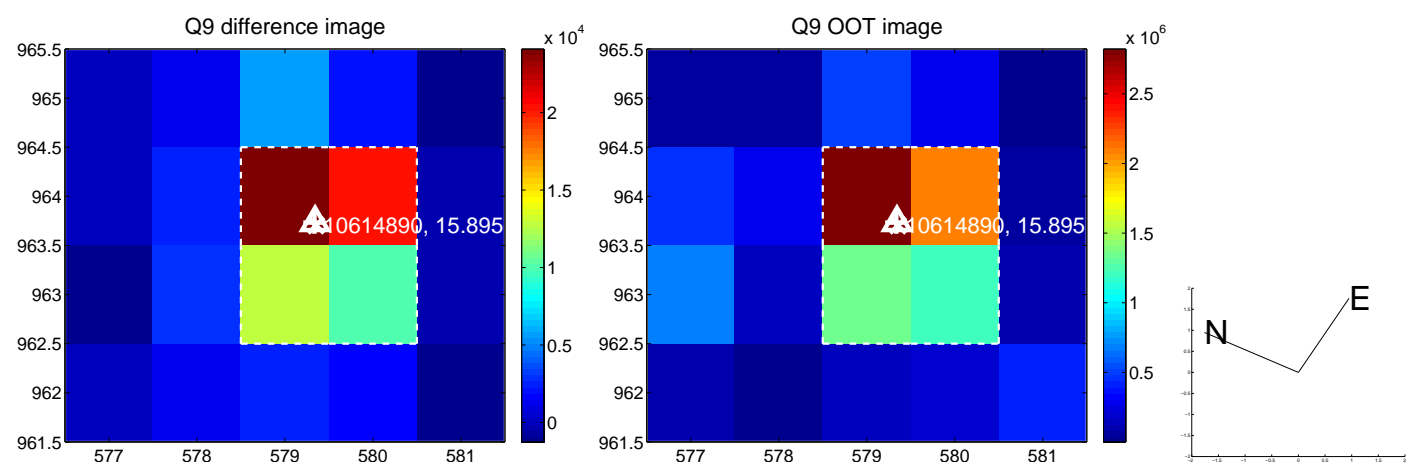
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



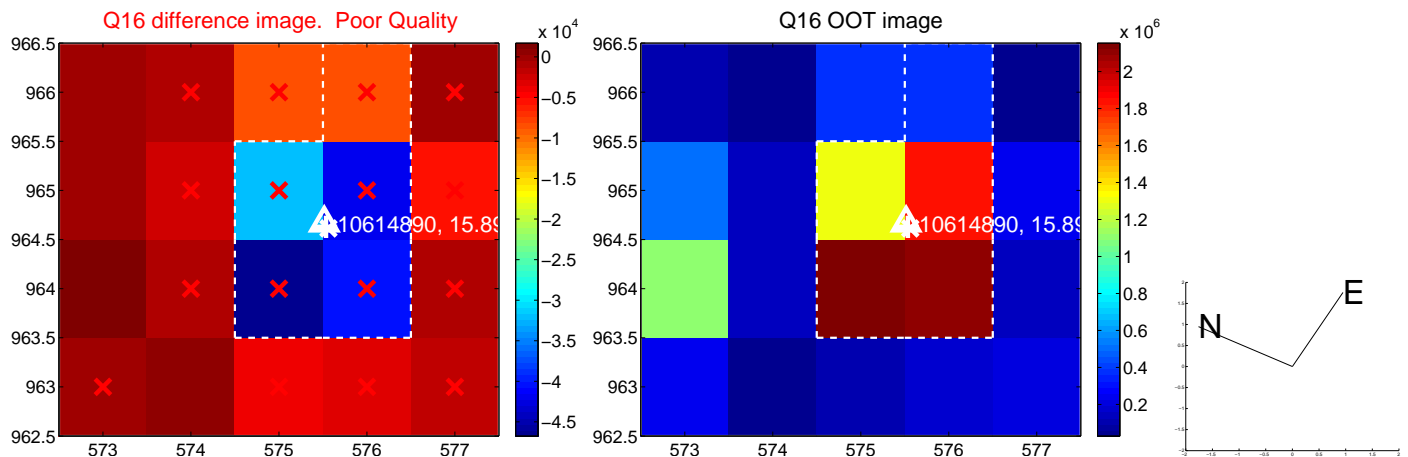
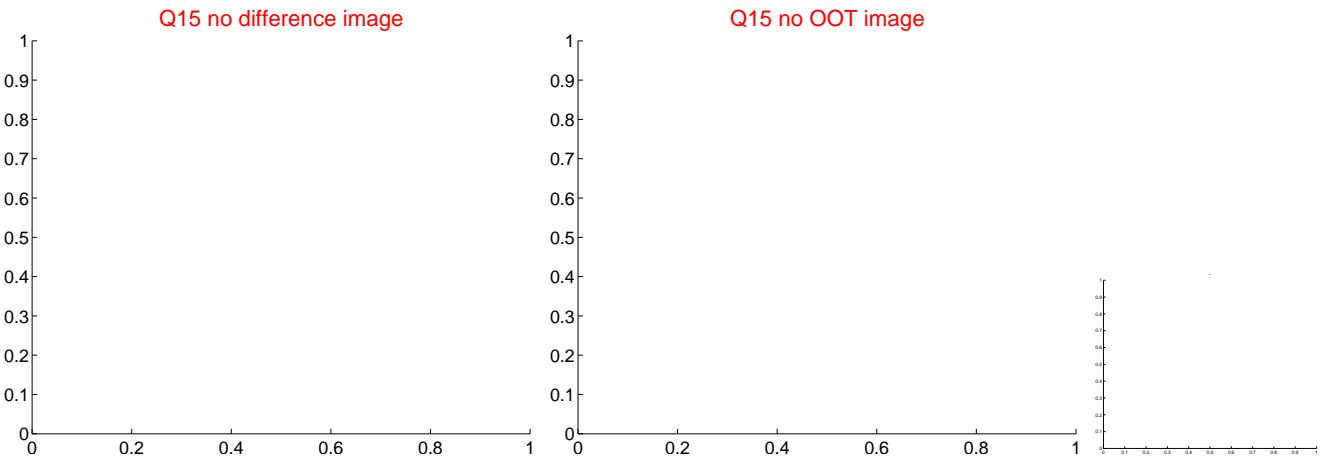
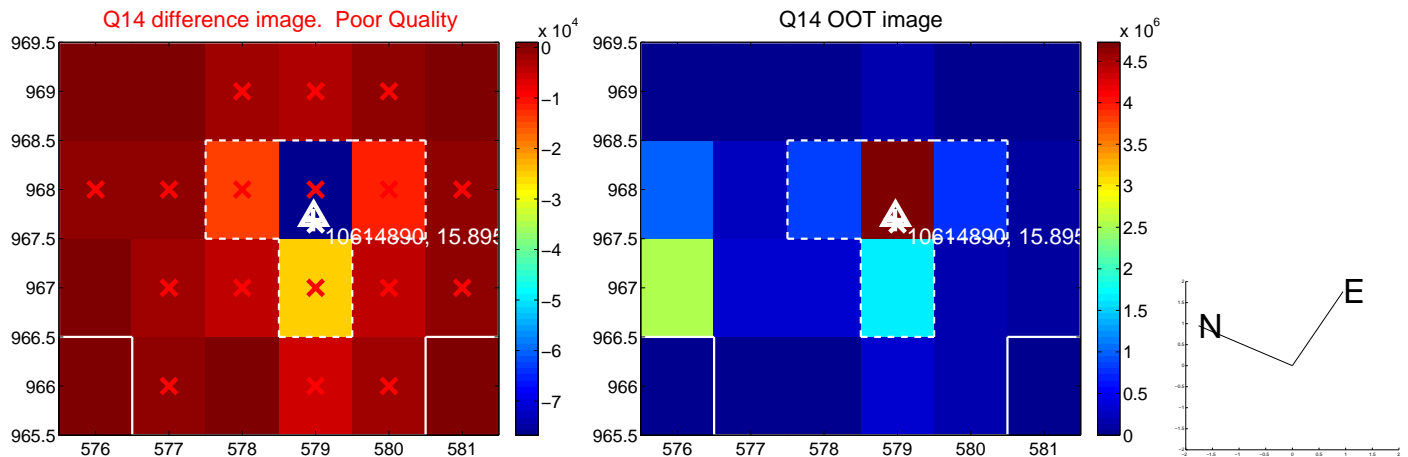
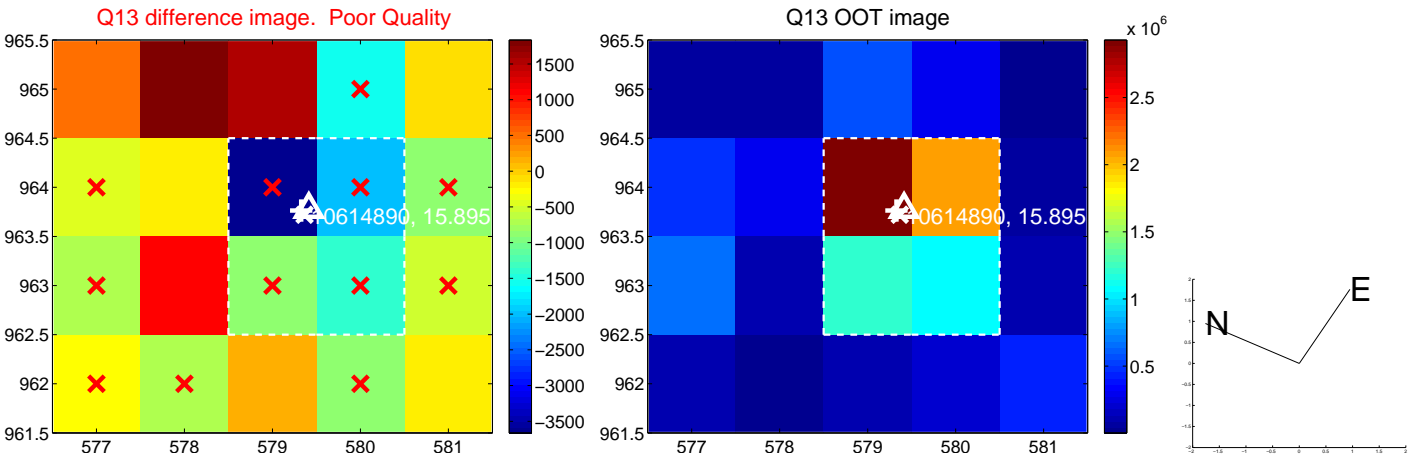
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



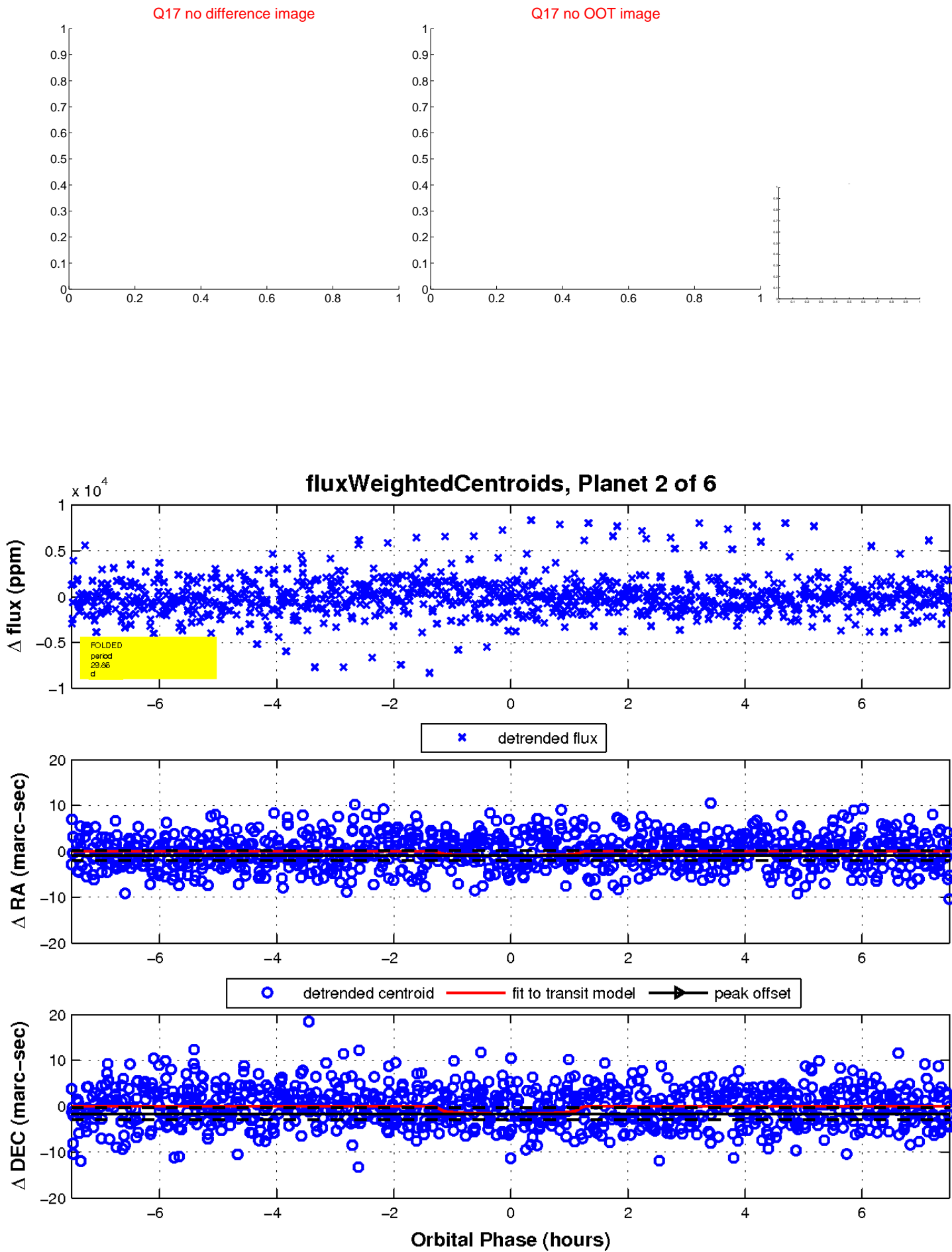
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

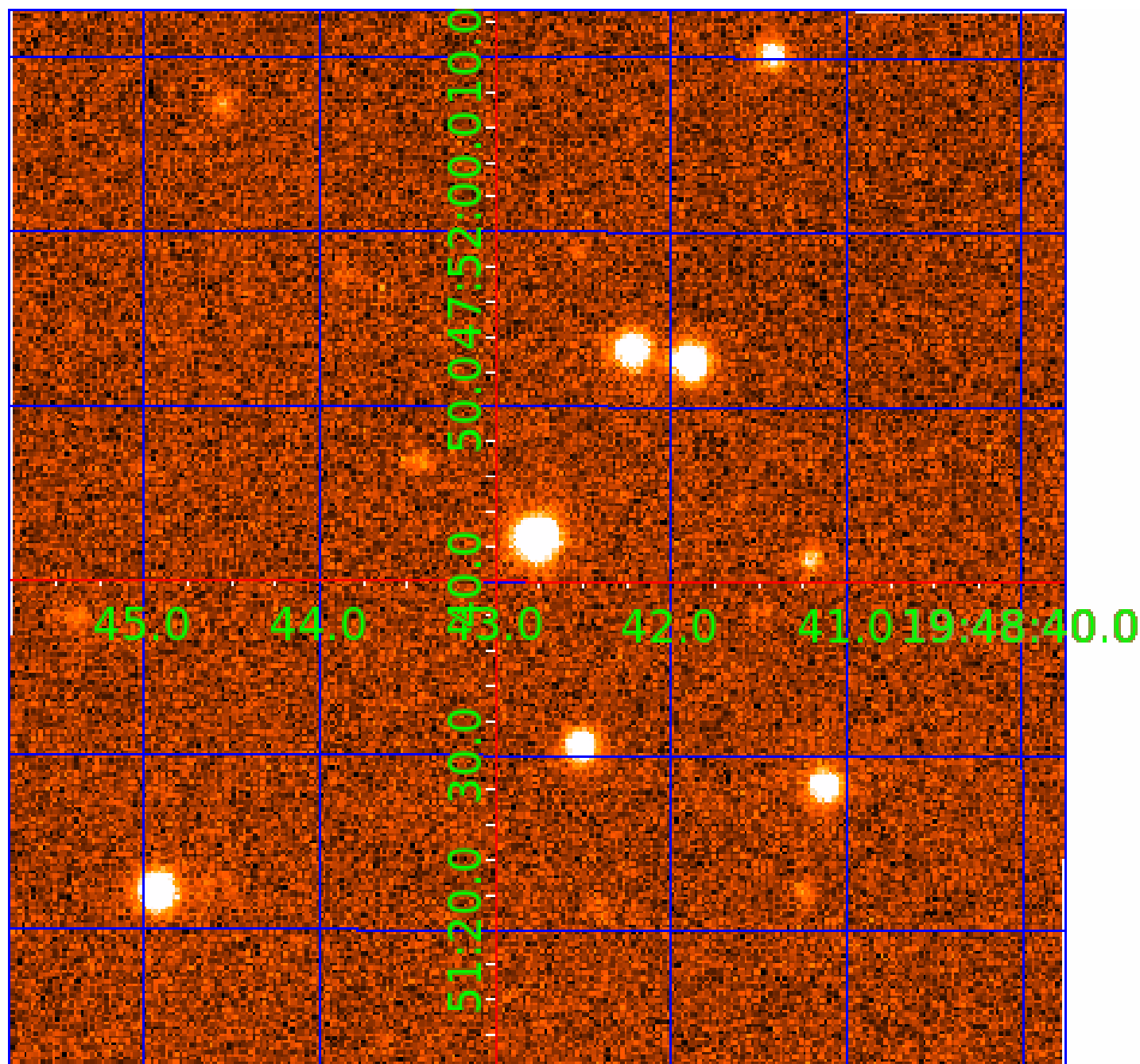


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010614890

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})
010614890-01	OBS	No	0.986132	131.616721	0.3	5.707	8.1	0.0	0.64	5279	0.04	1034.85
010614890-02	OBS	No	29.859465	154.150902	580.7	2.503	8.3	2.3	0.64	5279	1.60	10.96
010614890-03	OBS	No	29.871605	153.075385	76.5	0.941	7.9	0.2	0.64	5279	0.57	10.96
010614890-04	OBS	No	50.269695	178.700656	568.4	4.680	8.2	2.1	0.64	5279	1.81	5.47
010614890-05	OBS	No	10.488865	139.308617	1520.9	6.521	7.5	9.6	0.64	5279	4.75	44.24
010614890-06	OBS	No	29.880301	153.074881	156.8	1.514	8.0	0.2	0.64	5279	0.80	10.96

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010614890-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT
010614890-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
010614890-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
010614890-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010614890-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010614890-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS—HALO_GHOST

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

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

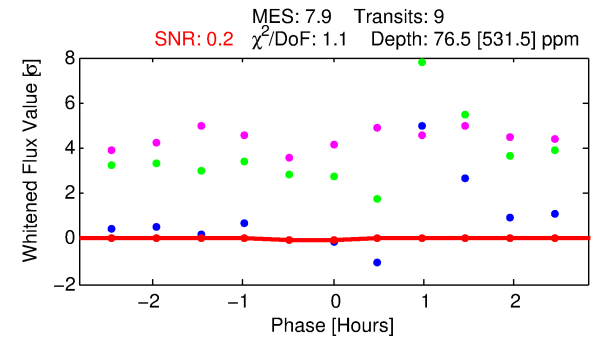
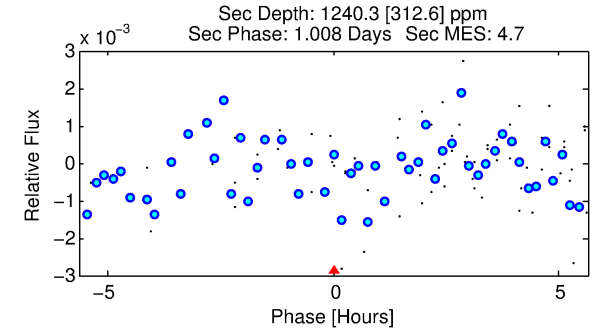
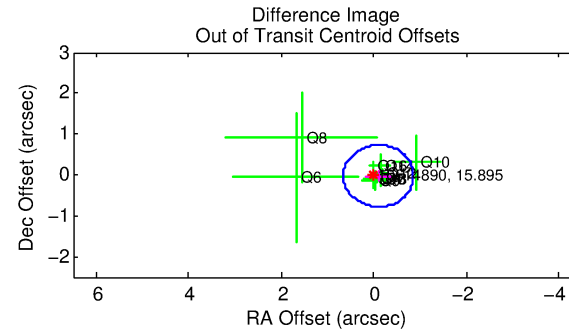
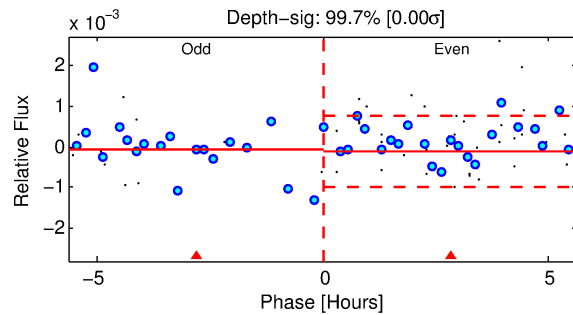
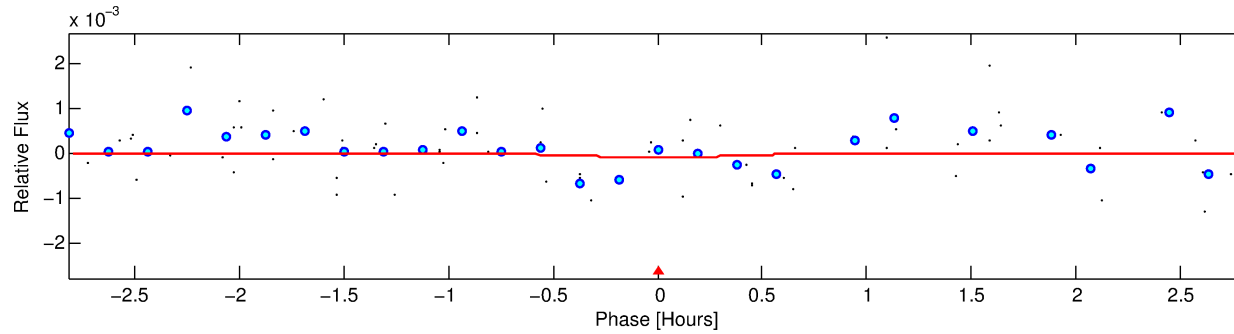
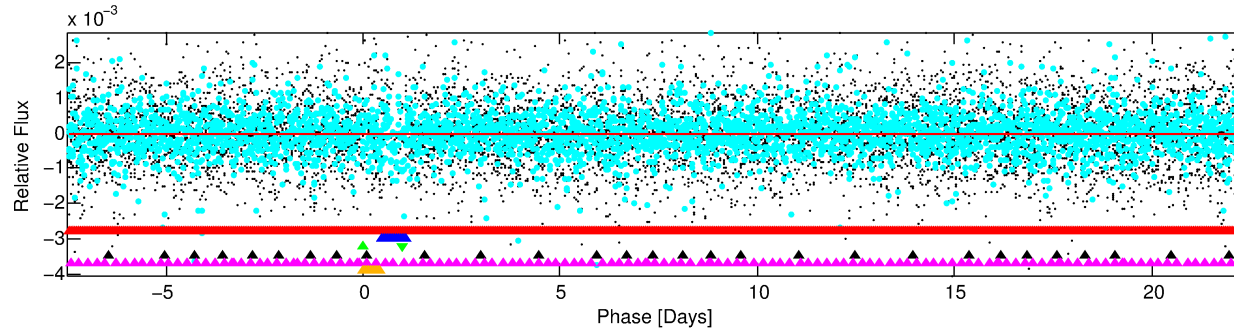
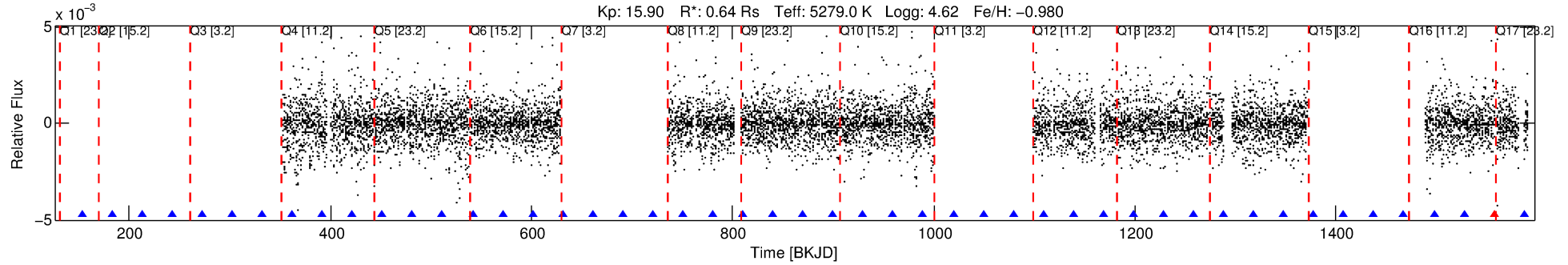
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010614890-03

No Significant Match Found

DV One-Page Summary

KIC: 10614890 Candidate: 3 of 6 Period: 29.872 d



DV Fit Results:

Period = 29.87161 [0.00881] d
Epoch = 153.0754 [0.2783] BKJD
Rp/R* = 0.0082 [0.5605]
a/R* = 222.74 [68655.62]
b = 0.42 [615.27]
Seff = 10.96 [1.99]
Teq = 464 [21] K
Rp = 0.57 [39.26] Re
a = 0.1618 [0.0125] AU
Ag = 54162.75 [7407534.27] [0.01σ]
Teffp = 10943 [374154] K [0.03σ]

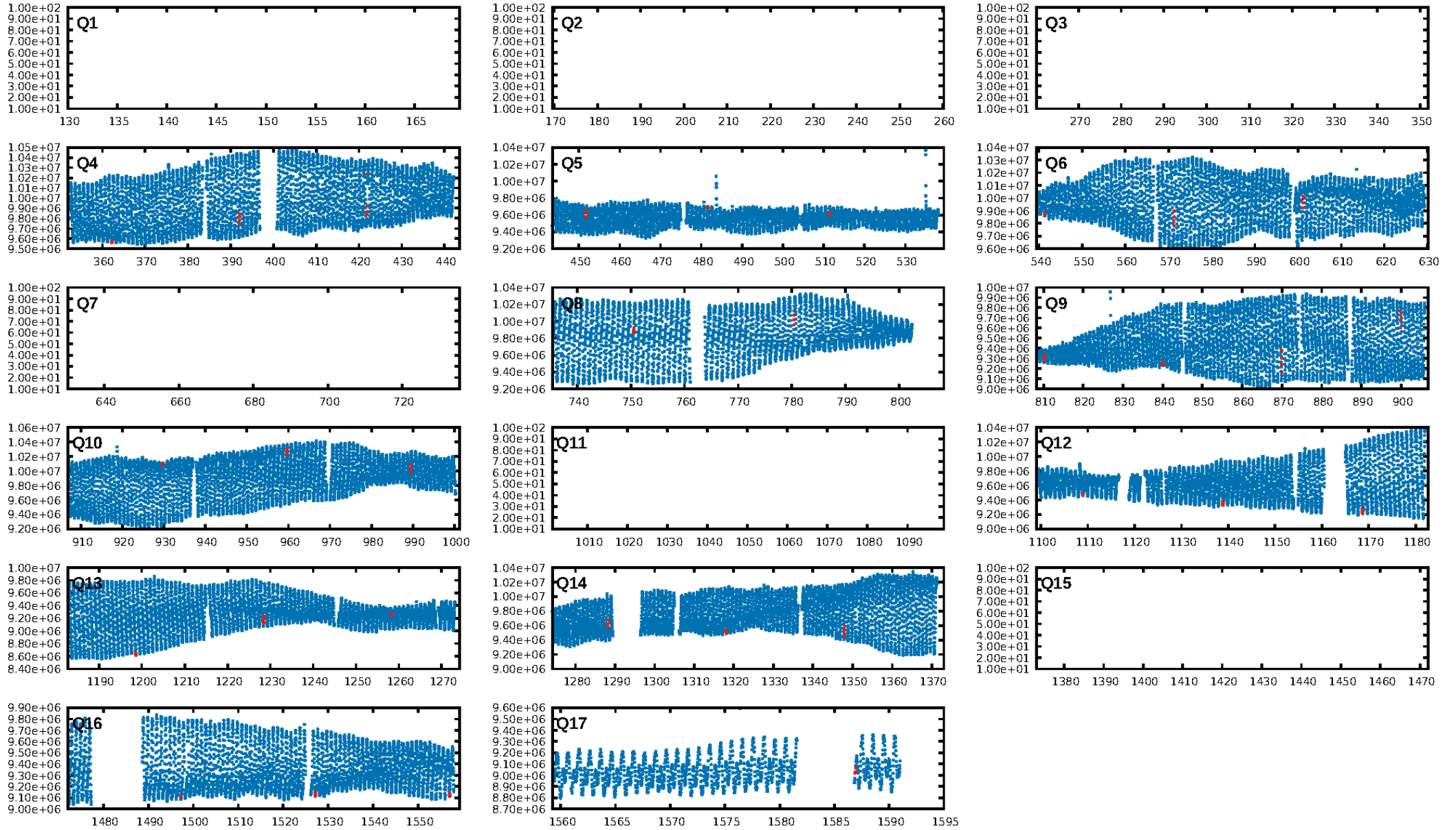
DV Diagnostic Results:

ShortPeriod-sig: 8.7% [0.11σ]
LongPeriod-sig: 9.3% [0.12σ]
ModelChiSquare2-sig: 15.2%
ModelChiSquareGof-sig: 97.4%
Bootstrap-pfa: 8.09e-09
RollingBand-fgt: 0.89 [8/9]
GhostDiagnostic-chr: 0.718
Centroid-sig: 34.4%
Centroid-so: 19.338 arcsec [0.84σ]
OotOffset-rm: 0.098 arcsec [0.39σ]
KicOffset-rm: 0.196 arcsec [0.87σ]
OotOffset-st: 3/0/4/3 [10]
KicOffset-st: 3/0/4/3 [10]
DiffImageQuality-fgm: 0.60 [6/10]
DiffImageOverlap-fno: 0.40 [4/10]

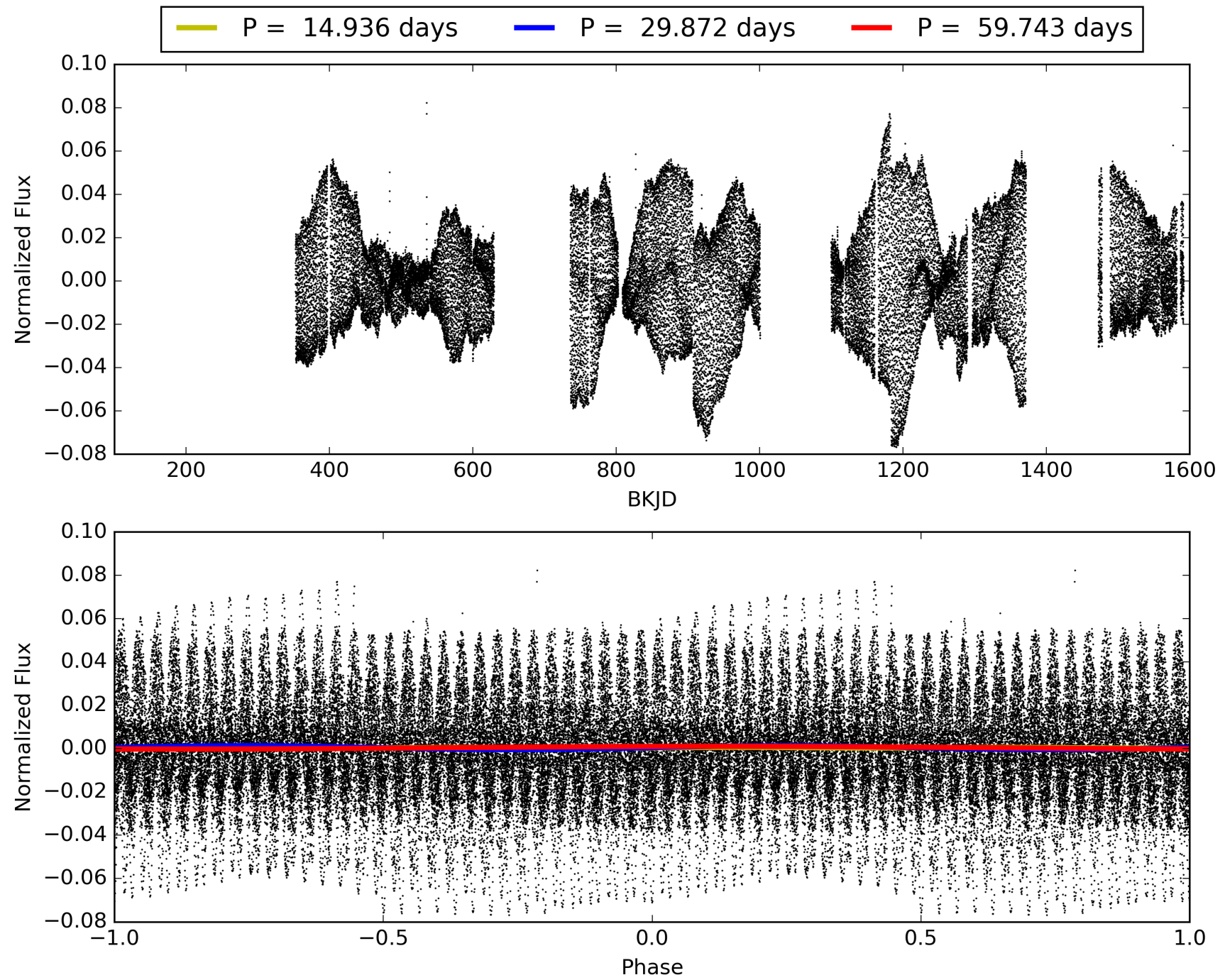
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:01:39 Z

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

TCE 010614890-03, PDC Light Curves

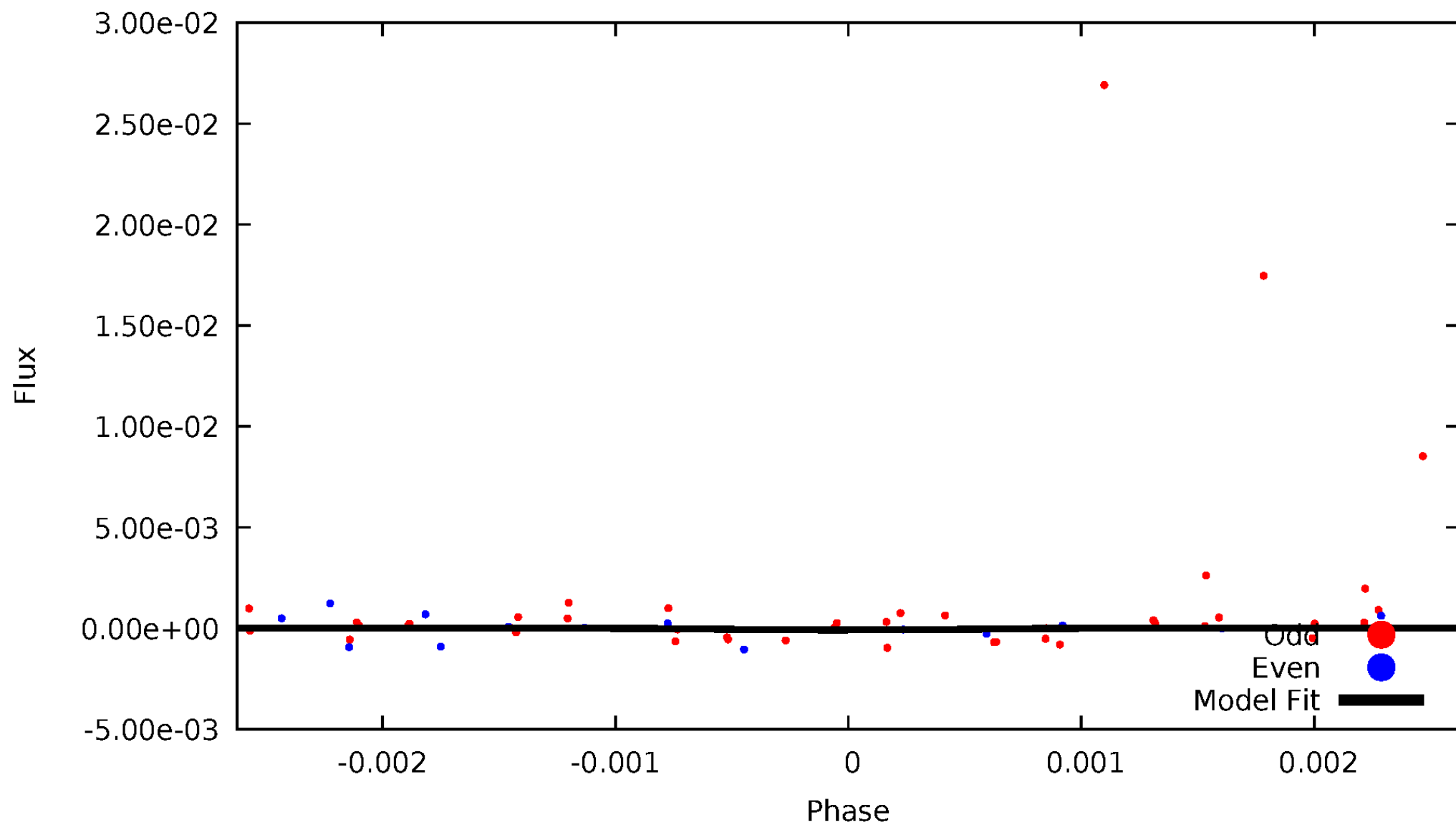


TCE 010614890-03



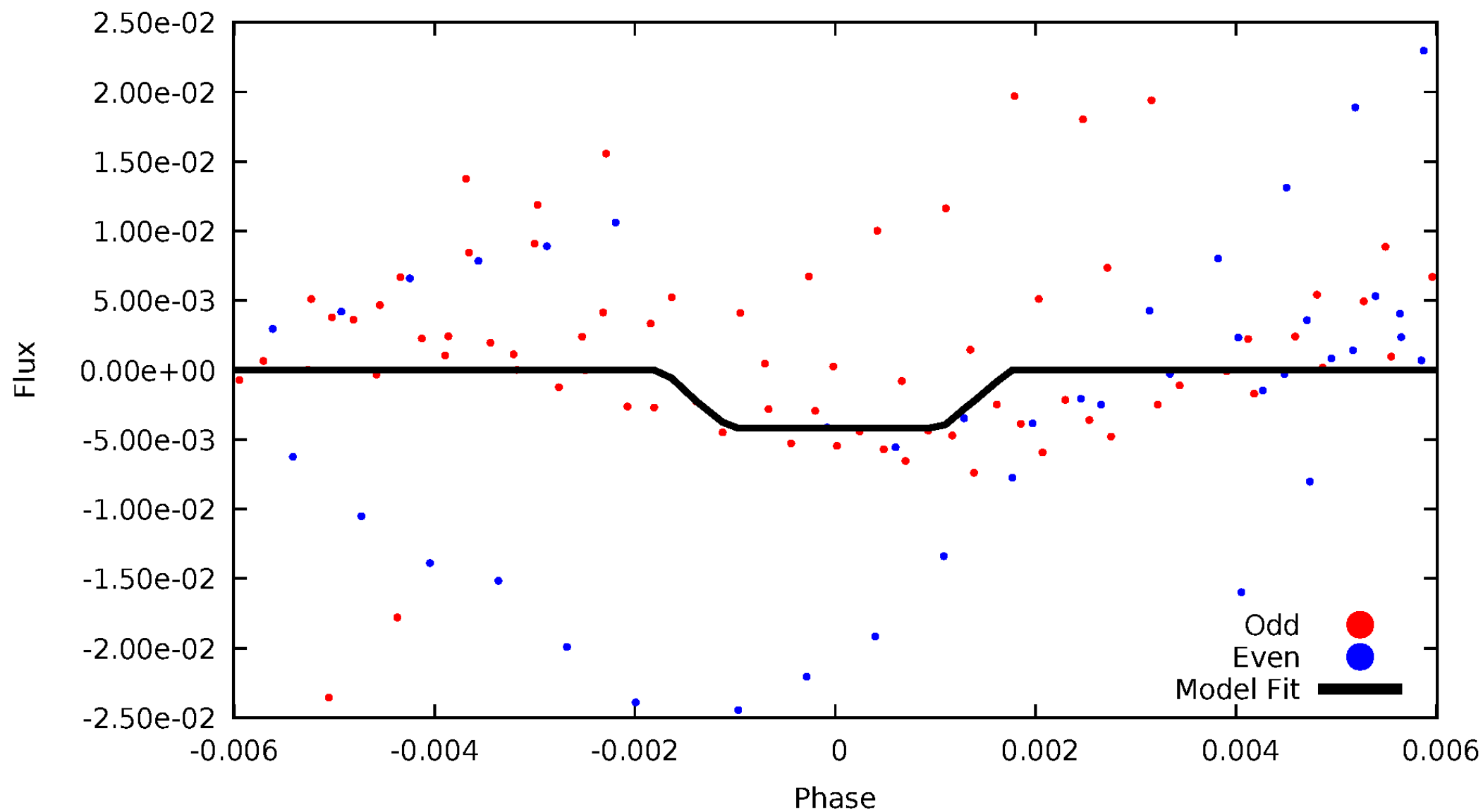
DV Odd/Even

TCE 010614890-03



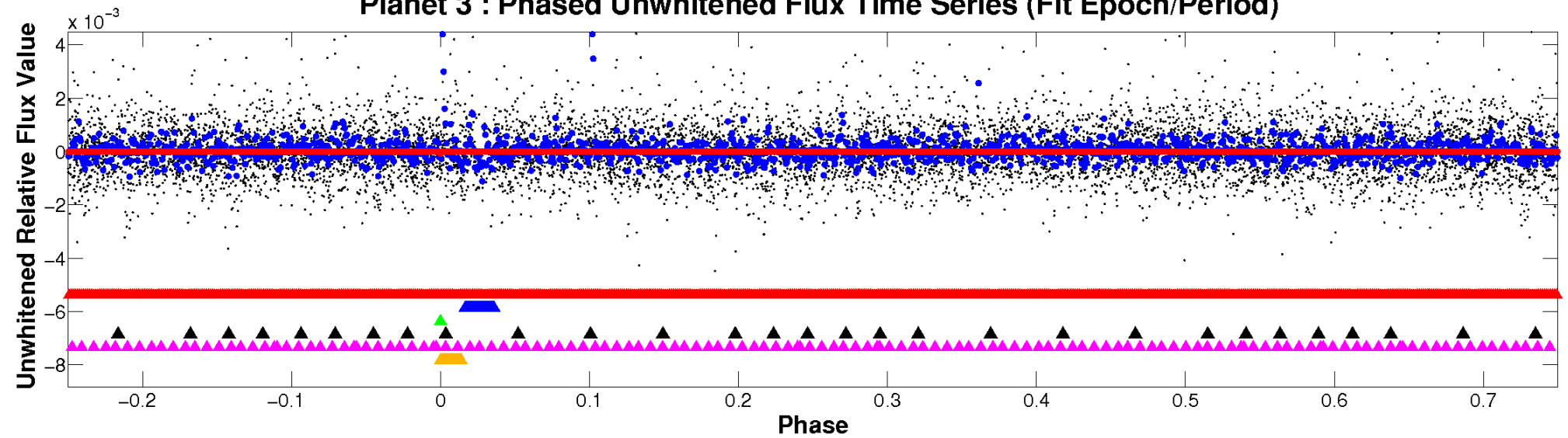
ALT Odd/Even

TCE 010614890-03

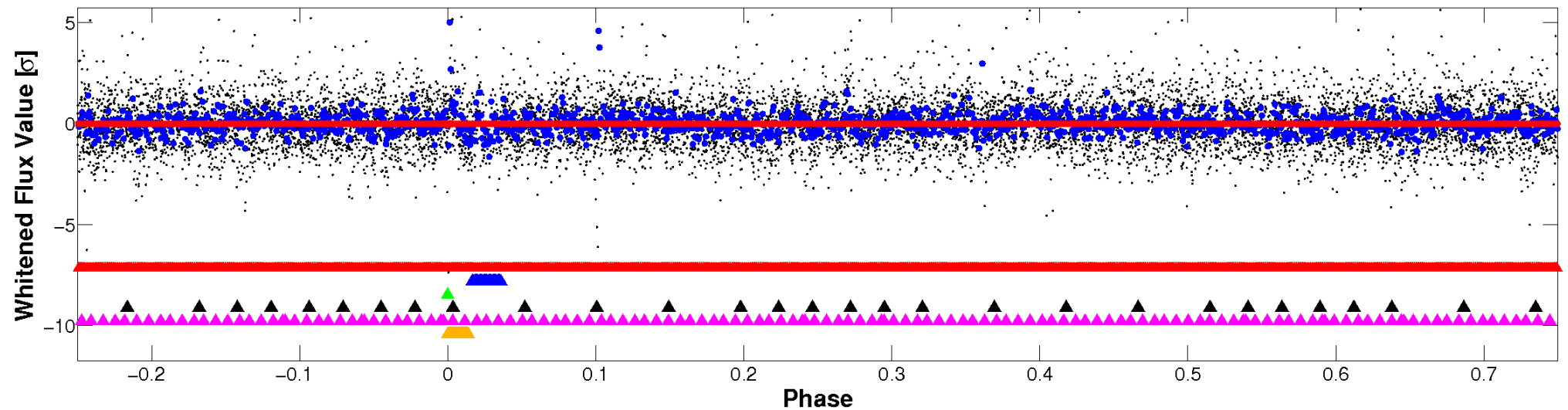


Non-Whitened Vs. Whitened Light Curve

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

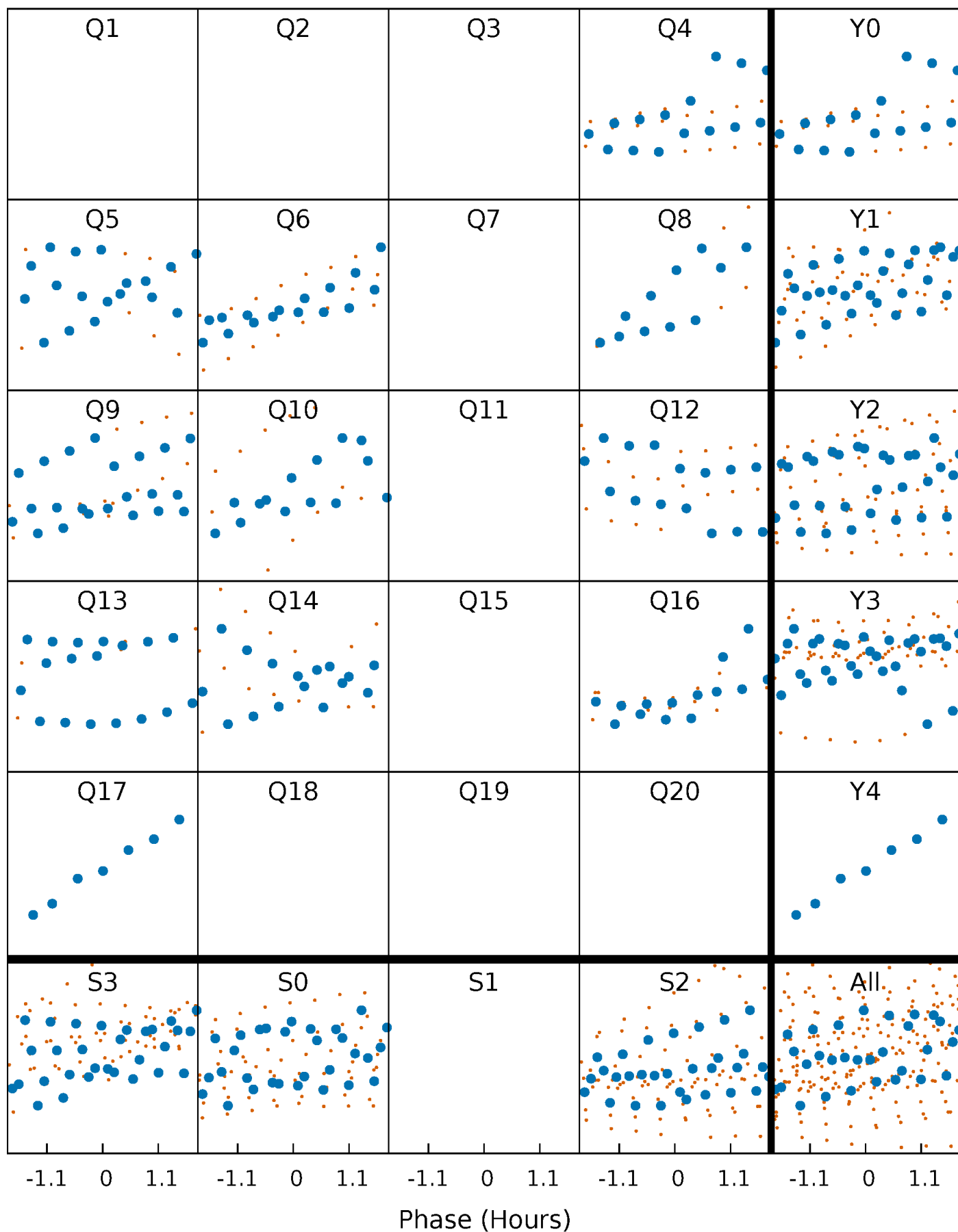


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



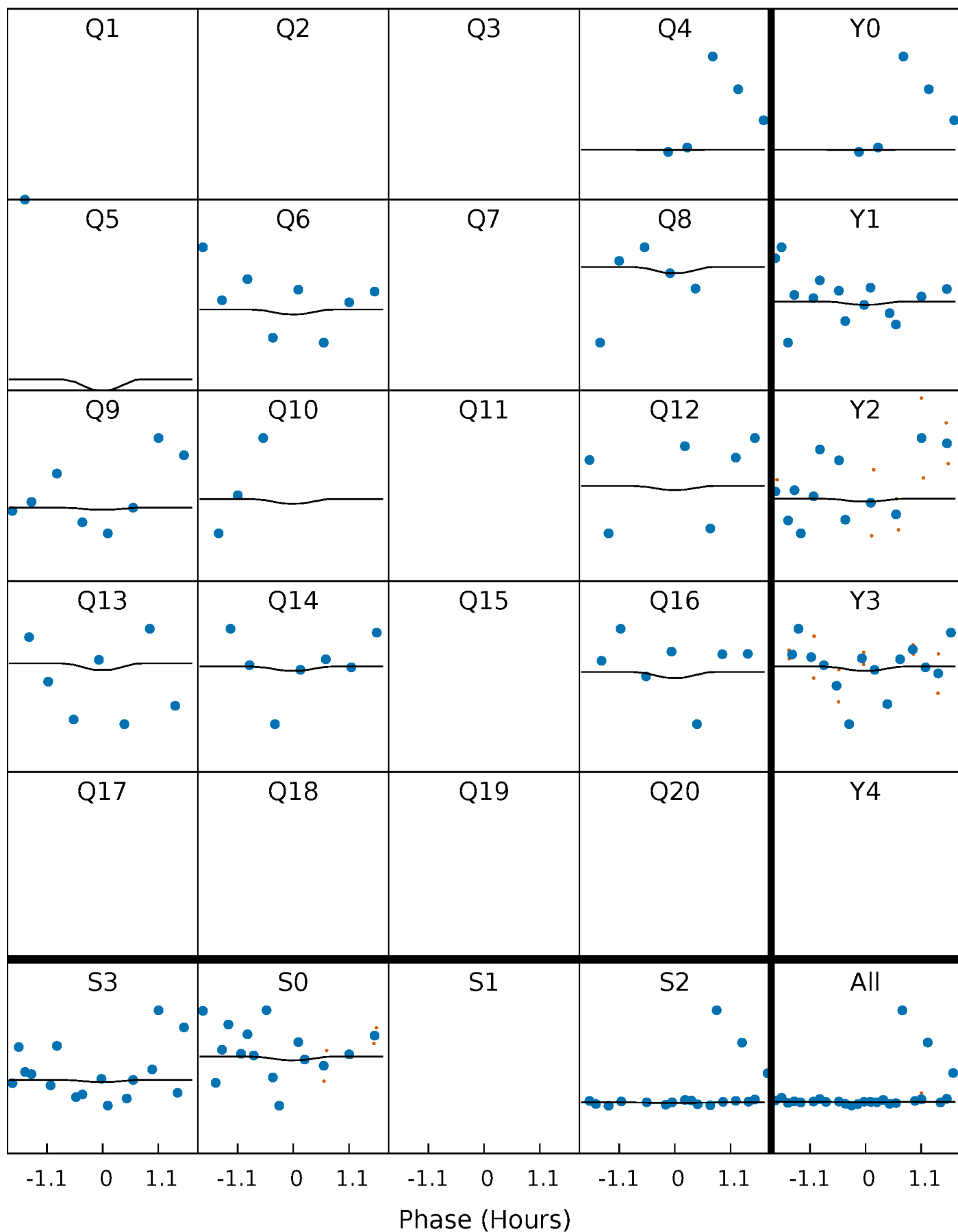
PDC Quarter-Phased Transit Curves

TCE 010614890-03 P= 29.871605 Days $T_0=153.075385$ (BKJD)



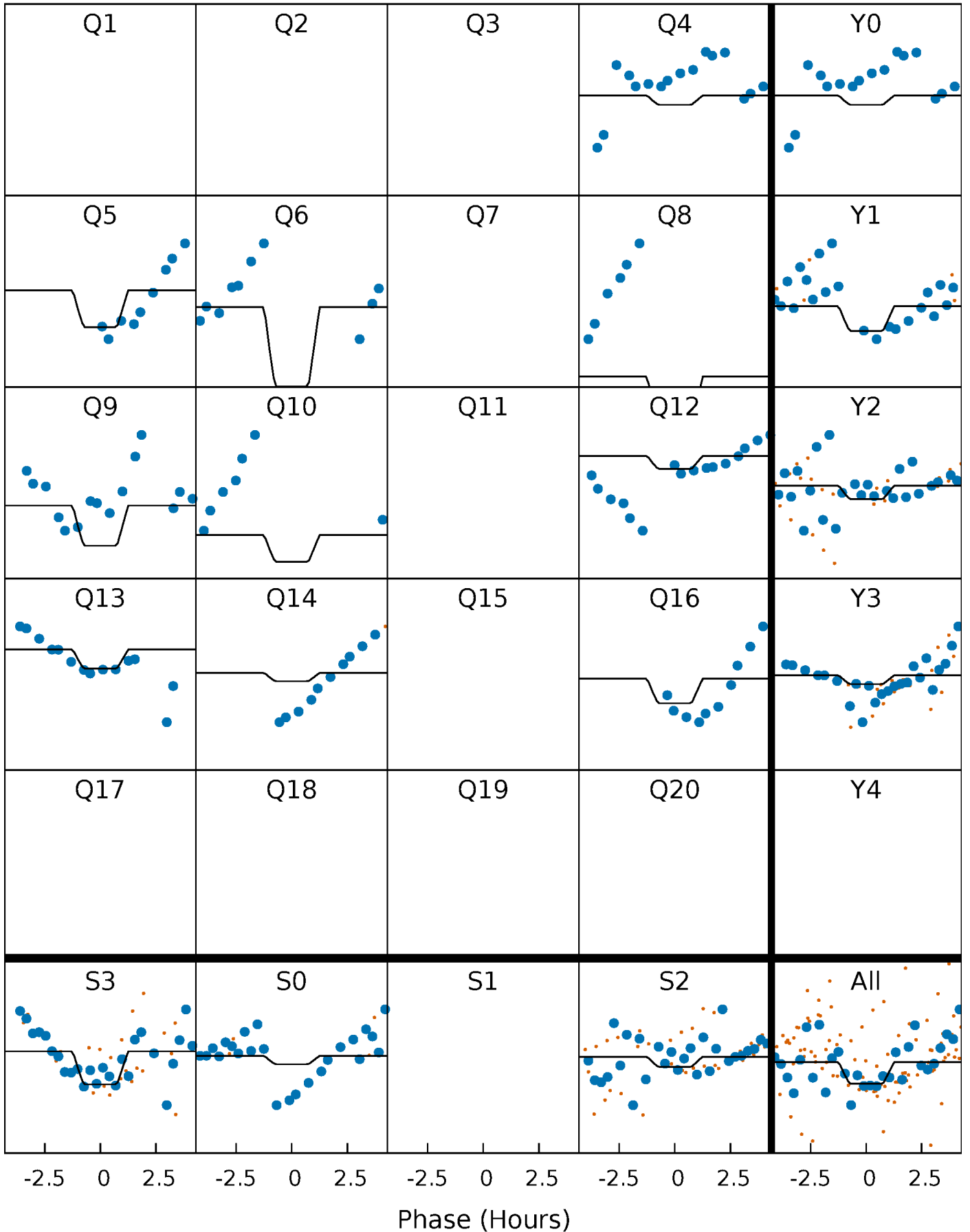
DV Quarter-Phased Transit Curves

TCE 010614890-03 $P = 29.871605$ Days $T_0 = 153.075385$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

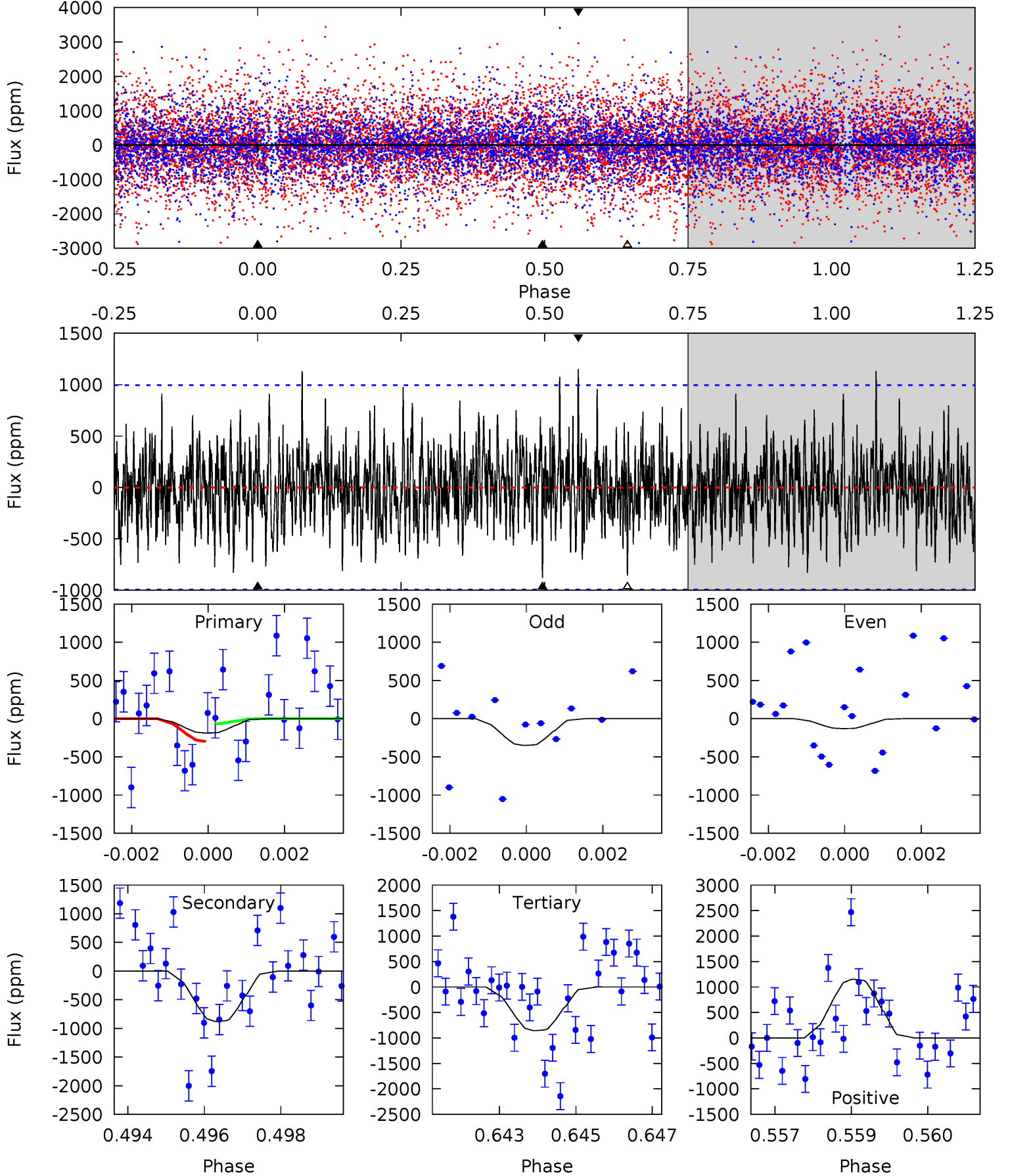
TCE 010614890-03 P= 29.866180 Days $T_0=153.267117$ (BKJD)



DV Model-Shift Uniqueness Test

010614890-03, $P = 29.871605$ Days, $E = 153.075385$ Days

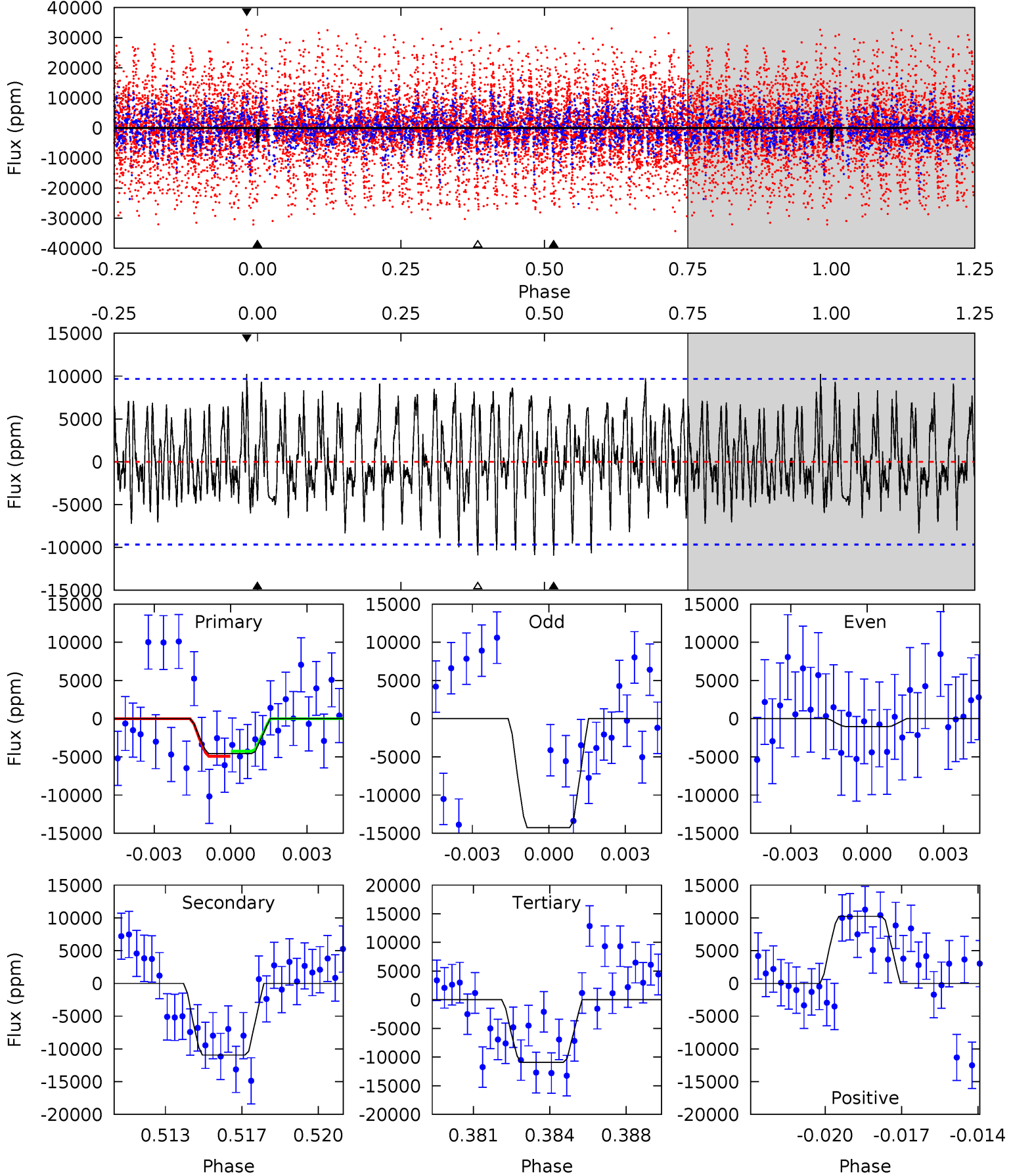
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.01	4.73	4.61	6.21	5.36	3.14	1.57	-3.60	-5.20	0.12	-1.47	0.48	1.93	0.57	0.62



Alt Model-Shift Uniqueness Test

010614890-03, P = 29.866180 Days, E = 153.267117 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.47	5.92	5.91	5.53	5.23	2.93	2.07	-3.44	-3.06	0.01	0.38	3.04	0.95	0.48	0.18



Stellar Parameters For KIC 010614890

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5279^{+183}_{-183}	$4.624^{+0.066}_{-0.048}$	$-0.980^{+0.300}_{-0.300}$	$0.642^{+0.056}_{-0.051}$	$0.632^{+0.065}_{-0.028}$	$3.371^{+0.871}_{-0.579}$
	+3%/-3%	+1%/-1%	+31%/-31%	+9%/-8%	+10%/-4%	+26%/-17%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010614890-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-880 ± 186	$28.25^{+30.11}_{-20.81}$	647^{+26}_{-26}	2330^{+961}_{-363}	16^{+200}_{-13}
Alt.	-10943 ± 1849	$28.19^{+29.46}_{-19.99}$	646^{+23}_{-27}	3256^{+1751}_{-617}	200^{+2168}_{-153}

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 $A_{obs} \gg 1.0$

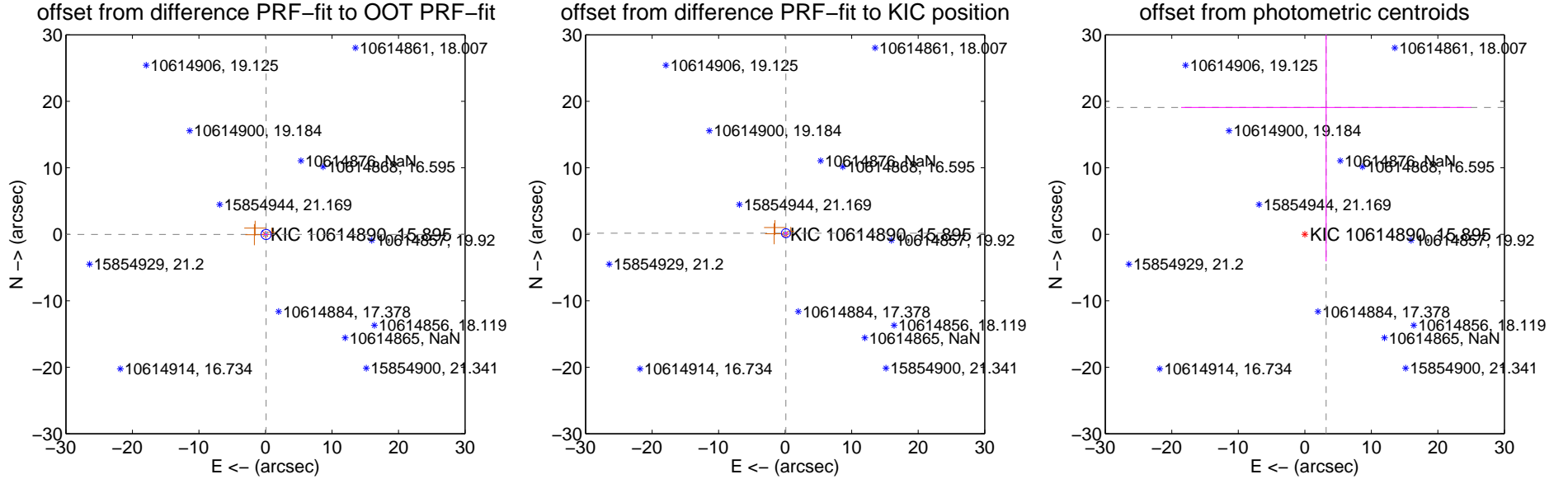
DV Centroid Data

Supplemental centroid analysis for 010614890-03. Kepler magnitude: 15.89. Transit SNR 0.24

There are 6 quarters with good PRF difference image offsets

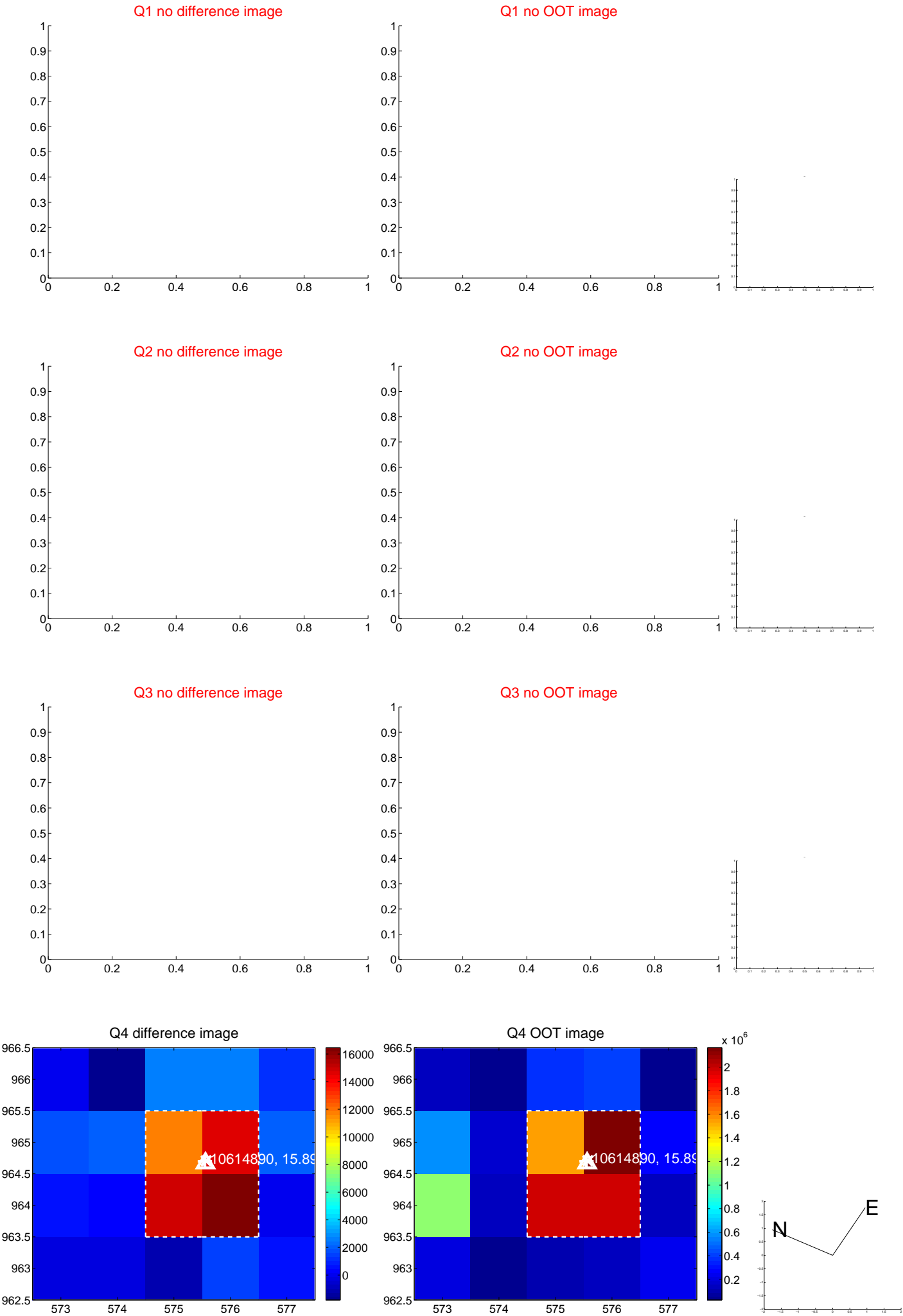
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.098 ± 0.253	0.39	-0.094 ± 0.251	-0.026 ± 0.123
PRF-fit source offset from KIC position	0.196 ± 0.224	0.87	-0.111 ± 0.233	0.161 ± 0.220
photometric centroid source offset	19.34 ± 23.12	0.84	-3.21 ± 21.80	19.07 ± 23.15

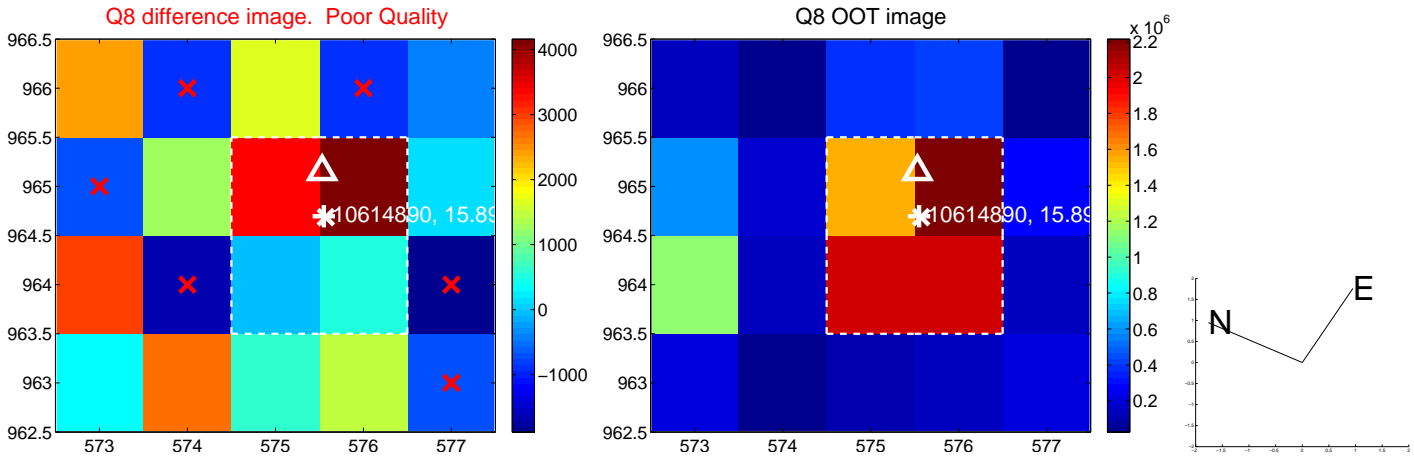
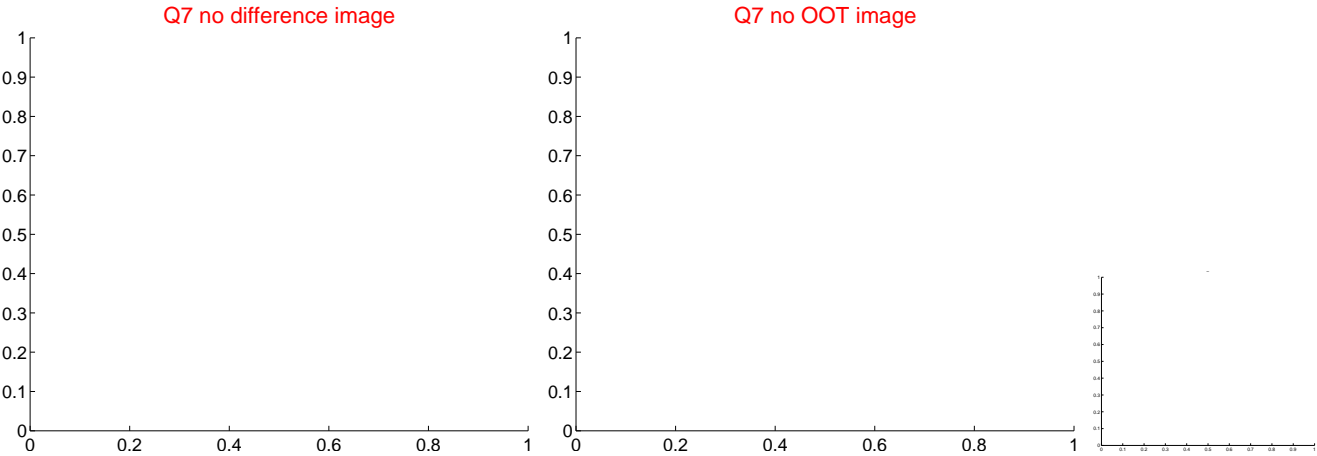
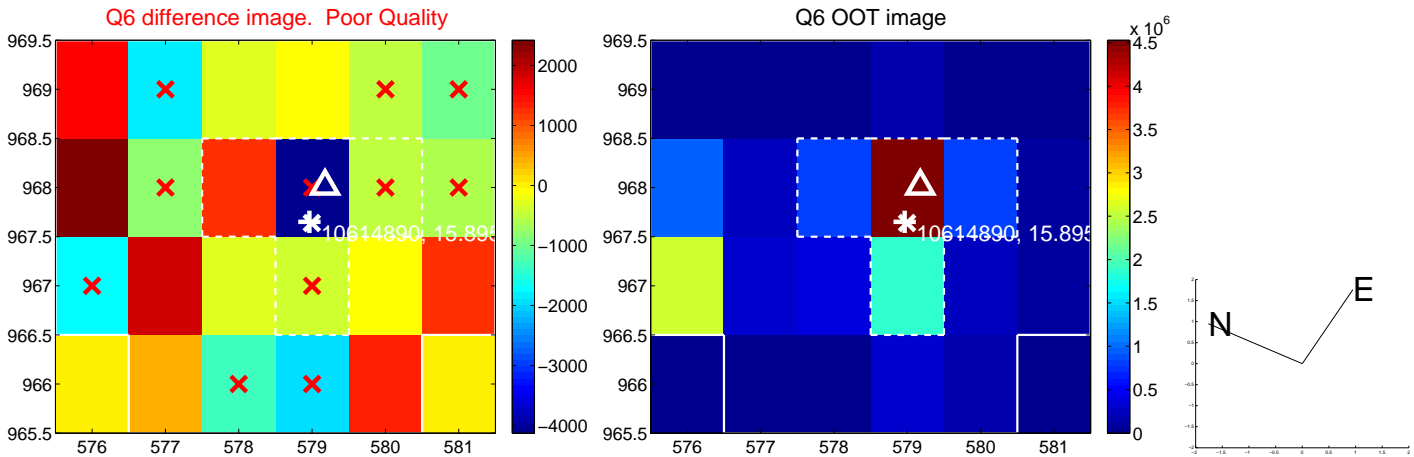
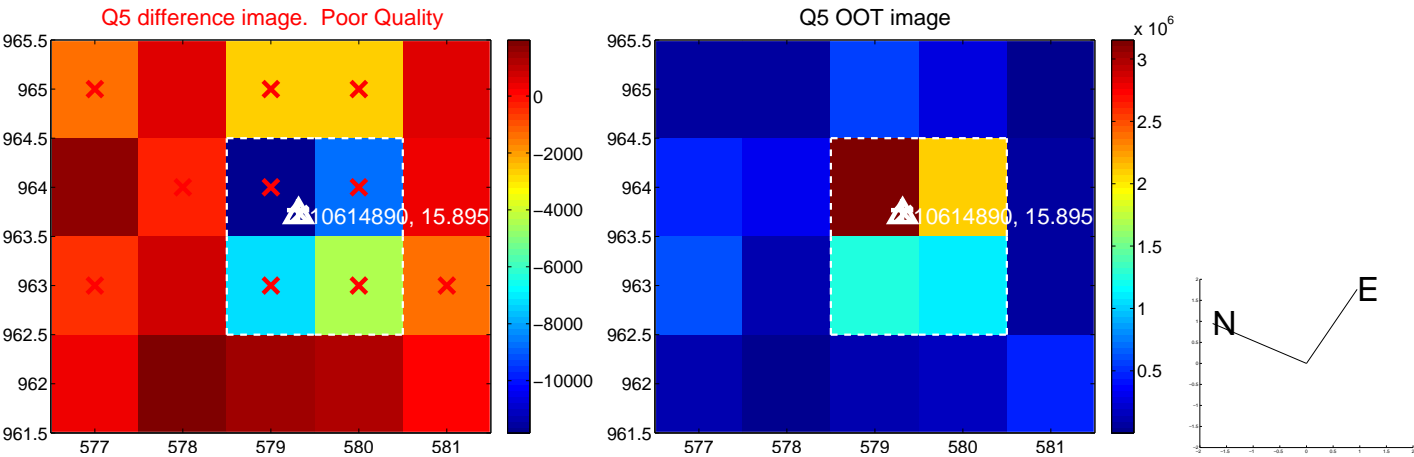


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

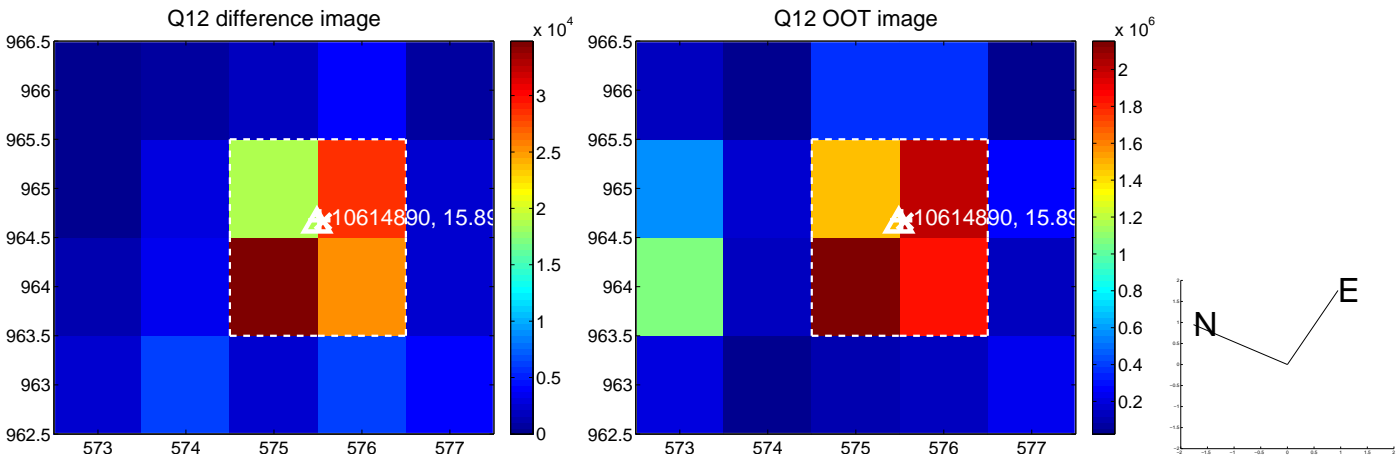
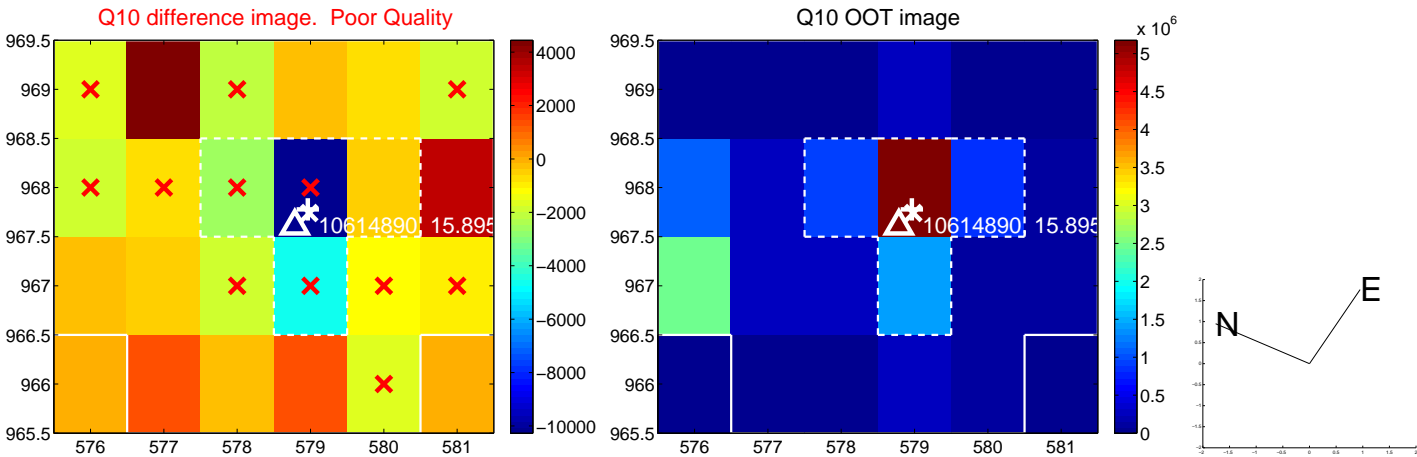
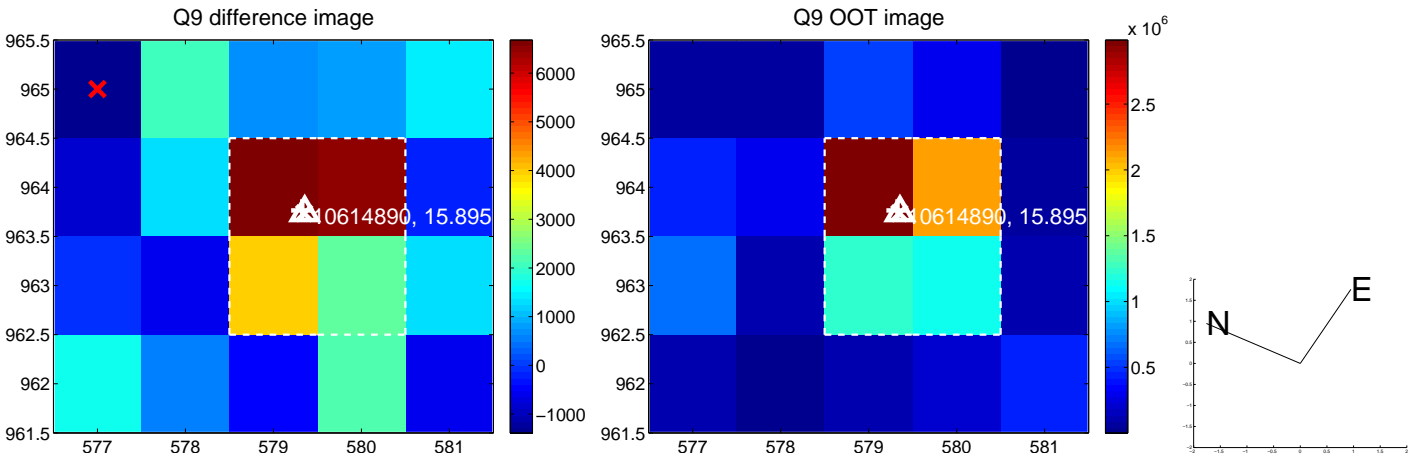
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



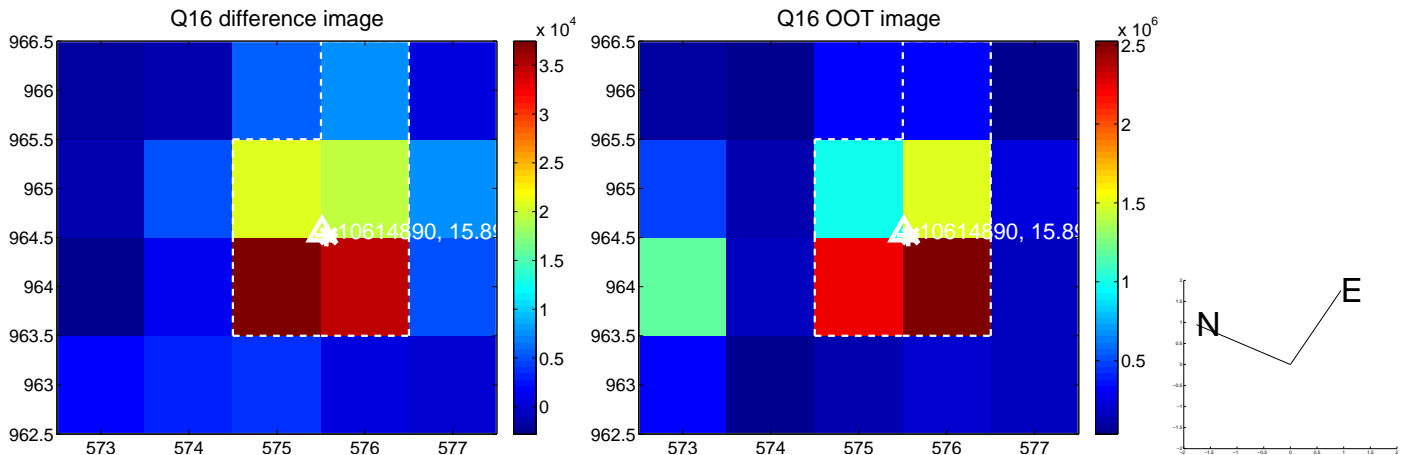
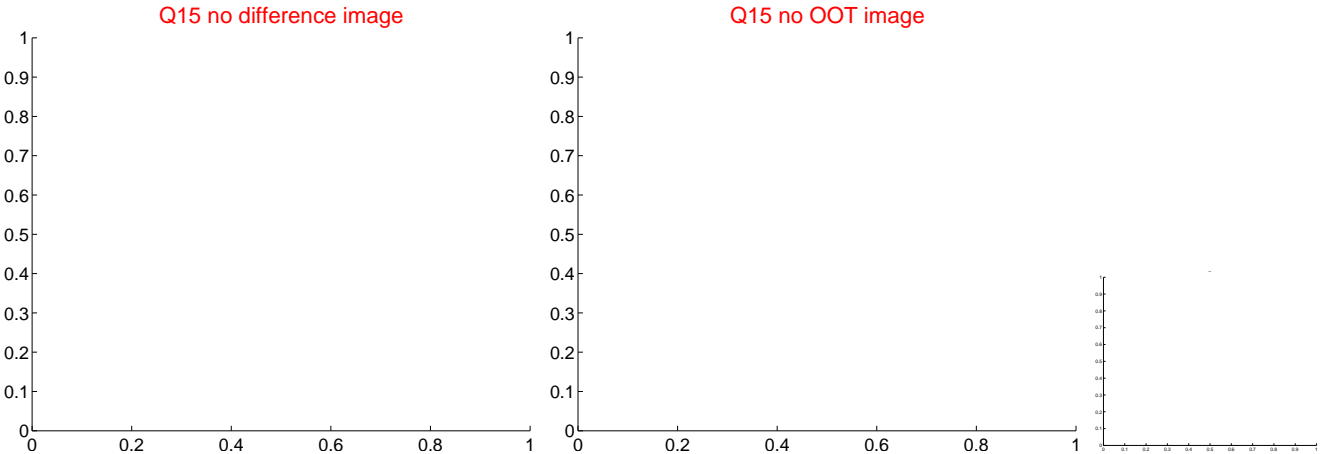
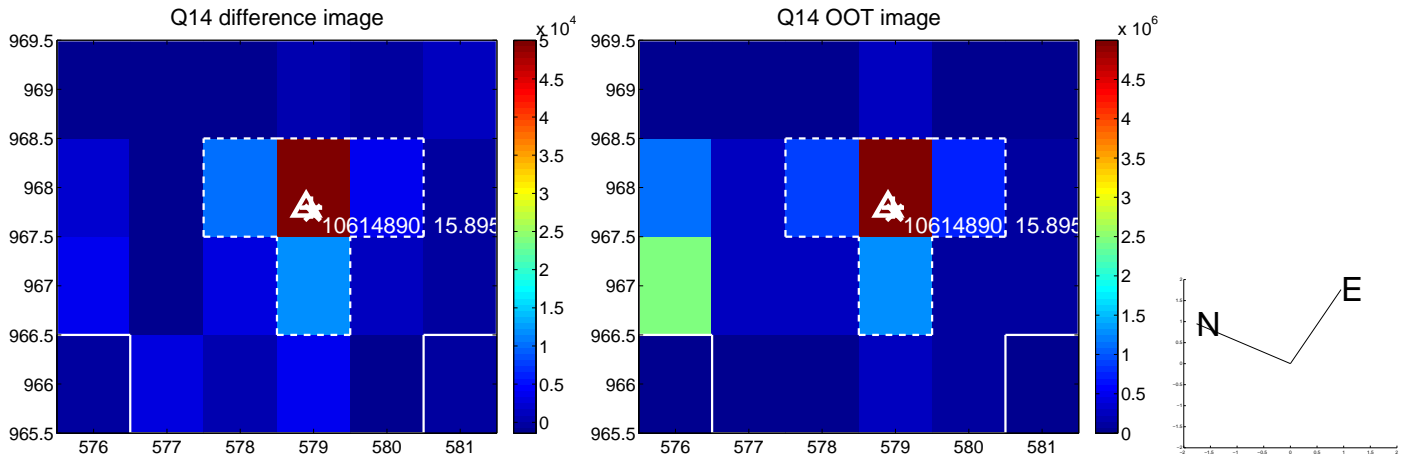
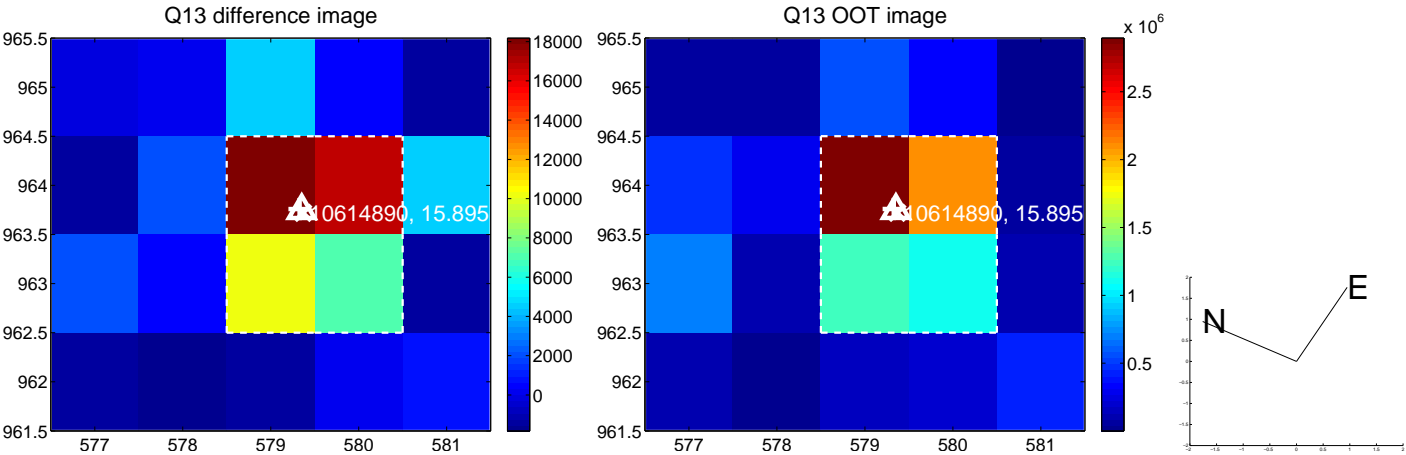
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



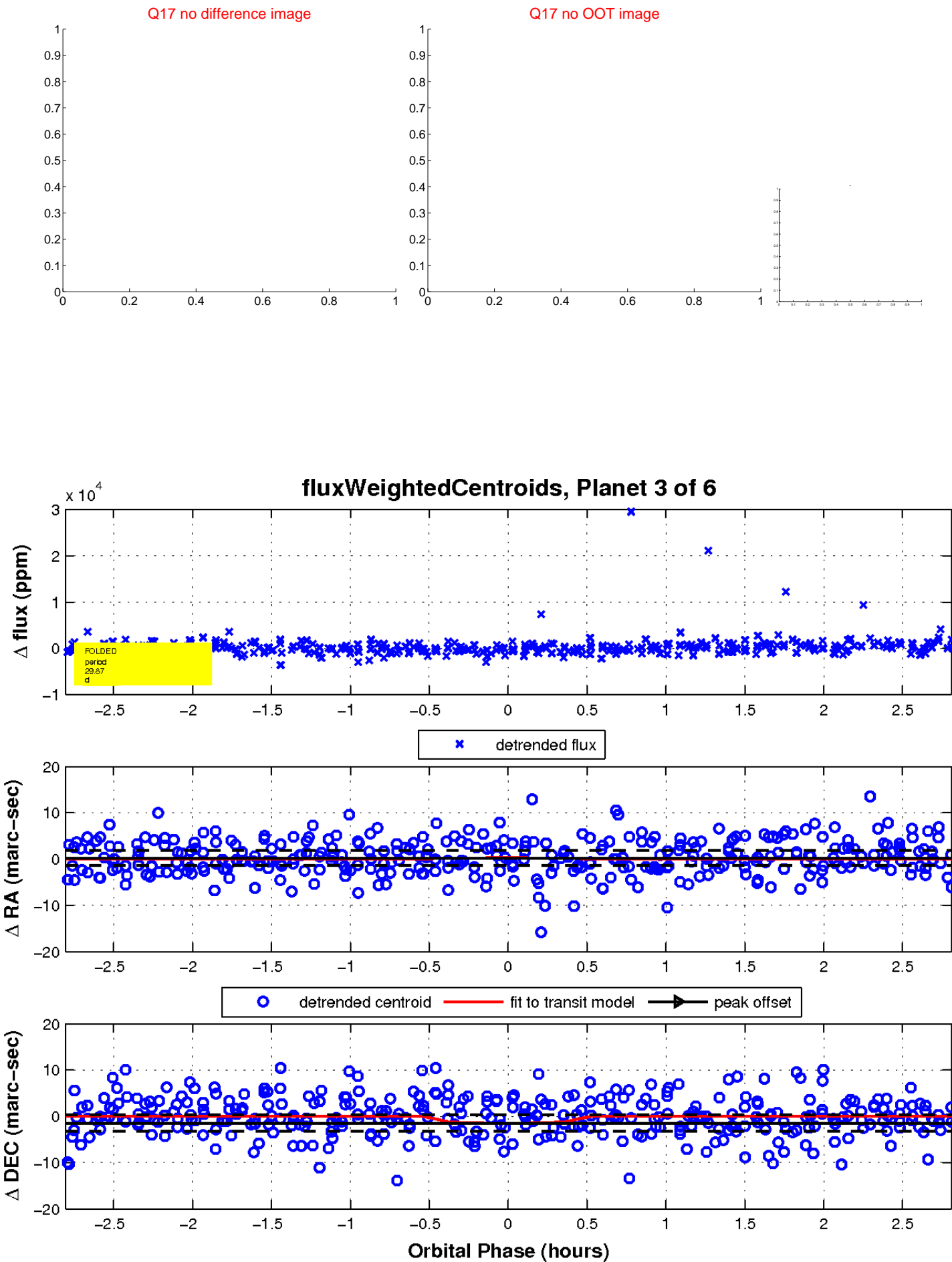
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

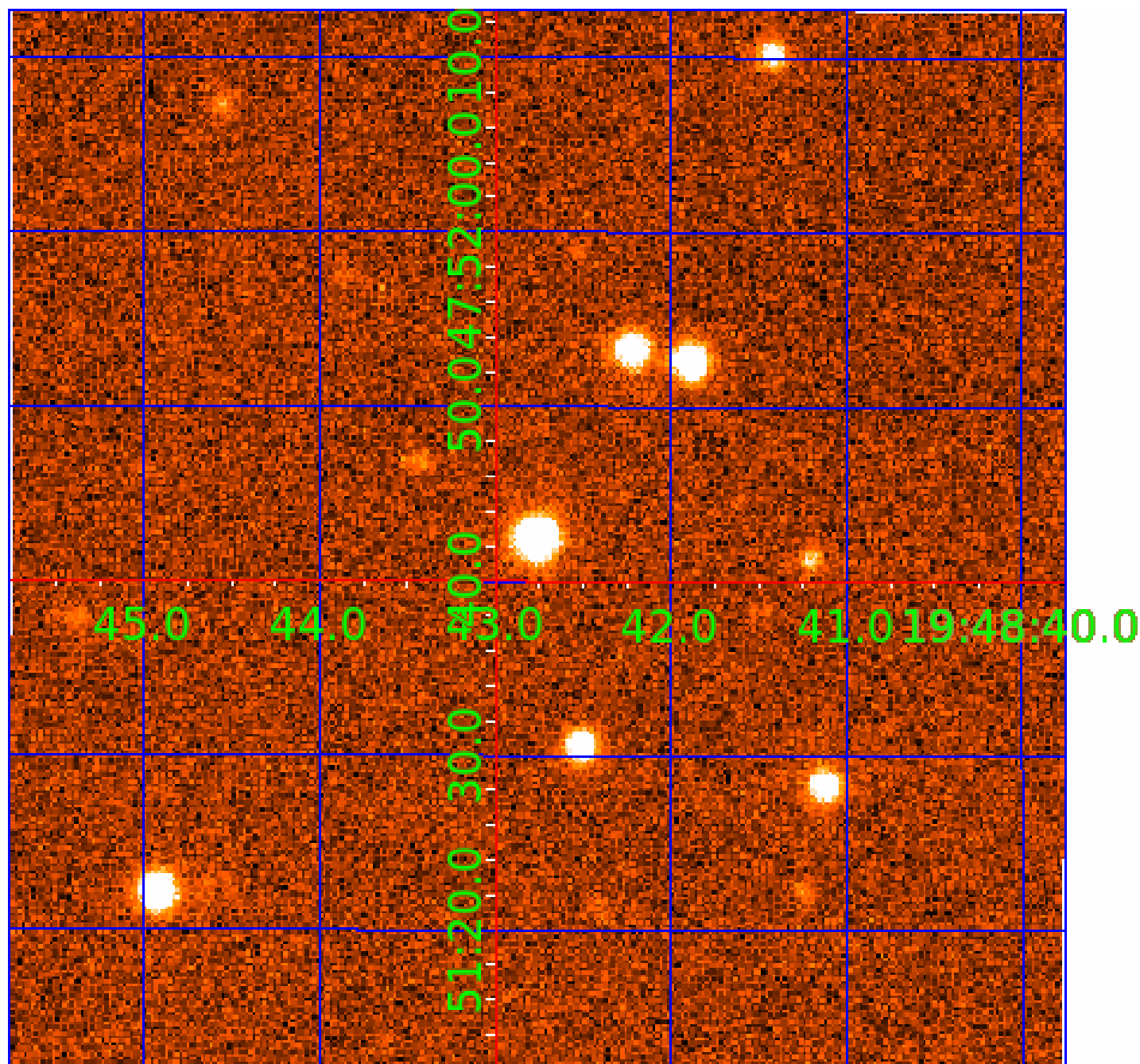


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010614890

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})
010614890-01	OBS	No	0.986132	131.616721	0.3	5.707	8.1	0.0	0.64	5279	0.04	1034.85
010614890-02	OBS	No	29.859465	154.150902	580.7	2.503	8.3	2.3	0.64	5279	1.60	10.96
010614890-03	OBS	No	29.871605	153.075385	76.5	0.941	7.9	0.2	0.64	5279	0.57	10.96
010614890-04	OBS	No	50.269695	178.700656	568.4	4.680	8.2	2.1	0.64	5279	1.81	5.47
010614890-05	OBS	No	10.488865	139.308617	1520.9	6.521	7.5	9.6	0.64	5279	4.75	44.24
010614890-06	OBS	No	29.880301	153.074881	156.8	1.514	8.0	0.2	0.64	5279	0.80	10.96

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010614890-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT
010614890-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
010614890-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
010614890-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010614890-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010614890-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS—HALO_GHOST

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

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

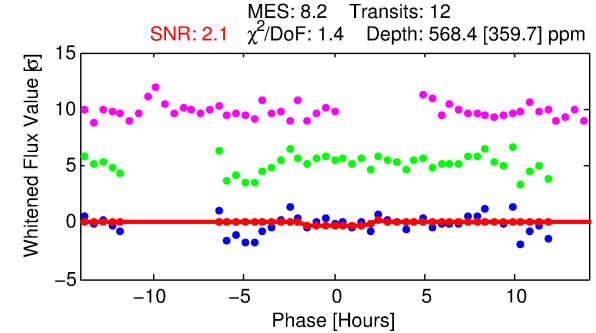
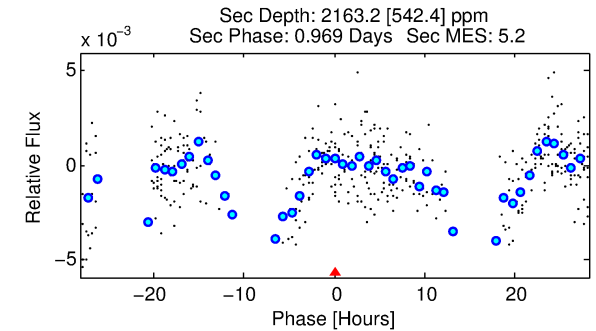
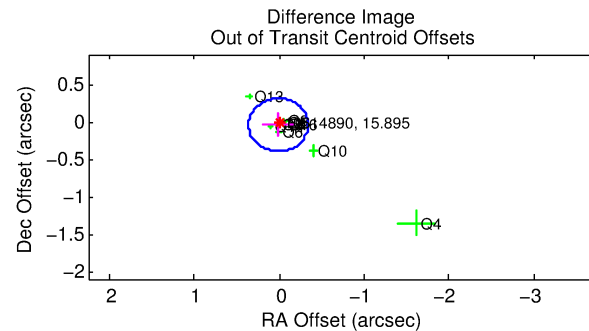
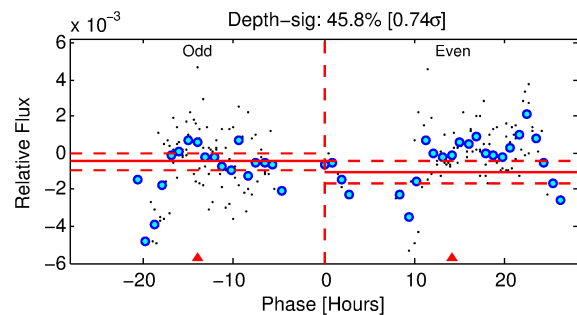
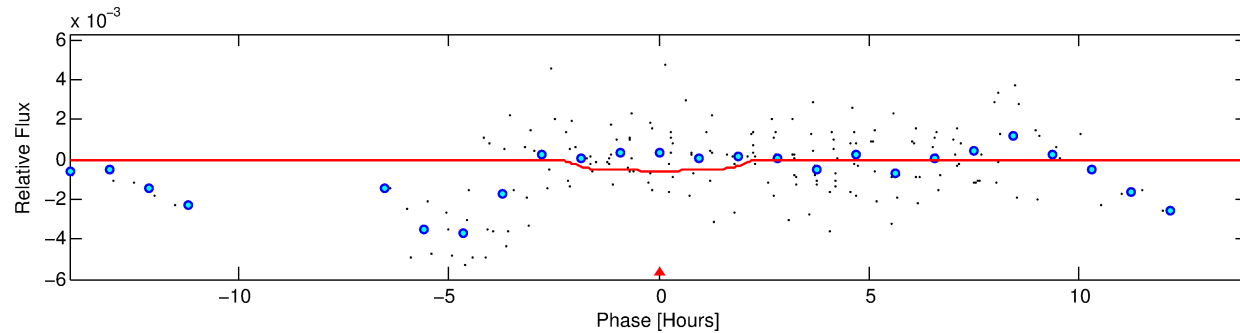
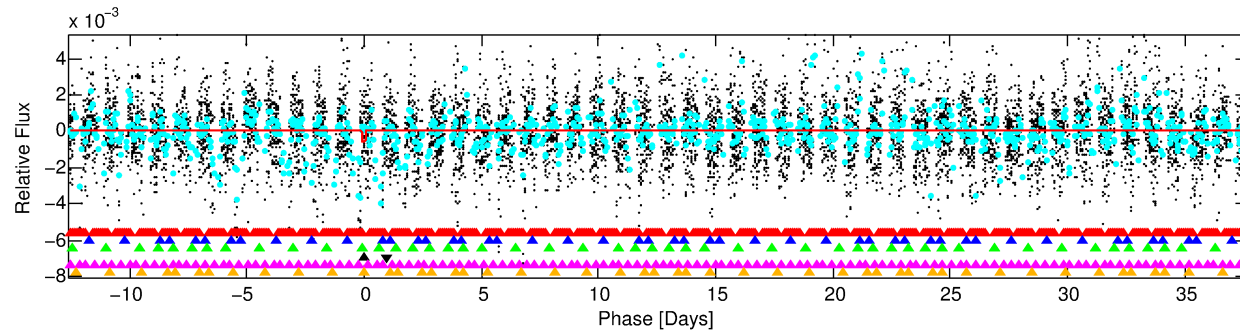
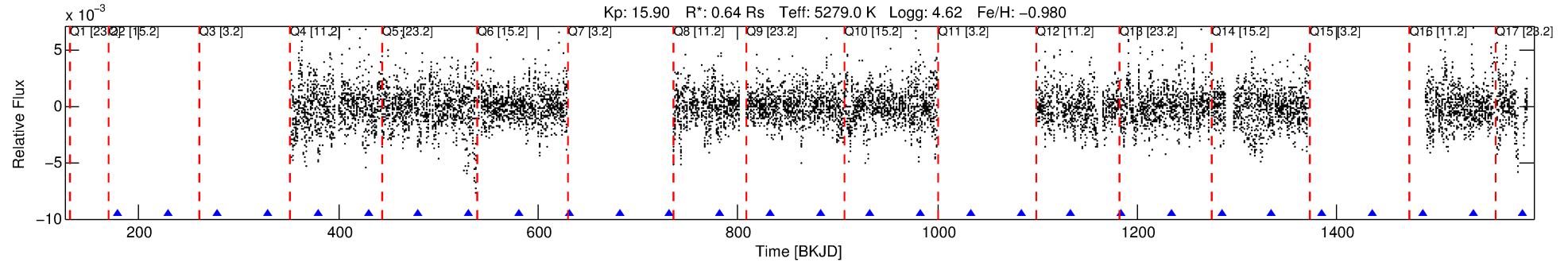
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010614890-04

No Significant Match Found

DV One-Page Summary

KIC: 10614890 Candidate: 4 of 6 Period: 50.270 d



DV Fit Results:

Period = 50.26969 [0.00618] d
Epoch = 178.7007 [0.0758] BKJD
Rp/R* = 0.0258 [0.0191]
a/R* = 41.46 [114.72]
b = 0.89 [0.67]
Seff = 5.47 [0.99]
Teq = 390 [18] K
Rp = 1.81 [1.34] Re
a = 0.2289 [0.0177] AU
Ag = 19112.43 [28754.06] [0.66 σ]
Teffp = 7091 [2670] K [2.51 σ]

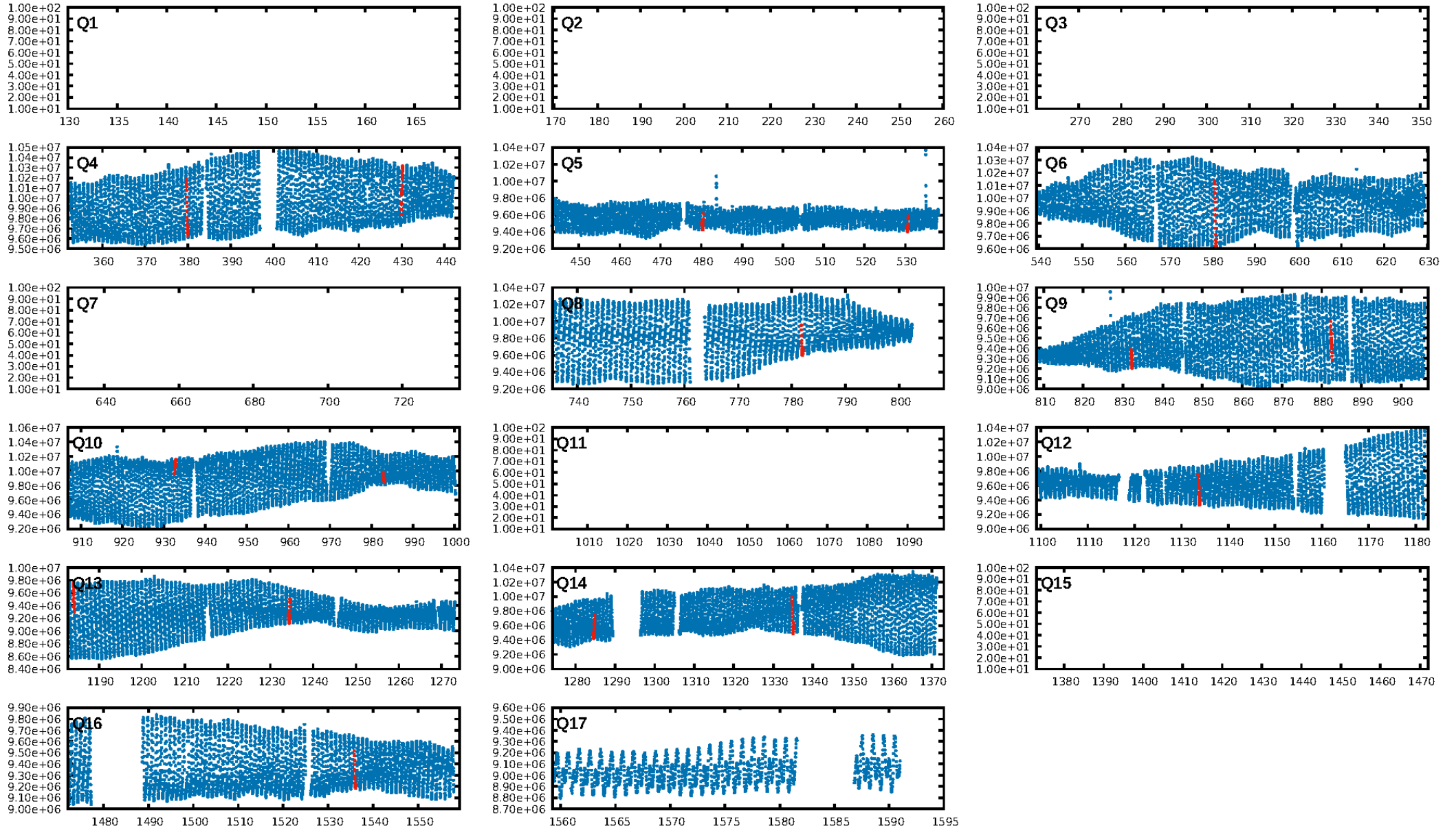
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [99.49 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 36.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.62e-11
RollingBand-fgt: 1.00 [12/12]
GhostDiagnostic-chr: -1.023
Centroid-sig: 4.4%
Centroid-so: 3.802 arcsec [1.88 σ]
OotOffset-rm: 0.044 arcsec [0.37 σ]
OotOffset-st: 3/0/3/3 [9]
KicOffset-rm: 0.116 arcsec [0.45 σ]
KicOffset-st: 3/0/3/3 [9]
DiffImageQuality-fgm: 0.67 [6/9]
DiffImageOverlap-fno: 0.00 [0/9]

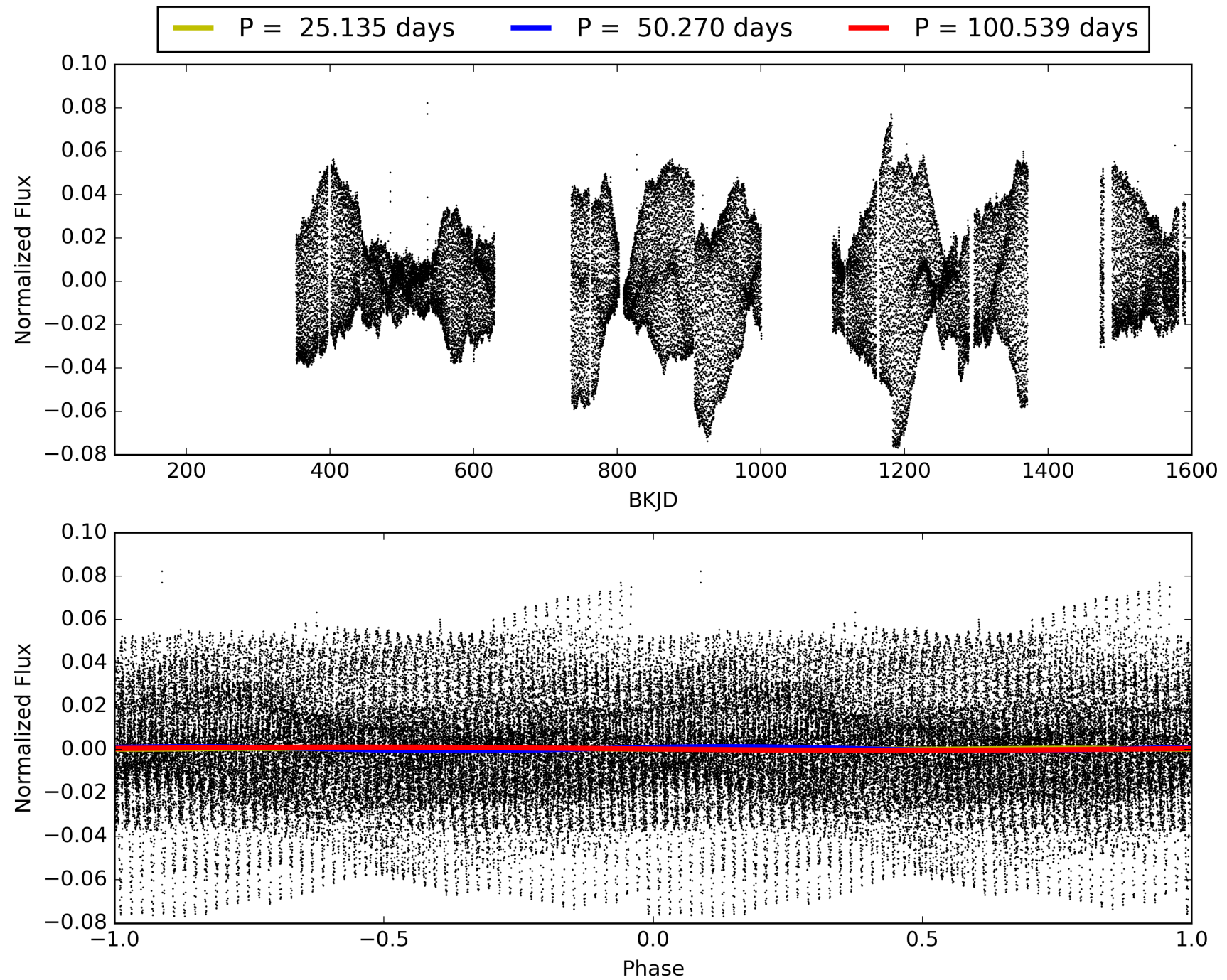
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:01:43 Z

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

TCE 010614890-04, PDC Light Curves

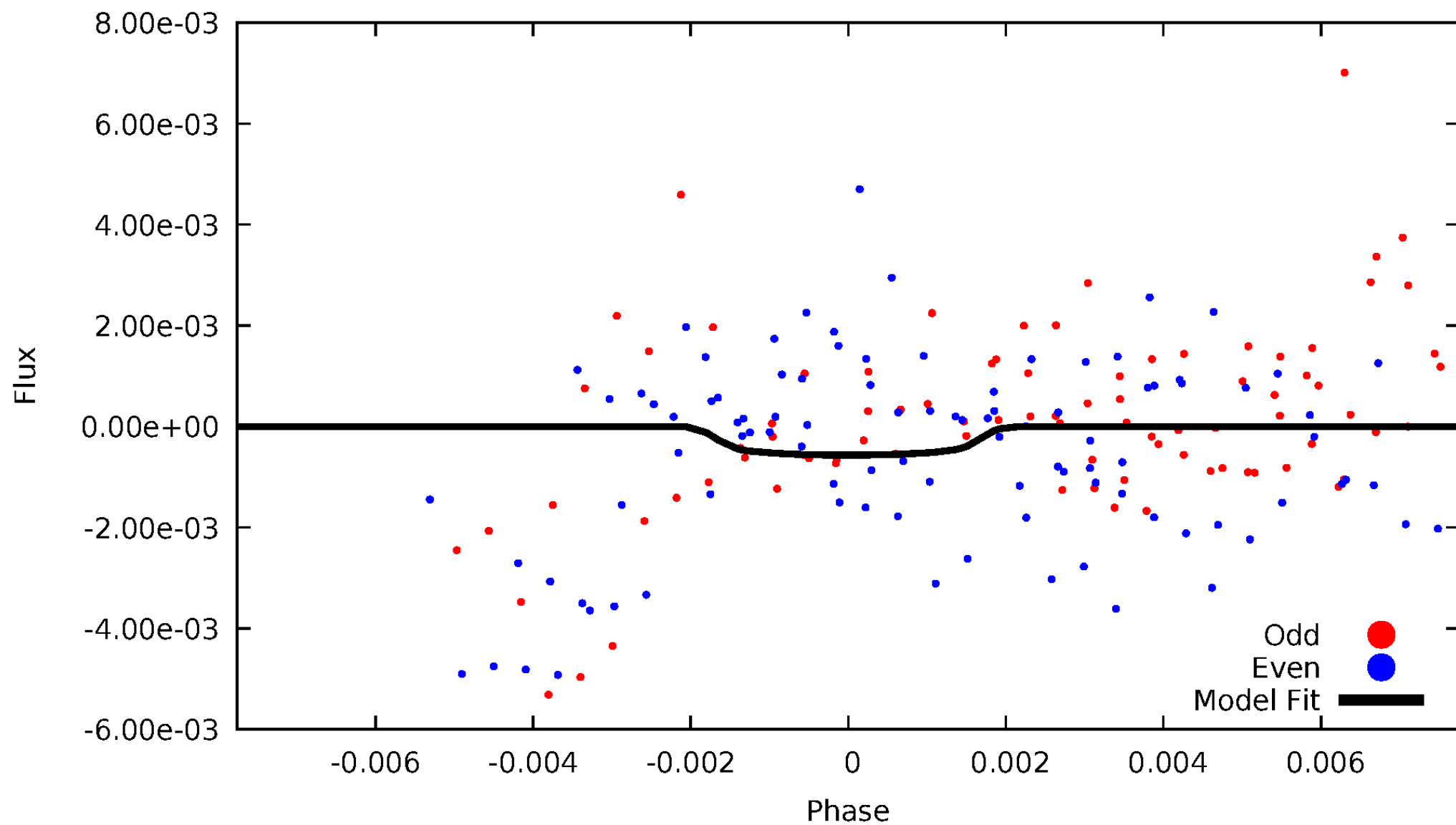


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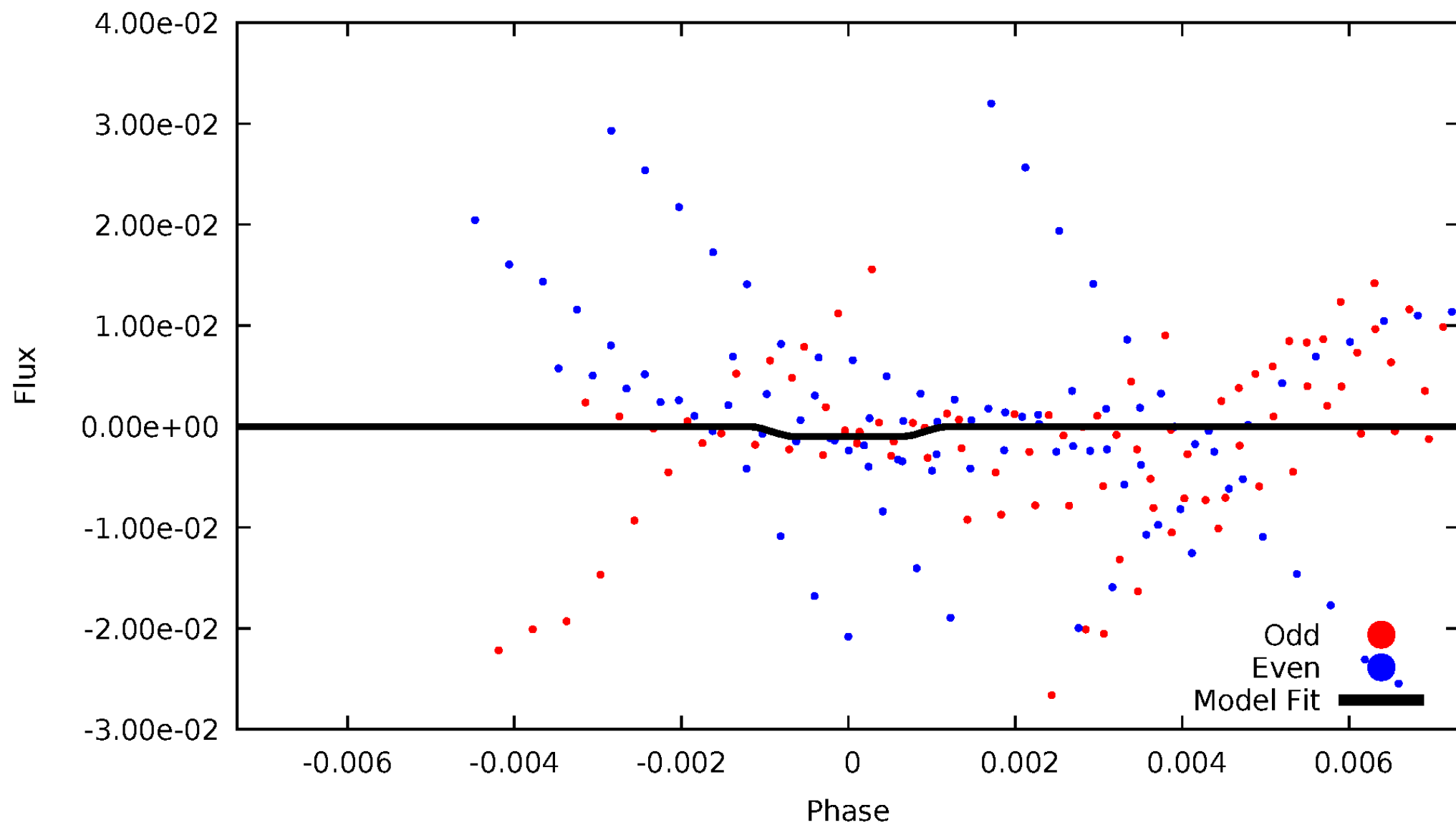
DV Odd/Even

TCE 010614890-04



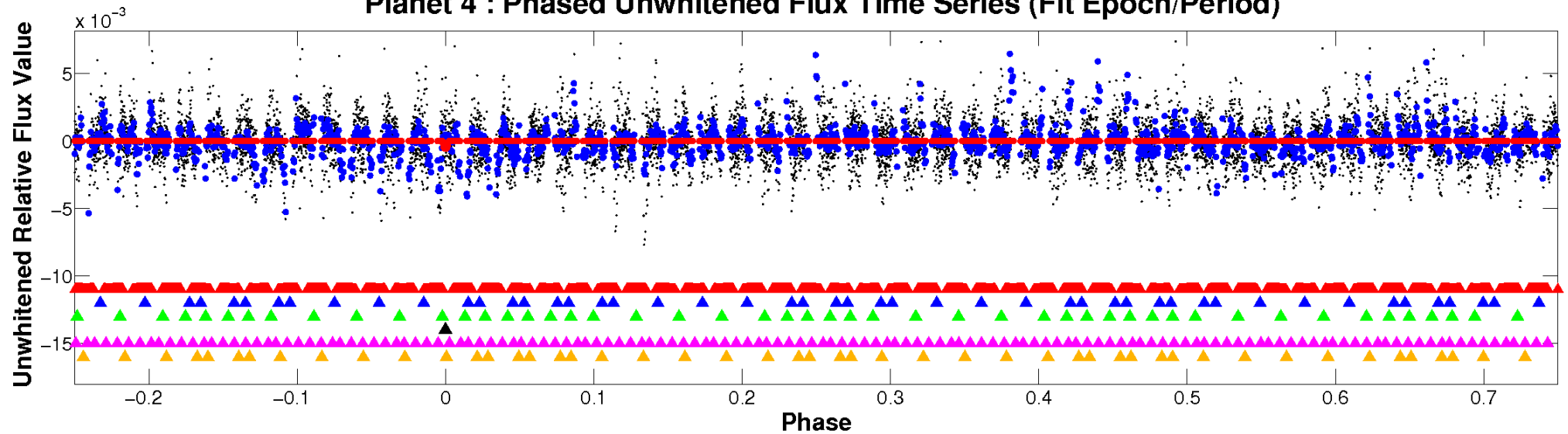
ALT Odd/Even

TCE 010614890-04

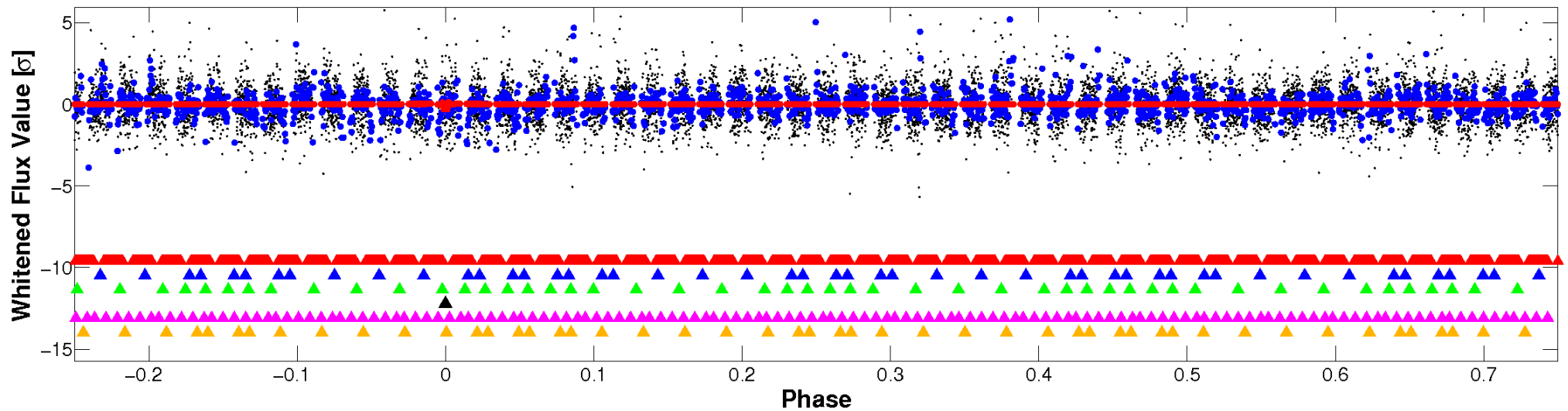


Non-Whitened Vs. Whitened Light Curve

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

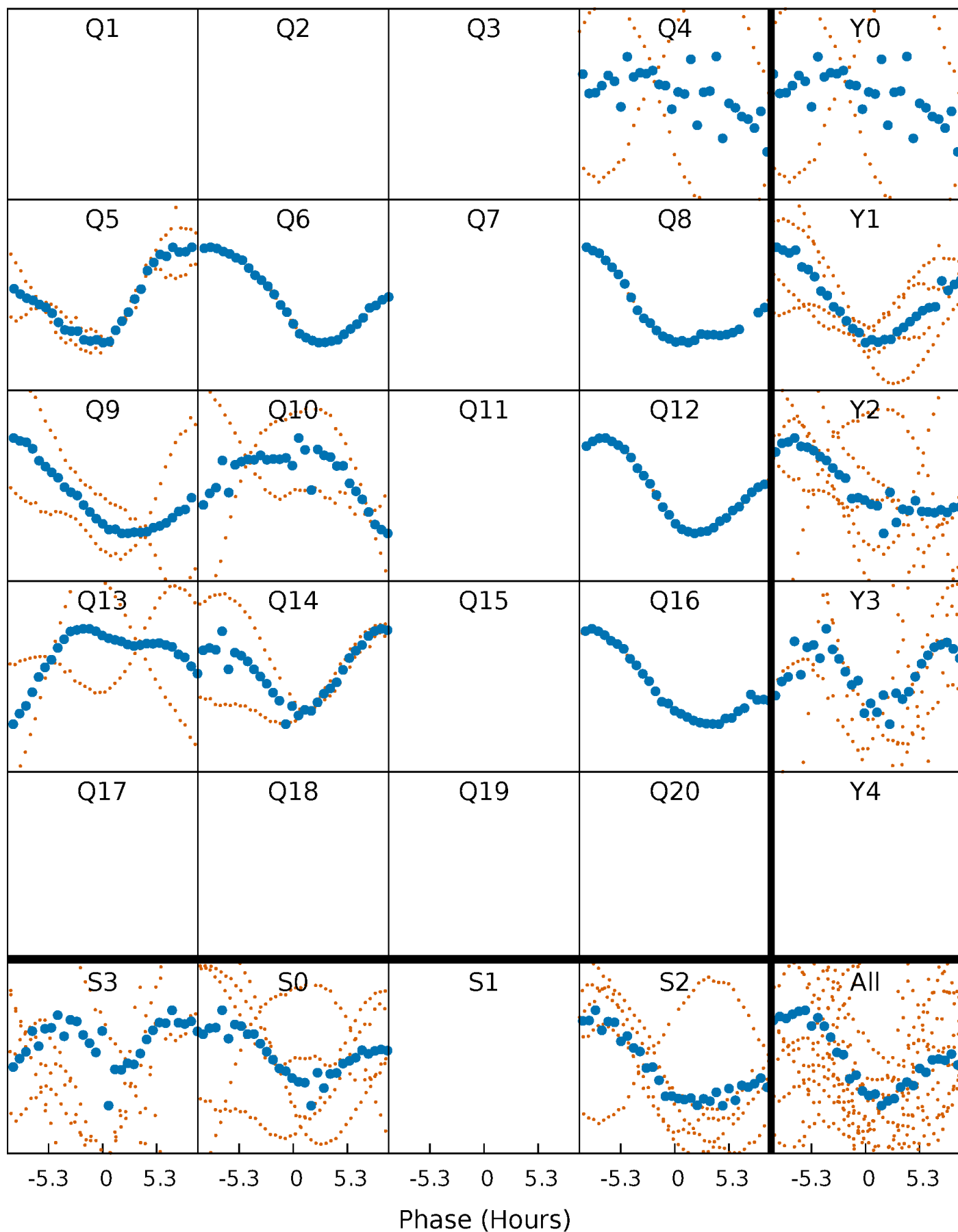


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



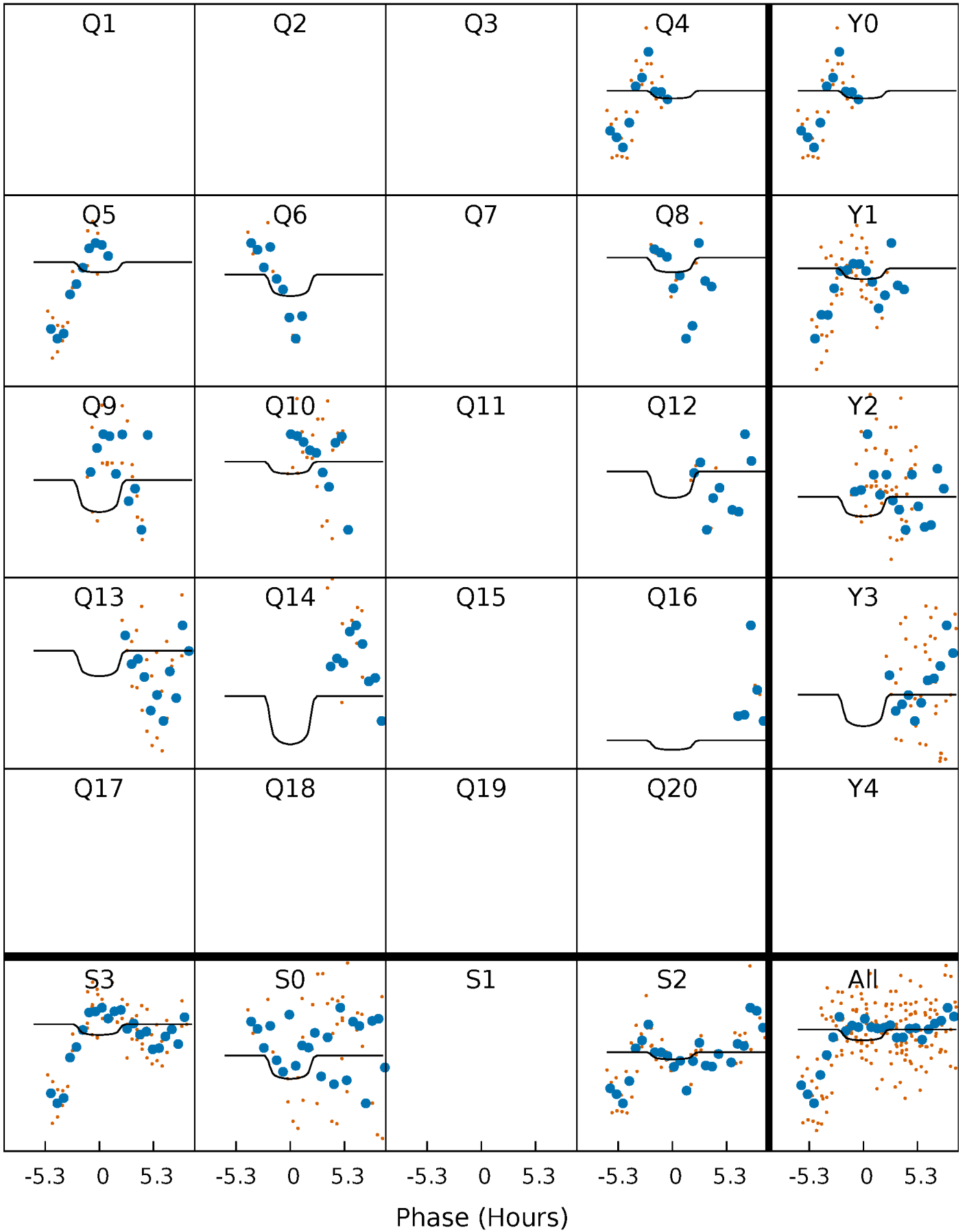
PDC Quarter-Phased Transit Curves

TCE 010614890-04 P= 50.269695 Days $T_0=178.700657$ (BKJD)



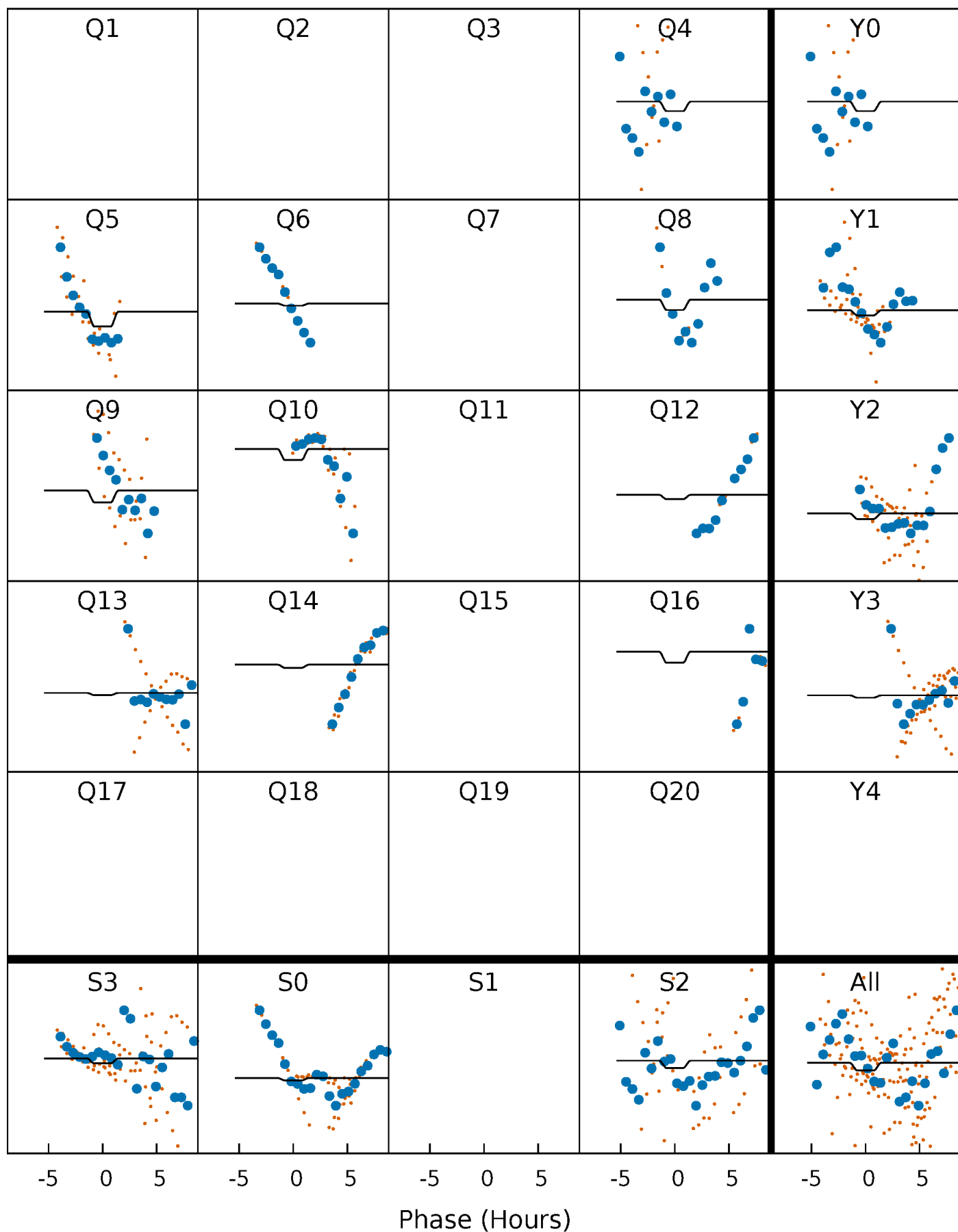
DV Quarter-Phased Transit Curves

TCE 010614890-04 P= 50.269695 Days $T_0=178.700657$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

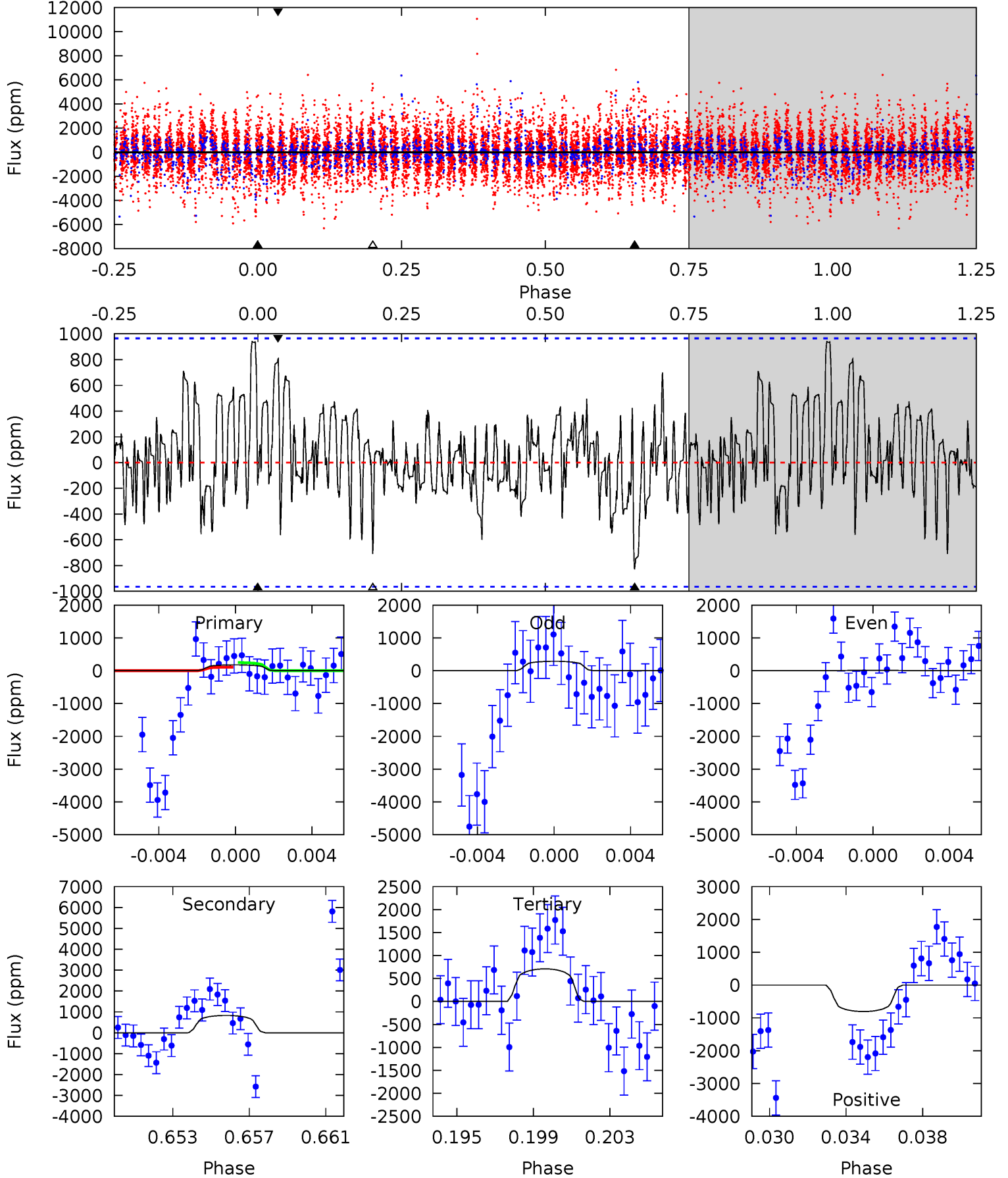
TCE 010614890-04 P= 50.272767 Days $T_0=178.645962$ (BKJD)



DV Model-Shift Uniqueness Test

010614890-04, P = 50.269695 Days, E = 178.700657 Days

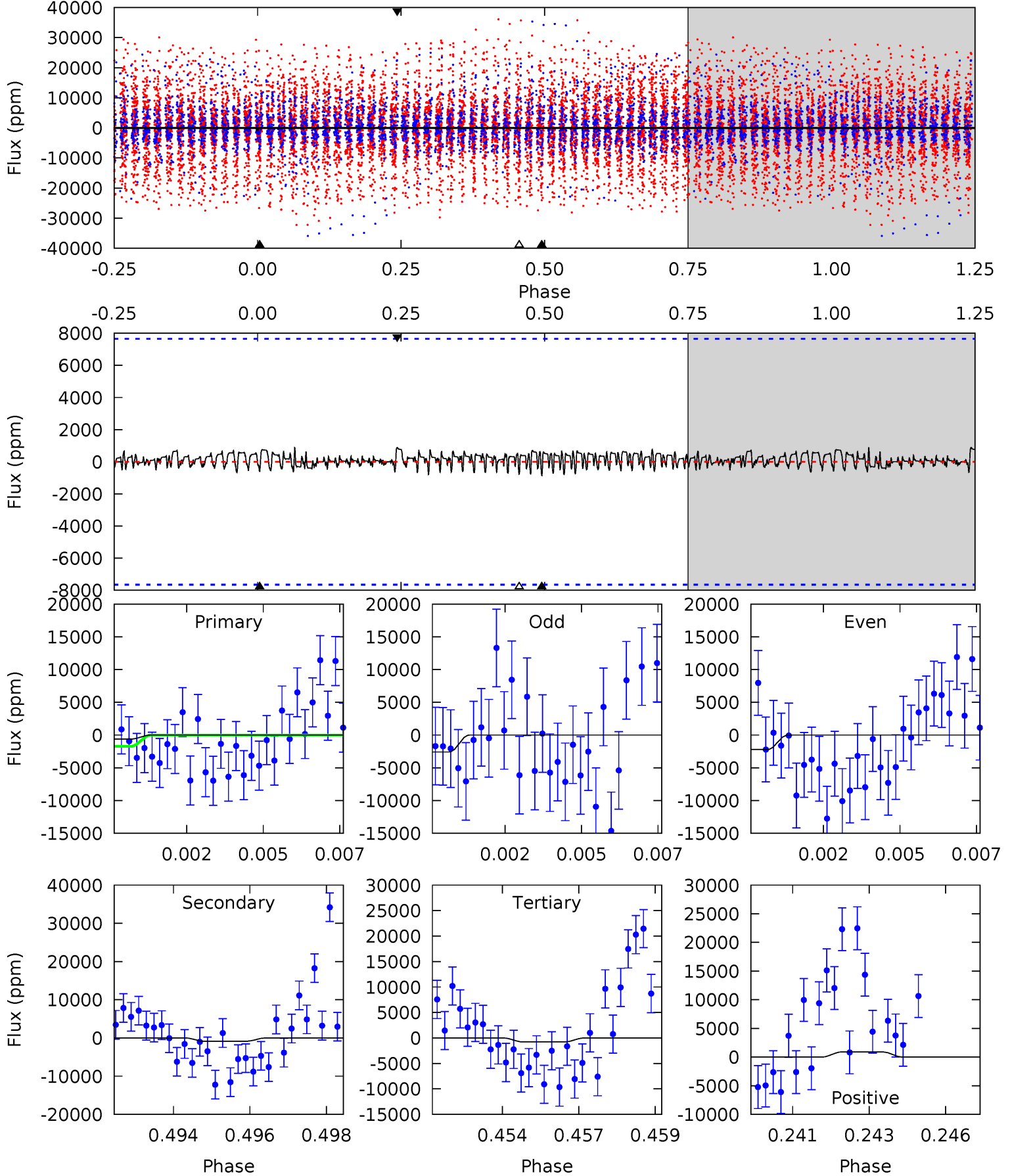
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.95	4.46	3.81	4.34	5.19	2.86	1.31	-2.86	-3.39	0.64	0.12	0.71	1.46	0.53	0.38



Alt Model-Shift Uniqueness Test

010614890-04, P = 50.272767 Days, E = 178.645962 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.42	0.59	0.54	0.61	5.30	3.05	0.23	-0.12	-0.19	0.05	-0.02	0.13	0.90	0.51	0.33



Stellar Parameters For KIC 010614890

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5279^{+183}_{-183}	$4.624^{+0.066}_{-0.048}$	$-0.980^{+0.300}_{-0.300}$	$0.642^{+0.056}_{-0.051}$	$0.632^{+0.065}_{-0.028}$	$3.371^{+0.871}_{-0.579}$
	+3%/-3%	+1%/-1%	+31%/-31%	+9%/-8%	+10%/-4%	+26%/-17%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010614890-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-829 ± 186	$1.90^{+1.31}_{-1.05}$	544^{+22}_{-22}	5395^{+3094}_{-1084}	6588^{+26941}_{-4367}
Alt.	-851 ± 1444	$2.28^{+1.31}_{-1.23}$	544^{+22}_{-23}	4774^{+2747}_{-9337}	3784^{+21247}_{-6638}

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 $A_{obs} \gg 1.0$

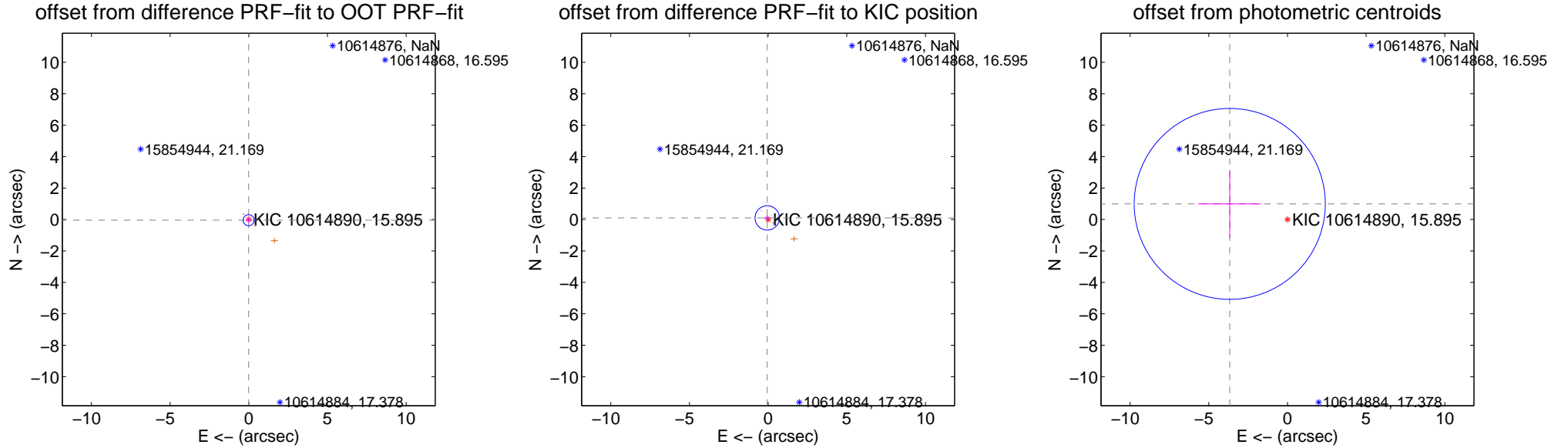
DV Centroid Data

Supplemental centroid analysis for 010614890-04. Kepler magnitude: 15.89. Transit SNR 2.15

There are 6 quarters with good PRF difference image offsets

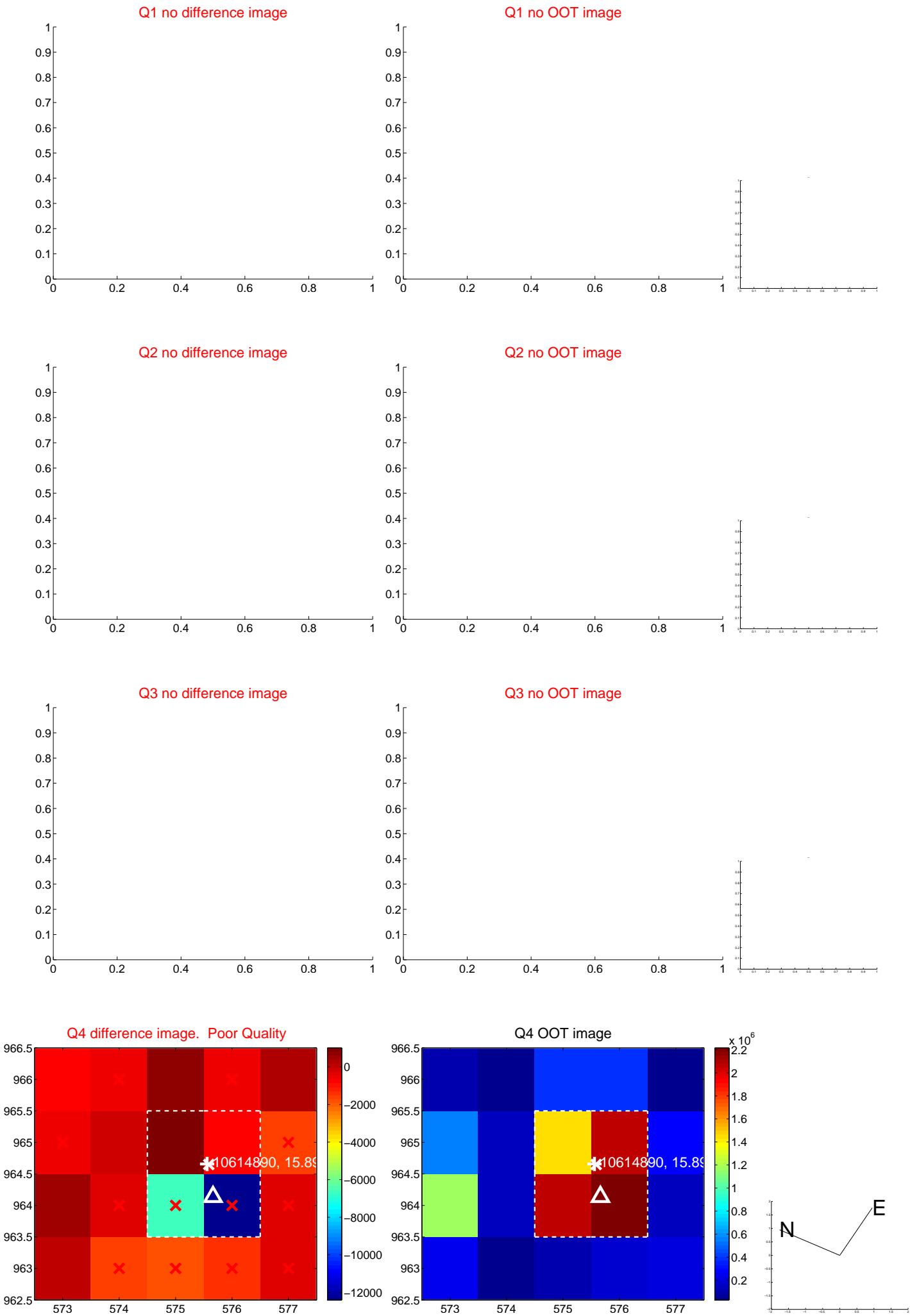
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.044 ± 0.117	0.37	0.010 ± 0.179	-0.043 ± 0.151
PRF-fit source offset from KIC position	0.116 ± 0.258	0.45	0.057 ± 0.215	0.101 ± 0.184
photometric centroid source offset	3.80 ± 2.02	1.88	3.67 ± 2.01	0.99 ± 2.15

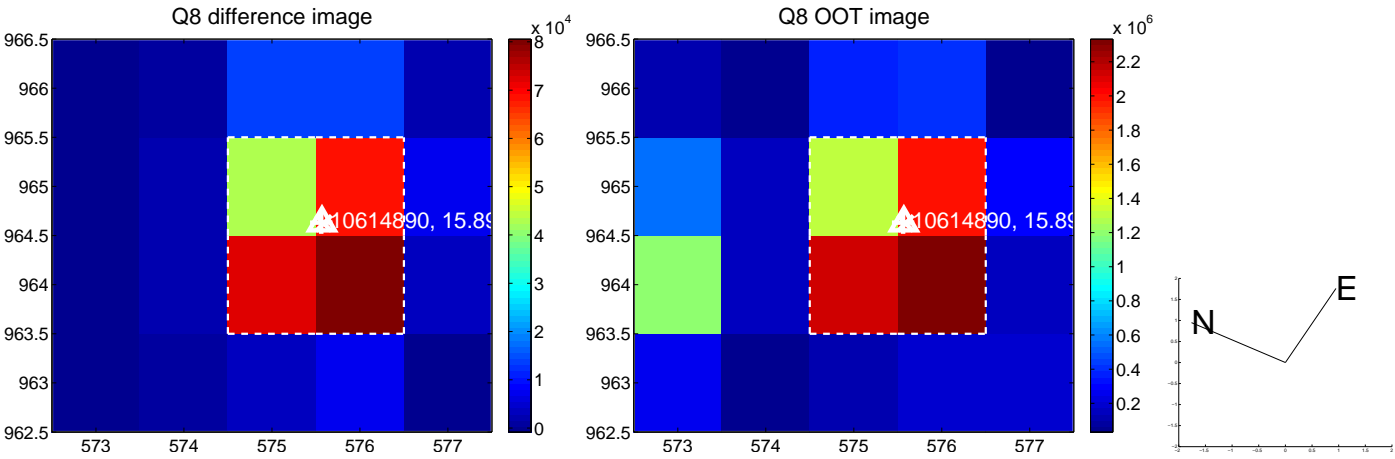
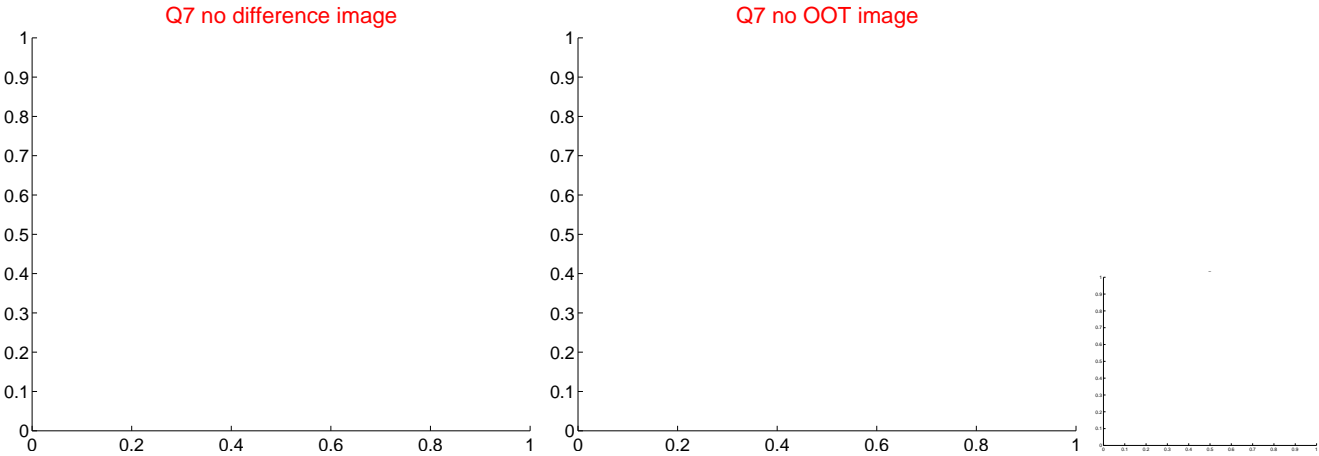
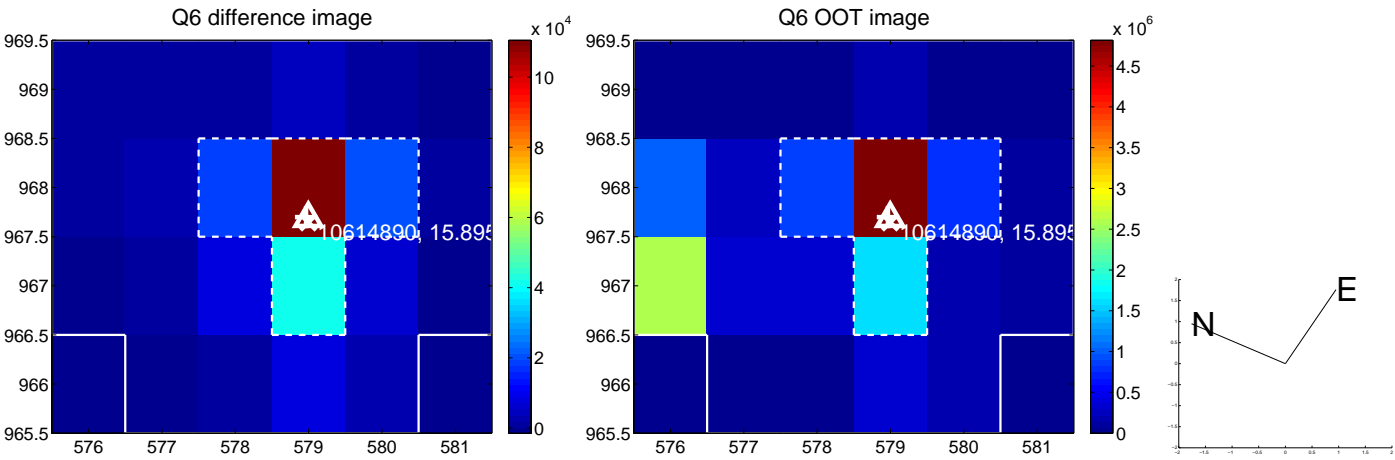
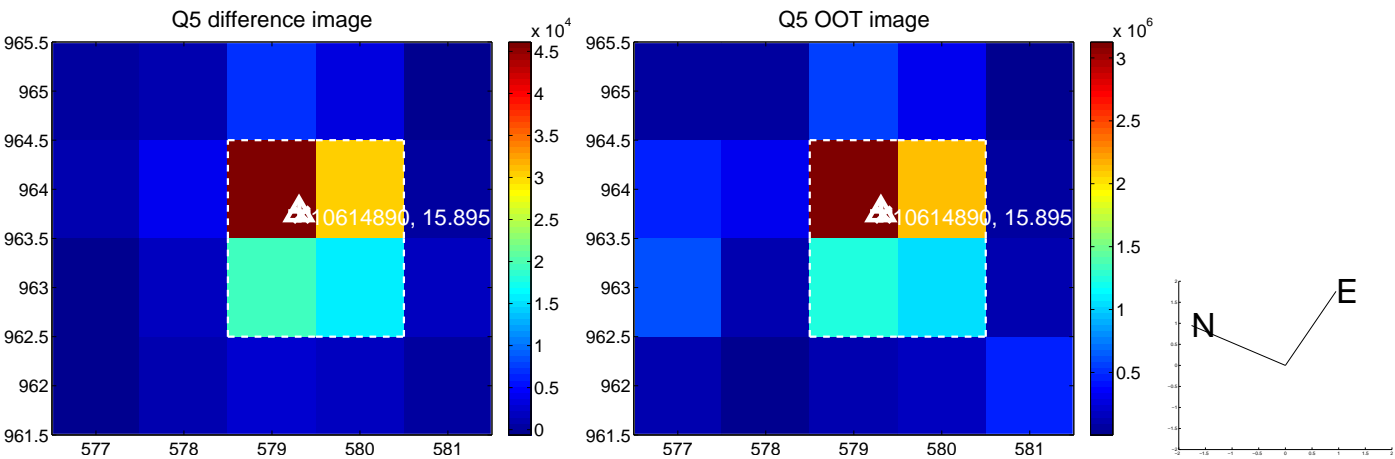


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

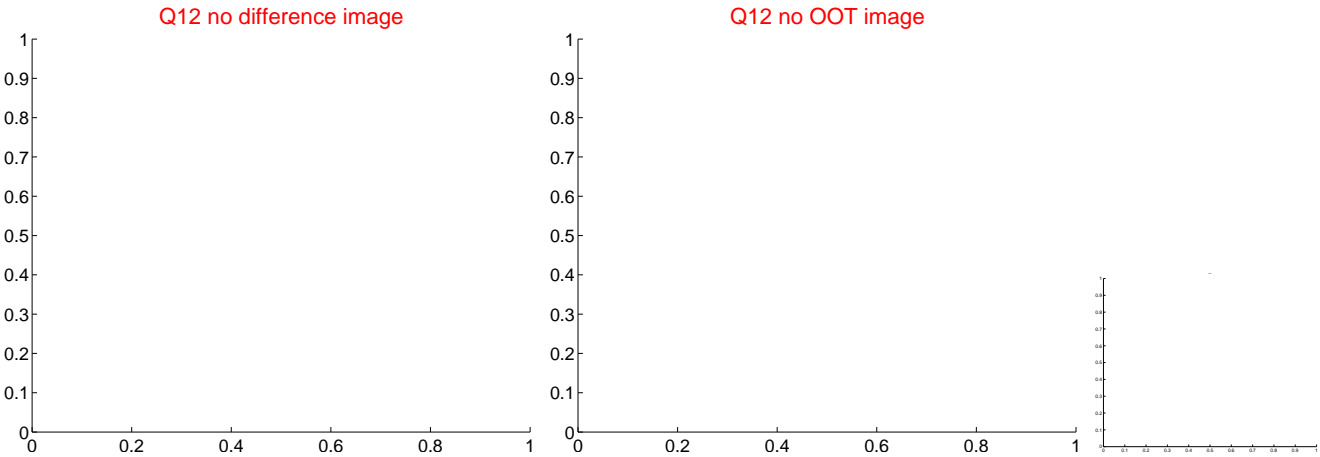
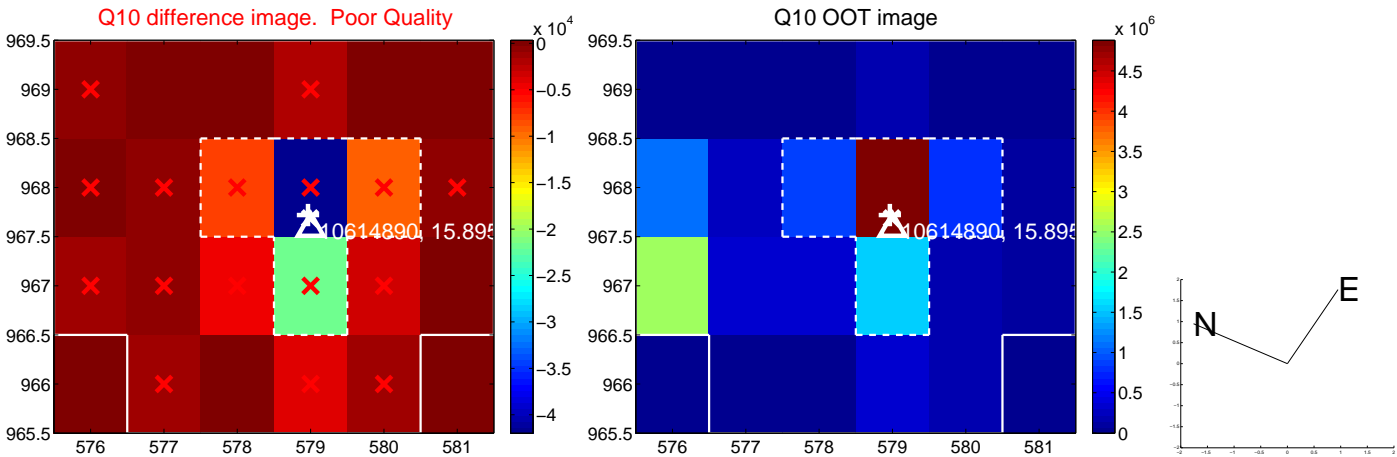
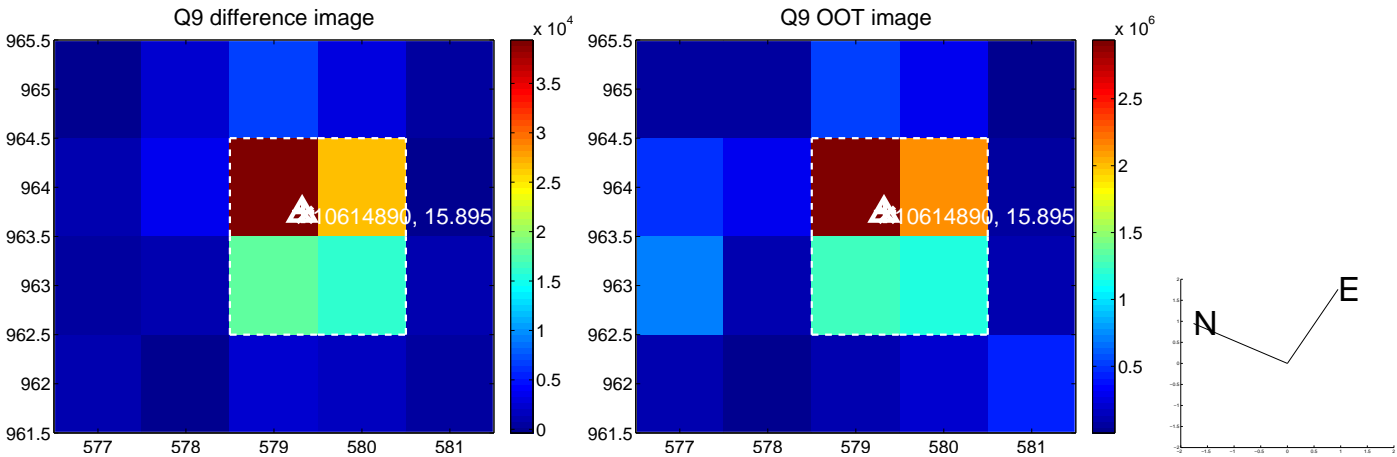
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



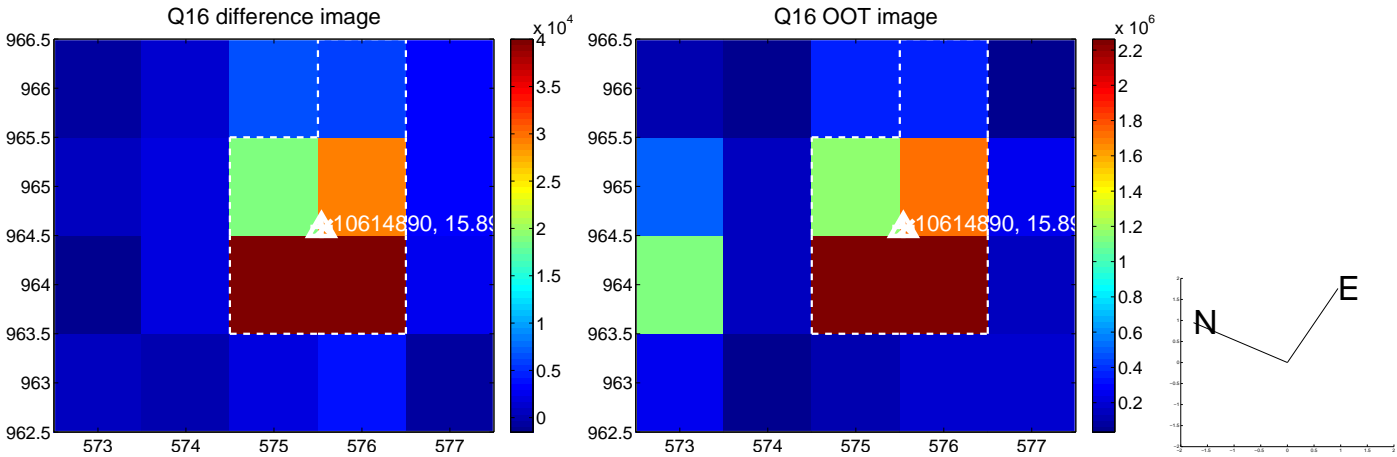
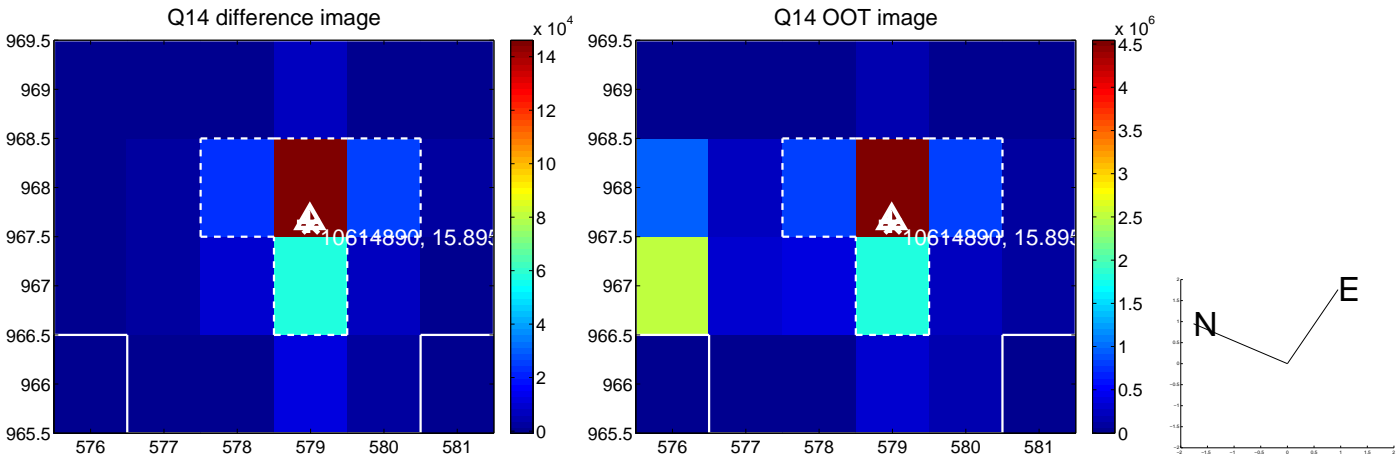
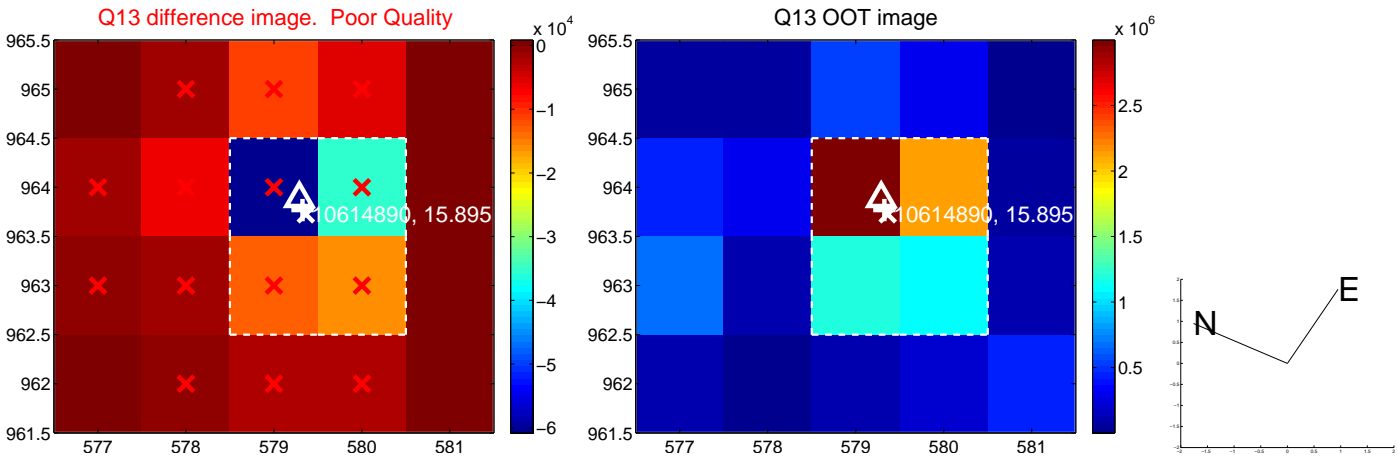
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



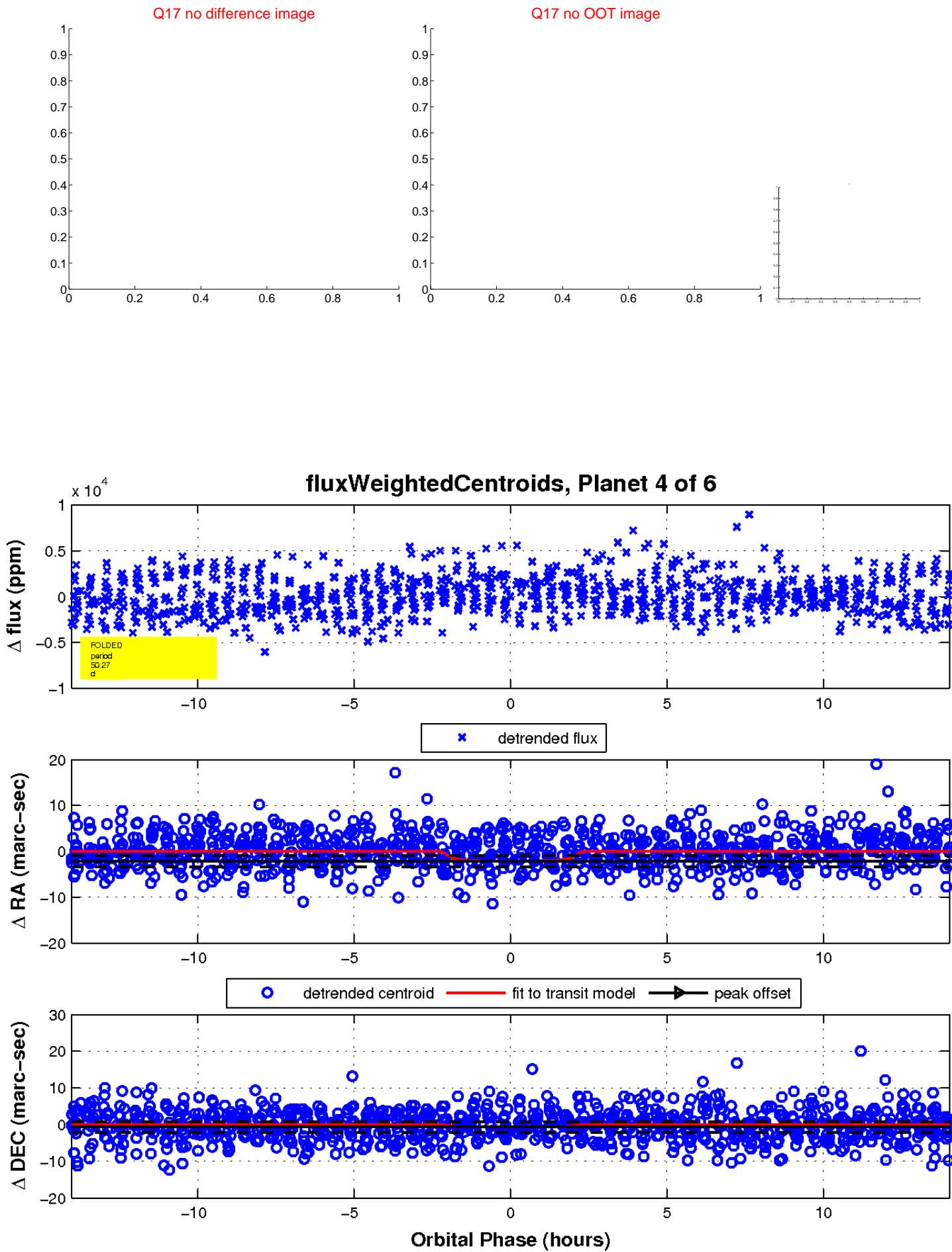
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

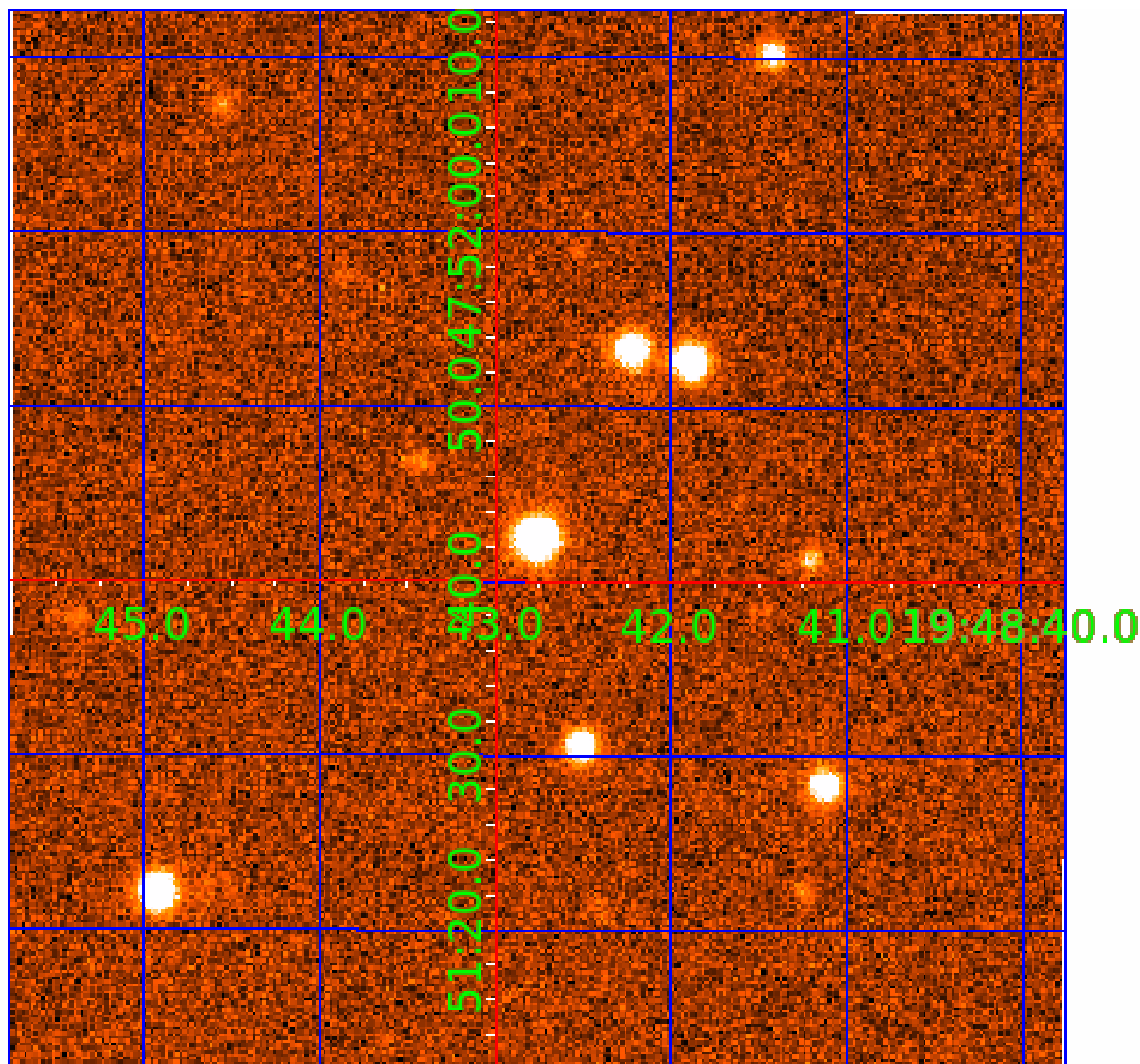


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010614890

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})
010614890-01	OBS	No	0.986132	131.616721	0.3	5.707	8.1	0.0	0.64	5279	0.04	1034.85
010614890-02	OBS	No	29.859465	154.150902	580.7	2.503	8.3	2.3	0.64	5279	1.60	10.96
010614890-03	OBS	No	29.871605	153.075385	76.5	0.941	7.9	0.2	0.64	5279	0.57	10.96
010614890-04	OBS	No	50.269695	178.700656	568.4	4.680	8.2	2.1	0.64	5279	1.81	5.47
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010614890-06	OBS	No	29.880301	153.074881	156.8	1.514	8.0	0.2	0.64	5279	0.80	10.96

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010614890-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT
010614890-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
010614890-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
010614890-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010614890-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010614890-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS—HALO_GHOST

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

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

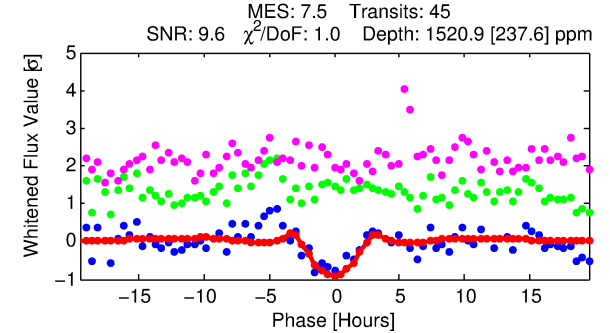
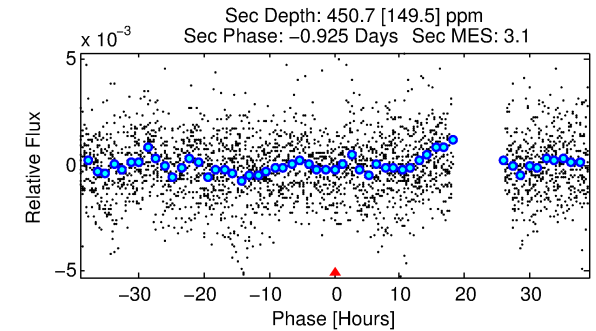
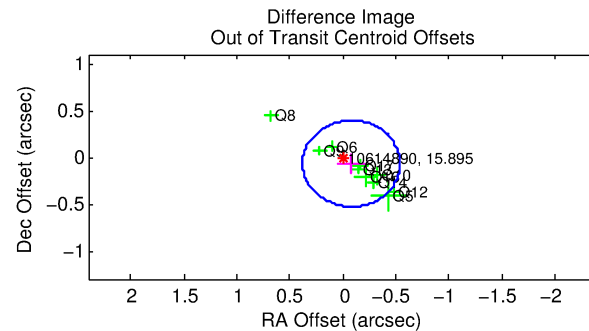
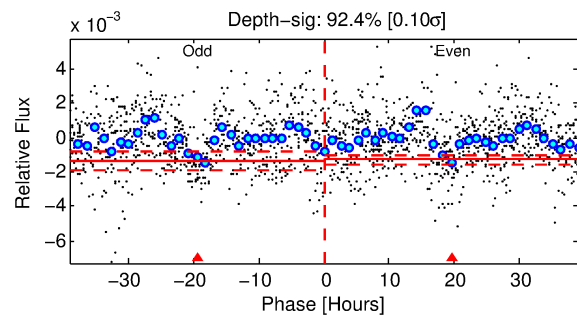
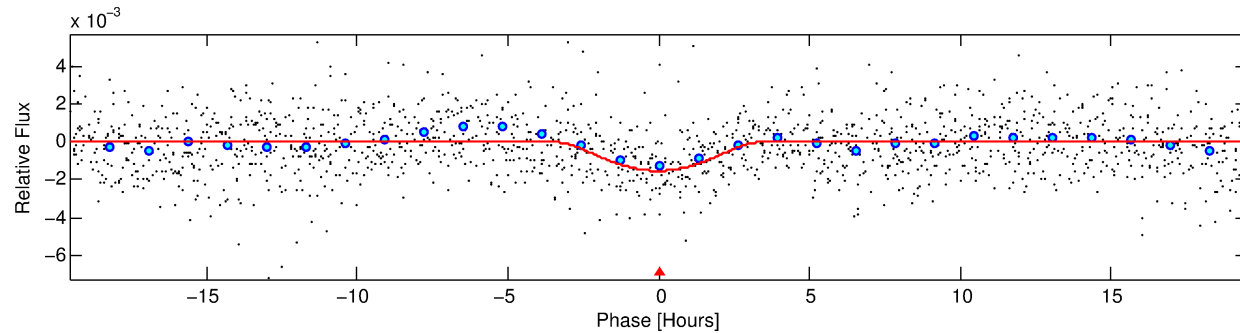
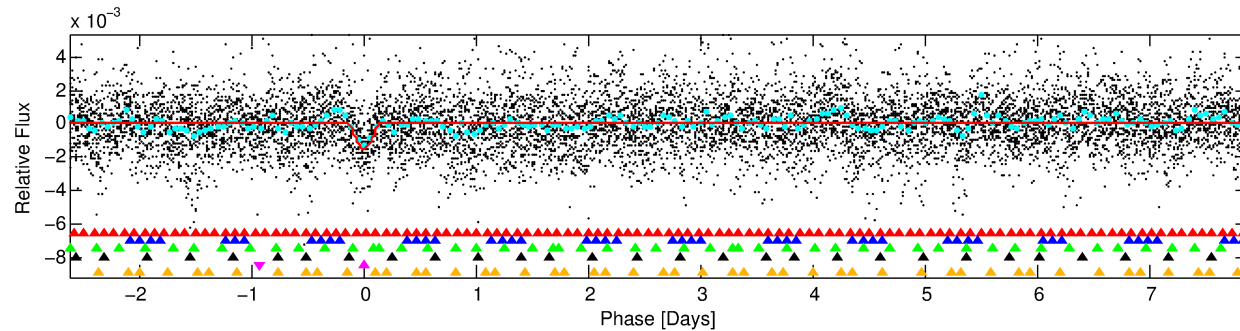
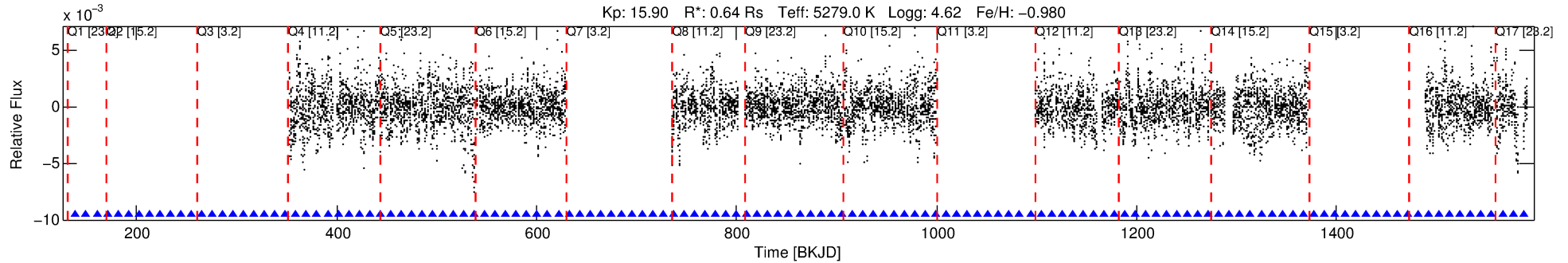
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010614890-05

No Significant Match Found

DV One-Page Summary

KIC: 10614890 Candidate: 5 of 6 Period: 10.489 d



DV Fit Results:

Period = 10.48887 [0.00021] d
Epoch = 139.3086 [0.0171] BKJD
Rp/R* = 0.0678 [0.1482]
a/R* = 4.77 [2.24]
b = 1.00 [0.22]
Seff = 44.24 [8.02]
Teq = 658 [30] K
Rp = 4.75 [10.39] Re
a = 0.0805 [0.0062] AU
Ag = 71.28 [312.74] [0.22 σ]
Teffp = 2954 [3241] K [0.71 σ]

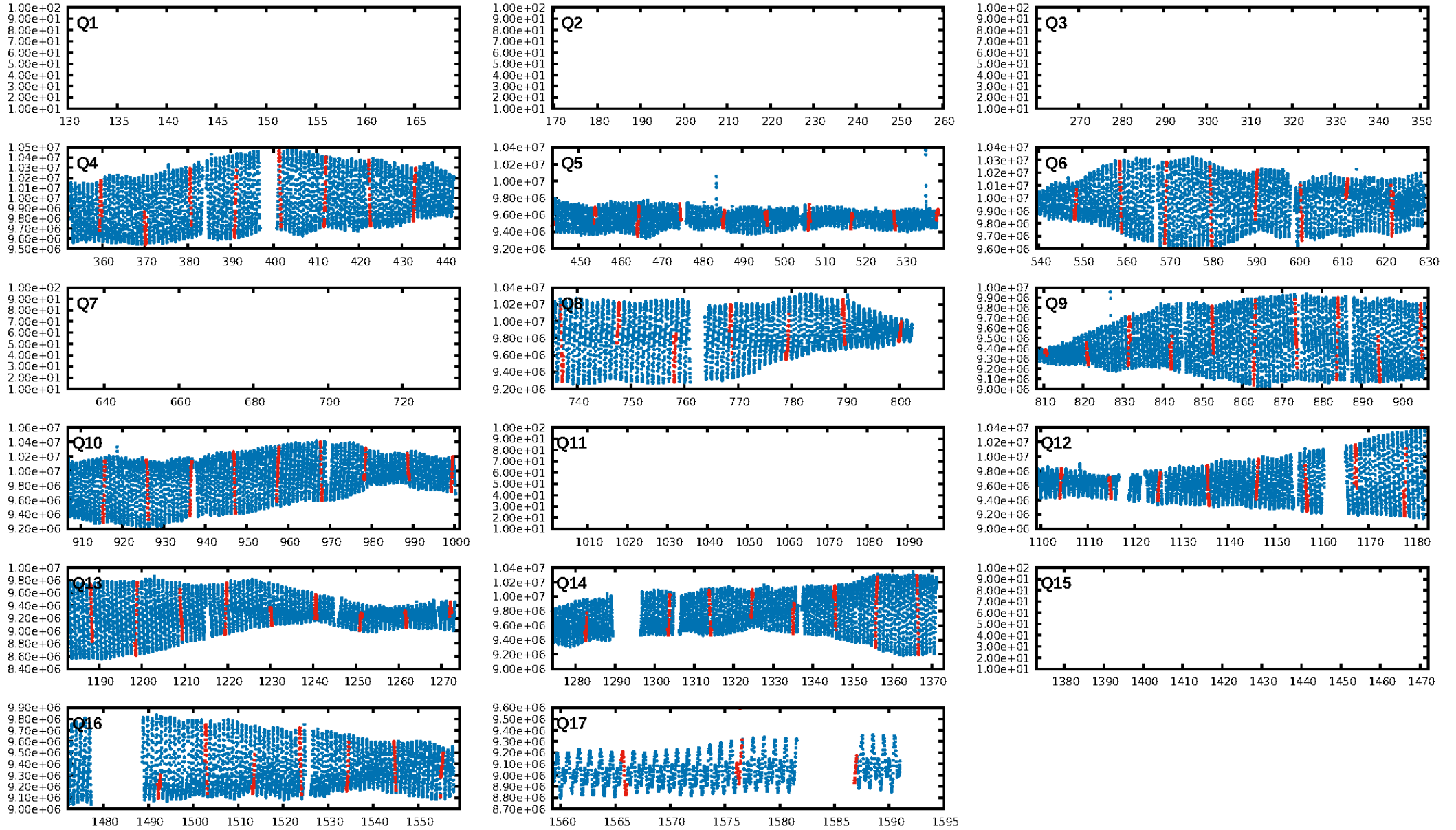
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [26.32 σ]
LongPeriod-sig: 100.0% [66.55 σ]
ModelChiSquare2-sig: 66.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.23e-10
RollingBand-fgt: 1.00 [44/44]
GhostDiagnostic-chr: 13.16
Centroid-sig: 0.0%
Centroid-so: 0.623 arcsec [1.67 σ]
OotOffset-rm: 0.105 arcsec [0.69 σ]
KicOffset-rm: 0.101 arcsec [0.99 σ]
OotOffset-st: 3/0/3/4 [10]
KicOffset-st: 3/0/3/4 [10]
DiffImageQuality-fgm: 0.50 [5/10]
DiffImageOverlap-fno: 0.00 [0/11]

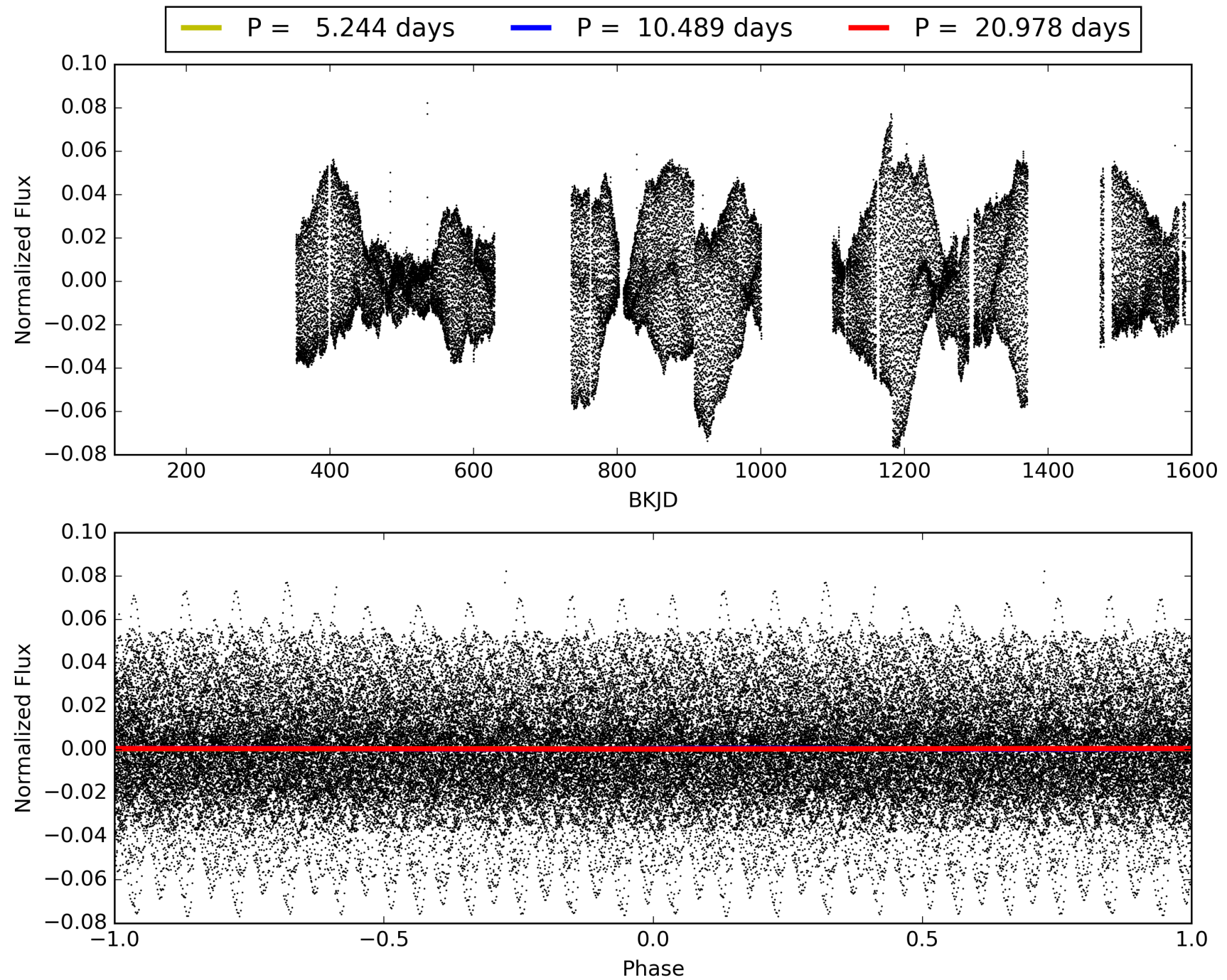
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:01:46 Z

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

TCE 010614890-05, PDC Light Curves

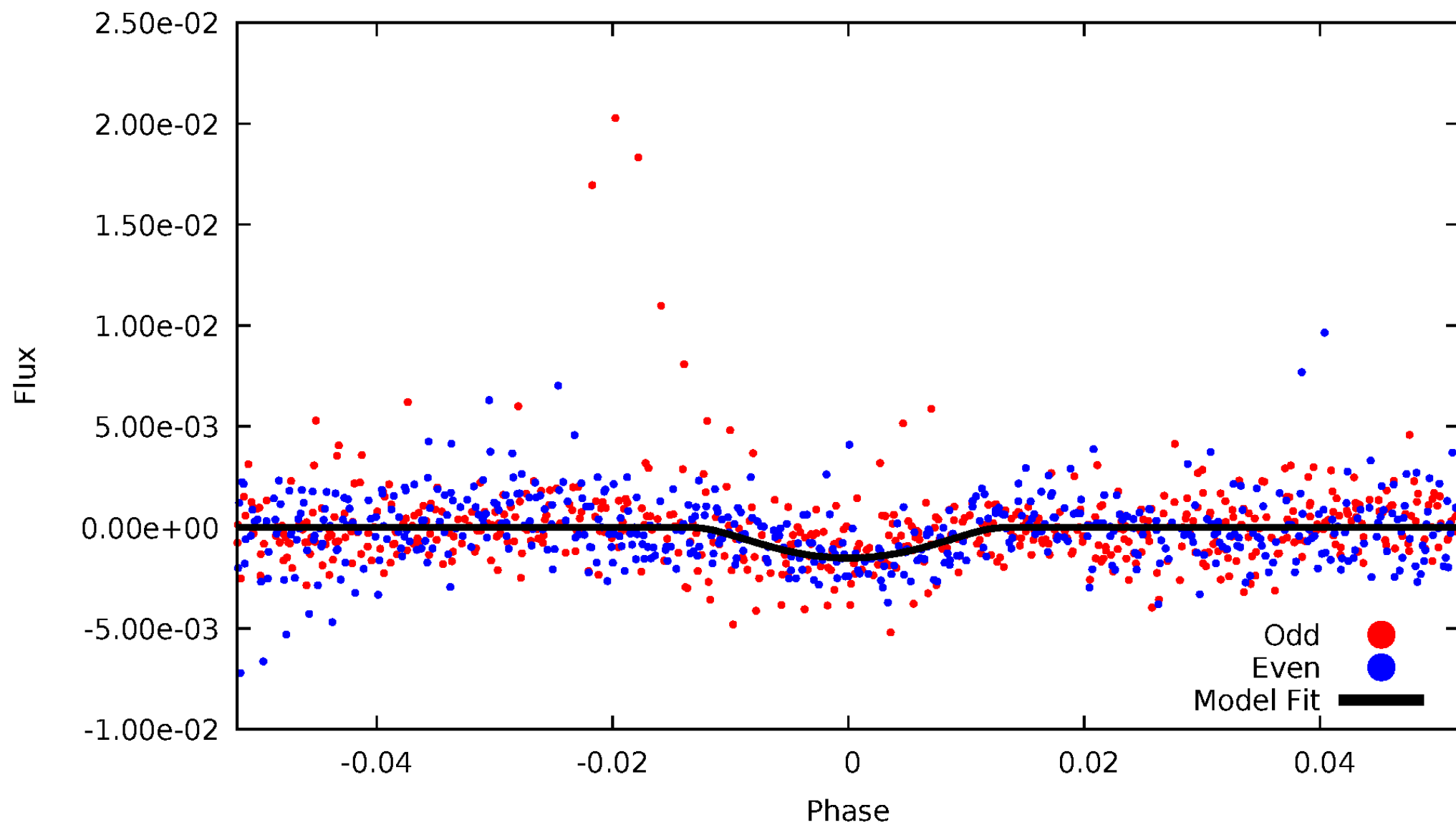


TCE 010614890-05



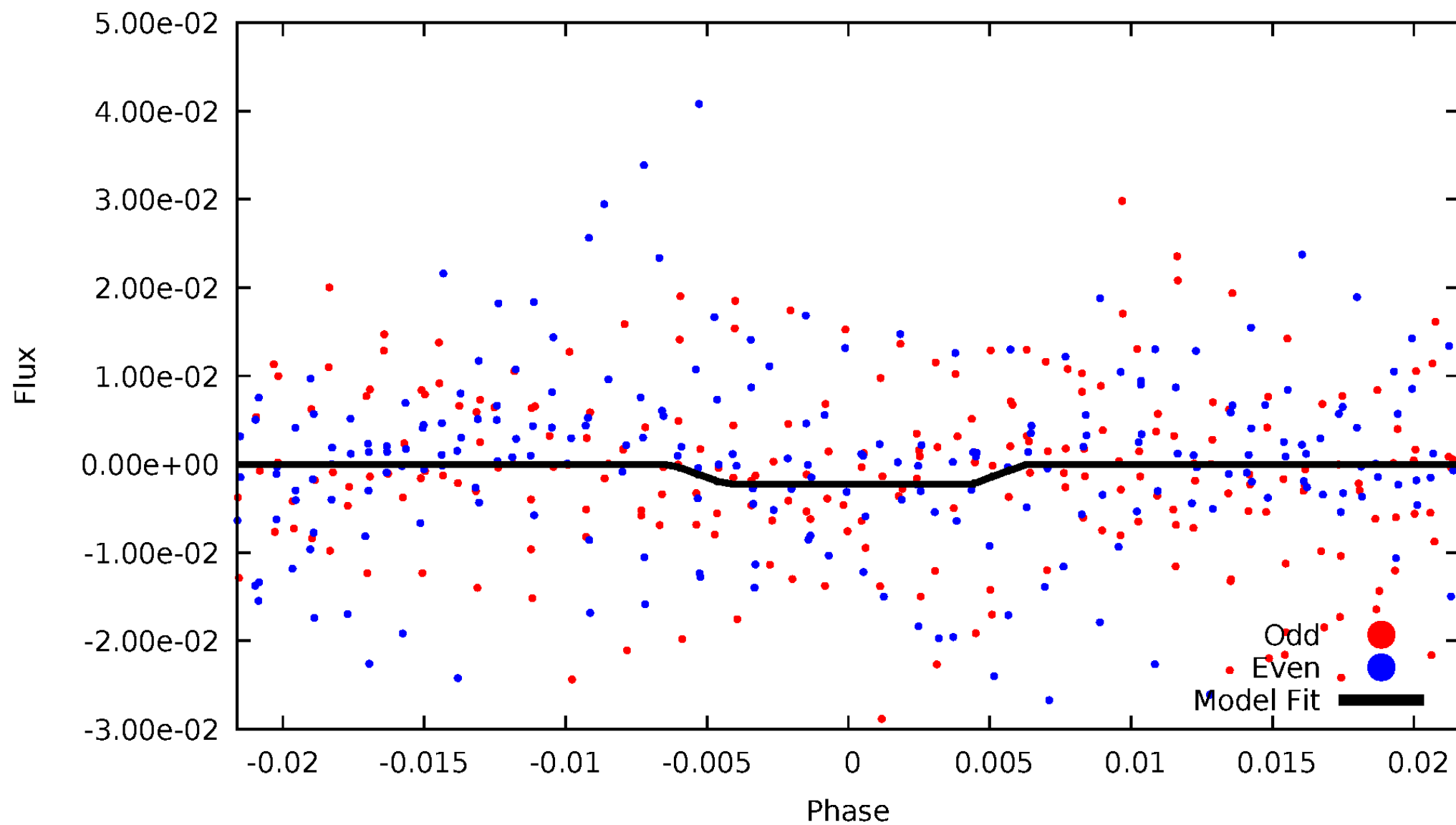
DV Odd/Even

TCE 010614890-05

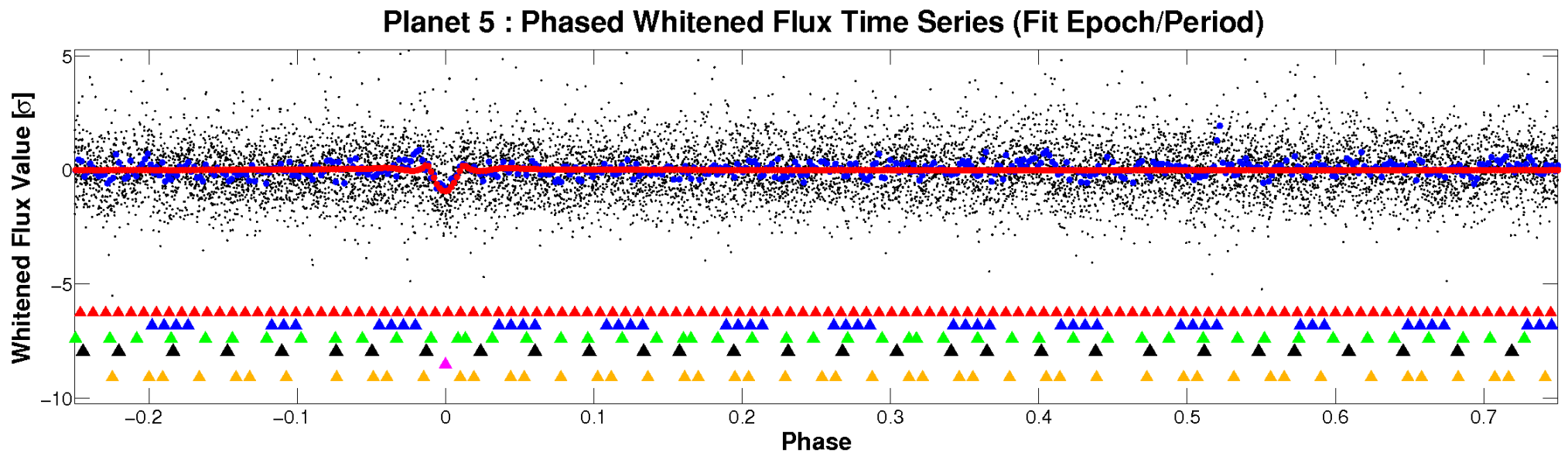
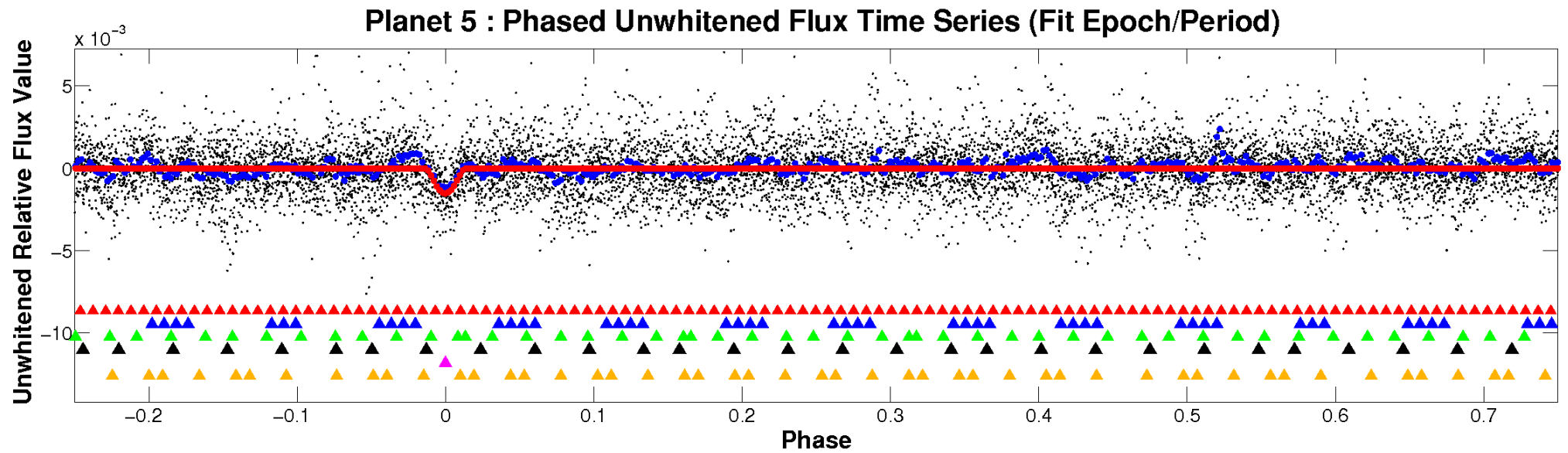


ALT Odd/Even

TCE 010614890-05

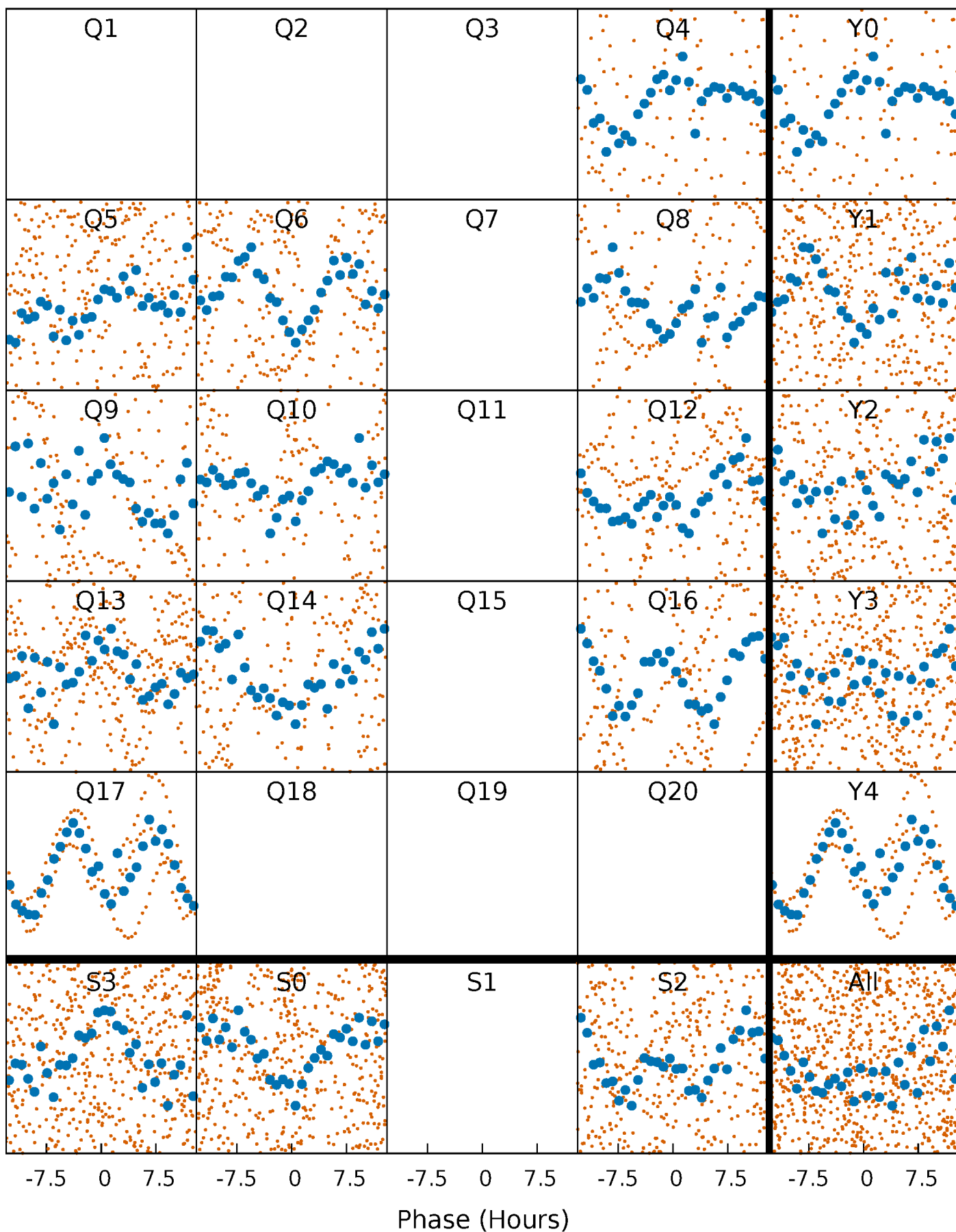


Non-Whitened Vs. Whitened Light Curve



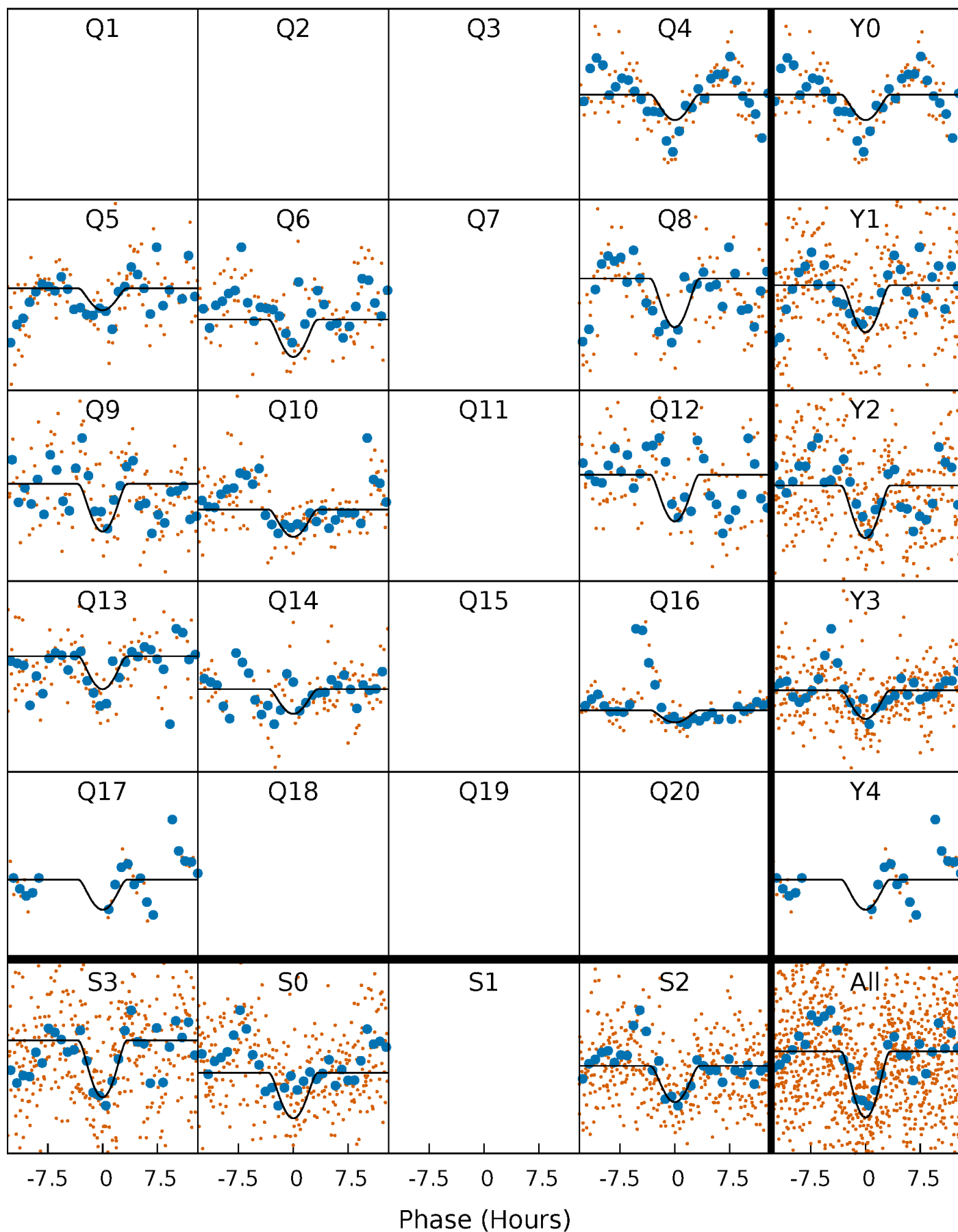
PDC Quarter-Phased Transit Curves

TCE 010614890-05 $P = 10.488865$ Days $T_0 = 139.308617$ (BKJD)



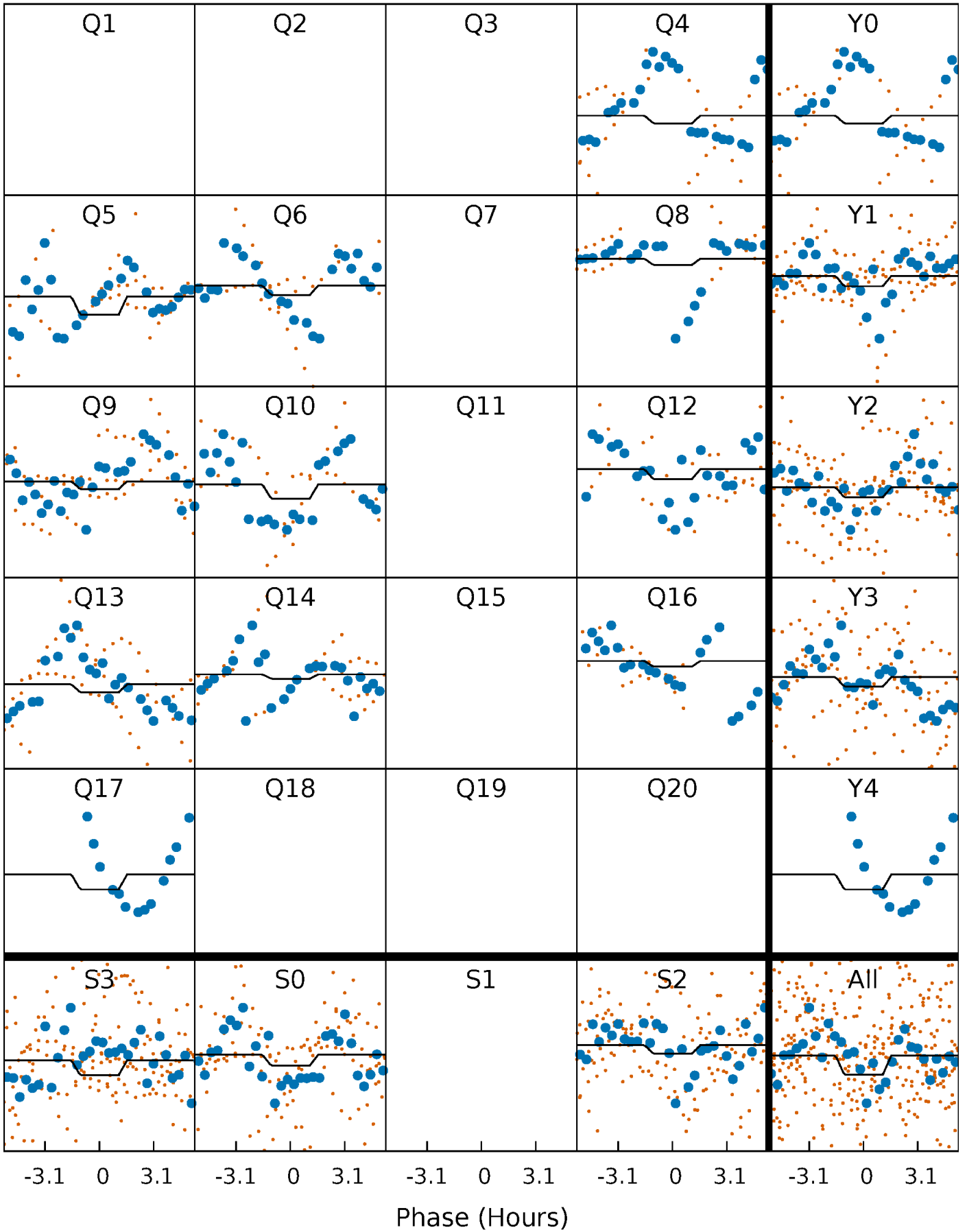
DV Quarter-Phased Transit Curves

TCE 010614890-05 $P = 10.488865$ Days $T_0 = 139.308617$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

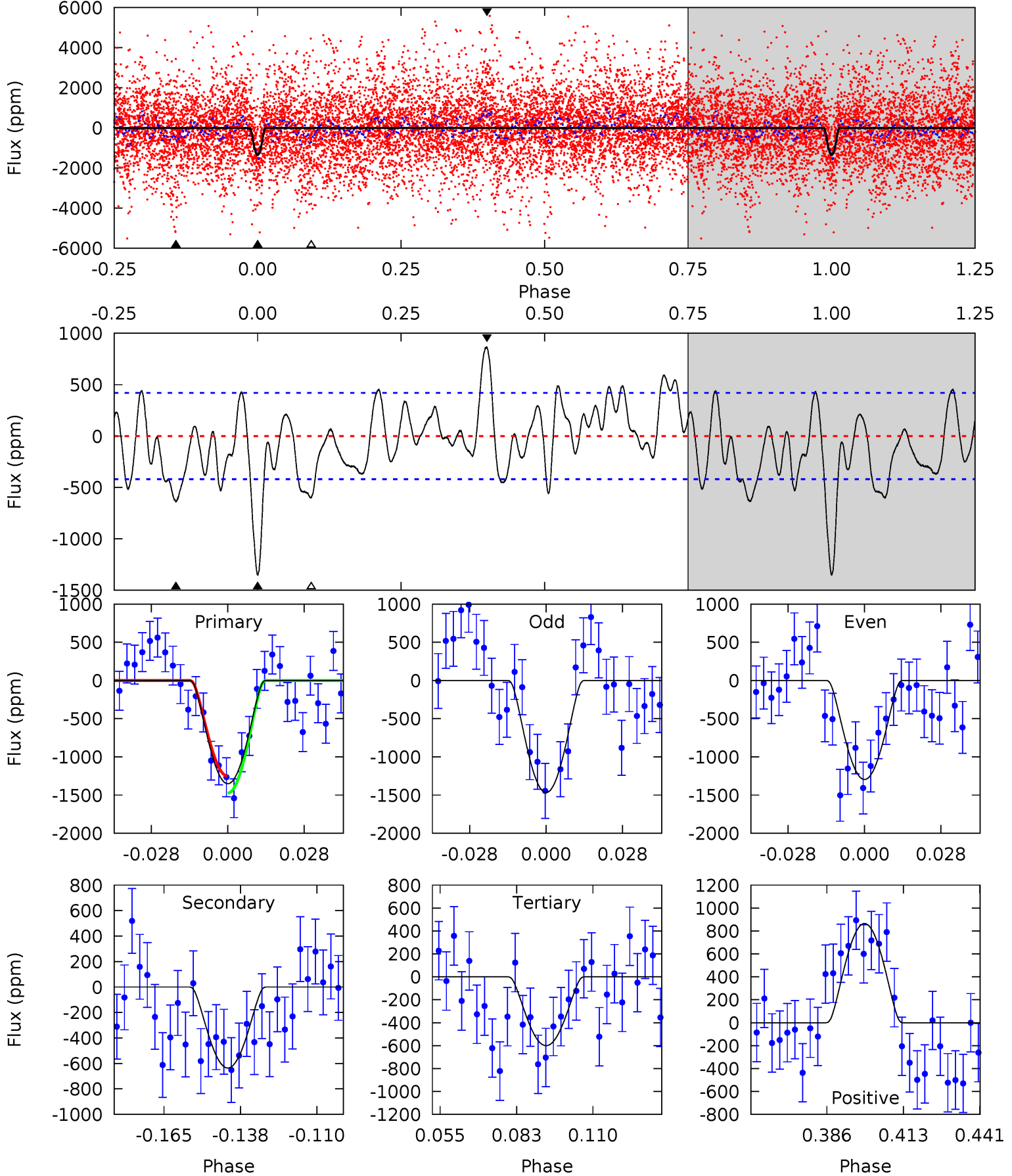
TCE 010614890-05 $P = 10.489438$ Days $T_0 = 139.298400$ (BKJD)



DV Model-Shift Uniqueness Test

010614890-05, P = 10.488865 Days, E = 139.308617 Days

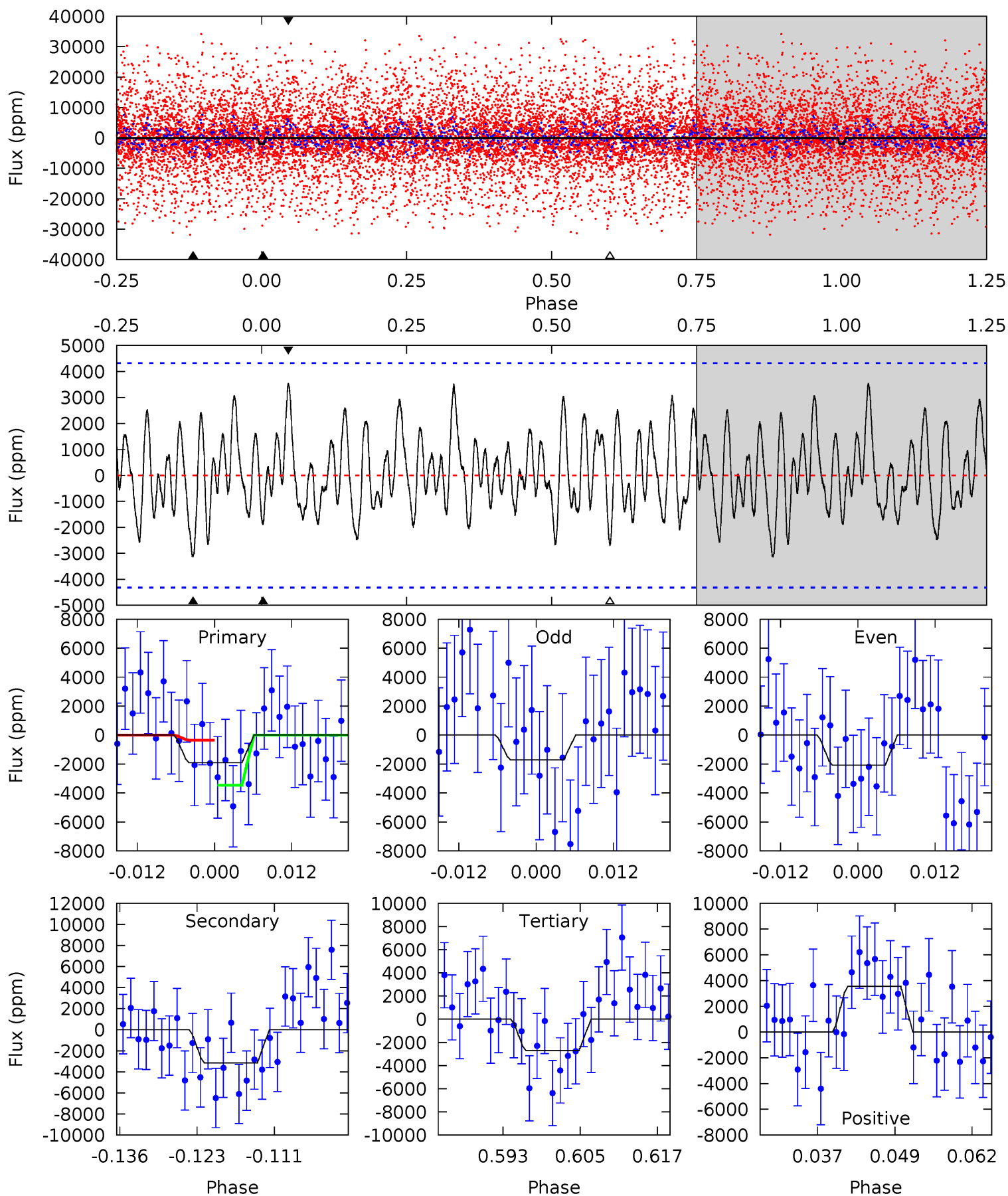
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.5	7.30	6.90	9.93	4.83	2.20	3.30	8.62	5.59	0.40	-2.63	0.98	0.79	0.39	1.27



Alt Model-Shift Uniqueness Test

010614890-05, P = 10.489438 Days, E = 139.298400 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.20	3.63	3.13	4.10	4.99	2.50	1.51	-0.93	-1.90	0.50	-0.47	0.21	463.6	0.53	1.81



Stellar Parameters For KIC 010614890

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5279^{+183}_{-183}	$4.624^{+0.066}_{-0.048}$	$-0.980^{+0.300}_{-0.300}$	$0.642^{+0.056}_{-0.051}$	$0.632^{+0.065}_{-0.028}$	$3.371^{+0.871}_{-0.579}$
	+3%/-3%	+1%/-1%	+31%/-31%	+9%/-8%	+10%/-4%	+26%/-17%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010614890-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-636 ± 87	$8.69^{+9.01}_{-5.94}$	915^{+38}_{-36}	3003^{+1351}_{-509}	29^{+273}_{-22}
Alt.	-3150 ± 867	$8.74^{+8.64}_{-5.90}$	917^{+37}_{-39}	3892^{+2310}_{-791}	150^{+1287}_{-114}

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

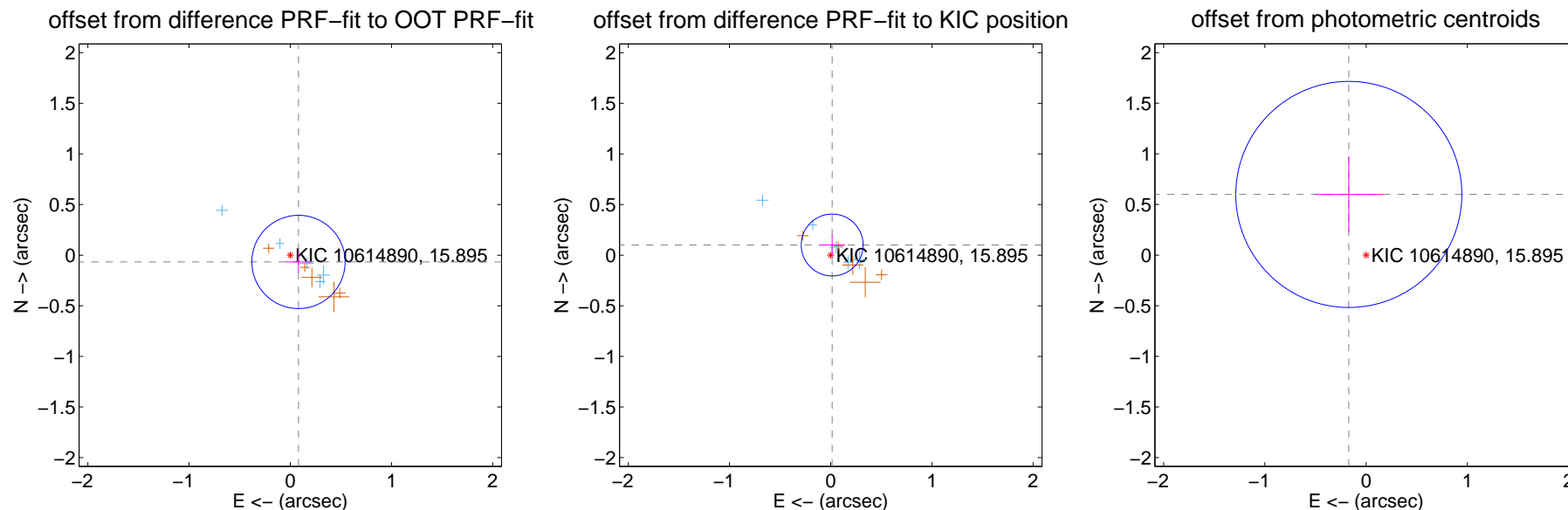
DV Centroid Data

Supplemental centroid analysis for 010614890-05. Kepler magnitude: 15.89. Transit SNR 9.64

There are 5 quarters with good PRF difference image offsets

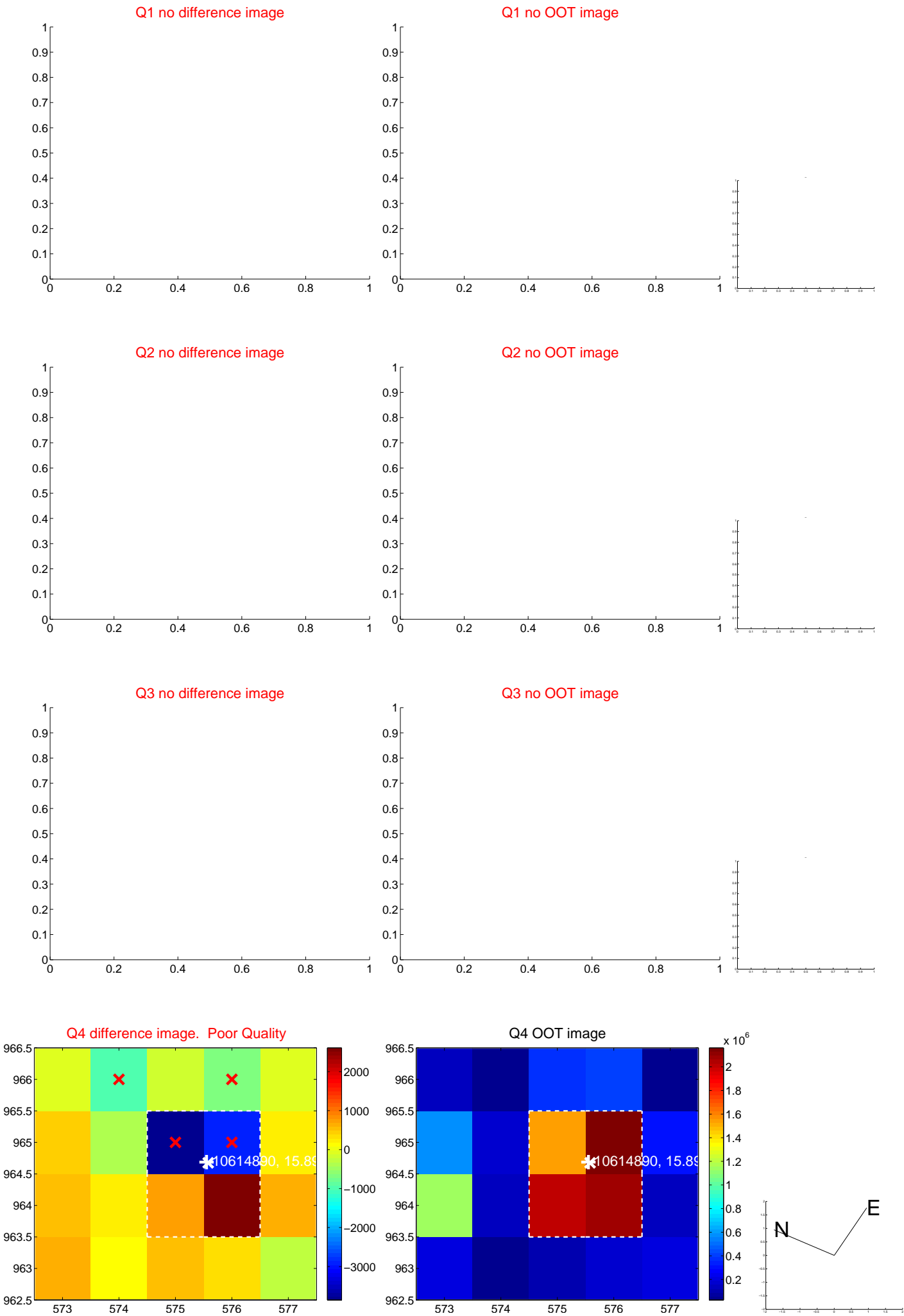
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.105 ± 0.154	0.69	-0.081 ± 0.130	-0.067 ± 0.106
PRF-fit source offset from KIC position	0.101 ± 0.102	0.99	-0.014 ± 0.129	0.100 ± 0.101
photometric centroid source offset	0.62 ± 0.37	1.67	0.17 ± 0.34	0.60 ± 0.37

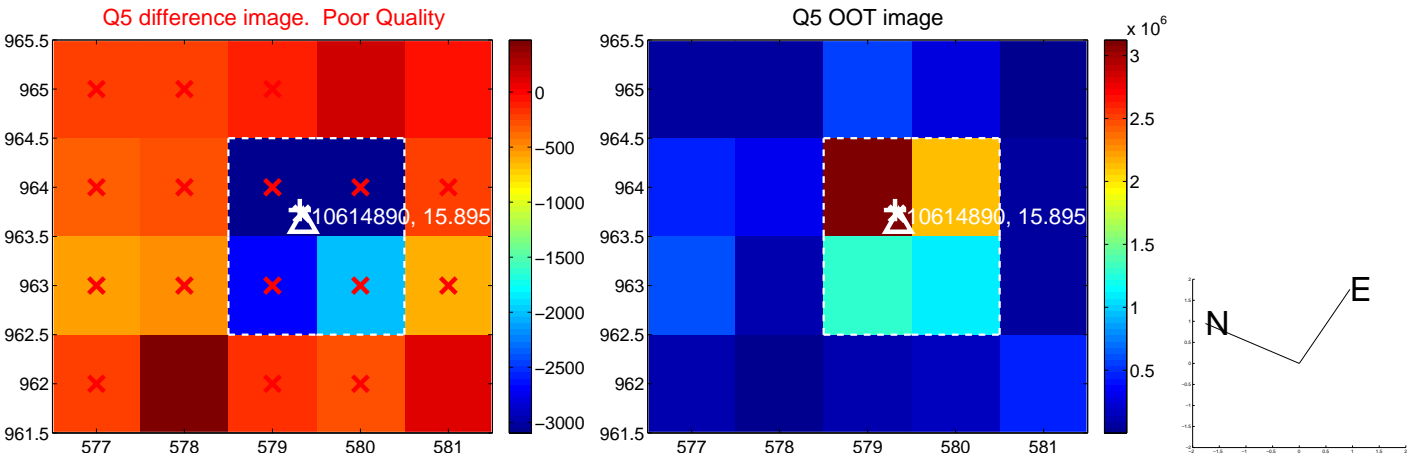


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

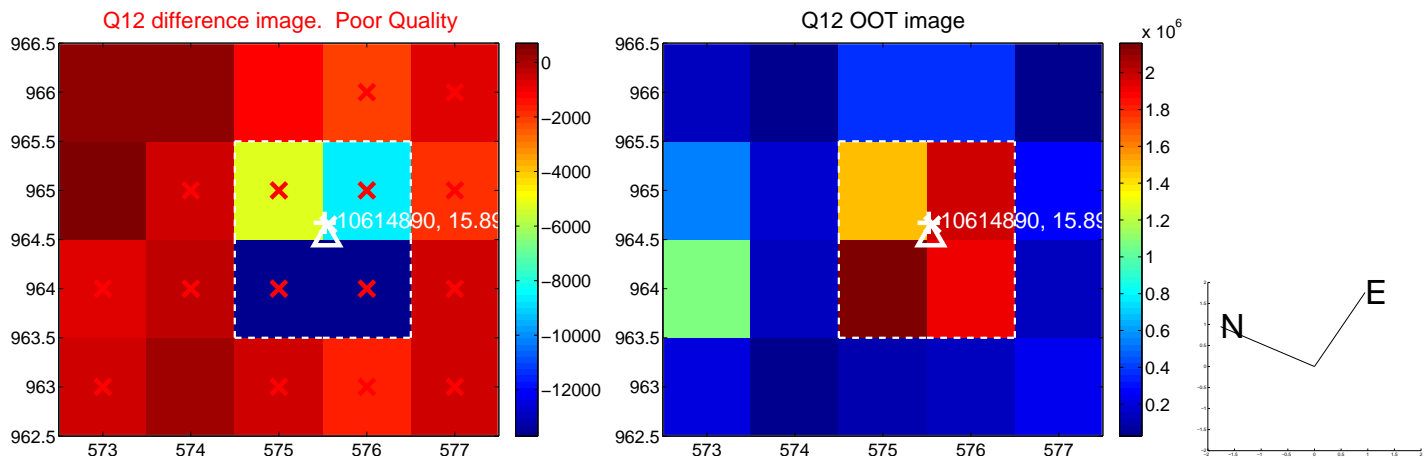
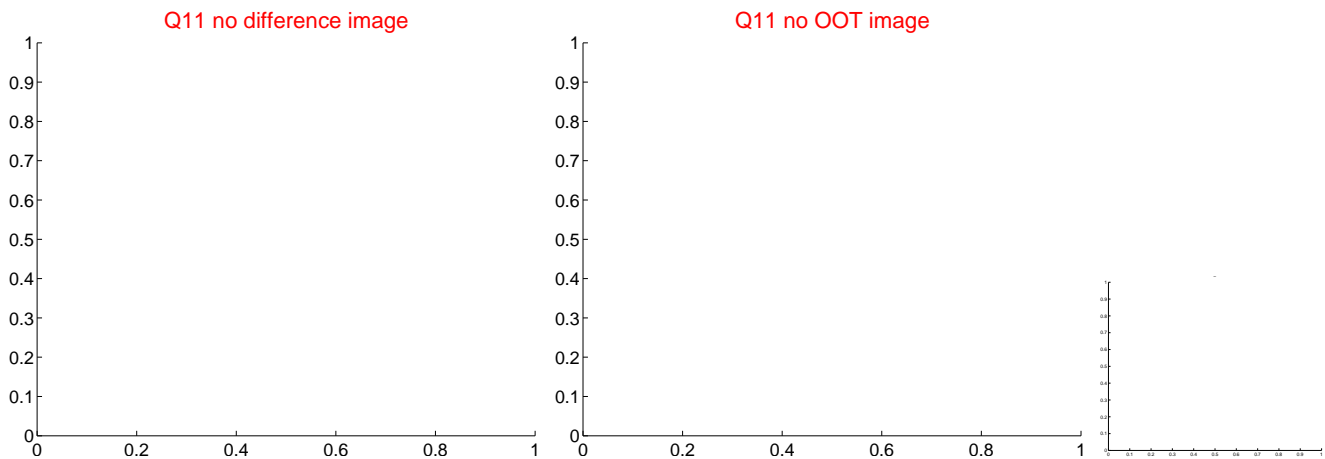
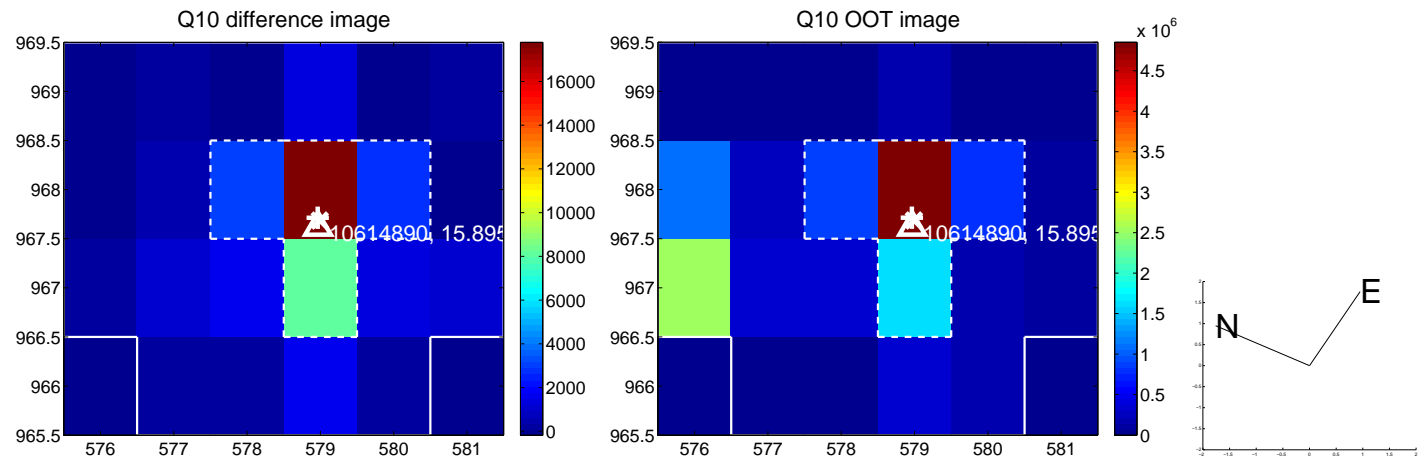
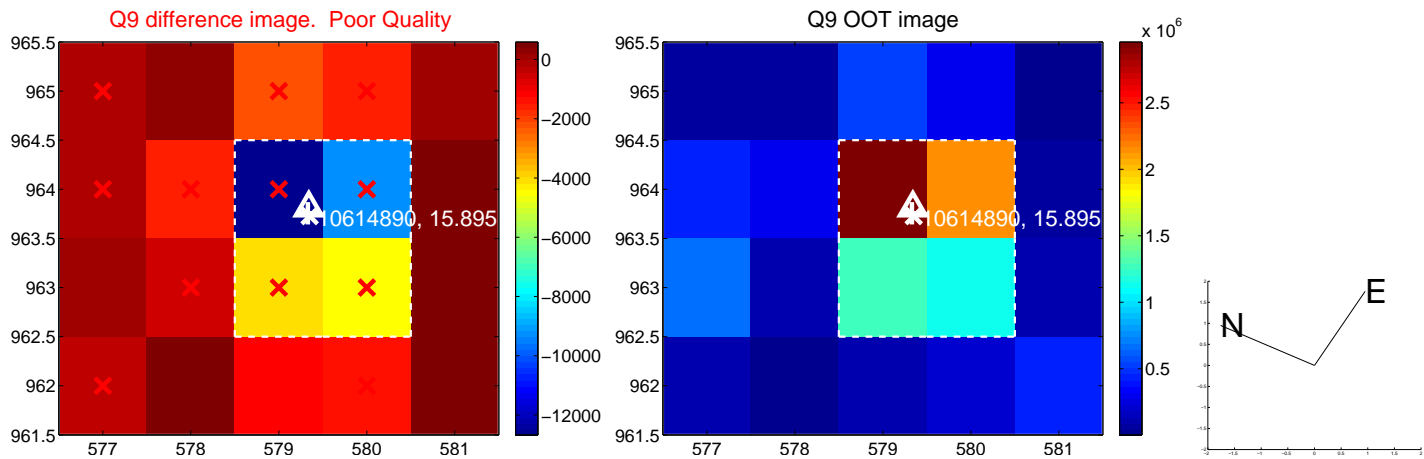
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



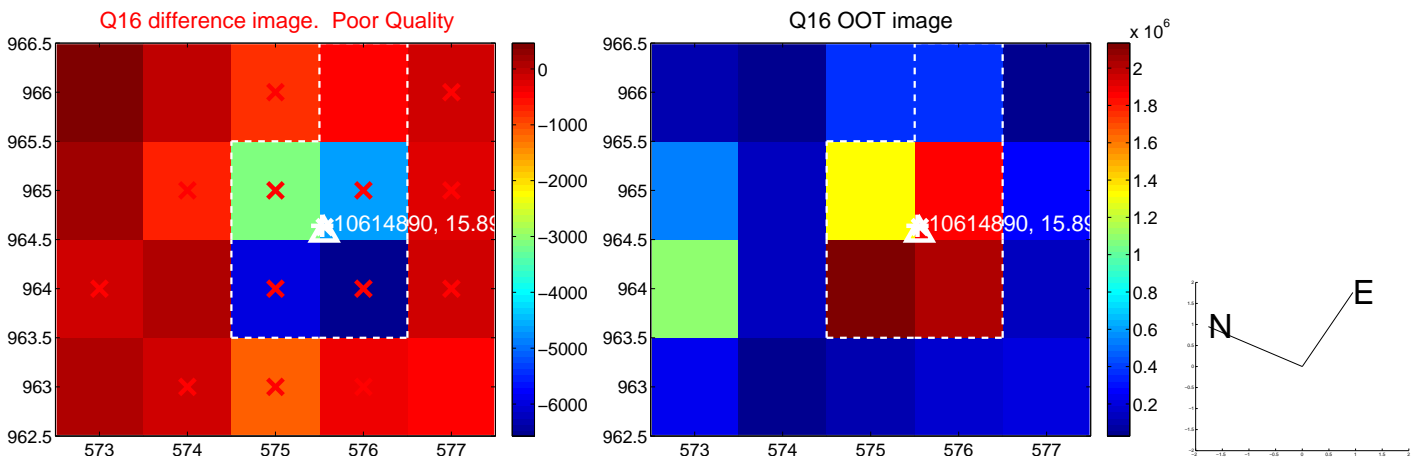
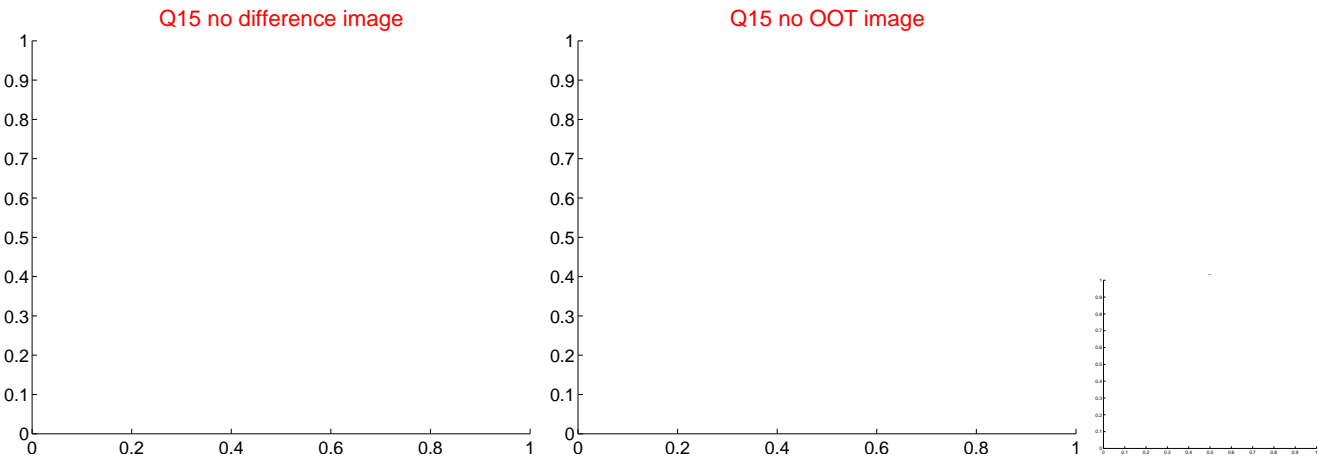
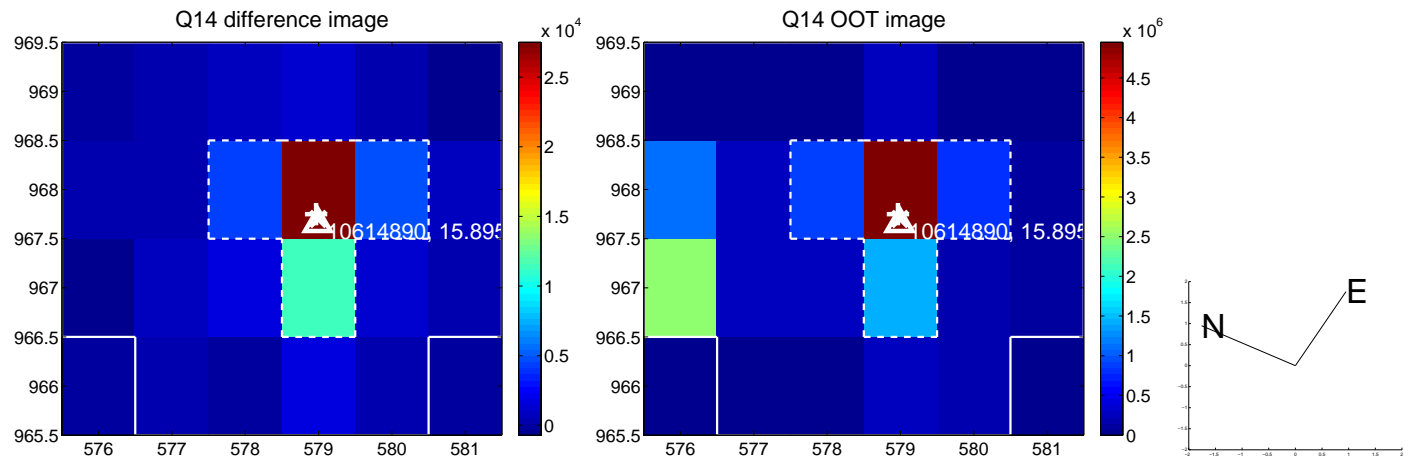
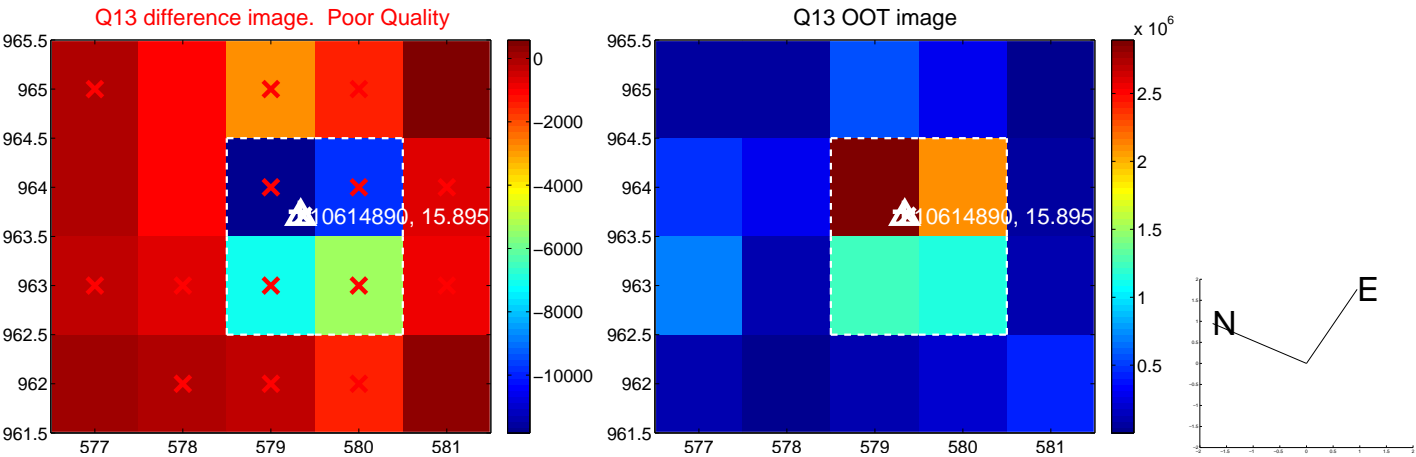
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



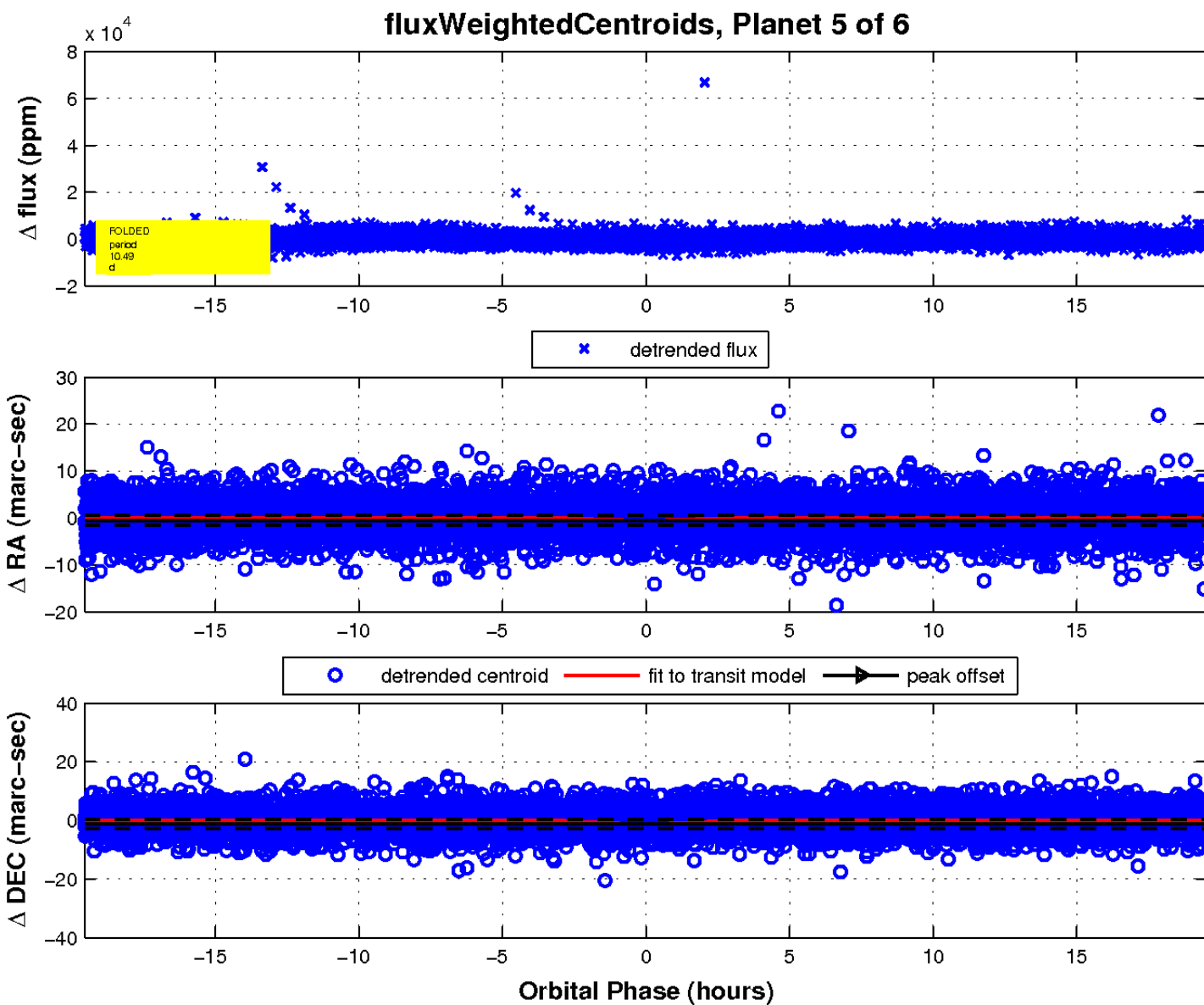
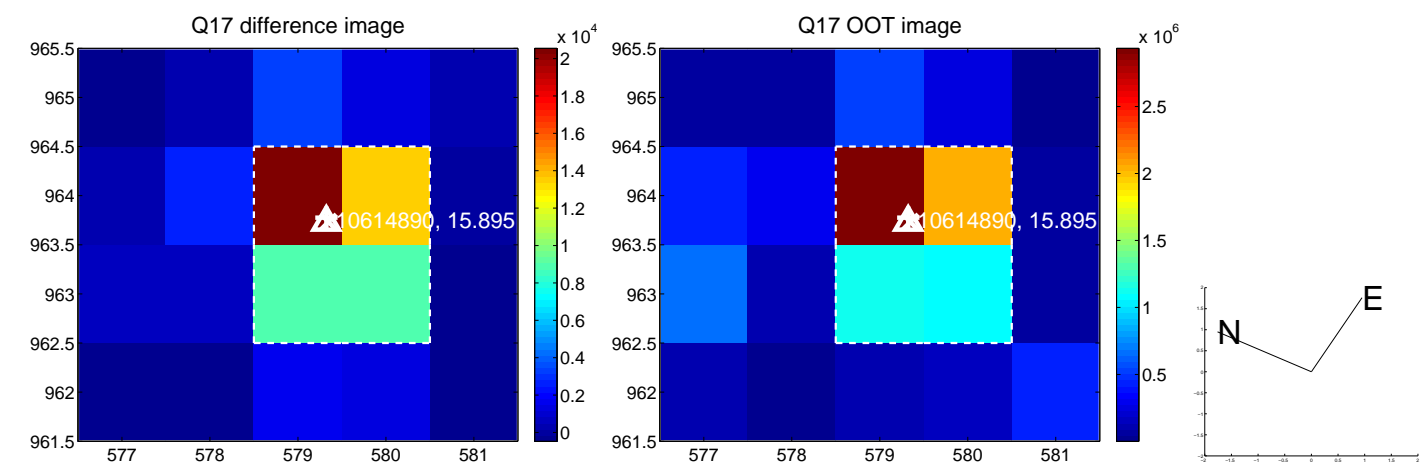
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

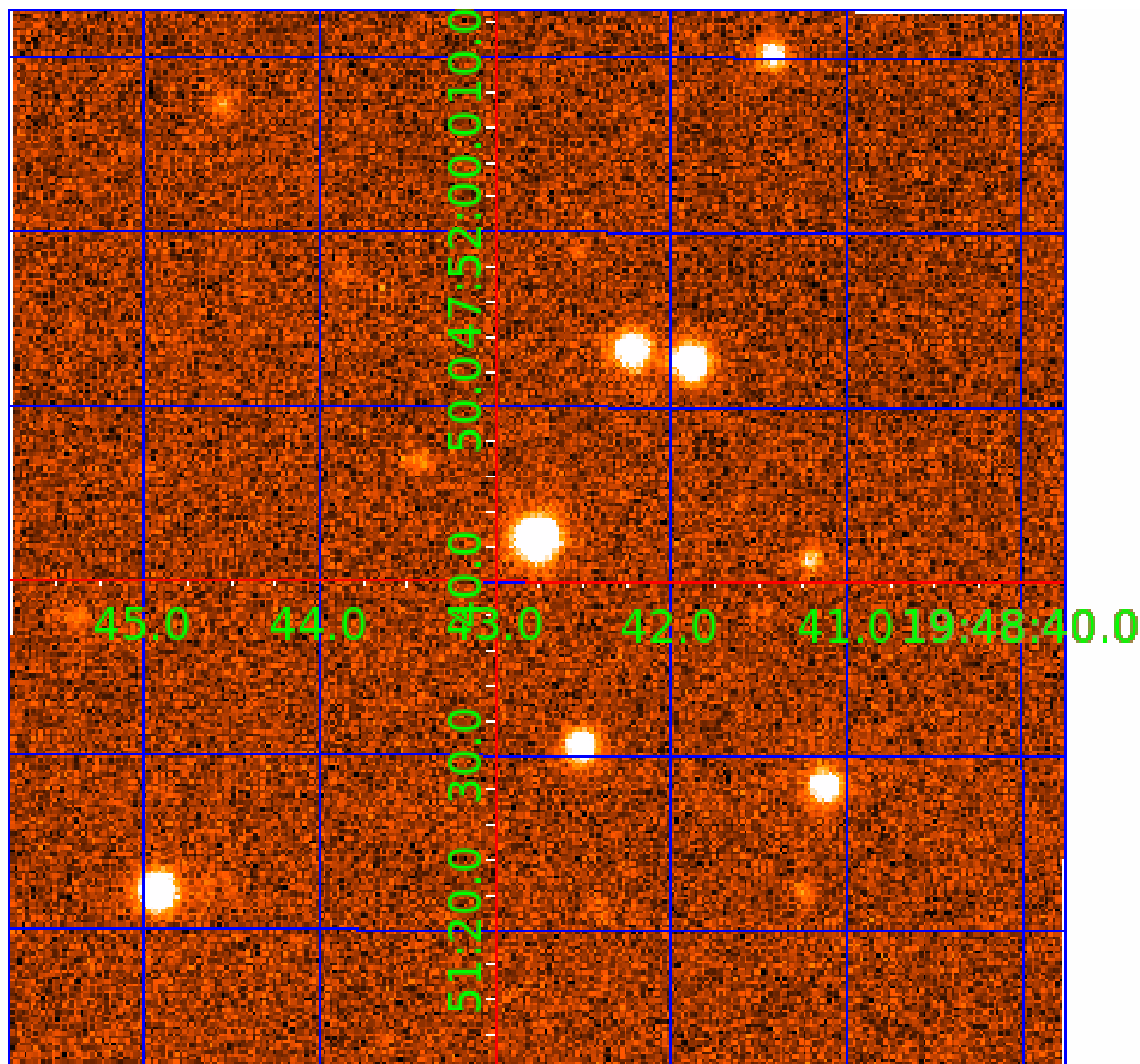


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010614890

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})
010614890-01	OBS	No	0.986132	131.616721	0.3	5.707	8.1	0.0	0.64	5279	0.04	1034.85
010614890-02	OBS	No	29.859465	154.150902	580.7	2.503	8.3	2.3	0.64	5279	1.60	10.96
010614890-03	OBS	No	29.871605	153.075385	76.5	0.941	7.9	0.2	0.64	5279	0.57	10.96
010614890-04	OBS	No	50.269695	178.700656	568.4	4.680	8.2	2.1	0.64	5279	1.81	5.47
010614890-05	OBS	No	10.488865	139.308617	1520.9	6.521	7.5	9.6	0.64	5279	4.75	44.24
010614890-06	OBS	No	29.880301	153.074881	156.8	1.514	8.0	0.2	0.64	5279	0.80	10.96

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010614890-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT
010614890-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
010614890-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD
010614890-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010614890-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010614890-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS—HALO_GHOST

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

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

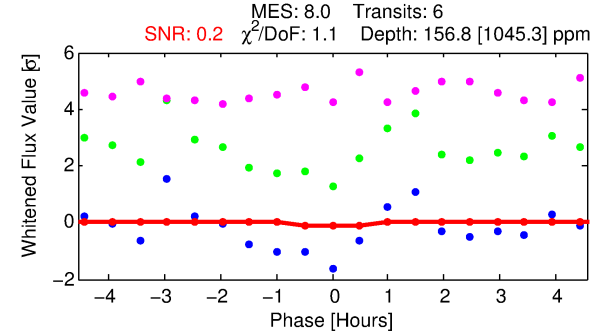
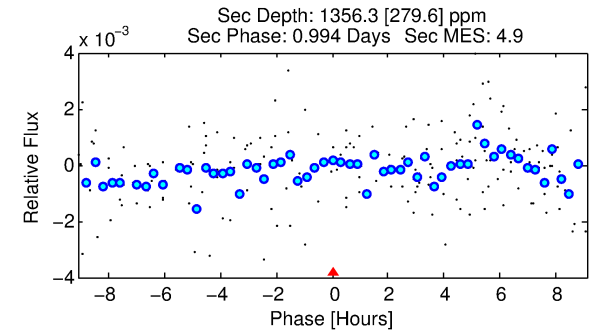
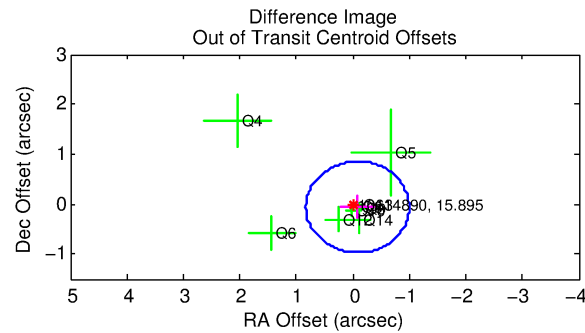
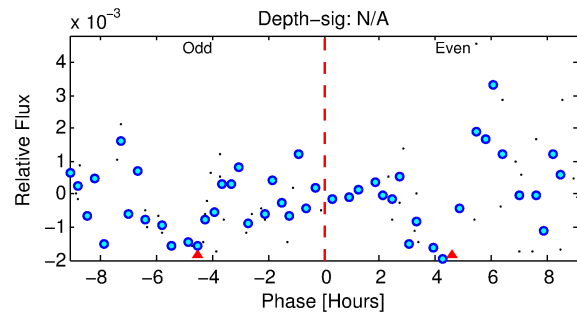
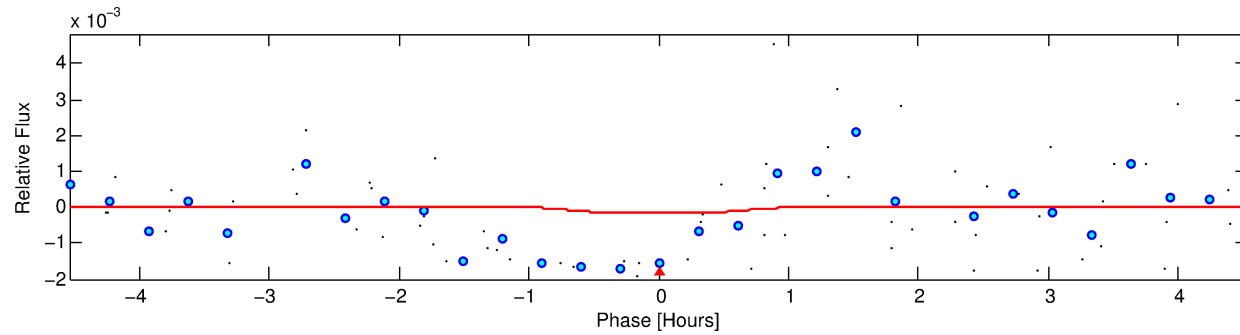
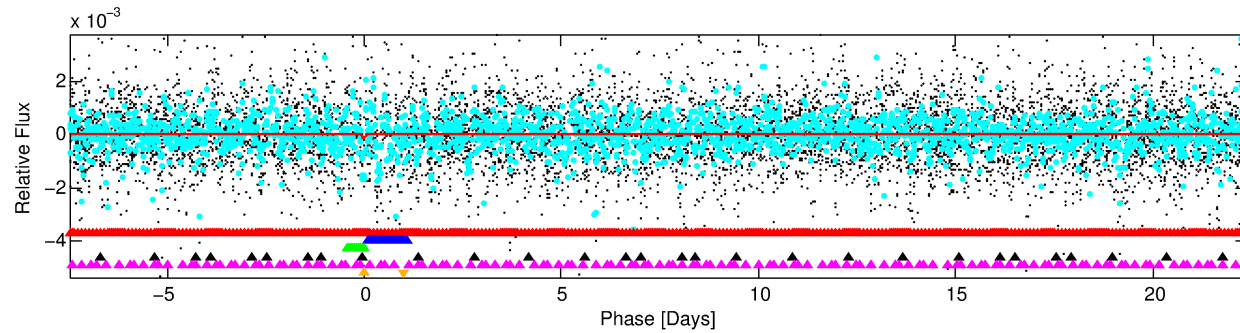
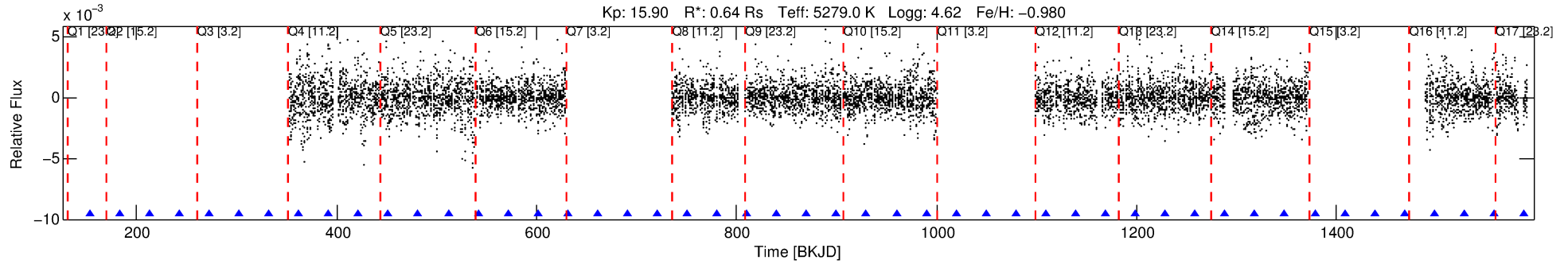
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010614890-06

No Significant Match Found

DV One-Page Summary

KIC: 10614890 Candidate: 6 of 6 Period: 29.880 d



DV Fit Results:

Period = 29.88030 [0.04759] d
Epoch = 153.0749 [1.2911] BKJD
Rp/R* = 0.0114 [1.7854]
a/R* = 152.50 [108967.76]
b = 0.02 [45586.01]
Seff = 10.95 [1.99]
Teq = 464 [21] K
Rp = 0.80 [125.08] Re
a = 0.1618 [0.0125] AU
Ag = 30593.76 [9578035.62] [0.00σ]
Teffp = 9486 [742445] K [0.01σ]

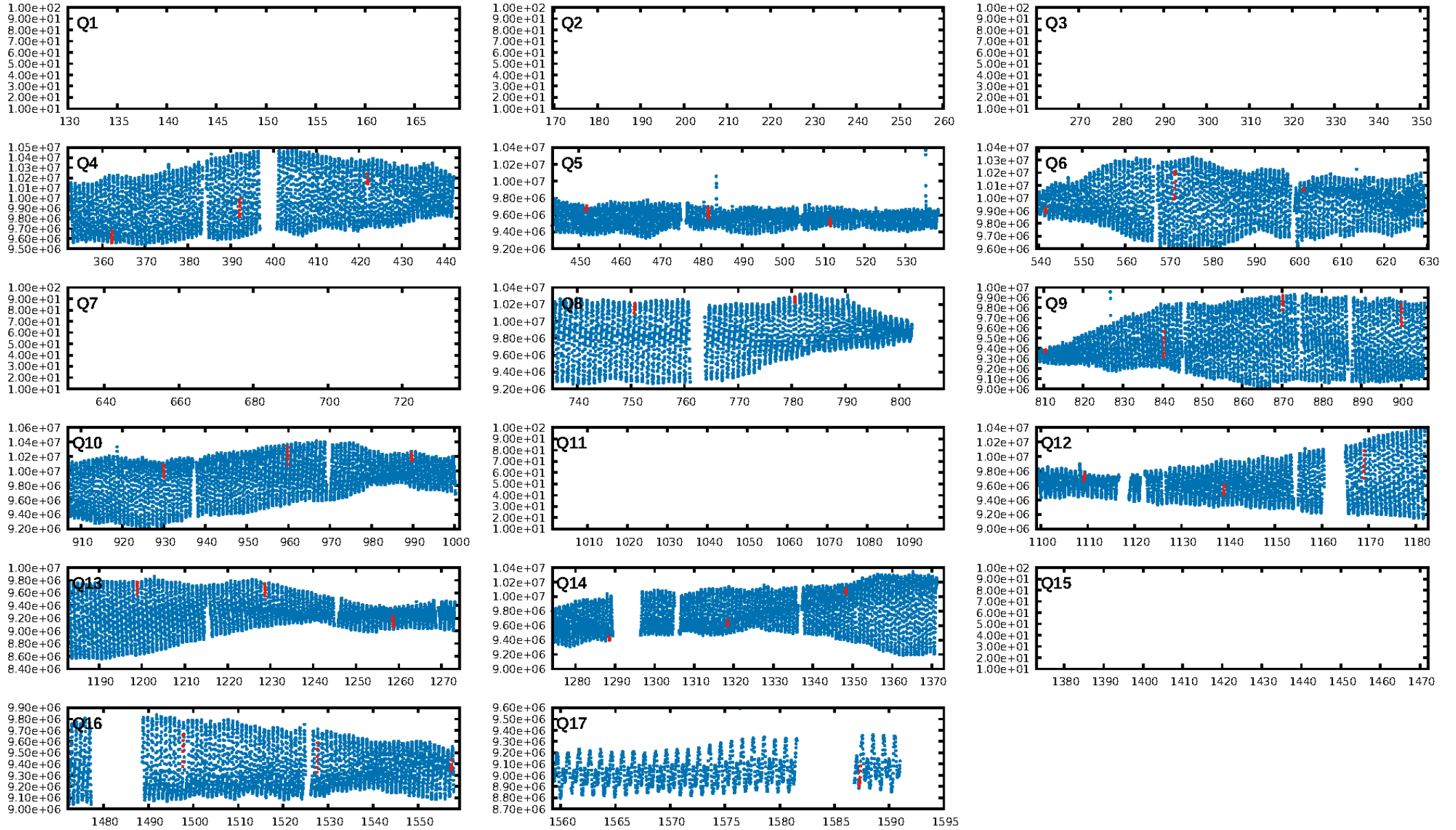
DV Diagnostic Results:

ShortPeriod-sig: 9.3% [0.12σ]
LongPeriod-sig: 100.0% [99.49σ]
ModelChiSquare2-sig: 19.6%
ModelChiSquareGof-sig: 97.6%
Bootstrap-pfa: 6.97e-09
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -0.007609
Centroid-sig: 44.2%
Centroid-so: 6.616 arcsec [0.76σ]
OotOffset-rm: 0.101 arcsec [0.33σ]
OotOffset-st: 3/0/3/3 [9]
KicOffset-rm: 0.095 arcsec [0.46σ]
KicOffset-st: 3/0/3/3 [9]
DiffImageQuality-fgm: 0.22 [2/9]
DiffImageOverlap-fno: 0.10 [1/10]

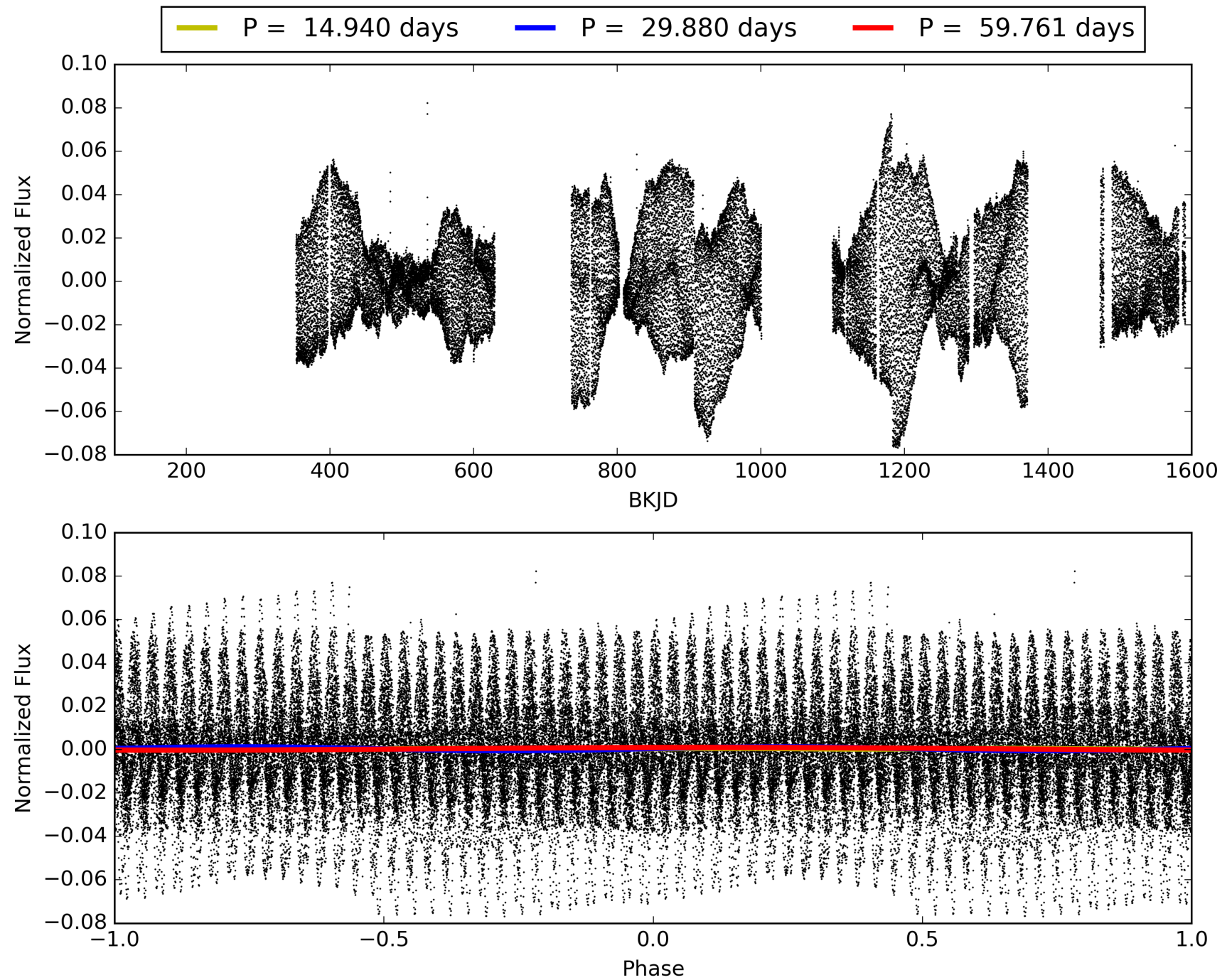
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:01:50 Z

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

TCE 010614890-06, PDC Light Curves

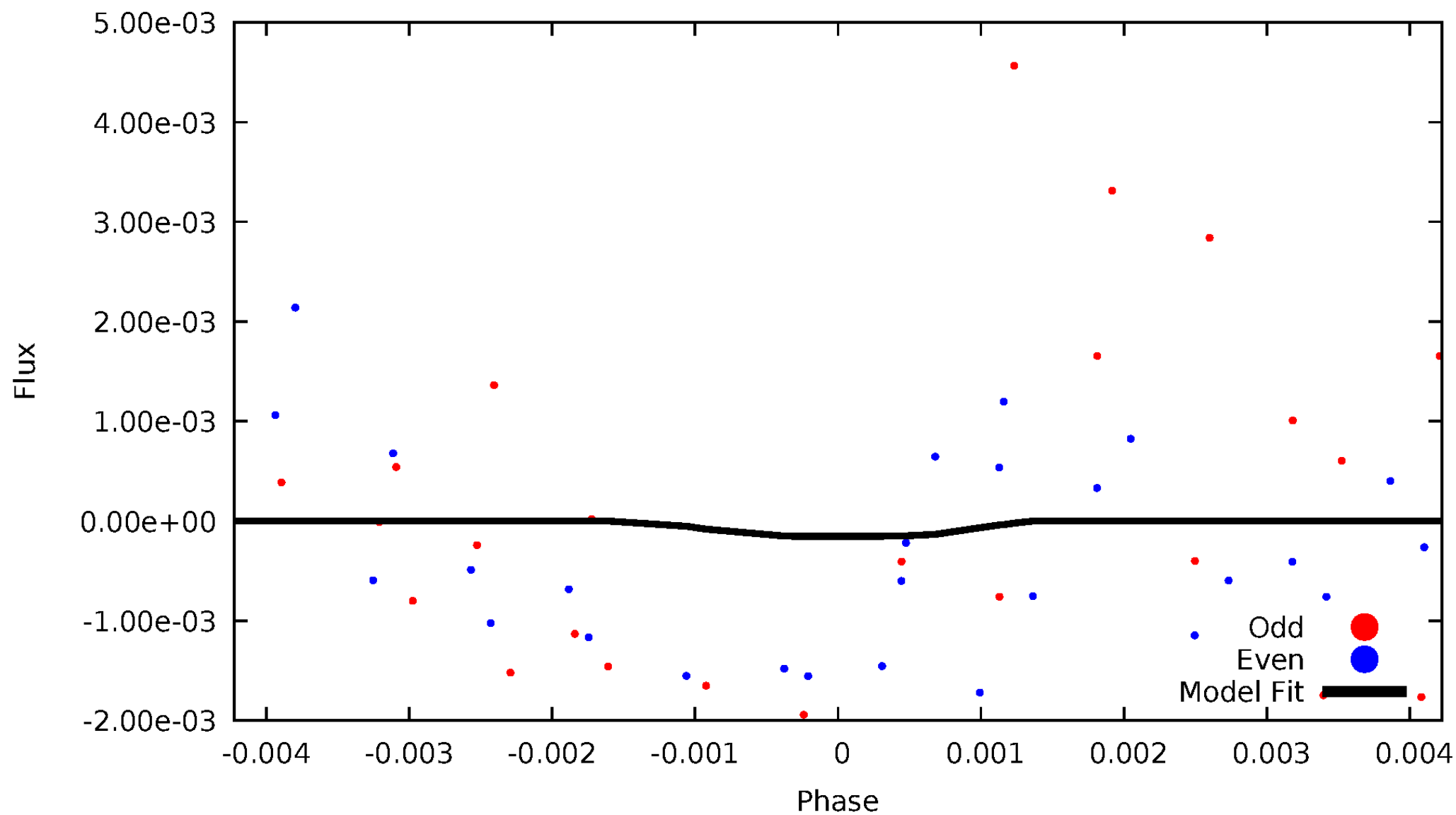


TCE 010614890-06



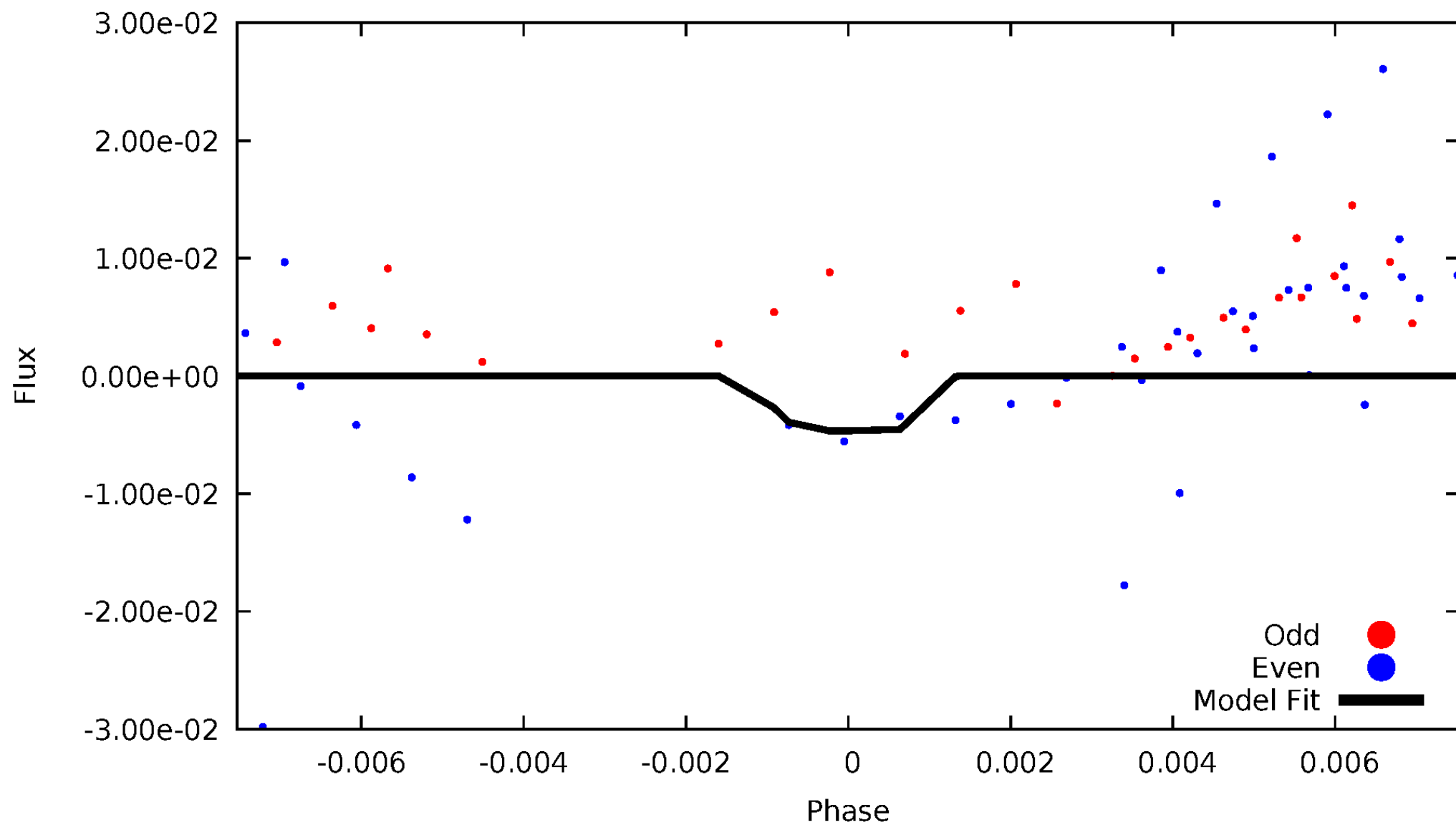
DV Odd/Even

TCE 010614890-06



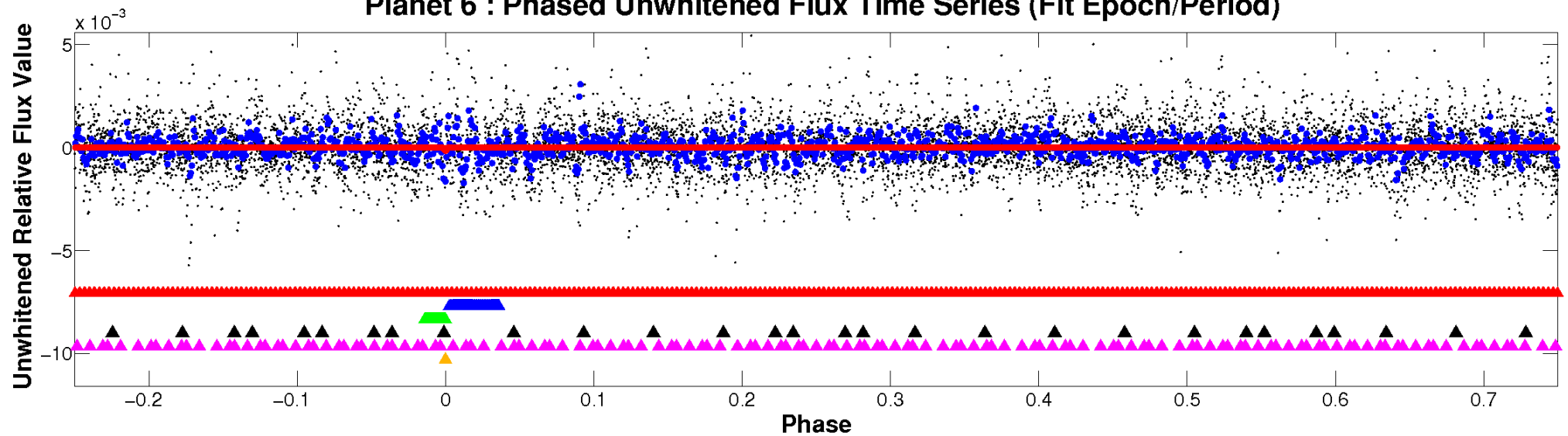
ALT Odd/Even

TCE 010614890-06

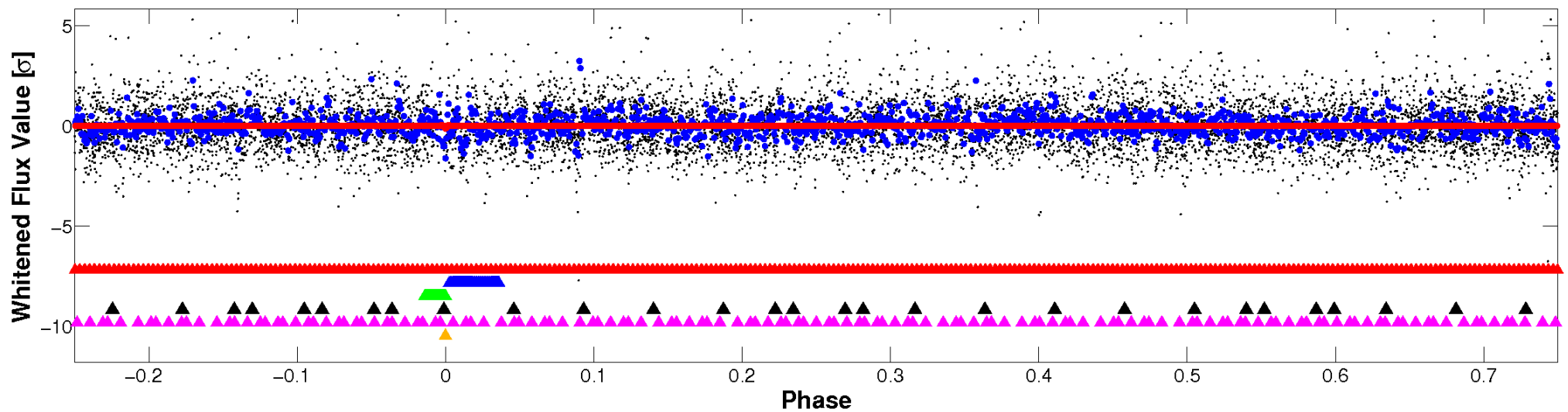


Non-Whitened Vs. Whitened Light Curve

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

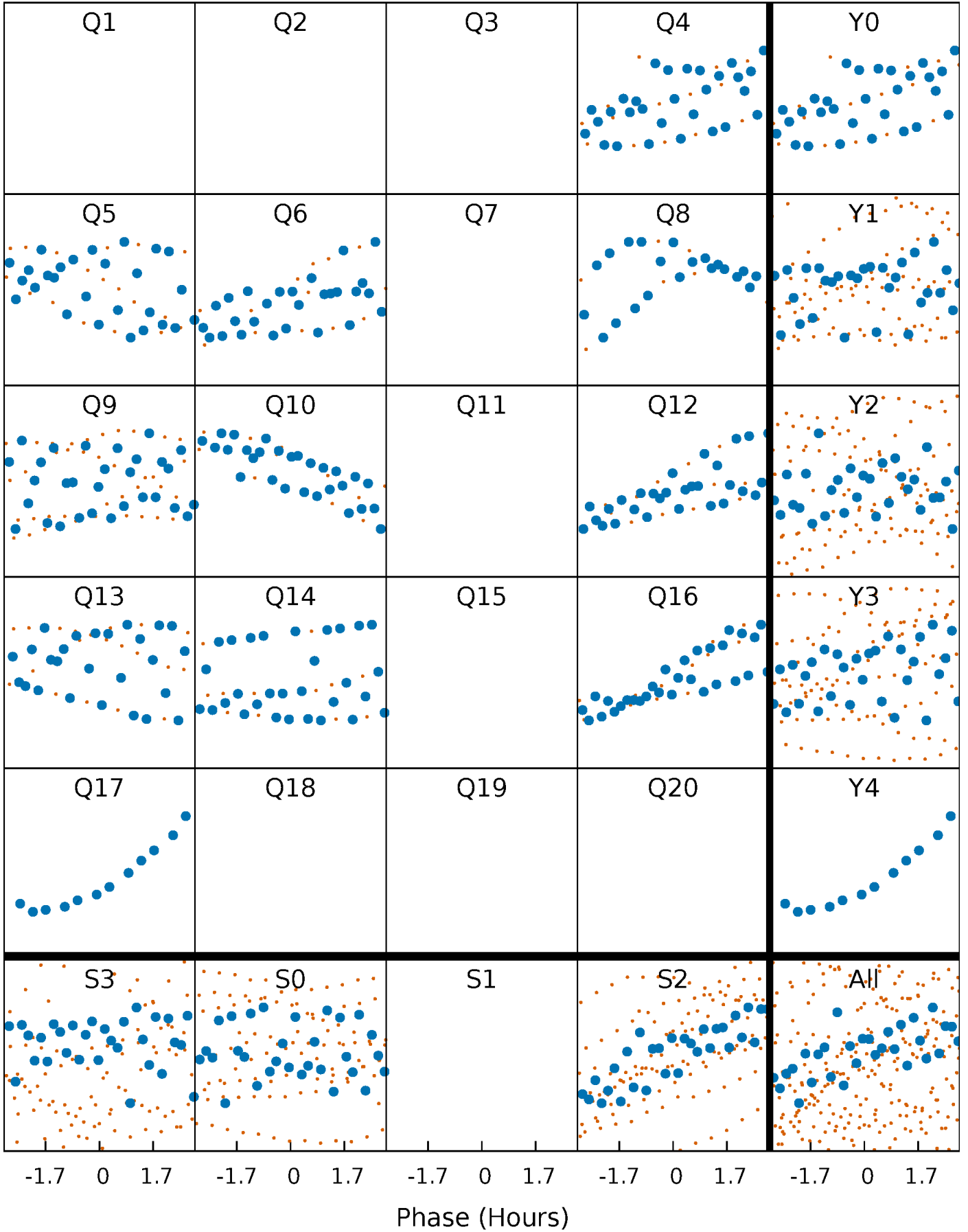


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



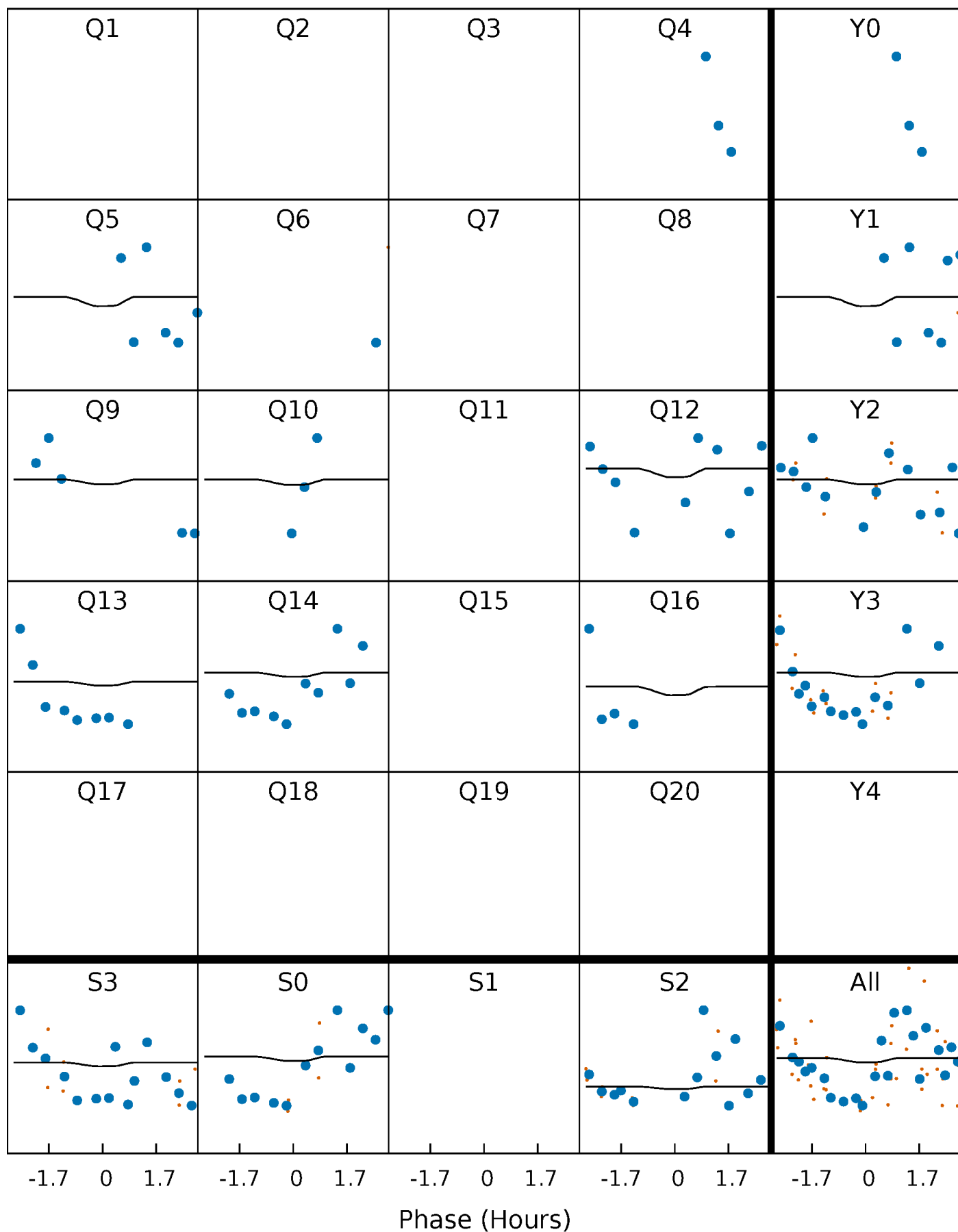
PDC Quarter-Phased Transit Curves

TCE 010614890-06 P= 29.880301 Days $T_0=153.074881$ (BKJD)



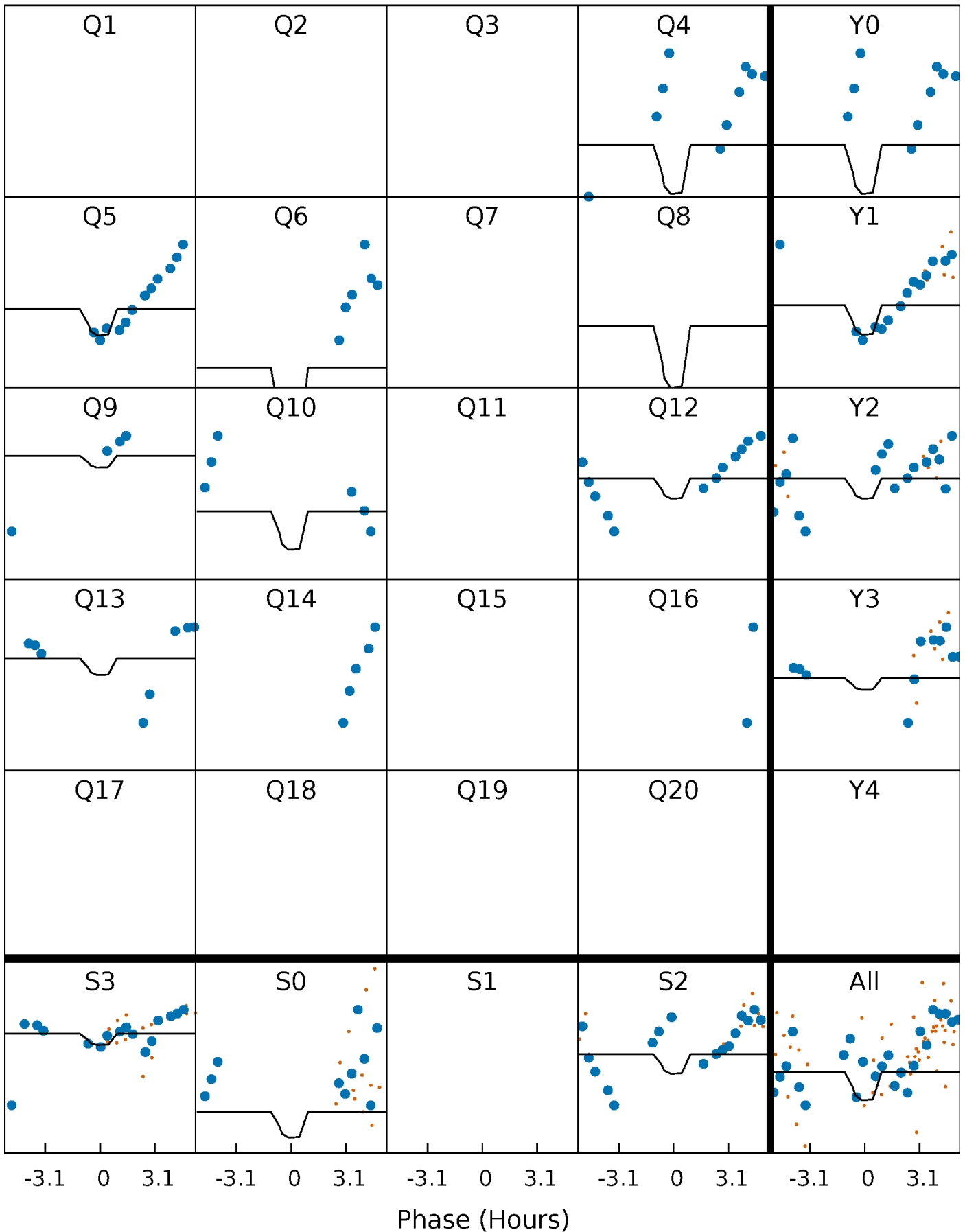
DV Quarter-Phased Transit Curves

TCE 010614890-06 P= 29.880301 Days $T_0=153.074881$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

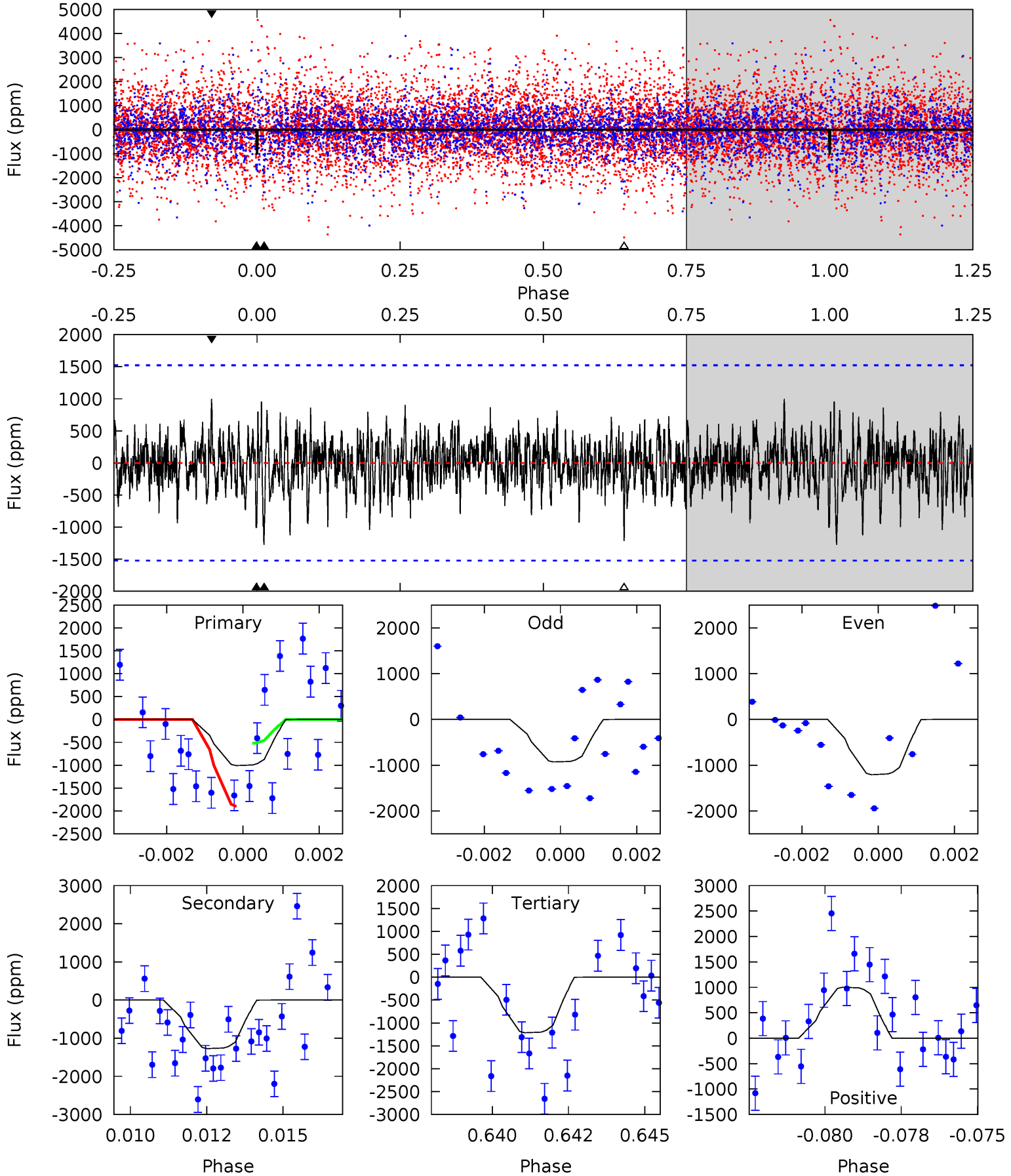
TCE 010614890-06 P= 29.866180 Days $T_0=153.286534$ (BKJD)



DV Model-Shift Uniqueness Test

010614890-06, P = 29.880301 Days, E = 153.074881 Days

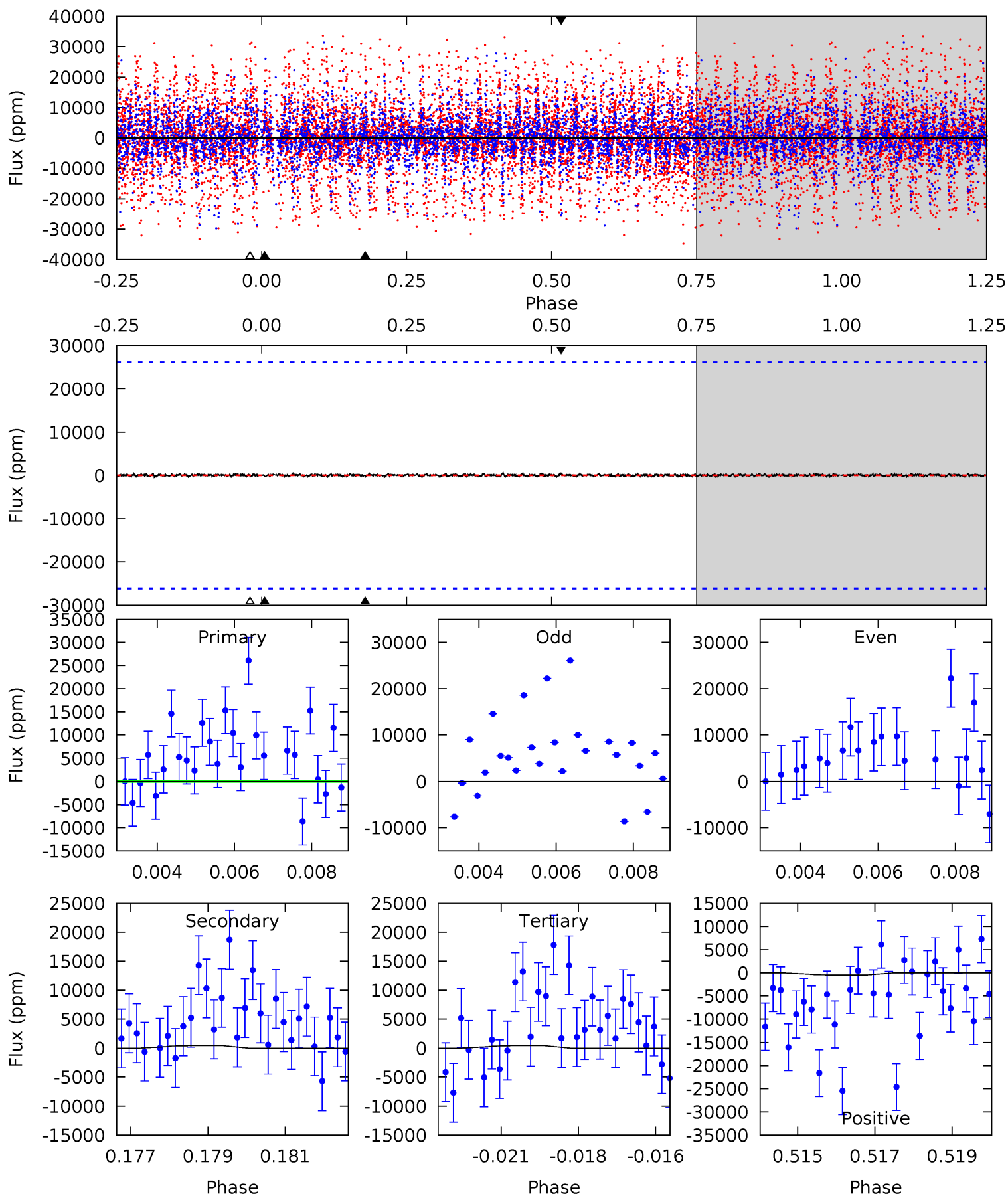
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.50	4.42	4.22	3.48	5.29	3.03	1.05	-0.72	0.02	0.20	0.94	0.46	1.01	0.44	2.16



Alt Model-Shift Uniqueness Test

010614890-06, P = 29.866180 Days, E = 153.286534 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.05	0.09	0.09	0.09	5.32	3.08	0.03	-0.04	-0.04	0.00	-0.00	0.18	1.00	0.51	0.00



Stellar Parameters For KIC 010614890

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5279^{+183}_{-183}	$4.624^{+0.066}_{-0.048}$	$-0.980^{+0.300}_{-0.300}$	$0.642^{+0.056}_{-0.051}$	$0.632^{+0.065}_{-0.028}$	$3.371^{+0.871}_{-0.579}$
	+3%/-3%	+1%/-1%	+31%/-31%	+9%/-8%	+10%/-4%	+26%/-17%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010614890-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1273 ± 288	$82.20^{+94.20}_{-60.20}$	647^{+27}_{-24}	1901^{+658}_{-326}	$2.638^{+31.053}_{-2.048}$
Alt.	-441 ± 4910	$90.28^{+89.72}_{-65.52}$	646^{+28}_{-27}	1540^{+846}_{-3844}	$0.520^{+20.075}_{-14.774}$

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

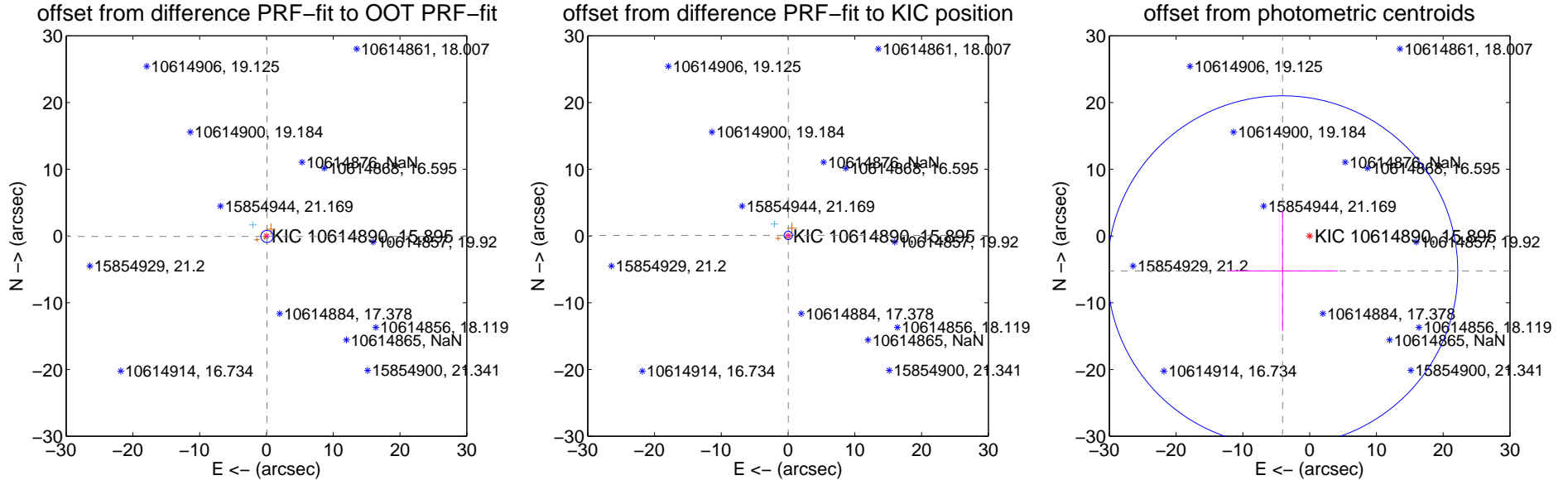
DV Centroid Data

Supplemental centroid analysis for 010614890-06. Kepler magnitude: 15.89. Transit SNR 0.22

There are 2 quarters with good PRF difference image offsets

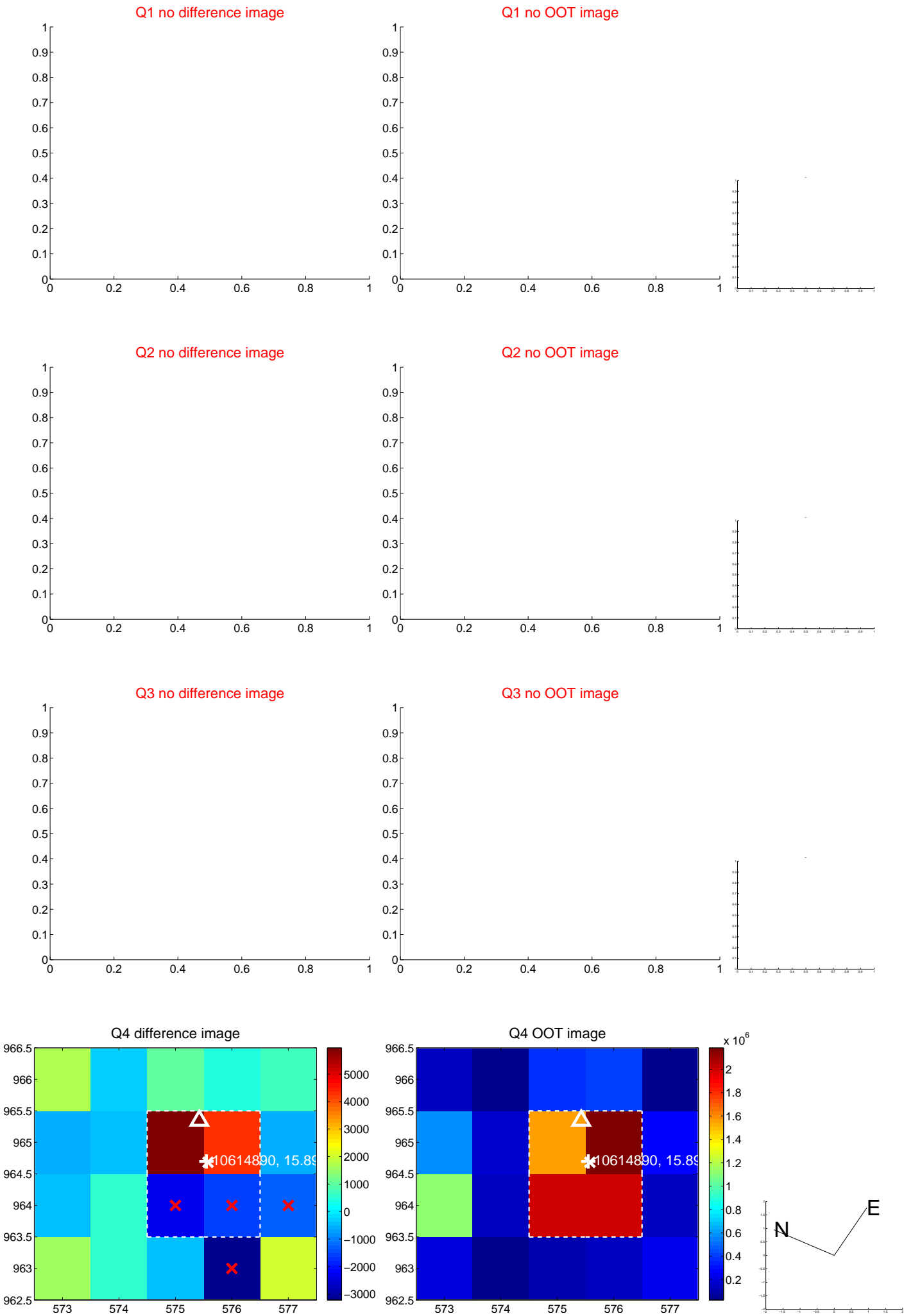
The direct PRF centroid is offset from the target star catalog position by about 0.35 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.101 ± 0.305	0.33	-0.082 ± 0.294	-0.060 ± 0.230
PRF-fit source offset from KIC position	0.095 ± 0.208	0.46	-0.034 ± 0.295	0.089 ± 0.234
photometric centroid source offset	6.62 ± 8.75	0.76	4.06 ± 8.31	-5.23 ± 9.00

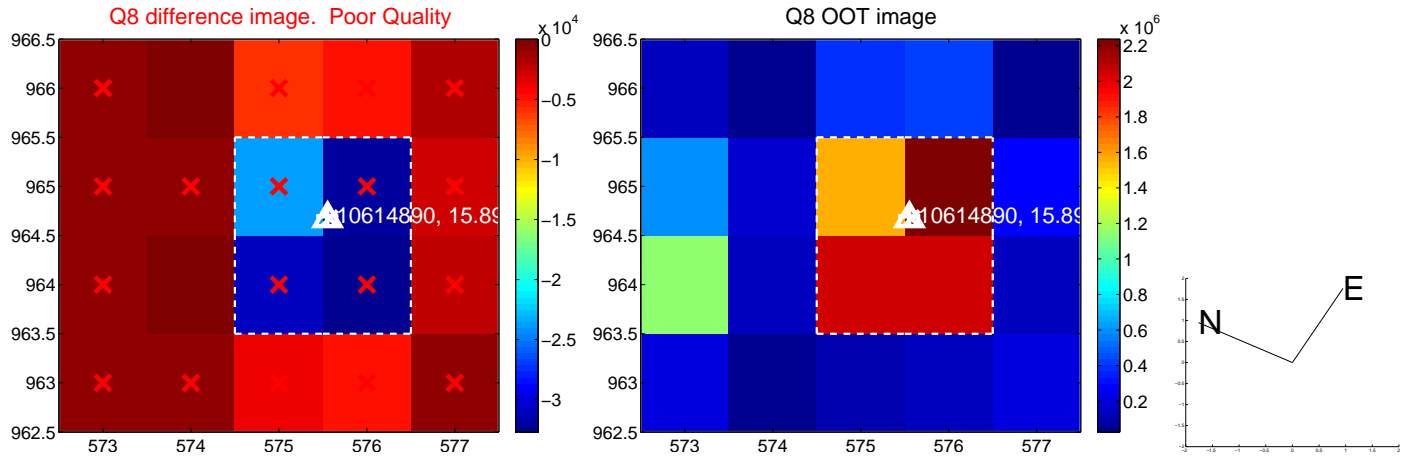
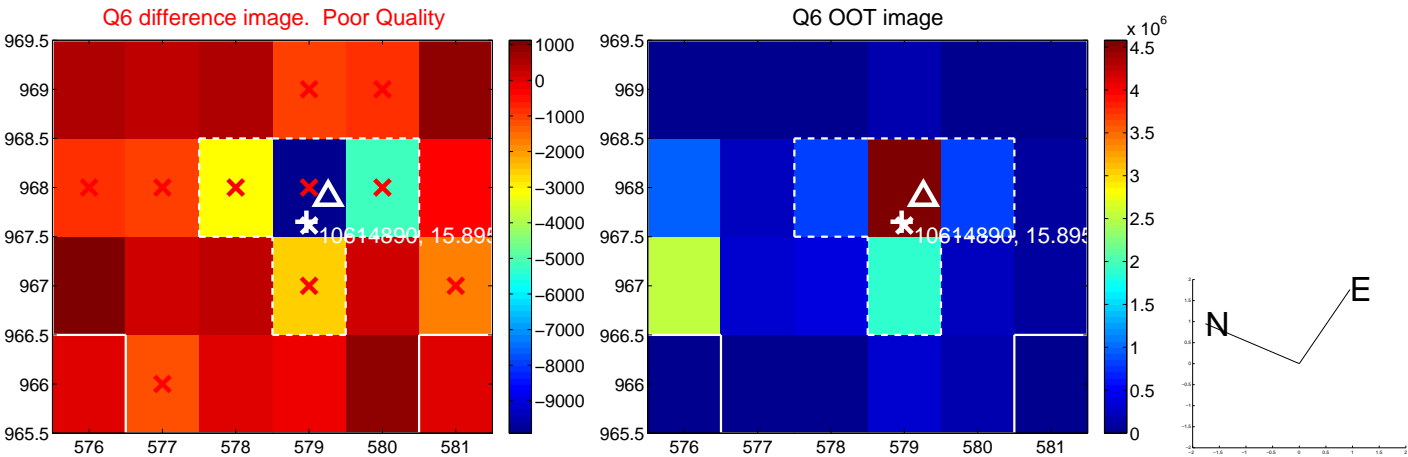
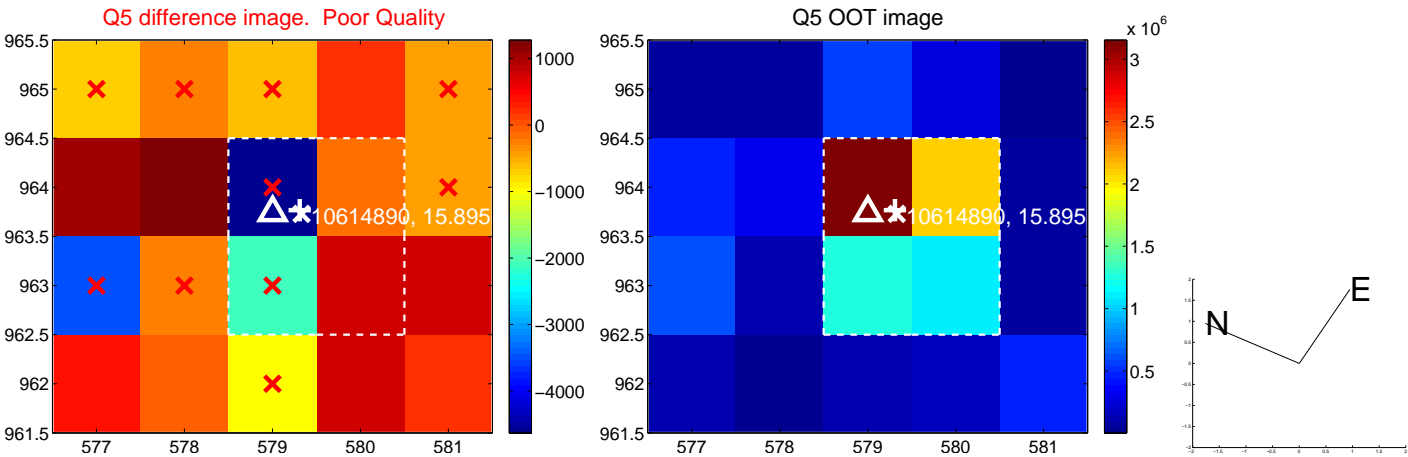


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

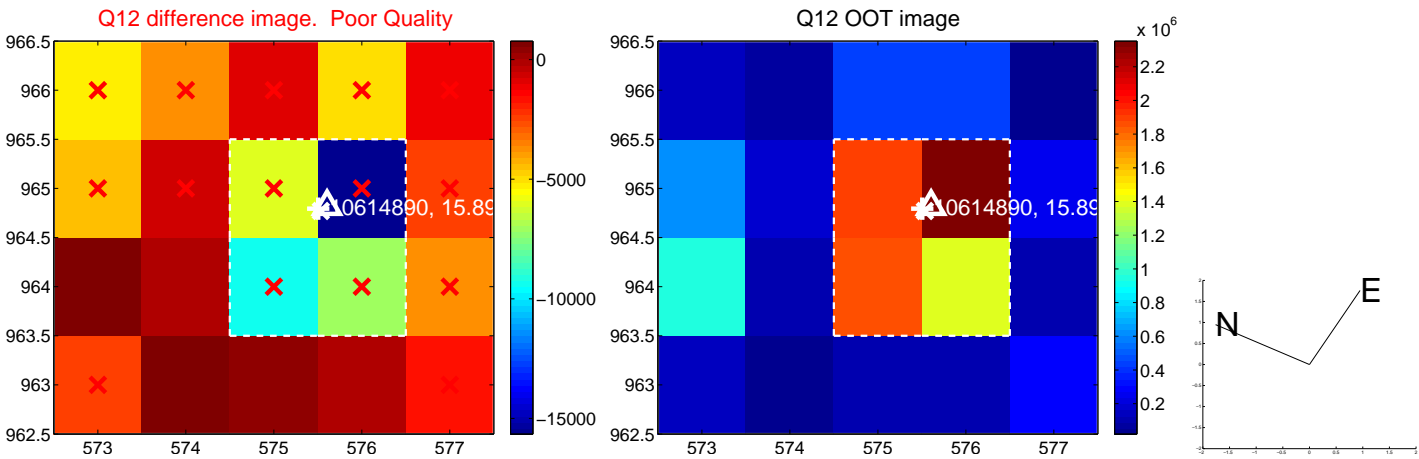
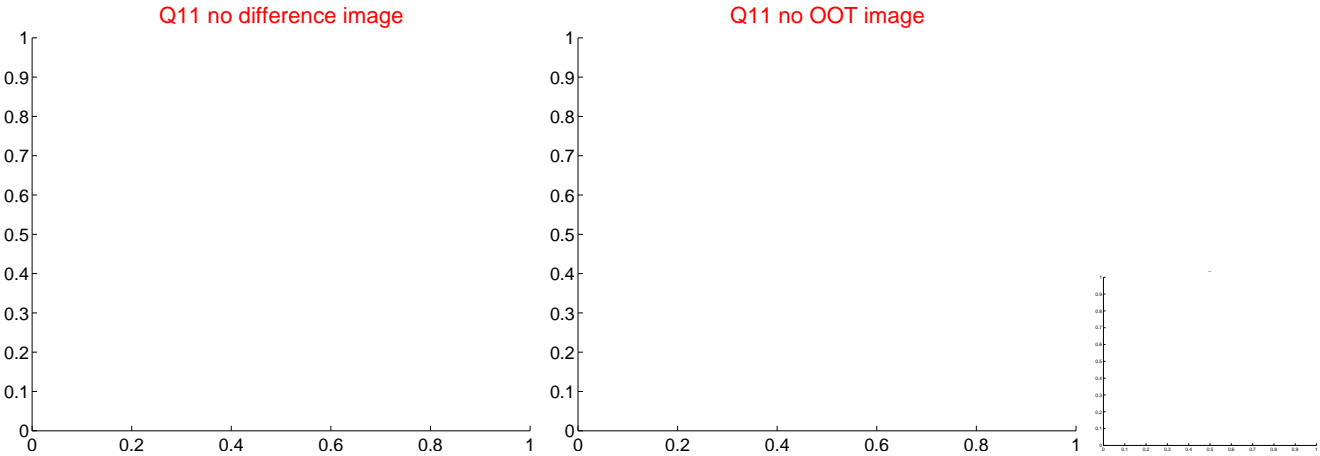
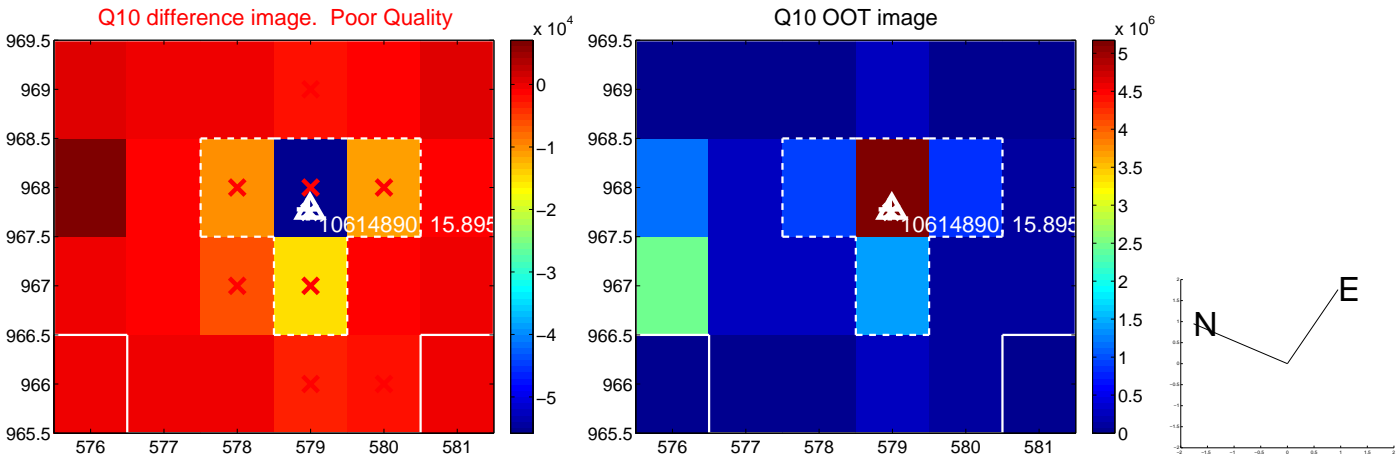
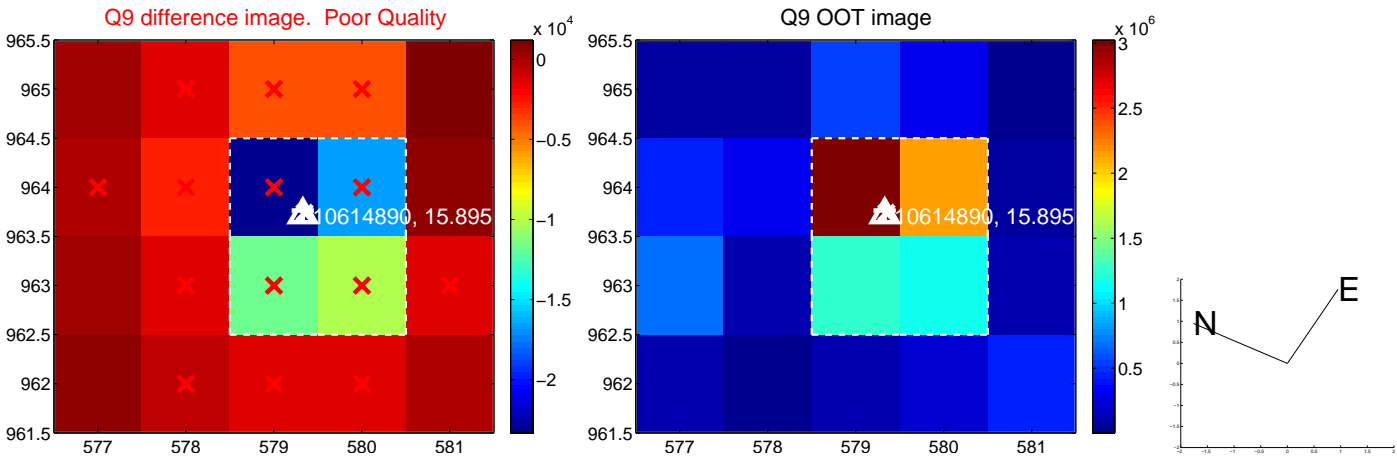
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



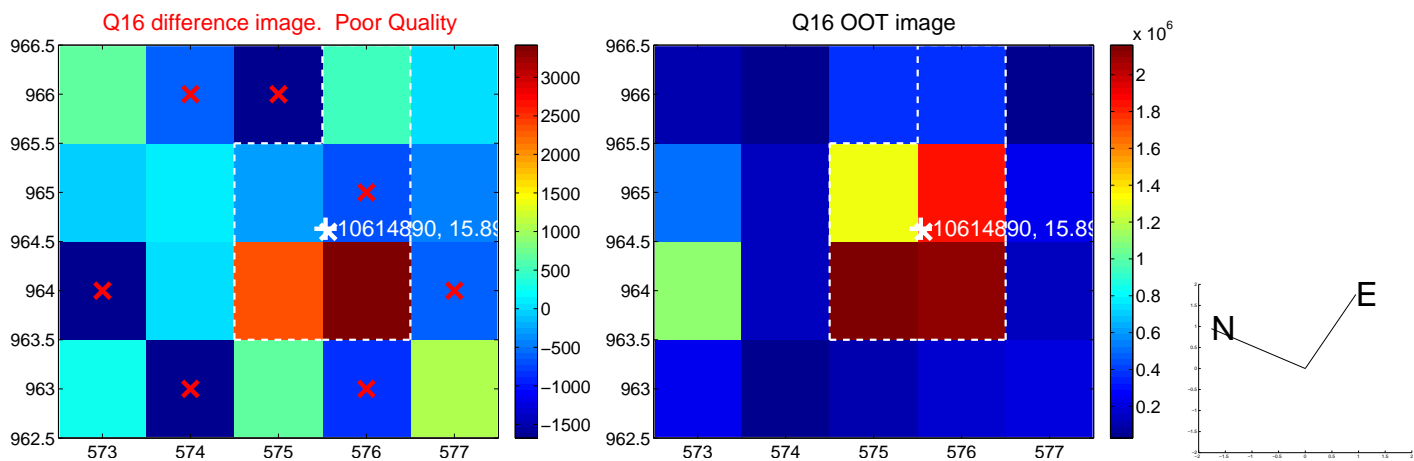
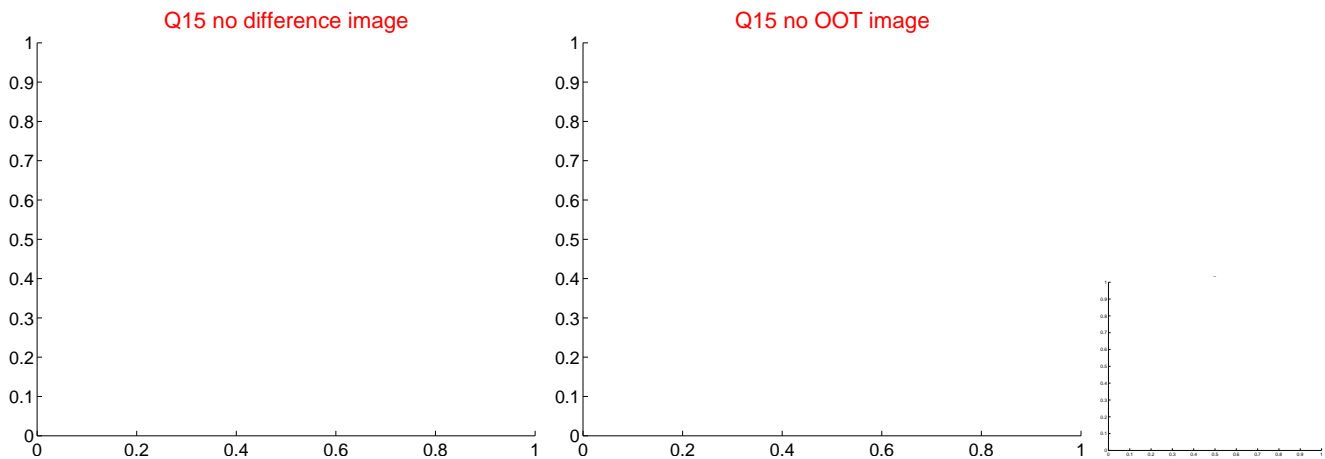
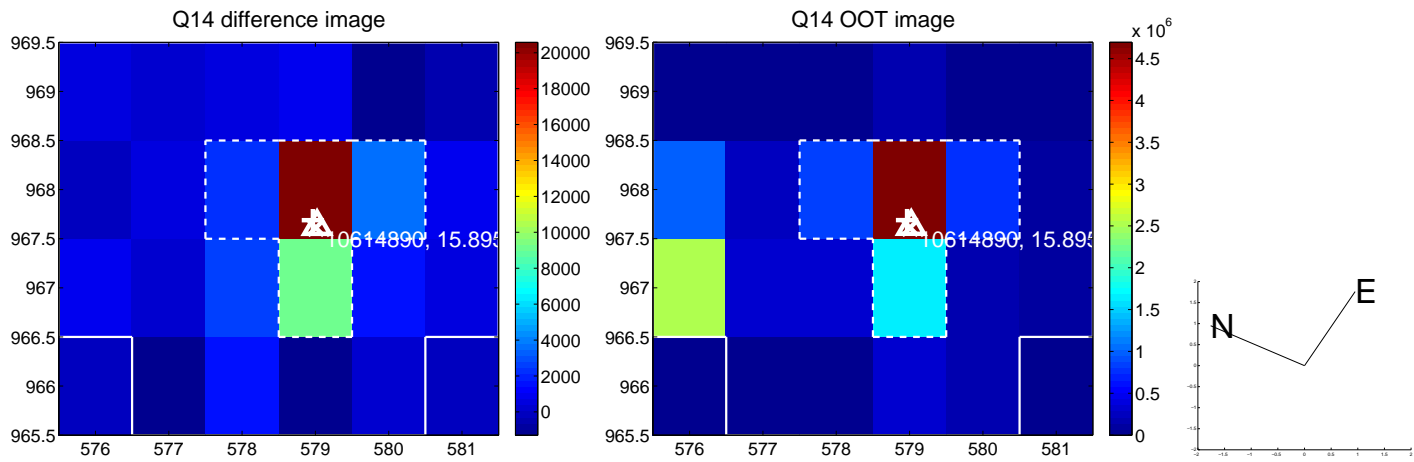
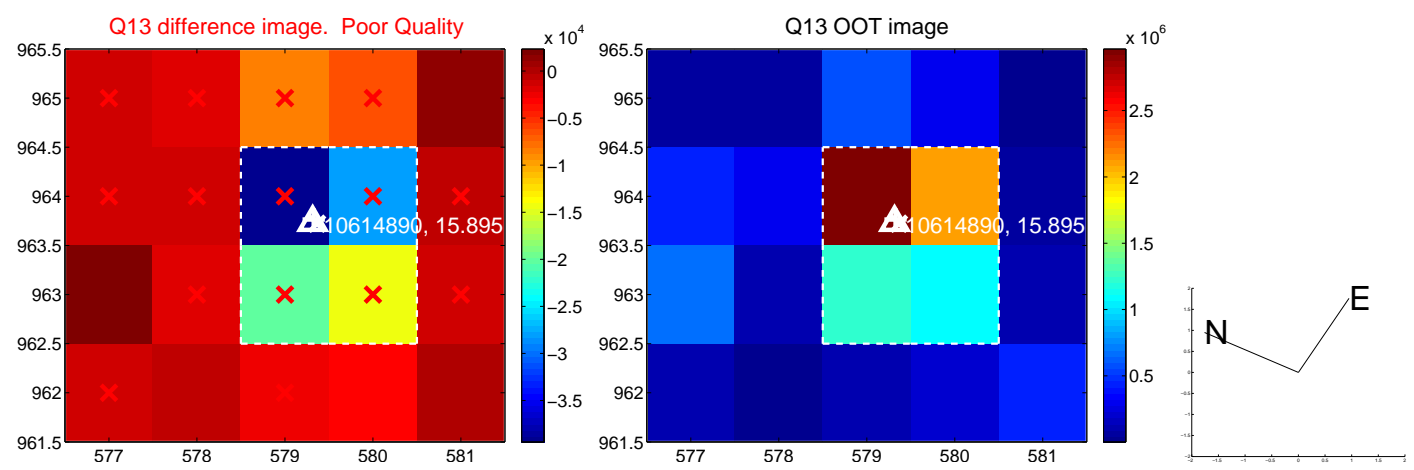
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



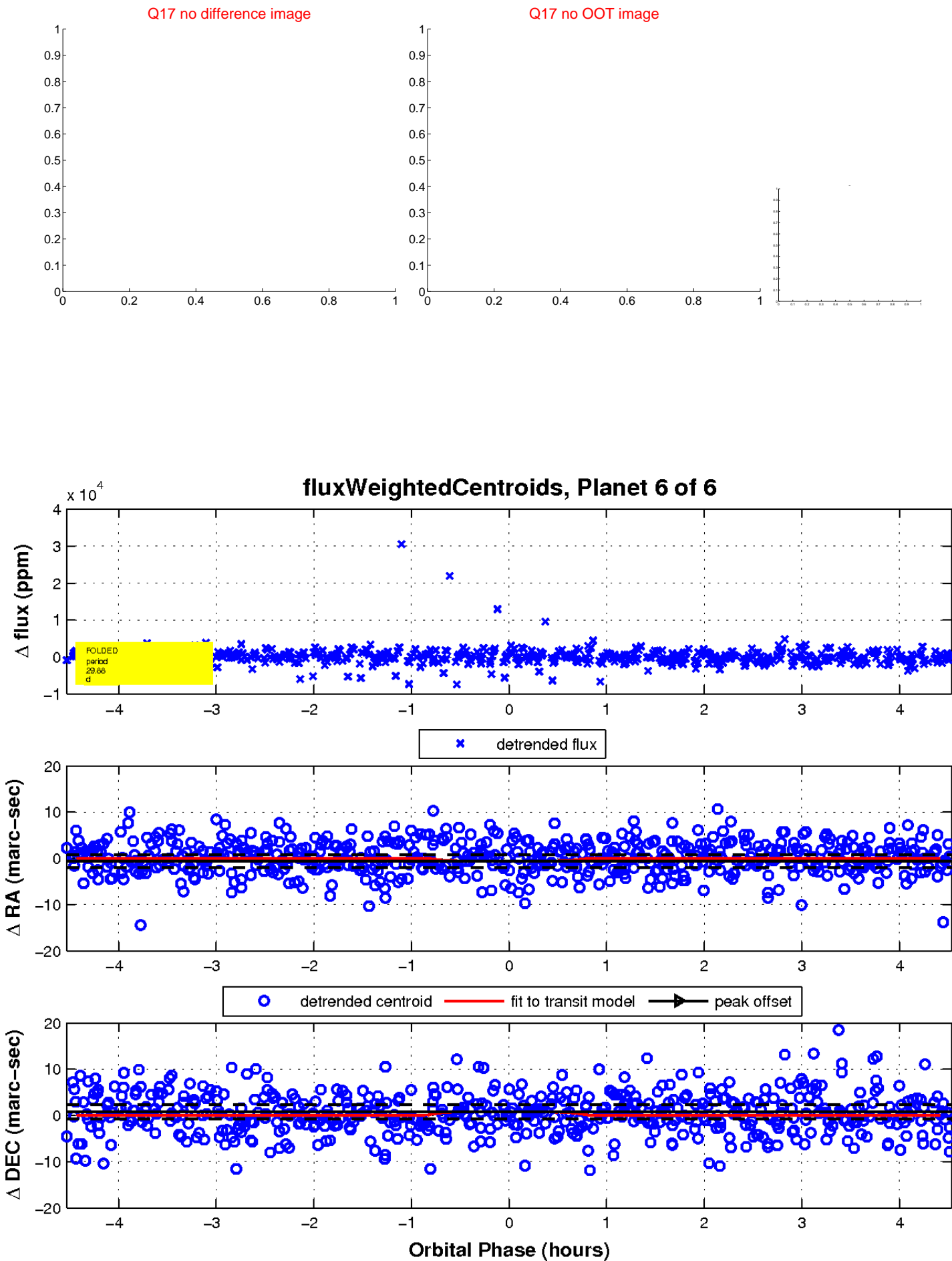
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

