

KIC 010274993

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})
010274993-01	OBS	No	495.577944	447.155546	3109.2	5.915	12.5	6.1	0.72	4324	4.83	0.14
010274993-02	OBS	No	435.784647	260.763840	1007.9	2.024	11.4	3.0	0.72	4324	4.47	0.16
010274993-03	OBS	No	366.780436	280.604286	2294.5	3.768	12.2	5.8	0.72	4324	3.68	0.20
010274993-04	OBS	No	513.386925	199.367551	3223.4	4.673	13.8	6.3	0.72	4324	3.88	0.13
010274993-05	OBS	No	350.344554	295.445098	2382.8	4.473	10.8	6.8	0.72	4324	3.89	0.22
010274993-06	OBS	No	324.953177	356.413331	2425.3	3.000	11.2	-1.0	0.72	4324	3.38	0.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010274993-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
010274993-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010274993-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010274993-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010274993-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010274993-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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.

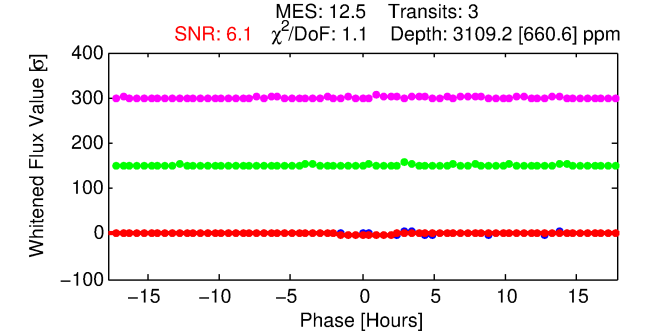
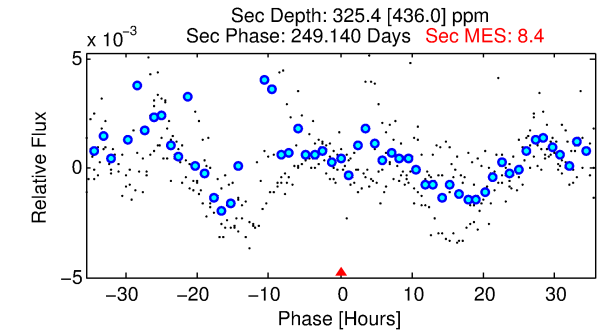
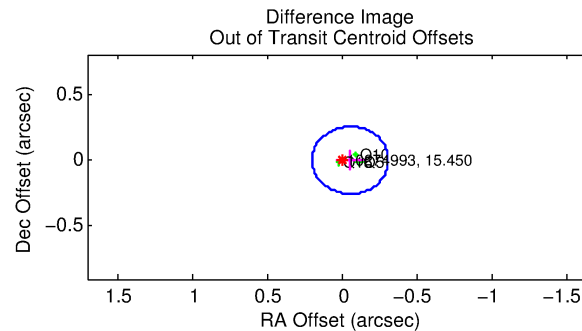
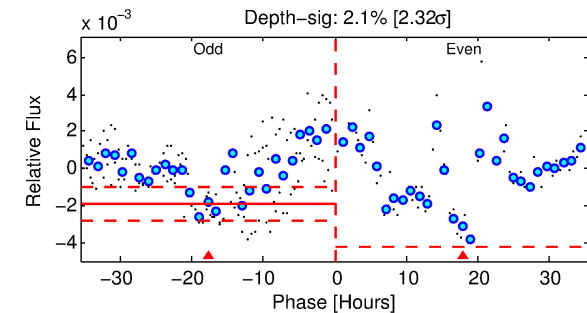
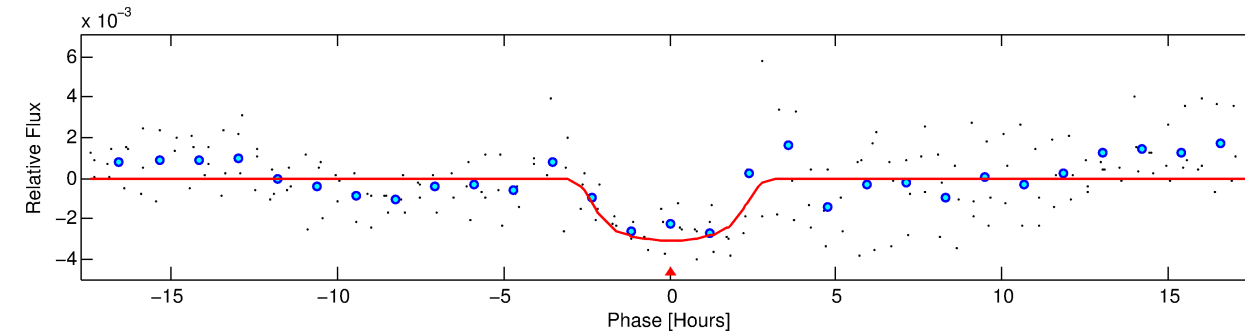
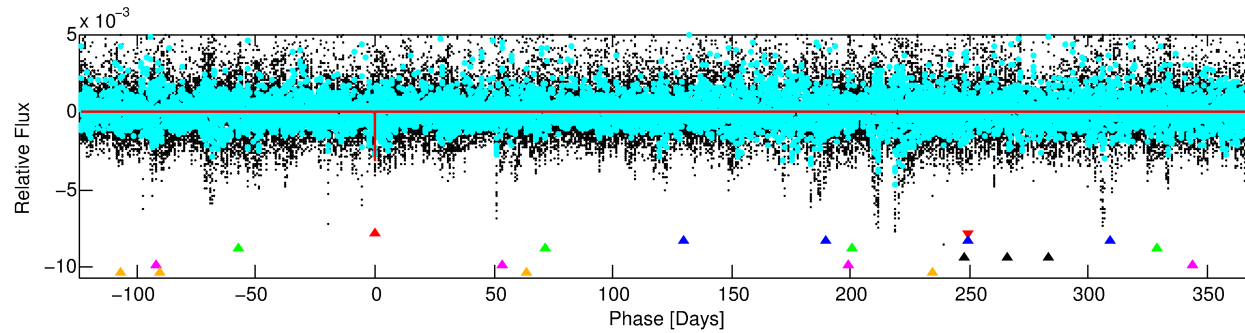
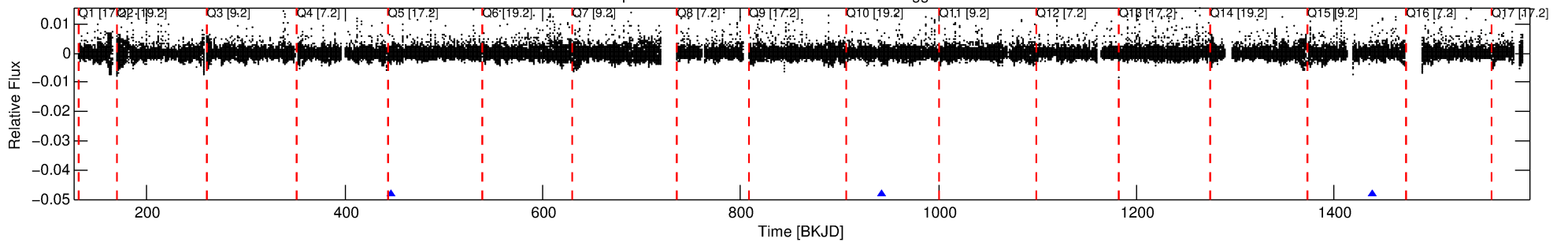
Ephemeris Match Information For 010274993-01

No Significant Match Found

DV One-Page Summary

KIC: 10274993 Candidate: 1 of 6 Period: 495.578 d

Kp: 15.45 R*: 0.72 Rs Teff: 4324.0 K Logg: 4.58 Fe/H: 0.480



DV Fit Results:

Period = 495.57794 [0.00874] d
Epoch = 447.1555 [0.0125] BKJD
Rp/R* = 0.0613 [0.0102]
a/R* = 392.79 [128.05]
b = 0.87 [0.10]
Seff = 0.14 [0.03]
Teq = 155 [7] K
Rp = 4.83 [0.92] Re
a = 1.0960 [0.0837] AU
Ag = 9224.78 [12773.61] [0.72σ]
Teffp = 2346 [815] K [2.69σ]

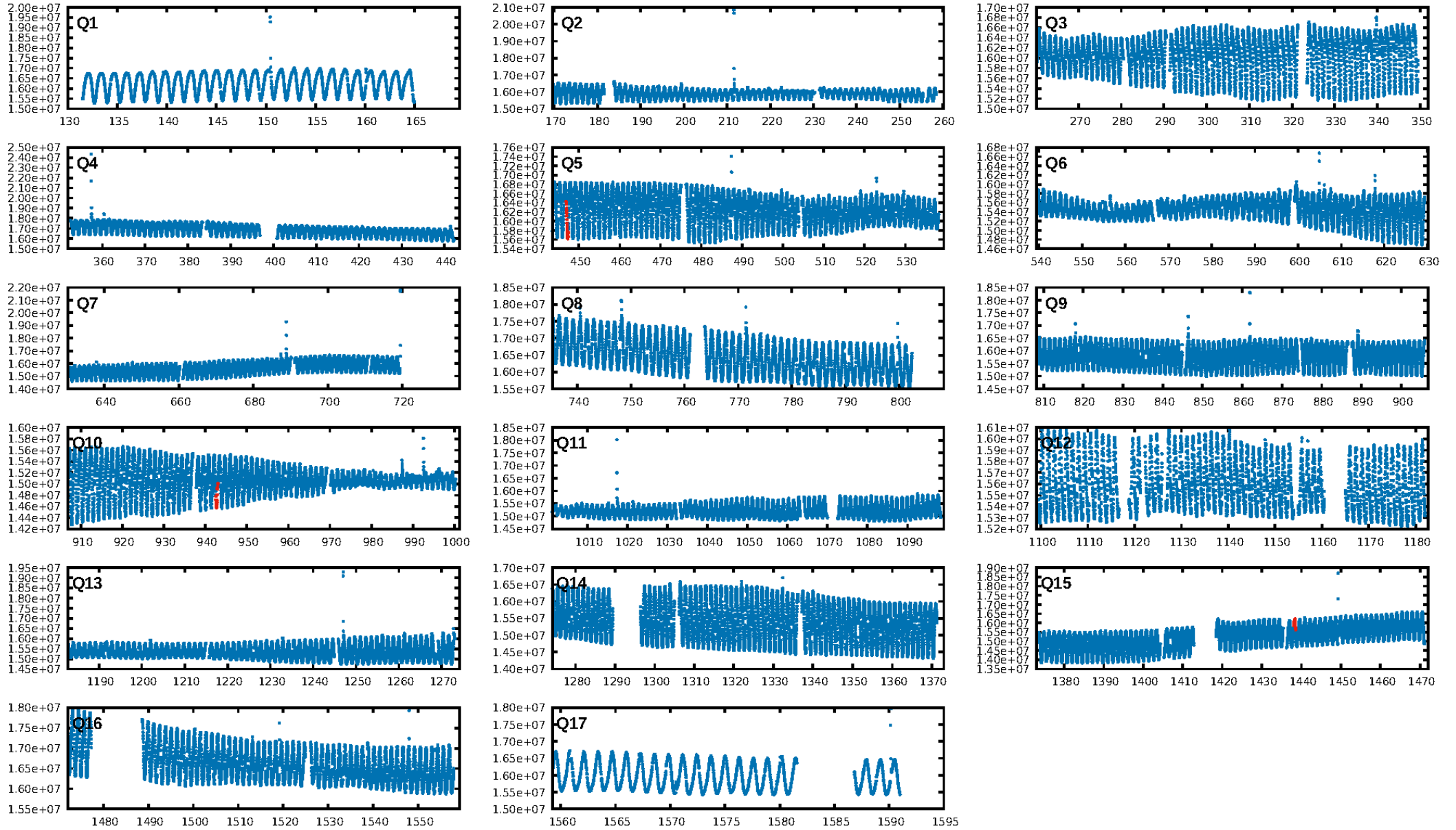
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [229.56σ]
LongPeriod-sig: 100.0% [56.70σ]
ModelChiSquare2-sig: 7.0%
ModelChiSquareGof-sig: 97.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.293
Centroid-sig: 67.7%
Centroid-so: 0.263 arcsec [0.40σ]
OotOffset-rm: 0.057 arcsec [0.67σ]
KicOffset-rm: 0.190 arcsec [2.40σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

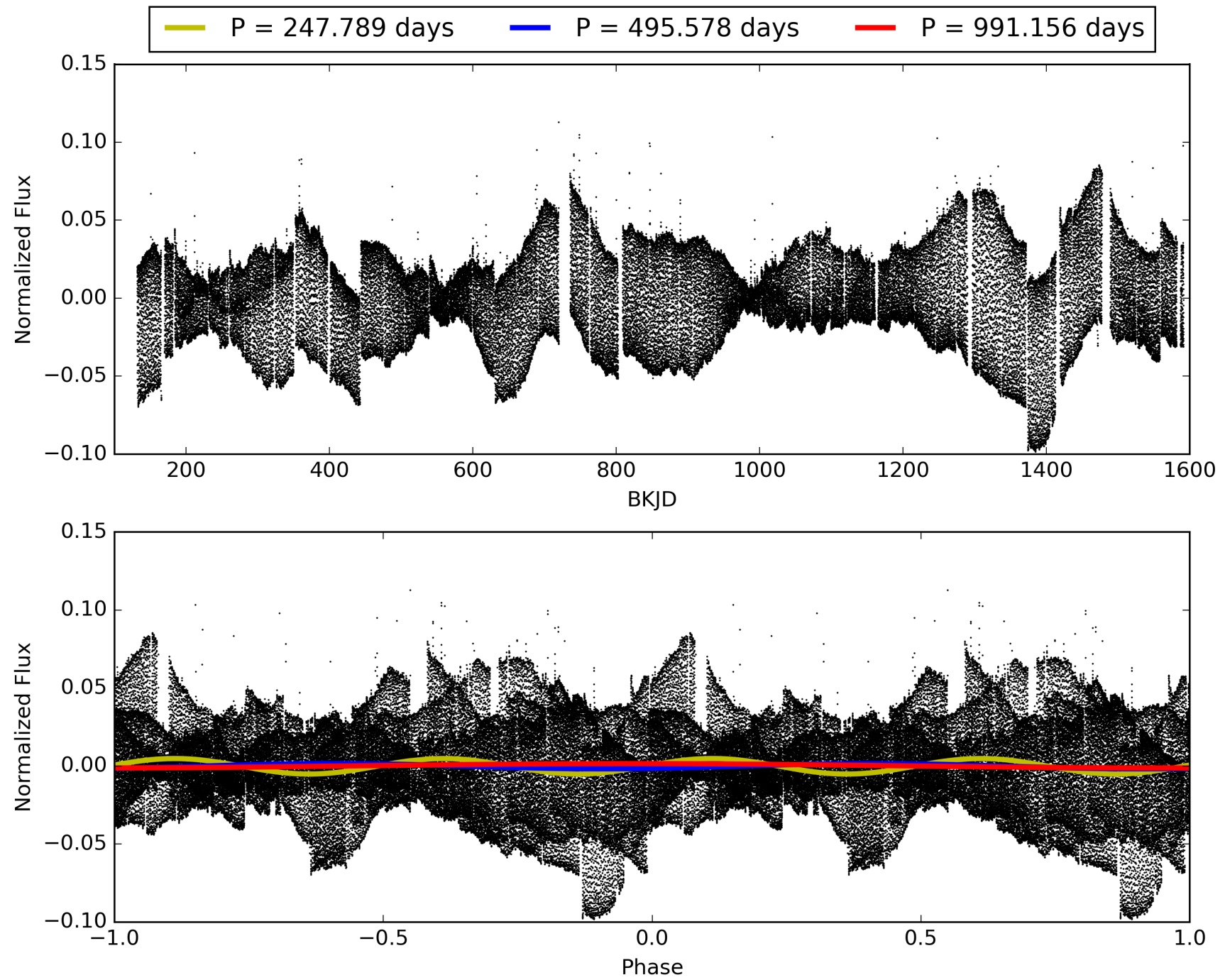
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:19:19 Z

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

TCE 010274993-01, PDC Light Curves

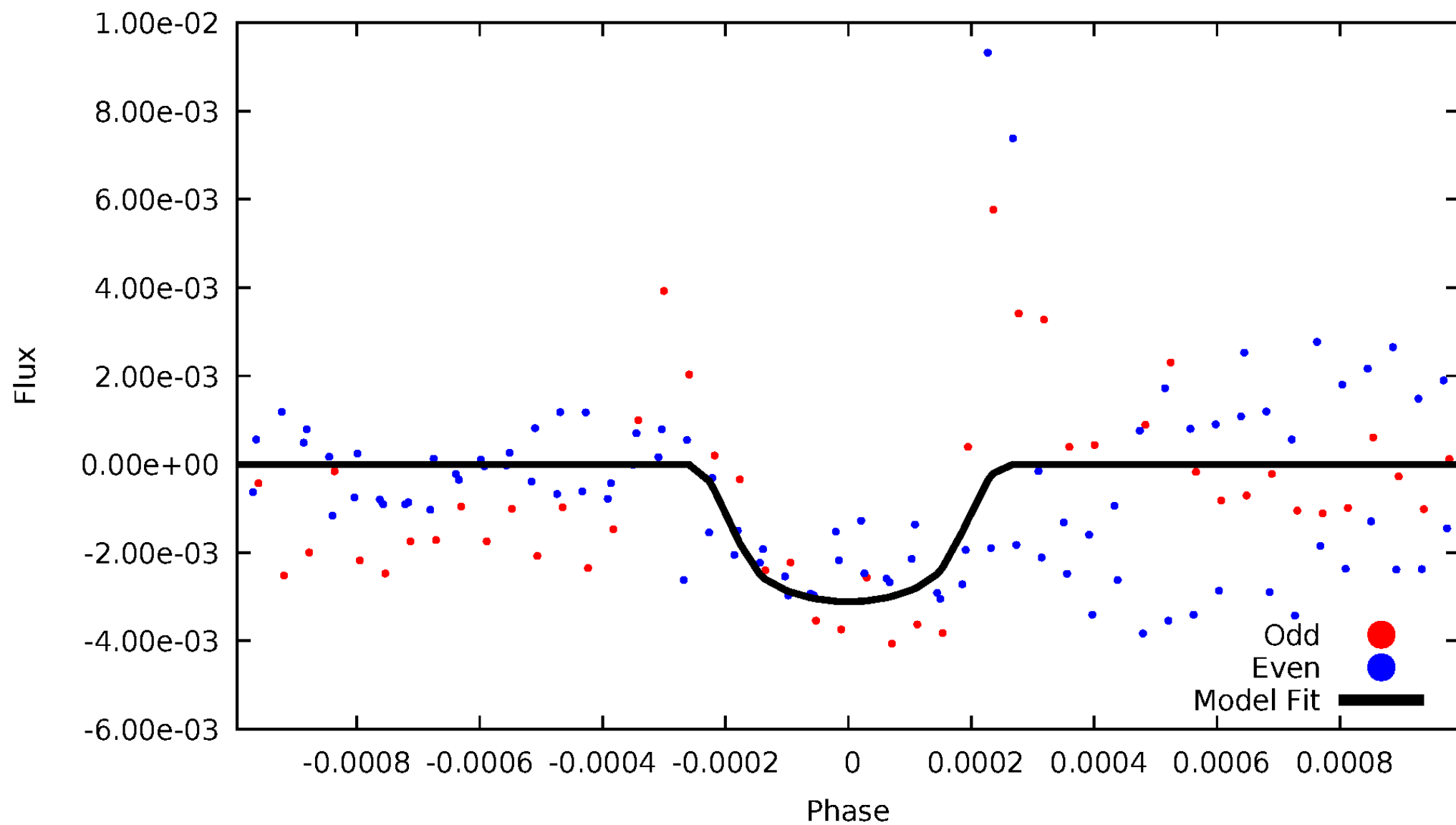


TCE 010274993-01



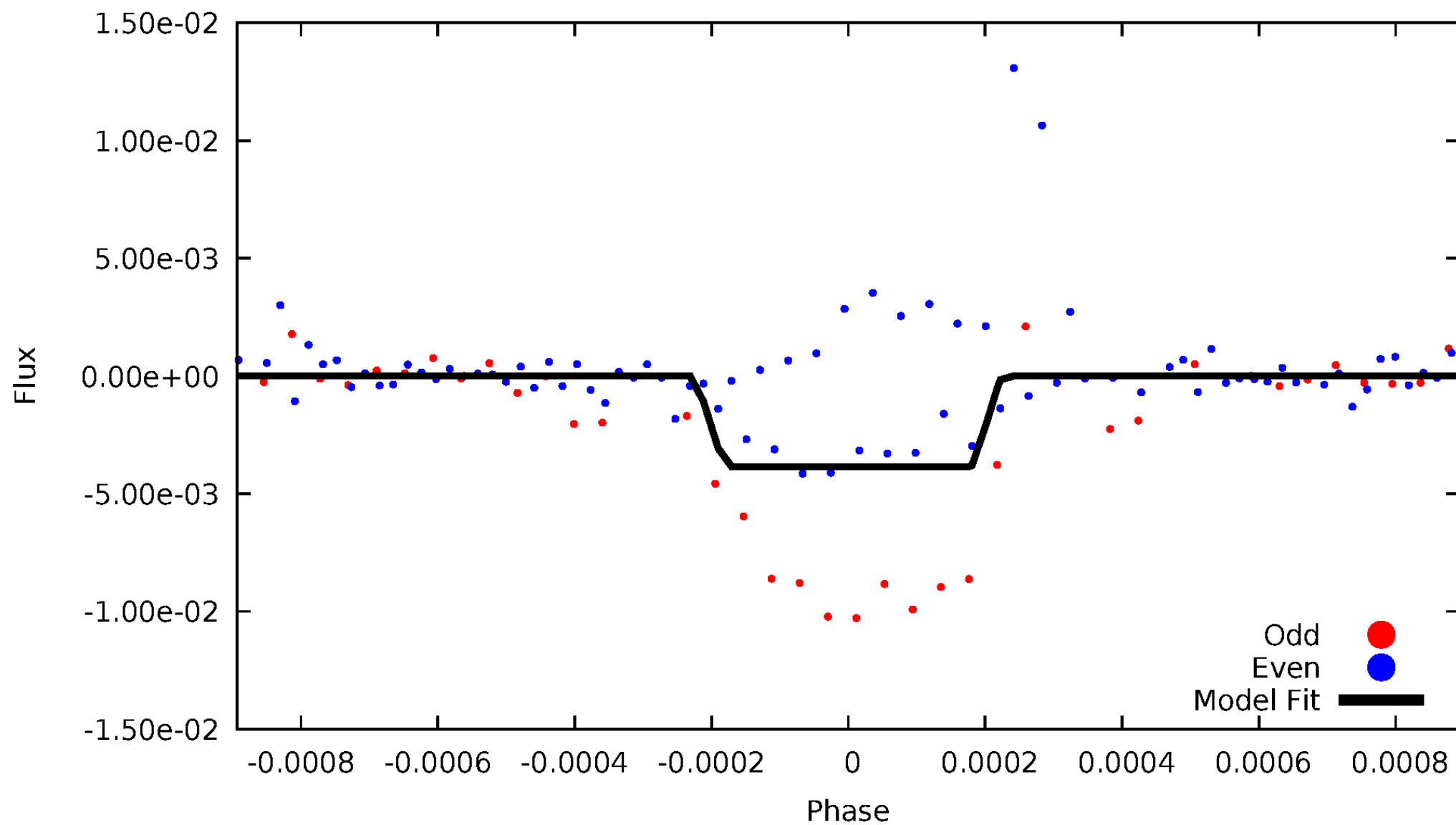
DV Odd/Even

TCE 010274993-01



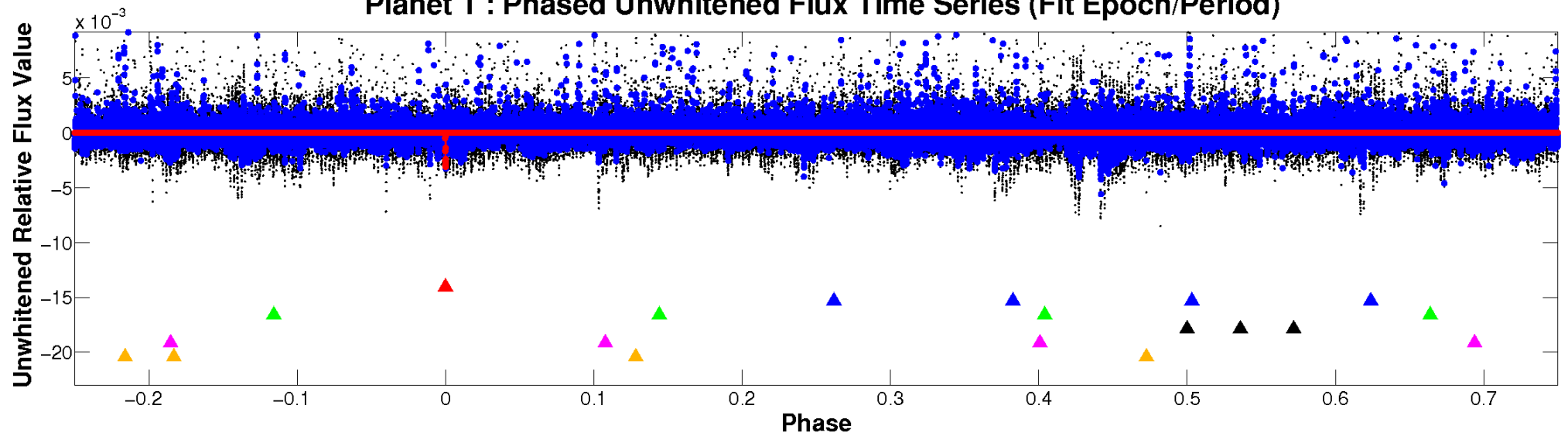
ALT Odd/Even

TCE 010274993-01

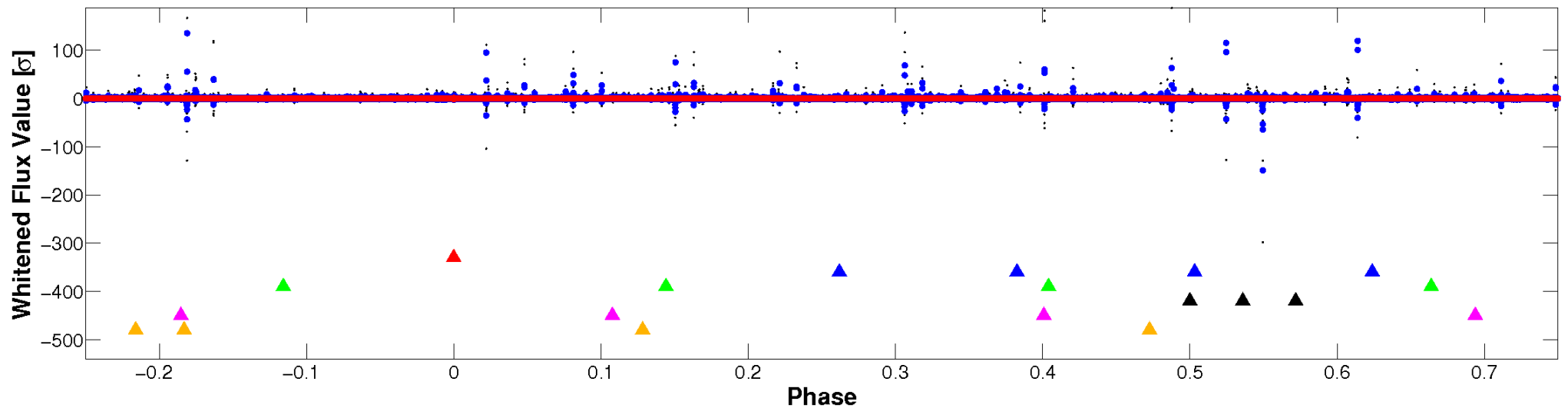


Non-Whitened Vs. Whitened Light Curve

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

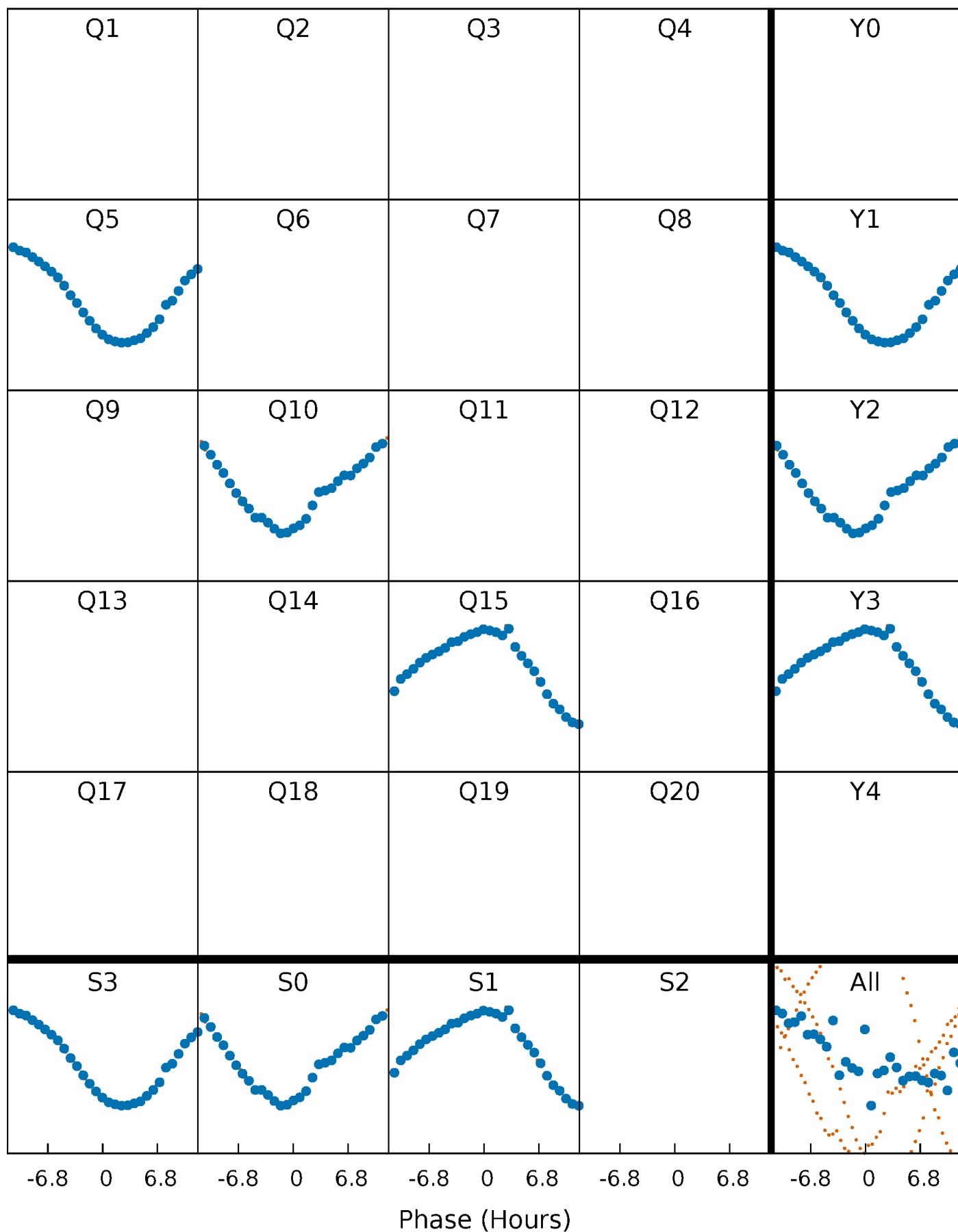


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



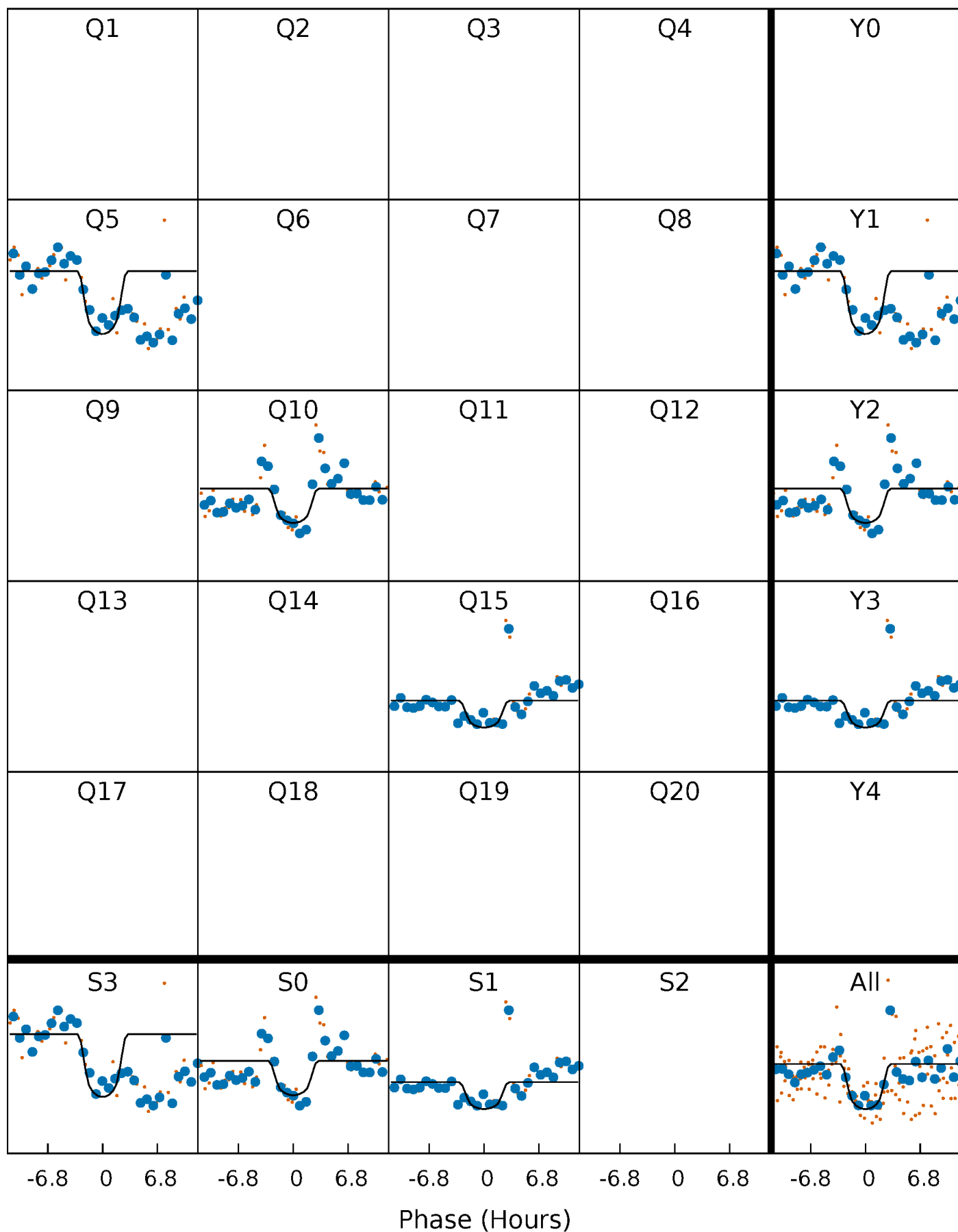
PDC Quarter-Phased Transit Curves

TCE 010274993-01 P=495.577944 Days $T_0=447.155546$ (BKJD)



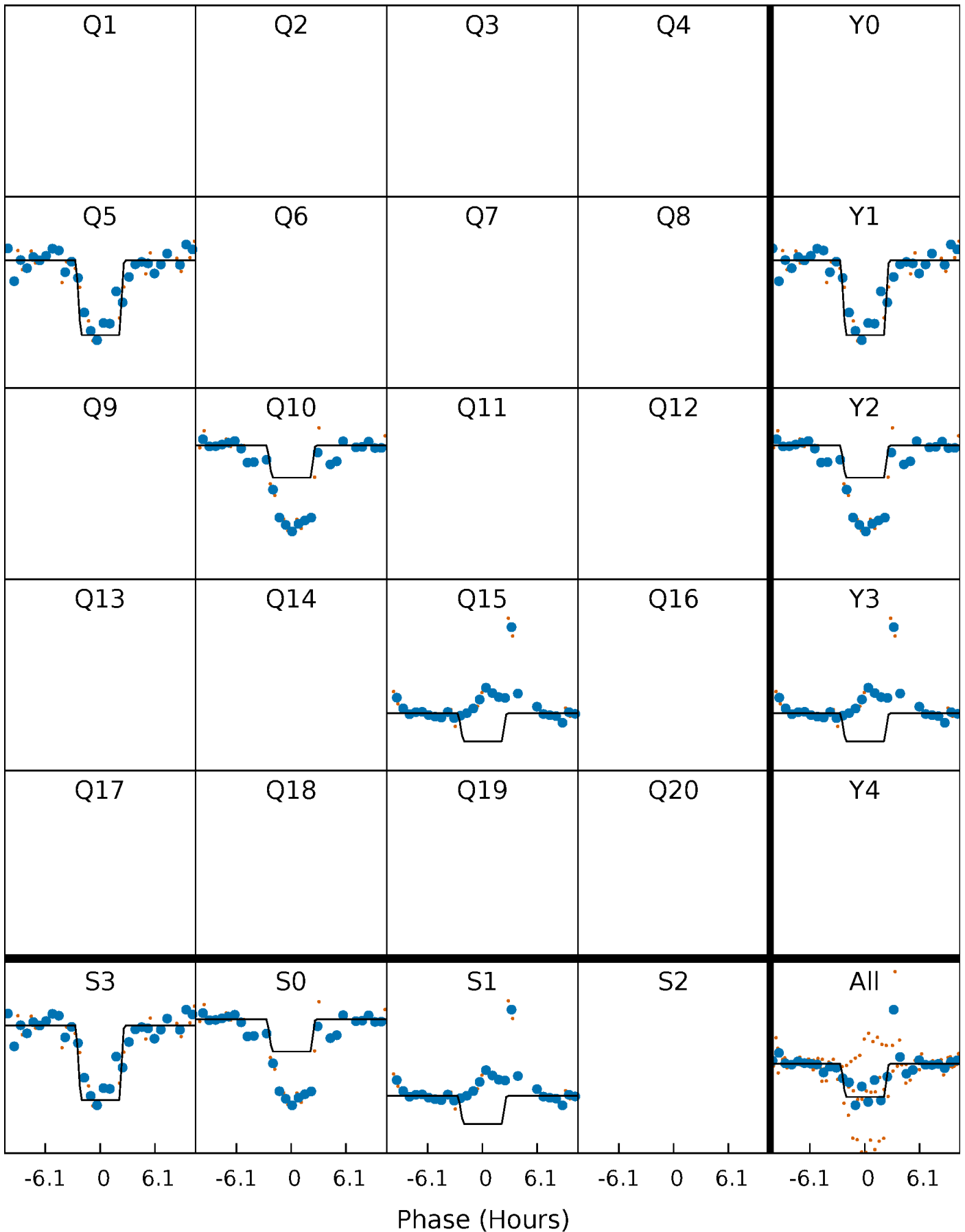
DV Quarter-Phased Transit Curves

TCE 010274993-01 P=495.577944 Days $T_0=447.155546$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

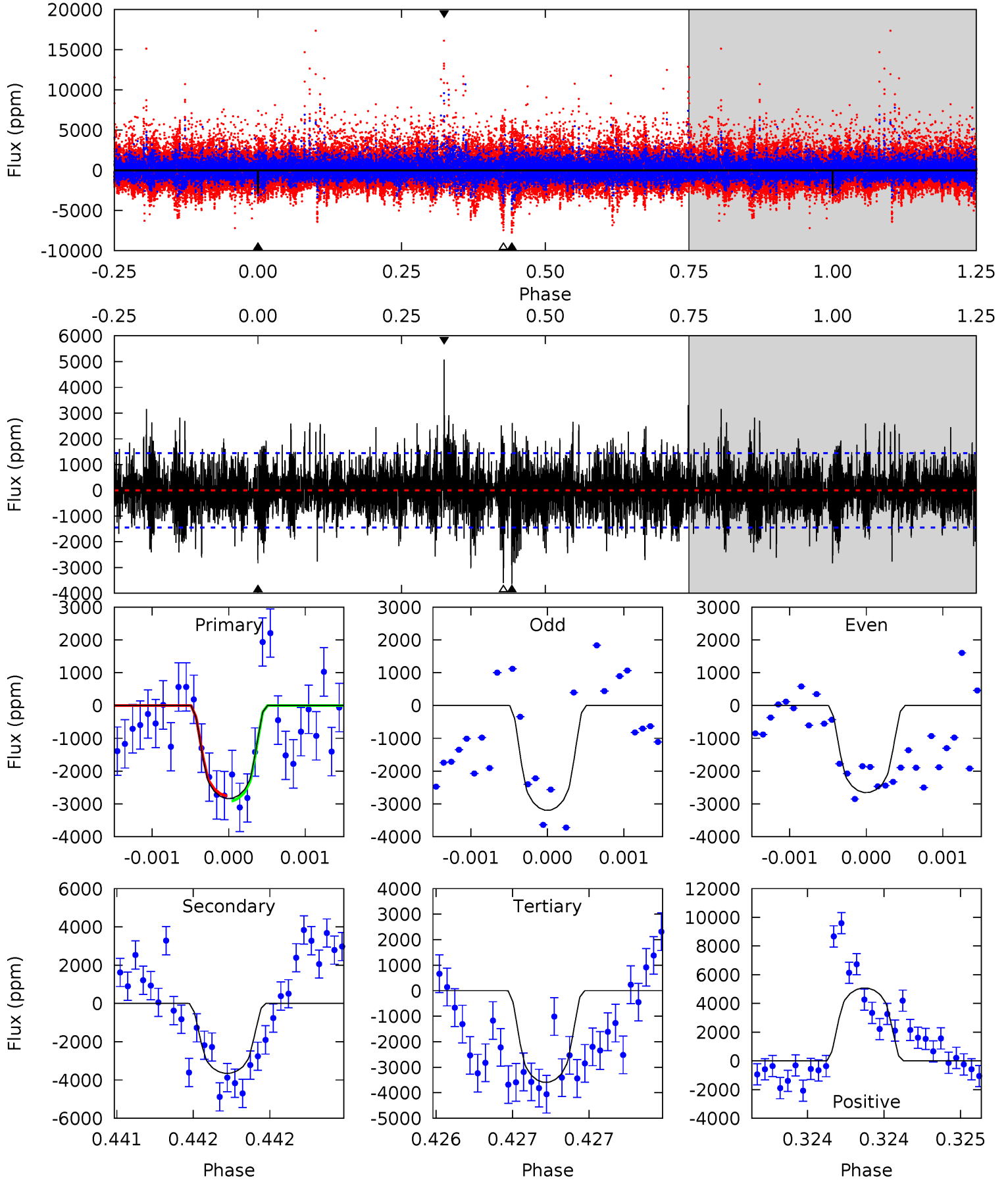
TCE 010274993-01 P=495.581942 Days $T_0=447.140121$ (BKJD)



DV Model-Shift Uniqueness Test

010274993-01, P = 495.577944 Days, E = 447.155546 Days

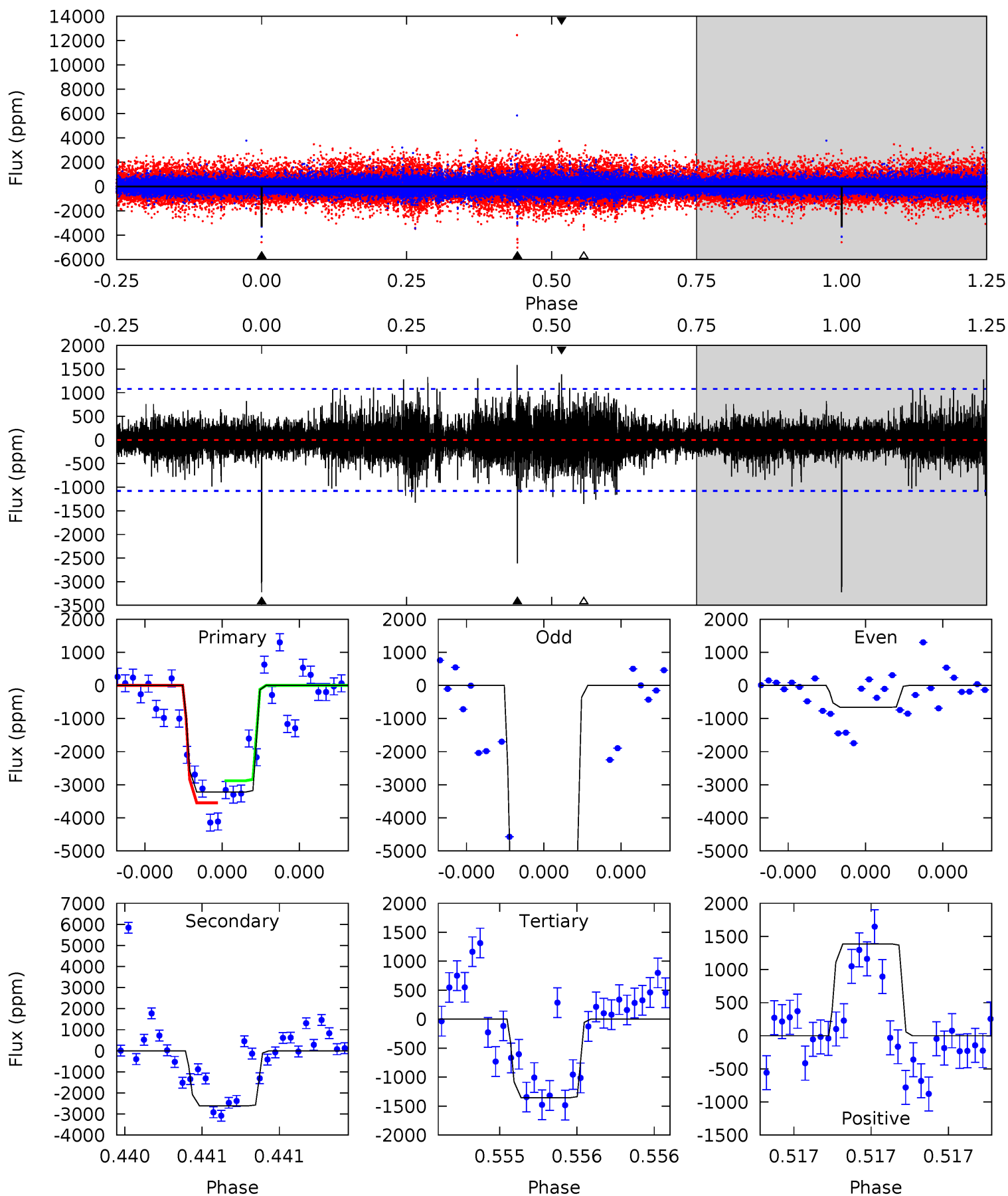
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	14.1	13.8	19.6	5.56	3.47	3.15	-2.91	-8.63	0.23	-5.50	0.41	1.03	0.58	0.30



Alt Model-Shift Uniqueness Test

010274993-01, P = 495.581942 Days, E = 447.140121 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.7	13.5	7.01	7.17	5.59	3.51	1.35	9.65	9.48	6.49	6.32	29.0	1.10	0.33	0



Stellar Parameters For KIC 010274993

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4324^{+155}_{-172}	$4.575^{+0.060}_{-0.016}$	$0.480^{+0.050}_{-0.300}$	$0.722^{+0.024}_{-0.066}$	$0.715^{+0.040}_{-0.049}$	$2.670^{+0.730}_{-0.167}$
	+4%/-4%	+1%/-0%	+10%/-62%	+3%/-9%	+6%/-7%	+27%/-6%
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 010274993-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-3650 ± 260	$4.74^{+0.89}_{-0.79}$	214^{+9}_{-9}	4300^{+369}_{-285}	107285^{+48944}_{-29556}
Alt.	-2608 ± 193	$4.83^{+0.81}_{-0.88}$	214^{+8}_{-9}	4018^{+301}_{-252}	74515^{+36671}_{-20019}

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 $A_{obs} \gg 1.0$

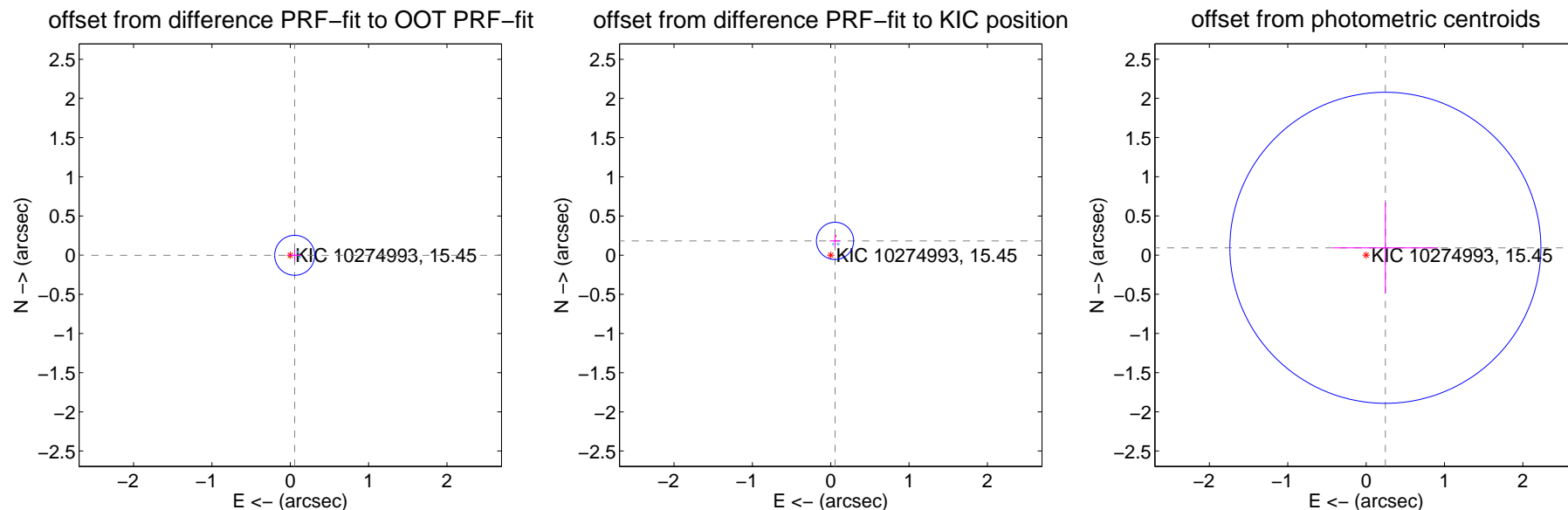
DV Centroid Data

Supplemental centroid analysis for 010274993-01. Kepler magnitude: 15.45. Transit SNR 6.07

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.057 ± 0.085	0.67	-0.057 ± 0.085	-0.002 ± 0.071
PRF-fit source offset from KIC position	0.190 ± 0.079	2.40	-0.055 ± 0.069	0.182 ± 0.080
photometric centroid source offset	0.26 ± 0.66	0.40	-0.25 ± 0.67	0.09 ± 0.58

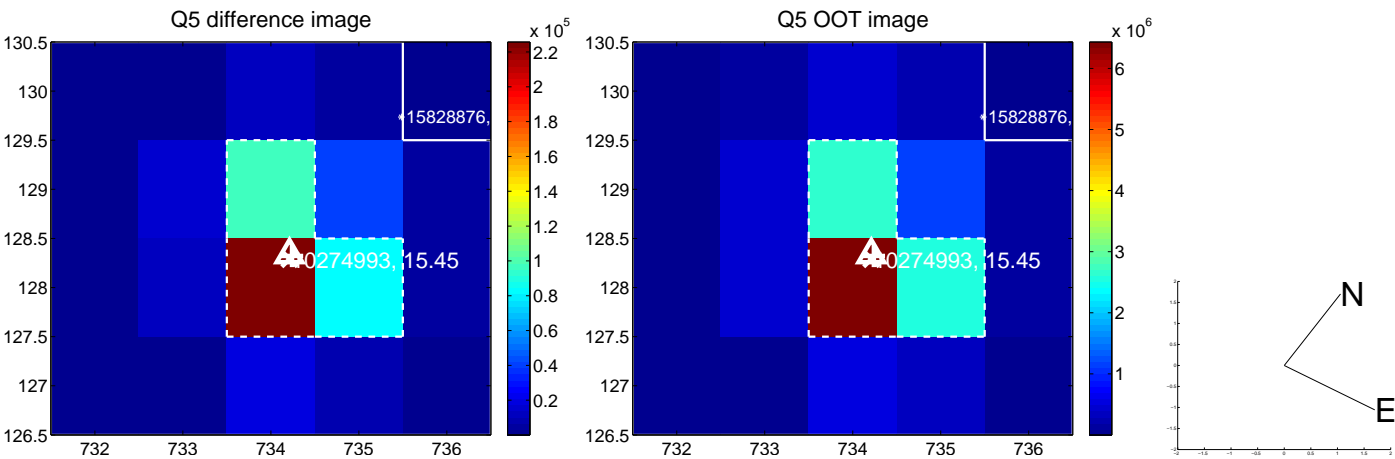


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



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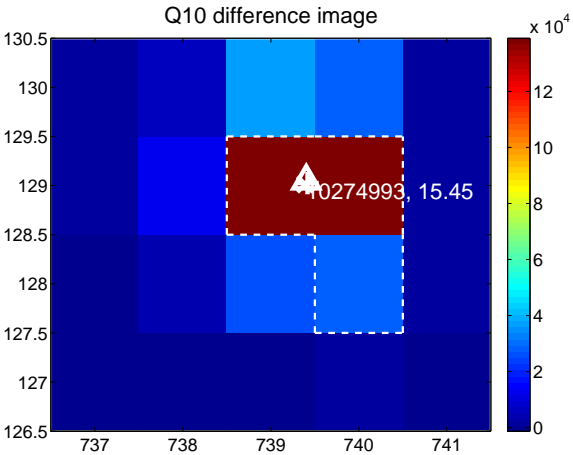
Q9 no difference image



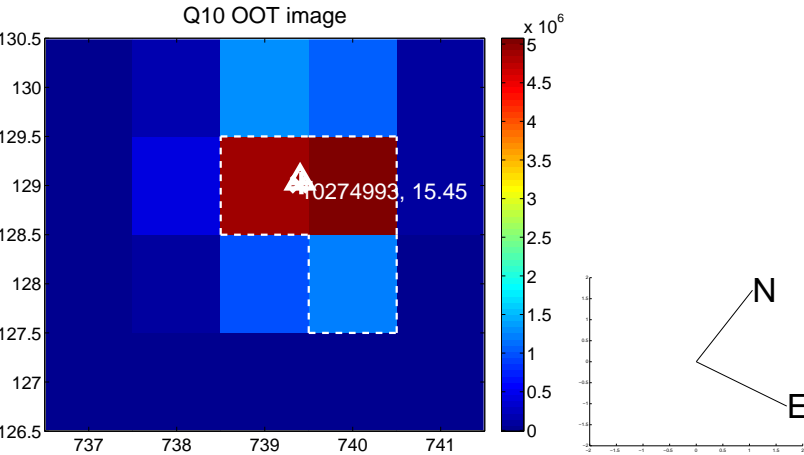
Q9 no OOT image



Q10 difference image



Q10 OOT image



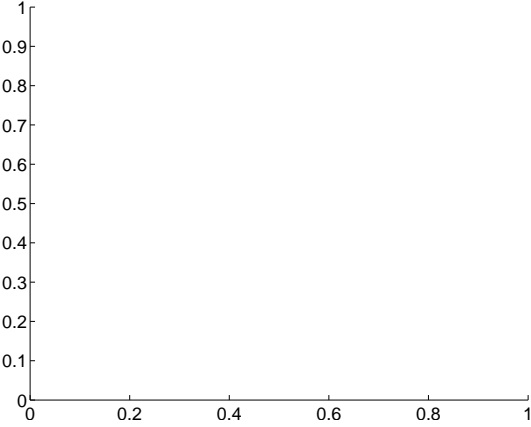
Q11 no difference image



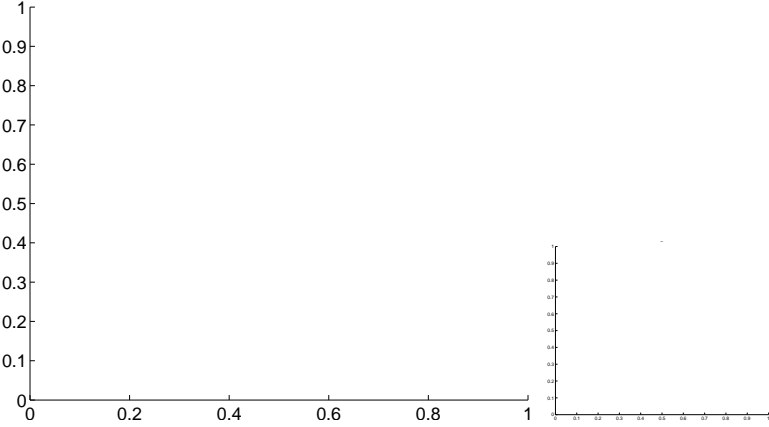
Q11 no OOT image



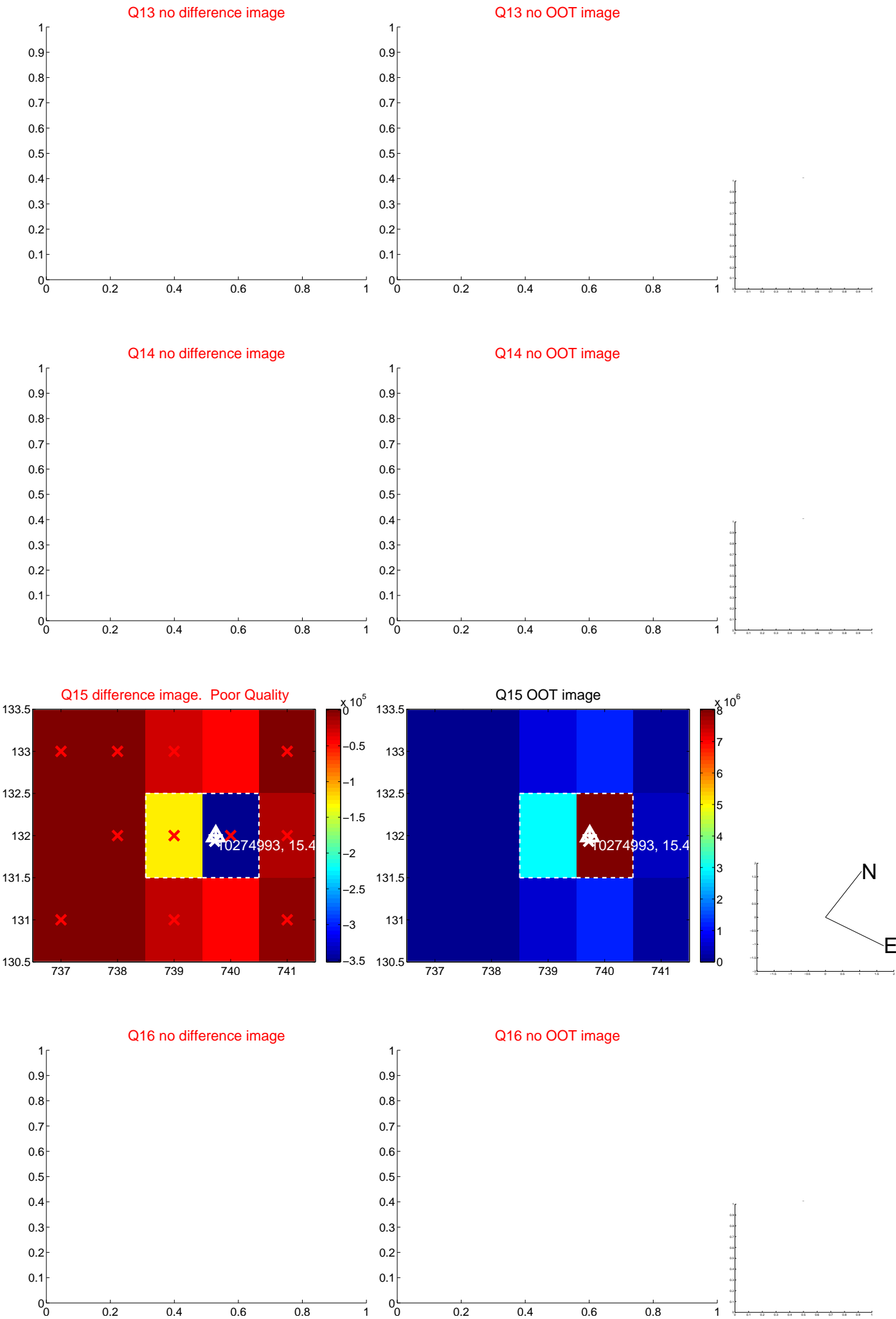
Q12 no difference image



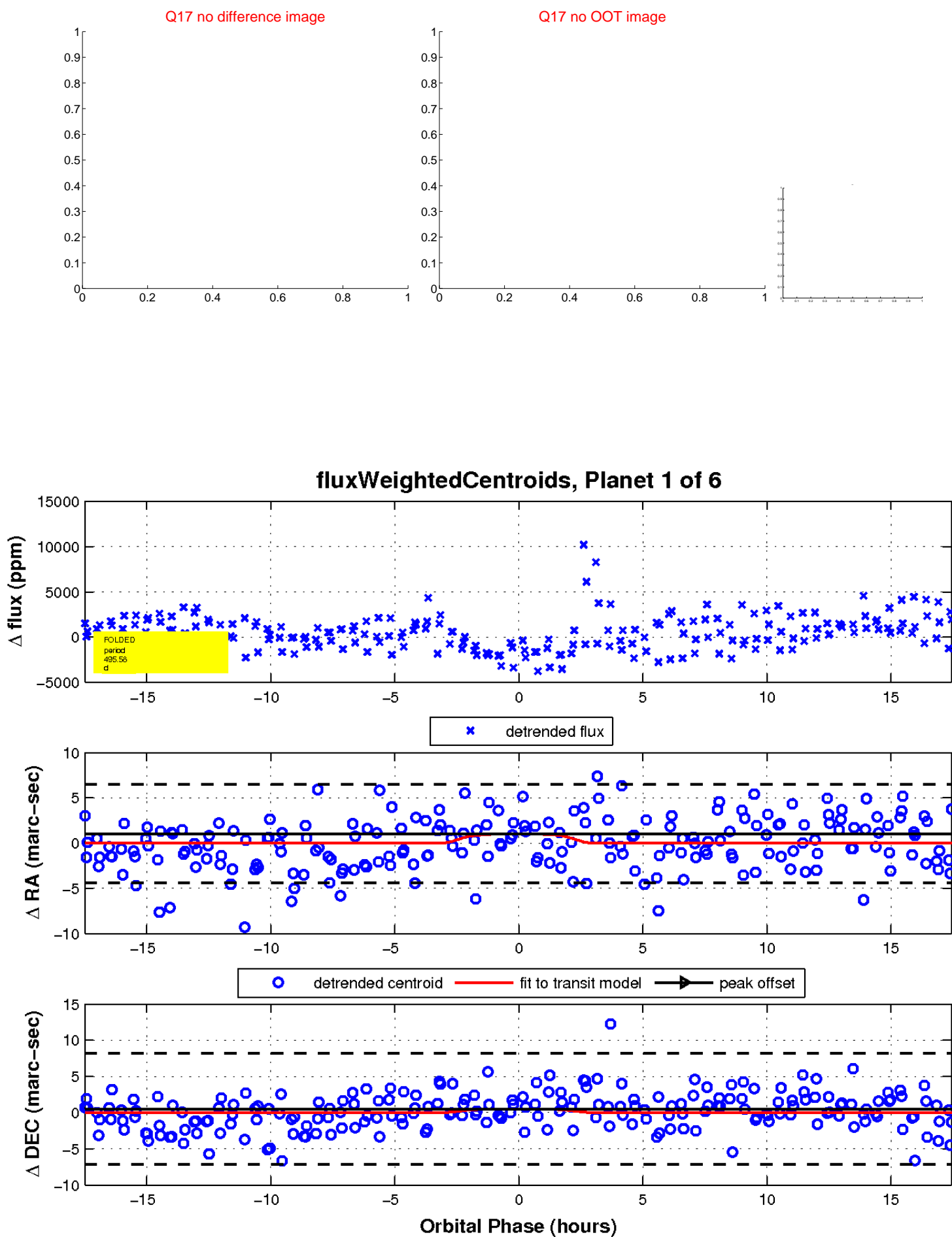
Q12 no OOT image



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

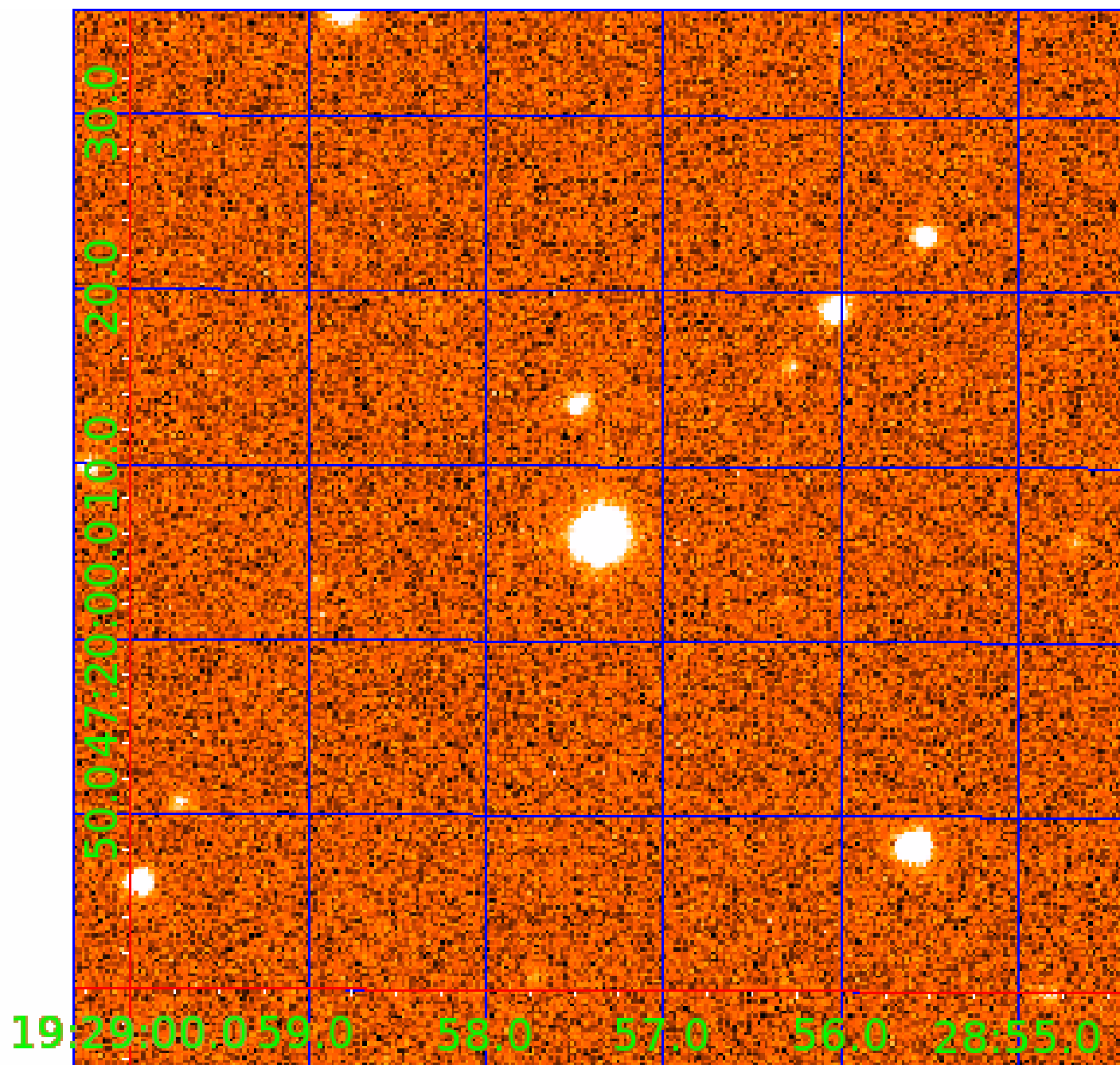


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010274993

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})
010274993-01	OBS	No	495.577944	447.155546	3109.2	5.915	12.5	6.1	0.72	4324	4.83	0.14
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Robovetter Results

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010274993-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010274993-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010274993-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010274993-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010274993-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

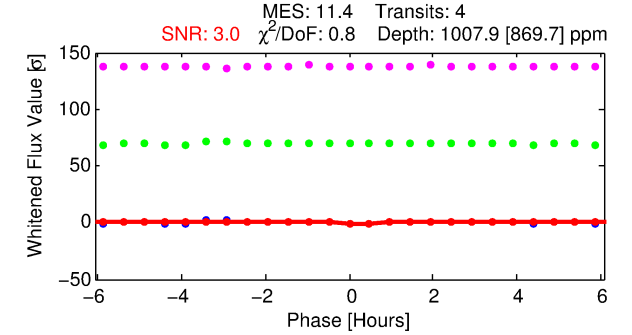
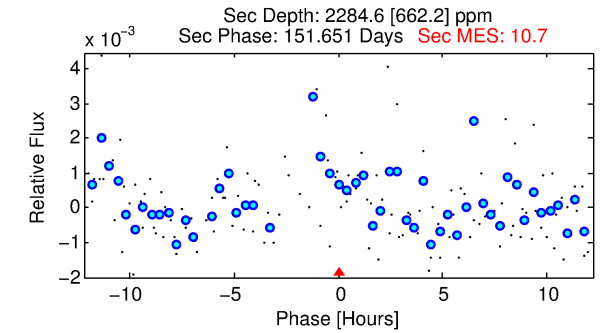
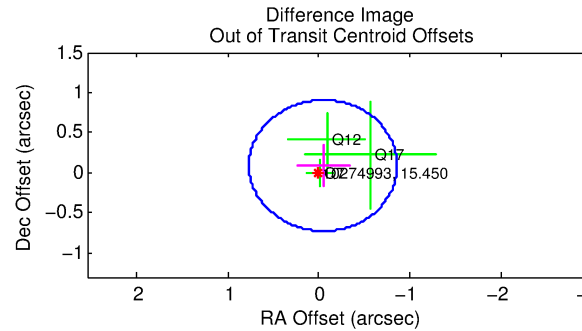
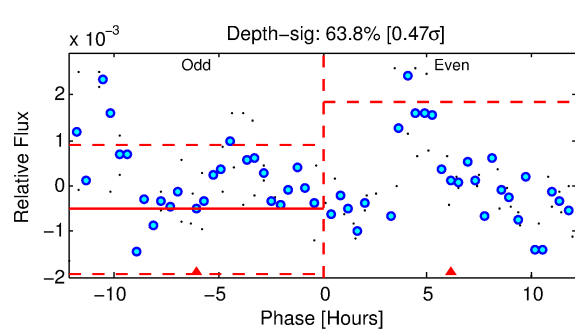
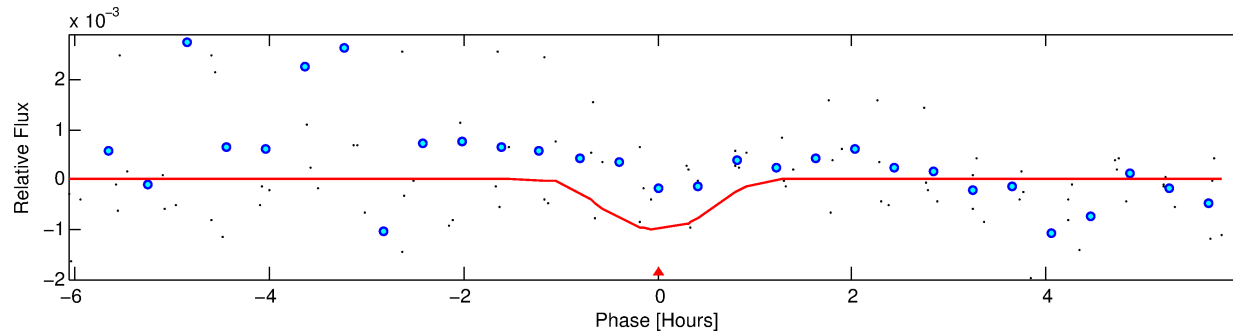
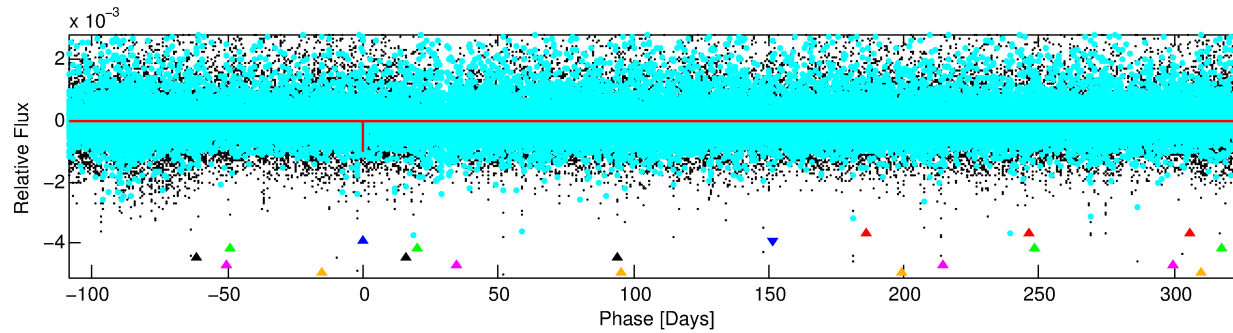
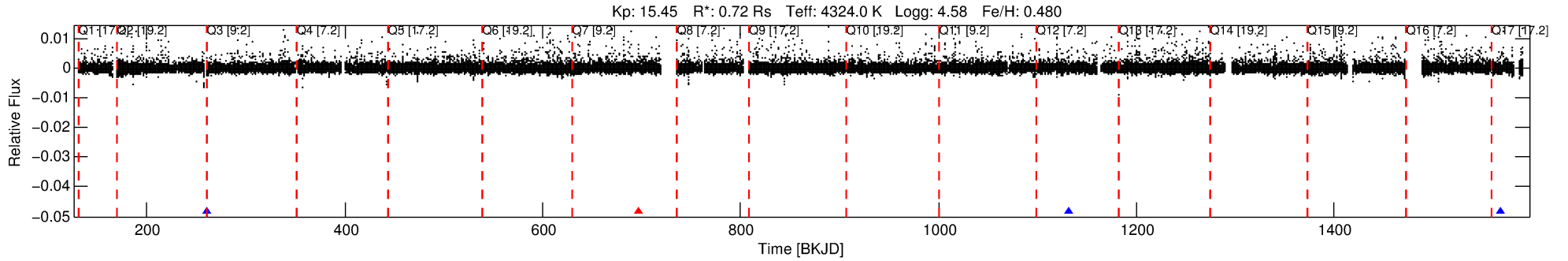
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010274993-02

No Significant Match Found

DV One-Page Summary

KIC: 10274993 Candidate: 2 of 6 Period: 435.785 d



DV Fit Results:

Period = 435.78465 [0.00918] d
Epoch = 260.7638 [0.0162] BKJD
Rp/R* = 0.0568 [1.1735]
a/R* = 599.71 [3190.74]
b = 0.99 [1.83]
Seff = 0.16 [0.03]
Teq = 162 [8] K
Rp = 4.47 [92.46] Re
a = 1.0059 [0.0768] AU
Ag = 63516.89 [2624769.38] [0.02 σ]
Teffp = 3967 [40980] K [0.09 σ]

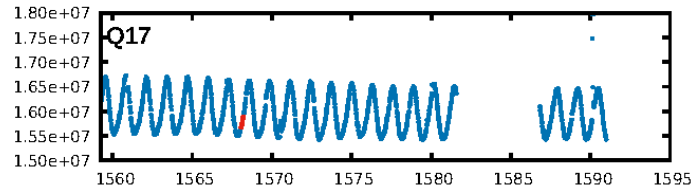
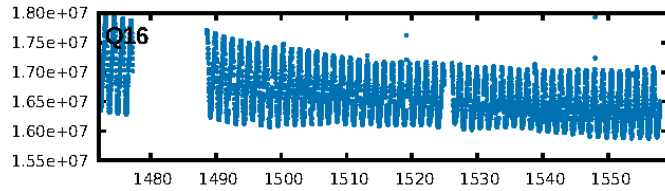
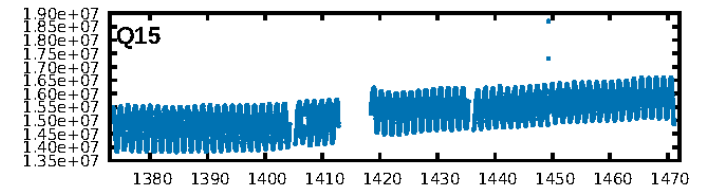
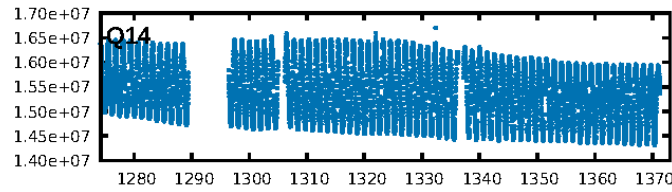
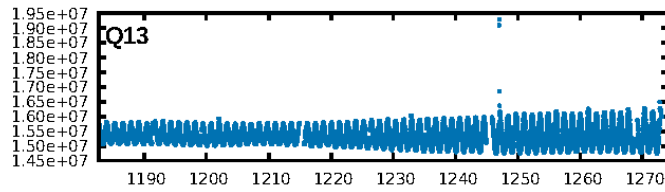
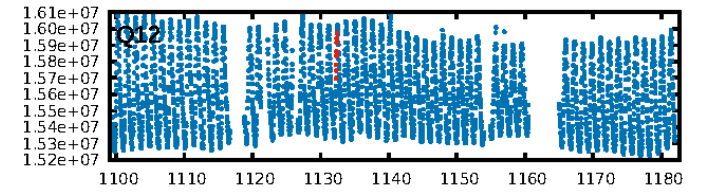
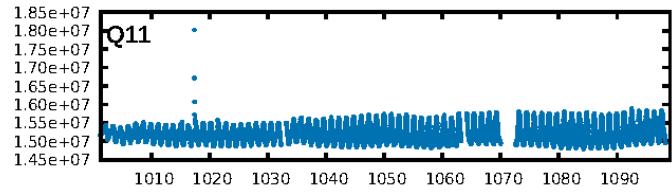
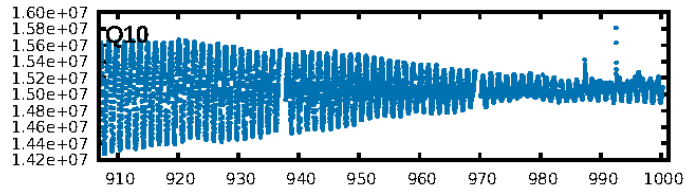
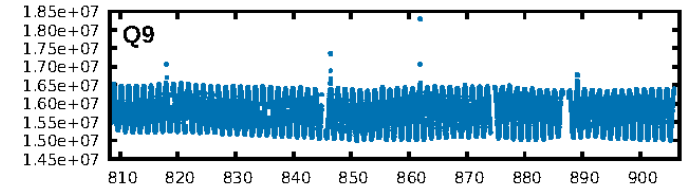
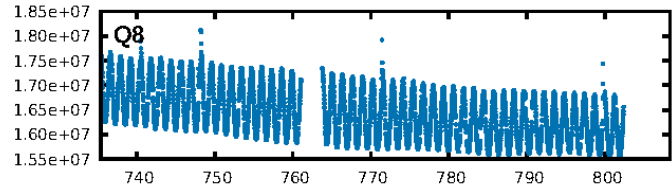
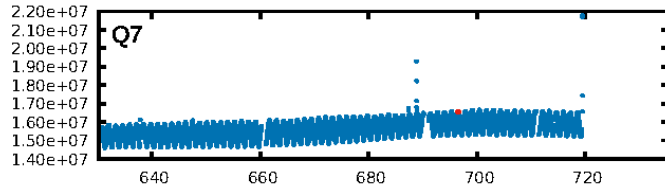
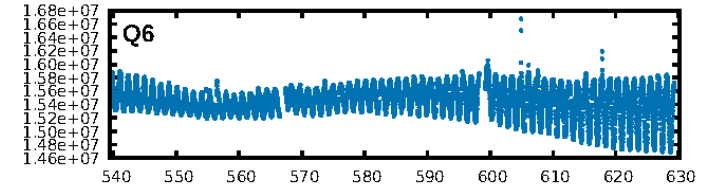
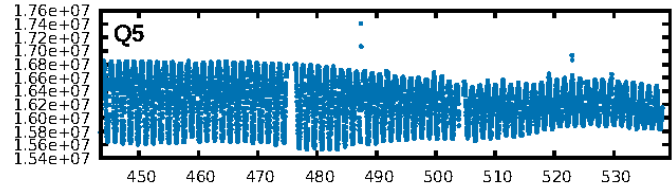
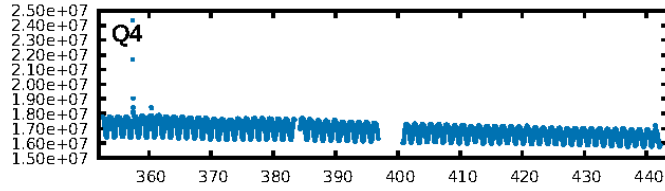
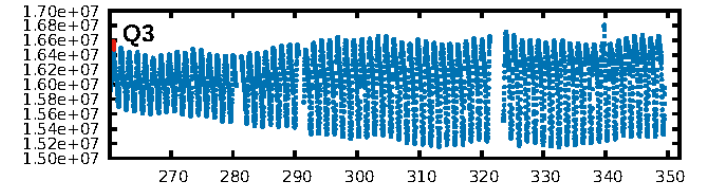
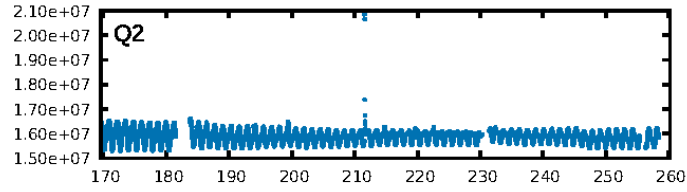
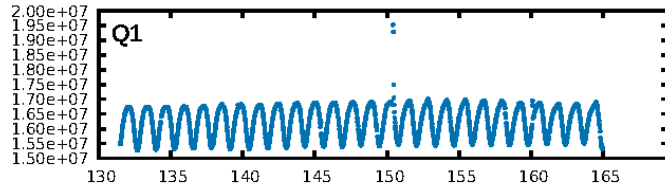
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [387.19 σ]
LongPeriod-sig: 100.0% [229.56 σ]
ModelChiSquare2-sig: 78.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: -1.247
Centroid-sig: 50.9%
Centroid-so: 2.245 arcsec [0.83 σ]
OotOffset-rm: 0.100 arcsec [0.37 σ]
KicOffset-rm: 0.330 arcsec [1.22 σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

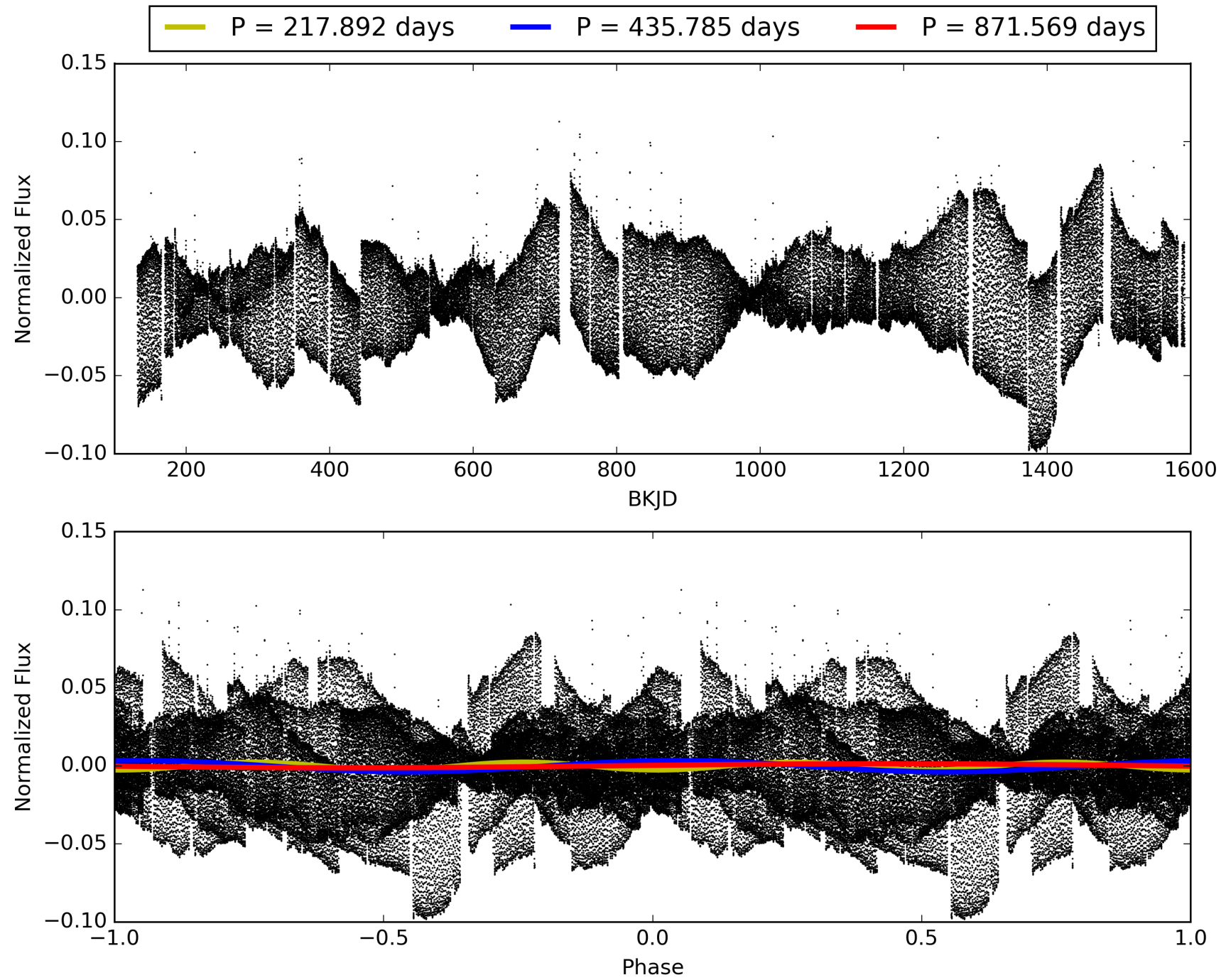
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:19:46 Z

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

TCE 010274993-02, PDC Light Curves

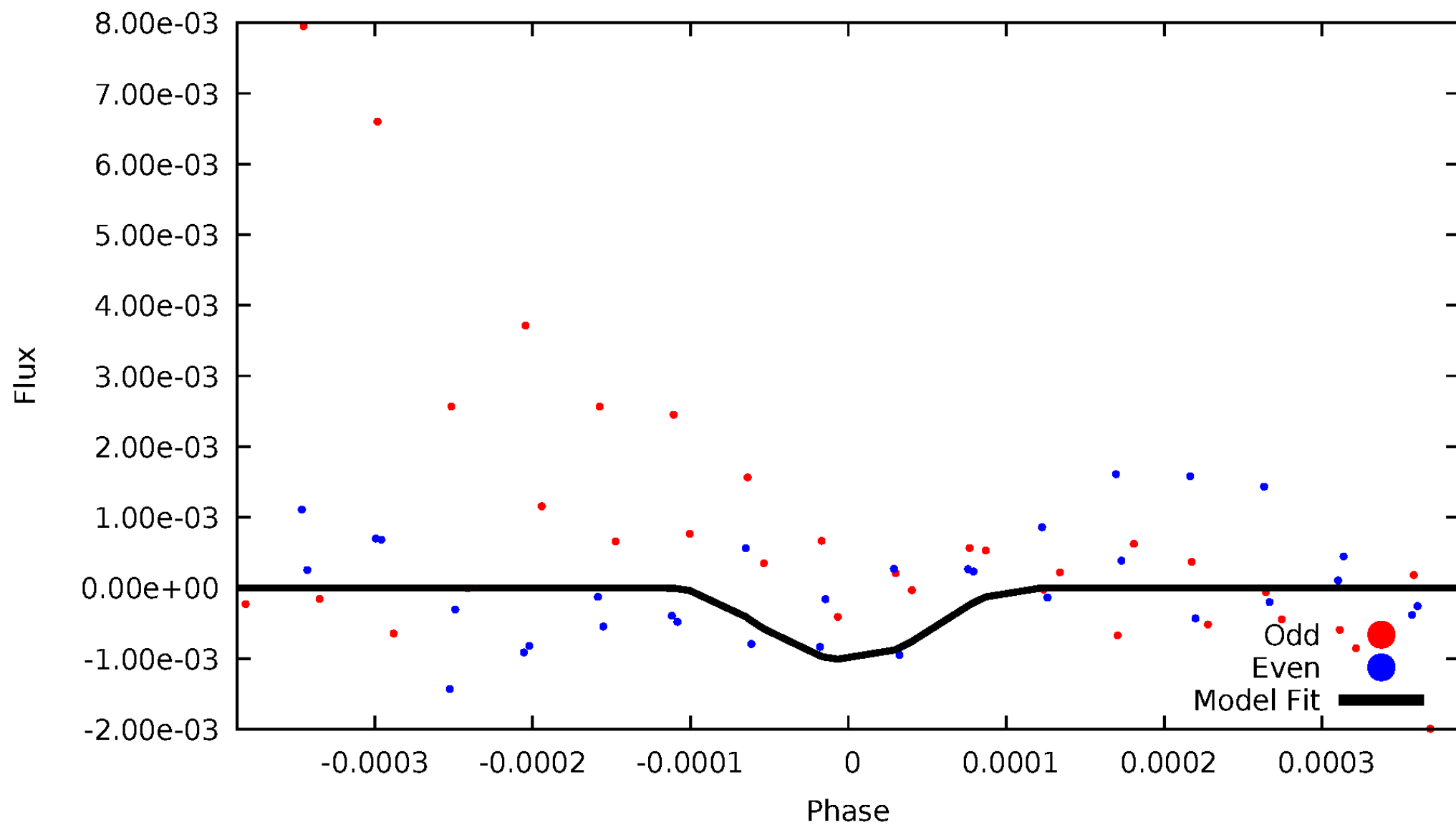


TCE 010274993-02



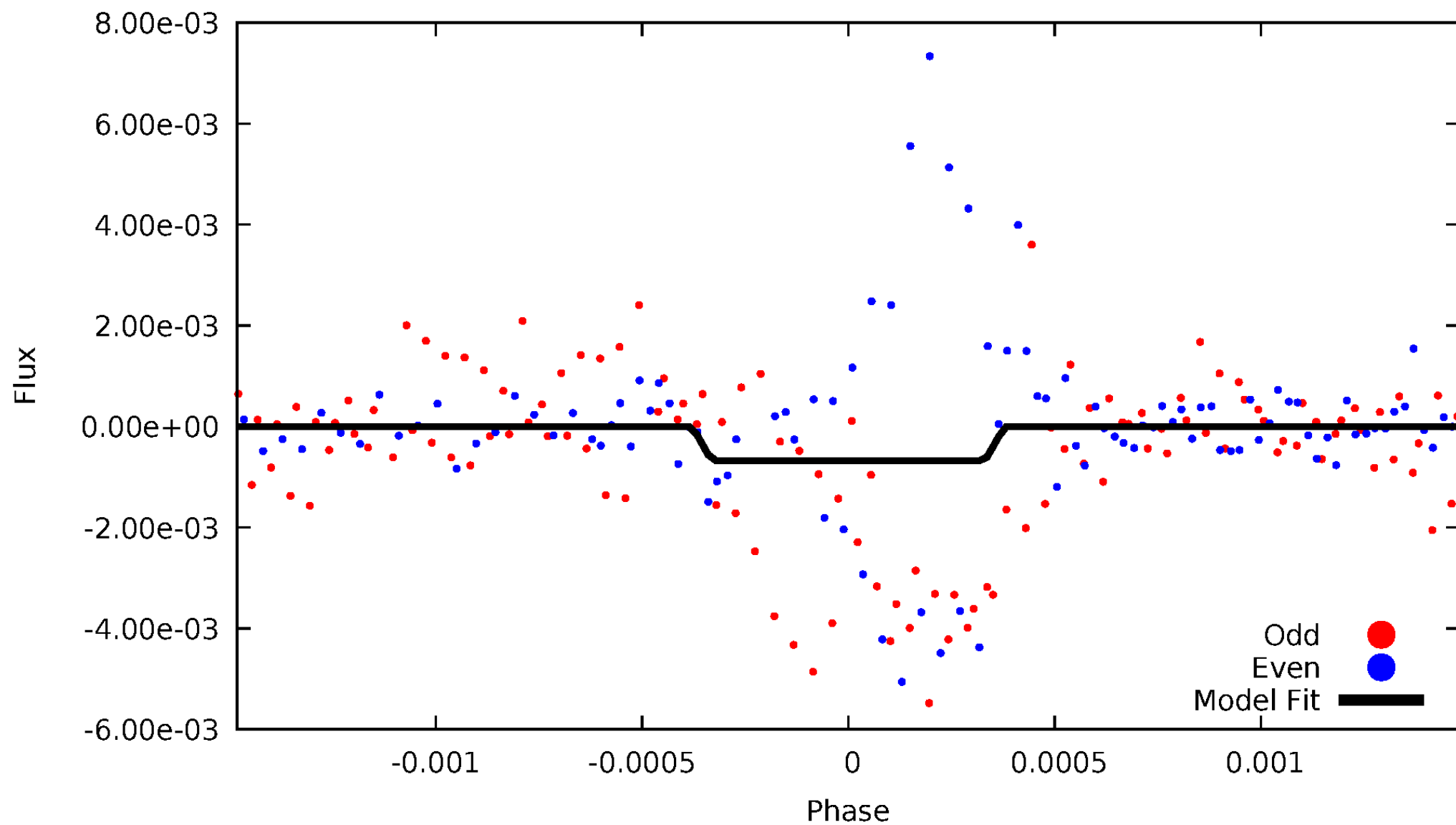
DV Odd/Even

TCE 010274993-02



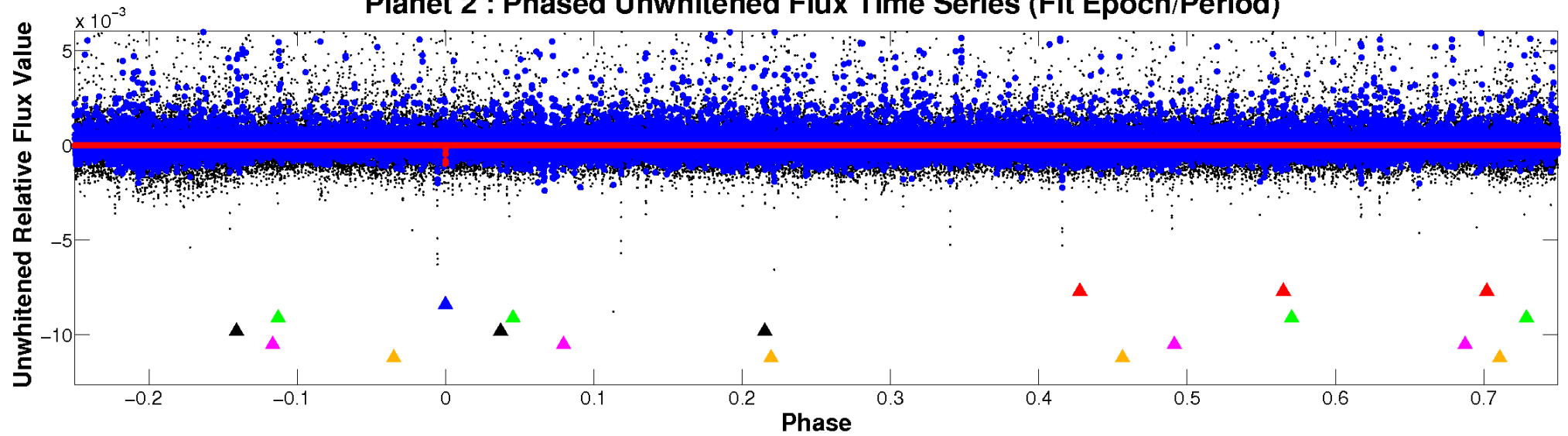
ALT Odd/Even

TCE 010274993-02

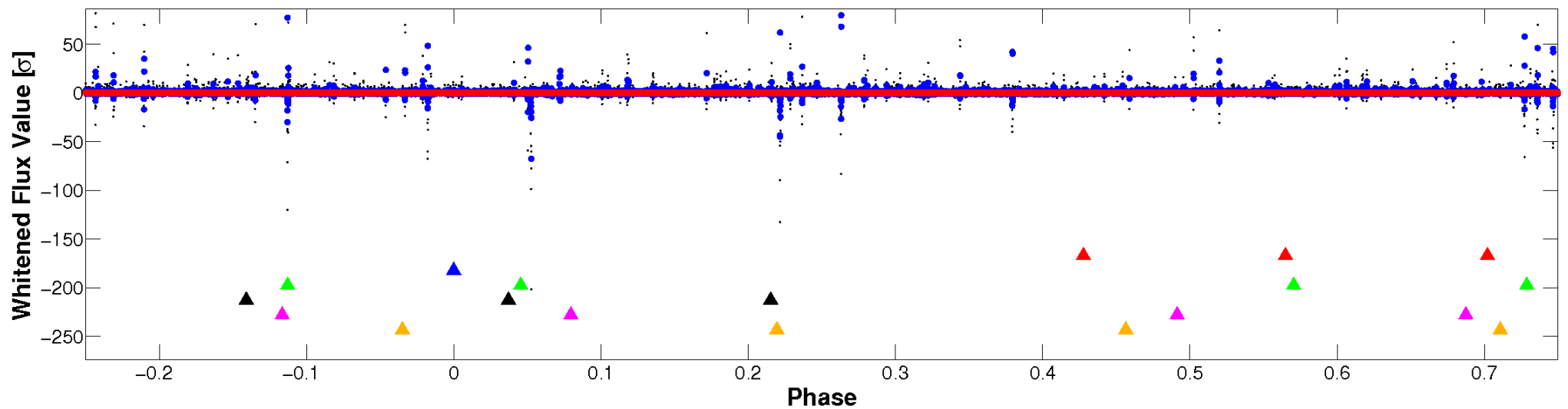


Non-Whitened Vs. Whitened Light Curve

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

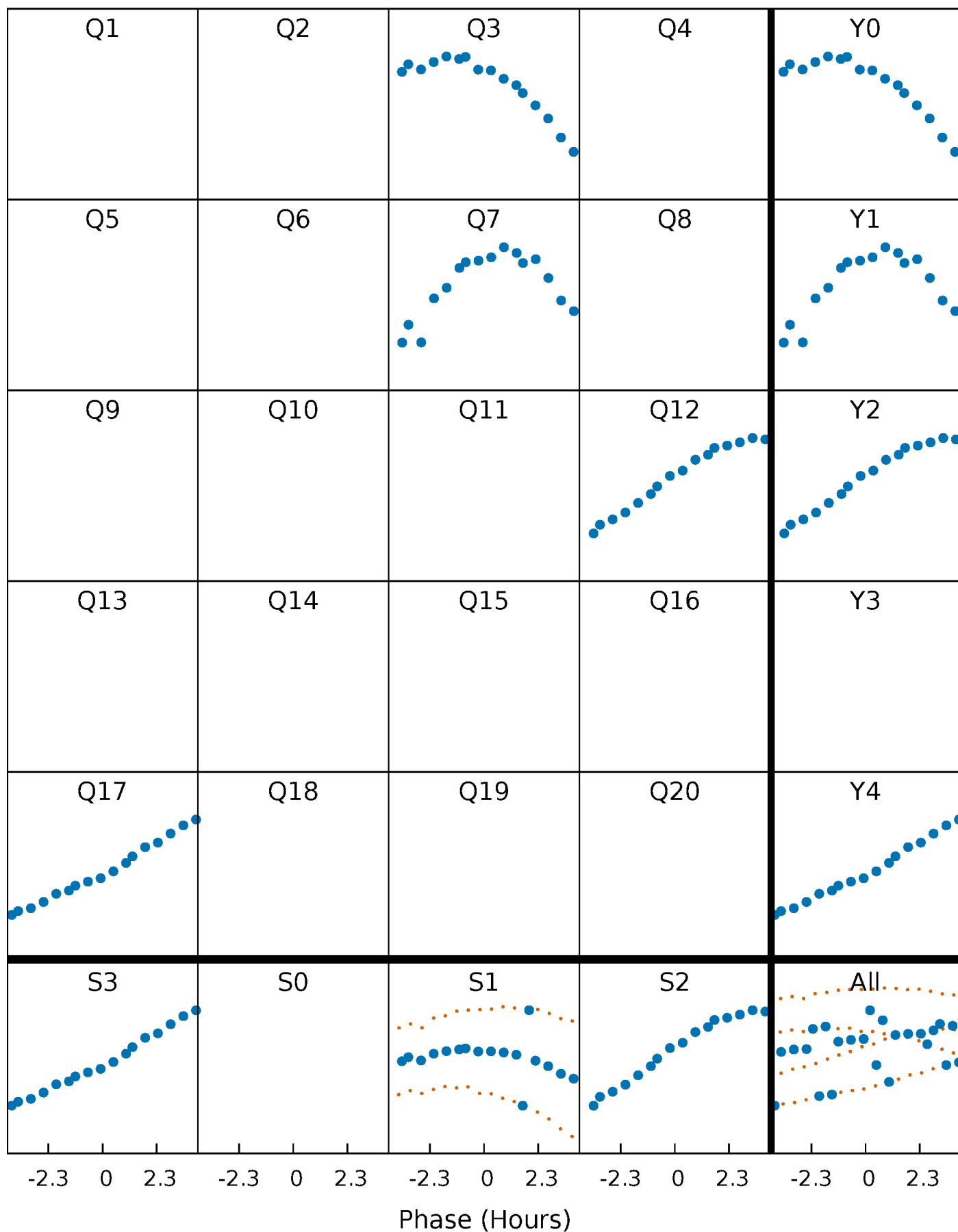


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



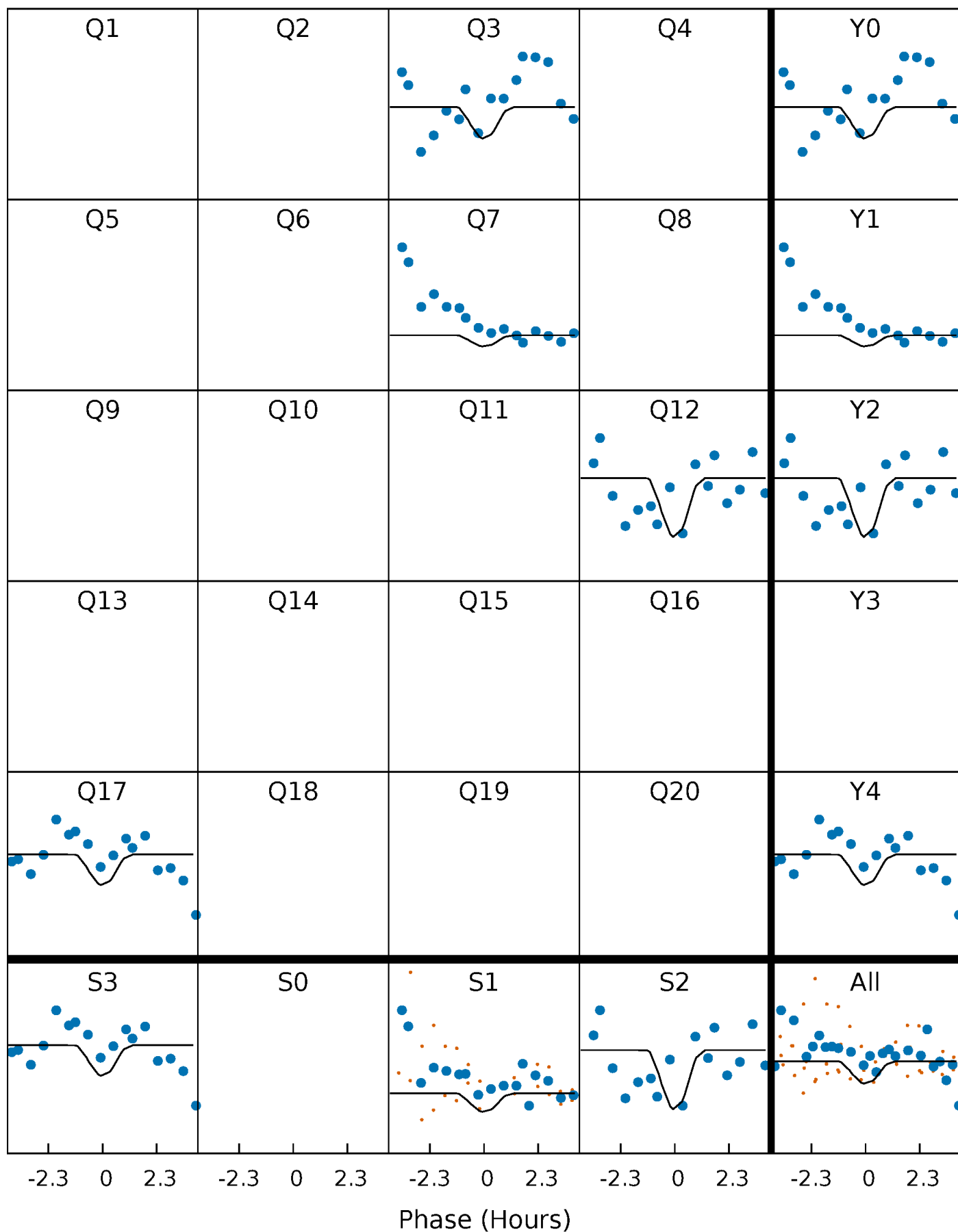
PDC Quarter-Phased Transit Curves

TCE 010274993-02 $P=435.784647$ Days $T_0=260.763840$ (BKJD)



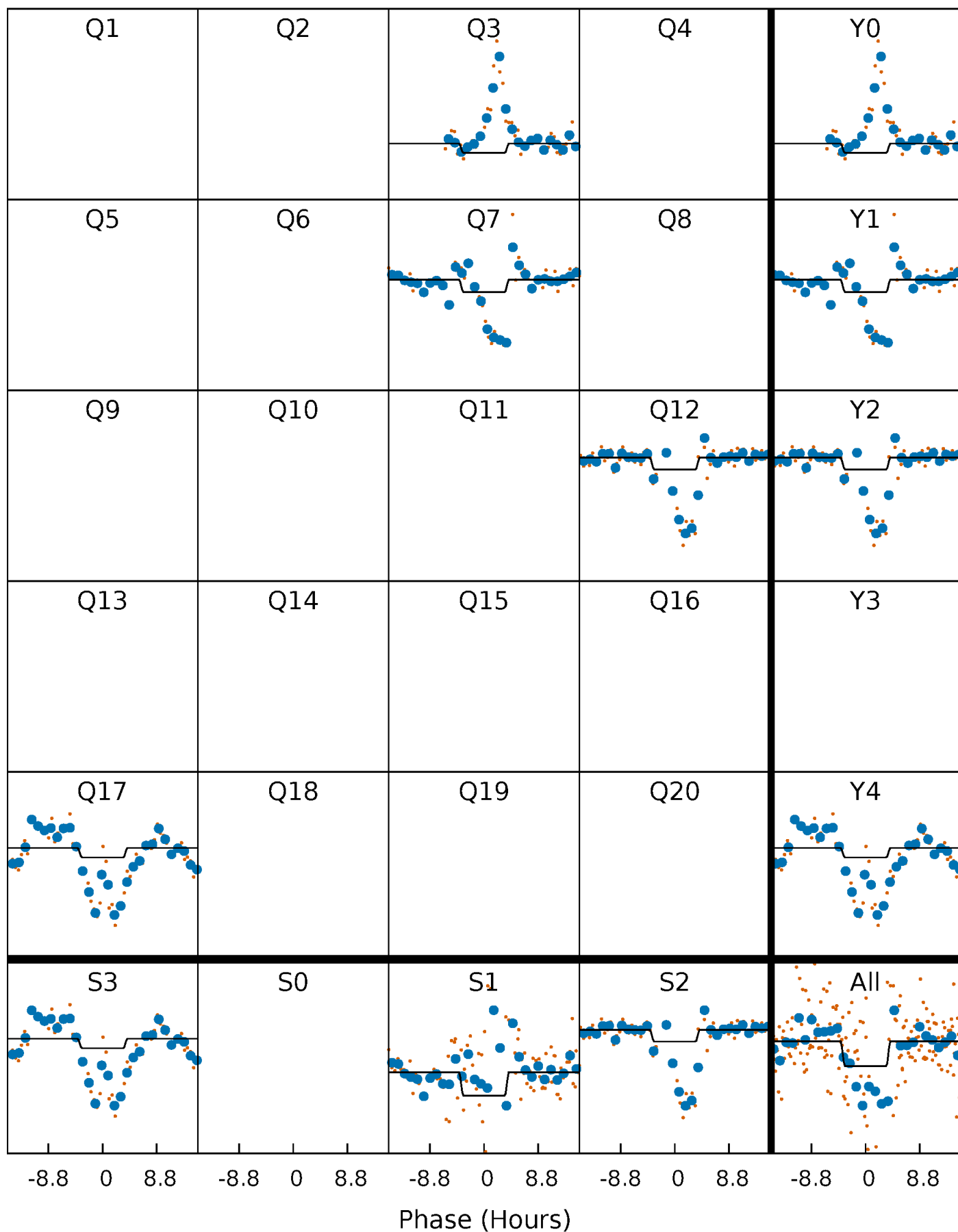
DV Quarter-Phased Transit Curves

TCE 010274993-02 $P=435.784647$ Days $T_0=260.763840$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

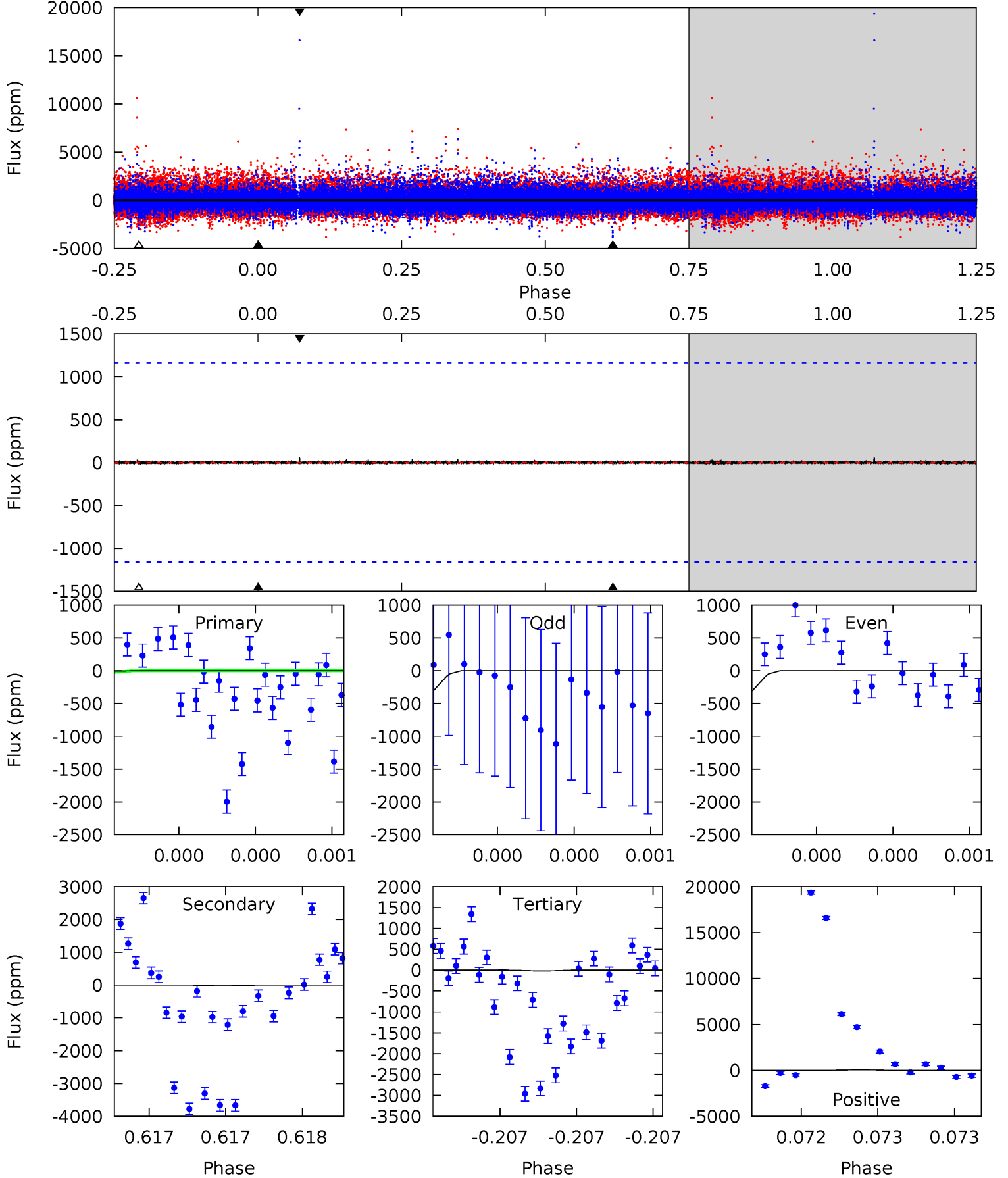
TCE 010274993-02 $P=435.718422$ Days $T_0=260.506531$ (BKJD)



DV Model-Shift Uniqueness Test

010274993-02, P = 435.784647 Days, E = 260.763840 Days

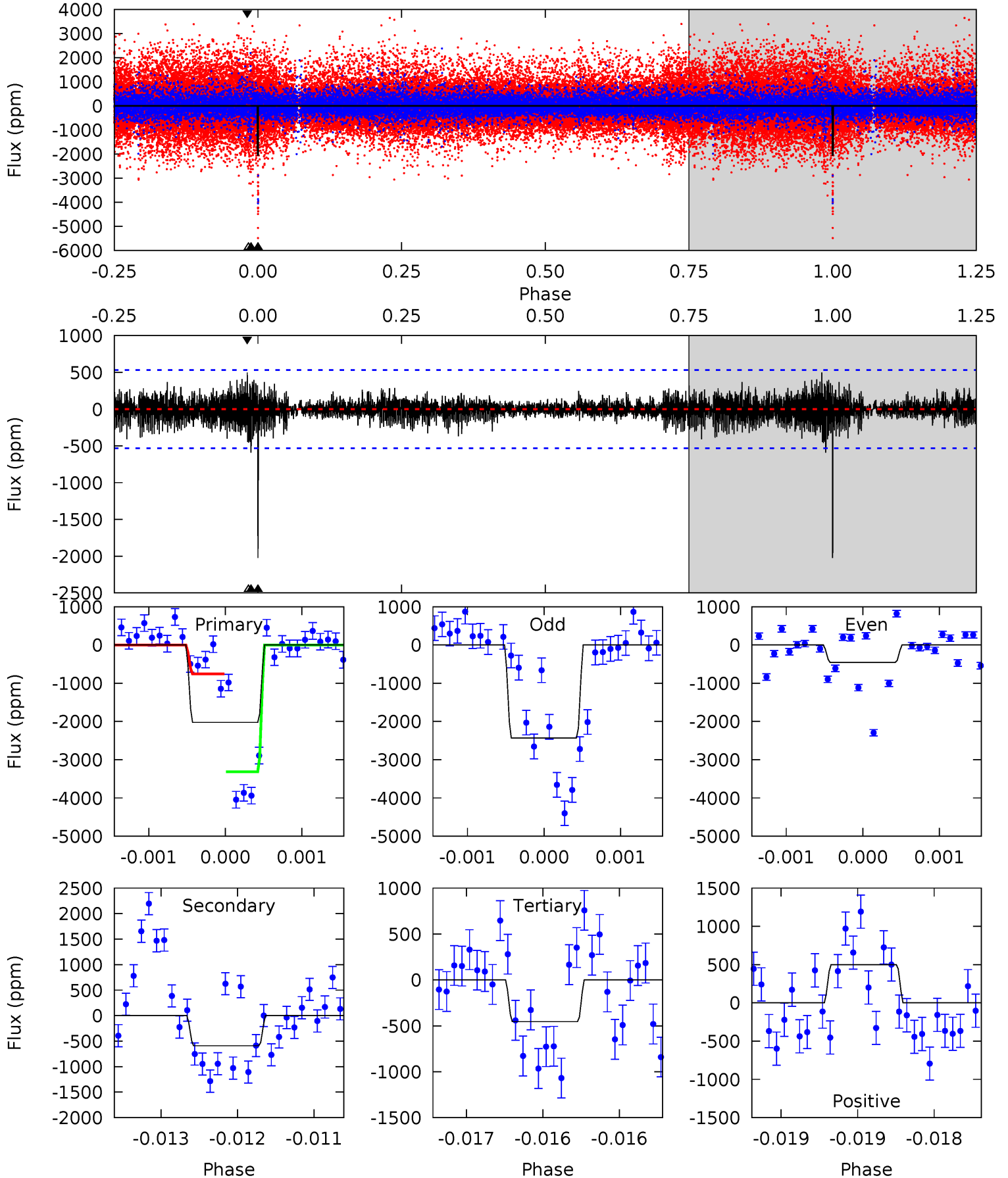
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.03	0.11	0.10	0.29	5.70	3.68	0.02	-0.07	-0.26	0.01	-0.18	0.01	0.06	0.72	0.04



Alt Model-Shift Uniqueness Test

010274993-02, P = 435.718422 Days, E = 260.506531 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.0	6.11	4.70	5.16	5.50	3.37	1.05	16.3	15.8	1.41	0.95	10.3	0.62	0.20	13.4



Stellar Parameters For KIC 010274993

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4324^{+155}_{-172}	$4.575^{+0.060}_{-0.016}$	$0.480^{+0.050}_{-0.300}$	$0.722^{+0.024}_{-0.066}$	$0.715^{+0.040}_{-0.049}$	$2.670^{+0.730}_{-0.167}$
	+4%/-4%	+1%/-0%	+10%/-62%	+3%/-9%	+6%/-7%	+27%/-6%
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 010274993-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-23 ± 203	$63.58^{+65.73}_{-45.25}$	223^{+9}_{-10}	1239^{+488}_{-2871}	$1.416^{+69.562}_{-39.386}$
Alt.	-590 ± 97	$62.20^{+65.03}_{-44.02}$	223^{+9}_{-9}	1763^{+493}_{-217}	91^{+886}_{-71}

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

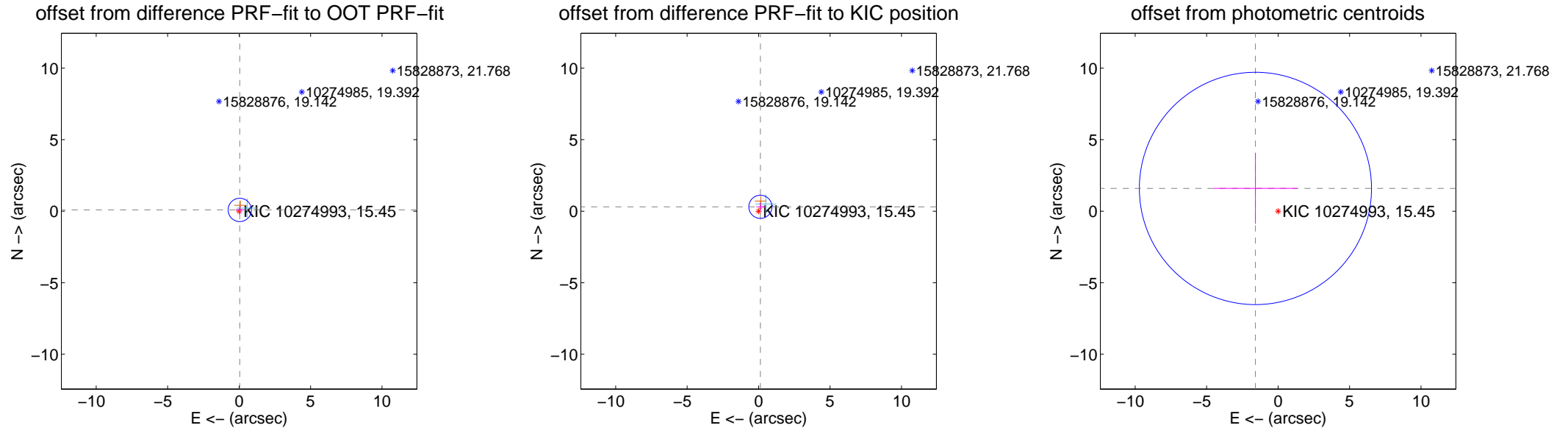
DV Centroid Data

Supplemental centroid analysis for 010274993-02. Kepler magnitude: 15.45. Transit SNR 3.03

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.100 ± 0.272	0.37	-0.047 ± 0.290	0.088 ± 0.266
PRF-fit source offset from KIC position	0.330 ± 0.270	1.22	-0.127 ± 0.290	0.305 ± 0.266
photometric centroid source offset	2.24 ± 2.71	0.83	1.58 ± 2.92	1.59 ± 2.47

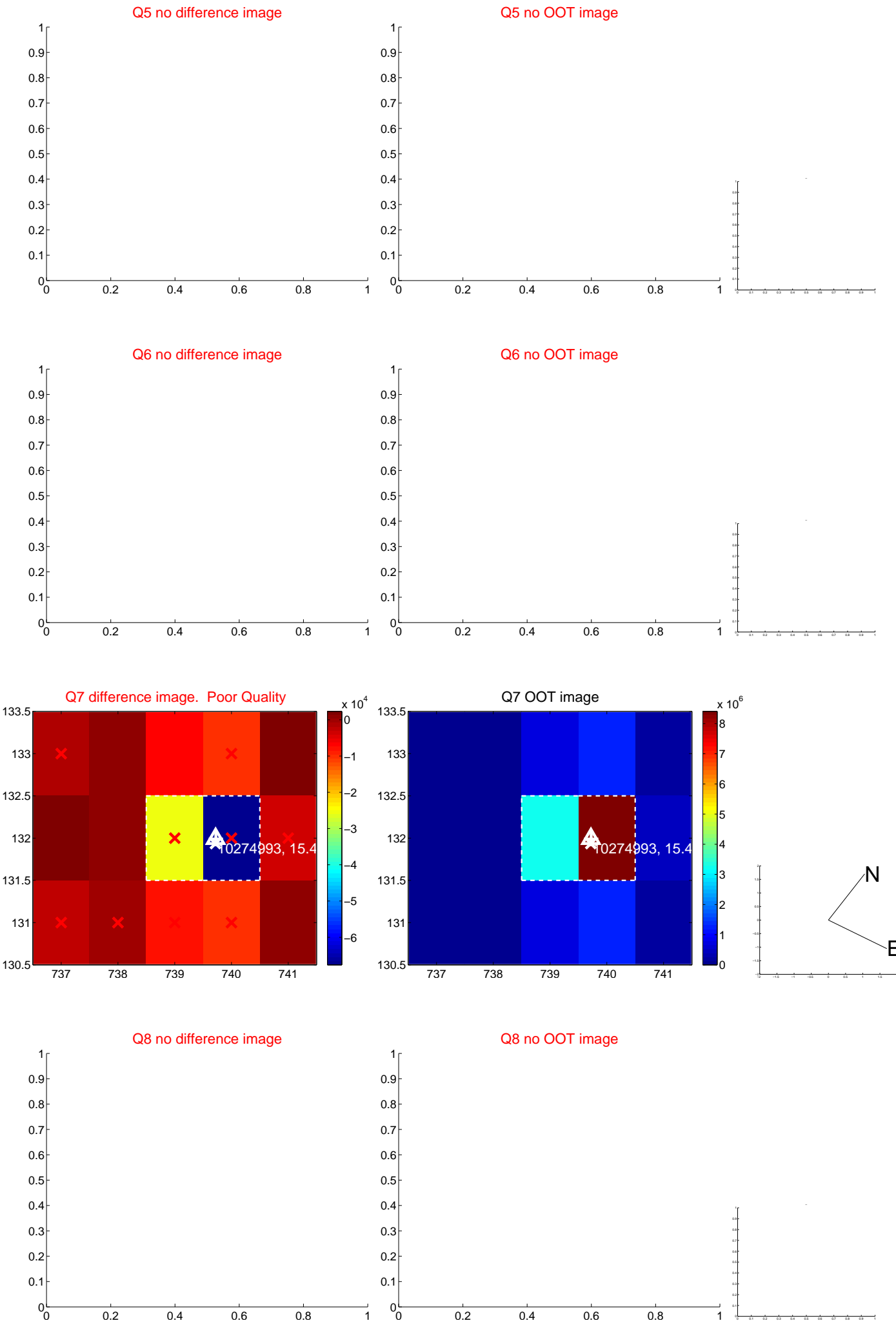


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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



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



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

Q9 no difference image



Q9 no OOT image



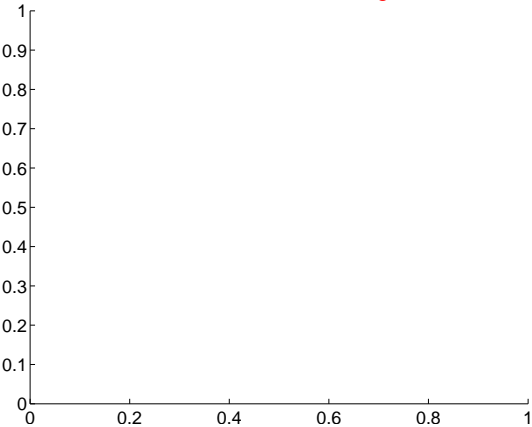
Q10 no difference image



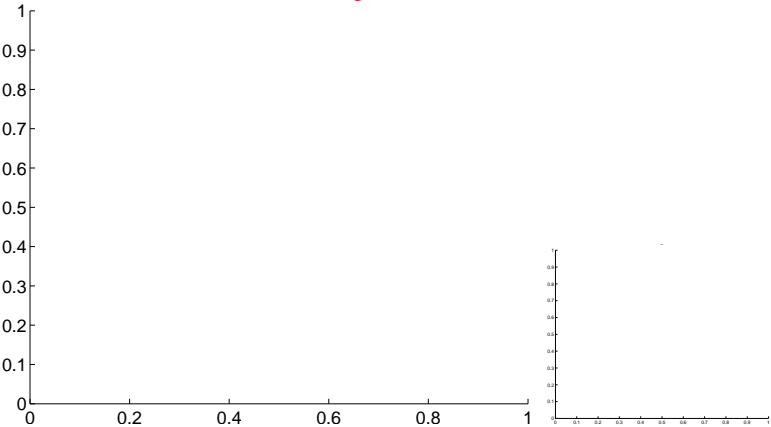
Q10 no OOT image



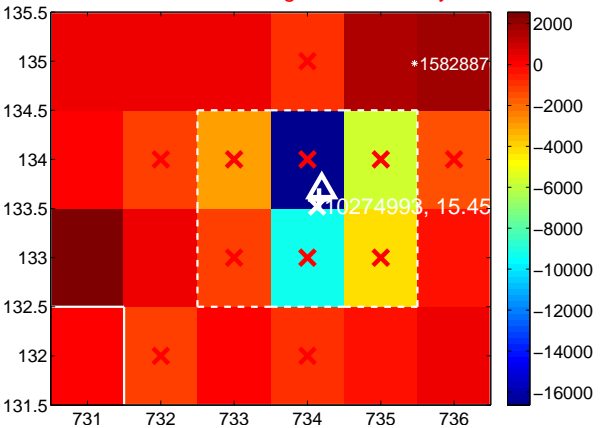
Q11 no difference image



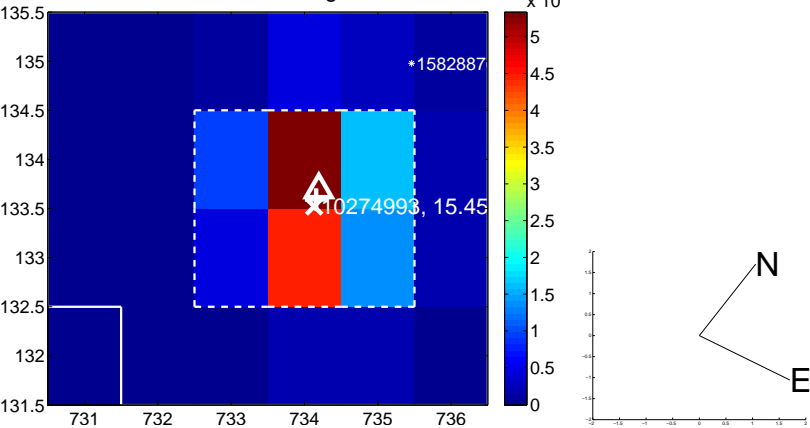
Q11 no OOT image



Q12 difference image. Poor Quality



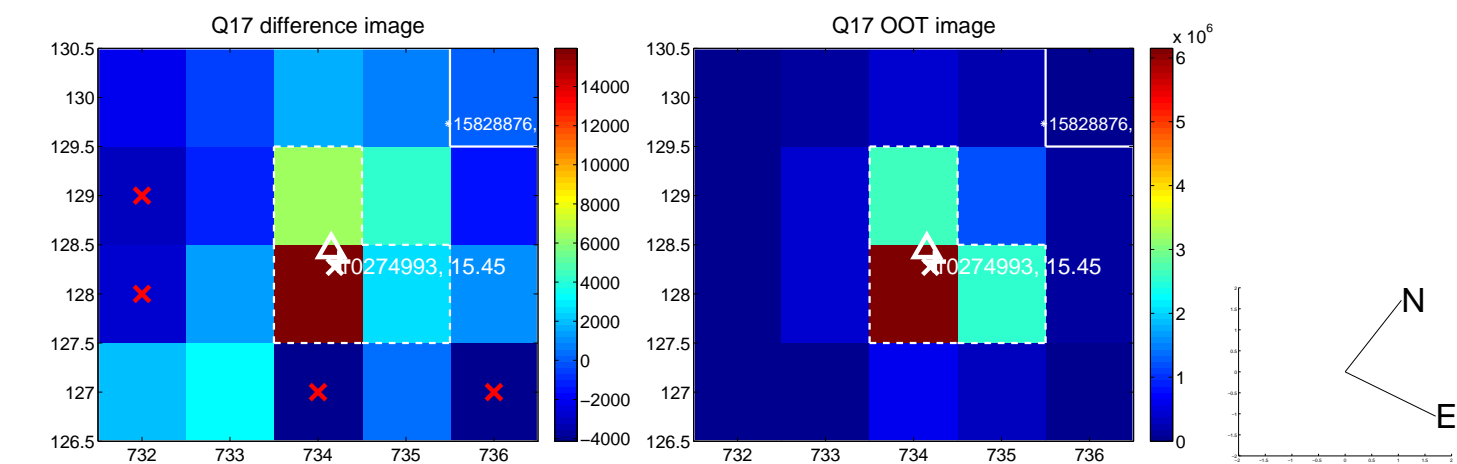
Q12 OOT image



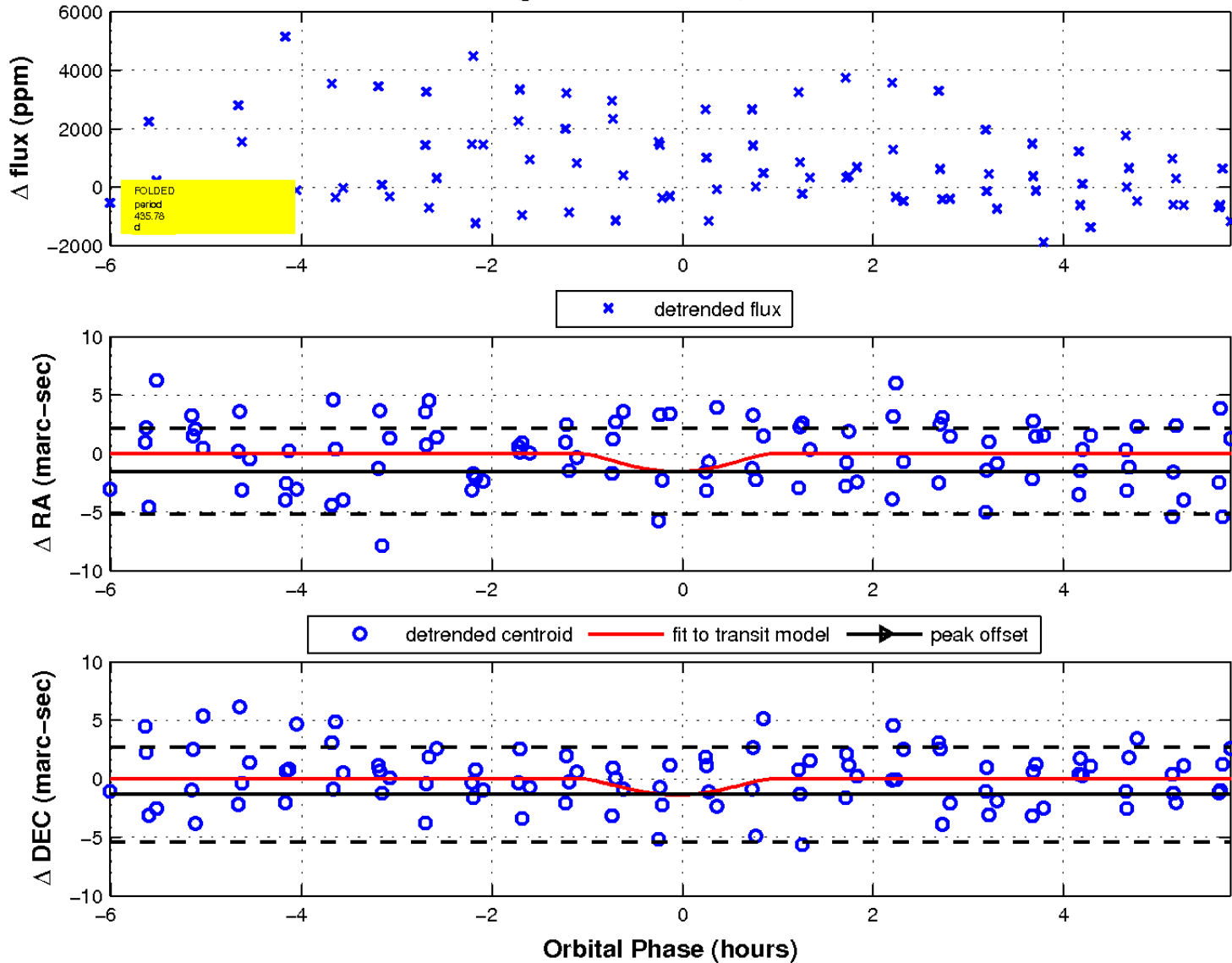
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



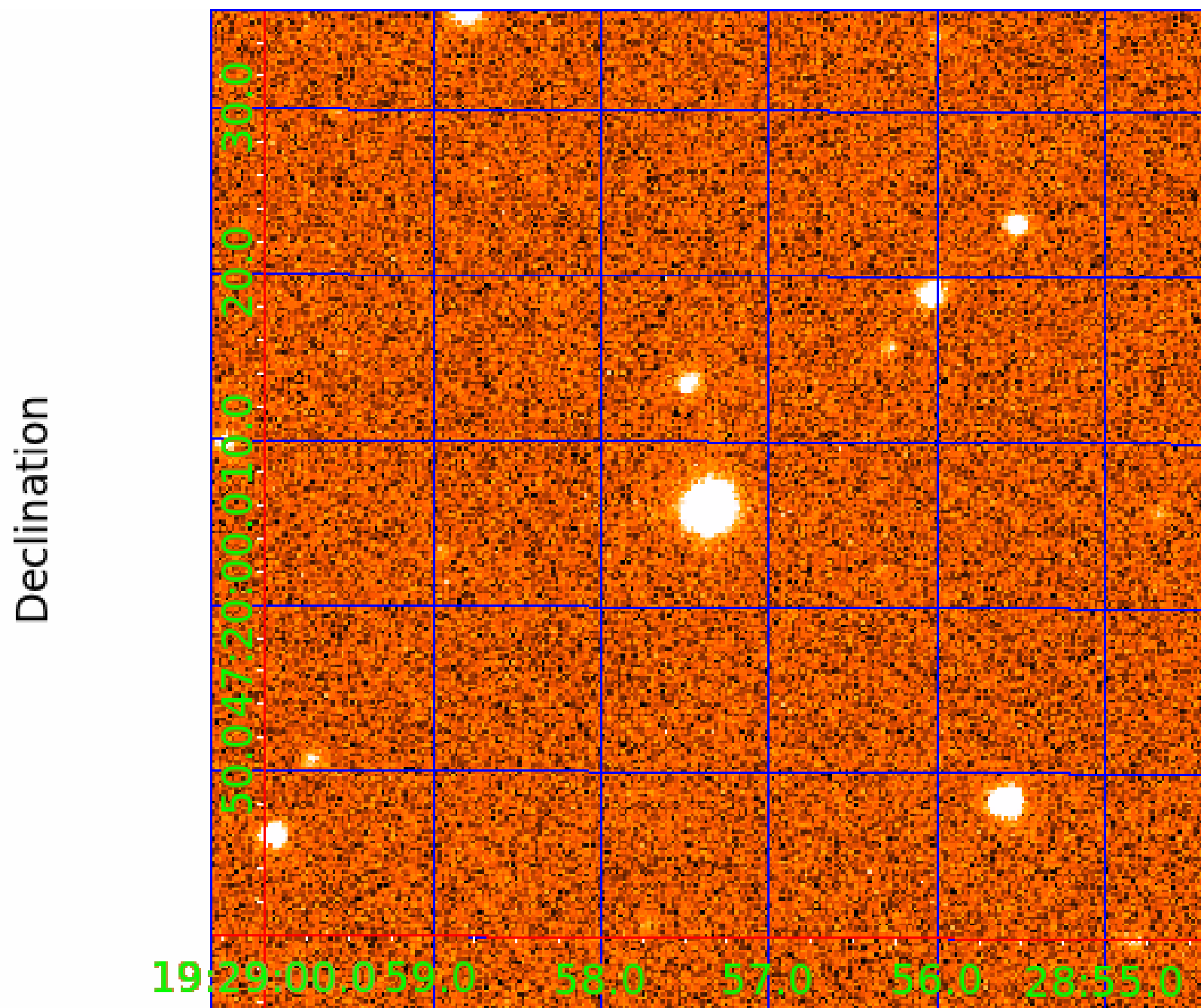
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 2 of 6



UKIRT Image



KIC 010274993

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})
010274993-01	OBS	No	495.577944	447.155546	3109.2	5.915	12.5	6.1	0.72	4324	4.83	0.14
010274993-02	OBS	No	435.784647	260.763840	1007.9	2.024	11.4	3.0	0.72	4324	4.47	0.16
010274993-03	OBS	No	366.780436	280.604286	2294.5	3.768	12.2	5.8	0.72	4324	3.68	0.20
010274993-04	OBS	No	513.386925	199.367551	3223.4	4.673	13.8	6.3	0.72	4324	3.88	0.13
010274993-05	OBS	No	350.344554	295.445098	2382.8	4.473	10.8	6.8	0.72	4324	3.89	0.22
010274993-06	OBS	No	324.953177	356.413331	2425.3	3.000	11.2	-1.0	0.72	4324	3.38	0.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010274993-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
010274993-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010274993-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010274993-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010274993-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010274993-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

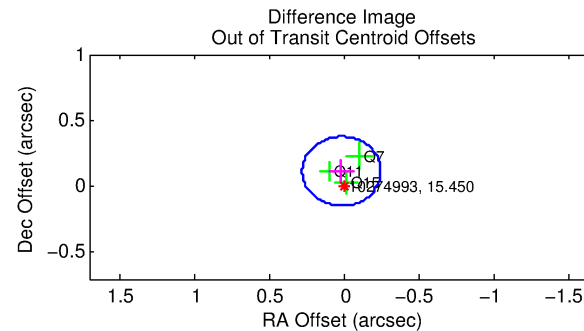
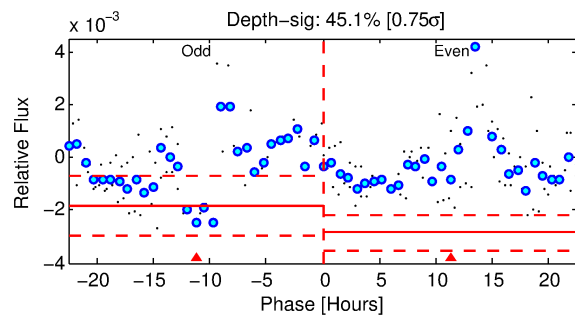
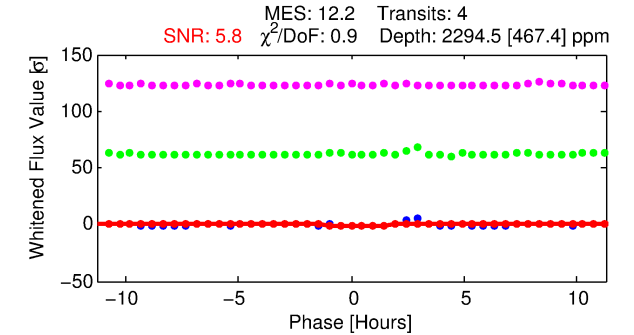
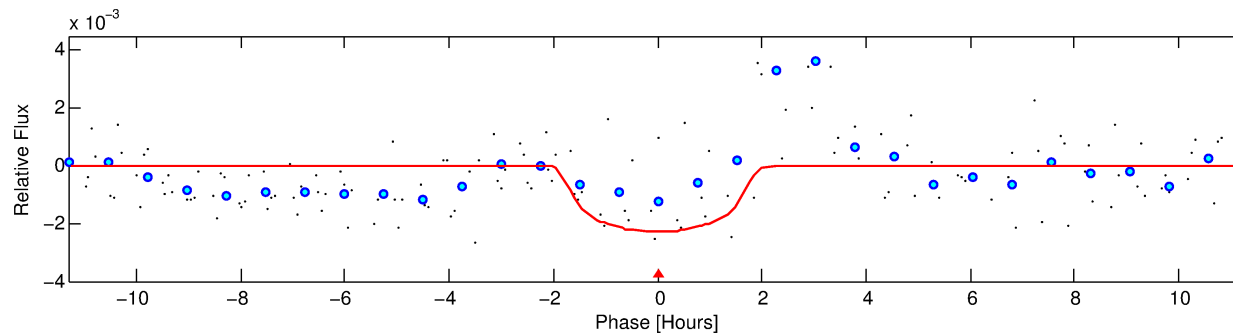
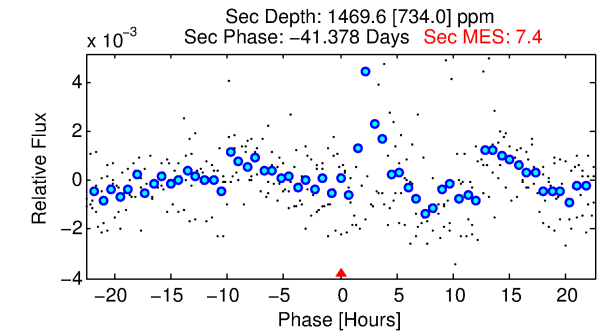
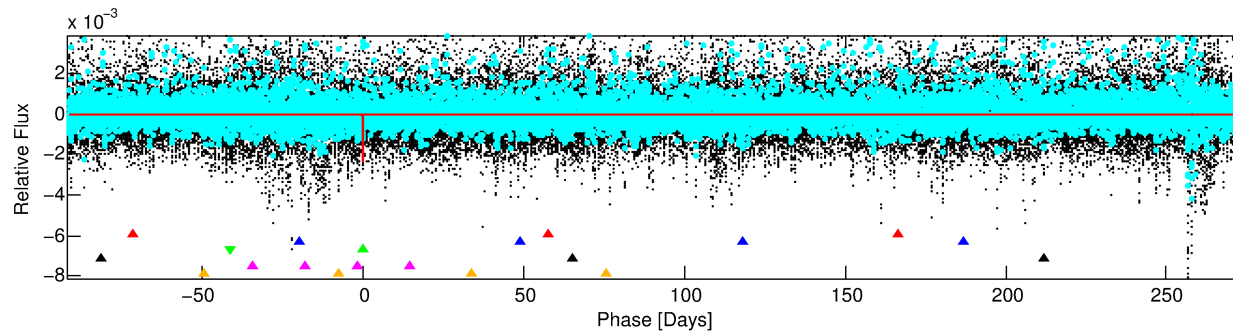
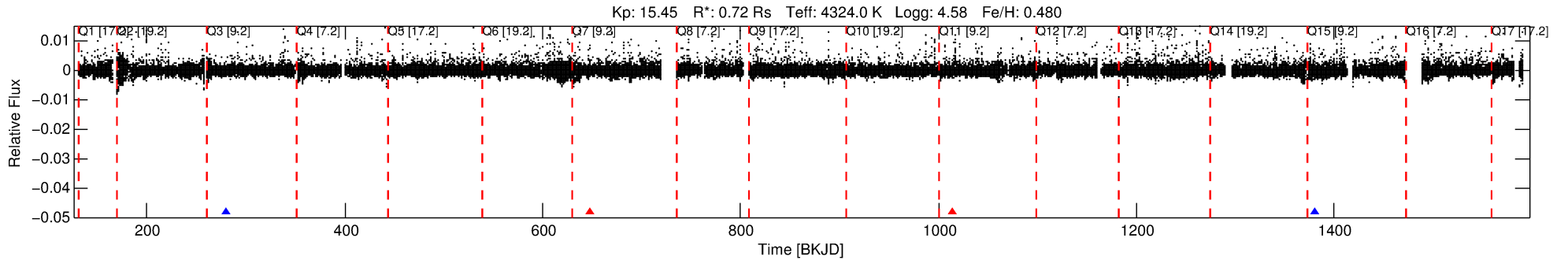
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010274993-03

No Significant Match Found

DV One-Page Summary

KIC: 10274993 Candidate: 3 of 6 Period: 366.780 d



DV Fit Results:

Period = 366.78044 [0.00536] d
Epoch = 280.6043 [0.0086] BKJD
Rp/R* = 0.0467 [0.0364]
a/R* = 583.43 [1260.89]
b = 0.69 [1.68]
Seff = 0.20 [0.04]
Teq = 171 [8] K
Rp = 3.68 [2.88] Re
a = 0.8967 [0.0685] AU
Ag = 47925.89 [78482.51] [0.61σ]
Teffp = 3916 [1607] K [2.33σ]

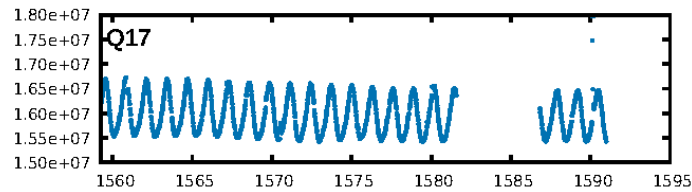
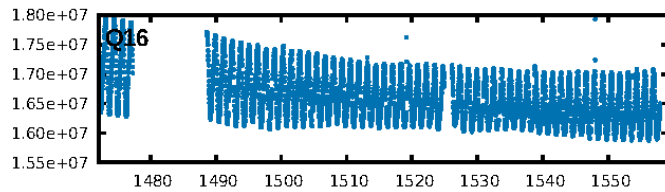
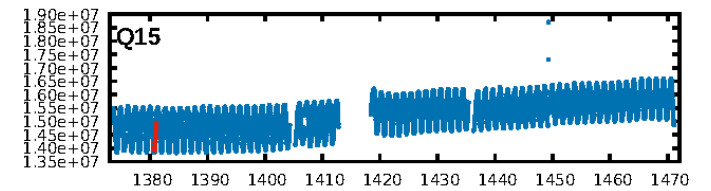
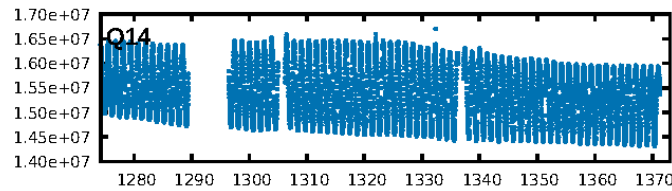
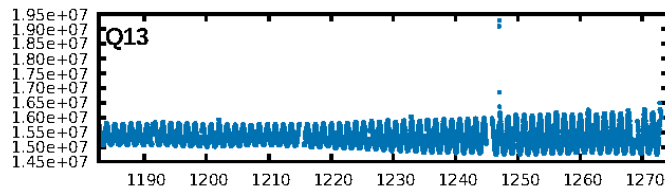
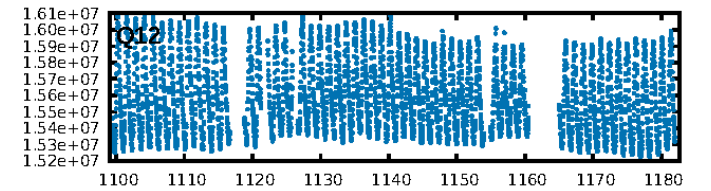
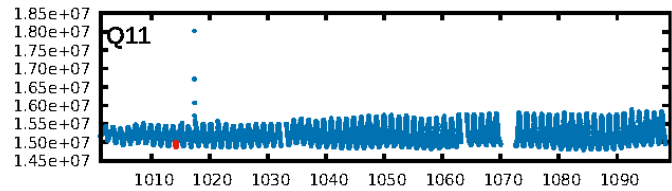
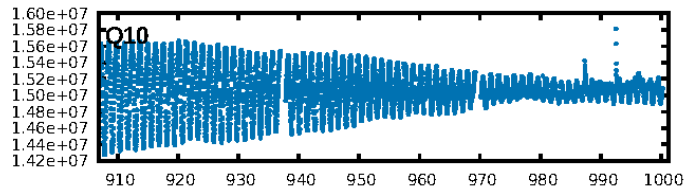
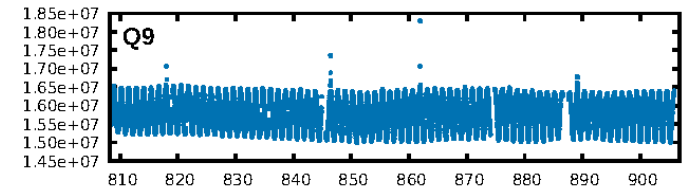
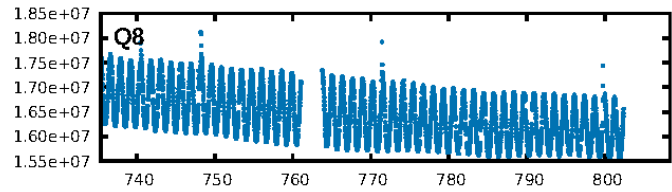
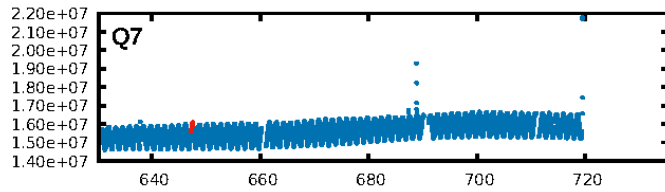
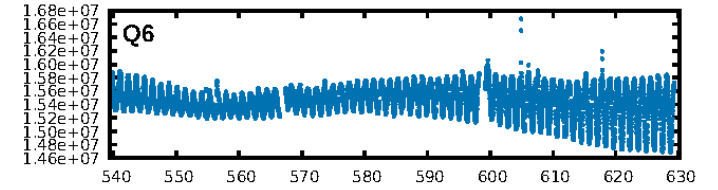
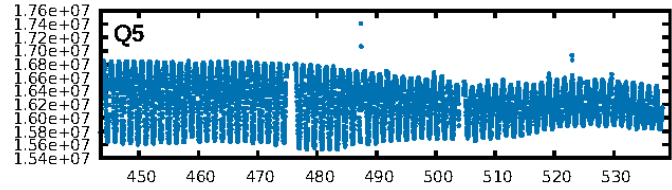
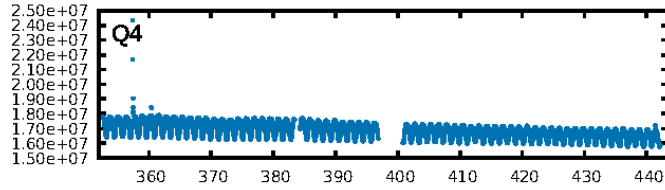
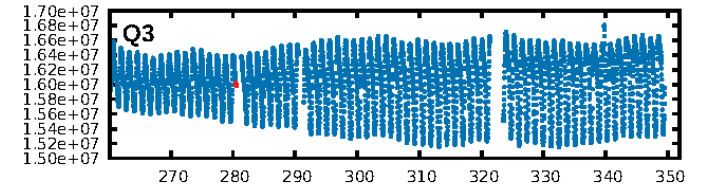
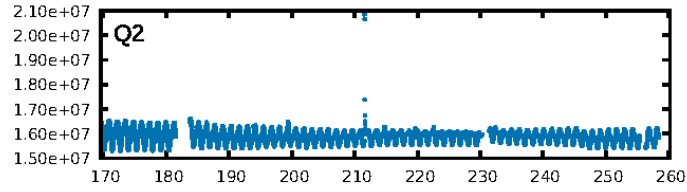
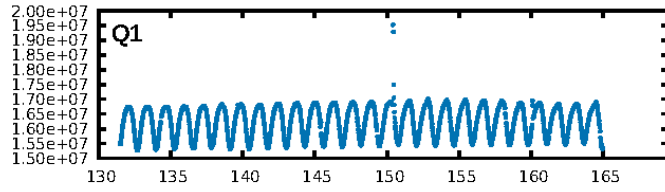
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [67.45σ]
LongPeriod-sig: 100.0% [387.19σ]
ModelChiSquare2-sig: 84.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.50 [2/4]
GhostDiagnostic-chr: 0.691
Centroid-sig: 12.0%
Centroid-so: 1.221 arcsec [1.55σ]
OotOffset-rm: 0.117 arcsec [1.33σ]
OotOffset-st: 0/3/0/0 [3]
KicOffset-rm: 0.337 arcsec [4.11σ]
KicOffset-st: 0/3/0/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

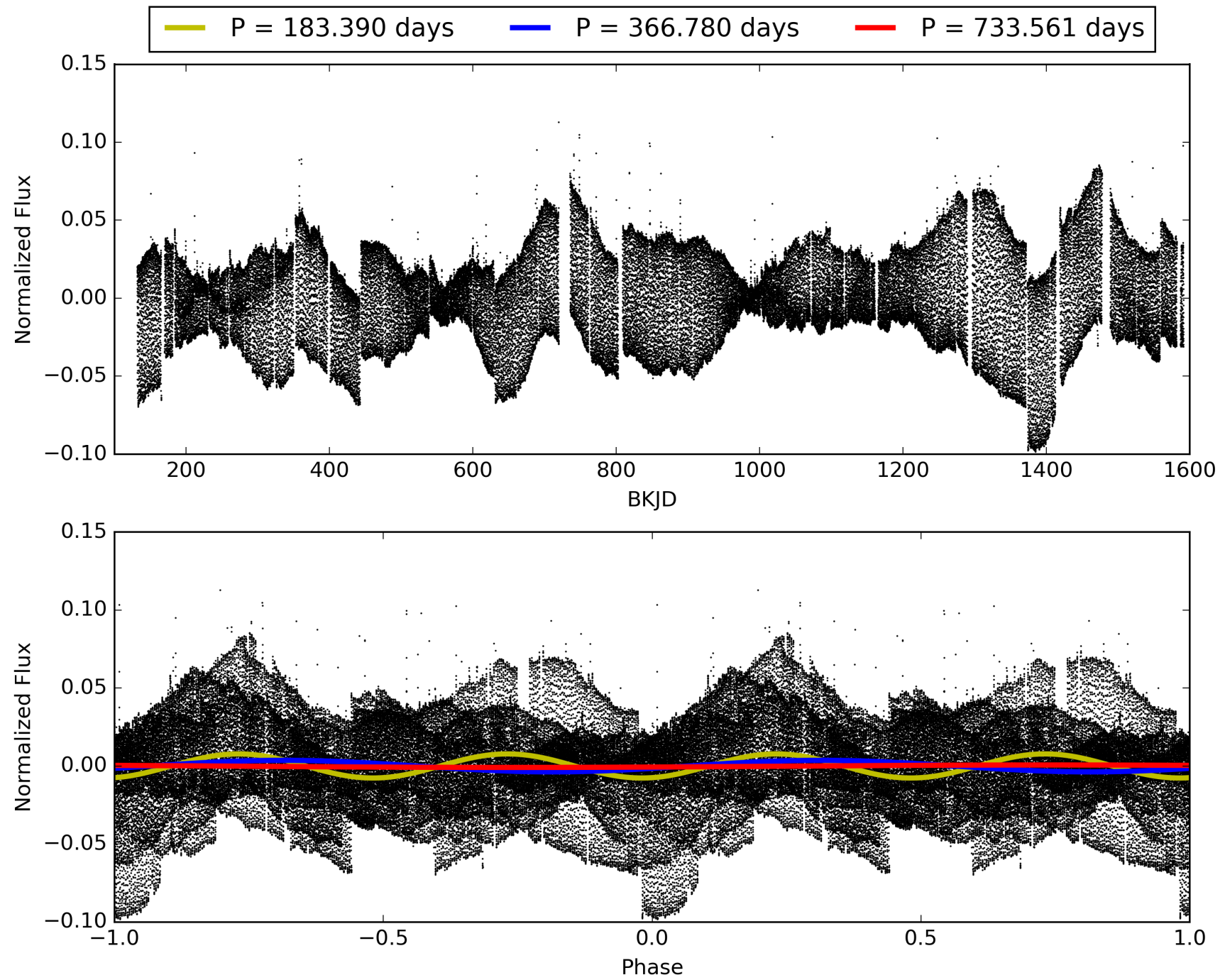
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:20:02 Z

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

TCE 010274993-03, PDC Light Curves

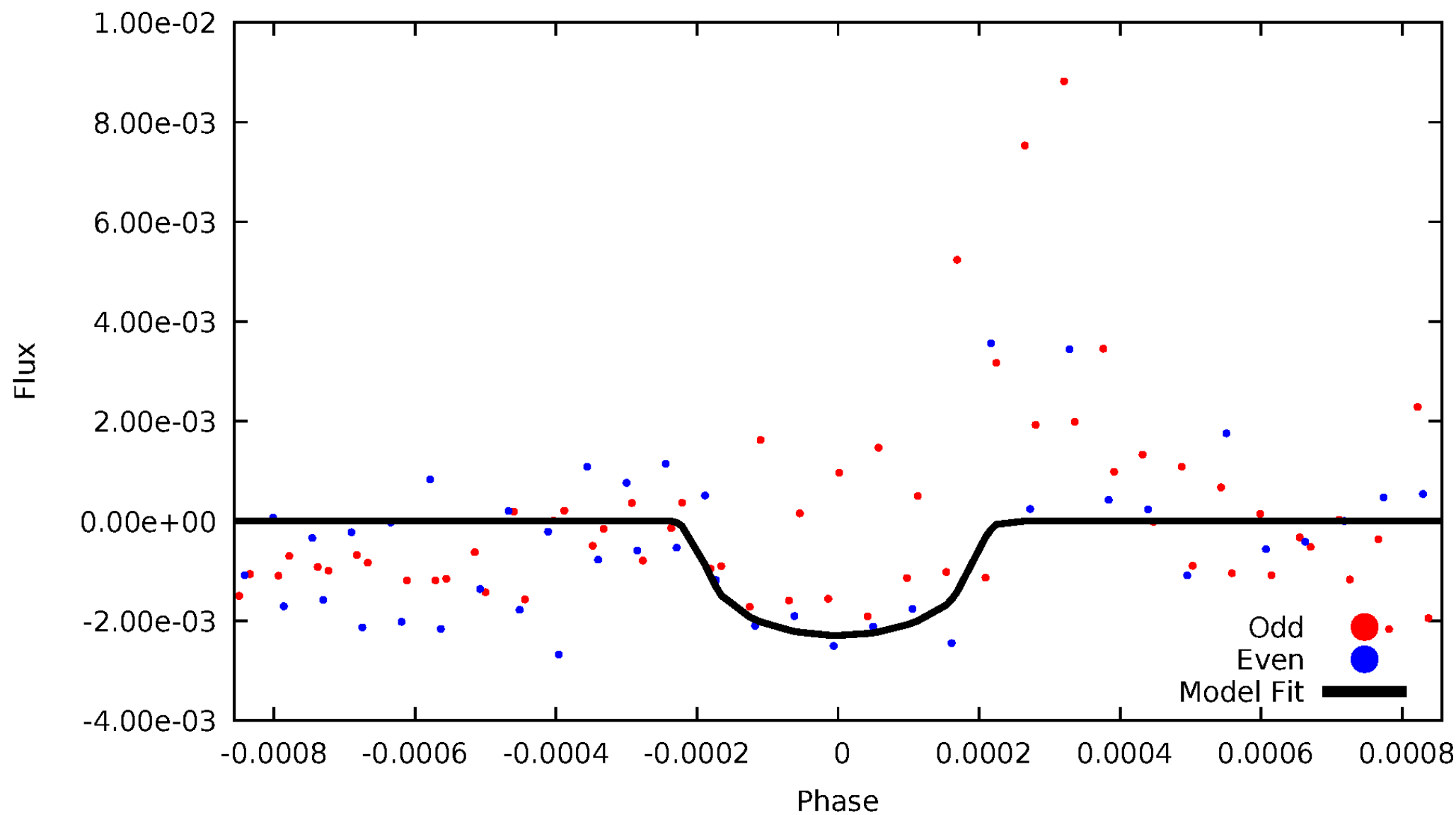


TCE 010274993-03



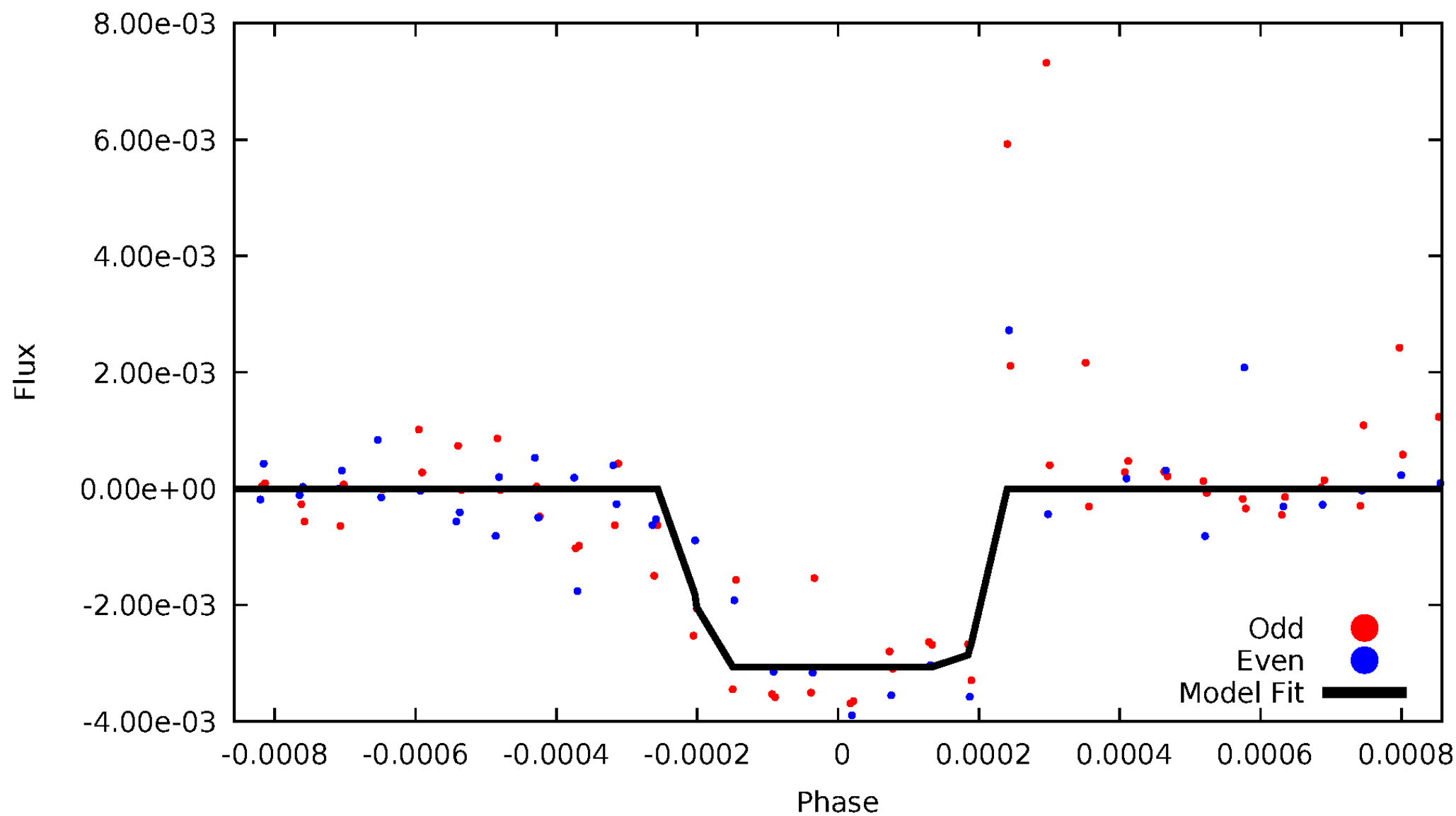
DV Odd/Even

TCE 010274993-03



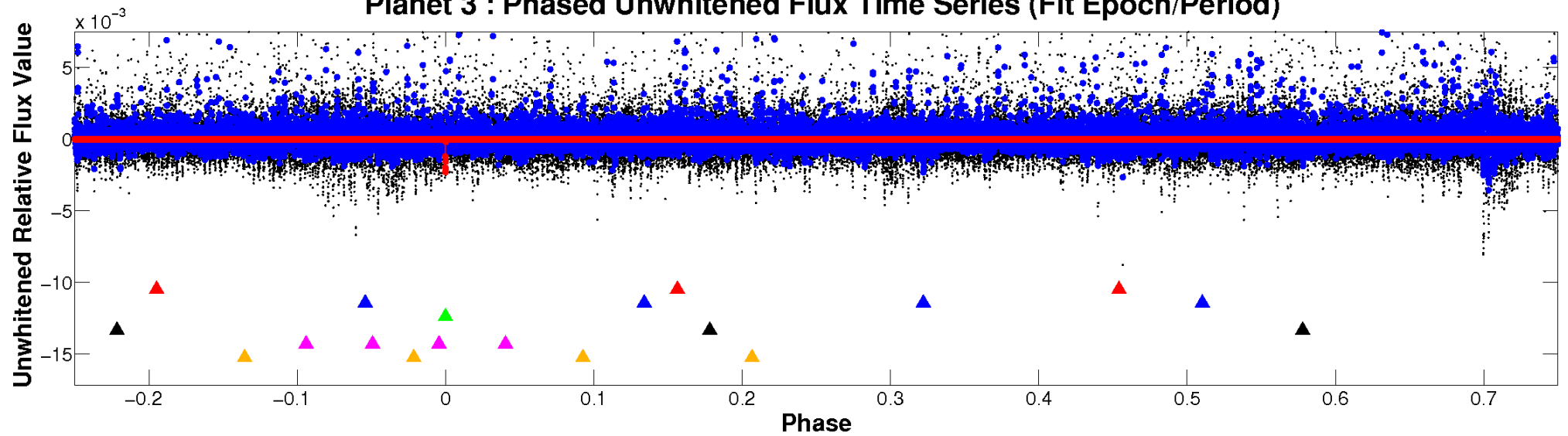
ALT Odd/Even

TCE 010274993-03

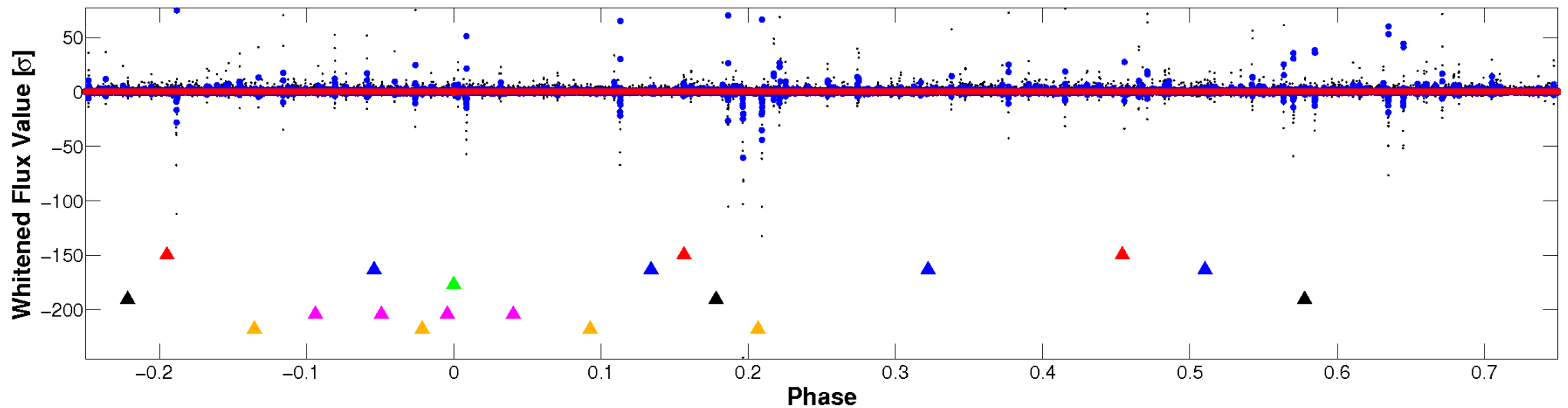


Non-Whitened Vs. Whitened Light Curve

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

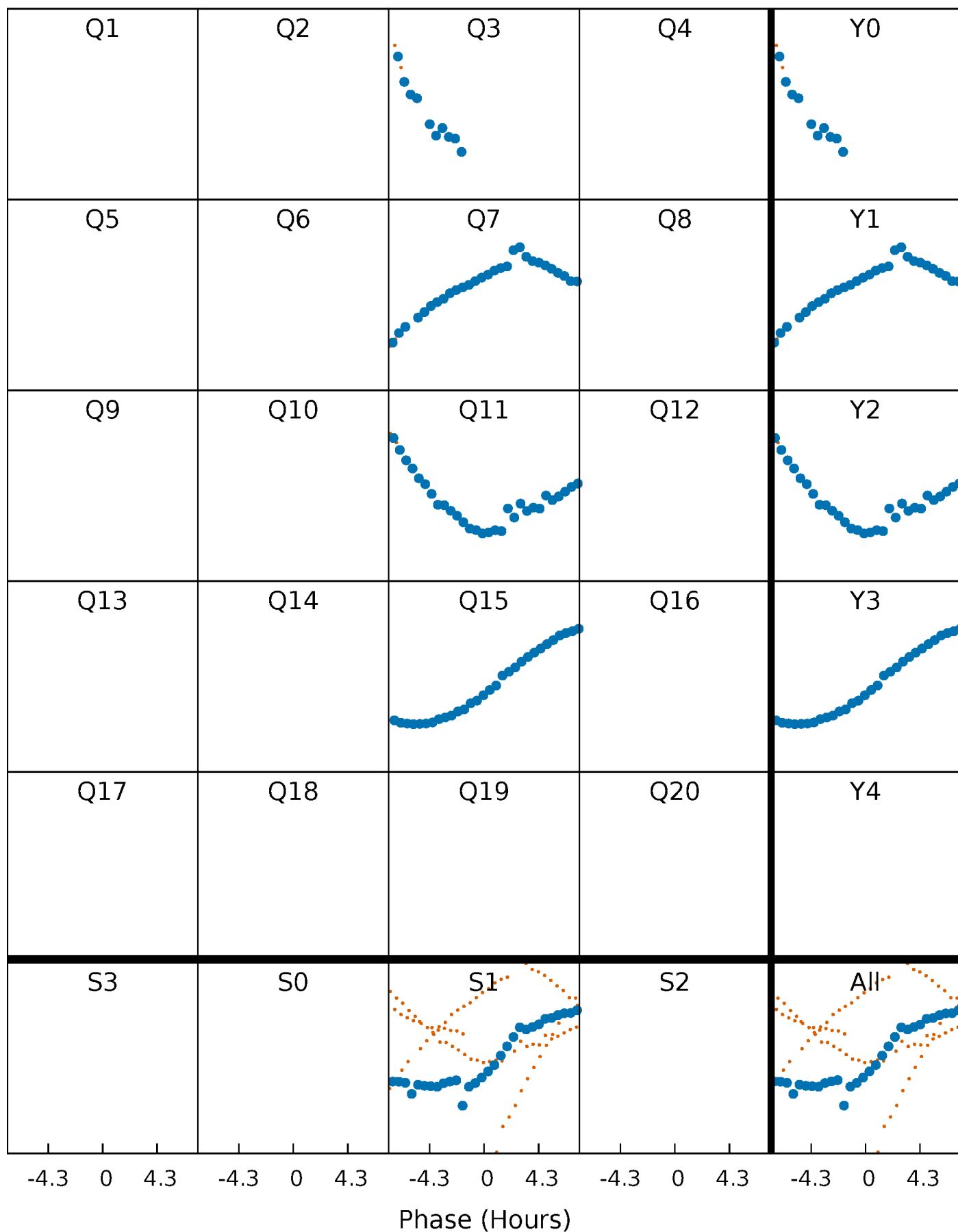


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



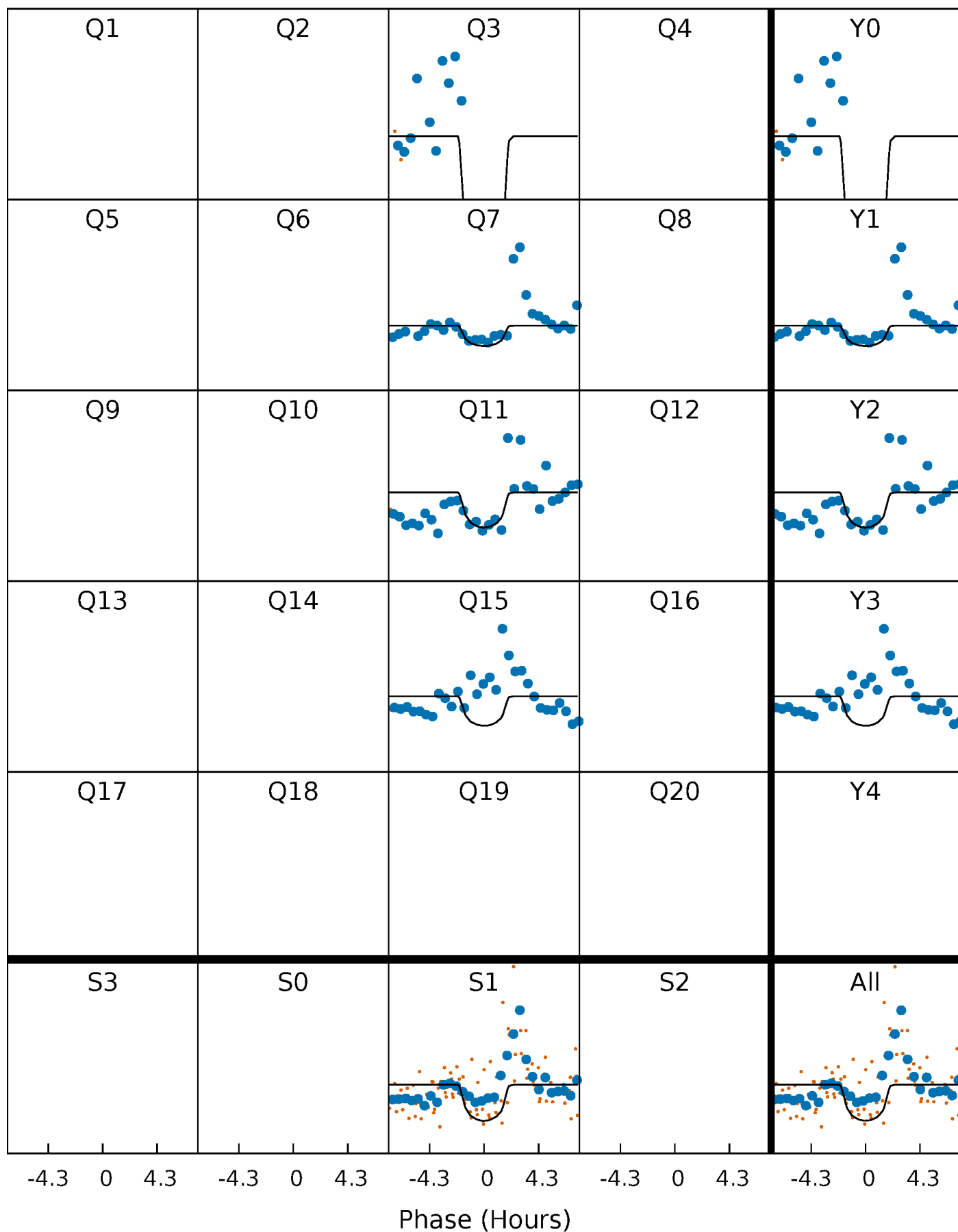
PDC Quarter-Phased Transit Curves

TCE 010274993-03 $P=366.780437$ Days $T_0=280.604286$ (BKJD)



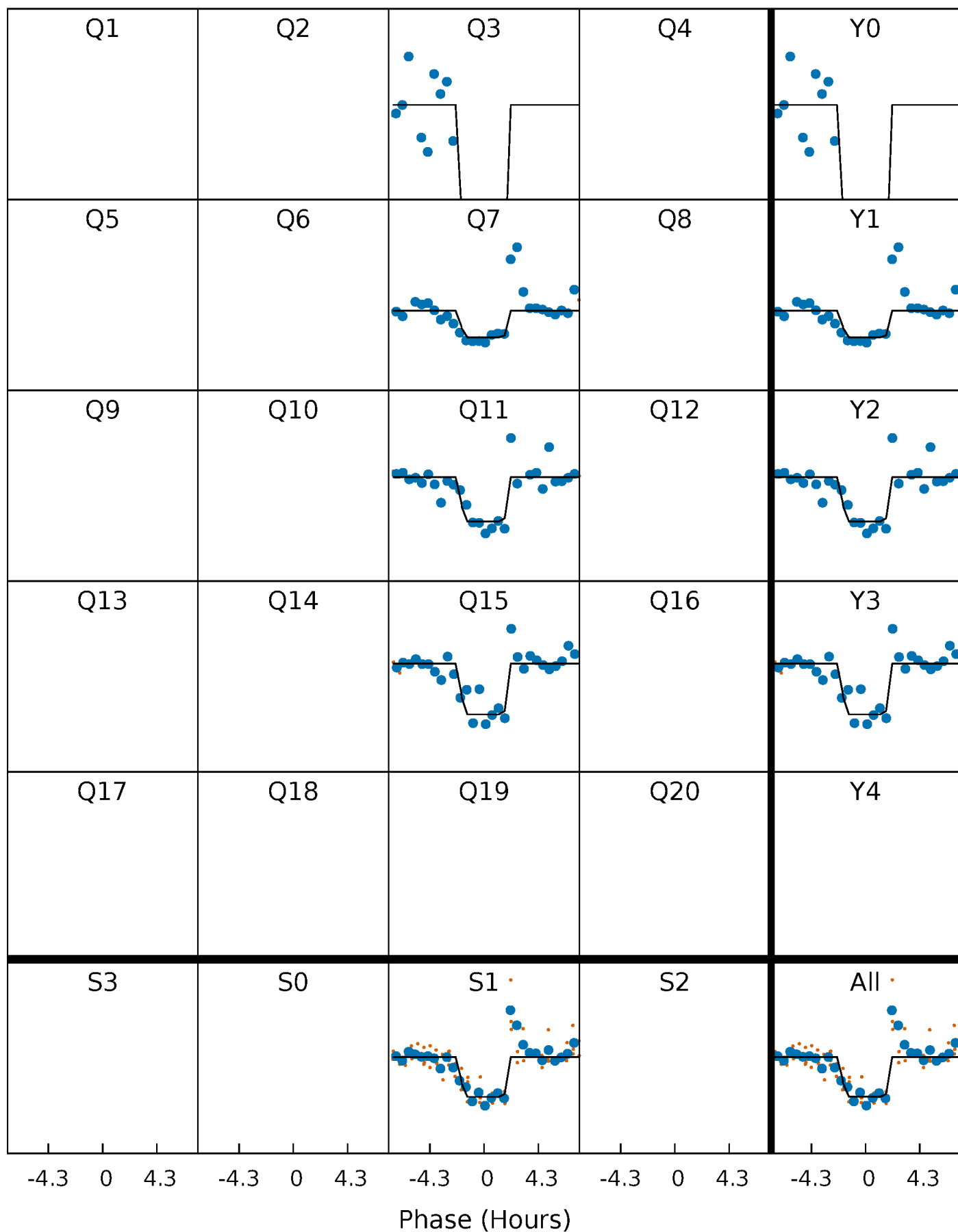
DV Quarter-Phased Transit Curves

TCE 010274993-03 $P=366.780437$ Days $T_0=280.604286$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

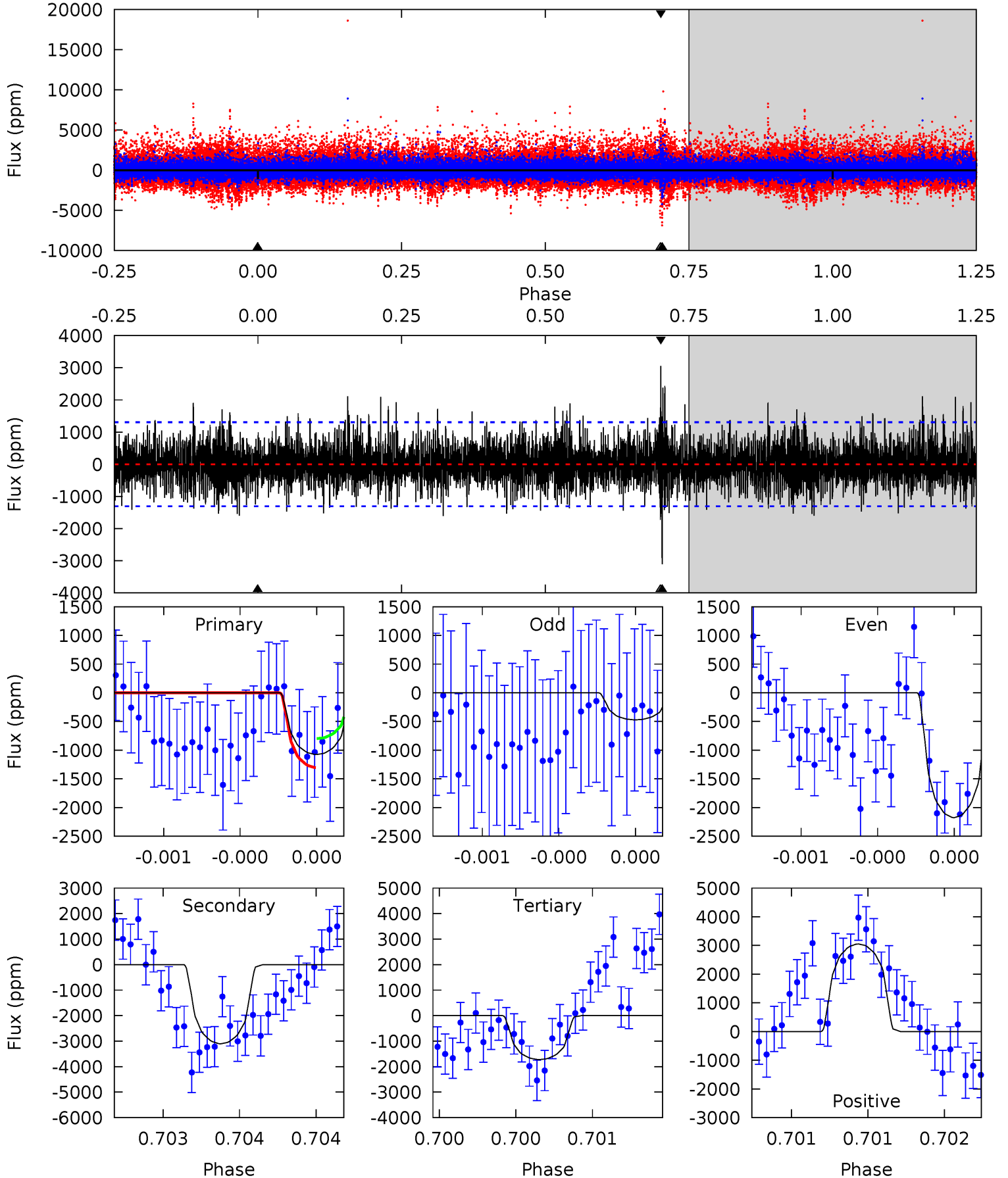
TCE 010274993-03 $P=366.761968$ Days $T_0=280.631729$ (BKJD)



DV Model-Shift Uniqueness Test

010274993-03, P = 366.780437 Days, E = 280.604286 Days

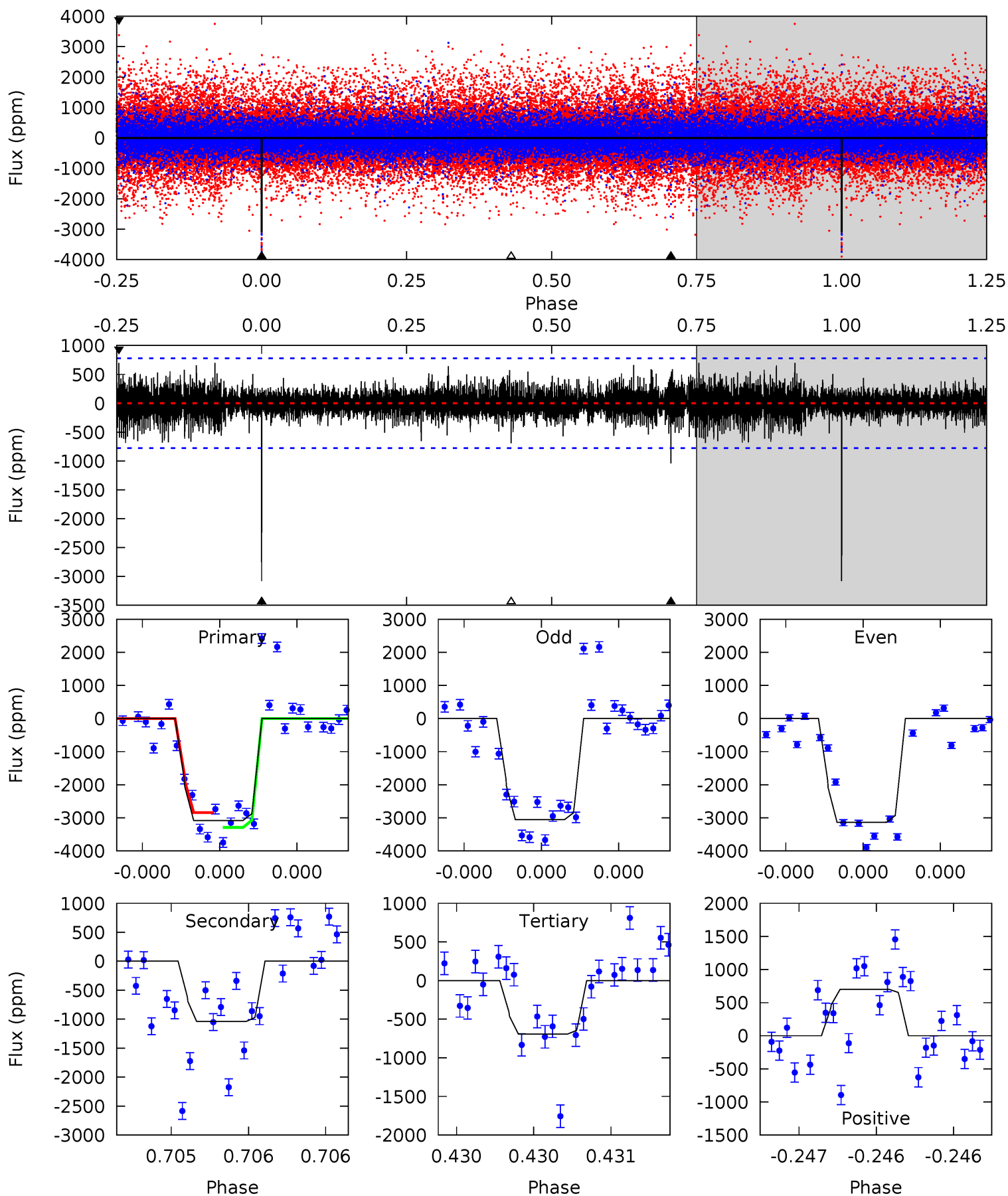
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.59	13.2	7.35	13.0	5.58	3.48	2.09	-2.76	-8.44	5.89	0.22	2.58	0.51	0.50	1.07



Alt Model-Shift Uniqueness Test

010274993-03, P = 366.761968 Days, E = 280.631729 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.2	7.48	4.98	5.03	5.59	3.51	1.17	17.2	17.1	2.50	2.45	0.26	0.98	0.19	1.62



Stellar Parameters For KIC 010274993

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4324^{+155}_{-172}	$4.575^{+0.060}_{-0.016}$	$0.480^{+0.050}_{-0.300}$	$0.722^{+0.024}_{-0.066}$	$0.715^{+0.040}_{-0.049}$	$2.670^{+0.730}_{-0.167}$
	+4%/-4%	+1%/-0%	+10%/-62%	+3%/-9%	+6%/-7%	+27%/-6%
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 010274993-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-3103 ± 234	$4.05^{+2.60}_{-2.43}$	237^{+9}_{-10}	4481^{+2288}_{-795}	$86067^{+452473}_{-54591}$
Alt.	-1040 ± 139	$4.61^{+2.71}_{-2.63}$	237^{+9}_{-10}	3498^{+1318}_{-459}	22266^{+98353}_{-13500}

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 $A_{obs} \gg 1.0$

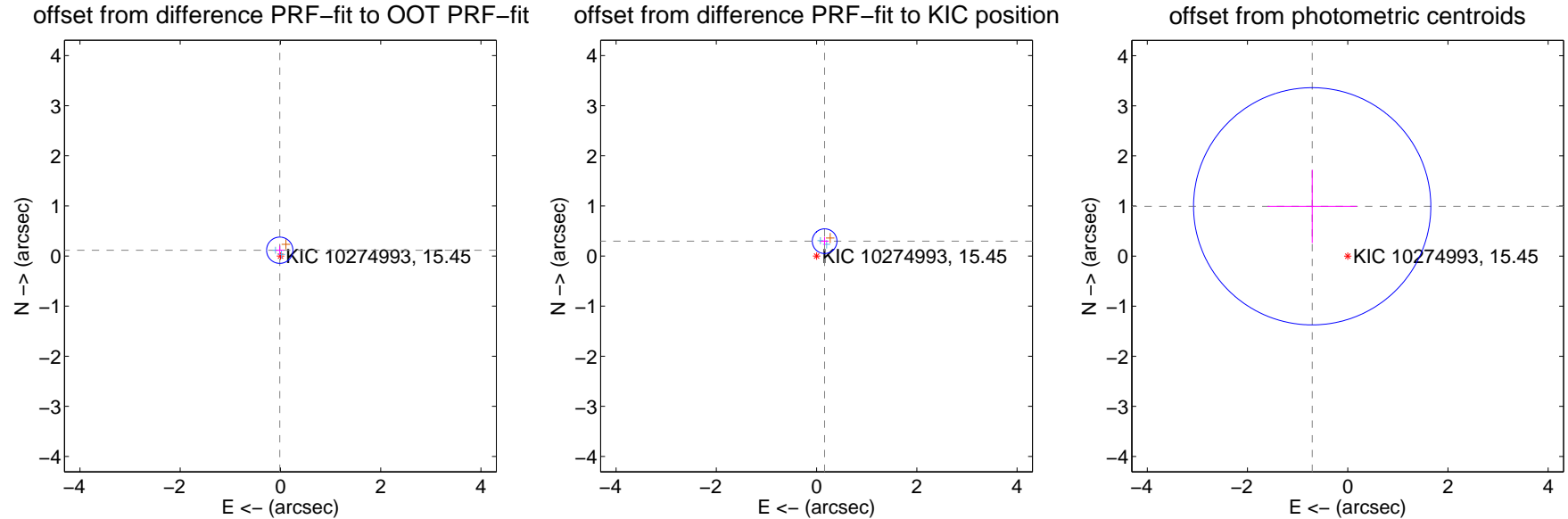
DV Centroid Data

Supplemental centroid analysis for 010274993-03. Kepler magnitude: 15.45. Transit SNR 5.80

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.117 ± 0.087	1.33	0.014 ± 0.085	0.116 ± 0.090
PRF-fit source offset from KIC position	0.337 ± 0.082	4.11	-0.161 ± 0.079	0.297 ± 0.083
photometric centroid source offset	1.22 ± 0.79	1.55	0.71 ± 0.89	0.99 ± 0.73

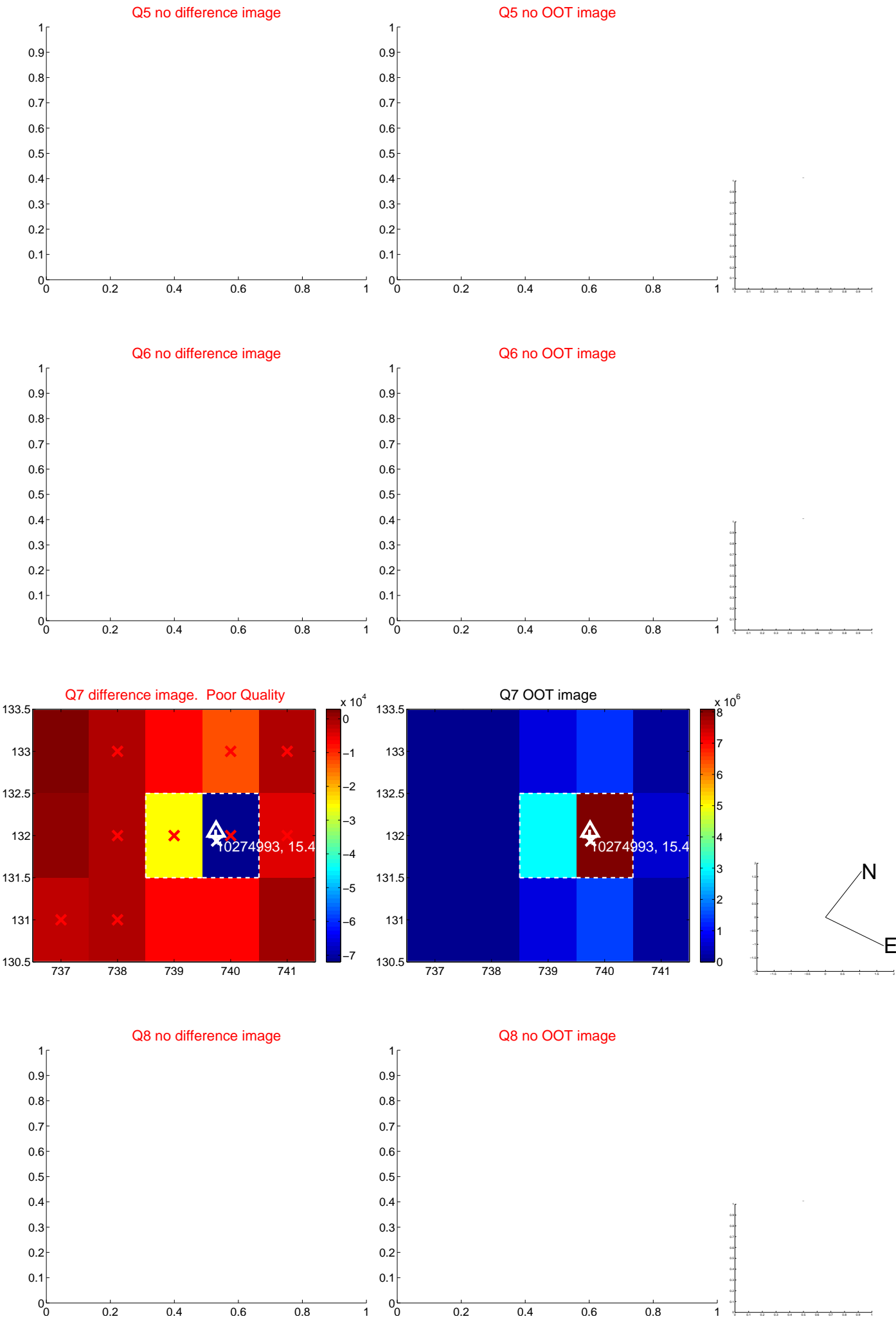


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

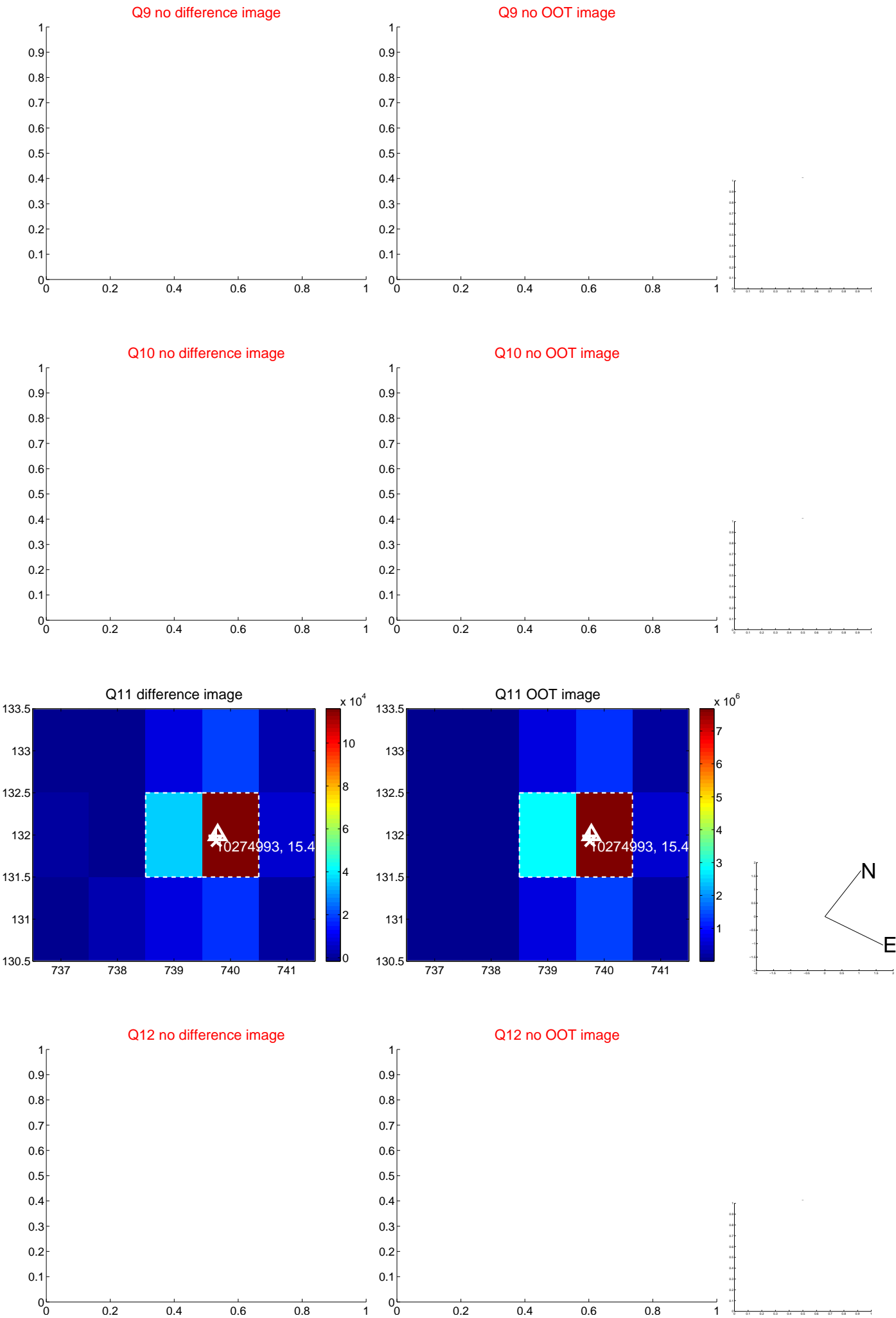
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



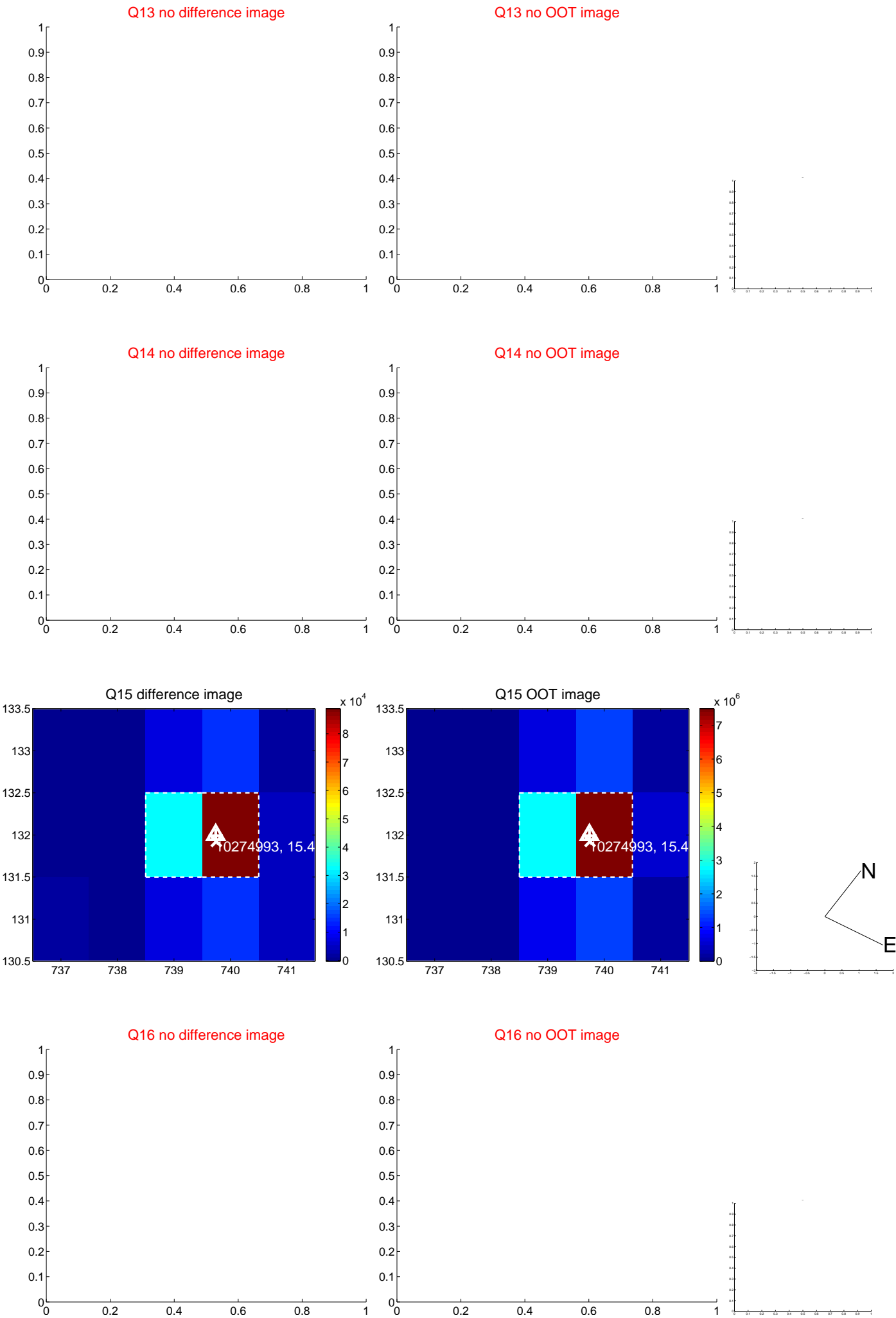
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



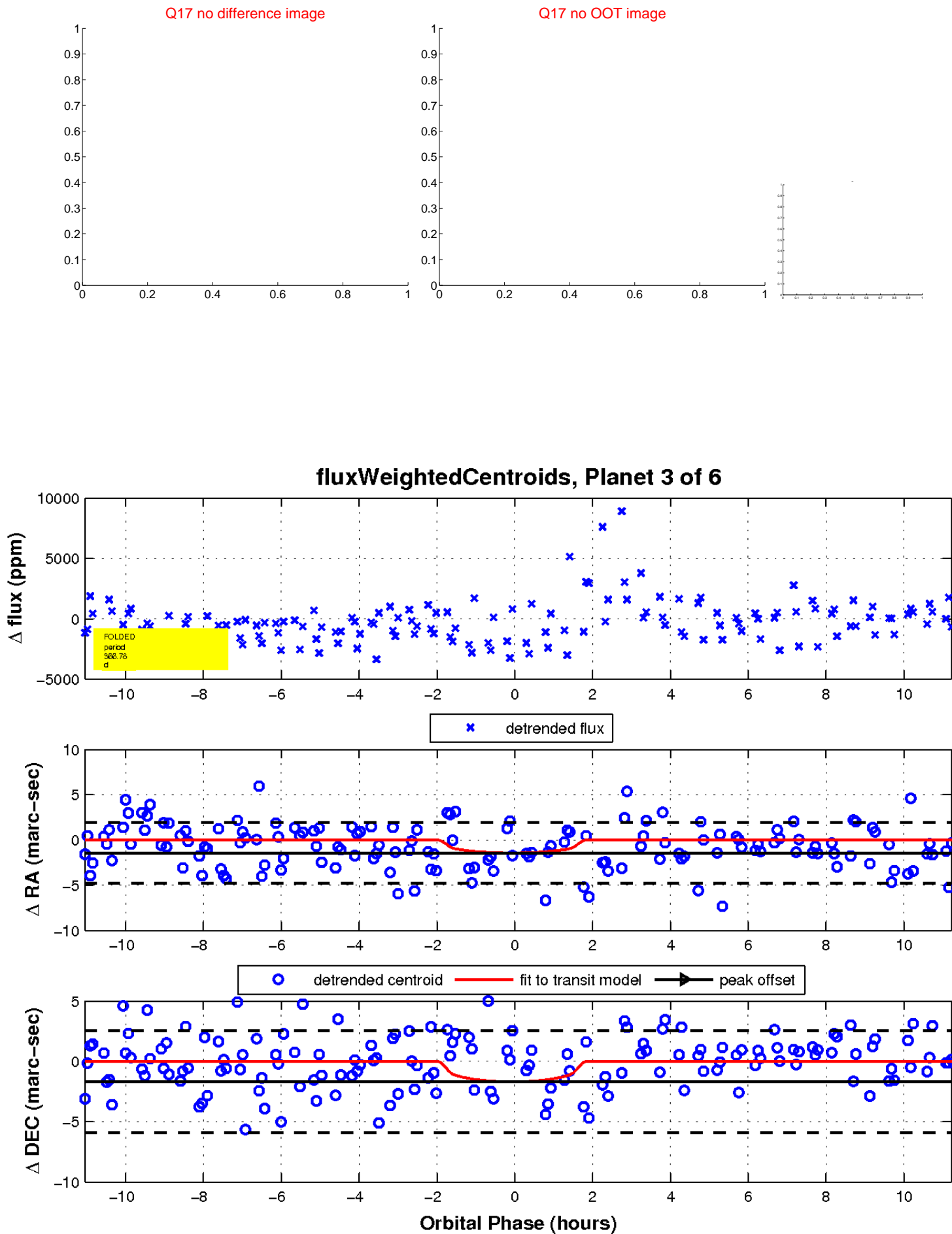
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



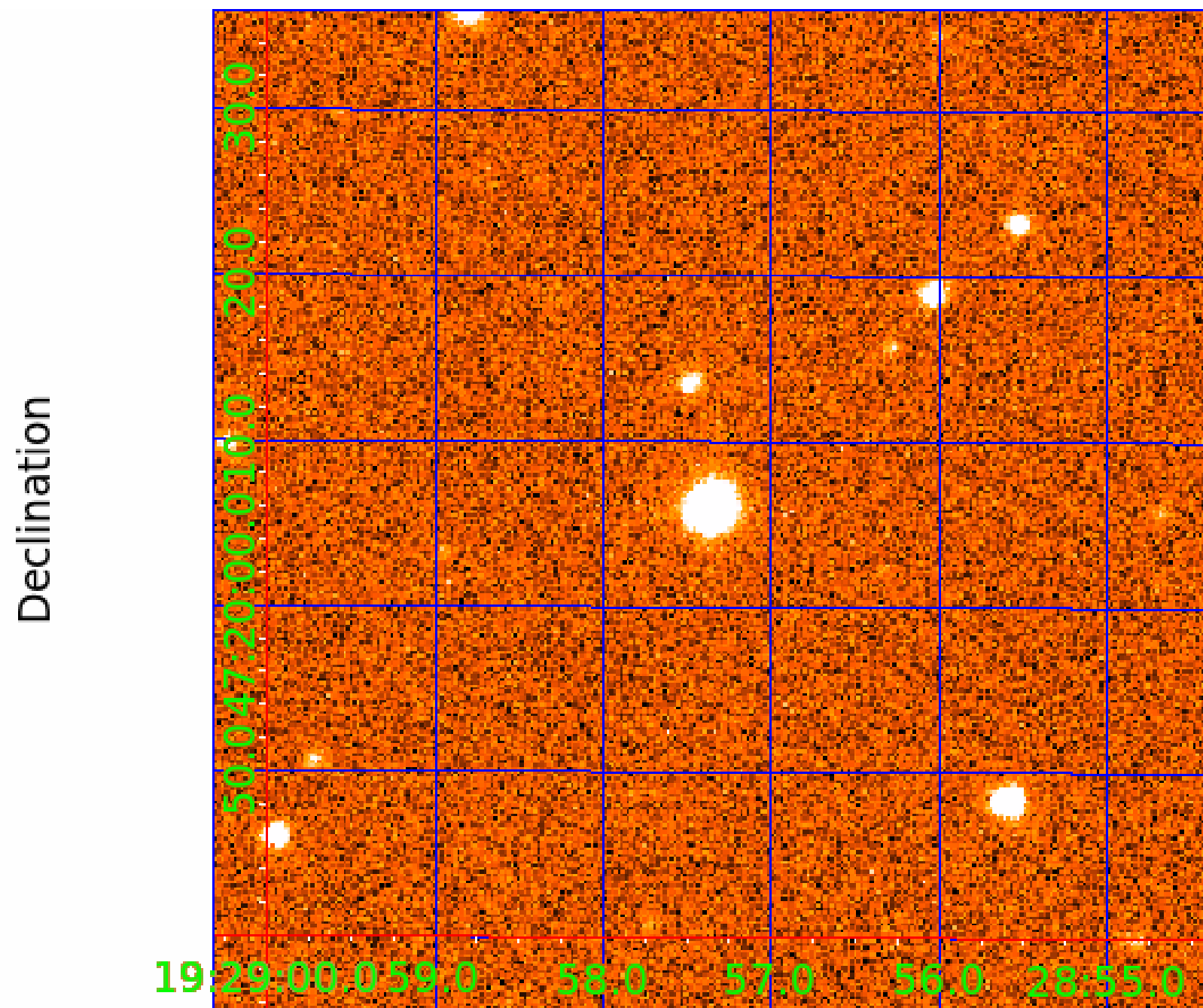
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image



KIC 010274993

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})
010274993-01	OBS	No	495.577944	447.155546	3109.2	5.915	12.5	6.1	0.72	4324	4.83	0.14
010274993-02	OBS	No	435.784647	260.763840	1007.9	2.024	11.4	3.0	0.72	4324	4.47	0.16
010274993-03	OBS	No	366.780436	280.604286	2294.5	3.768	12.2	5.8	0.72	4324	3.68	0.20
010274993-04	OBS	No	513.386925	199.367551	3223.4	4.673	13.8	6.3	0.72	4324	3.88	0.13
010274993-05	OBS	No	350.344554	295.445098	2382.8	4.473	10.8	6.8	0.72	4324	3.89	0.22
010274993-06	OBS	No	324.953177	356.413331	2425.3	3.000	11.2	-1.0	0.72	4324	3.38	0.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010274993-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
010274993-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010274993-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010274993-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010274993-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010274993-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

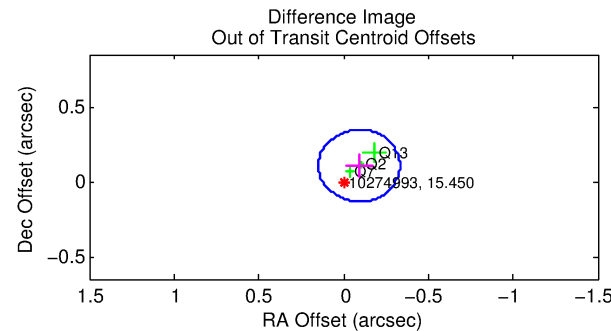
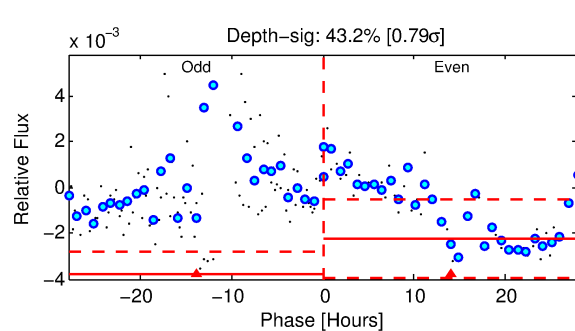
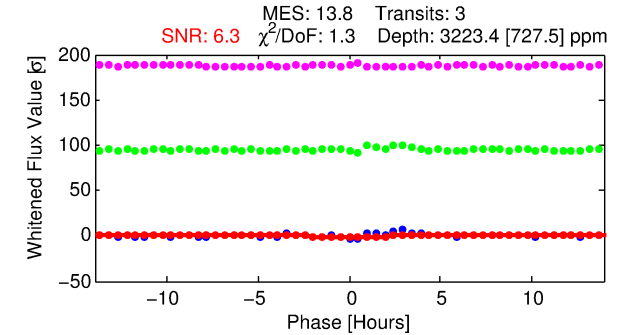
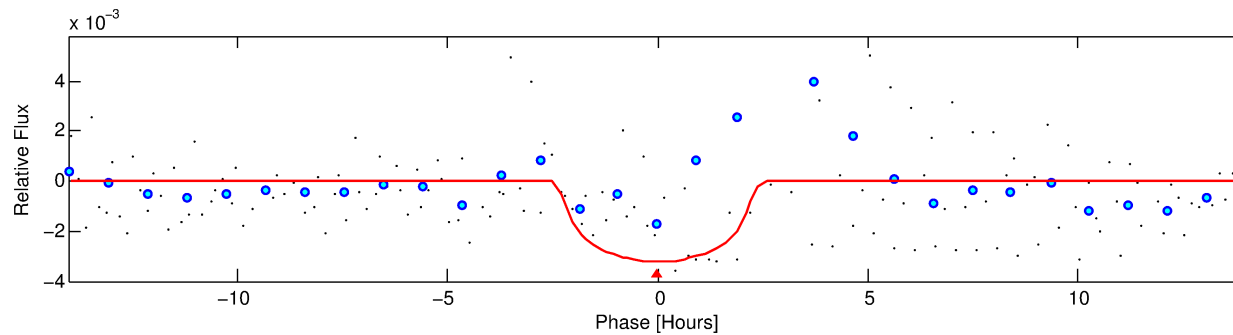
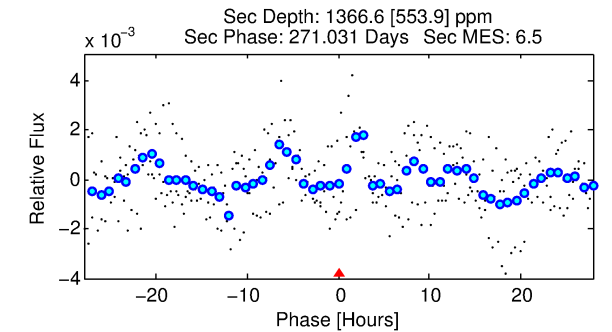
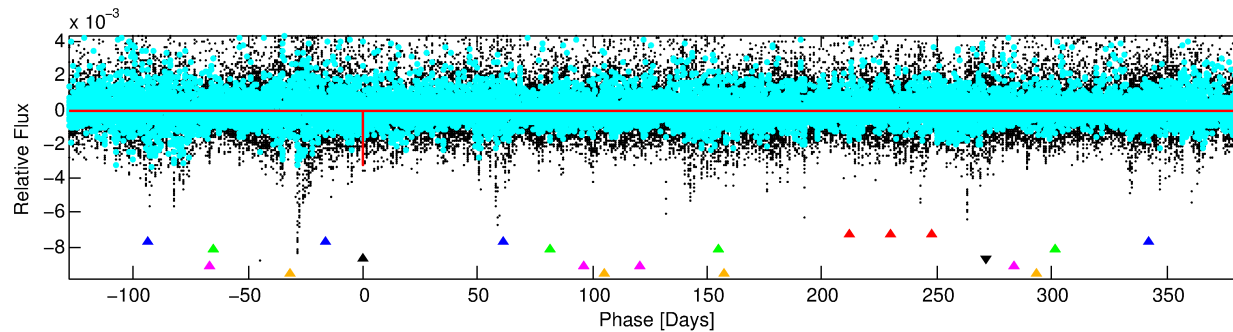
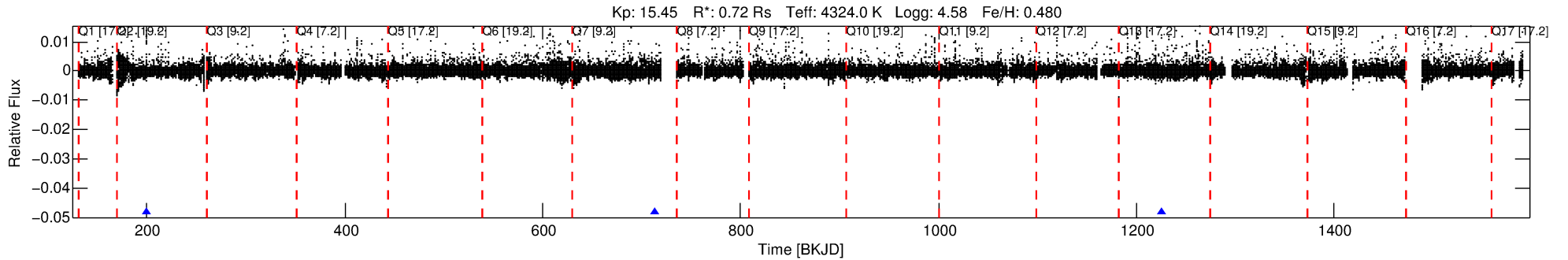
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010274993-04

No Significant Match Found

DV One-Page Summary

KIC: 10274993 Candidate: 4 of 6 Period: 513.387 d



DV Fit Results:

Period = 513.38693 [0.00770] d
Epoch = 199.3676 [0.0083] BKJD
Rp/R* = 0.0492 [0.0671]
a/R* = 880.53 [3208.61]
b = 0.01 [551.74]
Seff = 0.13 [0.03]
Teq = 153 [7] K
Rp = 3.88 [5.30] Re
a = 1.1221 [0.0857] AU
Ag = 62884.41 [173366.10] [0.36σ]
Teffp = 3746 [2584] K [1.39σ]

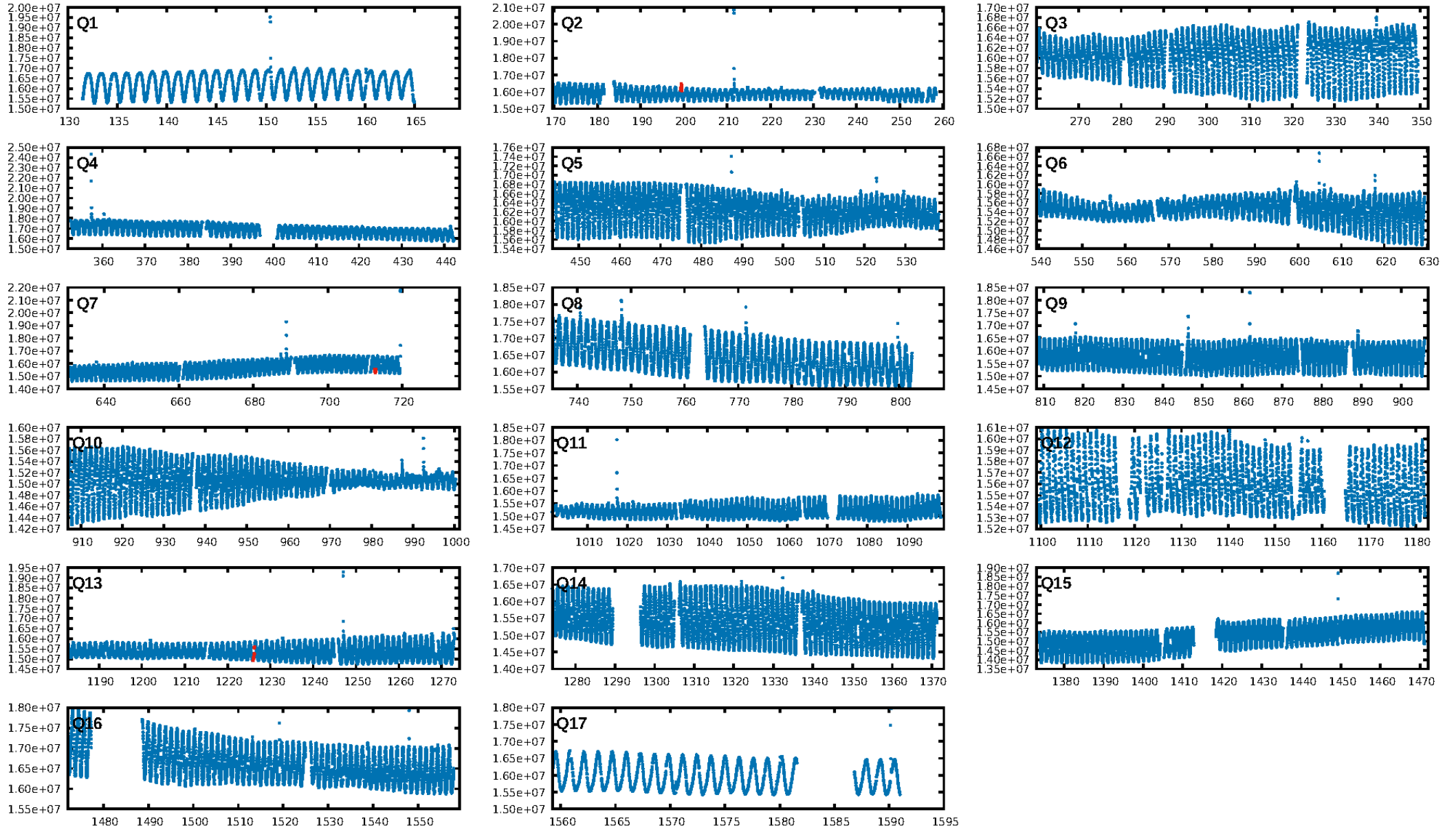
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [56.70σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 5.1%
ModelChiSquareGof-sig: 85.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.5805
Centroid-sig: 5.3%
Centroid-so: 1.048 arcsec [1.63σ]
OotOffset-rm: 0.141 arcsec [1.76σ]
KicOffset-rm: 0.220 arcsec [2.05σ]
OotOffset-st: 1/1/0/1 [3]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

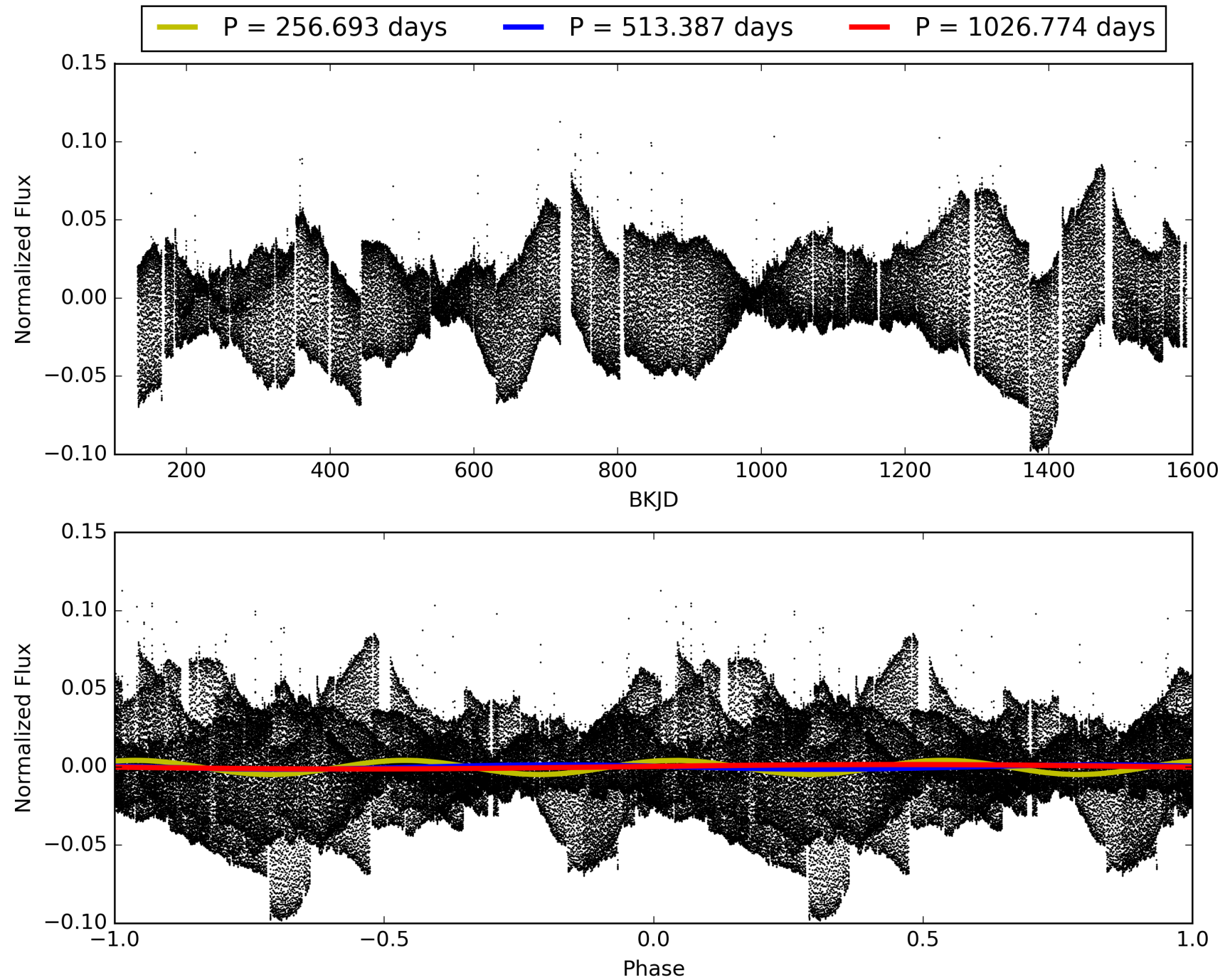
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:20:18 Z

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

TCE 010274993-04, PDC Light Curves

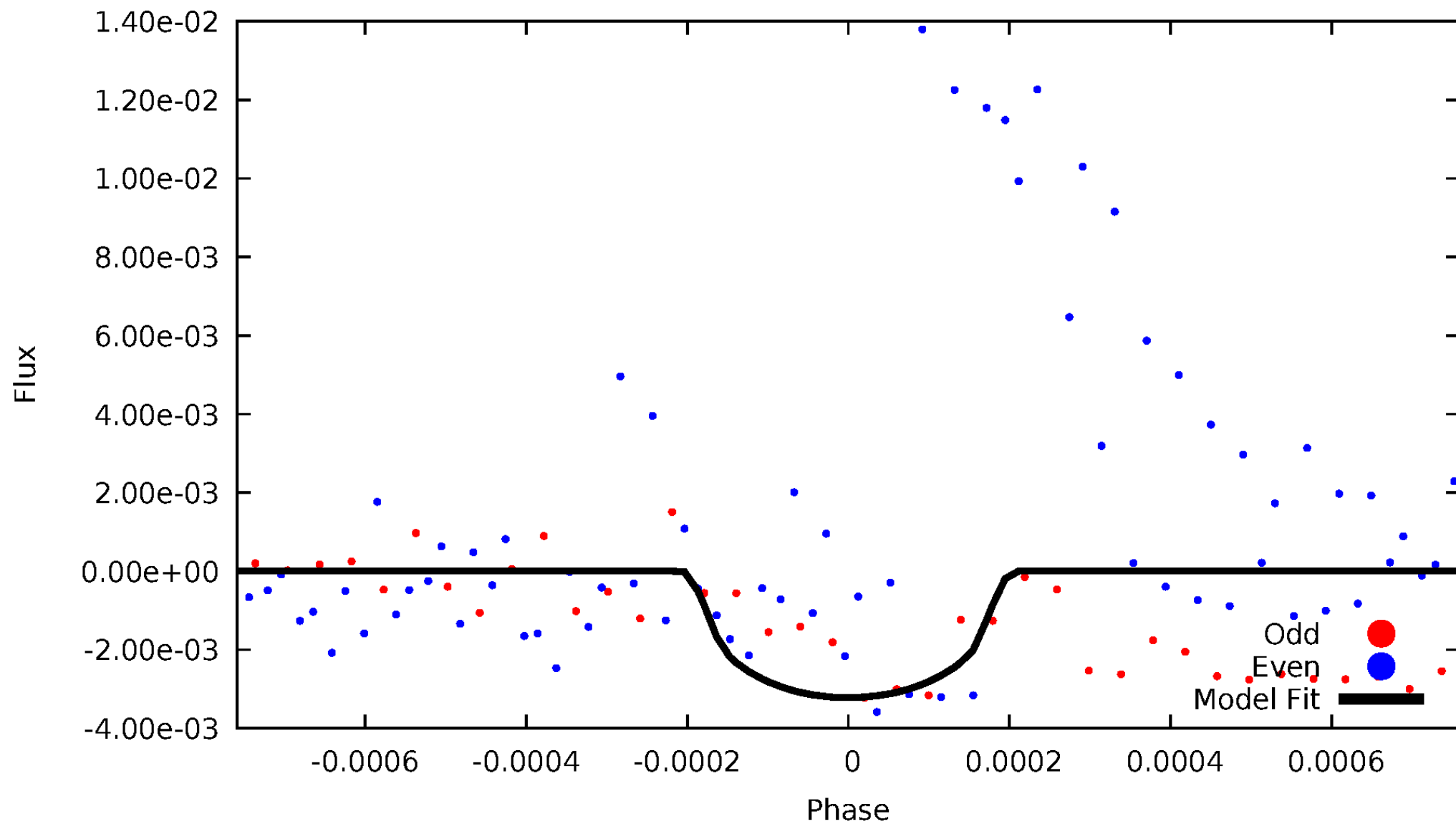


TCE 010274993-04



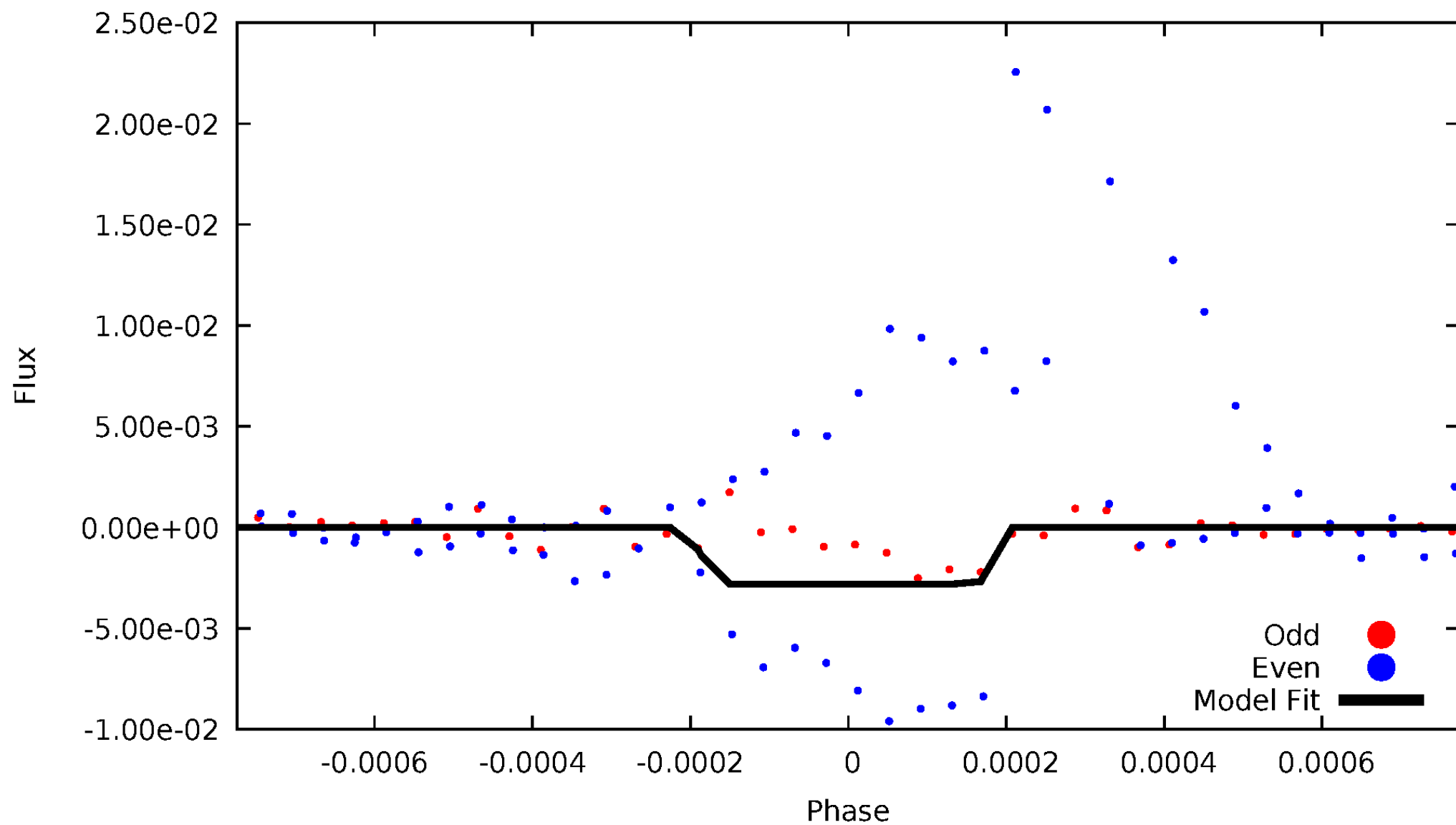
DV Odd/Even

TCE 010274993-04



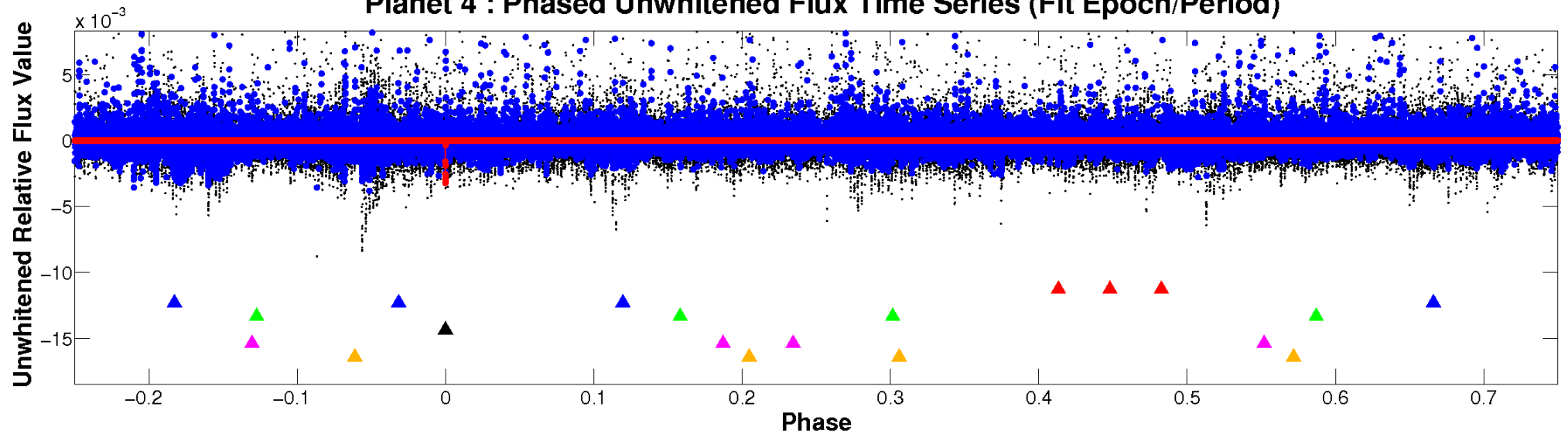
ALT Odd/Even

TCE 010274993-04

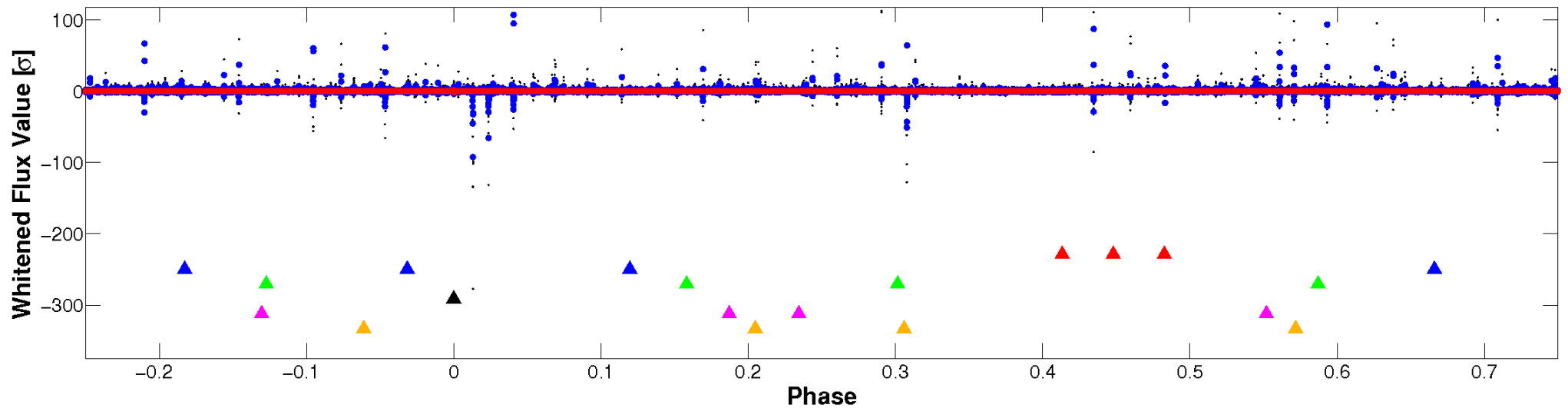


Non-Whitened Vs. Whitened Light Curve

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

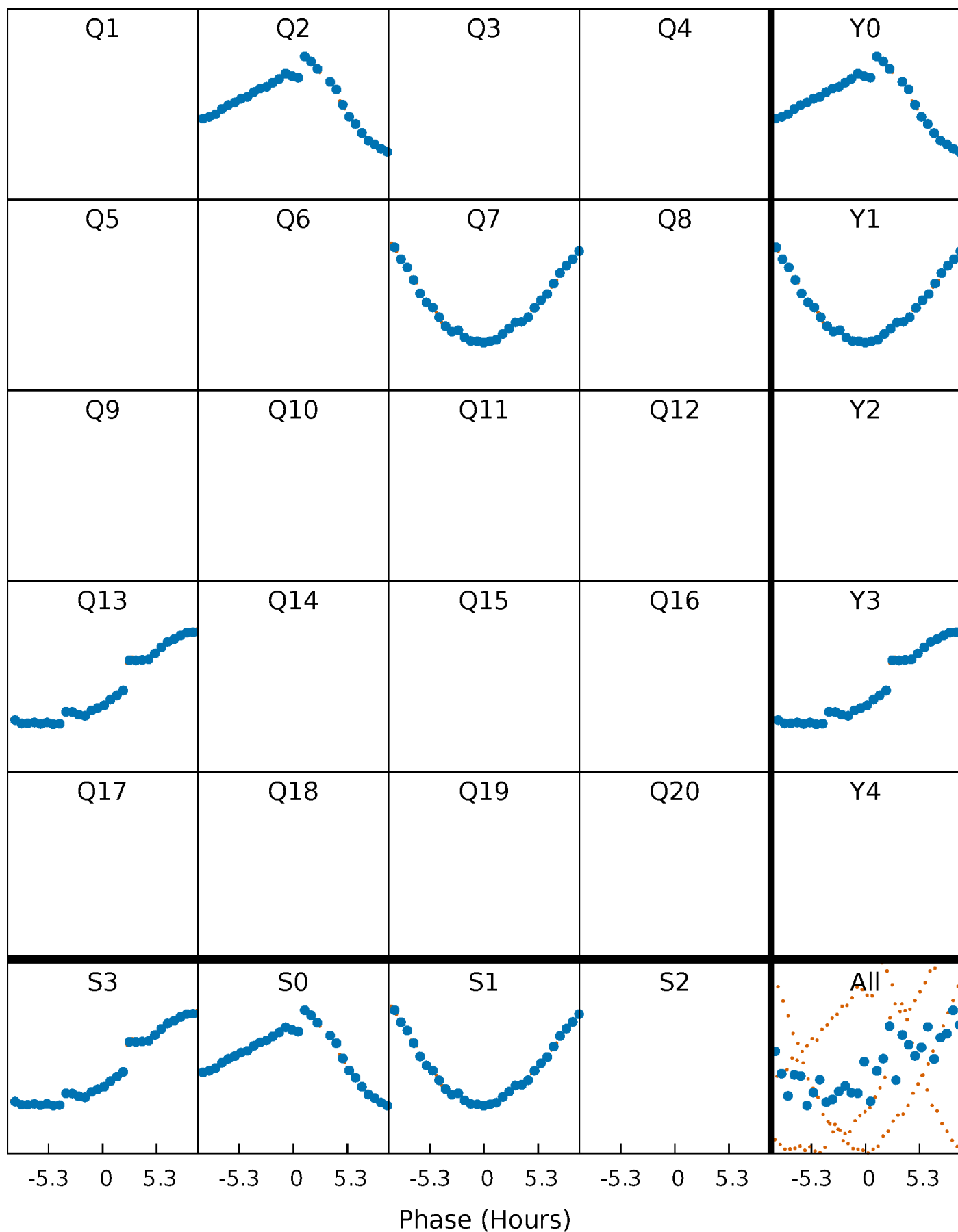


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



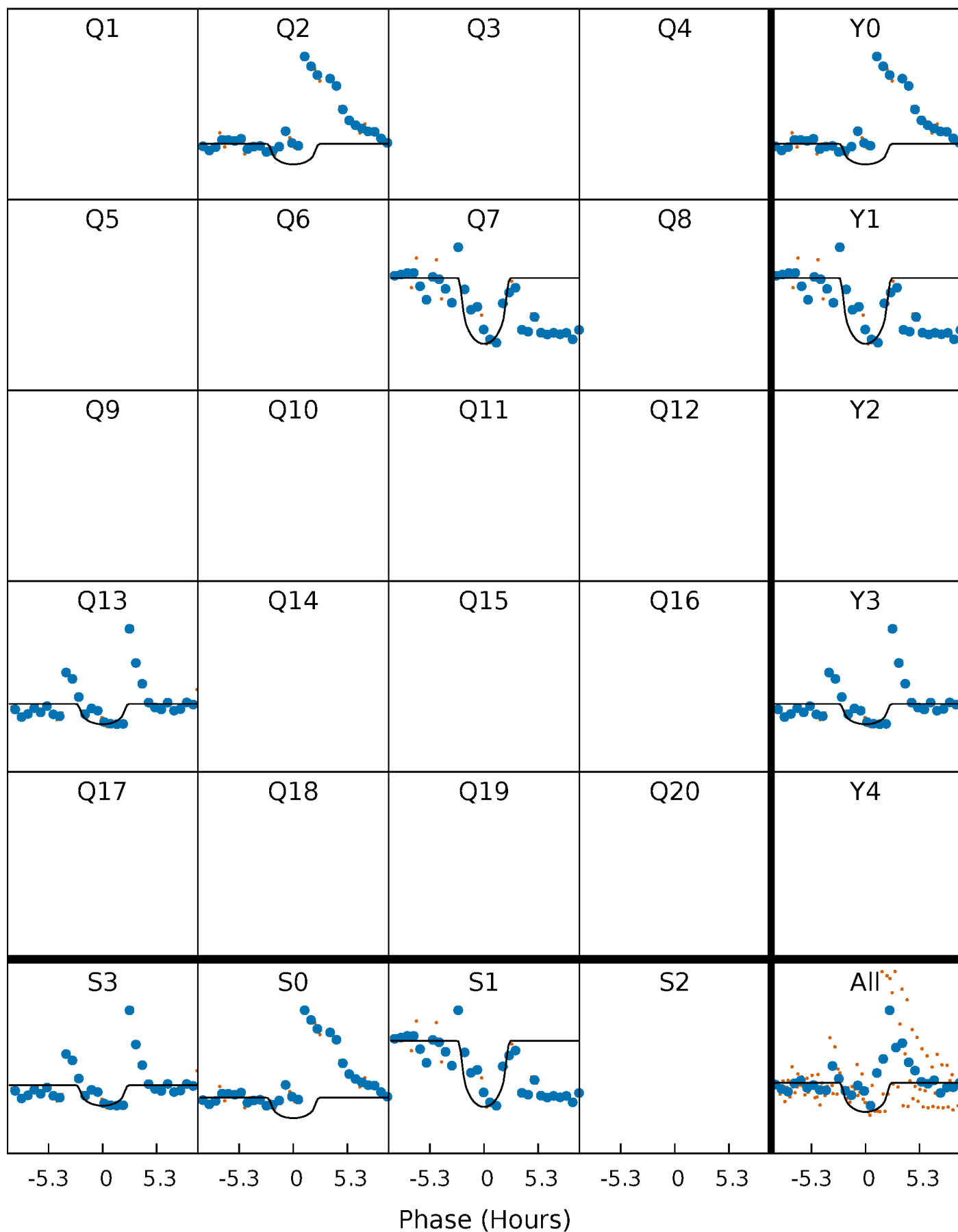
PDC Quarter-Phased Transit Curves

TCE 010274993-04 $P=513.386925$ Days $T_0=199.367551$ (BKJD)



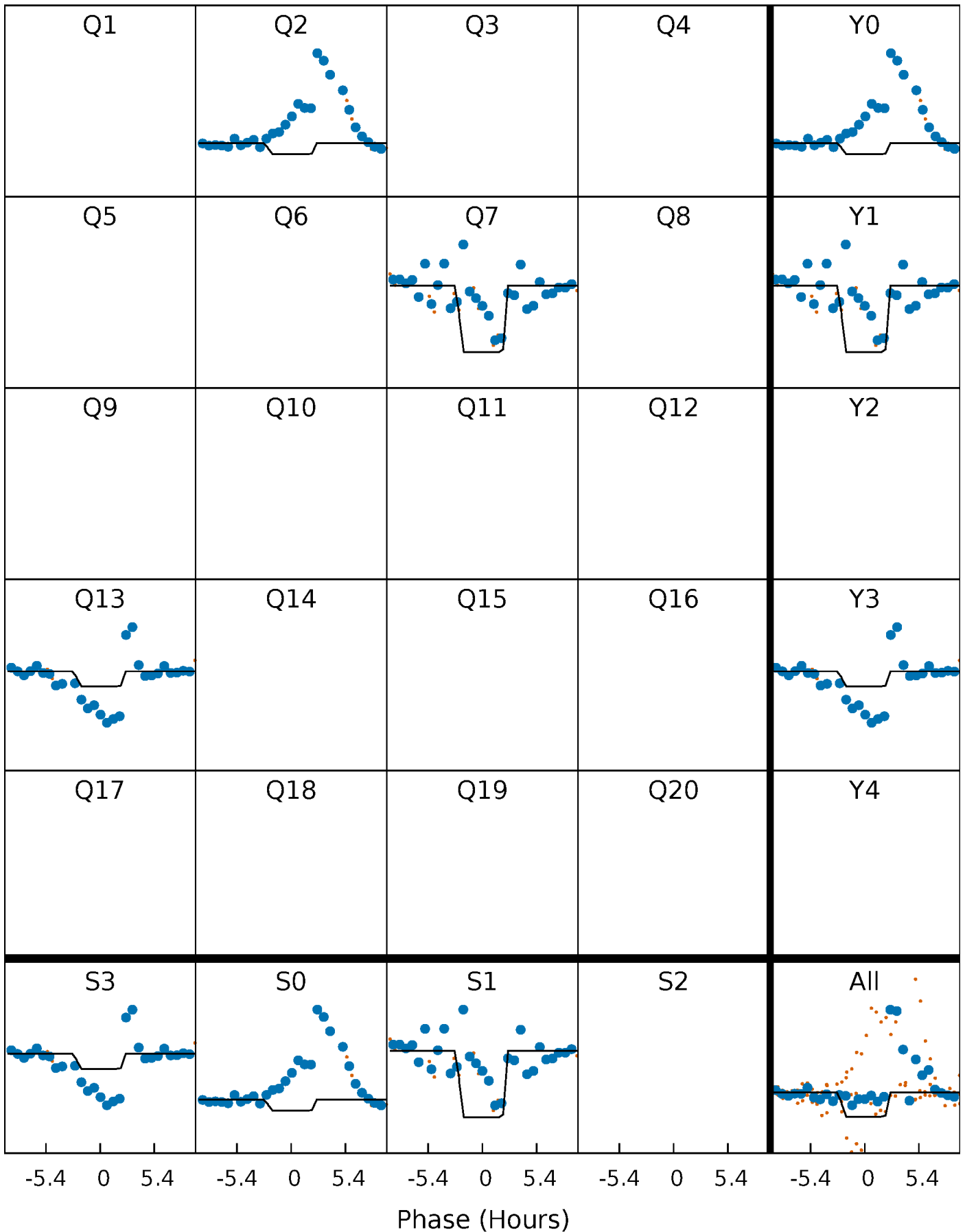
DV Quarter-Phased Transit Curves

TCE 010274993-04 $P=513.386925$ Days $T_0=199.367551$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

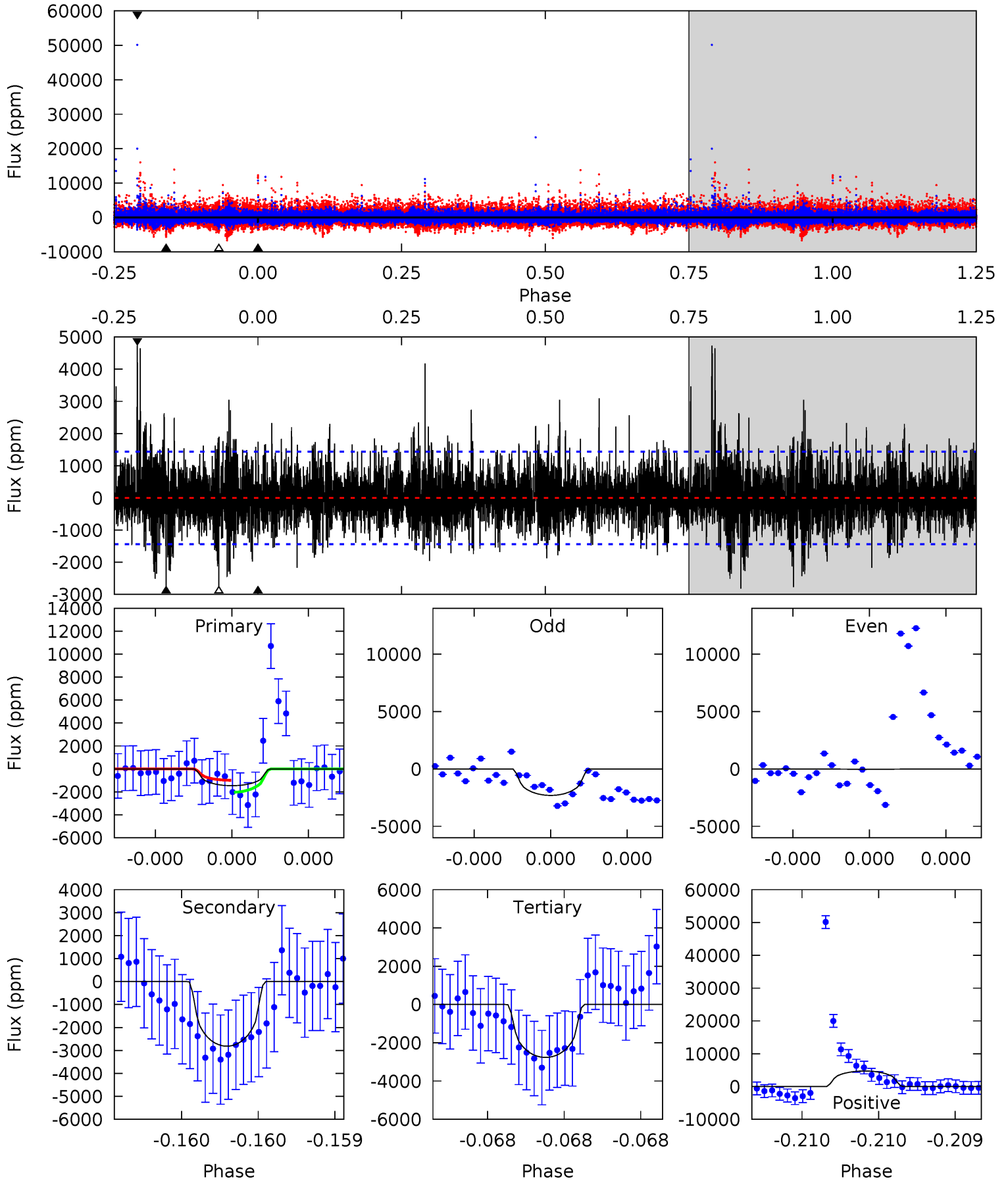
TCE 010274993-04 $P=513.413628$ Days $T_0=199.305877$ (BKJD)



DV Model-Shift Uniqueness Test

010274993-04, P = 513.386925 Days, E = 199.367551 Days

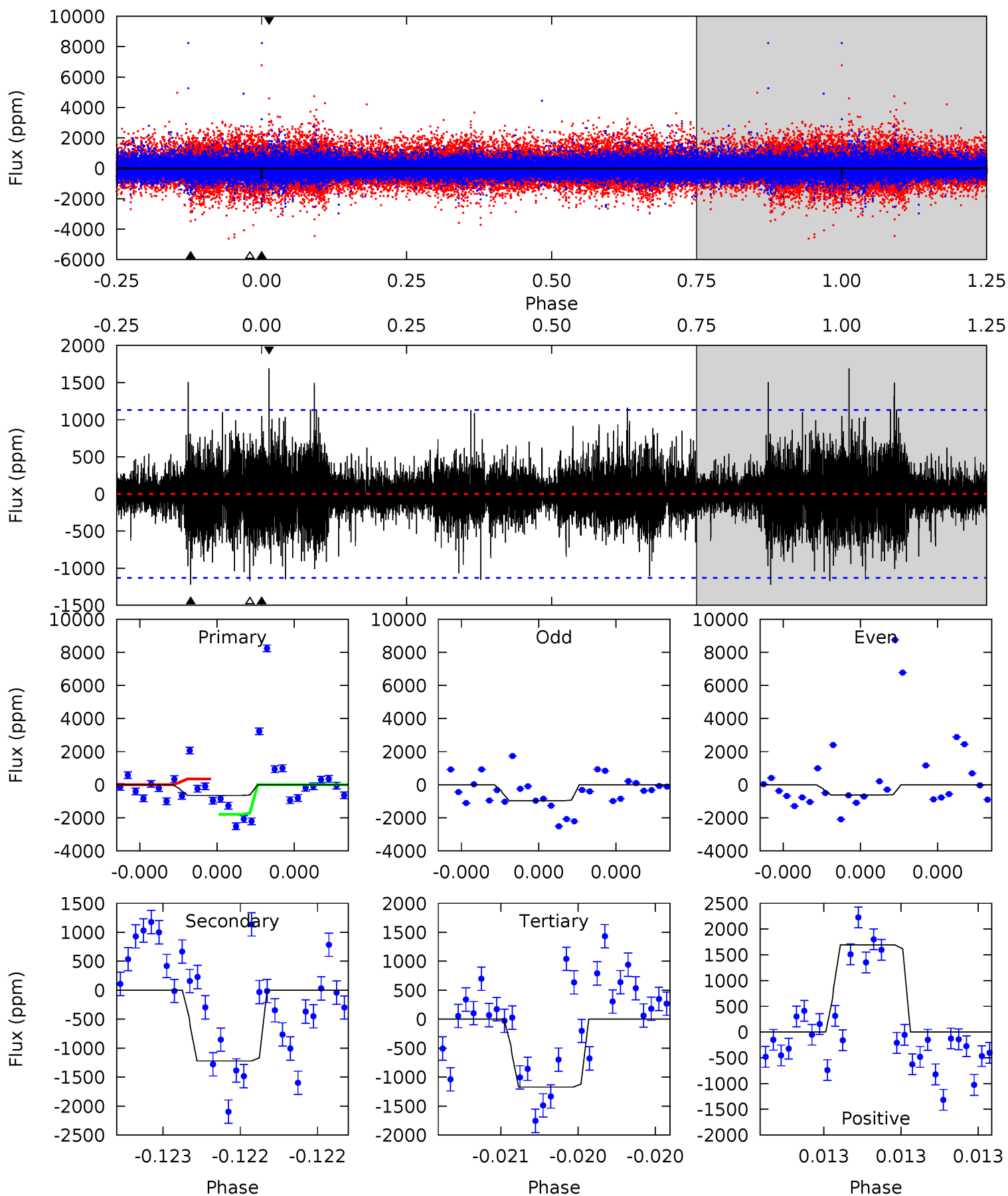
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.70	11.0	10.8	18.4	5.61	3.53	2.64	-5.07	-12.7	0.19	-7.47	1.73	0.11	0.63	2.04



Alt Model-Shift Uniqueness Test

010274993-04, P = 513.413628 Days, E = 199.305877 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.22	6.06	5.82	8.39	5.61	3.54	1.15	-2.59	-5.17	0.25	-2.33	1.16	0.80	0.58	0



Stellar Parameters For KIC 010274993

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4324^{+155}_{-172}	$4.575^{+0.060}_{-0.016}$	$0.480^{+0.050}_{-0.300}$	$0.722^{+0.024}_{-0.066}$	$0.715^{+0.040}_{-0.049}$	$2.670^{+0.730}_{-0.167}$
	+4%/-4%	+1%/-0%	+10%/-62%	+3%/-9%	+6%/-7%	+27%/-6%
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 010274993-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2815 ± 257	$5.37^{+4.55}_{-3.56}$	212^{+8}_{-9}	3915^{+2345}_{-696}	$69341^{+533608}_{-49011}$
Alt.	-1221 ± 202	$5.60^{+4.36}_{-3.63}$	211^{+9}_{-9}	3352^{+1535}_{-511}	$26106^{+195909}_{-17630}$

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

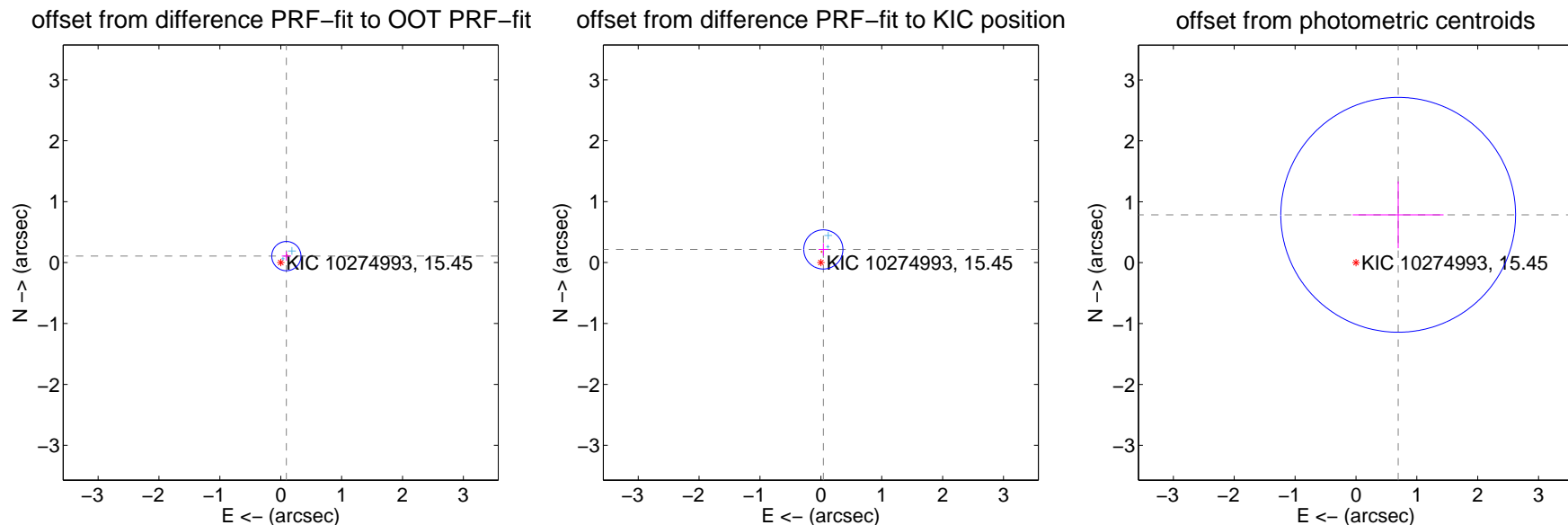
DV Centroid Data

Supplemental centroid analysis for 010274993-04. Kepler magnitude: 15.45. Transit SNR 6.33

There are 2 quarters with good PRF difference image offsets

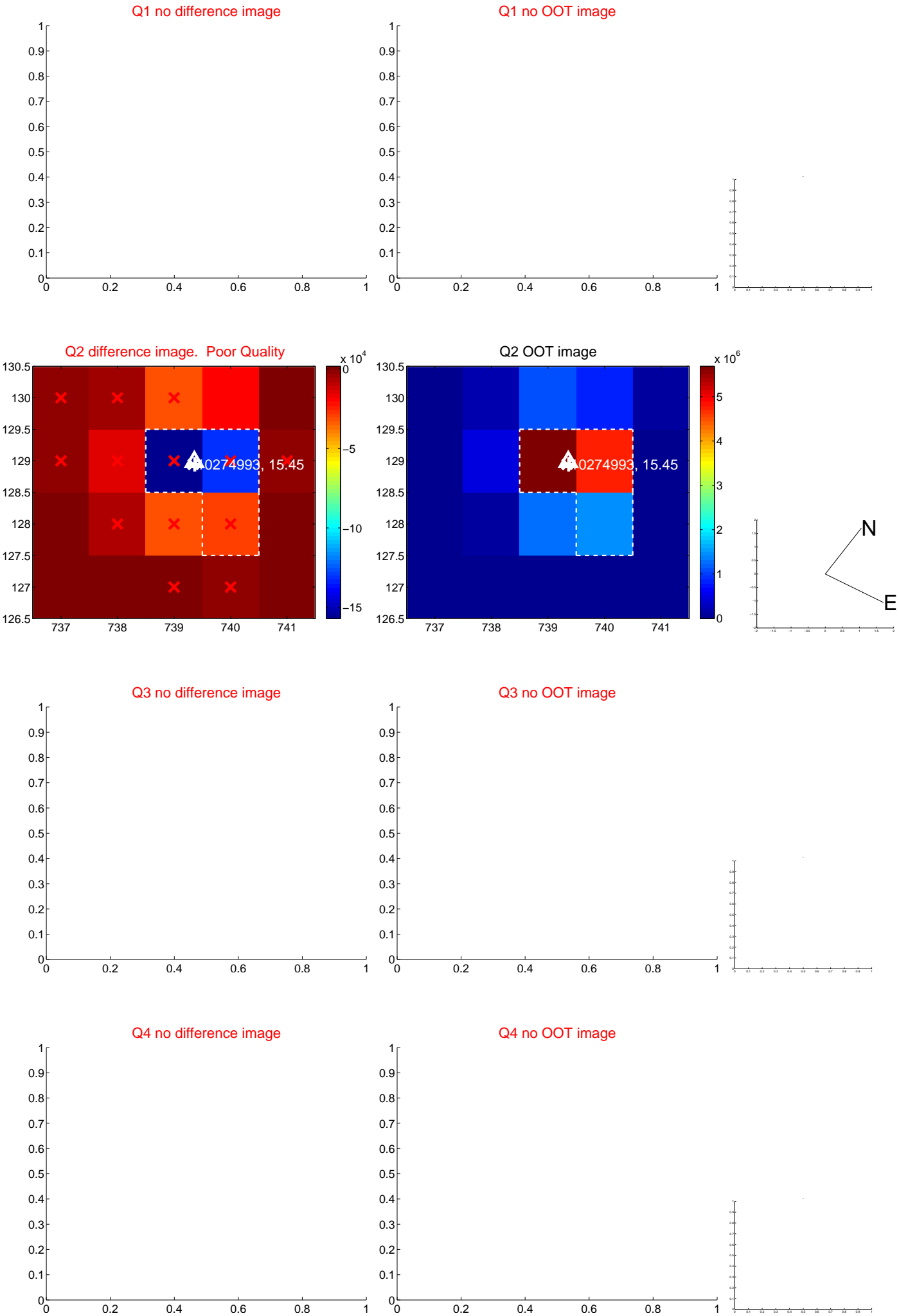
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.141 ± 0.080	1.76	-0.092 ± 0.075	0.107 ± 0.073
PRF-fit source offset from KIC position	0.220 ± 0.107	2.05	-0.041 ± 0.079	0.216 ± 0.103
photometric centroid source offset	1.05 ± 0.64	1.63	-0.69 ± 0.75	0.79 ± 0.55

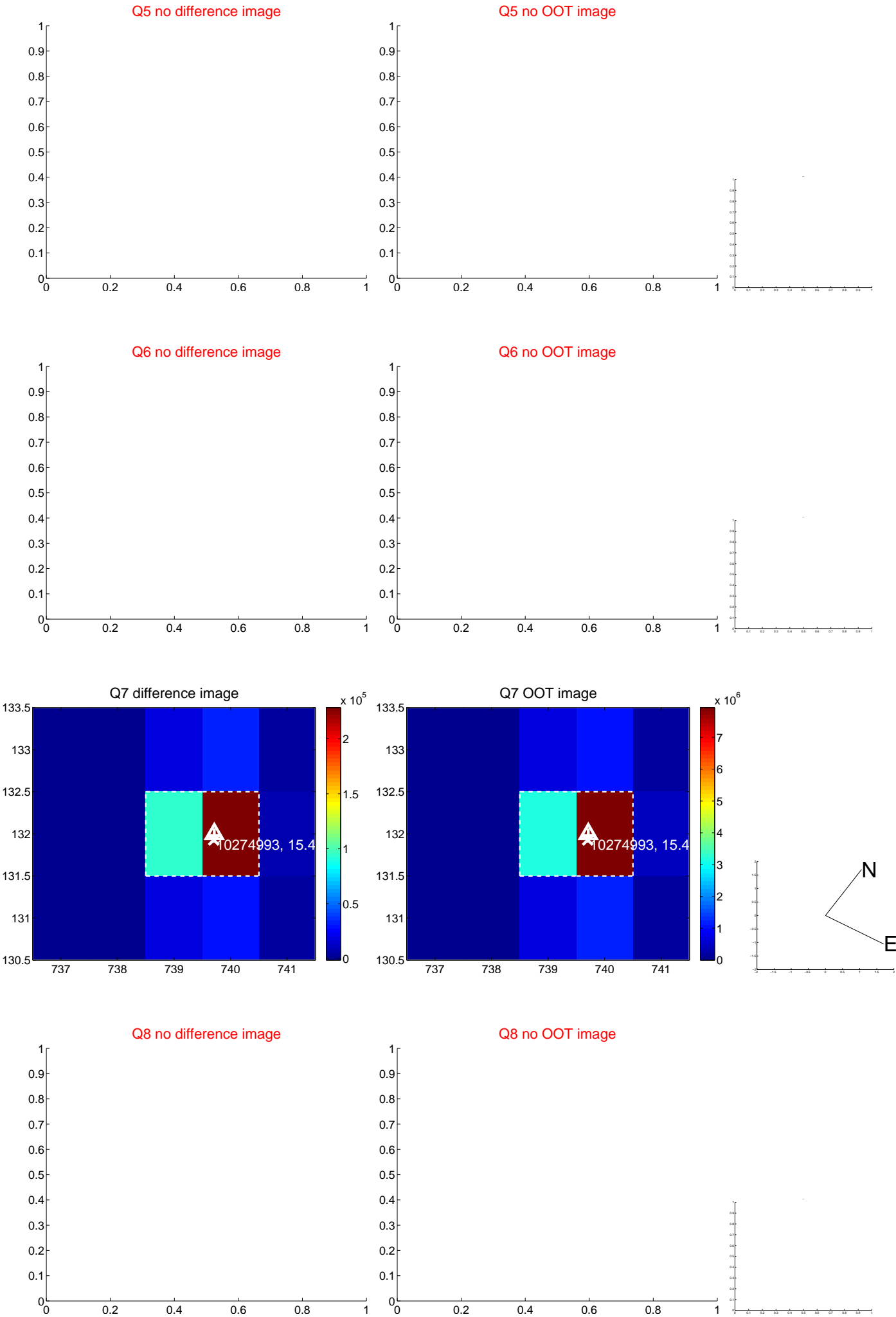


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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



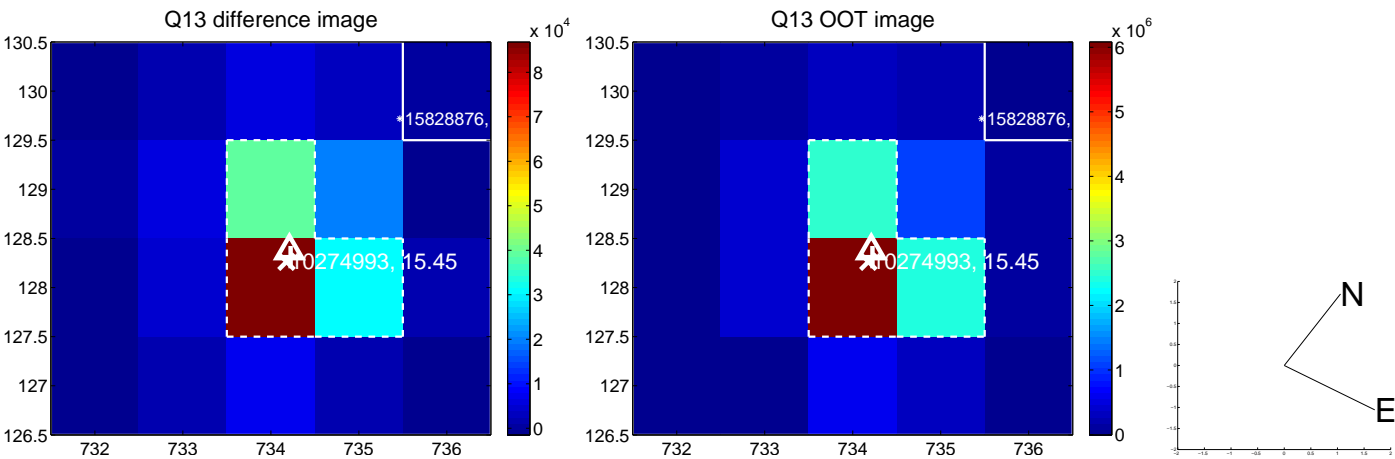
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



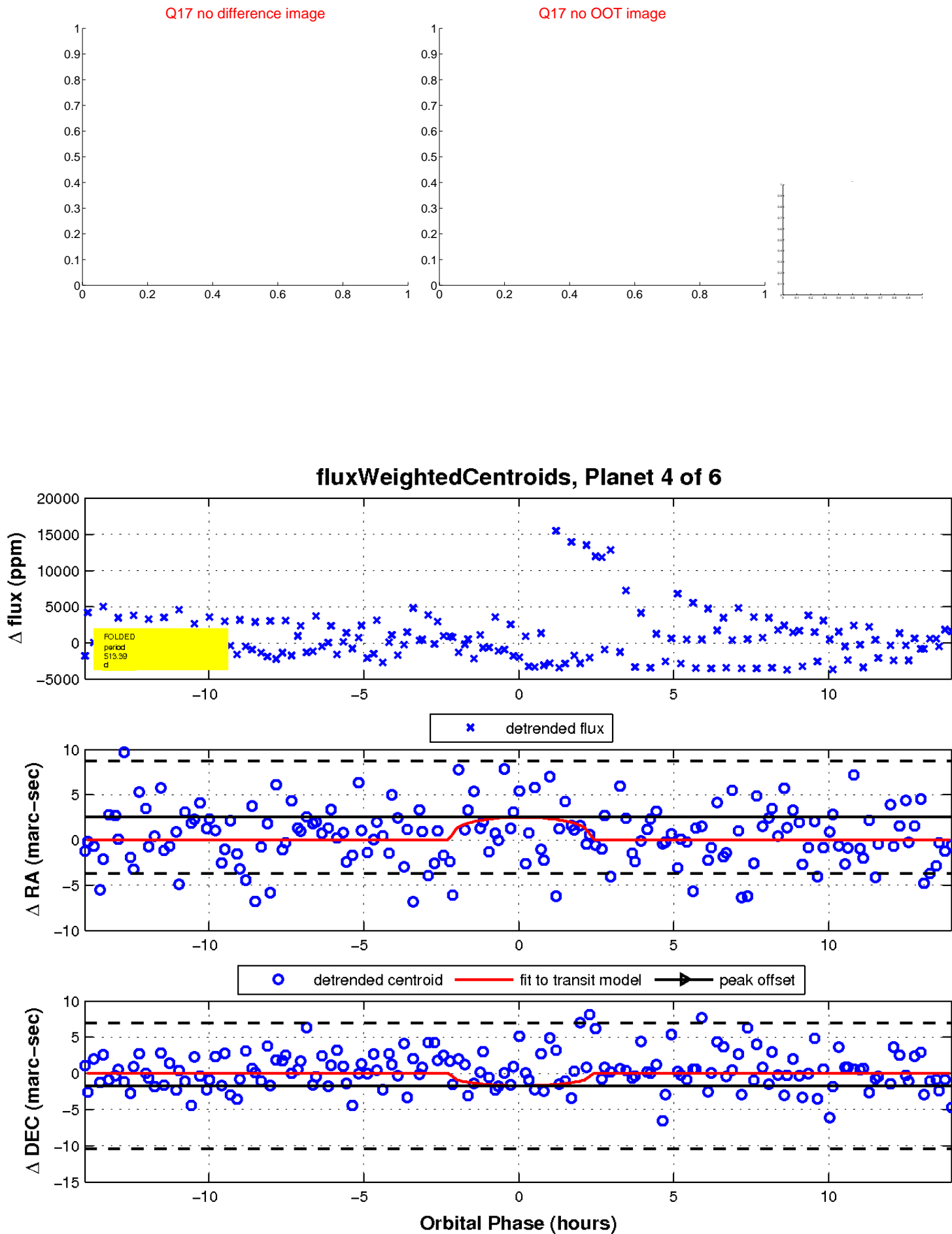
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



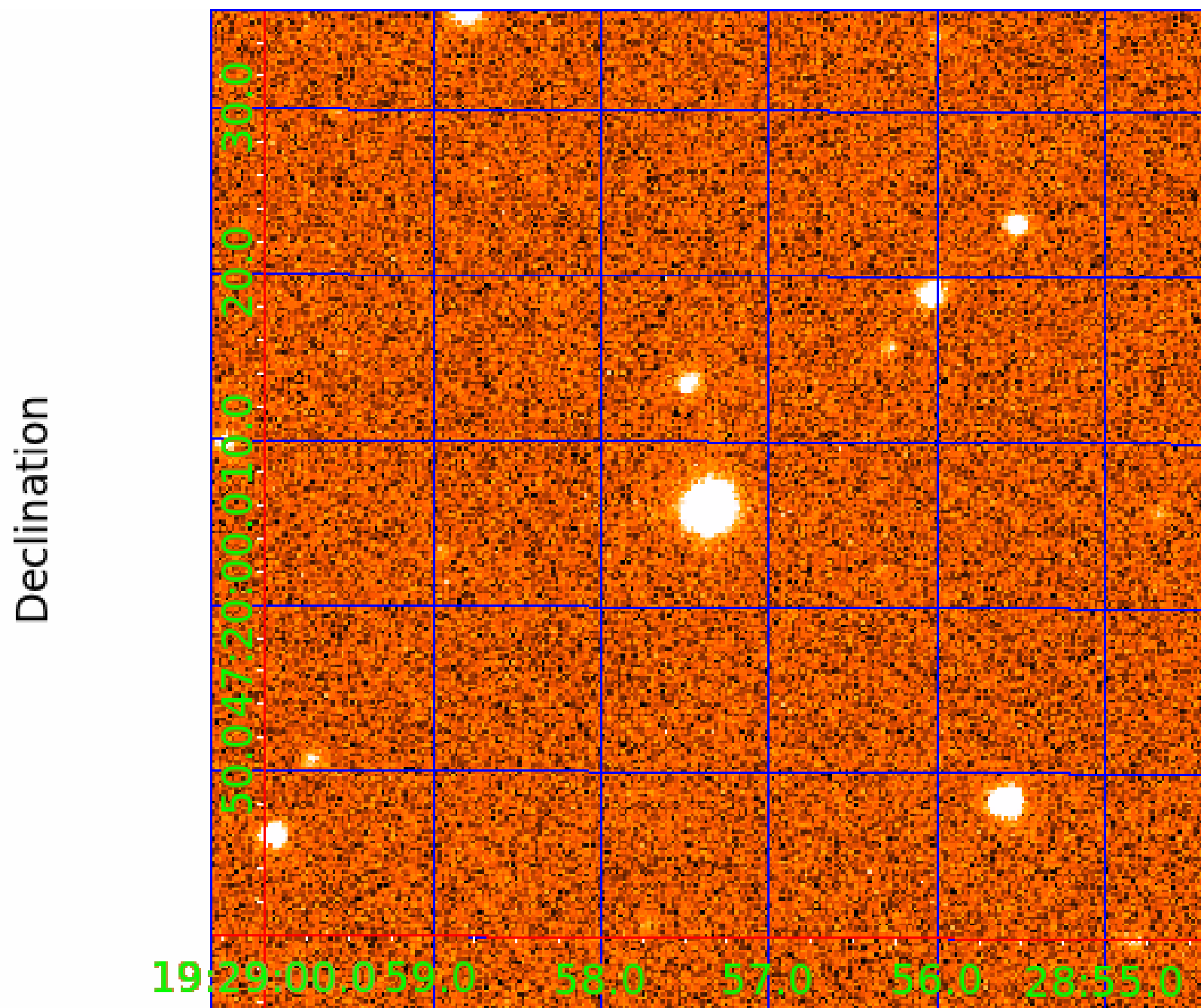
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 010274993

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})
010274993-01	OBS	No	495.577944	447.155546	3109.2	5.915	12.5	6.1	0.72	4324	4.83	0.14
010274993-02	OBS	No	435.784647	260.763840	1007.9	2.024	11.4	3.0	0.72	4324	4.47	0.16
010274993-03	OBS	No	366.780436	280.604286	2294.5	3.768	12.2	5.8	0.72	4324	3.68	0.20
010274993-04	OBS	No	513.386925	199.367551	3223.4	4.673	13.8	6.3	0.72	4324	3.88	0.13
010274993-05	OBS	No	350.344554	295.445098	2382.8	4.473	10.8	6.8	0.72	4324	3.89	0.22
010274993-06	OBS	No	324.953177	356.413331	2425.3	3.000	11.2	-1.0	0.72	4324	3.38	0.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010274993-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
010274993-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010274993-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010274993-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010274993-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010274993-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

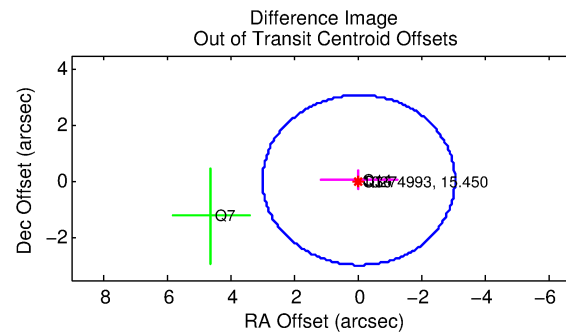
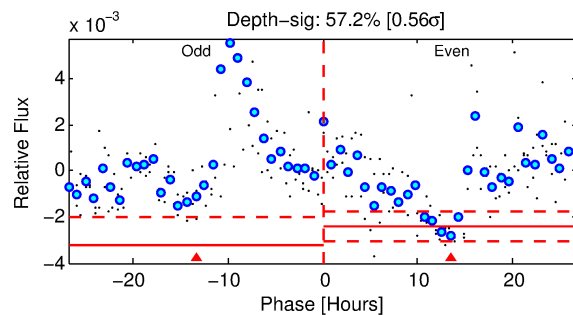
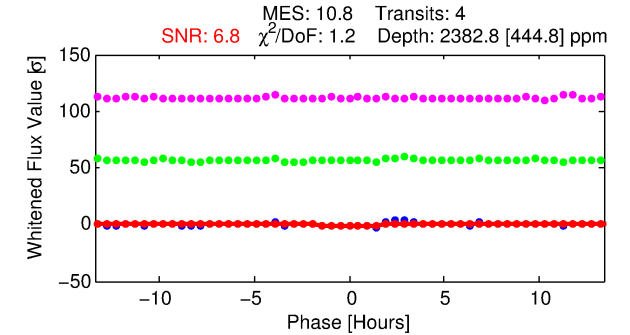
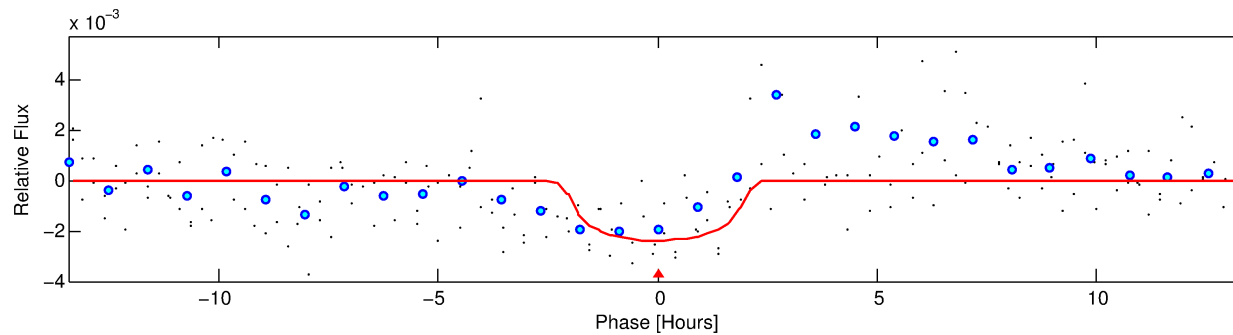
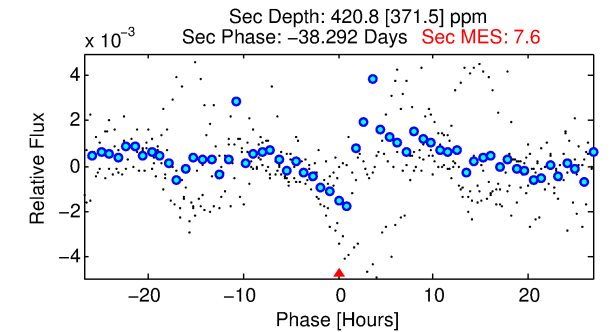
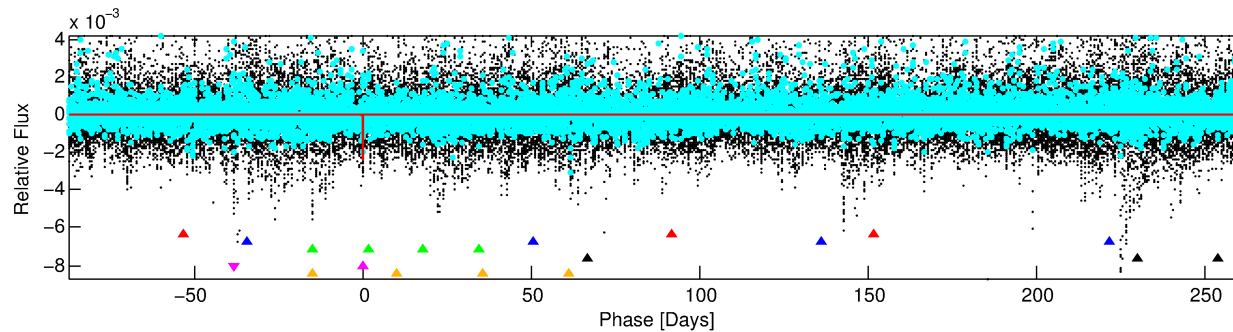
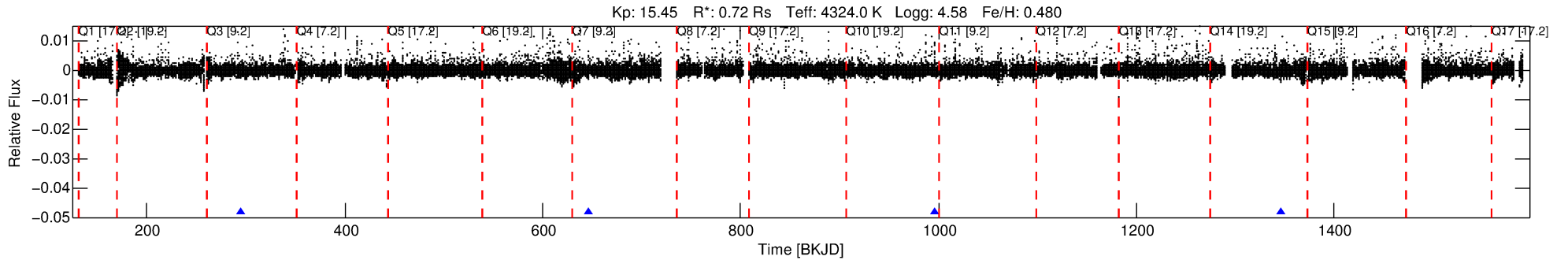
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010274993-05

No Significant Match Found

DV One-Page Summary

KIC: 10274993 Candidate: 5 of 6 Period: 350.345 d



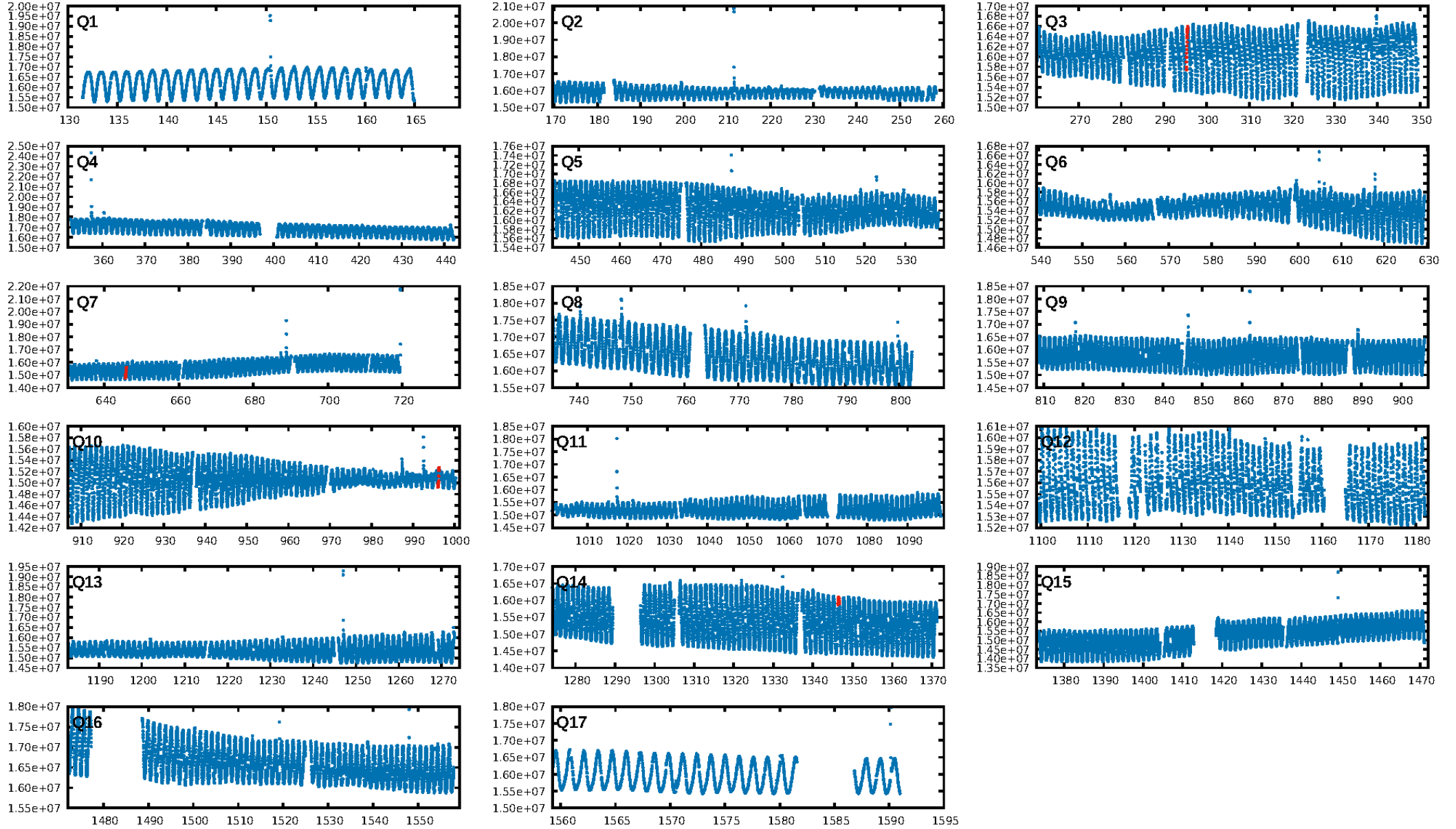
DV Fit Results:

Period = 350.34455 [0.00521] d
Epoch = 295.4451 [0.0101] BKJD
Rp/R* = 0.0494 [0.0323]
a/R* = 432.06 [808.26]
b = 0.76 [1.07]
Seff = 0.22 [0.04]
Teq = 174 [8] K
Rp = 3.89 [2.57] Re
a = 0.8697 [0.0664] AU
Ag = 11568.82 [18312.55] [0.63σ]
Teffp = 2787 [1106] K [2.36σ]

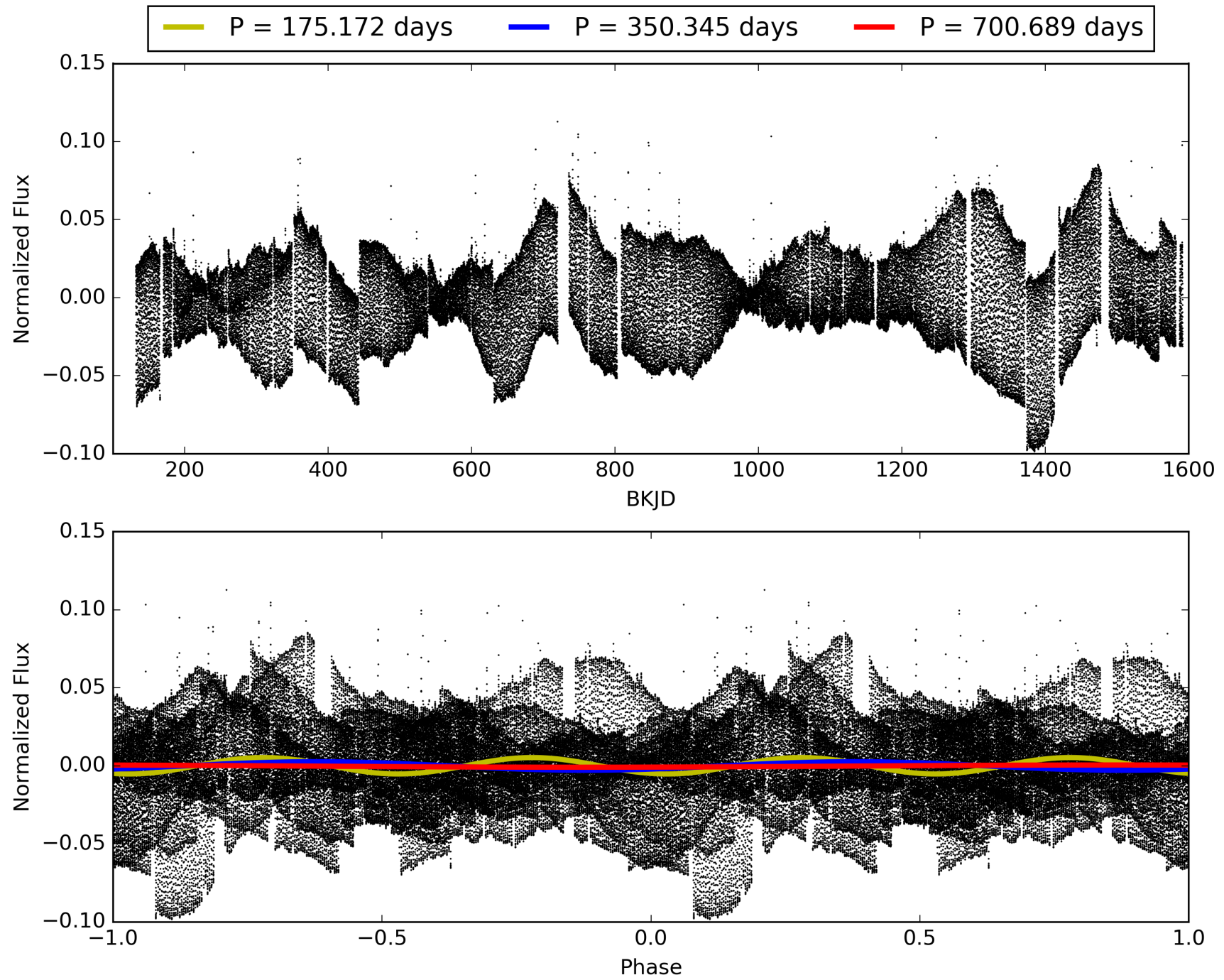
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [113.15σ]
LongPeriod-sig: 100.0% [67.45σ]
ModelChiSquare2-sig: 8.3%
ModelChiSquareGof-sig: 96.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.014
Centroid-sig: 86.1%
Centroid-so: 0.076 arcsec [0.12σ]
OotOffset-rm: 0.072 arcsec [0.07σ]
OotOffset-st: 2/2/0/0 [4]
KicOffset-rm: 0.280 arcsec [0.40σ]
KicOffset-st: 2/2/0/0 [4]
DiffImageQuality-fgm: 0.25 [1/4]
DiffImageOverlap-fno: 1.00 [4/4]

TCE 010274993-05, PDC Light Curves

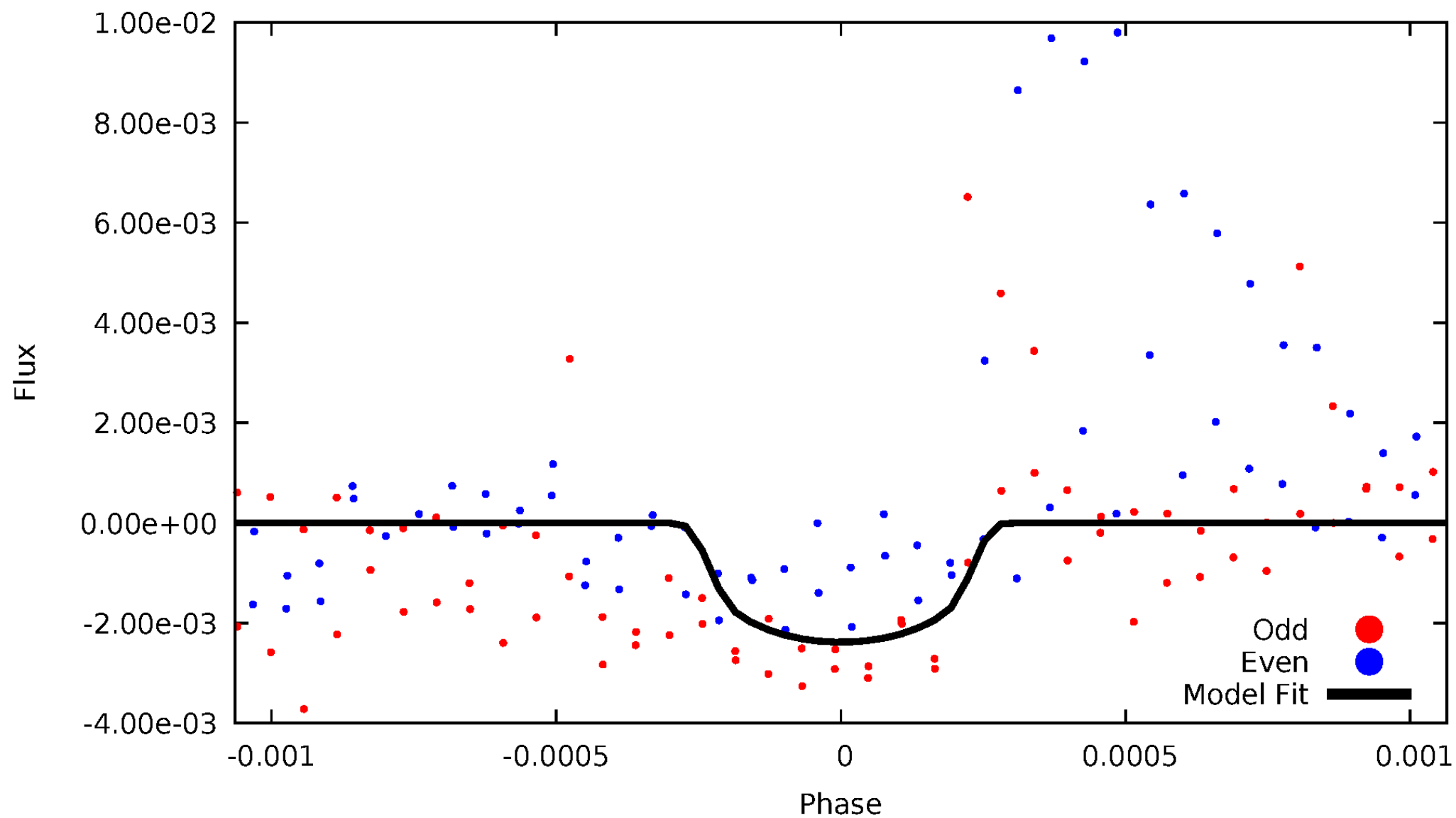


TCE 010274993-05



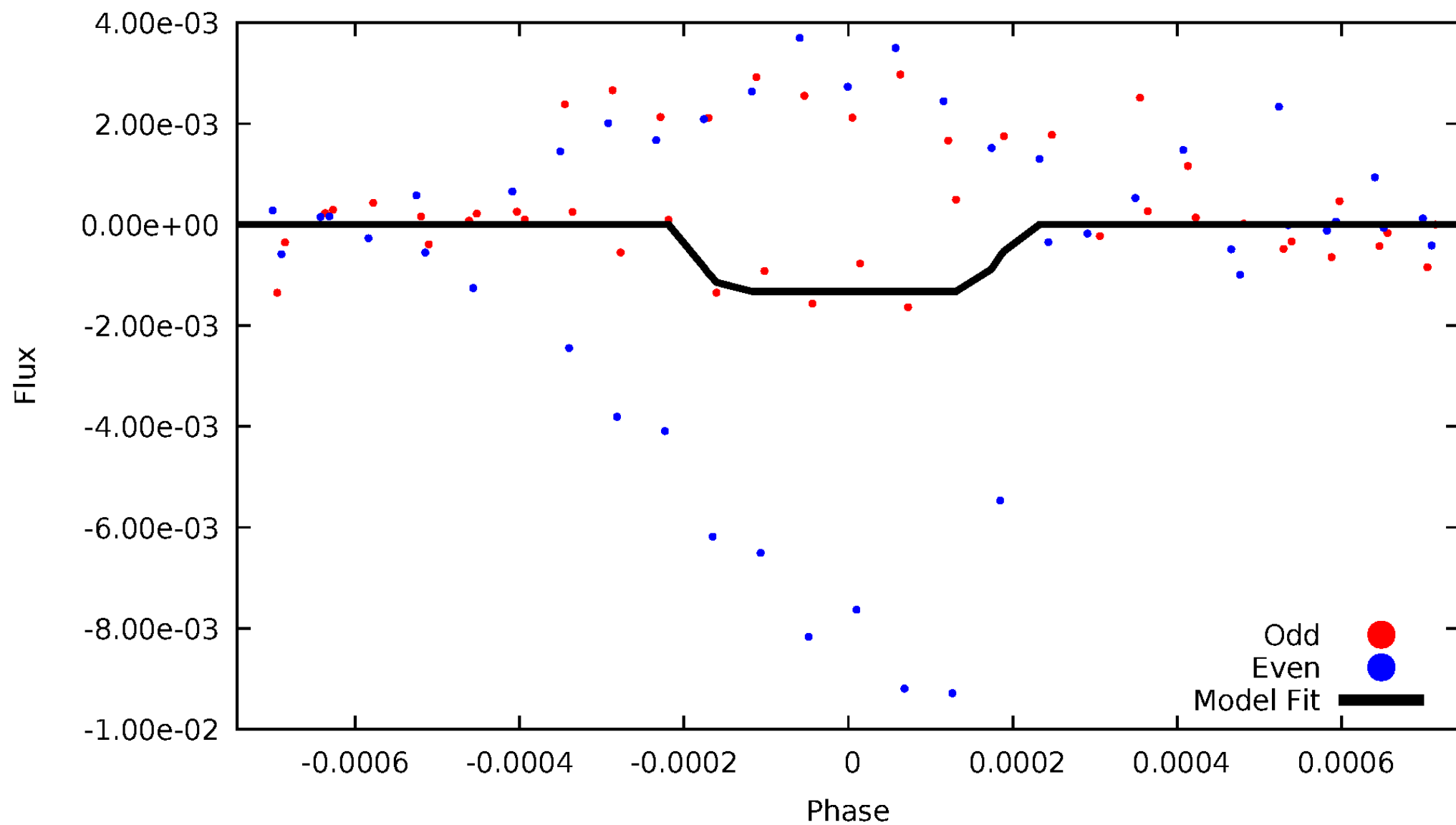
DV Odd/Even

TCE 010274993-05



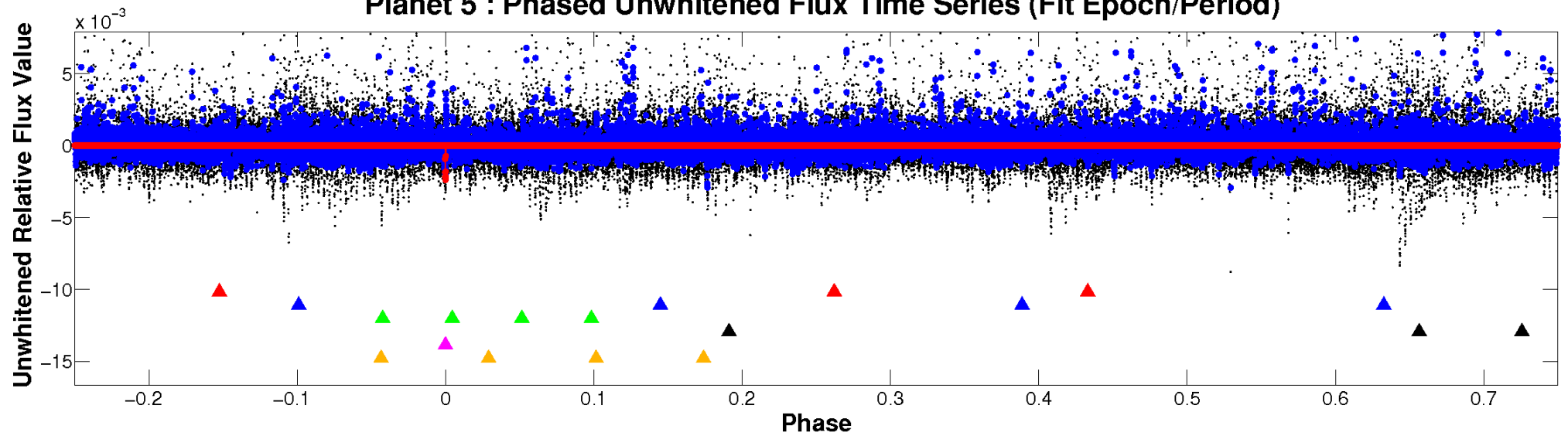
ALT Odd/Even

TCE 010274993-05

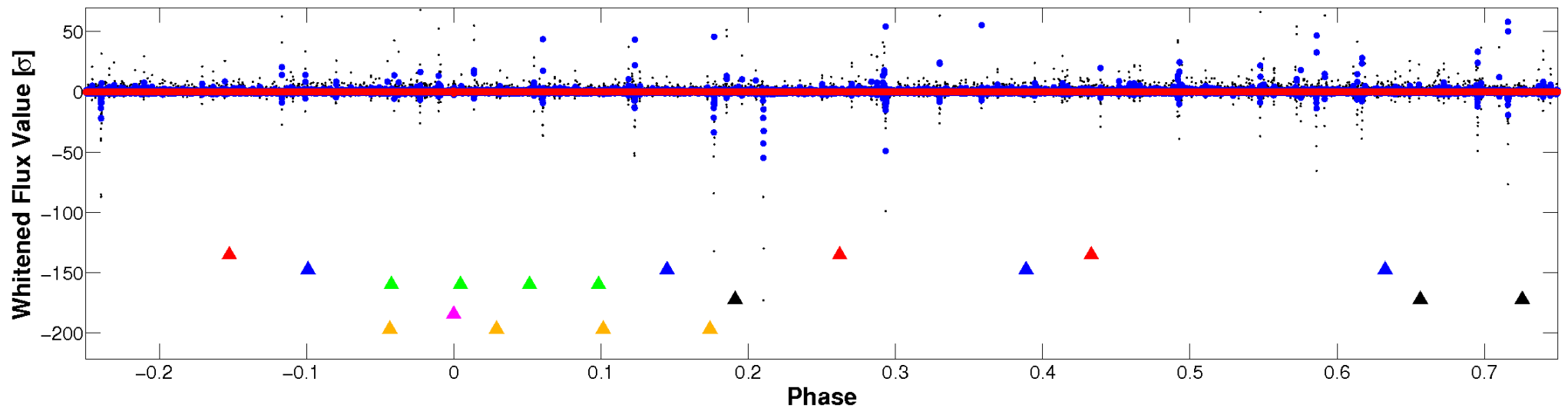


Non-Whitened Vs. Whitened Light Curve

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

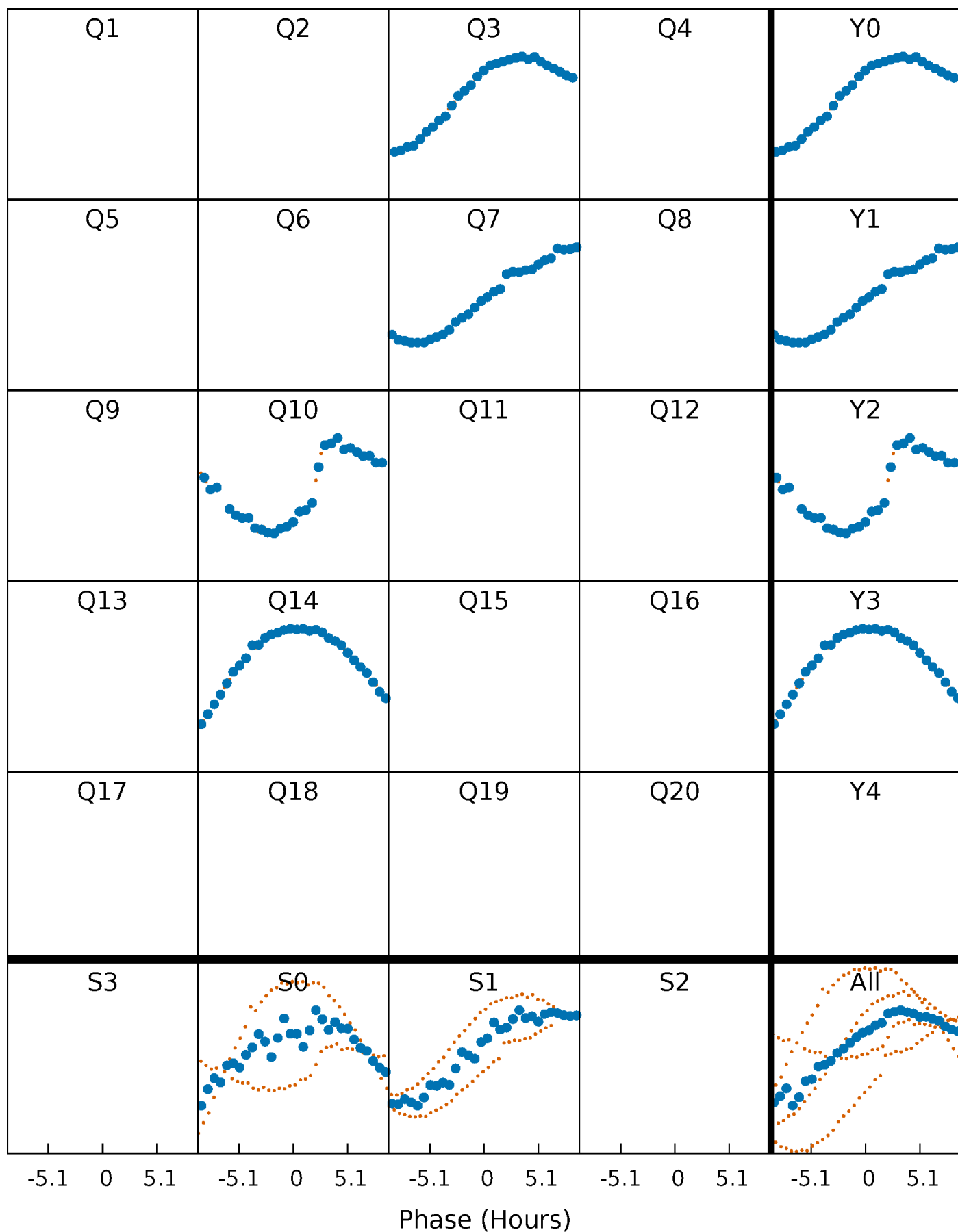


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



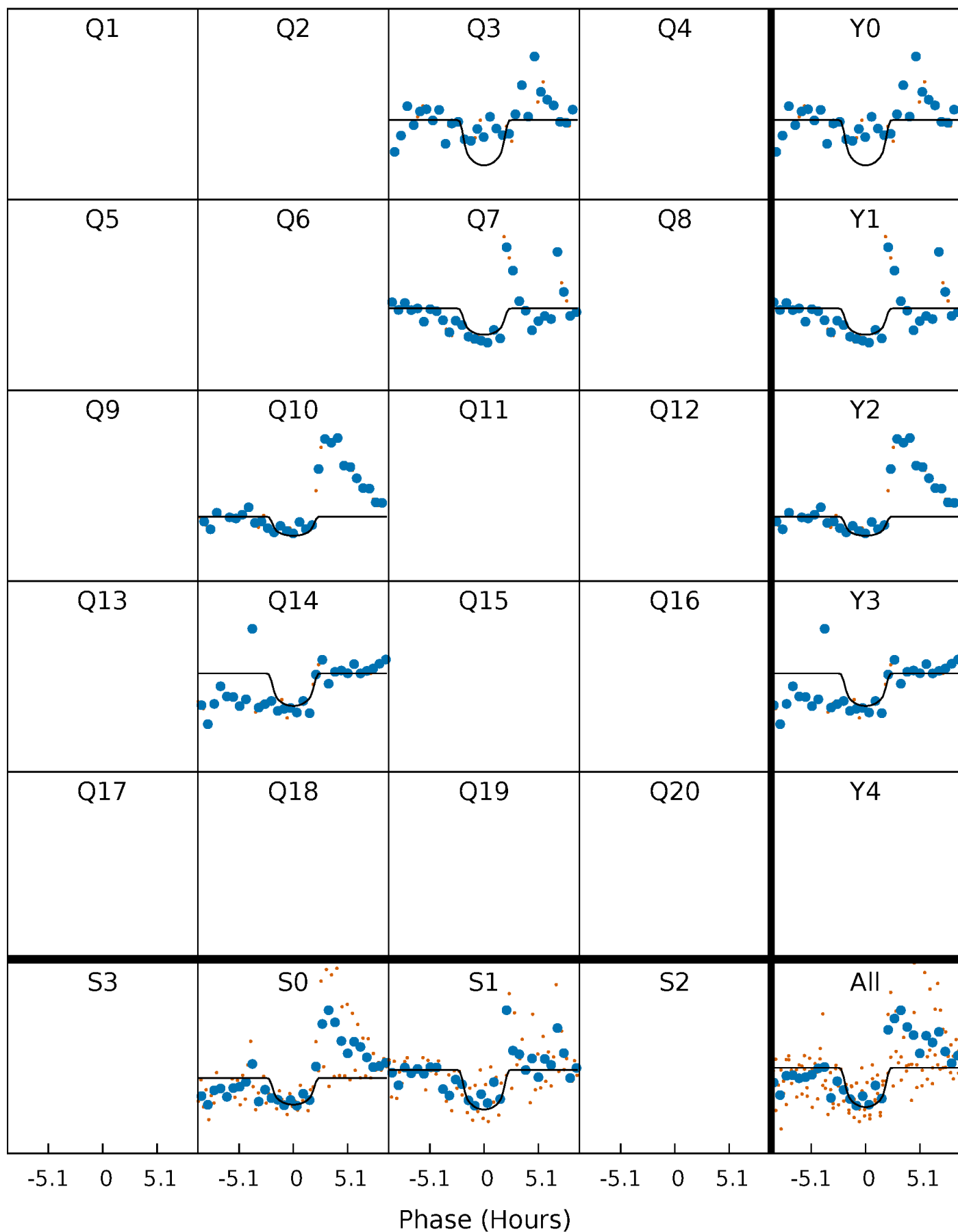
PDC Quarter-Phased Transit Curves

TCE 010274993-05 $P=350.344554$ Days $T_0=295.445098$ (BKJD)



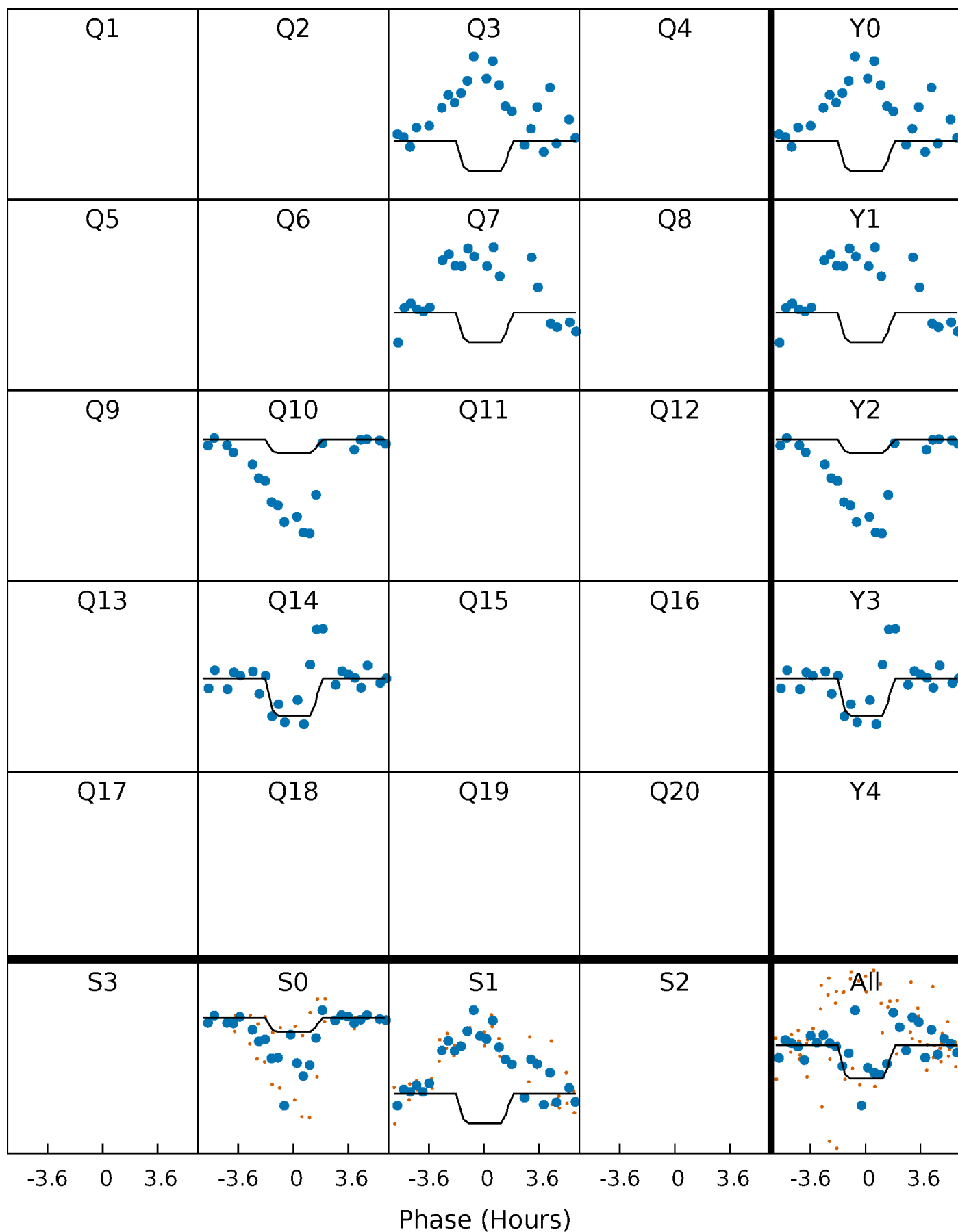
DV Quarter-Phased Transit Curves

TCE 010274993-05 $P=350.344554$ Days $T_0=295.445098$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

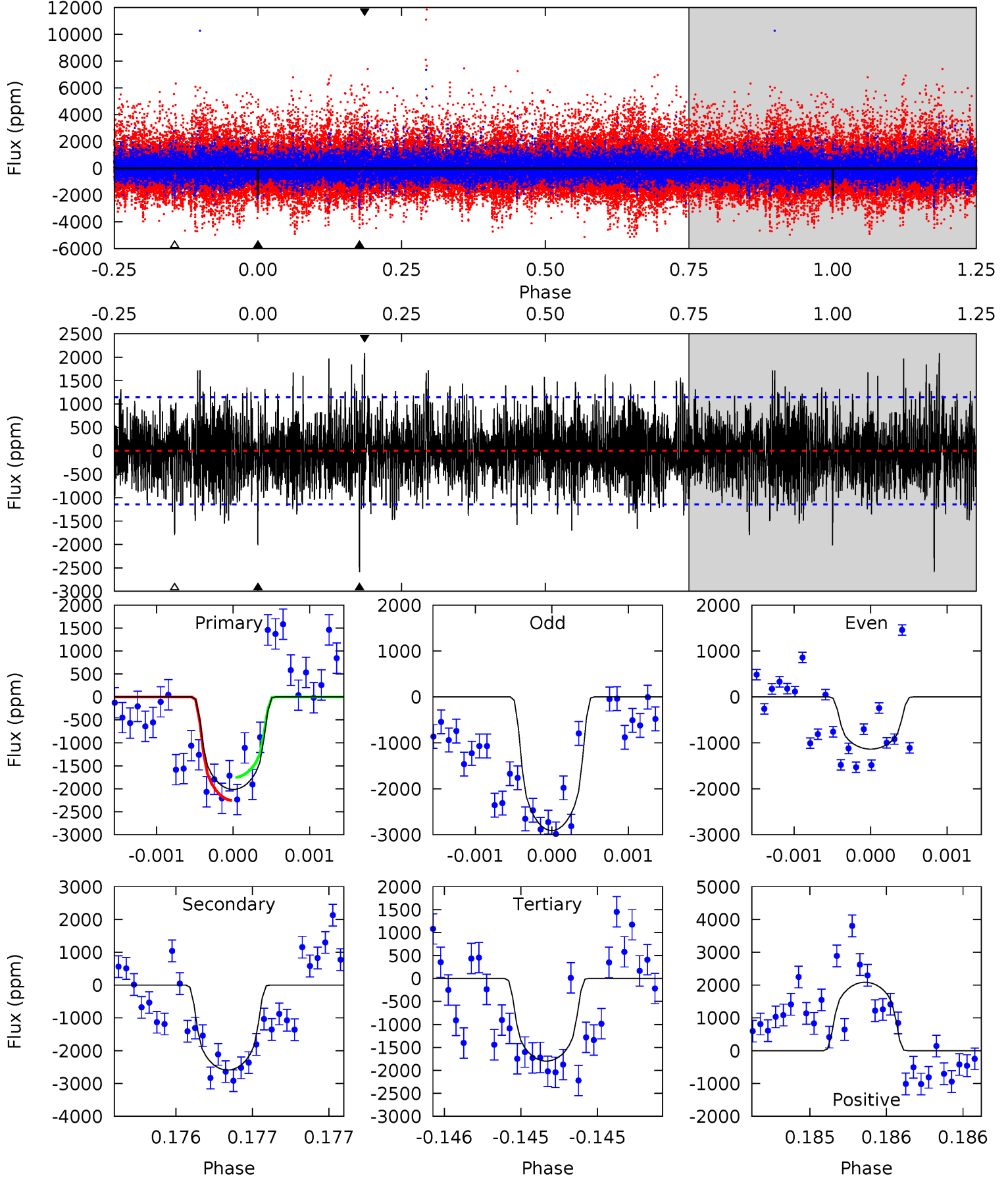
TCE 010274993-05 $P=350.353243$ Days $T_0=295.451385$ (BKJD)



DV Model-Shift Uniqueness Test

010274993-05, P = 350.344554 Days, E = 295.445098 Days

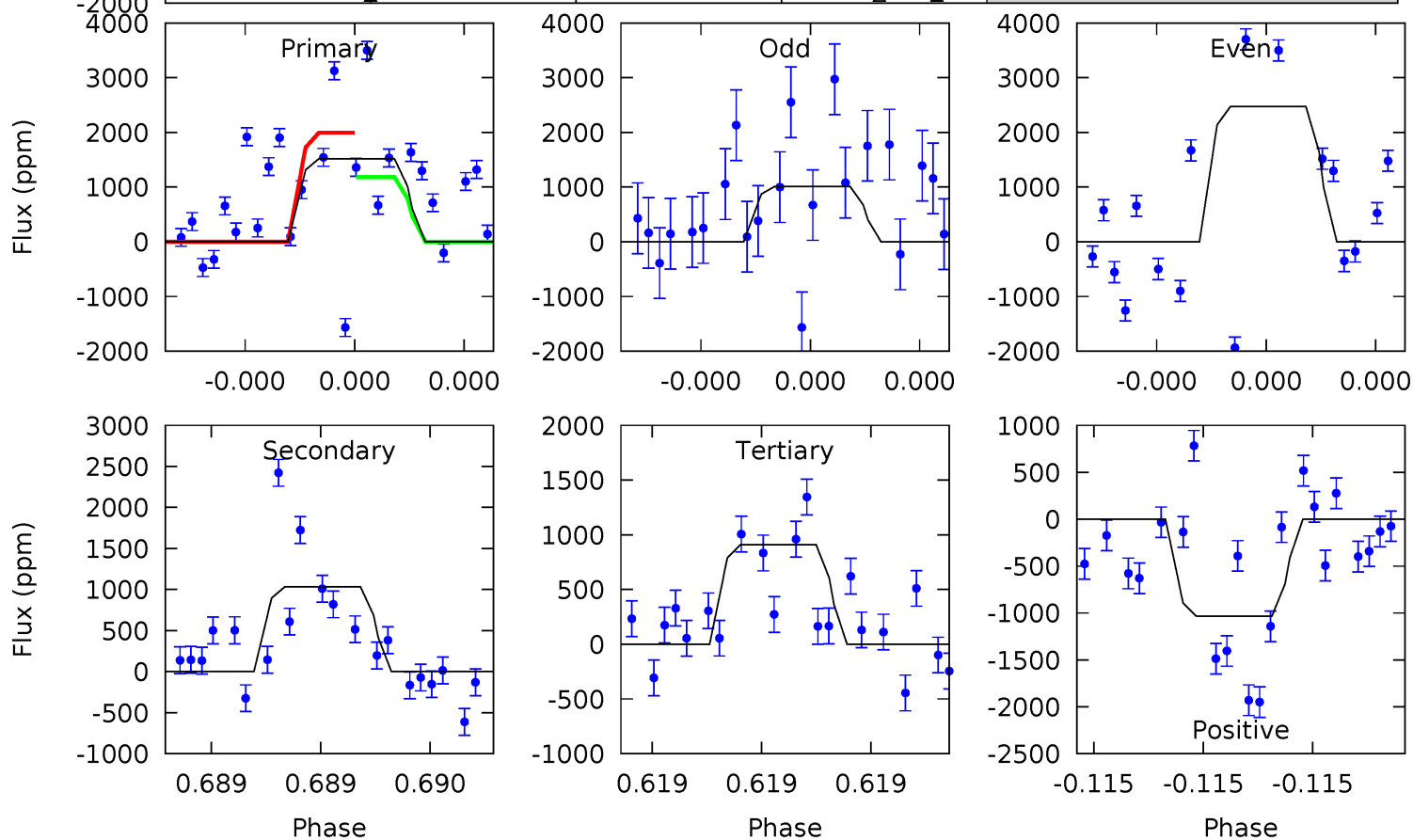
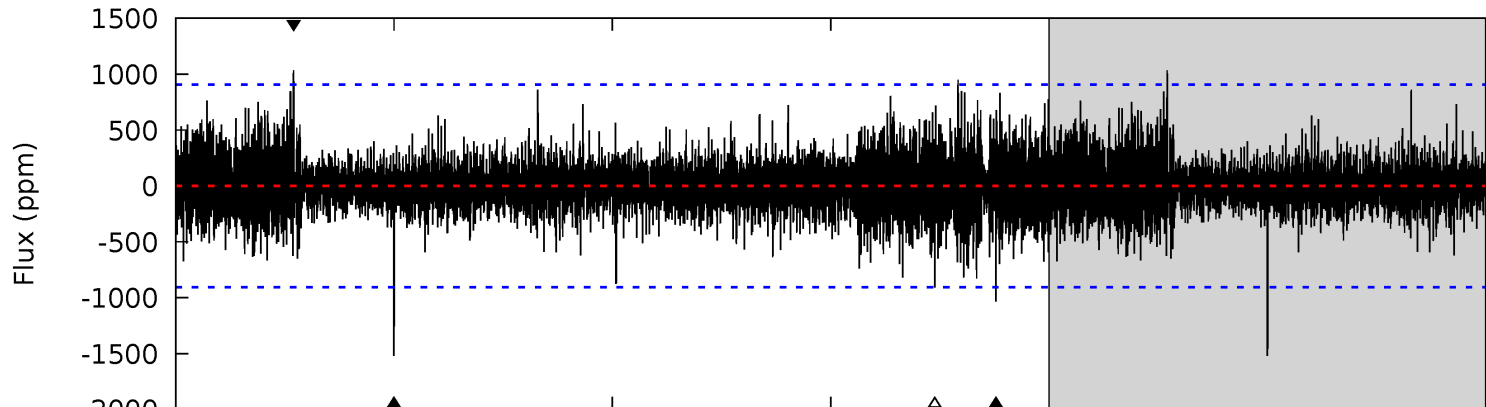
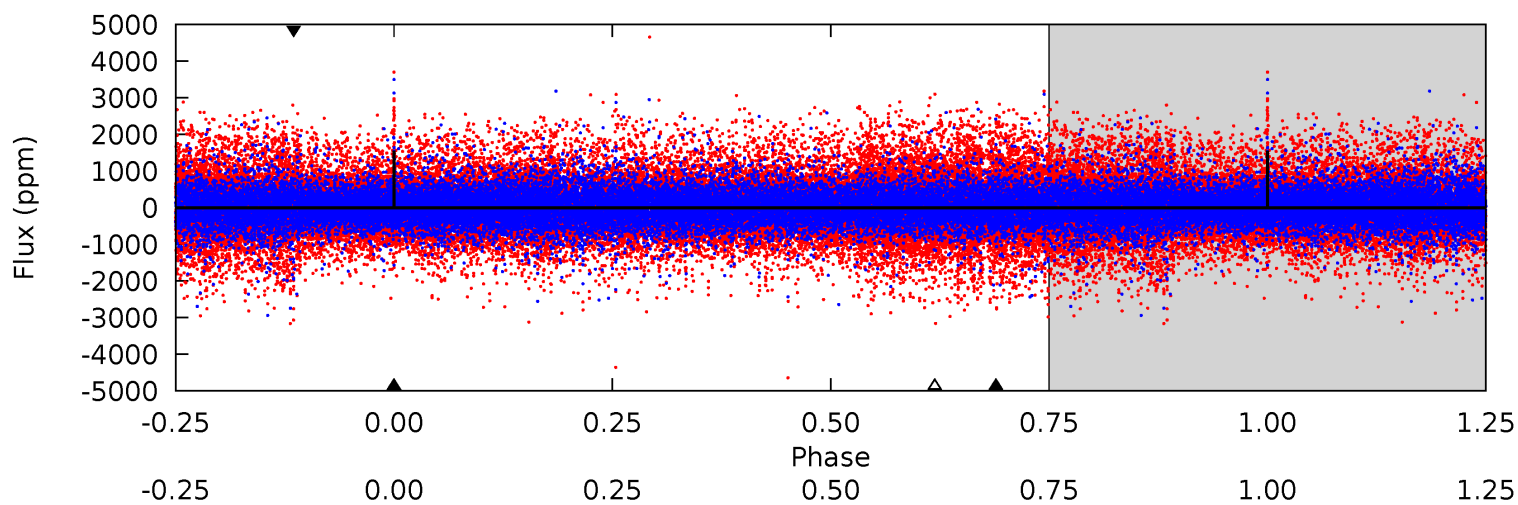
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.77	12.6	8.73	10.1	5.55	3.45	2.51	1.04	-0.34	3.84	2.45	3.76	0.95	0.45	1.22



Alt Model-Shift Uniqueness Test

010274993-05, P = 350.353243 Days, E = 295.451385 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.43	6.42	5.65	6.42	5.63	3.57	1.25	3.78	3.01	0.77	0.00	4.94	-1.09	0.40	2.37



Stellar Parameters For KIC 010274993

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4324^{+155}_{-172}	$4.575^{+0.060}_{-0.016}$	$0.480^{+0.050}_{-0.300}$	$0.722^{+0.024}_{-0.066}$	$0.715^{+0.040}_{-0.049}$	$2.670^{+0.730}_{-0.167}$
	+4%/-4%	+1%/-0%	+10%/-62%	+3%/-9%	+6%/-7%	+27%/-6%
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 010274993-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2590 ± 206	$3.93^{+2.55}_{-2.09}$	241^{+10}_{-10}	4316^{+1686}_{-683}	$68791^{+249830}_{-42667}$
Alt.	-1034 ± 161	$3.15^{+2.33}_{-1.89}$	240^{+9}_{-10}	3953^{+1827}_{-680}	$42780^{+230003}_{-29192}$

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 $A_{obs} \gg 1.0$

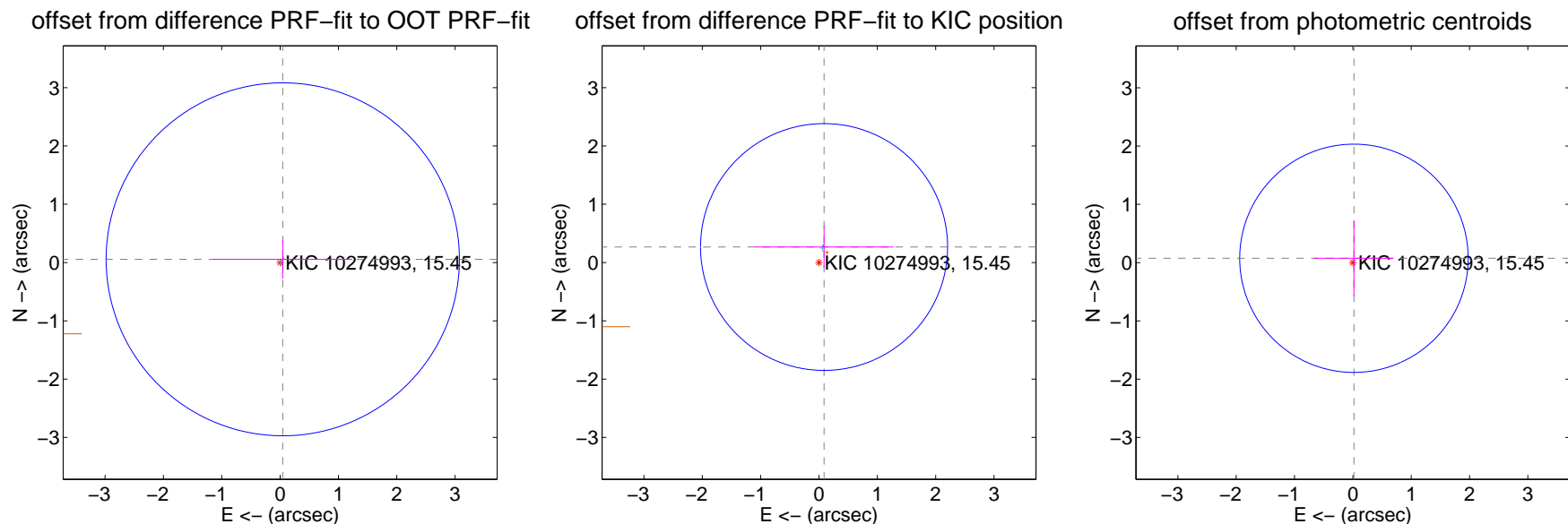
DV Centroid Data

Supplemental centroid analysis for 010274993-05. Kepler magnitude: 15.45. Transit SNR 6.79

There are 1 quarters with good PRF difference image offsets

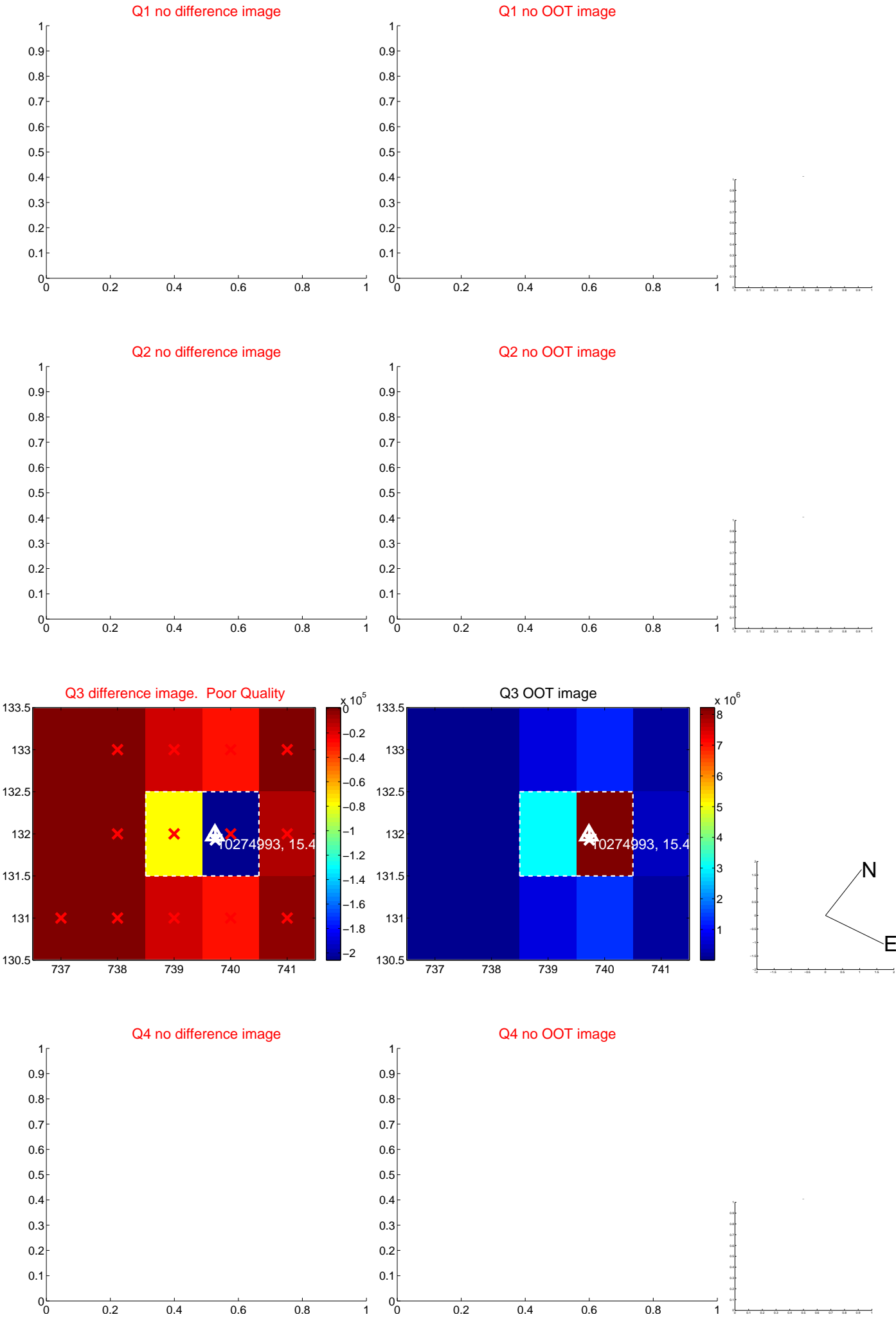
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.072 ± 1.009	0.07	-0.045 ± 1.191	0.055 ± 0.332
PRF-fit source offset from KIC position	0.280 ± 0.706	0.40	-0.087 ± 1.190	0.267 ± 0.358
photometric centroid source offset	0.08 ± 0.65	0.12	-0.02 ± 0.68	0.07 ± 0.65

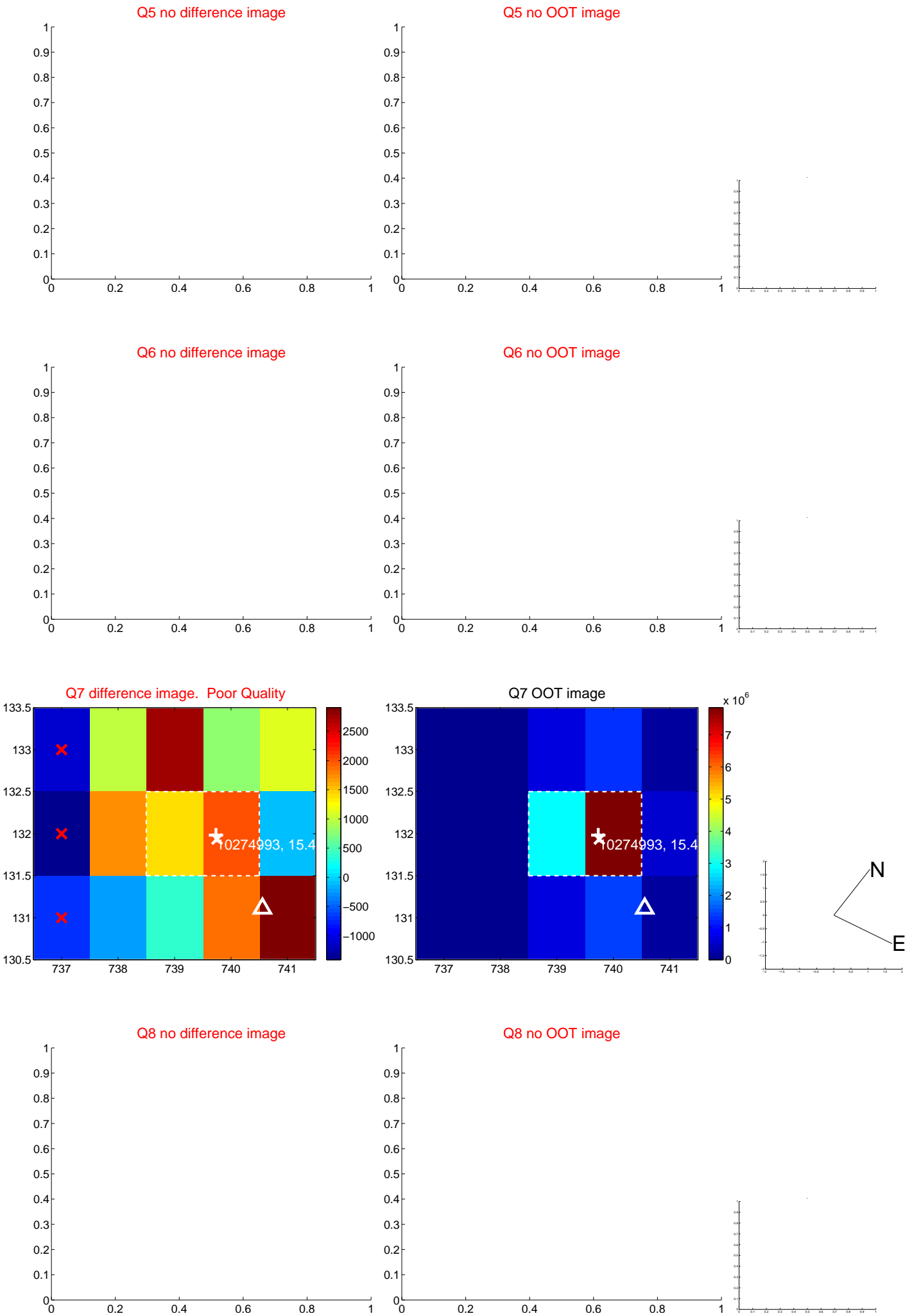


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

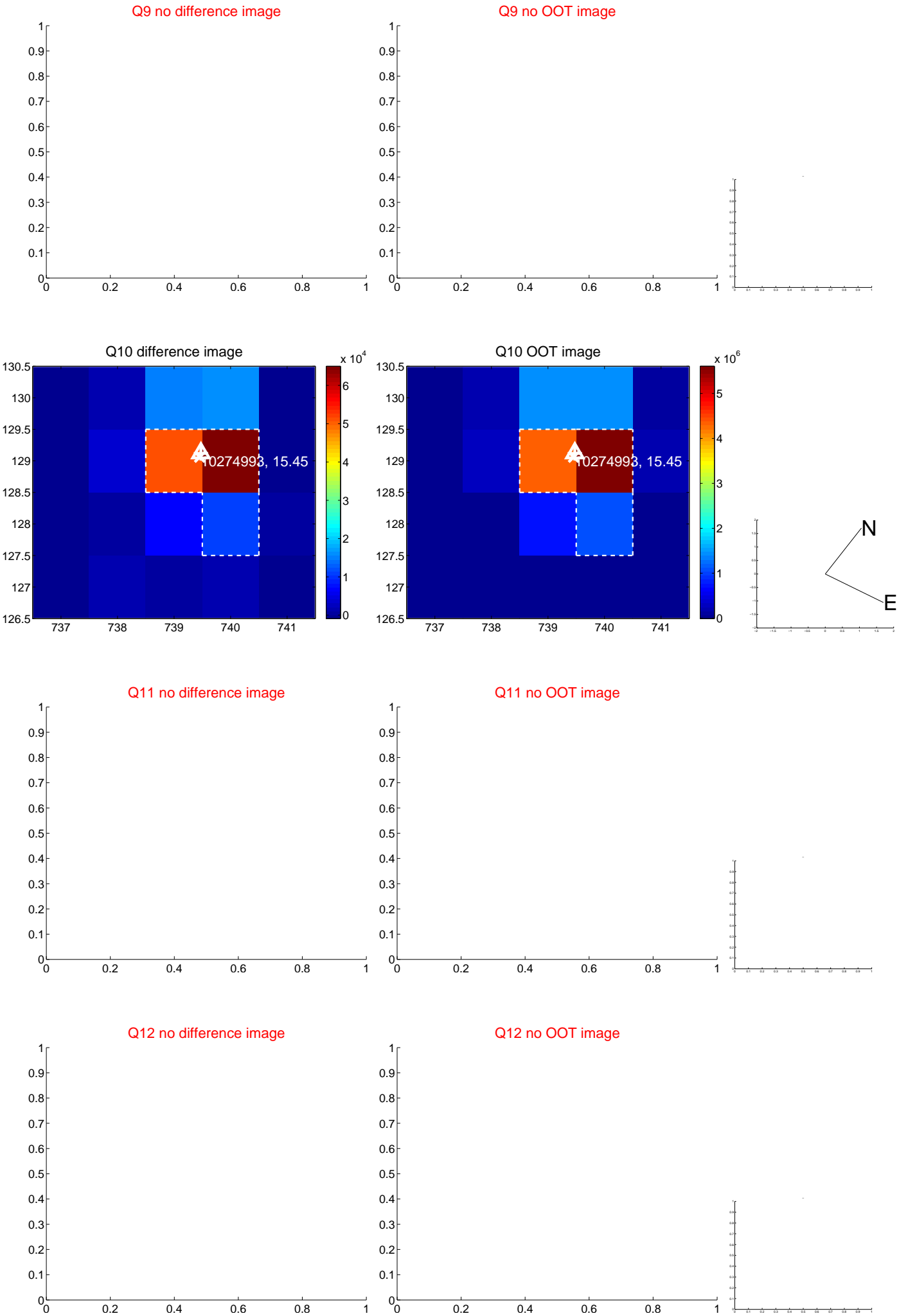
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



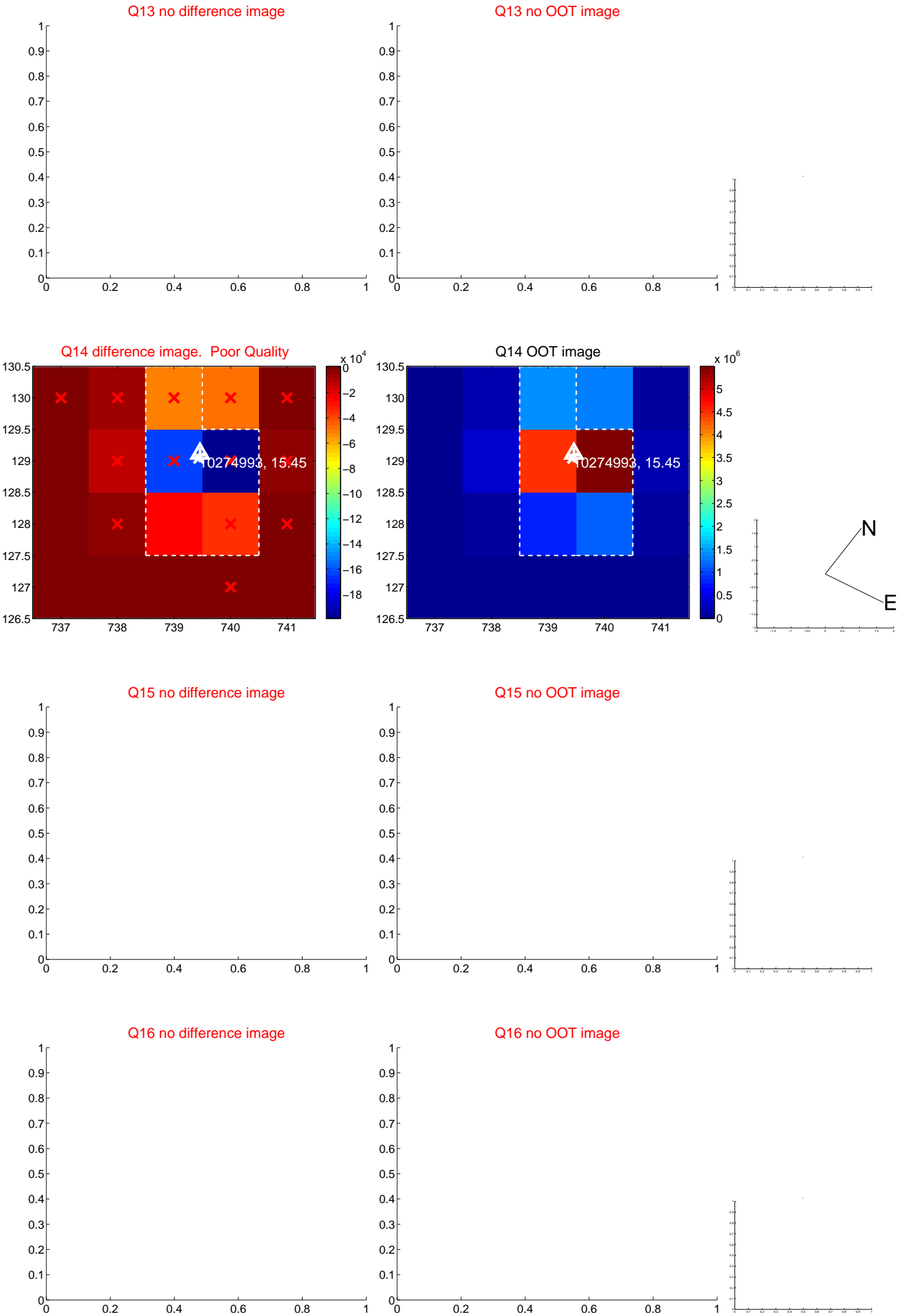
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



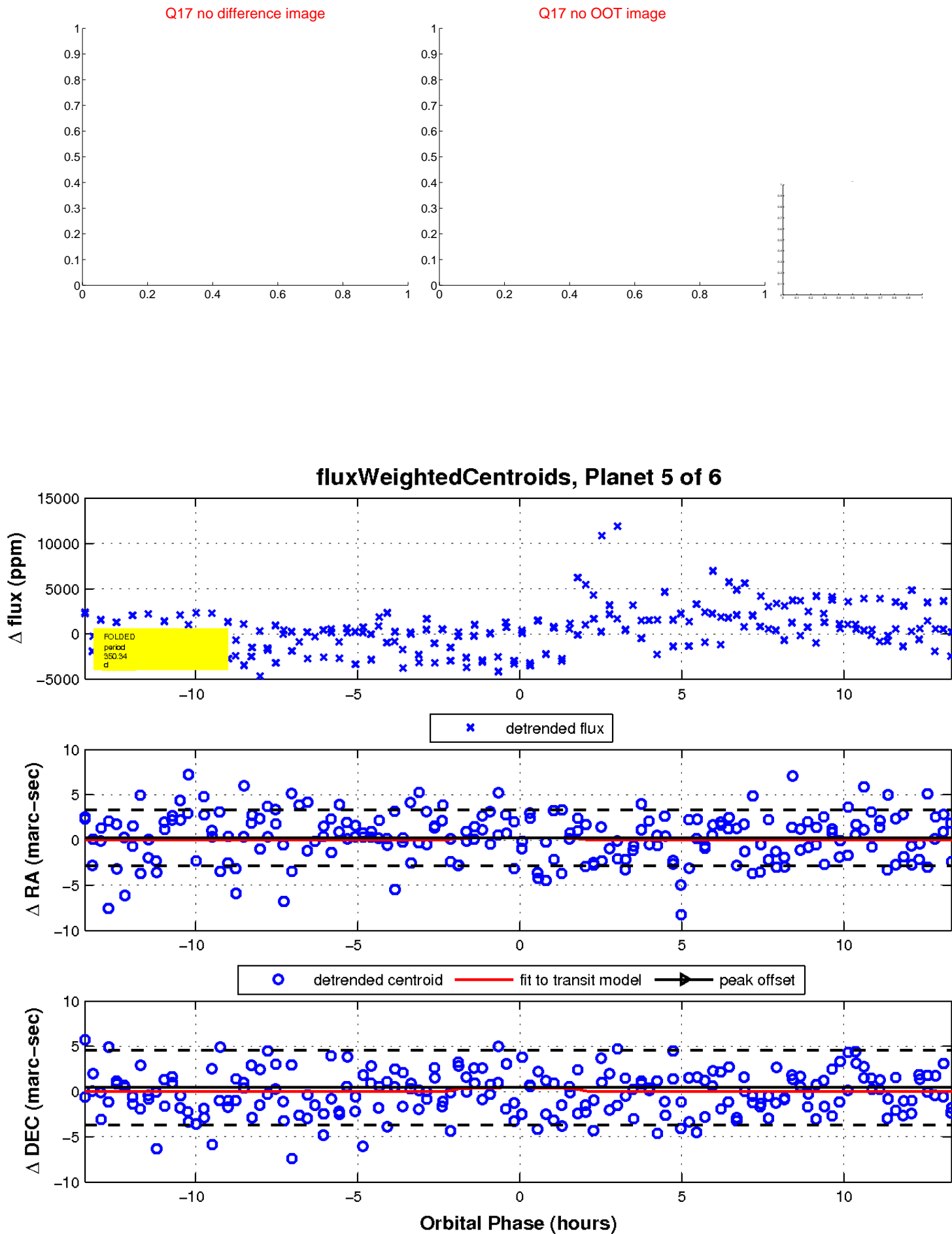
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



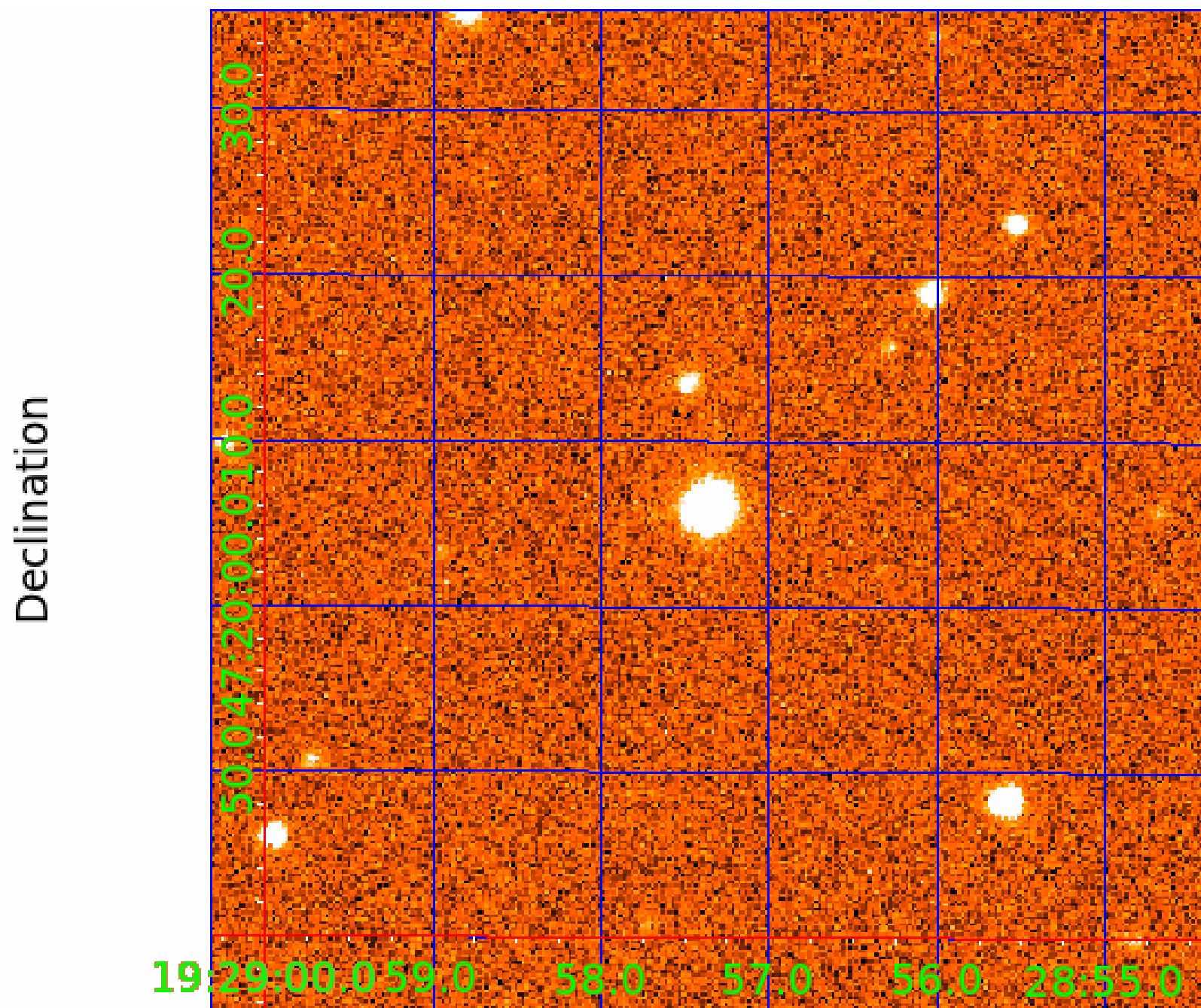
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 010274993

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})
010274993-01	OBS	No	495.577944	447.155546	3109.2	5.915	12.5	6.1	0.72	4324	4.83	0.14
010274993-02	OBS	No	435.784647	260.763840	1007.9	2.024	11.4	3.0	0.72	4324	4.47	0.16
010274993-03	OBS	No	366.780436	280.604286	2294.5	3.768	12.2	5.8	0.72	4324	3.68	0.20
010274993-04	OBS	No	513.386925	199.367551	3223.4	4.673	13.8	6.3	0.72	4324	3.88	0.13
010274993-05	OBS	No	350.344554	295.445098	2382.8	4.473	10.8	6.8	0.72	4324	3.89	0.22
010274993-06	OBS	No	324.953177	356.413331	2425.3	3.000	11.2	-1.0	0.72	4324	3.38	0.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010274993-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS
010274993-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010274993-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010274993-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010274993-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
010274993-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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

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

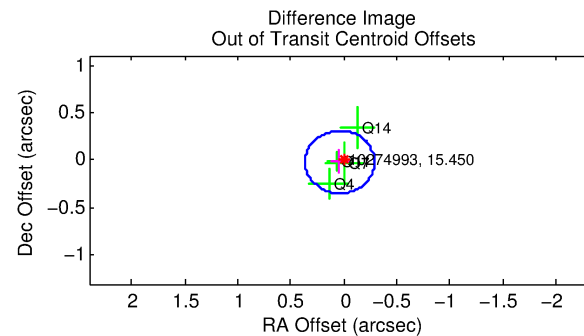
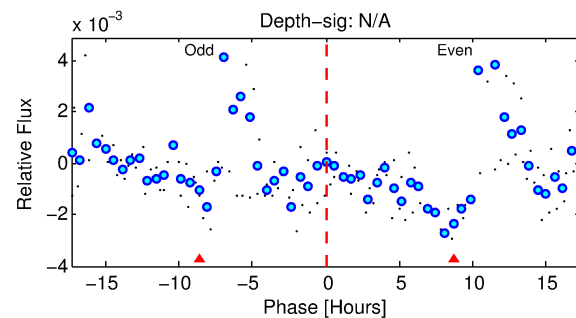
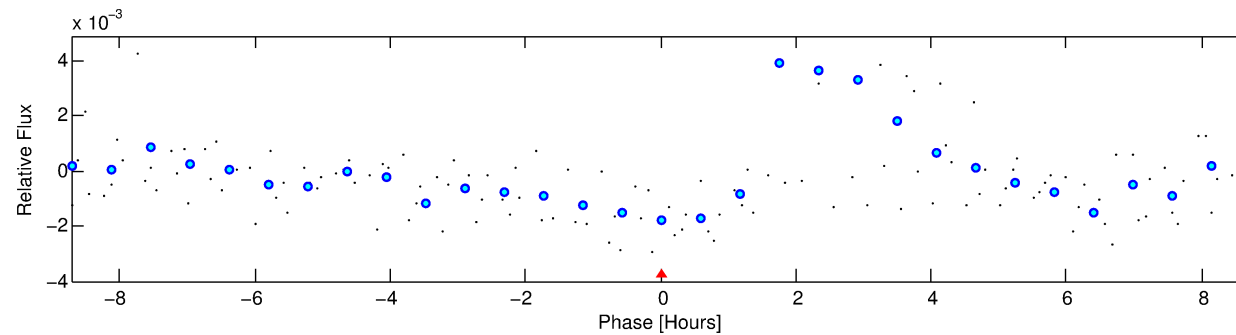
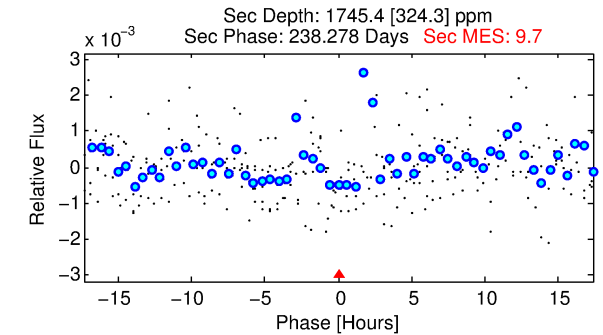
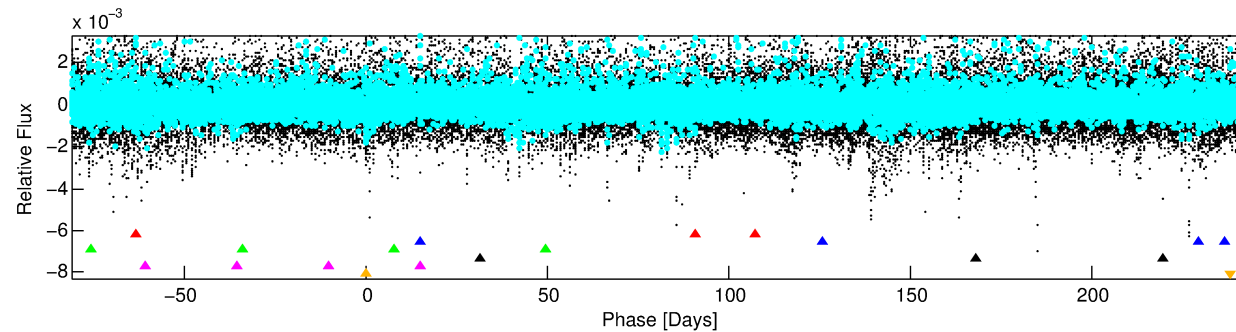
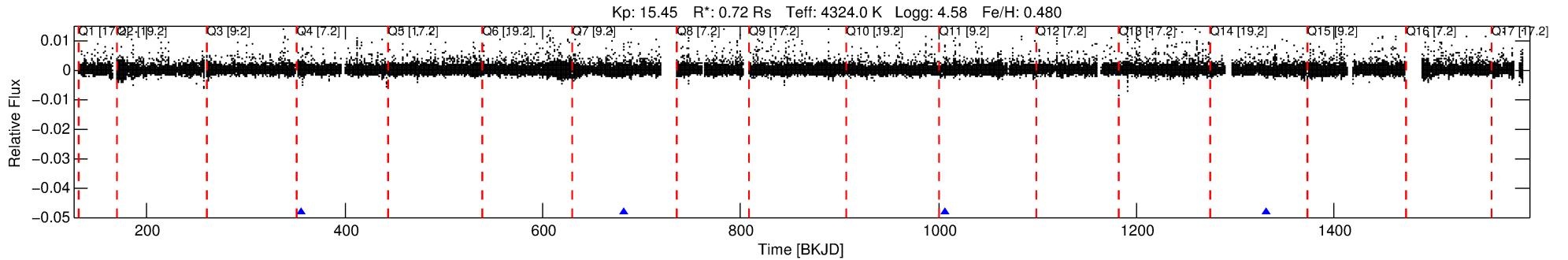
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010274993-06

No Significant Match Found

DV One-Page Summary

KIC: 10274993 Candidate: 6 of 6 Period: 324.953 d



TPS TCE Results:

Period = 324.95318 d
Epoch = 356.4133 BKJD

DV fit results are unavailable

DV Diagnostic Results:

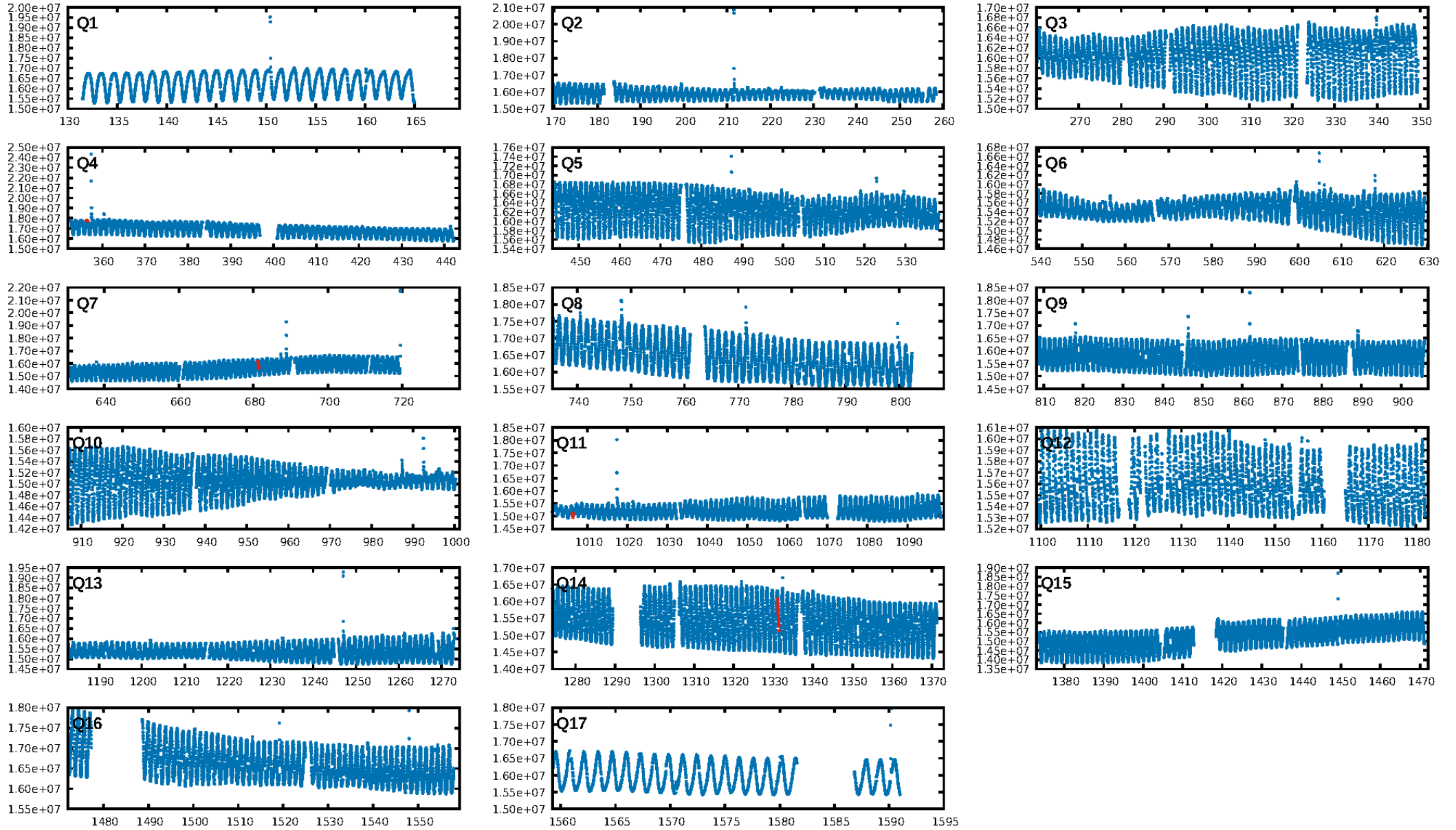
ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [113.15σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 8.439

Centroid-sig: 66.6%
Centroid-so: 0.347 arcsec [0.66σ]
OotOffset-rm: 0.042 arcsec [0.38σ]
KicOffset-rm: 0.194 arcsec [1.77σ]
OotOffset-st: 1/2/1/0 [4]
KicOffset-st: 1/2/1/0 [4]
DiffImageQuality-fgm: 0.25 [1/4]
DiffImageOverlap-fno: 1.00 [4/4]

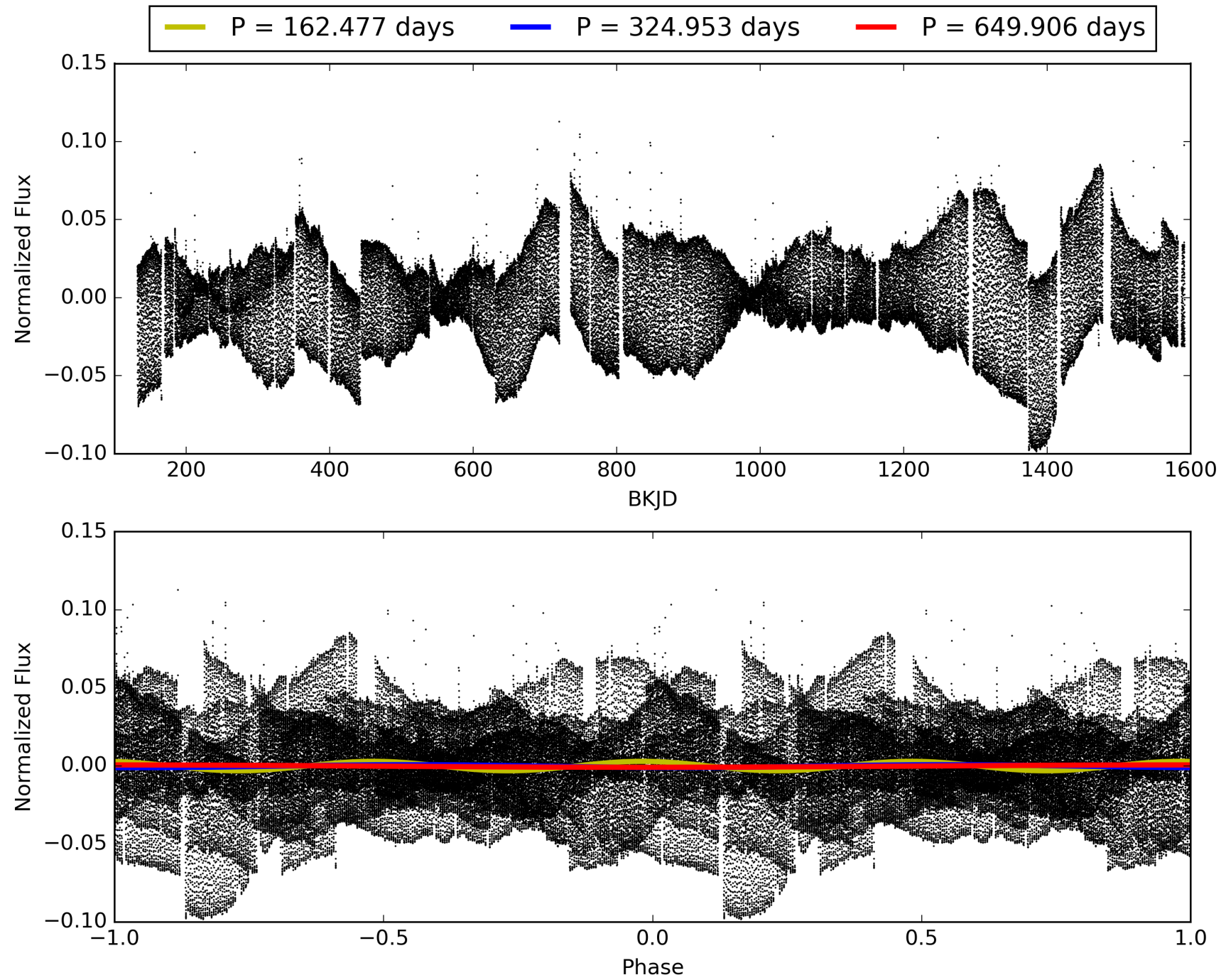
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:20:48 Z

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

TCE 010274993-06, PDC Light Curves

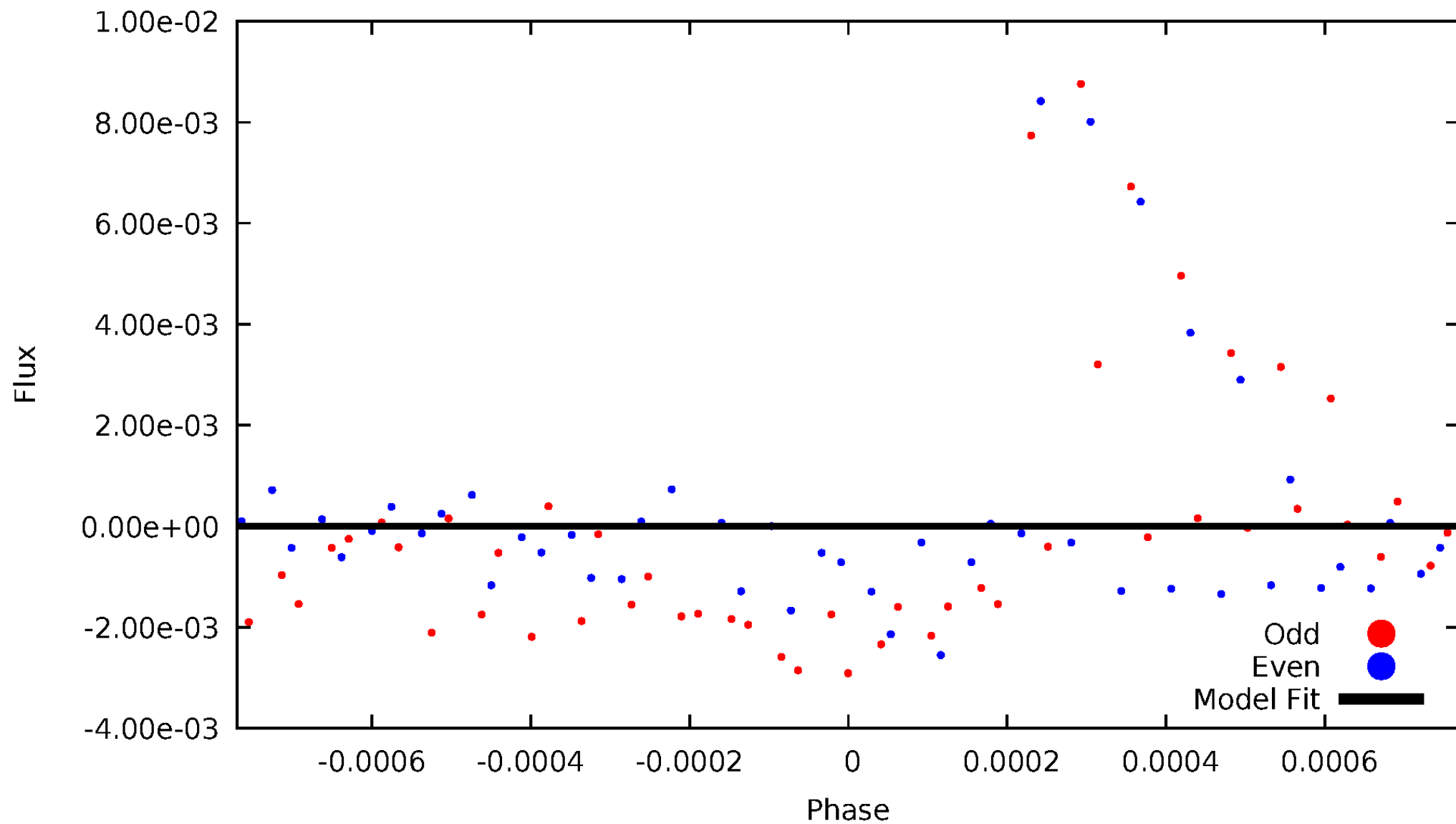


TCE 010274993-06



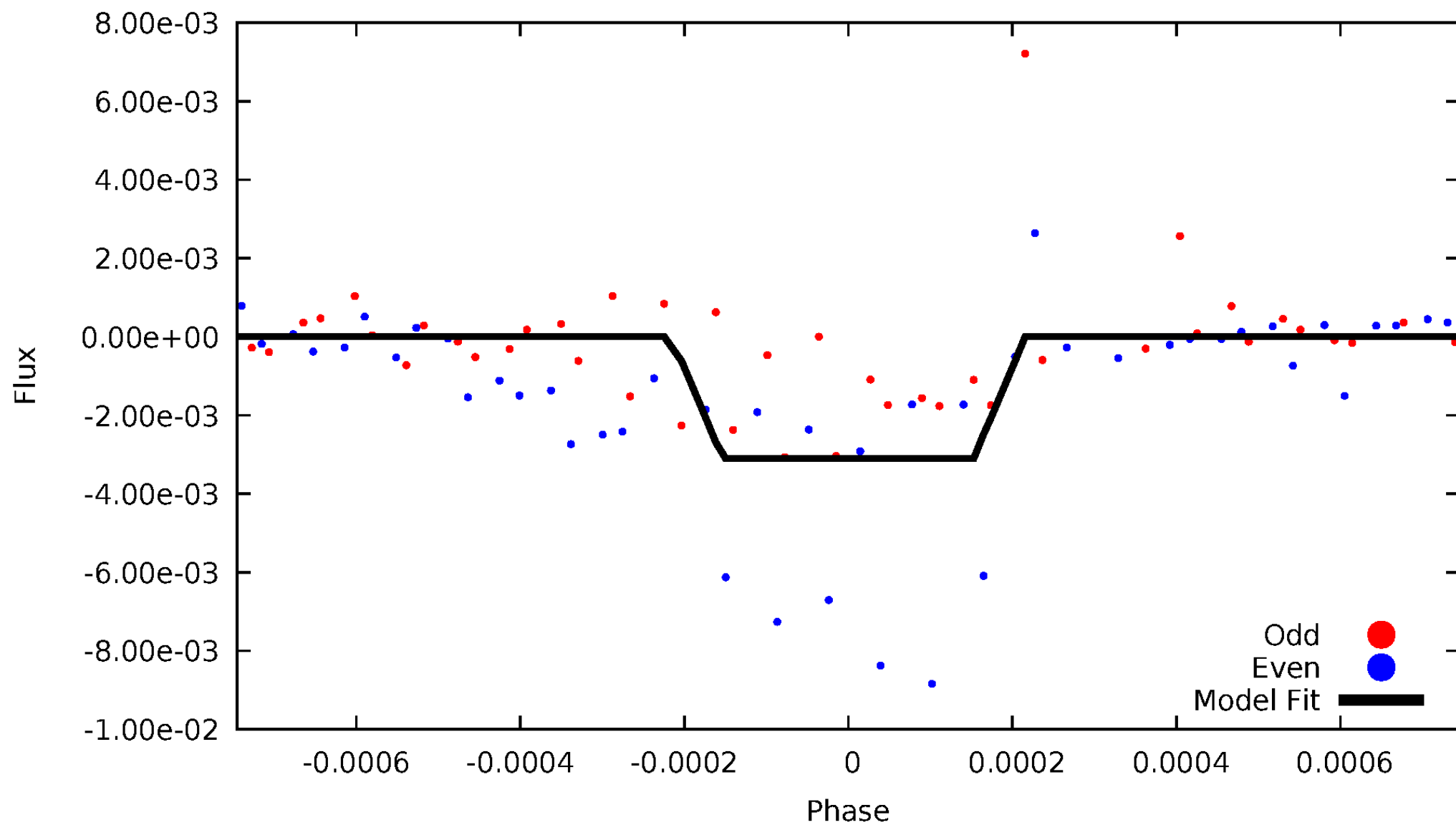
DV Odd/Even

TCE 010274993-06



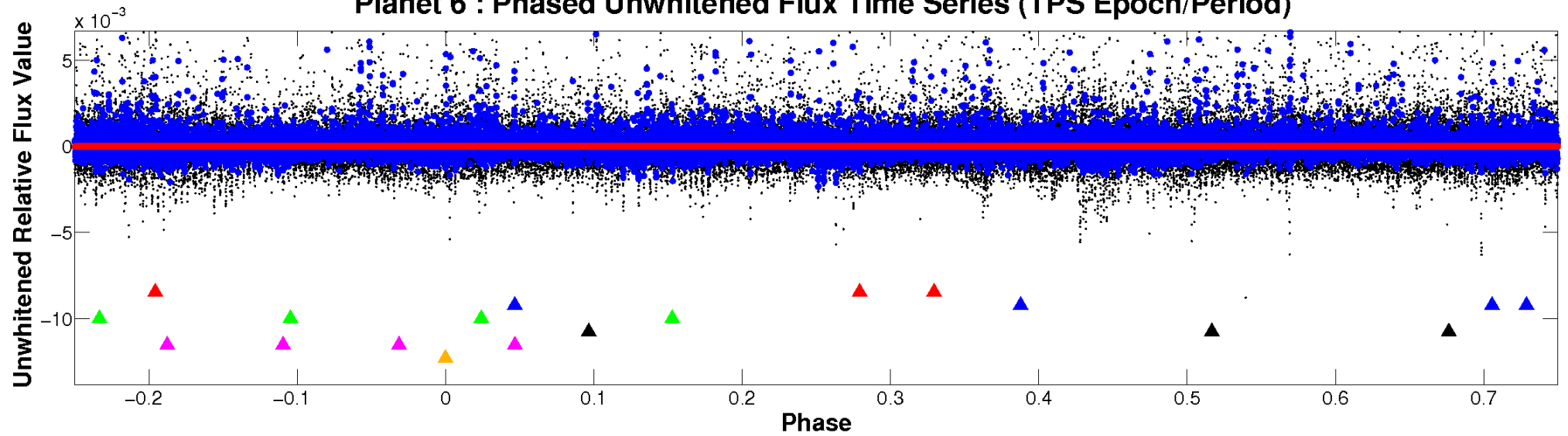
ALT Odd/Even

TCE 010274993-06



Non-Whitened Vs. Whitened Light Curve

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

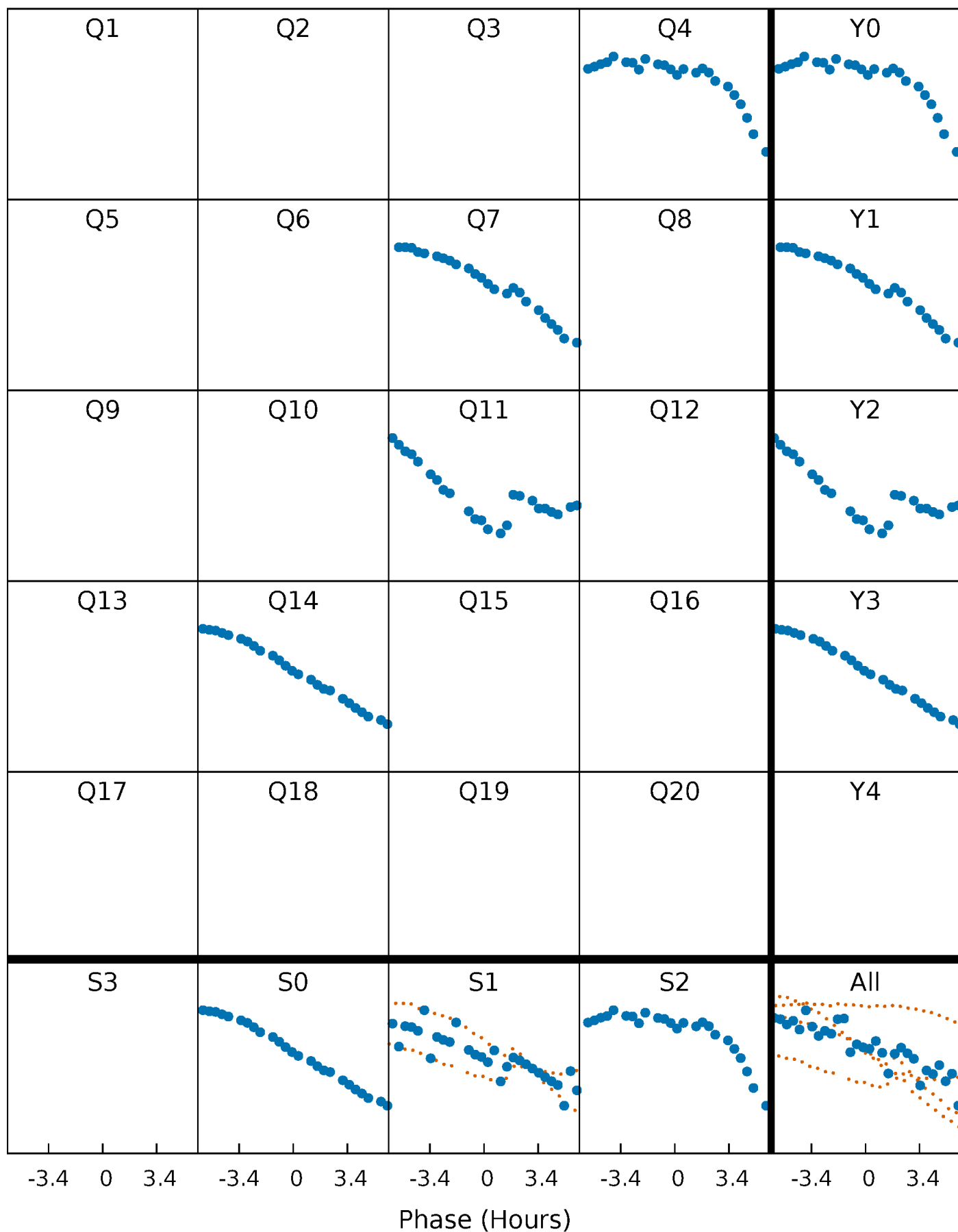


Planet 6 : Phased Whitened Flux Time Series (TPS Epoch/Period)



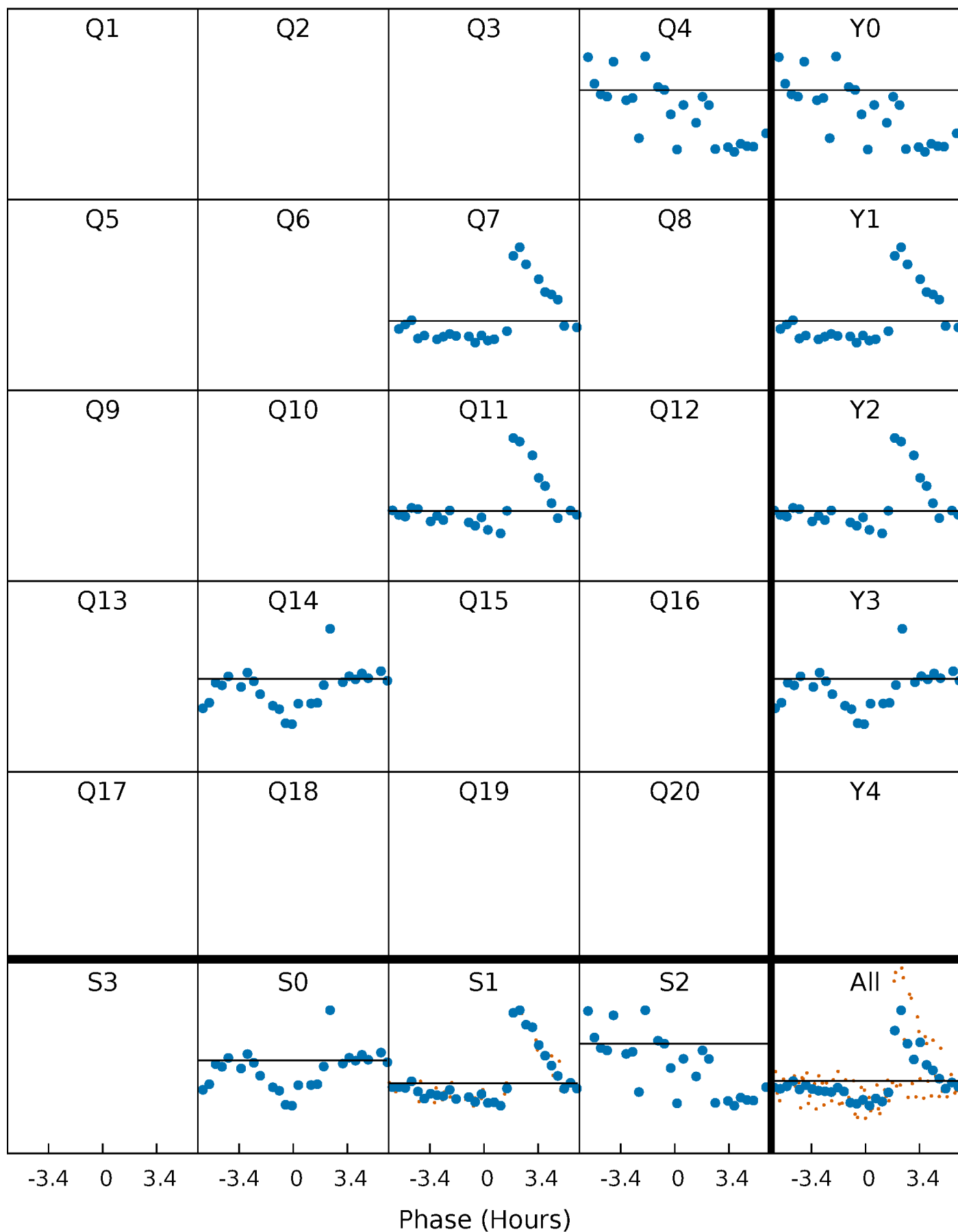
PDC Quarter-Phased Transit Curves

TCE 010274993-06 P=324.953177 Days $T_0=356.413331$ (BKJD)



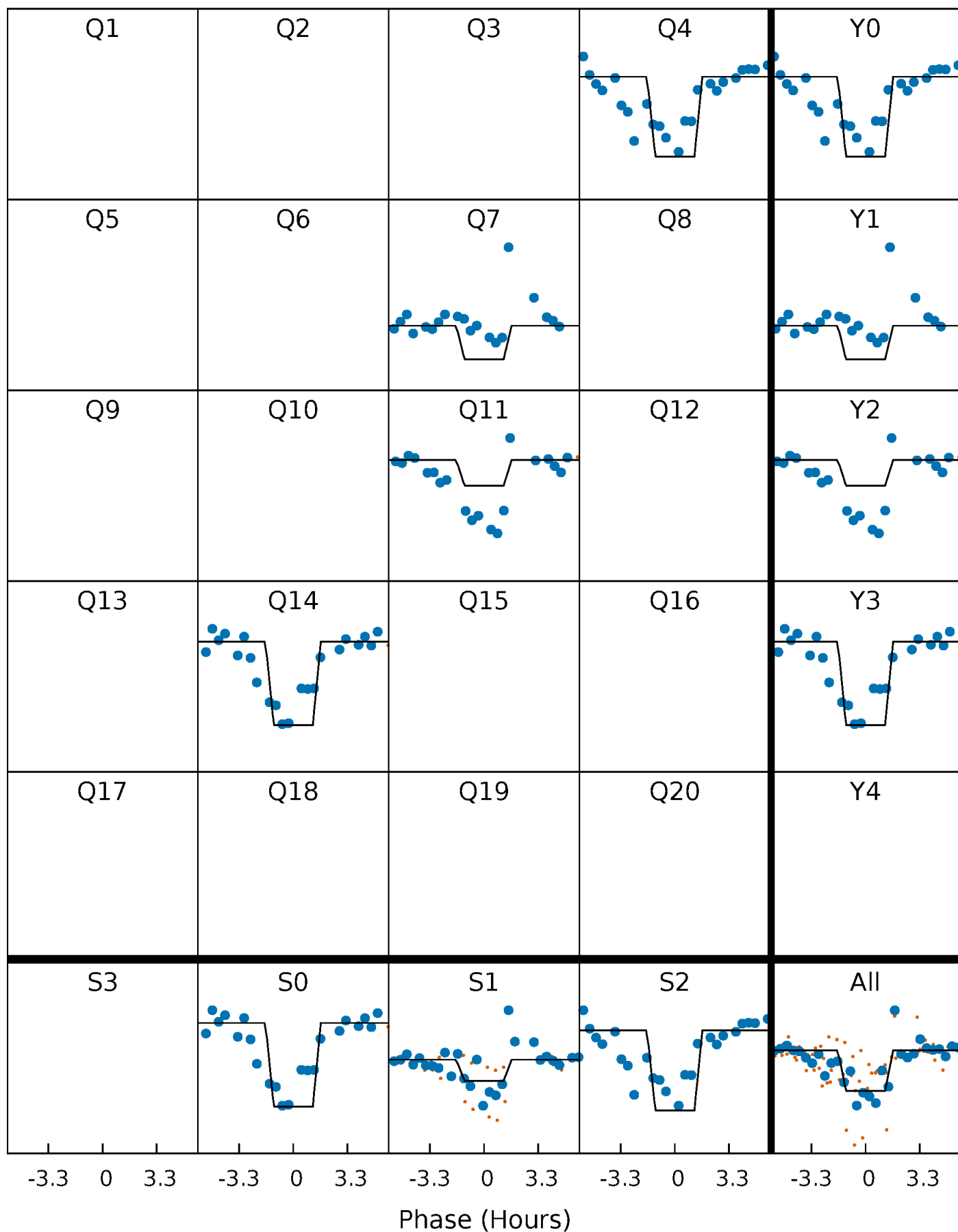
DV Quarter-Phased Transit Curves

TCE 010274993-06 P=324.953177 Days $T_0=356.413331$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

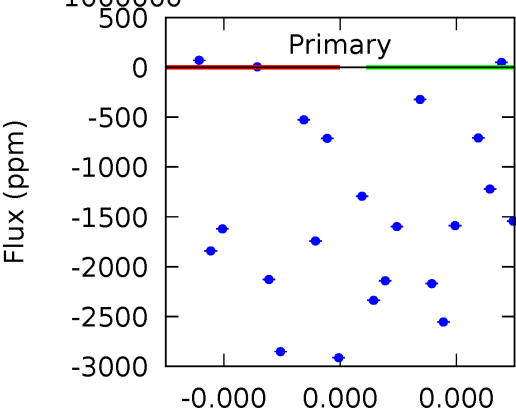
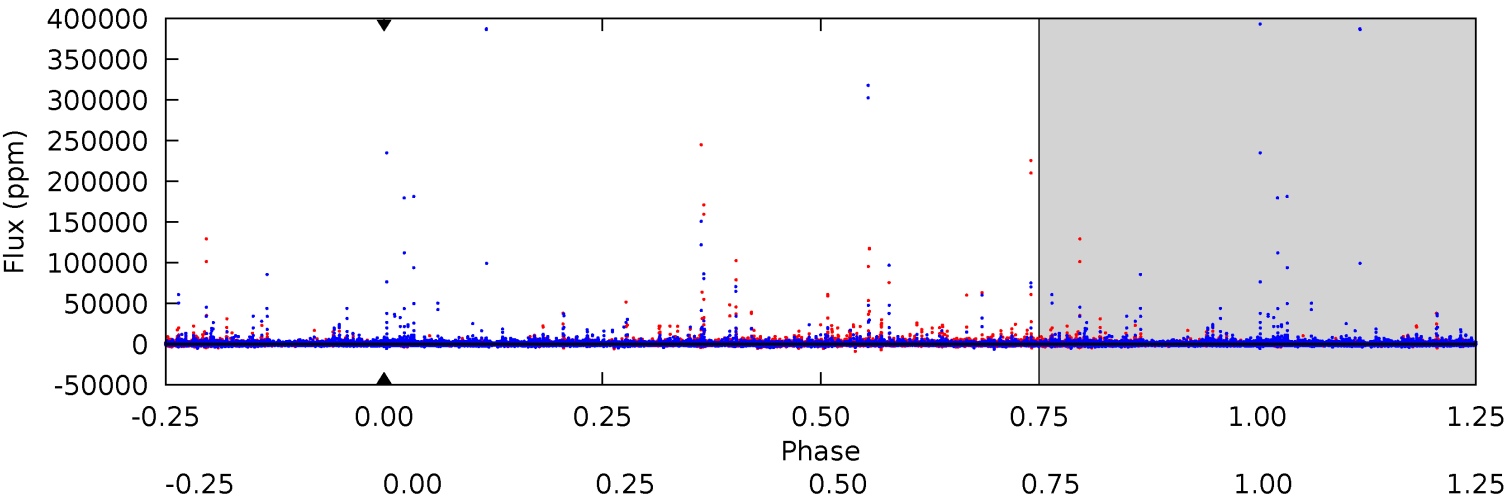
TCE 010274993-06 P=324.953177 Days $T_0=356.418019$ (BKJD)



DV Model-Shift Uniqueness Test

010274993-06, P = 324.953177 Days, E = 31.460154 Days

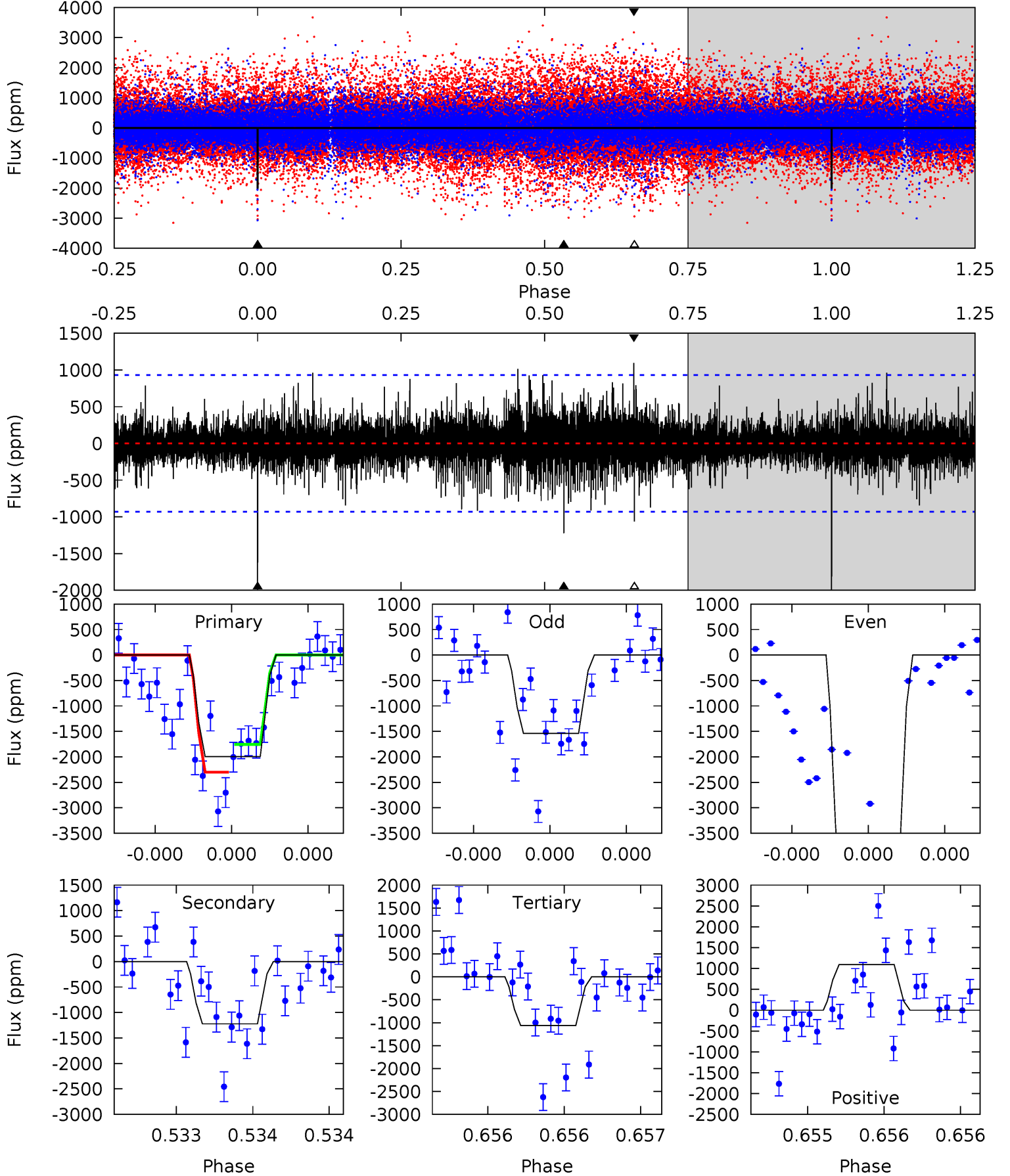
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

010274993-06, P = 324.953177 Days, E = 31.464842 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	7.37	6.41	6.59	5.61	3.54	1.28	5.59	5.41	0.96	0.78	11.8	1.37	0.35	1.64



Stellar Parameters For KIC 010274993

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4324^{+155}_{-172}	$4.575^{+0.060}_{-0.016}$	$0.480^{+0.050}_{-0.300}$	$0.722^{+0.024}_{-0.066}$	$0.715^{+0.040}_{-0.049}$	$2.670^{+0.730}_{-0.167}$
	+4%/-4%	+1%/-0%	+10%/-62%	+3%/-9%	+6%/-7%	+27%/-6%
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 010274993-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$6.53^{+6.71}_{-4.57}$	247^{+10}_{-10}	-3434^{+13020}_{-6076}	$-16713.426^{+1462645.138}_{-1294457.913}$
Alt.	-1223 ± 166	$7.32^{+6.54}_{-5.00}$	246^{+10}_{-11}	3107^{+1476}_{-499}	8467^{+79611}_{-5971}

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

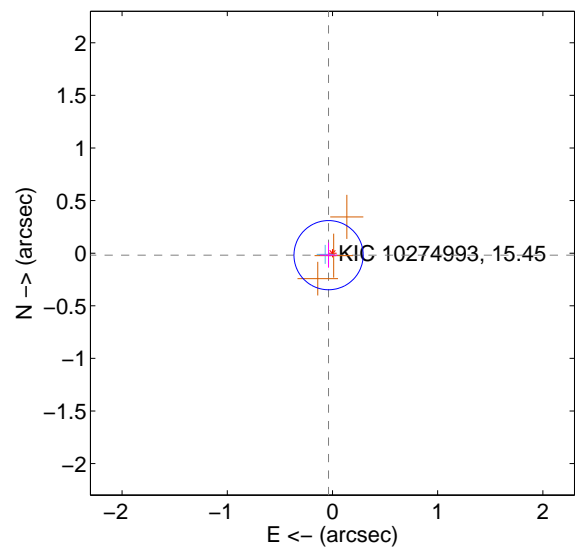
Supplemental centroid analysis for 010274993-06. Kepler magnitude: 15.45. Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

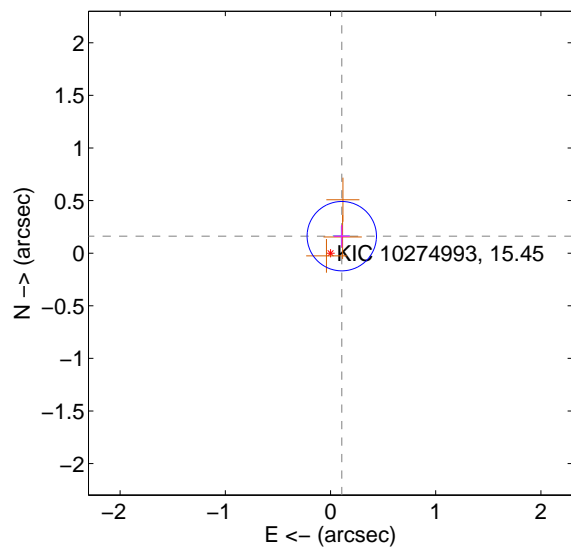
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.042 ± 0.110	0.38	0.037 ± 0.082	-0.019 ± 0.119
PRF-fit source offset from KIC position	0.194 ± 0.110	1.77	-0.107 ± 0.076	0.162 ± 0.107
photometric centroid source offset	0.35 ± 0.52	0.66	0.34 ± 0.52	0.06 ± 0.50

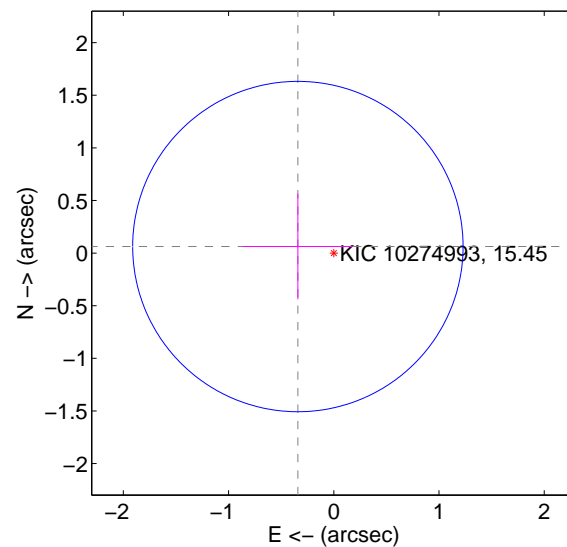
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



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

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

Q1 no difference image



Q1 no OOT image



Q2 no difference image



Q2 no OOT image



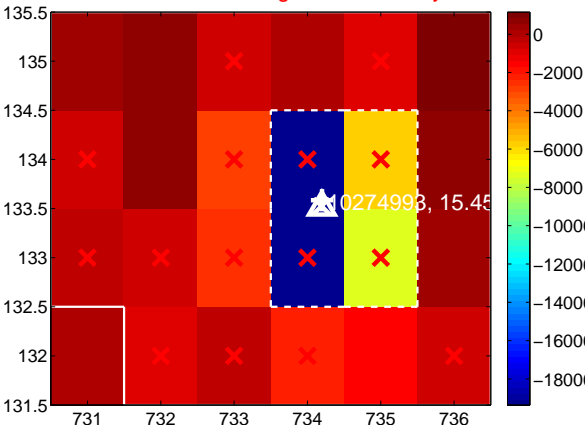
Q3 no difference image



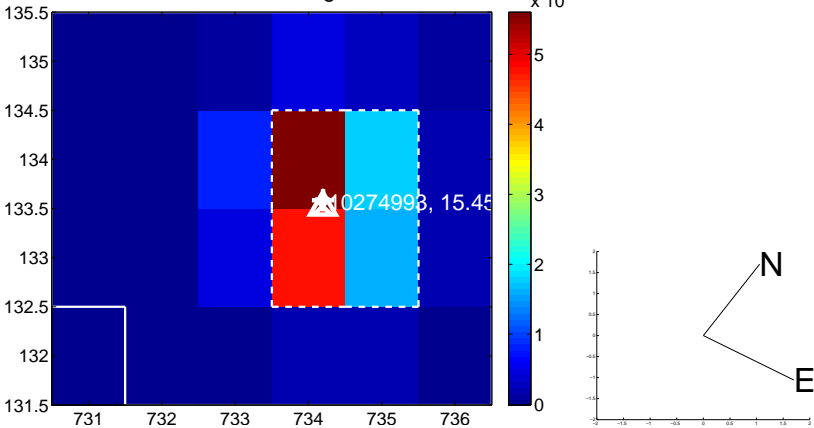
Q3 no OOT image



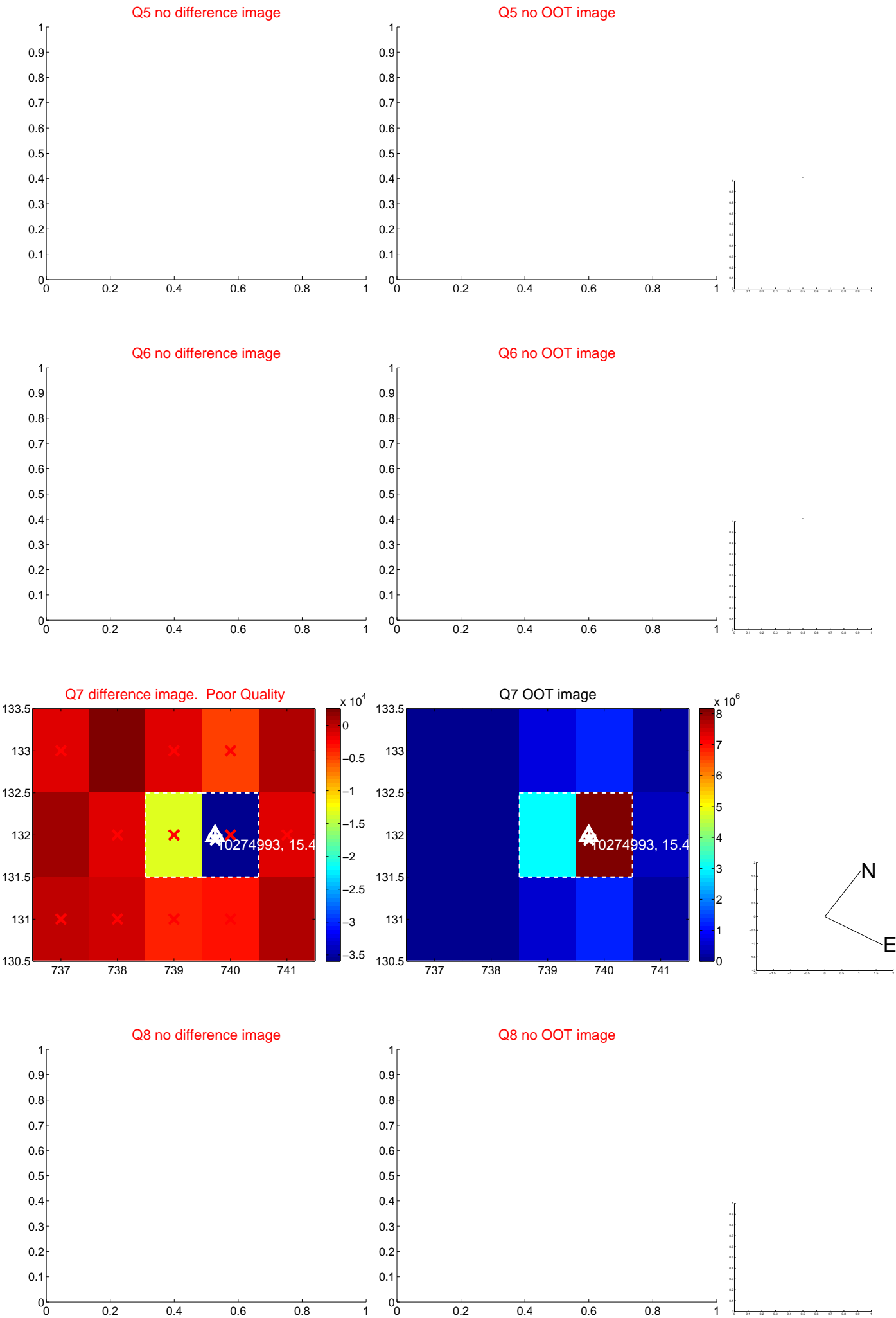
Q4 difference image. Poor Quality



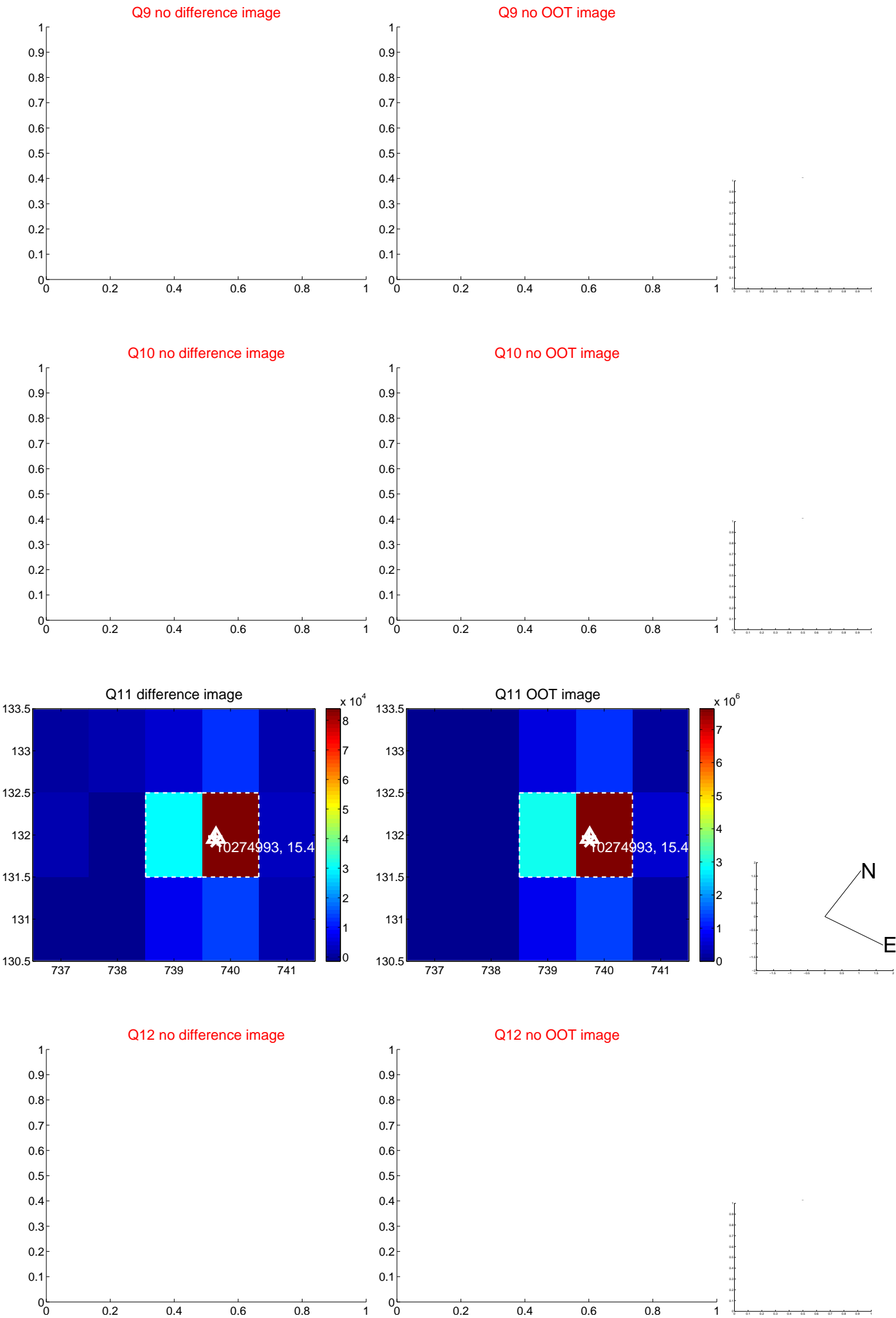
Q4 OOT image



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



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



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

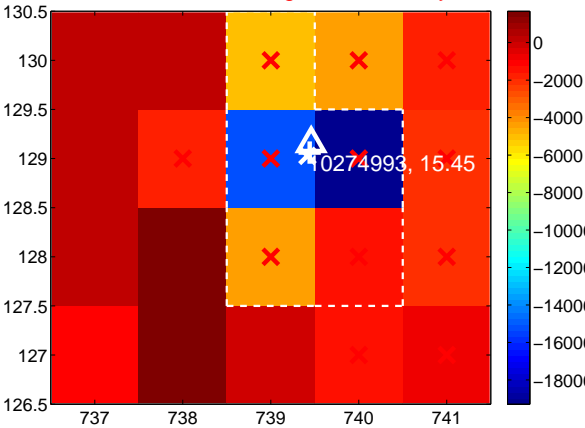
Q13 no difference image



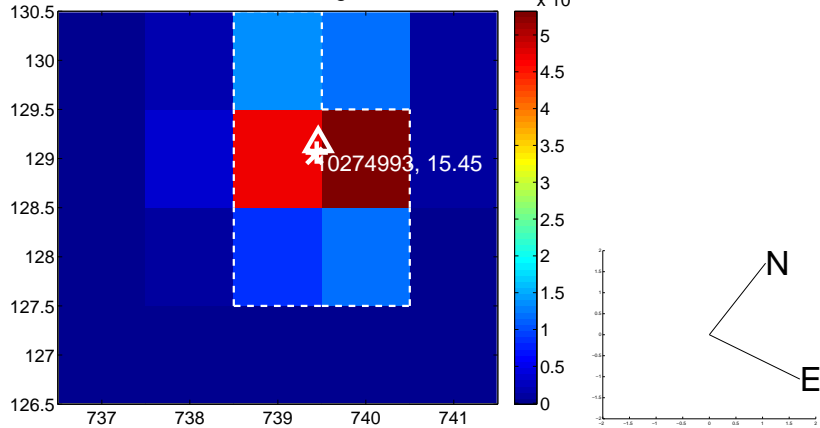
Q13 no OOT image



Q14 difference image. Poor Quality



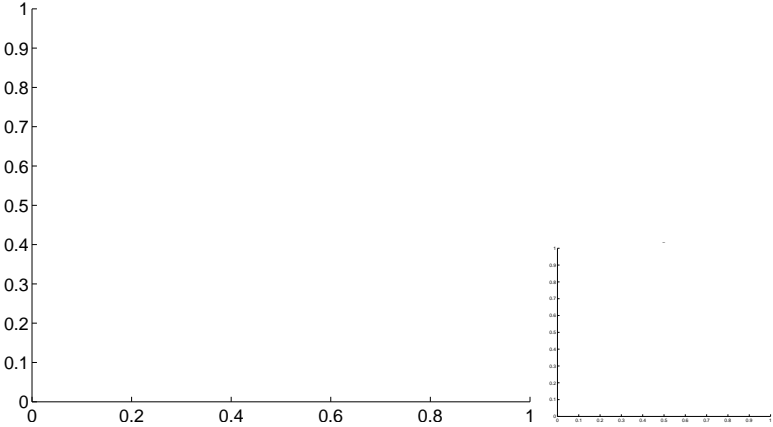
Q14 OOT image



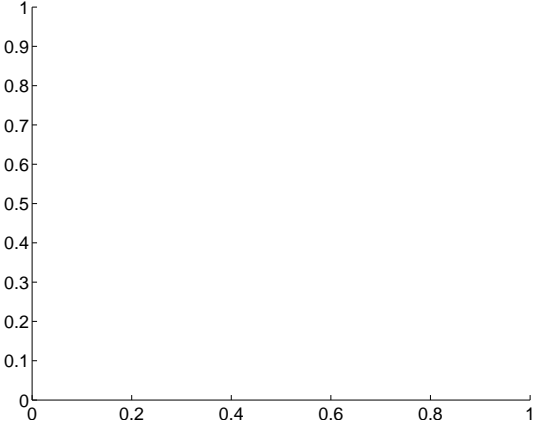
Q15 no difference image



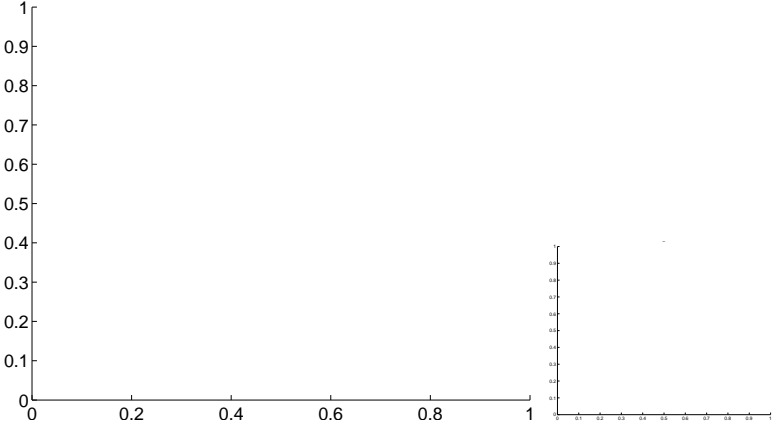
Q15 no OOT image



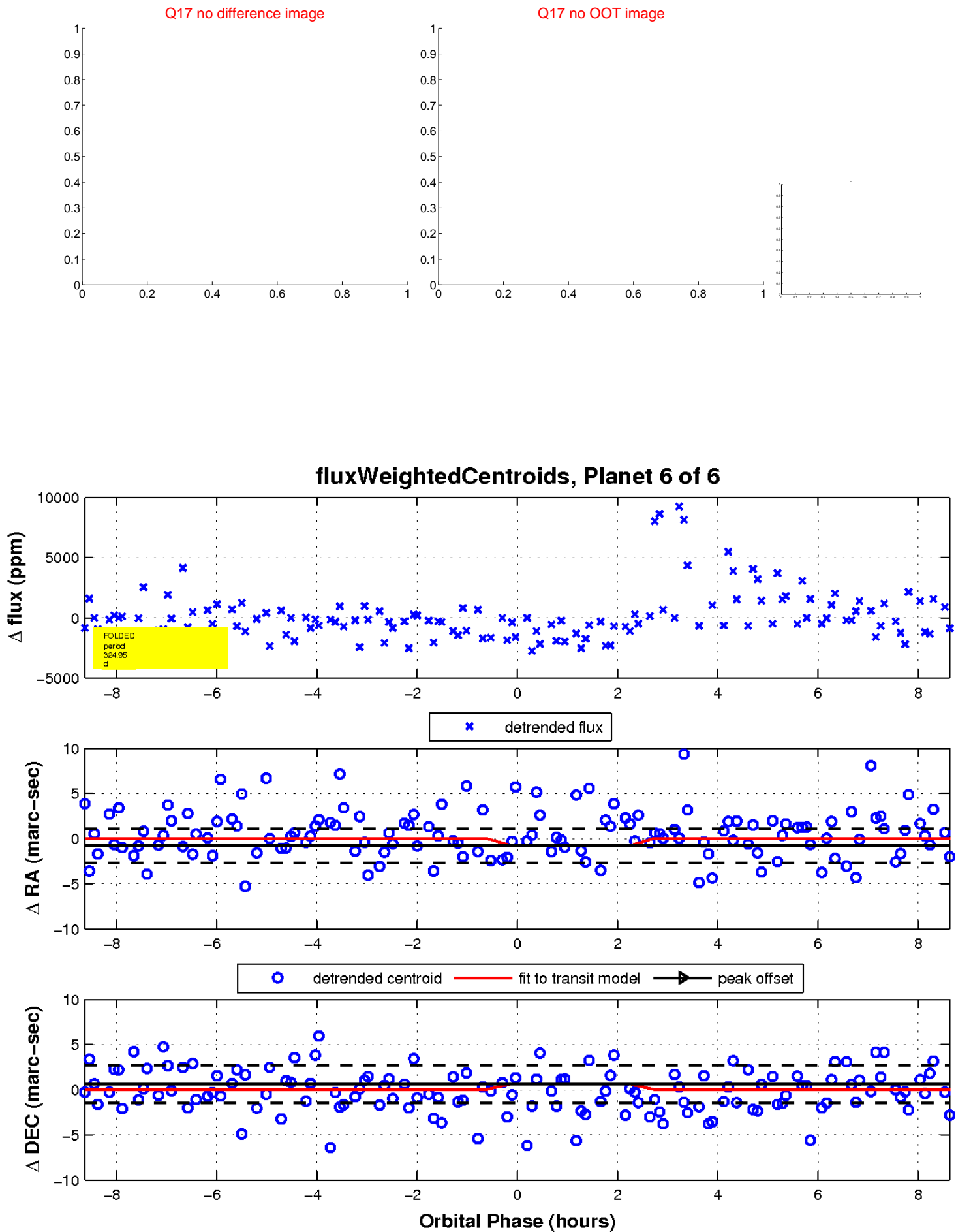
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

