

KIC 007957710

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})
007957710-01	OBS	No	0.647522	131.755173	6.6	1.463	14.6	3.0	1.07	5992	0.35	6711.89
007957710-02	OBS	No	472.151709	151.520298	307.7	6.358	8.0	6.5	1.07	5992	2.05	1.02
007957710-03	OBS	No	0.646339	132.195220	0.2	1.256	10.7	0.1	1.07	5992	0.07	6728.28
007957710-04	OBS	No	210.638326	182.264452	260.4	11.572	7.8	8.1	1.07	5992	1.90	3.00
007957710-05	OBS	No	302.267727	341.019592	155.8	3.190	7.3	2.7	1.07	5992	1.58	1.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007957710-01	OBS	FP	0.00	1	0	1	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
007957710-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_KIC_POS
007957710-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
007957710-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
007957710-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

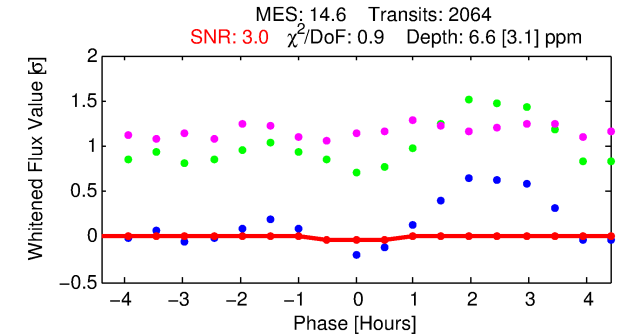
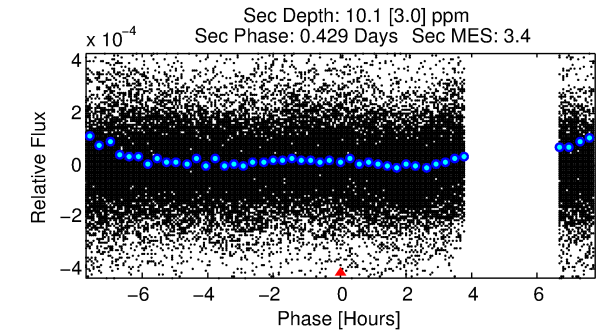
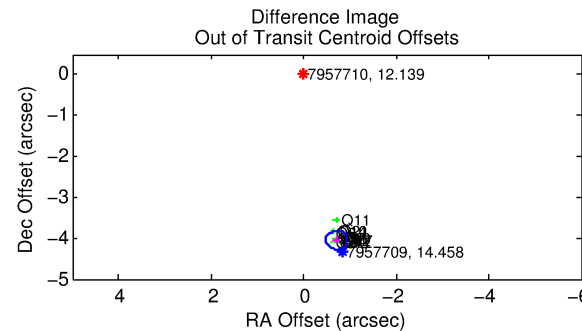
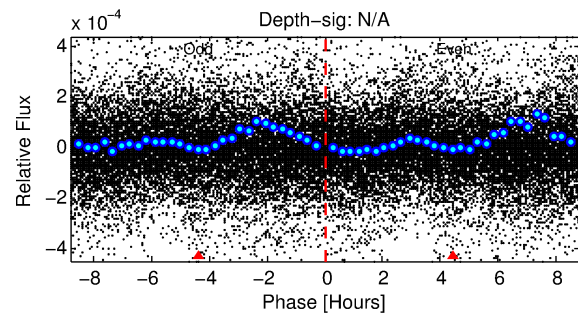
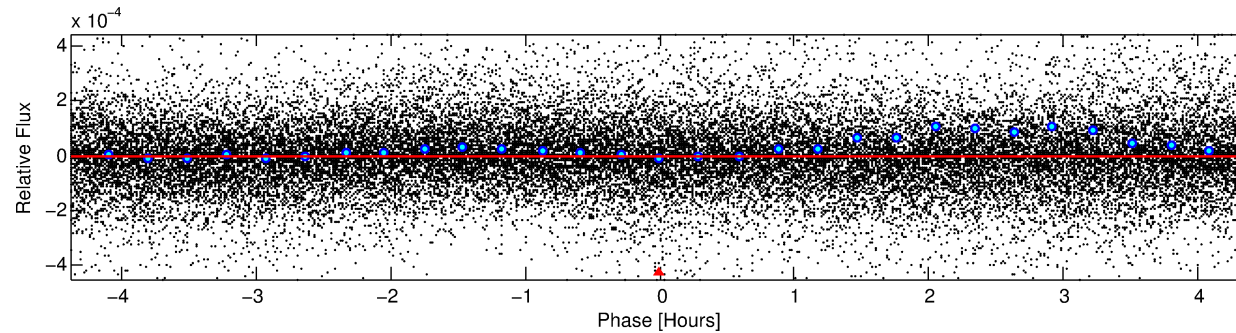
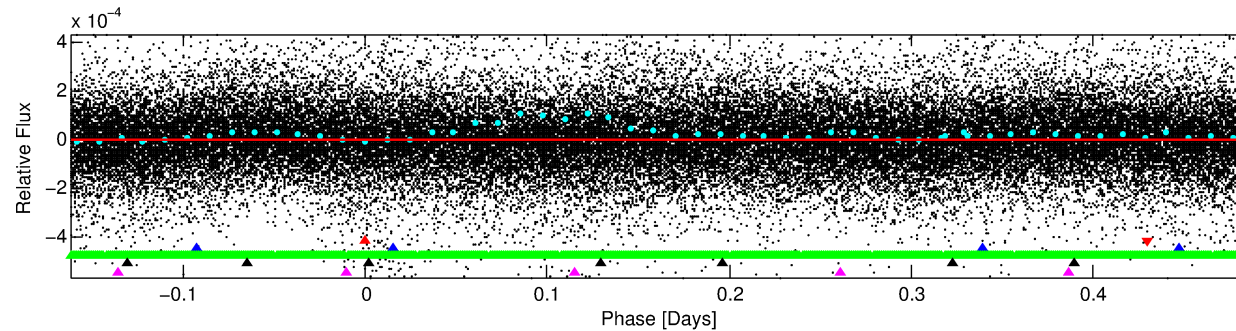
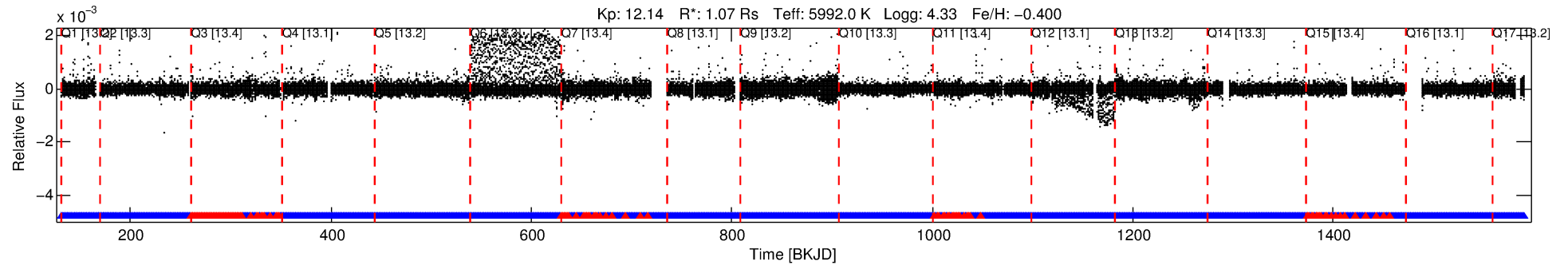
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007957710-01

No Significant Match Found

DV One-Page Summary

KIC: 7957710 Candidate: 1 of 5 Period: 0.648 d



DV Fit Results:

Period = 0.64752 [0.00003] d
Epoch = 131.7552 [0.0055] BKJD
Rp/R* = 0.0030 [0.0024]
a/R* = 1.38 [3.01]
b = 0.96 [0.38]
Seff = 6711.89 [1658.06]
Teq = 2308 [143] K
Rp = 0.35 [0.29] Re
a = 0.0141 [0.0021] AU
Ag = 8.90 [14.73] [0.54σ]
Teff = 6163 [2525] K [1.52σ]

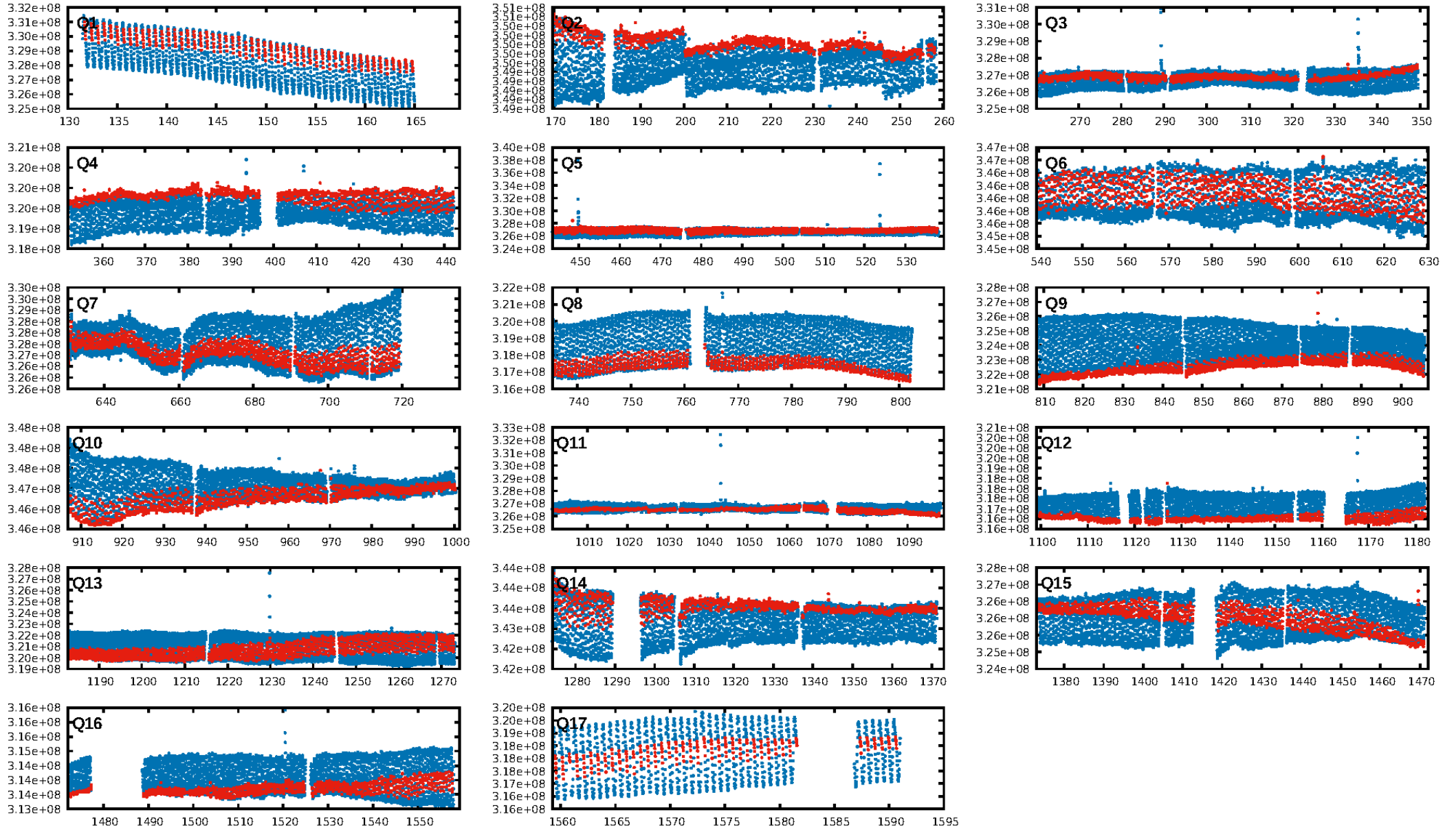
DV Diagnostic Results:

ShortPeriod-sig: 1.2% [0.01σ]
LongPeriod-sig: 100.0% [432.06σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 4.10e-35
RollingBand-fgt: 0.92 [1822/1971]
GhostDiagnostic-chr: -4.195
Centroid-sig: 5.5%
Centroid-so: 6.271 arcsec [1.36σ]
OotOffset-rm: 4.112 arcsec [53.48σ]
KicOffset-rm: 4.564 arcsec [62.90σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.47 [8/17]
DiffImageOverlap-fno: 0.53 [9/17]

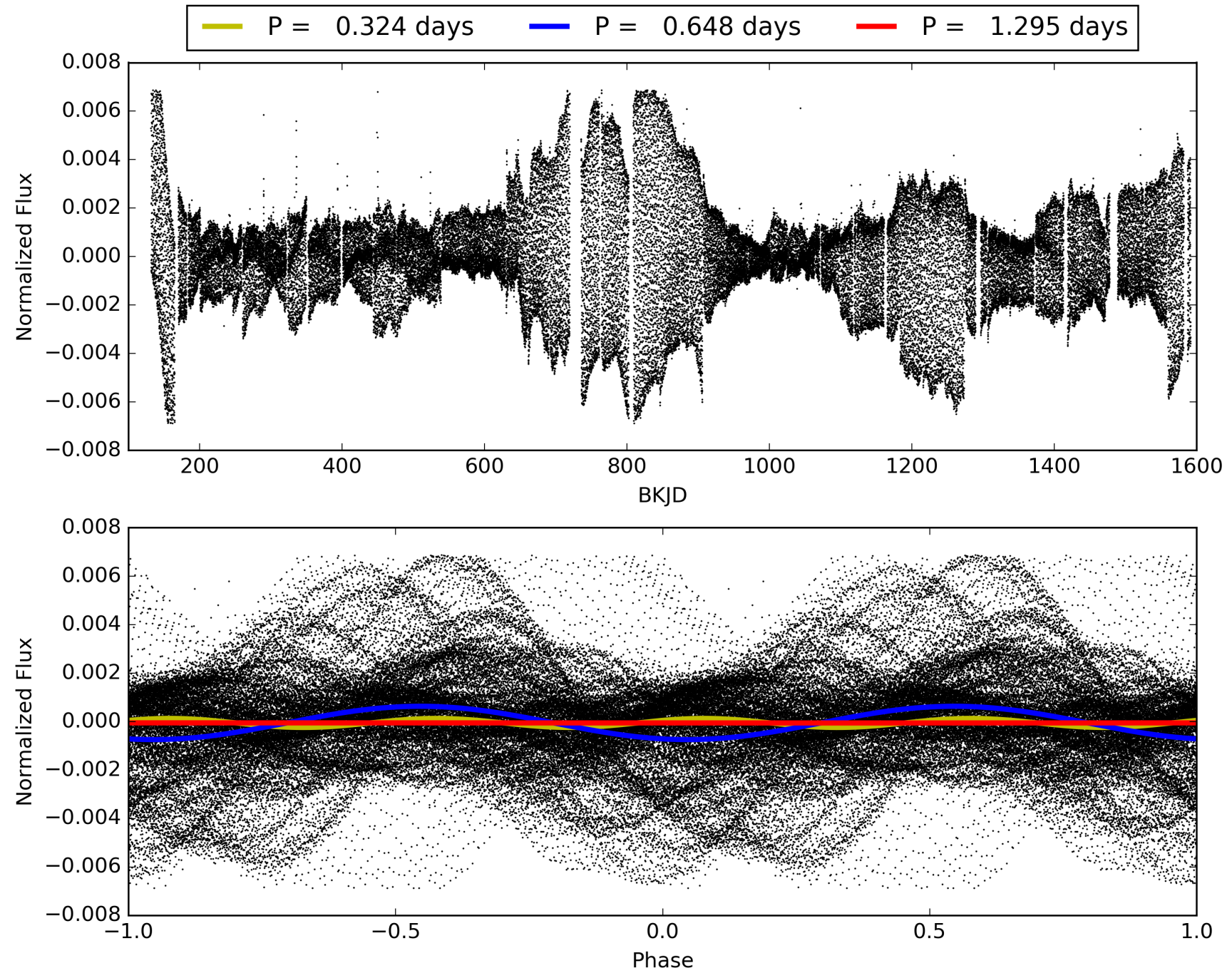
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:54:27 Z

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

TCE 007957710-01, PDC Light Curves

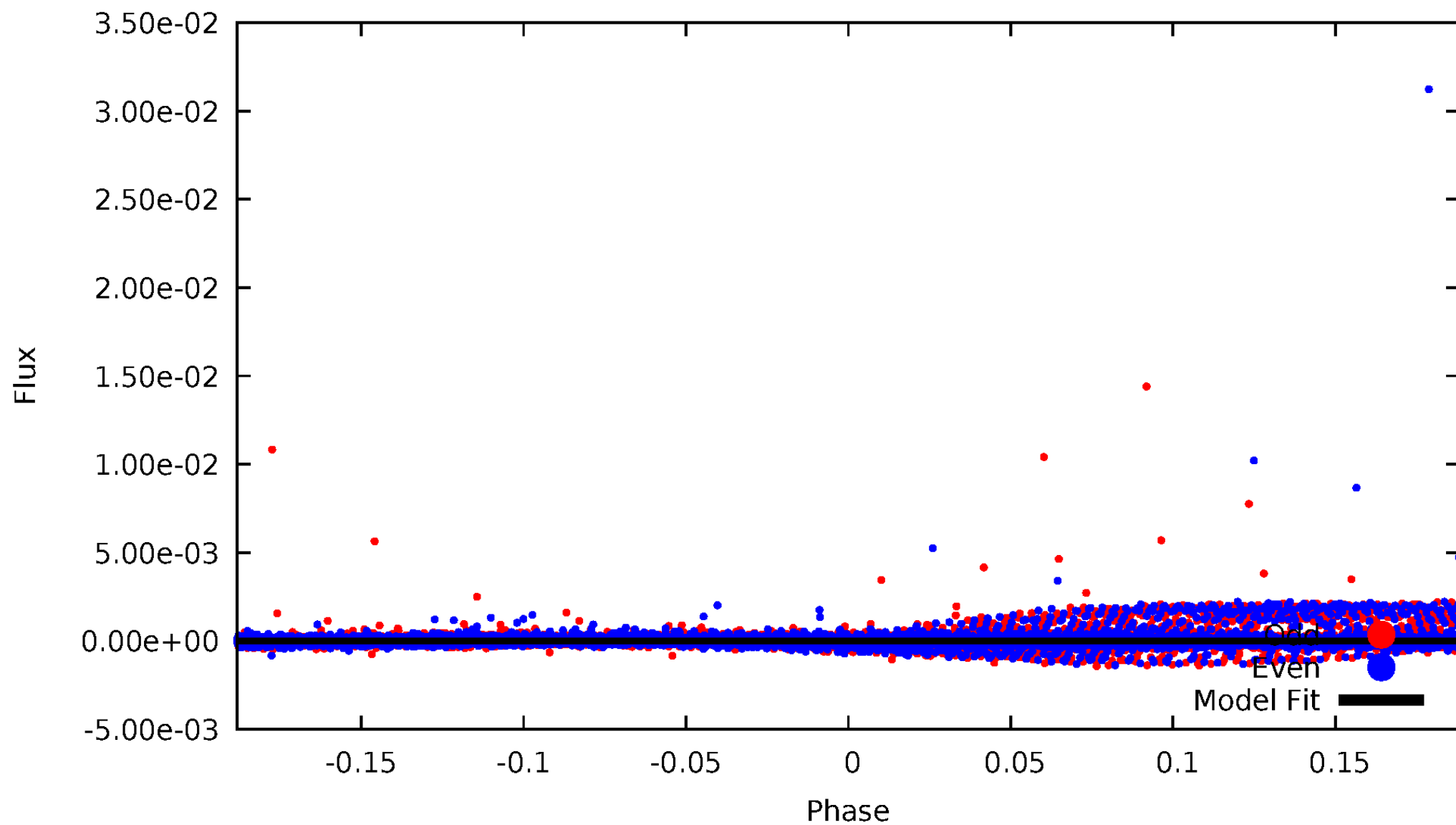


TCE 007957710-01



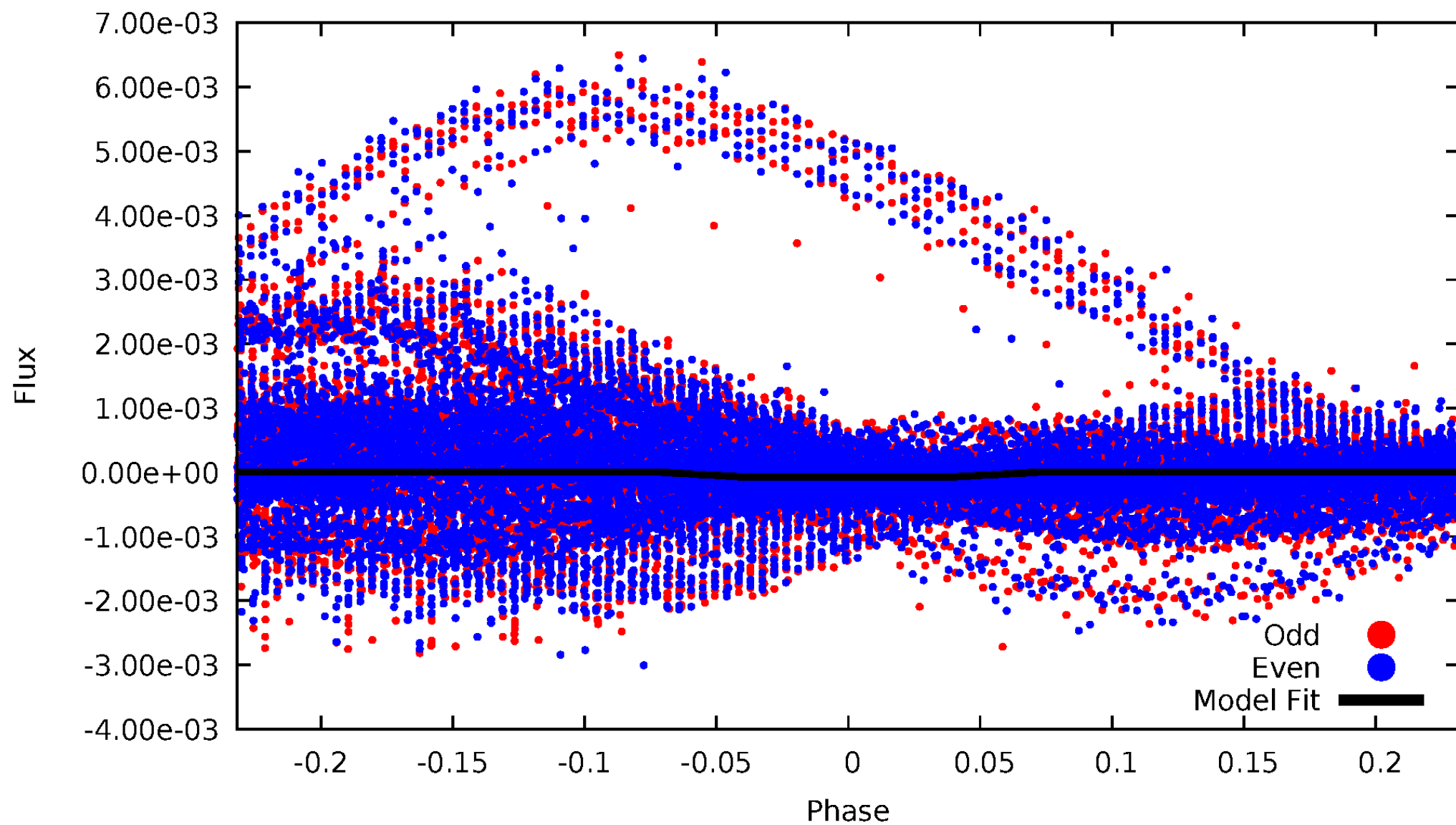
DV Odd/Even

TCE 007957710-01



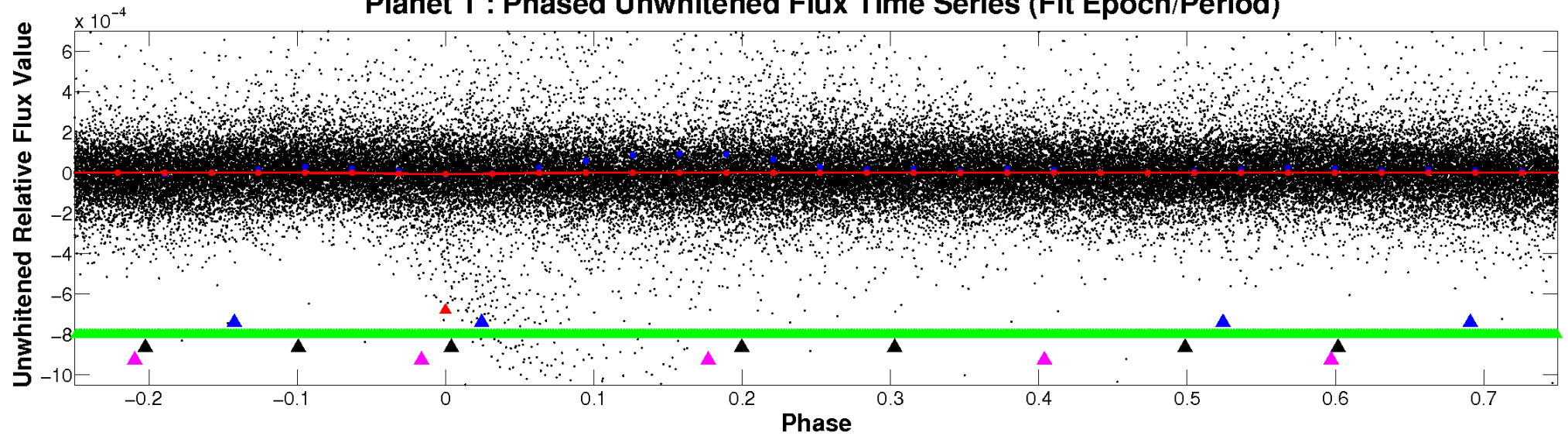
ALT Odd/Even

TCE 007957710-01

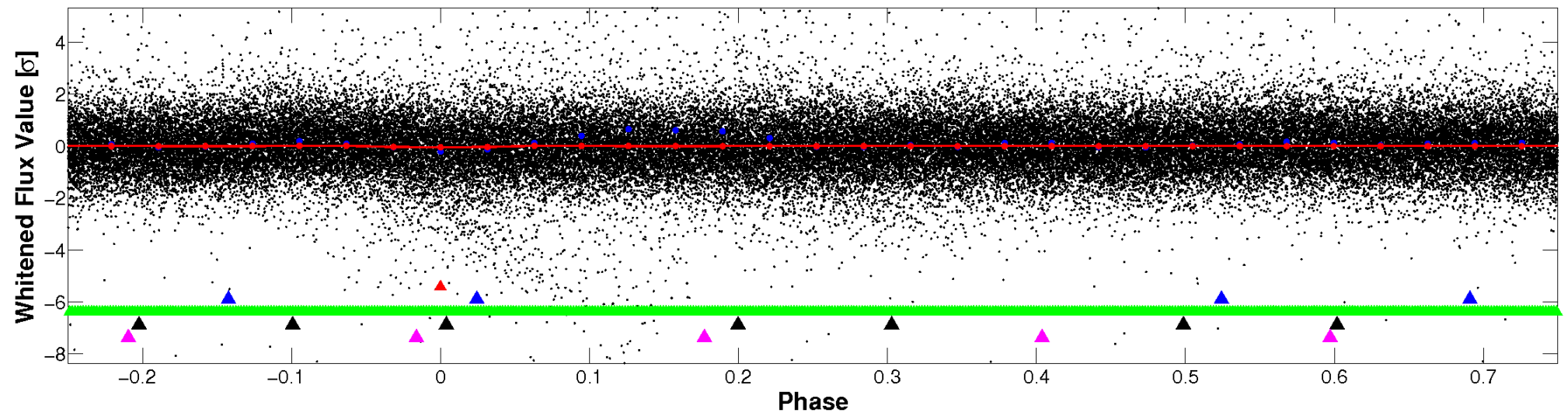


Non-Whitened Vs. Whitened Light Curve

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

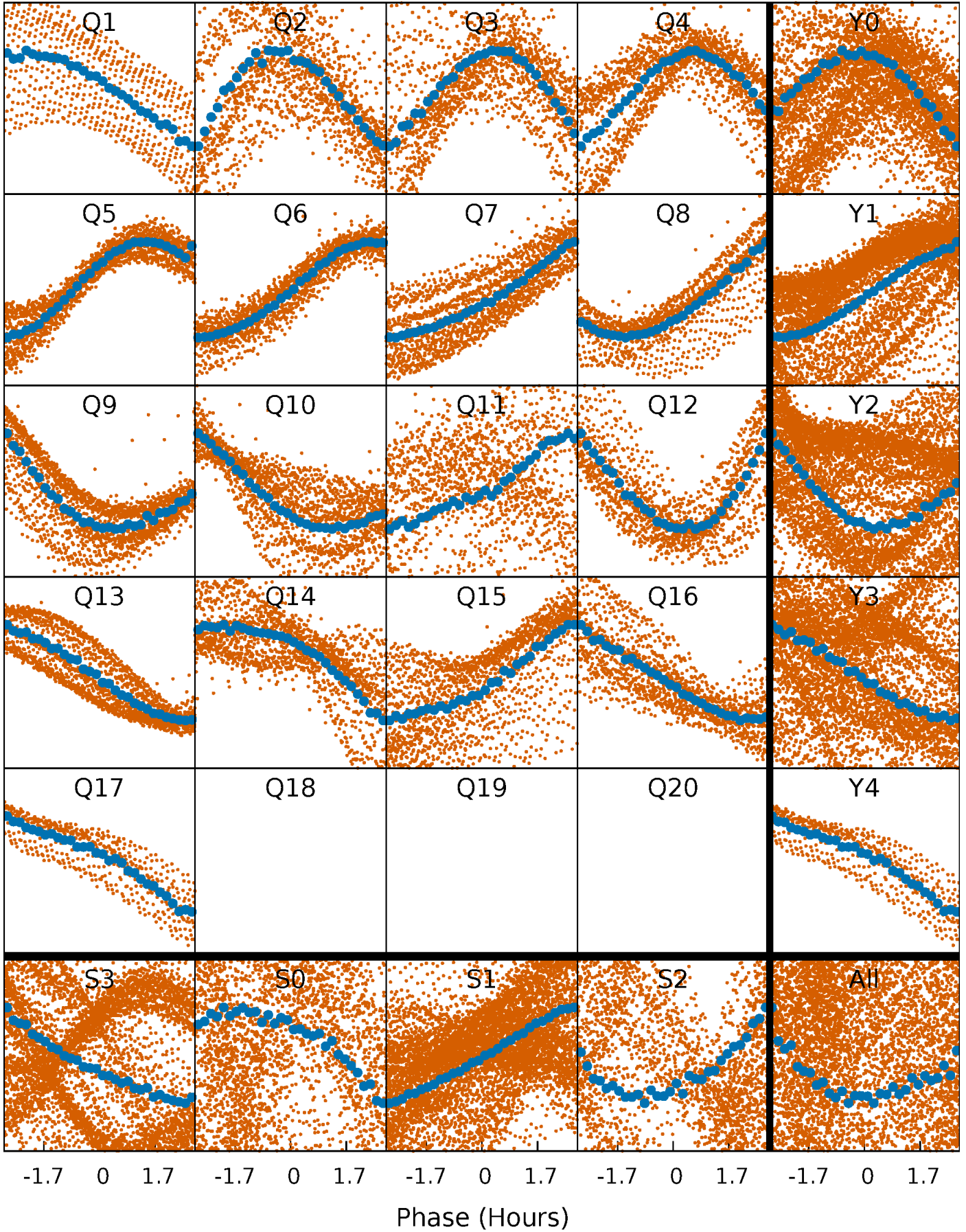


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



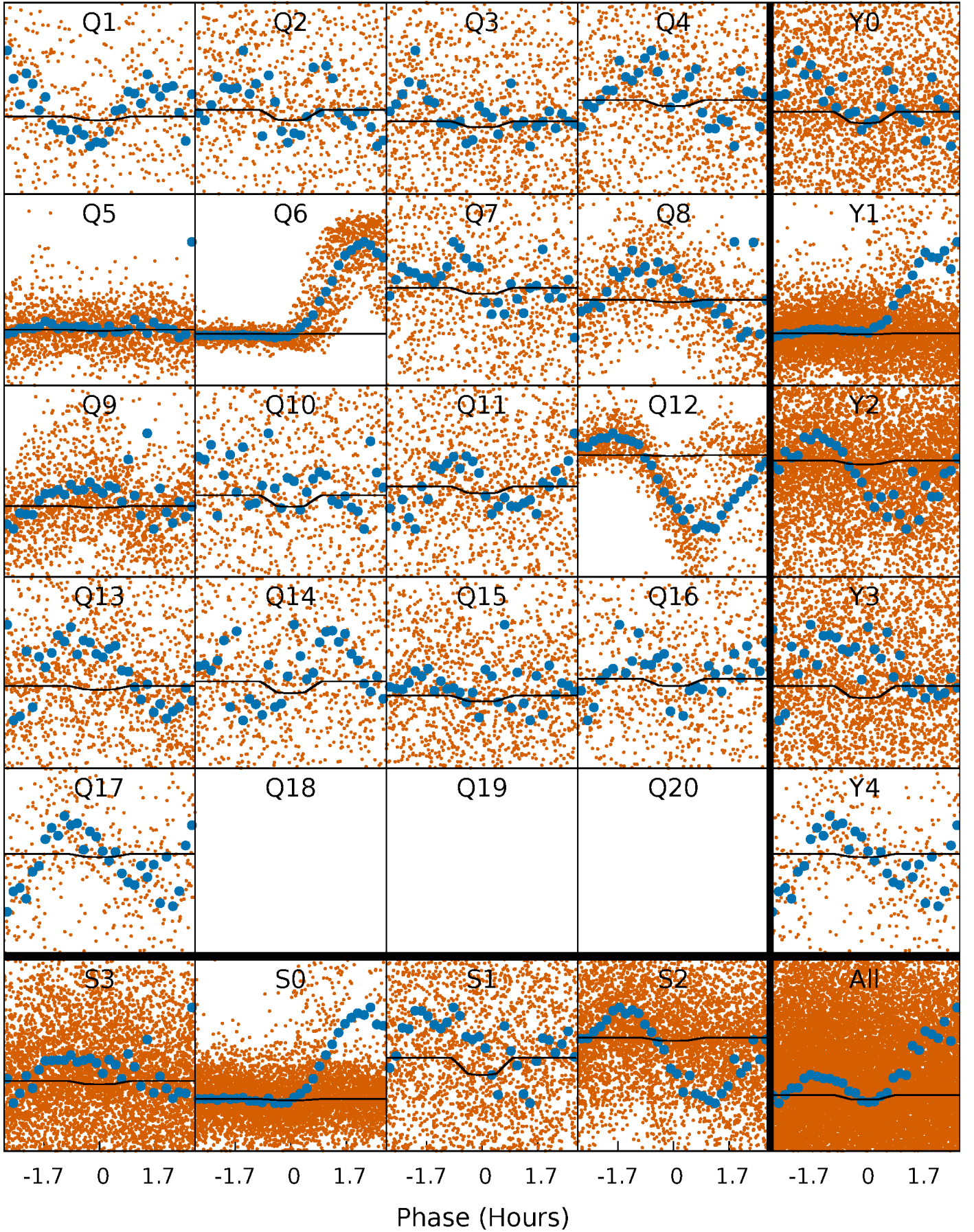
PDC Quarter-Phased Transit Curves

TCE 007957710-01 P= 0.647522 Days $T_0=131.755173$ (BKJD)



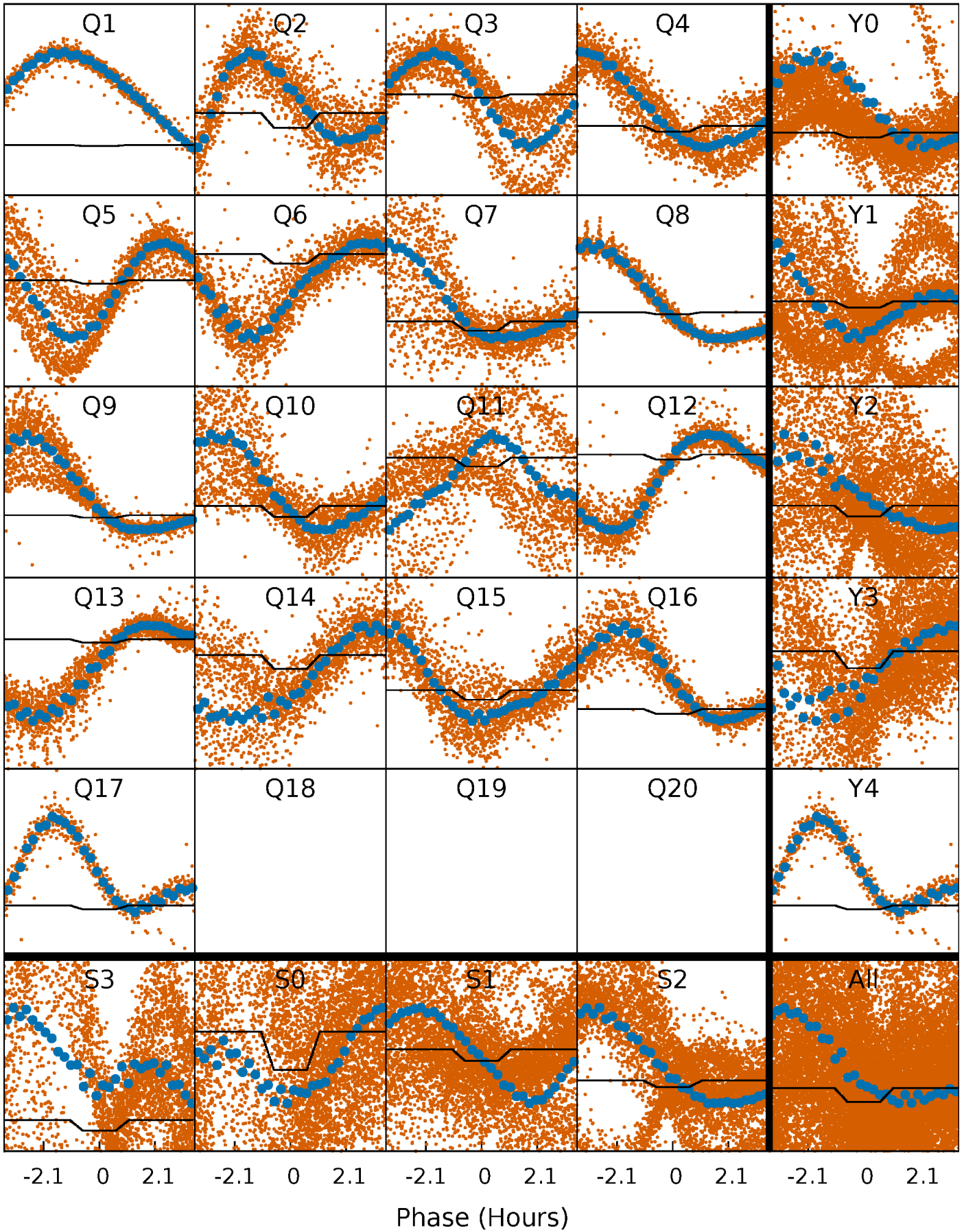
DV Quarter-Phased Transit Curves

TCE 007957710-01 P= 0.647522 Days $T_0=131.755173$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

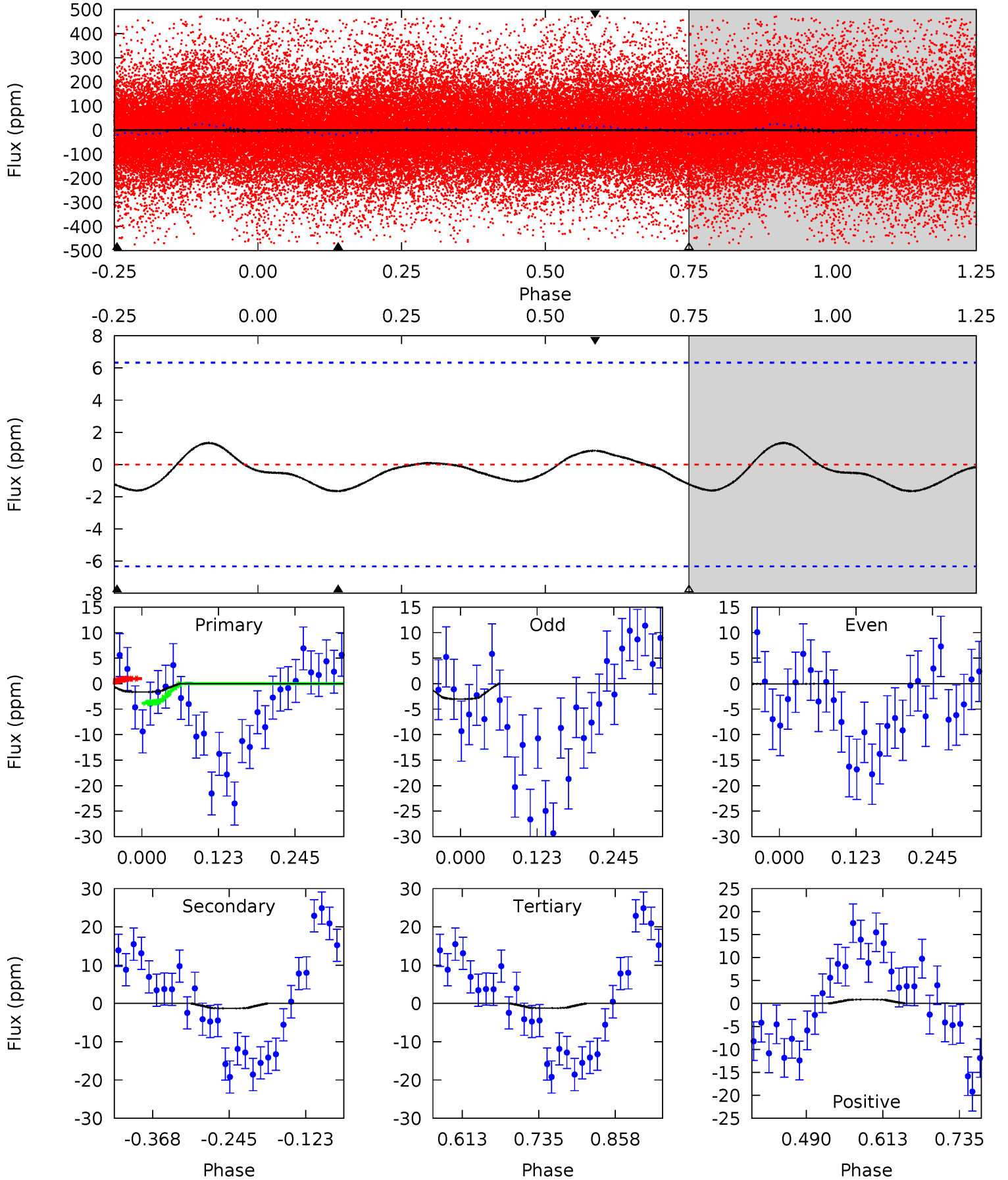
TCE 007957710-01 P= 0.648062 Days $T_0=131.708887$ (BKJD)



DV Model-Shift Uniqueness Test

007957710-01, P = 0.647522 Days, E = 131.107651 Days

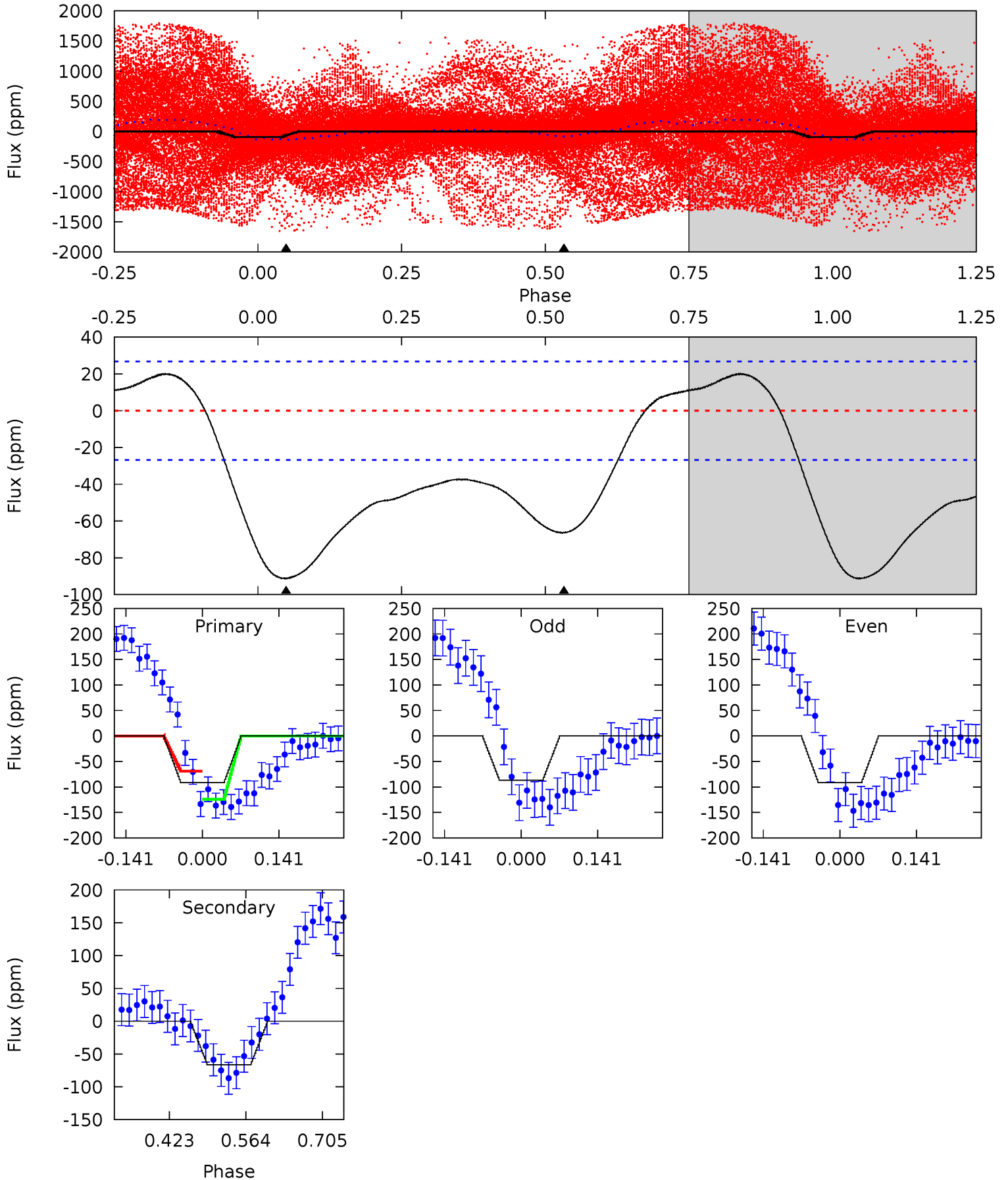
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.18	0.93	0.88	0.62	4.52	1.54	0.47	0.30	0.56	0.05	0.31	1.05	2.73	0.45	1.00



Alt Model-Shift Uniqueness Test

007957710-01, P = 0.648062 Days, E = 131.060825 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.3	11.1	0	0	4.49	1.47	4.68	15.3	15.3	11.1	11.1	0.40	-0.39	0.18	3.77



Stellar Parameters For KIC 007957710

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5992^{+71}_{-80}	$4.325^{+0.143}_{-0.104}$	$-0.400^{+0.150}_{-0.150}$	$1.074^{+0.145}_{-0.161}$	$0.890^{+0.064}_{-0.051}$	$1.011^{+0.670}_{-0.320}$
	+1%/-1%	+3%/-2%	+37%/-37%	+14%/-15%	+7%/-6%	+66%/-32%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 007957710-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1 ± 1	$0.40^{+0.26}_{-0.25}$	3220^{+132}_{-150}	3356^{+1879}_{-6744}	$0.704^{+4.207}_{-0.807}$
Alt.	-66 ± 6	$0.98^{+0.31}_{-0.29}$	3224^{+128}_{-166}	5802^{+1142}_{-651}	$7.476^{+7.889}_{-3.164}$

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 $A_{obs} \gg 1.0$

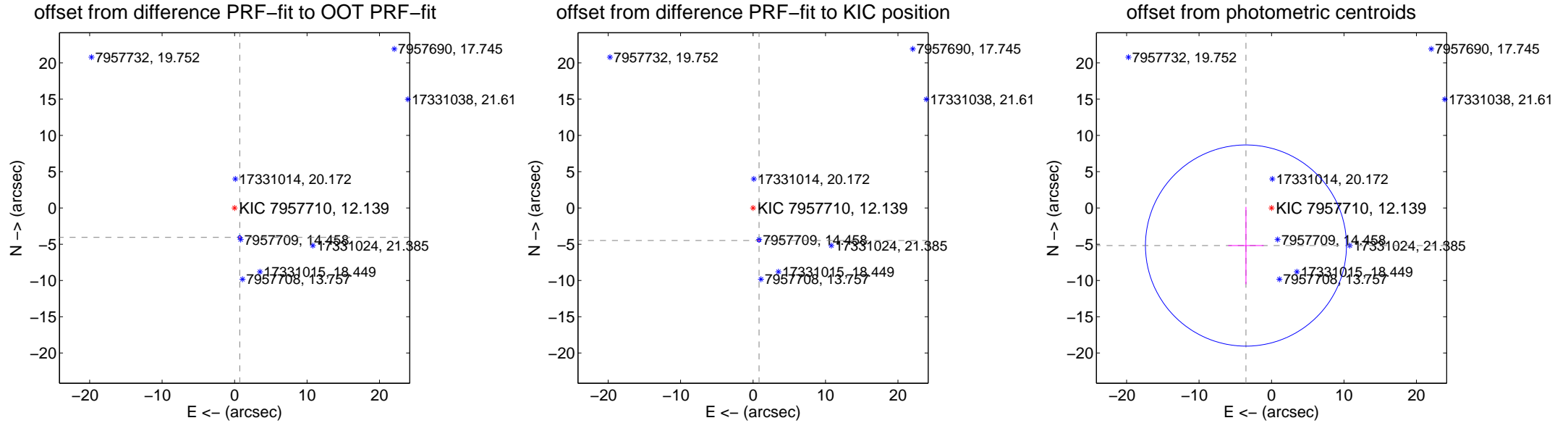
DV Centroid Data

Supplemental centroid analysis for 007957710-01. Kepler magnitude: 12.14. Transit SNR 2.97

There are 8 quarters with good PRF difference image offsets

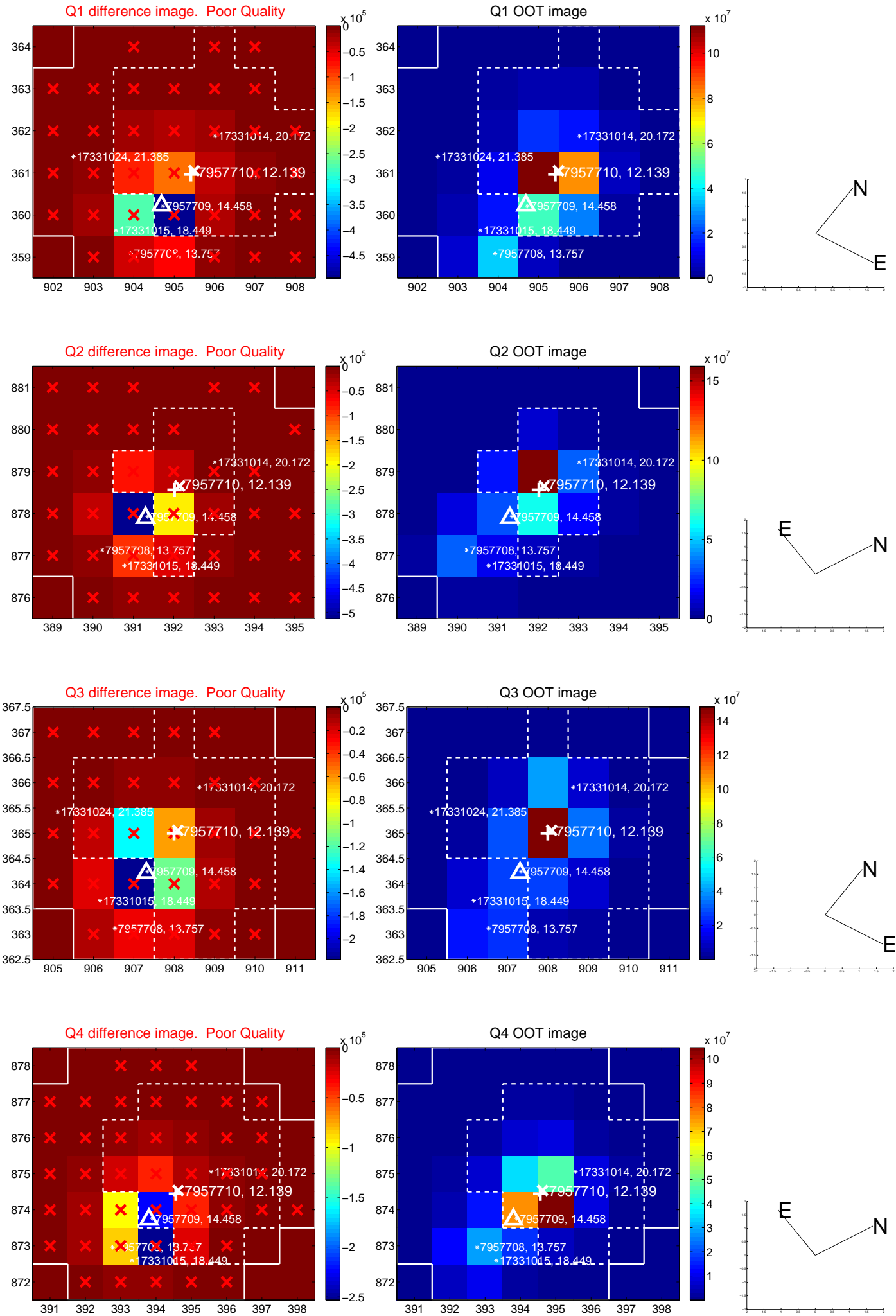
The direct PRF centroid is offset from the target star catalog position by about 0.45 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.112 \pm 0.077	53.48	-0.713 \pm 0.068	-4.050 \pm 0.077
PRF-fit source offset from KIC position	4.564 \pm 0.073	62.90	-0.826 \pm 0.069	-4.489 \pm 0.073
photometric centroid source offset	6.27 \pm 4.62	1.36	3.53 \pm 2.45	-5.18 \pm 5.34

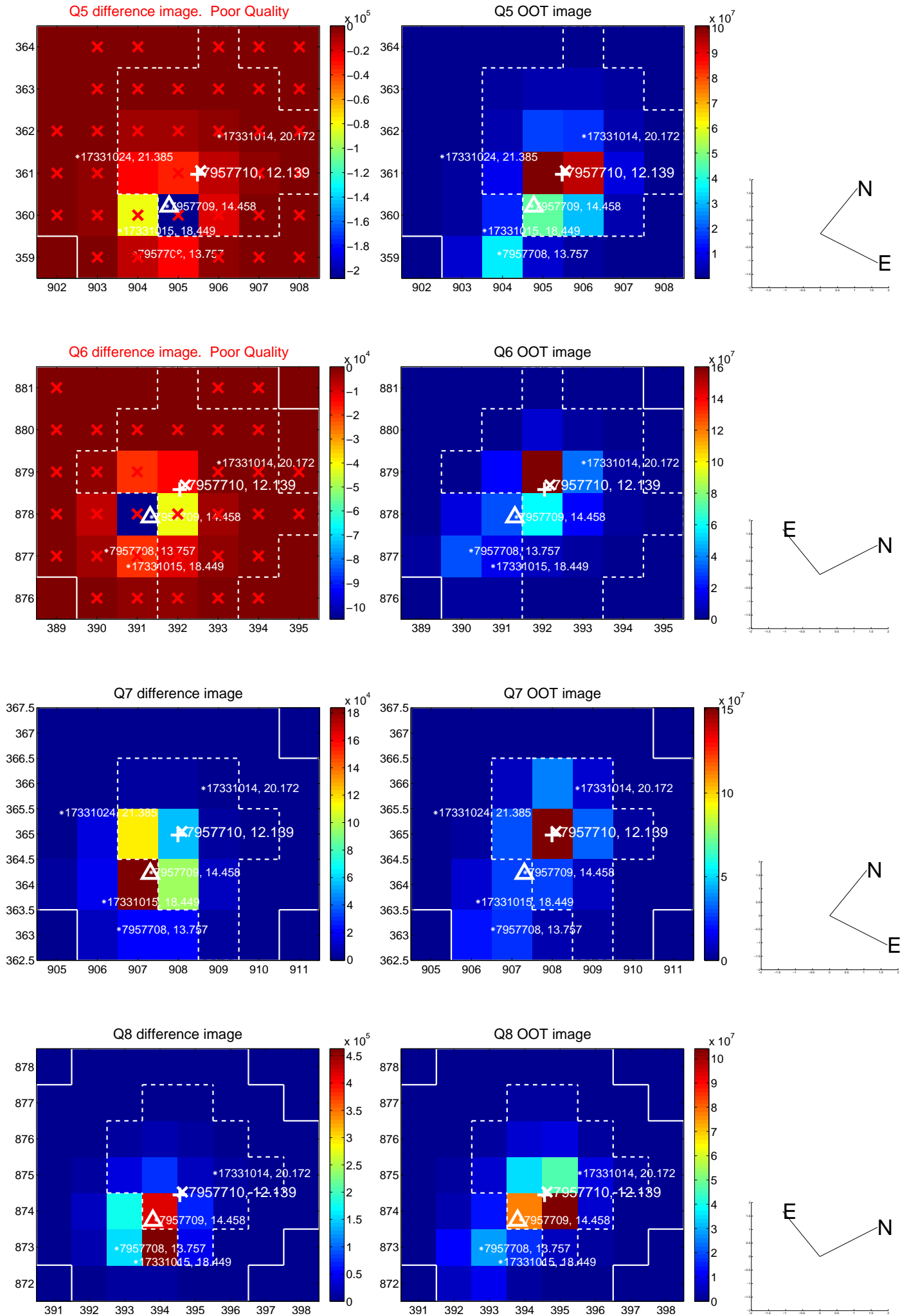


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

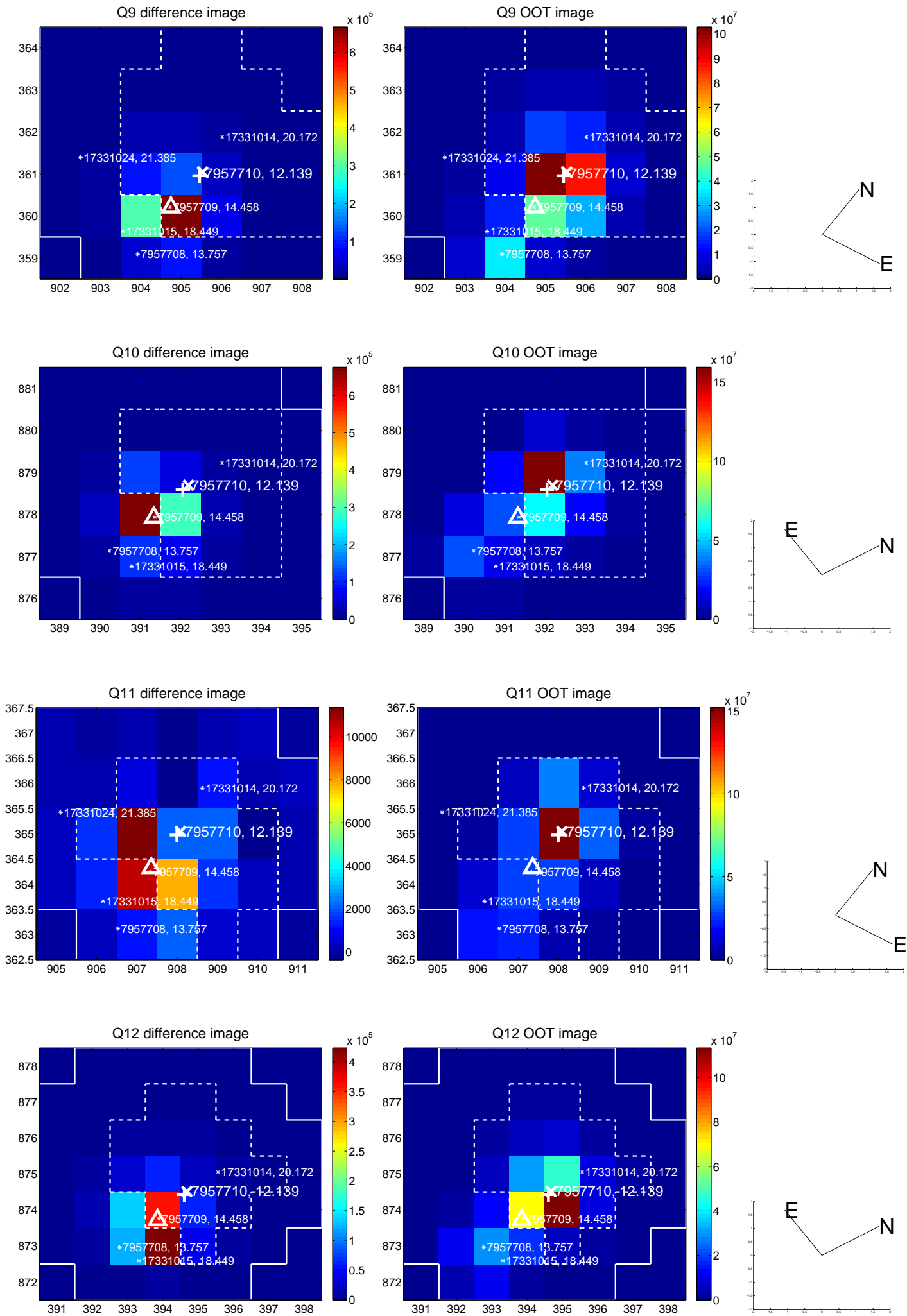
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



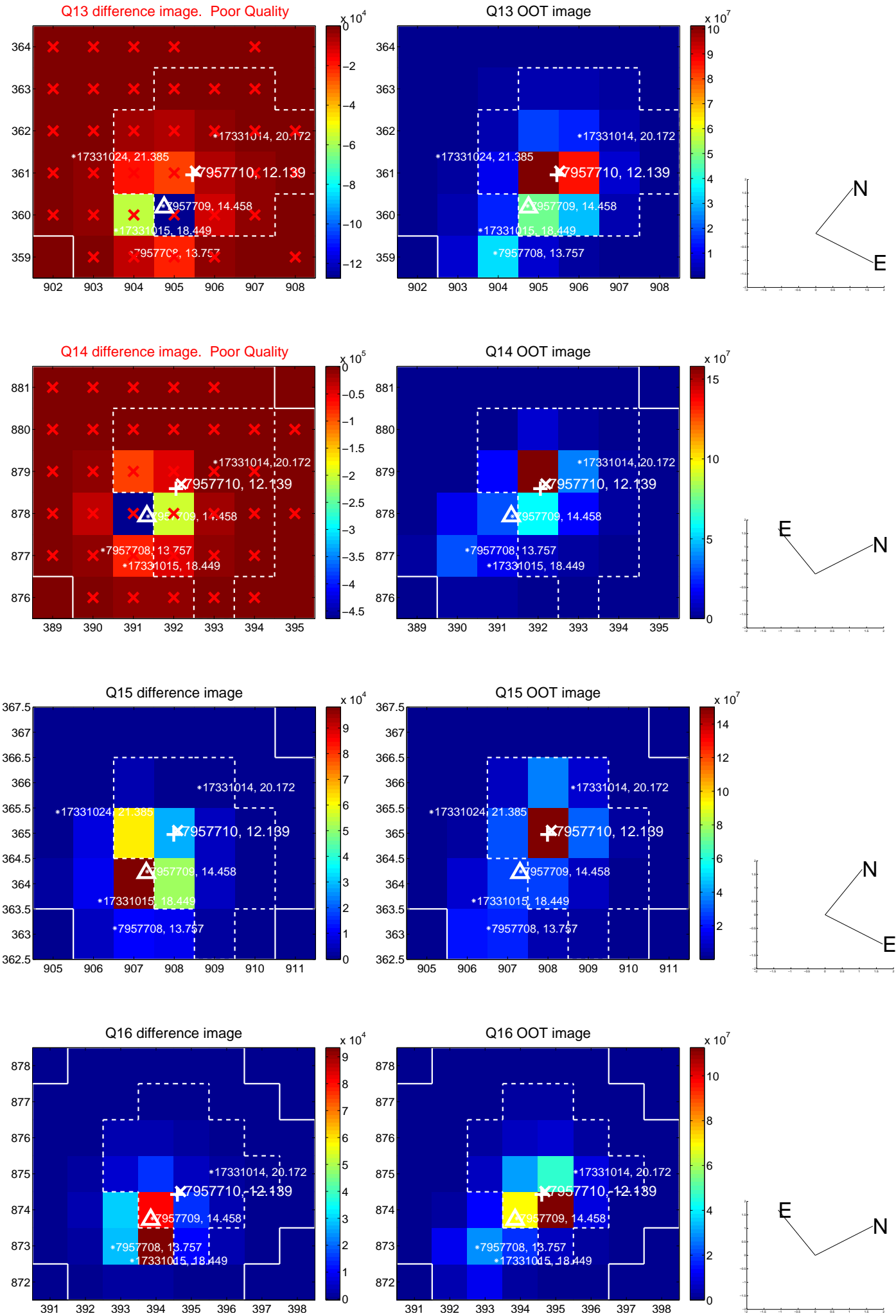
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



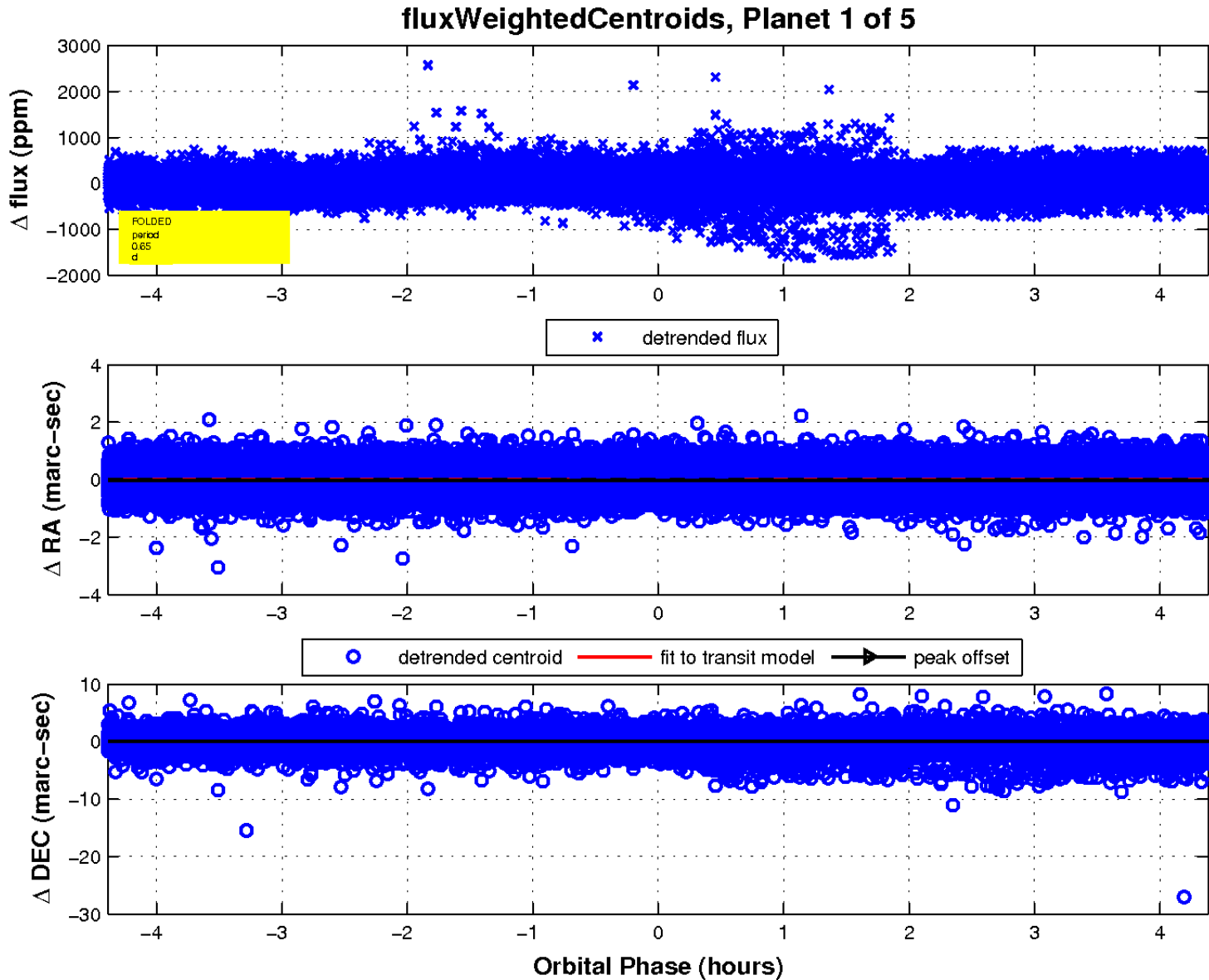
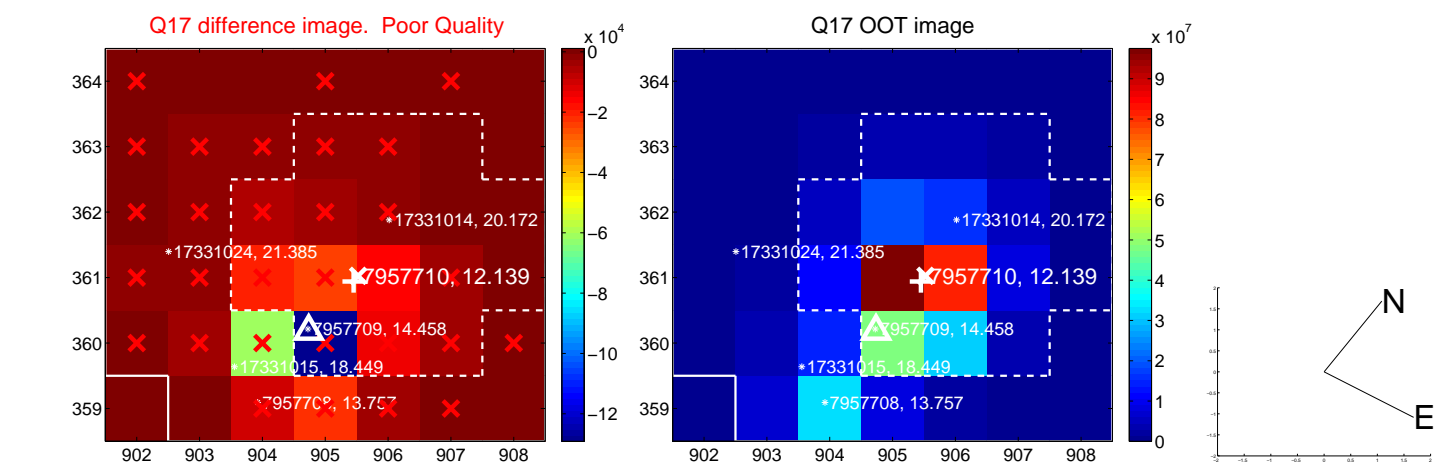
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

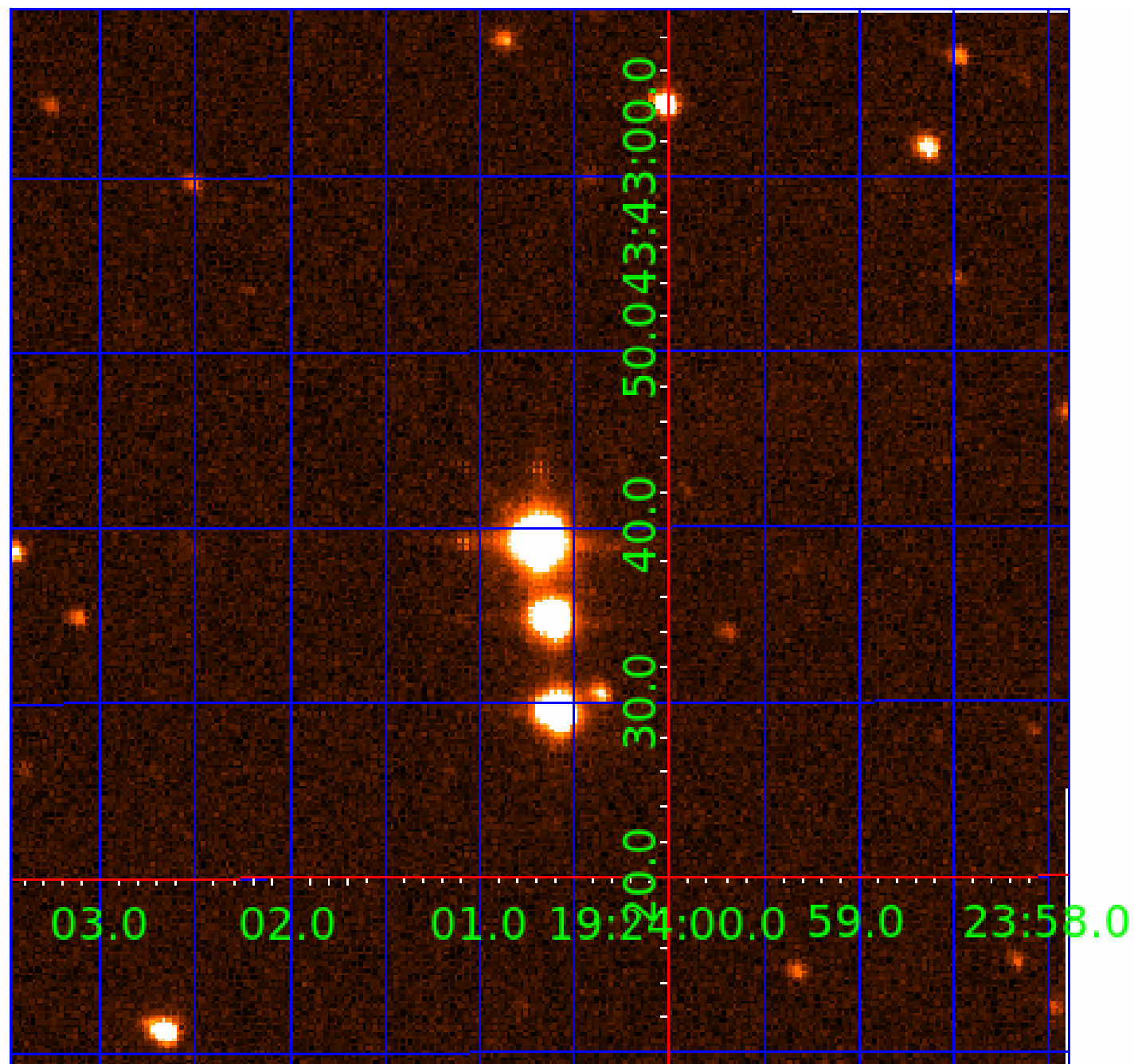


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007957710

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})
007957710-01	OBS	No	0.647522	131.755173	6.6	1.463	14.6	3.0	1.07	5992	0.35	6711.89
007957710-02	OBS	No	472.151709	151.520298	307.7	6.358	8.0	6.5	1.07	5992	2.05	1.02
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007957710-04	OBS	No	210.638326	182.264452	260.4	11.572	7.8	8.1	1.07	5992	1.90	3.00
007957710-05	OBS	No	302.267727	341.019592	155.8	3.190	7.3	2.7	1.07	5992	1.58	1.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007957710-01	OBS	FP	0.00	1	0	1	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
007957710-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_KIC_POS
007957710-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
007957710-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
007957710-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

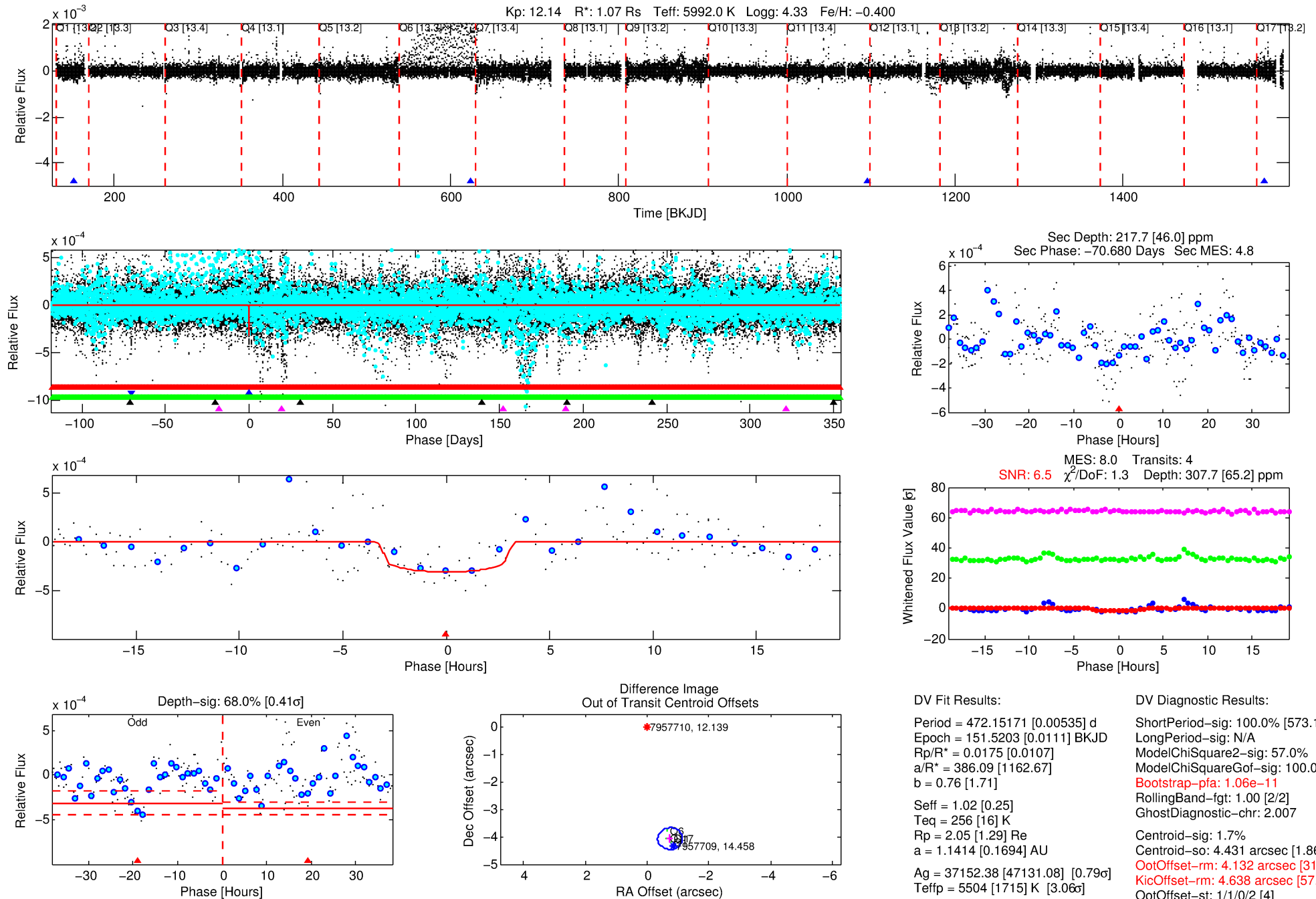
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007957710-02

No Significant Match Found

DV One-Page Summary

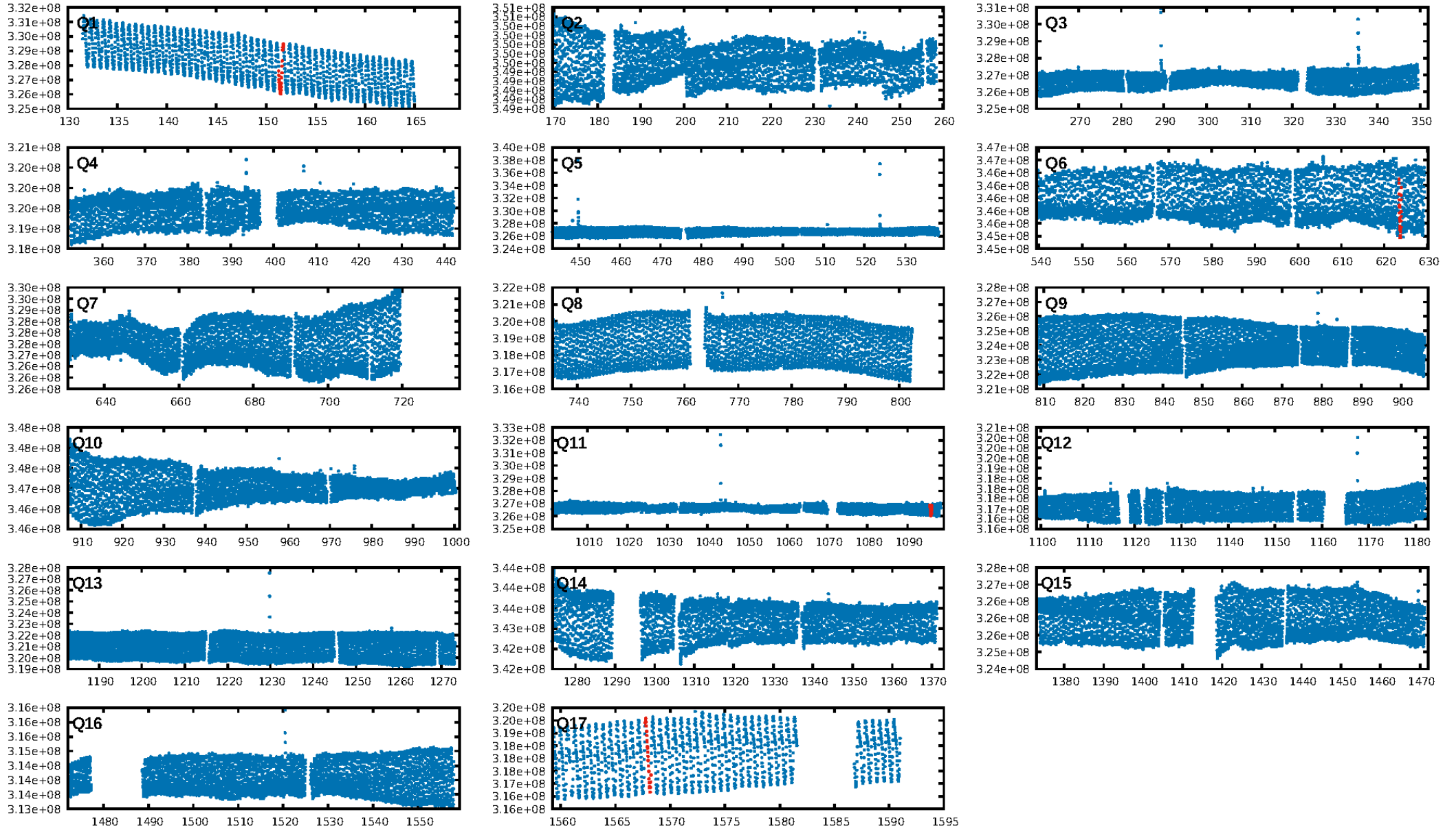
KIC: 7957710 Candidate: 2 of 5 Period: 472.152 d



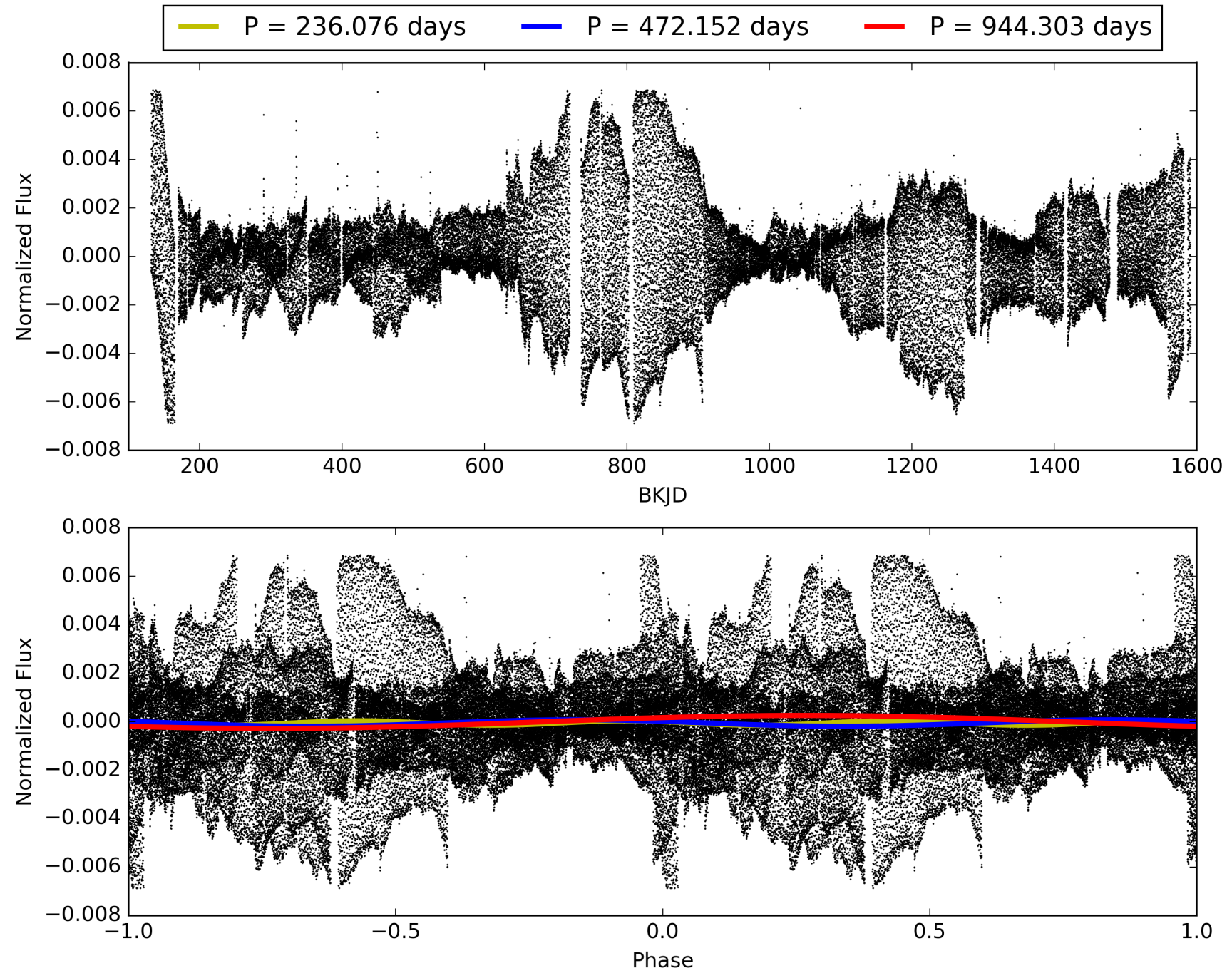
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:54:41 Z

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

TCE 007957710-02, PDC Light Curves

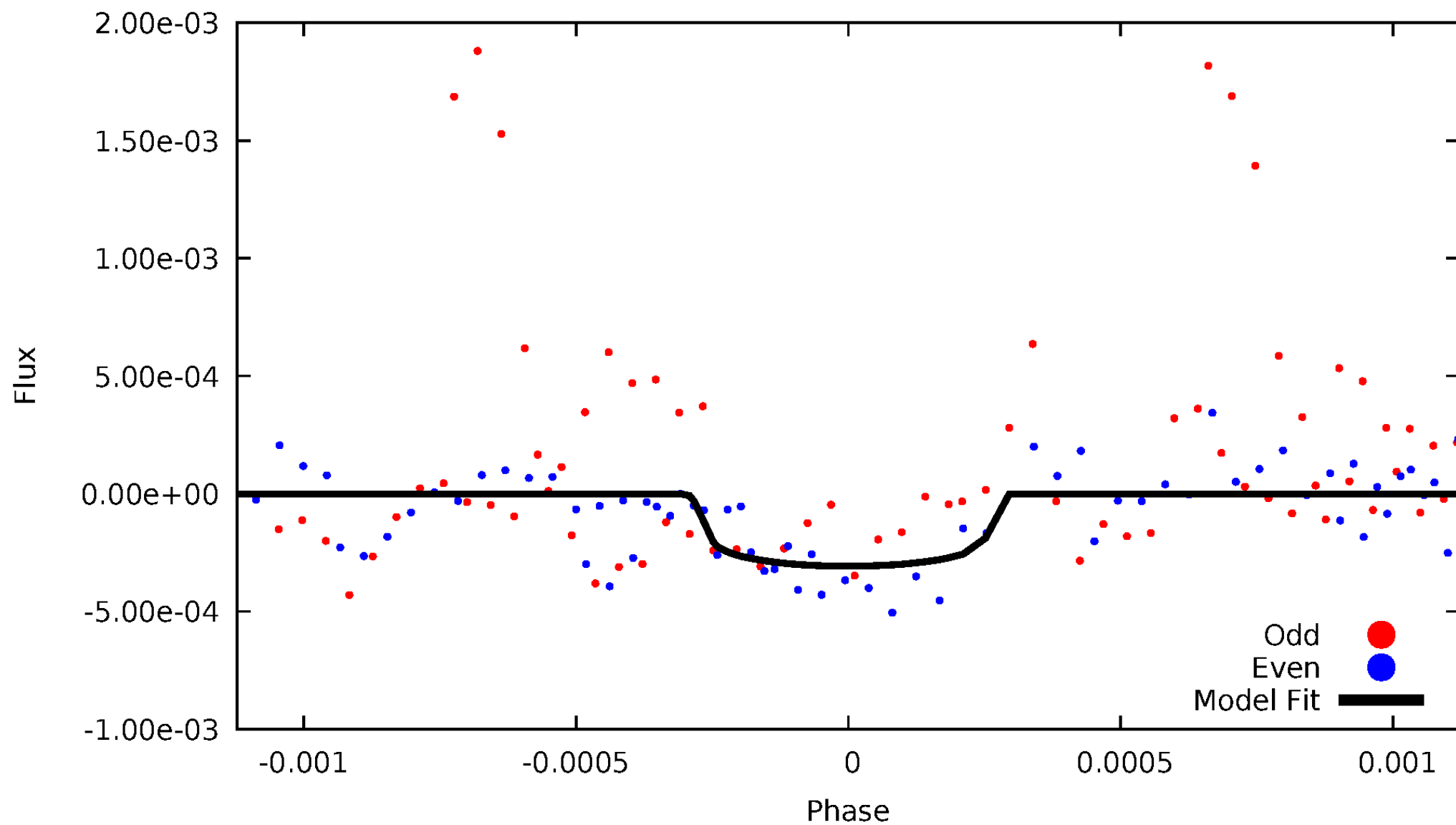


TCE 007957710-02



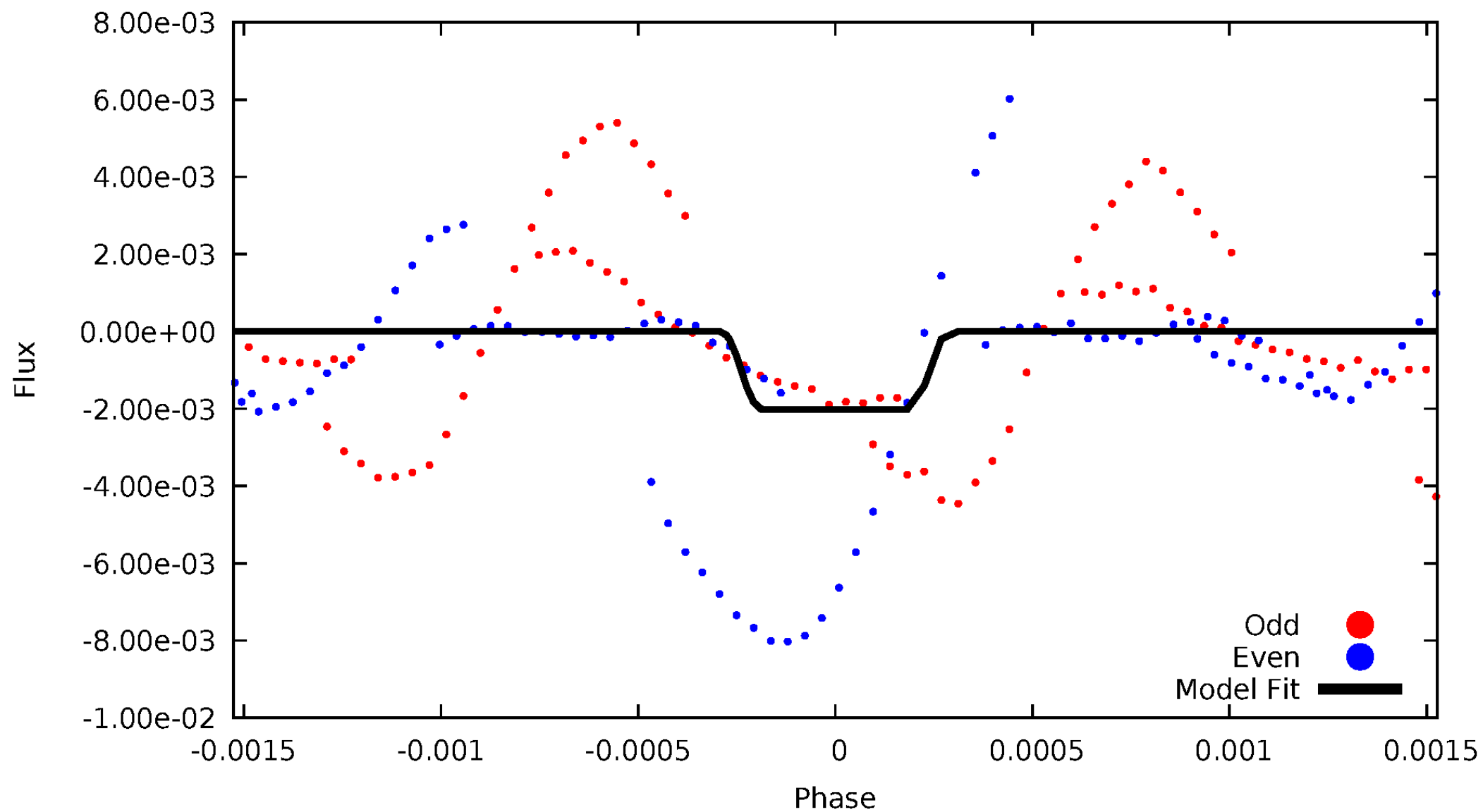
DV Odd/Even

TCE 007957710-02



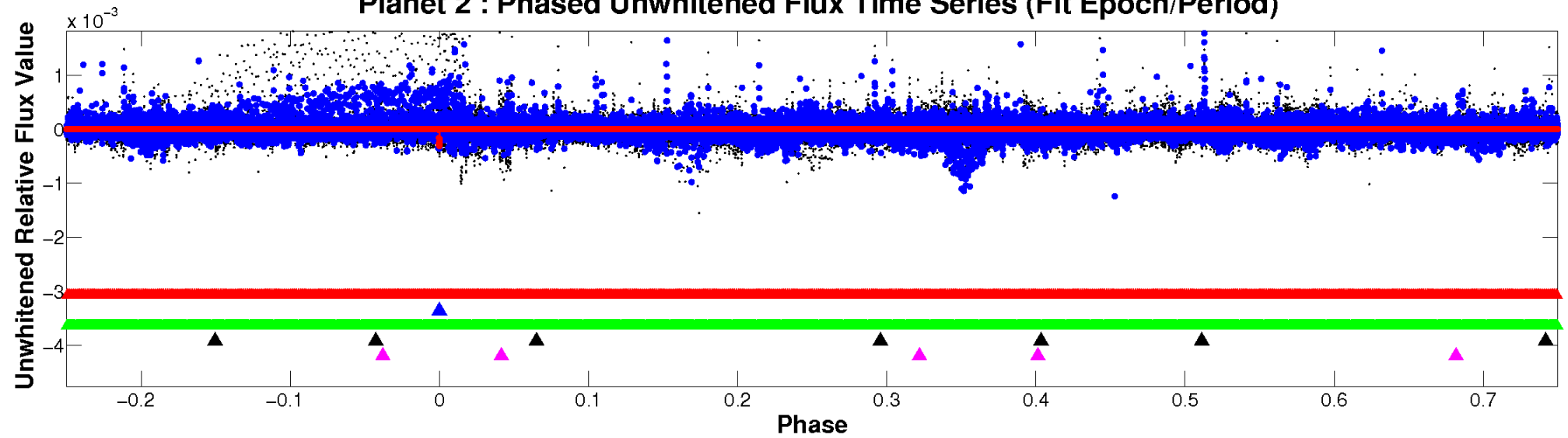
ALT Odd/Even

TCE 007957710-02

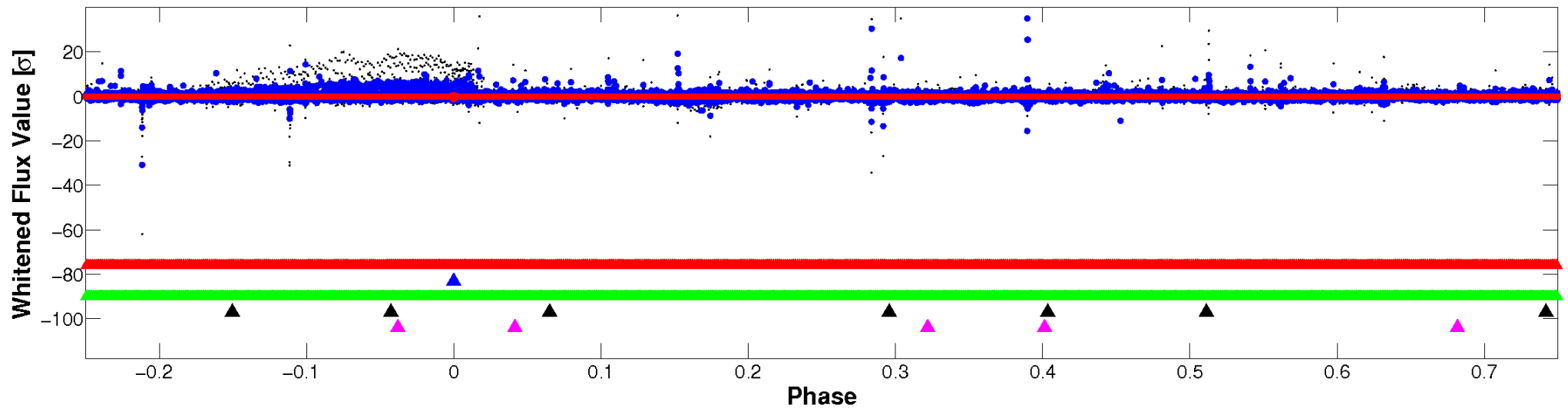


Non-Whitened Vs. Whitened Light Curve

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

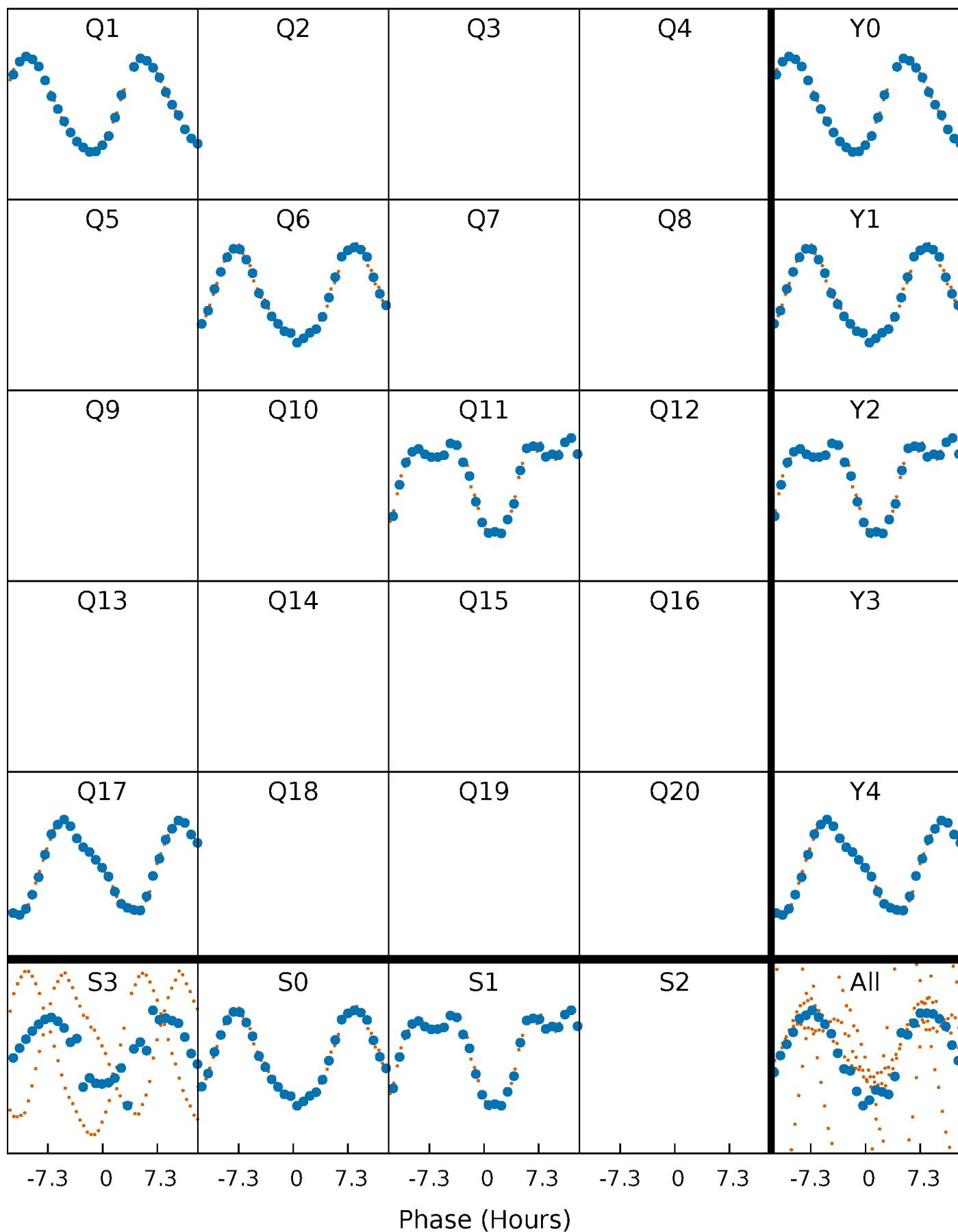


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 007957710-02 P=472.151709 Days $T_0=151.520298$ (BKJD)



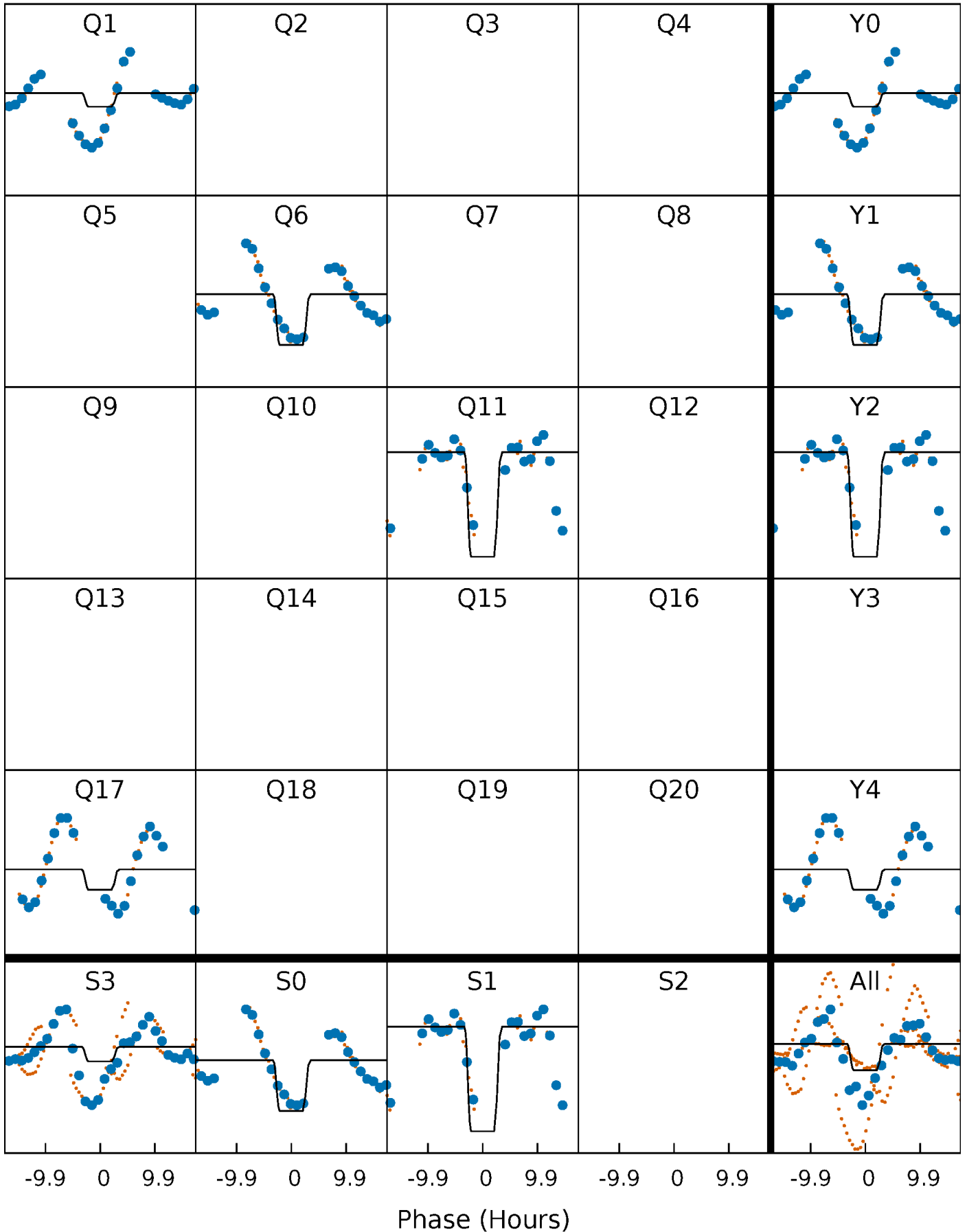
DV Quarter-Phased Transit Curves

TCE 007957710-02 P=472.151709 Days $T_0=151.520298$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

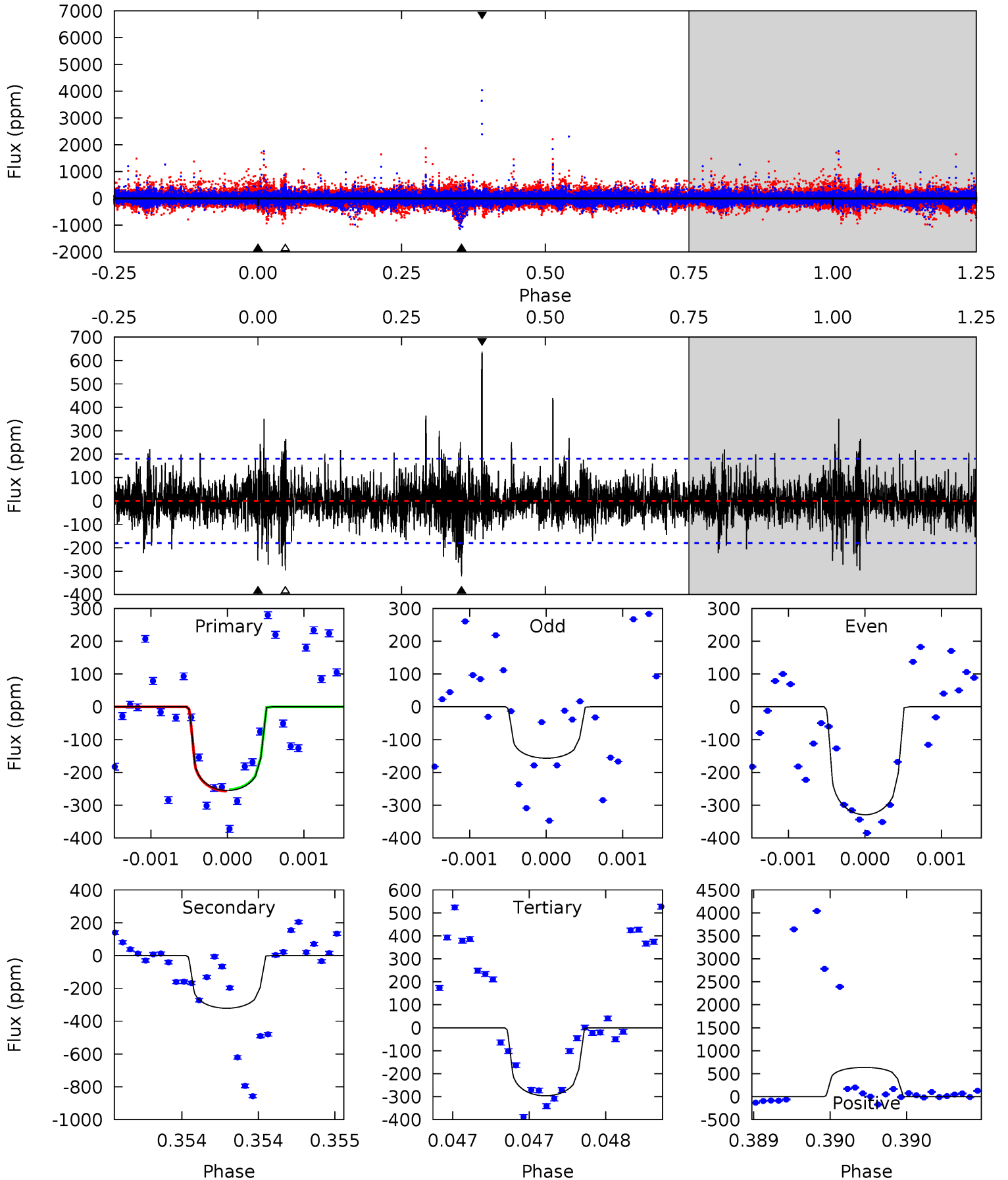
TCE 007957710-02 P=472.171893 Days $T_0=151.513240$ (BKJD)



DV Model-Shift Uniqueness Test

007957710-02, P = 472.151709 Days, E = 151.520298 Days

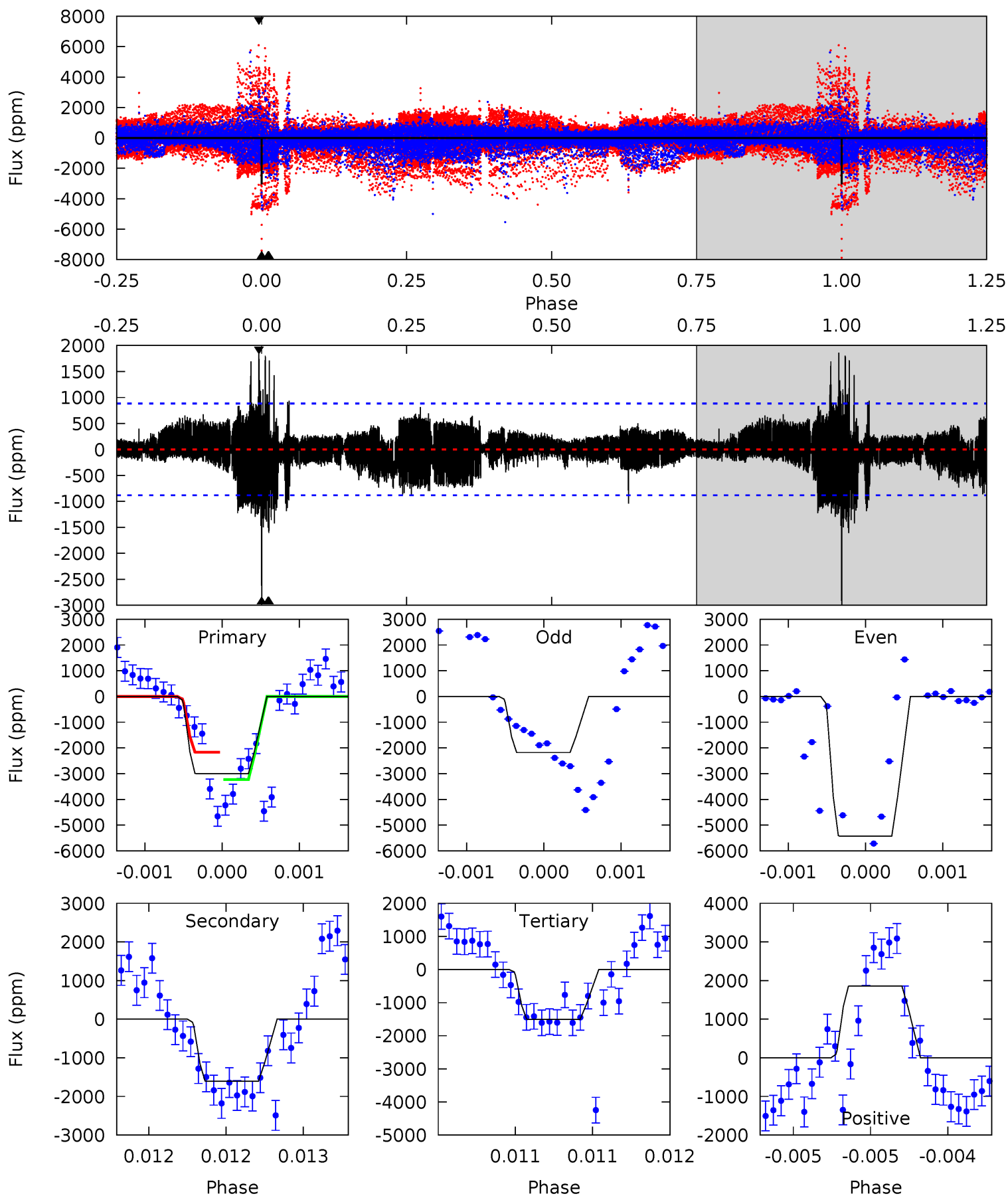
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.85	9.89	9.12	19.6	5.55	3.44	2.05	-1.27	-11.8	0.77	-9.72	2.29	0.80	0.66	0.06



Alt Model-Shift Uniqueness Test

007957710-02, P = 472.171893 Days, E = 151.513240 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.9	10.1	9.49	11.7	5.56	3.46	1.98	9.41	7.18	0.63	-1.59	9.58	1.19	0.38	3.27



Stellar Parameters For KIC 007957710

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5992^{+71}_{-80}	$4.325^{+0.143}_{-0.104}$	$-0.400^{+0.150}_{-0.150}$	$1.074^{+0.145}_{-0.161}$	$0.890^{+0.064}_{-0.051}$	$1.011^{+0.670}_{-0.320}$
	+1%/-1%	+3%/-2%	+37%/-37%	+14%/-15%	+7%/-6%	+66%/-32%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 007957710-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-321 ± 32	$2.09^{+1.20}_{-1.12}$	357^{+15}_{-17}	5951^{+3324}_{-1065}	$53862^{+195775}_{-32611}$
Alt.	-1606 ± 159	$5.21^{+1.40}_{-1.27}$	357^{+13}_{-15}	5691^{+745}_{-575}	42472^{+32123}_{-16039}

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 $A_{obs} \gg 1.0$

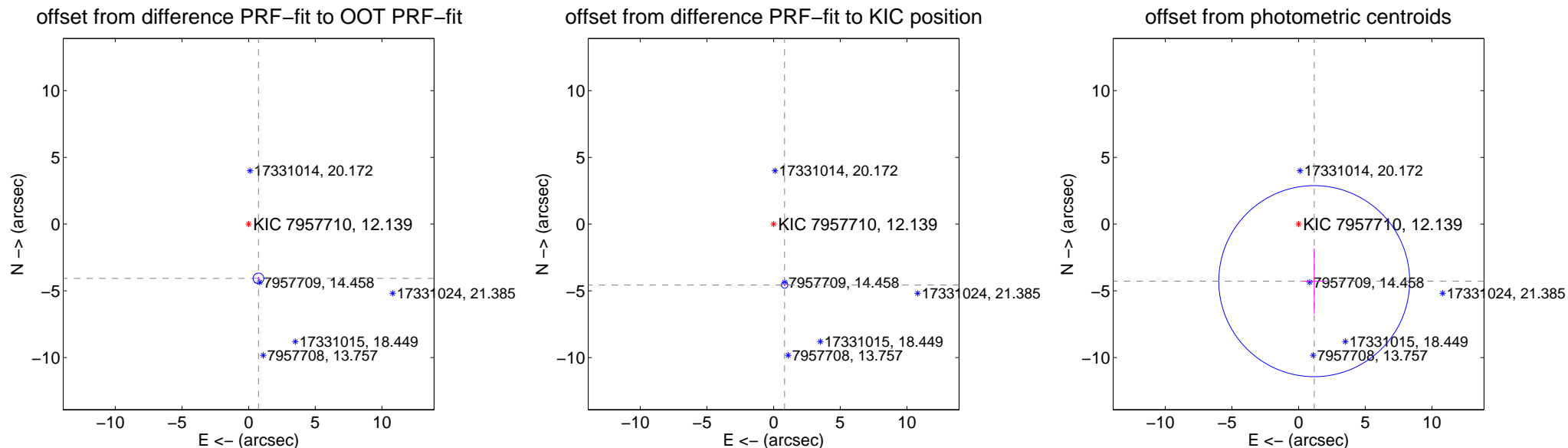
DV Centroid Data

Supplemental centroid analysis for 007957710-02. Kepler magnitude: 12.14. Transit SNR 6.45

There are 4 quarters with good PRF difference image offsets

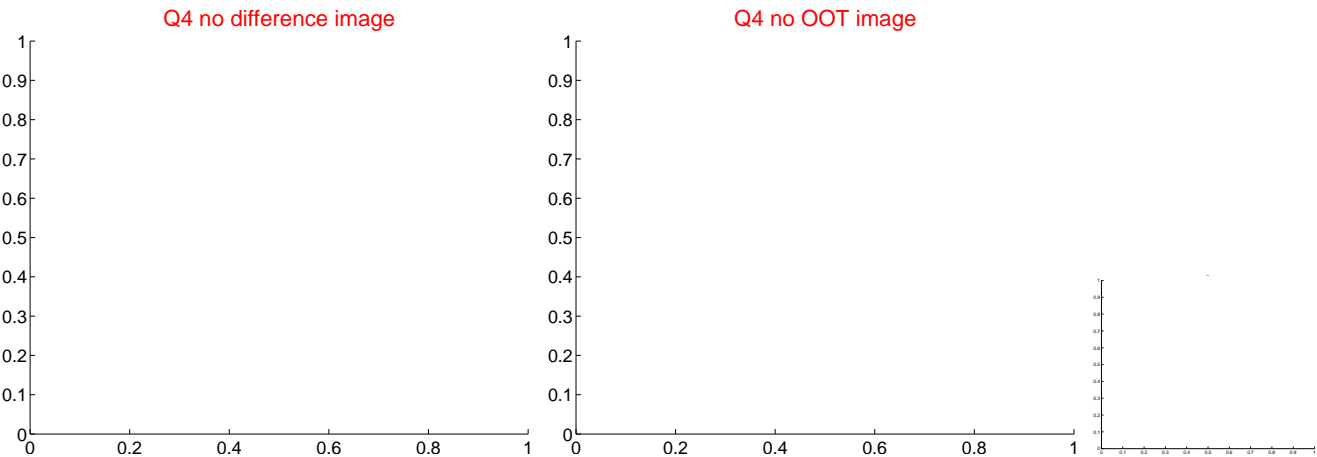
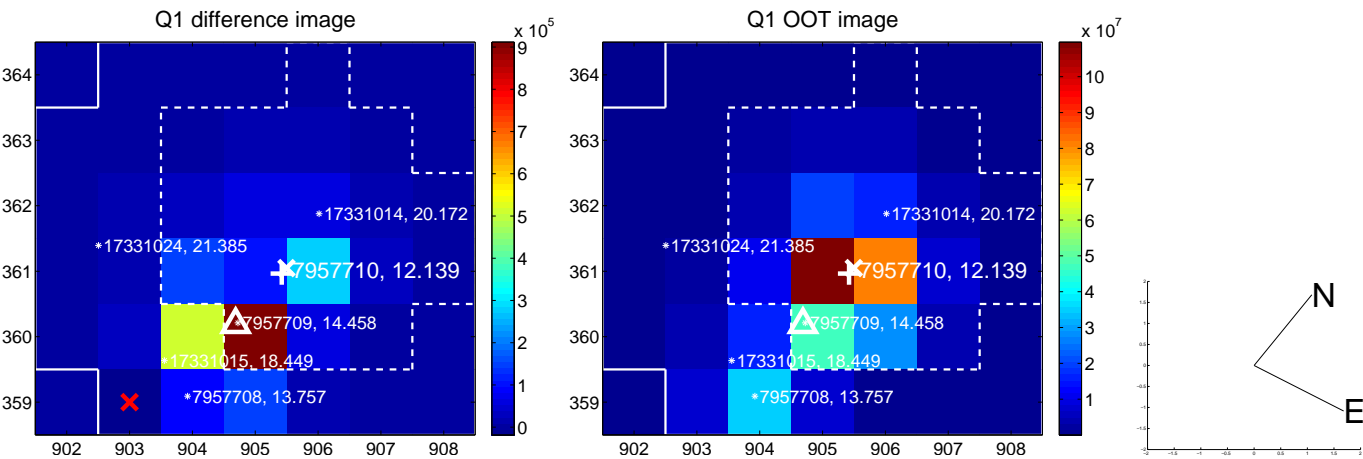
The direct PRF centroid is offset from the target star catalog position by about 0.45 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.132 \pm 0.133	31.02	-0.740 \pm 0.076	-4.065 \pm 0.135
PRF-fit source offset from KIC position	4.638 \pm 0.080	57.78	-0.828 \pm 0.074	-4.563 \pm 0.080
photometric centroid source offset	4.43 \pm 2.39	1.86	-1.17 \pm 0.85	-4.27 \pm 2.46

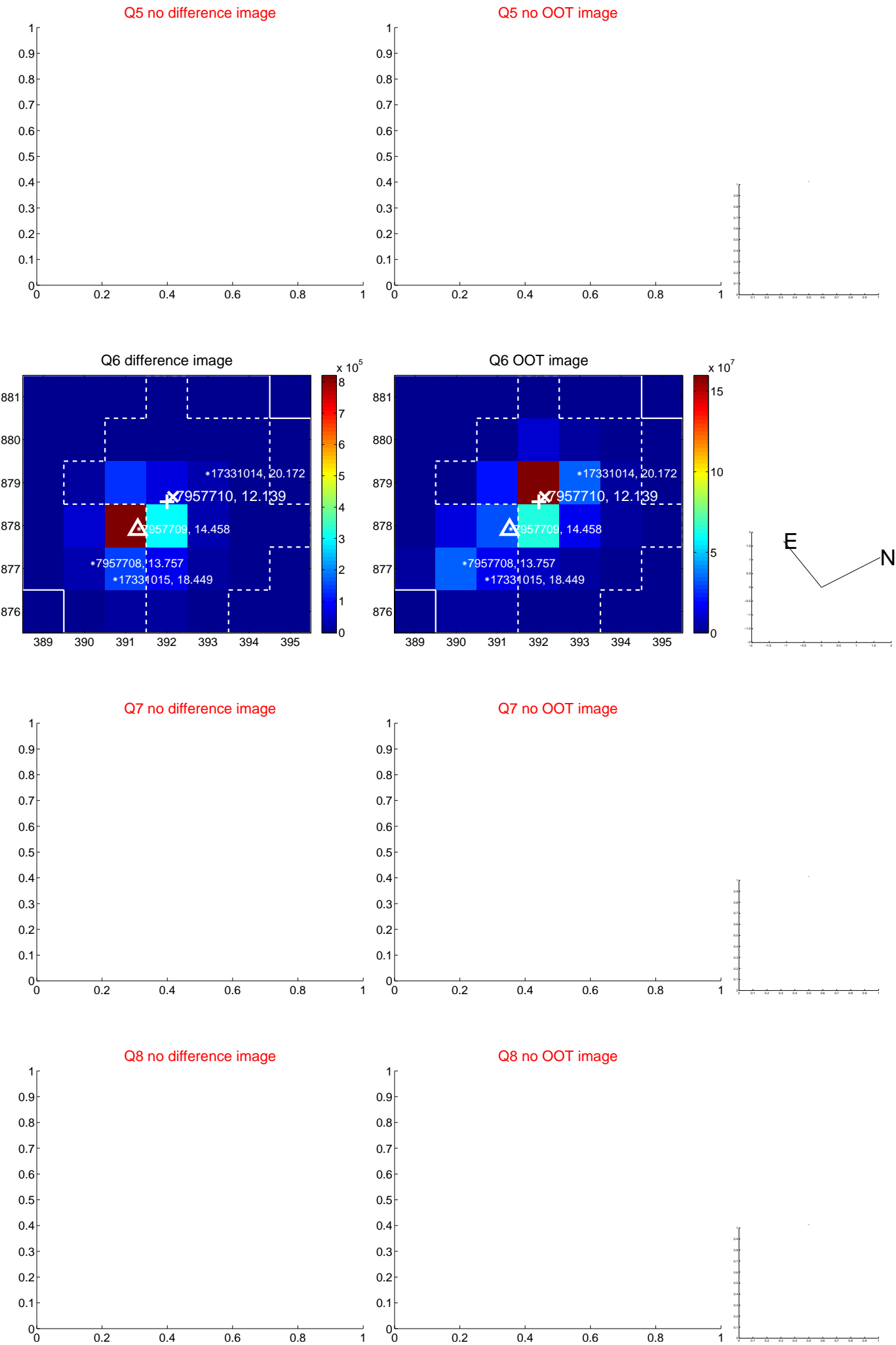


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



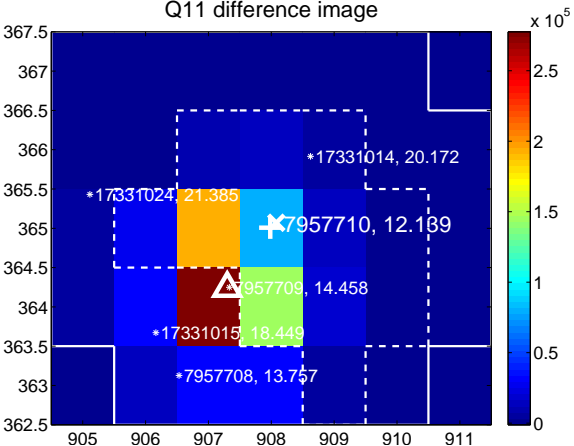
Q10 no difference image



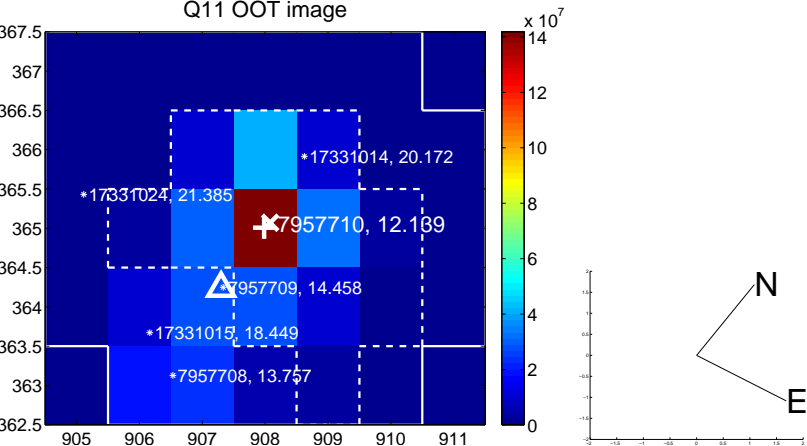
Q10 no OOT image



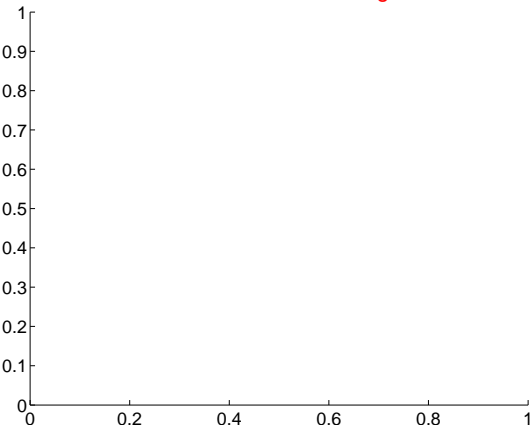
Q11 difference image



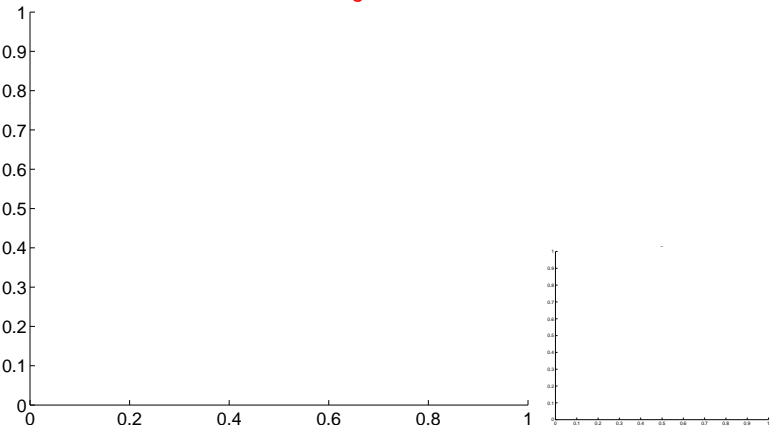
Q11 OOT image



Q12 no difference image



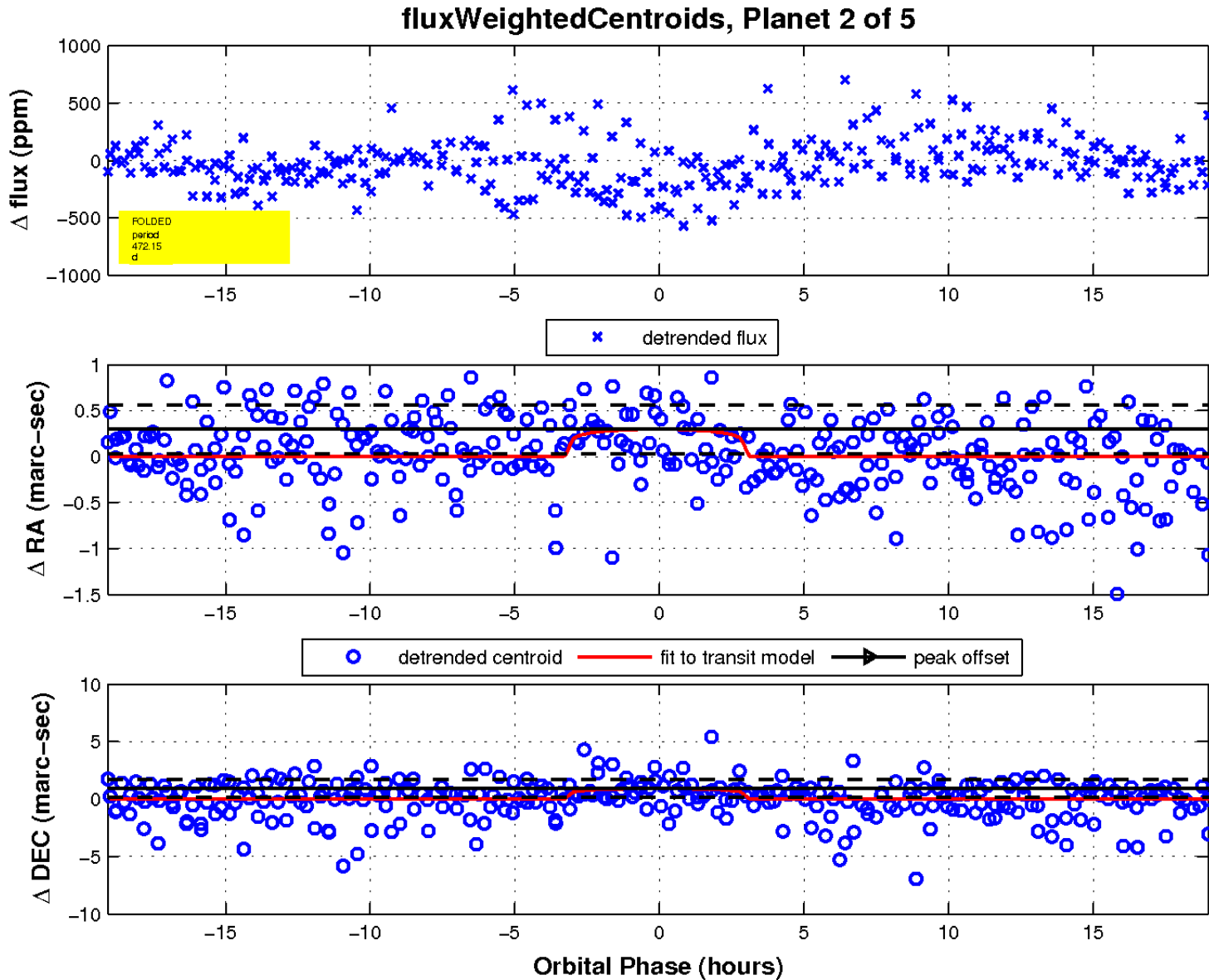
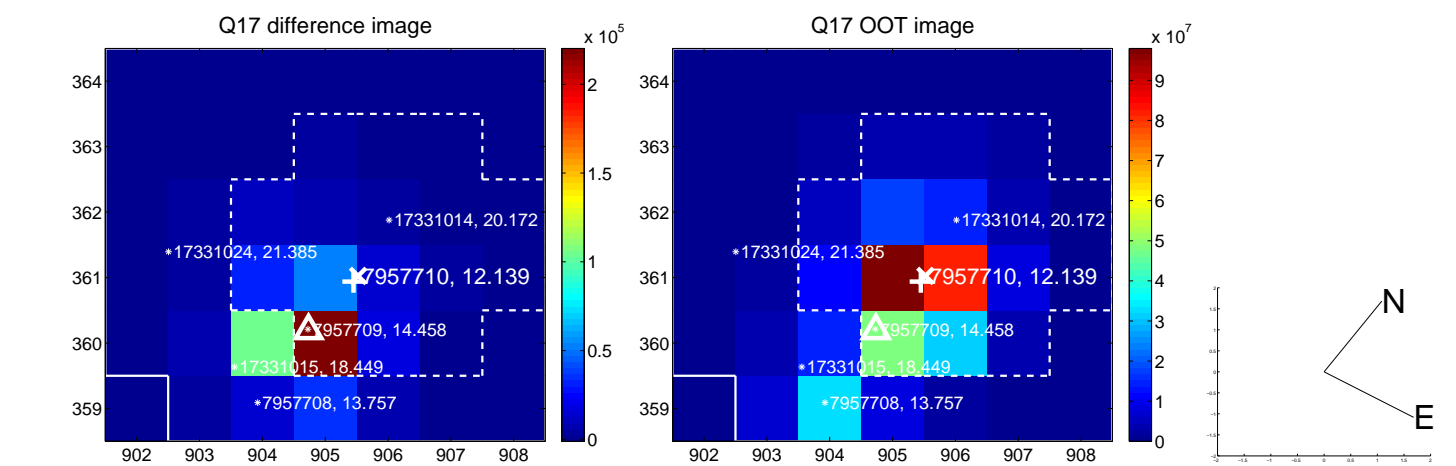
Q12 no OOT image



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

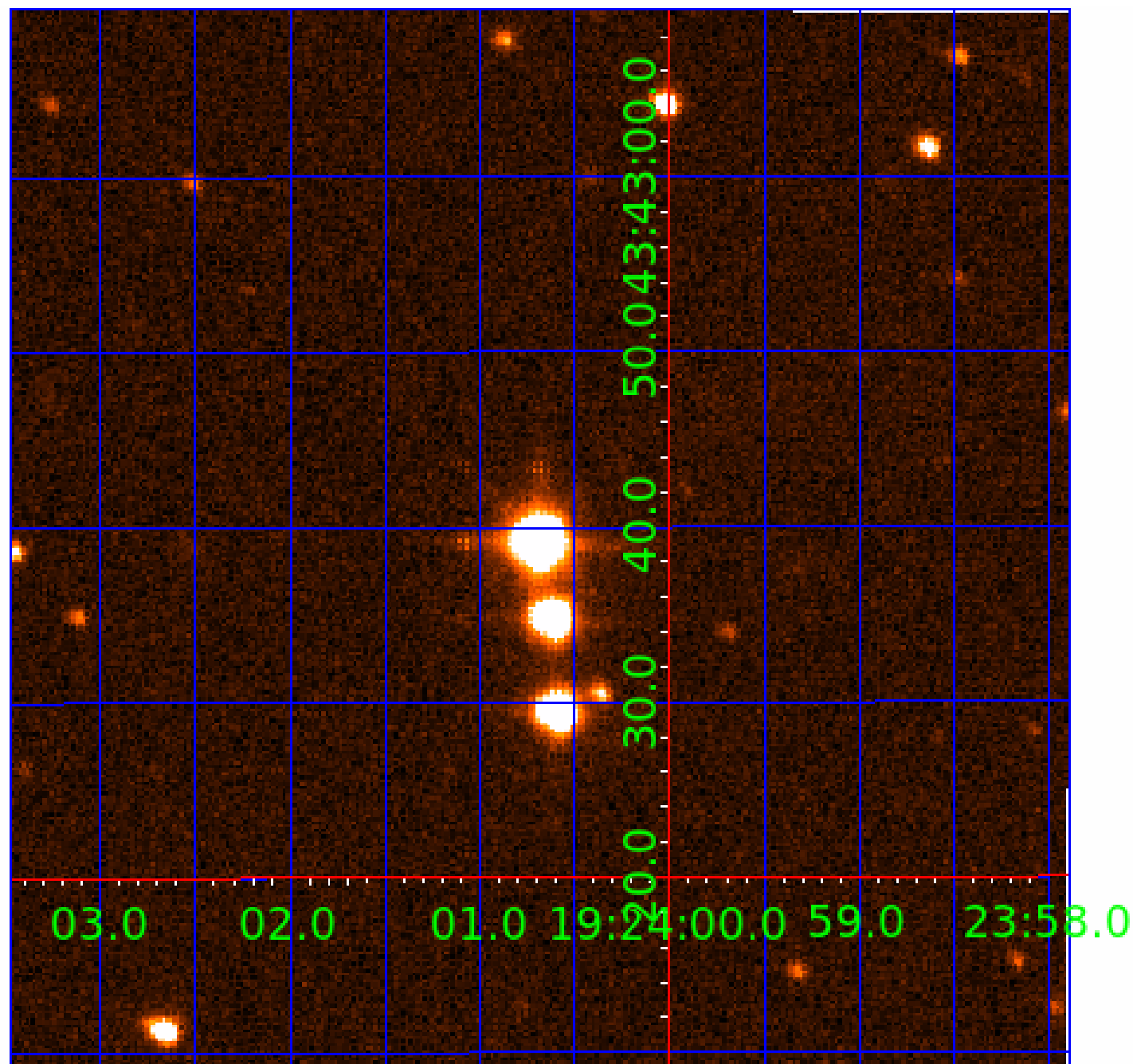


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007957710

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})
007957710-01	OBS	No	0.647522	131.755173	6.6	1.463	14.6	3.0	1.07	5992	0.35	6711.89
007957710-02	OBS	No	472.151709	151.520298	307.7	6.358	8.0	6.5	1.07	5992	2.05	1.02
007957710-03	OBS	No	0.646339	132.195220	0.2	1.256	10.7	0.1	1.07	5992	0.07	6728.28
007957710-04	OBS	No	210.638326	182.264452	260.4	11.572	7.8	8.1	1.07	5992	1.90	3.00
007957710-05	OBS	No	302.267727	341.019592	155.8	3.190	7.3	2.7	1.07	5992	1.58	1.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007957710-01	OBS	FP	0.00	1	0	1	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
007957710-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_KIC_POS
007957710-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
007957710-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
007957710-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

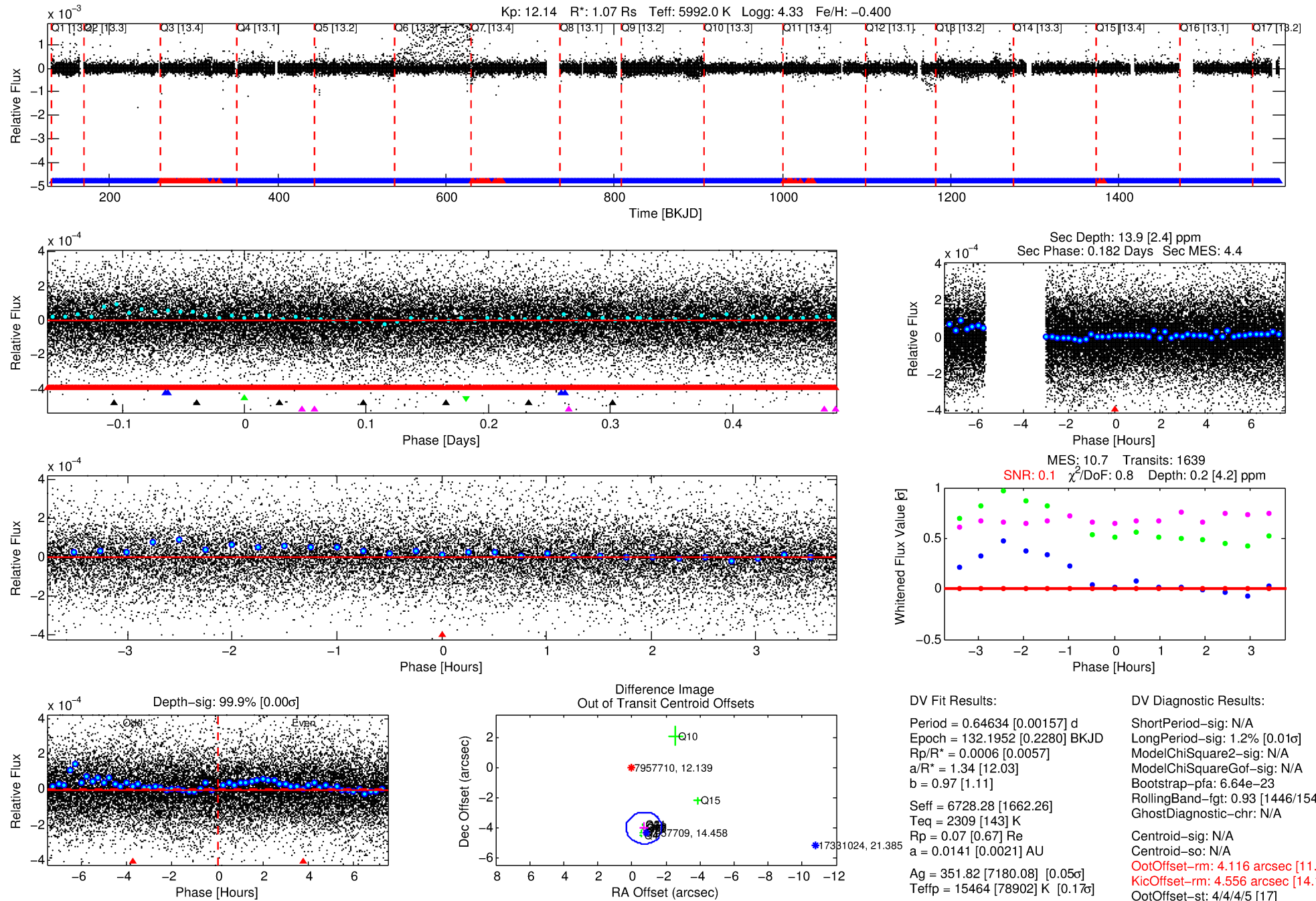
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007957710-03

No Significant Match Found

DV One-Page Summary

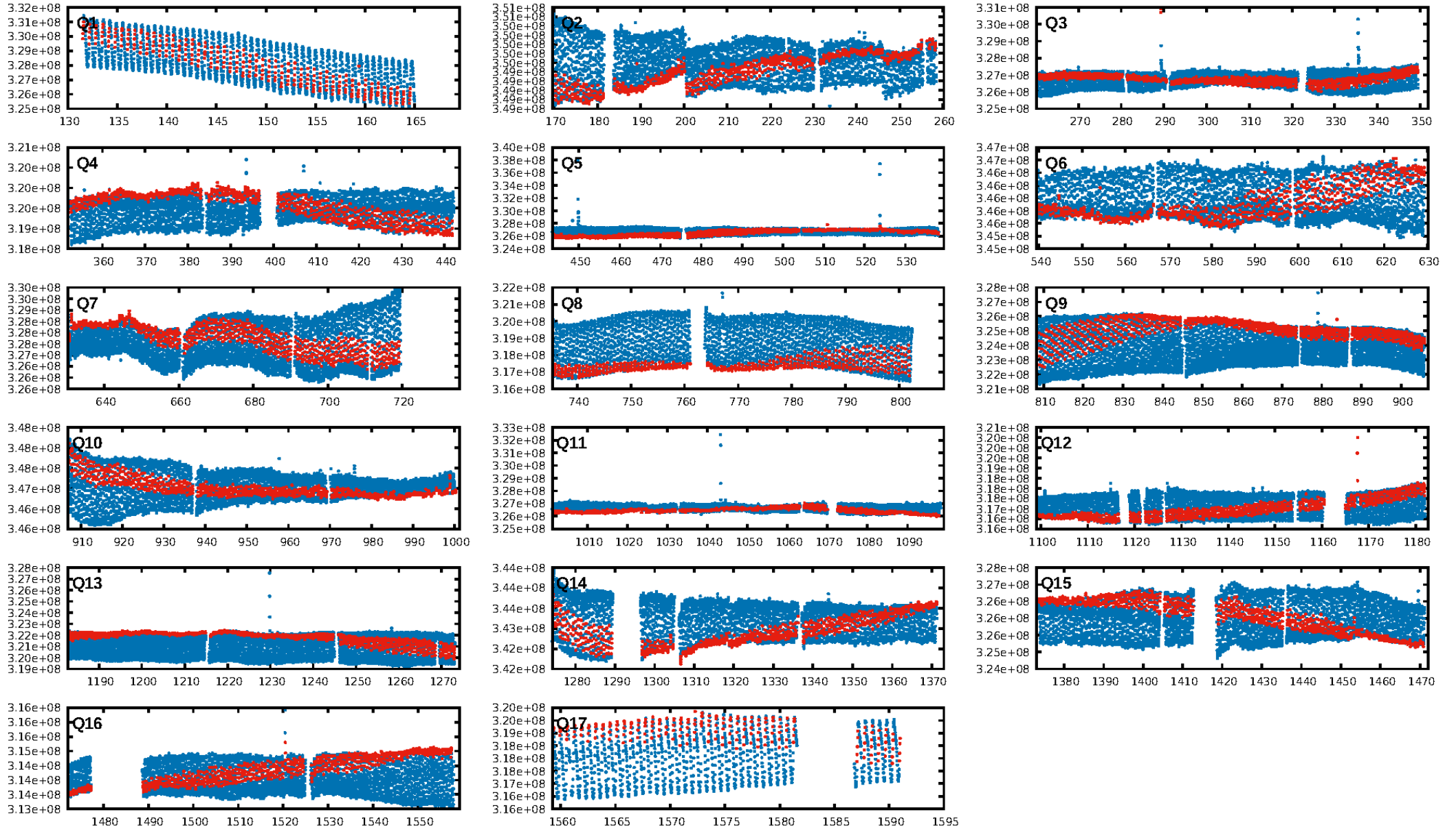
KIC: 7957710 Candidate: 3 of 5 Period: 0.646 d



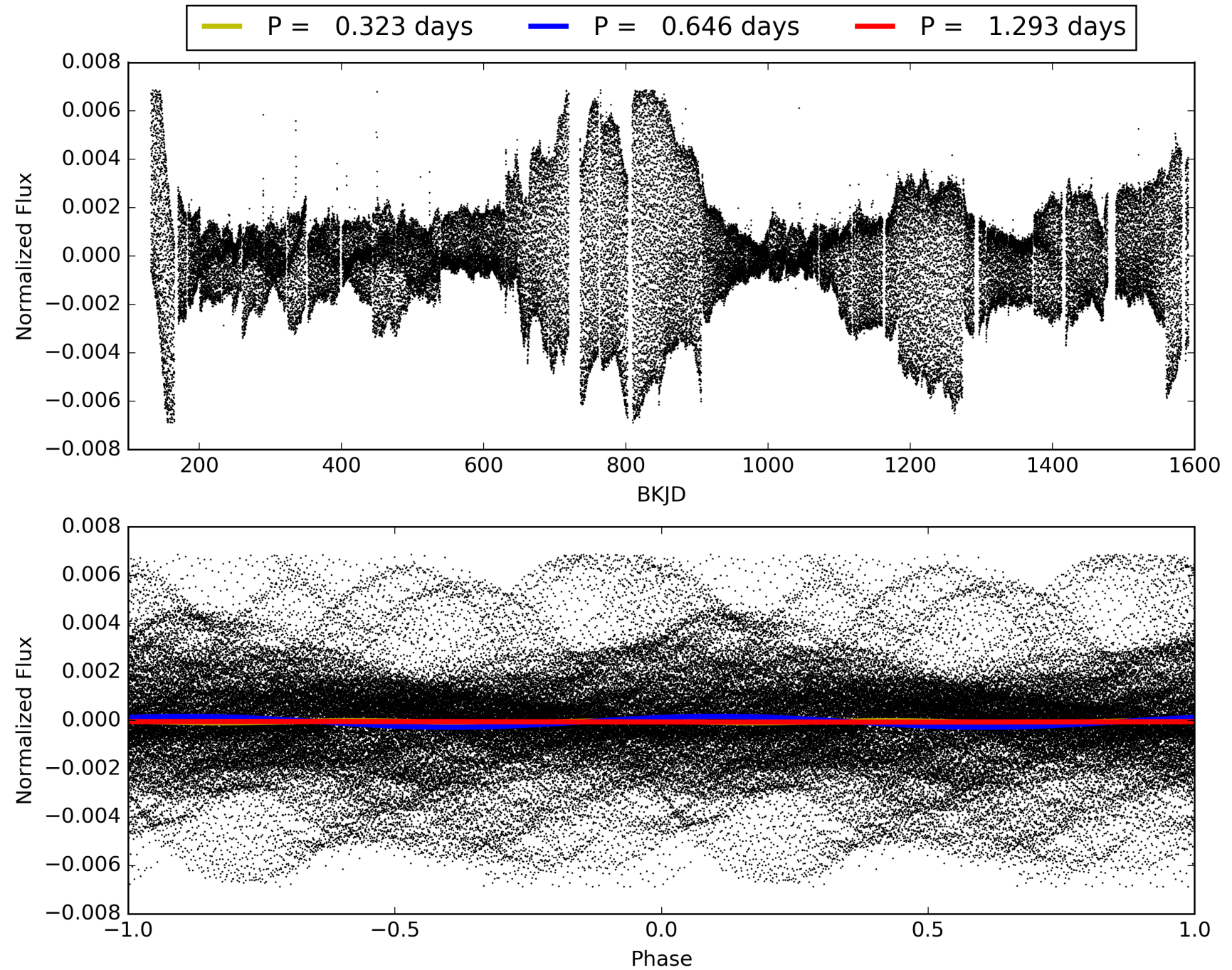
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:54:48 Z

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

TCE 007957710-03, PDC Light Curves

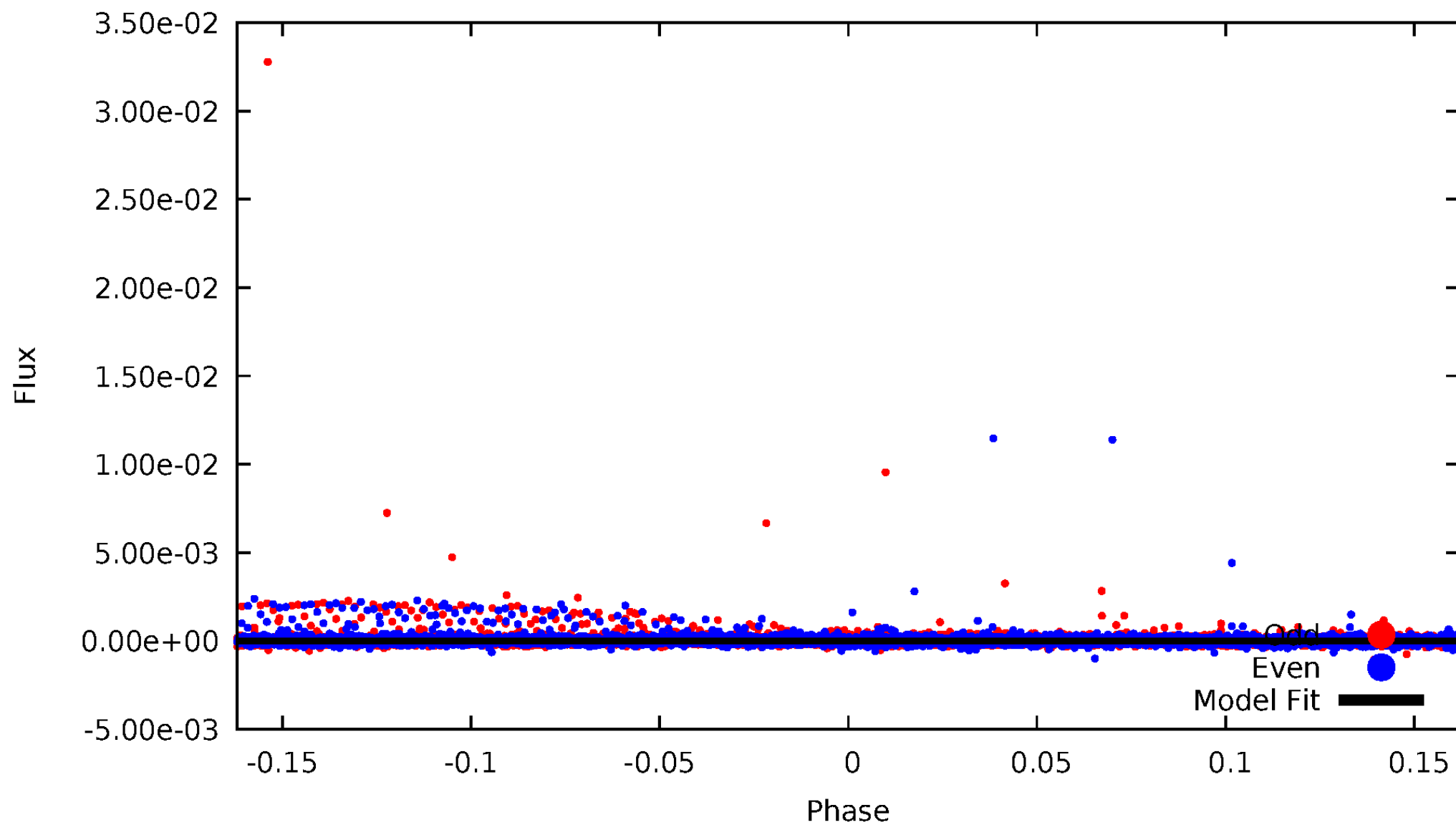


TCE 007957710-03



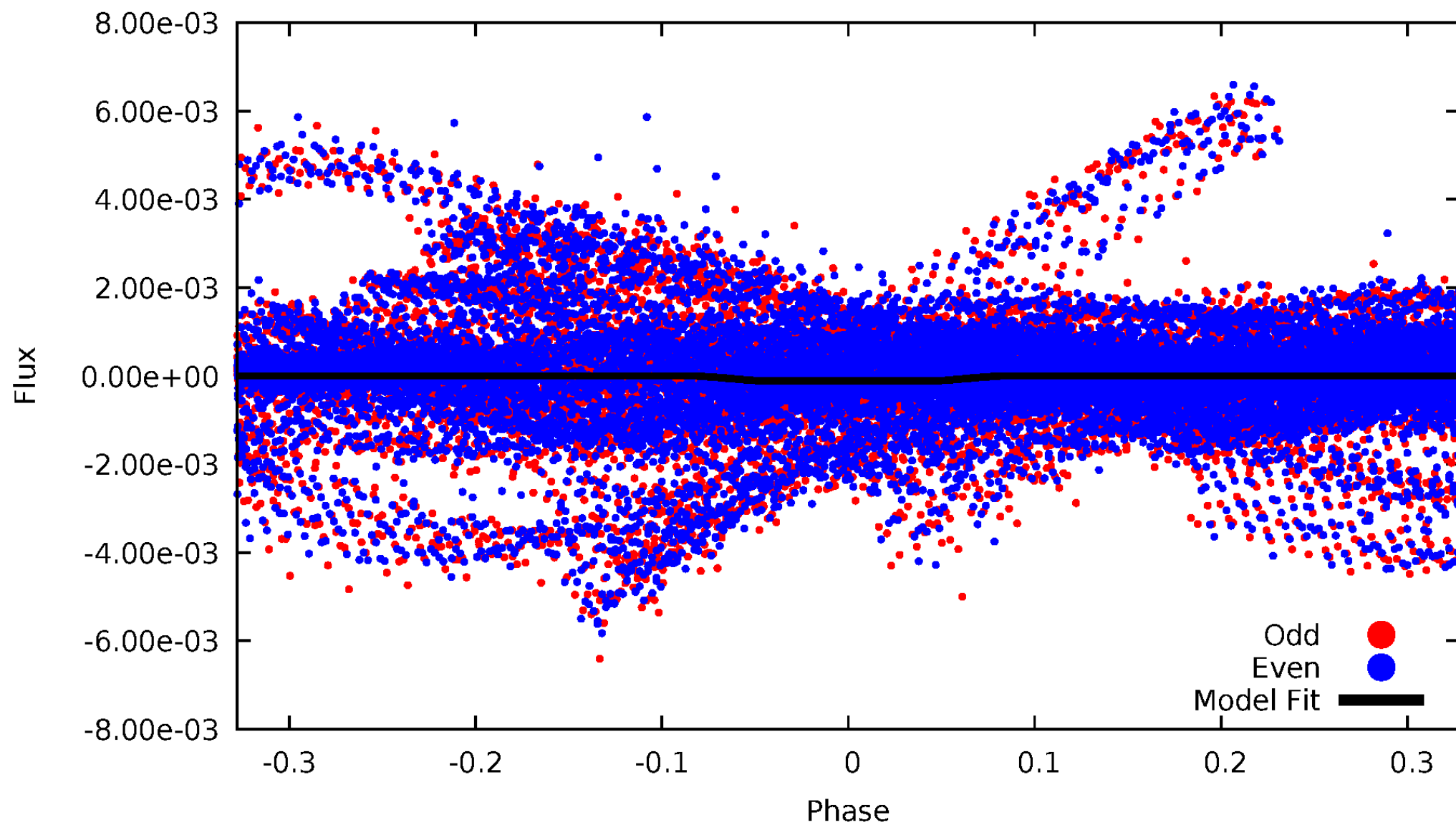
DV Odd/Even

TCE 007957710-03



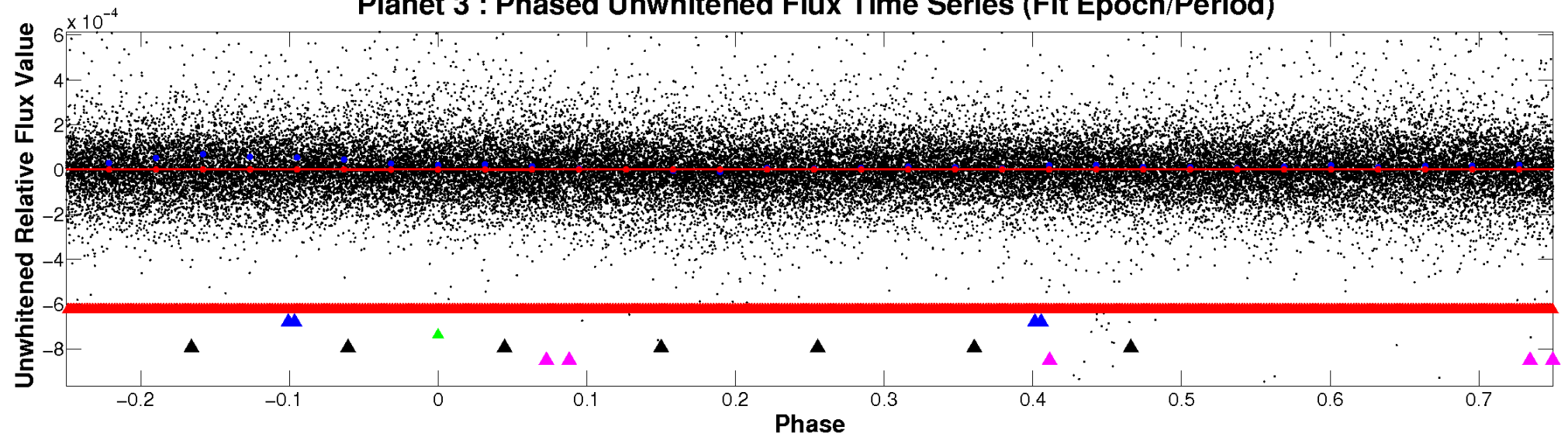
ALT Odd/Even

TCE 007957710-03

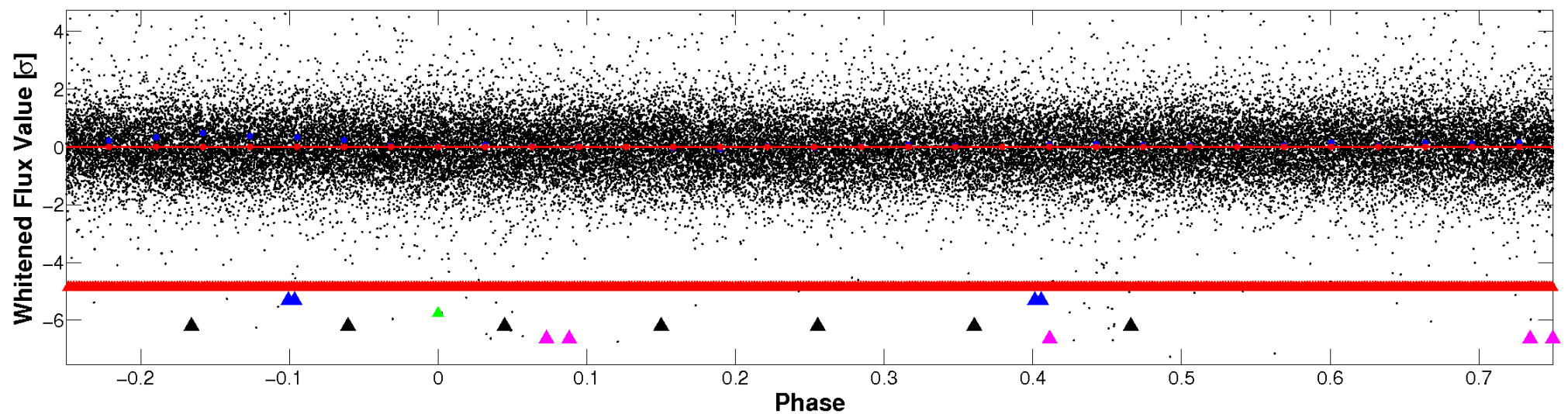


Non-Whitened Vs. Whitened Light Curve

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

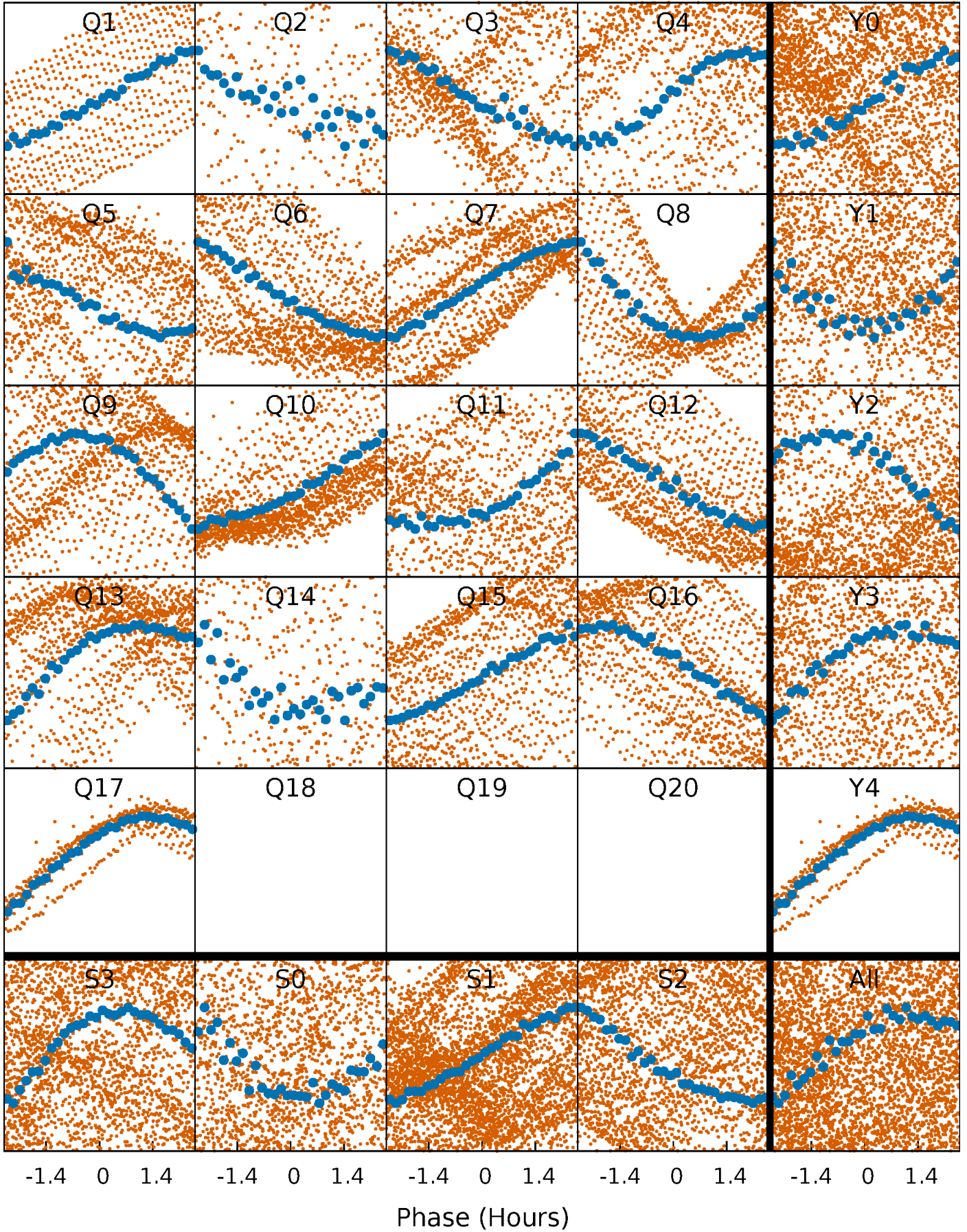


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



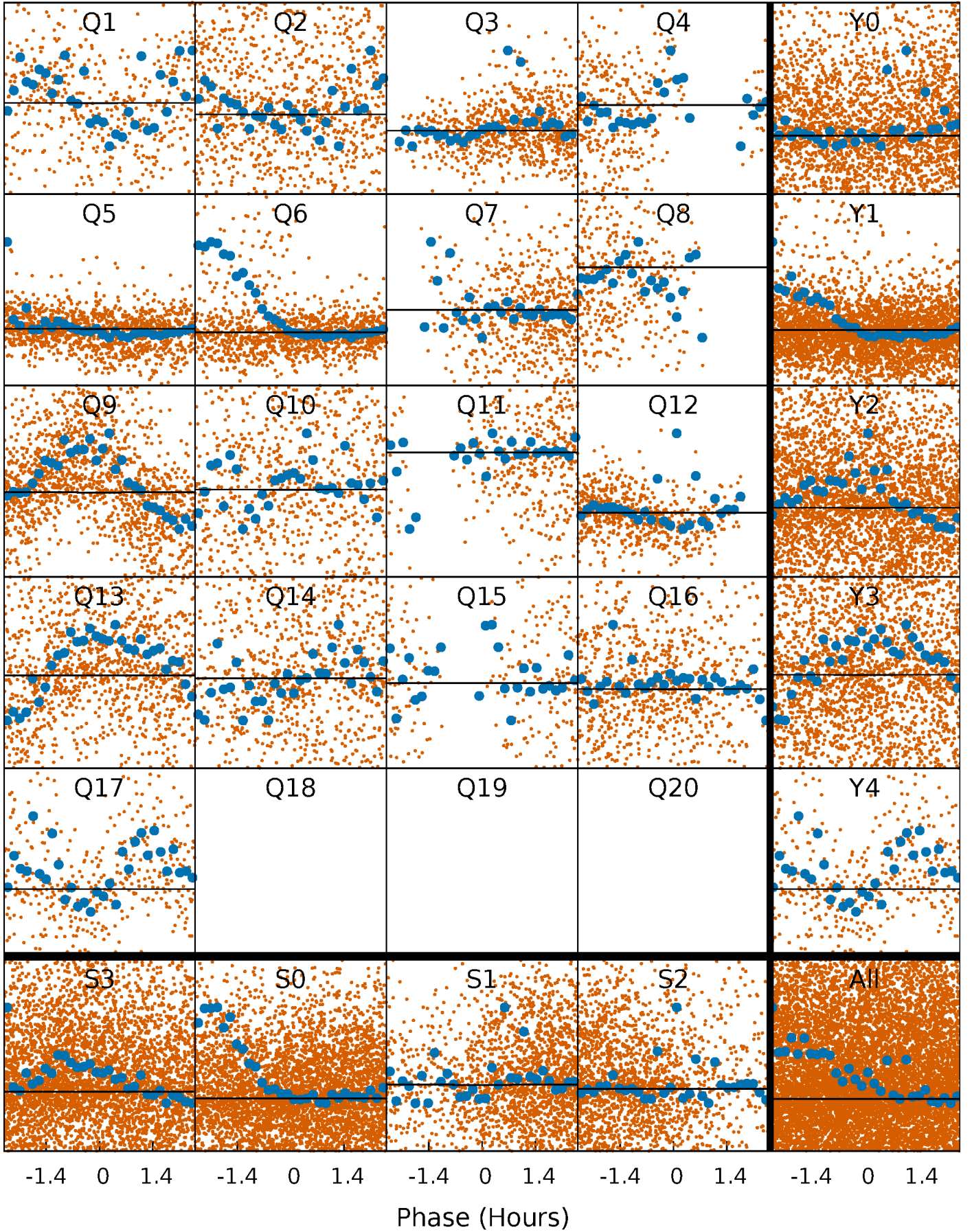
PDC Quarter-Phased Transit Curves

TCE 007957710-03 P= 0.646339 Days $T_0=132.195220$ (BKJD)



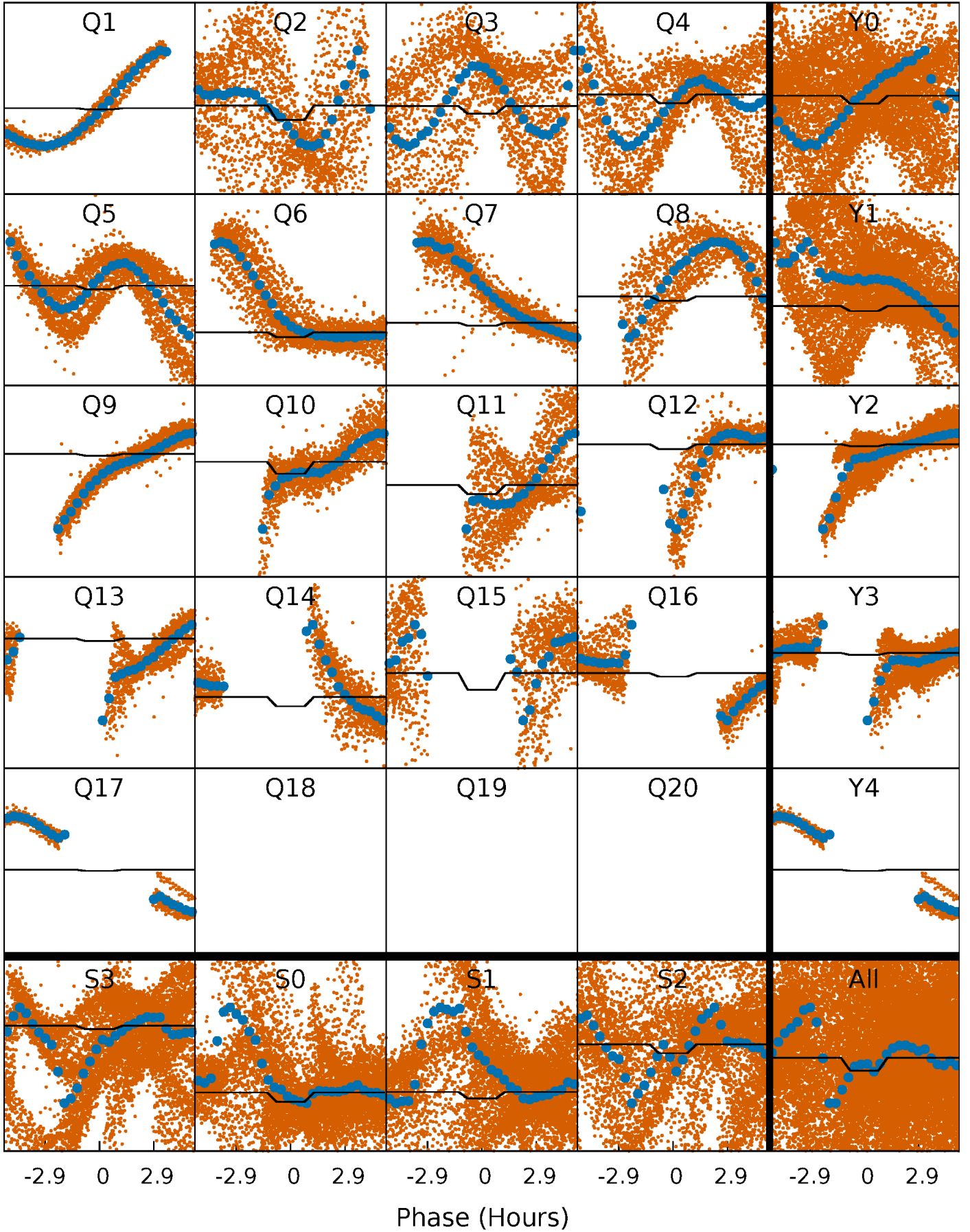
DV Quarter-Phased Transit Curves

TCE 007957710-03 $P = 0.646339$ Days $T_0 = 132.195220$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

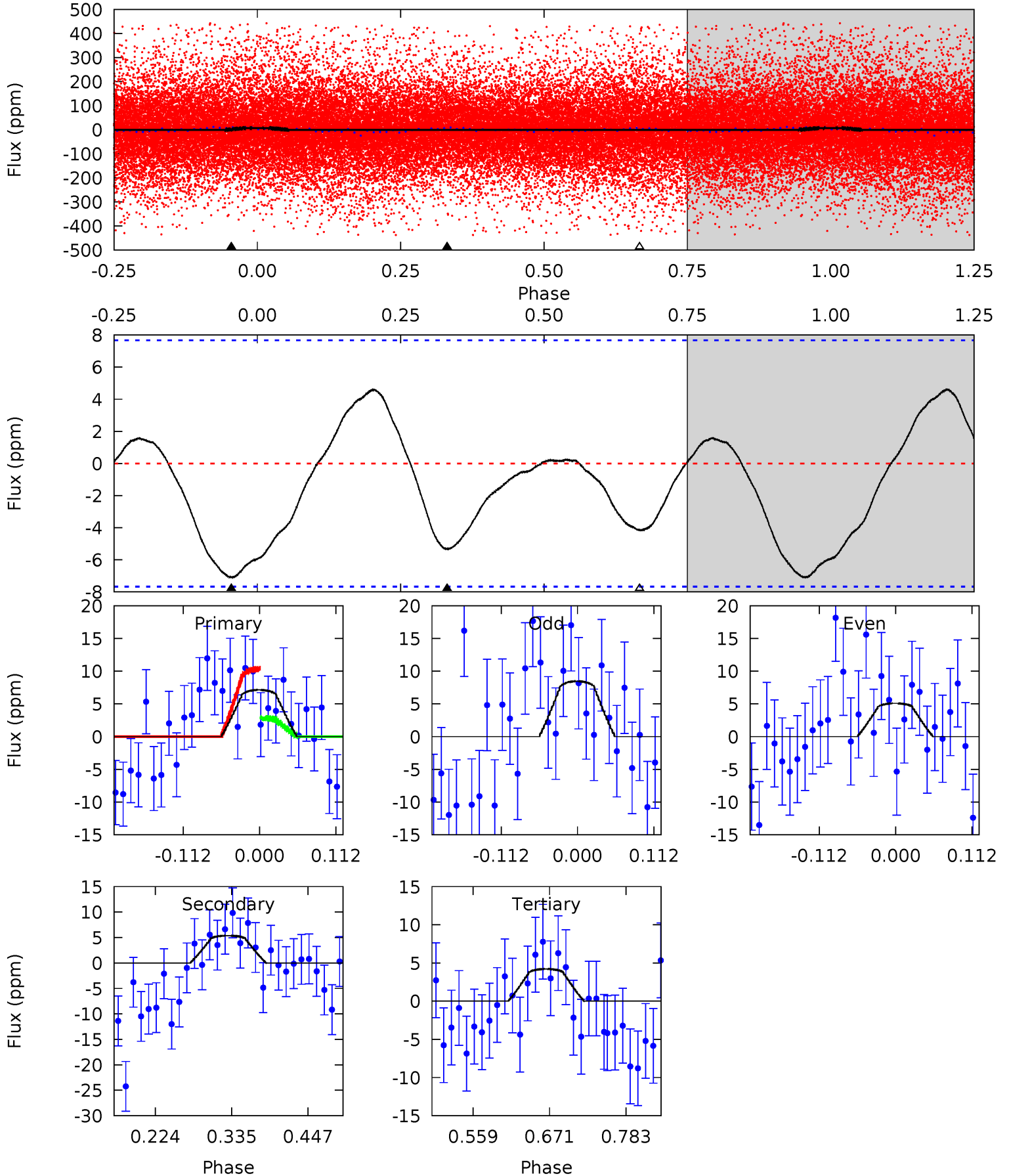
TCE 007957710-03 $P = 0.647334$ Days $T_0 = 132.155851$ (BKJD)



DV Model-Shift Uniqueness Test

007957710-03, P = 0.646339 Days, E = 130.902542 Days

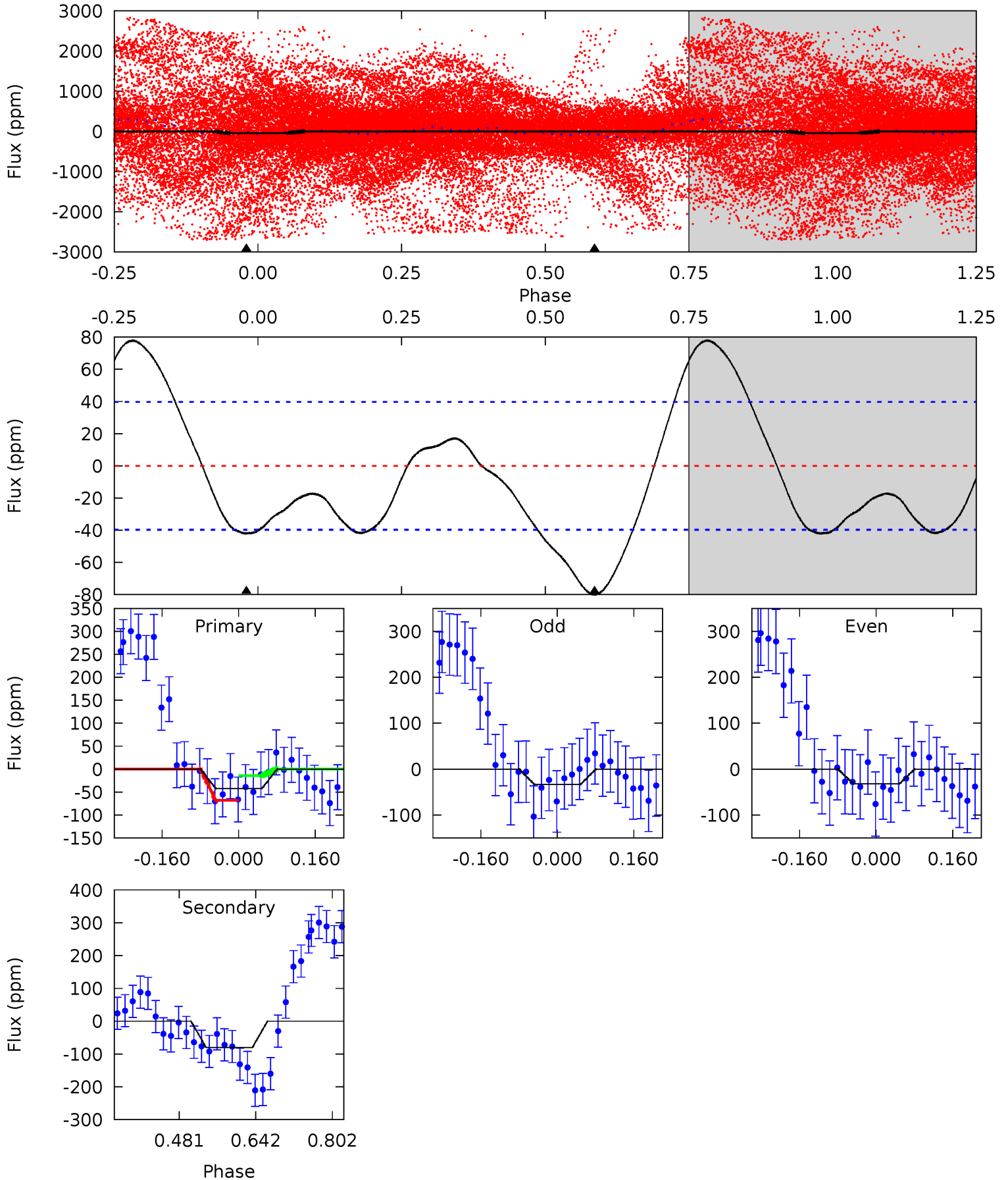
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.22	3.18	2.49	0	4.54	1.59	1.34	1.73	4.22	0.69	3.18	1.01	5.79	0.40	2.21



Alt Model-Shift Uniqueness Test

007957710-03, P = 0.647334 Days, E = 131.508517 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.73	8.99	0	0	4.46	1.40	3.80	4.73	4.73	8.99	8.99	0.07	1.76	0.49	2.38



Stellar Parameters For KIC 007957710

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5992^{+71}_{-80}	$4.325^{+0.143}_{-0.104}$	$-0.400^{+0.150}_{-0.150}$	$1.074^{+0.145}_{-0.161}$	$0.890^{+0.064}_{-0.051}$	$1.011^{+0.670}_{-0.320}$
	+1%/-1%	+3%/-2%	+37%/-37%	+14%/-15%	+7%/-6%	+66%/-32%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 007957710-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-5 ± 2	$0.49^{+0.52}_{-0.35}$	3218^{+130}_{-155}	4442^{+3873}_{-1353}	$2.400^{+24.412}_{-1.868}$
Alt.	-80 ± 9	$1.23^{+0.73}_{-0.65}$	3215^{+130}_{-144}	5432^{+2785}_{-985}	$5.657^{+19.747}_{-3.430}$

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

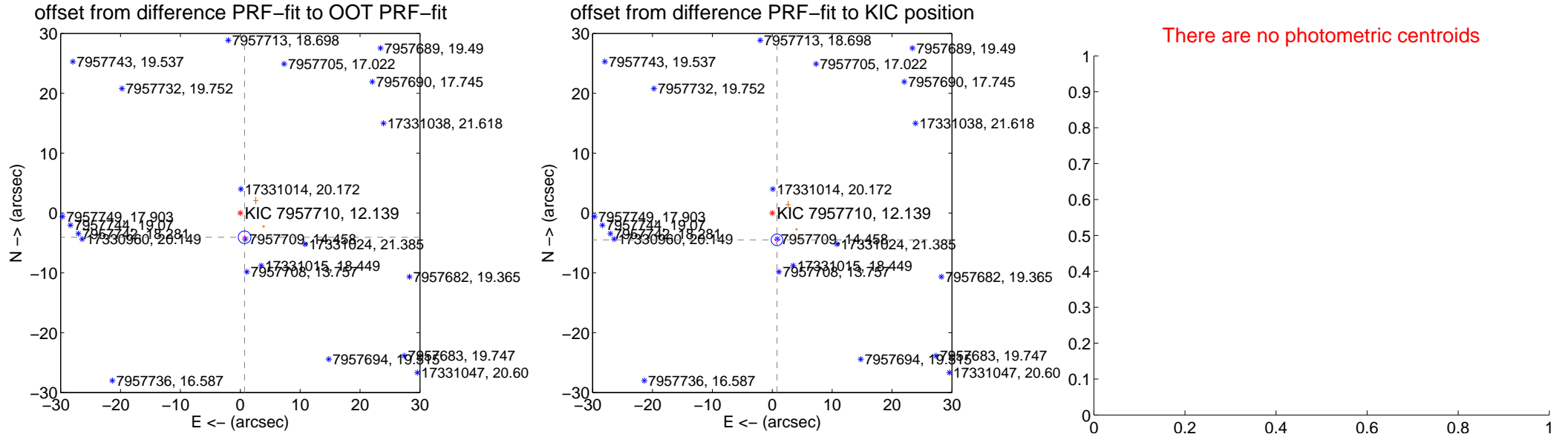
DV Centroid Data

Supplemental centroid analysis for 007957710-03. Kepler magnitude: 12.14. Transit SNR 0.07

There are 8 quarters with good PRF difference image offsets

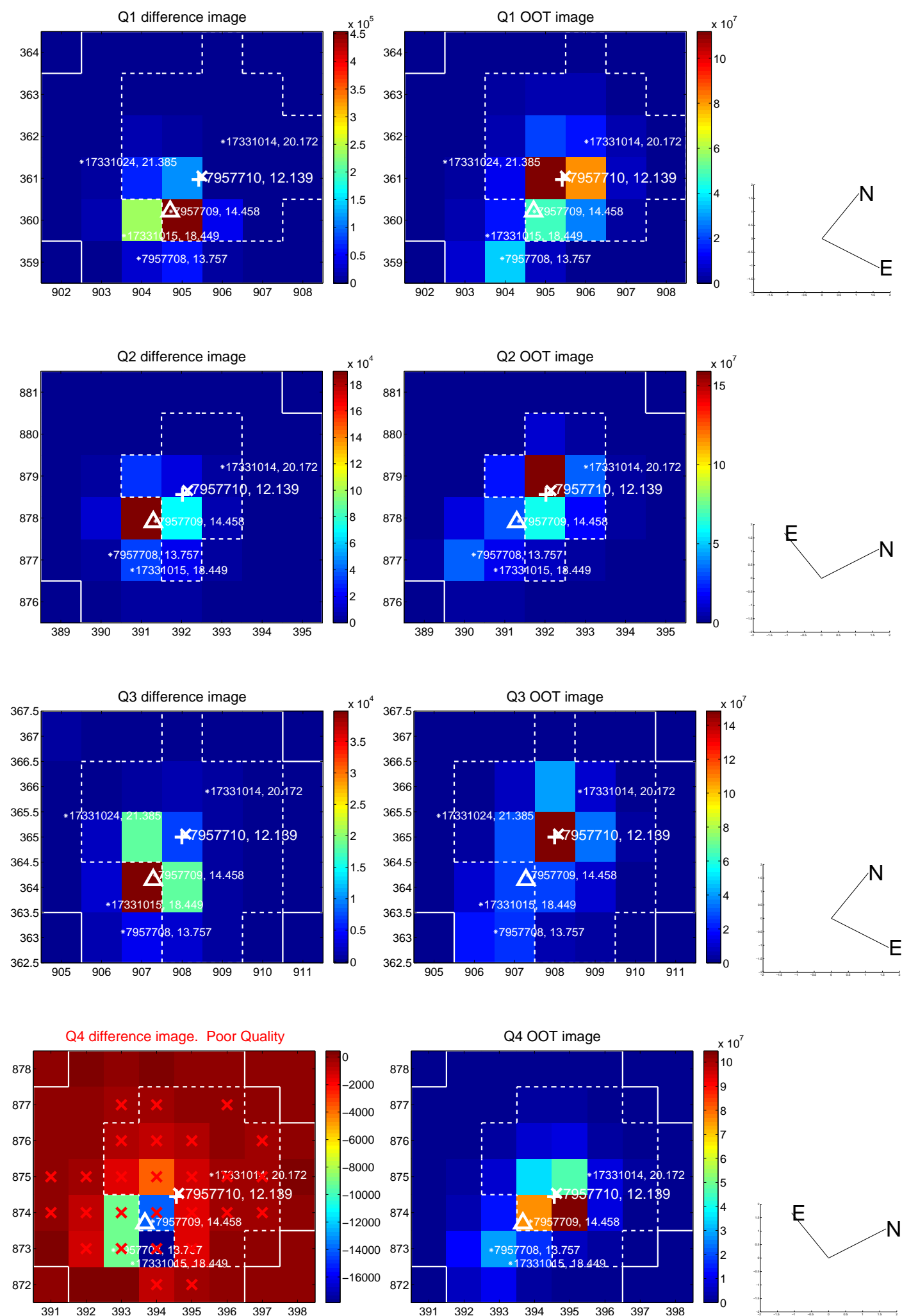
The direct PRF centroid is offset from the target star catalog position by about 0.45 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.116 \pm 0.351	11.74	-0.721 \pm 0.237	-4.052 \pm 0.384
PRF-fit source offset from KIC position	4.556 \pm 0.323	14.11	-0.790 \pm 0.208	-4.487 \pm 0.350
photometric centroid source offset	—	—	—	—

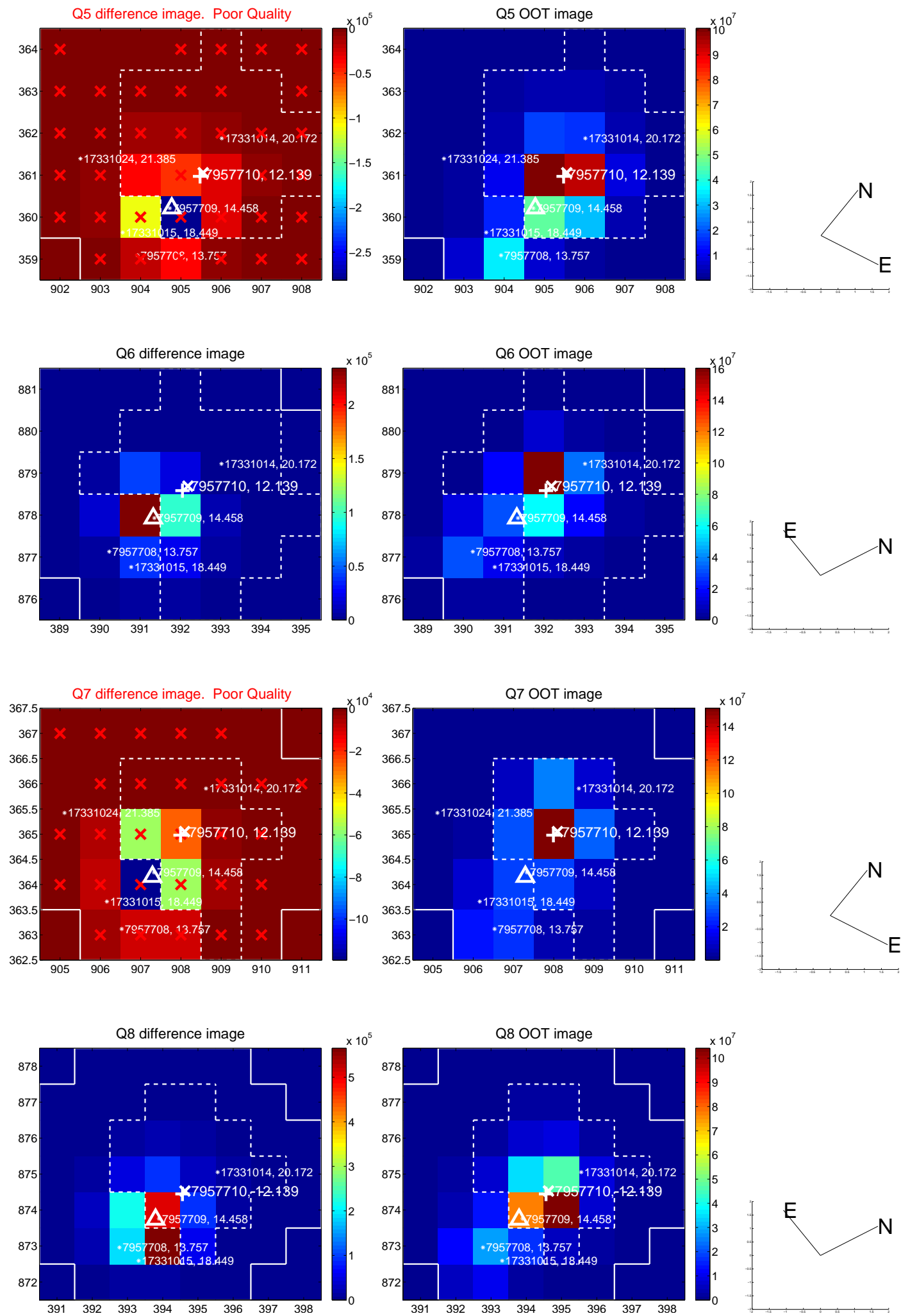


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

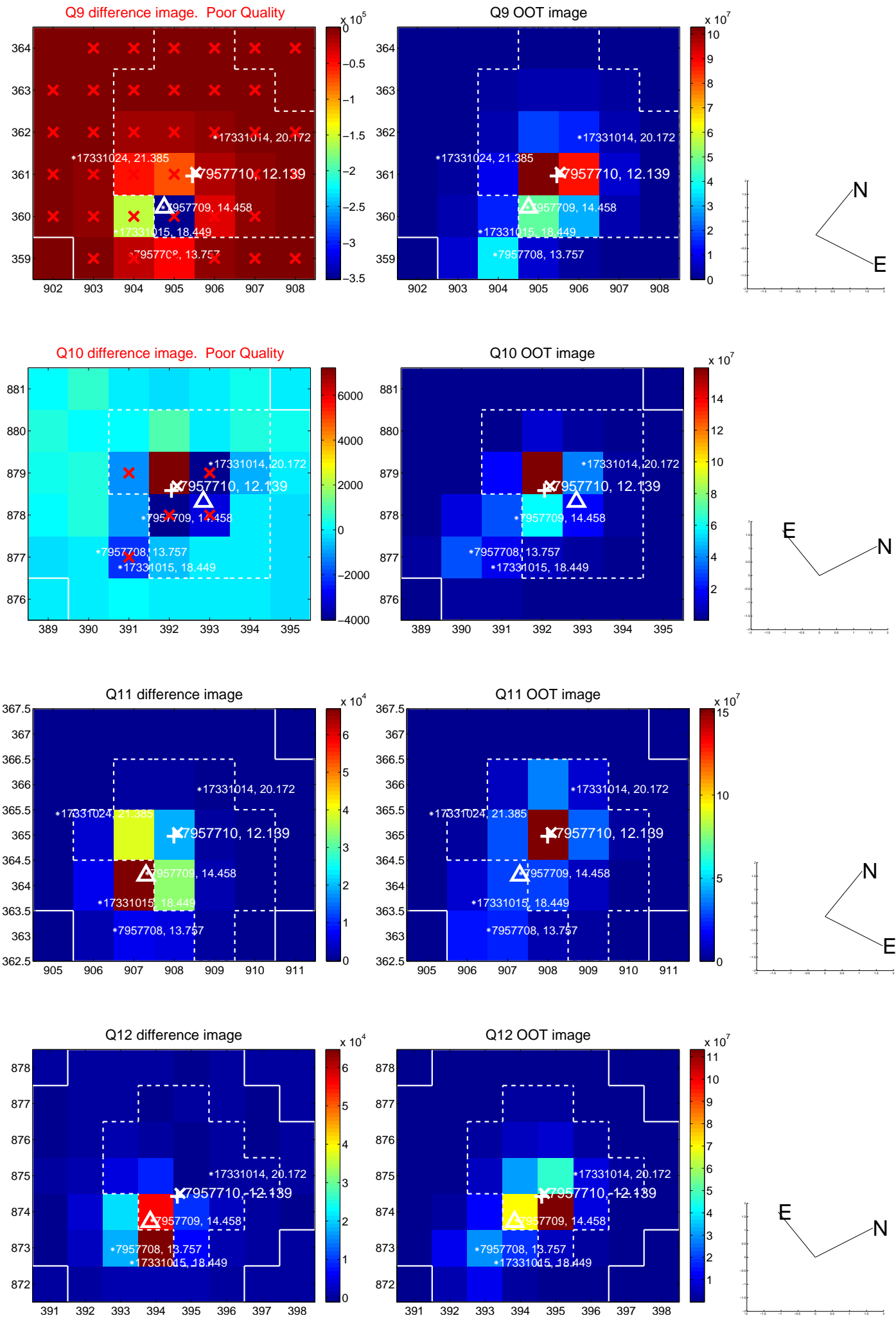
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



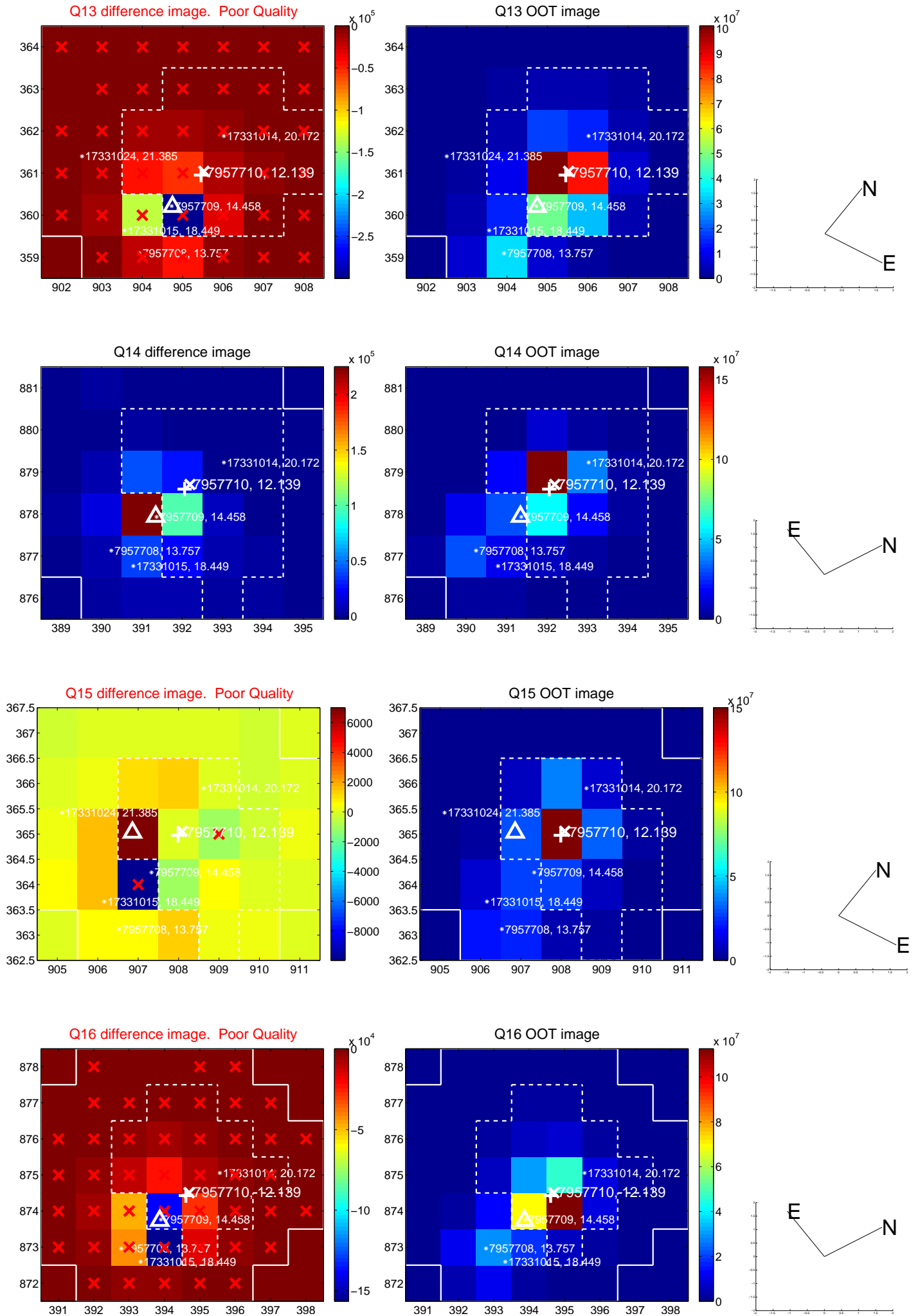
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



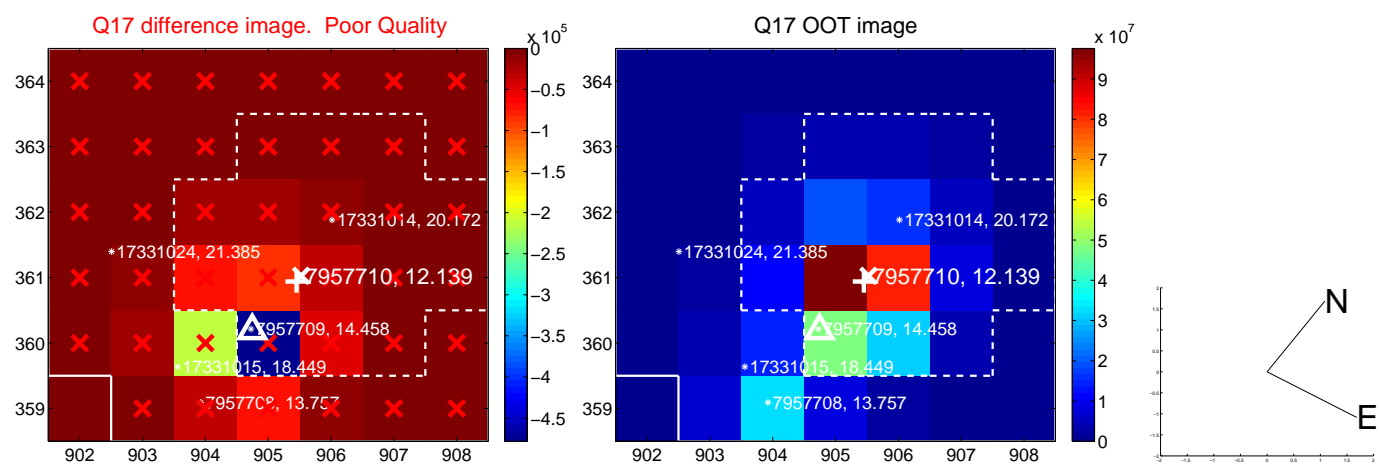
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



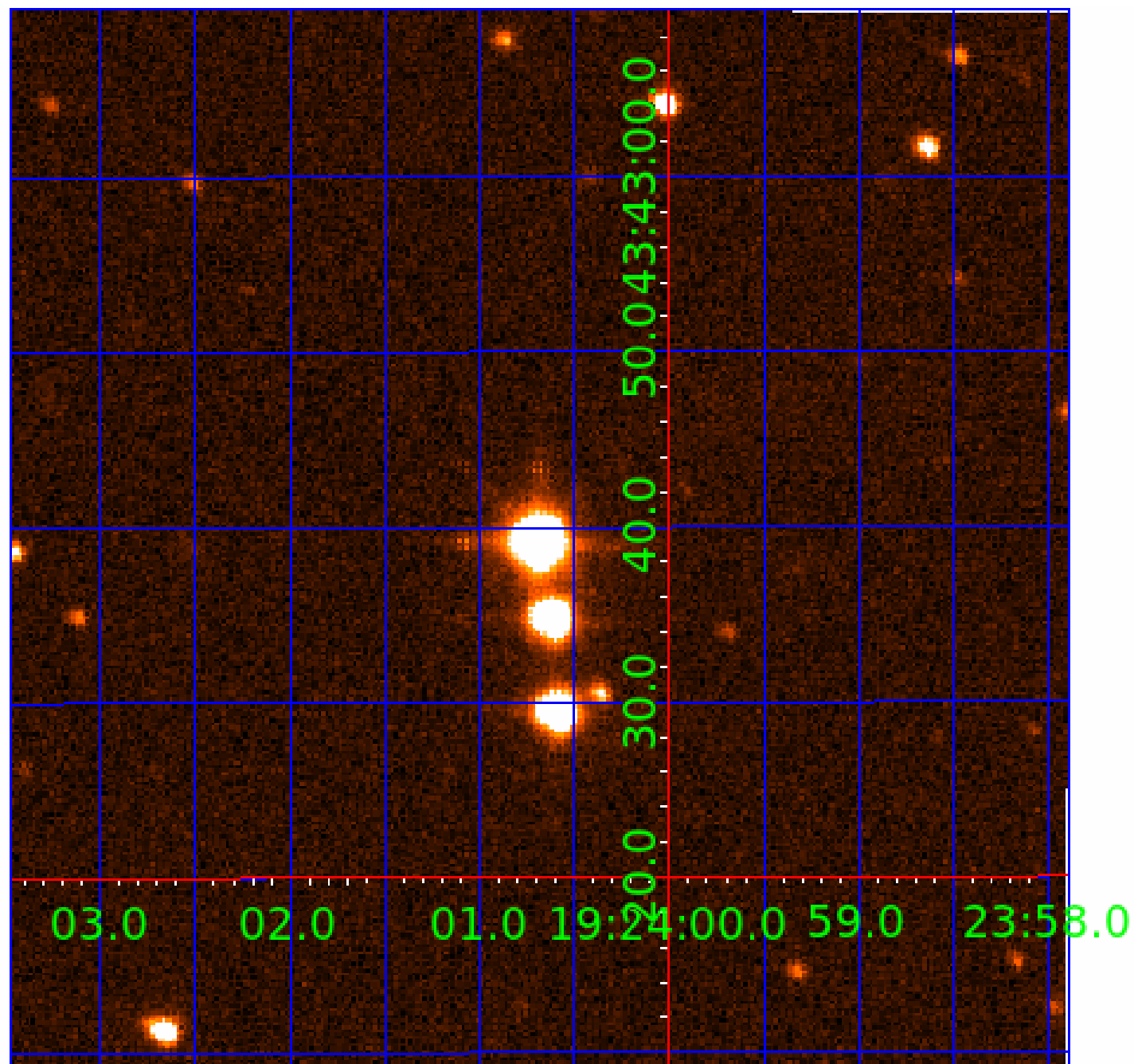
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 007957710

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})
007957710-01	OBS	No	0.647522	131.755173	6.6	1.463	14.6	3.0	1.07	5992	0.35	6711.89
007957710-02	OBS	No	472.151709	151.520298	307.7	6.358	8.0	6.5	1.07	5992	2.05	1.02
007957710-03	OBS	No	0.646339	132.195220	0.2	1.256	10.7	0.1	1.07	5992	0.07	6728.28
007957710-04	OBS	No	210.638326	182.264452	260.4	11.572	7.8	8.1	1.07	5992	1.90	3.00
007957710-05	OBS	No	302.267727	341.019592	155.8	3.190	7.3	2.7	1.07	5992	1.58	1.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007957710-01	OBS	FP	0.00	1	0	1	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
007957710-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_KIC_POS
007957710-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
007957710-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
007957710-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

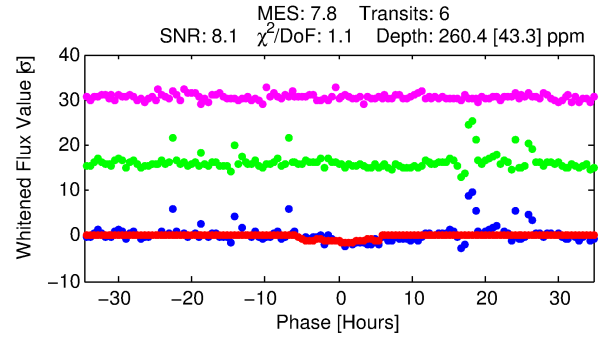
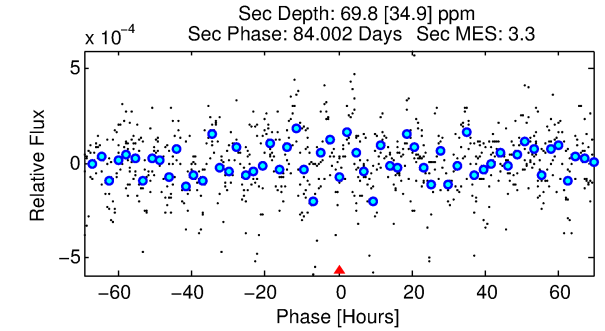
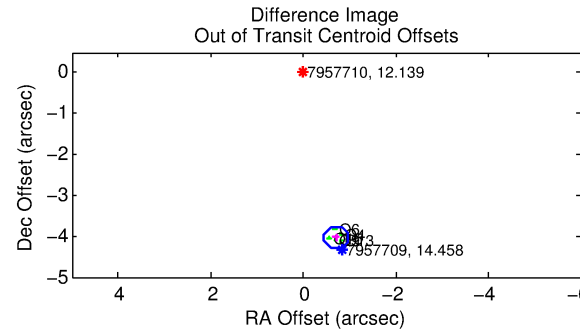
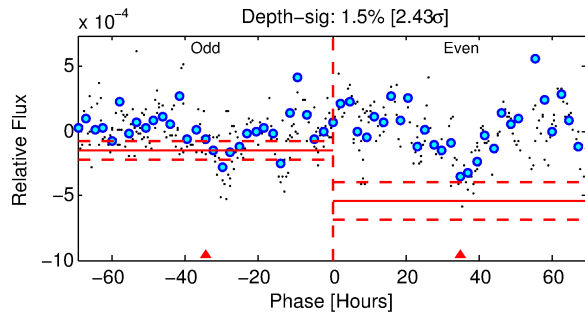
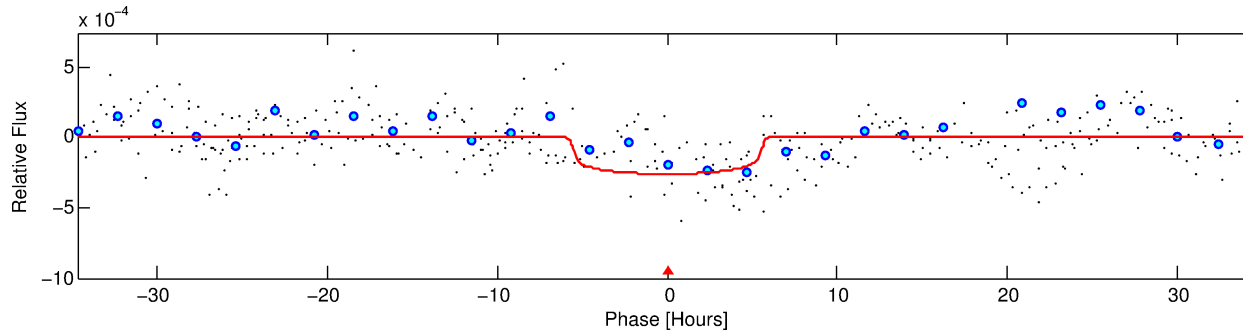
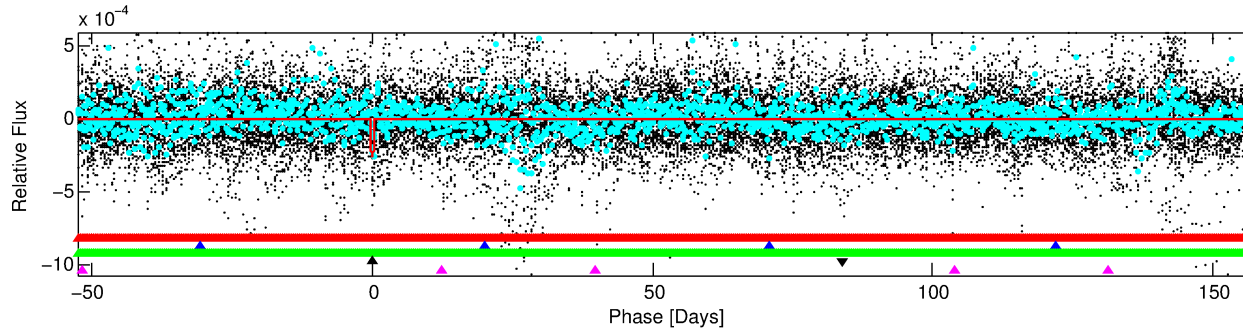
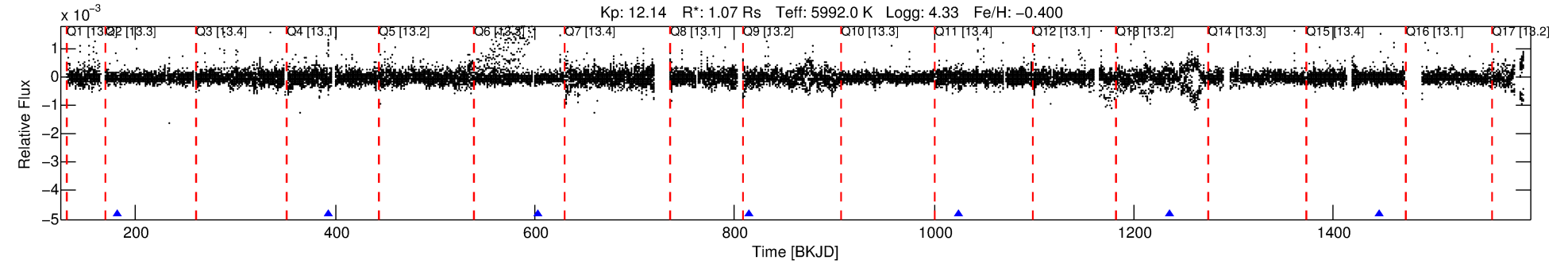
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007957710-04

No Significant Match Found

DV One-Page Summary

KIC: 7957710 Candidate: 4 of 5 Period: 210.638 d



DV Fit Results:

Period = 210.63833 [0.00597] d
Epoch = 182.2645 [0.0275] BKJD
Rp/R* = 0.0162 [0.0064]
a/R* = 91.06 [174.61]
b = 0.78 [0.99]
Seff = 3.00 [0.74]
Teq = 336 [21] K
Rp = 1.90 [0.80] Re
a = 0.6664 [0.0989] AU
Ag = 4727.63 [4568.62] [1.03 σ]
Teffp = 4302 [1008] K [3.93 σ]

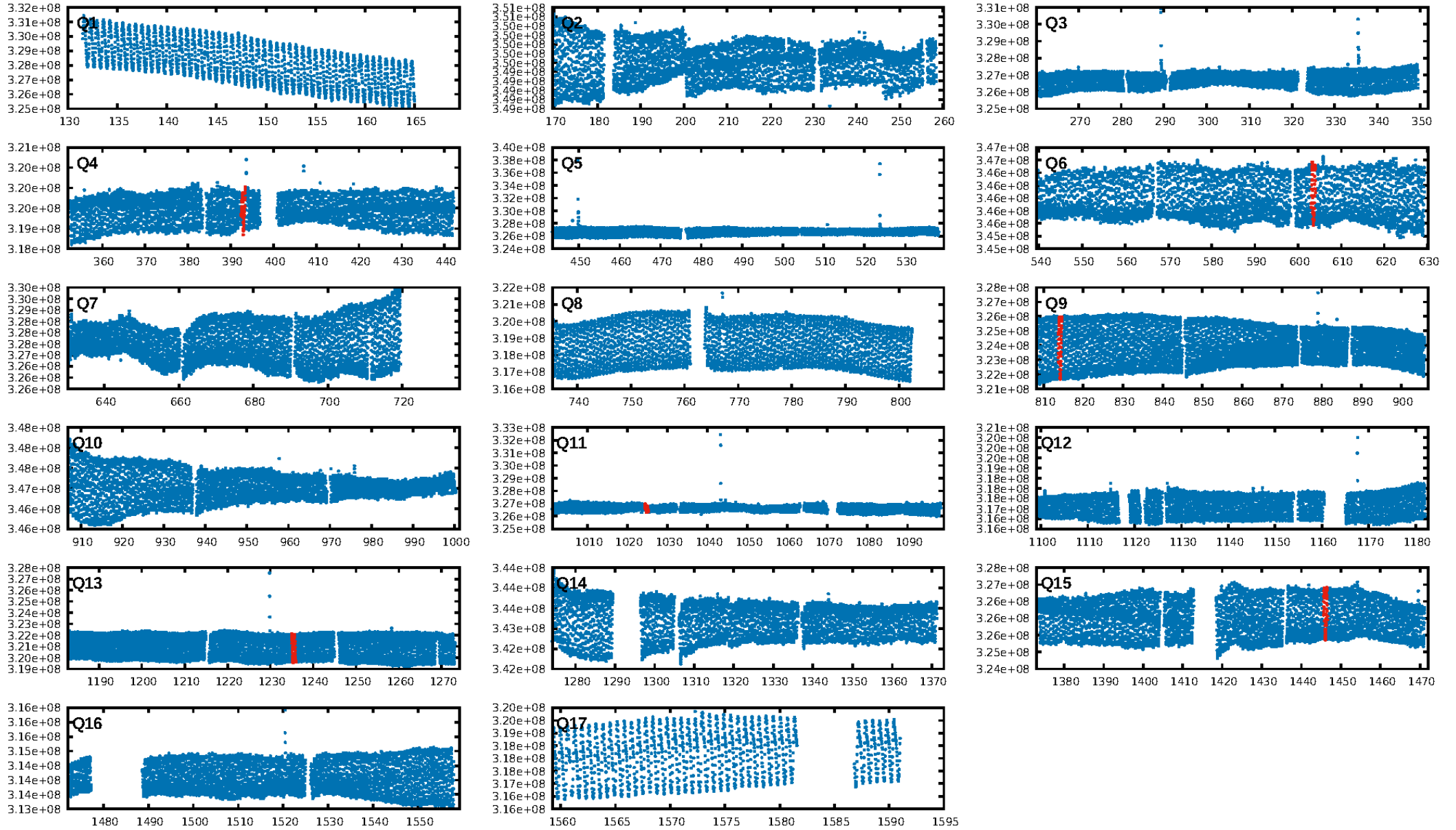
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [432.06 σ]
LongPeriod-sig: 100.0% [183.20 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.58e-11
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -3.395
Centroid-sig: 10.8%
Centroid-so: 3.114 arcsec [1.88 σ]
OotOffset-rm: 4.098 arcsec [46.85 σ]
KicOffset-rm: 4.599 arcsec [66.19 σ]
OotOffset-st: 1/1/1/2 [5]
KicOffset-st: 1/1/1/2 [5]
DiffImageQuality-fgm: 0.80 [4/5]
DiffImageOverlap-fno: 0.00 [0/6]

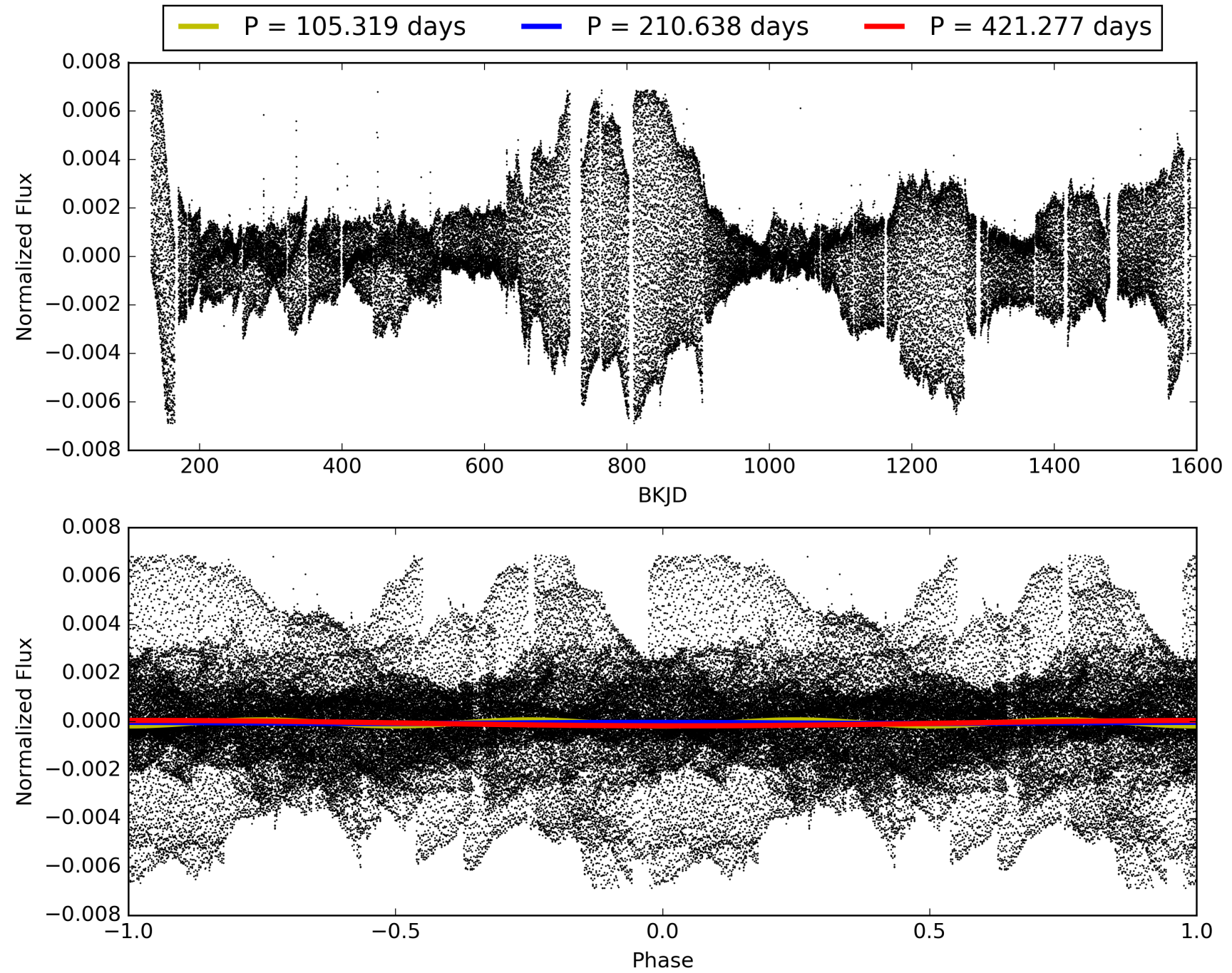
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:54:56 Z

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

TCE 007957710-04, PDC Light Curves

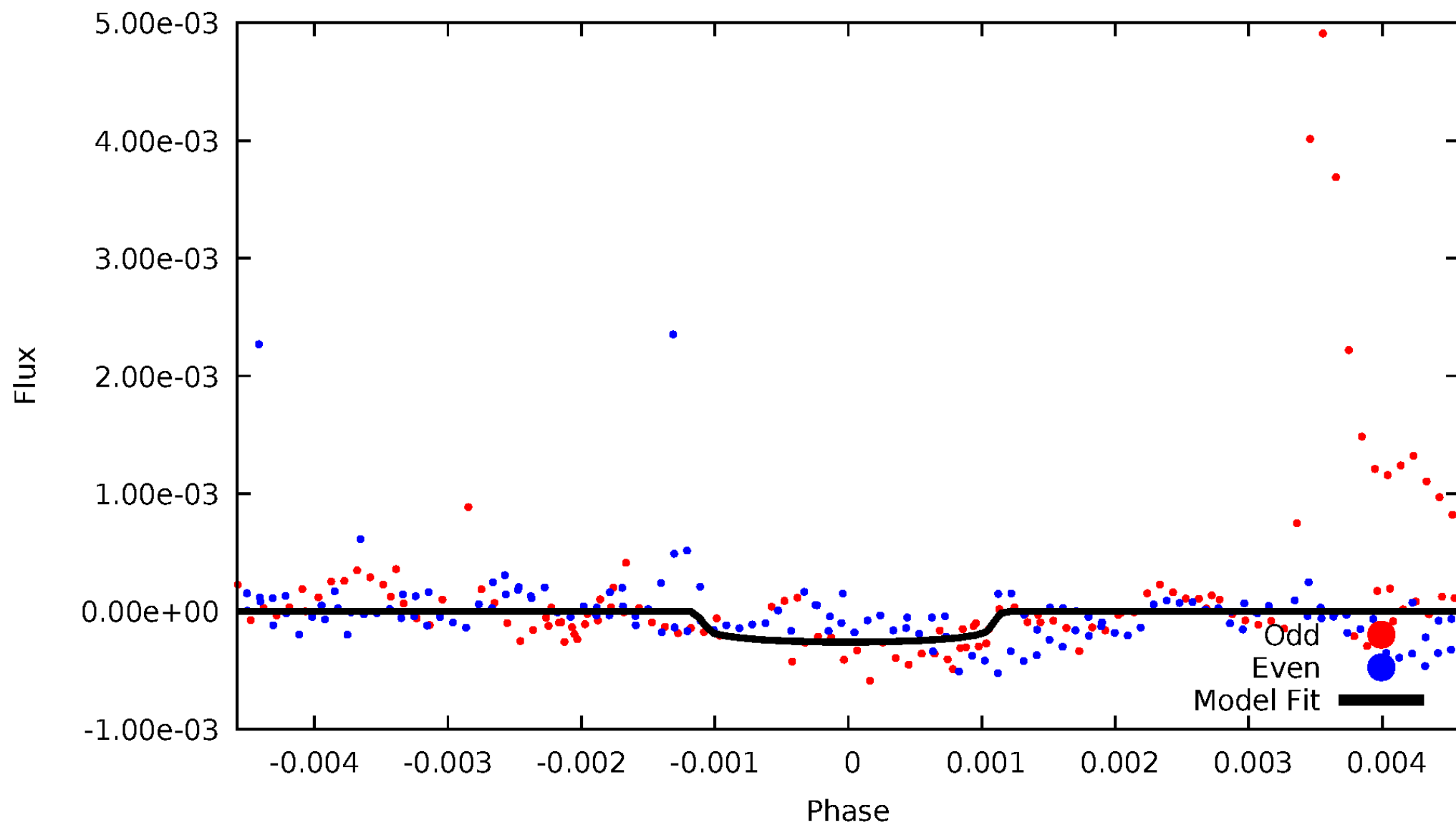


TCE 007957710-04



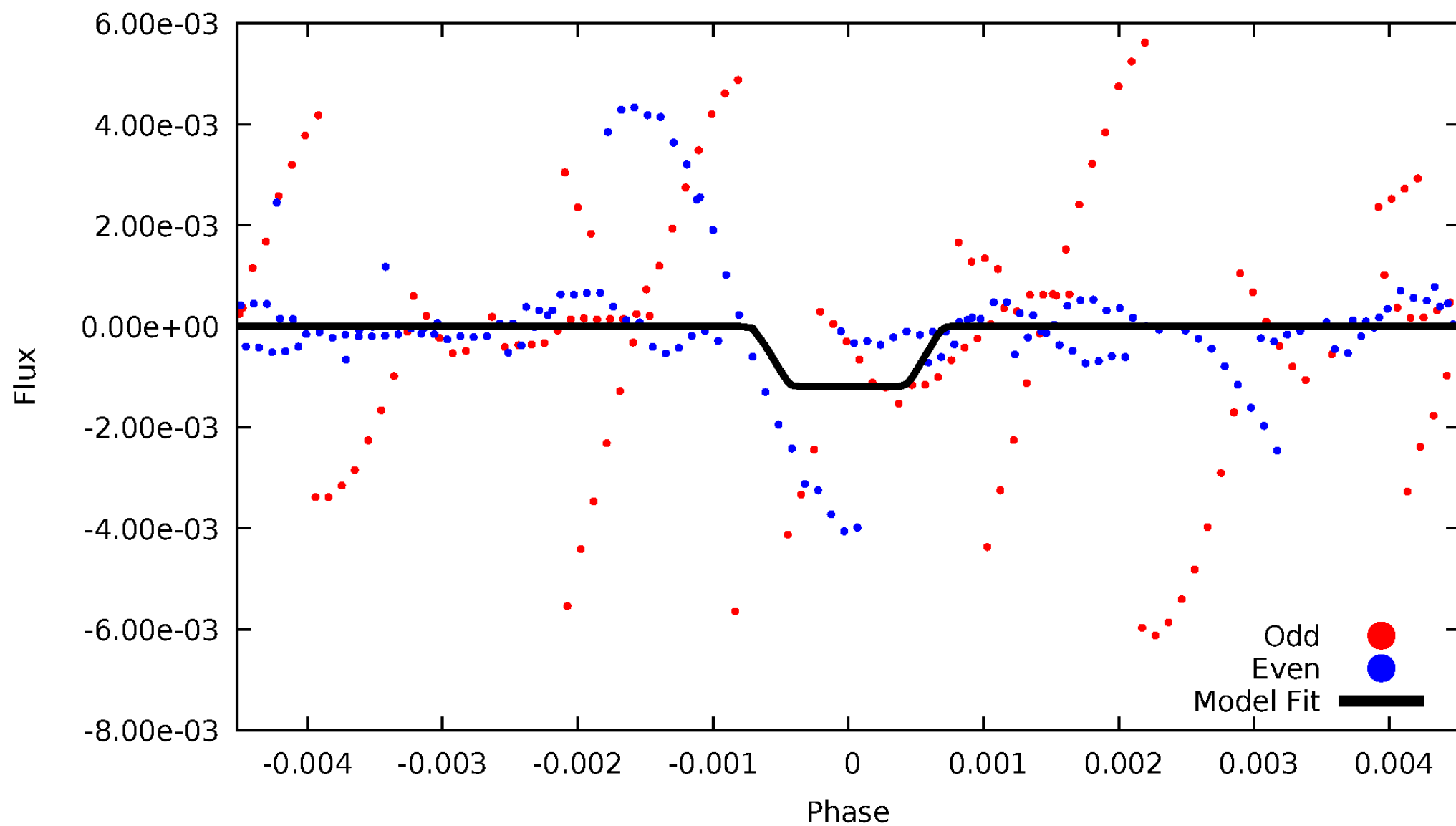
DV Odd/Even

TCE 007957710-04



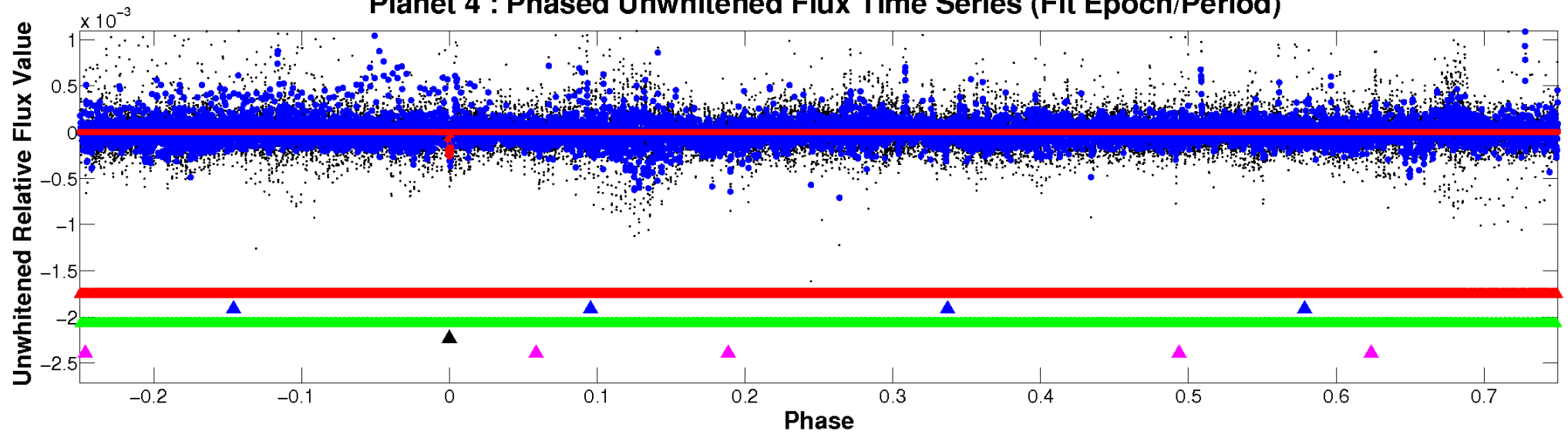
ALT Odd/Even

TCE 007957710-04

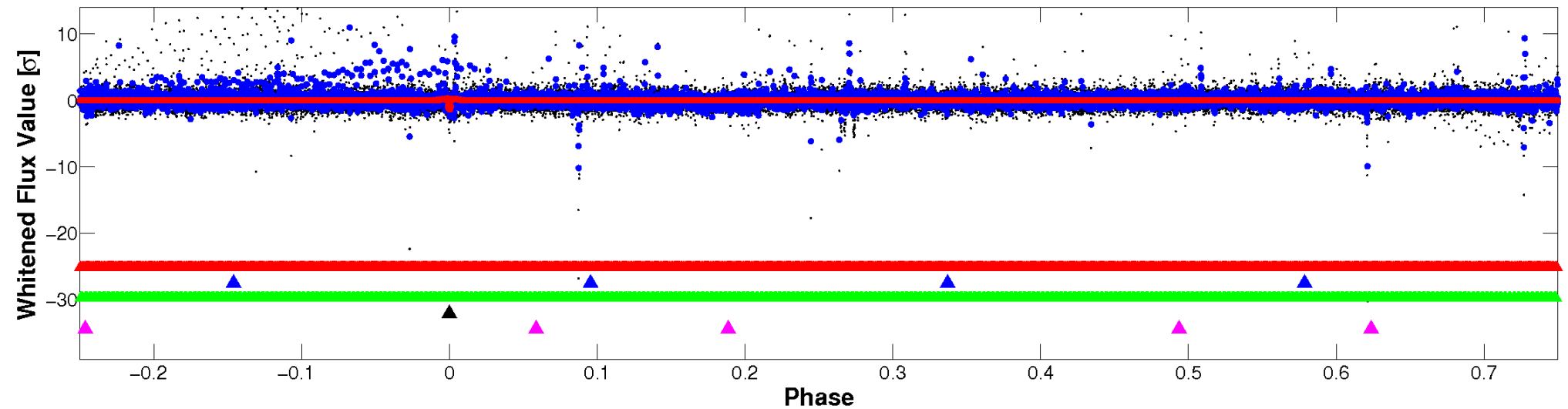


Non-Whitened Vs. Whitened Light Curve

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

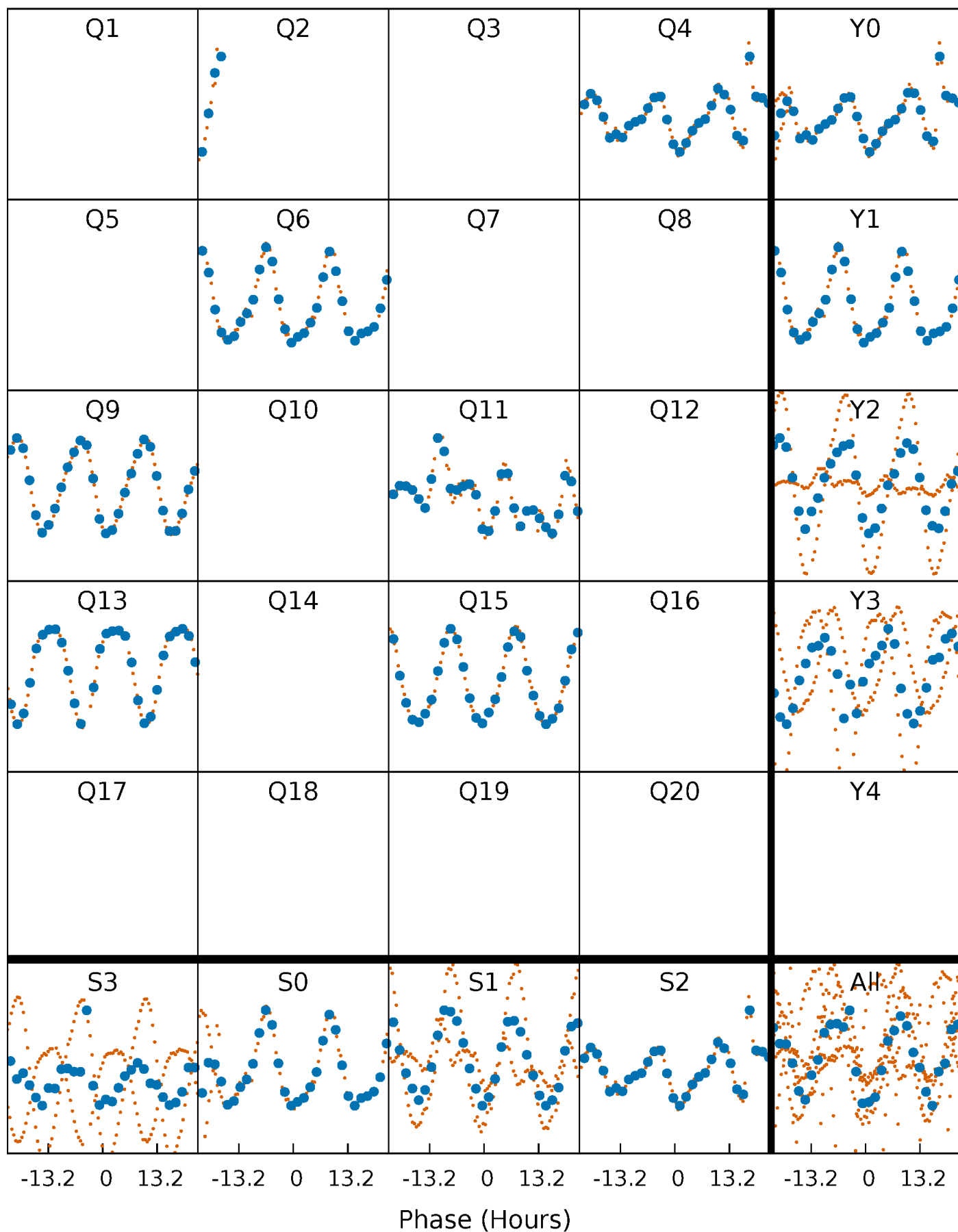


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



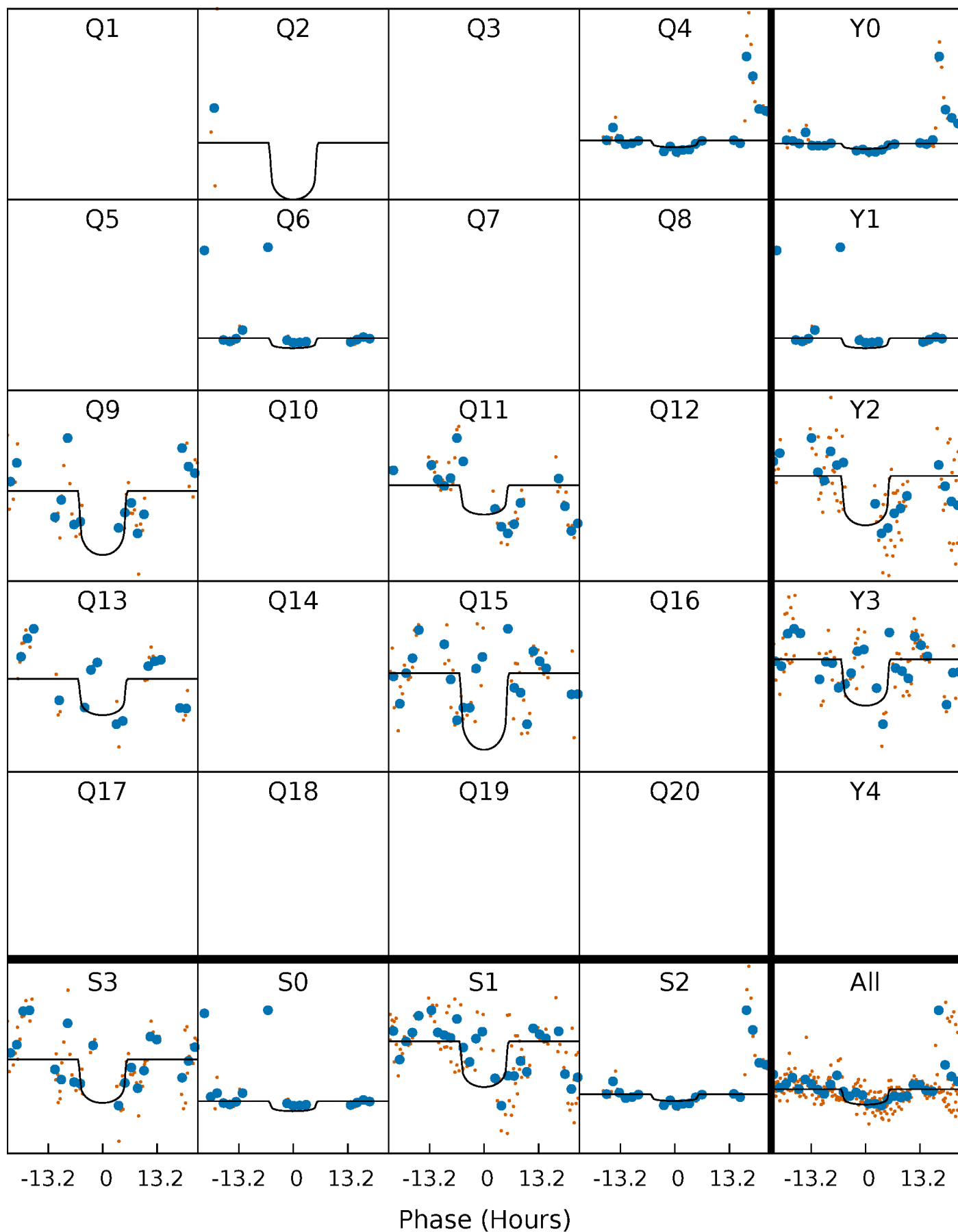
PDC Quarter-Phased Transit Curves

TCE 007957710-04 P=210.638326 Days $T_0=182.264452$ (BKJD)



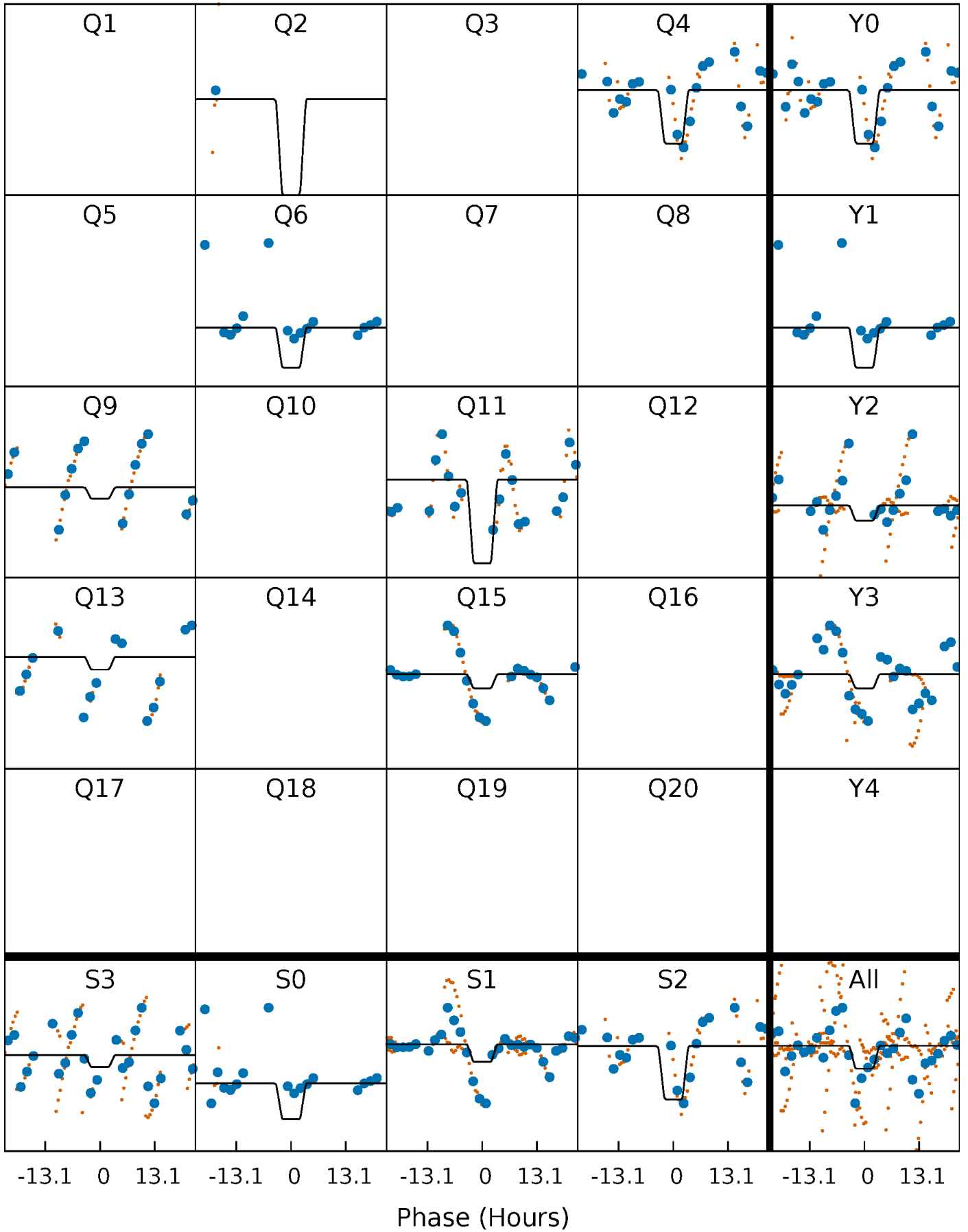
DV Quarter-Phased Transit Curves

TCE 007957710-04 P=210.638326 Days $T_0=182.264452$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

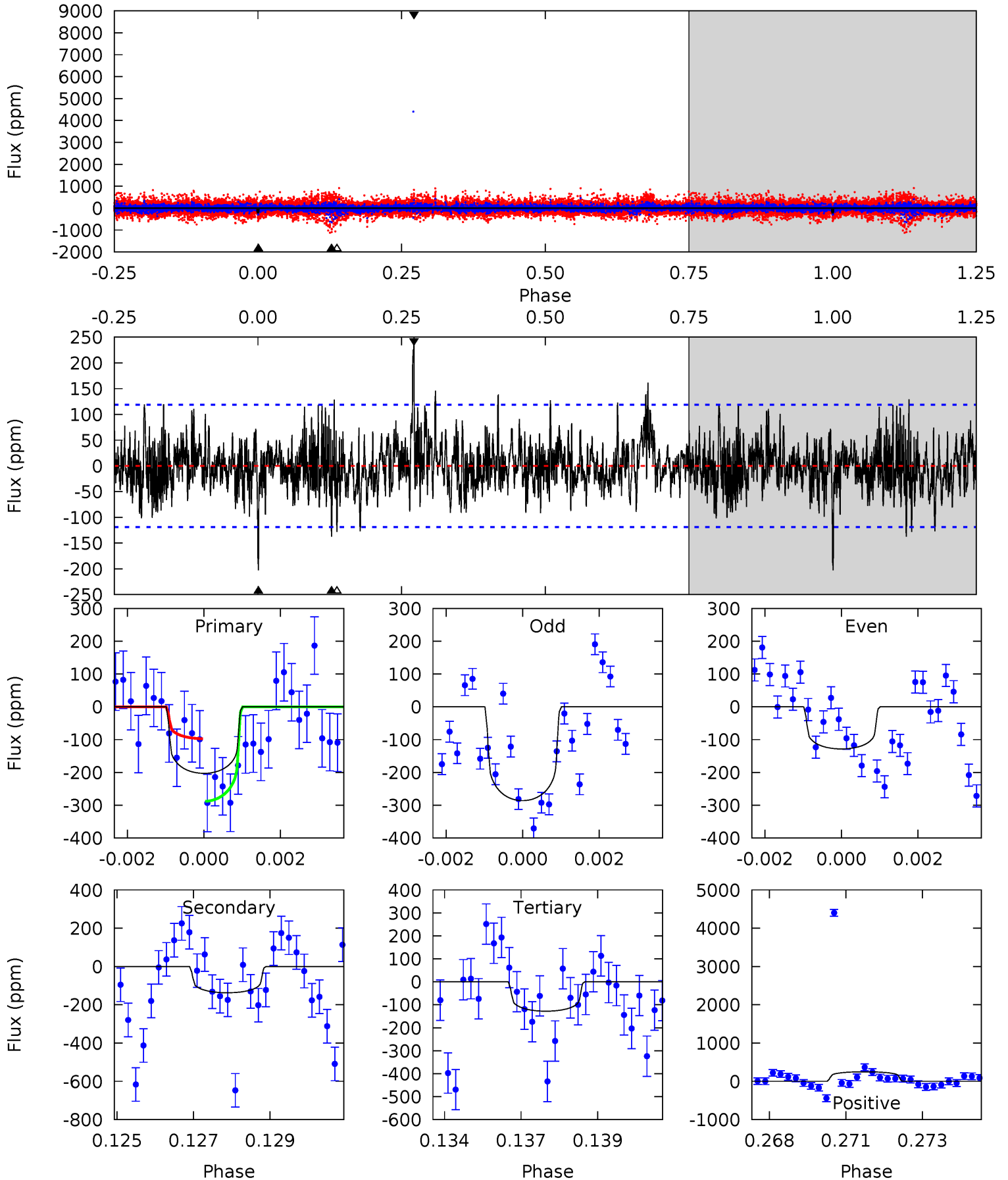
TCE 007957710-04 P=210.642759 Days $T_0=182.215282$ (BKJD)



DV Model-Shift Uniqueness Test

007957710-04, P = 210.638326 Days, E = 182.264452 Days

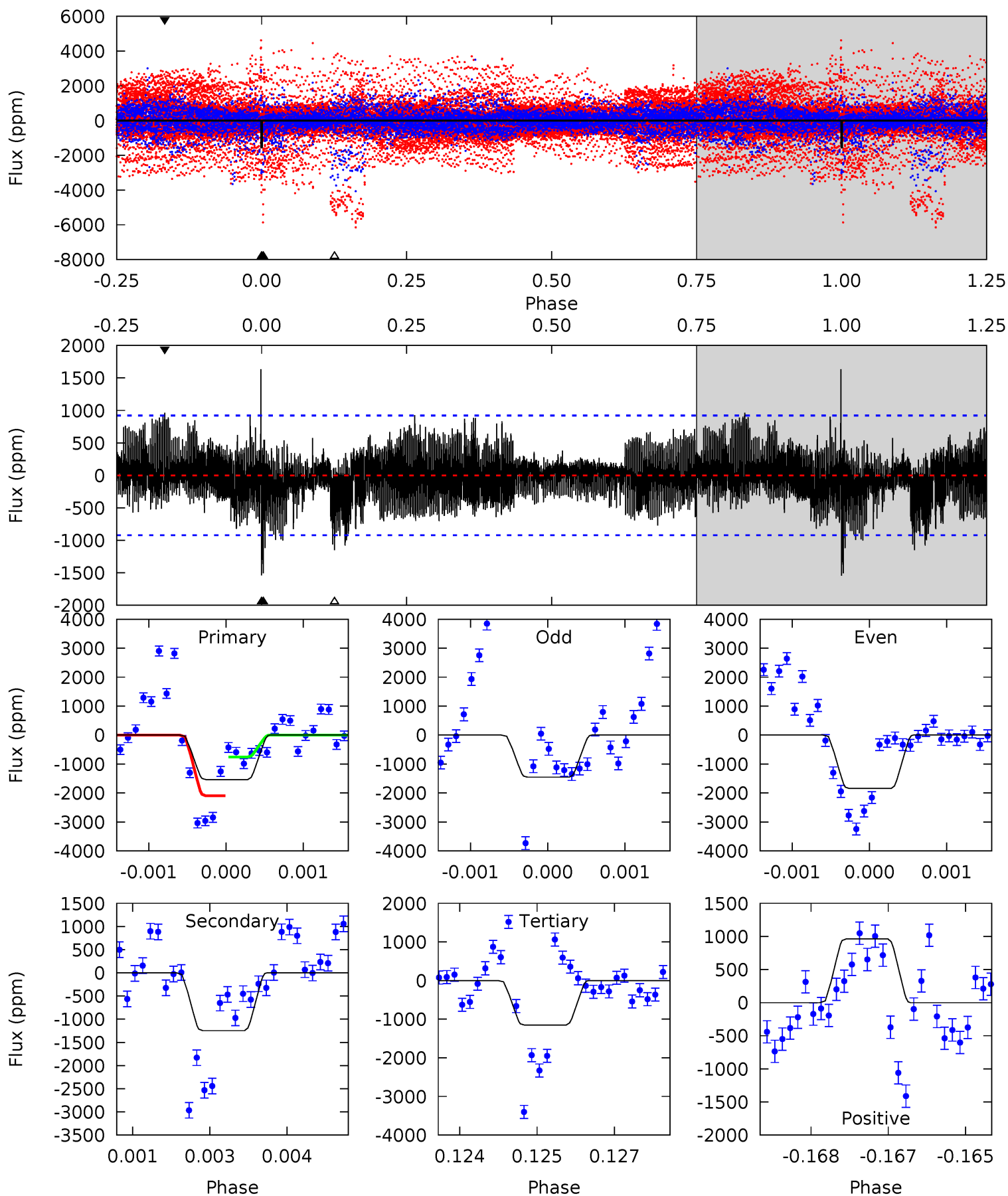
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.04	6.11	5.70	11.1	5.29	3.04	1.81	3.34	-2.07	0.41	-5.00	2.91	1.18	0.55	4.25



Alt Model-Shift Uniqueness Test

007957710-04, P = 210.642759 Days, E = 182.215282 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.00	7.30	6.74	5.64	5.40	3.21	1.78	2.26	3.36	0.56	1.66	0.92	0.99	0.52	4.04



Stellar Parameters For KIC 007957710

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5992^{+71}_{-80}	$4.325^{+0.143}_{-0.104}$	$-0.400^{+0.150}_{-0.150}$	$1.074^{+0.145}_{-0.161}$	$0.890^{+0.064}_{-0.051}$	$1.011^{+0.670}_{-0.320}$
	+1%/-1%	+3%/-2%	+37%/-37%	+14%/-15%	+7%/-6%	+66%/-32%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 007957710-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-137 ± 22	$1.88^{+0.82}_{-0.68}$	467^{+20}_{-21}	5160^{+1198}_{-738}	9515^{+13718}_{-5071}
Alt.	-1246 ± 171	$4.04^{+0.86}_{-0.77}$	468^{+19}_{-21}	6007^{+708}_{-476}	18385^{+11258}_{-6067}

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 $A_{obs} \gg 1.0$

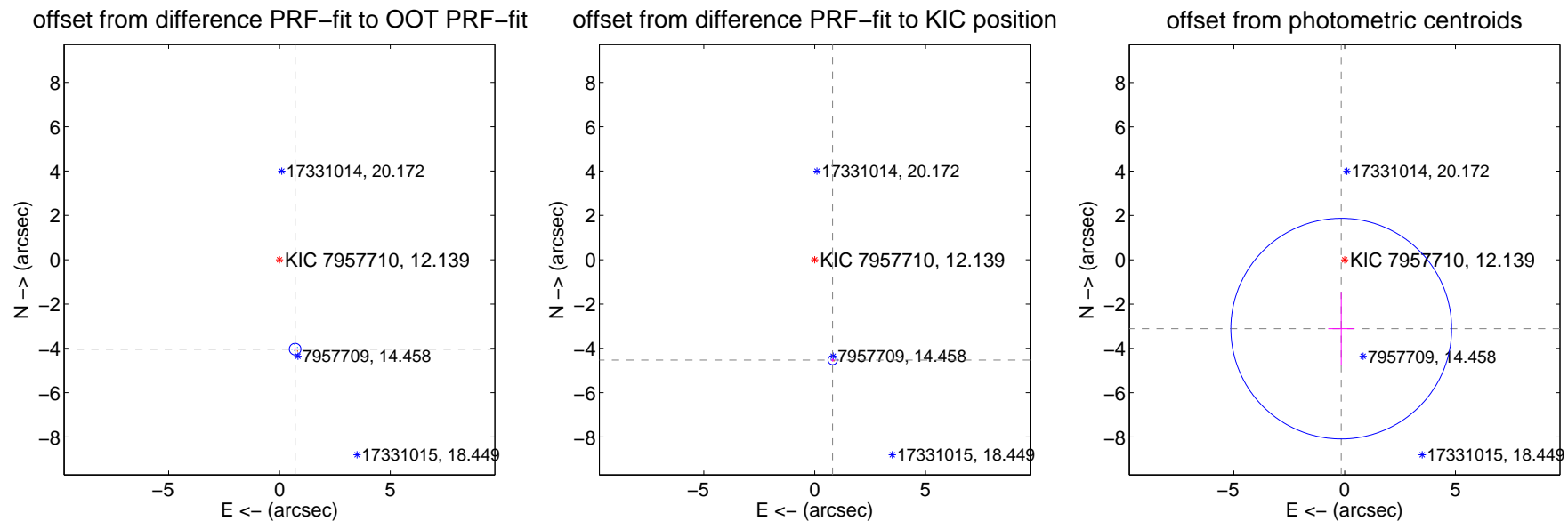
DV Centroid Data

Supplemental centroid analysis for 007957710-04. Kepler magnitude: 12.14. Transit SNR 8.11

There are 4 quarters with good PRF difference image offsets

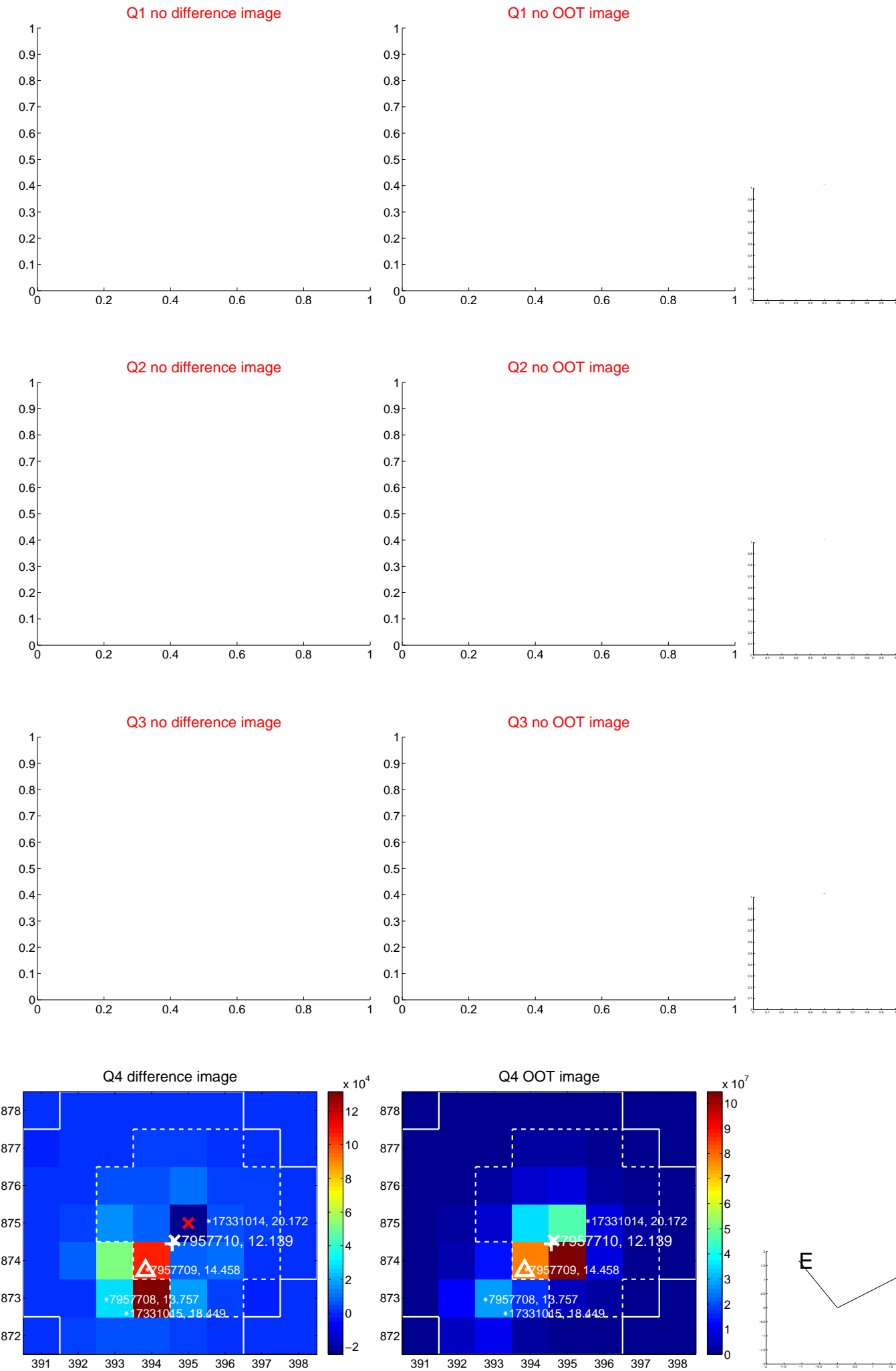
The direct PRF centroid is offset from the target star catalog position by about 0.50 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.098 ± 0.087	46.85	-0.706 ± 0.075	-4.036 ± 0.087
PRF-fit source offset from KIC position	4.599 ± 0.069	66.19	-0.809 ± 0.082	-4.528 ± 0.069
photometric centroid source offset	3.11 ± 1.66	1.88	0.15 ± 0.59	-3.11 ± 1.66

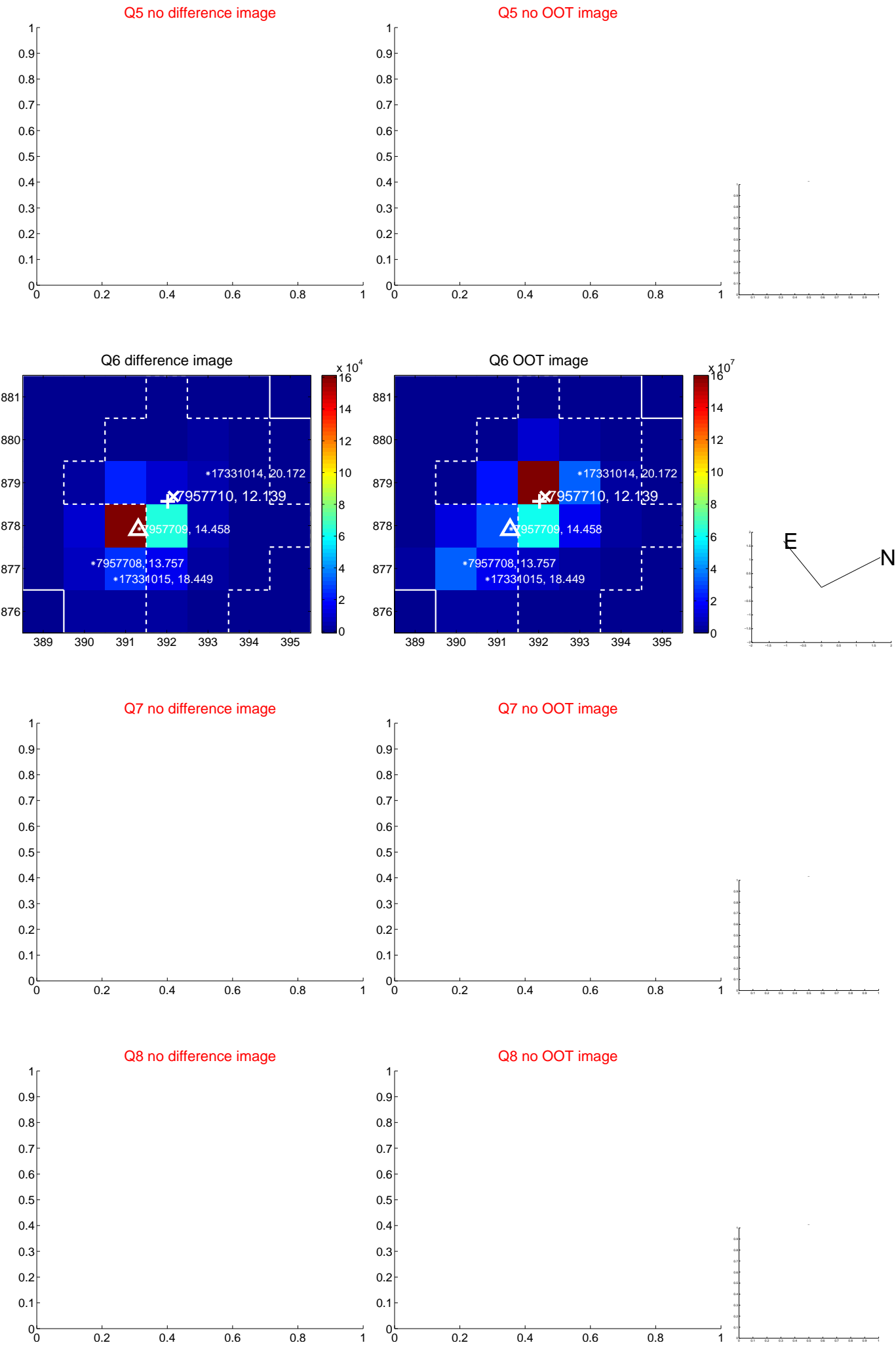


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

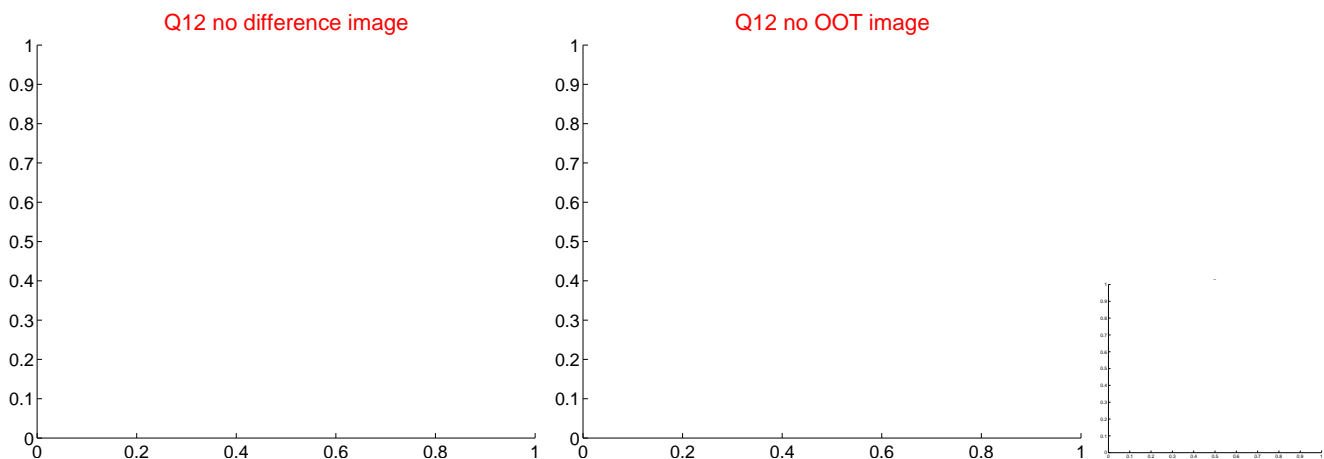
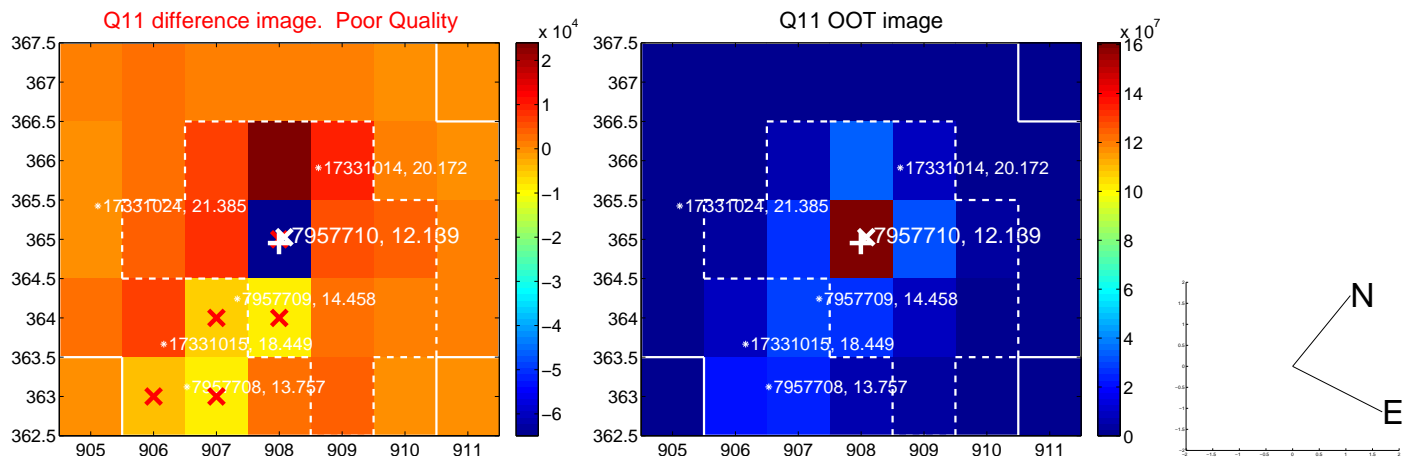
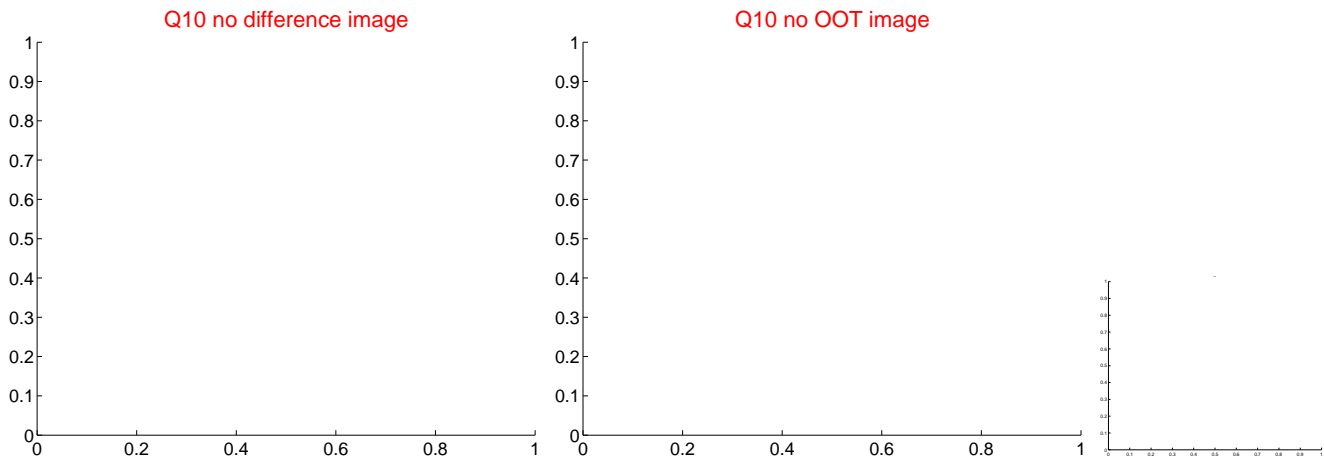
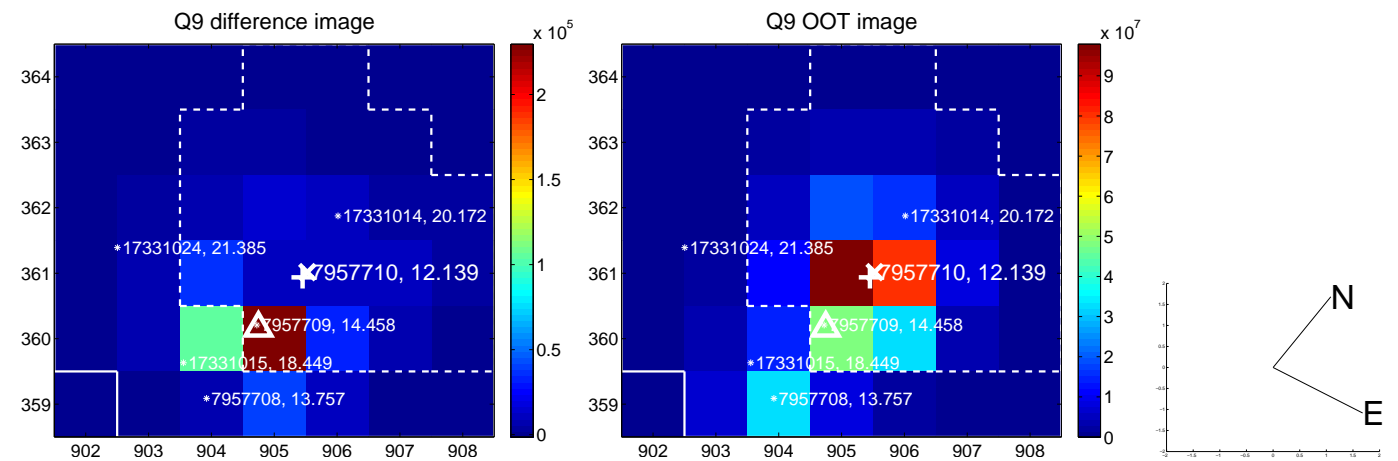
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



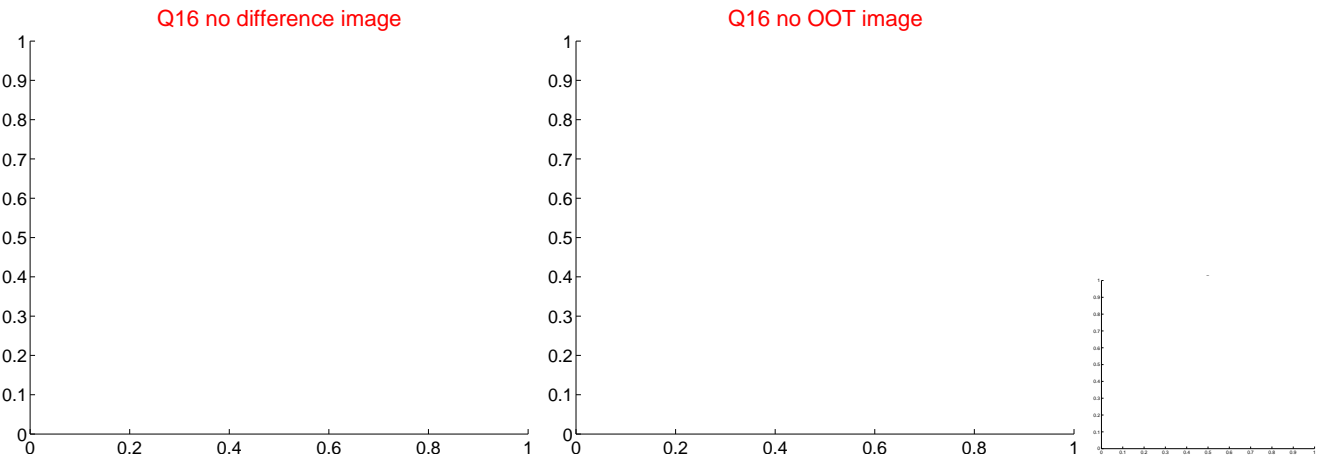
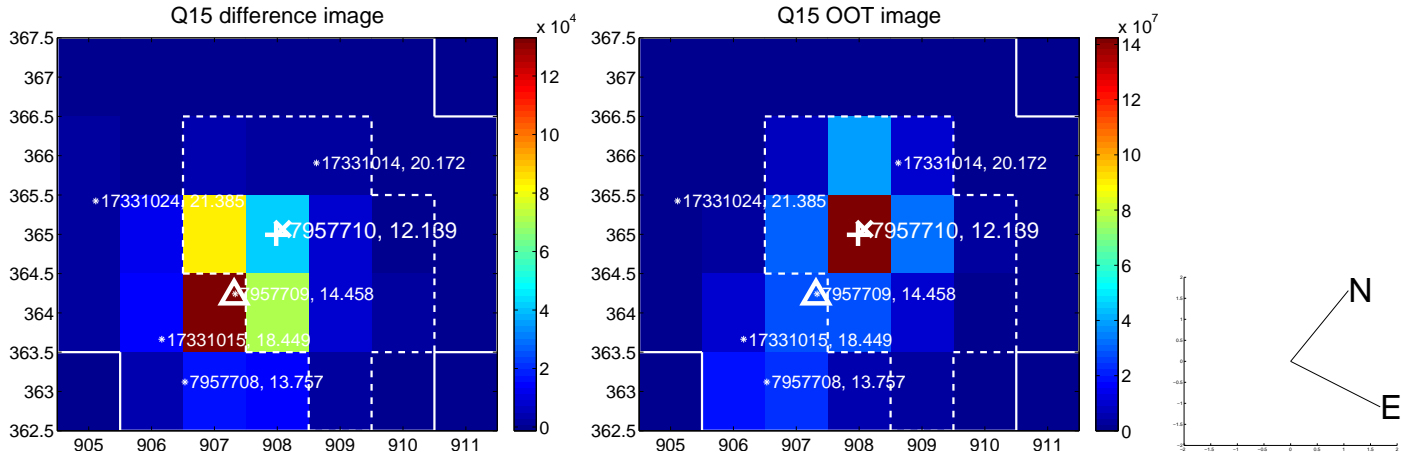
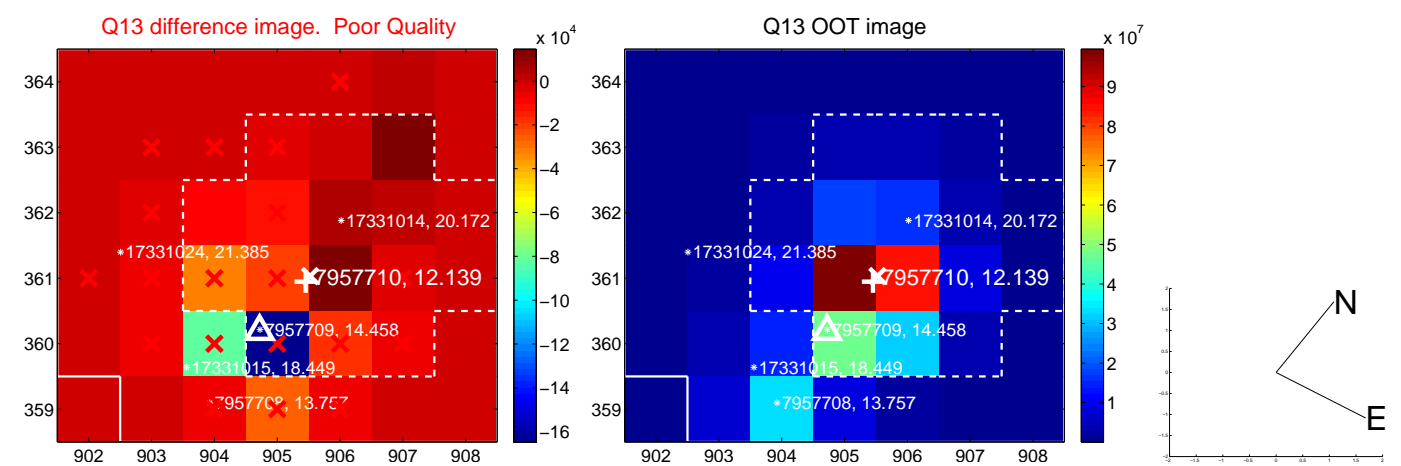
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



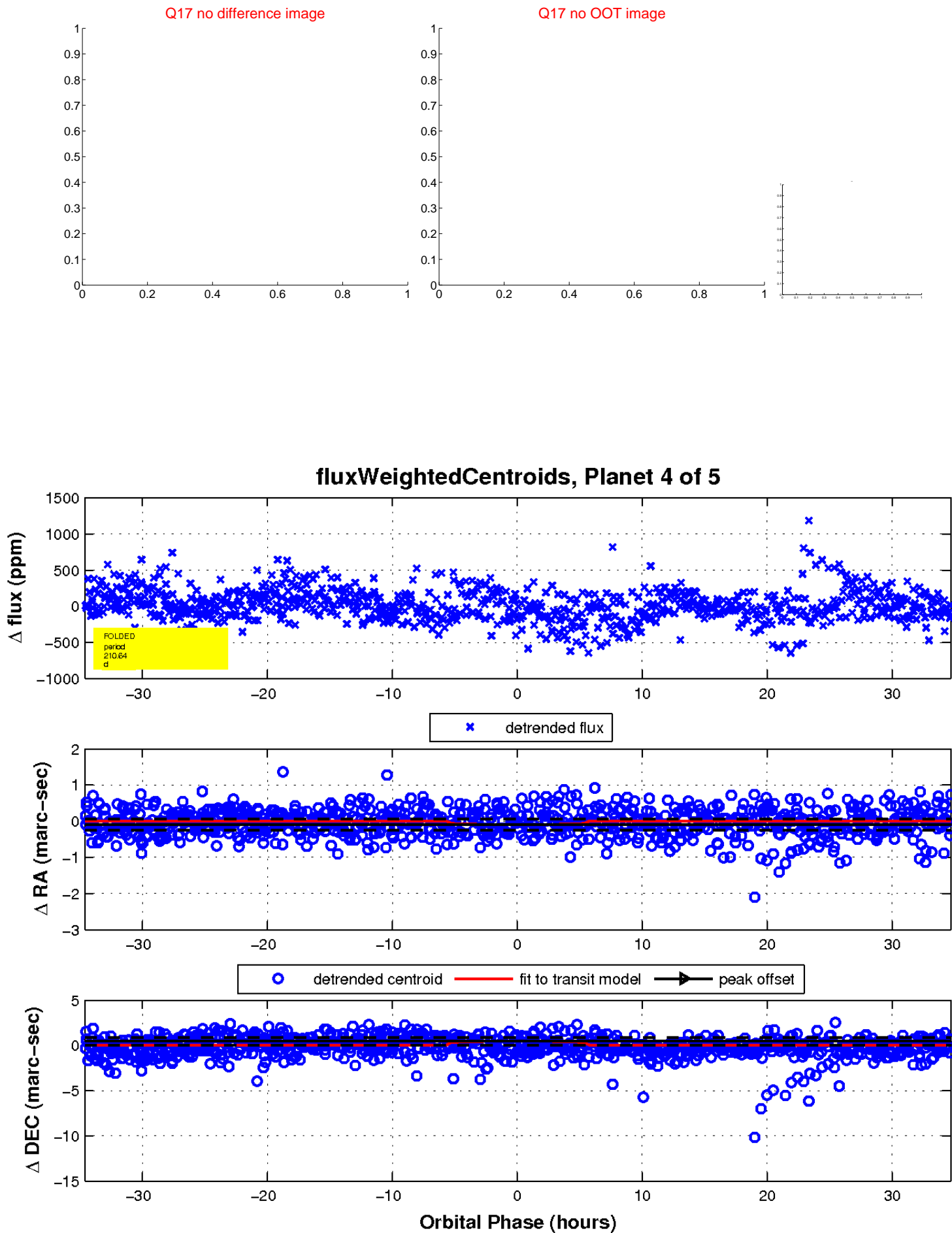
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

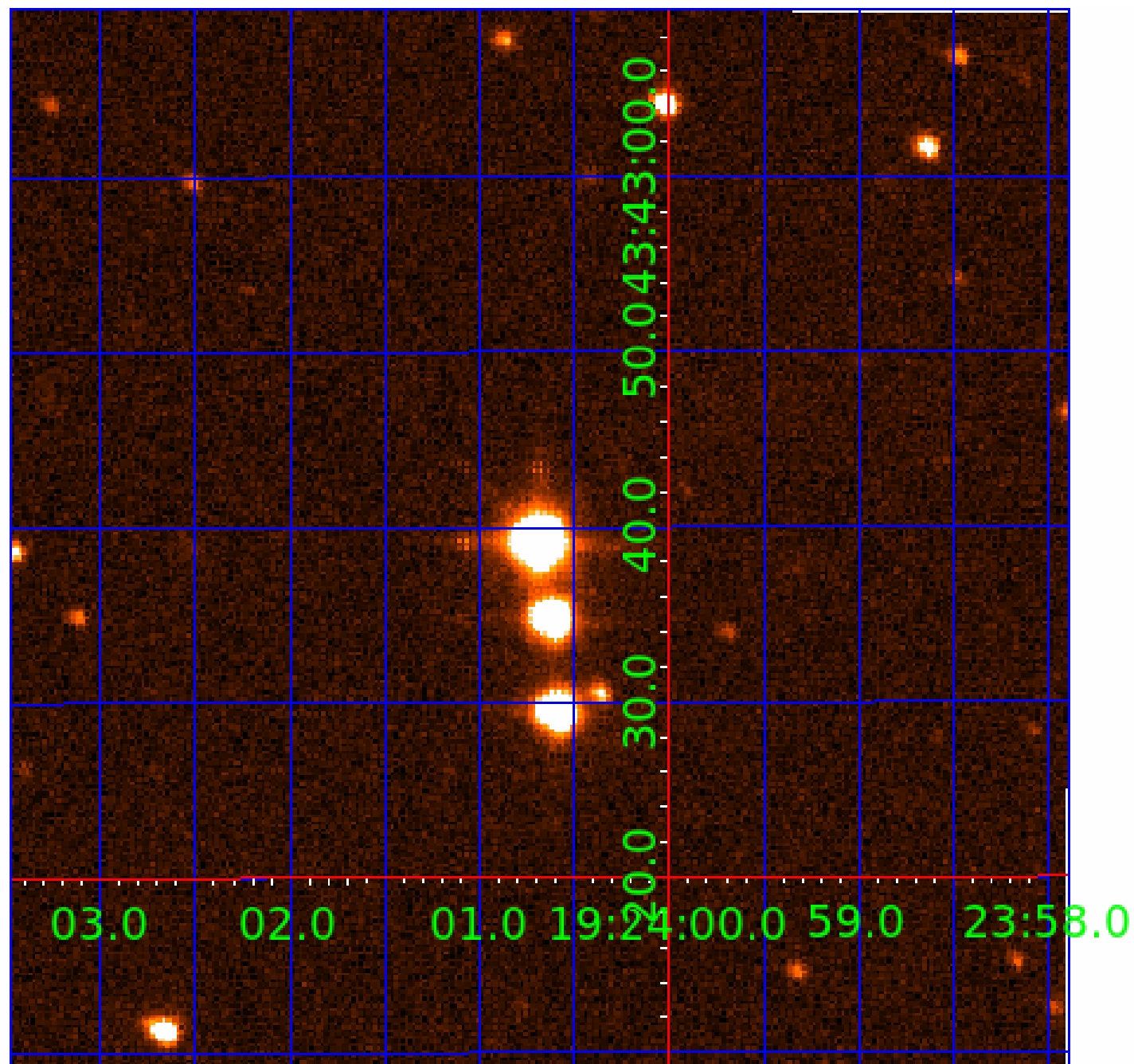


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007957710

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})
007957710-01	OBS	No	0.647522	131.755173	6.6	1.463	14.6	3.0	1.07	5992	0.35	6711.89
007957710-02	OBS	No	472.151709	151.520298	307.7	6.358	8.0	6.5	1.07	5992	2.05	1.02
007957710-03	OBS	No	0.646339	132.195220	0.2	1.256	10.7	0.1	1.07	5992	0.07	6728.28
007957710-04	OBS	No	210.638326	182.264452	260.4	11.572	7.8	8.1	1.07	5992	1.90	3.00
007957710-05	OBS	No	302.267727	341.019592	155.8	3.190	7.3	2.7	1.07	5992	1.58	1.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007957710-01	OBS	FP	0.00	1	0	1	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
007957710-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_KIC_POS
007957710-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
007957710-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
007957710-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

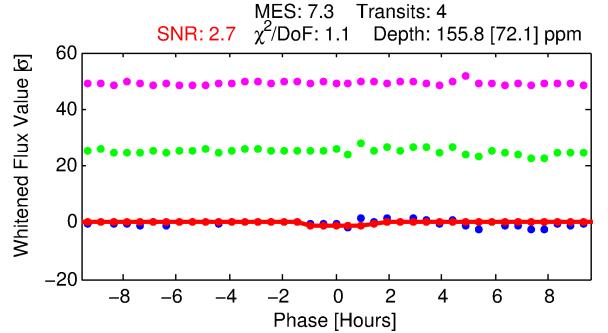
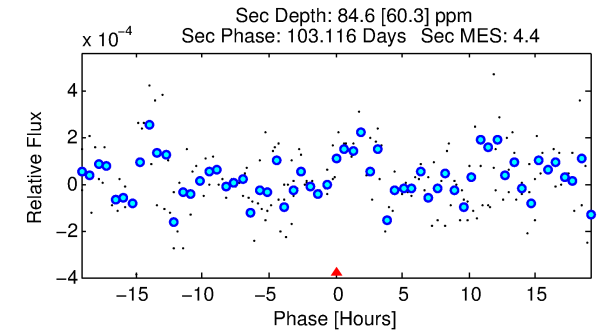
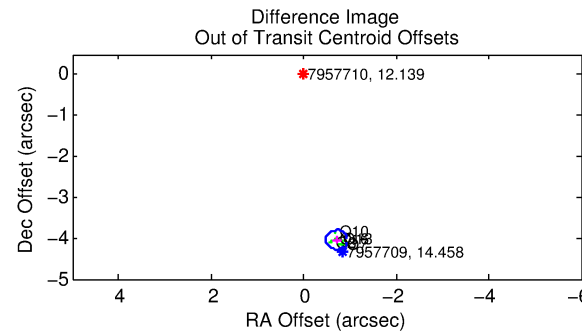
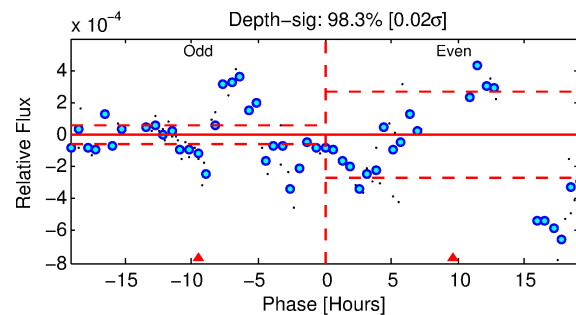
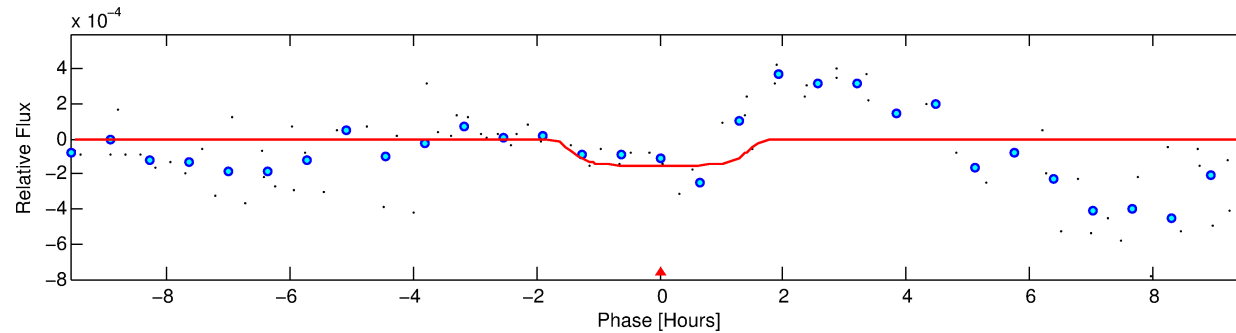
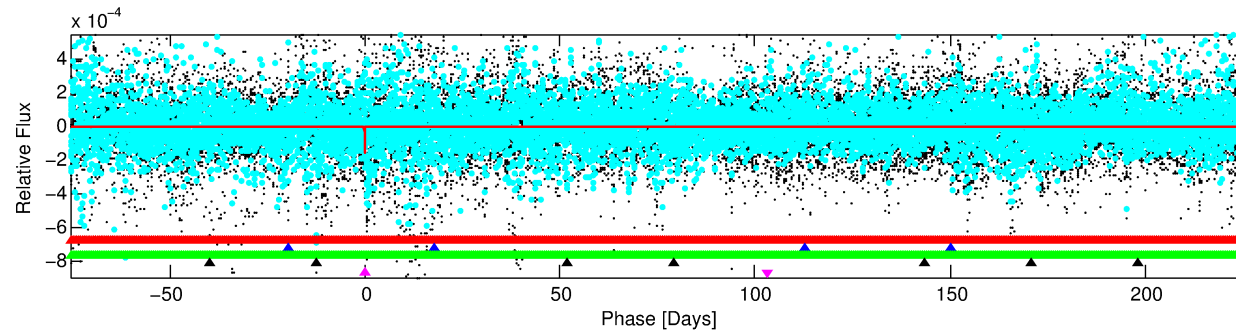
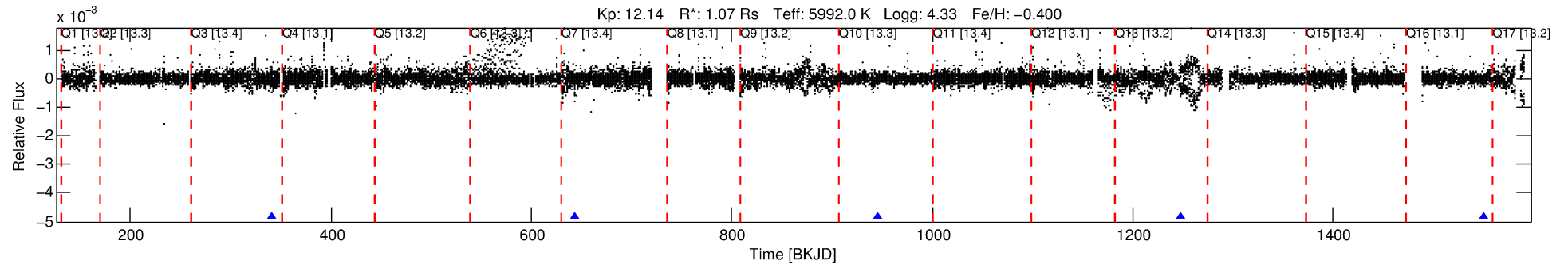
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007957710-05

No Significant Match Found

DV One-Page Summary

KIC: 7957710 Candidate: 5 of 5 Period: 302.268 d



DV Fit Results:

Period = 302.26773 [0.00628] d
Epoch = 341.0196 [0.0194] BKJD
Rp/R* = 0.0135 [0.0430]
a/R* = 328.92 [5582.33]
b = 0.91 [3.41]
Seff = 1.85 [0.46]
Teq = 298 [18] K
Rp = 1.59 [5.05] Re
a = 0.8478 [0.1258] AU
Ag = 13317.64 [85287.25] [0.16σ]
Teff = 4942 [7906] K [0.59σ]

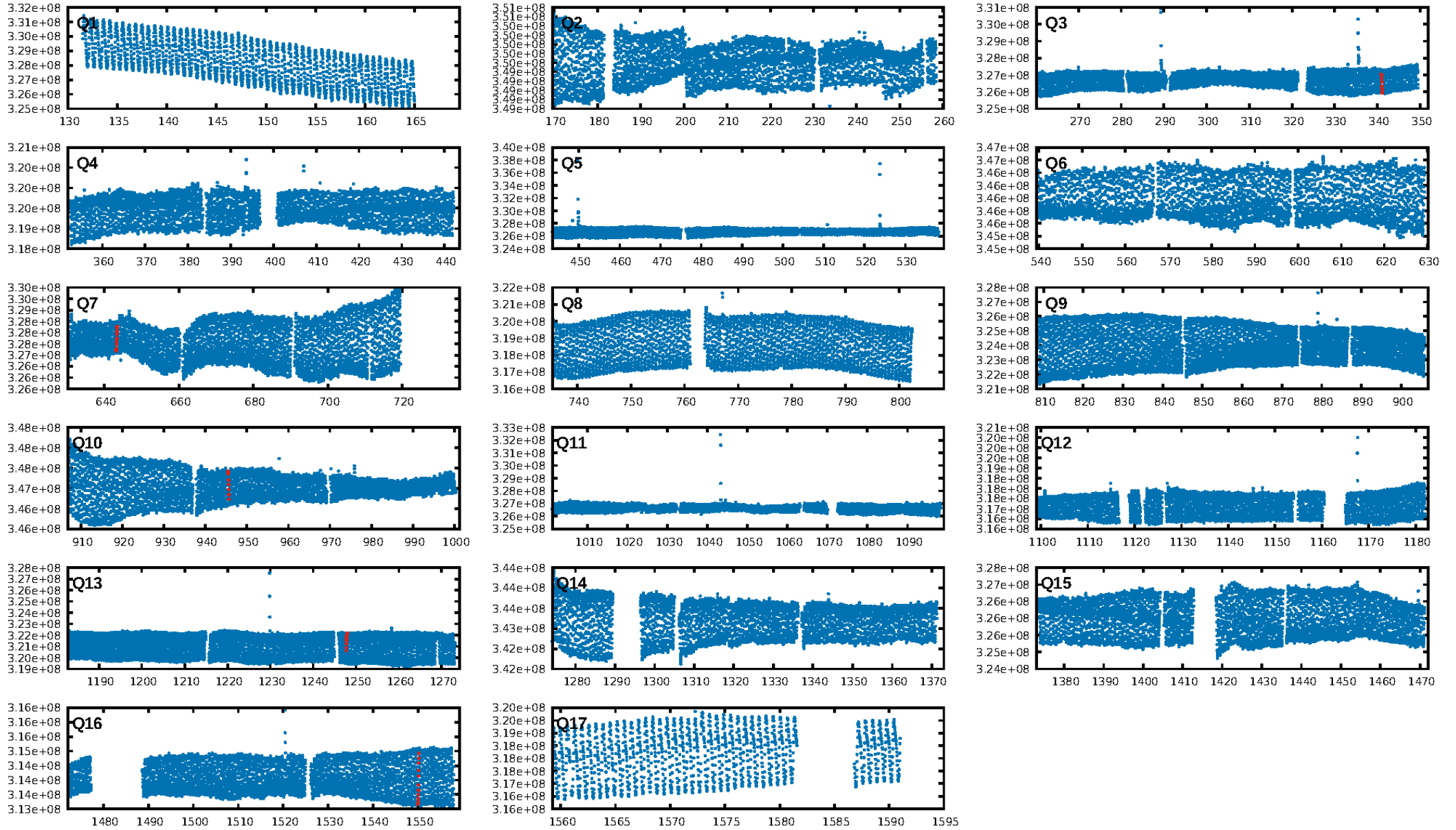
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [183.20σ]
LongPeriod-sig: 100.0% [573.17σ]
ModelChiSquare2-sig: 51.6%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 5.43e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.606
Centroid-sig: 4.6%
Centroid-so: 4.548 arcsec [1.03σ]
OotOffset-rm: 4.104 arcsec [52.42σ]
KicOffset-rm: 4.574 arcsec [63.68σ]
OotOffset-st: 1/2/1/1 [5]
KicOffset-st: 1/2/1/1 [5]
DiffImageQuality-fgm: 0.60 [3/5]
DiffImageOverlap-fno: 0.00 [0/5]

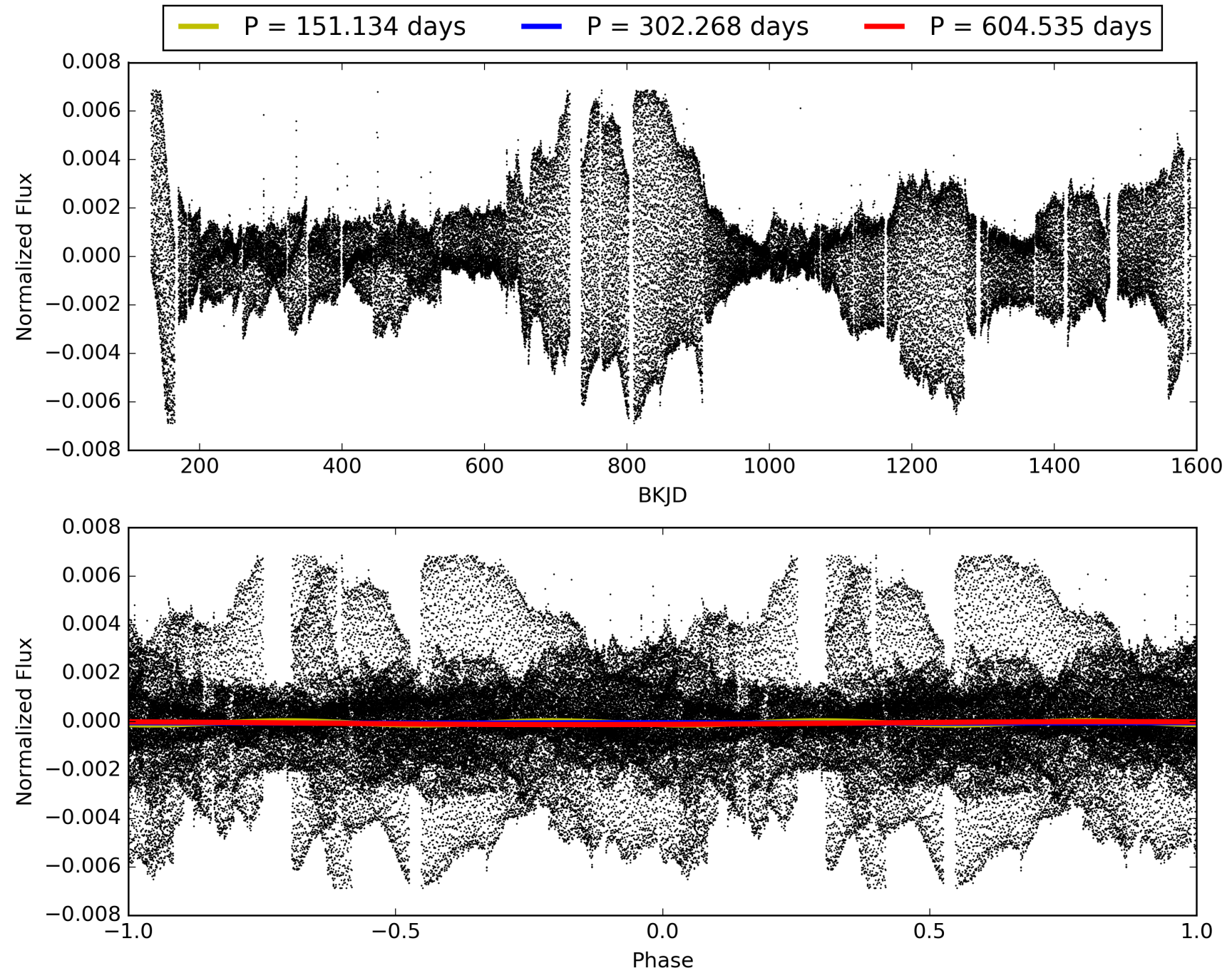
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:55:04 Z

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

TCE 007957710-05, PDC Light Curves

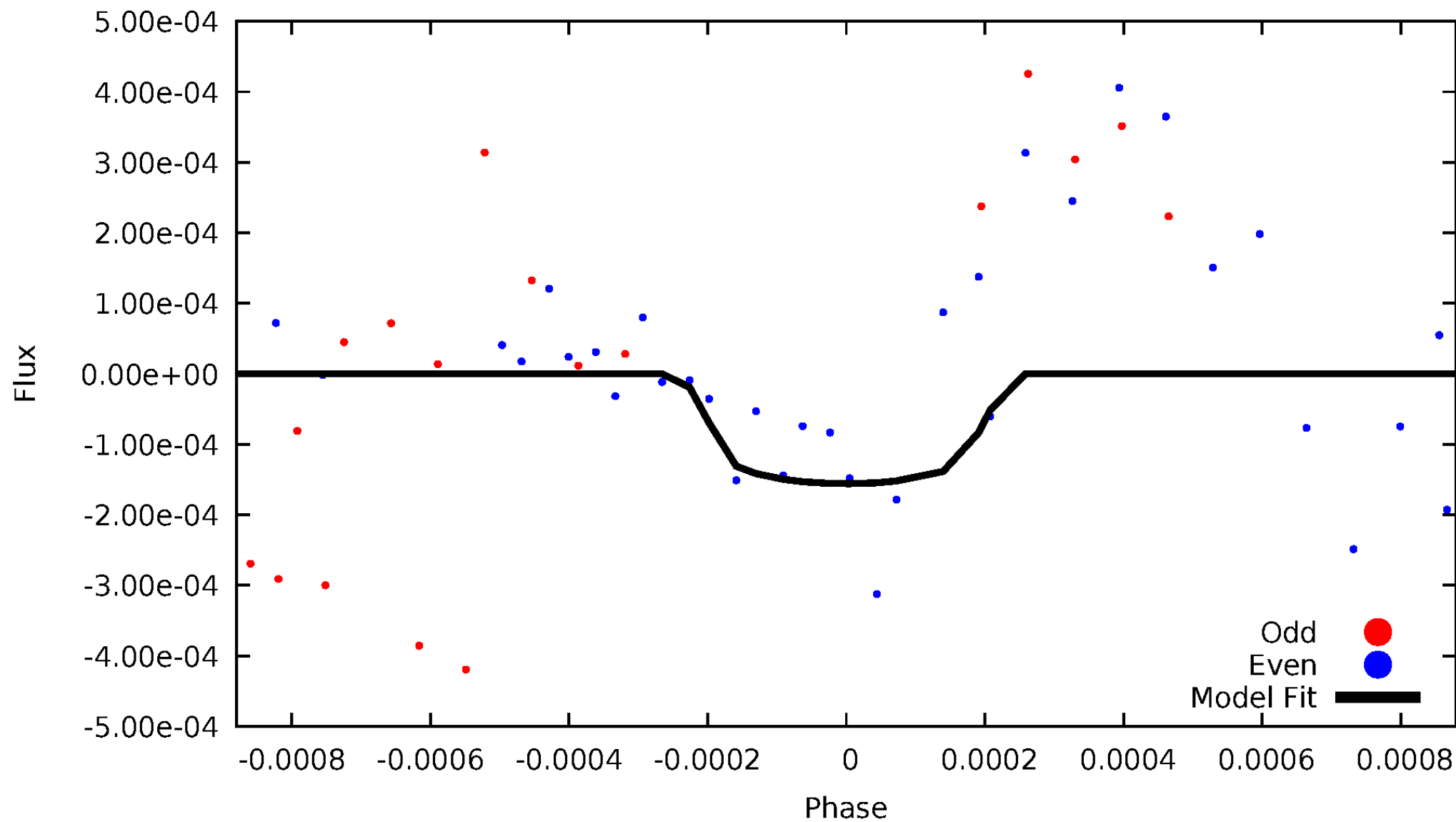


TCE 007957710-05



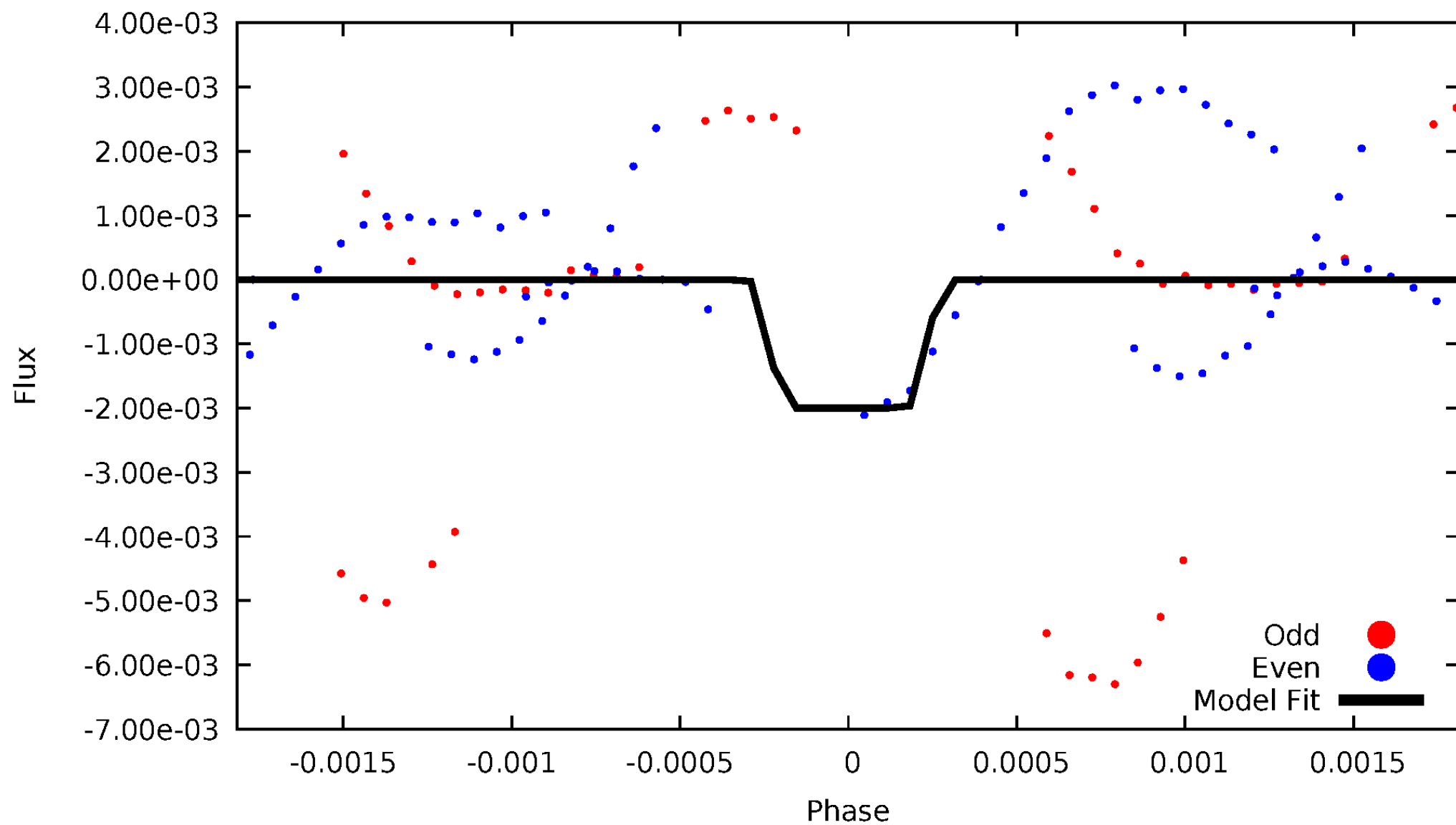
DV Odd/Even

TCE 007957710-05



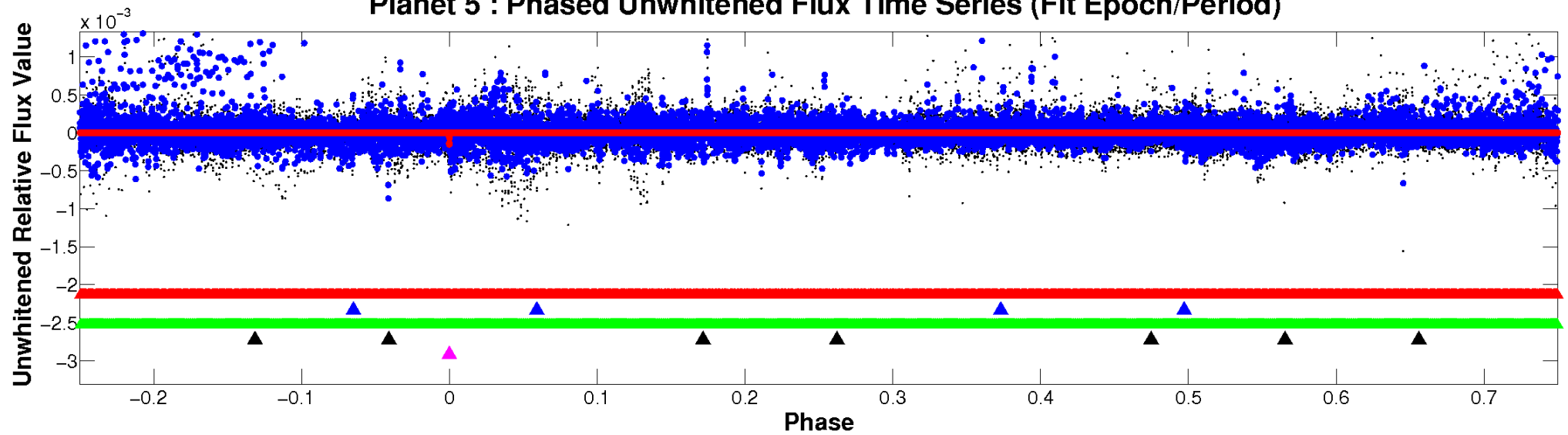
ALT Odd/Even

TCE 007957710-05

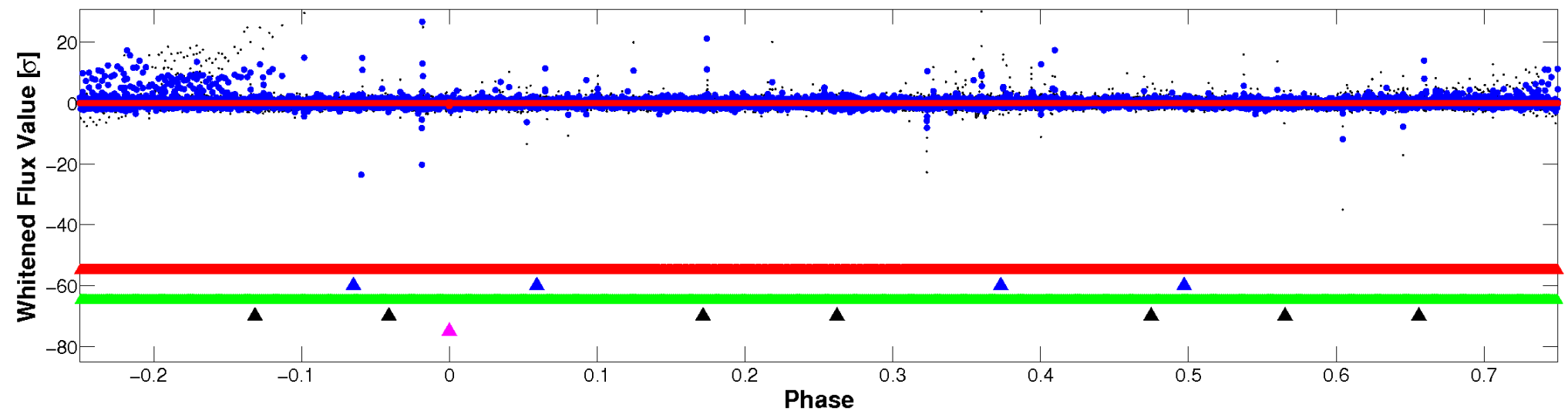


Non-Whitened Vs. Whitened Light Curve

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

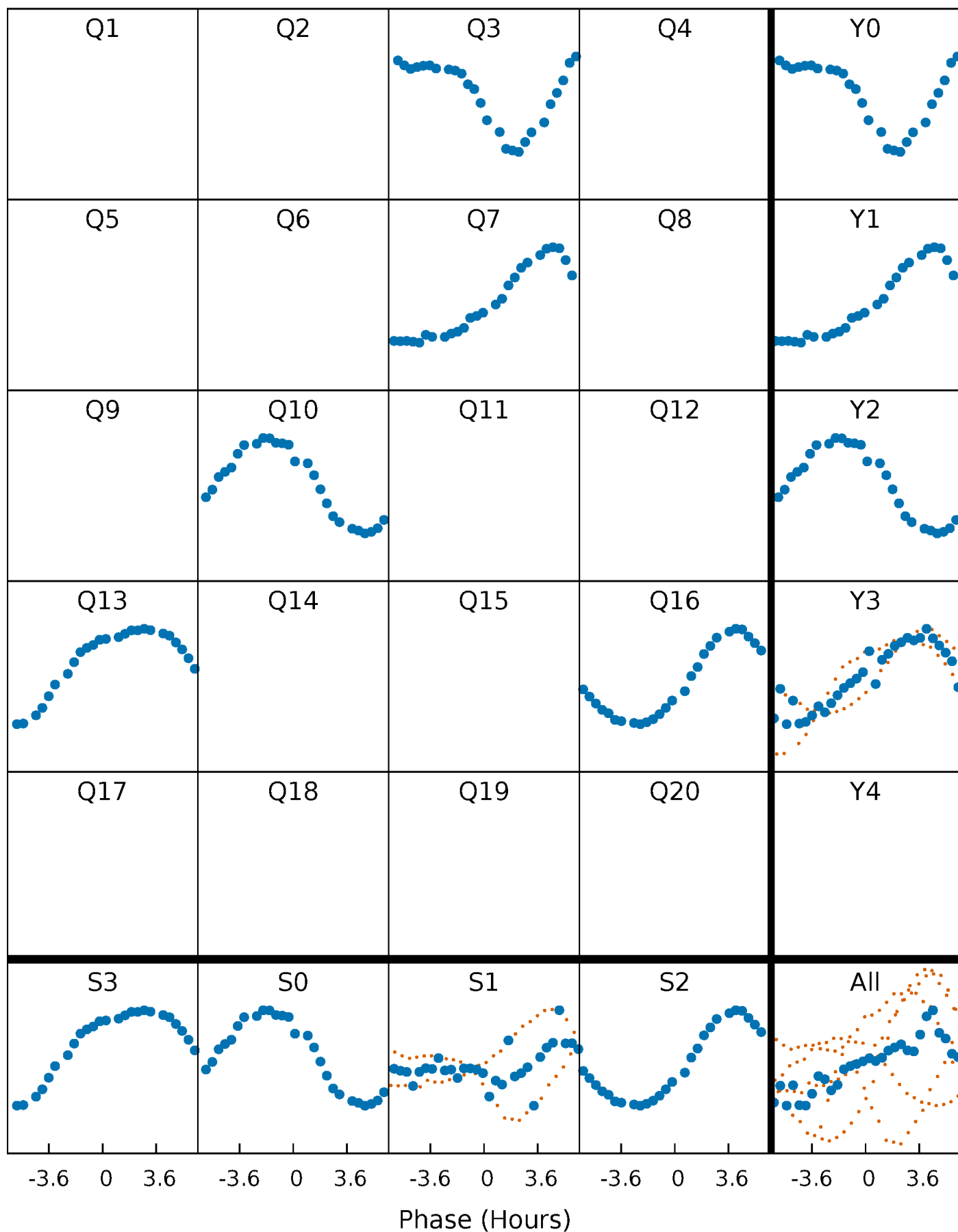


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



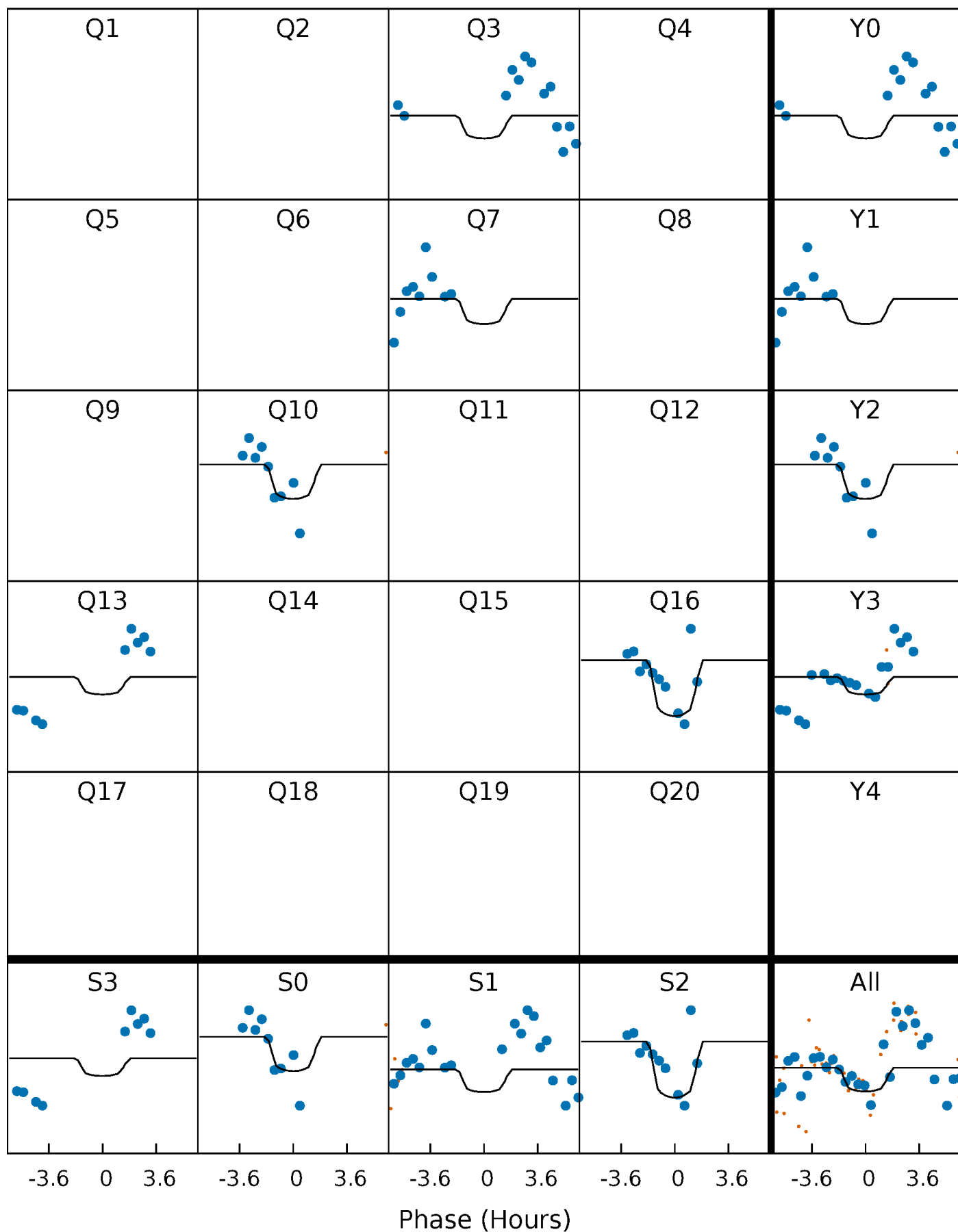
PDC Quarter-Phased Transit Curves

TCE 007957710-05 $P=302.267727$ Days $T_0=341.019592$ (BKJD)



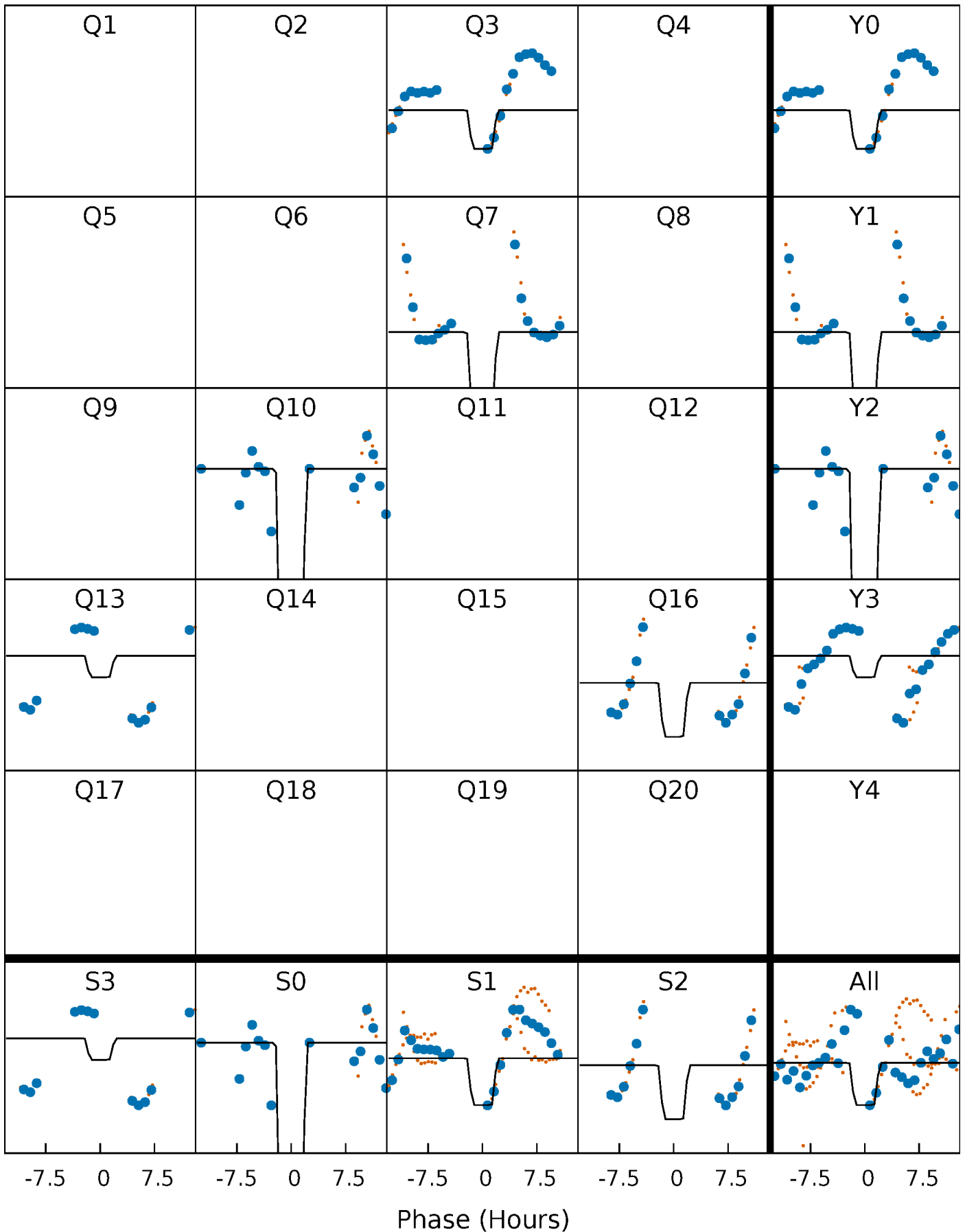
DV Quarter-Phased Transit Curves

TCE 007957710-05 $P=302.267727$ Days $T_0=341.019592$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

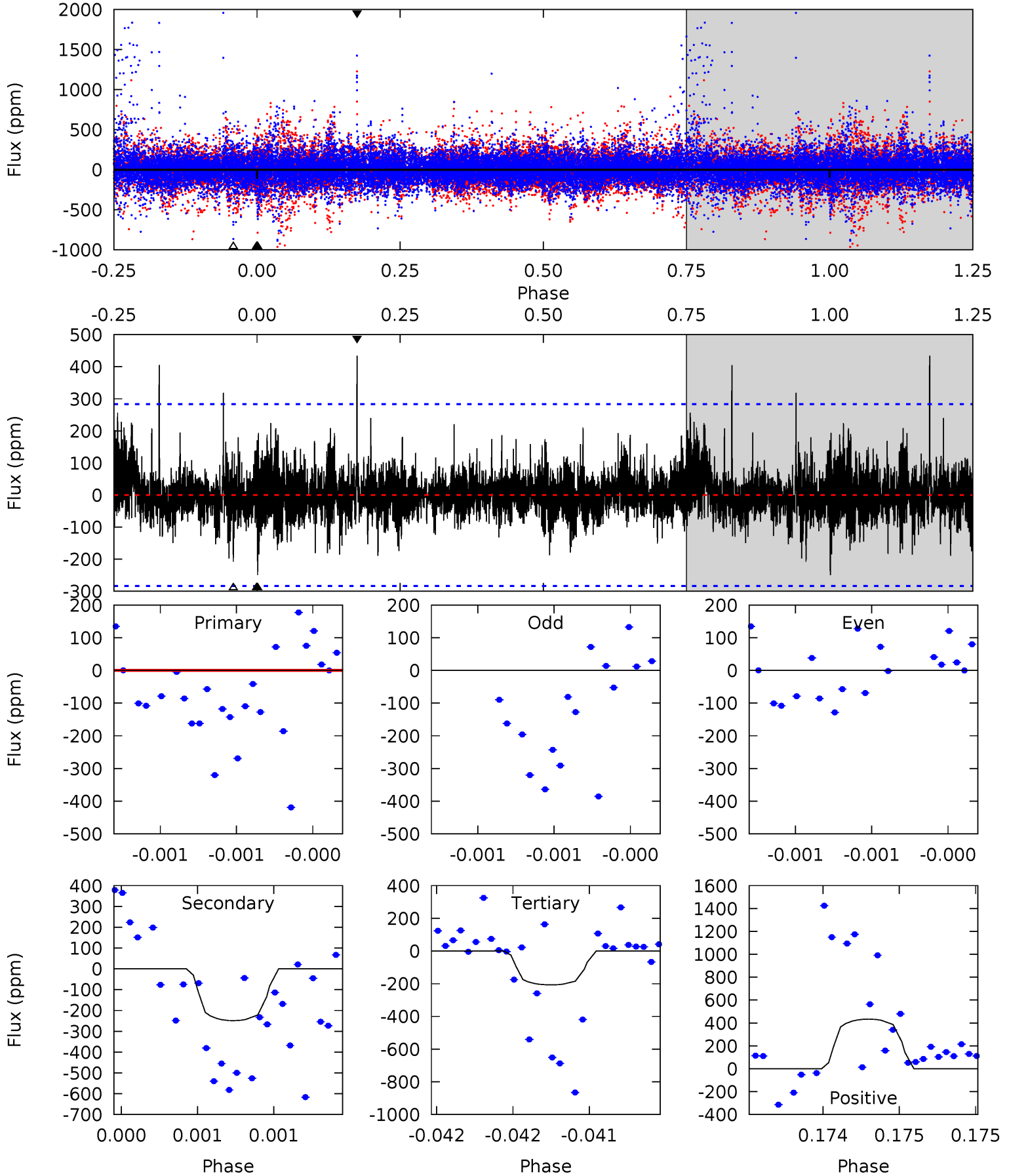
TCE 007957710-05 $P=302.315732$ Days $T_0=341.062886$ (BKJD)



DV Model-Shift Uniqueness Test

007957710-05, P = 302.267727 Days, E = 38.751865 Days

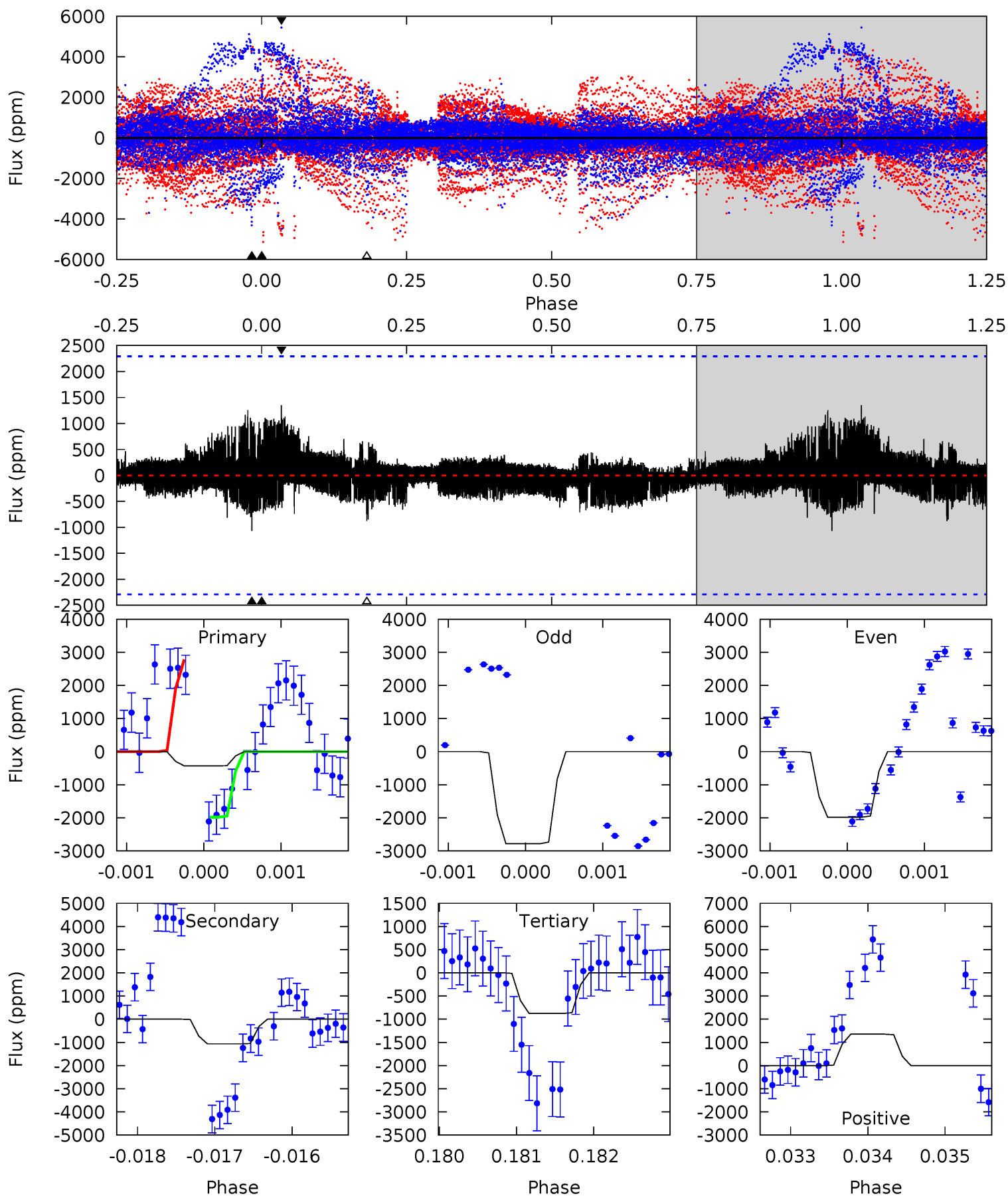
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.92	4.92	4.10	8.57	5.60	3.52	1.07	-2.18	-6.65	0.82	-3.65	0.52	1.00	0.64	0.16



Alt Model-Shift Uniqueness Test

007957710-05, $P = 302.315732$ Days, $E = 38.747154$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.05	2.58	2.12	3.27	5.54	3.43	0.47	-1.07	-2.22	0.46	-0.69	0.75	1.00	0.56	0.91



Stellar Parameters For KIC 007957710

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5992^{+71}_{-80}	$4.325^{+0.143}_{-0.104}$	$-0.400^{+0.150}_{-0.150}$	$1.074^{+0.145}_{-0.161}$	$0.890^{+0.064}_{-0.051}$	$1.011^{+0.670}_{-0.320}$
	+1%/-1%	+3%/-2%	+37%/-37%	+14%/-15%	+7%/-6%	+66%/-32%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 007957710-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-249 ± 51	$4.15^{+3.79}_{-2.91}$	415^{+17}_{-20}	4214^{+3052}_{-856}	5296^{+54320}_{-3845}
Alt.	-1066 ± 413	$6.24^{+4.89}_{-3.83}$	415^{+16}_{-18}	4747^{+2745}_{-986}	10038^{+59263}_{-7047}

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

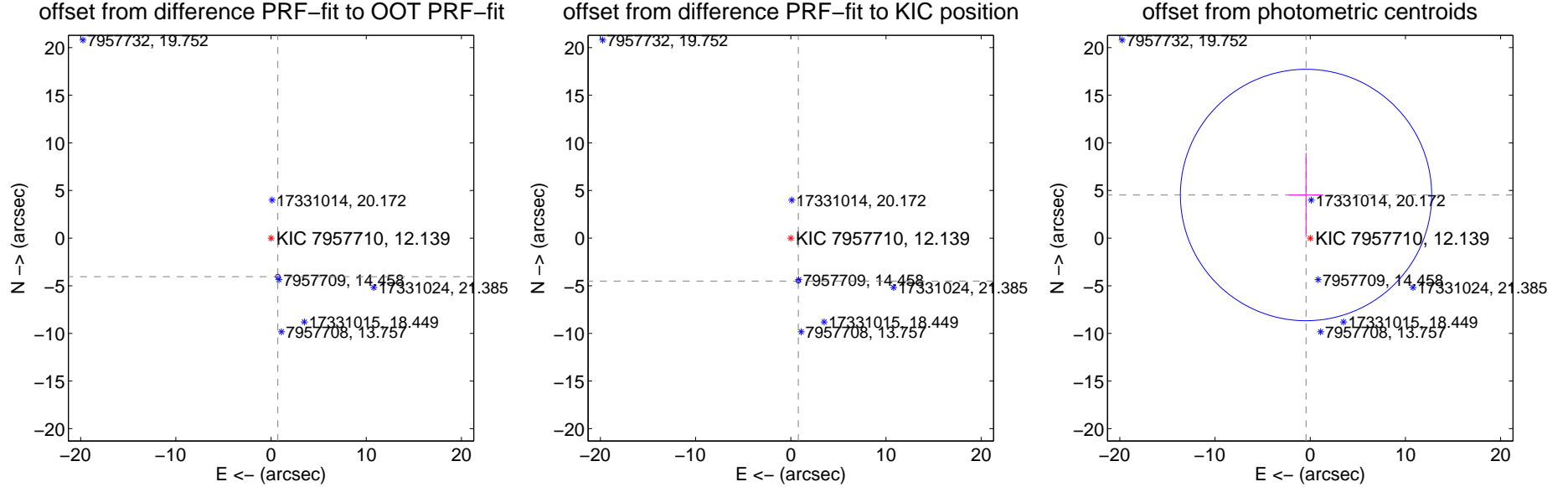
DV Centroid Data

Supplemental centroid analysis for 007957710-05. Kepler magnitude: 12.14. Transit SNR 2.72

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.49 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.104 ± 0.078	52.42	-0.715 ± 0.074	-4.041 ± 0.078
PRF-fit source offset from KIC position	4.574 ± 0.072	63.68	-0.793 ± 0.086	-4.505 ± 0.069
photometric centroid source offset	4.55 ± 4.40	1.03	0.44 ± 1.84	4.53 ± 4.42



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

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

Q1 no difference image



Q1 no OOT image



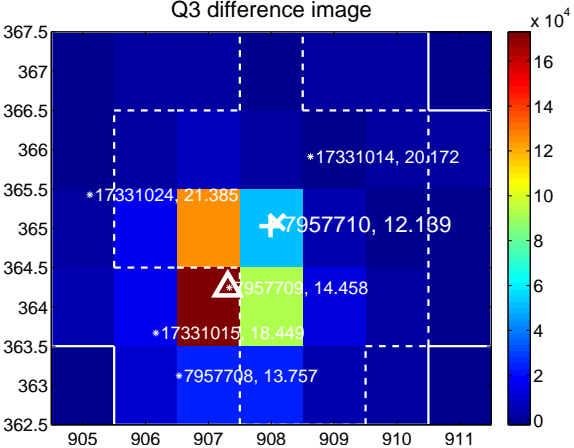
Q2 no difference image



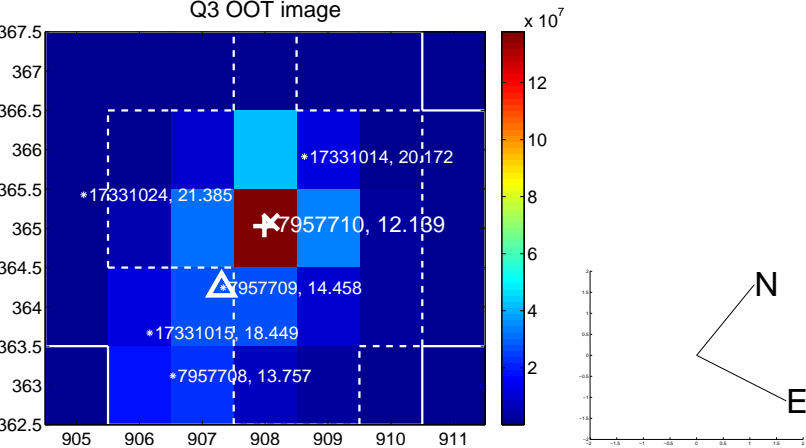
Q2 no OOT image



Q3 difference image



Q3 OOT image



Q4 no difference image



Q4 no OOT image



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

Q5 no difference image



Q5 no OOT image



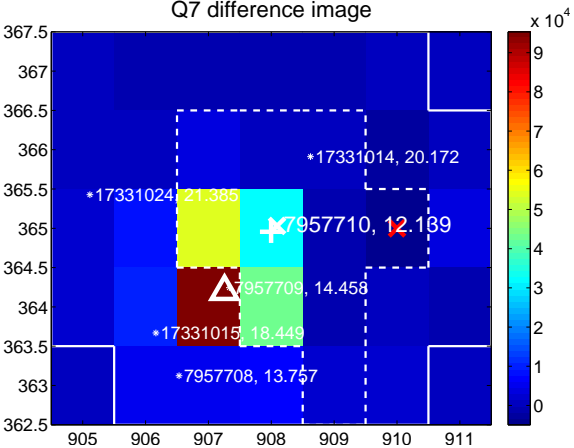
Q6 no difference image



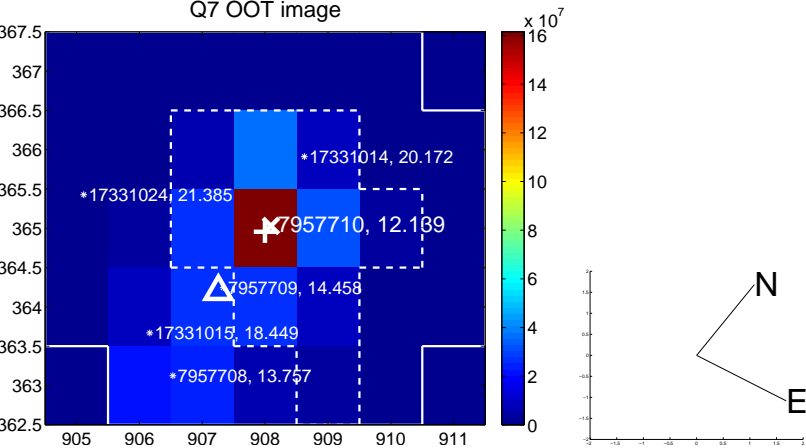
Q6 no OOT image



Q7 difference image



Q7 OOT image



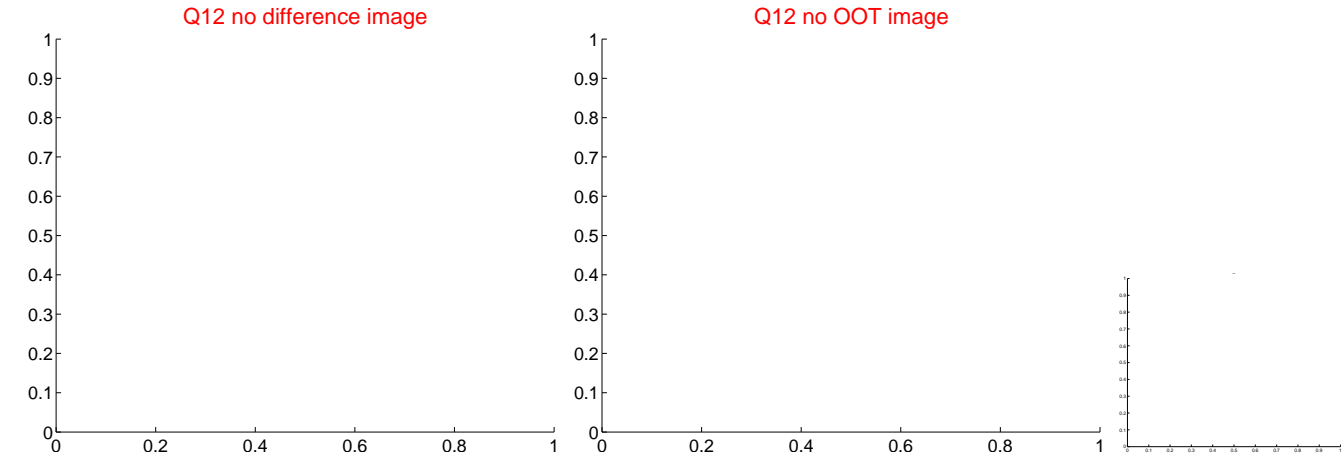
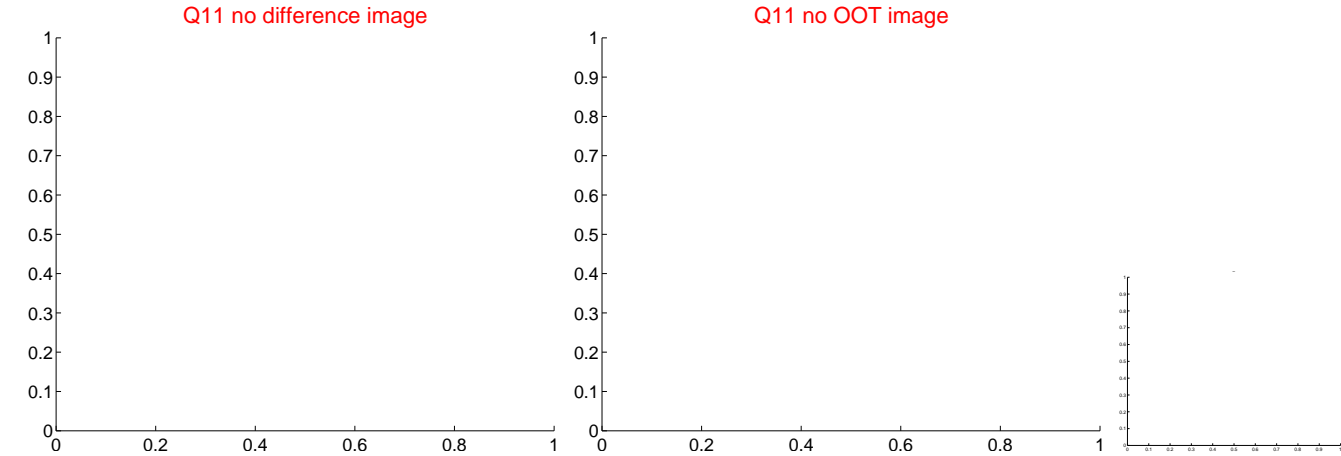
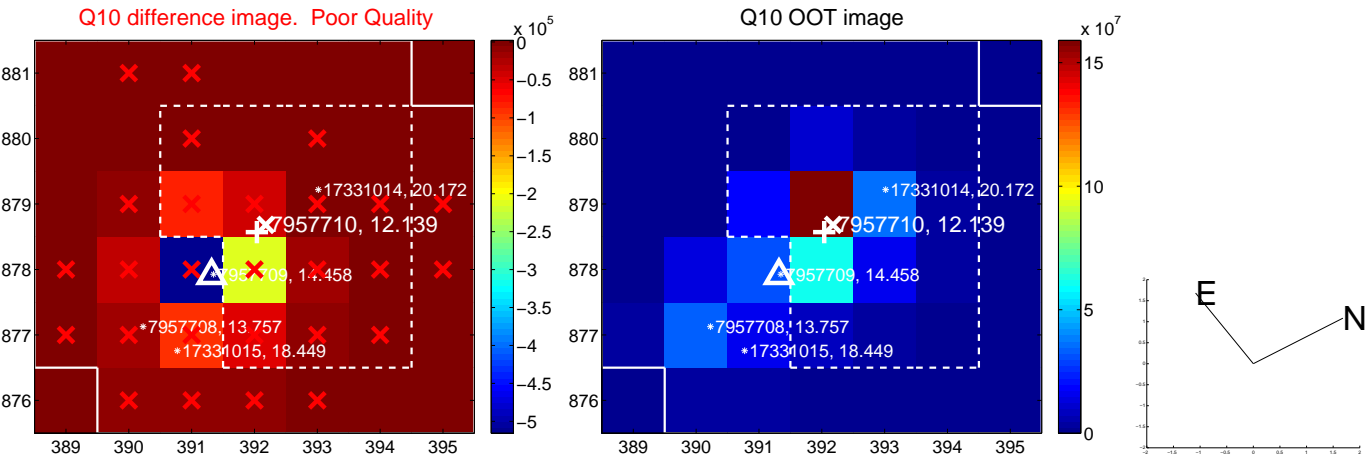
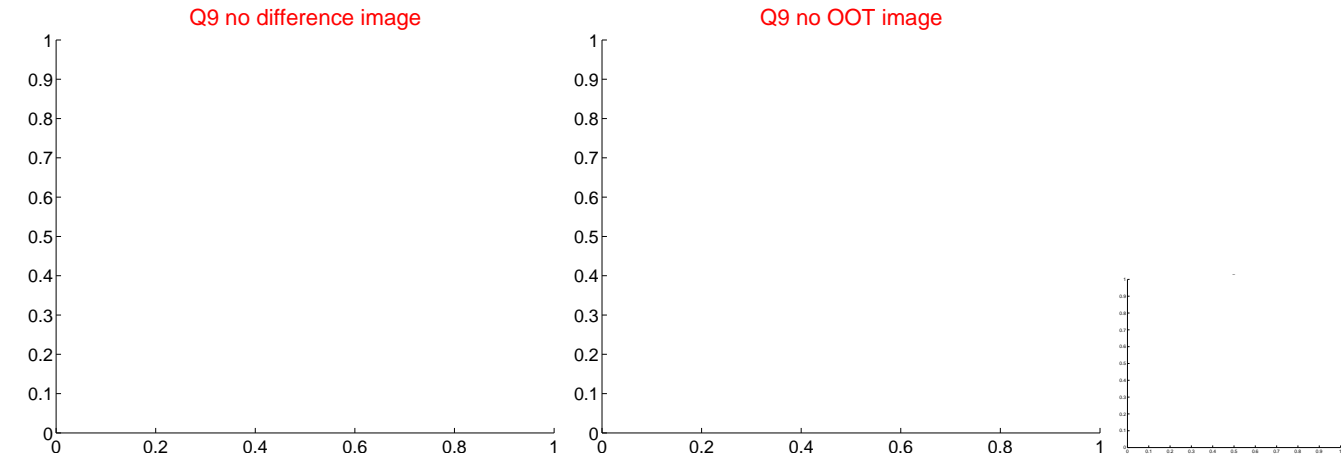
Q8 no difference image



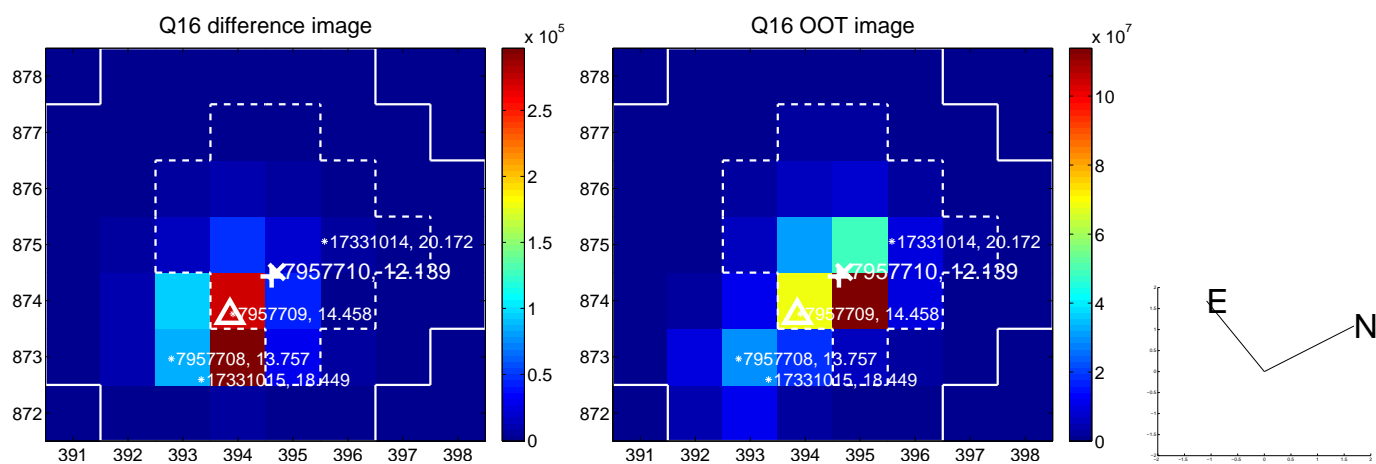
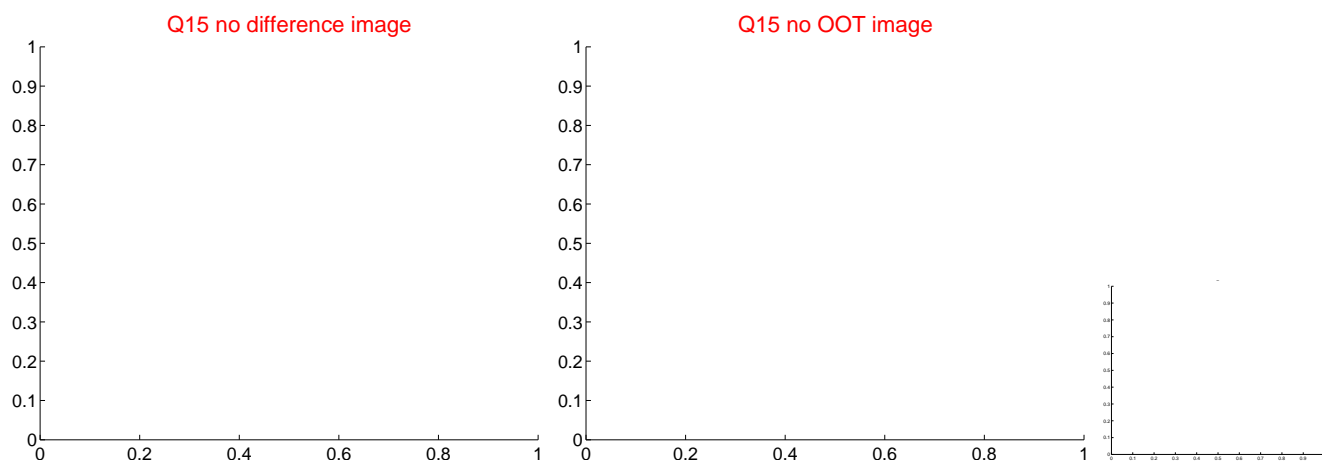
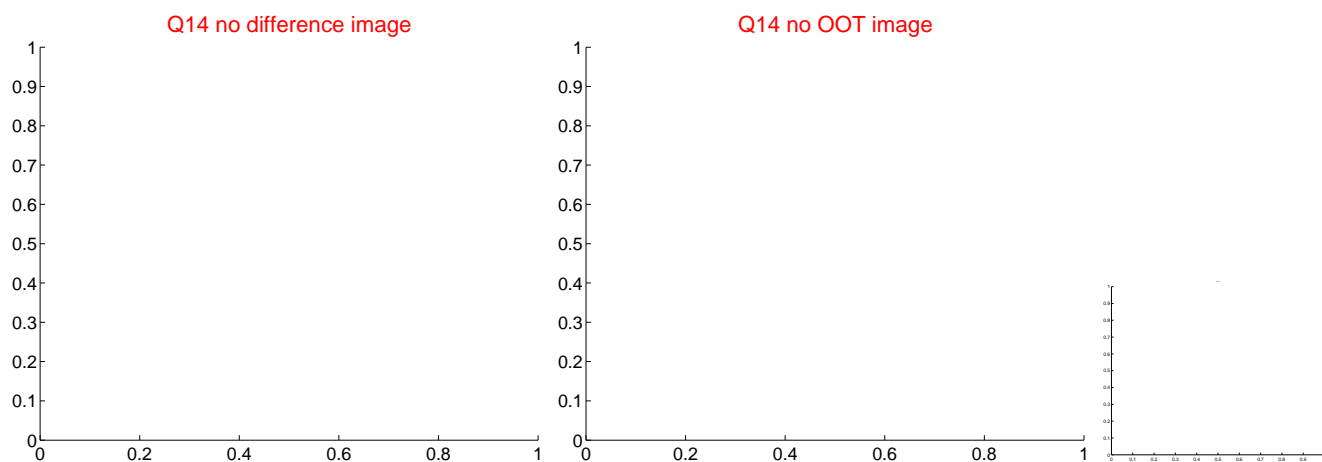
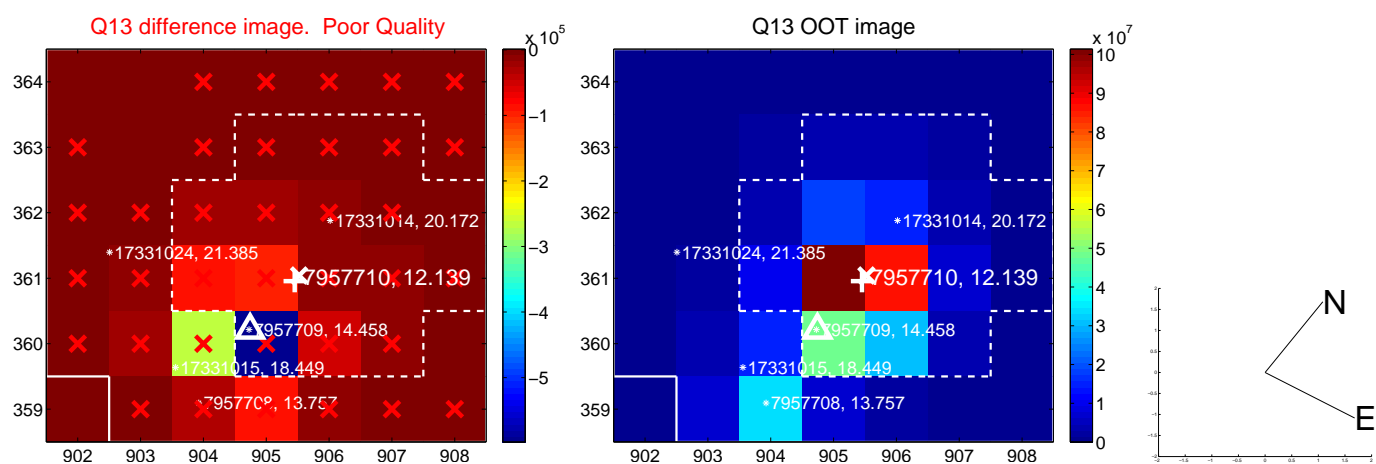
Q8 no OOT image



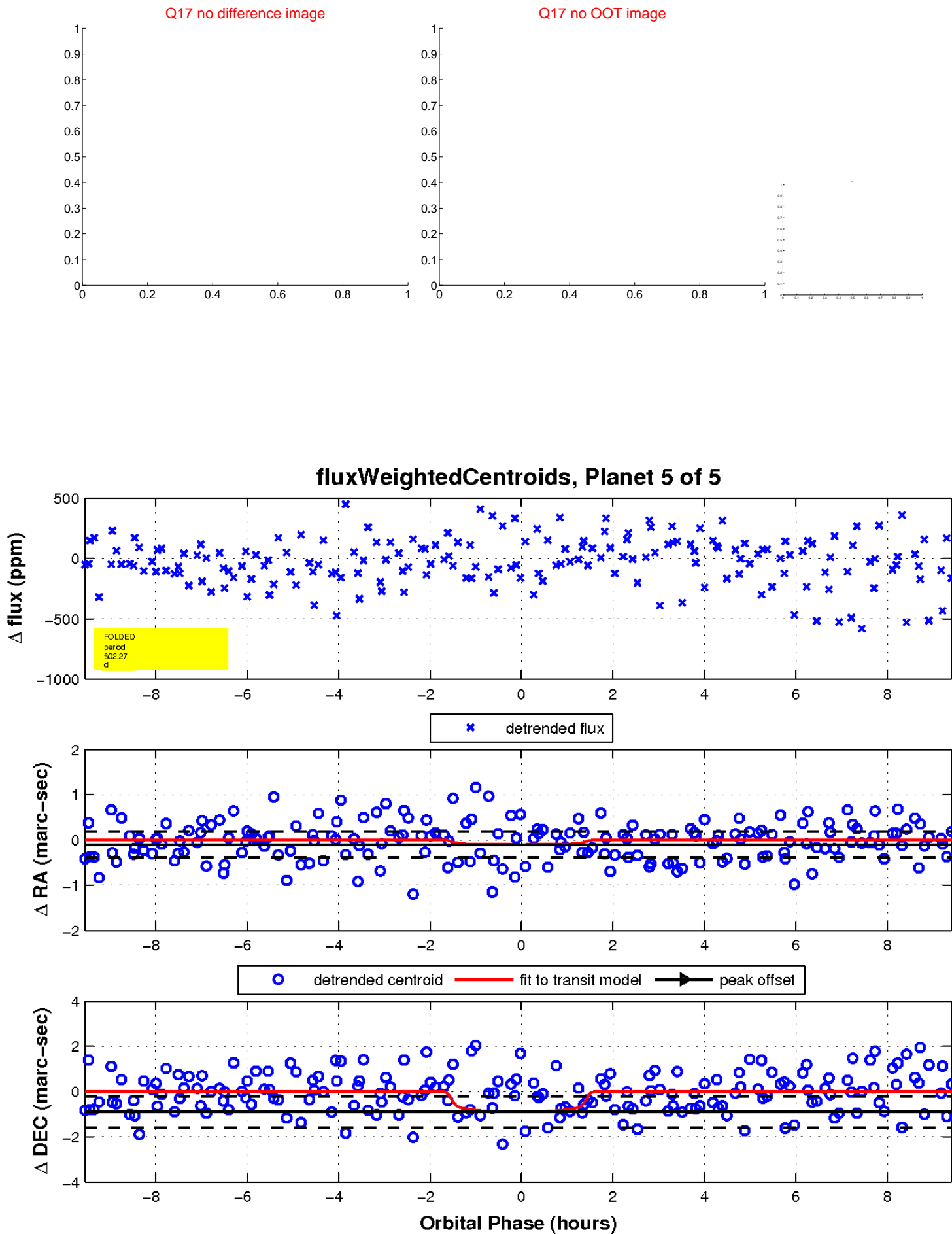
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \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

