

KIC 008655712

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})
008655712-01	OBS	No	0.791107	132.258959	84.2	3.806	10.3	8.5	3.81	7582	4.06	95375.69
008655712-02	OBS	No	1.926874	133.120153	232.3	21.475	9.1	15.1	3.81	7582	5.85	29103.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008655712-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED
008655712-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—CENT_SATURATED

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

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

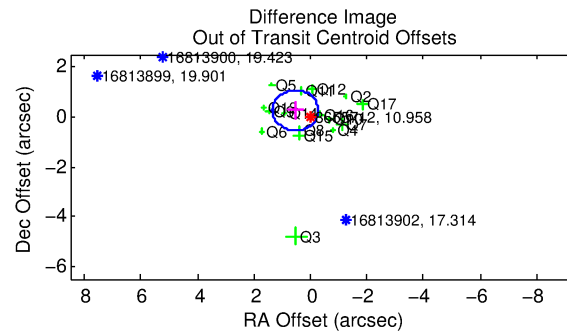
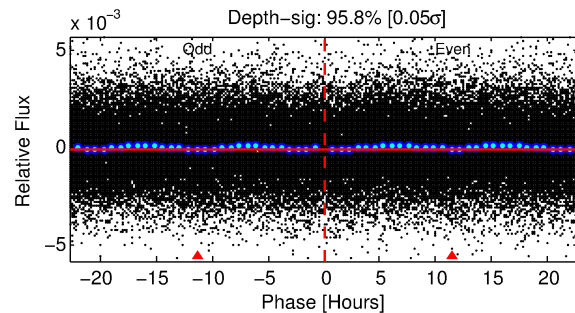
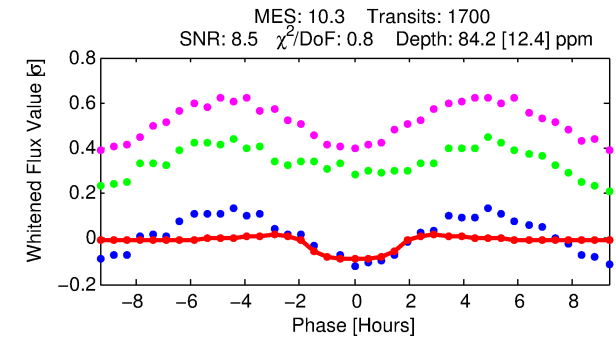
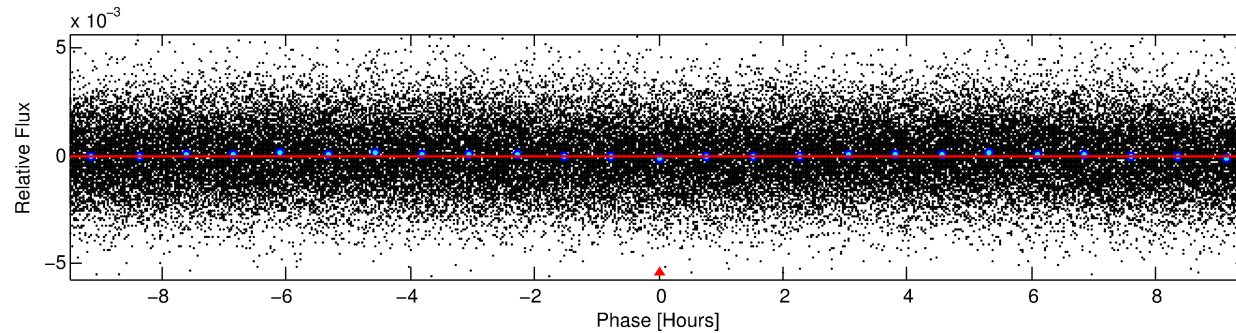
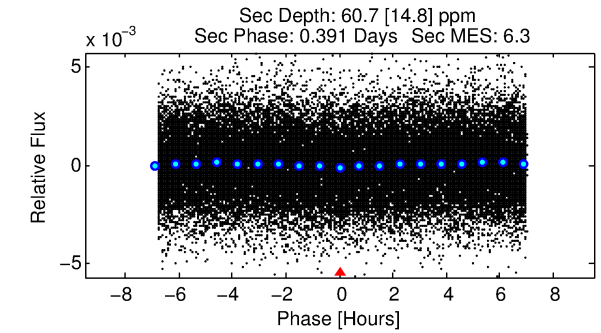
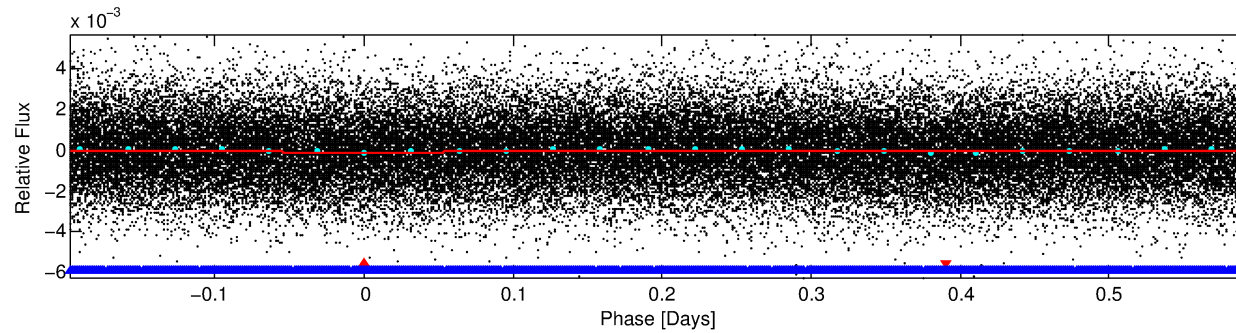
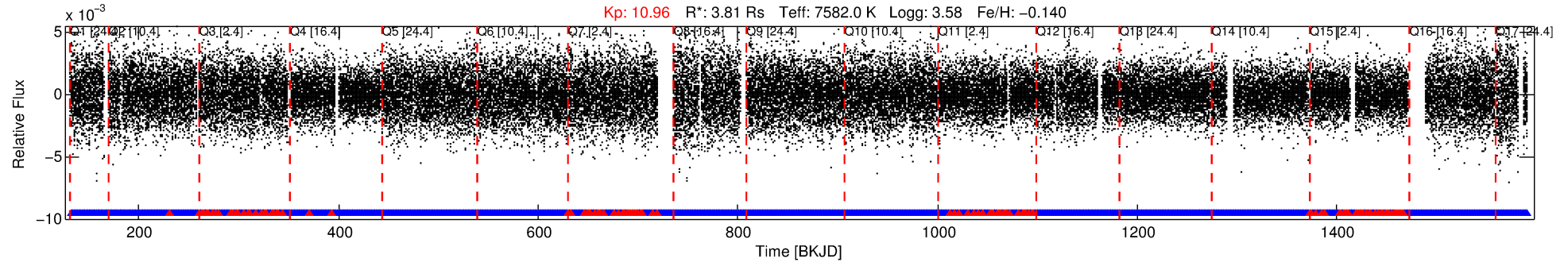
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008655712-01

No Significant Match Found

DV One-Page Summary

KIC: 8655712 Candidate: 1 of 2 Period: 0.791 d



DV Fit Results:

Period = 0.79111 [0.00001] d
Epoch = 132.2590 [0.0056] BKJD
 R_p/R^* = 0.0098 [0.0097]
 a/R^* = 1.20 [2.14]
 b = 0.89 [1.35]
 S_{eff} = 95375.69 [84917.16]
 T_{eq} = 4481 [997] K
 R_p = 4.06 [4.54] R_e
 a = 0.0212 [0.0113] AU
 A_g = 0.91 [1.98] [-0.04σ]
 T_{effp} = 6771 [3384] K [0.65σ]

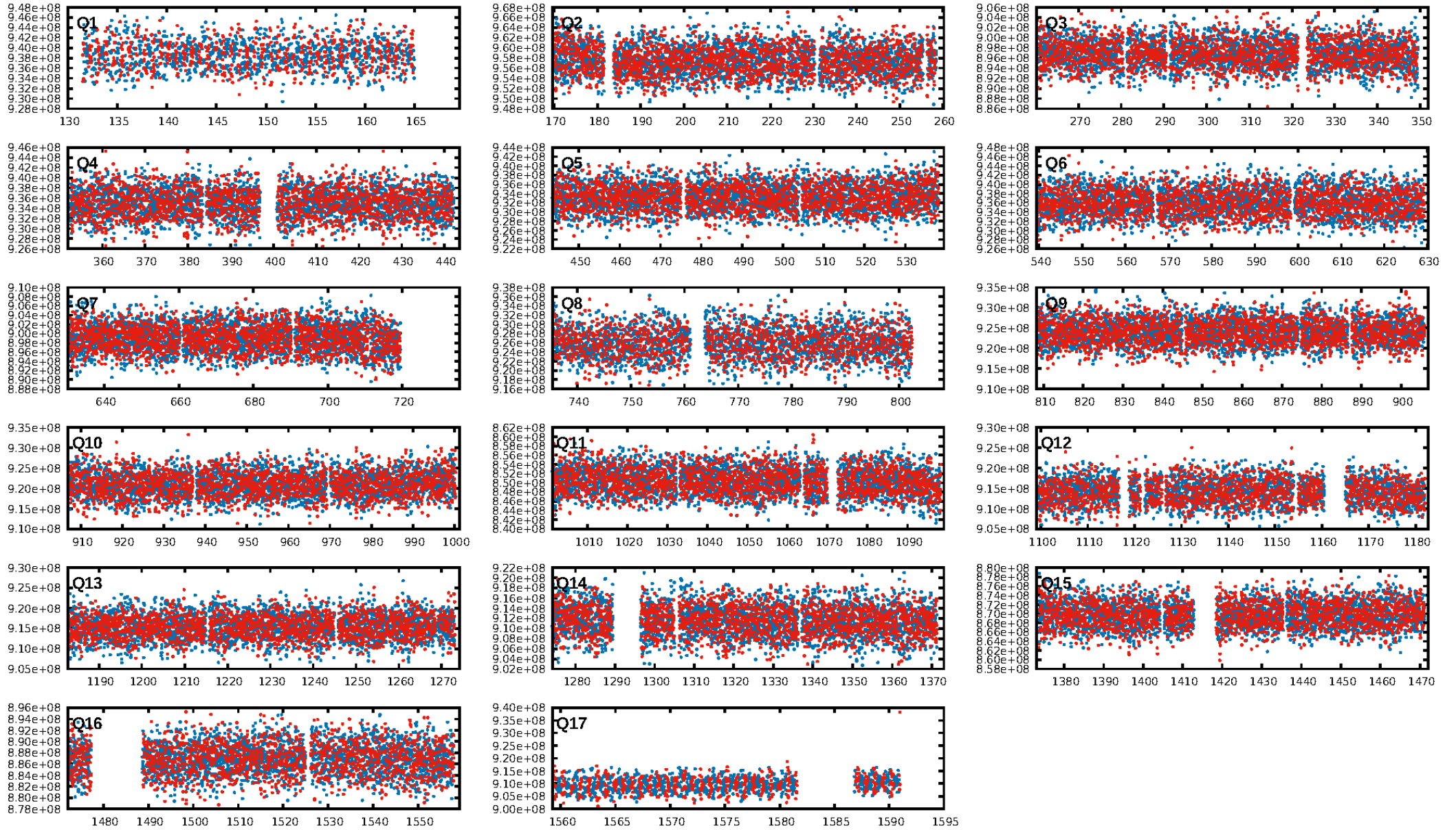
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 78.9% [1.25σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.92 [1487/1622]
GhostDiagnostic-chr: 1.048
Centroid-sig: 0.1%
Centroid-so: 0.704 arcsec [4.10σ]
OotOffset-rm: 0.600 arcsec [2.22σ]
KicOffset-rm: 0.445 arcsec [1.50σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.50 [8/16]
DiffImageOverlap-fno: 1.00 [17/17]

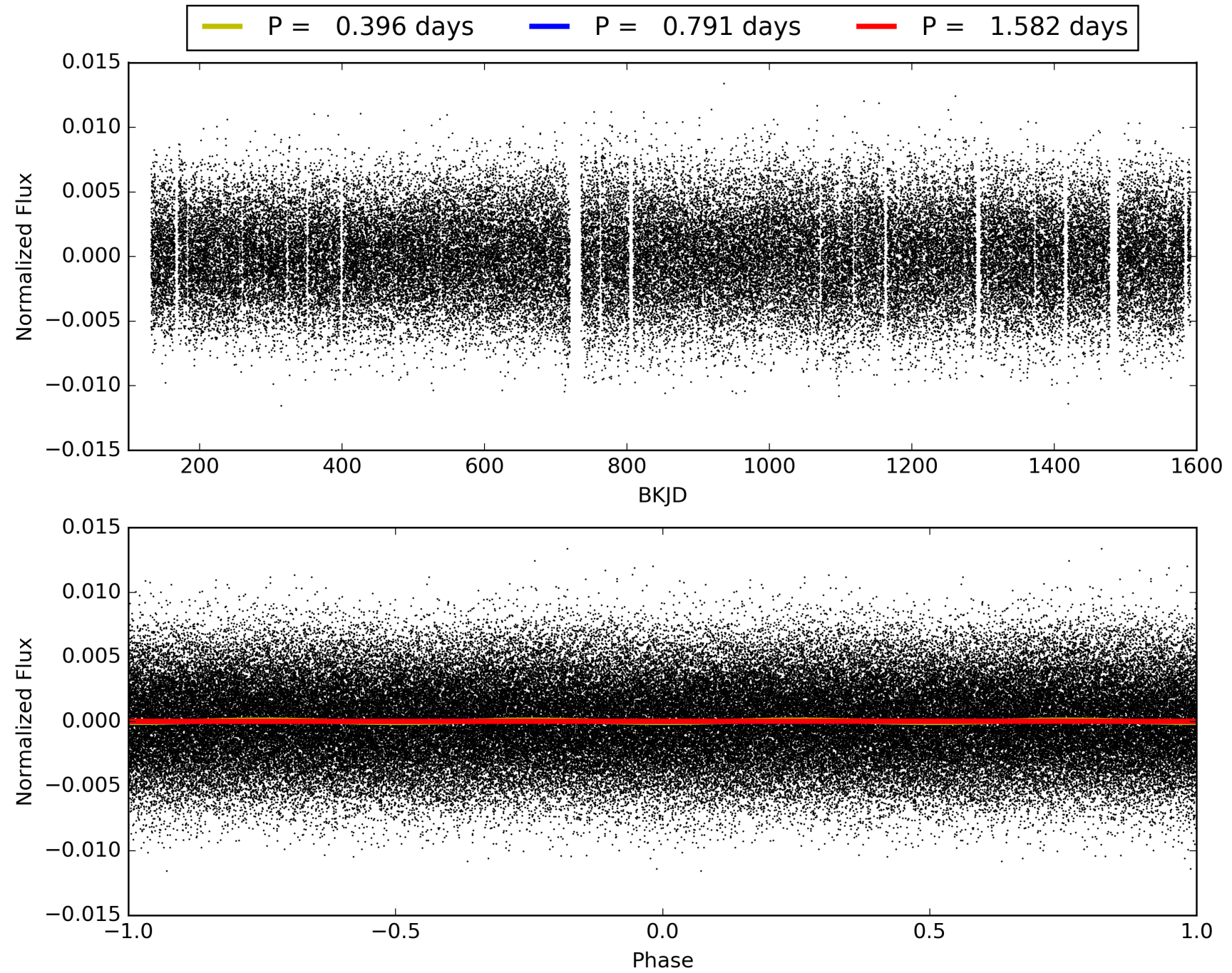
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:06:49 Z

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

TCE 008655712-01, PDC Light Curves

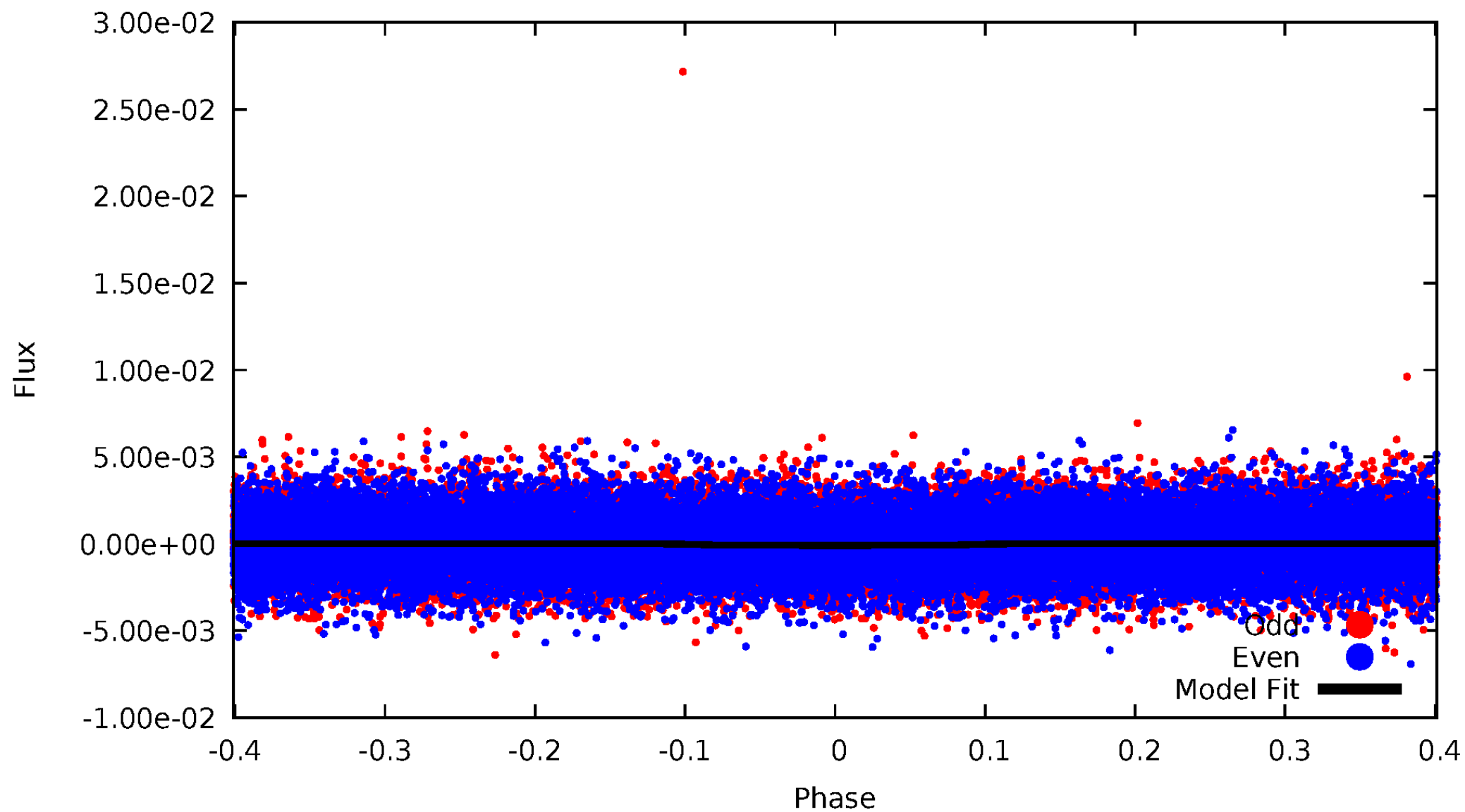


TCE 008655712-01



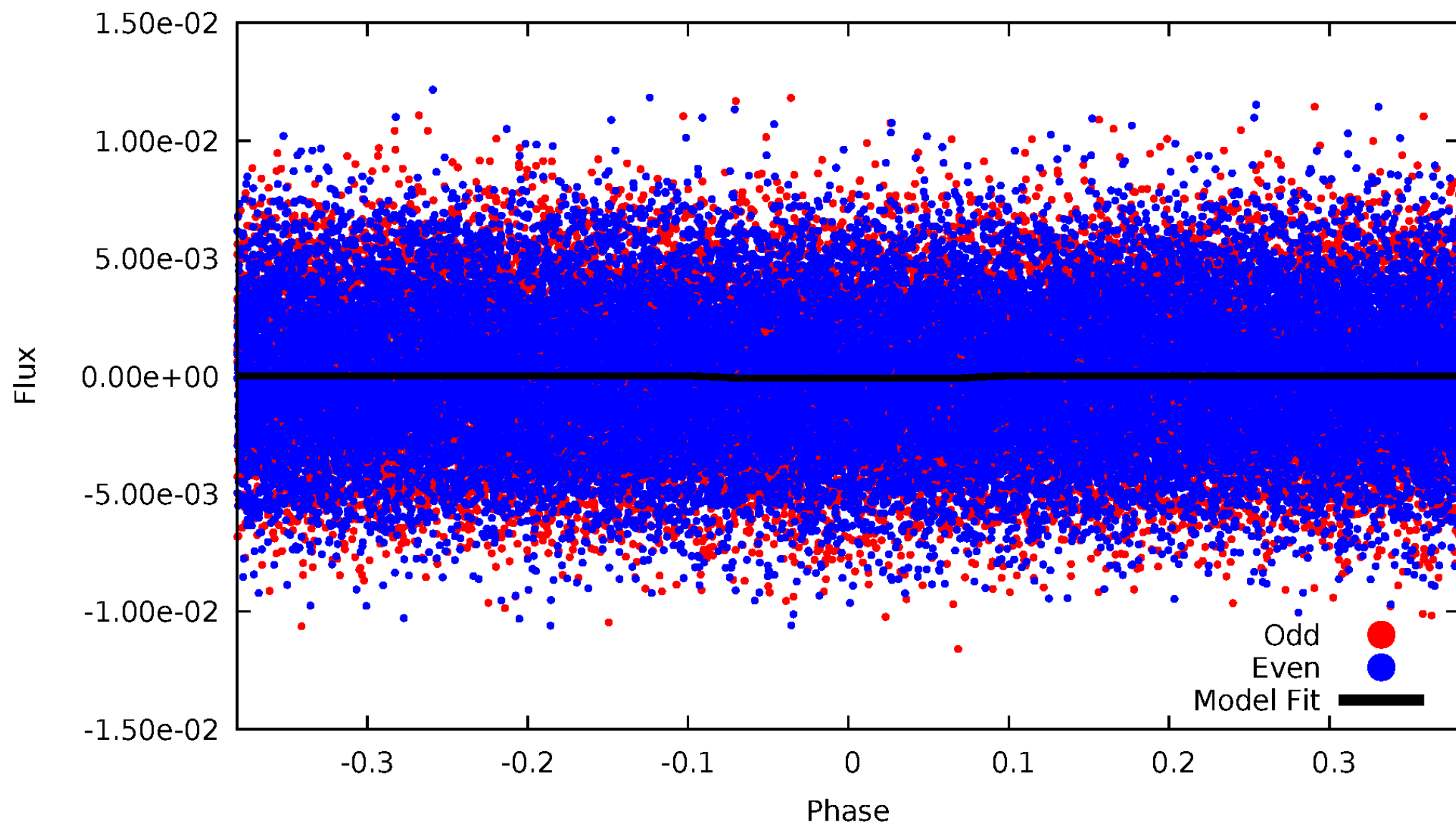
DV Odd/Even

TCE 008655712-01



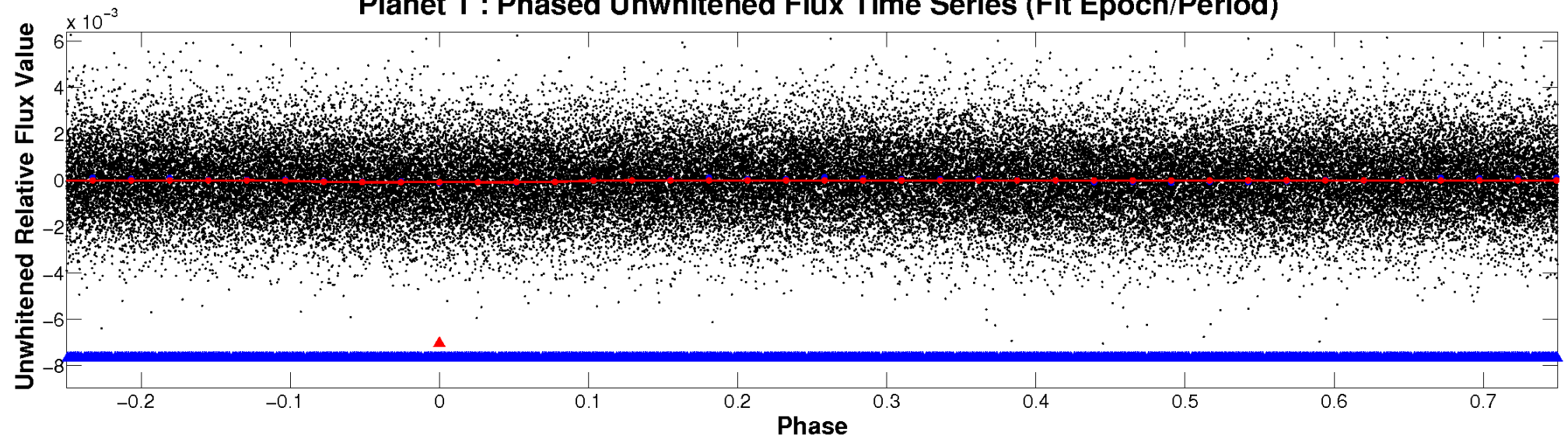
ALT Odd/Even

TCE 008655712-01

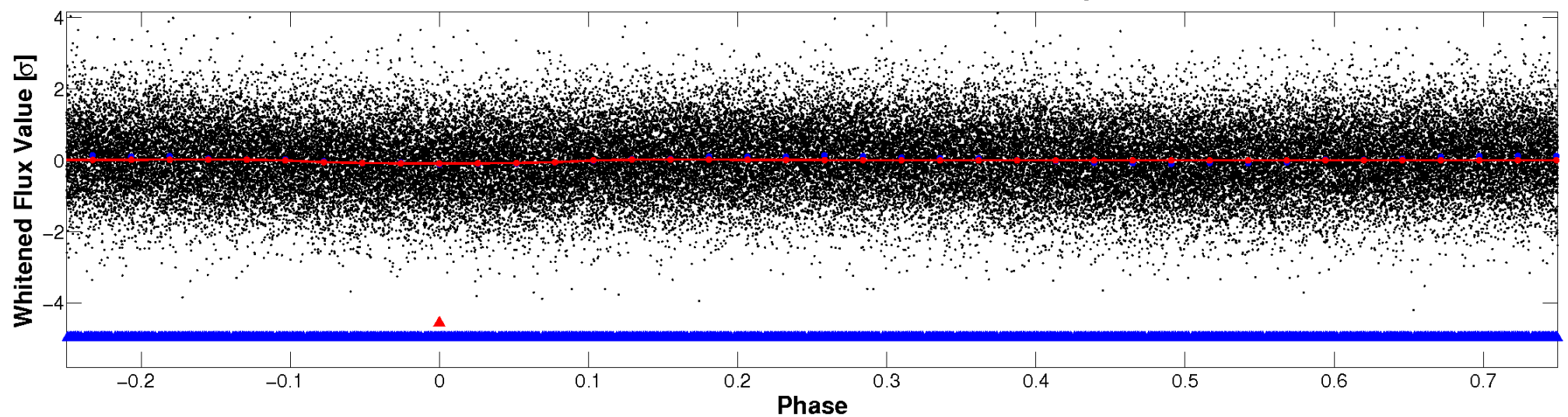


Non-Whitened Vs. Whitened Light Curve

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

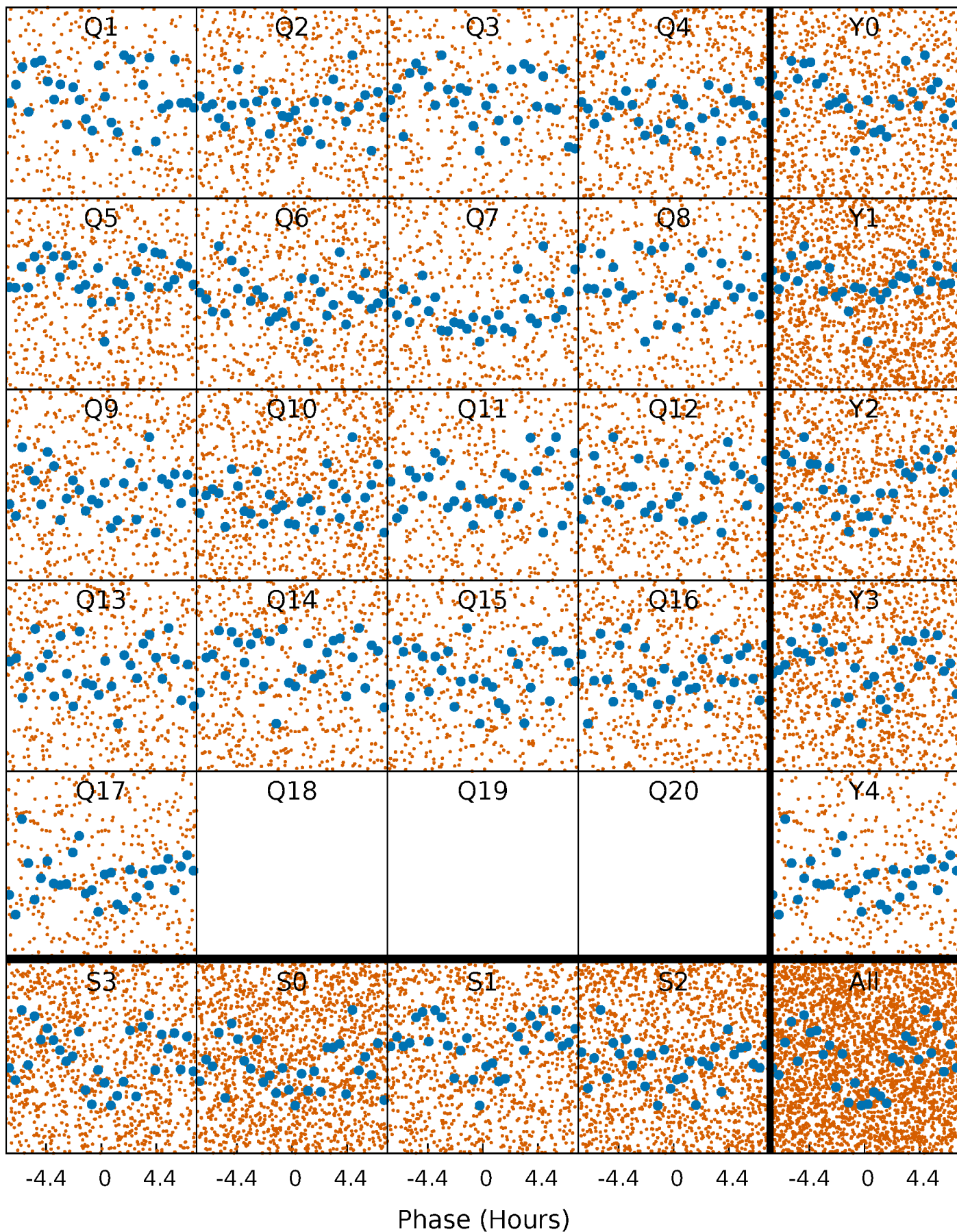


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



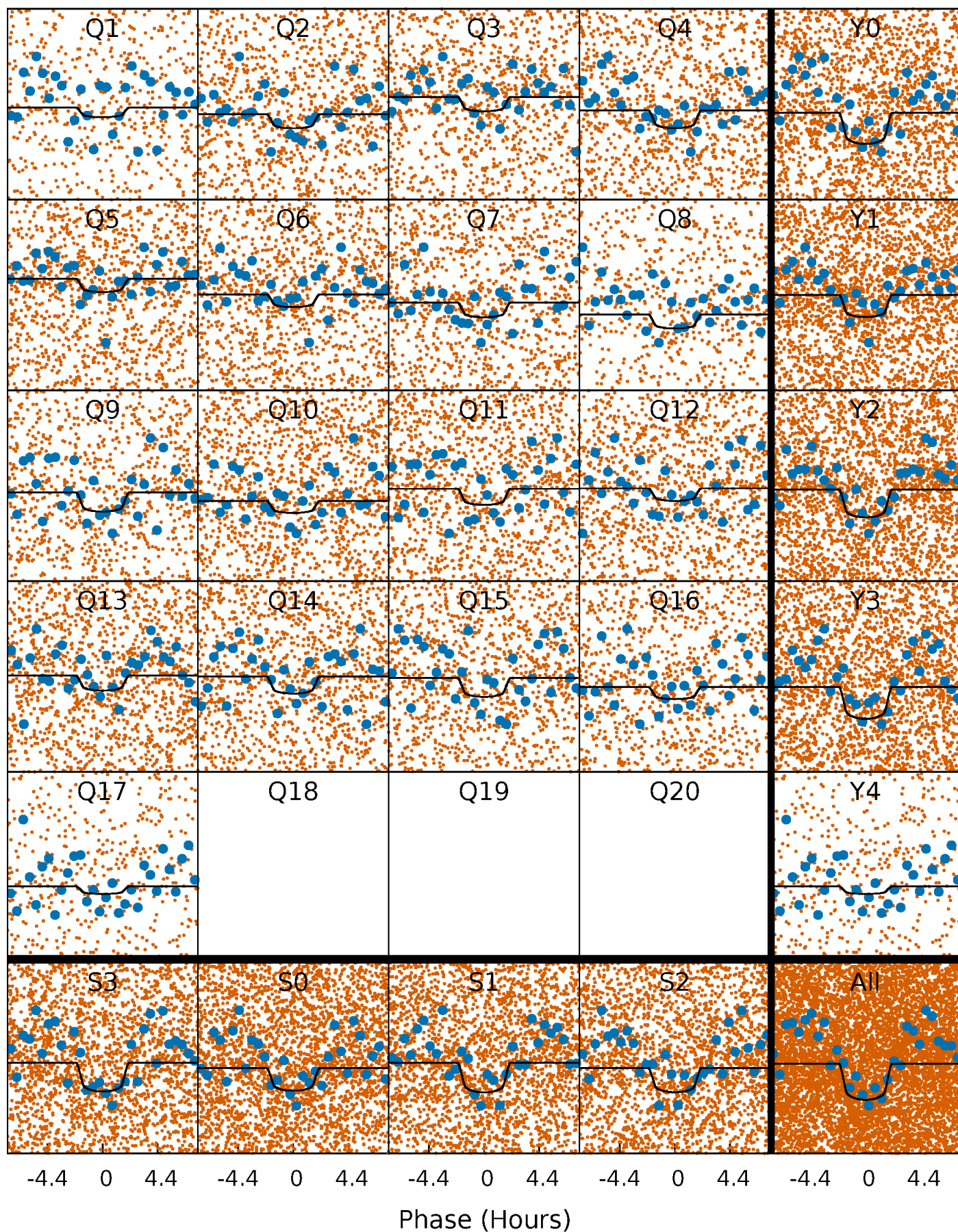
PDC Quarter-Phased Transit Curves

TCE 008655712-01 P= 0.791107 Days $T_0=132.258959$ (BKJD)



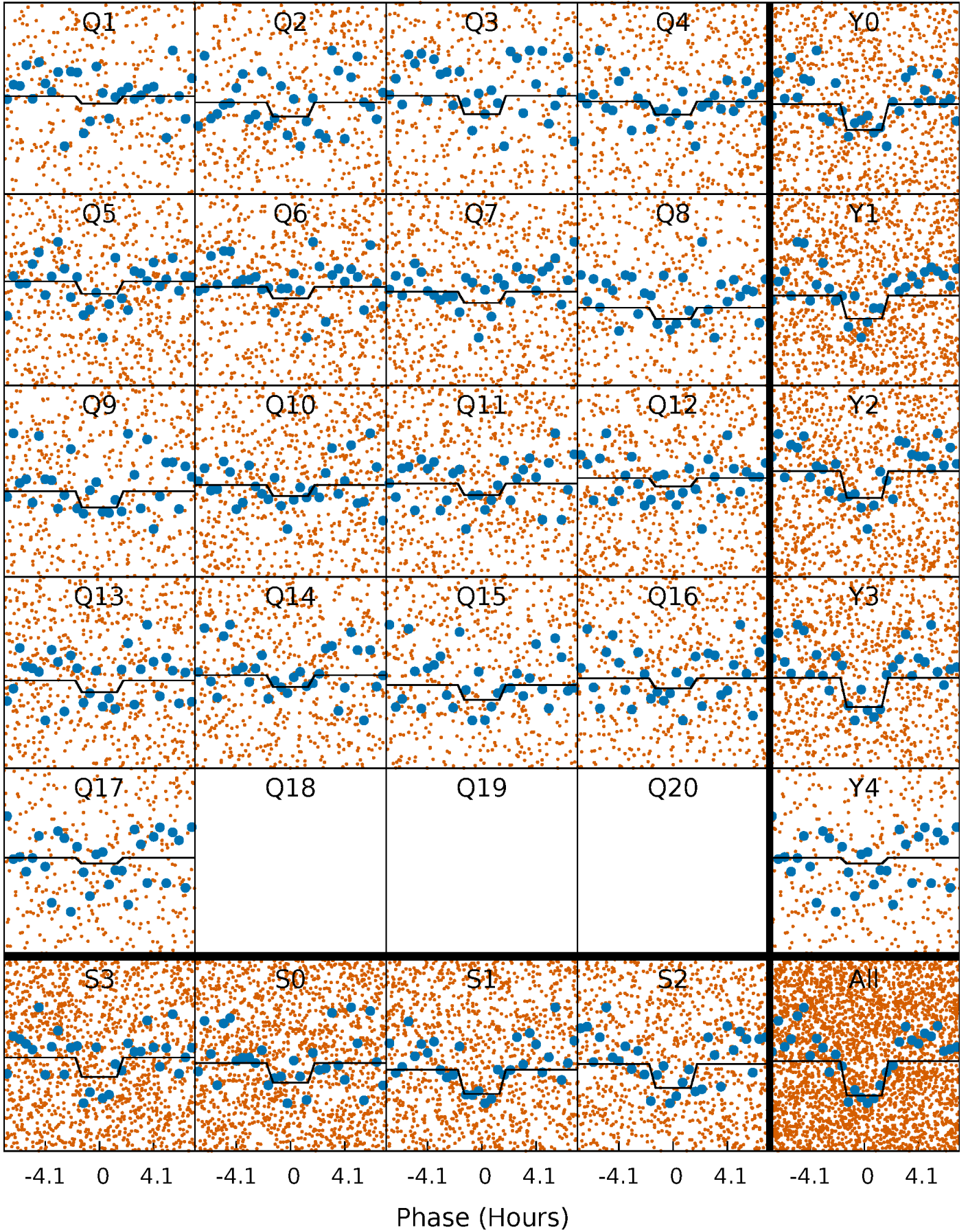
DV Quarter-Phased Transit Curves

TCE 008655712-01 P= 0.791107 Days $T_0=132.258959$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

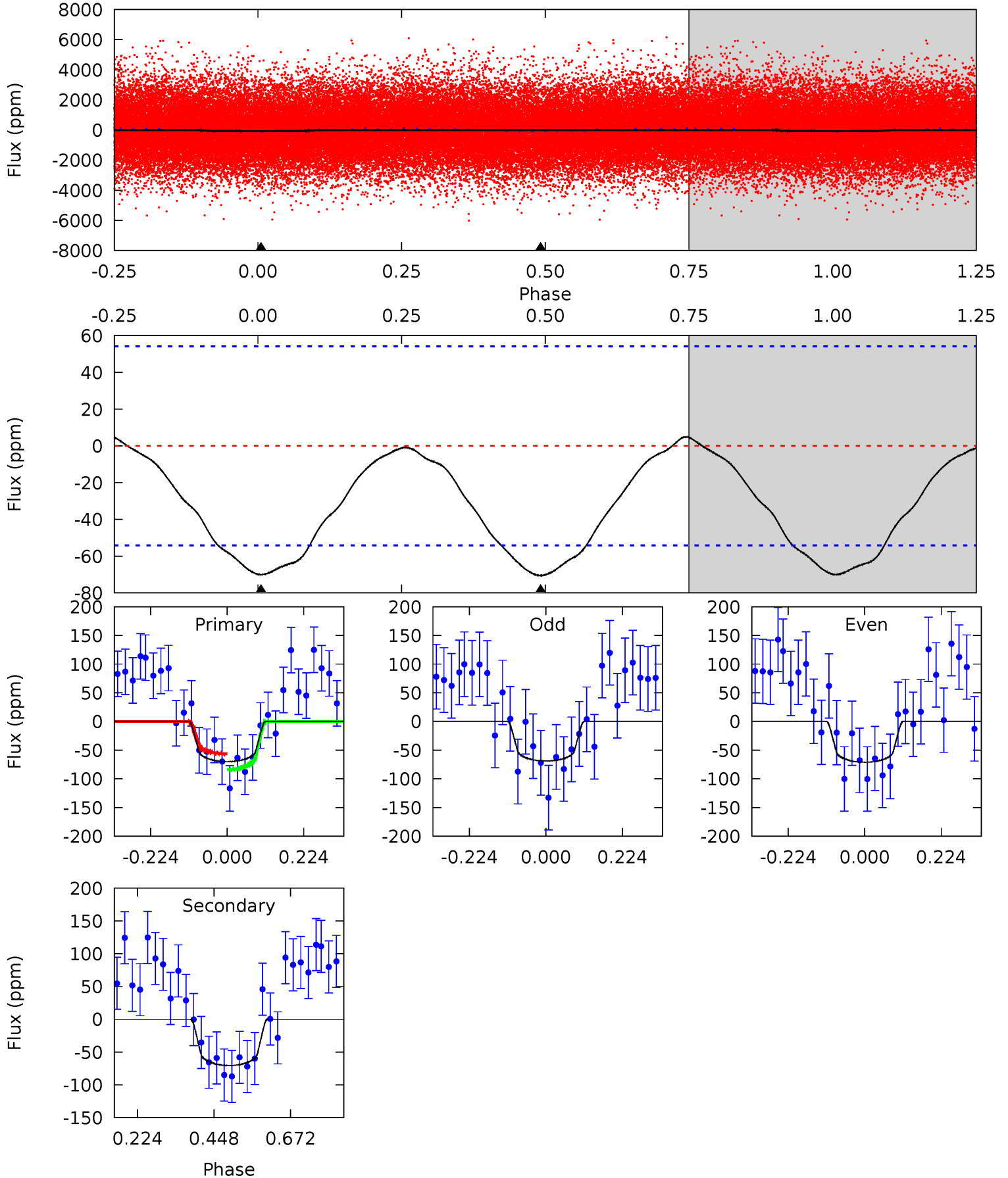
TCE 008655712-01 P= 0.791118 Days $T_0=132.258872$ (BKJD)



DV Model-Shift Uniqueness Test

008655712-01, P = 0.791107 Days, E = 131.467852 Days

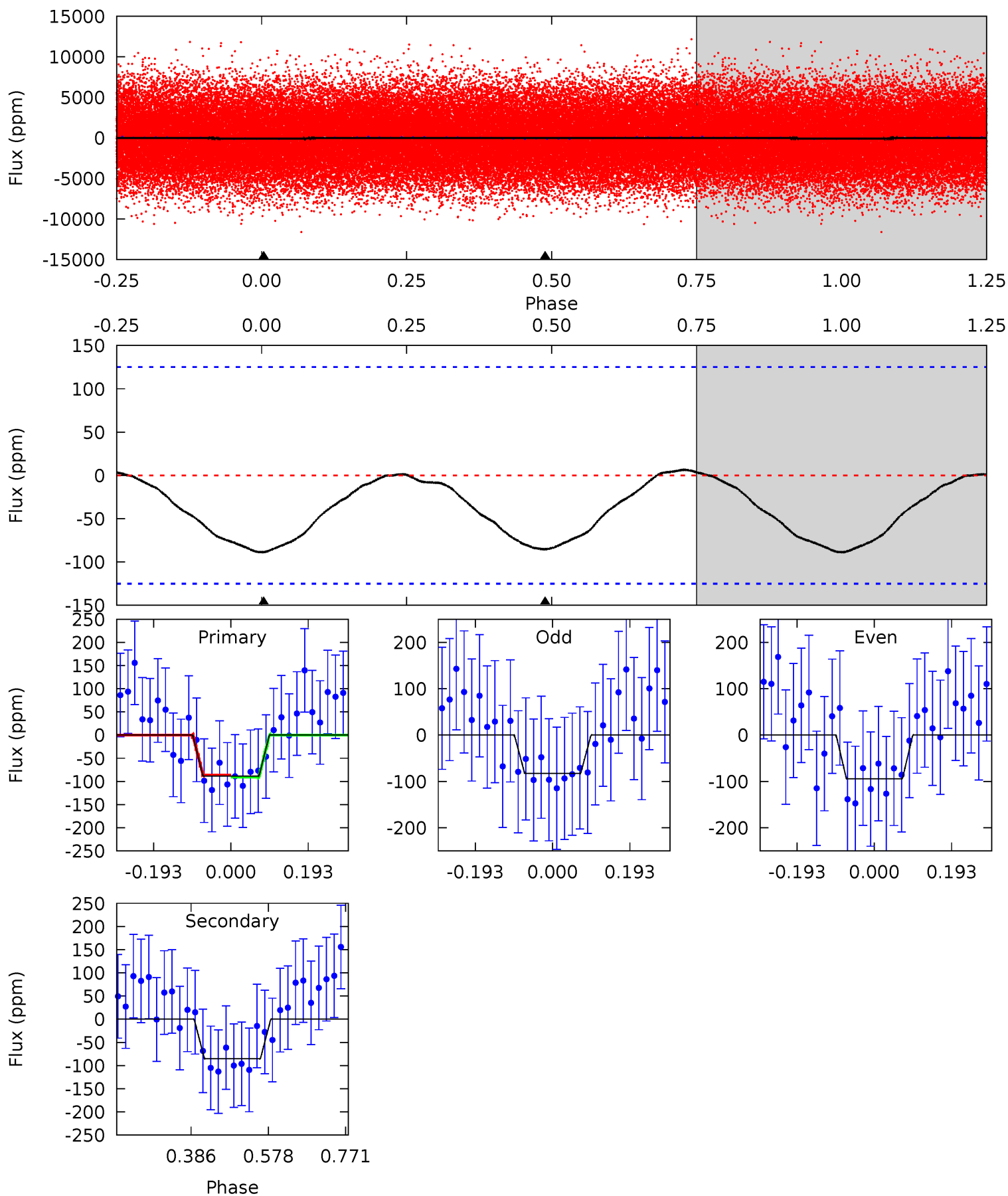
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.69	5.73	0	0	4.39	1.22	0.21	5.69	5.69	5.73	5.73	0.09	0.85	0.06	1.11



Alt Model-Shift Uniqueness Test

008655712-01, P = 0.791118 Days, E = 131.467754 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.14	3.02	0	0	4.43	1.30	0.17	3.14	3.14	3.02	3.02	0.20	0.83	0.07	0.08



Stellar Parameters For KIC 008655712

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7582^{+211}_{-317}	$3.585^{+0.522}_{-0.058}$	$-0.140^{+0.200}_{-0.300}$	$3.807^{+0.500}_{-2.000}$	$2.032^{+0.256}_{-0.549}$	$0.052^{+0.309}_{-0.014}$
	+3%/-4%	+15%/-2%	+143%/-214%	+13%/-53%	+13%/-27%	+596%/-27%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008655712-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-71 ± 12	$3.82^{+3.79}_{-2.41}$	5963^{+415}_{-819}	5946^{+6318}_{-3606}	$1.192^{+7.573}_{-0.889}$
Alt.	-85 ± 28	$4.33^{+3.38}_{-2.78}$	5985^{+425}_{-717}	5961^{+6074}_{-3379}	$1.091^{+7.088}_{-0.781}$

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 $A_{obs} \gg 1.0$

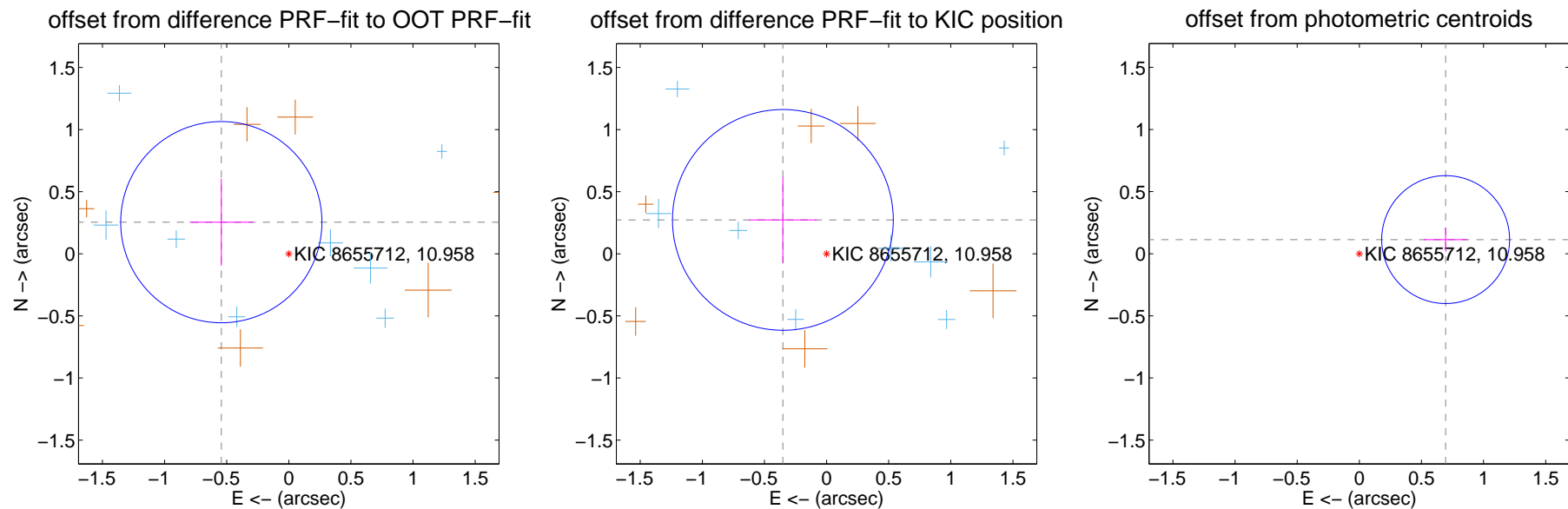
DV Centroid Data

Supplemental centroid analysis for 008655712-01. **Kepler magnitude: 10.96.** Transit SNR 8.53

There are 8 quarters with good PRF difference image offsets

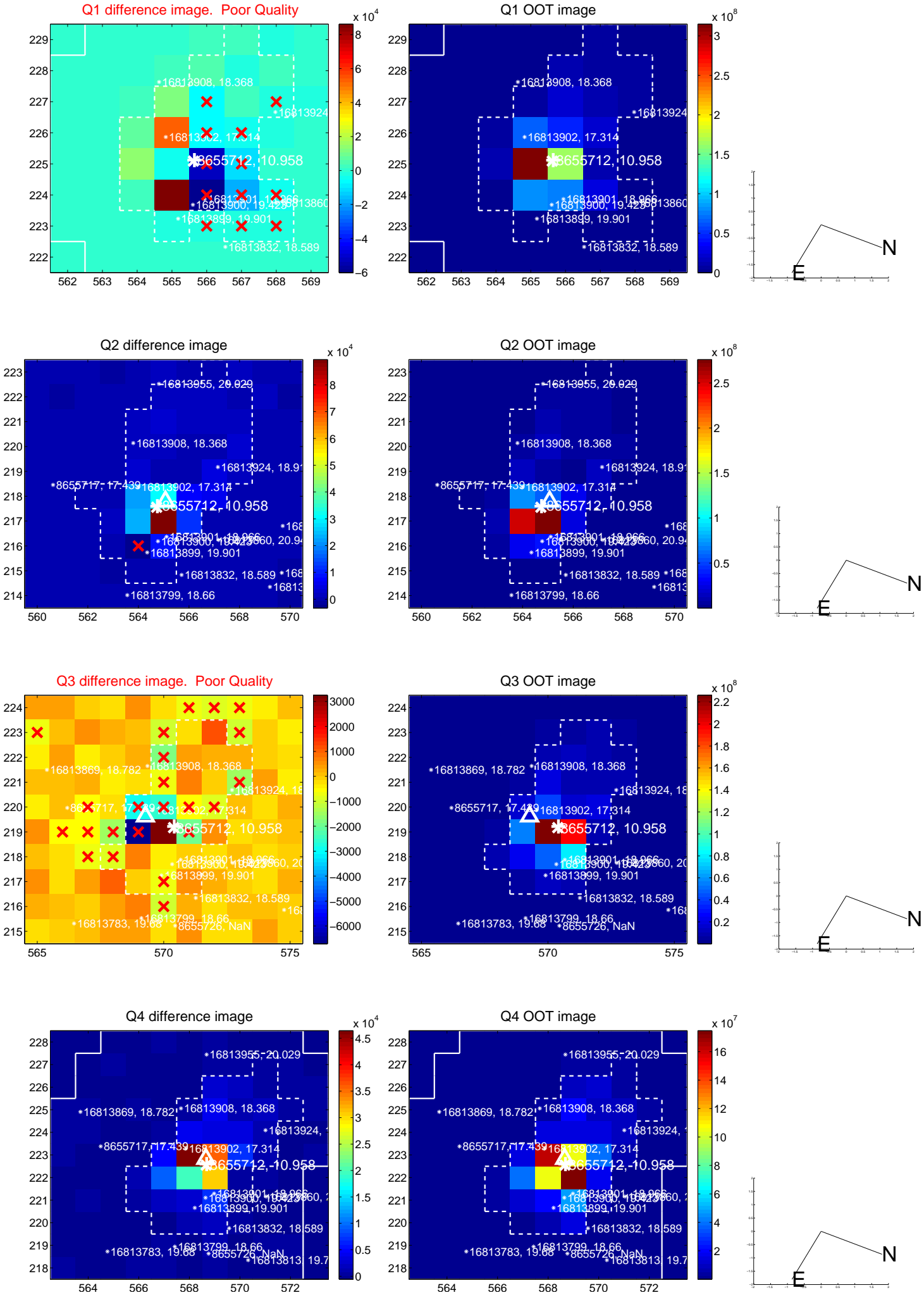
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.600 ± 0.270	2.22	0.543 ± 0.254	0.254 ± 0.350
PRF-fit source offset from KIC position	0.445 ± 0.296	1.50	0.352 ± 0.272	0.273 ± 0.347
photometric centroid source offset	0.70 ± 0.17	4.10	-0.69 ± 0.17	0.11 ± 0.10

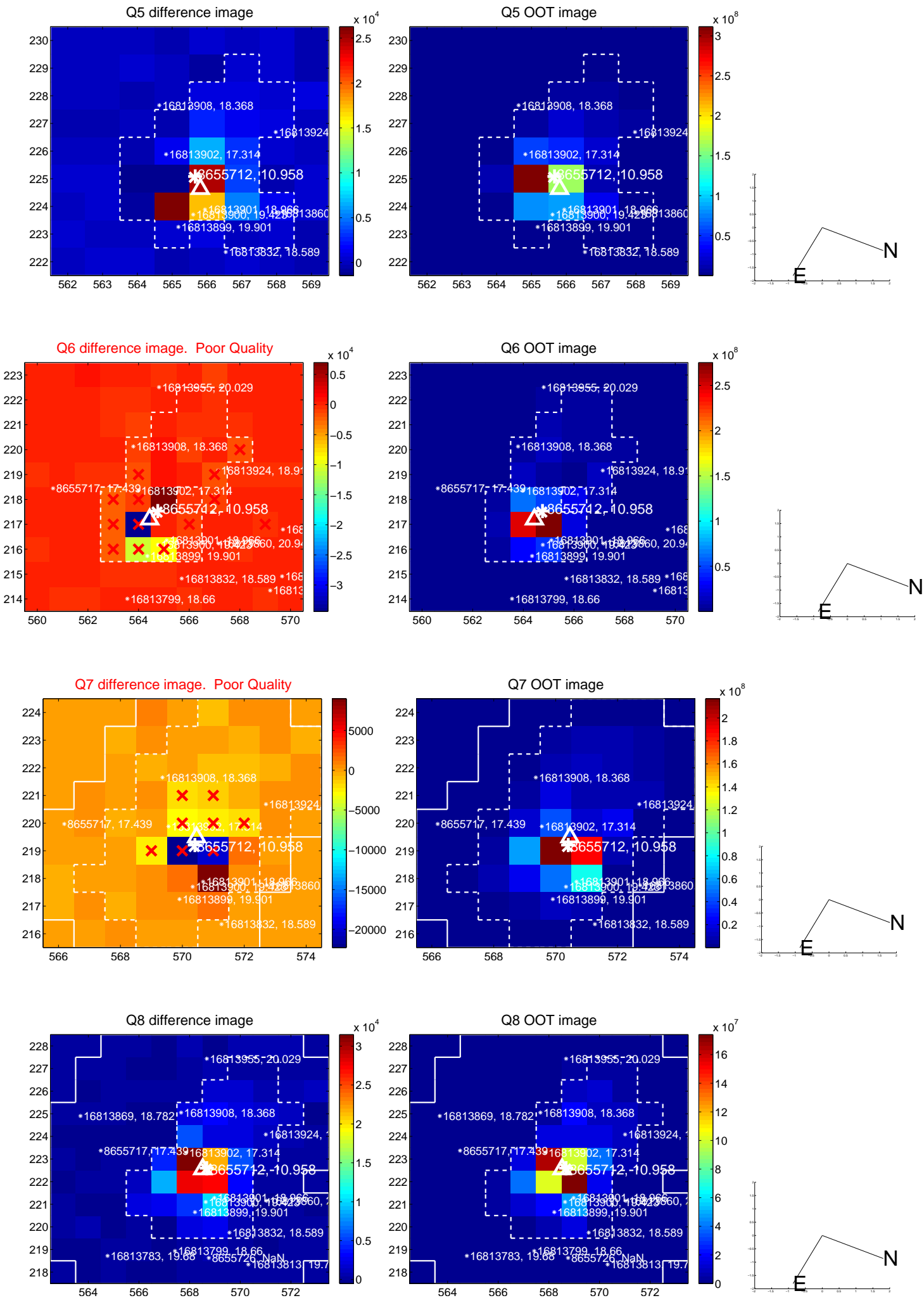


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

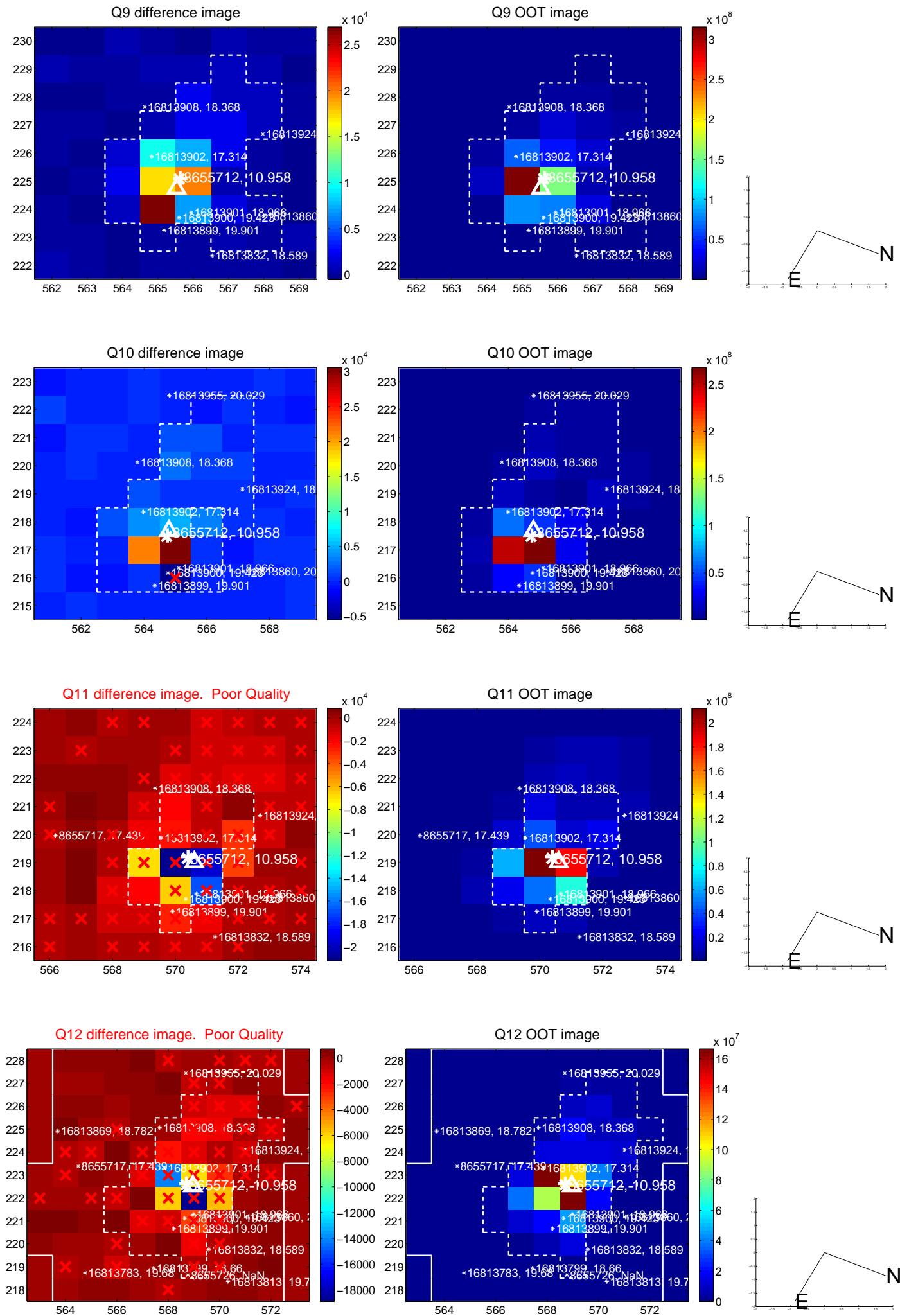
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



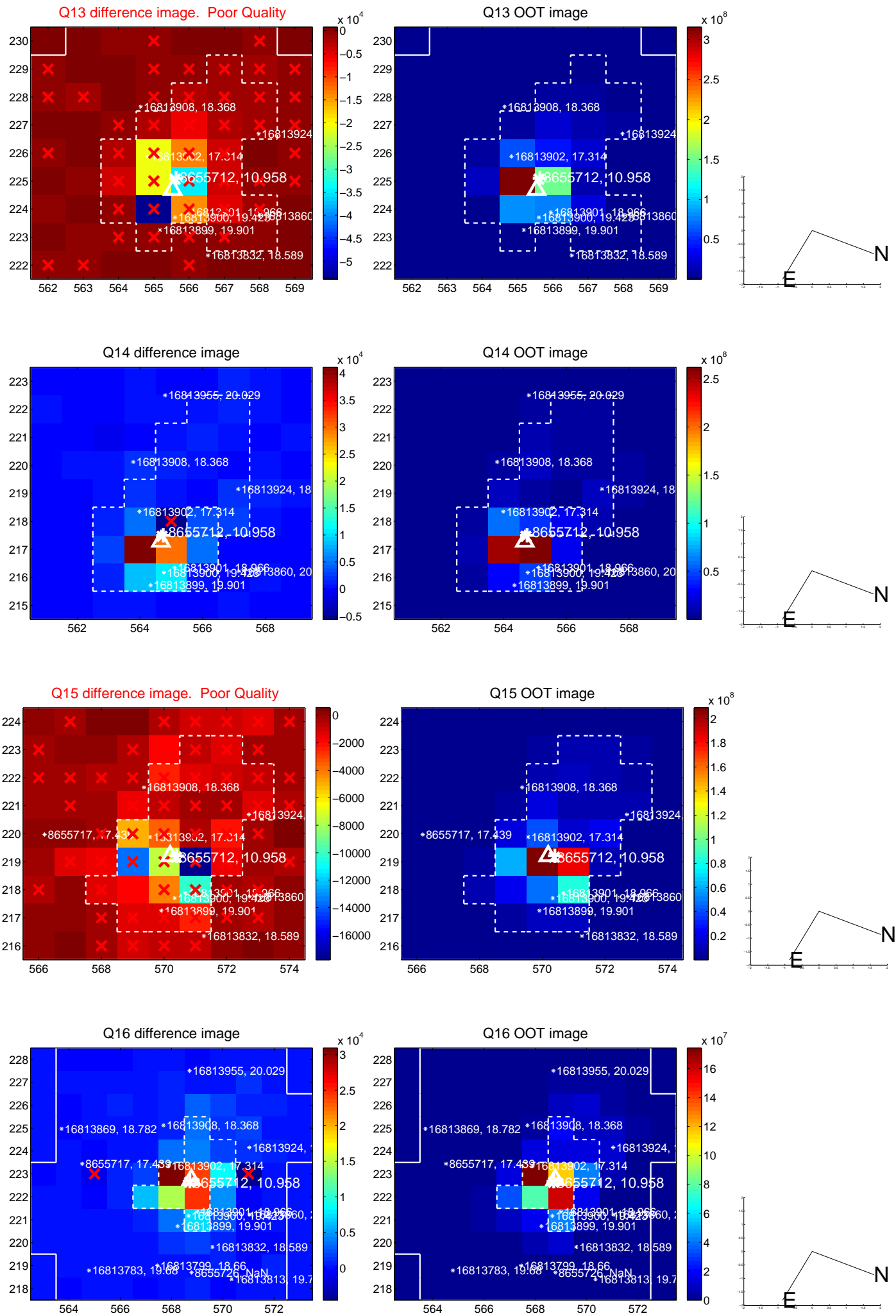
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



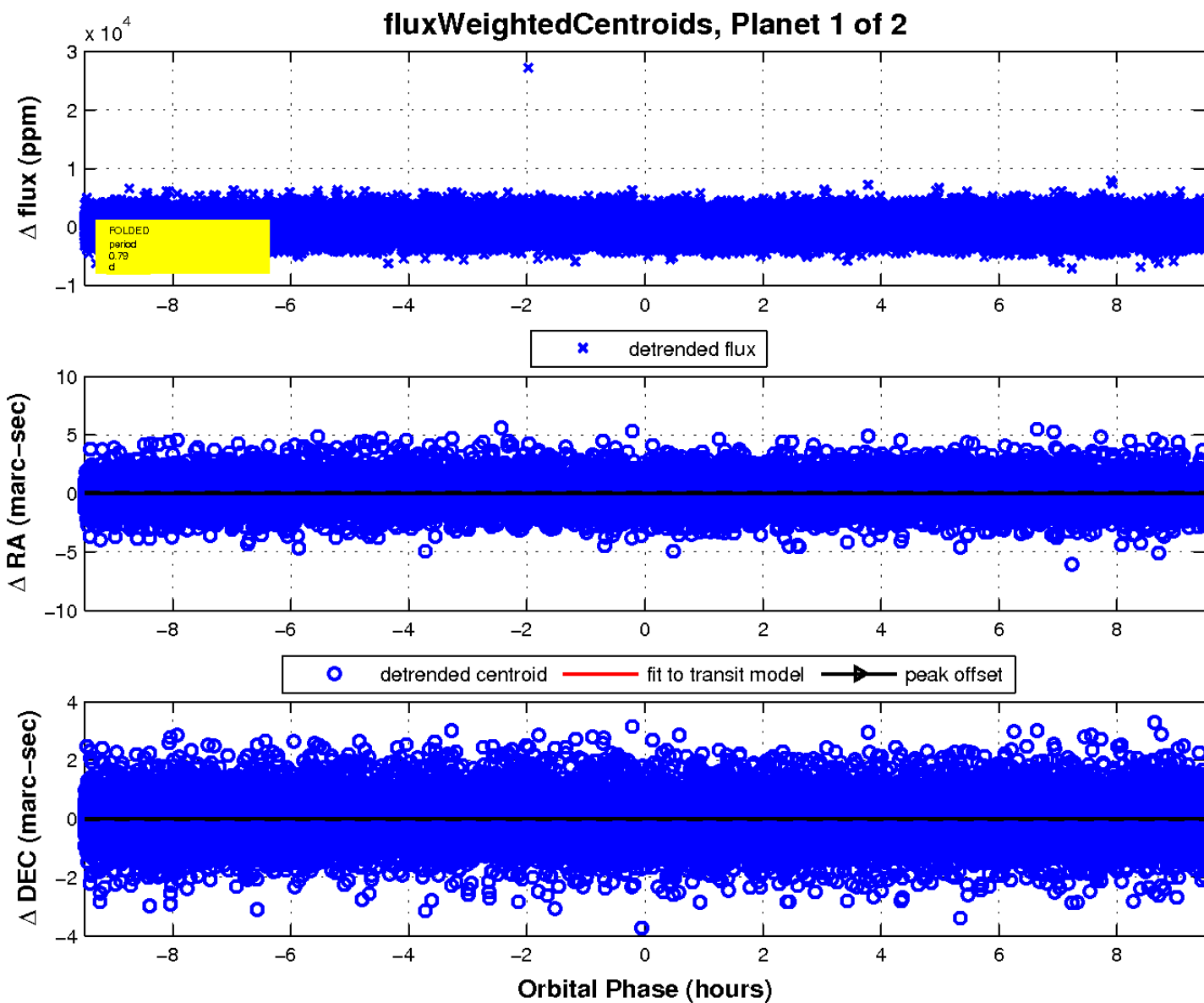
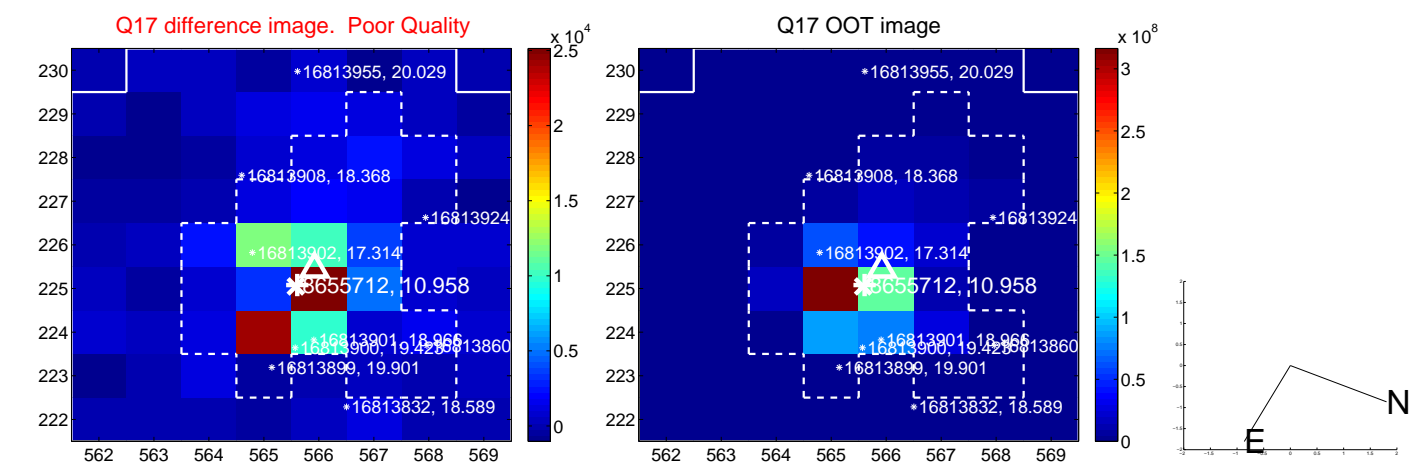
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

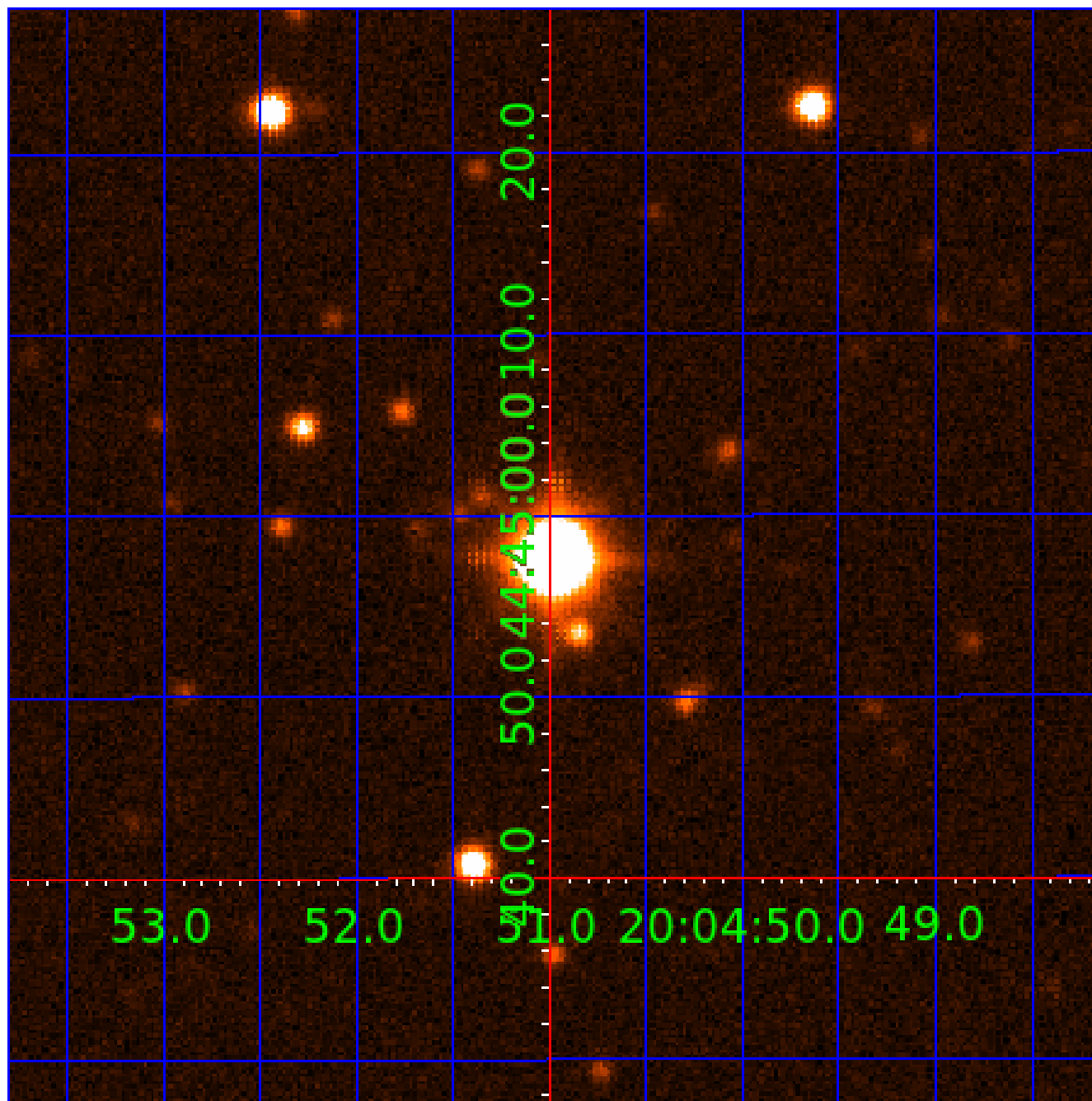


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008655712

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})
008655712-01	OBS	No	0.791107	132.258959	84.2	3.806	10.3	8.5	3.81	7582	4.06	95375.69
008655712-02	OBS	No	1.926874	133.120153	232.3	21.475	9.1	15.1	3.81	7582	5.85	29103.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008655712-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED
008655712-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—CENT_SATURATED

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

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

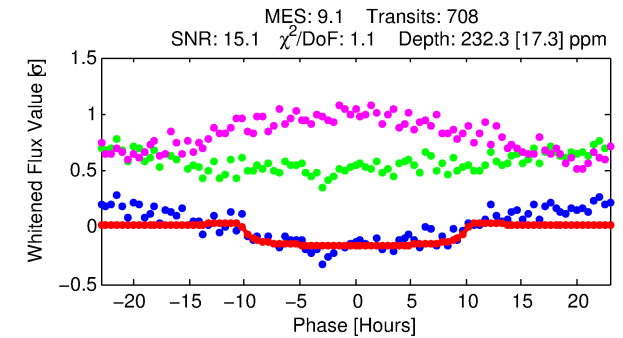
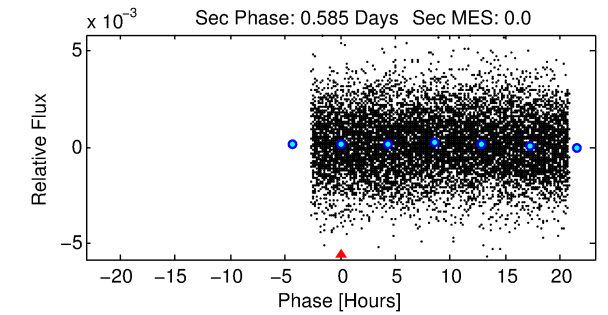
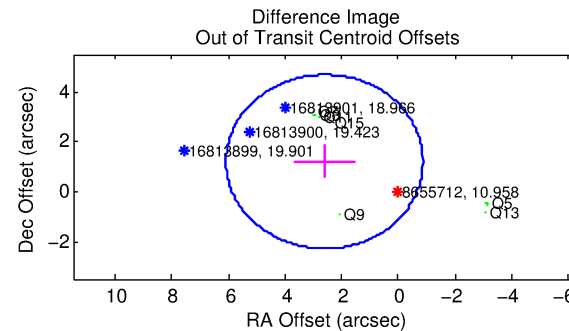
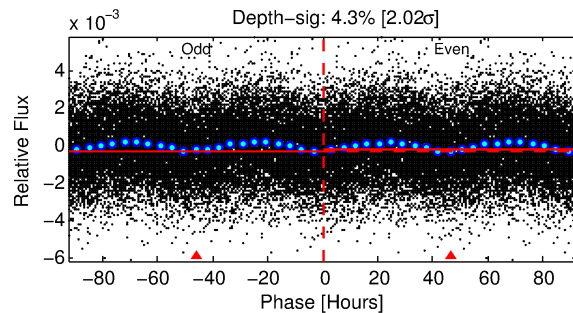
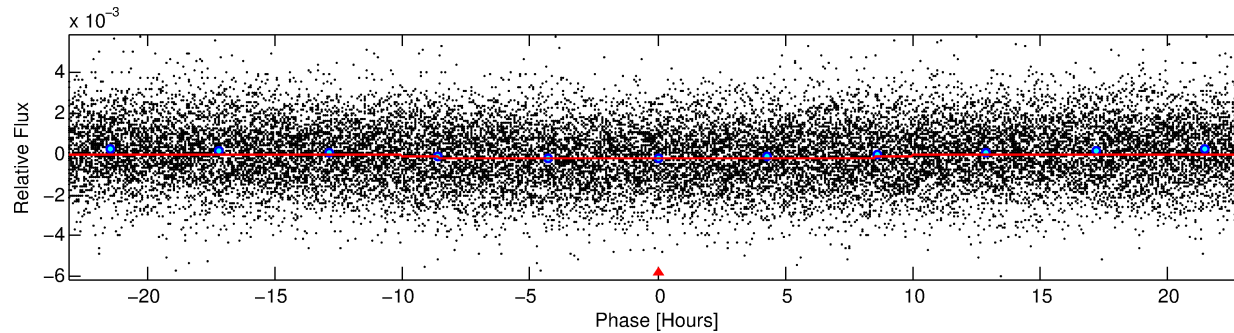
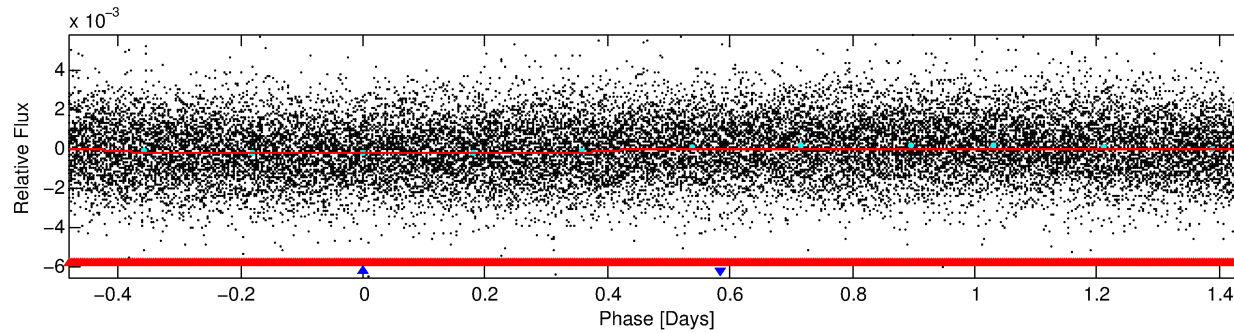
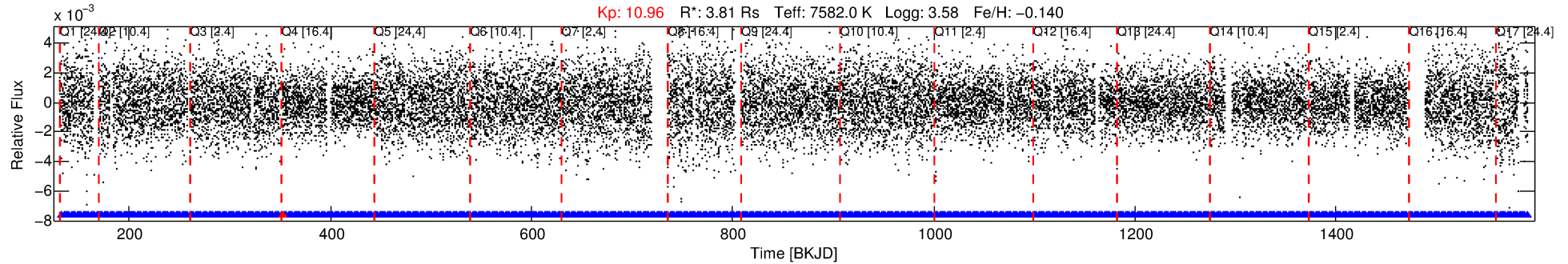
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008655712-02

No Significant Match Found

DV One-Page Summary

KIC: 8655712 Candidate: 2 of 2 Period: 1.927 d



DV Fit Results:

Period = 1.92687 [0.00004] d
Epoch = 133.1202 [0.0150] BKJD
Rp/R* = 0.0141 [0.0026]
a/R* = 1.02 [0.04]
b = 0.08 [12.02]
Seff = 29103.61 [25912.22]
Teq = 3331 [741] K
Rp = 5.85 [3.26] Re
a = 0.0384 [0.0204] AU
Ag = N/A
Teffp = N/A

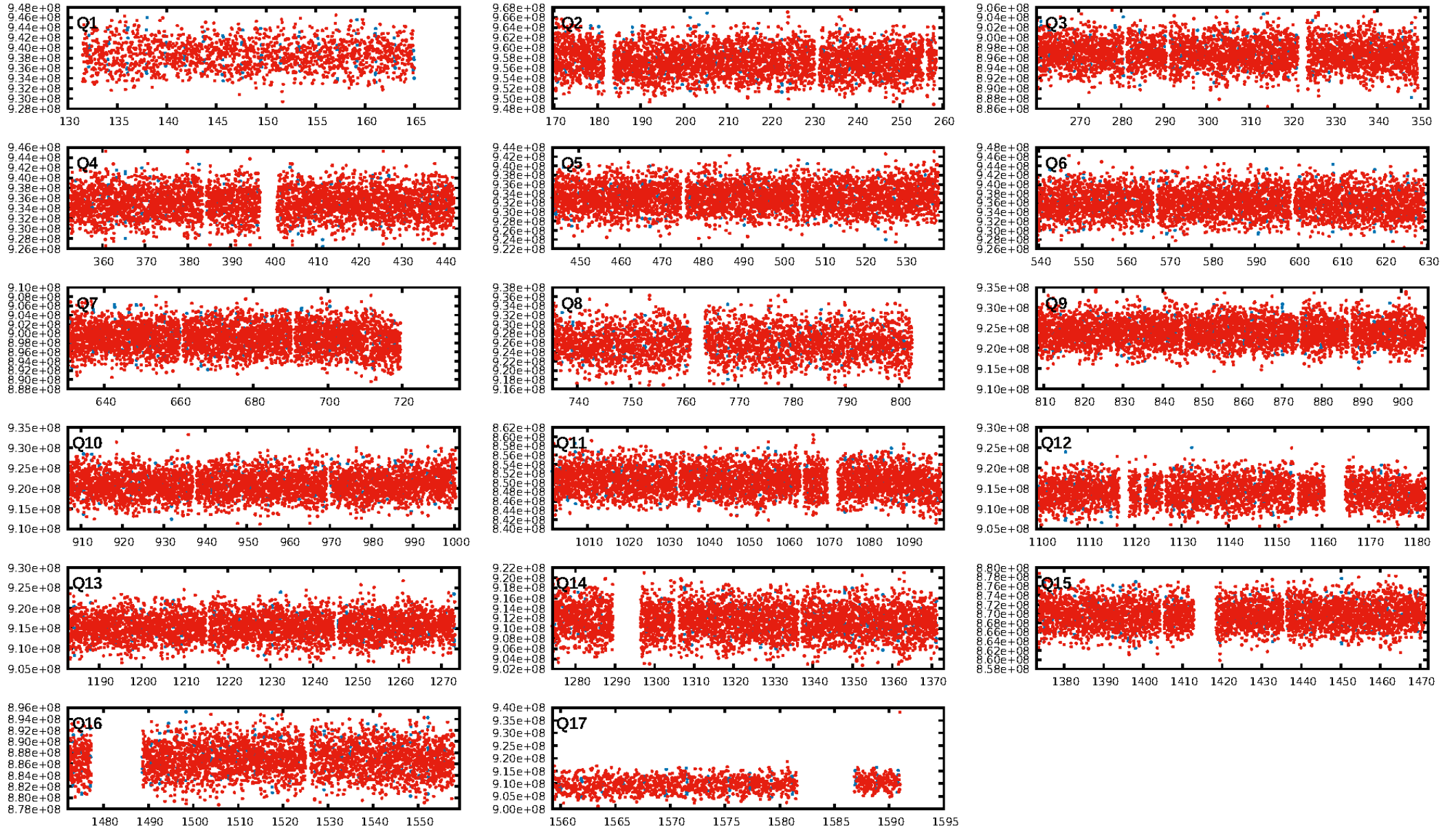
DV Diagnostic Results:

ShortPeriod-sig: 78.9% [1.25 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [677/678]
GhostDiagnostic-chr: 1.341
Centroid-sig: 1.6%
Centroid-so: 0.434 arcsec [6.21 σ]
OotOffset-rm: 2.869 arcsec [2.47 σ]
KicOffset-rm: 2.708 arcsec [2.52 σ]
OotOffset-st: 0/4/0/3 [7]
KicOffset-st: 0/4/0/3 [7]
DiffImageQuality-fgm: 0.14 [1/7]
DiffImageOverlap-fno: 0.00 [0/17]

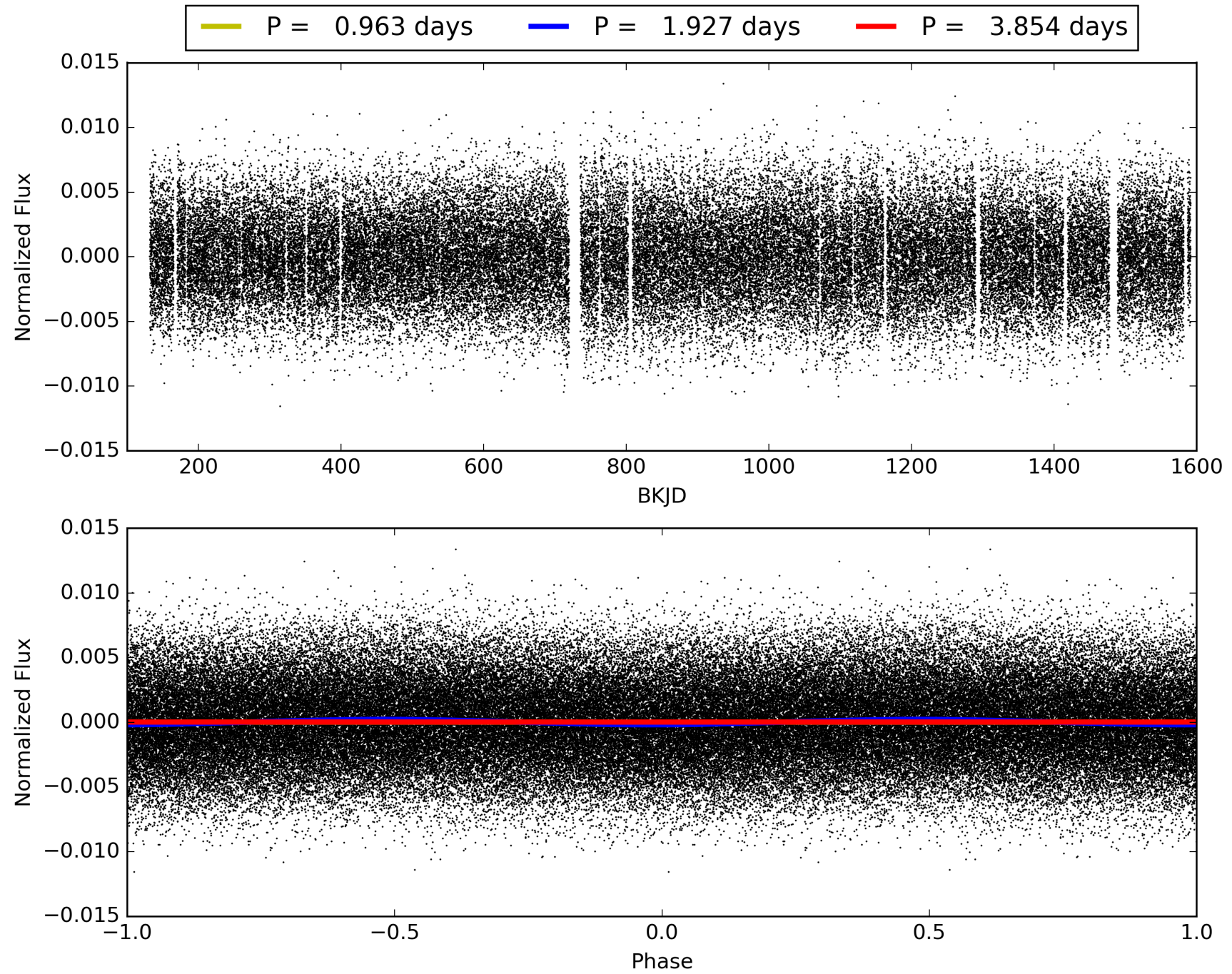
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:07:07 Z

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

TCE 008655712-02, PDC Light Curves

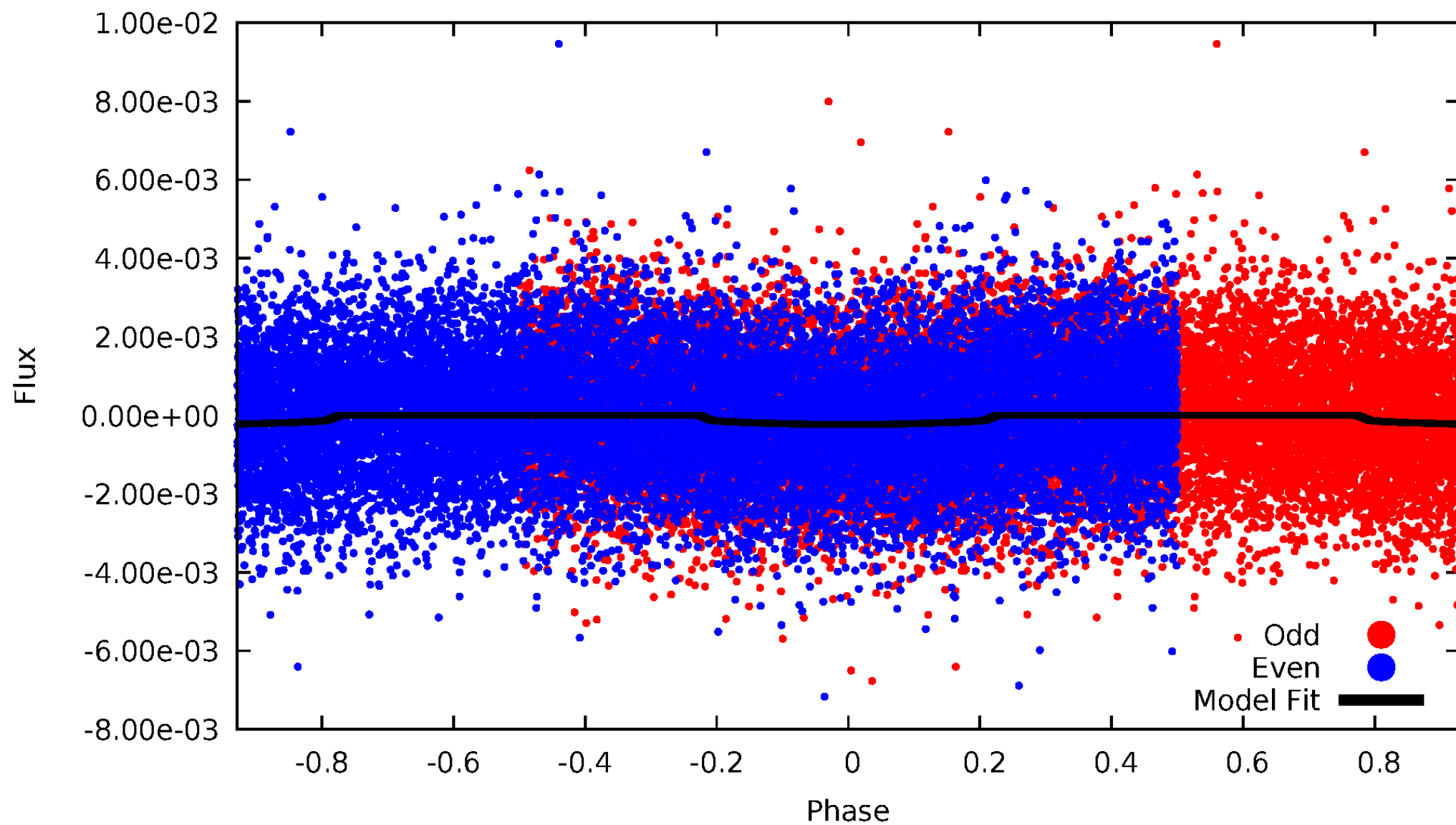


TCE 008655712-02



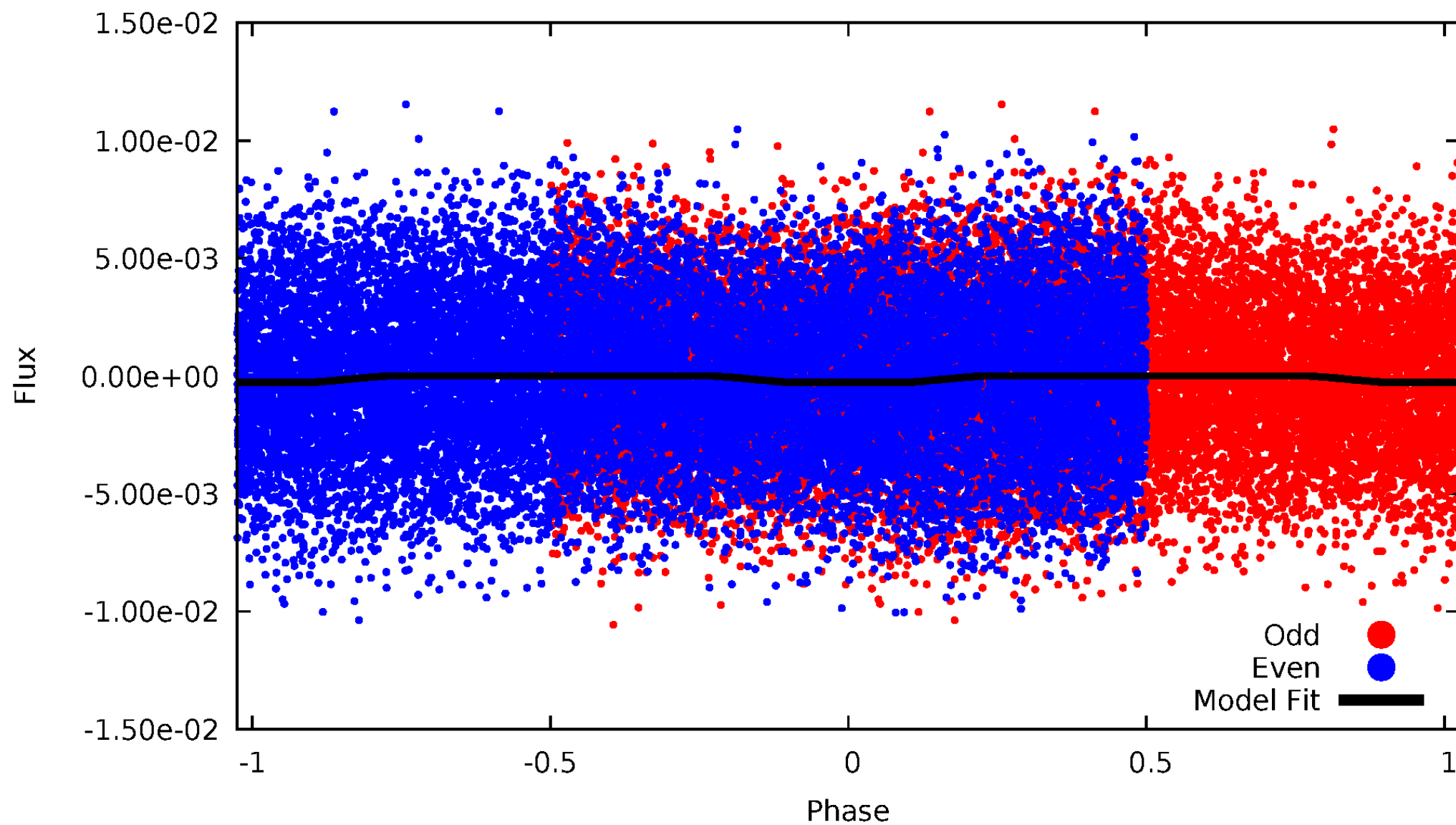
DV Odd/Even

TCE 008655712-02



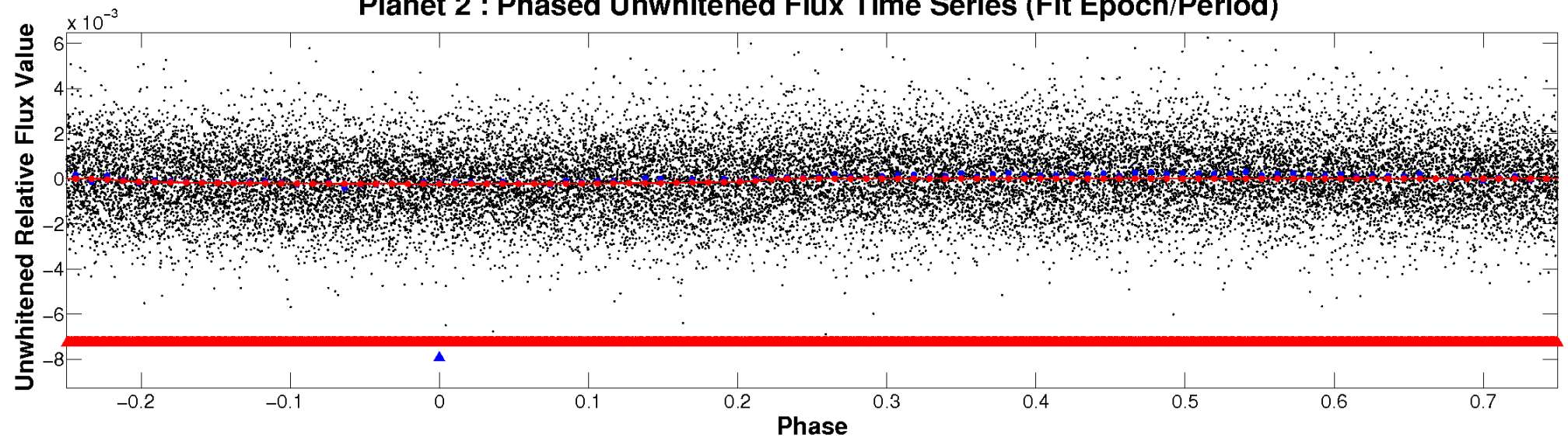
ALT Odd/Even

TCE 008655712-02

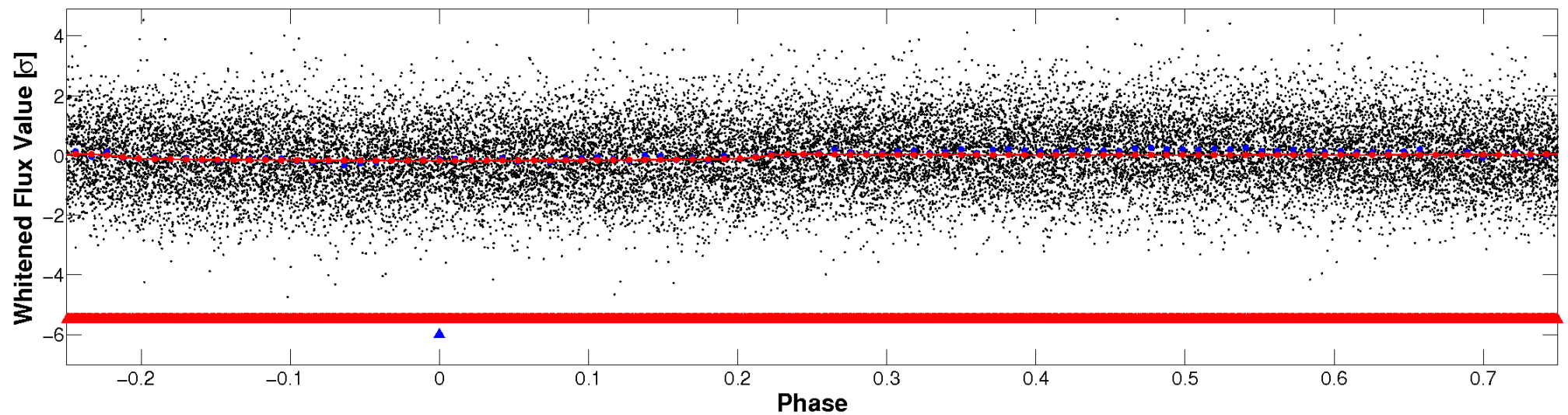


Non-Whitened Vs. Whitened Light Curve

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

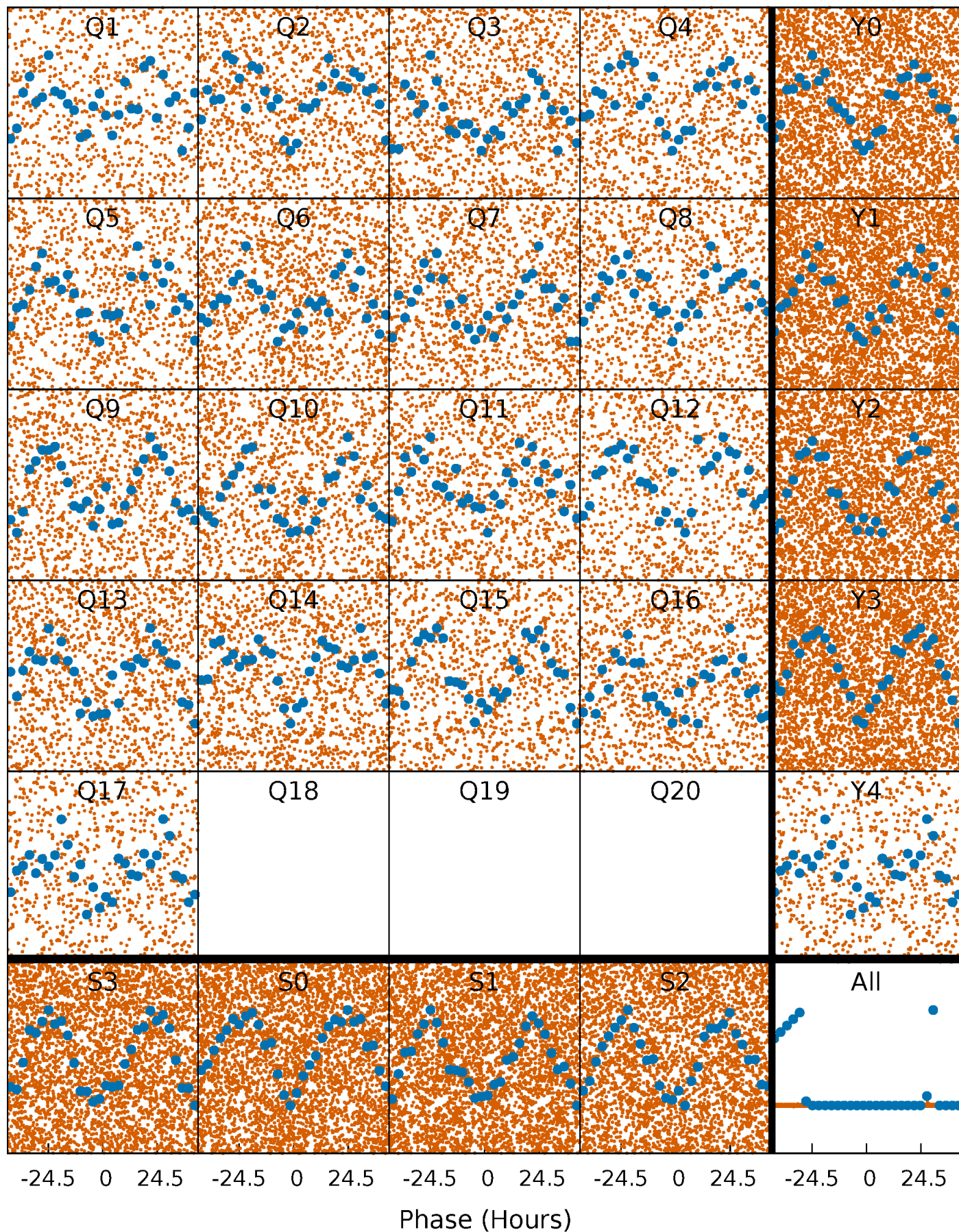


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



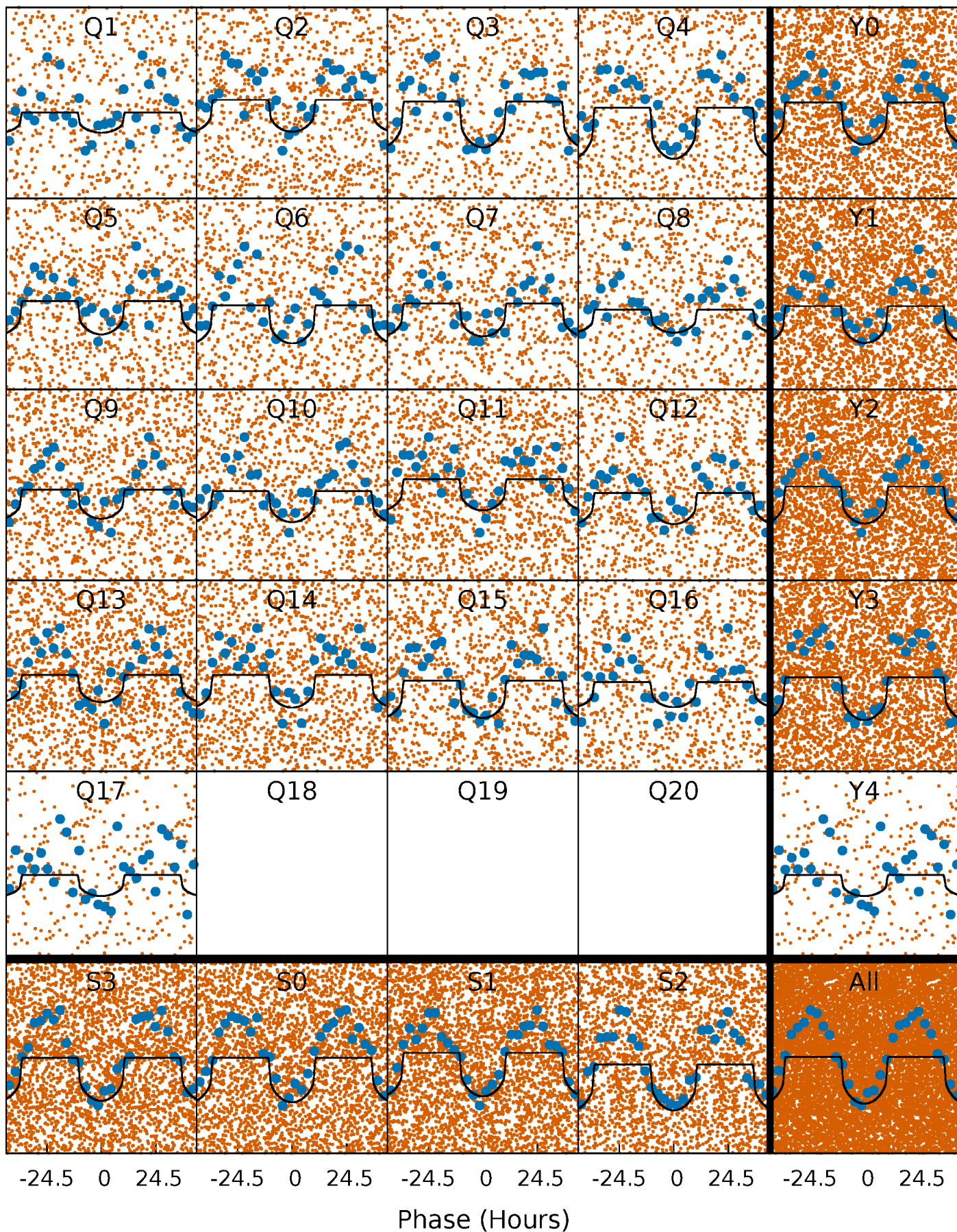
PDC Quarter-Phased Transit Curves

TCE 008655712-02 P= 1.926874 Days $T_0=133.120153$ (BKJD)



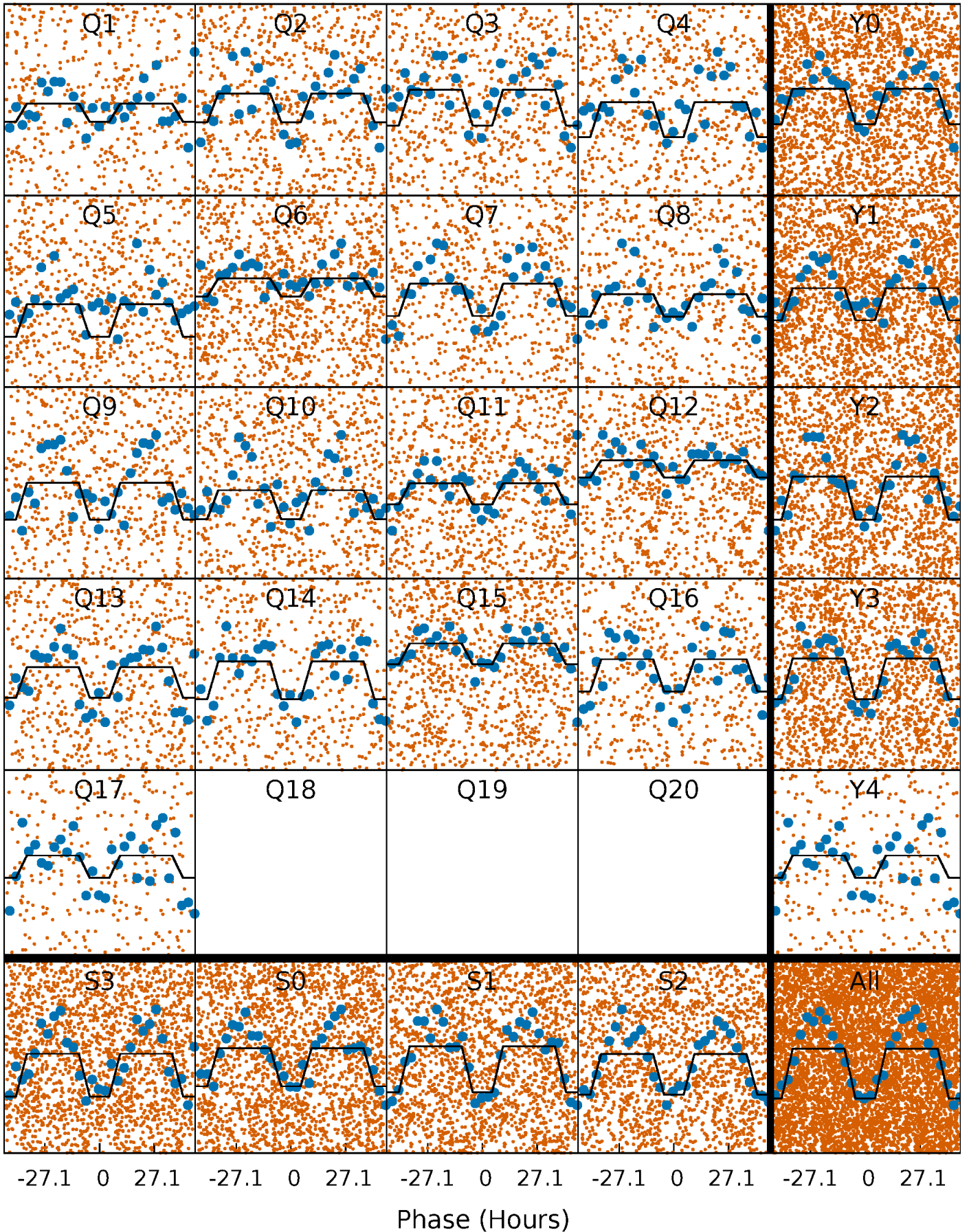
DV Quarter-Phased Transit Curves

TCE 008655712-02 P= 1.926874 Days $T_0=133.120153$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

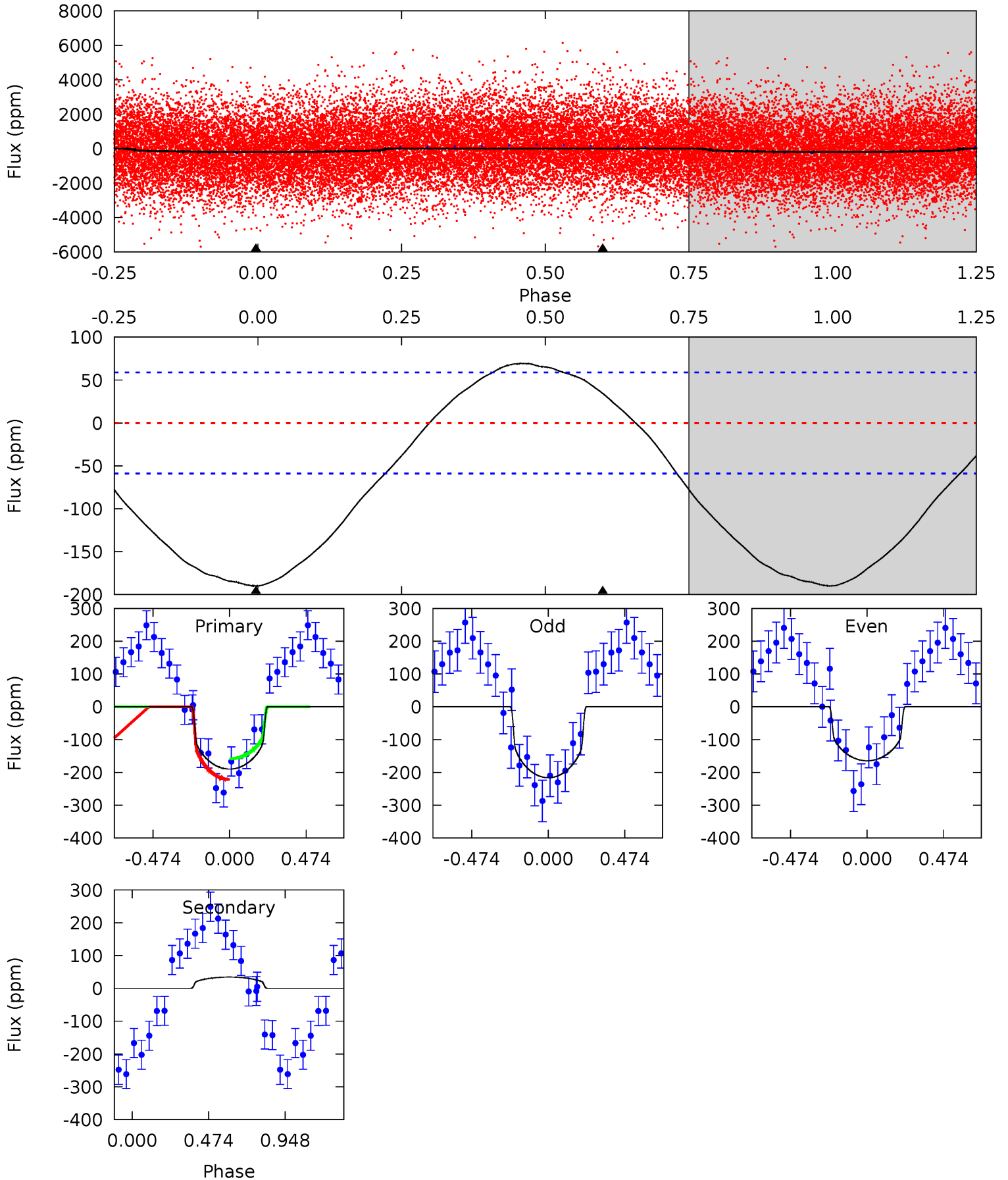
TCE 008655712-02 P= 1.926851 Days $T_0=133.090474$ (BKJD)



DV Model-Shift Uniqueness Test

008655712-02, P = 1.926874 Days, E = 131.193279 Days

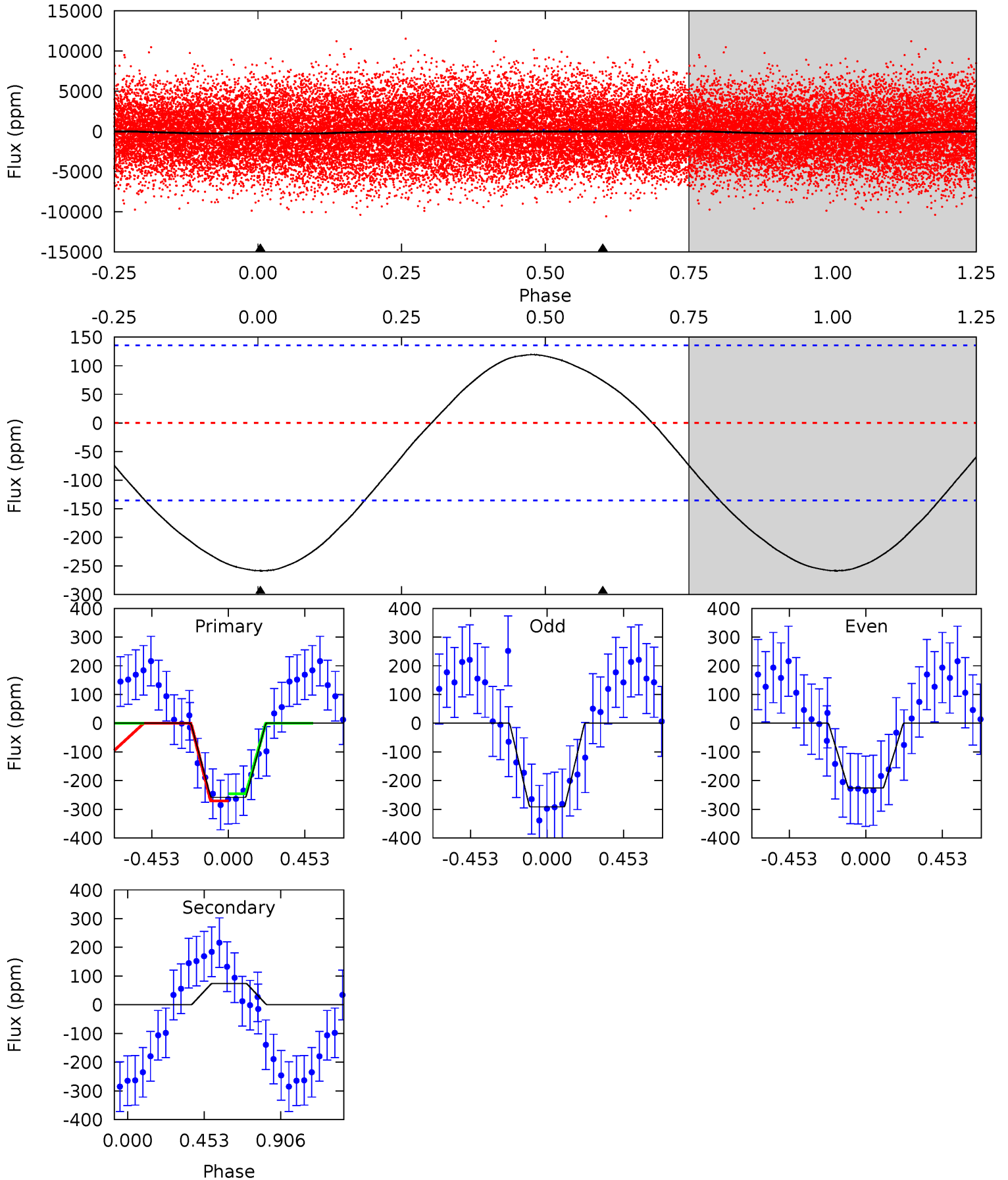
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.6	-2.47	0	0	4.23	0.72	1.53	13.6	13.6	-2.47	-2.47	1.86	1.06	0.27	2.33



Alt Model-Shift Uniqueness Test

008655712-02, P = 1.926851 Days, E = 131.163623 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.07	-2.31	0	0	4.24	0.75	1.00	8.07	8.07	-2.31	-2.31	1.03	0.74	0.32	0.41



Stellar Parameters For KIC 008655712

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7582^{+211}_{-317}	$3.585^{+0.522}_{-0.058}$	$-0.140^{+0.200}_{-0.300}$	$3.807^{+0.500}_{-2.000}$	$2.032^{+0.256}_{-0.549}$	$0.052^{+0.309}_{-0.014}$
	+3%/-4%	+15%/-2%	+143%/-214%	+13%/-53%	+13%/-27%	+596%/-27%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008655712-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	34 ± 14	$5.26^{+1.39}_{-1.59}$	4458^{+305}_{-551}	-5149^{+485}_{-561}	$-1.000^{+0.500}_{-1.068}$
Alt.	74 ± 32	$6.11^{+1.44}_{-1.85}$	4432^{+313}_{-601}	-5596^{+607}_{-670}	$-1.625^{+0.820}_{-1.726}$

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

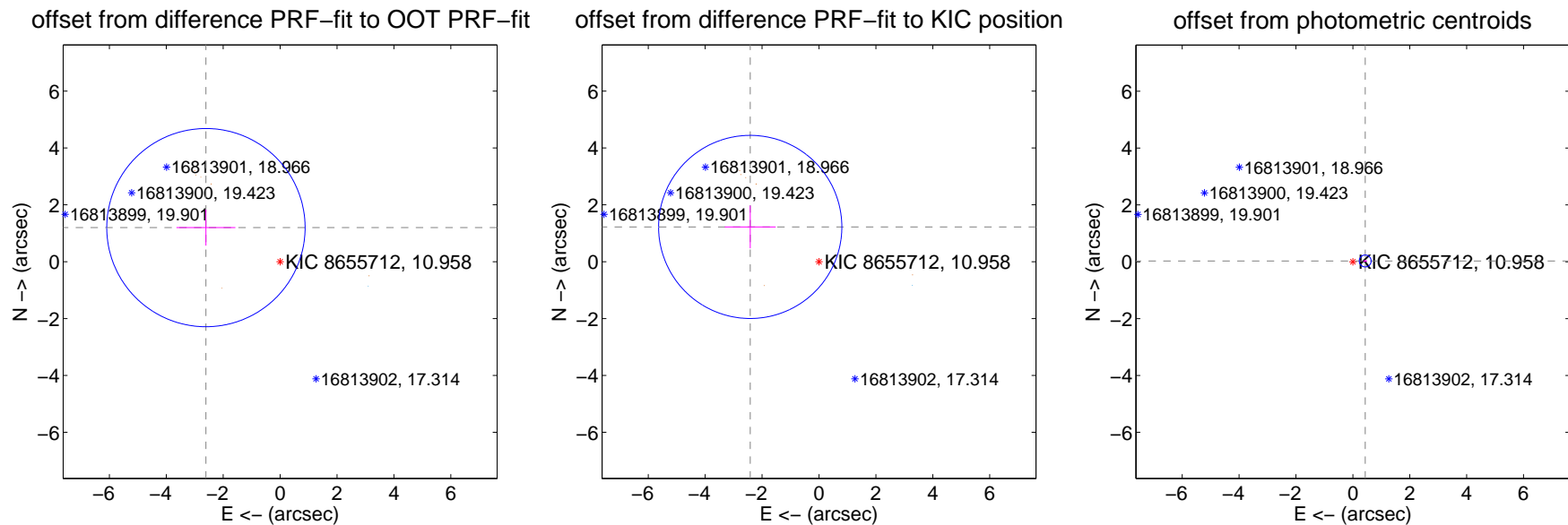
DV Centroid Data

Supplemental centroid analysis for 008655712-02. **Kepler magnitude: 10.96.** Transit SNR 15.09

There are 1 quarters with good PRF difference image offsets

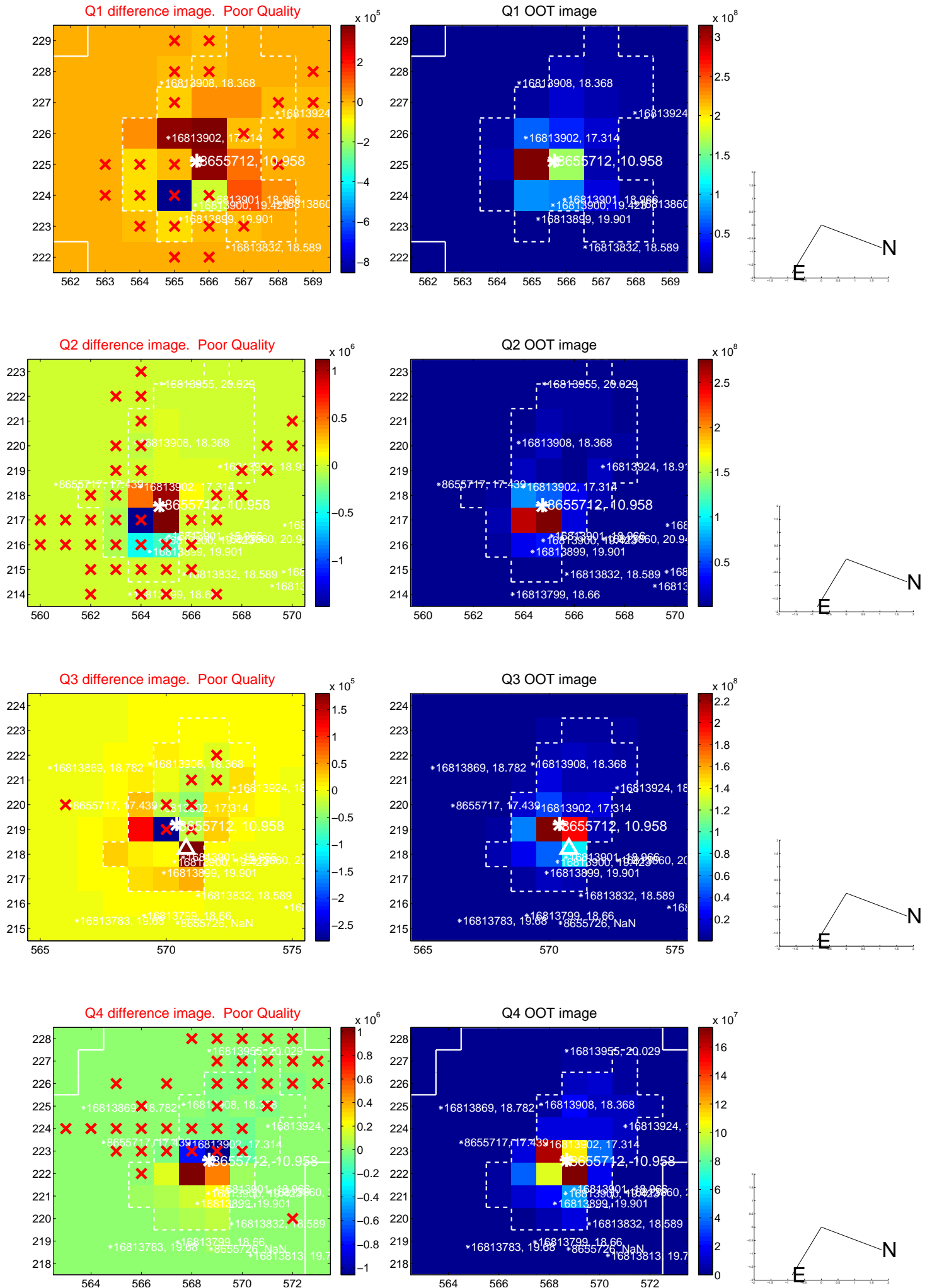
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.869 ± 1.162	2.47	2.606 ± 1.035	1.198 ± 0.634
PRF-fit source offset from KIC position	2.708 ± 1.073	2.52	2.416 ± 0.894	1.223 ± 0.752
photometric centroid source offset	0.43 ± 0.07	6.21	-0.43 ± 0.07	0.03 ± 0.04

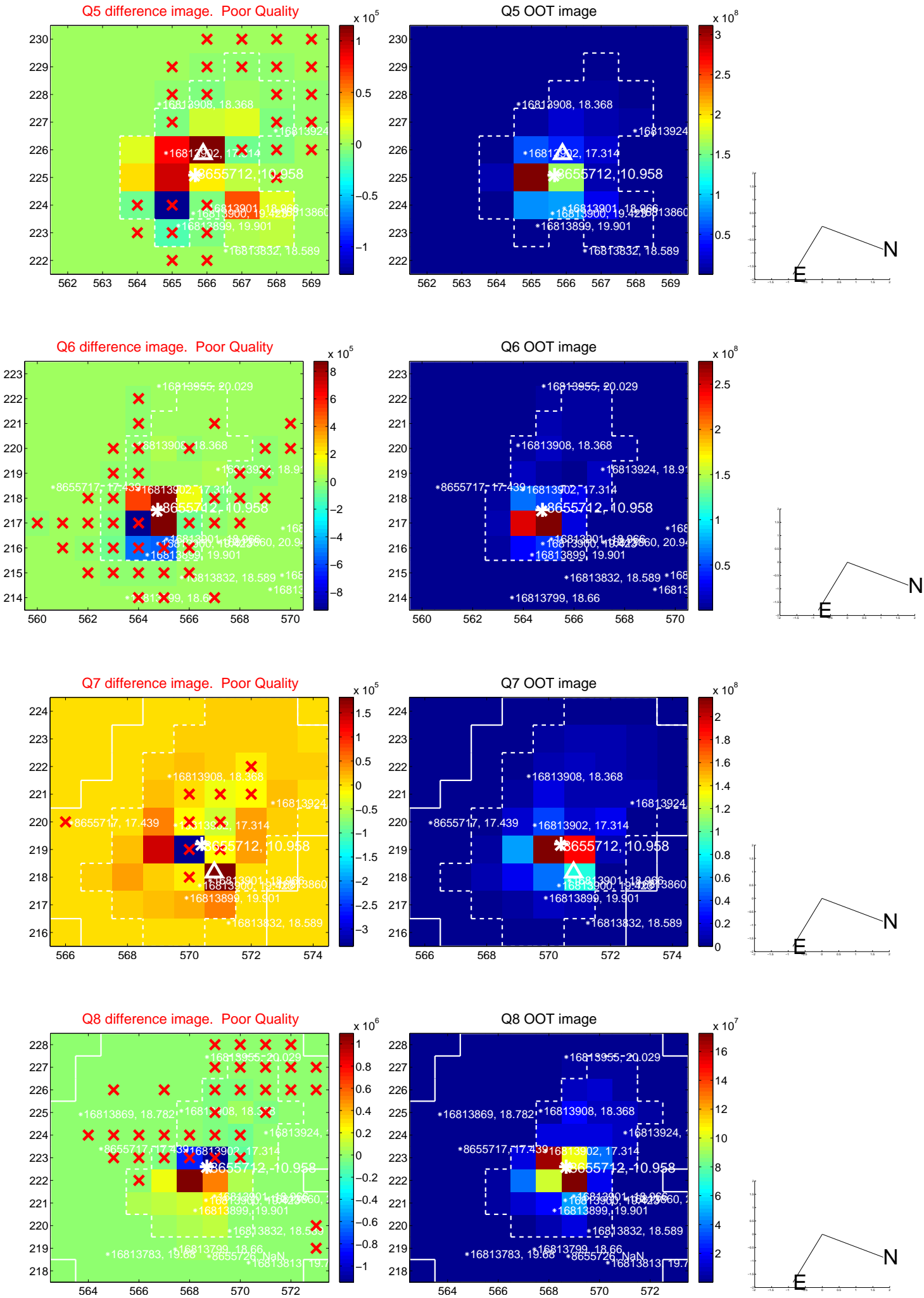


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

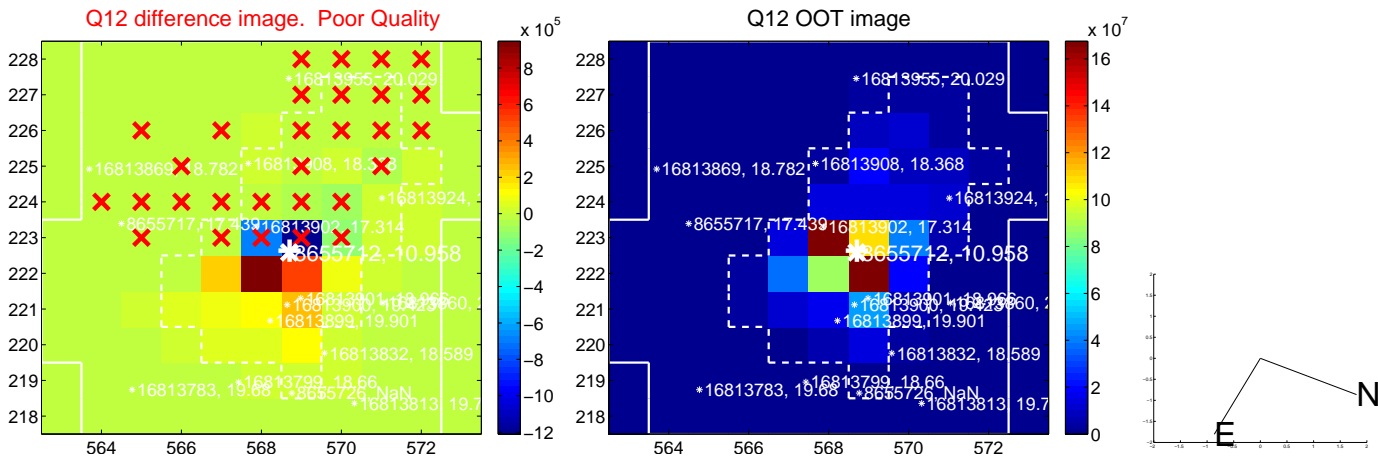
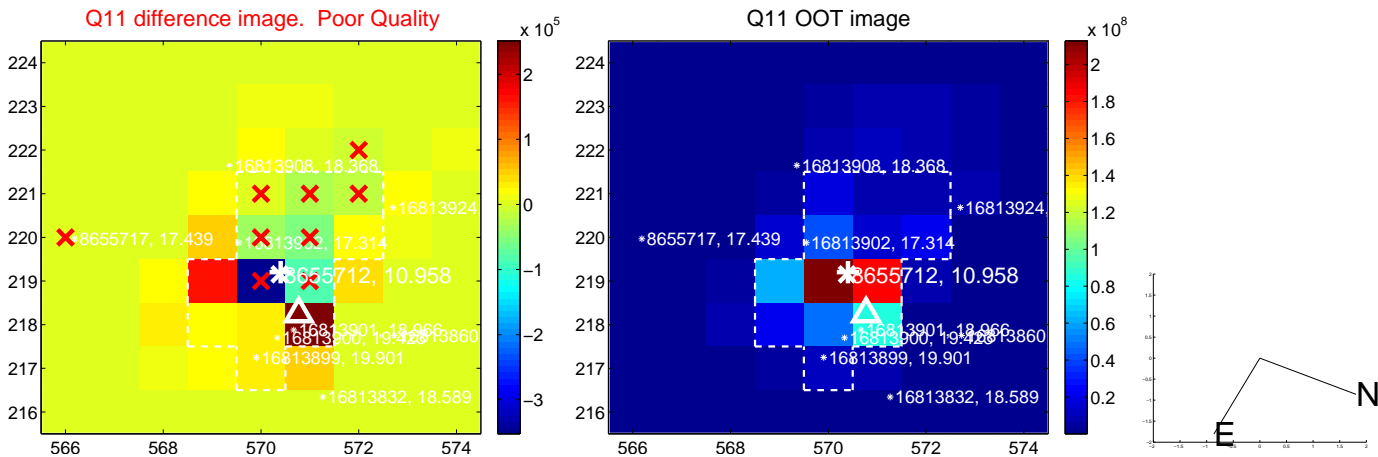
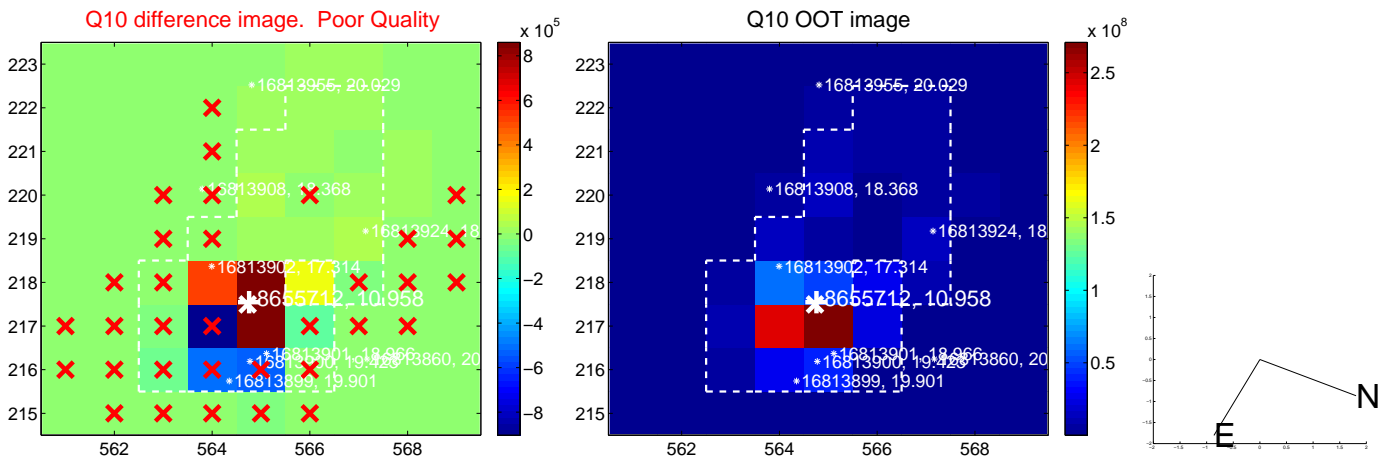
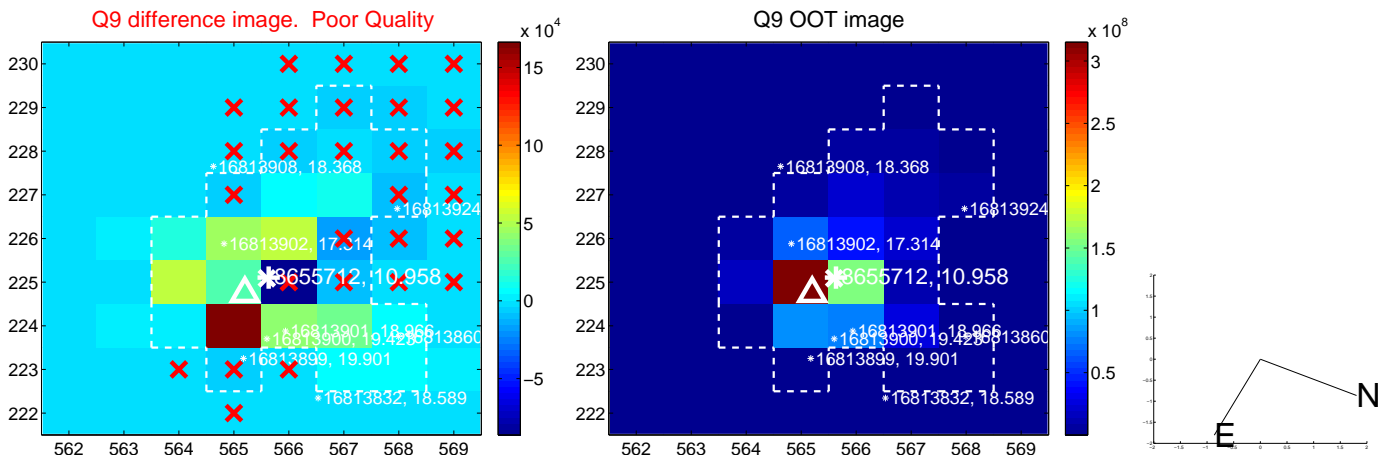
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



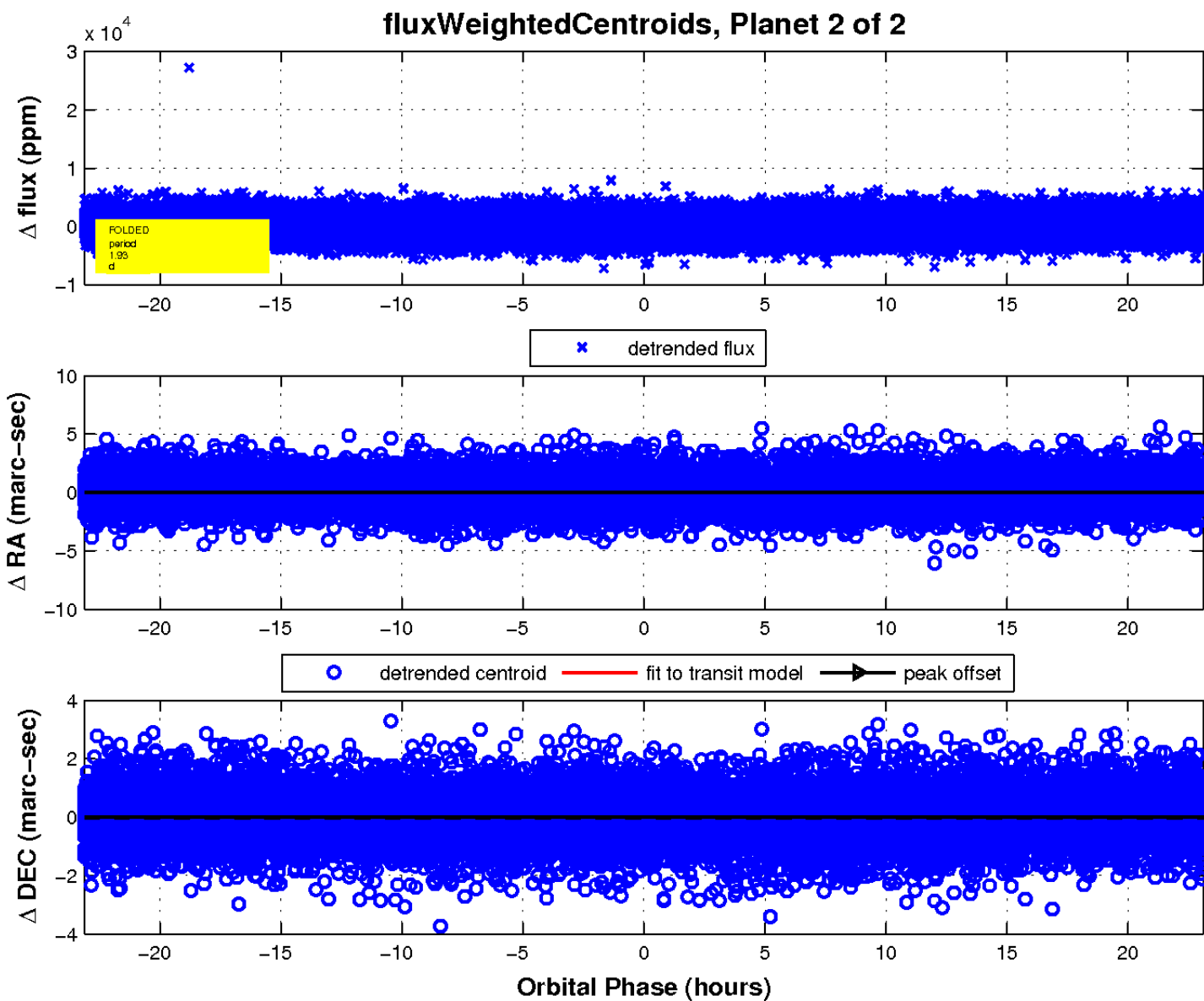
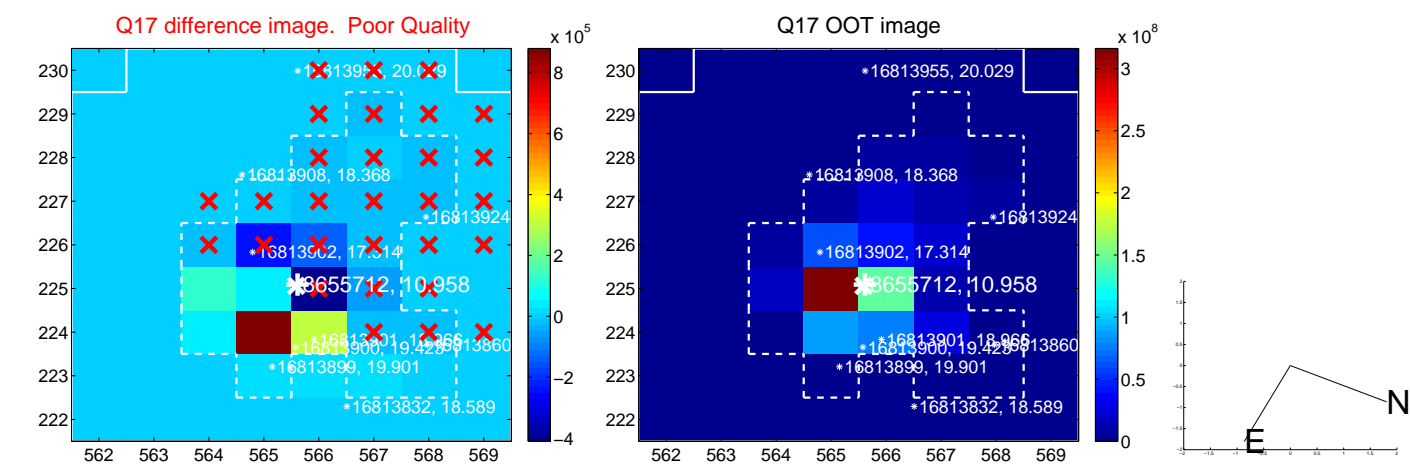
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

