

KIC 008890924

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})
008890924-01	OBS	4269.01	26.656566	131.594215	157.6	5.058	11.7	13.4	3.06	5159	4.43	157.79
008890924-02	OBS	4269.02	4.441112	135.239481	31.4	5.894	8.0	6.9	3.06	5159	2.07	1721.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008890924-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
008890924-02	OBS	FP	0.12	1	0	0	0	LPP_DV

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

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

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

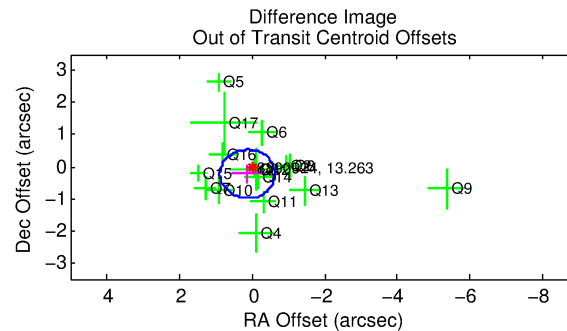
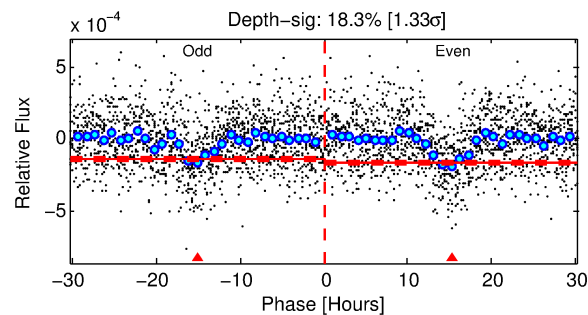
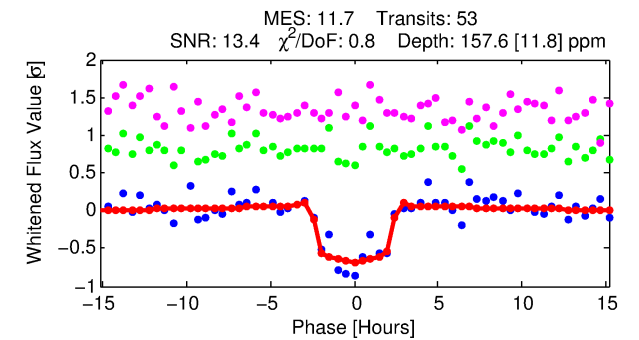
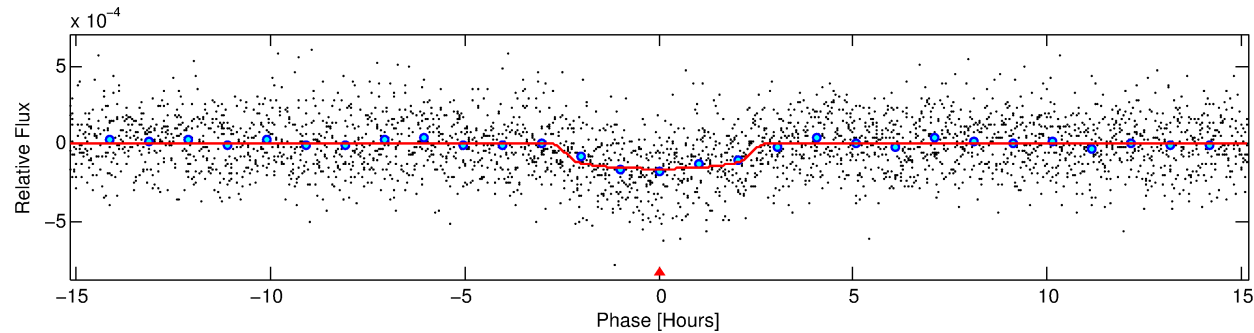
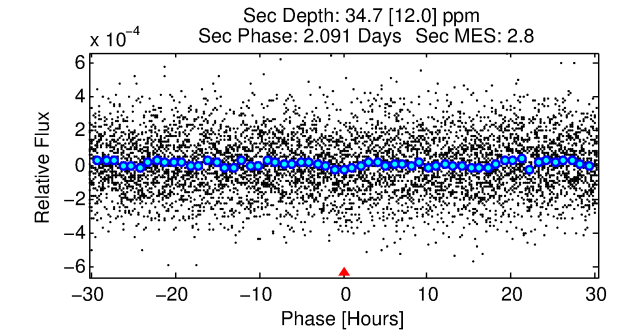
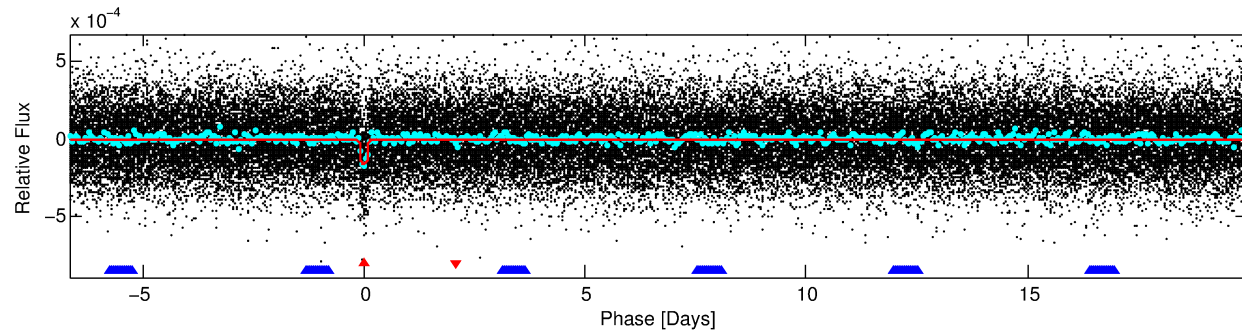
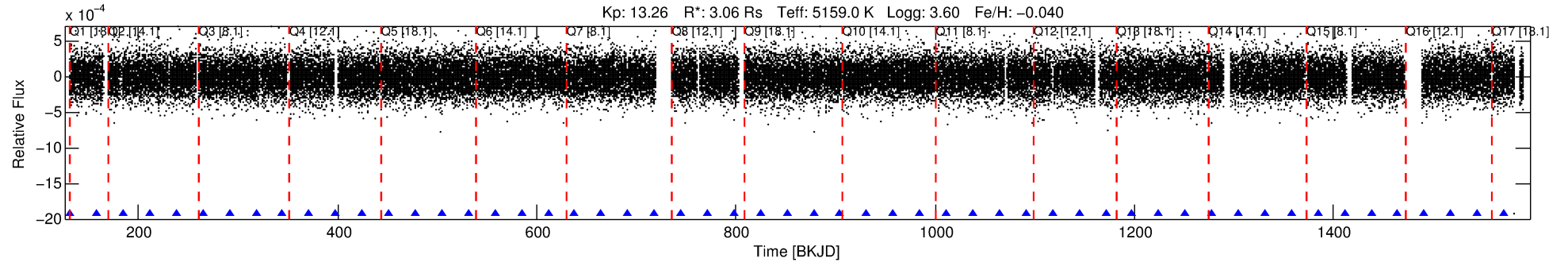
Ephemeris Match Information For 008890924-01

No Significant Match Found

DV One-Page Summary

KIC: 8890924 Candidate: 1 of 2 Period: 26.657 d

KOI: K04269.01 Corr: 0.986



DV Fit Results:

Period = 26.65657 [0.00020] d
Epoch = 131.5942 [0.0062] BKJD
Rp/R* = 0.0132 [0.0053]
a/R* = 22.44 [35.67]
b = 0.85 [0.54]
Seff = 157.79 [223.26]
Teq = 904 [320] K
Rp = 4.43 [3.63] Re
a = 0.1942 [0.1587] AU
Ag = 36.75 [60.78] [0.59σ]
Teffp = 3440 [754] K [3.10σ]

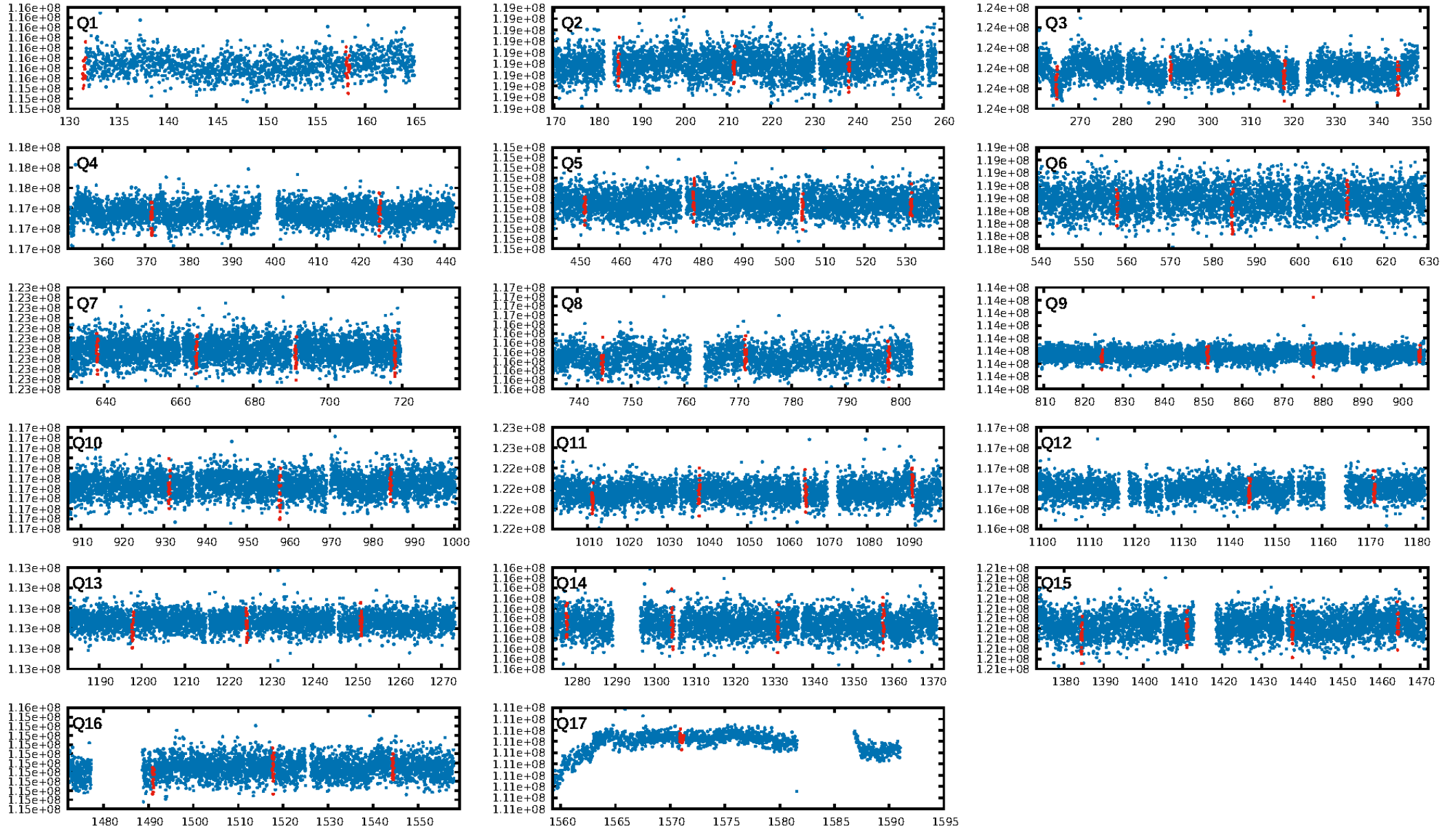
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [68.65σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 97.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.02e-28
RollingBand-fgt: 1.00 [50/50]
GhostDiagnostic-chr: 3.683
Centroid-sig: 1.5%
Centroid-so: 1.379 arcsec [2.45σ]
OotOffset-rm: 0.264 arcsec [1.05σ]
KicOffset-rm: 0.191 arcsec [0.69σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.94 [15/16]
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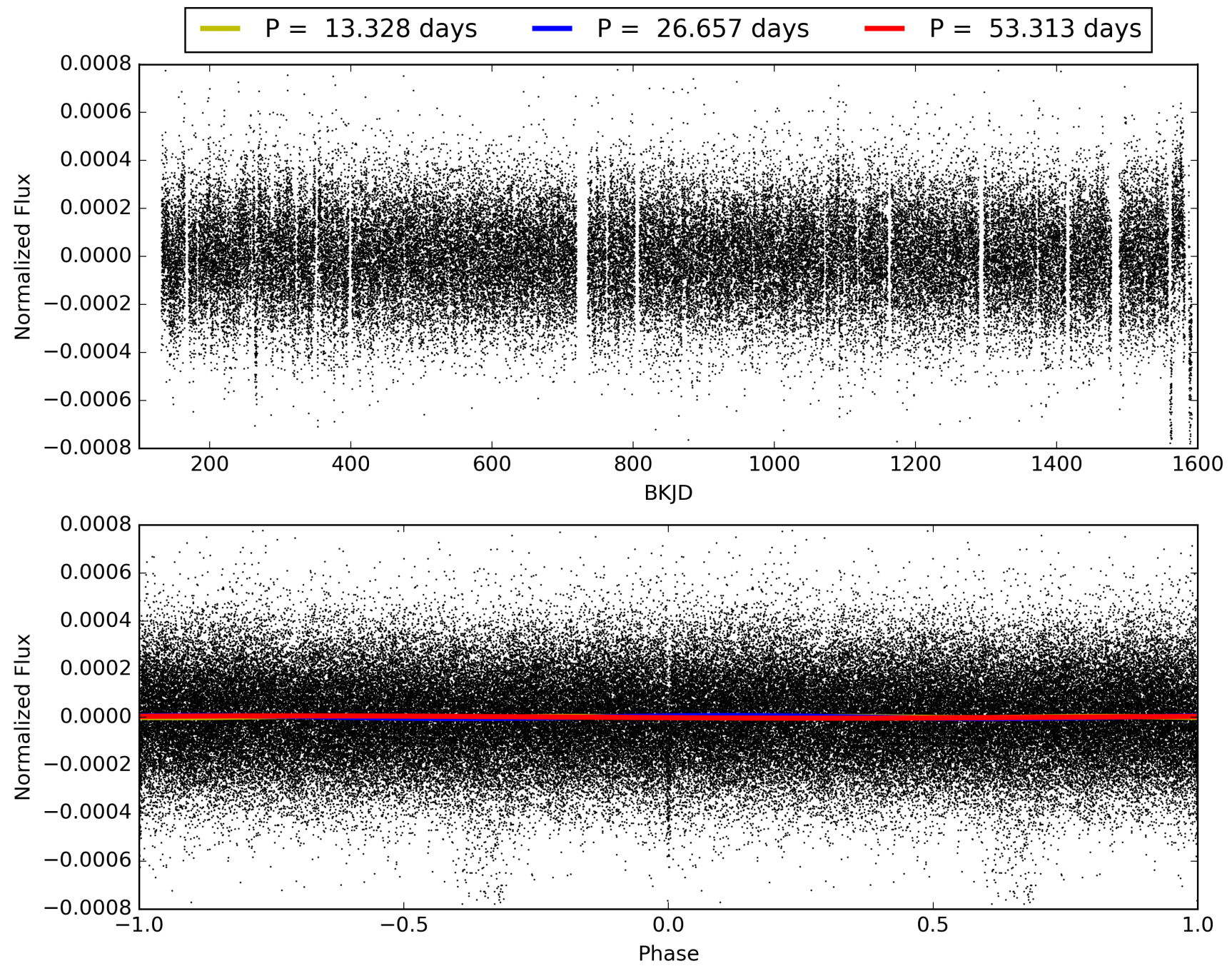
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008890924-01, PDC Light Curves

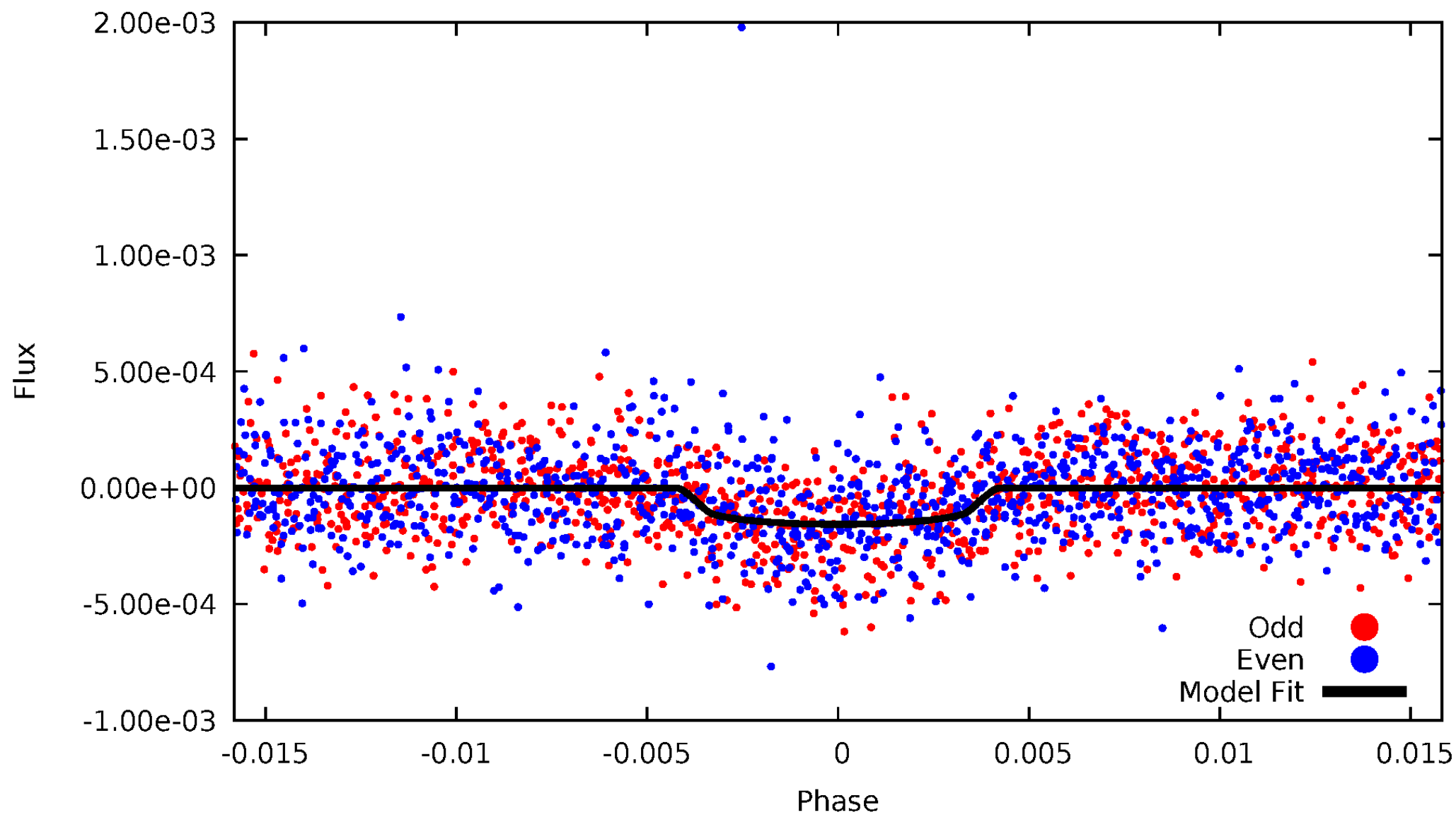


TCE 008890924-01



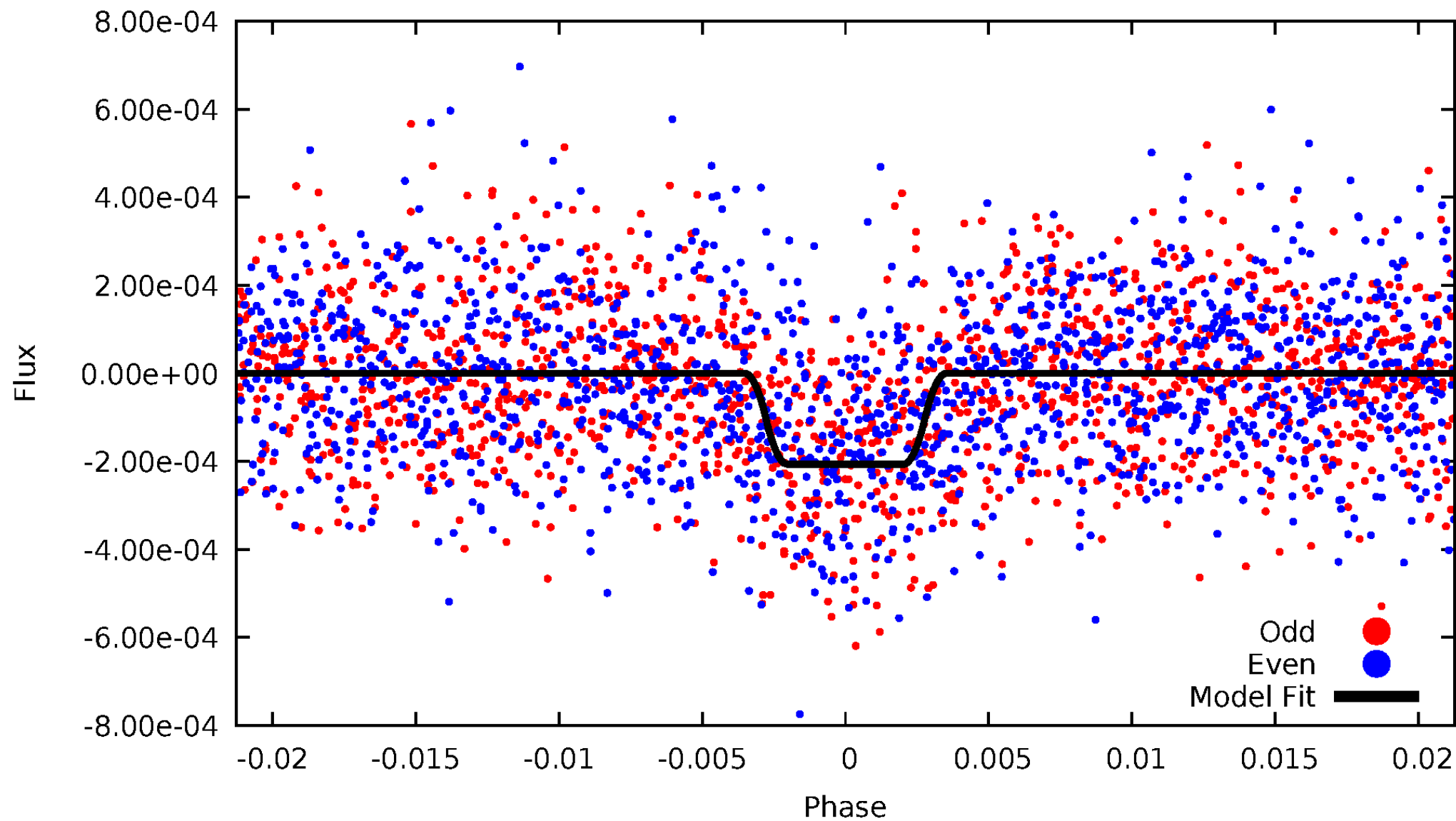
DV Odd/Even

TCE 008890924-01

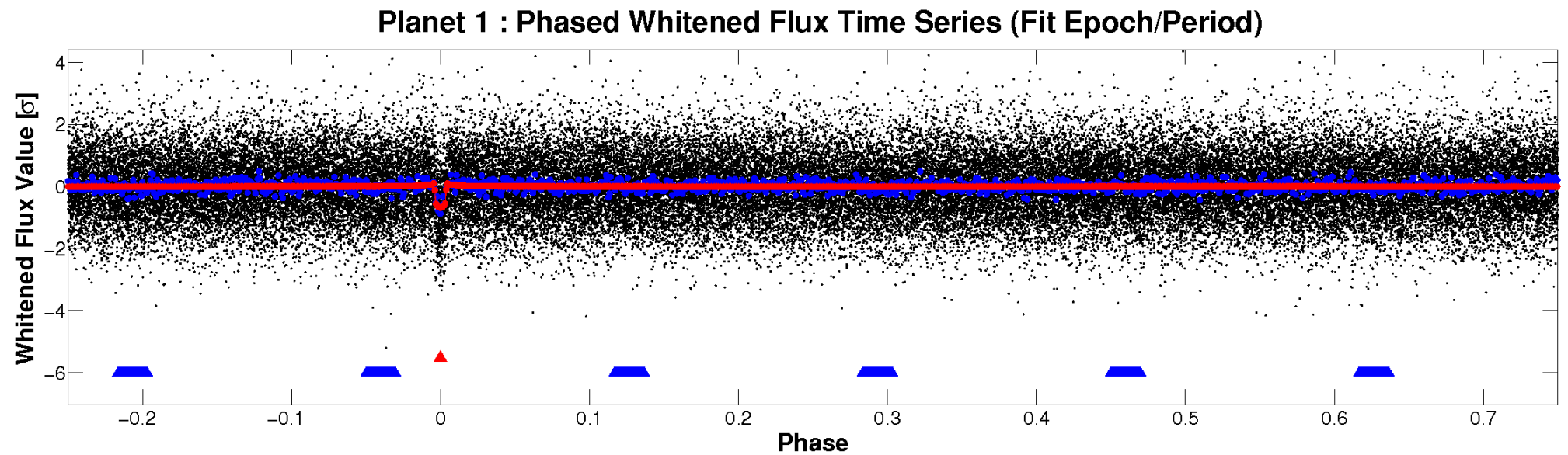
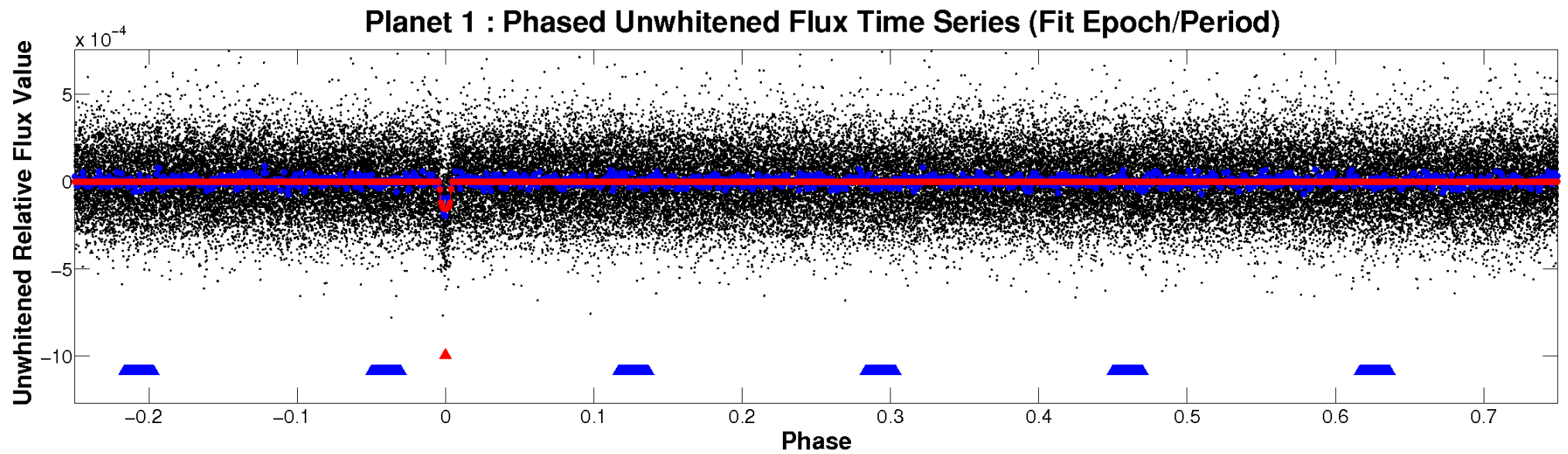


ALT Odd/Even

TCE 008890924-01

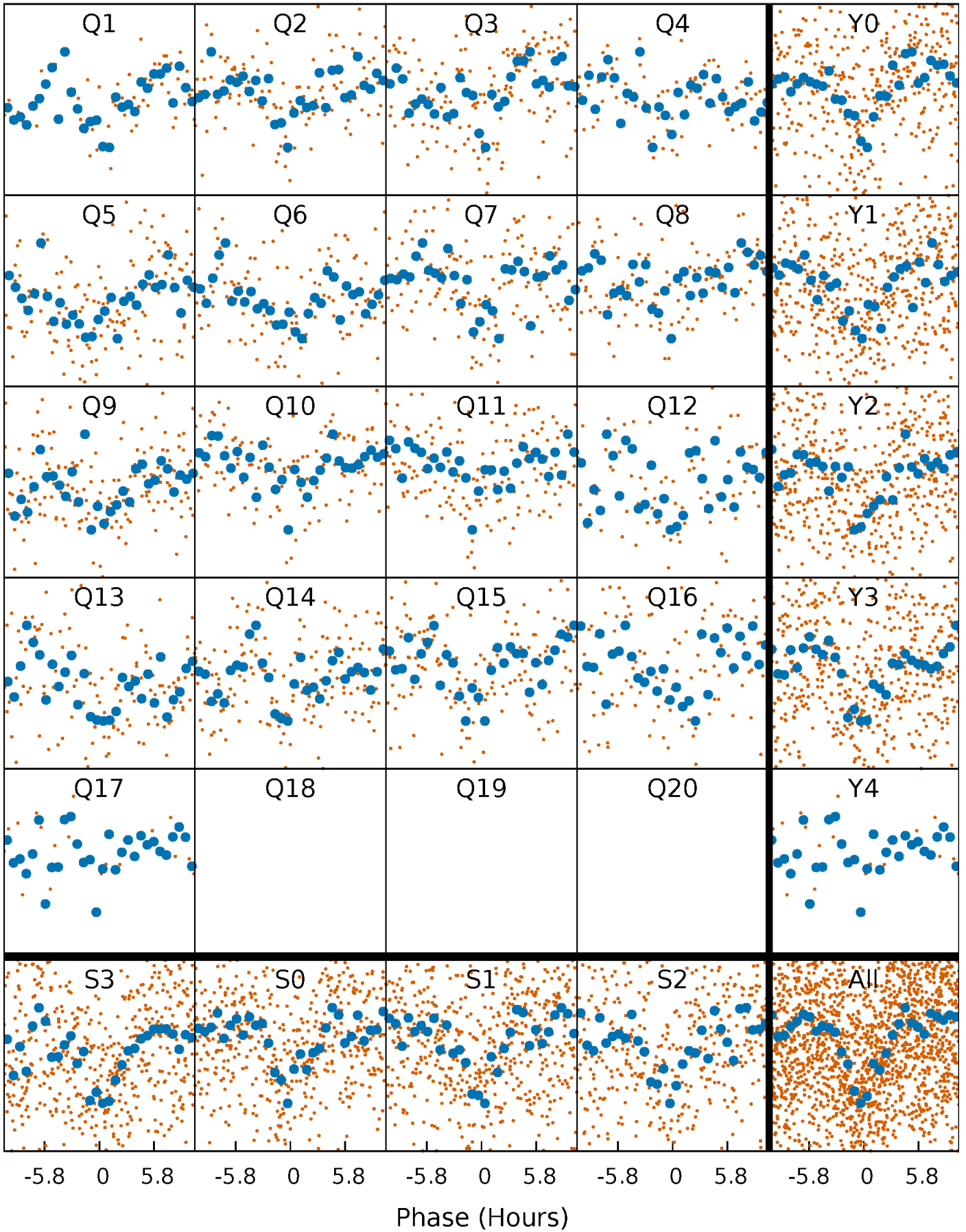


Non-Whitened Vs. Whitened Light Curve



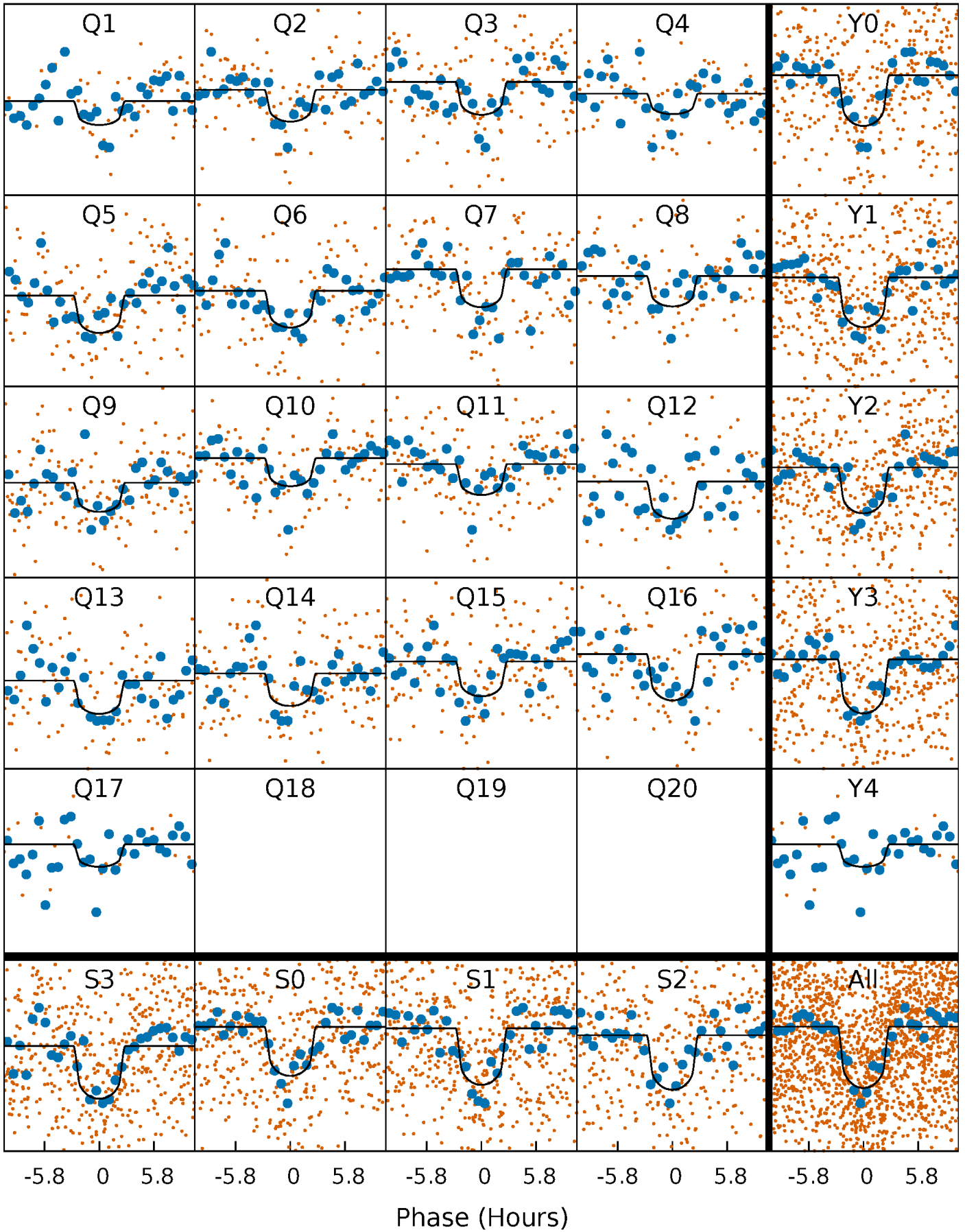
PDC Quarter-Phased Transit Curves

TCE 008890924-01 P= 26.656566 Days $T_0=131.594215$ (BKJD)



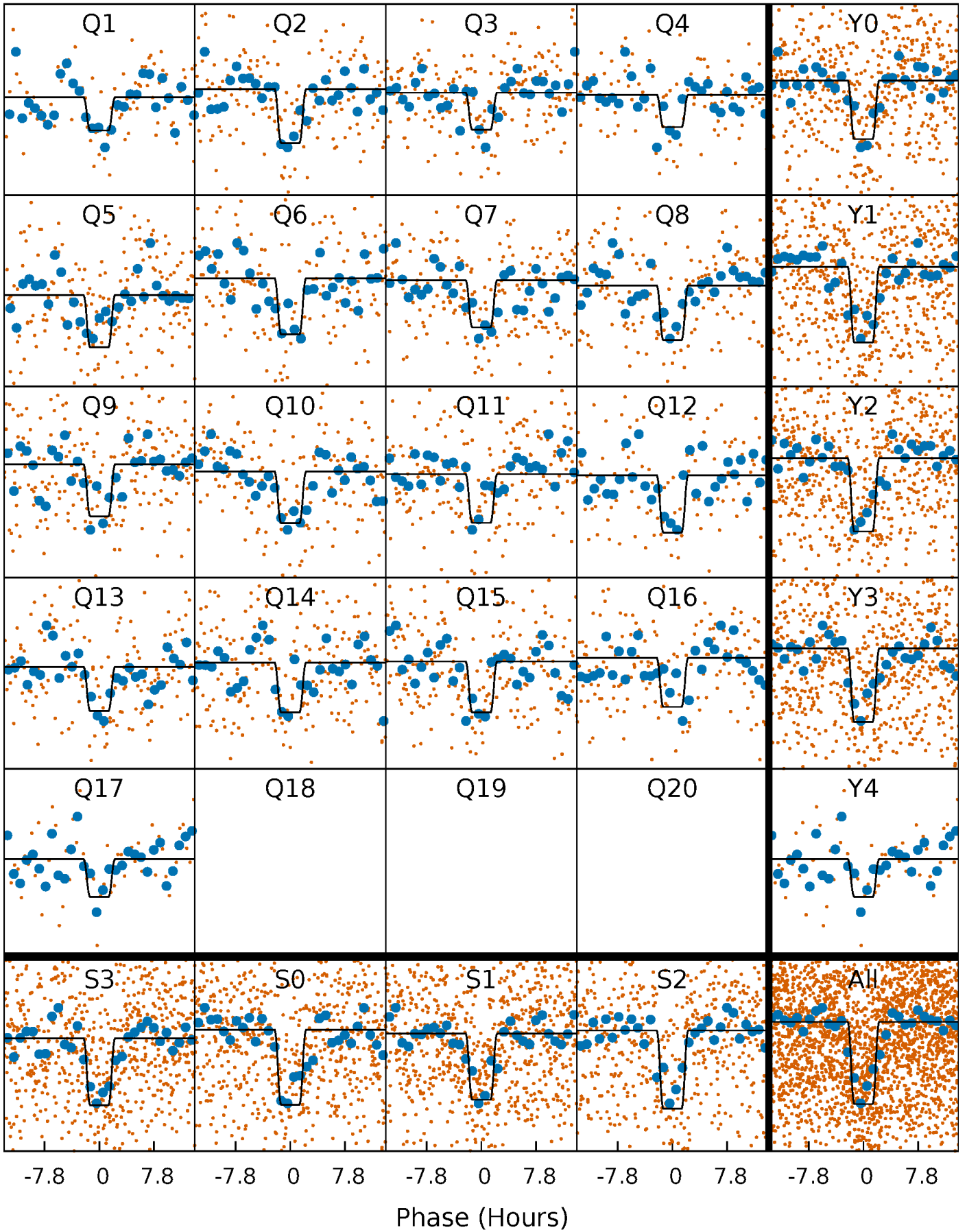
DV Quarter-Phased Transit Curves

TCE 008890924-01 P= 26.656566 Days $T_0=131.594215$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

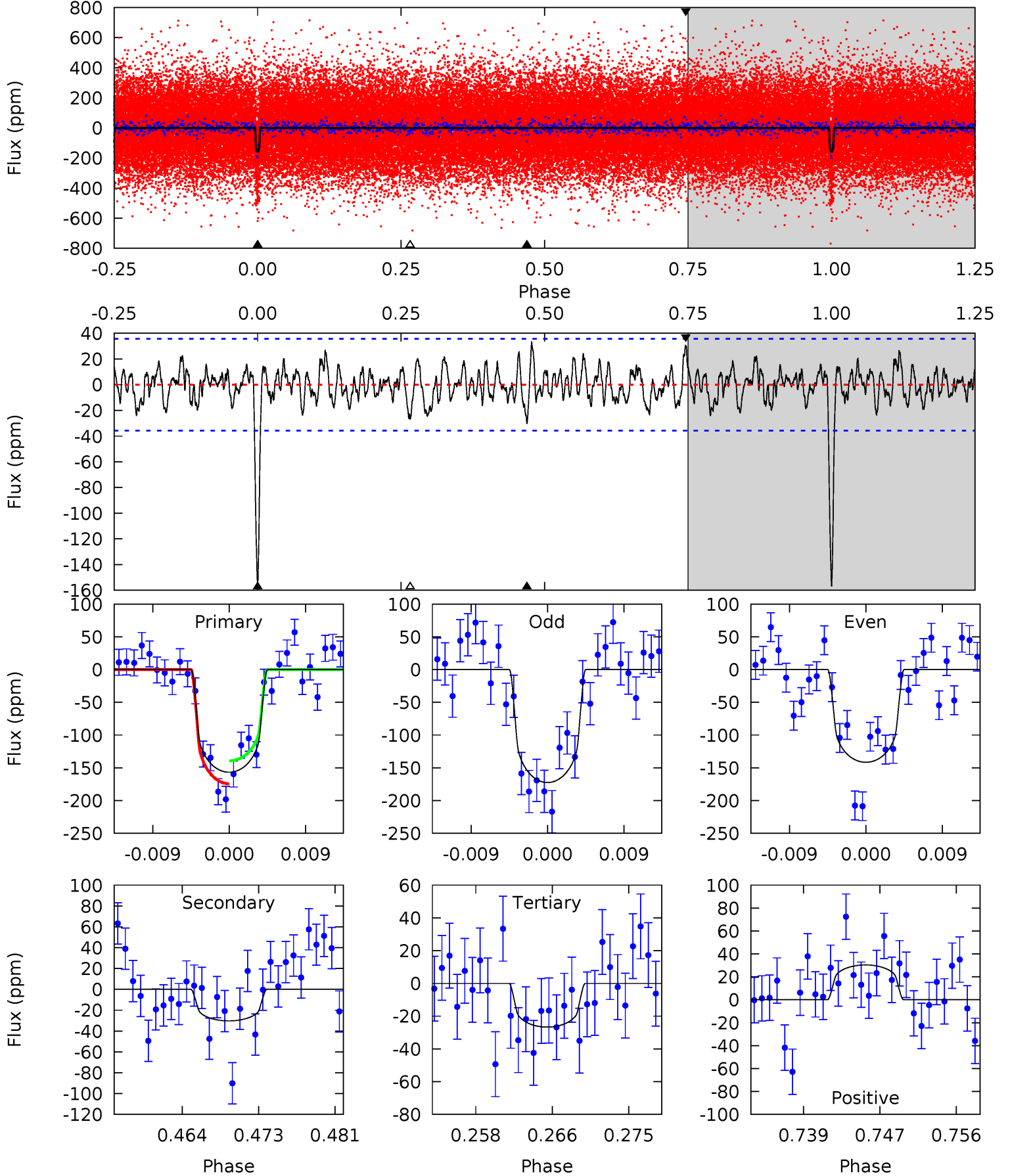
TCE 008890924-01 P= 26.656772 Days $T_0=131.583842$ (BKJD)



DV Model-Shift Uniqueness Test

008890924-01, $P = 26.656566$ Days, $E = 104.937649$ Days

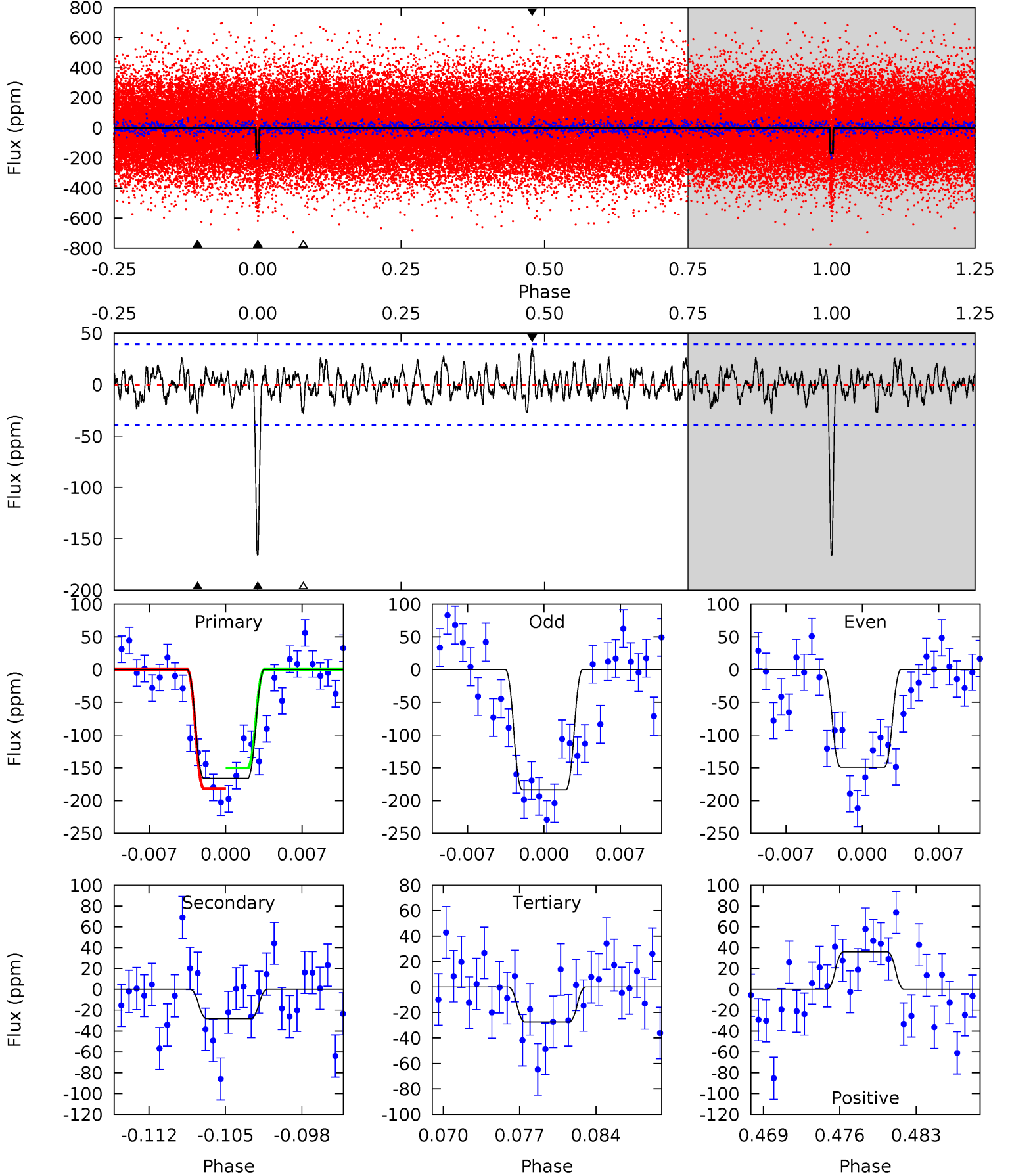
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.2	4.29	3.78	4.30	5.06	2.63	1.49	18.4	17.9	0.51	-0.02	2.19	0.98	0.17	2.48



Alt Model-Shift Uniqueness Test

008890924-01, $P = 26.656772$ Days, $E = 104.927070$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.4	3.62	3.55	4.63	5.09	2.70	1.39	17.9	16.8	0.08	-1.01	2.23	0.98	0.18	2.04



Stellar Parameters For KIC 008890924

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5159^{+171}_{-155}	$3.604^{+0.863}_{-0.230}$	$-0.040^{+0.300}_{-0.300}$	$3.062^{+0.943}_{-2.200}$	$1.373^{+0.205}_{-0.512}$	$0.067^{+1.801}_{-0.037}$
	+3%/-3%	+24%/-6%	+750%/-750%	+31%/-72%	+15%/-37%	+2672%/-55%
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 008890924-01 / KOI 4269.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-30 ± 7	$4.03^{+2.30}_{-2.08}$	1244^{+134}_{-240}	3681^{+772}_{-408}	38^{+115}_{-22}
Alt.	-28 ± 8	$4.25^{+2.31}_{-2.00}$	1250^{+134}_{-241}	3556^{+596}_{-397}	30^{+82}_{-18}

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

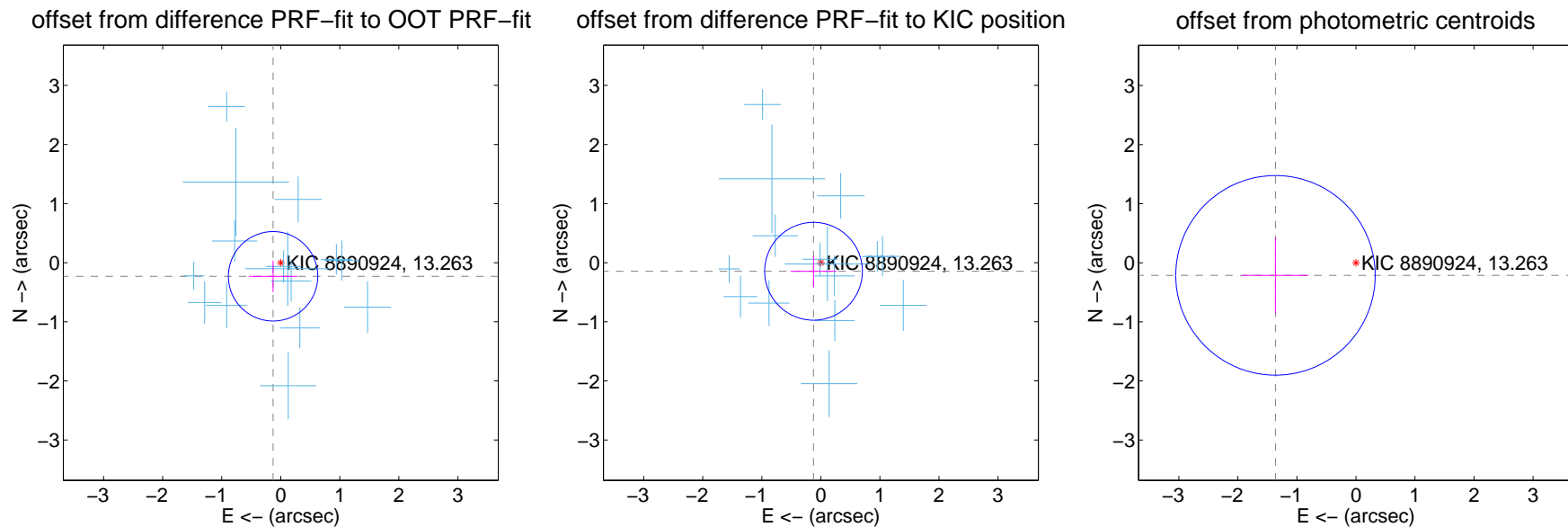
DV Centroid Data

Supplemental centroid analysis for 008890924-01. Kepler magnitude: 13.26. Transit SNR 13.39

There are 15 quarters with good PRF difference image offsets

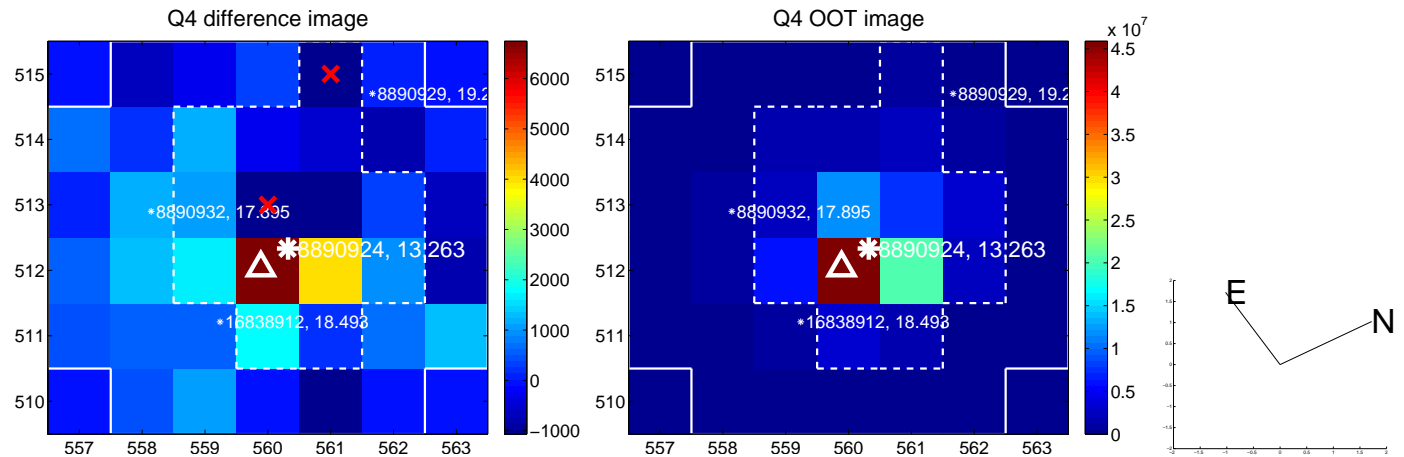
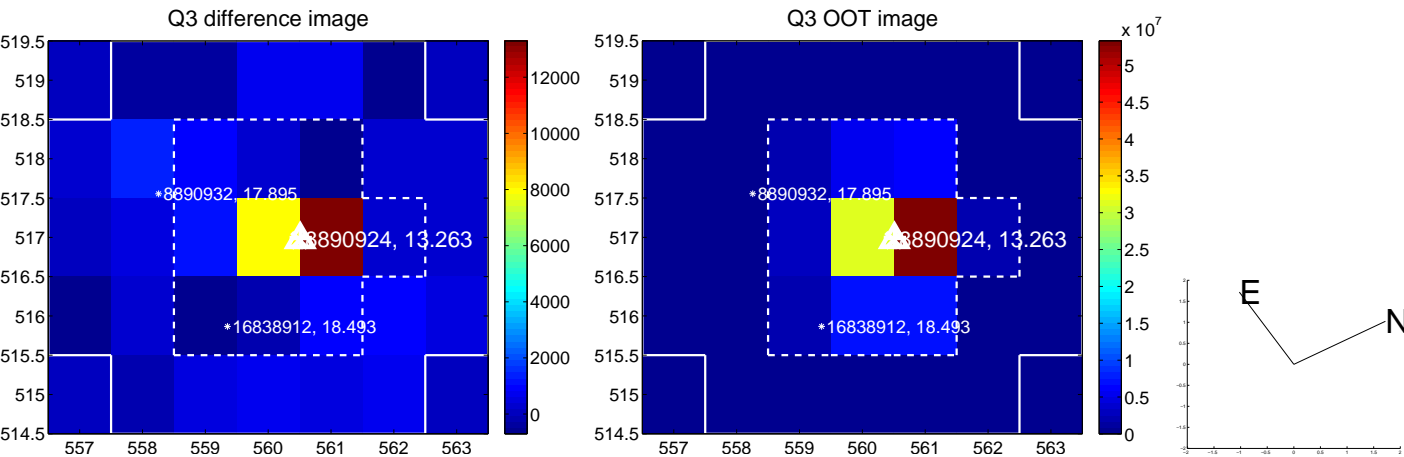
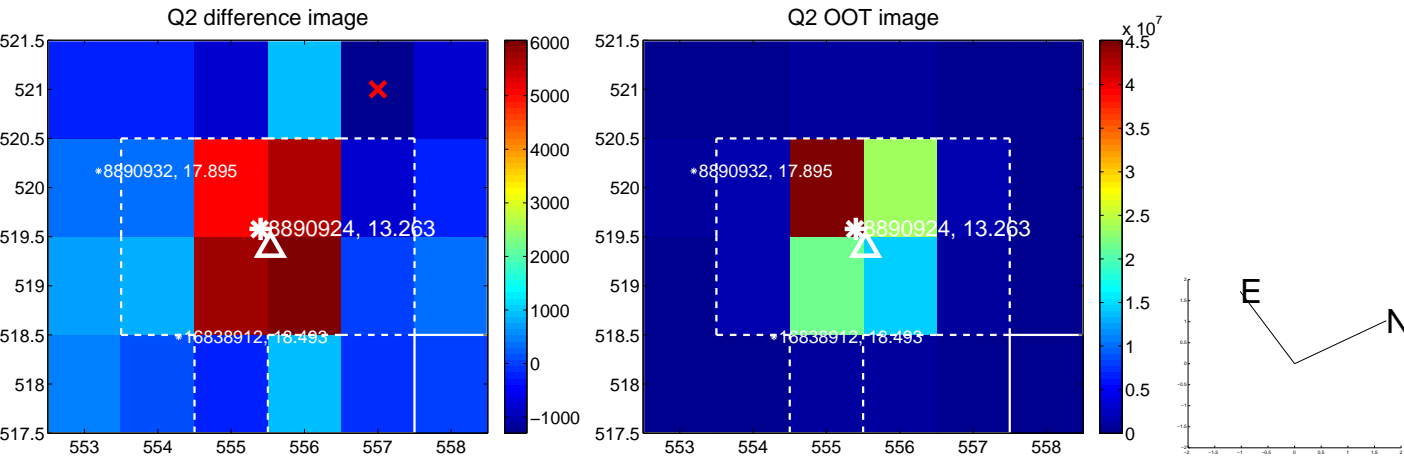
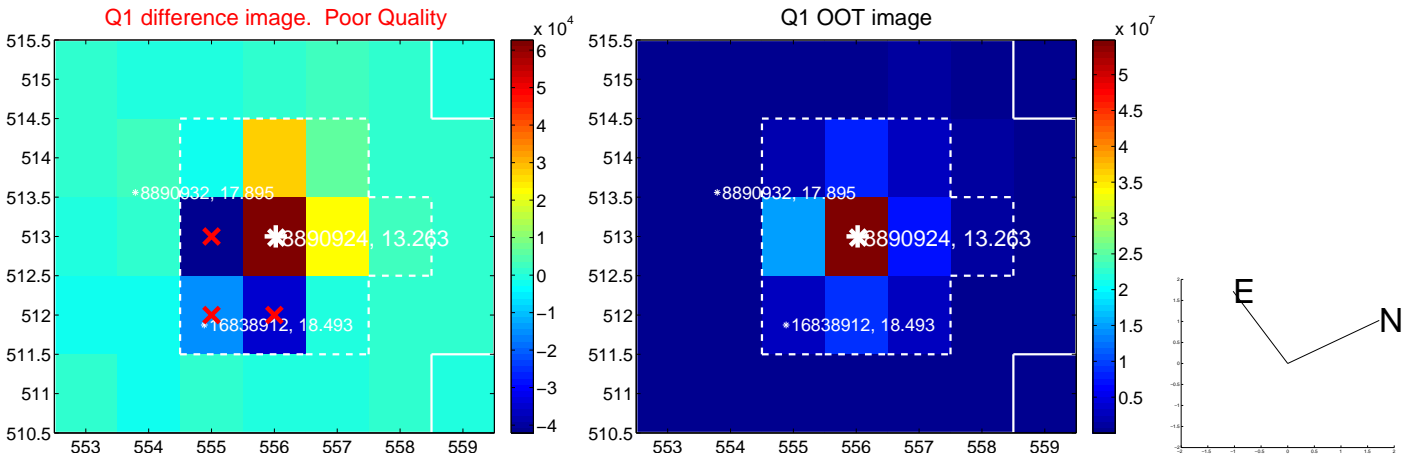
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.264 ± 0.252	1.05	0.130 ± 0.410	-0.230 ± 0.265
PRF-fit source offset from KIC position	0.191 ± 0.276	0.69	0.124 ± 0.388	-0.145 ± 0.266
photometric centroid source offset	1.38 ± 0.56	2.45	1.36 ± 0.56	-0.21 ± 0.64

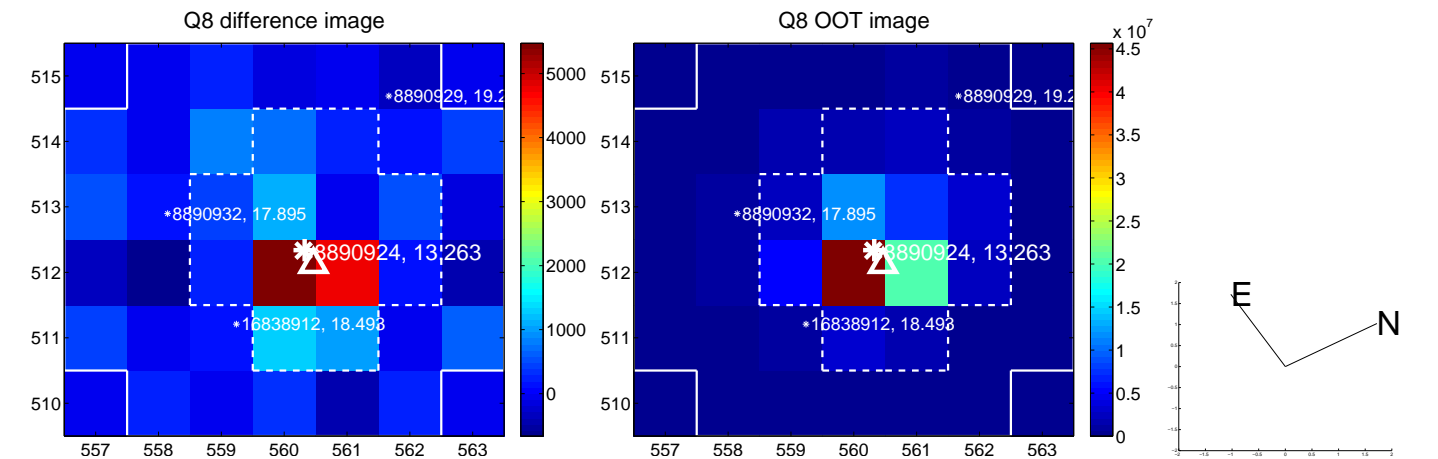
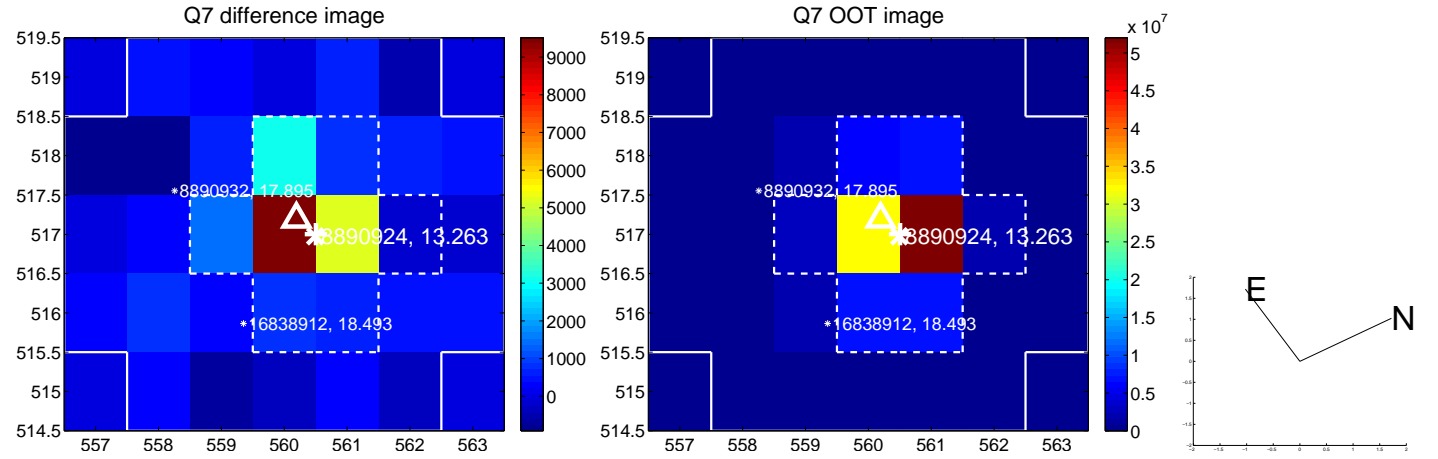
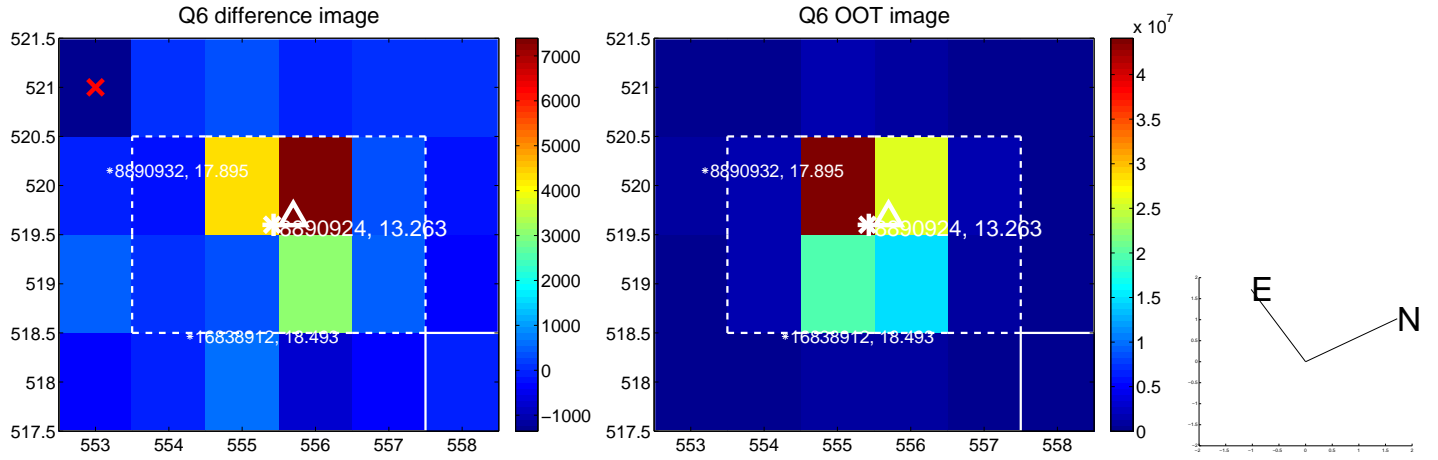
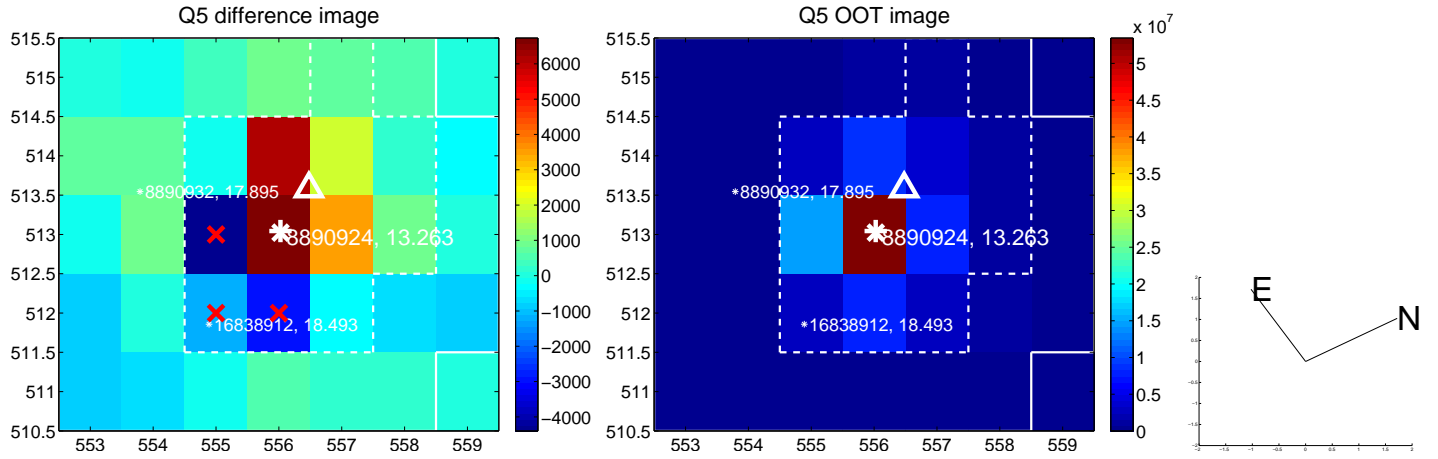


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

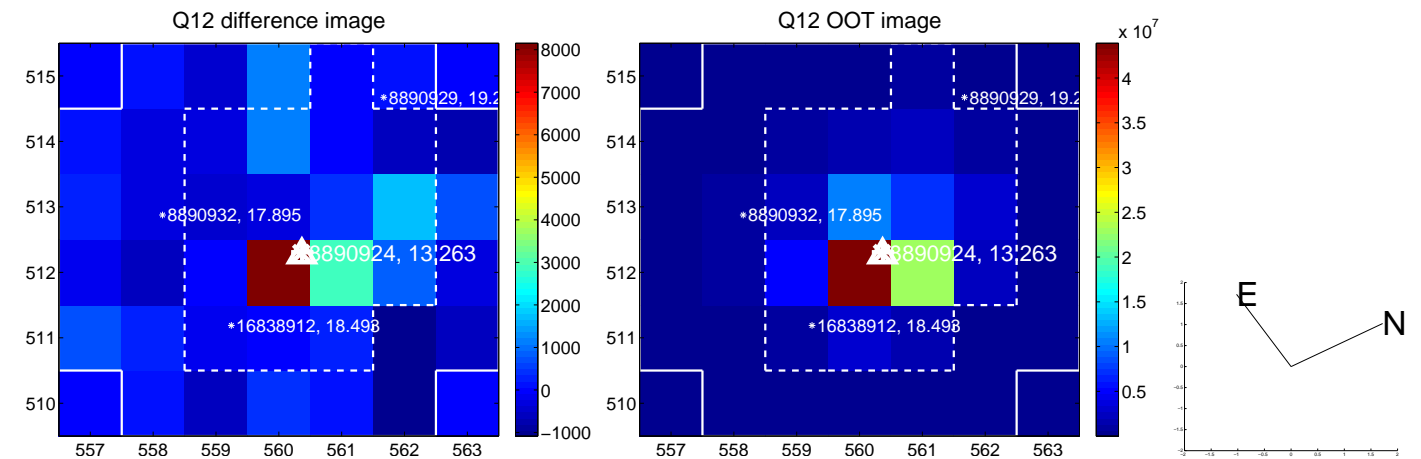
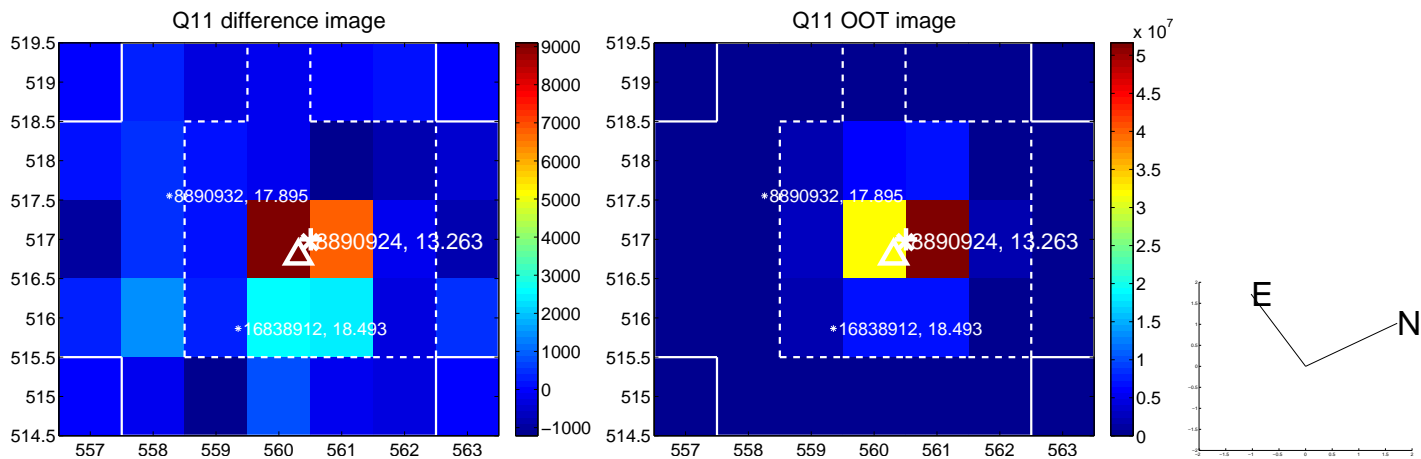
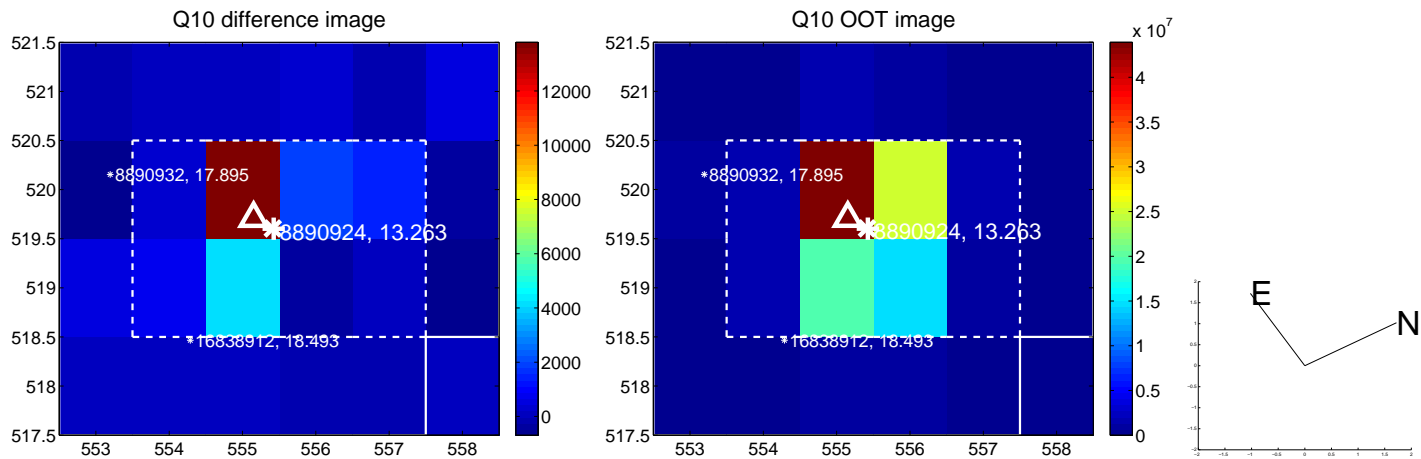
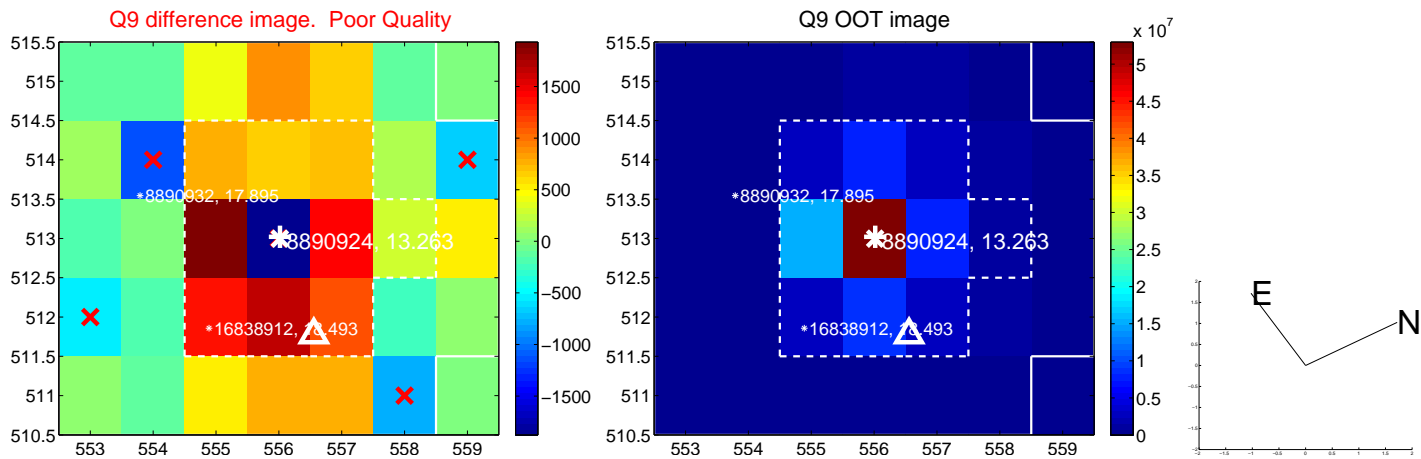
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



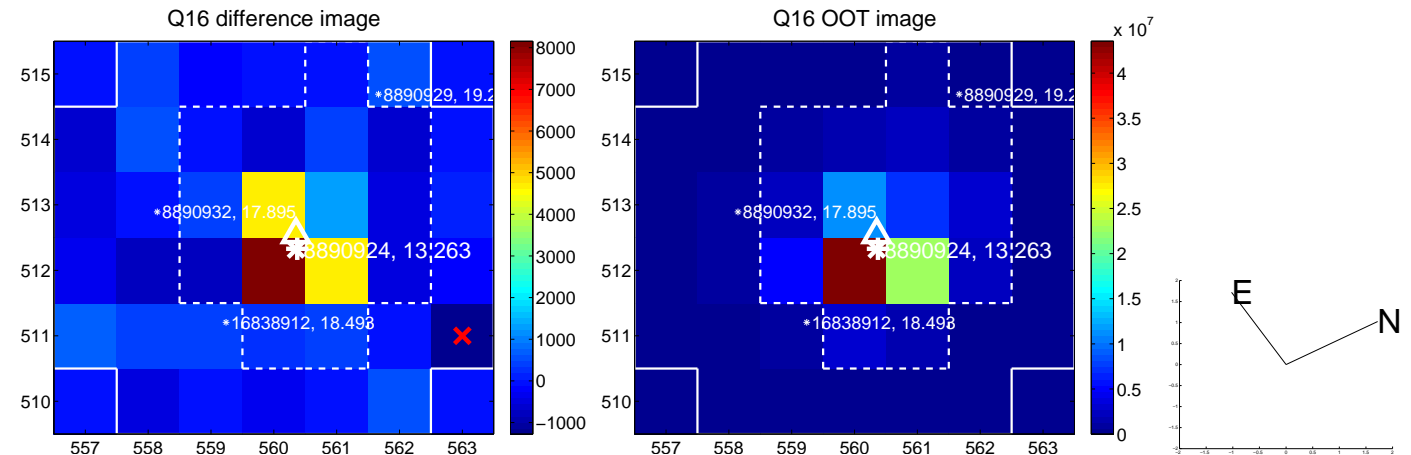
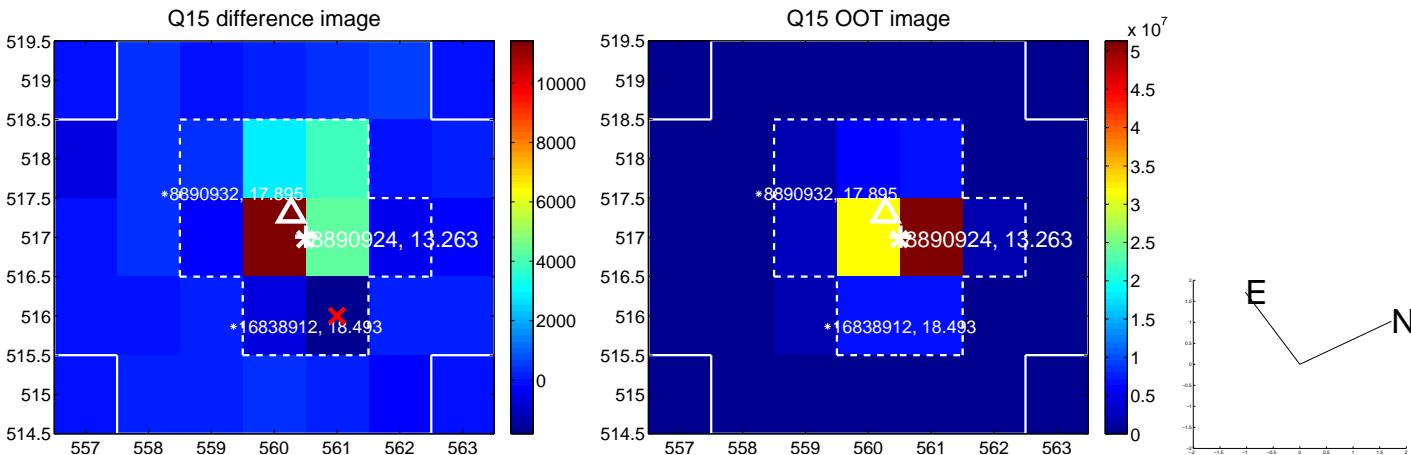
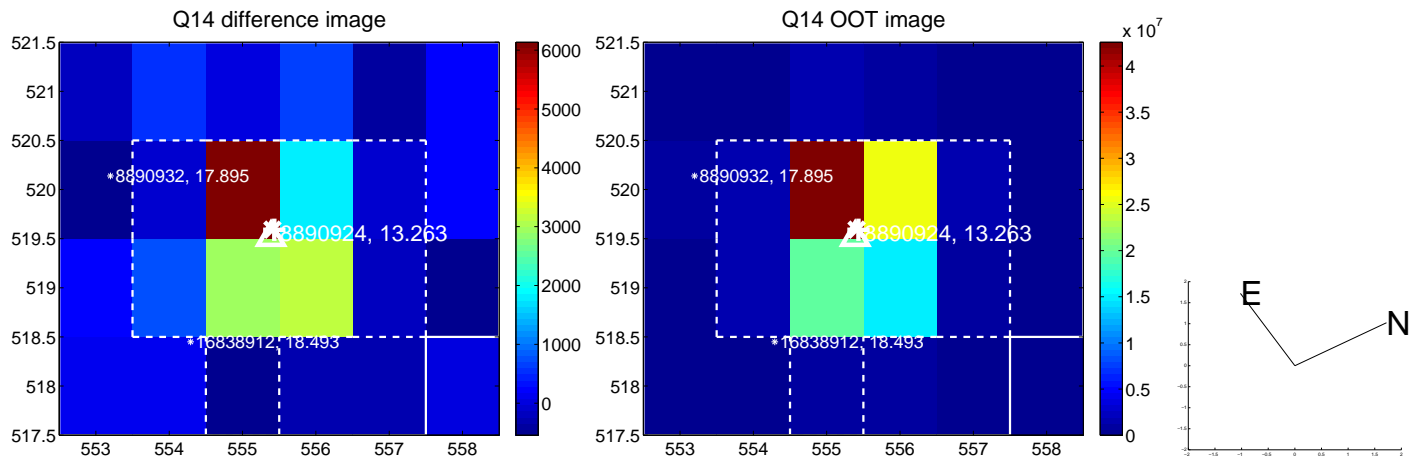
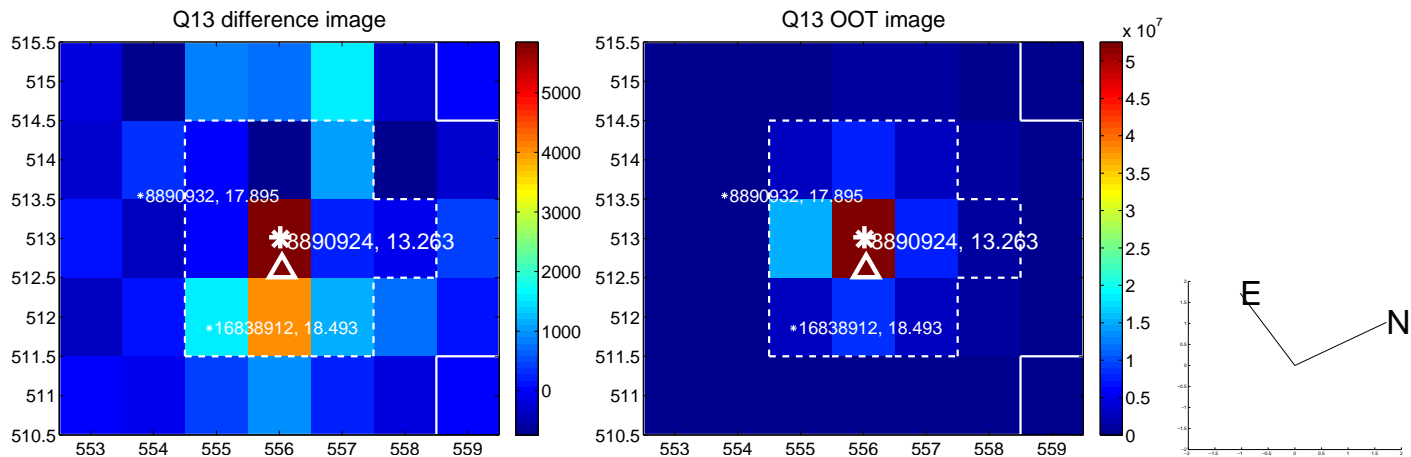
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



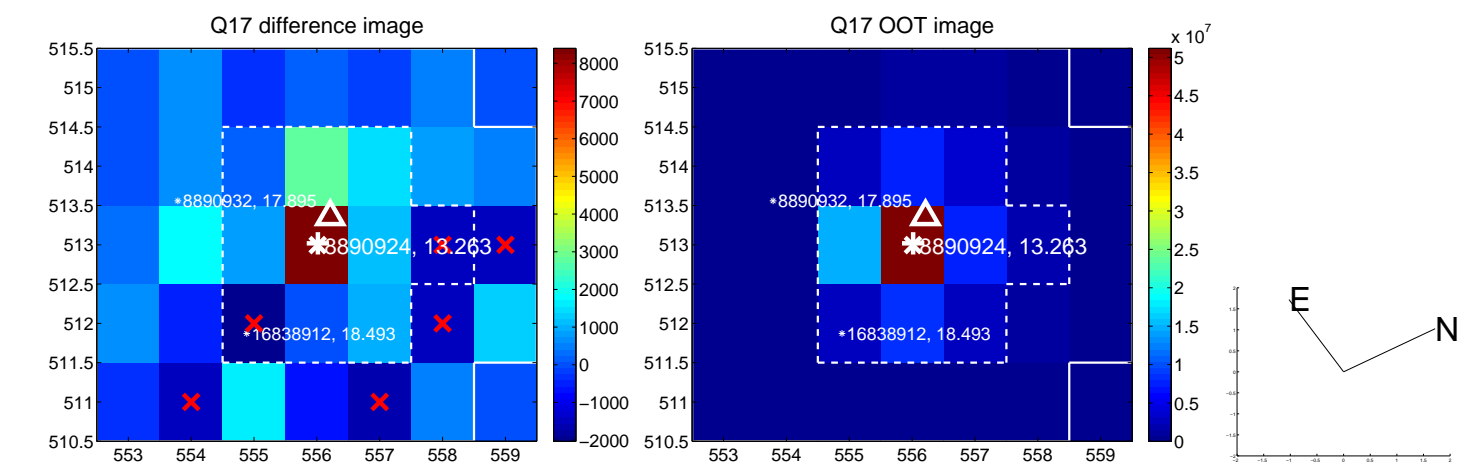
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



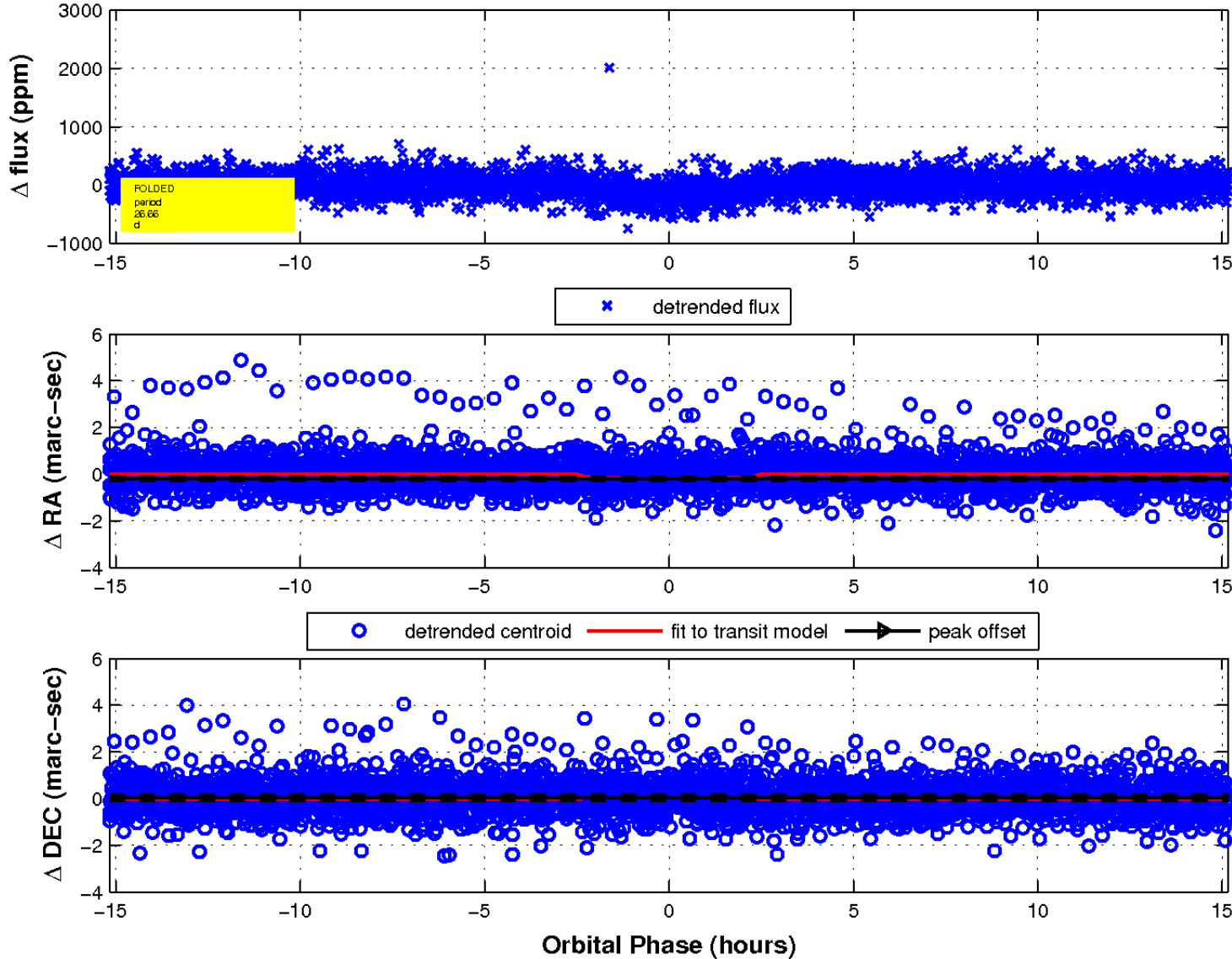
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

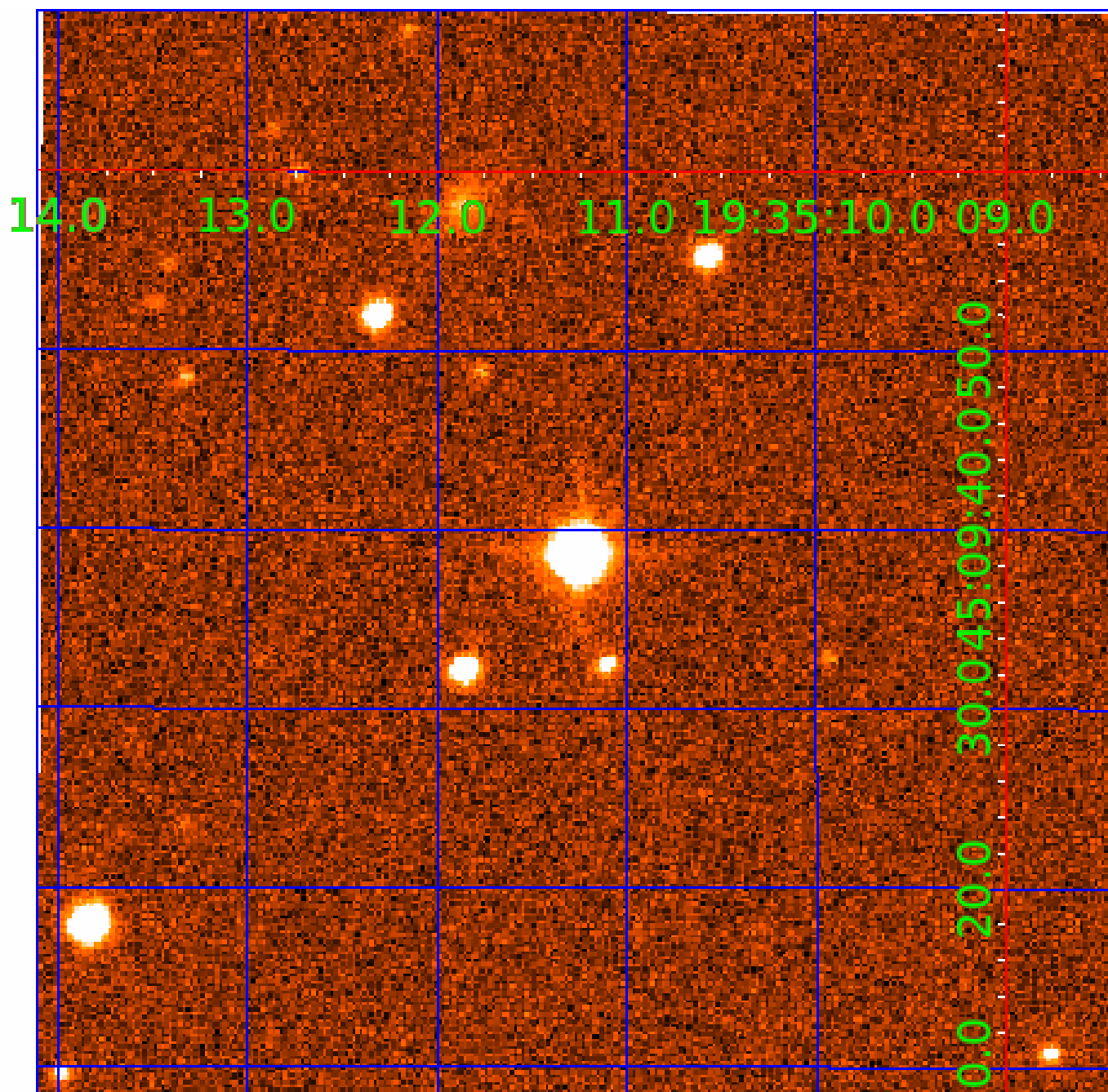


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 008890924

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})
008890924-01	OBS	4269.01	26.656566	131.594215	157.6	5.058	11.7	13.4	3.06	5159	4.43	157.79
008890924-02	OBS	4269.02	4.441112	135.239481	31.4	5.894	8.0	6.9	3.06	5159	2.07	1721.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008890924-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
008890924-02	OBS	FP	0.12	1	0	0	0	LPP_DV

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

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

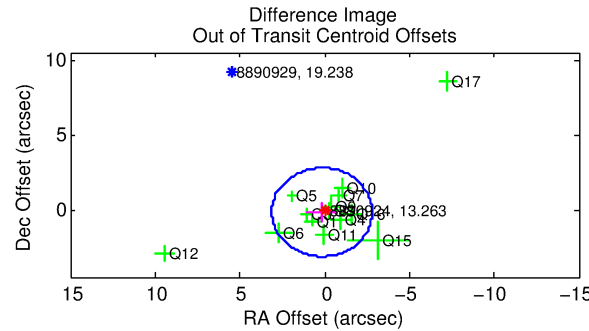
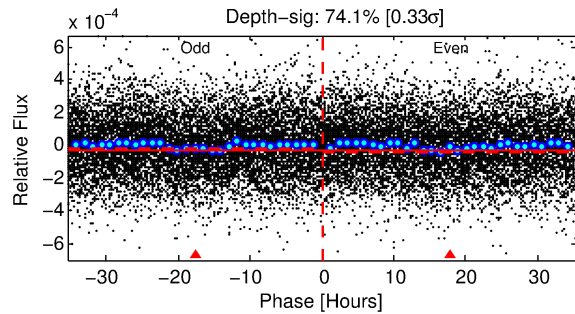
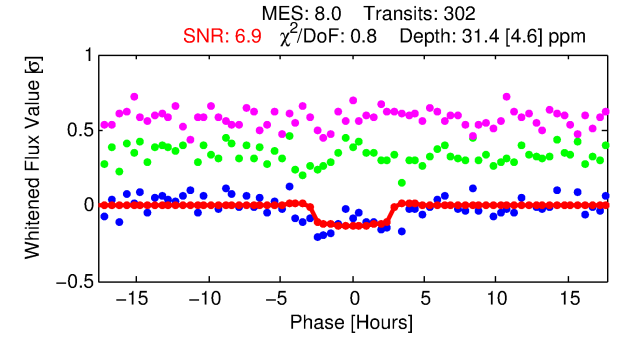
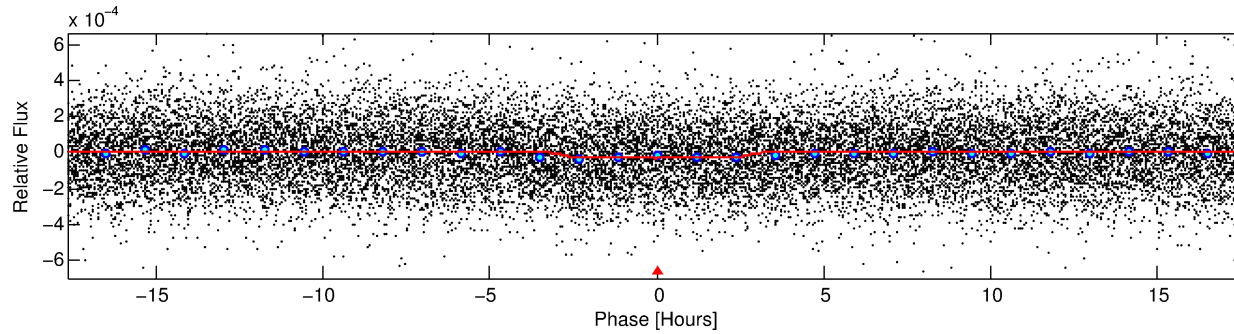
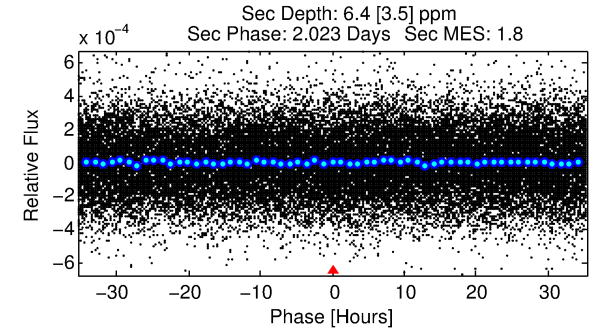
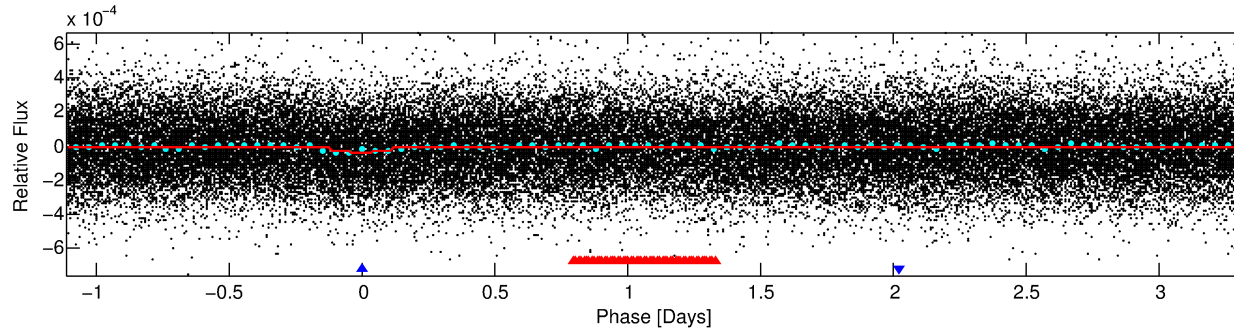
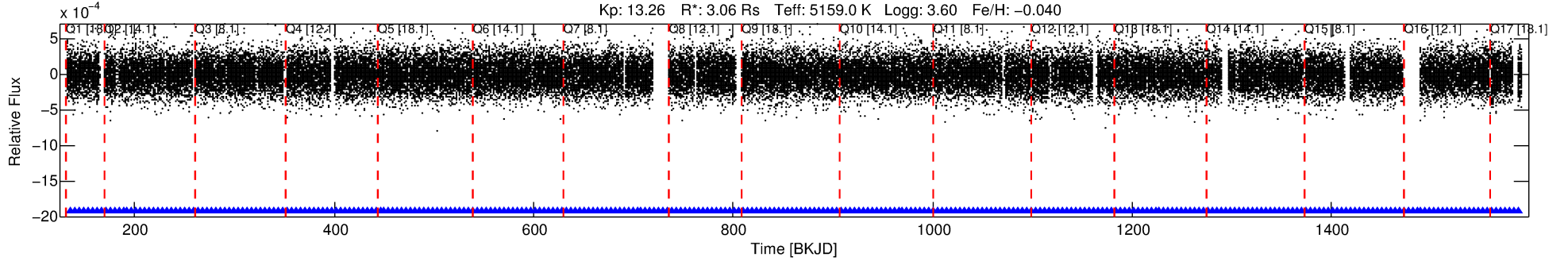
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008890924-02

No Significant Match Found

DV One-Page Summary

KIC: 8890924 Candidate: 2 of 2 Period: 4.441 d
KOI: K04269.02 Corr: 0.810



DV Fit Results:

Period = 4.44111 [0.00006] d
Epoch = 135.2395 [0.0093] BKJD
Rp/R* = 0.0062 [0.0033]
a/R* = 2.75 [5.50]
b = 0.90 [0.49]
Seff = 1721.22 [2435.39]
Teq = 1642 [581] K
Rp = 2.07 [1.86] Re
a = 0.0588 [0.0481] AU
Ag = 2.82 [5.21] [0.35σ]
Teffp = 3289 [994] K [1.43σ]

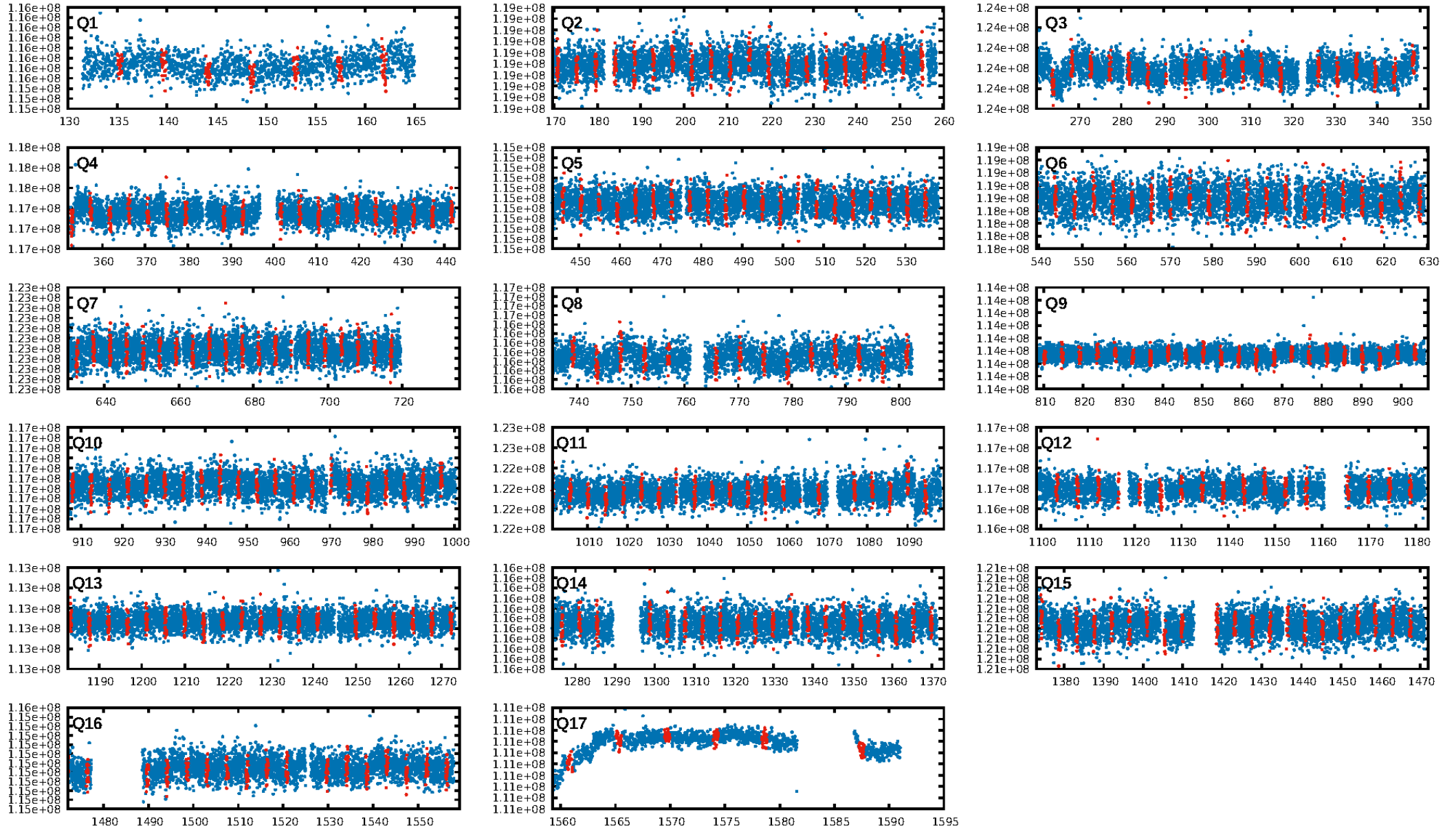
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [68.65σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 2.32e-15
RollingBand-fgt: 1.00 [289/289]
GhostDiagnostic-chr: 2.248
Centroid-sig: 6.2%
Centroid-so: 1.528 arcsec [1.23σ]
OotOffset-rm: 0.242 arcsec [0.25σ]
KicOffset-rm: 0.229 arcsec [0.21σ]
OotOffset-st: 2/4/4/4 [14]
KicOffset-st: 2/4/4/4 [14]
DiffImageQuality-fgm: 0.71 [10/14]
DiffImageOverlap-fno: 1.00 [17/17]

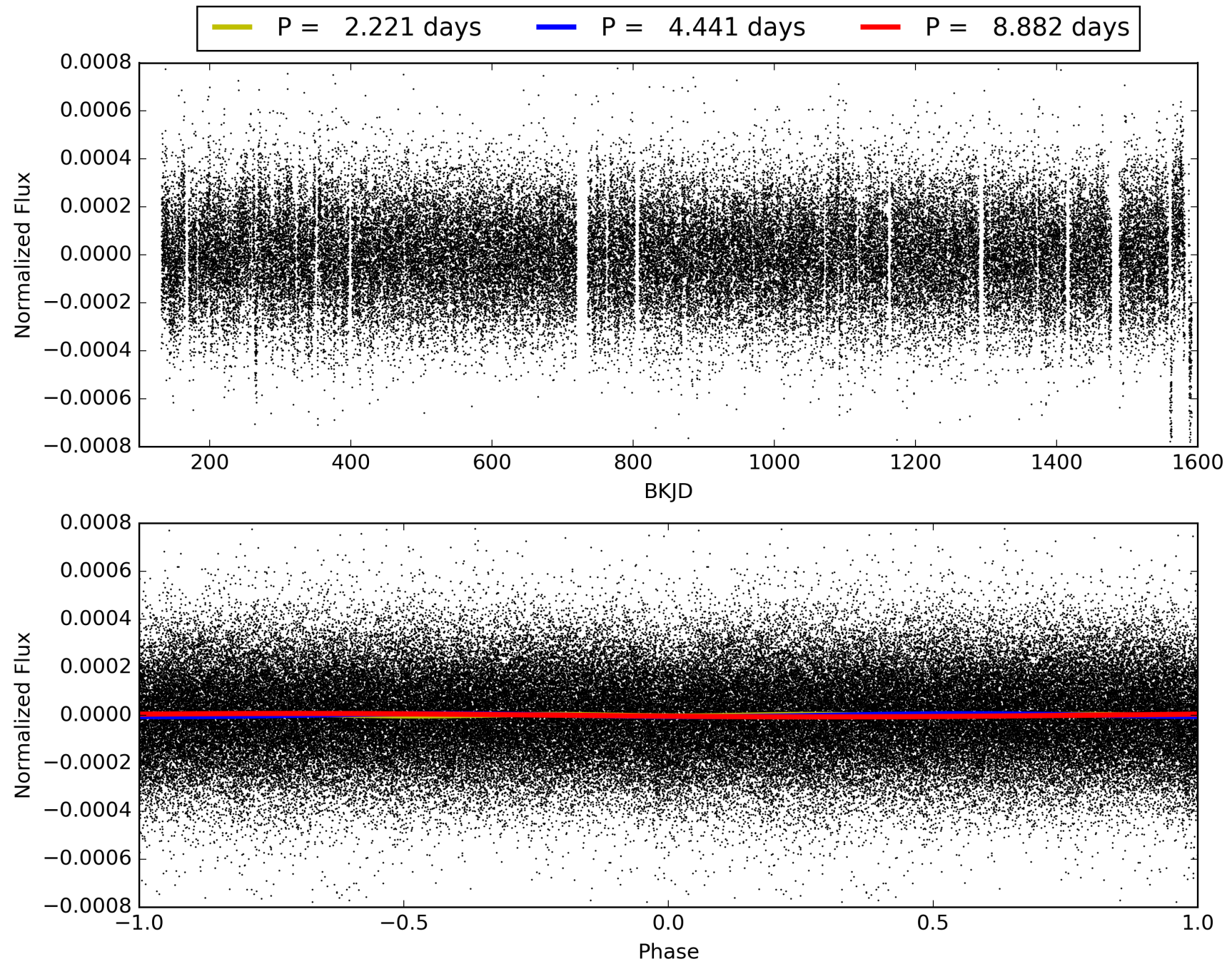
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:54:53 Z

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

TCE 008890924-02, PDC Light Curves

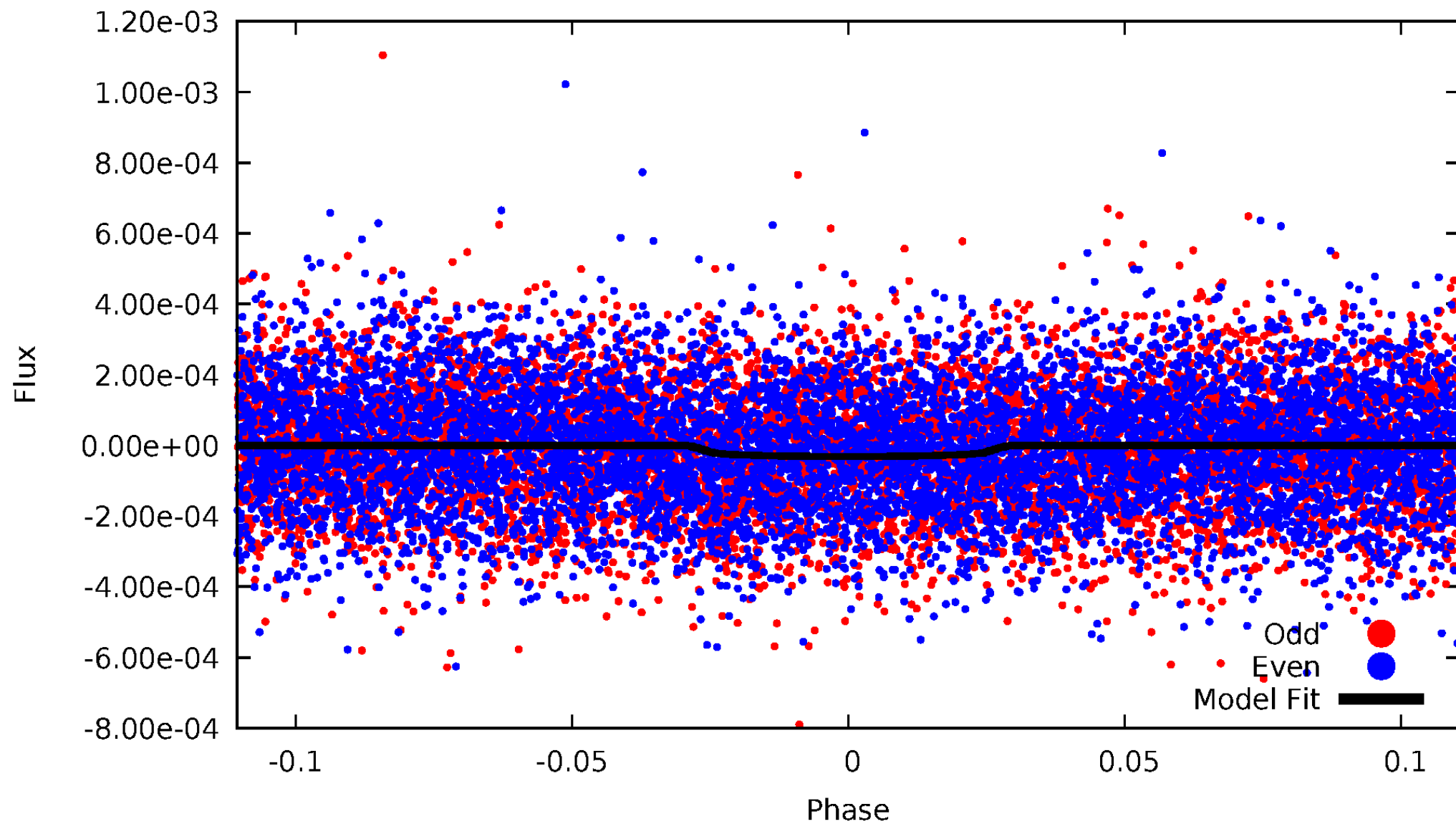


TCE 008890924-02



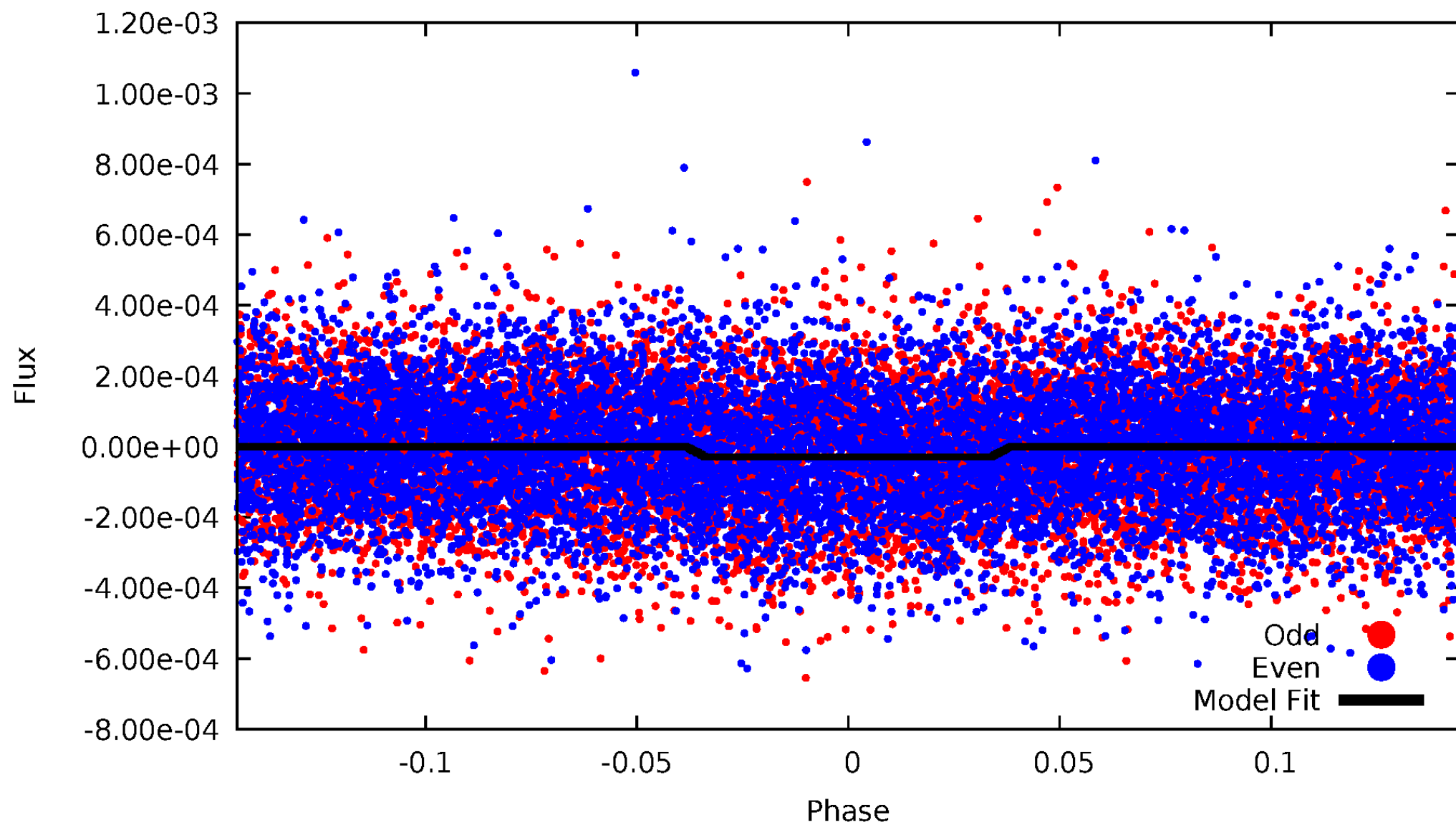
DV Odd/Even

TCE 008890924-02



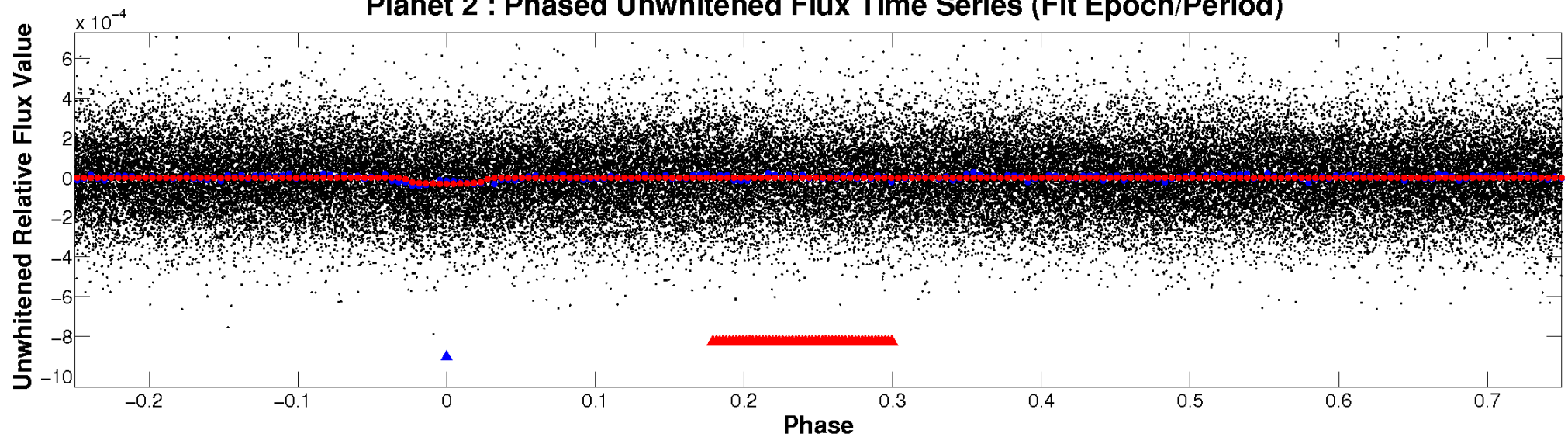
ALT Odd/Even

TCE 008890924-02

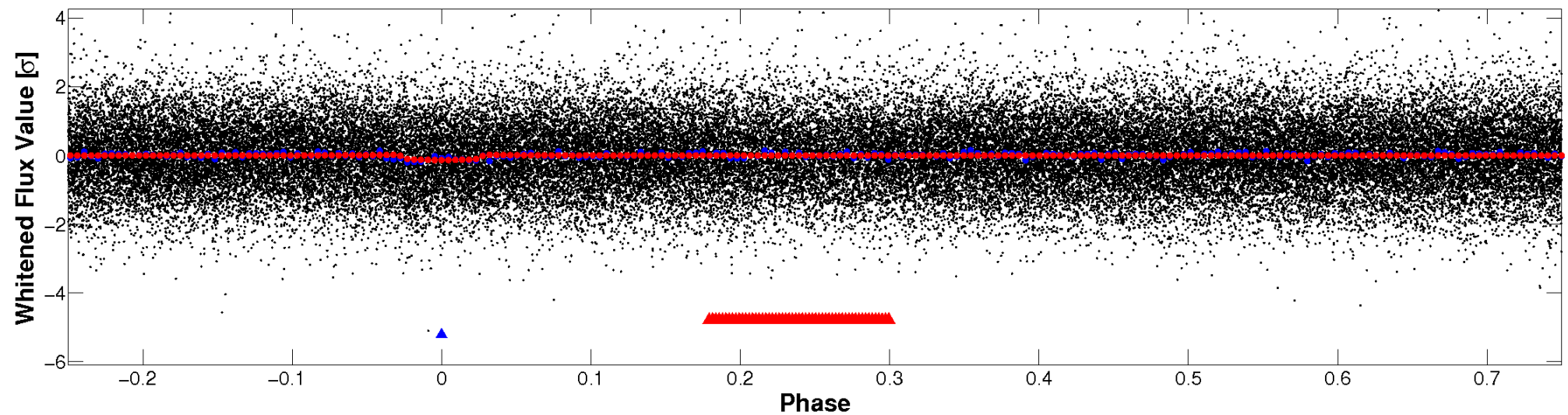


Non-Whitened Vs. Whitened Light Curve

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

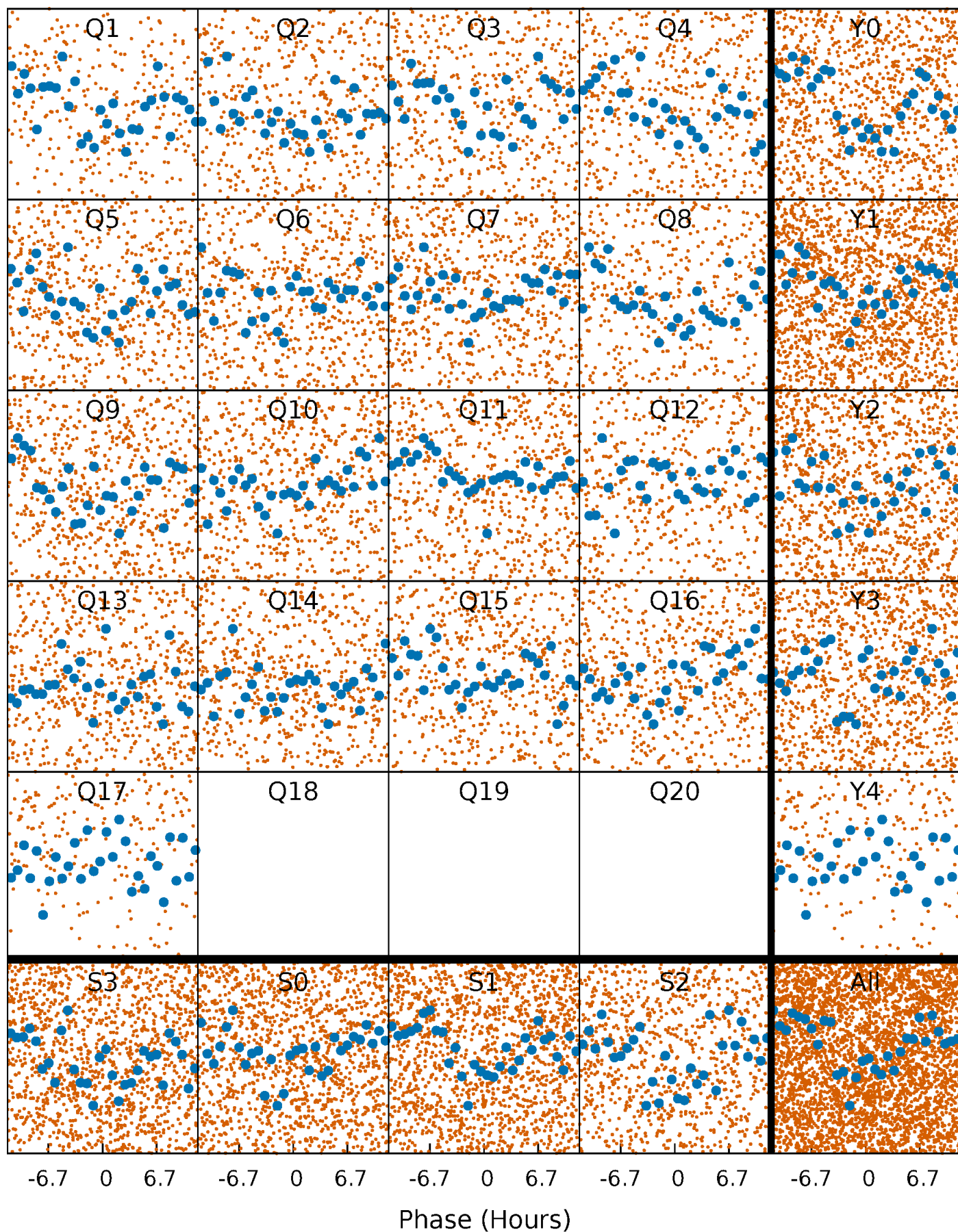


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



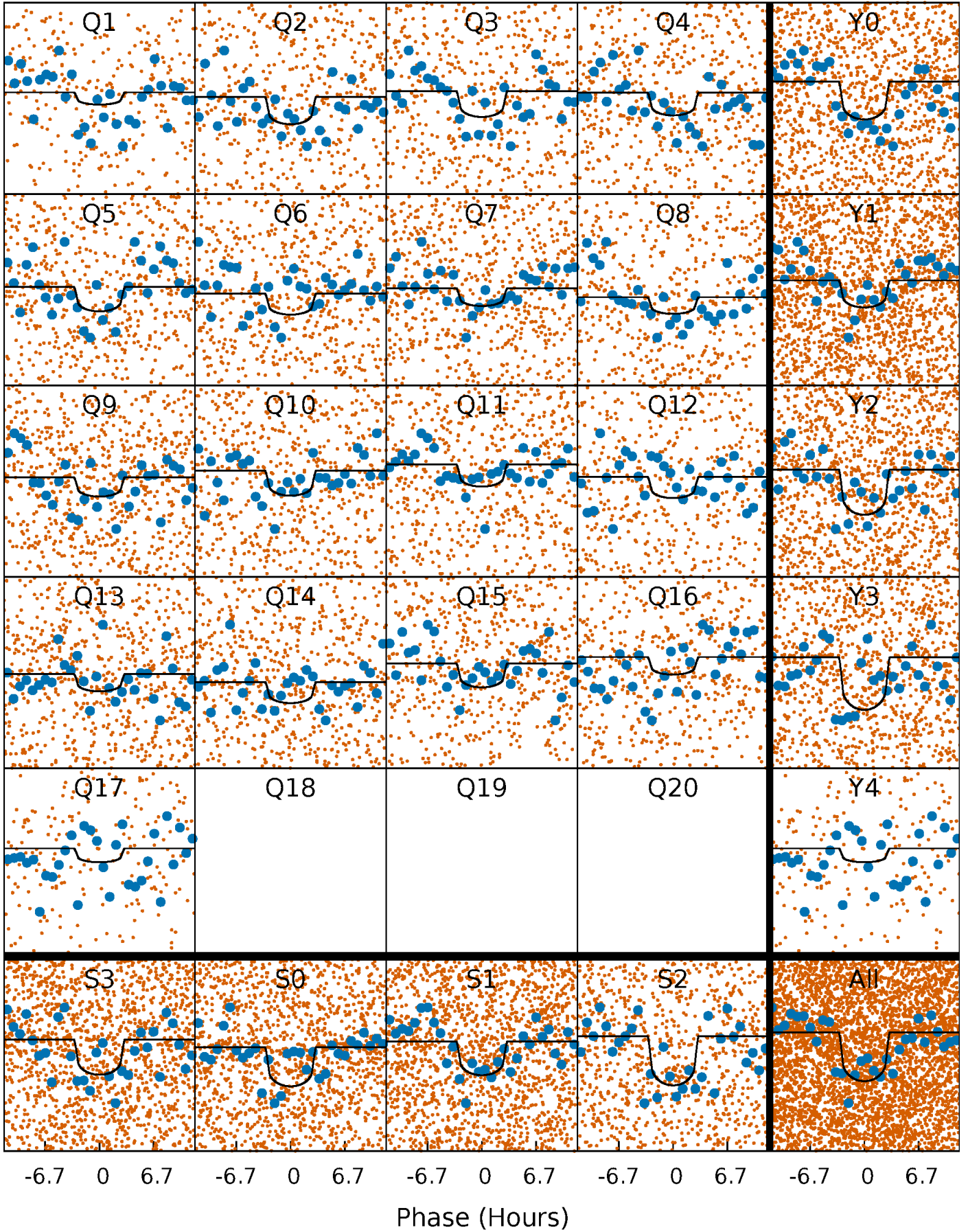
PDC Quarter-Phased Transit Curves

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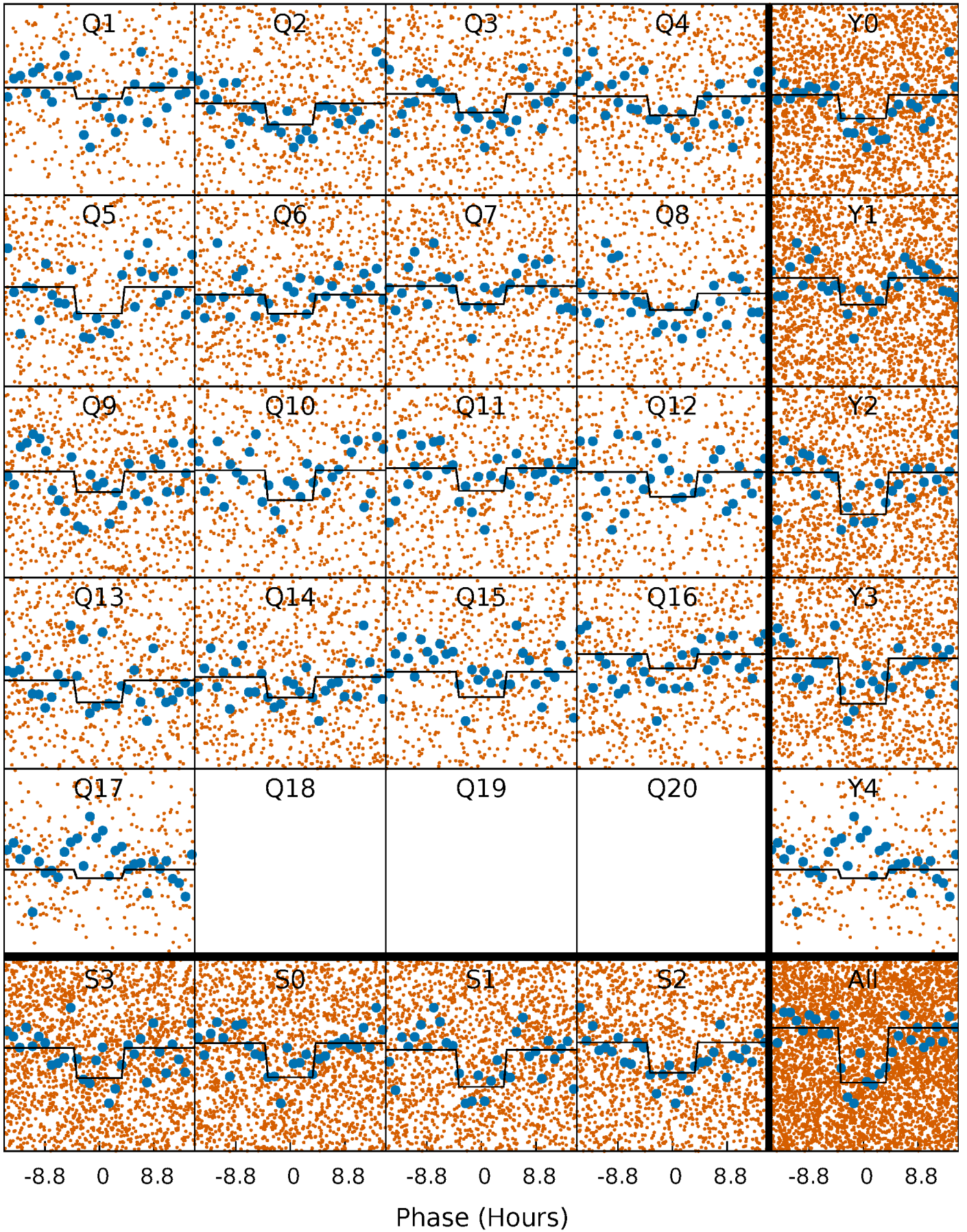
DV Quarter-Phased Transit Curves

TCE 008890924-02 P= 4.441112 Days $T_0=135.239481$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

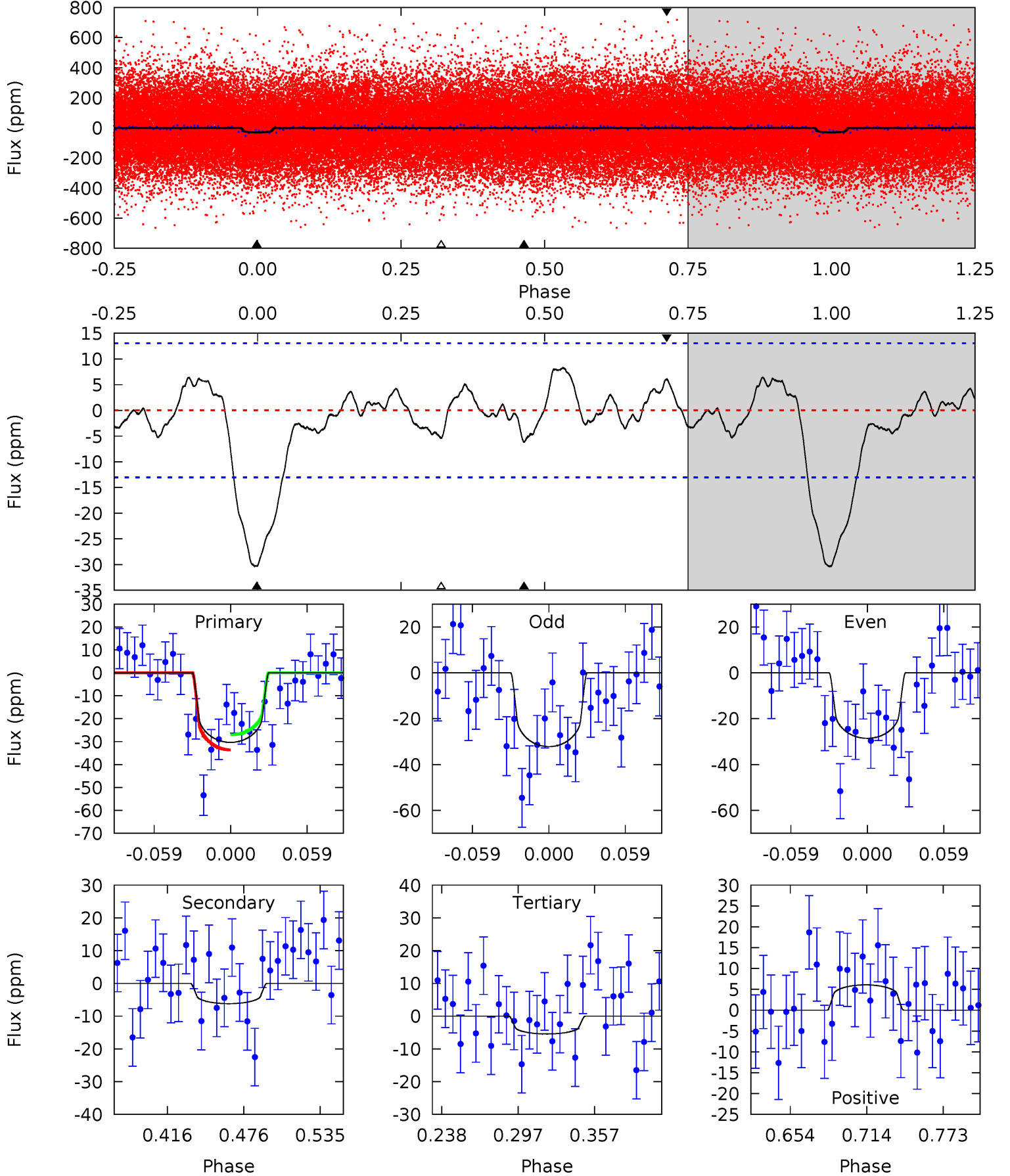
TCE 008890924-02 P= 4.441049 Days $T_0=135.249990$ (BKJD)



DV Model-Shift Uniqueness Test

008890924-02, P = 4.441112 Days, E = 130.798369 Days

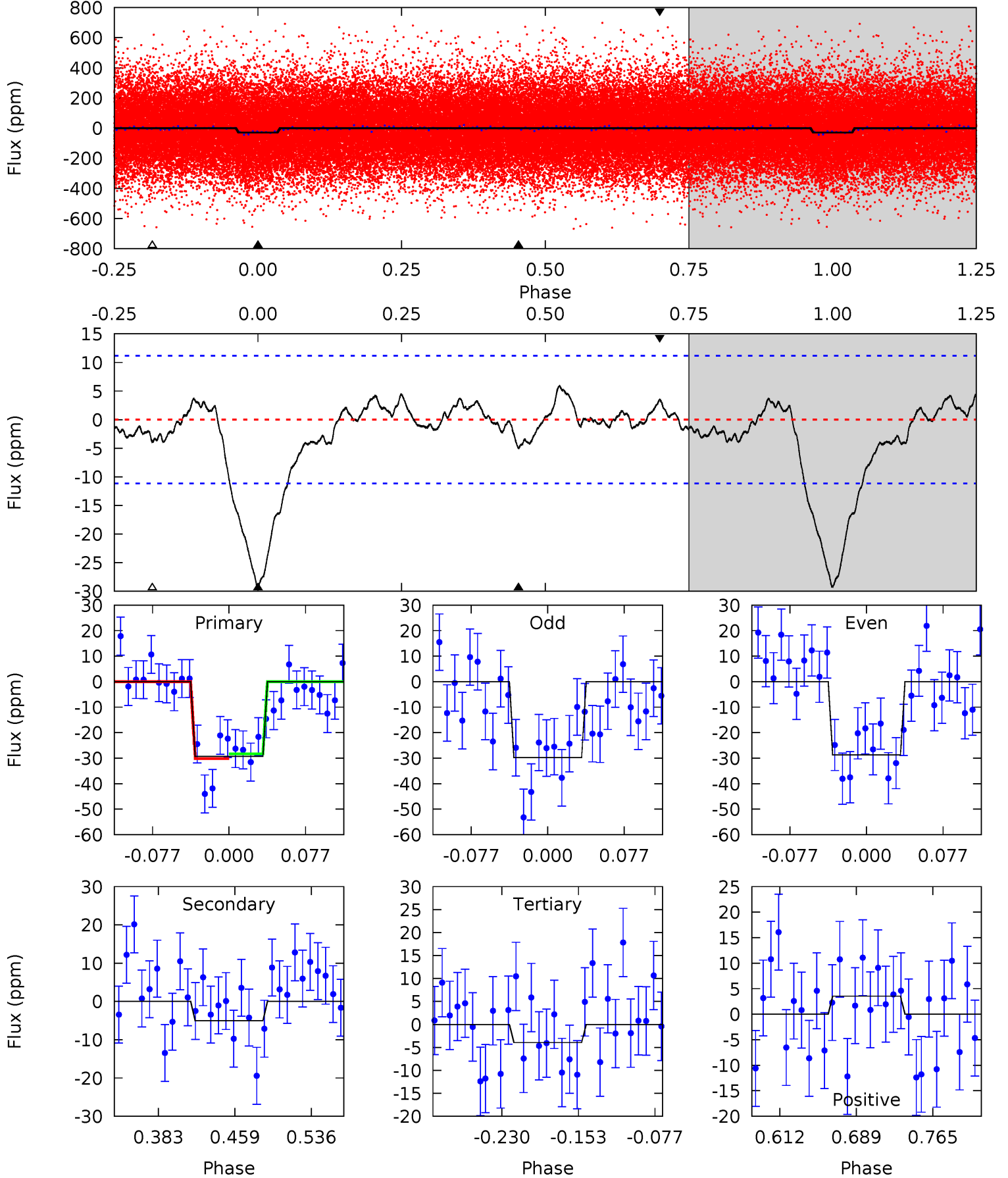
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	2.22	1.95	2.17	4.67	1.88	1.17	8.91	8.68	0.27	0.04	0.65	0.96	0.21	1.18



Alt Model-Shift Uniqueness Test

008890924-02, P = 4.441049 Days, E = 130.808941 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	2.07	1.63	1.47	4.62	1.77	0.93	10.5	10.7	0.44	0.61	0.22	1.00	0.17	0.39



Stellar Parameters For KIC 008890924

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5159^{+171}_{-155}	$3.604^{+0.863}_{-0.230}$	$-0.040^{+0.300}_{-0.300}$	$3.062^{+0.943}_{-2.200}$	$1.373^{+0.205}_{-0.512}$	$0.067^{+1.801}_{-0.037}$
	+3%/-3%	+24%/-6%	+750%/-750%	+31%/-72%	+15%/-37%	+2672%/-55%
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 008890924-02 / KOI 4269.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-6 ± 3	$1.75^{+1.33}_{-0.98}$	2253^{+262}_{-426}	3597^{+1155}_{-714}	$3.622^{+15.205}_{-2.728}$
Alt.	-5 ± 2	$1.61^{+1.19}_{-0.98}$	2265^{+249}_{-428}	3588^{+1244}_{-705}	$3.378^{+17.291}_{-2.505}$

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 $A_{obs} \gg 1.0$

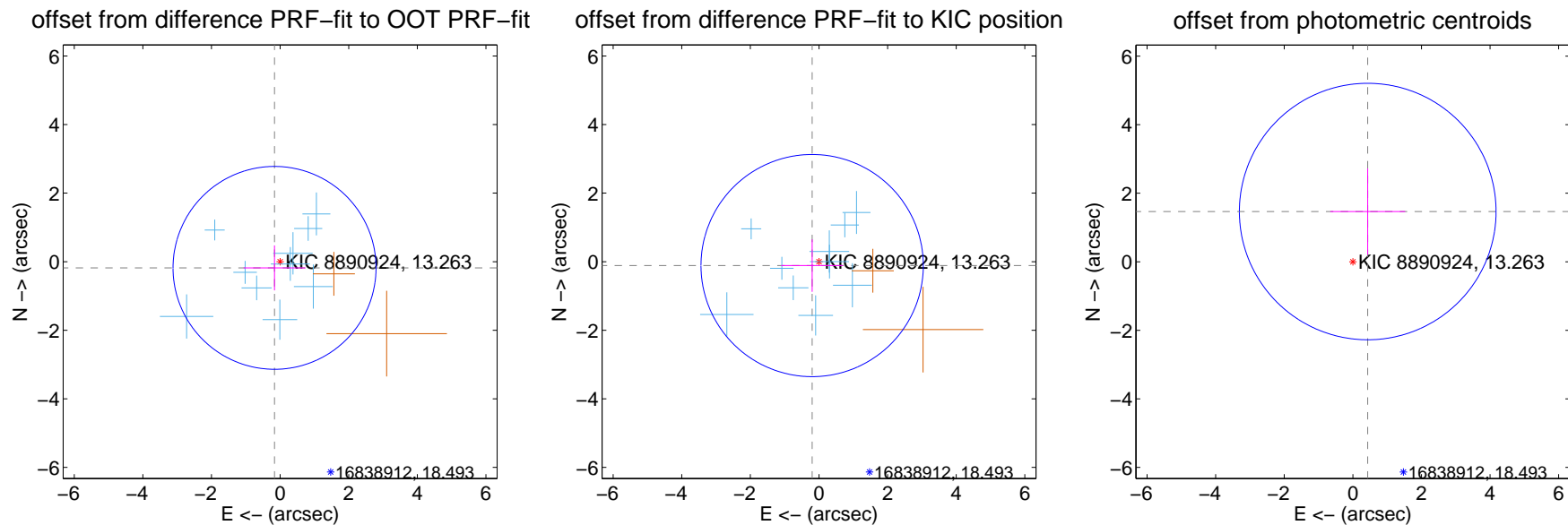
DV Centroid Data

Supplemental centroid analysis for 008890924-02. Kepler magnitude: 13.26. Transit SNR 6.91

There are 10 quarters with good PRF difference image offsets

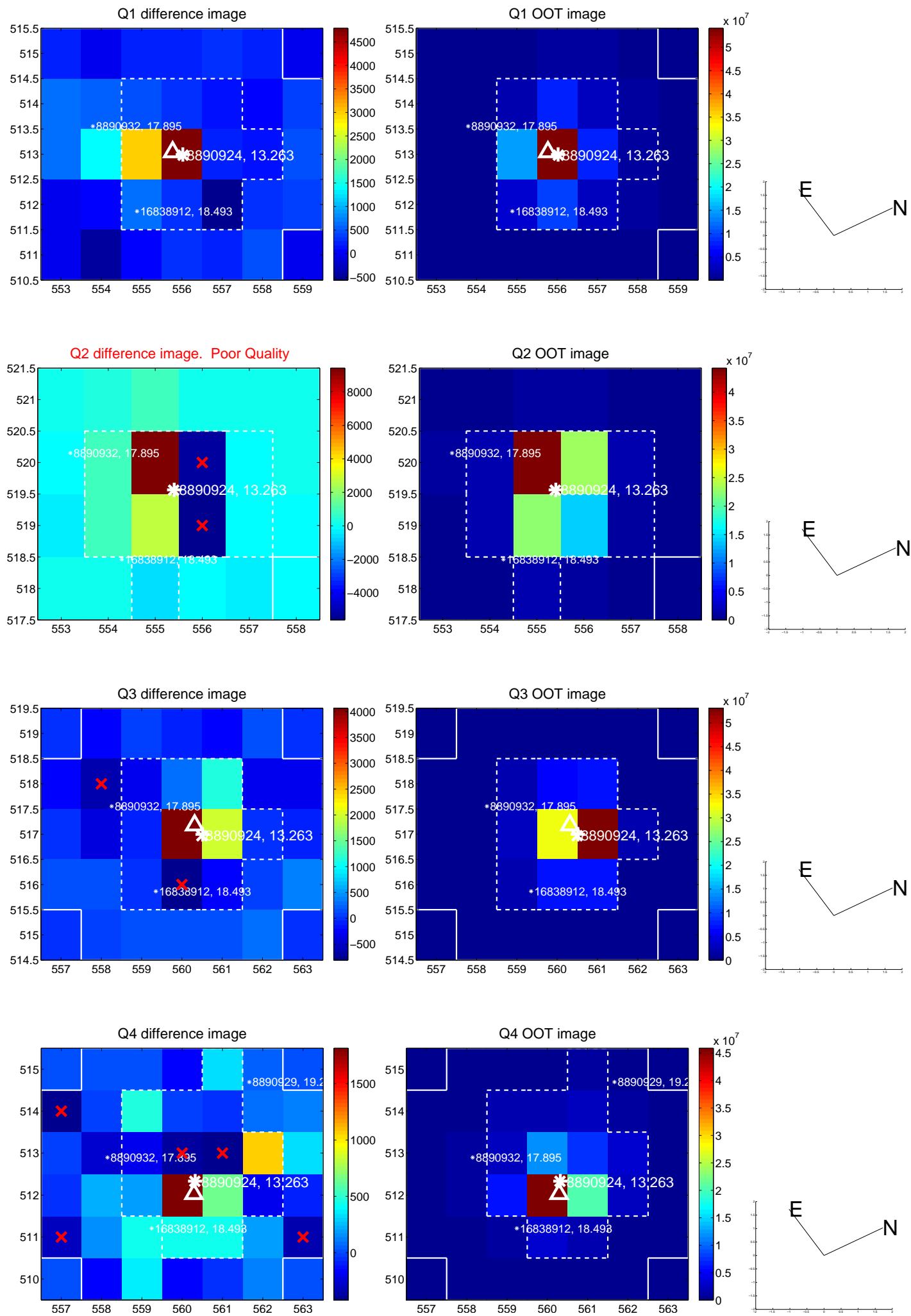
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.242 ± 0.986	0.25	0.162 ± 0.903	-0.180 ± 0.656
PRF-fit source offset from KIC position	0.229 ± 1.080	0.21	0.199 ± 0.900	-0.113 ± 0.765
photometric centroid source offset	1.53 ± 1.25	1.23	-0.43 ± 1.09	1.47 ± 1.26

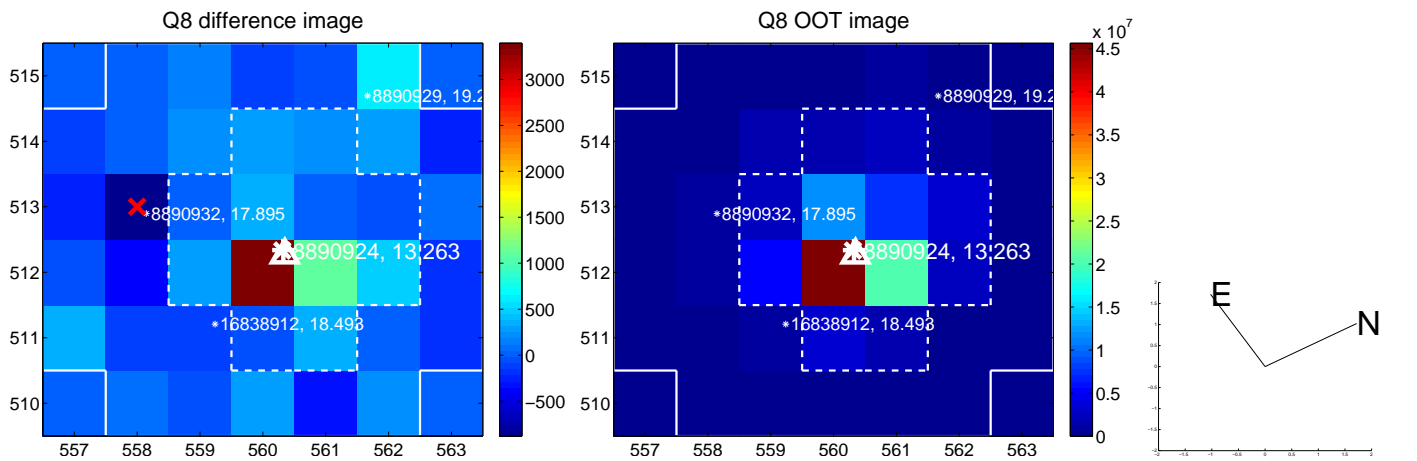
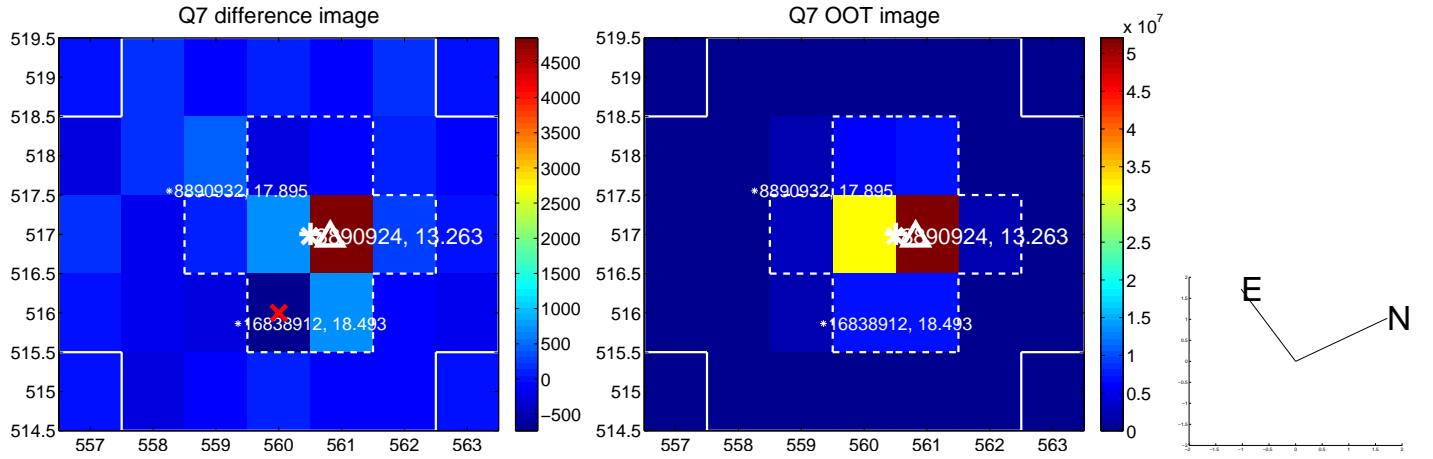
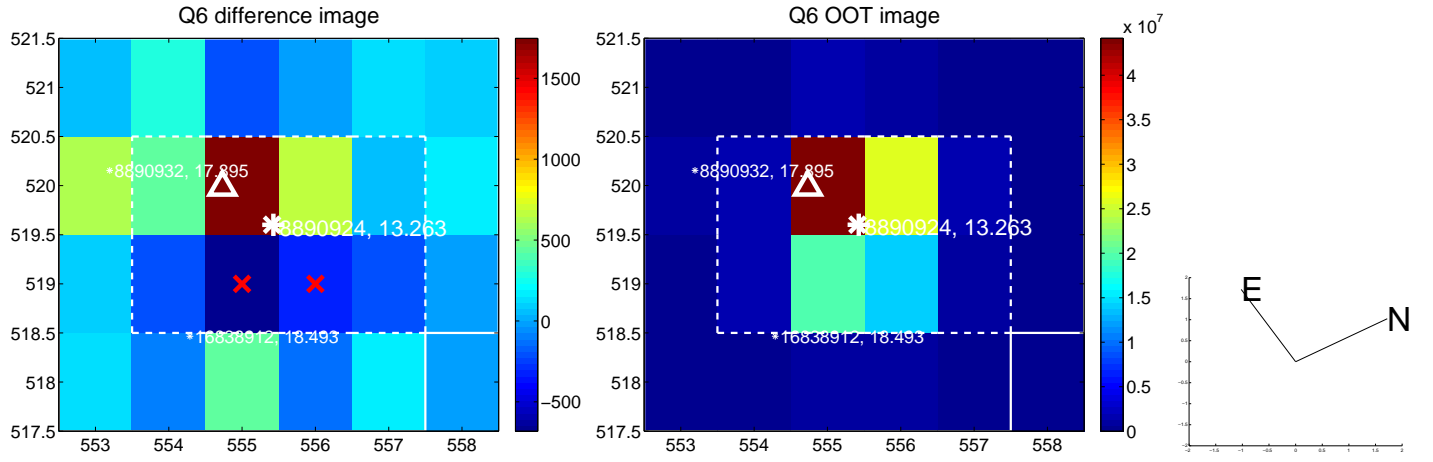
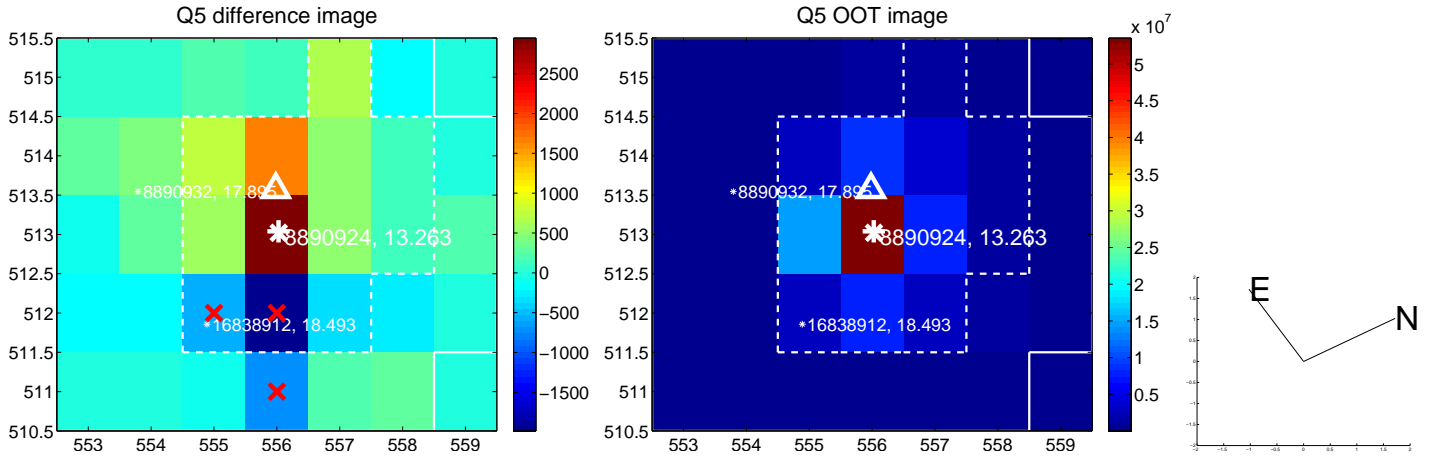


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

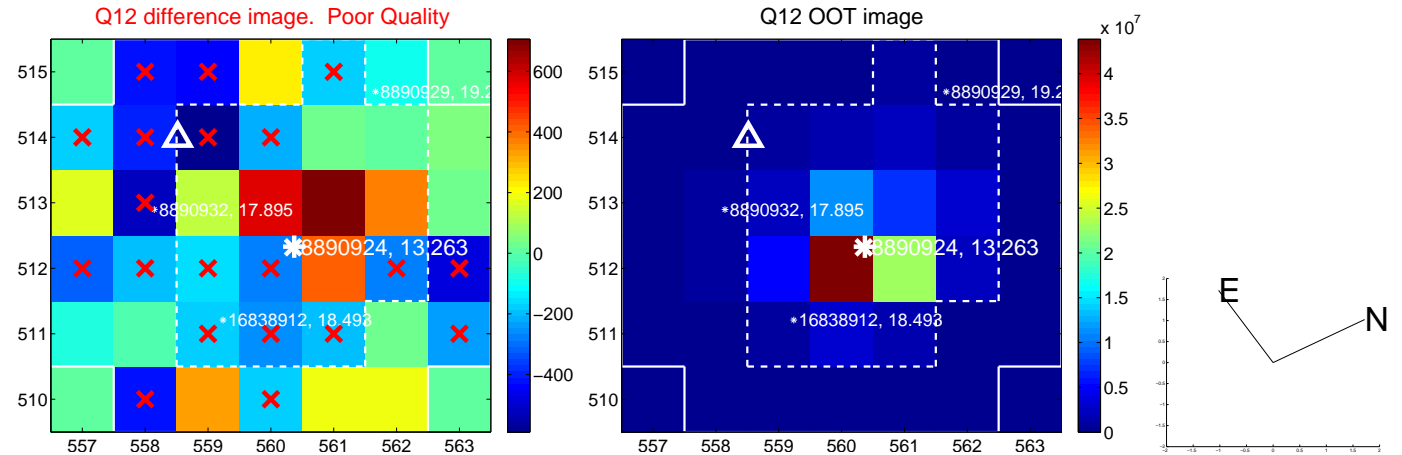
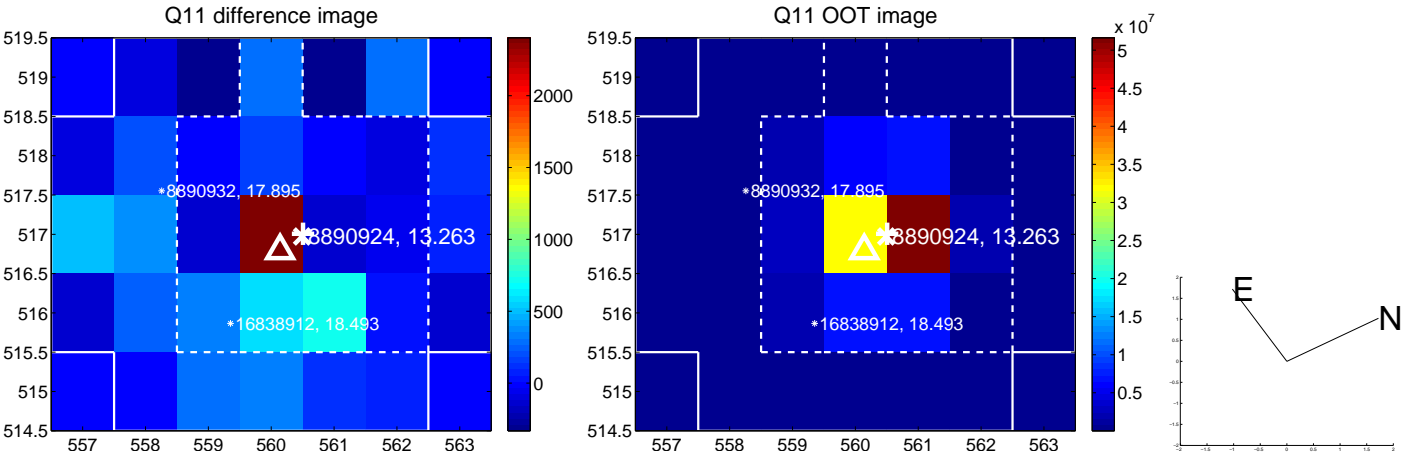
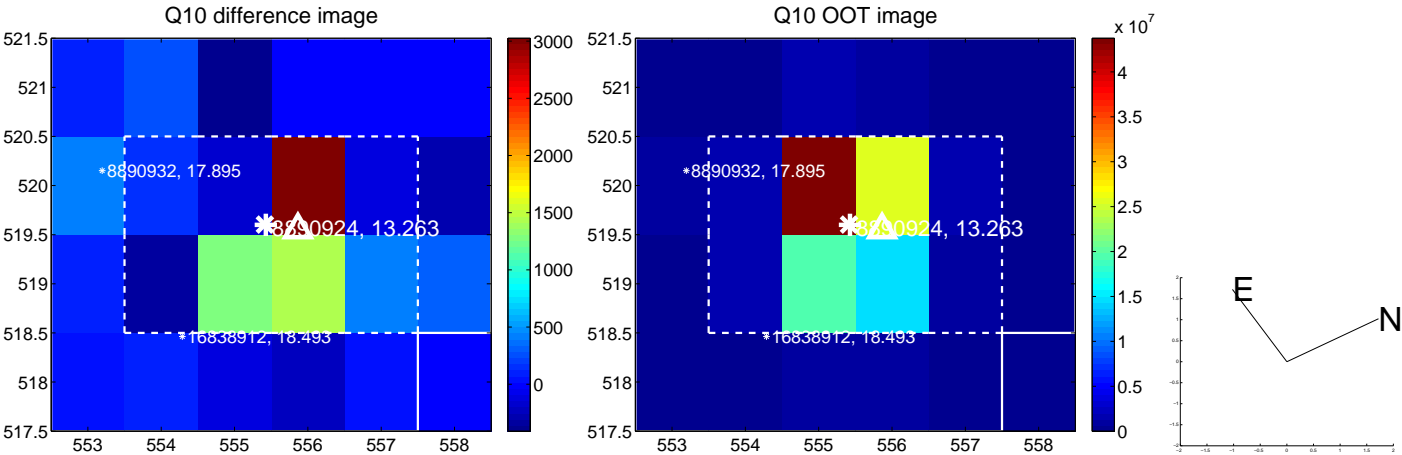
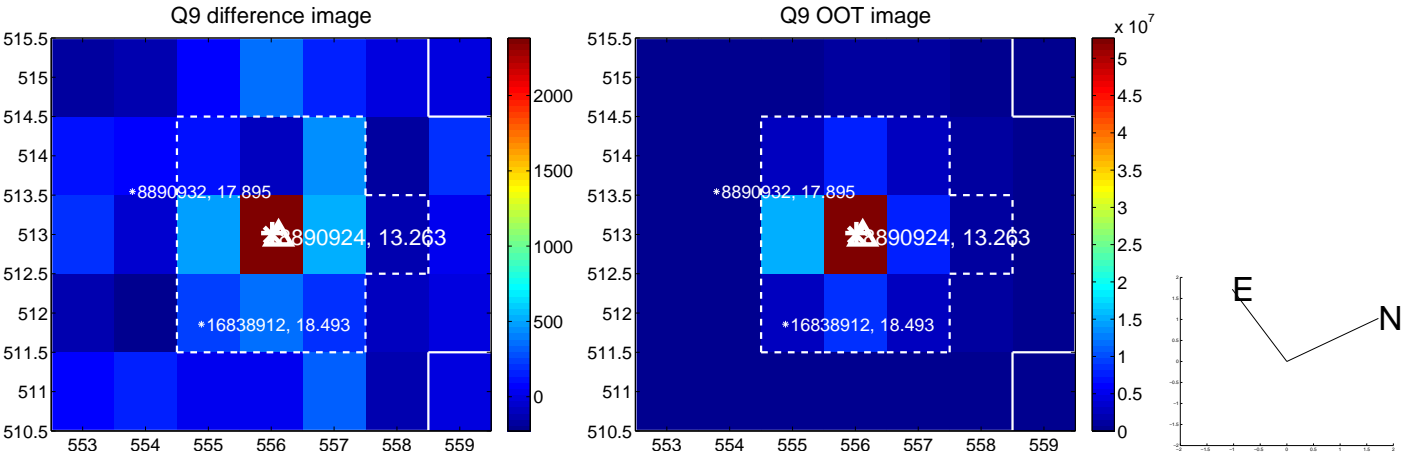
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



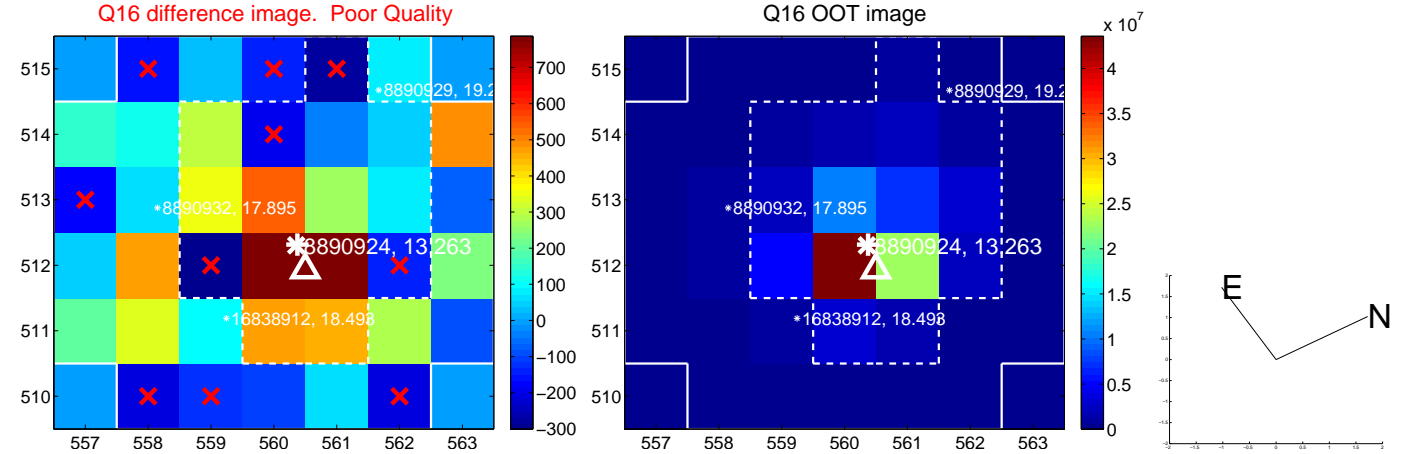
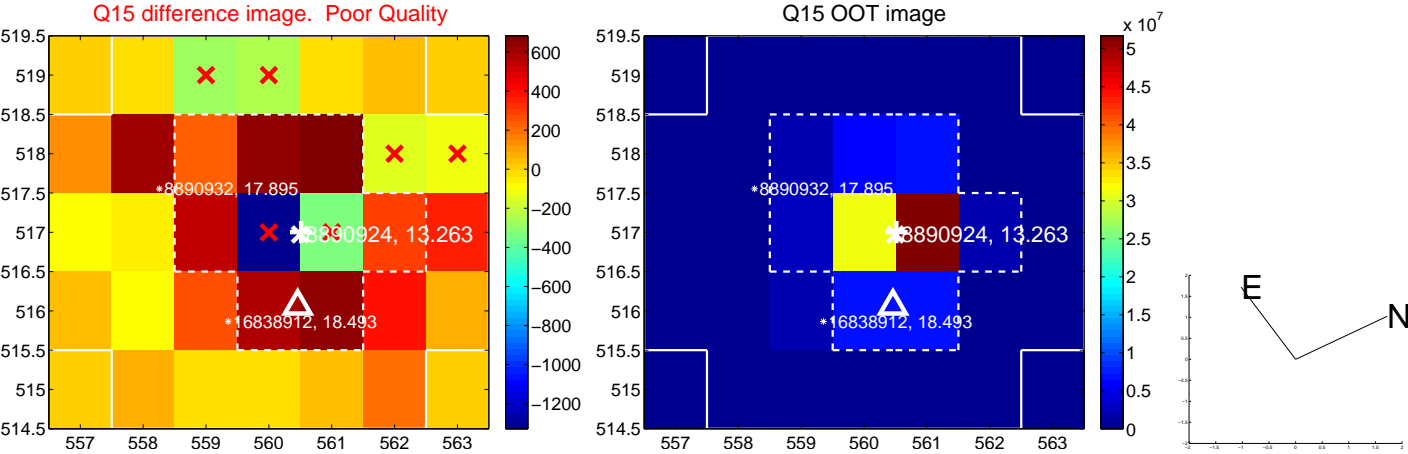
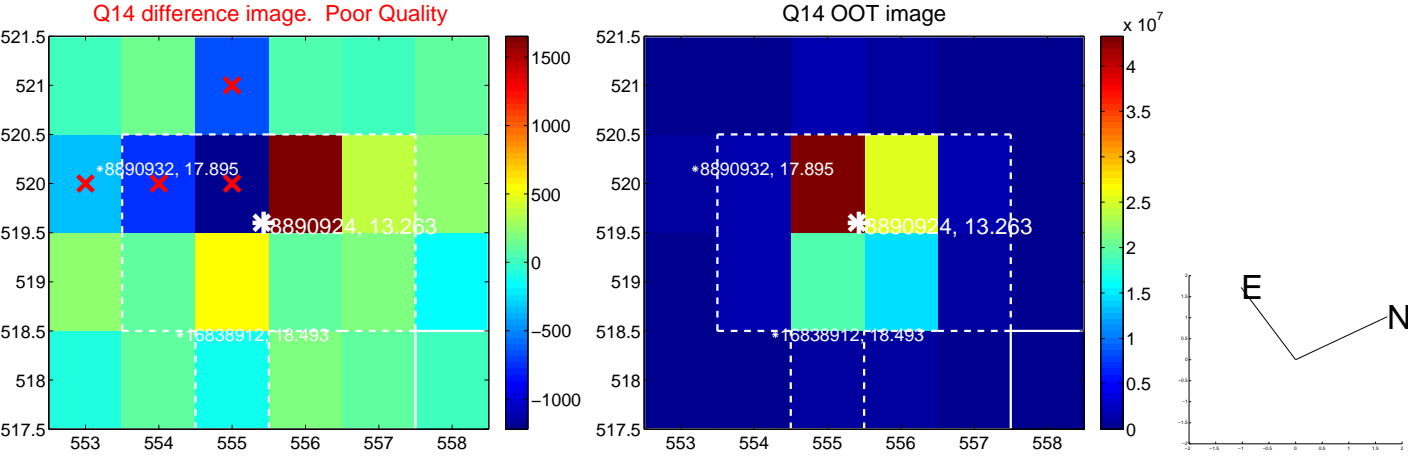
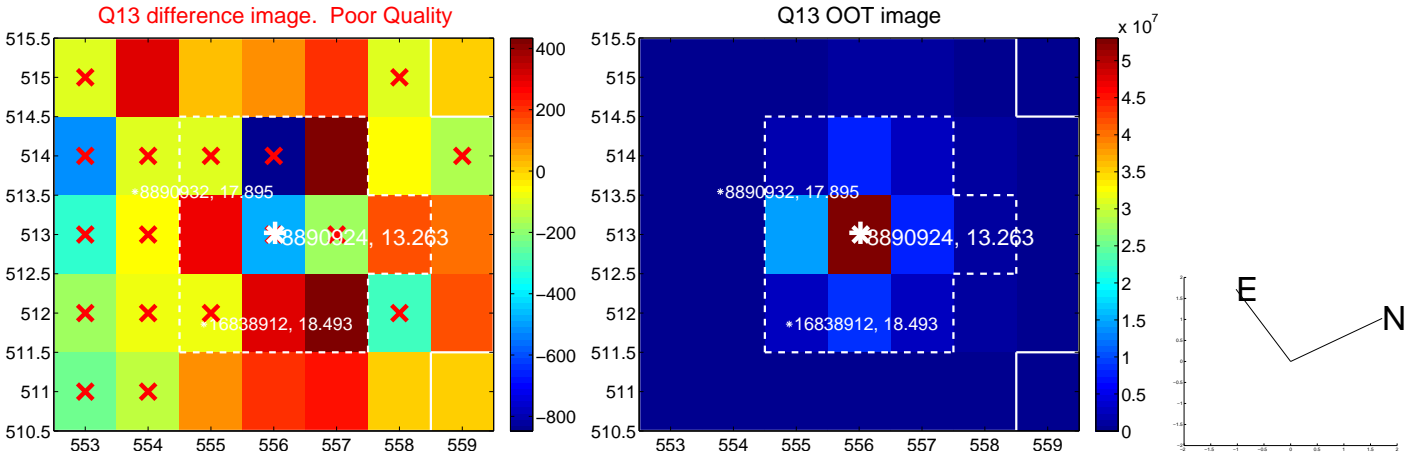
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



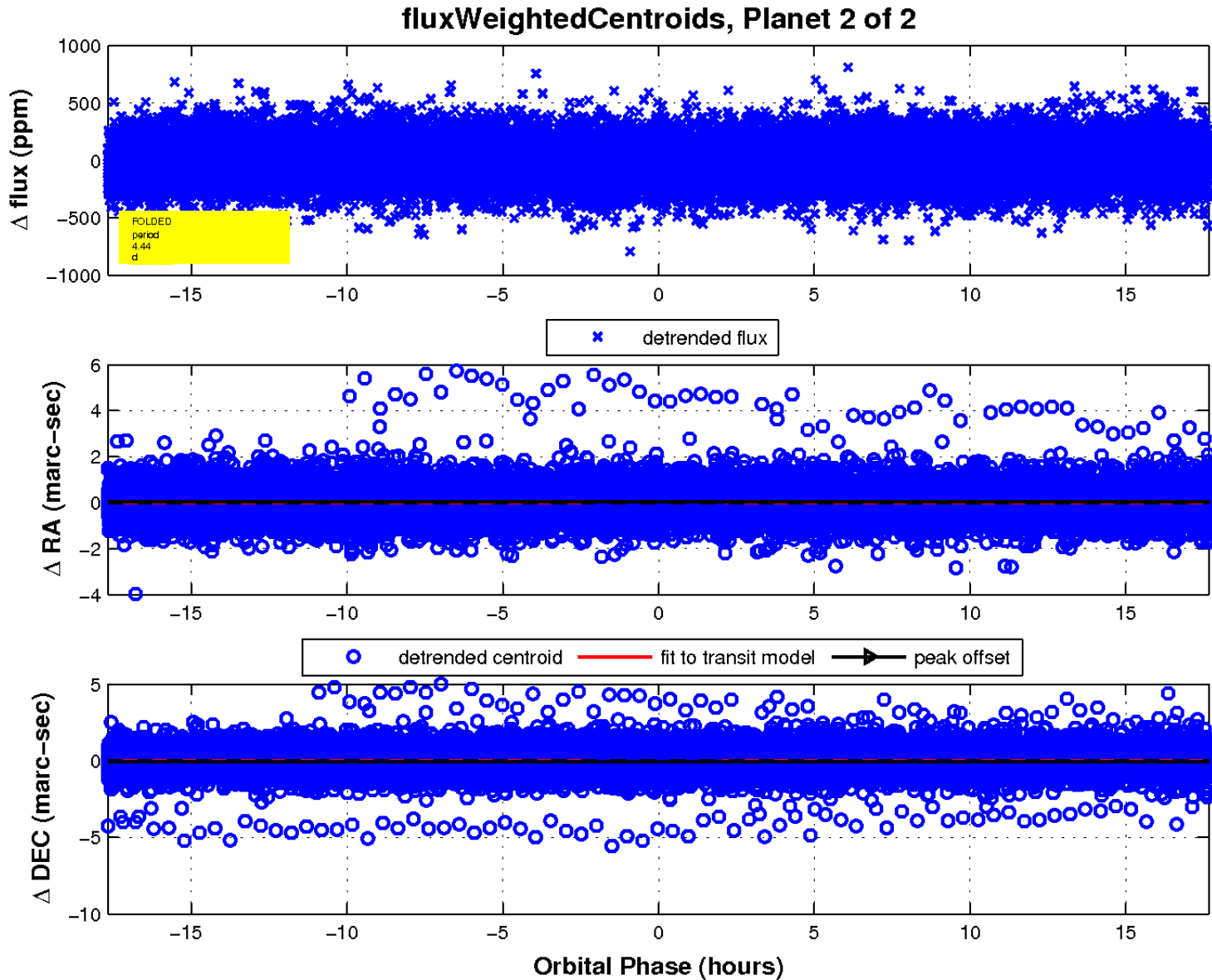
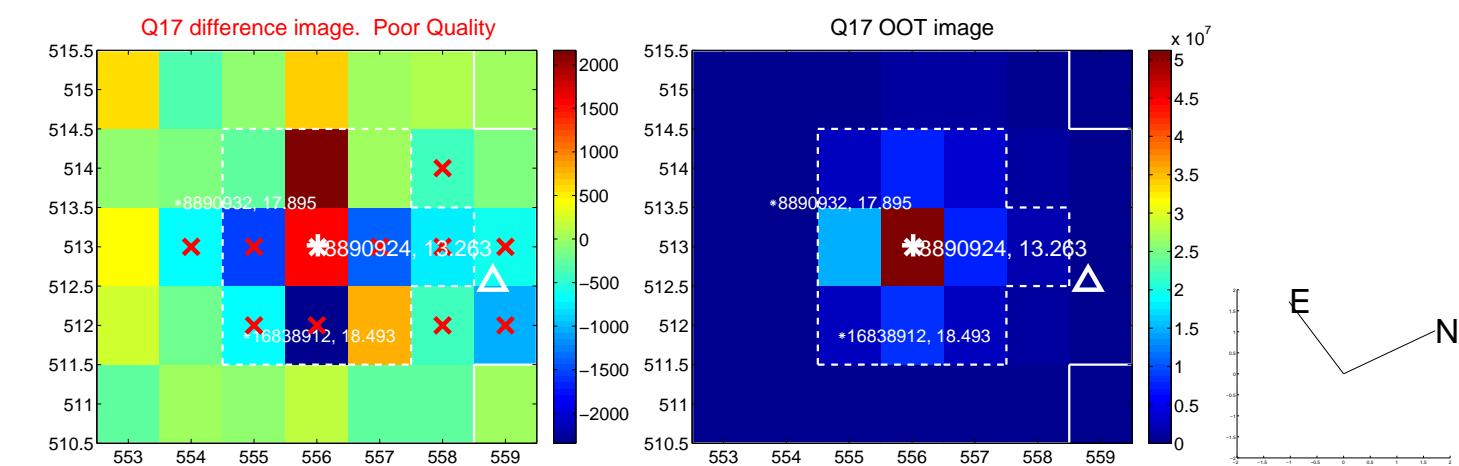
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

