

KIC 008579615

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})
008579615-01	OBS	No	0.656201	131.684651	20.0	4.691	10.0	8.2	2.42	8435	1.17	74344.77
008579615-02	OBS	No	44.475626	175.960641	502.4	2.070	12.9	14.2	2.42	8435	5.82	269.03
008579615-03	OBS	No	29.841730	151.047172	559.3	1.445	13.2	15.7	2.42	8435	6.35	458.00
008579615-04	OBS	No	49.353319	179.453950	577.6	1.228	14.1	12.2	2.42	8435	6.25	234.18
008579615-05	OBS	No	19.264718	143.407113	335.7	2.627	14.2	12.3	2.42	8435	4.59	820.88
008579615-06	OBS	No	1.985889	132.420369	213.3	1.500	14.8	-1.0	2.42	8435	3.59	16983.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008579615-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED
008579615-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
008579615-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—CENT_SATURATED
008579615-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—CENT_SATURATED—HALO_GHOST
008579615-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
008579615-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

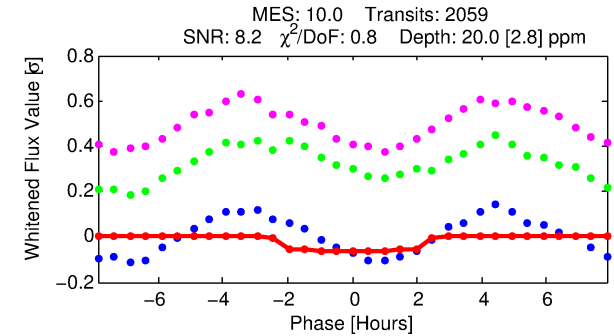
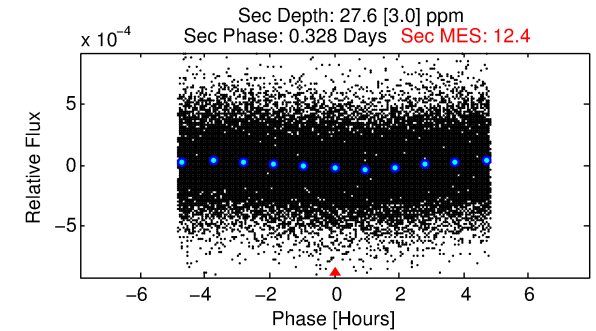
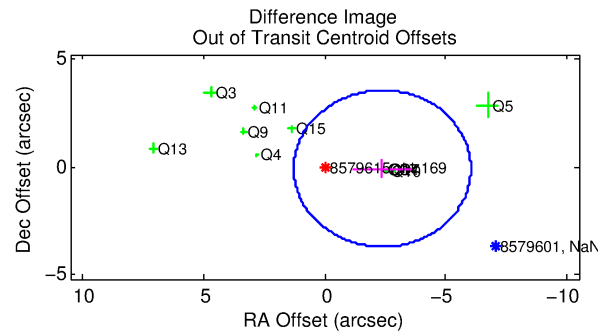
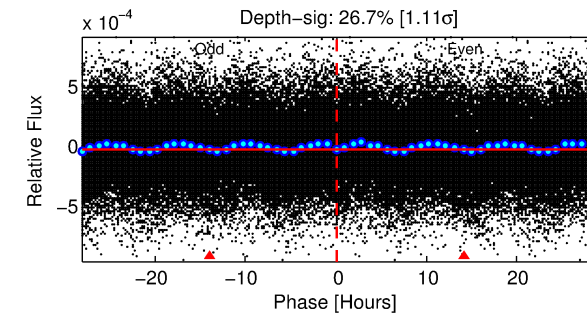
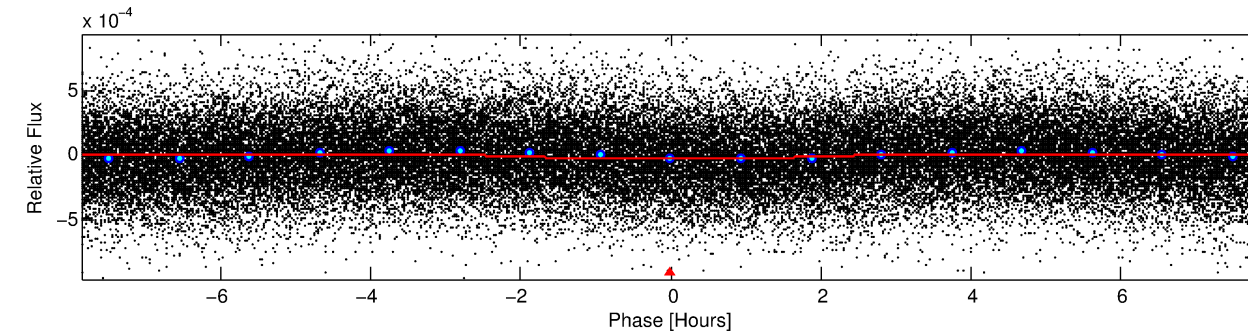
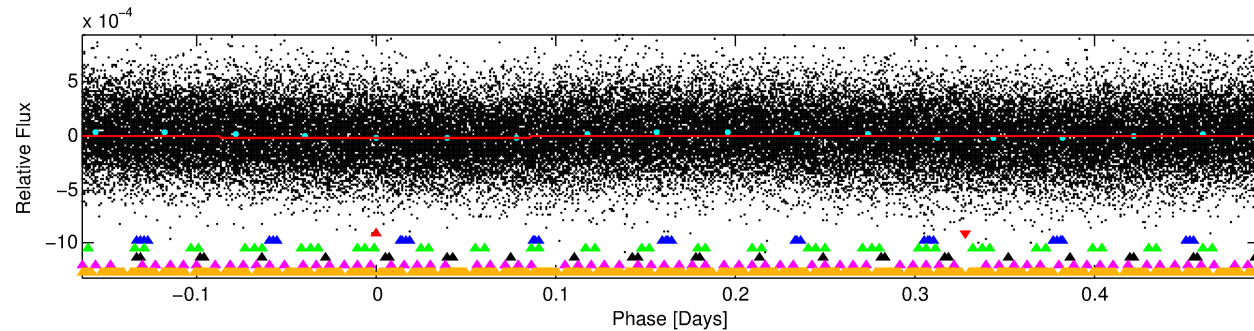
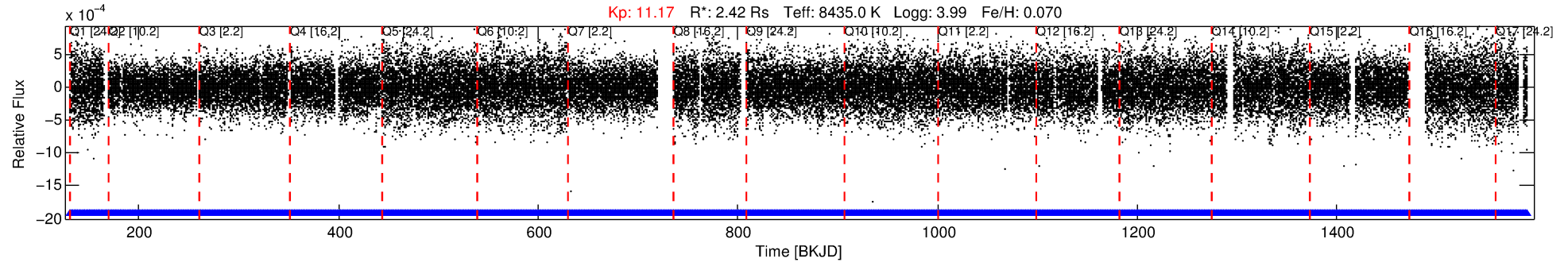
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008579615-01

No Significant Match Found

DV One-Page Summary

KIC: 8579615 Candidate: 1 of 6 Period: 0.656 d



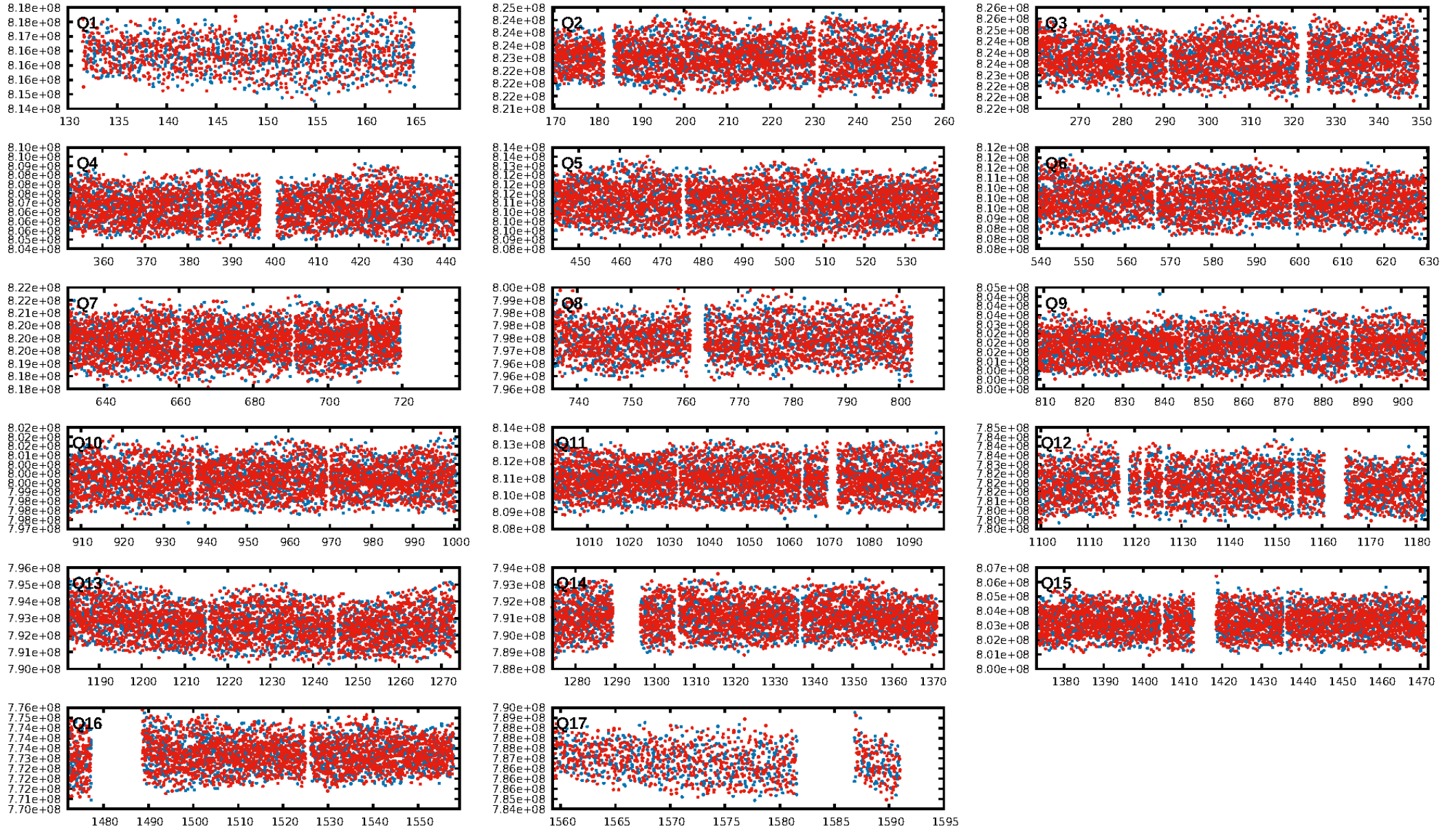
DV Fit Results:

Period = 0.65620 [0.00001] d
Epoch = 131.6847 [0.0042] BKJD
Rp/R* = 0.0044 [0.0027]
a/R* = 1.13 [0.89]
b = 0.73 [2.42]
Seff = 74344.77 [32982.03]
Teq = 4211 [467] K
Rp = 1.17 [0.80] Re
a = 0.0189 [0.0052] AU
Ag = 3.98 [5.11] [0.58 σ]
Teffp = 9193 [2830] K [1.74 σ]

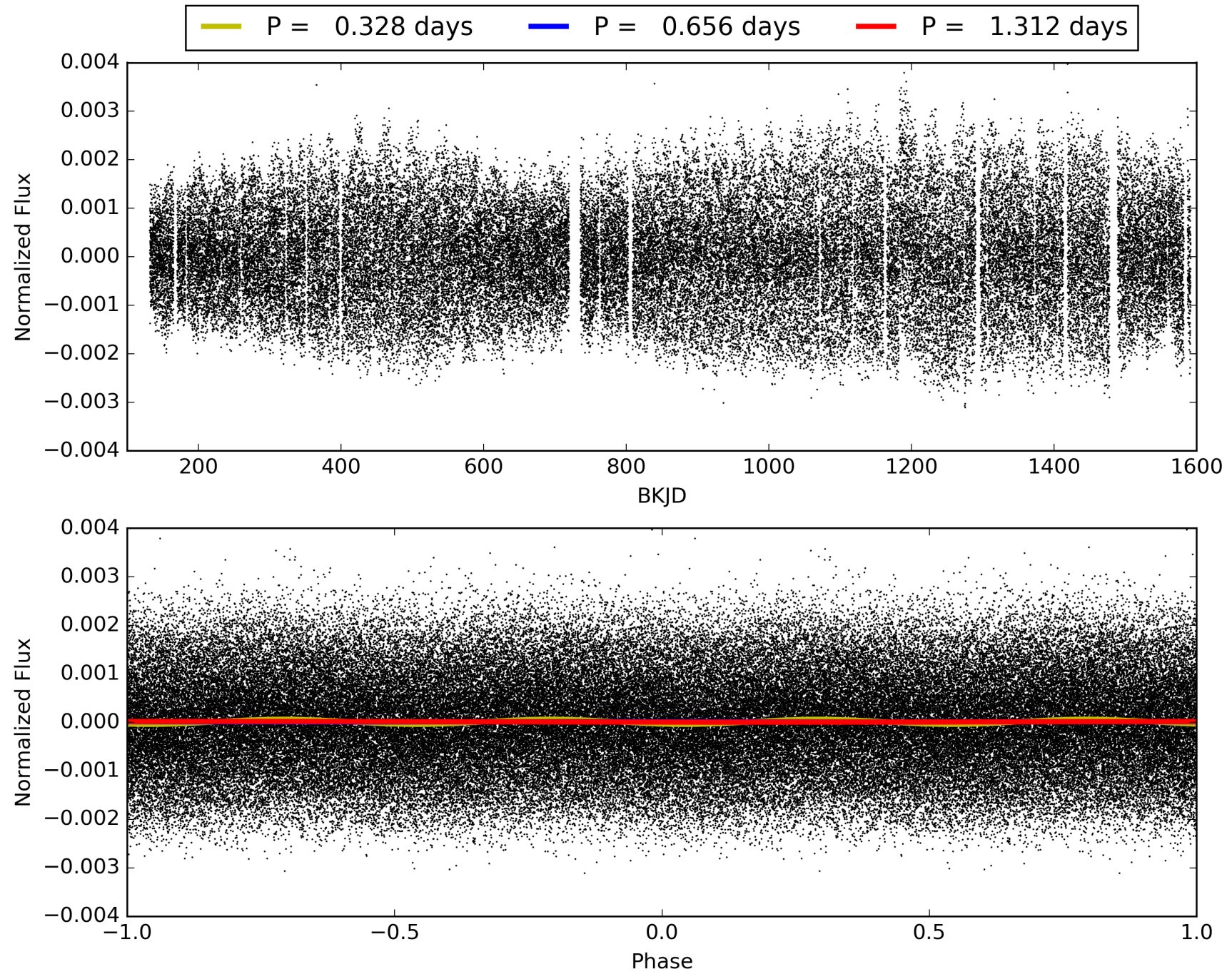
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [6.48 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1967/1967]
GhostDiagnostic-chr: 2.214
Centroid-sig: 27.5%
Centroid-so: 0.402 arcsec [1.28 σ]
OotOffset-rm: 2.381 arcsec [1.95 σ]
OotOffset-st: 3/4/1/3 [11]
KicOffset-rm: 2.502 arcsec [2.12 σ]
KicOffset-st: 3/4/1/3 [11]
DiffImageQuality-fgm: 0.27 [3/11]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008579615-01, PDC Light Curves

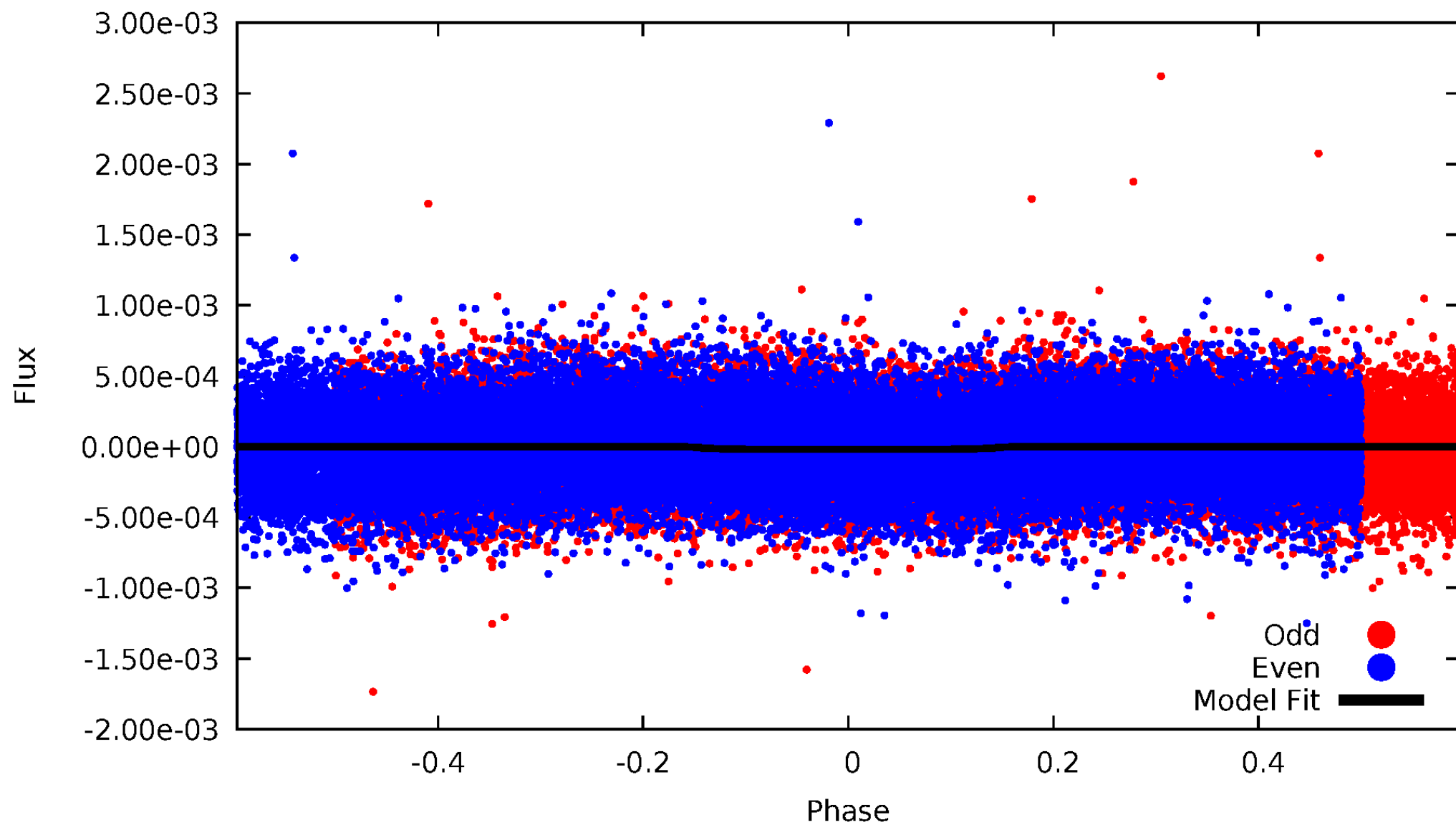


TCE 008579615-01



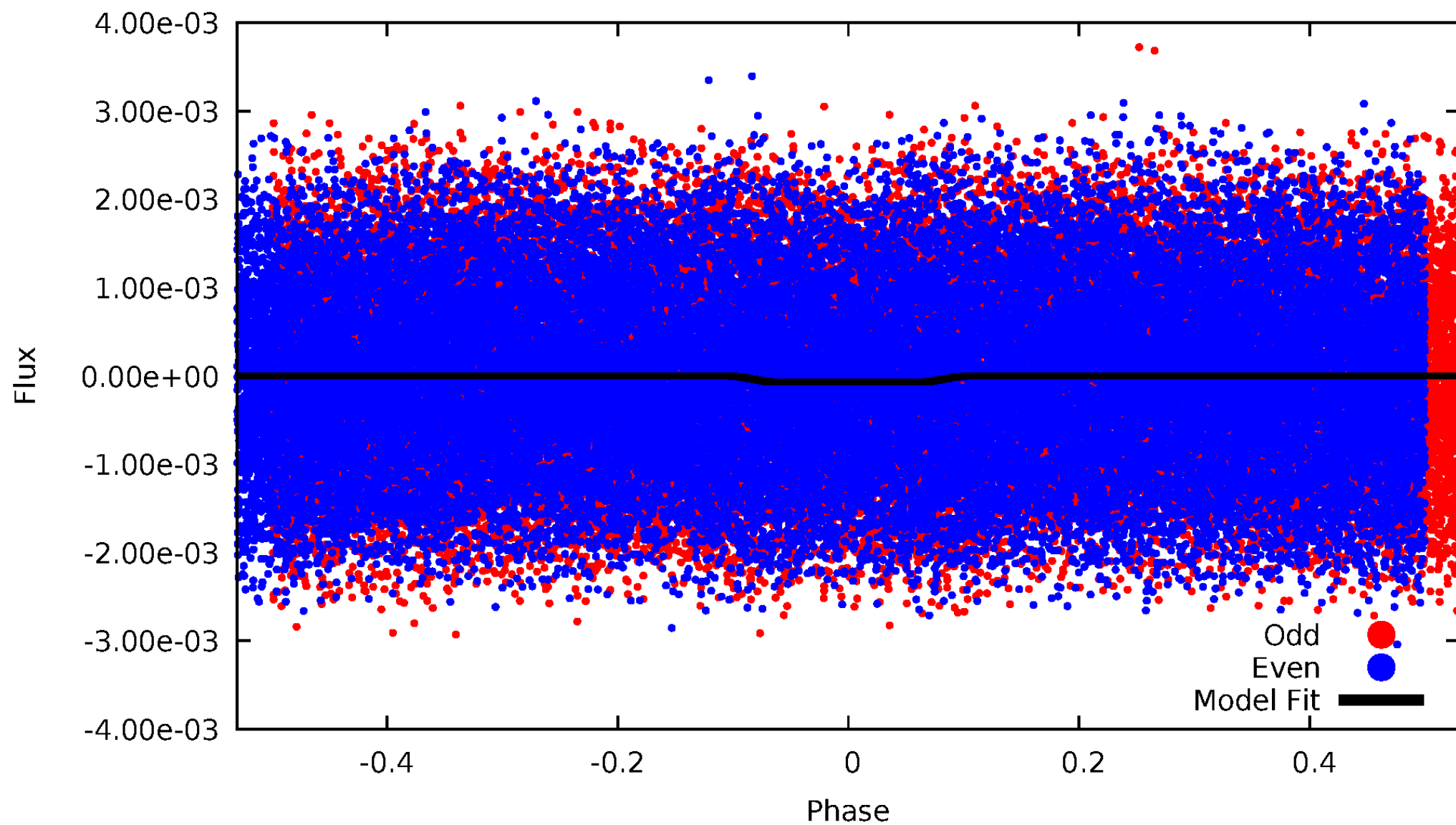
DV Odd/Even

TCE 008579615-01

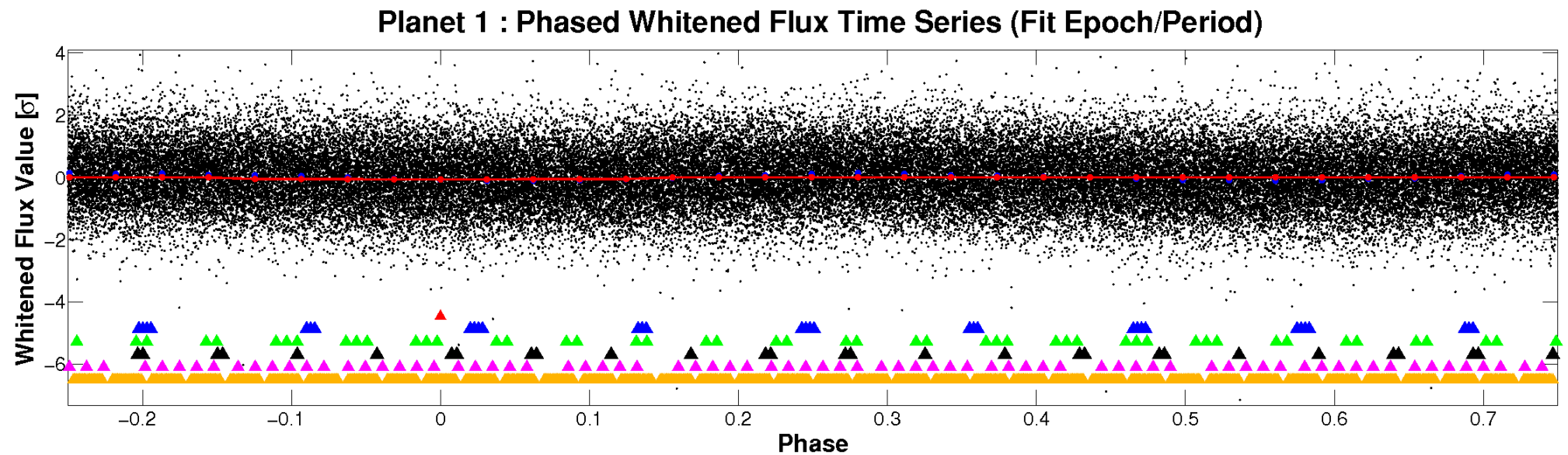
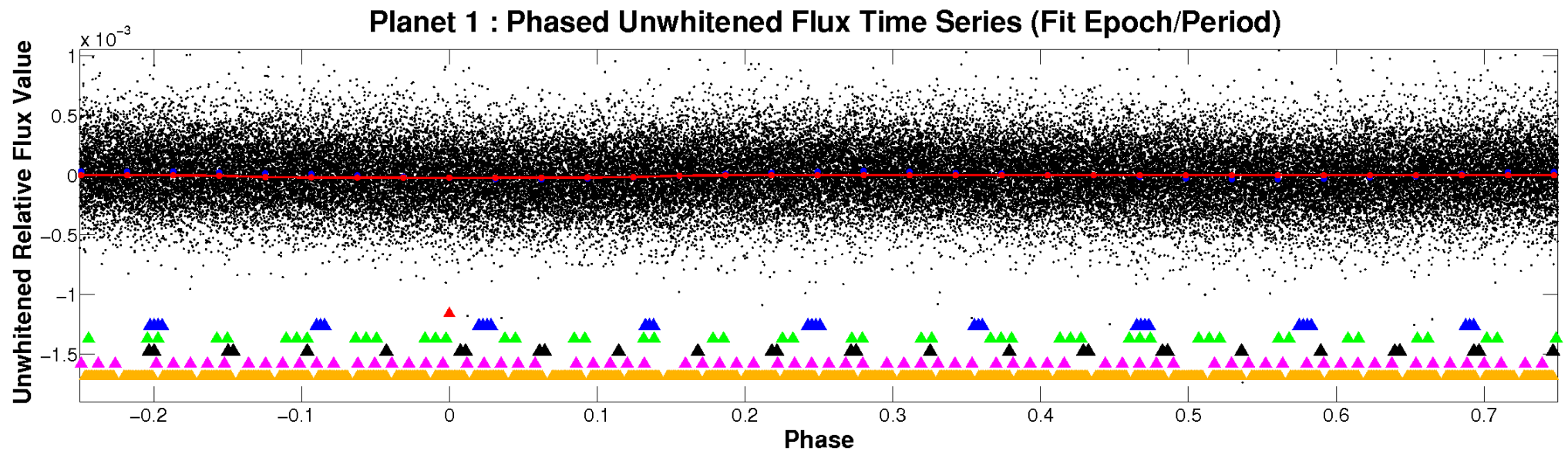


ALT Odd/Even

TCE 008579615-01

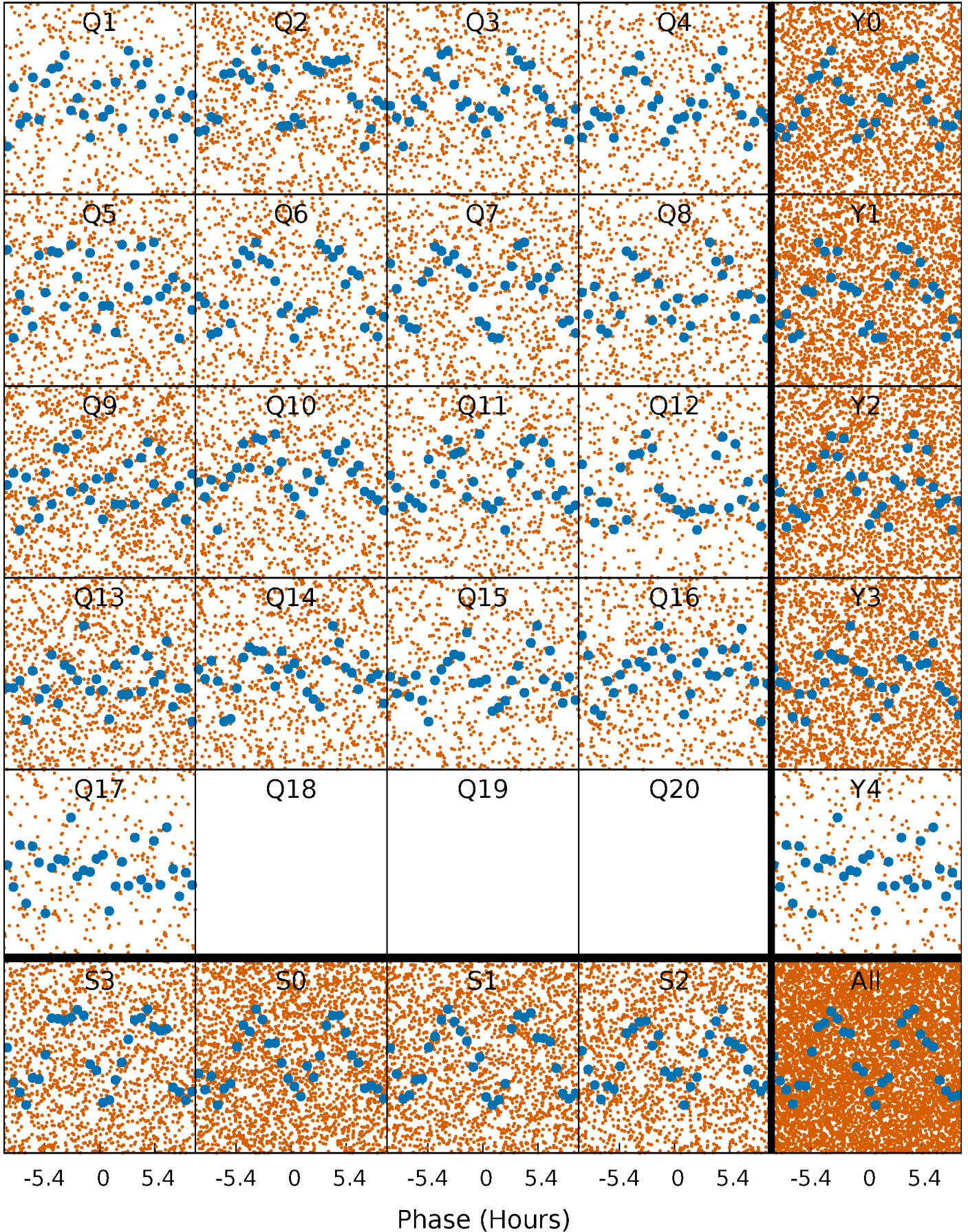


Non-Whitened Vs. Whitened Light Curve



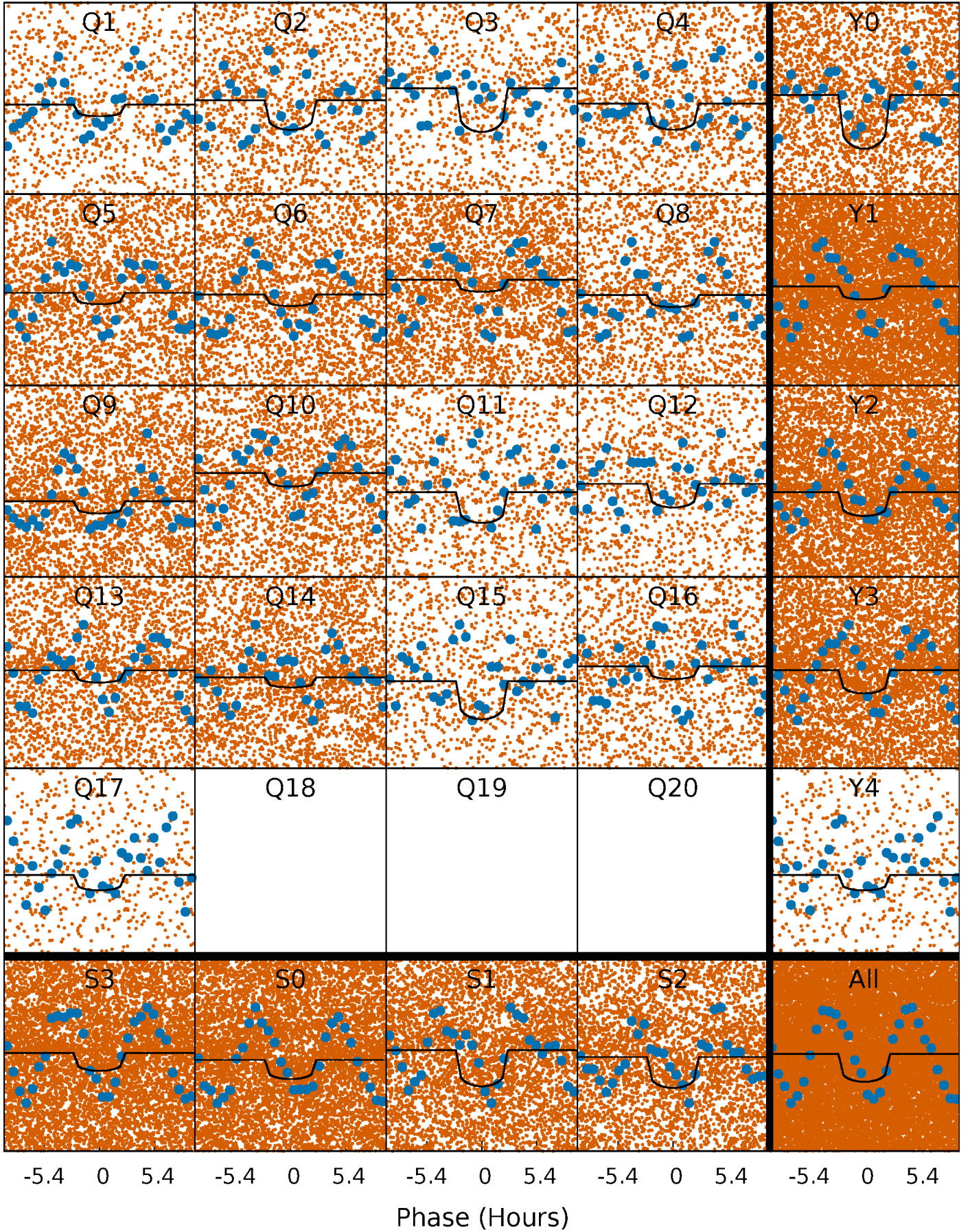
PDC Quarter-Phased Transit Curves

TCE 008579615-01 P= 0.656201 Days $T_0=131.684651$ (BKJD)



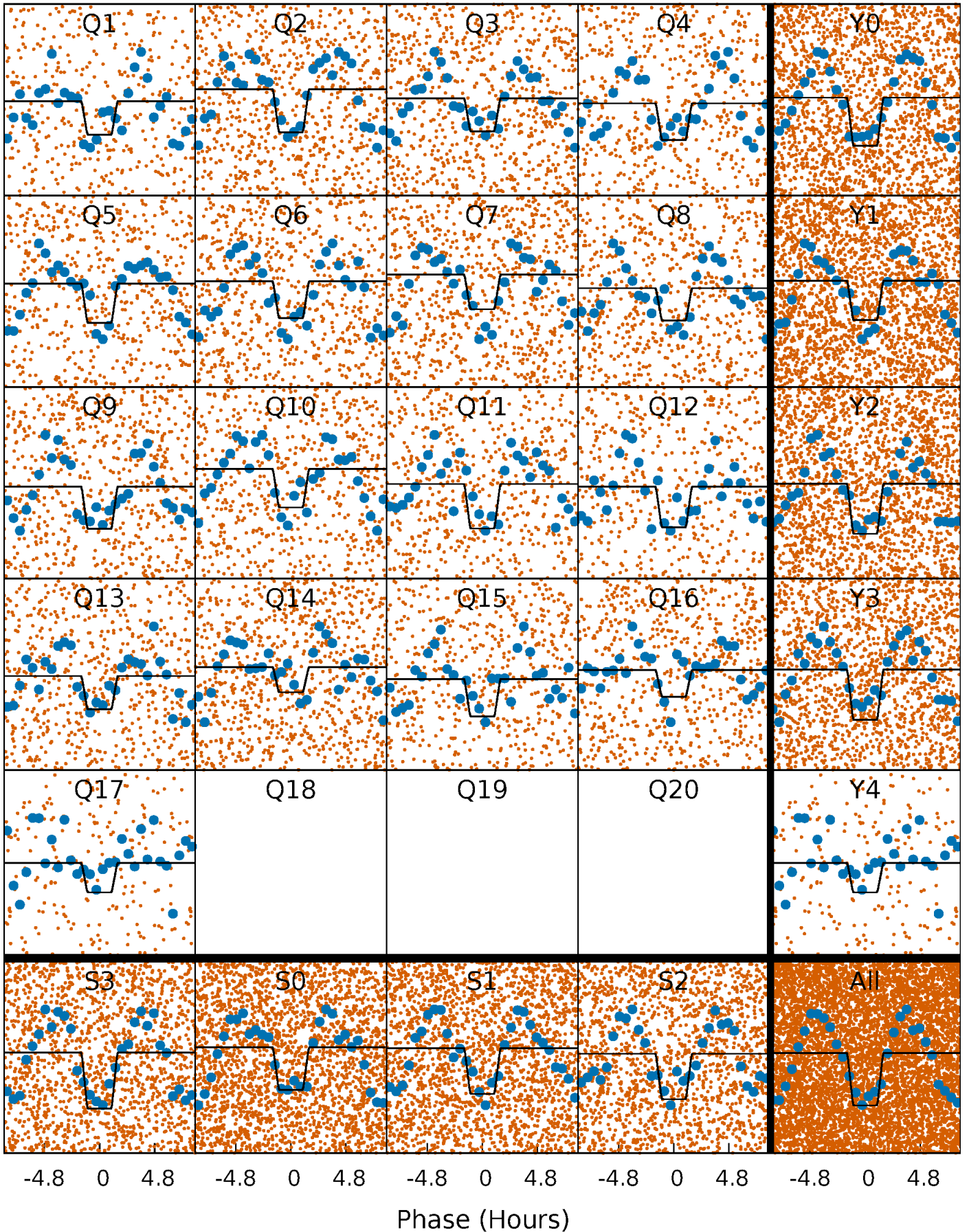
DV Quarter-Phased Transit Curves

TCE 008579615-01 P= 0.656201 Days $T_0=131.684651$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

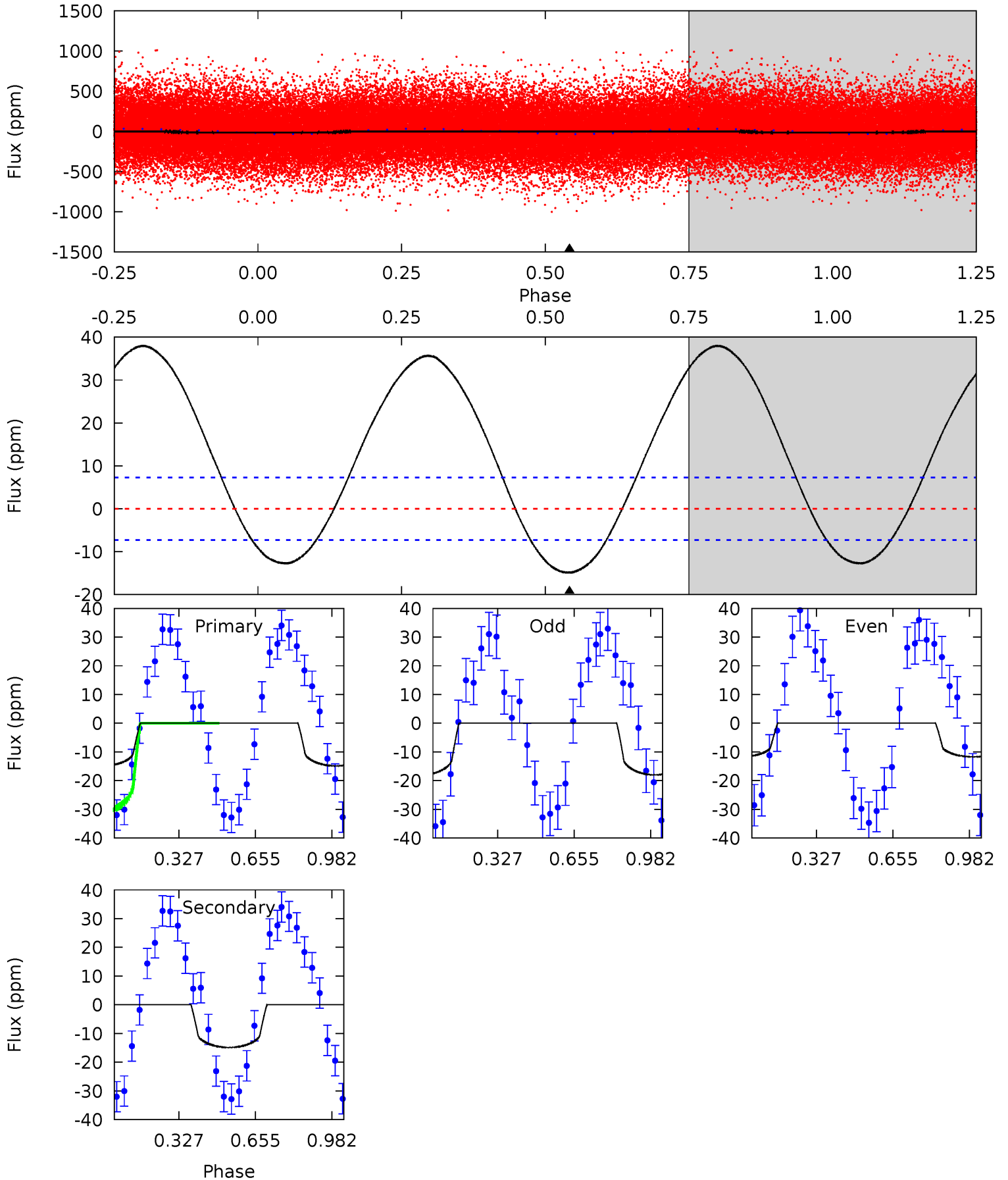
TCE 008579615-01 P= 0.656237 Days $T_0=131.679704$ (BKJD)



DV Model-Shift Uniqueness Test

008579615-01, P = 0.656201 Days, E = 131.028450 Days

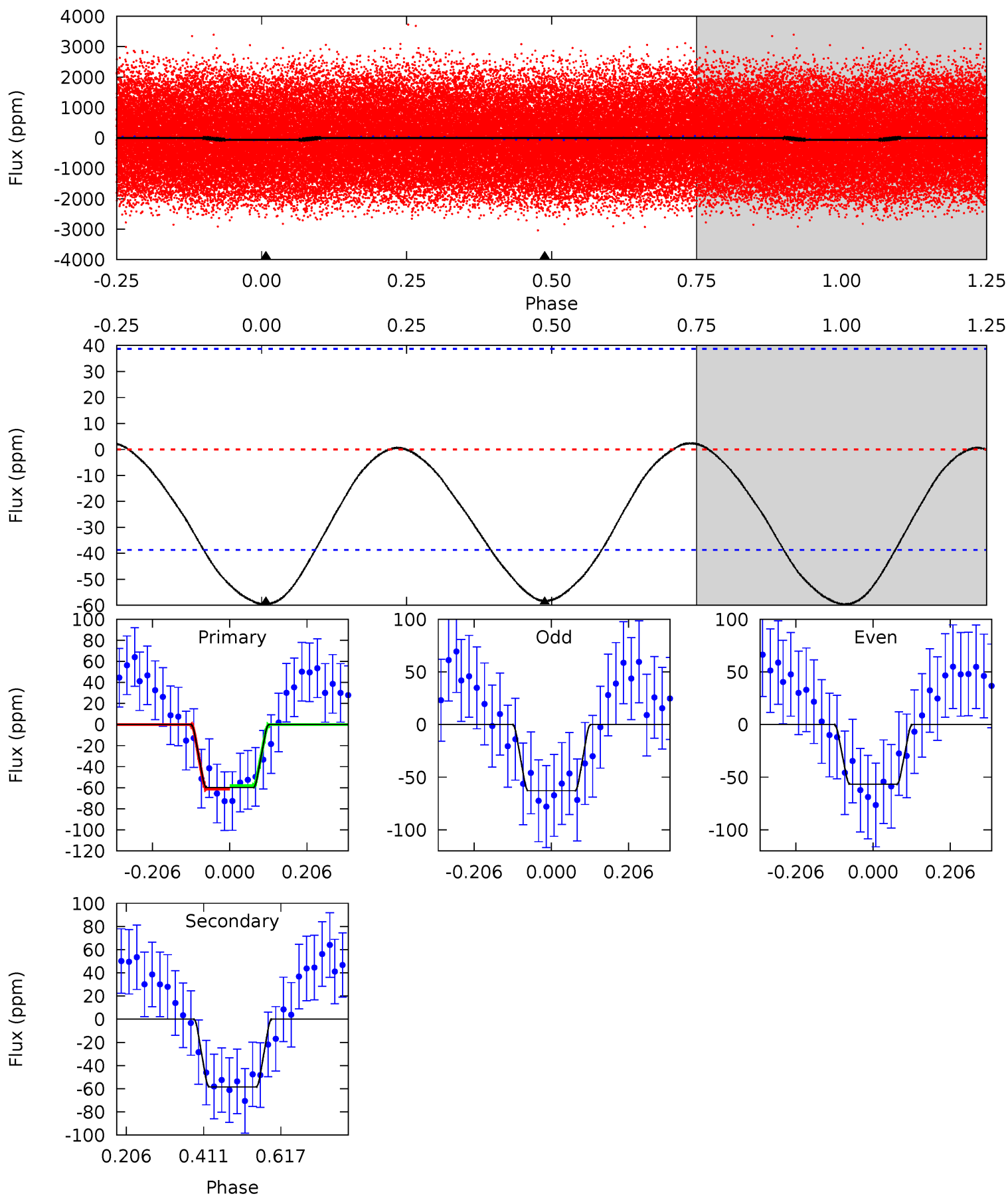
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.80	8.80	0	0	4.31	0.98	7.38	8.80	8.80	8.80	8.80	1.87	0.95	0.72	8.96



Alt Model-Shift Uniqueness Test

008579615-01, P = 0.656237 Days, E = 131.023467 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.81	6.67	0	0	4.41	1.27	0.24	6.81	6.81	6.67	6.67	0.35	0.91	0.04	0.20



Stellar Parameters For KIC 008579615

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8435^{+234}_{-368}	$3.990^{+0.228}_{-0.123}$	$0.070^{+0.250}_{-0.600}$	$2.416^{+0.506}_{-0.759}$	$2.078^{+0.346}_{-0.519}$	$0.207^{+0.286}_{-0.077}$
	+3%/-4%	+6%/-3%	+357%/-857%	+21%/-31%	+17%/-25%	+138%/-37%
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 008579615-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-15 ± 2	$1.14^{+0.73}_{-0.60}$	5818^{+384}_{-425}	7184^{+6024}_{-1809}	$2.232^{+8.229}_{-1.386}$
Alt.	-58 ± 9	$2.11^{+0.72}_{-0.74}$	5785^{+375}_{-461}	7700^{+2480}_{-1372}	$2.634^{+3.358}_{-1.244}$

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

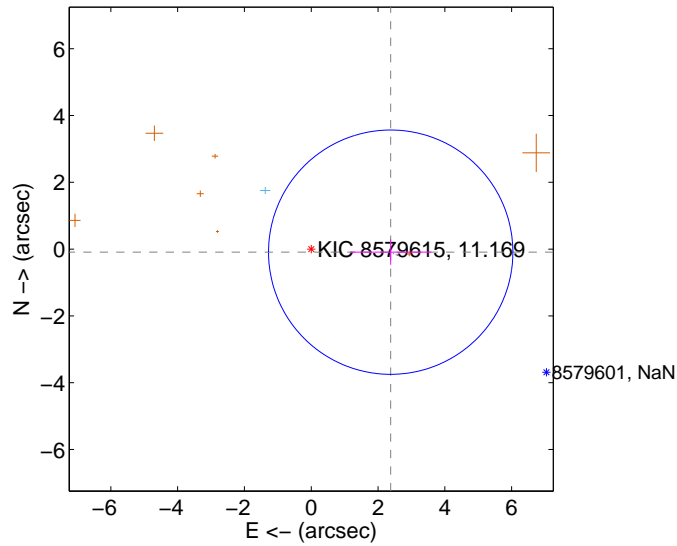
Supplemental centroid analysis for 008579615-01. **Kepler magnitude: 11.17.** Transit SNR 8.23

There are 3 quarters with good PRF difference image offsets

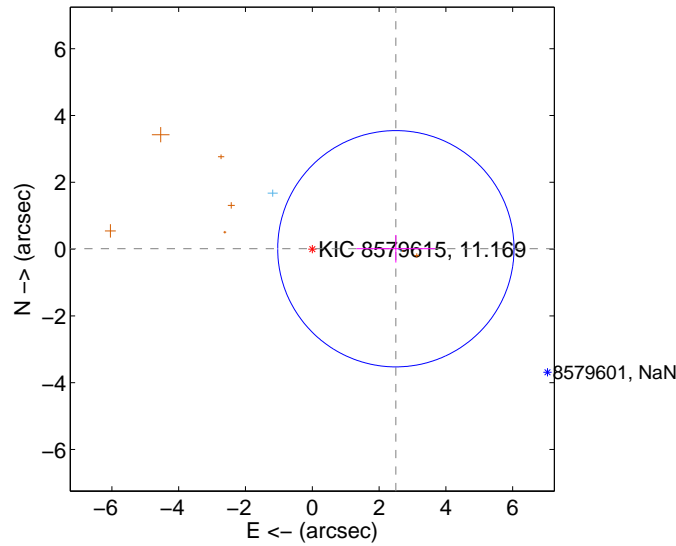
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.381 ± 1.219	1.95	-2.379 ± 1.215	-0.092 ± 0.381
PRF-fit source offset from KIC position	2.502 ± 1.179	2.12	-2.502 ± 1.180	0.011 ± 0.414
photometric centroid source offset	0.40 ± 0.31	1.28	-0.02 ± 0.51	-0.40 ± 0.31

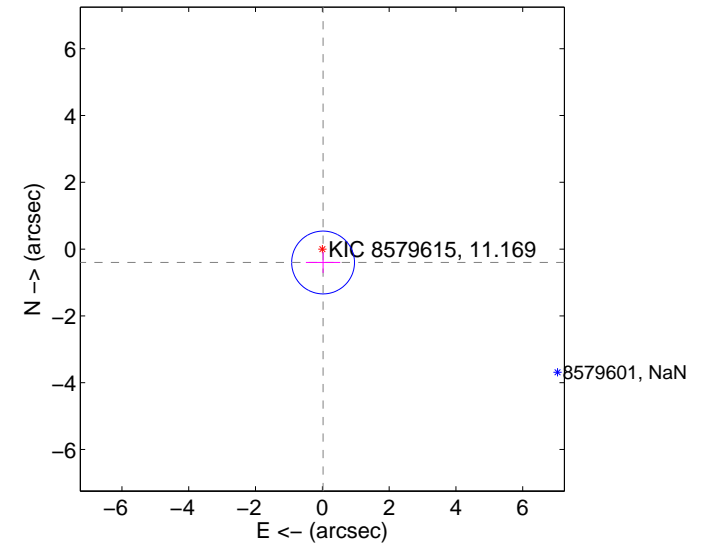
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

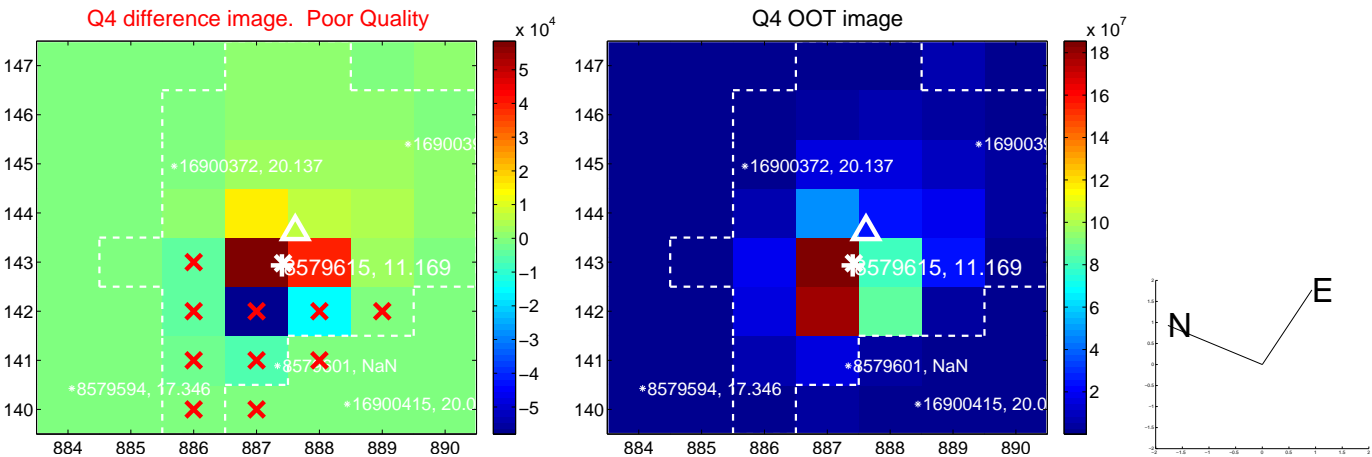
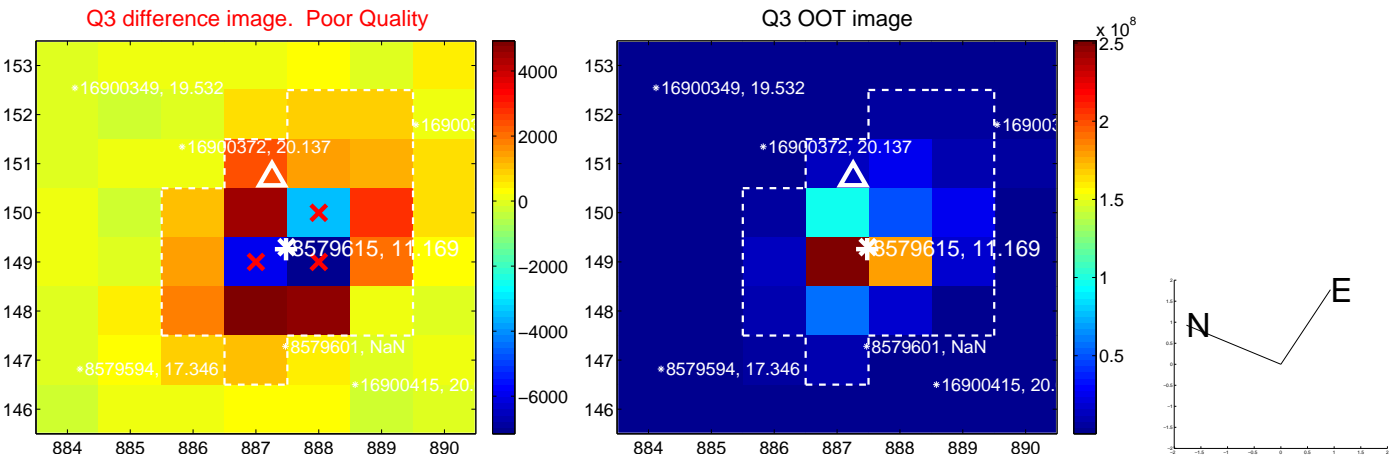
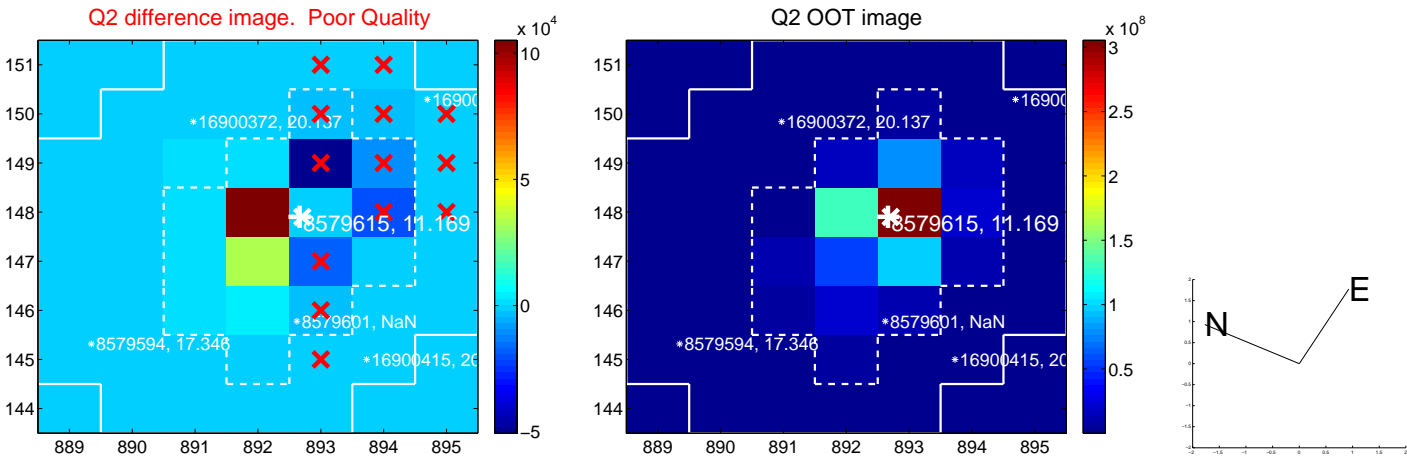
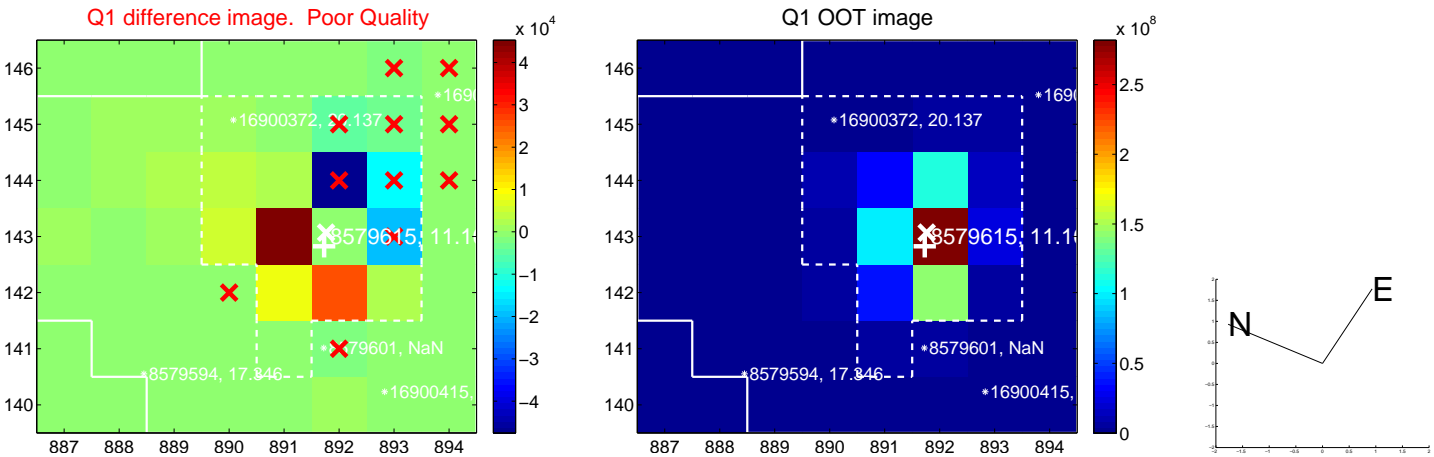


offset from photometric centroids

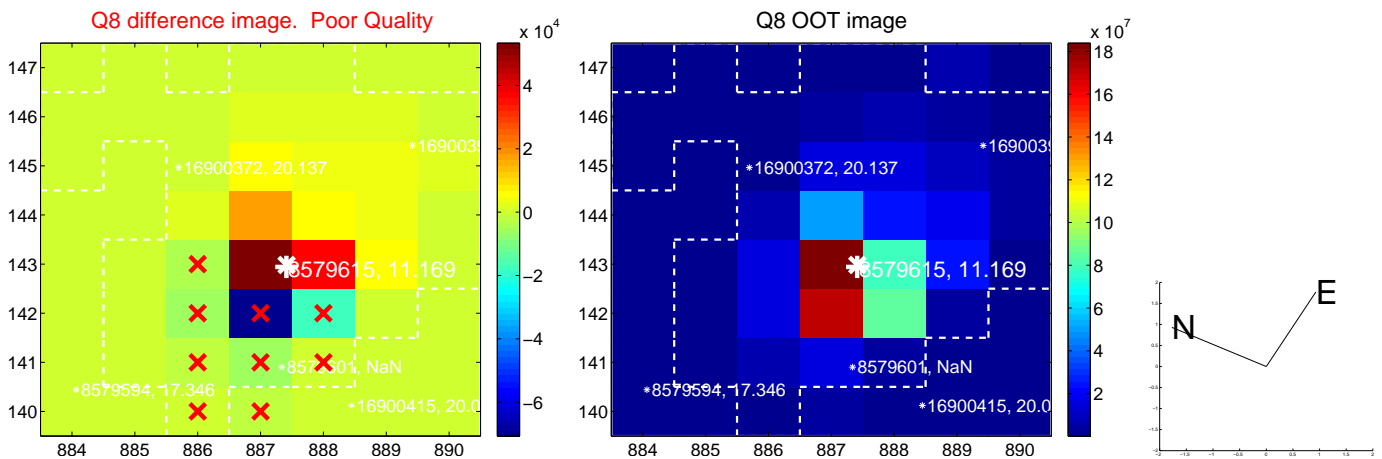
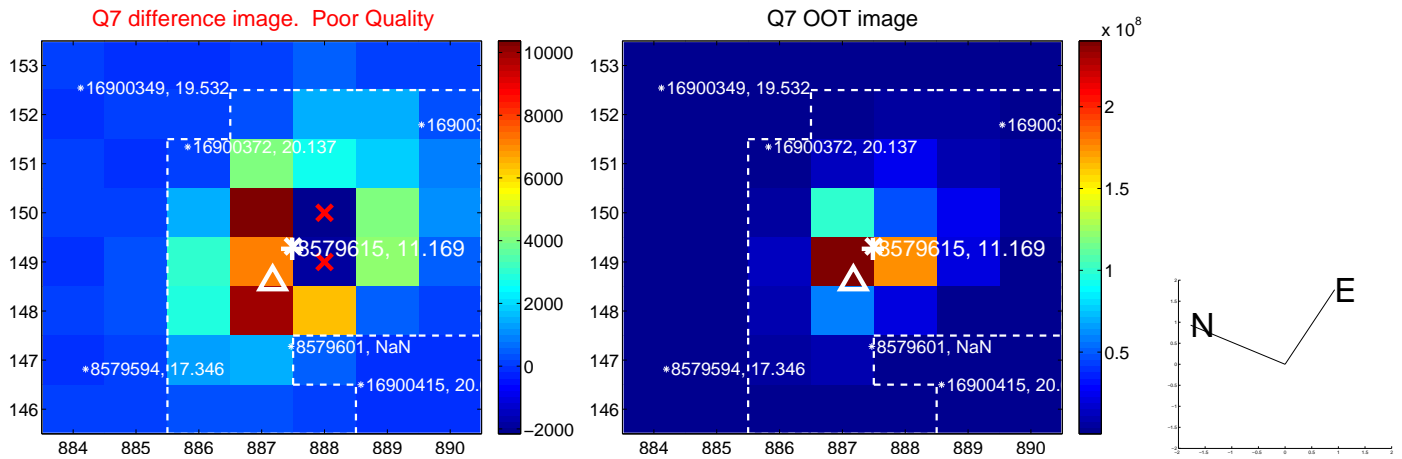
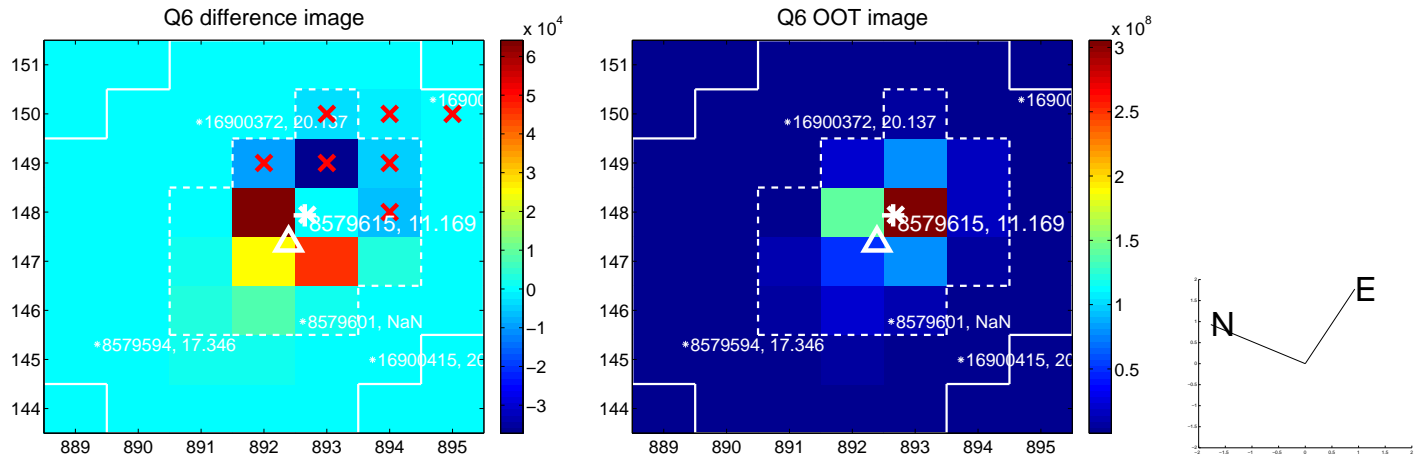
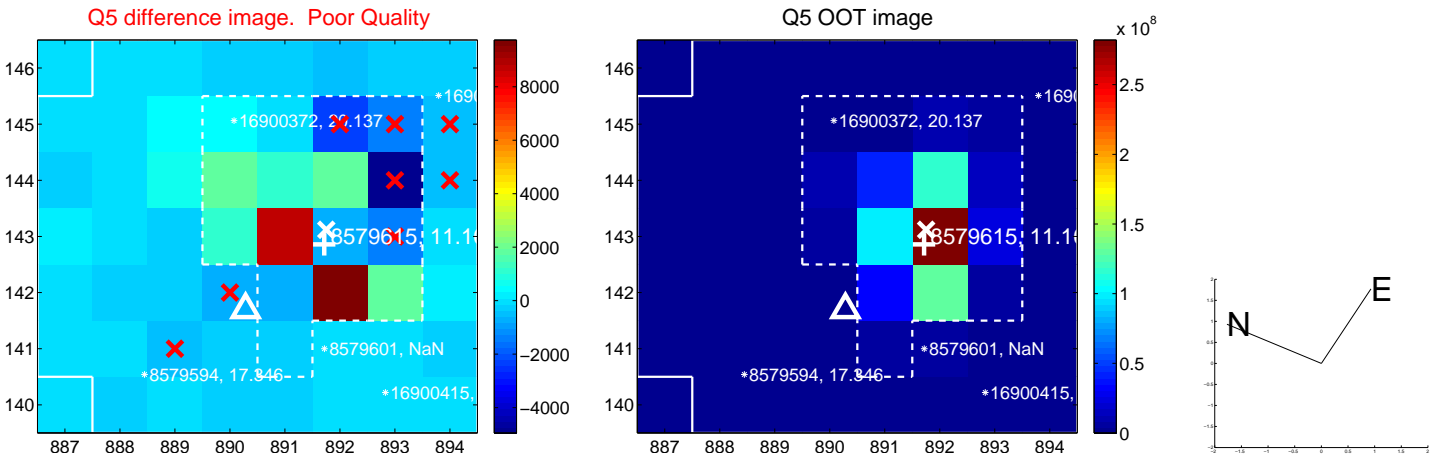


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

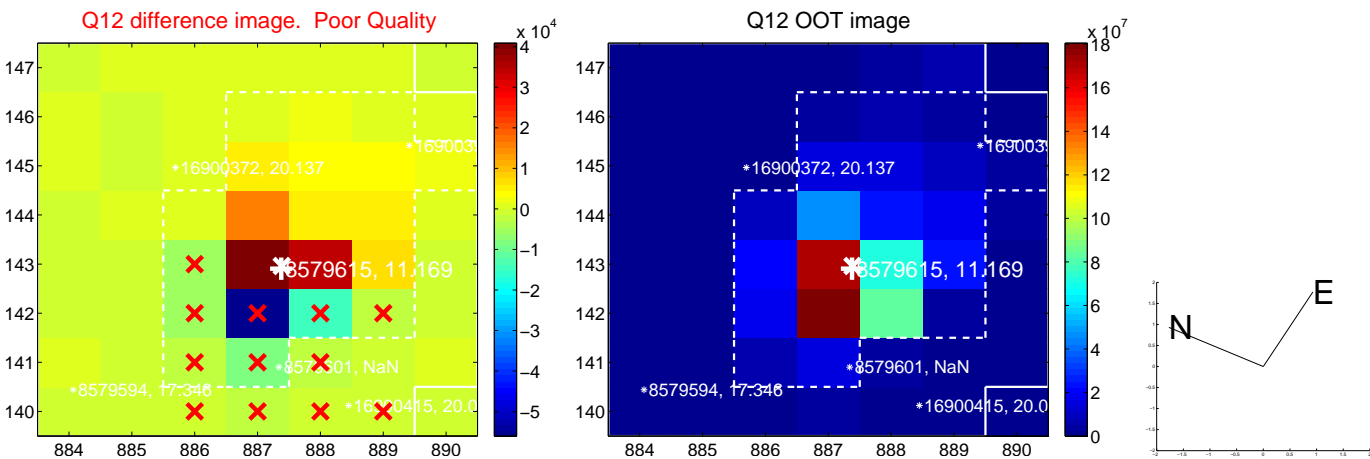
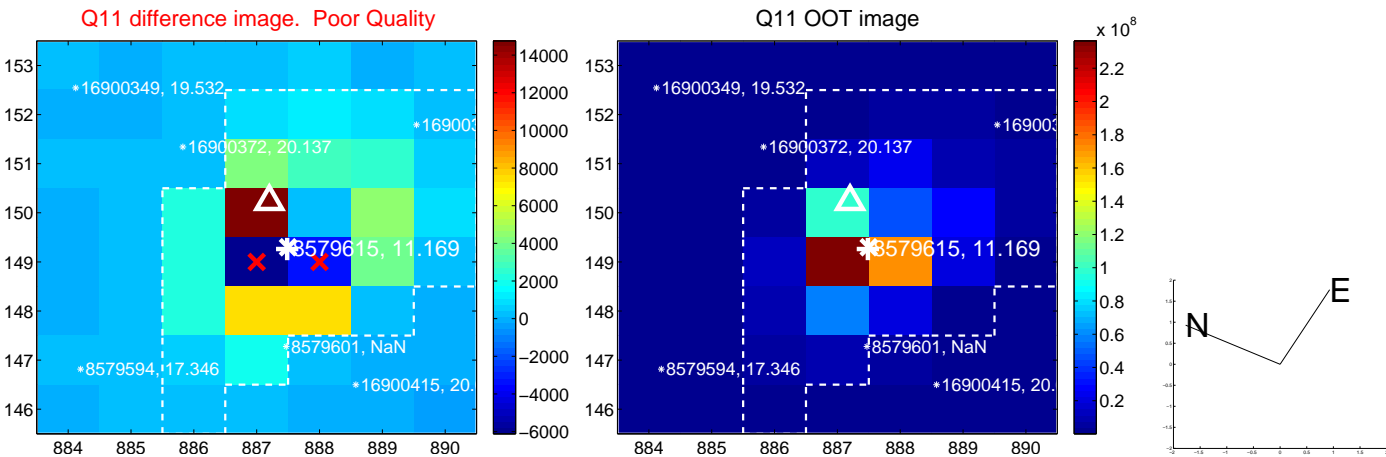
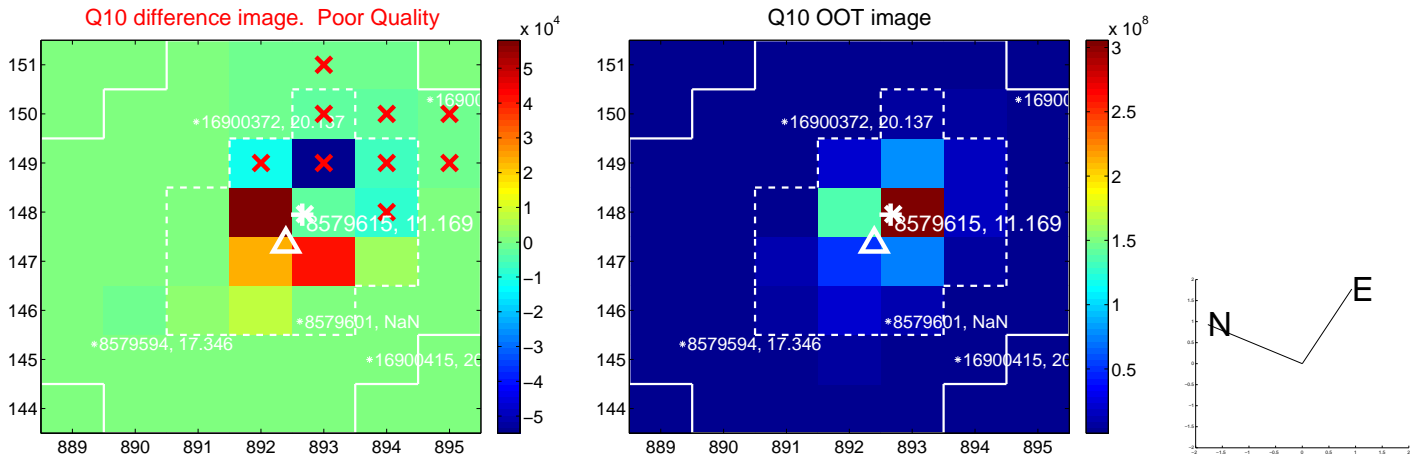
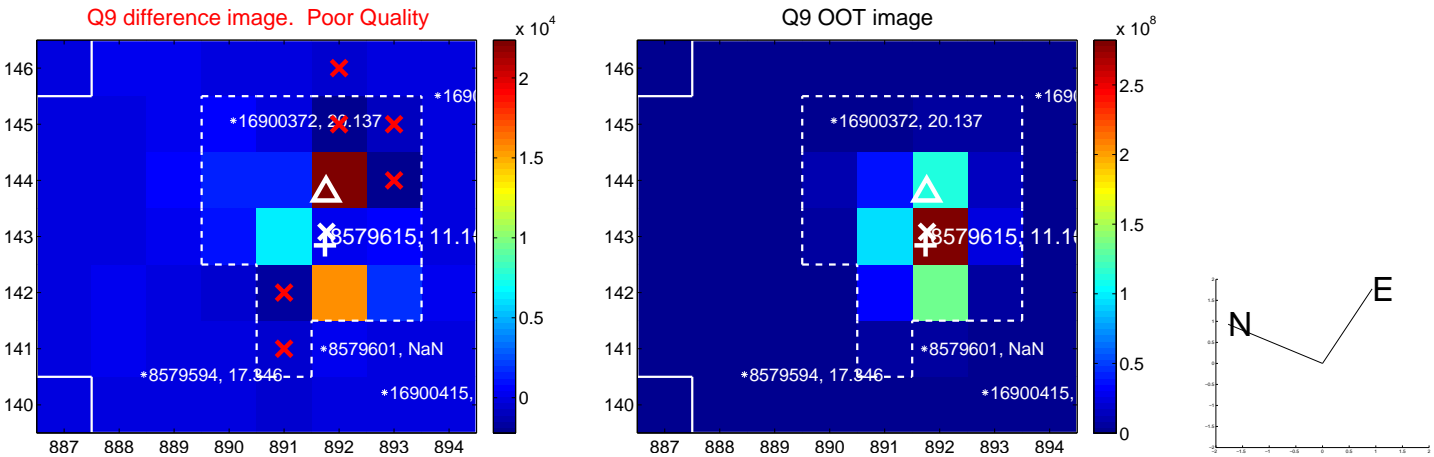
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



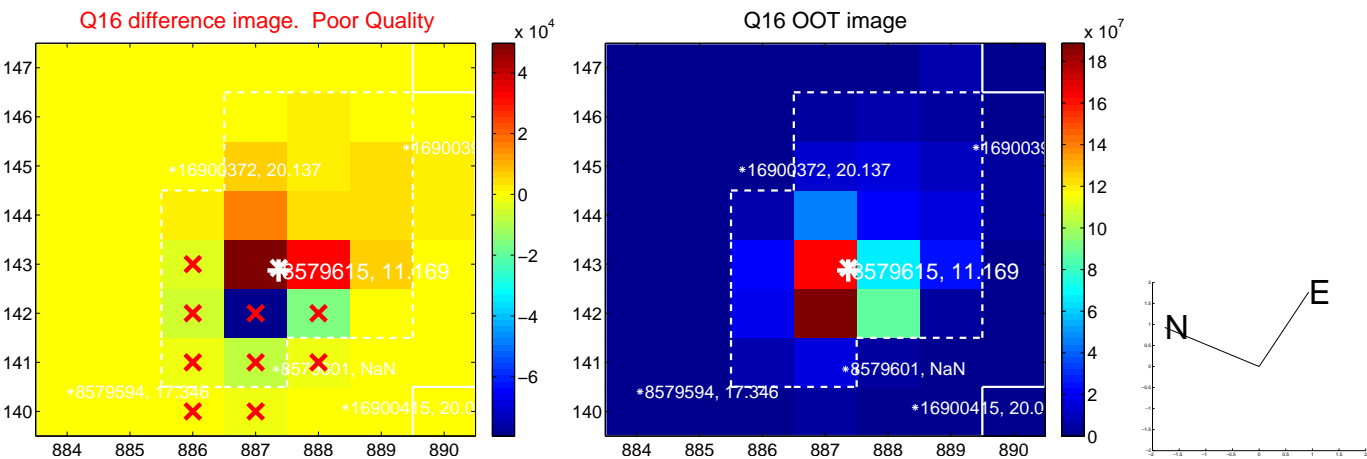
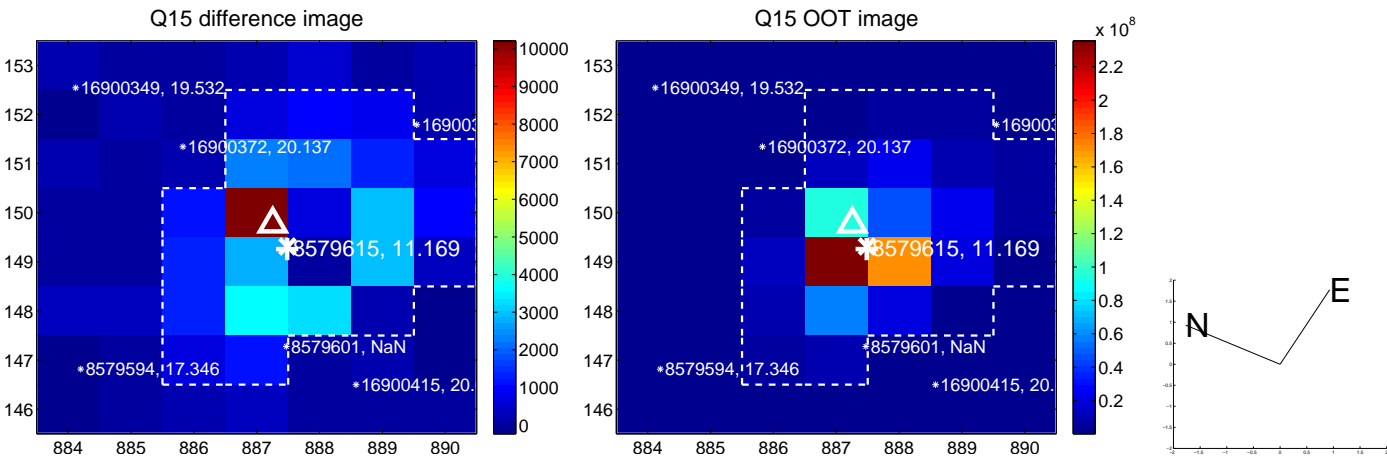
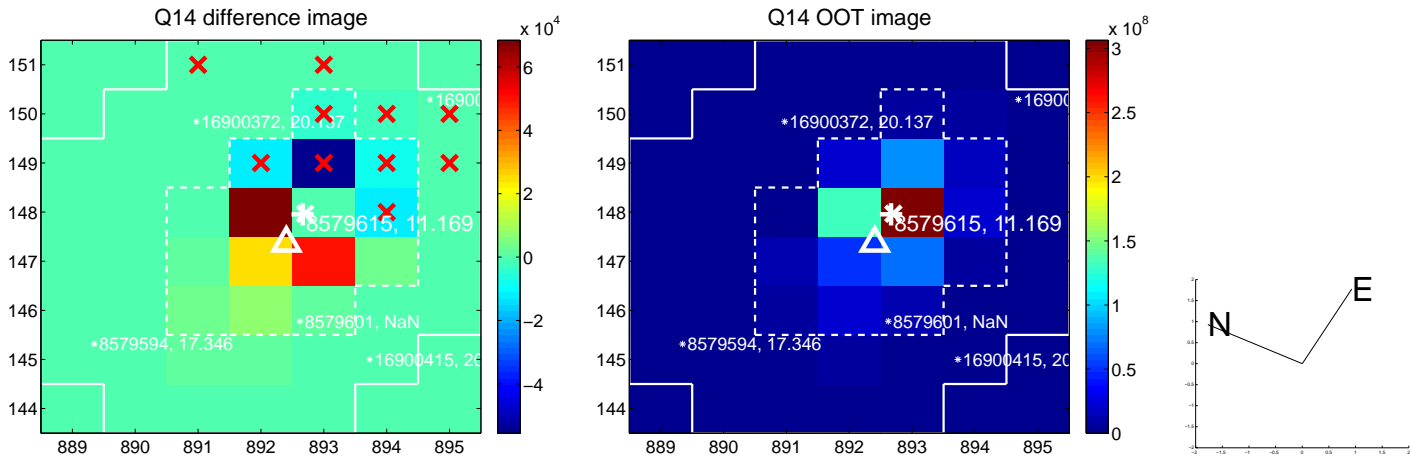
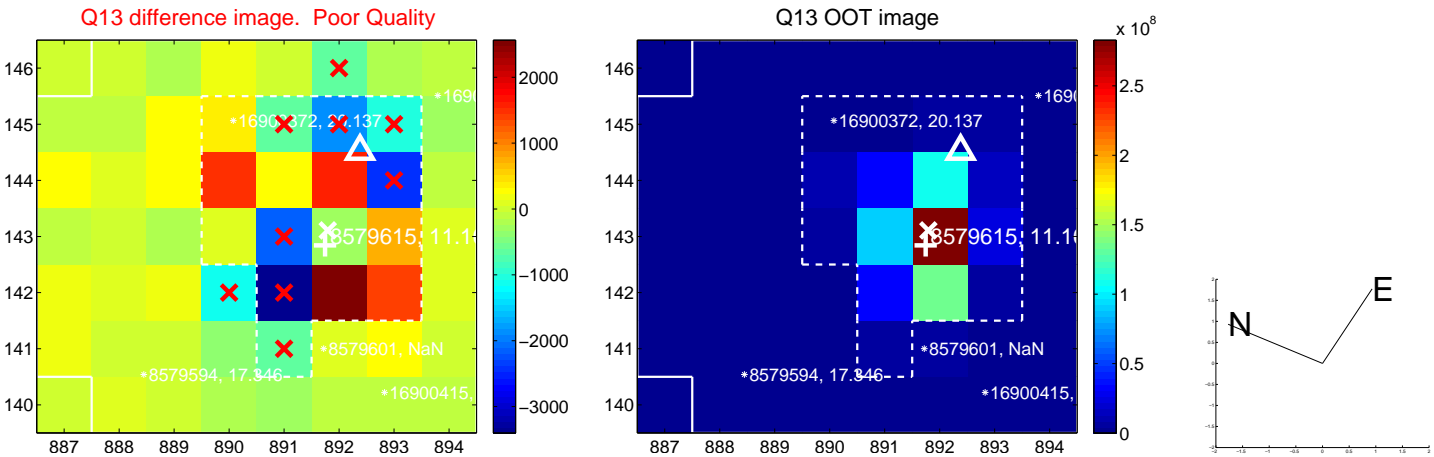
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



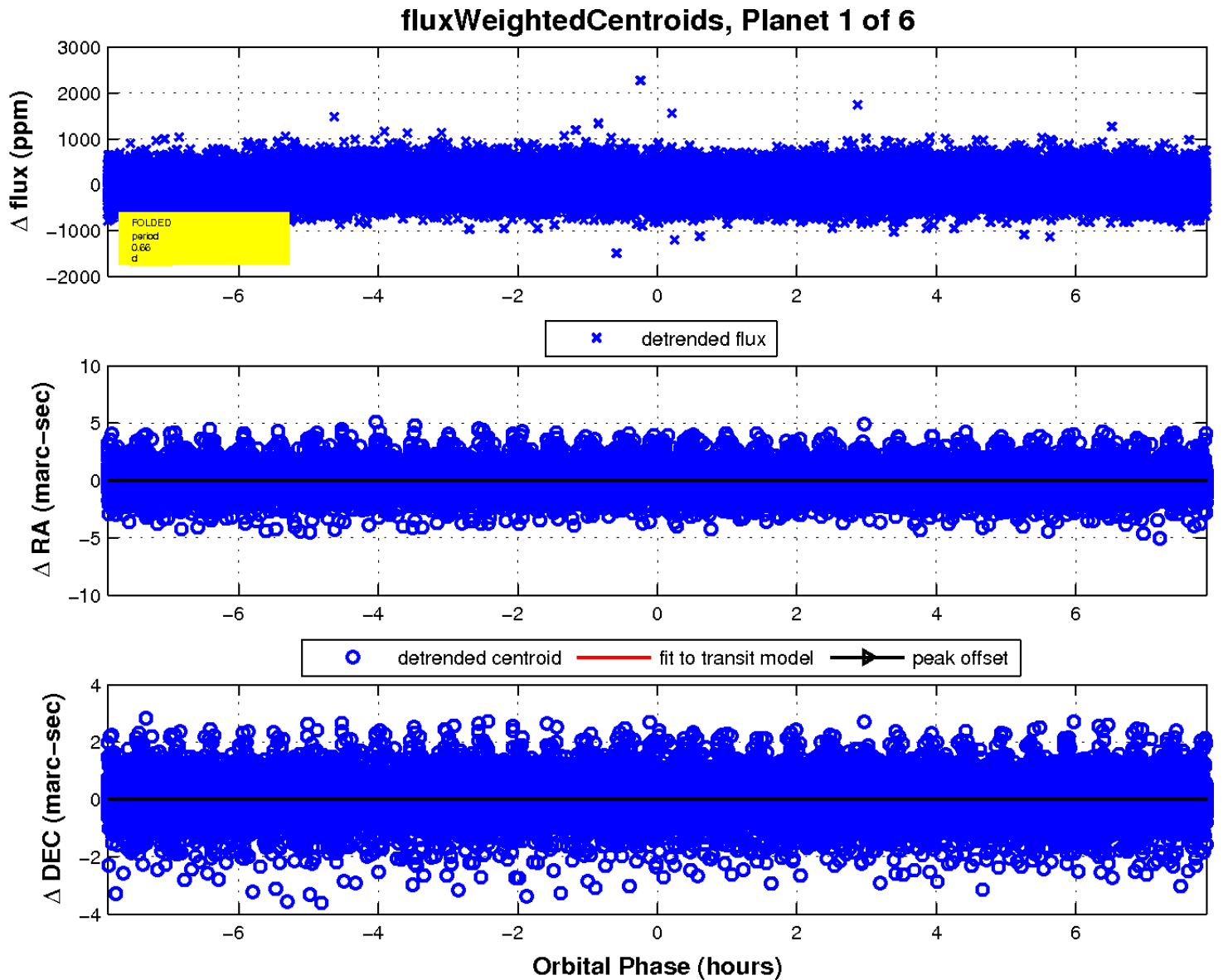
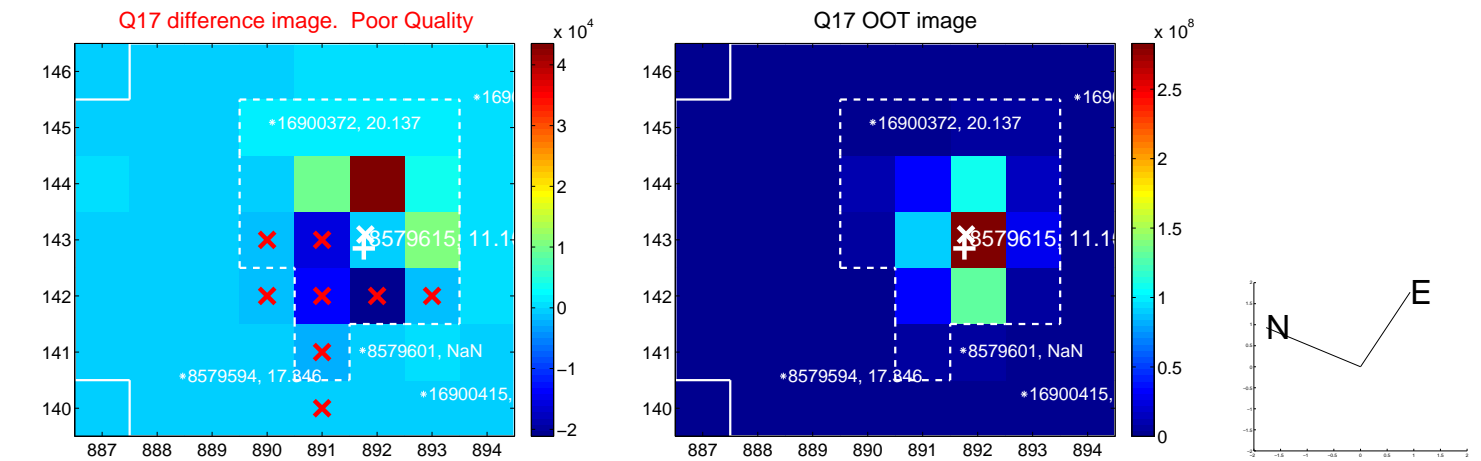
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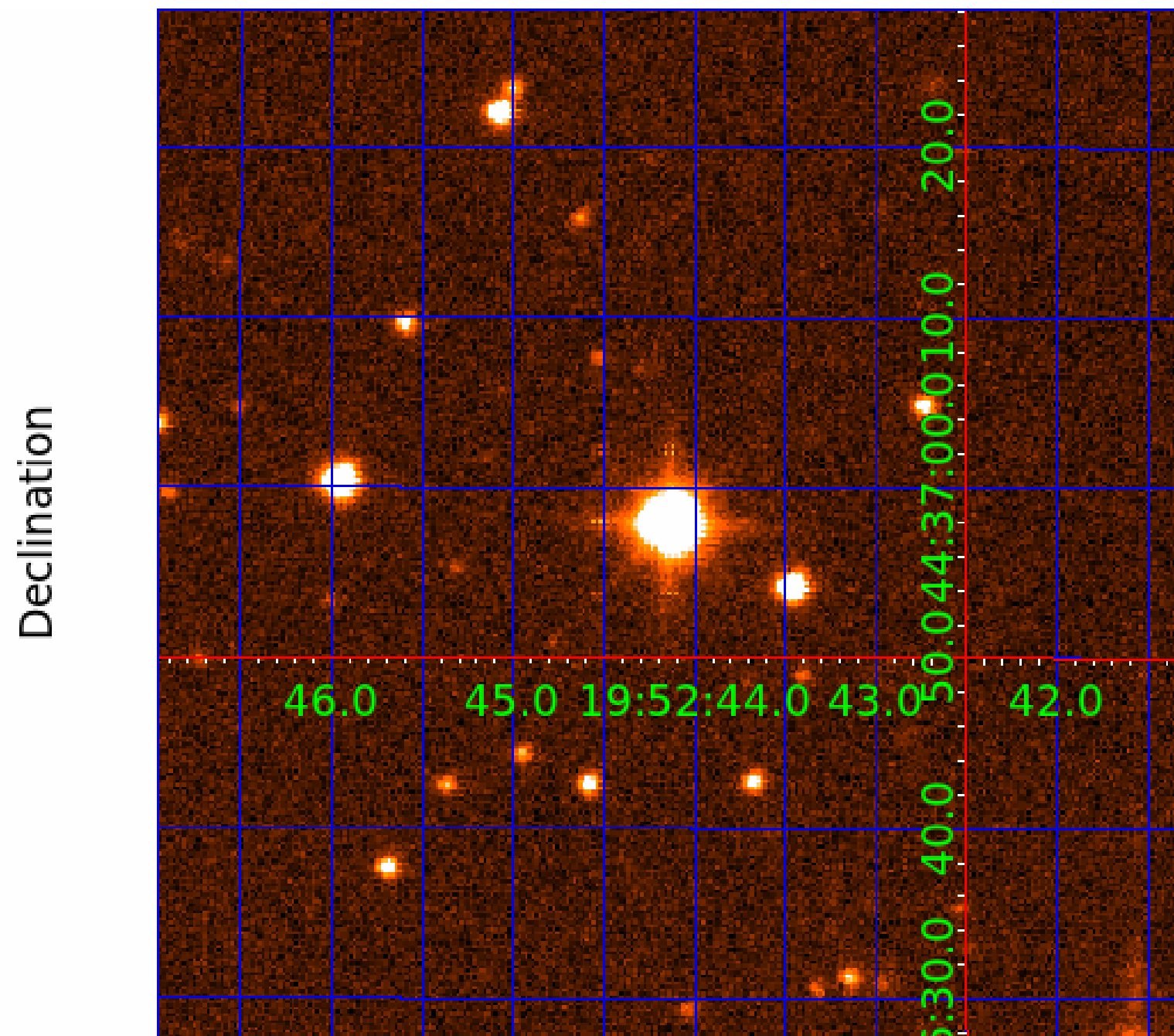
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 008579615

Q1-17 DR25 TCE Parameters

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Robovetter Results

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008579615-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
008579615-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—CENT_SATURATED
008579615-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—CENT_SATURATED—HALO_GHOST
008579615-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
008579615-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

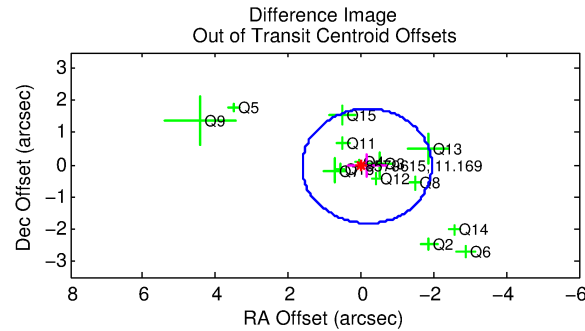
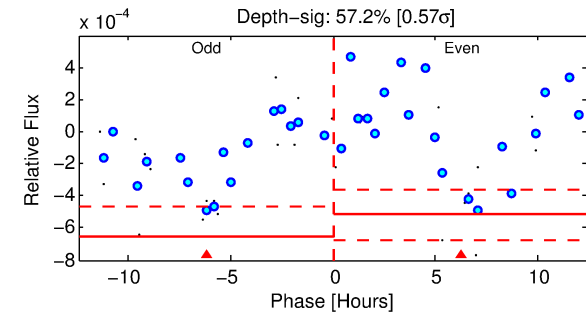
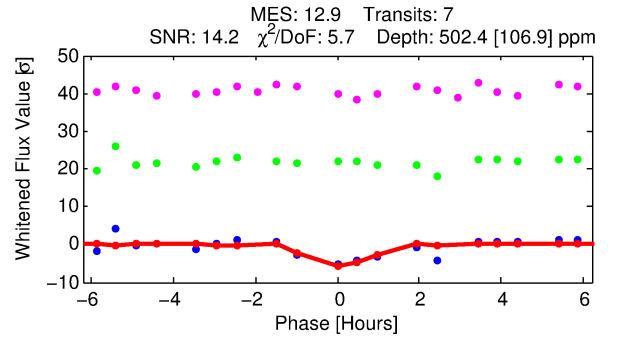
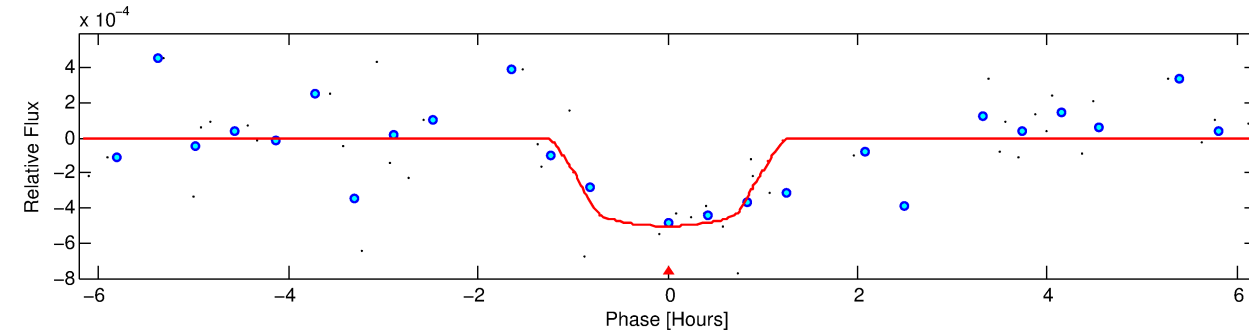
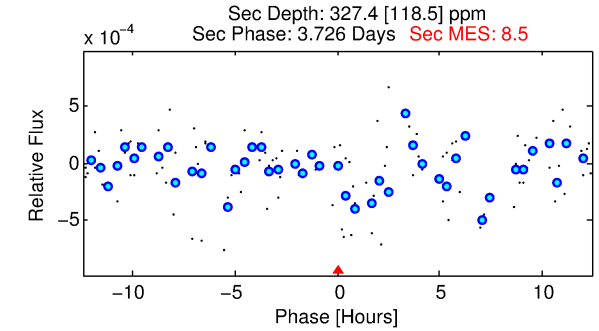
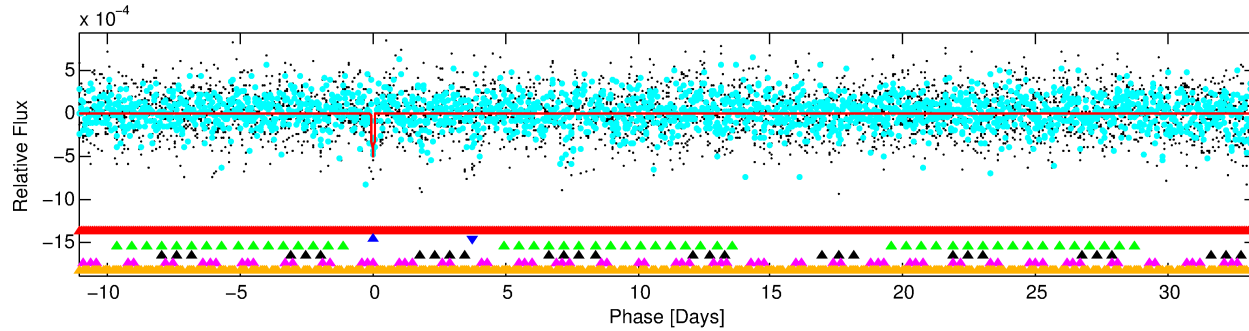
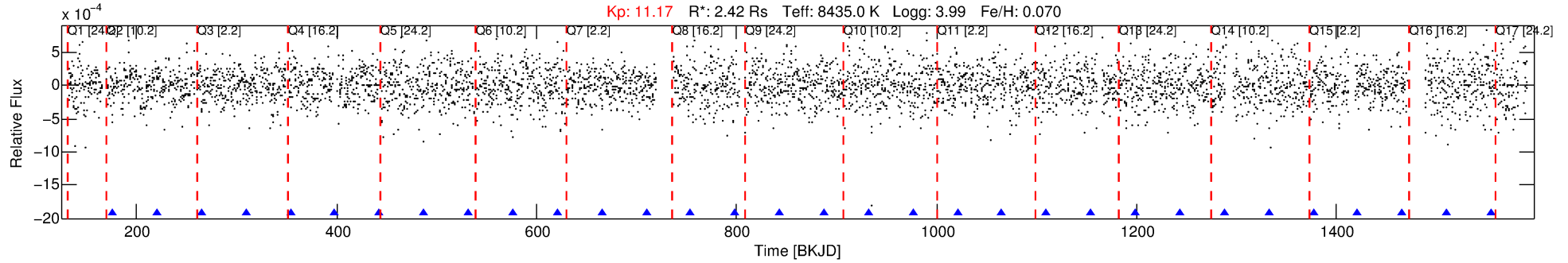
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008579615-02

No Significant Match Found

DV One-Page Summary

KIC: 8579615 Candidate: 2 of 6 Period: 44.476 d



DV Fit Results:

Period = 44.47563 [0.00045] d
Epoch = 175.9606 [0.0071] BKJD
Rp/R* = 0.0221 [0.0356]
a/R* = 122.24 [1146.37]
b = 0.70 [6.98]
Seff = 269.03 [119.35]
Teq = 1033 [115] K
Rp = 5.81 [9.56] Re
a = 0.3137 [0.0856] AU
Ag = 524.24 [1716.59] [0.30 σ]
Teffp = 7640 [6214] K [1.06 σ]

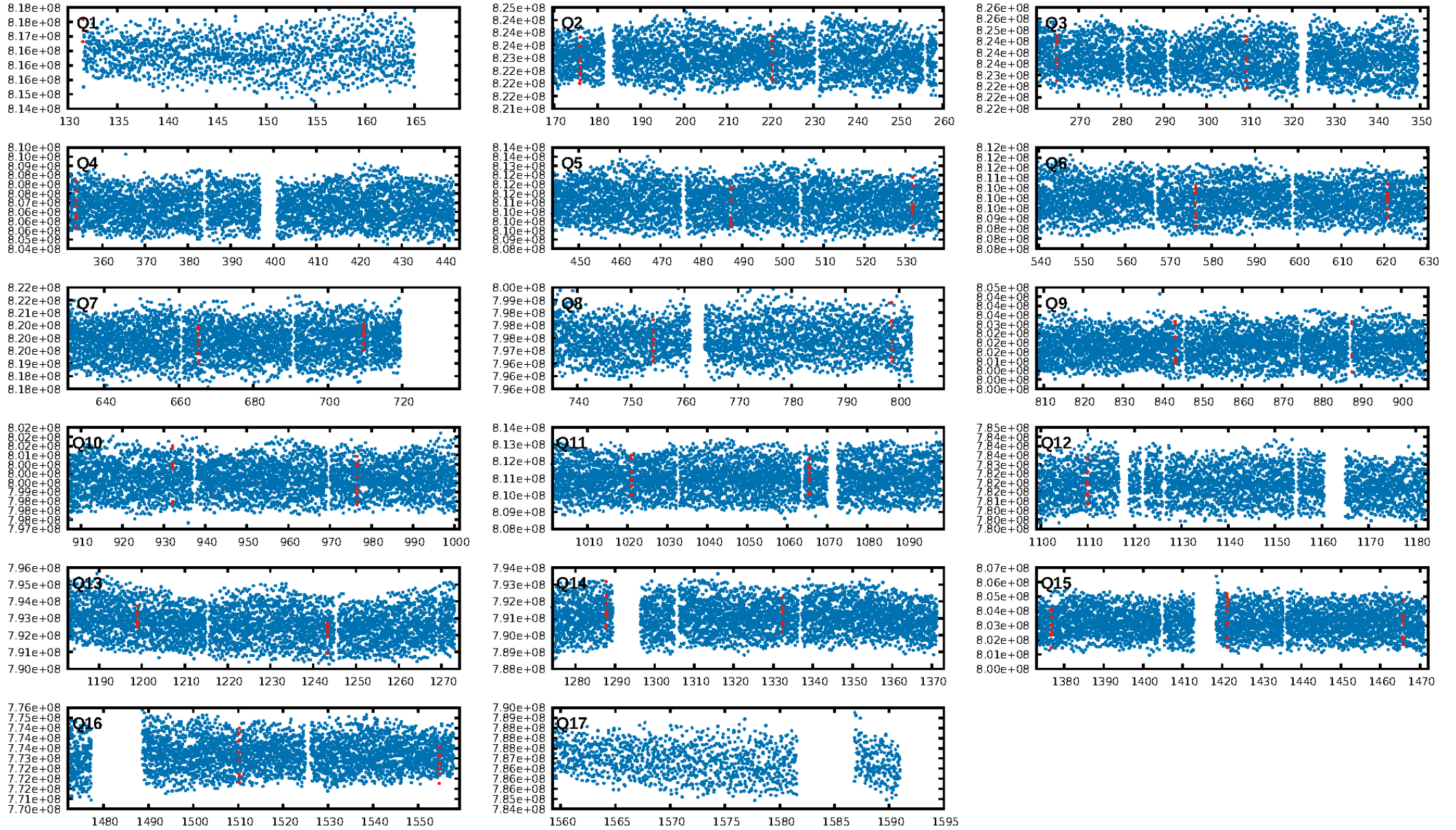
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [139.13 σ]
LongPeriod-sig: 100.0% [48.64 σ]
ModelChiSquare2-sig: 1.4%
ModelChiSquareGof-sig: 89.4%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: -540.5
Centroid-sig: 30.2%
Centroid-so: 0.372 arcsec [1.61 σ]
OotOffset-rm: 0.173 arcsec [0.29 σ]
KicOffset-rm: 0.336 arcsec [0.61 σ]
OotOffset-st: 3/4/4/3 [14]
KicOffset-st: 3/4/4/3 [14]
DiffImageQuality-fgm: 0.36 [5/14]
DiffImageOverlap-fno: 0.00 [0/15]

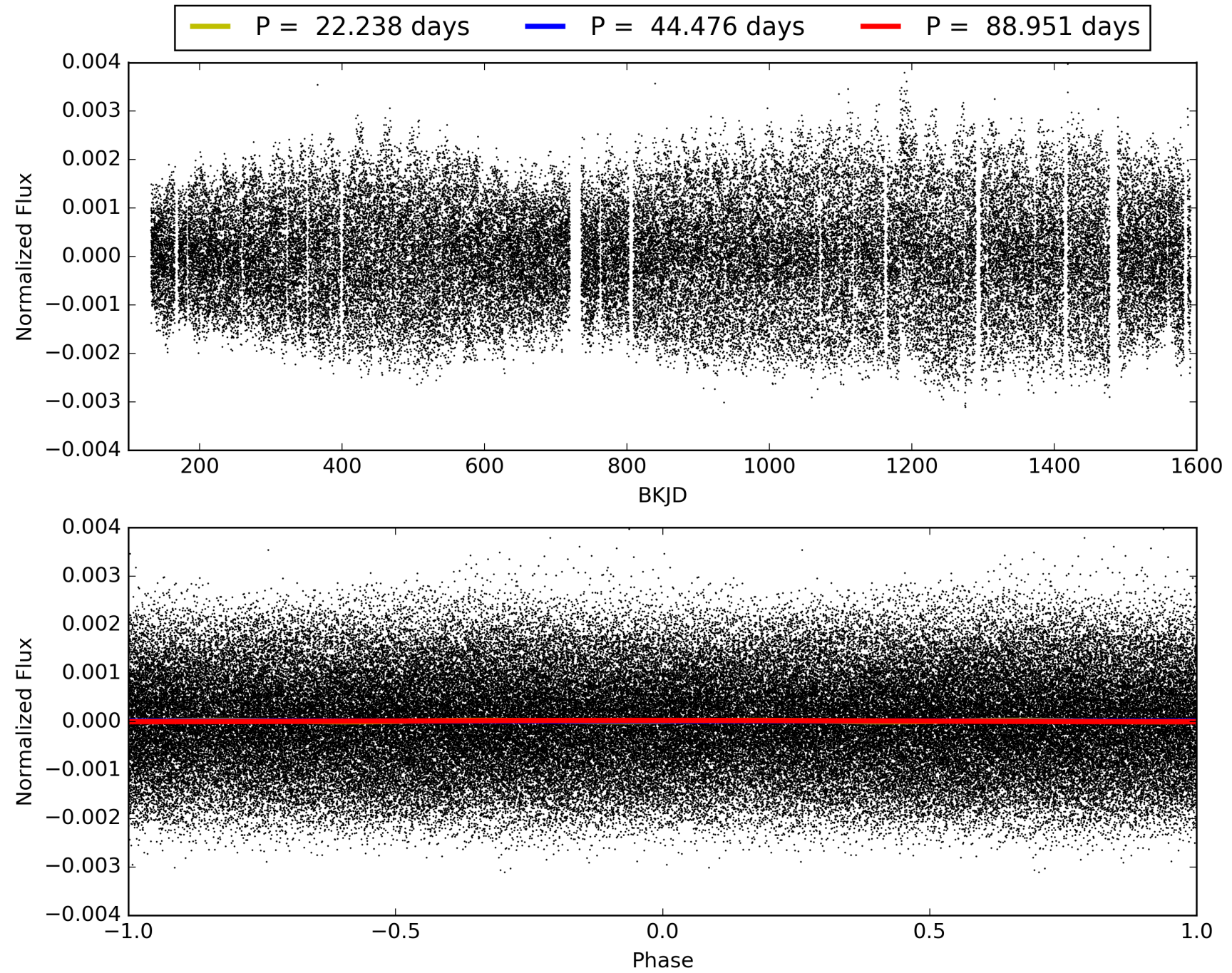
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:36:00 Z

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

TCE 008579615-02, PDC Light Curves

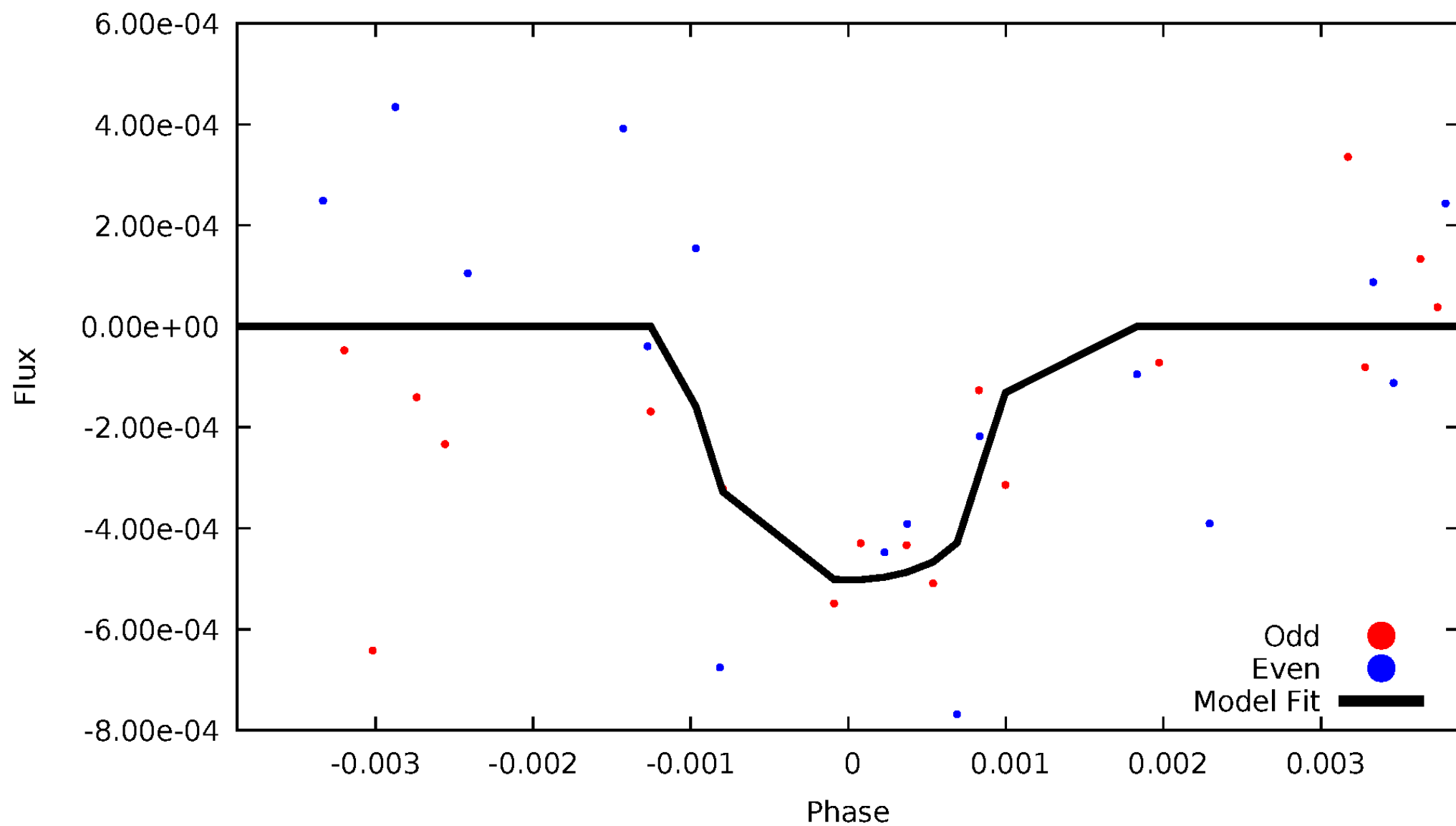


TCE 008579615-02



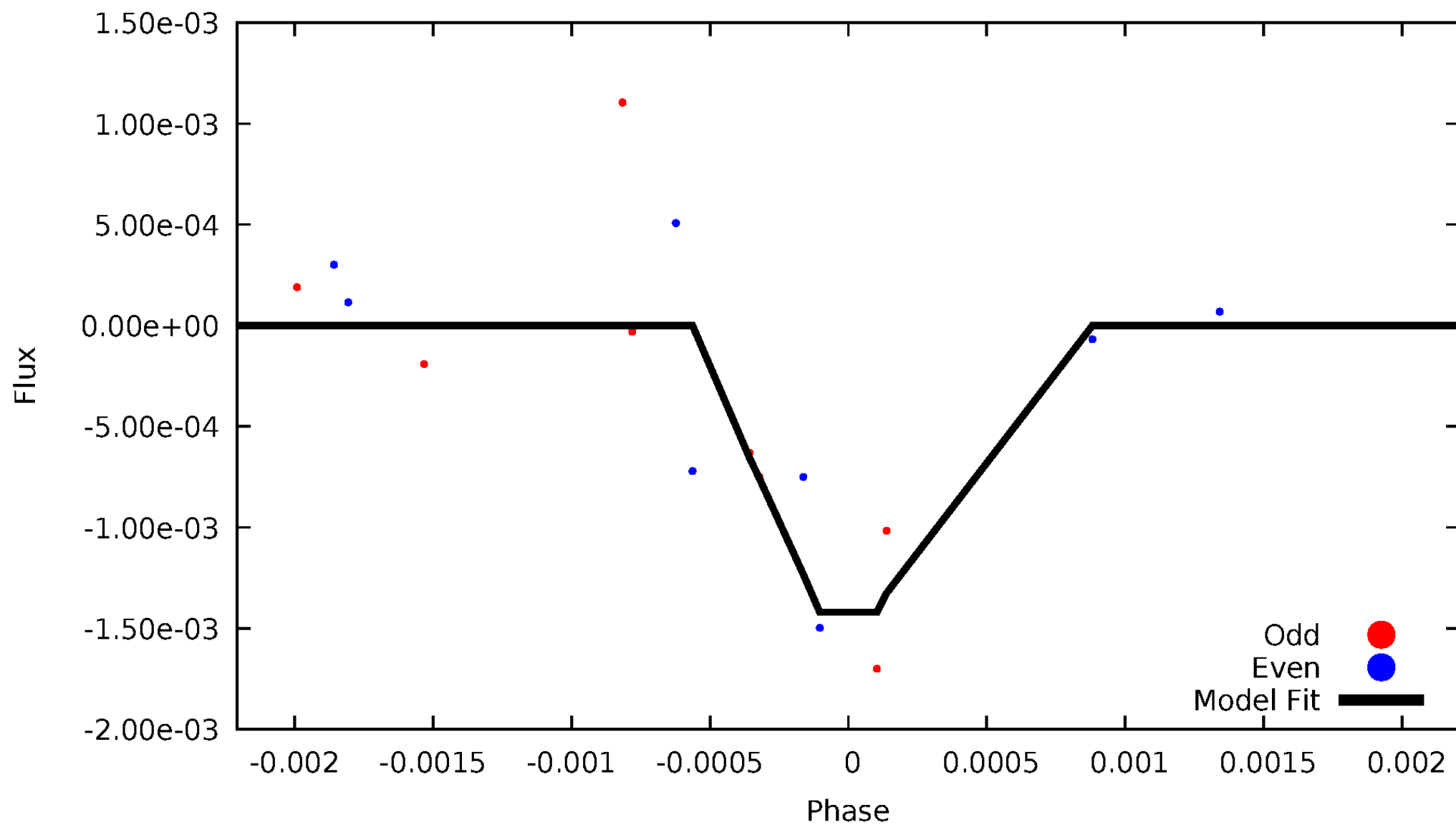
DV Odd/Even

TCE 008579615-02



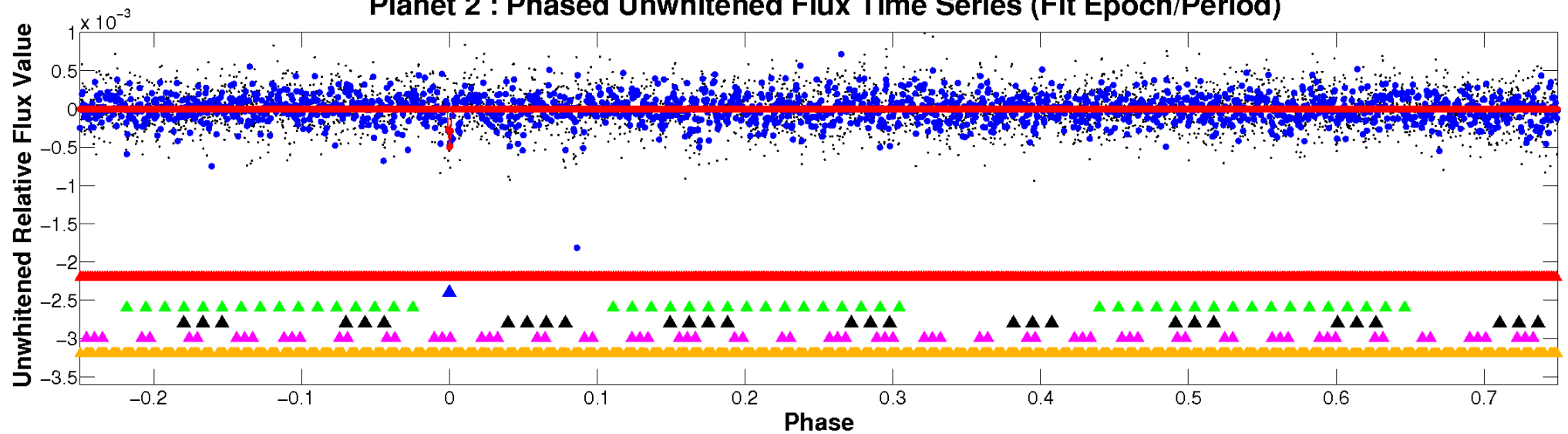
ALT Odd/Even

TCE 008579615-02

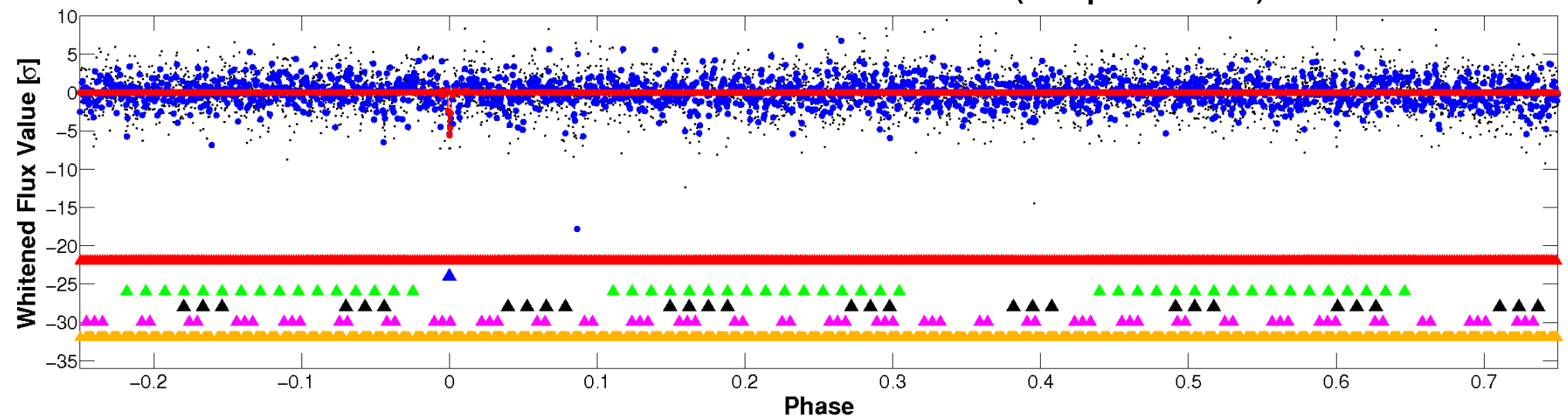


Non-Whitened Vs. Whitened Light Curve

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

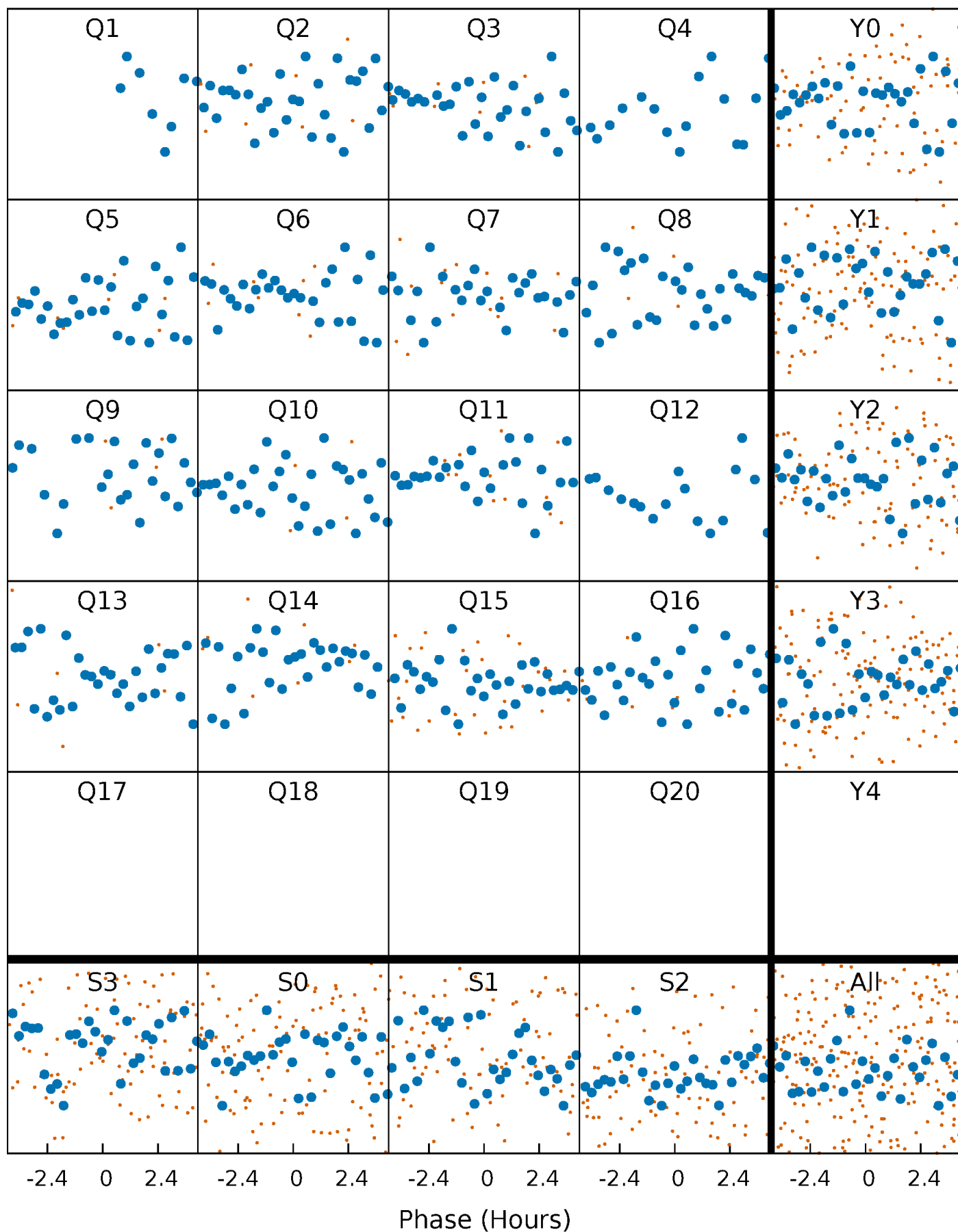


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



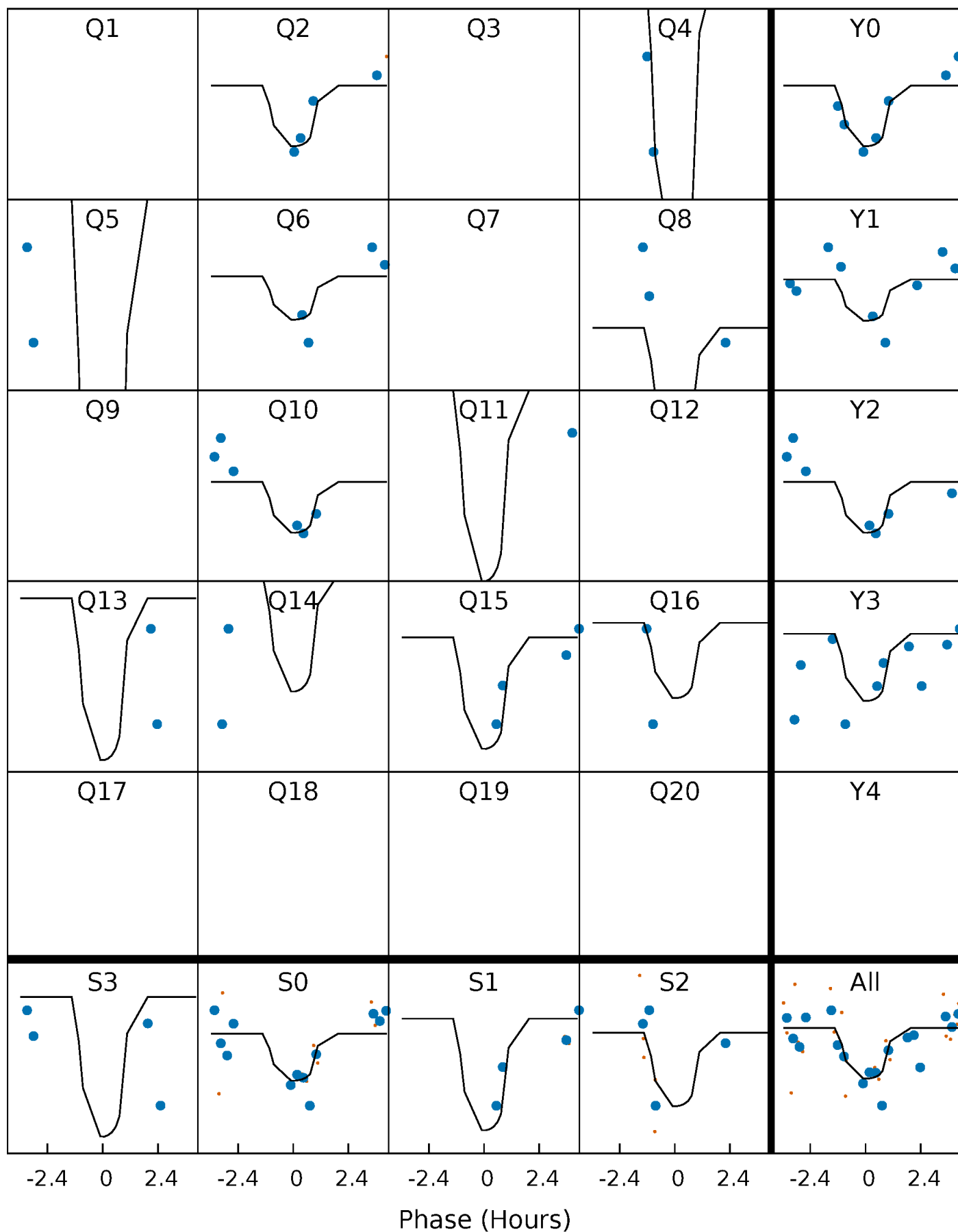
PDC Quarter-Phased Transit Curves

TCE 008579615-02 P= 44.475626 Days $T_0=175.960641$ (BKJD)



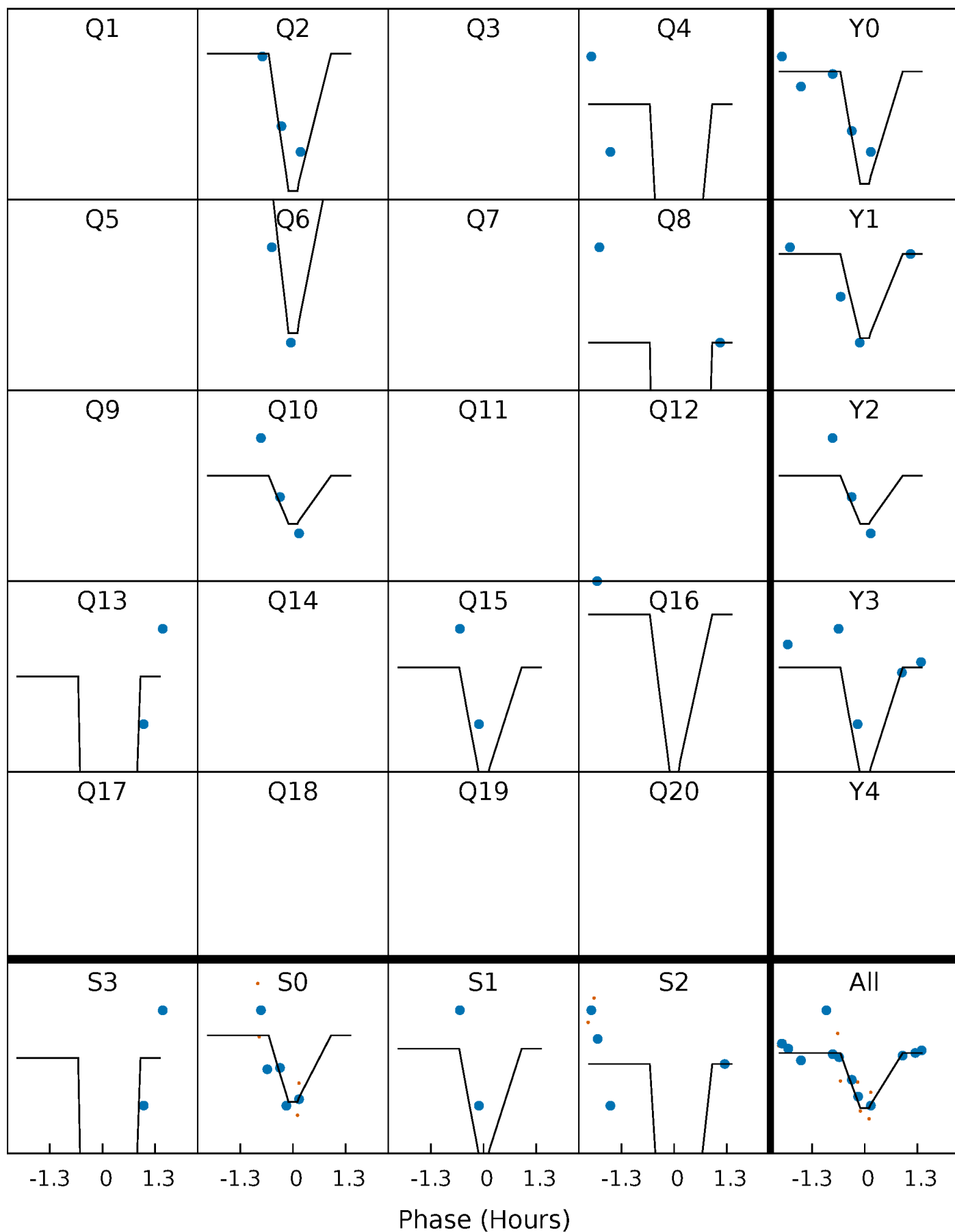
DV Quarter-Phased Transit Curves

TCE 008579615-02 P= 44.475626 Days $T_0=175.960641$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

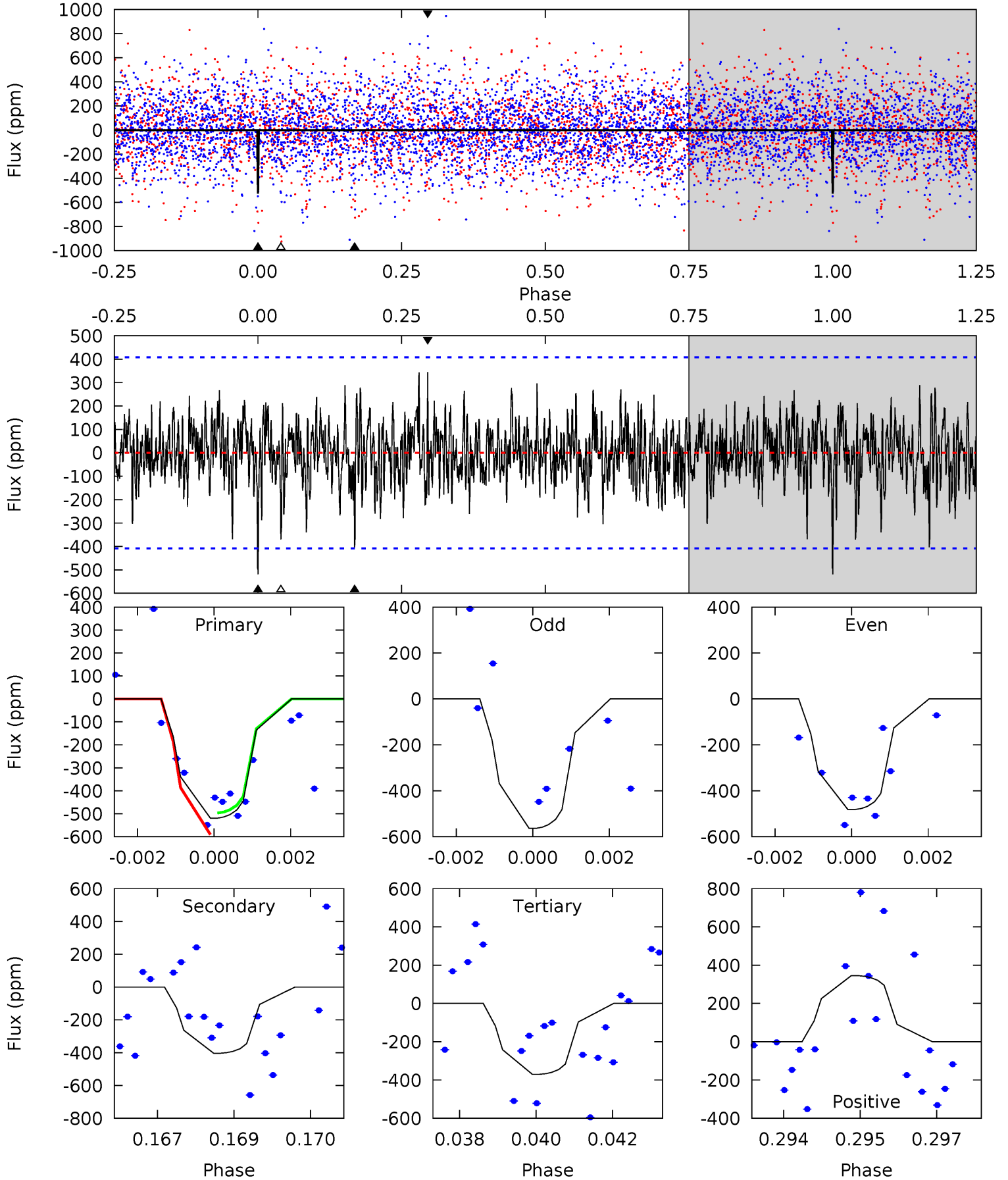
TCE 008579615-02 P= 44.476130 Days $T_0=175.991359$ (BKJD)



DV Model-Shift Uniqueness Test

008579615-02, P = 44.475626 Days, E = 131.485015 Days

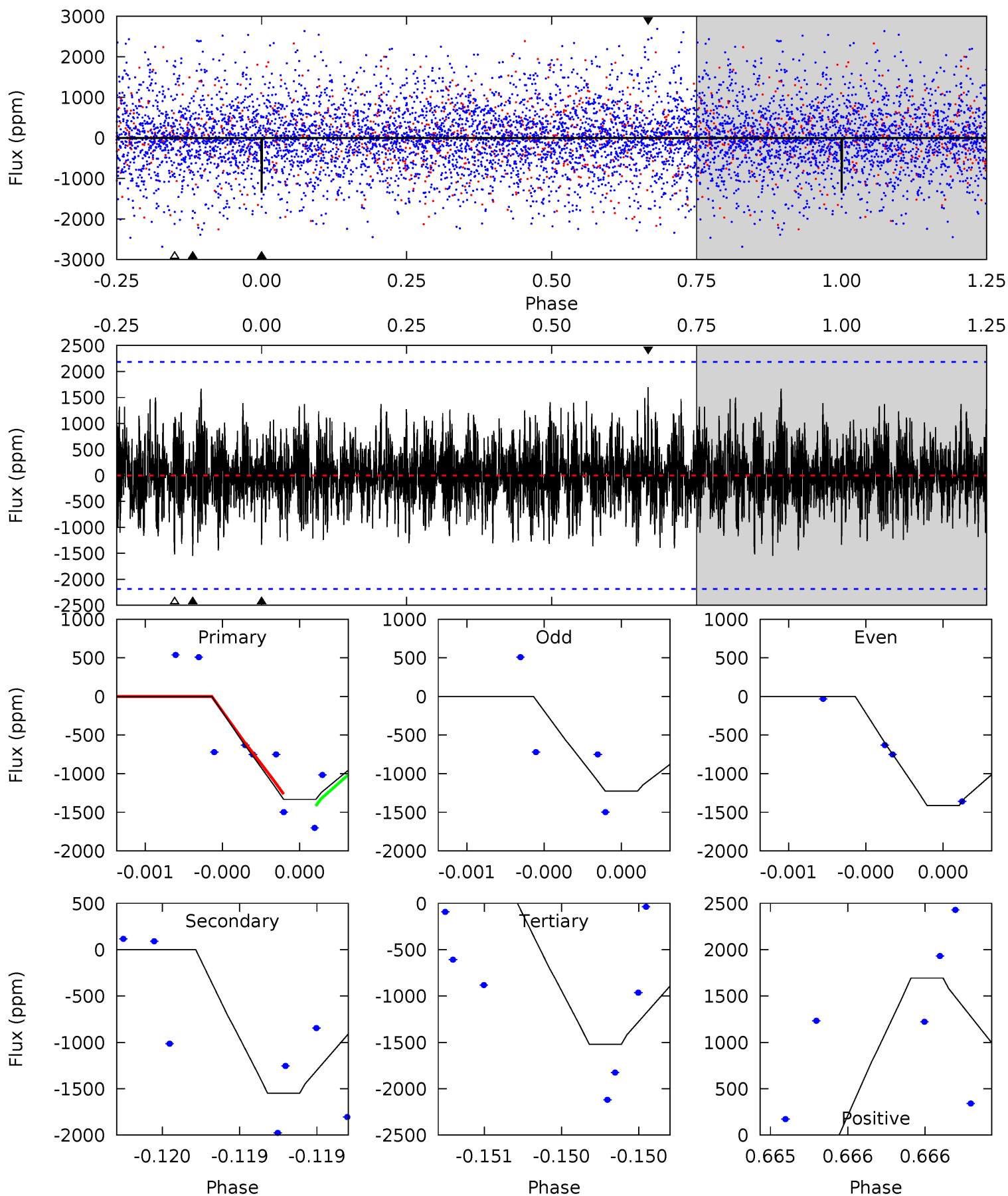
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.80	5.28	4.85	4.52	5.34	3.12	1.40	1.95	2.28	0.43	0.76	0.54	1.04	0.40	0.49



Alt Model-Shift Uniqueness Test

008579615-02, P = 44.476130 Days, E = 131.515229 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.40	3.95	3.88	4.32	5.58	3.48	1.33	-0.48	-0.92	0.07	-0.37	0.24	1.00	0.52	0.17



Stellar Parameters For KIC 008579615

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8435^{+234}_{-368}	$3.990^{+0.228}_{-0.123}$	$0.070^{+0.250}_{-0.600}$	$2.416^{+0.506}_{-0.759}$	$2.078^{+0.346}_{-0.519}$	$0.207^{+0.286}_{-0.077}$
	+3%/-4%	+6%/-3%	+357%/-857%	+21%/-31%	+17%/-25%	+138%/-37%
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 008579615-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-403 ± 76	$9.12^{+8.36}_{-6.09}$	1422^{+97}_{-121}	5994^{+5591}_{-1476}	260^{+1856}_{-190}
Alt.	-1549 ± 392	$11.11^{+9.00}_{-6.82}$	1419^{+103}_{-111}	7675^{+8404}_{-1932}	639^{+3717}_{-438}

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

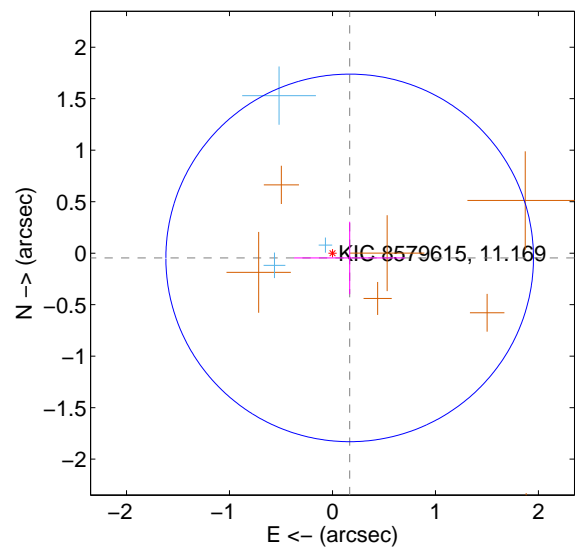
Supplemental centroid analysis for 008579615-02. **Kepler magnitude: 11.17.** Transit SNR 14.24

There are 5 quarters with good PRF difference image offsets

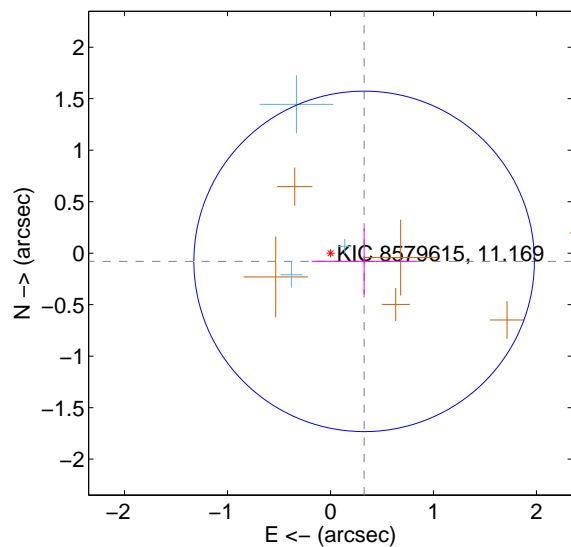
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.173 ± 0.595	0.29	-0.167 ± 0.540	-0.046 ± 0.351
PRF-fit source offset from KIC position	0.336 ± 0.551	0.61	-0.326 ± 0.508	-0.080 ± 0.320
photometric centroid source offset	0.37 ± 0.23	1.61	-0.37 ± 0.23	-0.05 ± 0.15

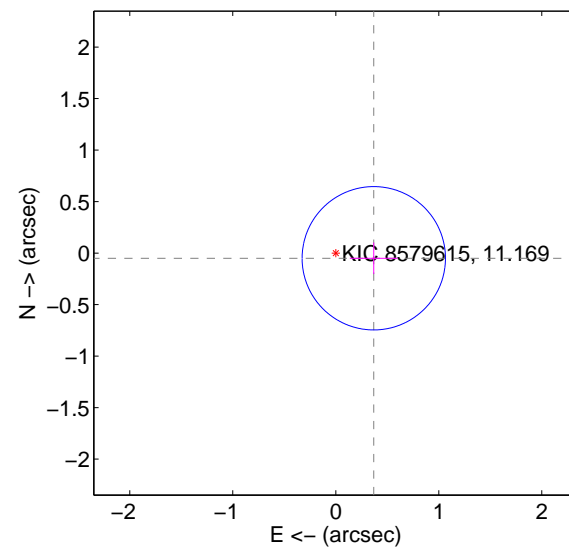
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

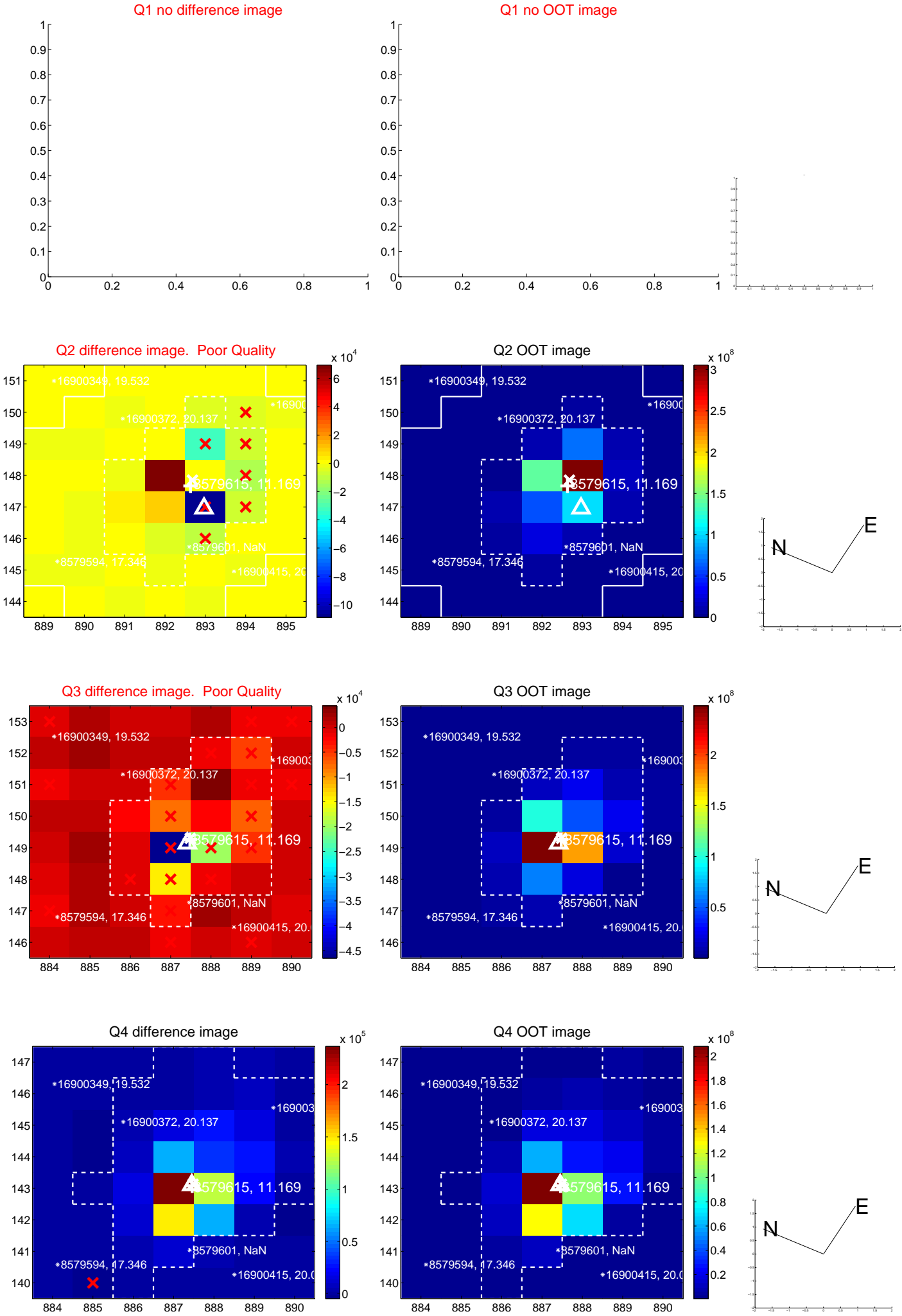


offset from photometric centroids

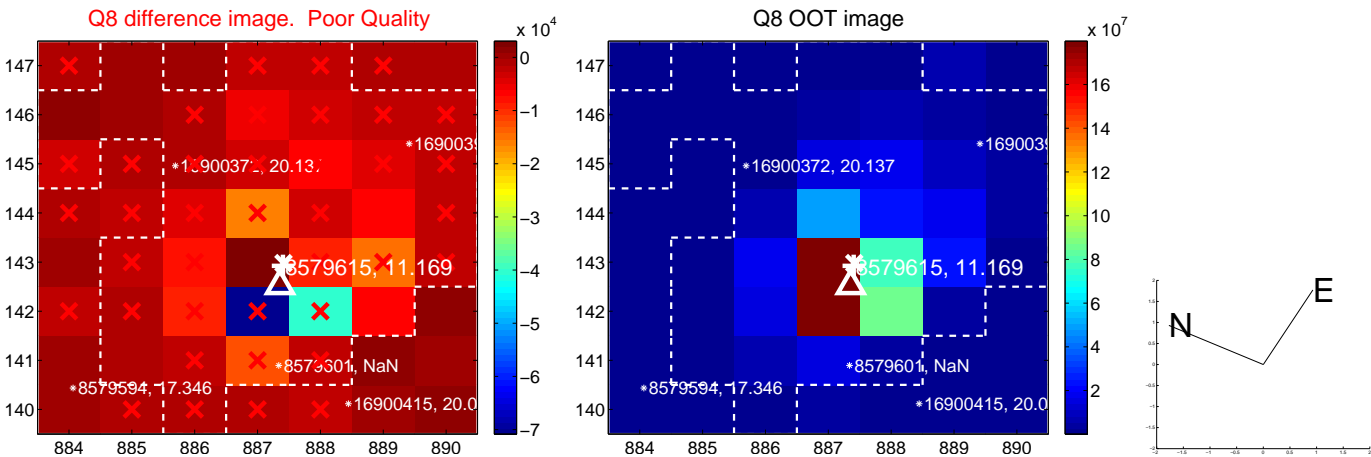
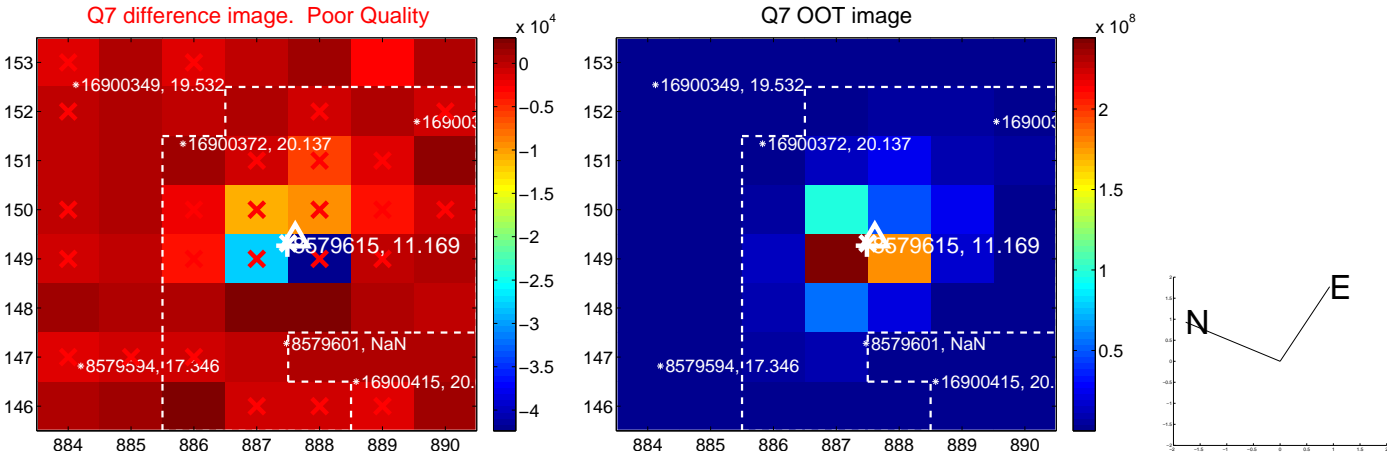
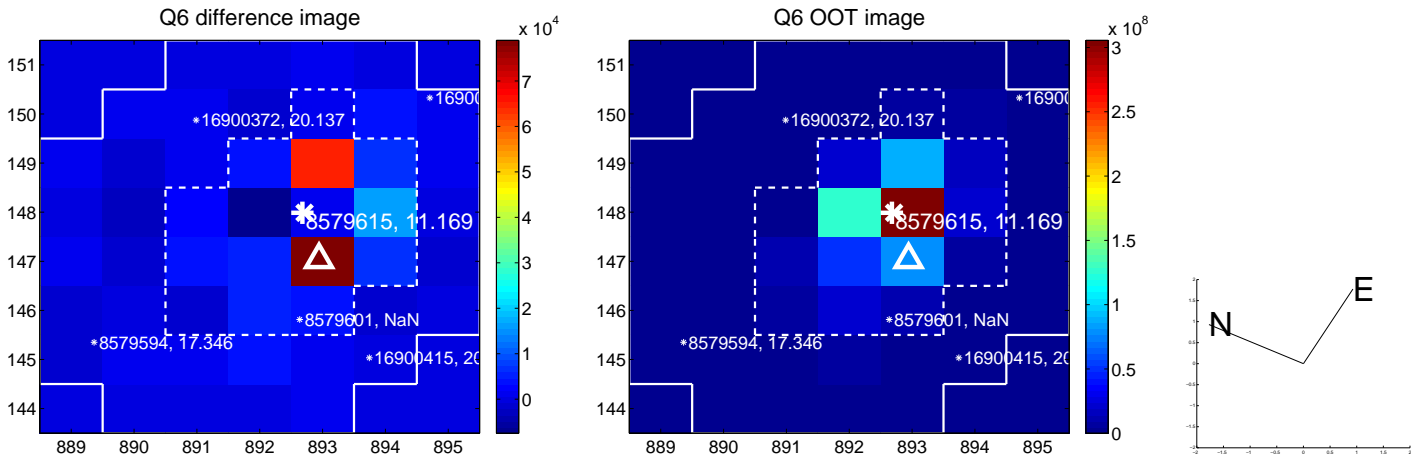
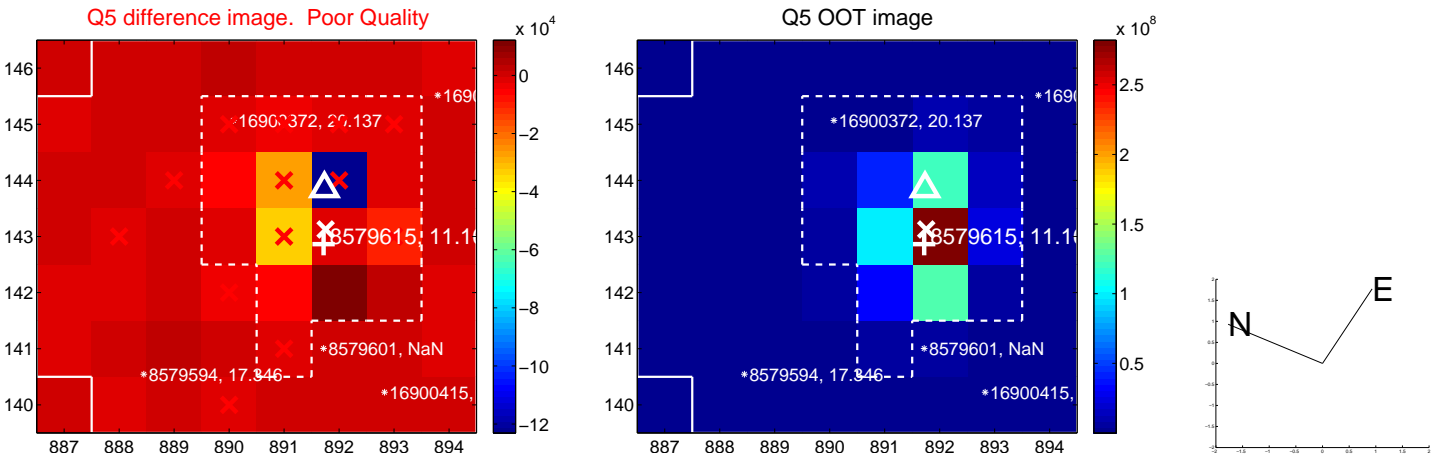


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

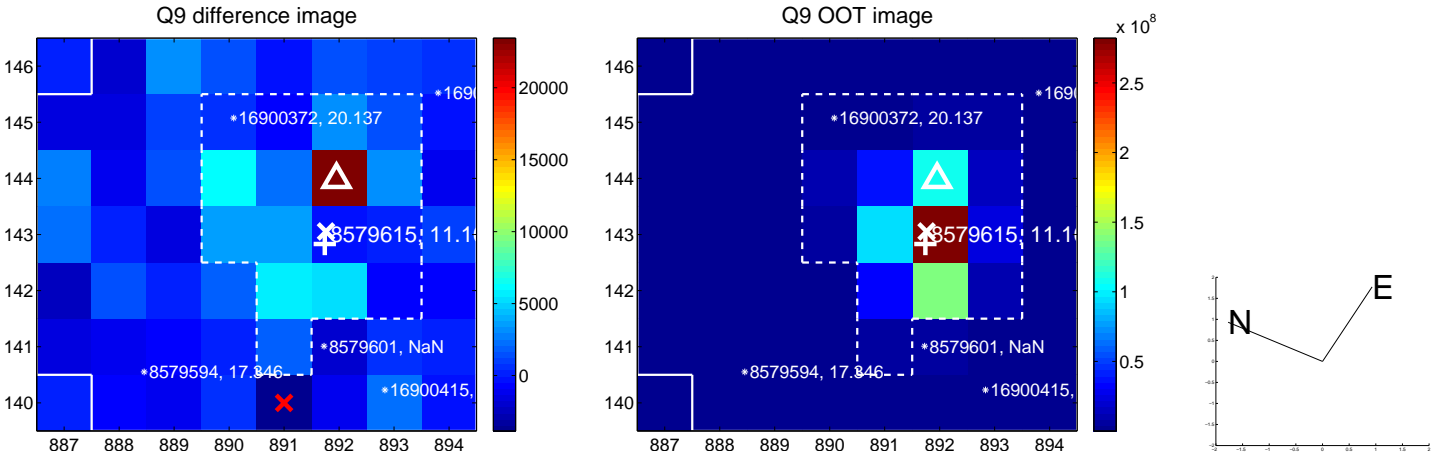
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



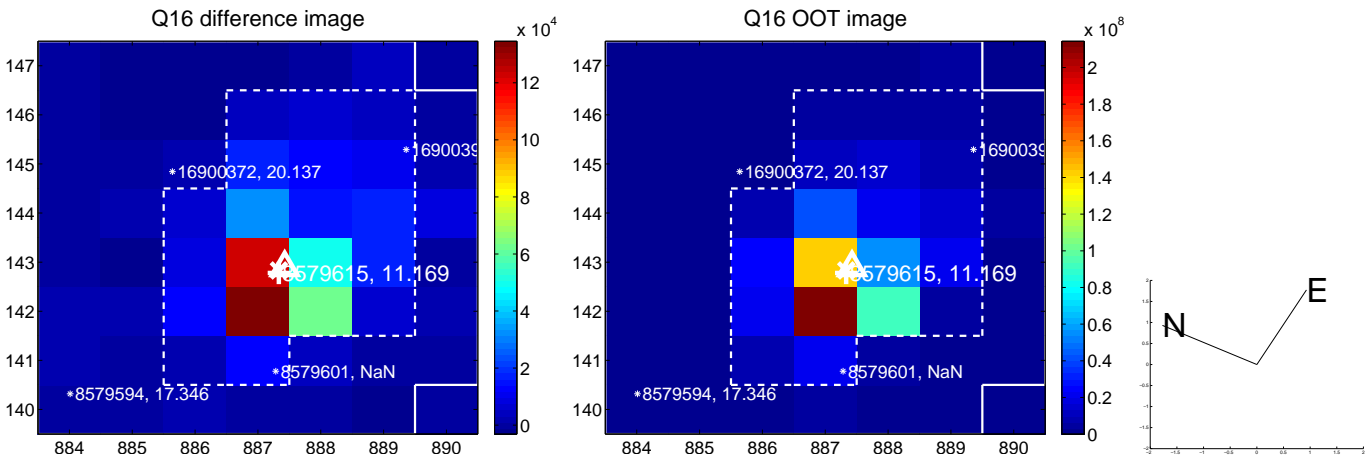
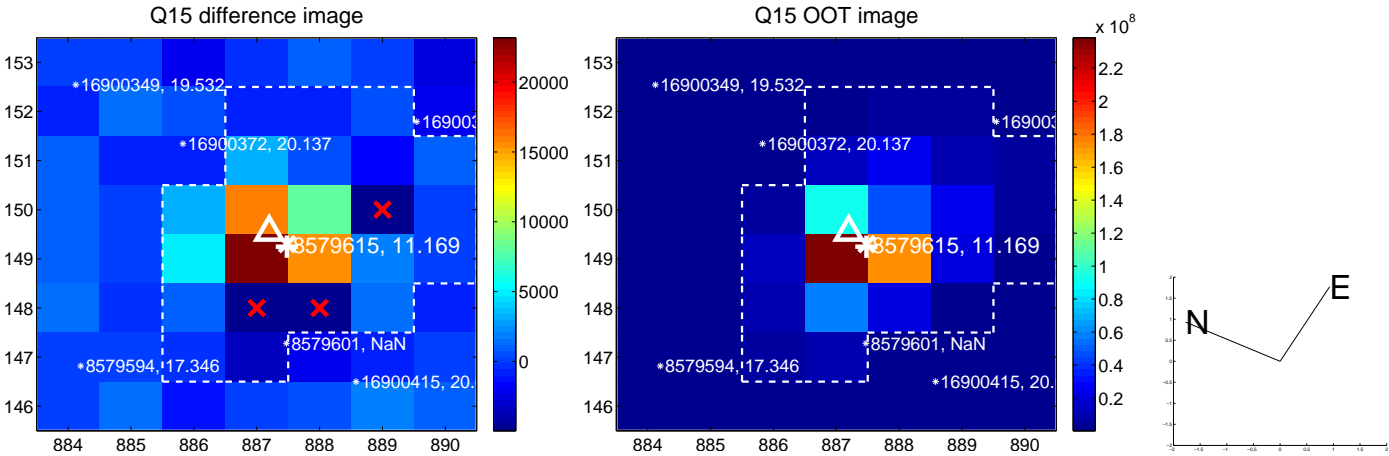
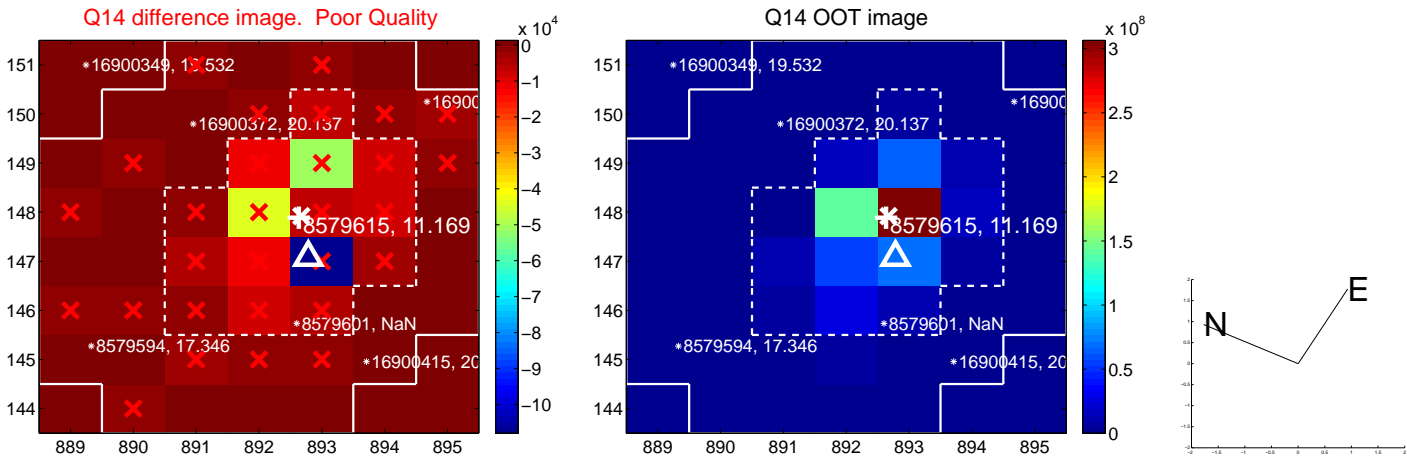
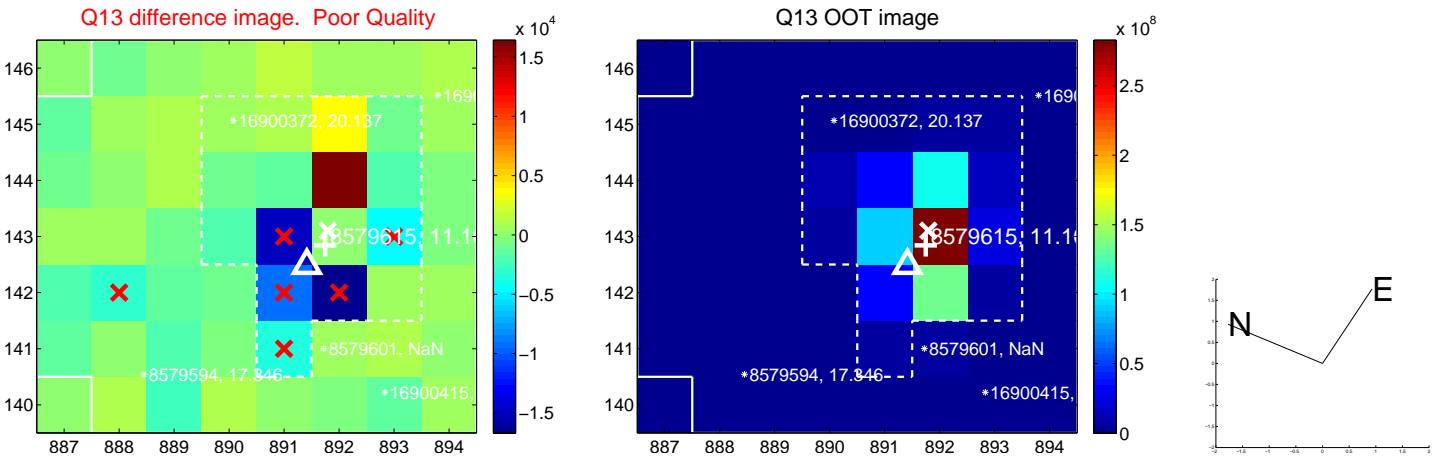
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



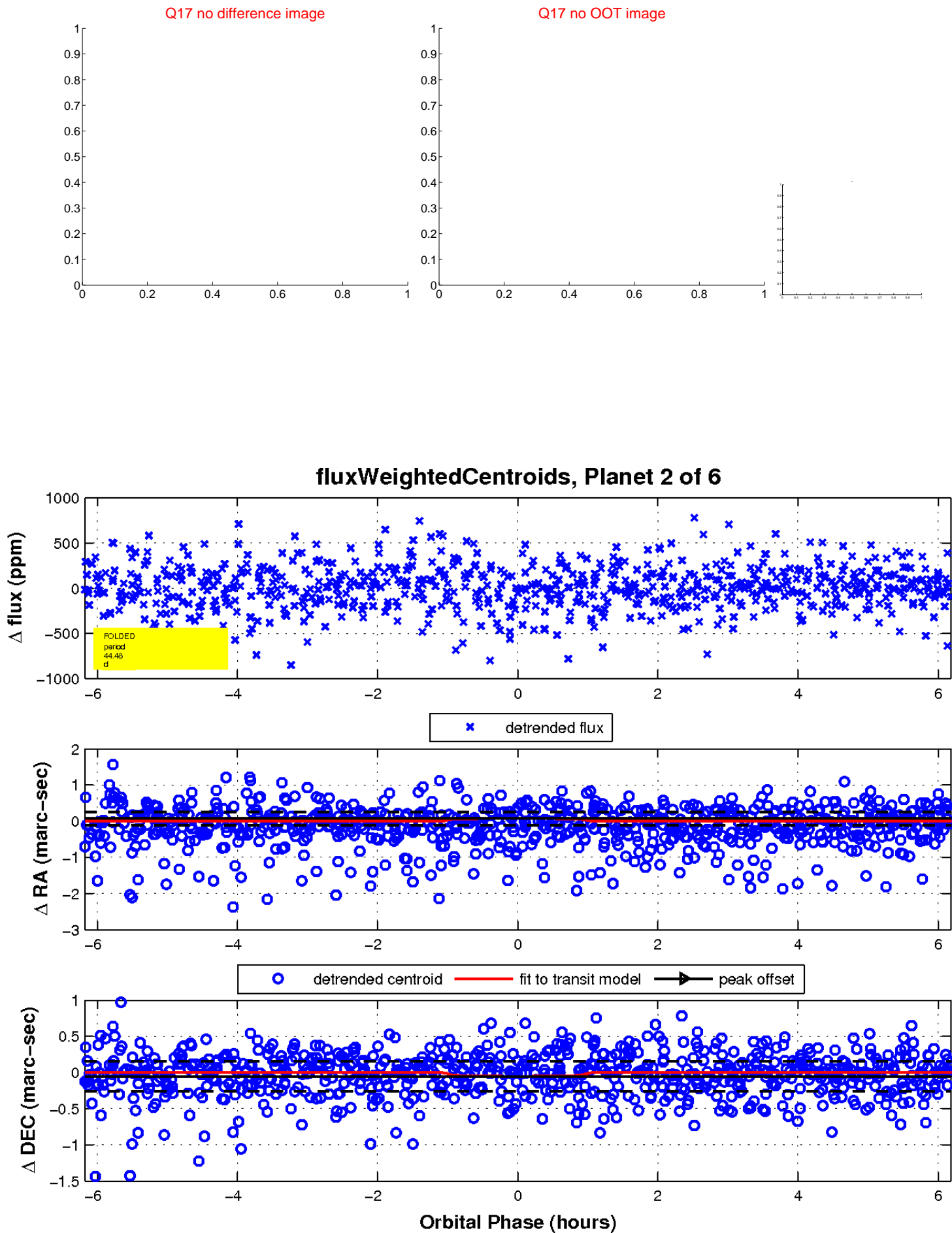
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

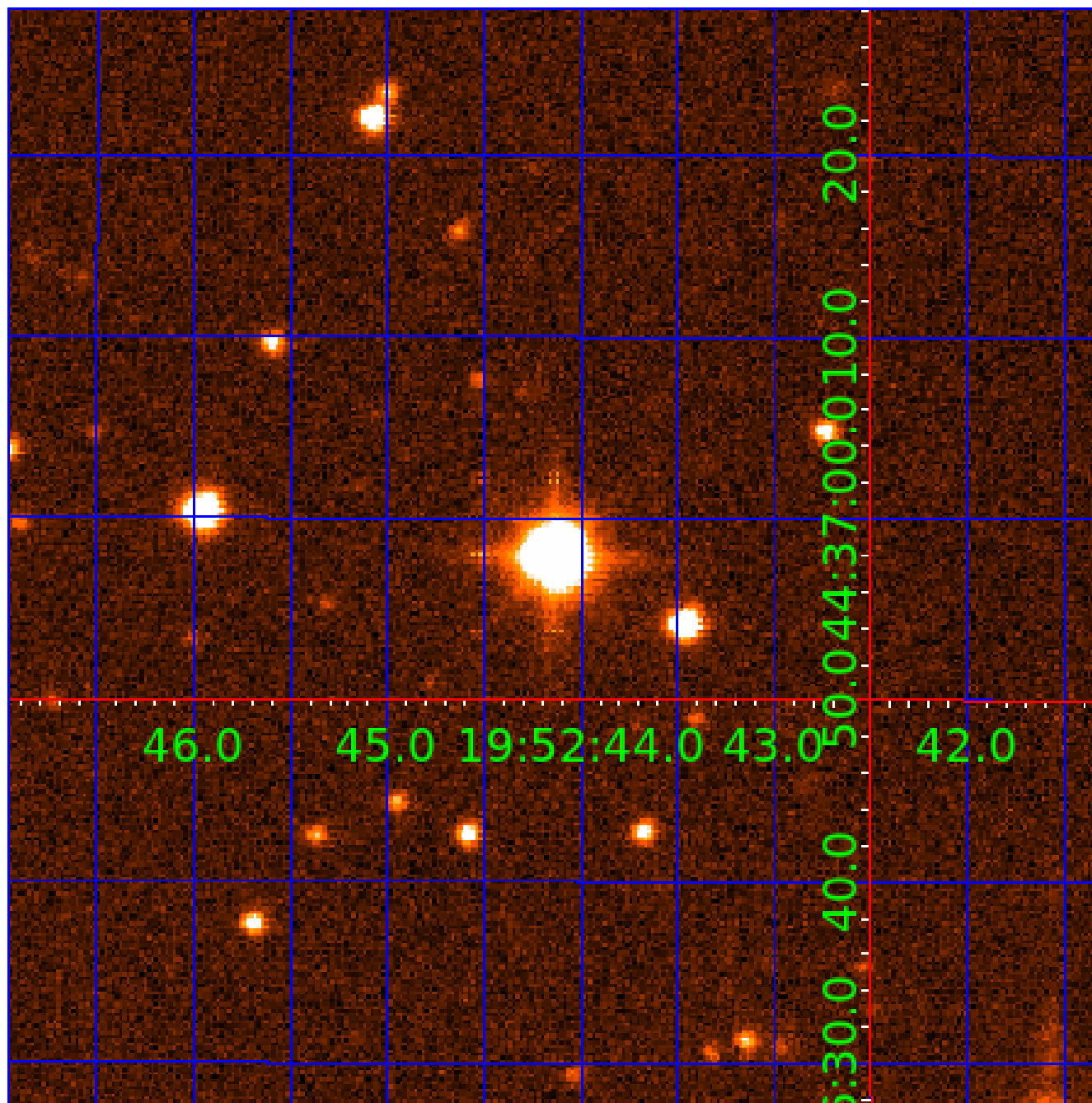


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008579615

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})
008579615-01	OBS	No	0.656201	131.684651	20.0	4.691	10.0	8.2	2.42	8435	1.17	74344.77
008579615-02	OBS	No	44.475626	175.960641	502.4	2.070	12.9	14.2	2.42	8435	5.82	269.03
008579615-03	OBS	No	29.841730	151.047172	559.3	1.445	13.2	15.7	2.42	8435	6.35	458.00
008579615-04	OBS	No	49.353319	179.453950	577.6	1.228	14.1	12.2	2.42	8435	6.25	234.18
008579615-05	OBS	No	19.264718	143.407113	335.7	2.627	14.2	12.3	2.42	8435	4.59	820.88
008579615-06	OBS	No	1.985889	132.420369	213.3	1.500	14.8	-1.0	2.42	8435	3.59	16983.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008579615-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED
008579615-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
008579615-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—CENT_SATURATED
008579615-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—CENT_SATURATED—HALO_GHOST
008579615-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
008579615-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

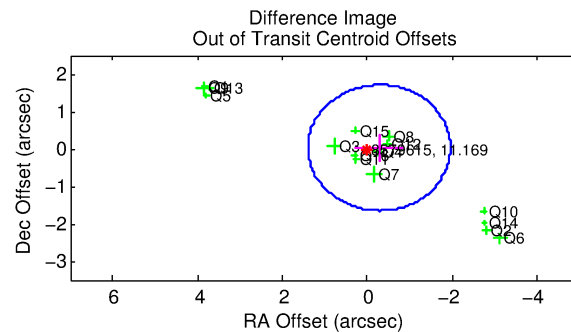
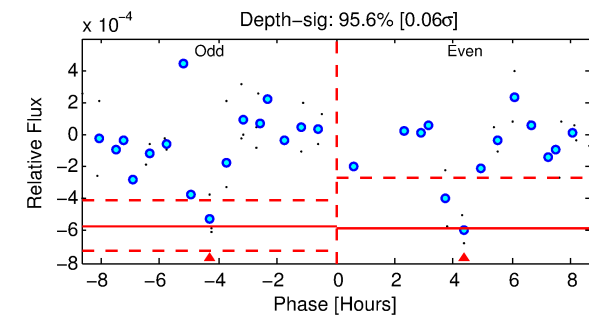
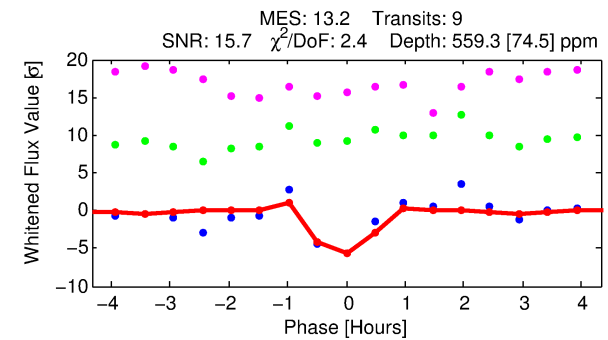
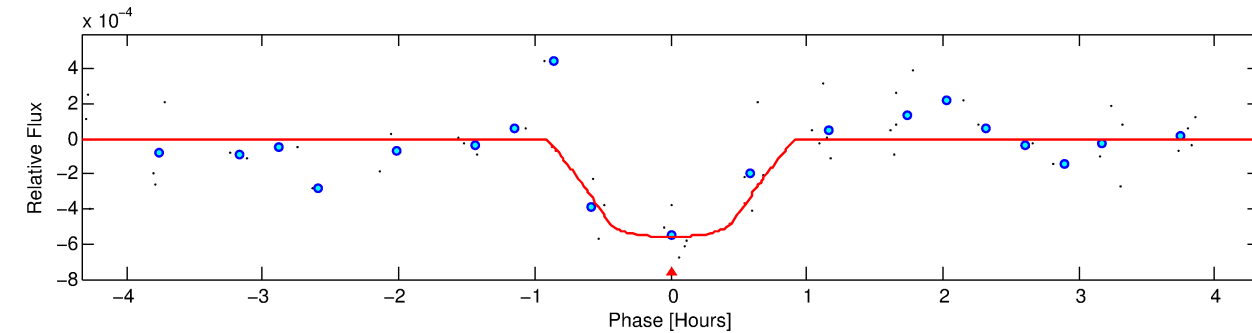
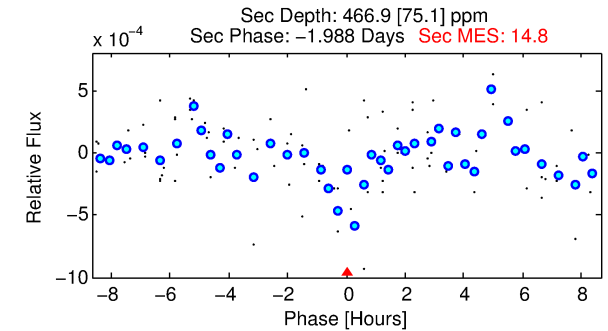
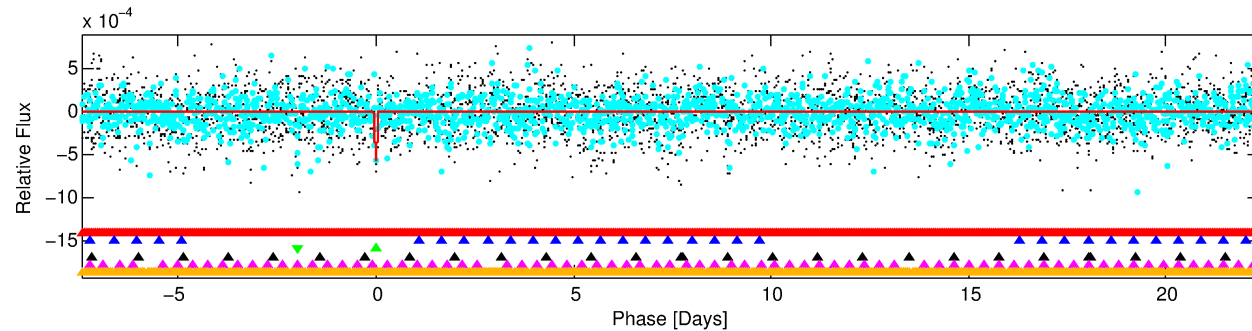
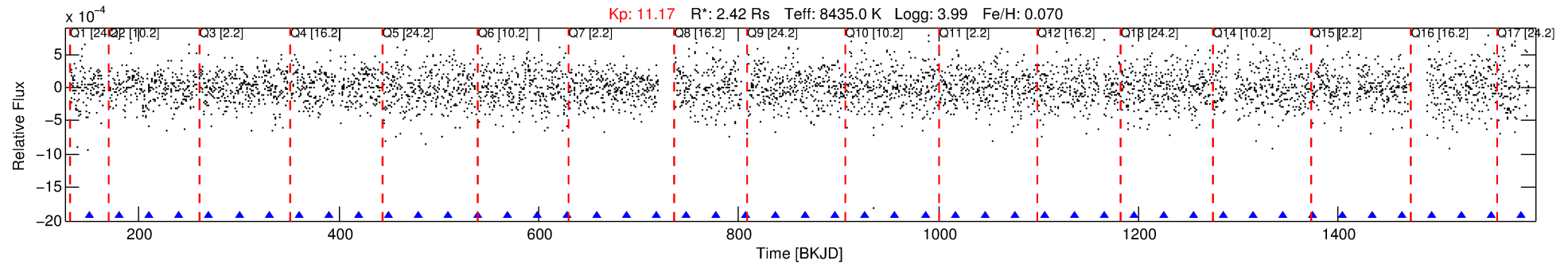
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008579615-03

No Significant Match Found

DV One-Page Summary

KIC: 8579615 Candidate: 3 of 6 Period: 29.842 d



DV Fit Results:

Period = 29.84173 [0.00015] d
Epoch = 151.0472 [0.0039] BKJD
Rp/R* = 0.0241 [0.0216]
a/R* = 98.51 [526.99]
b = 0.81 [2.30]
Seff = 458.00 [203.19]
Teq = 1180 [131] K
Rp = 6.35 [6.04] Re
a = 0.2404 [0.0656] AU
Ag = 367.74 [678.88] [0.54 σ]
Teffp = 7987 [3612] K [1.88 σ]

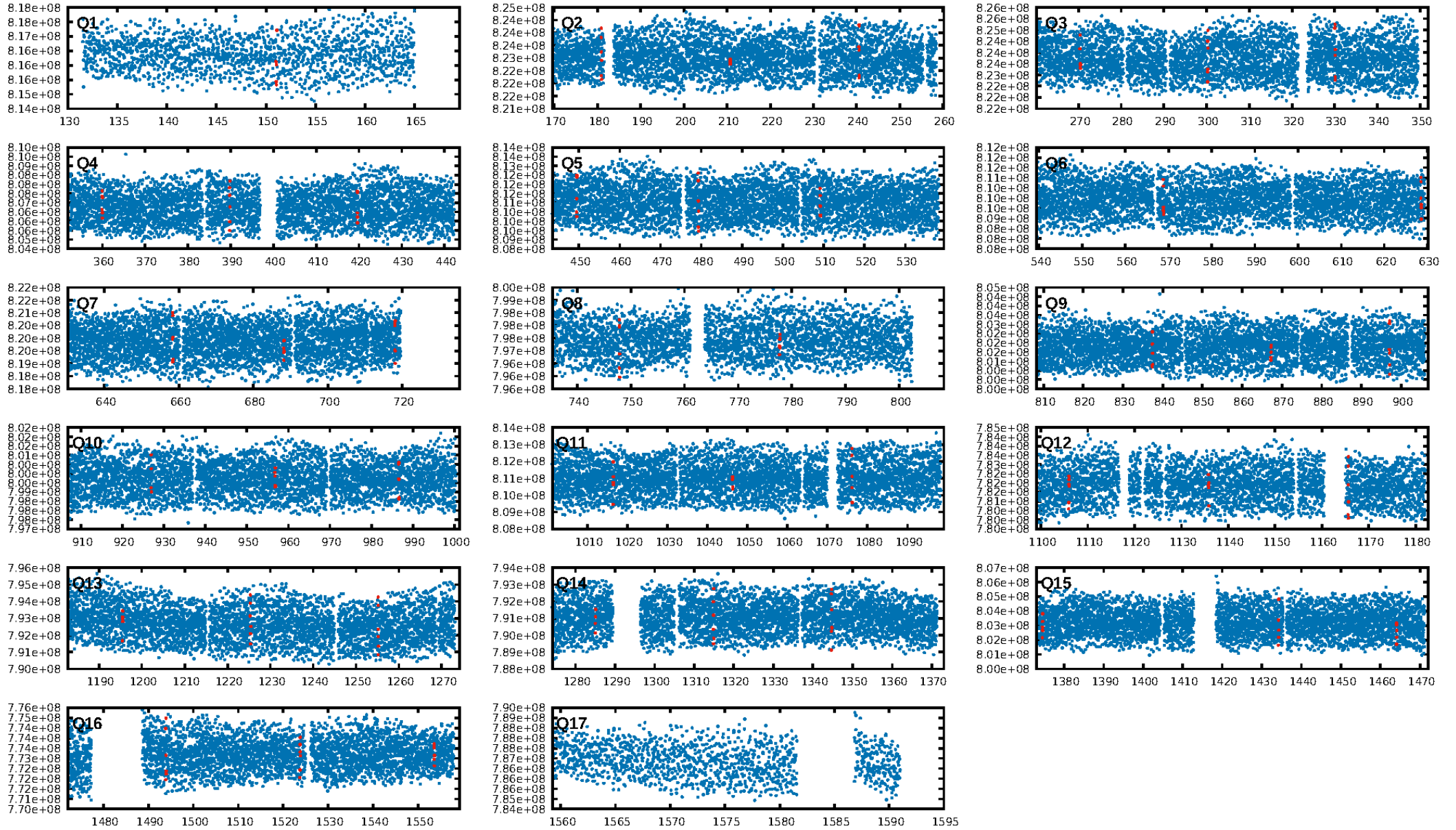
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [84.67 σ]
LongPeriod-sig: 100.0% [139.13 σ]
ModelChiSquare2-sig: 5.1%
ModelChiSquareGof-sig: 98.1%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: 0.8148
Centroid-sig: 5.3%
Centroid-so: 0.350 arcsec [2.31 σ]
OotOffset-rm: 0.288 arcsec [0.51 σ]
OotOffset-st: 4/4/4 [16]
KicOffset-rm: 0.189 arcsec [0.37 σ]
KicOffset-st: 4/4/4 [16]
DiffImageQuality-fgm: 0.38 [6/16]
DiffImageOverlap-fno: 0.00 [0/16]

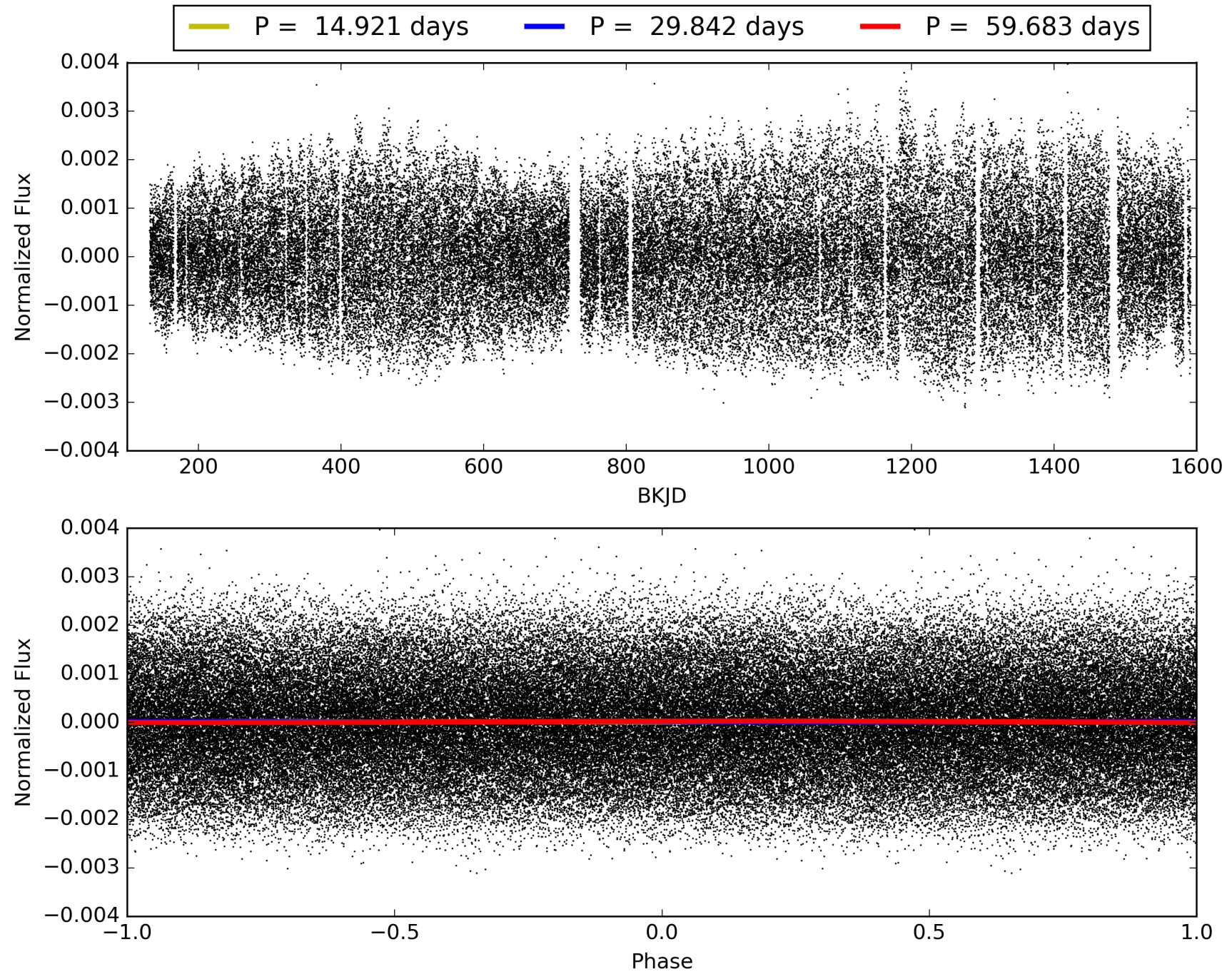
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:36:04 Z

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

TCE 008579615-03, PDC Light Curves

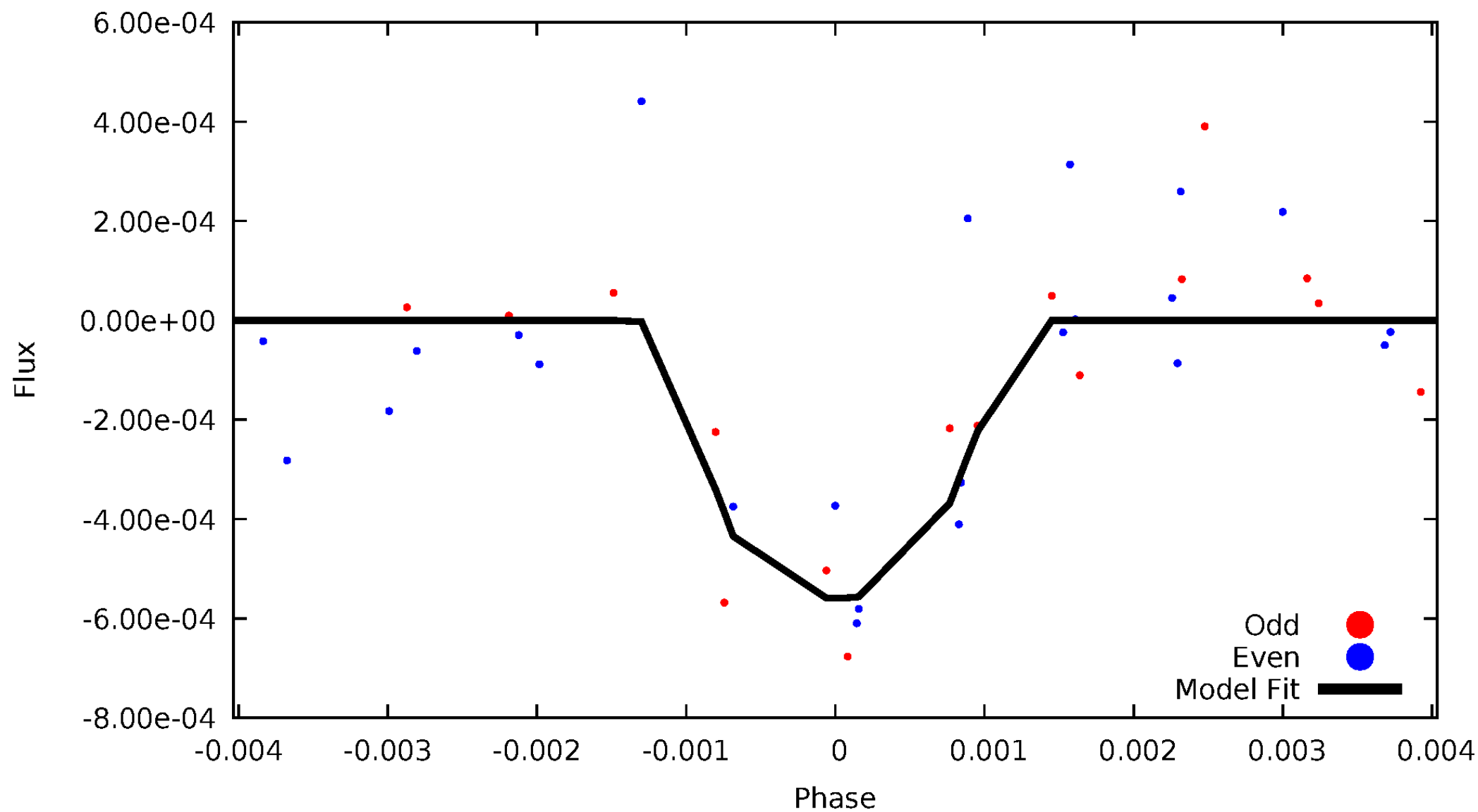


TCE 008579615-03



DV Odd/Even

TCE 008579615-03

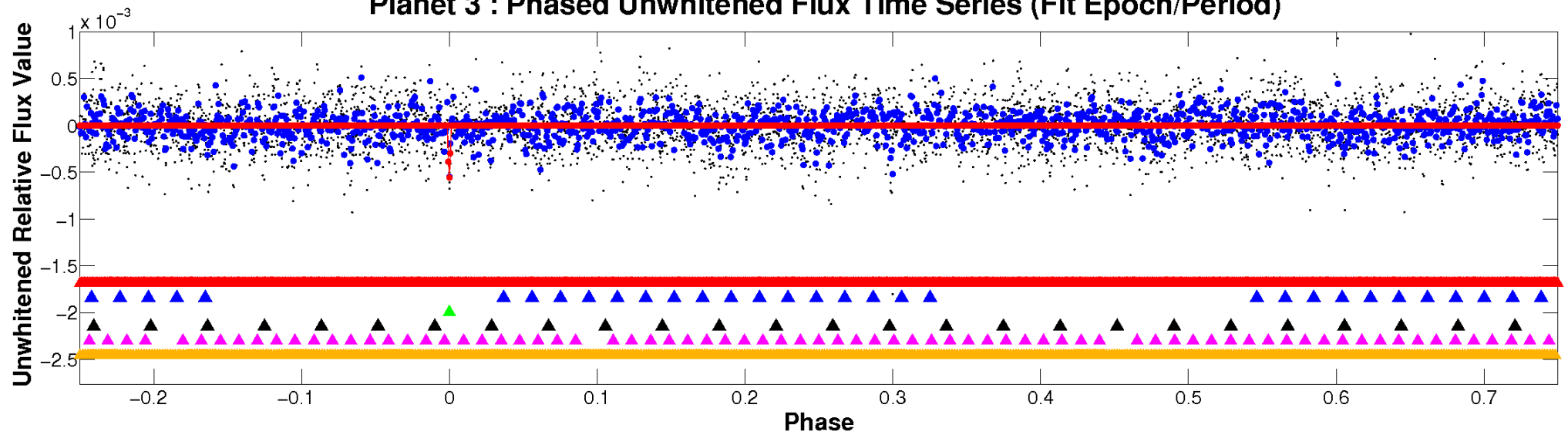


ALT Odd/Even

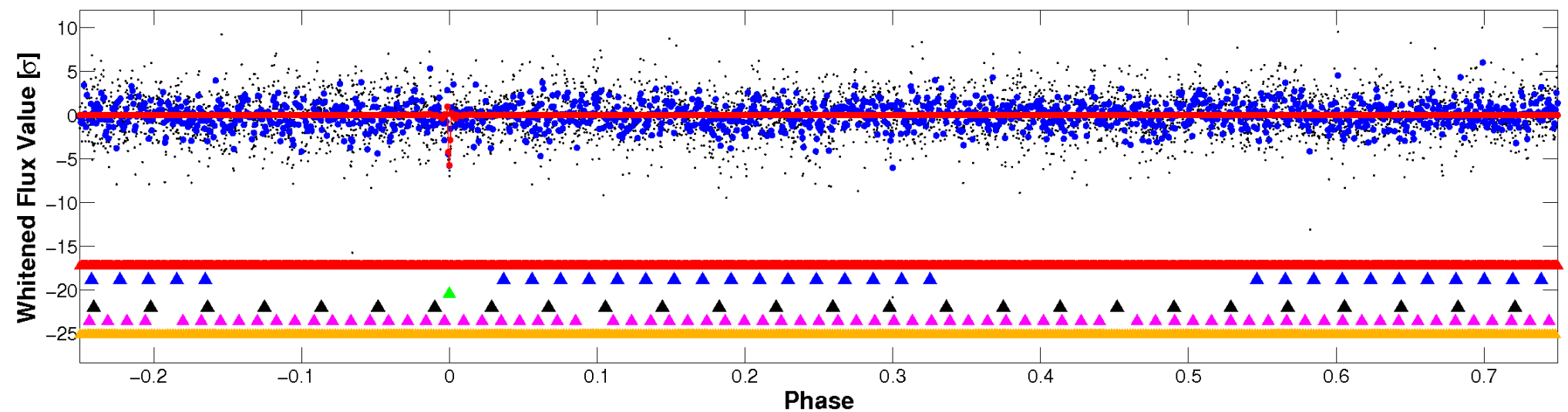
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

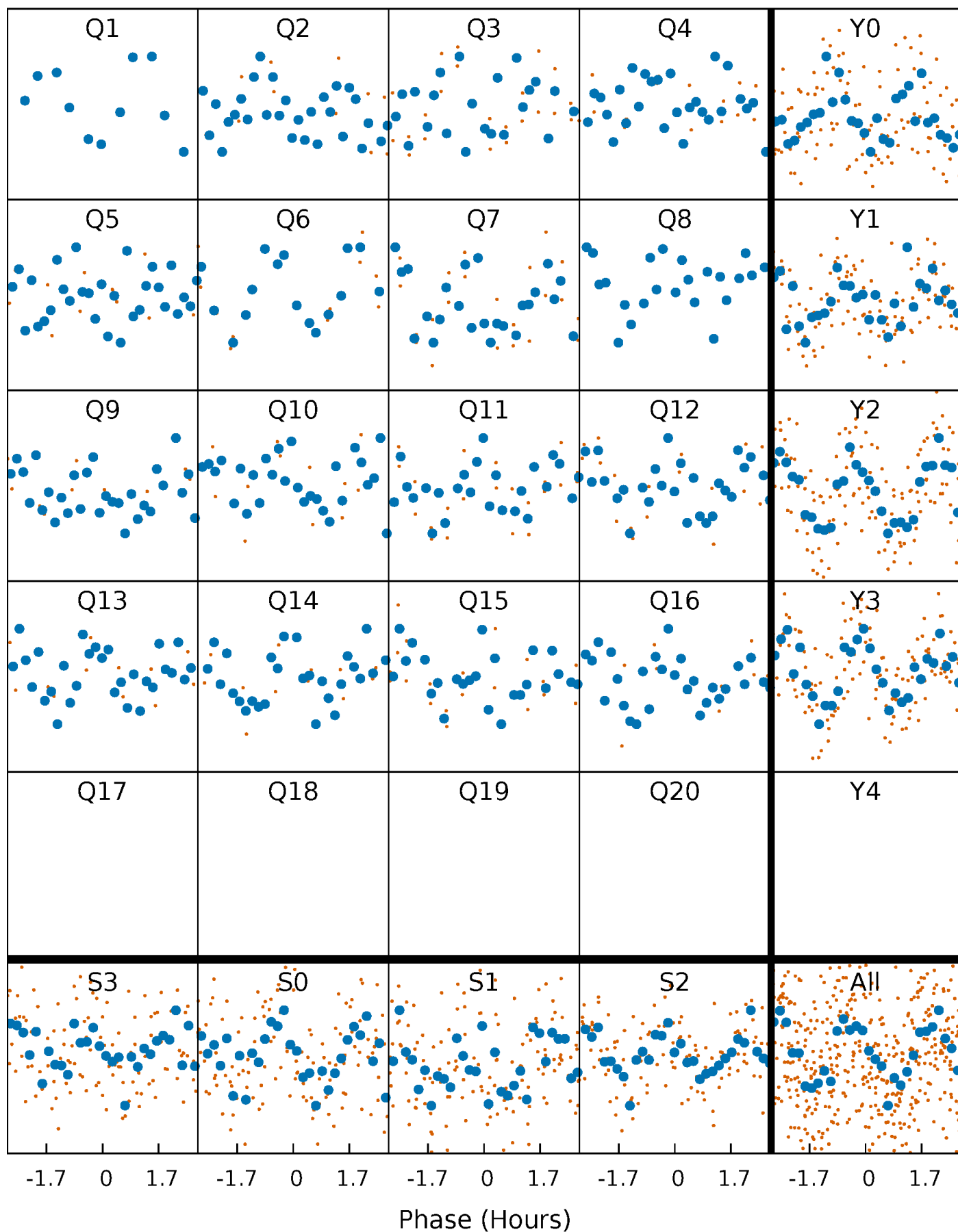


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



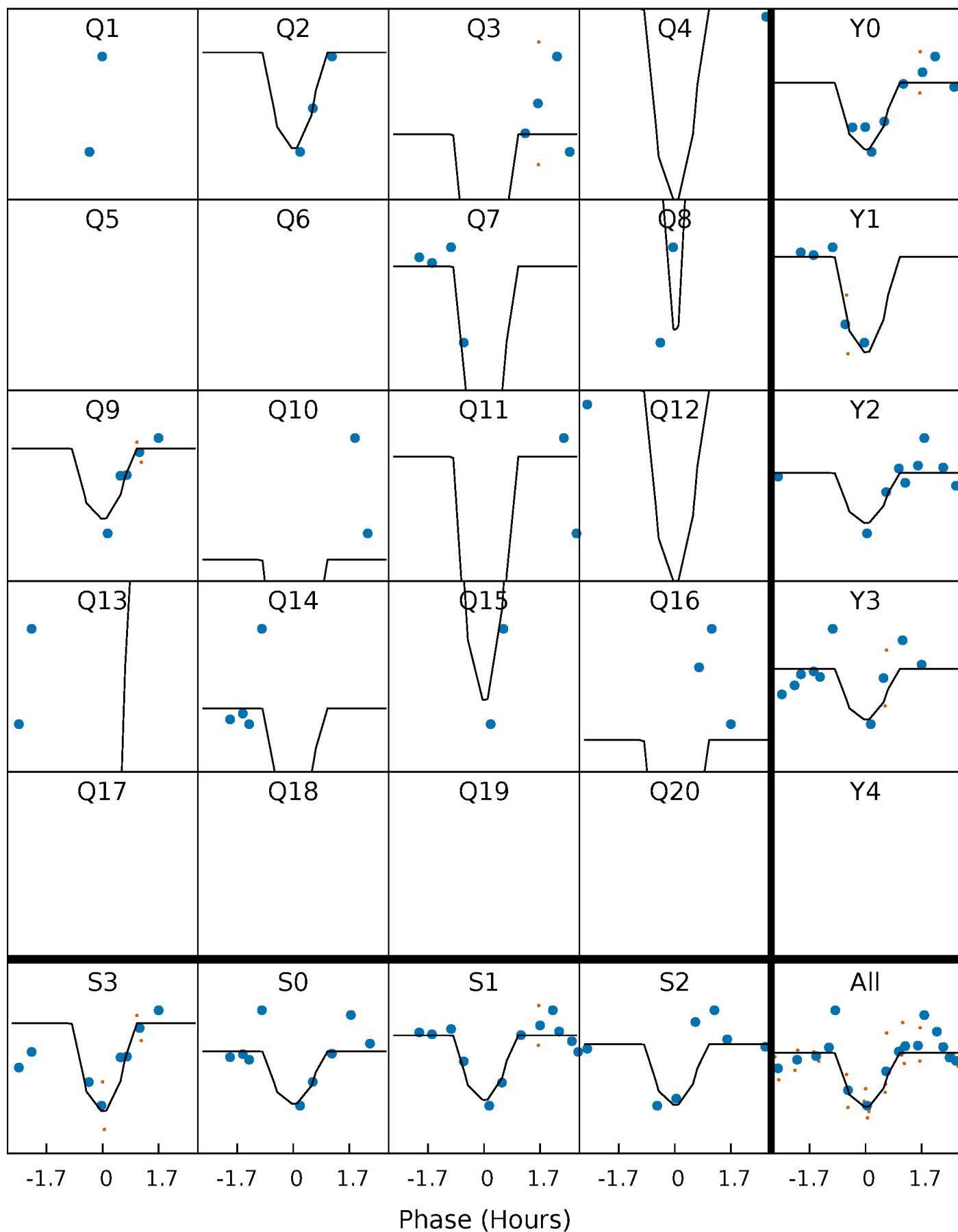
PDC Quarter-Phased Transit Curves

TCE 008579615-03 P= 29.841730 Days $T_0=151.047172$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008579615-03 P= 29.841730 Days $T_0=151.047172$ (BKJD)

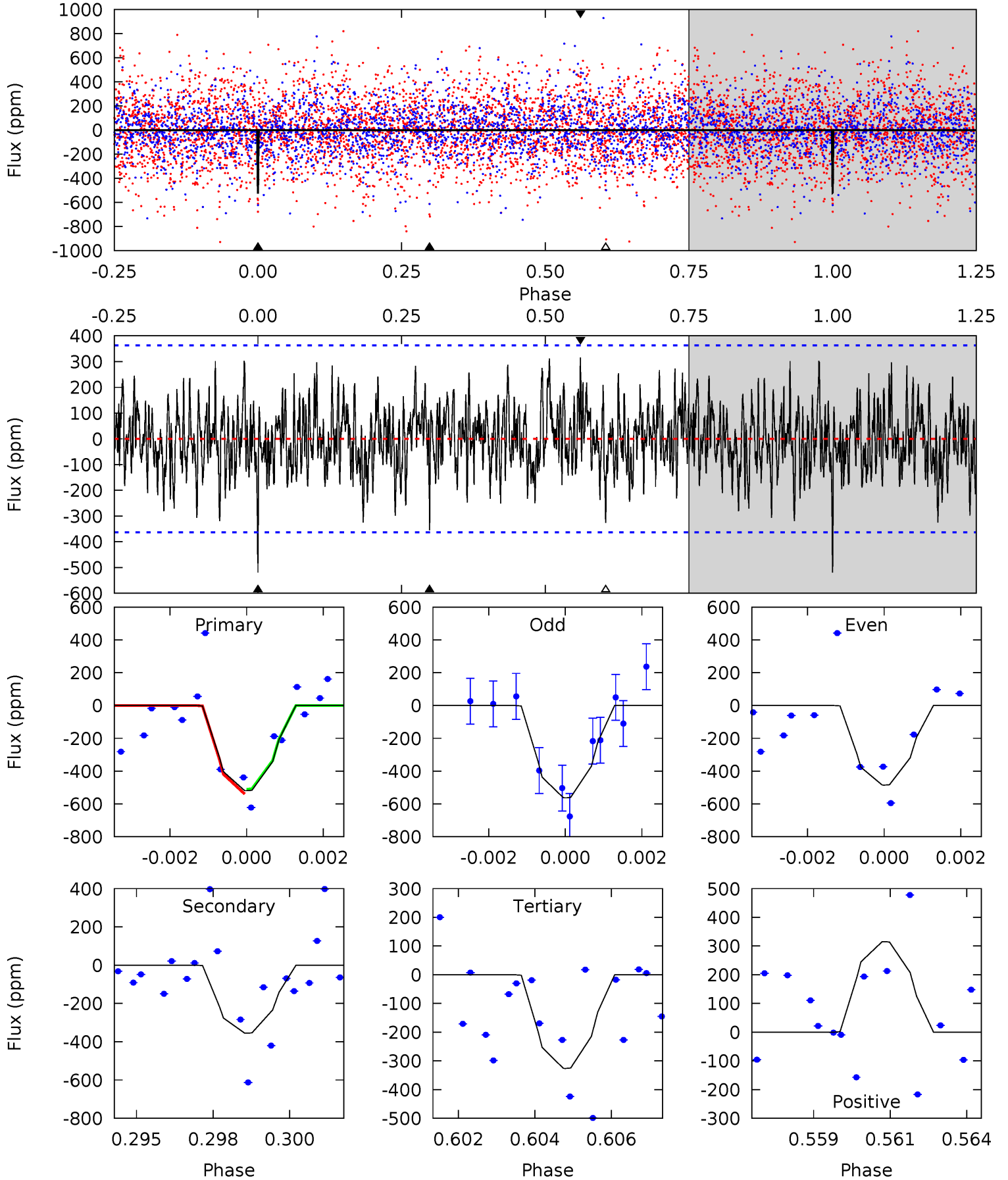


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

008579615-03, P = 29.841730 Days, E = 121.205442 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.59	5.19	4.77	4.61	5.30	3.05	1.57	2.82	2.98	0.42	0.59	0.56	0.96	0.38	0.20



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 008579615

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8435^{+234}_{-368}	$3.990^{+0.228}_{-0.123}$	$0.070^{+0.250}_{-0.600}$	$2.416^{+0.506}_{-0.759}$	$2.078^{+0.346}_{-0.519}$	$0.207^{+0.286}_{-0.077}$
	+3%/-4%	+6%/-3%	+357%/-857%	+21%/-31%	+17%/-25%	+138%/-37%
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 008579615-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-355 ± 68	$6.94^{+4.92}_{-4.17}$	1621^{+111}_{-118}	6749^{+5174}_{-1552}	235^{+1164}_{-157}
Alt.	N/A	N/A	N/A	N/A	N/A

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

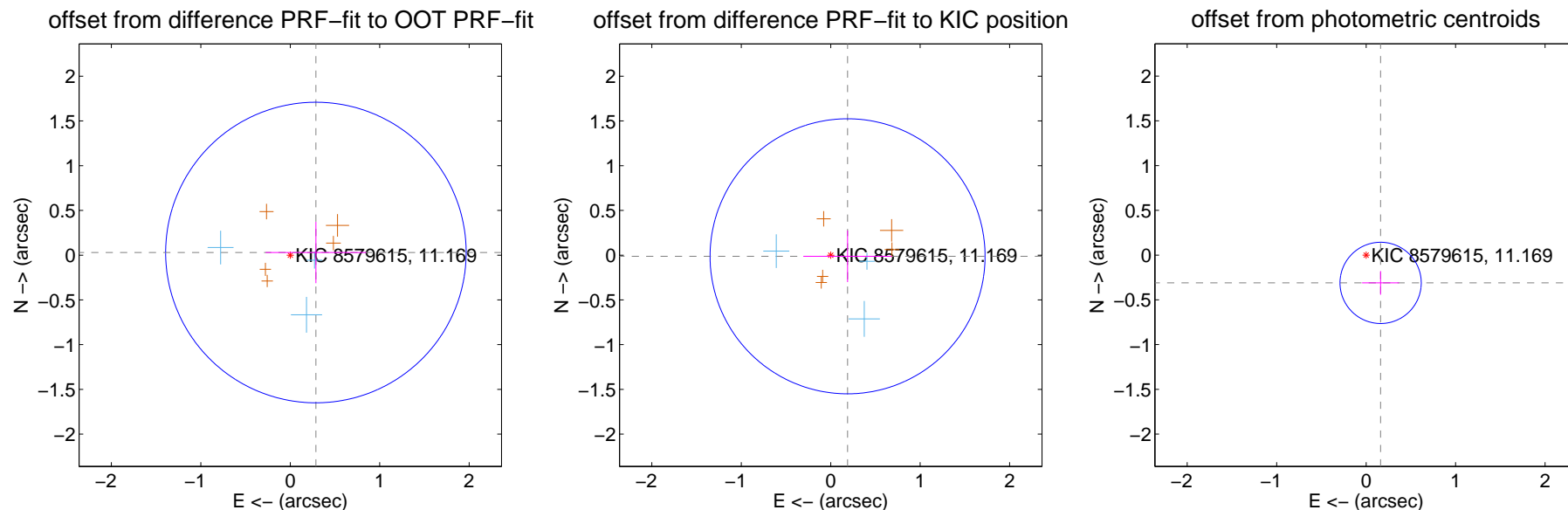
DV Centroid Data

Supplemental centroid analysis for 008579615-03. **Kepler magnitude: 11.17.** Transit SNR 15.73

There are 6 quarters with good PRF difference image offsets

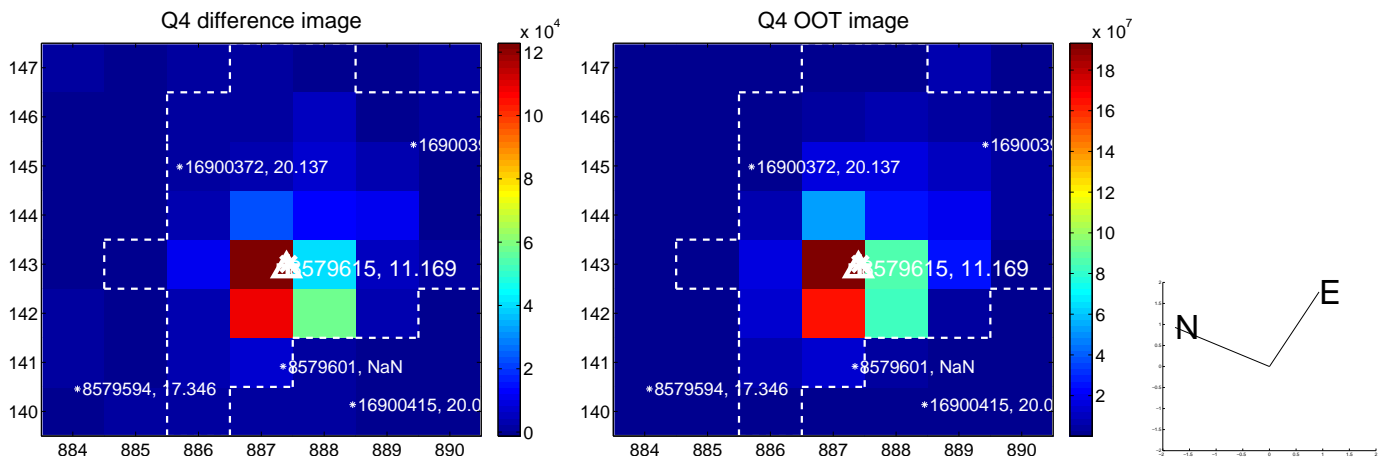
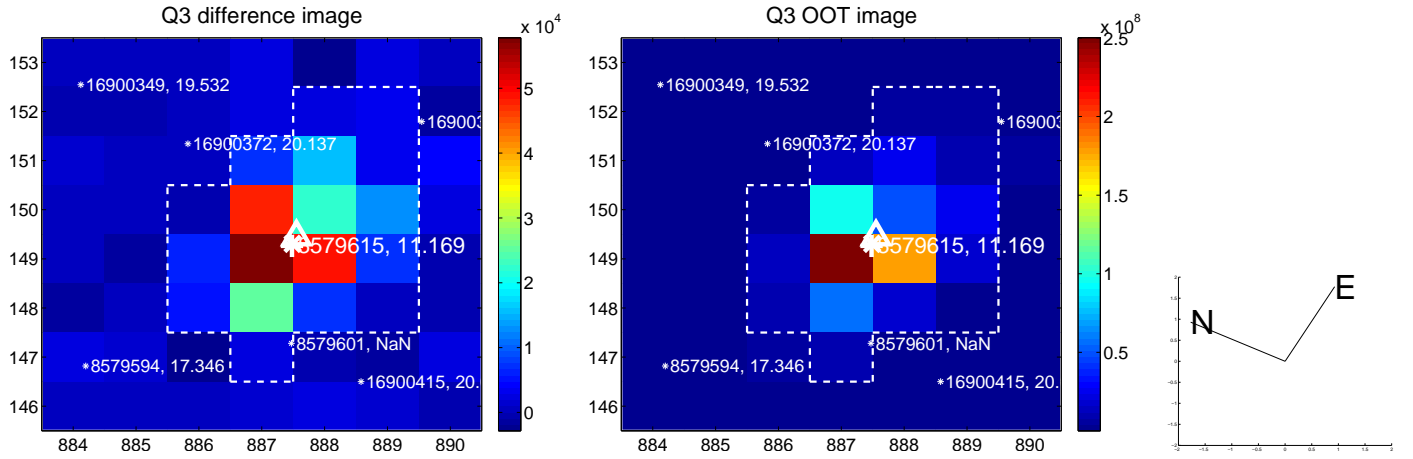
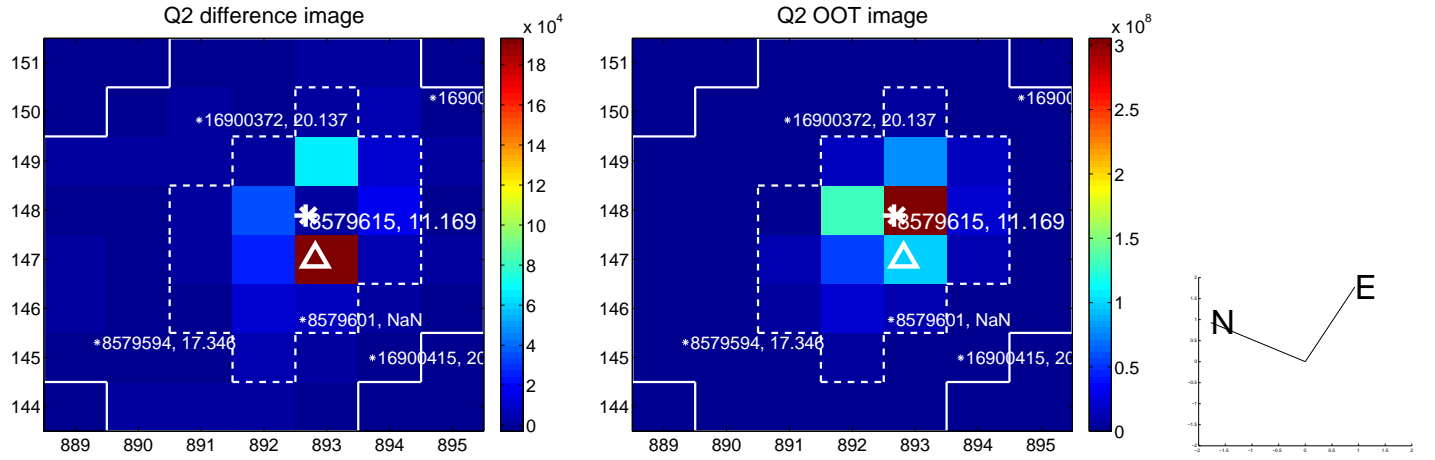
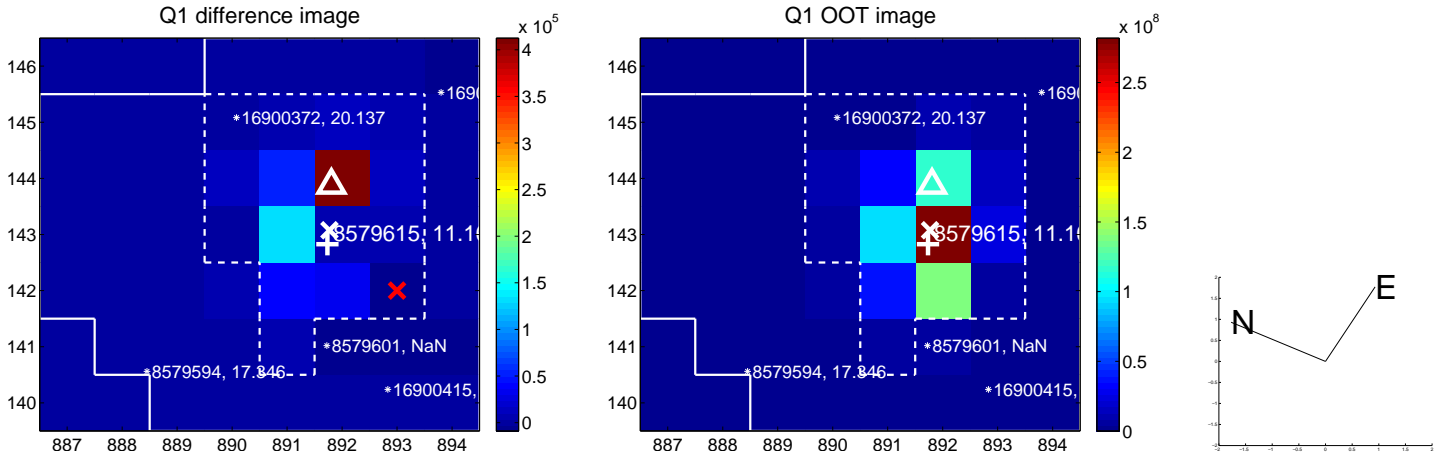
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.288 ± 0.560	0.51	-0.287 ± 0.562	0.029 ± 0.343
PRF-fit source offset from KIC position	0.189 ± 0.512	0.37	-0.188 ± 0.495	-0.013 ± 0.288
photometric centroid source offset	0.35 ± 0.15	2.31	-0.16 ± 0.21	-0.31 ± 0.13

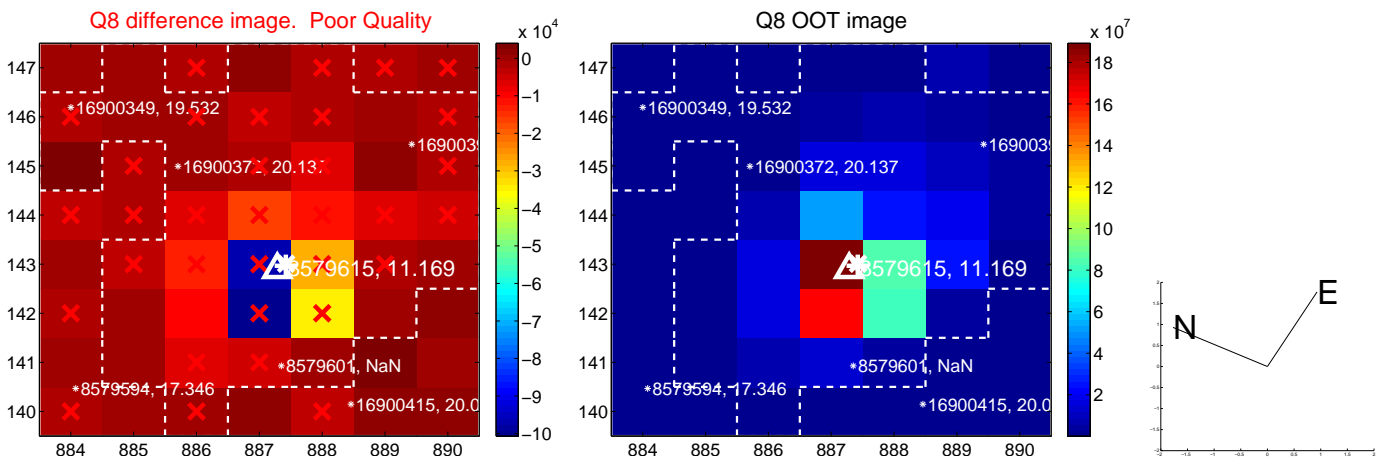
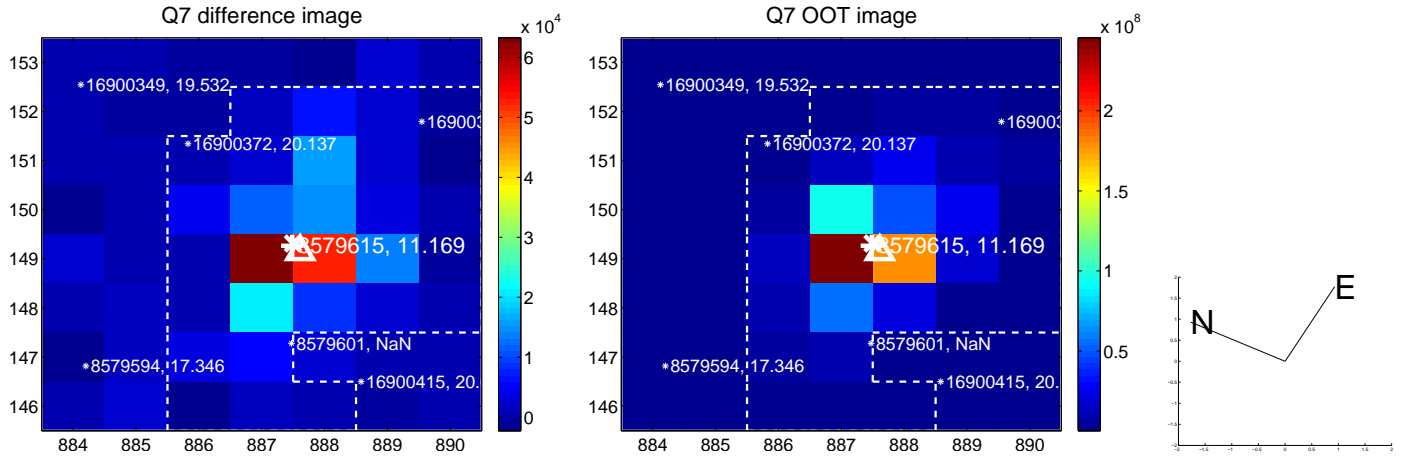
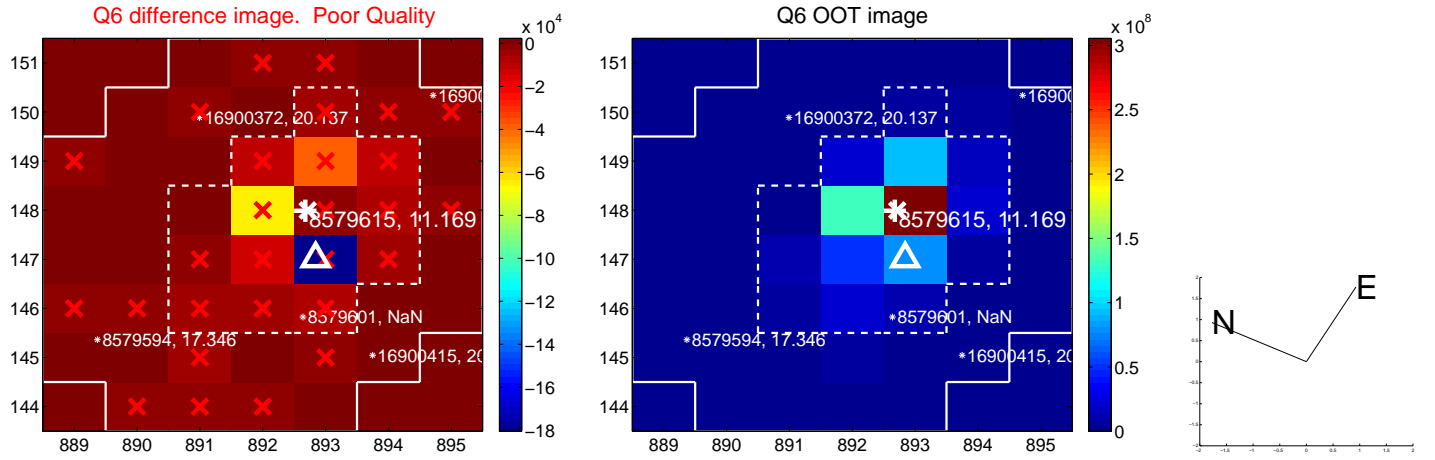
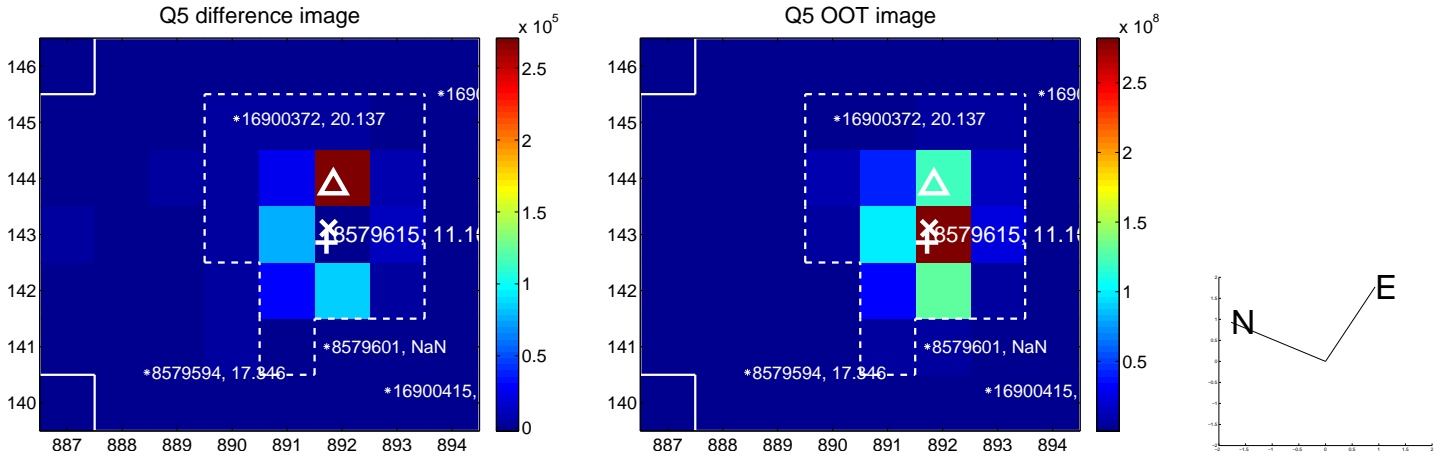


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

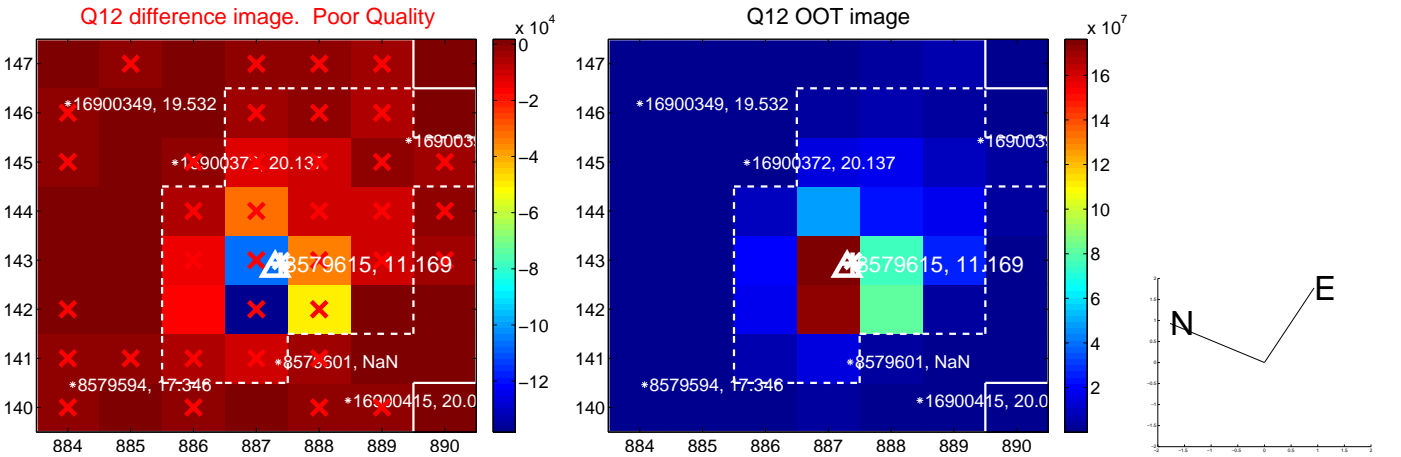
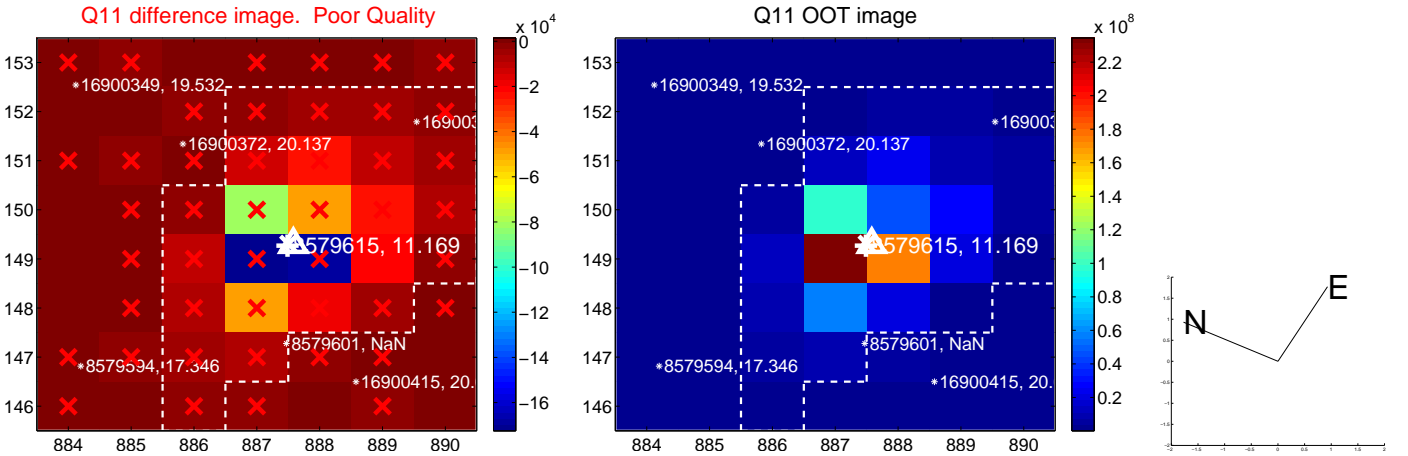
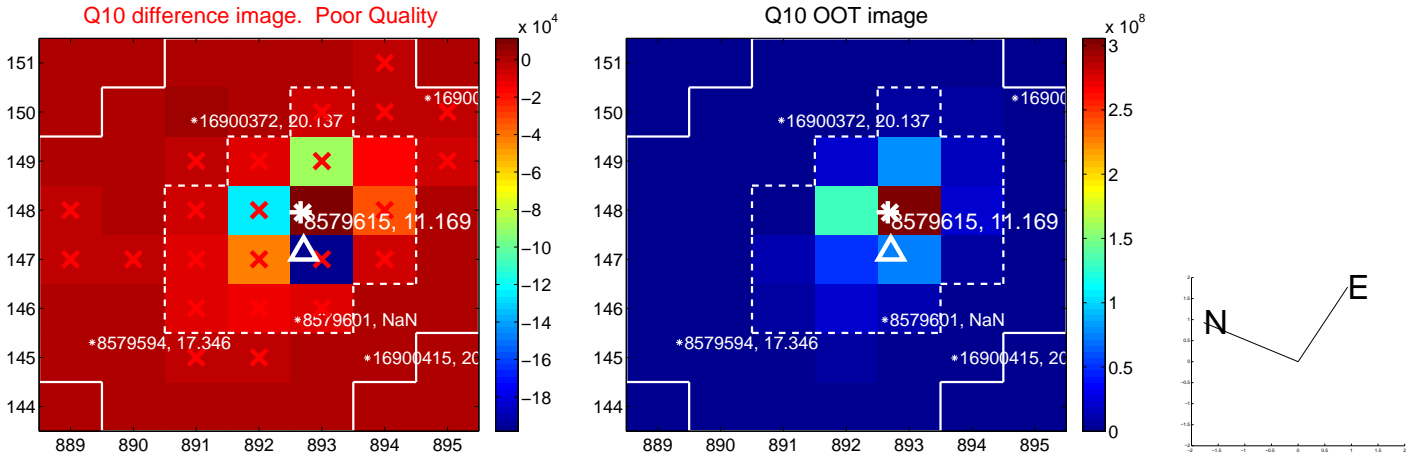
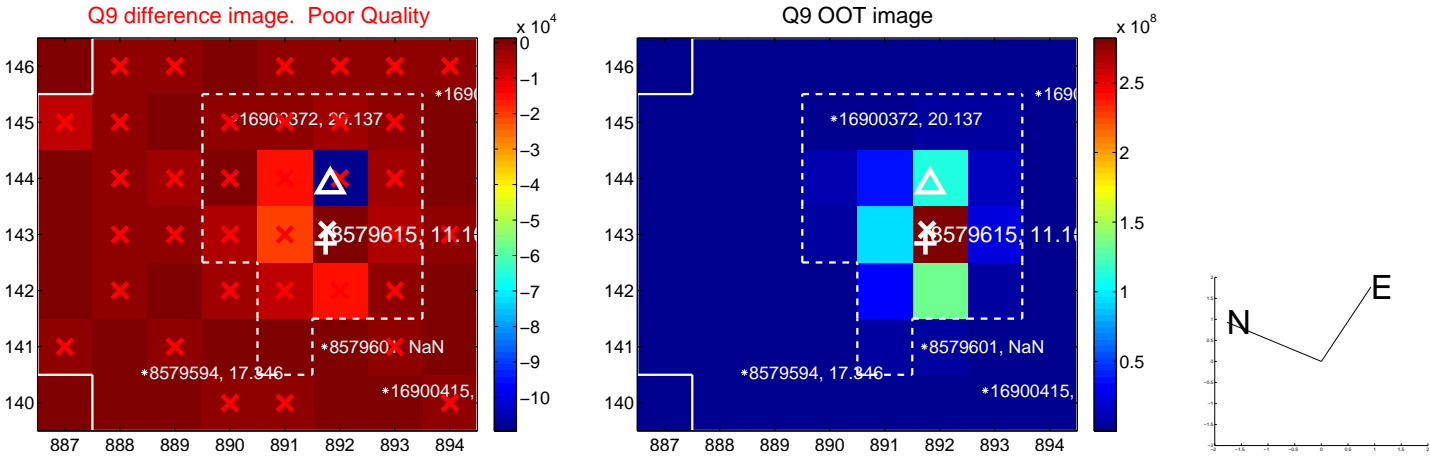
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



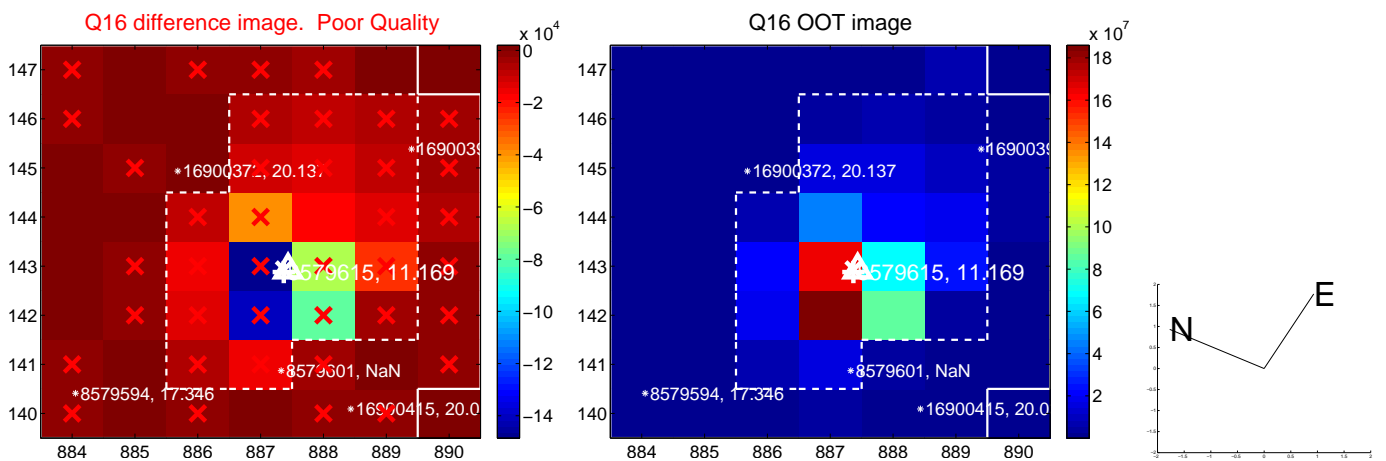
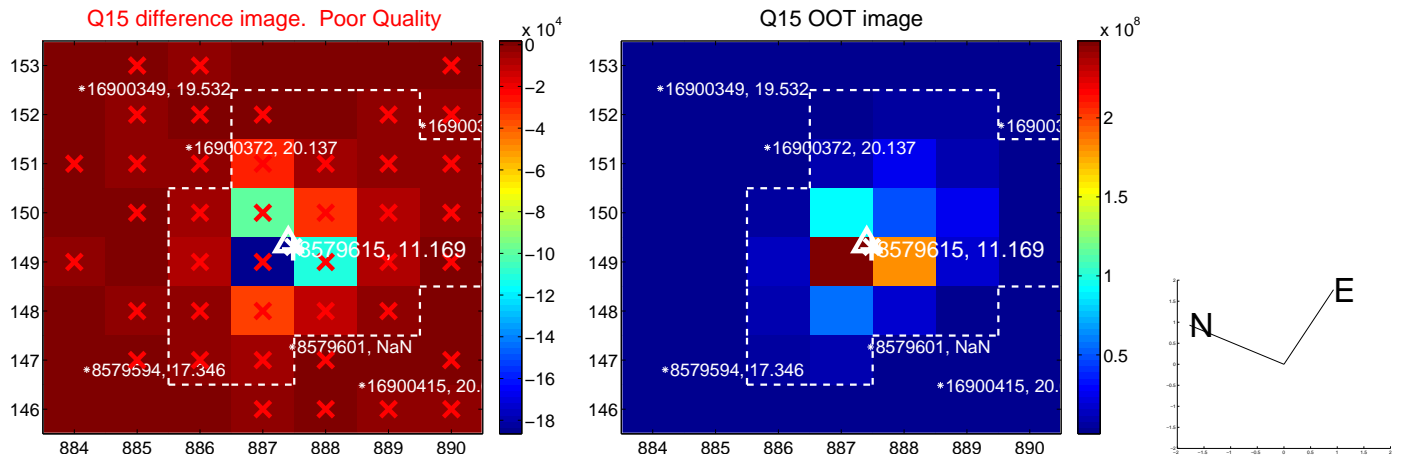
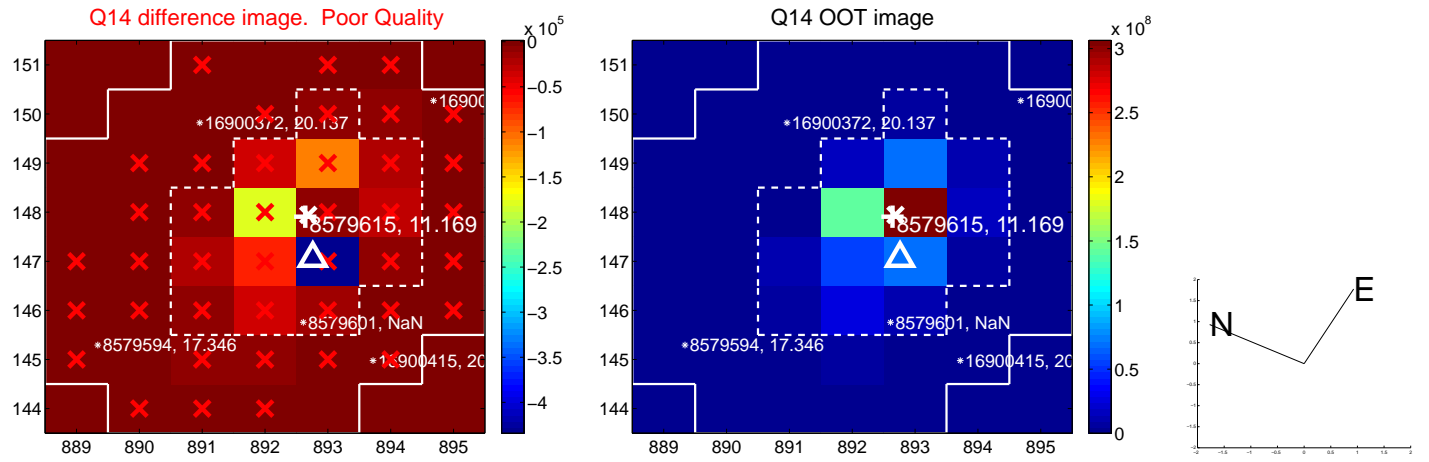
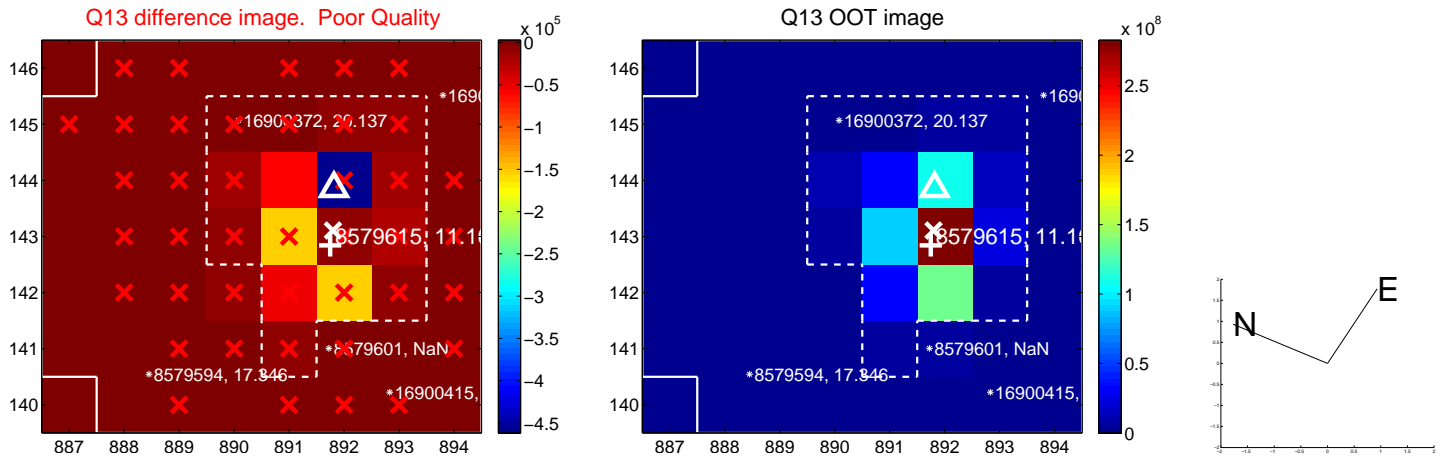
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



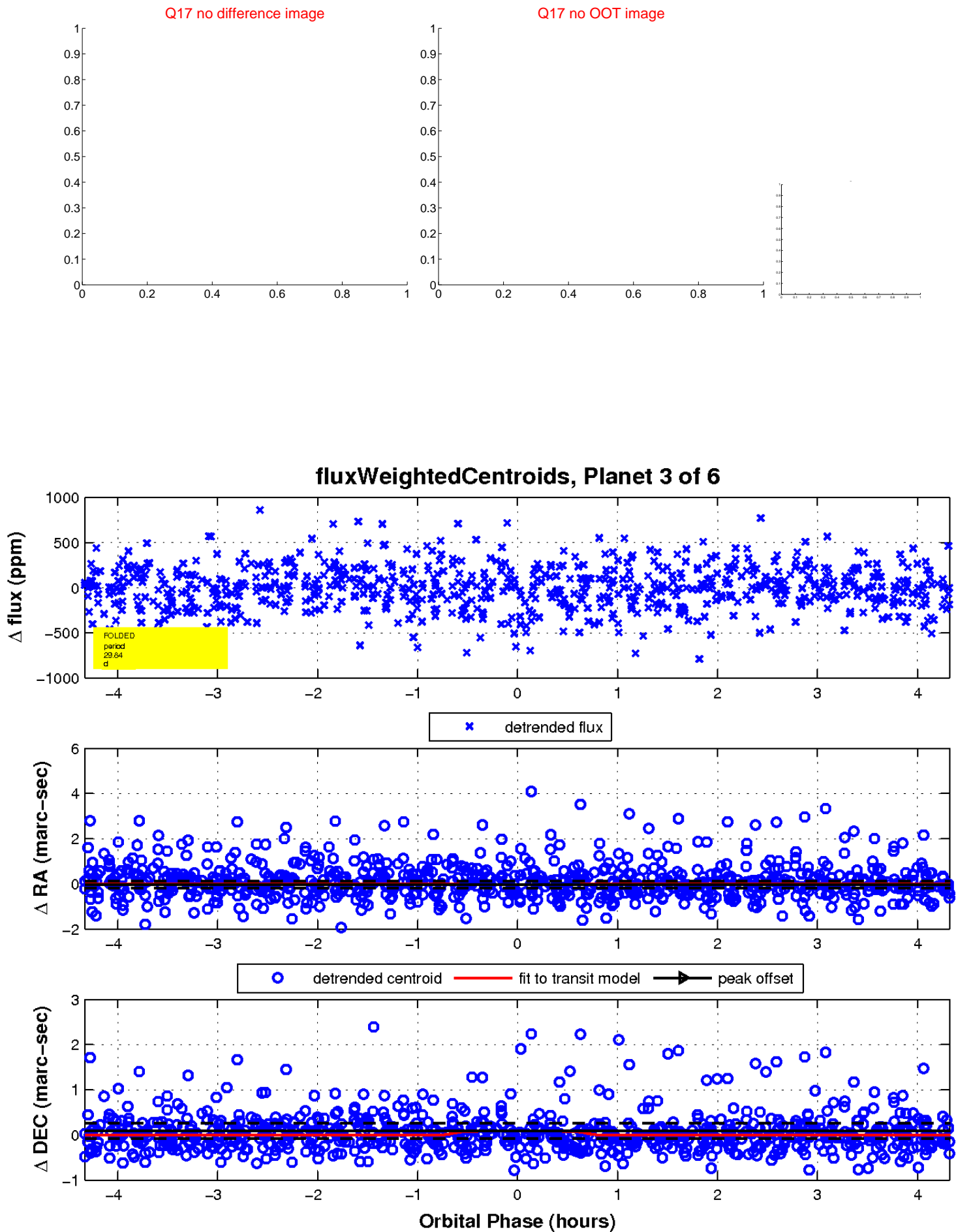
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

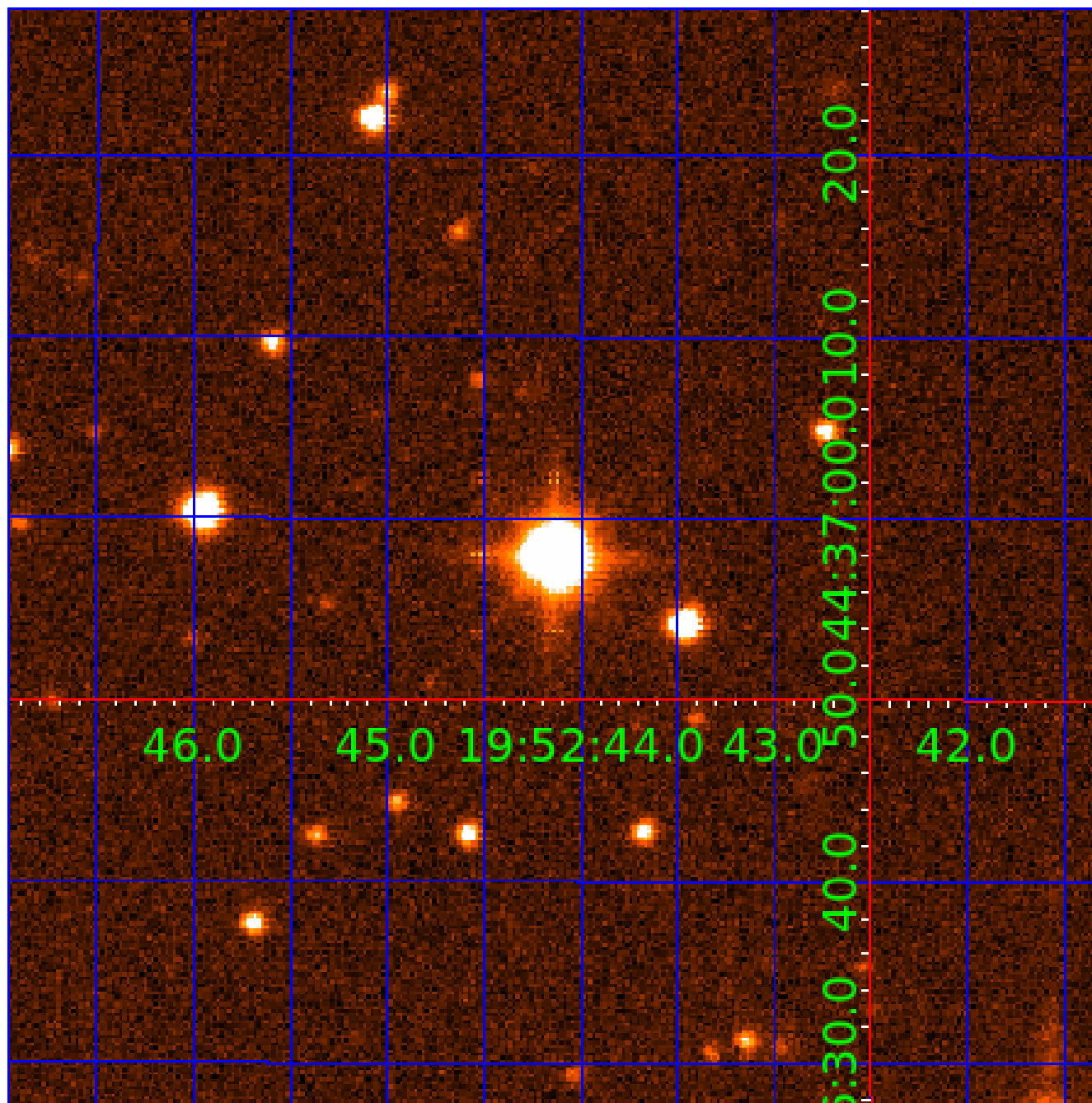


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008579615

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})
008579615-01	OBS	No	0.656201	131.684651	20.0	4.691	10.0	8.2	2.42	8435	1.17	74344.77
008579615-02	OBS	No	44.475626	175.960641	502.4	2.070	12.9	14.2	2.42	8435	5.82	269.03
008579615-03	OBS	No	29.841730	151.047172	559.3	1.445	13.2	15.7	2.42	8435	6.35	458.00
008579615-04	OBS	No	49.353319	179.453950	577.6	1.228	14.1	12.2	2.42	8435	6.25	234.18
008579615-05	OBS	No	19.264718	143.407113	335.7	2.627	14.2	12.3	2.42	8435	4.59	820.88
008579615-06	OBS	No	1.985889	132.420369	213.3	1.500	14.8	-1.0	2.42	8435	3.59	16983.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008579615-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED
008579615-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
008579615-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—CENT_SATURATED
008579615-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—CENT_SATURATED—HALO_GHOST
008579615-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
008579615-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

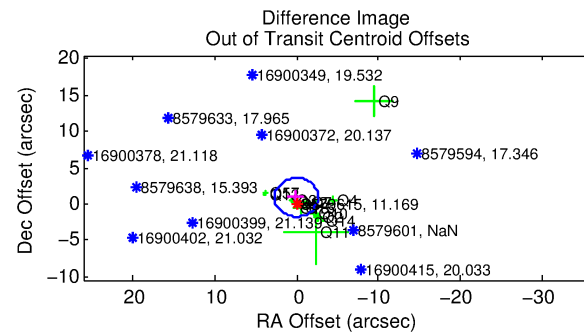
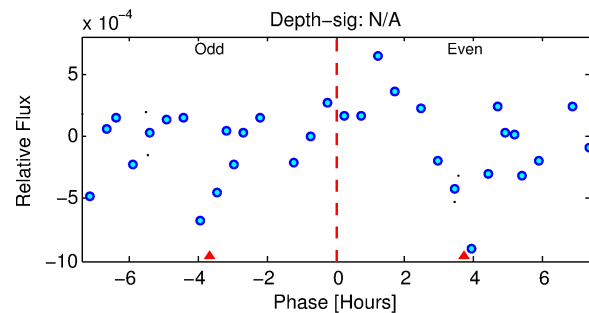
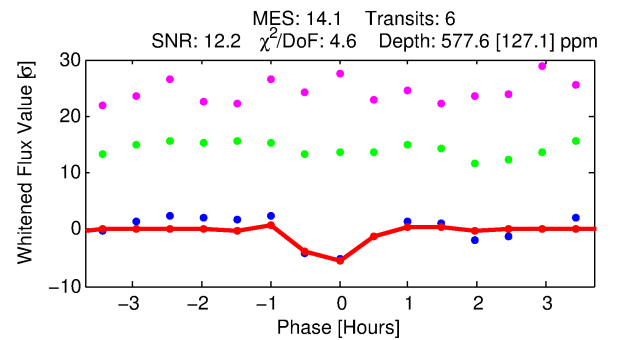
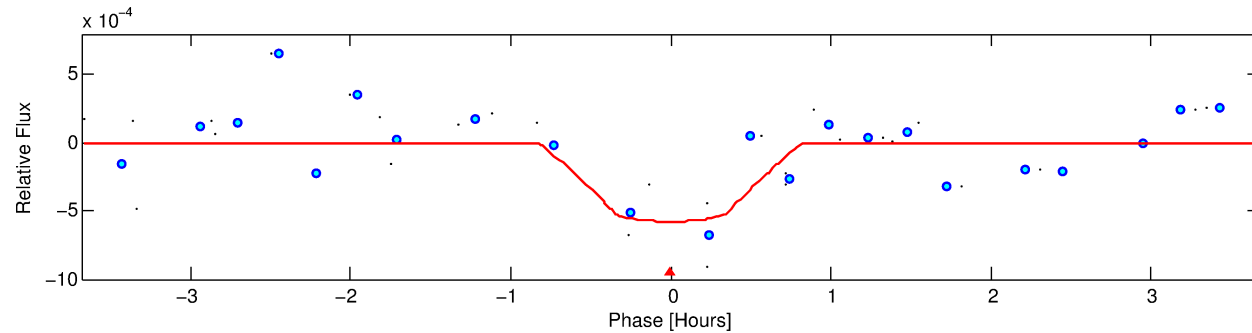
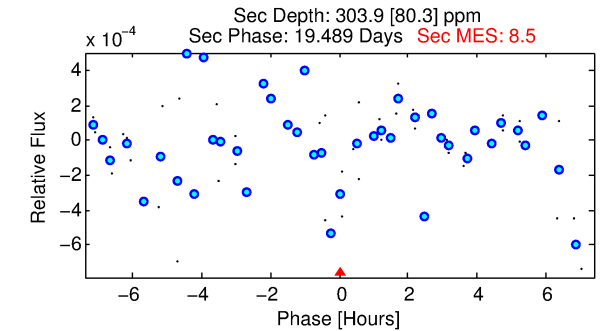
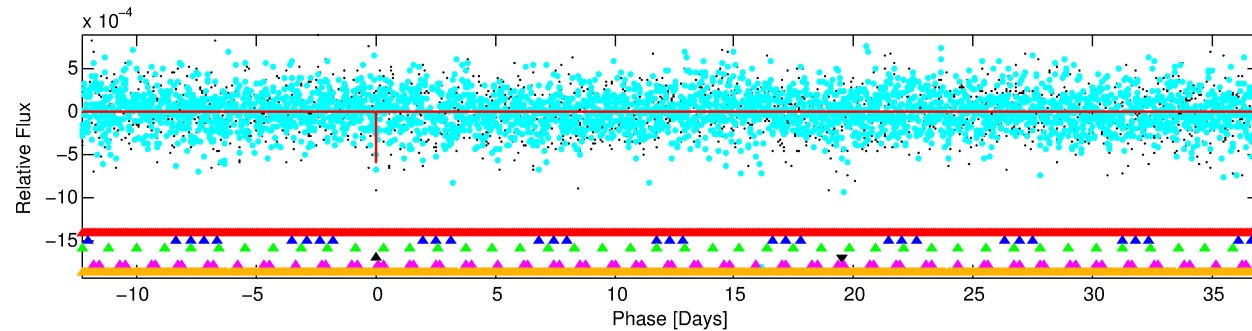
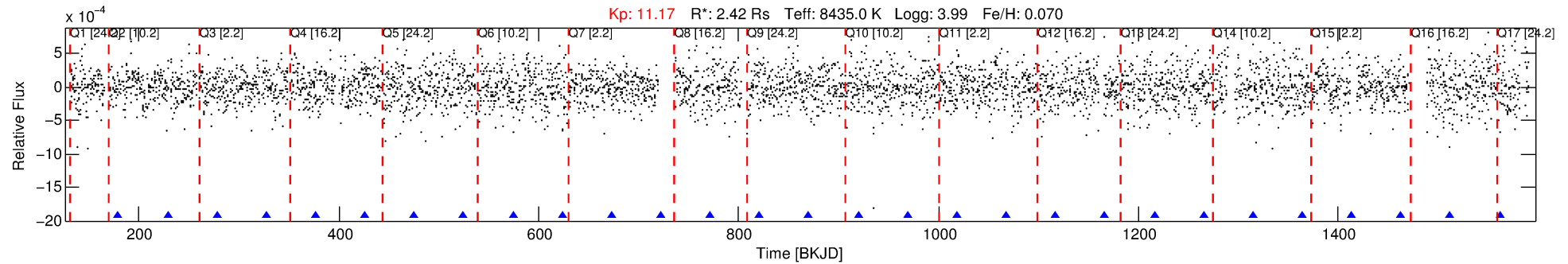
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008579615-04

No Significant Match Found

DV One-Page Summary

KIC: 8579615 Candidate: 4 of 6 Period: 49.353 d



DV Fit Results:

Period = 49.35332 [0.00065] d
Epoch = 179.4540 [0.0102] BKJD
Rp/R* = 0.0237 [0.0373]
a/R* = 229.74 [2174.07]
b = 0.70 [6.95]
Seff = 234.18 [103.89]
Teq = 997 [111] K
Rp = 6.25 [10.02] Re
a = 0.3362 [0.0918] AU
Ag = 483.31 [1537.34] [0.31] σ
Teffp = 7231 [5712] K [1.09] σ

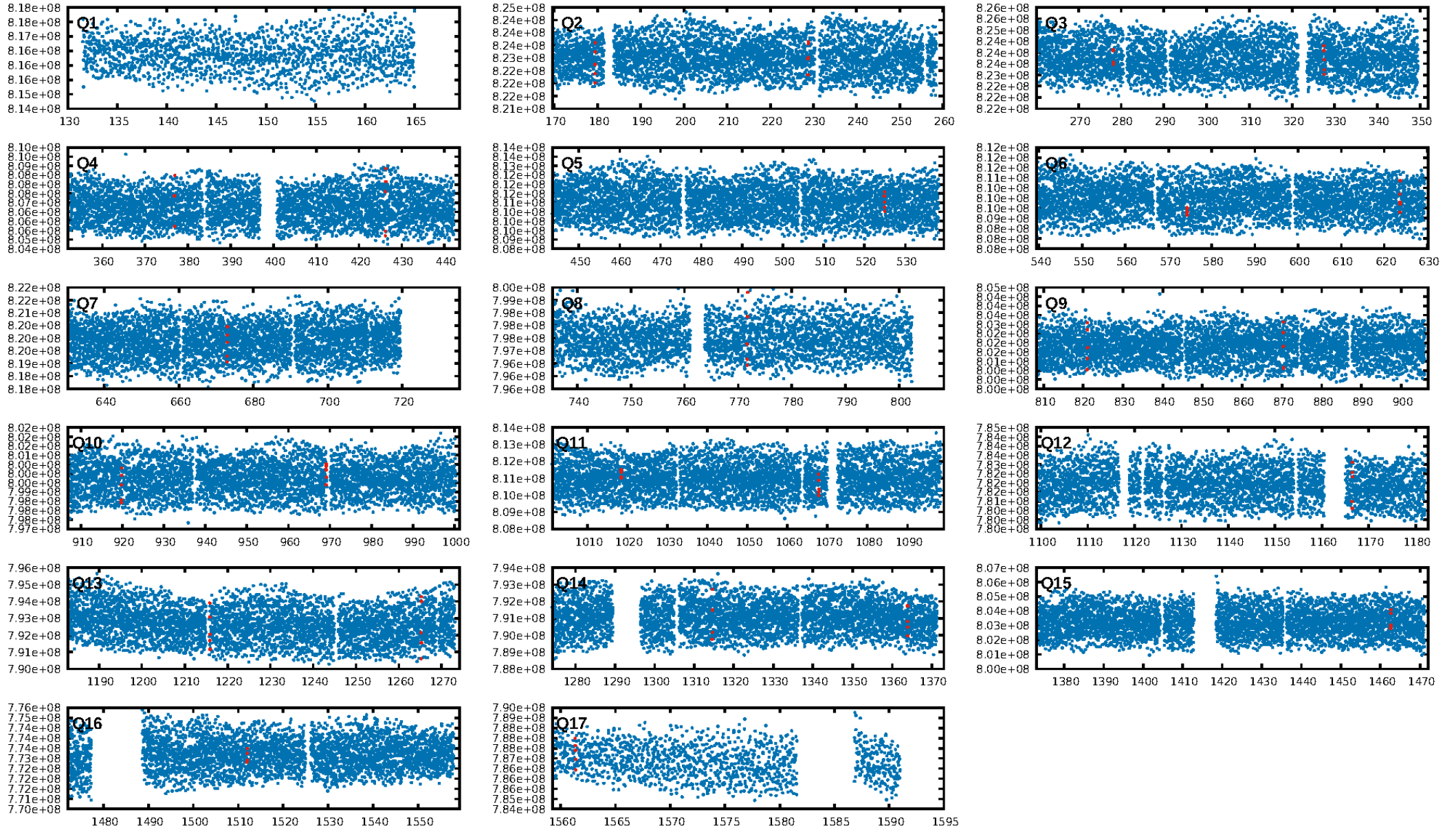
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [48.64] σ
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.2%
ModelChiSquareGof-sig: 13.4%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 0.01152
Centroid-sig: 46.9%
Centroid-so: 0.445 arcsec [1.57] σ
OotOffset-rm: 0.914 arcsec [1.03] σ
OotOffset-st: 3/4/4/4 [15]
KicOffset-rm: 1.548 arcsec [2.24] σ
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.47 [7/15]
DiffImageOverlap-fno: 0.00 [0/16]

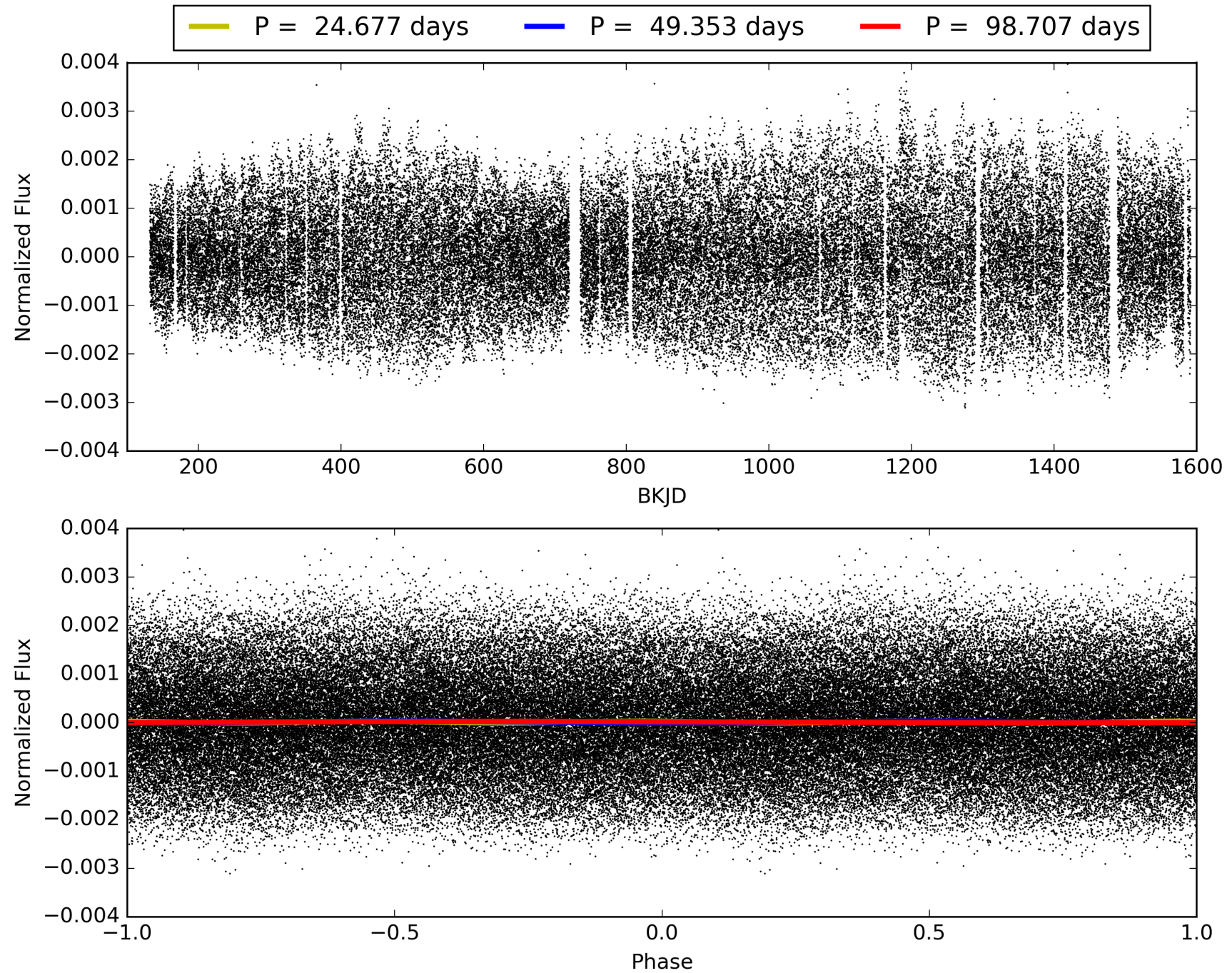
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:36:07 Z

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

TCE 008579615-04, PDC Light Curves

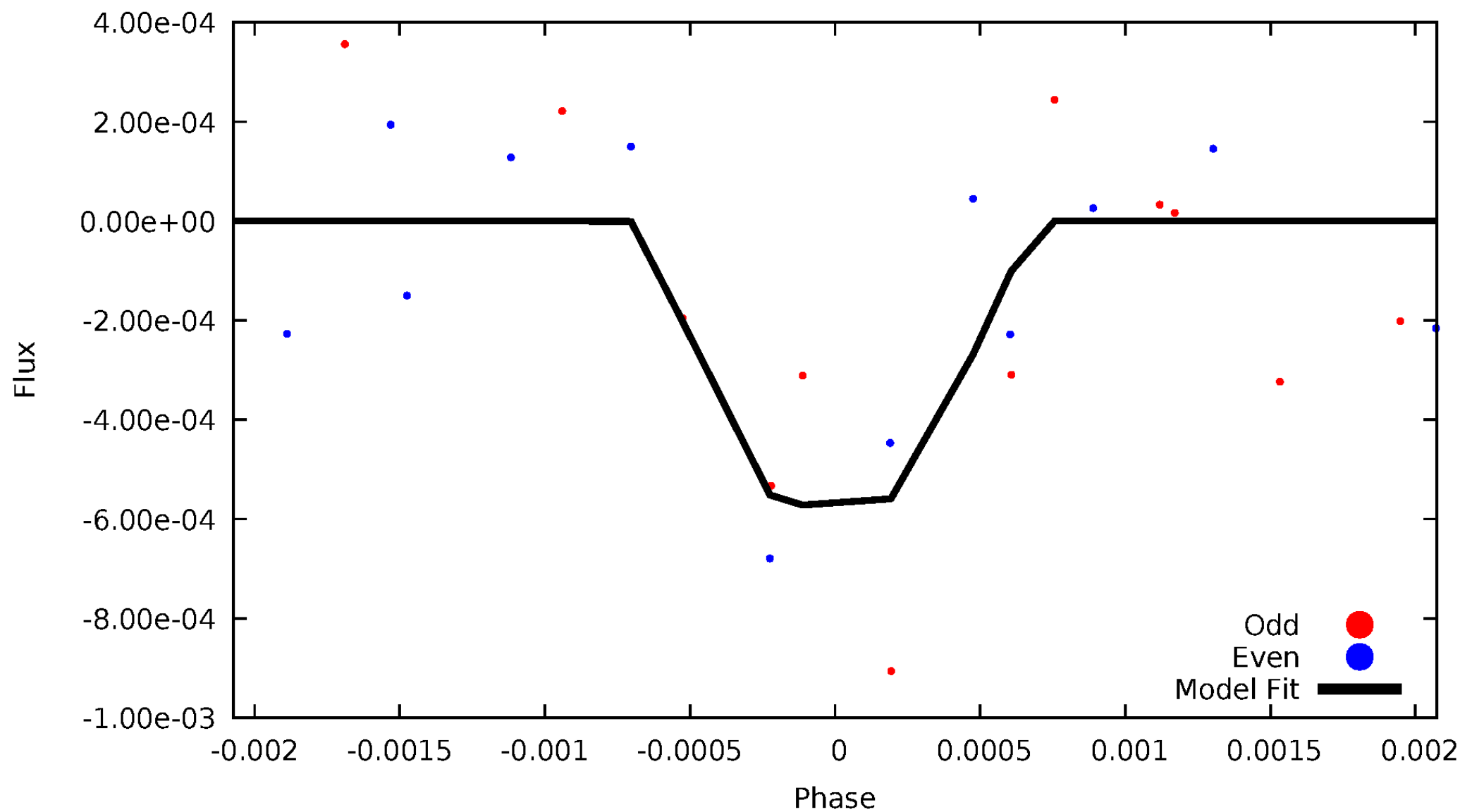


TCE 008579615-04



DV Odd/Even

TCE 008579615-04

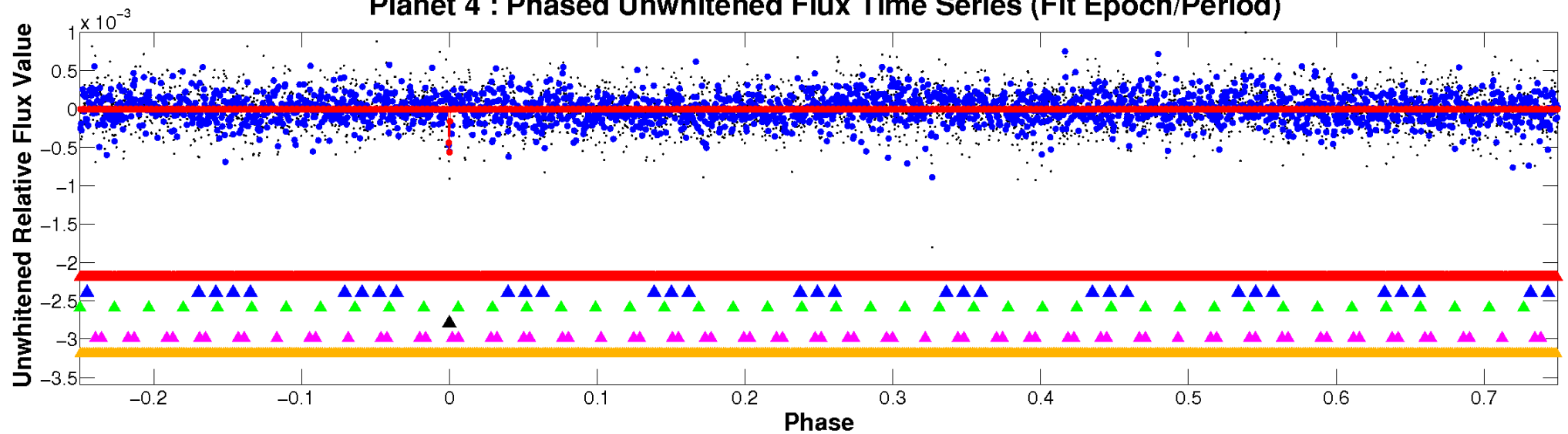


ALT Odd/Even

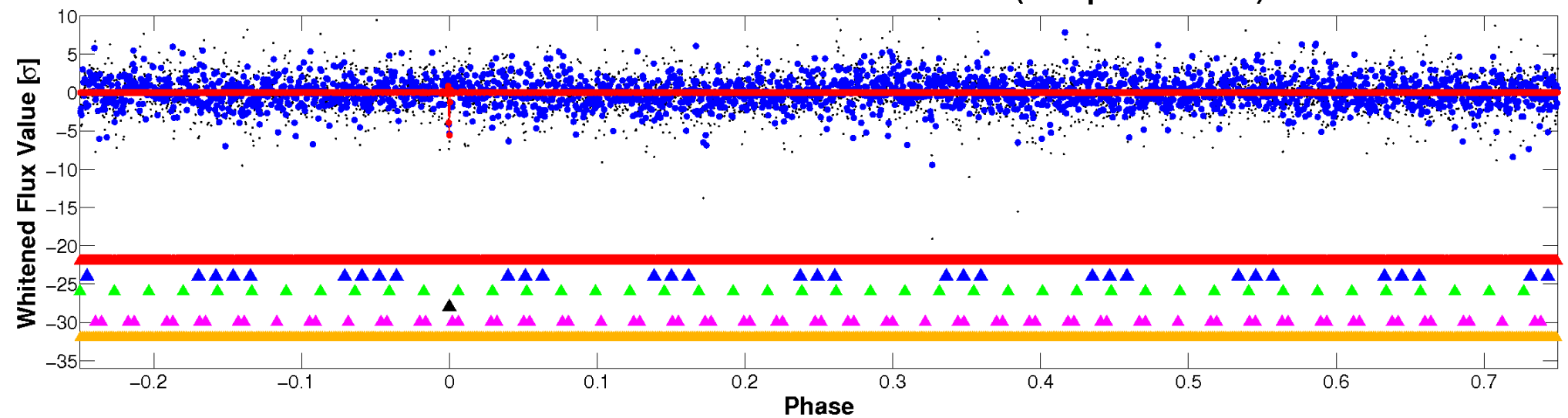
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

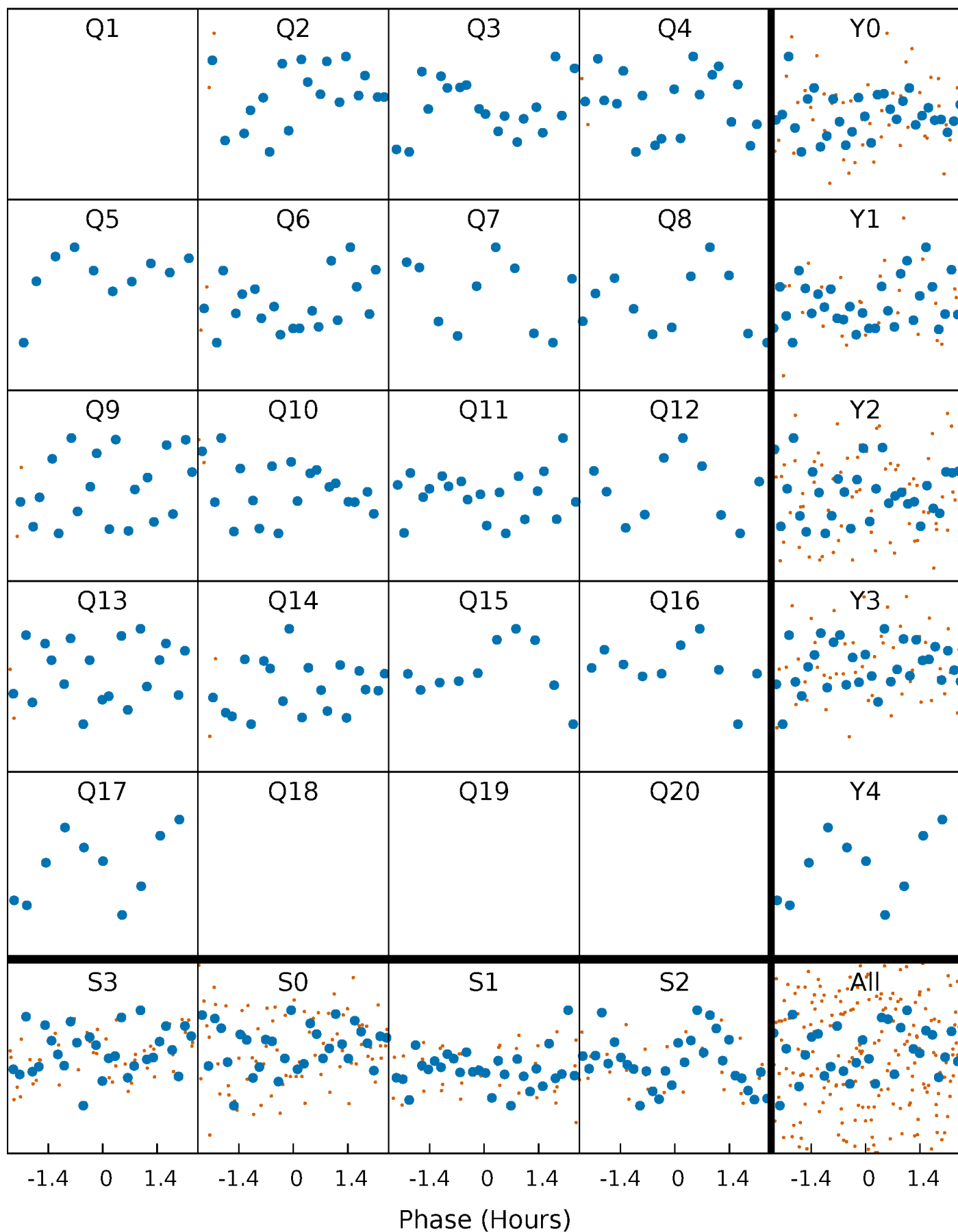


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



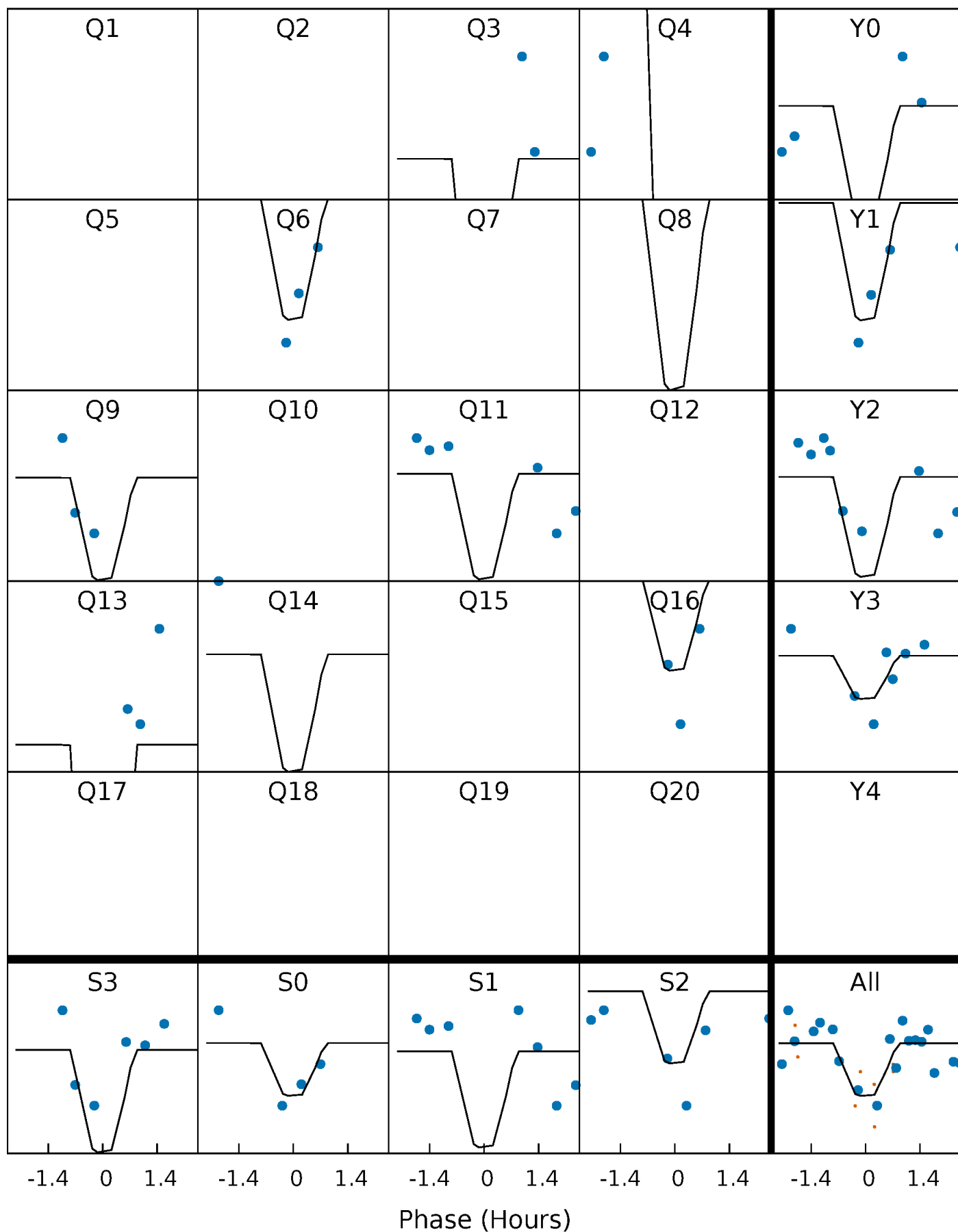
PDC Quarter-Phased Transit Curves

TCE 008579615-04 P= 49.353319 Days $T_0=179.453950$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008579615-04 P= 49.353319 Days $T_0=179.453950$ (BKJD)

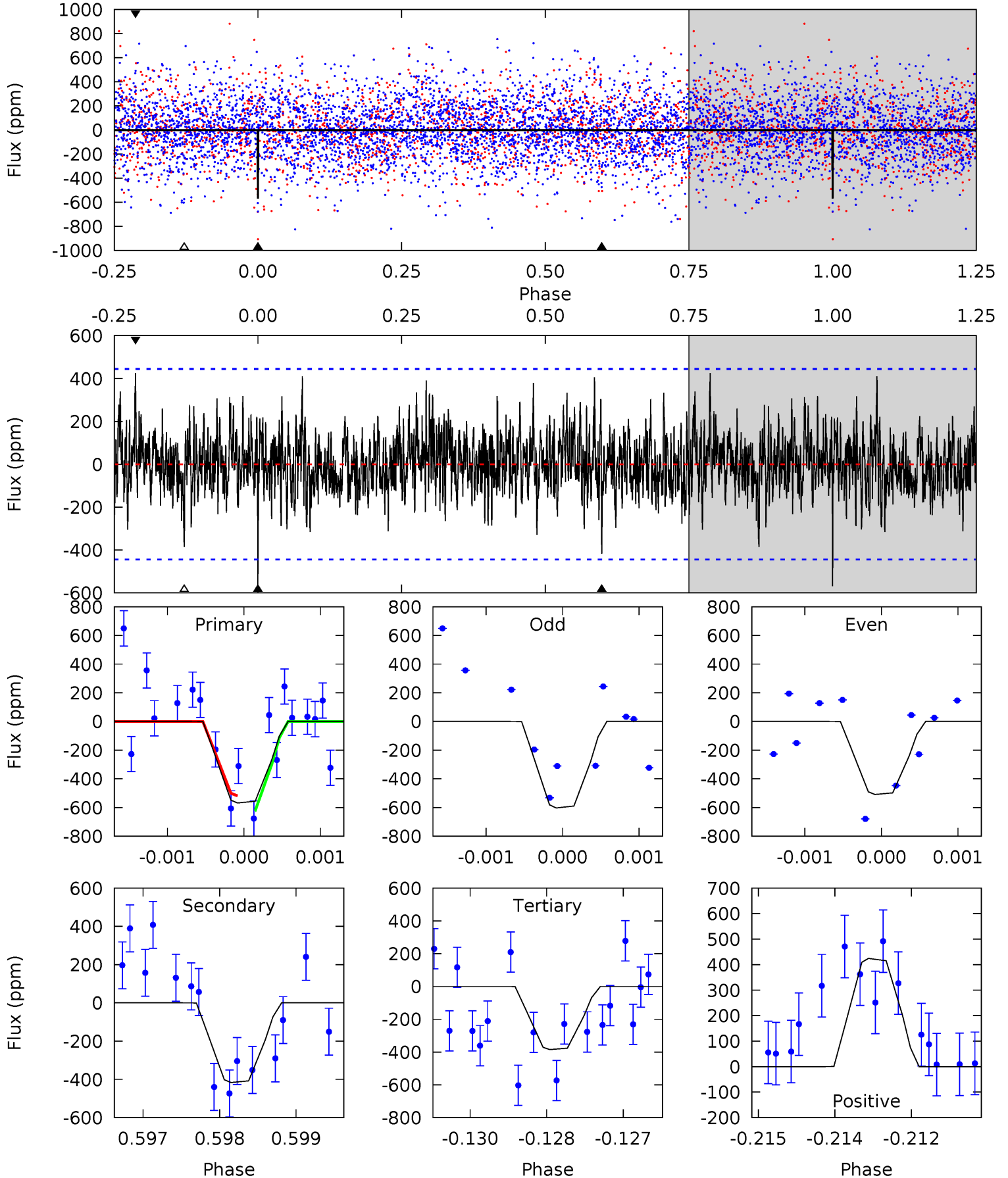


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

008579615-04, P = 49.353319 Days, E = 130.100631 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.91	5.06	4.68	5.16	5.40	3.21	1.40	2.24	1.75	0.39	-0.09	0.57	0.95	0.43	0.63



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 008579615

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8435^{+234}_{-368}	$3.990^{+0.228}_{-0.123}$	$0.070^{+0.250}_{-0.600}$	$2.416^{+0.506}_{-0.759}$	$2.078^{+0.346}_{-0.519}$	$0.207^{+0.286}_{-0.077}$
	+3%/-4%	+6%/-3%	+357%/-857%	+21%/-31%	+17%/-25%	+138%/-37%
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 008579615-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-417 ± 82	$9.10^{+8.23}_{-6.08}$	1373^{+90}_{-111}	6131^{+6208}_{-1572}	305^{+2409}_{-220}
Alt.	N/A	N/A	N/A	N/A	N/A

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

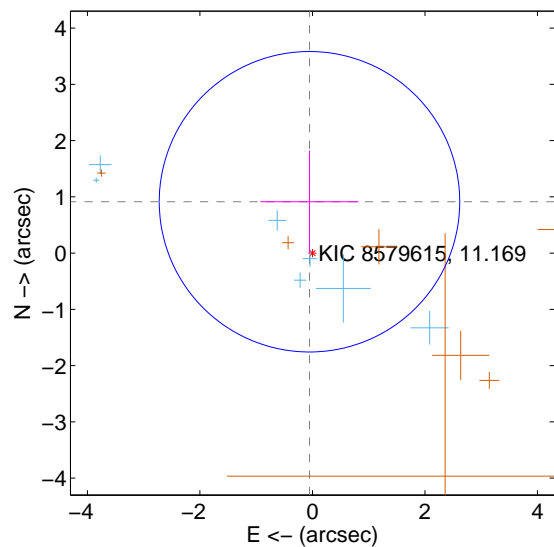
Supplemental centroid analysis for 008579615-04. **Kepler magnitude: 11.17.** Transit SNR 12.24

There are 7 quarters with good PRF difference image offsets

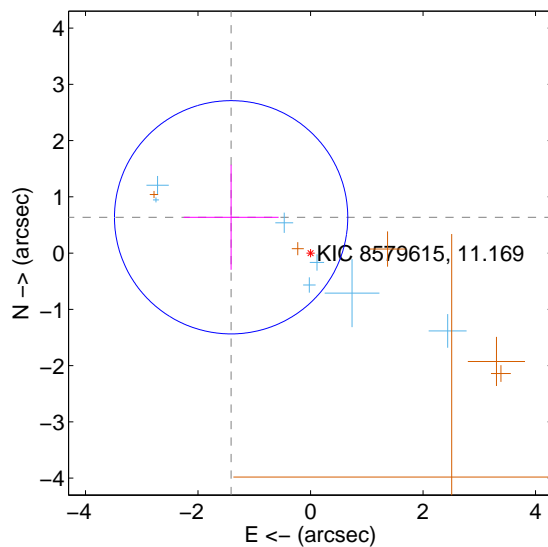
The direct PRF centroid is offset from the target star catalog position by about 1.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.914 ± 0.890	1.03	0.052 ± 0.875	0.913 ± 0.910
PRF-fit source offset from KIC position	1.548 ± 0.691	2.24	1.411 ± 0.844	0.637 ± 0.934
photometric centroid source offset	0.45 ± 0.28	1.57	-0.43 ± 0.29	-0.10 ± 0.19

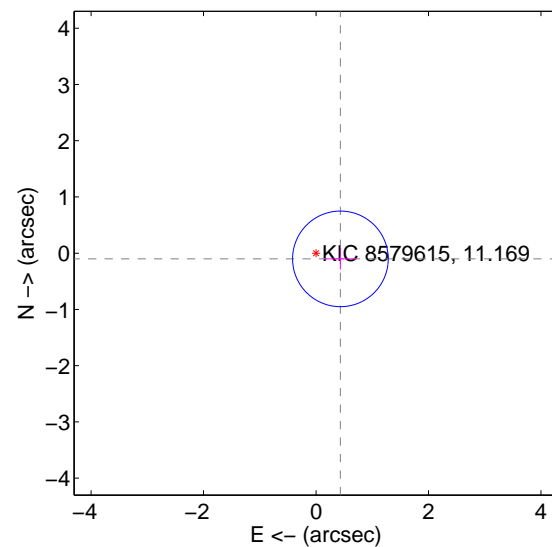
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

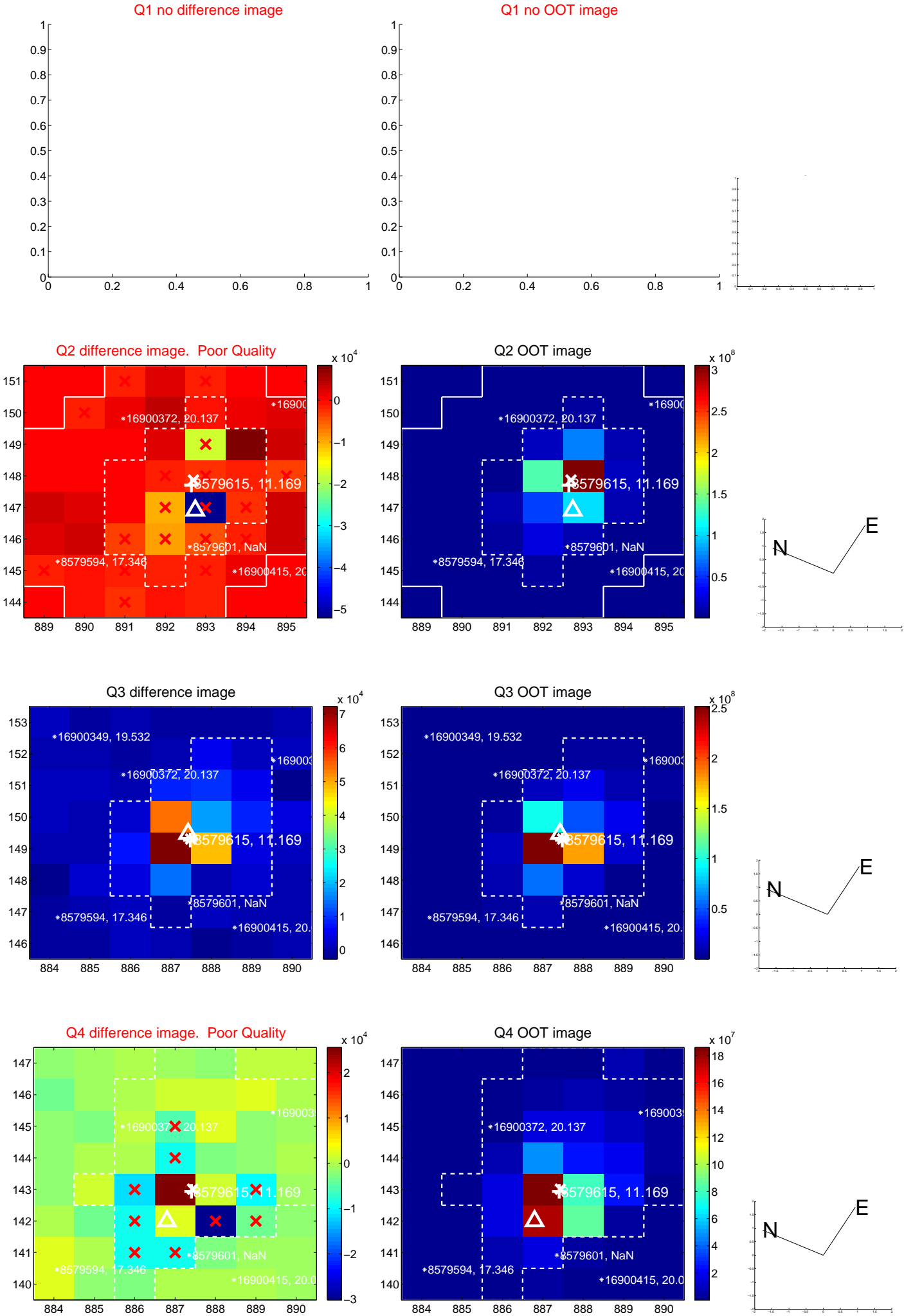


offset from photometric centroids

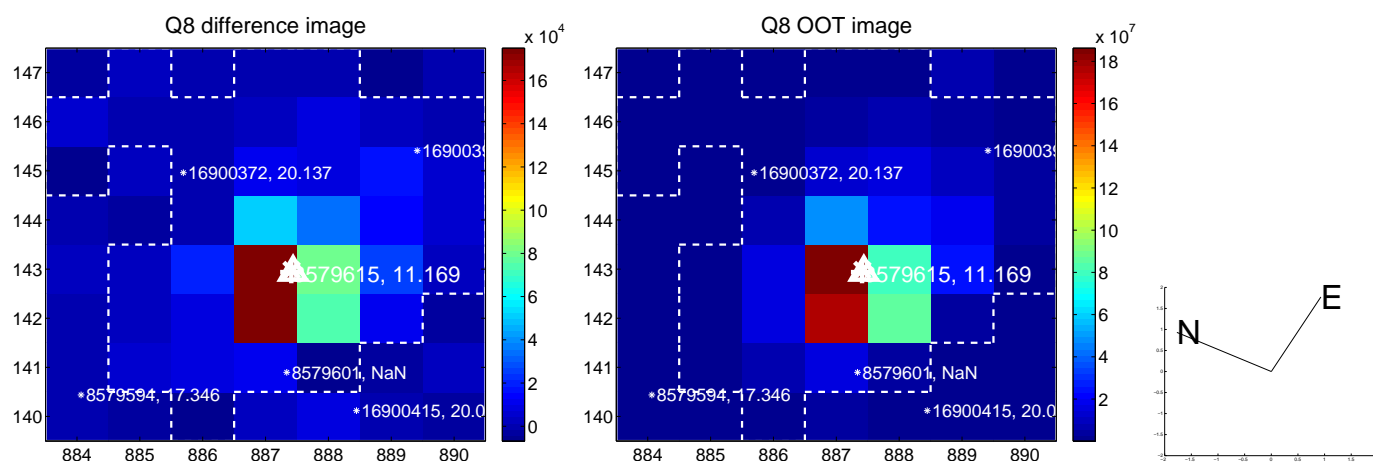
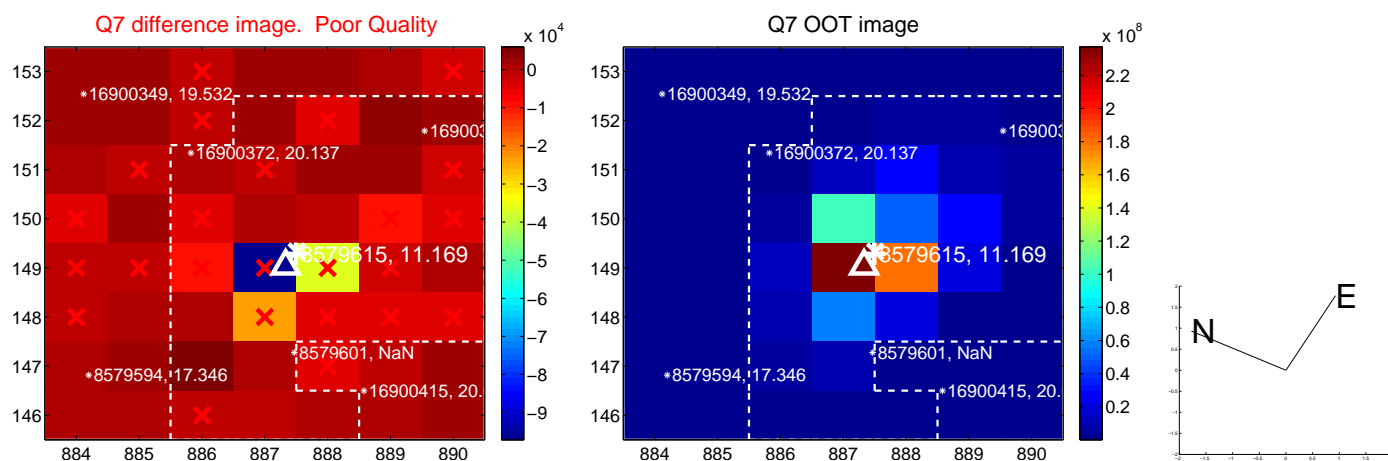
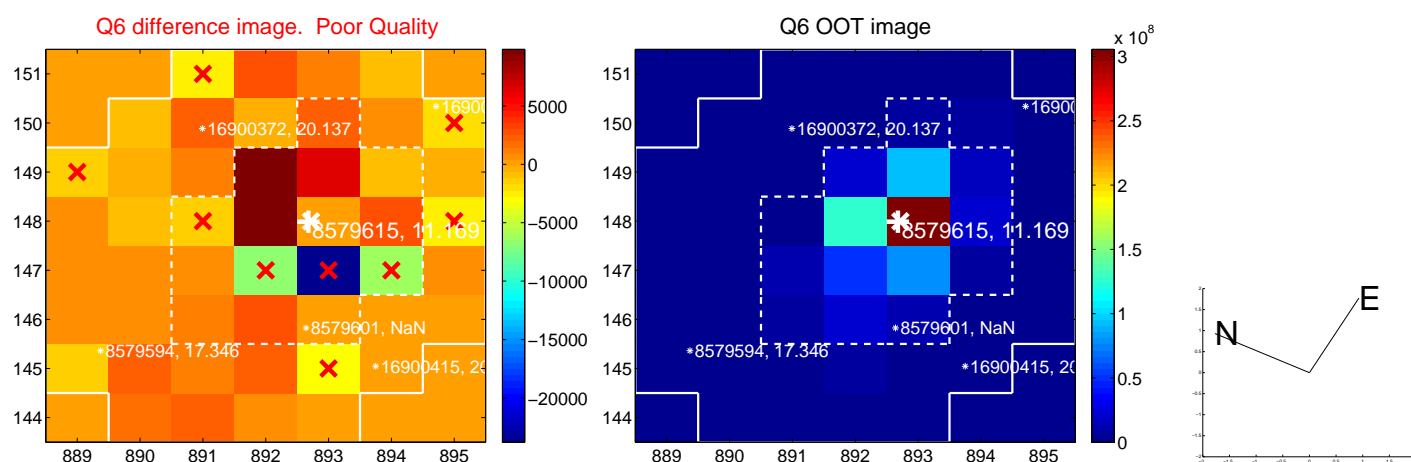
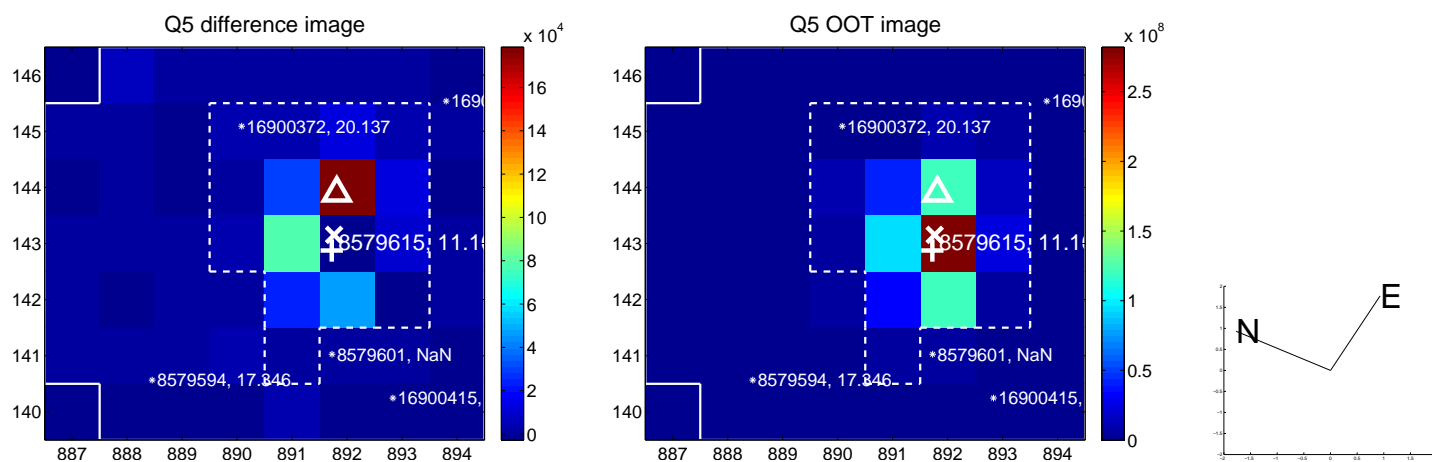


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

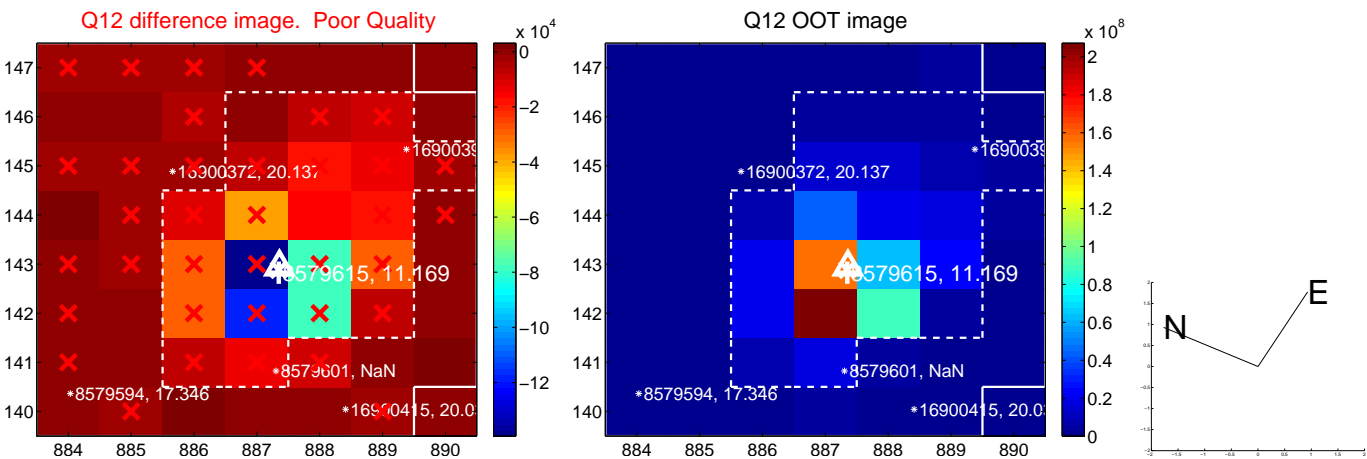
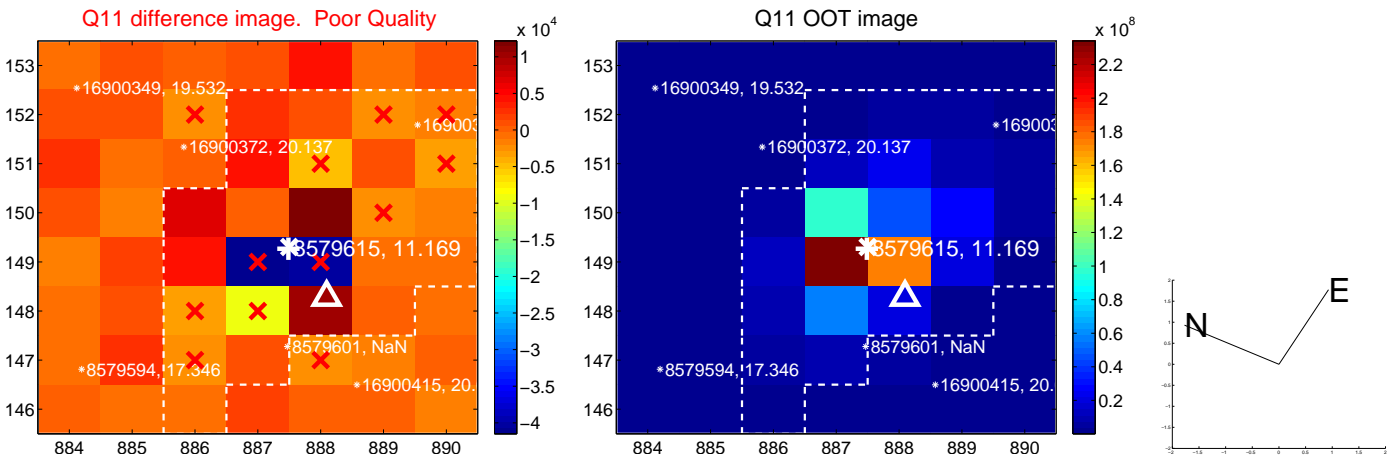
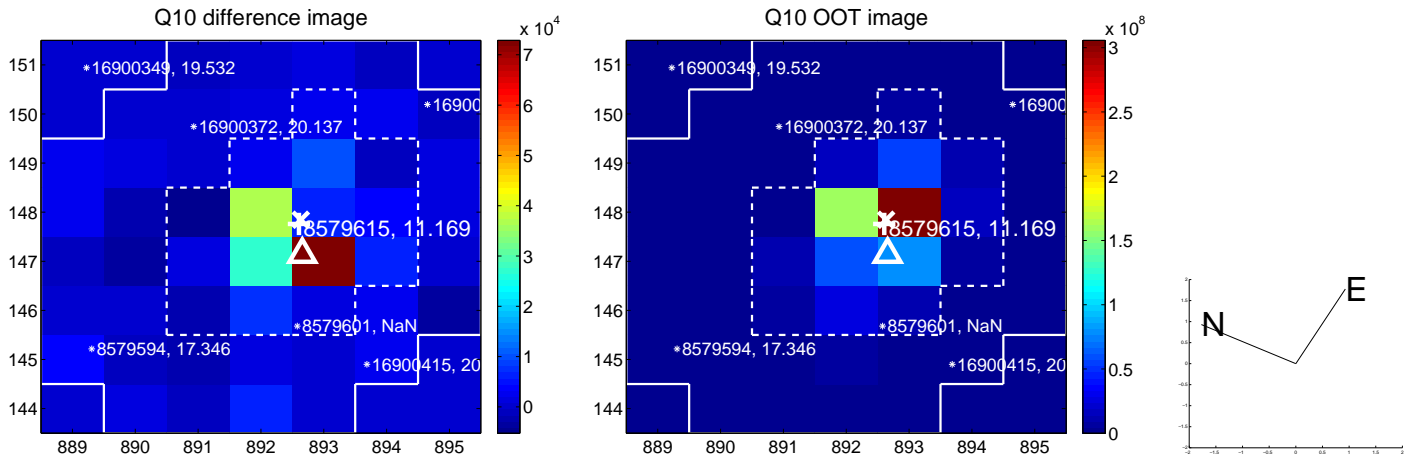
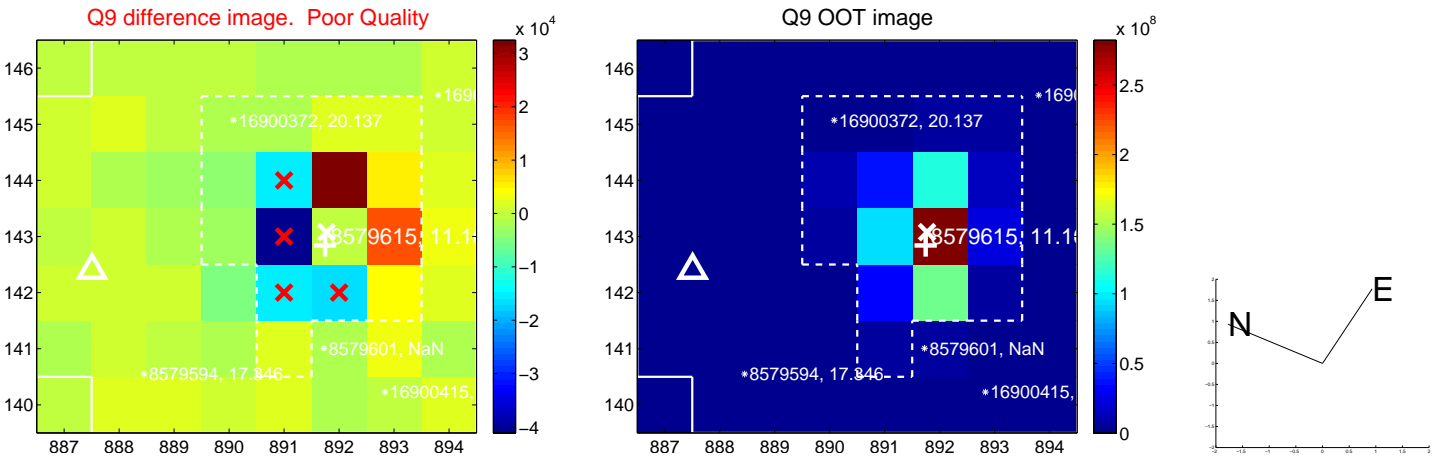
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



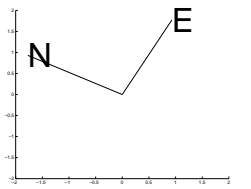
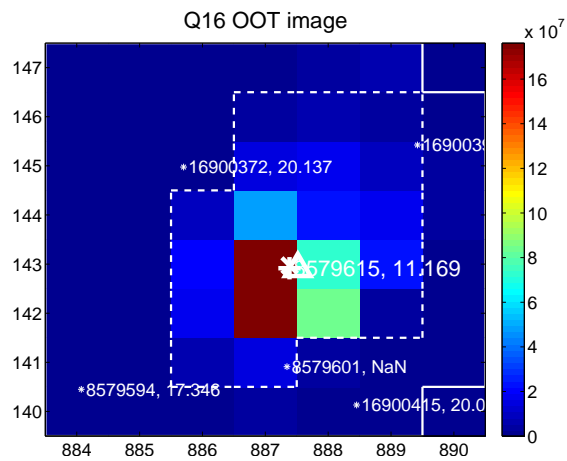
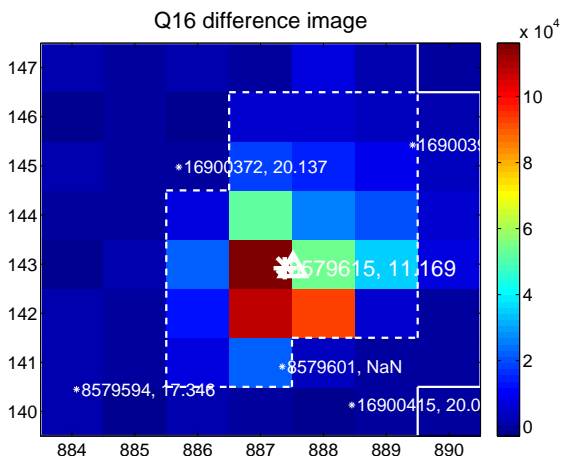
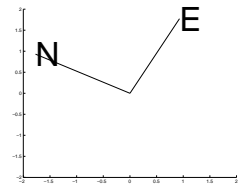
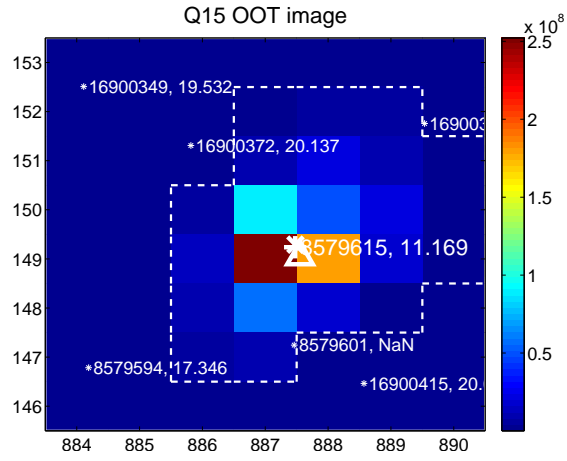
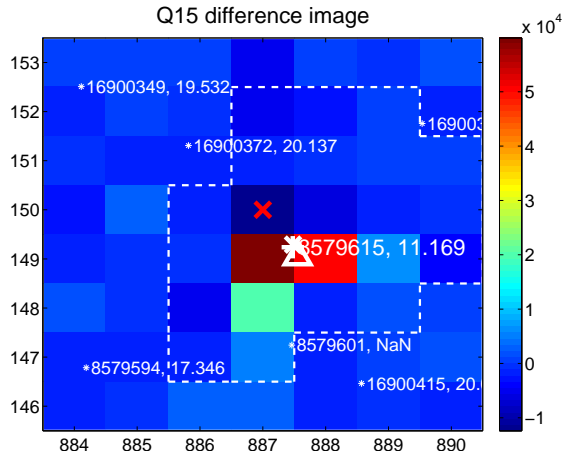
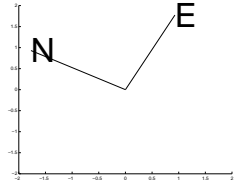
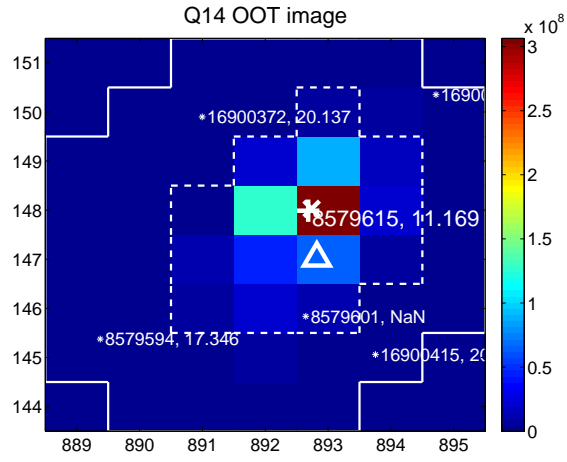
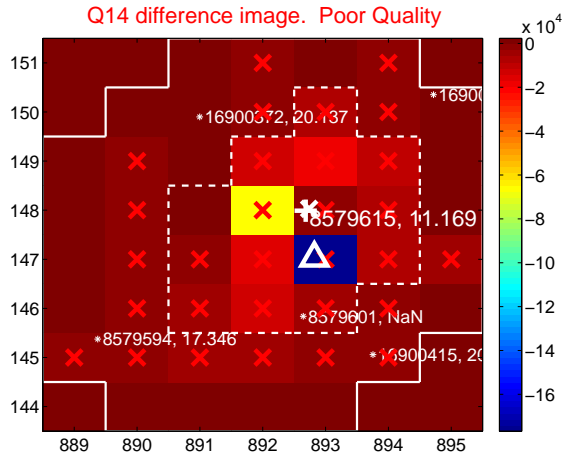
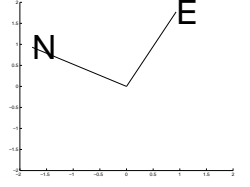
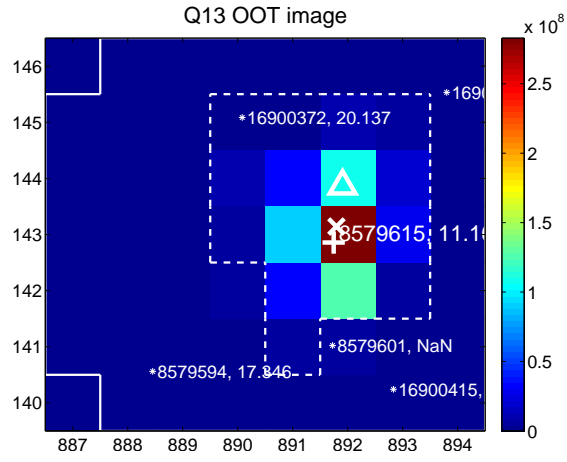
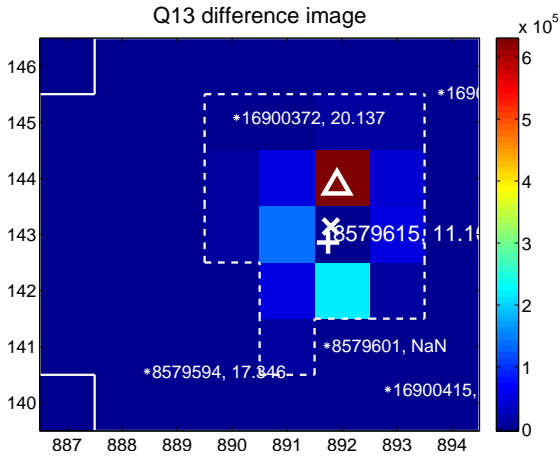
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



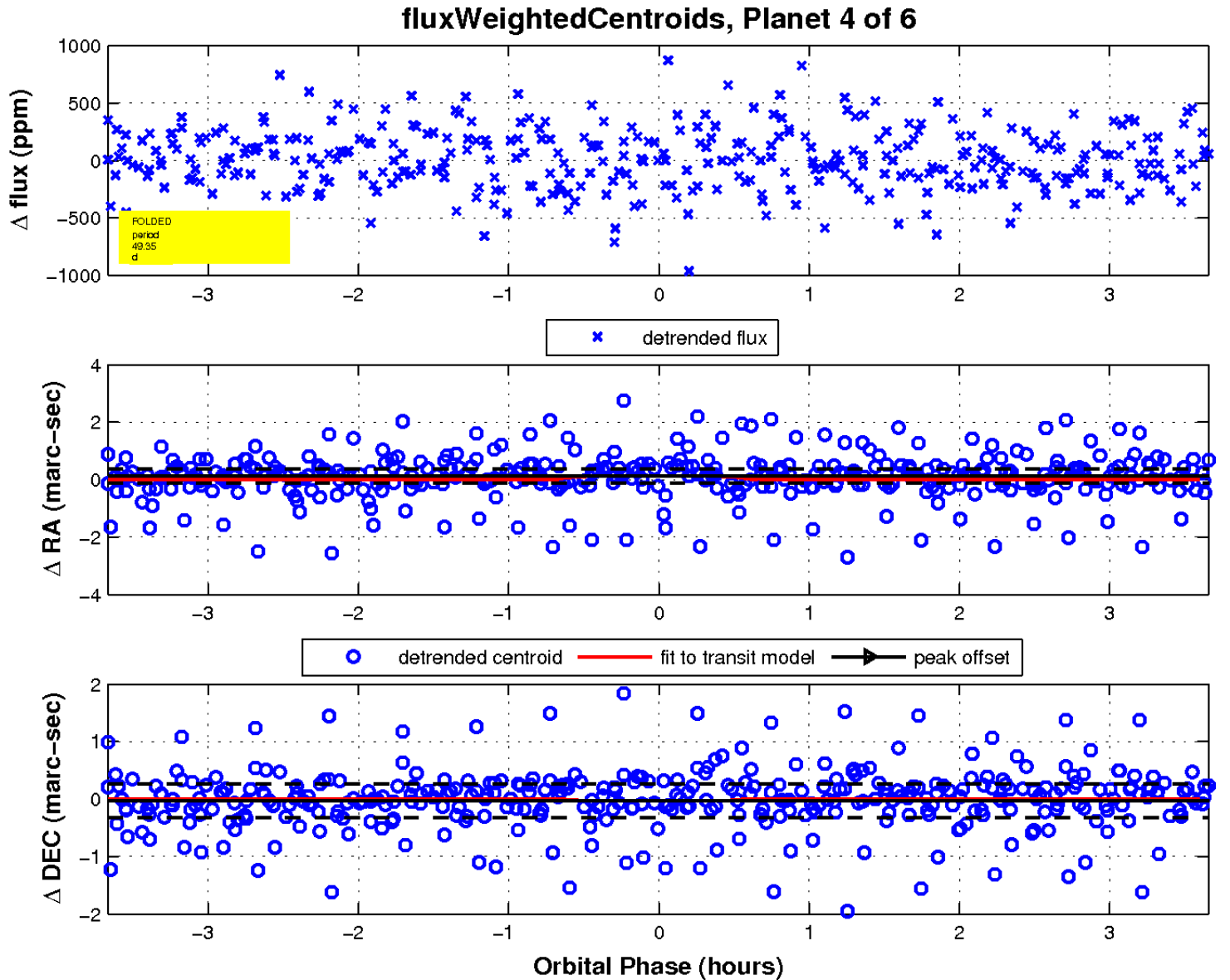
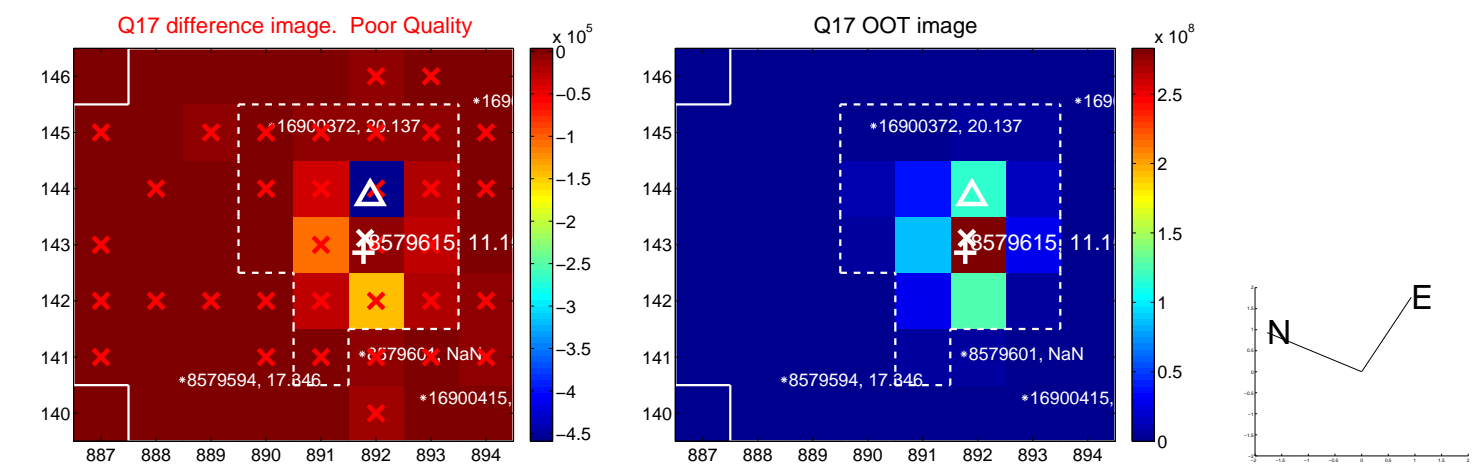
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

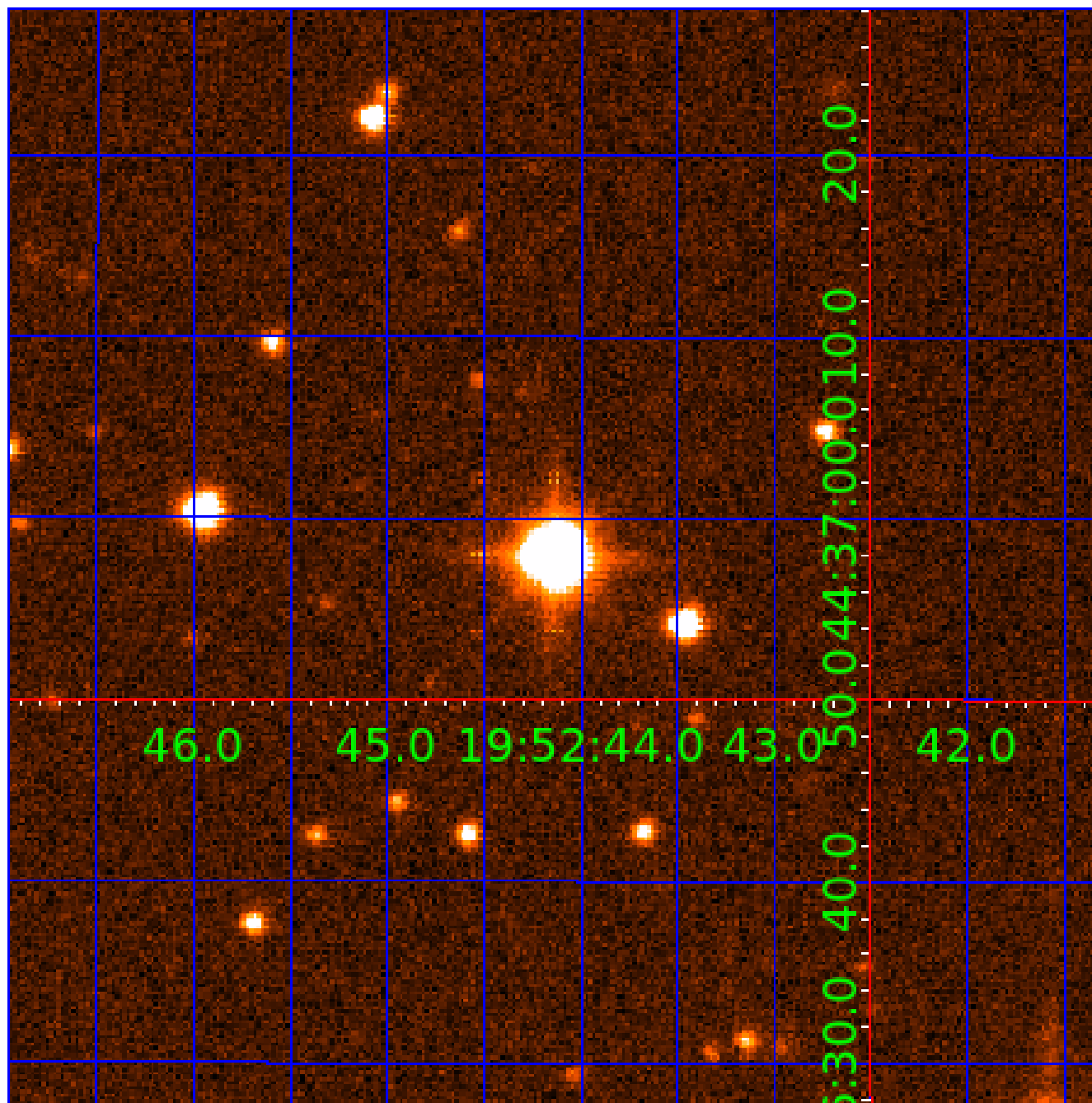


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008579615

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})
008579615-01	OBS	No	0.656201	131.684651	20.0	4.691	10.0	8.2	2.42	8435	1.17	74344.77
008579615-02	OBS	No	44.475626	175.960641	502.4	2.070	12.9	14.2	2.42	8435	5.82	269.03
008579615-03	OBS	No	29.841730	151.047172	559.3	1.445	13.2	15.7	2.42	8435	6.35	458.00
008579615-04	OBS	No	49.353319	179.453950	577.6	1.228	14.1	12.2	2.42	8435	6.25	234.18
008579615-05	OBS	No	19.264718	143.407113	335.7	2.627	14.2	12.3	2.42	8435	4.59	820.88
008579615-06	OBS	No	1.985889	132.420369	213.3	1.500	14.8	-1.0	2.42	8435	3.59	16983.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008579615-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED
008579615-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
008579615-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—CENT_SATURATED
008579615-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—CENT_SATURATED—HALO_GHOST
008579615-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
008579615-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

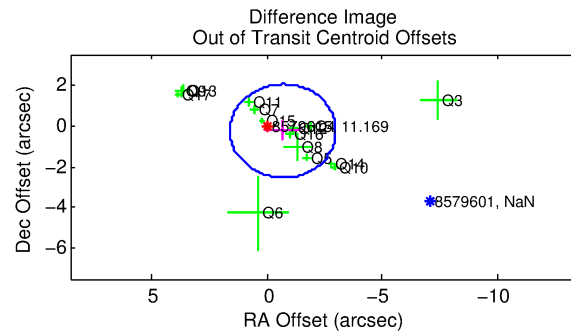
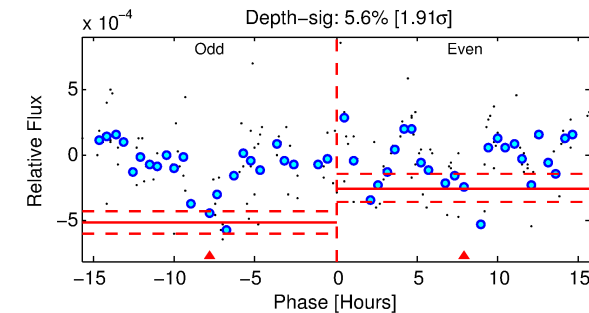
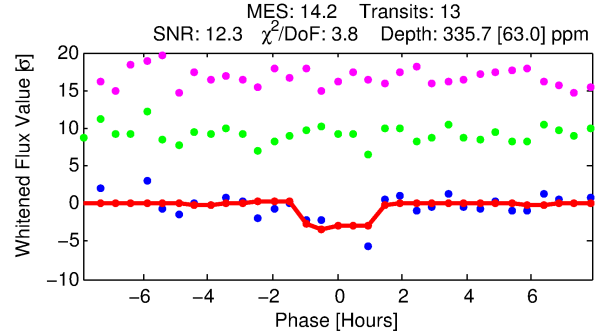
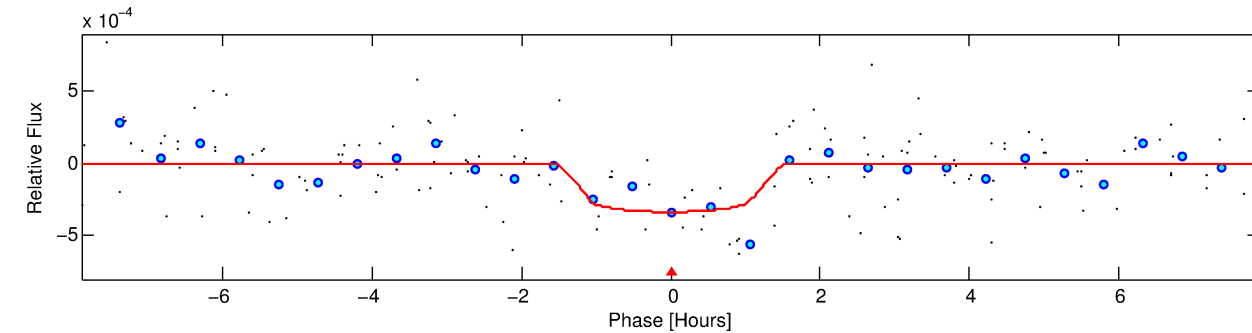
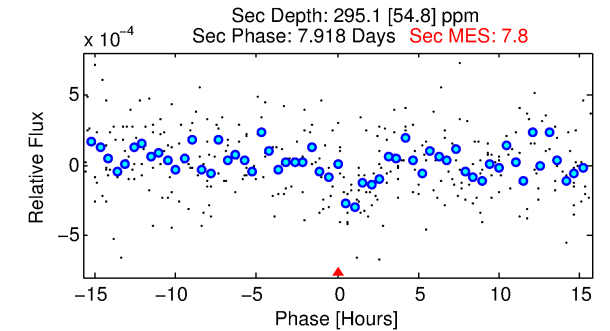
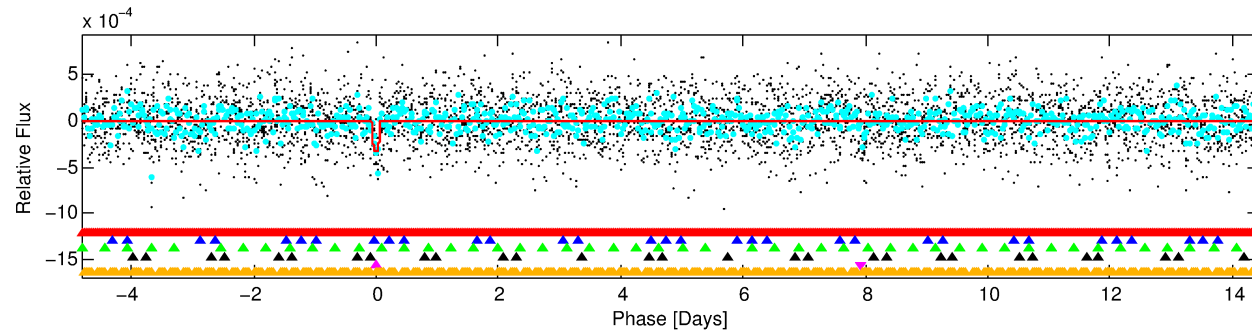
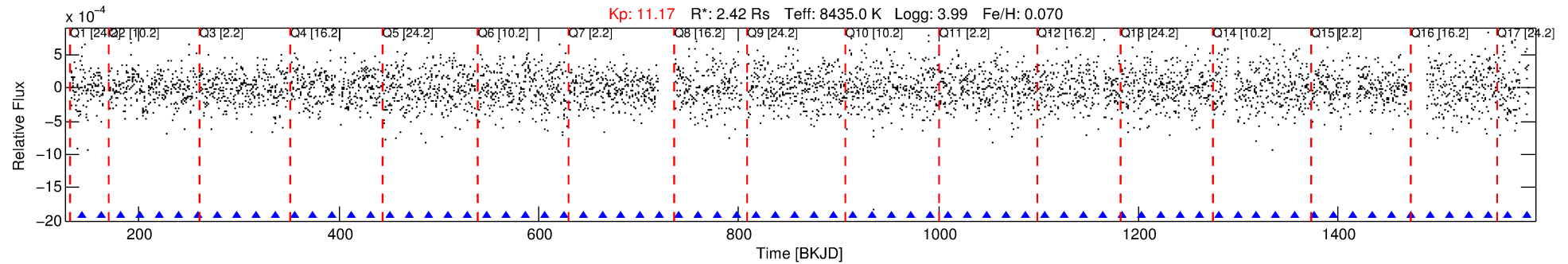
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008579615-05

No Significant Match Found

DV One-Page Summary

KIC: 8579615 Candidate: 5 of 6 Period: 19.265 d



DV Fit Results:

Period = 19.26472 [0.00034] d
Epoch = 143.4071 [0.0144] BKJD
Rp/R* = 0.0174 [0.0502]
a/R* = 50.15 [859.19]
b = 0.48 [27.30]
Seff = 820.89 [364.17]
Teq = 1365 [151] K
Rp = 4.59 [13.30] Re
a = 0.1796 [0.0490] AU
Ag = 248.55 [1436.72] [0.17 σ]
Teffp = 8379 [12084] K [0.58 σ]

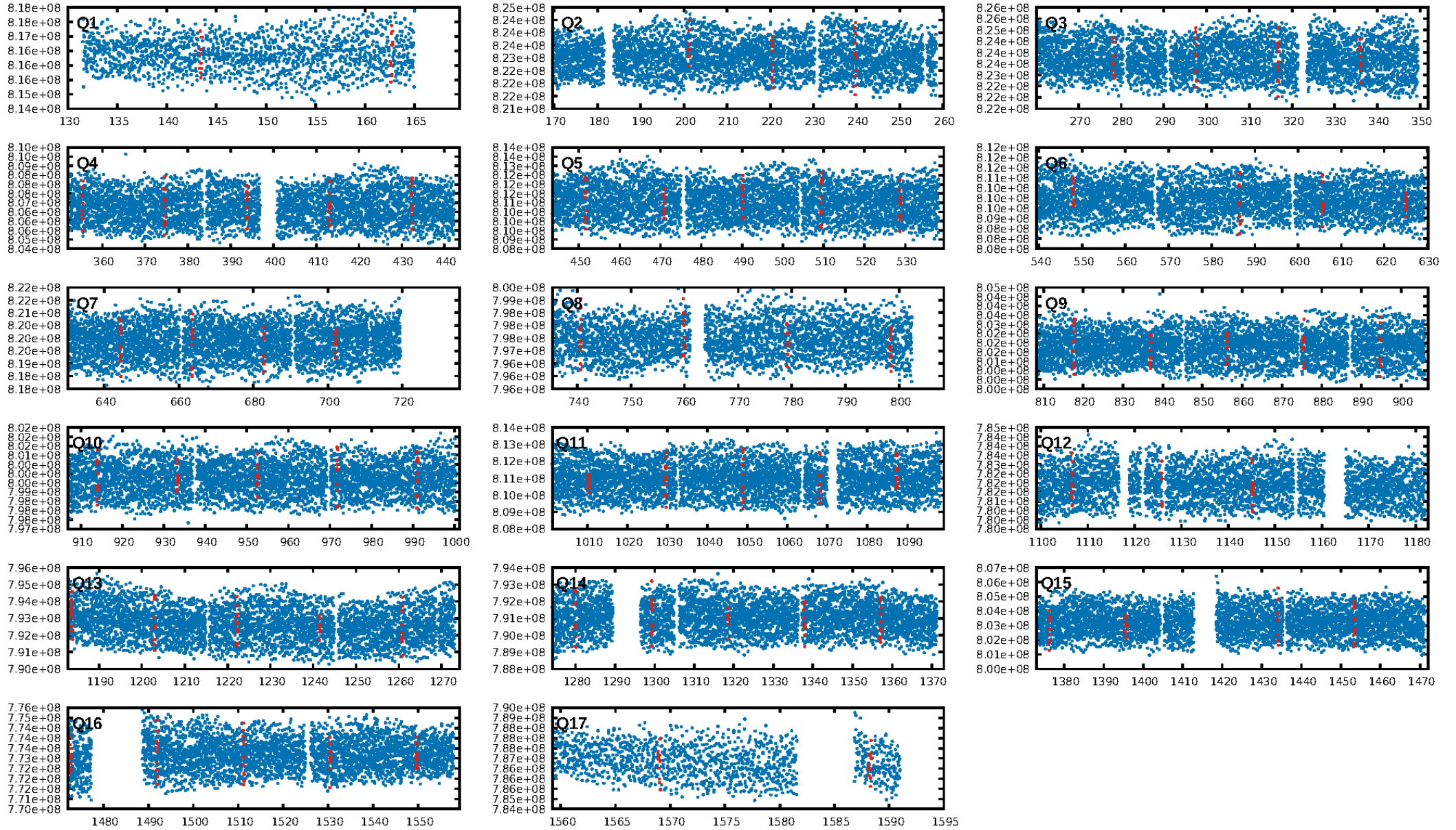
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [137.08 σ]
LongPeriod-sig: 100.0% [84.67 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 38.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [13/13]
GhostDiagnostic-chr: -1.081
Centroid-sig: 14.4%
Centroid-so: 0.213 arcsec [0.97 σ]
OotOffset-rm: 0.740 arcsec [0.97 σ]
KicOffset-rm: 0.992 arcsec [1.34 σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.53 [8/15]
DiffImageOverlap-fno: 0.00 [0/17]

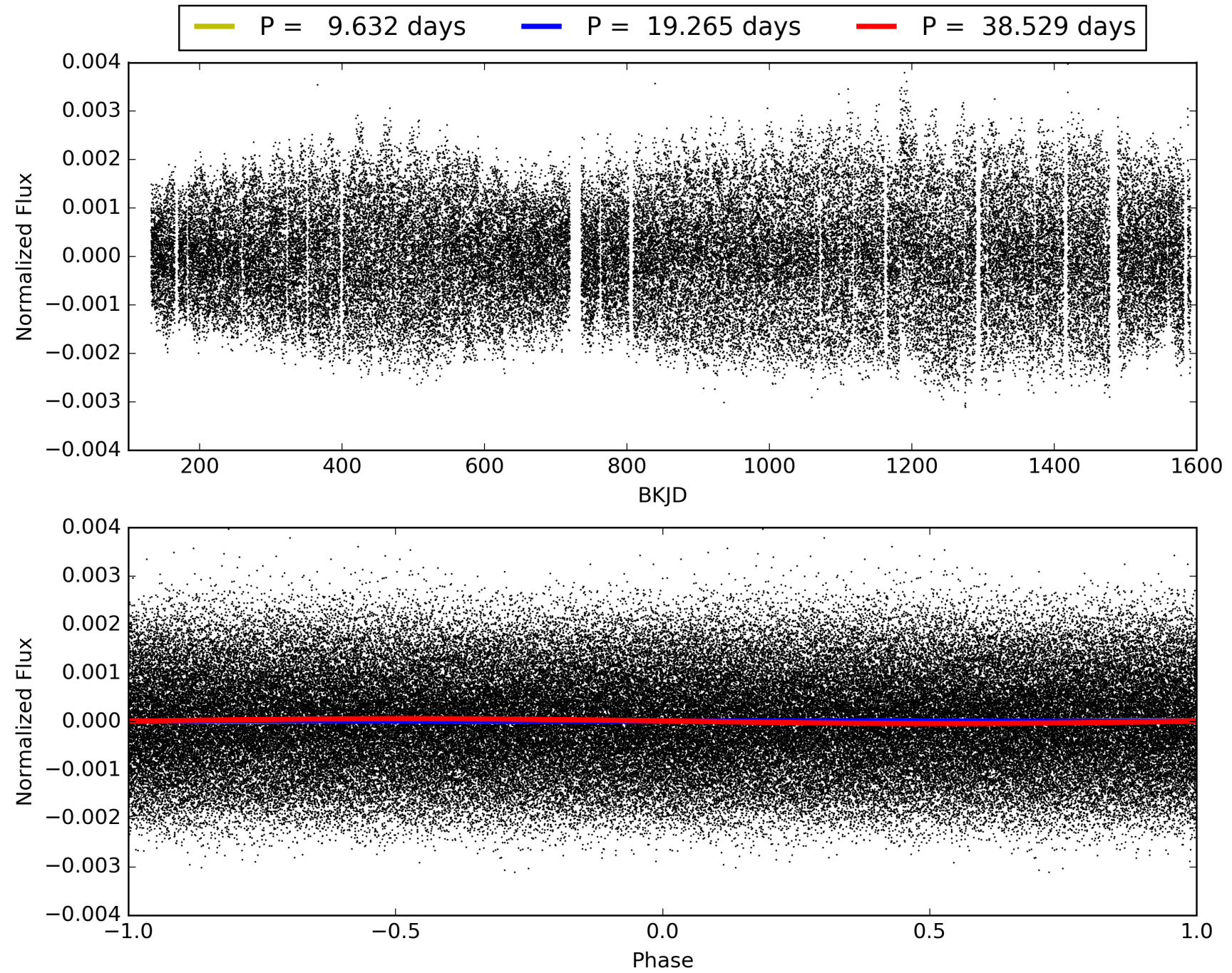
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:36:11 Z

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

TCE 008579615-05, PDC Light Curves

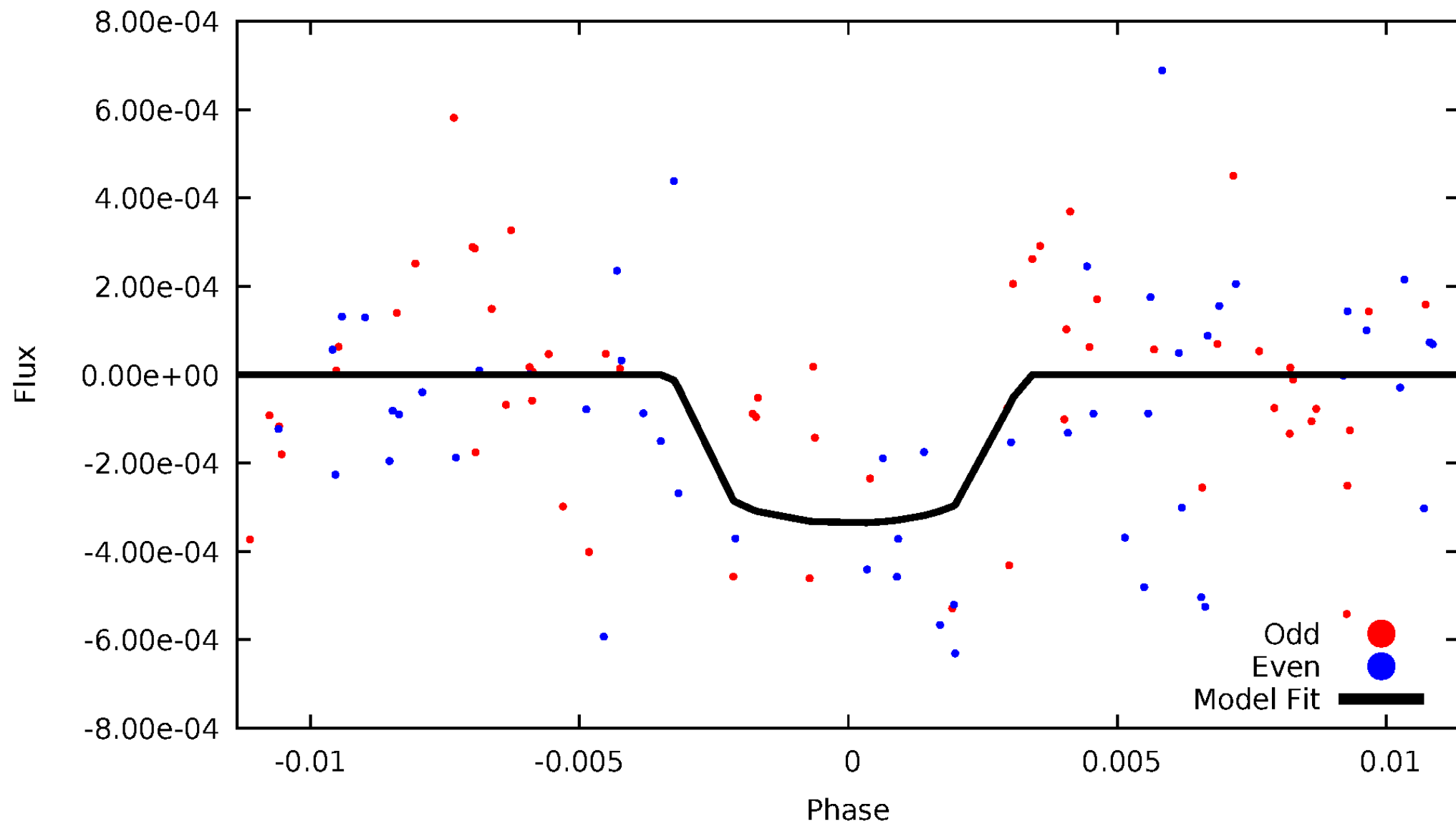


TCE 008579615-05



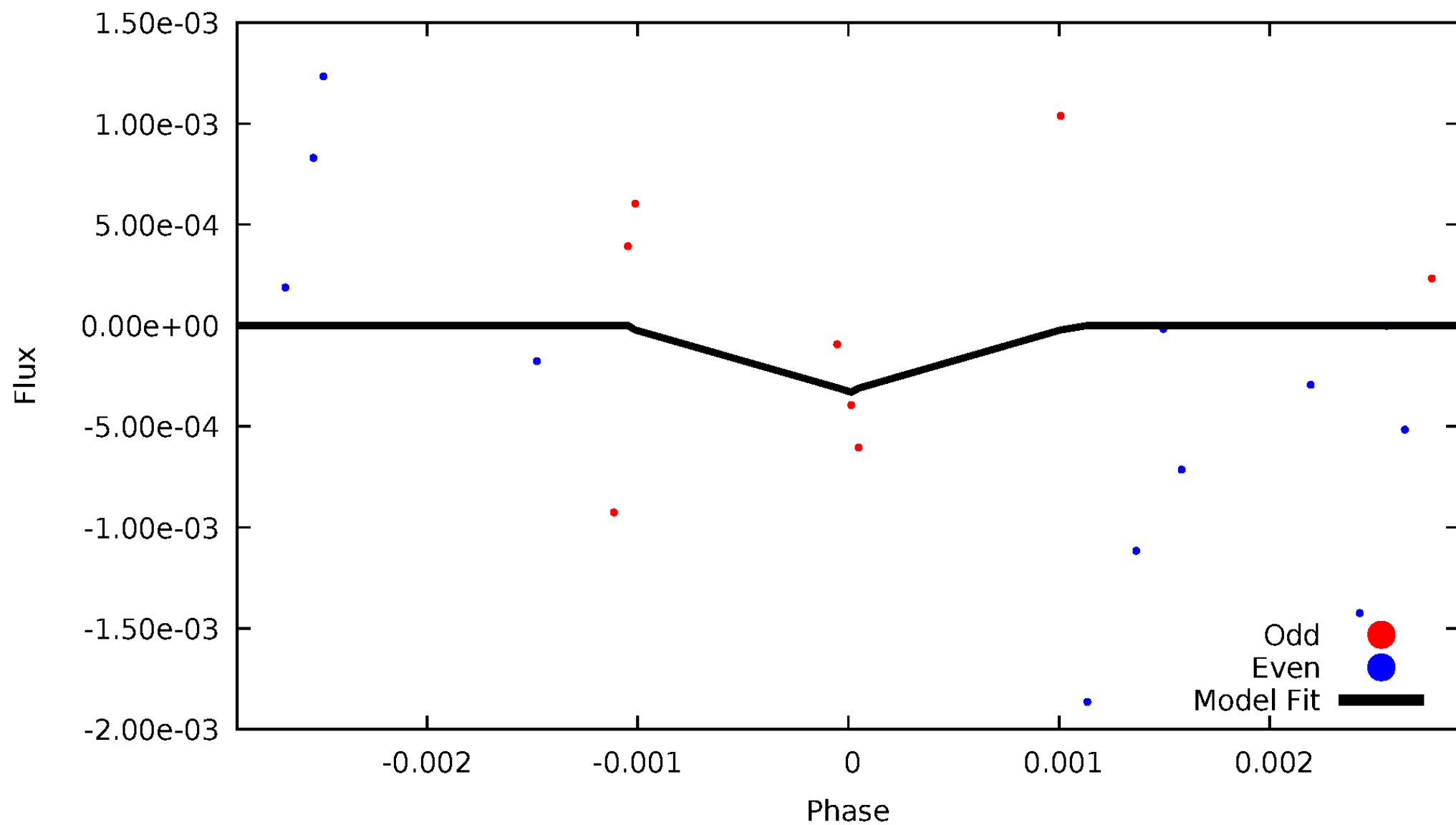
DV Odd/Even

TCE 008579615-05



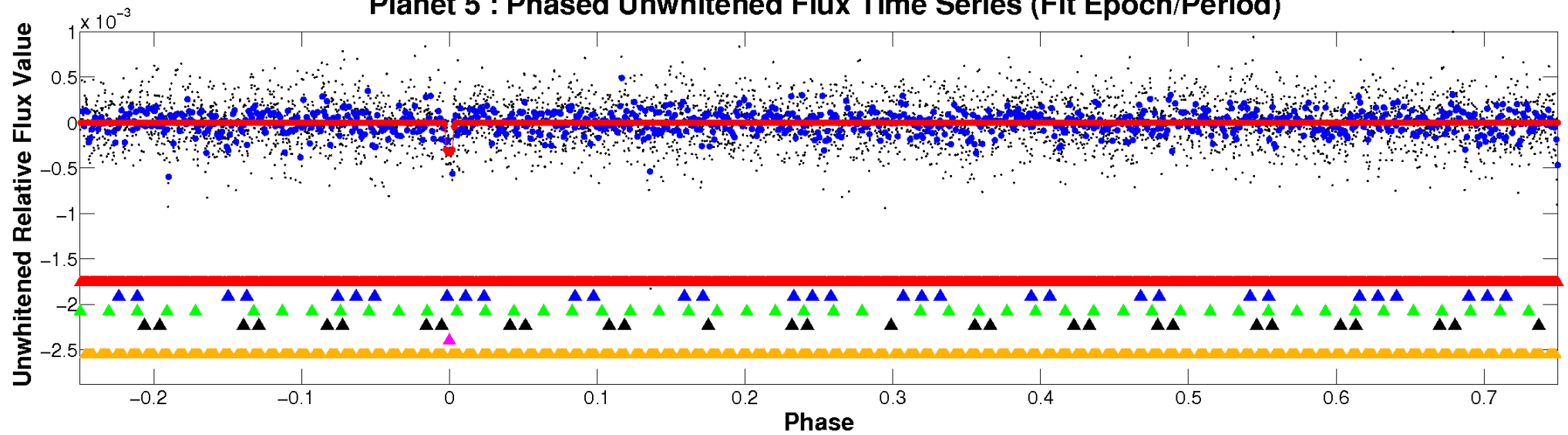
ALT Odd/Even

TCE 008579615-05

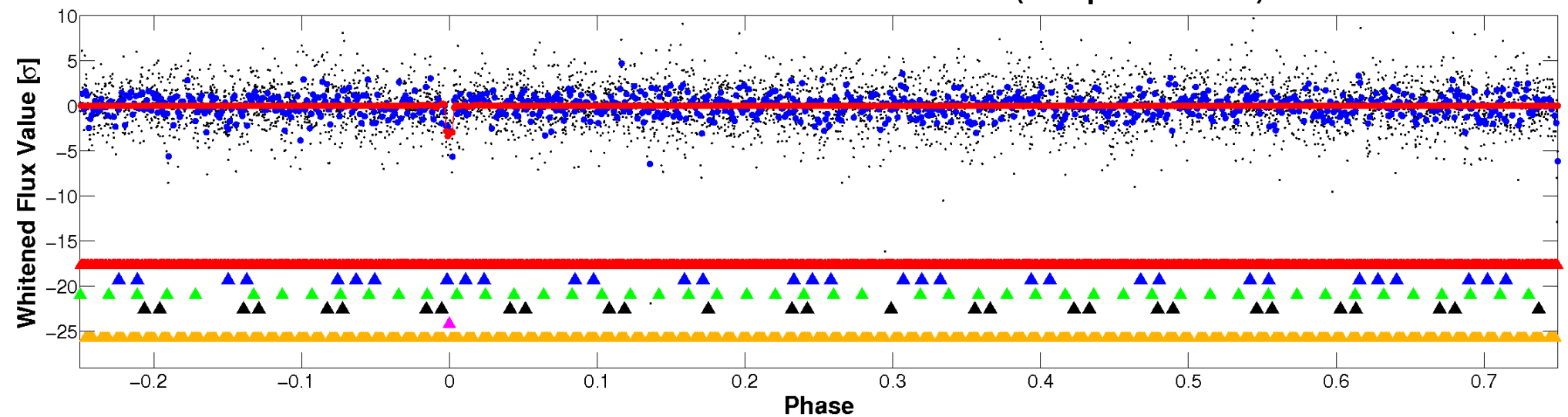


Non-Whitened Vs. Whitened Light Curve

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

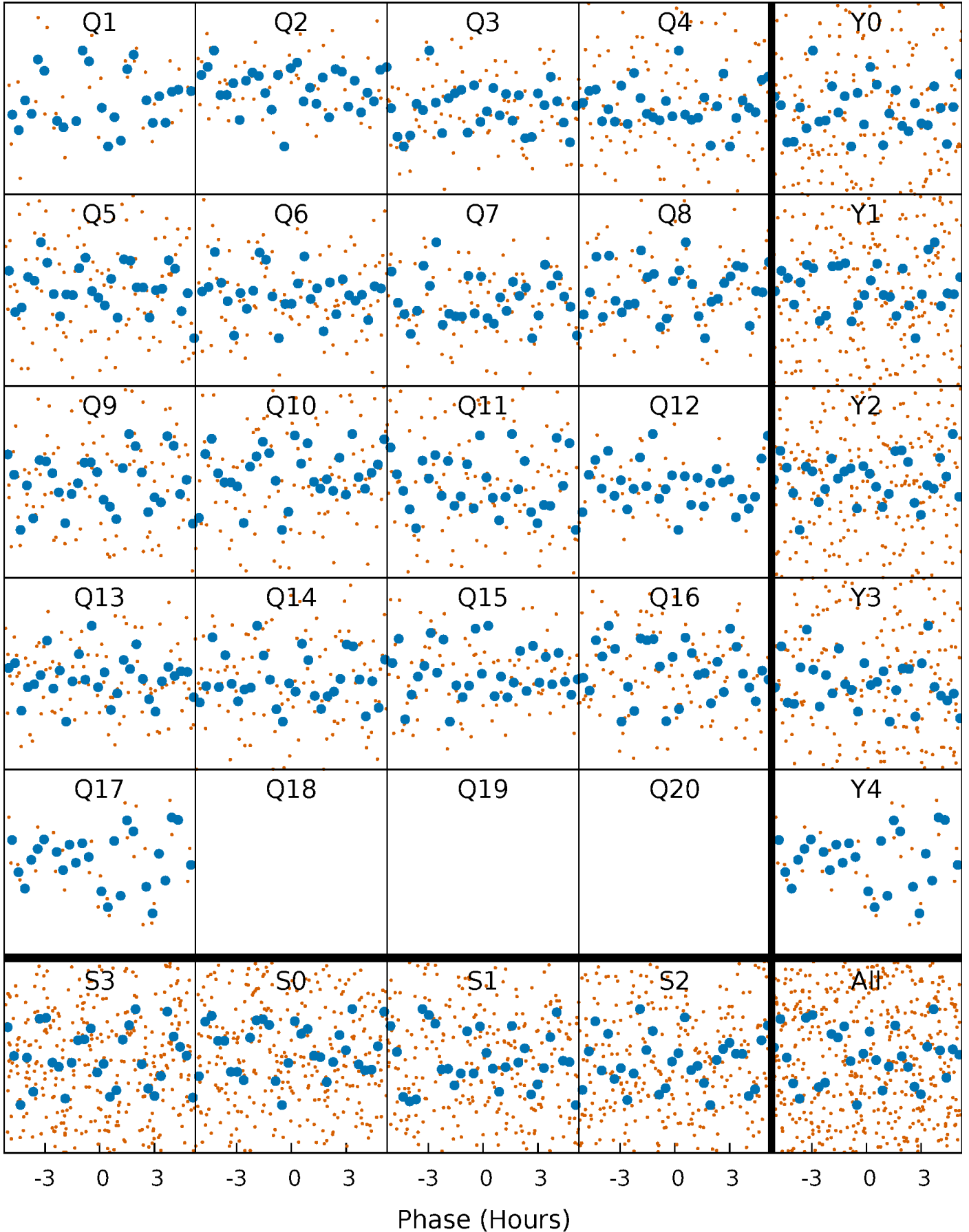


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



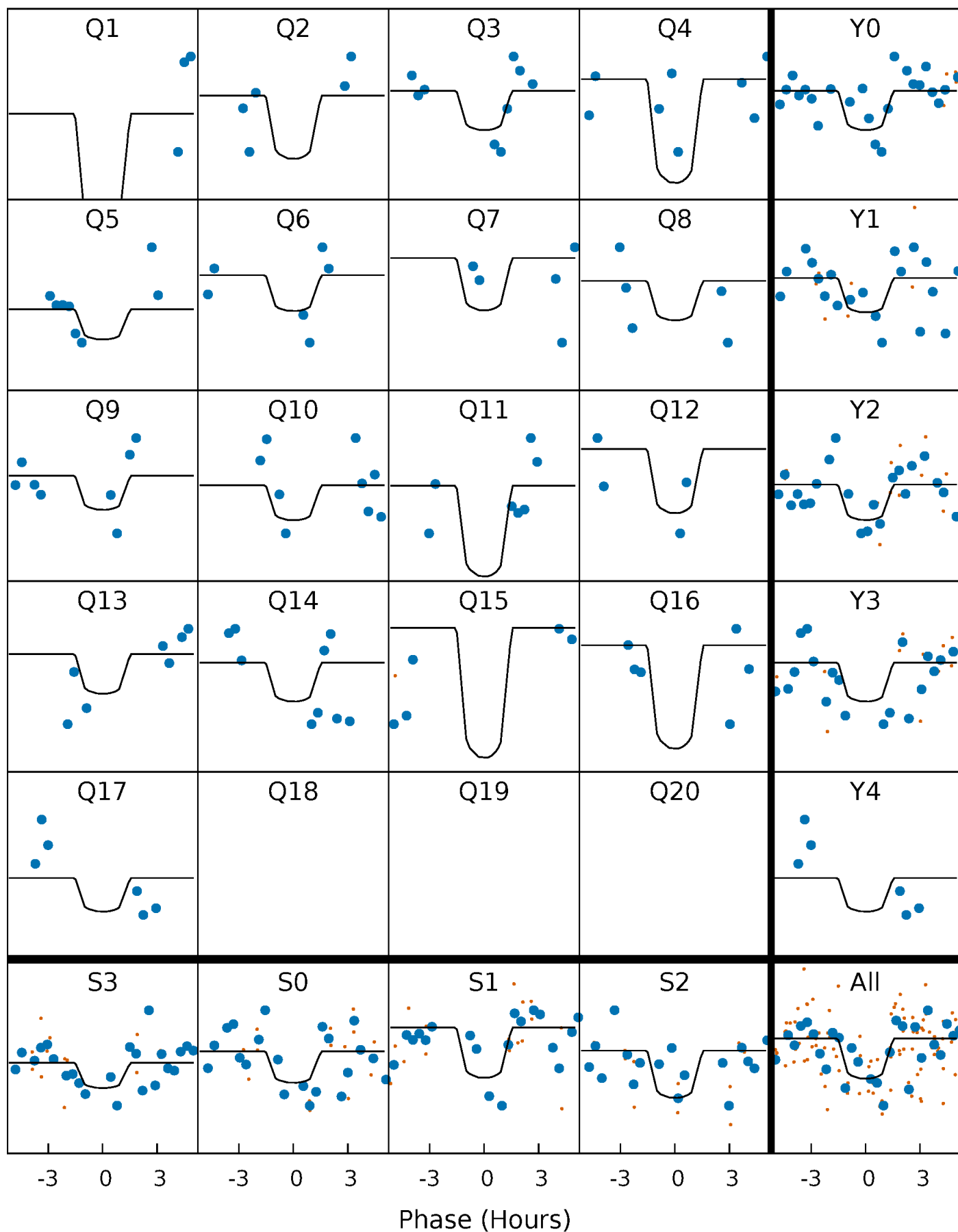
PDC Quarter-Phased Transit Curves

TCE 008579615-05 $P = 19.264718$ Days $T_0 = 143.407113$ (BKJD)



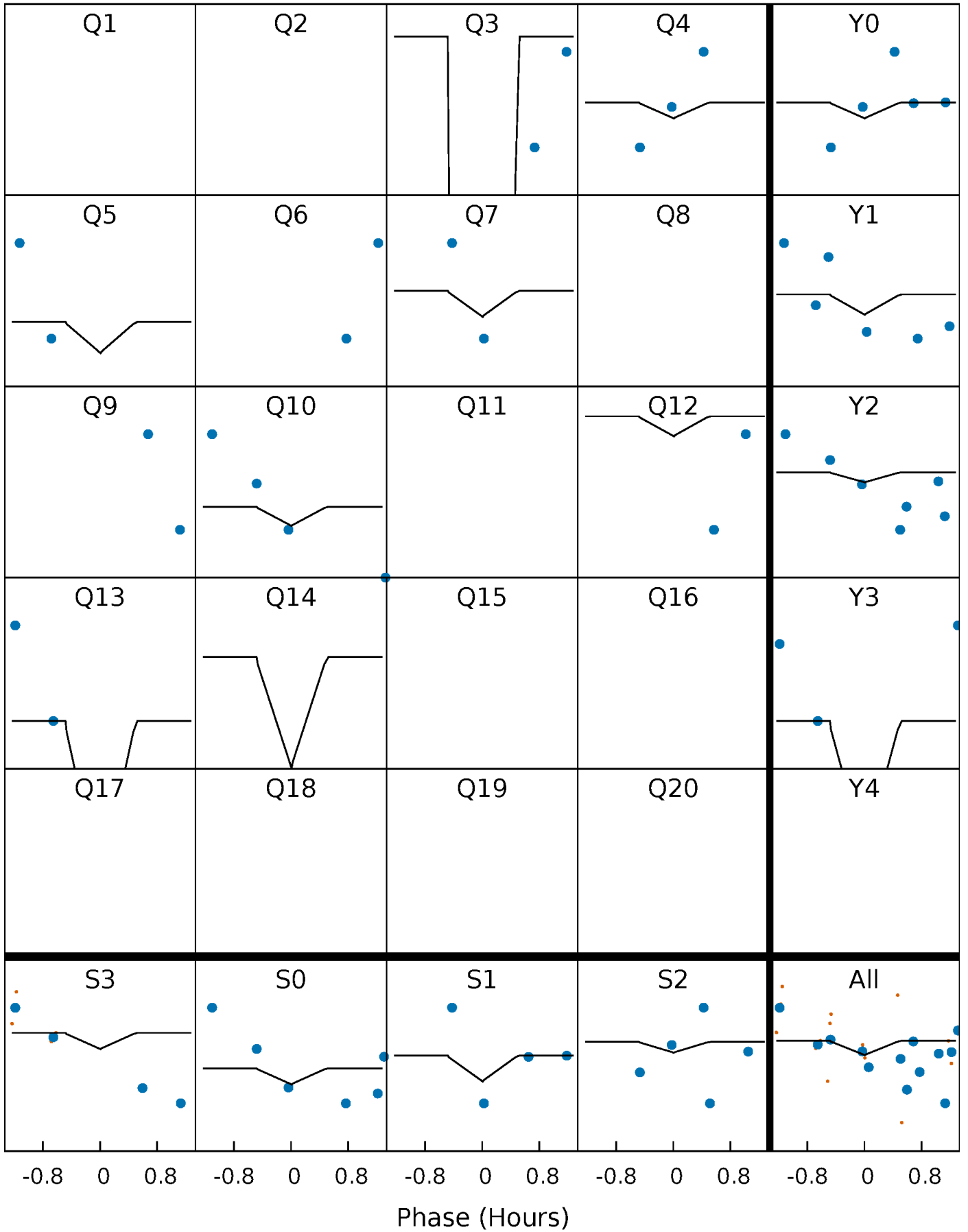
DV Quarter-Phased Transit Curves

TCE 008579615-05 P= 19.264718 Days $T_0=143.407113$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

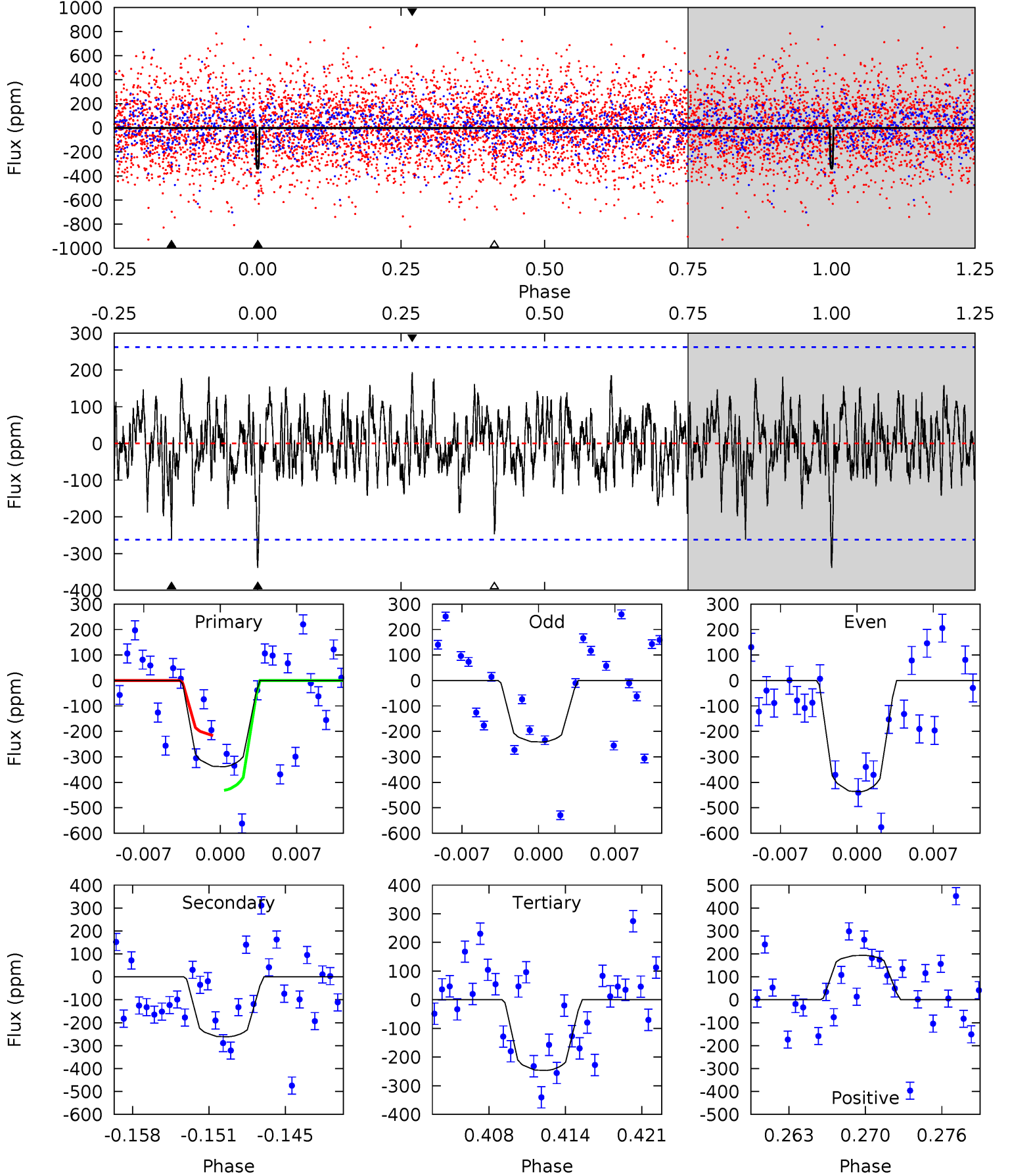
TCE 008579615-05 P= 19.264628 Days $T_0=143.396611$ (BKJD)



DV Model-Shift Uniqueness Test

008579615-05, P = 19.264718 Days, E = 124.142395 Days

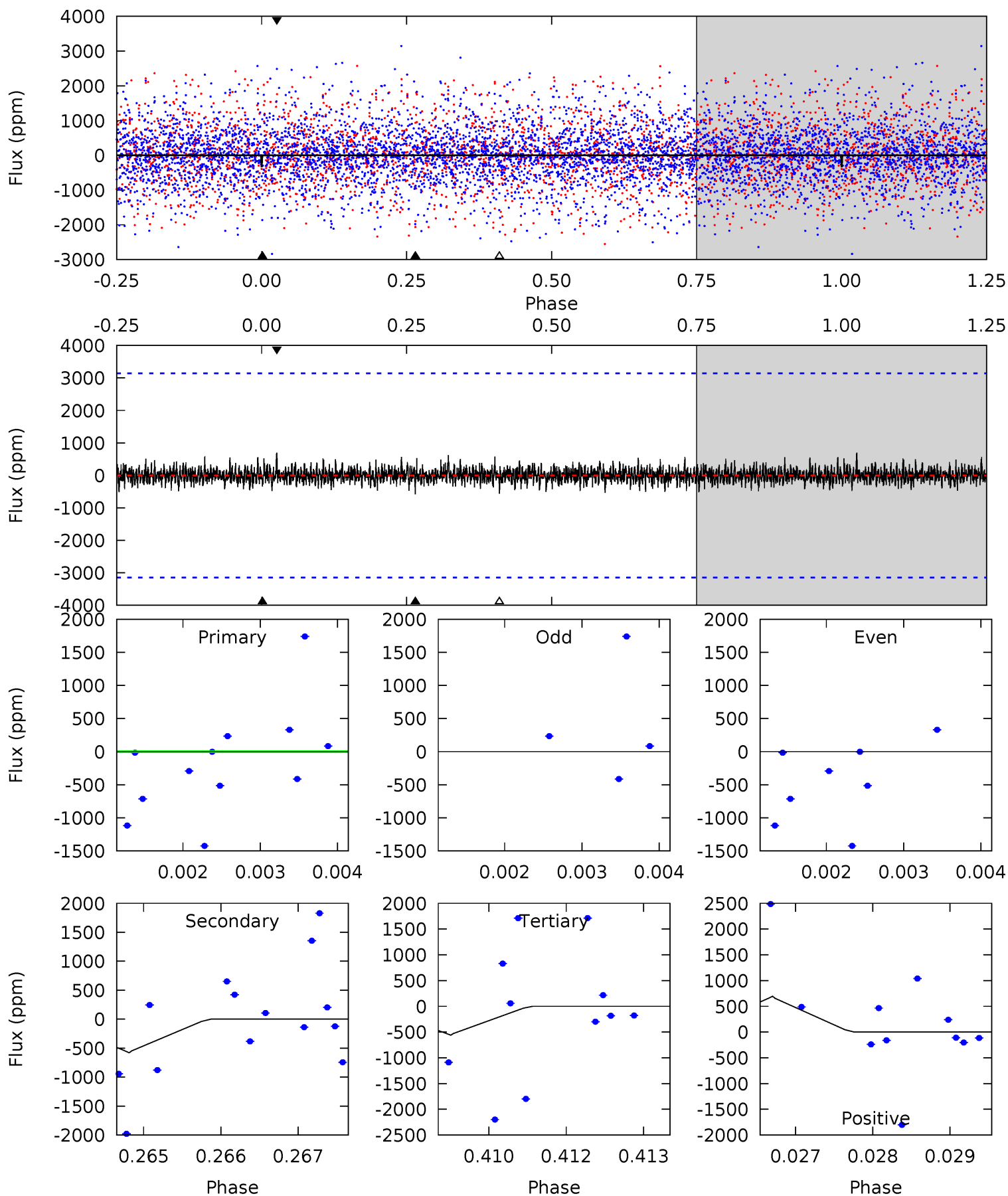
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.60	5.09	4.80	3.77	5.11	2.72	1.31	1.79	2.83	0.29	1.32	1.95	0.98	0.36	2.01



Alt Model-Shift Uniqueness Test

008579615-05, P = 19.264628 Days, E = 124.131983 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.59	1.00	0.97	1.20	5.44	3.27	0.29	-0.38	-0.62	0.03	-0.20	0	1.00	0.55	0.00



Stellar Parameters For KIC 008579615

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8435^{+234}_{-368}	$3.990^{+0.228}_{-0.123}$	$0.070^{+0.250}_{-0.600}$	$2.416^{+0.506}_{-0.759}$	$2.078^{+0.346}_{-0.519}$	$0.207^{+0.286}_{-0.077}$
	+3%/-4%	+6%/-3%	+357%/-857%	+21%/-31%	+17%/-25%	+138%/-37%
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 008579615-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-262 ± 51	$10.11^{+10.97}_{-7.15}$	1880^{+126}_{-139}	5194^{+5395}_{-1276}	44^{+488}_{-34}
Alt.	-580 ± 578	$10.40^{+10.37}_{-7.20}$	1885^{+133}_{-150}	5790^{+6833}_{-2983}	73^{+793}_{-72}

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

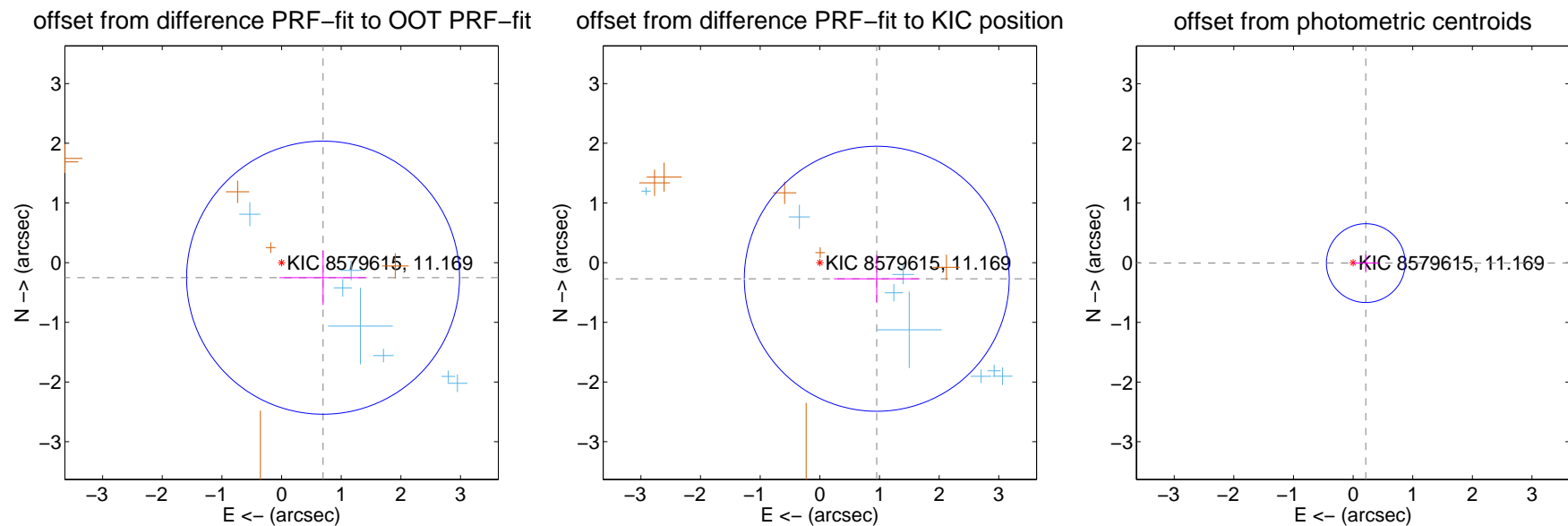
DV Centroid Data

Supplemental centroid analysis for 008579615-05. **Kepler magnitude: 11.17.** Transit SNR 12.31

There are 8 quarters with good PRF difference image offsets

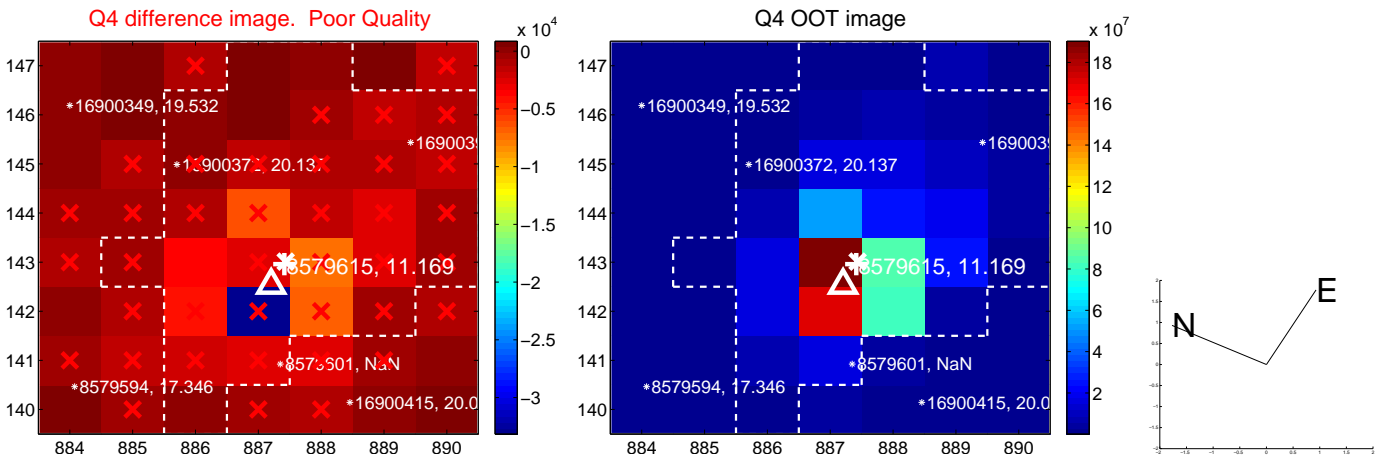
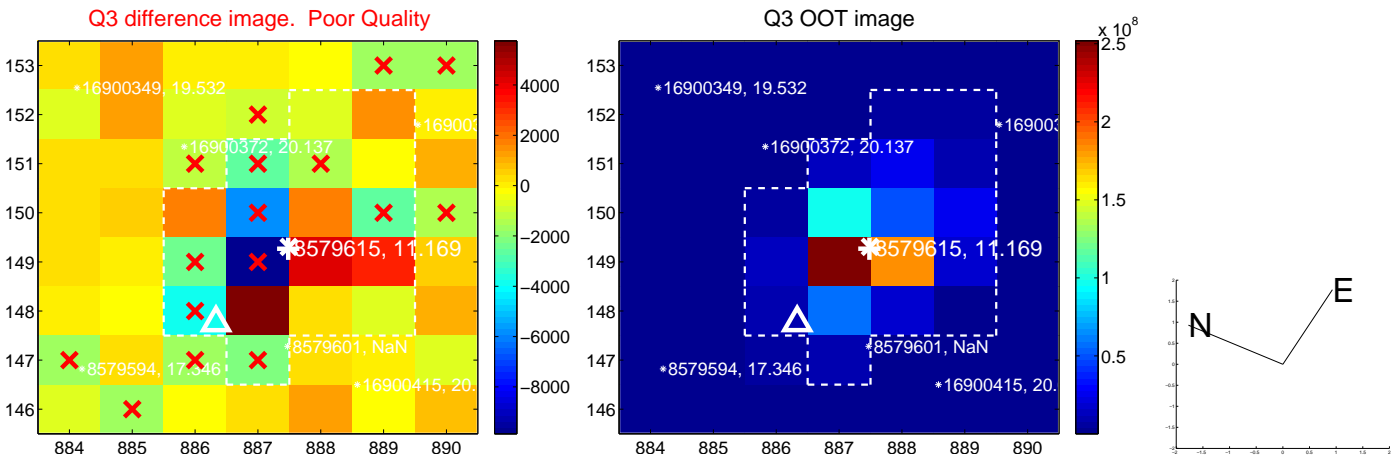
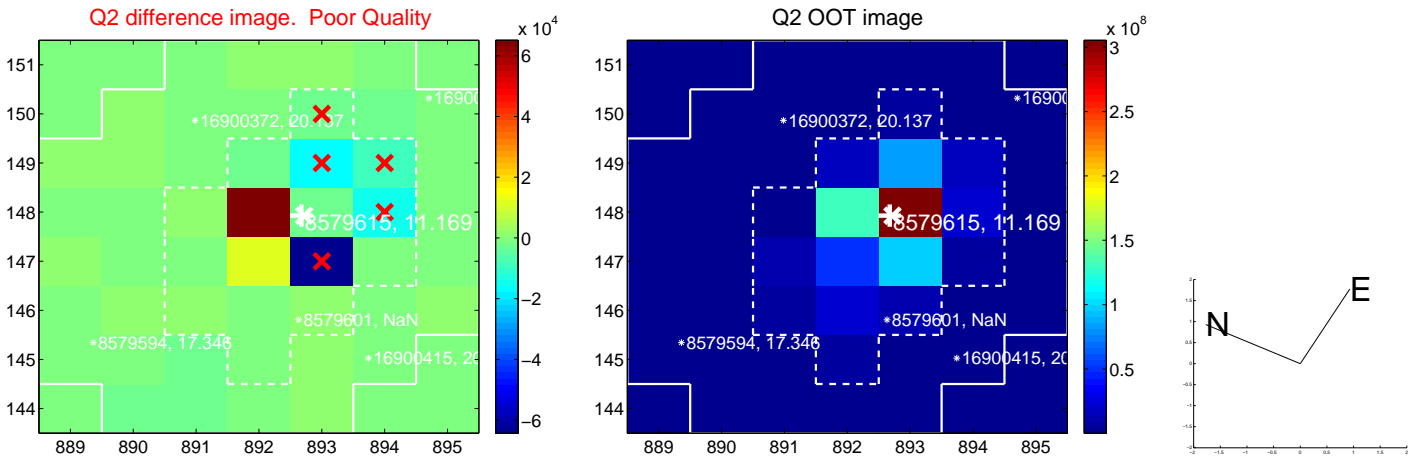
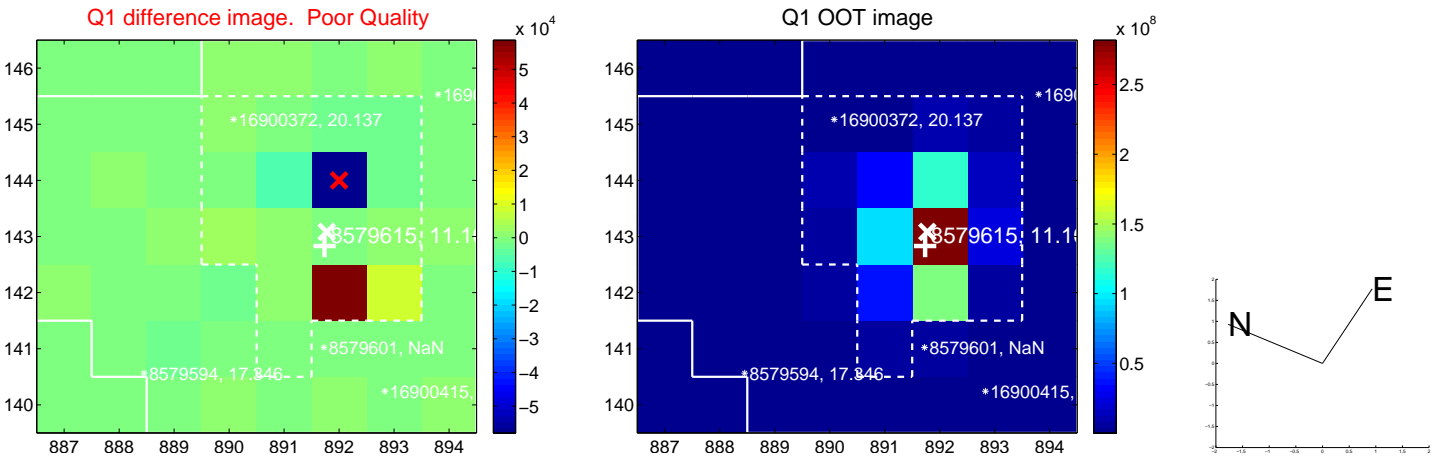
The direct PRF centroid is offset from the target star catalog position by about 0.97 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.740 ± 0.763	0.97	-0.696 ± 0.730	-0.252 ± 0.458
PRF-fit source offset from KIC position	0.992 ± 0.740	1.34	-0.954 ± 0.718	-0.270 ± 0.401
photometric centroid source offset	0.21 ± 0.22	0.97	-0.21 ± 0.22	-0.01 ± 0.14

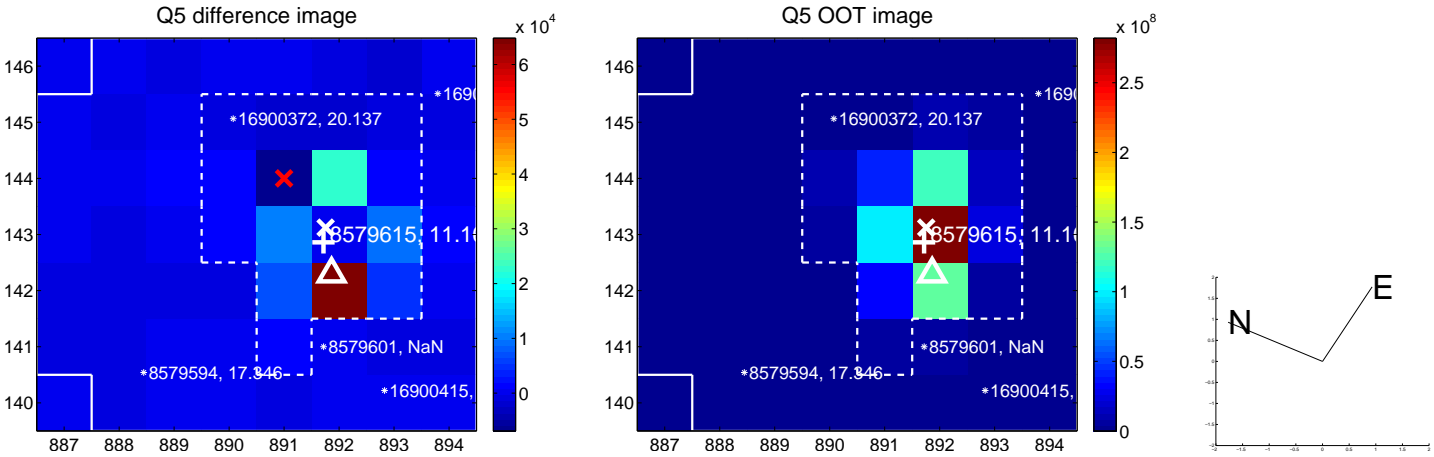


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

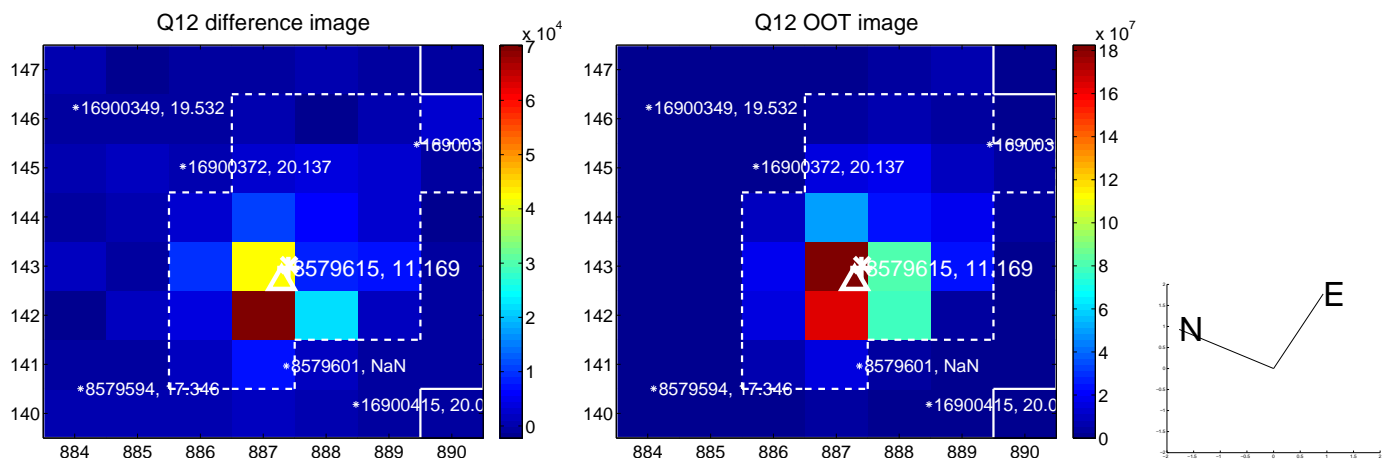
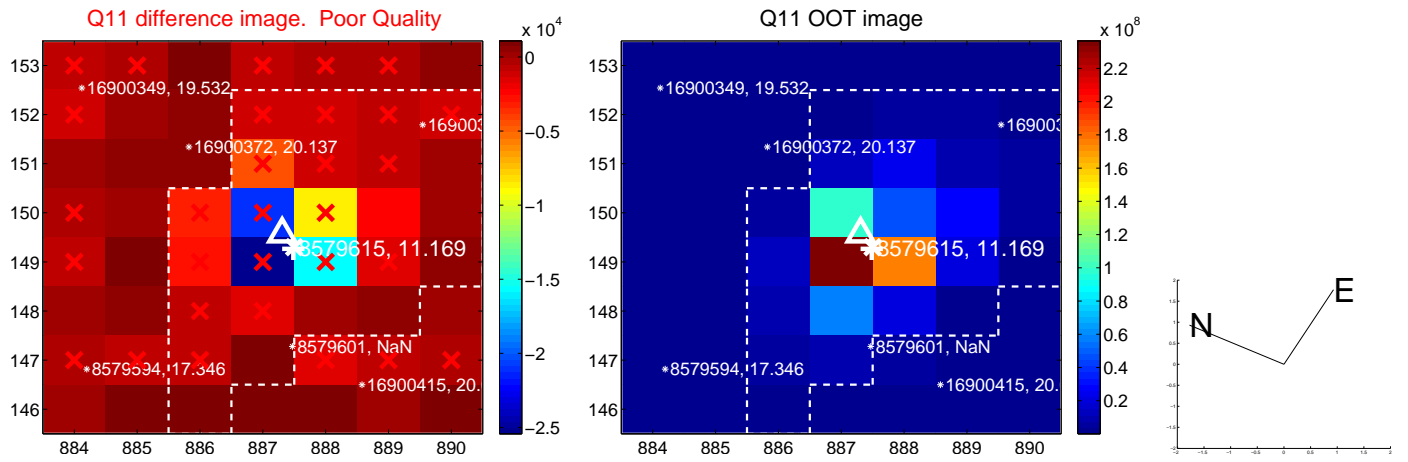
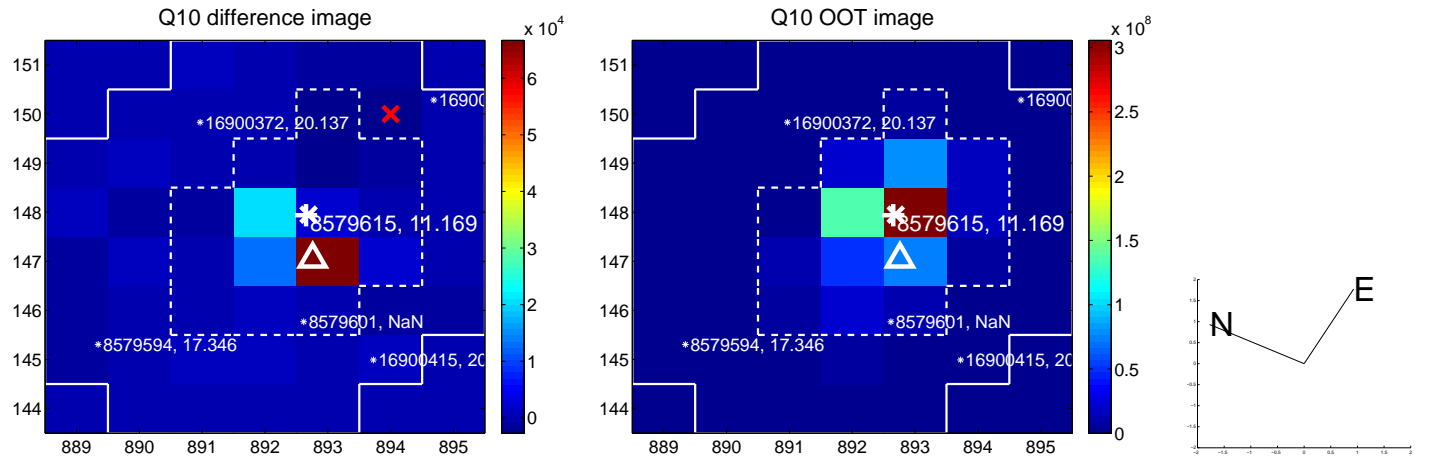
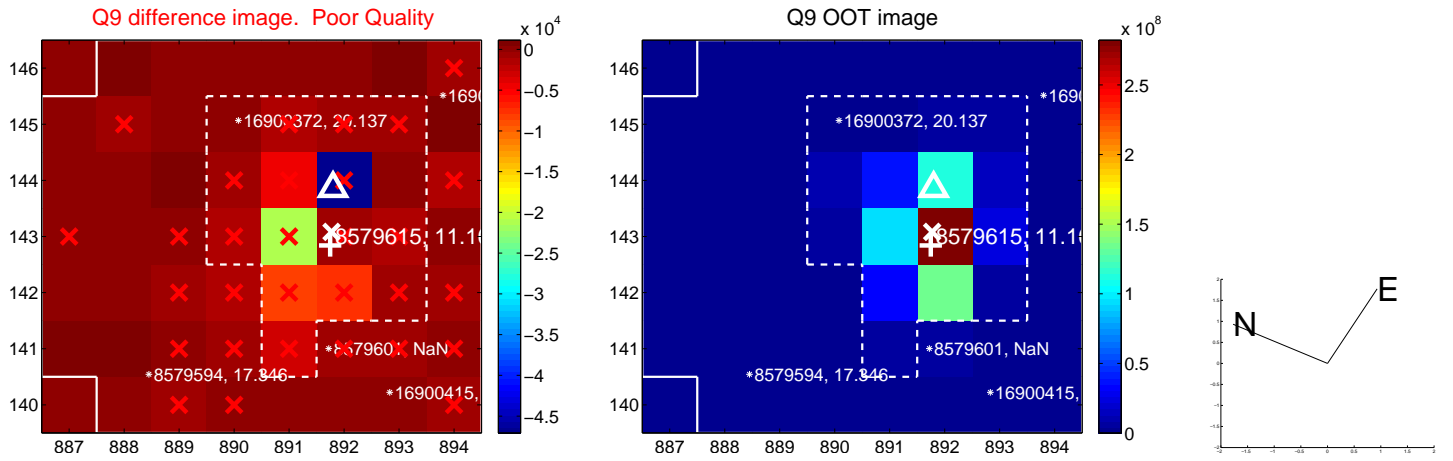
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



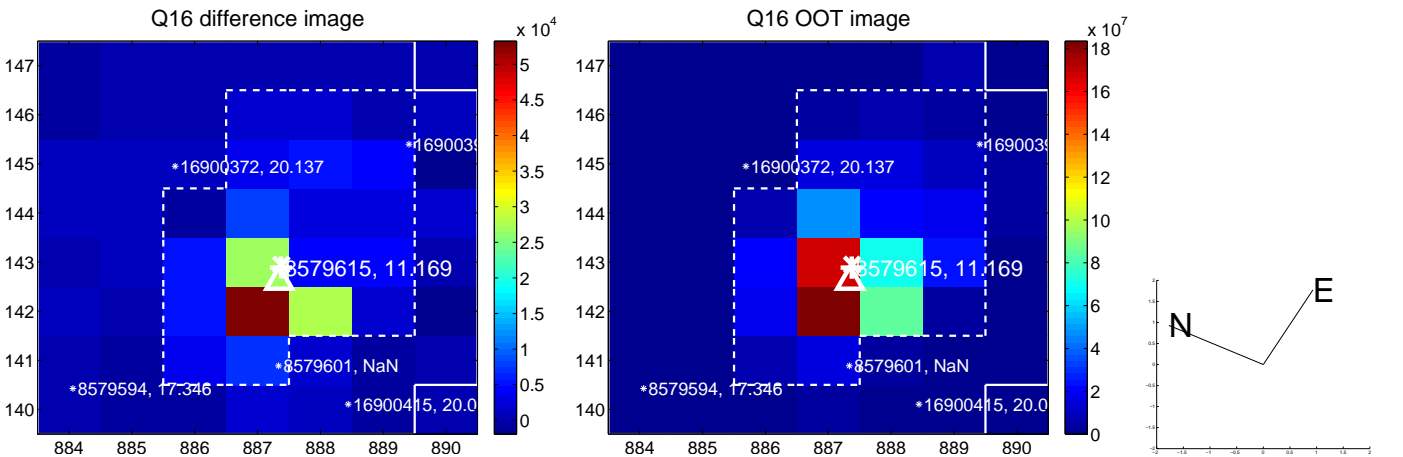
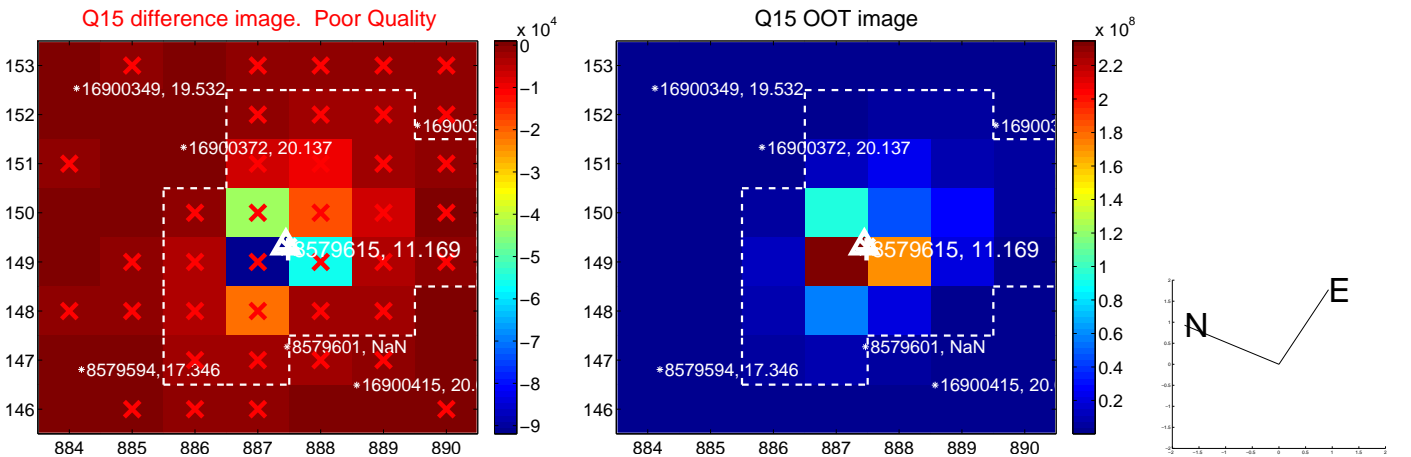
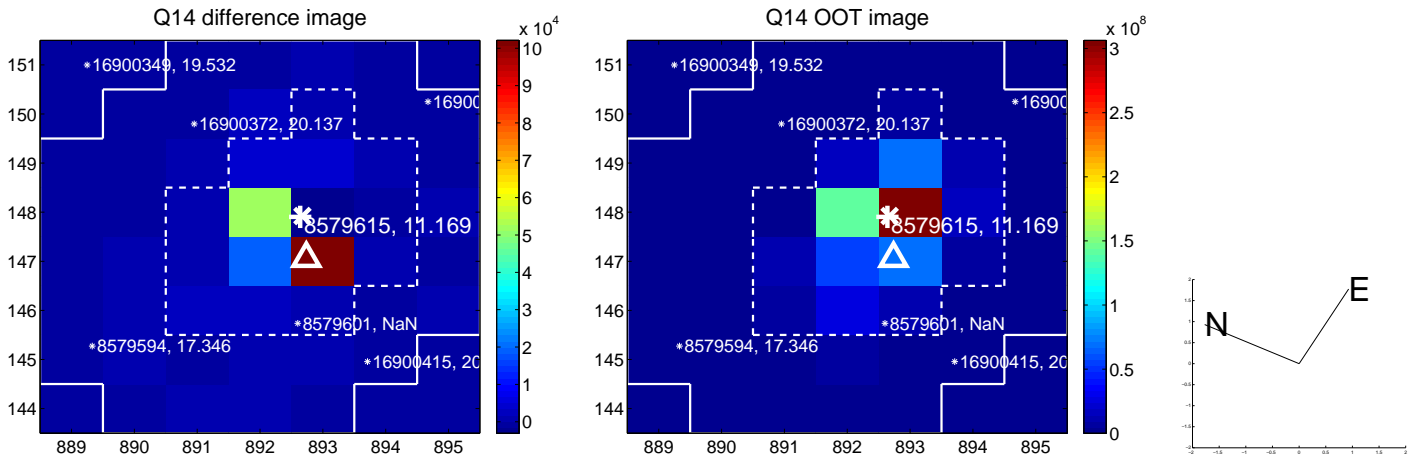
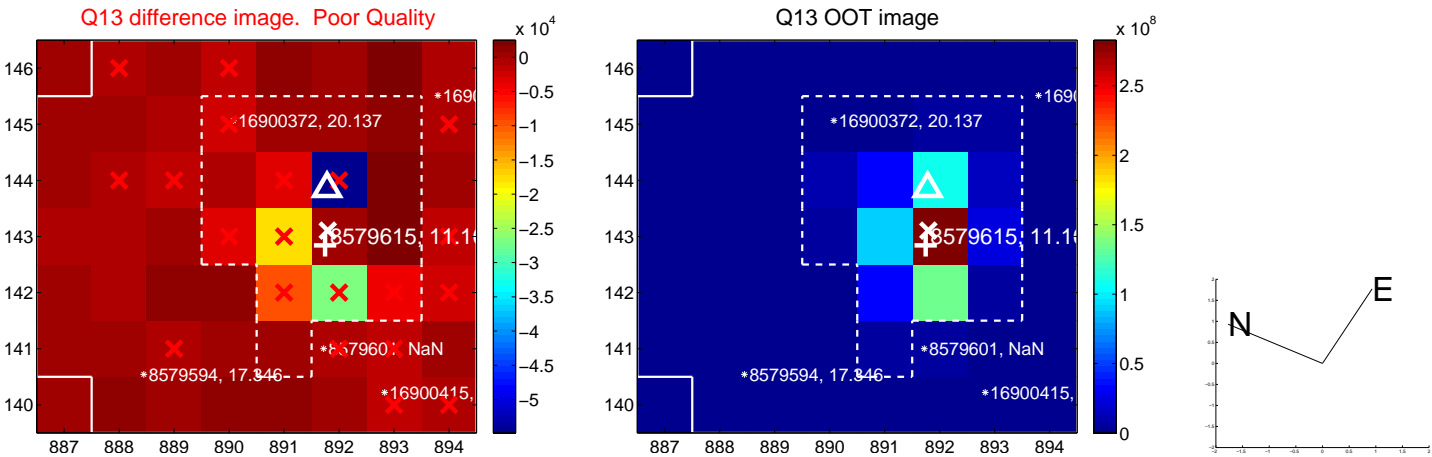
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



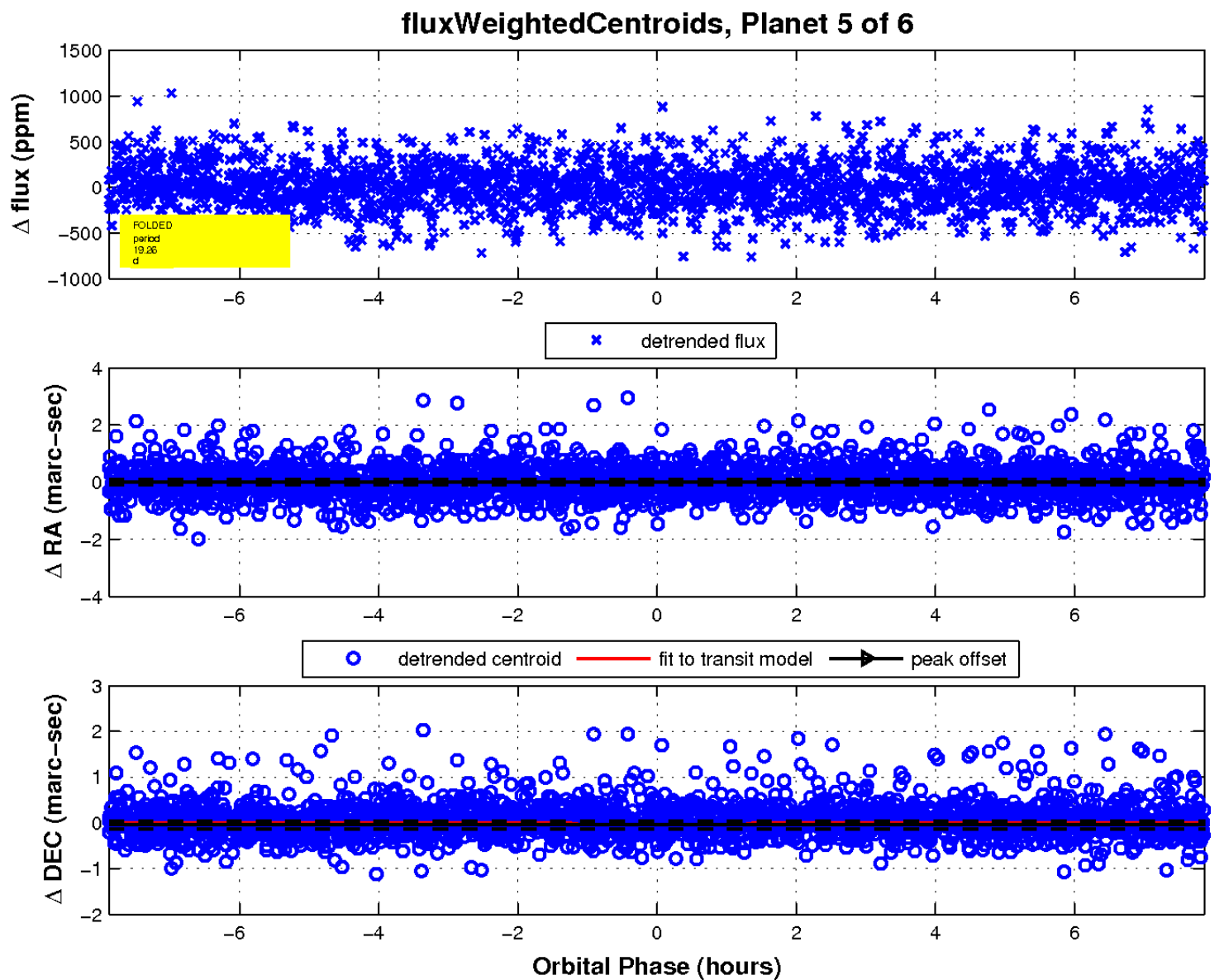
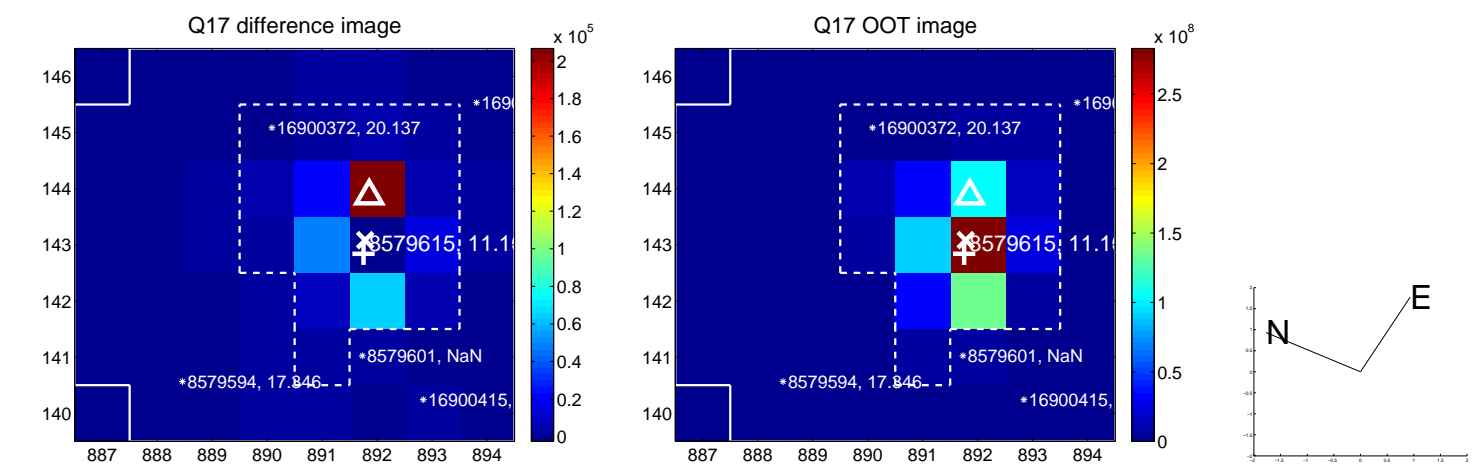
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

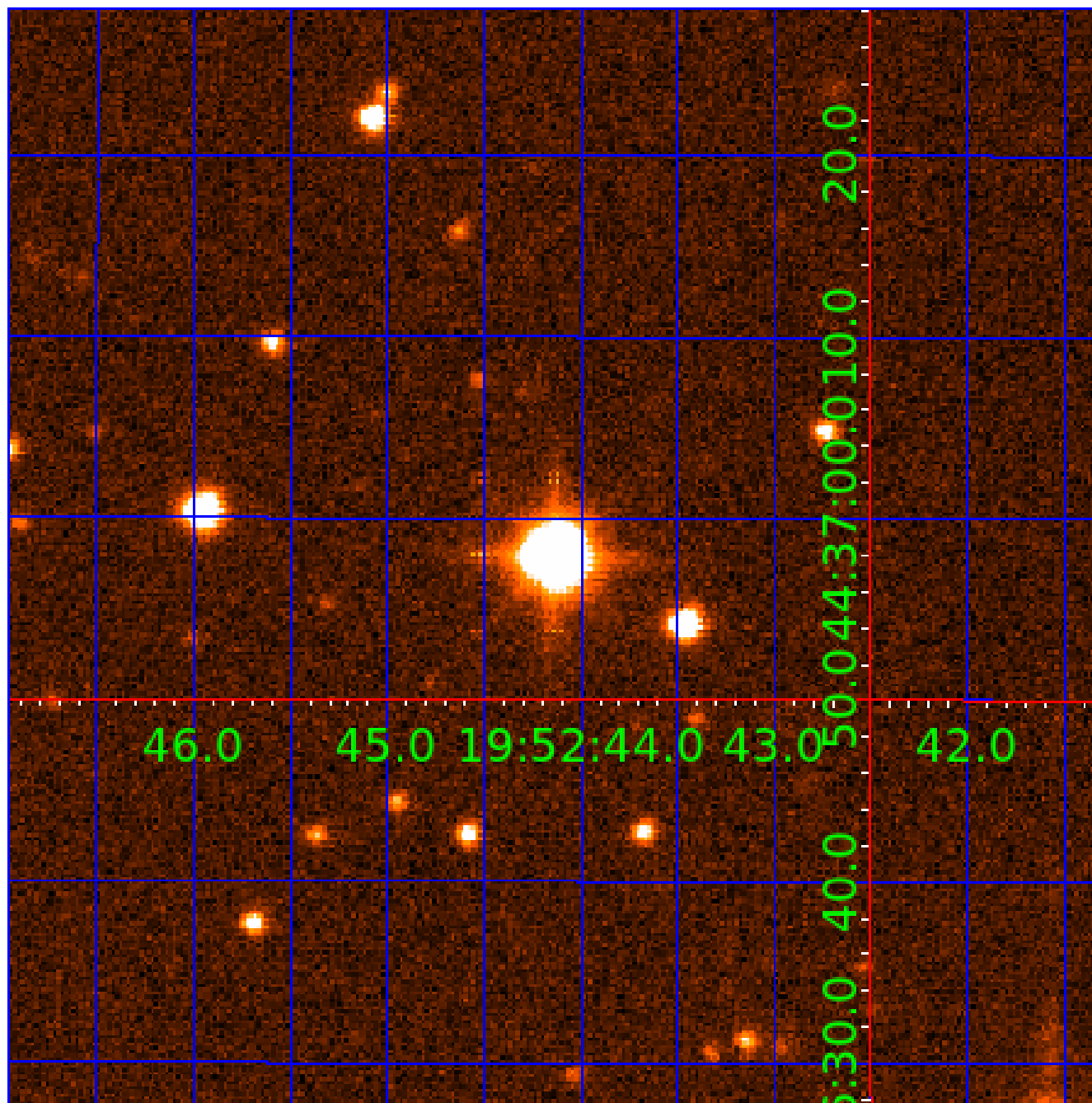


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008579615

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})
008579615-01	OBS	No	0.656201	131.684651	20.0	4.691	10.0	8.2	2.42	8435	1.17	74344.77
008579615-02	OBS	No	44.475626	175.960641	502.4	2.070	12.9	14.2	2.42	8435	5.82	269.03
008579615-03	OBS	No	29.841730	151.047172	559.3	1.445	13.2	15.7	2.42	8435	6.35	458.00
008579615-04	OBS	No	49.353319	179.453950	577.6	1.228	14.1	12.2	2.42	8435	6.25	234.18
008579615-05	OBS	No	19.264718	143.407113	335.7	2.627	14.2	12.3	2.42	8435	4.59	820.88
008579615-06	OBS	No	1.985889	132.420369	213.3	1.500	14.8	-1.0	2.42	8435	3.59	16983.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008579615-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED
008579615-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
008579615-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—MOD_NONUNIQ_DV—CENT_SATURATED
008579615-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—CENT_SATURATED—HALO_GHOST
008579615-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
008579615-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

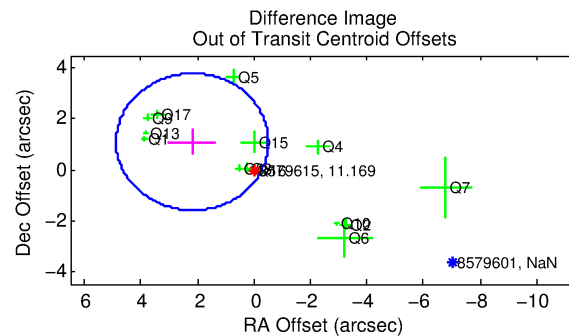
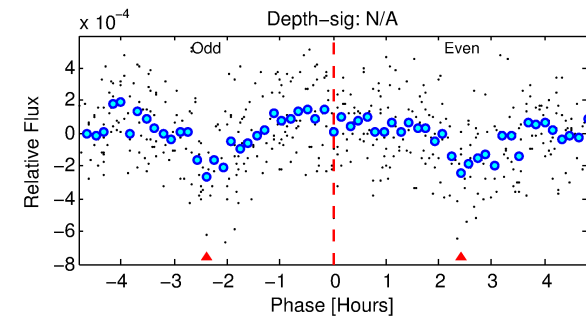
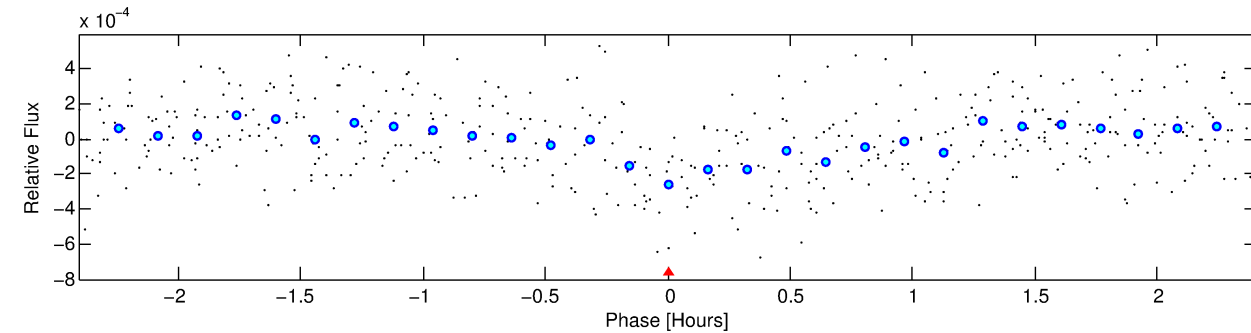
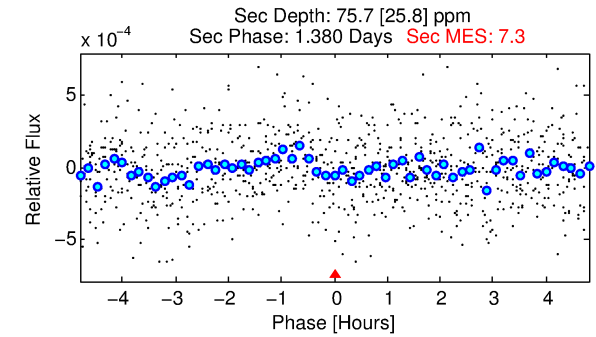
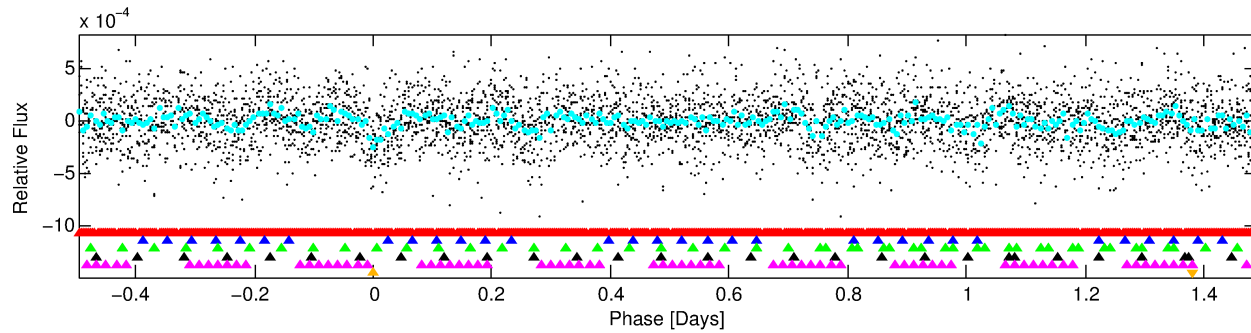
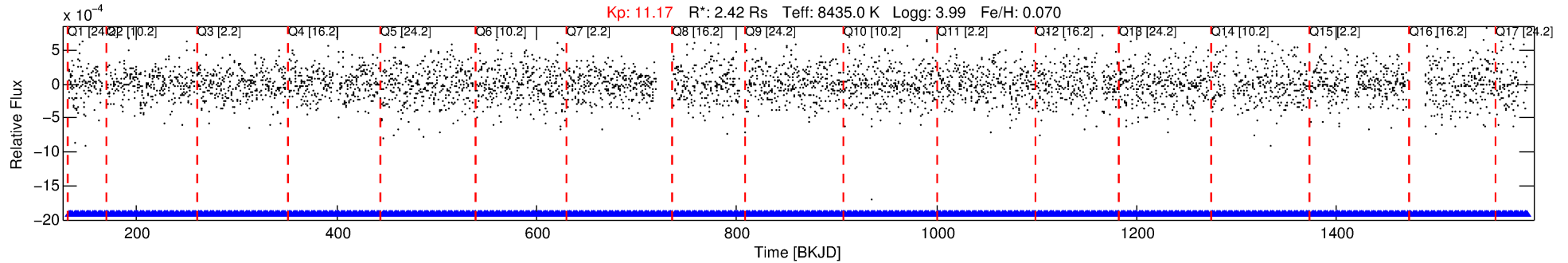
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008579615-06

No Significant Match Found

DV One-Page Summary

KIC: 8579615 Candidate: 6 of 6 Period: 1.986 d



TPS TCE Results:

Period = 1.98589 d
Epoch = 132.4204 BKJD

DV fit results are unavailable

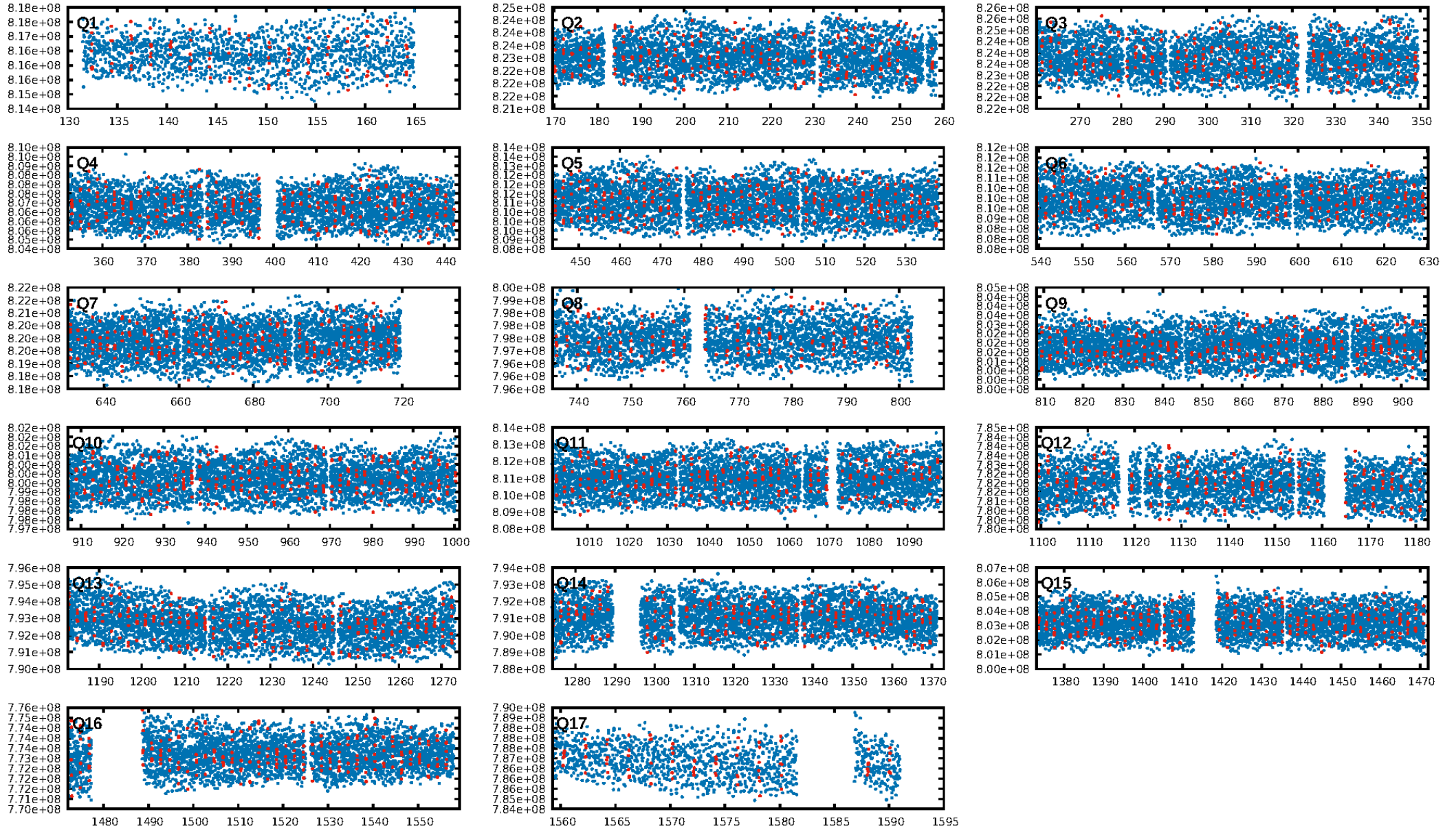
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [6.48 σ]
LongPeriod-sig: 100.0% [137.08 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [101/101]
GhostDiagnostic-chr: 2.559
Centroid-sig: 32.8%
Centroid-so: 0.422 arcsec [2.72 σ]
OotOffset-rm: 2.446 arcsec [2.72 σ]
KicOffset-rm: 1.776 arcsec [2.18 σ]
OotOffset-st: 3/3/3/5 [14]
KicOffset-st: 3/3/3/5 [14]
DiffImageQuality-fgm: 0.71 [10/14]
DiffImageOverlap-fno: 0.20 [3/15]

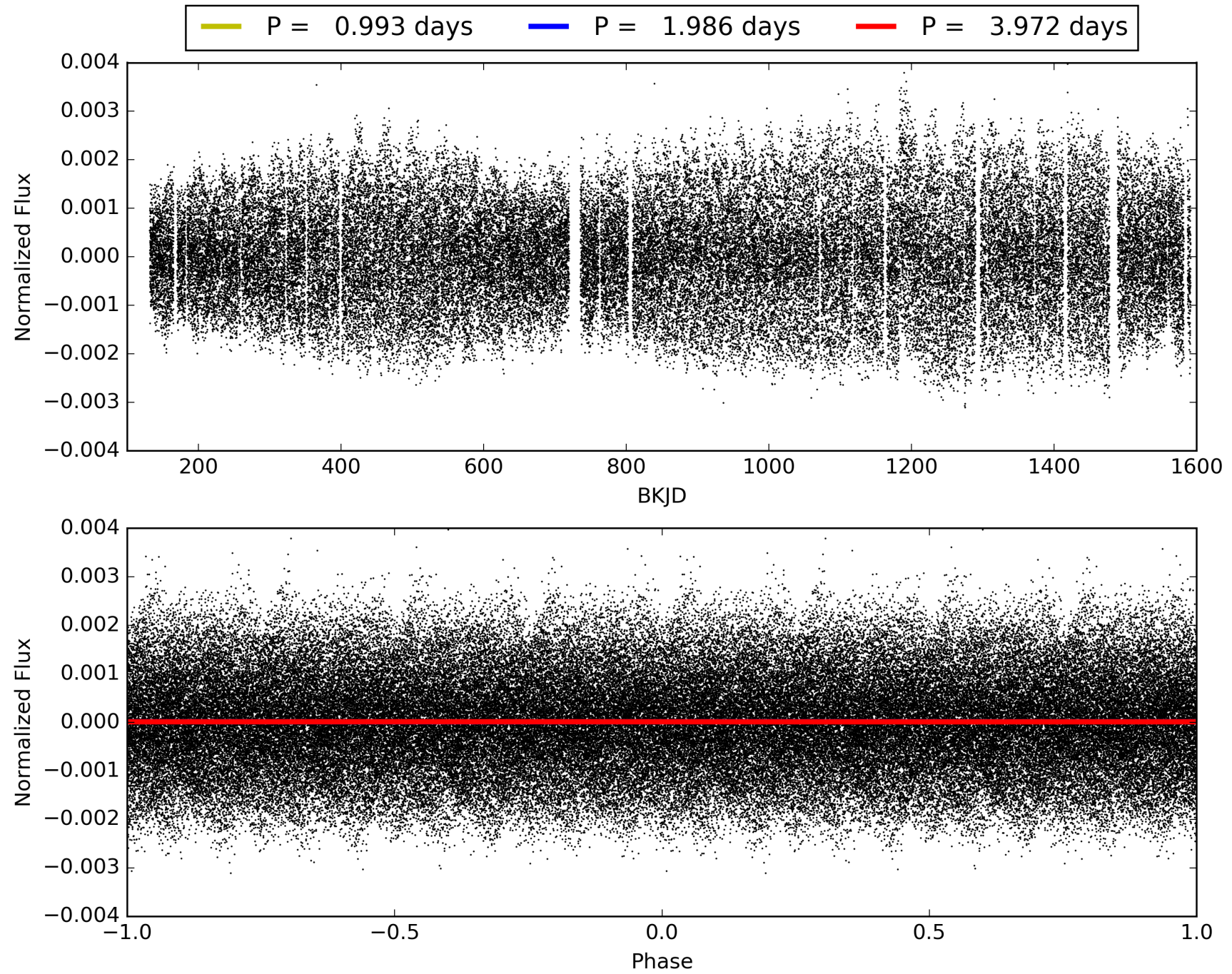
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:36:14 Z

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

TCE 008579615-06, PDC Light Curves

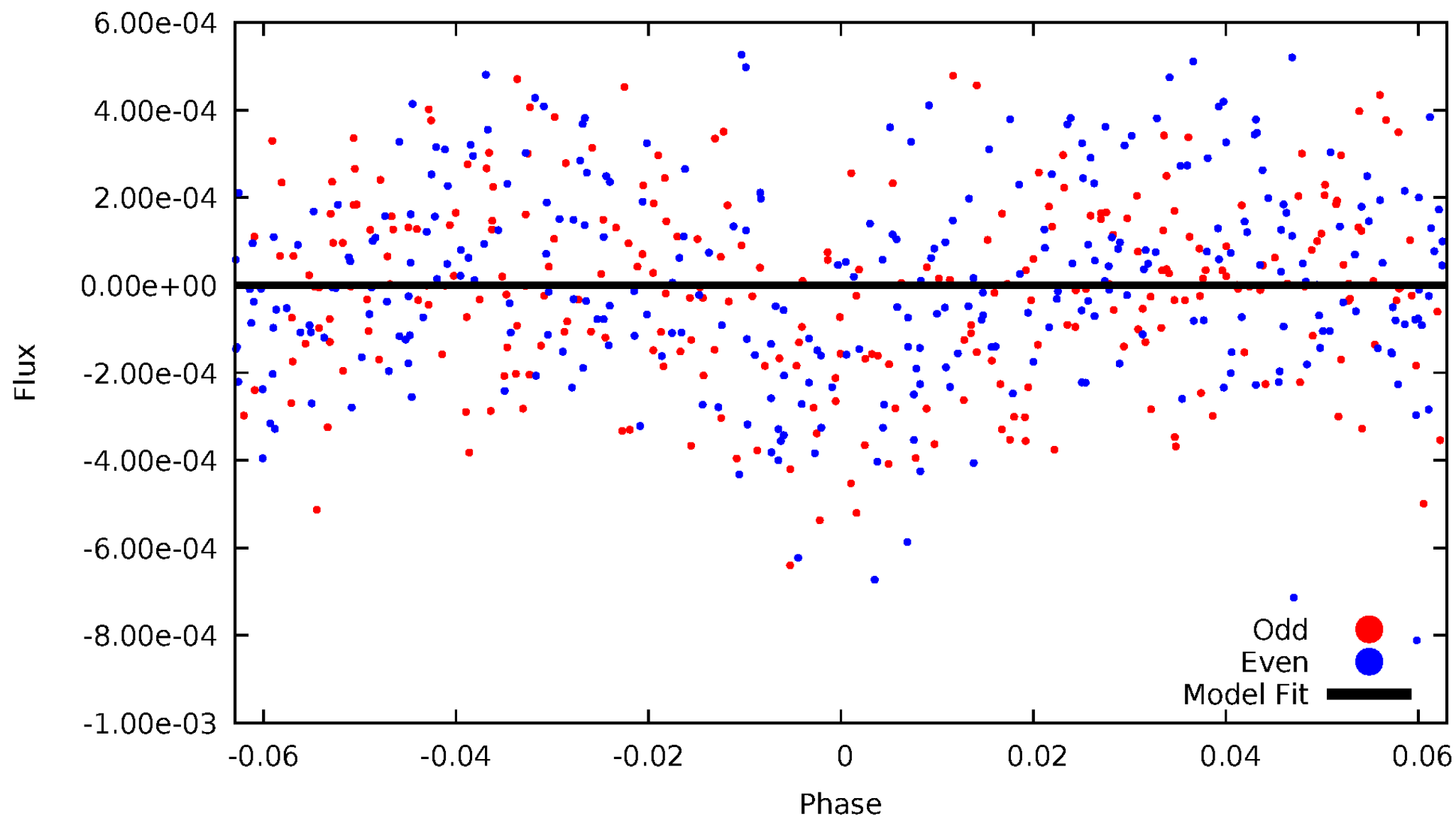


TCE 008579615-06



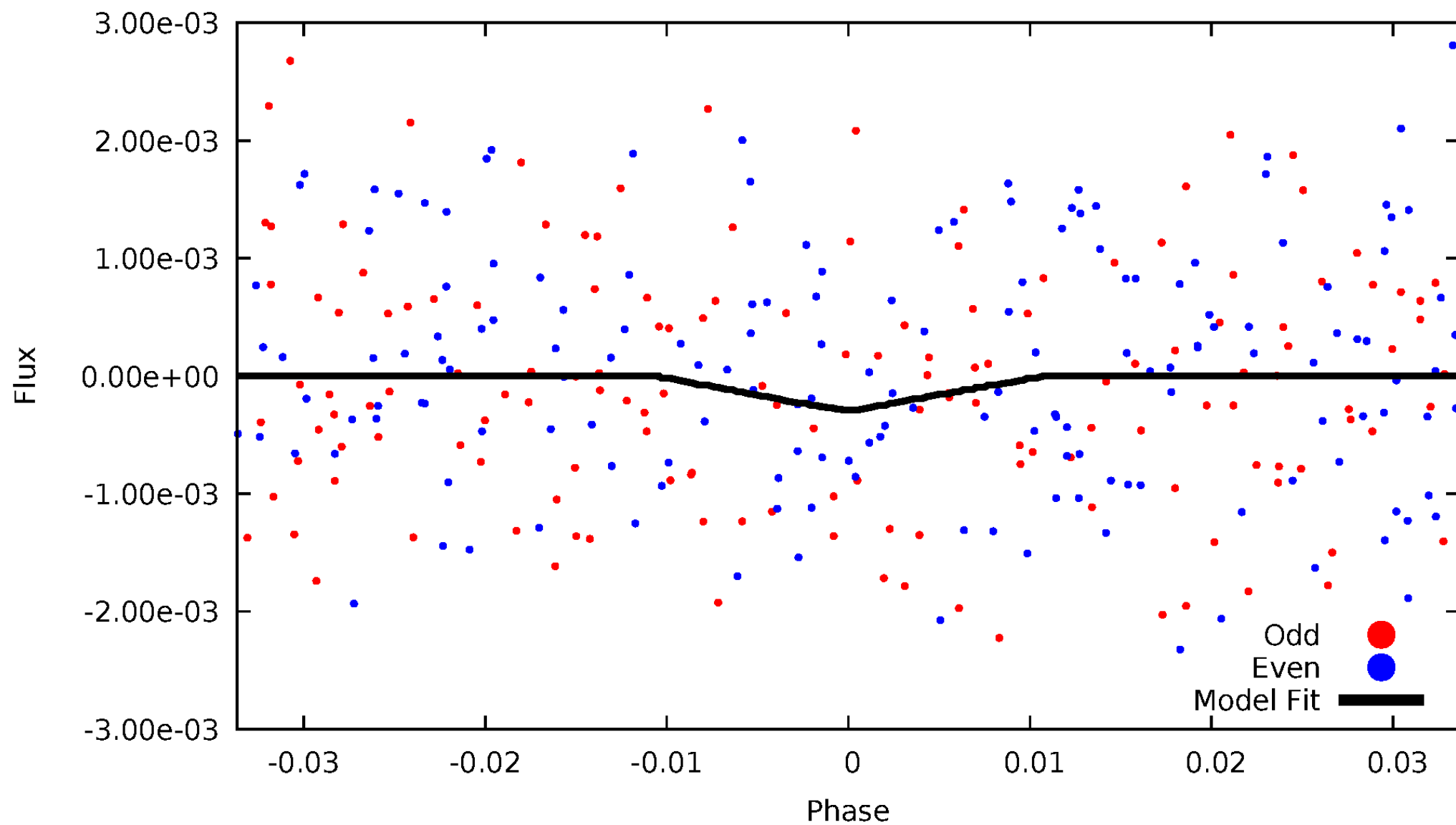
DV Odd/Even

TCE 008579615-06



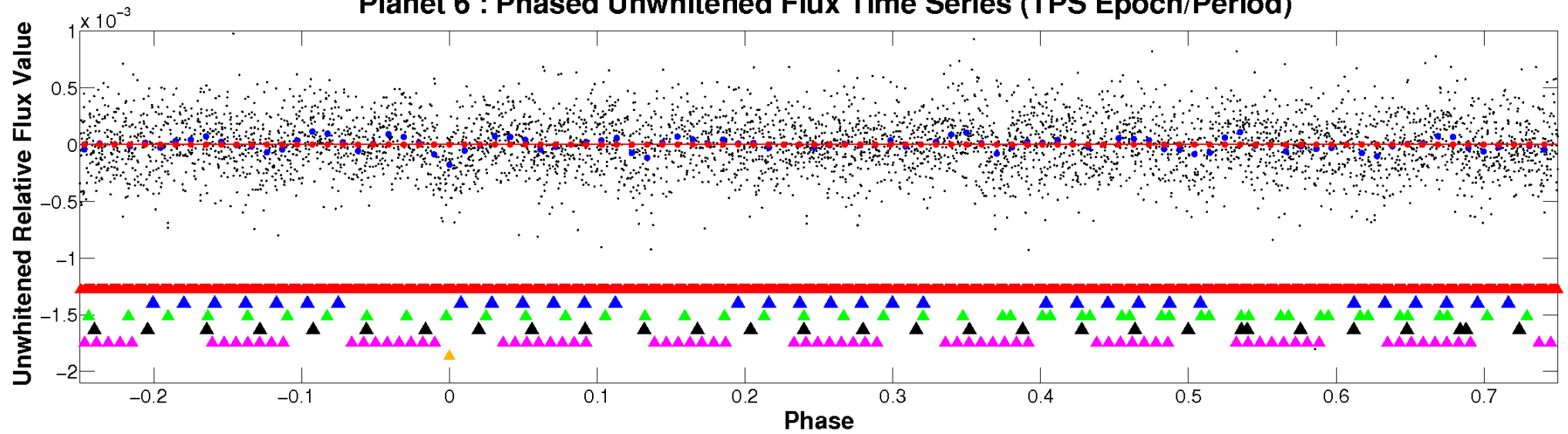
ALT Odd/Even

TCE 008579615-06

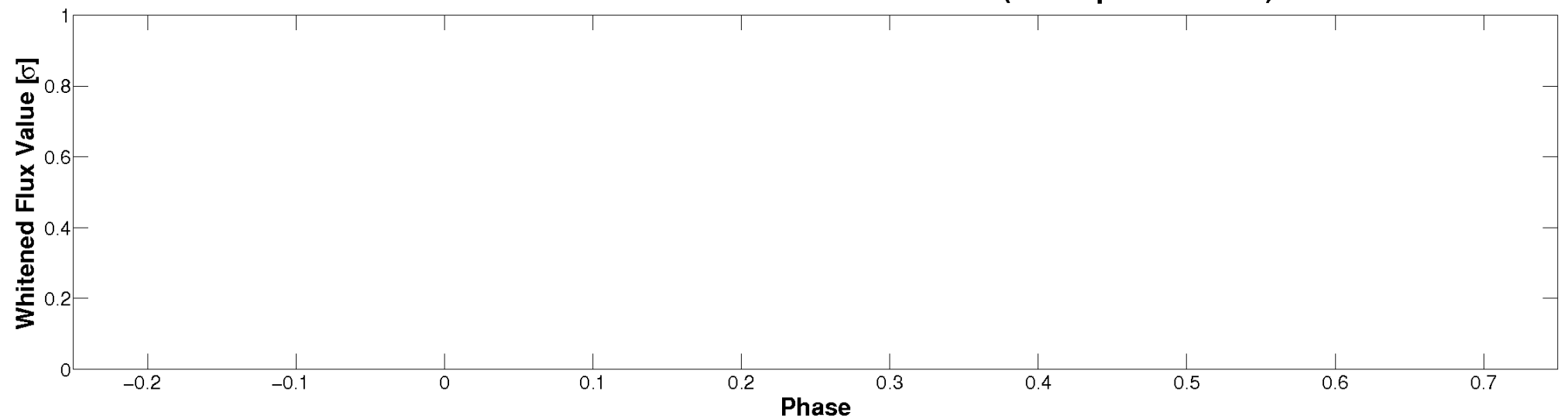


Non-Whitened Vs. Whitened Light Curve

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

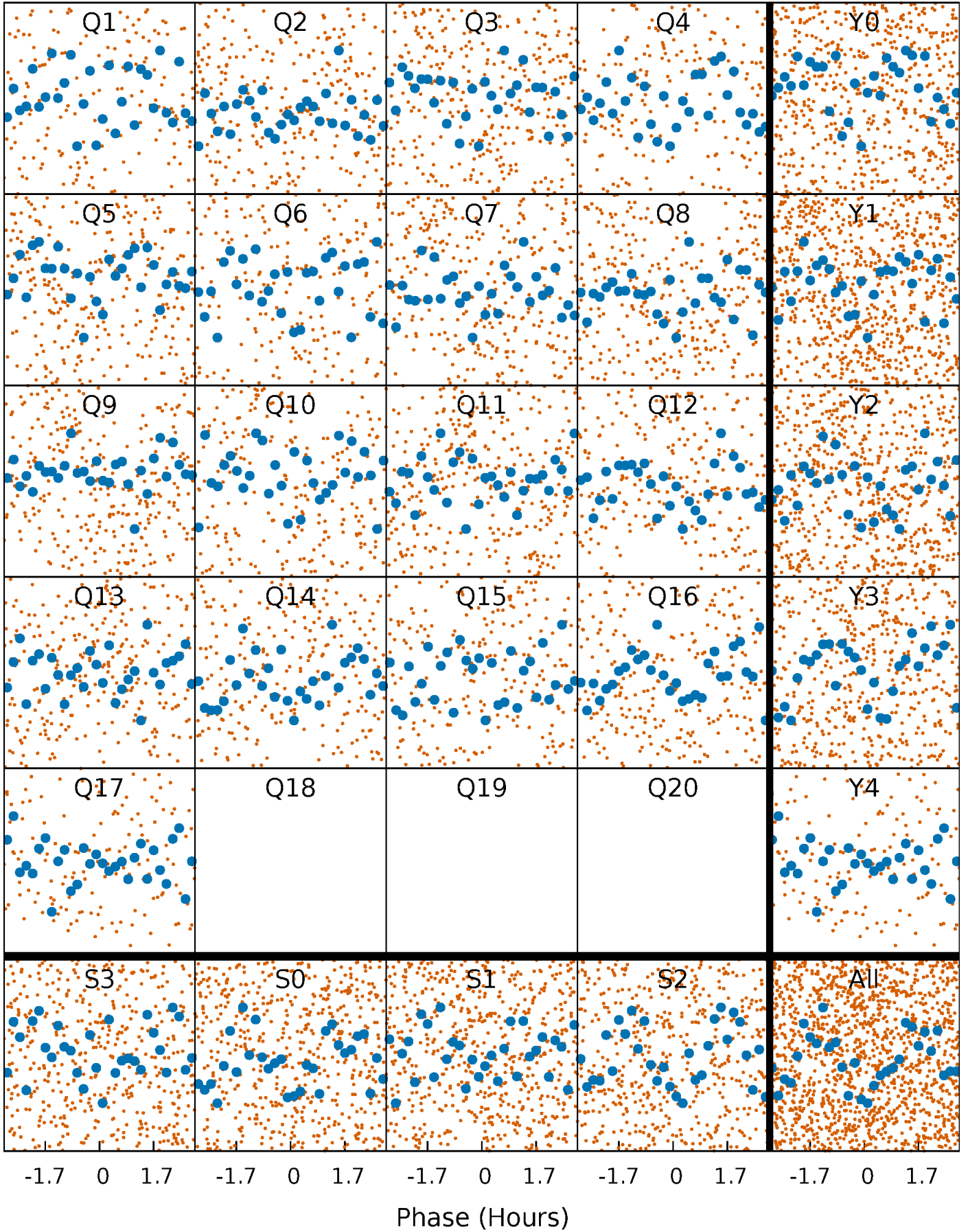


Planet 6 : Phased Whitened Flux Time Series (TPS Epoch/Period)



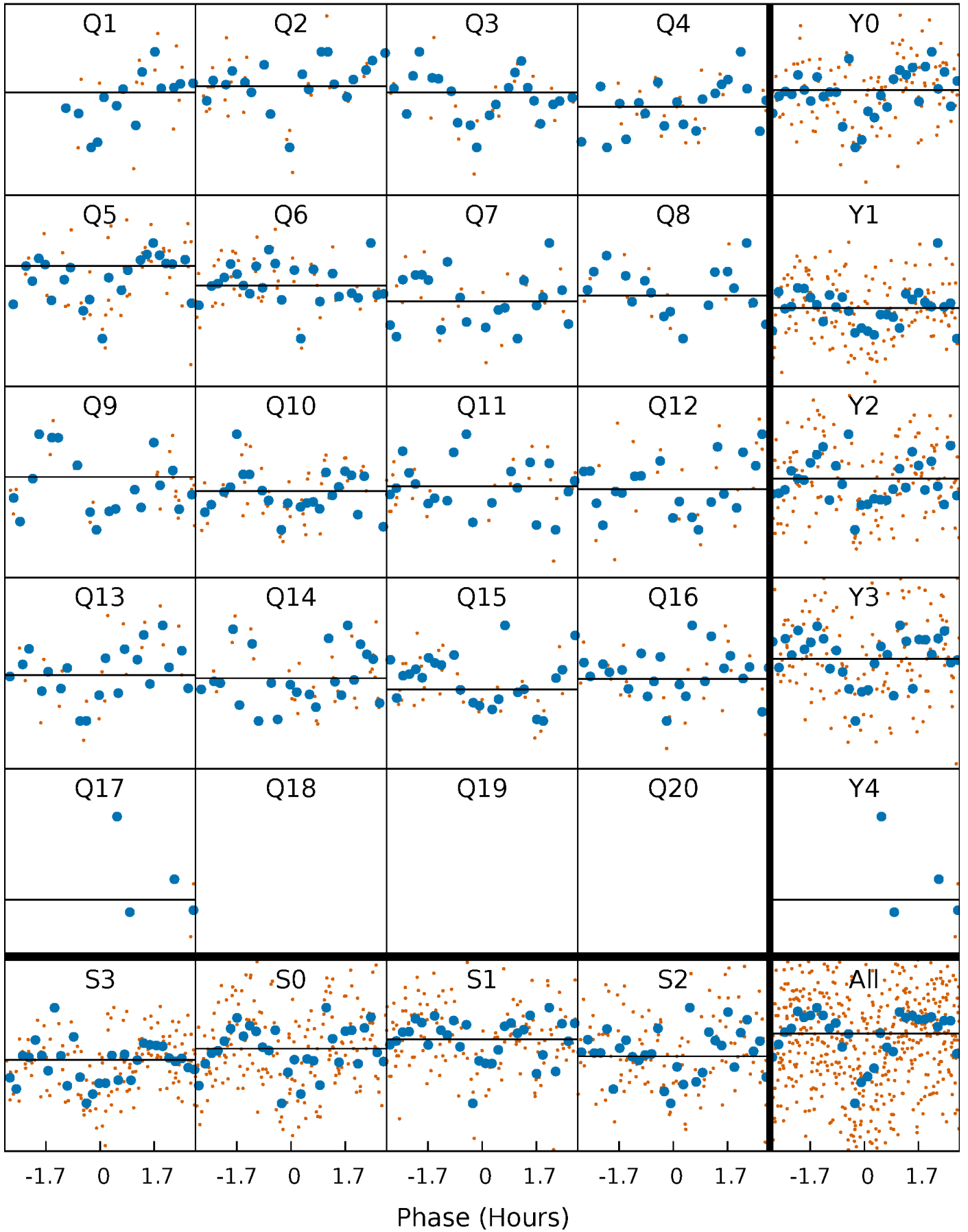
PDC Quarter-Phased Transit Curves

TCE 008579615-06 P= 1.985889 Days $T_0=132.420369$ (BKJD)



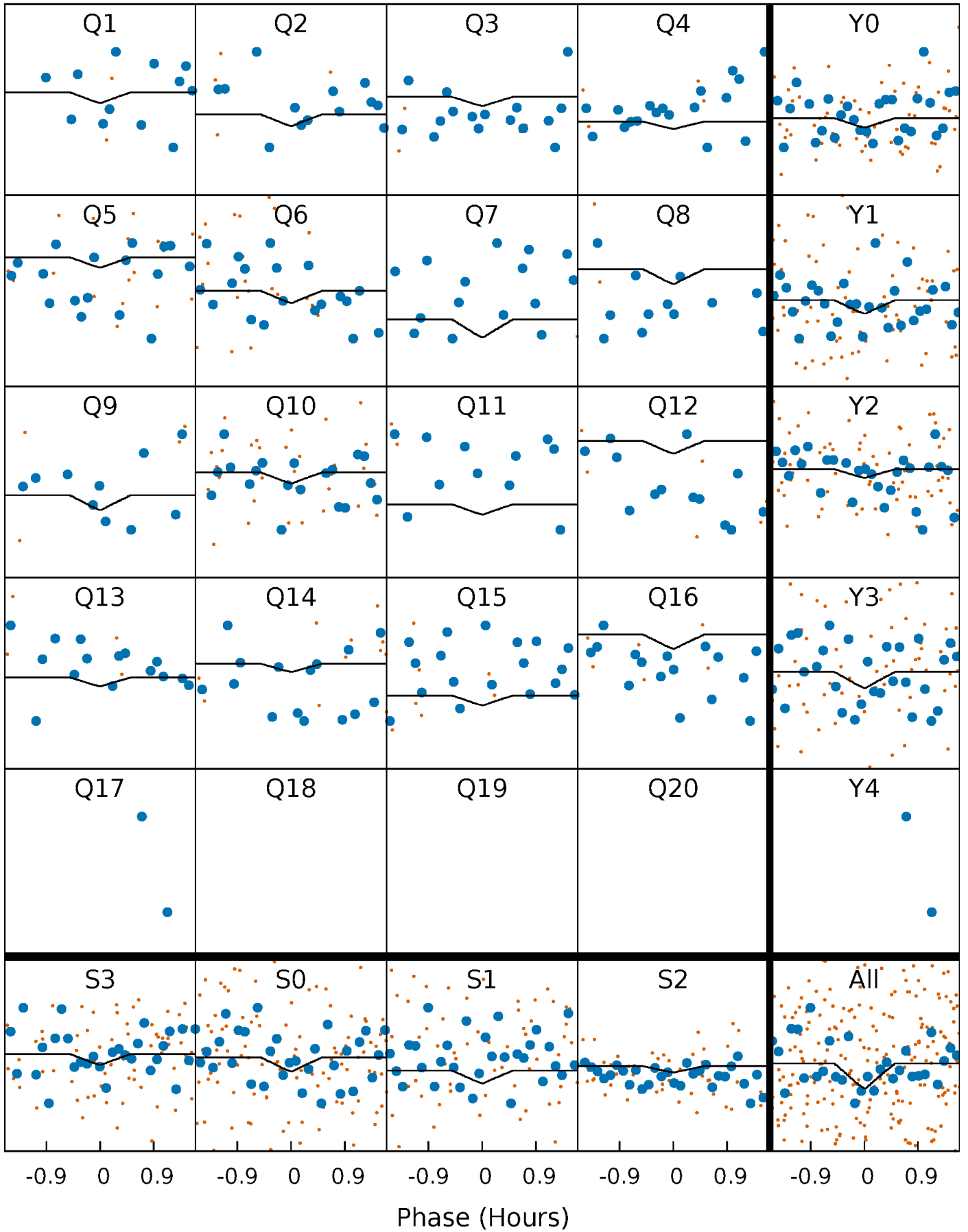
DV Quarter-Phased Transit Curves

TCE 008579615-06 P= 1.985889 Days $T_0=132.420369$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

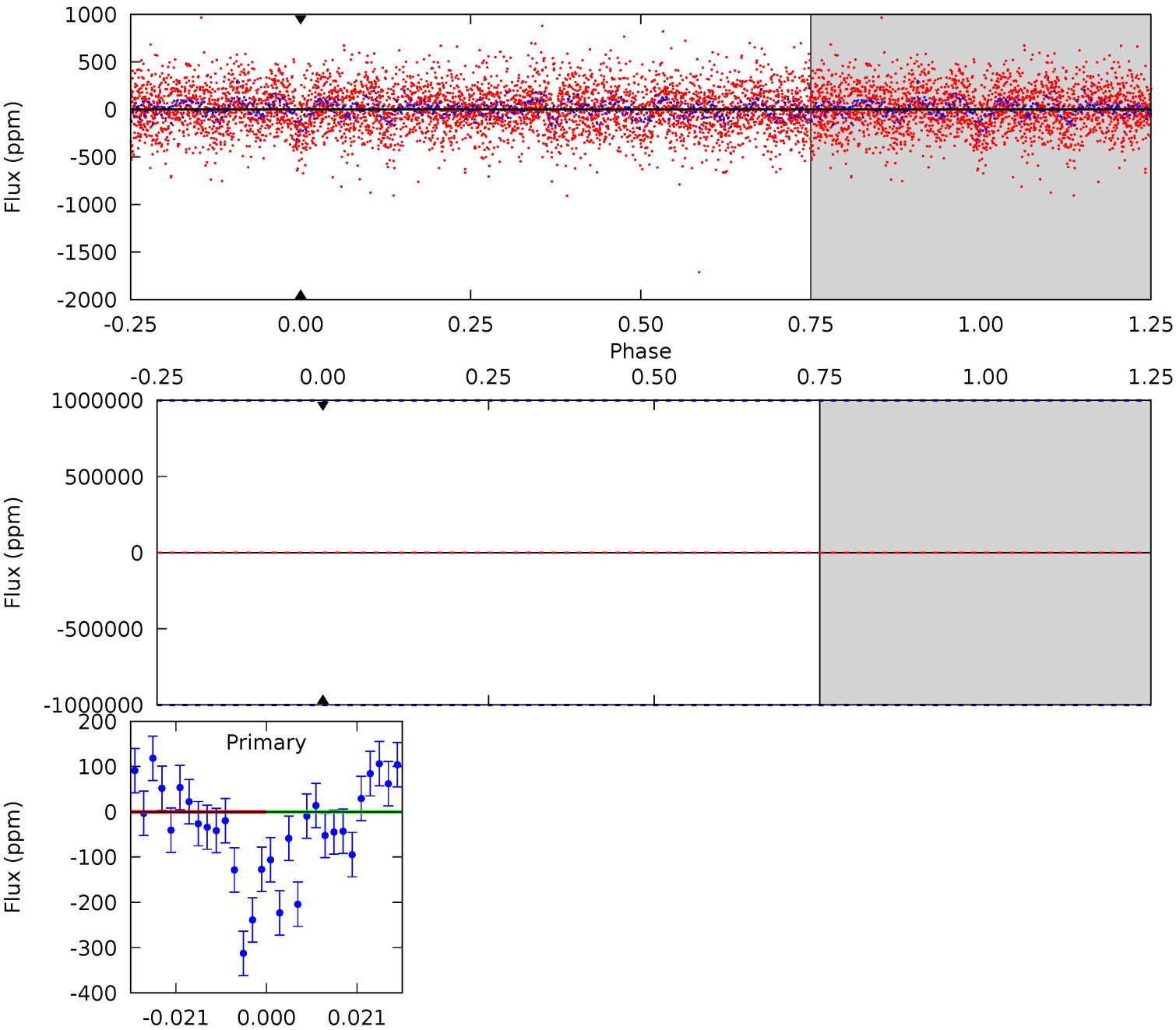
TCE 008579615-06 P= 1.985889 Days $T_0=132.411489$ (BKJD)



DV Model-Shift Uniqueness Test

008579615-06, P = 1.985889 Days, E = 130.434480 Days

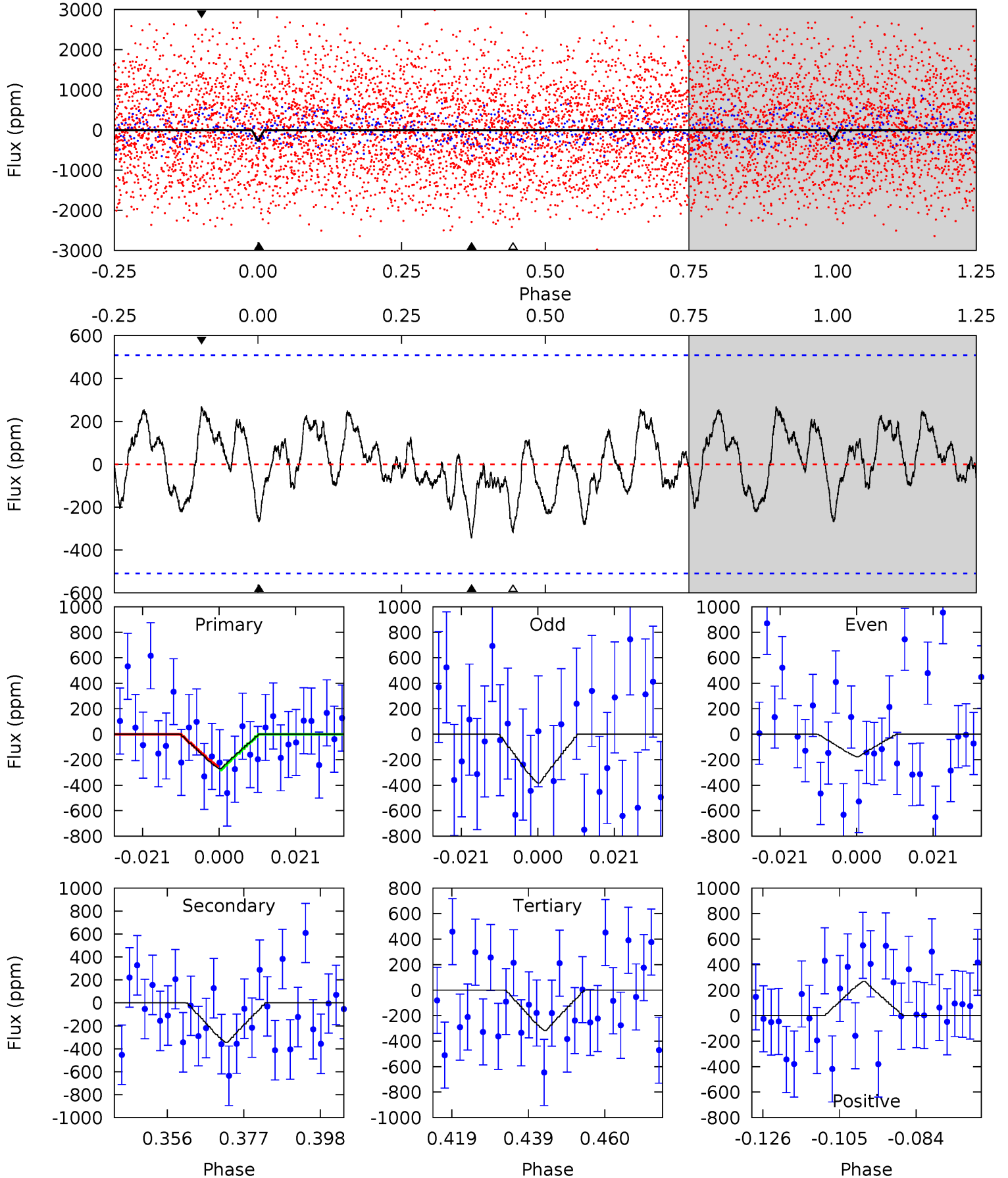
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008579615-06, P = 1.985889 Days, E = 130.425600 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.59	3.30	3.03	2.57	4.88	2.31	1.19	-0.44	0.02	0.27	0.74	1.00	1.70	0.44	0.11



Stellar Parameters For KIC 008579615

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8435^{+234}_{-368}	$3.990^{+0.228}_{-0.123}$	$0.070^{+0.250}_{-0.600}$	$2.416^{+0.506}_{-0.759}$	$2.078^{+0.346}_{-0.519}$	$0.207^{+0.286}_{-0.077}$
	+3%/-4%	+6%/-3%	+357%/-857%	+21%/-31%	+17%/-25%	+138%/-37%
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 008579615-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$18.98^{+19.71}_{-13.41}$	3994^{+282}_{-289}	4118^{+52153}_{-55954}	$0.787^{+465.864}_{-408.343}$
Alt.	-344 ± 104	$18.35^{+21.94}_{-13.44}$	3989^{+303}_{-305}	3974^{+3783}_{-7145}	$0.856^{+10.837}_{-0.686}$

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

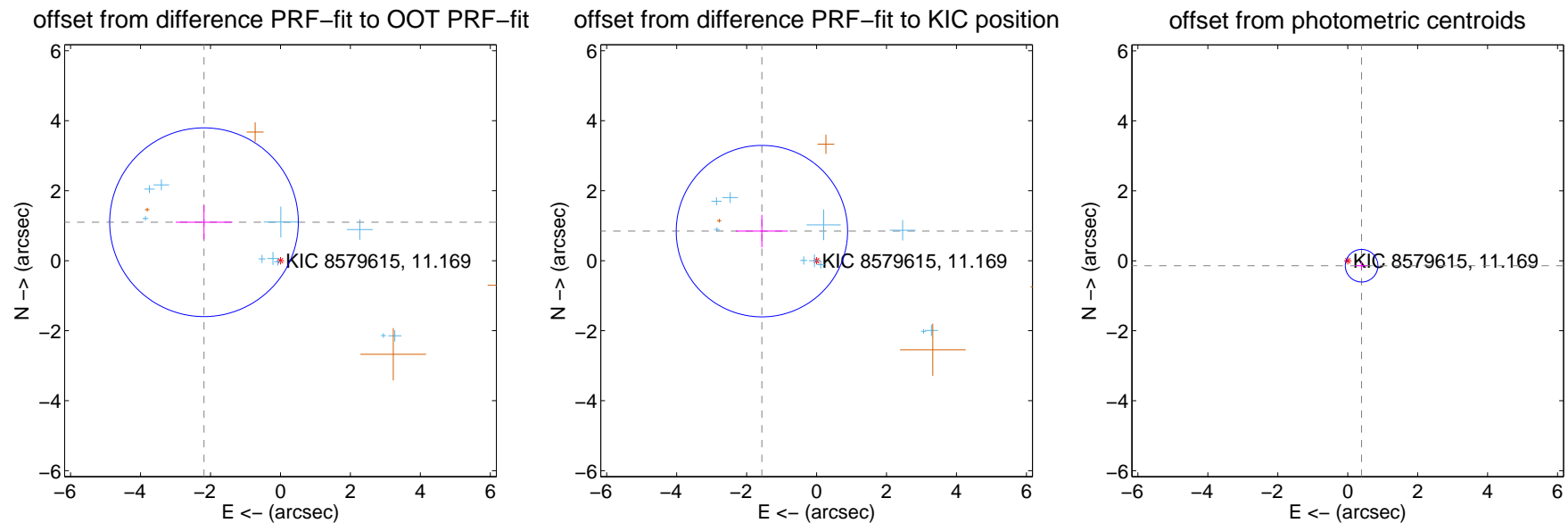
DV Centroid Data

Supplemental centroid analysis for 008579615-06. **Kepler magnitude: 11.17.** Transit SNR -1.00

There are 10 quarters with good PRF difference image offsets

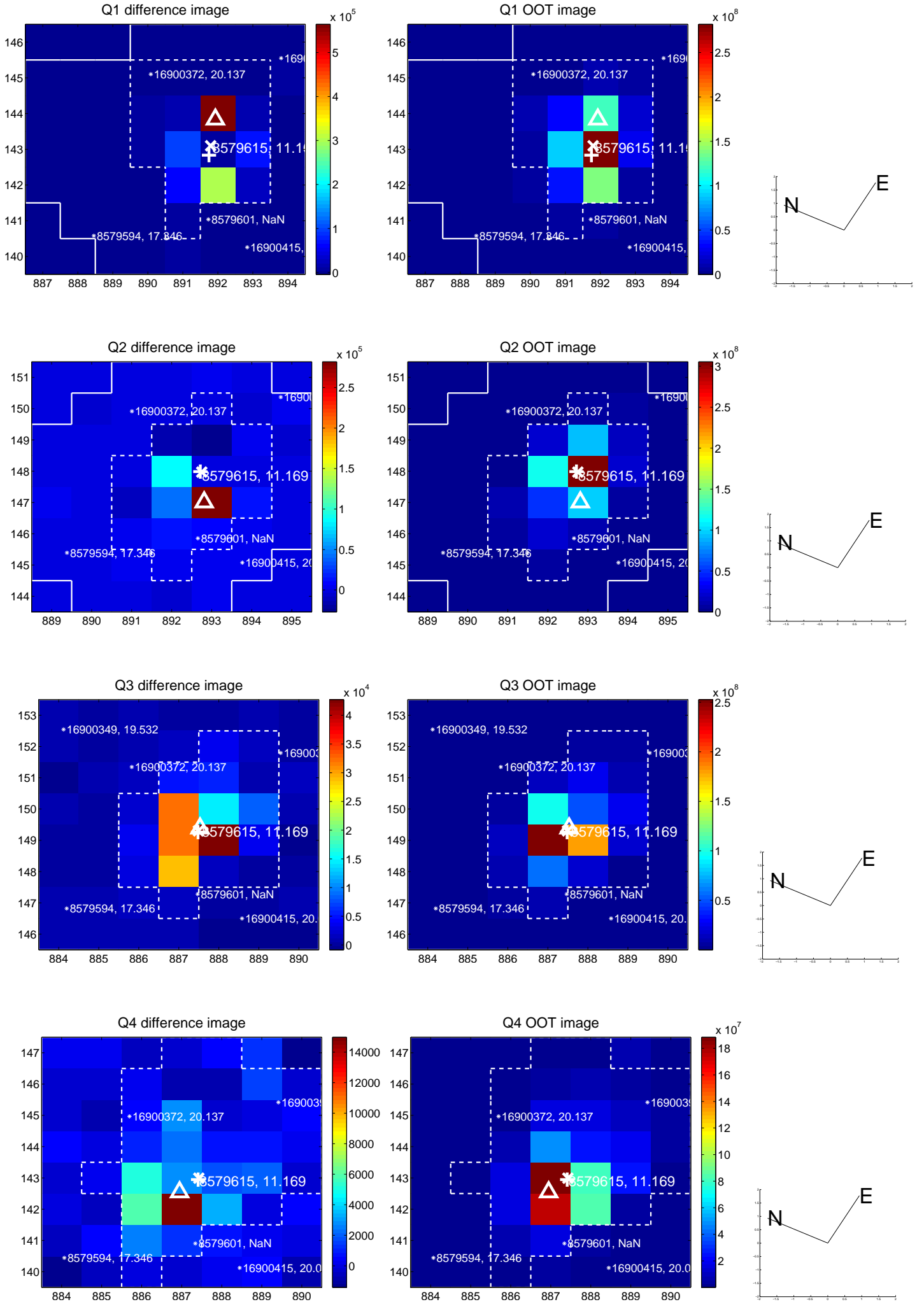
The direct PRF centroid is offset from the target star catalog position by about 1.00 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.446 ± 0.899	2.72	2.185 ± 0.810	1.099 ± 0.487
PRF-fit source offset from KIC position	1.776 ± 0.816	2.18	1.563 ± 0.744	0.845 ± 0.462
photometric centroid source offset	0.42 ± 0.16	2.72	-0.40 ± 0.16	-0.14 ± 0.10

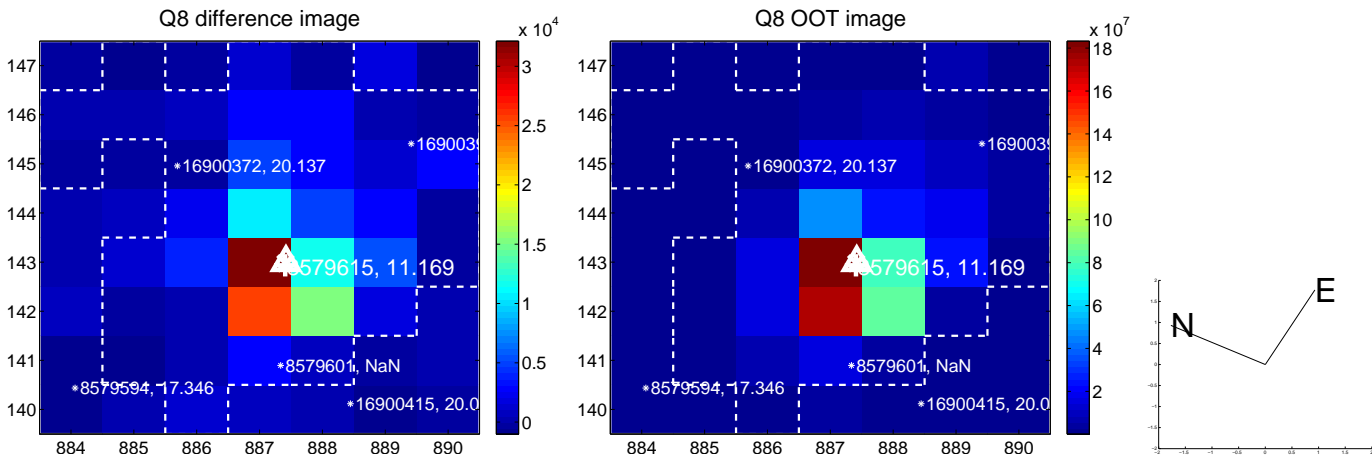
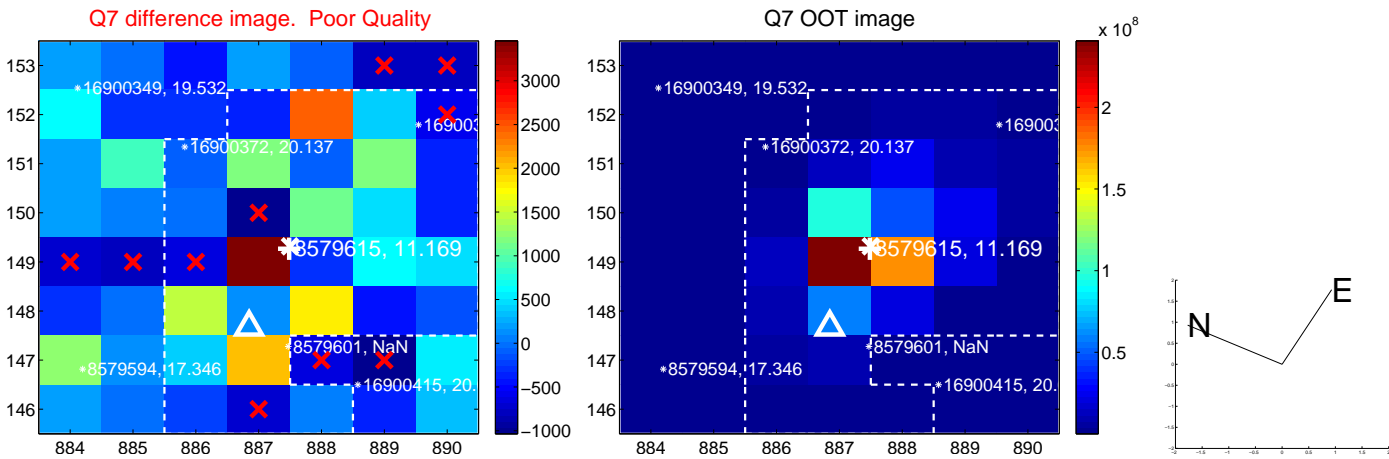
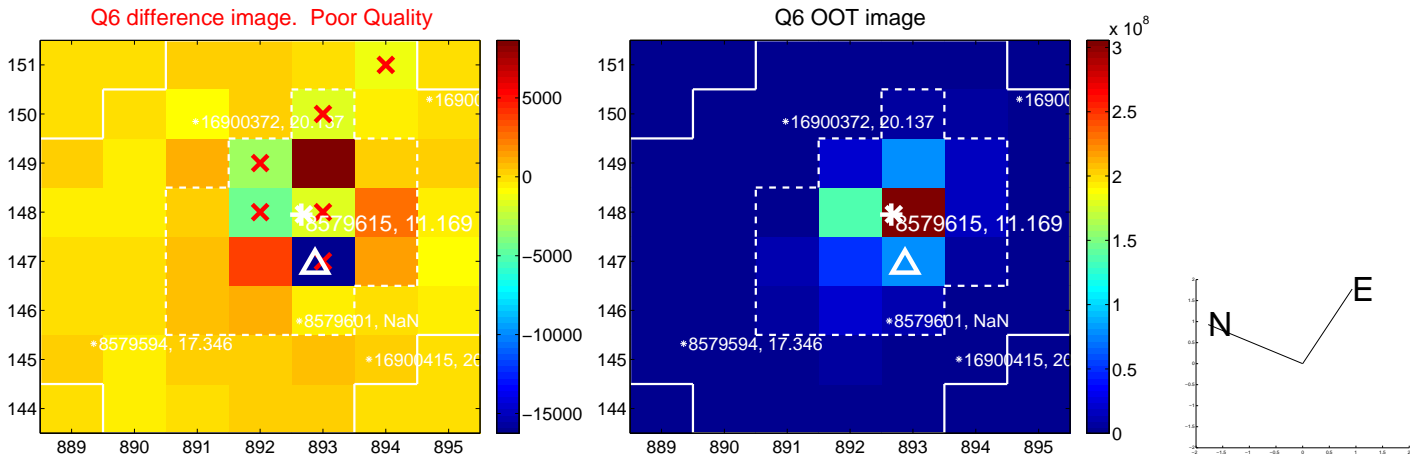
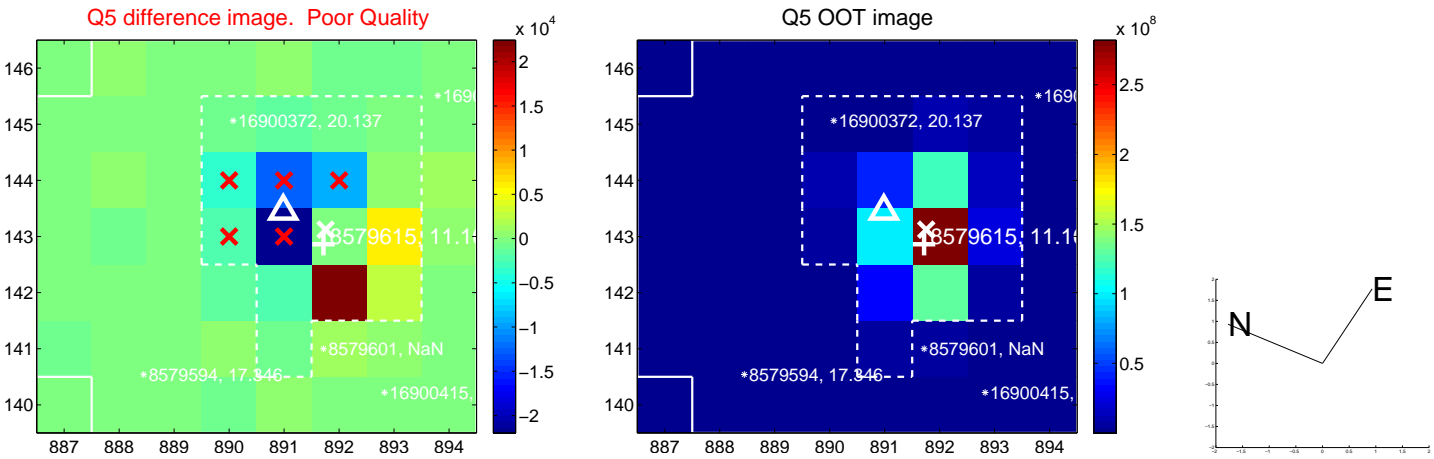


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

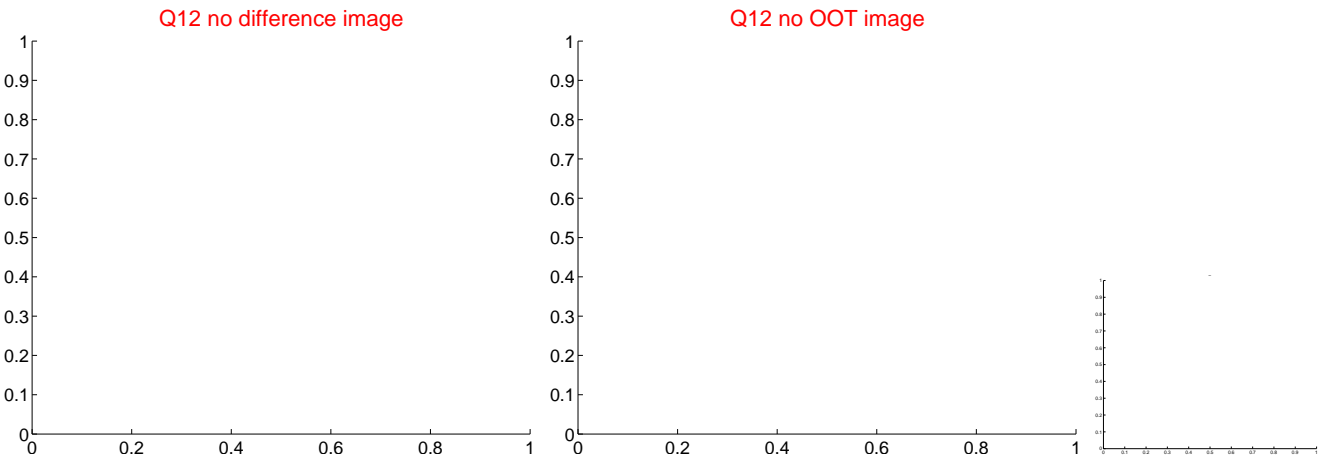
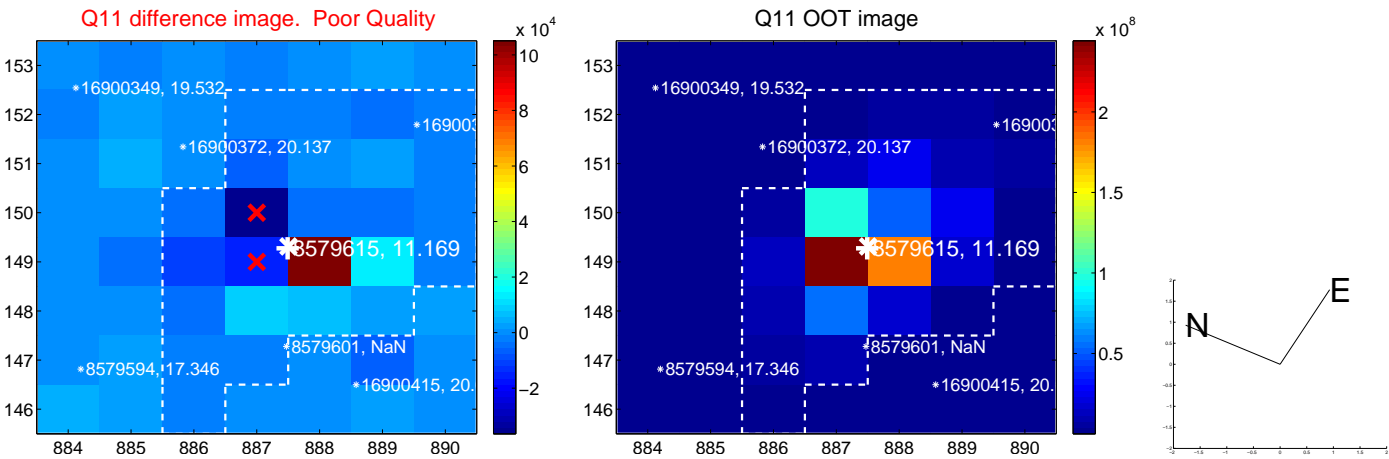
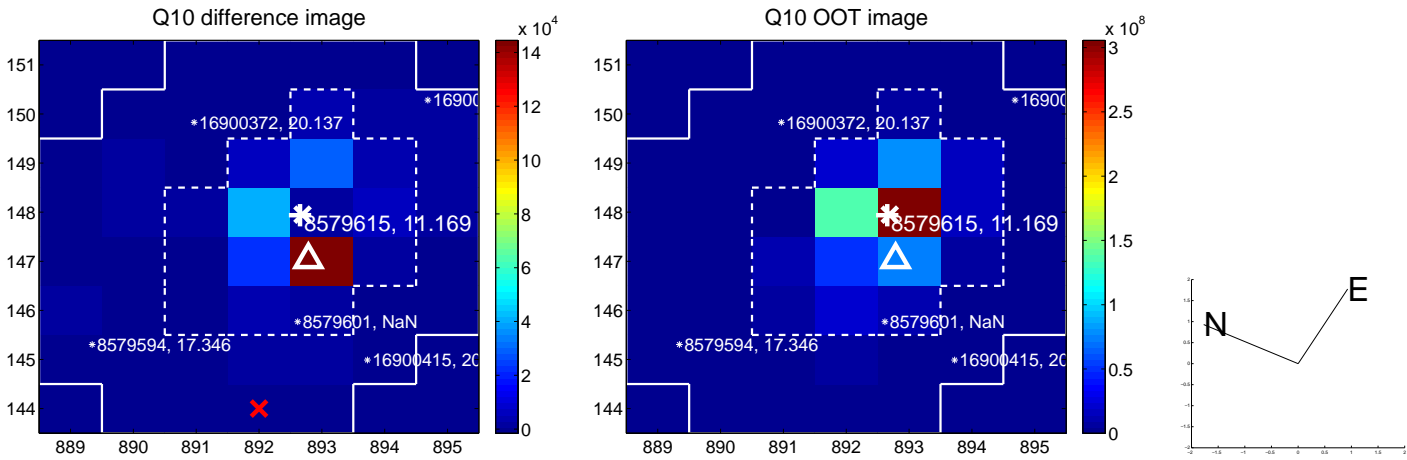
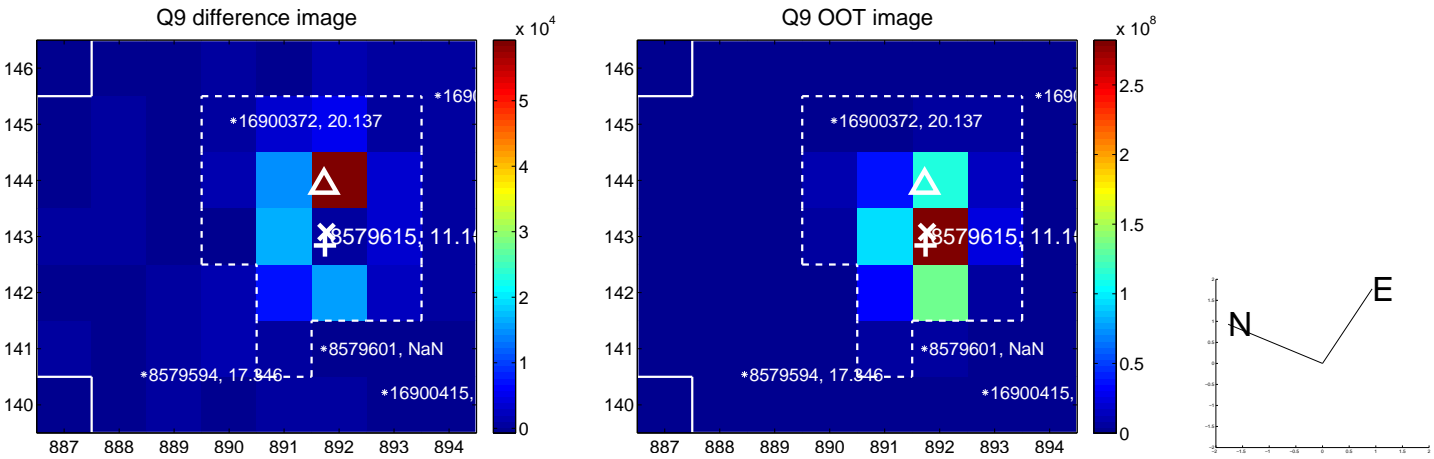
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



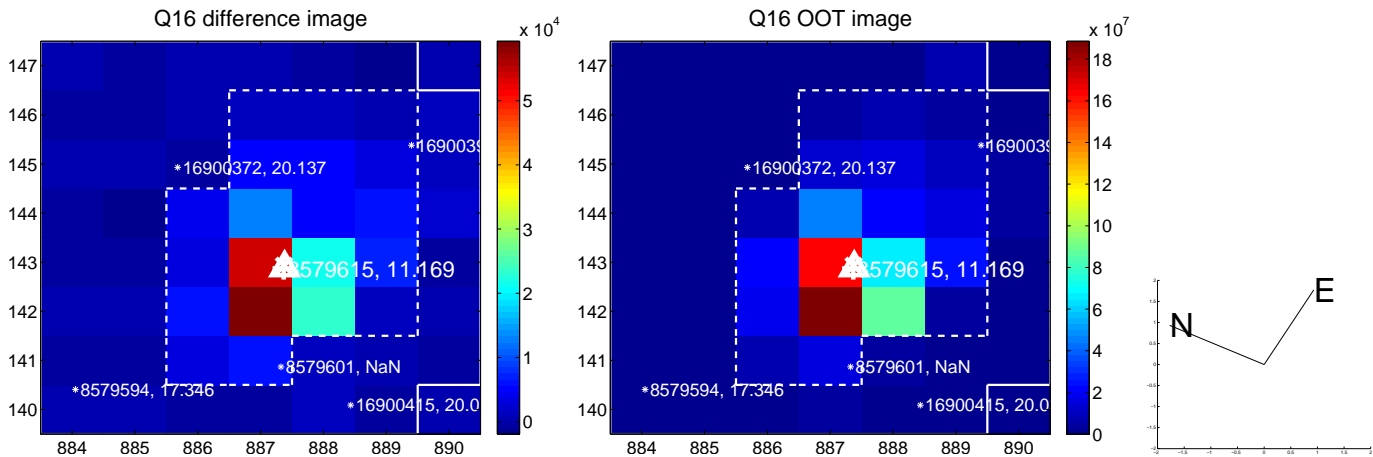
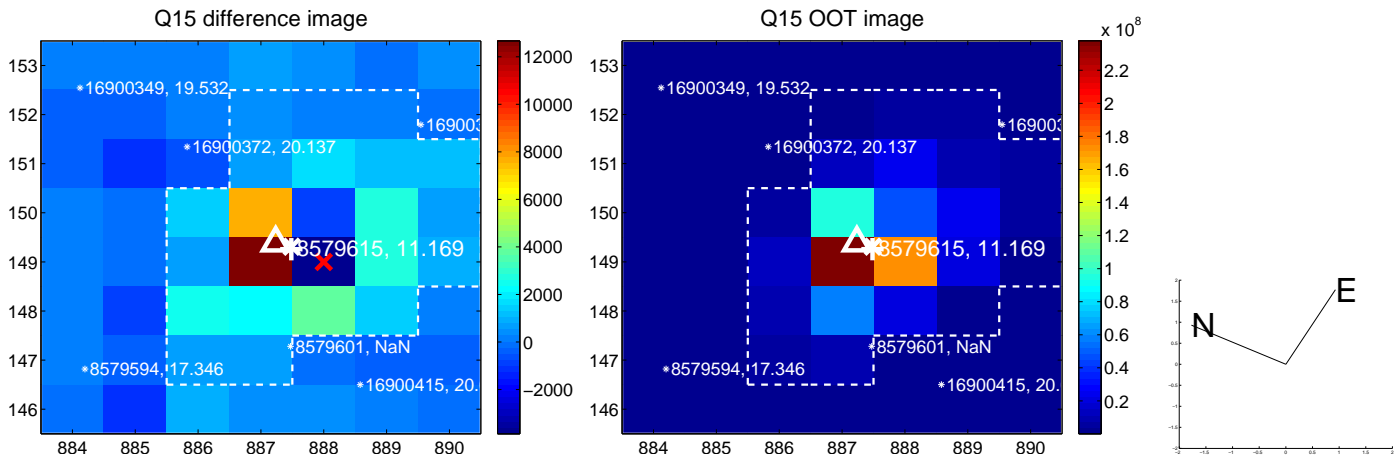
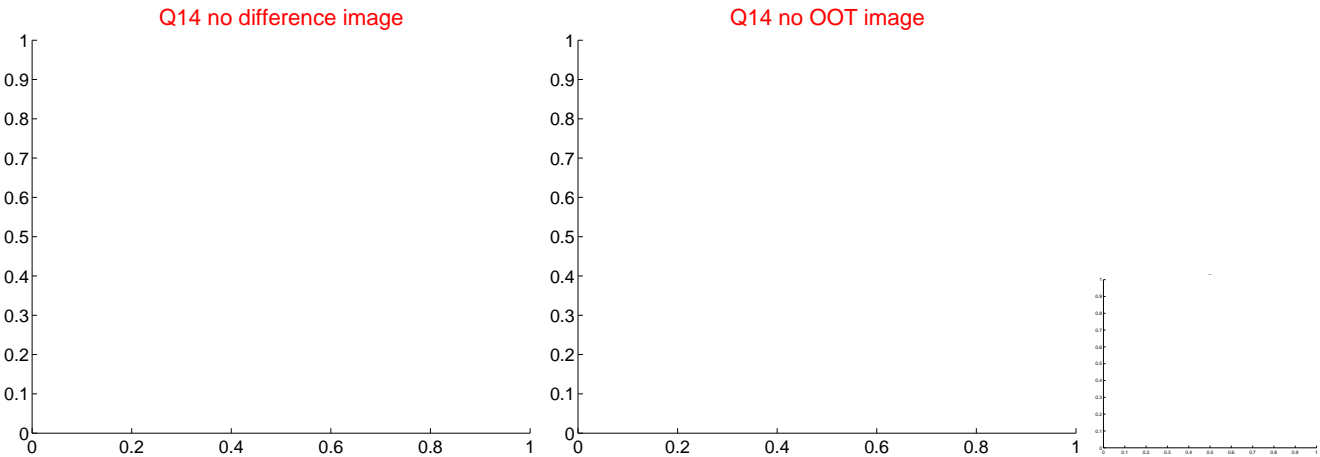
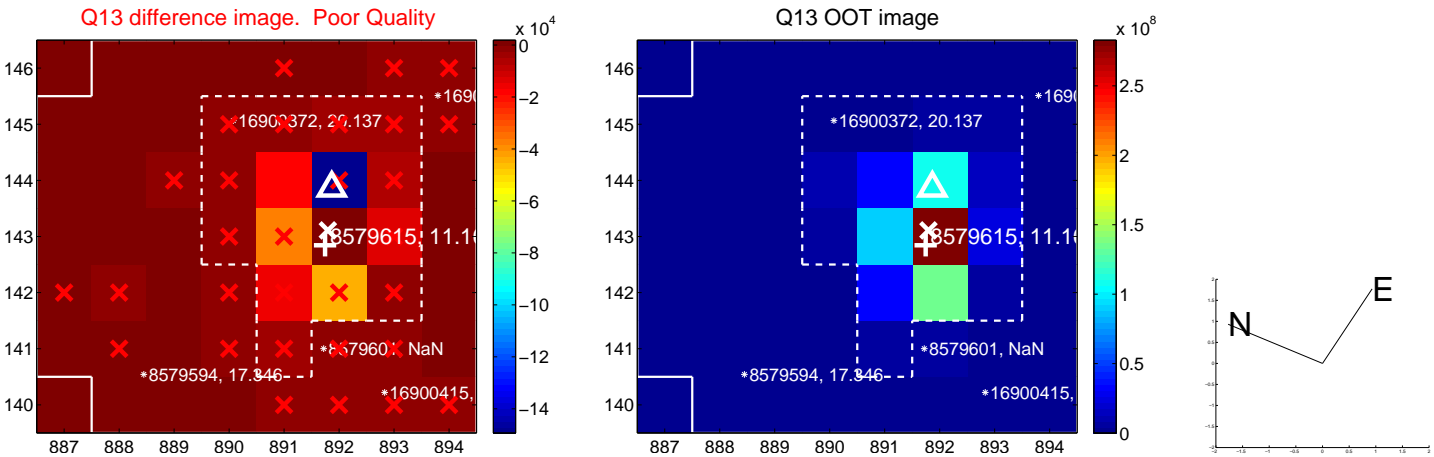
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



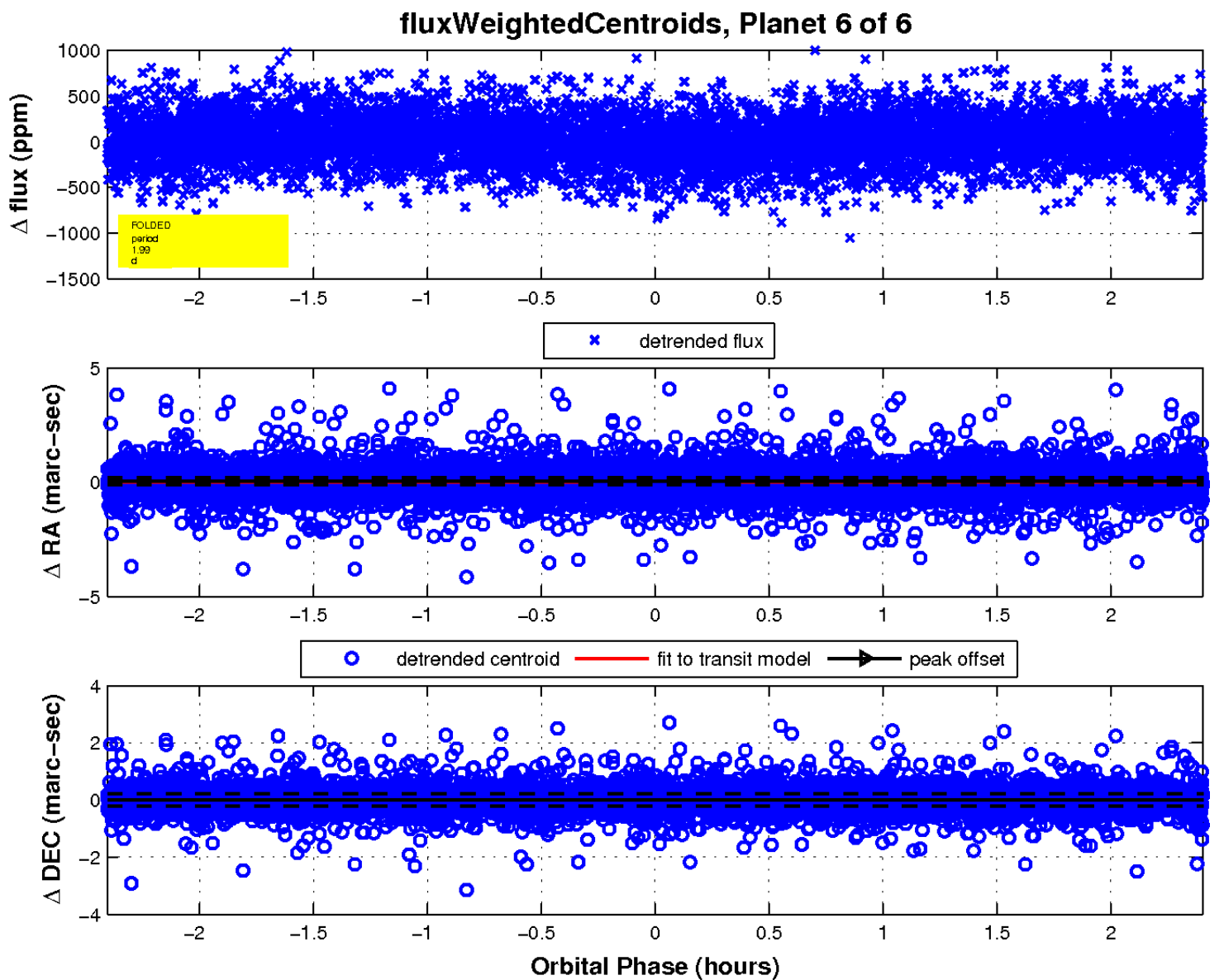
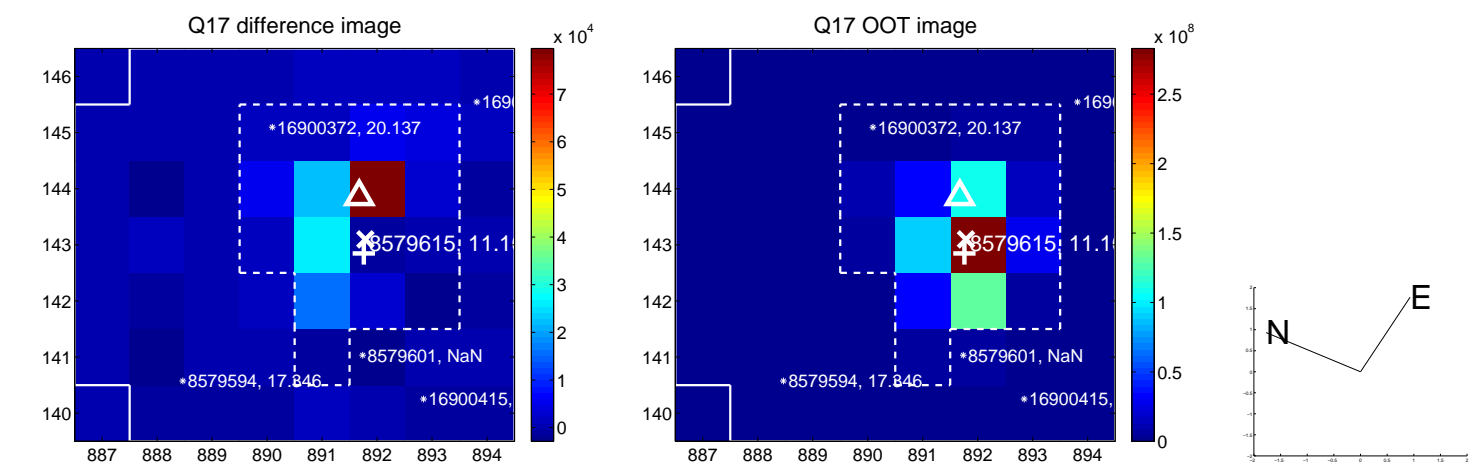
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

