

KIC 008165617

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})
008165617-01	OBS	No	4.864728	134.425711	31.5	17.049	9.1	10.1	1.75	6717	1.15	1442.23
008165617-02	OBS	No	247.759575	153.789094	226.5	8.911	23.1	7.3	1.75	6717	2.91	7.64
008165617-03	OBS	No	4.865822	132.247444	0.1	38.081	14.6	0.0	1.75	6717	0.06	1441.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008165617-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
008165617-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008165617-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS

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

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

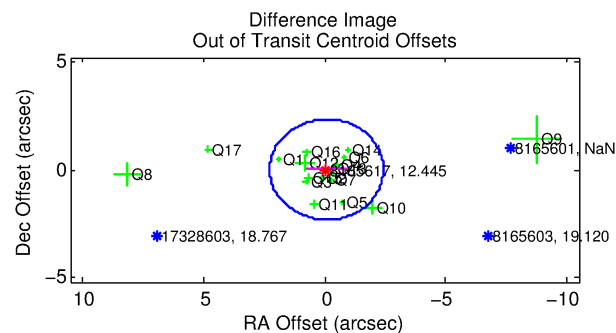
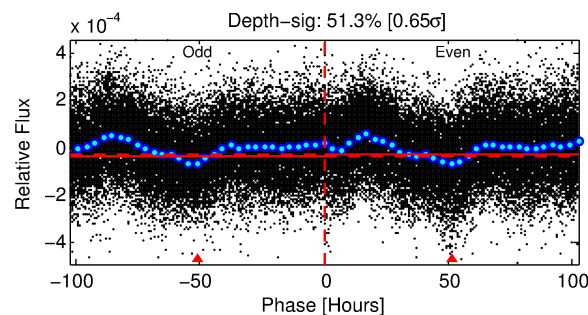
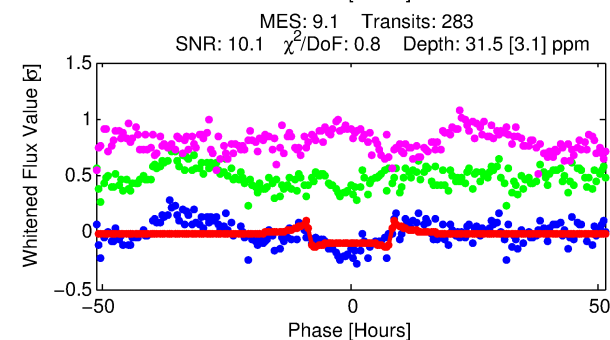
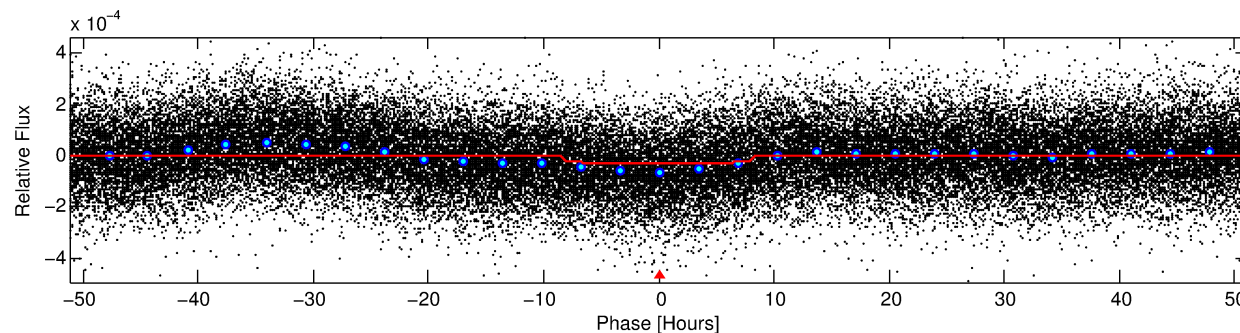
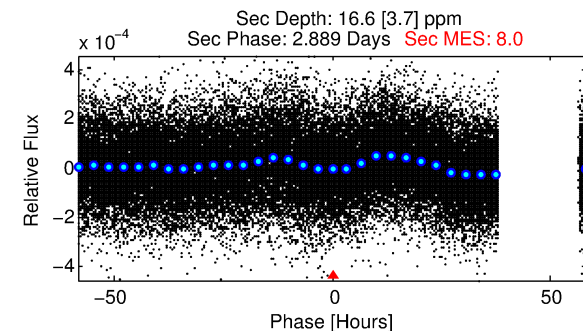
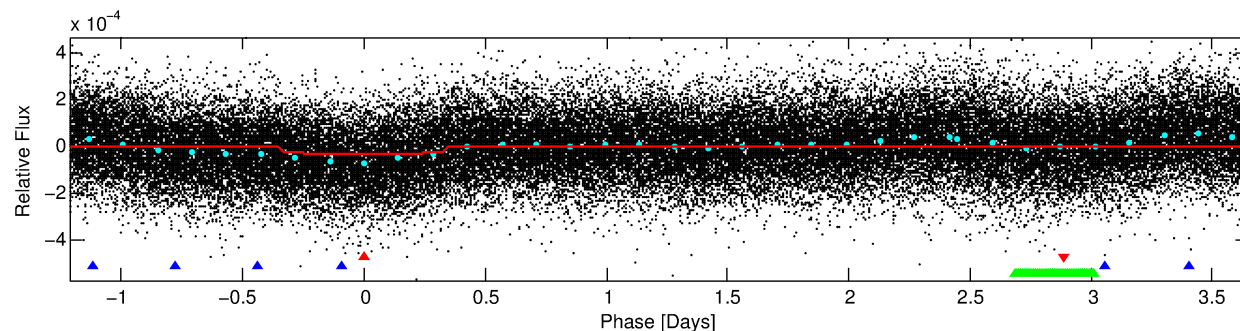
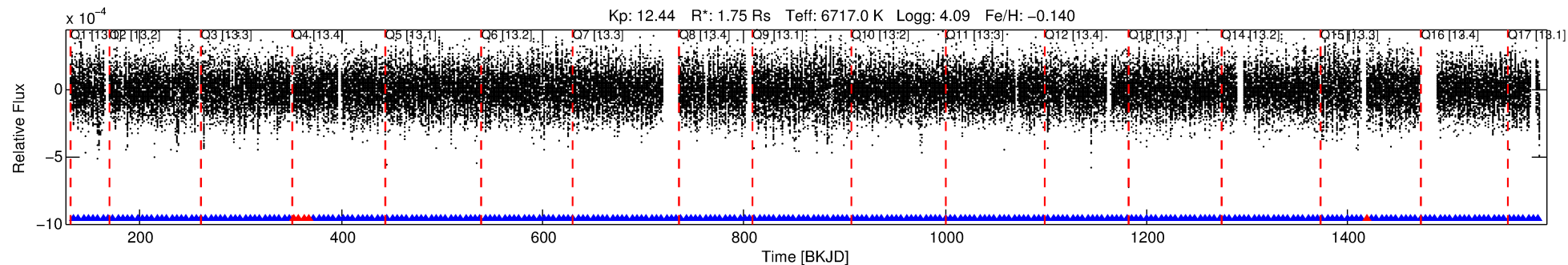
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008165617-01

No Significant Match Found

DV One-Page Summary

KIC: 8165617 Candidate: 1 of 3 Period: 4.865 d
KOI: K06173 Corr: No Ephemeris Match



DV Fit Results:

Period = 4.86473 [0.00005] d
Epoch = 134.4257 [0.0071] BKJD
Rp/R* = 0.0060 [0.0005]
a/R* = 1.36 [0.23]
b = 0.90 [0.08]
Seff = 1442.23 [522.36]
Teq = 1571 [142] K
Rp = 1.15 [0.30] Re
a = 0.0624 [0.0138] AU
Ag = 27.01 [11.77] [2.21σ]
Teffp = 5539 [421] K [8.92σ]

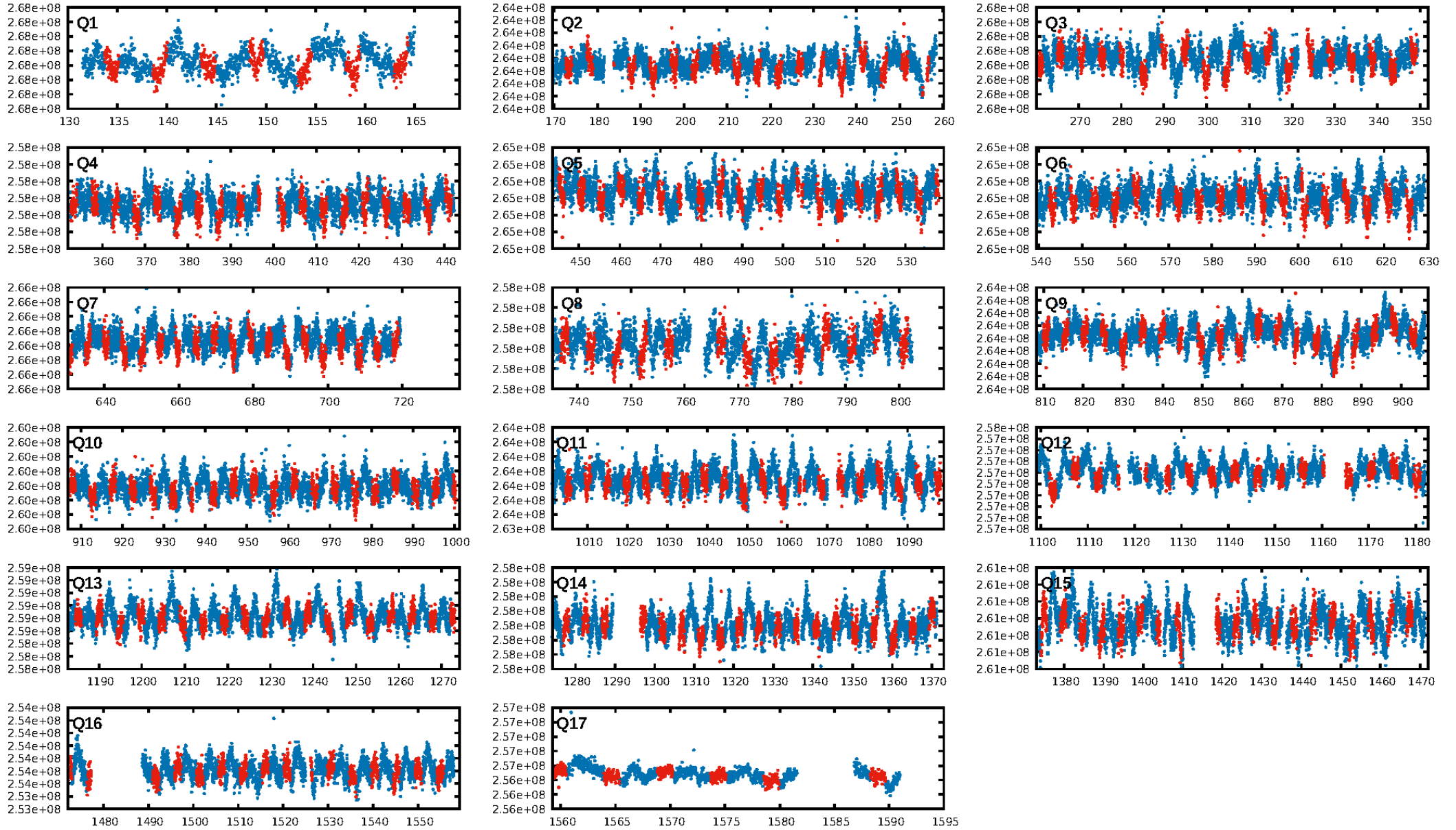
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.1% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.98 [265/270]
GhostDiagnostic-chr: 11.47
Centroid-sig: 0.0%
Centroid-so: 0.910 arcsec [1.84σ]
OotOffset-rm: 0.076 arcsec [0.10σ]
KicOffset-rm: 0.167 arcsec [0.33σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.53 [9/17]
DiffImageOverlap-fno: 0.59 [10/17]

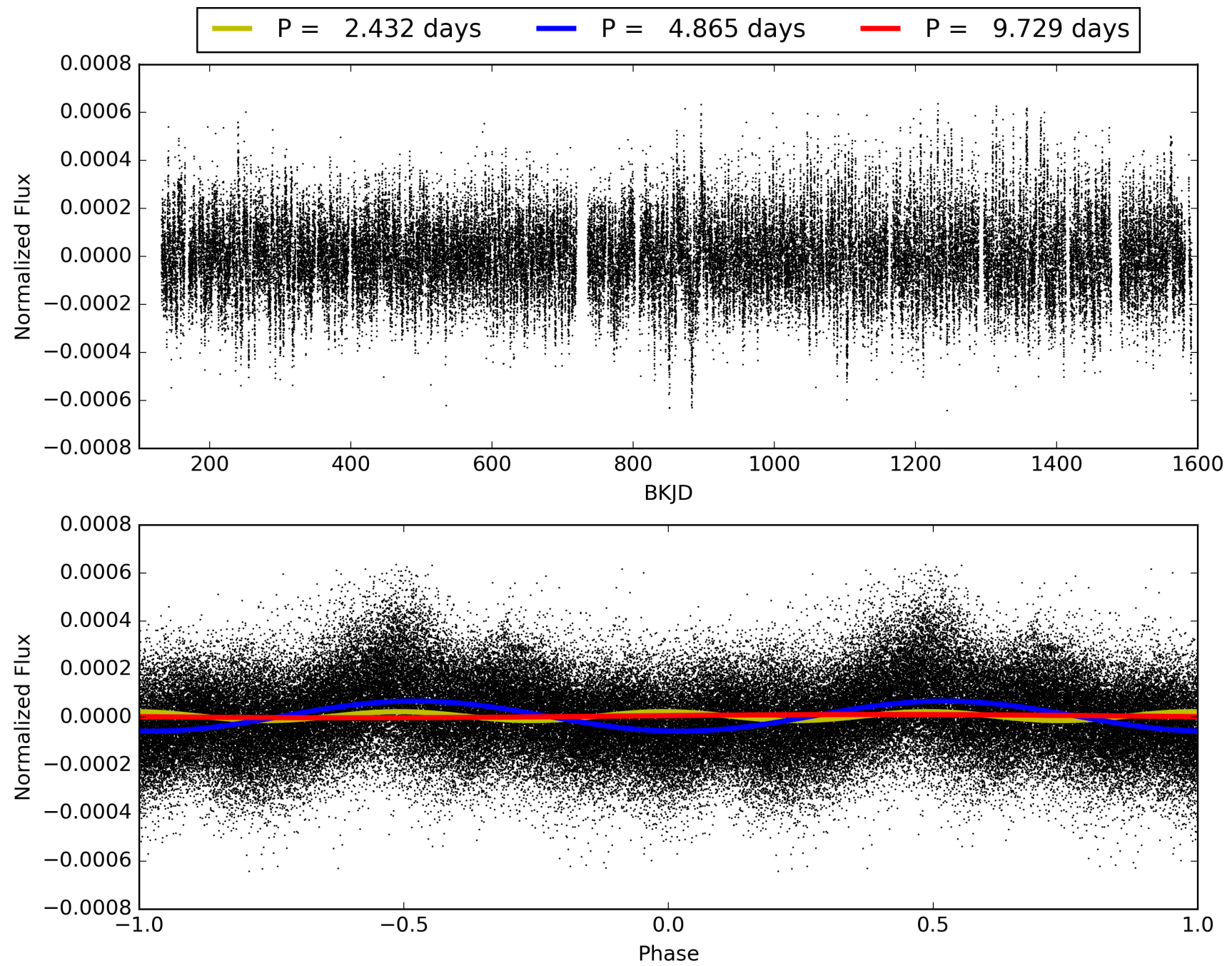
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:53:20 Z

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

TCE 008165617-01, PDC Light Curves

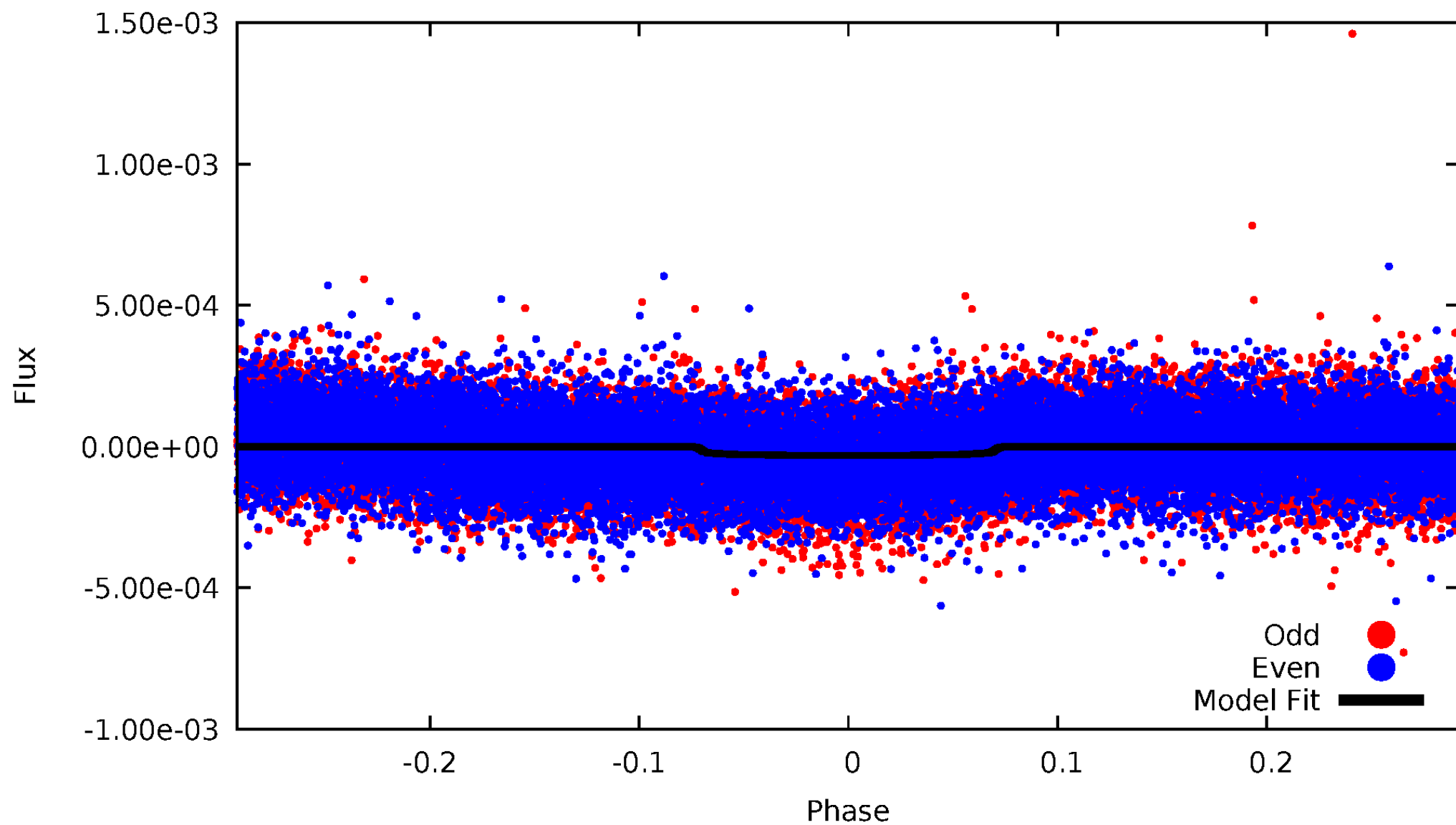


TCE 008165617-01



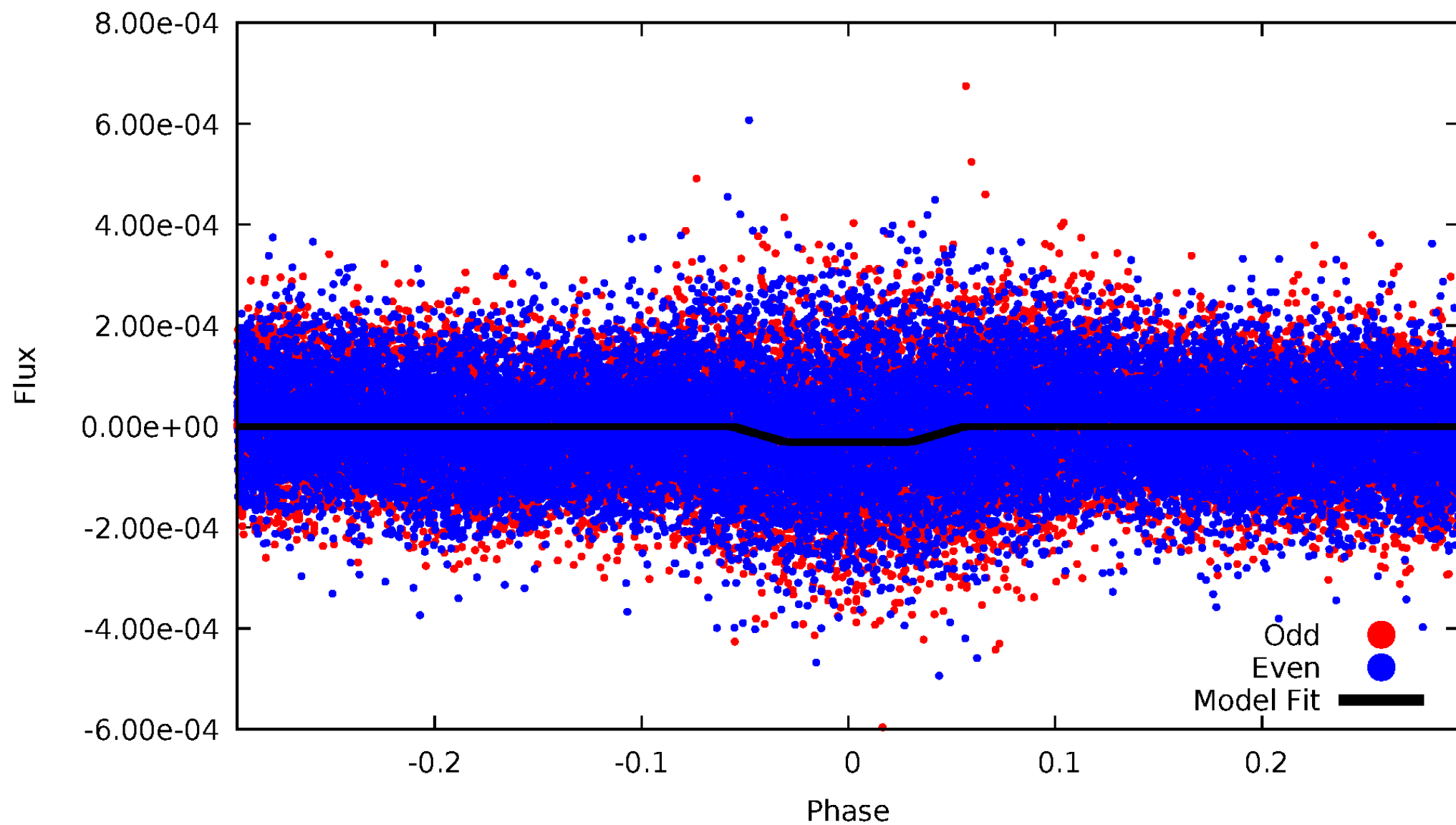
DV Odd/Even

TCE 008165617-01



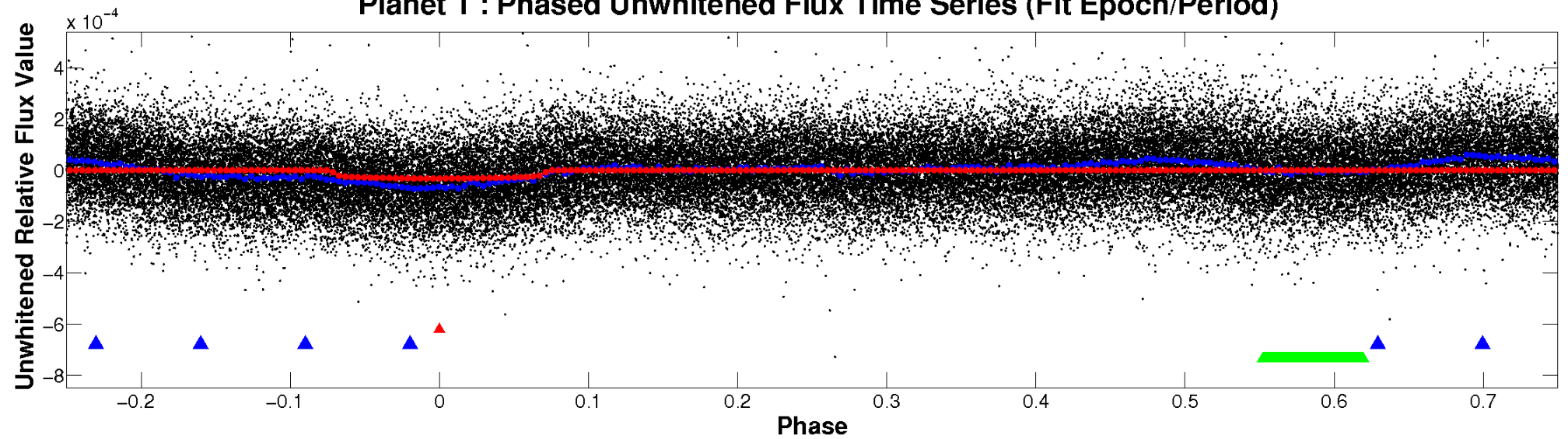
ALT Odd/Even

TCE 008165617-01

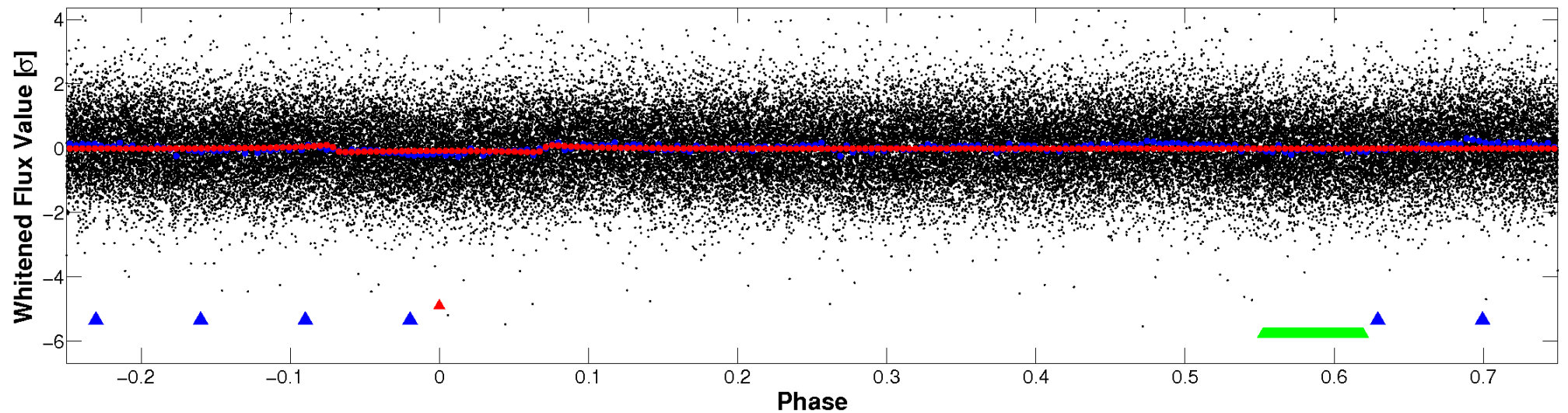


Non-Whitened Vs. Whitened Light Curve

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

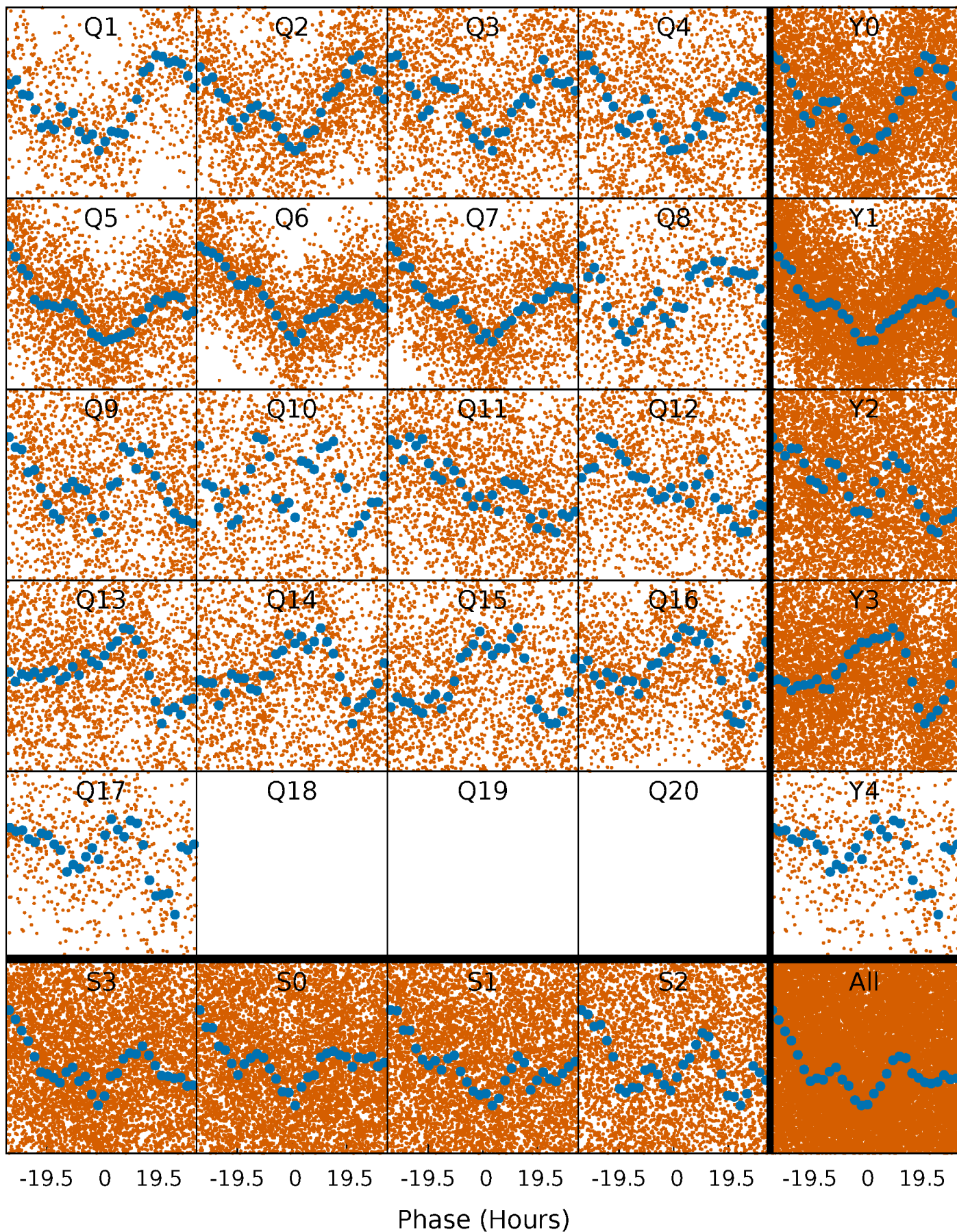


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



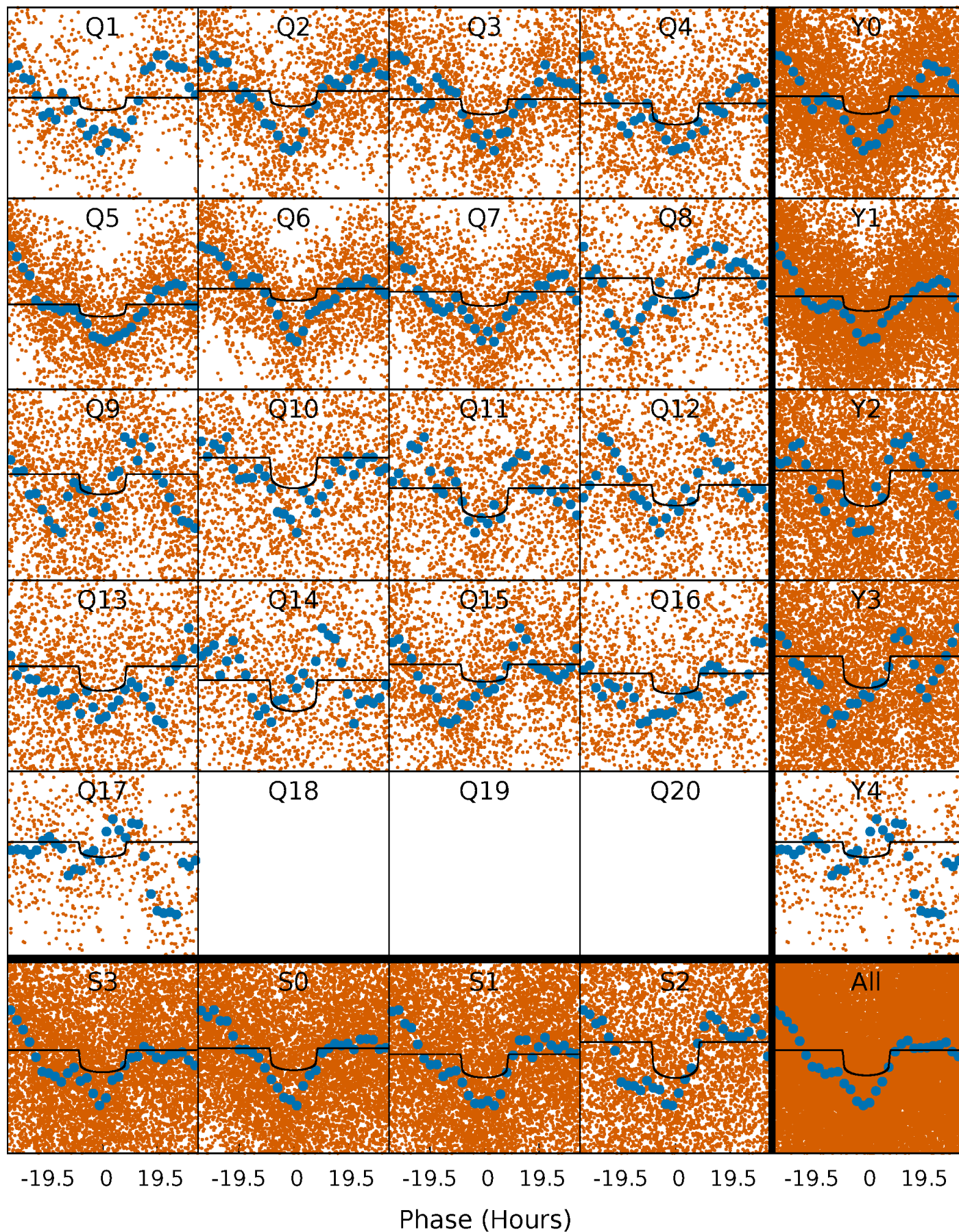
PDC Quarter-Phased Transit Curves

TCE 008165617-01 P= 4.864728 Days $T_0=134.425711$ (BKJD)



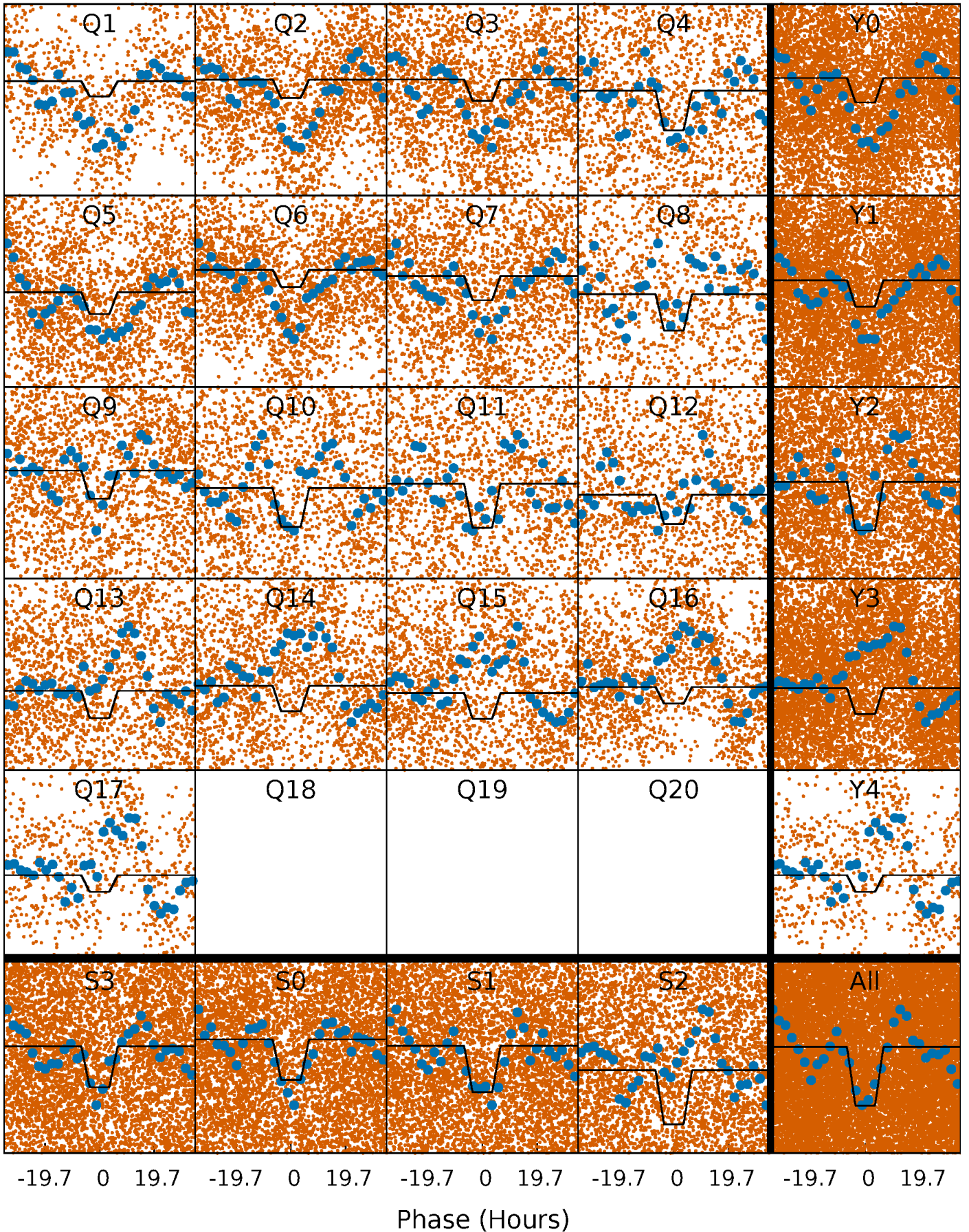
DV Quarter-Phased Transit Curves

TCE 008165617-01 P= 4.864728 Days $T_0=134.425711$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

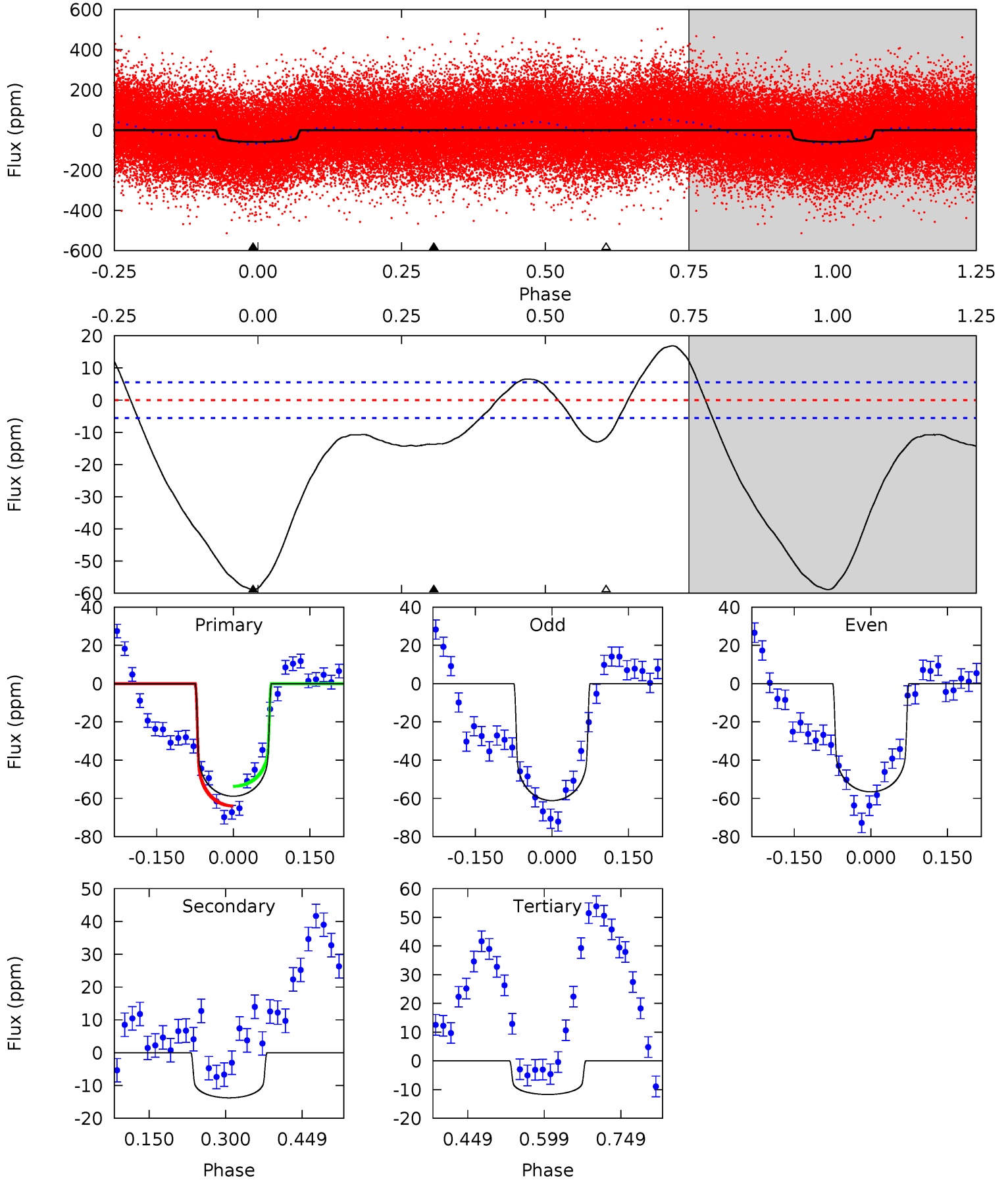
TCE 008165617-01 P= 4.864695 Days $T_0=134.429198$ (BKJD)



DV Model-Shift Uniqueness Test

008165617-01, P = 4.864728 Days, E = 129.560983 Days

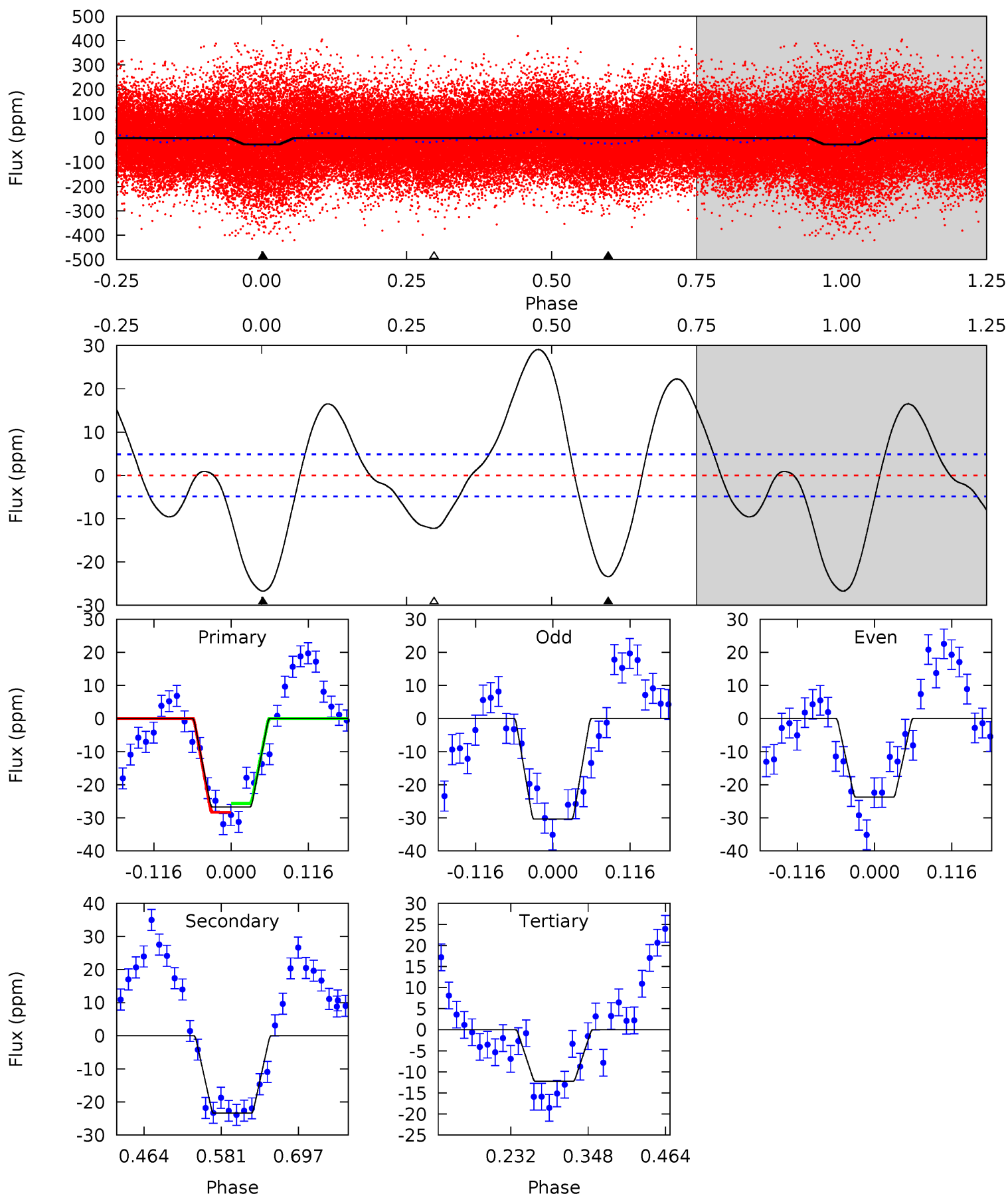
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
47.6	11.1	9.46	0	4.48	1.44	8.79	38.2	47.6	1.68	11.1	1.89	1.06	0.22	4.31



Alt Model-Shift Uniqueness Test

008165617-01, P = 4.864695 Days, E = 129.564503 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.9	21.8	11.4	0	4.53	1.57	10.8	13.5	24.9	10.4	21.8	3.10	0.76	0.52	1.23



Stellar Parameters For KIC 008165617

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6717^{+151}_{-219}	$4.086^{+0.192}_{-0.128}$	$-0.140^{+0.250}_{-0.300}$	$1.755^{+0.356}_{-0.435}$	$1.376^{+0.163}_{-0.224}$	$0.358^{+0.377}_{-0.136}$
	+2%/-3%	+5%/-3%	+179%/-214%	+20%/-25%	+12%/-16%	+105%/-38%
Source	PHO1	FLK73	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 008165617-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-14 ± 1	$1.15^{+0.18}_{-0.18}$	2191^{+129}_{-143}	5291^{+266}_{-252}	22^{+8}_{-6}
Alt.	-23 ± 1	$1.06^{+0.16}_{-0.16}$	2178^{+126}_{-145}	6169^{+365}_{-292}	45^{+16}_{-10}

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

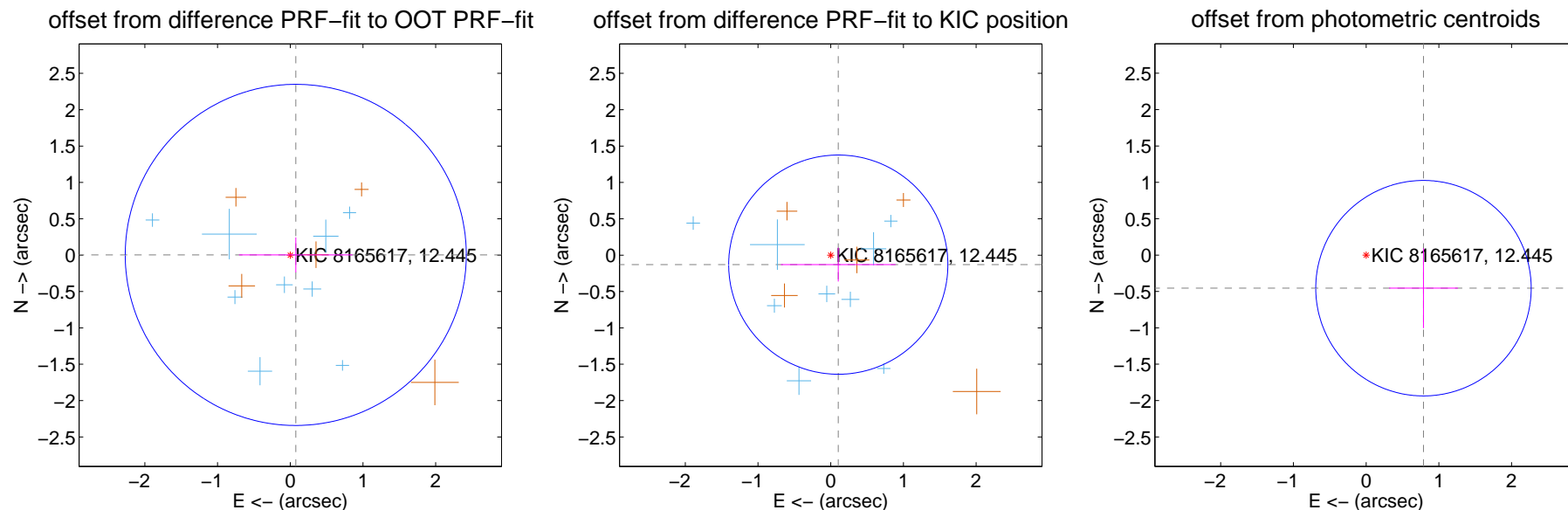
DV Centroid Data

Supplemental centroid analysis for 008165617-01. Kepler magnitude: 12.45. Transit SNR 10.11

There are 9 quarters with good PRF difference image offsets

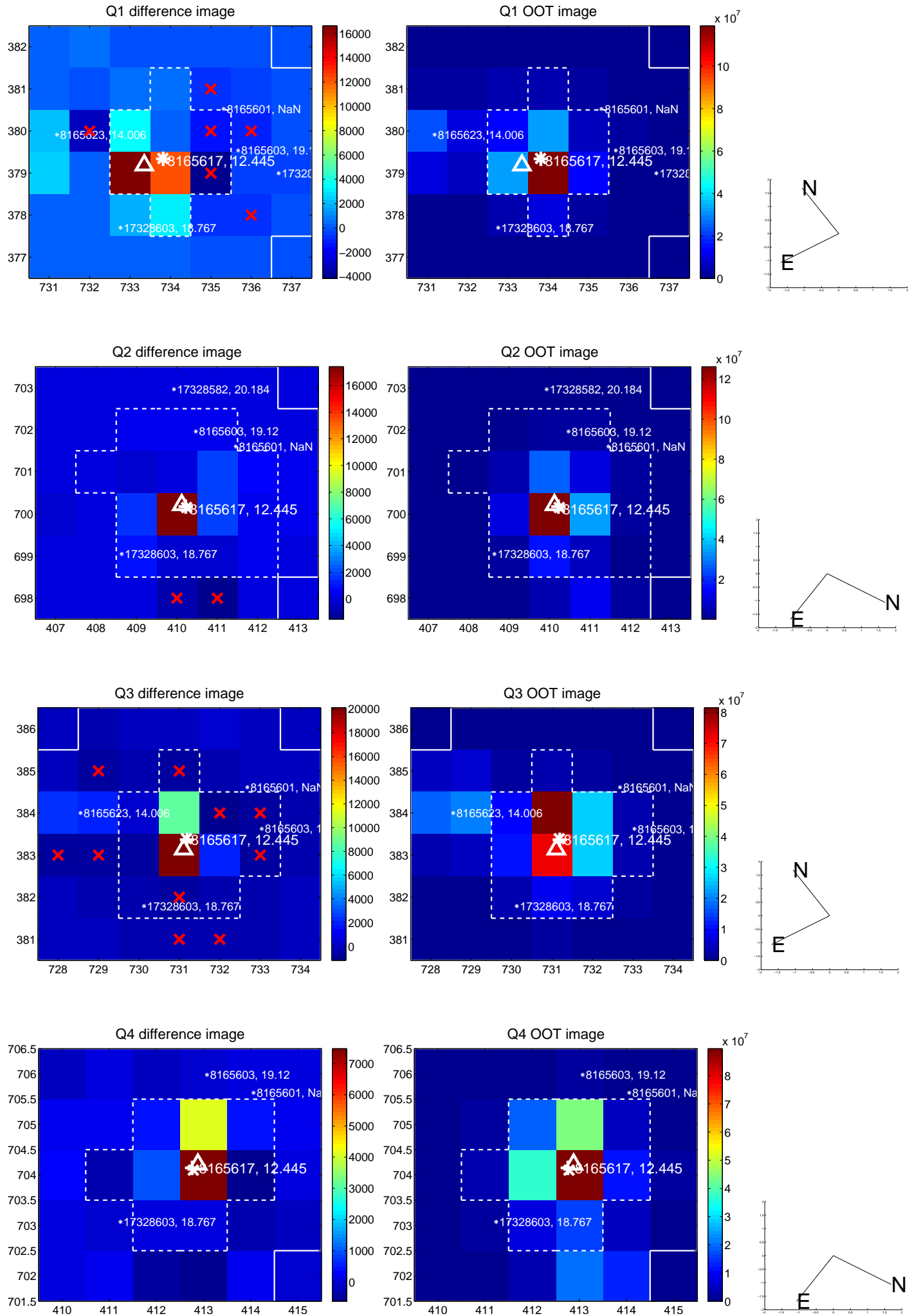
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.076 ± 0.782	0.10	-0.076 ± 0.781	0.003 ± 0.241
PRF-fit source offset from KIC position	0.167 ± 0.502	0.33	-0.104 ± 0.788	-0.130 ± 0.232
photometric centroid source offset	0.91 ± 0.49	1.84	-0.79 ± 0.47	-0.46 ± 0.55

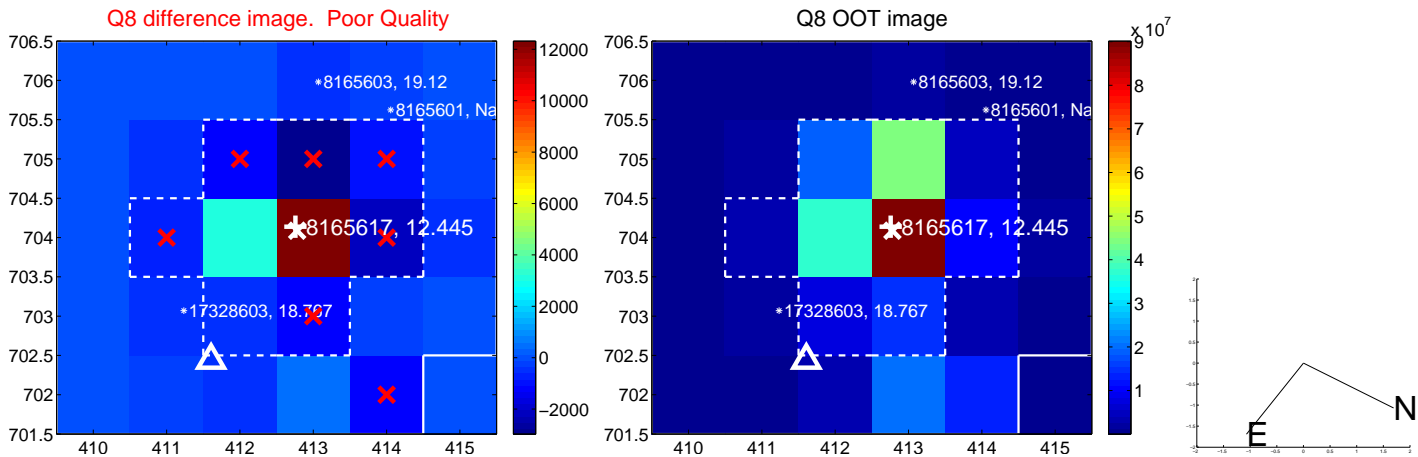
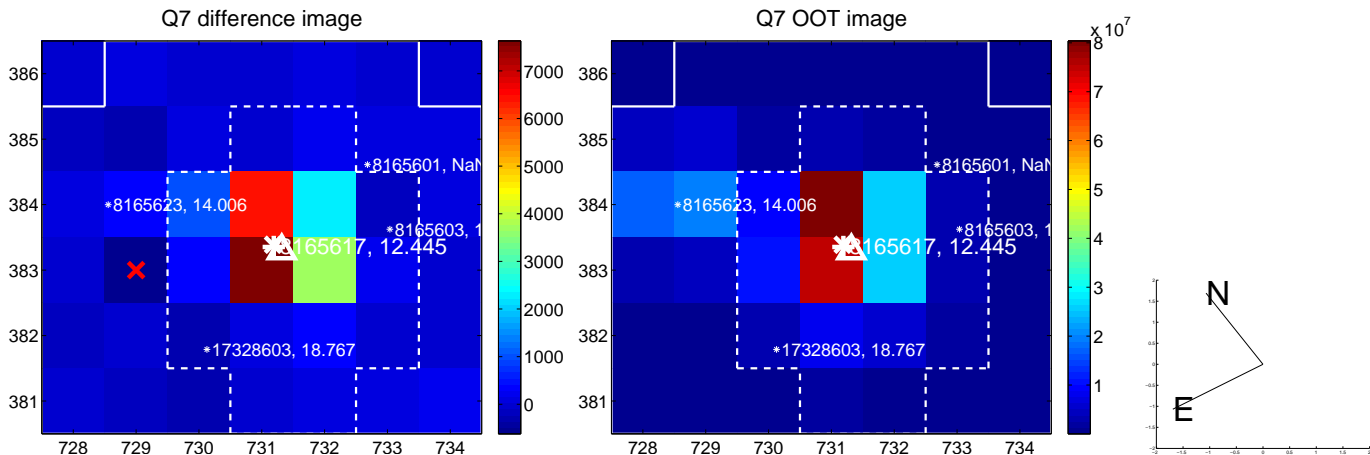
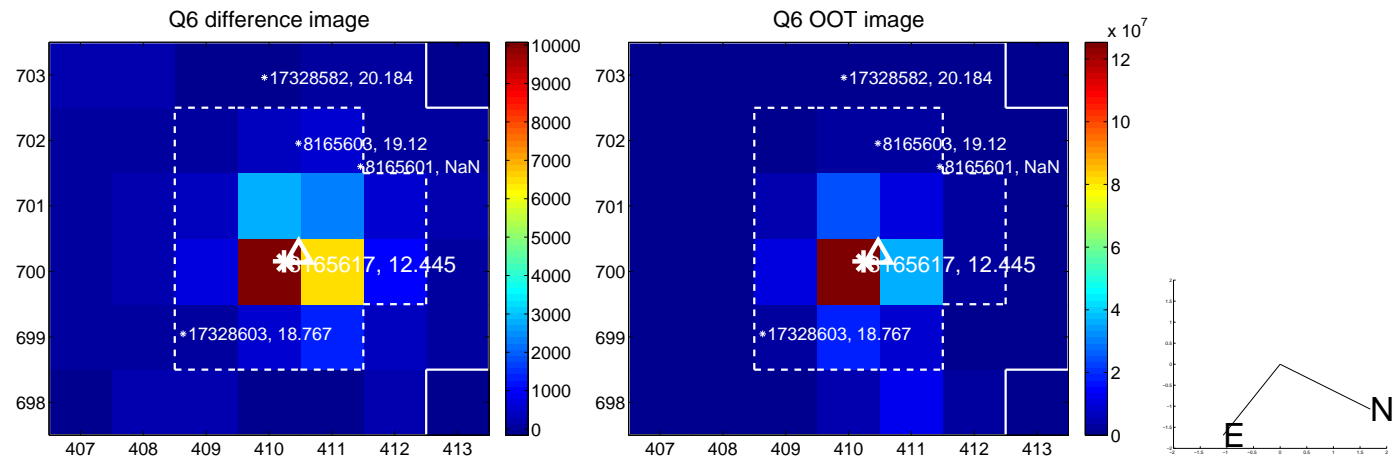
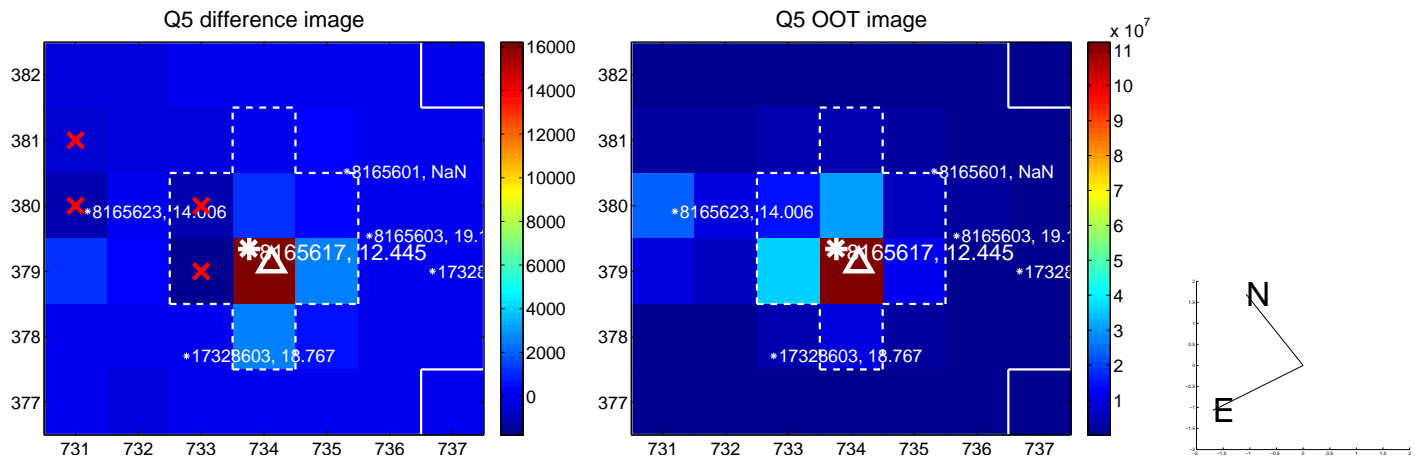


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

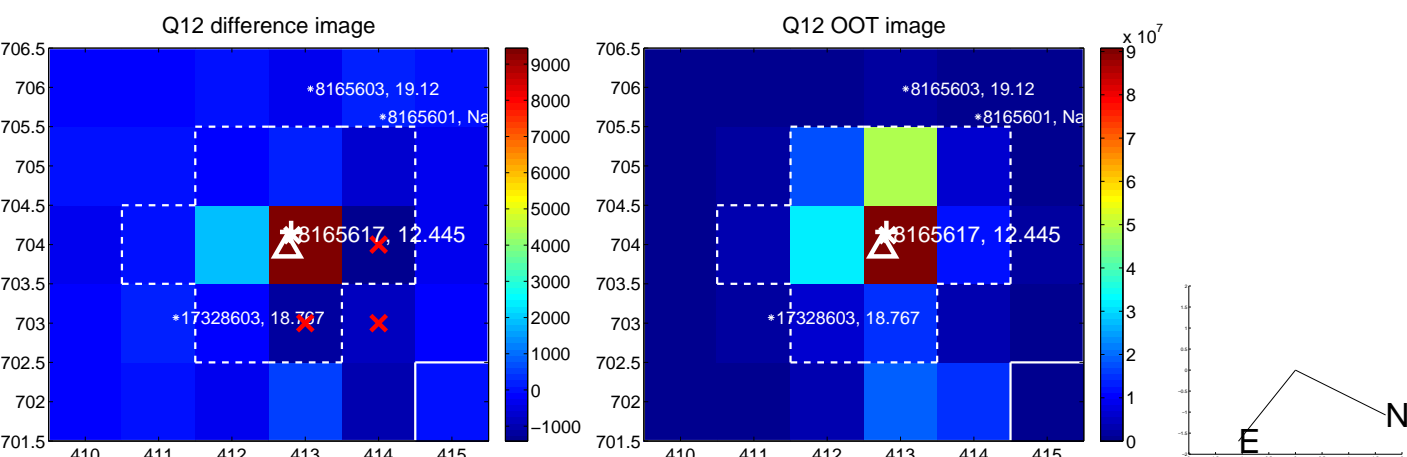
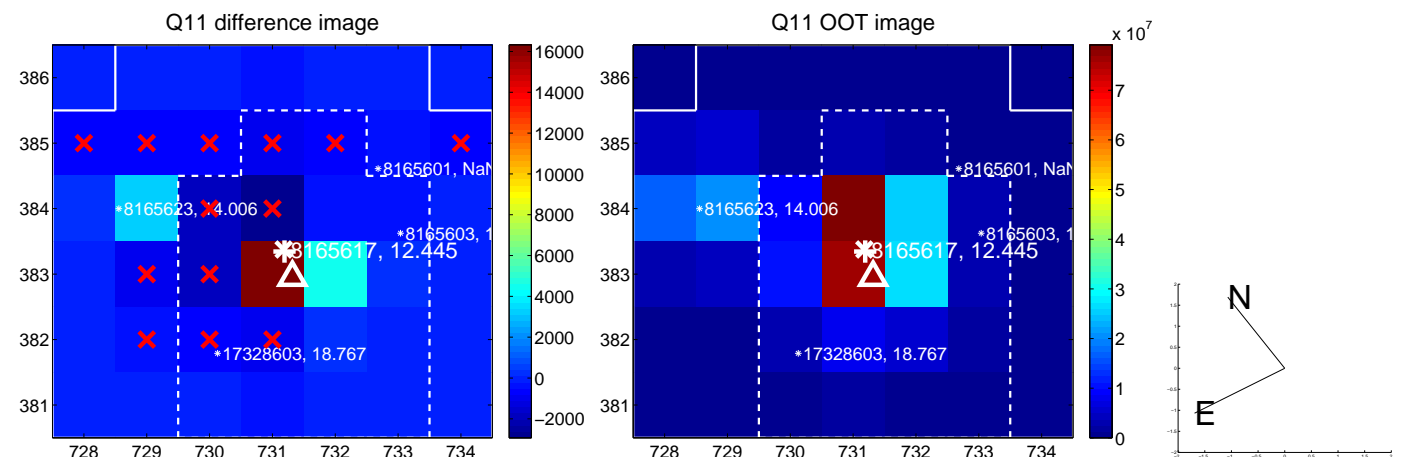
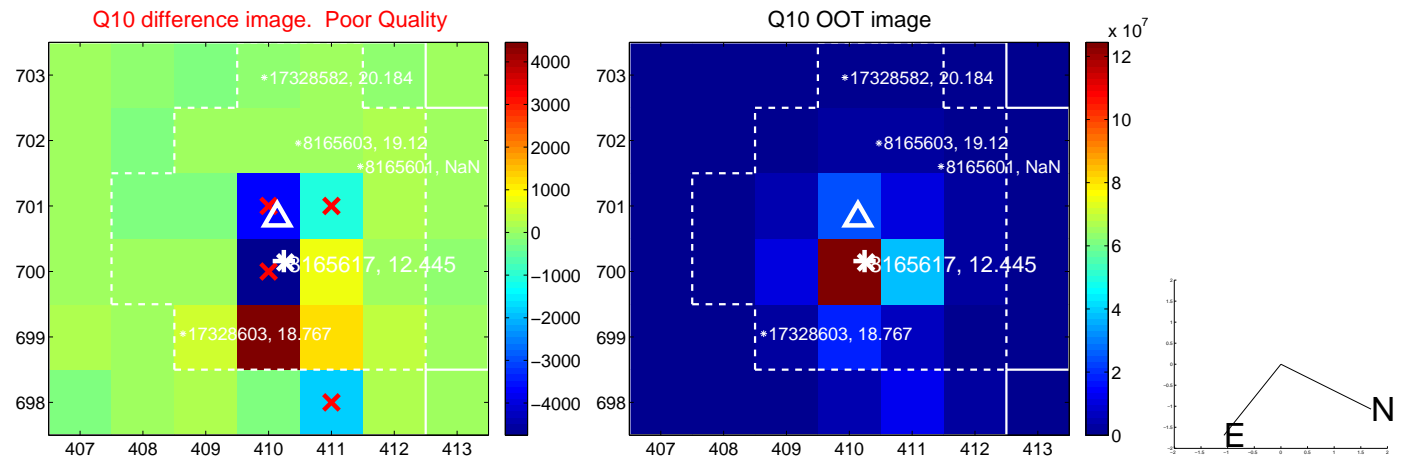
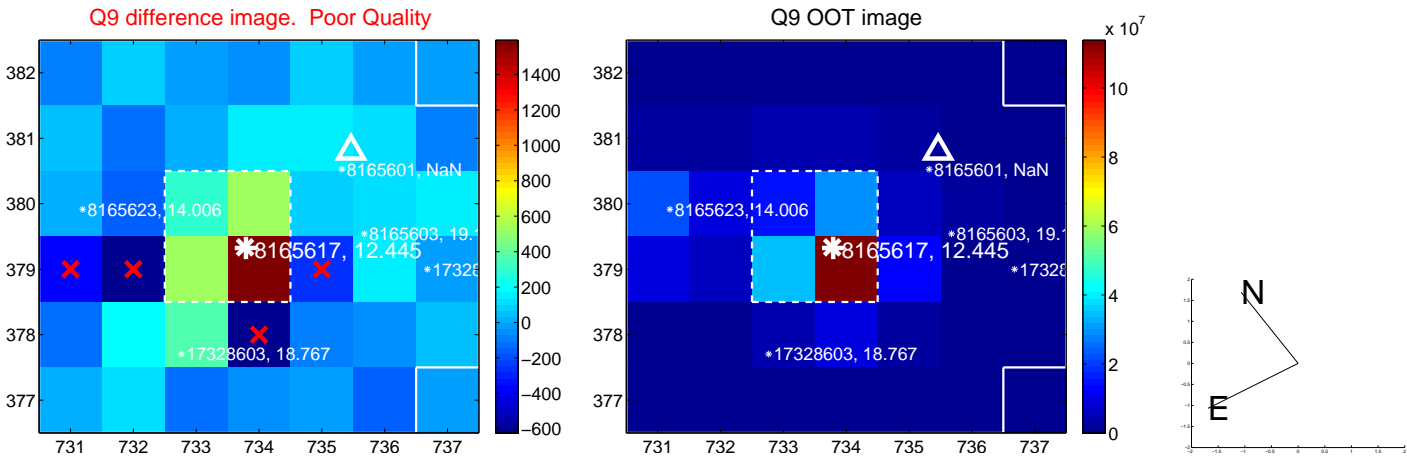
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



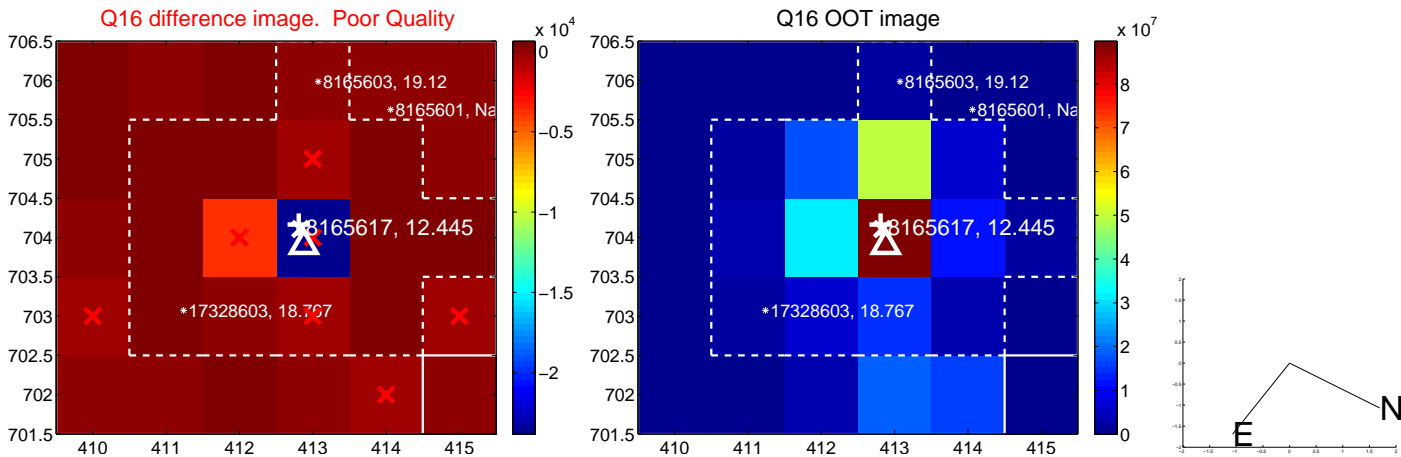
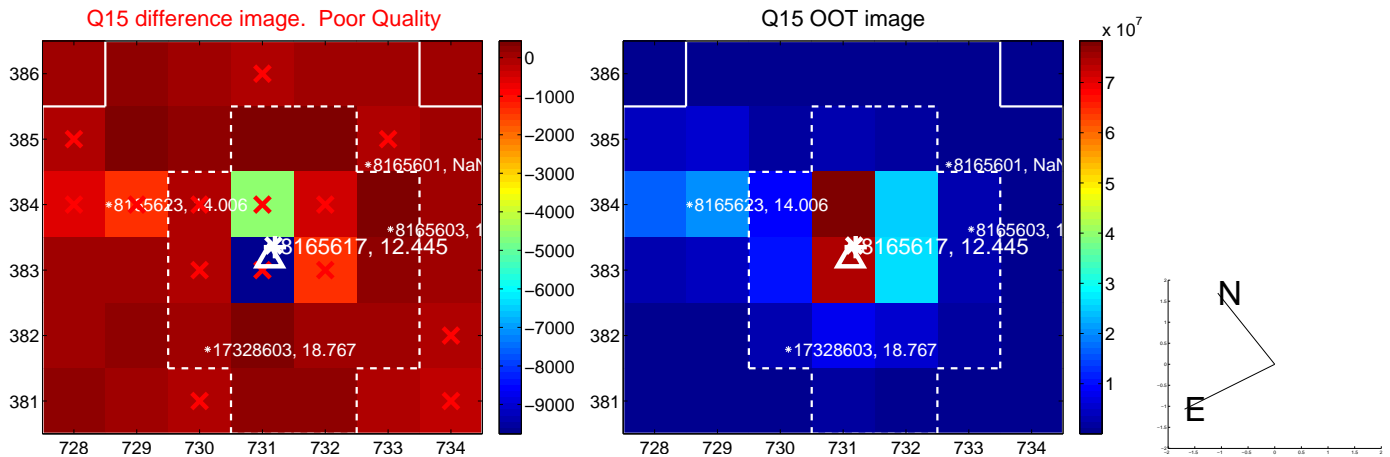
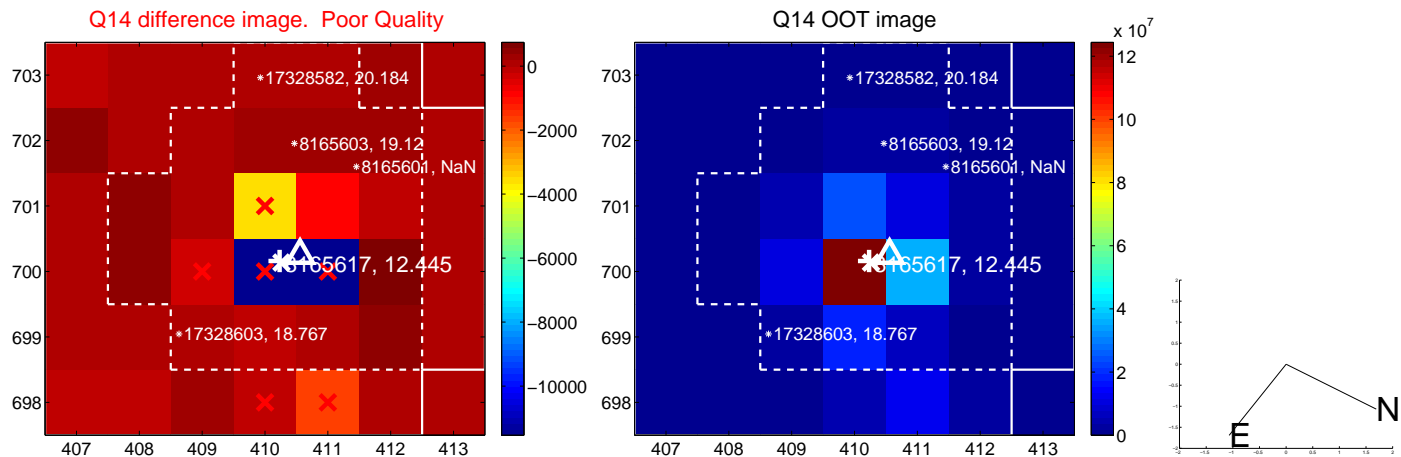
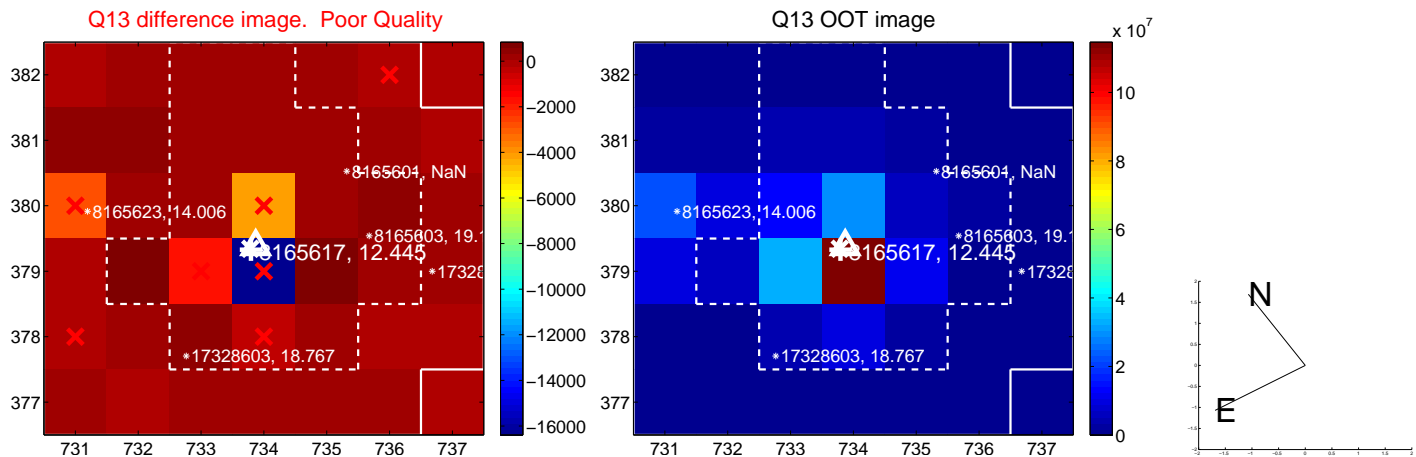
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



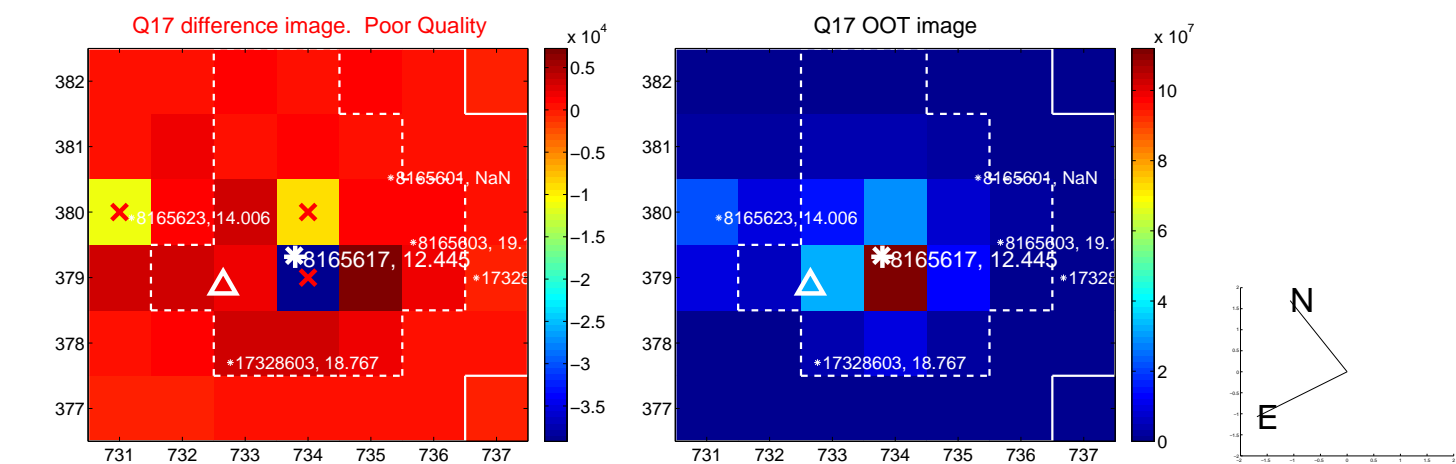
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



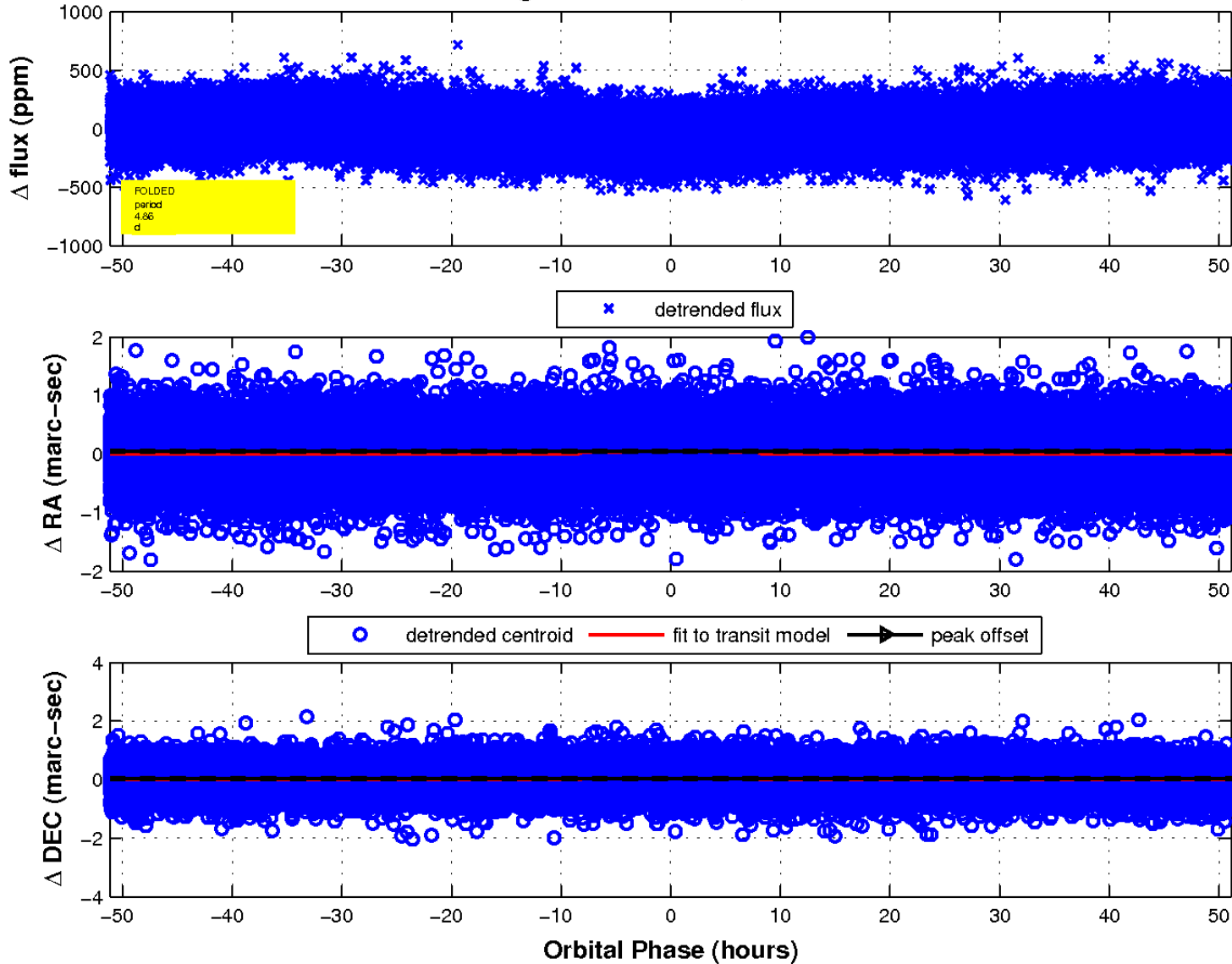
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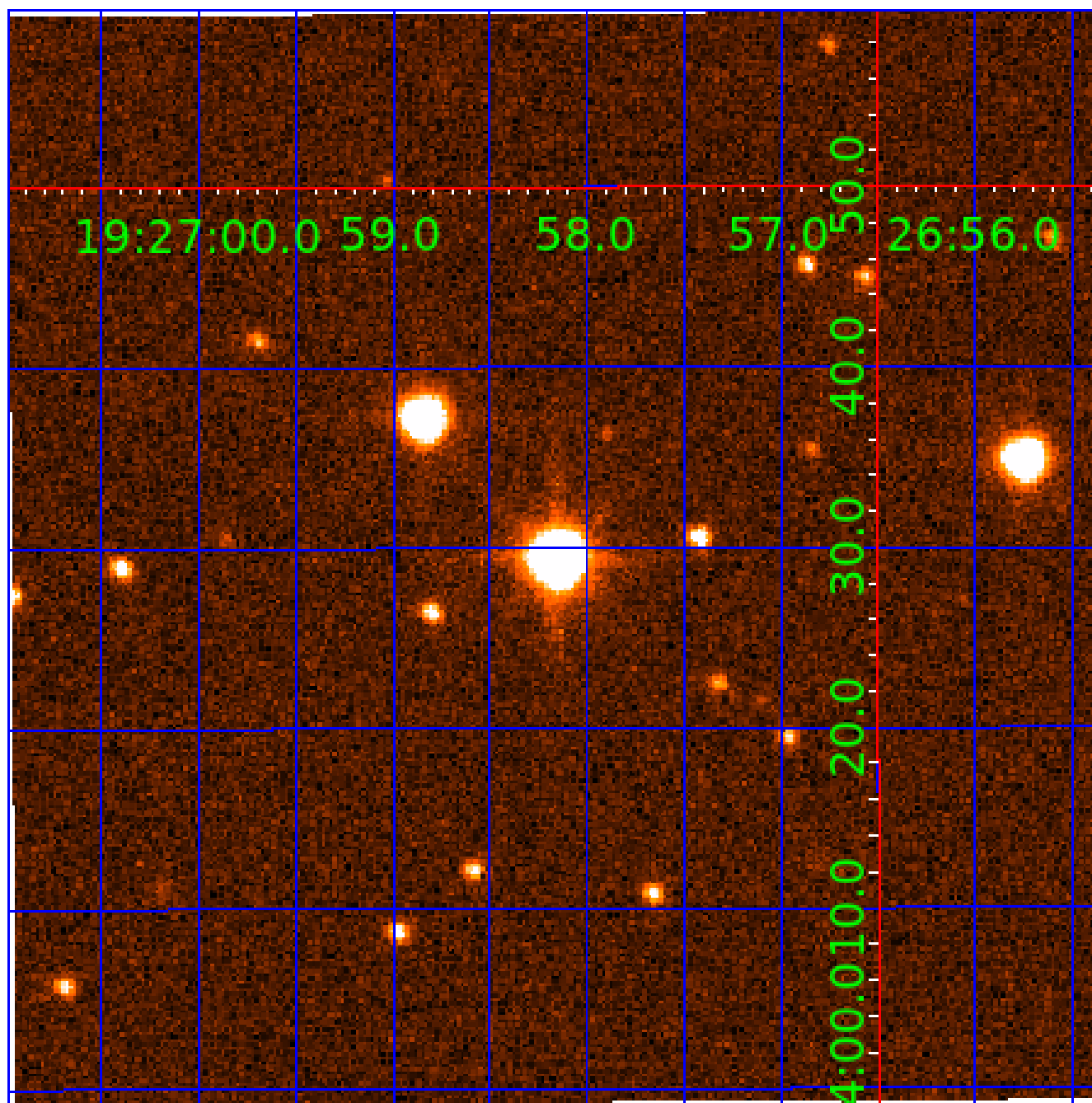


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 008165617

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})
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Robovetter Results

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008165617-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008165617-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS

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

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

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

Ephemeris Match Information For 008165617-02

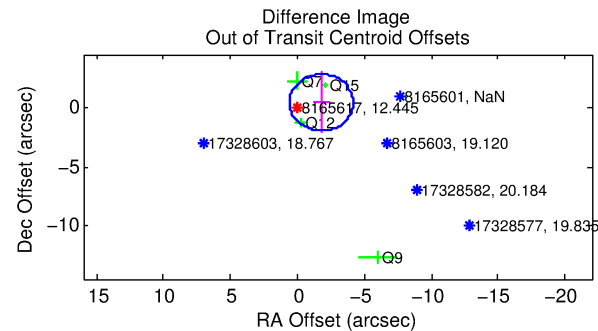
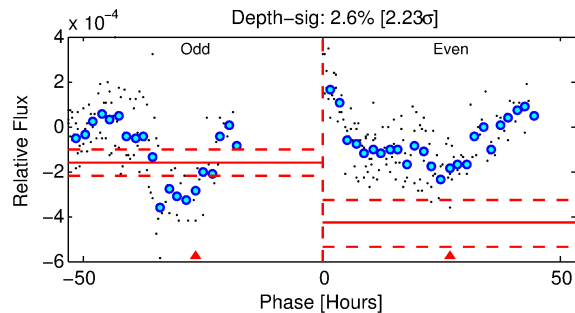
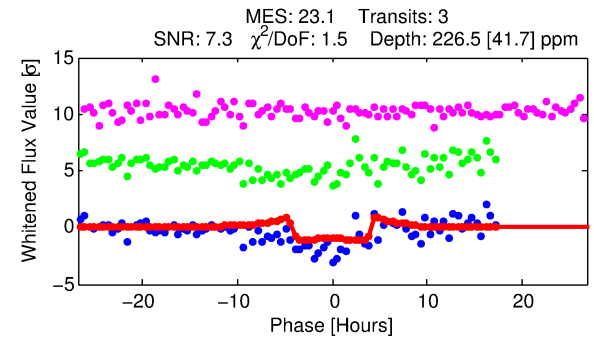
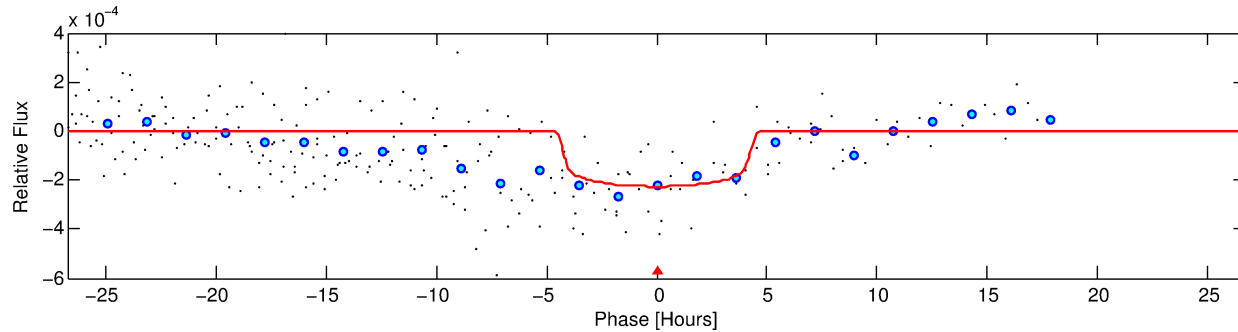
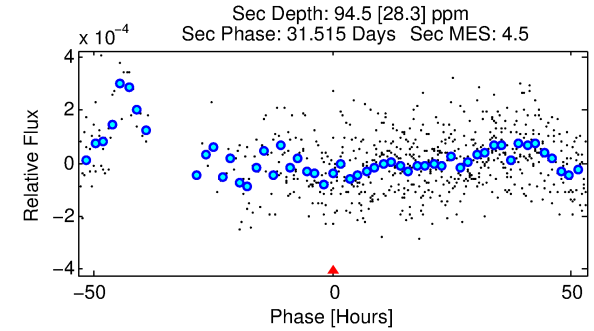
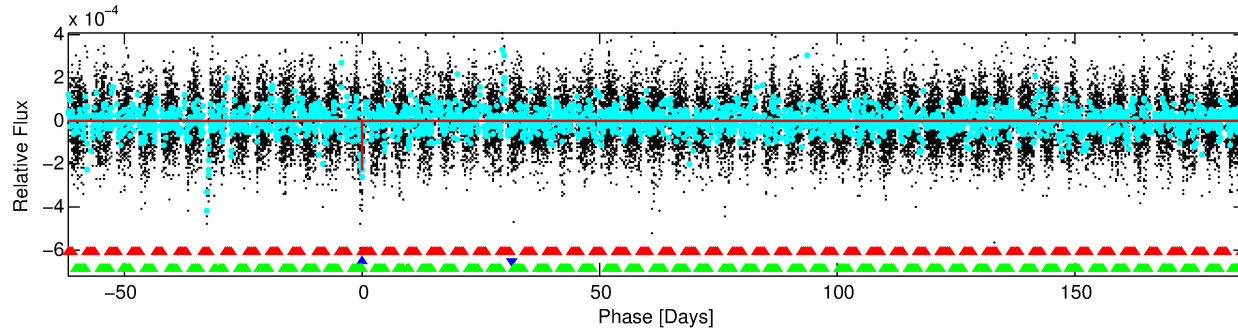
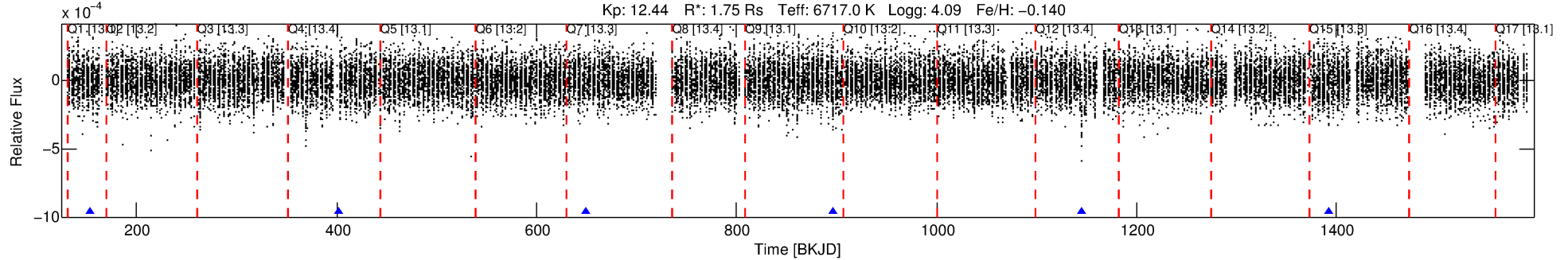
No Significant Match Found

DV One-Page Summary

KIC: 8165617 Candidate: 2 of 3 Period: 247.760 d

KOI: K06173 Corr: No Ephemeris Match

Kp: 12.44 R*: 1.75 Rs Teff: 6717.0 K Logg: 4.09 Fe/H: -0.140



DV Fit Results:

Period = 247.75958 [0.01118] d
Epoch = 153.7891 [0.0484] BKJD
Rp/R* = 0.0152 [0.0074]
a/R* = 132.98 [366.52]
b = 0.80 [1.26]
Seff = 7.64 [2.77]
Teq = 424 [38] K
Rp = 2.91 [1.59] Re
a = 0.8575 [0.1899] AU
Ag = 4499.14 [4831.87] [0.93σ]
Teffp = 5368 [1379] K [3.58σ]

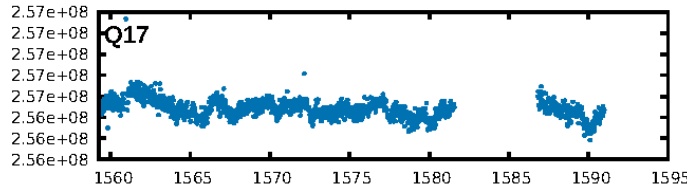
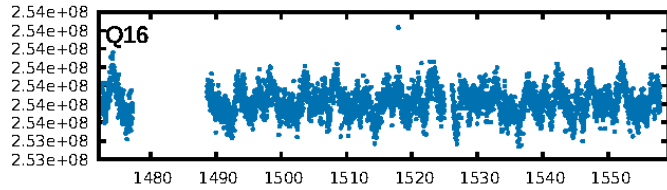
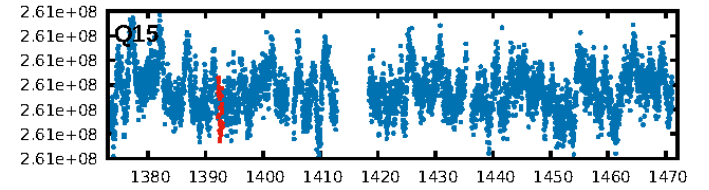
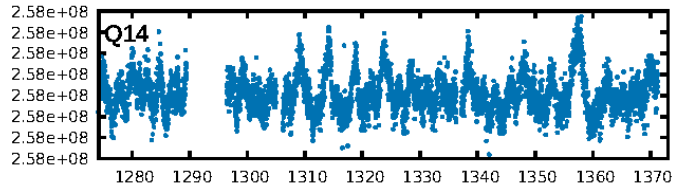
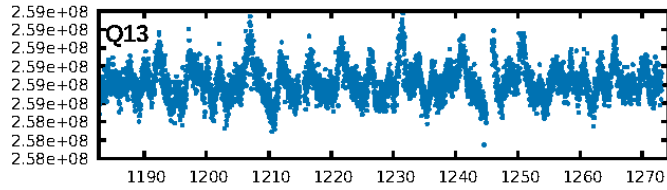
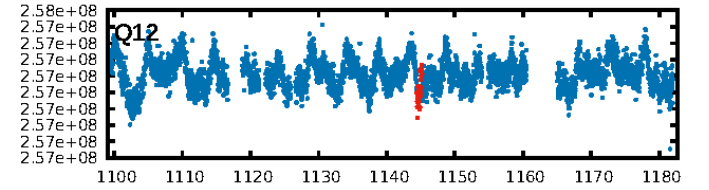
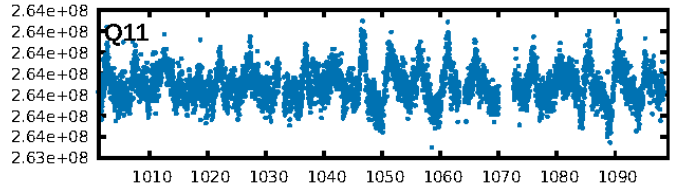
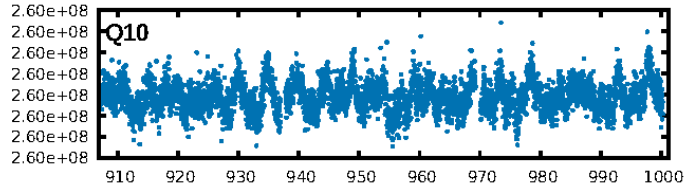
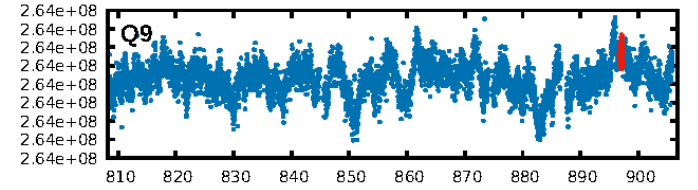
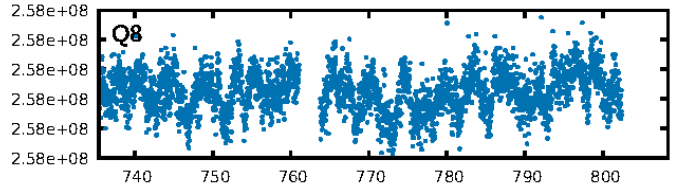
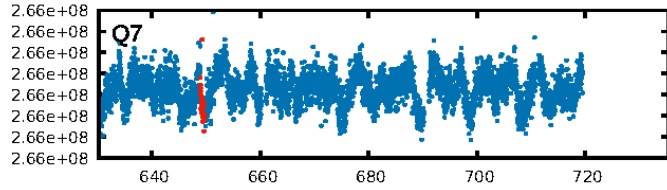
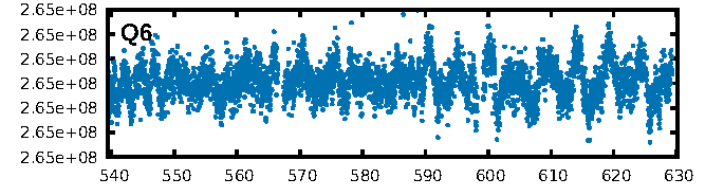
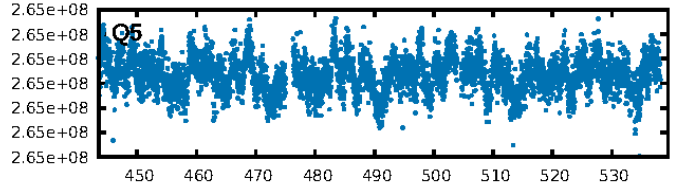
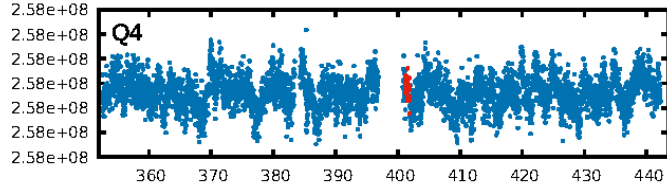
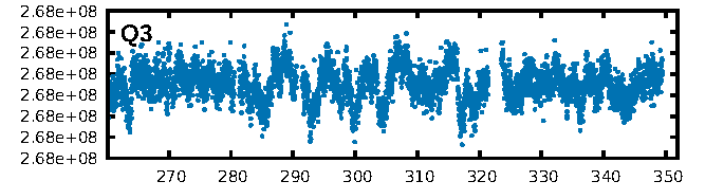
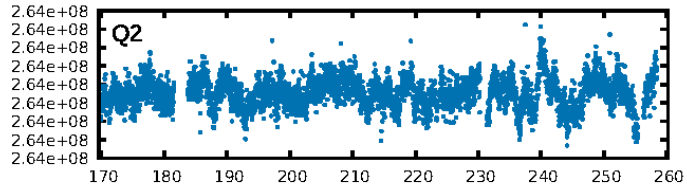
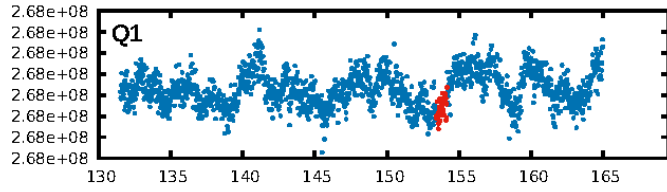
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [149.05σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 45.3%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 3.914
Centroid-sig: 34.1%
Centroid-so: 0.301 arcsec [0.57σ]
OotOffset-rm: 1.820 arcsec [2.29σ]
KicOffset-rm: 1.814 arcsec [2.68σ]
OotOffset-st: 0/2/1/1 [4]
KicOffset-st: 0/2/1/1 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 0.00 [0/5]

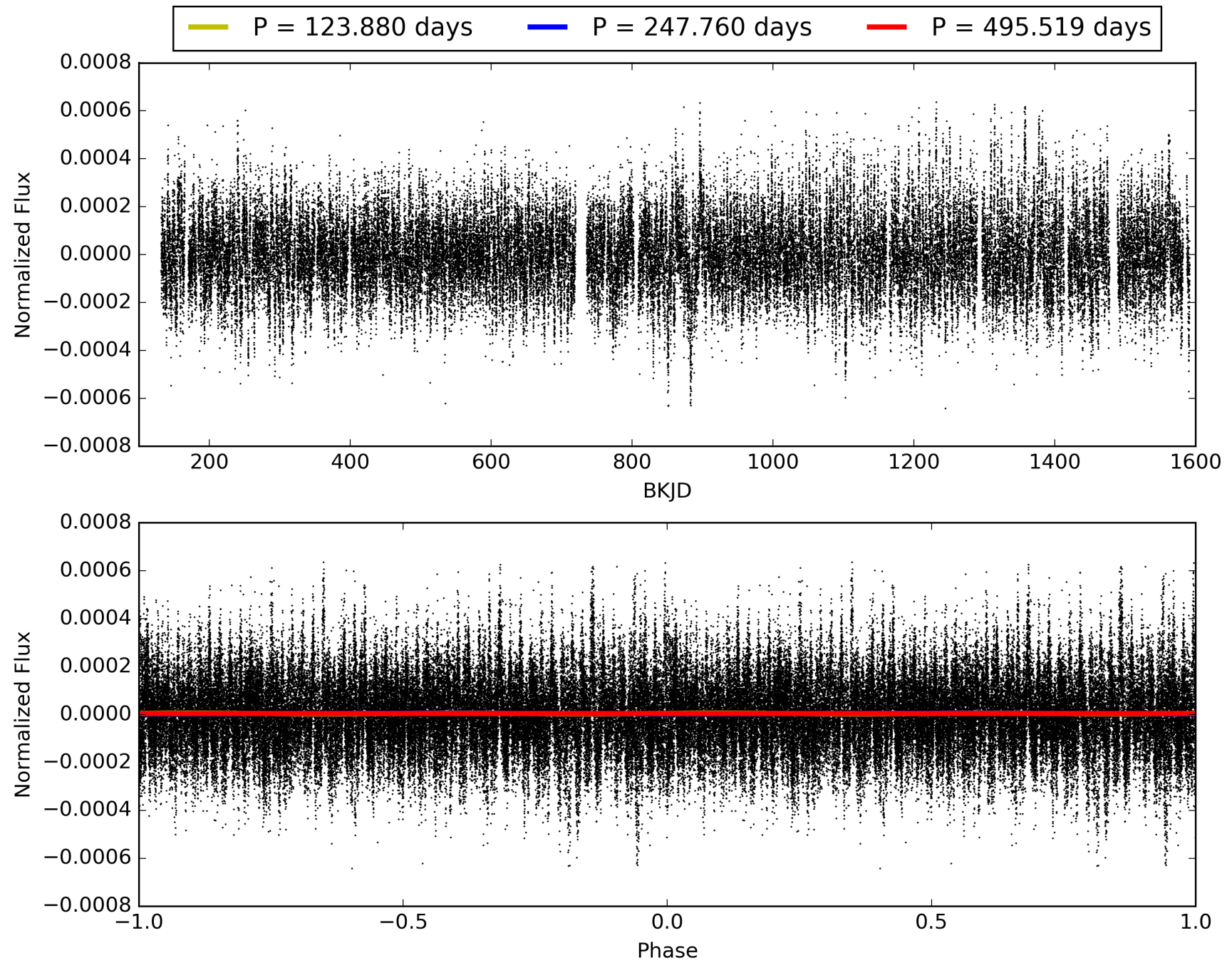
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:53:31 Z

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

TCE 008165617-02, PDC Light Curves

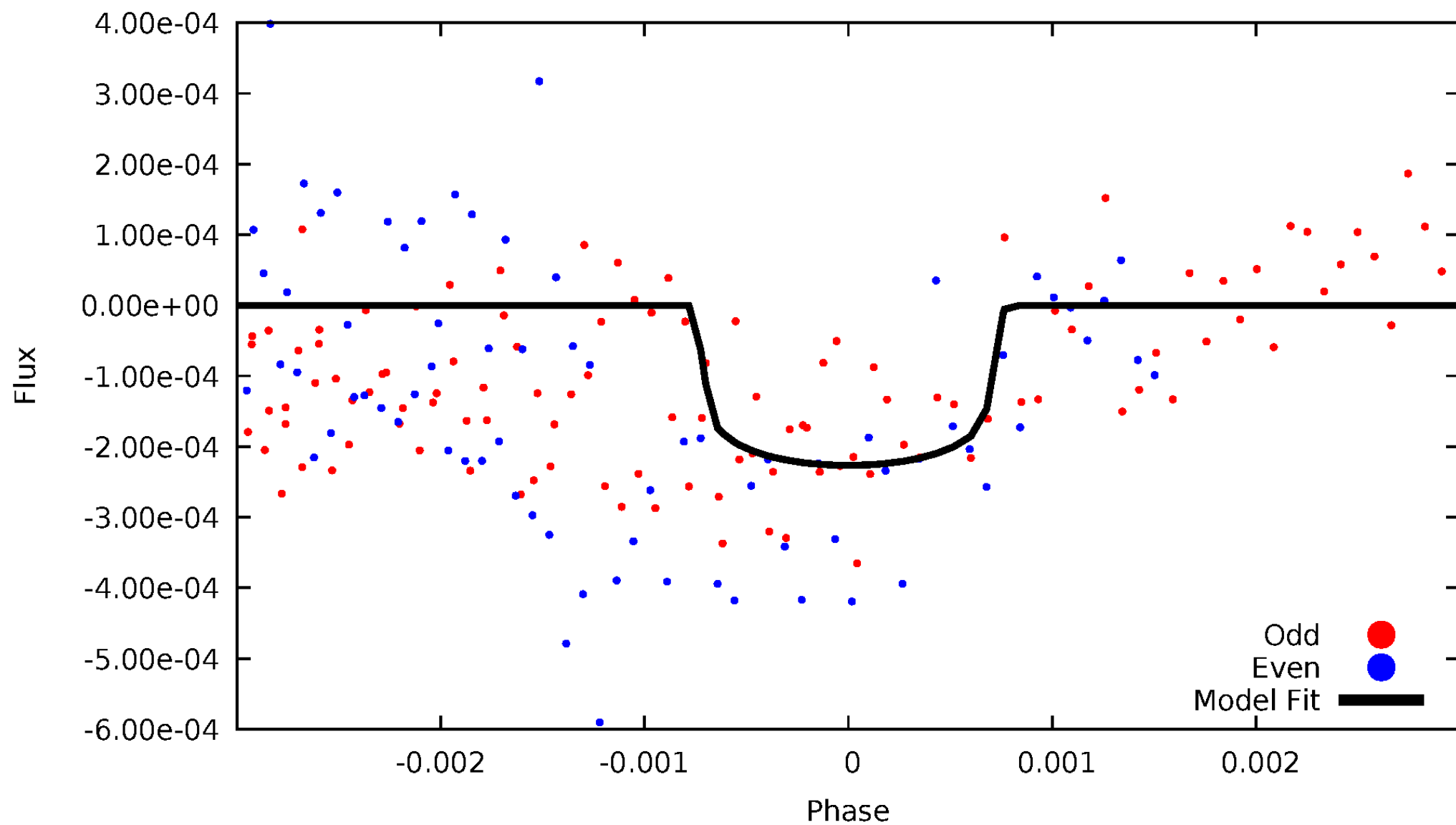


TCE 008165617-02



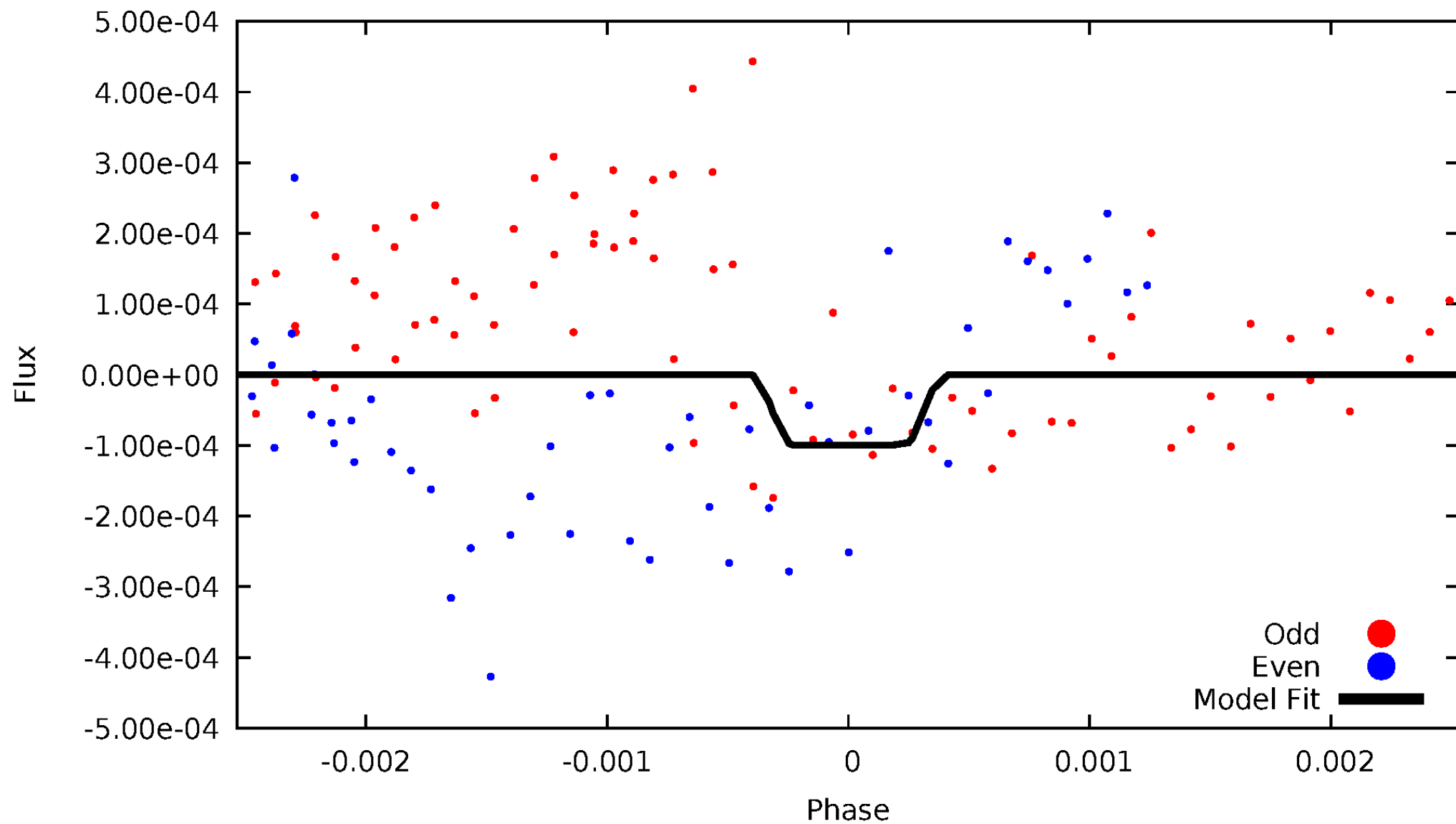
DV Odd/Even

TCE 008165617-02



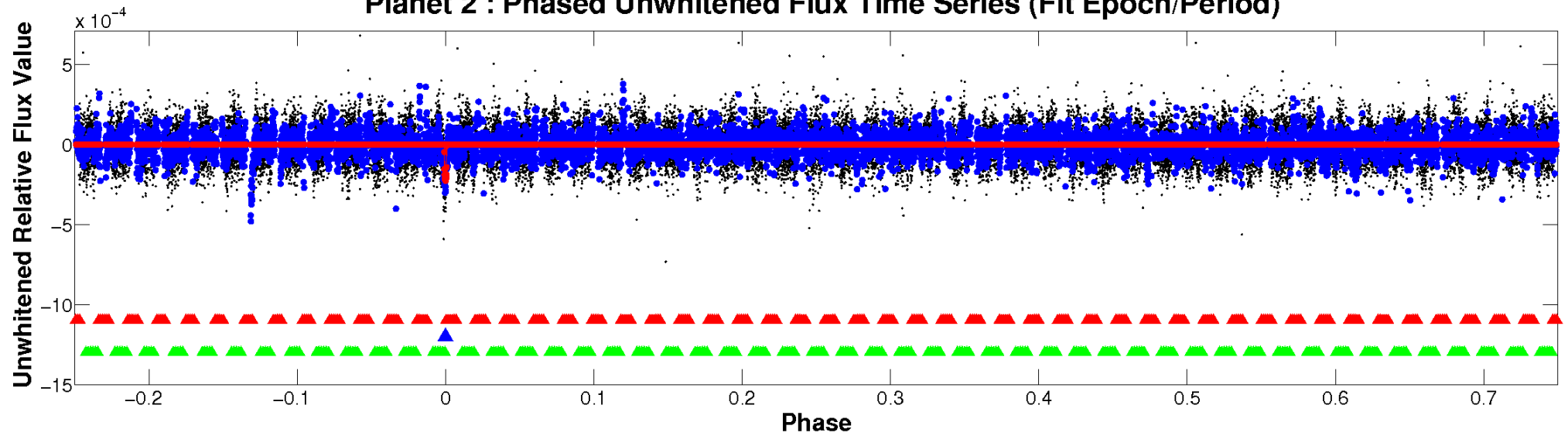
ALT Odd/Even

TCE 008165617-02

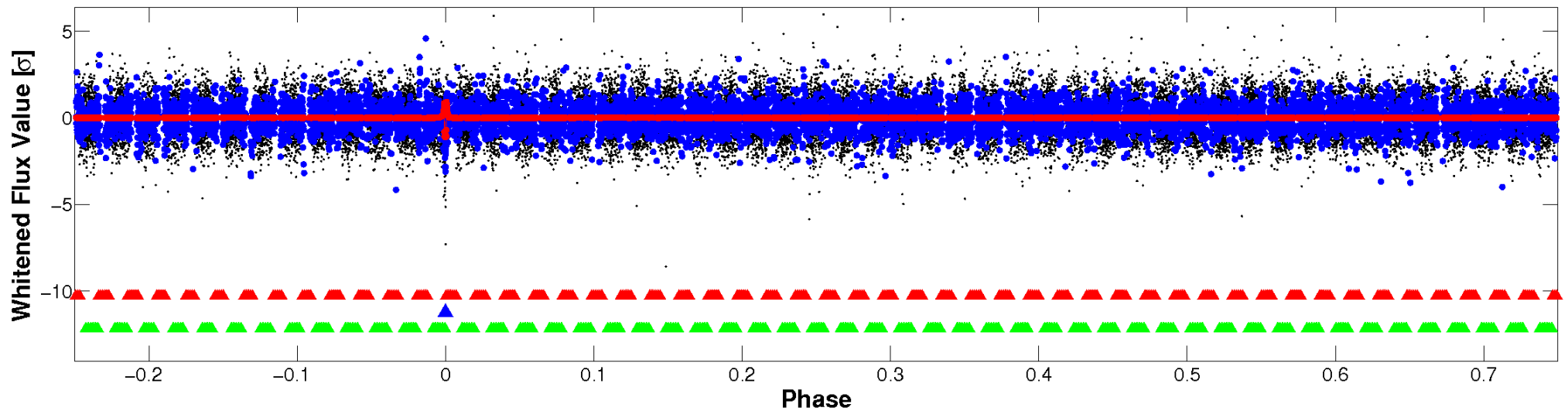


Non-Whitened Vs. Whitened Light Curve

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

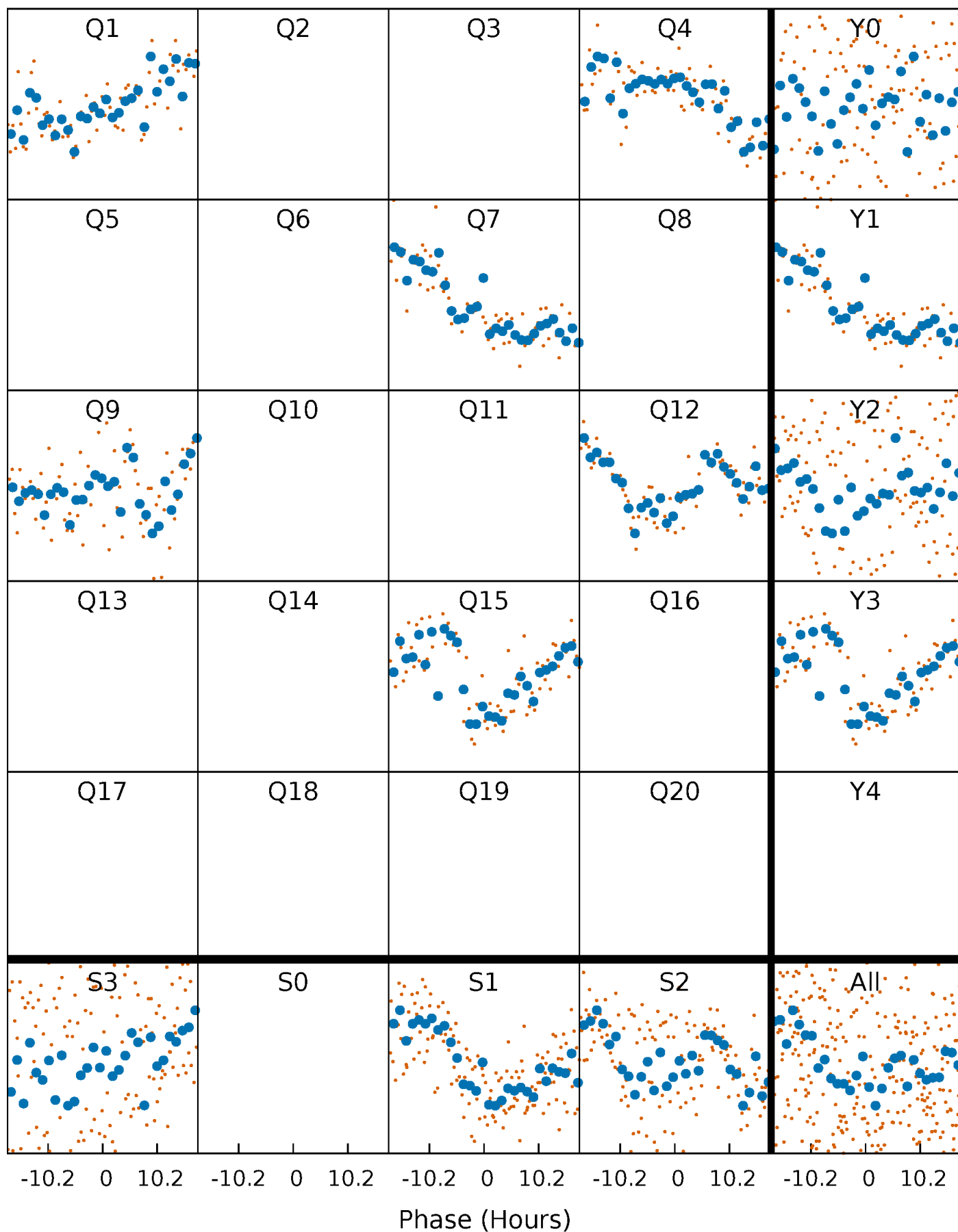


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



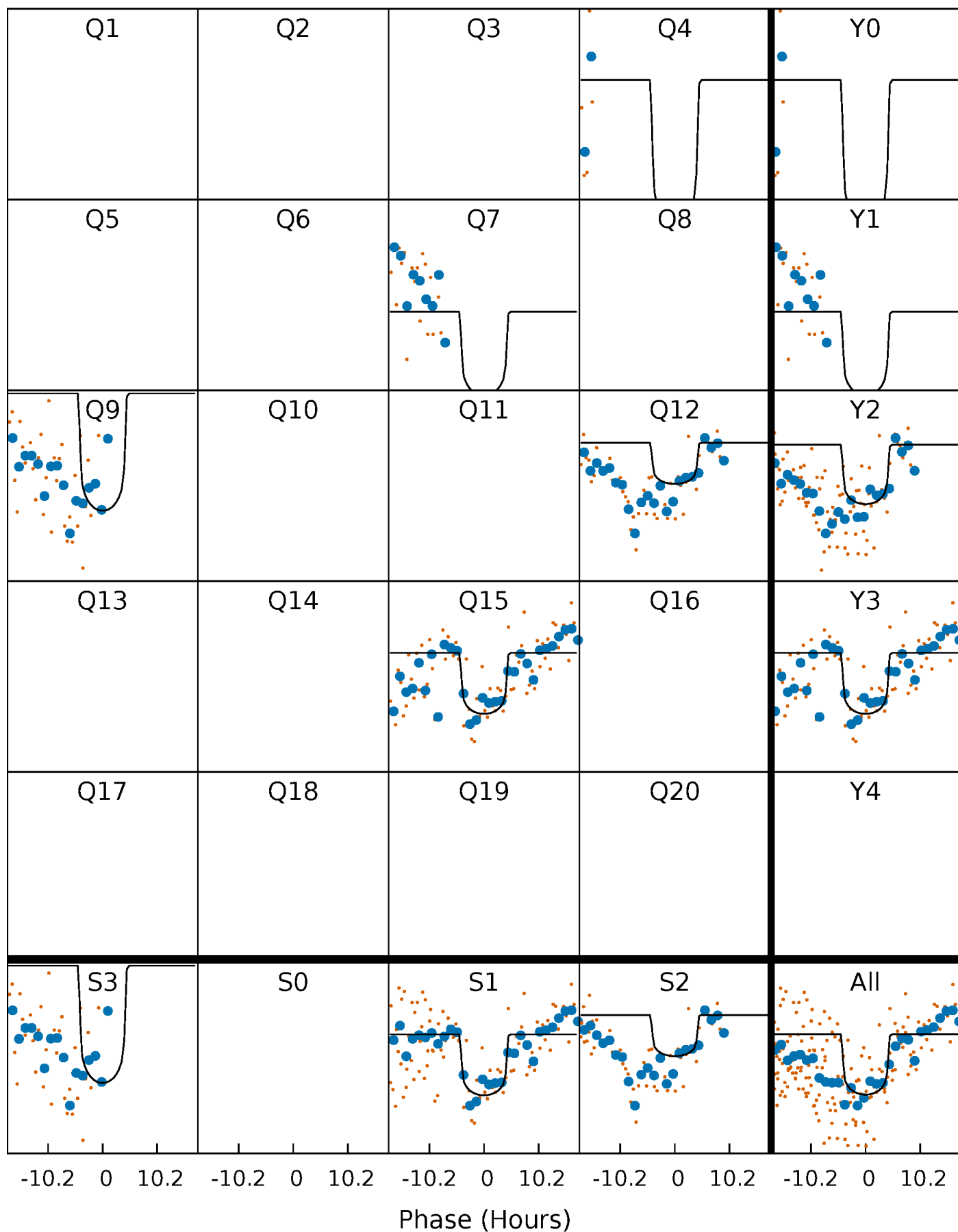
PDC Quarter-Phased Transit Curves

TCE 008165617-02 $P=247.759575$ Days $T_0=153.789094$ (BKJD)



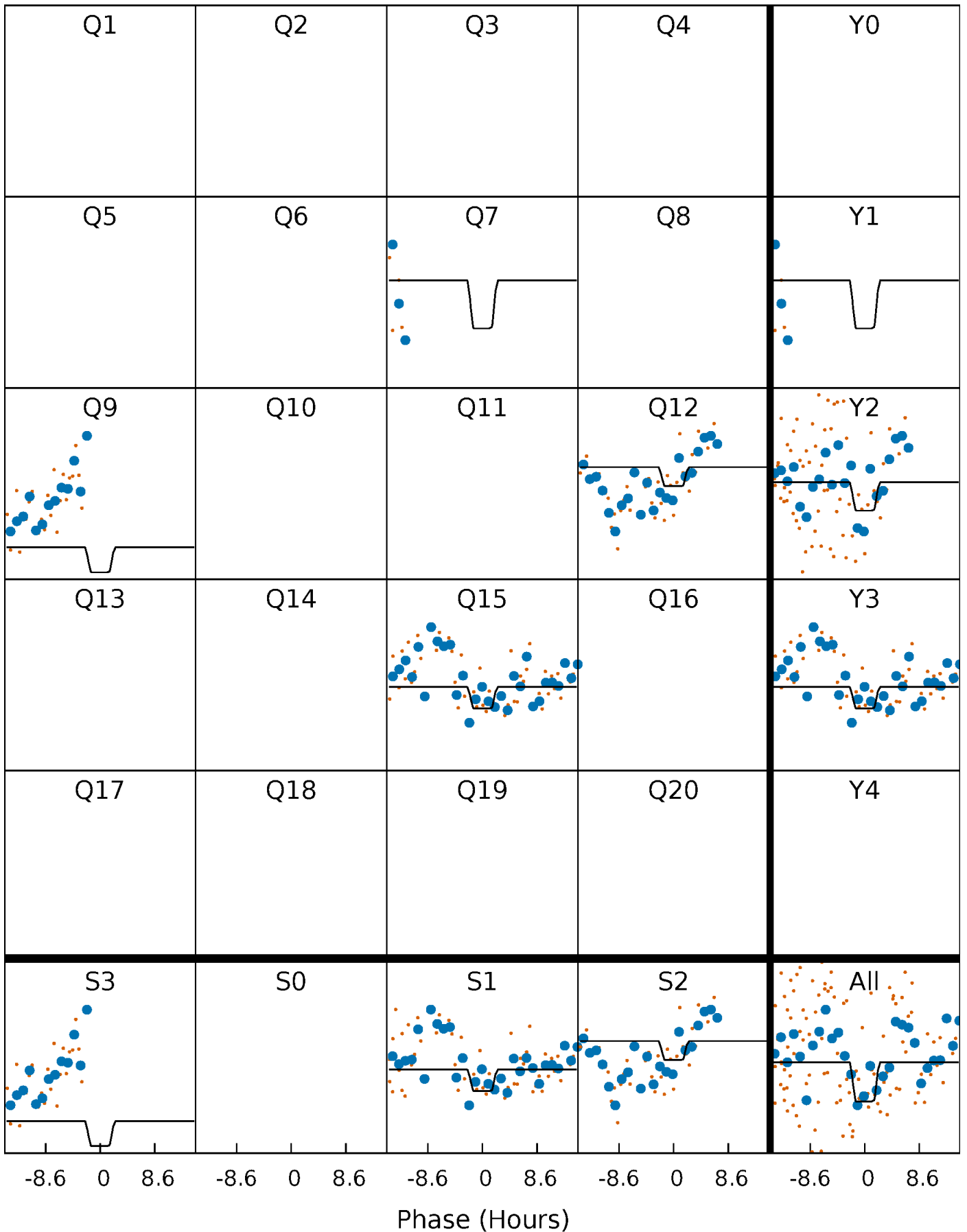
DV Quarter-Phased Transit Curves

TCE 008165617-02 $P=247.759575$ Days $T_0=153.789094$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

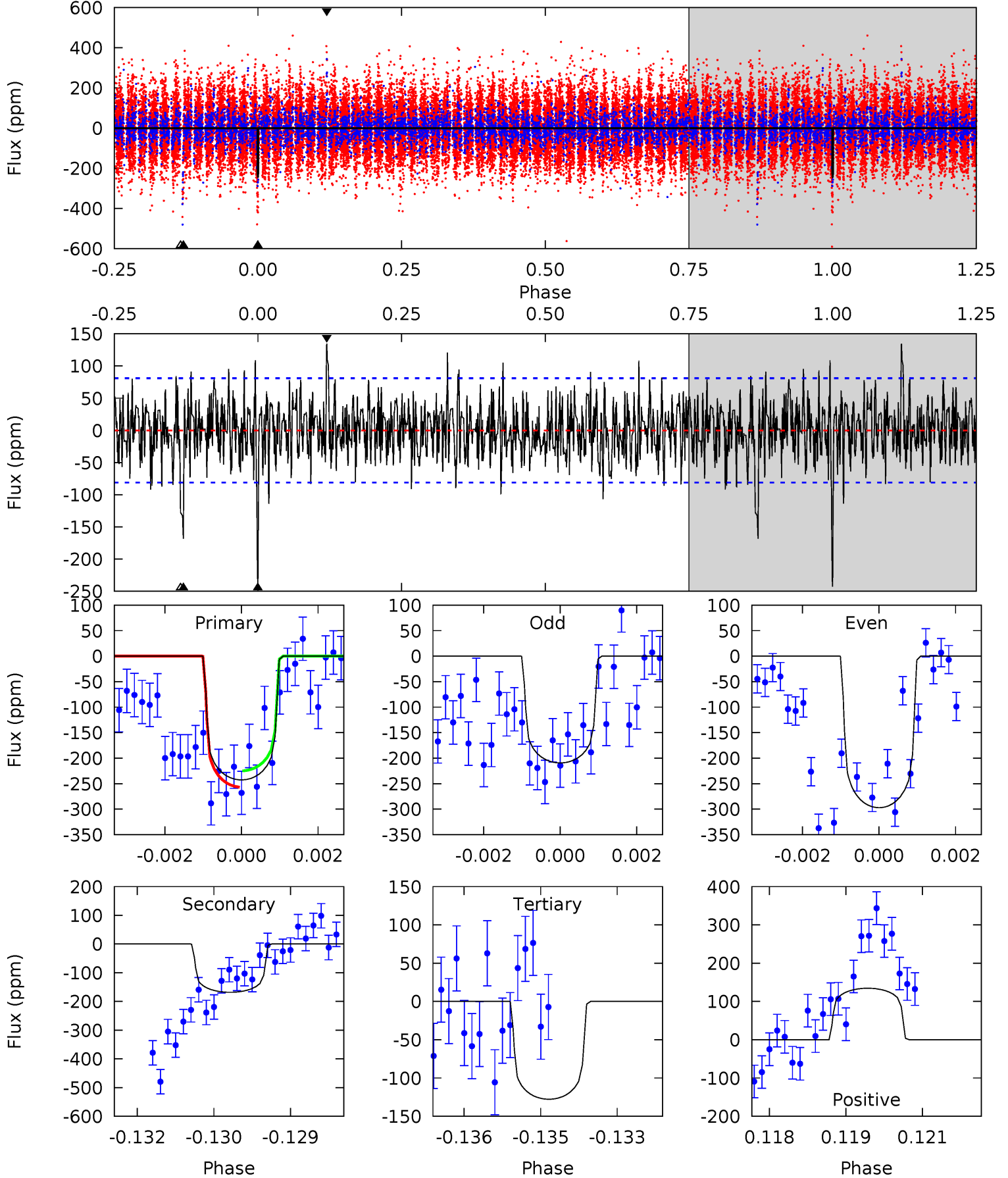
TCE 008165617-02 P=247.695614 Days $T_0=154.110333$ (BKJD)



DV Model-Shift Uniqueness Test

008165617-02, P = 247.759575 Days, E = 153.789094 Days

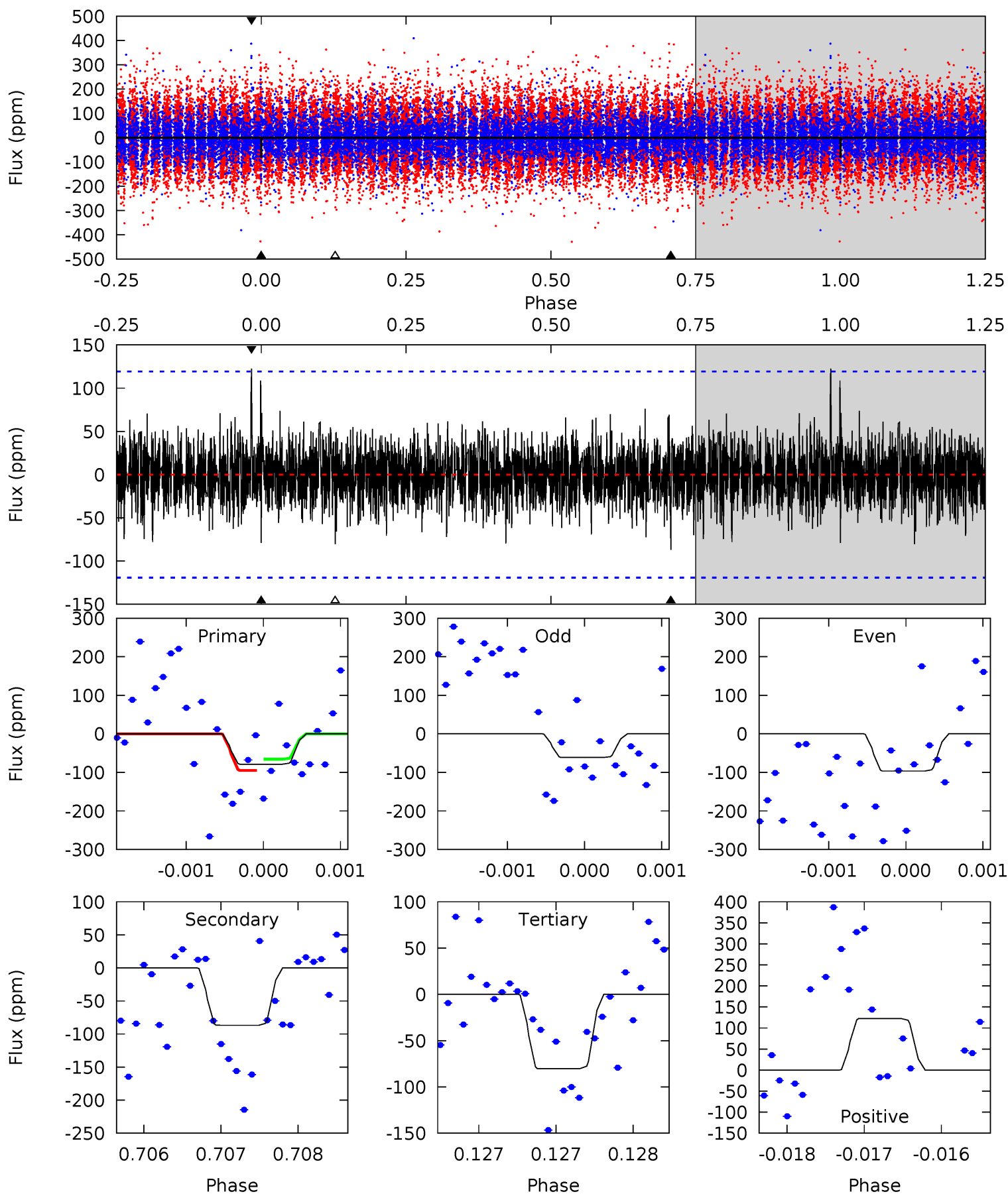
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.1	11.1	8.46	8.92	5.37	3.17	2.19	7.62	7.17	2.68	2.23	2.86	1.14	0.36	1.05



Alt Model-Shift Uniqueness Test

008165617-02, P = 247.695614 Days, E = 154.110333 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.64	4.01	3.71	5.65	5.50	3.37	1.01	-0.07	-2.01	0.30	-1.65	0.81	1.00	0.59	0.67



Stellar Parameters For KIC 008165617

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6717^{+151}_{-219}	$4.086^{+0.192}_{-0.128}$	$-0.140^{+0.250}_{-0.300}$	$1.755^{+0.356}_{-0.435}$	$1.376^{+0.163}_{-0.224}$	$0.358^{+0.377}_{-0.136}$
	+2%/-3%	+5%/-3%	+179%/-214%	+20%/-25%	+12%/-16%	+105%/-38%
Source	PHO1	FLK73	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 008165617-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-168 ± 15	$2.81^{+1.52}_{-1.33}$	586^{+35}_{-37}	6145^{+2665}_{-991}	8693^{+20806}_{-5061}
Alt.	-87 ± 22	$1.98^{+1.35}_{-1.10}$	589^{+34}_{-39}	6148^{+4364}_{-1285}	8543^{+35577}_{-5775}

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

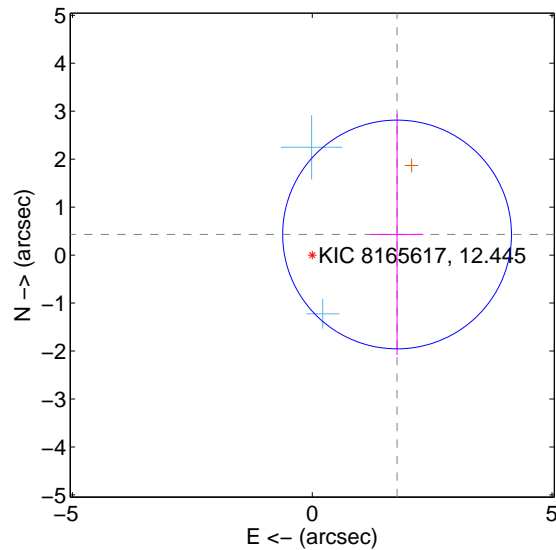
Supplemental centroid analysis for 008165617-02. Kepler magnitude: 12.45. Transit SNR 7.25

There are 2 quarters with good PRF difference image offsets

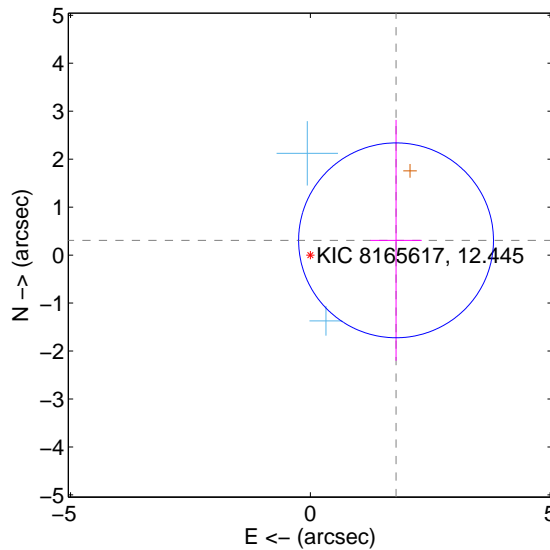
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.820 ± 0.795	2.29	-1.769 ± 0.544	0.430 ± 2.514
PRF-fit source offset from KIC position	1.814 ± 0.677	2.68	-1.787 ± 0.534	0.308 ± 2.511
photometric centroid source offset	0.30 ± 0.53	0.57	0.30 ± 0.53	0.02 ± 0.63

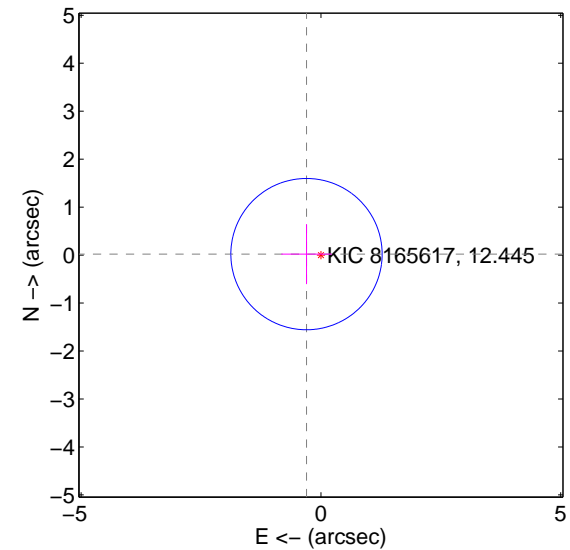
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

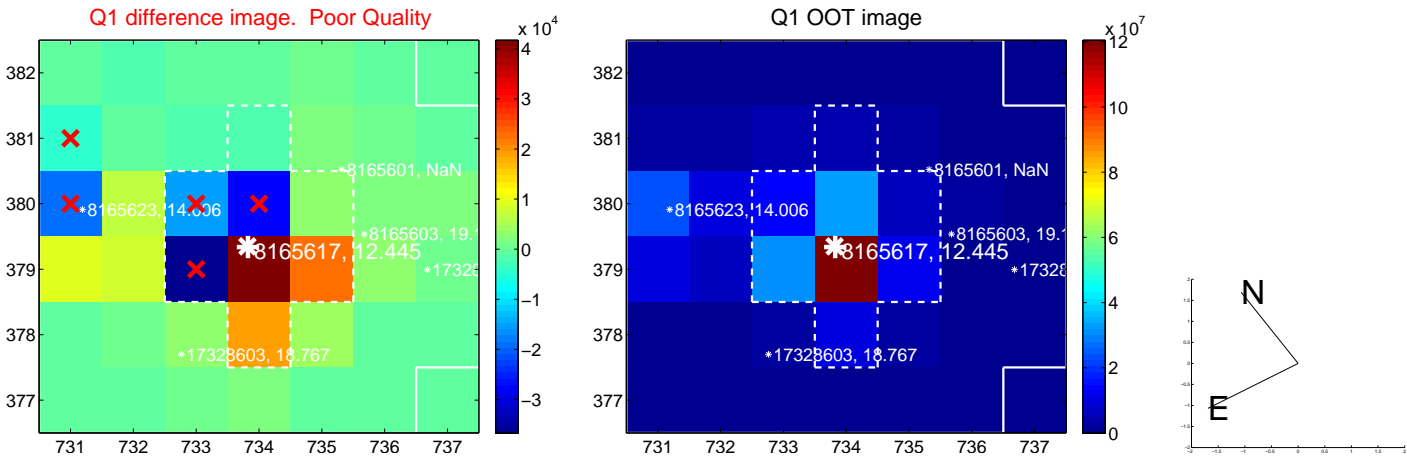


offset from photometric centroids

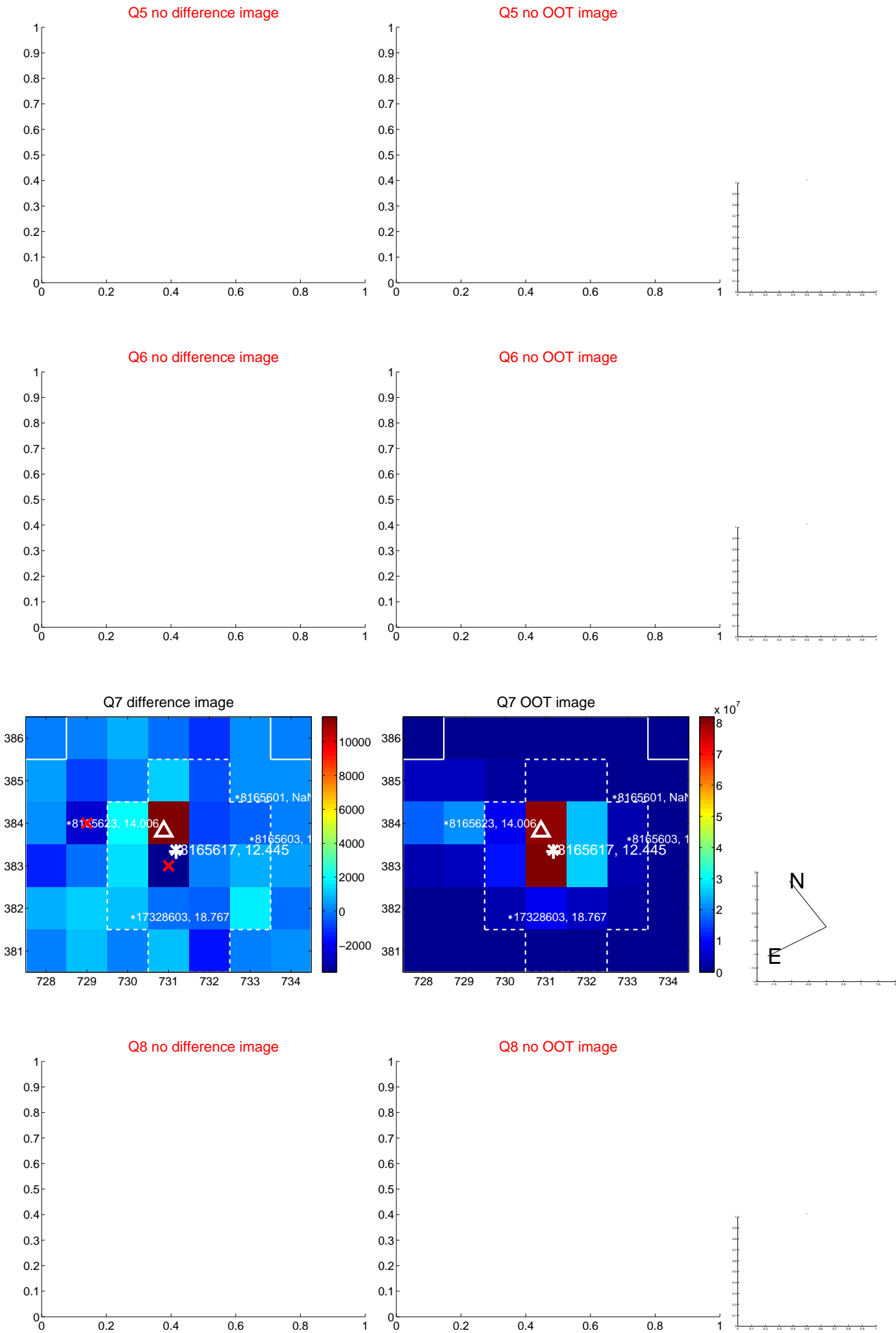


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

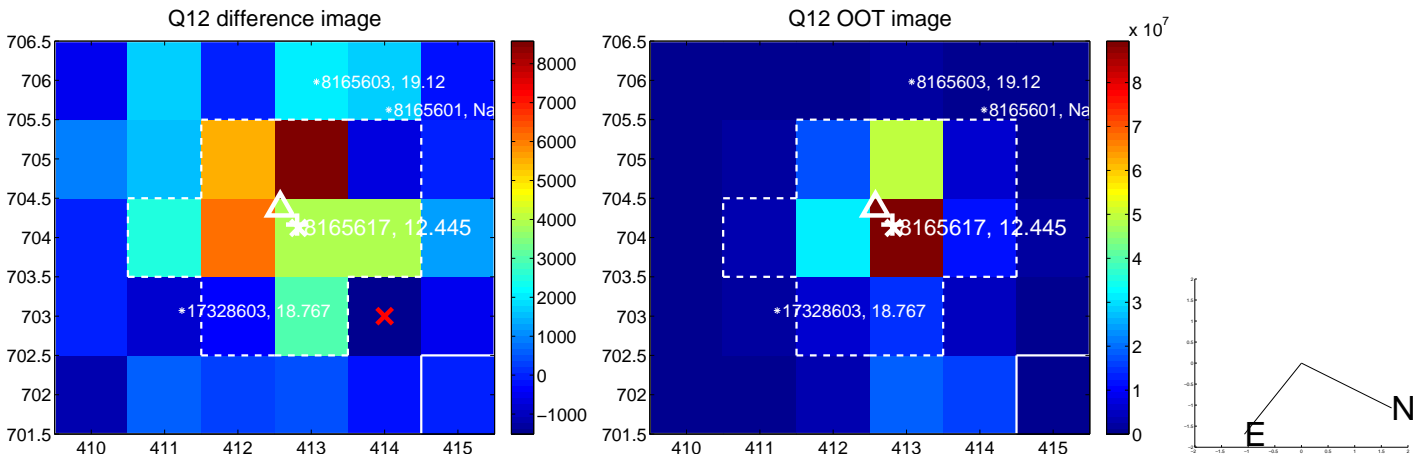
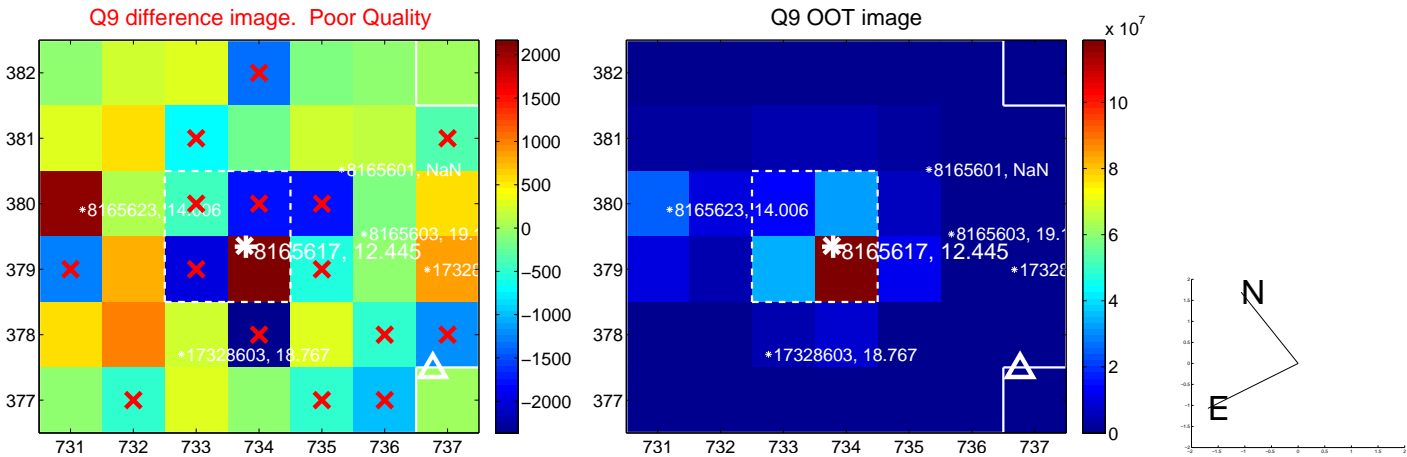
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



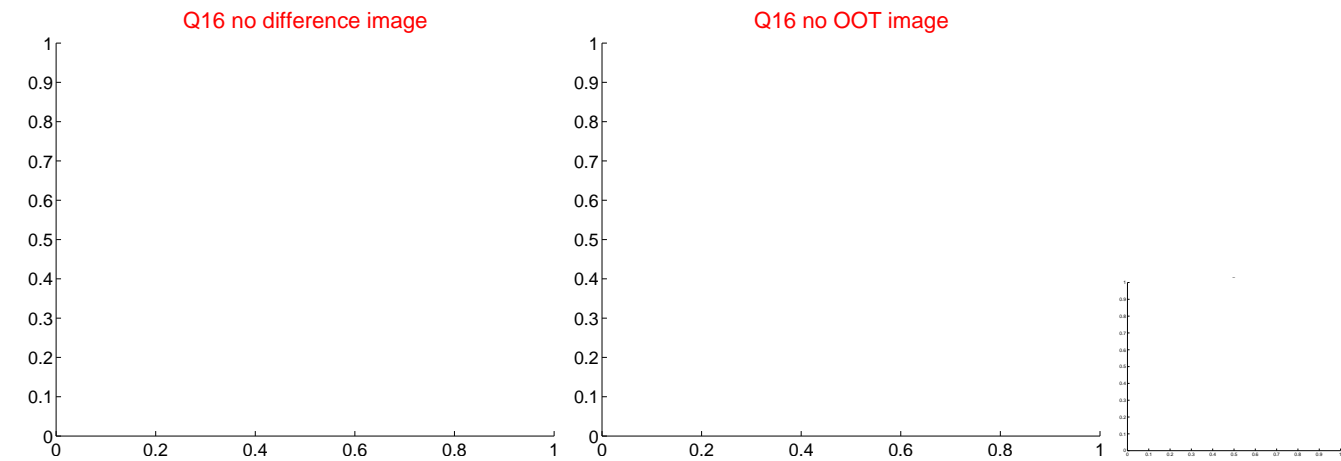
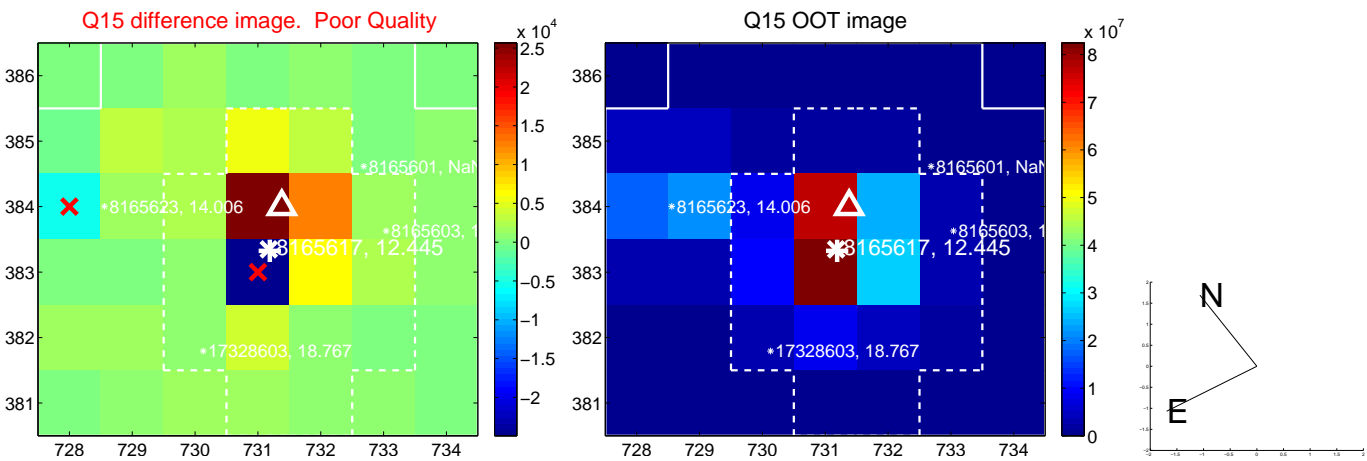
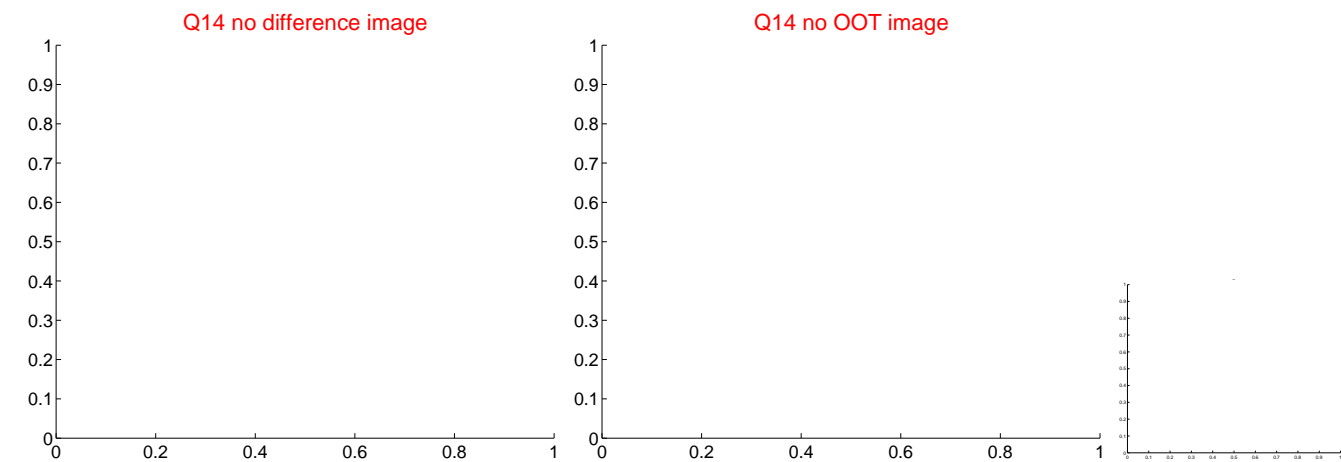
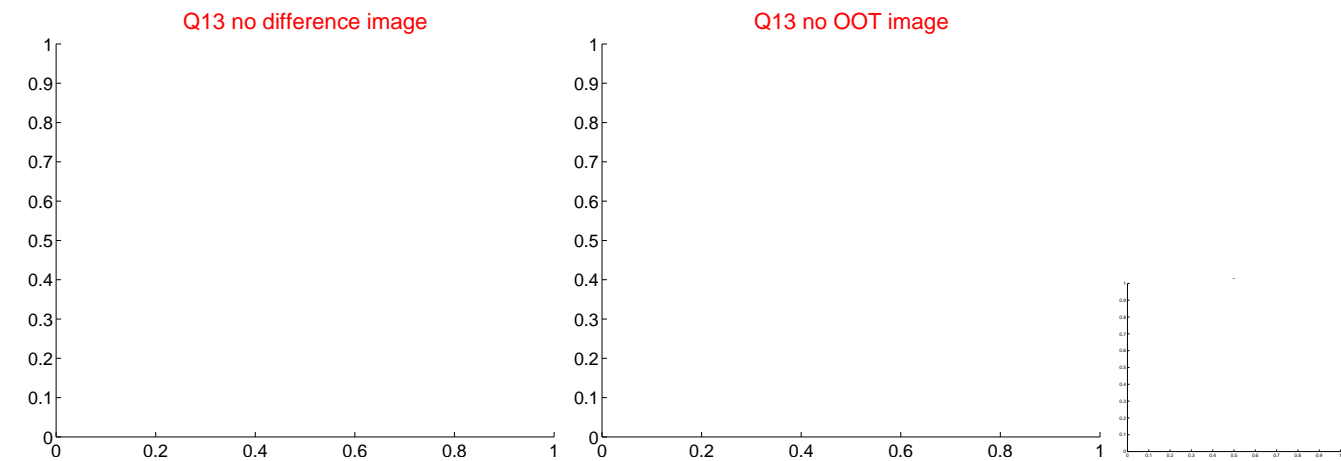
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



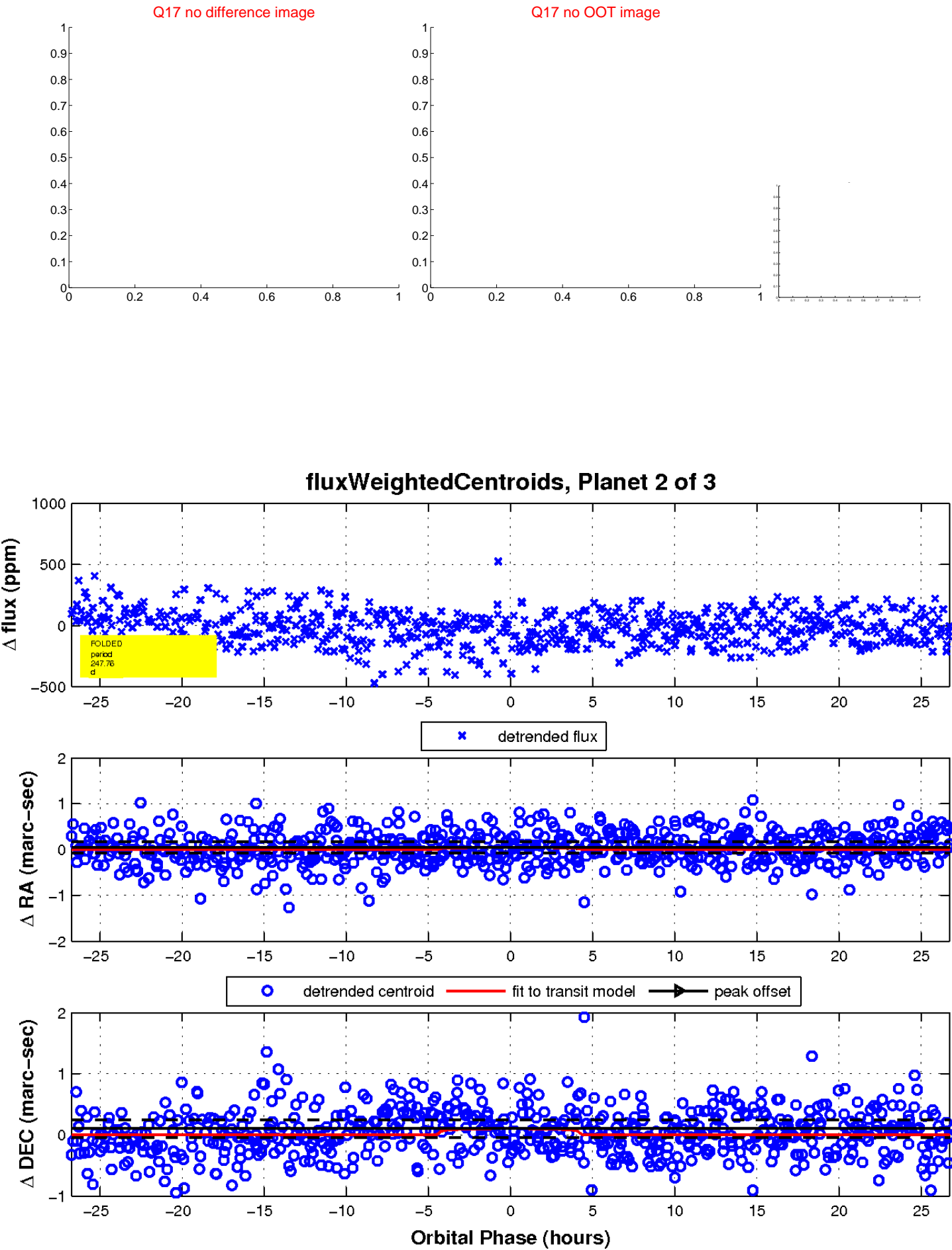
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

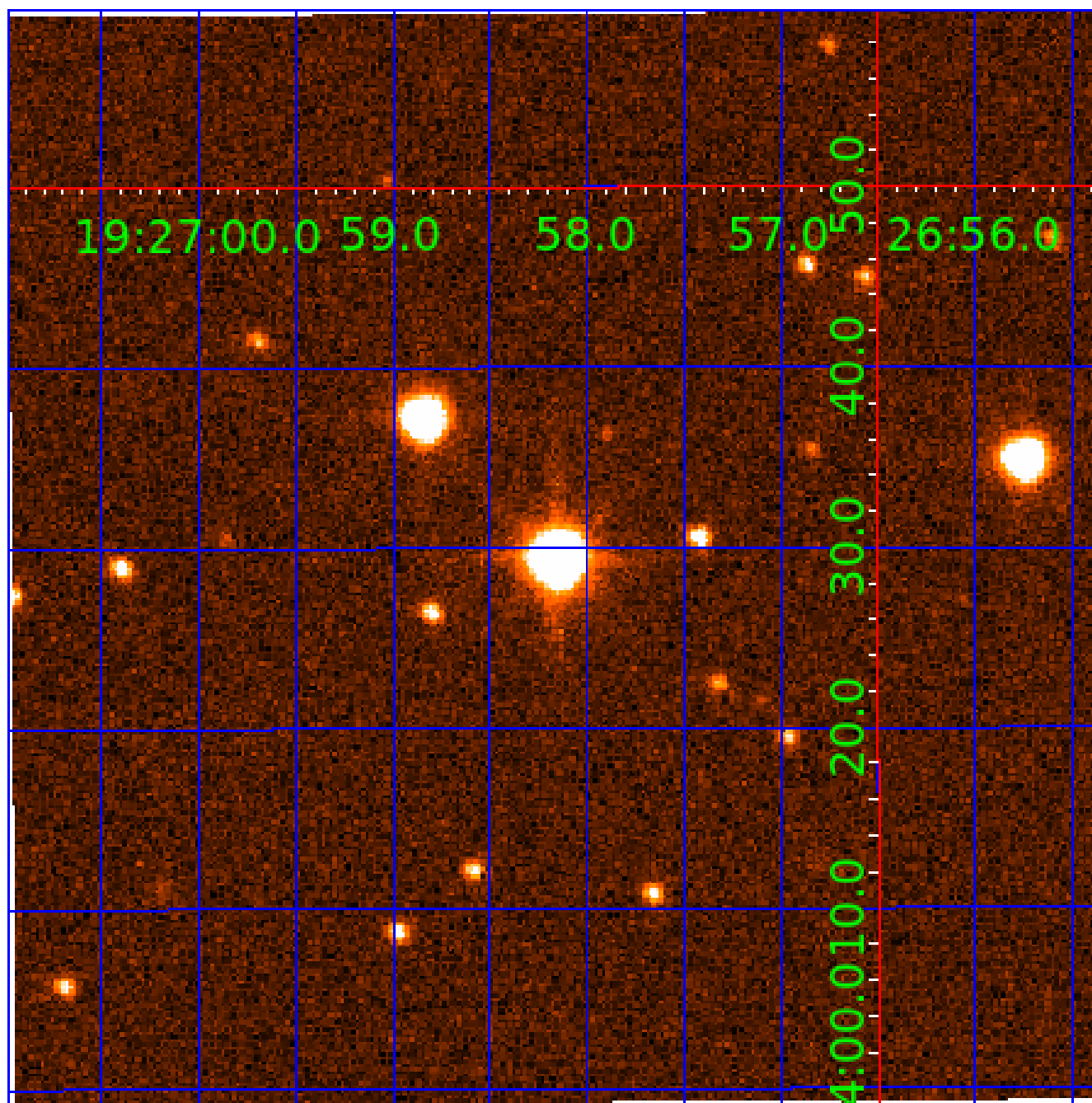


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008165617

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})
008165617-01	OBS	No	4.864728	134.425711	31.5	17.049	9.1	10.1	1.75	6717	1.15	1442.23
008165617-02	OBS	No	247.759575	153.789094	226.5	8.911	23.1	7.3	1.75	6717	2.91	7.64
008165617-03	OBS	No	4.865822	132.247444	0.1	38.081	14.6	0.0	1.75	6717	0.06	1441.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008165617-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
008165617-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008165617-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS

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

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

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

Ephemeris Match Information For 008165617-03

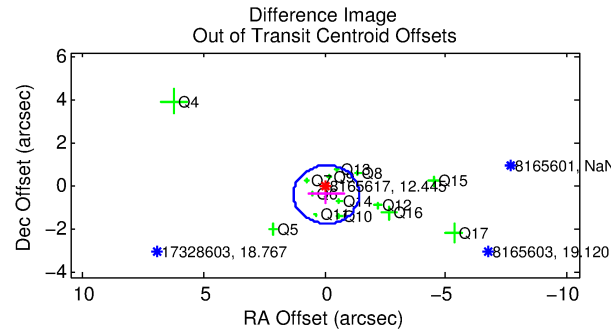
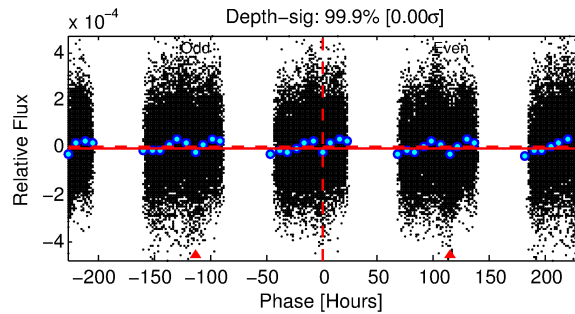
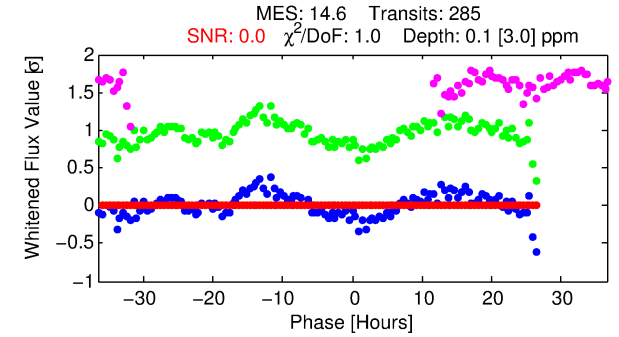
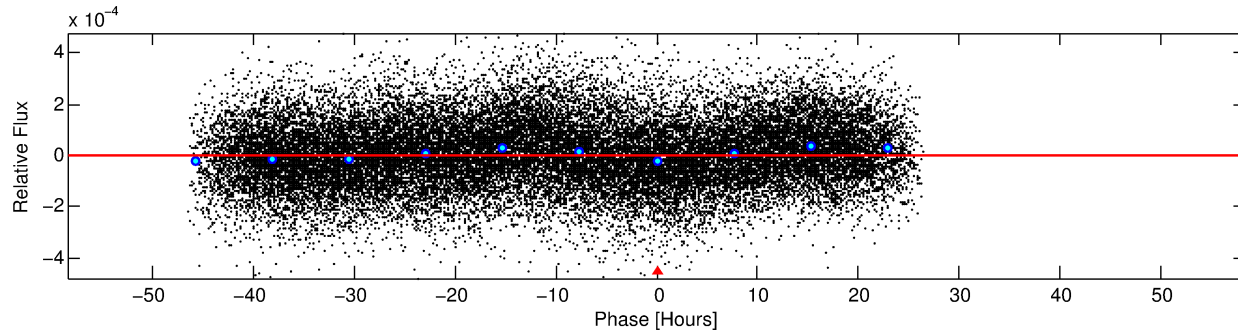
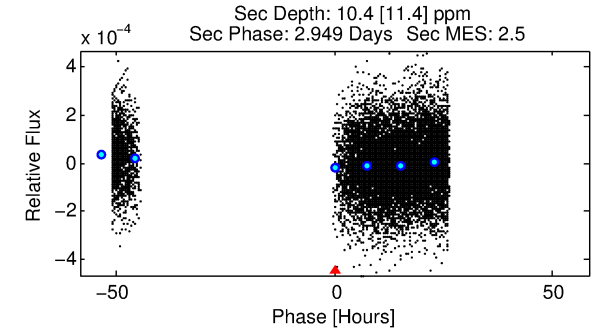
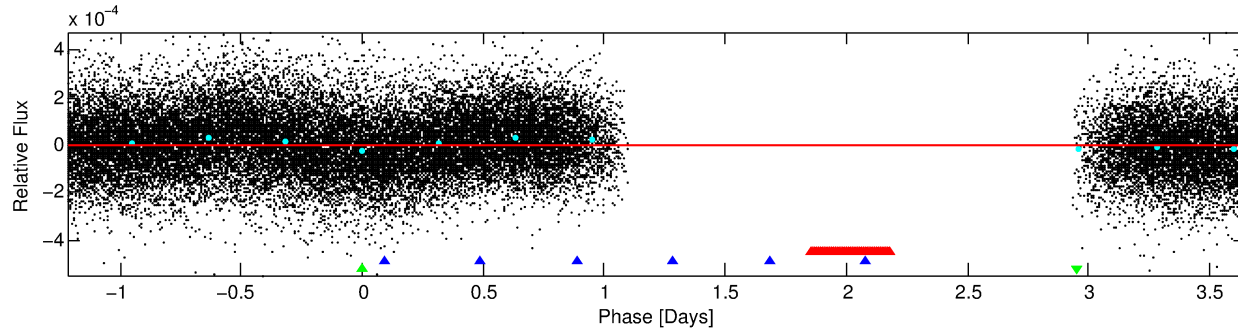
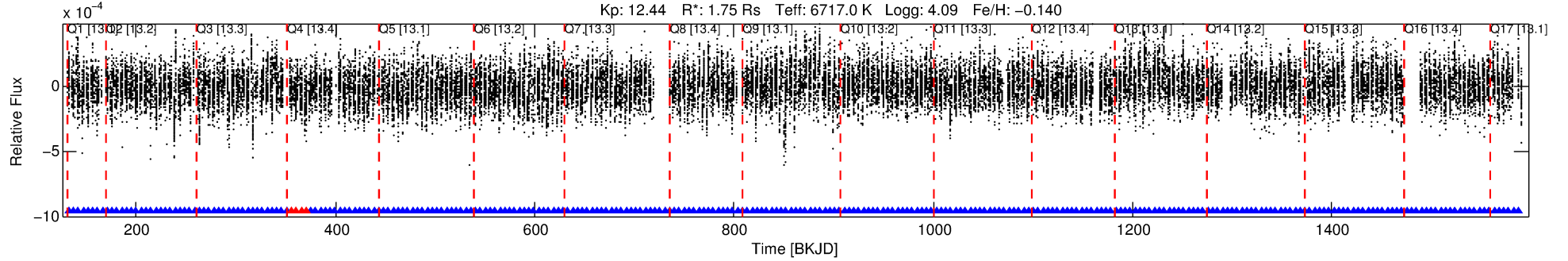
No Significant Match Found

DV One-Page Summary

KIC: 8165617 Candidate: 3 of 3 Period: 4.866 d

KOI: K06173 Corr: No Ephemeris Match

Kp: 12.44 R*: 1.75 Rs Teff: 6717.0 K Logg: 4.09 Fe/H: -0.140



DV Fit Results:

Period = 4.86582 [0.01431] d
Epoch = 132.2474 [1.9224] BKJD
Rp/R* = 0.0003 [0.0069]
a/R* = 1.17 [31.97]
b = 0.03 [3466.05]
Seff = 1441.80 [522.23]
Teq = 1571 [142] K
Rp = 0.06 [1.31] Re
a = 0.0624 [0.0138] AU
Ag = 5918.12 [252848.87] [0.02σ]
Teffp = 21308 [227588] K [0.09σ]

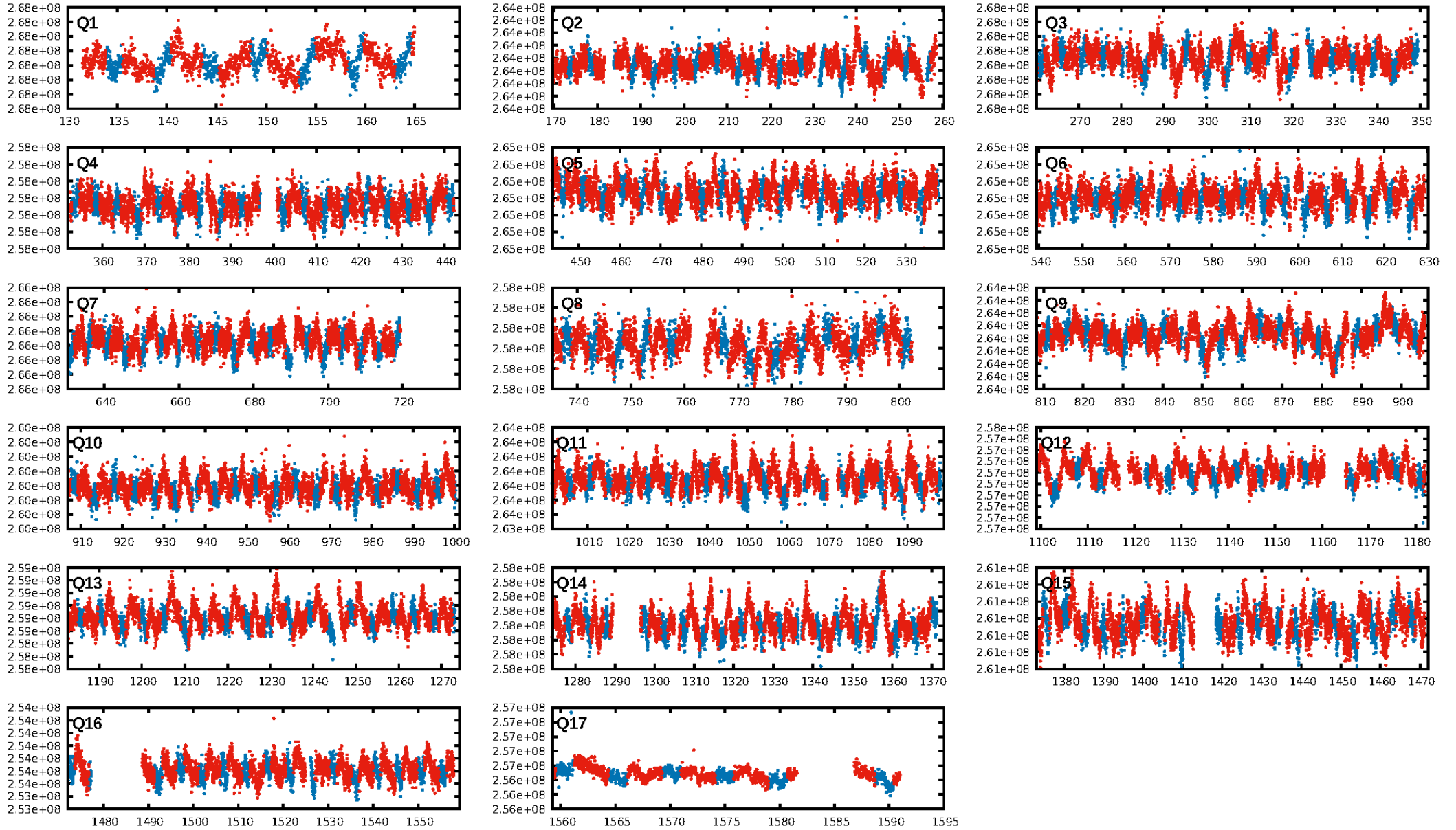
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]
LongPeriod-sig: 100.0% [149.05σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [268/272]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.400 arcsec [0.88σ]
KicOffset-rm: 0.483 arcsec [1.01σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 0.00 [0/14]
DiffImageOverlap-fno: 0.00 [0/17]

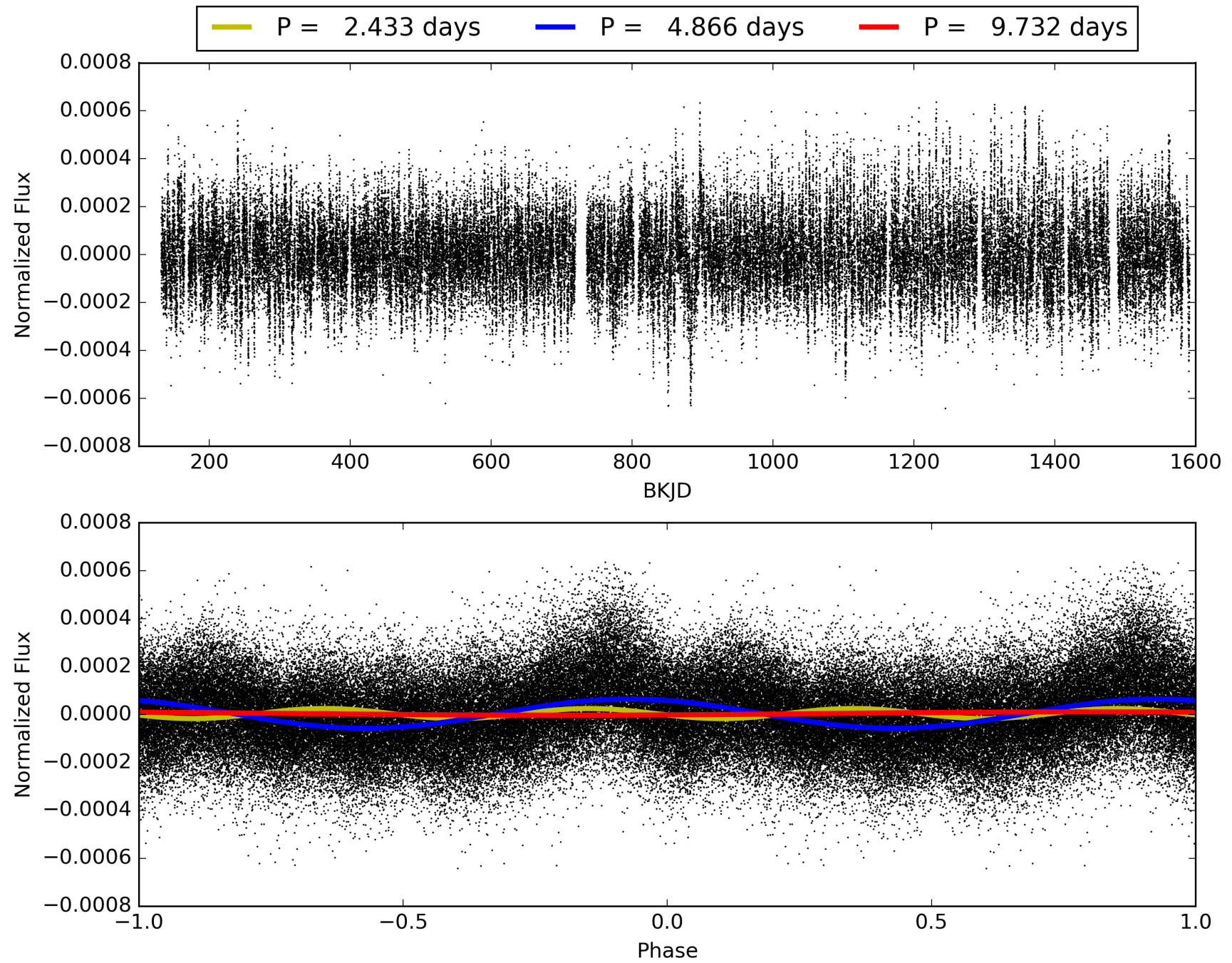
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:53:41 Z

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

TCE 008165617-03, PDC Light Curves

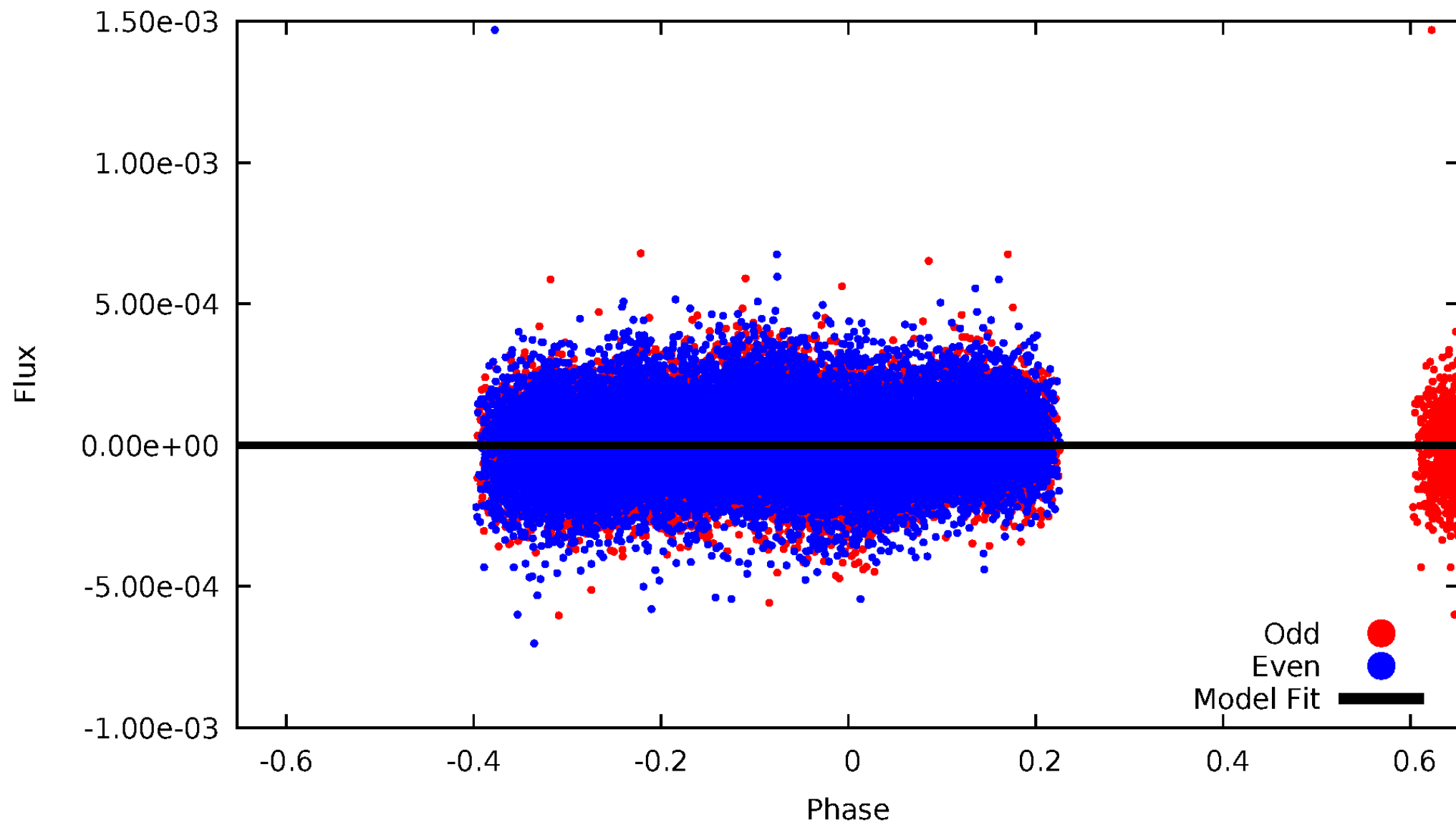


TCE 008165617-03



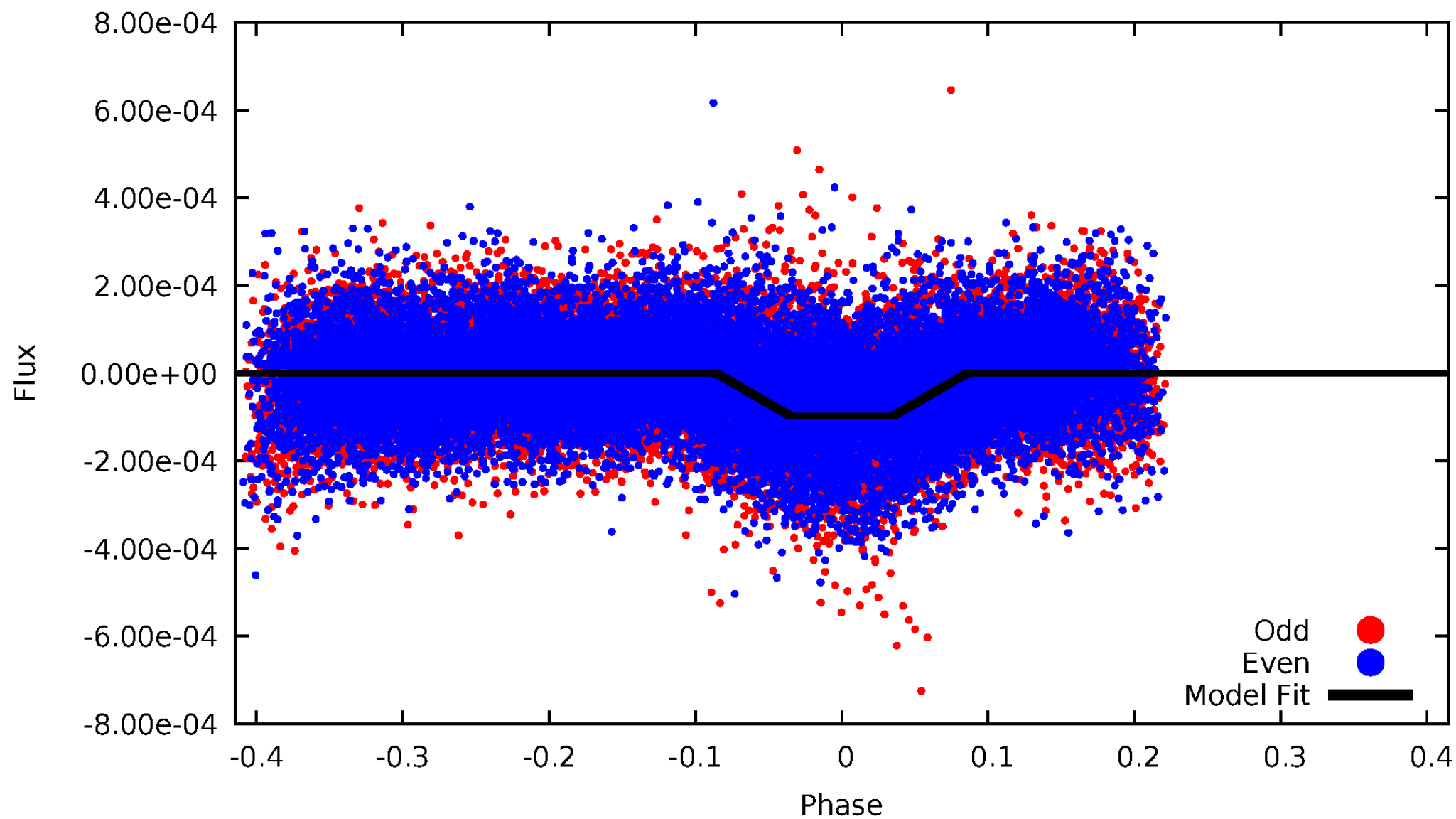
DV Odd/Even

TCE 008165617-03



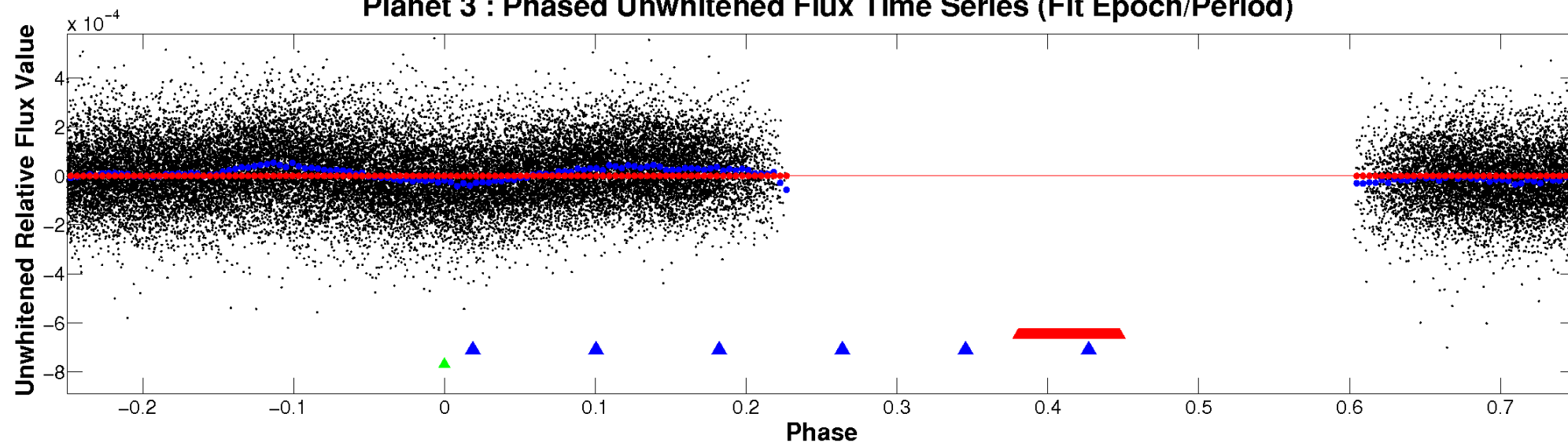
ALT Odd/Even

TCE 008165617-03

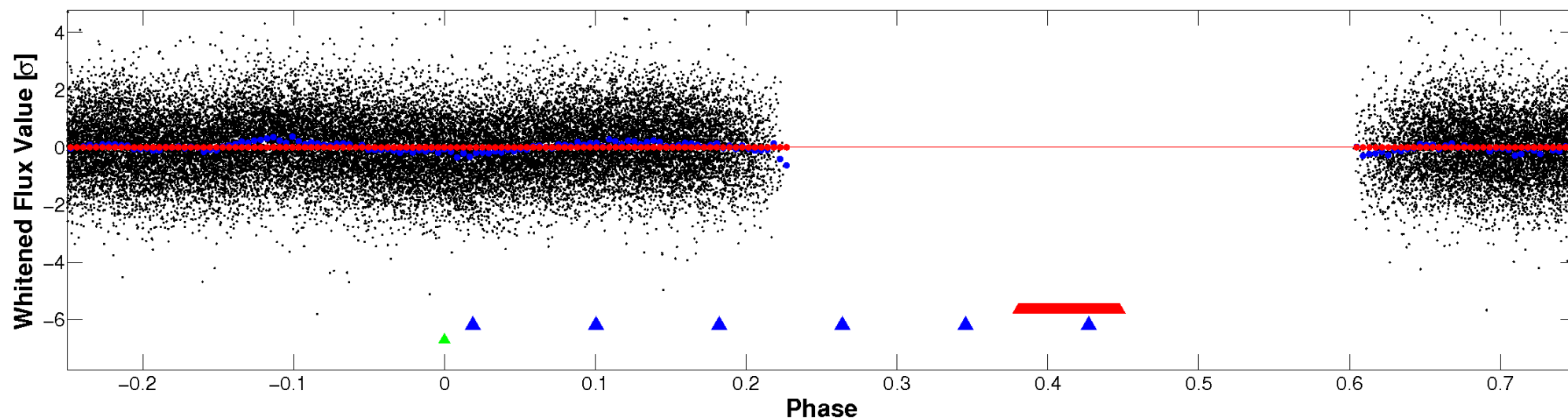


Non-Whitened Vs. Whitened Light Curve

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

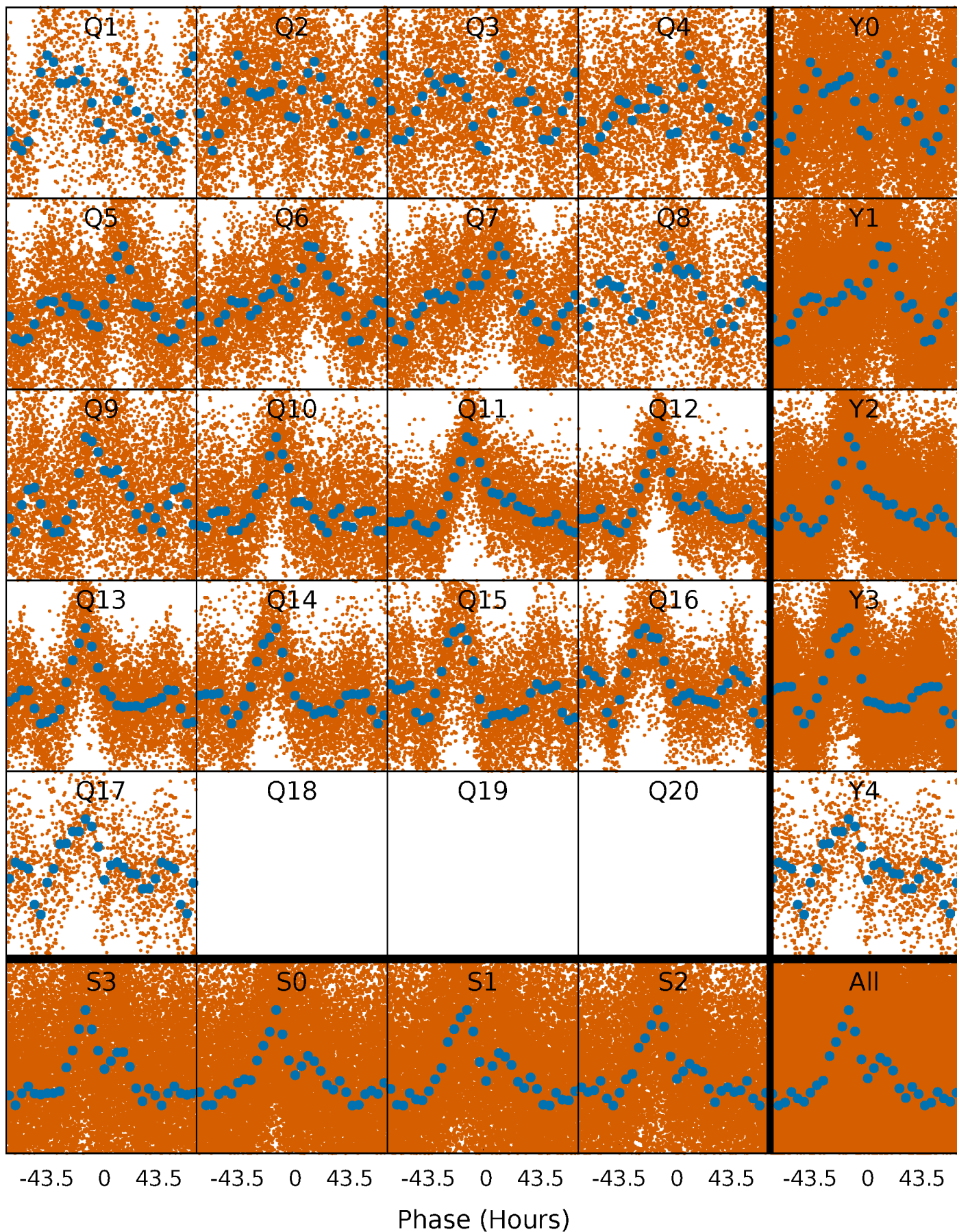


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



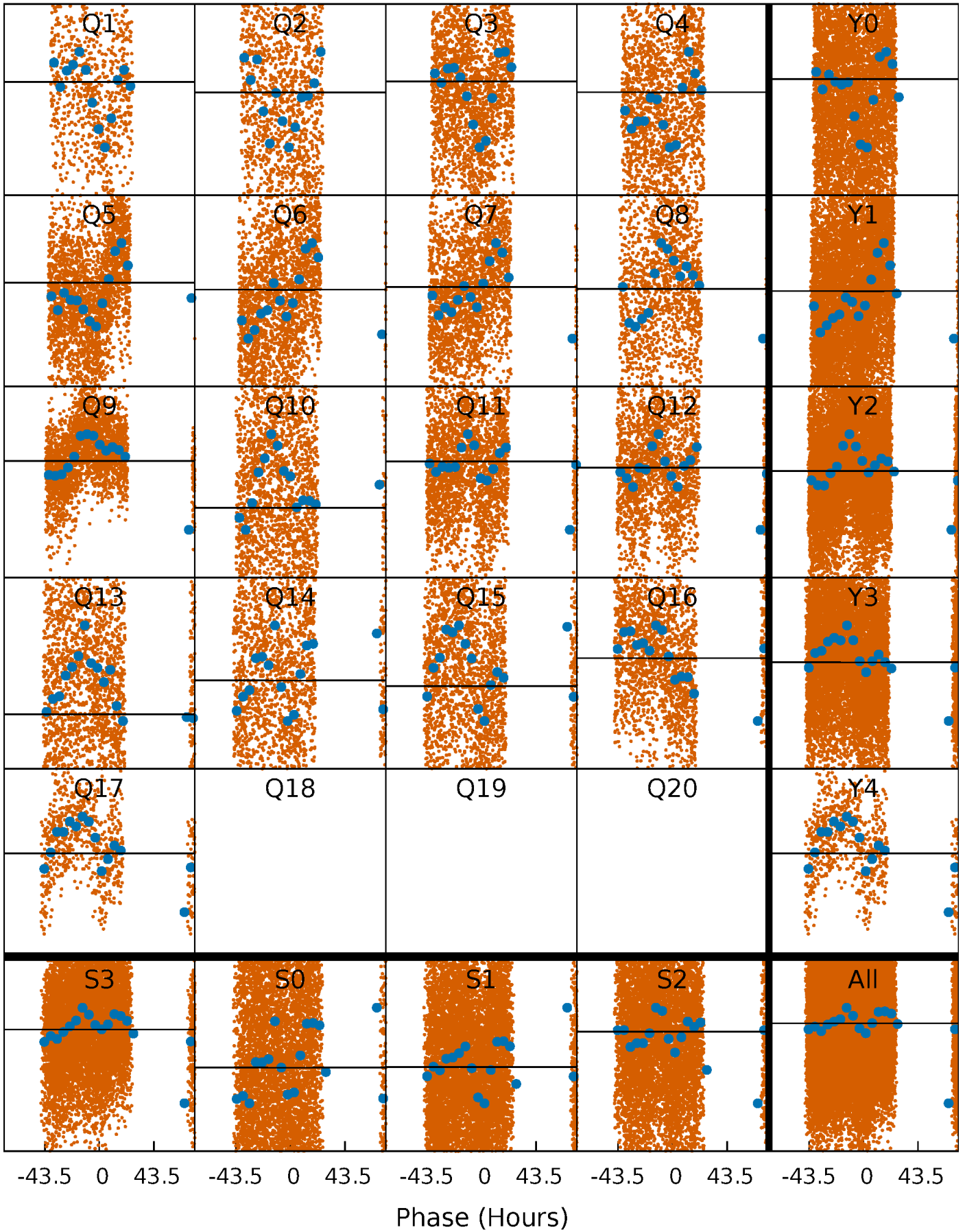
PDC Quarter-Phased Transit Curves

TCE 008165617-03 P= 4.865822 Days $T_0=132.247444$ (BKJD)



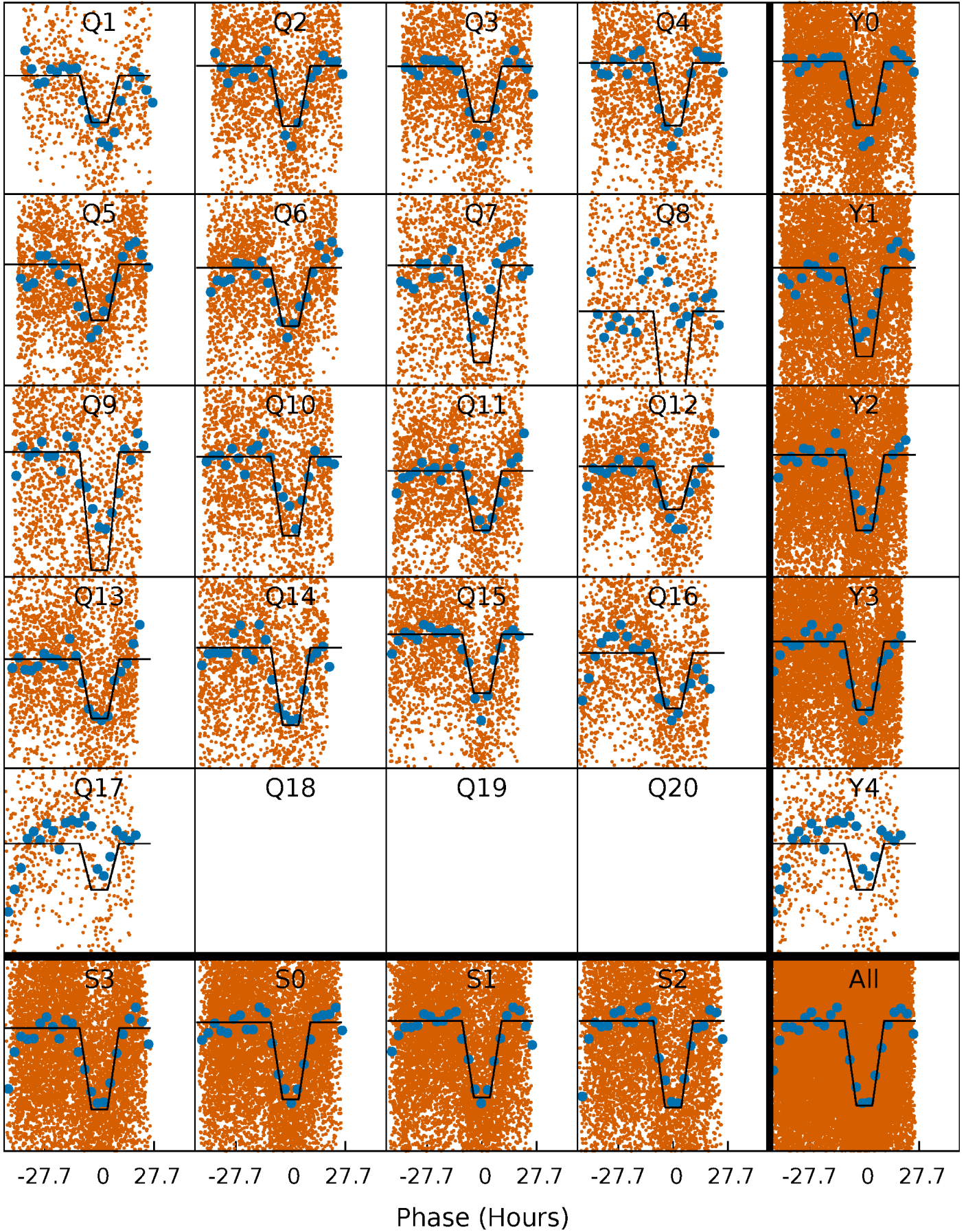
DV Quarter-Phased Transit Curves

TCE 008165617-03 P= 4.865822 Days $T_0=132.247444$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

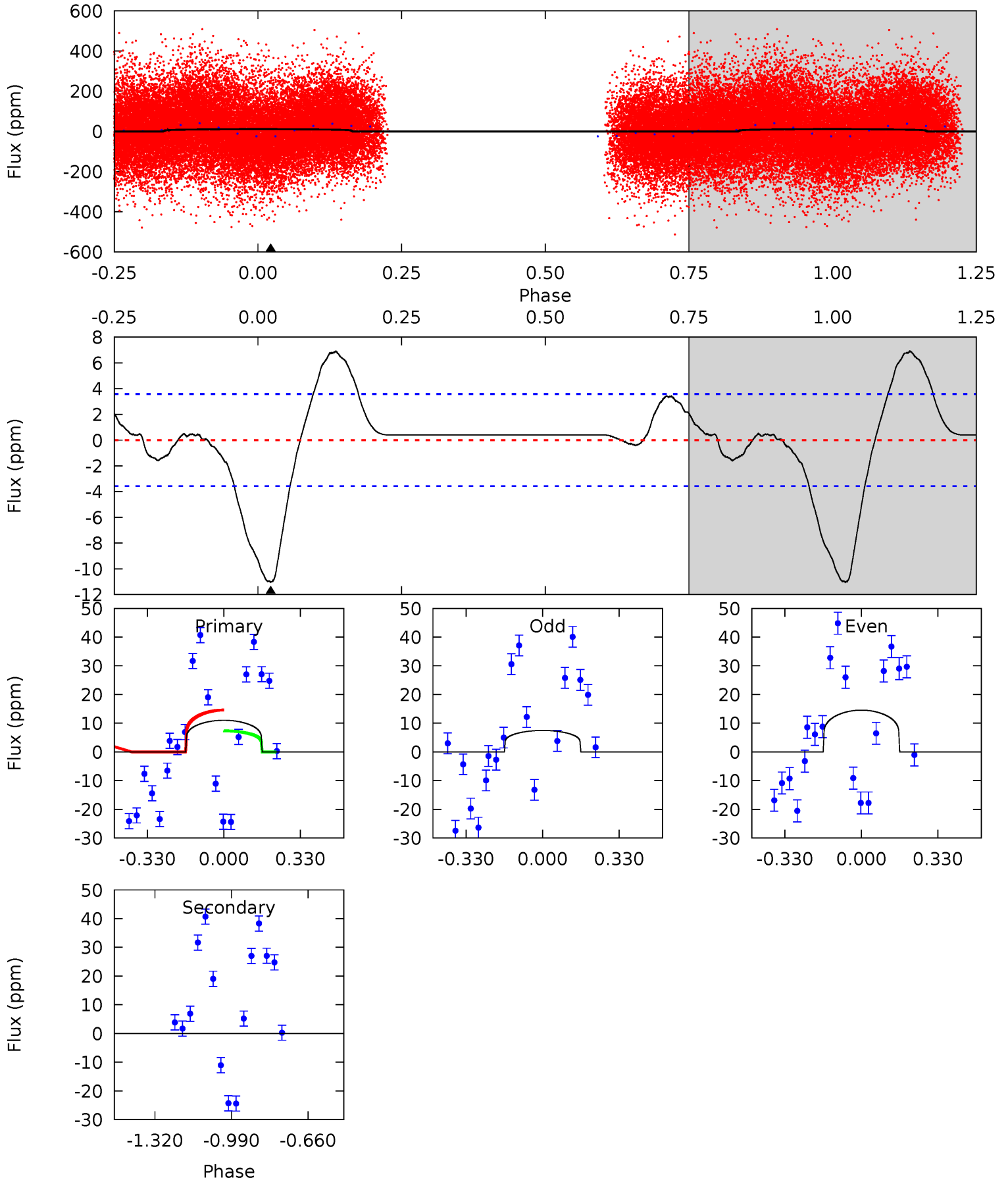
TCE 008165617-03 P= 4.865944 Days $T_0=132.268550$ (BKJD)



DV Model-Shift Uniqueness Test

008165617-03, P = 4.865822 Days, E = 127.381622 Days

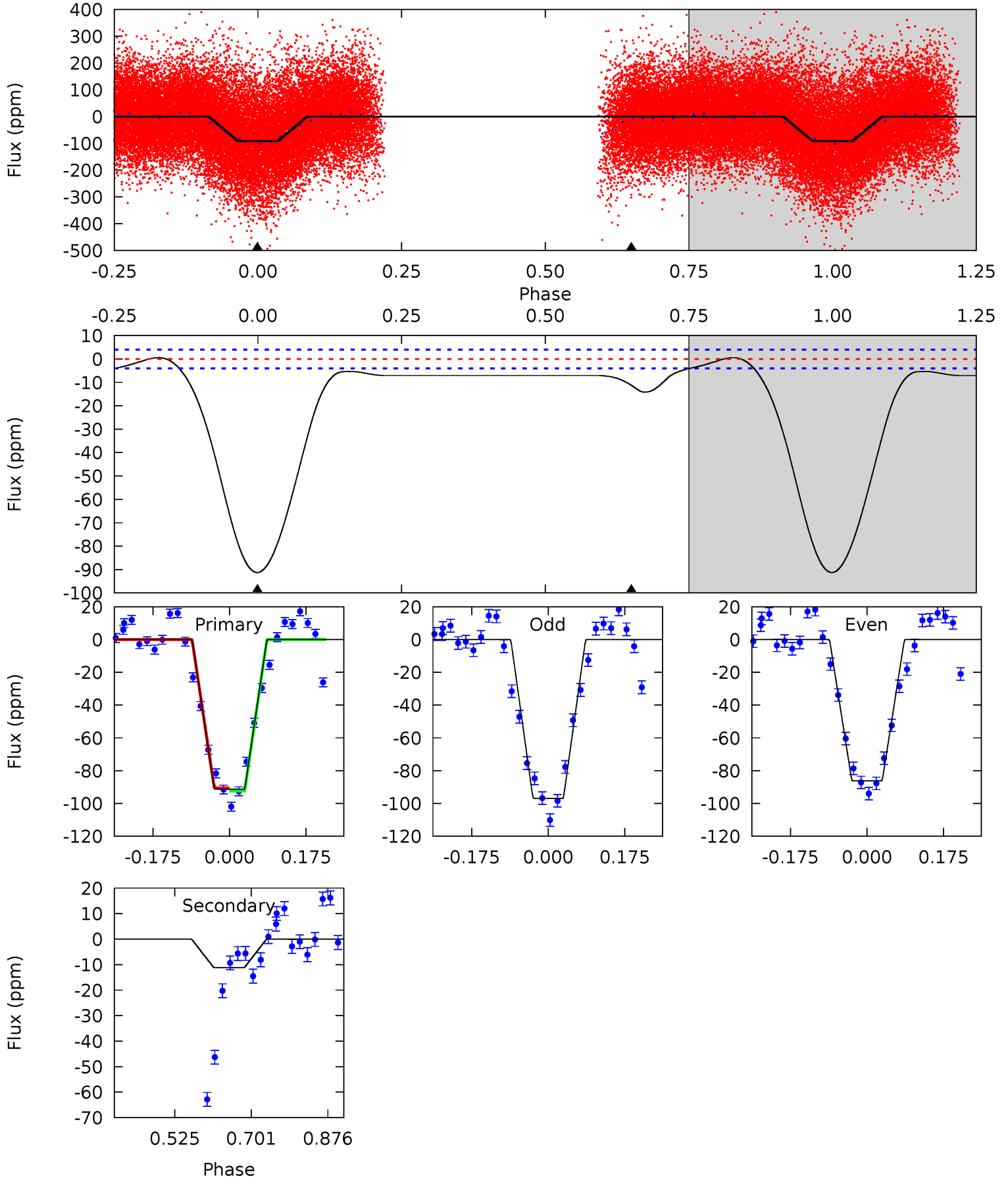
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.3	0	0	0	4.31	0.97	0.90	13.3	13.3	0	0	4.27	1.35	0.38	4.54



Alt Model-Shift Uniqueness Test

008165617-03, P = 4.865944 Days, E = 127.402606 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
101.5	12.5	0	0	4.45	1.36	3.47	101.5	101.5	12.5	12.5	5.92	0.96	0.01	1.06



Stellar Parameters For KIC 008165617

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6717^{+151}_{-219}	$4.086^{+0.192}_{-0.128}$	$-0.140^{+0.250}_{-0.300}$	$1.755^{+0.356}_{-0.435}$	$1.376^{+0.163}_{-0.224}$	$0.358^{+0.377}_{-0.136}$
	+2%/-3%	+5%/-3%	+179%/-214%	+20%/-25%	+12%/-16%	+105%/-38%
Source	PHO1	FLK73	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 008165617-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1	$0.85^{+0.96}_{-0.58}$	2176^{+126}_{-146}	-2618^{+6366}_{-1317}	$-0.027^{+3.960}_{-4.172}$
Alt.	-11 ± 1	$1.92^{+1.36}_{-1.05}$	2170^{+129}_{-126}	4072^{+1599}_{-685}	$6.500^{+25.970}_{-4.260}$

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 $A_{obs} \gg 1.0$

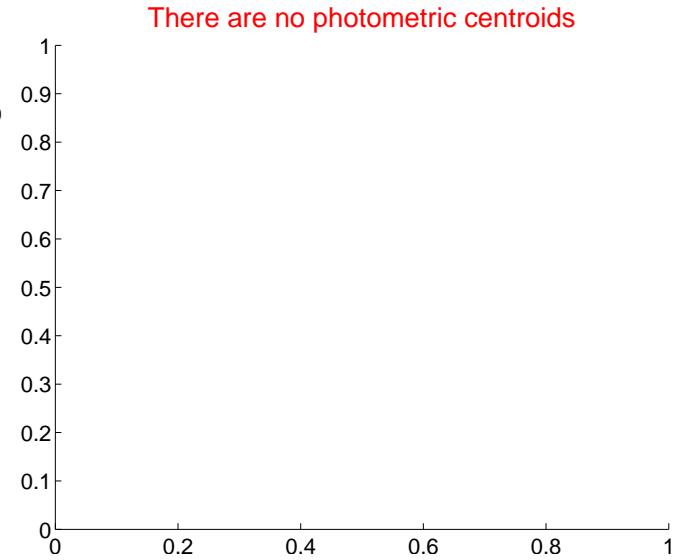
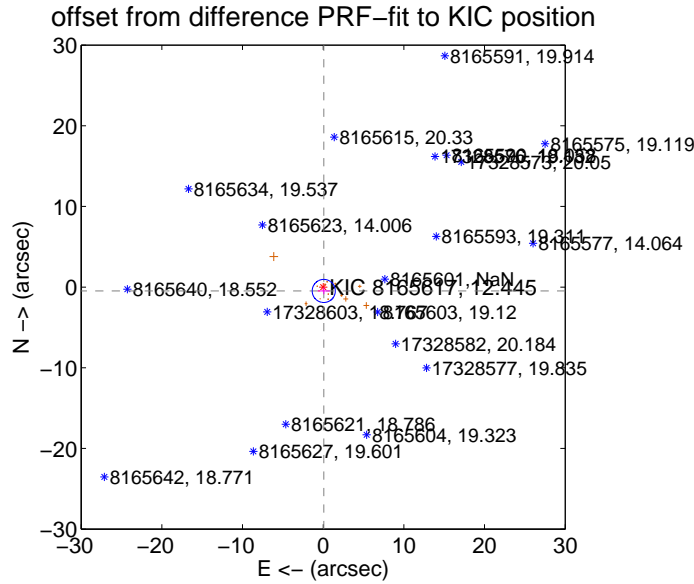
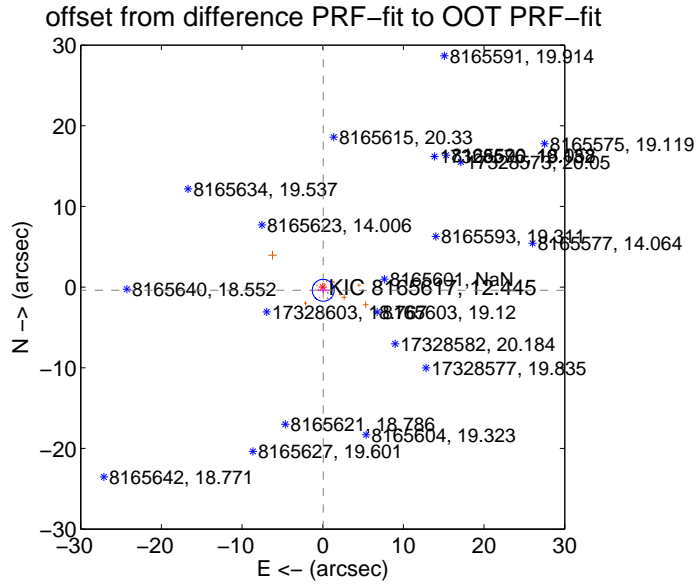
DV Centroid Data

Supplemental centroid analysis for 008165617-03. Kepler magnitude: 12.45. Transit SNR 0.04

There are 0 quarters with good PRF difference image offsets

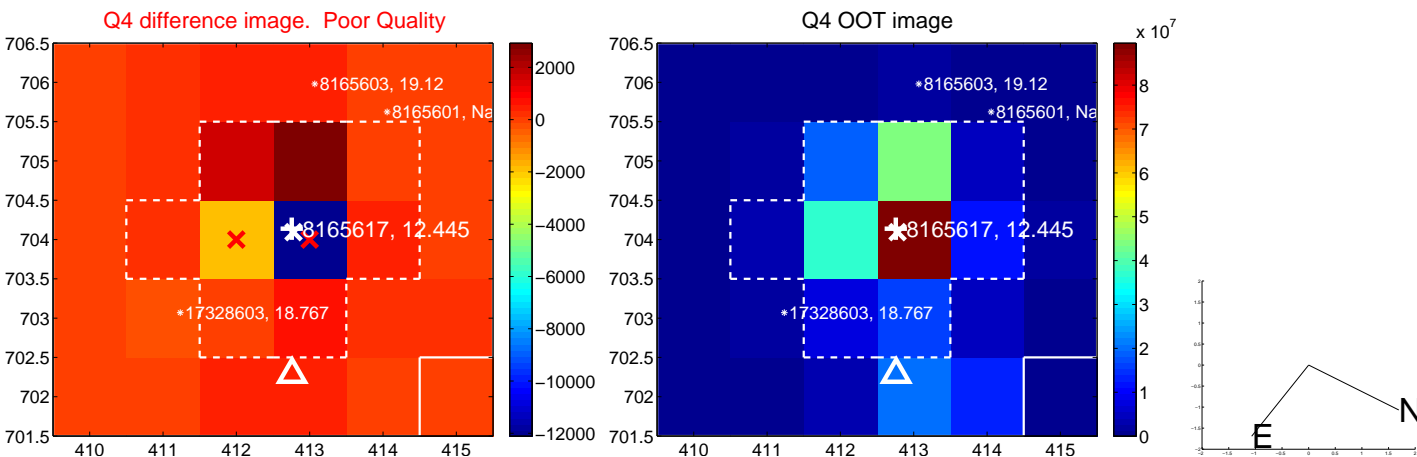
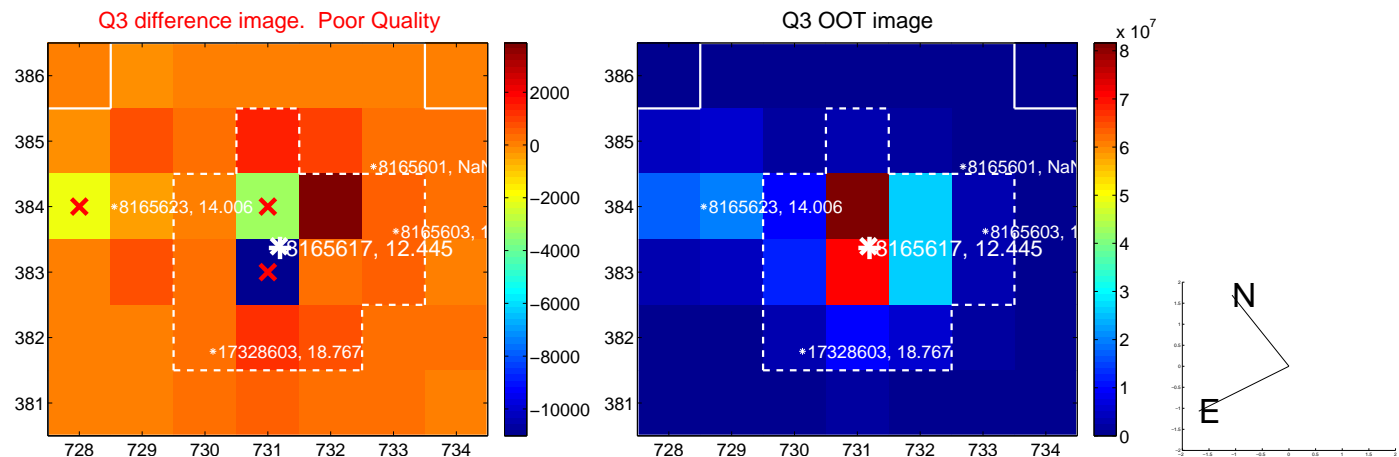
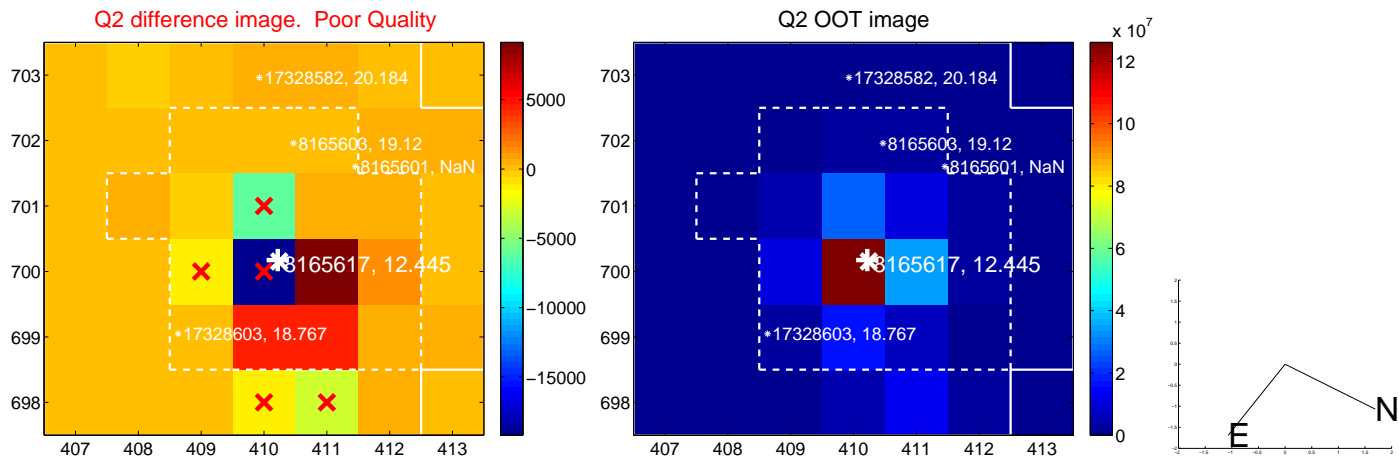
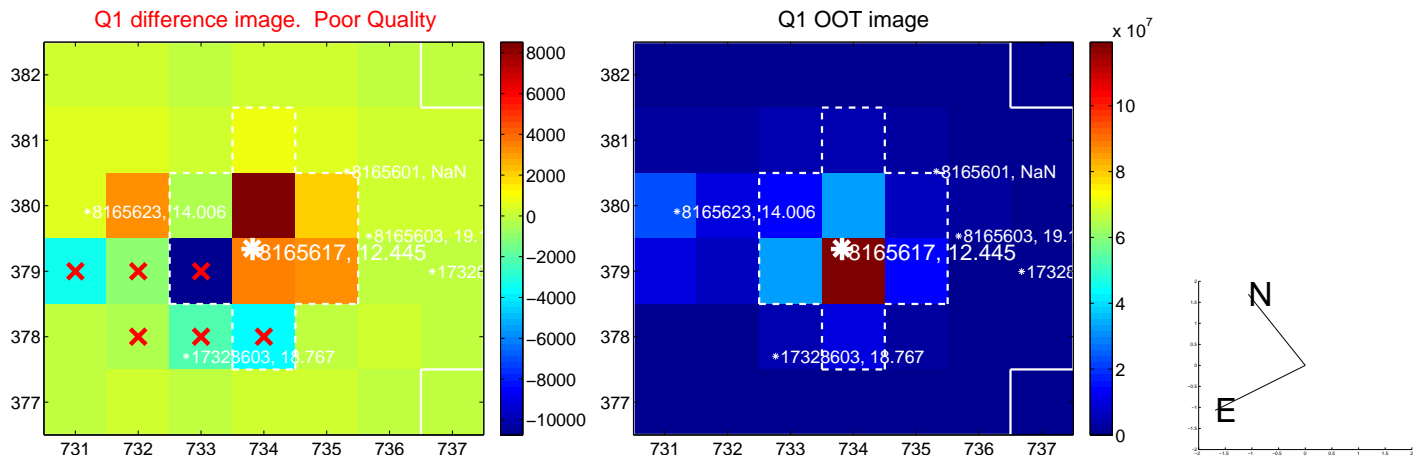
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.400 ± 0.453	0.88	-0.063 ± 0.727	-0.395 ± 0.386
PRF-fit source offset from KIC position	0.483 ± 0.477	1.01	-0.071 ± 0.766	-0.477 ± 0.409
photometric centroid source offset	—	—	—	—

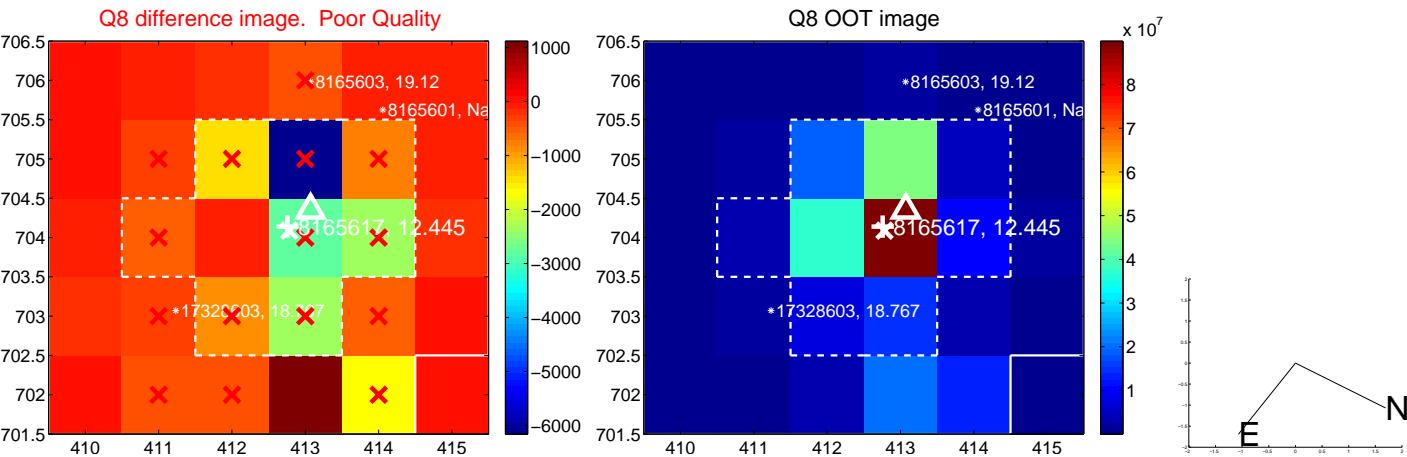
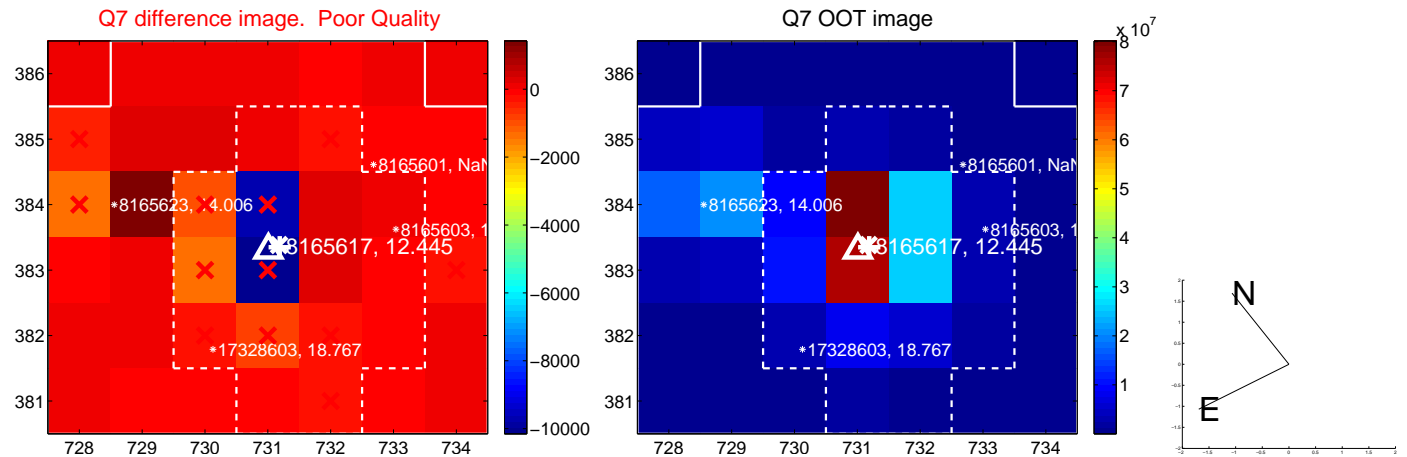
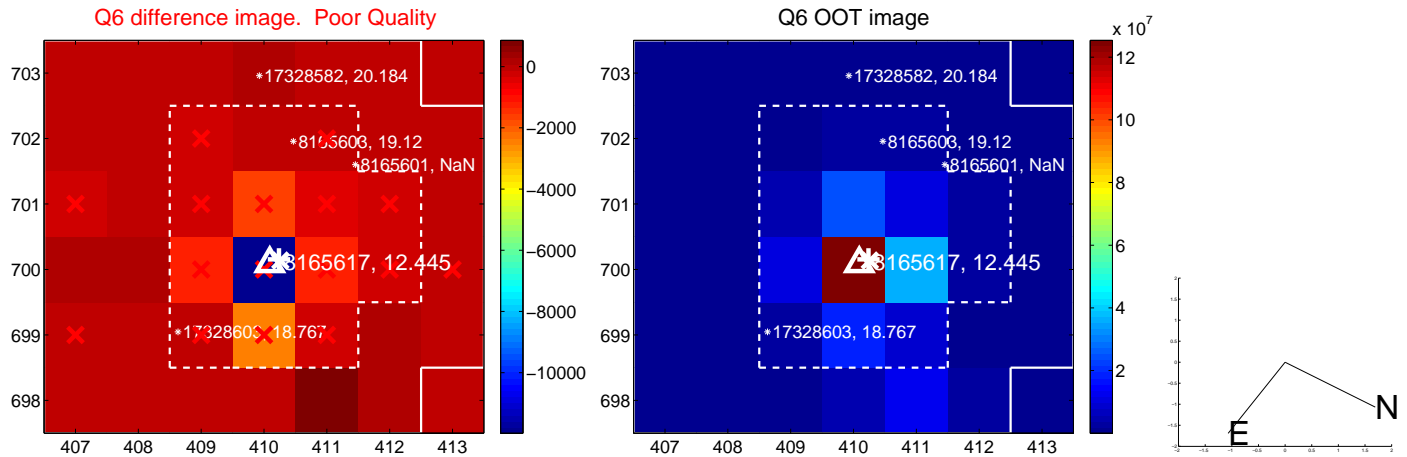
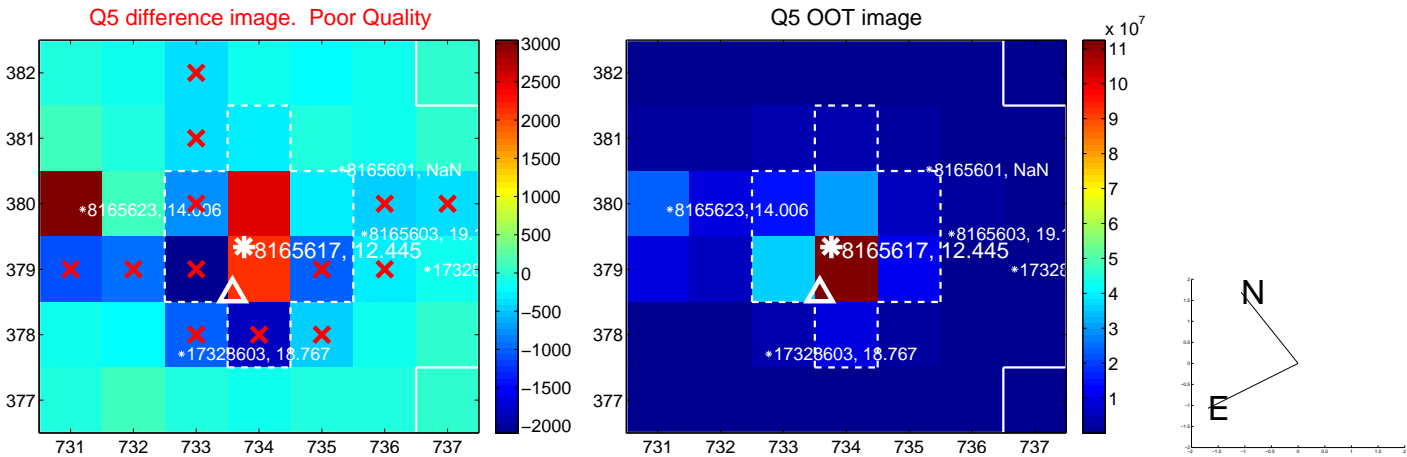


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

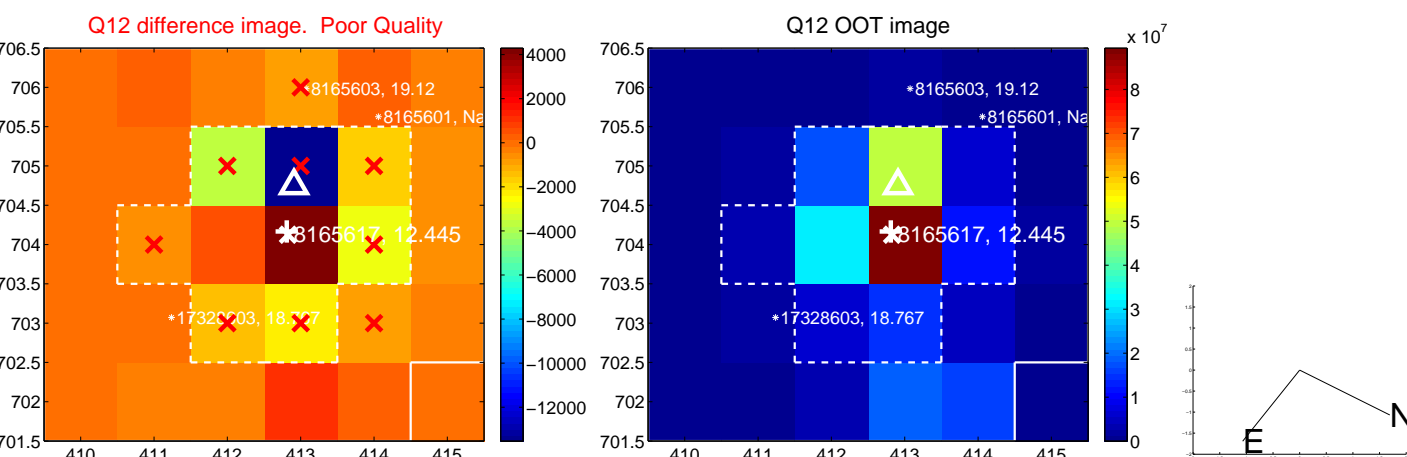
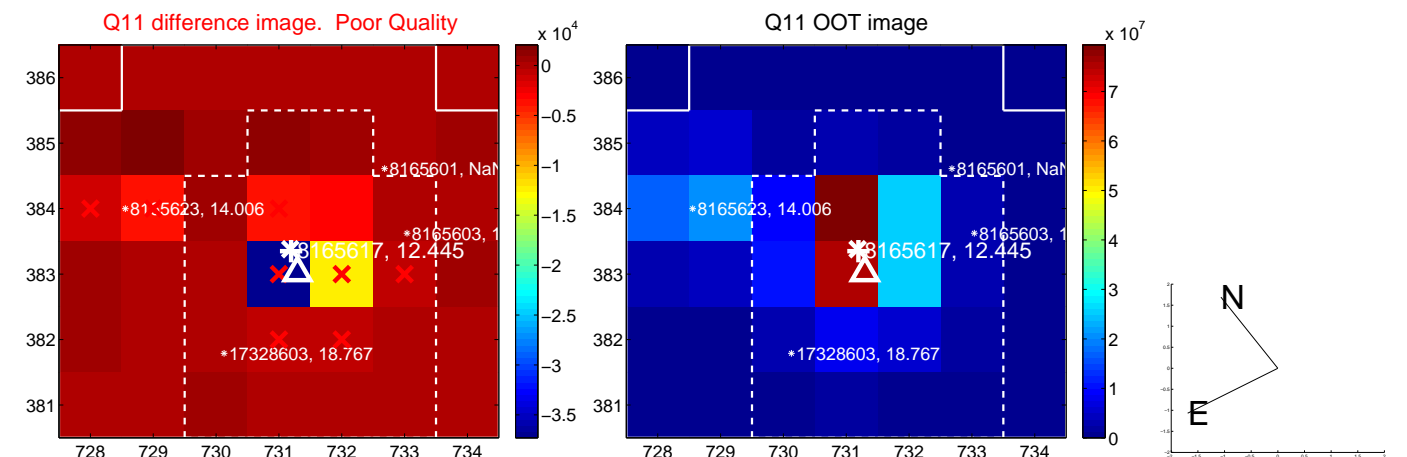
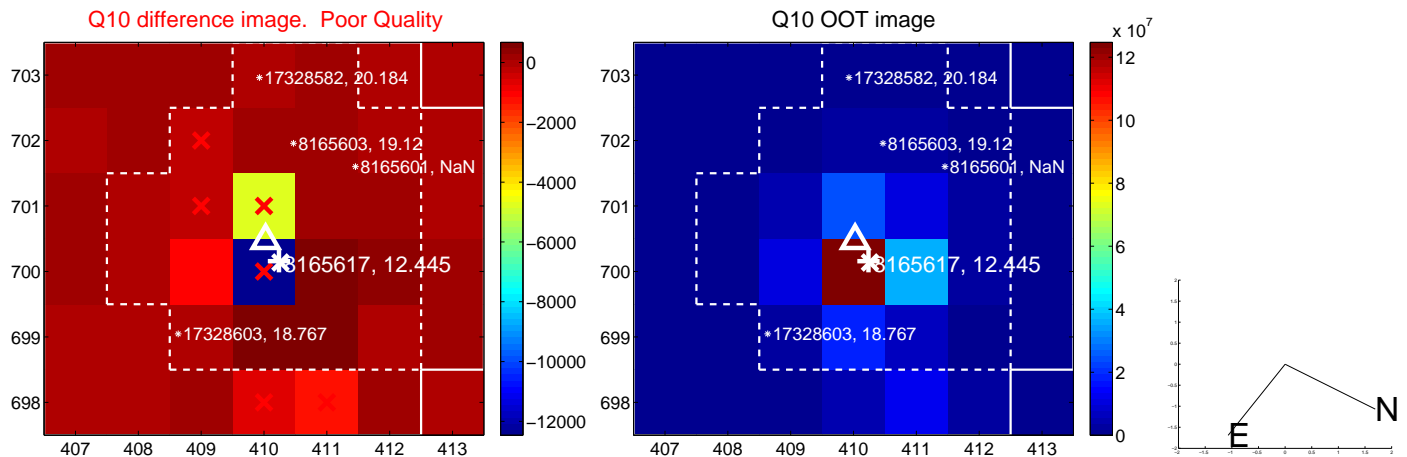
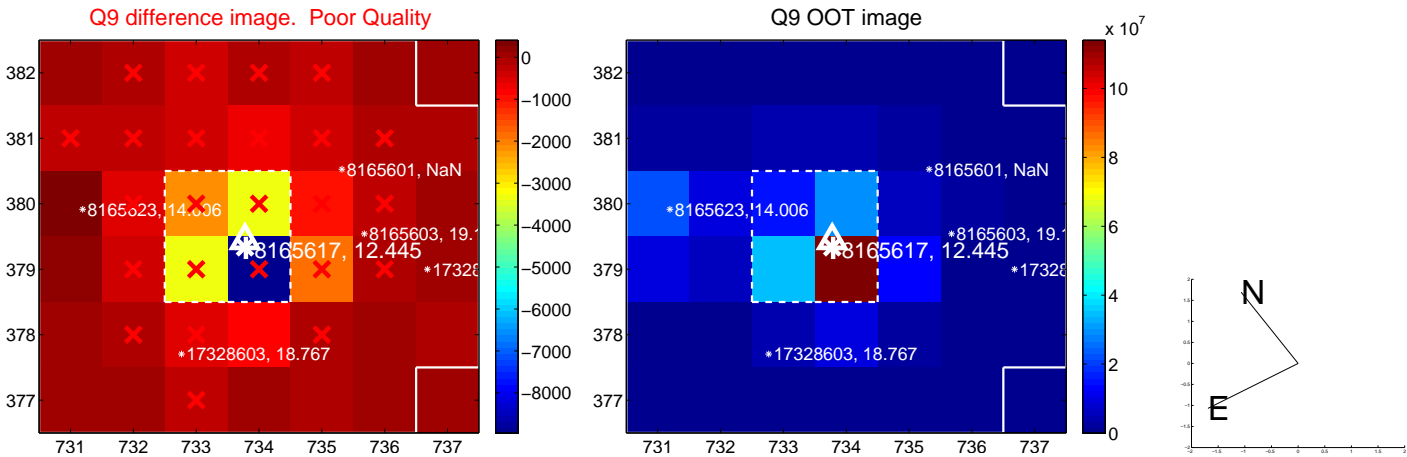
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



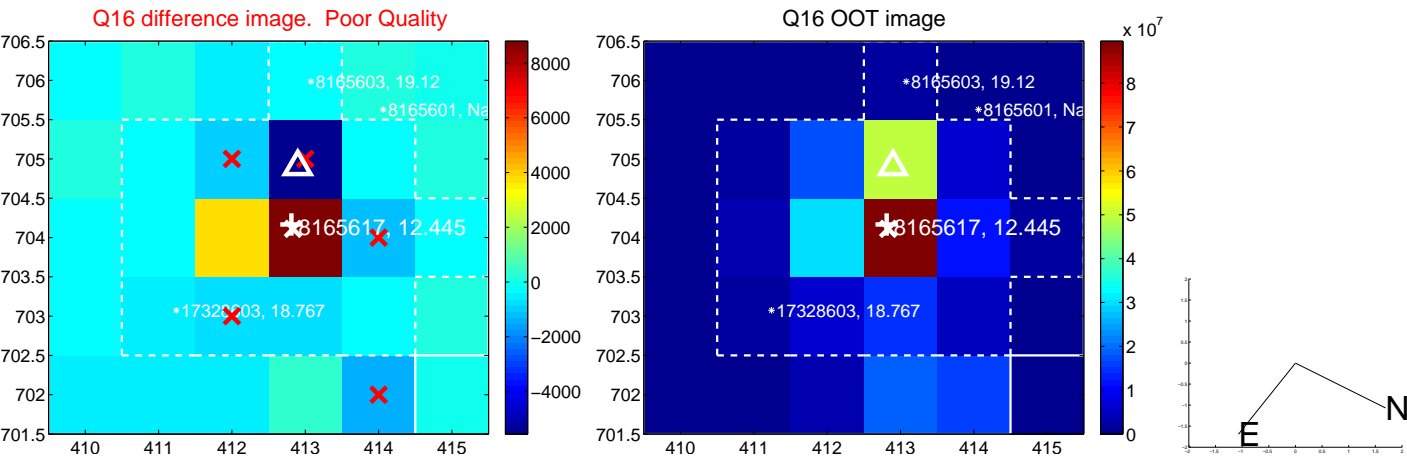
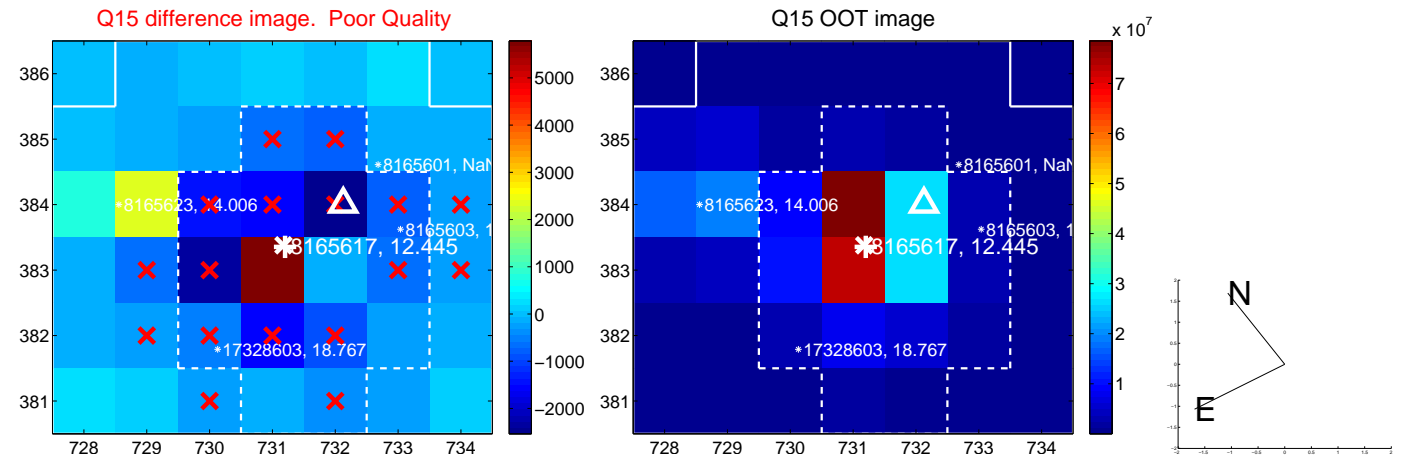
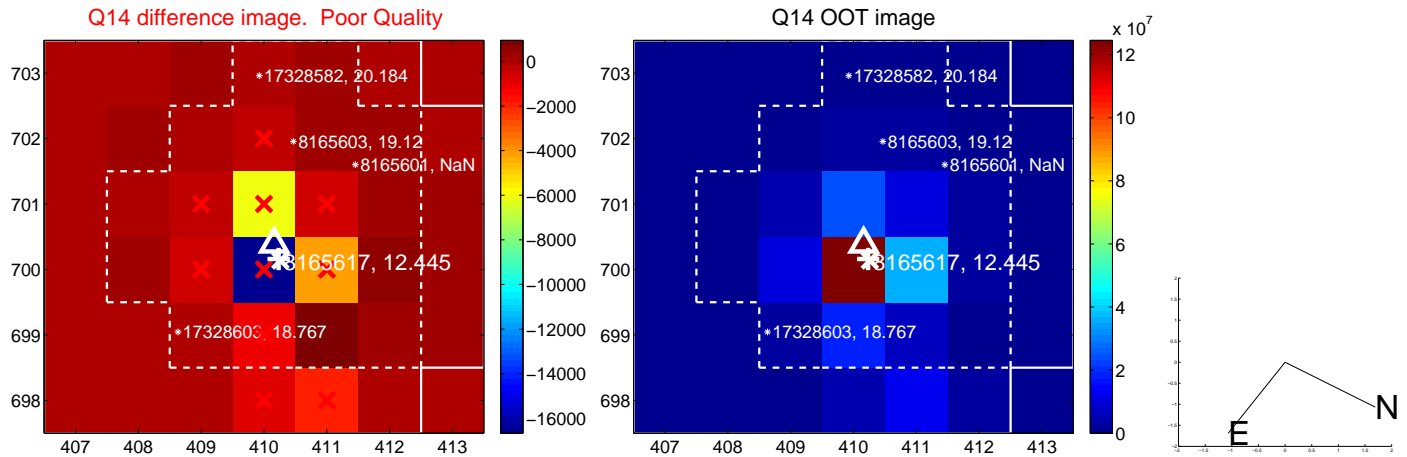
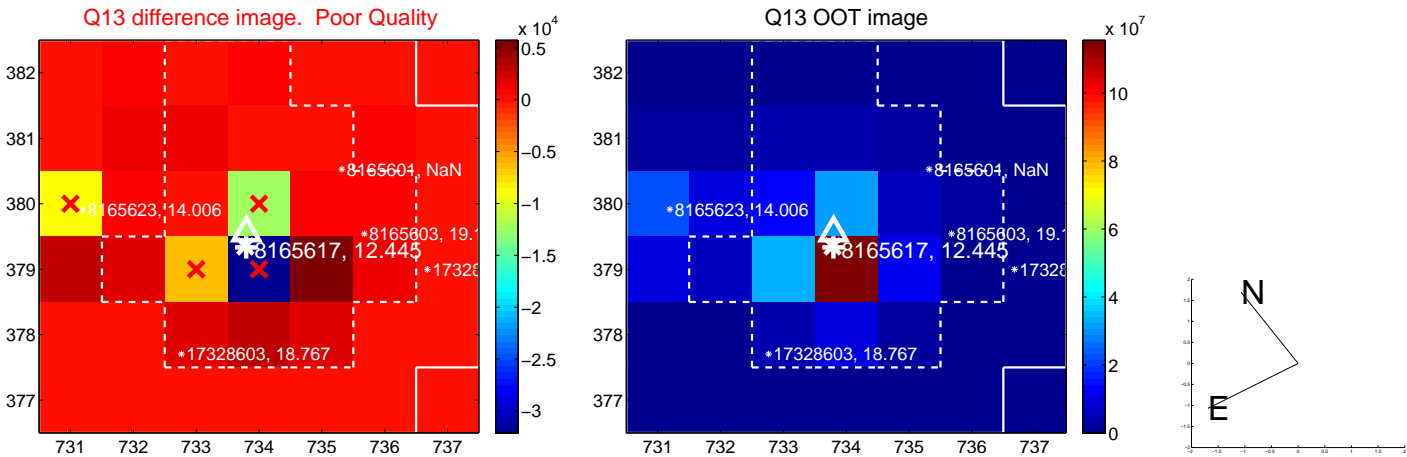
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



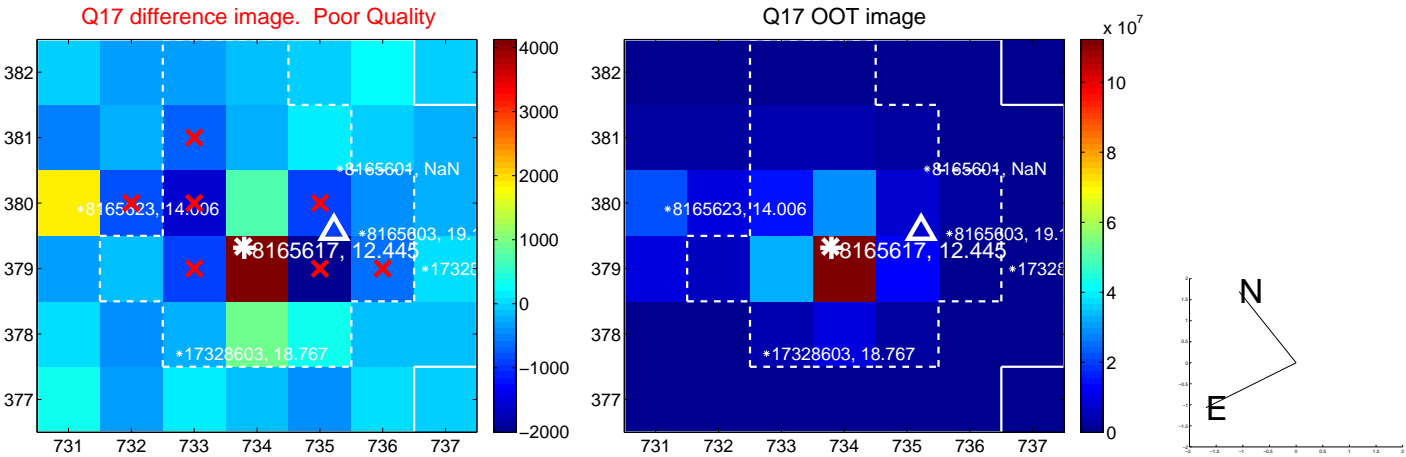
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



folded centroid time series figure for this object.

UKIRT Image

Declination

