

KIC 011868514

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})
011868514-01	OBS	No	0.664658	132.075556	147.7	2.437	18.1	16.9	1.92	7143	2.65	31508.15
011868514-02	OBS	No	0.664637	131.756252	103.7	2.923	13.2	11.2	1.92	7143	2.27	31509.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011868514-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
011868514-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

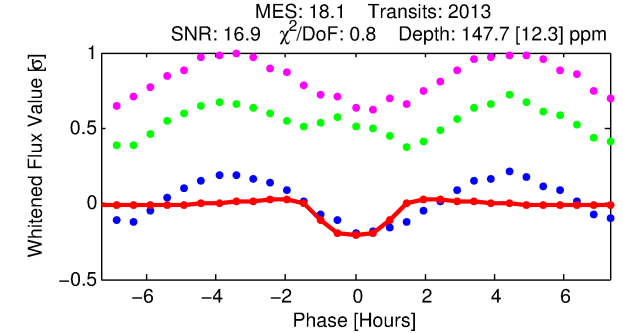
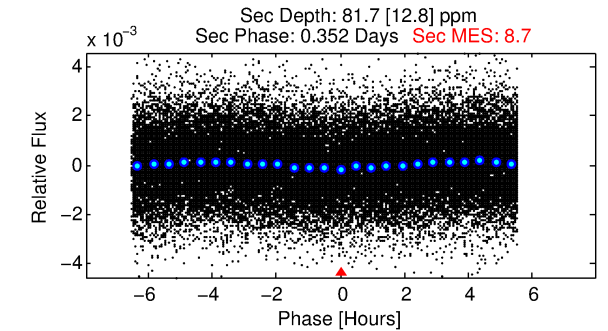
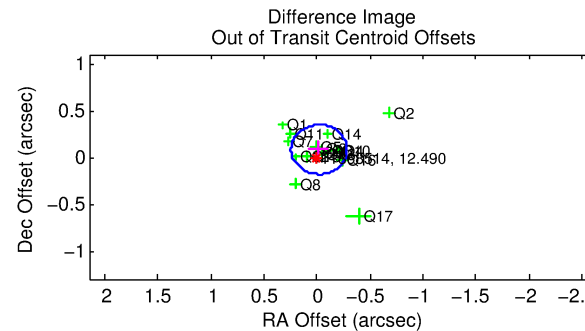
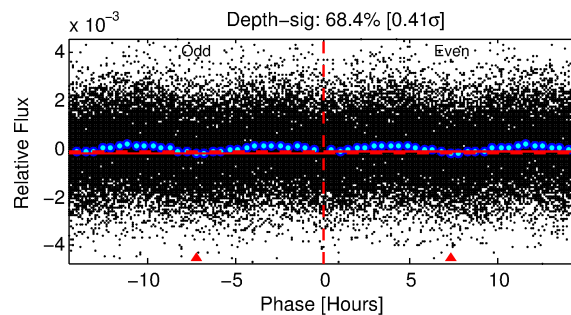
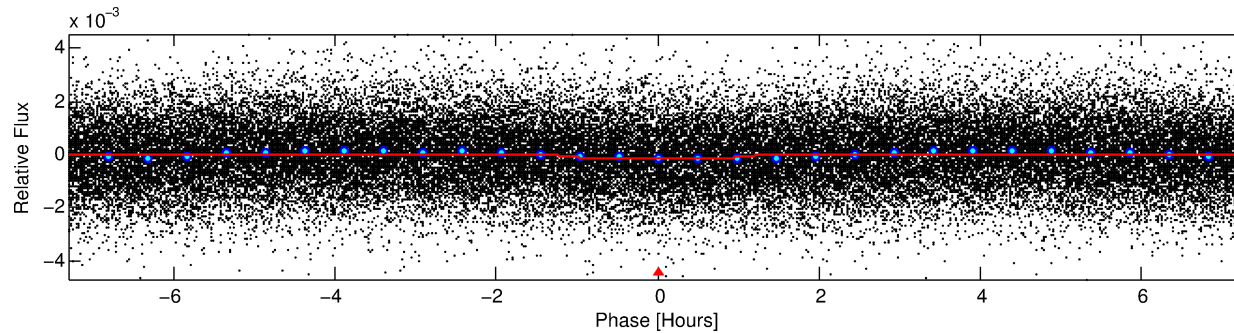
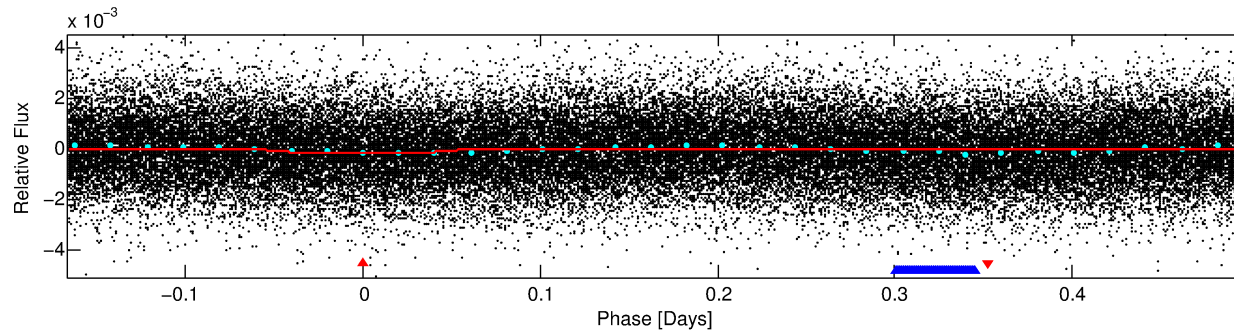
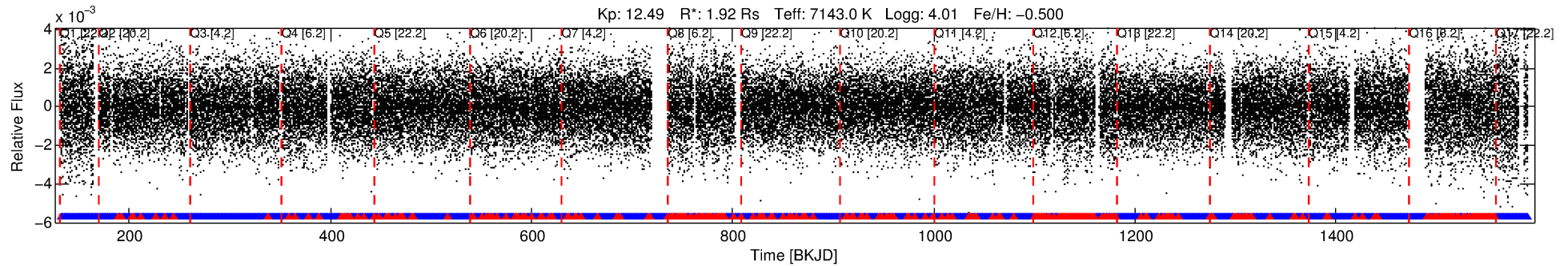
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011868514-01

No Significant Match Found

DV One-Page Summary

KIC: 11868514 Candidate: 1 of 2 Period: 0.665 d



DV Fit Results:

Period = 0.66466 [0.00001] d
Epoch = 132.0756 [0.0020] BKJD
Rp/R* = 0.0126 [0.0069]
a/R* = 1.43 [2.48]
b = 0.86 [1.00]
Seff = 31508.15 [16742.24]
Teq = 3397 [451] K
Rp = 2.66 [1.76] Re
a = 0.0166 [0.0055] AU
Ag = 1.75 [2.12] [0.35 σ]
Teffp = 6038 [1687] K [1.51 σ]

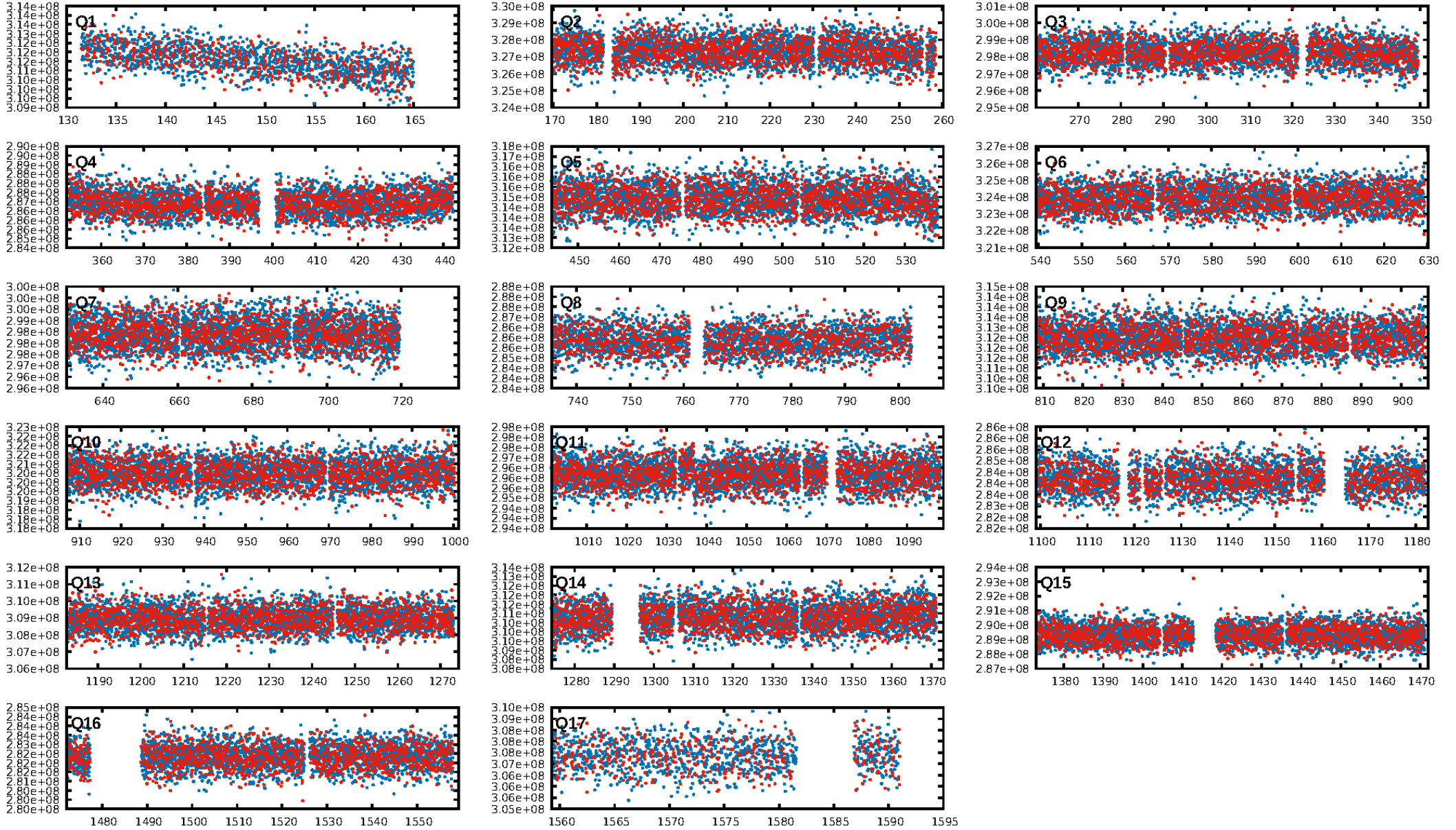
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.64e-142
RollingBand-fgt: 0.84 [1606/1923]
GhostDiagnostic-chr: 1.794
Centroid-sig: 4.0%
Centroid-so: 0.218 arcsec [2.48 σ]
OotOffset-rm: 0.085 arcsec [0.96 σ]
KicOffset-rm: 0.075 arcsec [0.86 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

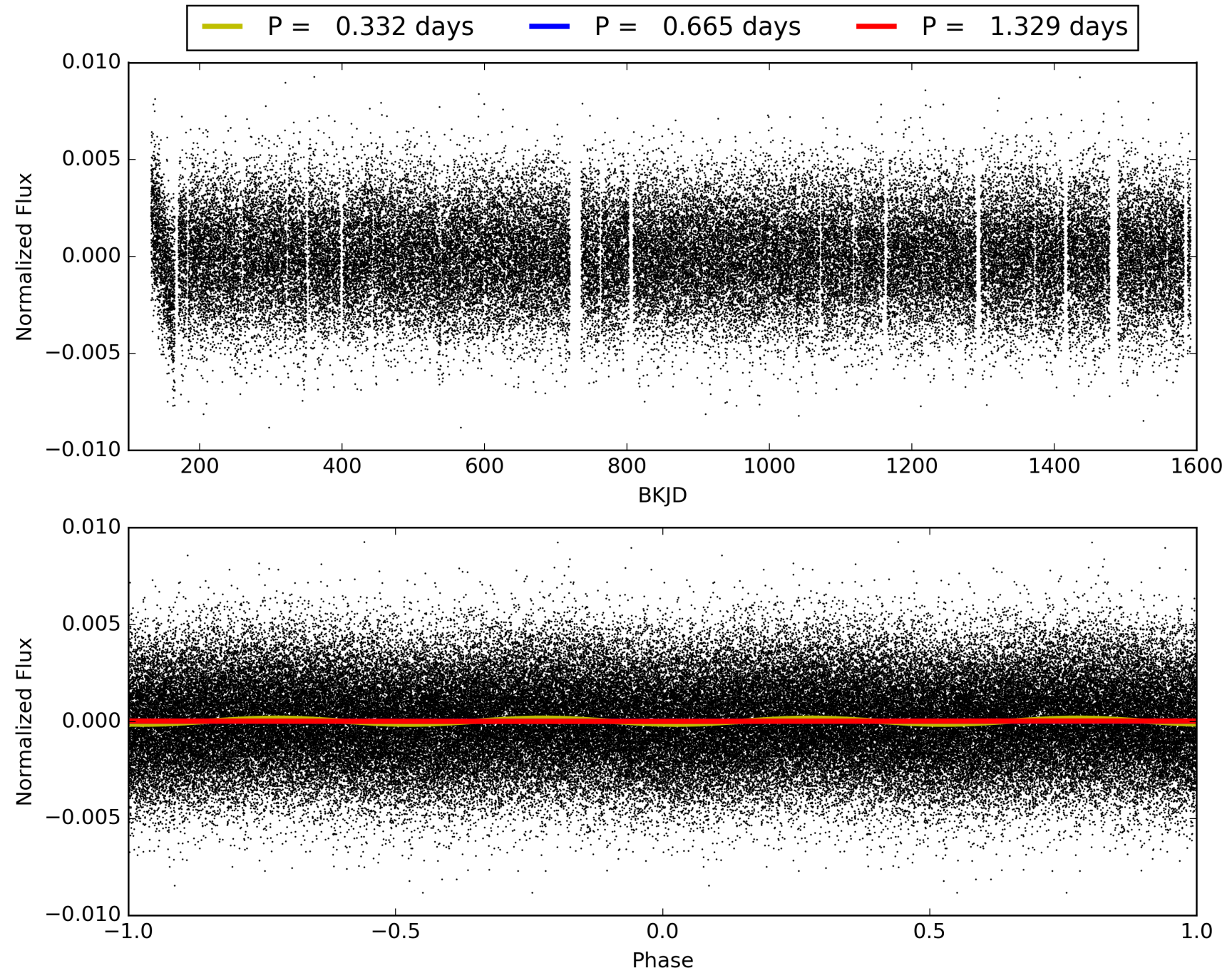
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 01:08:07 Z

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

TCE 011868514-01, PDC Light Curves

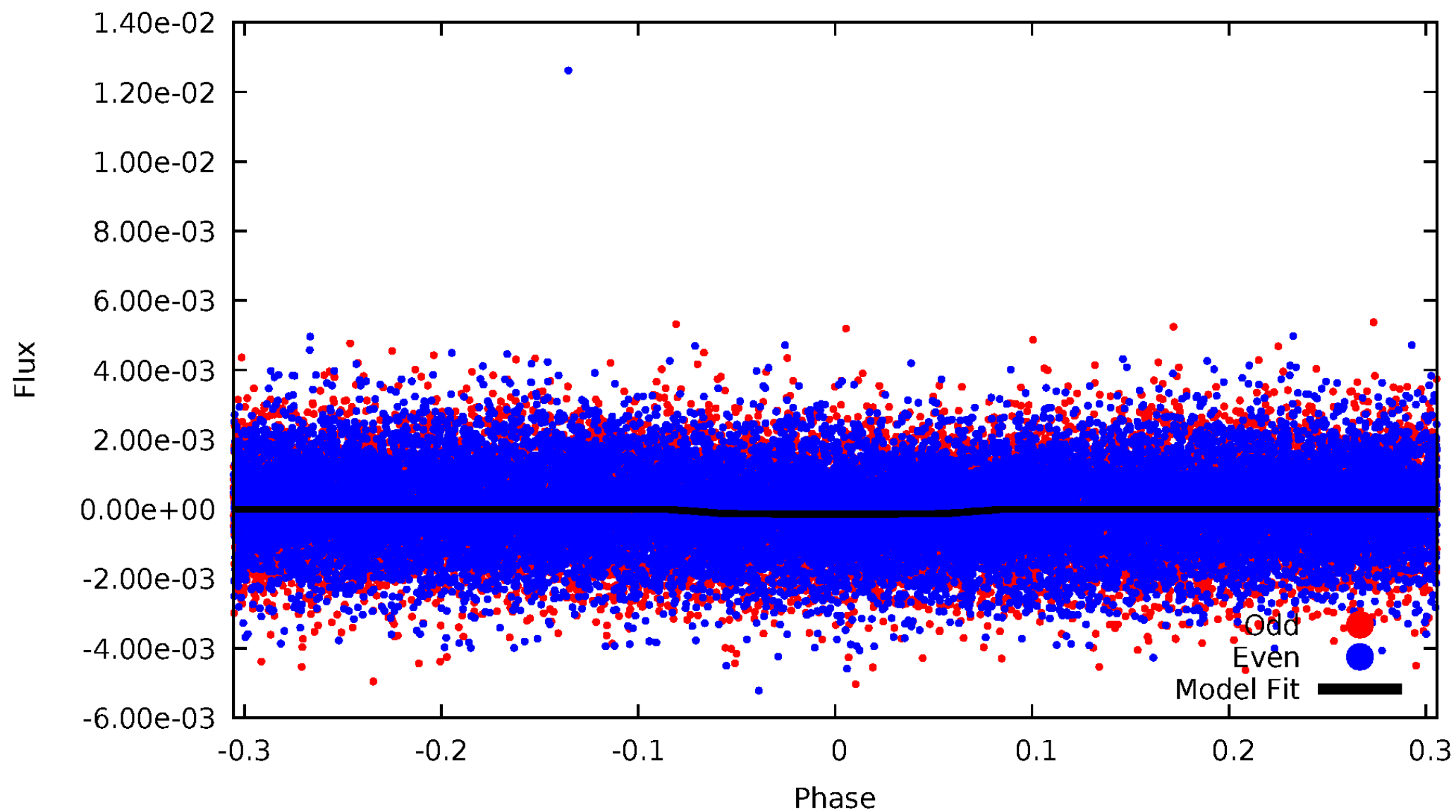


TCE 011868514-01



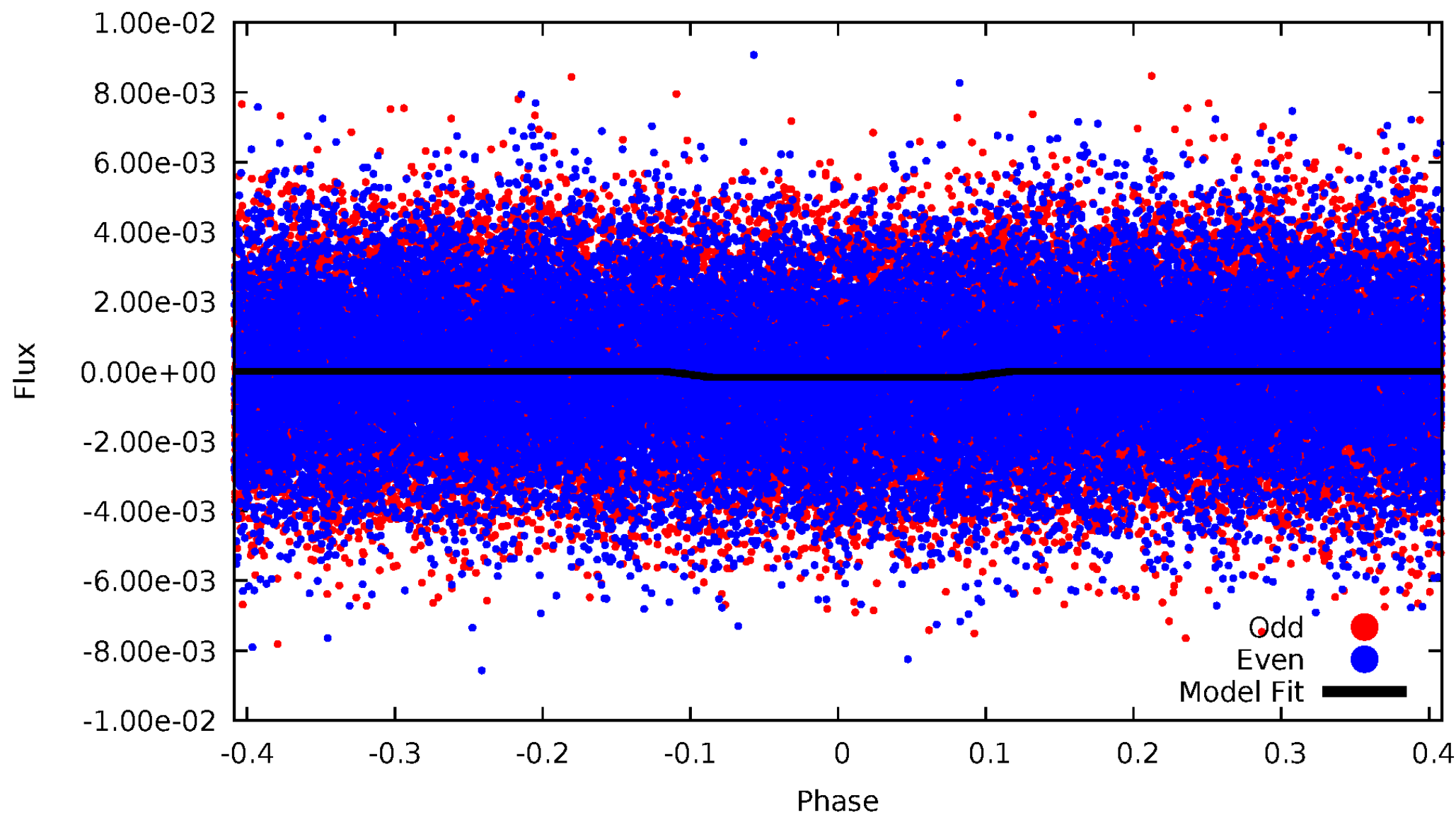
DV Odd/Even

TCE 011868514-01

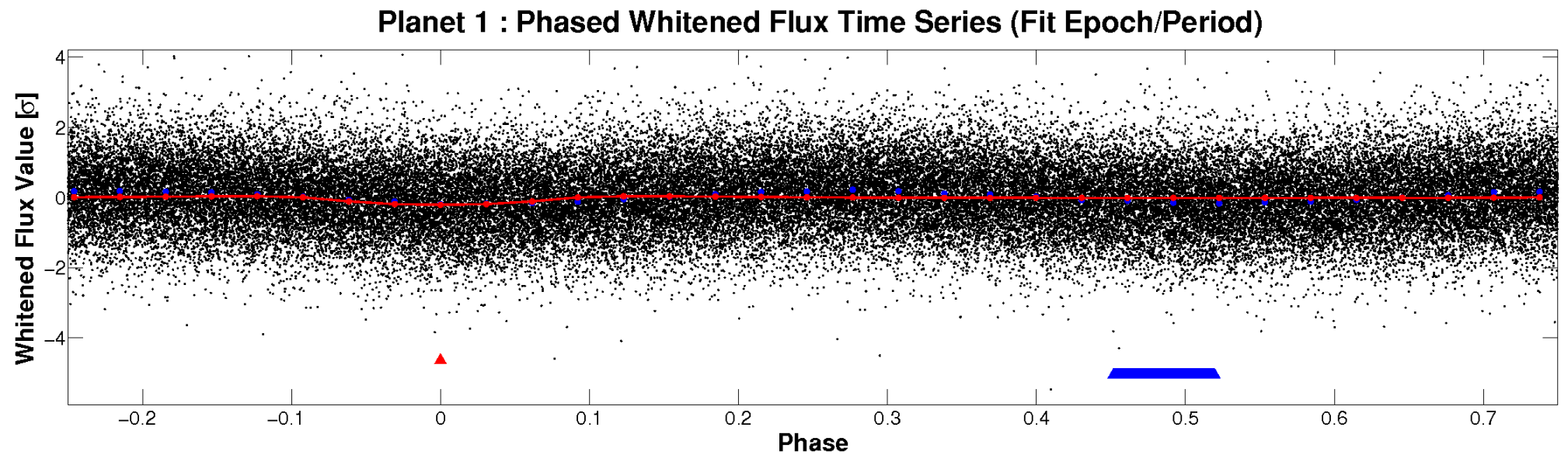
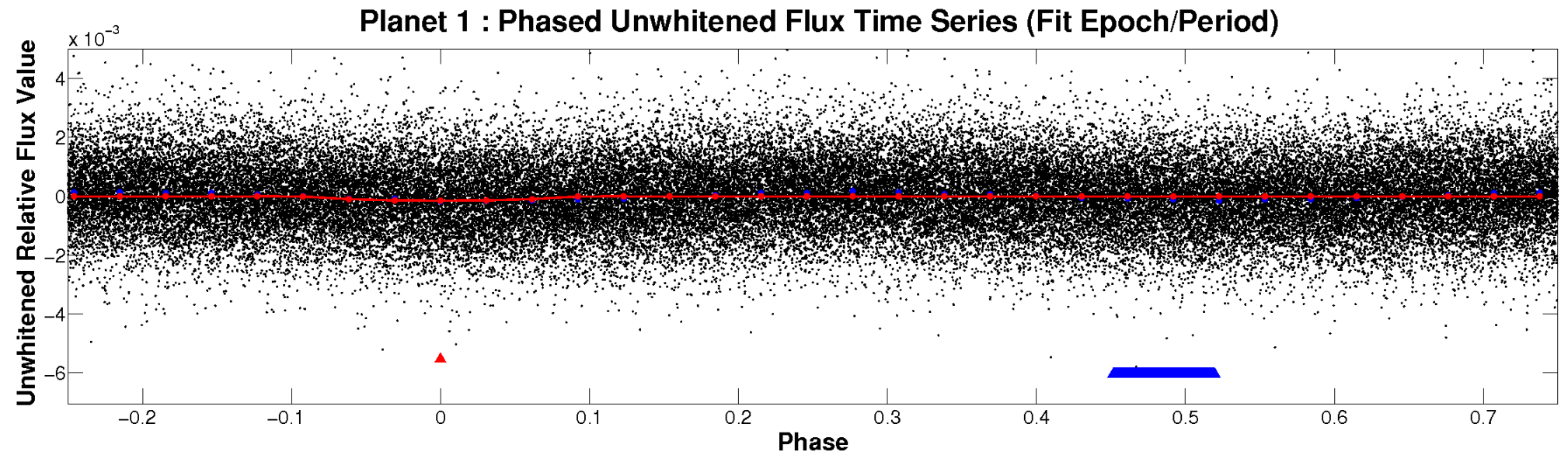


ALT Odd/Even

TCE 011868514-01

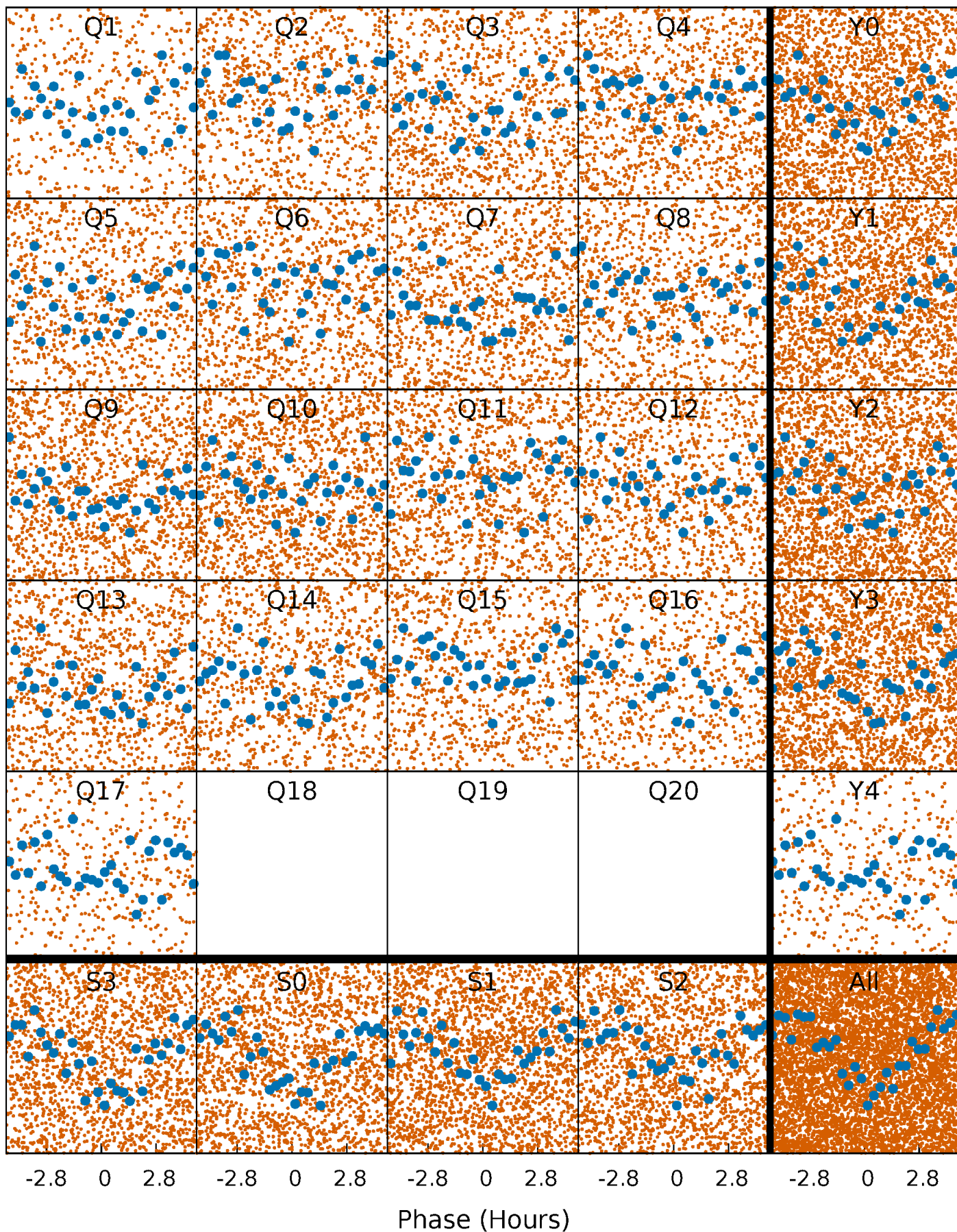


Non-Whitened Vs. Whitened Light Curve



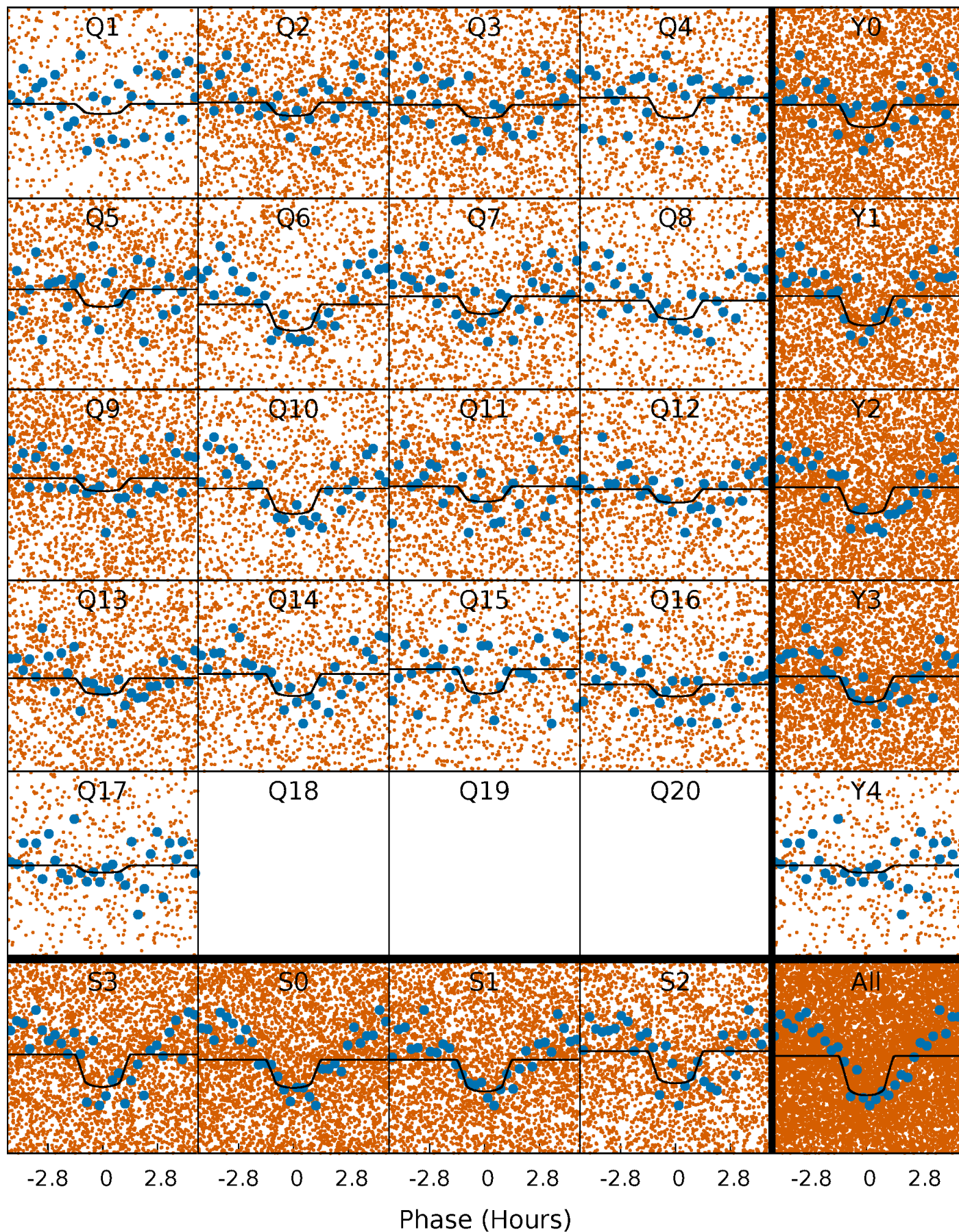
PDC Quarter-Phased Transit Curves

TCE 011868514-01 P= 0.664658 Days $T_0=132.075556$ (BKJD)



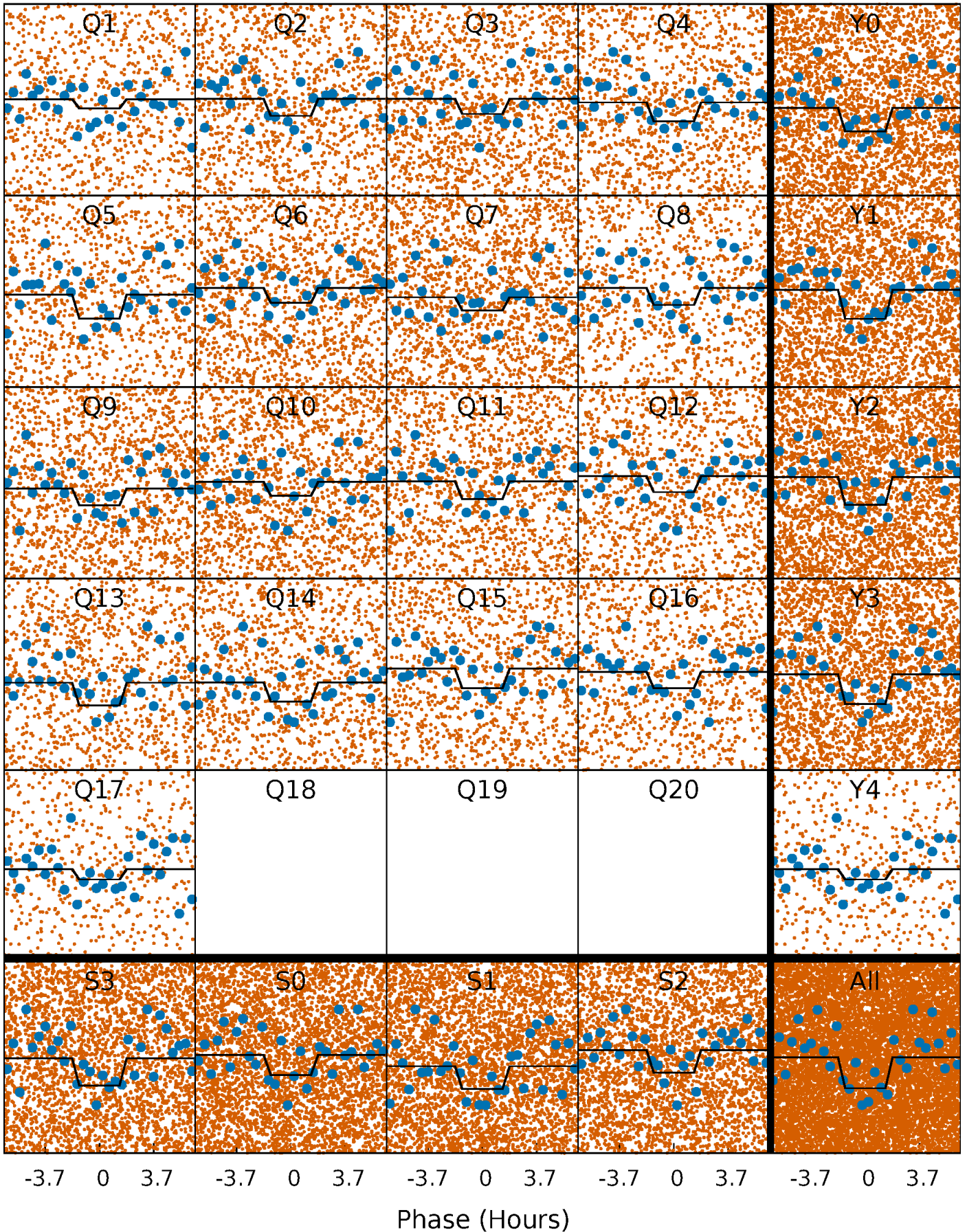
DV Quarter-Phased Transit Curves

TCE 011868514-01 P= 0.664658 Days $T_0=132.075556$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

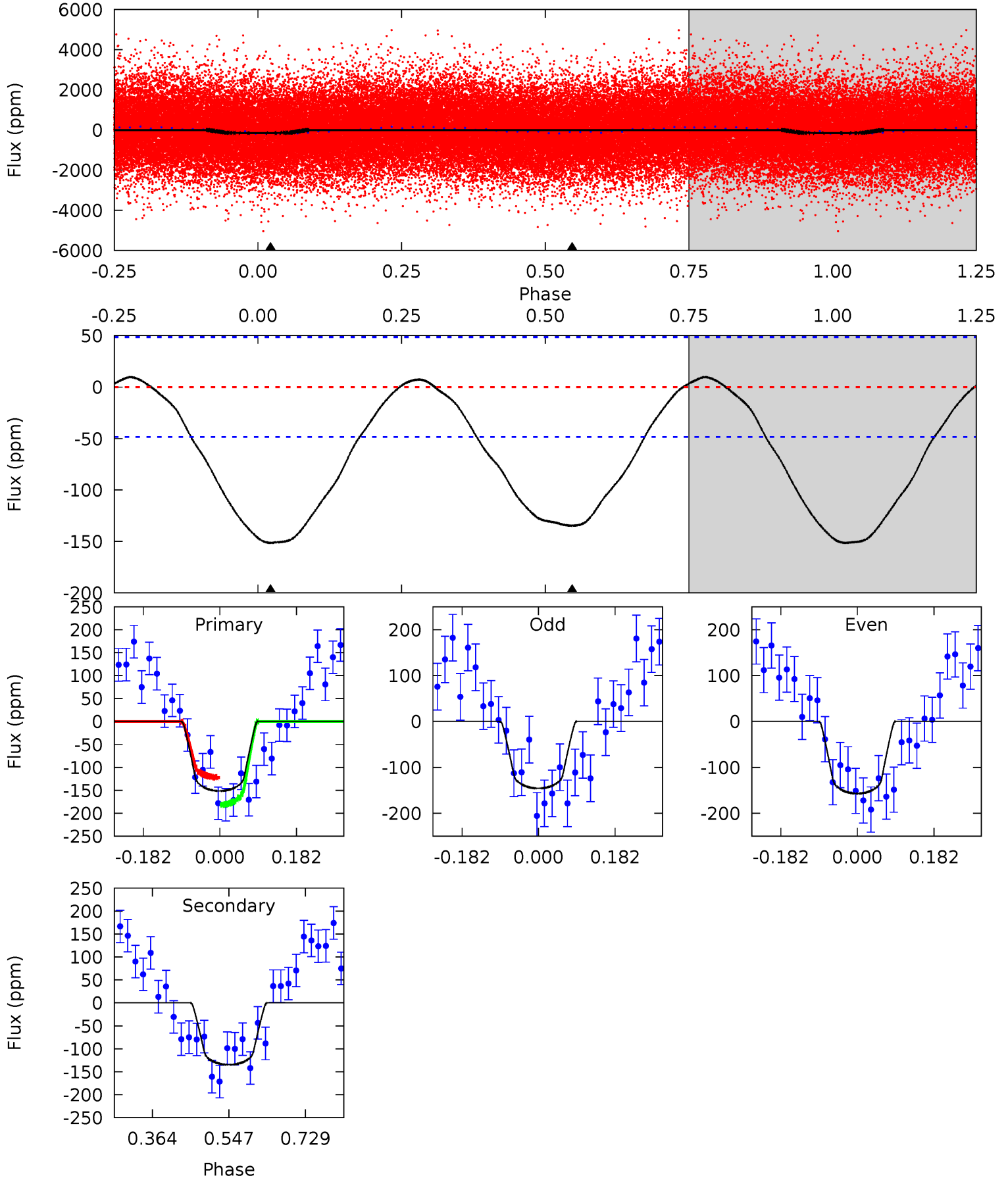
TCE 011868514-01 P= 0.664673 Days $T_0=132.069634$ (BKJD)



DV Model-Shift Uniqueness Test

011868514-01, P = 0.664658 Days, E = 131.410898 Days

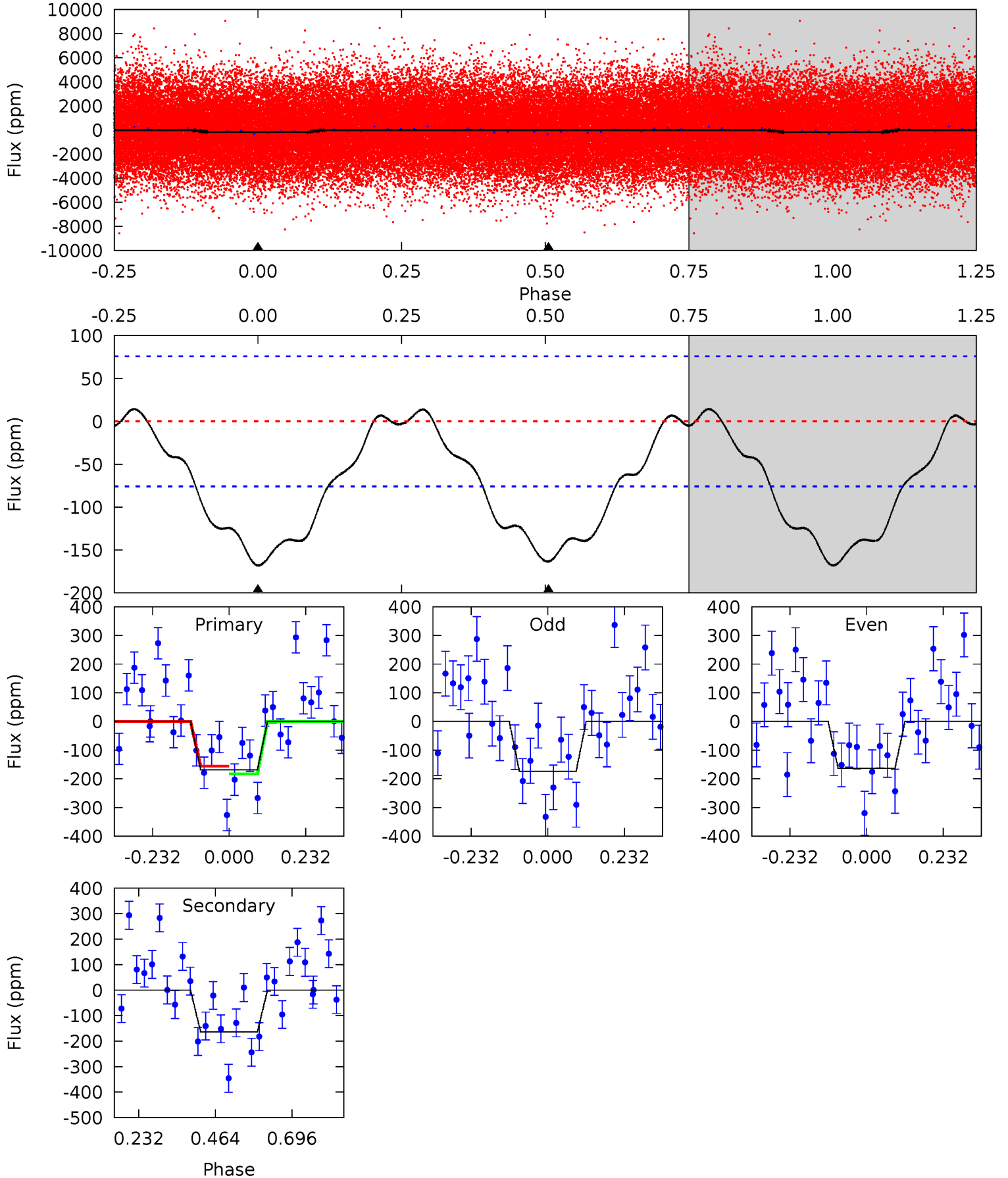
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	12.3	0	0	4.44	1.33	0.93	13.9	13.9	12.3	12.3	0.52	0.98	0.06	2.73



Alt Model-Shift Uniqueness Test

011868514-01, P = 0.664673 Days, E = 131.404961 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.74	9.47	0	0	4.38	1.20	0.28	9.74	9.74	9.47	9.47	0.30	1.03	0.08	0.77



Stellar Parameters For KIC 011868514

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7143^{+225}_{-300}	$4.006^{+0.286}_{-0.154}$	$-0.500^{+0.250}_{-0.300}$	$1.924^{+0.477}_{-0.715}$	$1.368^{+0.182}_{-0.251}$	$0.271^{+0.537}_{-0.122}$
	+3%/-4%	+7%/-4%	+50%/-60%	+25%/-37%	+13%/-18%	+198%/-45%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 011868514-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-135 ± 11	$2.64^{+1.43}_{-1.39}$	4694^{+388}_{-450}	6483^{+3841}_{-1397}	$2.885^{+9.826}_{-1.651}$
Alt.	-164 ± 17	$2.62^{+1.50}_{-1.26}$	4689^{+352}_{-424}	6878^{+3685}_{-1505}	$3.487^{+9.761}_{-2.073}$

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 $A_{obs} \gg 1.0$

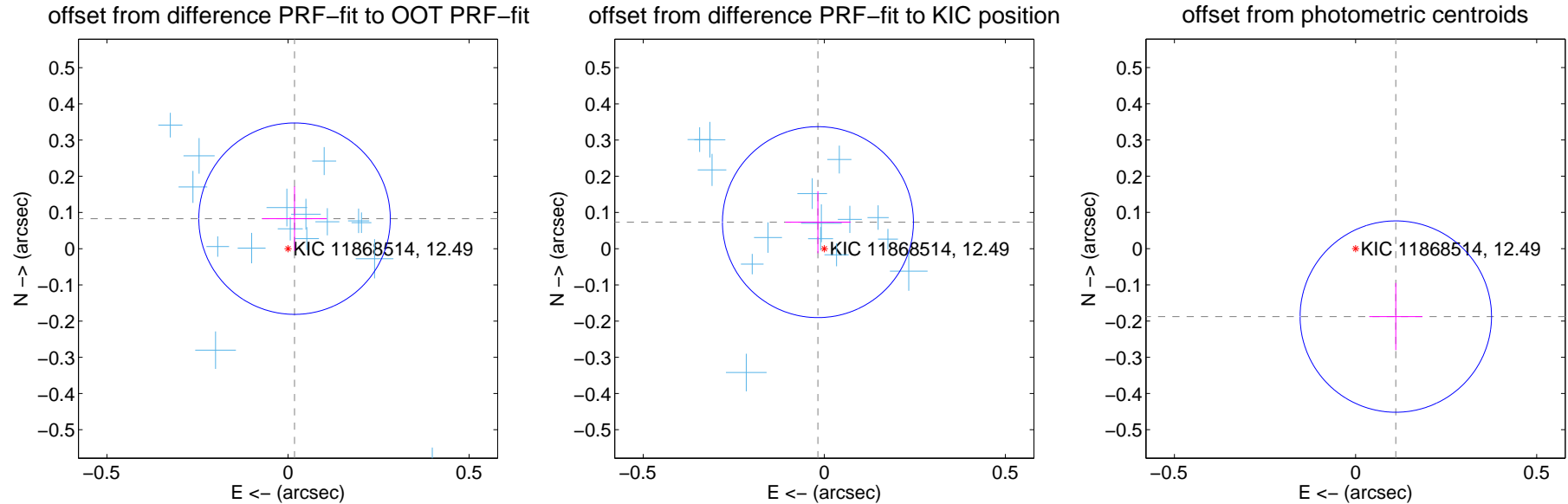
DV Centroid Data

Supplemental centroid analysis for 011868514-01. Kepler magnitude: 12.49. Transit SNR 16.92

There are 17 quarters with good PRF difference image offsets

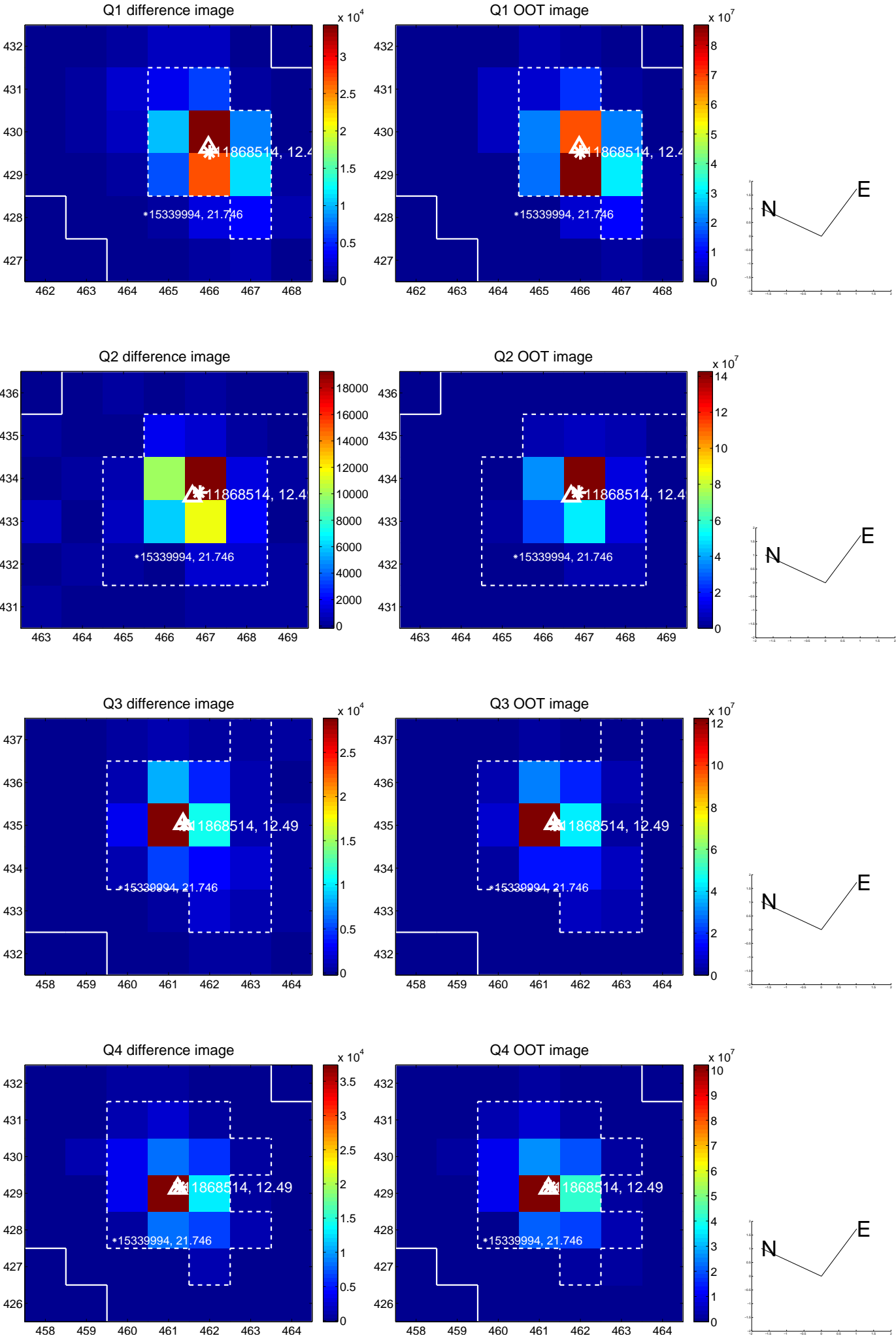
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.085 ± 0.088	0.96	-0.018 ± 0.089	0.083 ± 0.089
PRF-fit source offset from KIC position	0.075 ± 0.088	0.86	0.018 ± 0.090	0.073 ± 0.086
photometric centroid source offset	0.22 ± 0.09	2.48	-0.11 ± 0.07	-0.19 ± 0.09

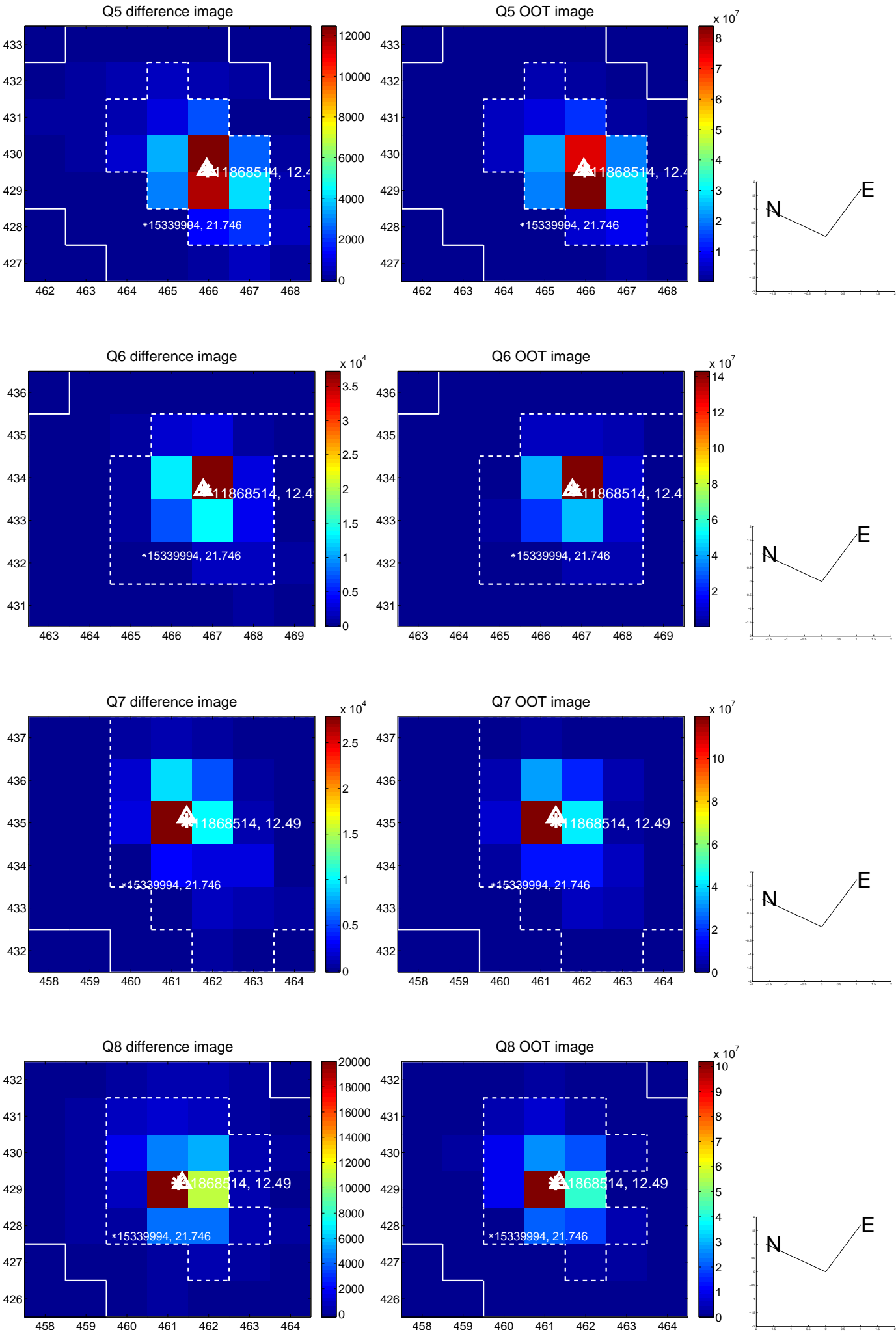


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

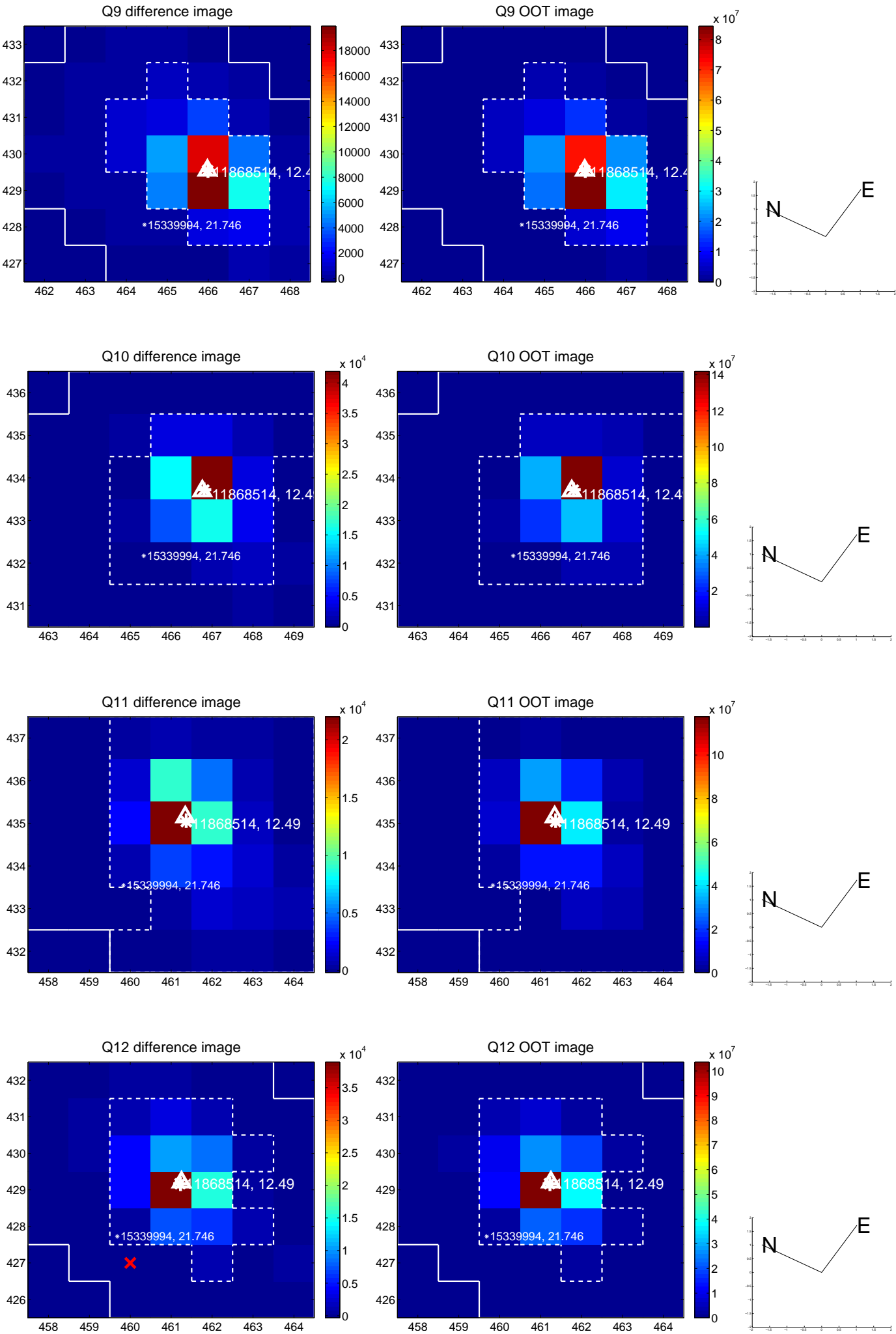
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



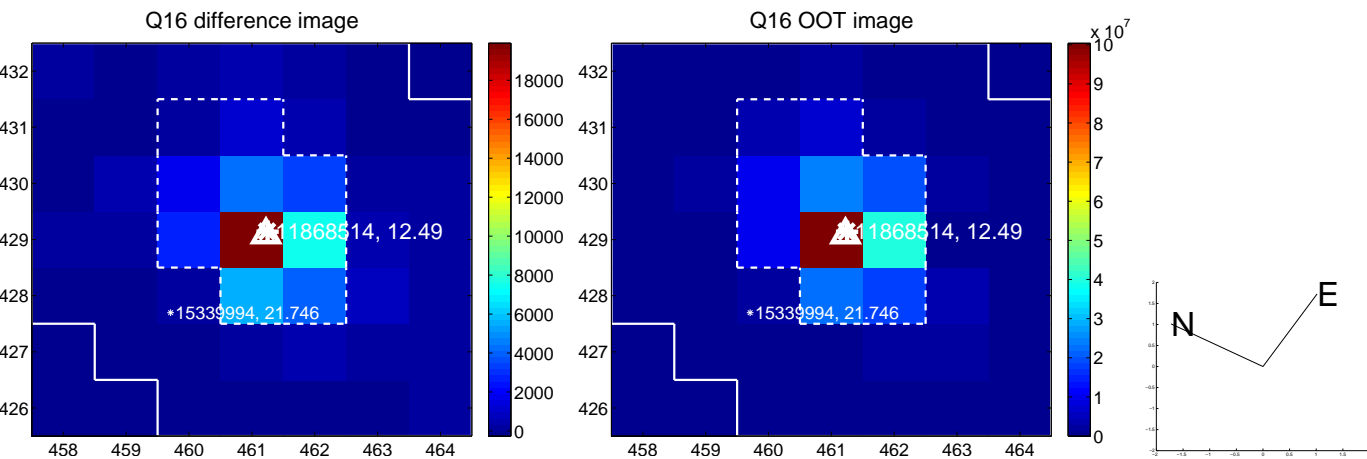
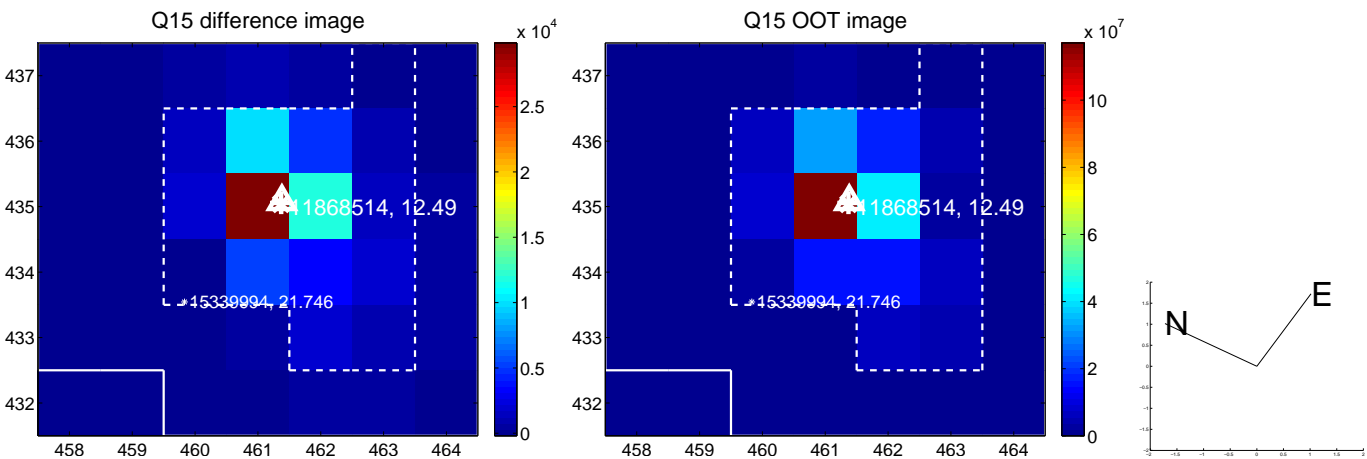
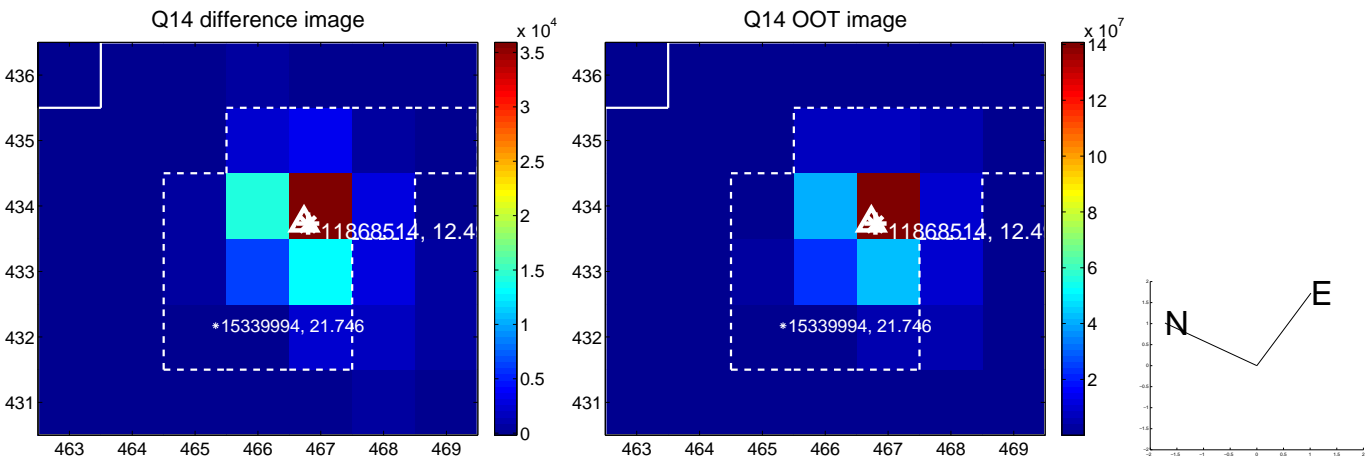
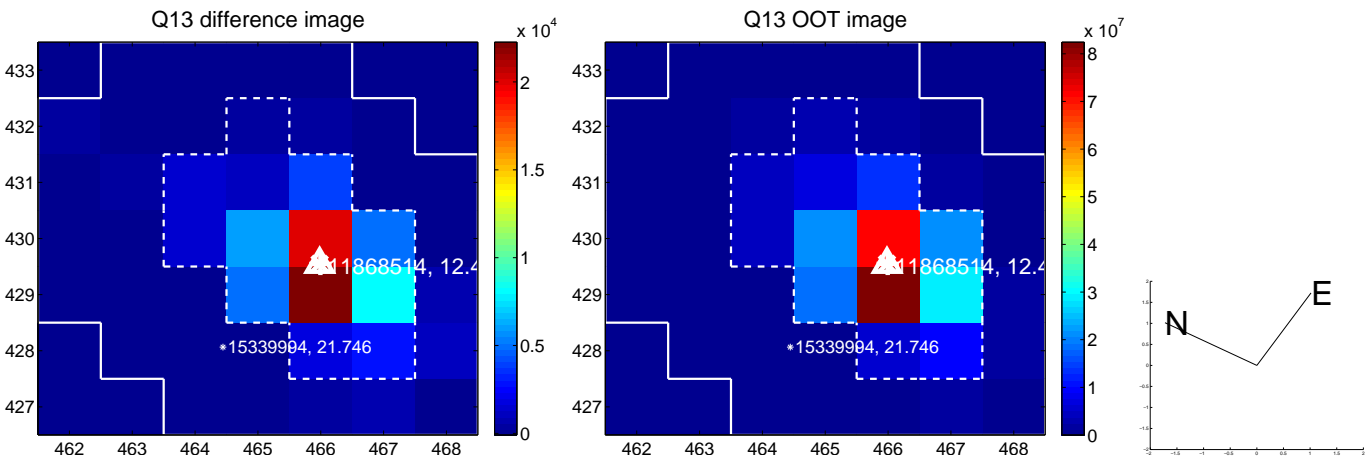
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



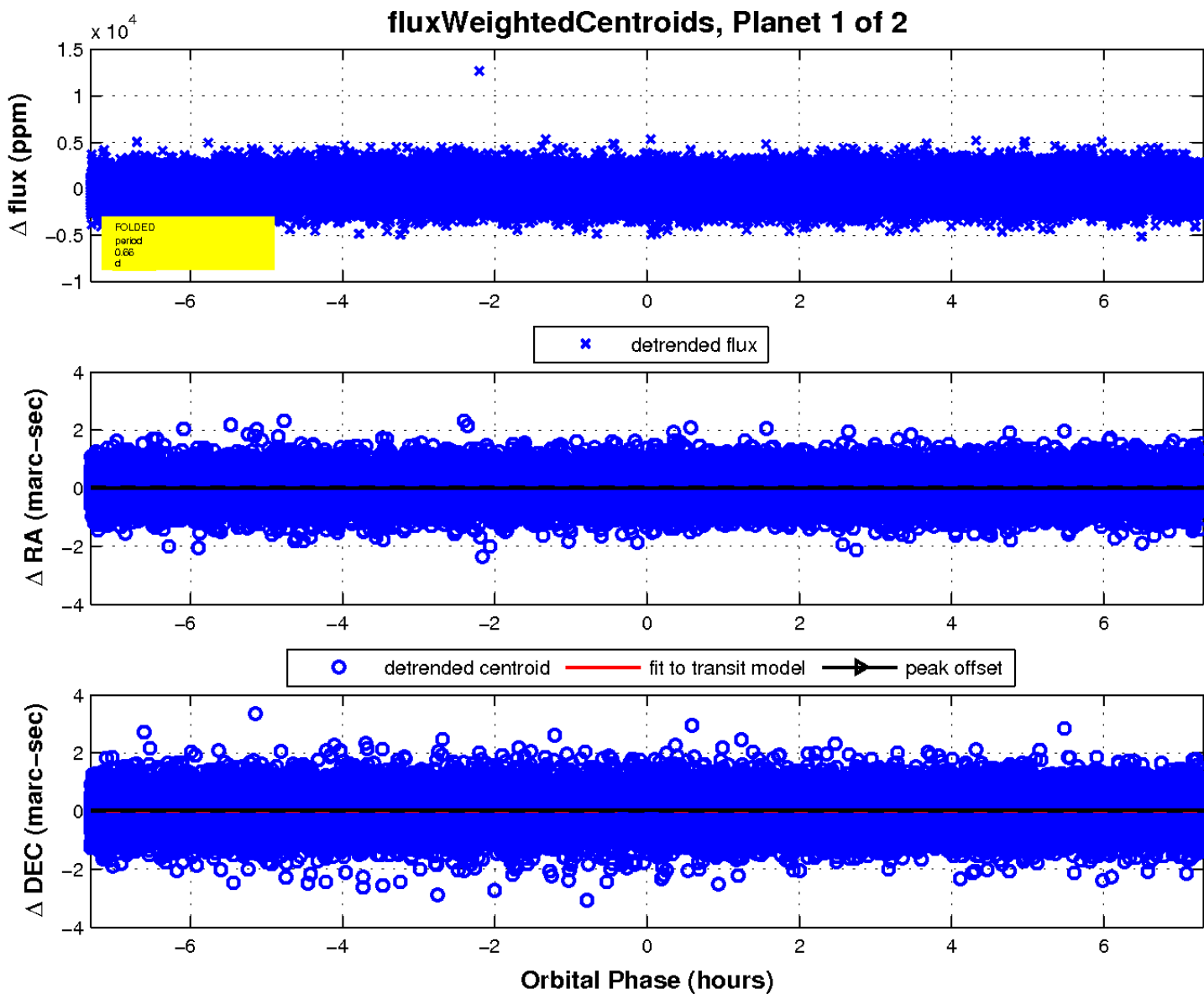
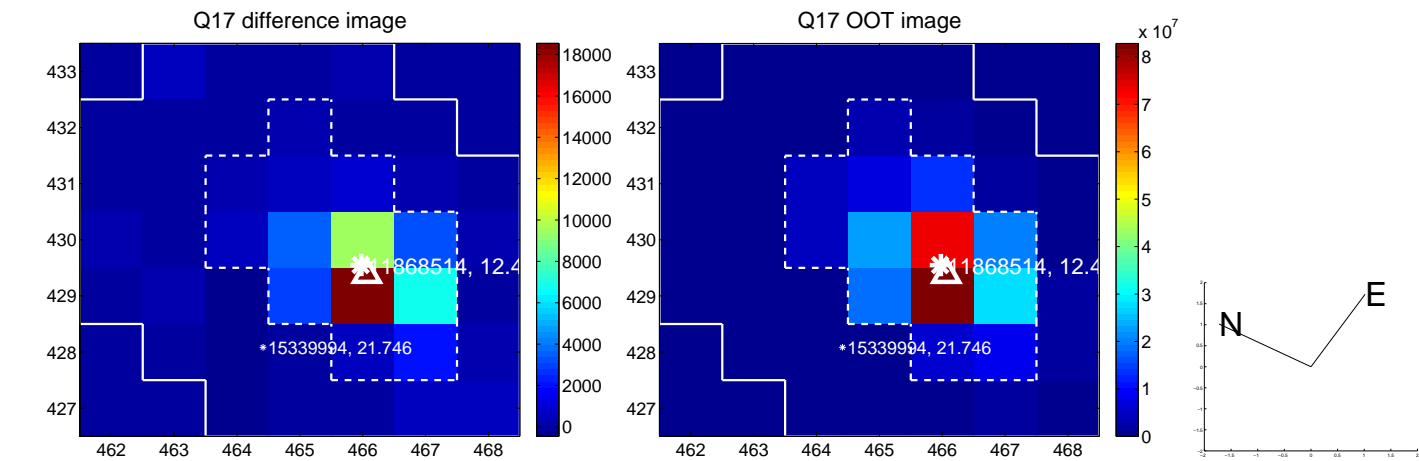
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



KIC 011868514

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})
011868514-01	OBS	No	0.664658	132.075556	147.7	2.437	18.1	16.9	1.92	7143	2.65	31508.15
011868514-02	OBS	No	0.664637	131.756252	103.7	2.923	13.2	11.2	1.92	7143	2.27	31509.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011868514-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
011868514-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

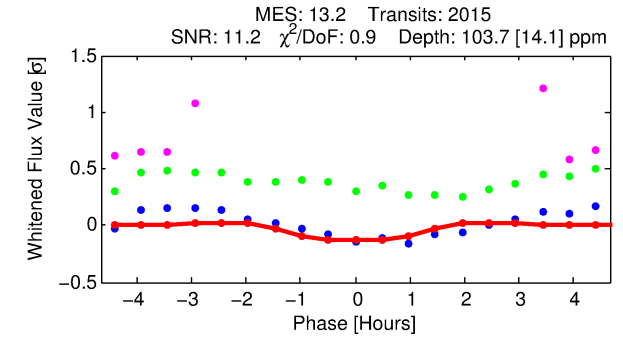
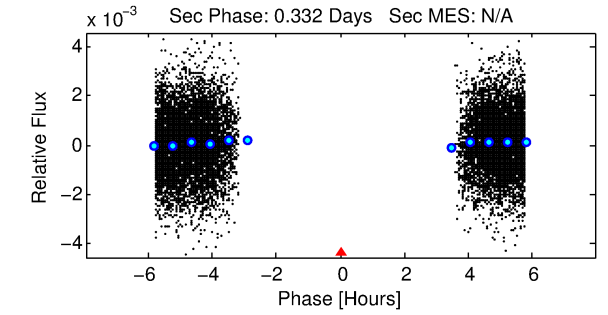
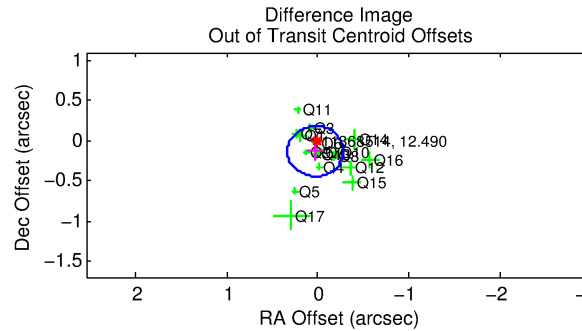
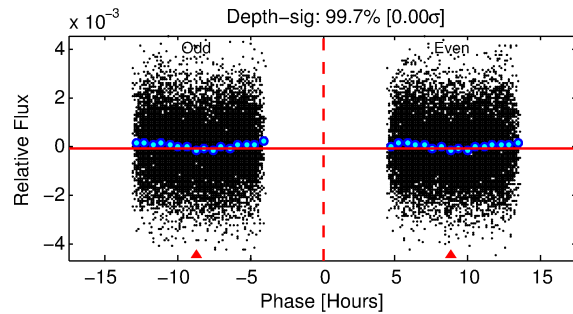
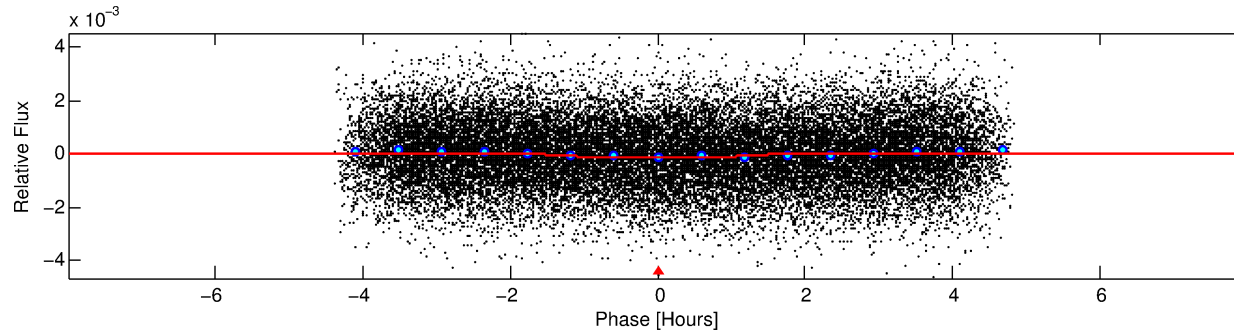
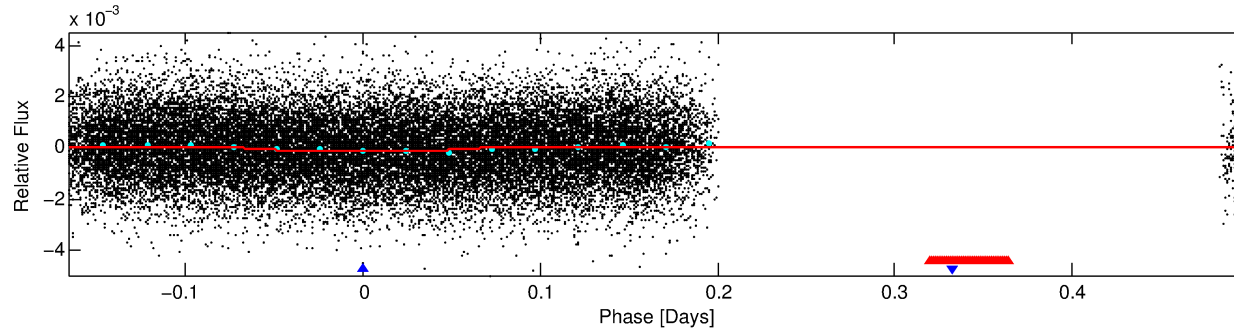
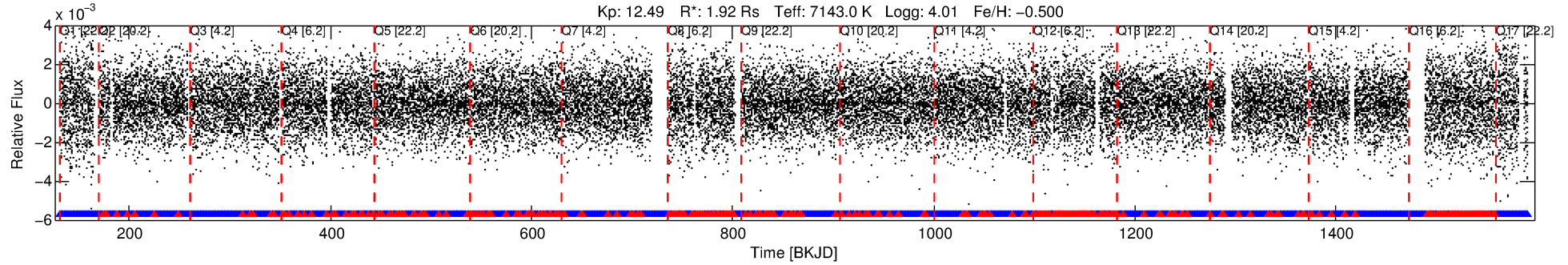
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011868514-02

No Significant Match Found

DV One-Page Summary

KIC: 11868514 Candidate: 2 of 2 Period: 0.665 d



DV Fit Results:

Period = 0.66464 [0.00001] d
Epoch = 131.7563 [0.0036] BKJD
Rp/R* = 0.0108 [0.0069]
a/R* = 1.23 [1.69]
b = 0.90 [0.85]
Seff = 31509.45 [16742.93]
Teq = 3397 [451] K
Rp = 2.27 [1.68] Re
a = 0.0166 [0.0055] AU

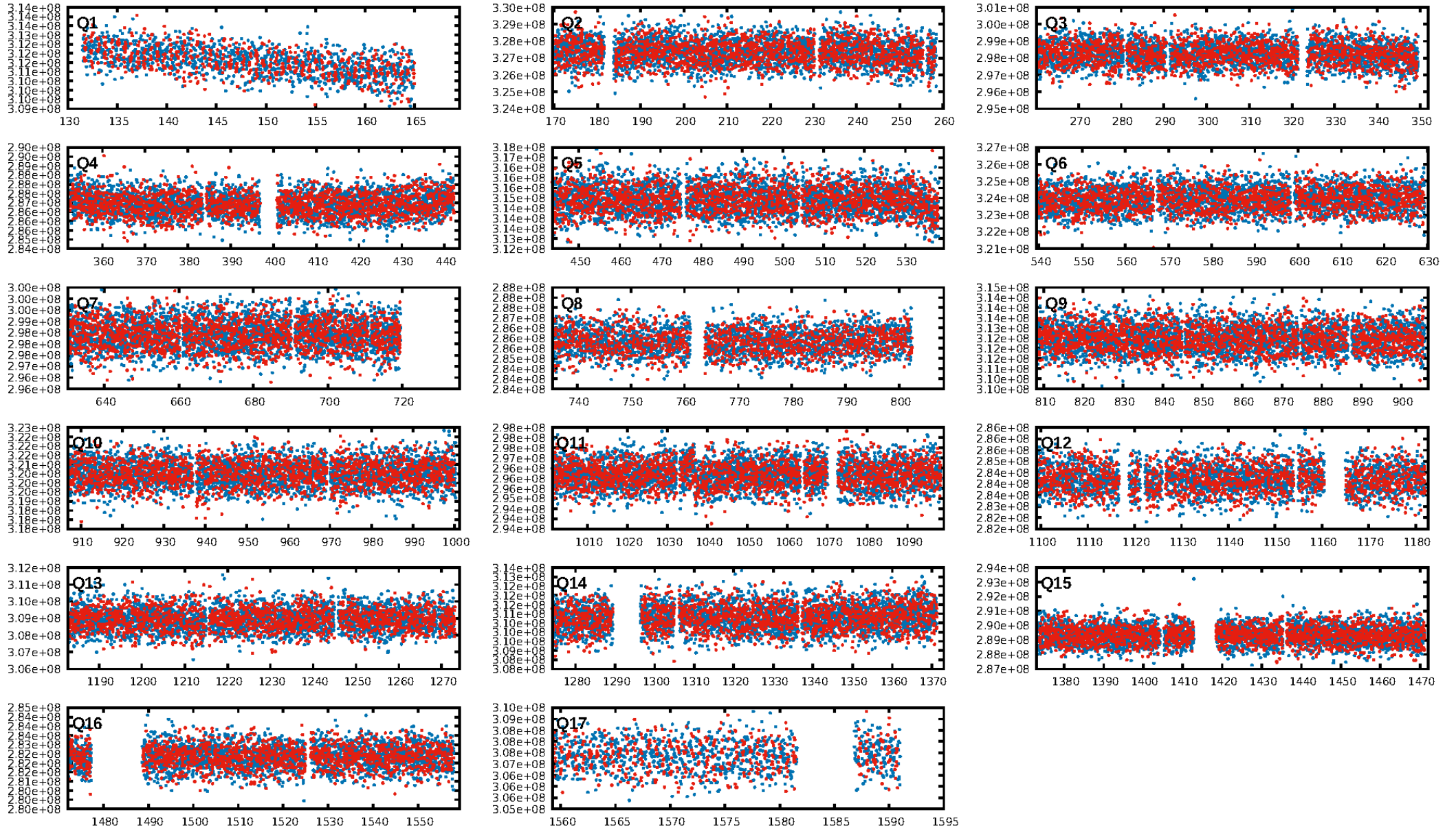
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.99e-91
RollingBand-fgt: 0.82 [1576/1924]
GhostDiagnostic-chr: 1.632
Centroid-sig: 49.8%
Centroid-so: 0.095 arcsec [0.95 σ]
OotOffset-rm: 0.137 arcsec [1.33 σ]
KicOffset-rm: 0.201 arcsec [2.01 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

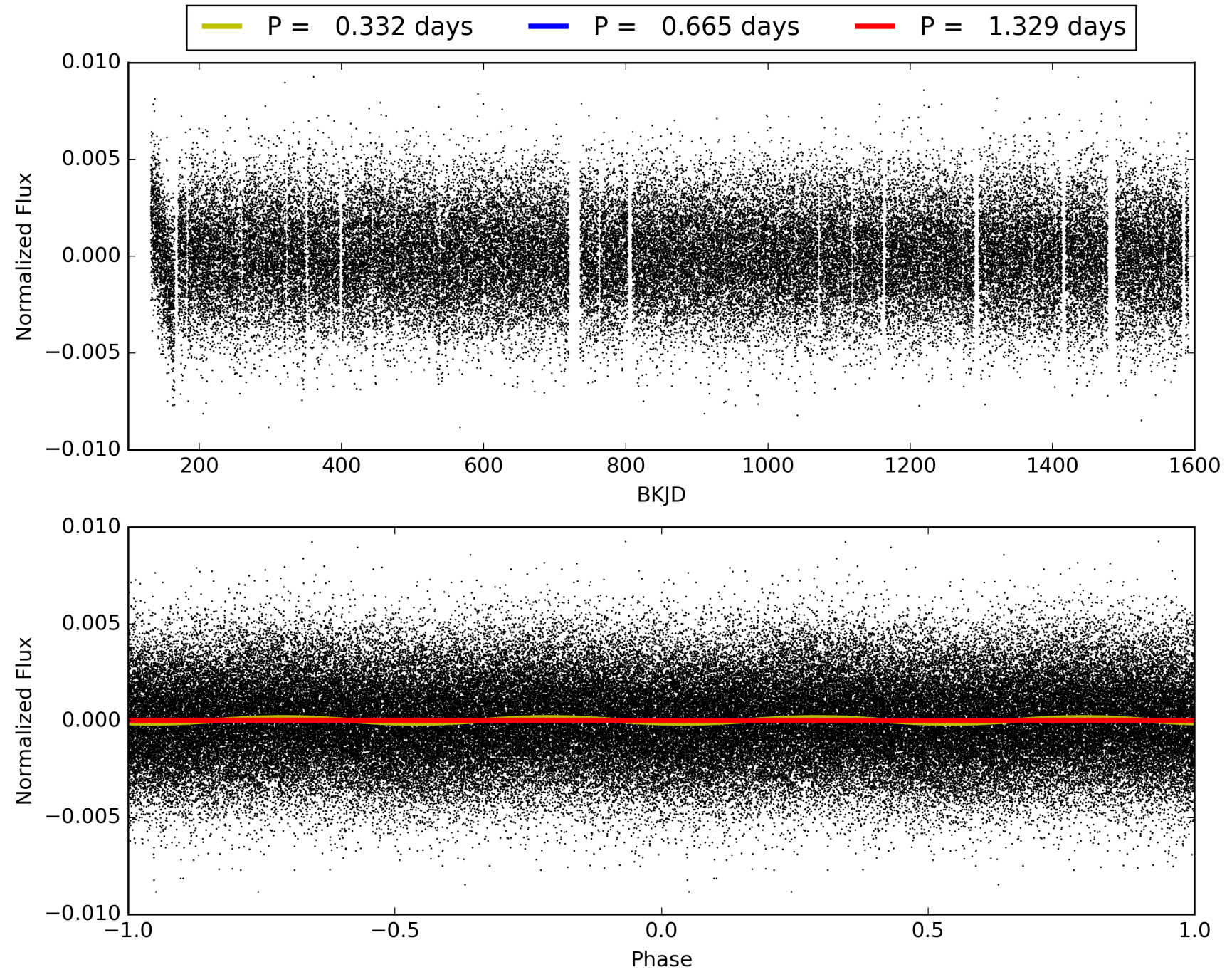
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 01:08:20 Z

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

TCE 011868514-02, PDC Light Curves

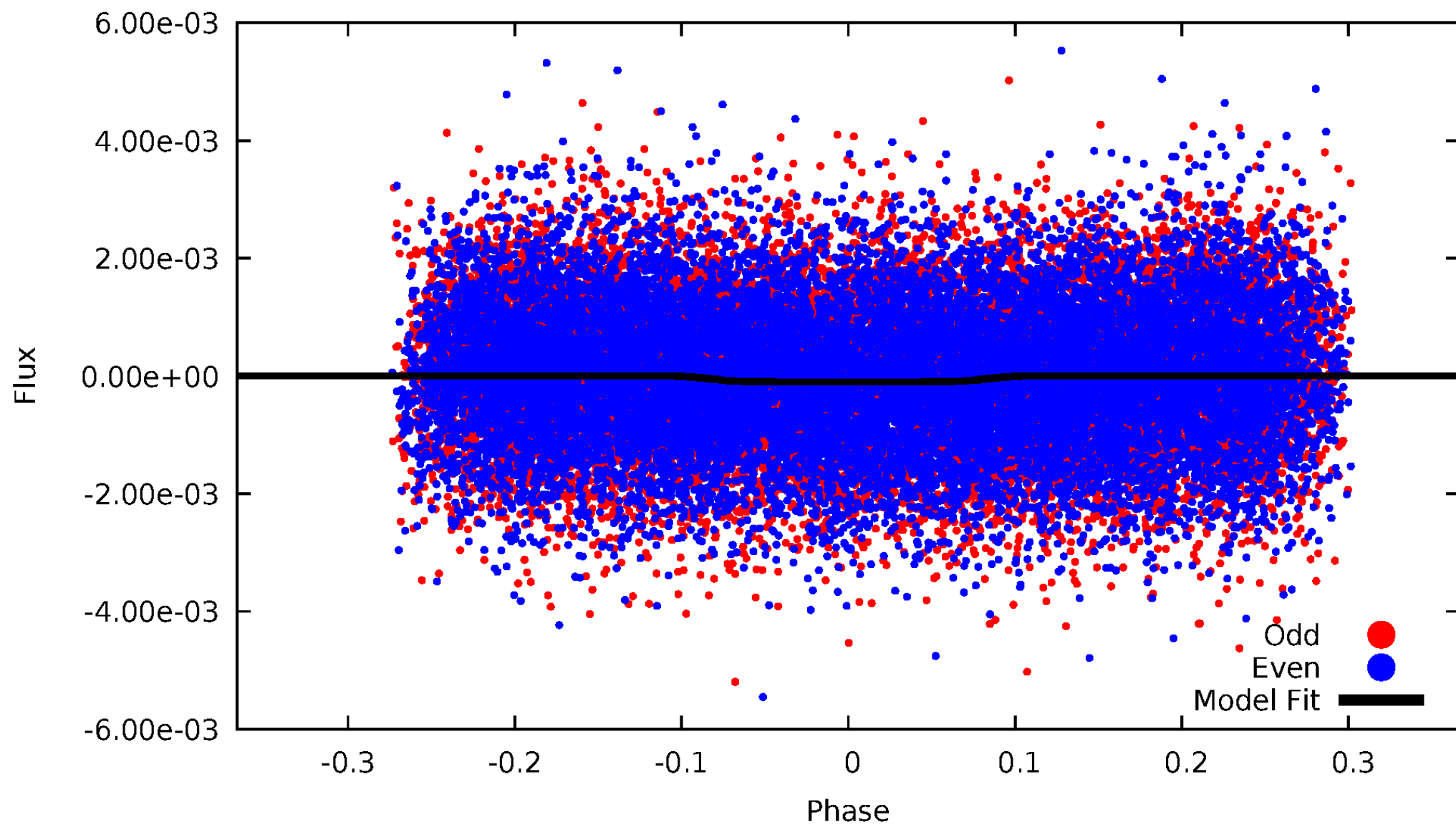


TCE 011868514-02



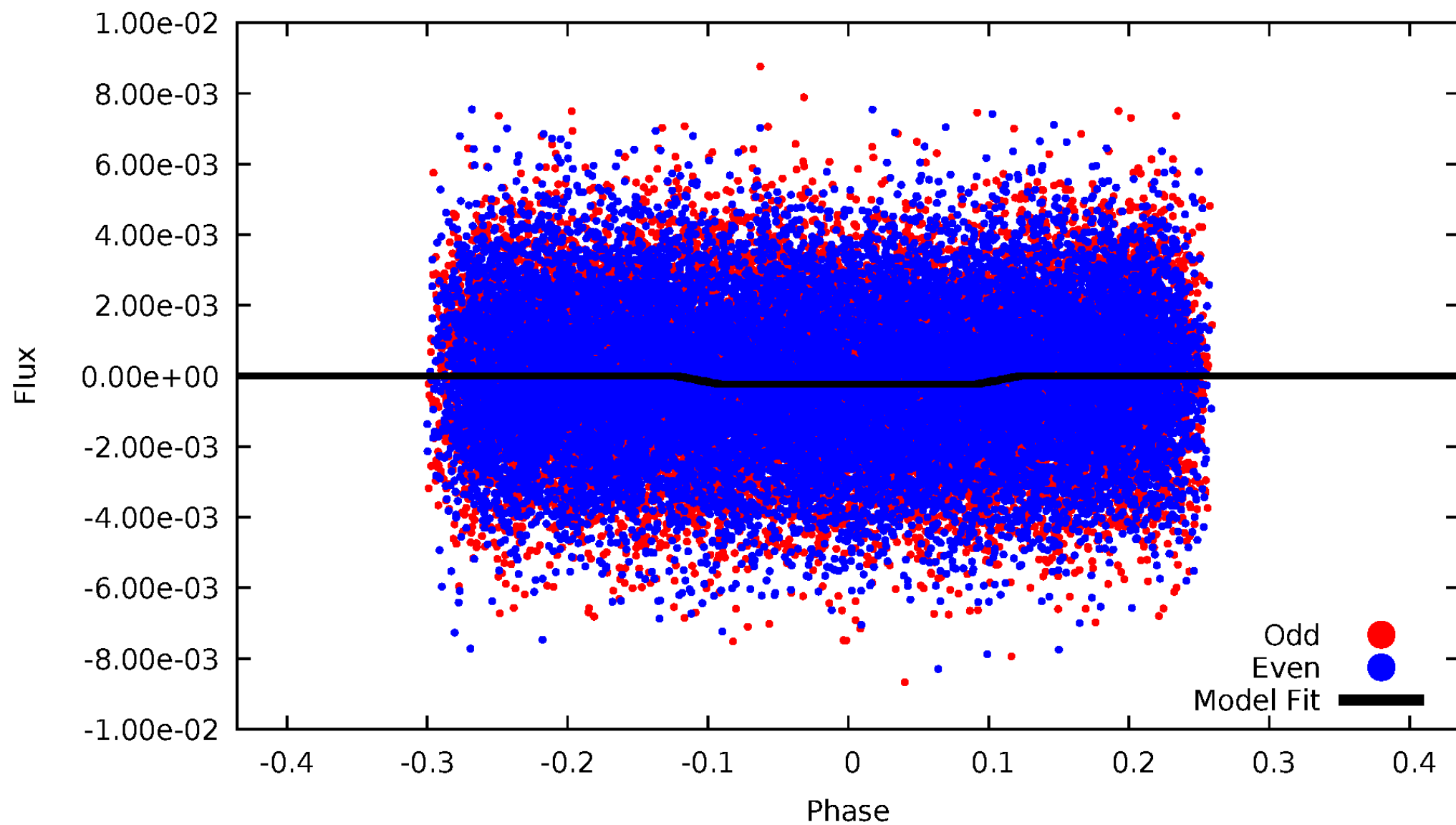
DV Odd/Even

TCE 011868514-02



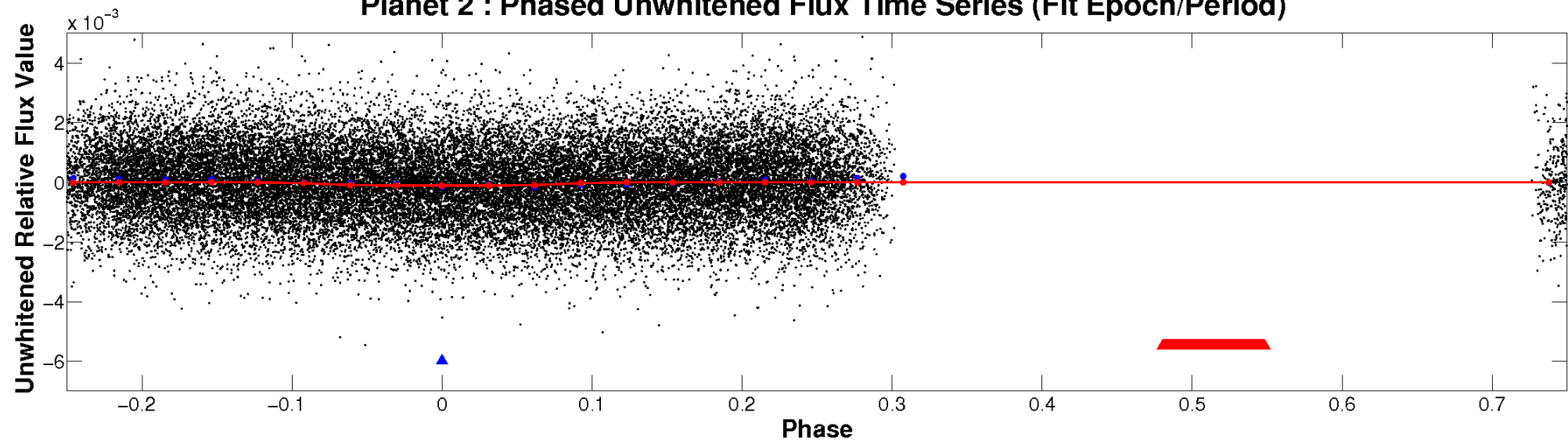
ALT Odd/Even

TCE 011868514-02

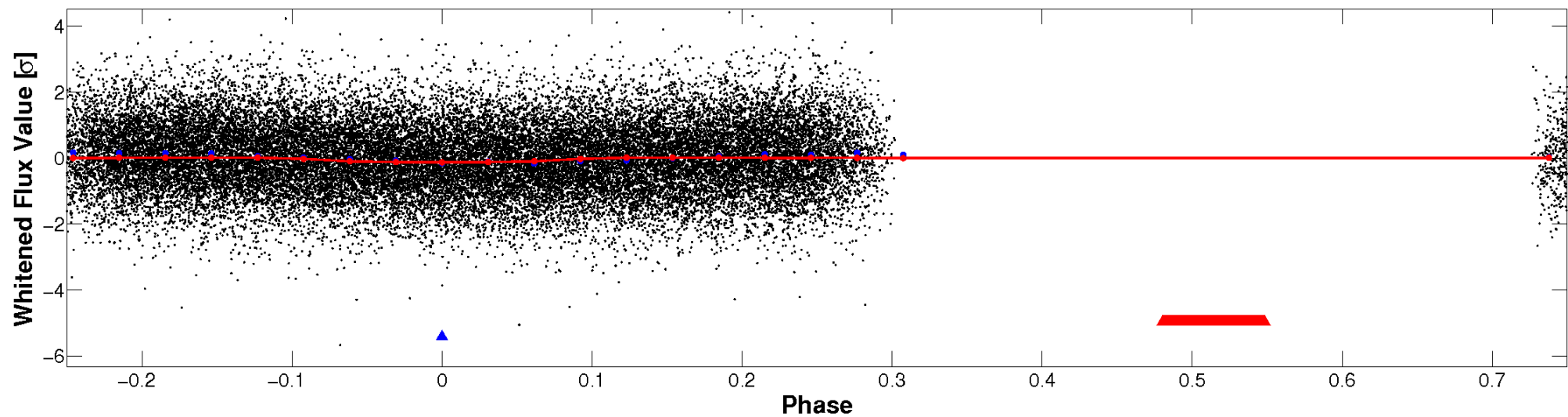


Non-Whitened Vs. Whitened Light Curve

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

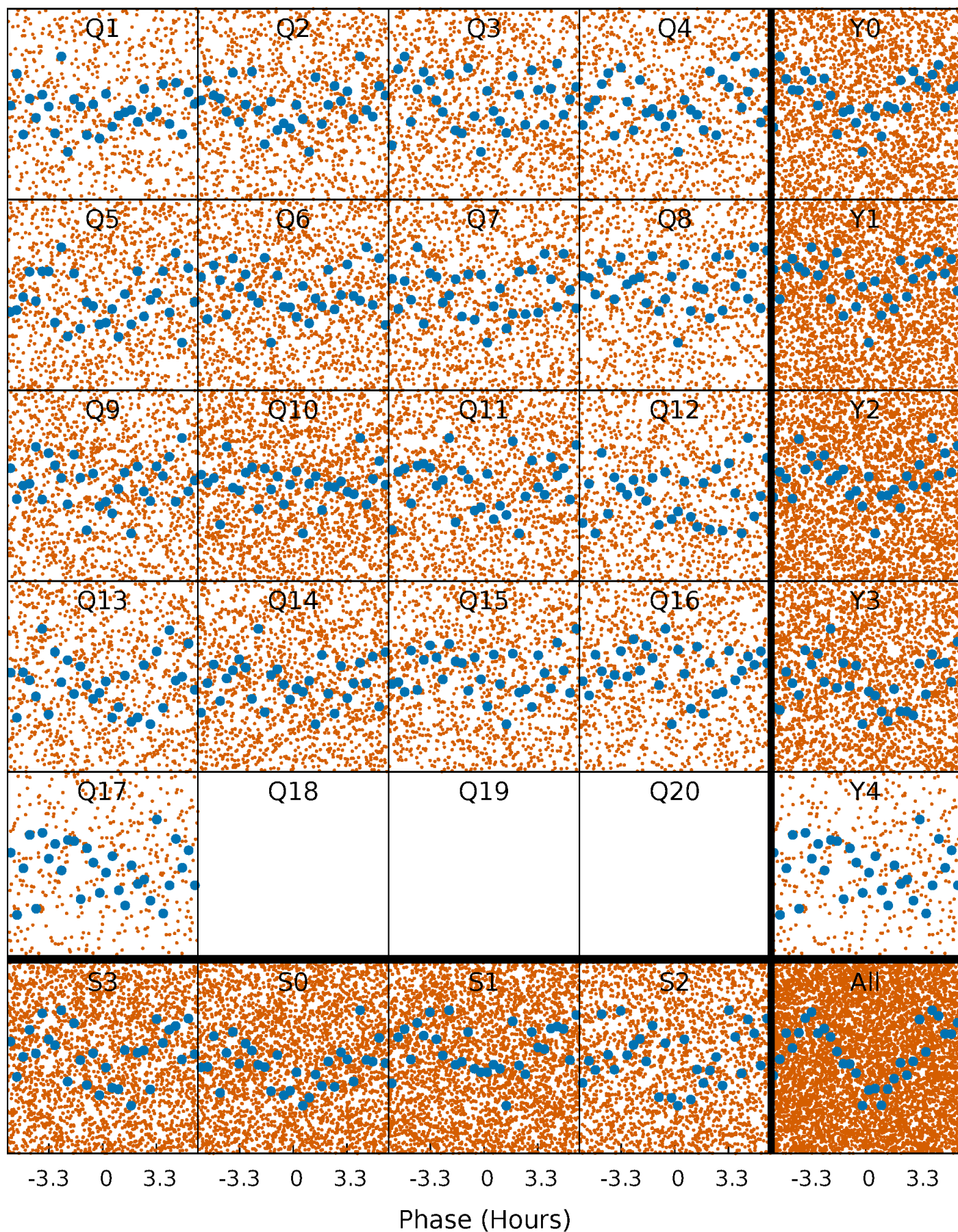


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



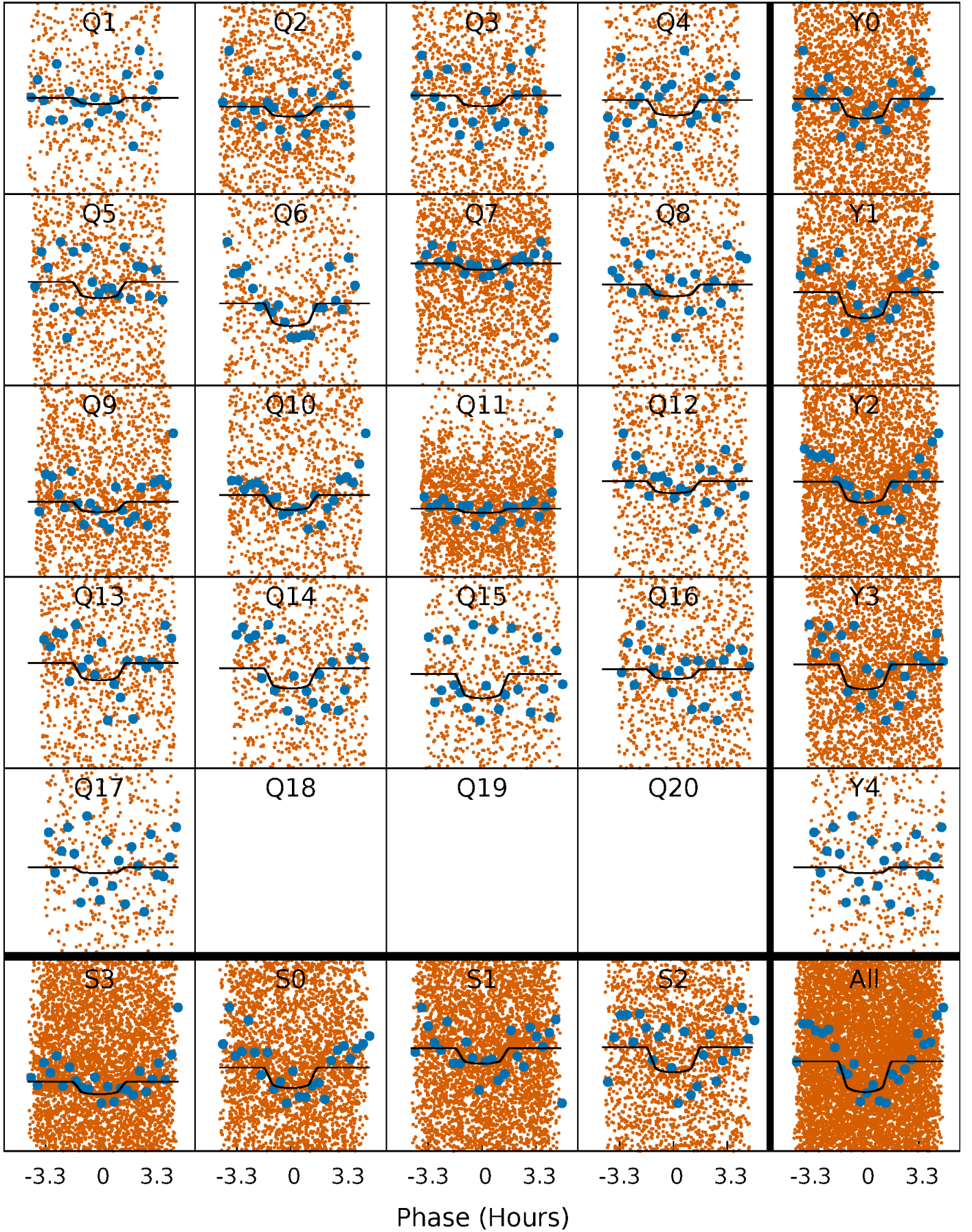
PDC Quarter-Phased Transit Curves

TCE 011868514-02 P= 0.664637 Days $T_0=131.756252$ (BKJD)



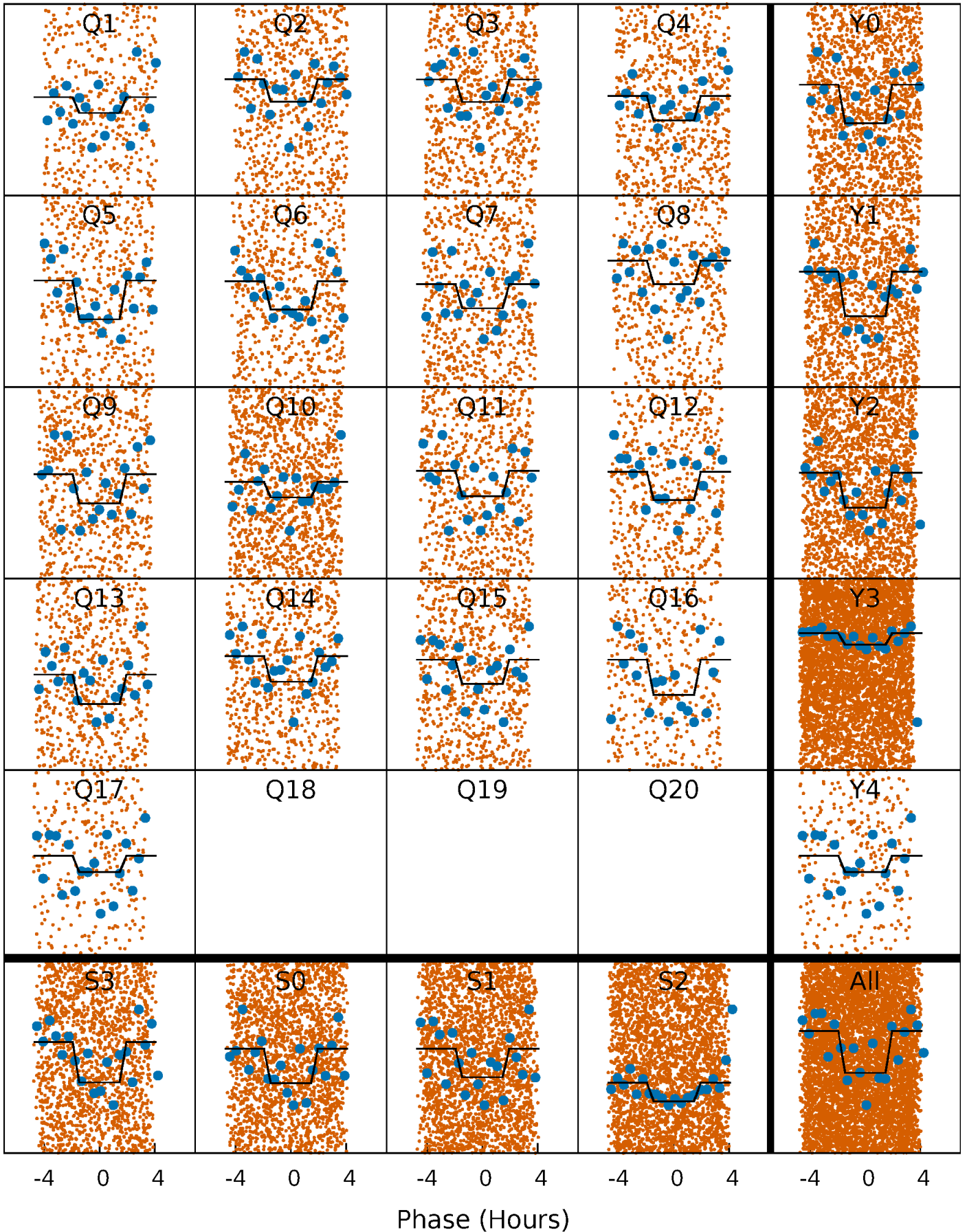
DV Quarter-Phased Transit Curves

TCE 011868514-02 P= 0.664637 Days $T_0=131.756252$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

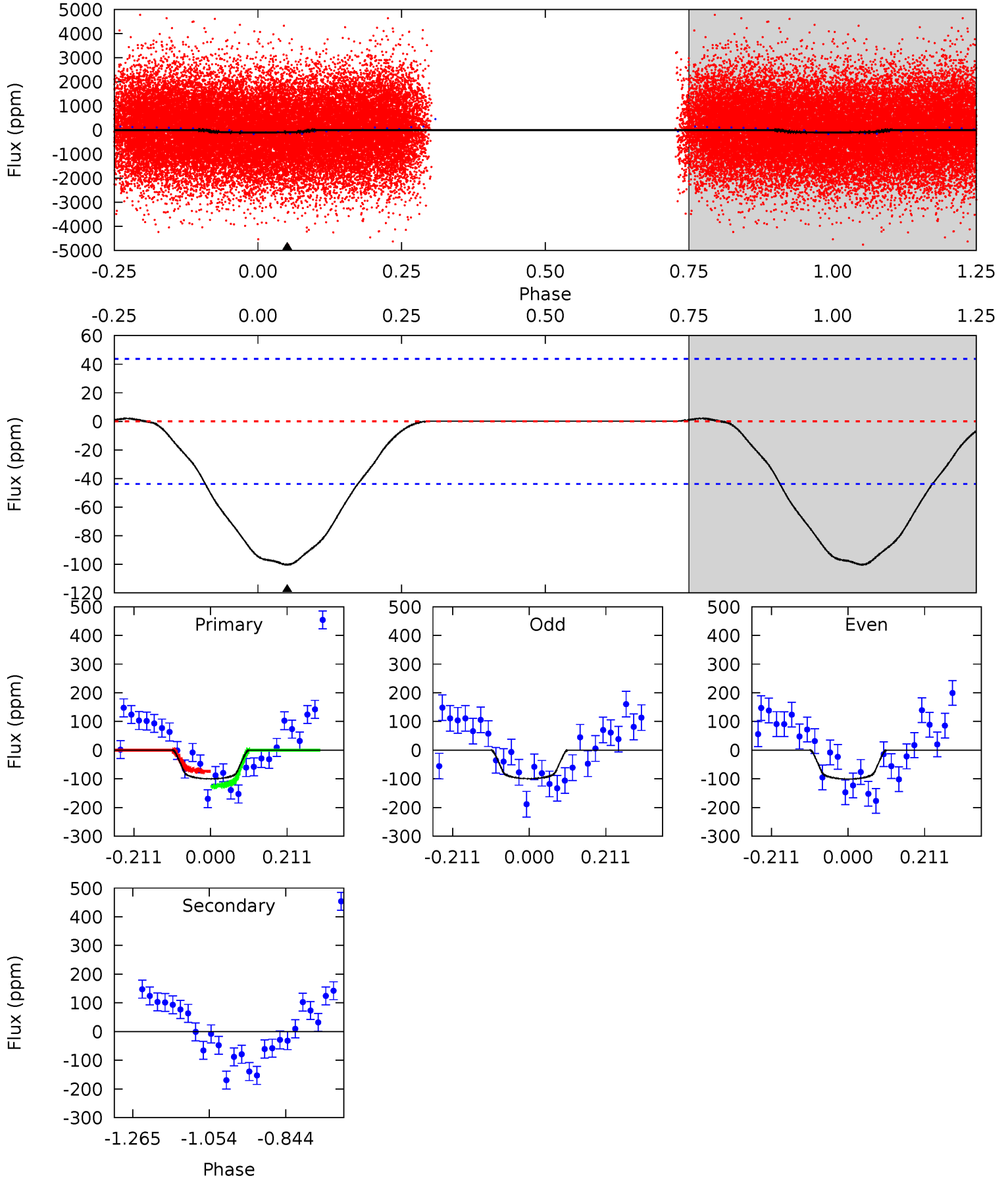
TCE 011868514-02 P= 0.664673 Days $T_0=131.740379$ (BKJD)



DV Model-Shift Uniqueness Test

011868514-02, P = 0.664637 Days, E = 131.091615 Days

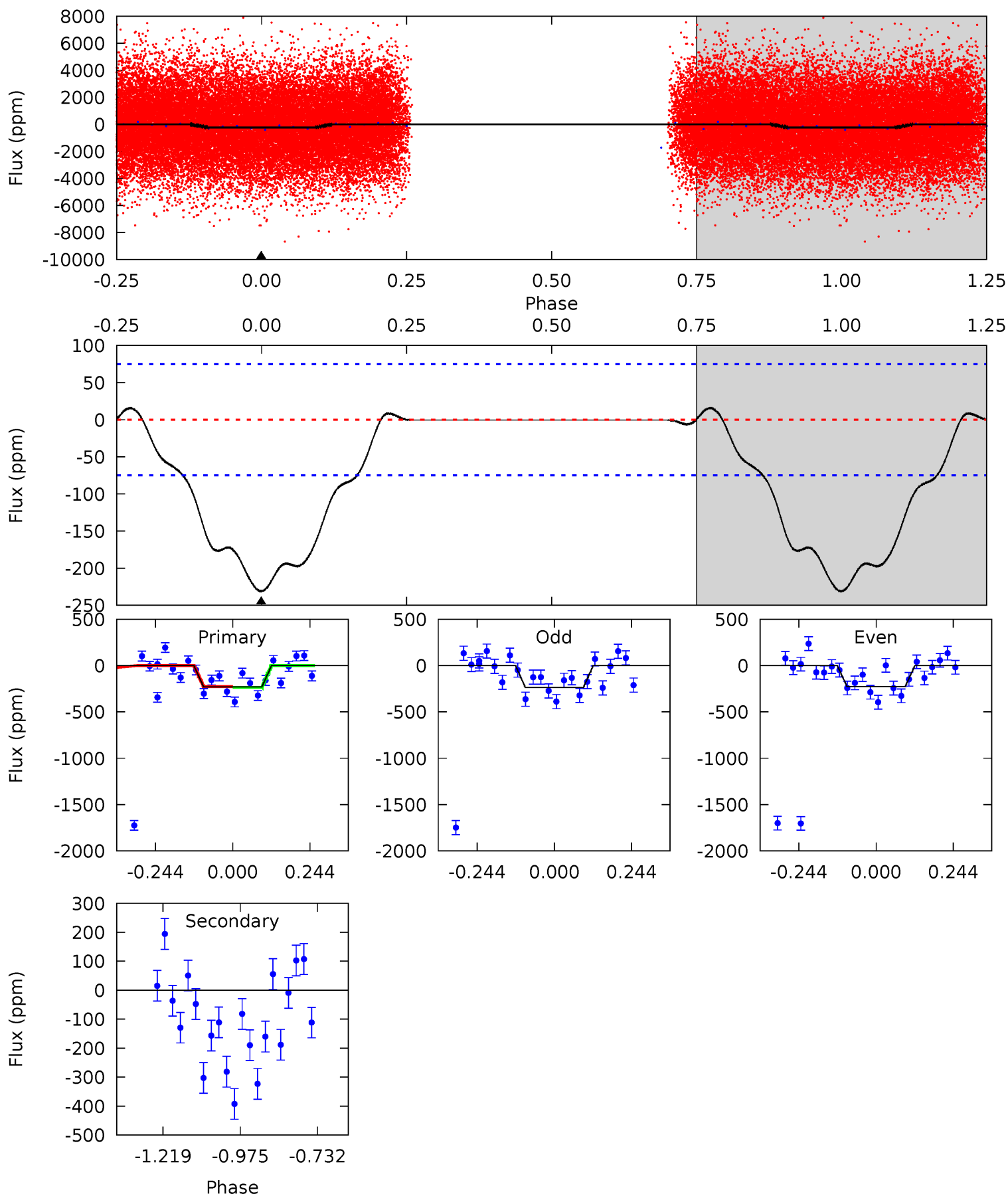
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	0	0	0	4.41	1.25	0.24	10.1	10.1	0	0	0.07	1.02	0.02	2.60



Alt Model-Shift Uniqueness Test

011868514-02, P = 0.664673 Days, E = 131.075706 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	0	0	0	4.37	1.17	0.36	13.5	13.5	0	0	0.27	0.97	0.06	0.27



Stellar Parameters For KIC 011868514

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7143^{+225}_{-300}	$4.006^{+0.286}_{-0.154}$	$-0.500^{+0.250}_{-0.300}$	$1.924^{+0.477}_{-0.715}$	$1.368^{+0.182}_{-0.251}$	$0.271^{+0.537}_{-0.122}$
	+3%/-4%	+7%/-4%	+50%/-60%	+25%/-37%	+13%/-18%	+198%/-45%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 011868514-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 10	$2.32^{+1.42}_{-1.31}$	4697^{+375}_{-437}	-4064^{+7395}_{-693}	$0.012^{+0.387}_{-0.334}$
Alt.	0 ± 17	$3.09^{+1.46}_{-1.29}$	4701^{+358}_{-454}	-4092^{+6979}_{-696}	$0.002^{+0.330}_{-0.371}$

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 $A_{obs} \gg 1.0$

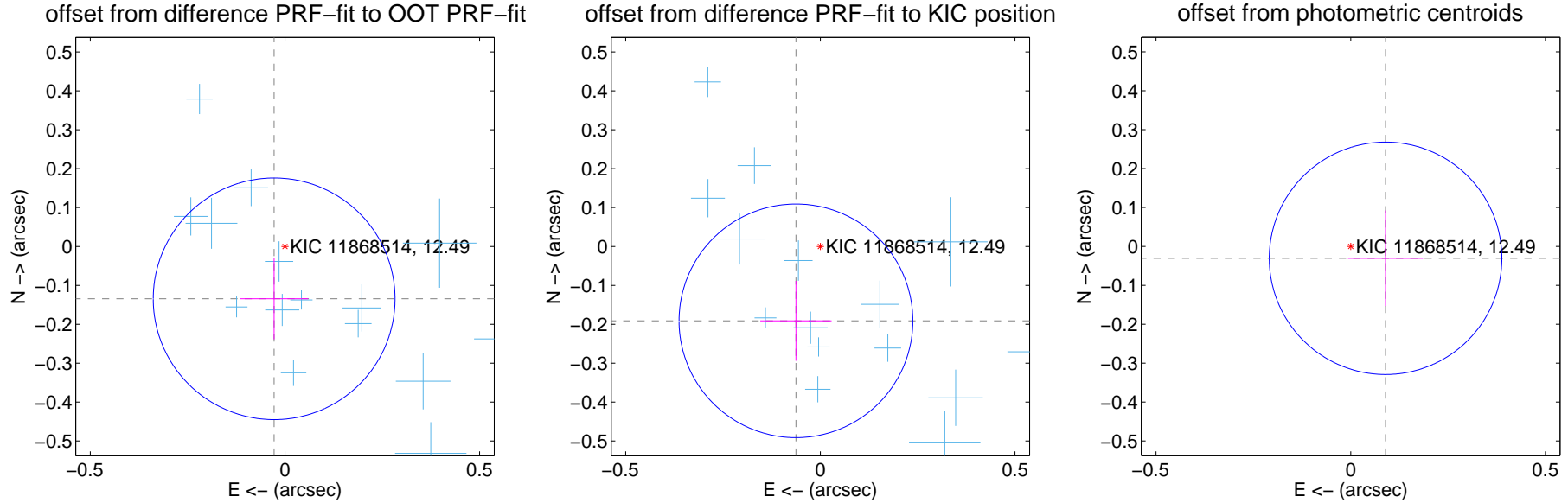
DV Centroid Data

Supplemental centroid analysis for 011868514-02. Kepler magnitude: 12.49. Transit SNR 11.19

There are 17 quarters with good PRF difference image offsets

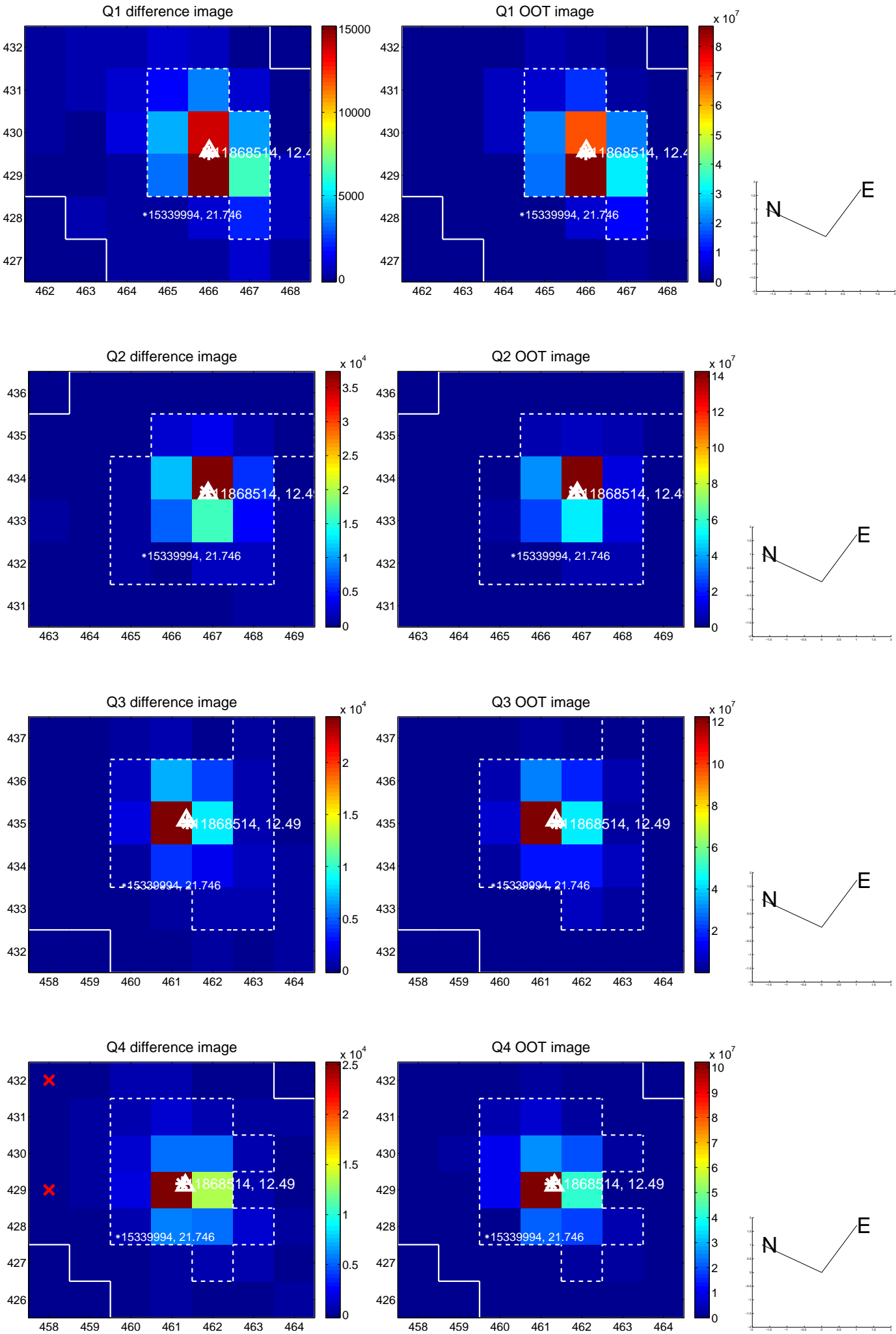
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.137 ± 0.103	1.33	0.028 ± 0.088	-0.135 ± 0.104
PRF-fit source offset from KIC position	0.201 ± 0.100	2.01	0.063 ± 0.092	-0.191 ± 0.103
photometric centroid source offset	0.09 ± 0.10	0.95	-0.09 ± 0.10	-0.03 ± 0.12

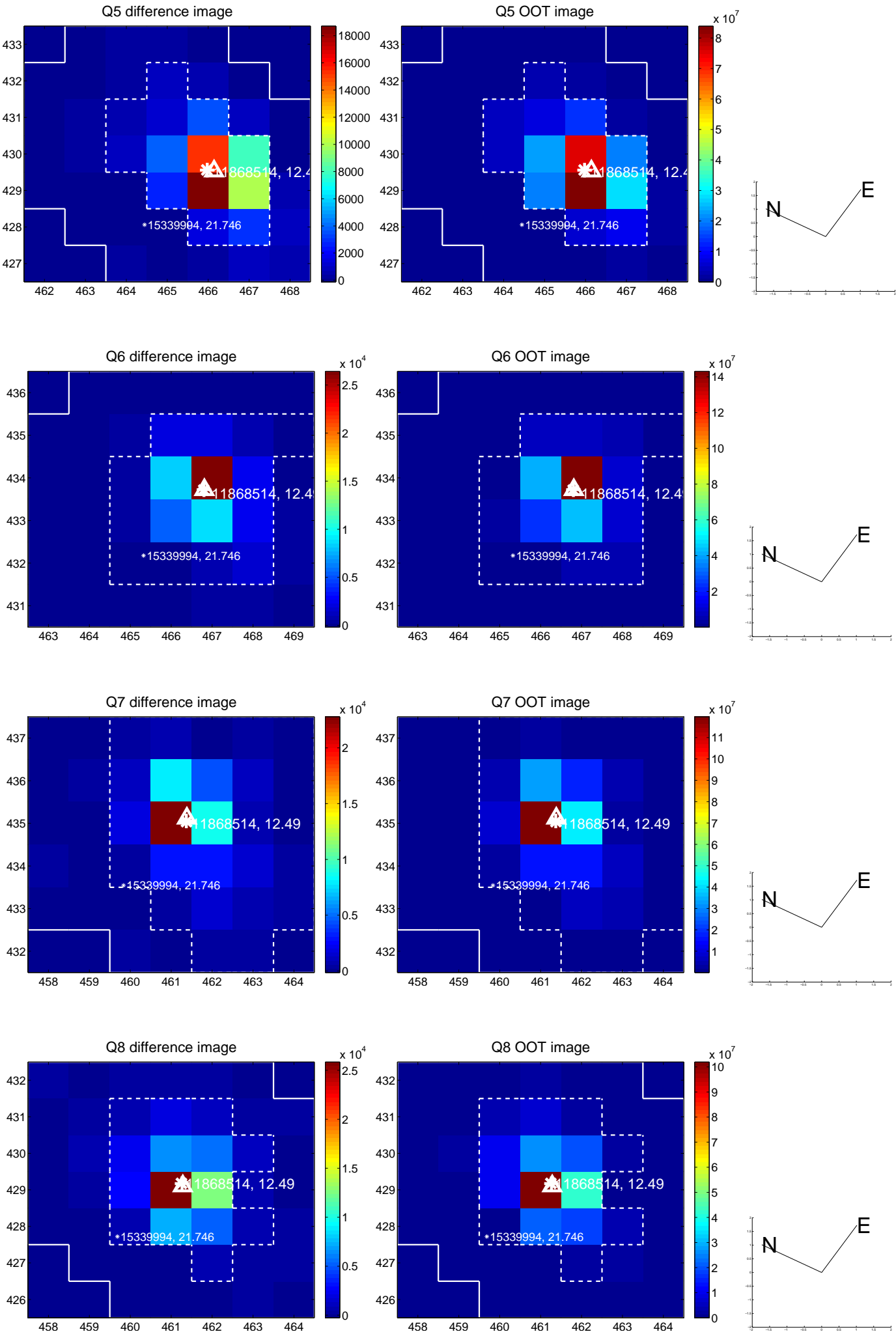


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

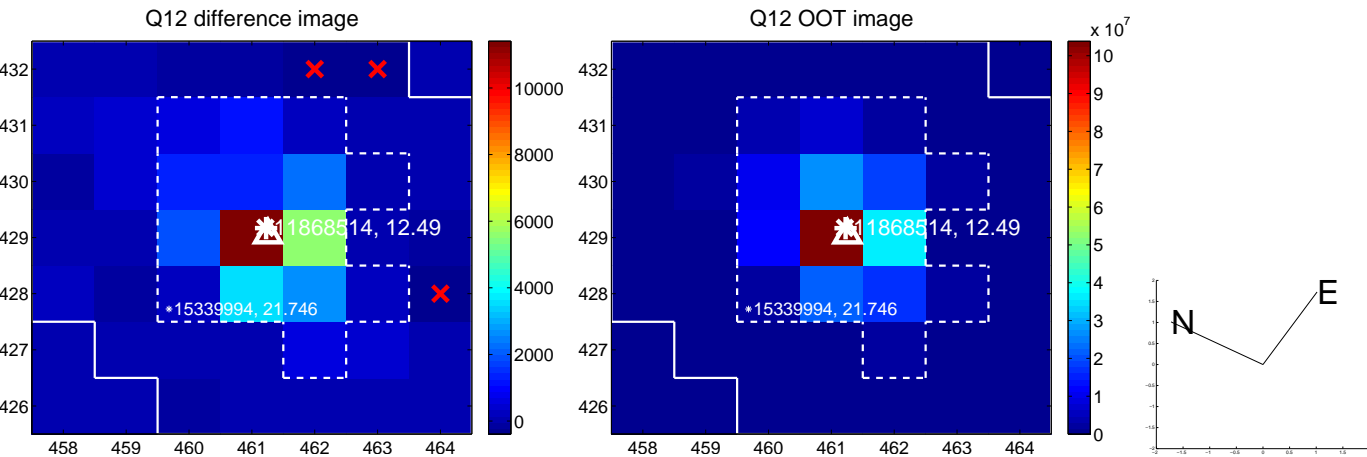
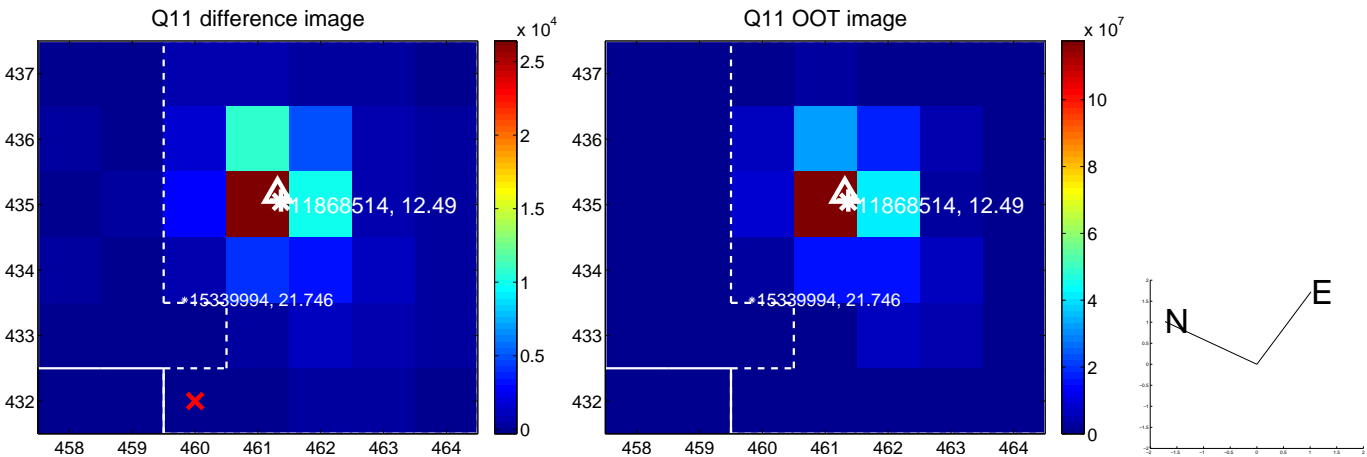
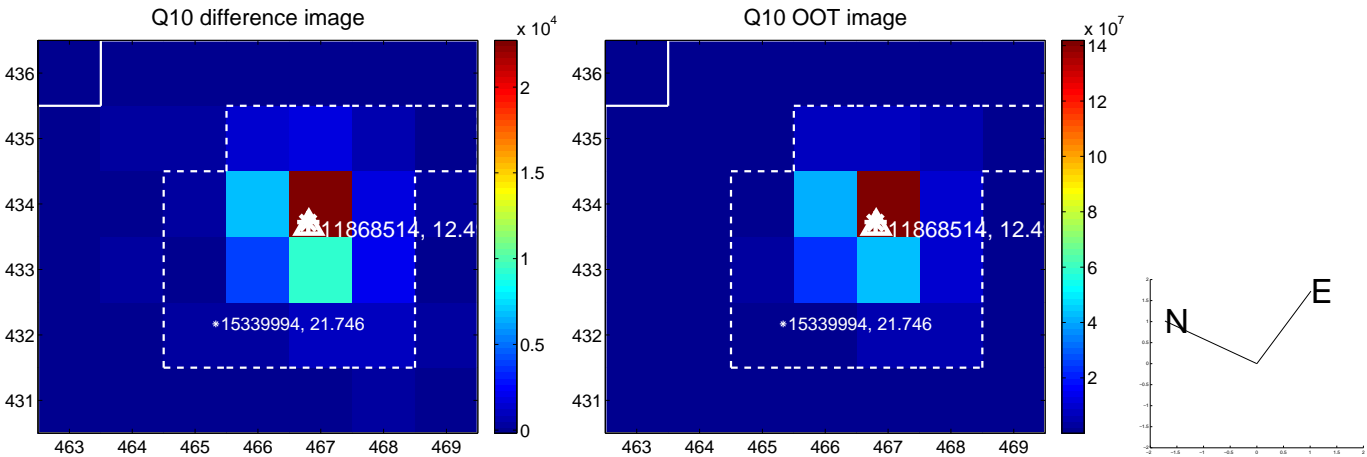
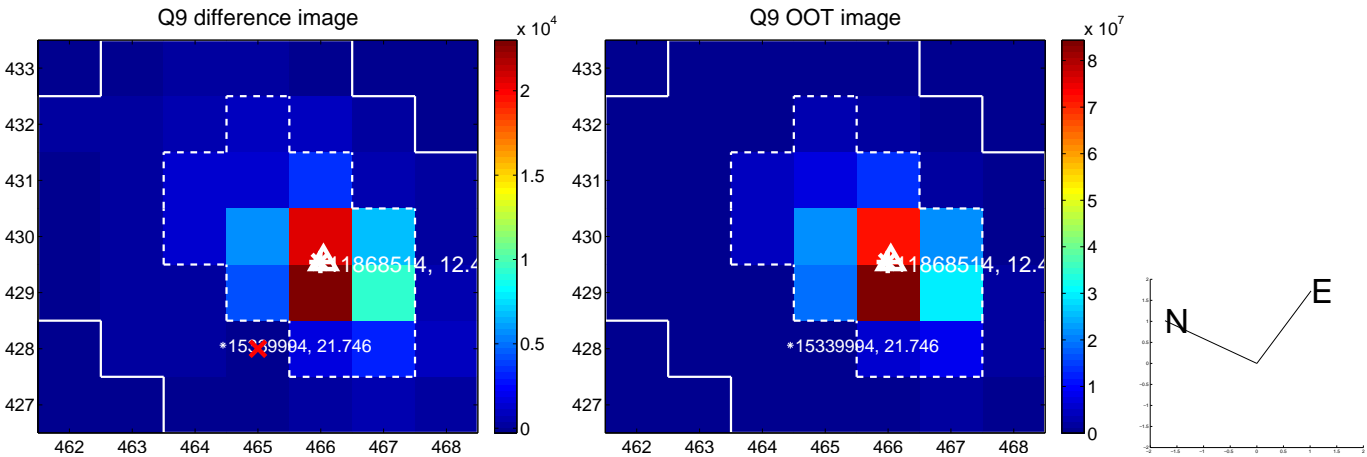
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



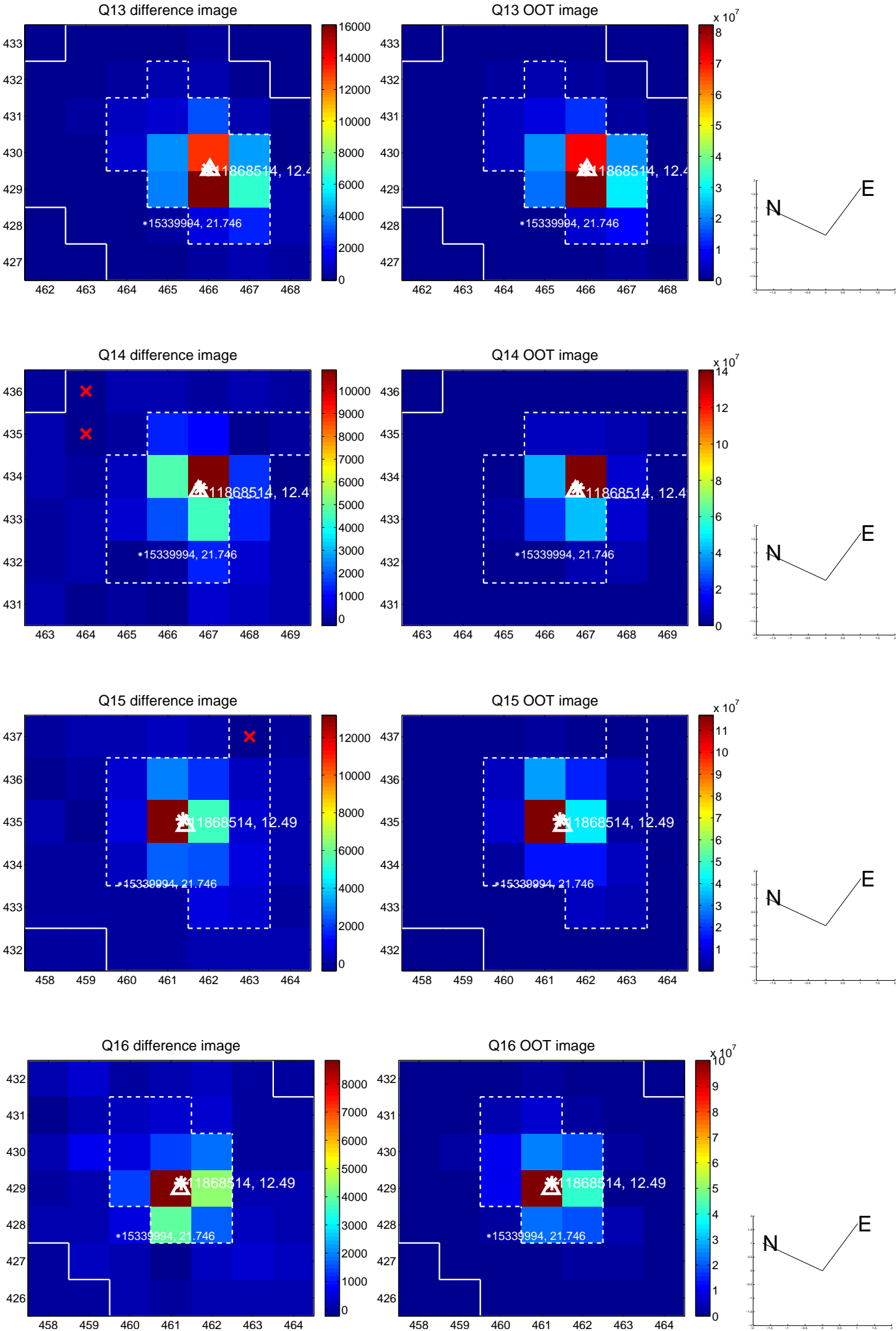
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



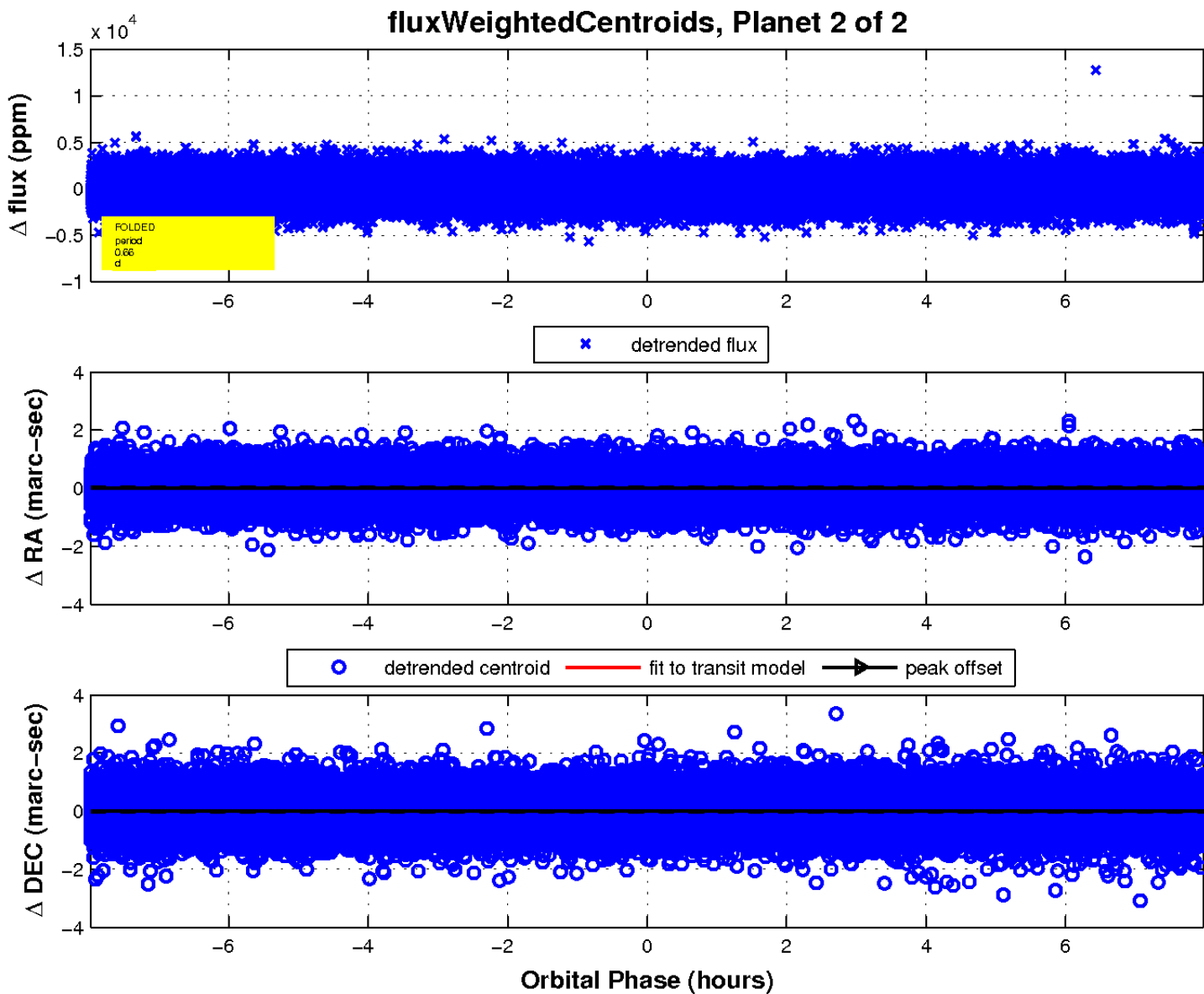
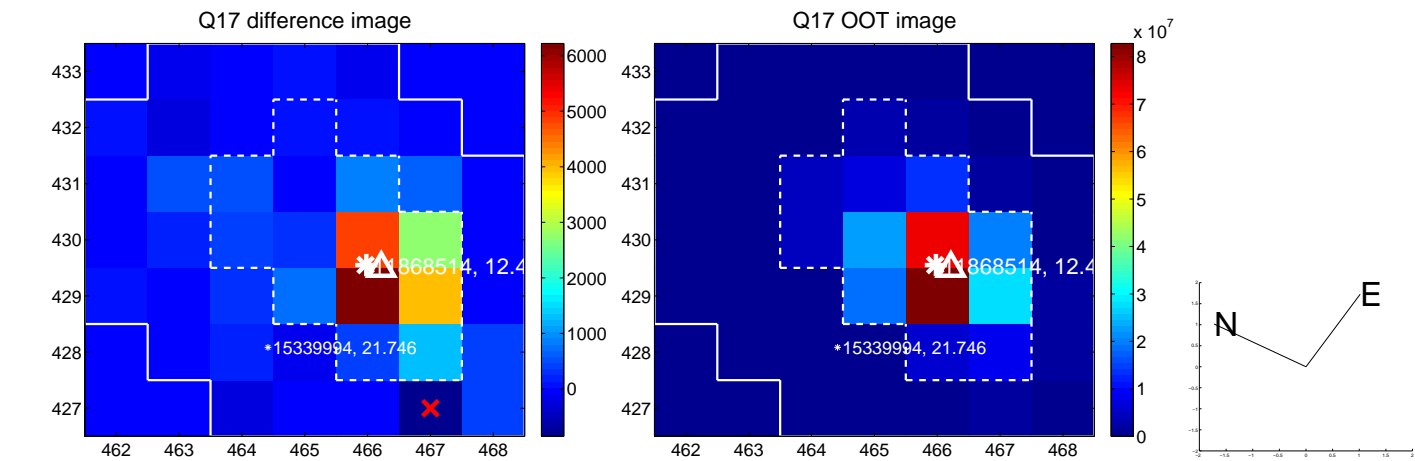
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

