

KIC 011468301

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})
011468301-01	OBS	No	5.086703	132.999316	52.1	12.565	8.9	8.7	2.81	6587	2.36	2904.15
011468301-02	OBS	No	5.086401	134.881223	92.7	19.886	9.7	11.1	2.81	6587	5.40	2904.38

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011468301-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
011468301-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_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.

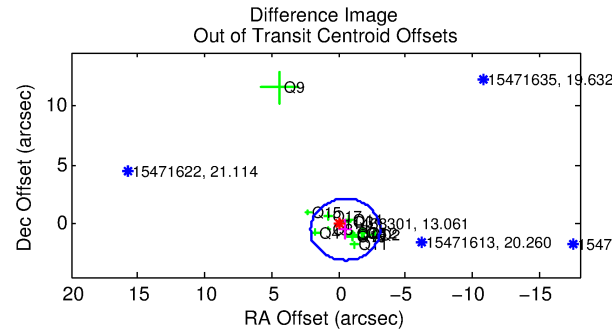
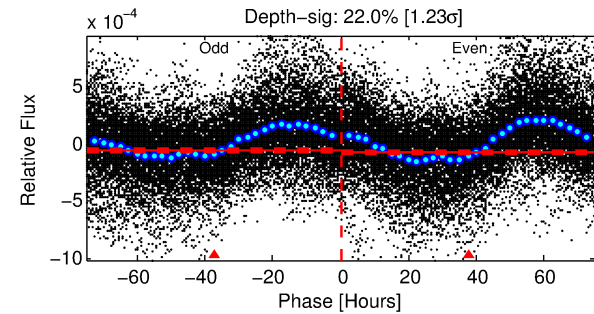
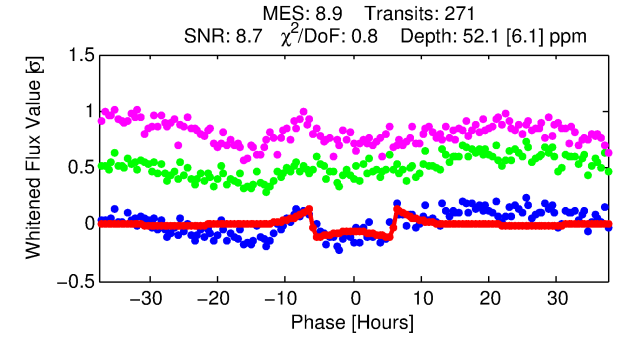
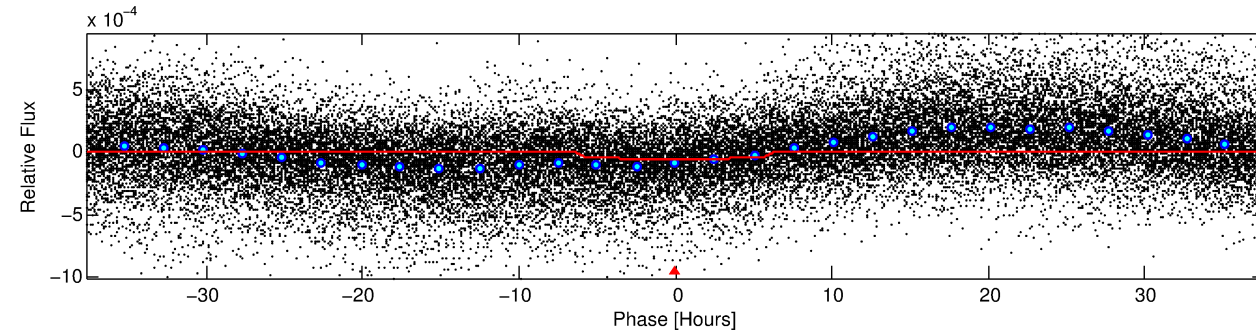
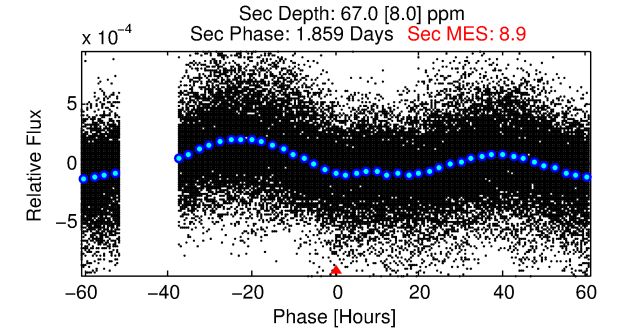
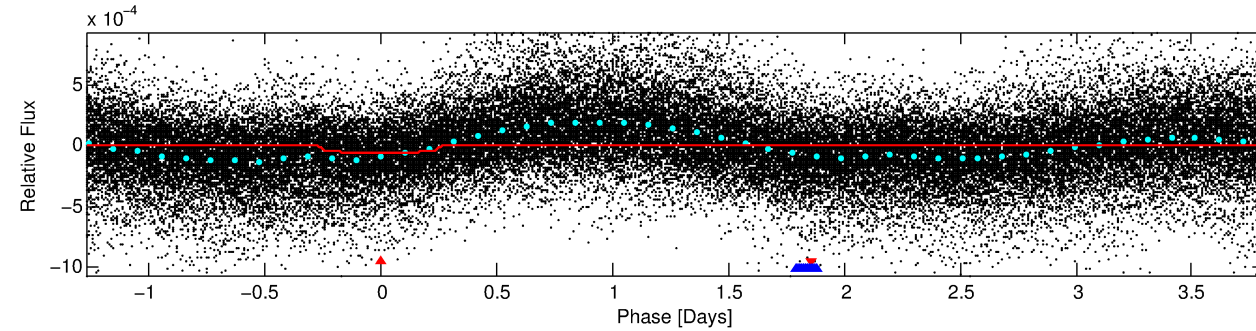
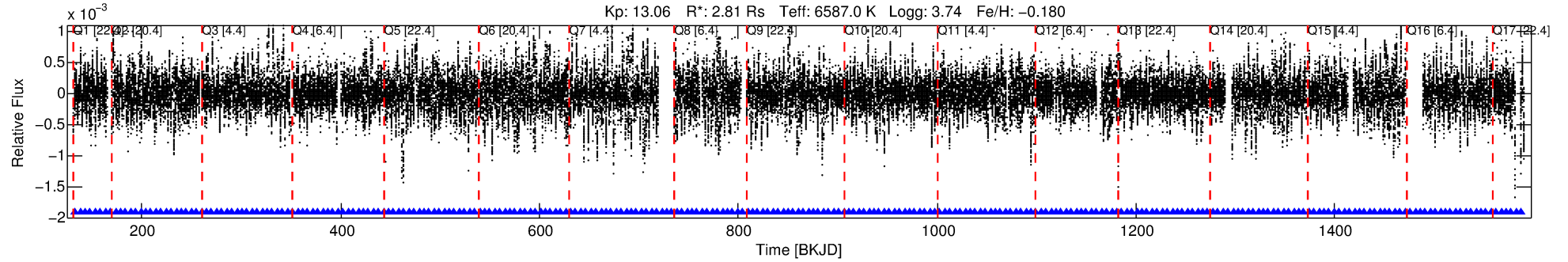
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011468301-01

No Significant Match Found

DV One-Page Summary

KIC: 11468301 Candidate: 1 of 2 Period: 5.087 d



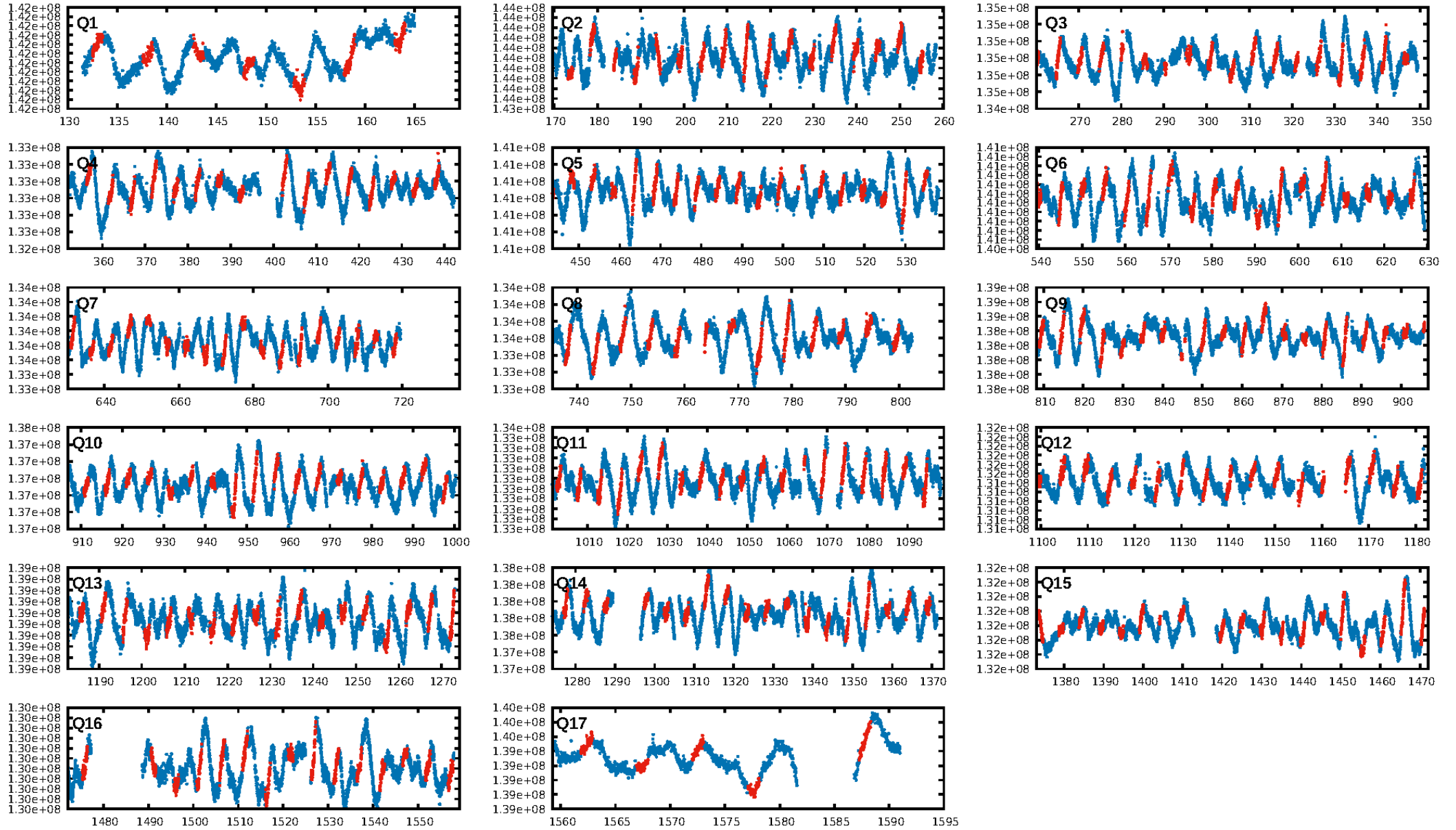
DV Fit Results:

Period = 5.08670 [0.00004] d
Epoch = 132.9993 [0.0061] BKJD
Rp/R* = 0.0077 [0.0008]
a/R* = 1.68 [0.46]
b = 0.90 [0.09]
Seff = 2904.15 [1586.48]
Teff = 1872 [256] K
Rp = 2.36 [0.86] Re
a = 0.0676 [0.0226] AU
Ag = 30.13 [17.49] [1.67σ]
Teffp = 6781 [441] K [9.64σ]

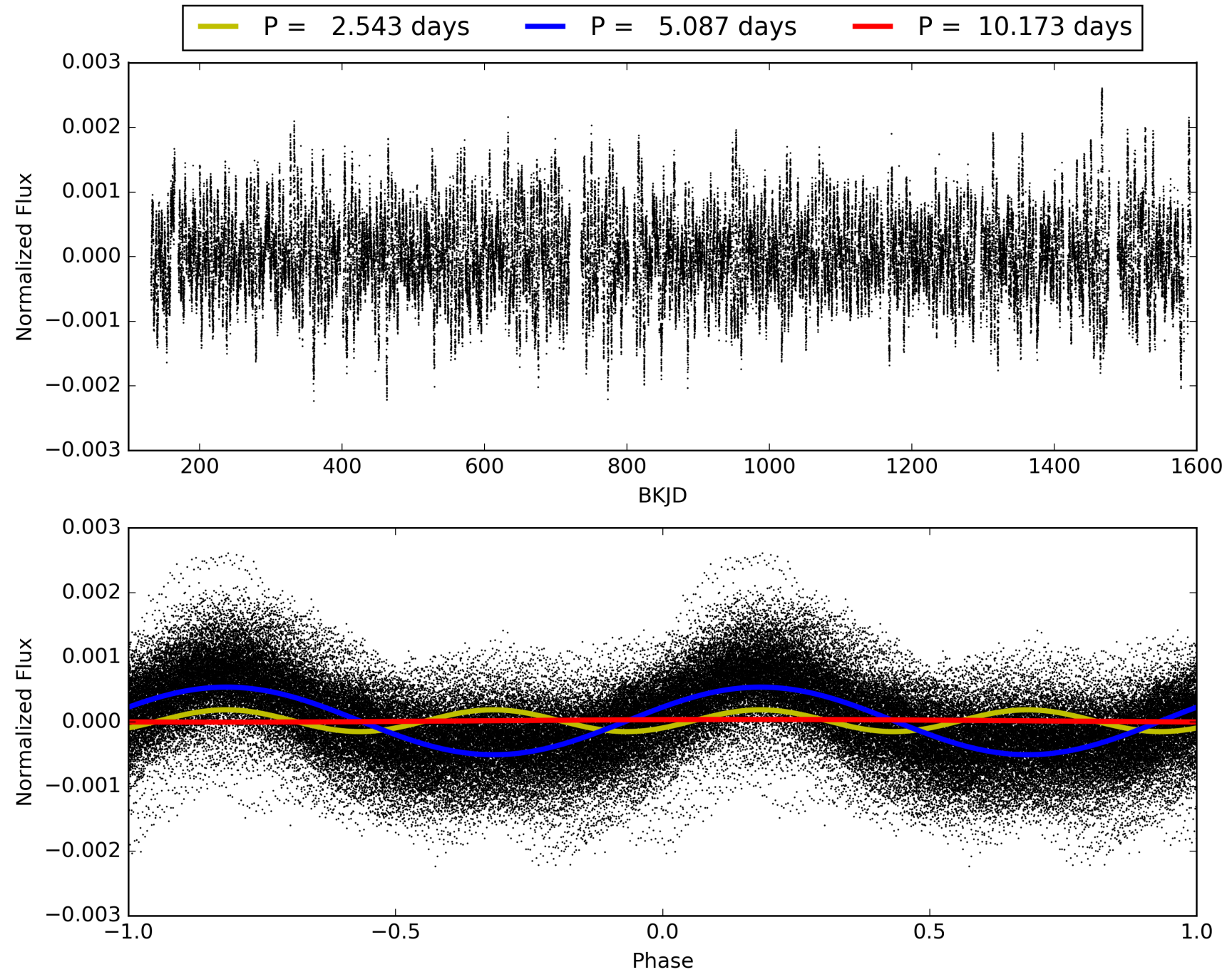
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.21e-11
RollingBand-fgt: 1.00 [259/259]
GhostDiagnostic-chr: 0.7565
Centroid-sig: 3.7%
Centroid-so: 1.219 arcsec [2.13σ]
OotOffset-rm: 0.677 arcsec [0.78σ]
KicOffset-rm: 0.653 arcsec [0.84σ]
OotOffset-st: 4/4/4/3 [15]
KicOffset-st: 4/4/4/3 [15]
DiffImageQuality-fgm: 0.93 [14/15]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 011468301-01, PDC Light Curves

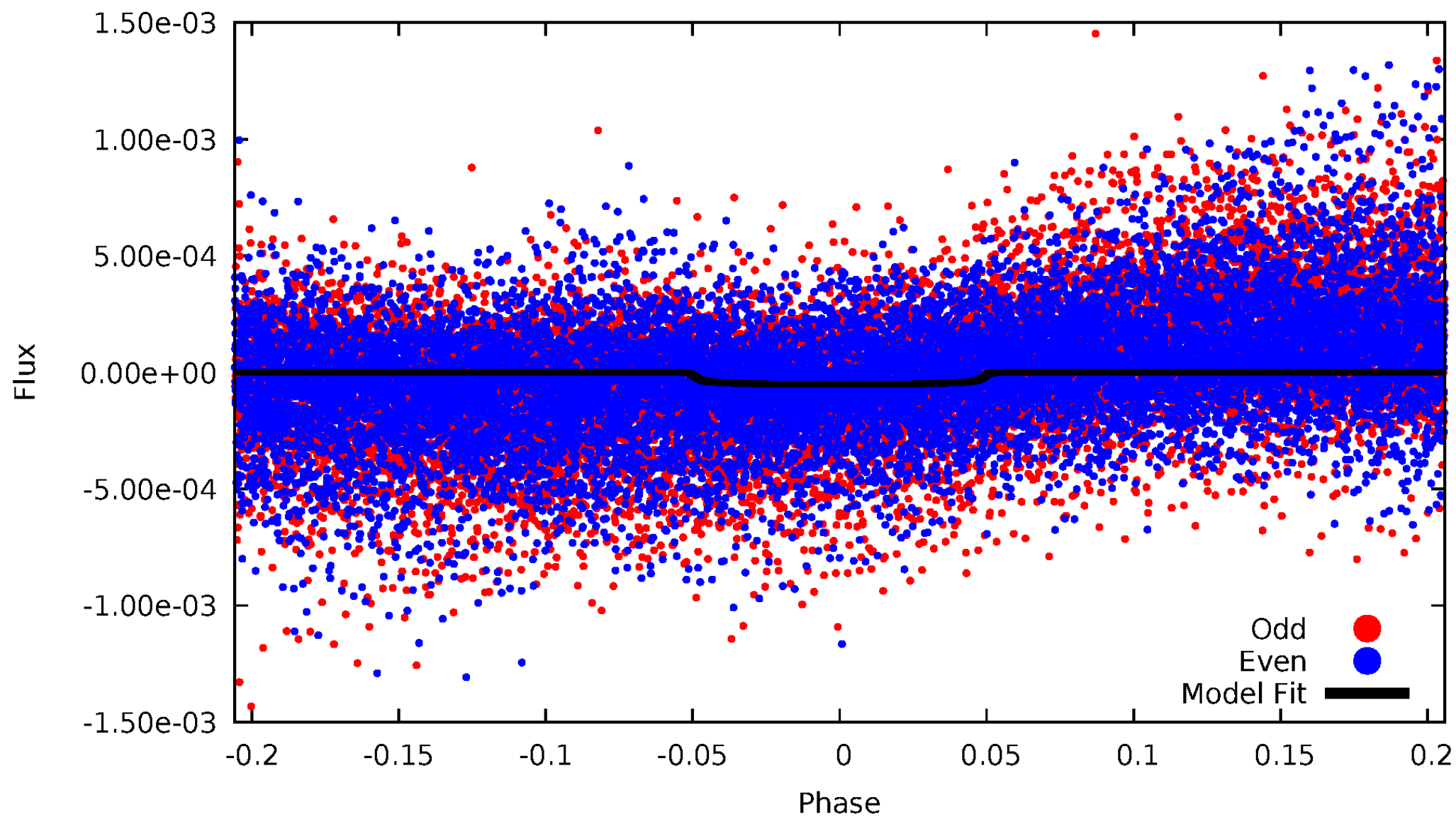


TCE 011468301-01



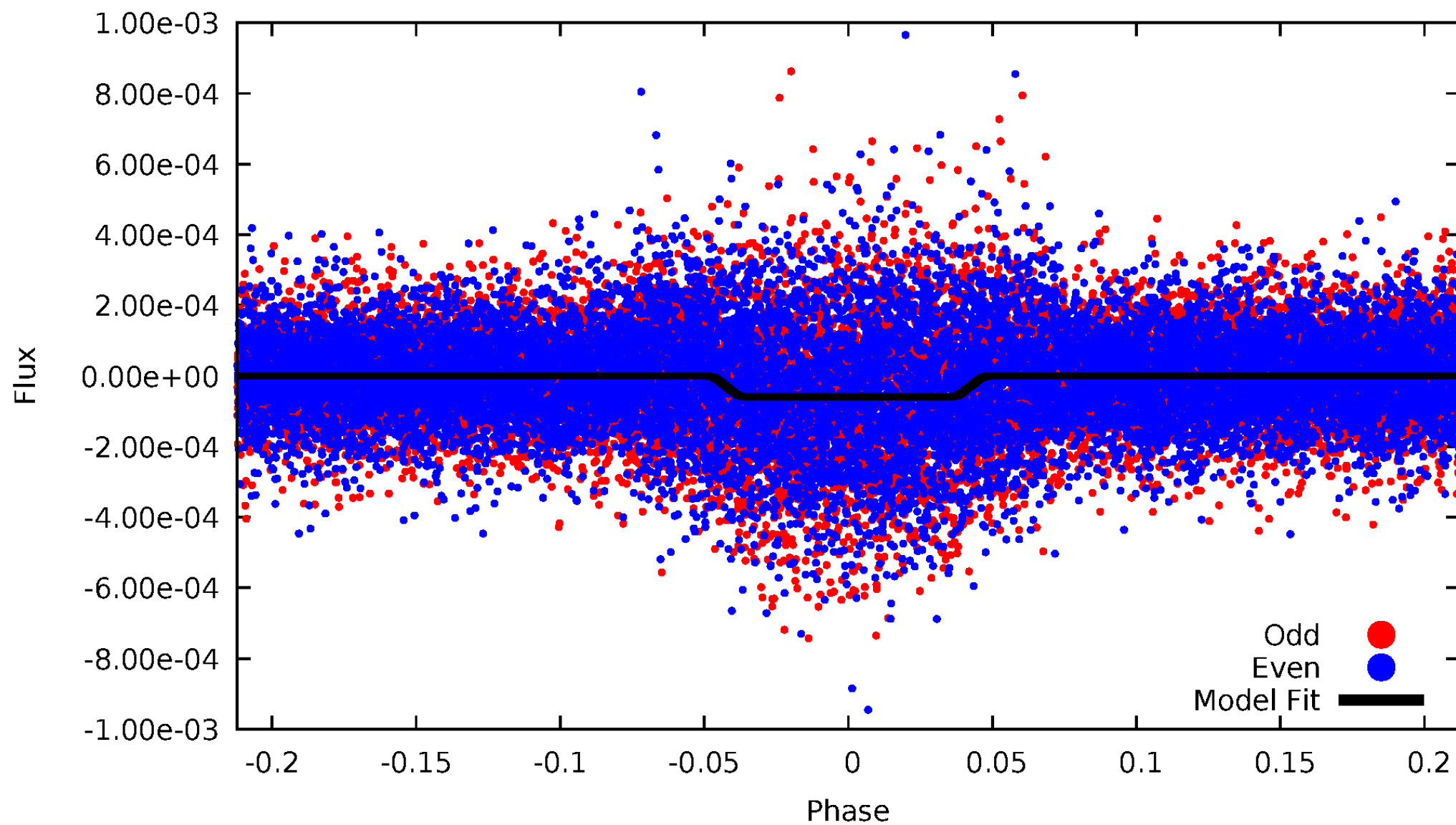
DV Odd/Even

TCE 011468301-01

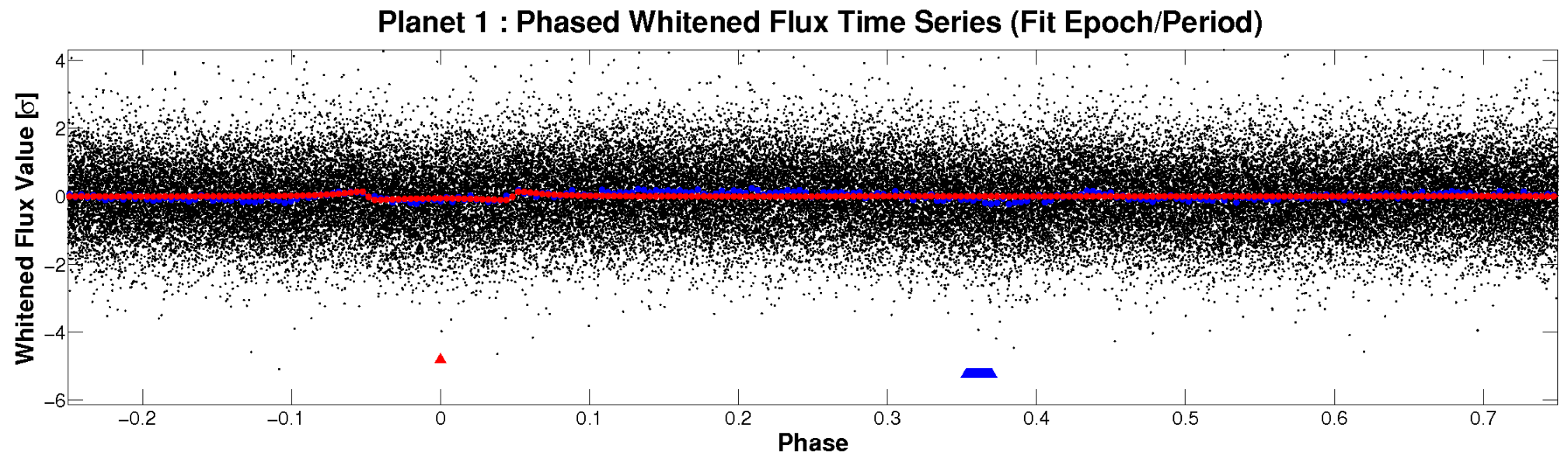
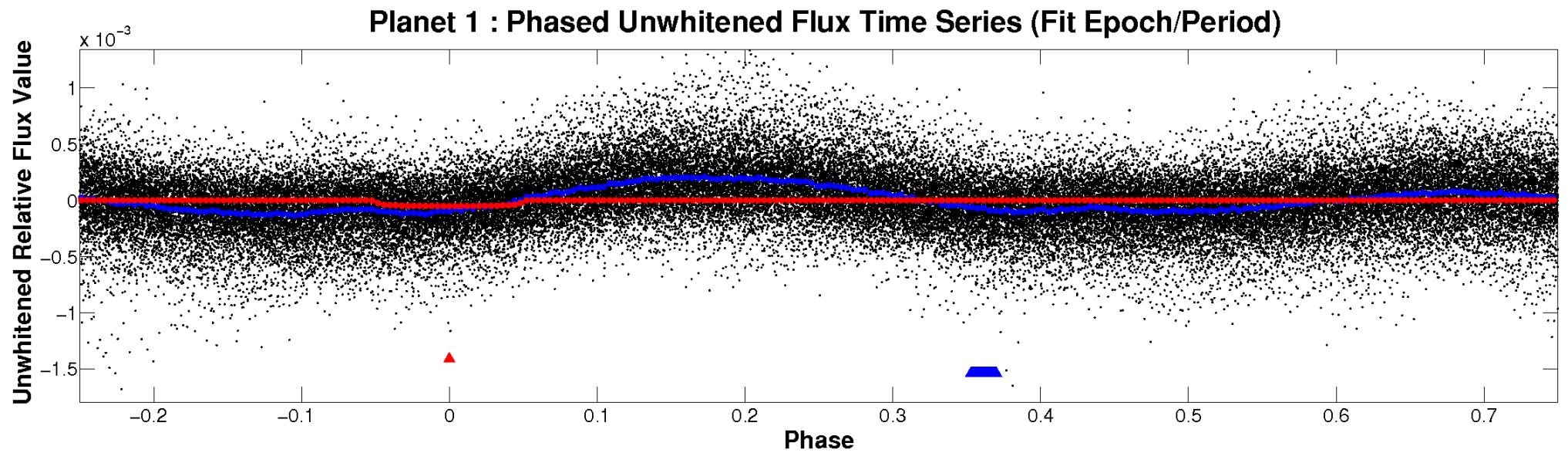


ALT Odd/Even

TCE 011468301-01

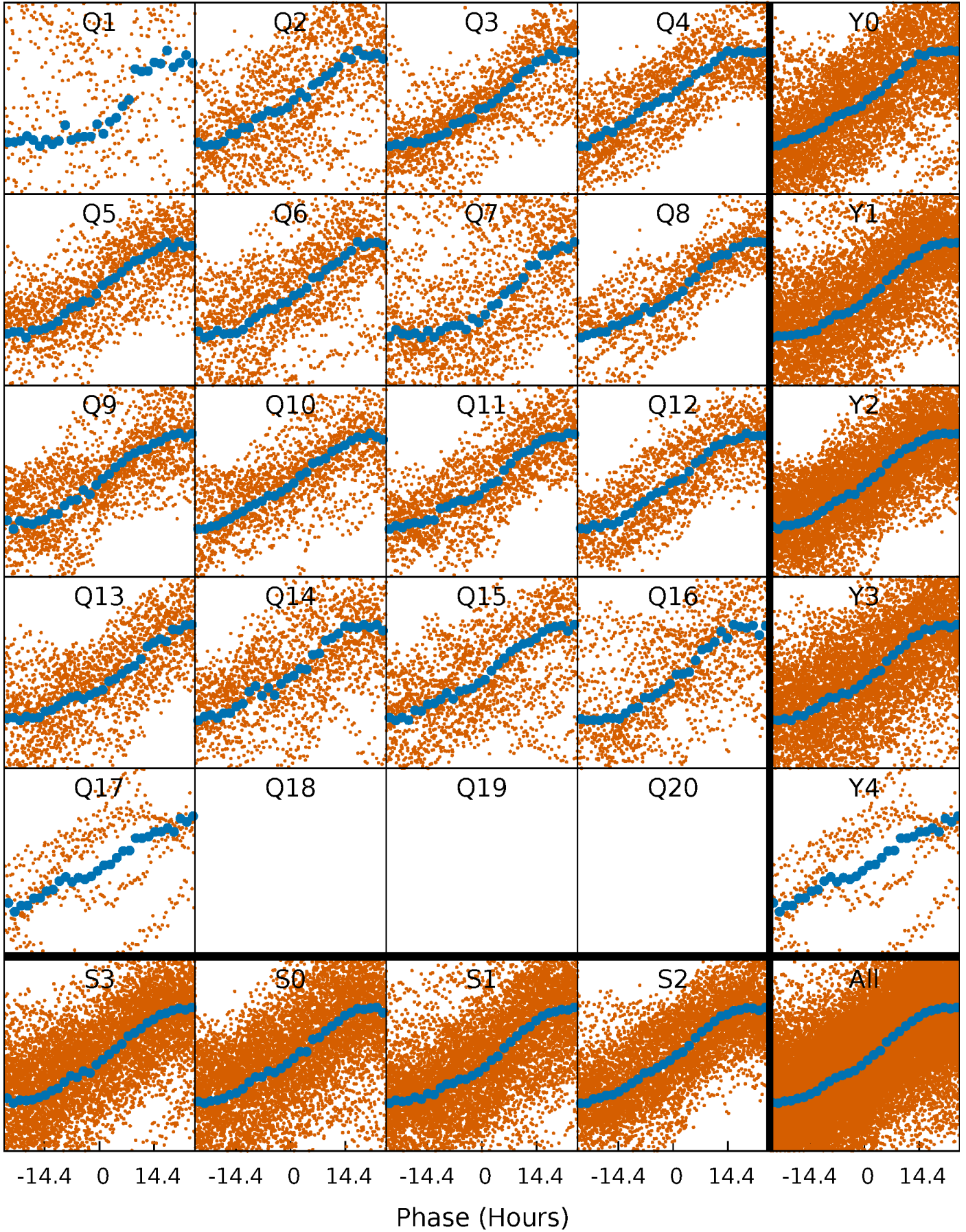


Non-Whitened Vs. Whitened Light Curve



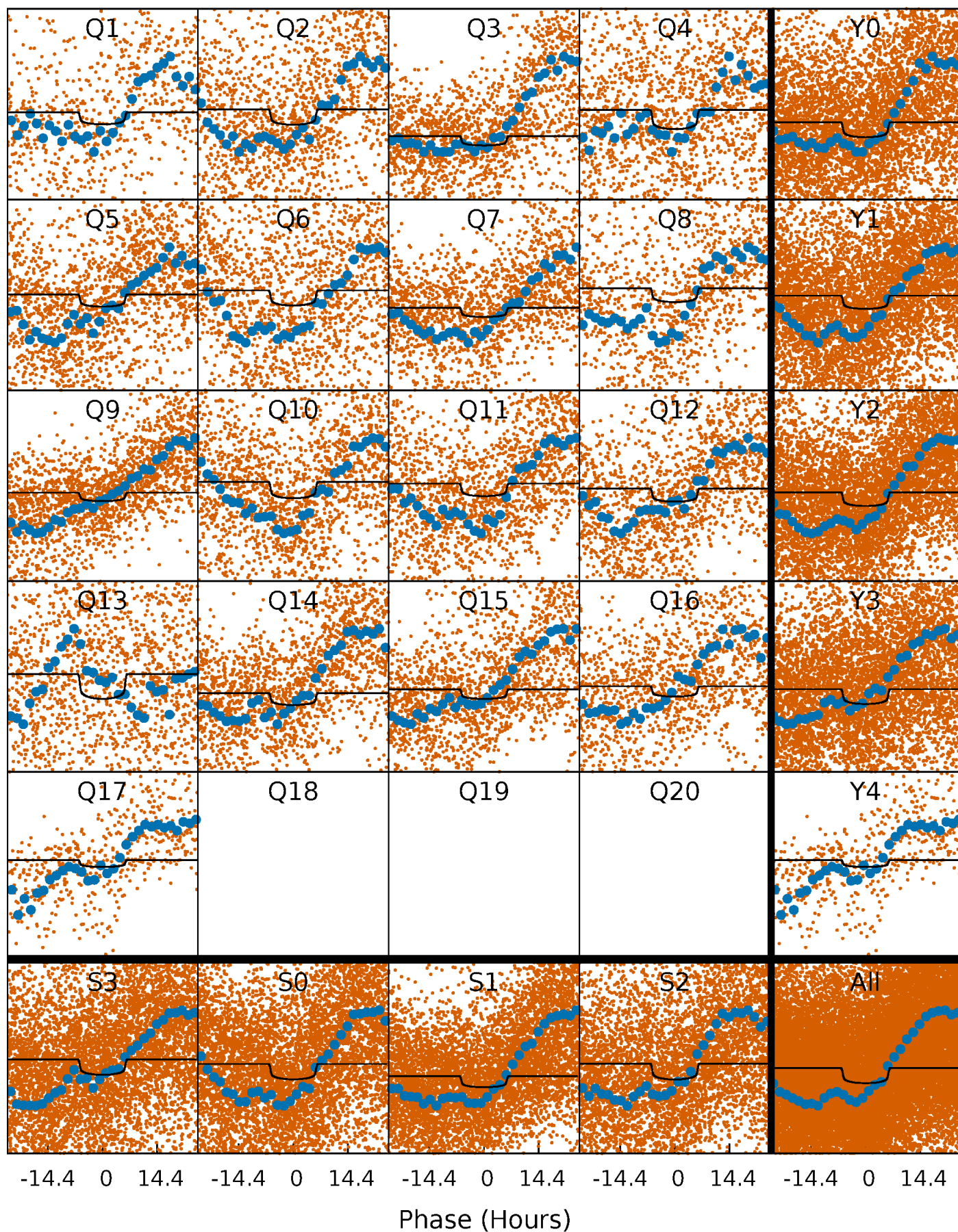
PDC Quarter-Phased Transit Curves

TCE 011468301-01 P= 5.086703 Days $T_0=132.999316$ (BKJD)



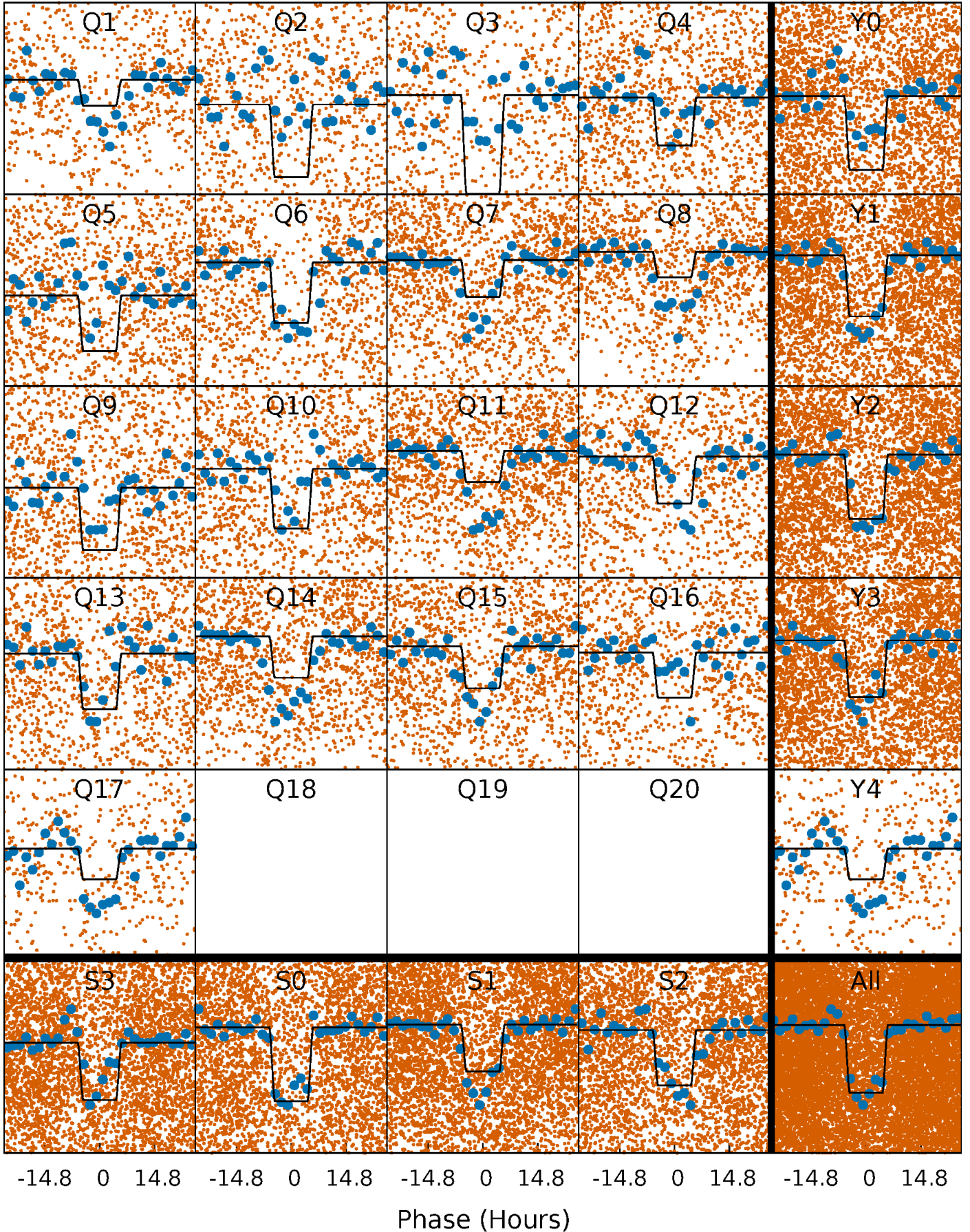
DV Quarter-Phased Transit Curves

TCE 011468301-01 P= 5.086703 Days $T_0=132.999316$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

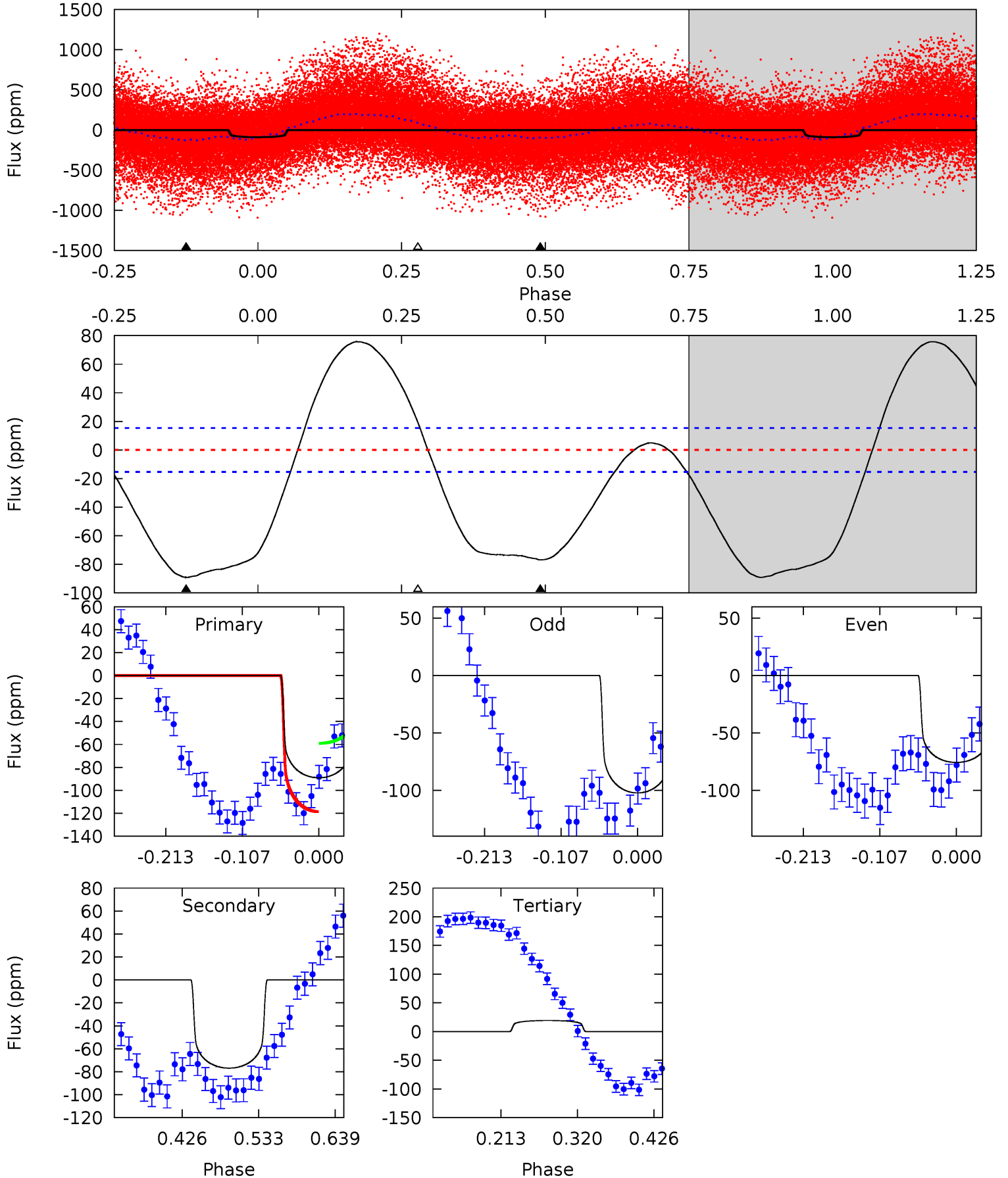
TCE 011468301-01 P= 5.086599 Days $T_0=133.013295$ (BKJD)



DV Model-Shift Uniqueness Test

011468301-01, P = 5.086703 Days, E = 127.912613 Days

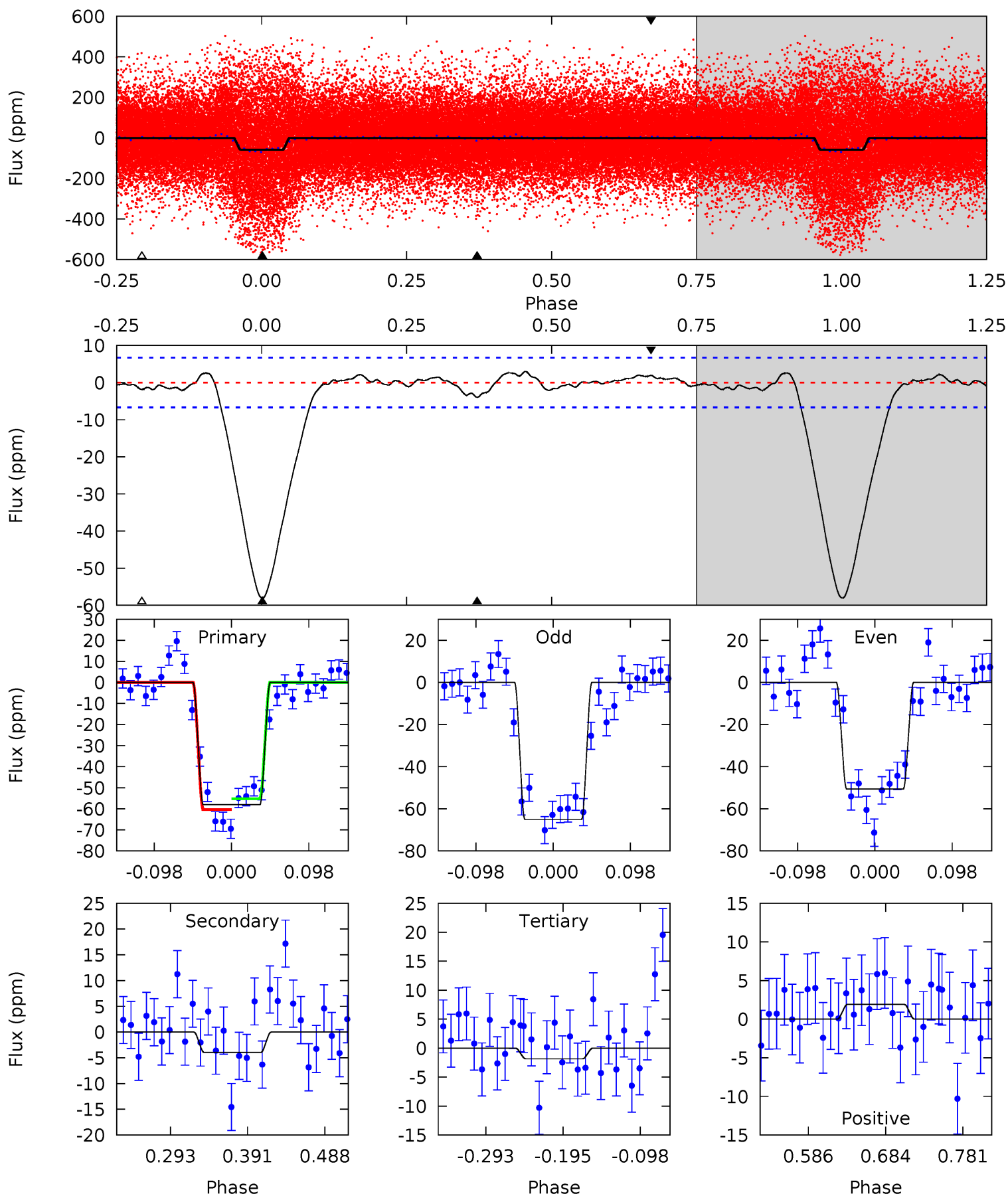
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.4	22.7	-5.72	0	4.55	1.61	13.2	32.1	26.4	28.4	22.7	3.91	1.43	0.46	8.33



Alt Model-Shift Uniqueness Test

011468301-01, P = 5.086599 Days, E = 127.926696 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.6	2.70	1.27	1.31	4.57	1.66	0.75	38.4	38.3	1.44	1.39	4.93	0.88	0.05	1.75



Stellar Parameters For KIC 011468301

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6587^{+178}_{-198}	$3.744^{+0.312}_{-0.078}$	$-0.180^{+0.300}_{-0.250}$	$2.805^{+0.454}_{-0.983}$	$1.590^{+0.197}_{-0.366}$	$0.101^{+0.223}_{-0.033}$
	+3%/-3%	+8%/-2%	+167%/-139%	+16%/-35%	+12%/-23%	+220%/-33%
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 011468301-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-77 ± 3	$2.25^{+0.42}_{-0.46}$	2552^{+149}_{-217}	7004^{+480}_{-436}	39^{+18}_{-11}
Alt.	-4 ± 1	$2.21^{+0.38}_{-0.42}$	2535^{+160}_{-202}	3633^{+313}_{-340}	$2.033^{+1.377}_{-0.864}$

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

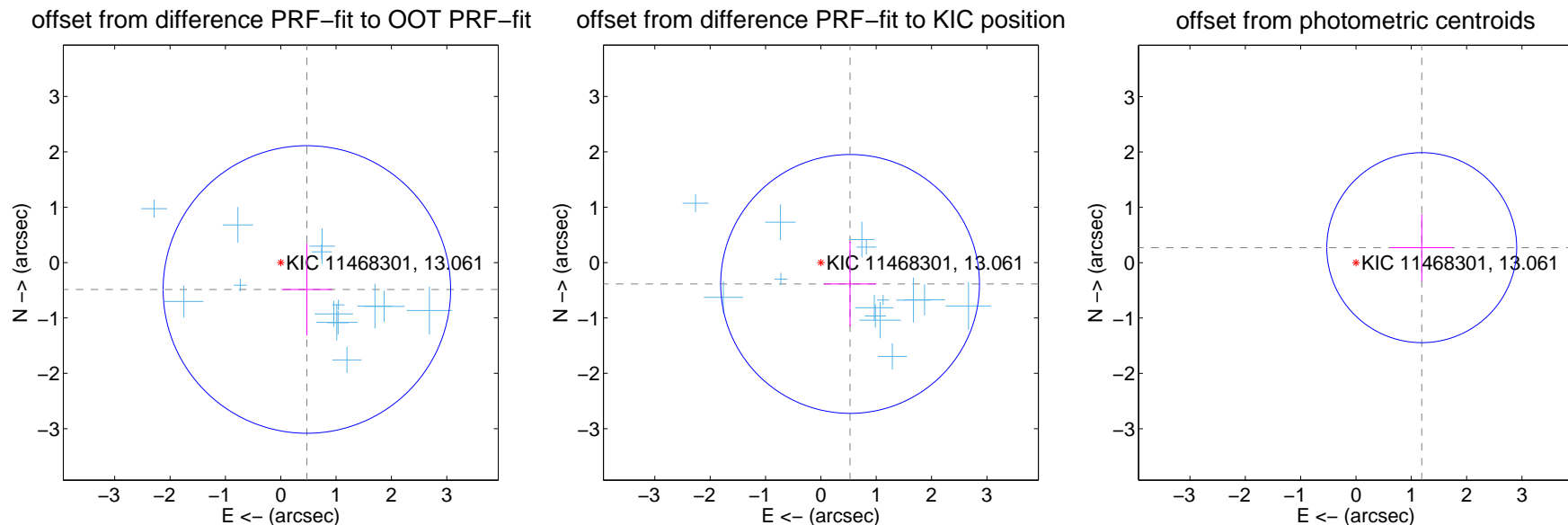
DV Centroid Data

Supplemental centroid analysis for 011468301-01. Kepler magnitude: 13.06. Transit SNR 8.67

There are 14 quarters with good PRF difference image offsets

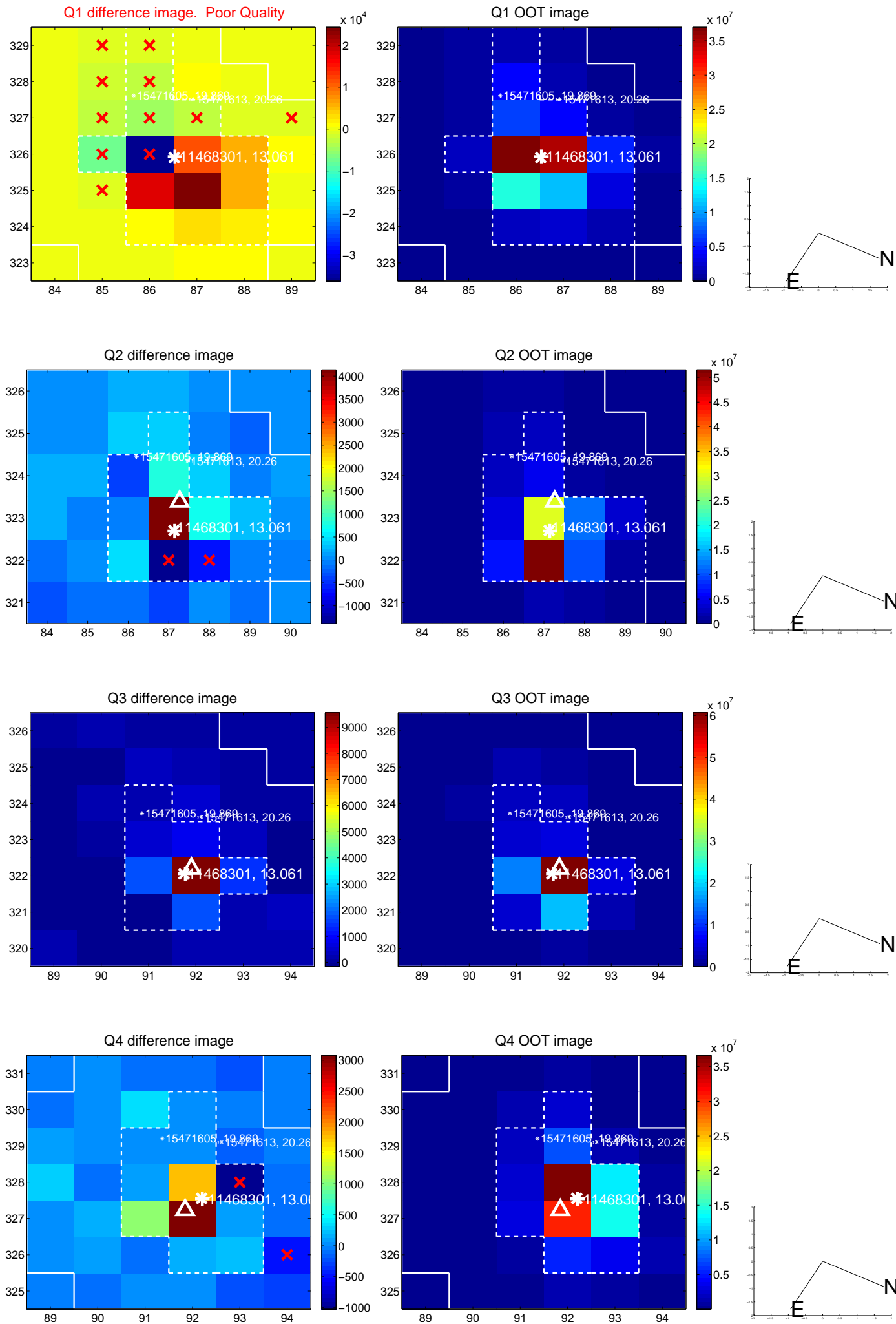
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.677 ± 0.865	0.78	-0.472 ± 0.454	-0.486 ± 0.832
PRF-fit source offset from KIC position	0.653 ± 0.779	0.84	-0.528 ± 0.476	-0.385 ± 0.766
photometric centroid source offset	1.22 ± 0.57	2.13	-1.19 ± 0.57	0.27 ± 0.60

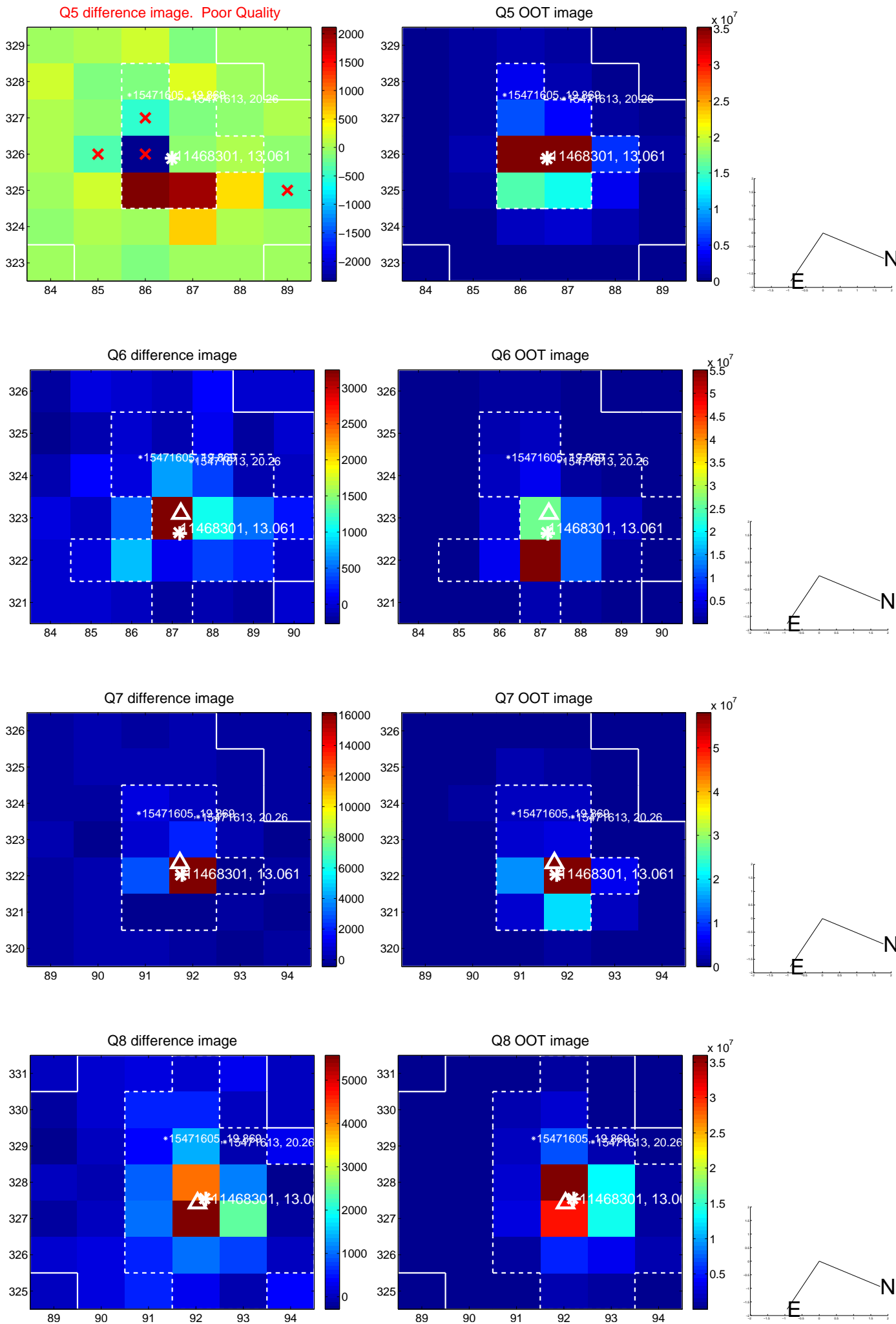


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

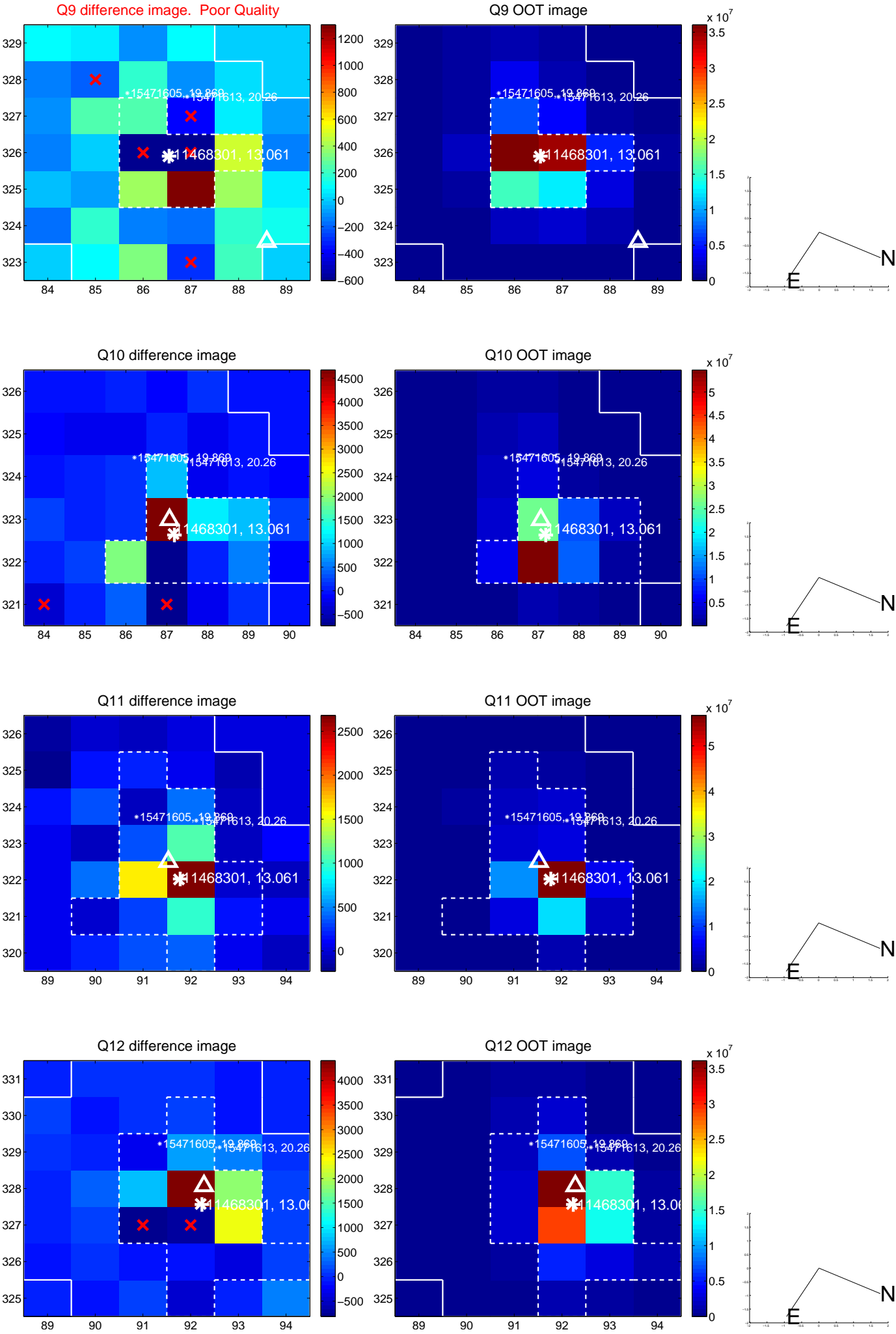
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



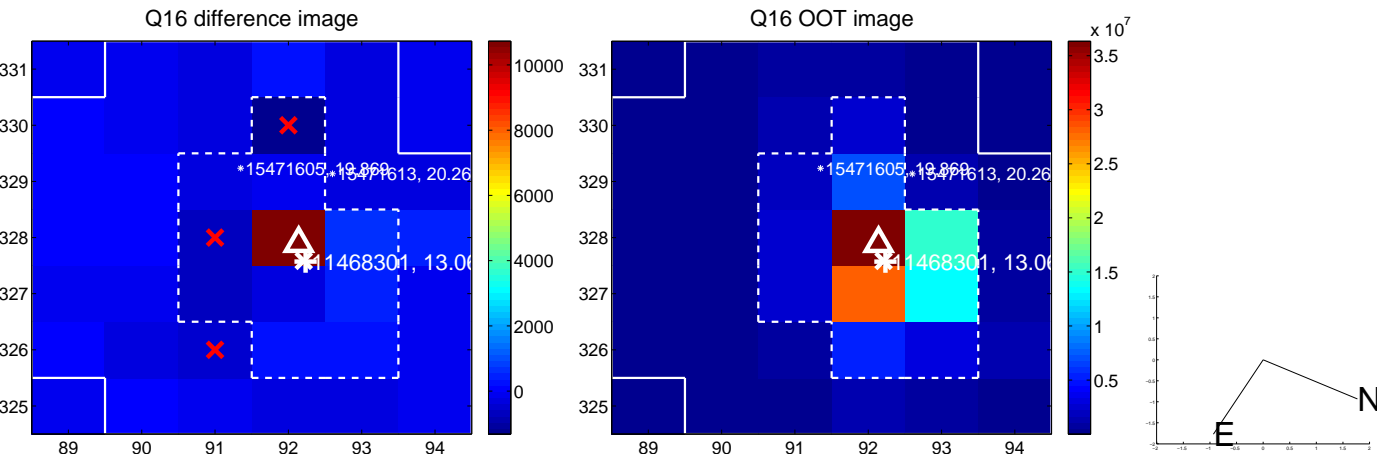
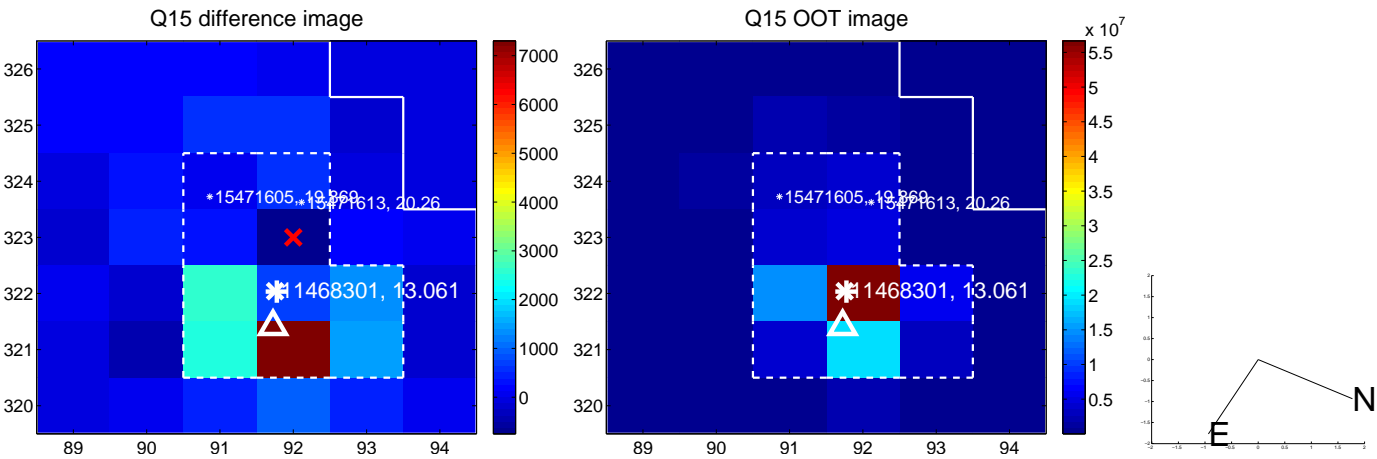
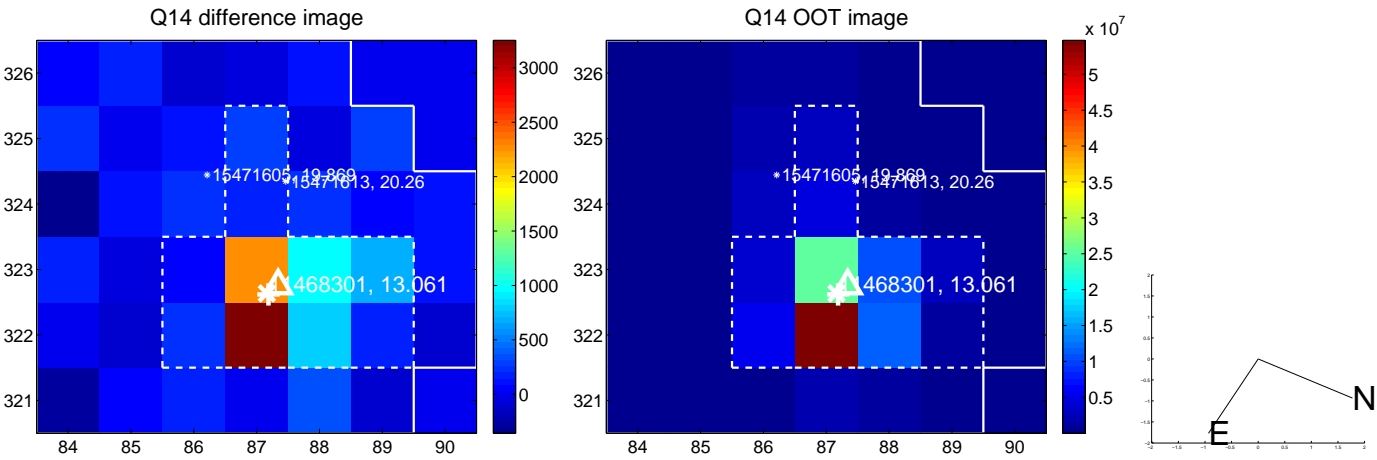
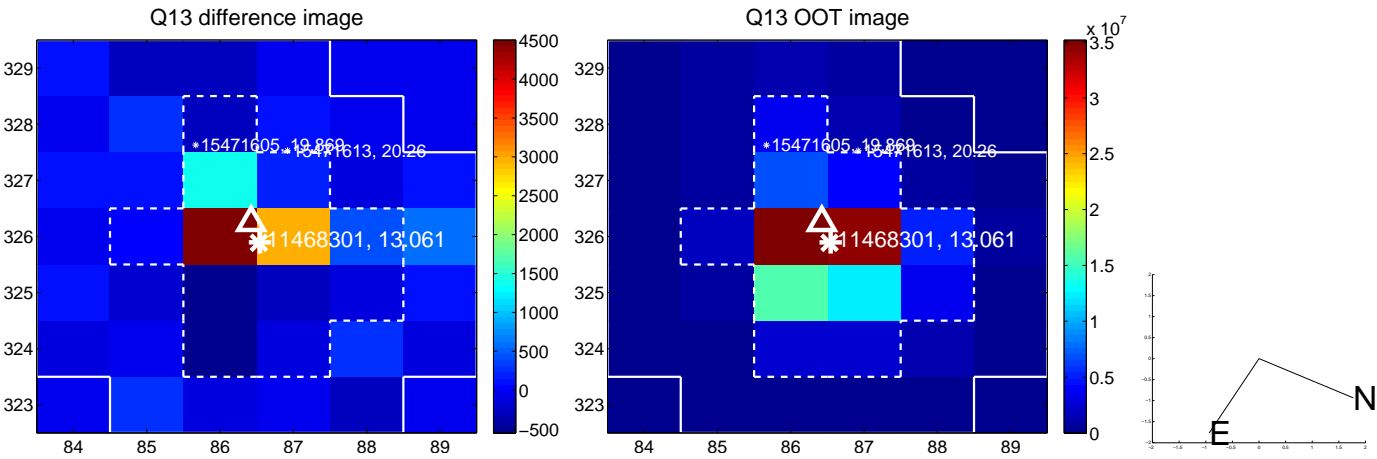
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



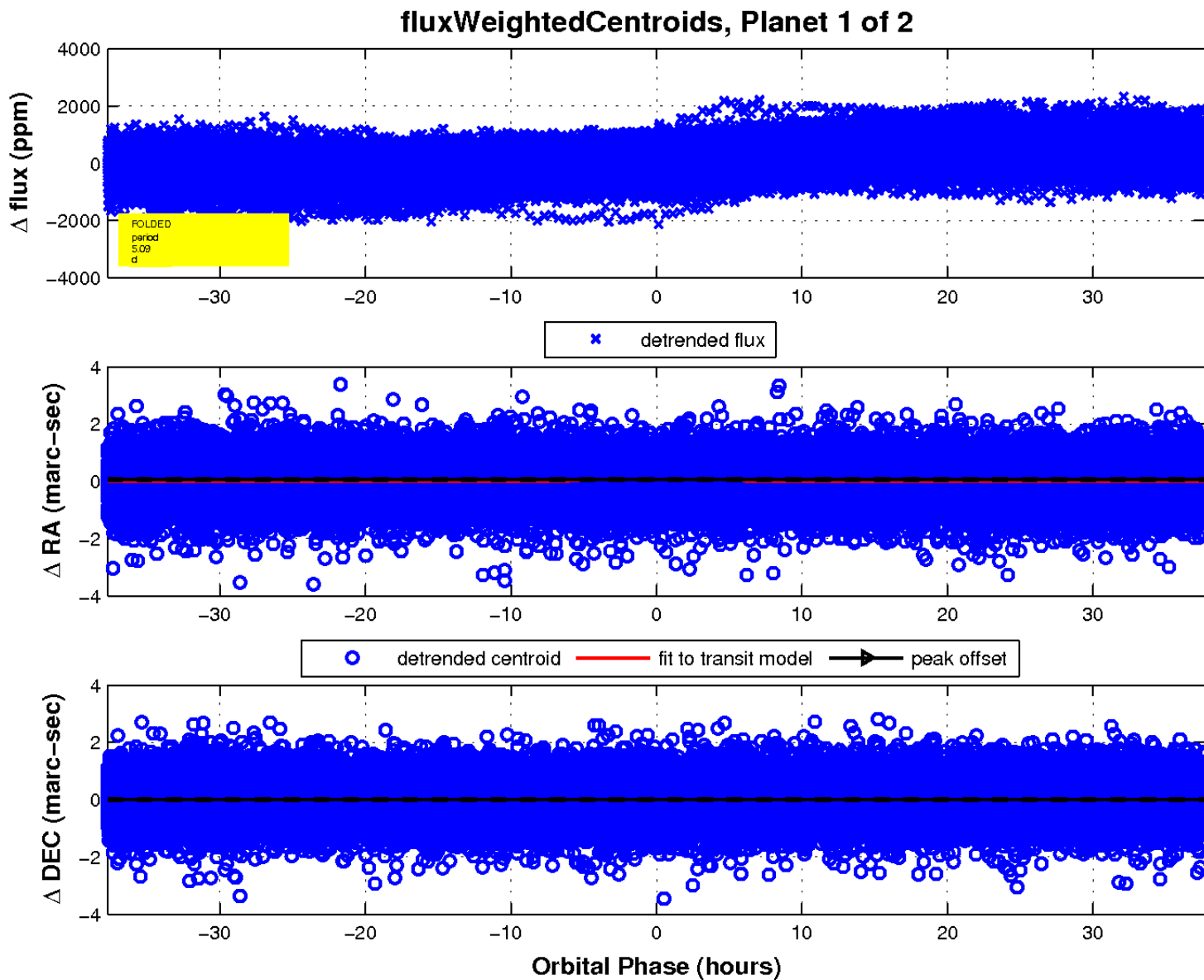
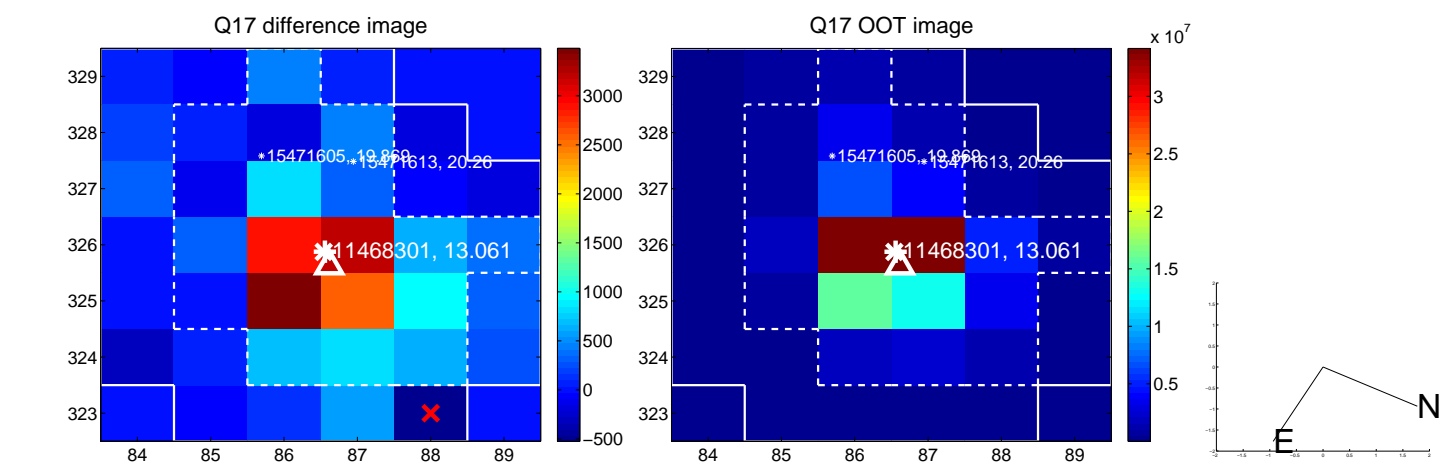
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

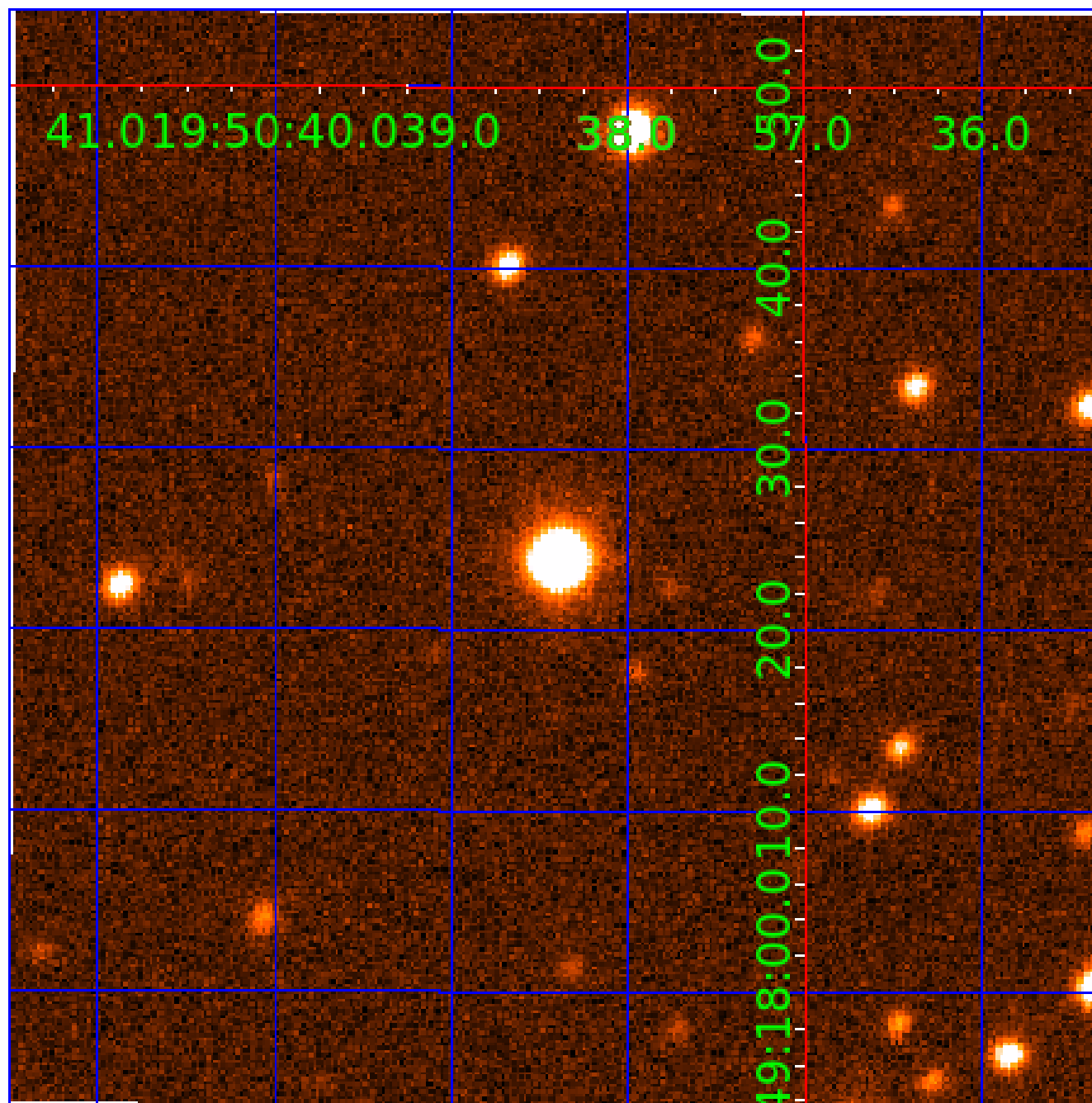


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011468301

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})
011468301-01	OBS	No	5.086703	132.999316	52.1	12.565	8.9	8.7	2.81	6587	2.36	2904.15
011468301-02	OBS	No	5.086401	134.881223	92.7	19.886	9.7	11.1	2.81	6587	5.40	2904.38

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011468301-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
011468301-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_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.

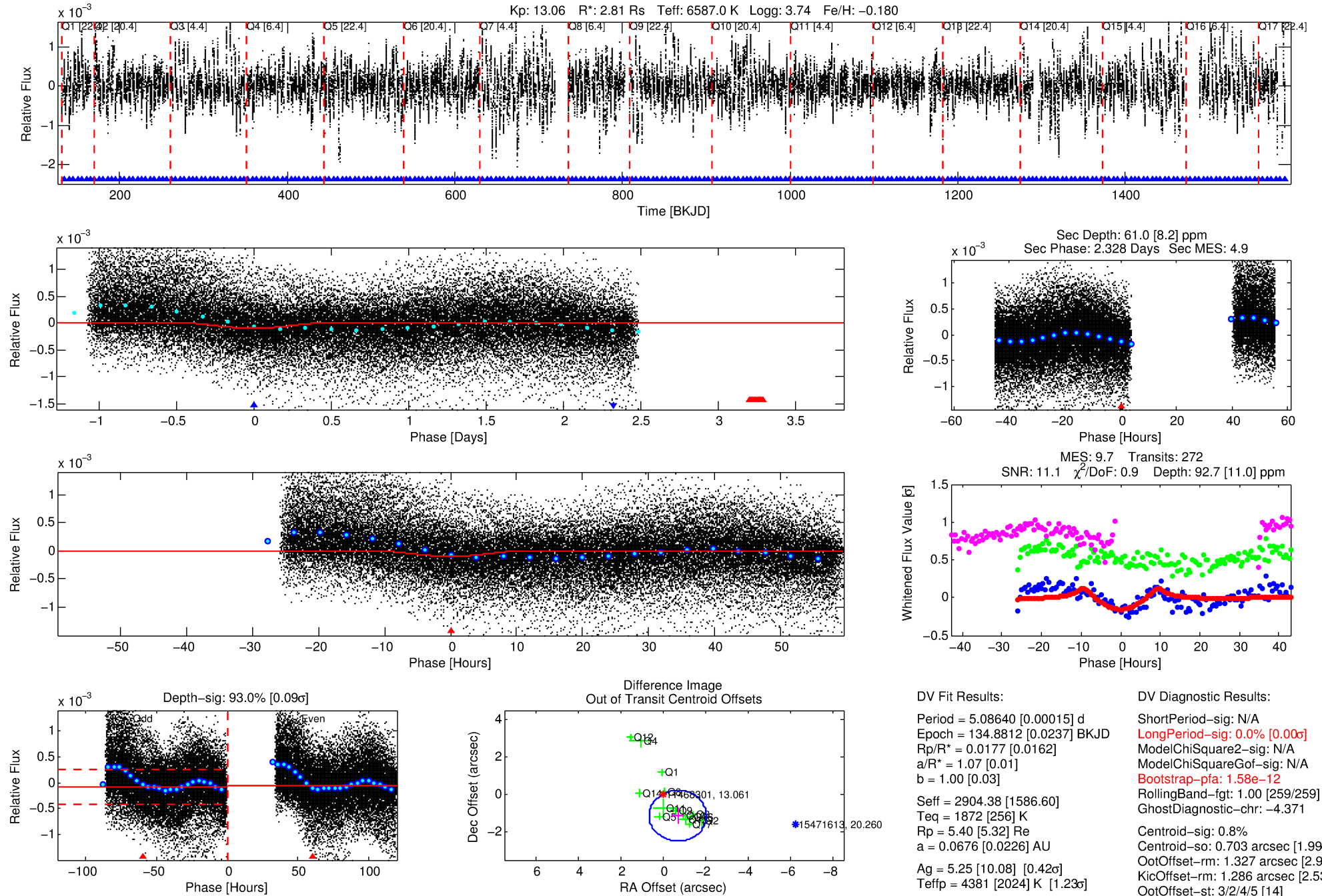
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011468301-02

No Significant Match Found

DV One-Page Summary

KIC: 11468301 Candidate: 2 of 2 Period: 5.086 d



DV Fit Results:

Period = 5.08640 [0.00015] d
Epoch = 134.8812 [0.0237] BKJD
Rp/R* = 0.0177 [0.0162]
a/R* = 1.07 [0.01]
b = 1.00 [0.03]
Seff = 2904.38 [1586.60]
Teff = 1872 [256] K
Rp = 5.40 [5.32] Re
a = 0.0676 [0.0226] AU
Ag = 5.25 [10.08] [0.42 σ]
Teffp = 4381 [2024] K [1.23 σ]

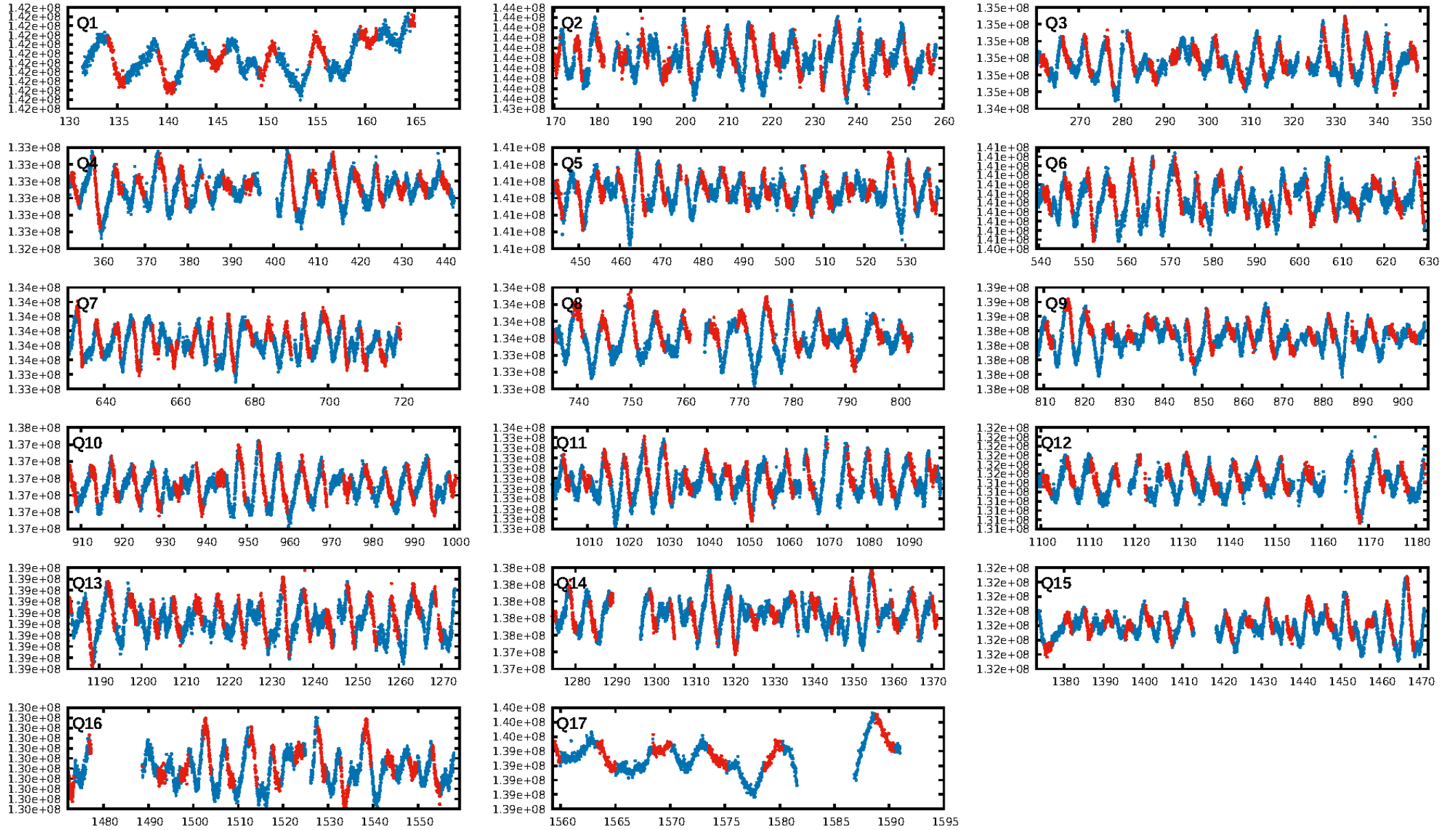
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.58e-12
RollingBand-fgt: 1.00 [259/259]
GhostDiagnostic-chr: -4.371
Centroid-sig: 0.8%
Centroid-so: 0.703 arcsec [1.99 σ]
OotOffset-rm: 1.327 arcsec [2.94 σ]
KicOffset-rm: 1.286 arcsec [2.53 σ]
OotOffset-st: 3/2/4/5 [14]
KicOffset-st: 3/2/4/5 [14]
DiffImageQuality-fgm: 0.71 [10/14]
DiffImageOverlap-fno: 1.00 [17/17]

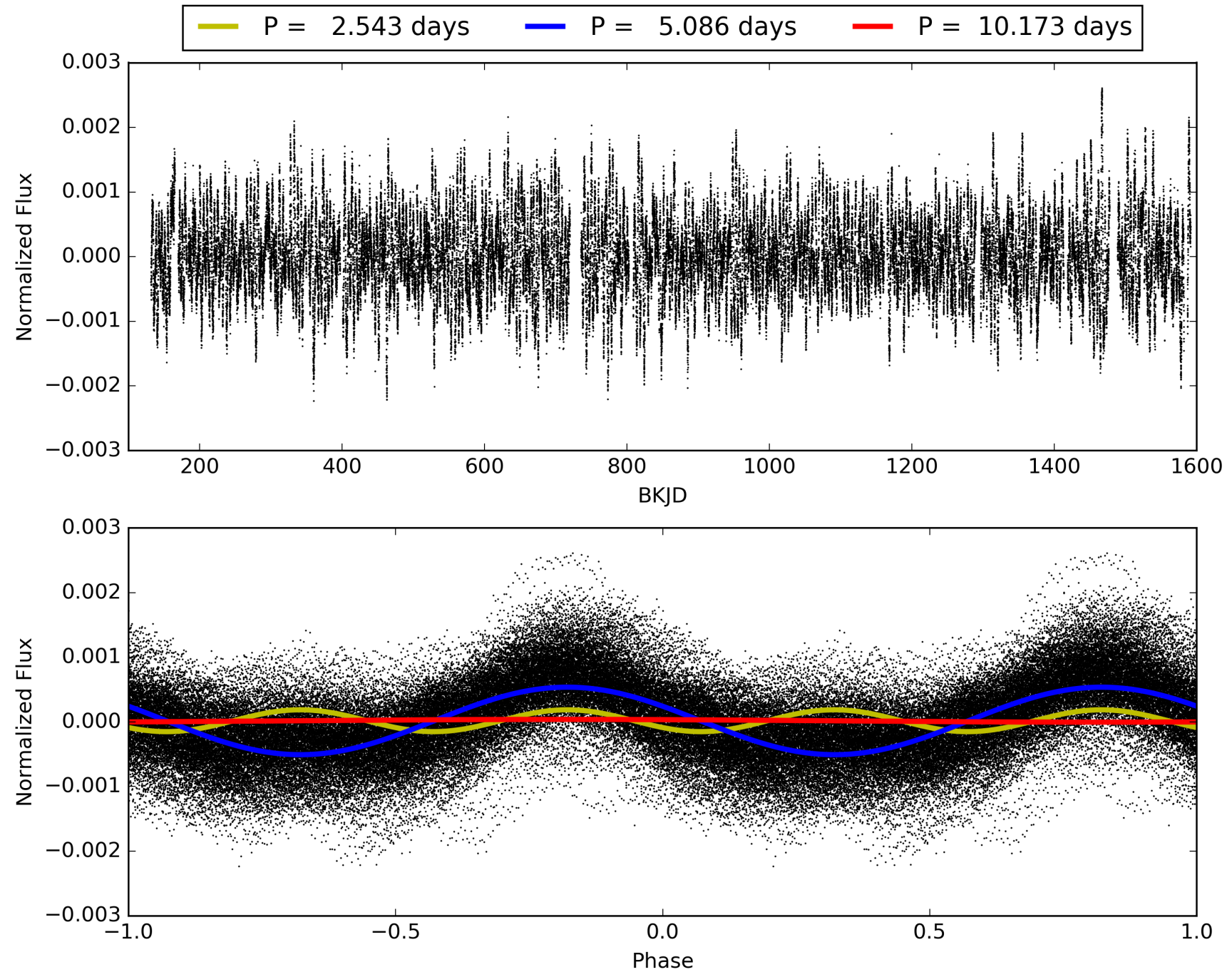
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 04:20:38 Z

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

TCE 011468301-02, PDC Light Curves

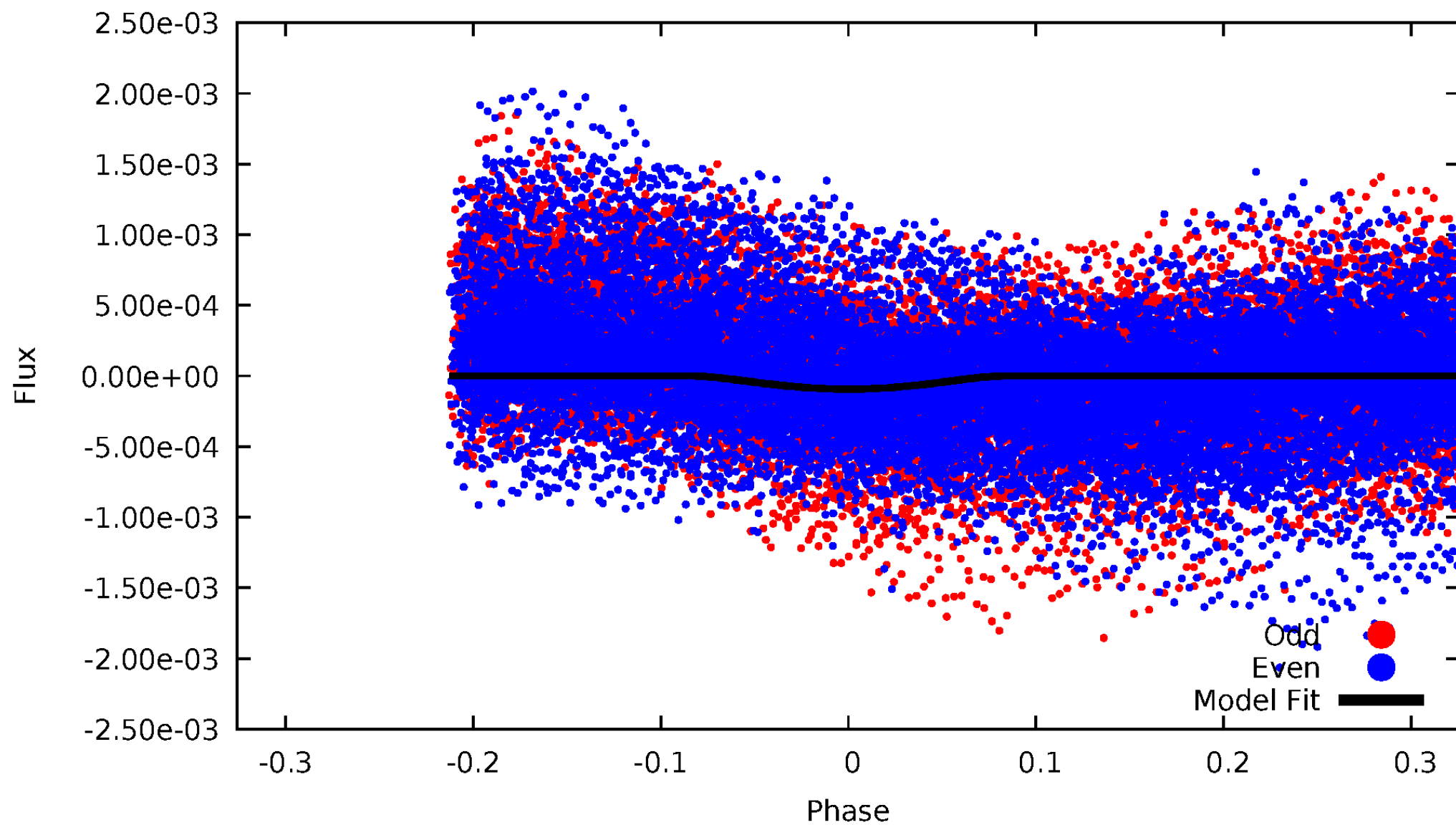


TCE 011468301-02



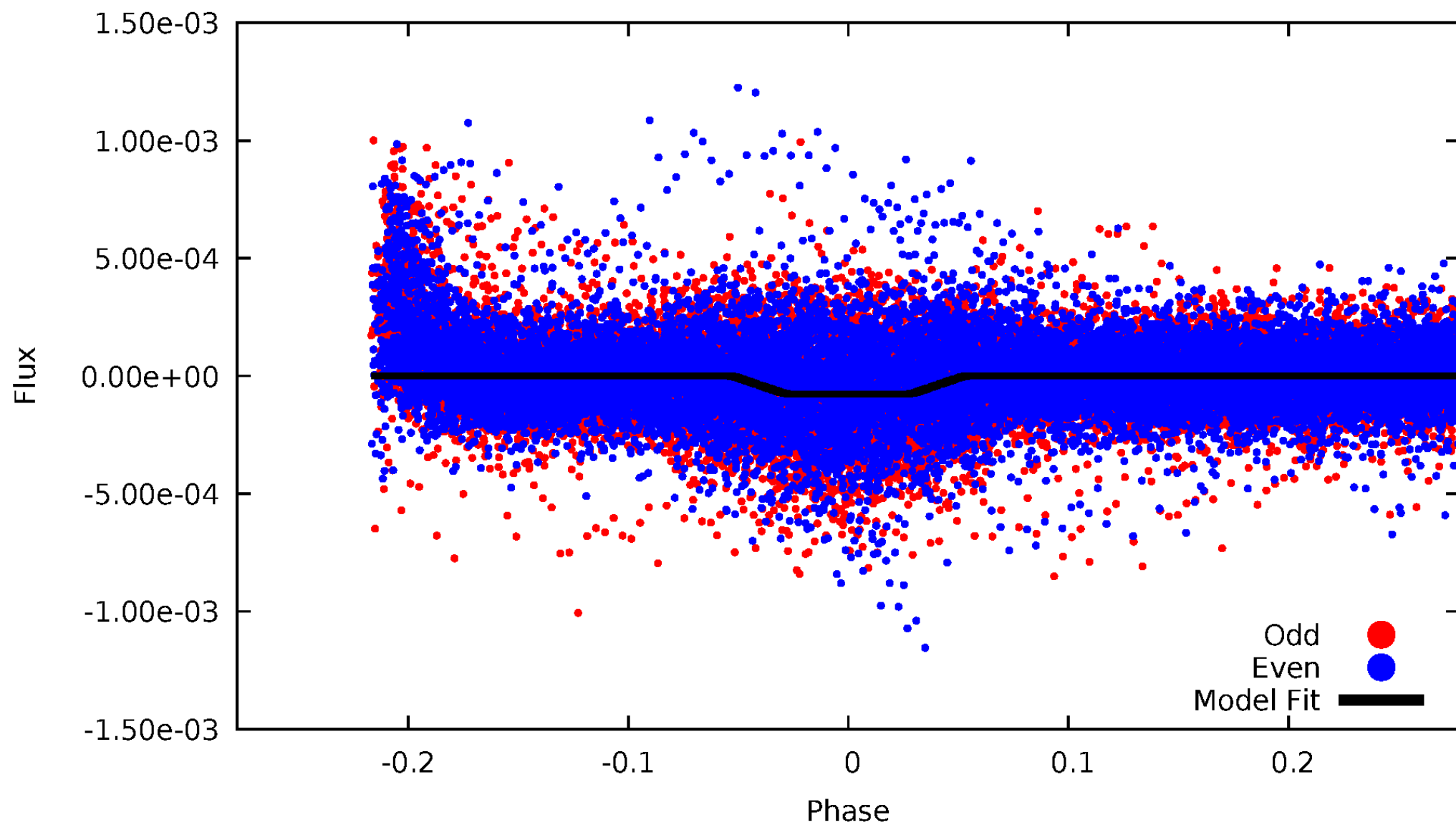
DV Odd/Even

TCE 011468301-02



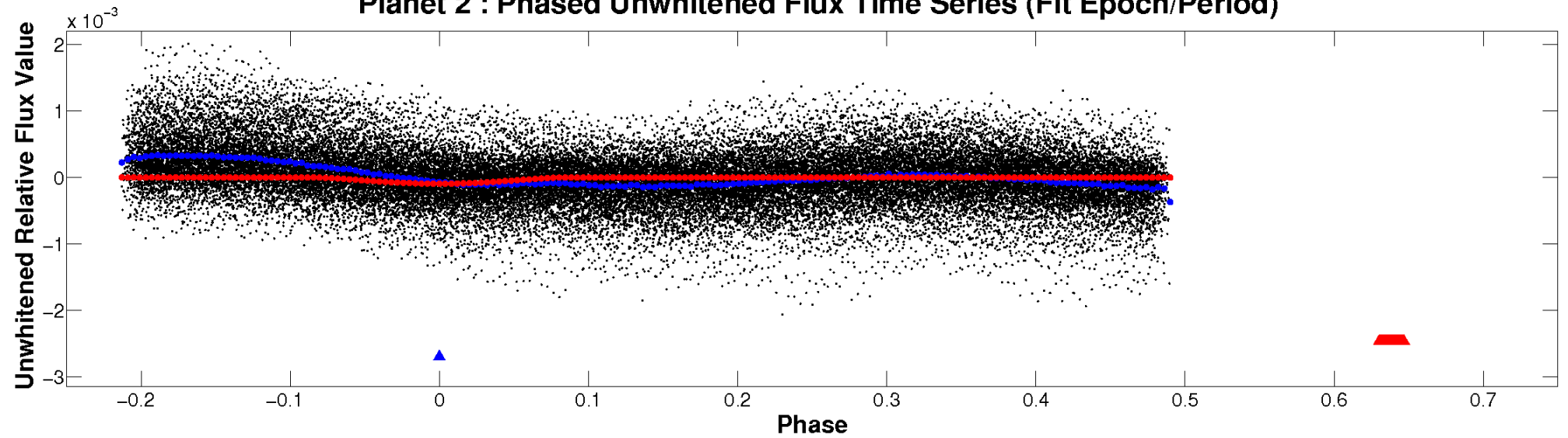
ALT Odd/Even

TCE 011468301-02

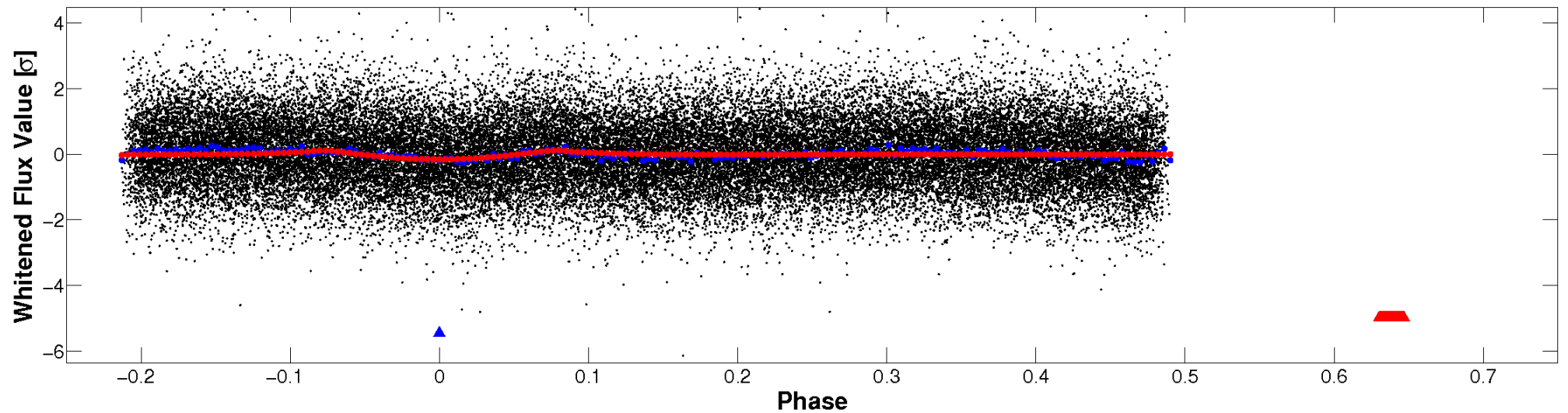


Non-Whitened Vs. Whitened Light Curve

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

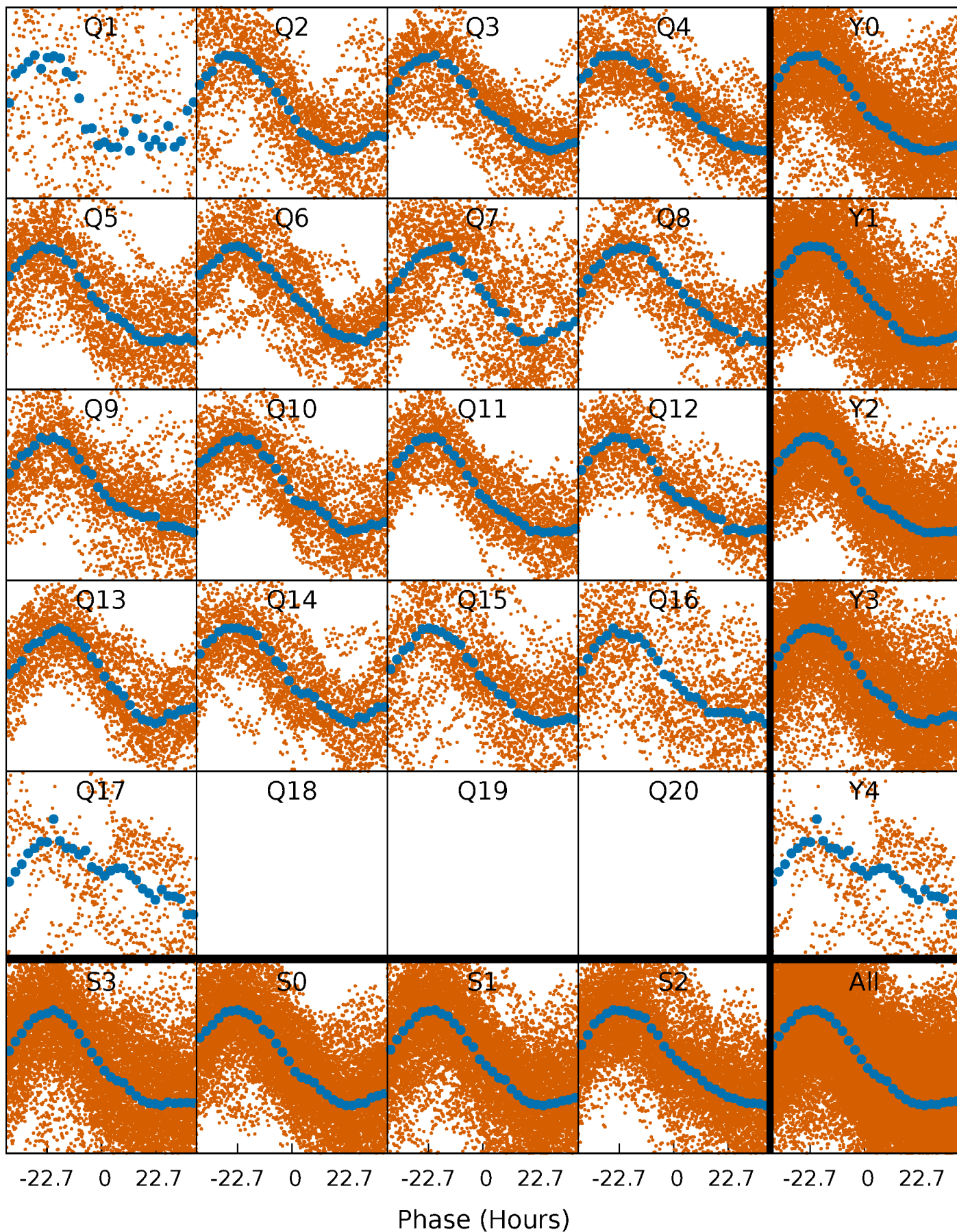


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



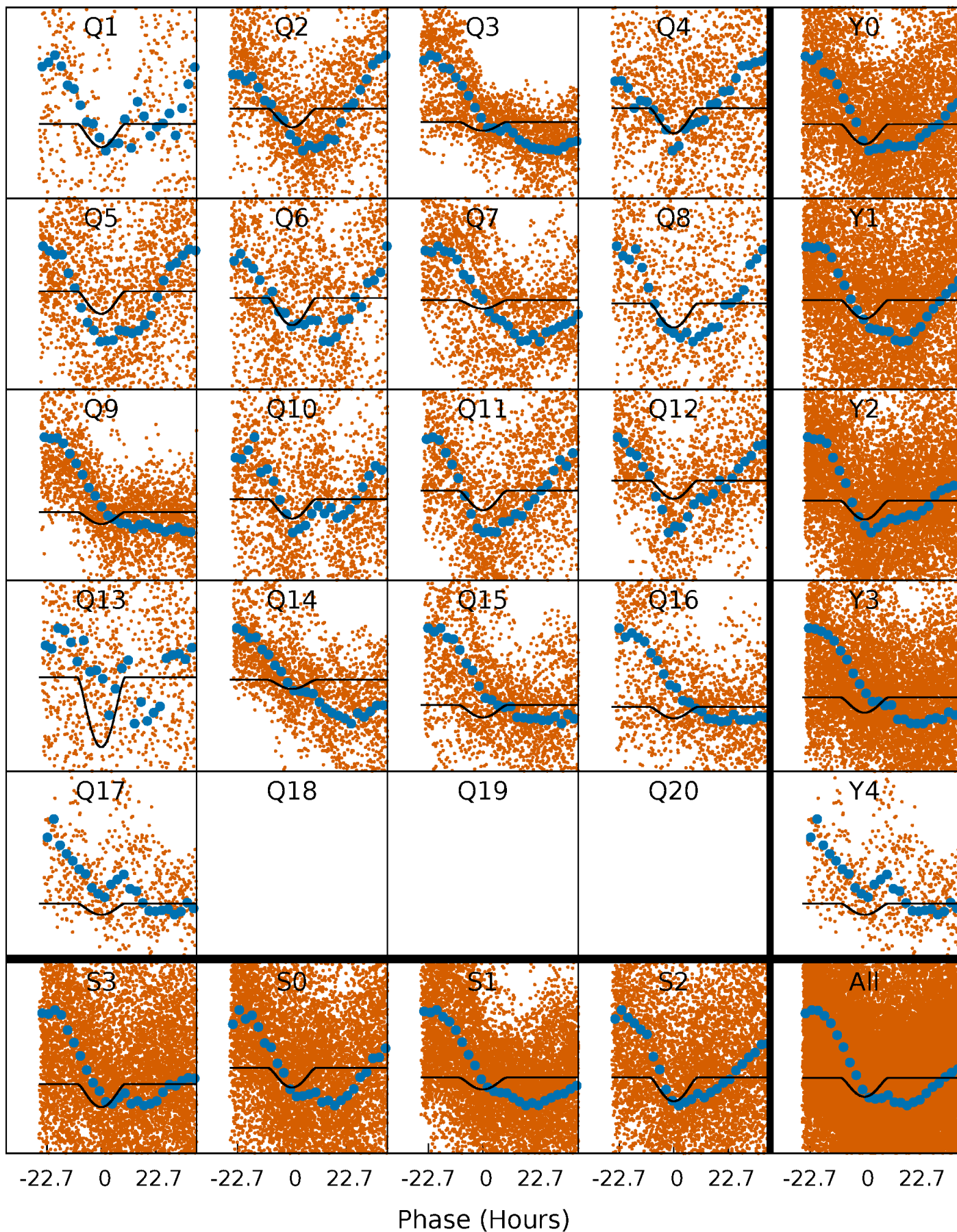
PDC Quarter-Phased Transit Curves

TCE 011468301-02 P= 5.086401 Days $T_0=134.881224$ (BKJD)



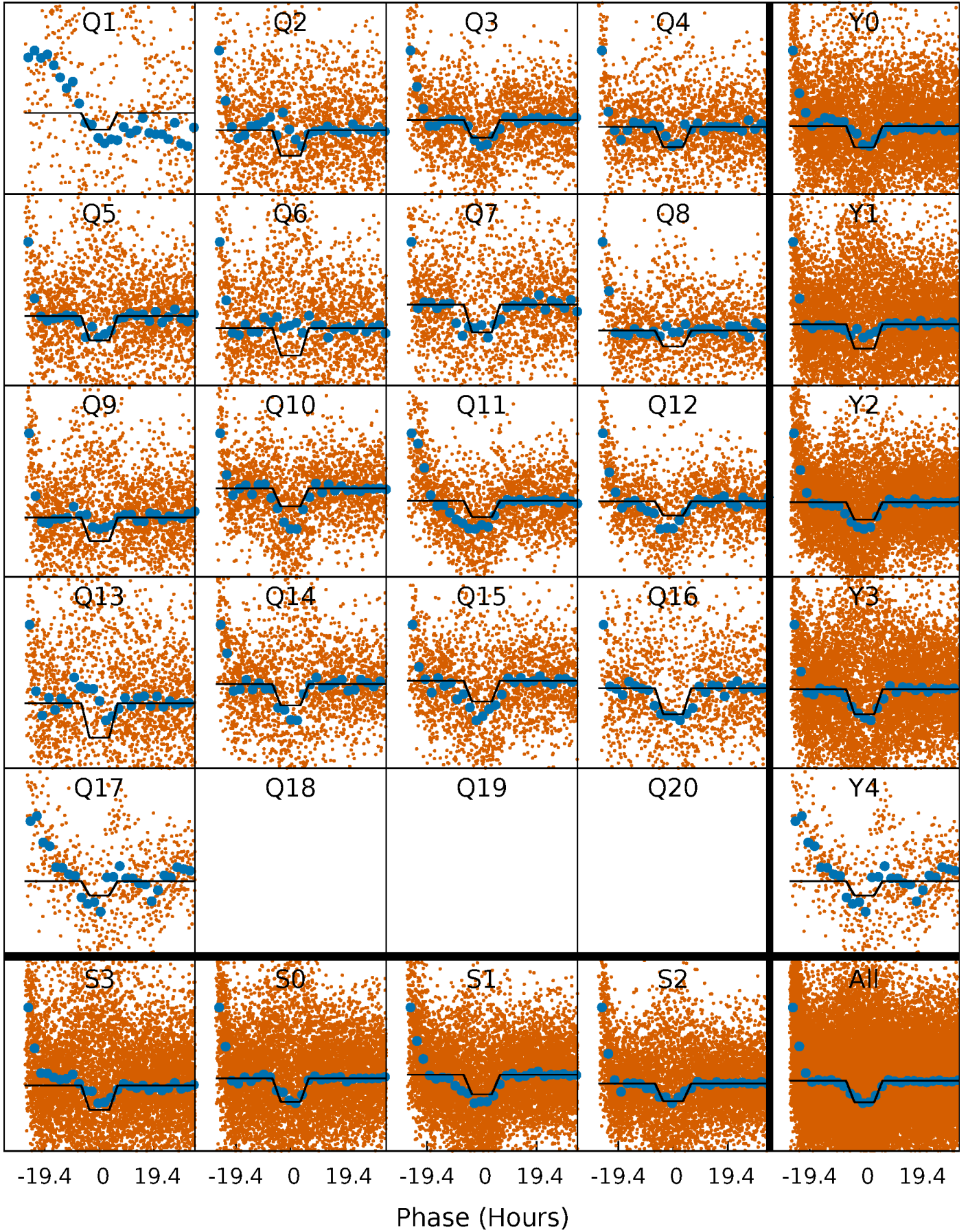
DV Quarter-Phased Transit Curves

TCE 011468301-02 P= 5.086401 Days $T_0=134.881224$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

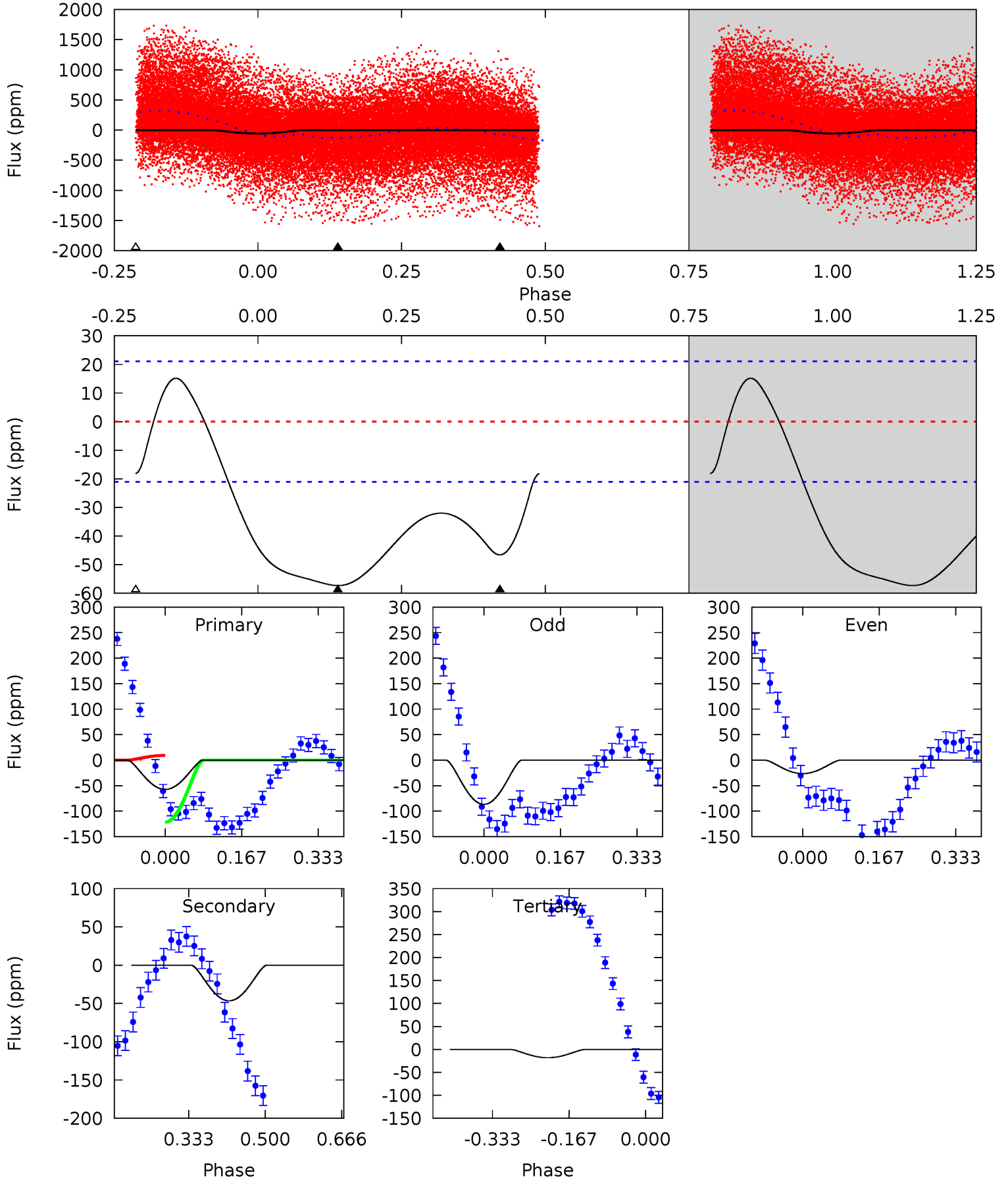
TCE 011468301-02 $P = 5.086599$ Days $T_0 = 134.899419$ (BKJD)



DV Model-Shift Uniqueness Test

011468301-02, P = 5.086401 Days, E = 129.794823 Days

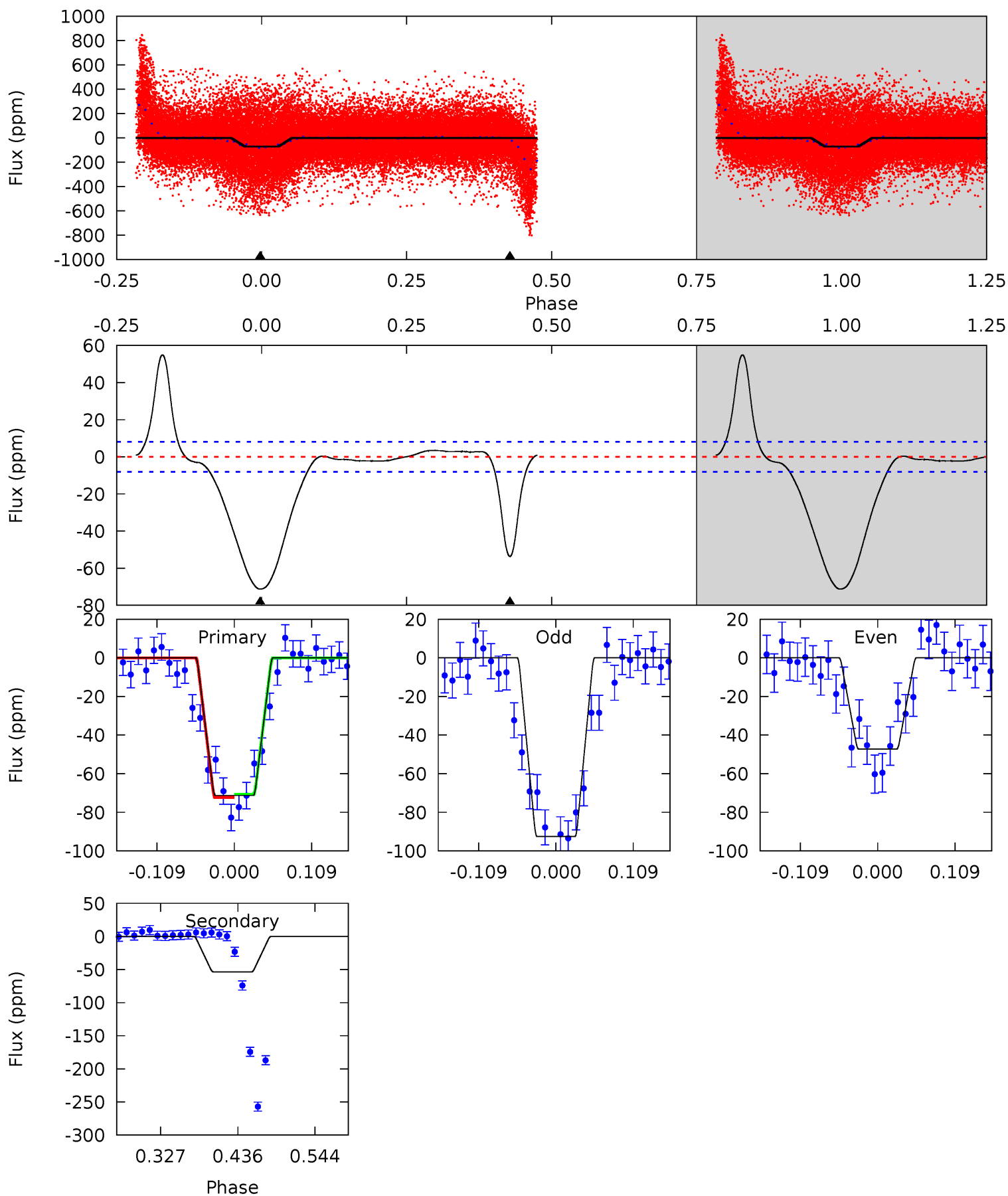
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	9.84	3.84	0	4.46	1.38	2.97	8.28	12.1	6.01	9.84	6.36	0.78	0.21	14.6



Alt Model-Shift Uniqueness Test

011468301-02, P = 5.086599 Days, E = 129.812820 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
40.2	30.2	0	0	4.55	1.60	8.09	40.2	40.2	30.2	30.2	12.9	1.16	0.44	0.40



Stellar Parameters For KIC 011468301

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6587^{+178}_{-198}	$3.744^{+0.312}_{-0.078}$	$-0.180^{+0.300}_{-0.250}$	$2.805^{+0.454}_{-0.983}$	$1.590^{+0.197}_{-0.366}$	$0.101^{+0.223}_{-0.033}$
	+3%/-3%	+8%/-2%	+167%/-139%	+16%/-35%	+12%/-23%	+220%/-33%
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 011468301-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-47 ± 5	$5.78^{+4.53}_{-3.66}$	2540^{+159}_{-215}	4017^{+2133}_{-816}	$3.484^{+22.172}_{-2.434}$
Alt.	-54 ± 2	$4.29^{+4.09}_{-3.05}$	2538^{+151}_{-226}	4693^{+4074}_{-1083}	$7.395^{+81.839}_{-5.453}$

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 $A_{obs} \gg 1.0$

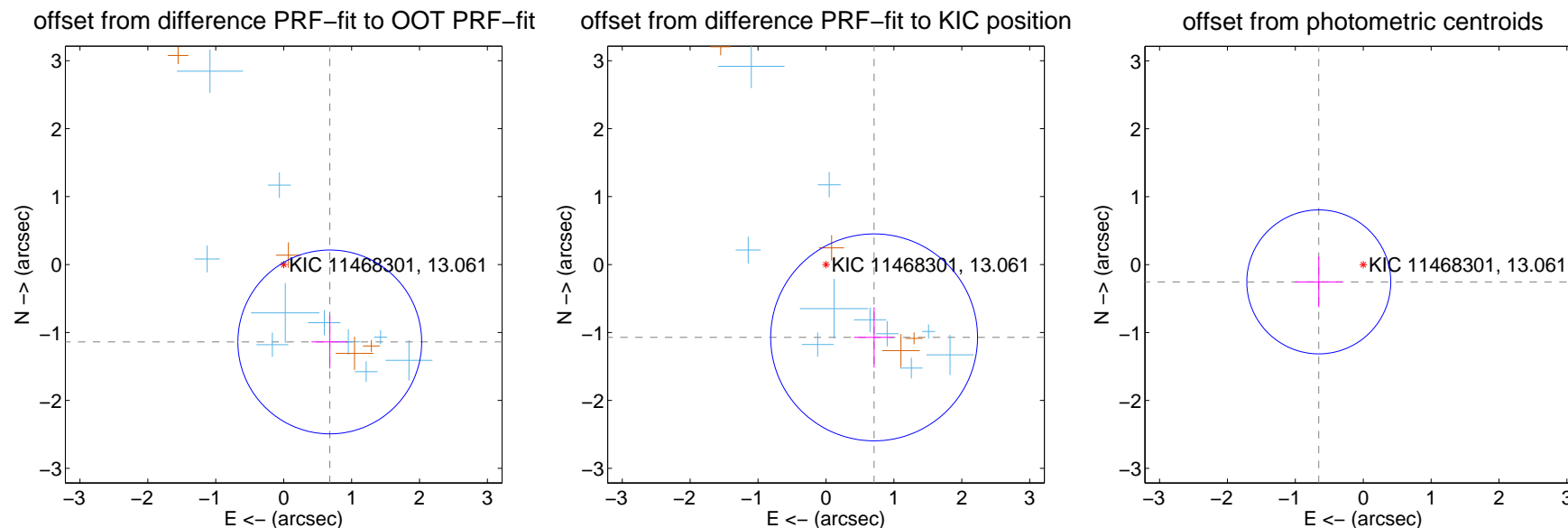
DV Centroid Data

Supplemental centroid analysis for 011468301-02. Kepler magnitude: 13.06. Transit SNR 11.08

There are 10 quarters with good PRF difference image offsets

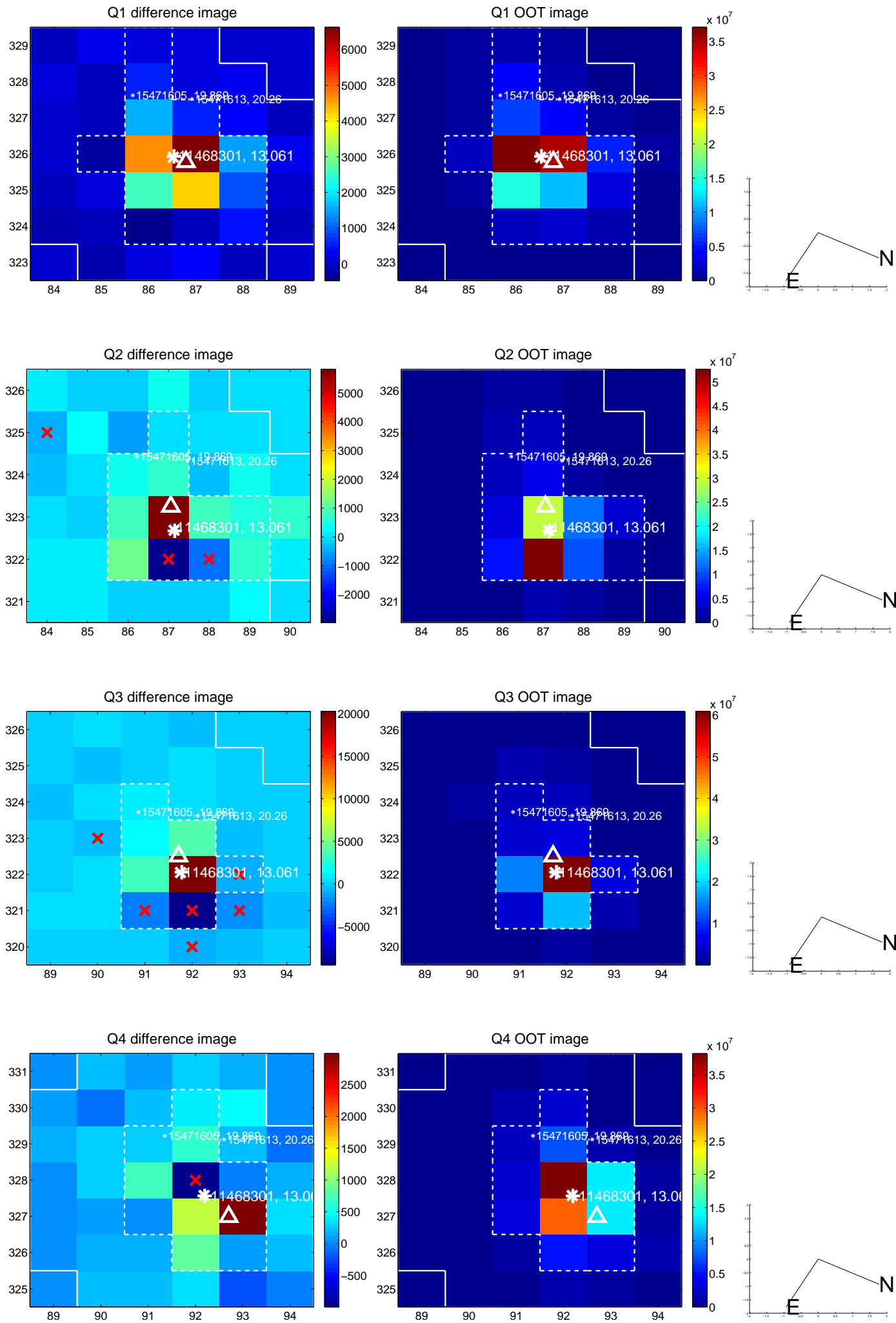
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.327 ± 0.451	2.94	-0.679 ± 0.268	-1.140 ± 0.390
PRF-fit source offset from KIC position	1.286 ± 0.508	2.53	-0.709 ± 0.294	-1.072 ± 0.444
photometric centroid source offset	0.70 ± 0.35	1.99	0.65 ± 0.35	-0.25 ± 0.37

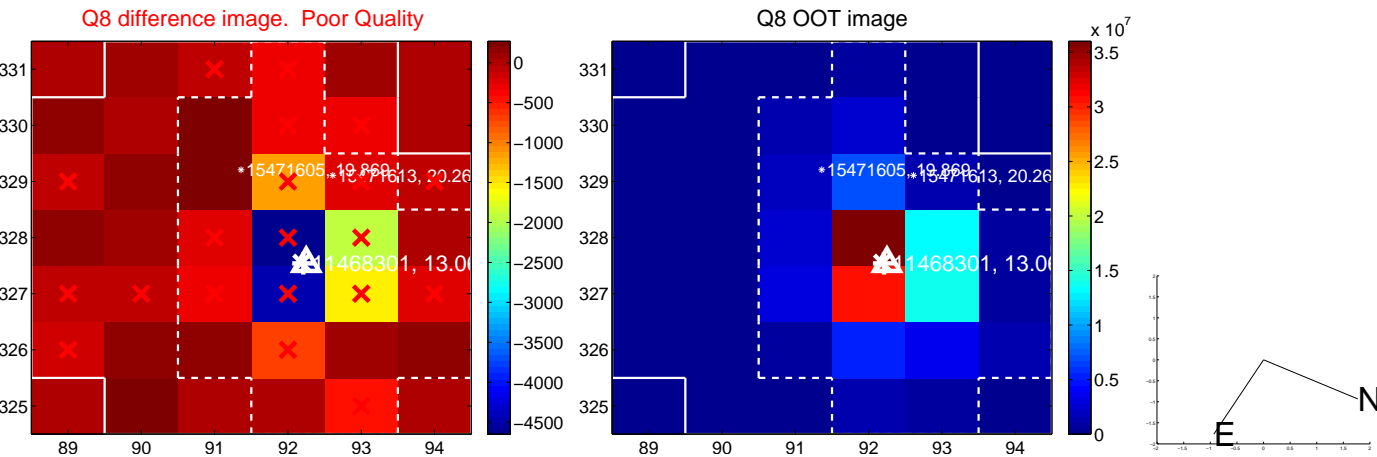
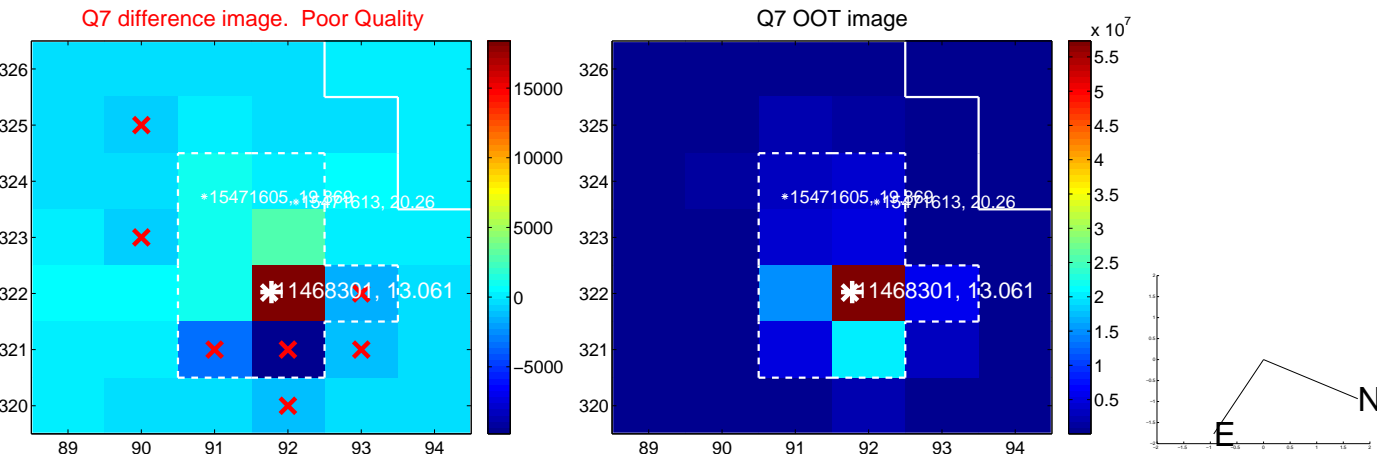
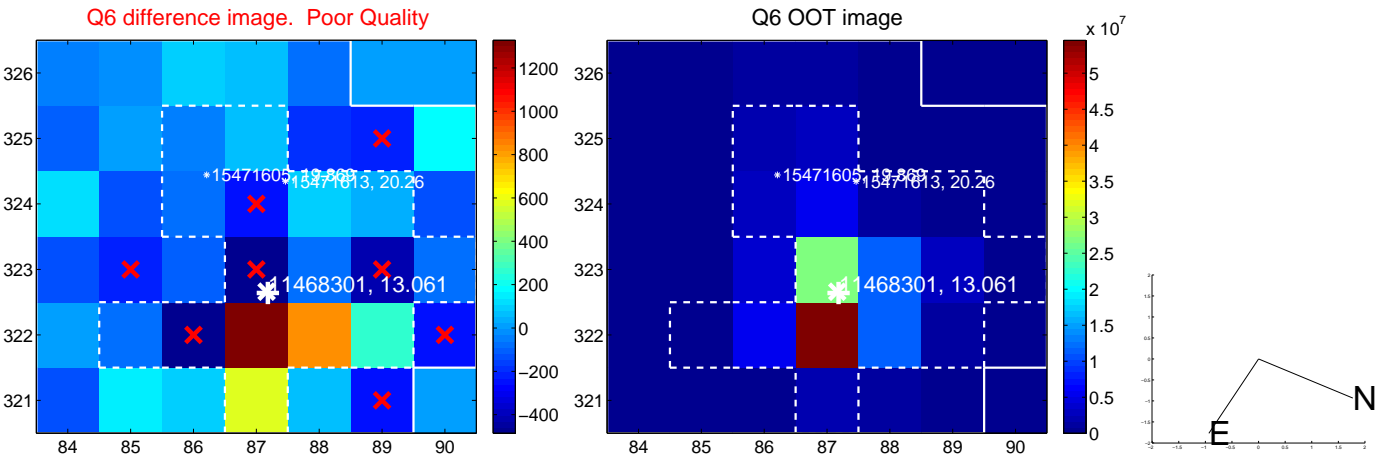
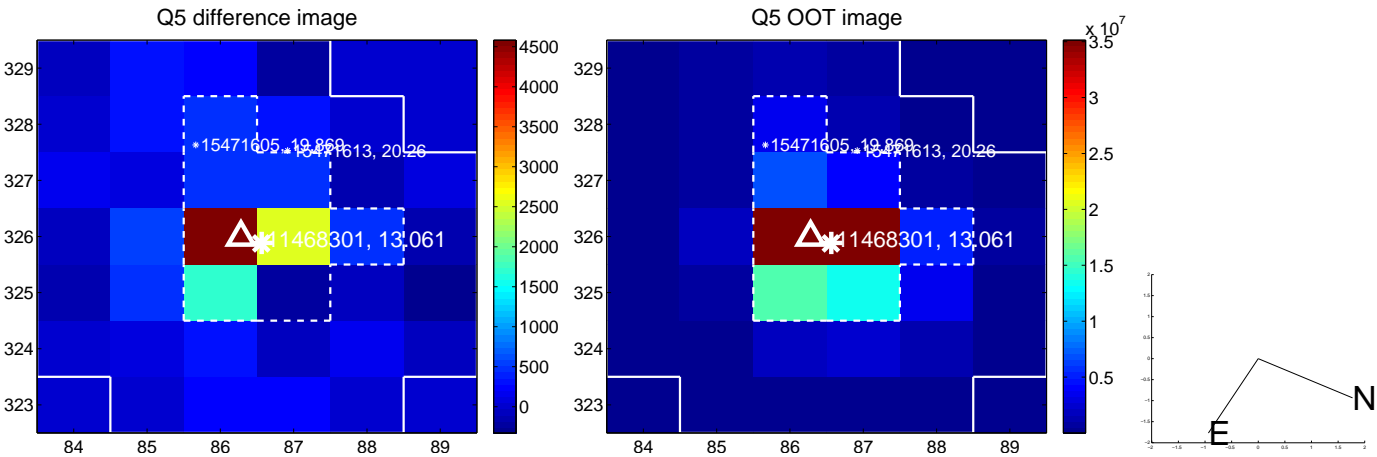


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

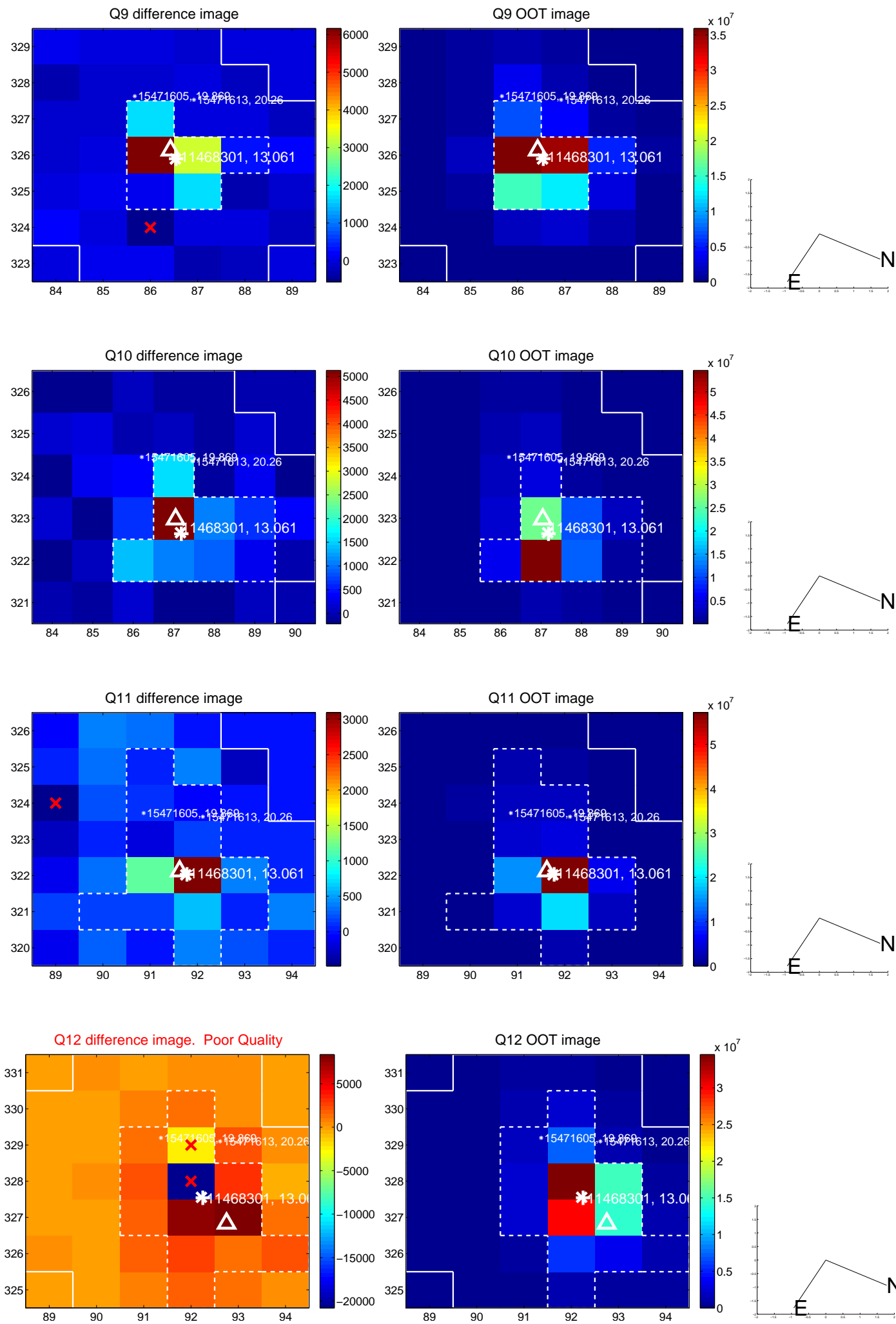
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



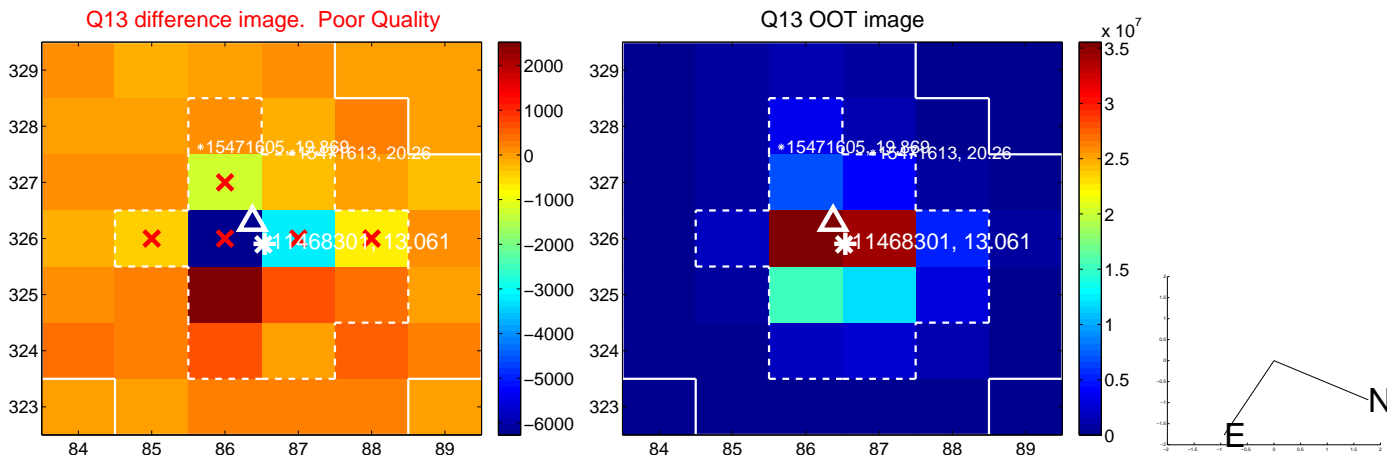
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



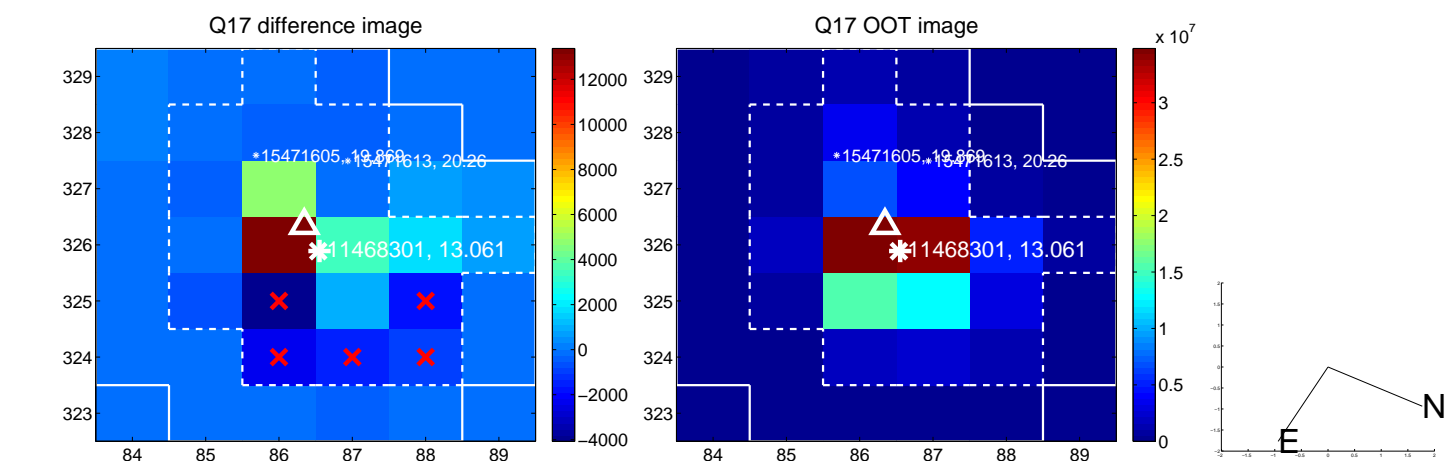
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



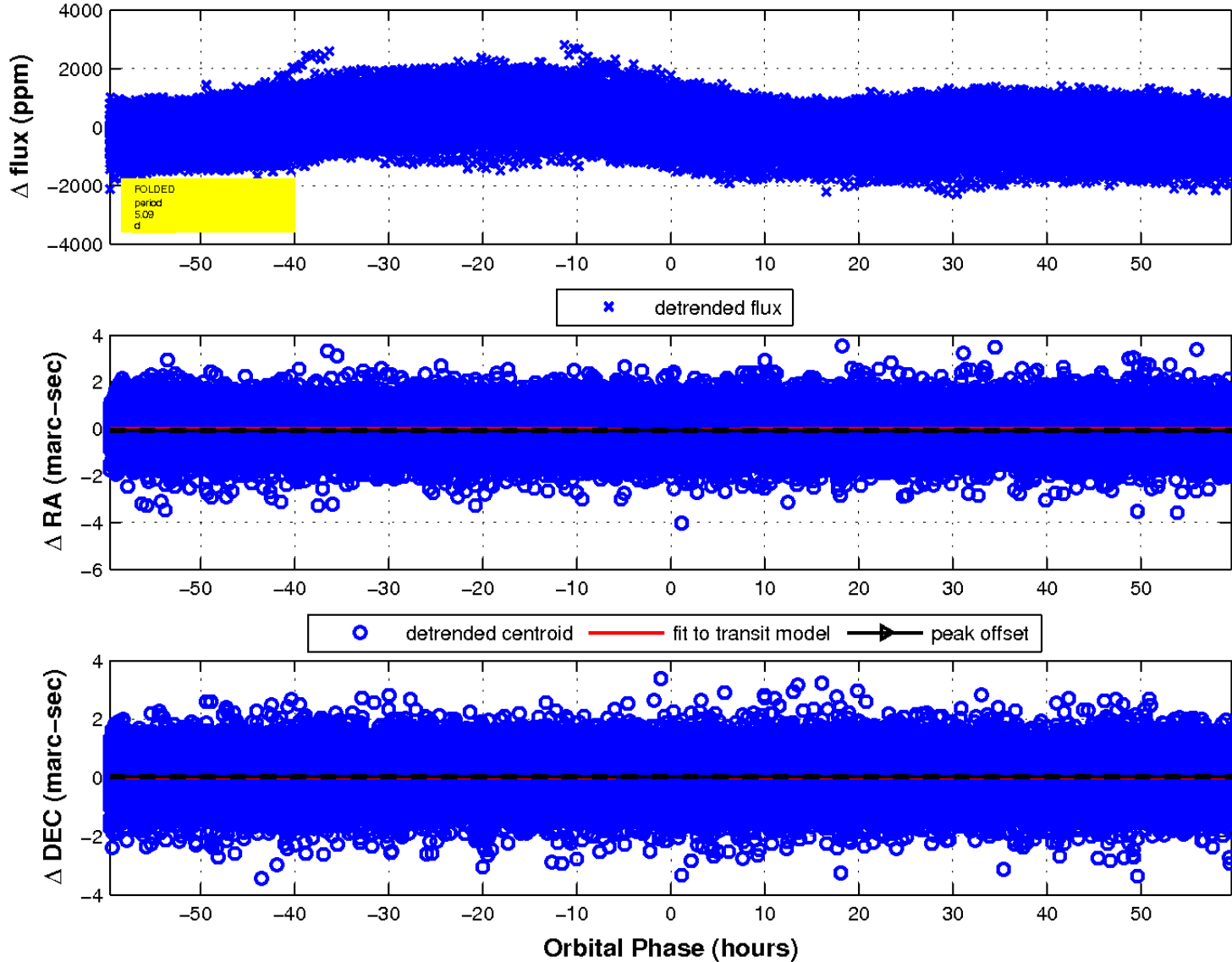
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

