

KIC 005357470

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})
005357470-01	OBS	1674.01	2.172787	132.986881	122.4	1.564	27.5	13.8	0.97	6038	1.26	1258.70
005357470-02	OBS	No	2.172644	133.571705	292.3	0.937	25.2	24.8	0.97	6038	1.98	1258.81

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005357470-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
005357470-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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

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

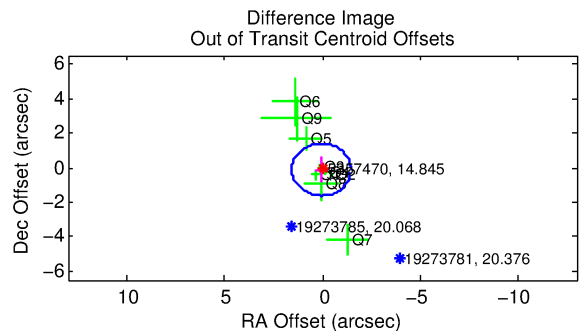
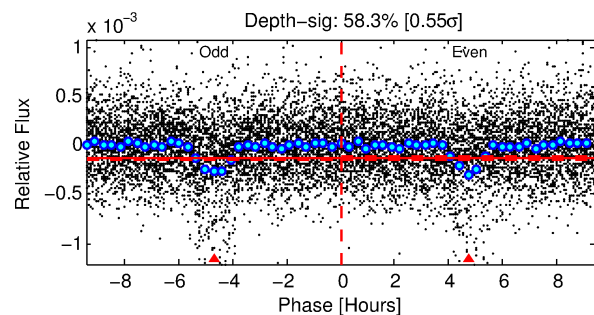
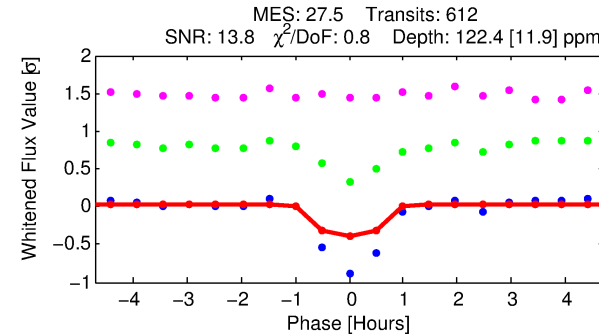
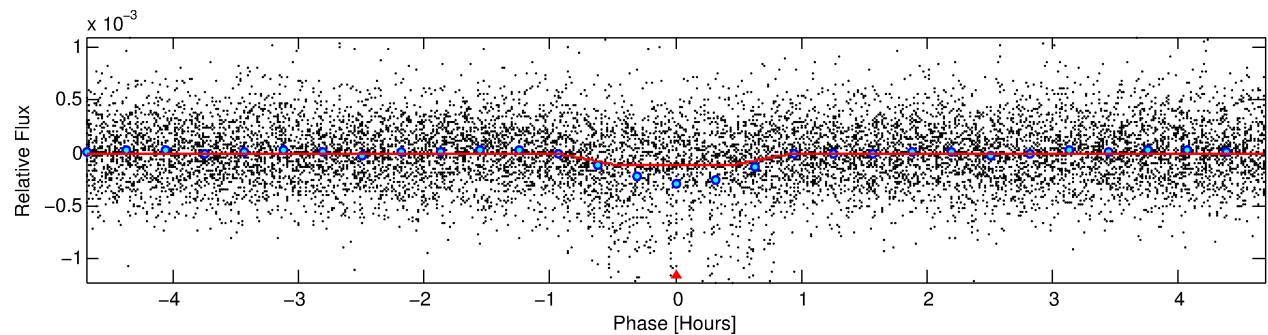
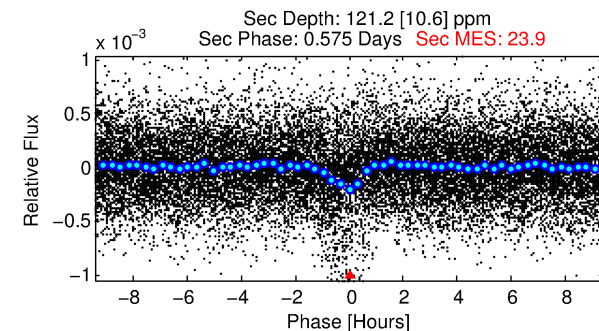
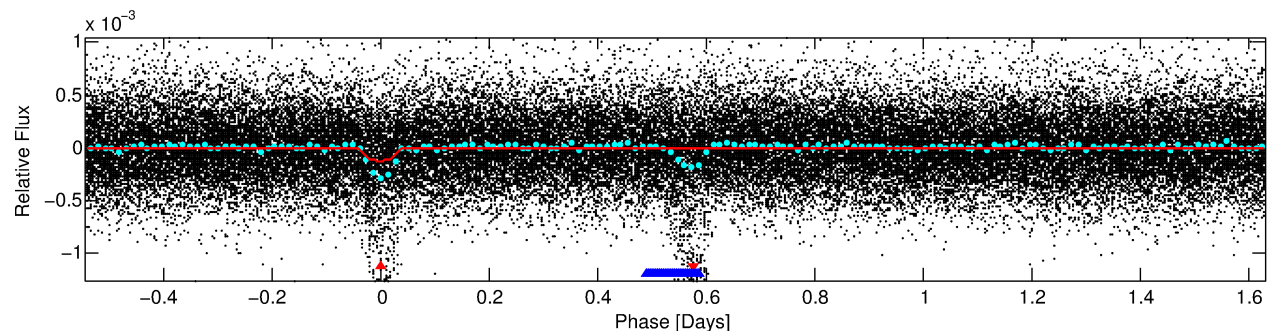
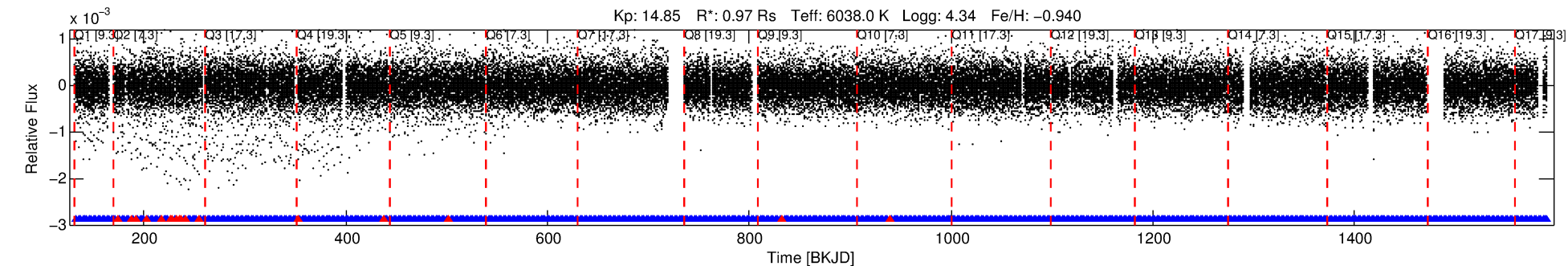
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005357470-01

No Significant Match Found

DV One-Page Summary

KIC: 5357470 Candidate: 1 of 2 Period: 2.173 d
KOI: K01674 Corr: No Ephemeris Match



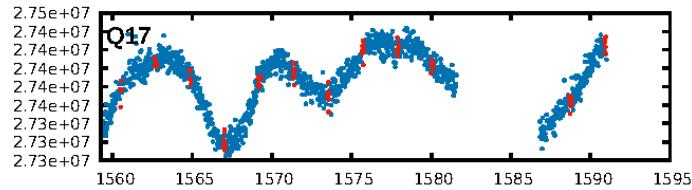
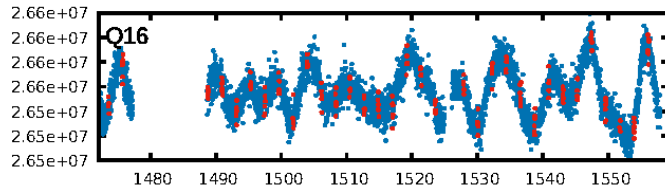
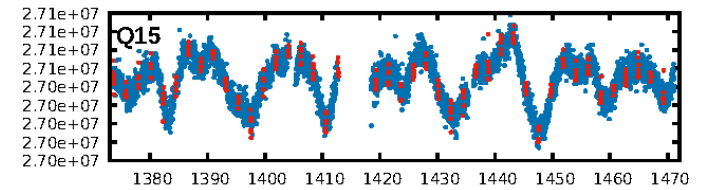
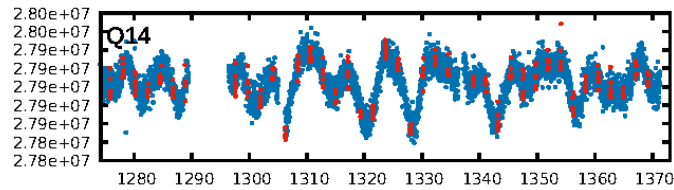
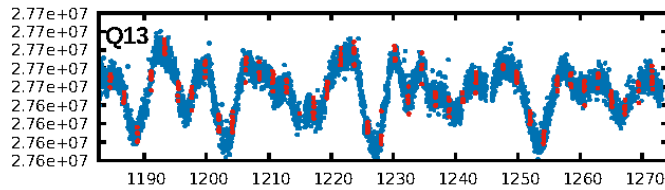
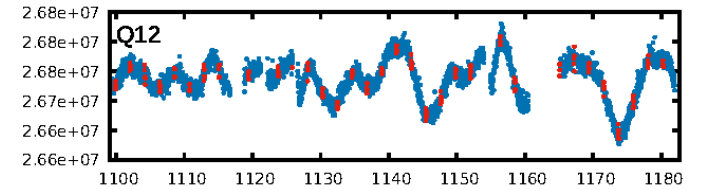
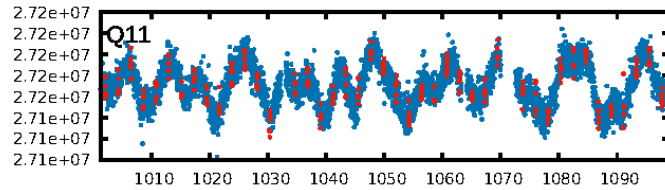
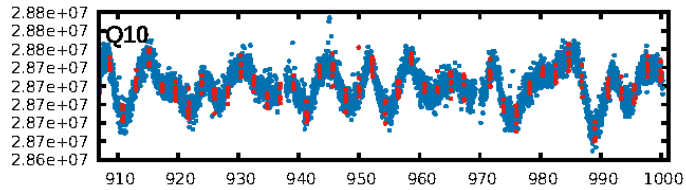
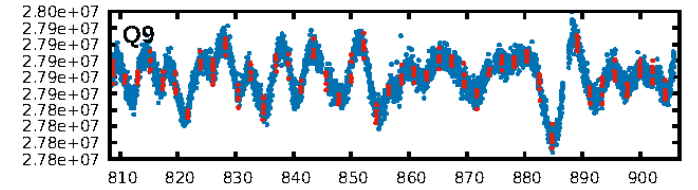
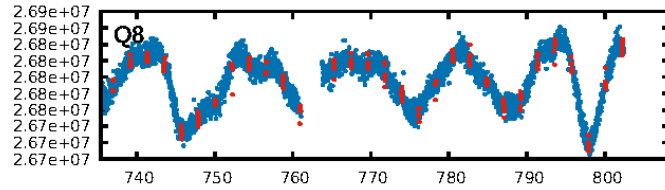
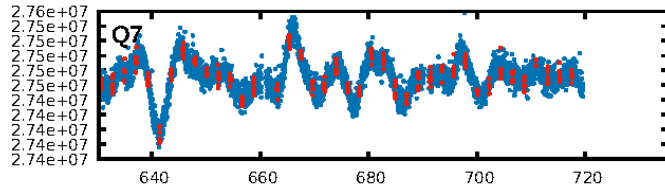
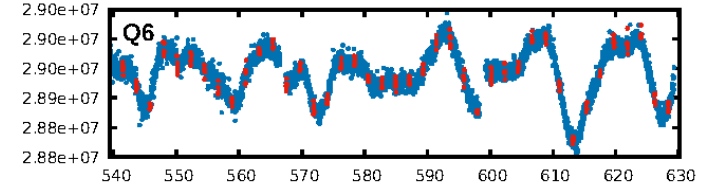
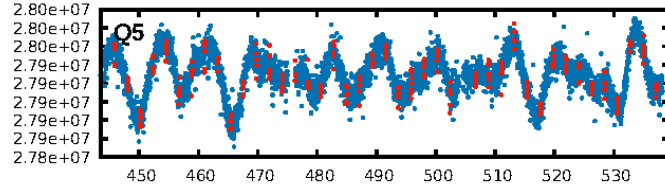
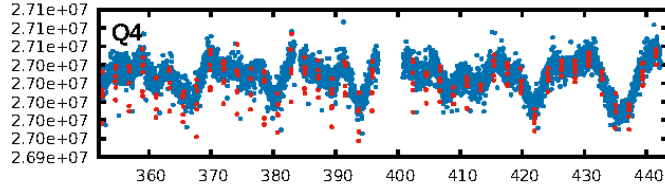
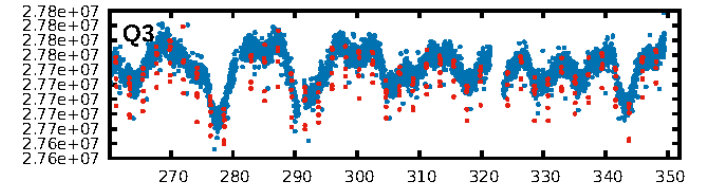
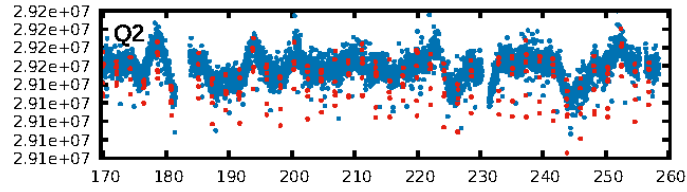
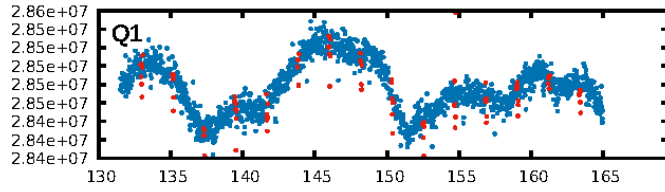
DV Fit Results:

Period = 2.17279 [0.00001] d
Epoch = 132.9869 [0.0018] BKJD
Rp/R* = 0.0119 [0.0045]
a/R* = 5.04 [10.34]
b = 0.90 [0.47]
Seff = 1258.70 [510.36]
Teff = 1519 [154] K
Rp = 1.26 [0.58] Re
a = 0.0299 [0.0074] AU
Ag = 37.60 [32.35] [1.13σ]
Teffp = 5815 [1130] K [3.77σ]

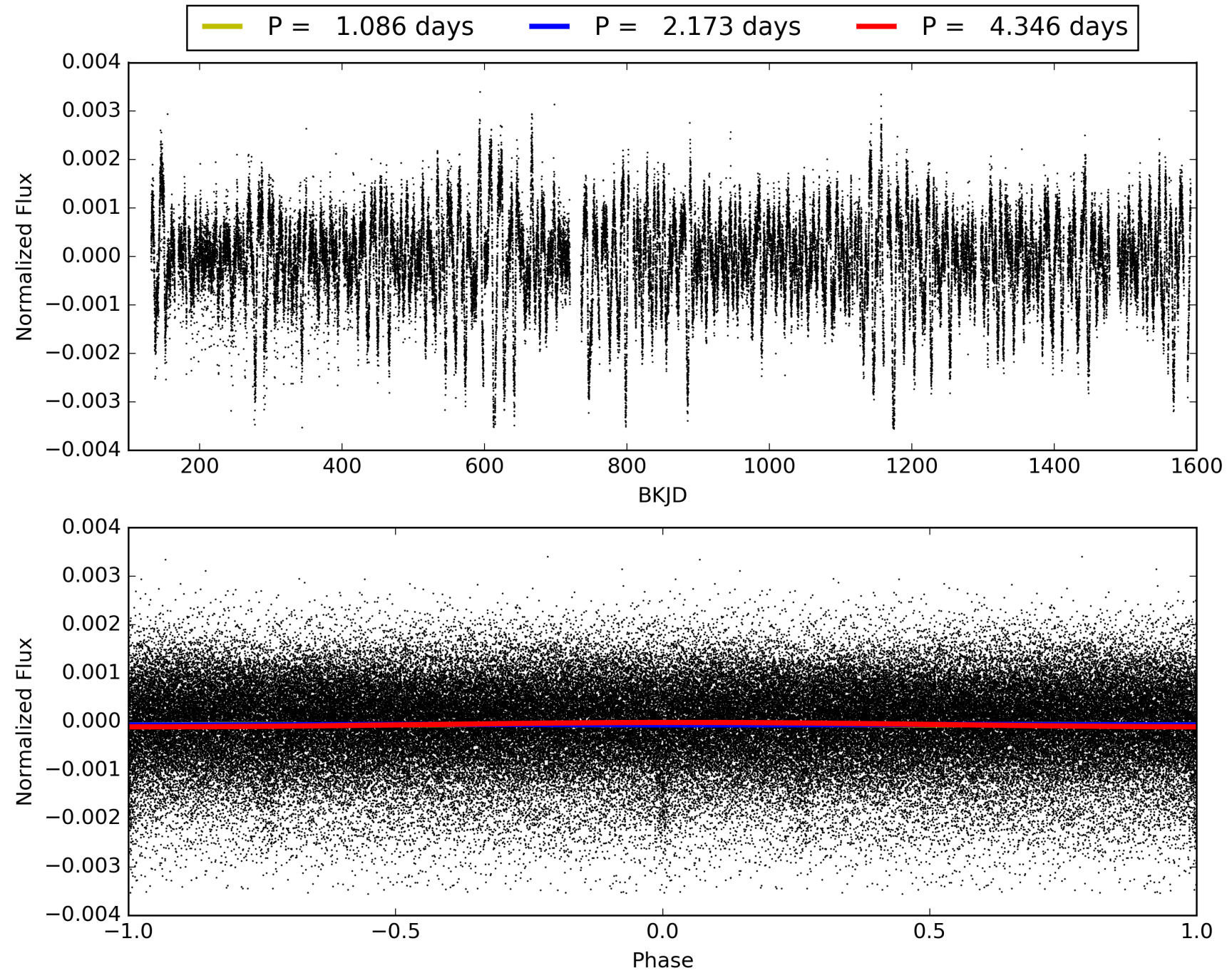
DV Diagnostic Results:

ShortPeriod-sig: 0.2% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.74e-158
RollingBand-fgt: 0.97 [568/585]
GhostDiagnostic-chr: 3.056
Centroid-sig: 0.0%
Centroid-so: 2.884 arcsec [3.53σ]
OotOffset-rm: 0.134 arcsec [0.27σ]
KicOffset-rm: 0.135 arcsec [0.36σ]
OotOffset-st: 2/2/2/3 [9]
KicOffset-st: 2/2/2/3 [9]
DiffImageQuality-fgm: 0.67 [6/9]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005357470-01, PDC Light Curves

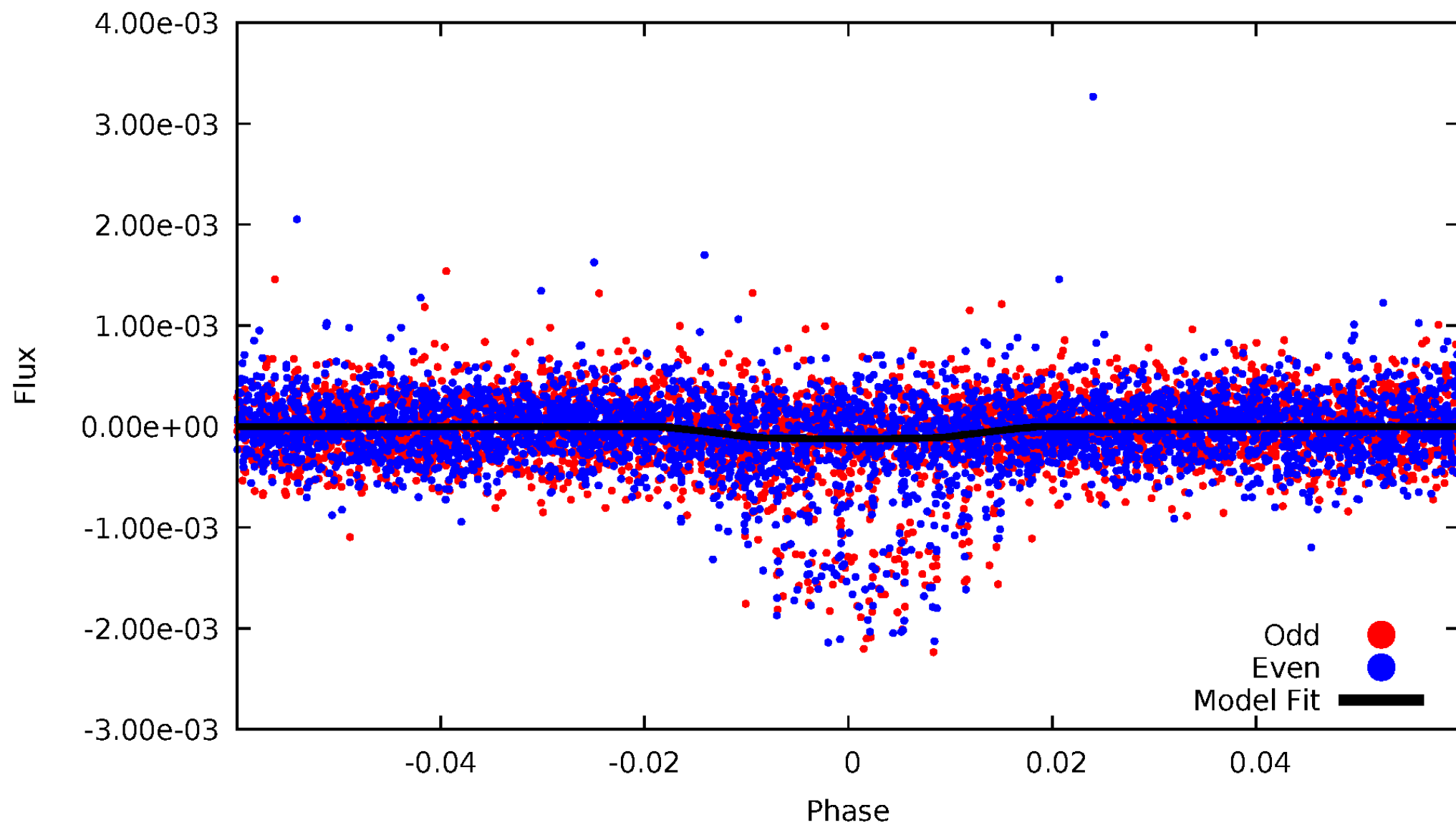


TCE 005357470-01



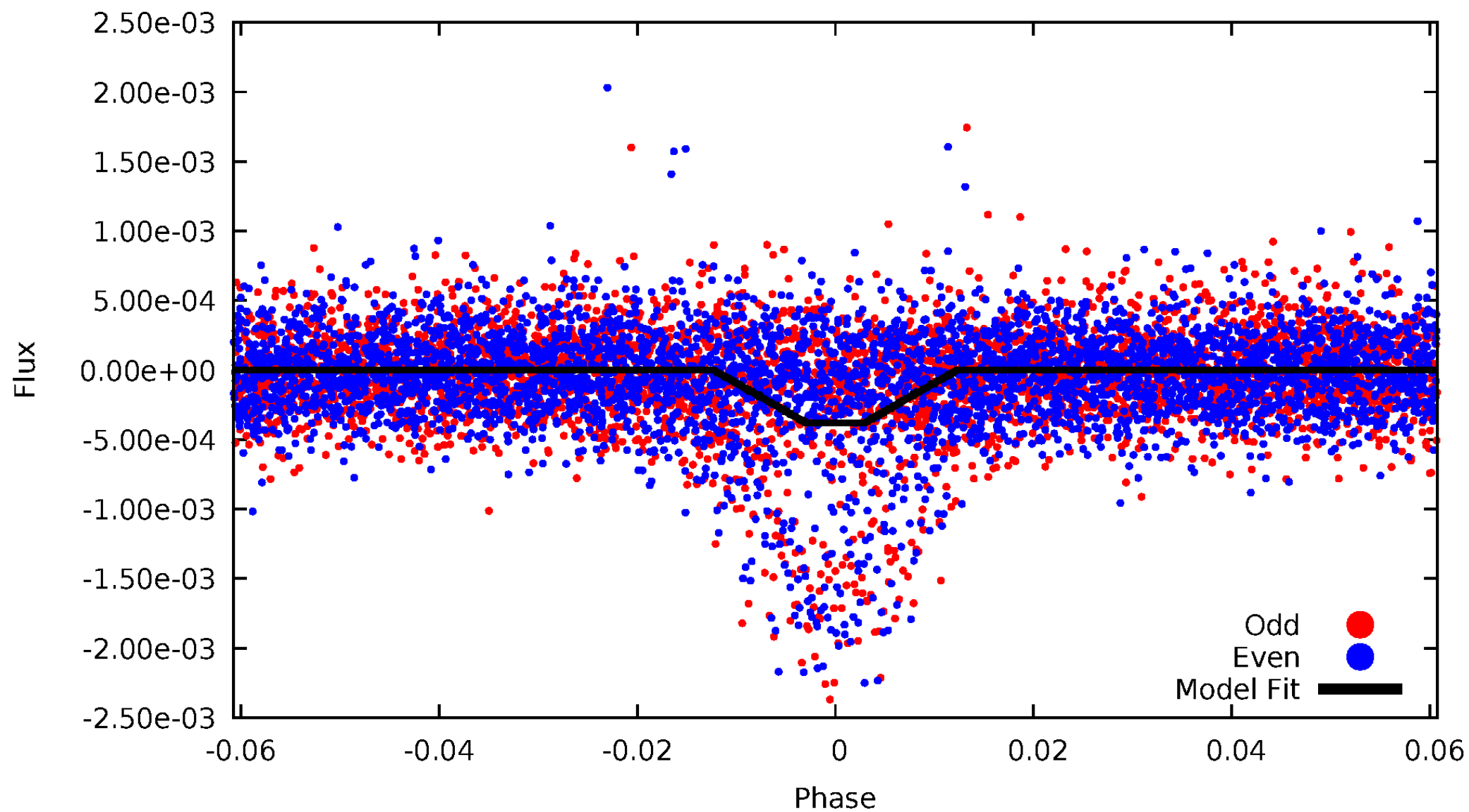
DV Odd/Even

TCE 005357470-01



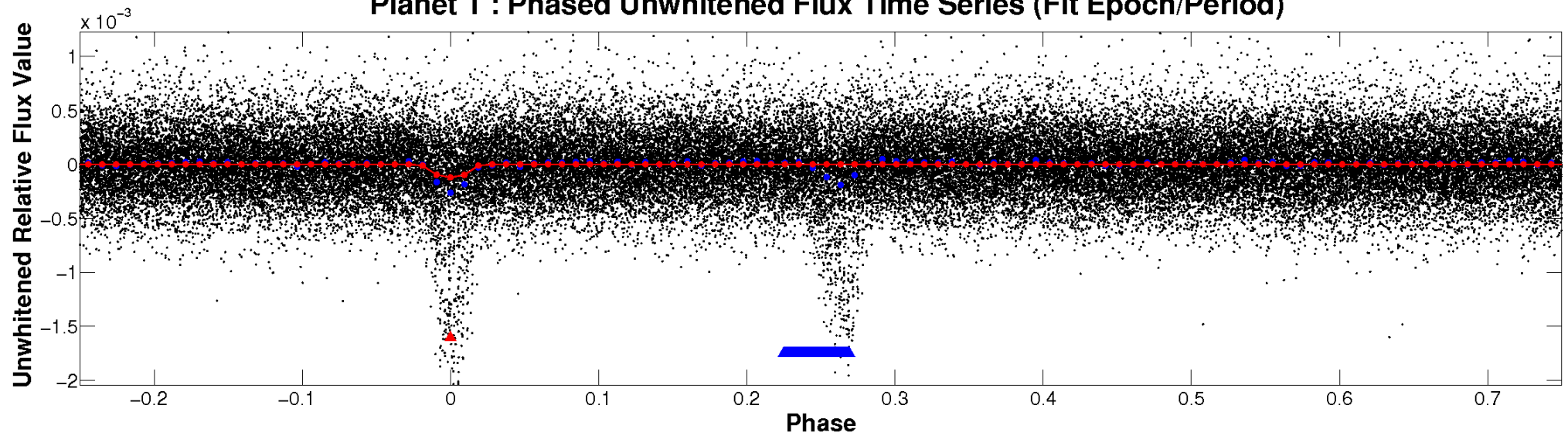
ALT Odd/Even

TCE 005357470-01

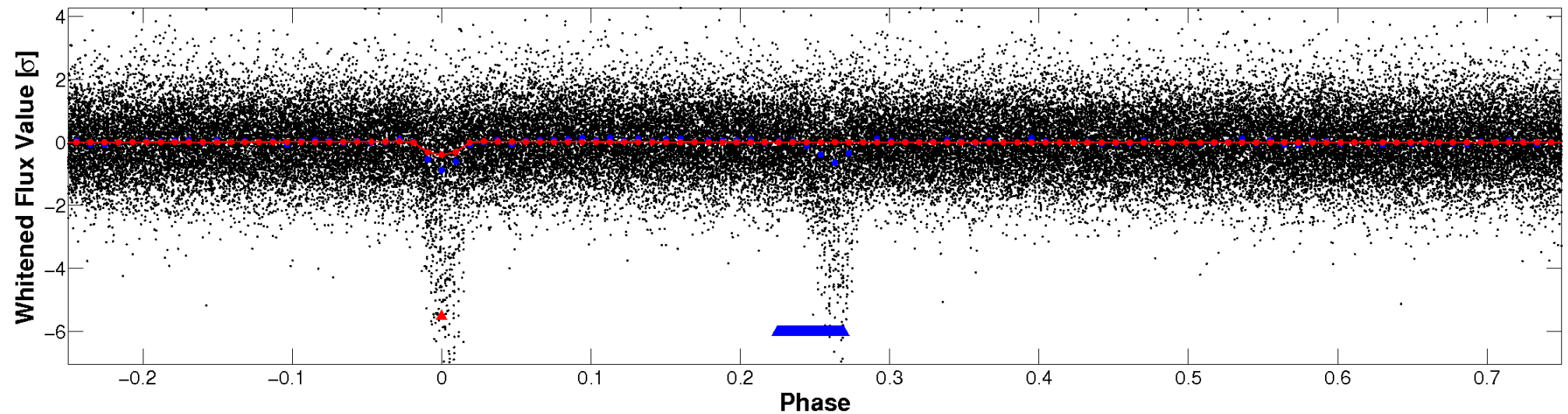


Non-Whitened Vs. Whitened Light Curve

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

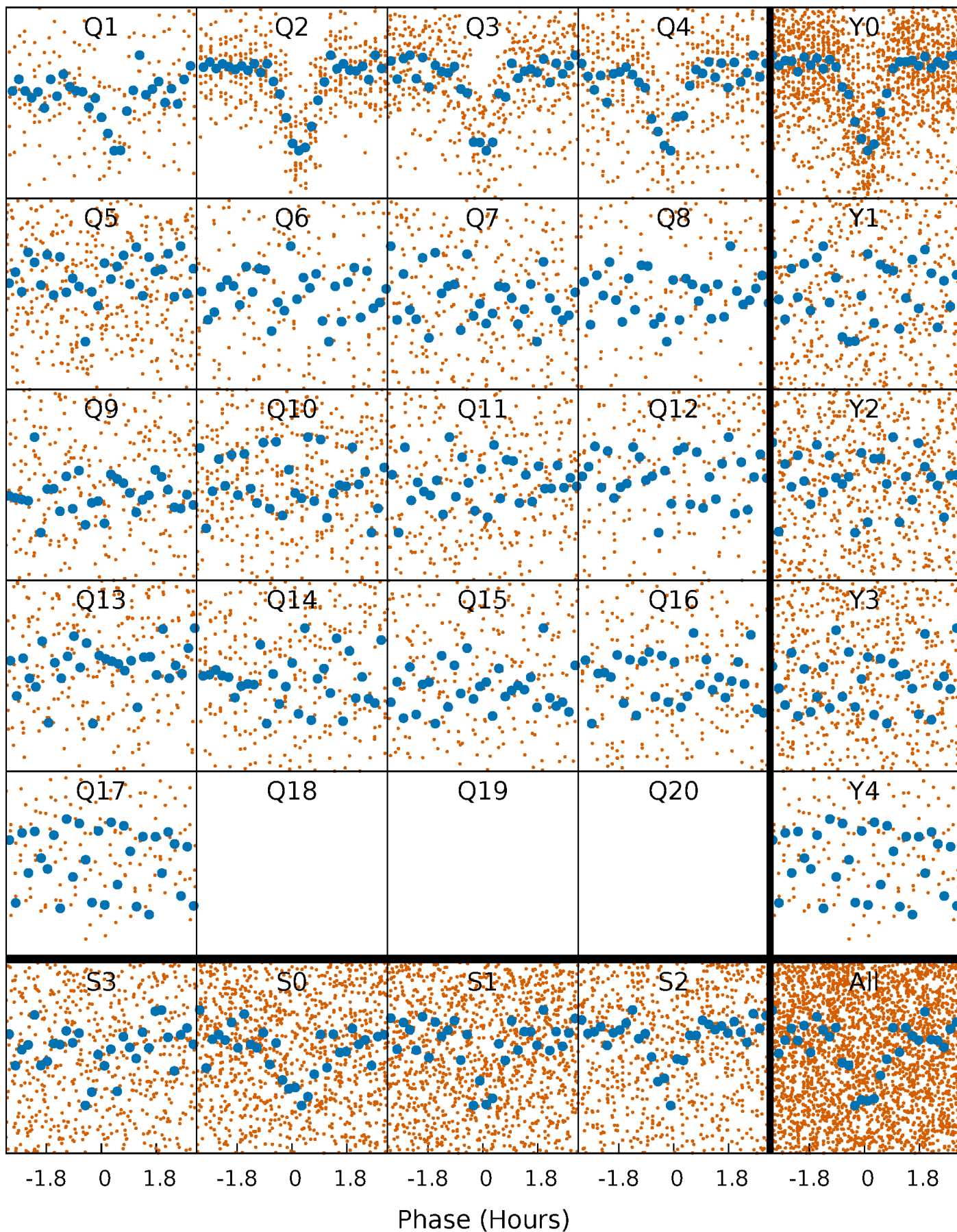


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



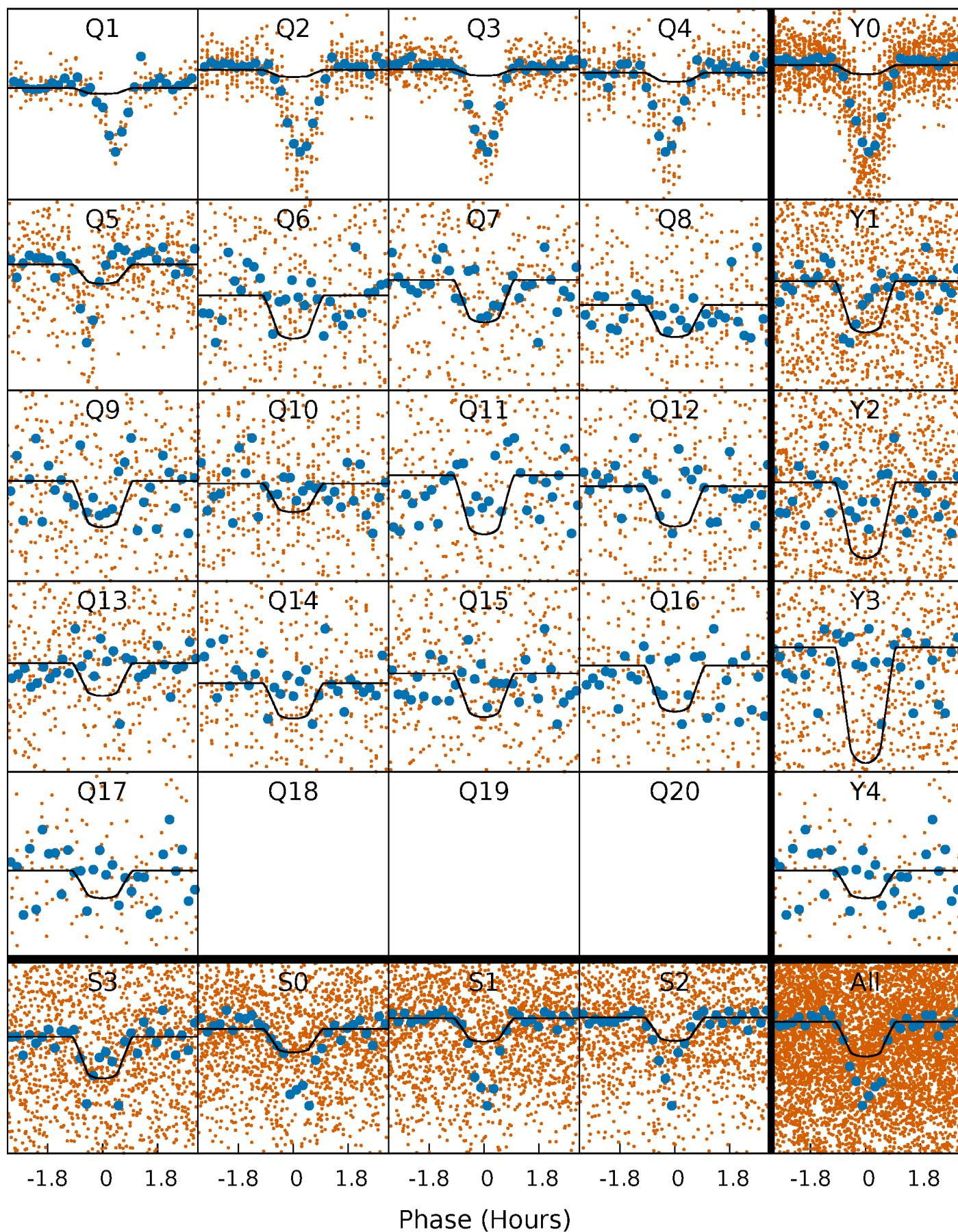
PDC Quarter-Phased Transit Curves

TCE 005357470-01 P= 2.172787 Days $T_0=132.986881$ (BKJD)



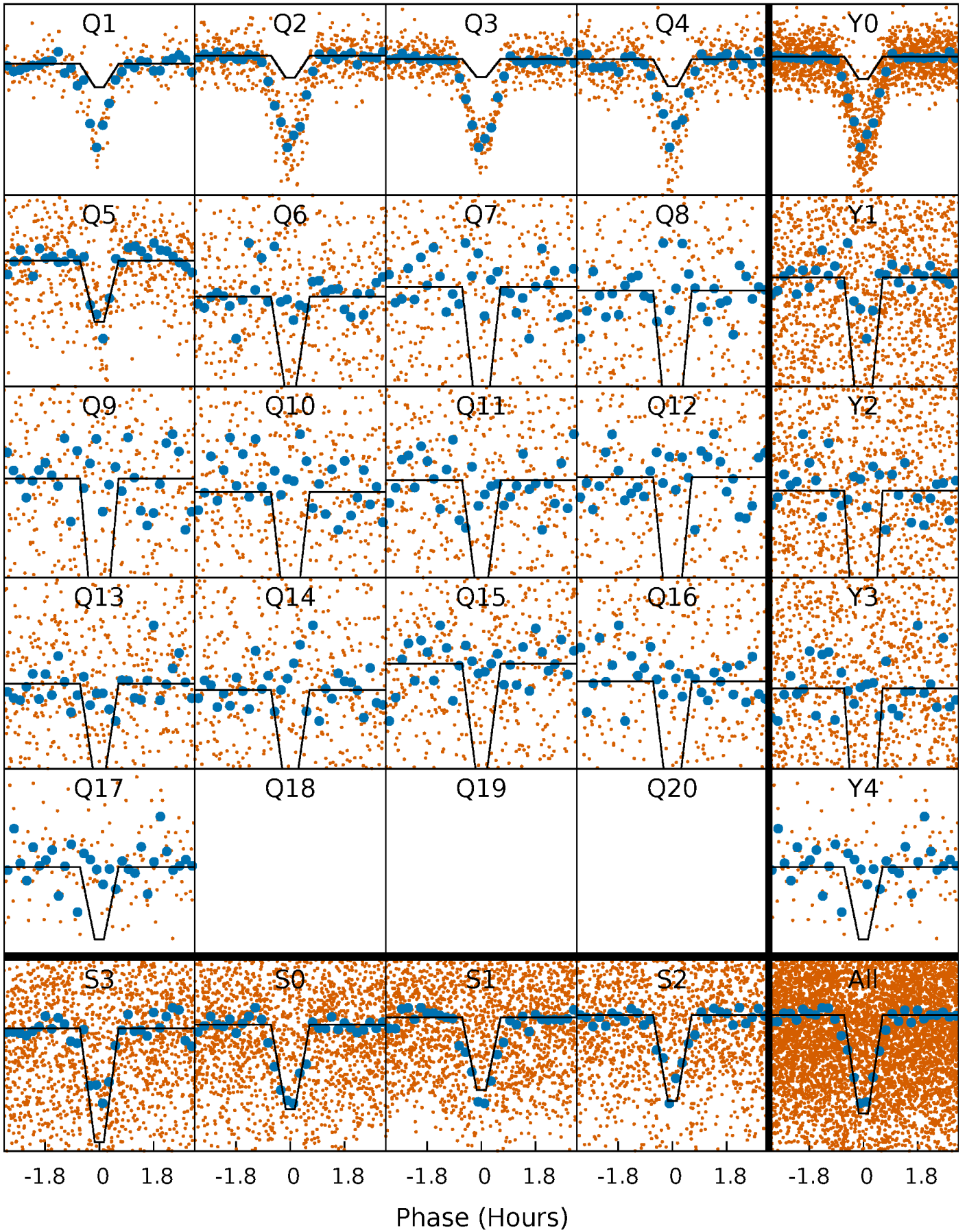
DV Quarter-Phased Transit Curves

TCE 005357470-01 P= 2.172787 Days $T_0=132.986881$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

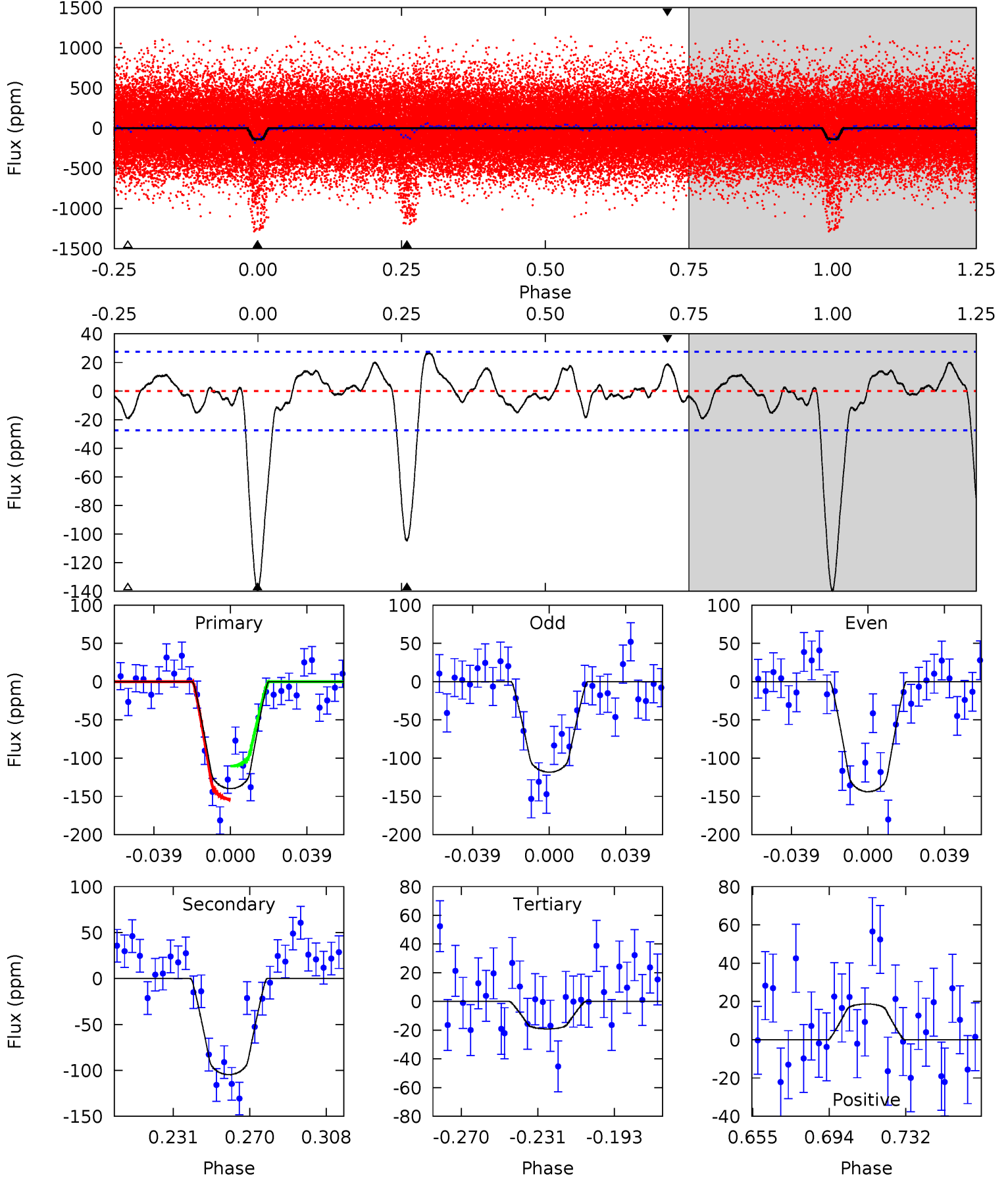
TCE 005357470-01 P= 2.172519 Days $T_0=133.008807$ (BKJD)



DV Model-Shift Uniqueness Test

005357470-01, P = 2.172787 Days, E = 130.814094 Days

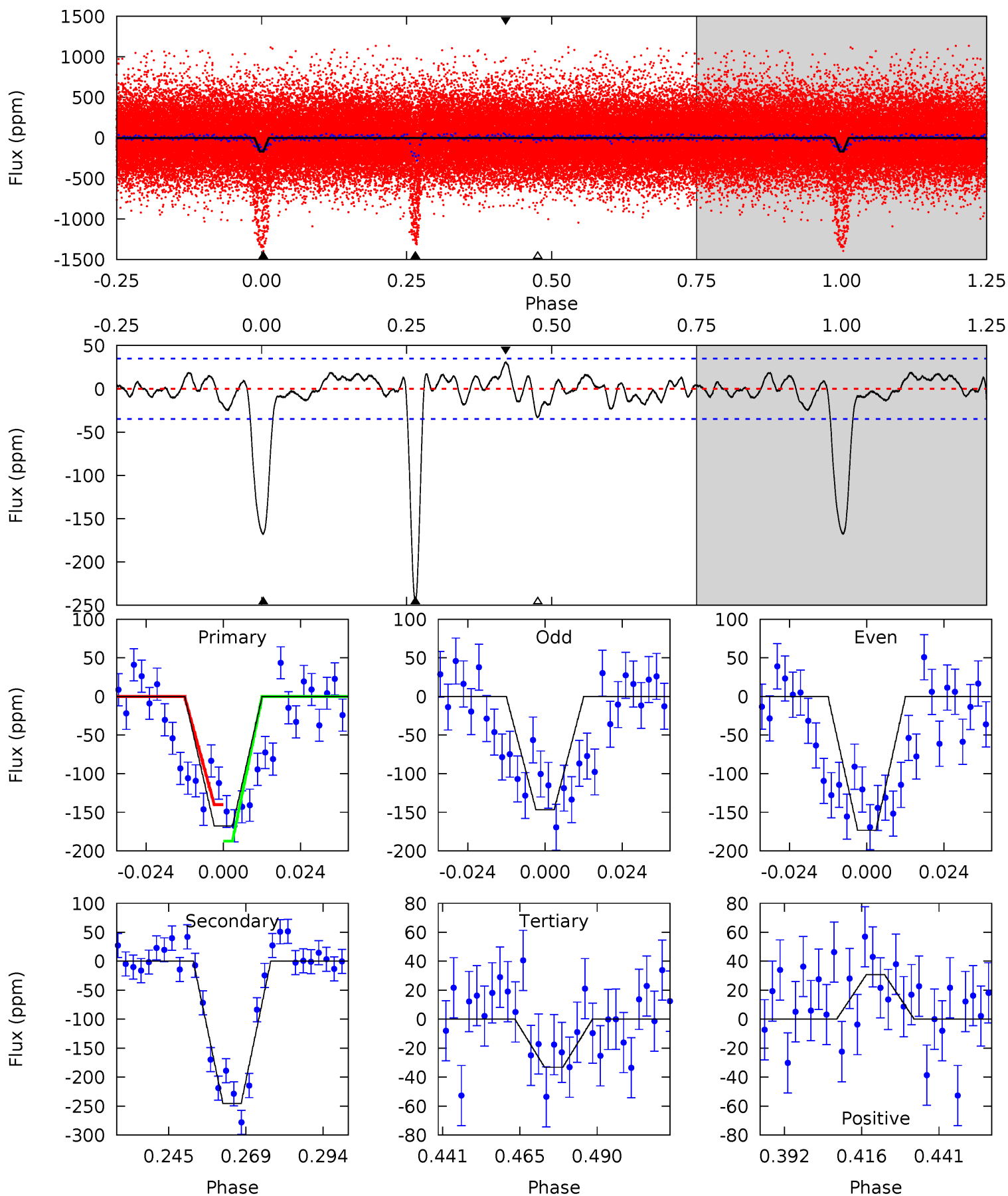
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.2	18.1	3.32	3.24	4.76	2.07	1.57	20.9	21.0	14.8	14.9	2.21	2.41	0.16	3.73



Alt Model-Shift Uniqueness Test

005357470-01, P = 2.172519 Days, E = 130.836288 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.3	34.1	4.62	4.27	4.85	2.25	1.53	18.7	19.0	29.5	29.8	1.86	2.74	0.11	3.29



Stellar Parameters For KIC 005357470

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6038^{+180}_{-180}	$4.340^{+0.225}_{-0.184}$	$-0.940^{+0.300}_{-0.300}$	$0.971^{+0.256}_{-0.209}$	$0.753^{+0.093}_{-0.037}$	$1.157^{+1.226}_{-0.558}$
	+3%/-3%	+5%/-4%	+32%/-32%	+26%/-22%	+12%/-5%	+106%/-48%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005357470-01 / KOI 1674.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-105 ± 6	$1.25^{+0.48}_{-0.49}$	2112^{+174}_{-151}	5632^{+1592}_{-748}	33^{+58}_{-16}
Alt.	-245 ± 7	$2.06^{+0.60}_{-0.50}$	2123^{+168}_{-157}	5438^{+685}_{-471}	29^{+21}_{-11}

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

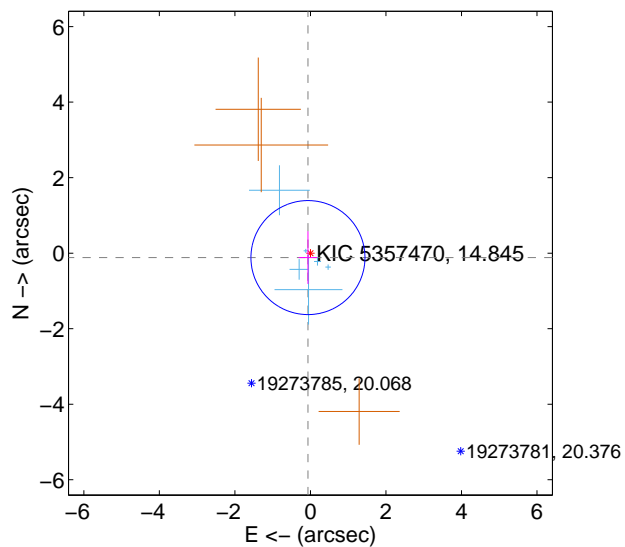
Supplemental centroid analysis for 005357470-01. Kepler magnitude: 14.85. Transit SNR 13.83

There are 6 quarters with good PRF difference image offsets

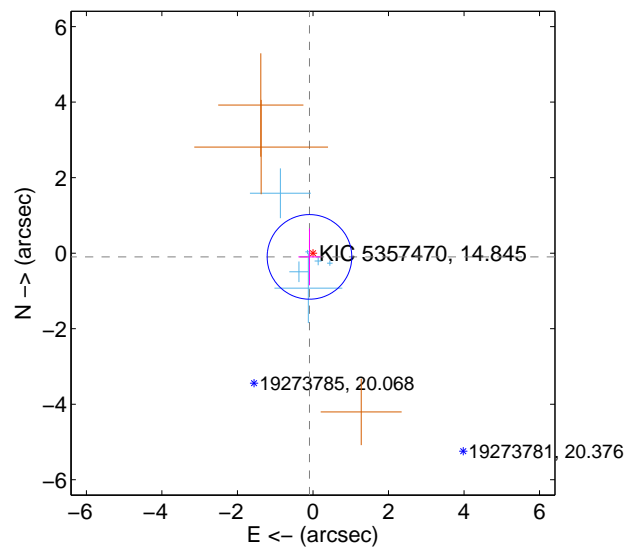
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.134 ± 0.503	0.27	0.066 ± 0.245	-0.117 ± 0.698
PRF-fit source offset from KIC position	0.135 ± 0.373	0.36	0.092 ± 0.294	-0.098 ± 0.753
photometric centroid source offset	2.88 ± 0.82	3.53	2.60 ± 0.81	1.24 ± 0.85

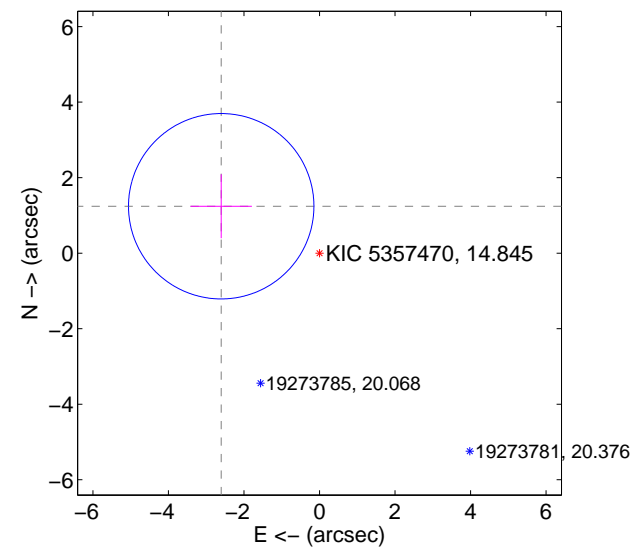
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

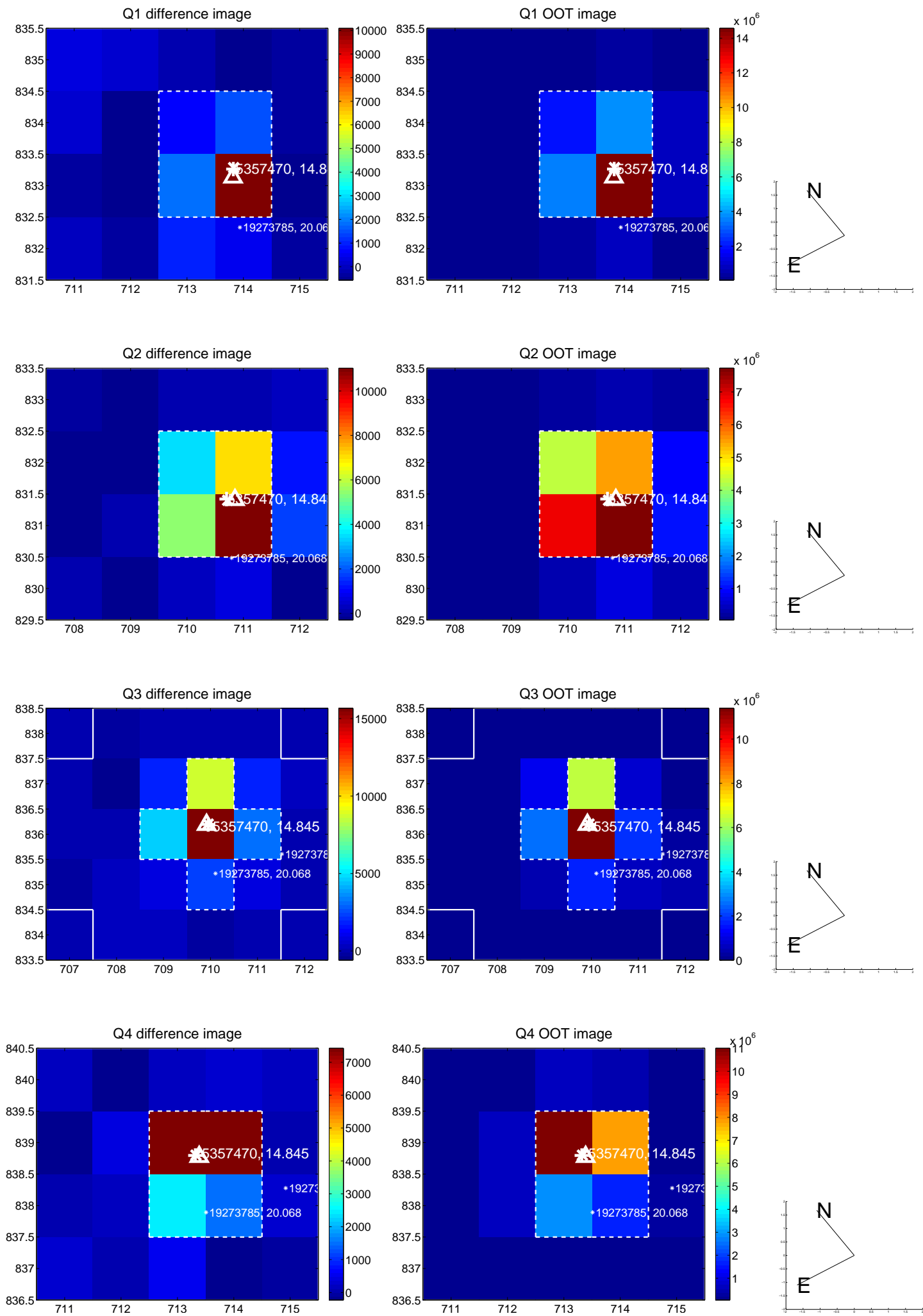


offset from photometric centroids

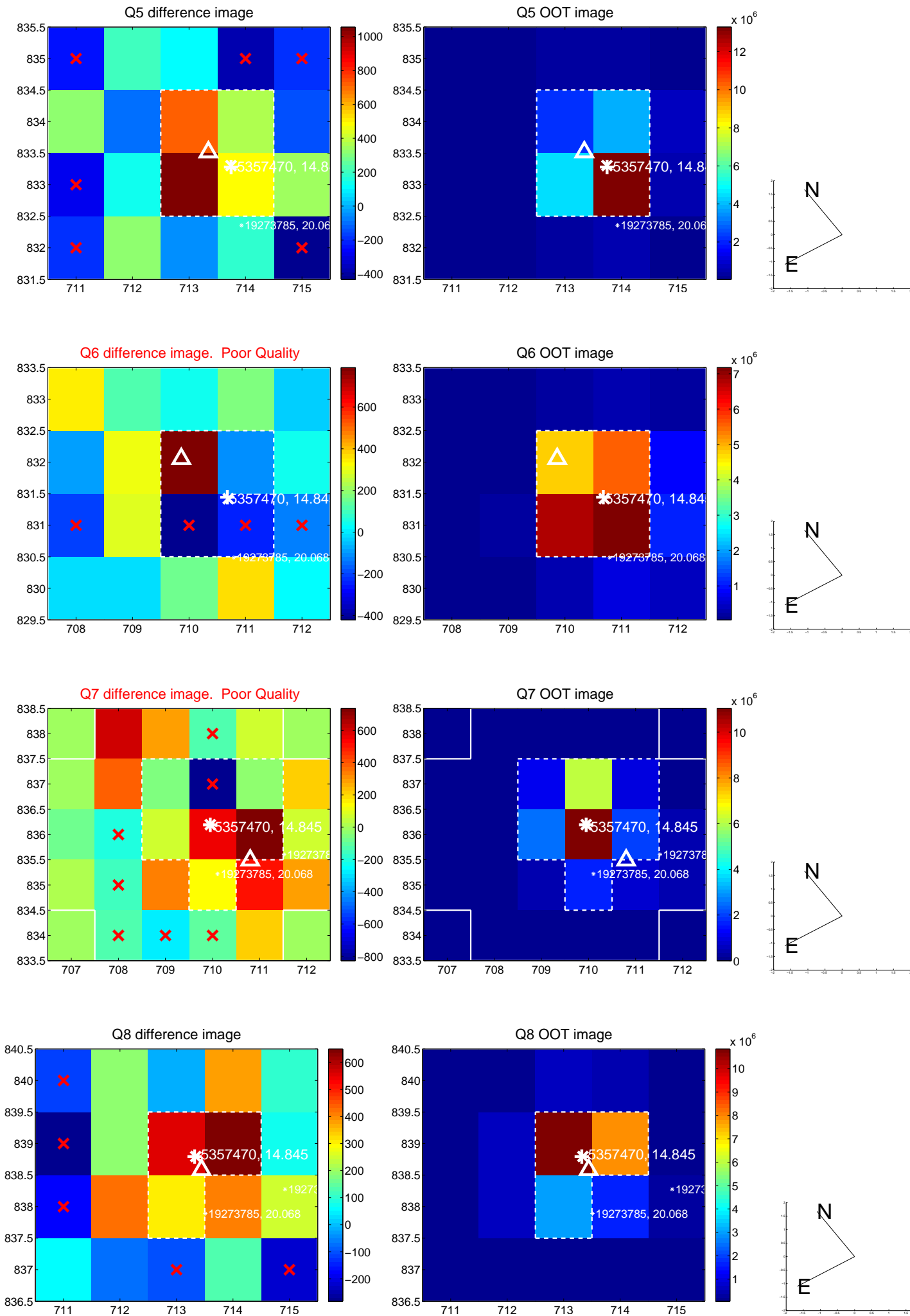


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

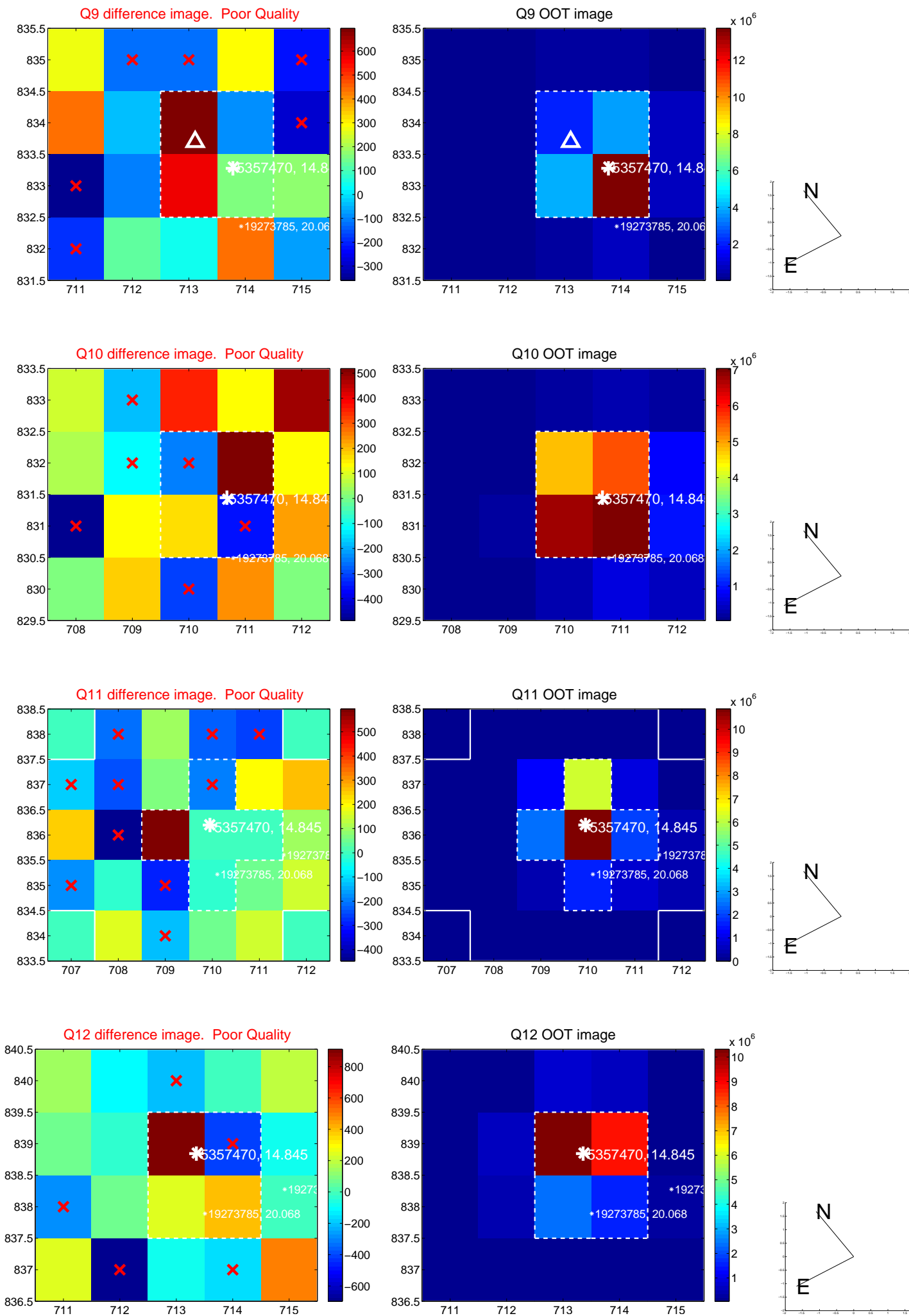
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



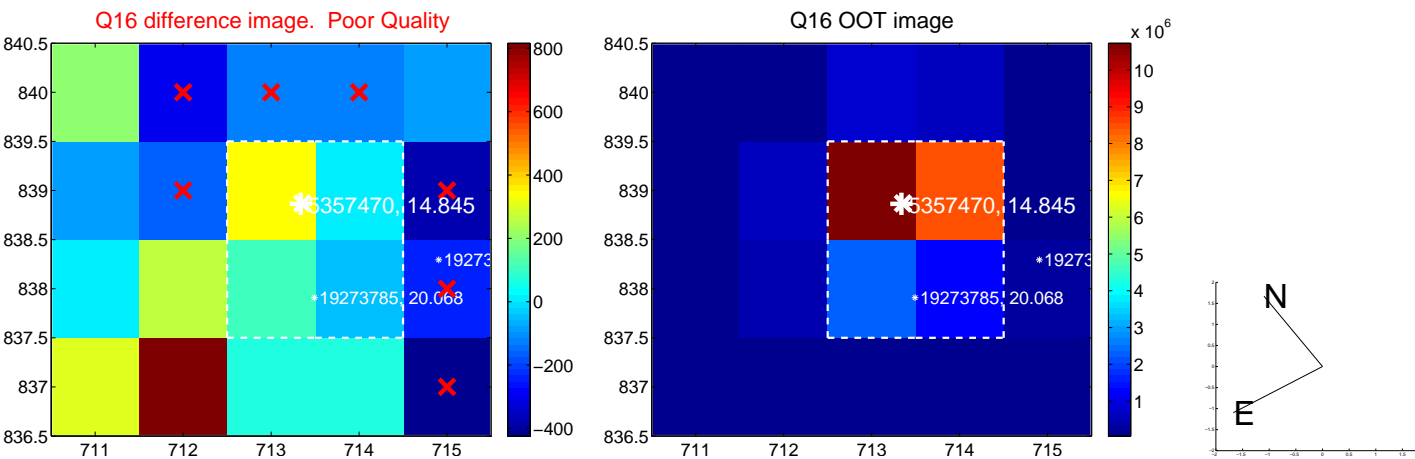
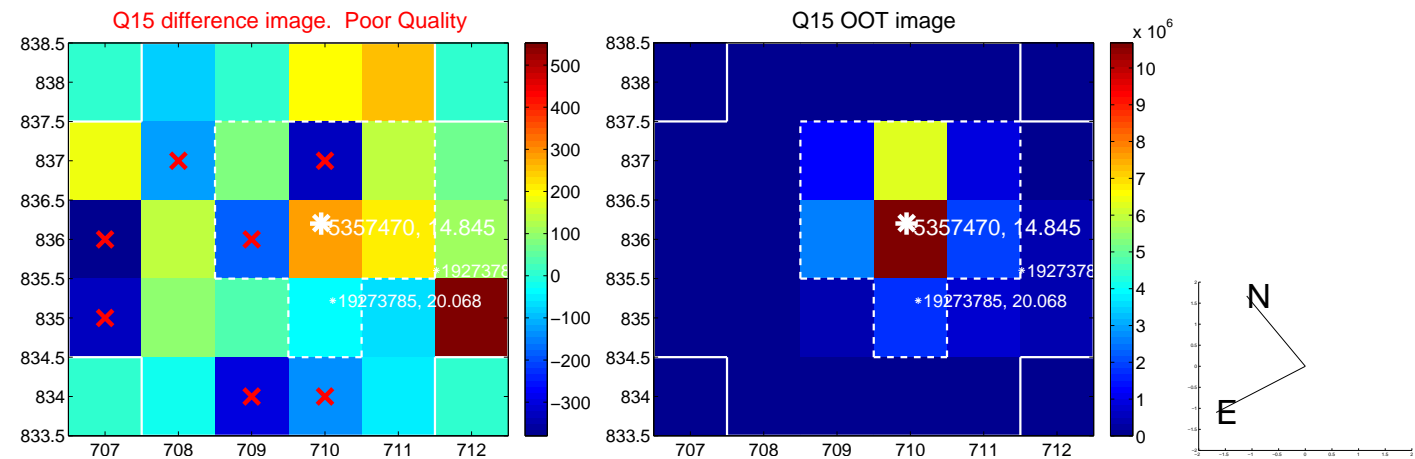
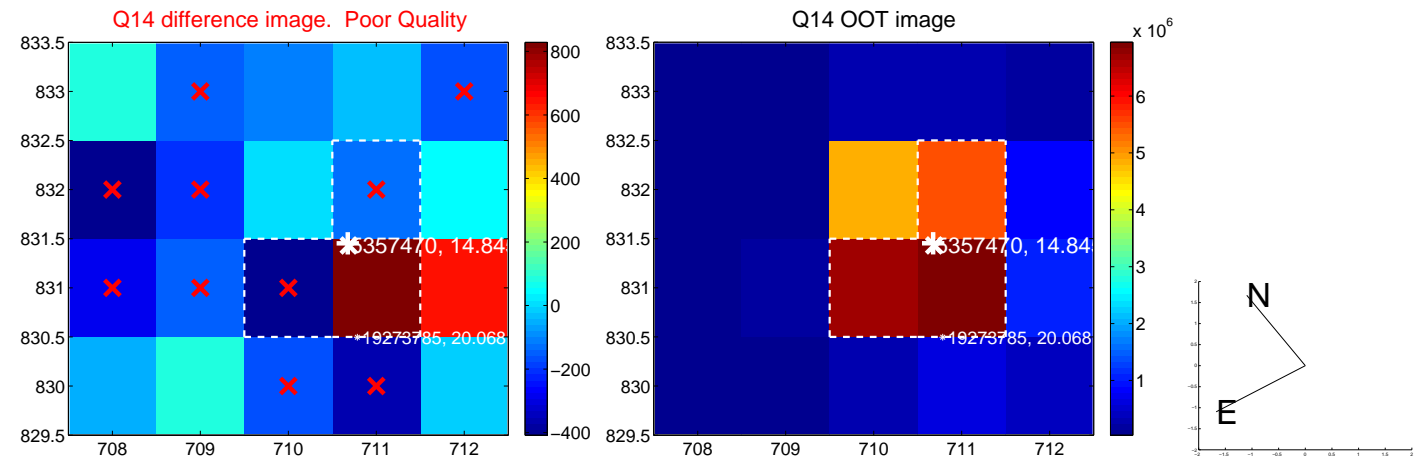
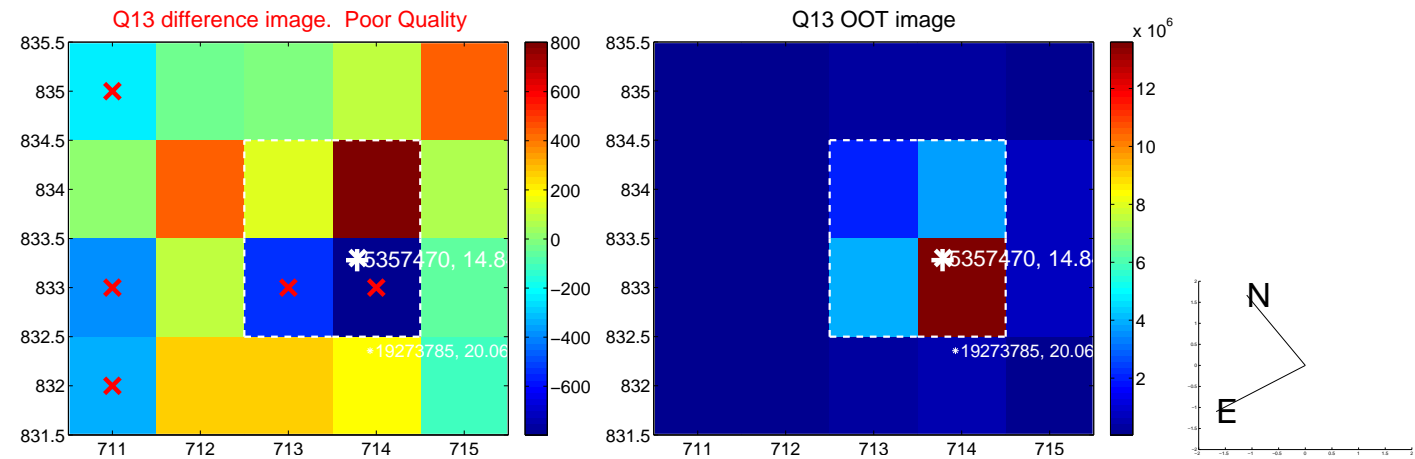
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



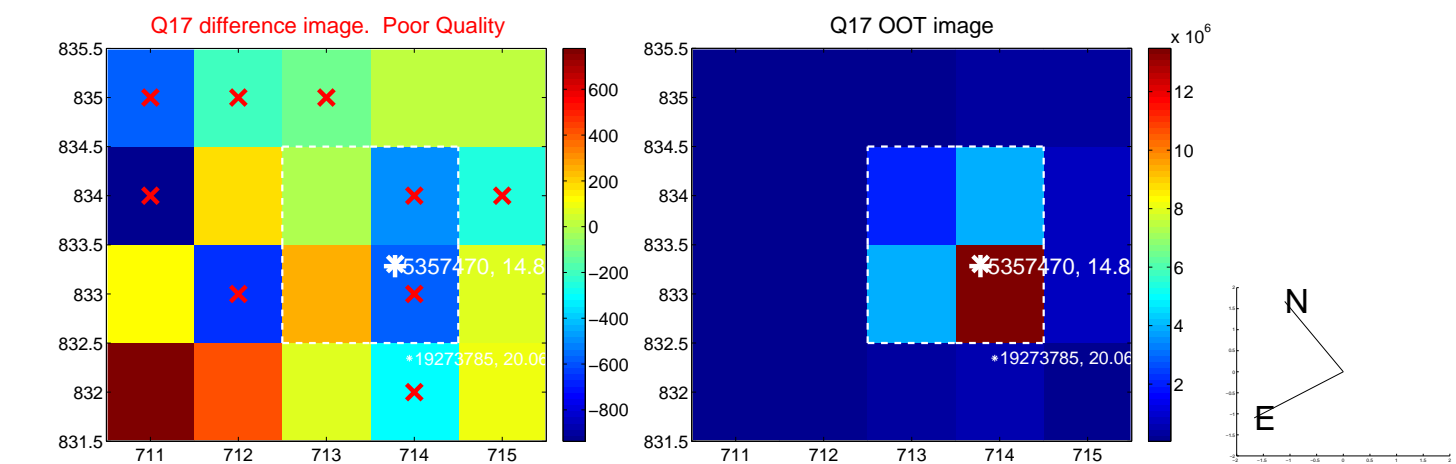
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



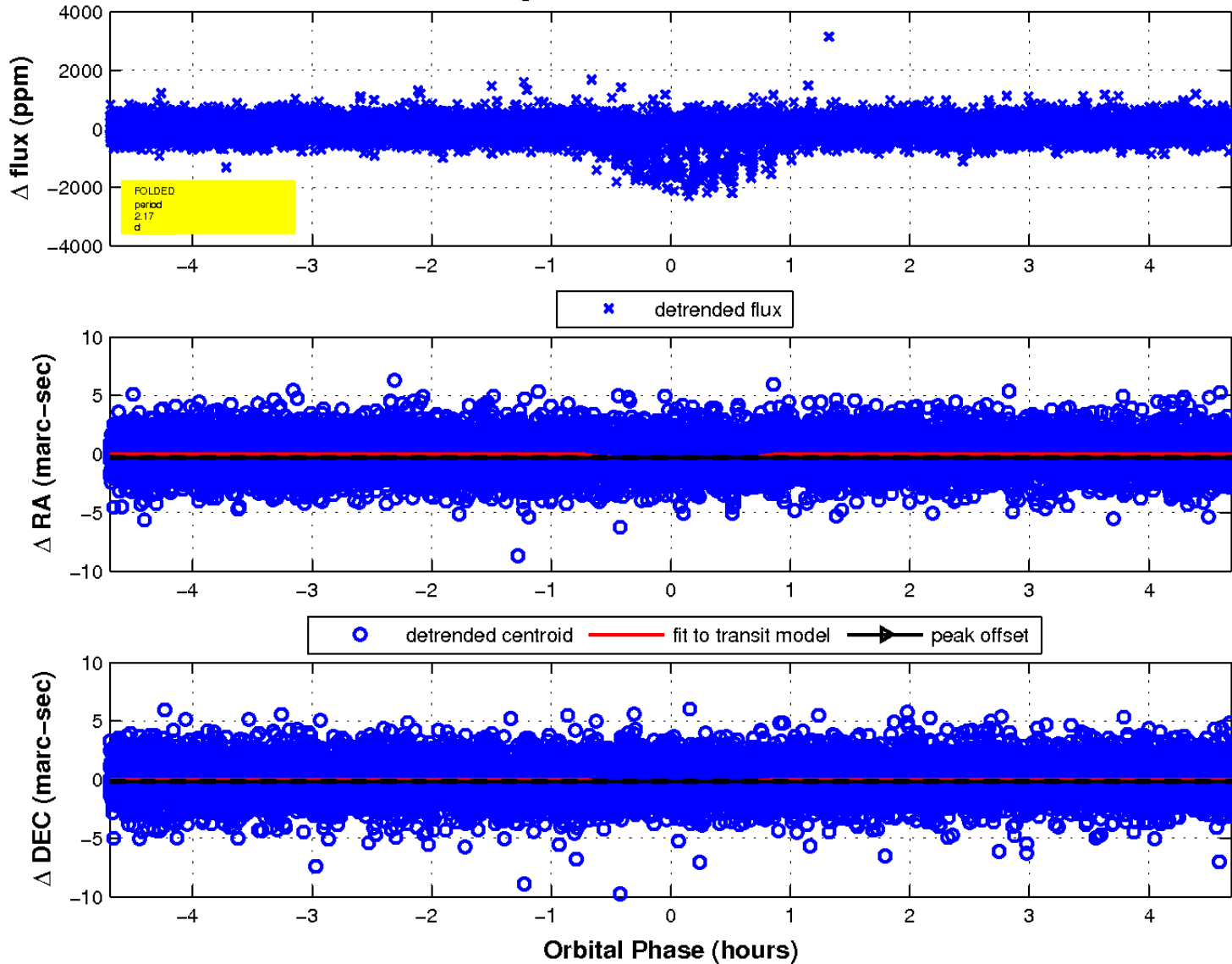
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

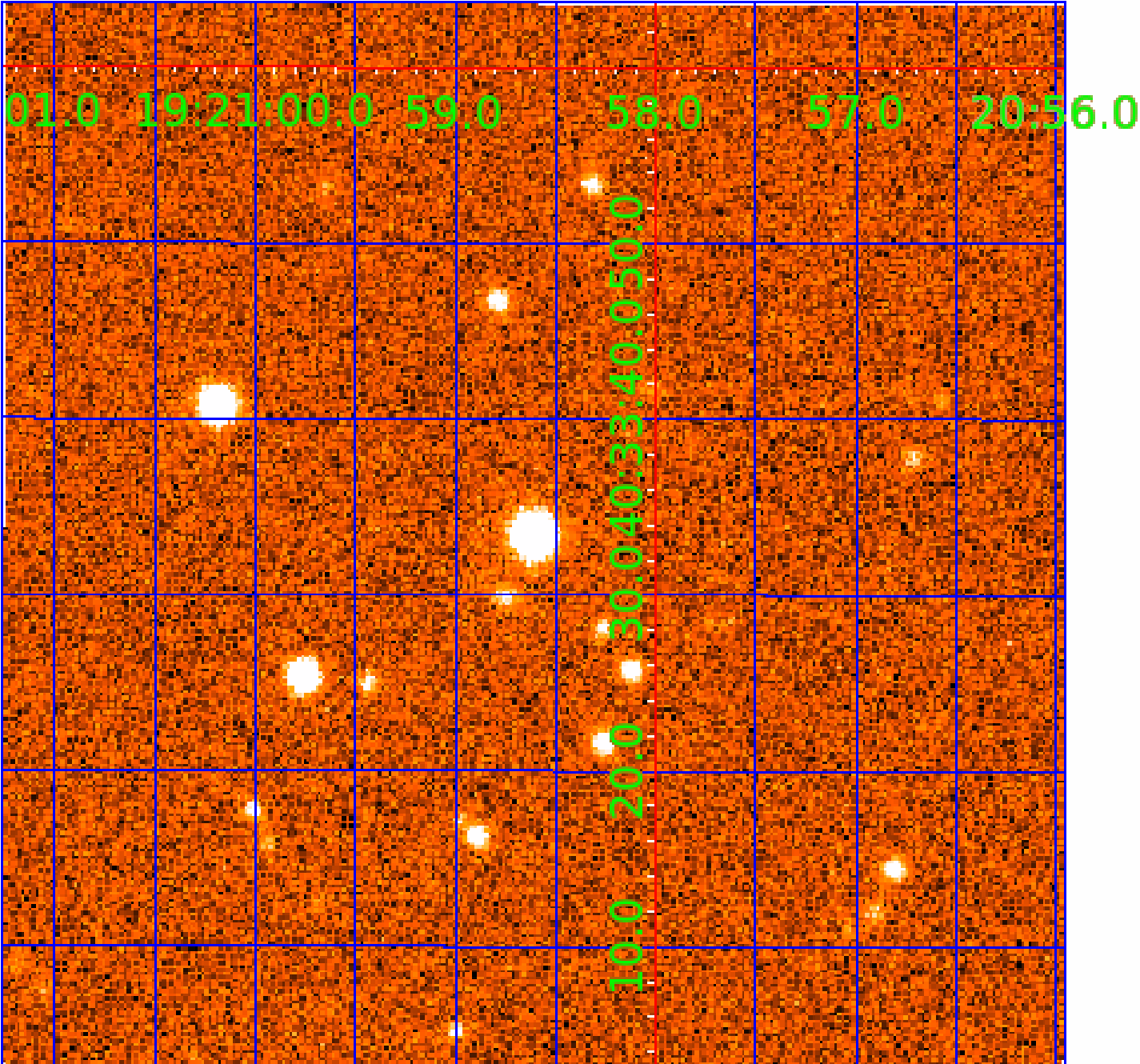


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 005357470

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

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005357470-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
005357470-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

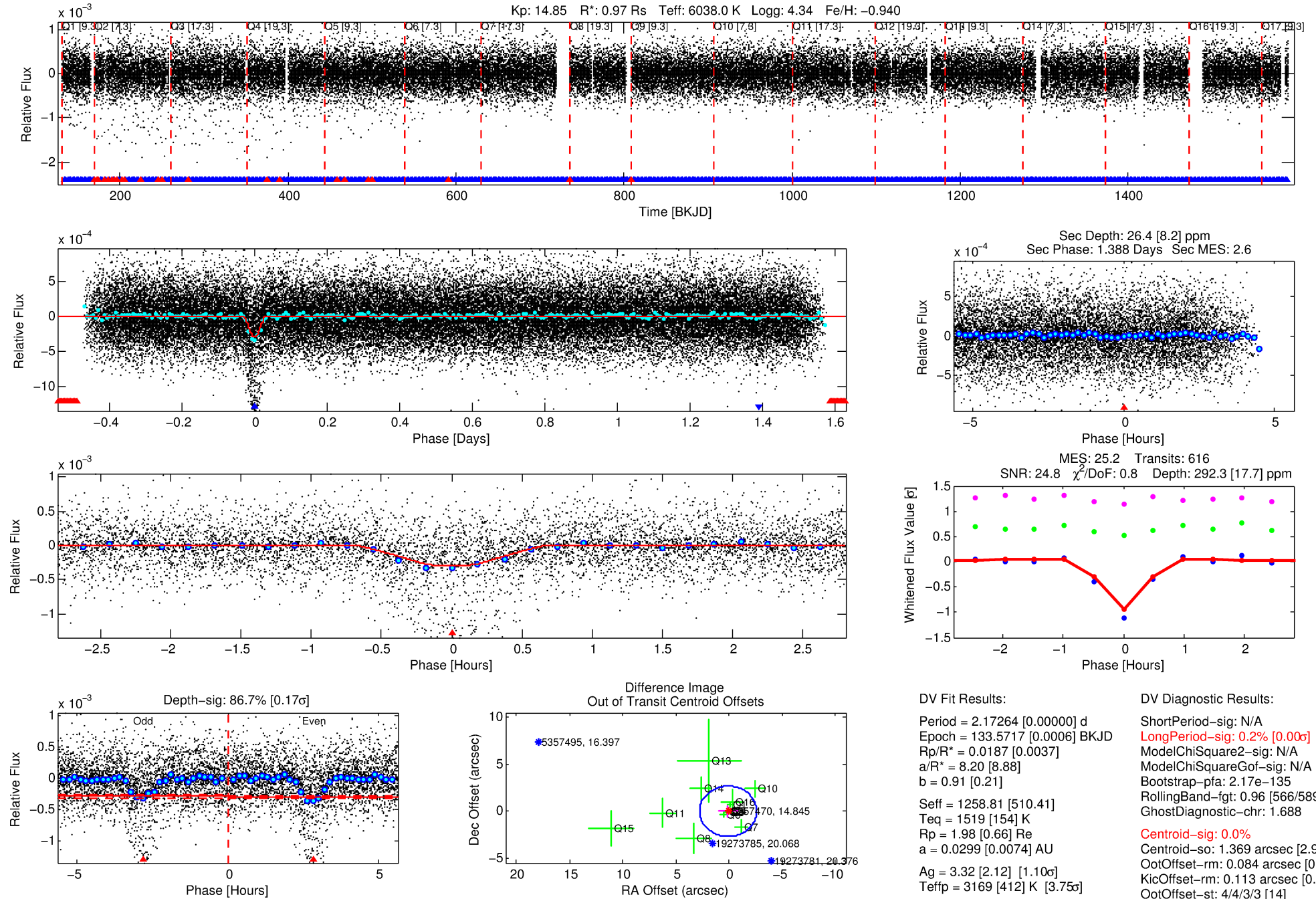
Ephemeris Match Information For 005357470-02

No Significant Match Found

DV One-Page Summary

KIC: 5357470 Candidate: 2 of 2 Period: 2.173 d
KOI: K01674 Corr: No Ephemeris Match

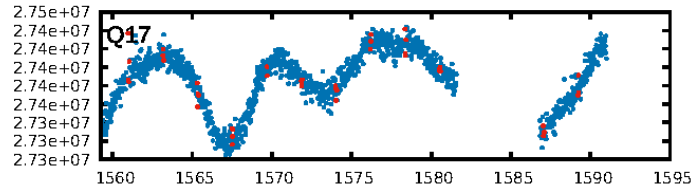
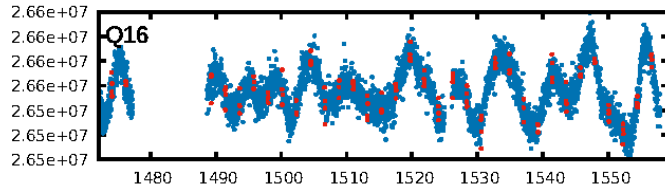
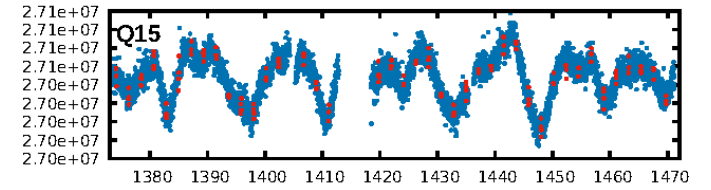
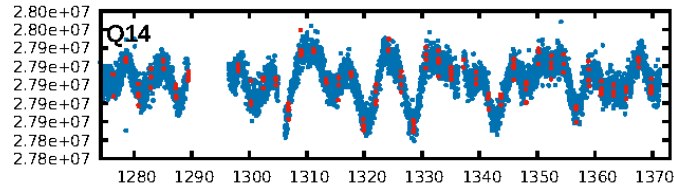
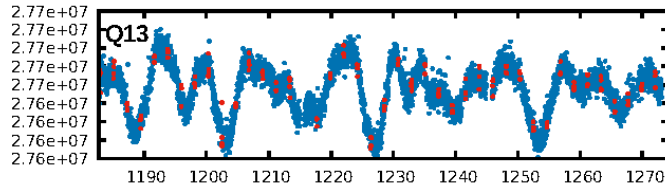
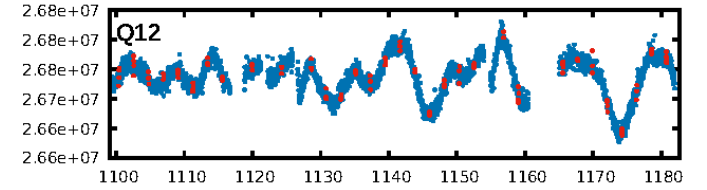
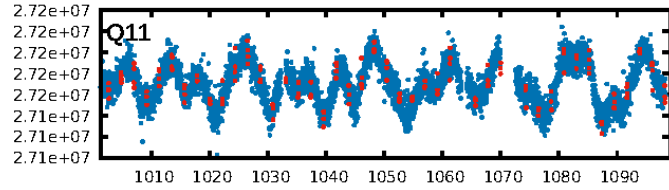
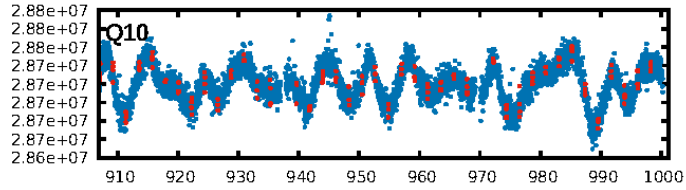
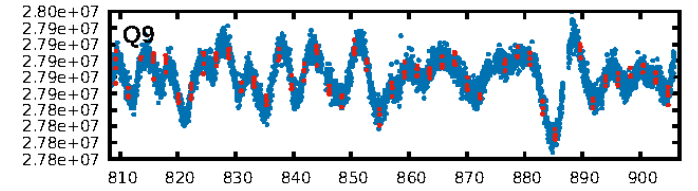
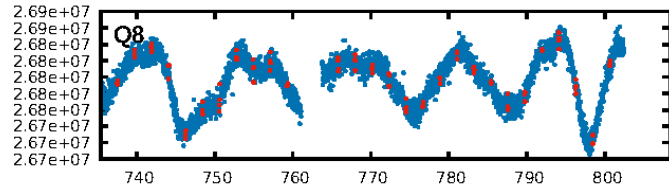
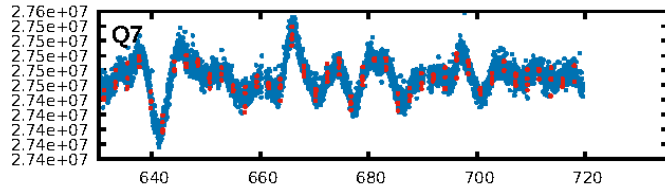
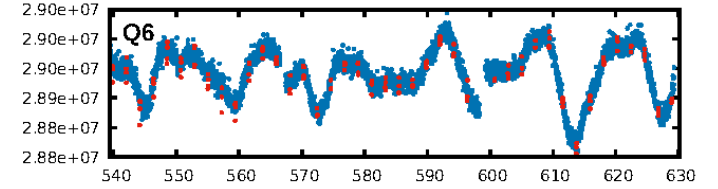
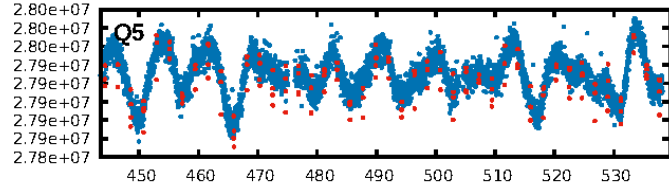
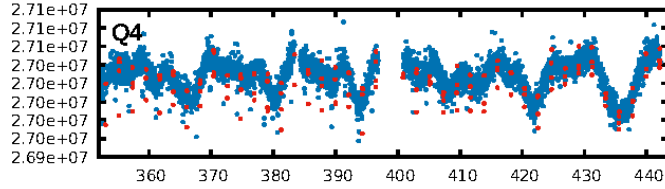
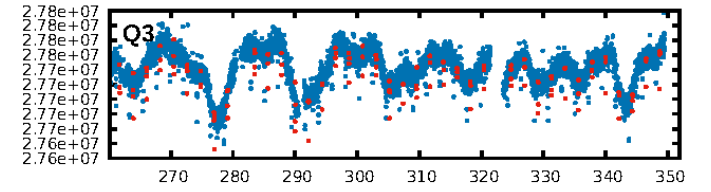
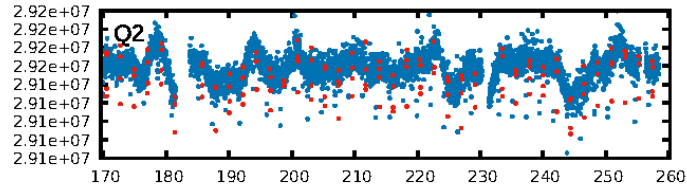
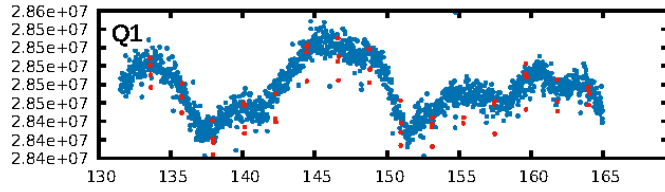
Kp: 14.85 R*: 0.97 Rs Teff: 6038.0 K Logg: 4.34 Fe/H: -0.940



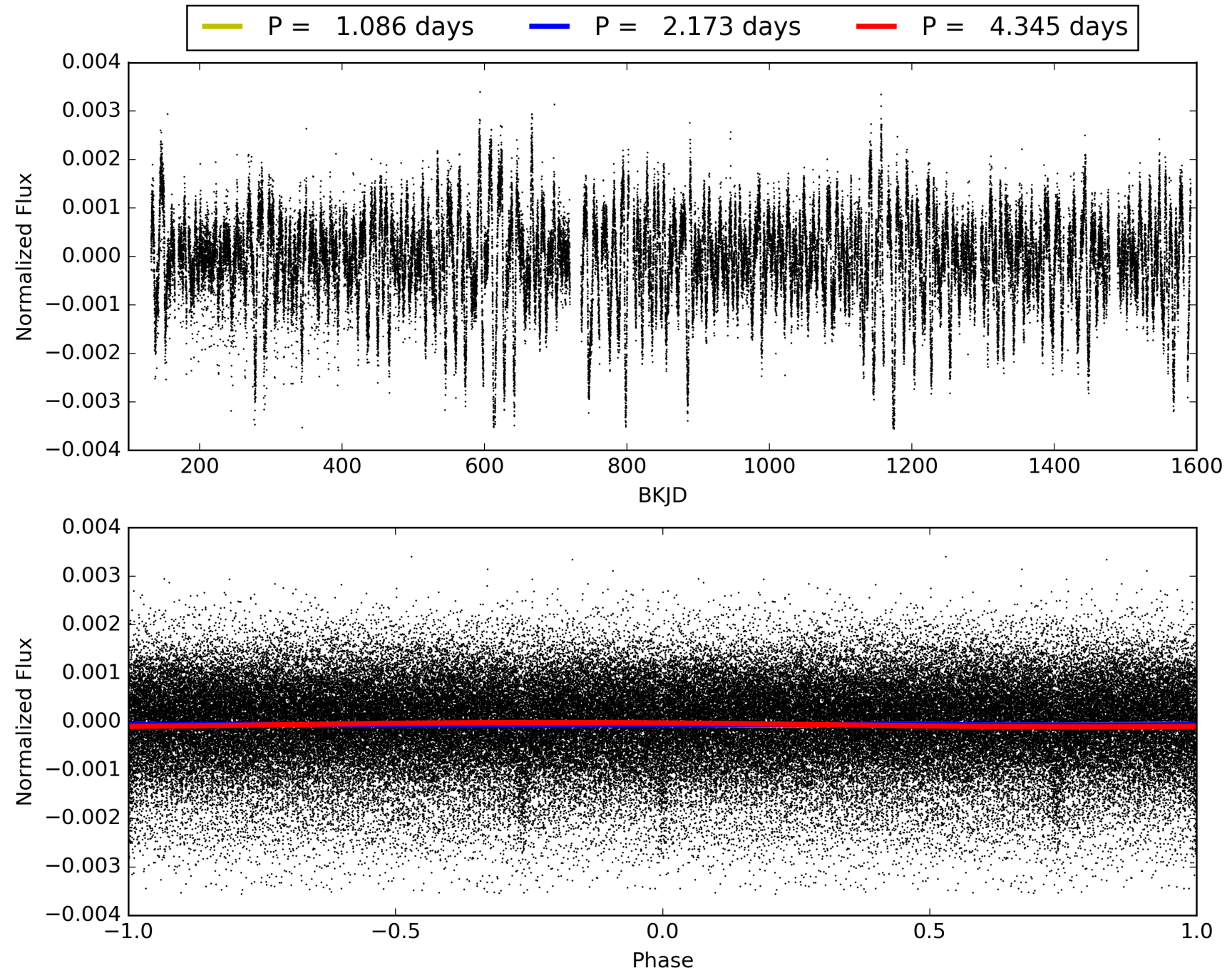
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:13:22 Z

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

TCE 005357470-02, PDC Light Curves

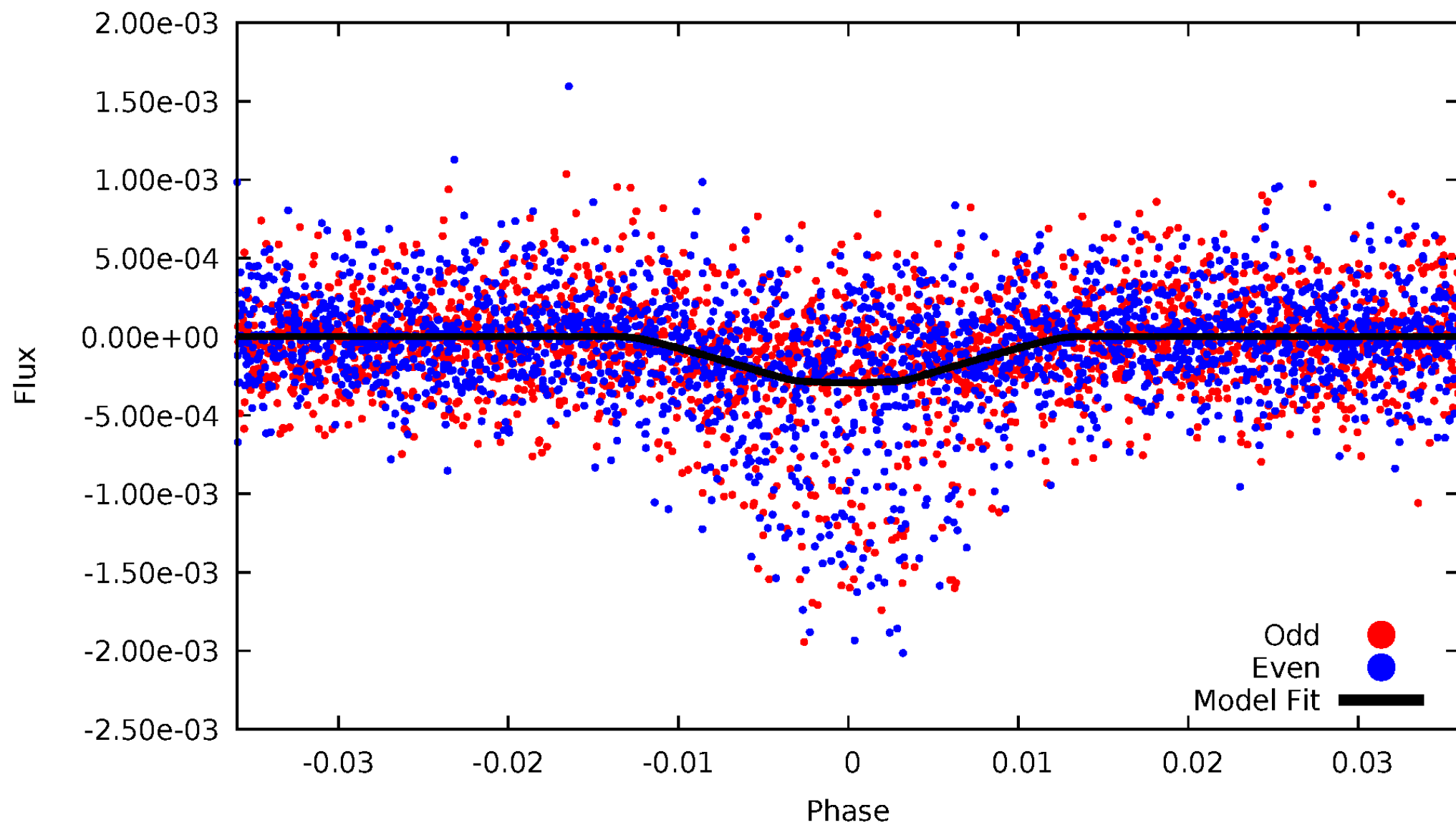


TCE 005357470-02



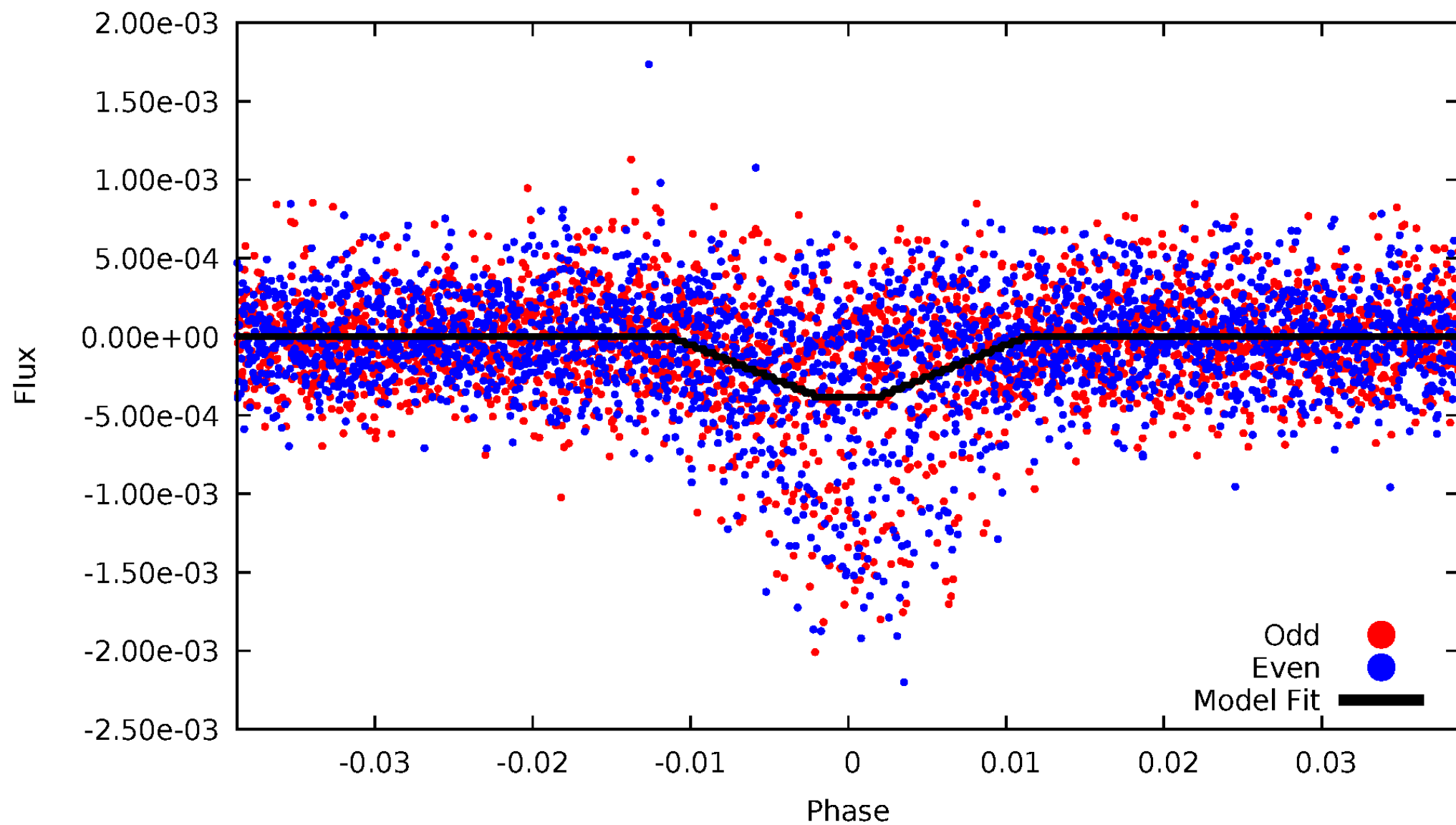
DV Odd/Even

TCE 005357470-02



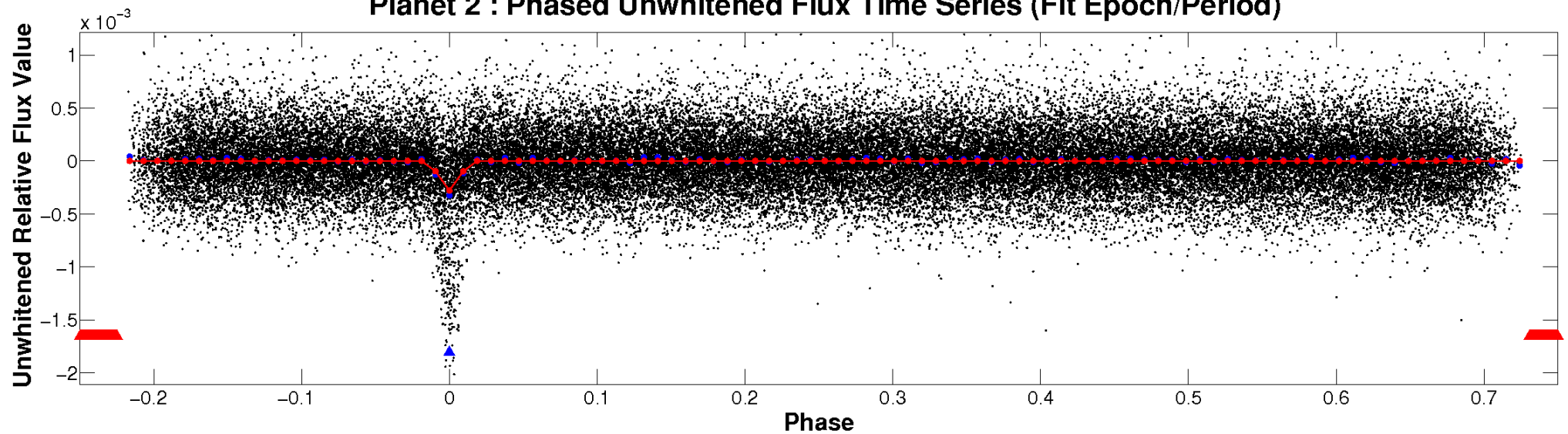
ALT Odd/Even

TCE 005357470-02

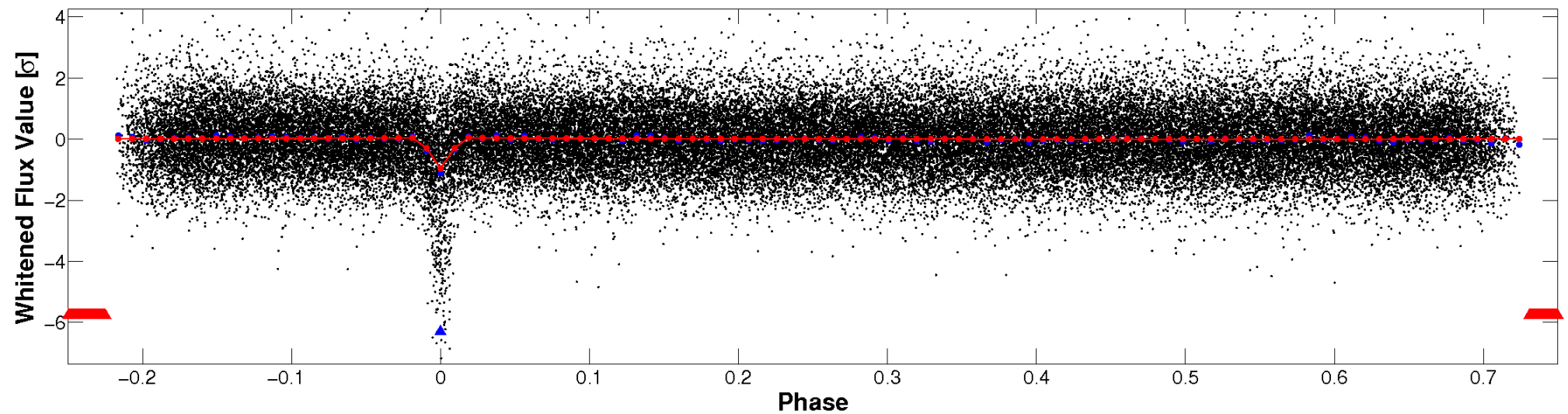


Non-Whitened Vs. Whitened Light Curve

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

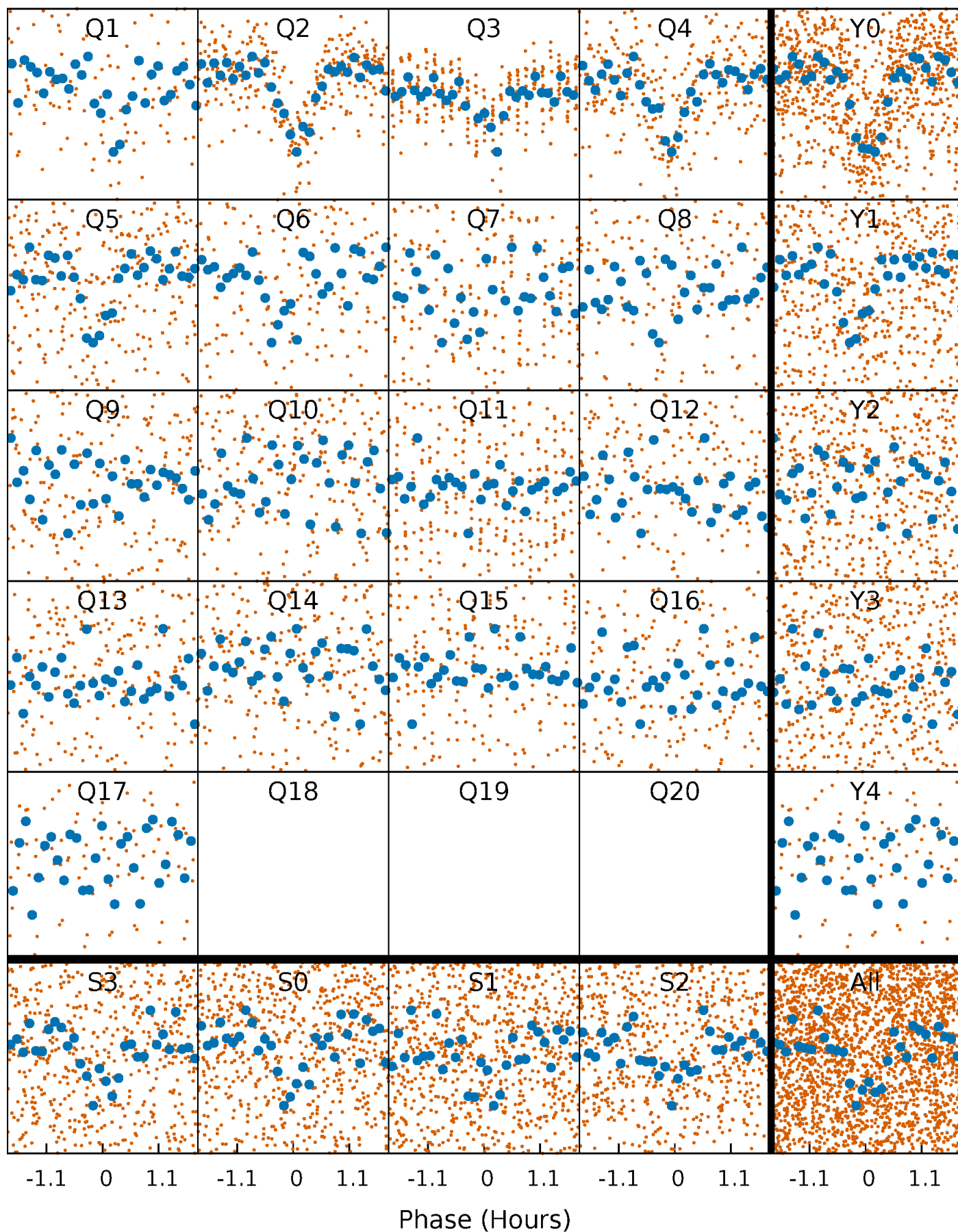


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



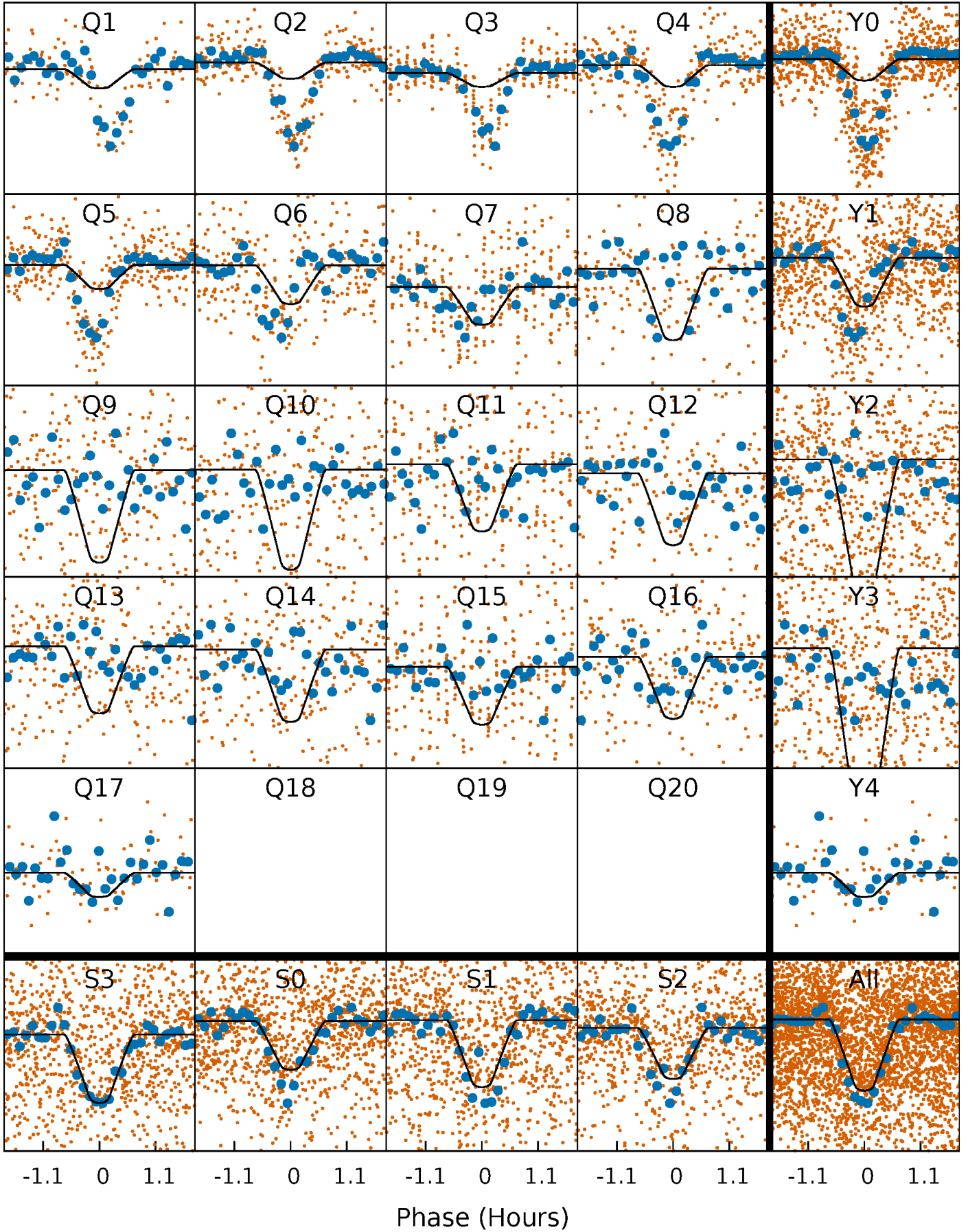
PDC Quarter-Phased Transit Curves

TCE 005357470-02 P= 2.172644 Days $T_0=133.571705$ (BKJD)



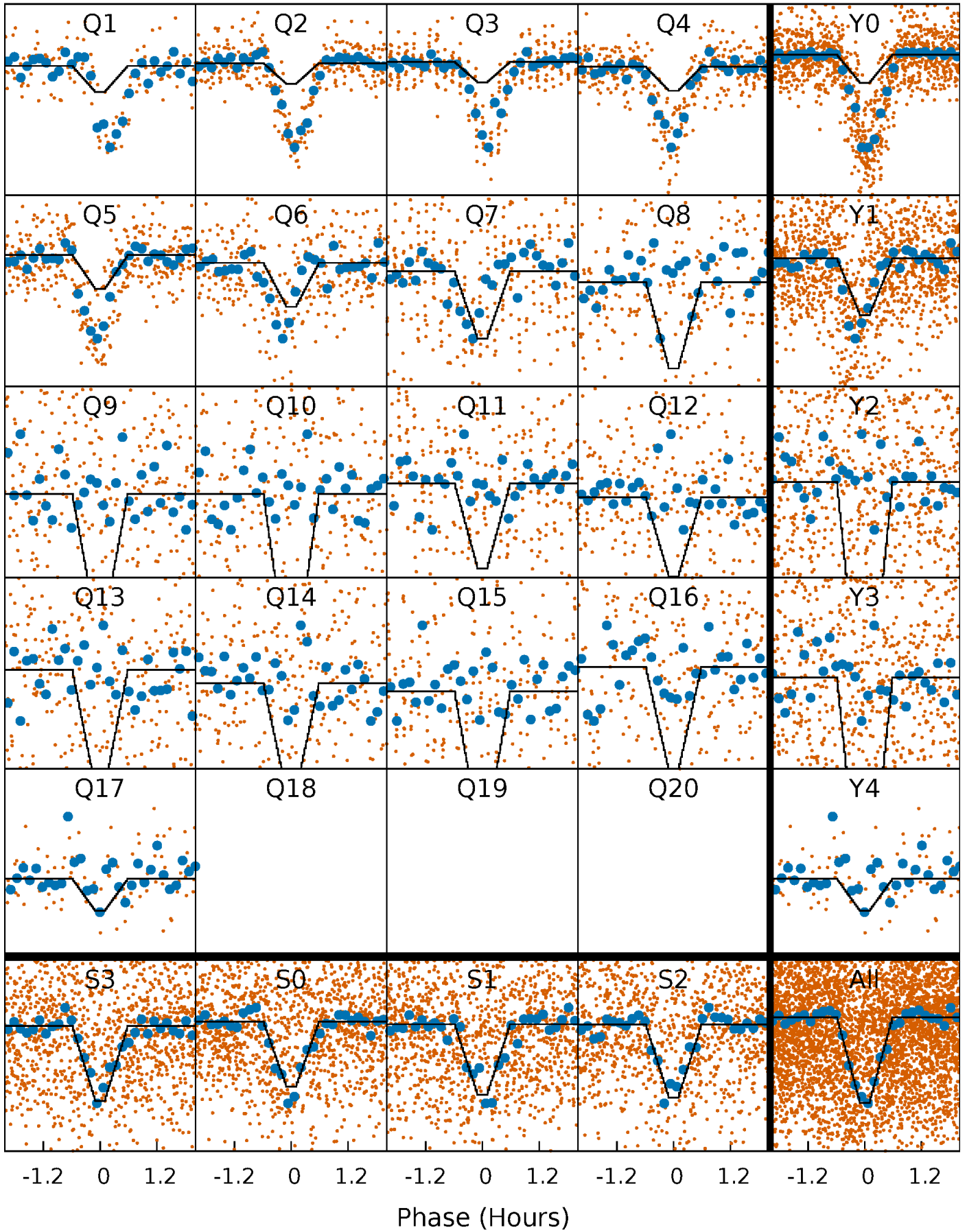
DV Quarter-Phased Transit Curves

TCE 005357470-02 P= 2.172644 Days $T_0=133.571705$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

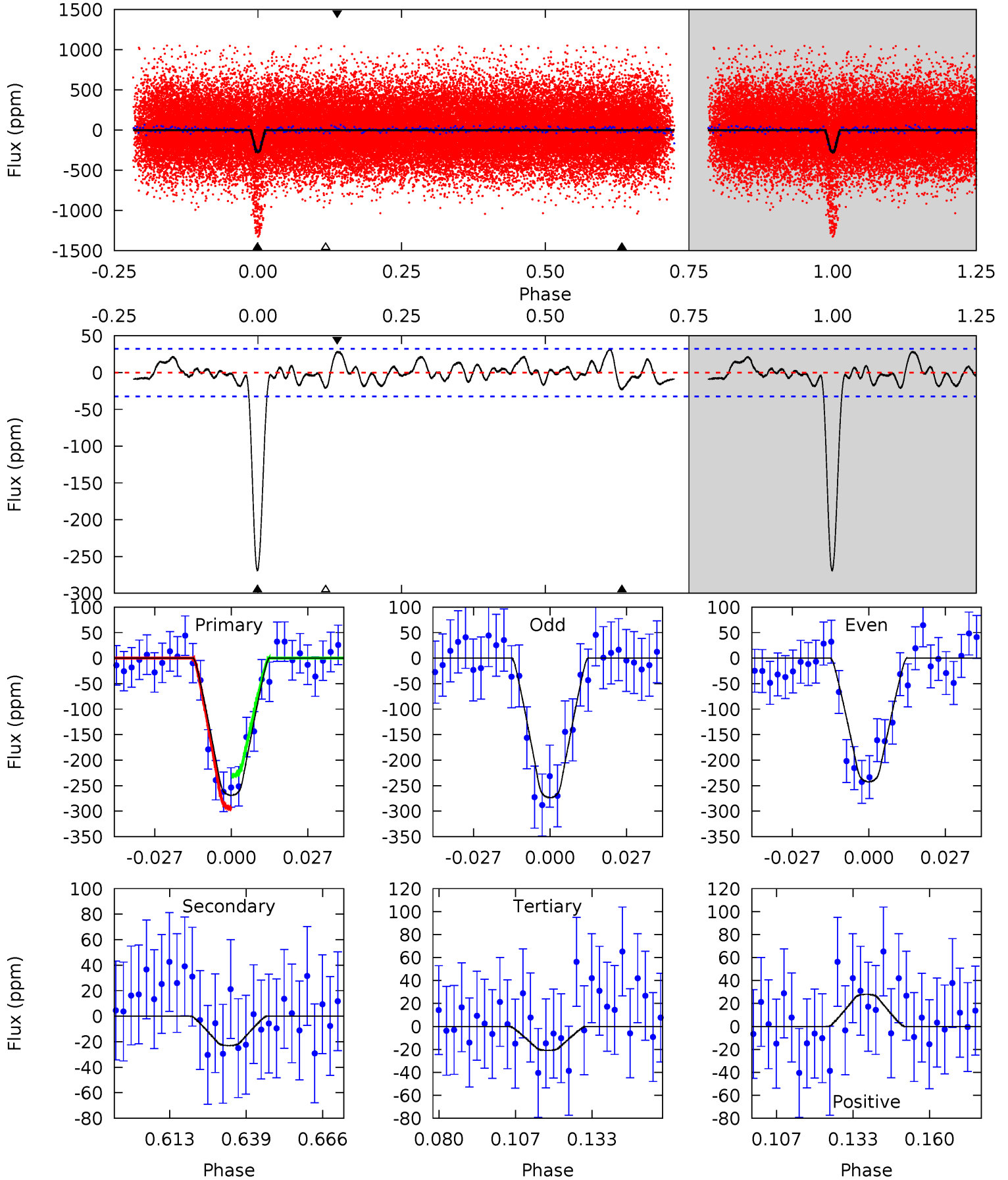
TCE 005357470-02 P= 2.172631 Days $T_0=133.571984$ (BKJD)



DV Model-Shift Uniqueness Test

005357470-02, P = 2.172644 Days, E = 131.399061 Days

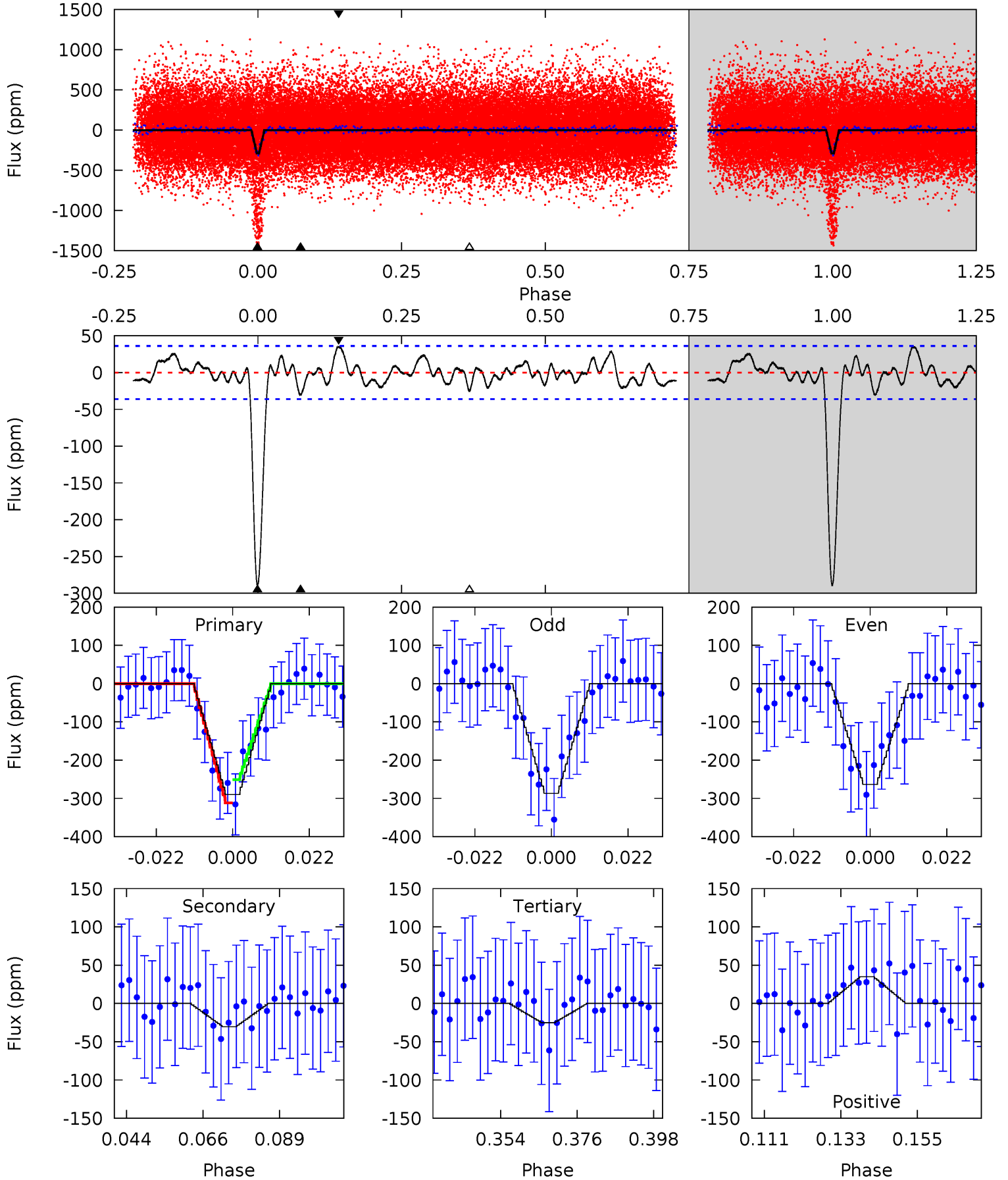
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
40.1	3.43	3.11	4.18	4.83	2.22	1.48	37.0	36.0	0.31	-0.75	2.32	1.48	0.11	4.73



Alt Model-Shift Uniqueness Test

005357470-02, P = 2.172631 Days, E = 131.399353 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.2	4.11	3.38	4.73	4.87	2.29	1.61	35.8	34.5	0.73	-0.62	1.57	1.59	0.11	4.07



Stellar Parameters For KIC 005357470

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6038^{+180}_{-180}	$4.340^{+0.225}_{-0.184}$	$-0.940^{+0.300}_{-0.300}$	$0.971^{+0.256}_{-0.209}$	$0.753^{+0.093}_{-0.037}$	$1.157^{+1.226}_{-0.558}$
	+3%/-3%	+5%/-4%	+32%/-32%	+26%/-22%	+12%/-5%	+106%/-48%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005357470-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-23 ± 7	$1.98^{+0.49}_{-0.44}$	2125^{+148}_{-150}	3468^{+332}_{-297}	$2.868^{+2.150}_{-1.216}$
Alt.	-30 ± 7	$2.04^{+0.53}_{-0.46}$	2108^{+151}_{-148}	3600^{+316}_{-294}	$3.698^{+2.589}_{-1.495}$

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

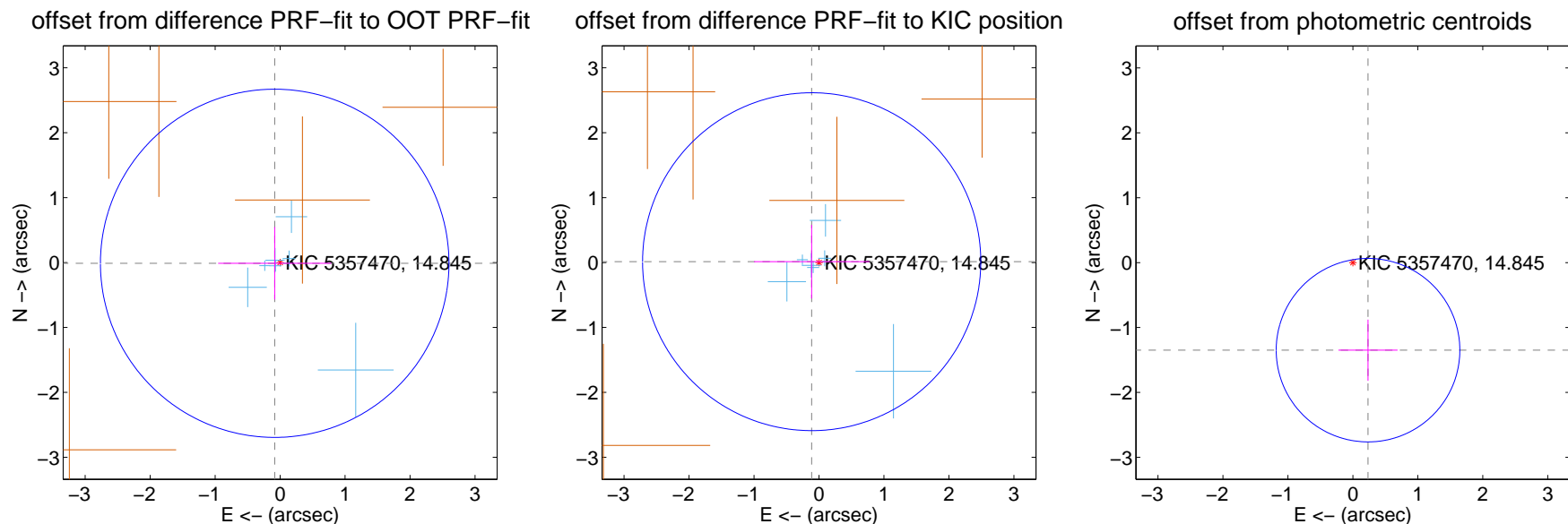
DV Centroid Data

Supplemental centroid analysis for 005357470-02. Kepler magnitude: 14.85. Transit SNR 24.80

There are 7 quarters with good PRF difference image offsets

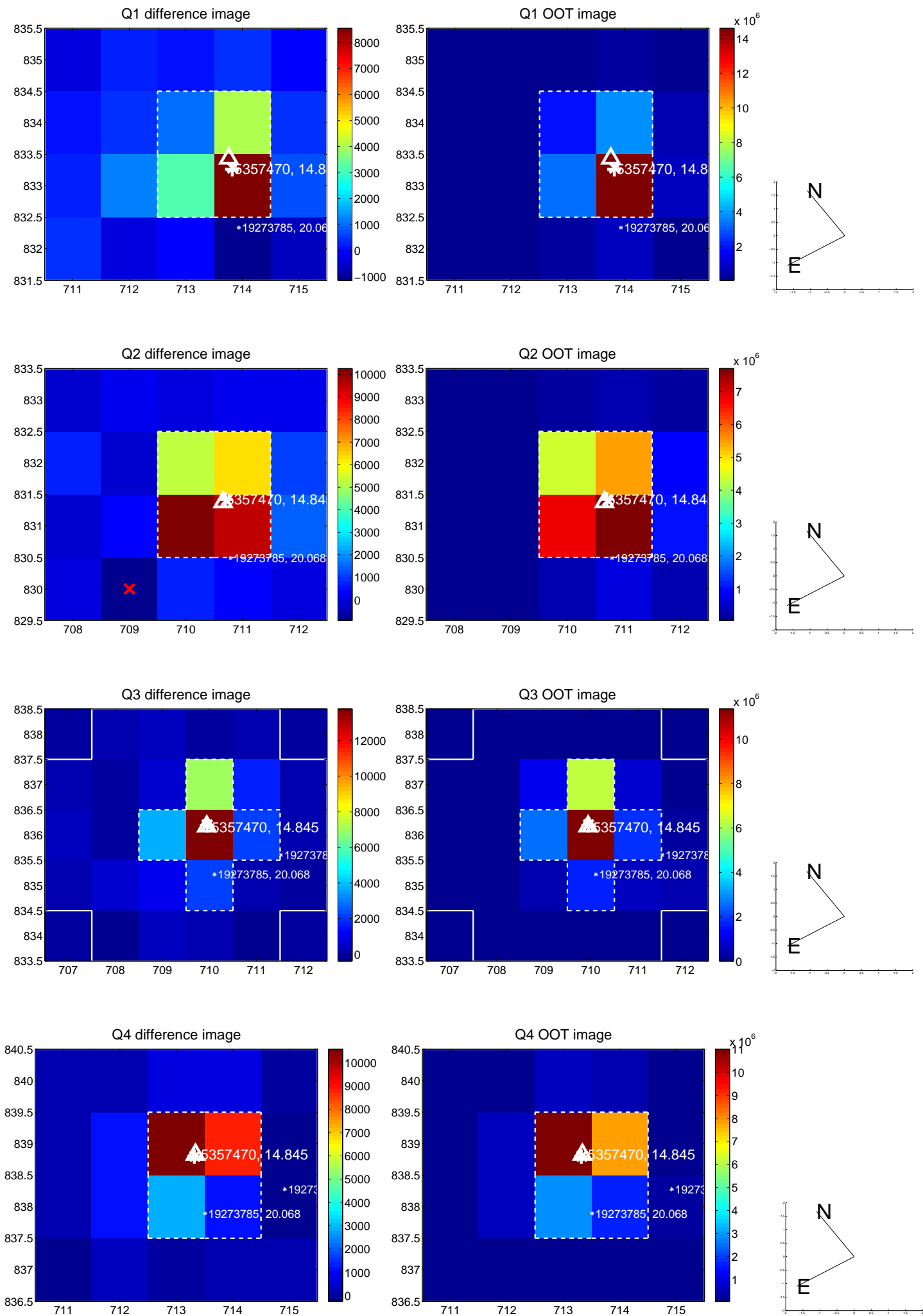
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.084 ± 0.894	0.09	0.083 ± 0.870	-0.012 ± 0.558
PRF-fit source offset from KIC position	0.113 ± 0.867	0.13	0.112 ± 0.887	0.013 ± 0.567
photometric centroid source offset	1.37 ± 0.47	2.91	-0.23 ± 0.45	-1.35 ± 0.47

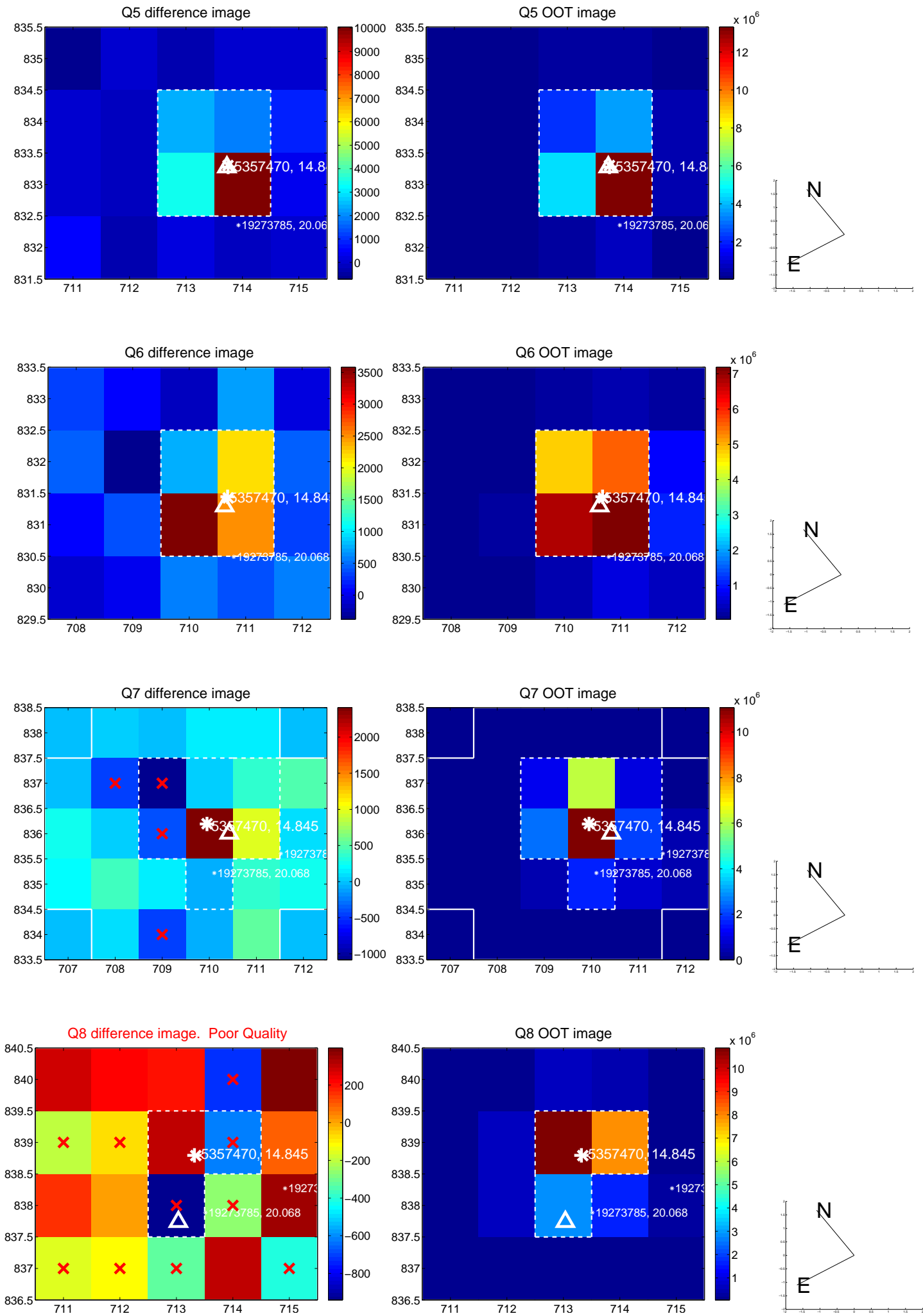


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

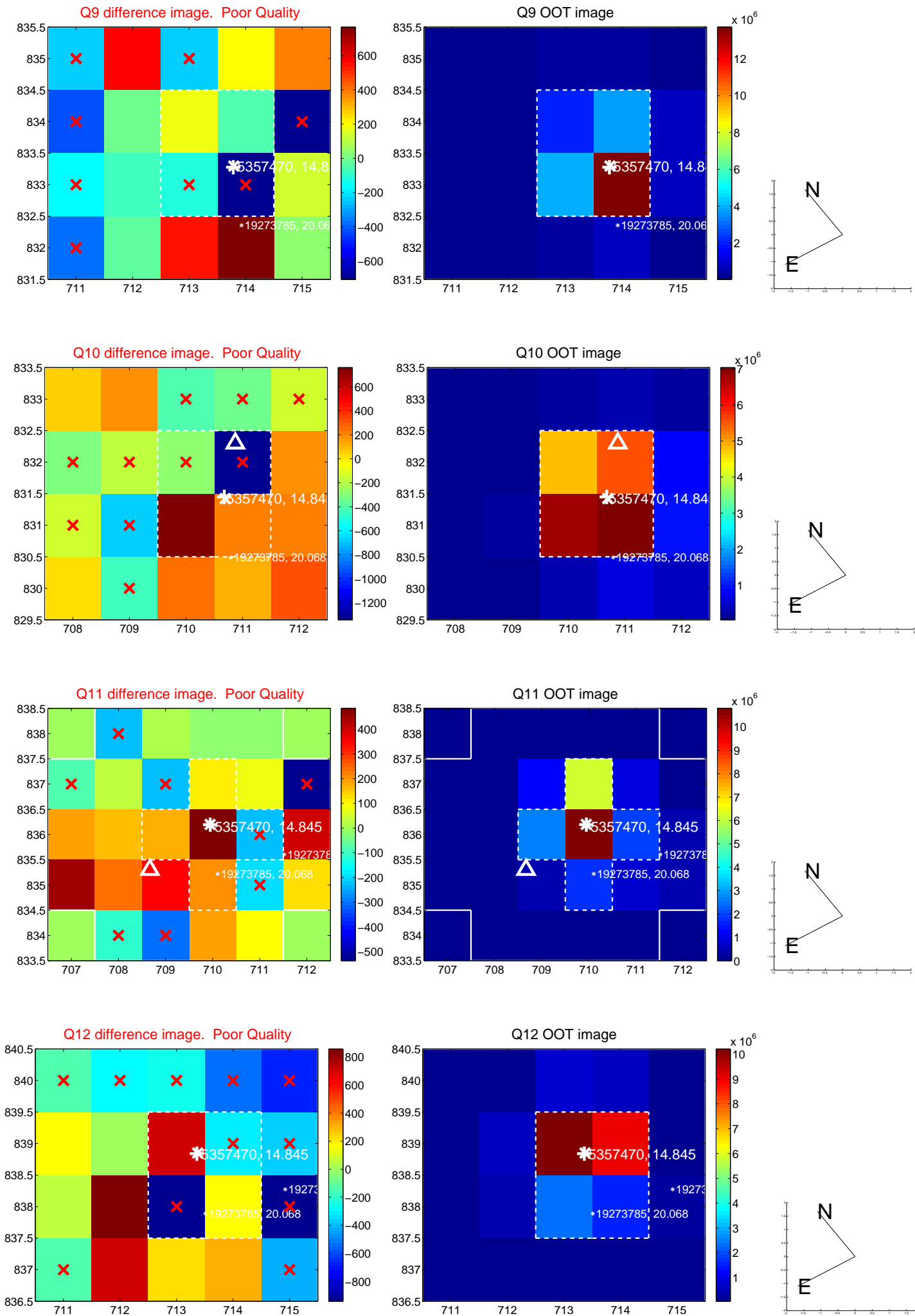
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



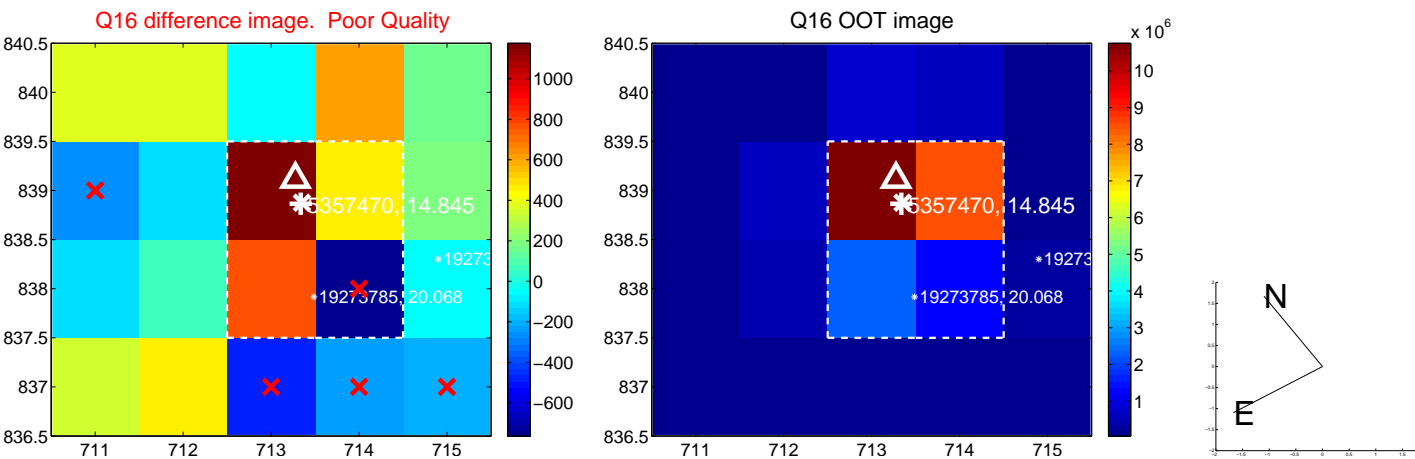
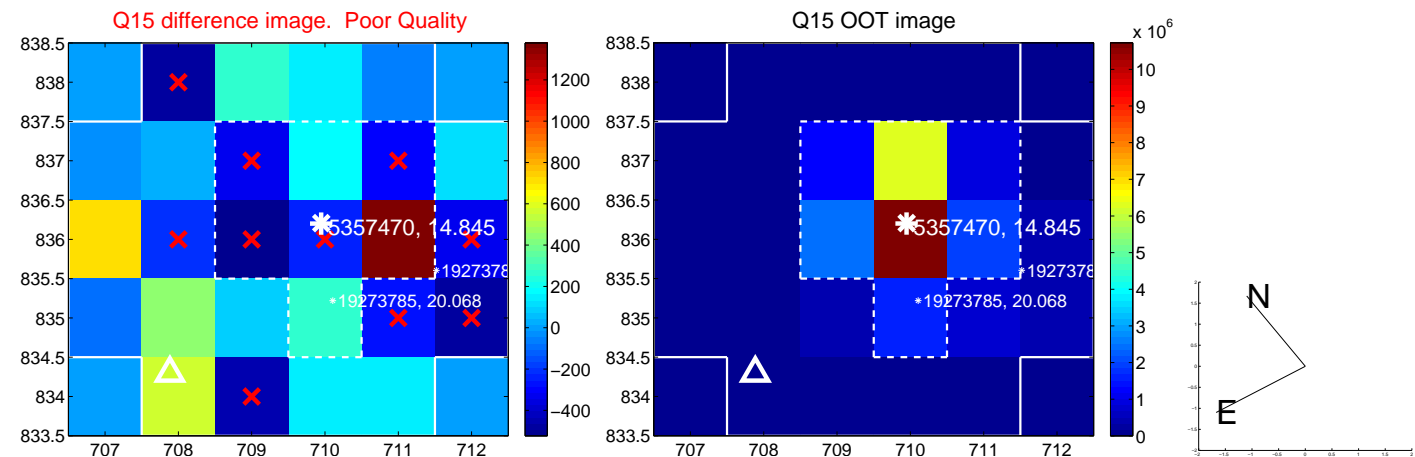
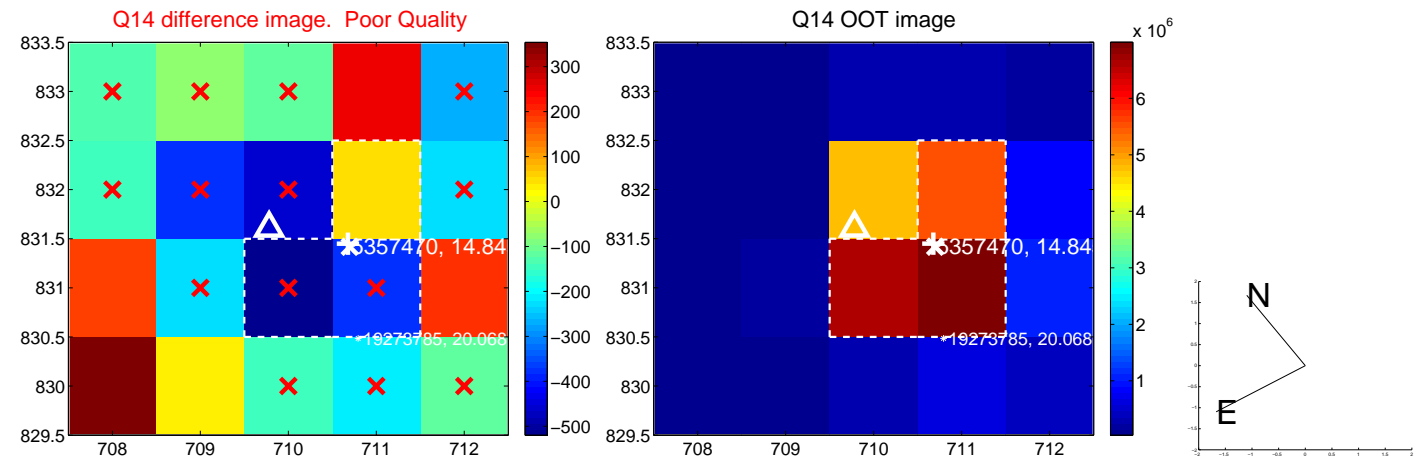
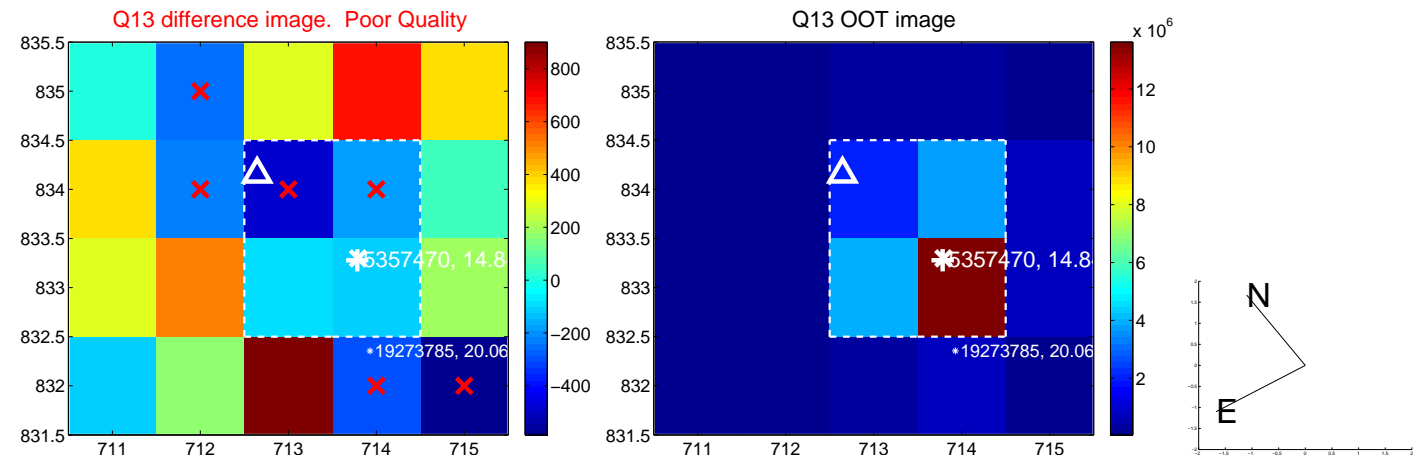
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



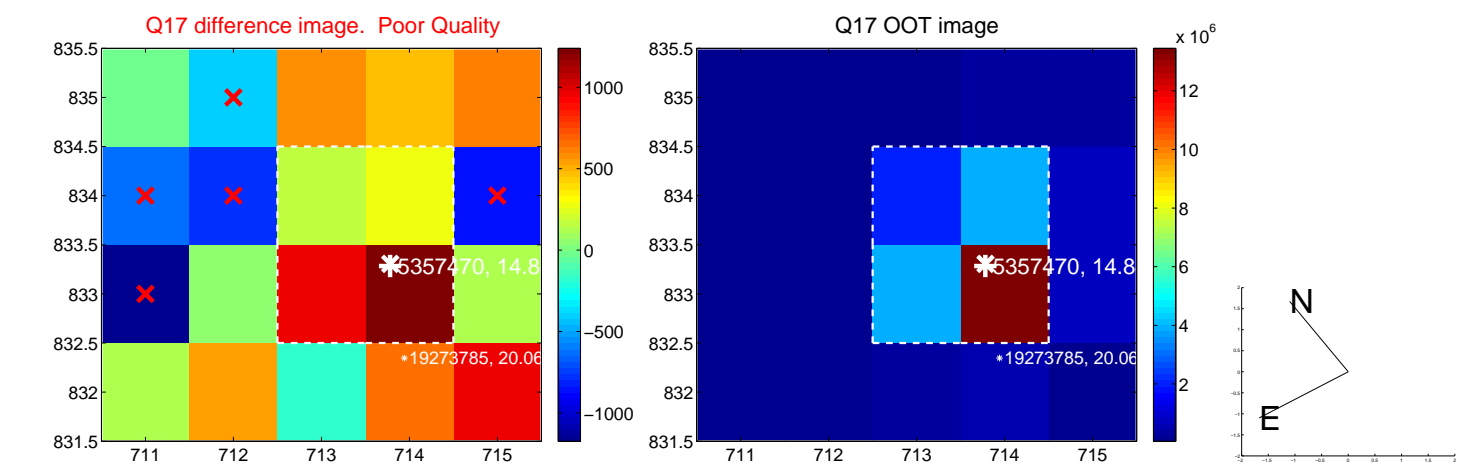
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



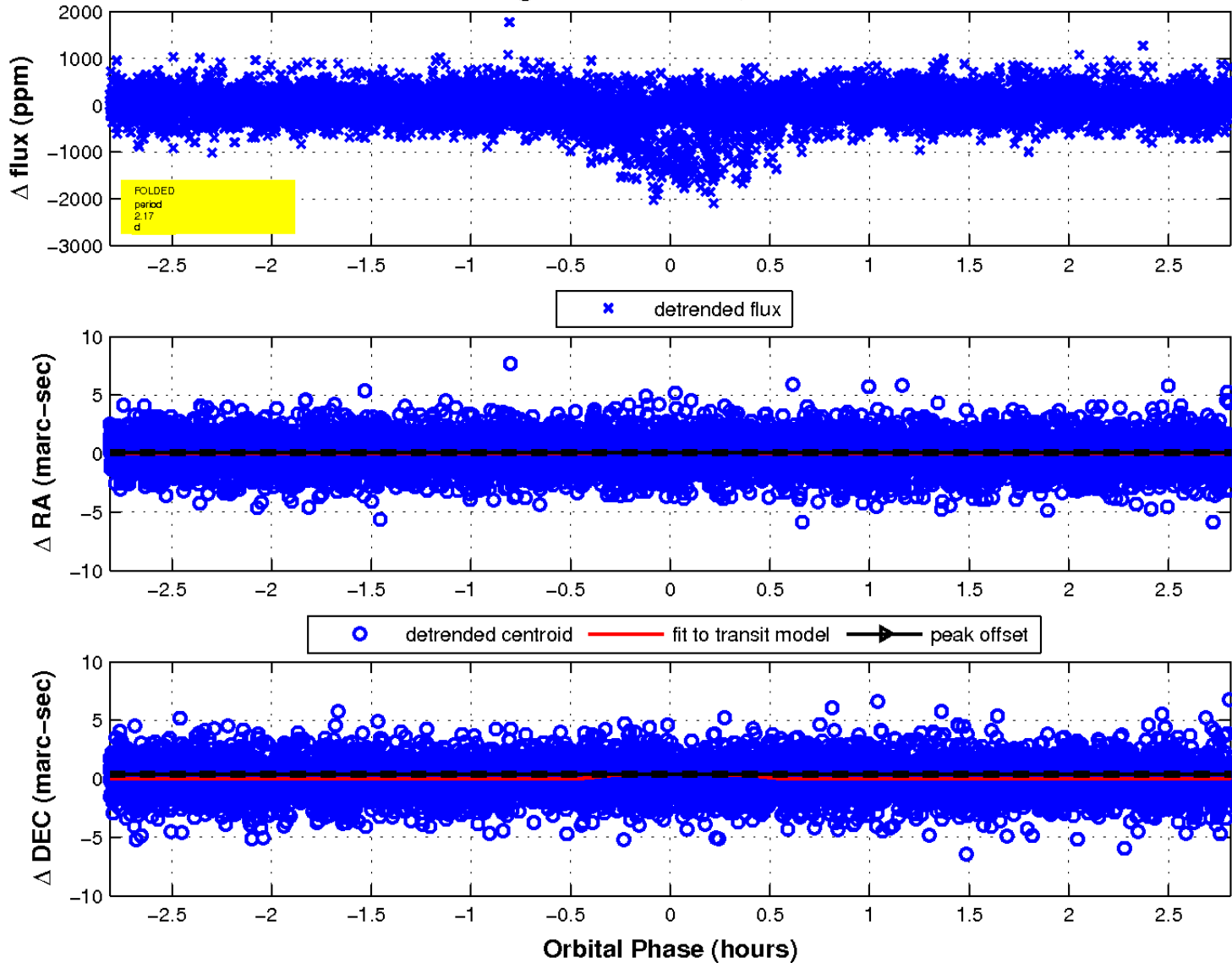
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

