

KIC 007052048

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})
007052048-01	OBS	No	0.968497	131.777874	14.0	3.654	11.8	8.4	1.89	7345	0.77	17956.37
007052048-02	OBS	No	0.655606	131.968081	15.5	3.297	8.0	8.1	1.89	7345	0.86	30210.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007052048-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
007052048-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—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.

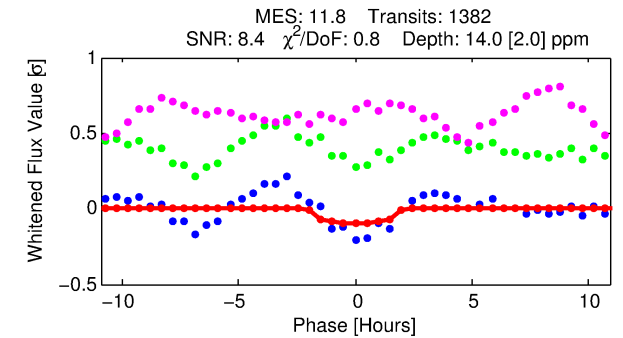
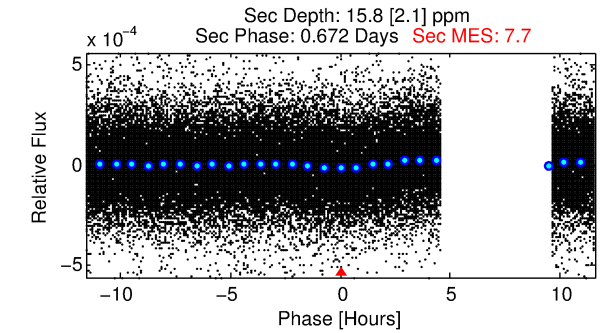
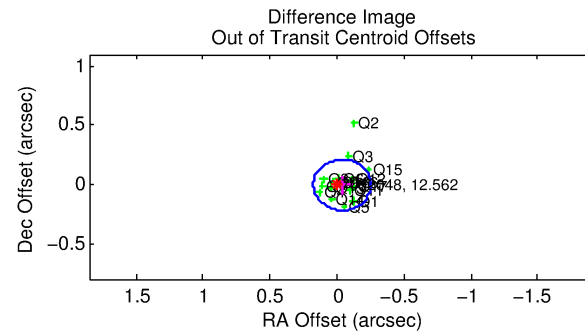
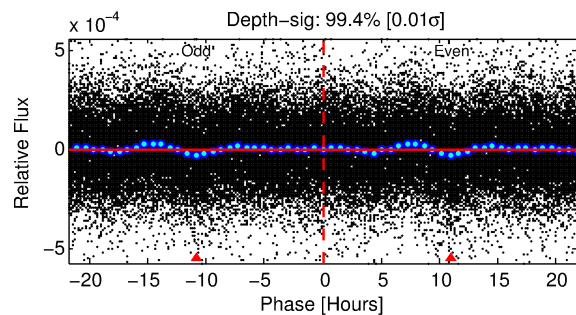
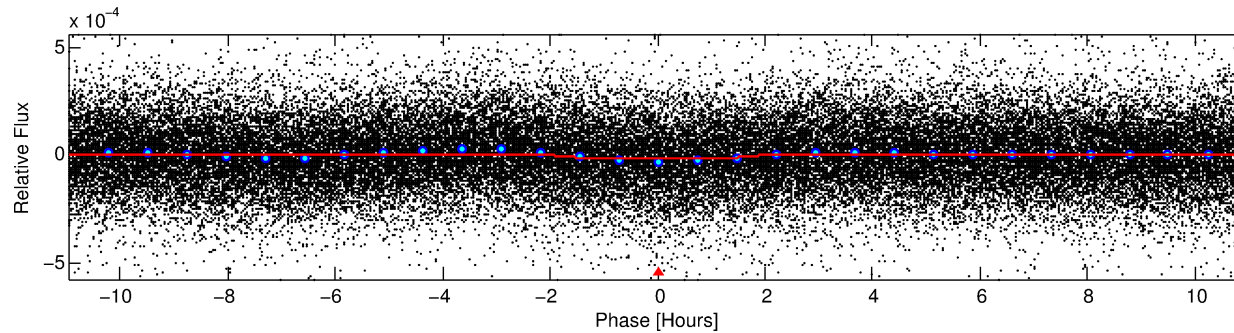
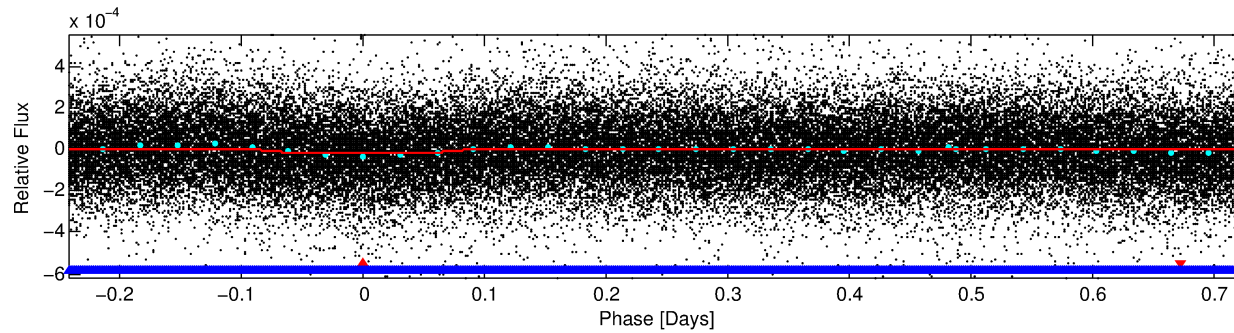
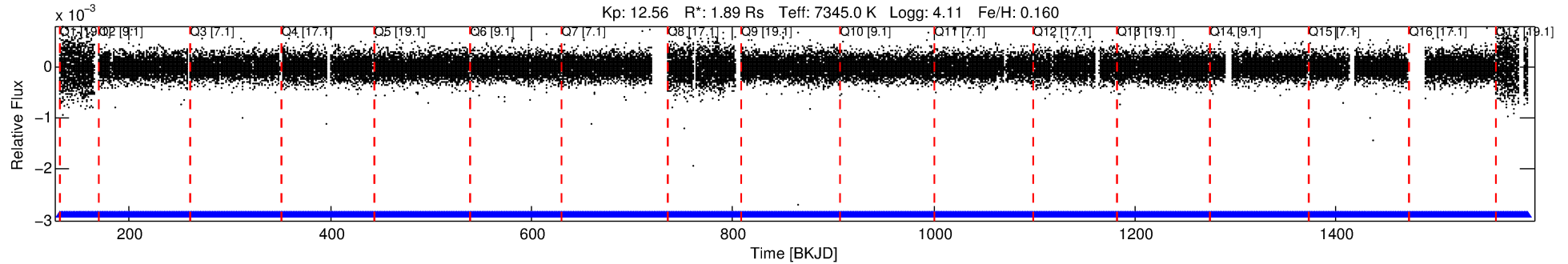
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007052048-01

No Significant Match Found

DV One-Page Summary

KIC: 7052048 Candidate: 1 of 2 Period: 0.968 d



DV Fit Results:

Period = 0.96850 [0.00001] d
Epoch = 131.7779 [0.0053] BKJD
Rp/R* = 0.0037 [0.0008]
a/R* = 1.57 [1.20]
b = 0.76 [0.71]
Seff = 17956.37 [7206.32]
Teq = 2952 [296] K
Rp = 0.77 [0.29] Re
a = 0.0228 [0.0057] AU
Ag = 7.60 [4.39] [1.50 σ]
Teffp = 7578 [919] K [4.79 σ]

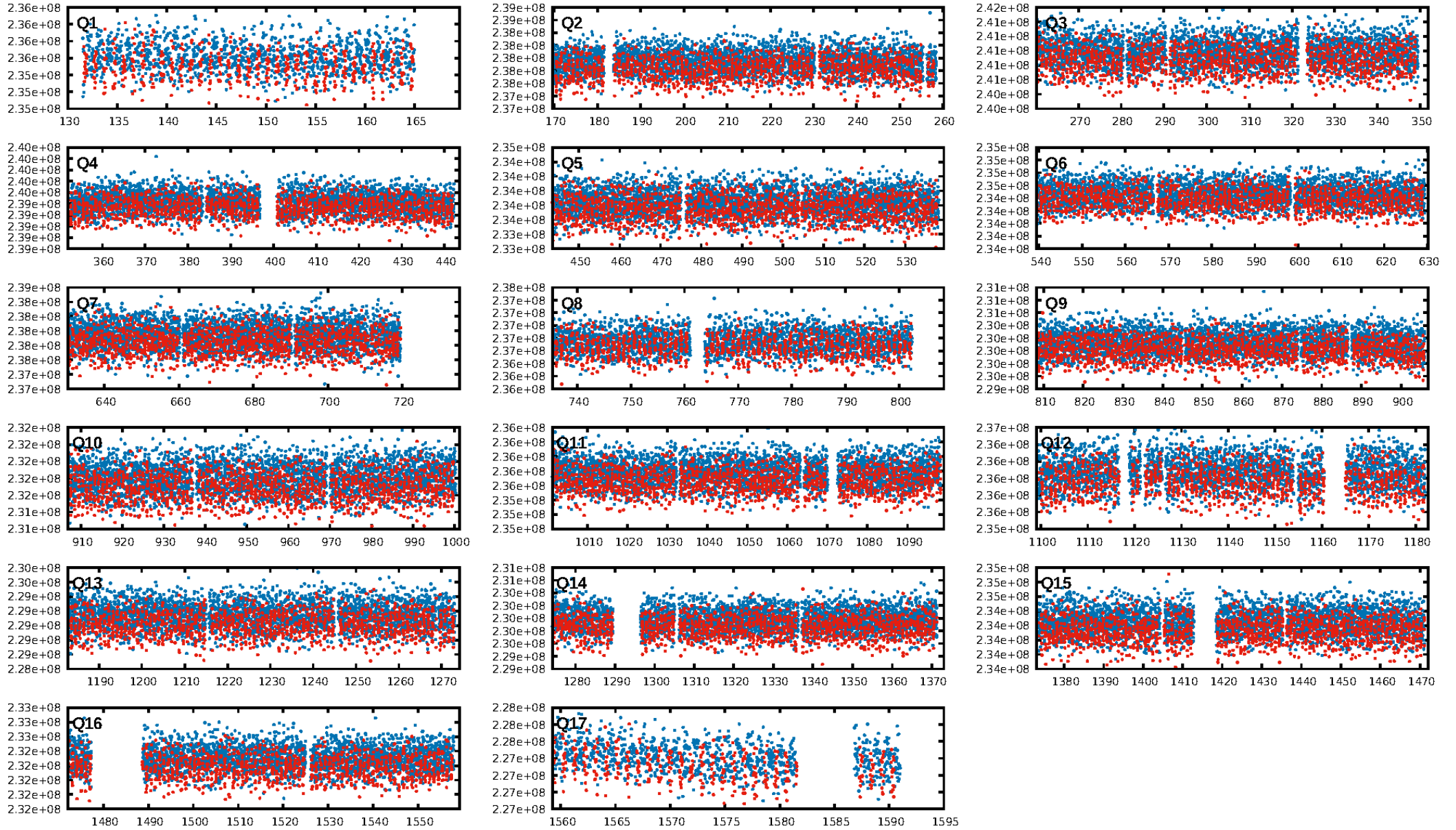
DV Diagnostic Results:

ShortPeriod-sig: 87.3% [1.53 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.77e-17
RollingBand-fgt: 1.00 [1319/1319]
GhostDiagnostic-chr: 2.71
Centroid-sig: 0.0%
Centroid-so: 2.923 arcsec [3.16 σ]
OotOffset-rm: 0.039 arcsec [0.55 σ]
KicOffset-rm: 0.074 arcsec [0.95 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]

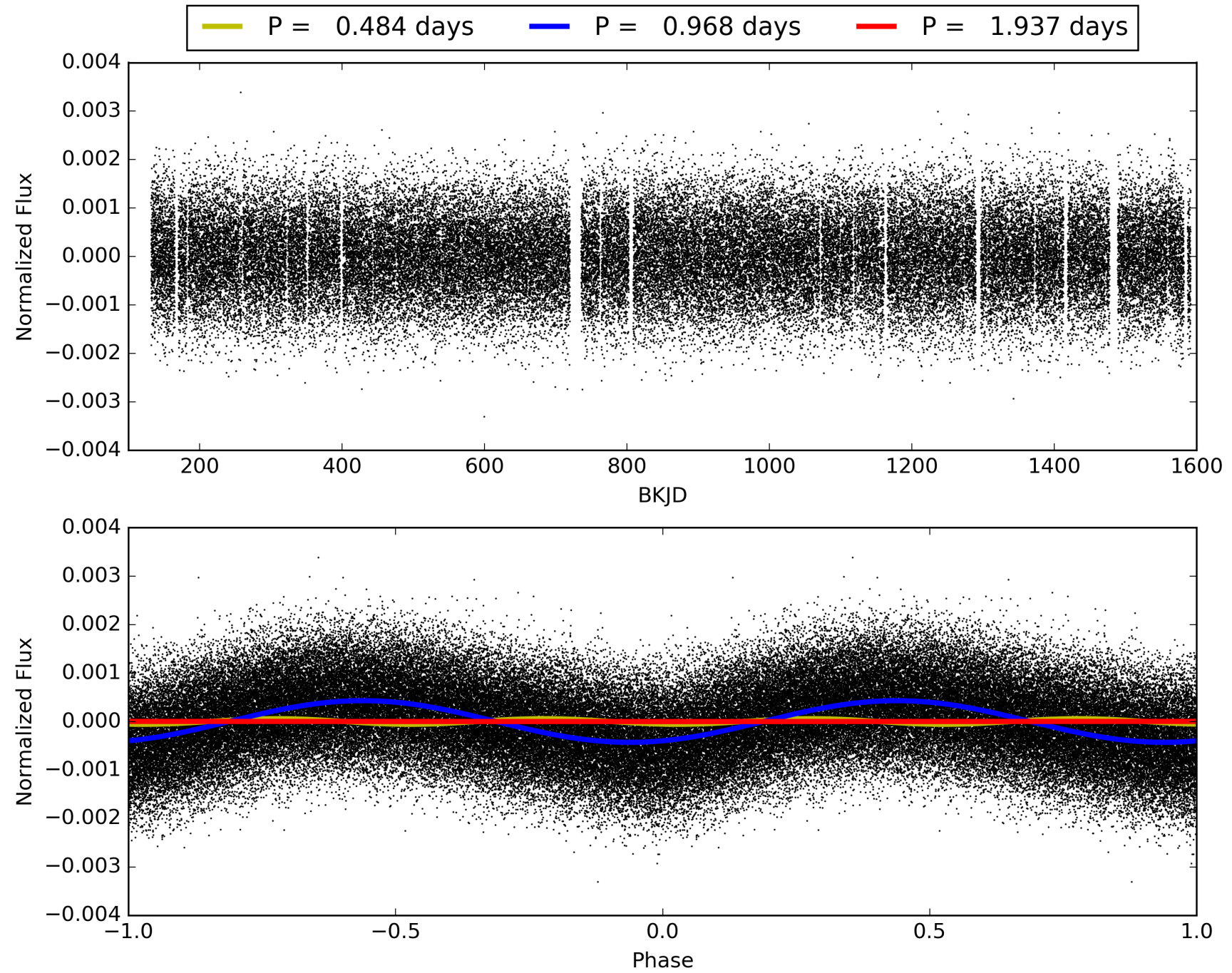
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:43:12 Z

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

TCE 007052048-01, PDC Light Curves

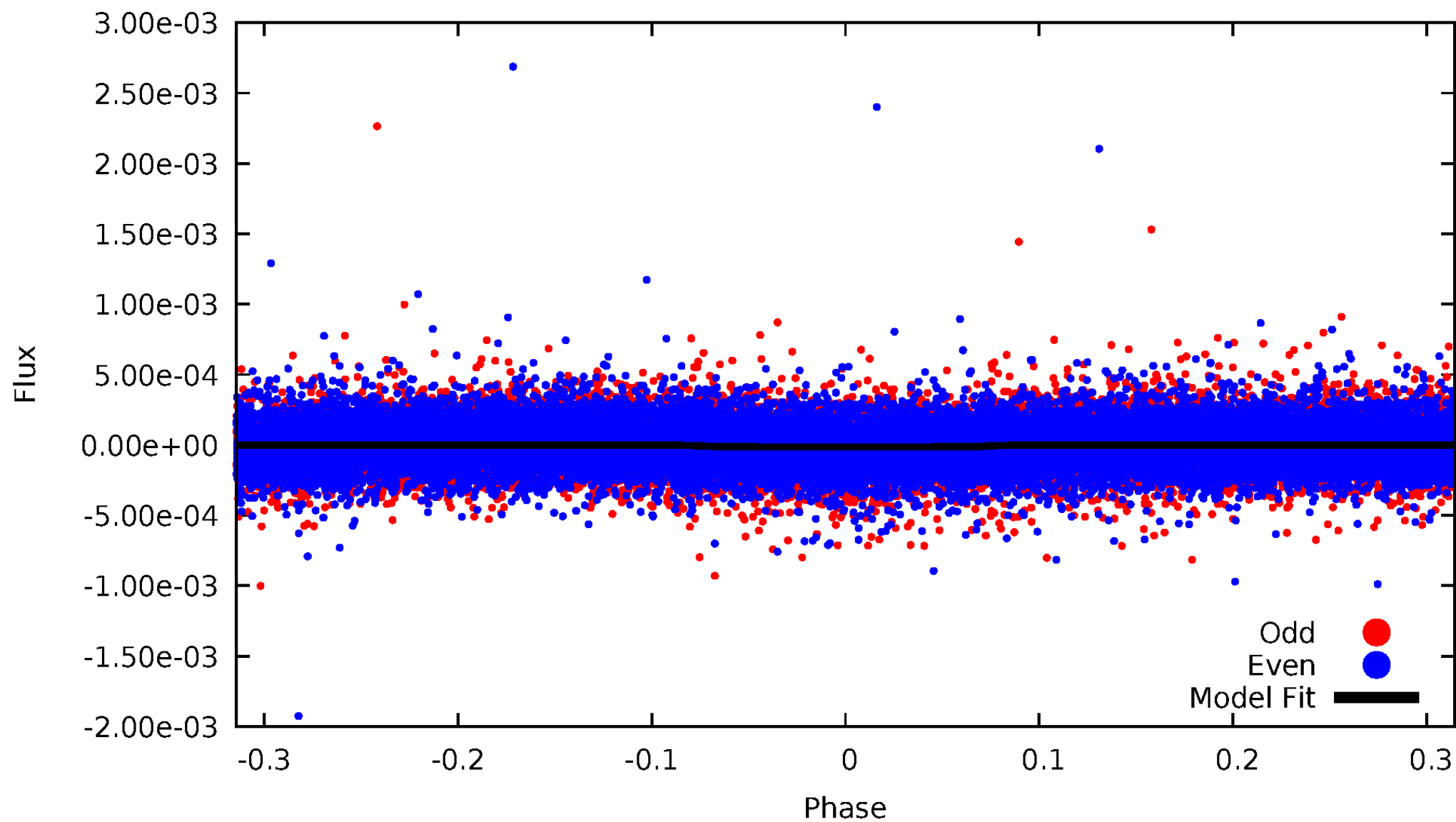


TCE 007052048-01



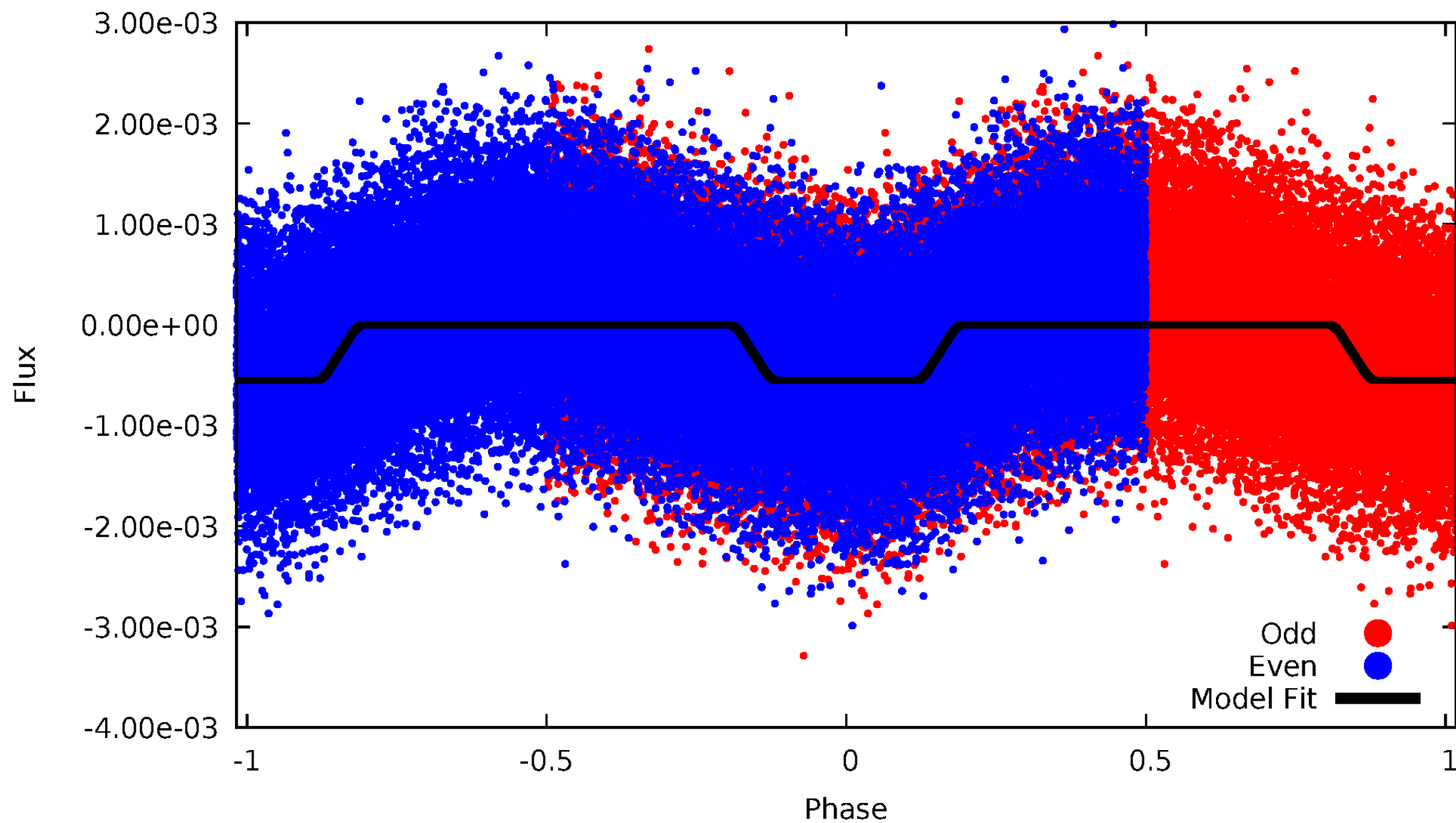
DV Odd/Even

TCE 007052048-01



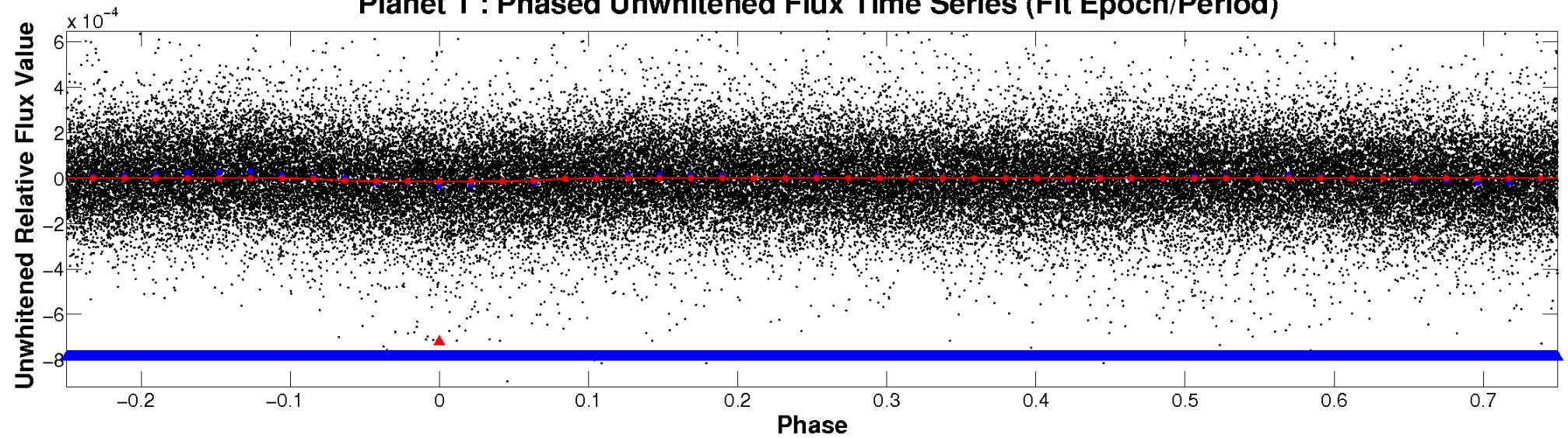
ALT Odd/Even

TCE 007052048-01

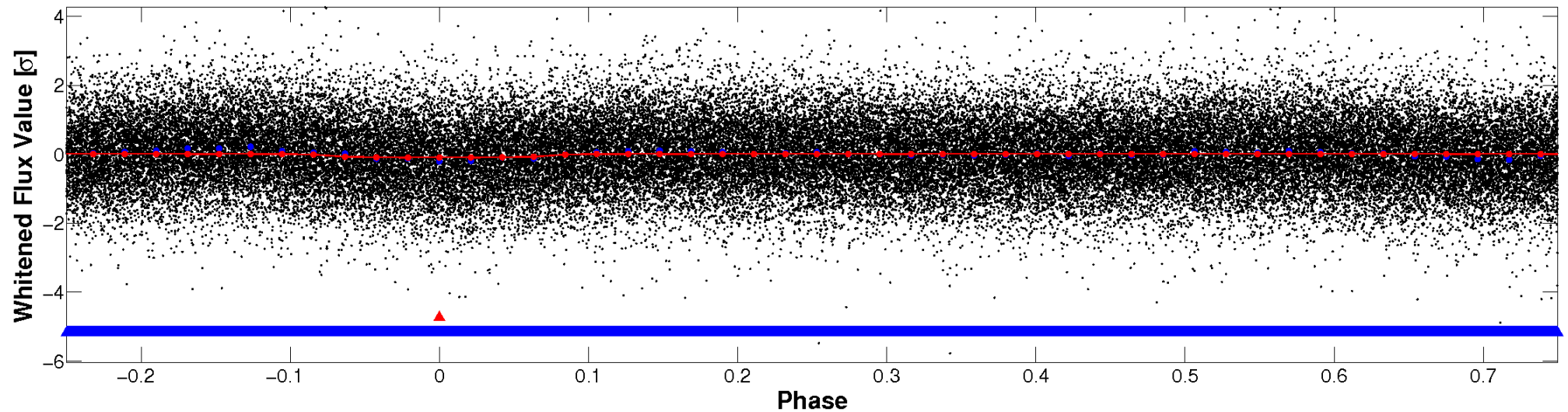


Non-Whitened Vs. Whitened Light Curve

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

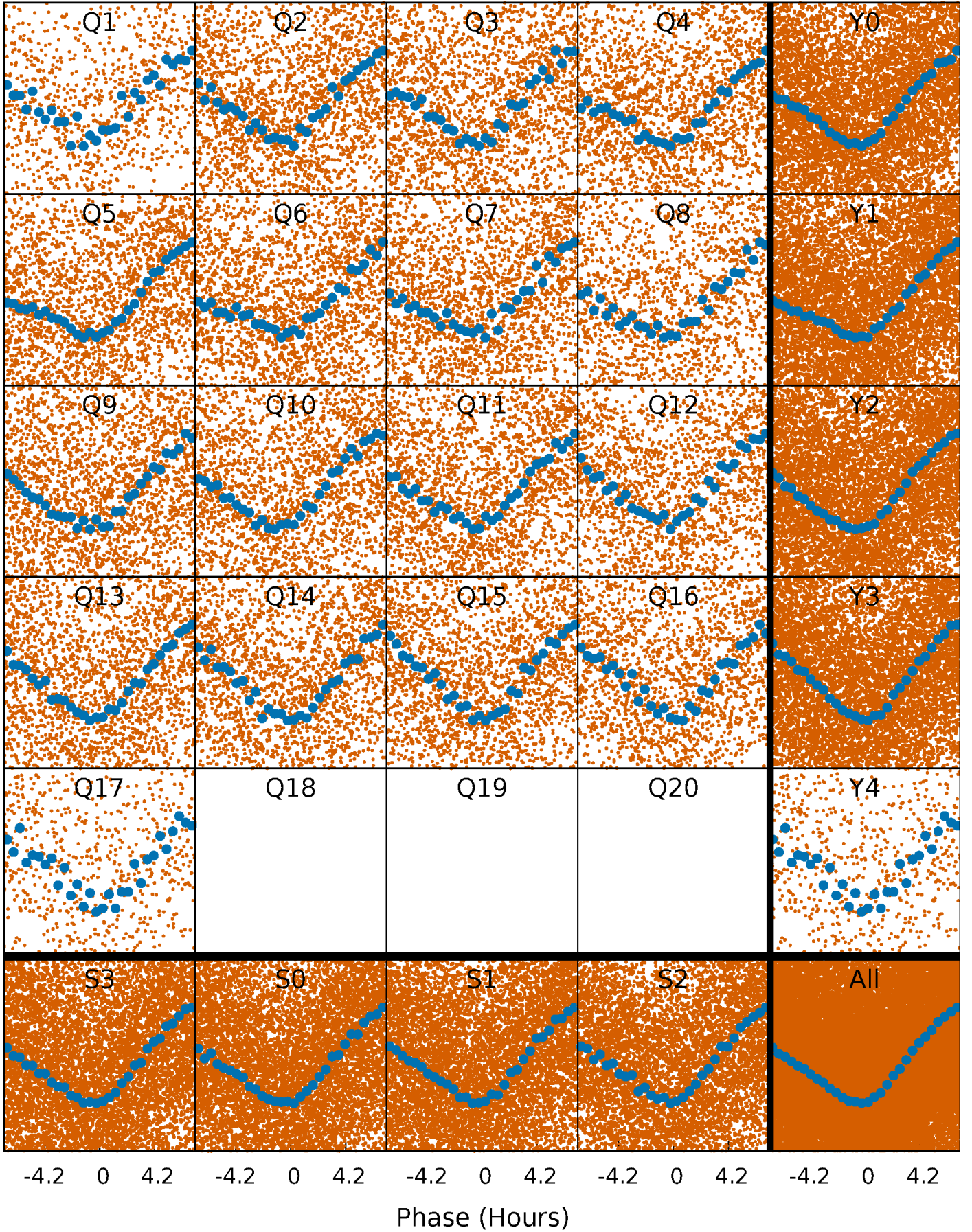


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



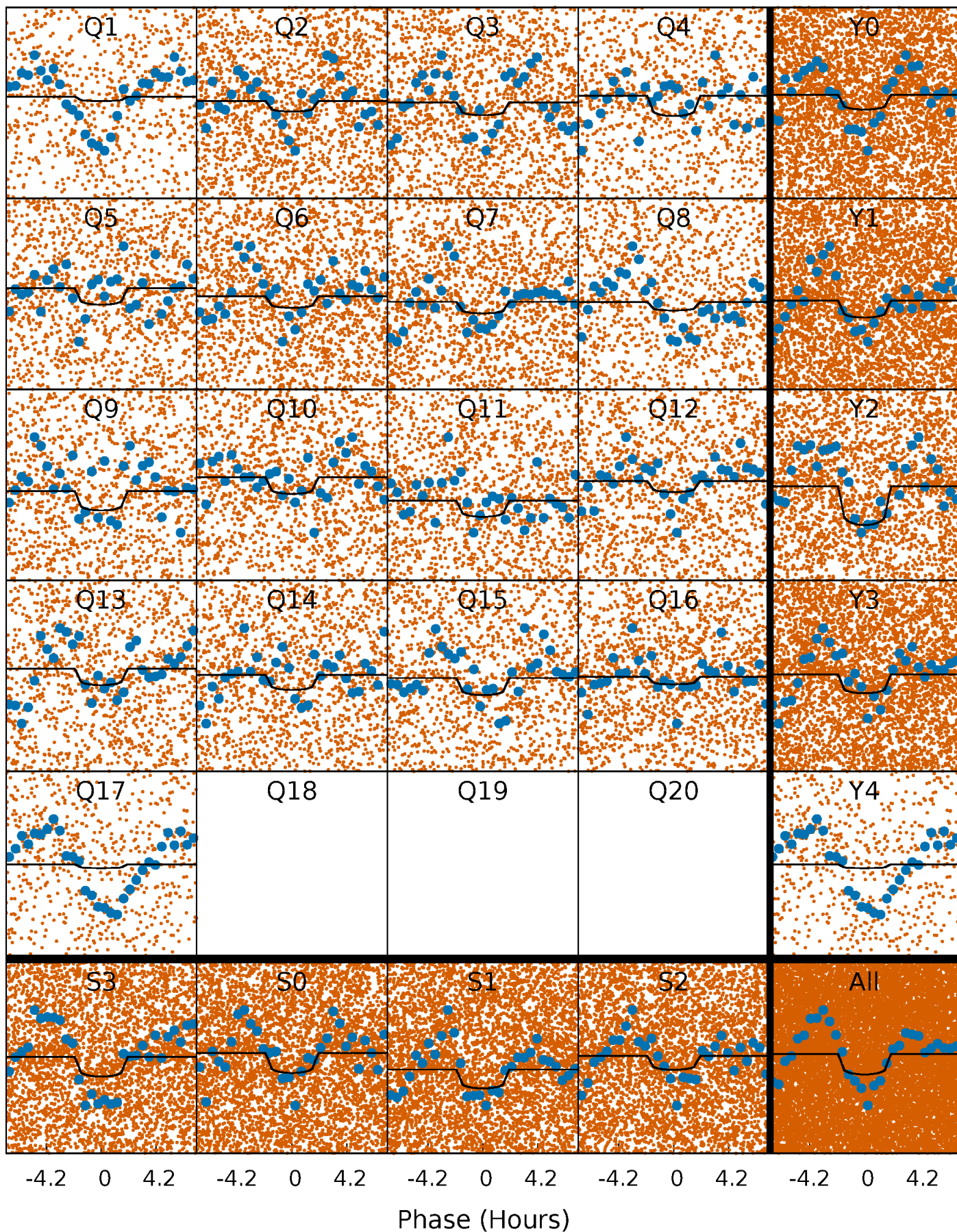
PDC Quarter-Phased Transit Curves

TCE 007052048-01 P= 0.968497 Days $T_0=131.777874$ (BKJD)



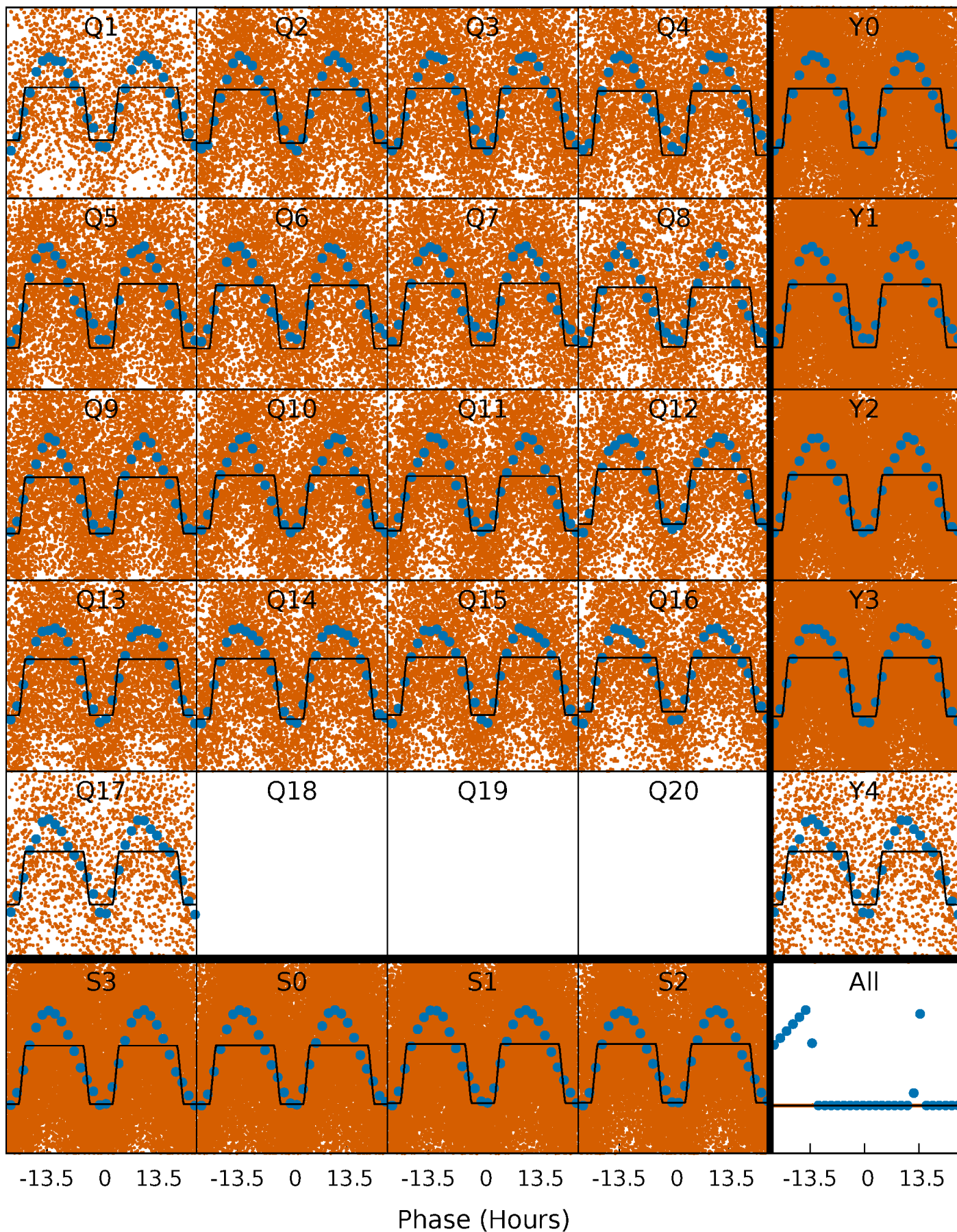
DV Quarter-Phased Transit Curves

TCE 007052048-01 P= 0.968497 Days $T_0=131.777874$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

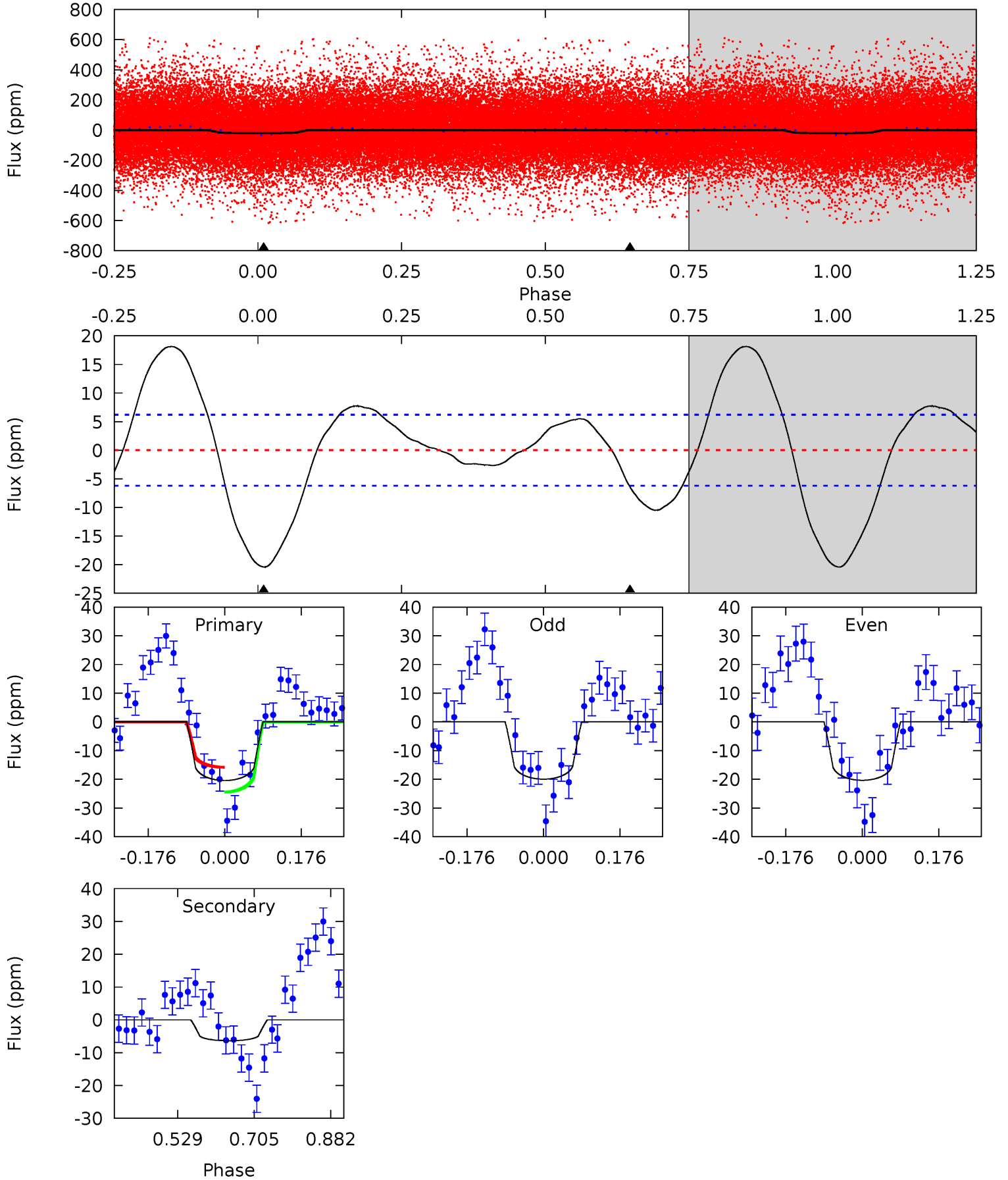
TCE 007052048-01 P= 0.968535 Days $T_0=131.710025$ (BKJD)



DV Model-Shift Uniqueness Test

007052048-01, P = 0.968497 Days, E = 130.809377 Days

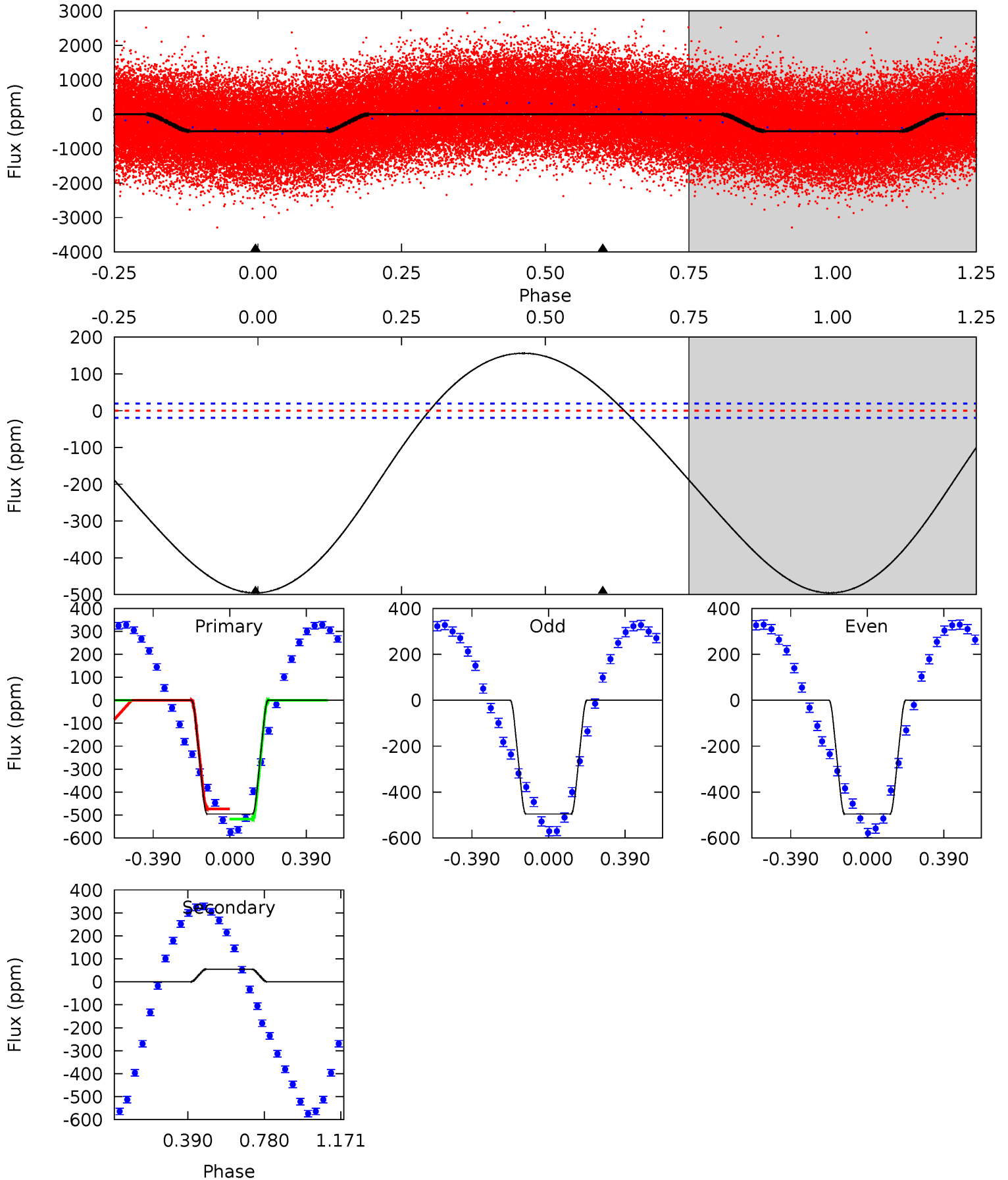
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.6	4.57	0	0	4.44	1.35	3.02	14.6	14.6	4.57	4.57	0.14	1.20	0.47	3.05



Alt Model-Shift Uniqueness Test

007052048-01, P = 0.968535 Days, E = 130.741490 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
108.9	-12.1	0	0	4.27	0.86	11.9	108.9	108.9	-12.1	-12.1	0.01	0.99	0.24	4.90



Stellar Parameters For KIC 007052048

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7345^{+206}_{-324}	$4.110^{+0.120}_{-0.195}$	$0.160^{+0.200}_{-0.350}$	$1.889^{+0.569}_{-0.332}$	$1.677^{+0.207}_{-0.253}$	$0.350^{+0.210}_{-0.175}$
	+3%/-4%	+3%/-5%	+125%/-219%	+30%/-18%	+12%/-15%	+60%/-50%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007052048-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-6 ± 1	$0.78^{+0.21}_{-0.18}$	4134^{+332}_{-249}	5752^{+903}_{-676}	$2.830^{+2.273}_{-1.120}$
Alt.	55 ± 5	$4.88^{+0.84}_{-0.53}$	4161^{+324}_{-292}	-4652^{+175}_{-155}	$-0.644^{+0.169}_{-0.169}$

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

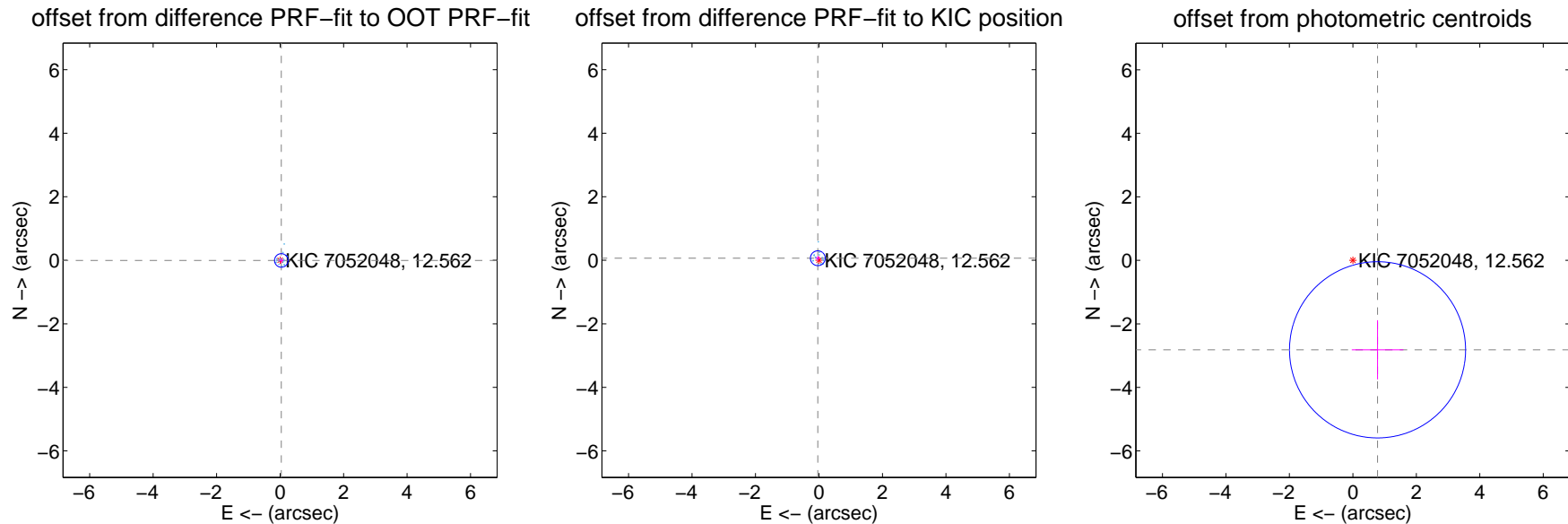
DV Centroid Data

Supplemental centroid analysis for 007052048-01. Kepler magnitude: 12.56. Transit SNR 8.42

There are 17 quarters with good PRF difference image offsets

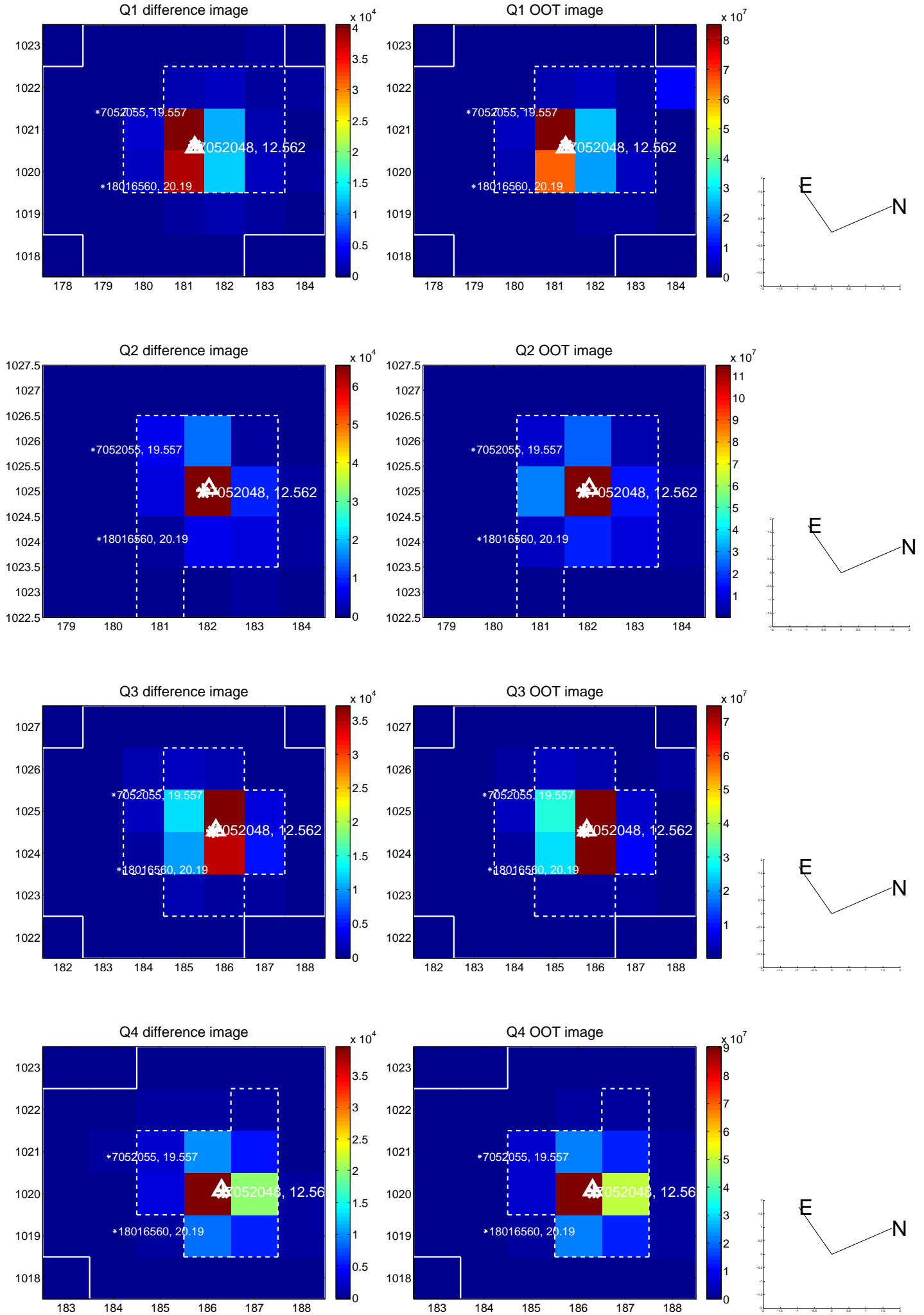
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.039 ± 0.071	0.55	-0.039 ± 0.071	-0.005 ± 0.071
PRF-fit source offset from KIC position	0.074 ± 0.078	0.95	0.036 ± 0.072	0.065 ± 0.079
photometric centroid source offset	2.92 ± 0.93	3.16	-0.78 ± 0.81	-2.82 ± 0.93

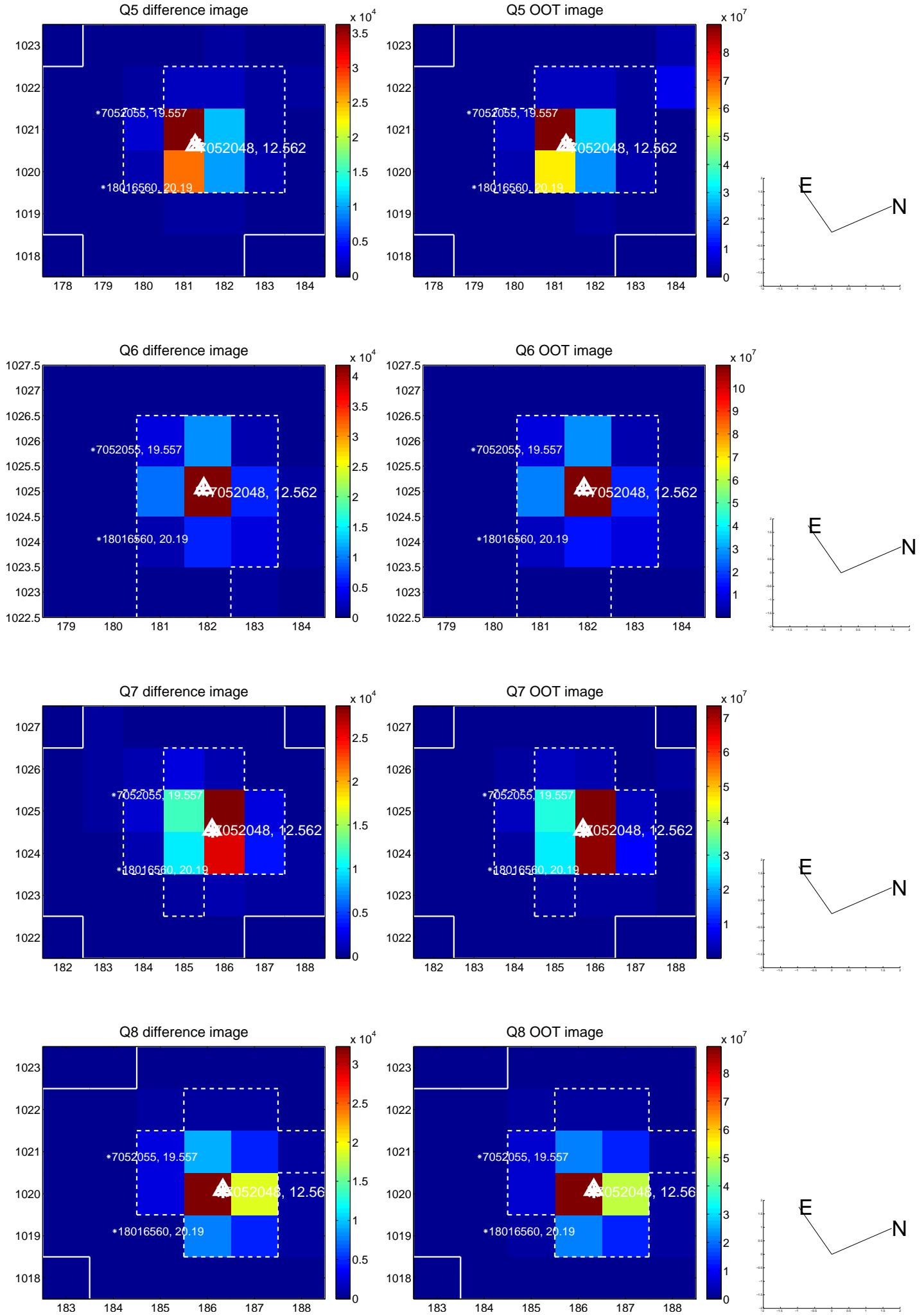


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

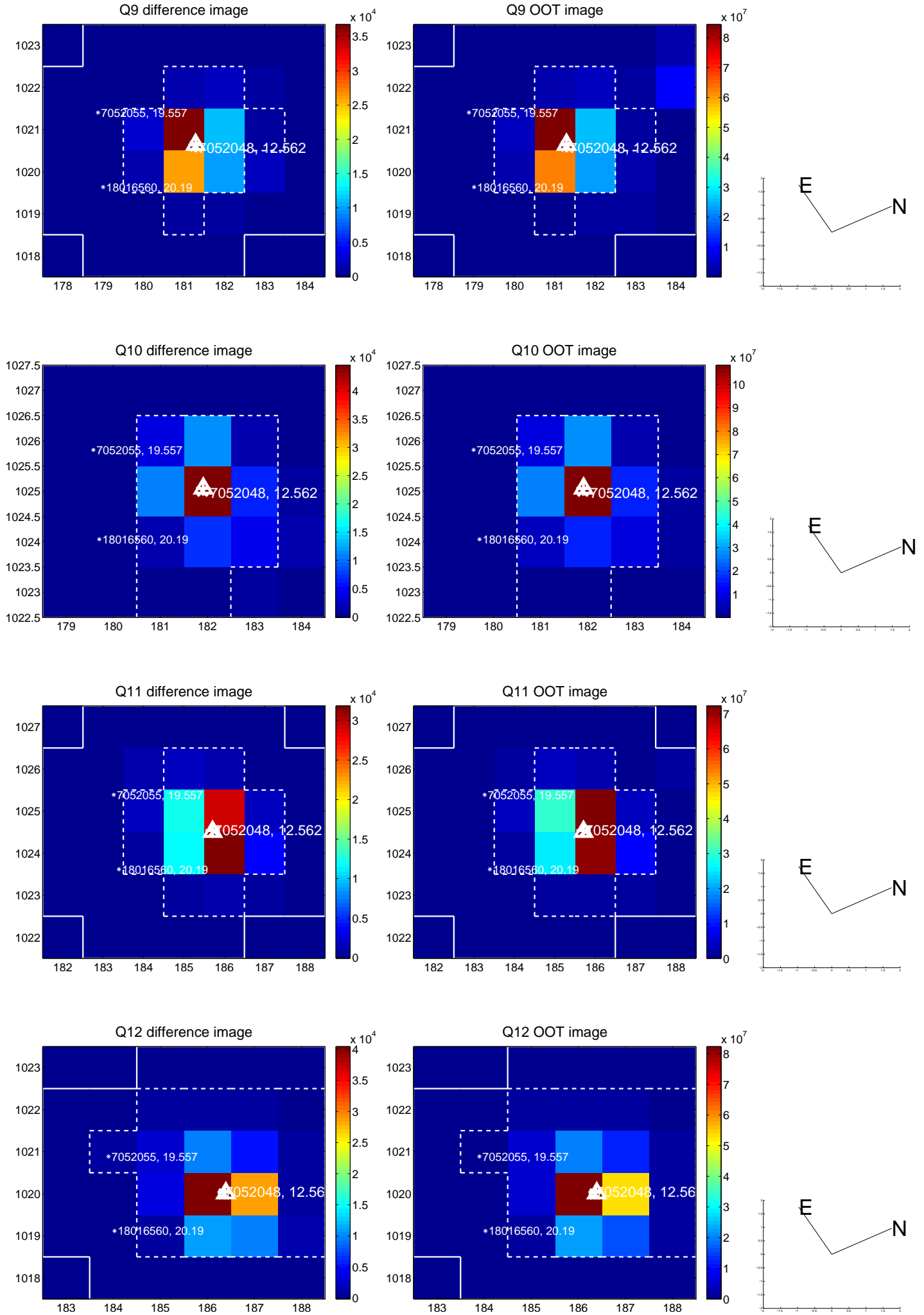
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



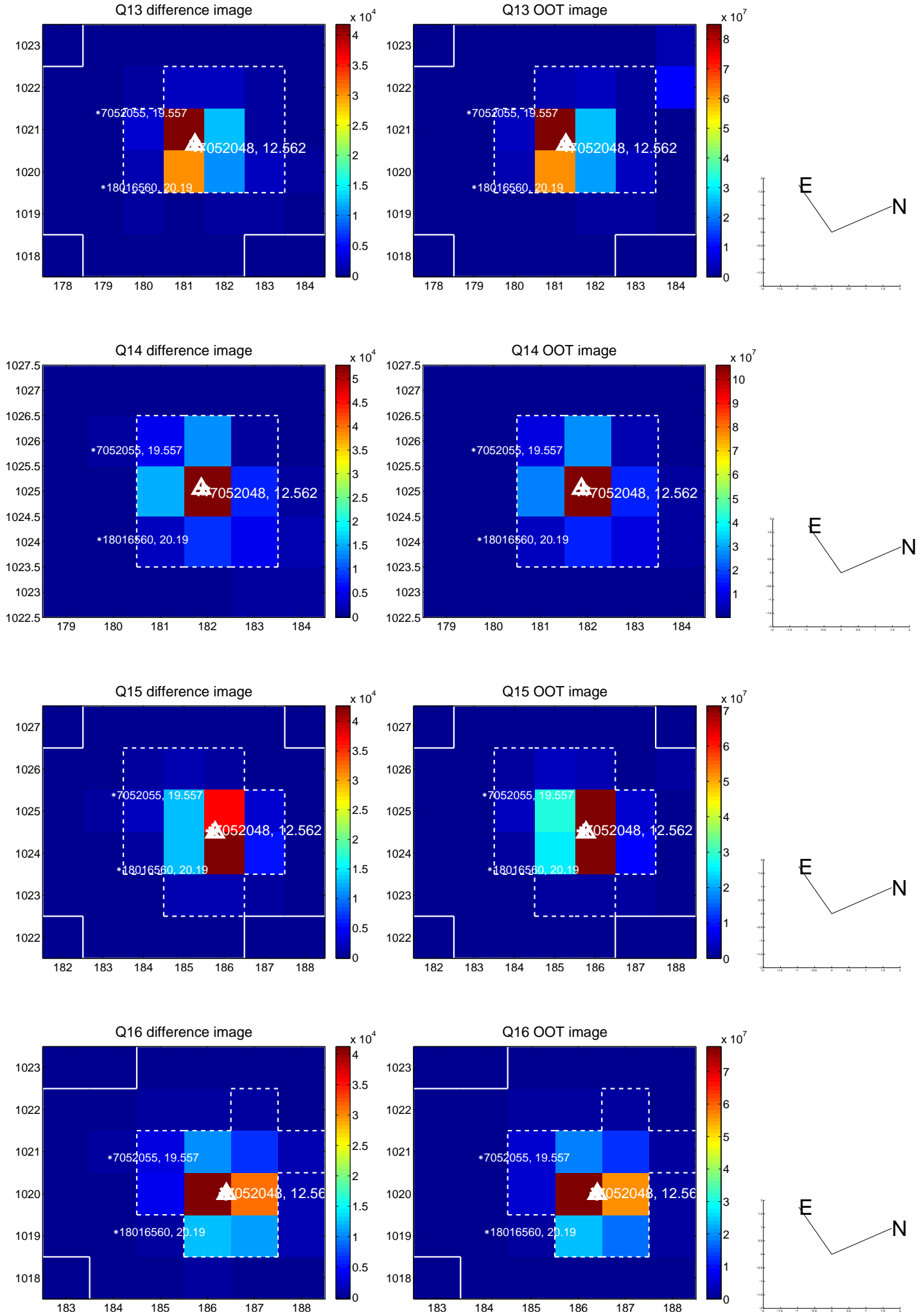
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



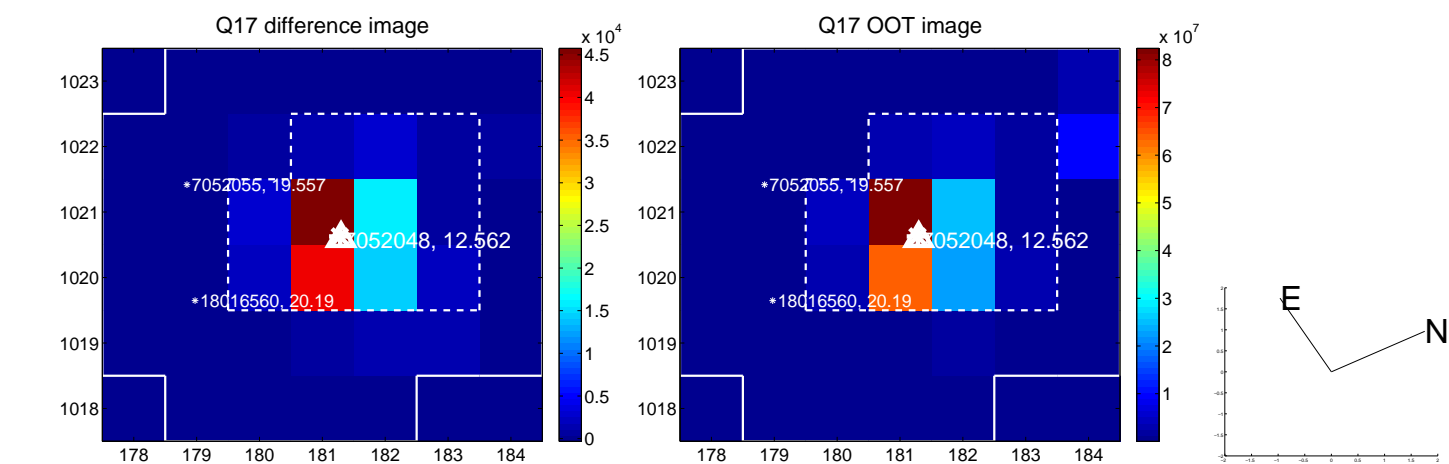
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



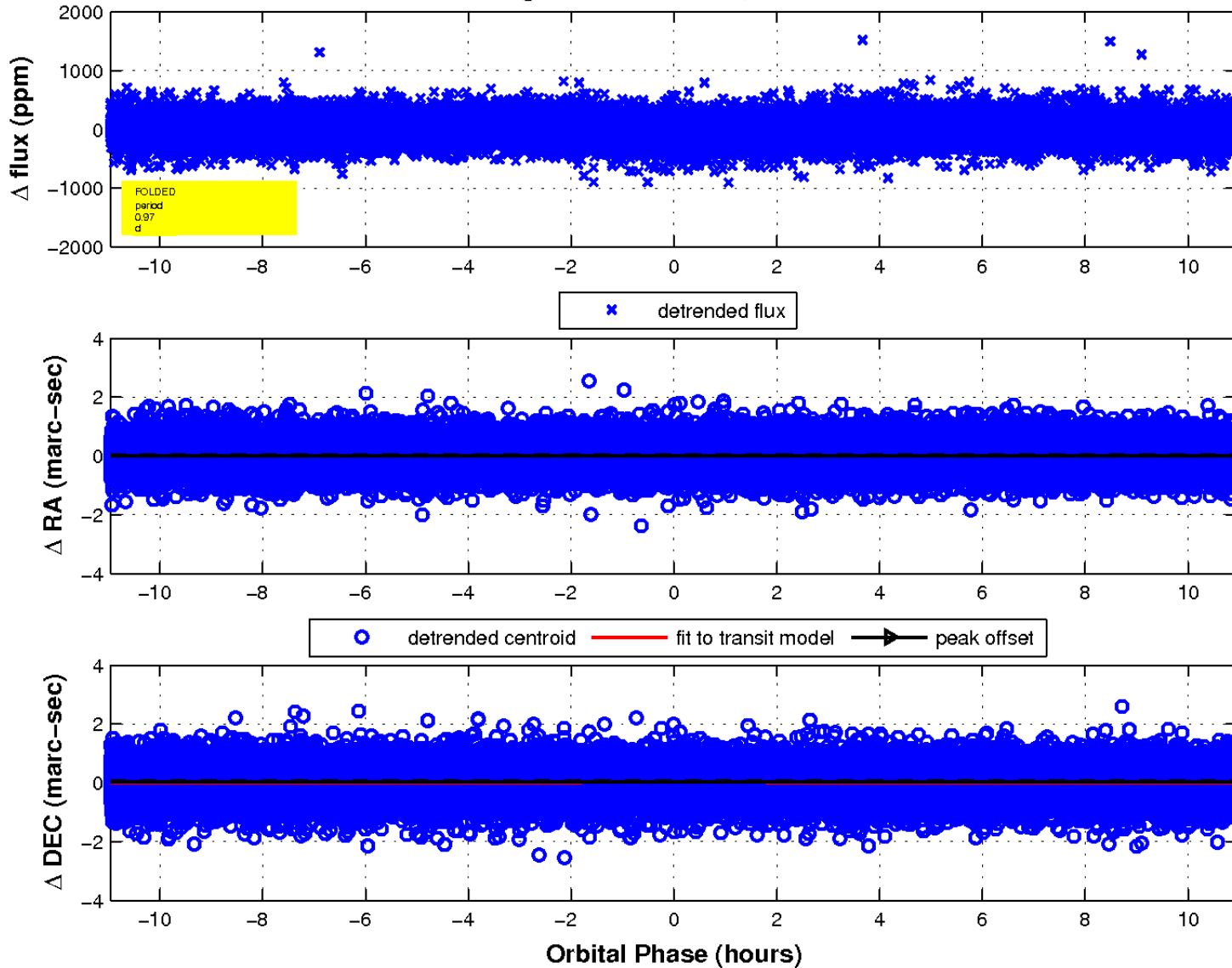
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

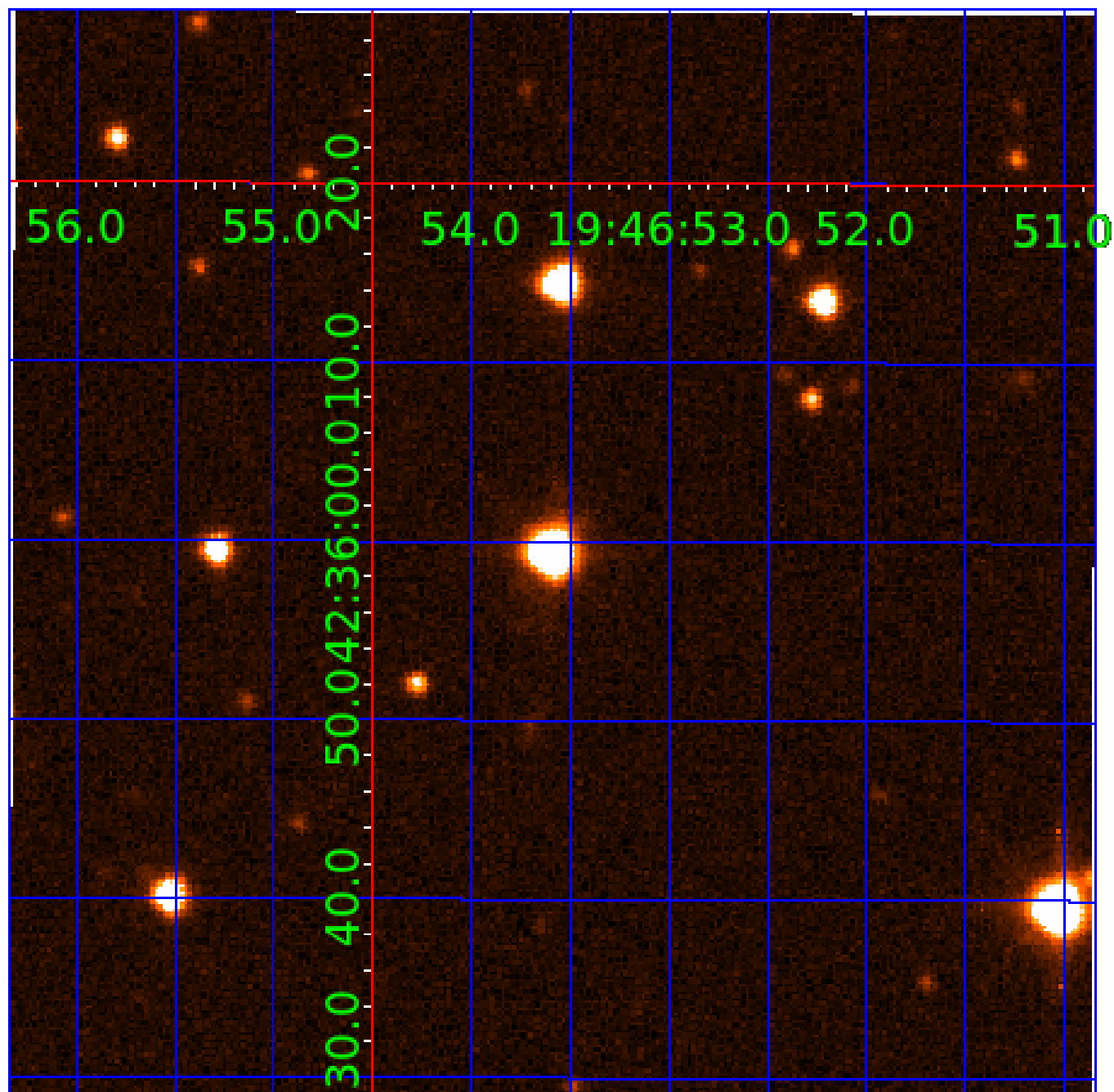


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 007052048

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})
007052048-01	OBS	No	0.968497	131.777874	14.0	3.654	11.8	8.4	1.89	7345	0.77	17956.37
007052048-02	OBS	No	0.655606	131.968081	15.5	3.297	8.0	8.1	1.89	7345	0.86	30210.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007052048-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
007052048-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—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.

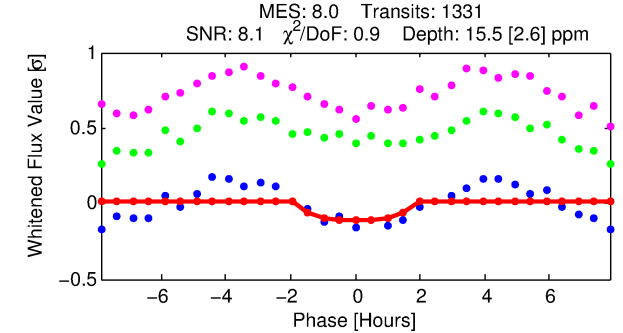
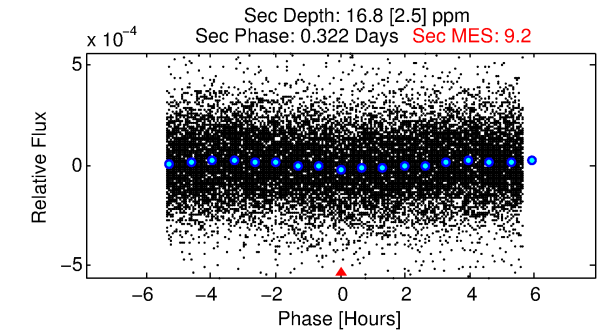
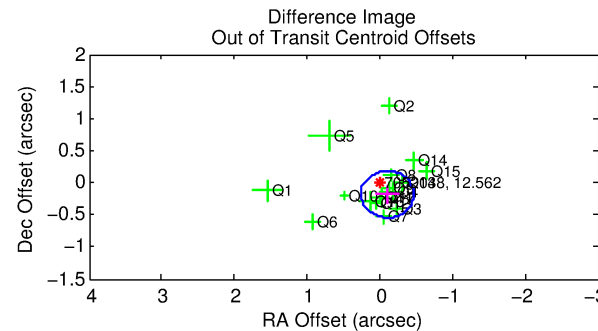
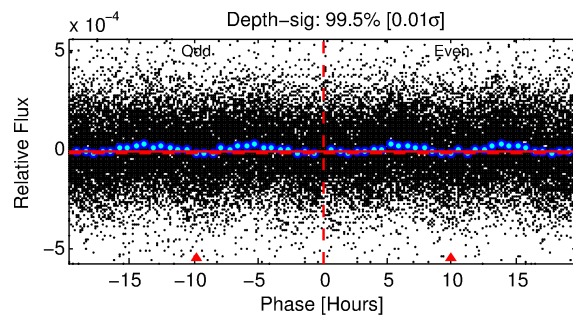
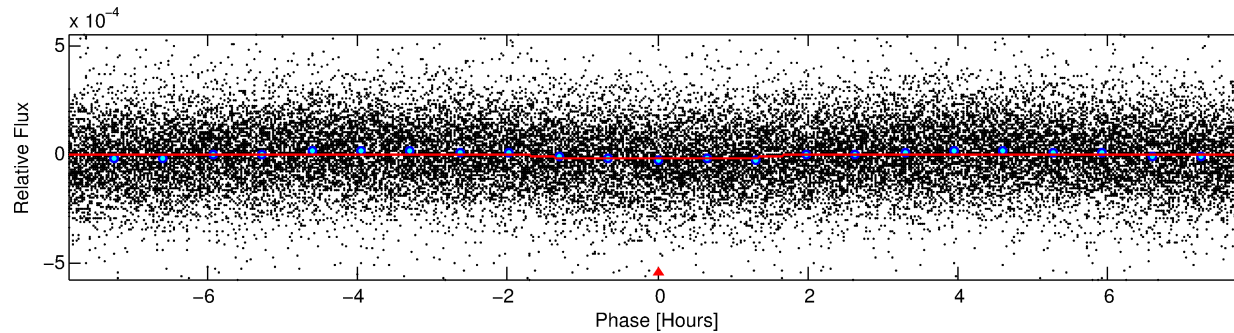
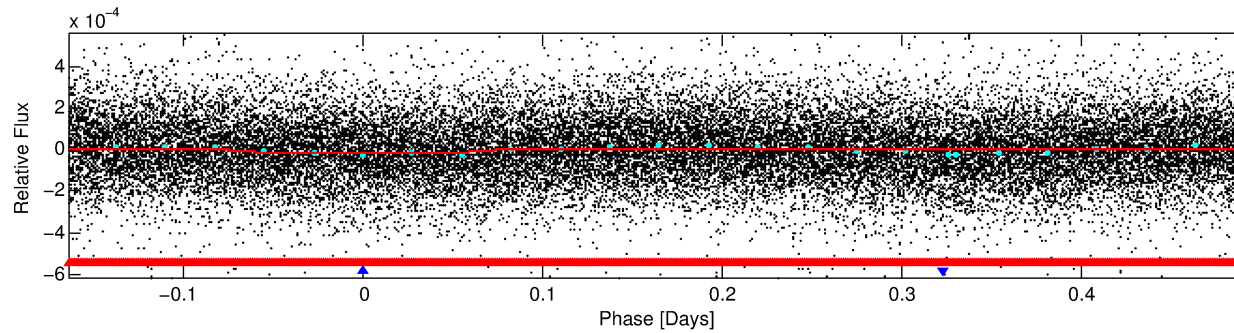
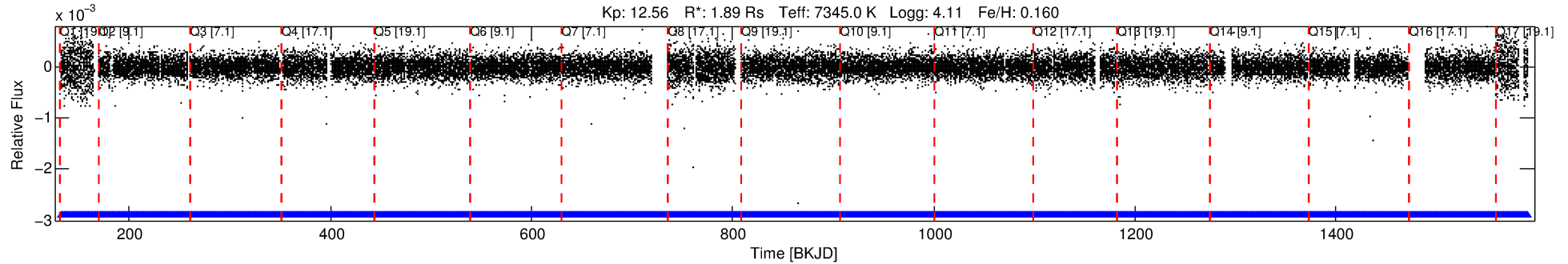
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007052048-02

No Significant Match Found

DV One-Page Summary

KIC: 7052048 Candidate: 2 of 2 Period: 0.656 d



DV Fit Results:

Period = 0.65561 [0.00001] d
Epoch = 131.9681 [0.0051] BKJD
Rp/R* = 0.0042 [0.0021]
a/R* = 1.16 [0.95]
b = 0.90 [0.69]
Seff = 30210.57 [12124.22]
Teq = 3362 [337] K
Rp = 0.86 [0.51] Re
a = 0.0176 [0.0044] AU
Ag = 3.82 [4.12] [0.68 σ]
Teffp = 7266 [1873] K [2.05 σ]

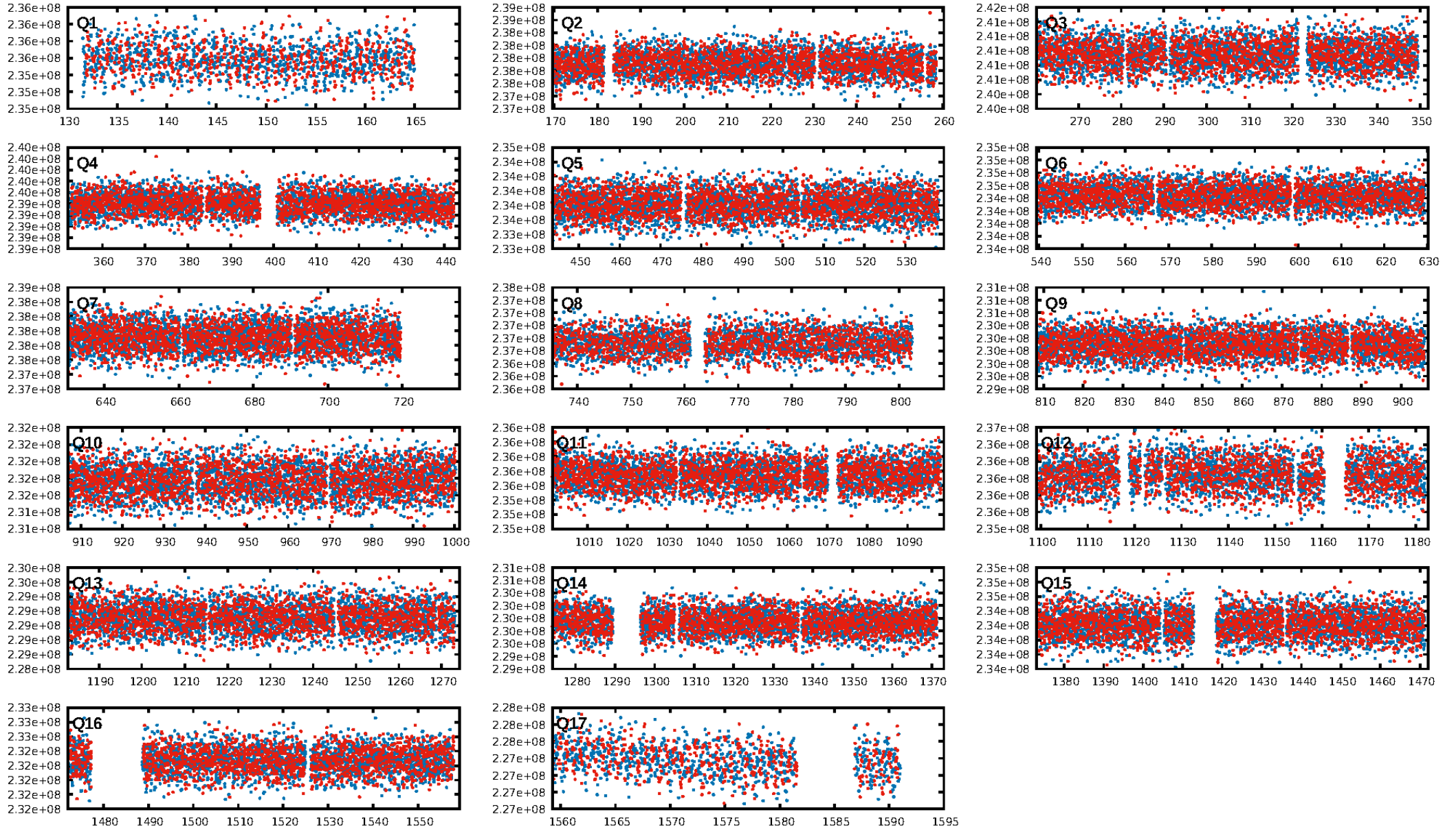
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 87.3% [1.53 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.86e-07
RollingBand-fgt: 1.00 [1270/1270]
GhostDiagnostic-chr: 105.7
Centroid-sig: 14.5%
Centroid-so: 0.497 arcsec [0.73 σ]
OotOffset-rm: 0.208 arcsec [1.72 σ]
KicOffset-rm: 0.107 arcsec [0.85 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 1.00 [17/17]

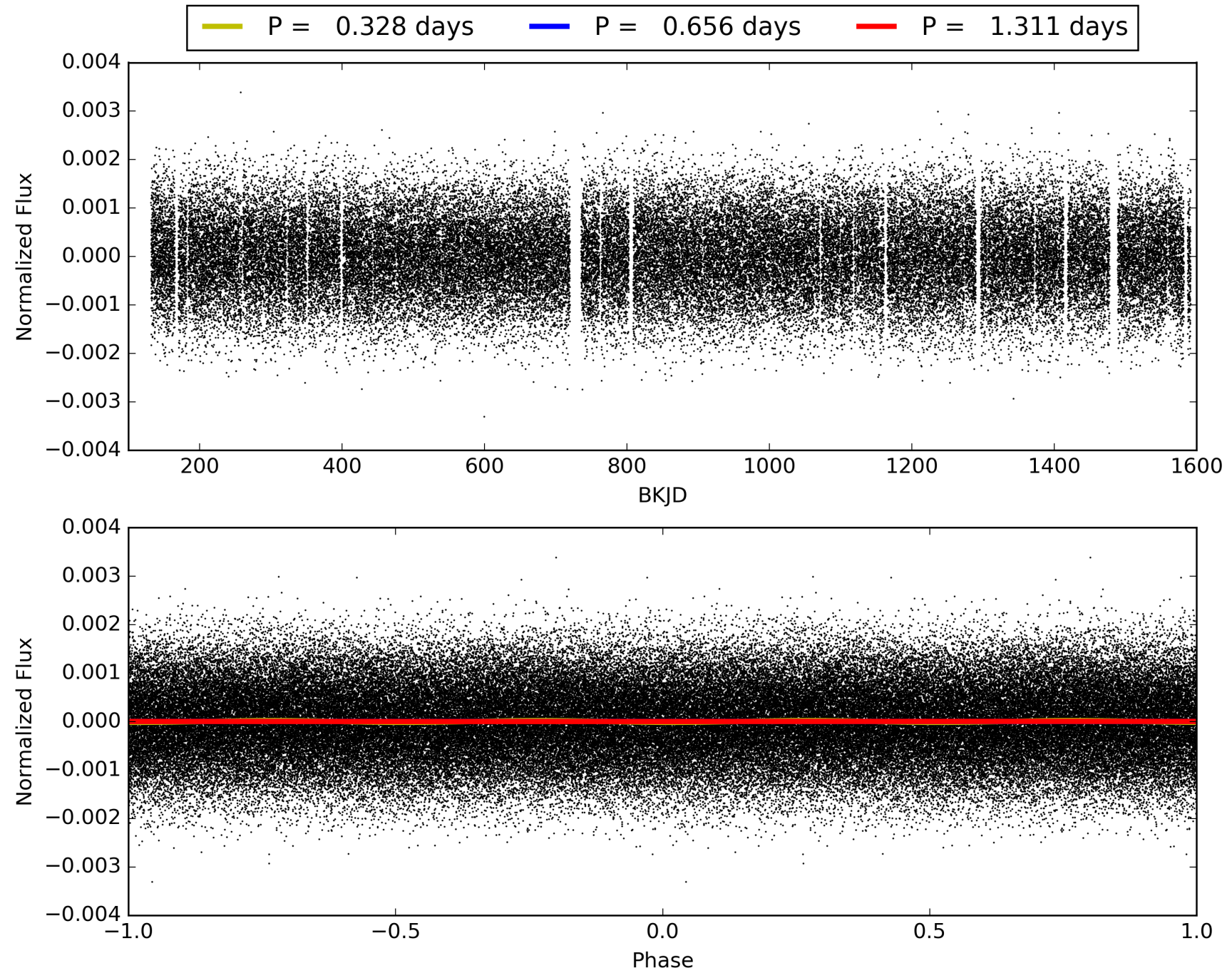
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:43:25 Z

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

TCE 007052048-02, PDC Light Curves

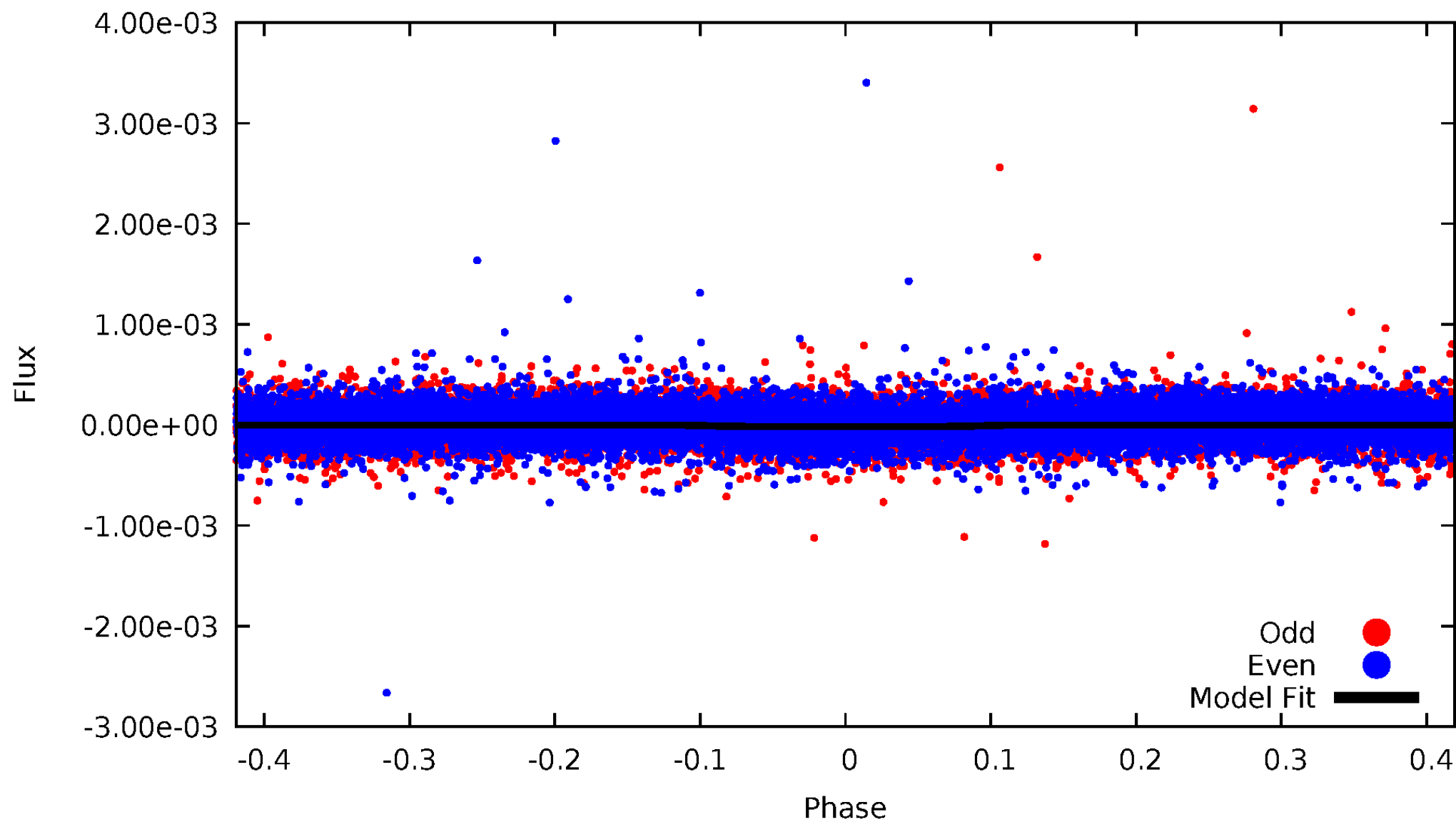


TCE 007052048-02



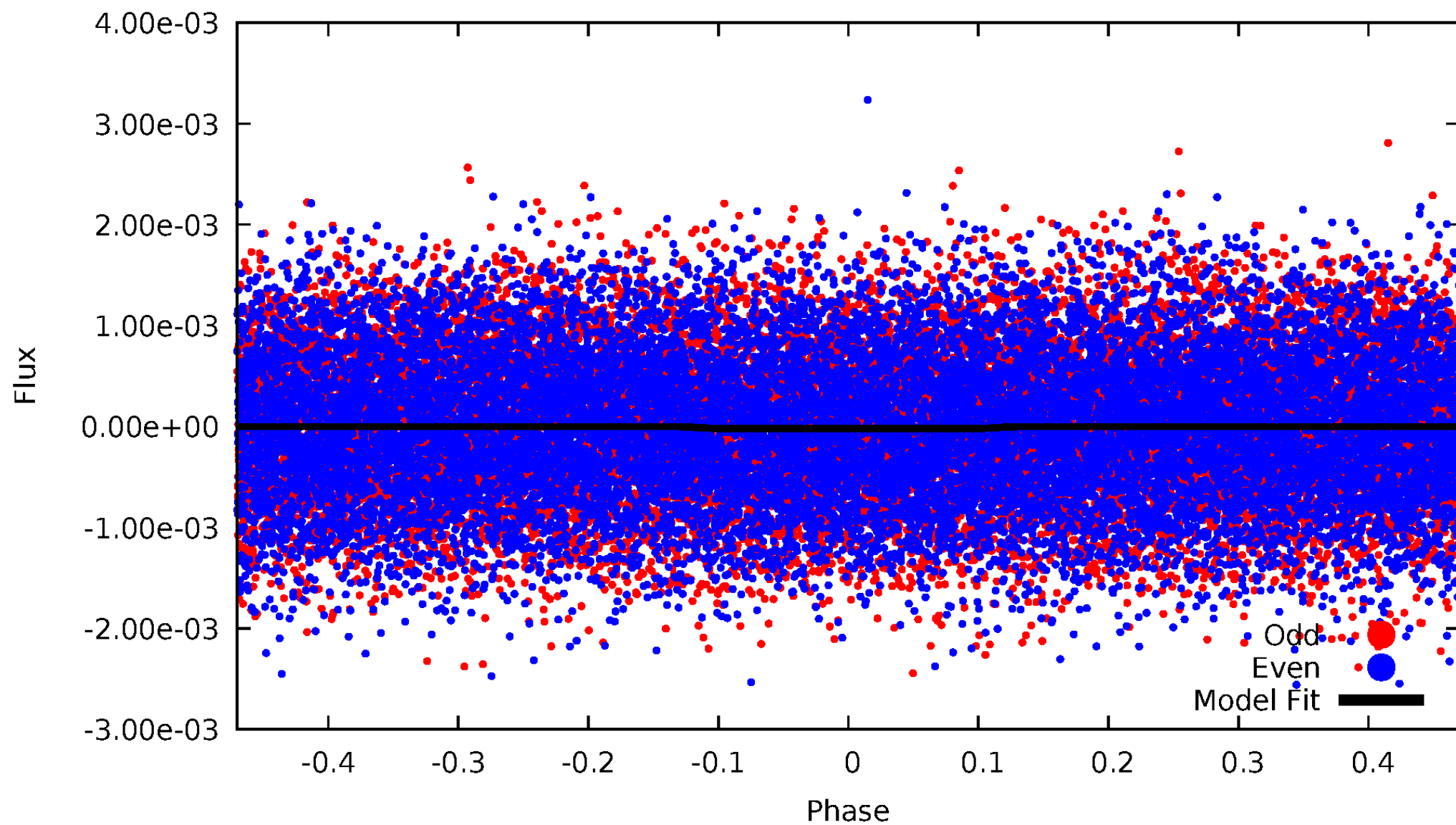
DV Odd/Even

TCE 007052048-02



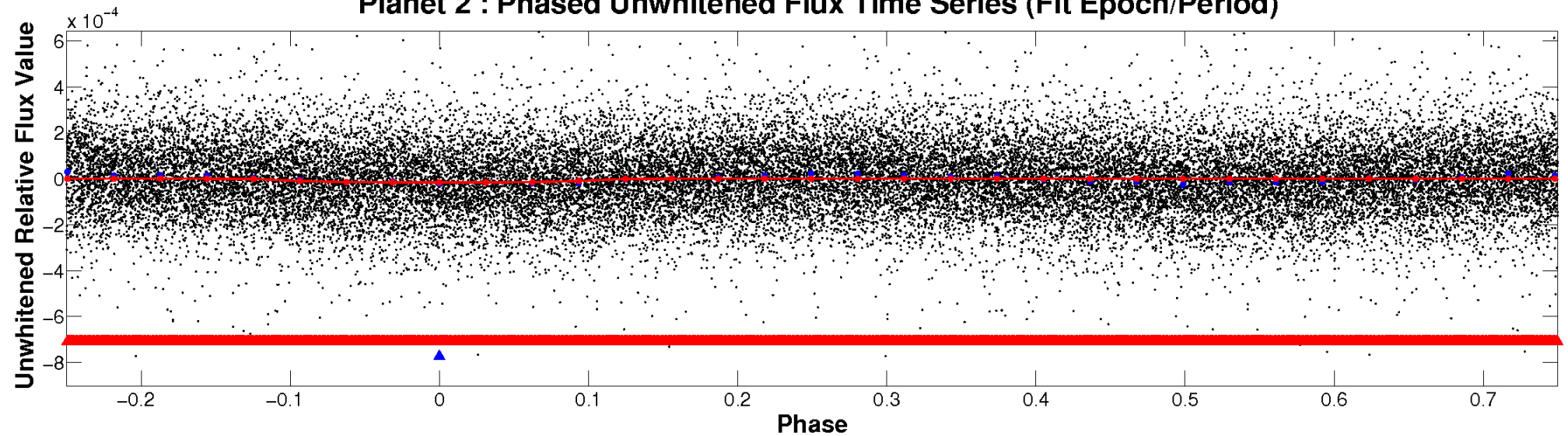
ALT Odd/Even

TCE 007052048-02

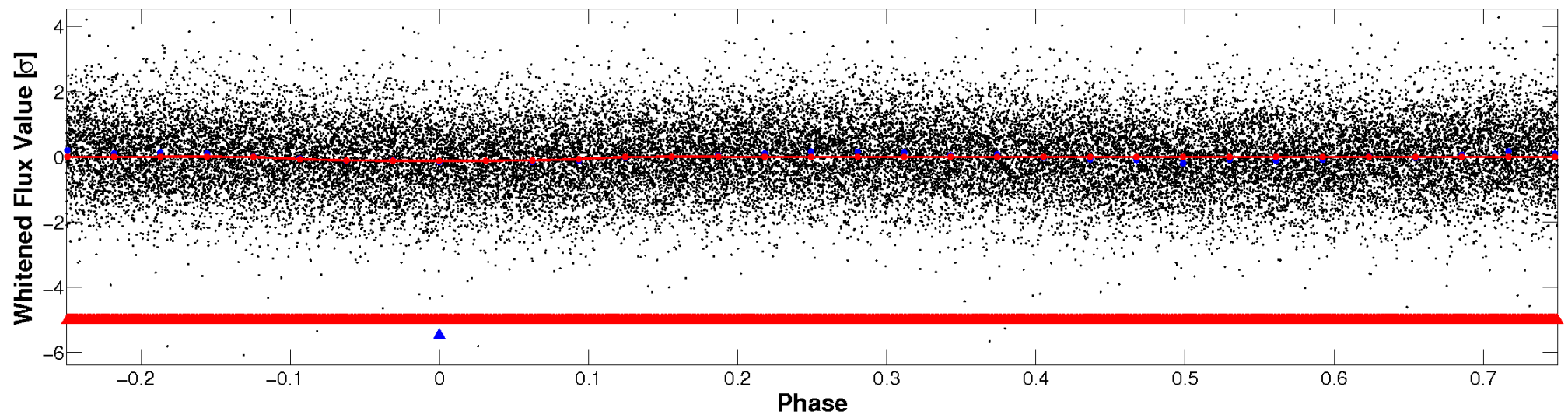


Non-Whitened Vs. Whitened Light Curve

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

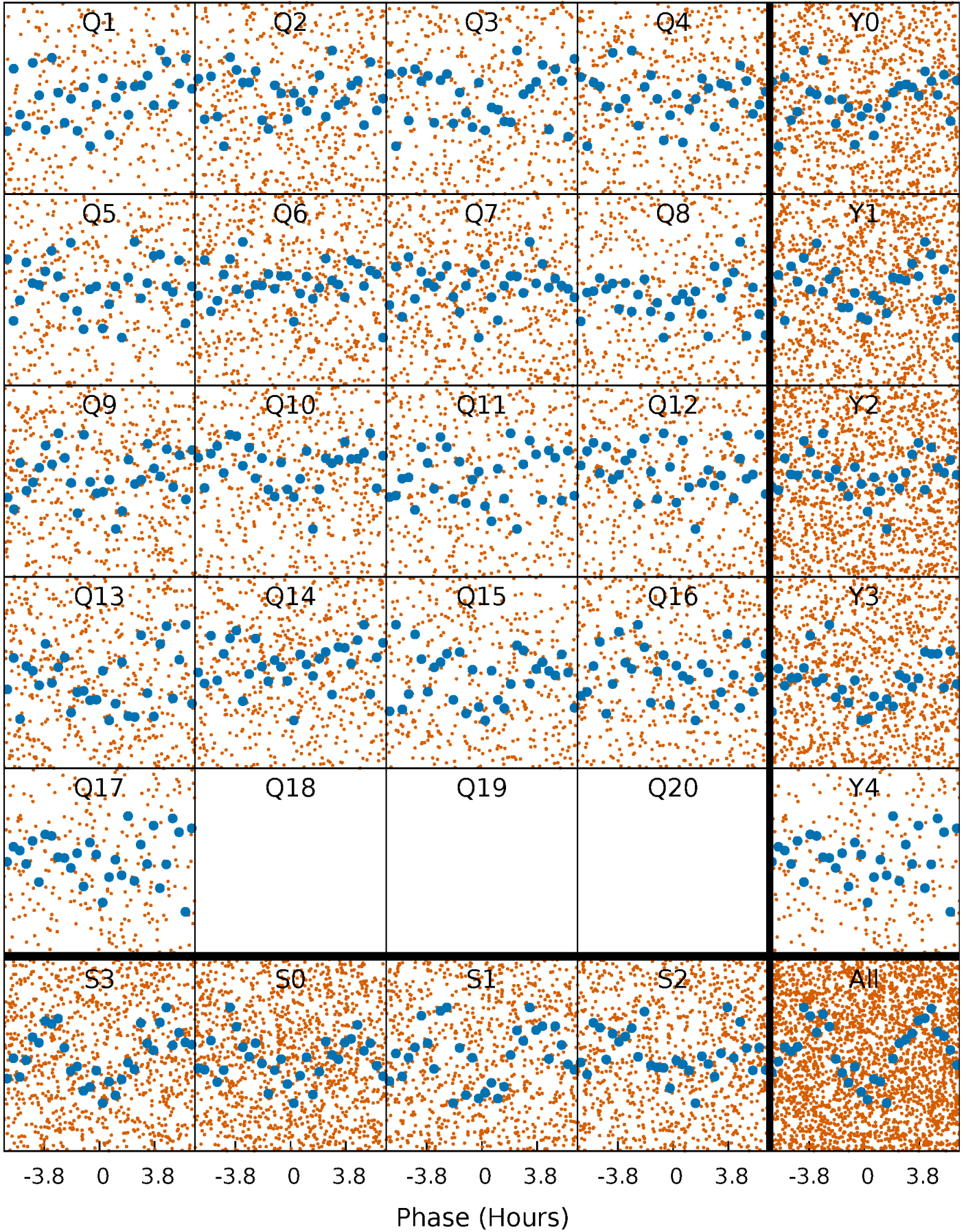


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



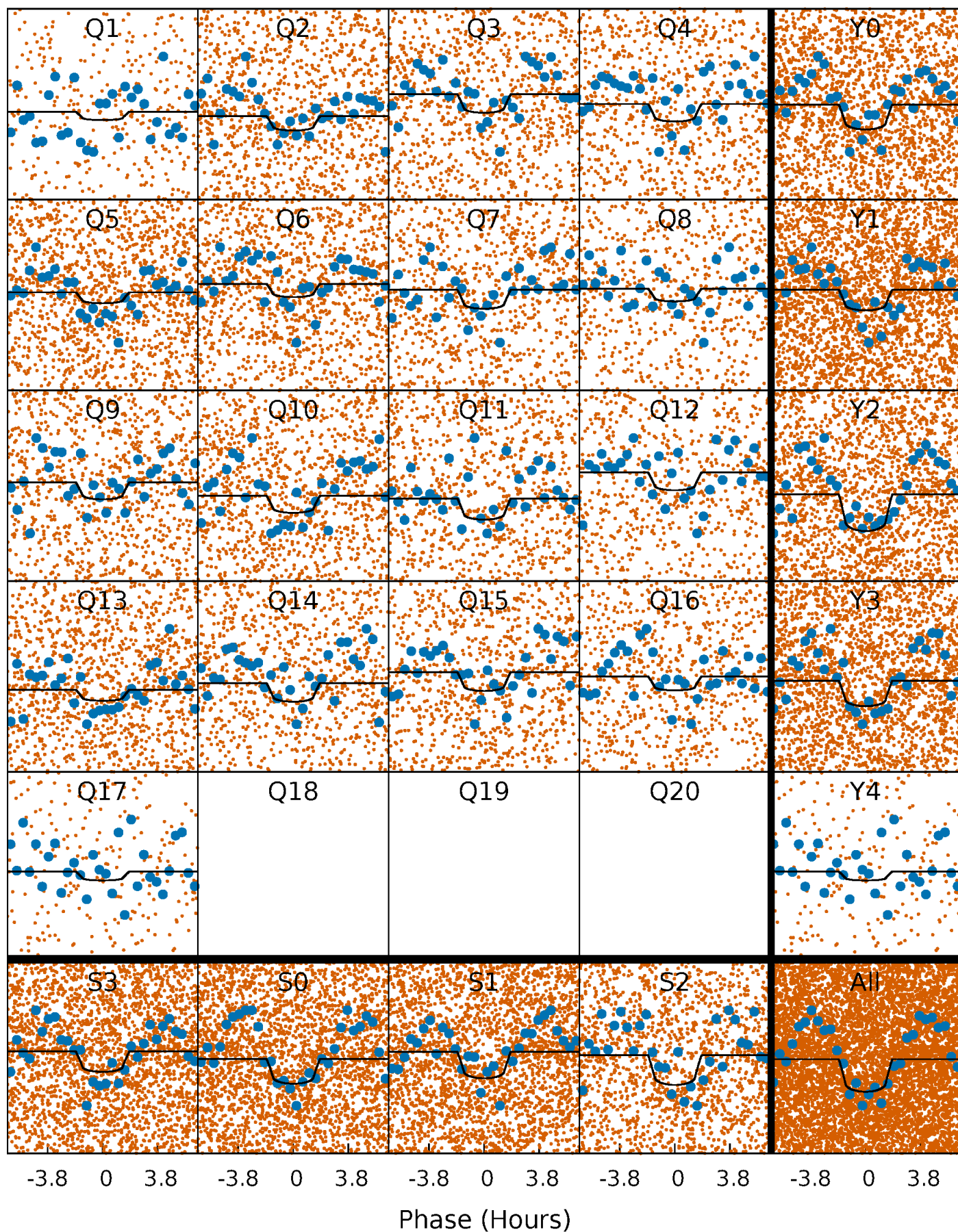
PDC Quarter-Phased Transit Curves

TCE 007052048-02 P= 0.655606 Days $T_0=131.968081$ (BKJD)



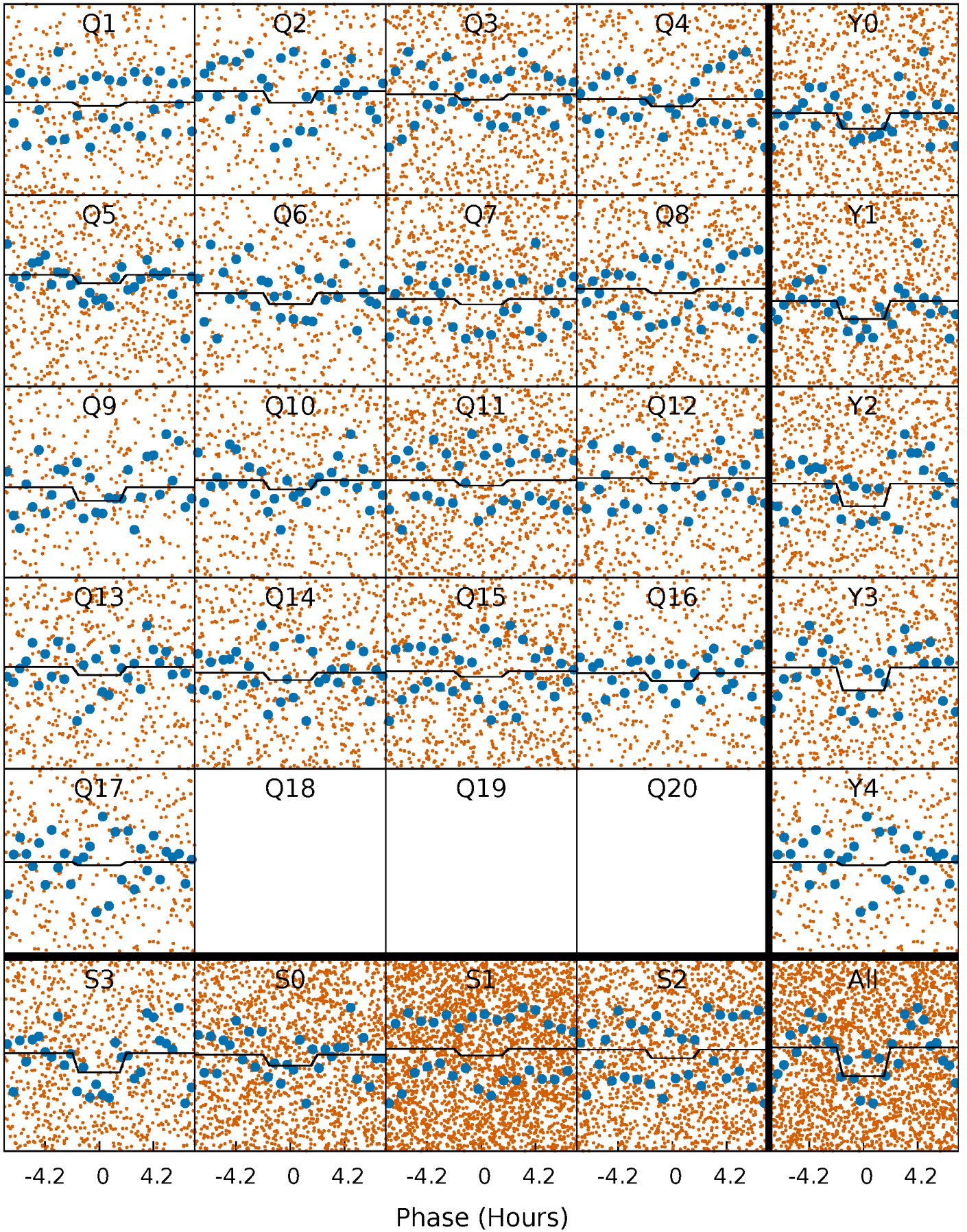
DV Quarter-Phased Transit Curves

TCE 007052048-02 P= 0.655606 Days $T_0=131.968081$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

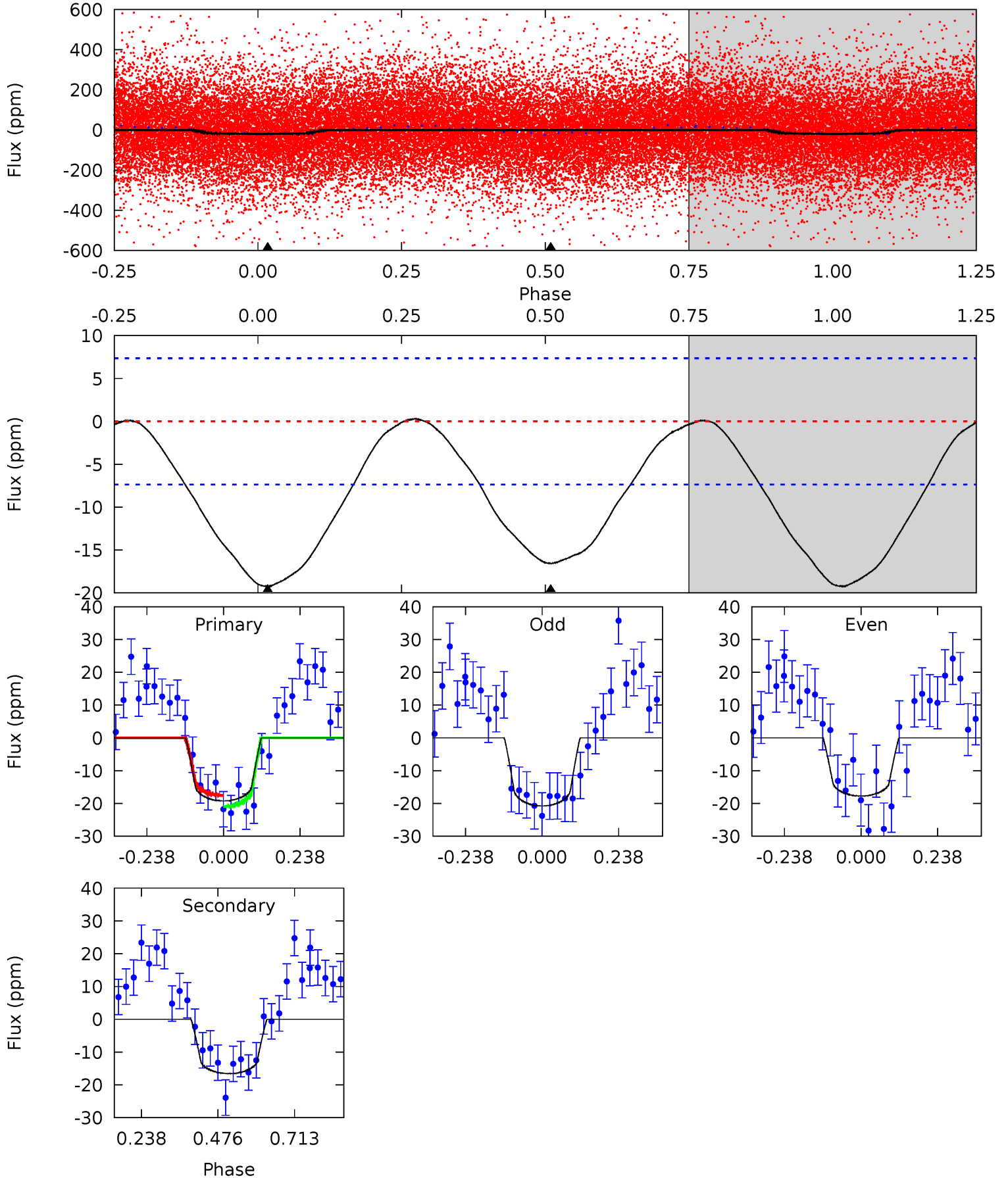
TCE 007052048-02 P= 0.655620 Days $T_0=131.962886$ (BKJD)



DV Model-Shift Uniqueness Test

007052048-02, P = 0.655606 Days, E = 131.312475 Days

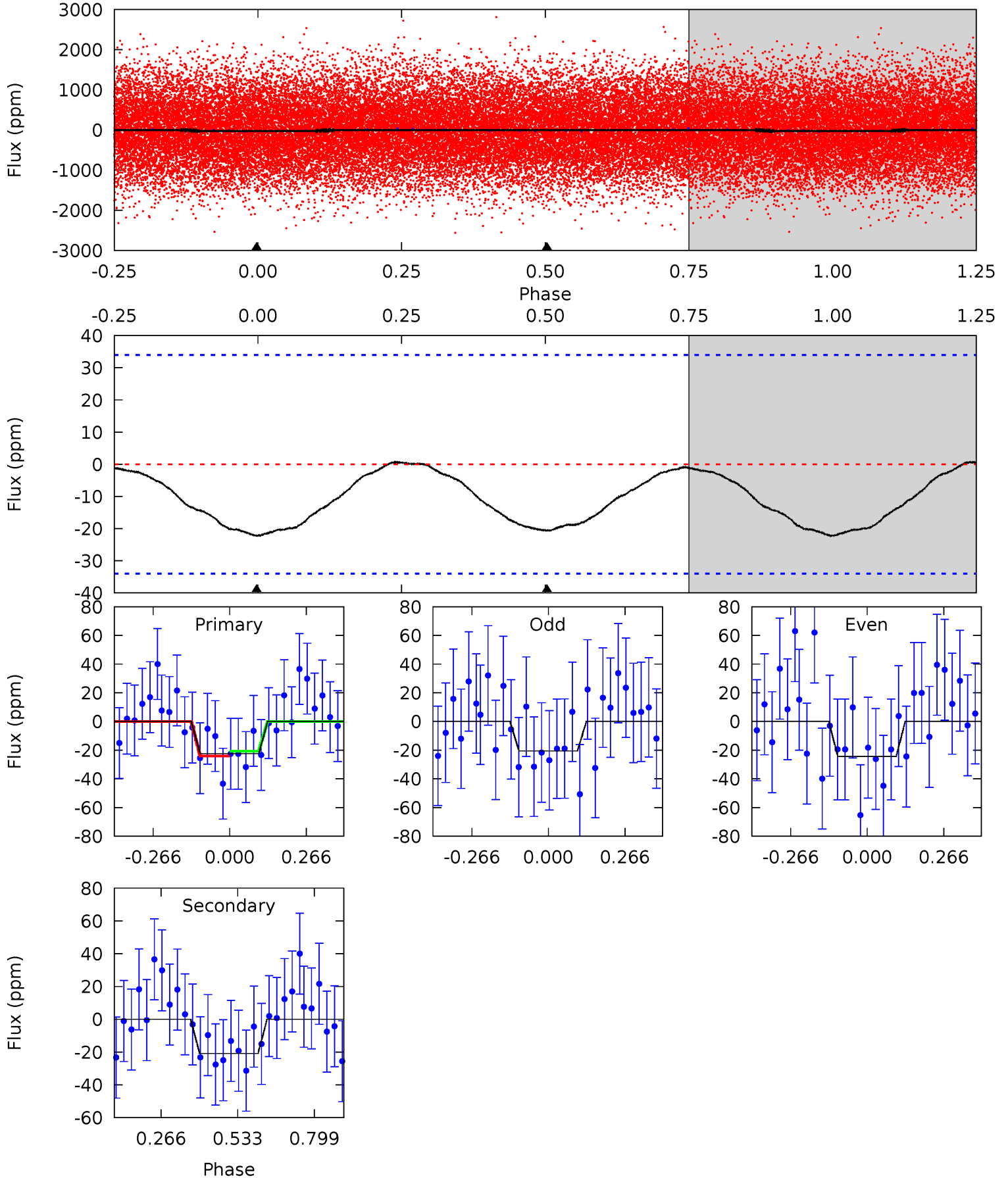
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	9.86	0	0	4.38	1.18	0.17	11.5	11.5	9.86	9.86	0.90	0.99	0.01	1.01



Alt Model-Shift Uniqueness Test

007052048-02, P = 0.655620 Days, E = 131.307266 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.88	2.67	0	0	4.35	1.11	0.11	2.88	2.88	2.67	2.67	0.24	6.17	0.04	0.22



Stellar Parameters For KIC 007052048

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7345^{+206}_{-324}	$4.110^{+0.120}_{-0.195}$	$0.160^{+0.200}_{-0.350}$	$1.889^{+0.569}_{-0.332}$	$1.677^{+0.207}_{-0.253}$	$0.350^{+0.210}_{-0.175}$
	+3%/-4%	+3%/-5%	+125%/-219%	+30%/-18%	+12%/-15%	+60%/-50%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007052048-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-17 ± 2	$0.88^{+0.45}_{-0.40}$	4732^{+335}_{-311}	6960^{+3630}_{-1421}	$3.532^{+8.271}_{-1.972}$
Alt.	-21 ± 8	$0.96^{+0.47}_{-0.43}$	4731^{+376}_{-292}	7085^{+3458}_{-1596}	$3.700^{+8.832}_{-2.212}$

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

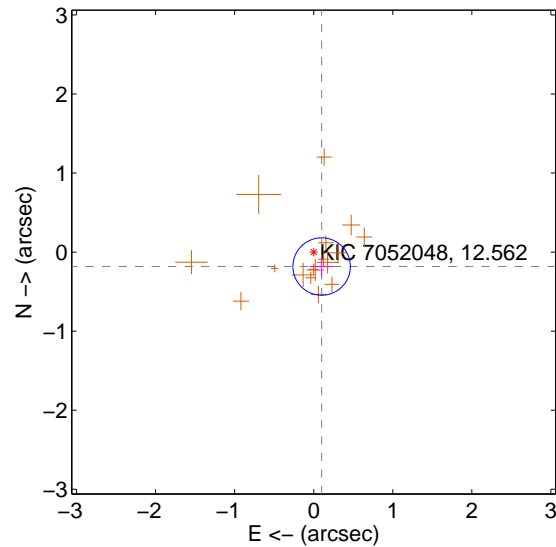
Supplemental centroid analysis for 007052048-02. Kepler magnitude: 12.56. Transit SNR 8.09

There are 0 quarters with good PRF difference image offsets

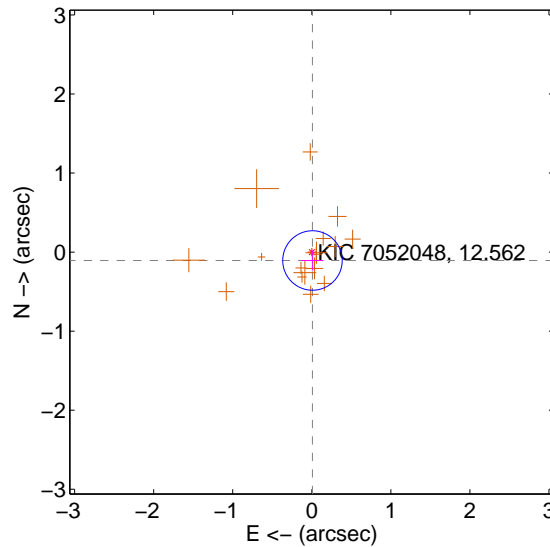
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.208 ± 0.121	1.72	-0.101 ± 0.153	-0.182 ± 0.123
PRF-fit source offset from KIC position	0.107 ± 0.125	0.85	-0.009 ± 0.140	-0.106 ± 0.127
photometric centroid source offset	0.50 ± 0.68	0.73	0.35 ± 0.64	-0.36 ± 0.73

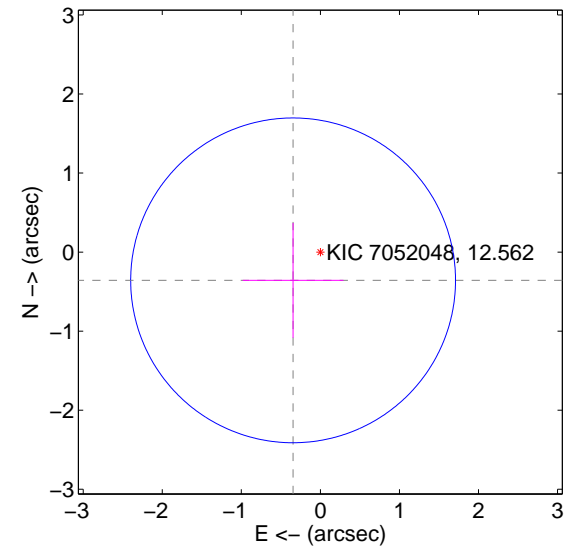
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

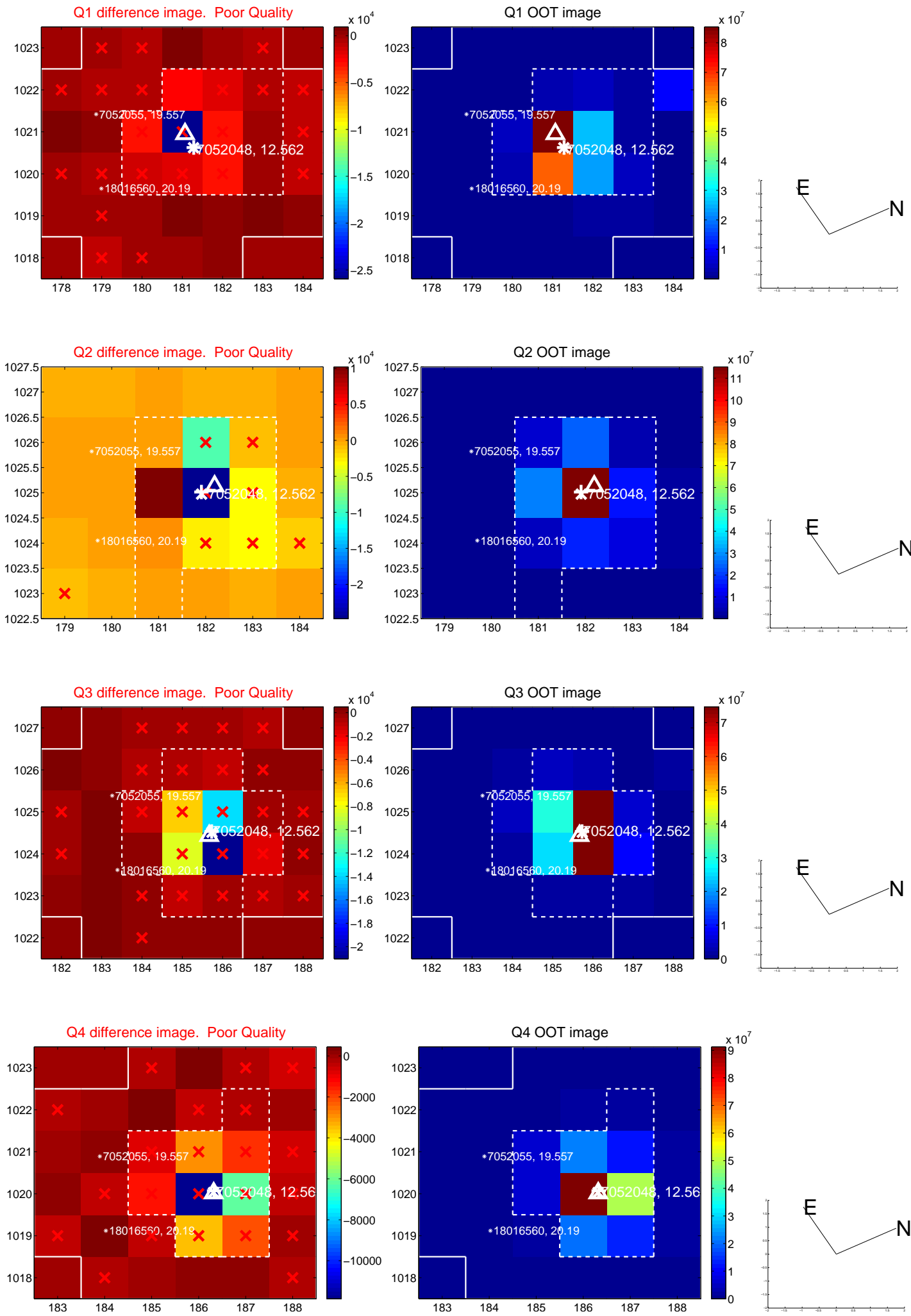


offset from photometric centroids

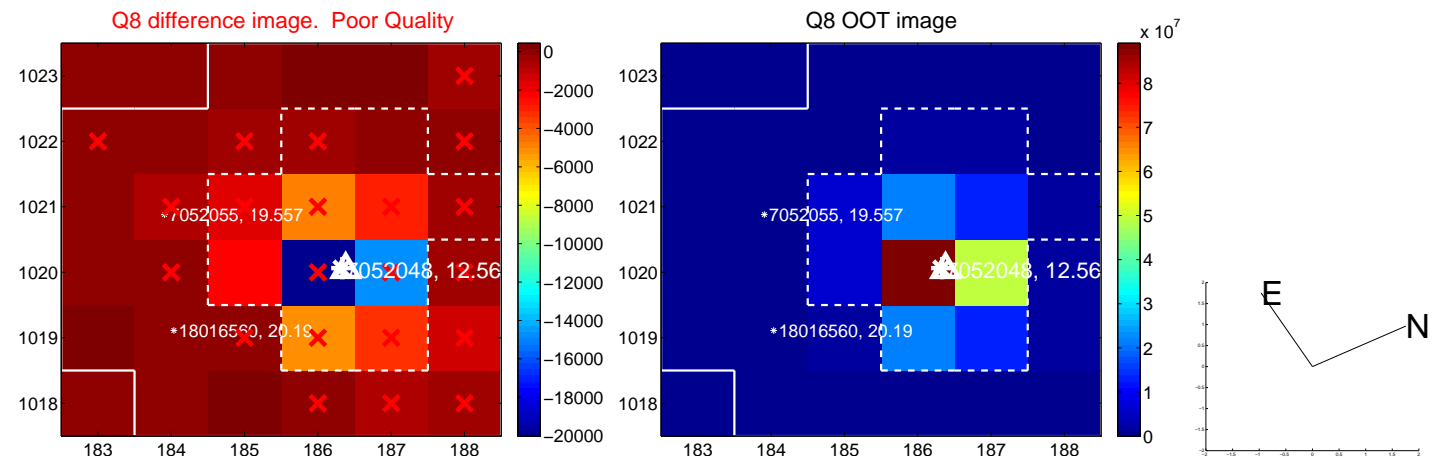
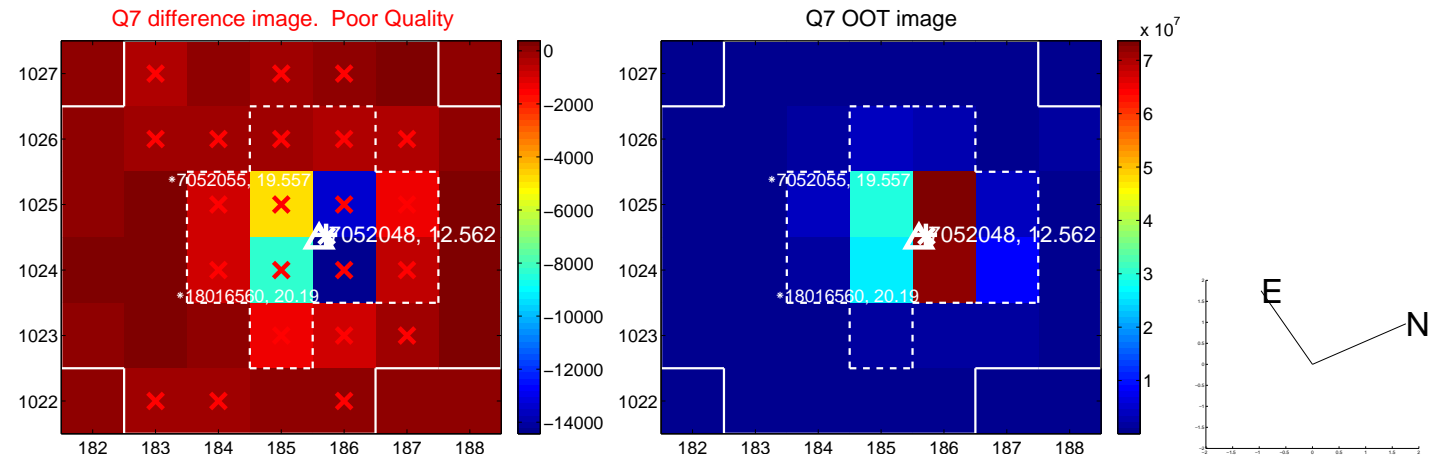
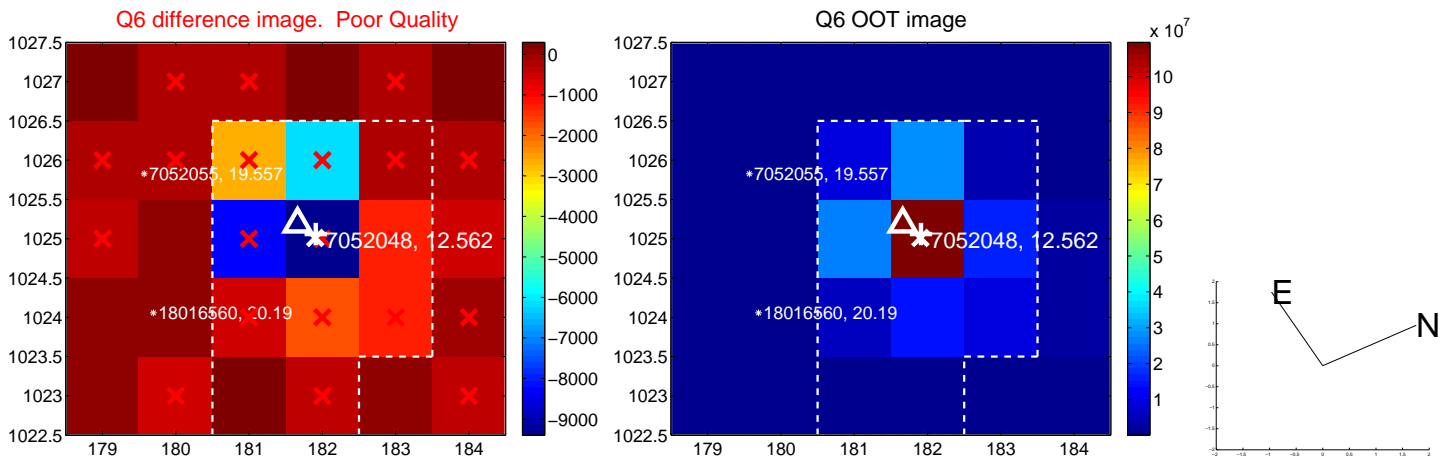
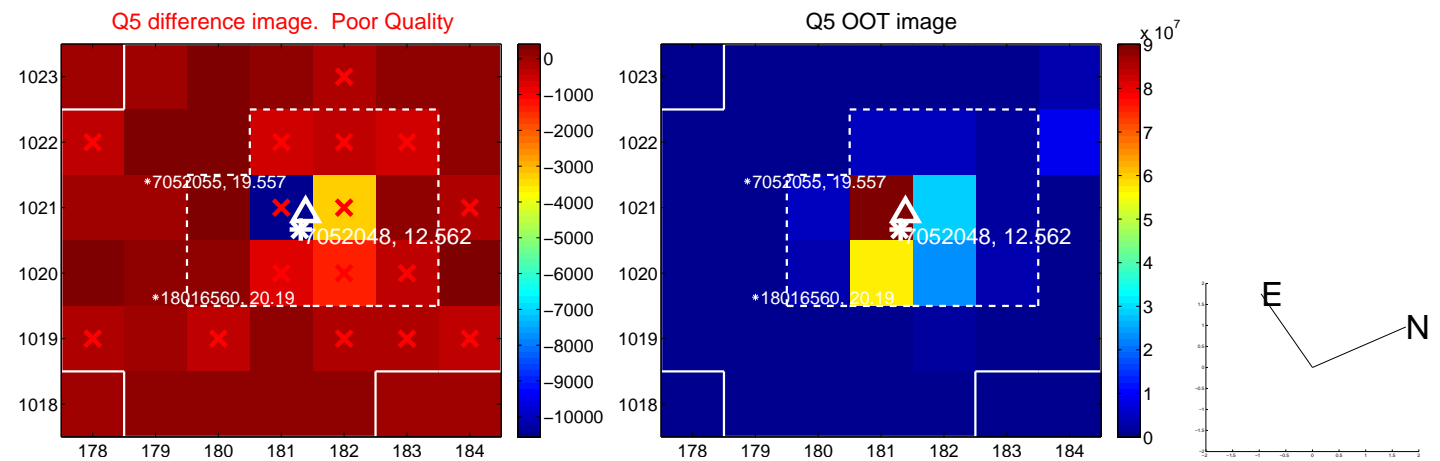


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

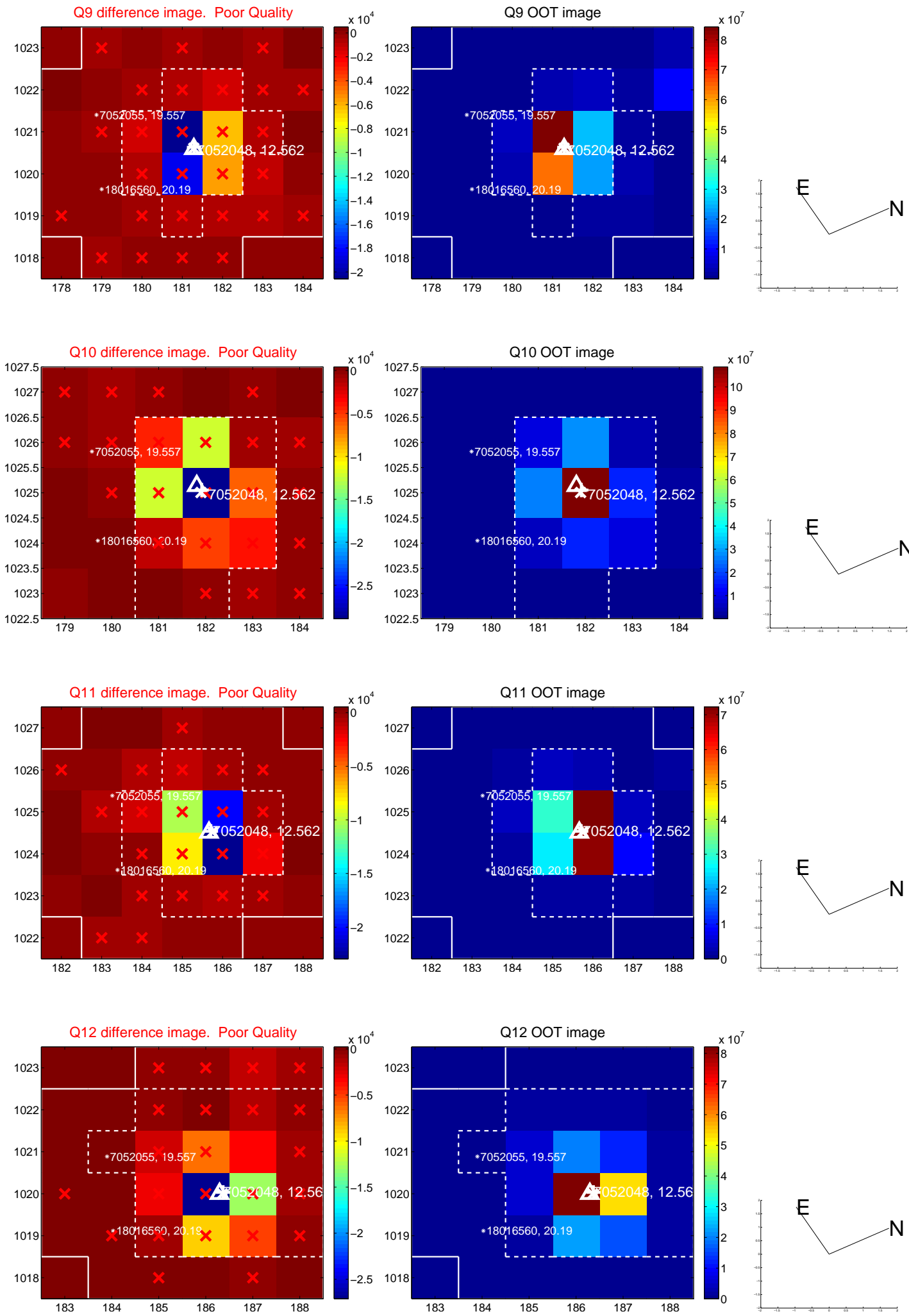
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



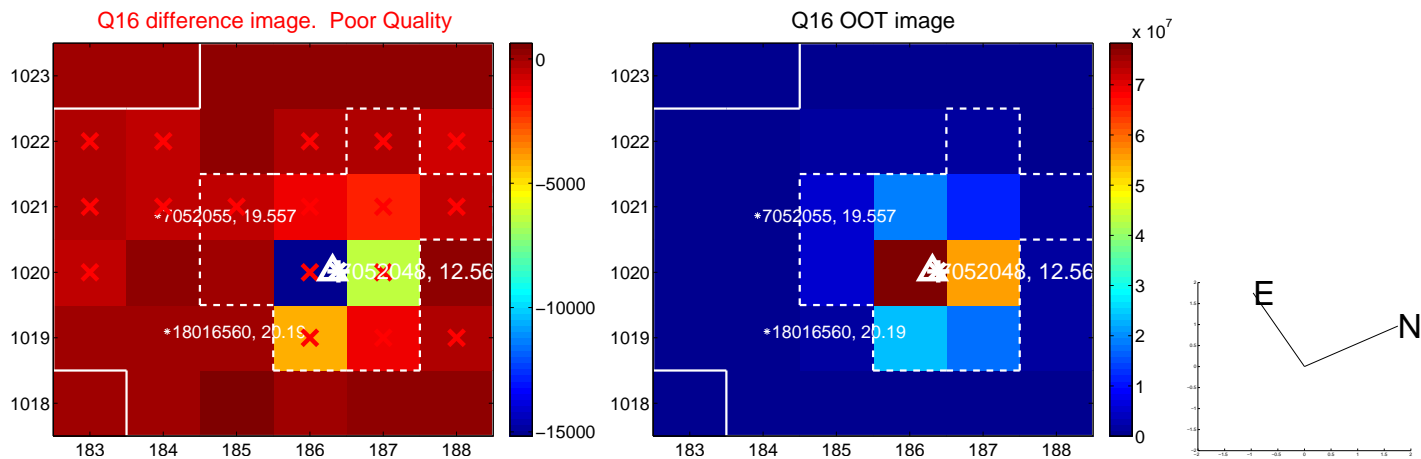
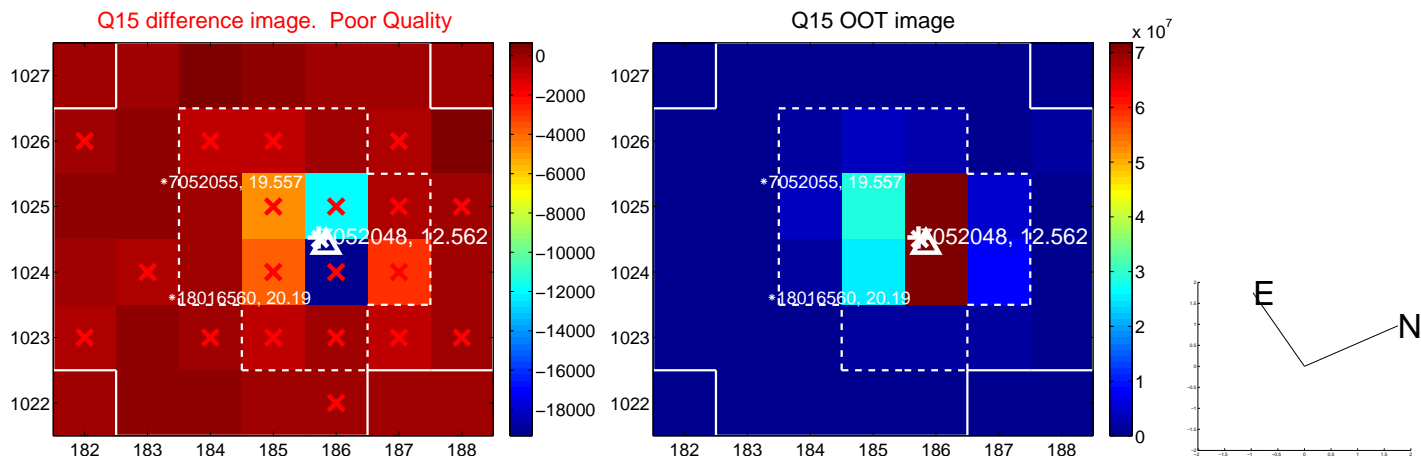
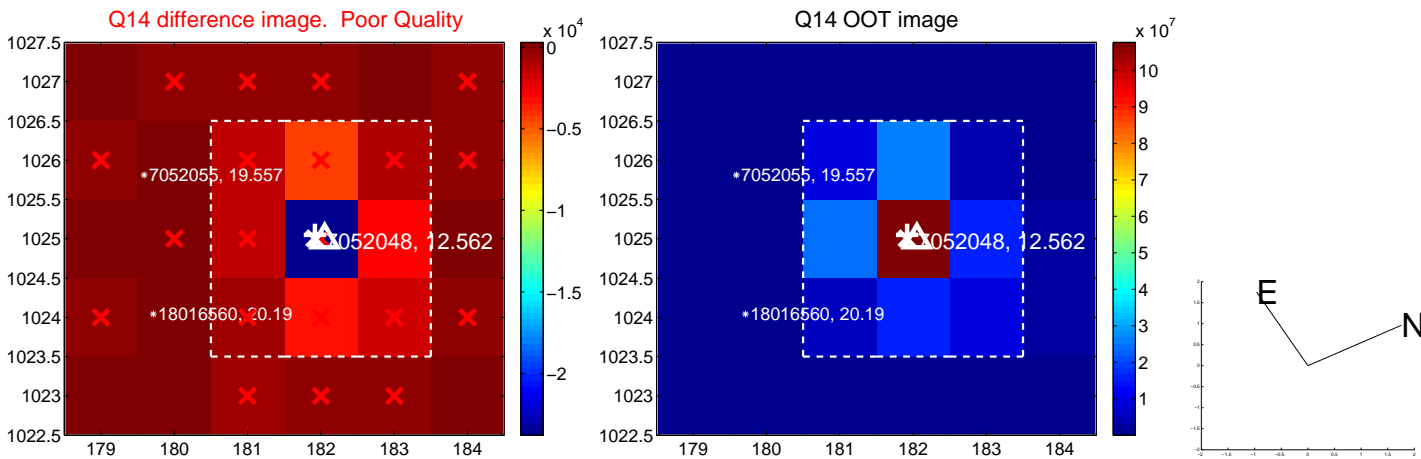
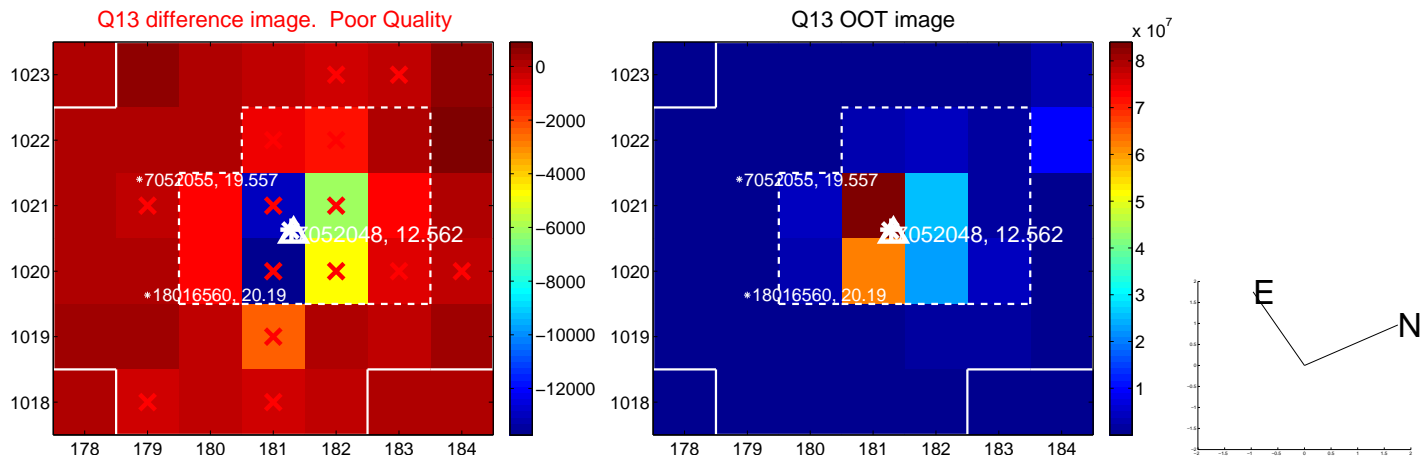
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



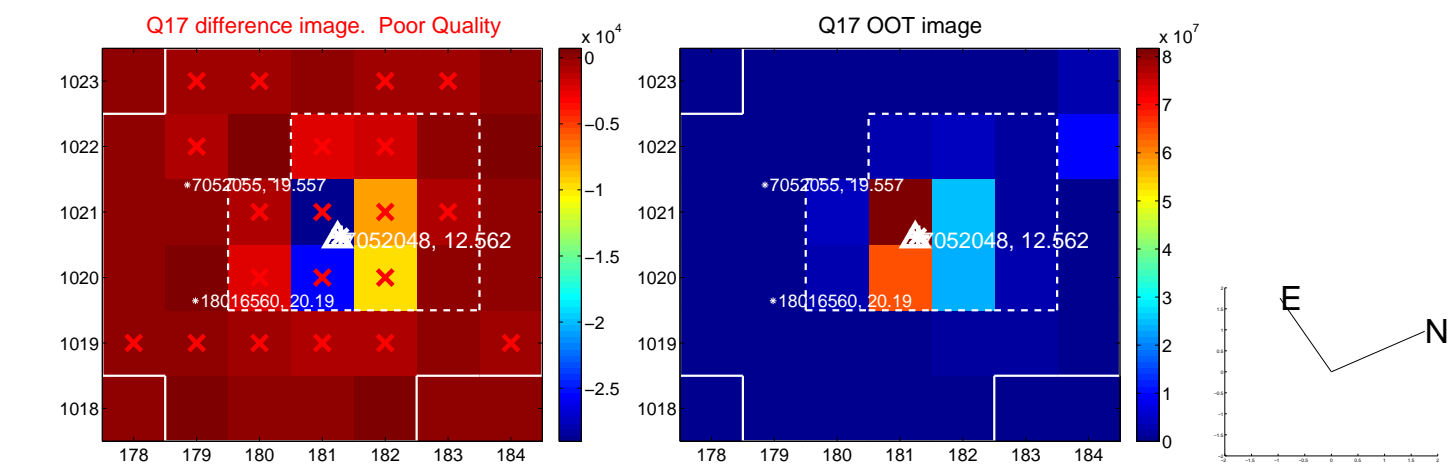
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



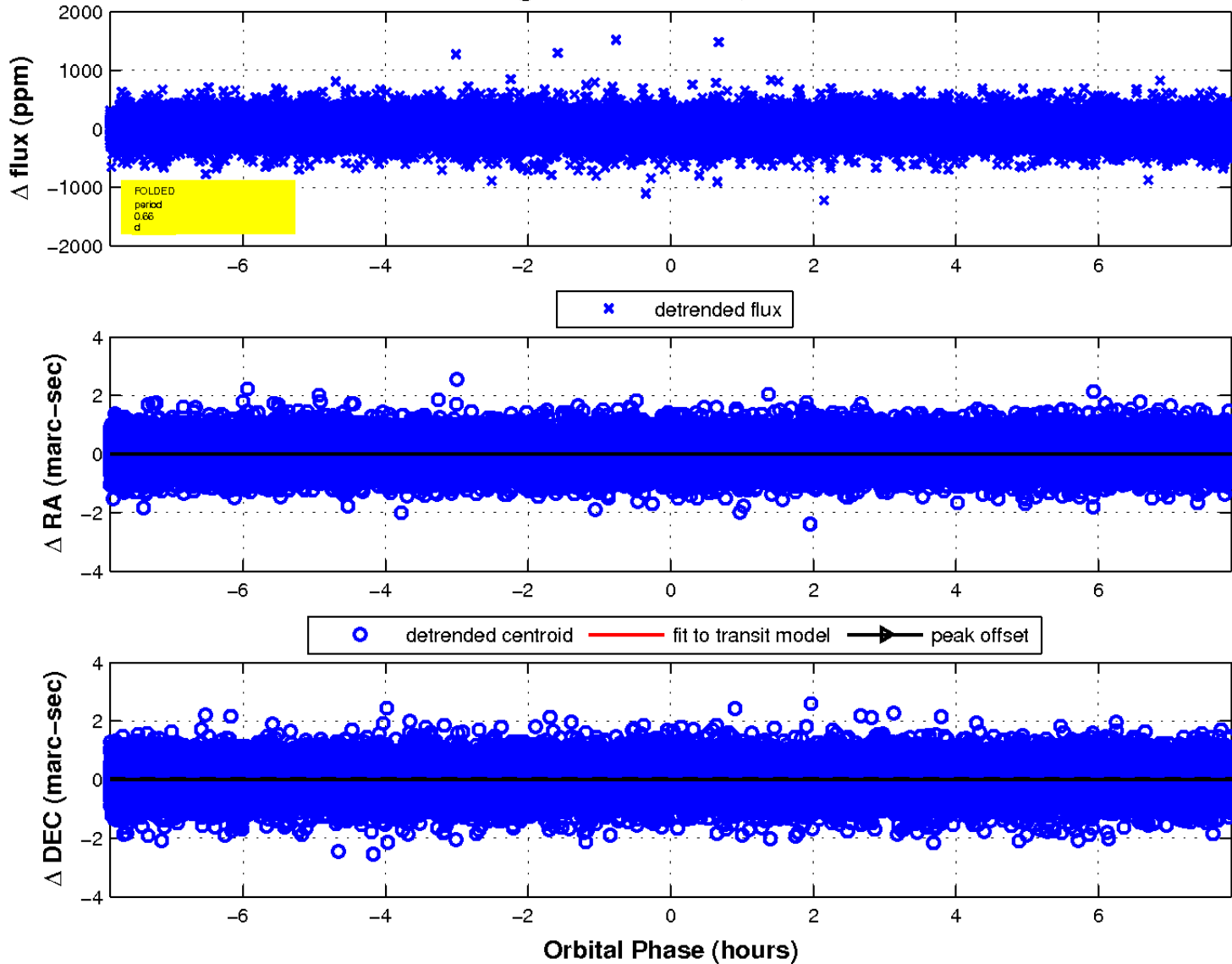
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

