

KIC 010669515

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})
010669515-01	OBS	No	0.942207	132.043306	33.8	3.225	10.2	6.1	2.00	7358	1.35	21244.02
010669515-02	OBS	No	0.942214	131.570974	34.6	3.259	9.6	6.3	2.00	7358	1.36	21243.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010669515-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
010669515-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—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.

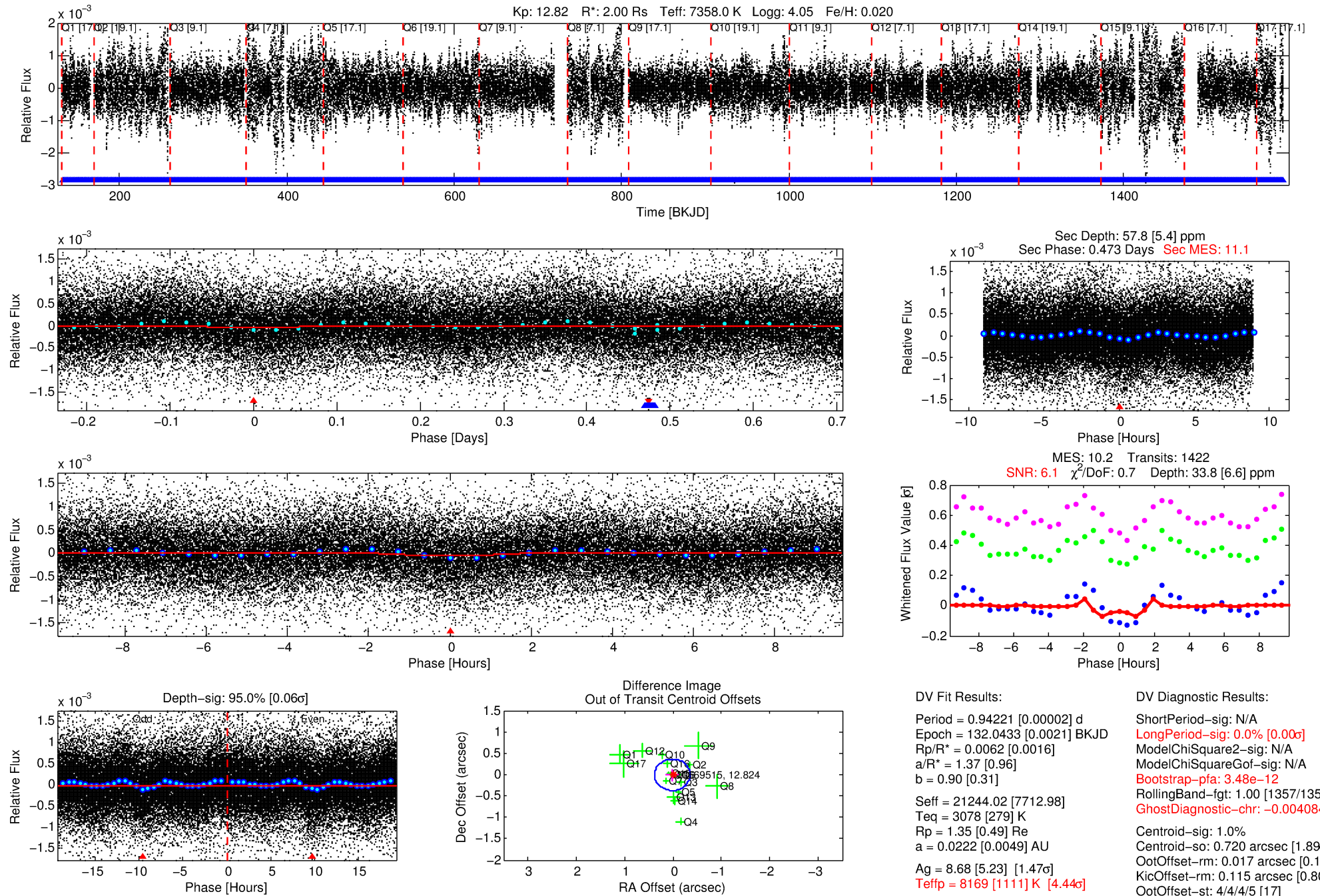
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010669515-01

No Significant Match Found

DV One-Page Summary

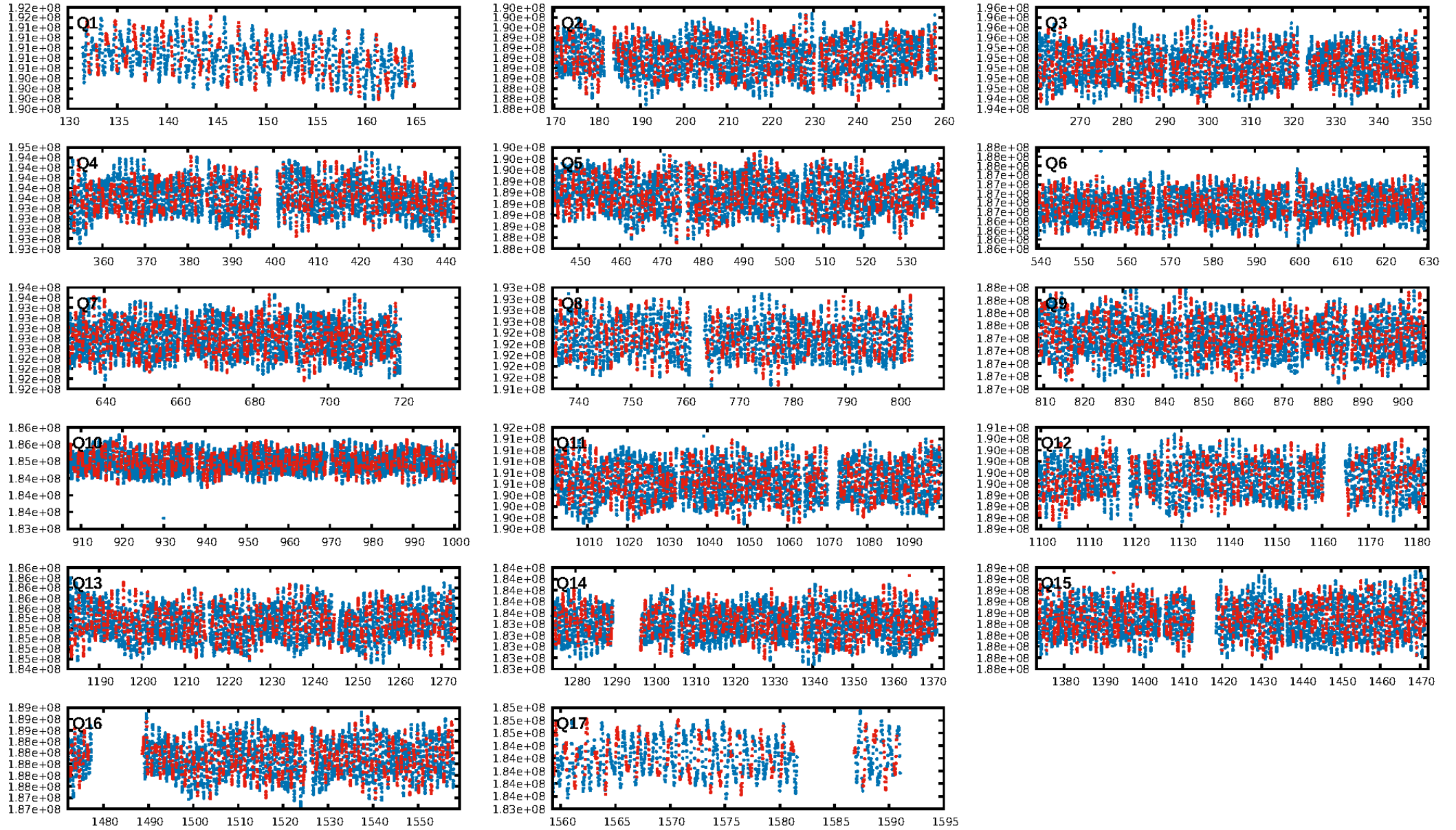
KIC: 10669515 Candidate: 1 of 2 Period: 0.942 d



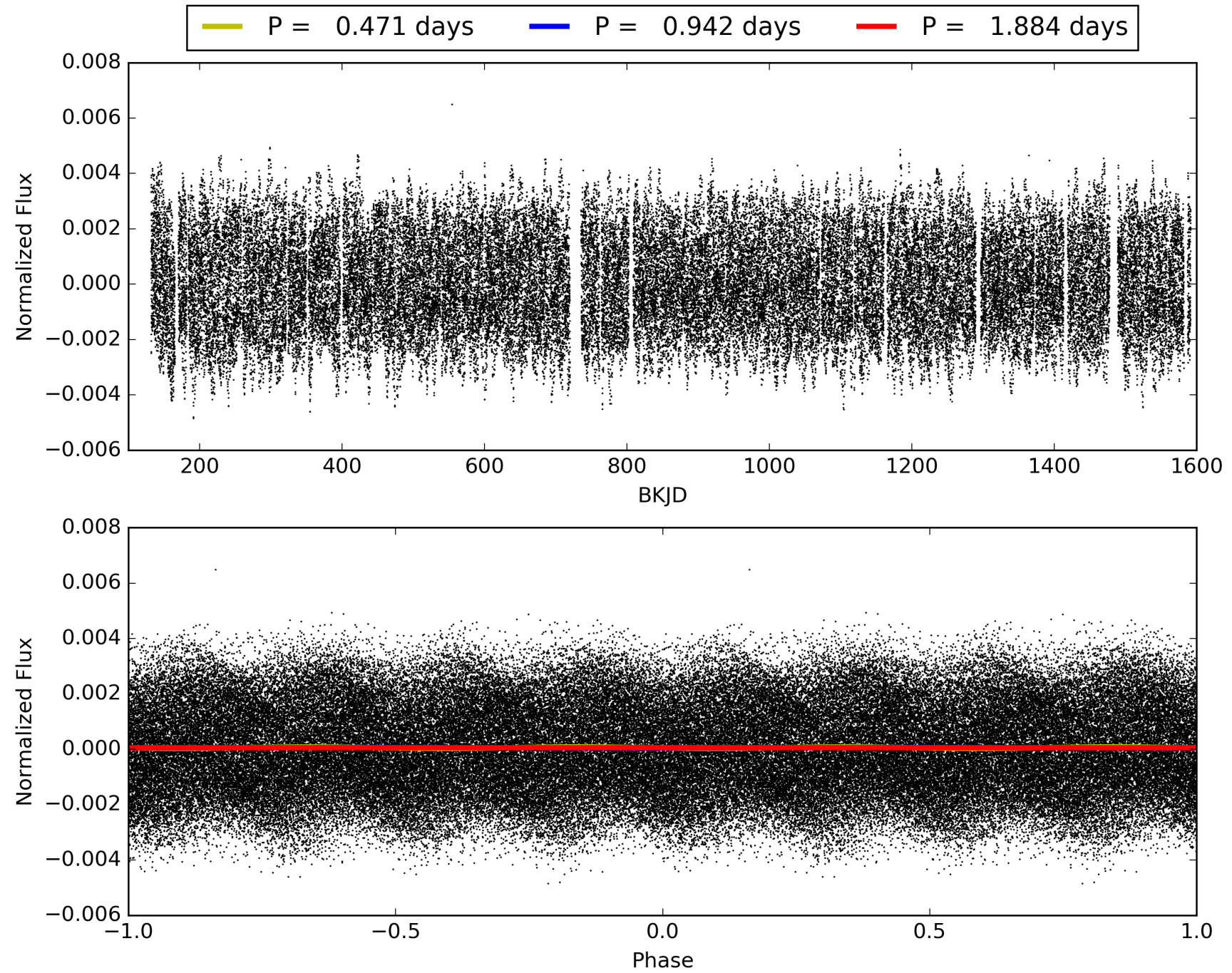
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:36:55 Z

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

TCE 010669515-01, PDC Light Curves

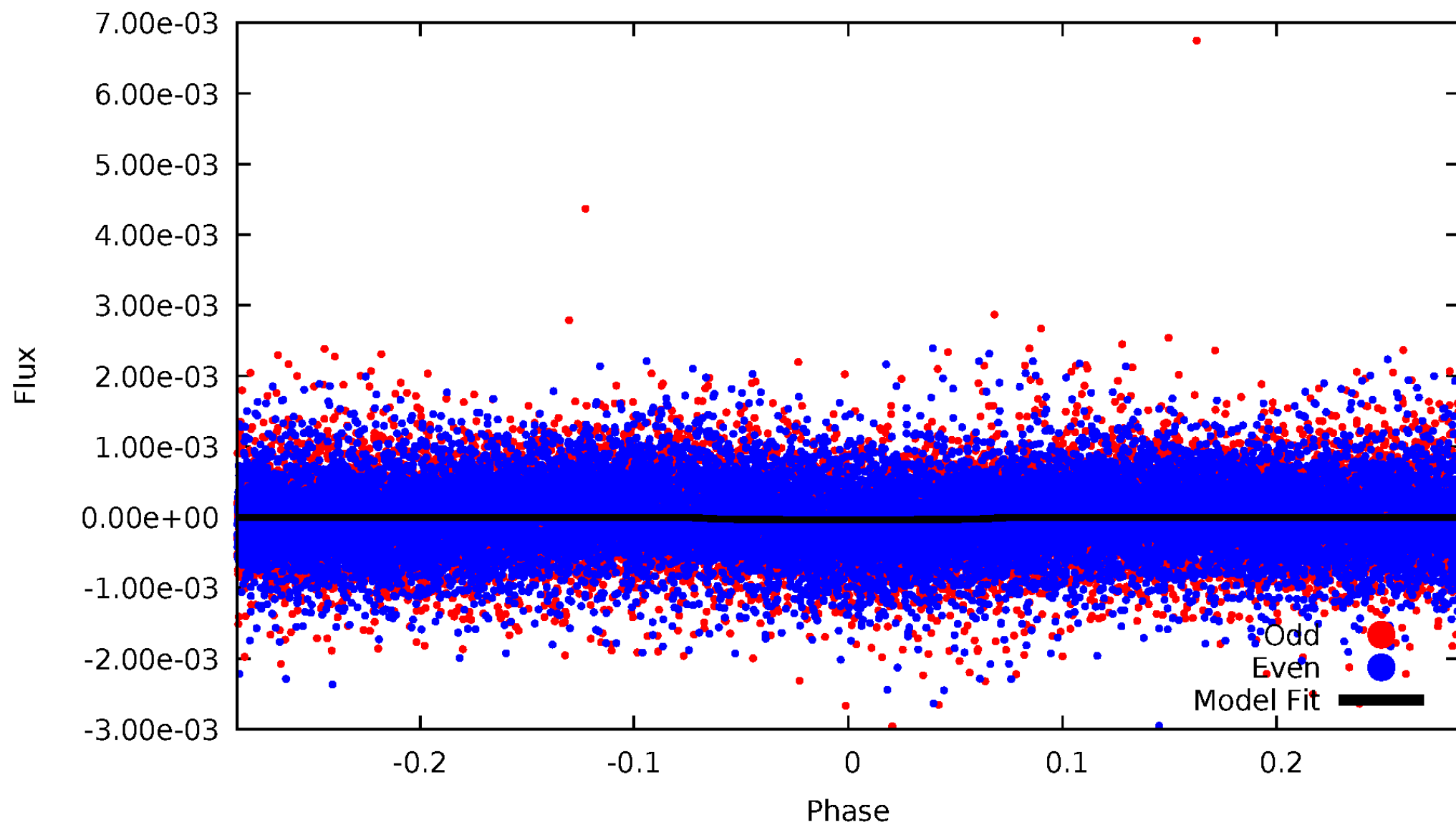


TCE 010669515-01



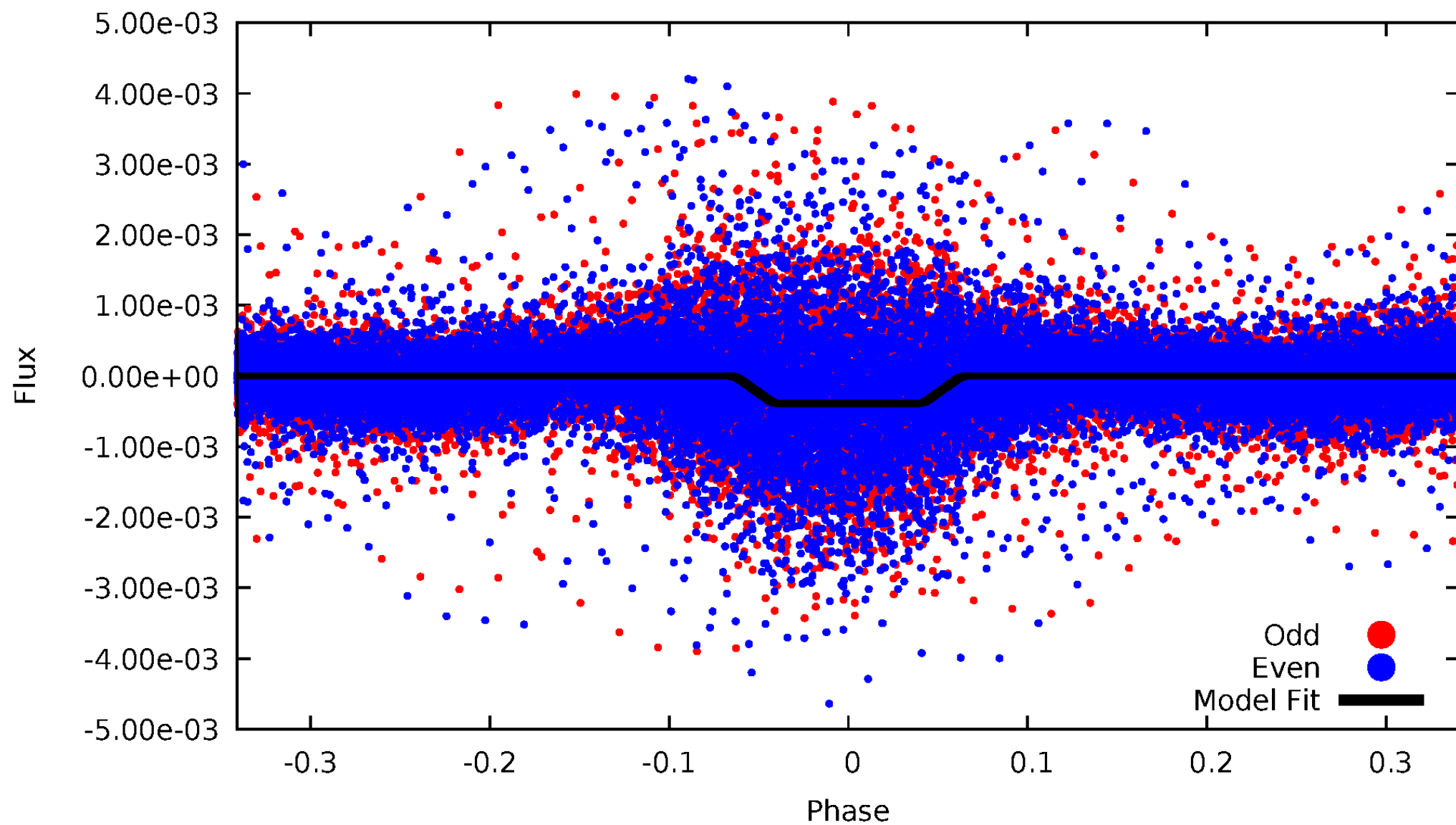
DV Odd/Even

TCE 010669515-01



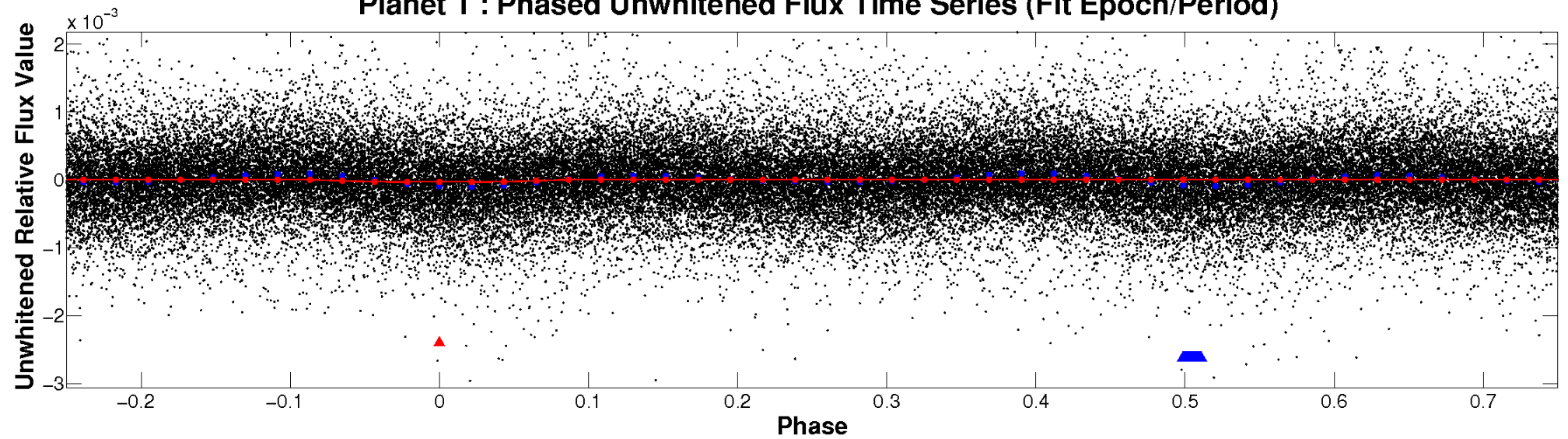
ALT Odd/Even

TCE 010669515-01

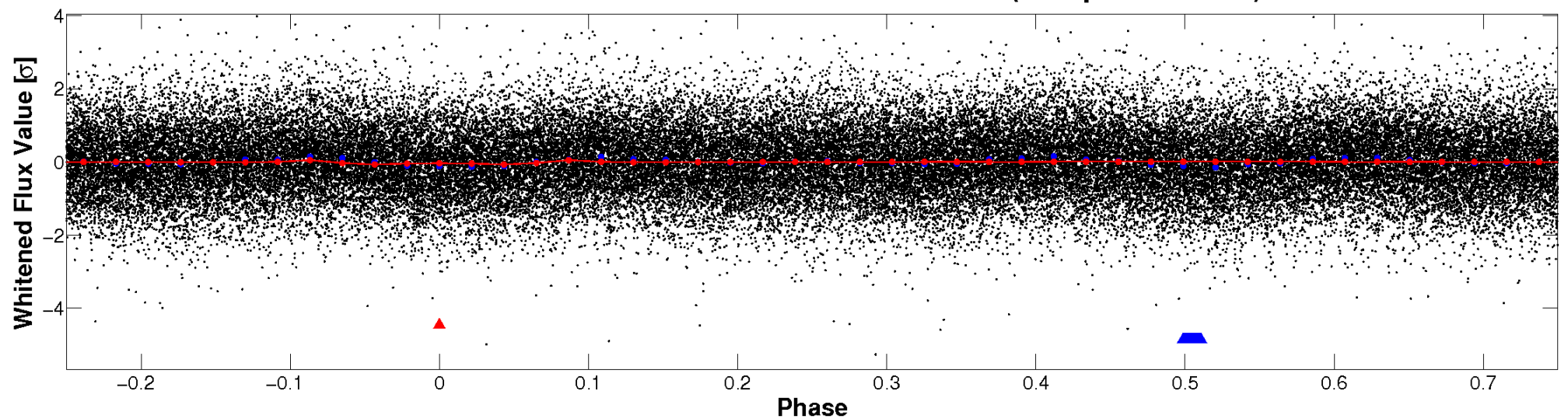


Non-Whitened Vs. Whitened Light Curve

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

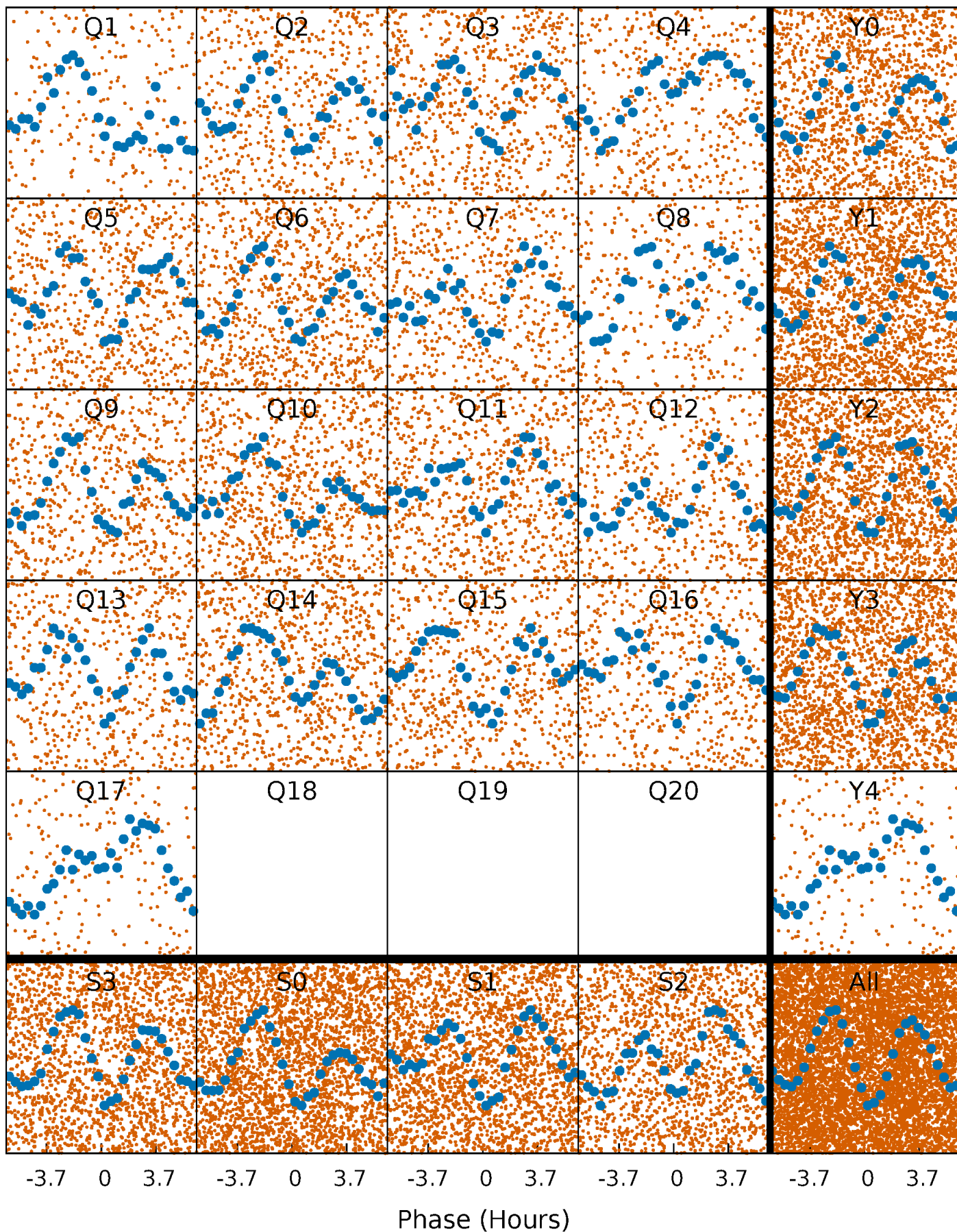


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



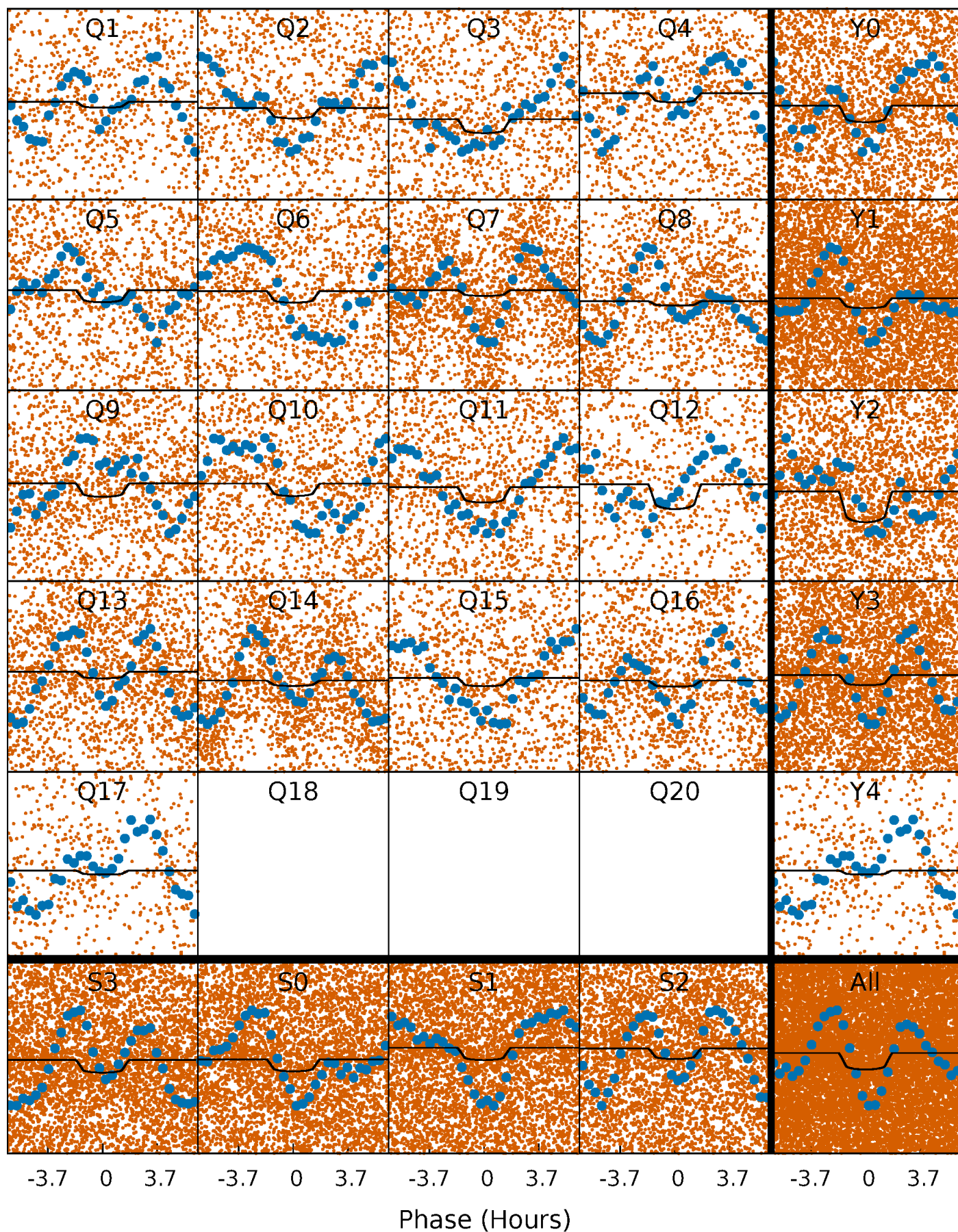
PDC Quarter-Phased Transit Curves

TCE 010669515-01 P= 0.942207 Days $T_0=132.043306$ (BKJD)



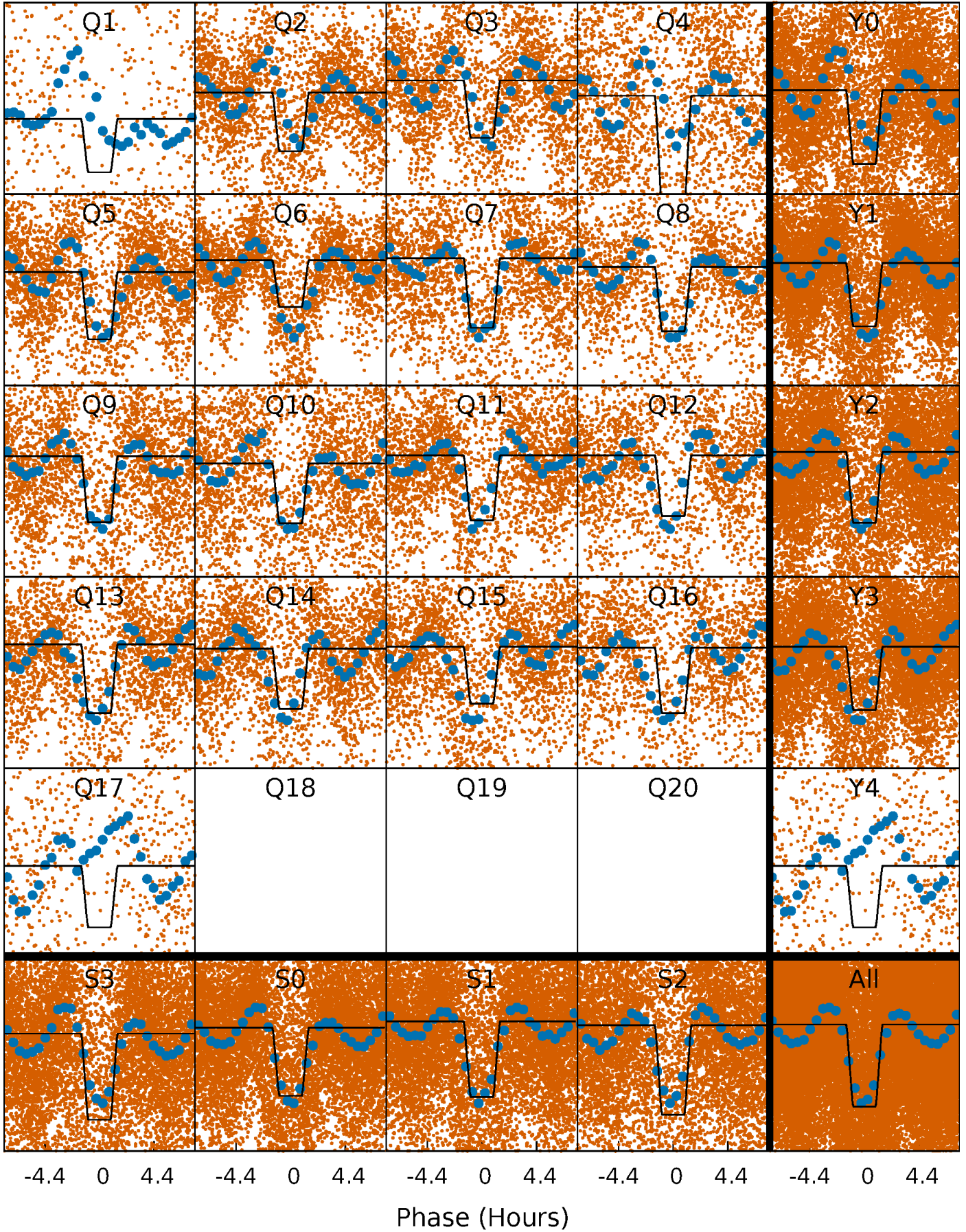
DV Quarter-Phased Transit Curves

TCE 010669515-01 P= 0.942207 Days $T_0=132.043306$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

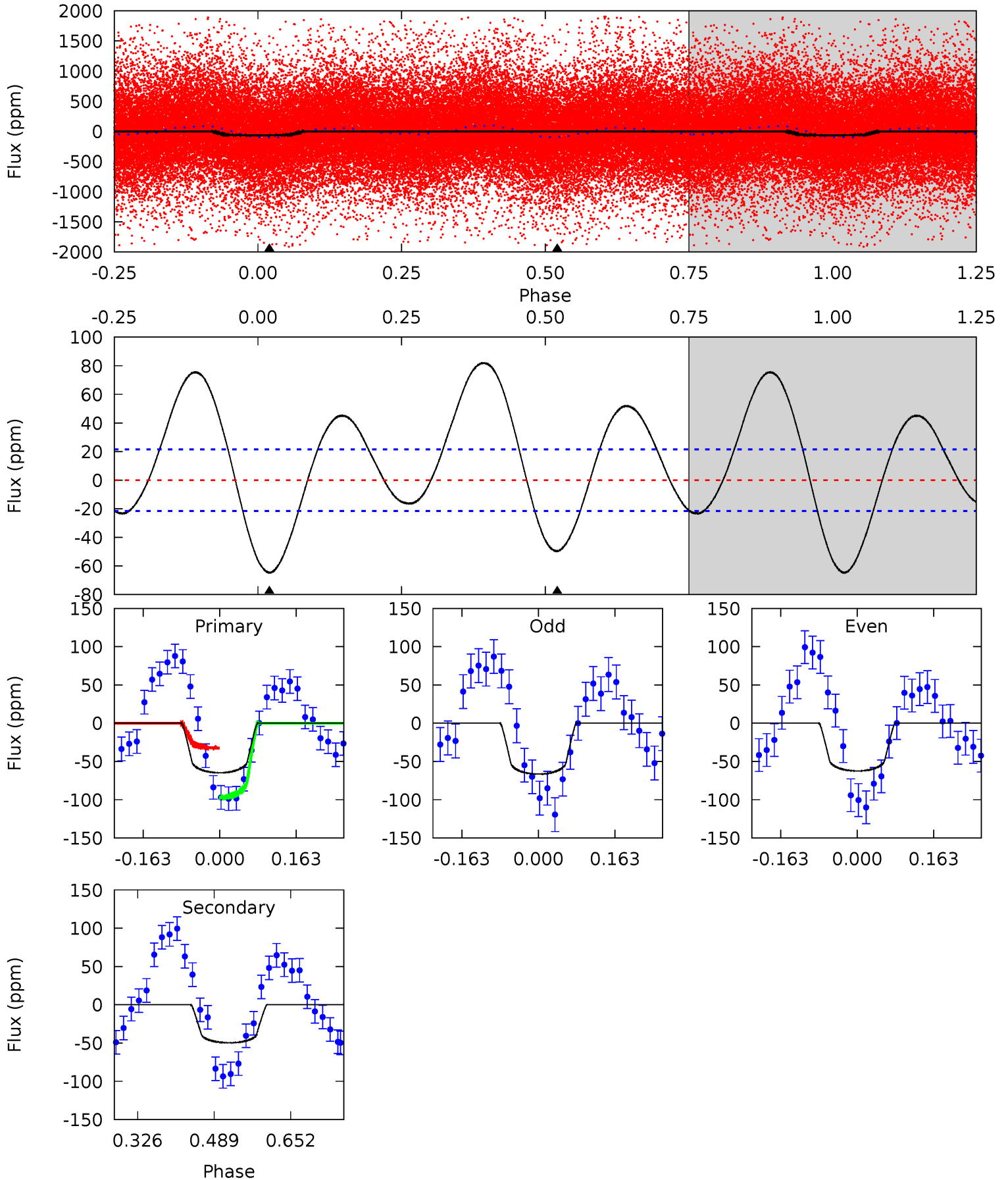
TCE 010669515-01 P= 0.942239 Days $T_0=132.041260$ (BKJD)



DV Model-Shift Uniqueness Test

010669515-01, P = 0.942207 Days, E = 131.101099 Days

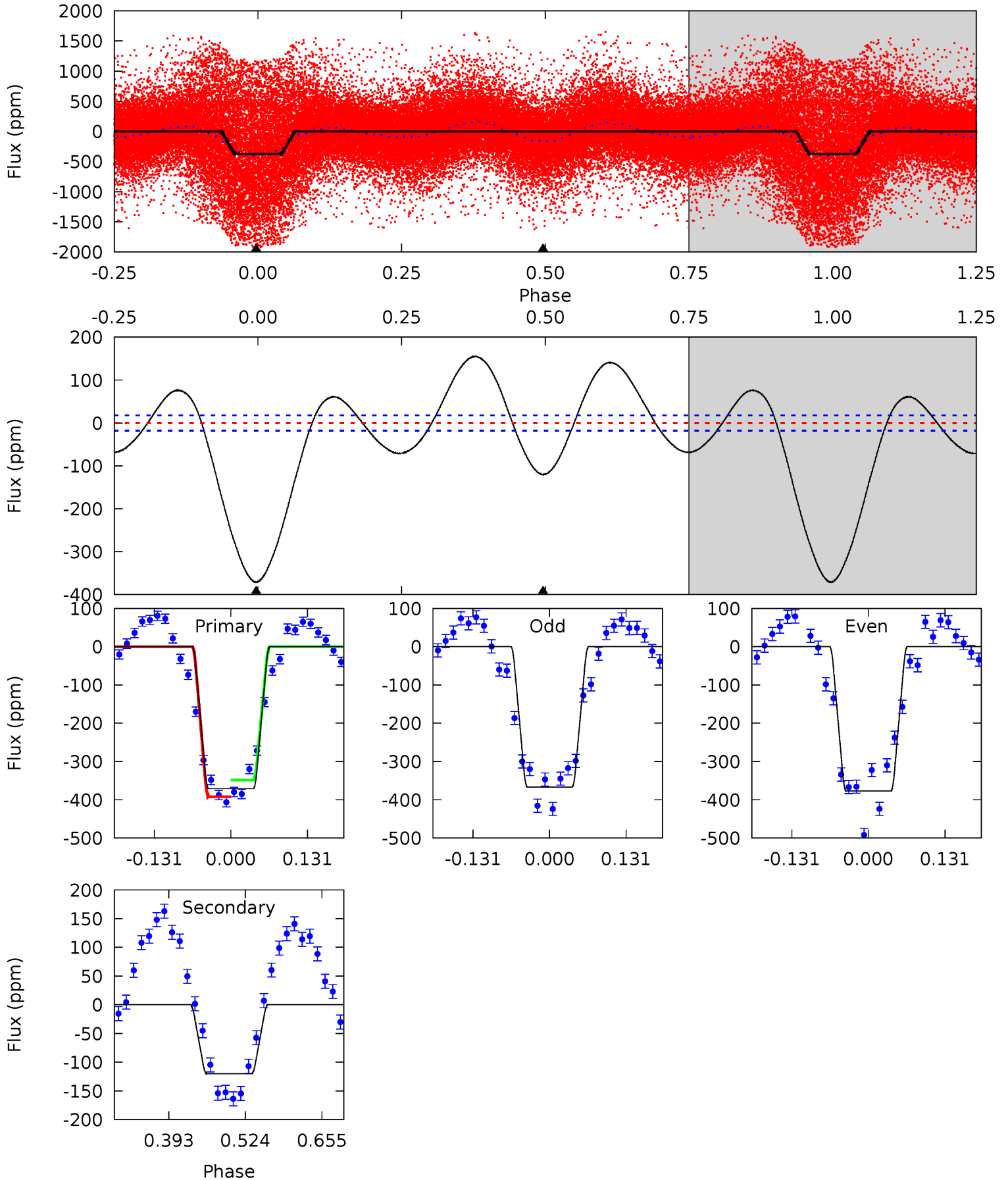
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.4	10.3	0	0	4.46	1.39	4.59	13.4	13.4	10.3	10.3	0.43	1.13	0.56	6.72



Alt Model-Shift Uniqueness Test

010669515-01, P = 0.942239 Days, E = 131.099021 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
93.5	30.3	0	0	4.51	1.51	15.5	93.5	93.5	30.3	30.3	1.35	0.98	0.29	5.53



Stellar Parameters For KIC 010669515

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7358^{+203}_{-330}	$4.054^{+0.170}_{-0.170}$	$0.020^{+0.200}_{-0.400}$	$2.001^{+0.533}_{-0.480}$	$1.653^{+0.187}_{-0.304}$	$0.291^{+0.277}_{-0.144}$
	+3%/-4%	+4%/-4%	+1000%/-2000%	+27%/-24%	+11%/-18%	+95%/-49%
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 010669515-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-50 ± 5	$1.32^{+0.43}_{-0.35}$	4289^{+313}_{-323}	7802^{+1839}_{-1056}	$7.601^{+6.786}_{-3.227}$
Alt.	-120 ± 4	$4.29^{+0.73}_{-0.62}$	4294^{+289}_{-314}	5199^{+286}_{-278}	$1.735^{+0.650}_{-0.425}$

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

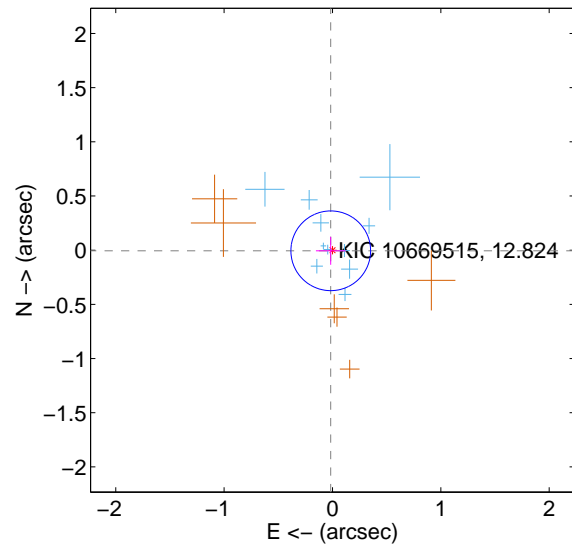
Supplemental centroid analysis for 010669515-01. Kepler magnitude: 12.82. Transit SNR 6.12

There are 11 quarters with good PRF difference image offsets

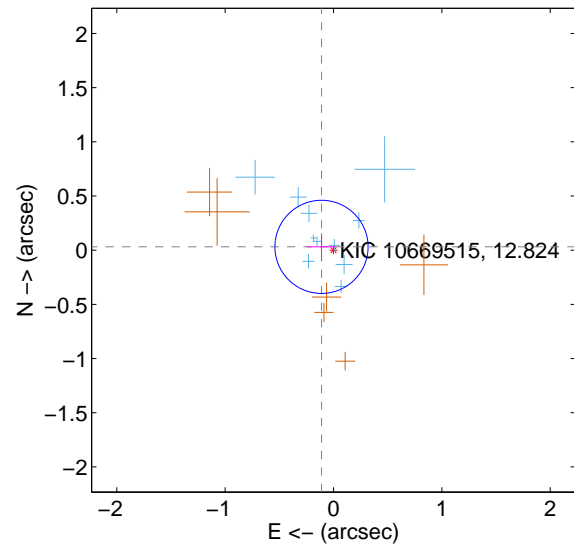
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.017 ± 0.123	0.14	0.016 ± 0.137	-0.006 ± 0.129
PRF-fit source offset from KIC position	0.115 ± 0.143	0.80	0.111 ± 0.135	0.031 ± 0.124
photometric centroid source offset	0.72 ± 0.38	1.89	0.05 ± 0.39	0.72 ± 0.38

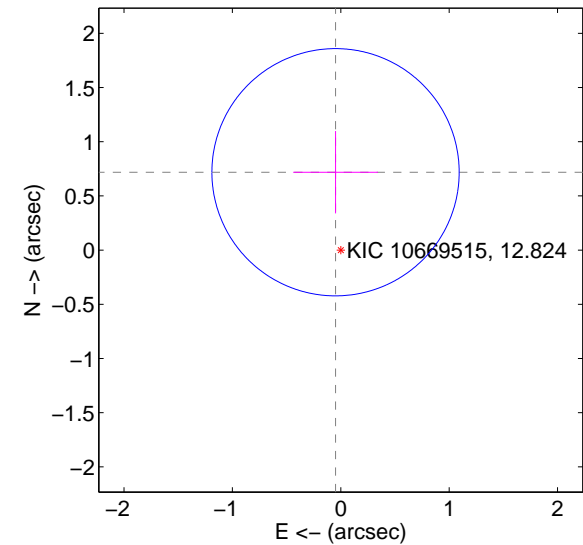
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

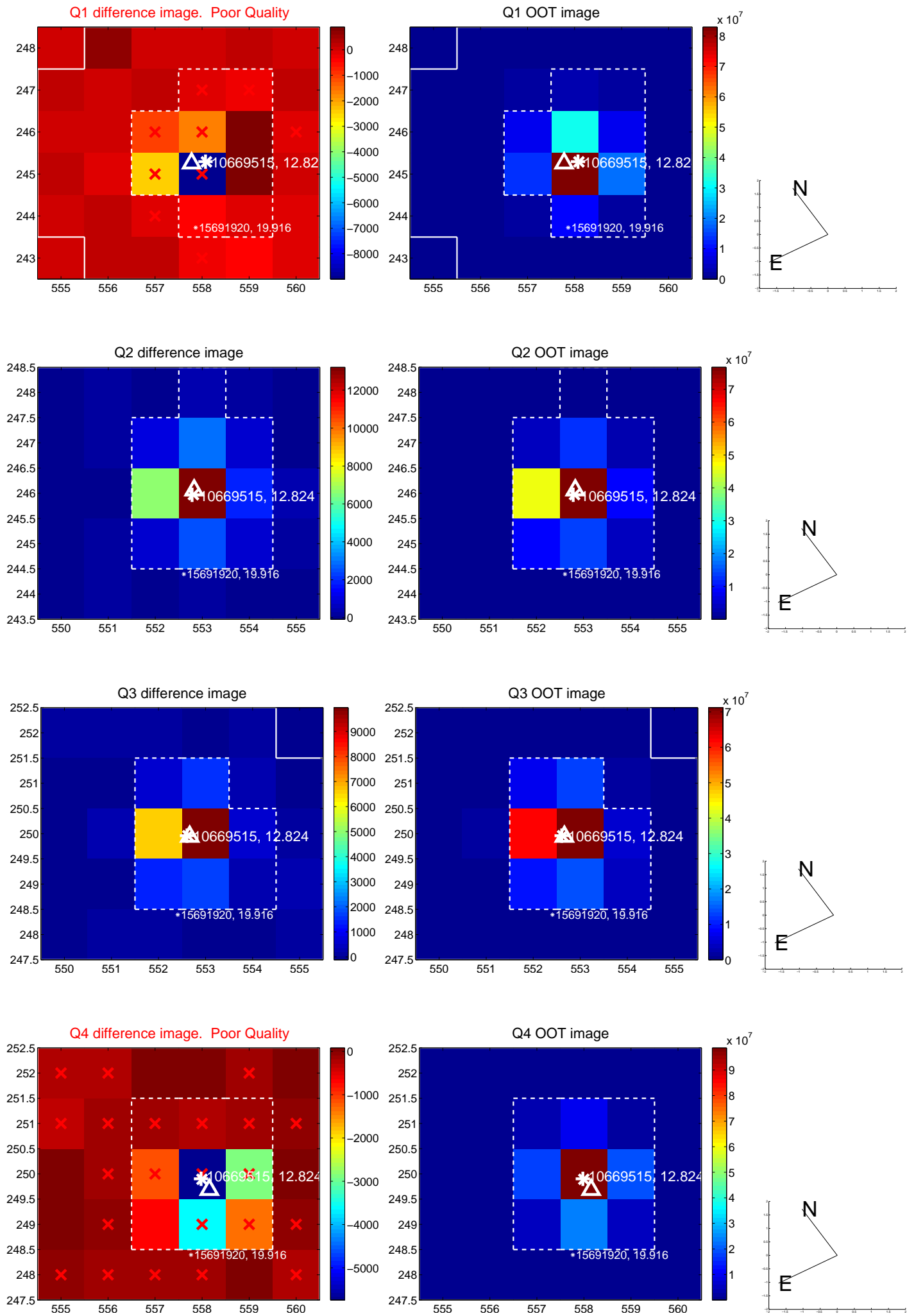


offset from photometric centroids

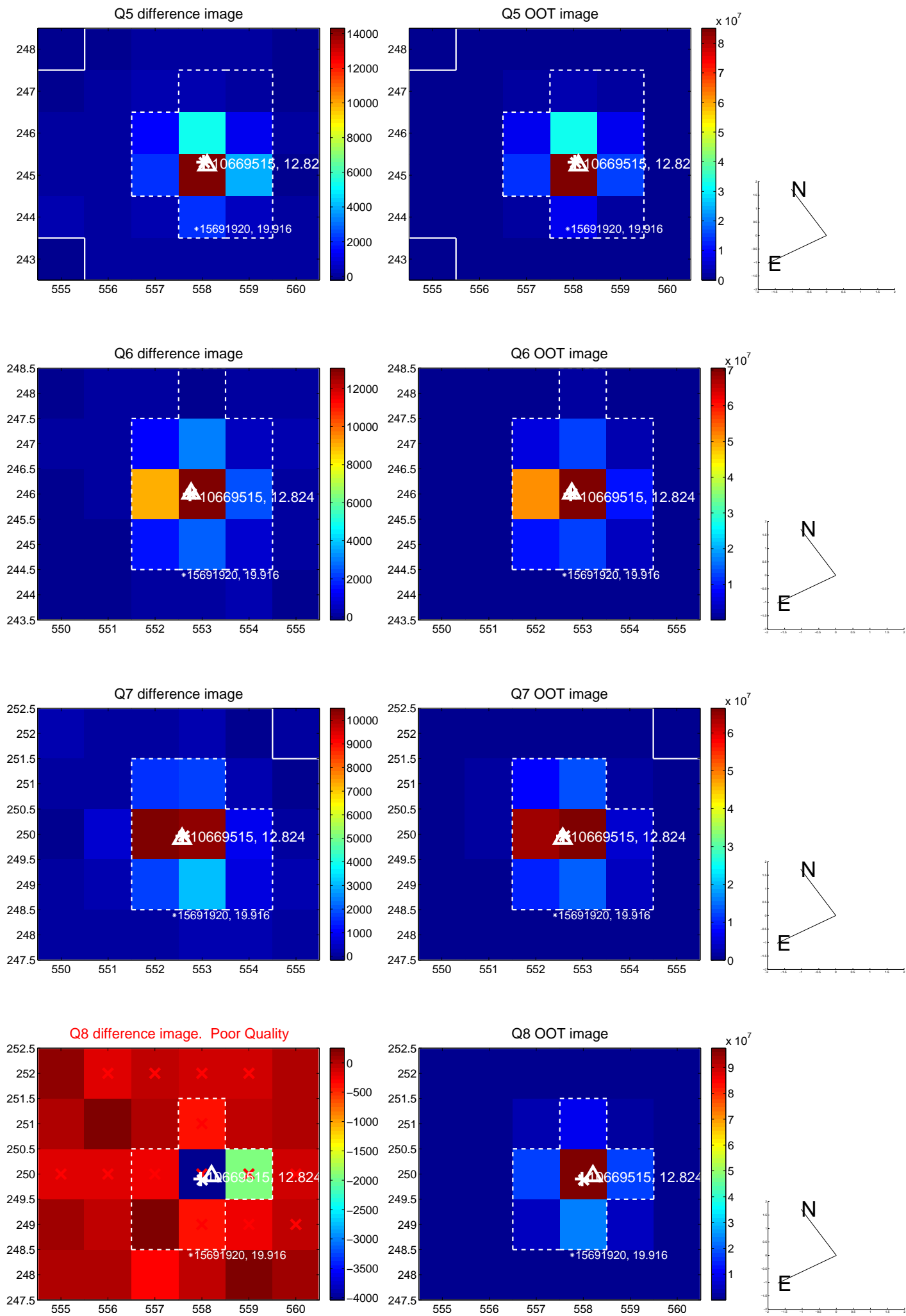


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

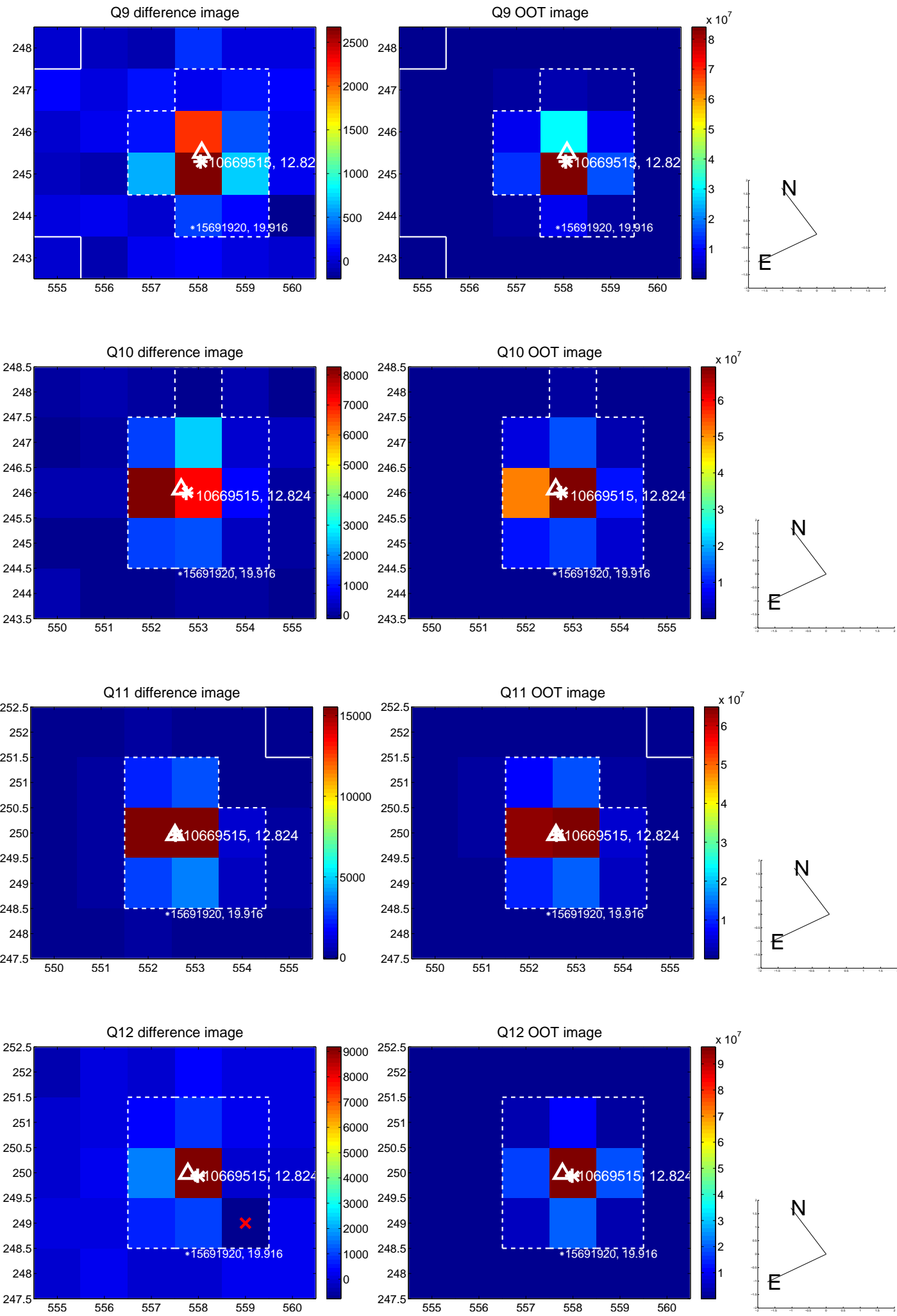
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



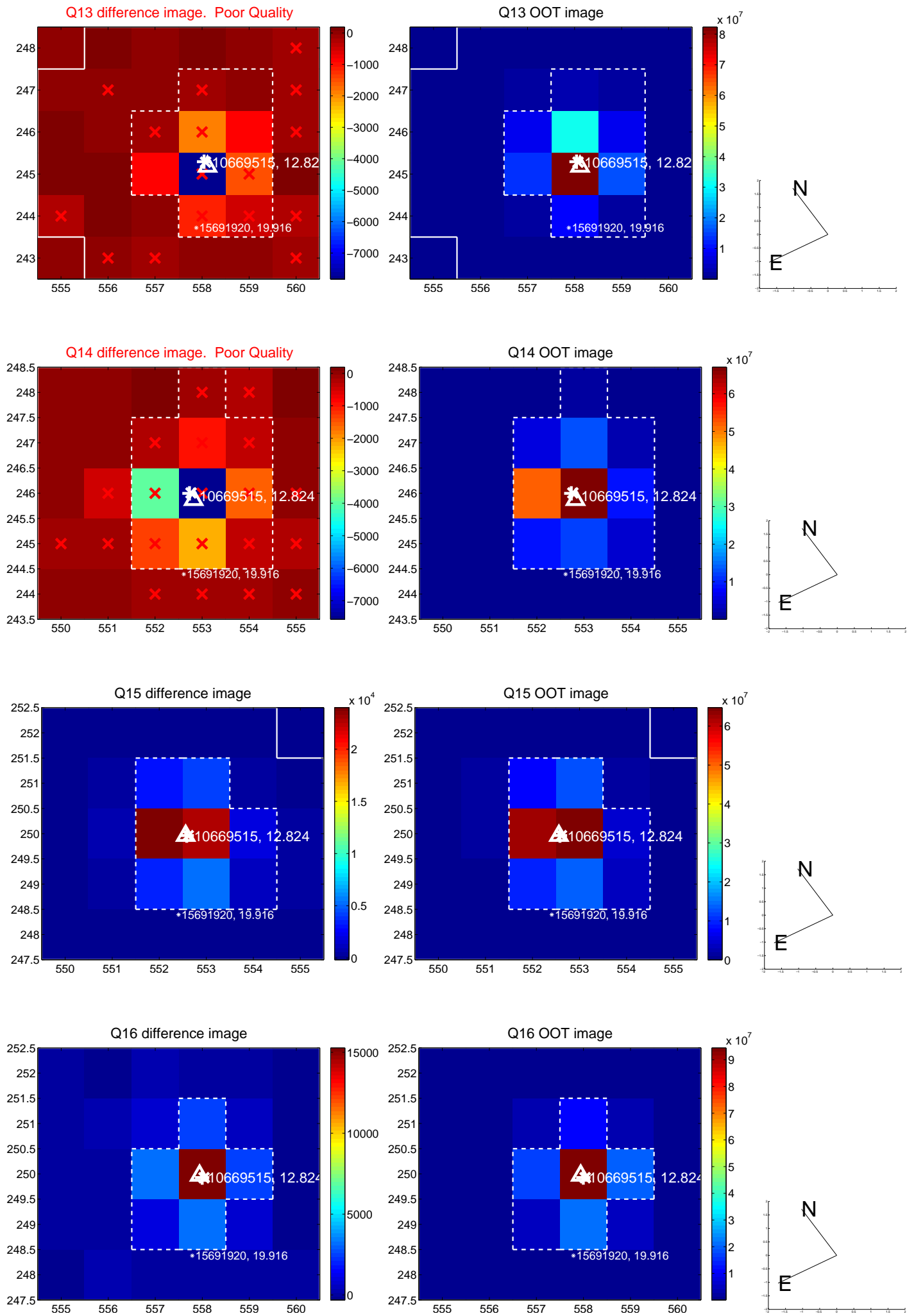
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



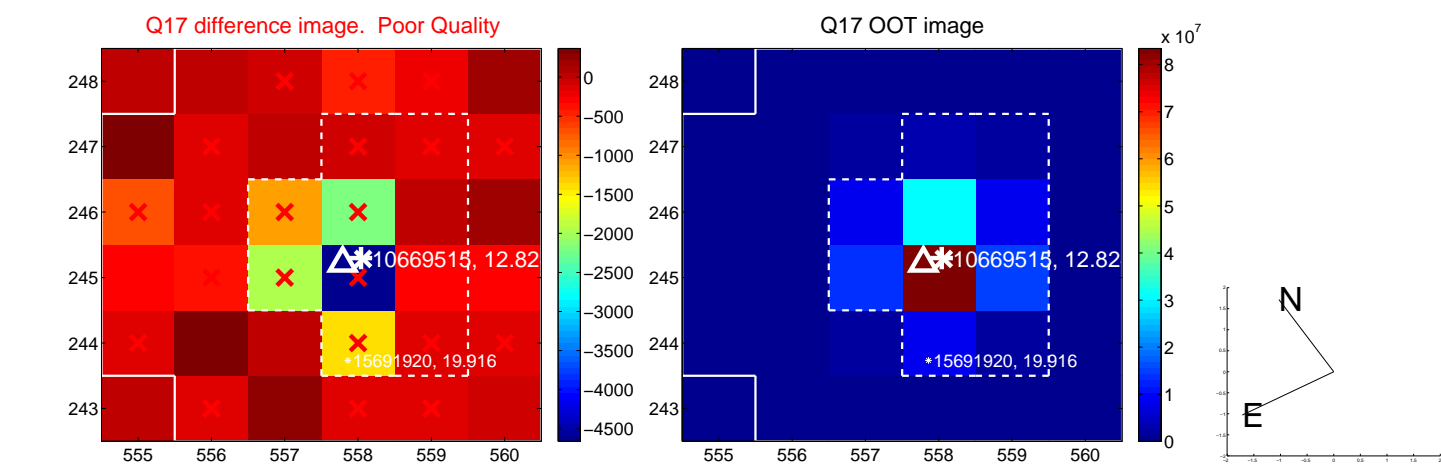
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



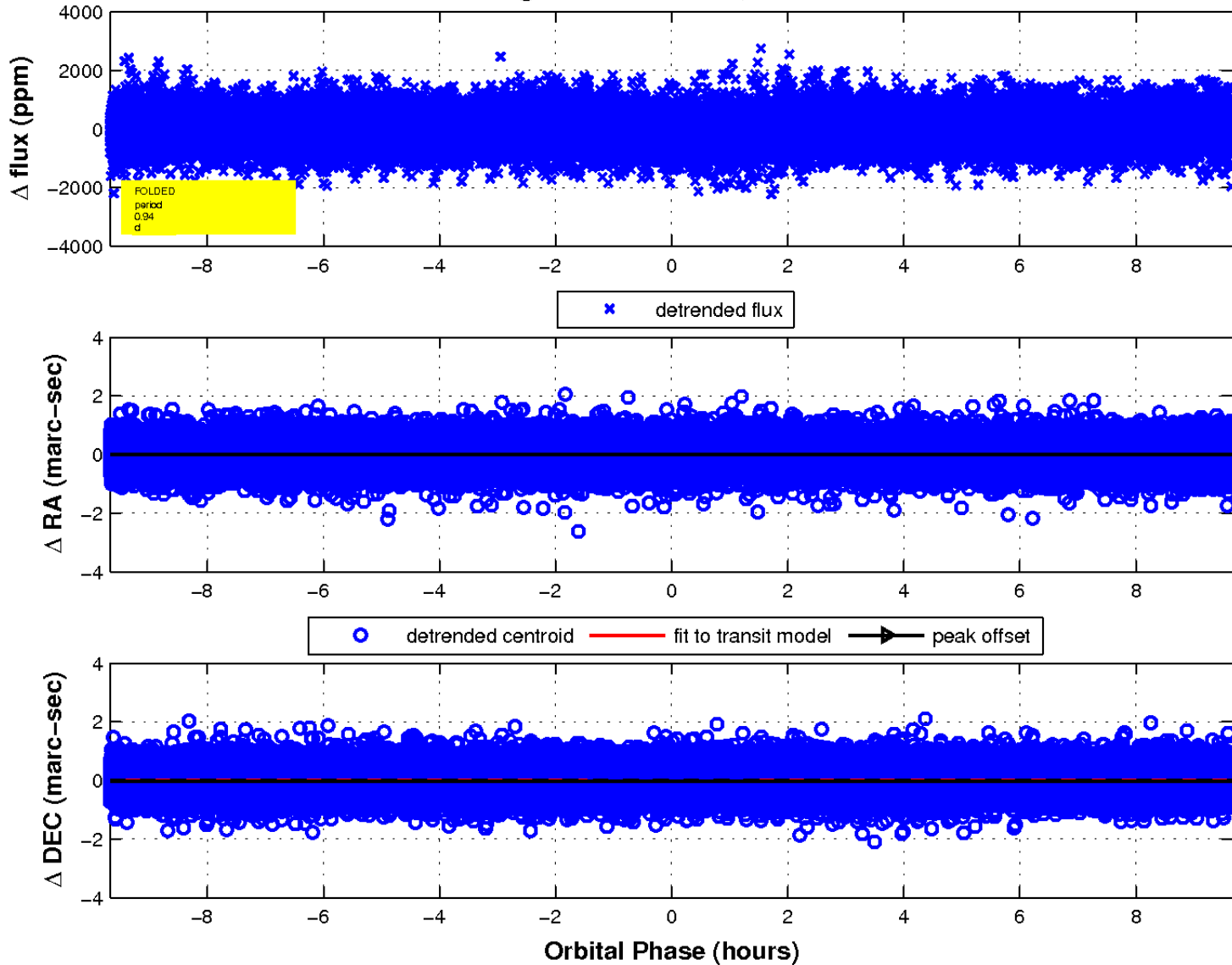
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



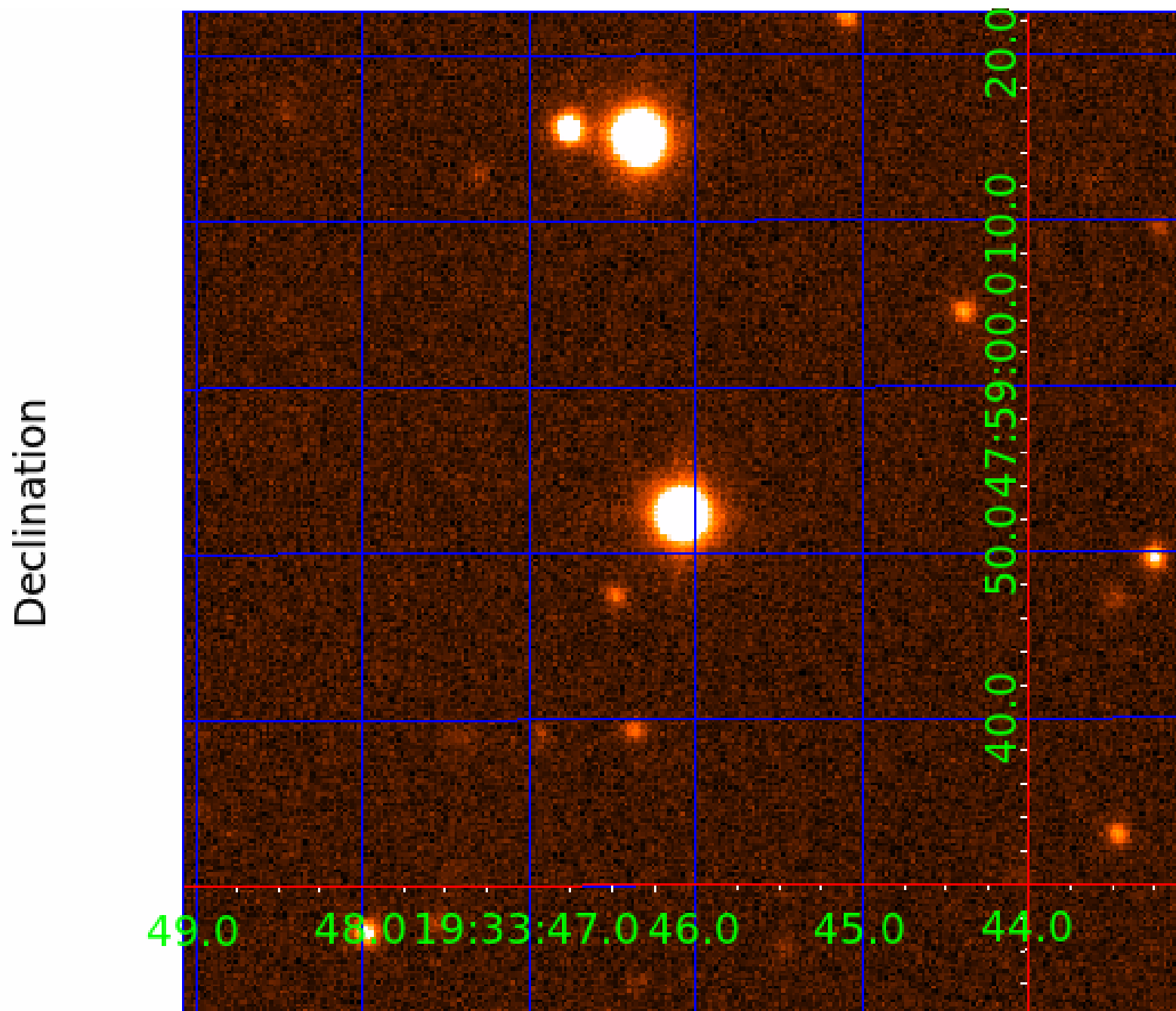
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 2



UKIRT Image



KIC 010669515

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})
010669515-01	OBS	No	0.942207	132.043306	33.8	3.225	10.2	6.1	2.00	7358	1.35	21244.02
010669515-02	OBS	No	0.942214	131.570974	34.6	3.259	9.6	6.3	2.00	7358	1.36	21243.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010669515-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
010669515-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—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.

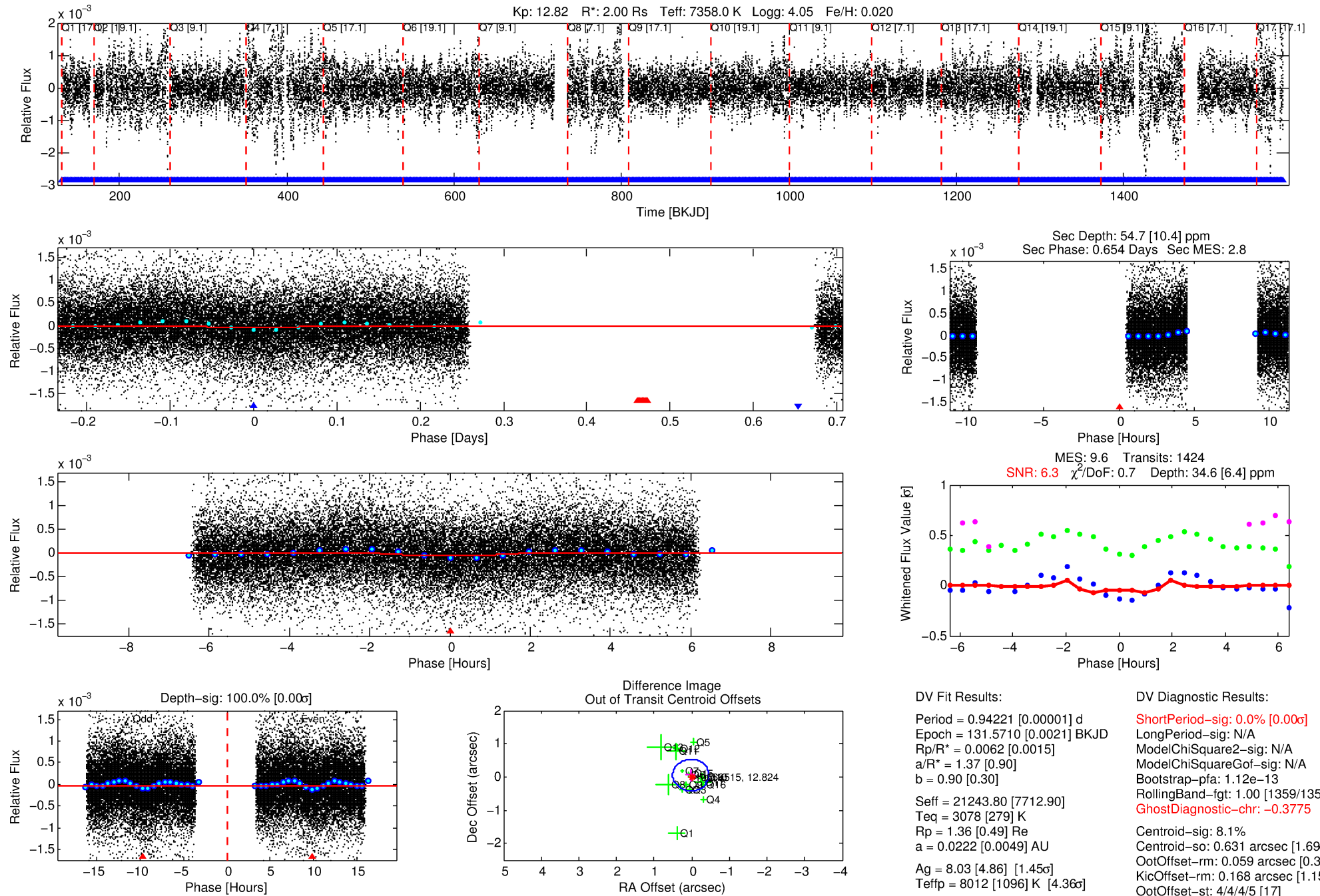
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010669515-02

No Significant Match Found

DV One-Page Summary

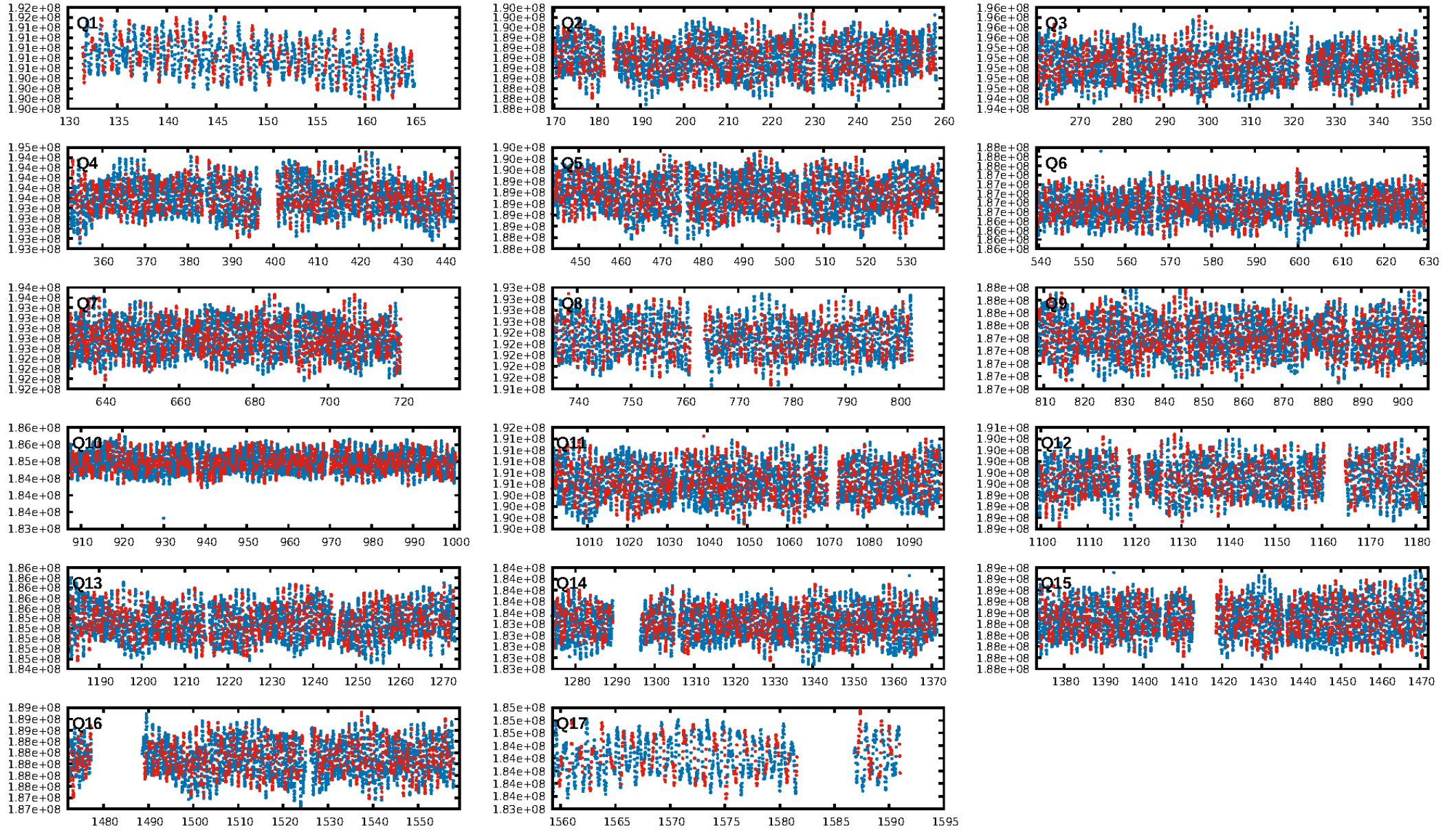
KIC: 10669515 Candidate: 2 of 2 Period: 0.942 d



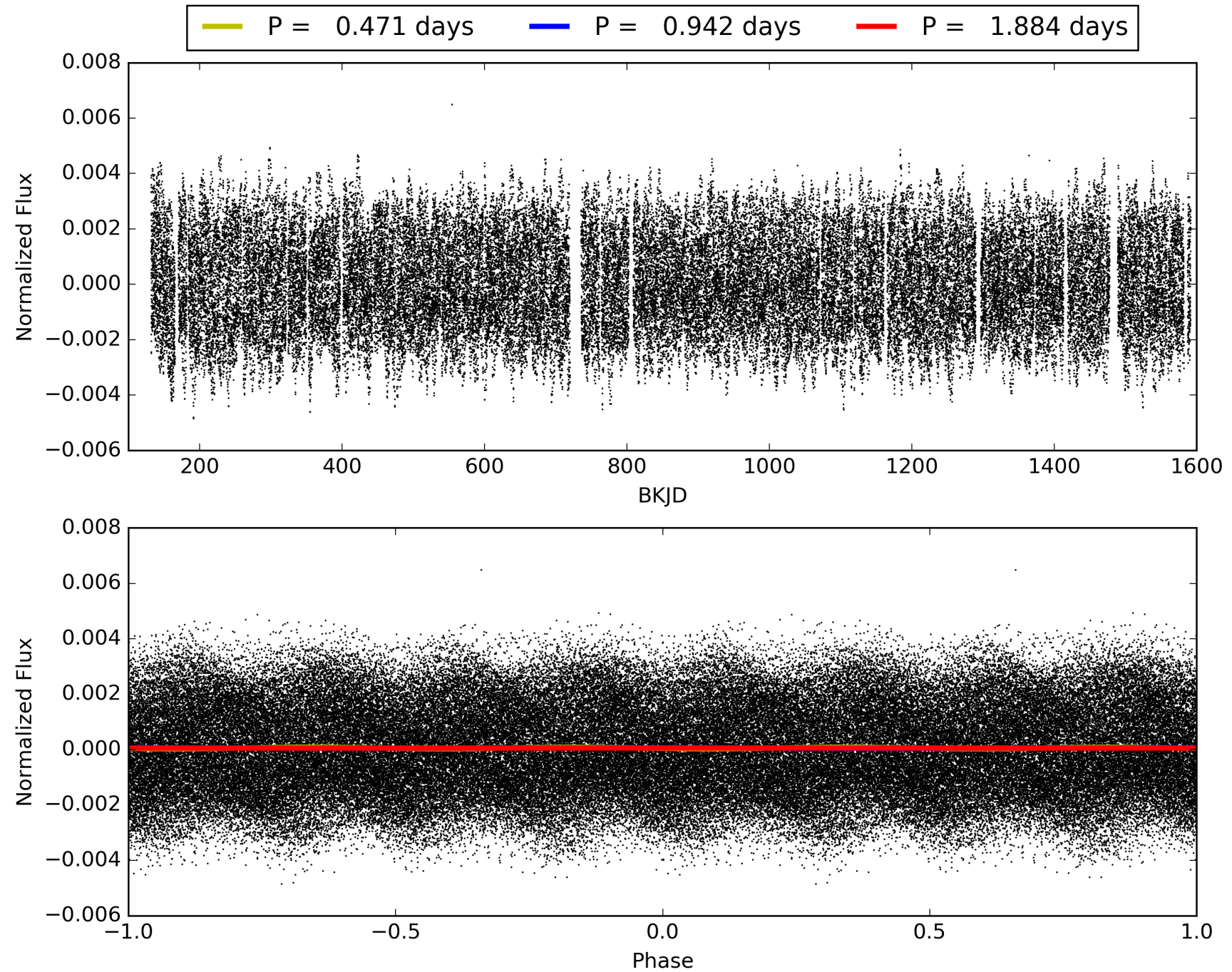
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:37:07 Z

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

TCE 010669515-02, PDC Light Curves

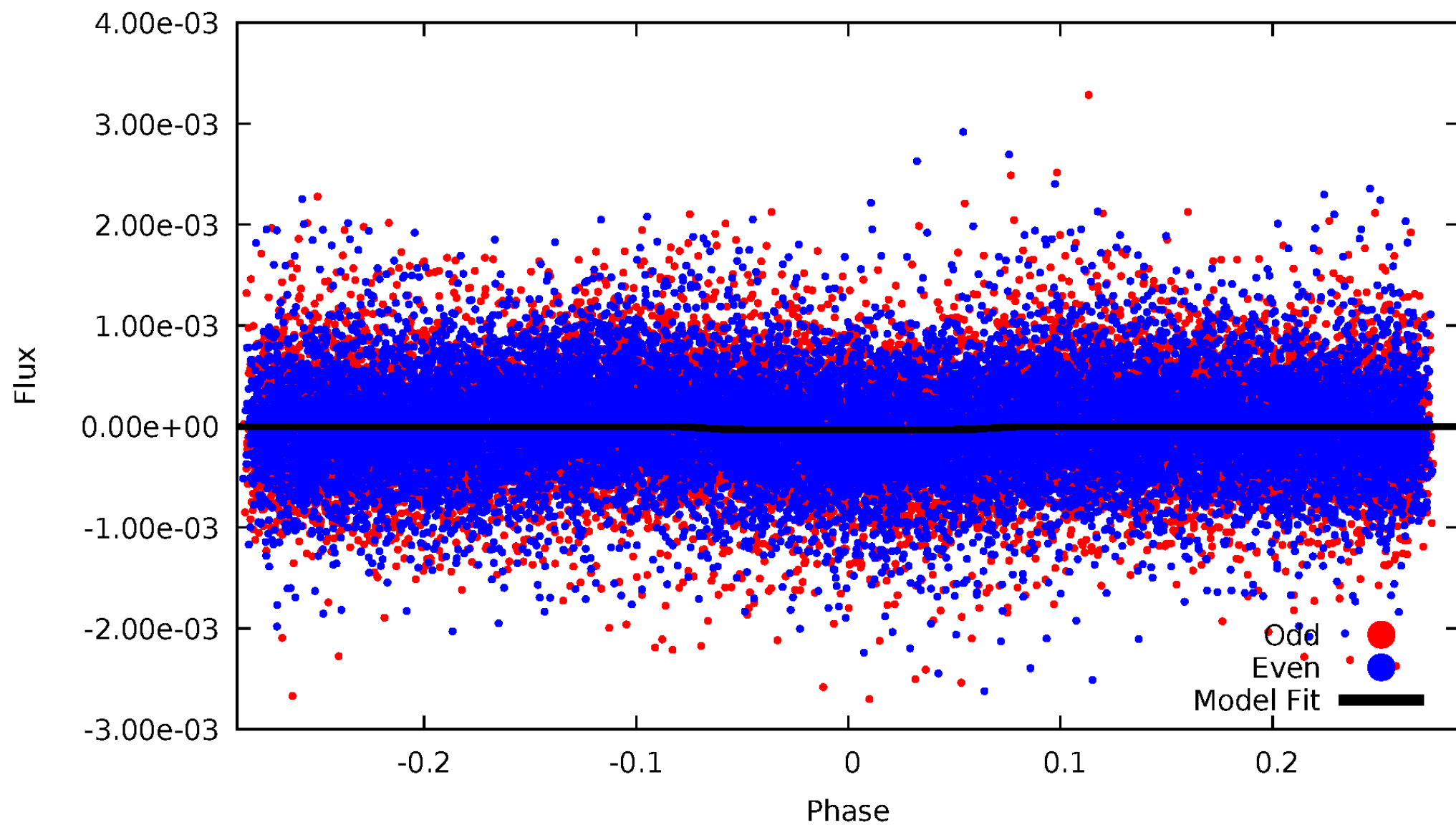


TCE 010669515-02



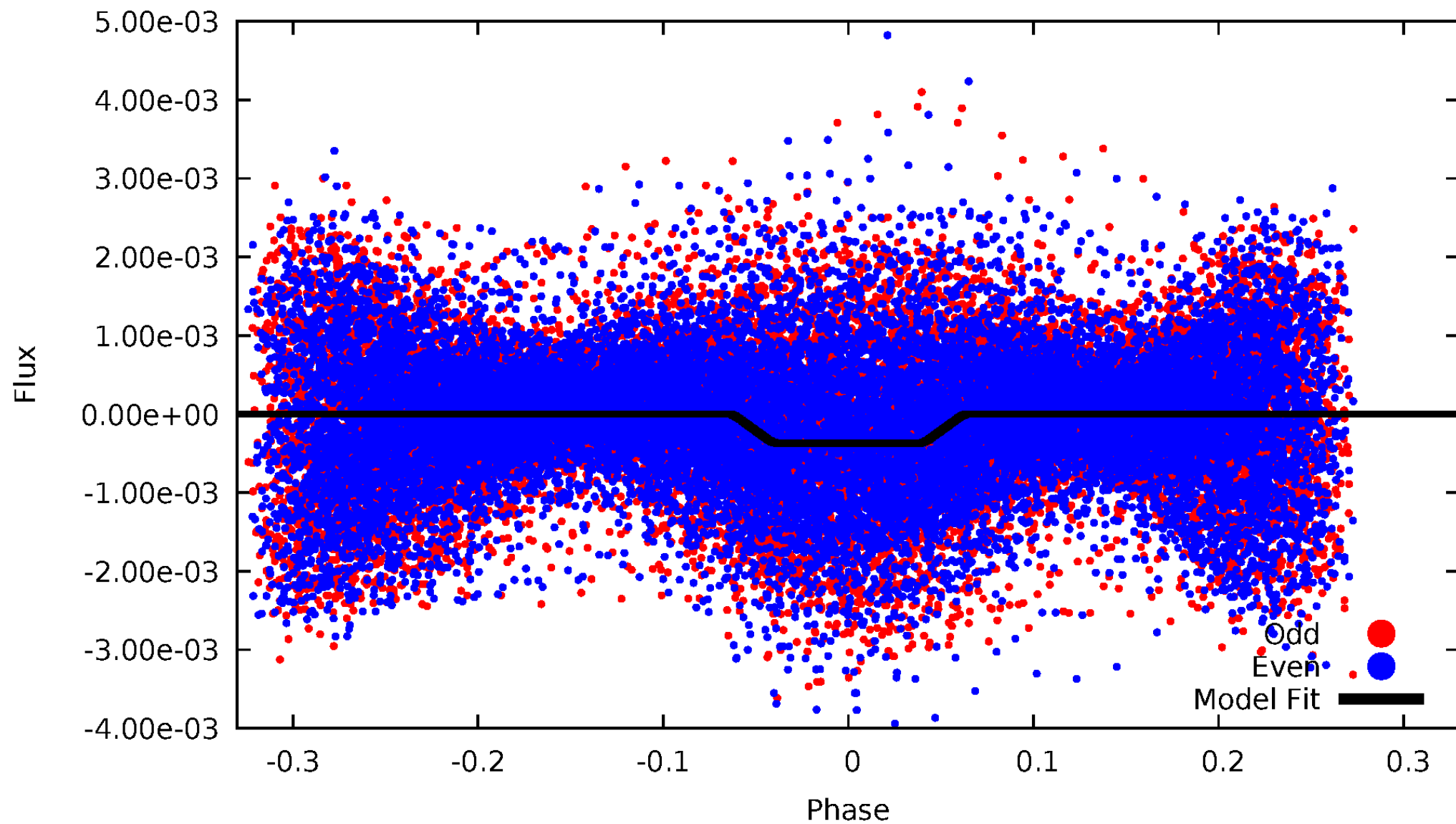
DV Odd/Even

TCE 010669515-02



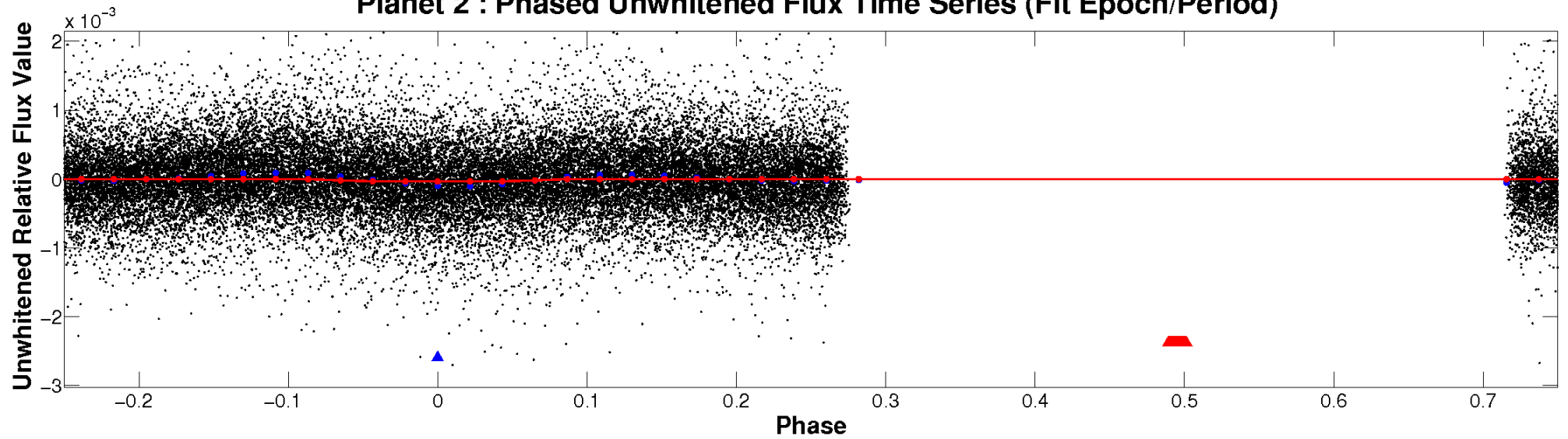
ALT Odd/Even

TCE 010669515-02

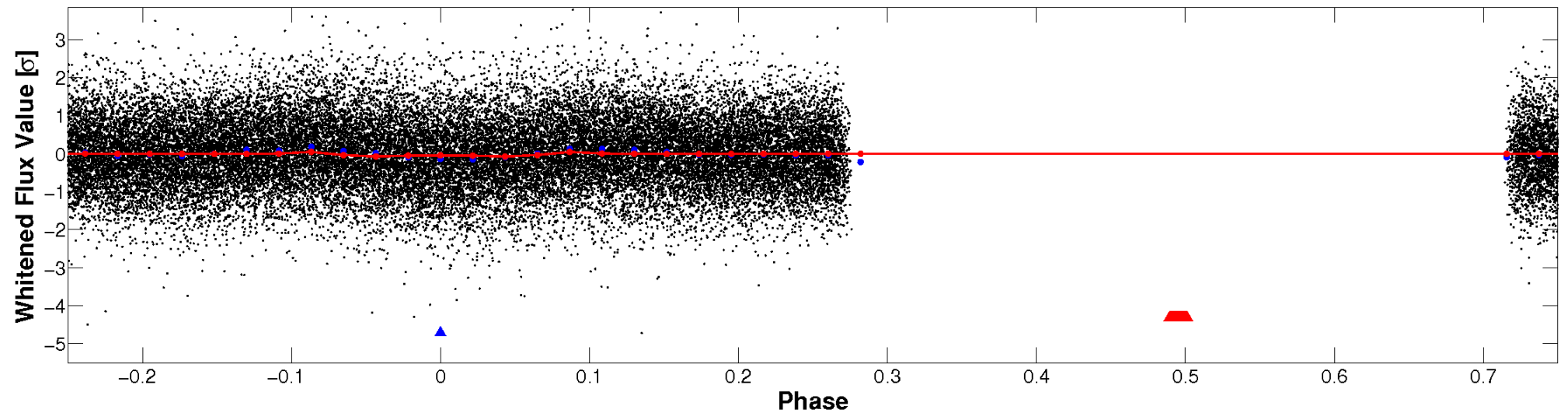


Non-Whitened Vs. Whitened Light Curve

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

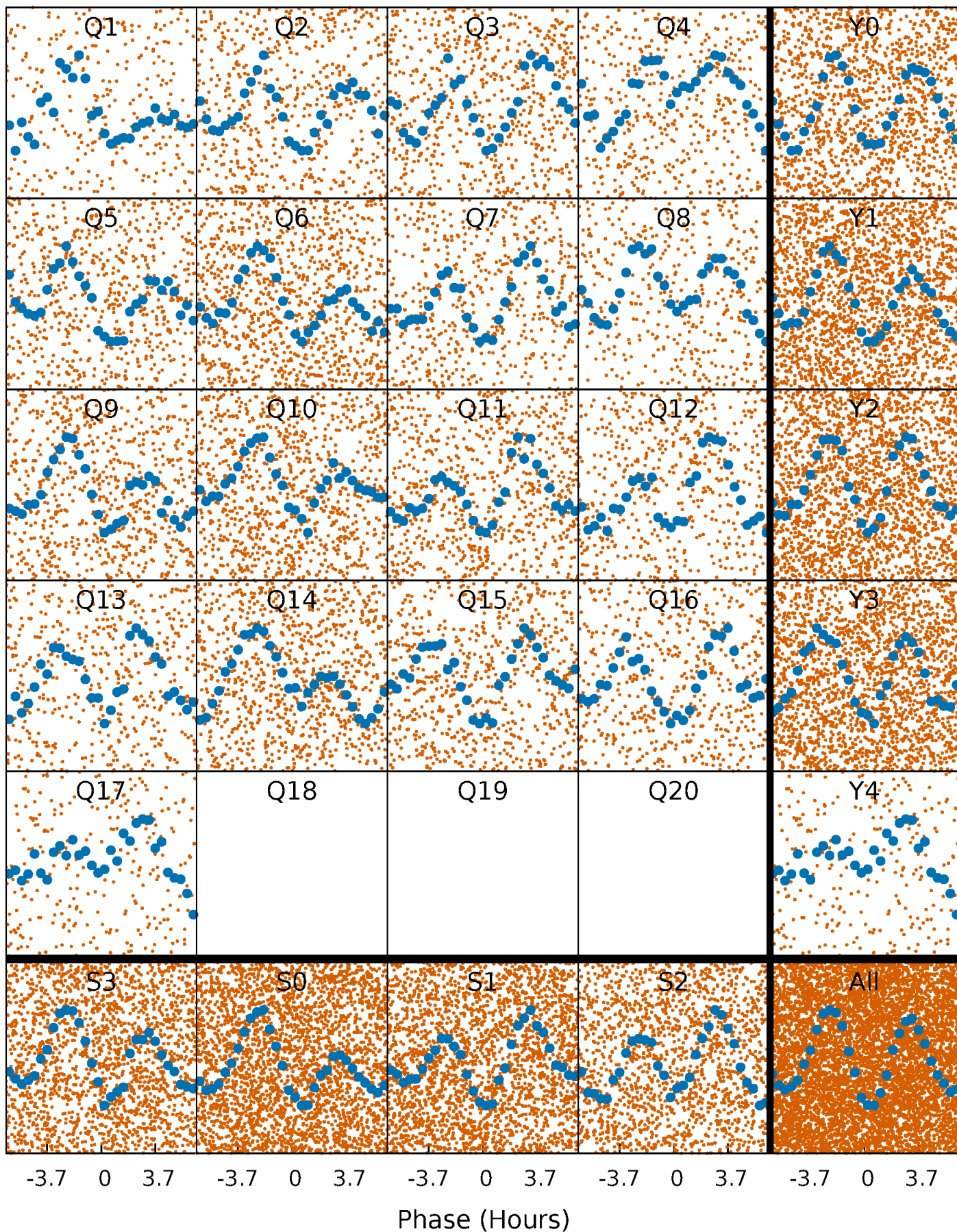


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



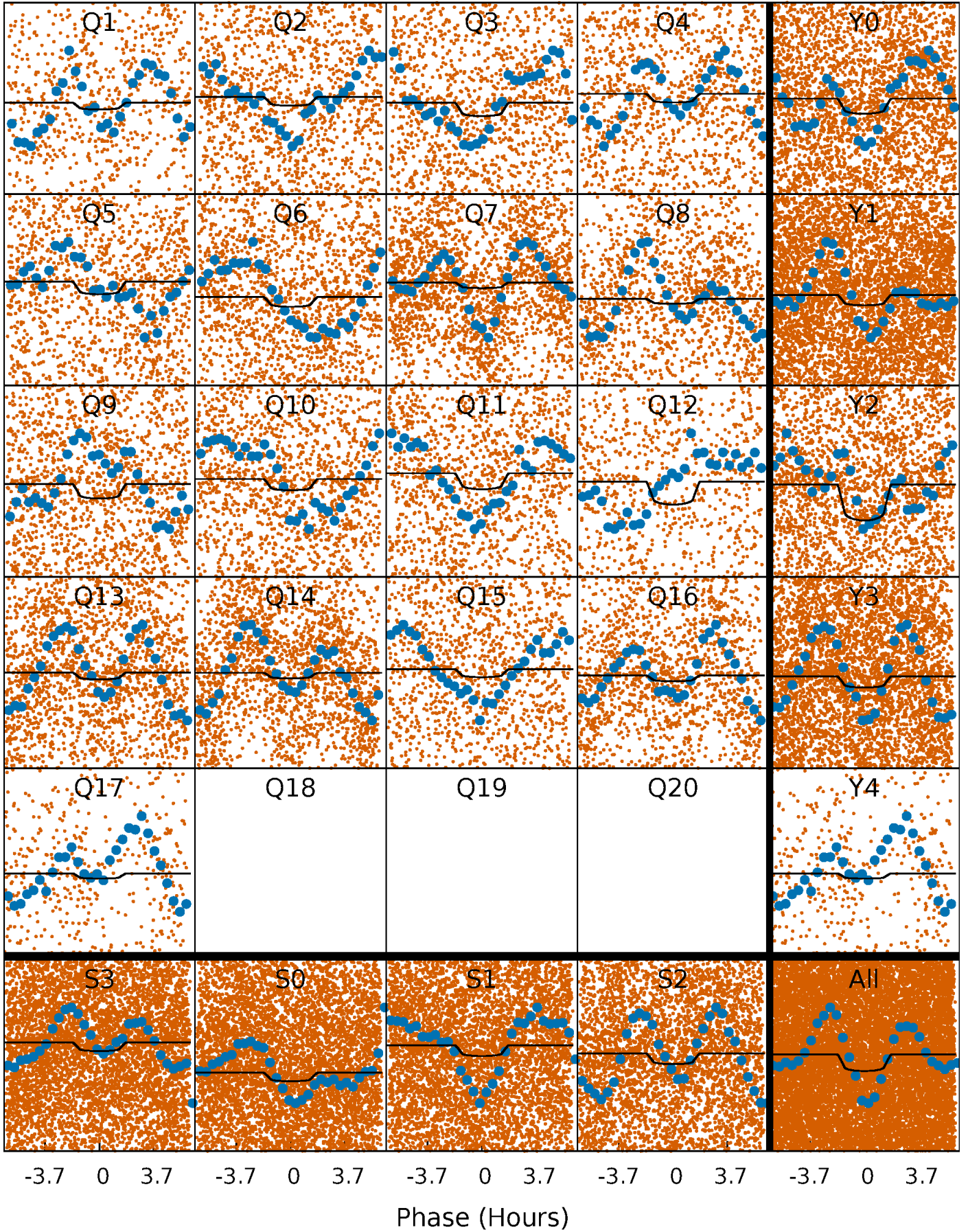
PDC Quarter-Phased Transit Curves

TCE 010669515-02 P= 0.942214 Days $T_0=131.570974$ (BKJD)



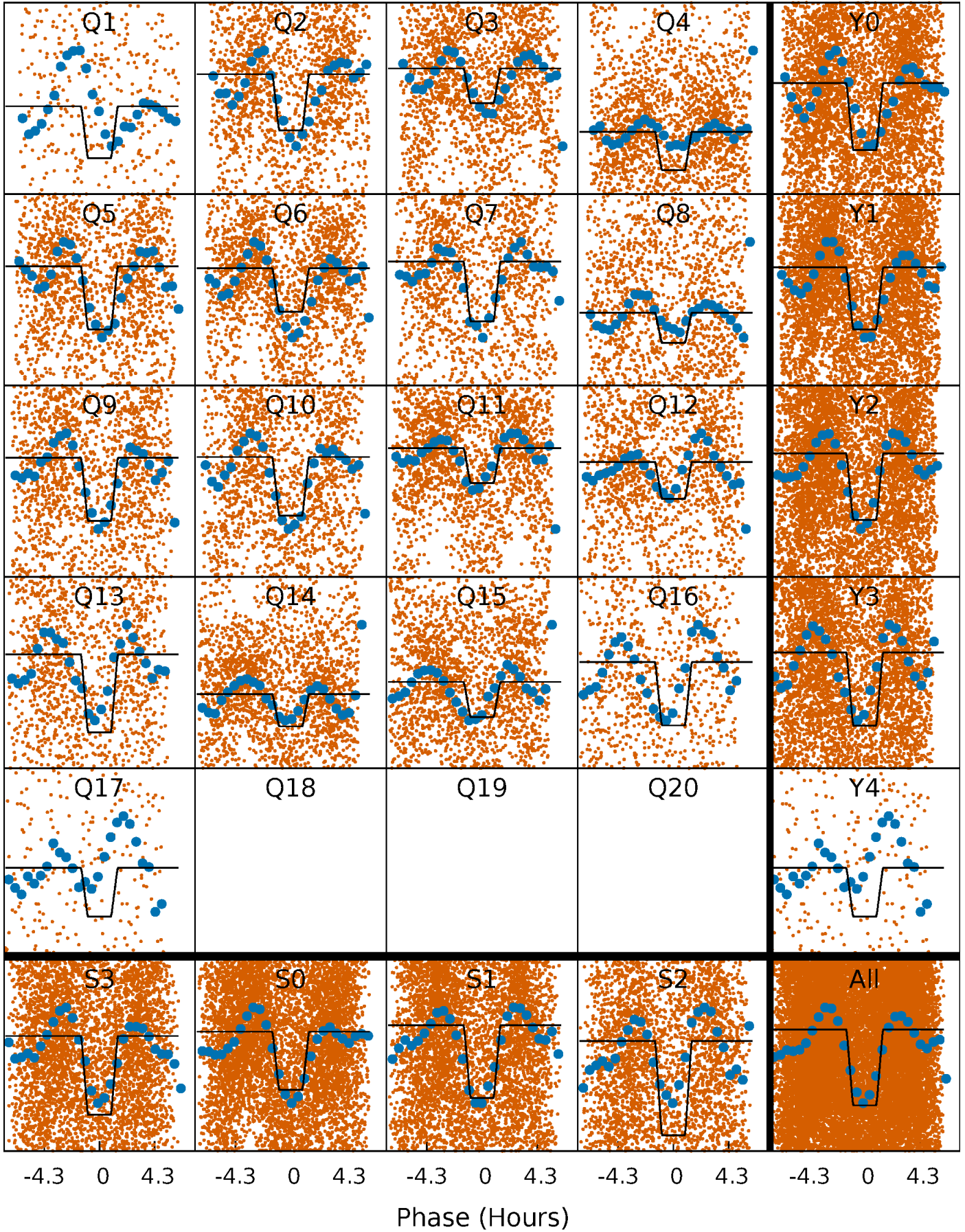
DV Quarter-Phased Transit Curves

TCE 010669515-02 $P = 0.942214$ Days $T_0 = 131.570974$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

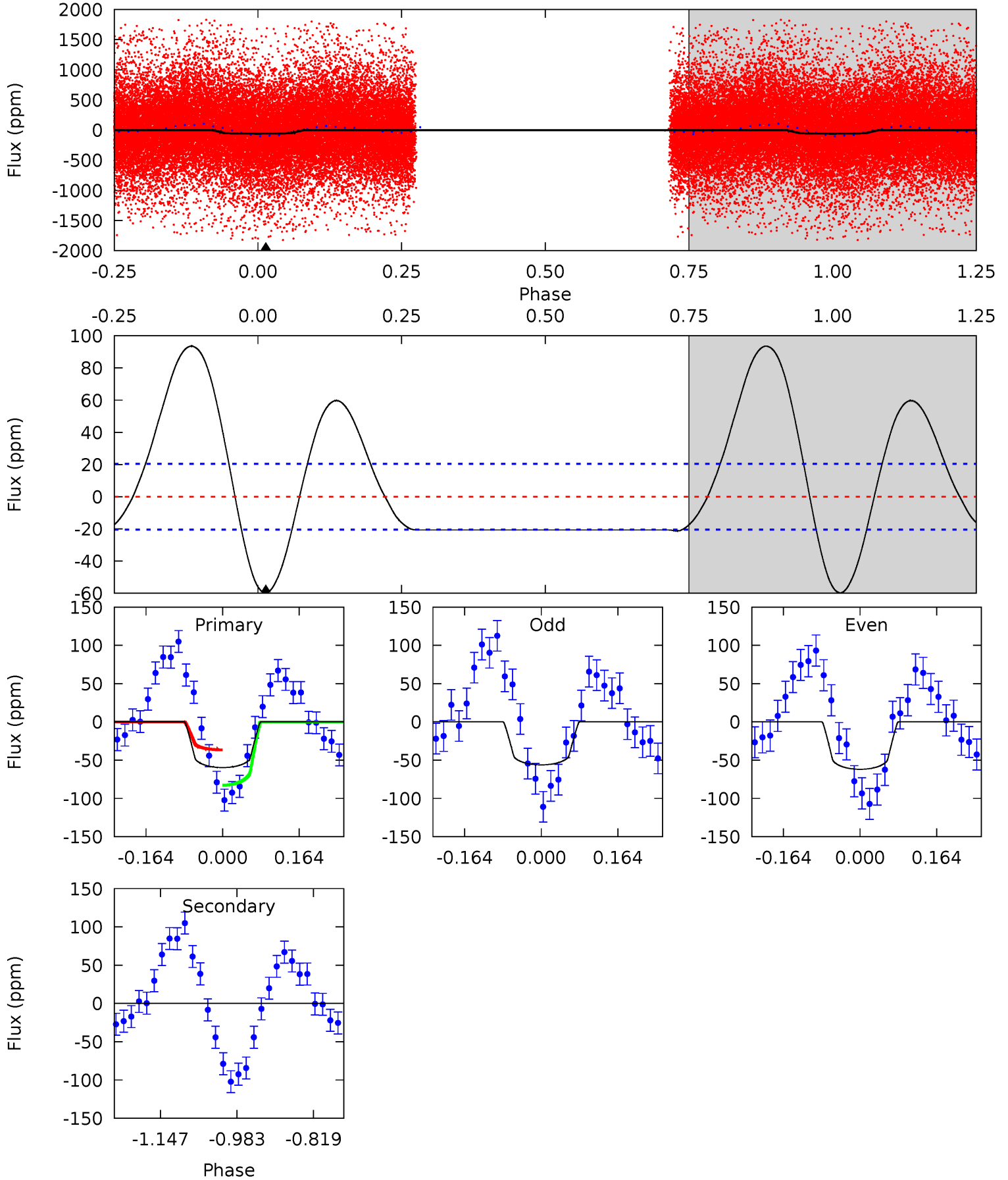
TCE 010669515-02 P= 0.942237 Days $T_0=131.573135$ (BKJD)



DV Model-Shift Uniqueness Test

010669515-02, P = 0.942214 Days, E = 130.628760 Days

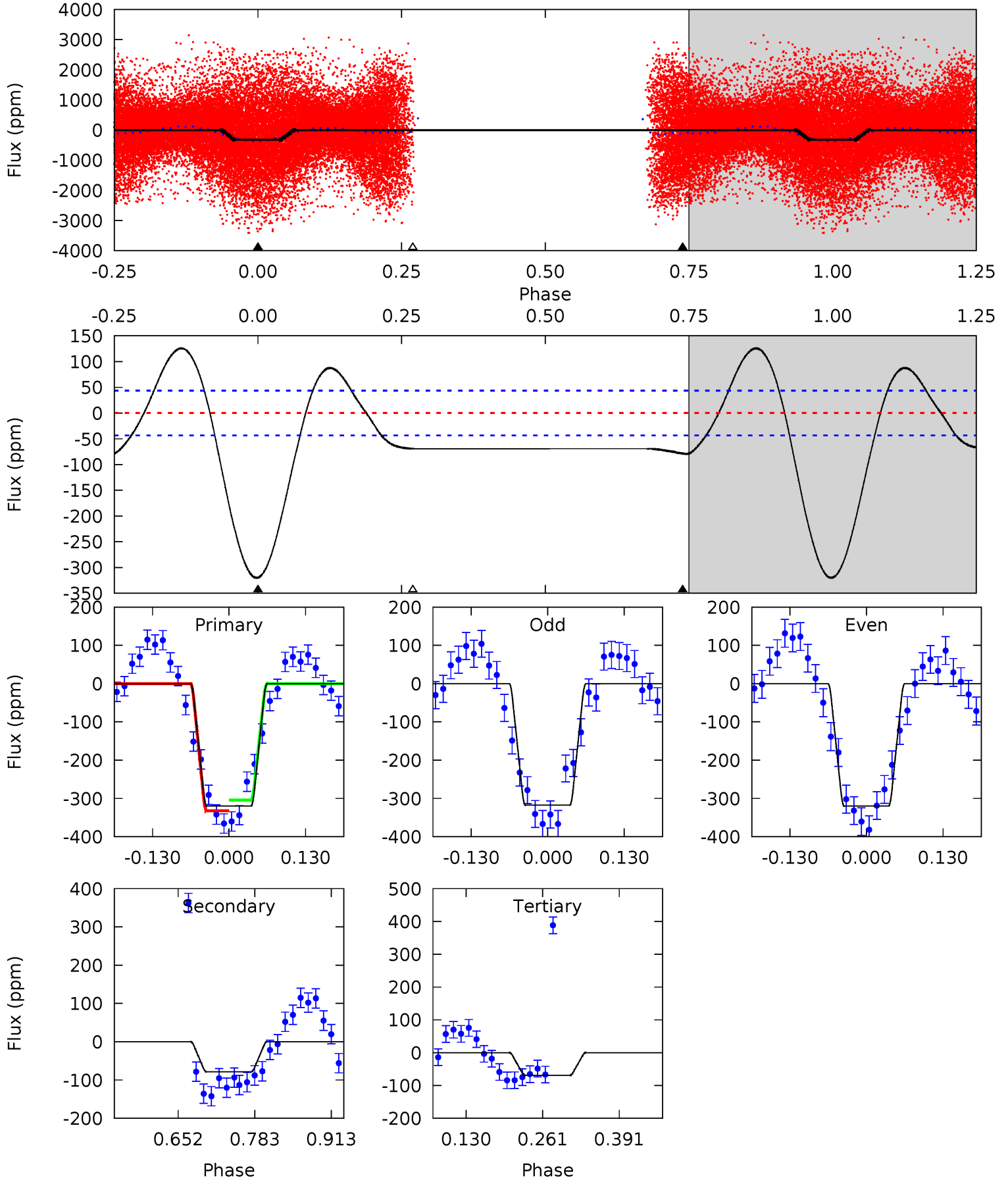
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	0	0	0	4.46	1.39	5.69	13.0	13.0	0	0	0.64	1.17	0.61	4.85



Alt Model-Shift Uniqueness Test

010669515-02, P = 0.942237 Days, E = 130.630898 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.2	8.17	7.20	0	4.51	1.51	5.31	26.0	33.2	0.97	8.17	0.13	0.95	0.28	2.31



Stellar Parameters For KIC 010669515

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7358^{+203}_{-330}	$4.054^{+0.170}_{-0.170}$	$0.020^{+0.200}_{-0.400}$	$2.001^{+0.533}_{-0.480}$	$1.653^{+0.187}_{-0.304}$	$0.291^{+0.277}_{-0.144}$
	+3%/-4%	+4%/-4%	+1000%/-2000%	+27%/-24%	+11%/-18%	+95%/-49%
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 010669515-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 5	$1.34^{+0.39}_{-0.36}$	4296^{+317}_{-330}	-3859^{+7887}_{-1051}	$-0.005^{+0.693}_{-0.722}$
Alt.	-79 ± 10	$4.17^{+0.77}_{-0.60}$	4292^{+295}_{-324}	4687^{+278}_{-305}	$1.184^{+0.454}_{-0.328}$

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 $A_{obs} \gg 1.0$

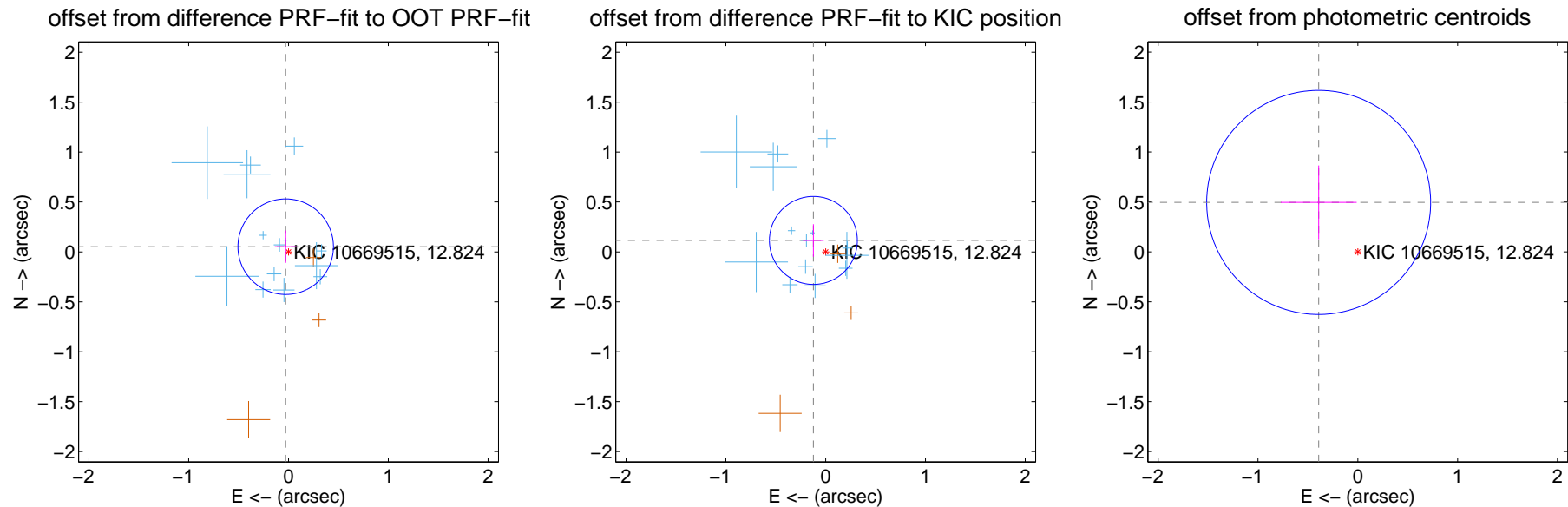
DV Centroid Data

Supplemental centroid analysis for 010669515-02. Kepler magnitude: 12.82. Transit SNR 6.28

There are 14 quarters with good PRF difference image offsets

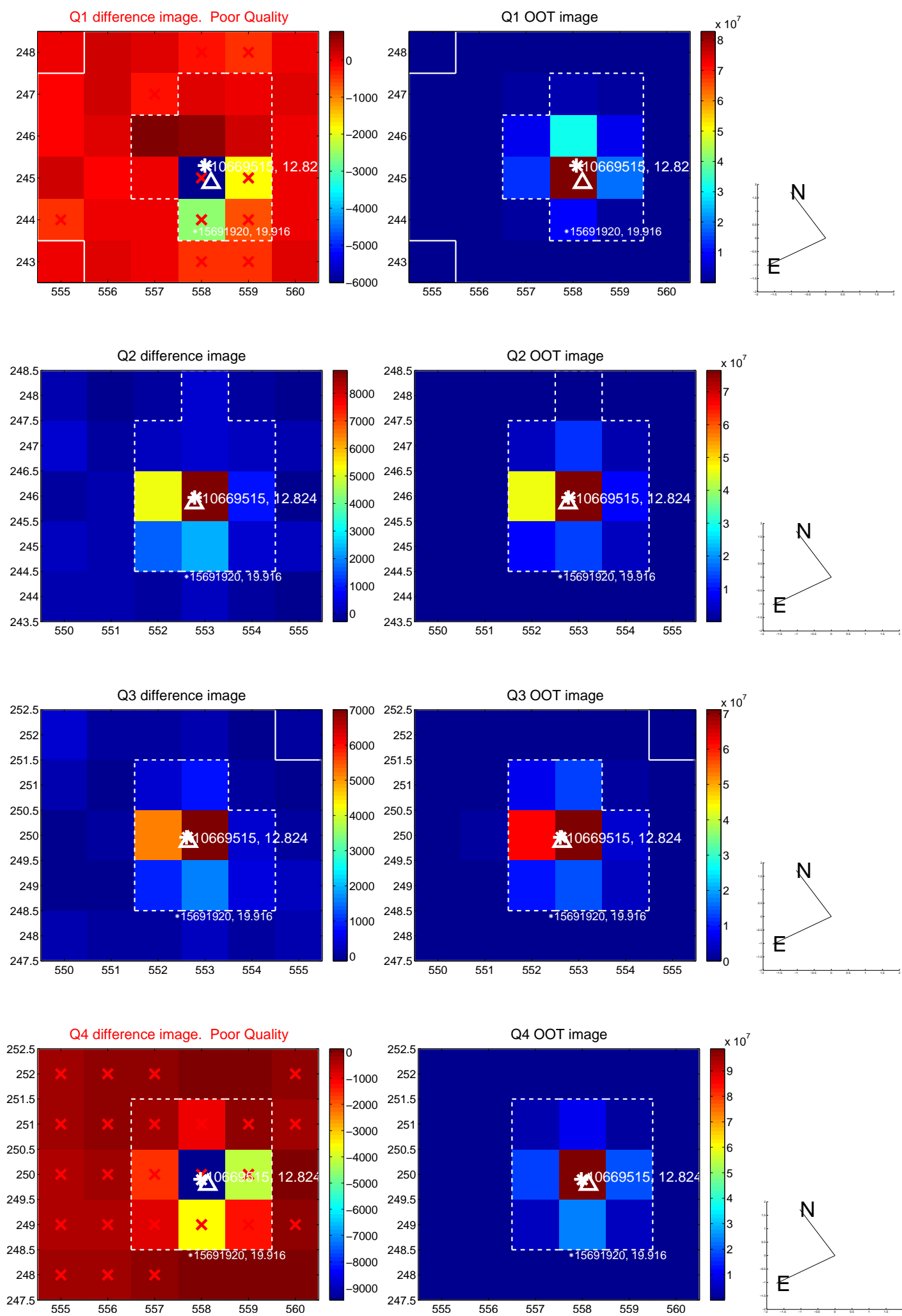
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.059 ± 0.159	0.37	0.028 ± 0.109	0.052 ± 0.162
PRF-fit source offset from KIC position	0.168 ± 0.147	1.15	0.123 ± 0.103	0.115 ± 0.163
photometric centroid source offset	0.63 ± 0.37	1.69	0.39 ± 0.38	0.49 ± 0.37

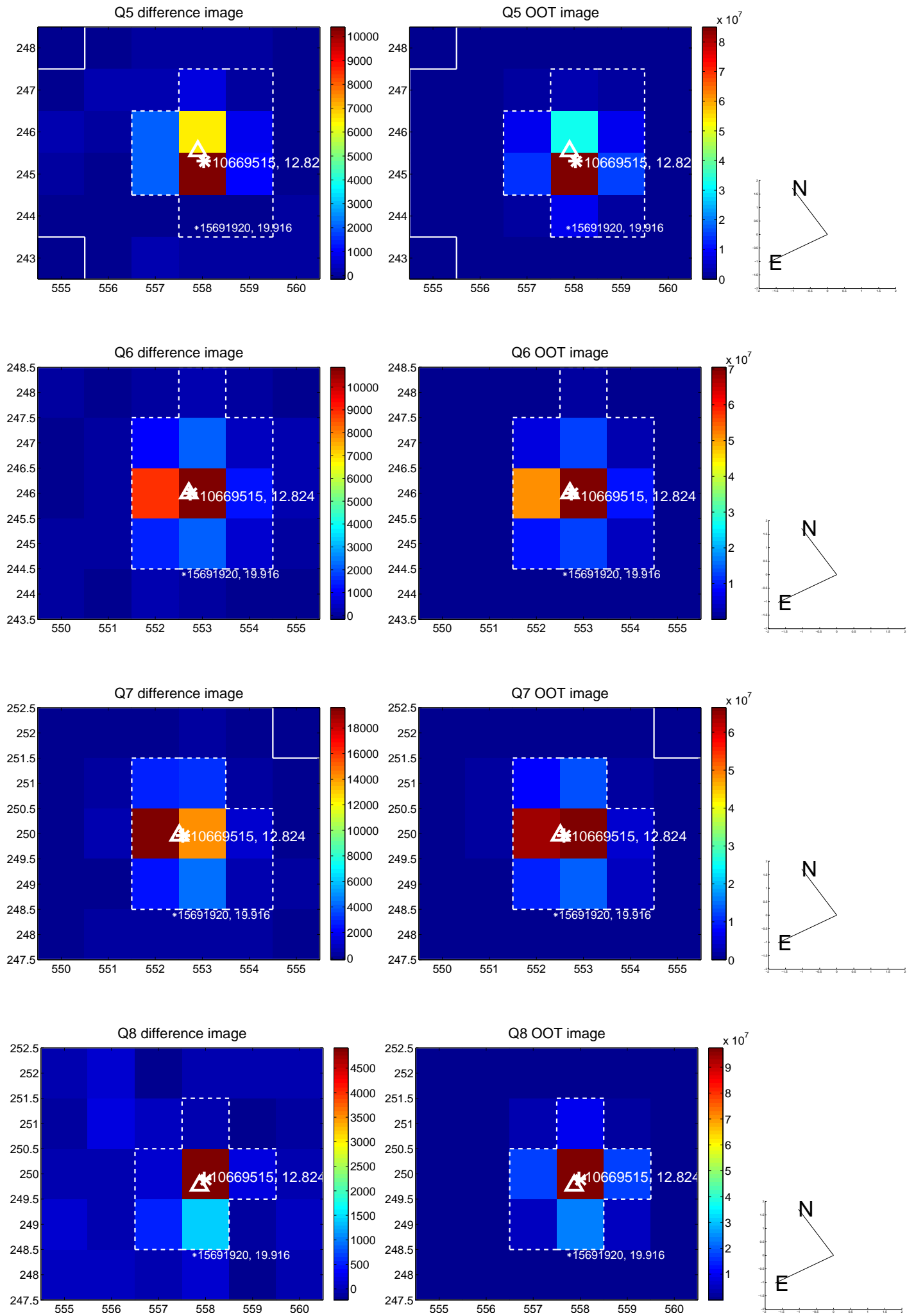


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

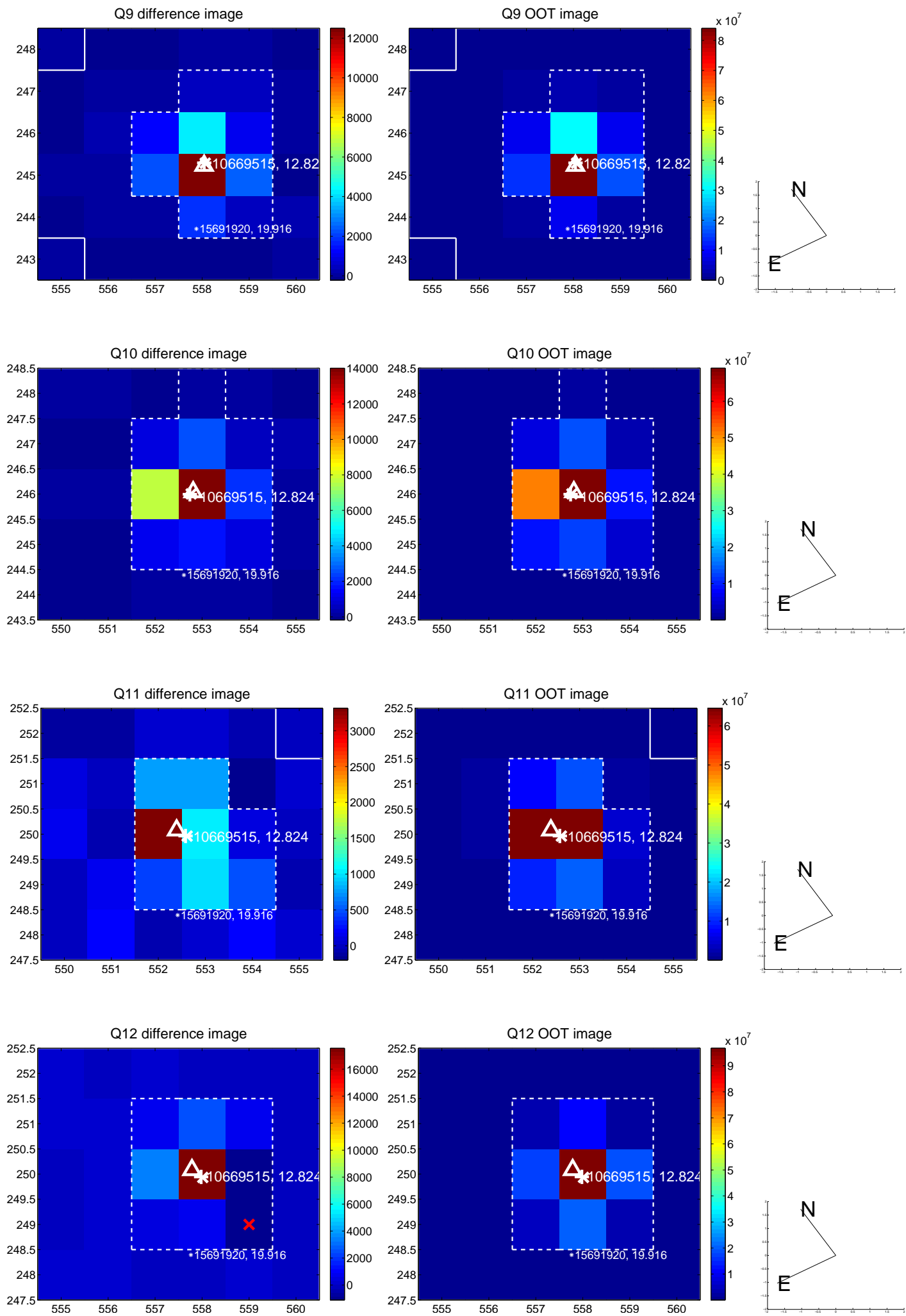
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



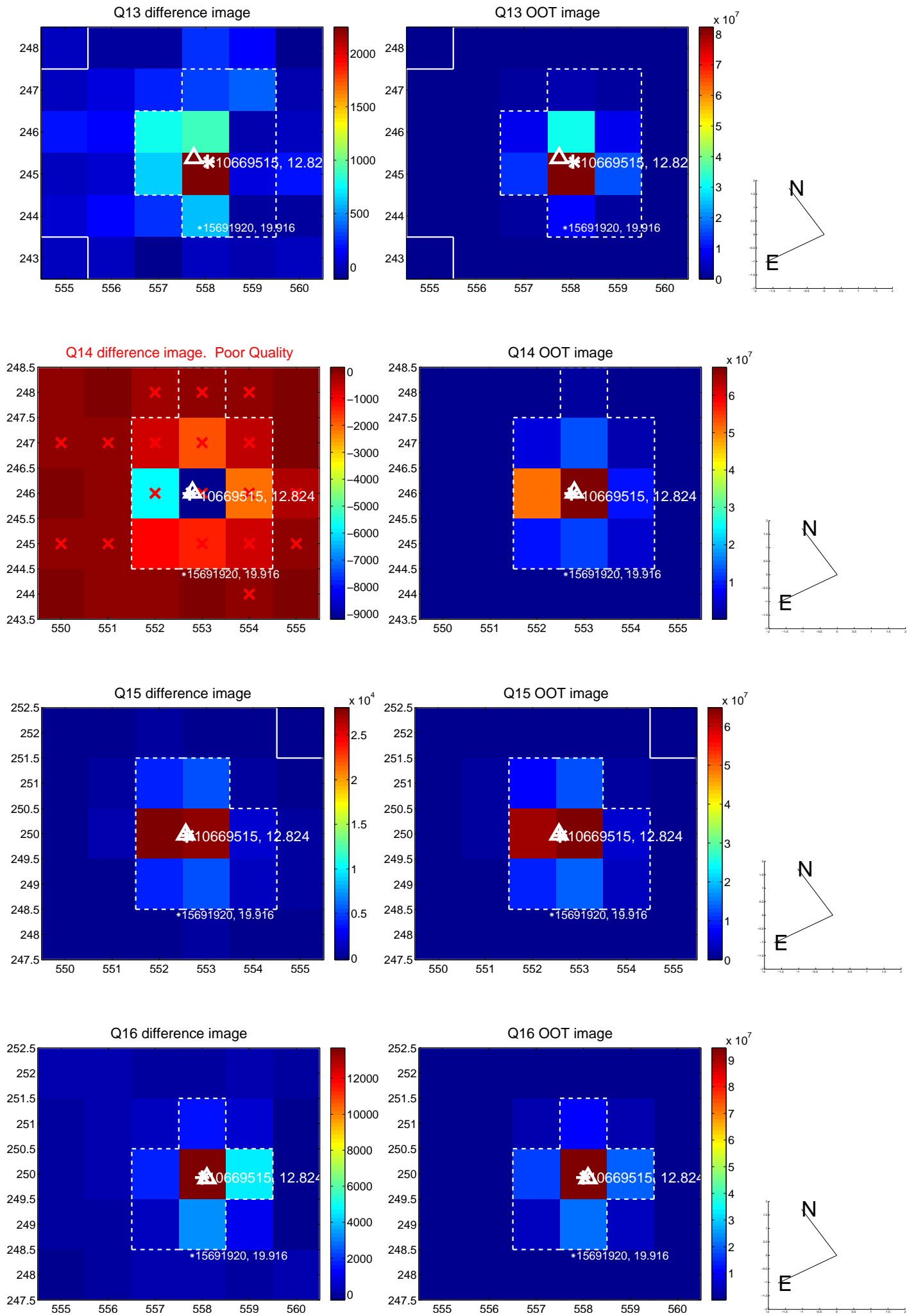
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



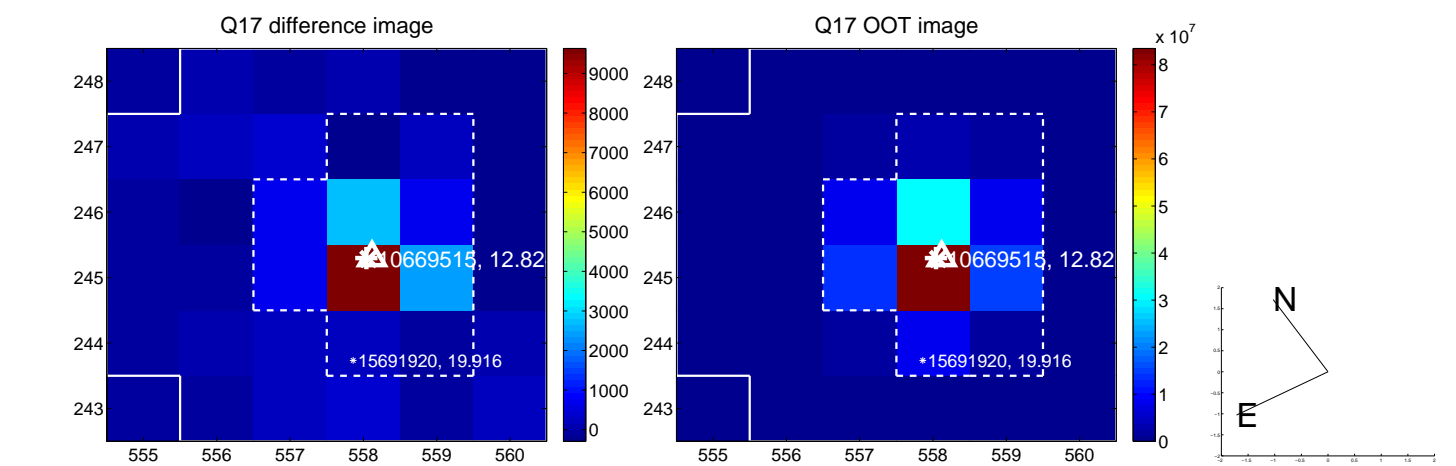
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



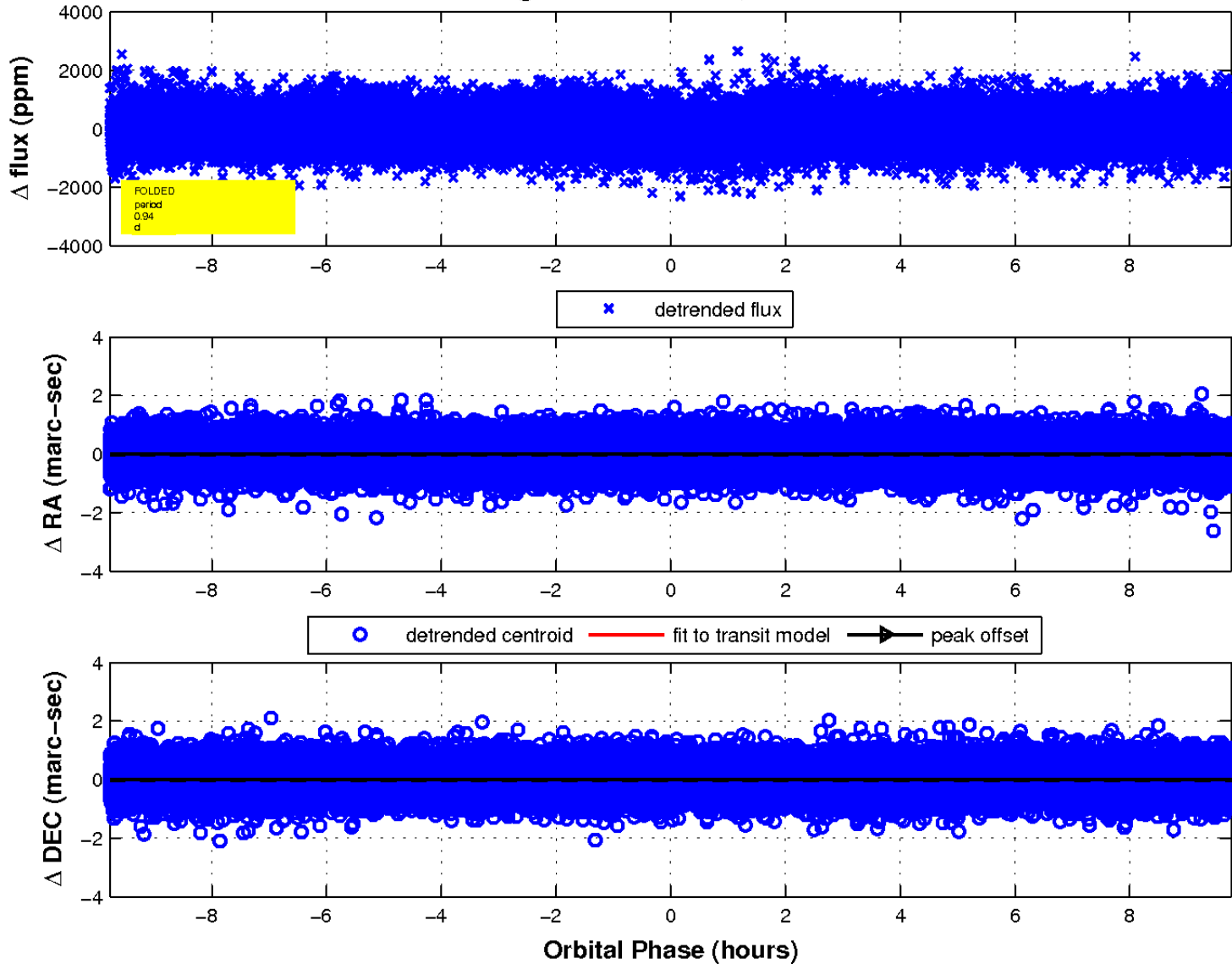
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

