

KIC 007215607

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})
007215607-01	OBS	No	0.666775	131.563226	5.7	4.073	9.9	3.4	6.27	6812	1.52	0.00
007215607-02	OBS	No	0.666773	131.825901	44.7	2.003	13.8	23.3	6.27	6812	4.49	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007215607-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007215607-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_SATURATED

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

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

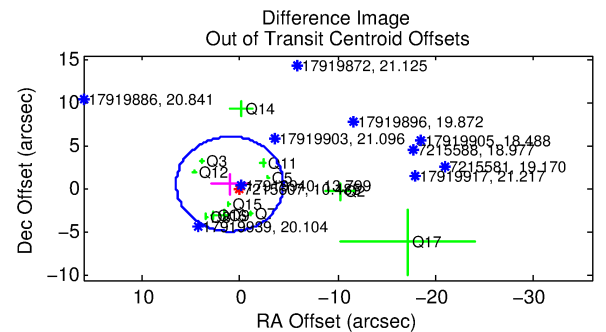
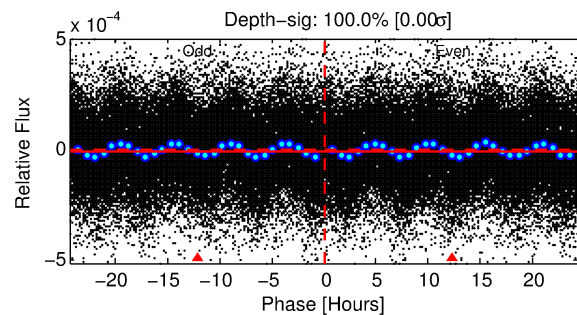
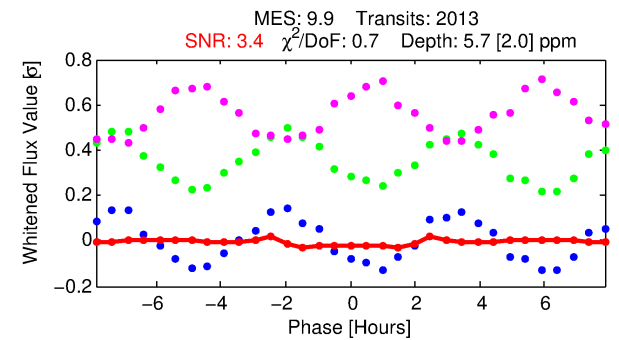
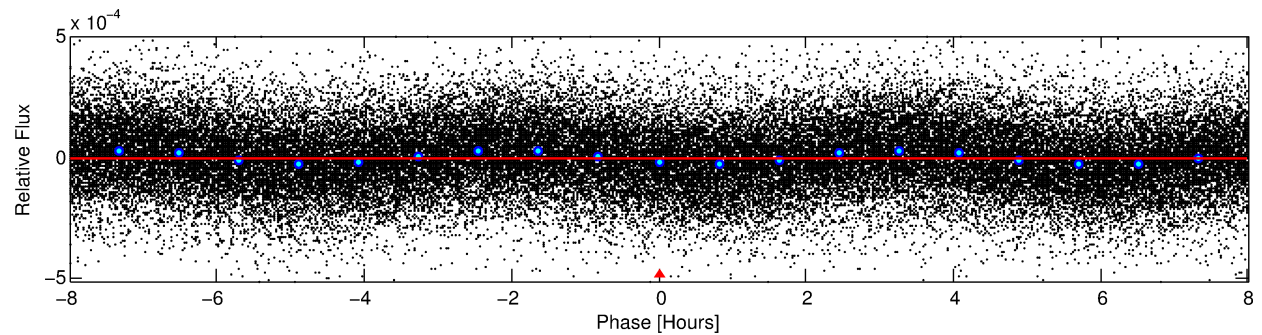
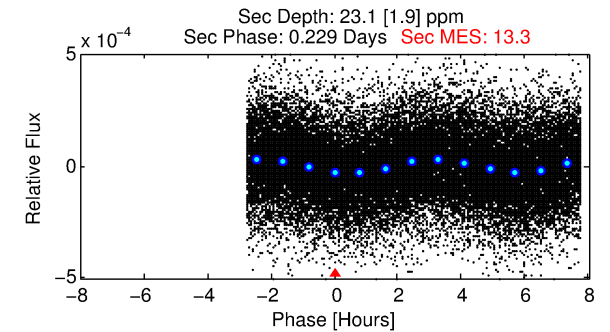
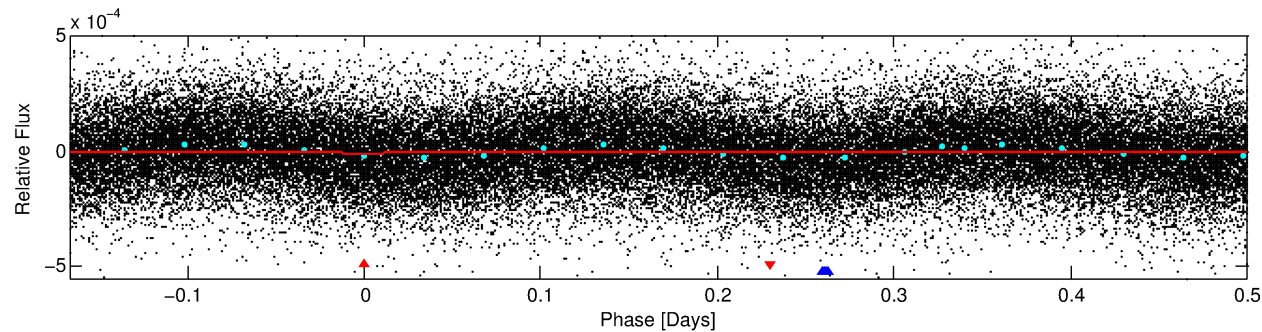
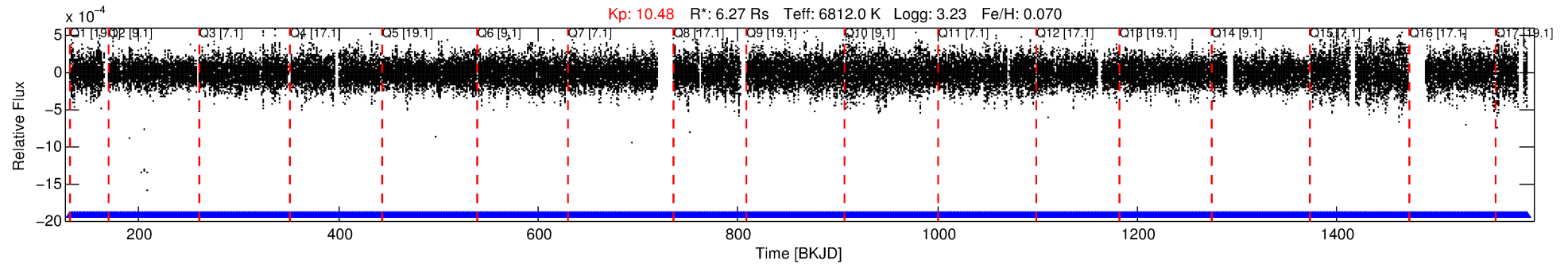
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007215607-01

No Significant Match Found

DV One-Page Summary

KIC: 7215607 Candidate: 1 of 2 Period: 0.667 d



DV Fit Results:

Period = 0.66677 [0.00003] d
Epoch = 131.5632 [0.0046] BKJD
Rp/R* = 0.0022 [0.0014]
a/R* = 1.37 [2.17]
b = 0.30 [10.37]
Seff = N/A
Teq = N/A
Rp = 1.52 [1.19] Re
a = N/A
Ag = N/A
Teffp = N/A

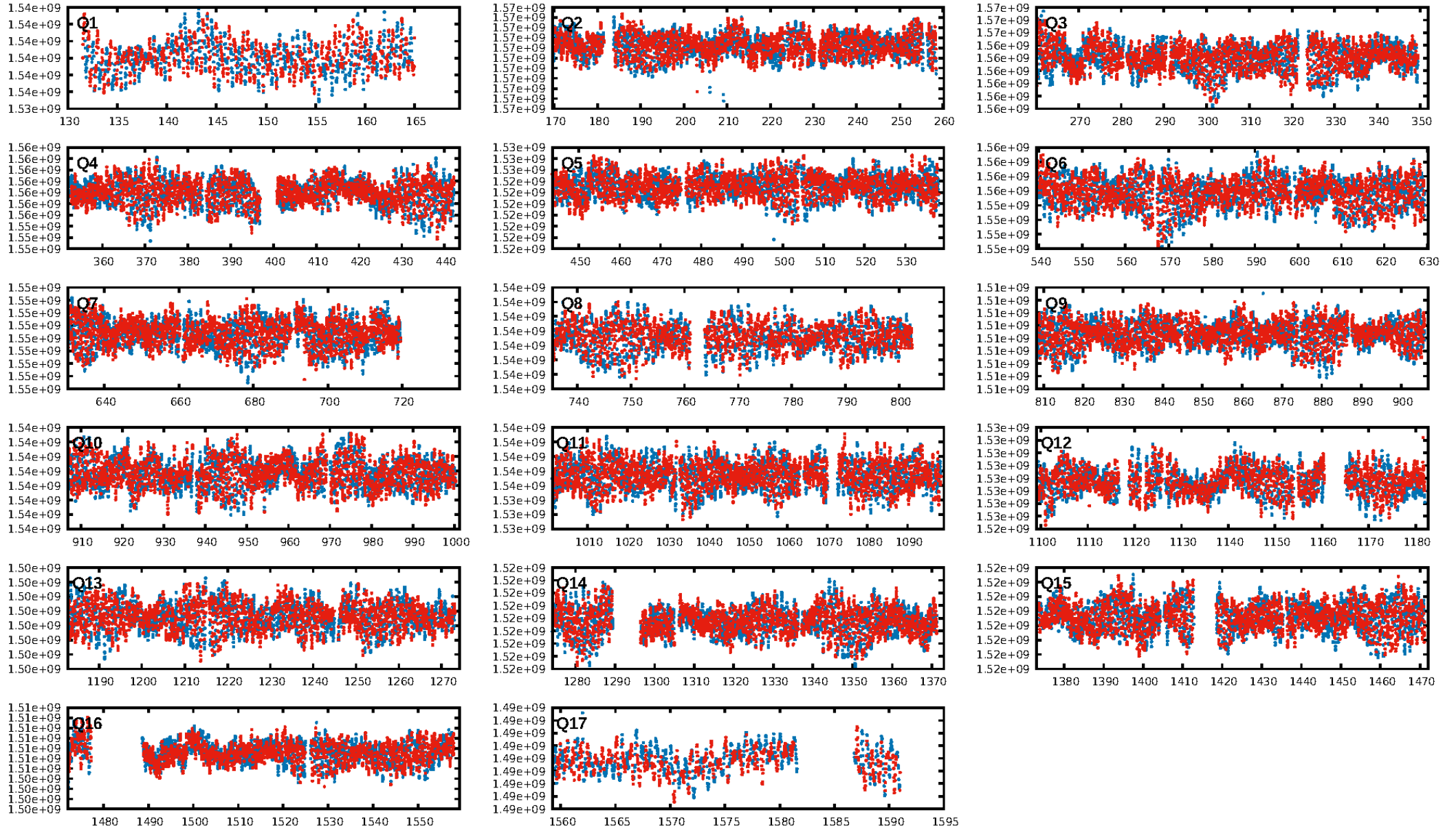
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.99e-18
RollingBand-fgt: 1.00 [1923/1923]
GhostDiagnostic-chr: -3.972
Centroid-sig: 81.3%
Centroid-so: 0.591 arcsec [0.38σ]
OotOffset-rm: 1.183 arcsec [0.65σ]
KicOffset-rm: 2.039 arcsec [1.14σ]
OotOffset-st: 2/4/3/3 [12]
KicOffset-st: 2/4/3/3 [12]
DiffImageQuality-fgm: 0.00 [0/12]
DiffImageOverlap-fno: 0.00 [0/17]

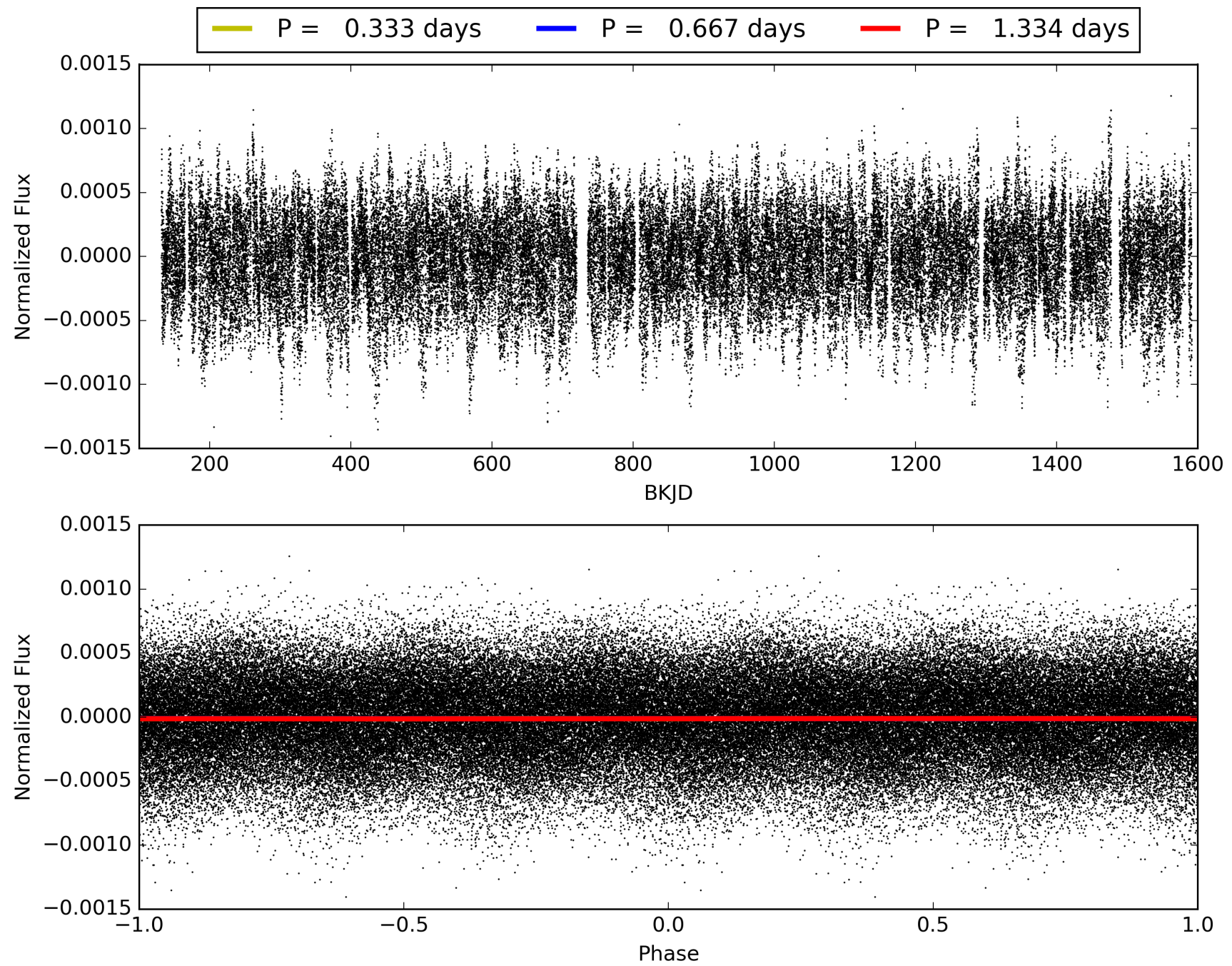
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:18:05 Z

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

TCE 007215607-01, PDC Light Curves

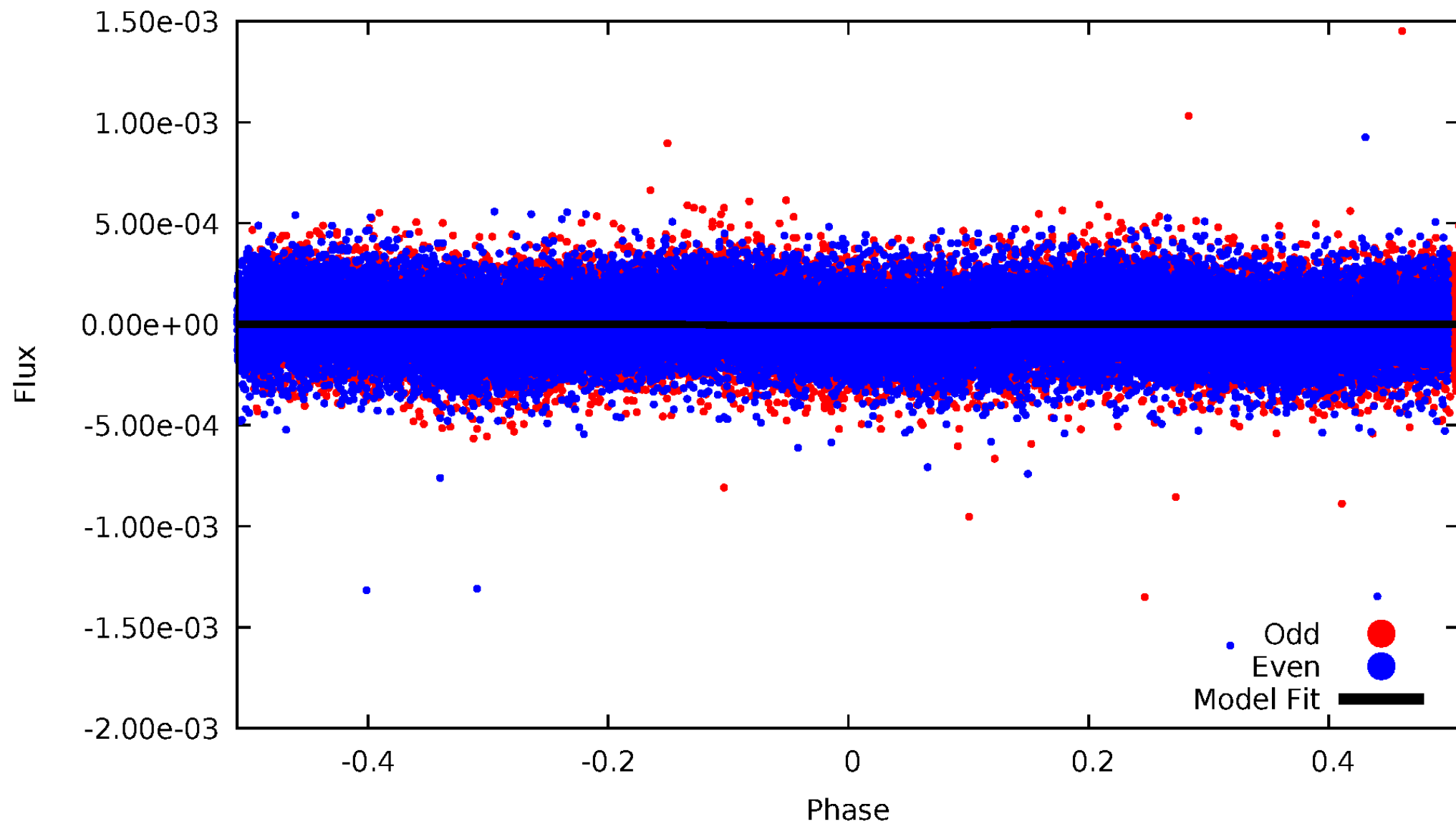


TCE 007215607-01



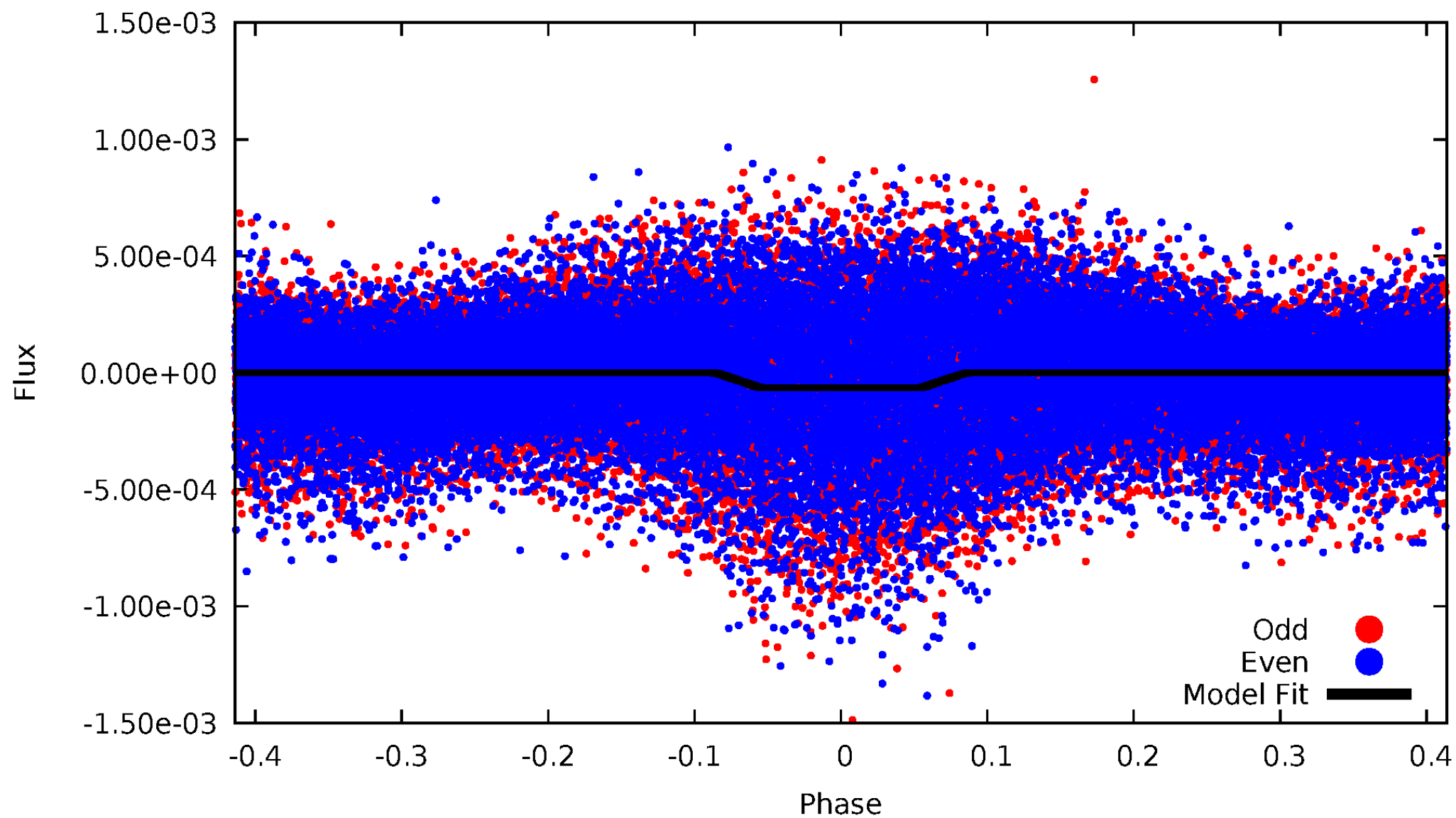
DV Odd/Even

TCE 007215607-01



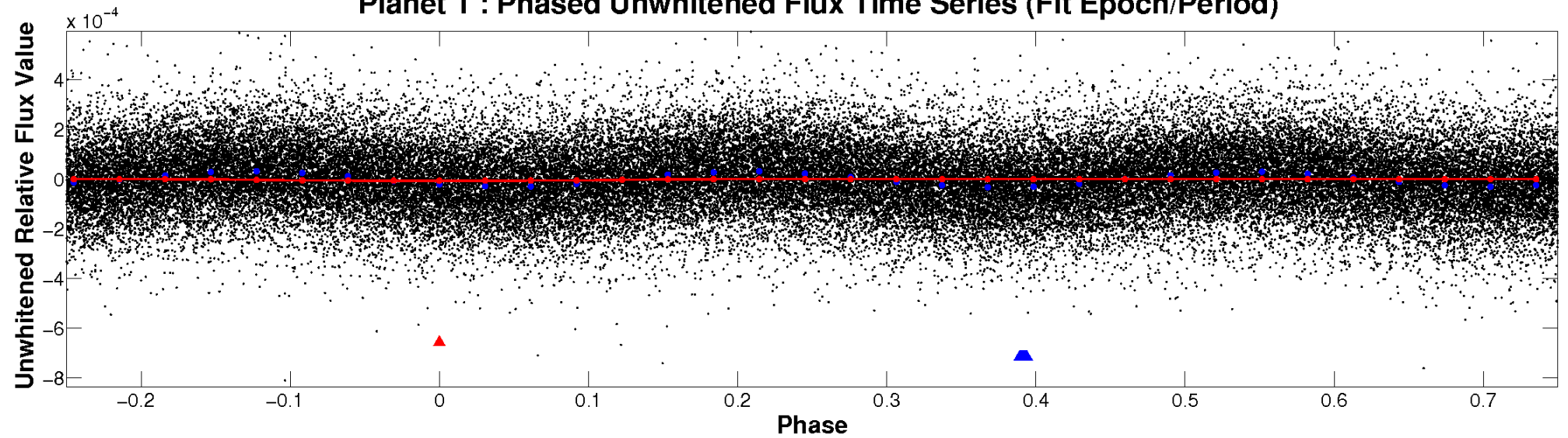
ALT Odd/Even

TCE 007215607-01

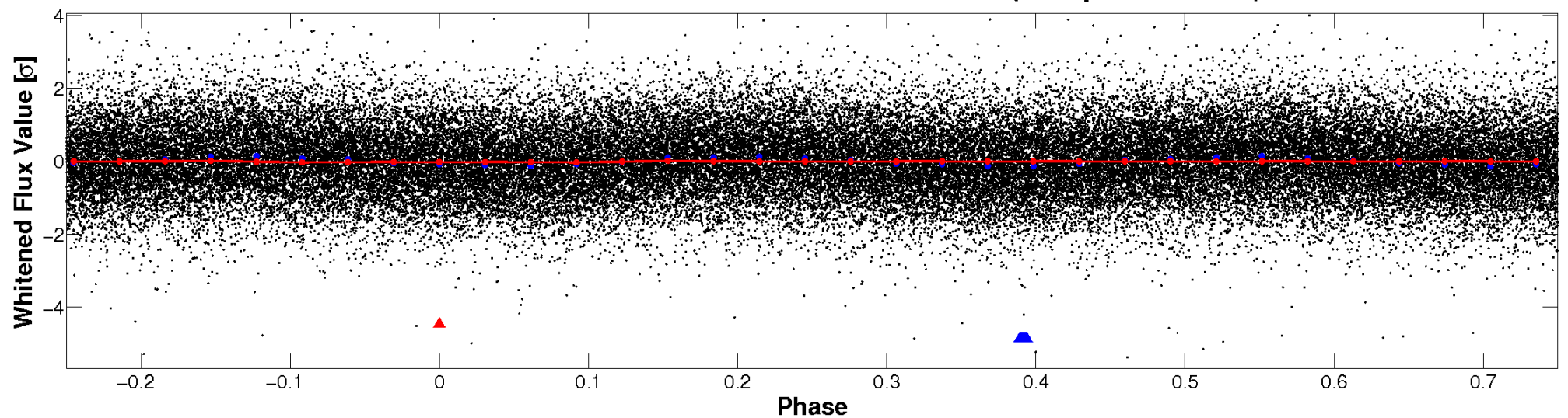


Non-Whitened Vs. Whitened Light Curve

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

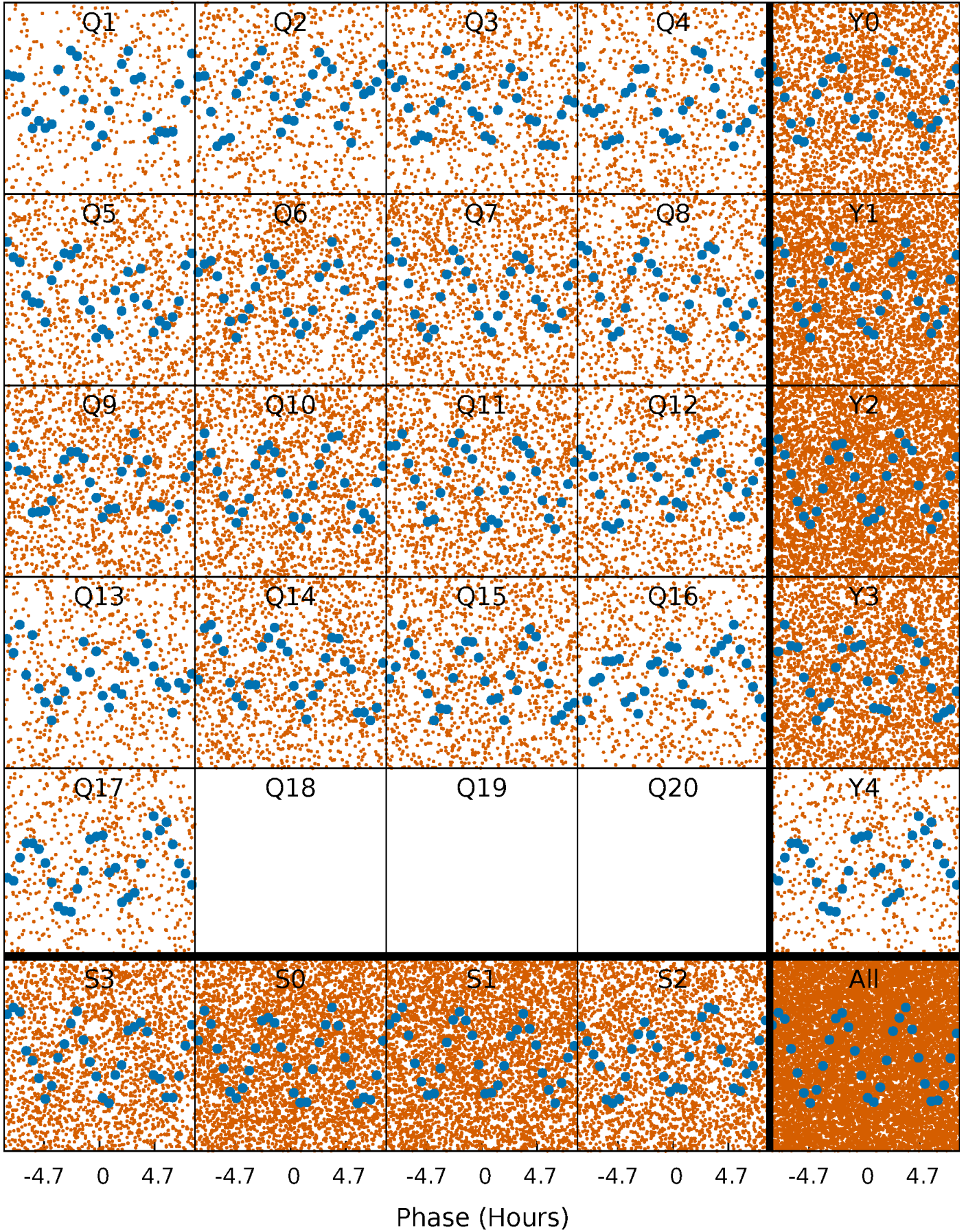


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



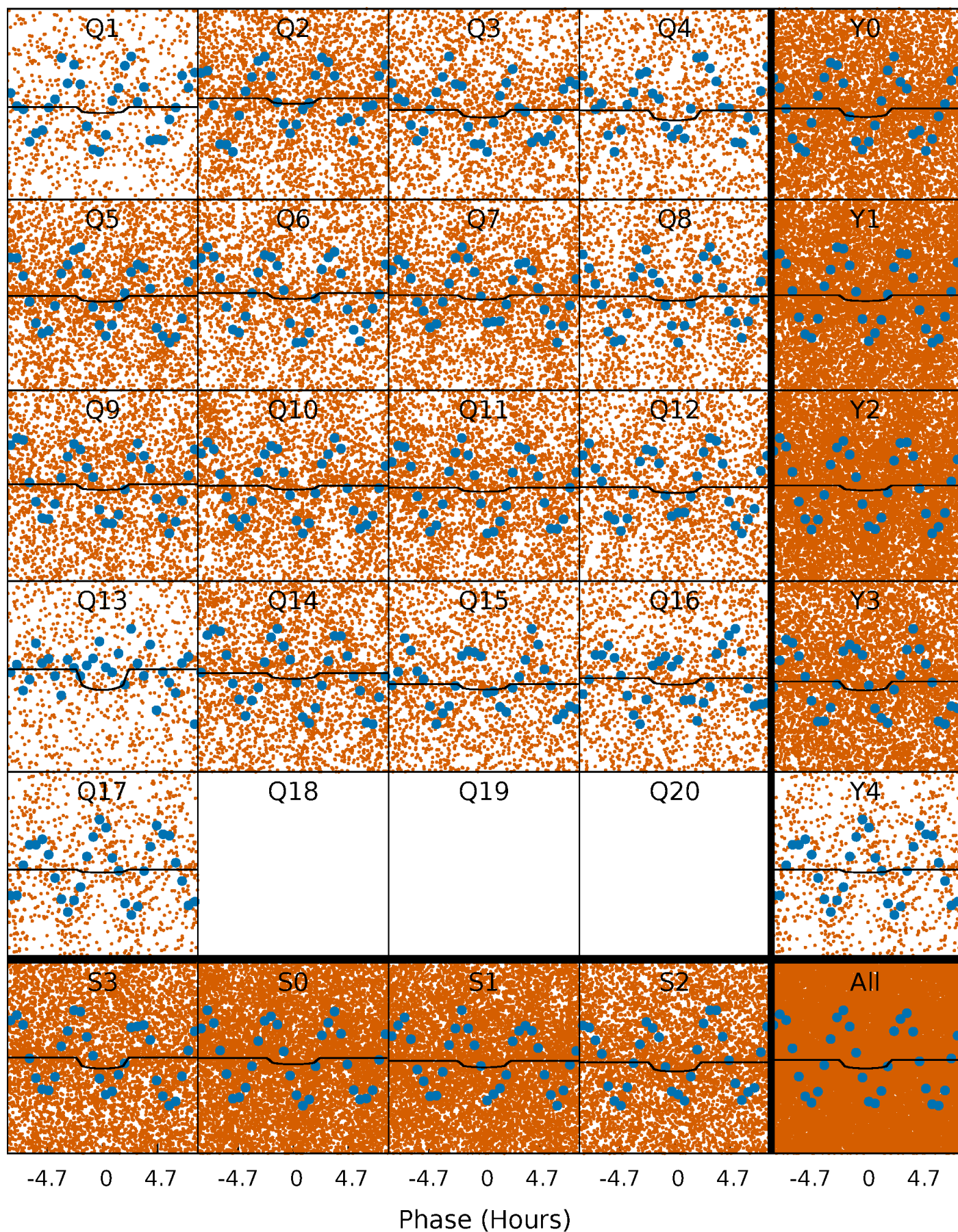
PDC Quarter-Phased Transit Curves

TCE 007215607-01 P= 0.666775 Days $T_0=131.563226$ (BKJD)



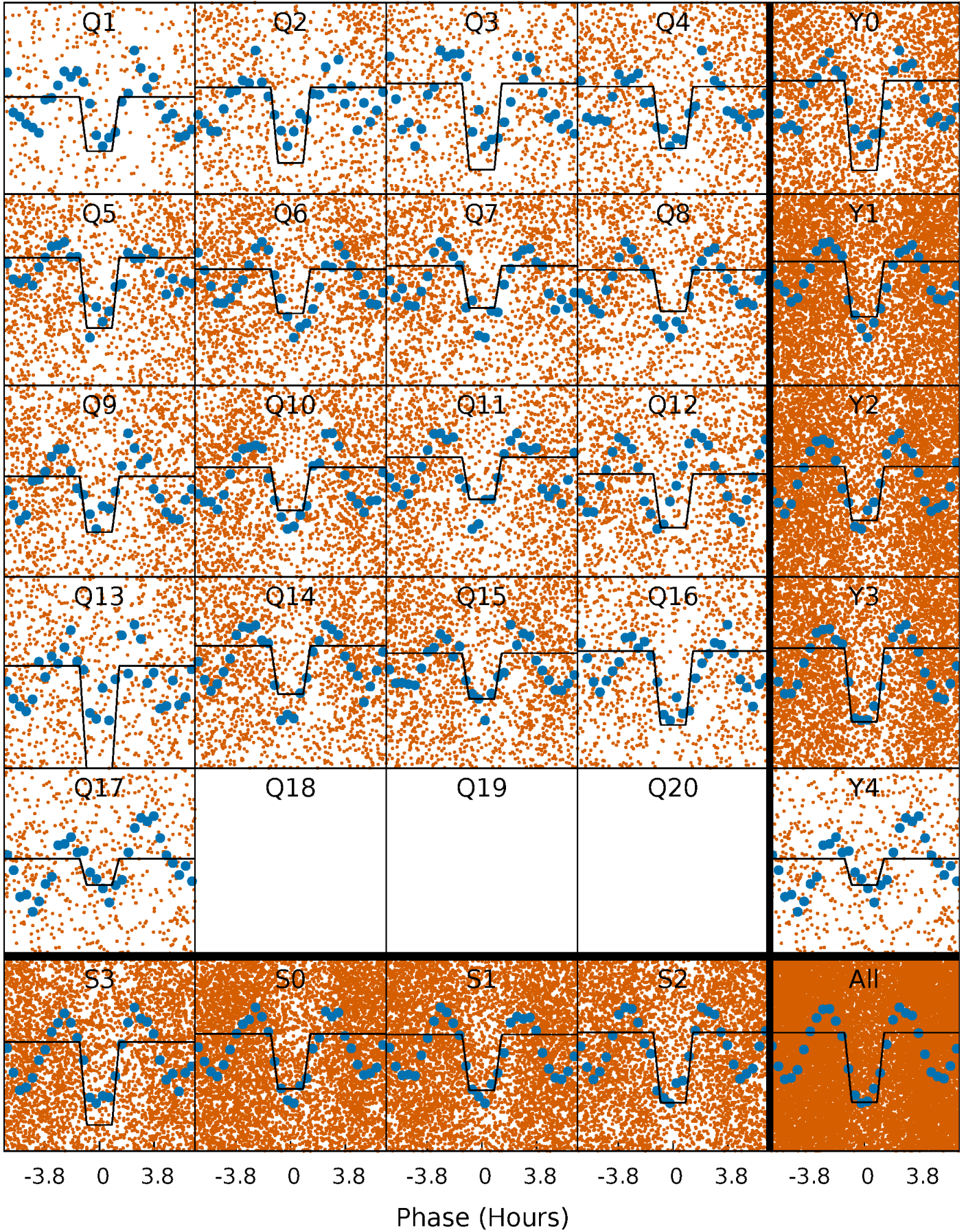
DV Quarter-Phased Transit Curves

TCE 007215607-01 P= 0.666775 Days $T_0=131.563226$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

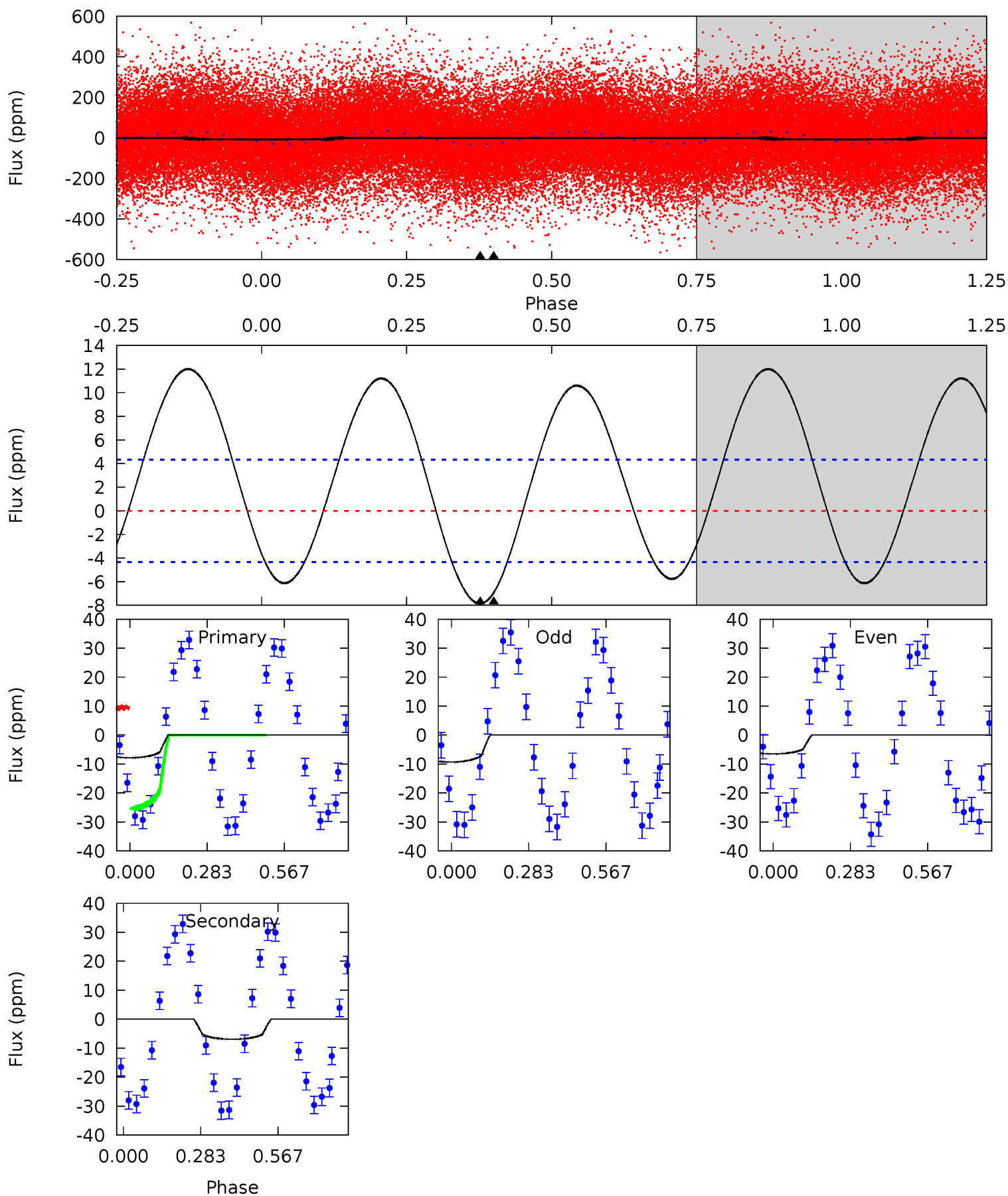
TCE 007215607-01 P= 0.666818 Days $T_0=131.544520$ (BKJD)



DV Model-Shift Uniqueness Test

007215607-01, P = 0.666775 Days, E = 130.896451 Days

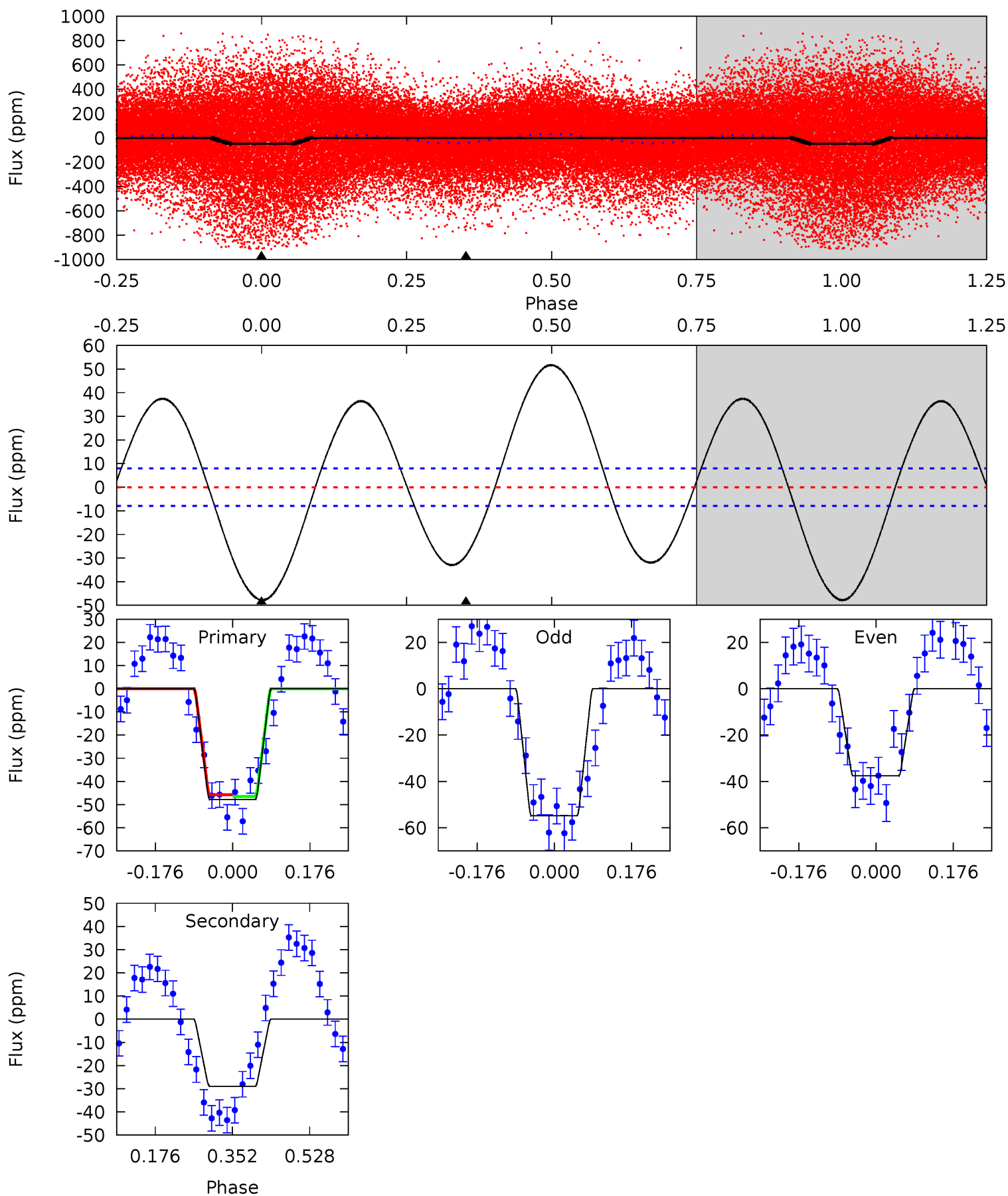
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.86	6.94	0	0	4.34	1.07	6.55	7.86	7.86	6.94	6.94	1.42	0.96	0.60	8.12



Alt Model-Shift Uniqueness Test

007215607-01, P = 0.666818 Days, E = 130.877702 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.8	16.2	0	0	4.44	1.35	14.0	26.8	26.8	16.2	16.2	4.20	1.96	0.52	0.17



Stellar Parameters For KIC 007215607

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6812^{+152}_{-202}	$3.234^{+0.488}_{-0.152}$	$0.070^{+0.200}_{-0.350}$	$6.266^{+1.657}_{-3.077}$	$2.453^{+0.307}_{-0.716}$	$0.014^{+0.065}_{-0.006}$
	+2%/-3%	+15%/-5%	+286%/-500%	+26%/-49%	+13%/-29%	+466%/-43%
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 007215607-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-7 ± 1	$1.37^{+1.04}_{-0.72}$	7216^{+628}_{-945}	6230^{+5403}_{-10165}	$0.783^{+2.721}_{-0.527}$
Alt.	-29 ± 2	$4.99^{+1.46}_{-1.54}$	7194^{+615}_{-943}	-3991^{+8828}_{-1253}	$0.252^{+0.248}_{-0.098}$

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

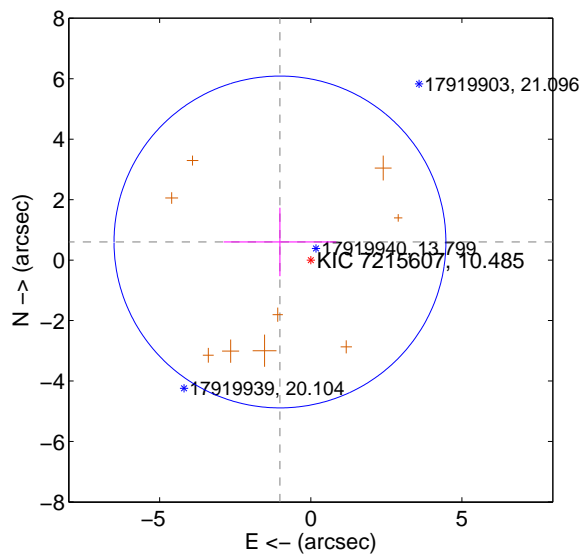
Supplemental centroid analysis for 007215607-01. **Kepler magnitude: 10.48.** Transit SNR 3.41

There are 0 quarters with good PRF difference image offsets

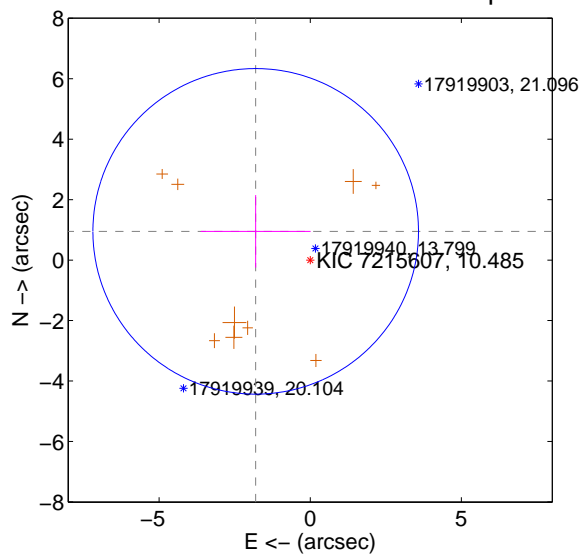
The direct PRF centroid is offset from the target star catalog position by about 1.37 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.183 ± 1.829	0.65	1.020 ± 1.864	0.599 ± 1.133
PRF-fit source offset from KIC position	2.039 ± 1.795	1.14	1.804 ± 1.818	0.951 ± 1.199
photometric centroid source offset	0.59 ± 1.56	0.38	-0.59 ± 1.56	0.06 ± 1.14

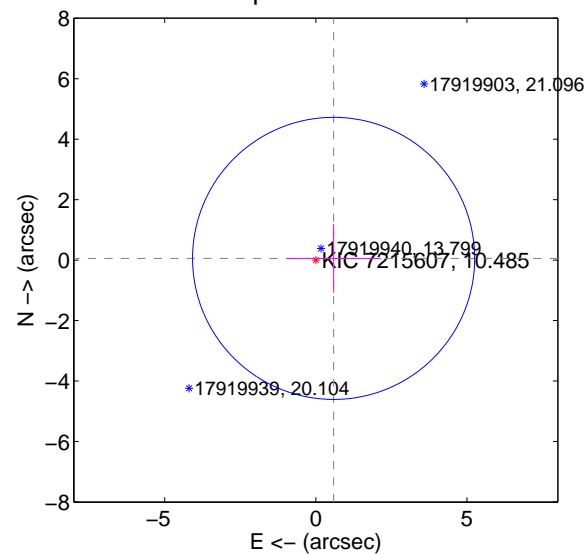
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

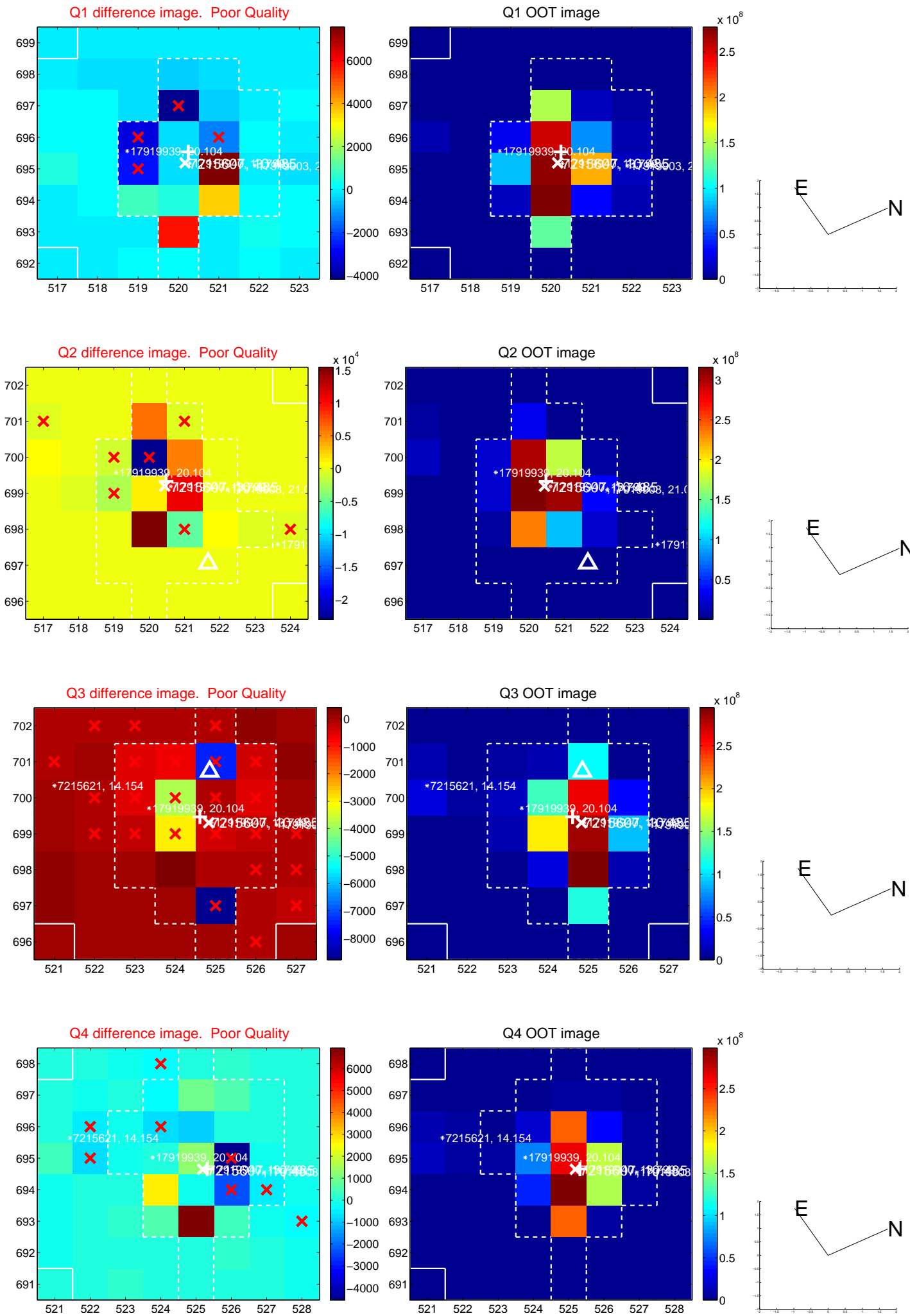


offset from photometric centroids

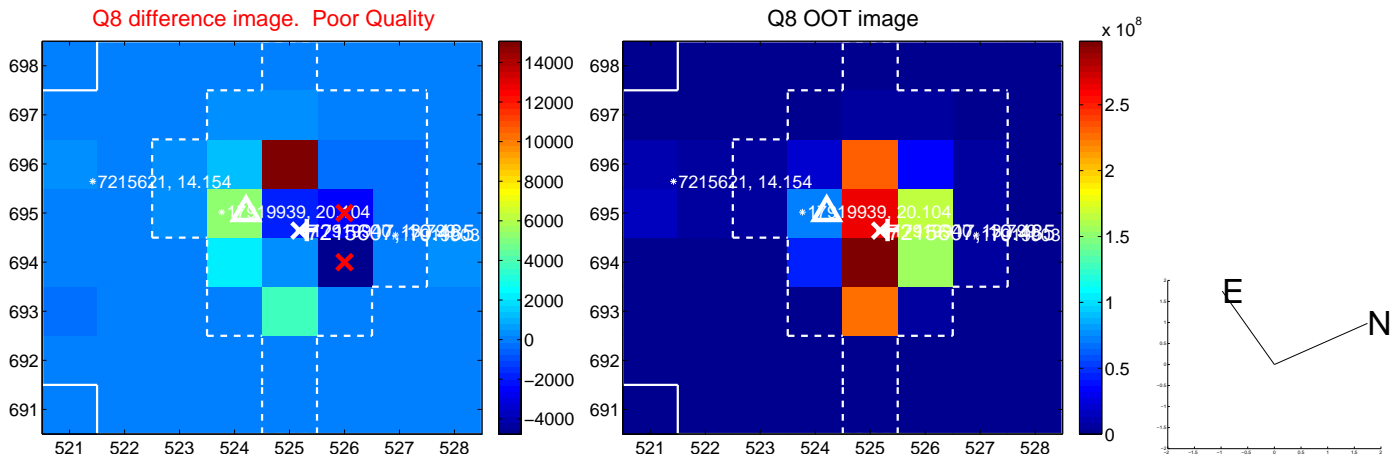
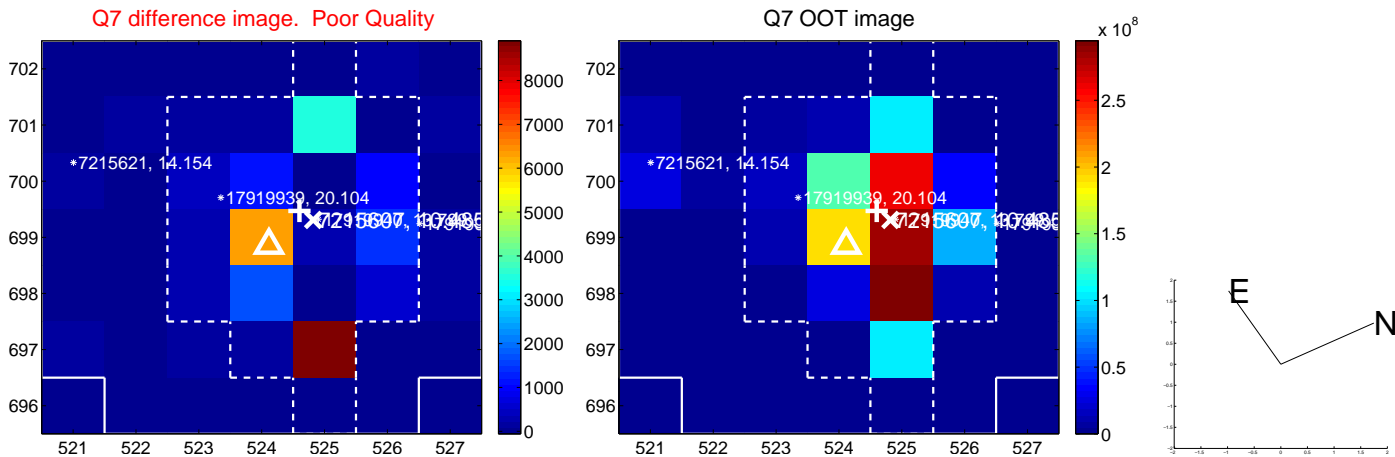
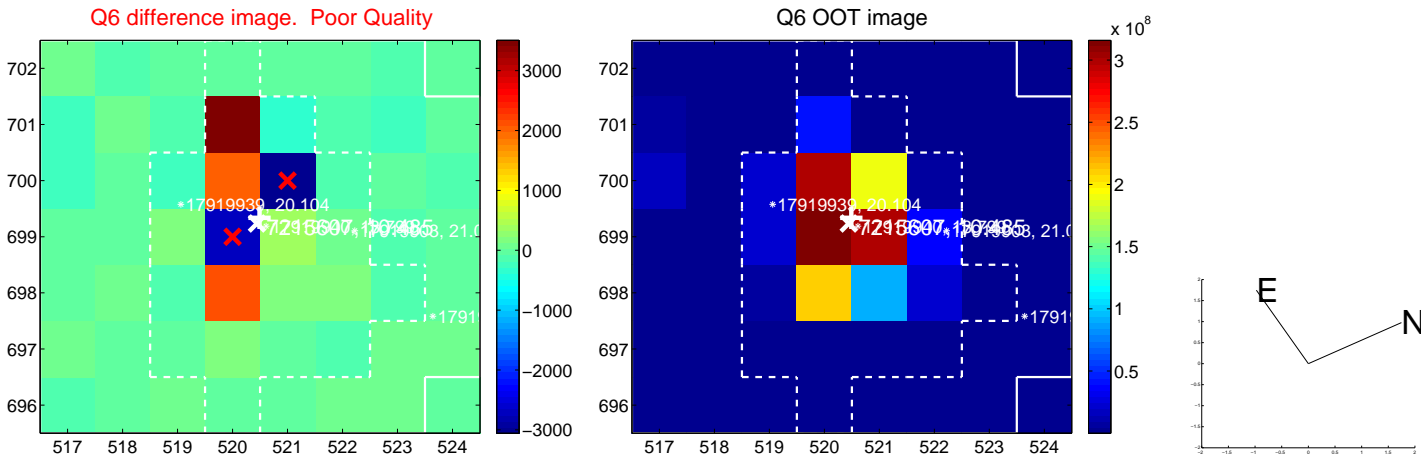
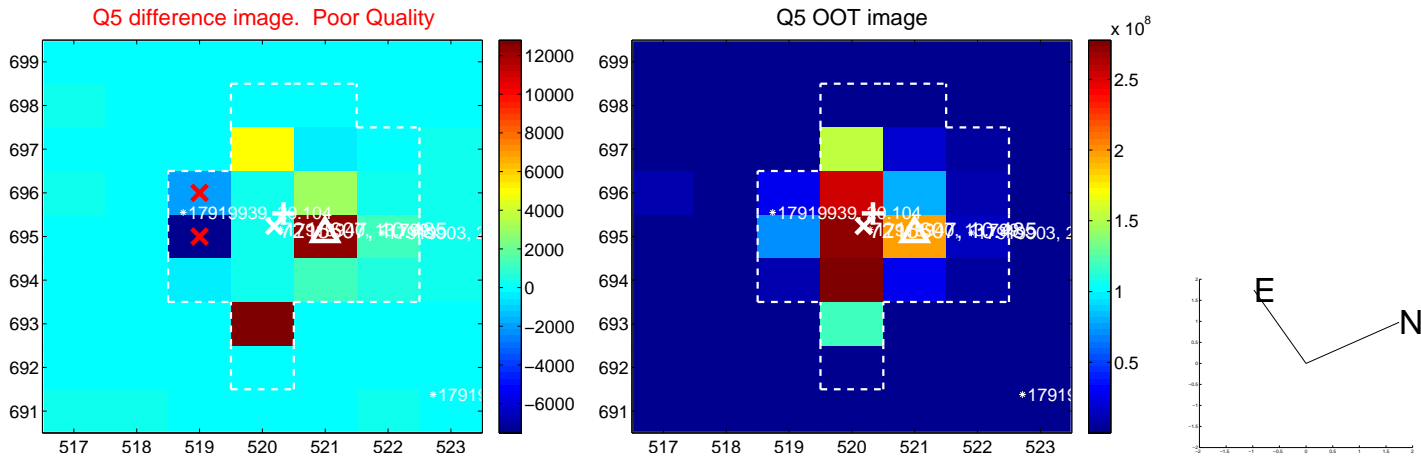


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

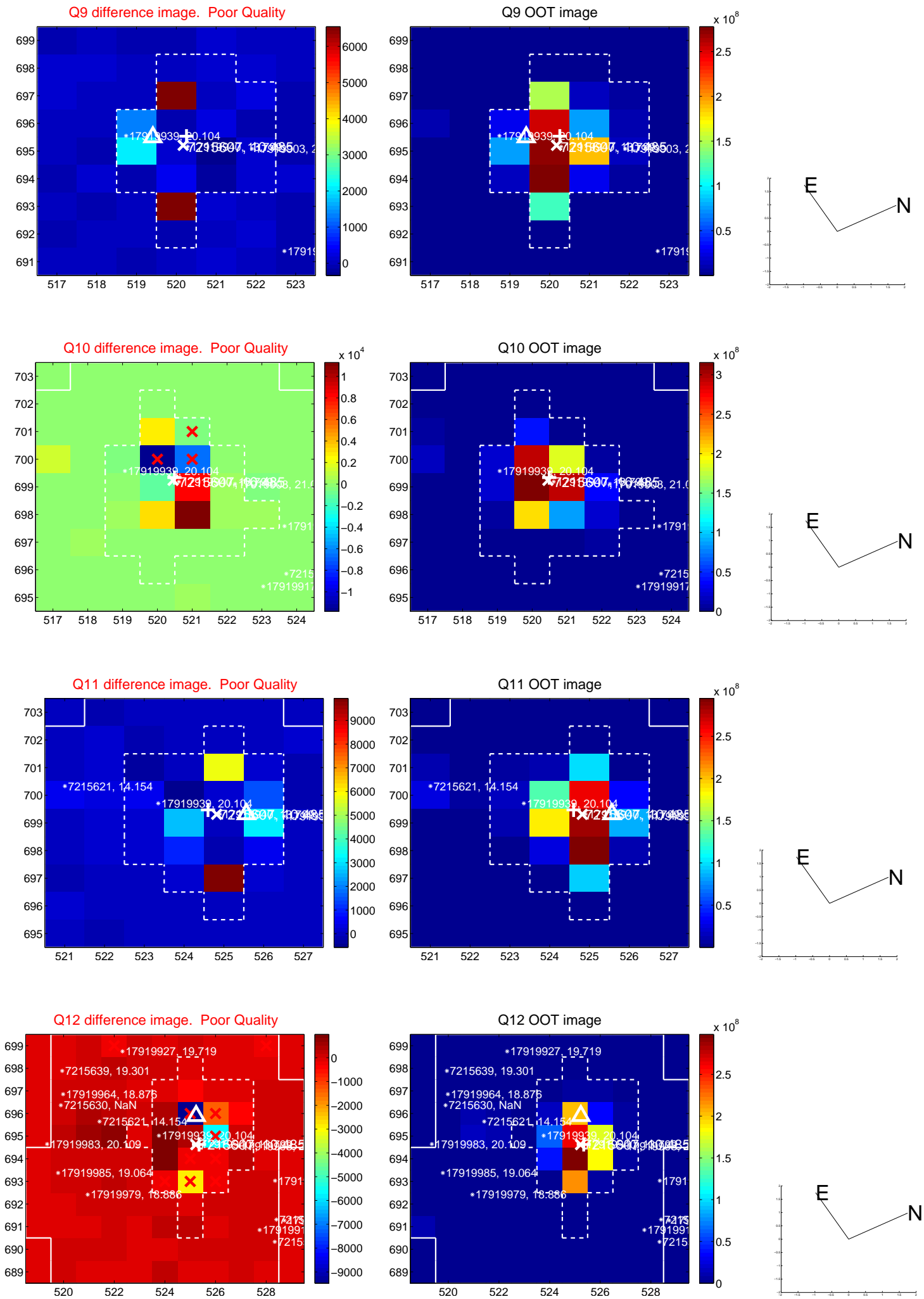
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



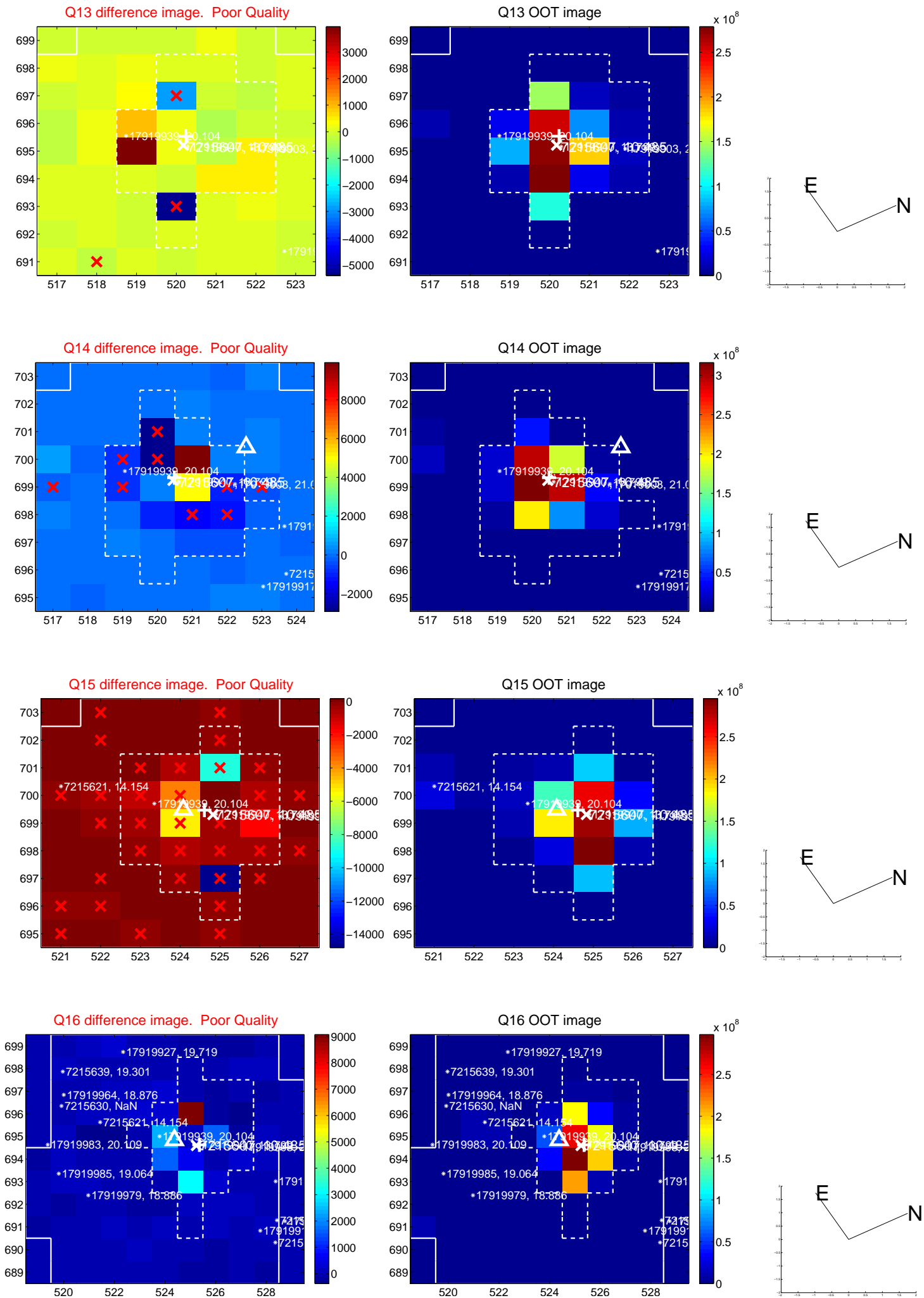
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



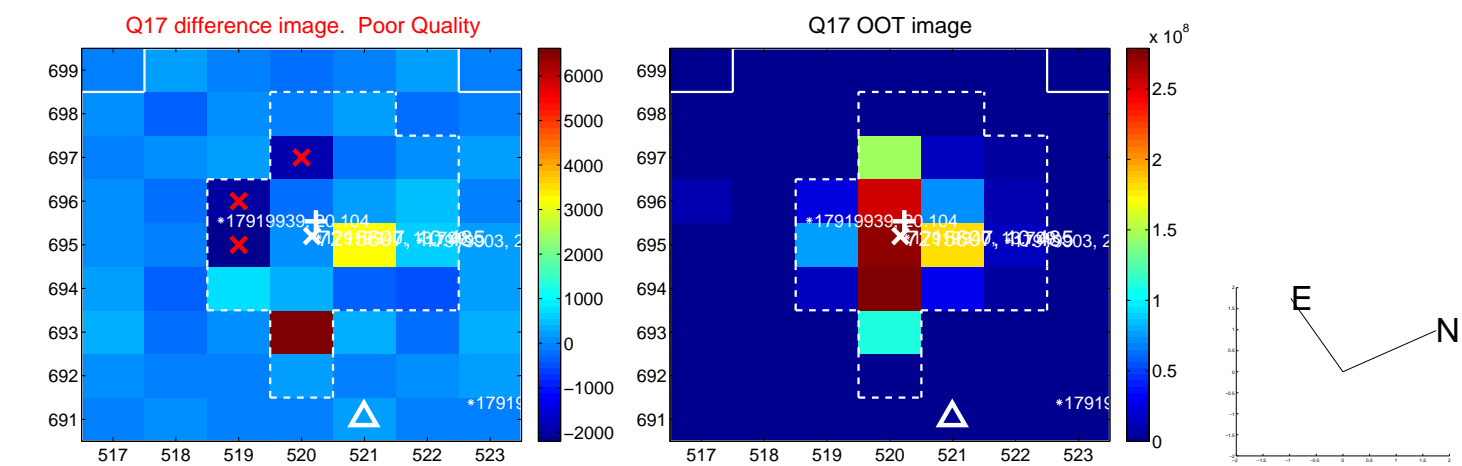
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



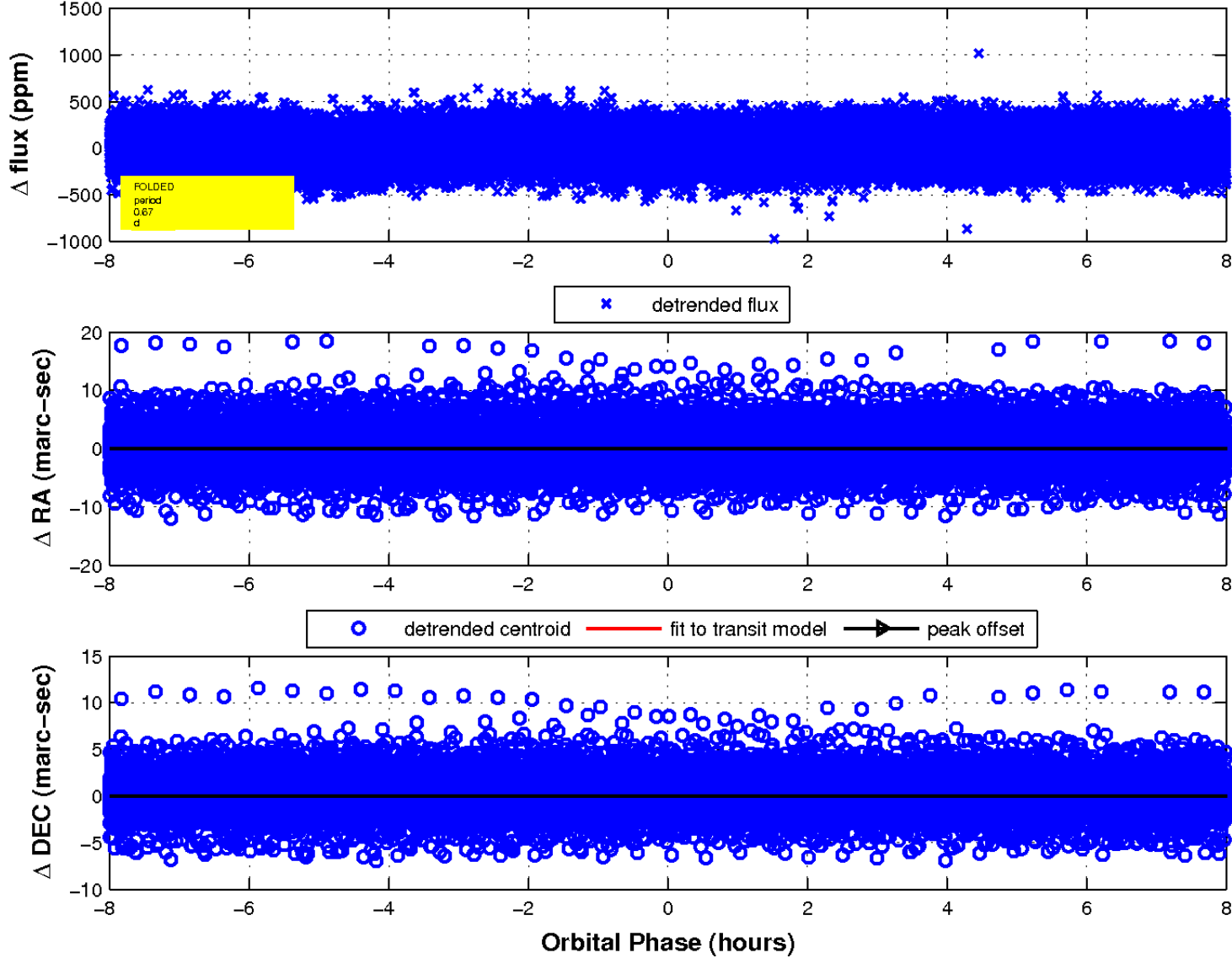
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



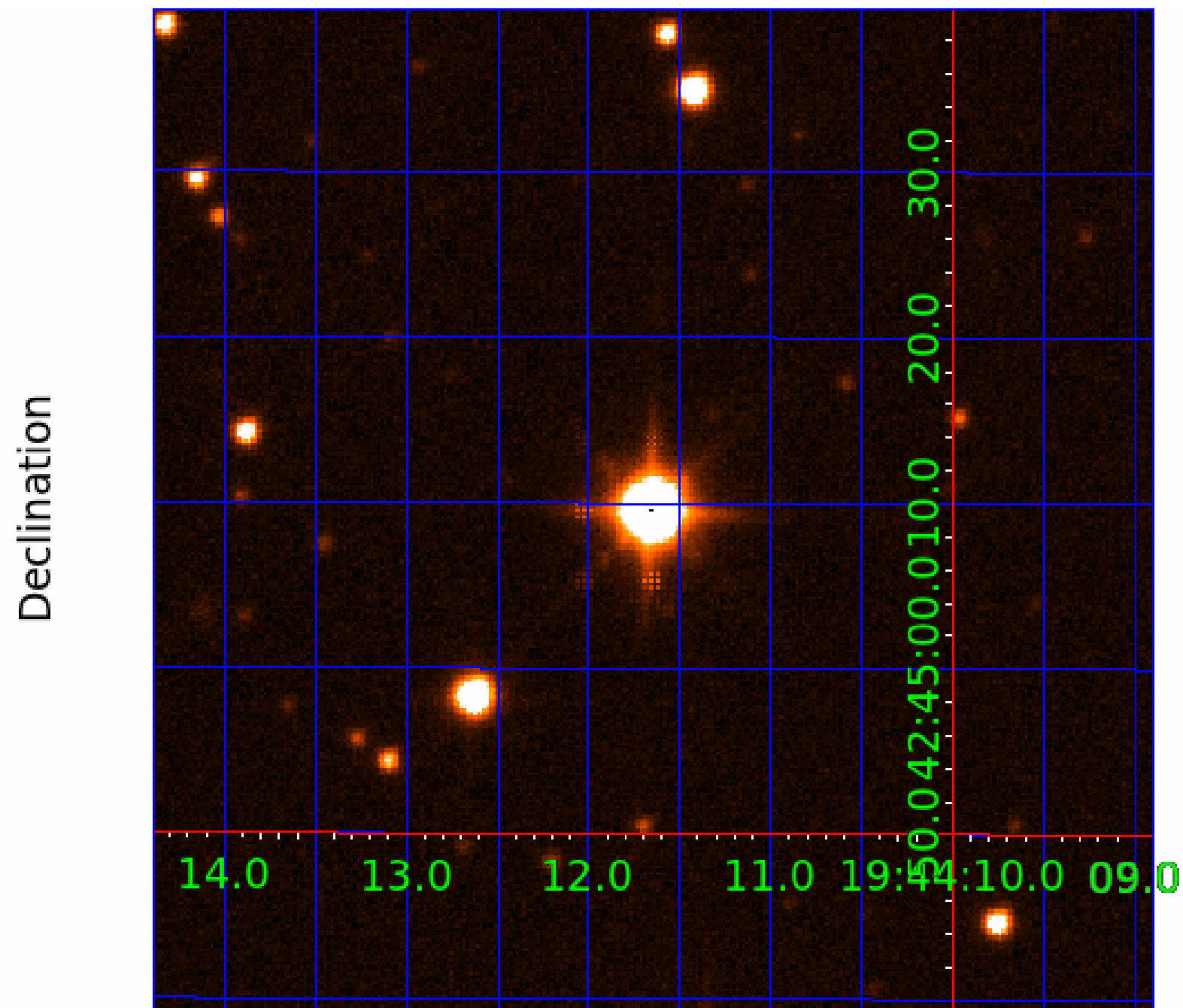
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 2



UKIRT Image



KIC 007215607

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})
007215607-01	OBS	No	0.666775	131.563226	5.7	4.073	9.9	3.4	6.27	6812	1.52	0.00
007215607-02	OBS	No	0.666773	131.825901	44.7	2.003	13.8	23.3	6.27	6812	4.49	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007215607-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007215607-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_SATURATED

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

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

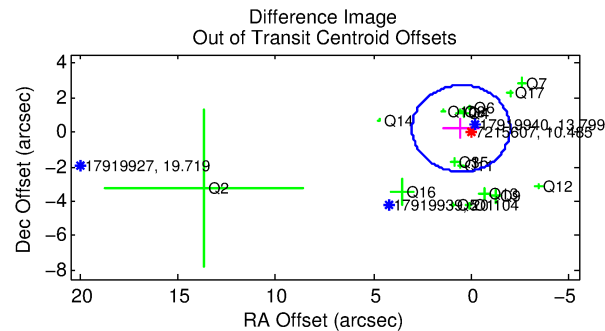
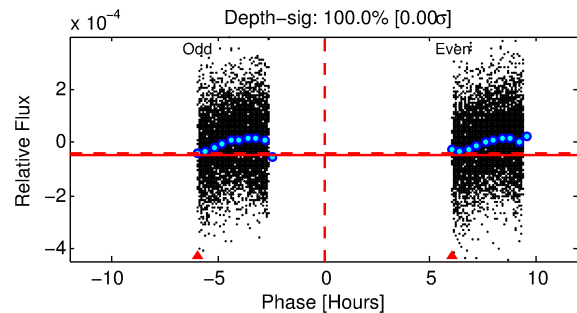
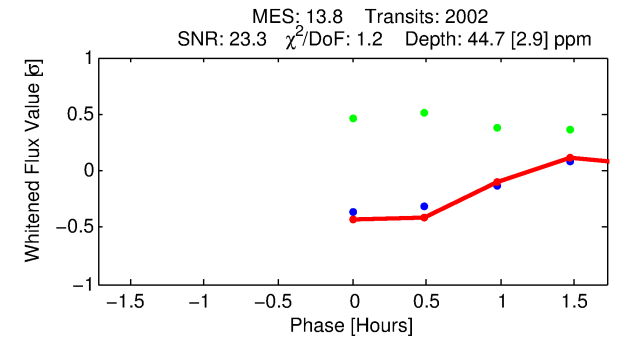
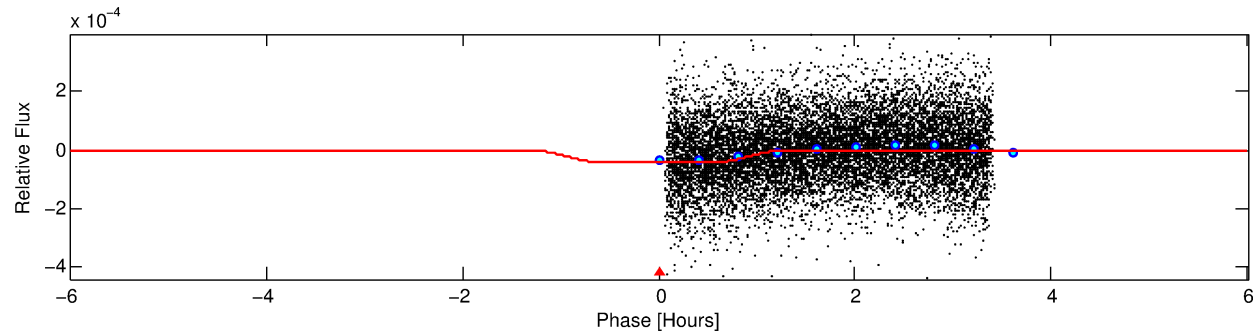
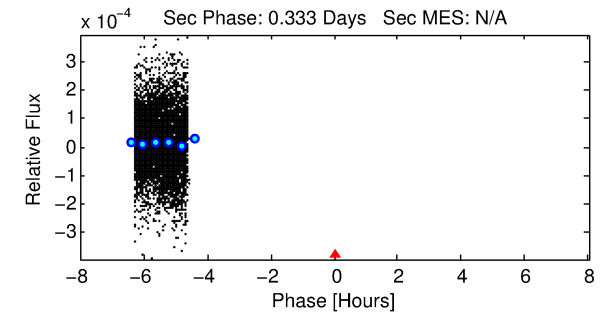
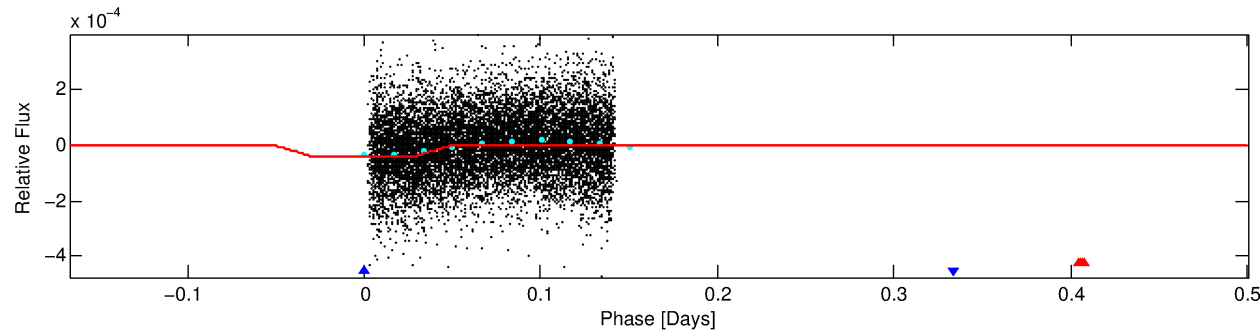
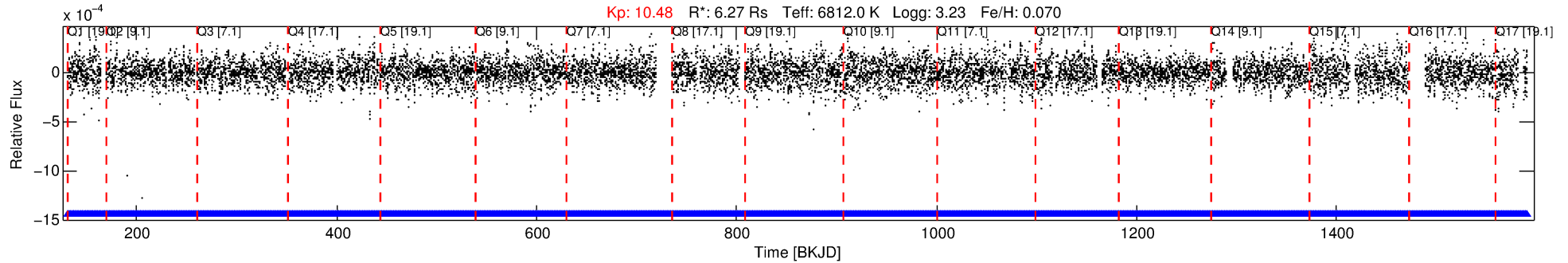
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007215607-02

No Significant Match Found

DV One-Page Summary

KIC: 7215607 Candidate: 2 of 2 Period: 0.667 d



DV Fit Results:

Period = 0.66677 [0.00000] d
Epoch = 131.8259 [0.0018] BKJD
Rp/R* = 0.0066 [0.0007]
a/R* = 2.01 [0.93]
b = 0.70 [0.45]
Seff = N/A
Teq = N/A
Rp = 4.49 [2.26] Re
a = N/A

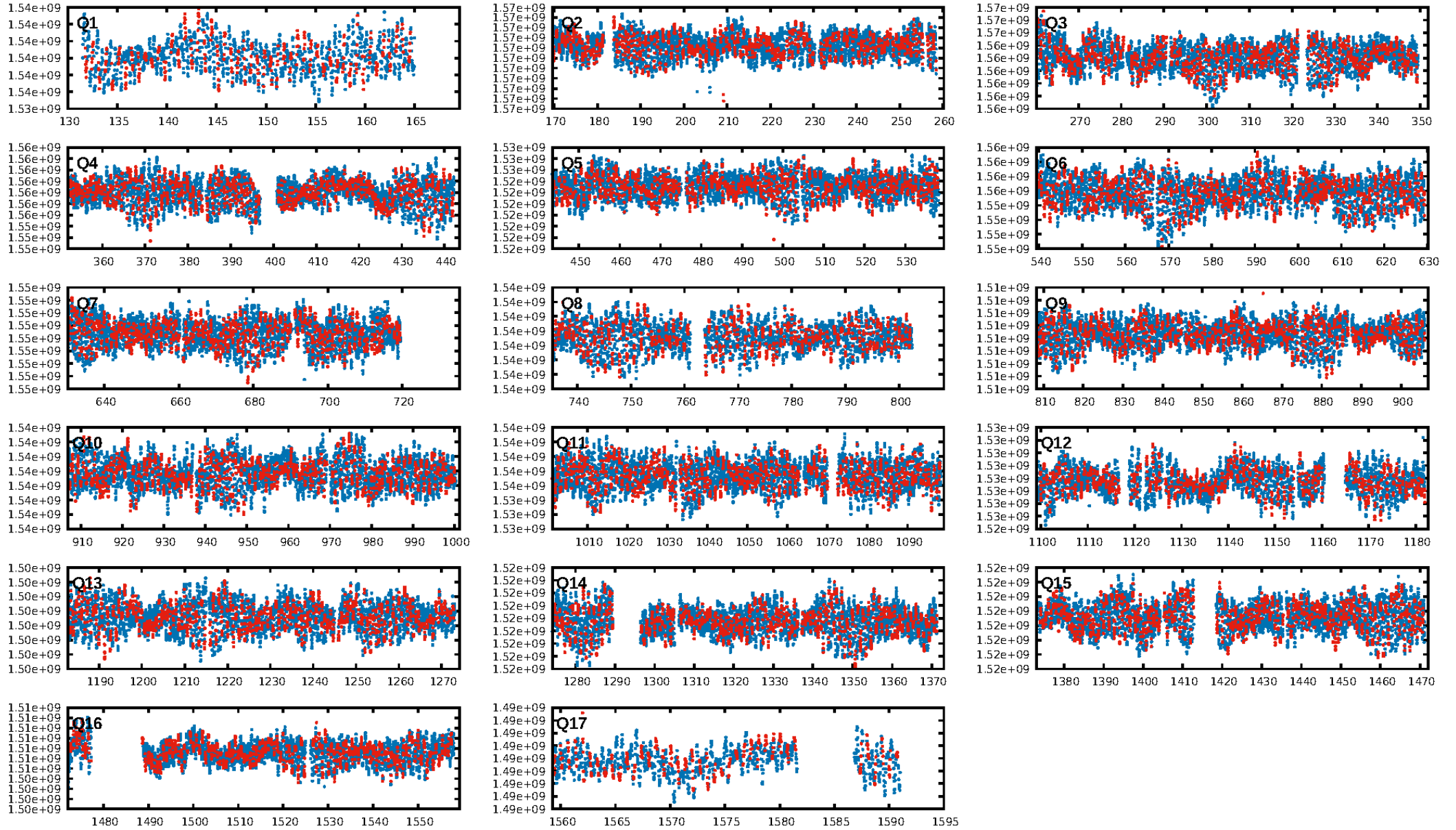
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.13e-28
RollingBand-fgt: 1.00 [1912/1912]
GhostDiagnostic-chr: 1.778
Centroid-sig: 0.0%
Centroid-so: 0.727 arcsec [3.73σ]
OotOffset-rm: 0.569 arcsec [0.68σ]
KicOffset-rm: 1.081 arcsec [1.41σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.12 [2/17]
DiffImageOverlap-fno: 0.00 [0/17]

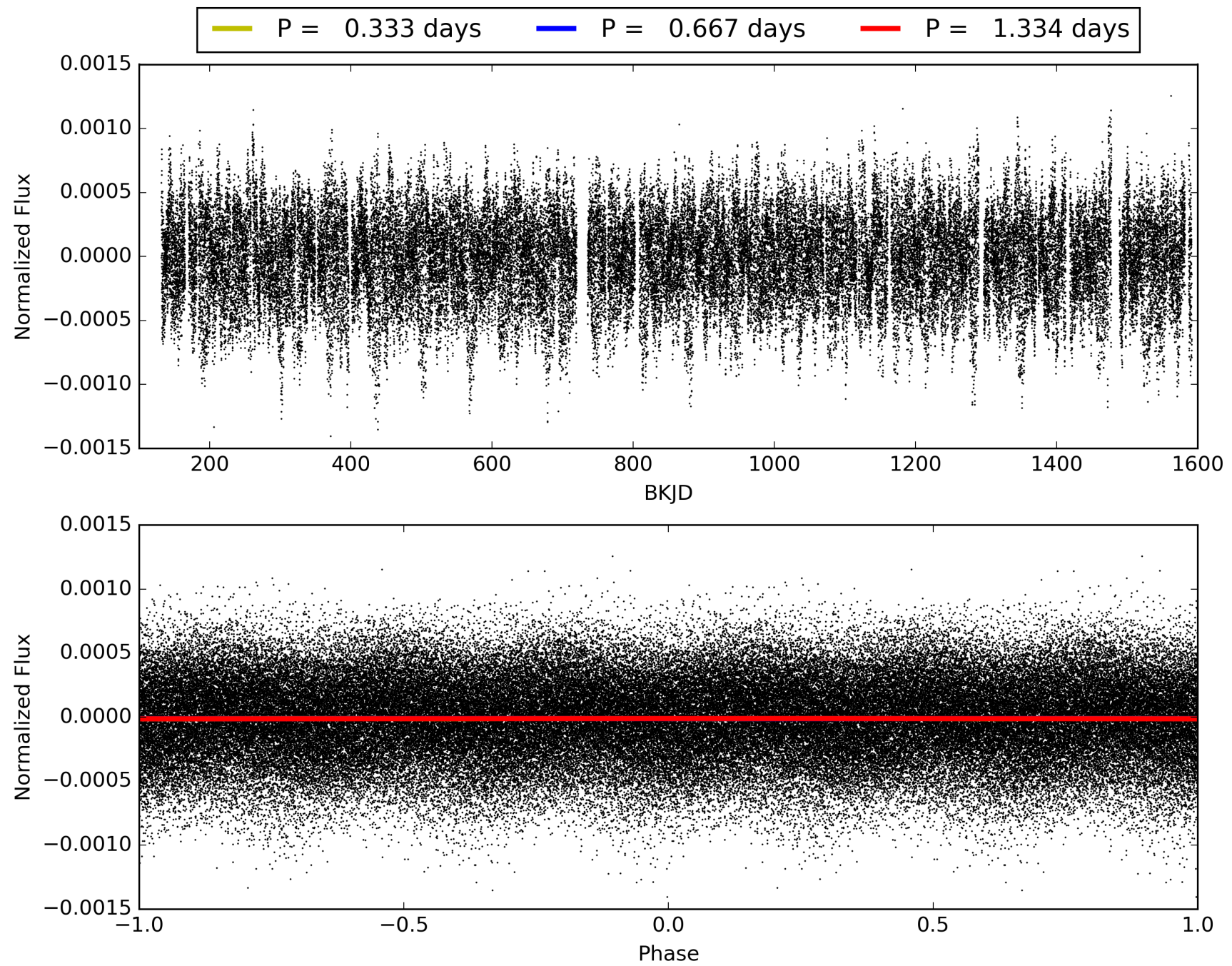
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:18:17 Z

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

TCE 007215607-02, PDC Light Curves

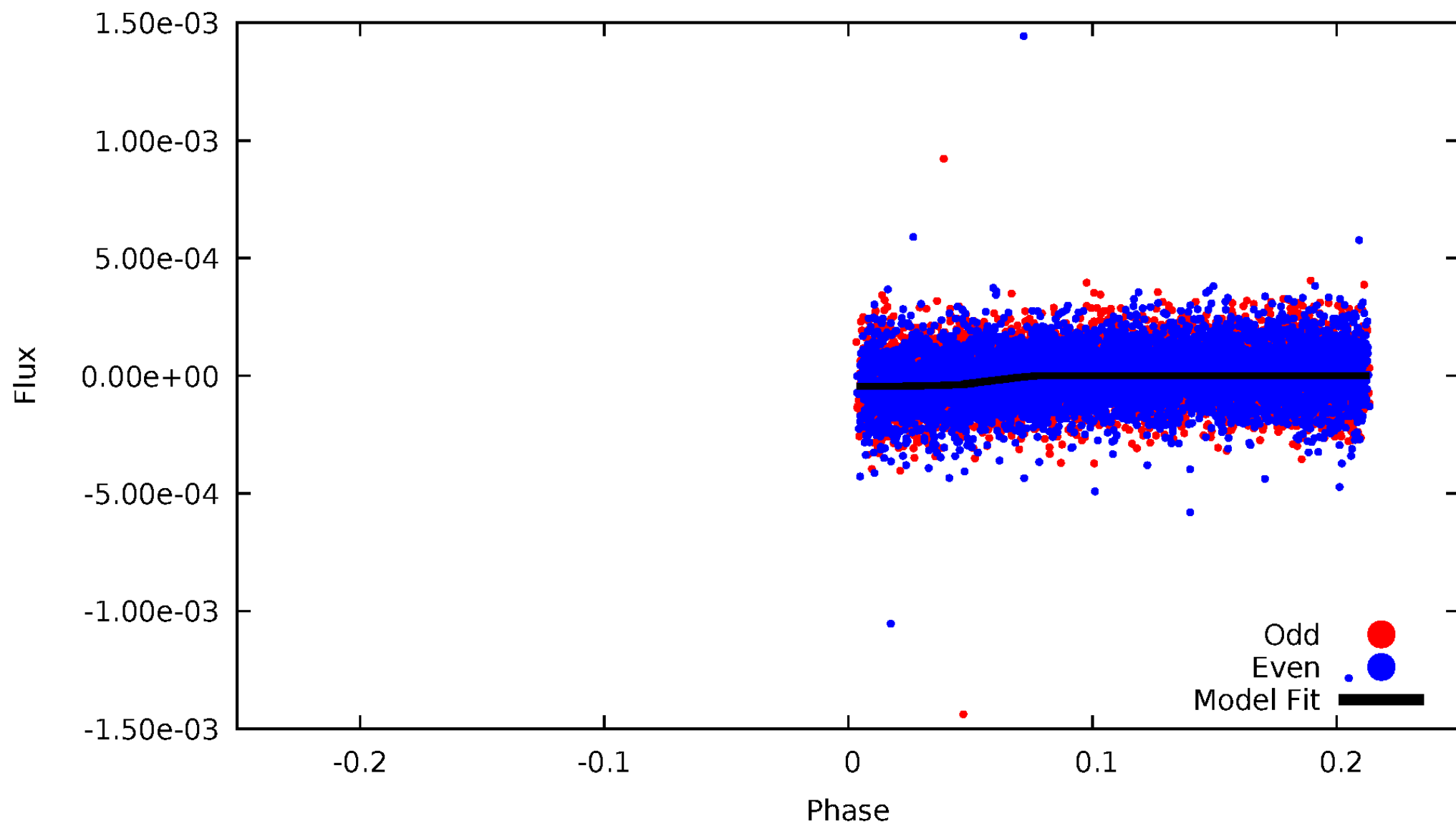


TCE 007215607-02



DV Odd/Even

TCE 007215607-02

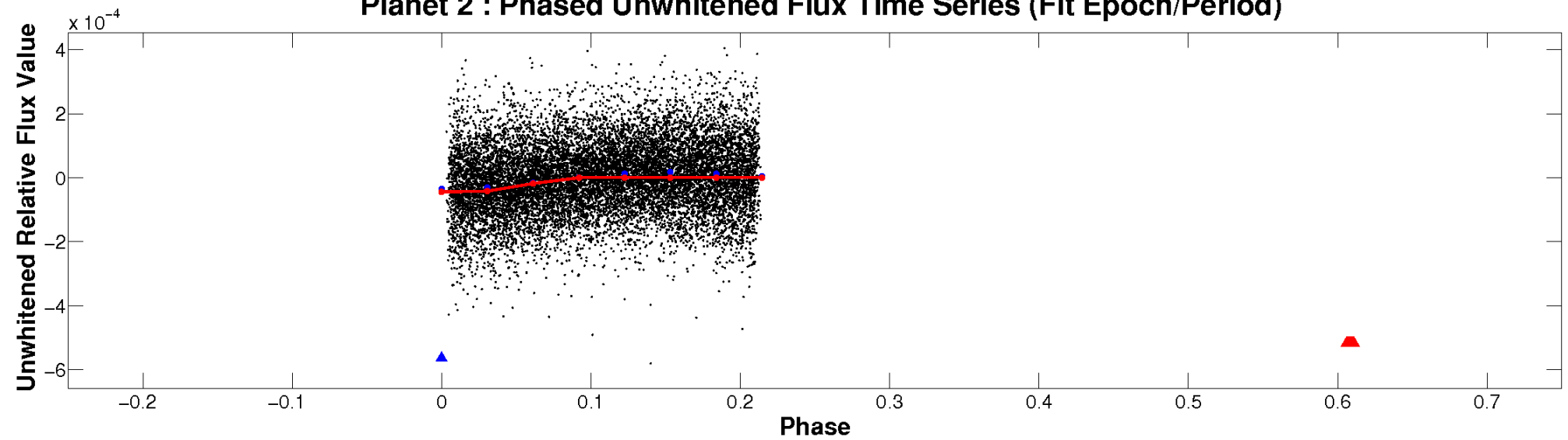


ALT Odd/Even

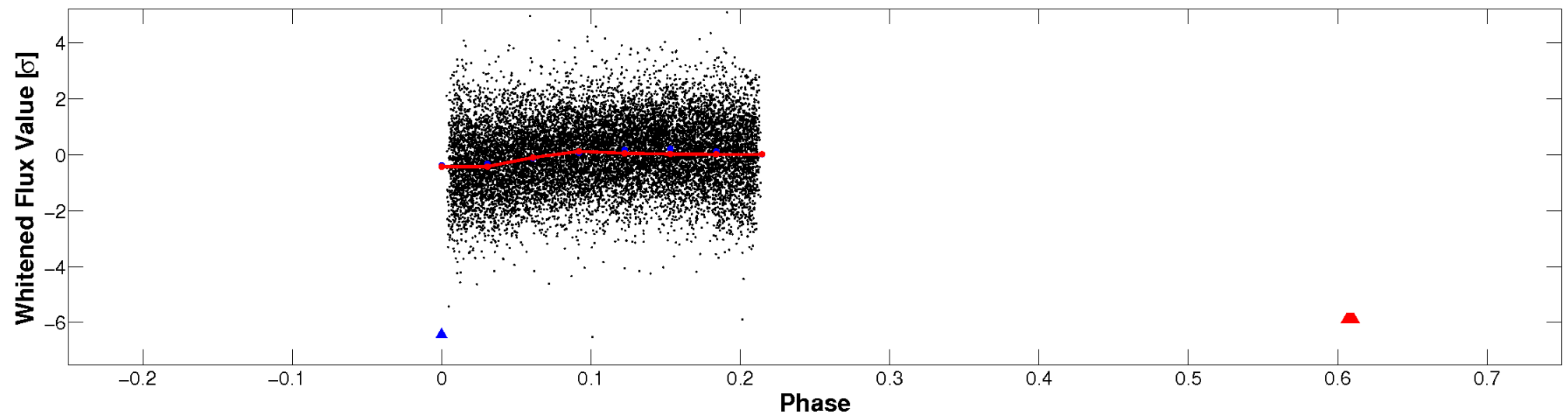
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

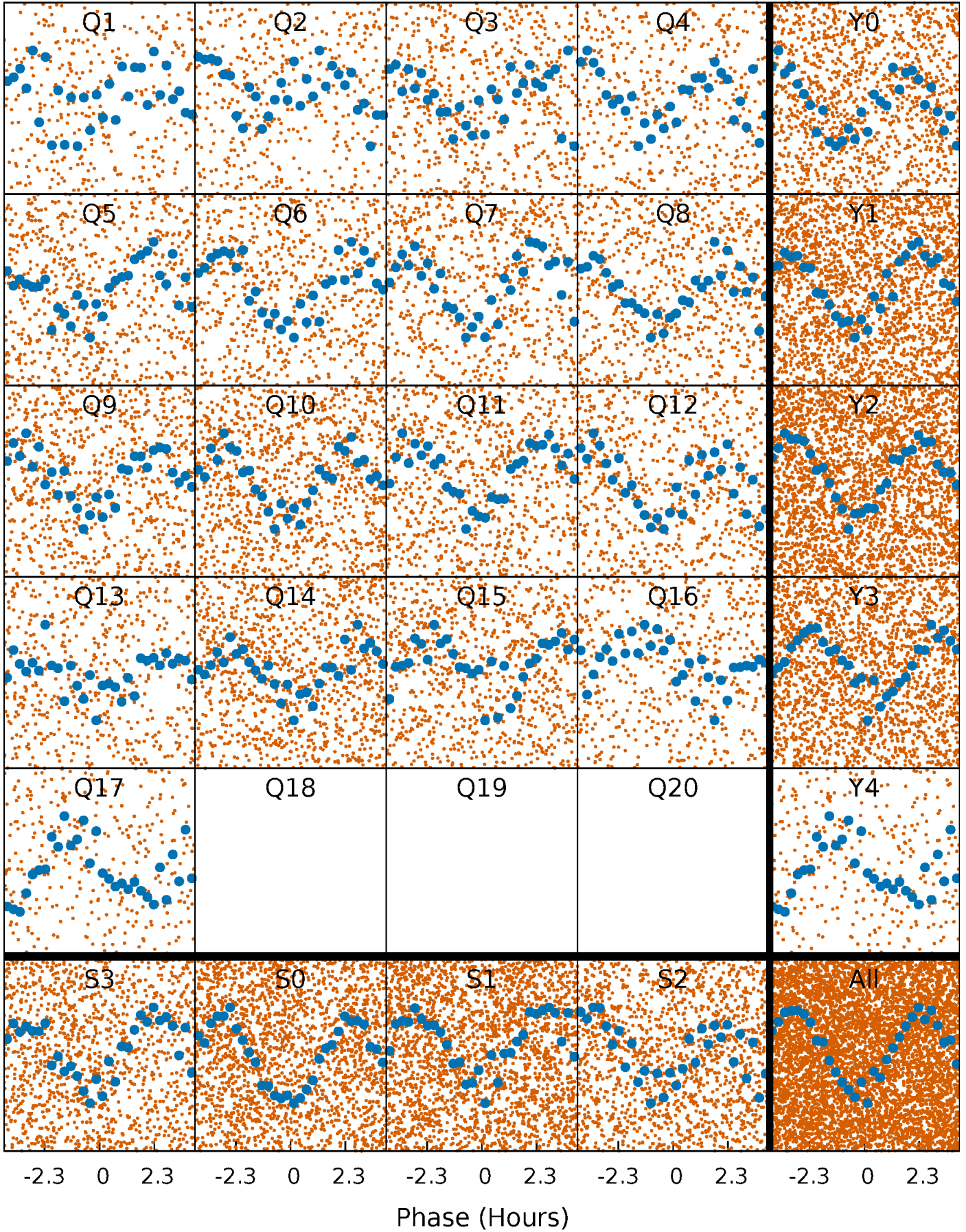


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



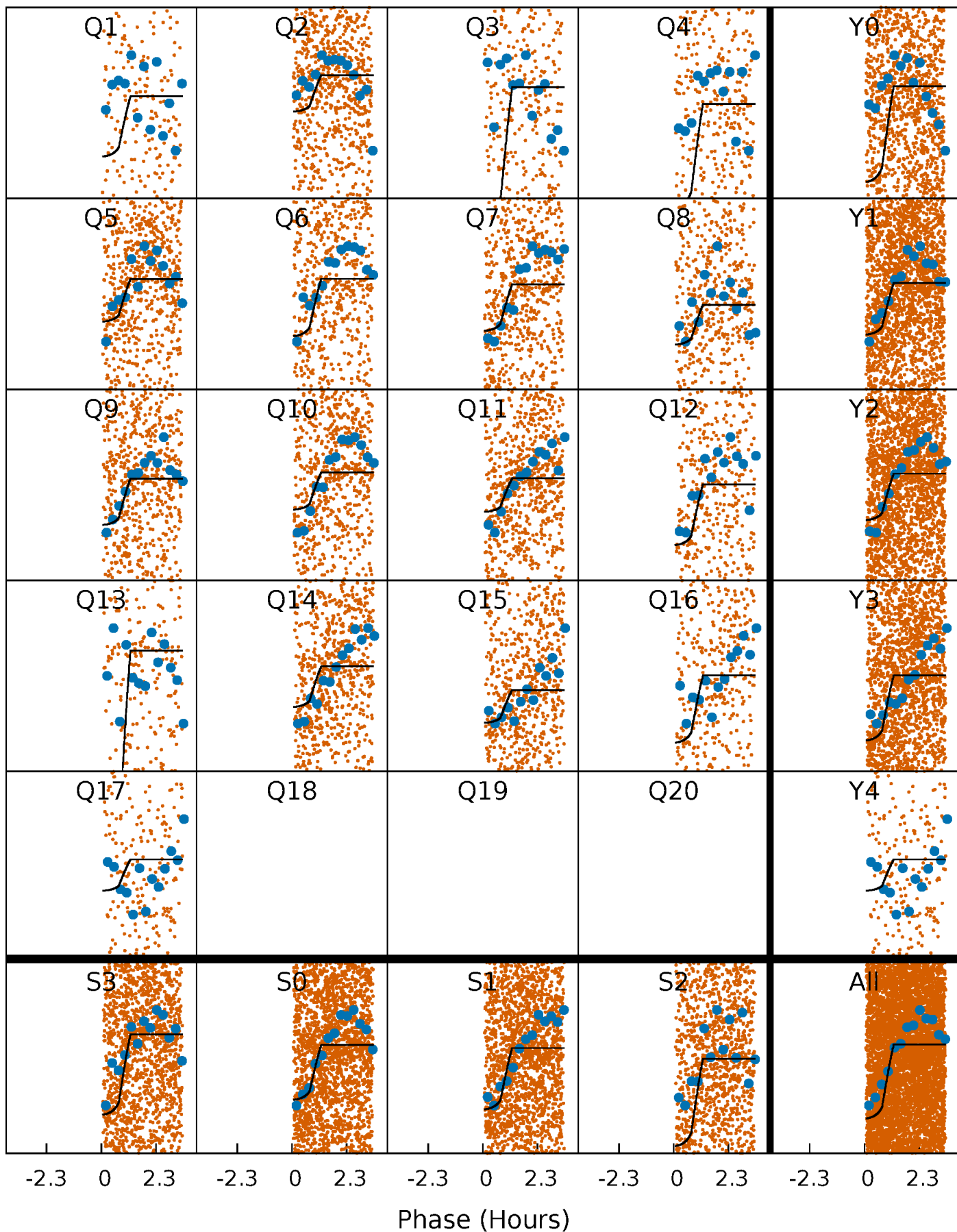
PDC Quarter-Phased Transit Curves

TCE 007215607-02 P= 0.666773 Days $T_0=131.825901$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007215607-02 P= 0.666773 Days $T_0=131.825901$ (BKJD)

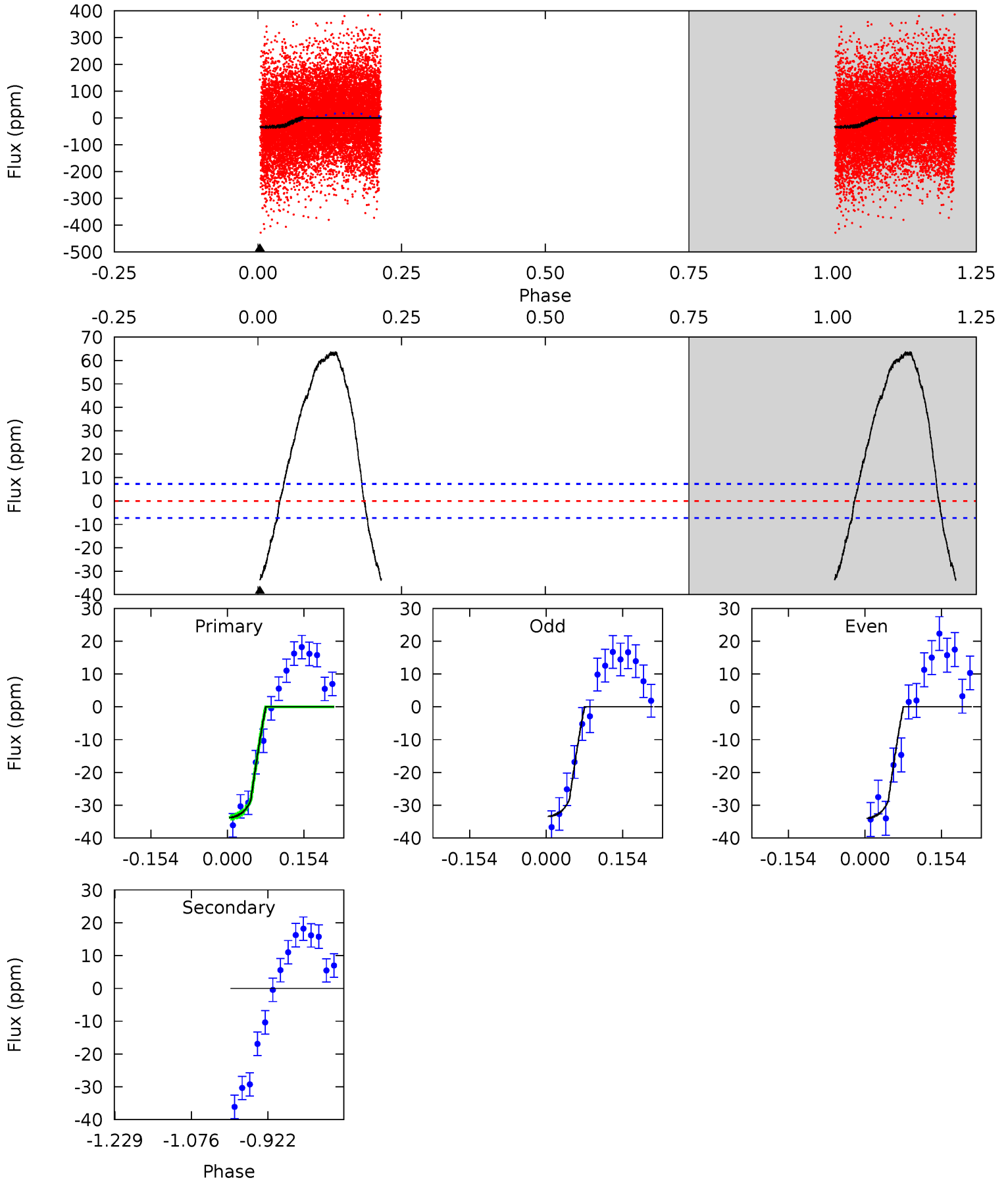


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

007215607-02, P = 0.666773 Days, E = 131.825901 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.7	0	0	0	4.47	1.43	15.0	20.7	20.7	0	0	0.18	0.93	0.65	0



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 007215607

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6812^{+152}_{-202}	$3.234^{+0.488}_{-0.152}$	$0.070^{+0.200}_{-0.350}$	$6.266^{+1.657}_{-3.077}$	$2.453^{+0.307}_{-0.716}$	$0.014^{+0.065}_{-0.006}$
	+2%/-3%	+15%/-5%	+286%/-500%	+26%/-49%	+13%/-29%	+466%/-43%
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 007215607-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 2	$4.20^{+0.95}_{-1.09}$	7254^{+573}_{-948}	-5888^{+686}_{-526}	$-0.000^{+0.024}_{-0.023}$
Alt.	N/A	N/A	N/A	N/A	N/A

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

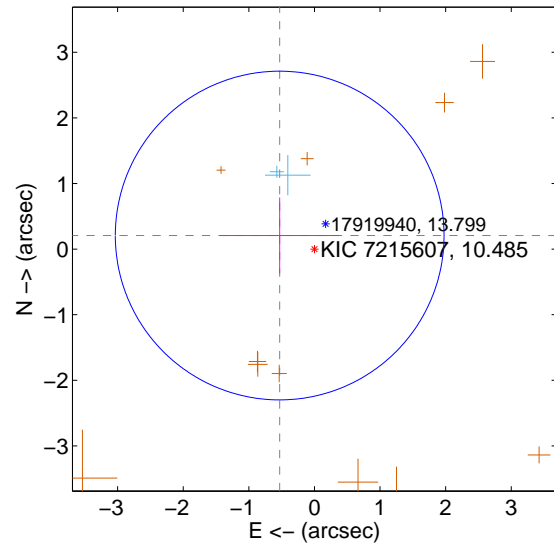
Supplemental centroid analysis for 007215607-02. **Kepler magnitude: 10.48.** Transit SNR 23.30

There are 2 quarters with good PRF difference image offsets

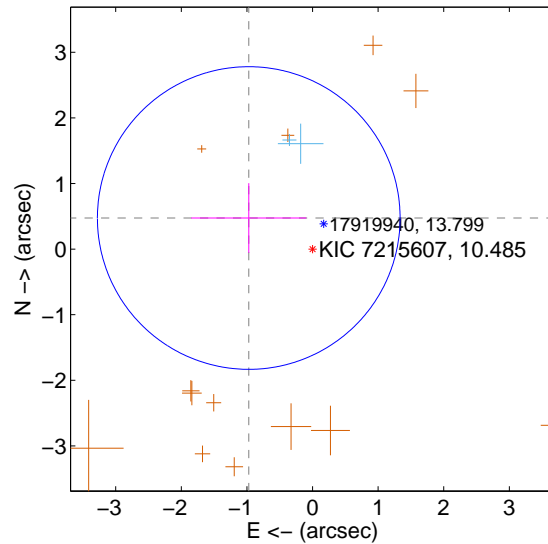
The direct PRF centroid is offset from the target star catalog position by about 1.37 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.569 ± 0.835	0.68	0.530 ± 0.908	0.207 ± 0.580
PRF-fit source offset from KIC position	1.081 ± 0.769	1.41	0.972 ± 0.878	0.474 ± 0.531
photometric centroid source offset	0.73 ± 0.20	3.73	-0.31 ± 0.24	-0.66 ± 0.18

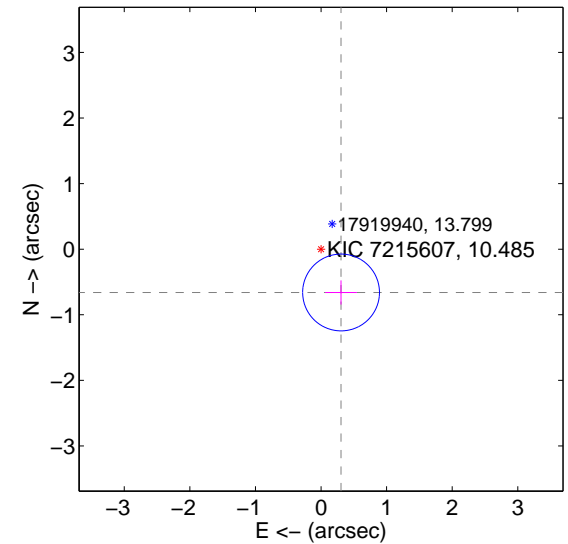
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

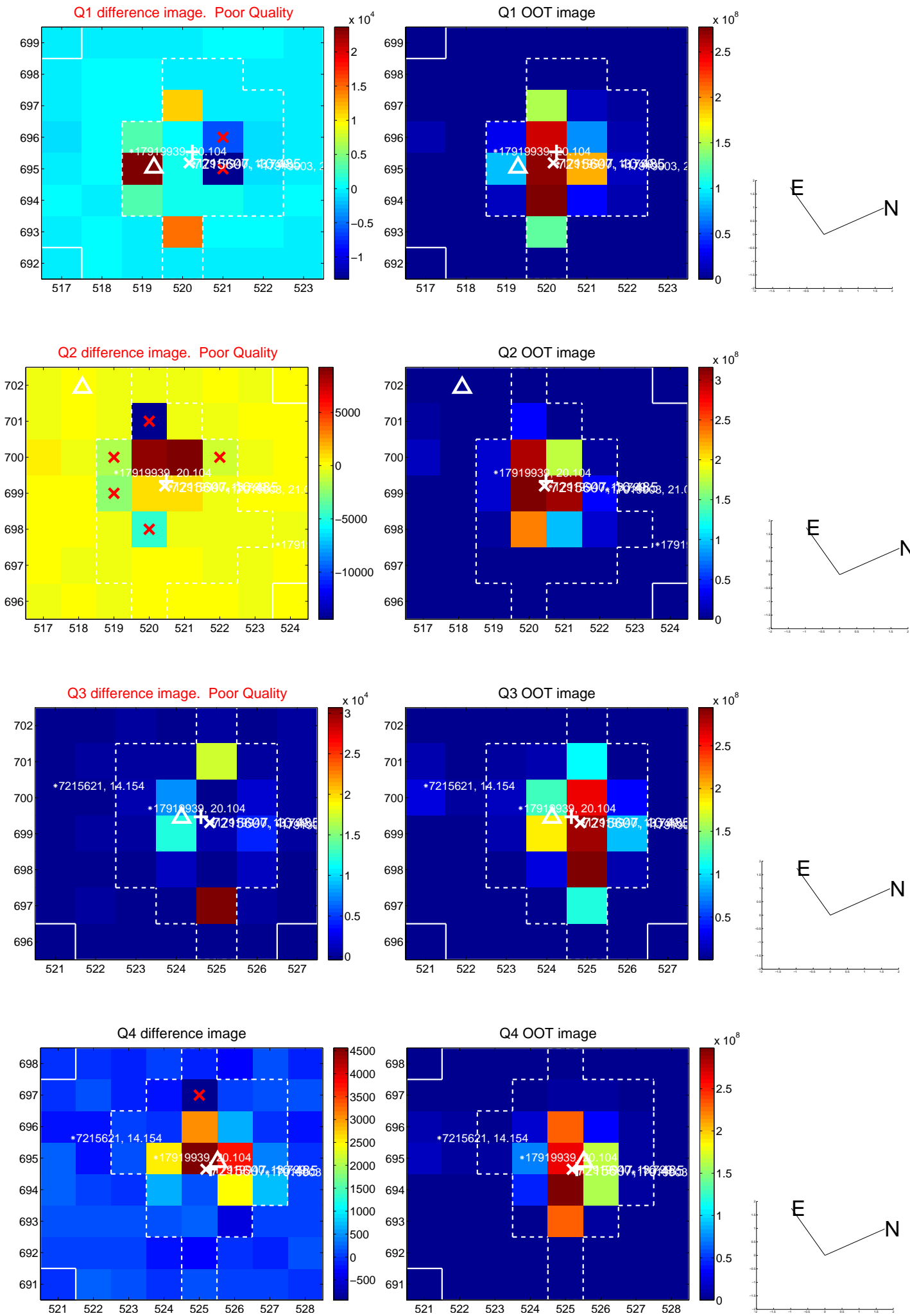


offset from photometric centroids

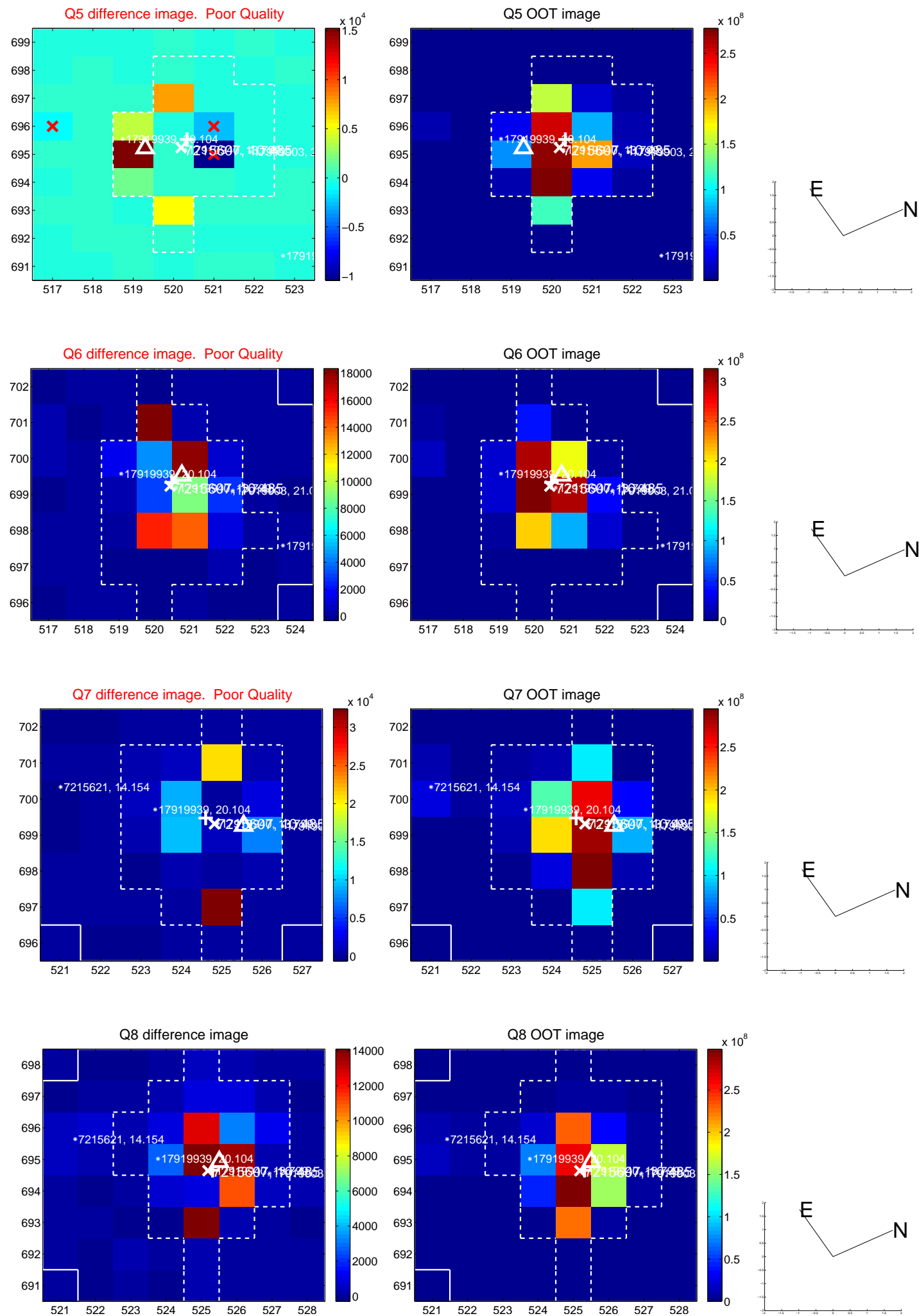


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

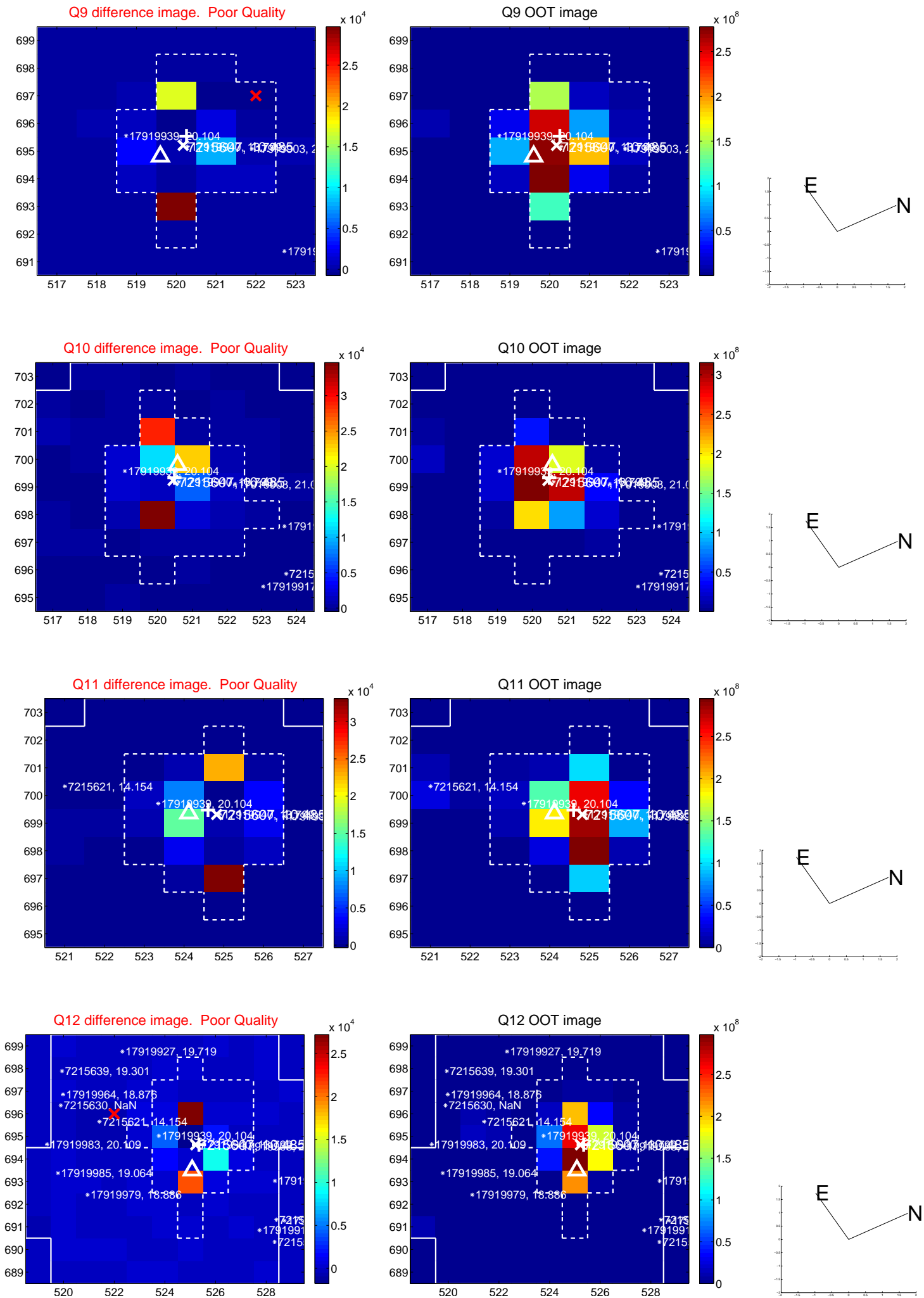
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



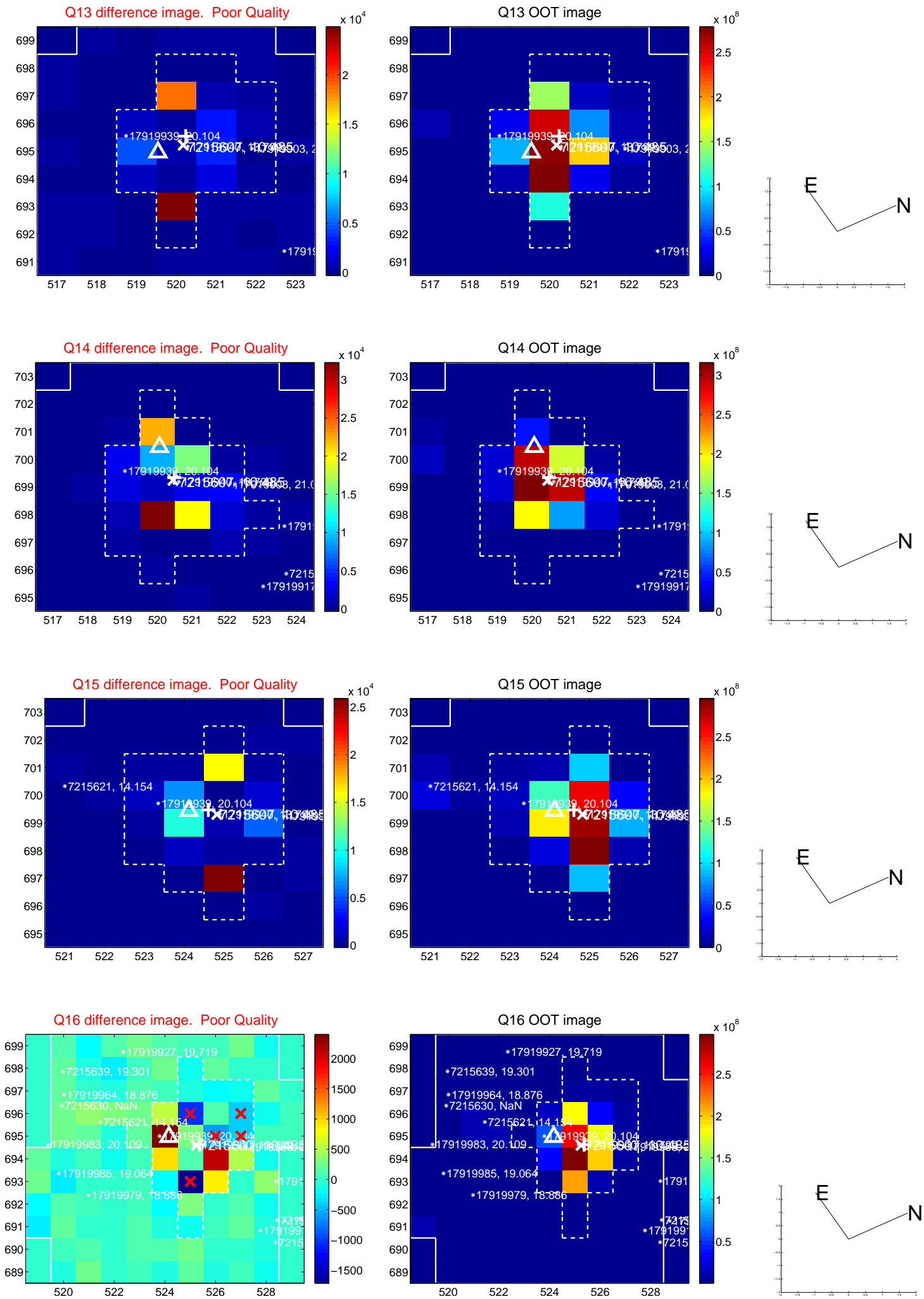
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



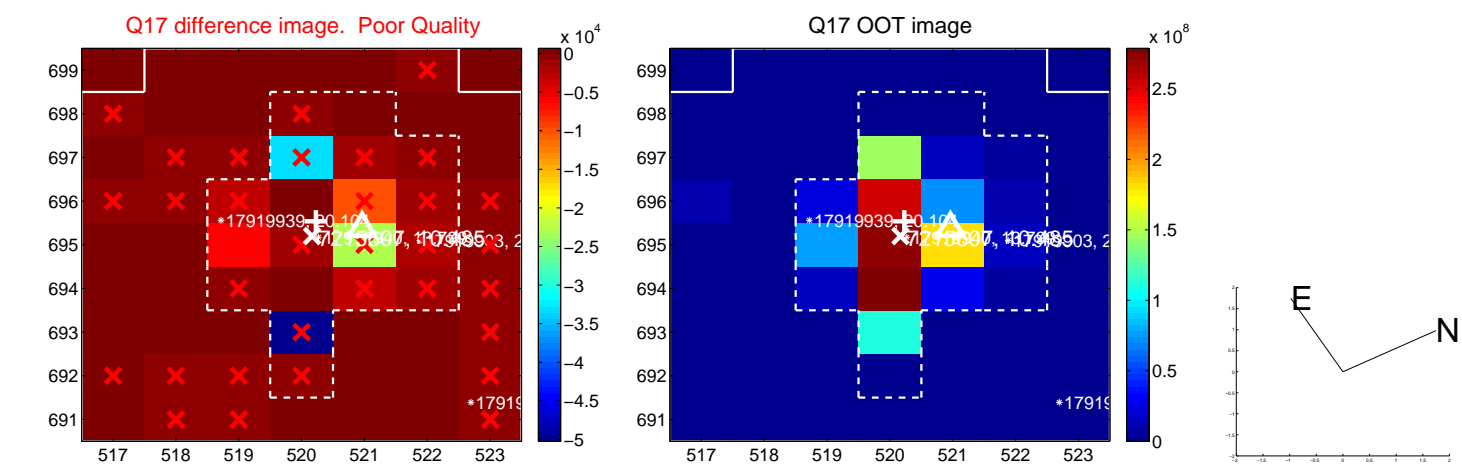
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



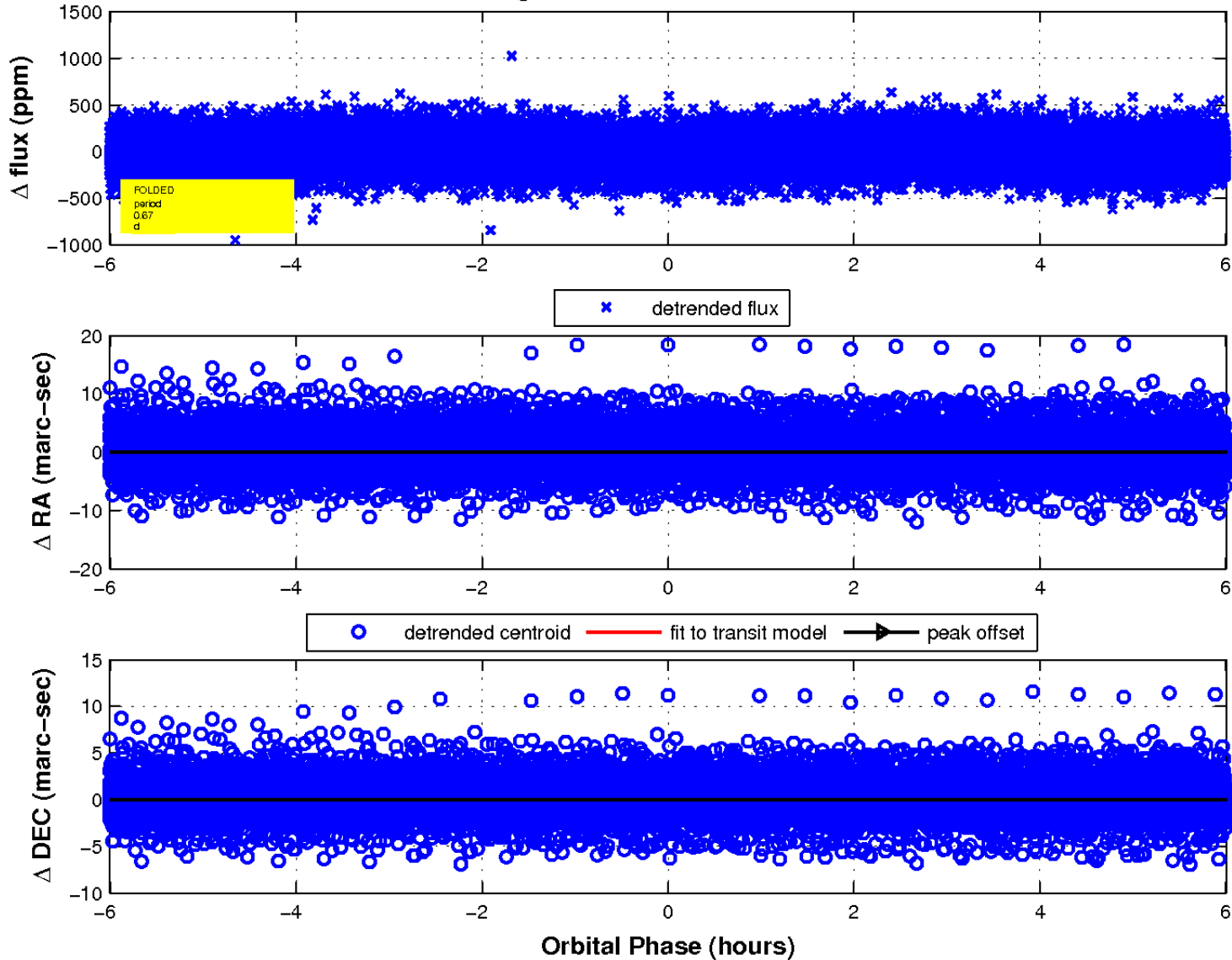
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

