

KIC 004771030

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})
004771030-01	OBS	No	1.154291	132.336043	1.0	8.491	7.6	0.6	3.52	6415	0.36	28169.99
004771030-02	OBS	No	21.888453	139.820949	271.4	1.417	12.7	12.0	3.52	6415	5.89	557.08
004771030-03	OBS	No	36.696138	162.053555	87.7	5.828	10.8	4.4	3.52	6415	3.83	279.71

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004771030-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
004771030-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_MEAS
004771030-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

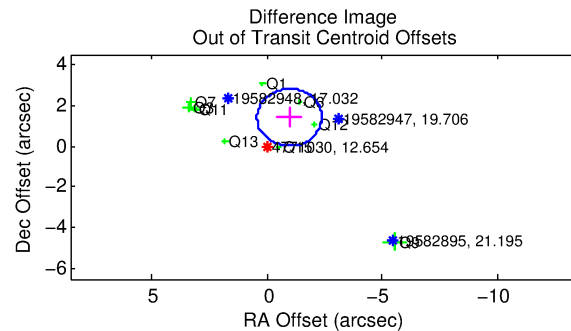
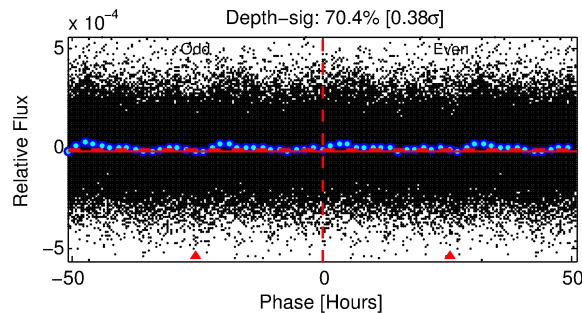
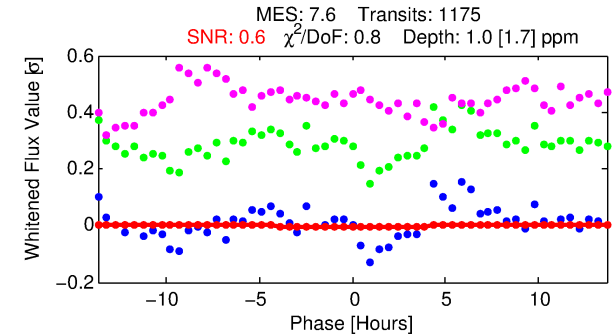
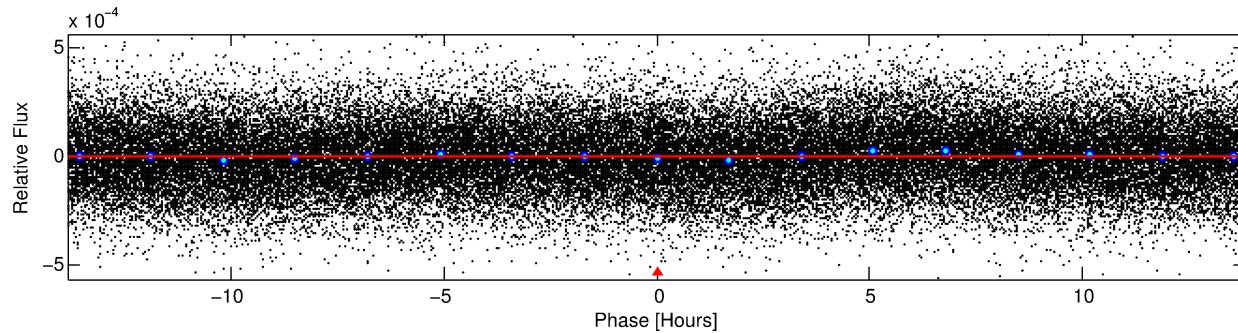
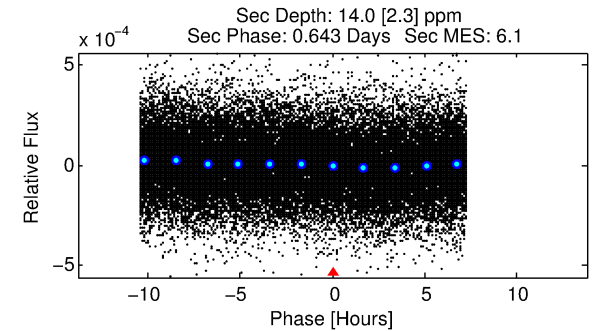
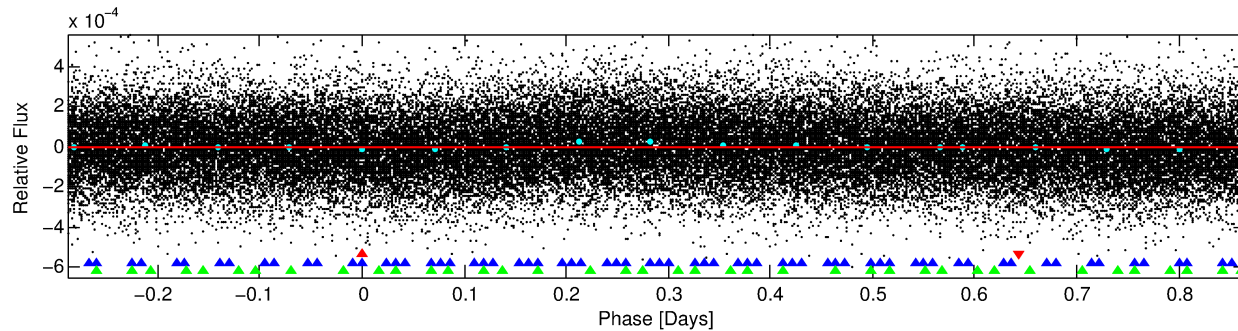
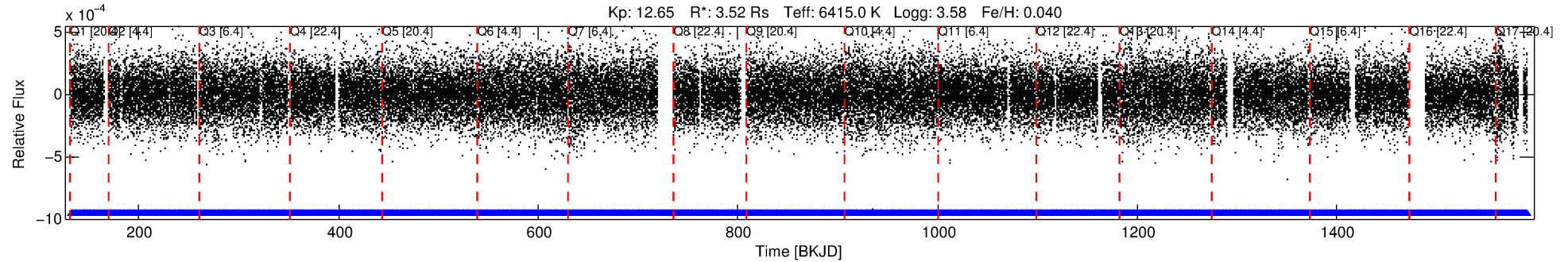
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004771030-01

No Significant Match Found

DV One-Page Summary

KIC: 4771030 Candidate: 1 of 3 Period: 1.154 d



DV Fit Results:

Period = 1.15429 [0.00030] d
Epoch = 132.3360 [0.0927] BKJD
Rp/R* = 0.0009 [0.0040]
a/R* = 1.19 [7.61]
b = 0.39 [48.27]
Seff = 28169.99 [16366.87]
Teq = 3303 [480] K
Rp = 0.36 [1.53] Re
a = 0.0258 [0.0095] AU
Ag = 39.27 [331.03] [0.12σ]
Teffp = 12785 [26888] K [0.35σ]

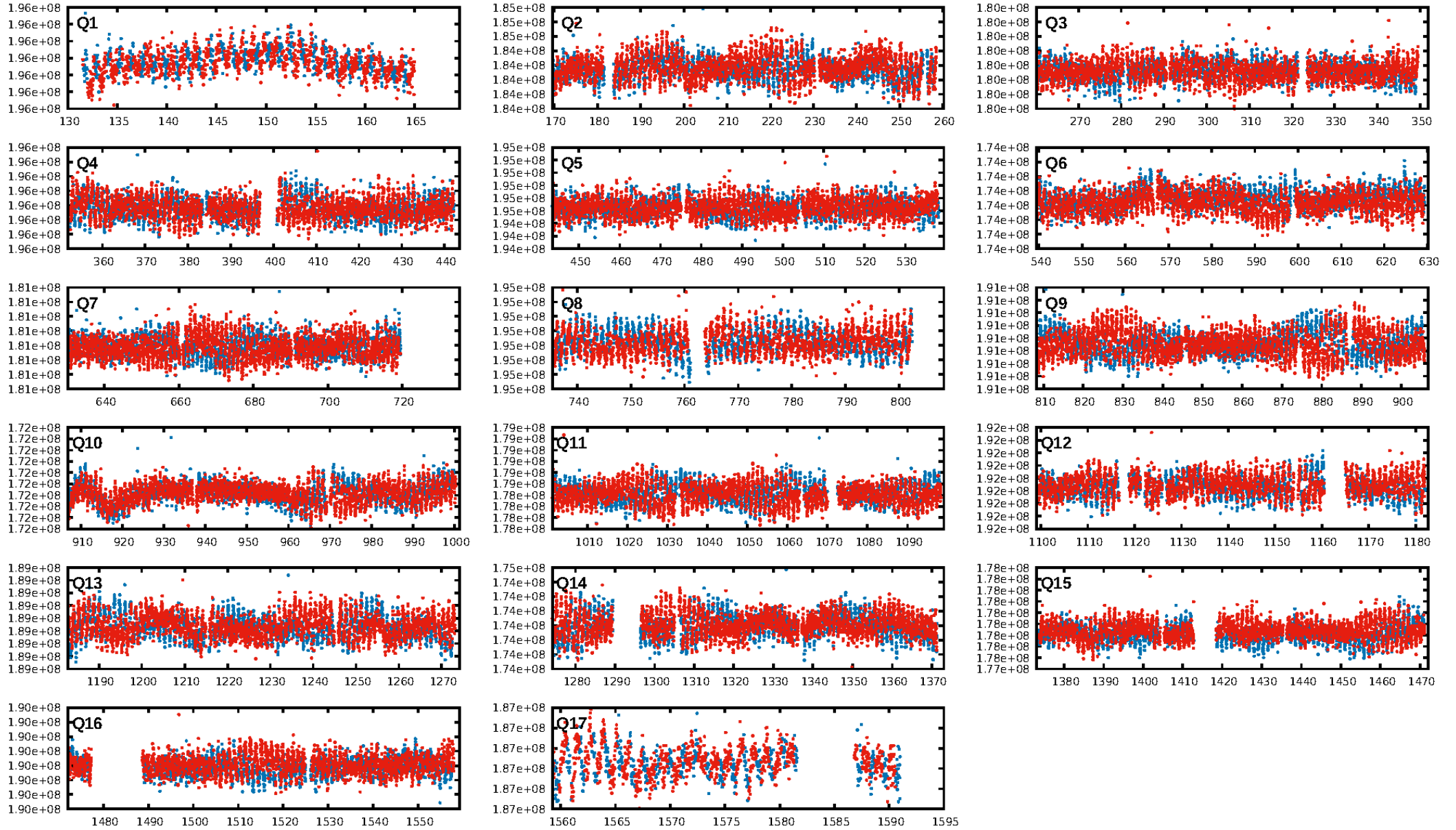
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [57.81σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.25e-21
RollingBand-fgt: 1.00 [1123/1123]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 1.712 arcsec [3.68σ]
KicOffset-rm: 1.724 arcsec [3.68σ]
OotOffset-st: 1/4/1/3 [9]
KicOffset-st: 1/4/1/3 [9]
DiffImageQuality-fgm: 0.22 [2/9]
DiffImageOverlap-fno: 1.00 [17/17]

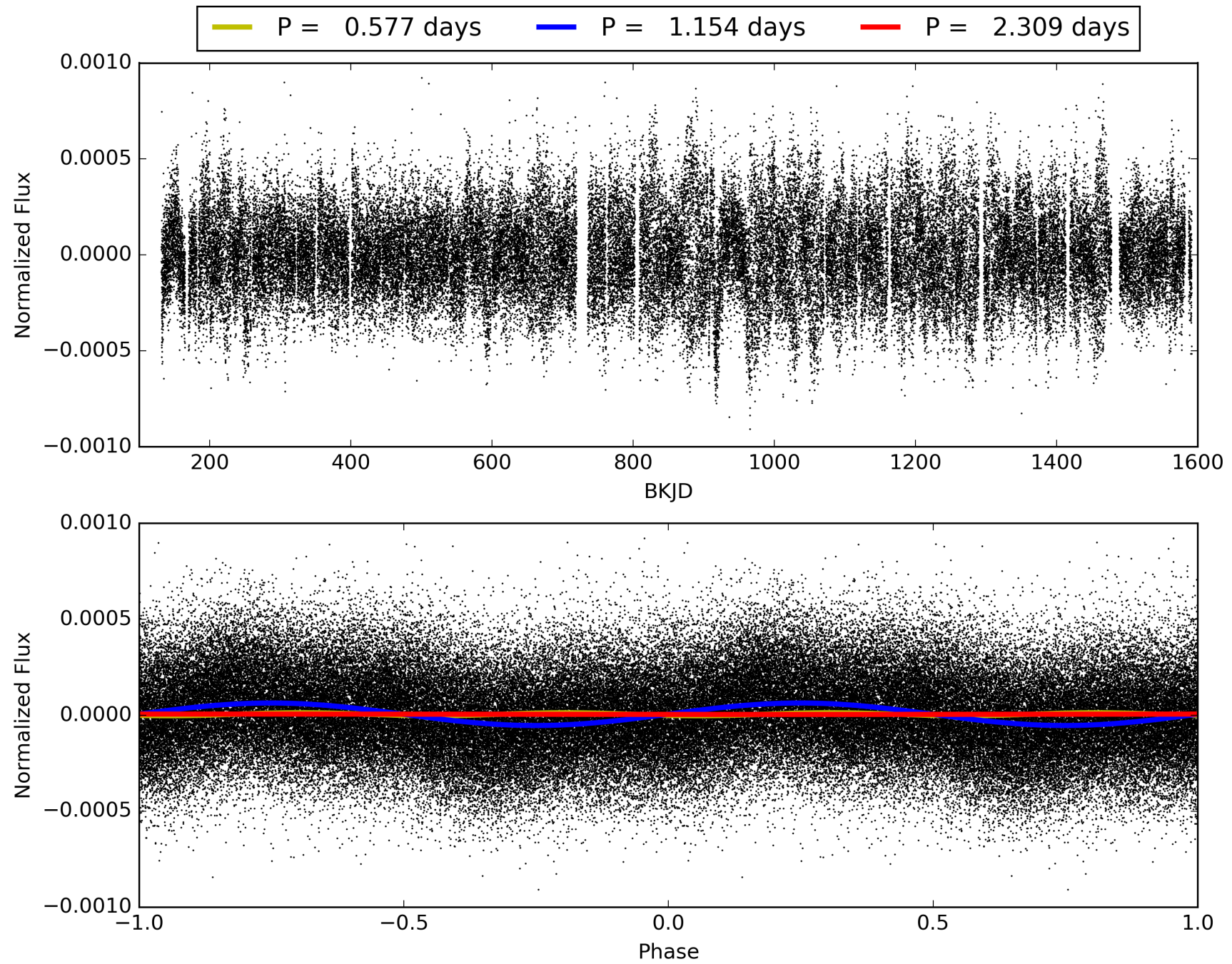
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:59:32 Z

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

TCE 004771030-01, PDC Light Curves

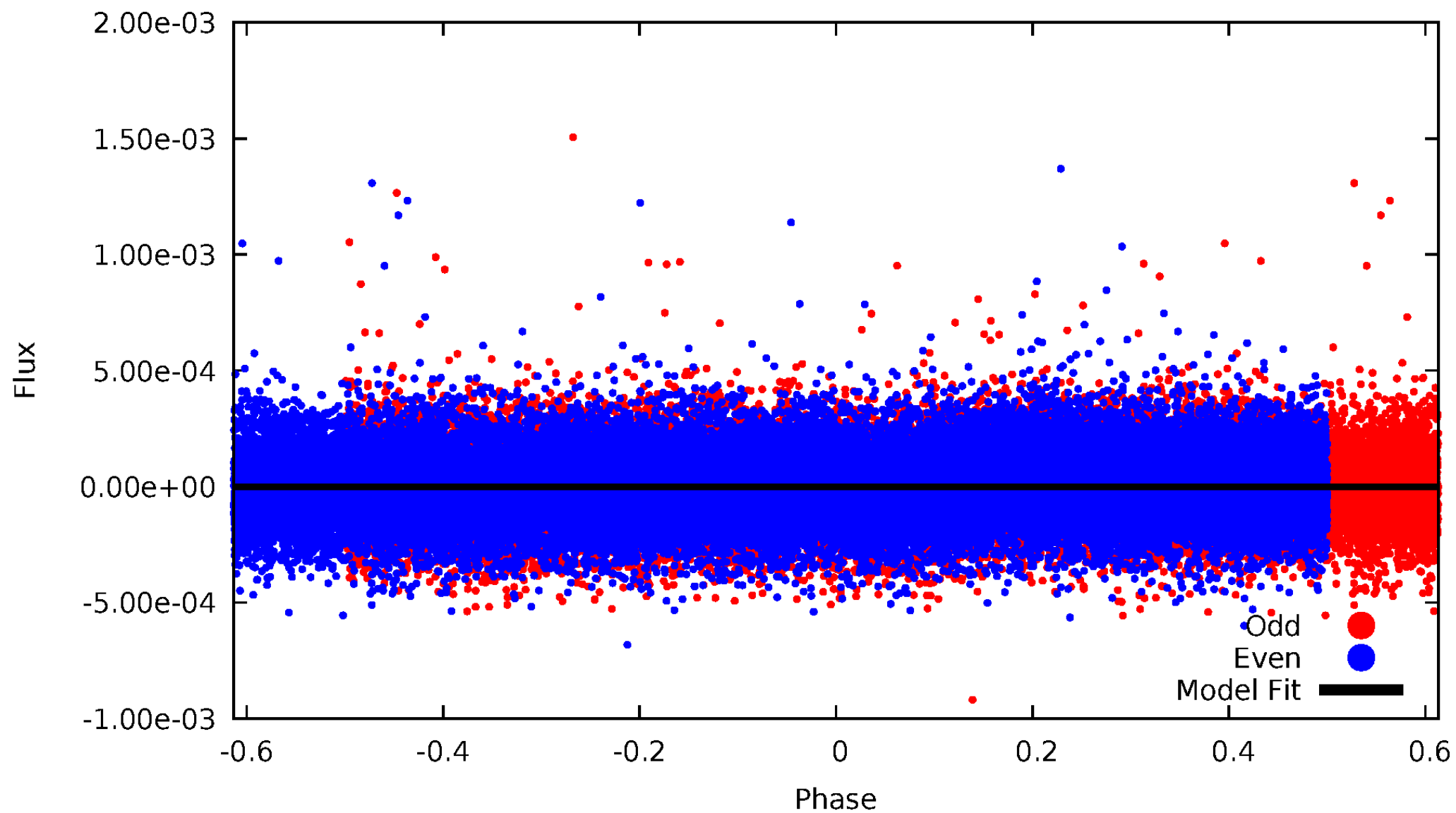


TCE 004771030-01



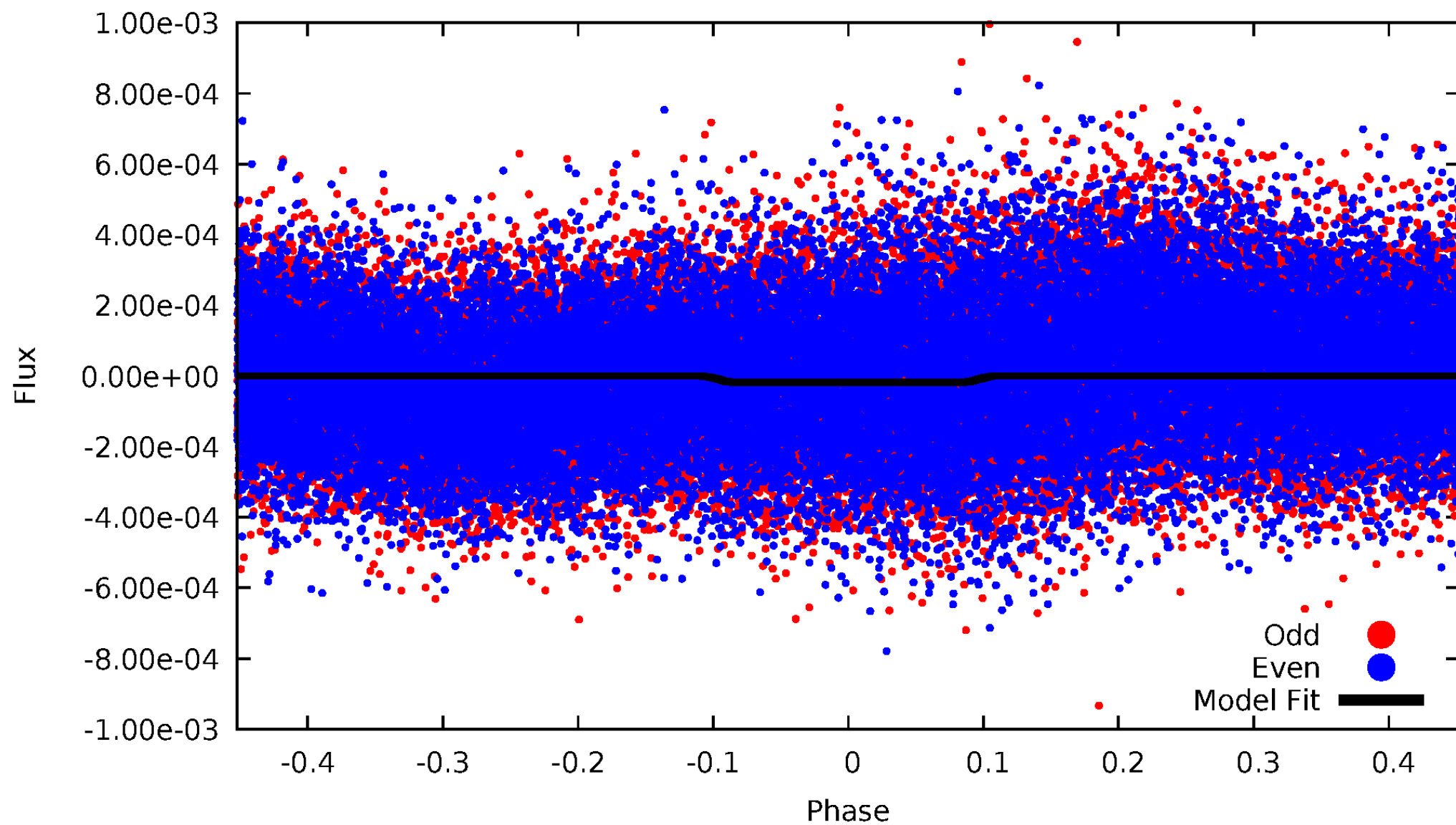
DV Odd/Even

TCE 004771030-01



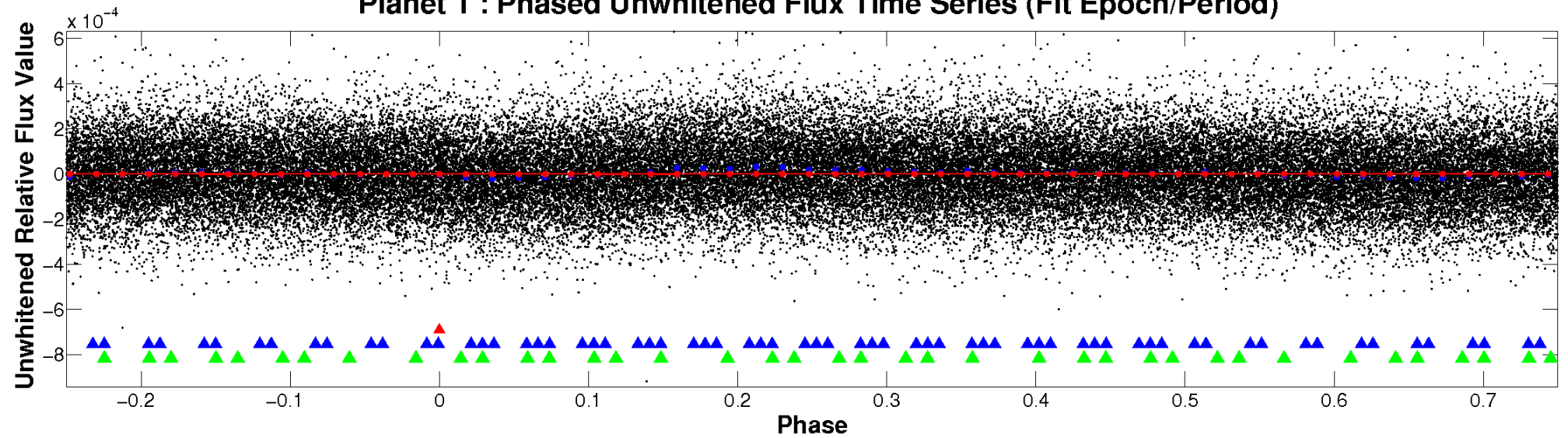
ALT Odd/Even

TCE 004771030-01

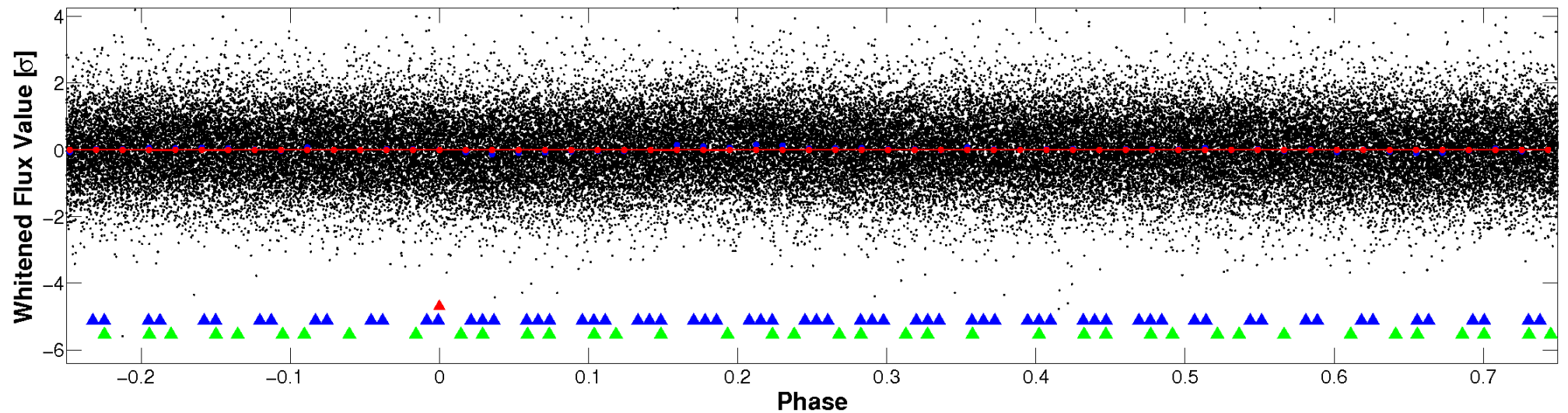


Non-Whitened Vs. Whitened Light Curve

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

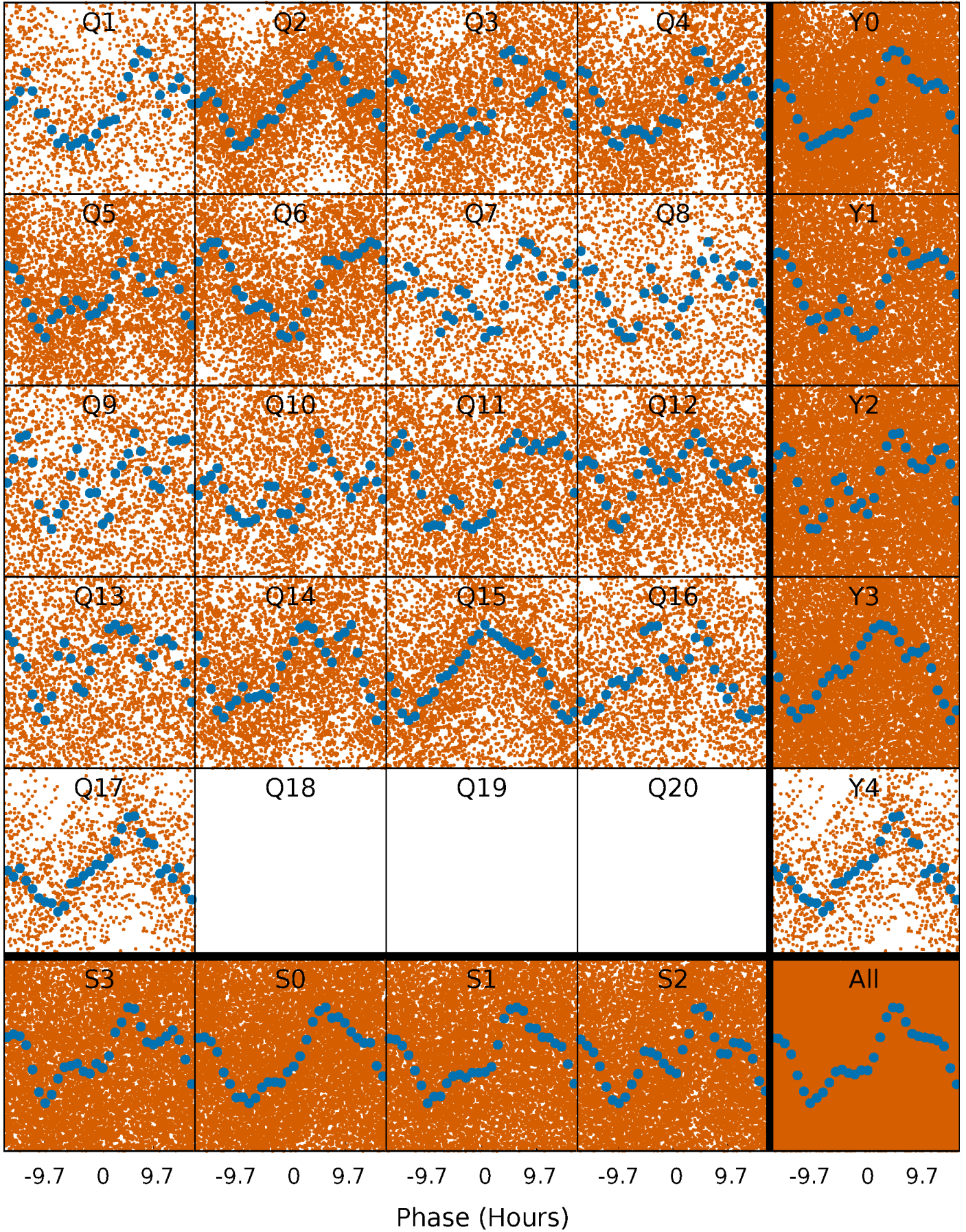


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



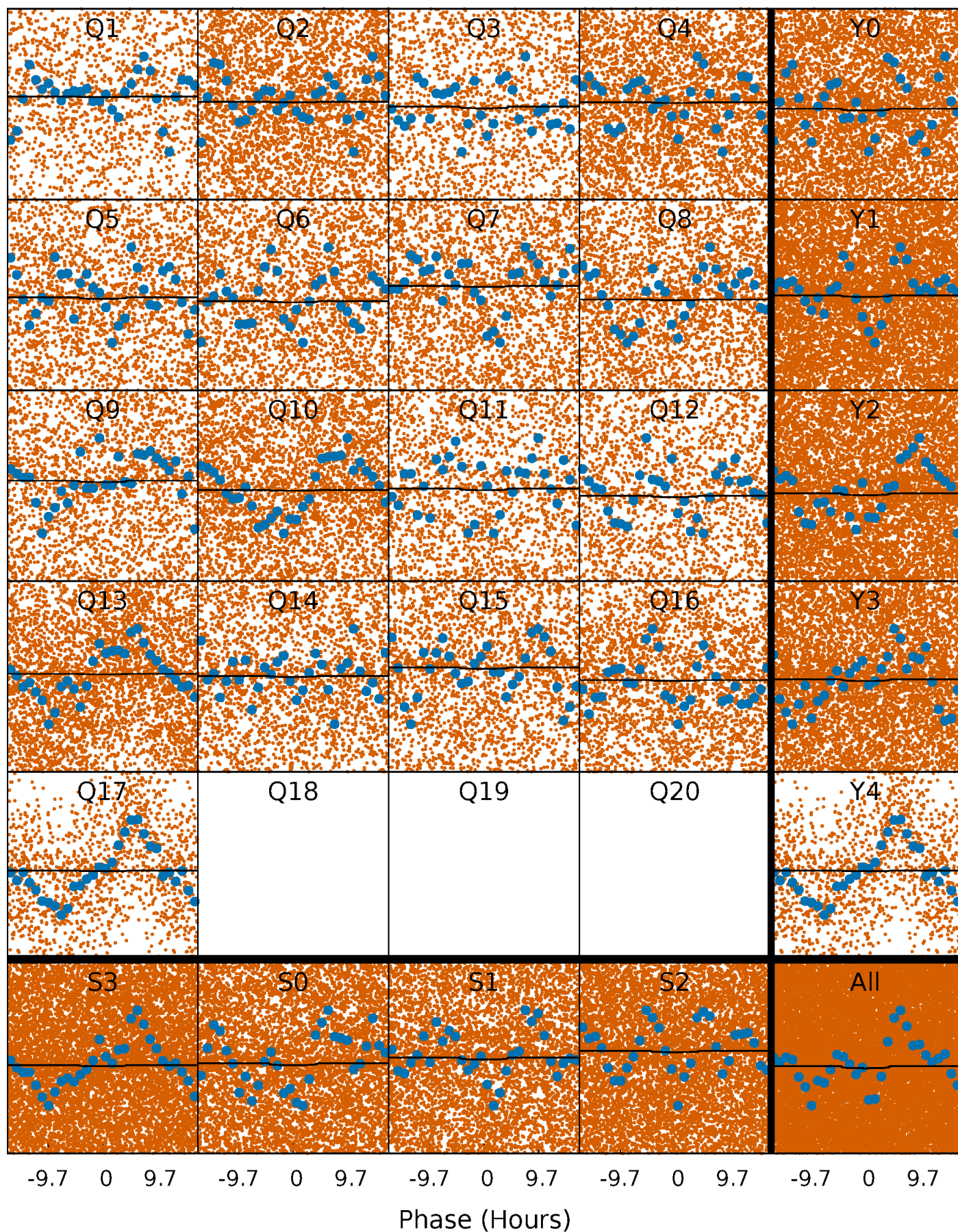
PDC Quarter-Phased Transit Curves

TCE 004771030-01 P= 1.154291 Days $T_0=132.336043$ (BKJD)



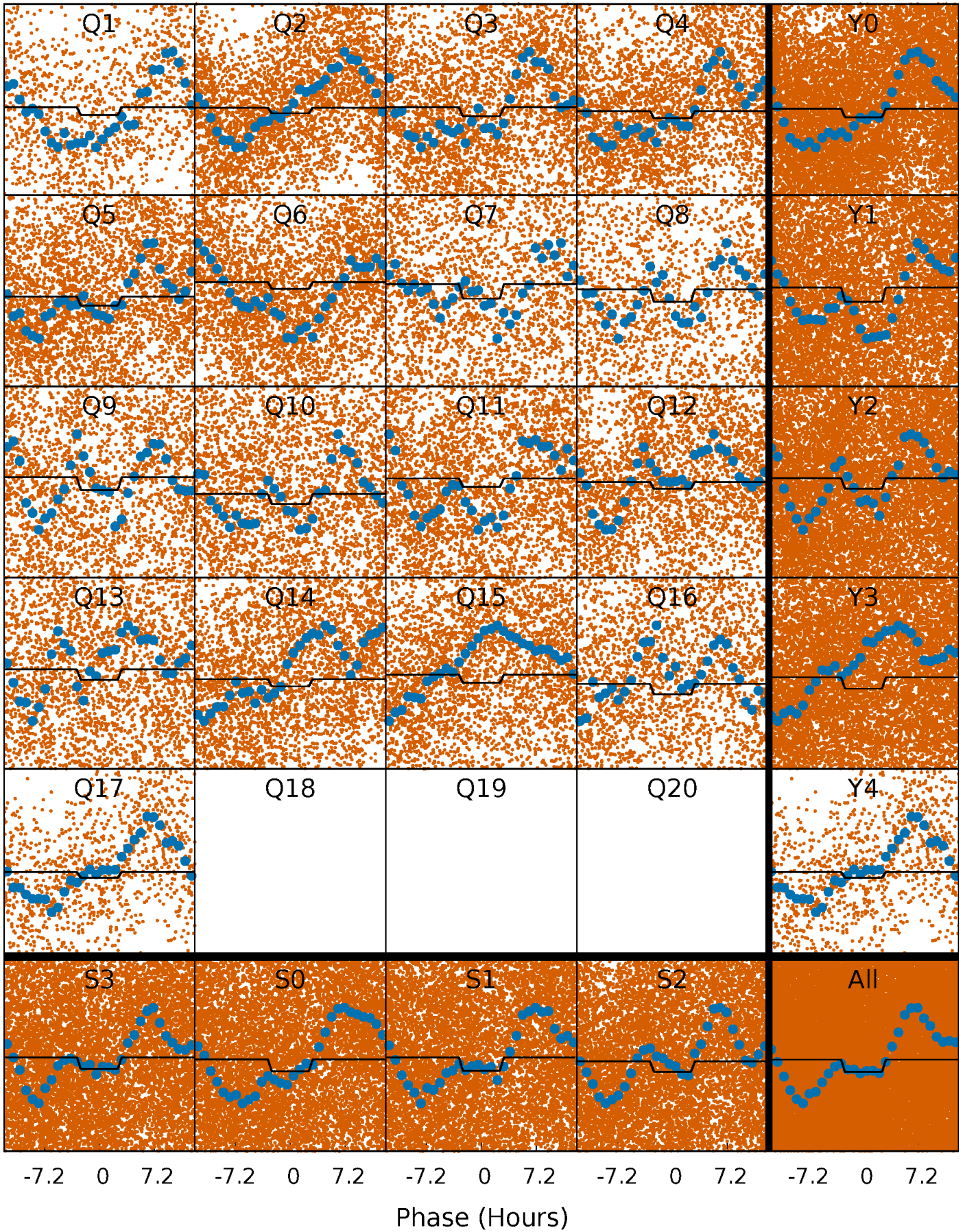
DV Quarter-Phased Transit Curves

TCE 004771030-01 P= 1.154291 Days $T_0=132.336043$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

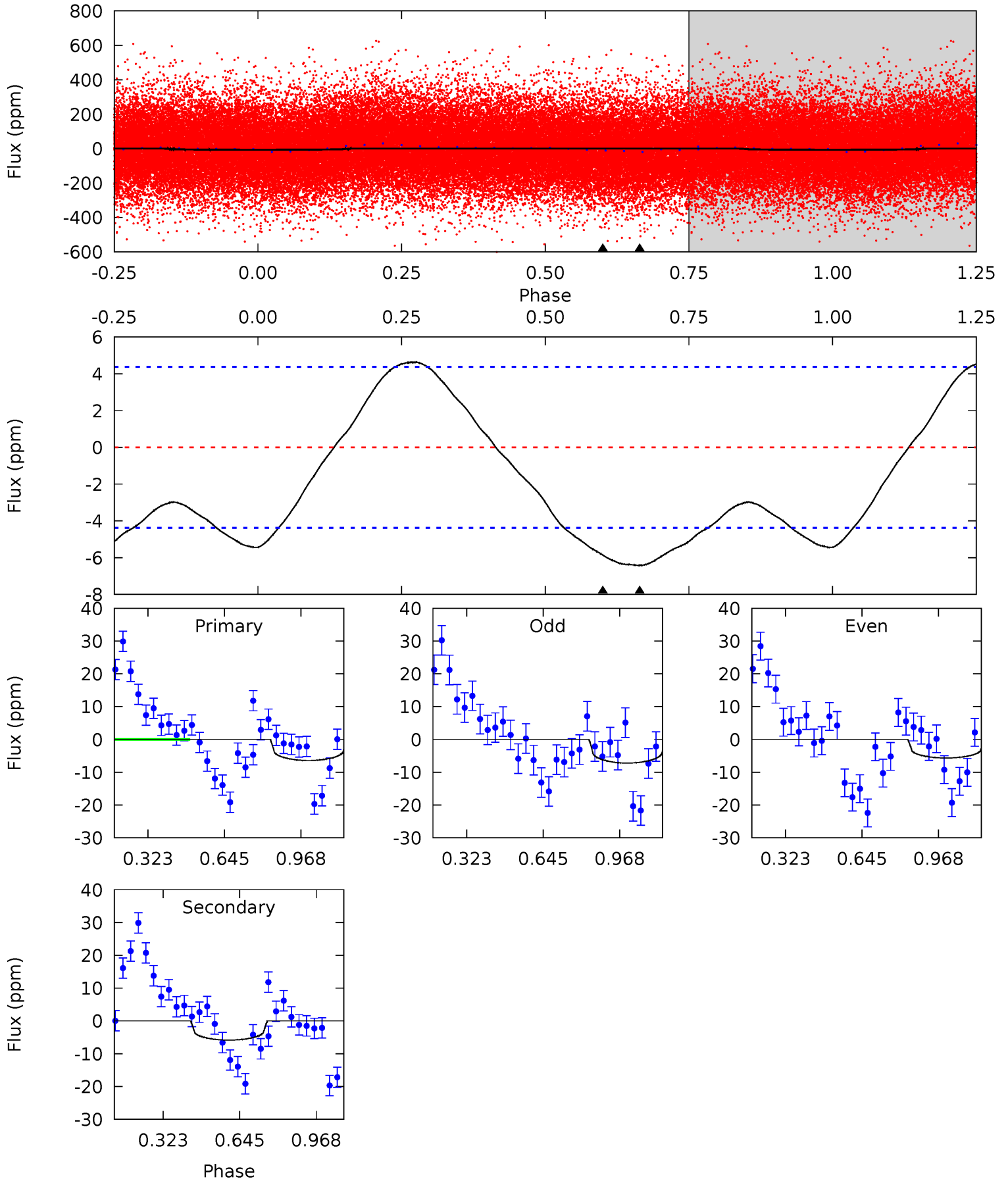
TCE 004771030-01 P= 1.154301 Days $T_0=132.275696$ (BKJD)



DV Model-Shift Uniqueness Test

004771030-01, P = 1.154291 Days, E = 131.181752 Days

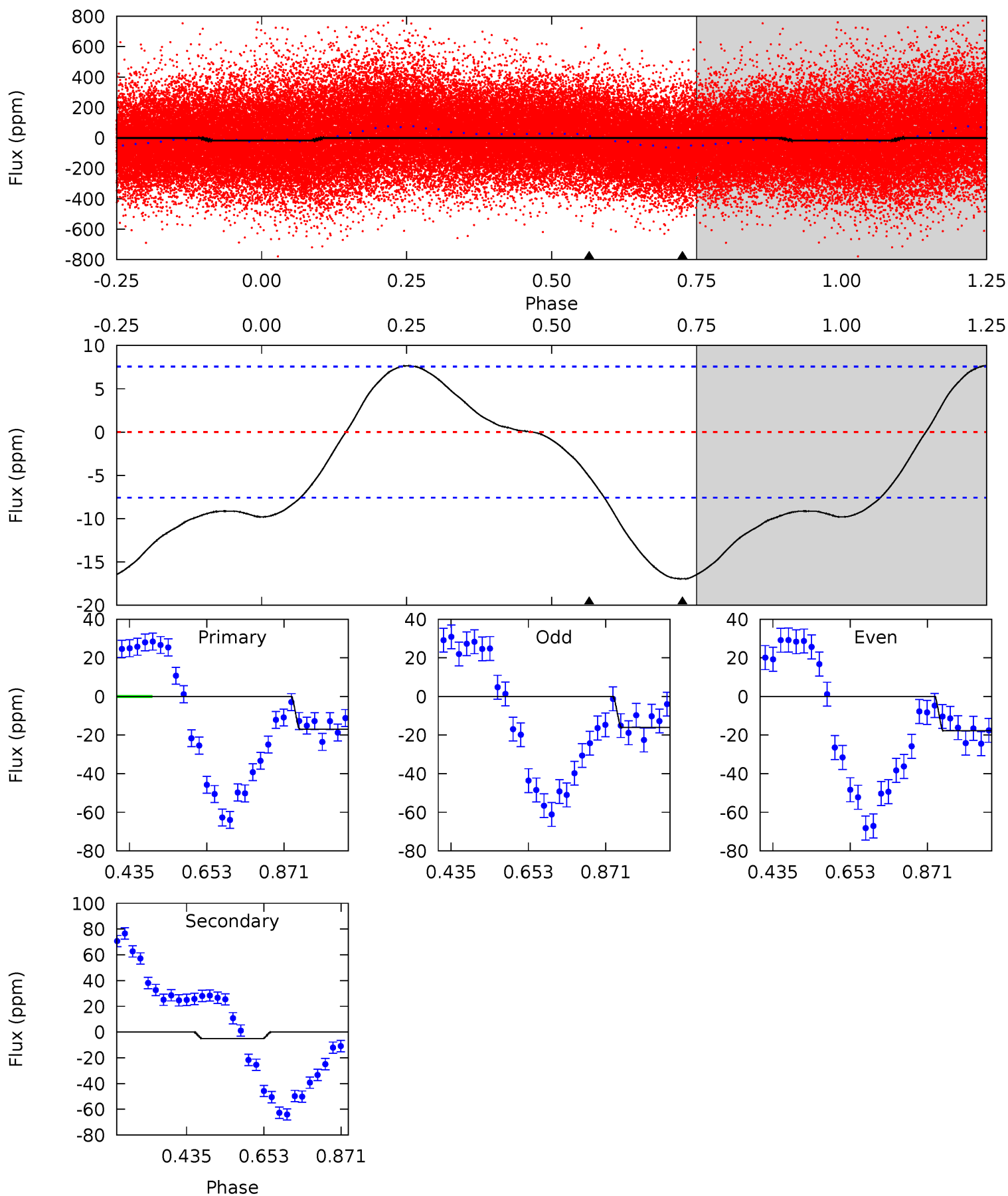
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.32	5.76	0	0	4.31	0.99	3.41	6.32	6.32	5.76	5.76	0.76	1.06	0.42	5.10



Alt Model-Shift Uniqueness Test

004771030-01, P = 1.154301 Days, E = 131.121395 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.85	2.99	0	0	4.40	1.23	3.97	9.85	9.85	2.99	2.99	0.50	0.75	0.31	0.26



Stellar Parameters For KIC 004771030

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6415^{+153}_{-172}	$3.582^{+0.328}_{-0.062}$	$0.040^{+0.250}_{-0.250}$	$3.522^{+0.251}_{-1.423}$	$1.727^{+0.191}_{-0.355}$	$0.056^{+0.139}_{-0.011}$
	+2%/-3%	+9%/-2%	+625%/-625%	+7%/-40%	+11%/-21%	+250%/-20%
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 004771030-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-6 ± 1	$1.13^{+1.19}_{-0.76}$	4541^{+204}_{-366}	5375^{+5606}_{-2130}	$1.654^{+13.994}_{-1.267}$
Alt.	-5 ± 2	$1.79^{+1.37}_{-1.21}$	4526^{+210}_{-408}	3857^{+3304}_{-7325}	$0.585^{+4.693}_{-0.412}$

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

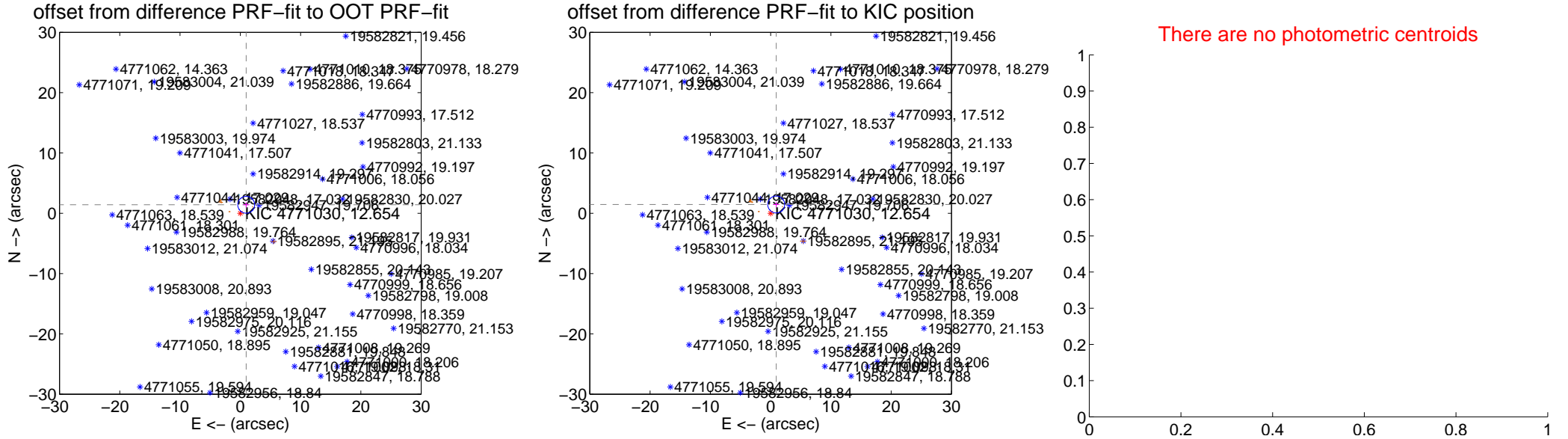
DV Centroid Data

Supplemental centroid analysis for 004771030-01. Kepler magnitude: 12.65. Transit SNR 0.63

There are 2 quarters with good PRF difference image offsets

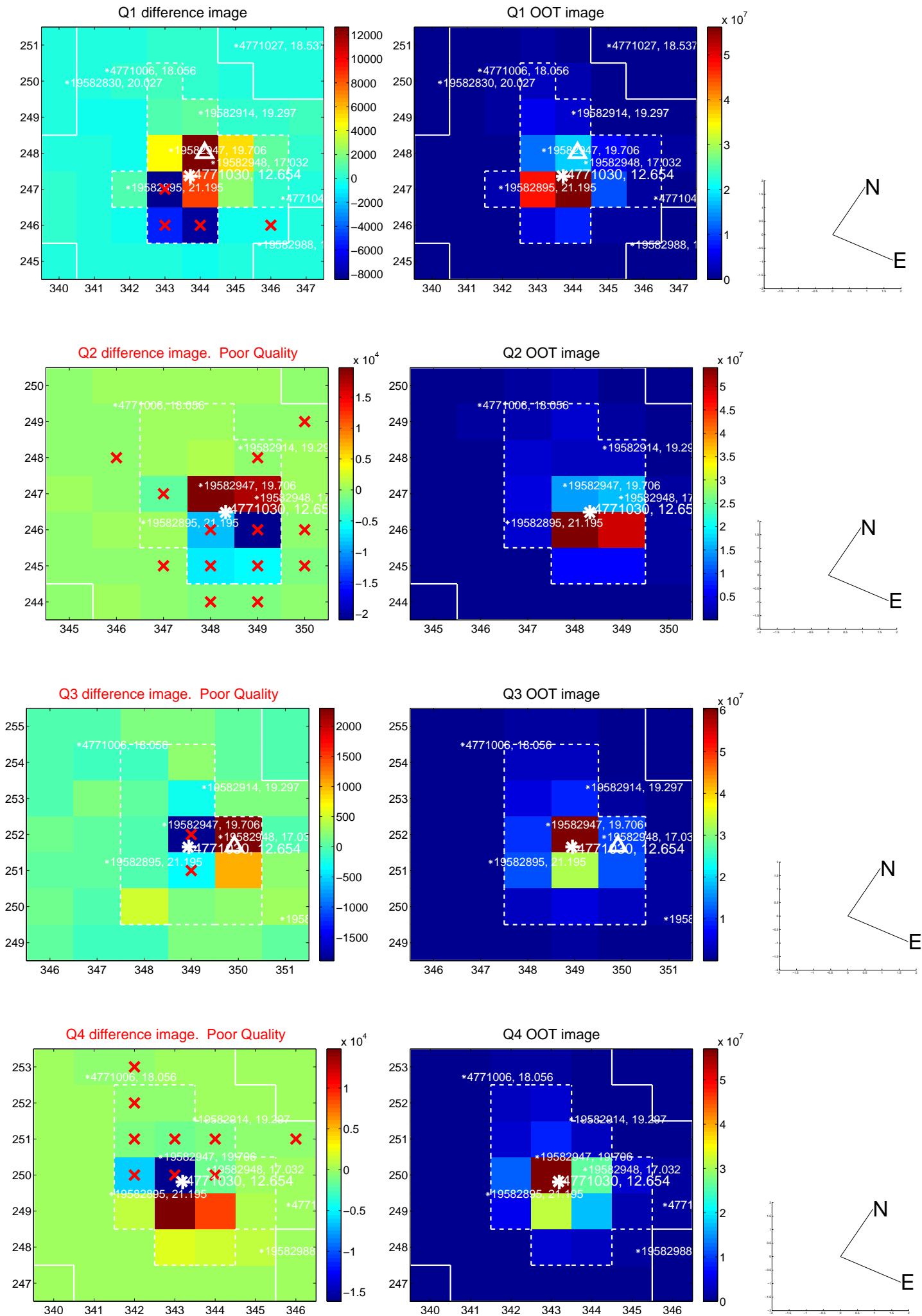
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.712 \pm 0.466	3.68	-0.975 \pm 0.502	1.407 \pm 0.448
PRF-fit source offset from KIC position	1.724 \pm 0.469	3.68	-0.926 \pm 0.504	1.455 \pm 0.453
photometric centroid source offset	—	—	—	—

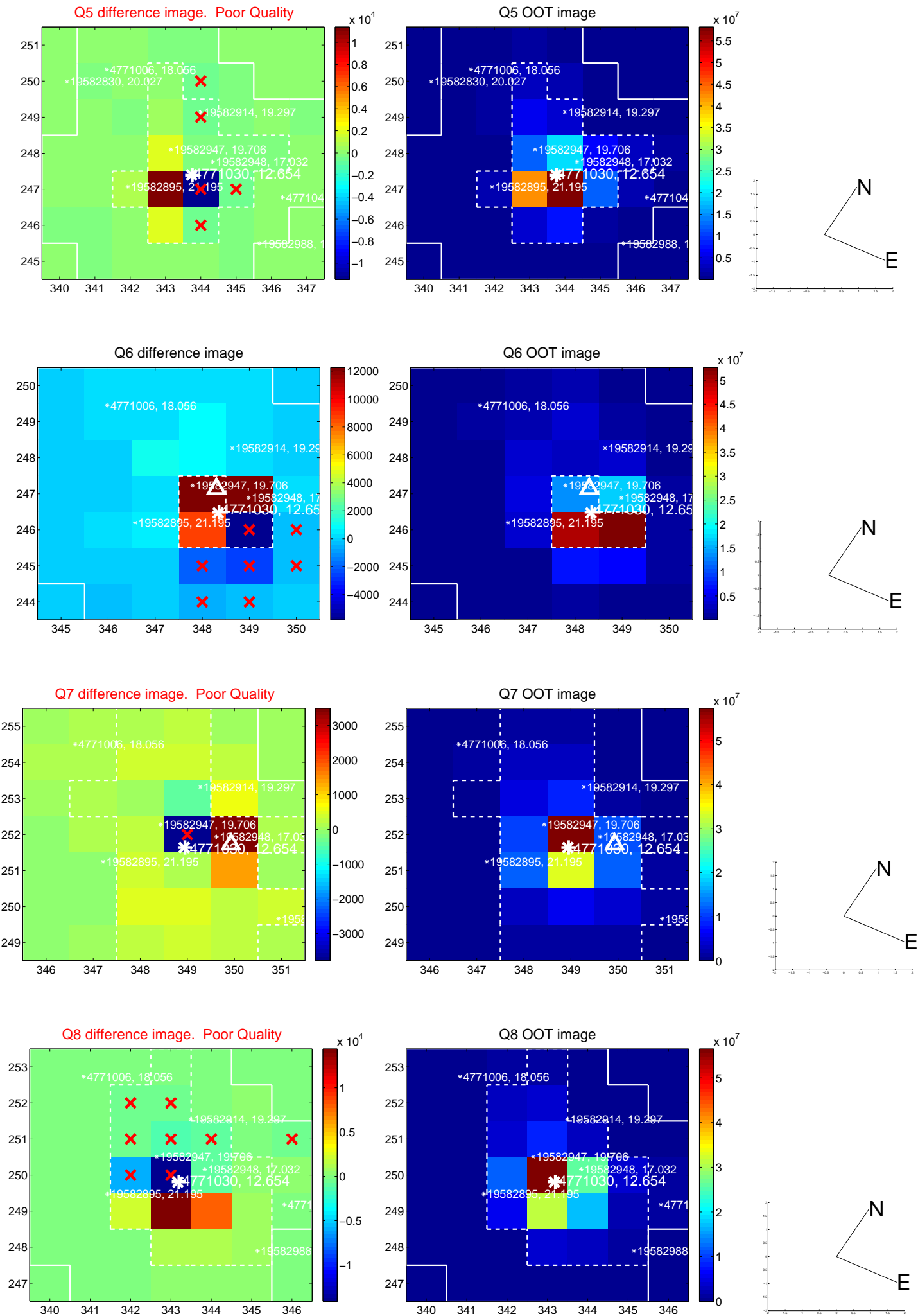


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

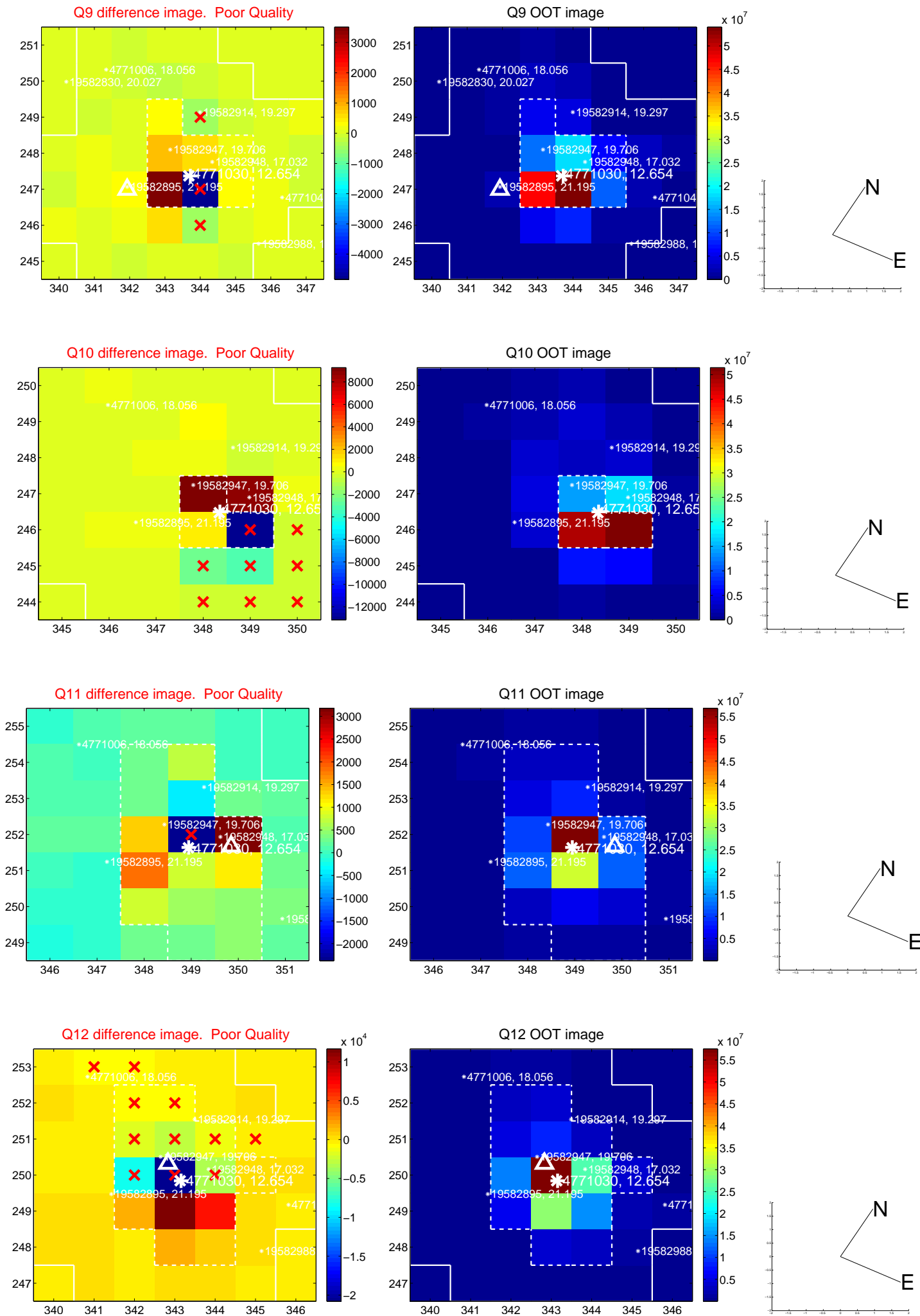
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



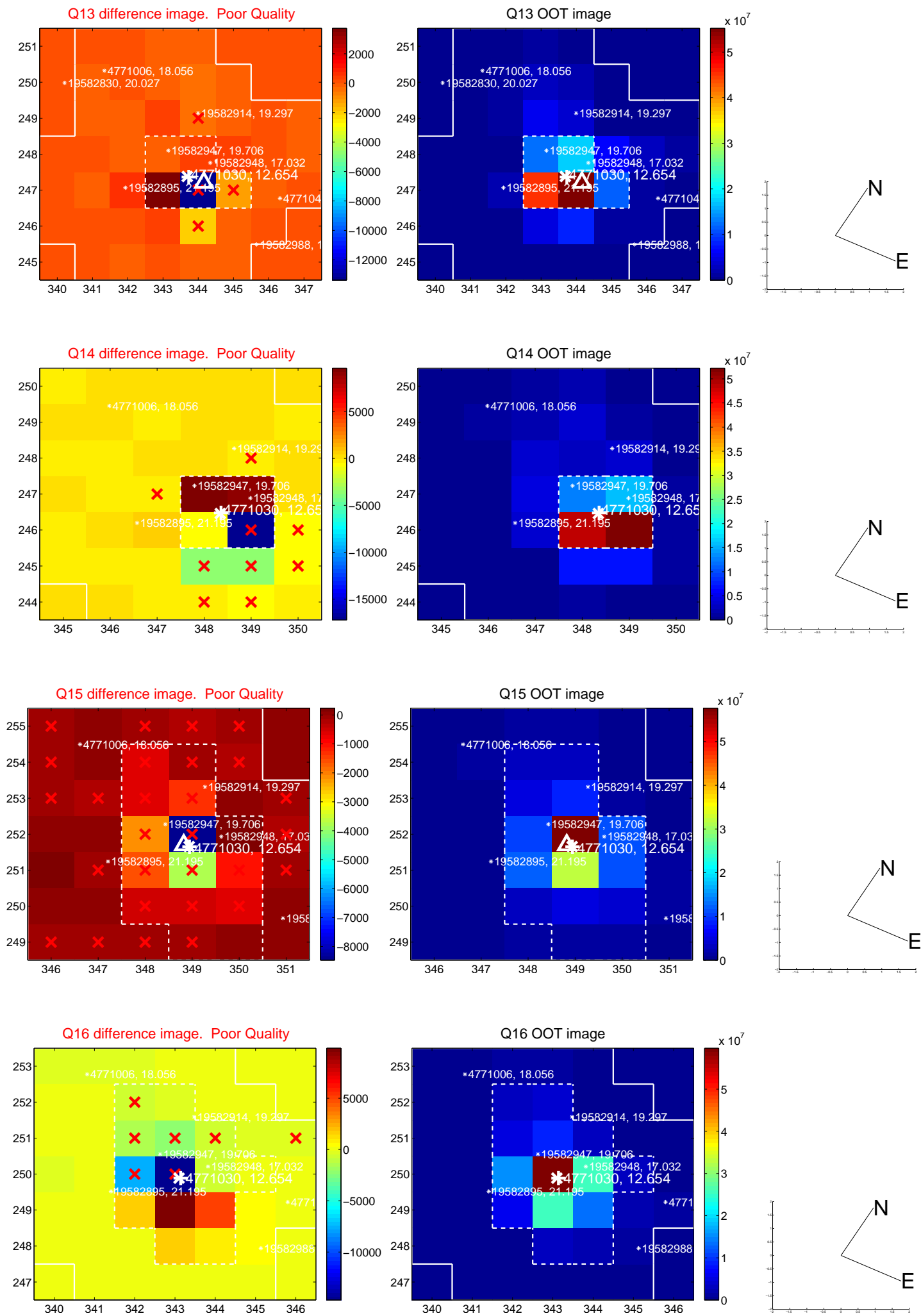
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



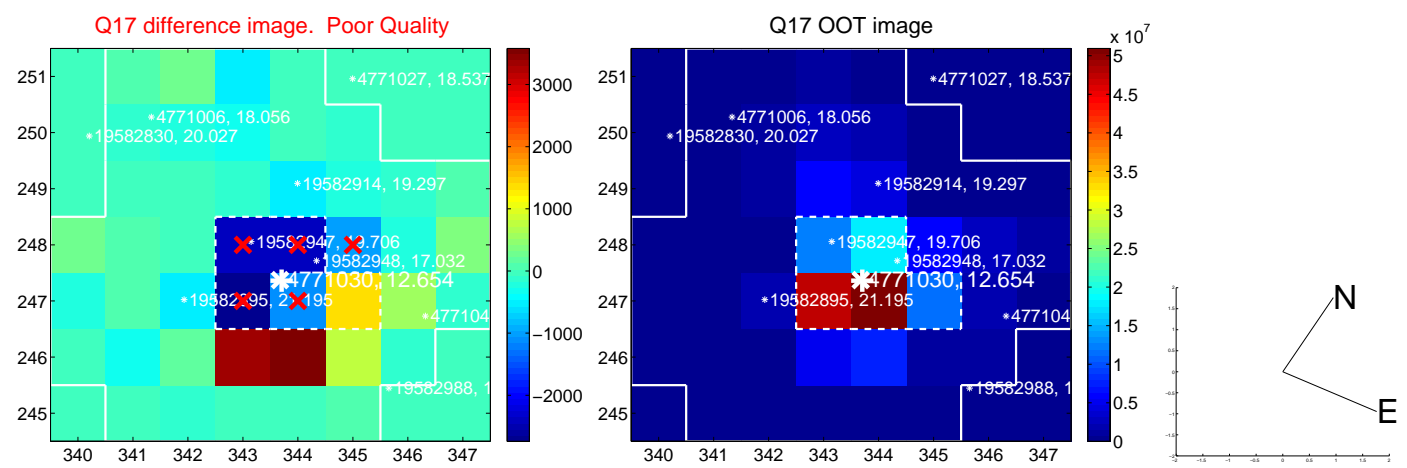
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



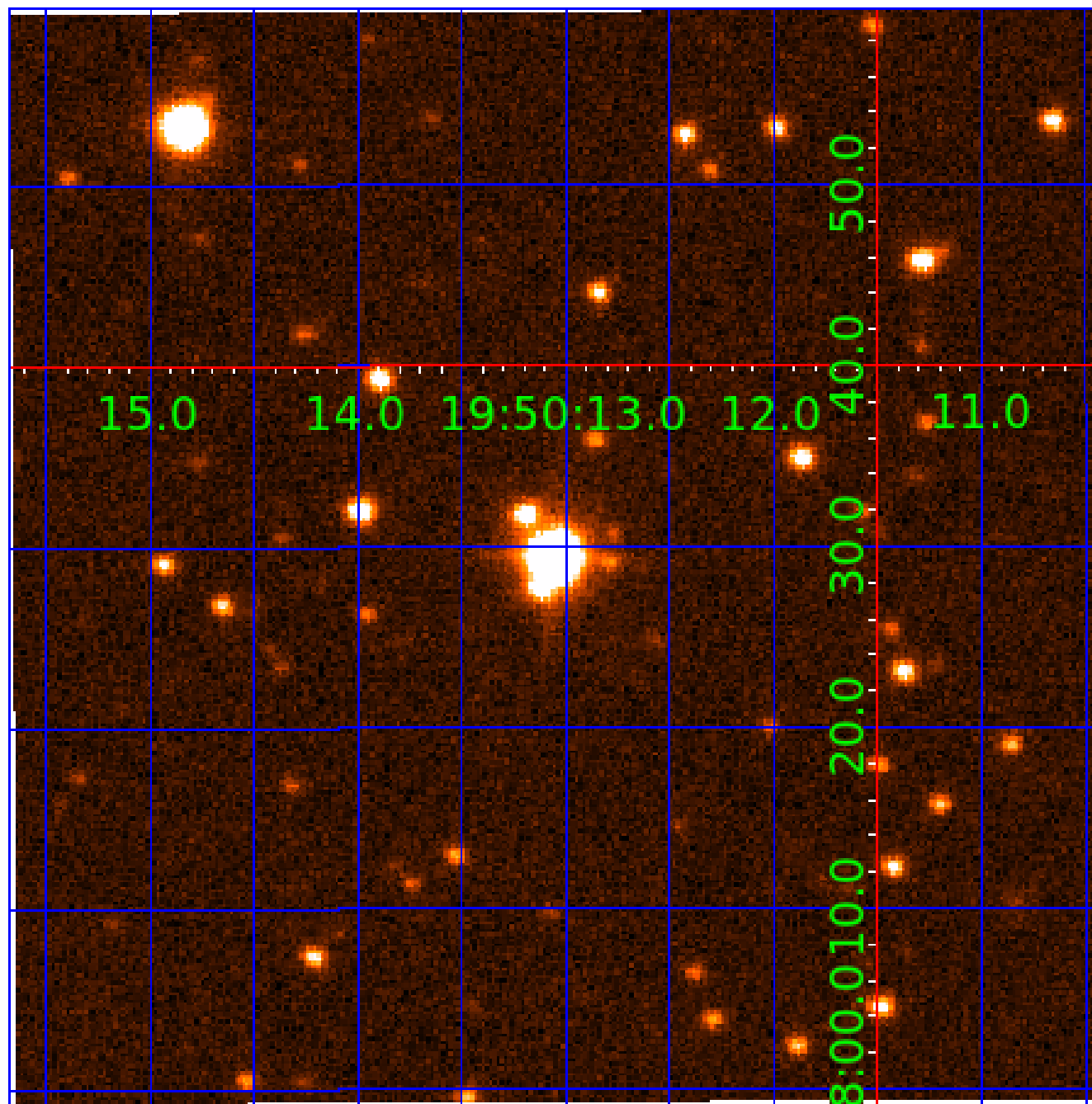
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 004771030

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})
004771030-01	OBS	No	1.154291	132.336043	1.0	8.491	7.6	0.6	3.52	6415	0.36	28169.99
004771030-02	OBS	No	21.888453	139.820949	271.4	1.417	12.7	12.0	3.52	6415	5.89	557.08
004771030-03	OBS	No	36.696138	162.053555	87.7	5.828	10.8	4.4	3.52	6415	3.83	279.71

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004771030-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
004771030-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_MEAS
004771030-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

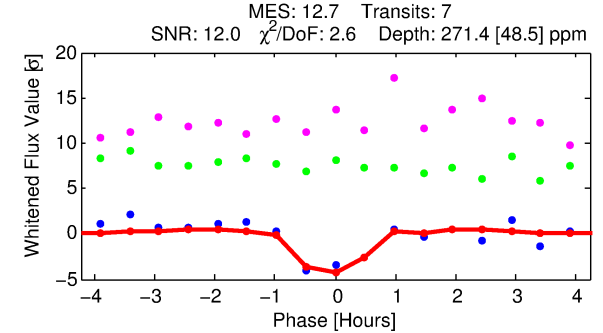
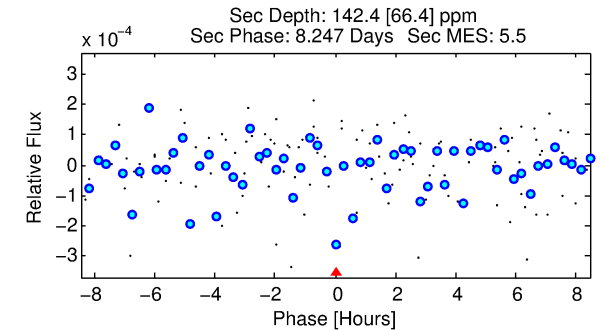
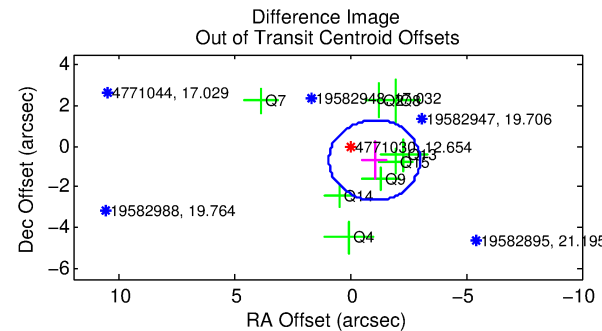
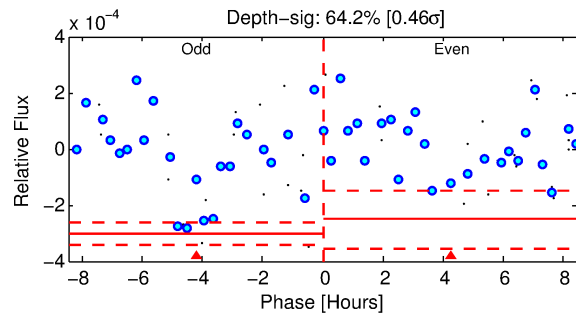
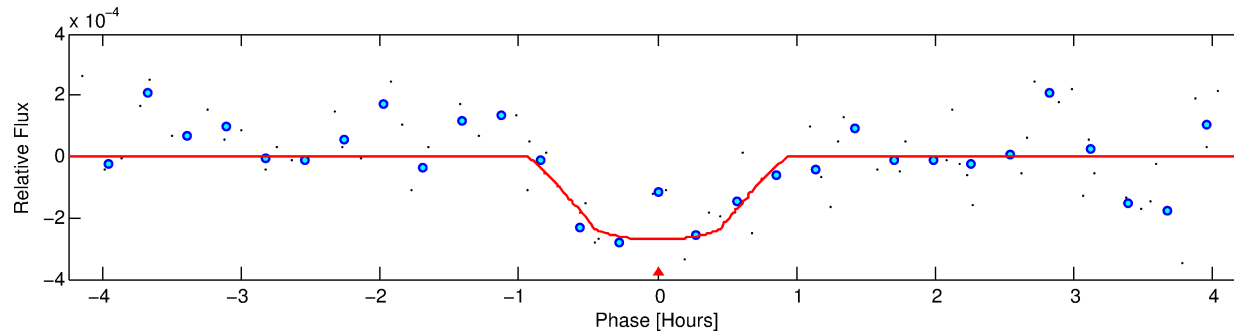
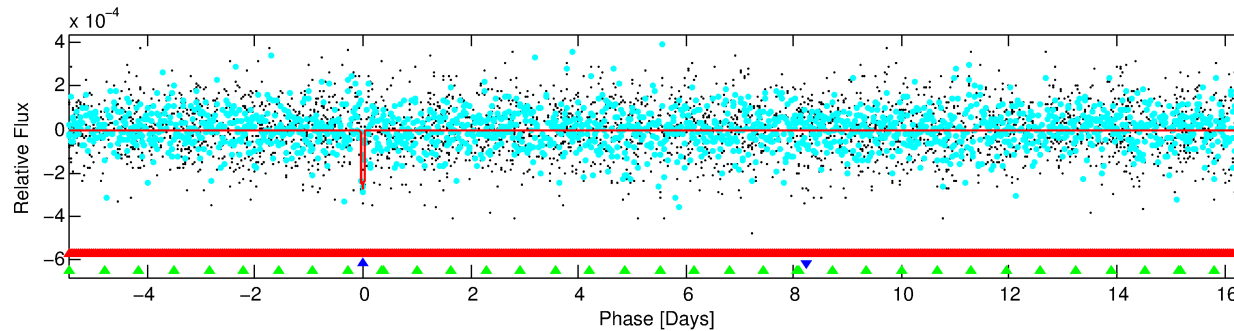
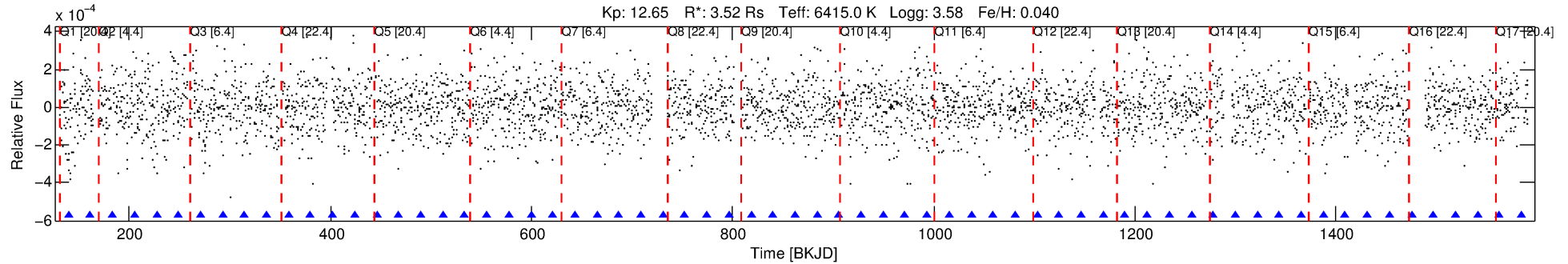
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004771030-02

No Significant Match Found

DV One-Page Summary

KIC: 4771030 Candidate: 2 of 3 Period: 21.888 d



DV Fit Results:

Period = 21.88845 [0.00019] d
Epoch = 139.8209 [0.0063] BKJD
Rp/R* = 0.0153 [0.0509]
a/R* = 115.23 [1932.90]
b = 0.28 [56.38]
Seff = 557.08 [323.67]
Teq = 1239 [180] K
Rp = 5.89 [19.70] Re
a = 0.1838 [0.0678] AU
Ag = 76.34 [510.27] [0.15 σ]
Teffp = 5662 [9427] K [0.47 σ]

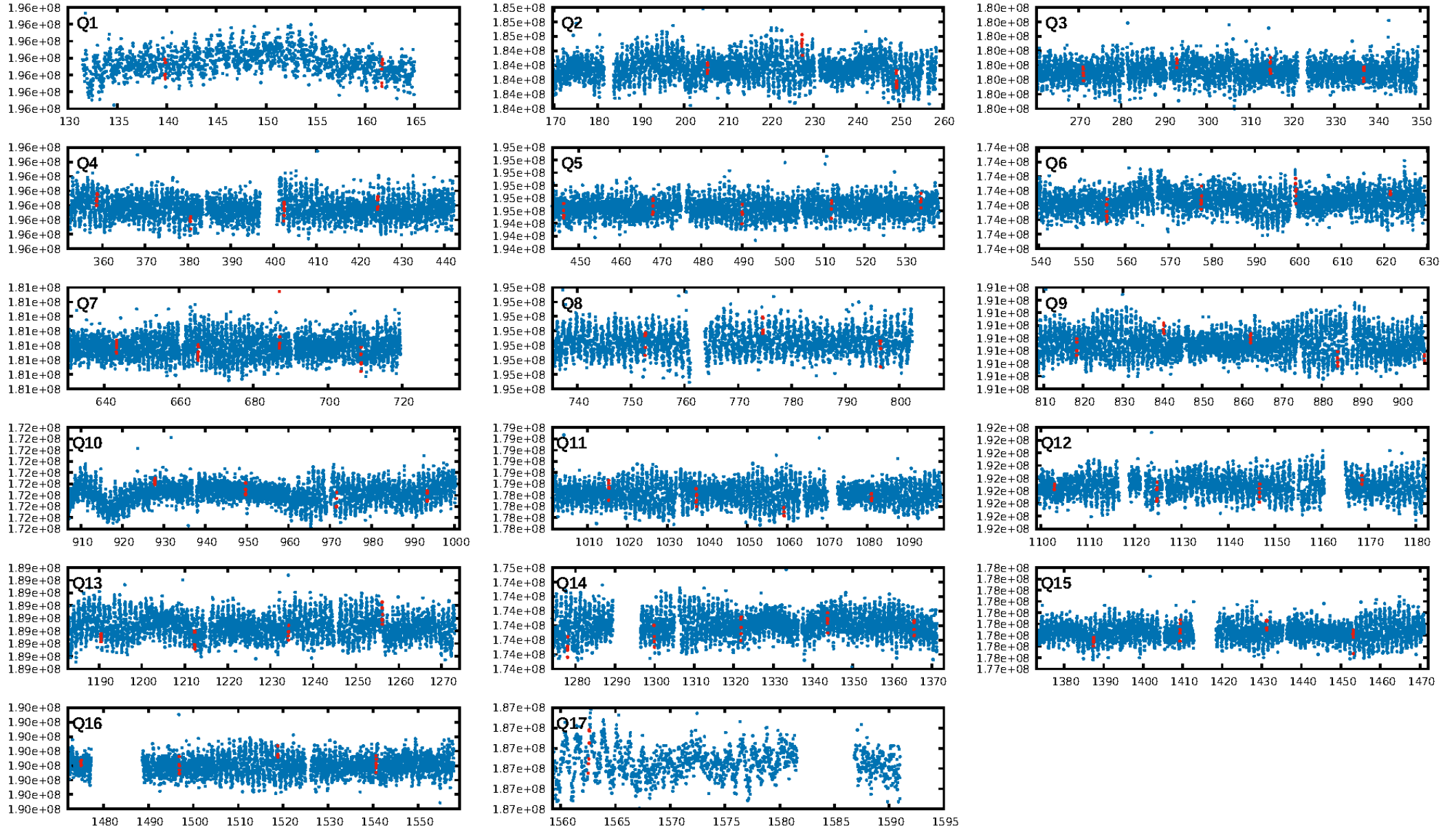
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [57.81 σ]
LongPeriod-sig: 100.0% [59.25 σ]
ModelChiSquare2-sig: 17.4%
ModelChiSquareGof-sig: 98.0%
Bootstrap-pfa: 3.80e-12
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -2.883
Centroid-sig: 34.2%
Centroid-so: 0.570 arcsec [1.24 σ]
OotOffset-rm: 1.236 arcsec [1.89 σ]
OotOffset-st: 2/2/2/2 [8]
KicOffset-rm: 1.191 arcsec [1.68 σ]
KicOffset-st: 2/2/2/2 [8]
DiffImageQuality-fgm: 0.12 [1/8]
DiffImageOverlap-fno: 0.41 [7/17]

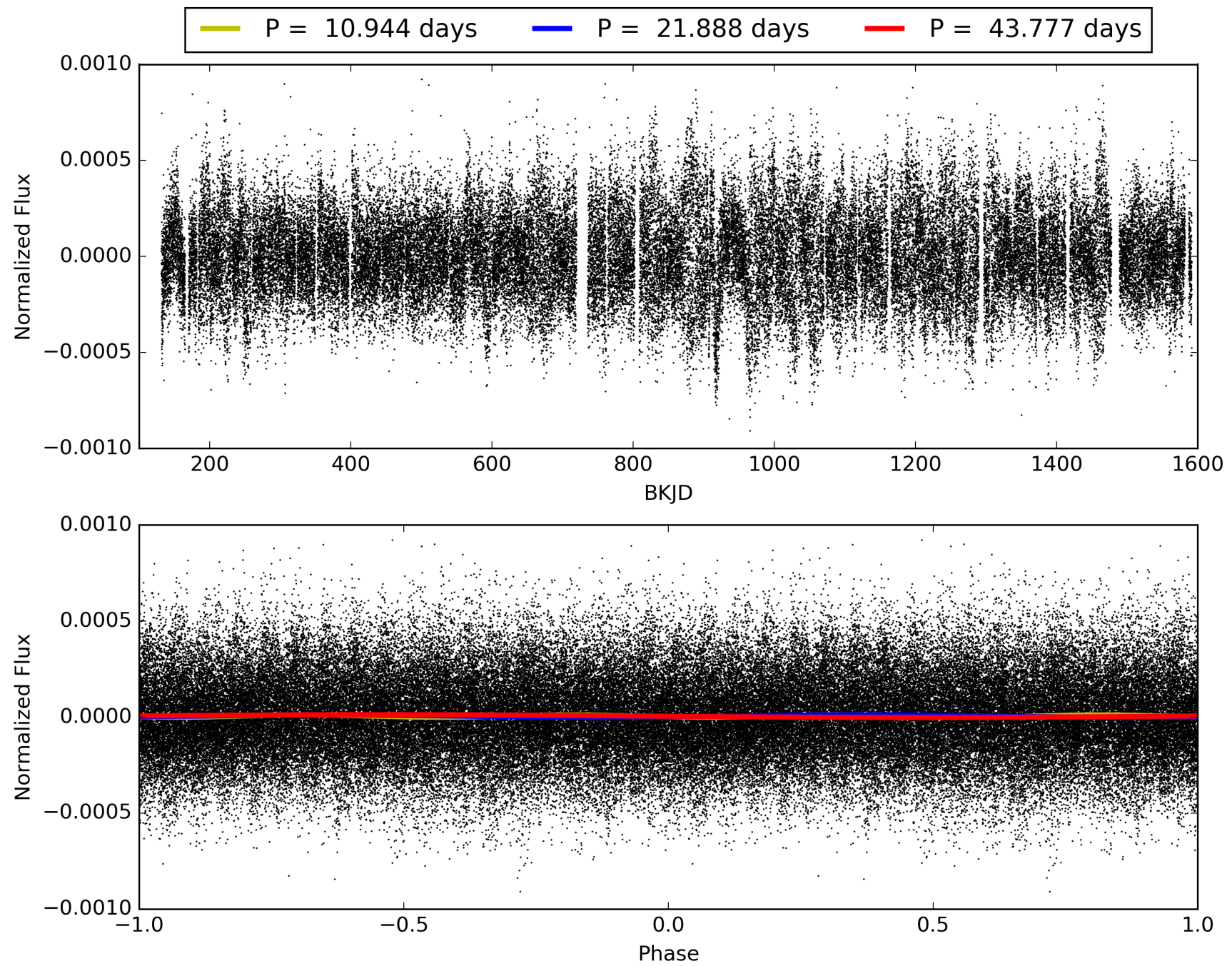
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:59:43 Z

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

TCE 004771030-02, PDC Light Curves

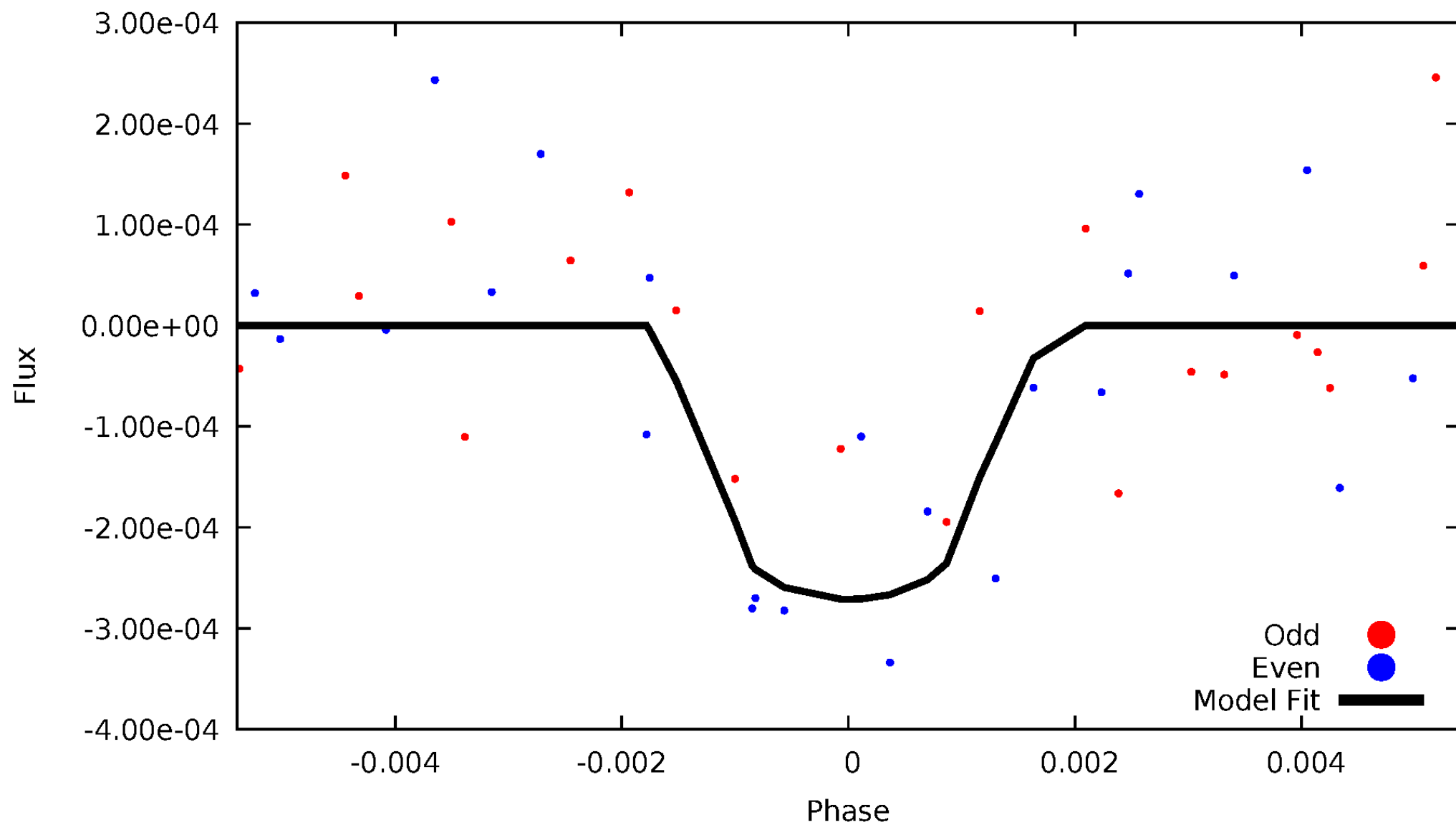


TCE 004771030-02



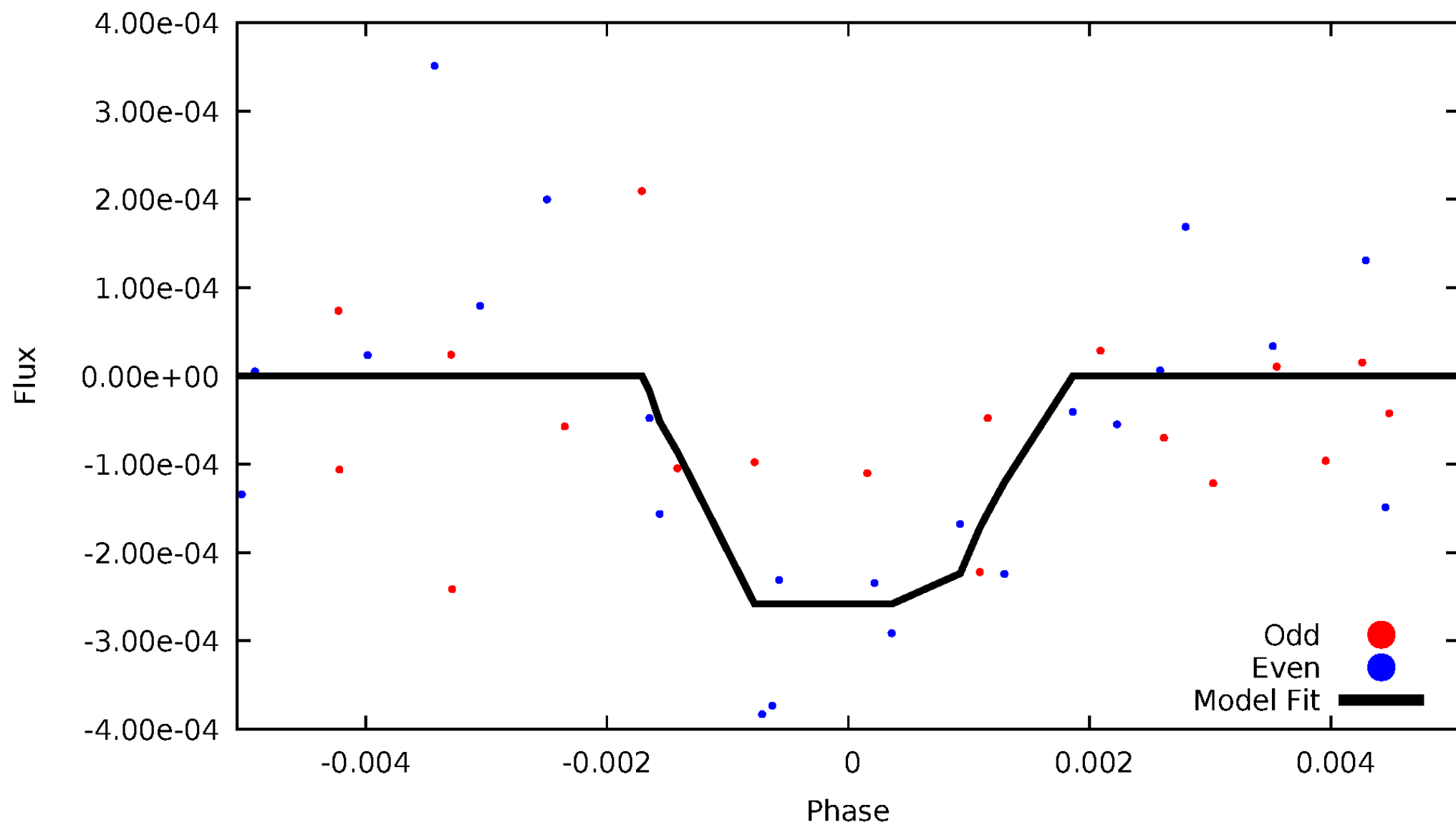
DV Odd/Even

TCE 004771030-02



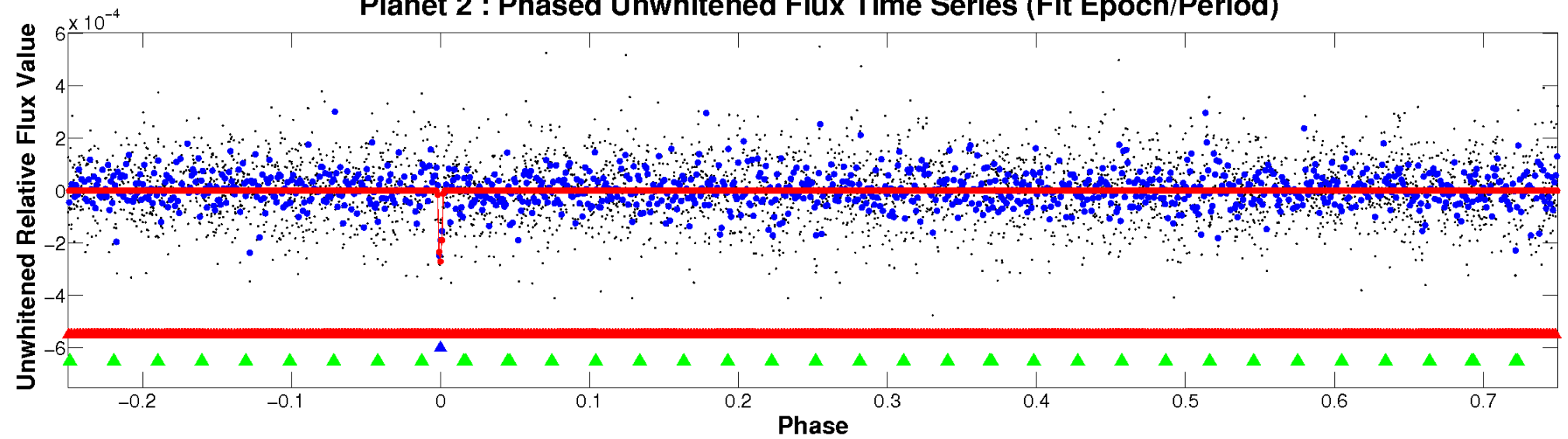
ALT Odd/Even

TCE 004771030-02

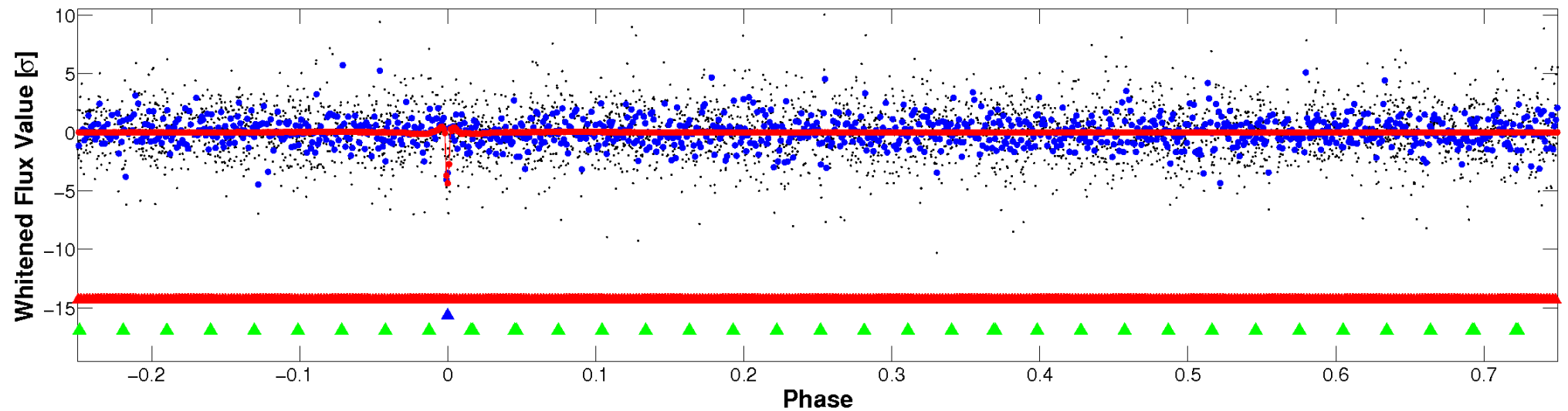


Non-Whitened Vs. Whitened Light Curve

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

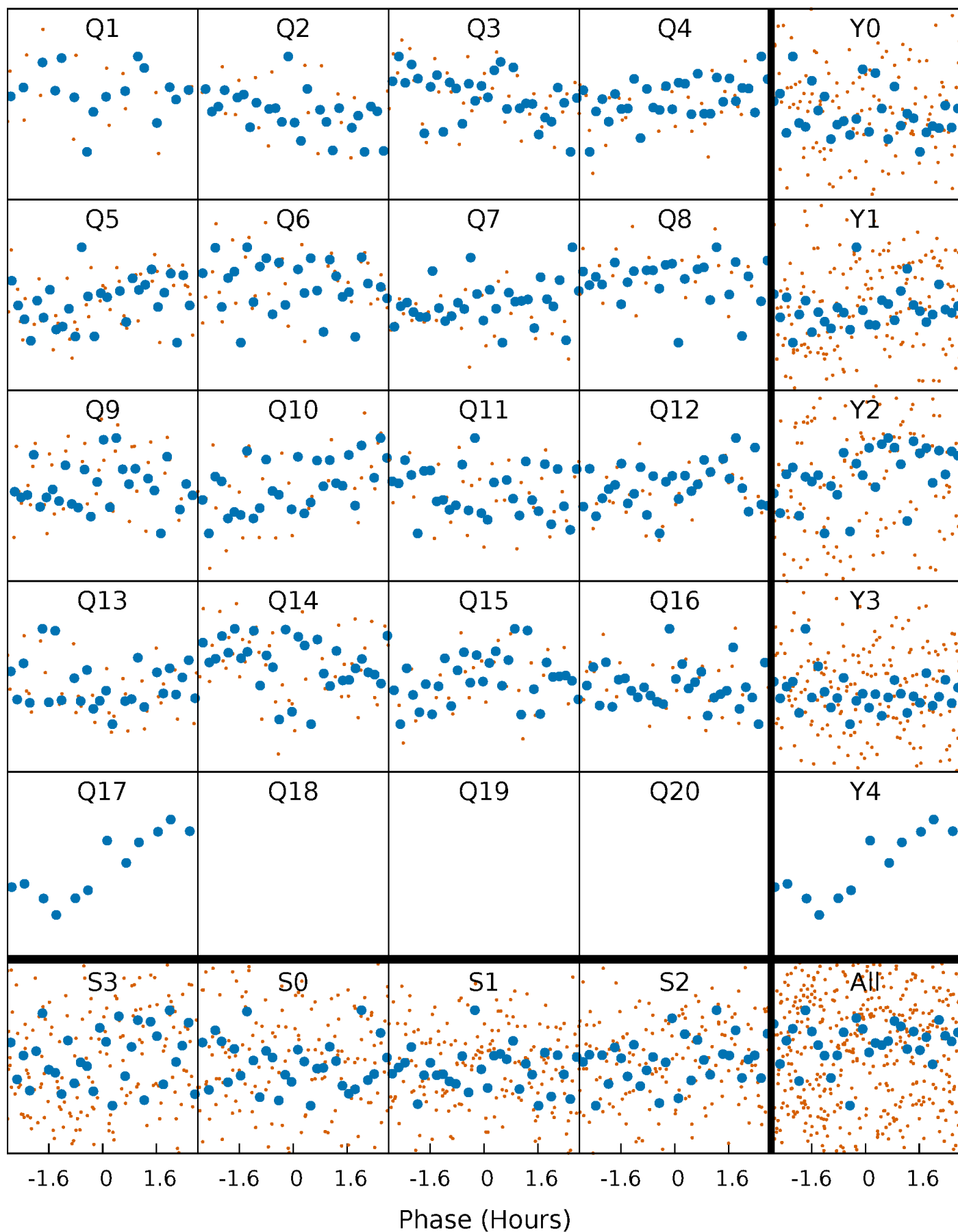


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



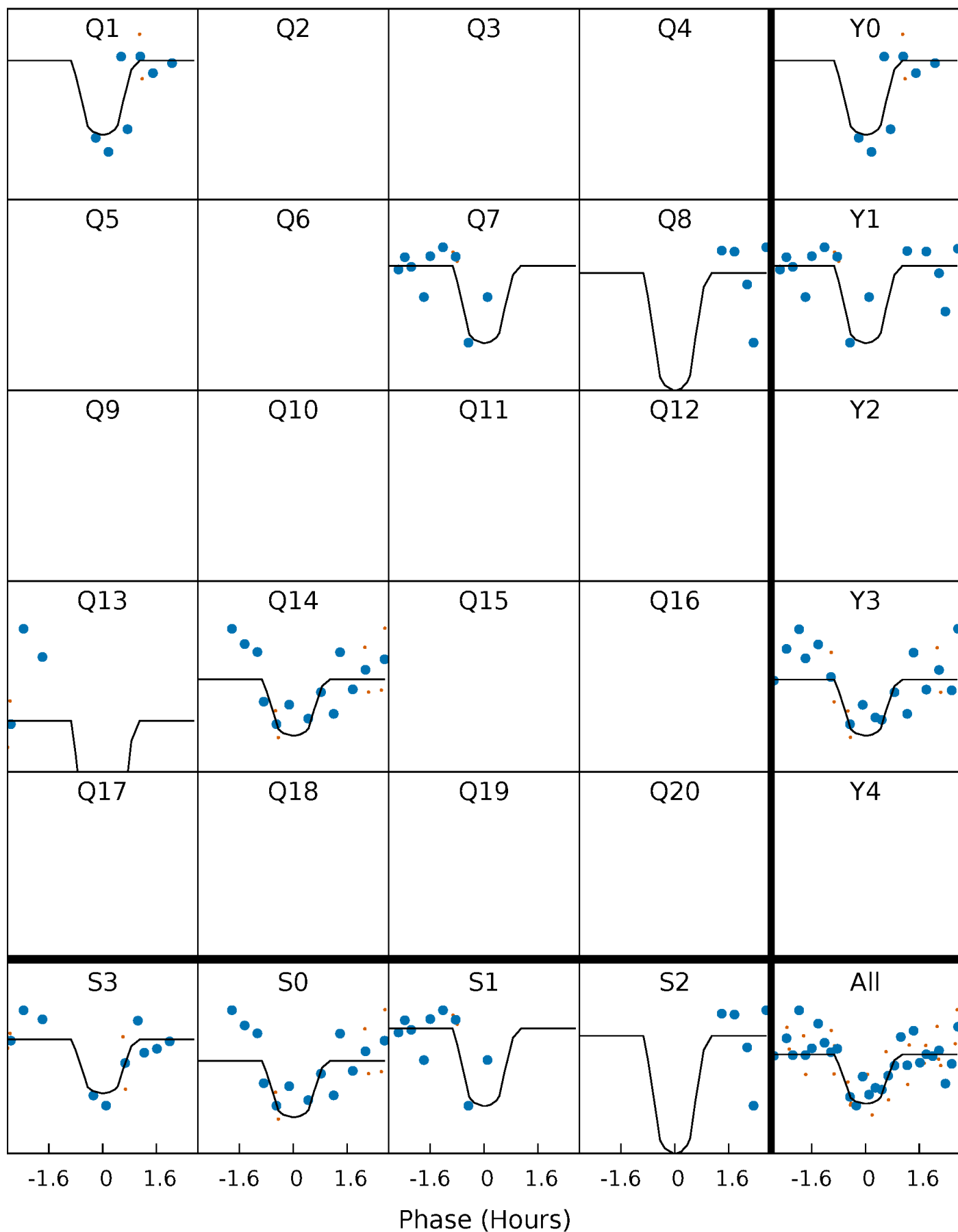
PDC Quarter-Phased Transit Curves

TCE 004771030-02 P= 21.888453 Days $T_0=139.820949$ (BKJD)



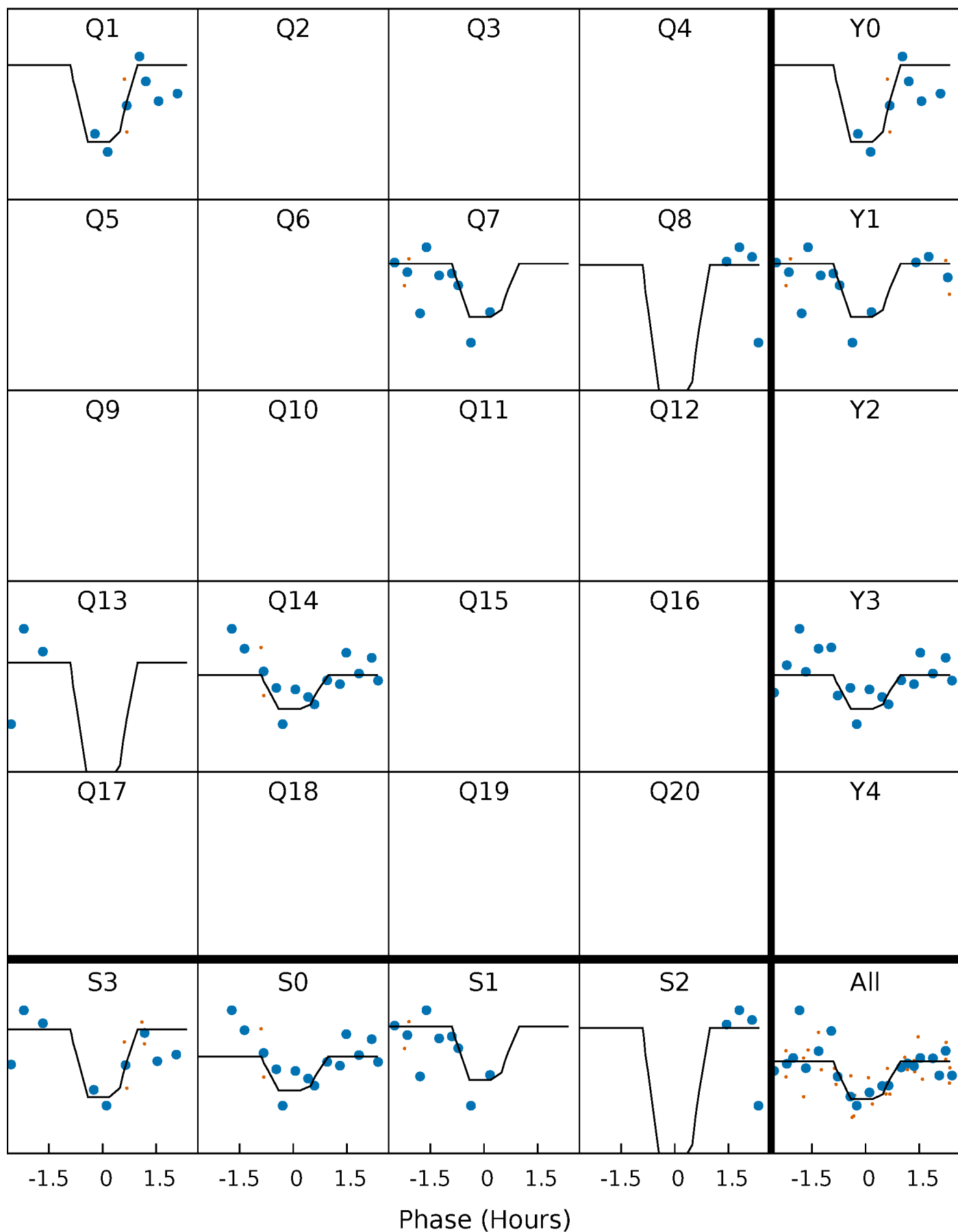
DV Quarter-Phased Transit Curves

TCE 004771030-02 P= 21.888453 Days $T_0=139.820949$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

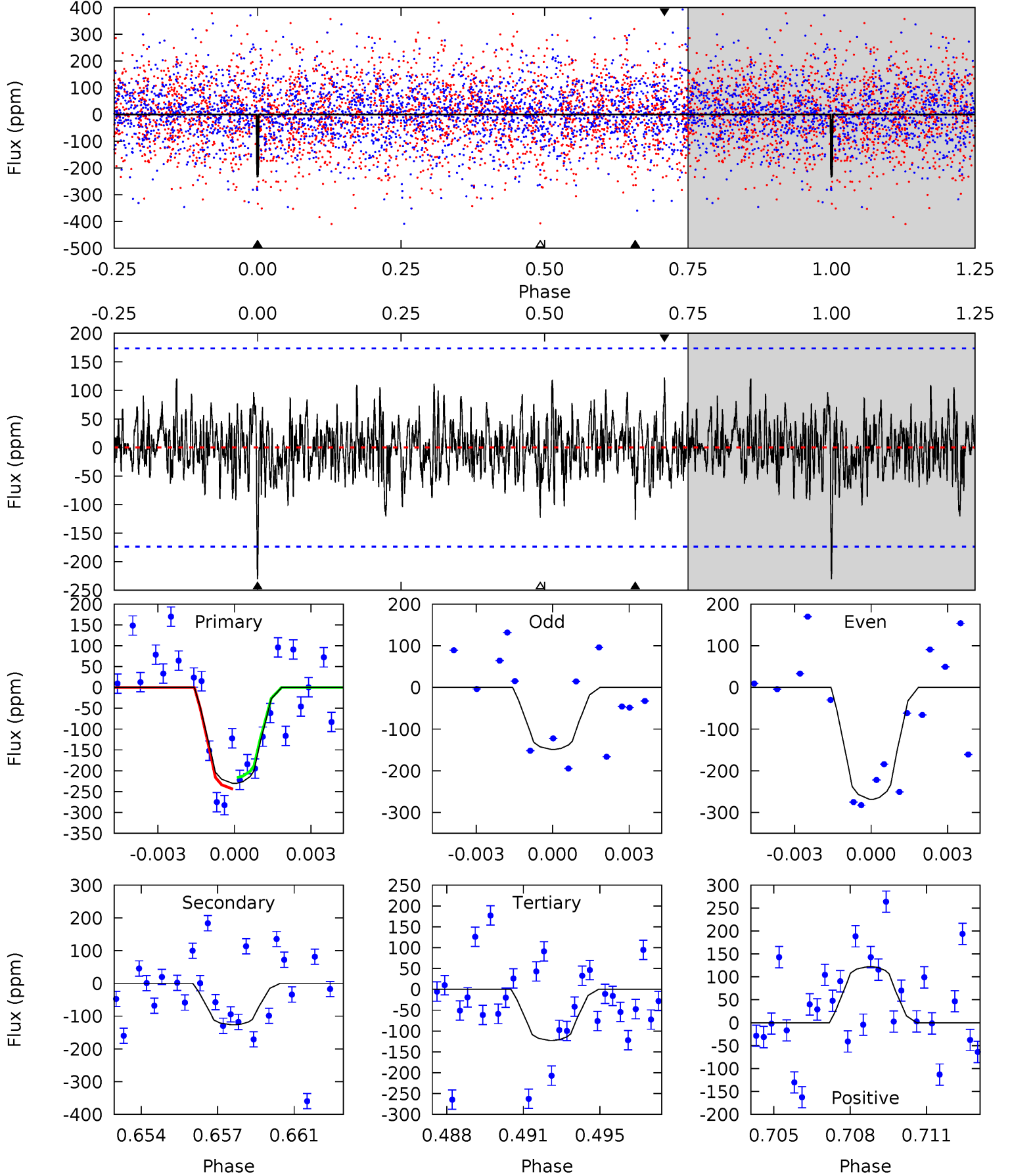
TCE 004771030-02 P= 21.888357 Days $T_0=139.821124$ (BKJD)



DV Model-Shift Uniqueness Test

004771030-02, P = 21.888453 Days, E = 117.932496 Days

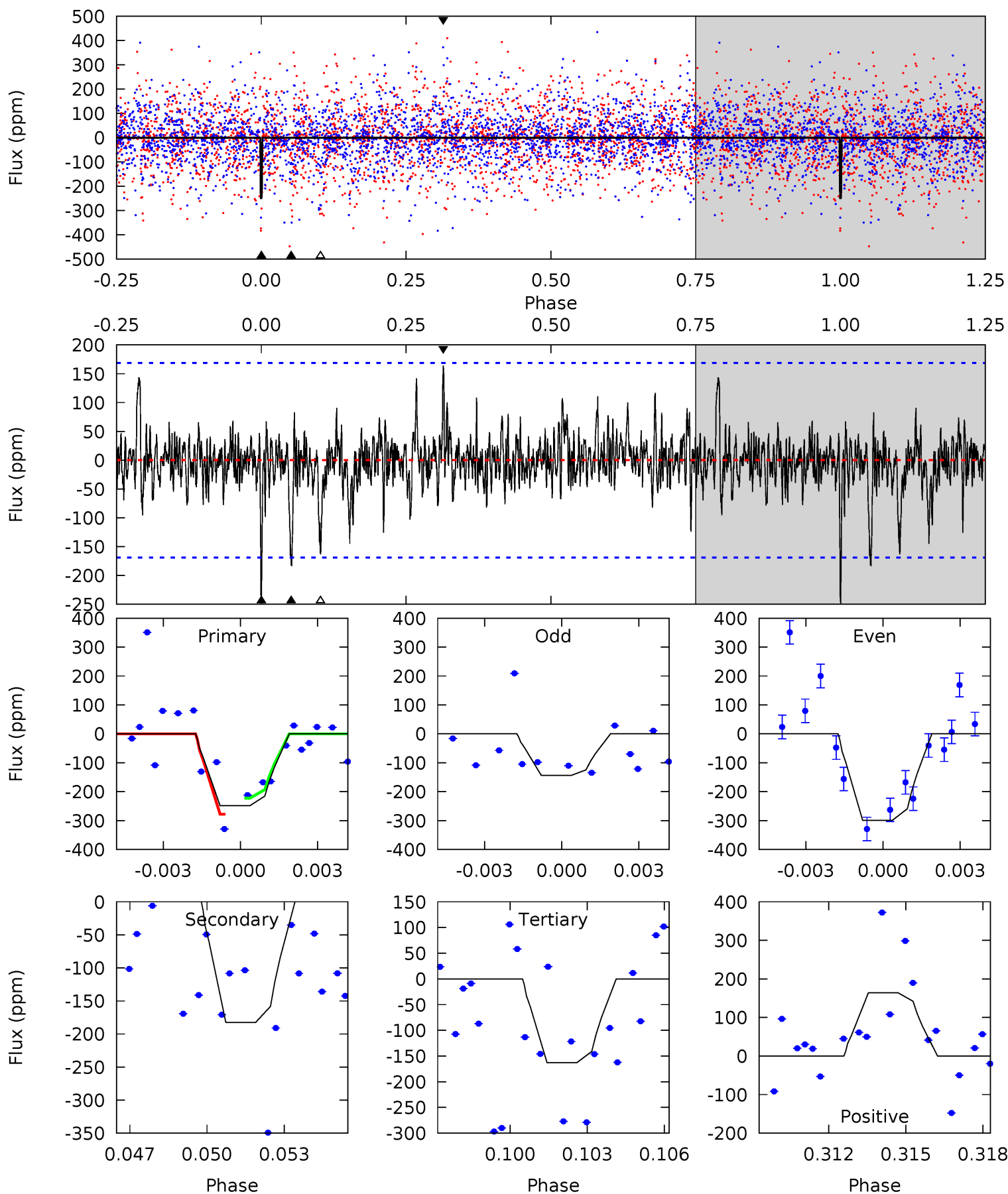
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.93	3.81	3.70	3.69	5.23	2.93	1.15	3.24	3.25	0.11	0.12	1.88	1.15	0.35	0.42



Alt Model-Shift Uniqueness Test

004771030-02, P = 21.888357 Days, E = 117.932767 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.74	5.69	5.08	5.11	5.26	2.97	1.11	2.66	2.63	0.61	0.58	2.50	0.95	0.40	0.88



Stellar Parameters For KIC 004771030

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6415^{+153}_{-172}	$3.582^{+0.328}_{-0.062}$	$0.040^{+0.250}_{-0.250}$	$3.522^{+0.251}_{-1.423}$	$1.727^{+0.191}_{-0.355}$	$0.056^{+0.139}_{-0.011}$
	+2%/-3%	+9%/-2%	+625%/-625%	+7%/-40%	+11%/-21%	+250%/-20%
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 004771030-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-126 ± 33	$14.00^{+16.18}_{-9.56}$	1699^{+79}_{-157}	3729^{+2302}_{-781}	11^{+102}_{-9}
Alt.	-183 ± 32	$15.52^{+15.15}_{-10.52}$	1706^{+77}_{-147}	3913^{+2497}_{-788}	14^{+124}_{-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

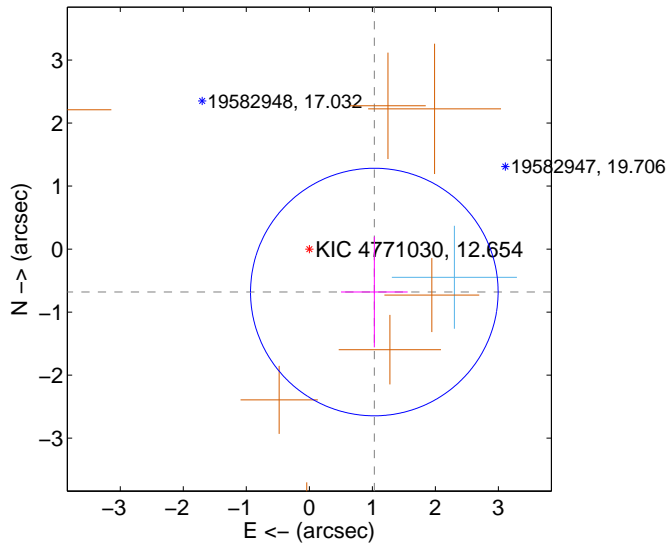
Supplemental centroid analysis for 004771030-02. Kepler magnitude: 12.65. Transit SNR 12.03

There are 1 quarters with good PRF difference image offsets

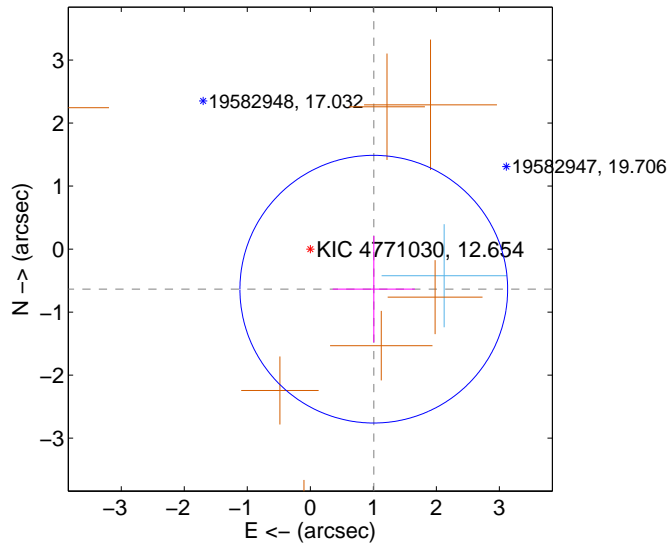
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.236 ± 0.655	1.89	-1.031 ± 0.529	-0.681 ± 0.877
PRF-fit source offset from KIC position	1.191 ± 0.708	1.68	-1.007 ± 0.652	-0.636 ± 0.844
photometric centroid source offset	0.57 ± 0.46	1.24	0.50 ± 0.47	0.27 ± 0.42

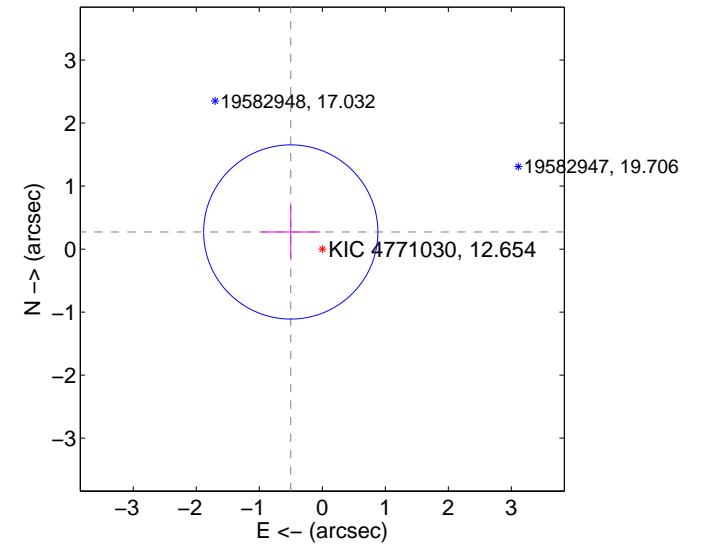
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

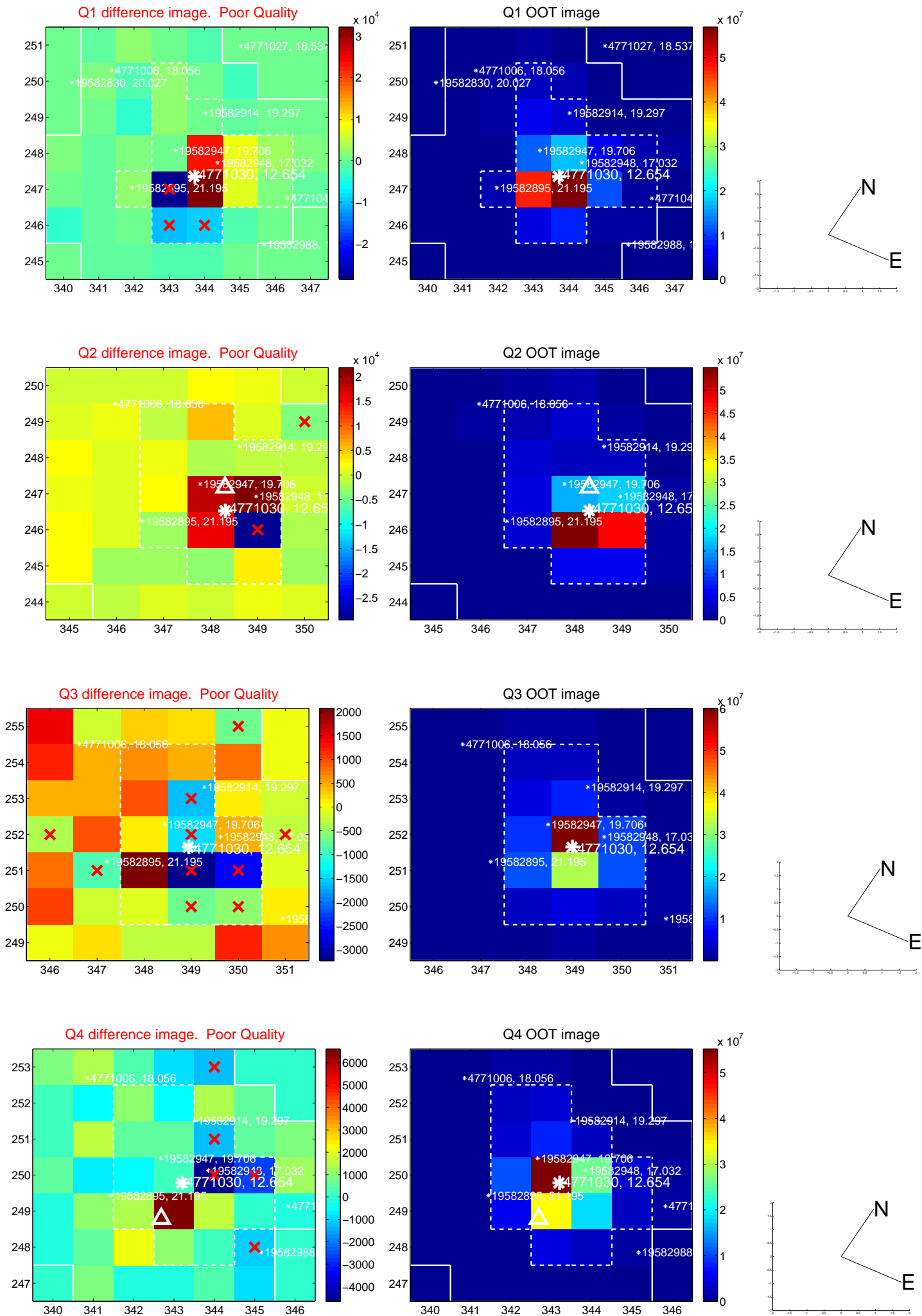


offset from photometric centroids

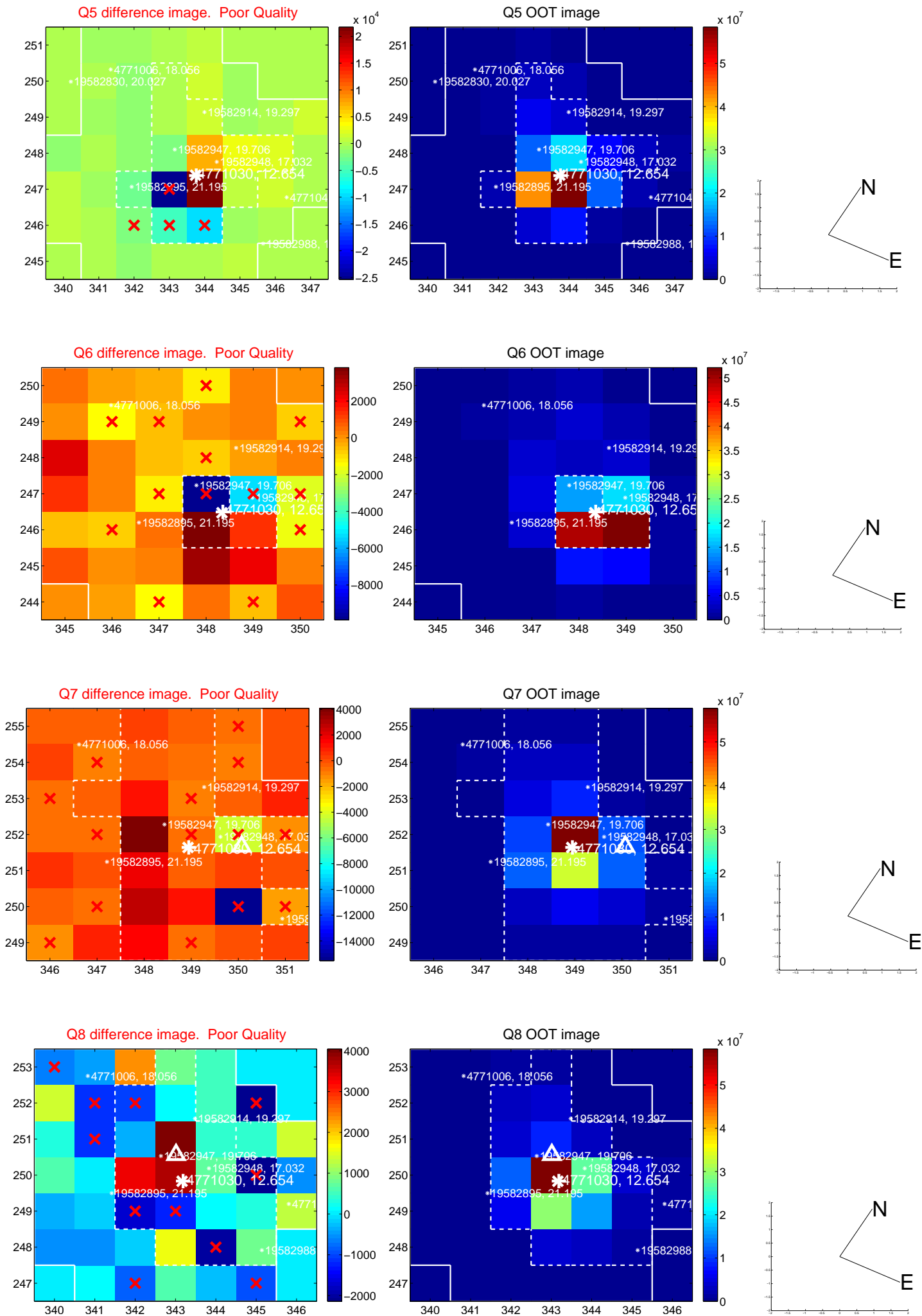


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

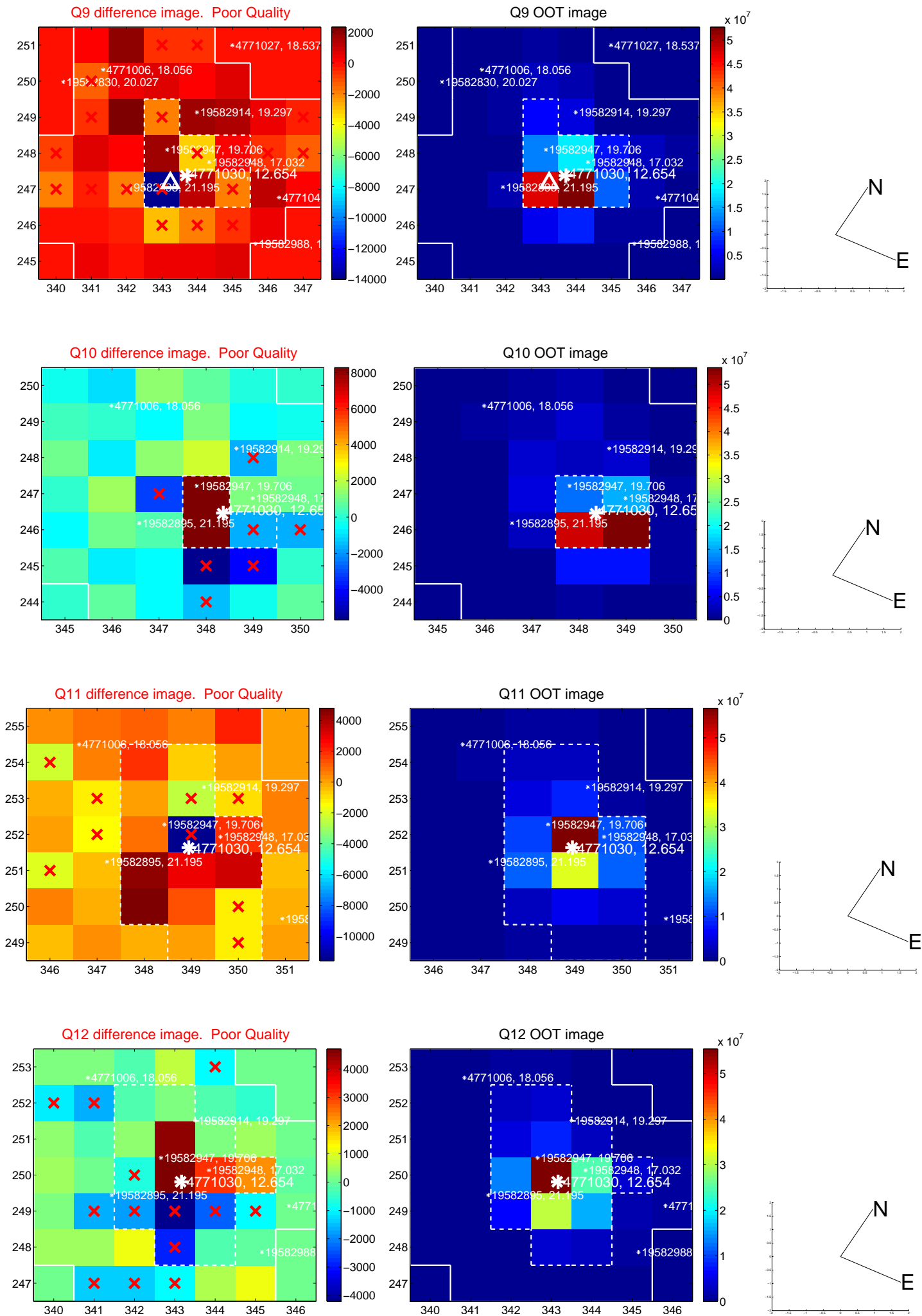
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



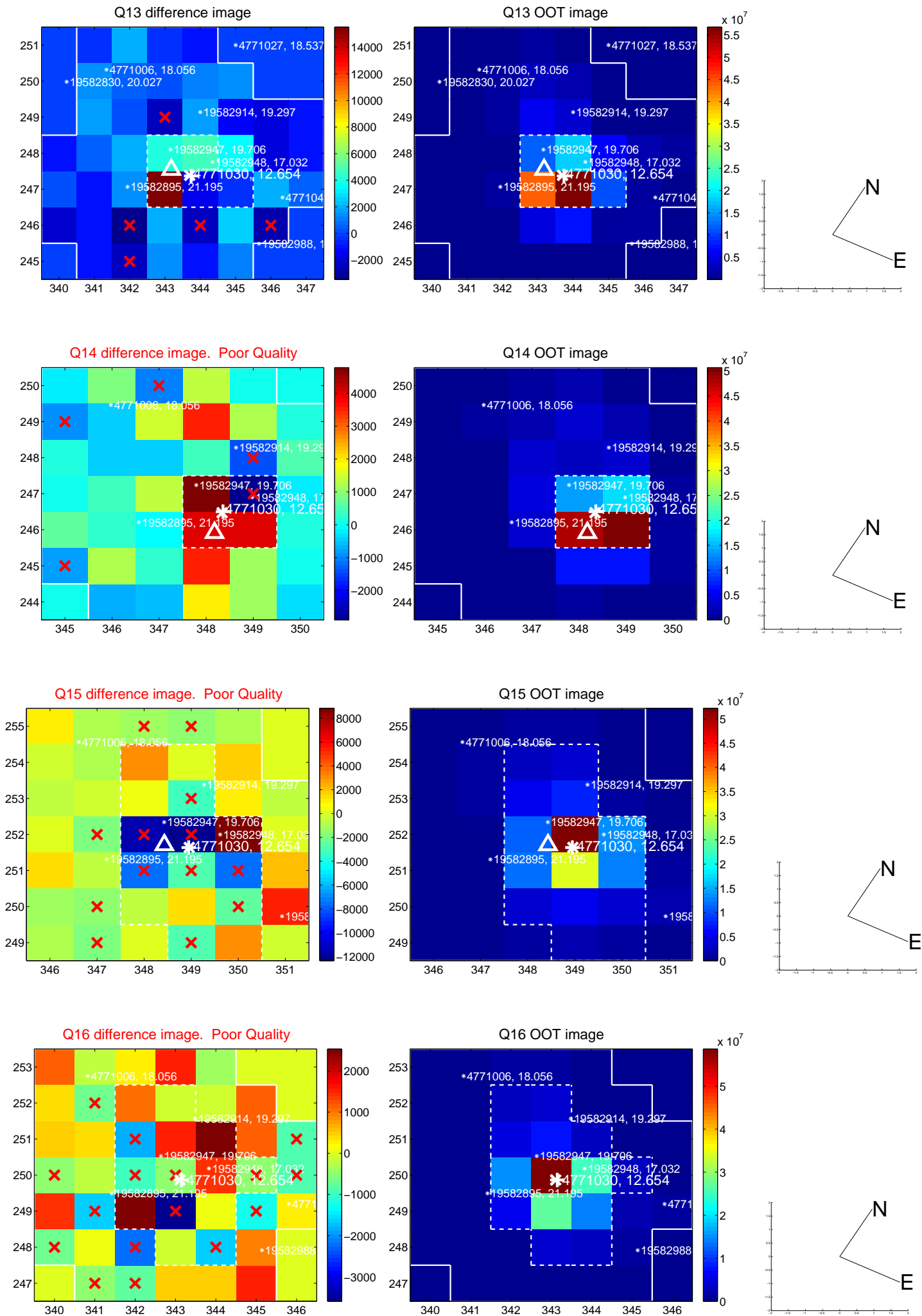
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



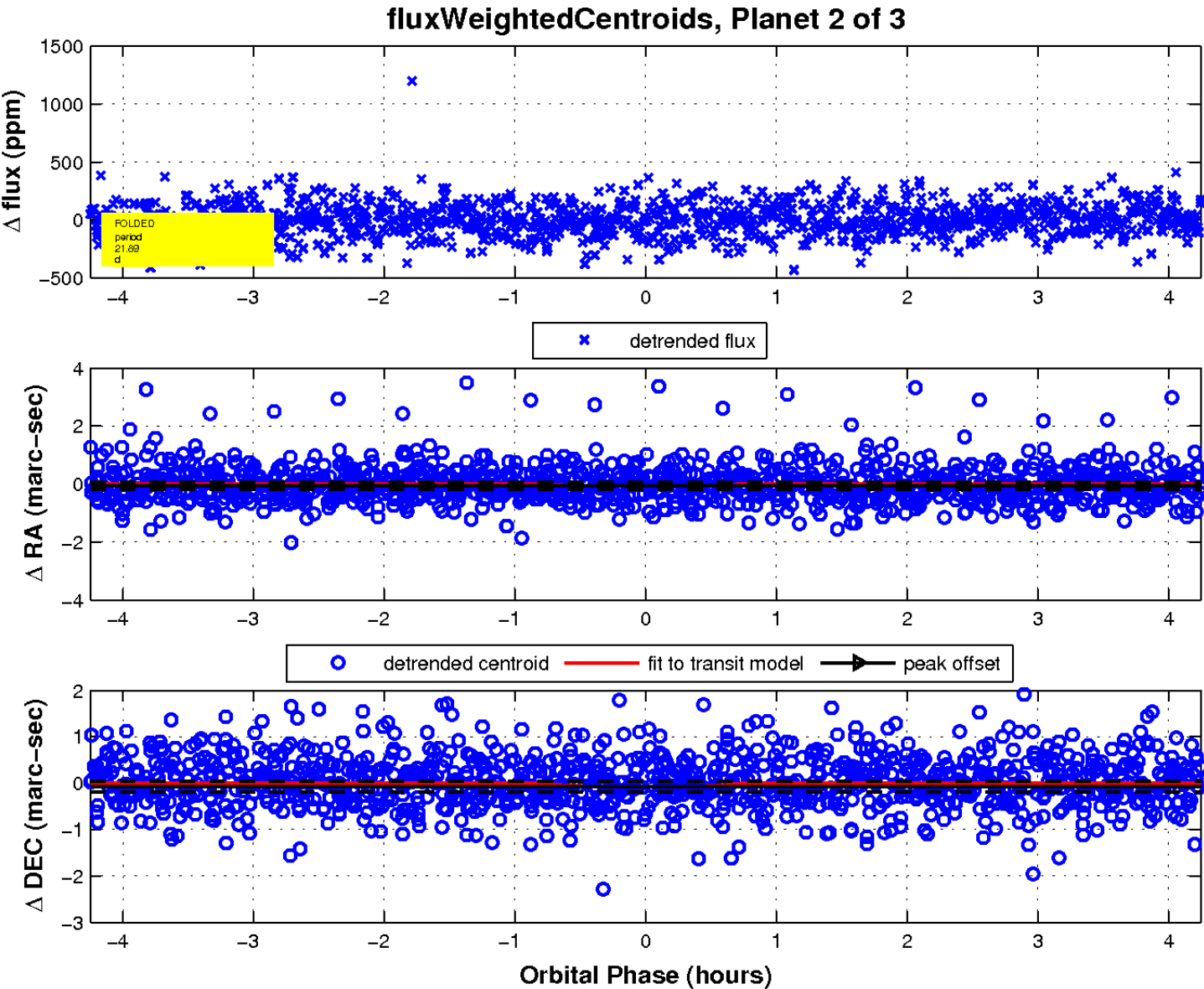
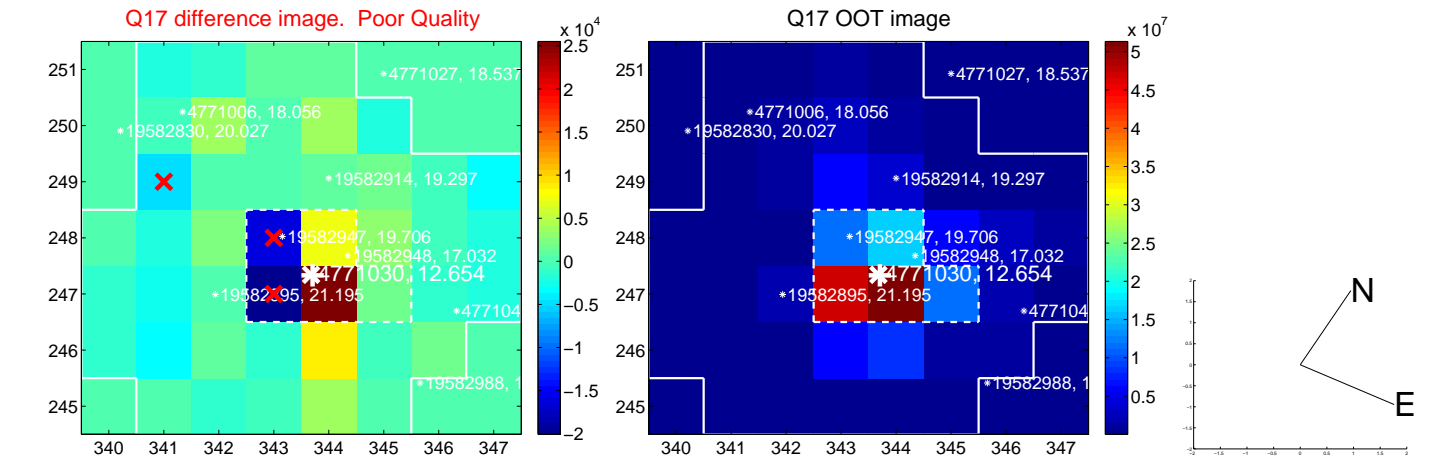
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

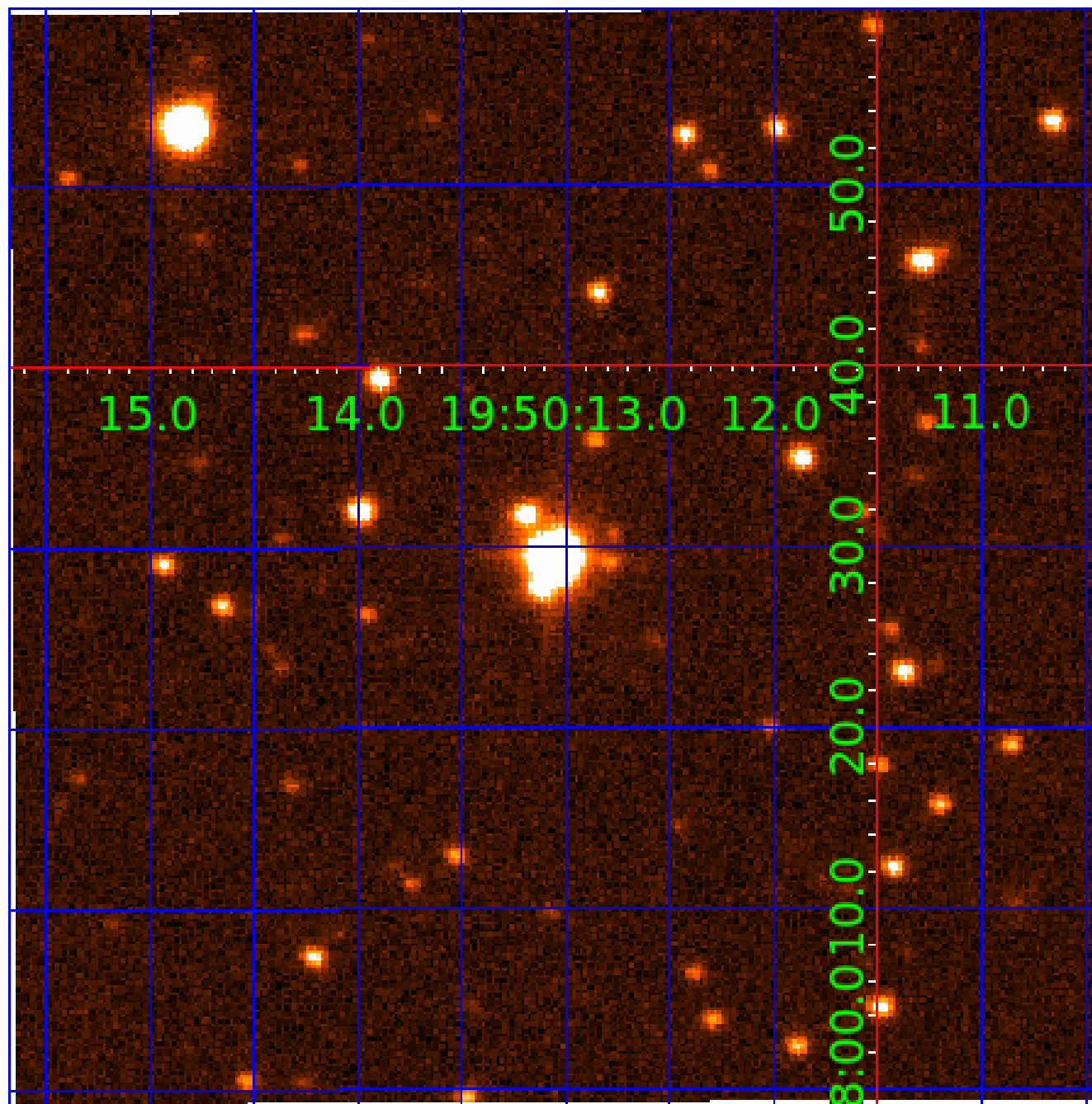


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004771030

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})
004771030-01	OBS	No	1.154291	132.336043	1.0	8.491	7.6	0.6	3.52	6415	0.36	28169.99
004771030-02	OBS	No	21.888453	139.820949	271.4	1.417	12.7	12.0	3.52	6415	5.89	557.08
004771030-03	OBS	No	36.696138	162.053555	87.7	5.828	10.8	4.4	3.52	6415	3.83	279.71

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004771030-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
004771030-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_MEAS
004771030-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

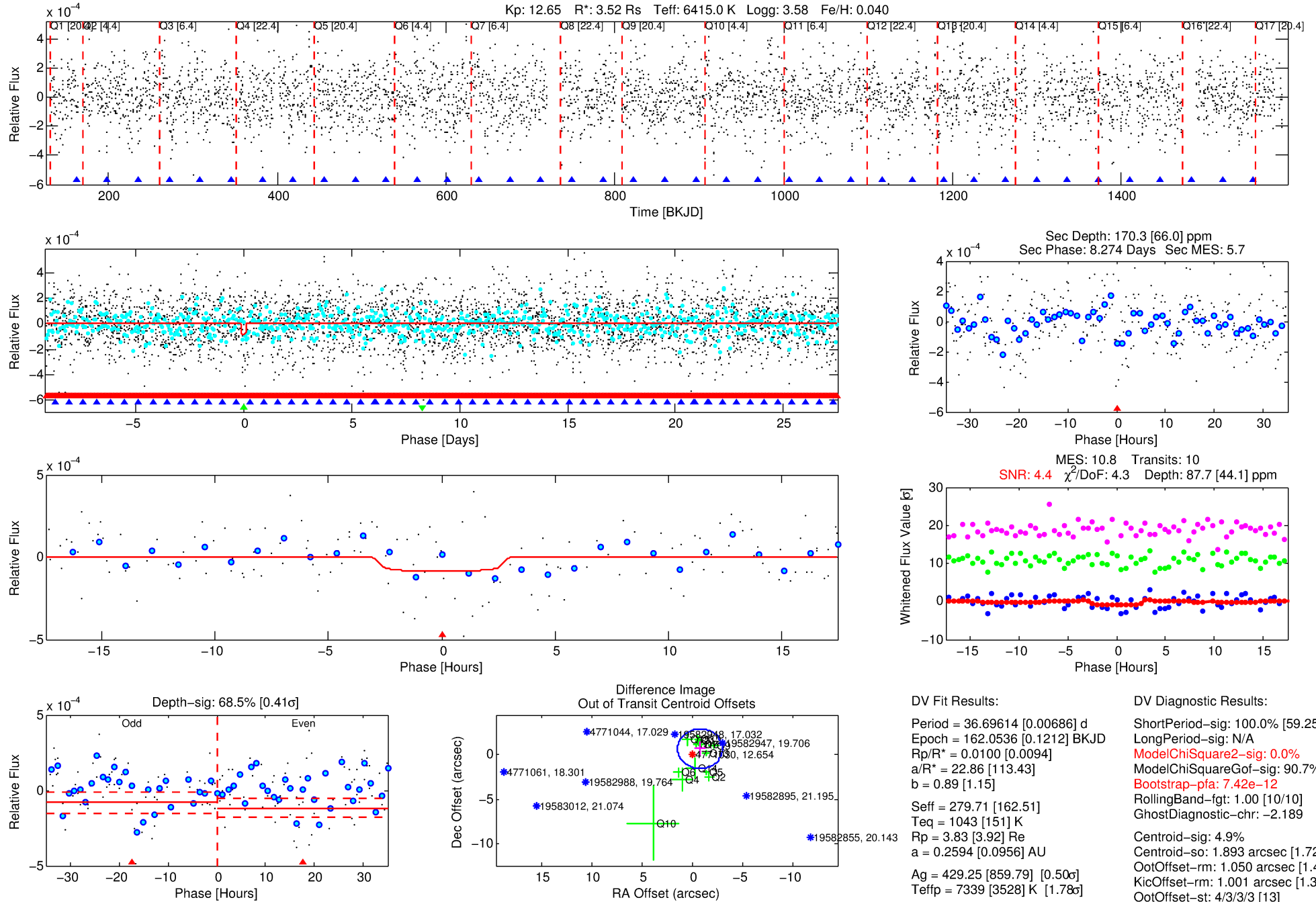
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004771030-03

No Significant Match Found

DV One-Page Summary

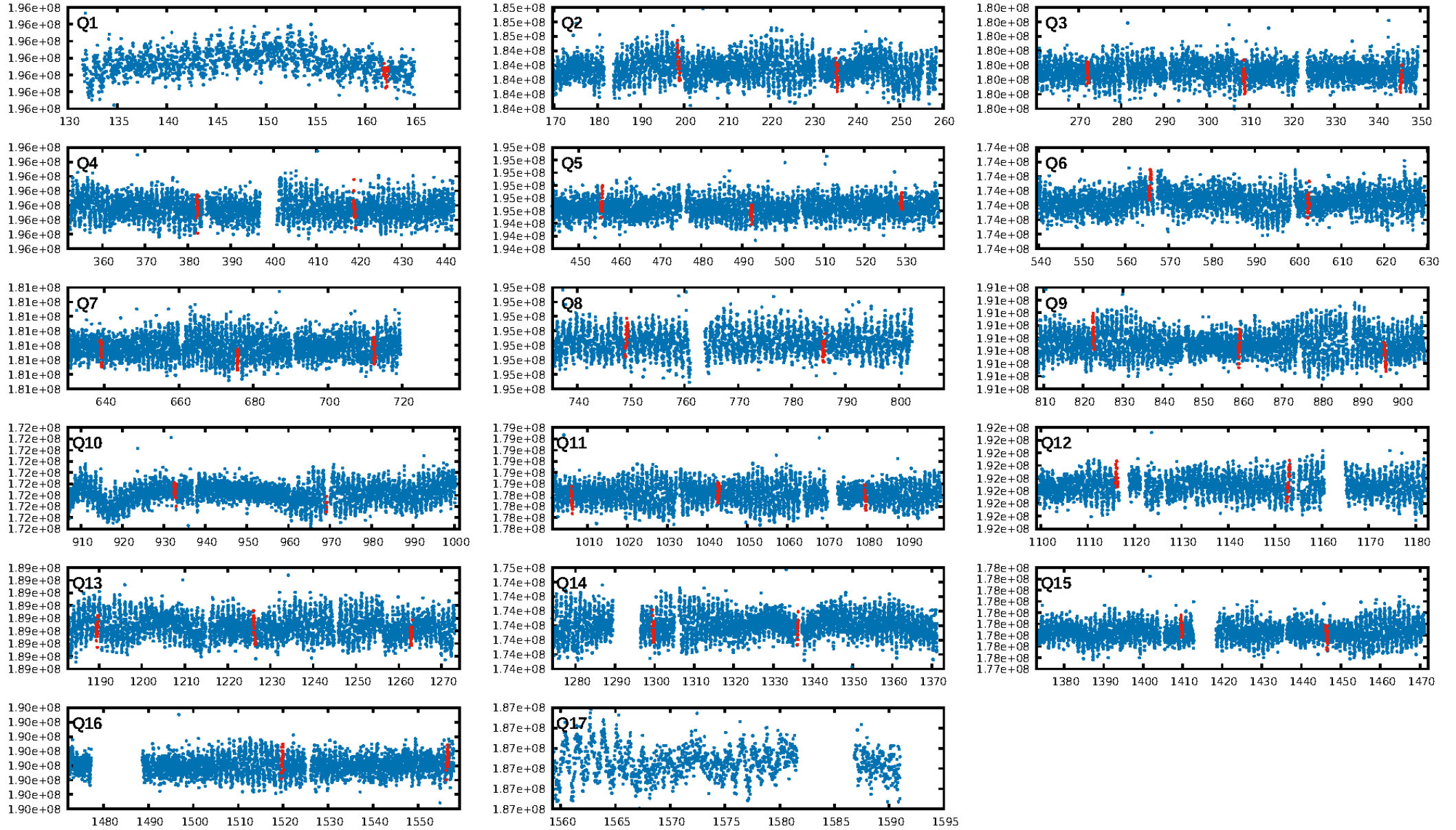
KIC: 4771030 Candidate: 3 of 3 Period: 36.696 d



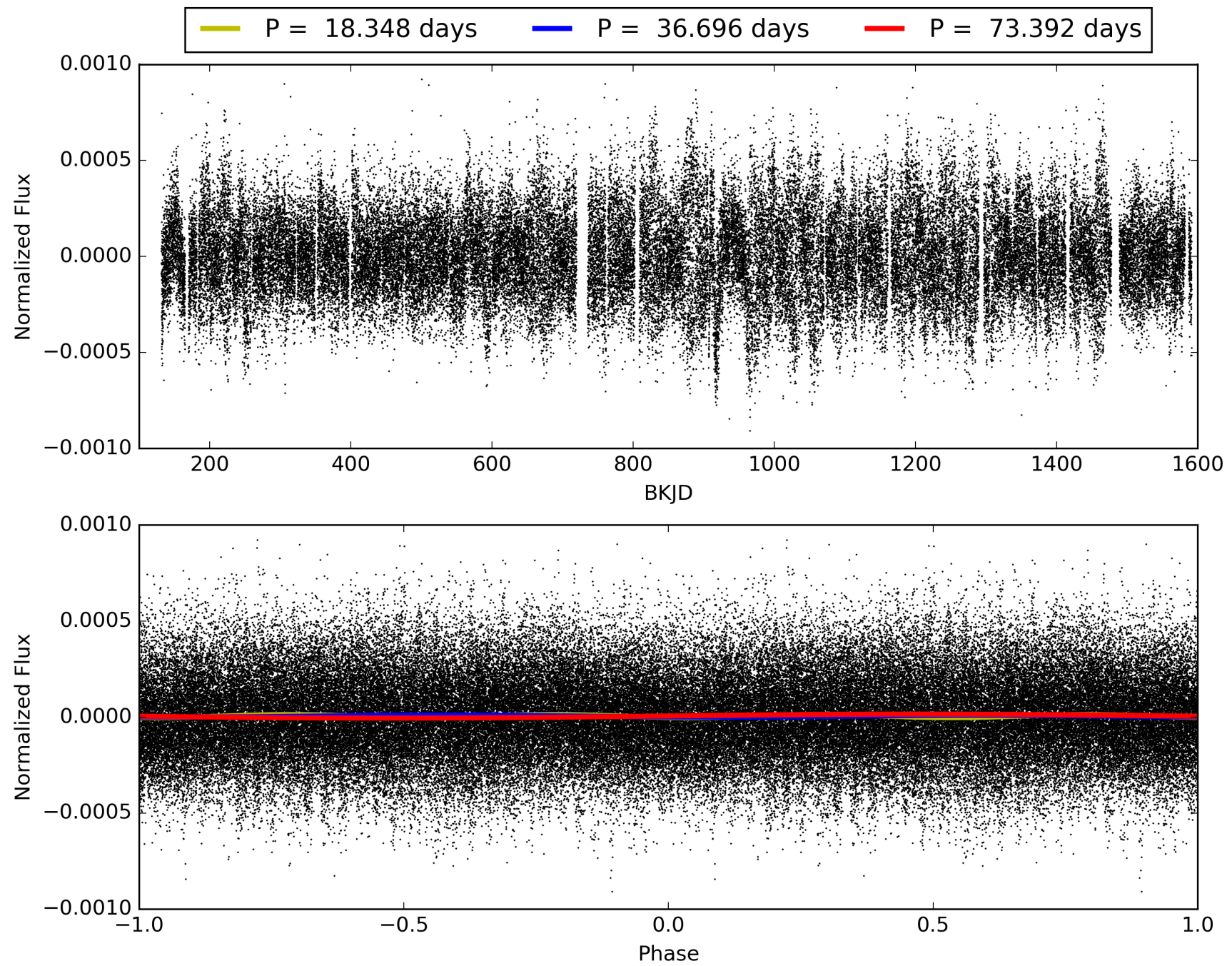
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:59:46 Z

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

TCE 004771030-03, PDC Light Curves

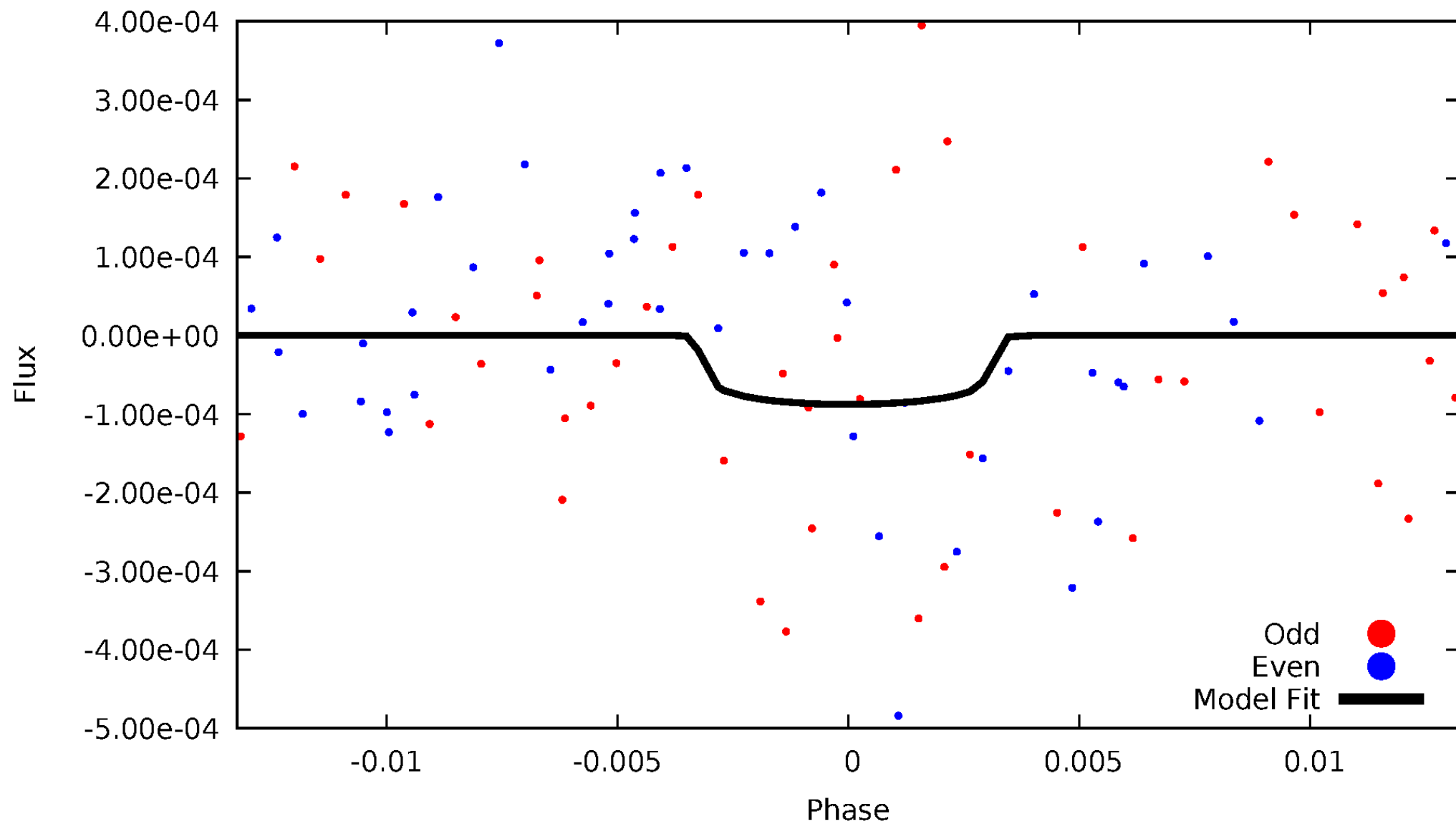


TCE 004771030-03



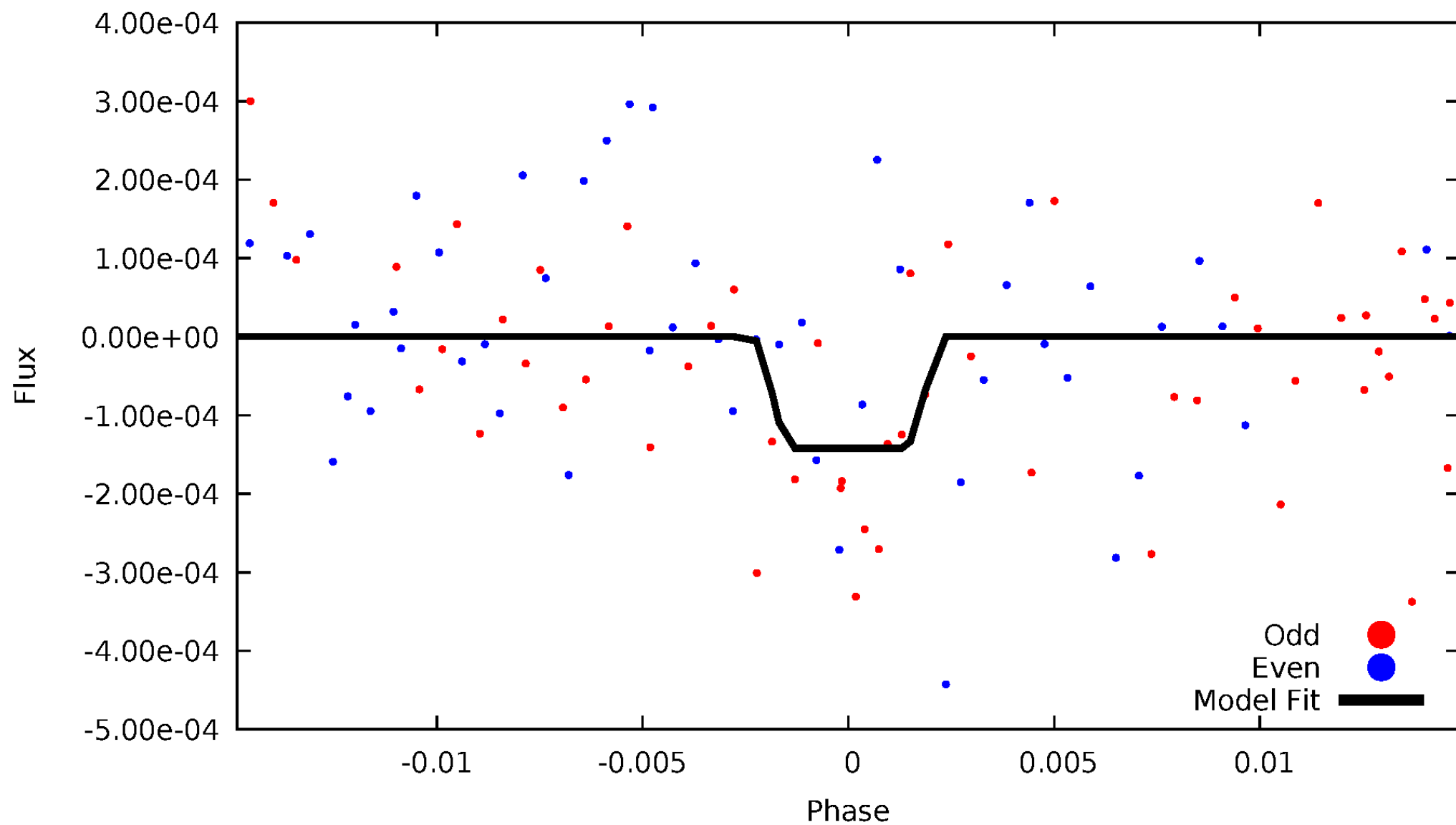
DV Odd/Even

TCE 004771030-03



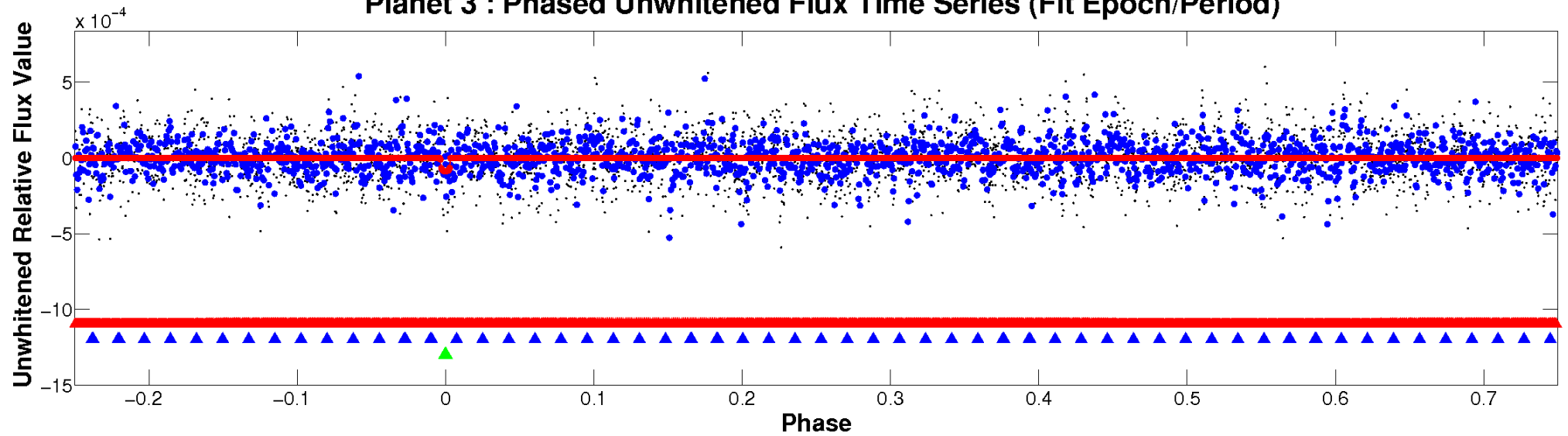
ALT Odd/Even

TCE 004771030-03

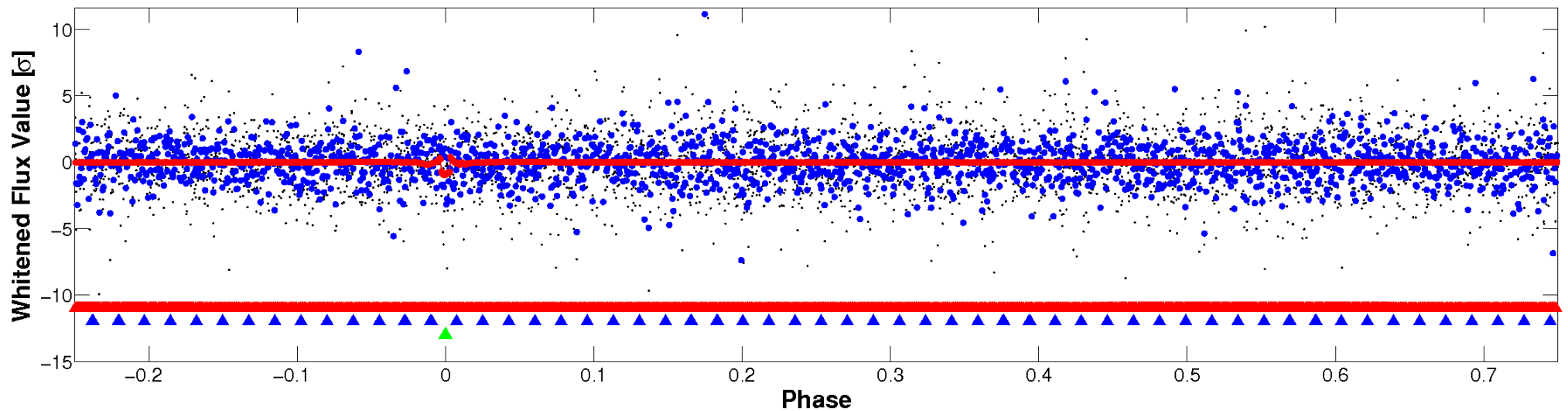


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

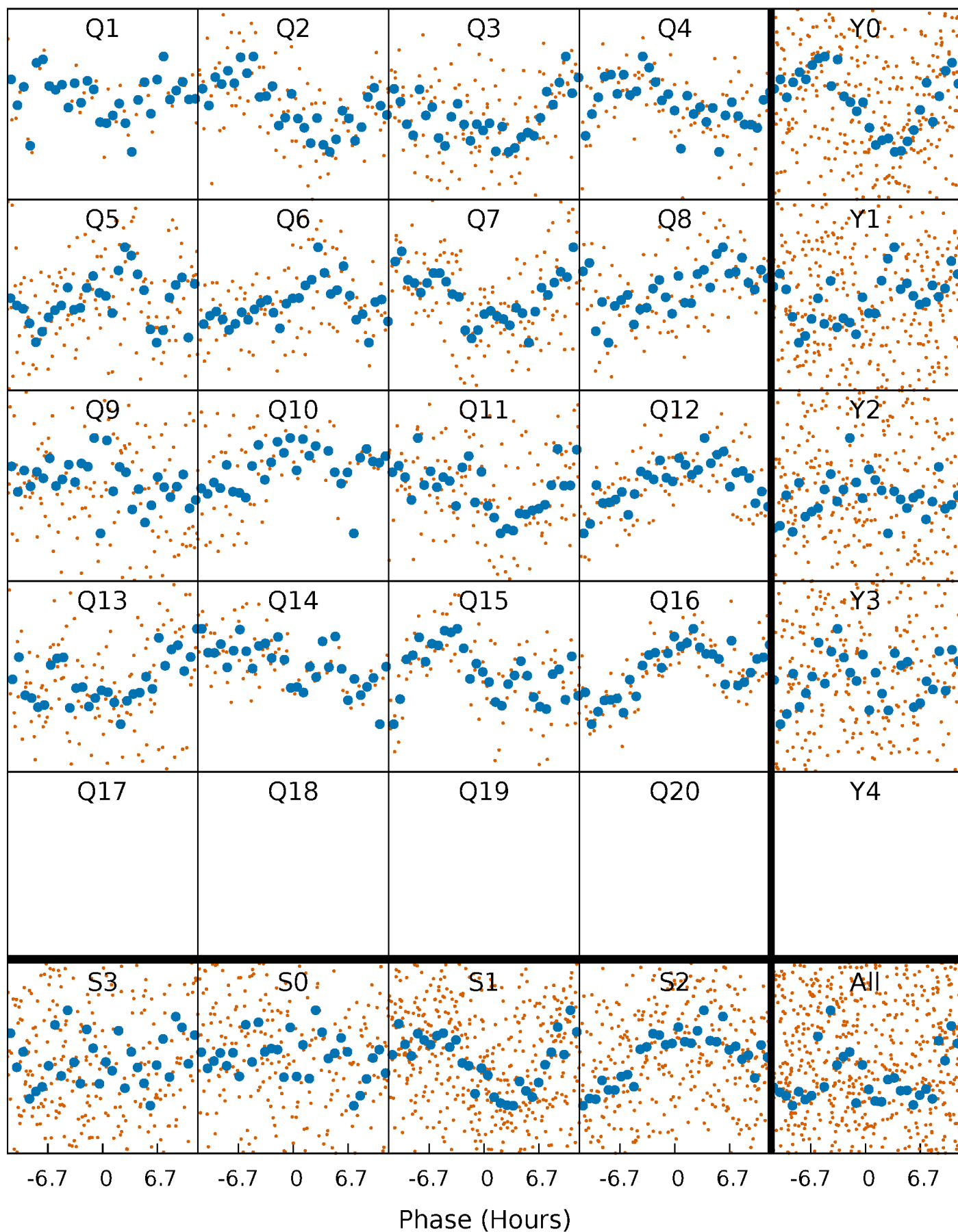


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



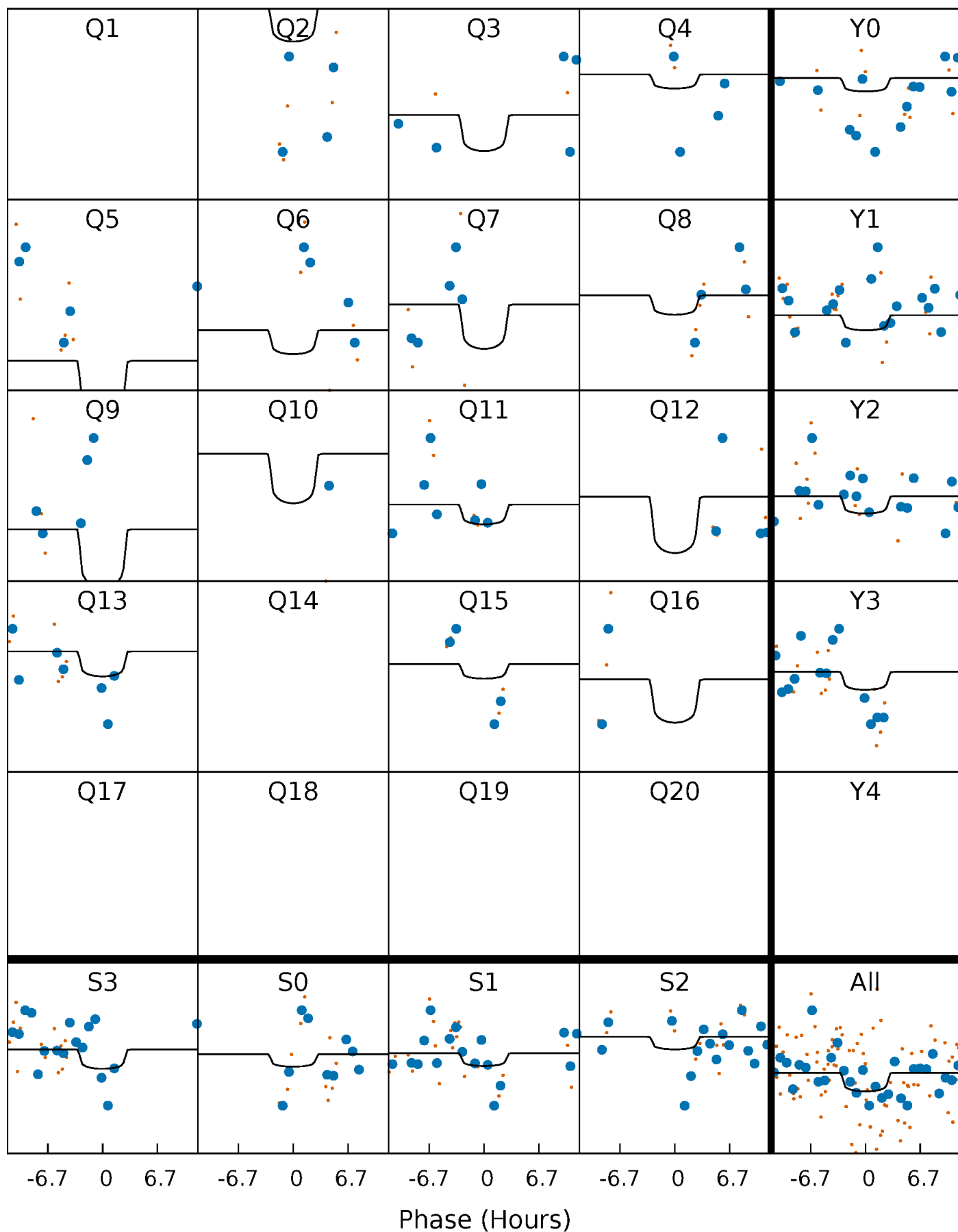
PDC Quarter-Phased Transit Curves

TCE 004771030-03 P= 36.696138 Days $T_0=162.053555$ (BKJD)



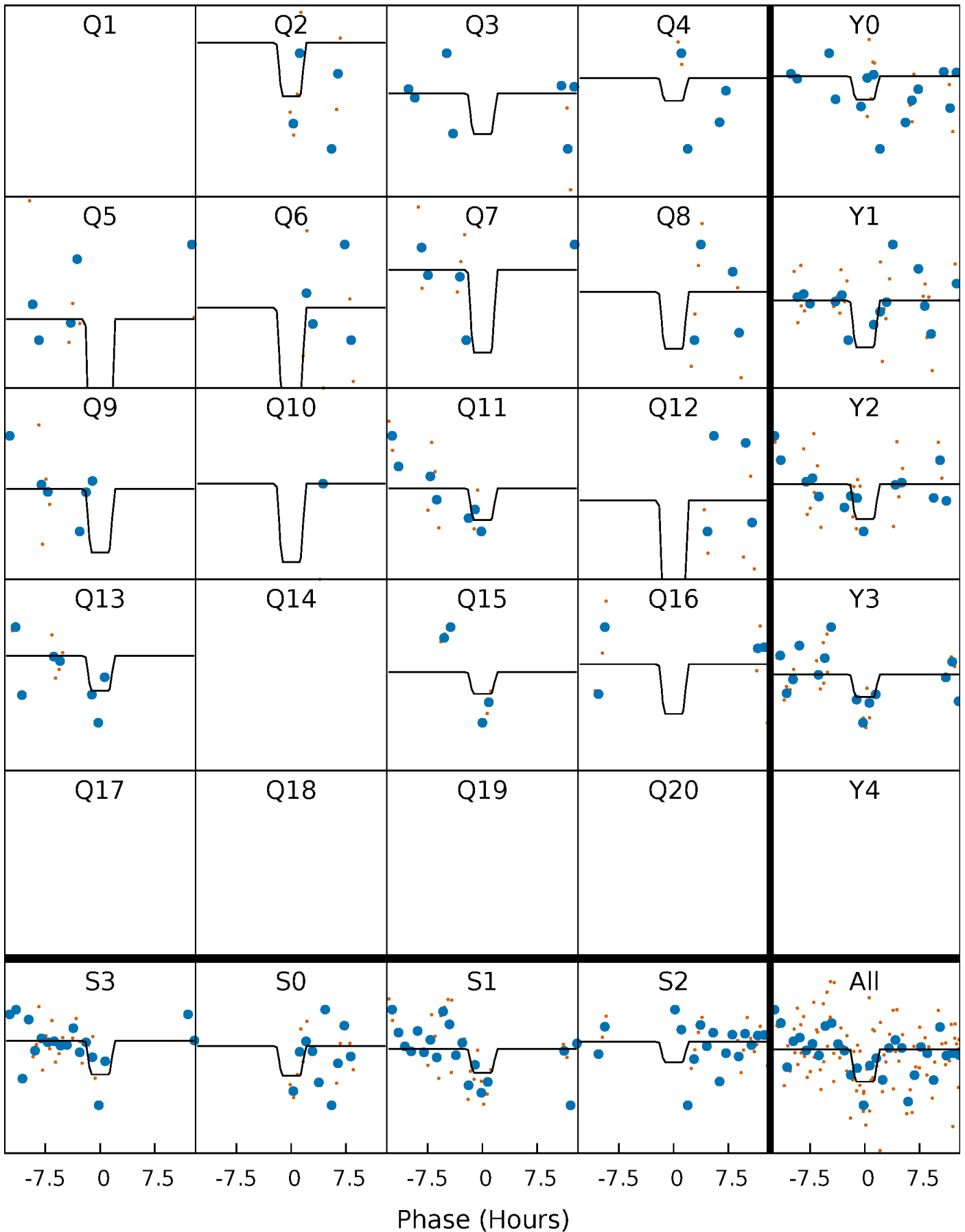
DV Quarter-Phased Transit Curves

TCE 004771030-03 P= 36.696138 Days $T_0=162.053555$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

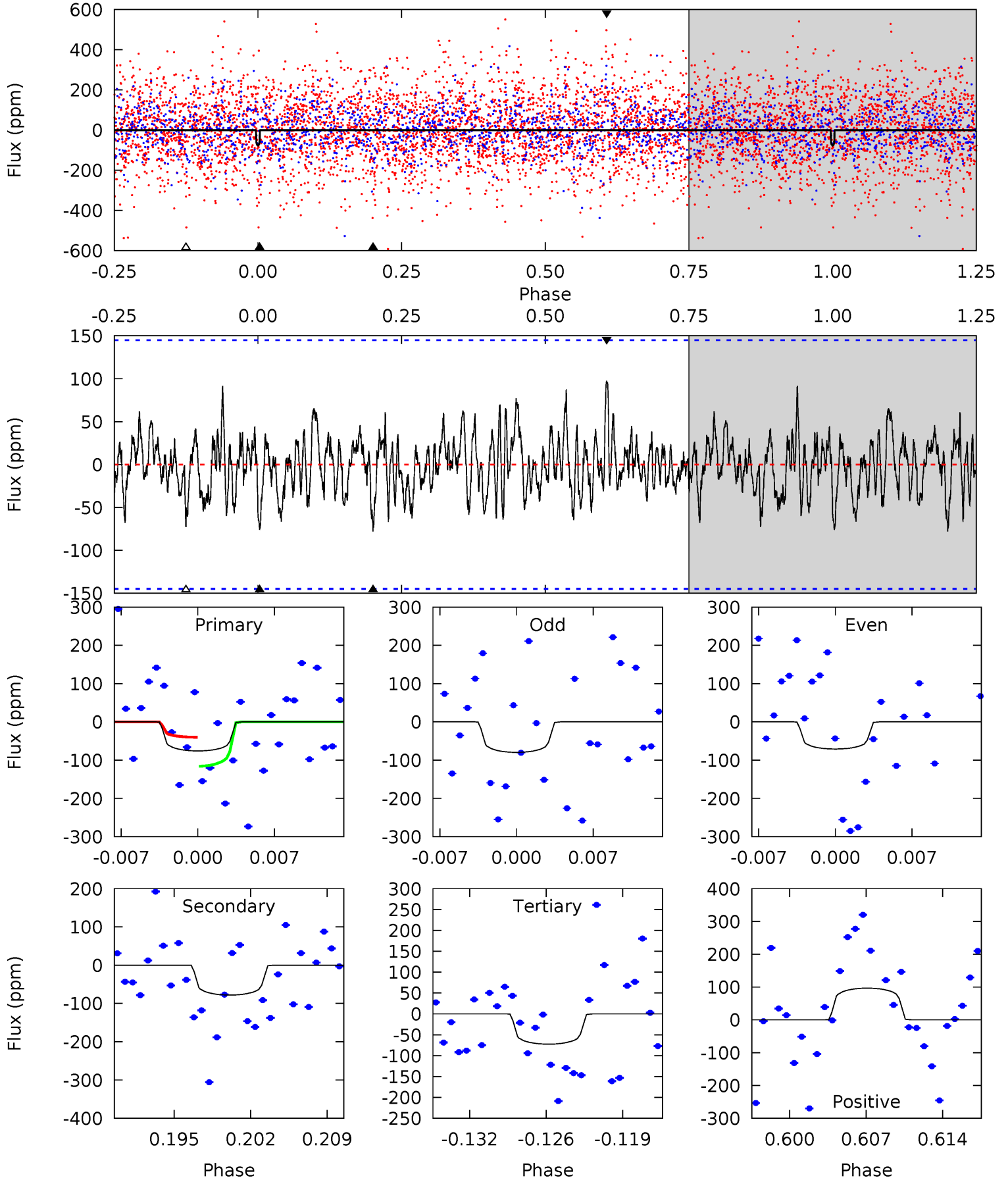
TCE 004771030-03 P= 36.699466 Days $T_0=161.986257$ (BKJD)



DV Model-Shift Uniqueness Test

004771030-03, P = 36.696138 Days, E = 125.357417 Days

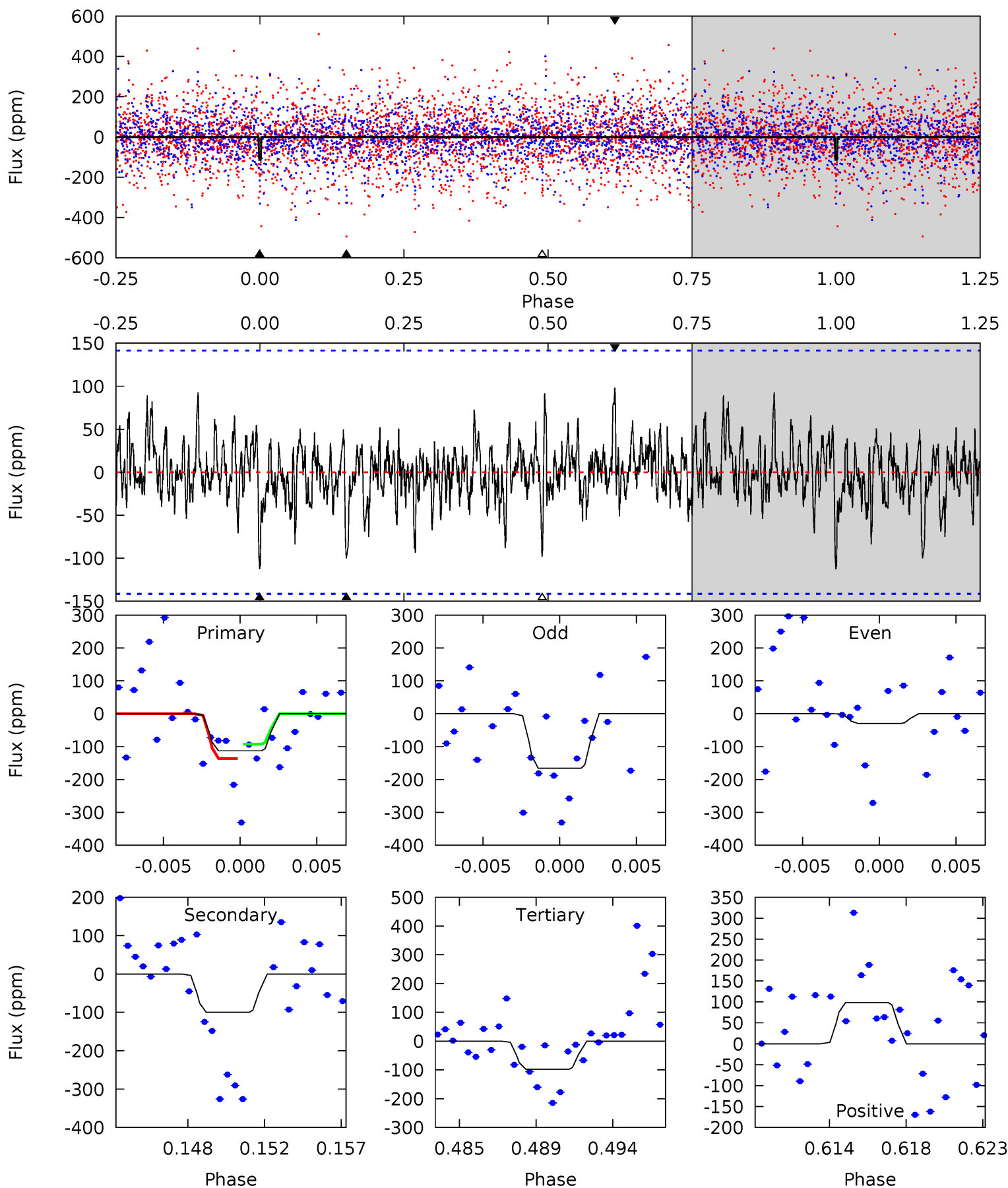
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.67	2.75	2.55	3.40	5.10	2.70	1.01	0.12	-0.73	0.20	-0.66	0.15	0.72	0.55	1.34



Alt Model-Shift Uniqueness Test

004771030-03, P = 36.699466 Days, E = 125.286791 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.12	3.66	3.58	3.59	5.17	2.83	1.01	0.54	0.53	0.08	0.06	2.44	0.65	0.47	0.80



Stellar Parameters For KIC 004771030

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6415^{+153}_{-172}	$3.582^{+0.328}_{-0.062}$	$0.040^{+0.250}_{-0.250}$	$3.522^{+0.251}_{-1.423}$	$1.727^{+0.191}_{-0.355}$	$0.056^{+0.139}_{-0.011}$
	+2%/-3%	+9%/-2%	+625%/-625%	+7%/-40%	+11%/-21%	+250%/-20%
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 004771030-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-78 ± 28	$4.02^{+3.50}_{-2.58}$	1430^{+70}_{-131}	5725^{+4326}_{-1412}	178^{+1158}_{-133}
Alt.	-100 ± 27	$4.63^{+3.40}_{-2.79}$	1432^{+65}_{-111}	5608^{+3803}_{-1137}	161^{+937}_{-105}

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 $A_{obs} \gg 1.0$

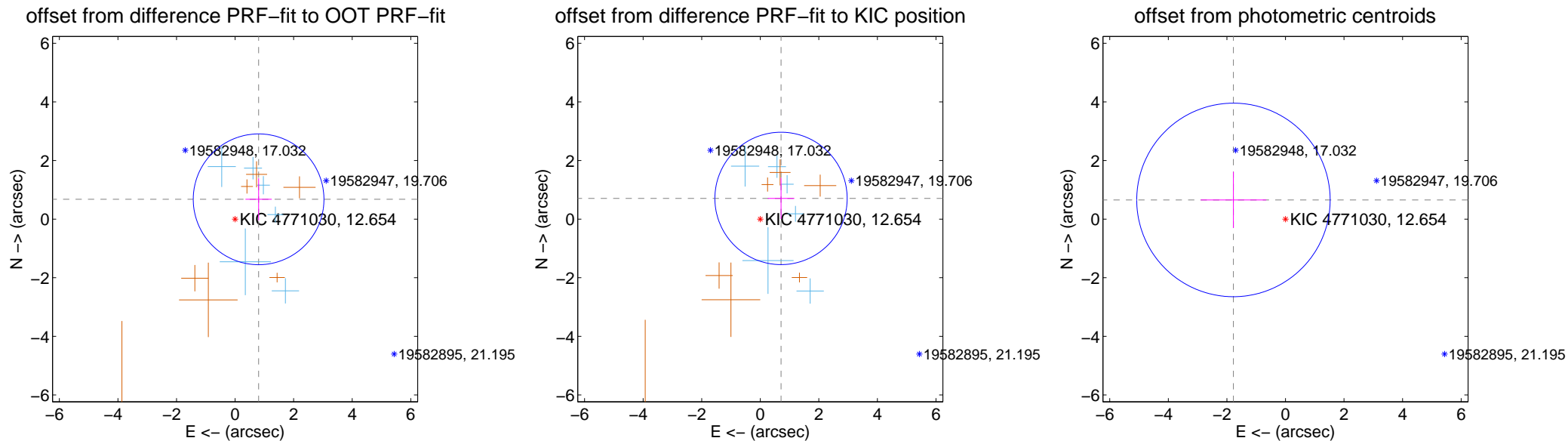
DV Centroid Data

Supplemental centroid analysis for 004771030-03. Kepler magnitude: 12.65. Transit SNR 4.37

There are 6 quarters with good PRF difference image offsets

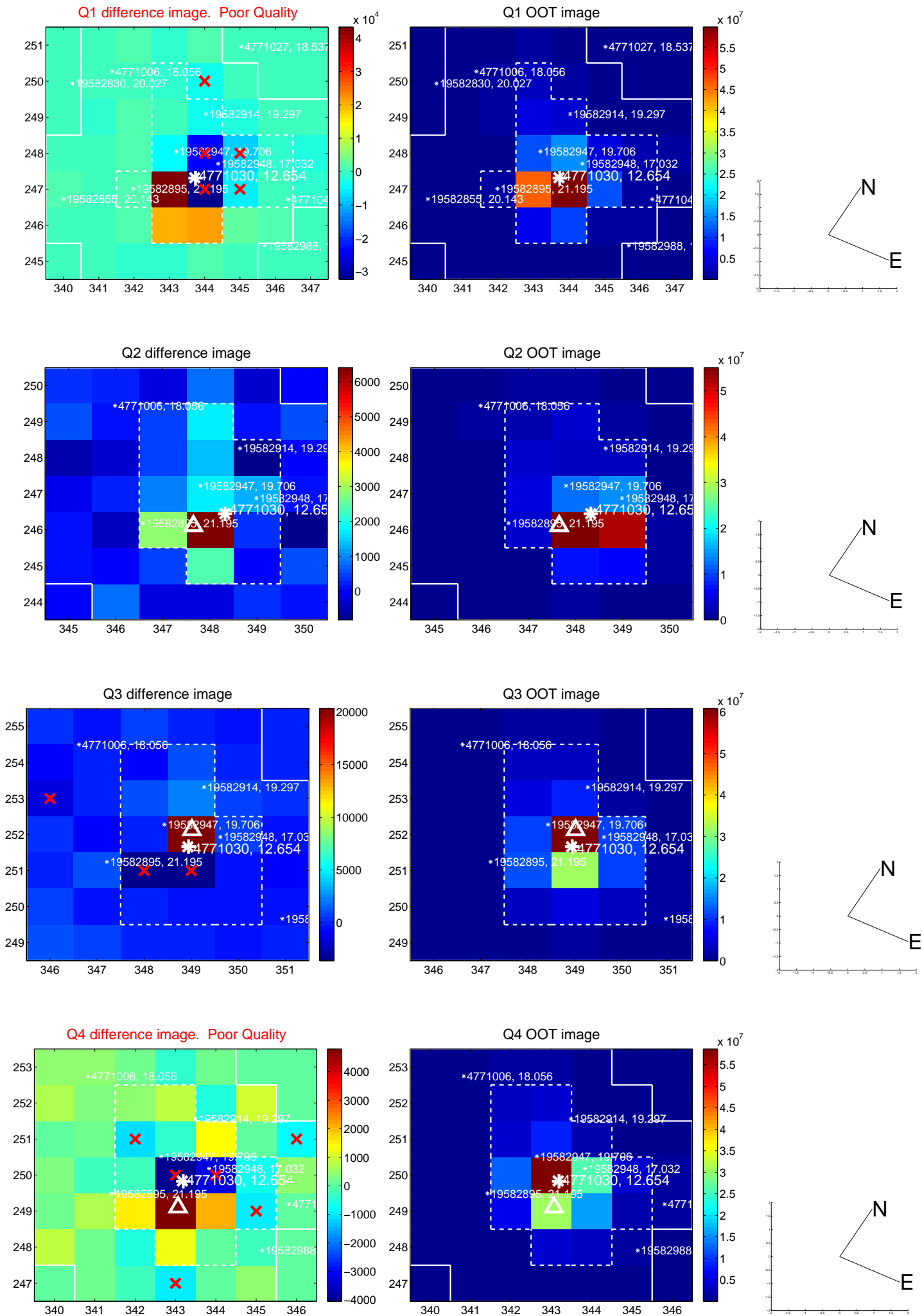
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.050 ± 0.744	1.41	-0.803 ± 0.449	0.676 ± 0.718
PRF-fit source offset from KIC position	1.001 ± 0.753	1.33	-0.709 ± 0.454	0.707 ± 0.702
photometric centroid source offset	1.89 ± 1.10	1.72	1.78 ± 1.12	0.65 ± 0.96

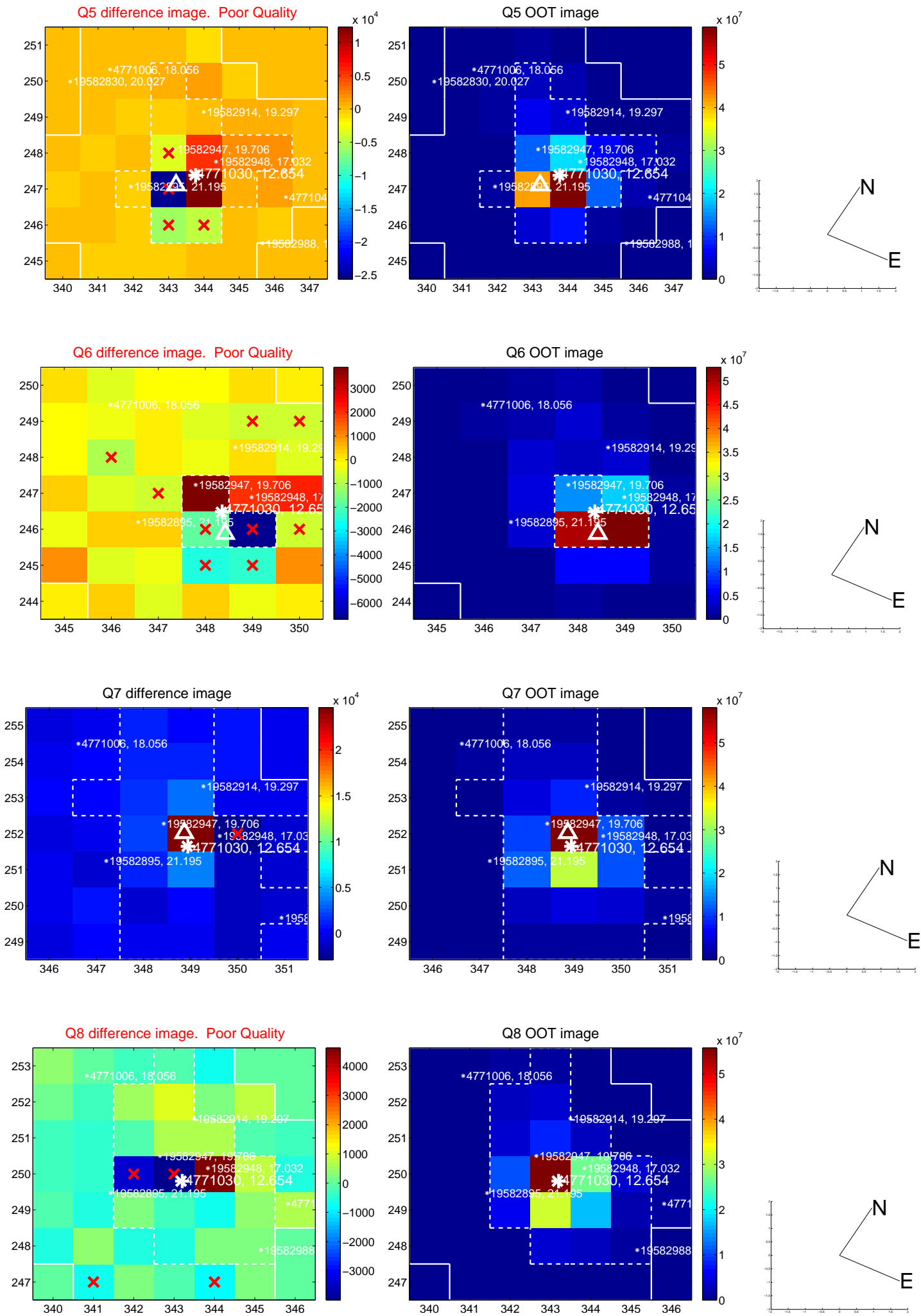


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

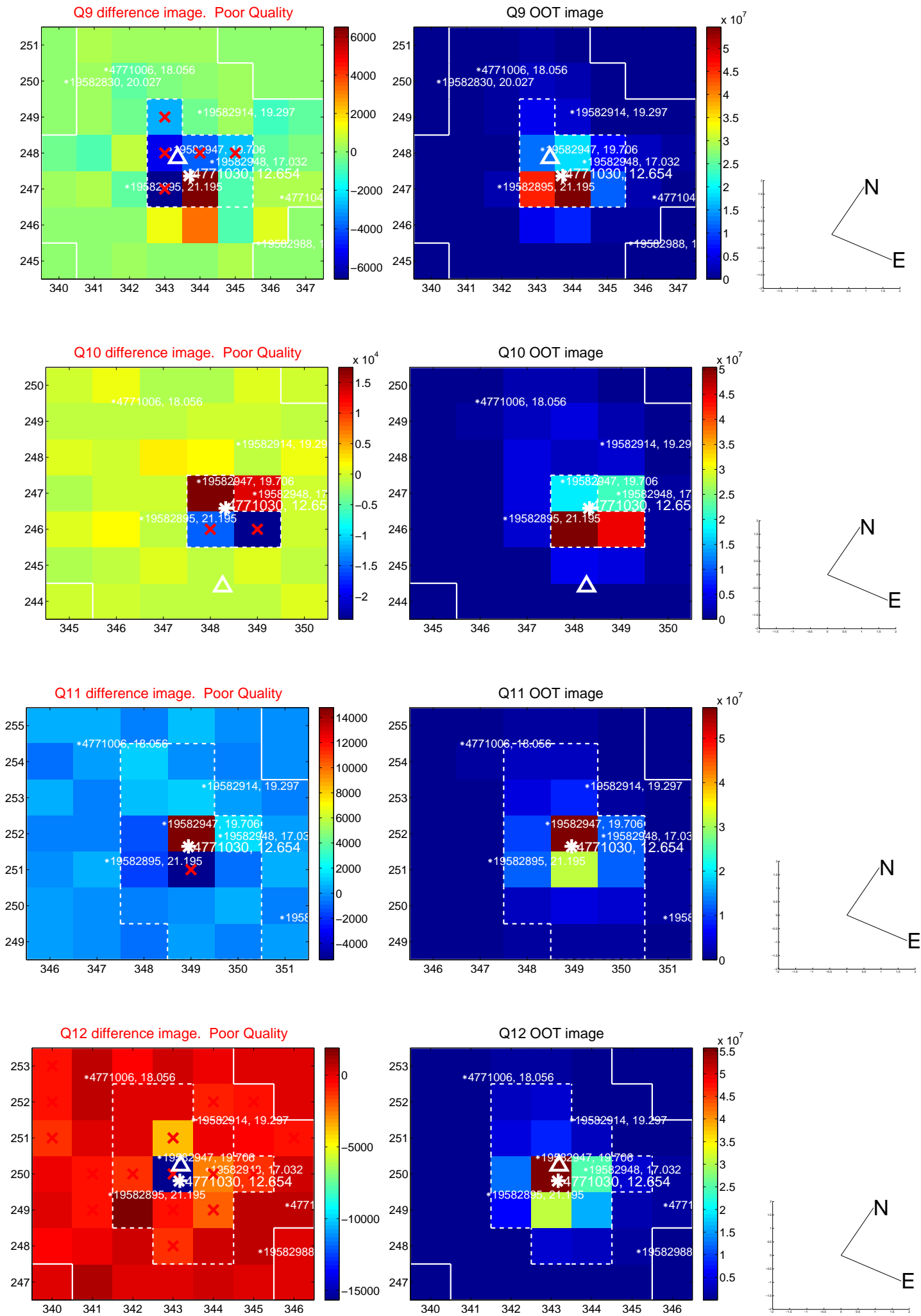
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



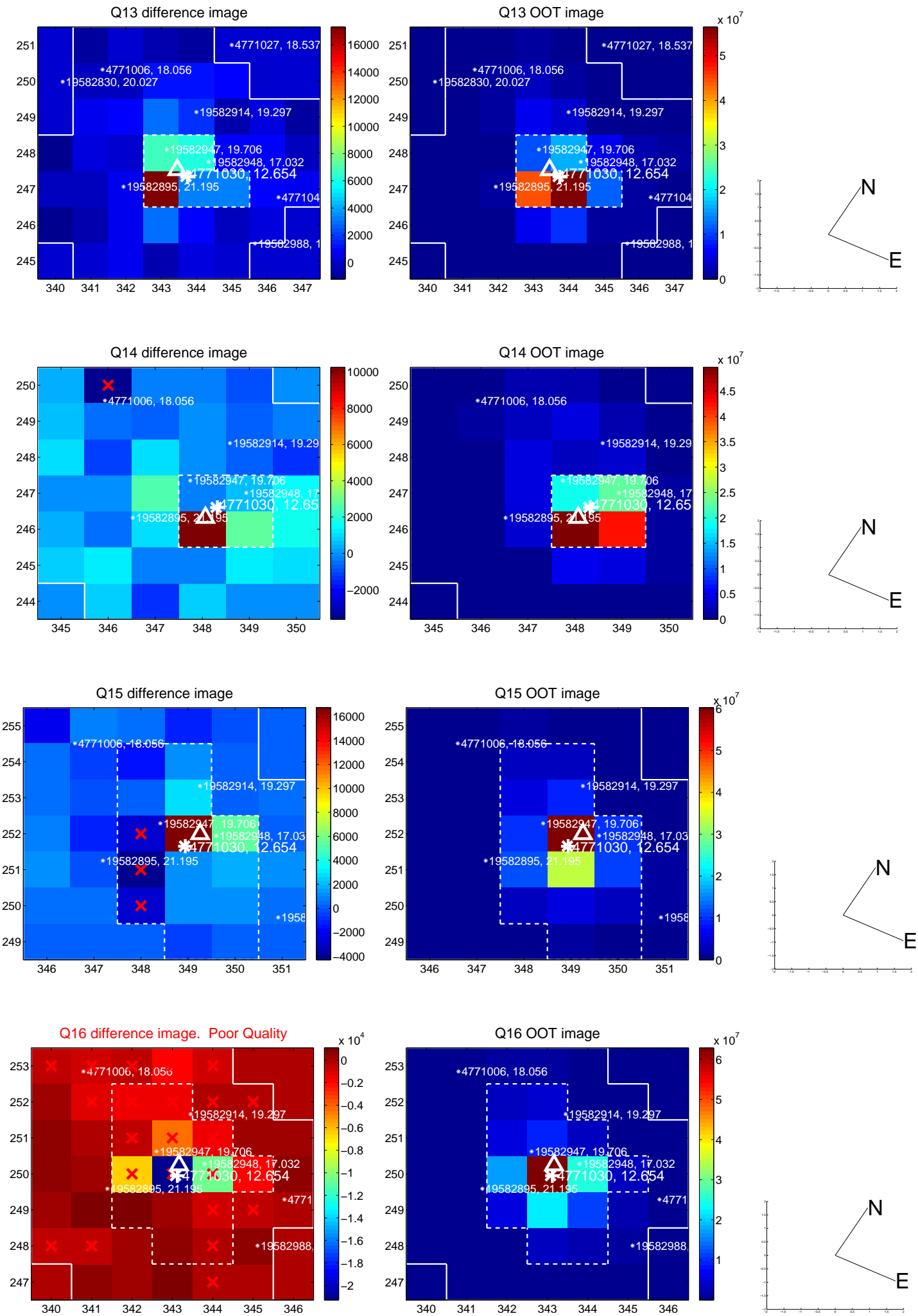
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



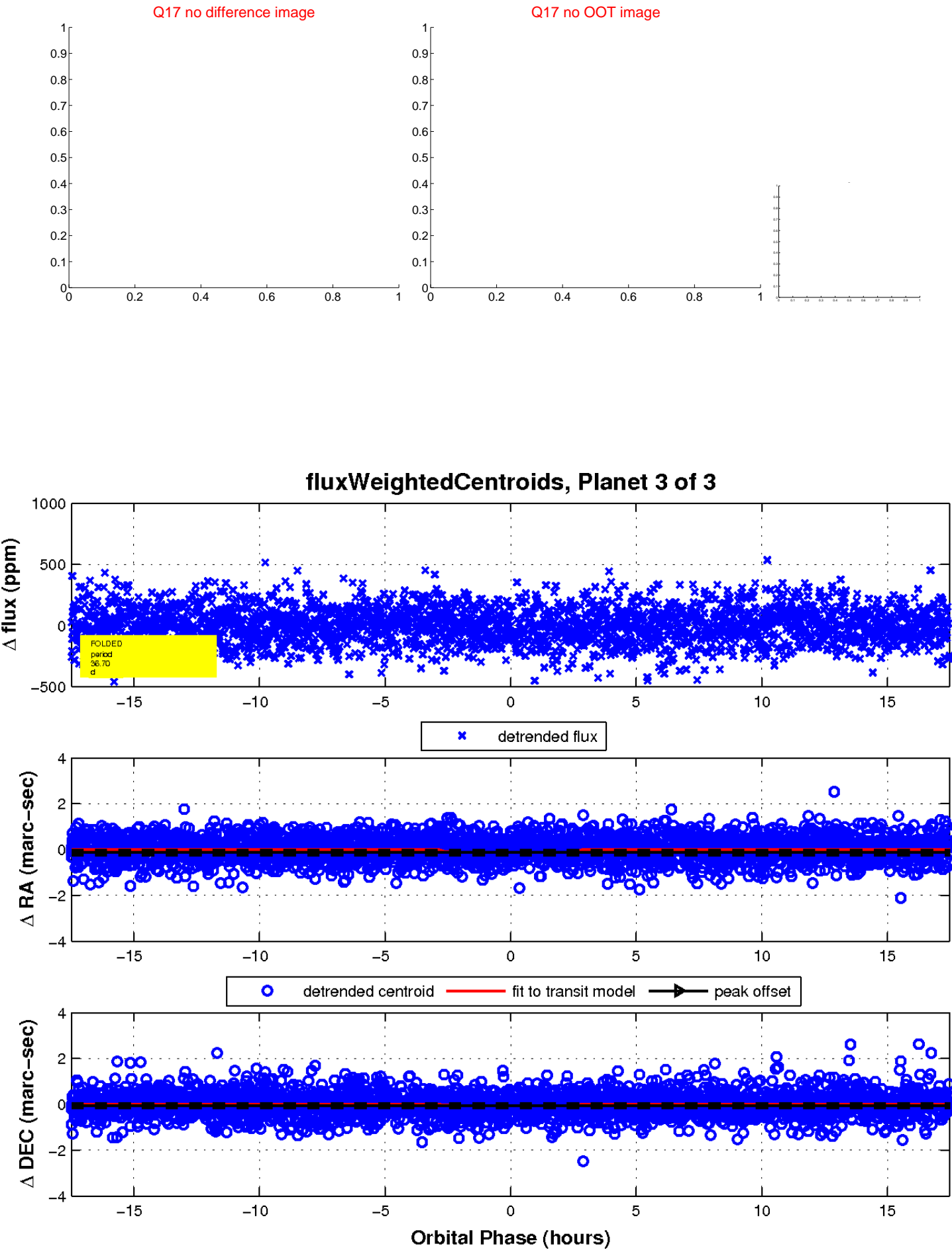
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

