

KIC 007771149

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})
007771149-01	OBS	No	3.726033	134.789844	36.0	15.022	7.7	7.7	1.31	6022	0.95	984.62
007771149-02	OBS	No	335.286920	335.013411	327.6	10.071	10.1	6.6	1.31	6022	2.56	2.44

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007771149-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
007771149-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS

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

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

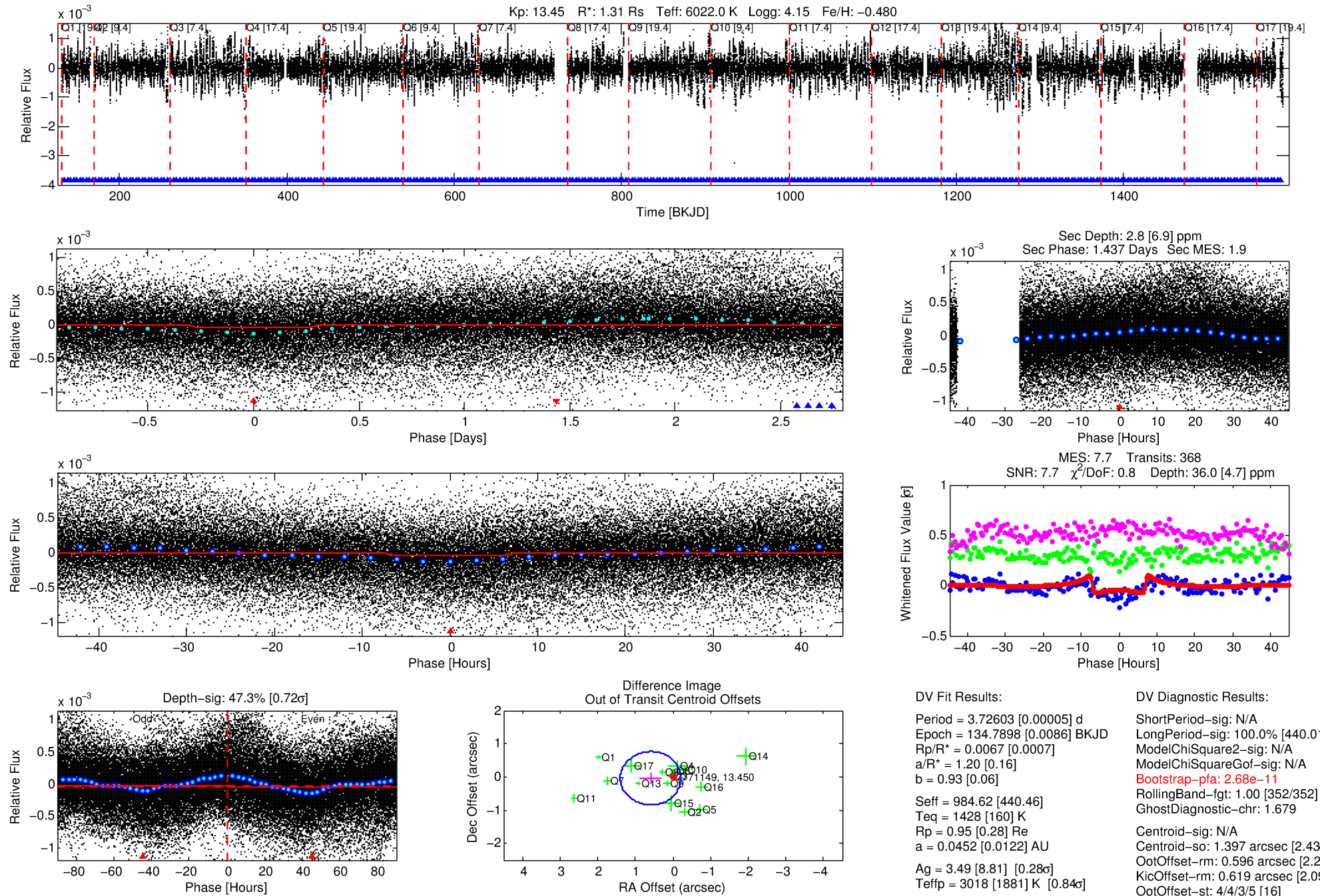
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007771149-01

No Significant Match Found

DV One-Page Summary

KIC: 7771149 Candidate: 1 of 2 Period: 3.726 d



DV Fit Results:

Period = 3.72603 [0.00005] d
Epoch = 134.7898 [0.0086] BKJD
Rp/R* = 0.0067 [0.0007]
a/R* = 1.20 [0.16]
b = 0.93 [0.06]
Seff = 984.62 [440.46]
Teff = 1428 [160] K
Rp = 0.95 [0.28] Re
a = 0.0452 [0.0122] AU
Ag = 3.49 [8.81] [0.28σ]
Teffp = 3018 [1881] K [0.84σ]

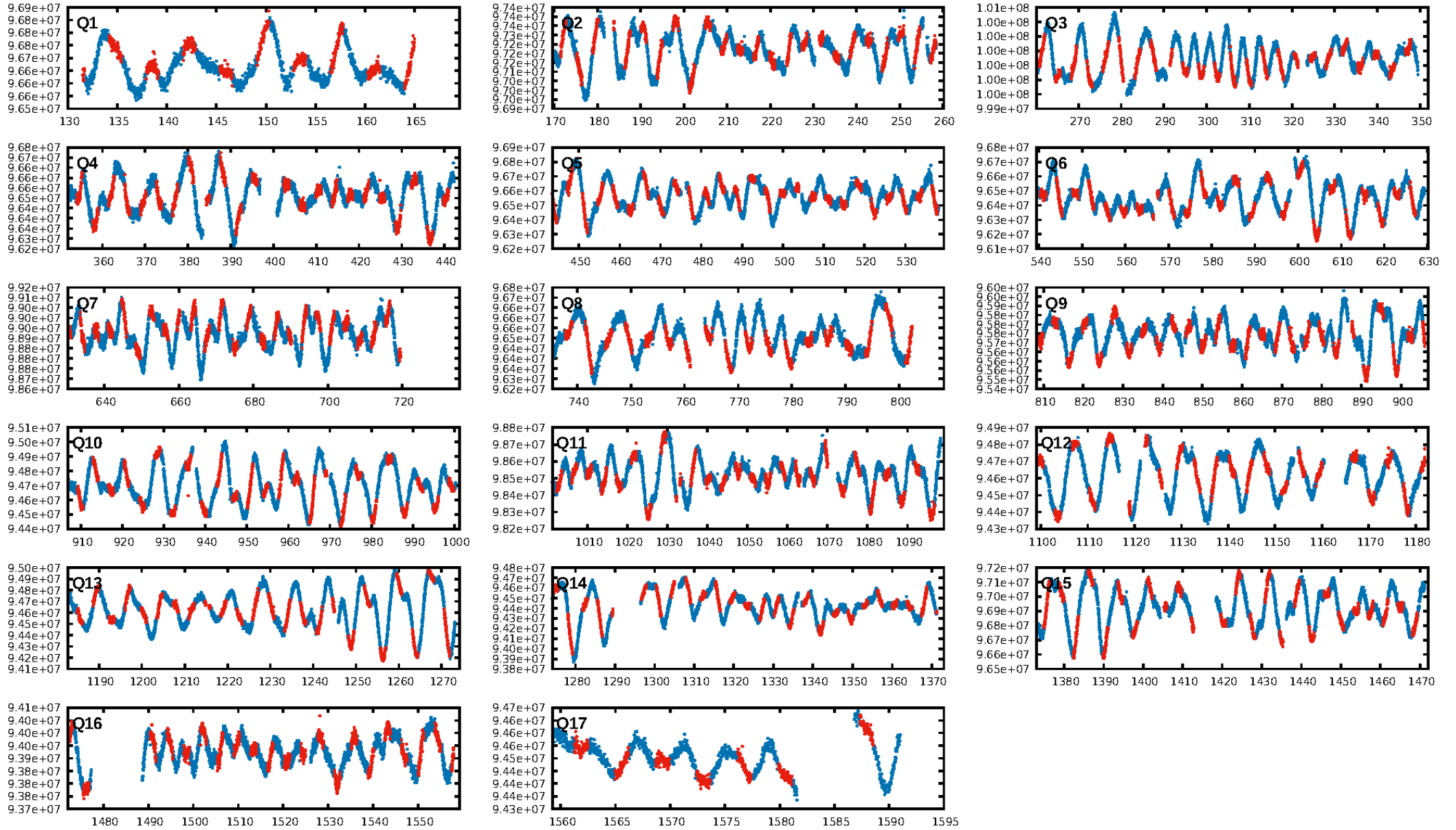
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [440.01σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.68e-11
RollingBand-fgt: 1.00 [352/352]
GhostDiagnostic-chr: 1.679
Centroid-sig: N/A
Centroid-so: 1.397 arcsec [2.43σ]
OotOffset-rm: 0.596 arcsec [2.22σ]
KicOffset-rm: 0.619 arcsec [2.09σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.75 [12/16]
DiffImageOverlap-fno: 1.00 [17/17]

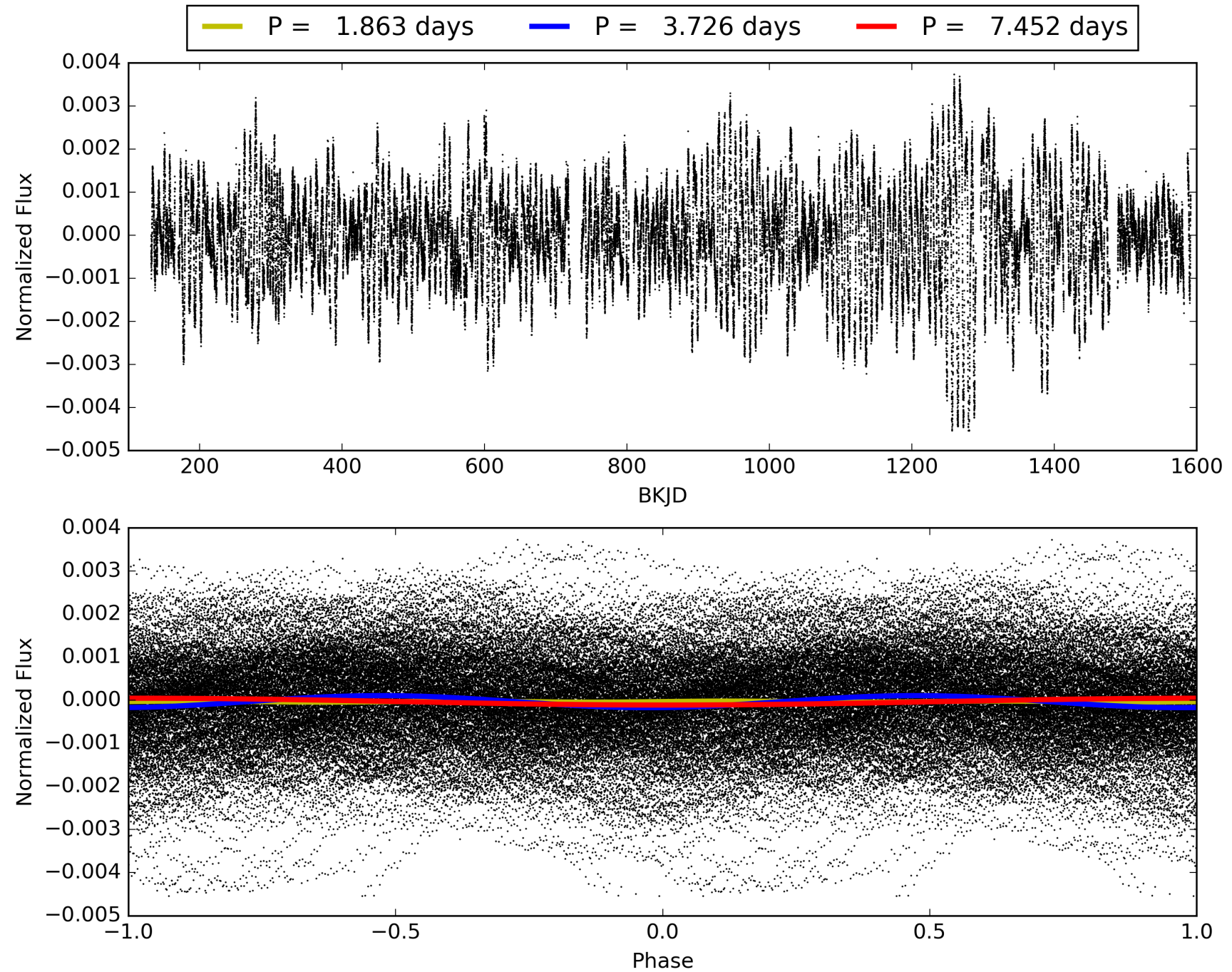
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 13:24:45 Z

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

TCE 007771149-01, PDC Light Curves

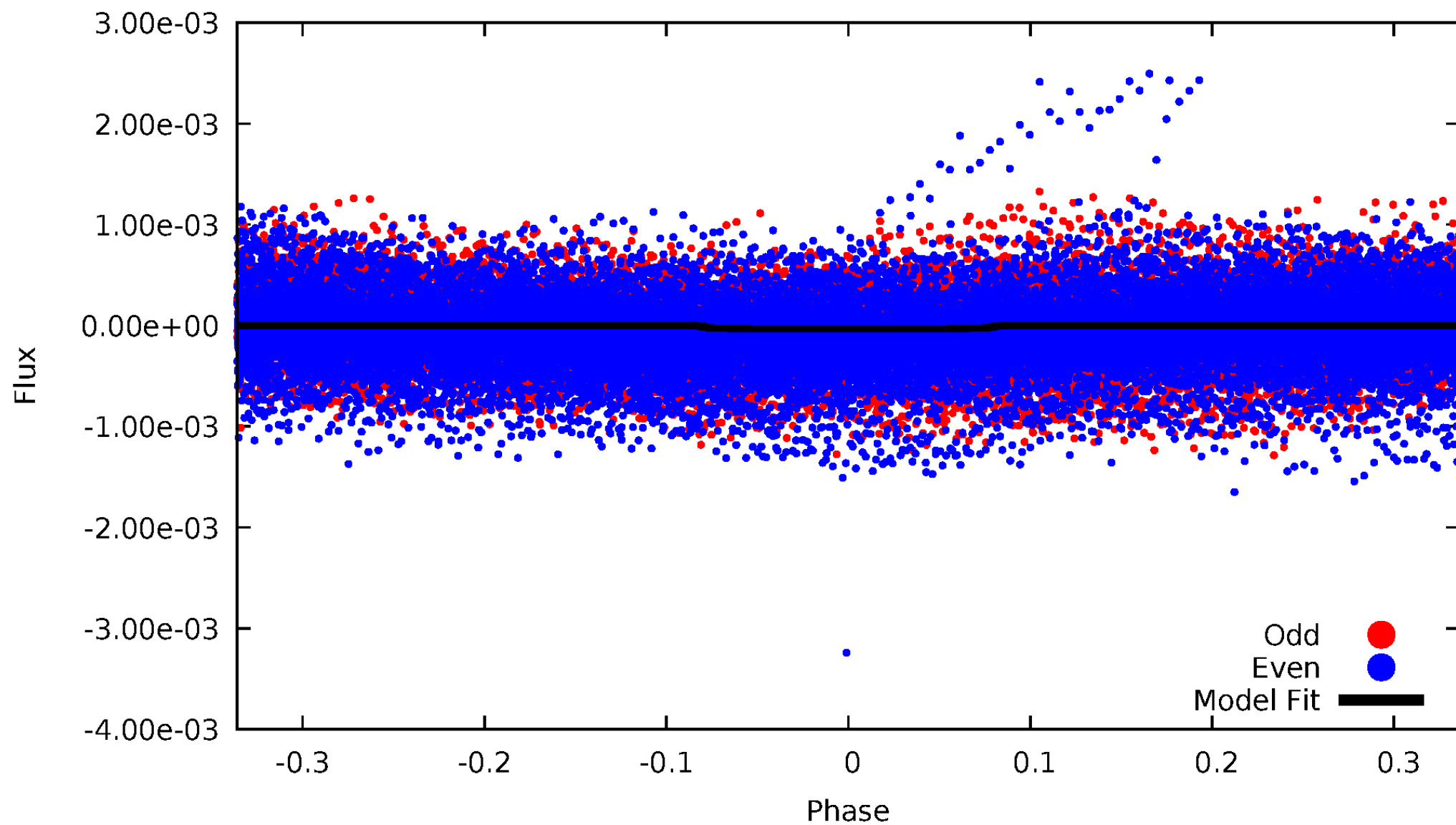


TCE 007771149-01



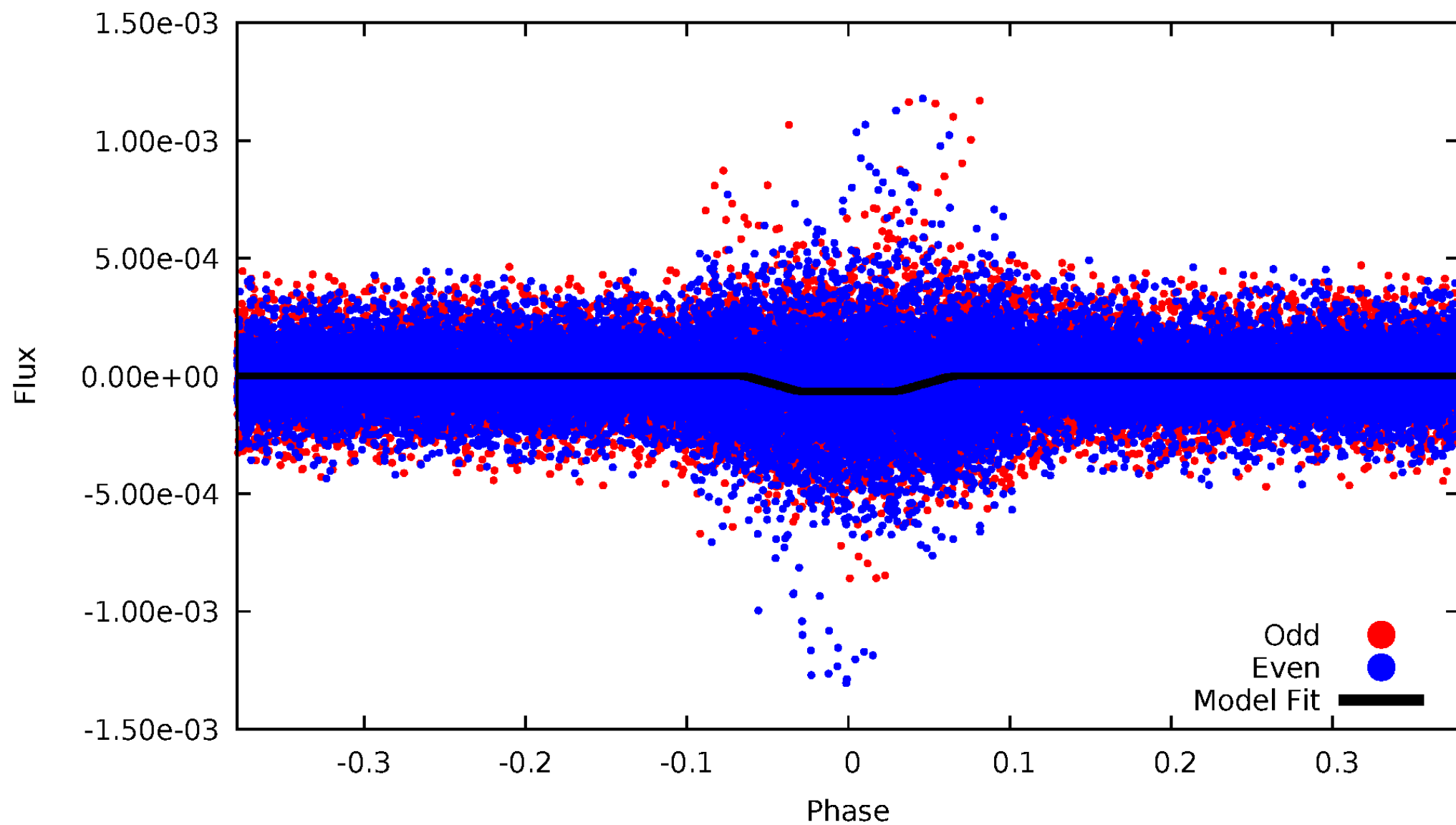
DV Odd/Even

TCE 007771149-01

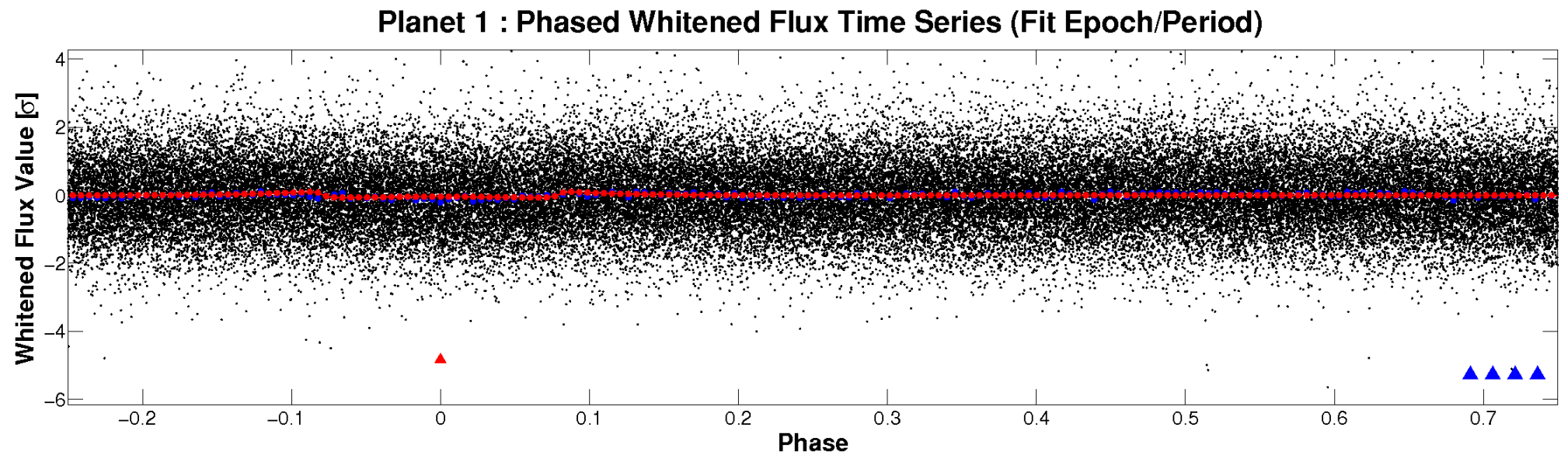
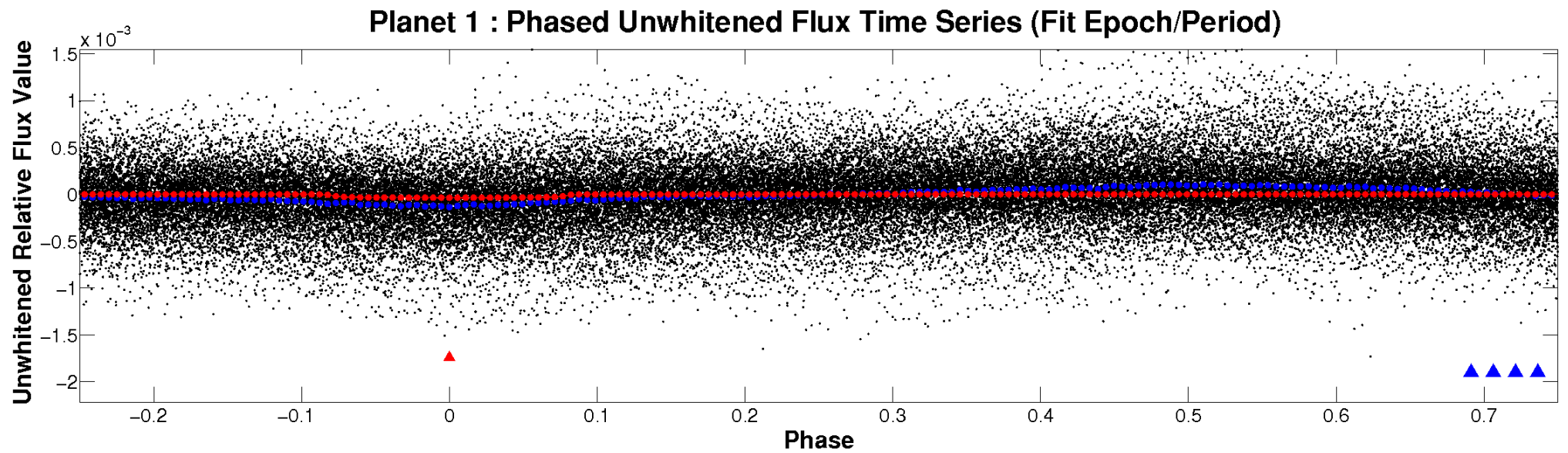


ALT Odd/Even

TCE 007771149-01

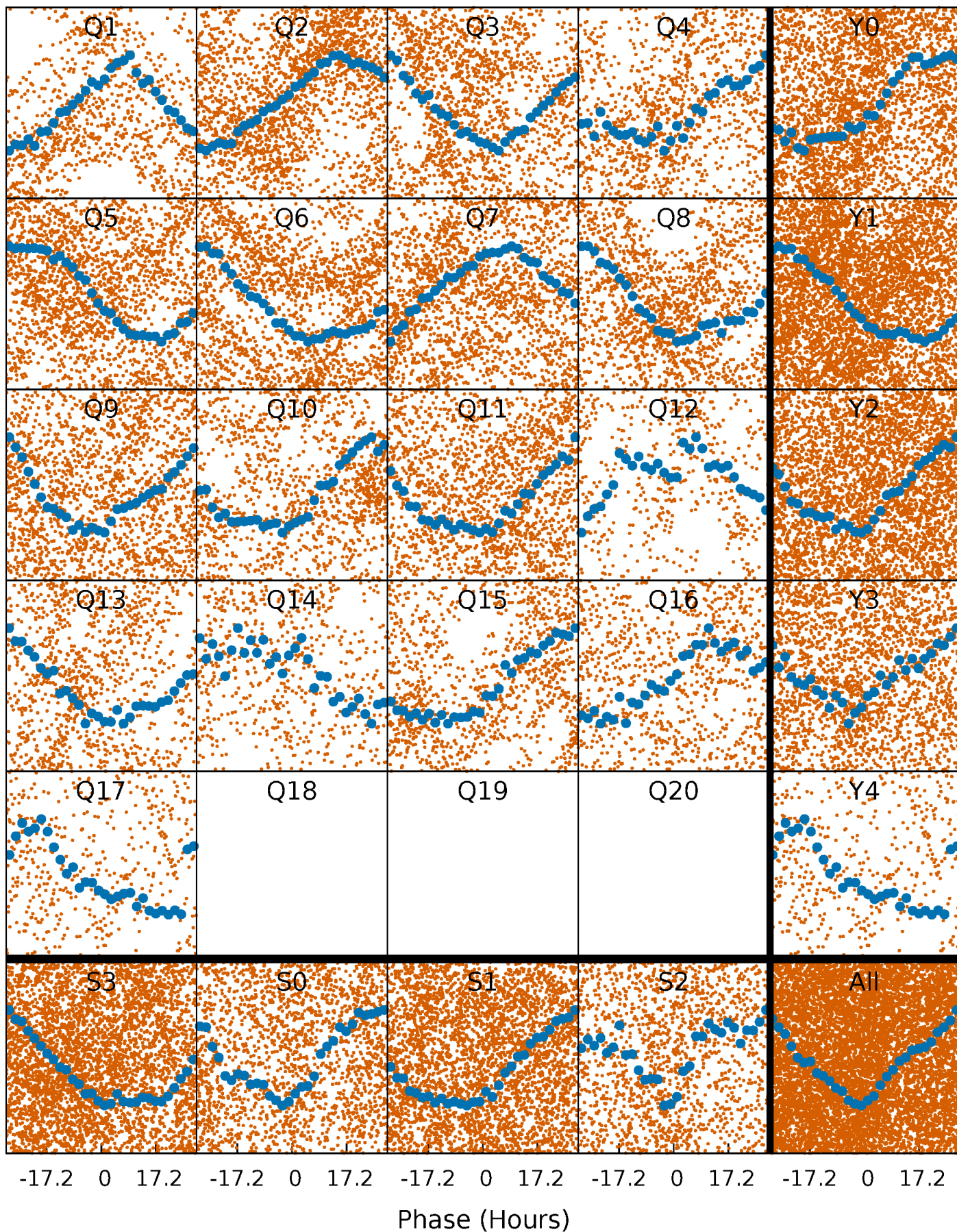


Non-Whitened Vs. Whitened Light Curve



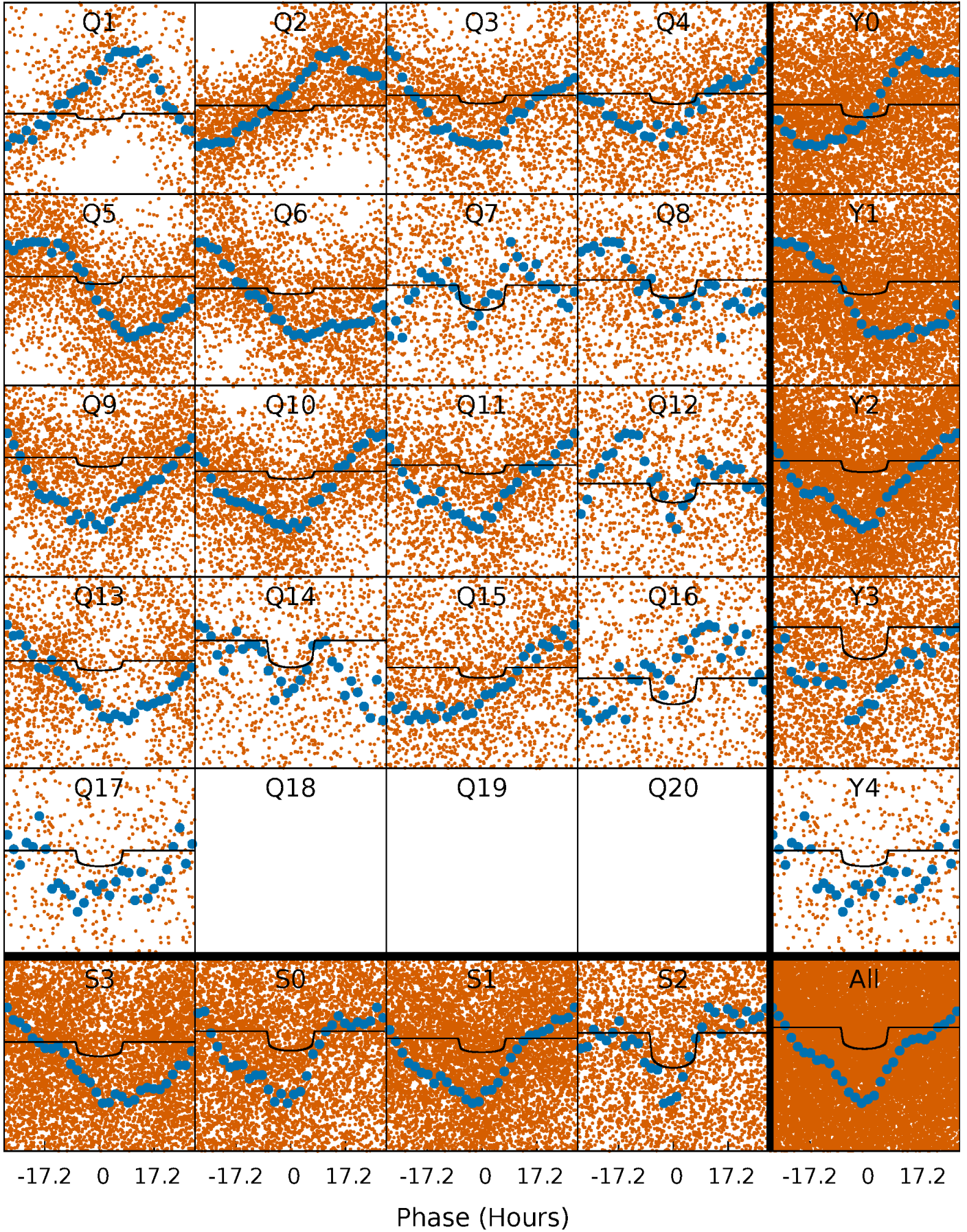
PDC Quarter-Phased Transit Curves

TCE 007771149-01 P= 3.726033 Days $T_0=134.789844$ (BKJD)



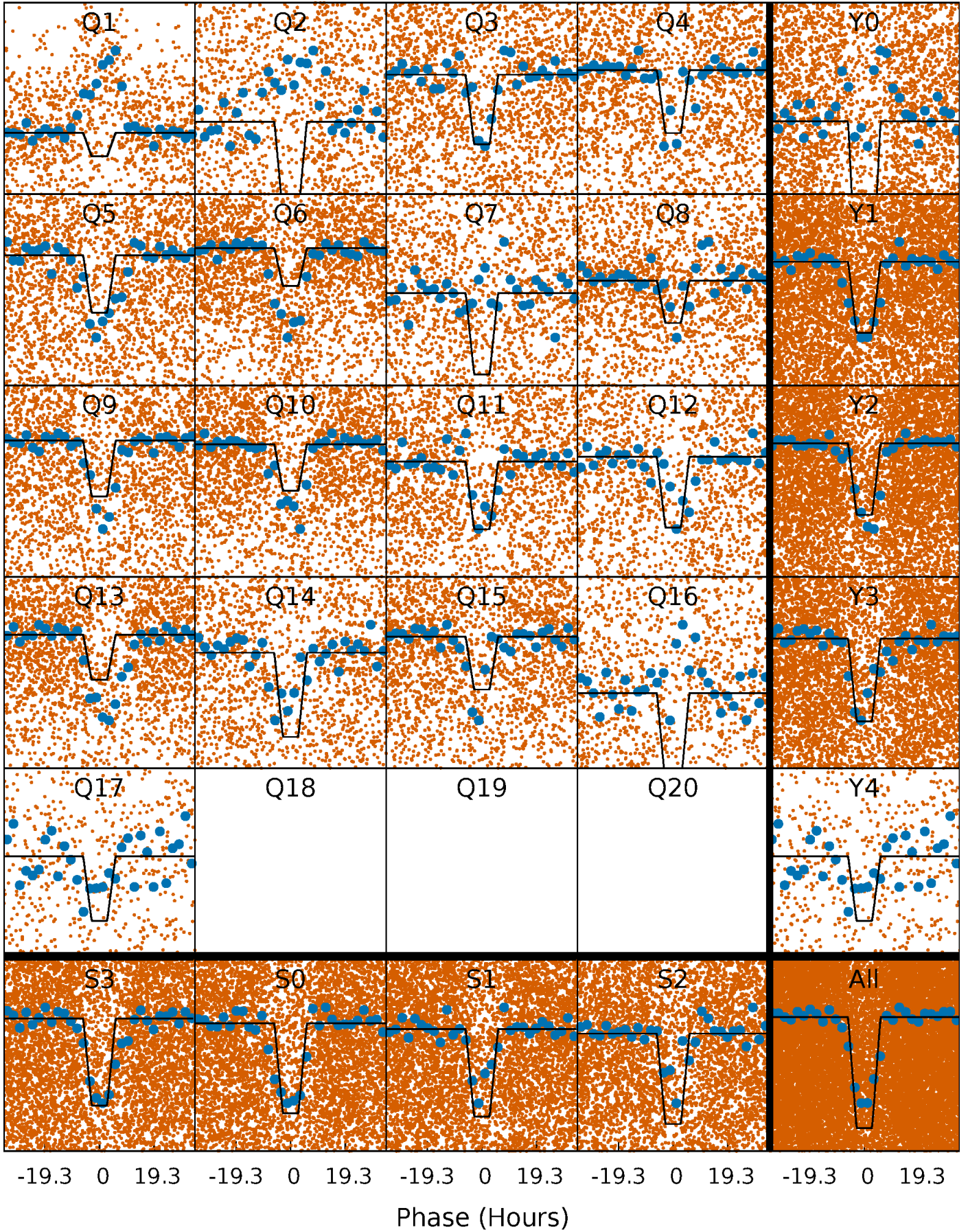
DV Quarter-Phased Transit Curves

TCE 007771149-01 P= 3.726033 Days $T_0=134.789844$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

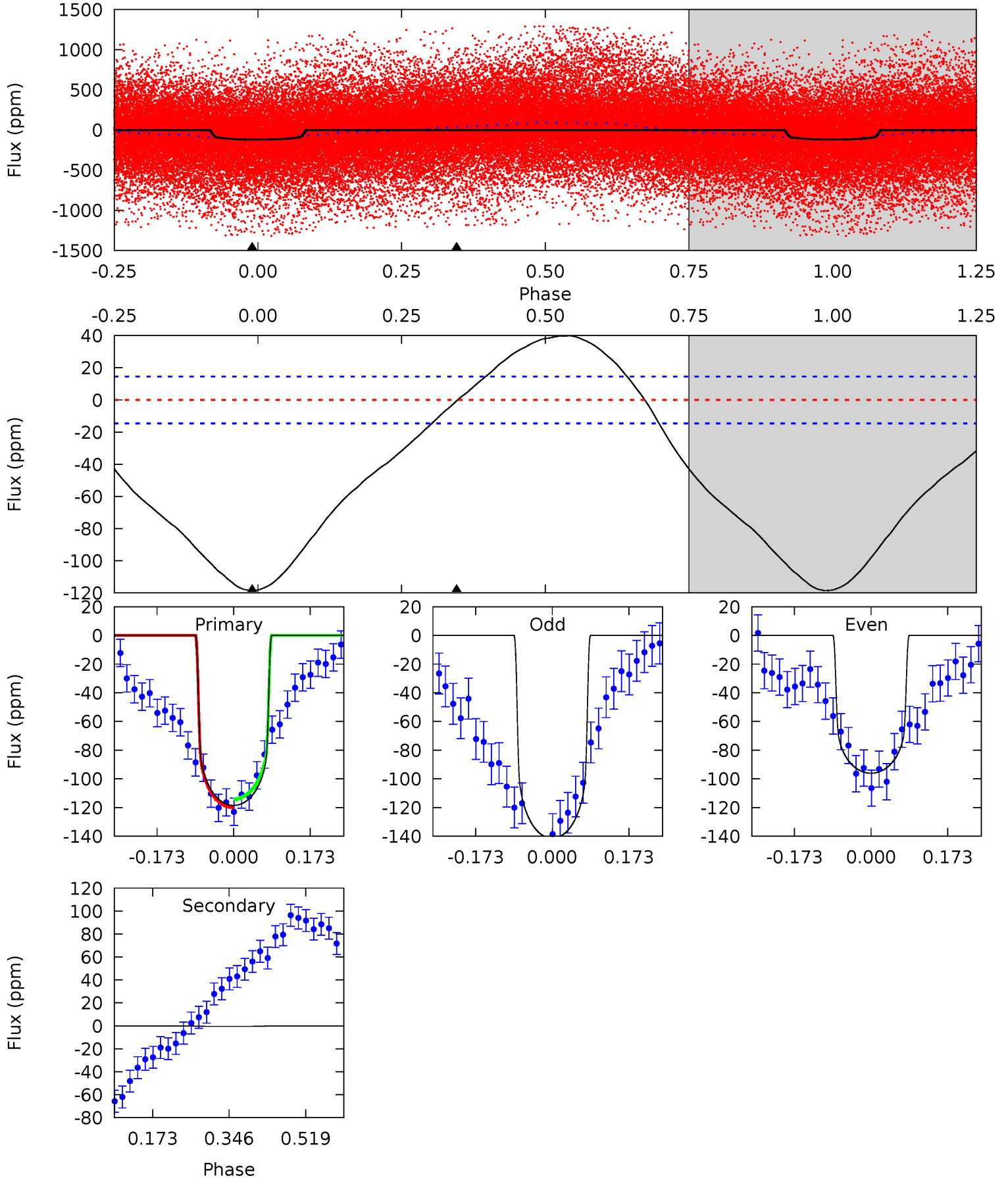
TCE 007771149-01 P= 3.725745 Days $T_0=134.853820$ (BKJD)



DV Model-Shift Uniqueness Test

007771149-01, P = 3.726033 Days, E = 131.063811 Days

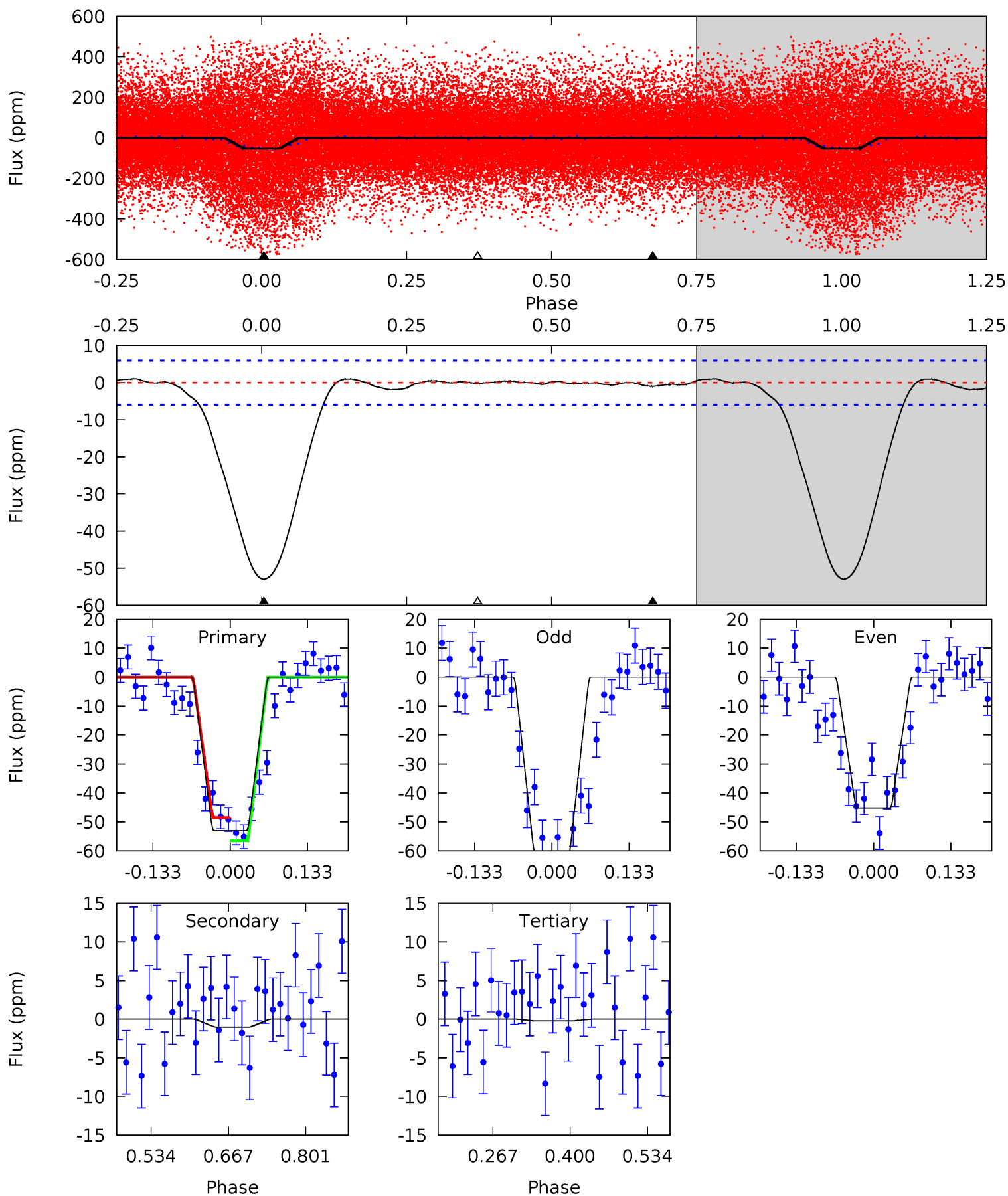
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.1	0.17	0	0	4.45	1.36	11.3	36.1	36.1	0.17	0.17	6.85	1.62	0.25	0.96



Alt Model-Shift Uniqueness Test

007771149-01, P = 3.725745 Days, E = 131.128075 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
40.2	0.78	0.17	0	4.50	1.50	0.56	40.0	40.2	0.60	0.78	6.10	1.08	0.02	3.04



Stellar Parameters For KIC 007771149

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6022^{+180}_{-162}	$4.154^{+0.253}_{-0.136}$	$-0.480^{+0.300}_{-0.250}$	$1.308^{+0.275}_{-0.367}$	$0.890^{+0.133}_{-0.078}$	$0.561^{+0.832}_{-0.219}$
	+3%/-3%	+6%/-3%	+62%/-52%	+21%/-28%	+15%/-9%	+148%/-39%
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 007771149-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1 ± 3	$0.95^{+0.17}_{-0.16}$	1992^{+119}_{-156}	2537^{+1108}_{-6103}	$0.709^{+4.161}_{-4.488}$
Alt.	-1 ± 1	$1.14^{+0.17}_{-0.18}$	1986^{+128}_{-145}	2697^{+474}_{-5418}	$0.880^{+1.424}_{-1.158}$

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

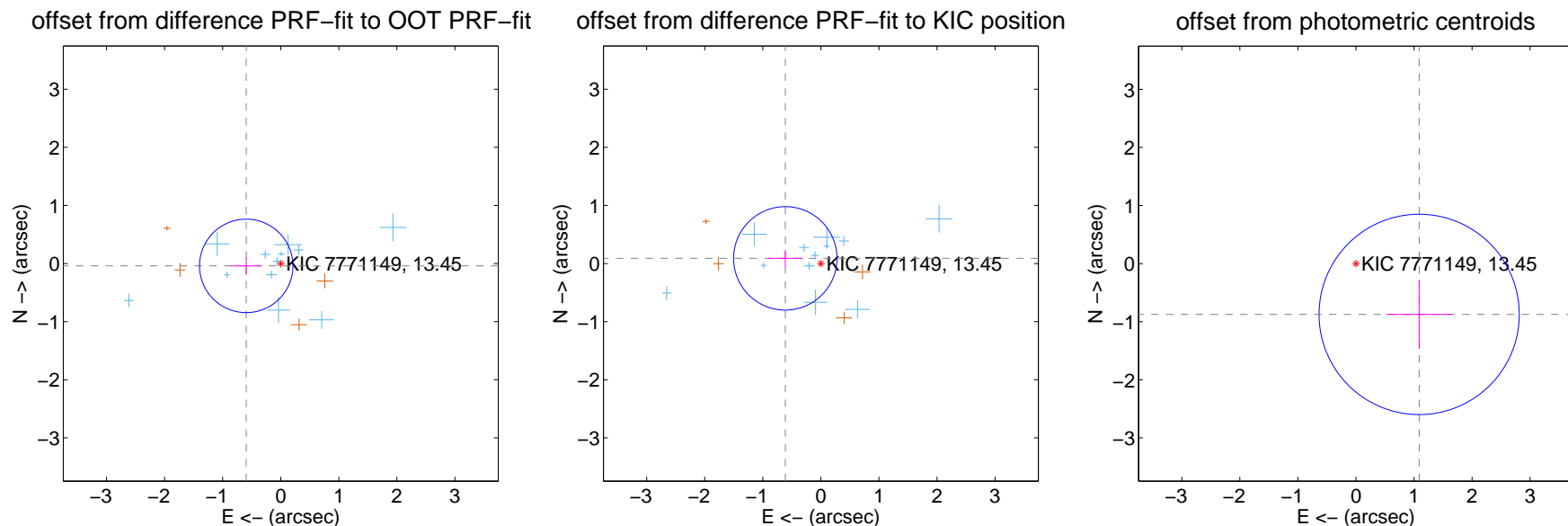
DV Centroid Data

Supplemental centroid analysis for 007771149-01. Kepler magnitude: 13.45. Transit SNR 7.75

There are 12 quarters with good PRF difference image offsets

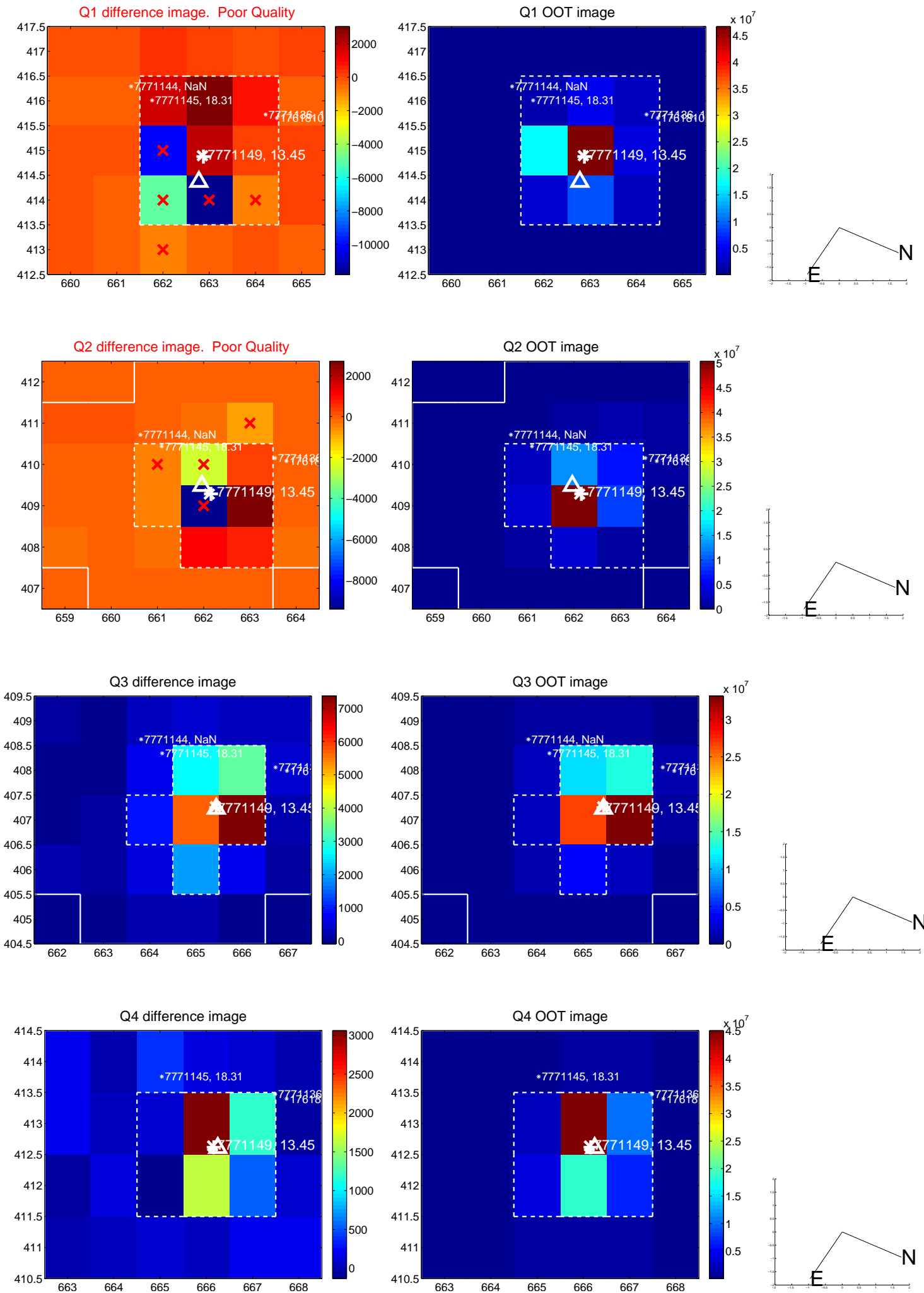
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.596 ± 0.268	2.22	0.595 ± 0.269	-0.040 ± 0.150
PRF-fit source offset from KIC position	0.619 ± 0.297	2.09	0.613 ± 0.300	0.089 ± 0.144
photometric centroid source offset	1.40 ± 0.57	2.43	-1.09 ± 0.56	-0.87 ± 0.59

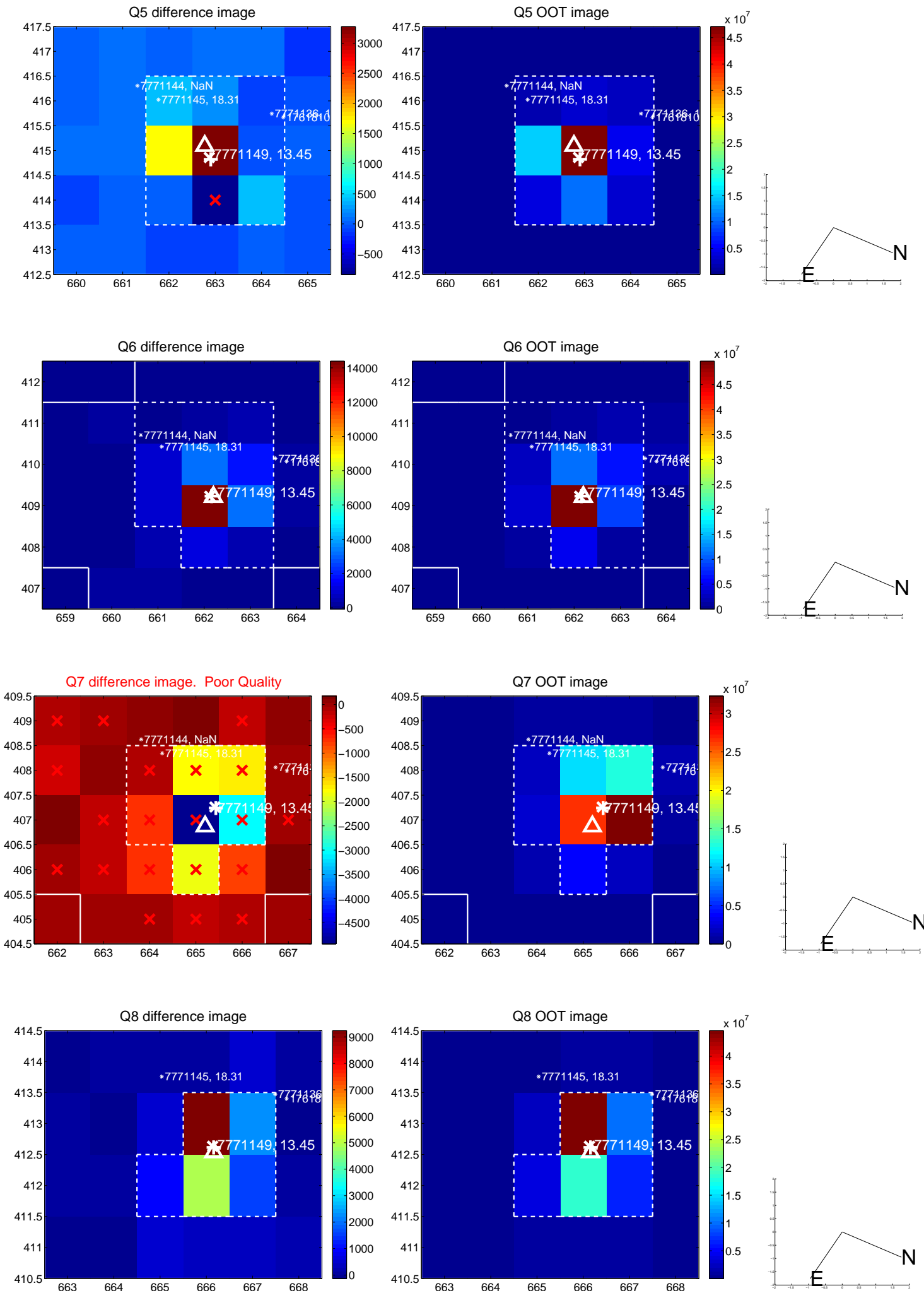


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

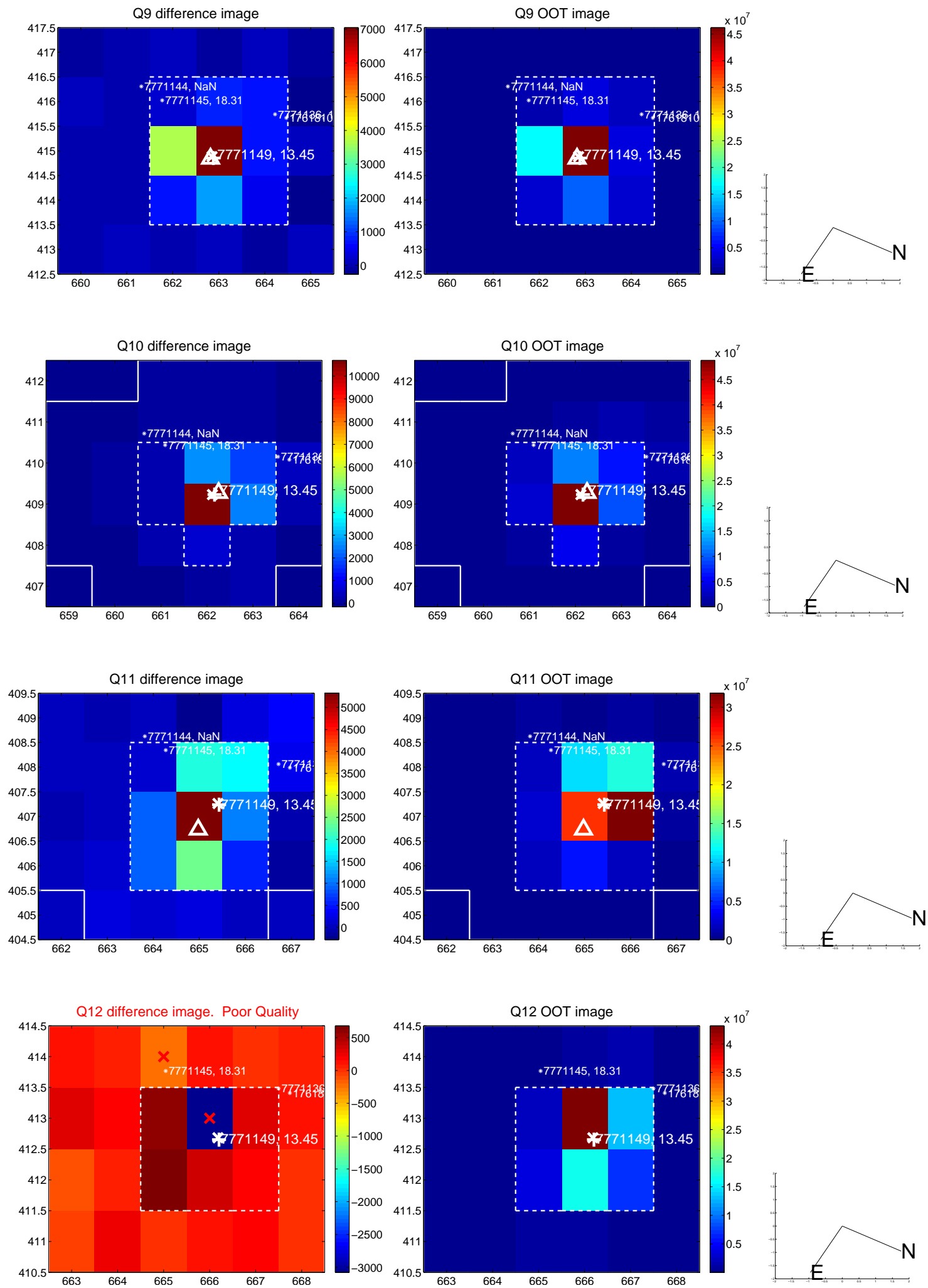
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



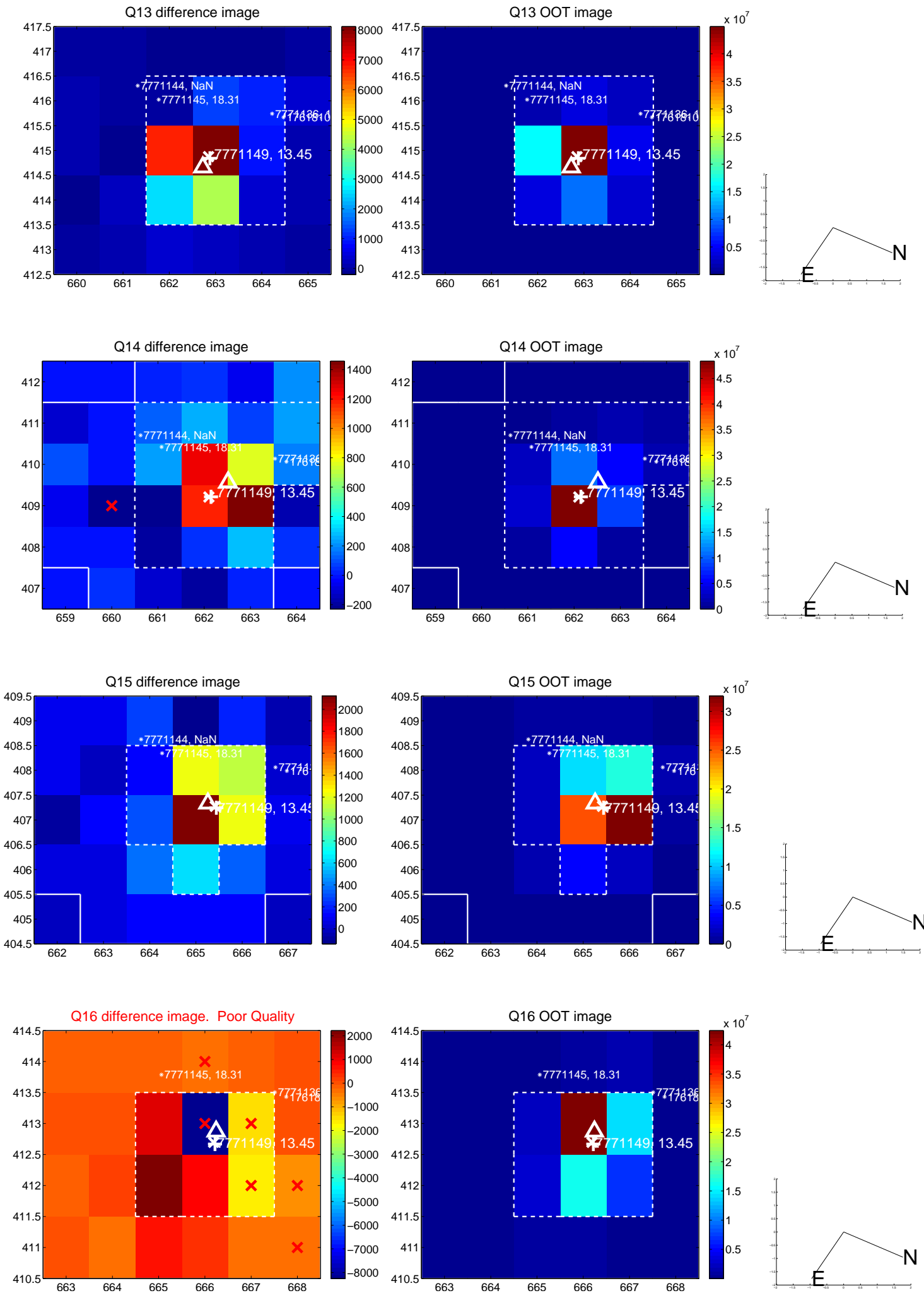
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



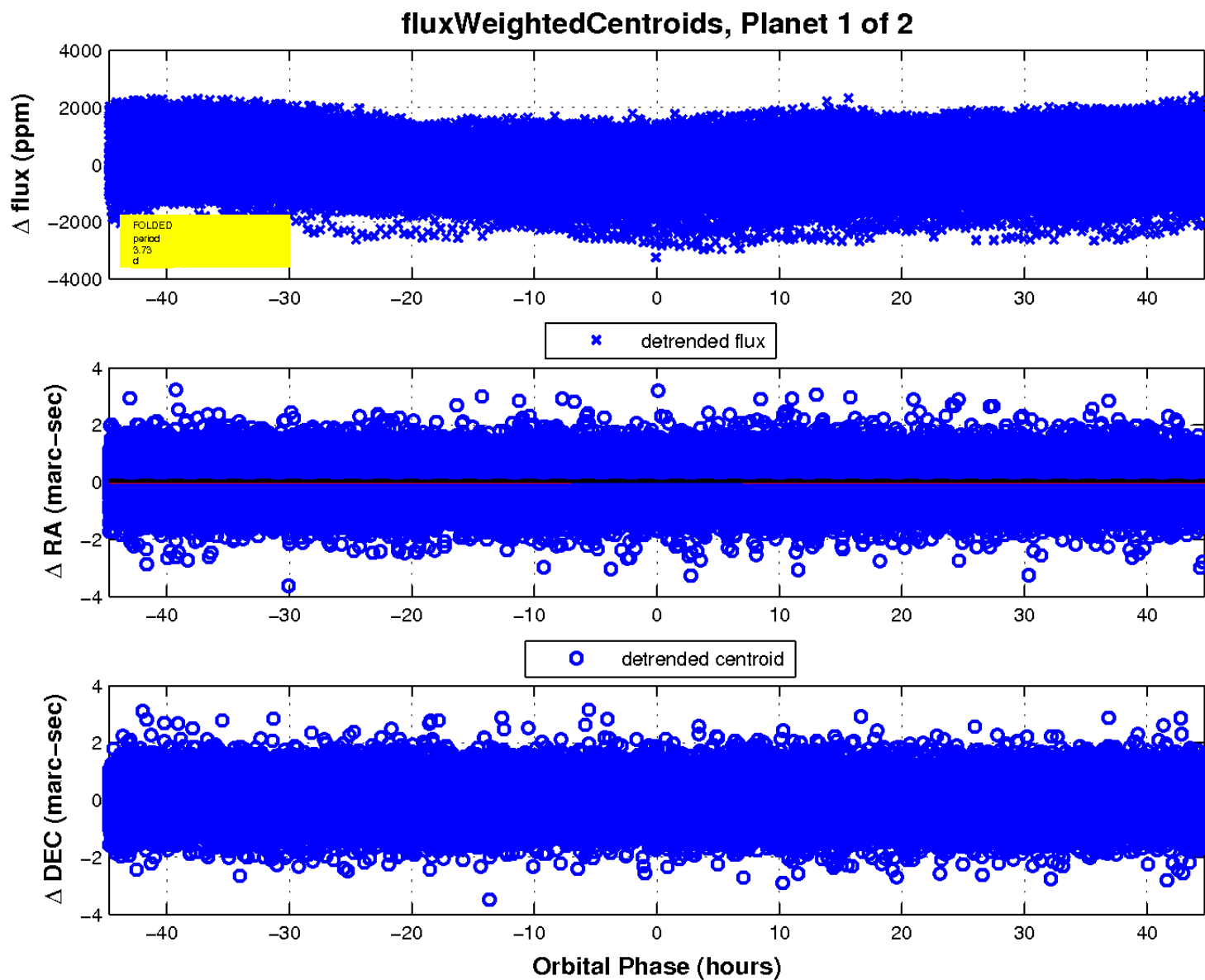
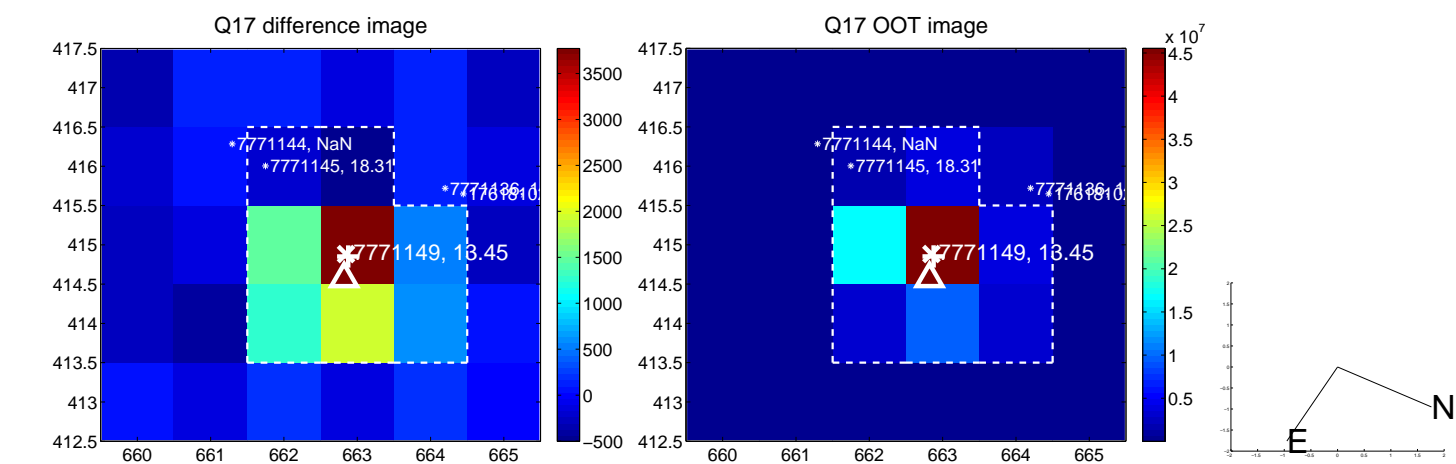
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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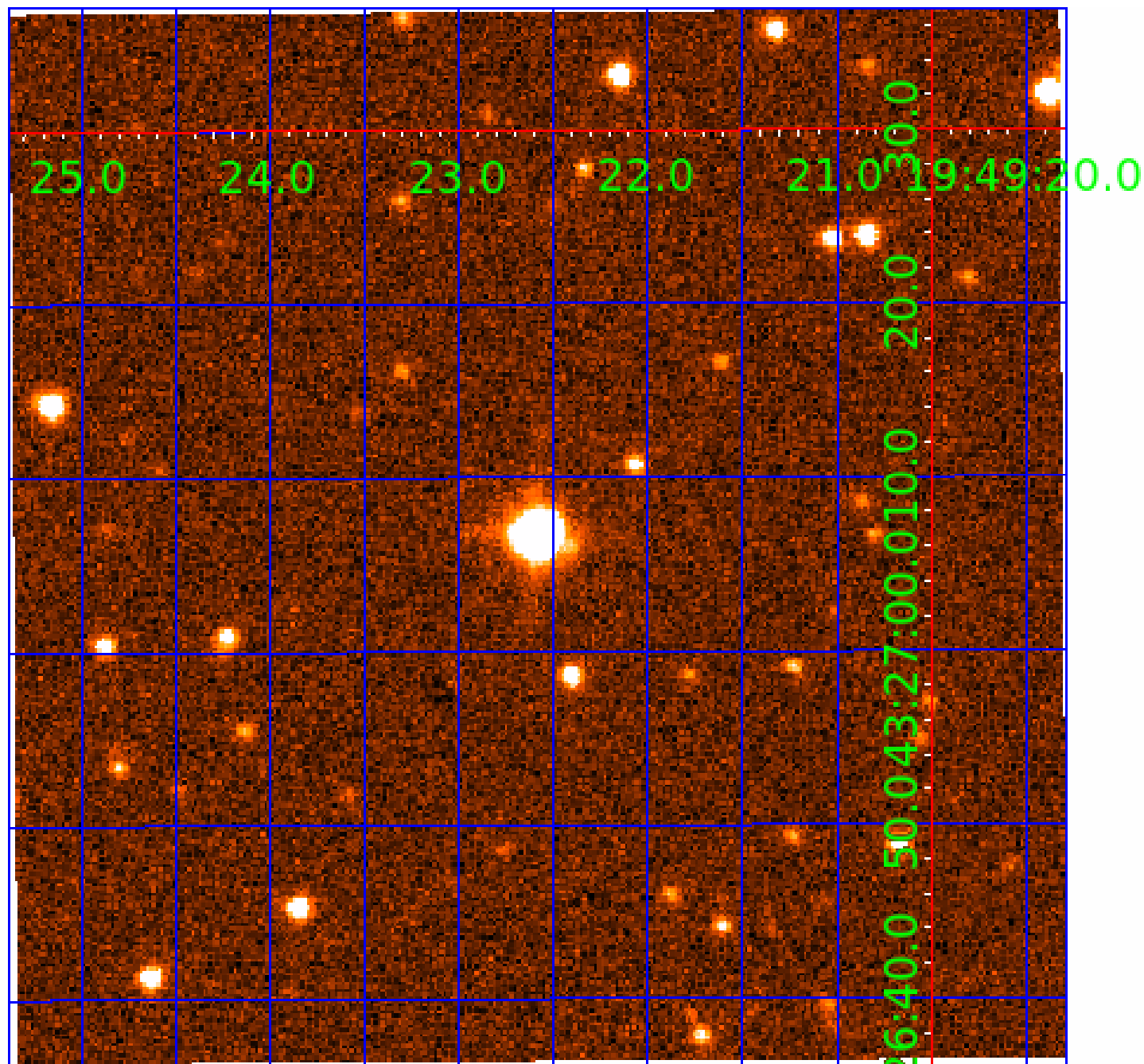


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007771149

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007771149-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
007771149-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS

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

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

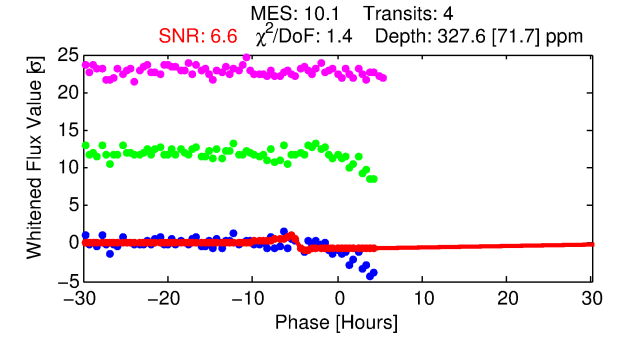
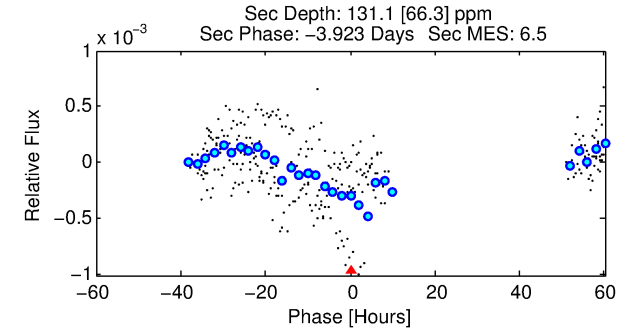
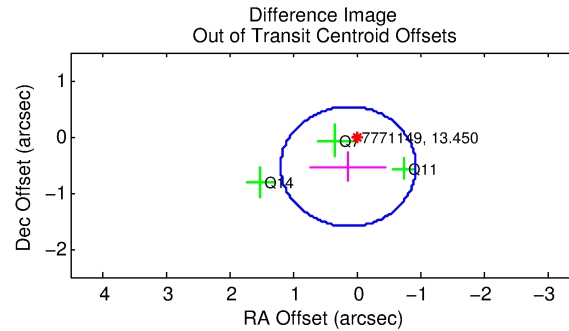
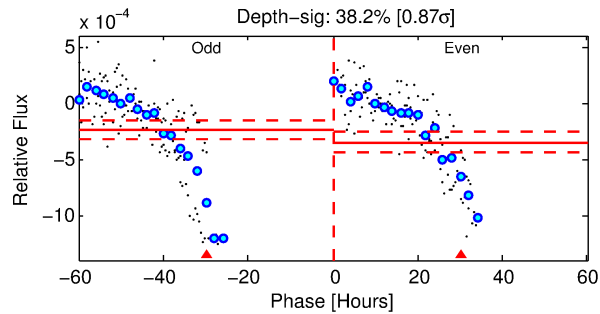
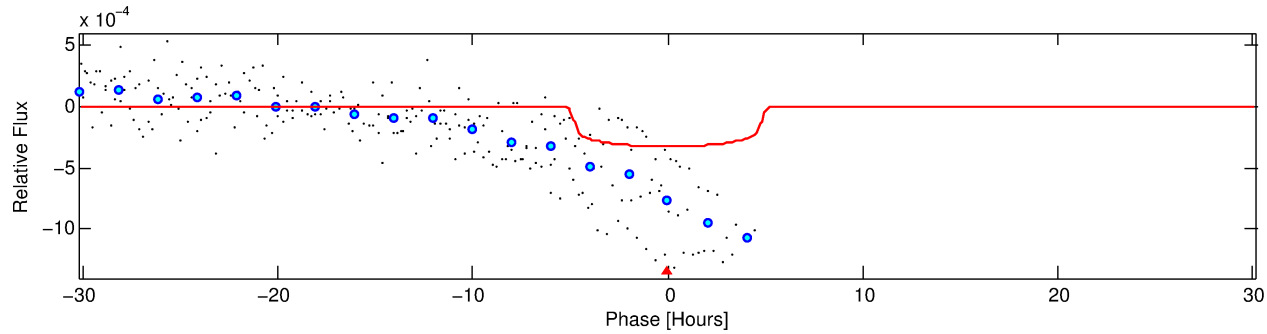
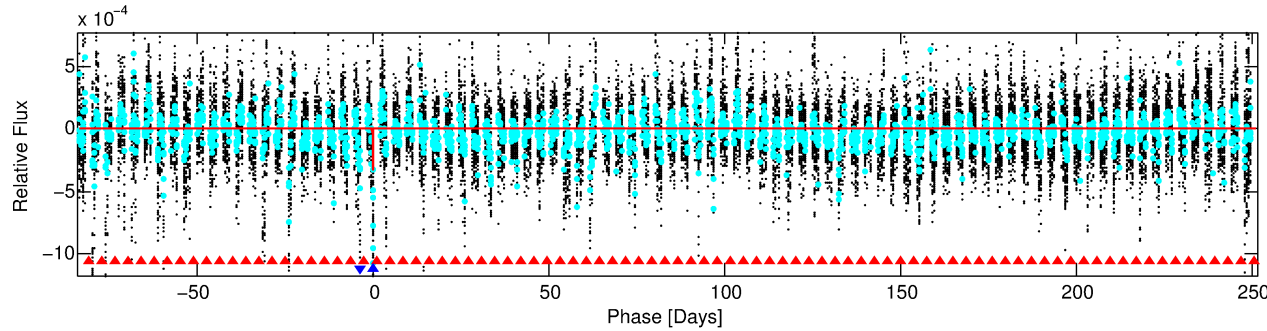
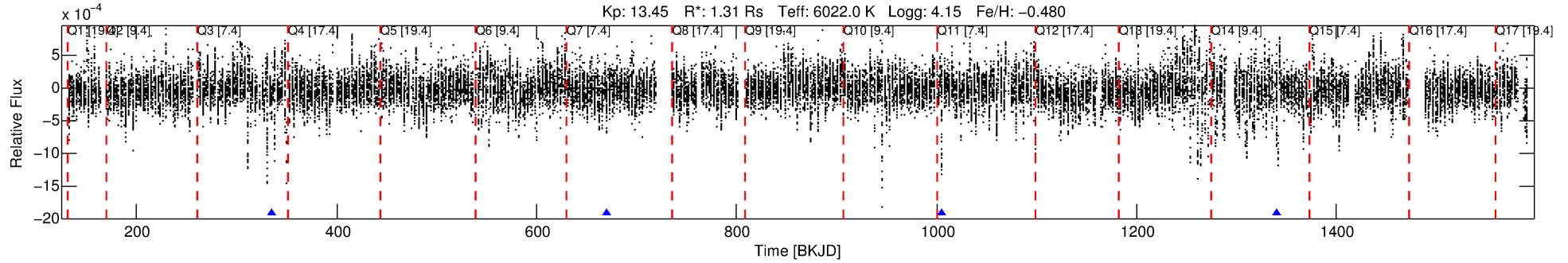
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007771149-02

No Significant Match Found

DV One-Page Summary

KIC: 7771149 Candidate: 2 of 2 Period: 335.287 d



DV Fit Results:

Period = 335.28692 [0.00735] d
Epoch = 335.0134 [0.0333] BKJD
Rp/R* = 0.0179 [0.0071]
a/R* = 179.30 [347.40]
b = 0.73 [1.24]
Seff = 2.44 [1.09]
Teq = 319 [36] K
Rp = 2.56 [1.24] Re
a = 0.9086 [0.2450] AU
Ag = 9108.92 [9438.33] [0.96 σ]
Teffp = 4815 [1143] K [3.93 σ]

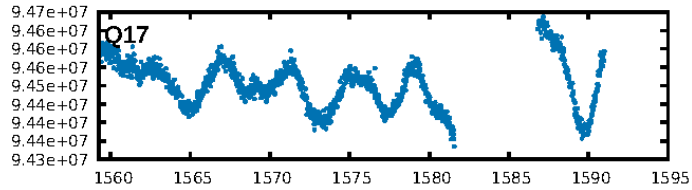
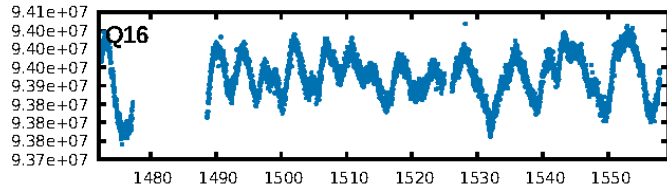
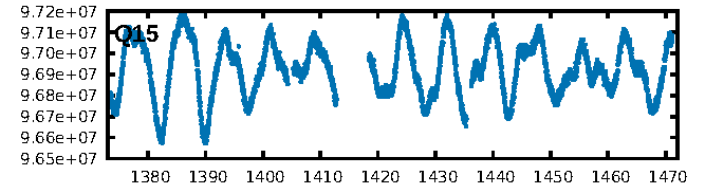
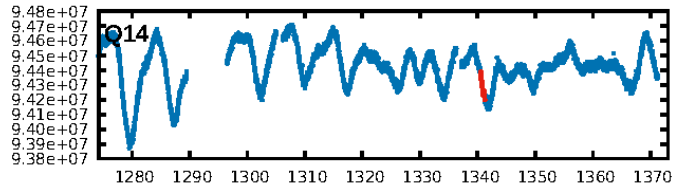
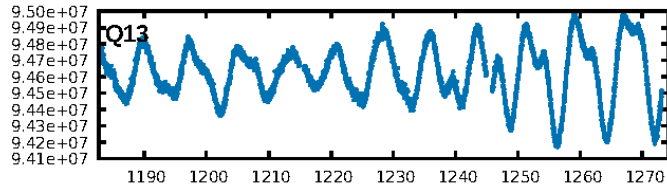
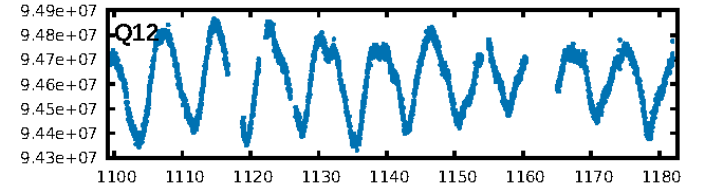
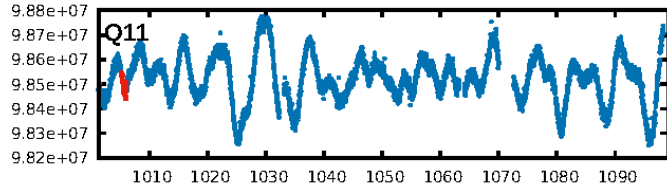
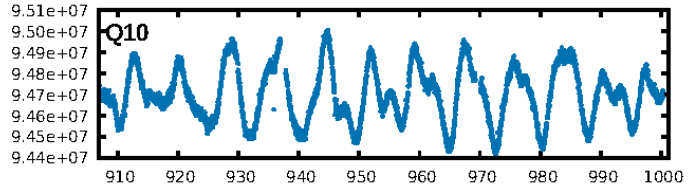
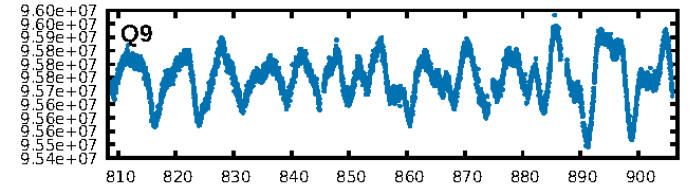
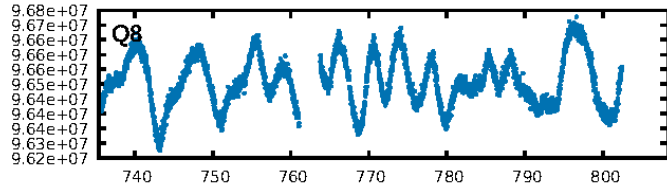
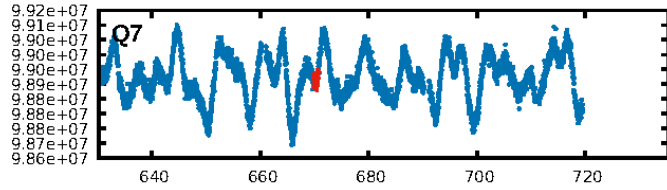
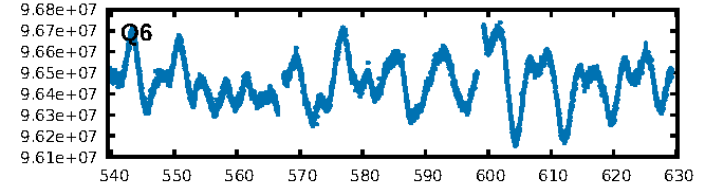
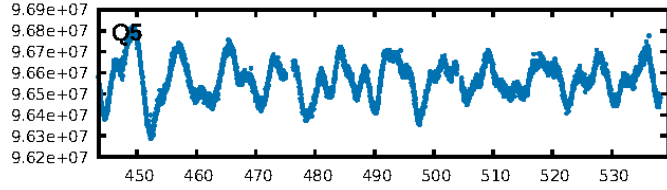
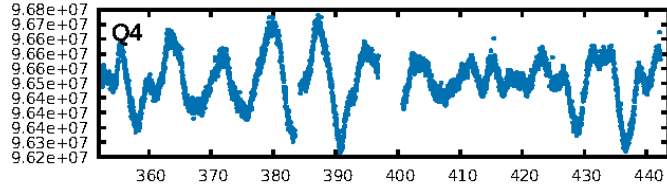
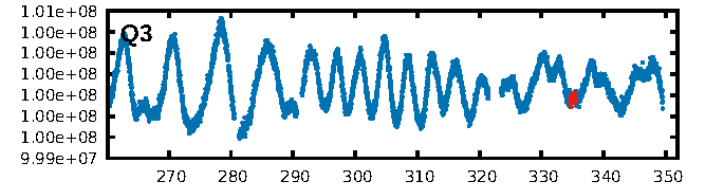
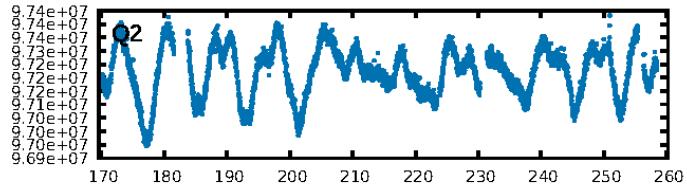
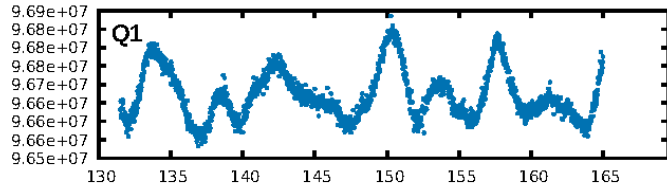
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [440.01 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 96.3%
Bootstrap-pfa: 3.61e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.263
Centroid-sig: N/A
Centroid-so: 0.348 arcsec [0.49 σ]
OotOffset-rm: 0.549 arcsec [1.55 σ]
KicOffset-rm: 0.429 arcsec [1.68 σ]
OotOffset-st: 1/2/0/0 [3]
KicOffset-st: 1/2/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.50 [2/4]

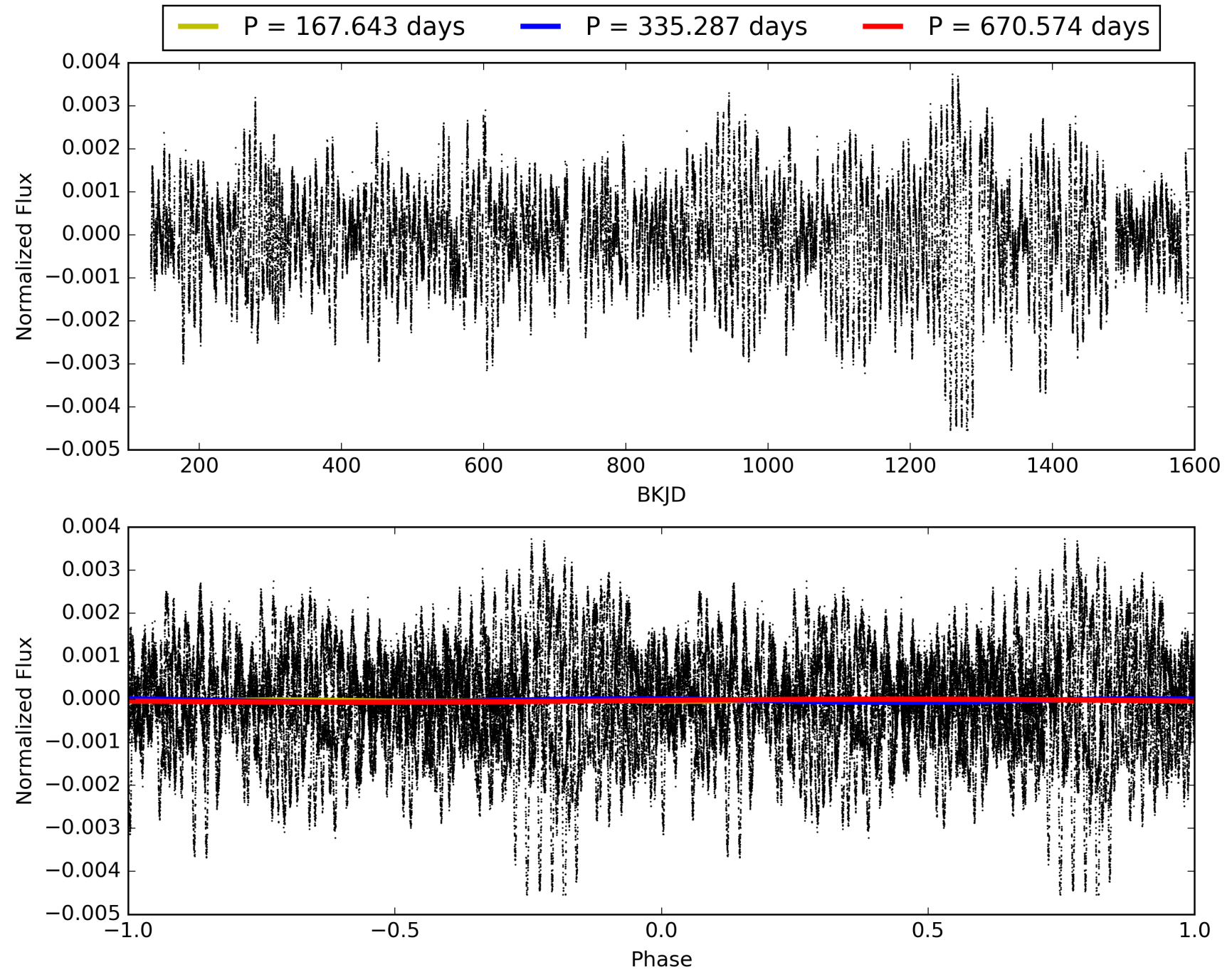
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 13:24:57 Z

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

TCE 007771149-02, PDC Light Curves

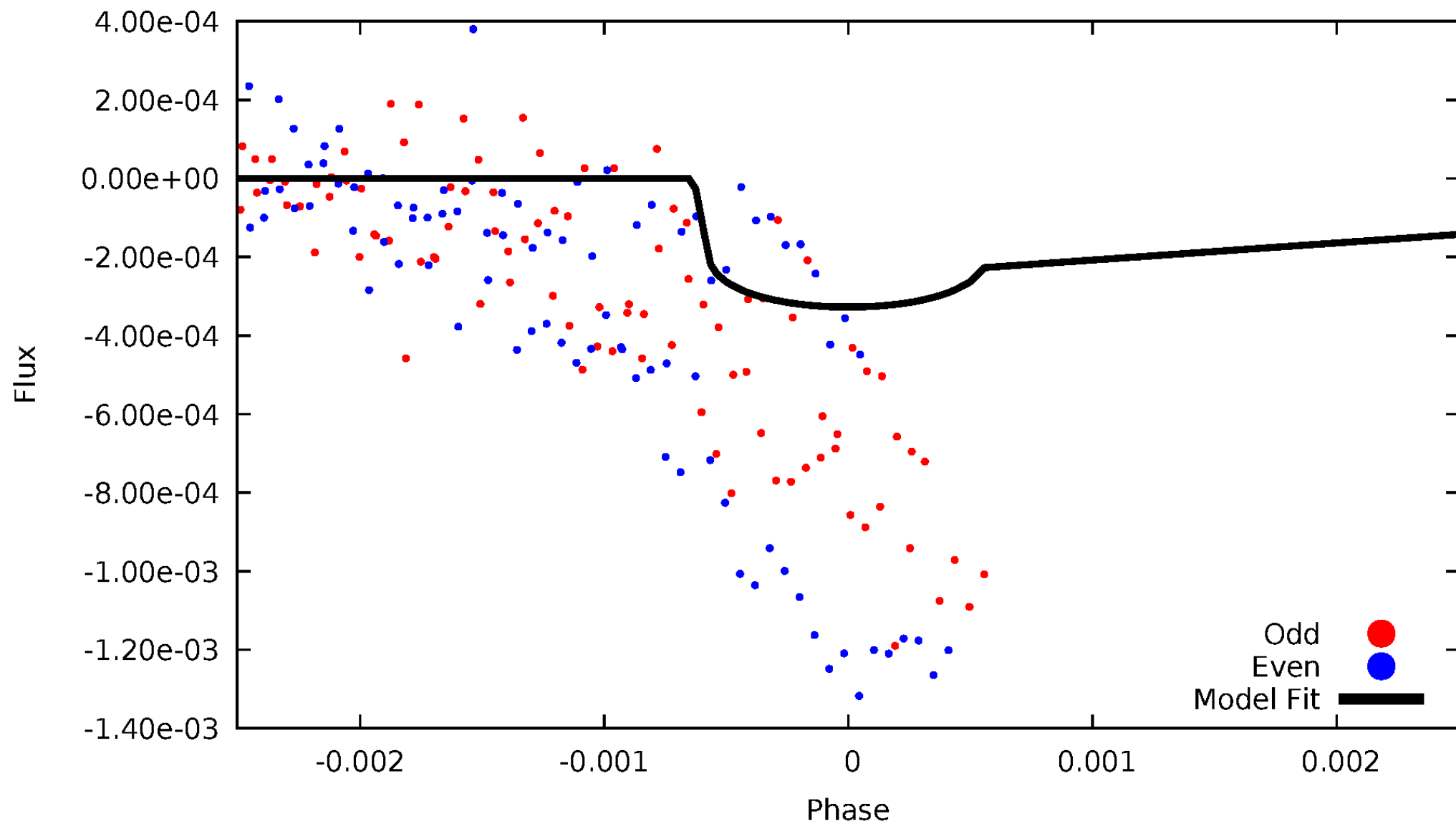


TCE 007771149-02



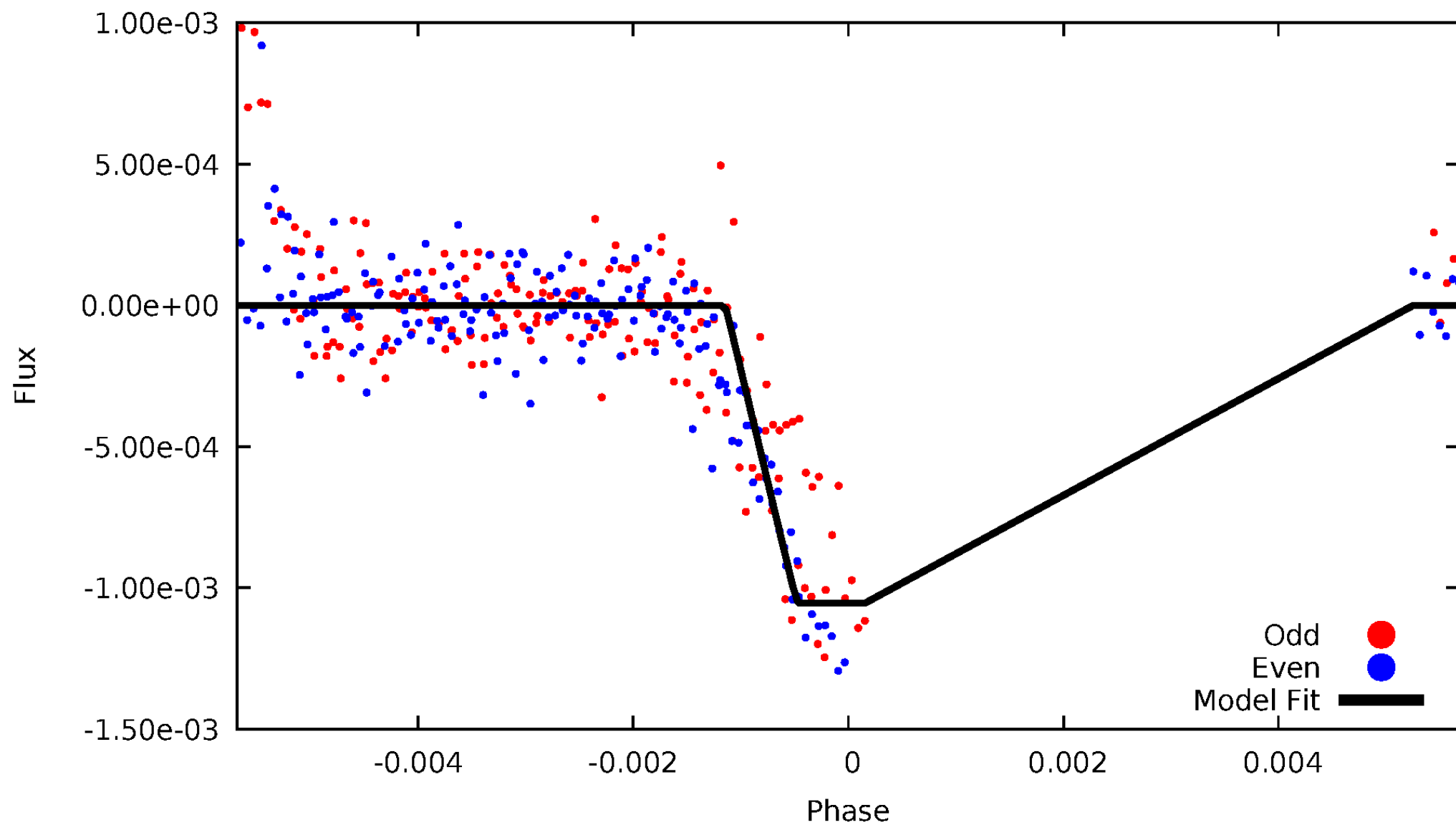
DV Odd/Even

TCE 007771149-02



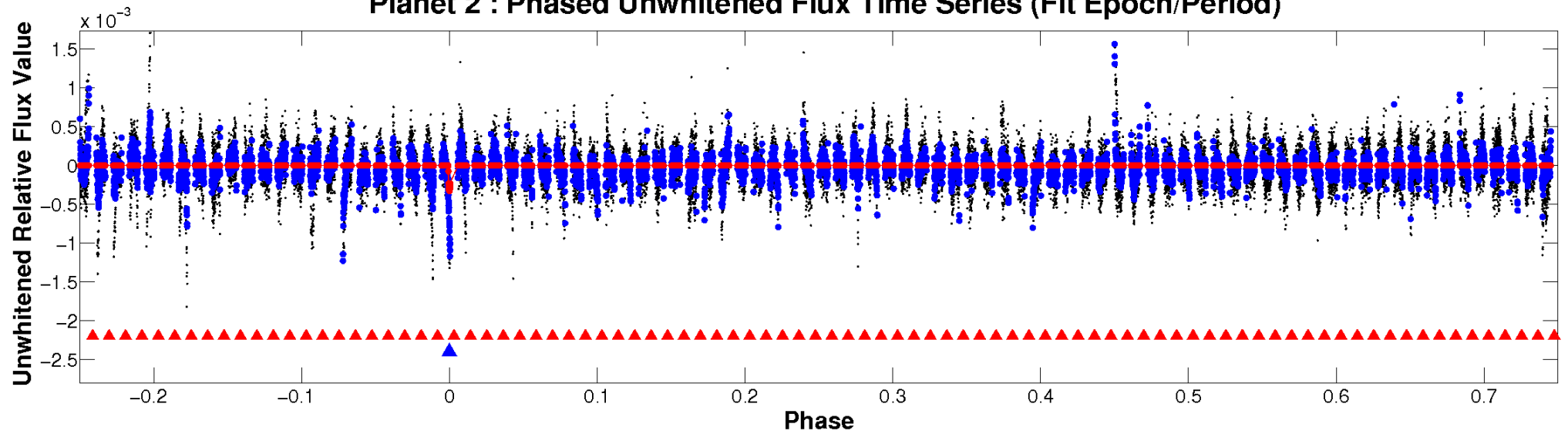
ALT Odd/Even

TCE 007771149-02

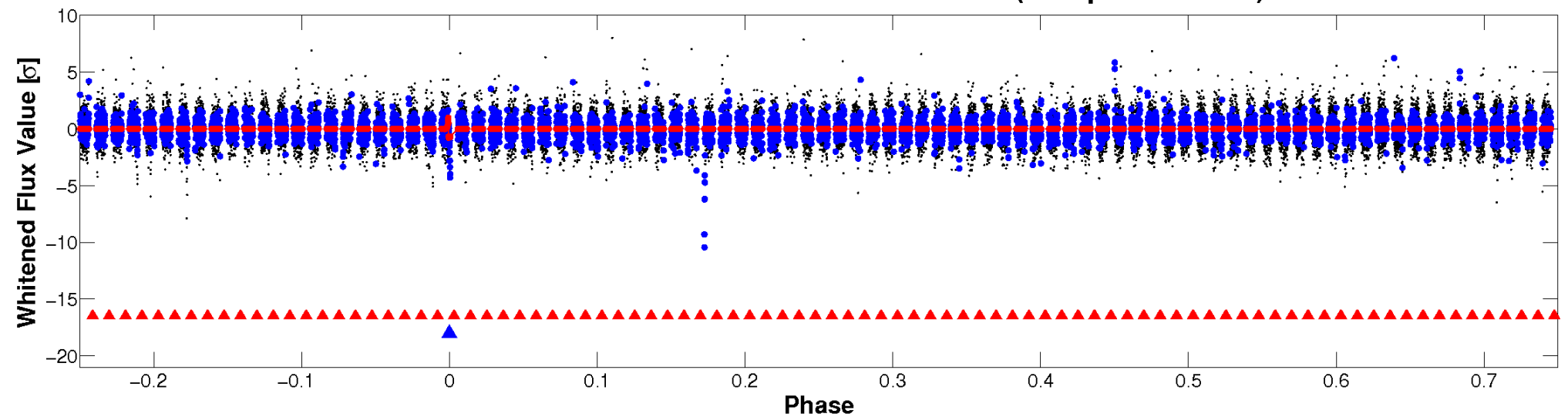


Non-Whitened Vs. Whitened Light Curve

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

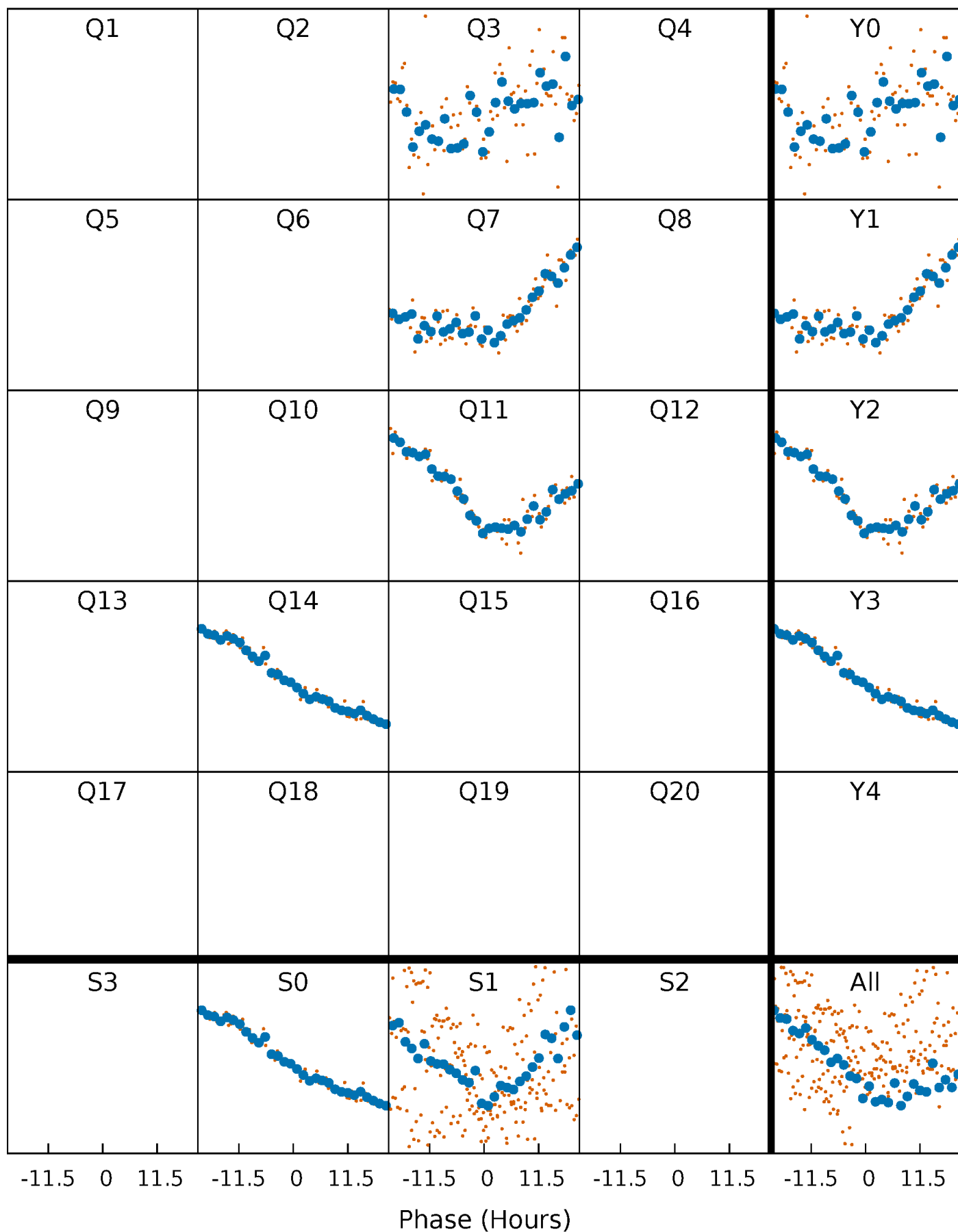


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



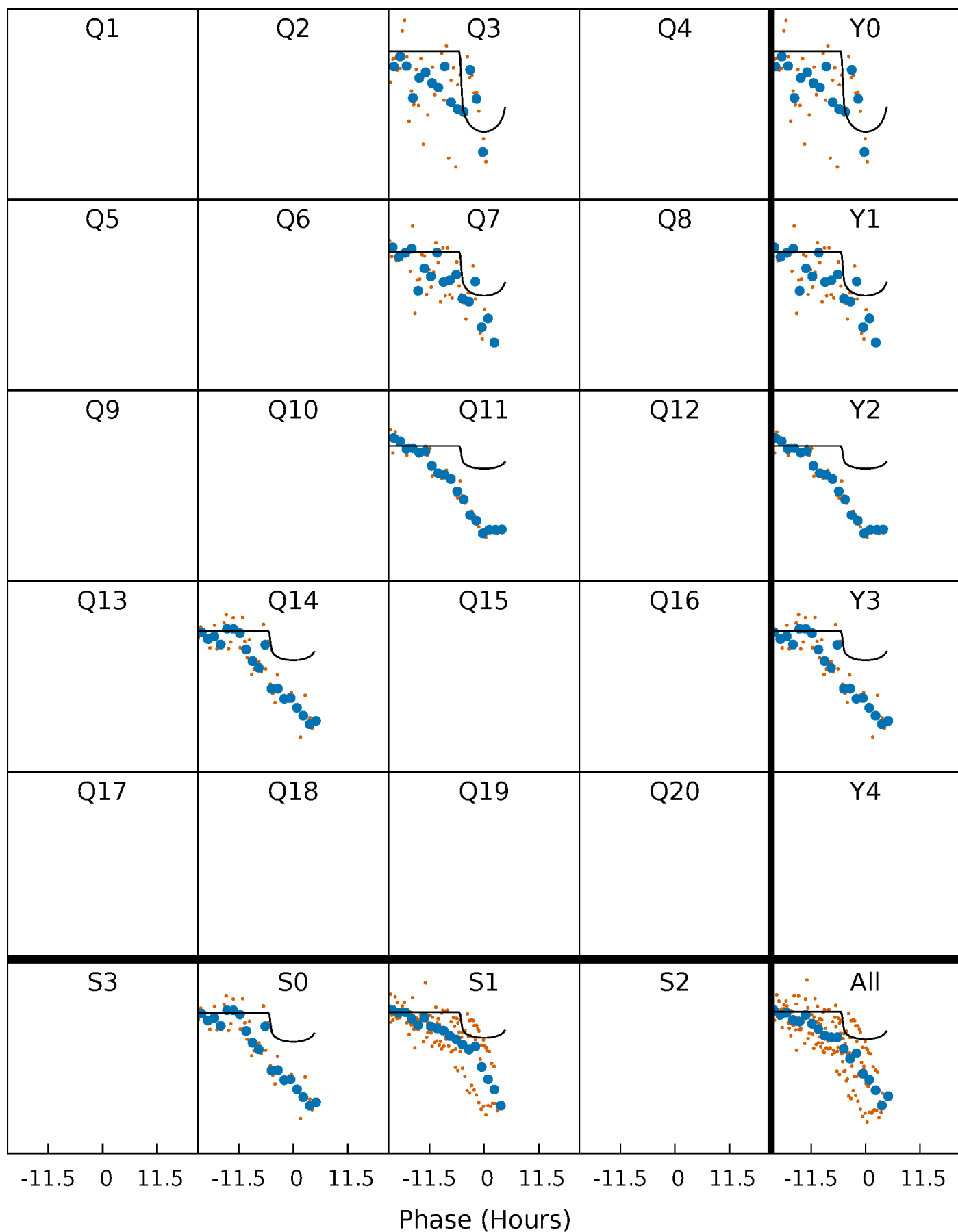
PDC Quarter-Phased Transit Curves

TCE 007771149-02 $P=335.286920$ Days $T_0=335.013411$ (BKJD)



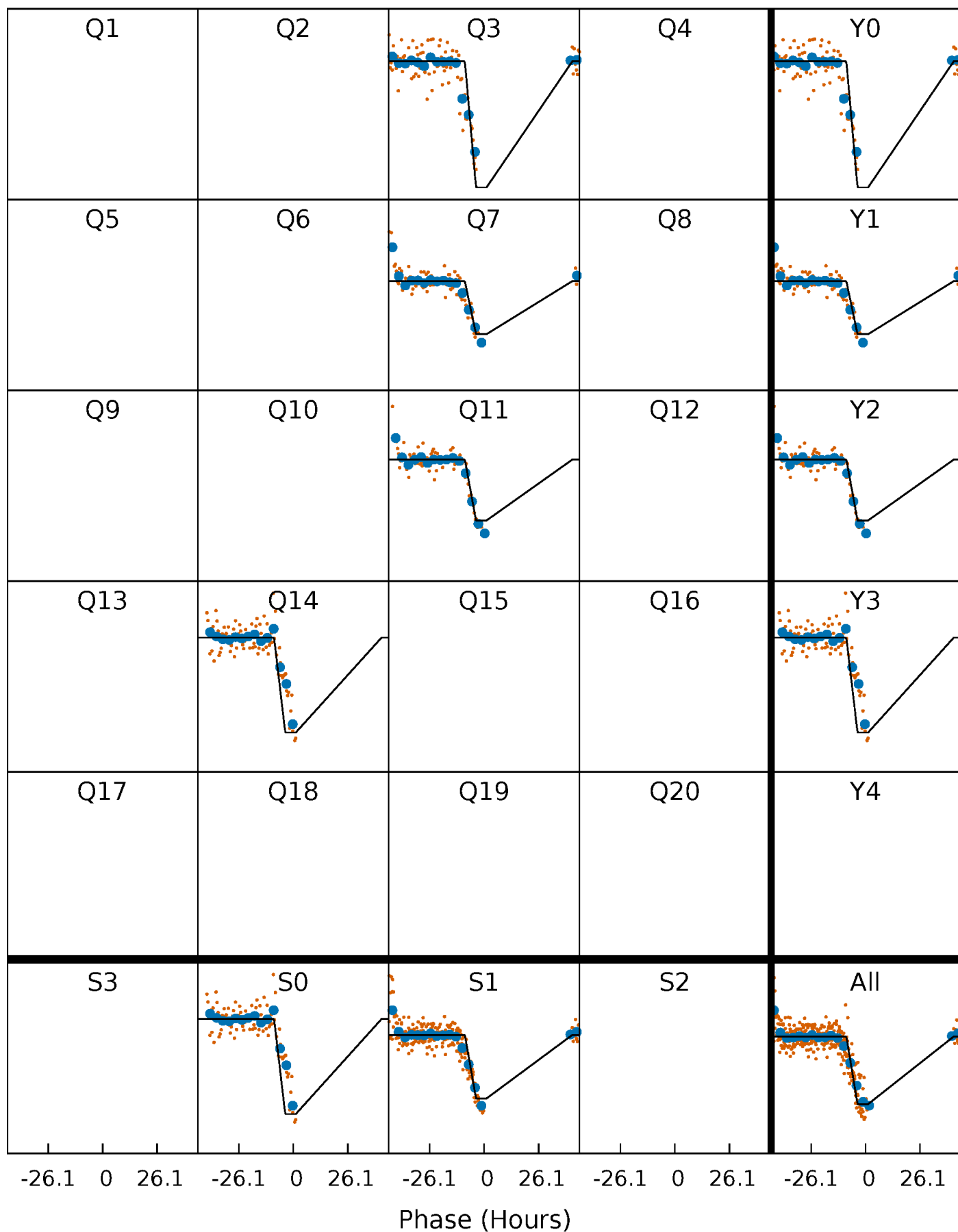
DV Quarter-Phased Transit Curves

TCE 007771149-02 P=335.286920 Days $T_0=335.013411$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

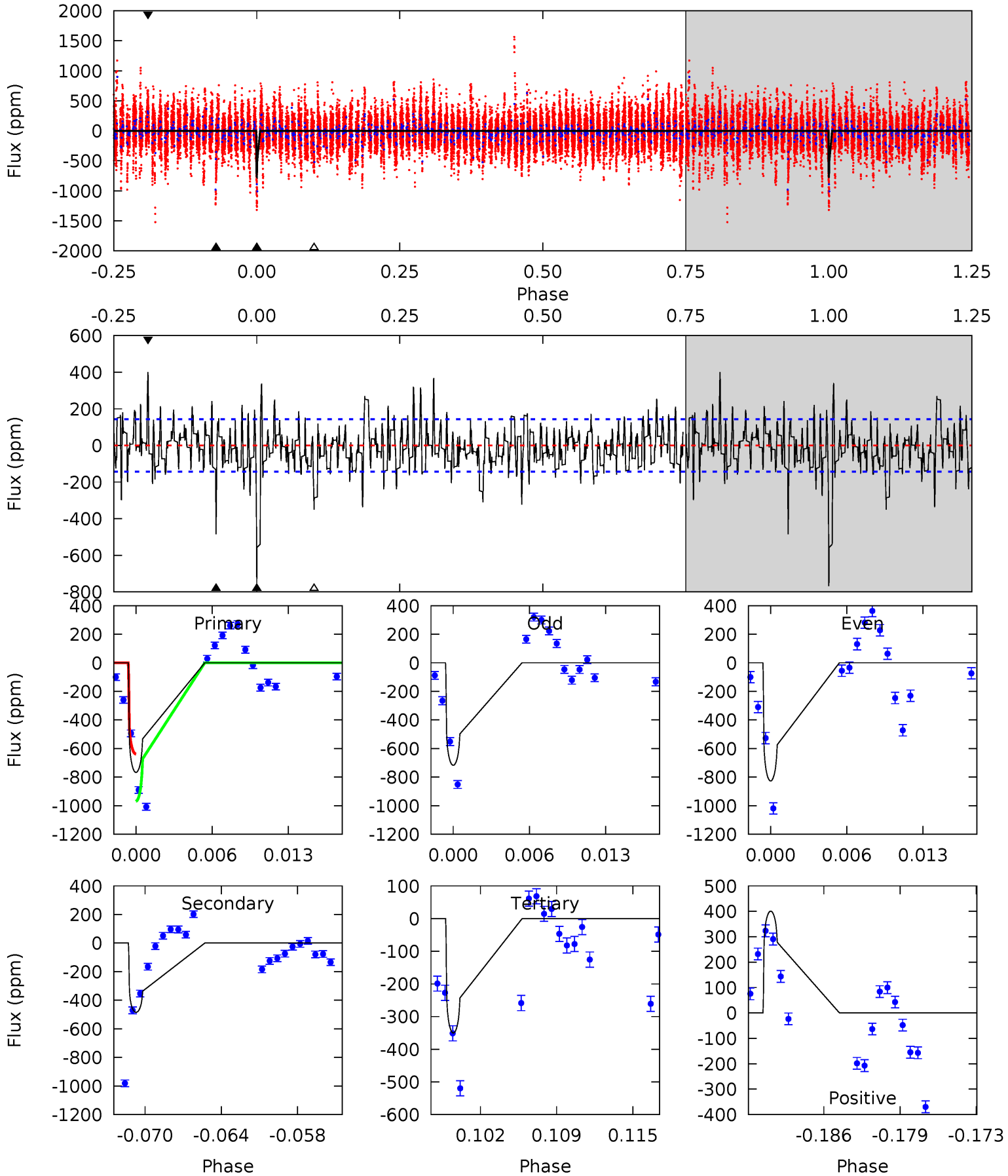
TCE 007771149-02 P=335.273852 Days $T_0=335.187896$ (BKJD)



DV Model-Shift Uniqueness Test

007771149-02, P = 335.286920 Days, E = 335.013411 Days

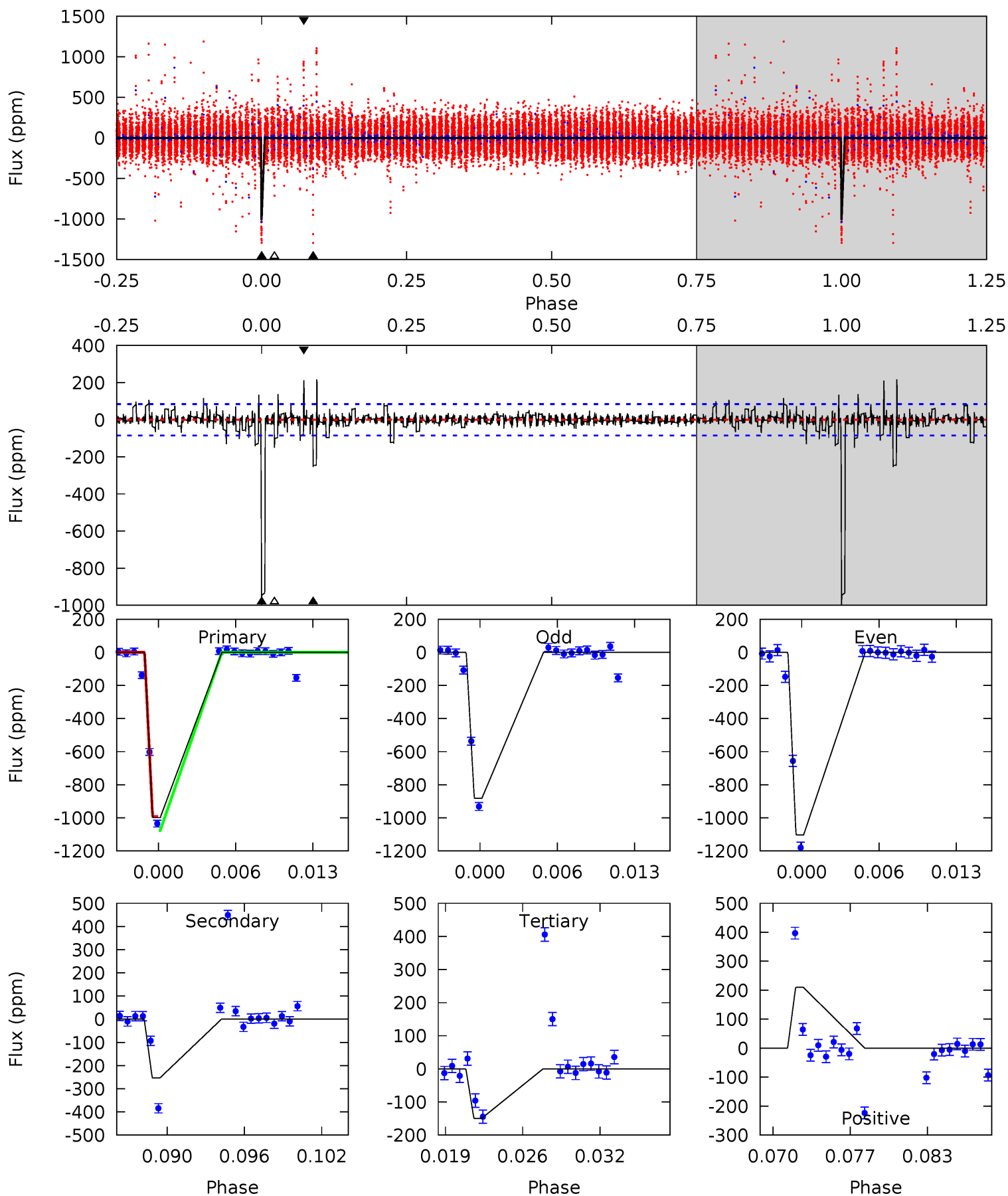
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.4	17.3	12.5	14.3	5.11	2.73	3.52	14.9	13.1	4.79	2.99	1.90	1.02	0.34	5.65



Alt Model-Shift Uniqueness Test

007771149-02, P = 335.273852 Days, E = 335.187896 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
60.5	15.4	9.06	12.7	5.11	2.73	1.19	51.4	47.8	6.29	2.65	6.69	0.96	0.18	1.08



Stellar Parameters For KIC 007771149

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6022^{+180}_{-162}	$4.154^{+0.253}_{-0.136}$	$-0.480^{+0.300}_{-0.250}$	$1.308^{+0.275}_{-0.367}$	$0.890^{+0.133}_{-0.078}$	$0.561^{+0.832}_{-0.219}$
	+3%/-3%	+6%/-3%	+62%/-52%	+21%/-28%	+15%/-9%	+148%/-39%
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 007771149-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-484 ± 28	$2.52^{+1.10}_{-1.01}$	443^{+28}_{-35}	6728^{+2239}_{-1107}	35231^{+62627}_{-18000}
Alt.	-254 ± 17	$4.49^{+1.33}_{-1.11}$	442^{+32}_{-35}	4412^{+487}_{-301}	5766^{+4176}_{-2266}

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

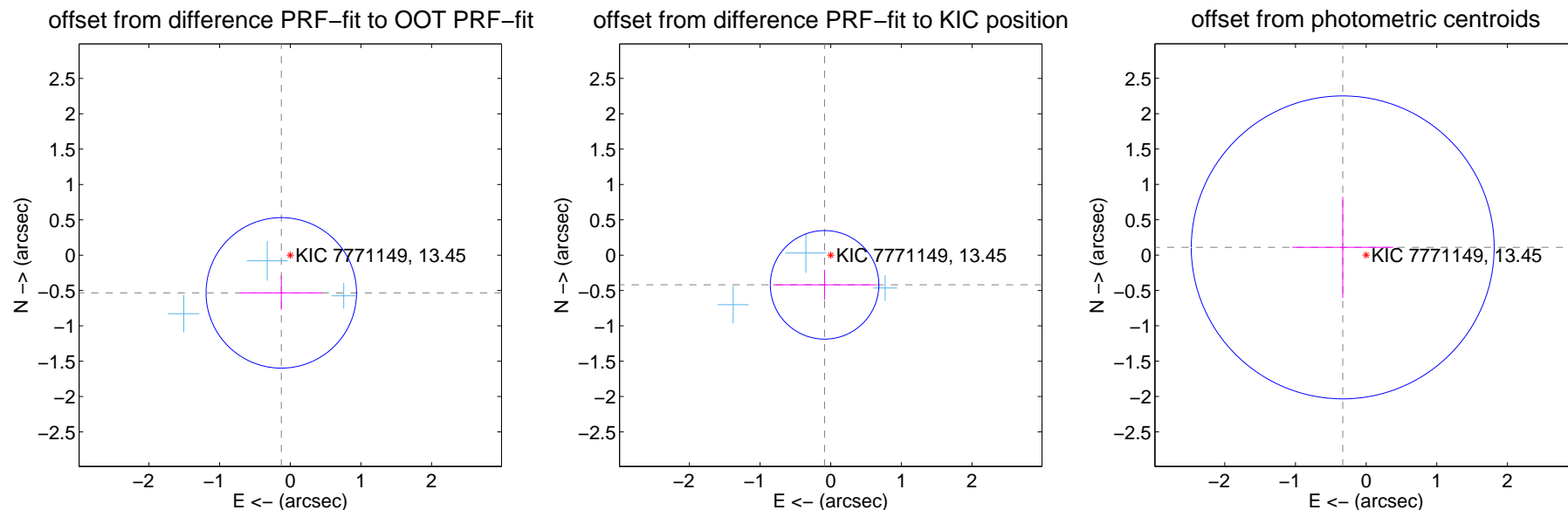
DV Centroid Data

Supplemental centroid analysis for 007771149-02. Kepler magnitude: 13.45. Transit SNR 6.57

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.549 ± 0.355	1.55	0.127 ± 0.581	-0.534 ± 0.241
PRF-fit source offset from KIC position	0.429 ± 0.256	1.68	0.087 ± 0.729	-0.420 ± 0.214
photometric centroid source offset	0.35 ± 0.71	0.49	0.33 ± 0.71	0.11 ± 0.71



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.

Q1 no difference image



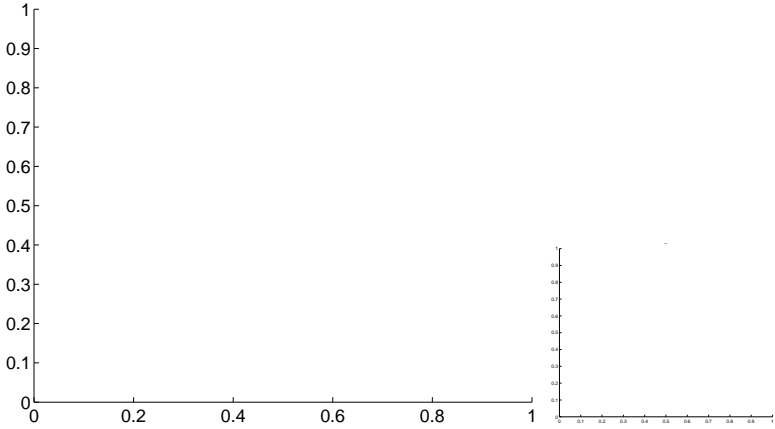
Q1 no OOT image



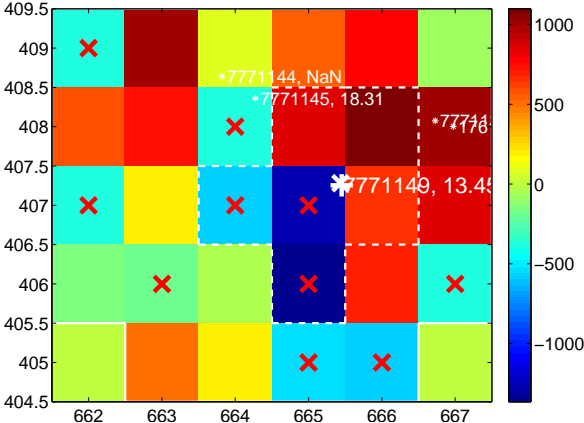
Q2 no difference image



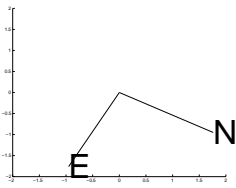
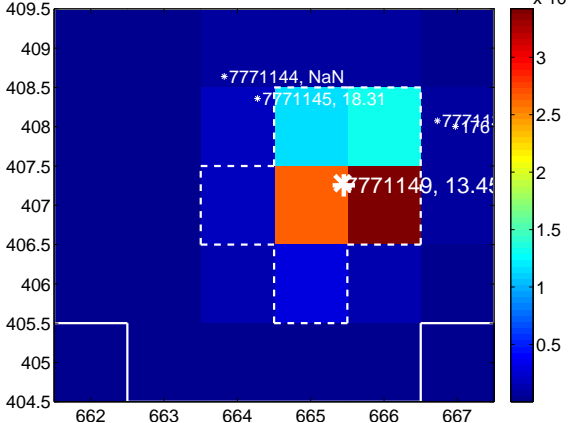
Q2 no OOT image



Q3 difference image. Poor Quality



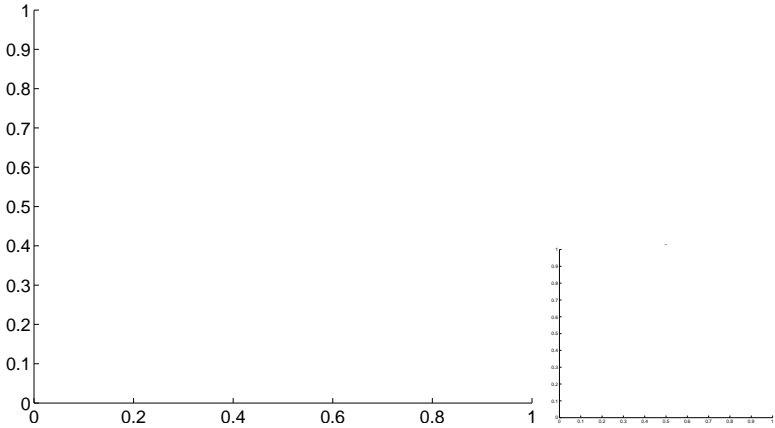
Q3 OOT image



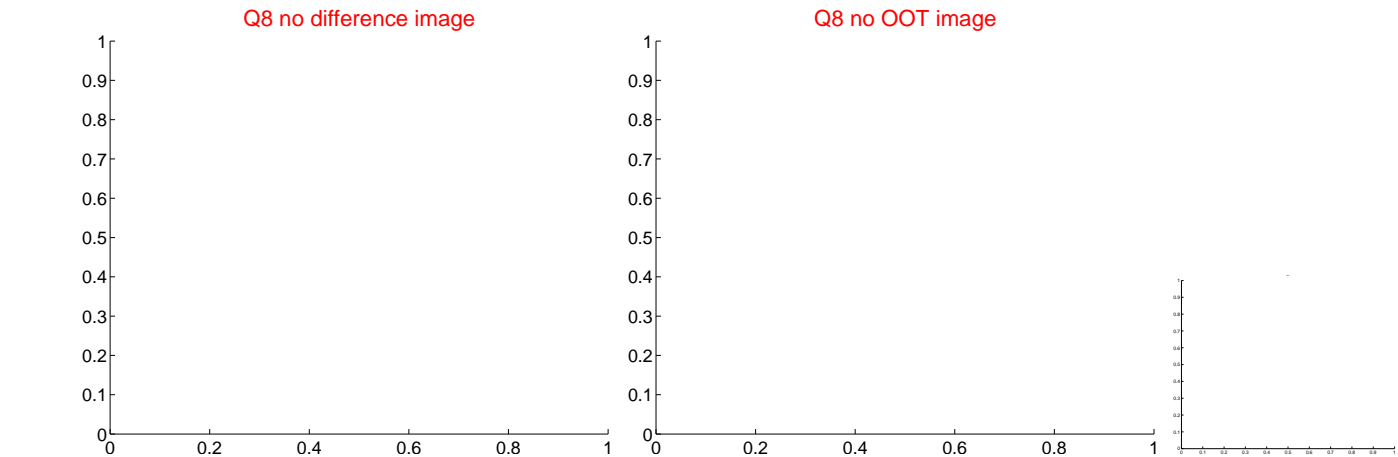
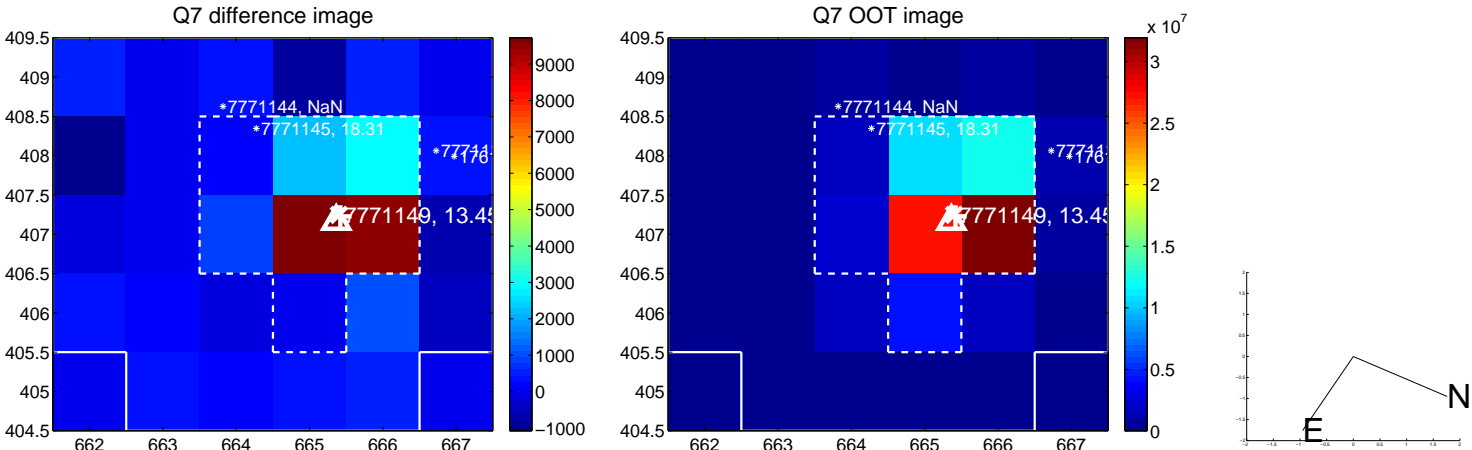
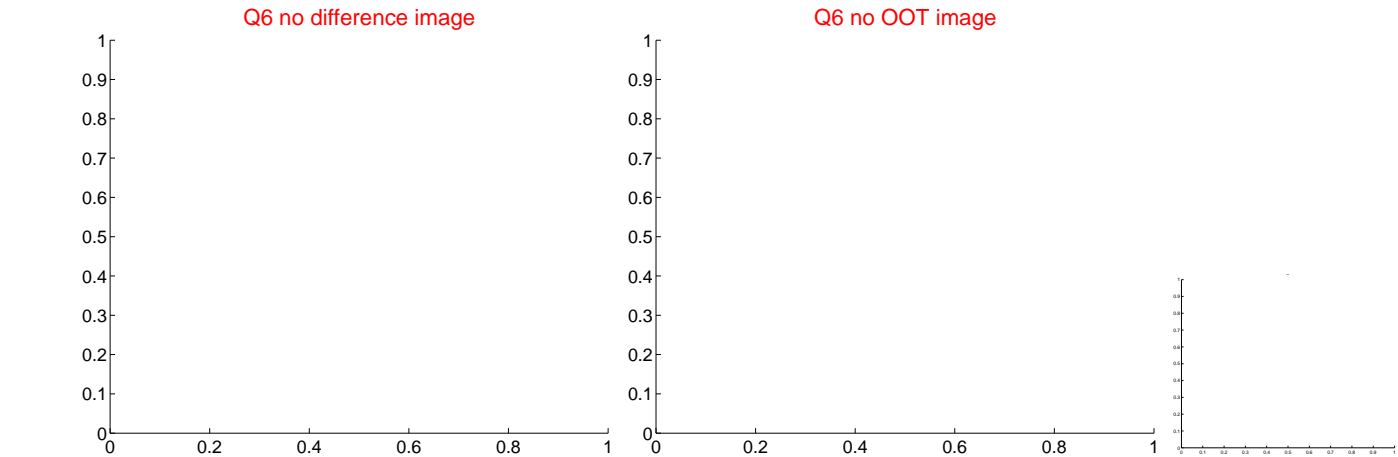
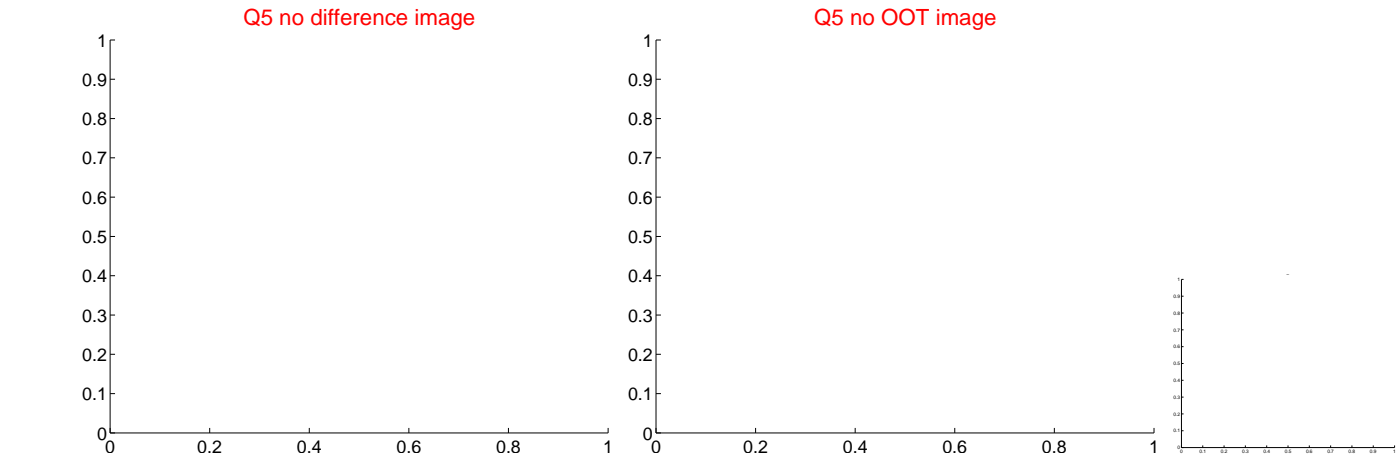
Q4 no difference image



Q4 no OOT image



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.

Q9 no difference image



Q9 no OOT image



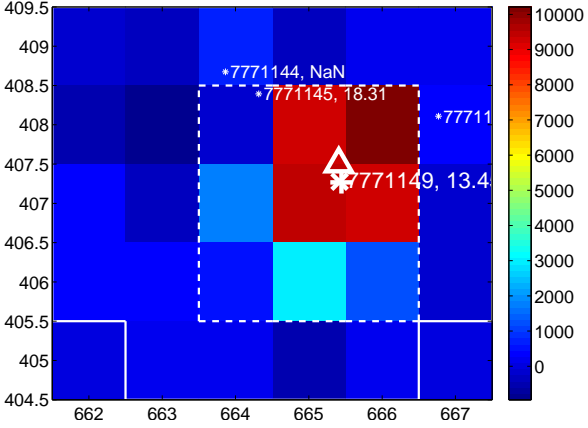
Q10 no difference image



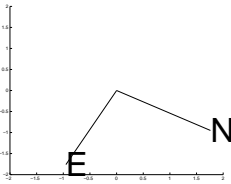
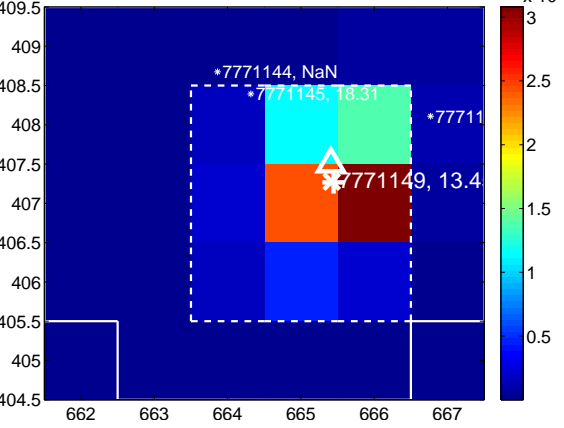
Q10 no OOT image



Q11 difference image



Q11 OOT image



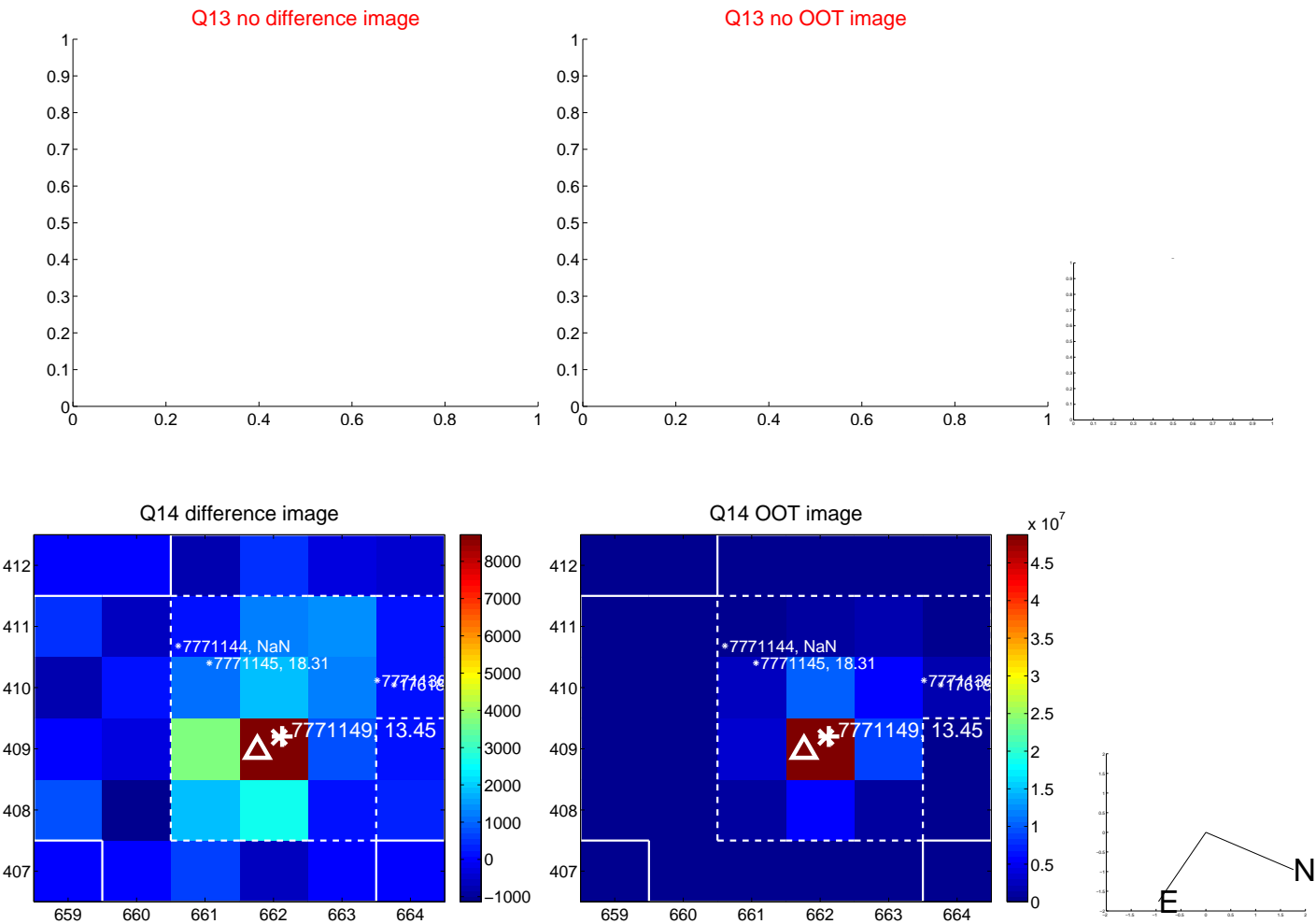
Q12 no difference image



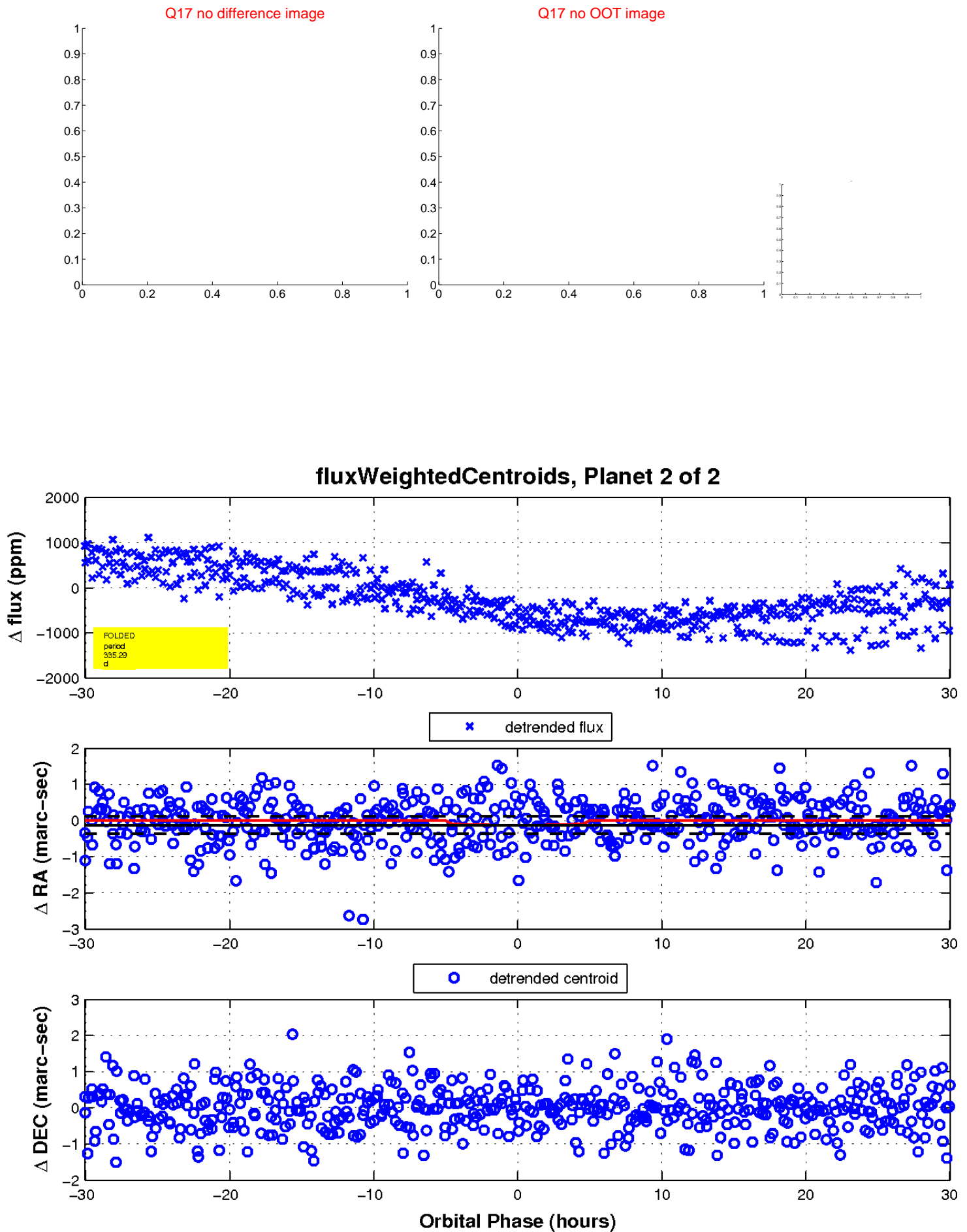
Q12 no OOT image



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

