

KIC 007779942

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})
007779942-01	OBS	6163.01	19.794635	135.993754	308.2	6.246	23.2	24.9	1.88	6731	6.33	250.02
007779942-02	OBS	No	19.794584	132.529991	324.7	4.963	22.8	24.9	1.88	6731	5.46	250.02
007779942-03	OBS	No	1.525423	132.052317	8.1	8.300	14.4	3.0	1.88	6731	0.54	7623.97
007779942-04	OBS	No	1.526086	132.389885	43.3	4.006	10.6	11.4	1.88	6731	1.33	7619.55

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007779942-01	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
007779942-02	OBS	FP	0.00	1	0	0	0	LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_SATURATED
007779942-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—CENT_SATURATED
007779942-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—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.

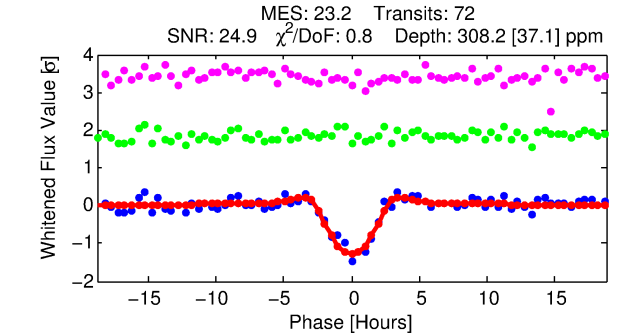
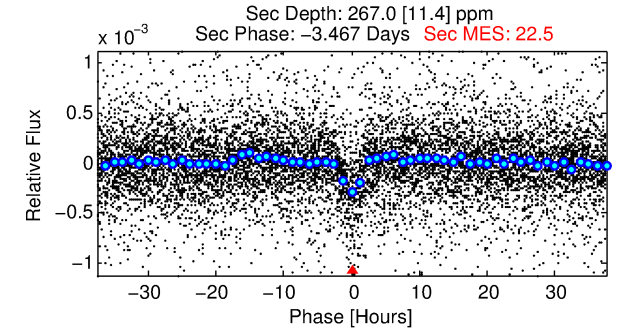
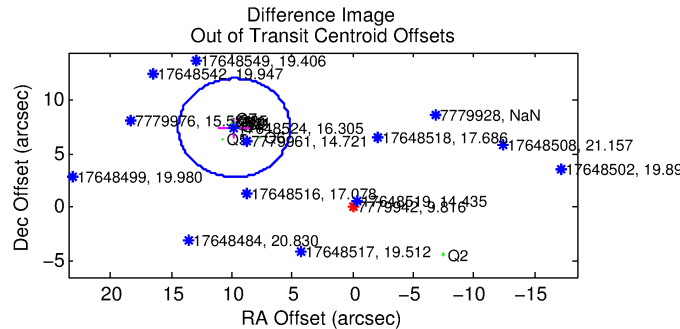
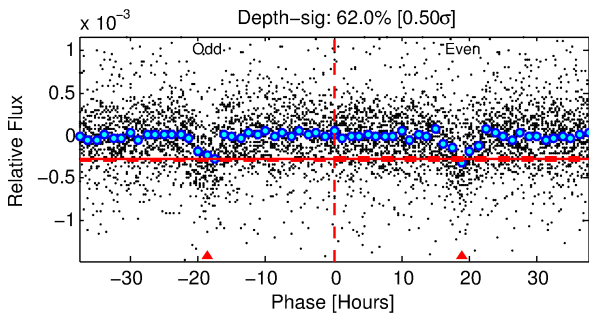
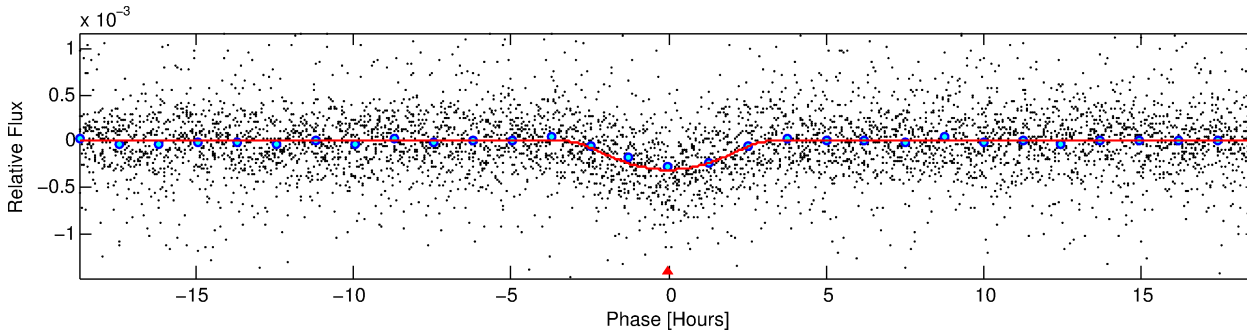
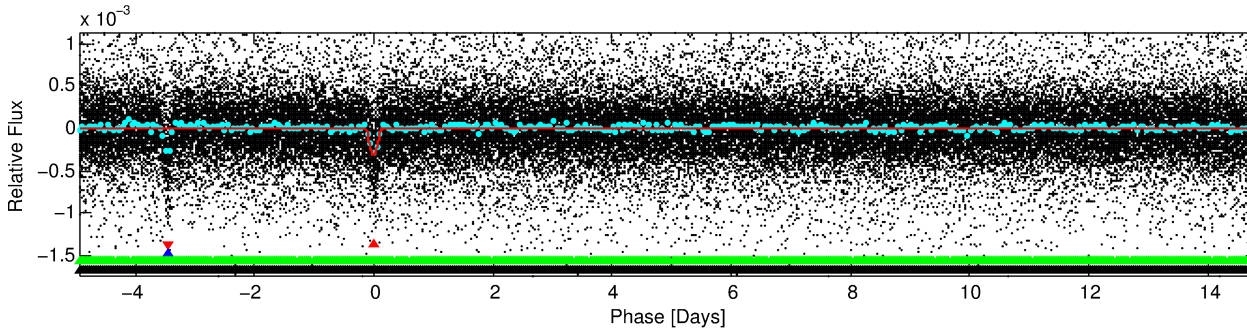
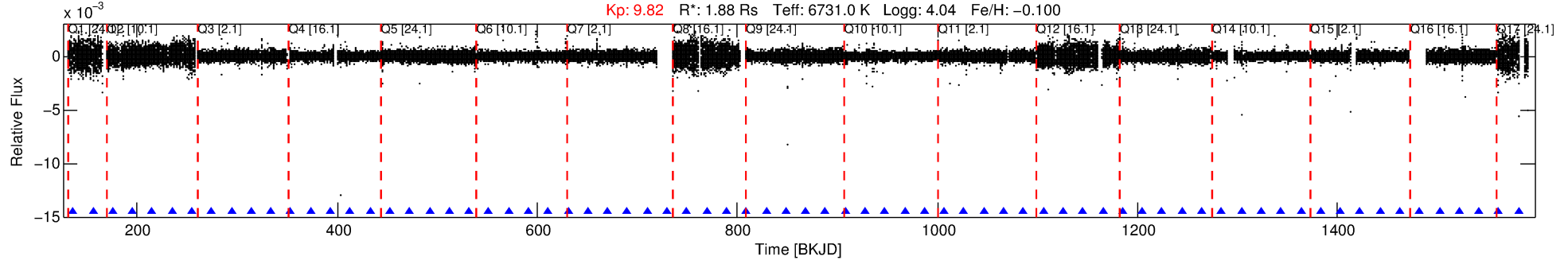
Ephemeris Match Information For 007779942-01

No Significant Match Found

DV One-Page Summary

KIC: 7779942 Candidate: 1 of 4 Period: 19.795 d
KOI: K06163 Corr: No Ephemeris Match

Kp: 9.82 R*: 1.88 Rs Teff: 6731.0 K Logg: 4.04 Fe/H: -0.100



DV Fit Results:

Period = 19.79464 [0.00013] d
Epoch = 135.9938 [0.0053] BKJD
Rp/R* = 0.0309 [0.0463]
a/R* = 6.20 [2.42]
b = 1.00 [0.07]
Seff = 250.02 [108.82]
Teq = 1014 [110] K
Rp = 6.33 [9.66] Re
a = 0.1609 [0.0430] AU
Ag = 94.82 [286.16] [0.33σ]
Teff = 4892 [3662] K [1.06σ]

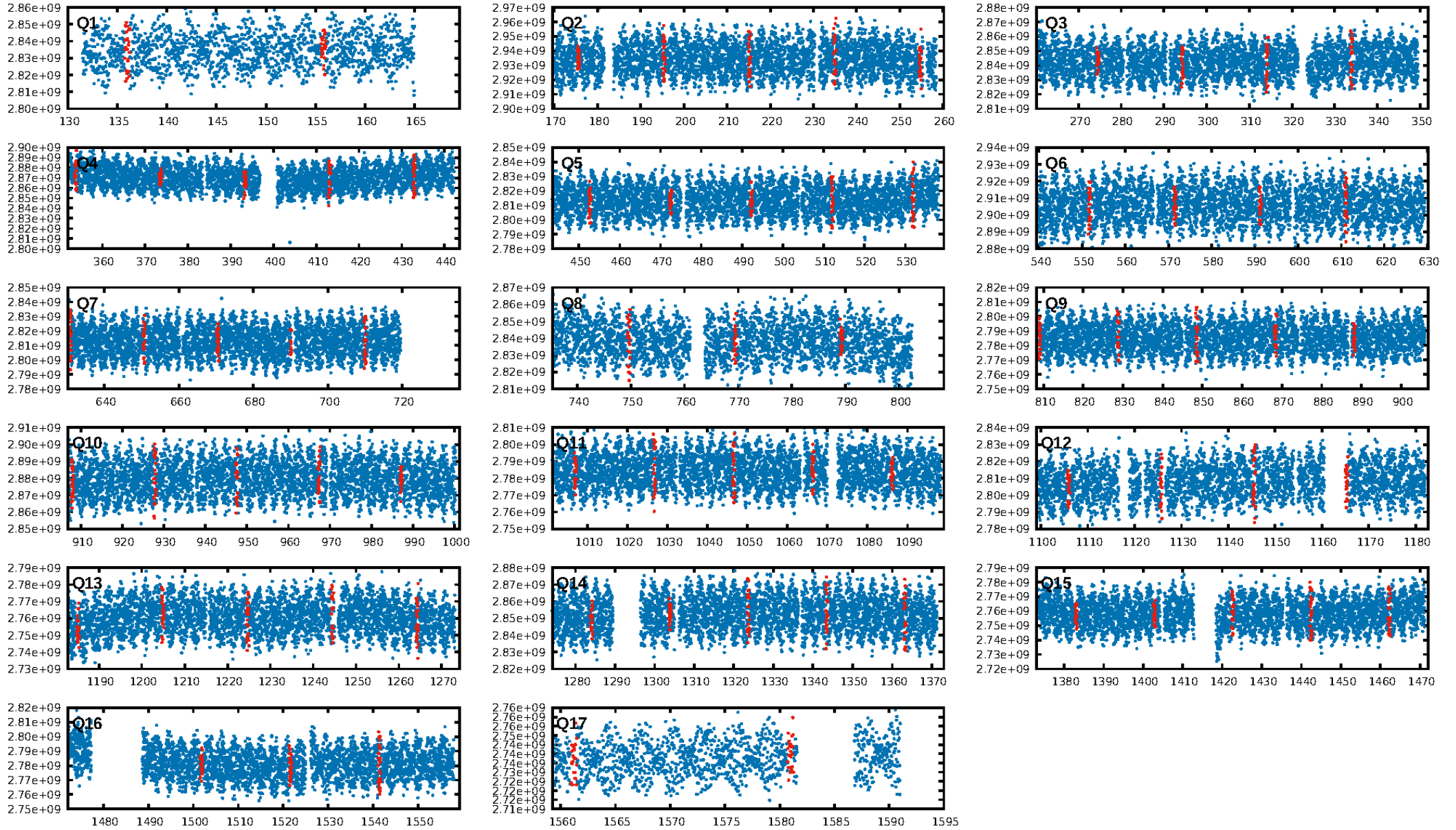
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 54.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.48e-65
RollingBand-fgt: 1.00 [68/68]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 22.958 arcsec [100.86σ]
OotOffset-rm: 12.308 arcsec [8.01σ]
KicOffset-rm: 12.286 arcsec [8.09σ]
OotOffset-st: 2/4/4/2 [12]
KicOffset-st: 2/4/4/2 [12]
DiffImageQuality-fgm: 0.92 [11/12]
DiffImageOverlap-fno: 0.00 [0/17]

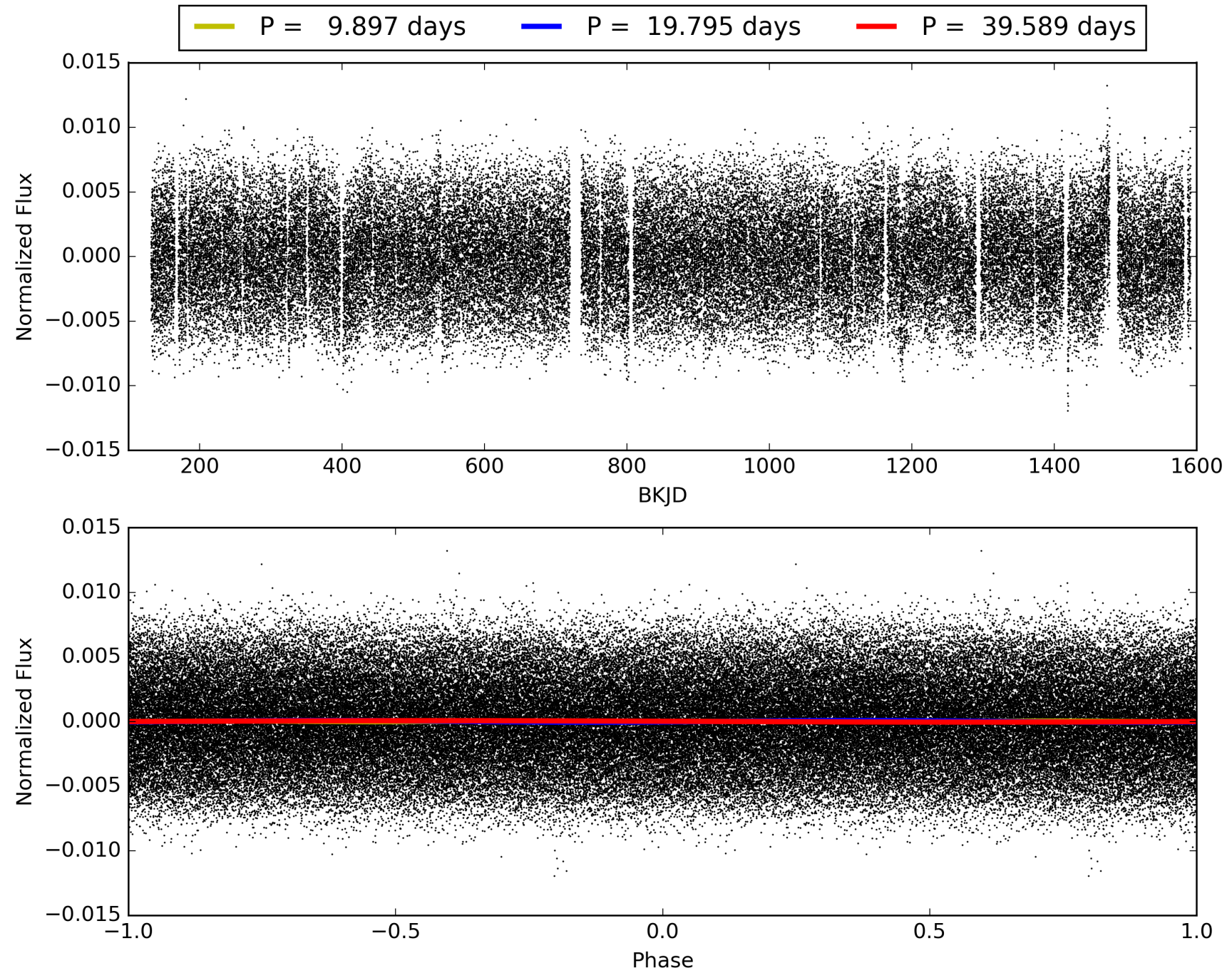
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 19:54:12 Z

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

TCE 007779942-01, PDC Light Curves

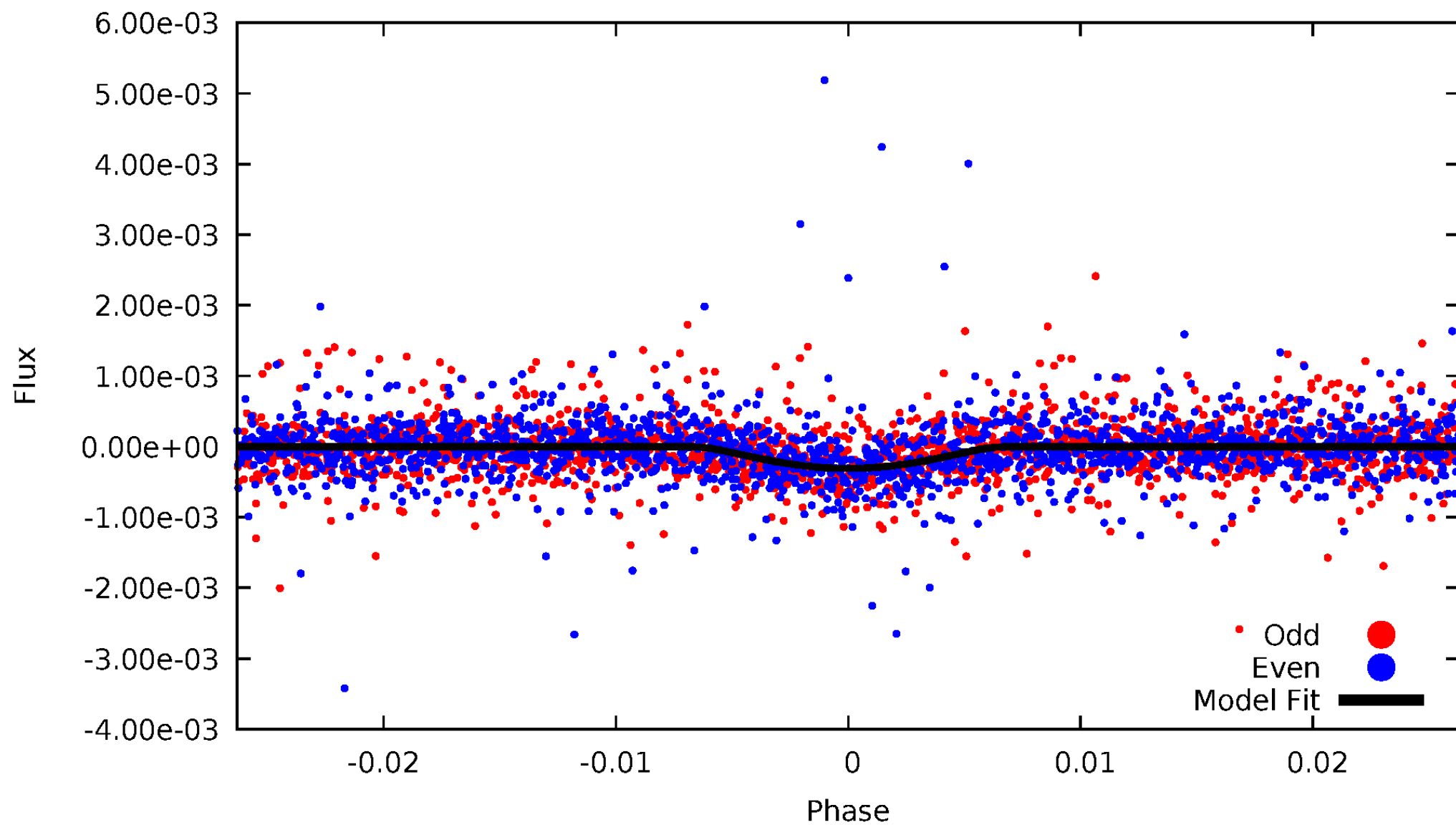


TCE 007779942-01



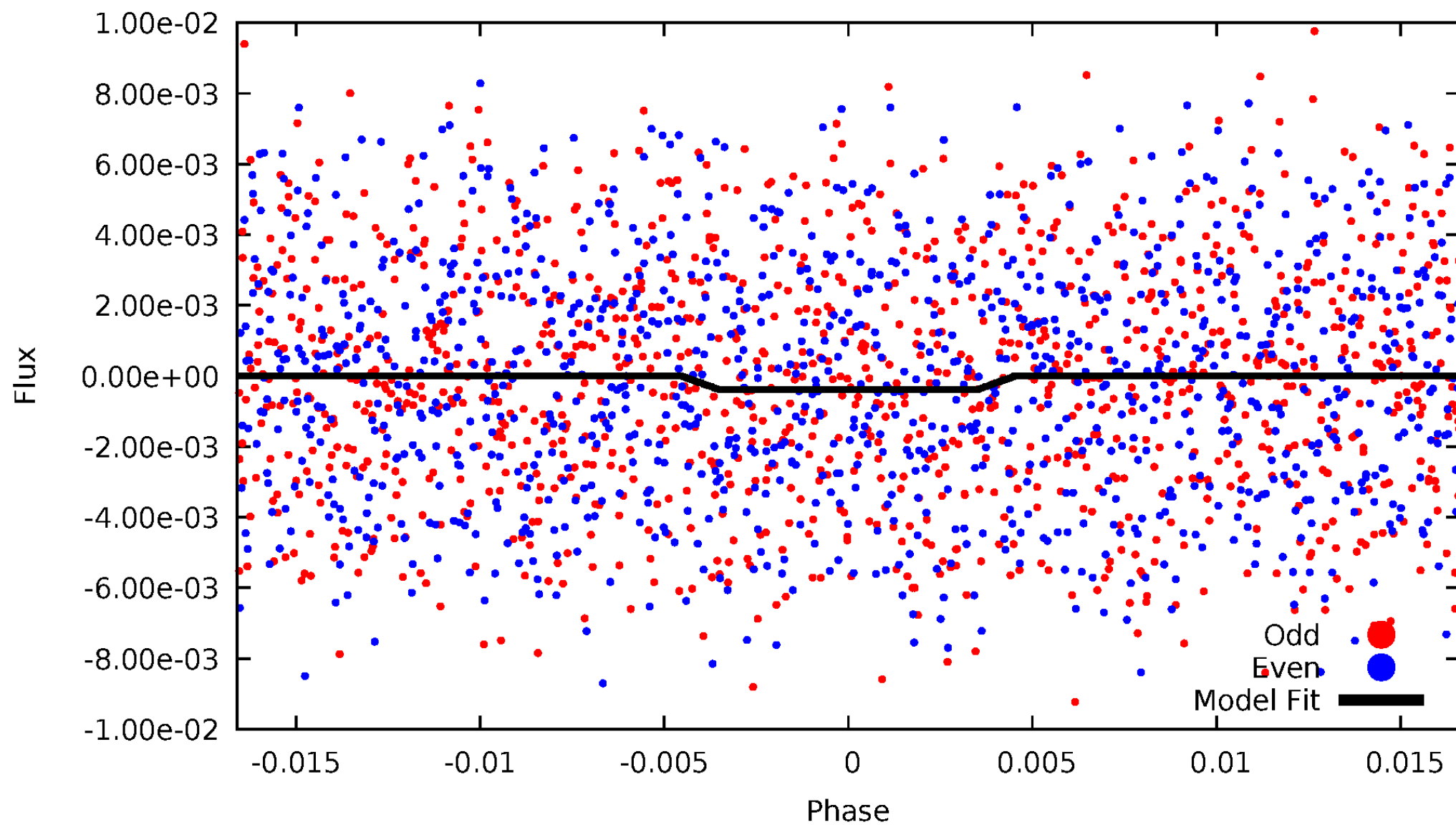
DV Odd/Even

TCE 007779942-01



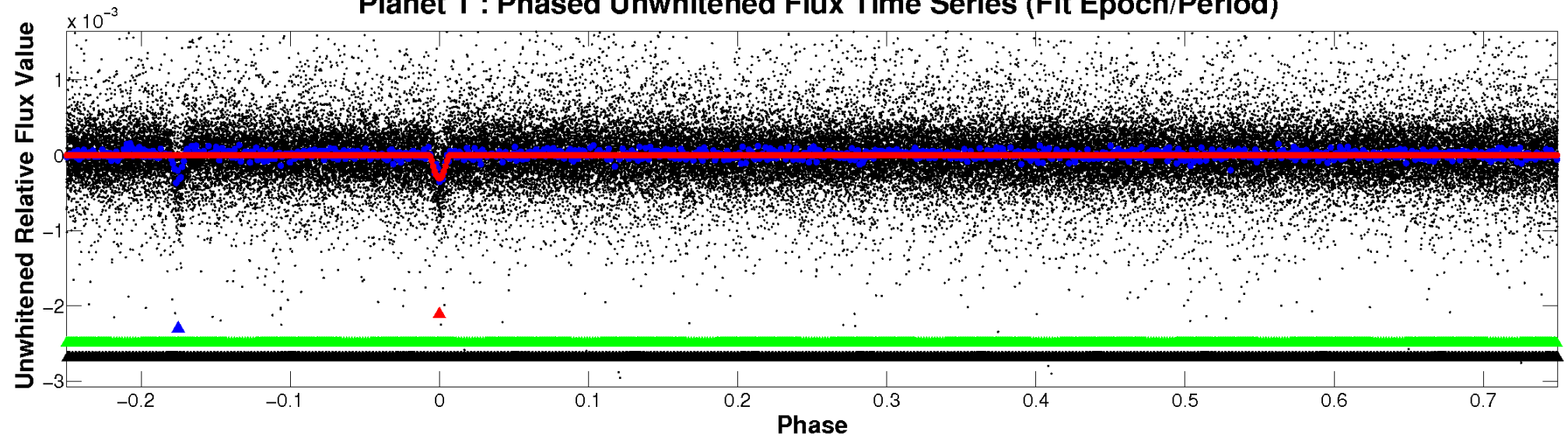
ALT Odd/Even

TCE 007779942-01

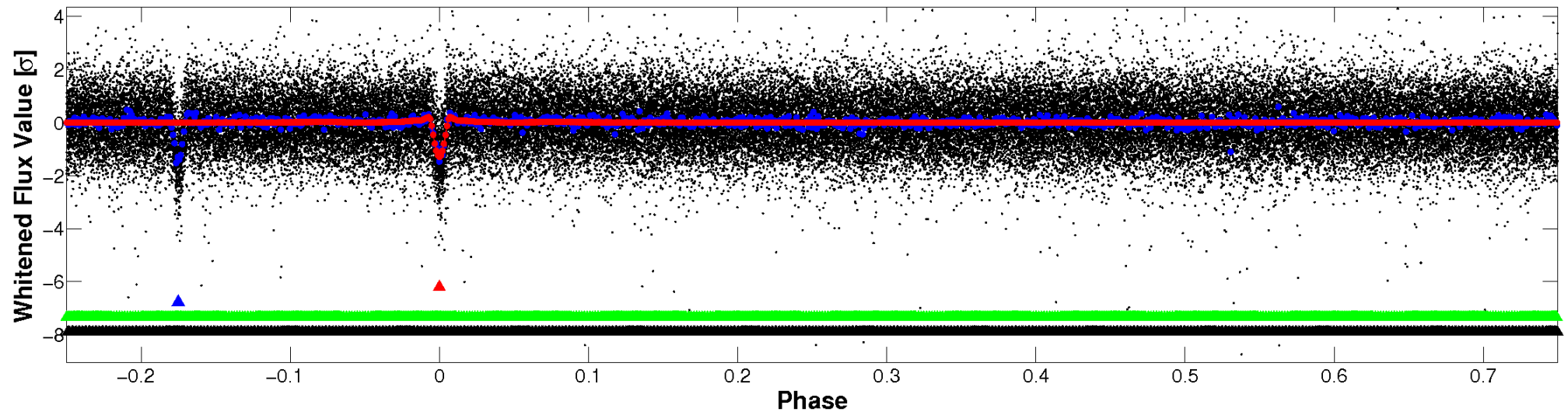


Non-Whitened Vs. Whitened Light Curve

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

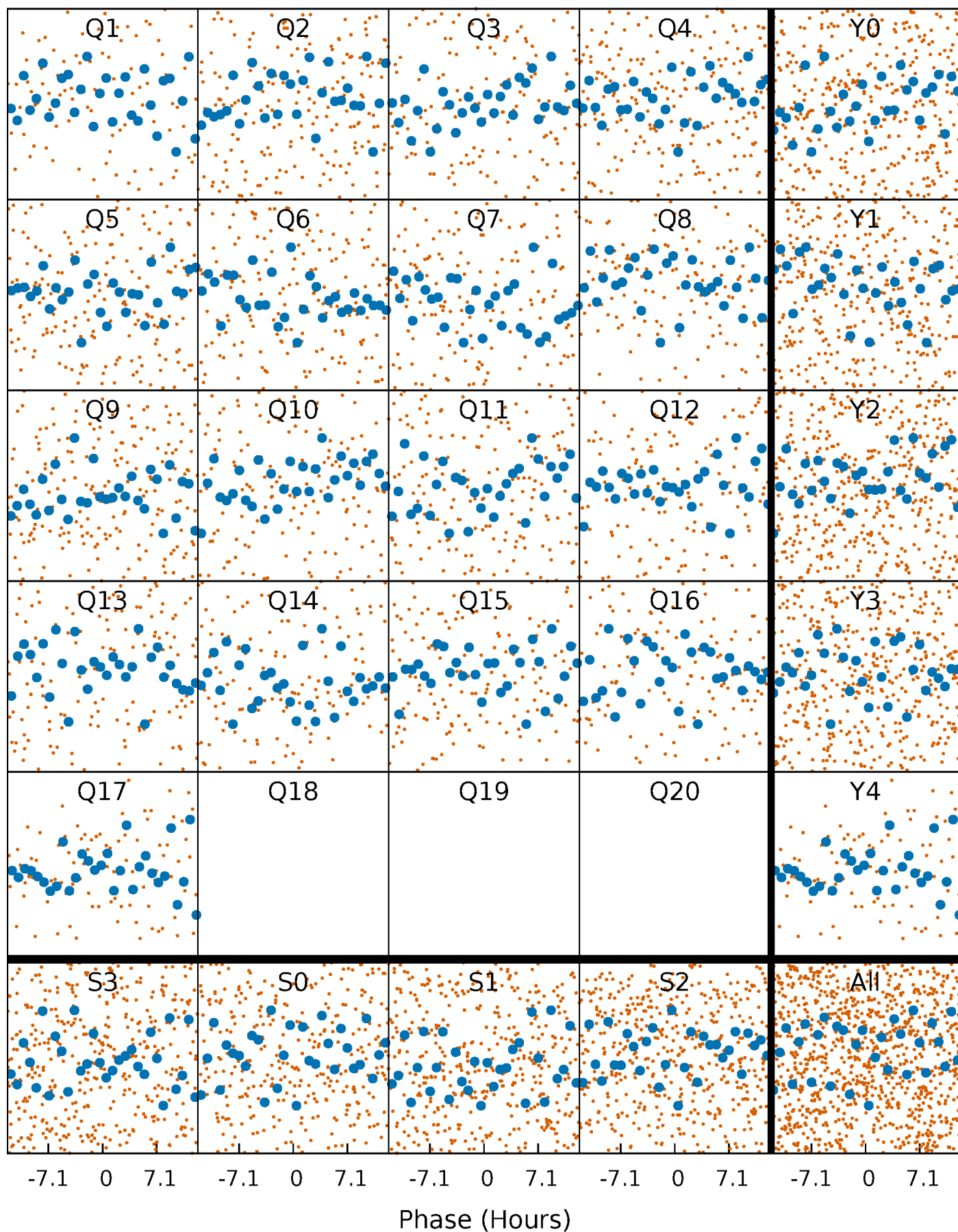


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



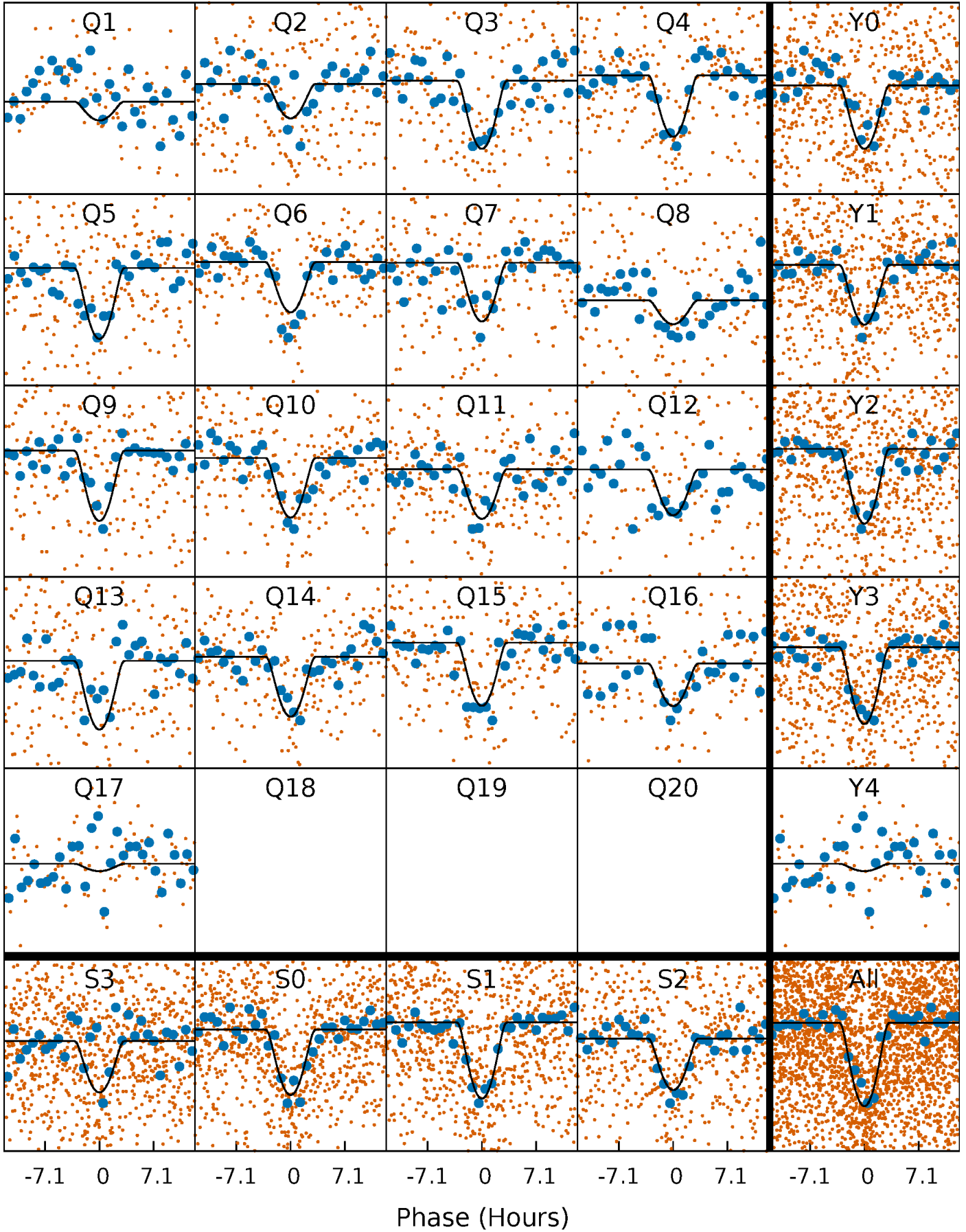
PDC Quarter-Phased Transit Curves

TCE 007779942-01 P= 19.794635 Days $T_0=135.993754$ (BKJD)



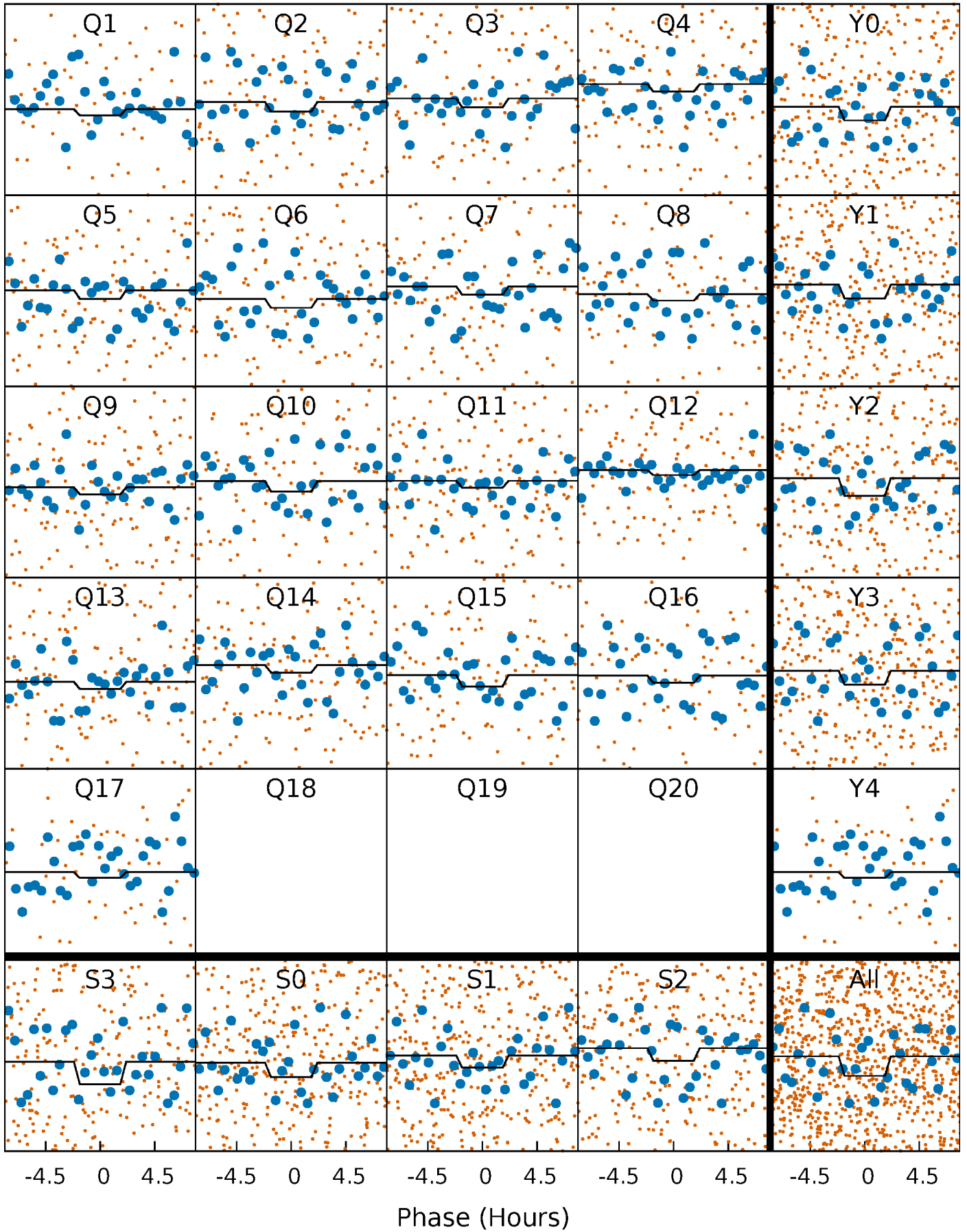
DV Quarter-Phased Transit Curves

TCE 007779942-01 P= 19.794635 Days $T_0=135.993754$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

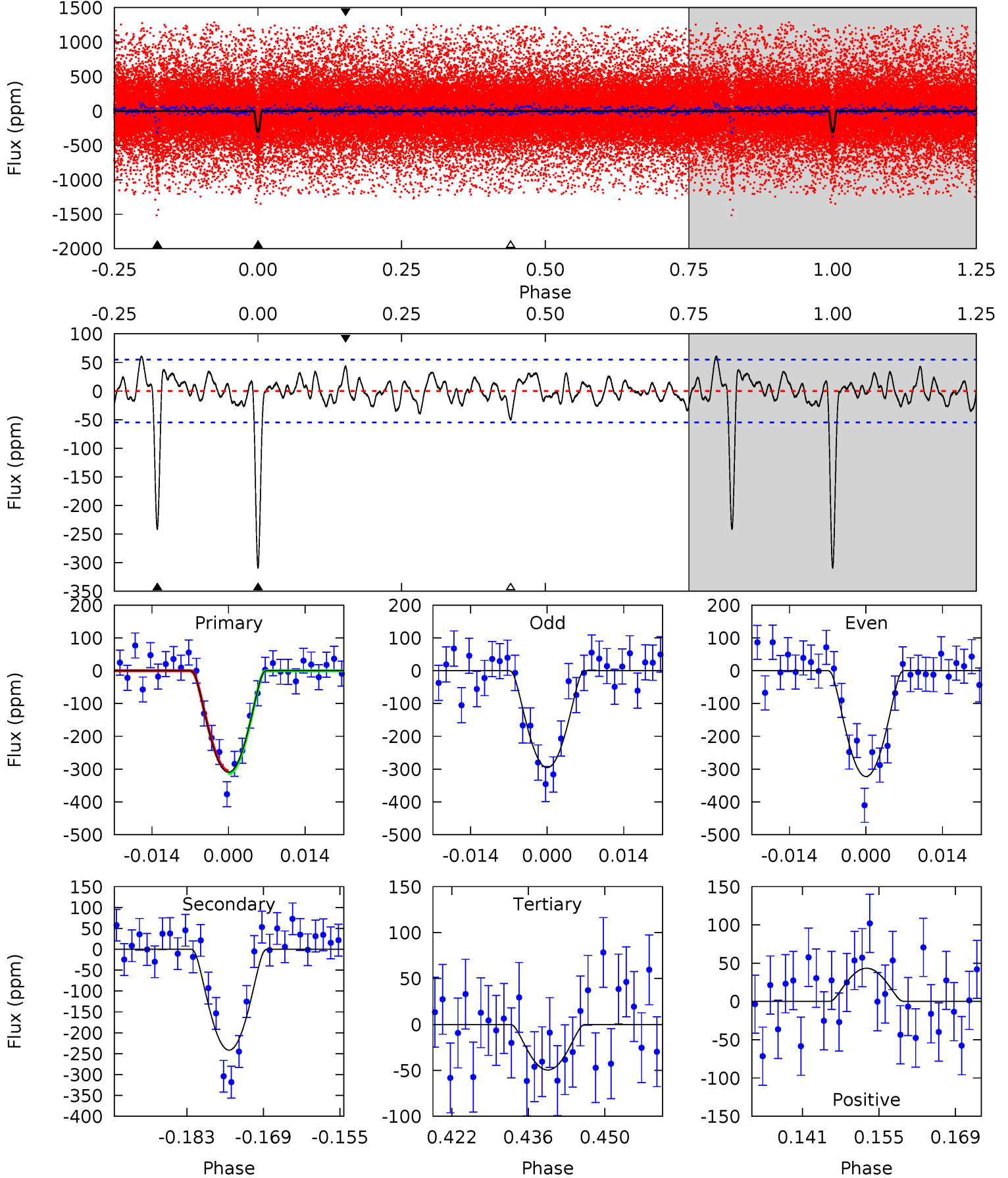
TCE 007779942-01 P= 19.794397 Days $T_0=135.971873$ (BKJD)



DV Model-Shift Uniqueness Test

007779942-01, P = 19.794635 Days, E = 116.199119 Days

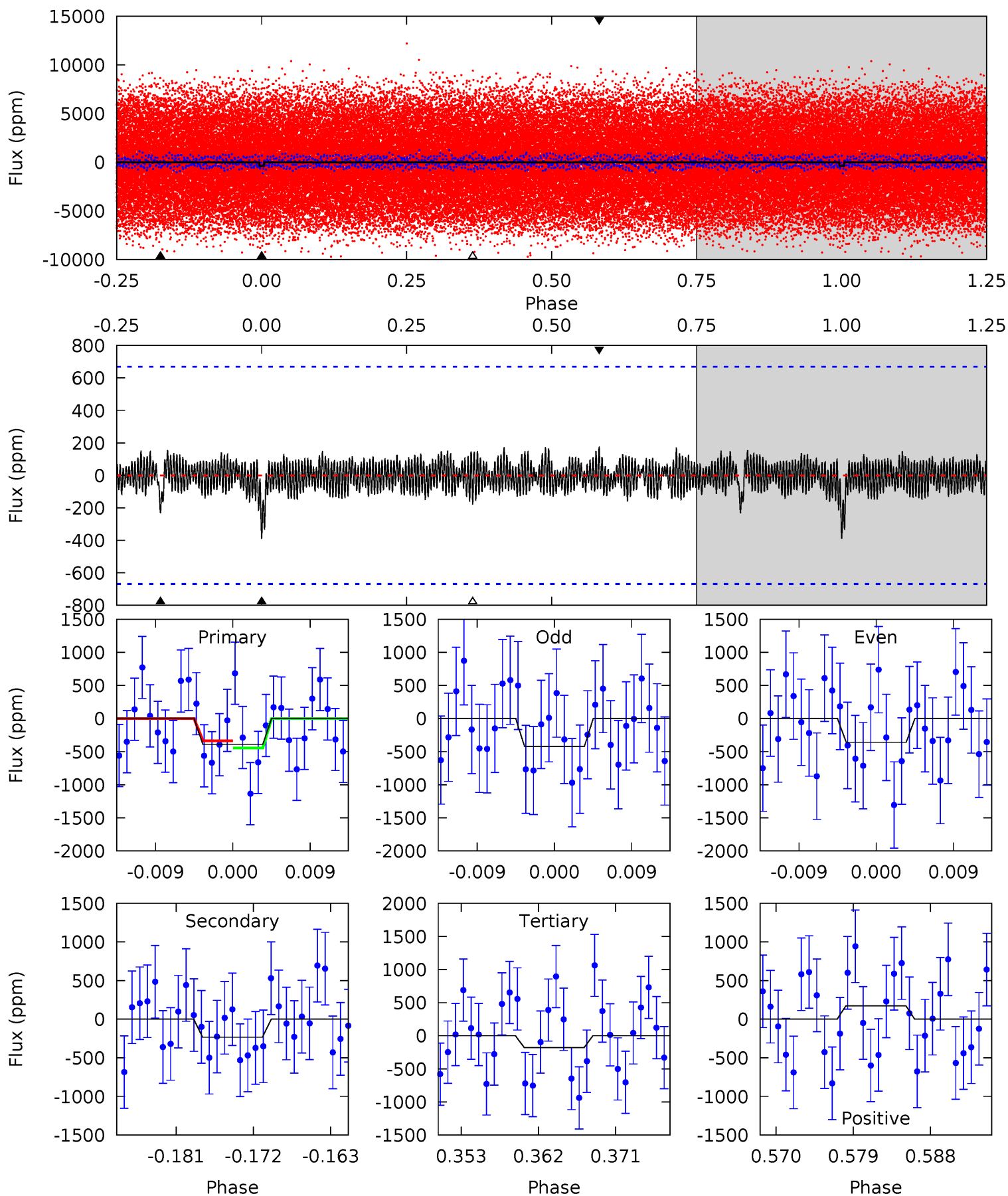
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.9	21.8	4.48	3.92	4.96	2.46	1.54	23.5	24.0	17.3	17.9	1.25	0.93	0.16	0.41



Alt Model-Shift Uniqueness Test

007779942-01, P = 19.794397 Days, E = 116.177476 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.94	1.75	1.34	1.31	5.05	2.61	0.54	1.60	1.63	0.41	0.44	0.23	1.02	0.31	0.41



Stellar Parameters For KIC 007779942

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6731^{+189}_{-259}	$4.043^{+0.231}_{-0.168}$	$-0.100^{+0.250}_{-0.300}$	$1.876^{+0.563}_{-0.563}$	$1.420^{+0.196}_{-0.269}$	$0.303^{+0.432}_{-0.145}$
	+3%/-4%	+6%/-4%	+250%/-300%	+30%/-30%	+14%/-19%	+142%/-48%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007779942-01 / KOI 6163.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-242 ± 11	$8.94^{+7.32}_{-5.81}$	1397^{+121}_{-117}	4185^{+2531}_{-754}	42^{+293}_{-30}
Alt.	-233 ± 133	$8.42^{+7.87}_{-5.66}$	1413^{+120}_{-118}	4173^{+2773}_{-979}	41^{+355}_{-33}

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

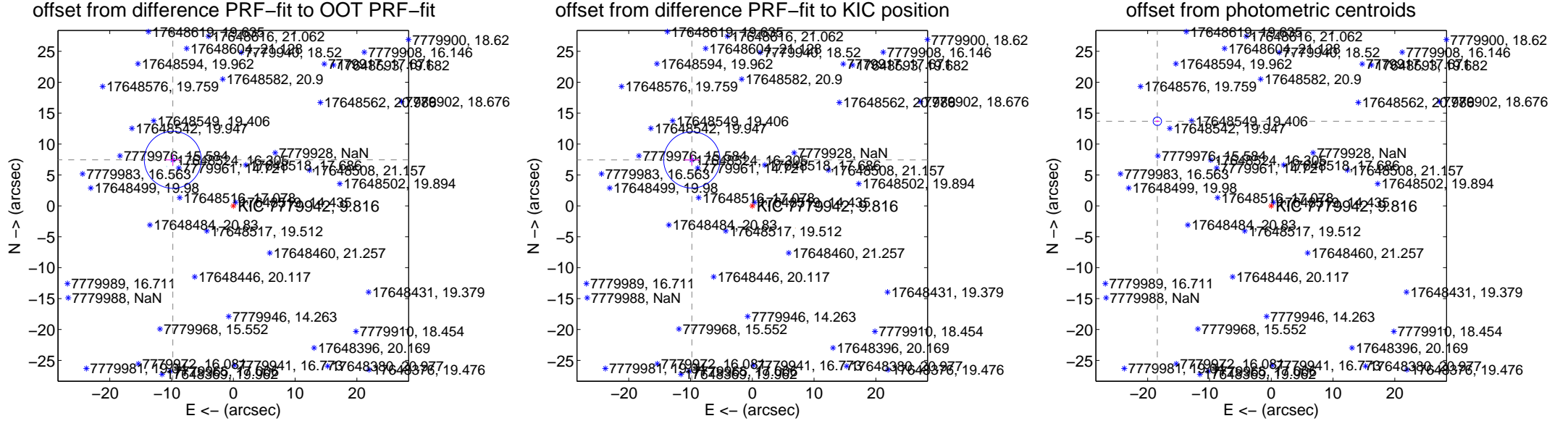
DV Centroid Data

Supplemental centroid analysis for 007779942-01. **Kepler magnitude: 9.82.** Transit SNR 24.88

There are 11 quarters with good PRF difference image offsets

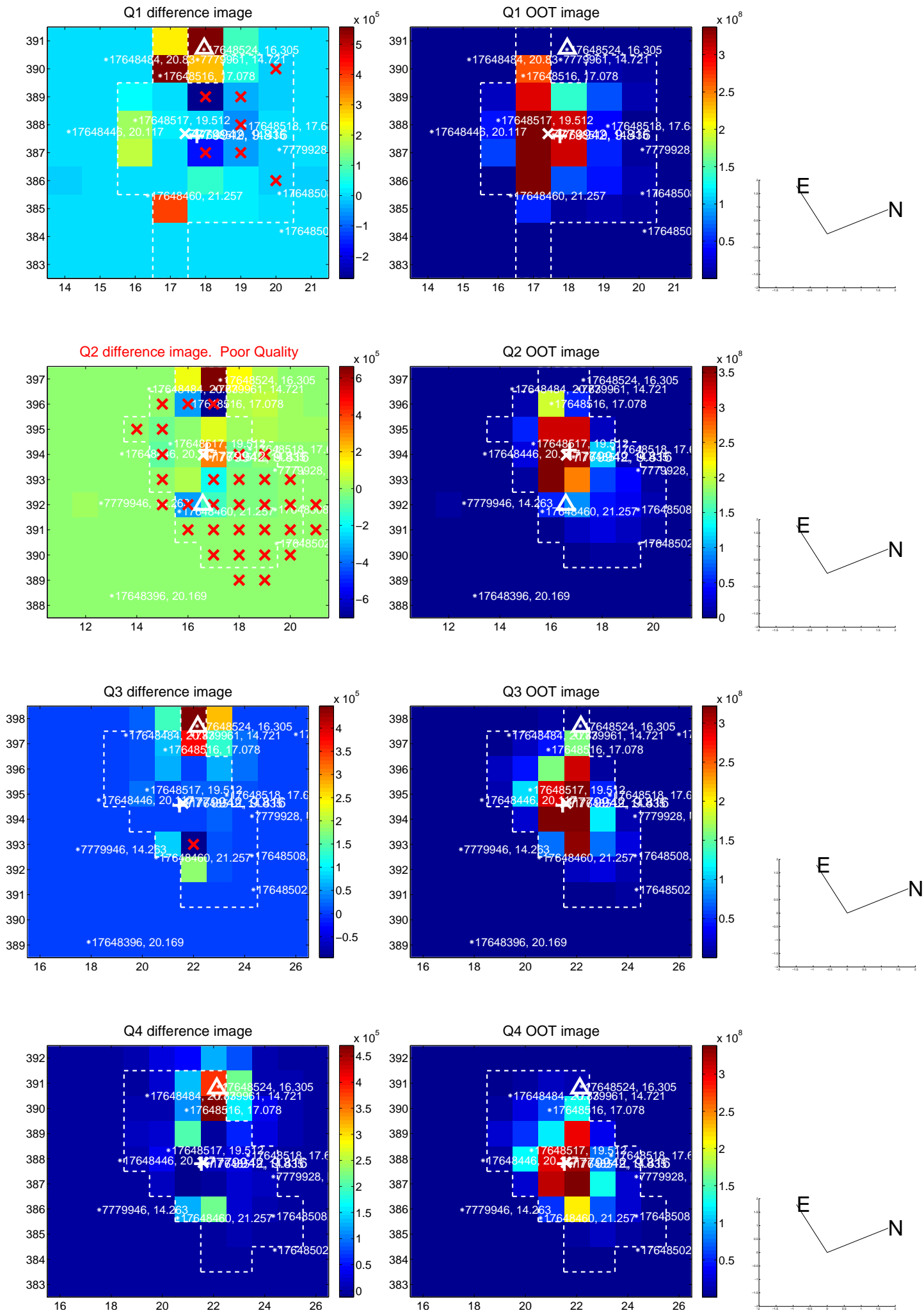
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	12.308 \pm 1.537	8.01	9.798 \pm 1.261	7.449 \pm 0.903
PRF-fit source offset from KIC position	12.286 \pm 1.519	8.09	9.784 \pm 1.274	7.432 \pm 0.839
photometric centroid source offset	22.96 \pm 0.23	100.87	18.43 \pm 0.26	13.68 \pm 0.16

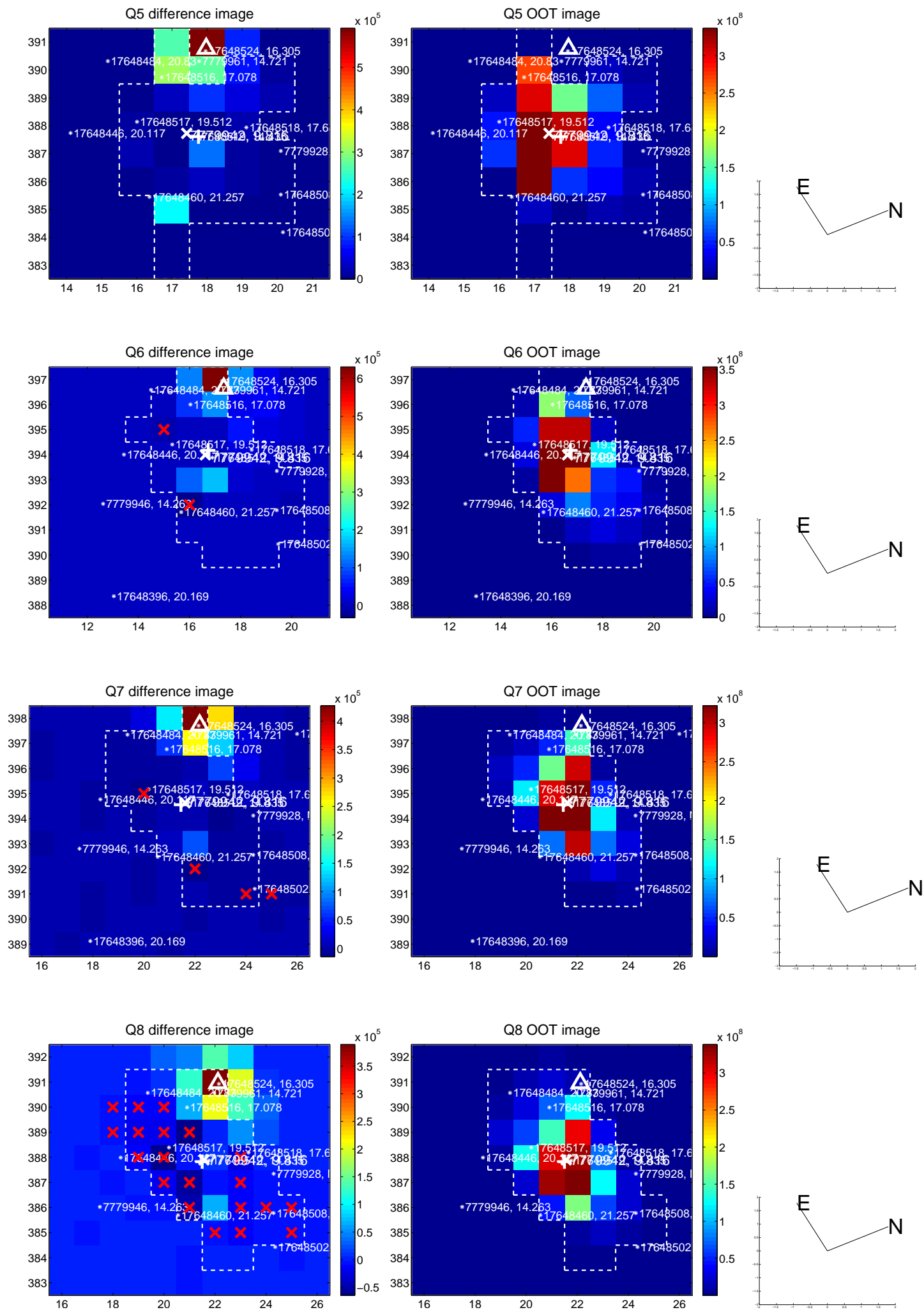


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

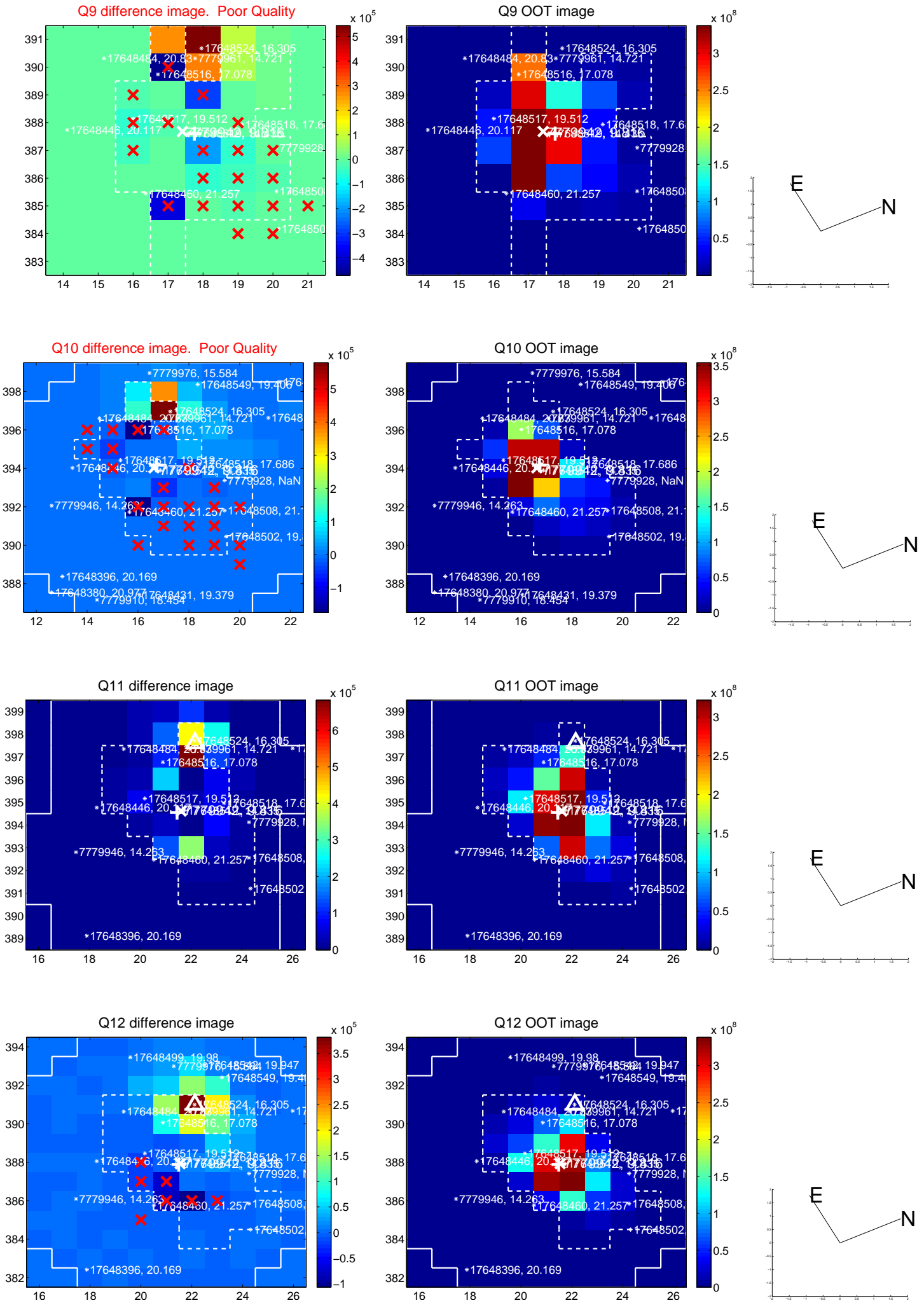
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



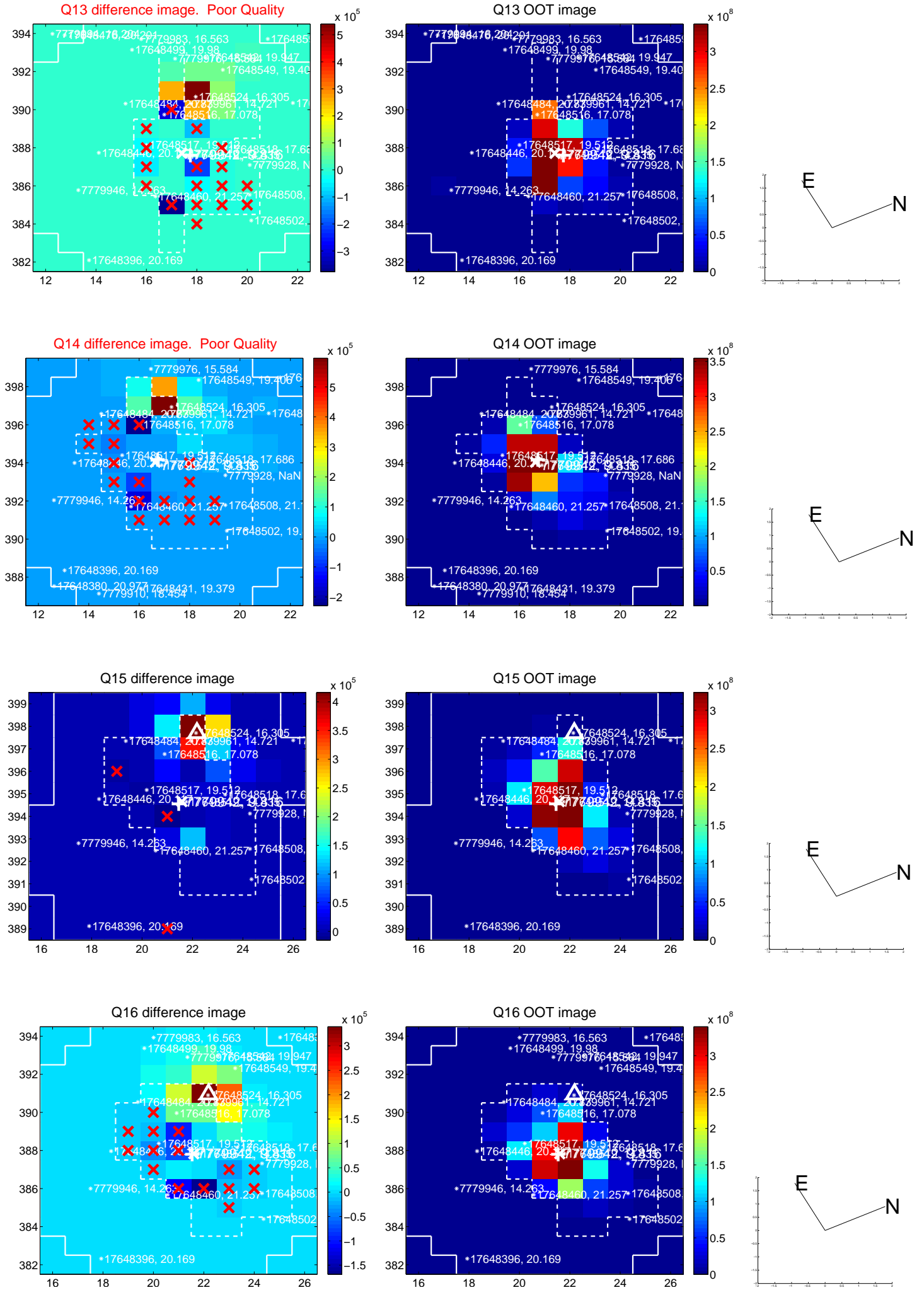
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



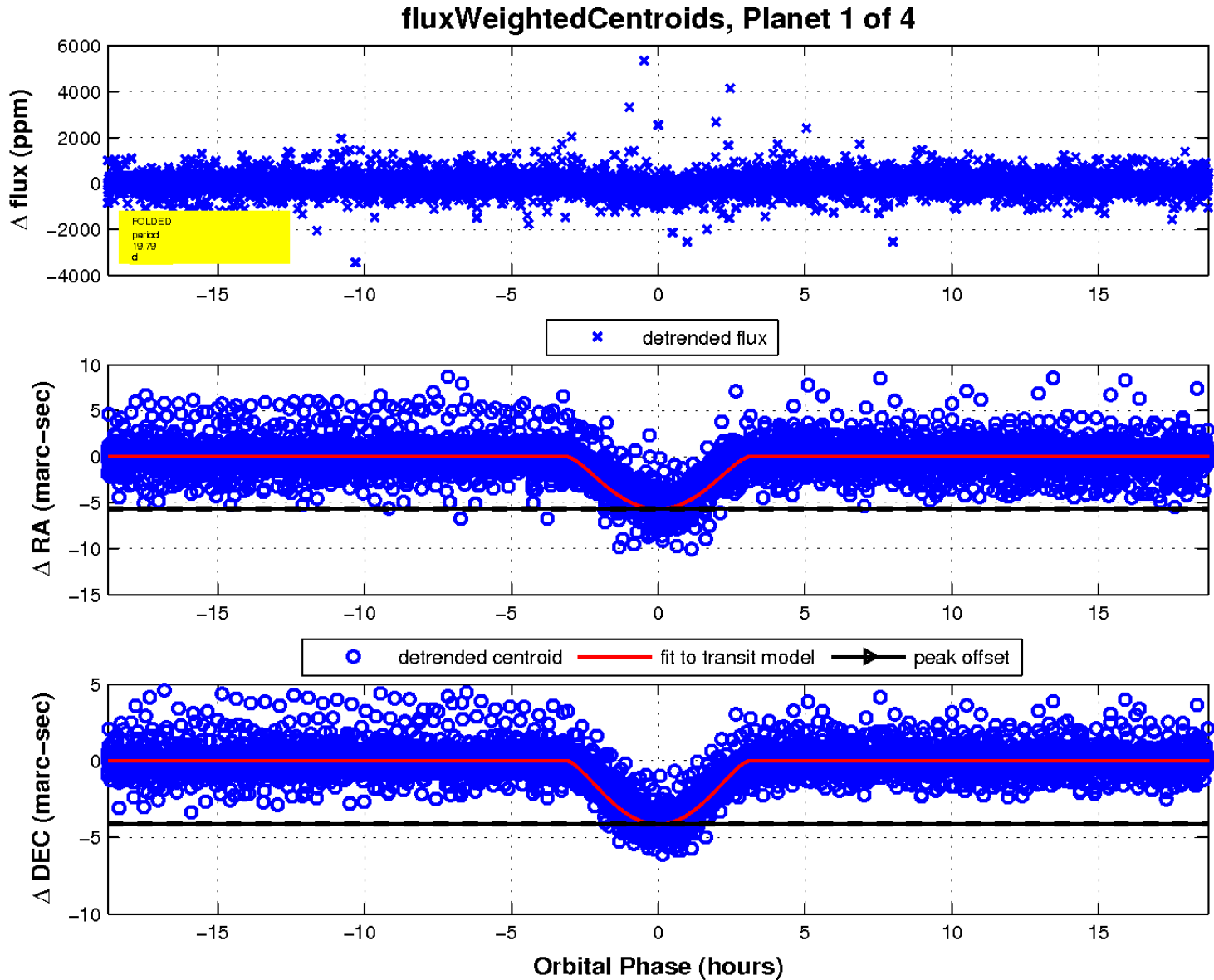
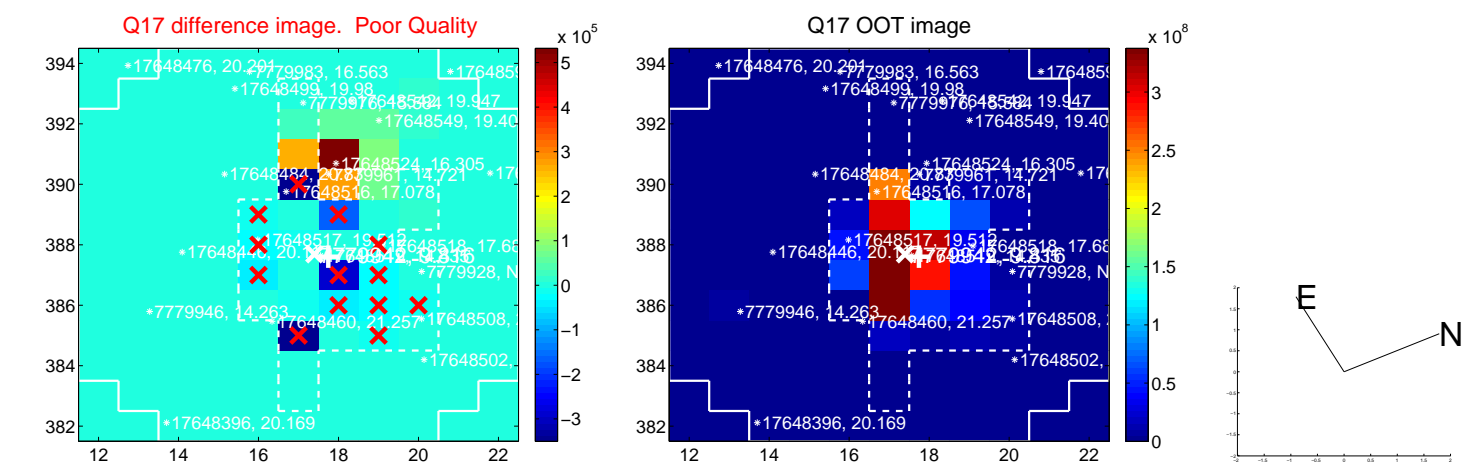
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

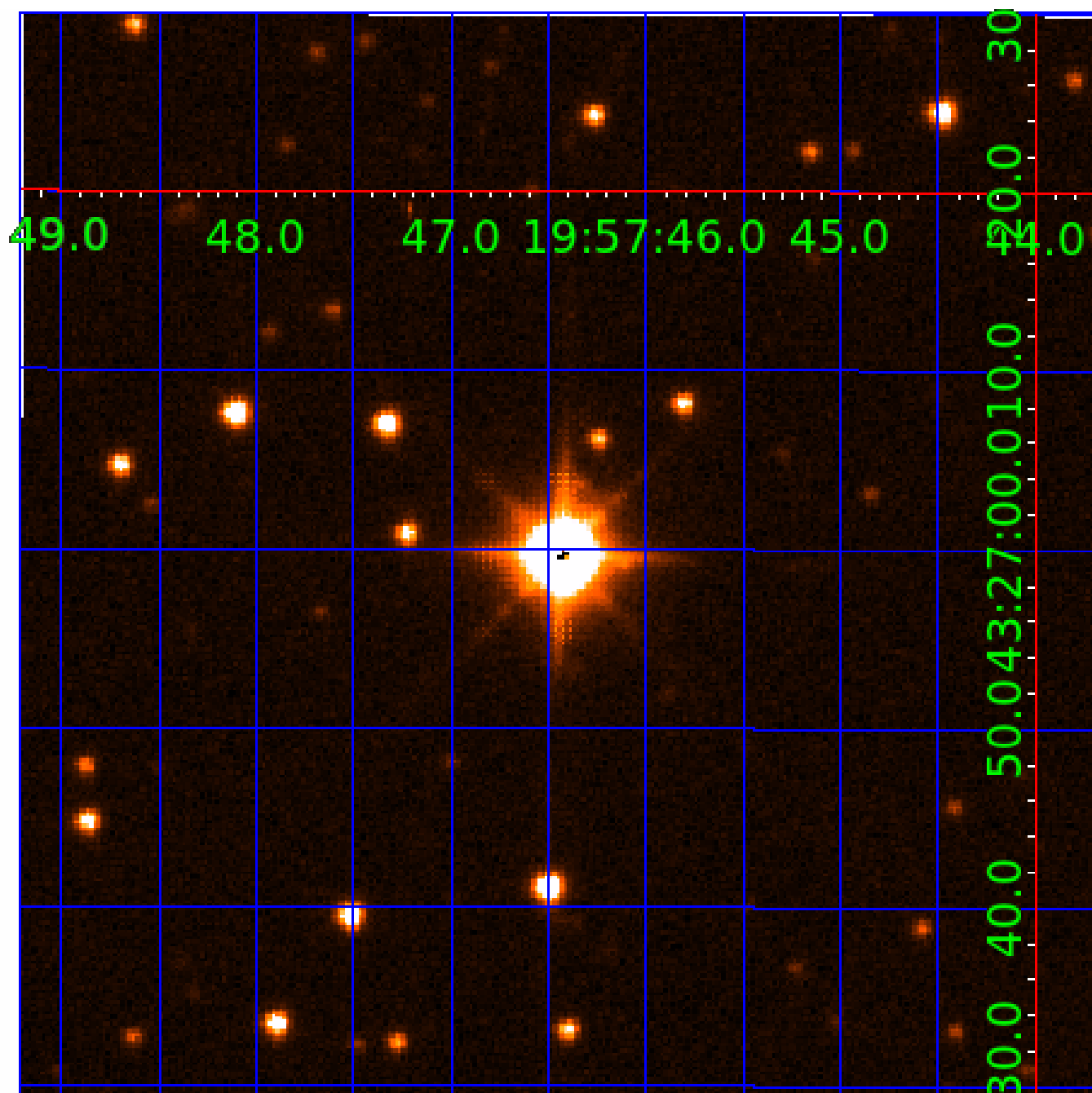


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007779942

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})
007779942-01	OBS	6163.01	19.794635	135.993754	308.2	6.246	23.2	24.9	1.88	6731	6.33	250.02
007779942-02	OBS	No	19.794584	132.529991	324.7	4.963	22.8	24.9	1.88	6731	5.46	250.02
007779942-03	OBS	No	1.525423	132.052317	8.1	8.300	14.4	3.0	1.88	6731	0.54	7623.97
007779942-04	OBS	No	1.526086	132.389885	43.3	4.006	10.6	11.4	1.88	6731	1.33	7619.55

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007779942-01	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
007779942-02	OBS	FP	0.00	1	0	0	0	LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_SATURATED
007779942-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—CENT_SATURATED
007779942-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—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 007779942-02

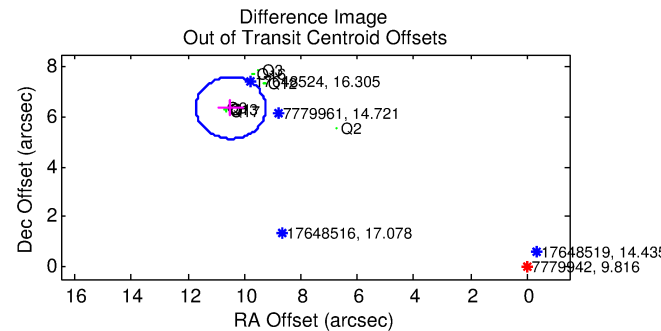
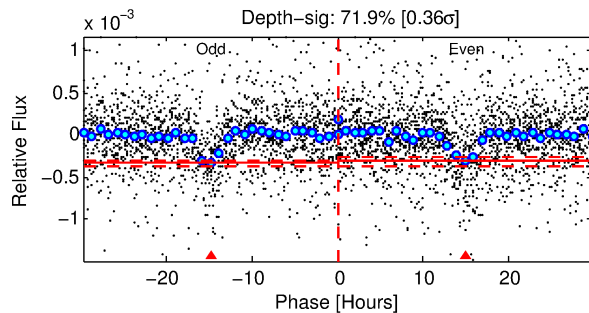
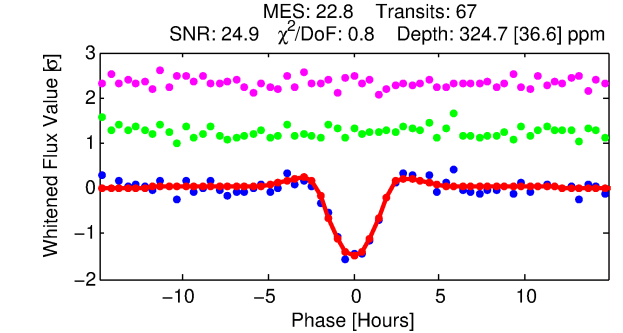
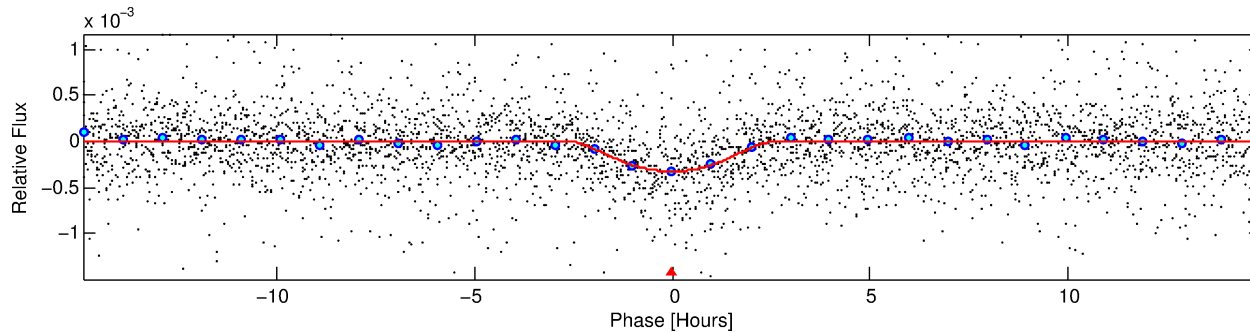
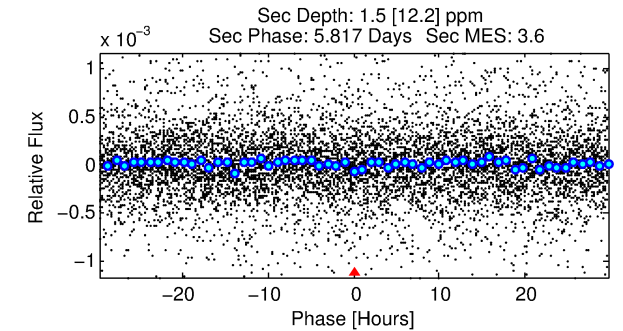
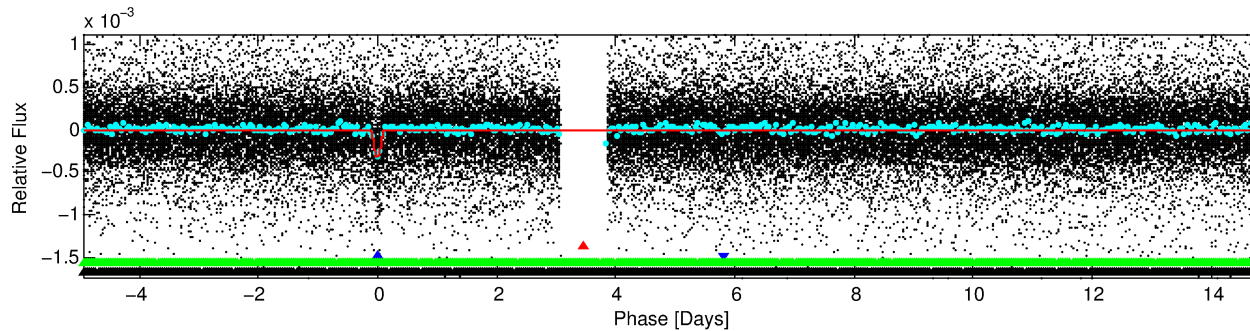
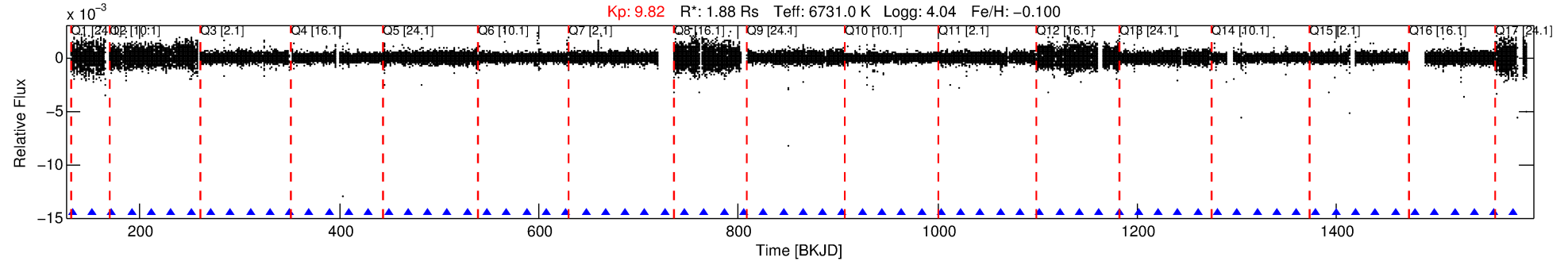
No Significant Match Found

DV One-Page Summary

KIC: 7779942 Candidate: 2 of 4 Period: 19.795 d

KOI: K06163 Corr: No Ephemeris Match

Kp: 9.82 R*: 1.88 Rs Teff: 6731.0 K Logg: 4.04 Fe/H: -0.100



DV Fit Results:

Period = 19.79458 [0.00011] d
Epoch = 132.5300 [0.0044] BKJD
Rp/R* = 0.0267 [0.0223]
a/R* = 8.22 [2.49]
b = 0.99 [0.04]
Seff = 250.02 [108.83]
Teq = 1014 [110] K
Rp = 5.46 [4.85] Re
a = 0.1609 [0.0430] AU
Ag = 0.74 [5.98] [-0.04σ]
Teff = 1454 [2935] K [0.15σ]

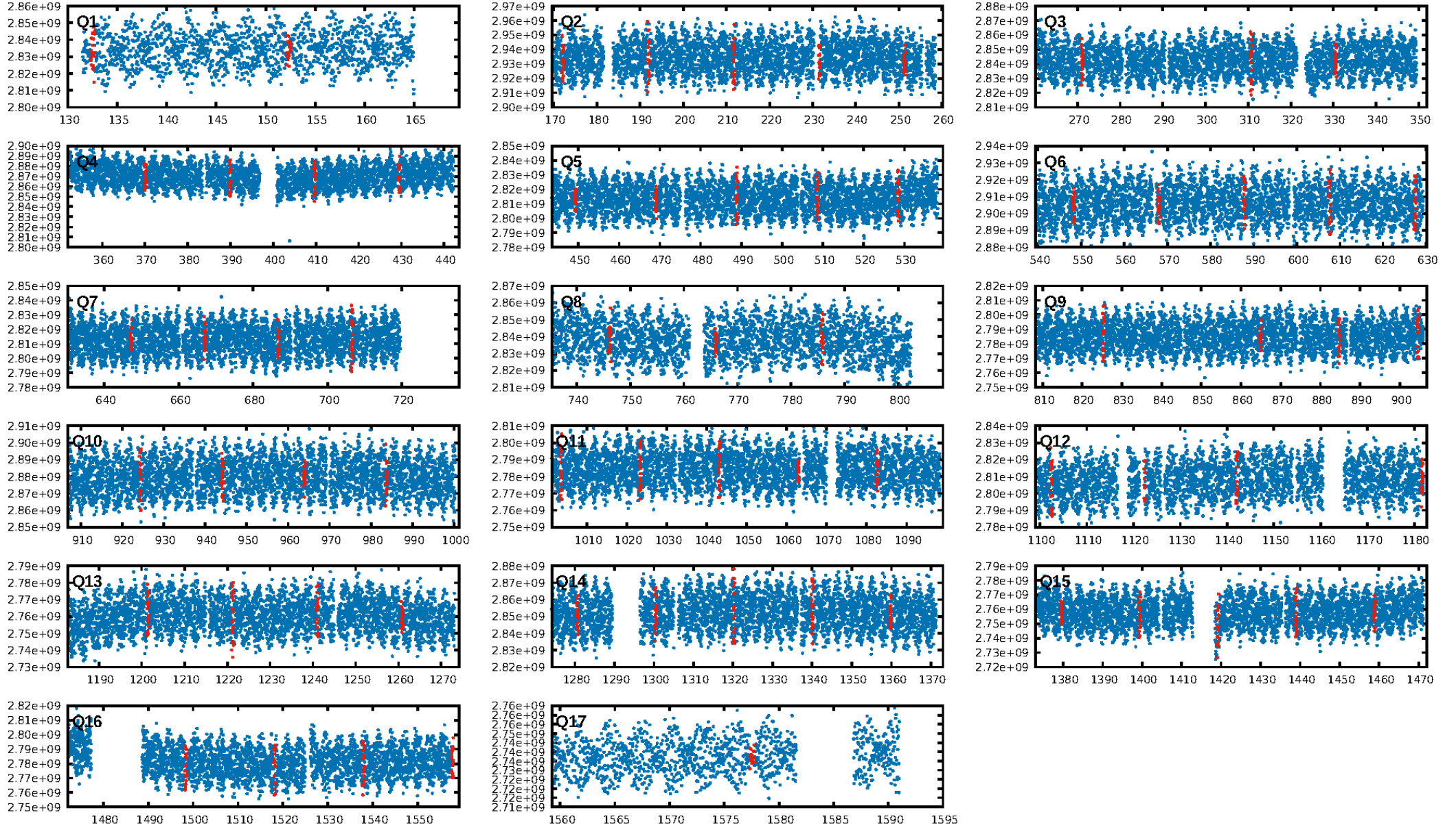
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [68.75σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 88.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.67e-79
RollingBand-fgt: 1.00 [64/64]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 20.935 arcsec [91.49σ]
OotOffset-rm: 12.267 arcsec [29.70σ]
KicOffset-rm: 12.214 arcsec [37.41σ]
OotOffset-st: 1/1/2/4 [8]
KicOffset-st: 1/1/2/4 [8]
DiffImageQuality-fgm: 0.88 [7/8]
DiffImageOverlap-fno: 0.00 [0/17]

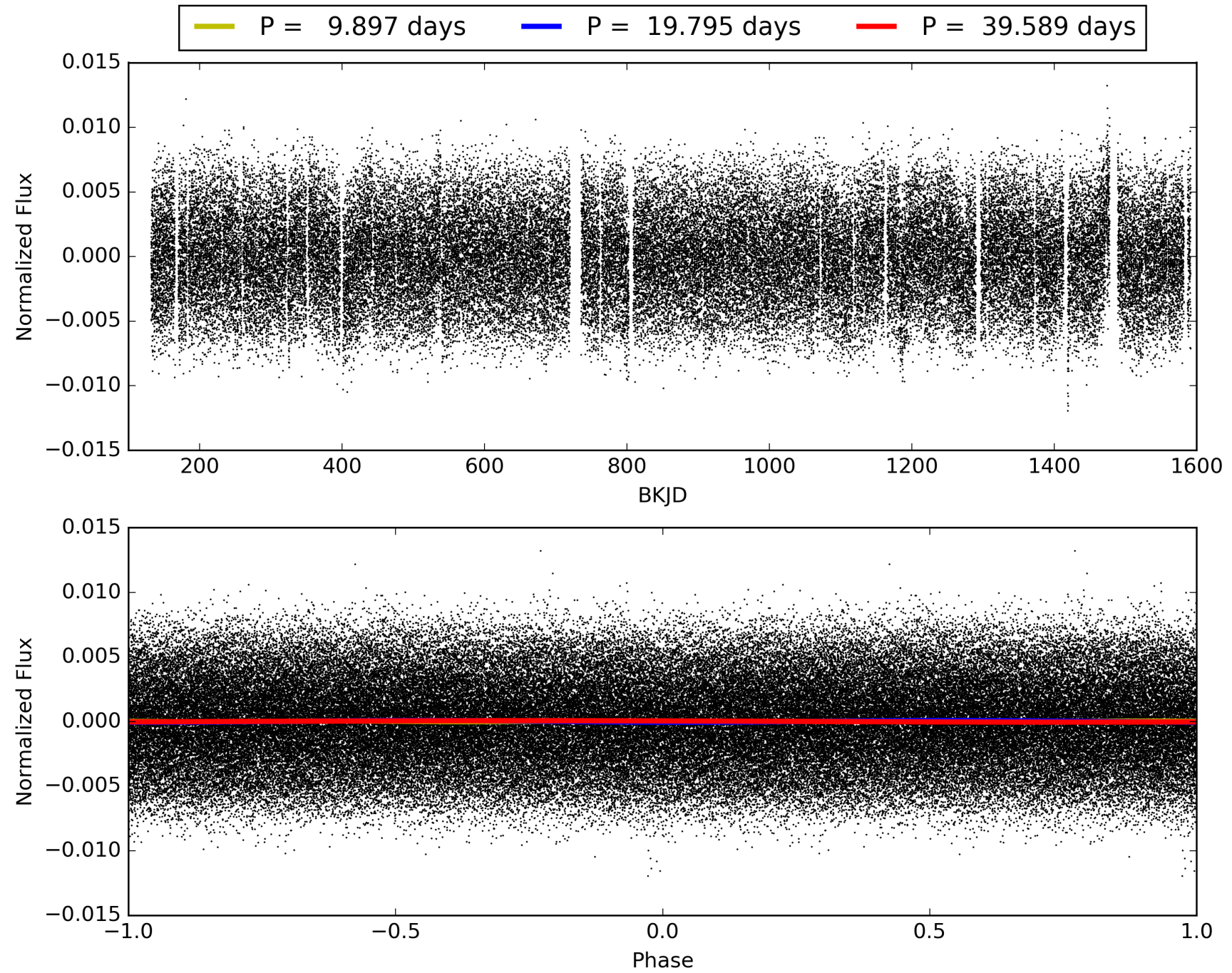
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 007779942-02, PDC Light Curves

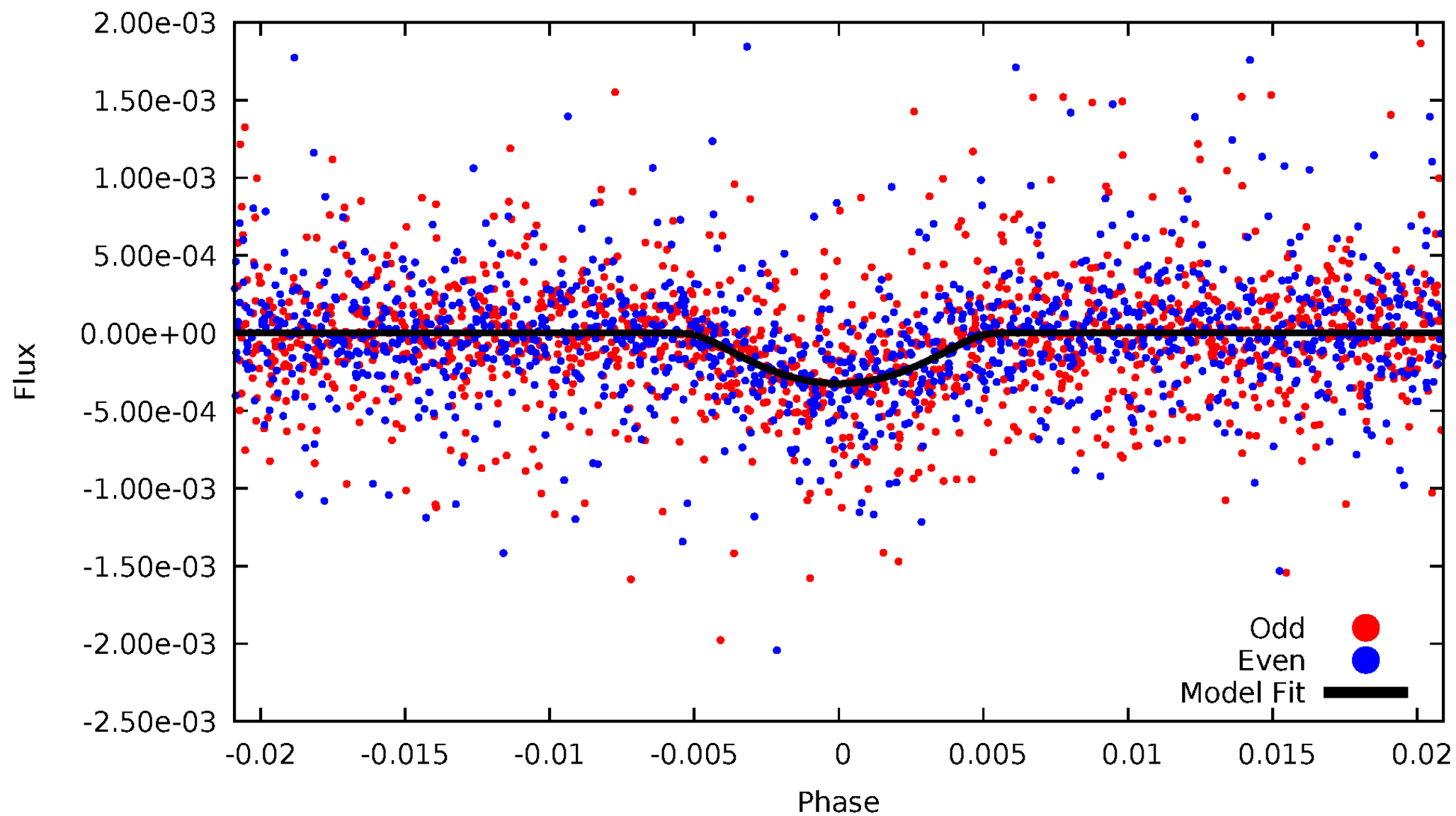


TCE 007779942-02



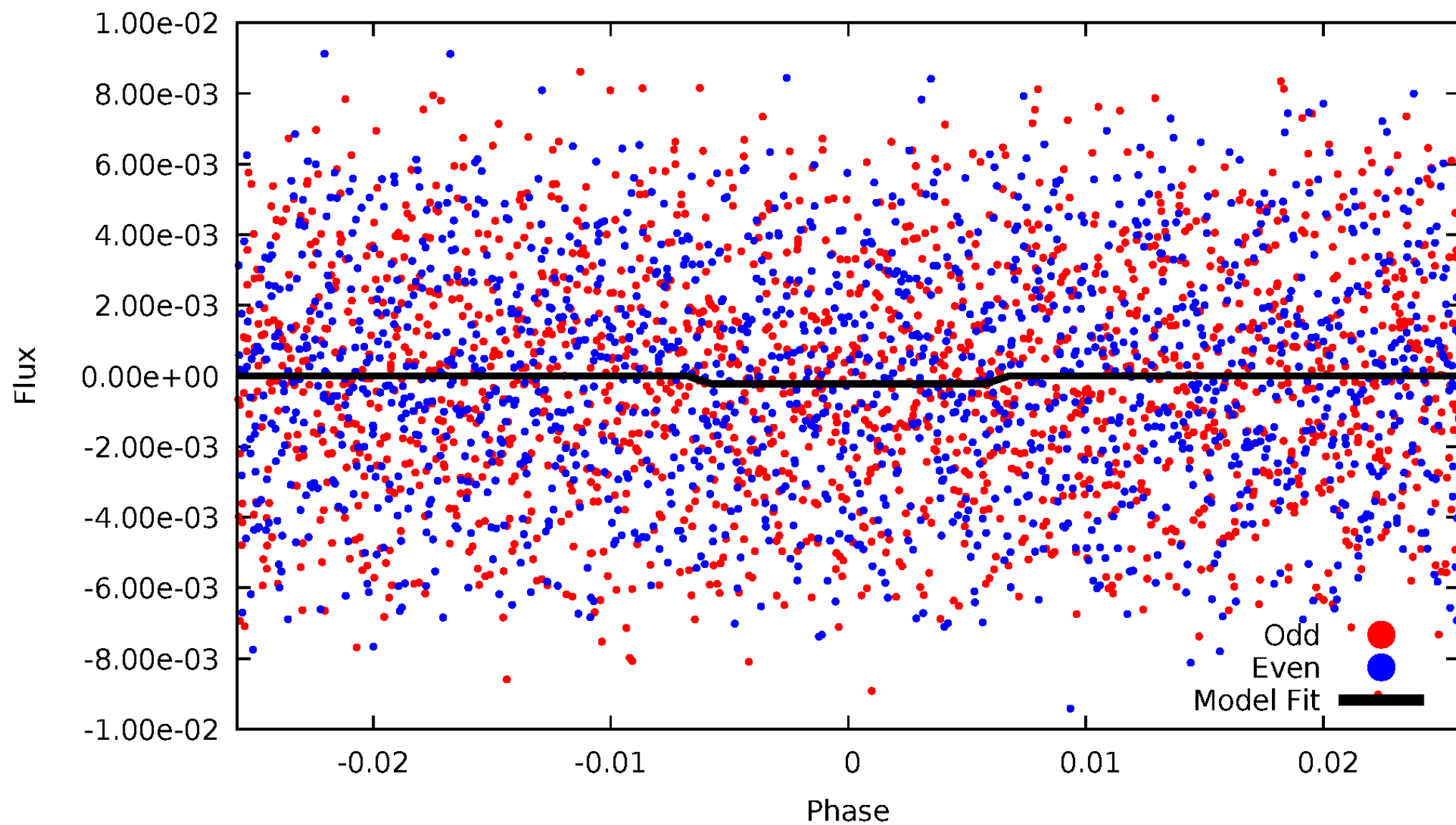
DV Odd/Even

TCE 007779942-02



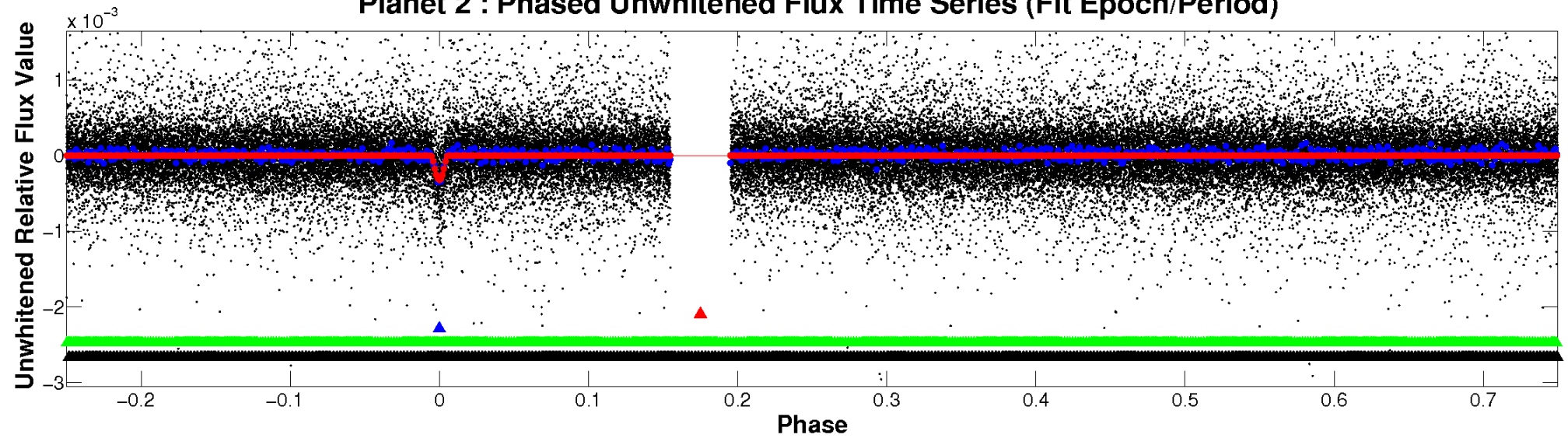
ALT Odd/Even

TCE 007779942-02

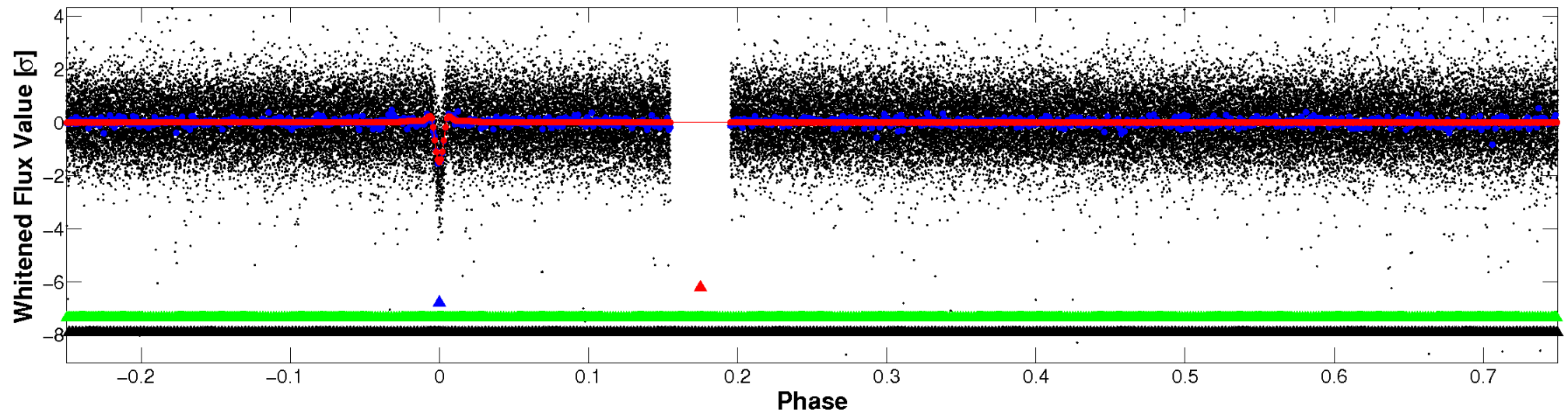


Non-Whitened Vs. Whitened Light Curve

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

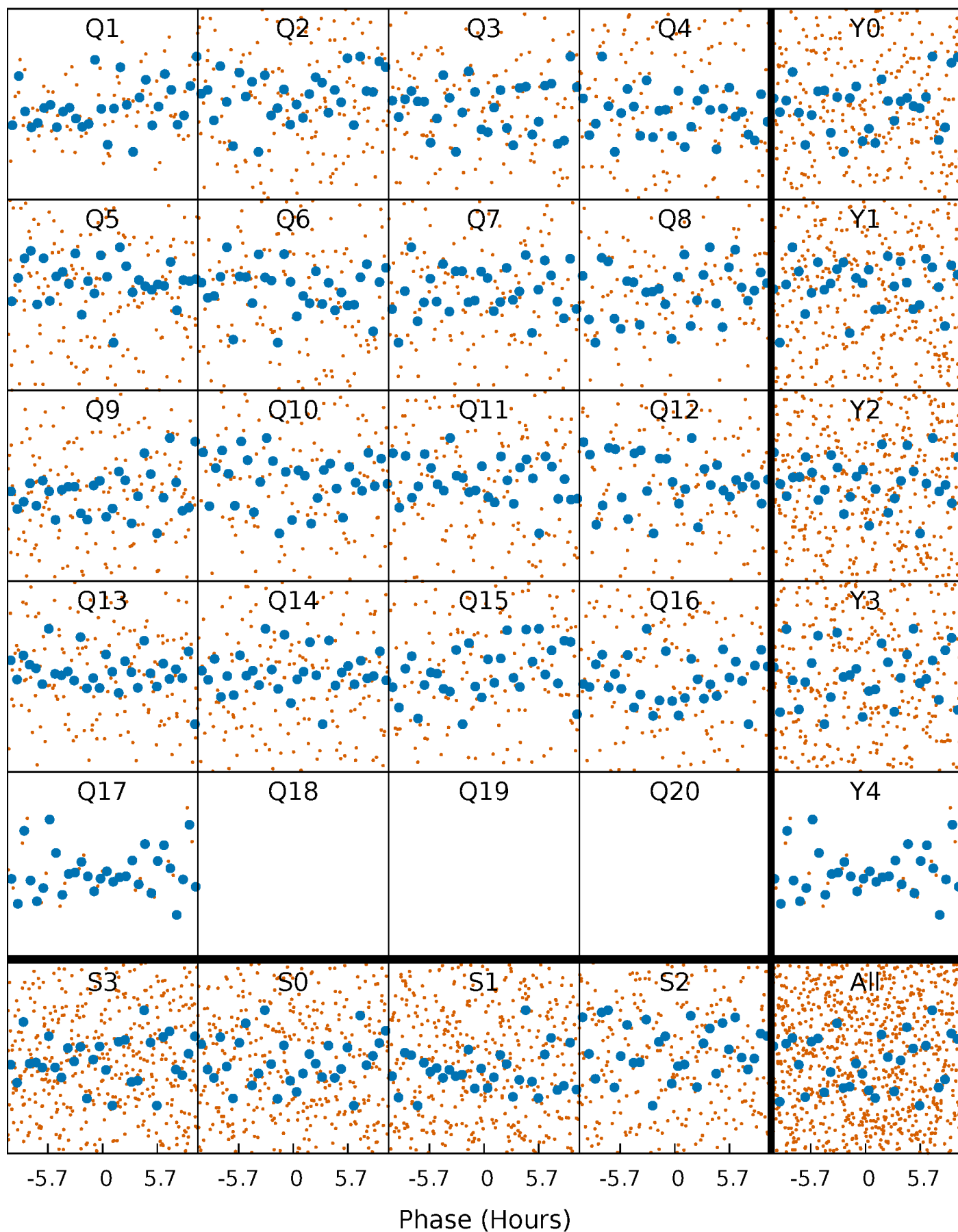


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



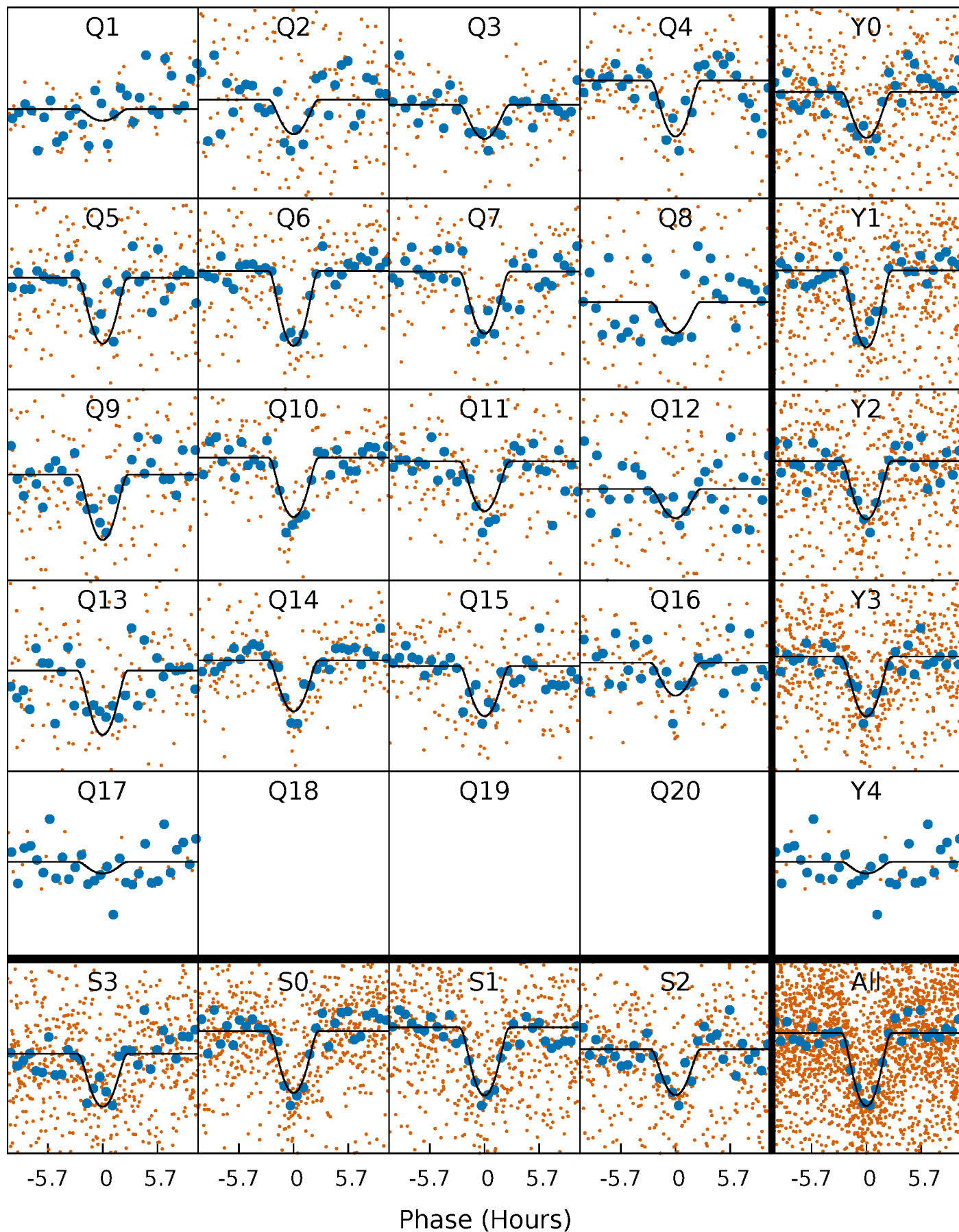
PDC Quarter-Phased Transit Curves

TCE 007779942-02 P= 19.794584 Days $T_0=132.529991$ (BKJD)



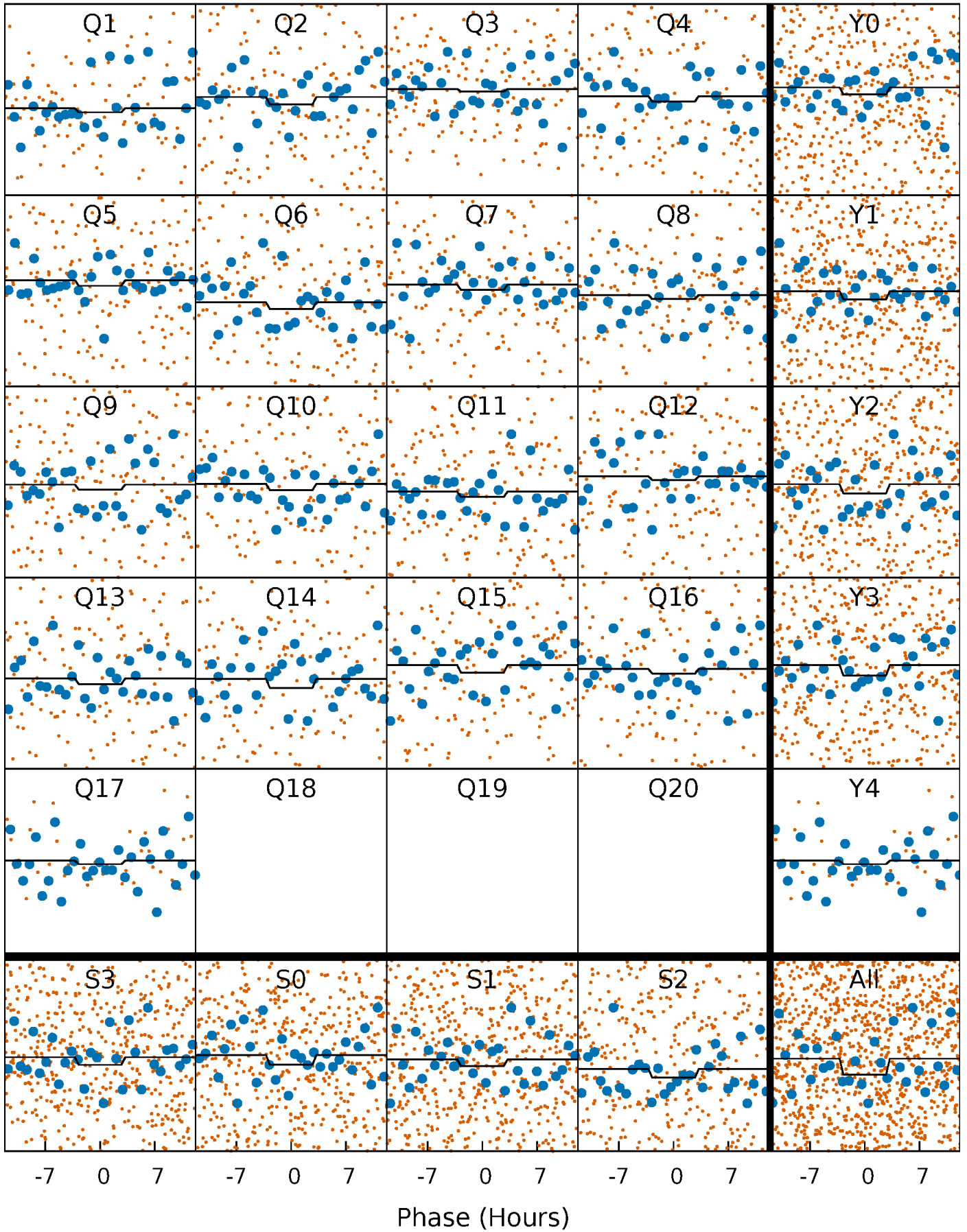
DV Quarter-Phased Transit Curves

TCE 007779942-02 P= 19.794584 Days $T_0=132.529991$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

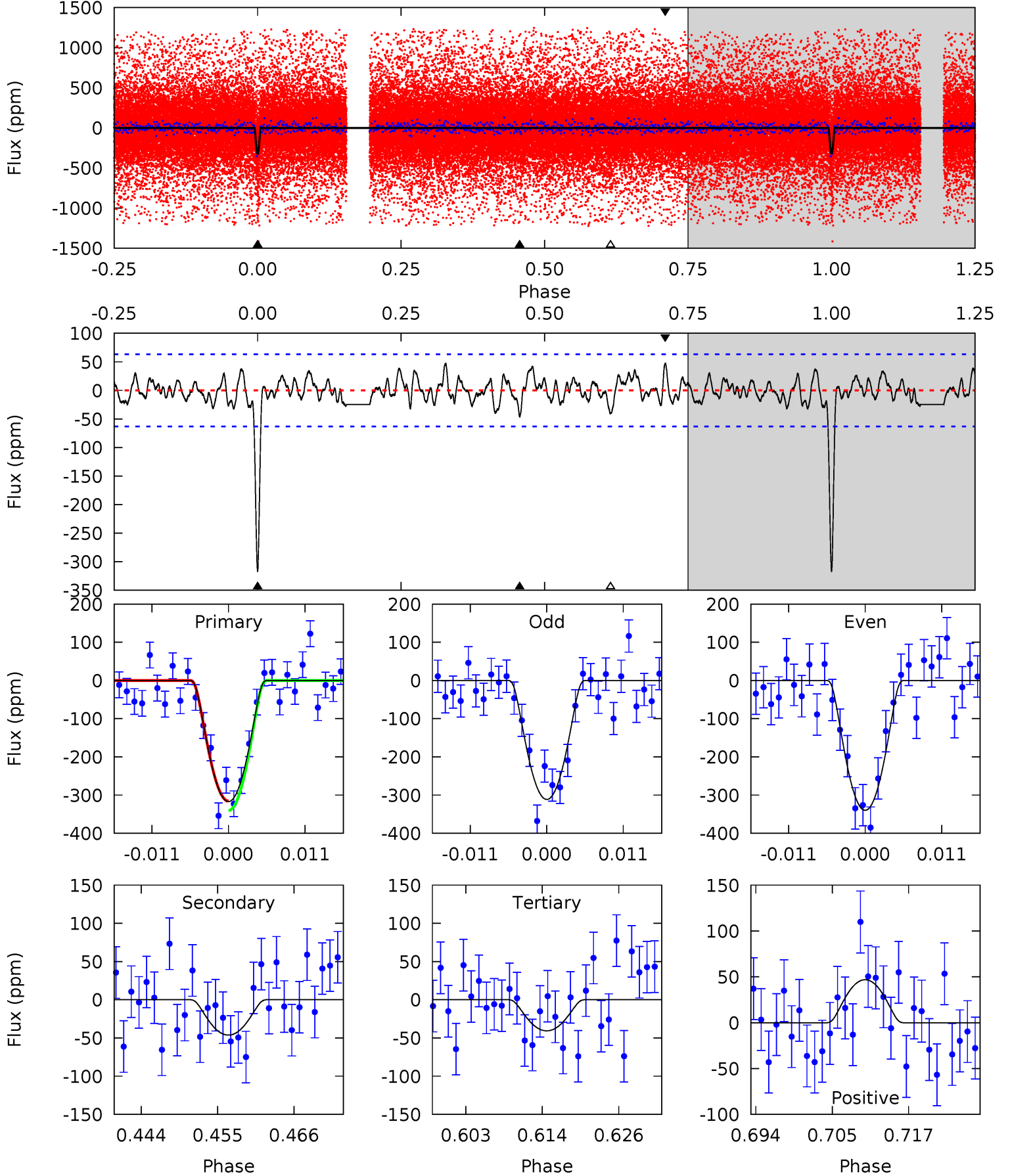
TCE 007779942-02 P= 19.794641 Days $T_0=132.550693$ (BKJD)



DV Model-Shift Uniqueness Test

007779942-02, P = 19.794584 Days, E = 112.735407 Days

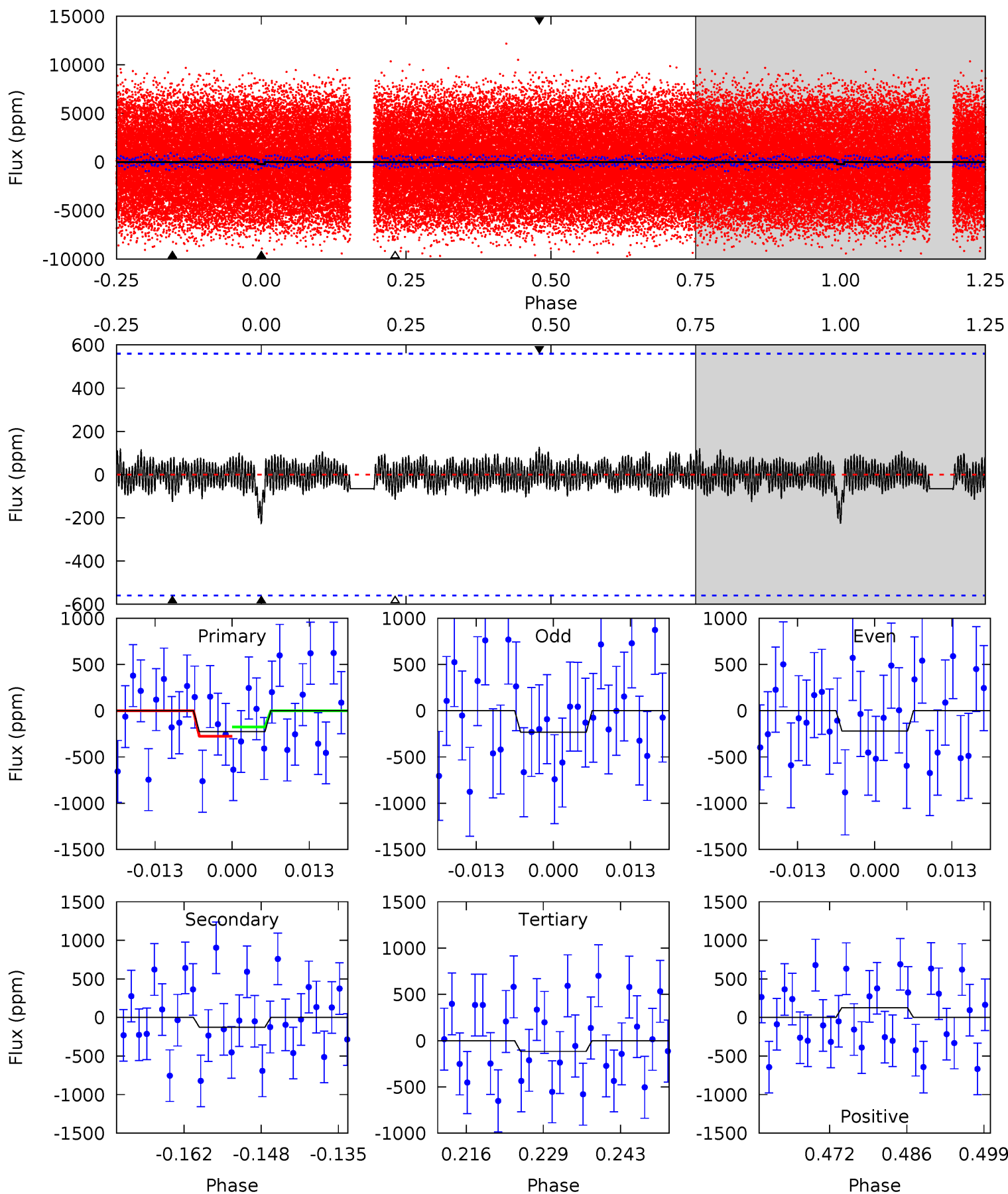
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.0	3.65	3.21	3.70	5.00	2.53	1.31	21.8	21.3	0.44	-0.05	1.14	0.98	0.13	0.99



Alt Model-Shift Uniqueness Test

007779942-02, P = 19.794641 Days, E = 112.756052 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.00	1.12	1.03	1.13	4.97	2.47	0.43	0.97	0.87	0.09	-0.01	0.05	1.03	0.36	0.45



Stellar Parameters For KIC 007779942

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6731^{+189}_{-259}	$4.043^{+0.231}_{-0.168}$	$-0.100^{+0.250}_{-0.300}$	$1.876^{+0.563}_{-0.563}$	$1.420^{+0.196}_{-0.269}$	$0.303^{+0.432}_{-0.145}$
	+3%/-4%	+6%/-4%	+250%/-300%	+30%/-30%	+14%/-19%	+142%/-48%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007779942-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-46 ± 13	$5.97^{+4.79}_{-3.32}$	1414^{+107}_{-126}	3612^{+1329}_{-599}	18^{+80}_{-12}
Alt.	-126 ± 113	$4.57^{+3.84}_{-2.92}$	1410^{+111}_{-120}	4556^{+3050}_{-1486}	67^{+481}_{-60}

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

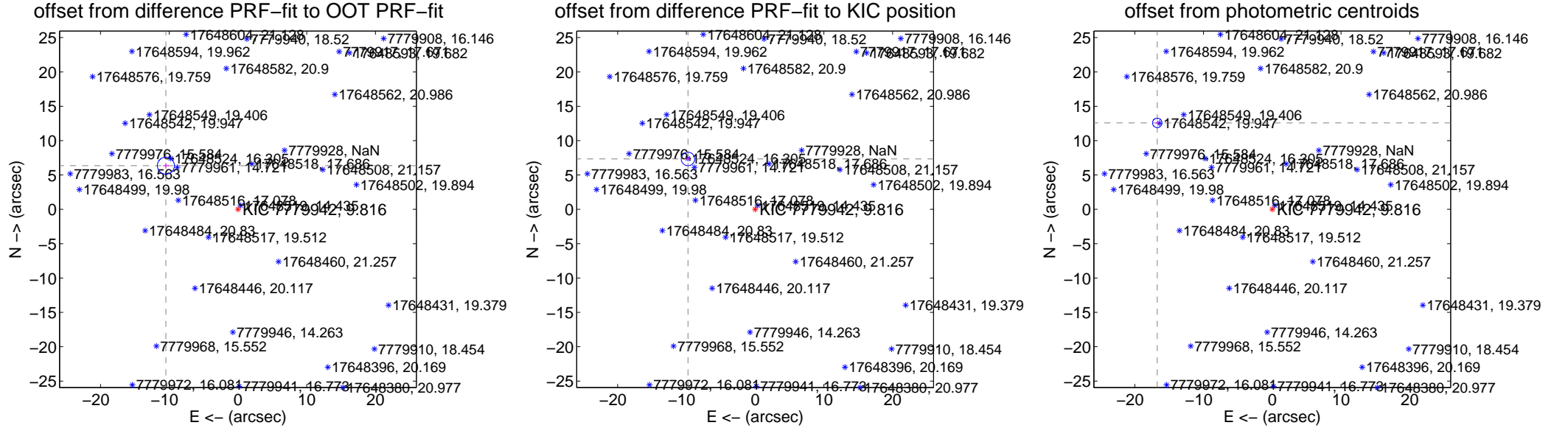
DV Centroid Data

Supplemental centroid analysis for 007779942-02. **Kepler magnitude: 9.82.** Transit SNR 24.93

There are 7 quarters with good PRF difference image offsets

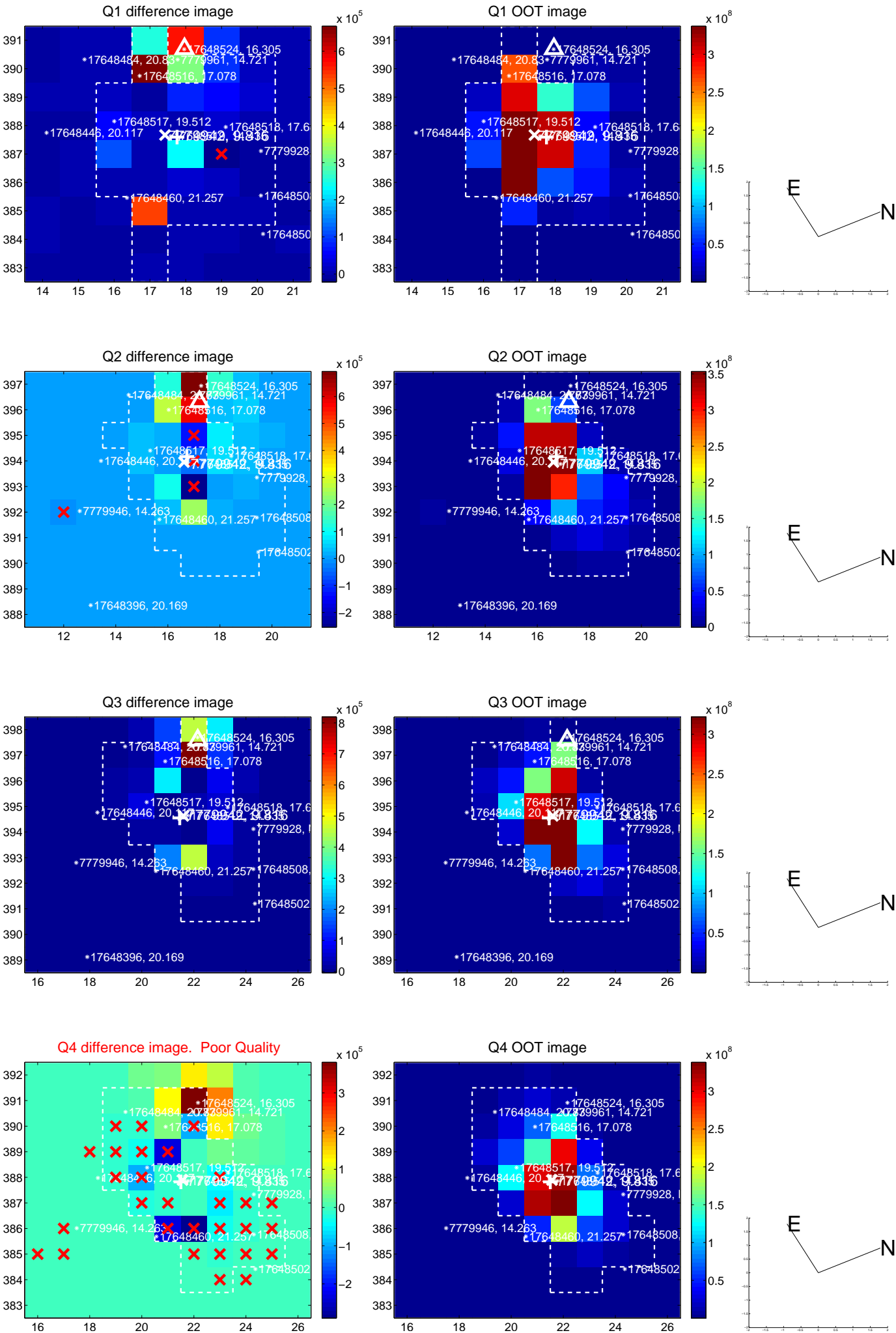
The direct PRF centroid is offset from the target star catalog position by about 1.43 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	12.267 \pm 0.413	29.70	10.490 \pm 0.438	6.358 \pm 0.302
PRF-fit source offset from KIC position	12.214 \pm 0.326	37.41	9.769 \pm 0.308	7.331 \pm 0.149
photometric centroid source offset	20.93 \pm 0.23	91.50	16.73 \pm 0.26	12.58 \pm 0.16

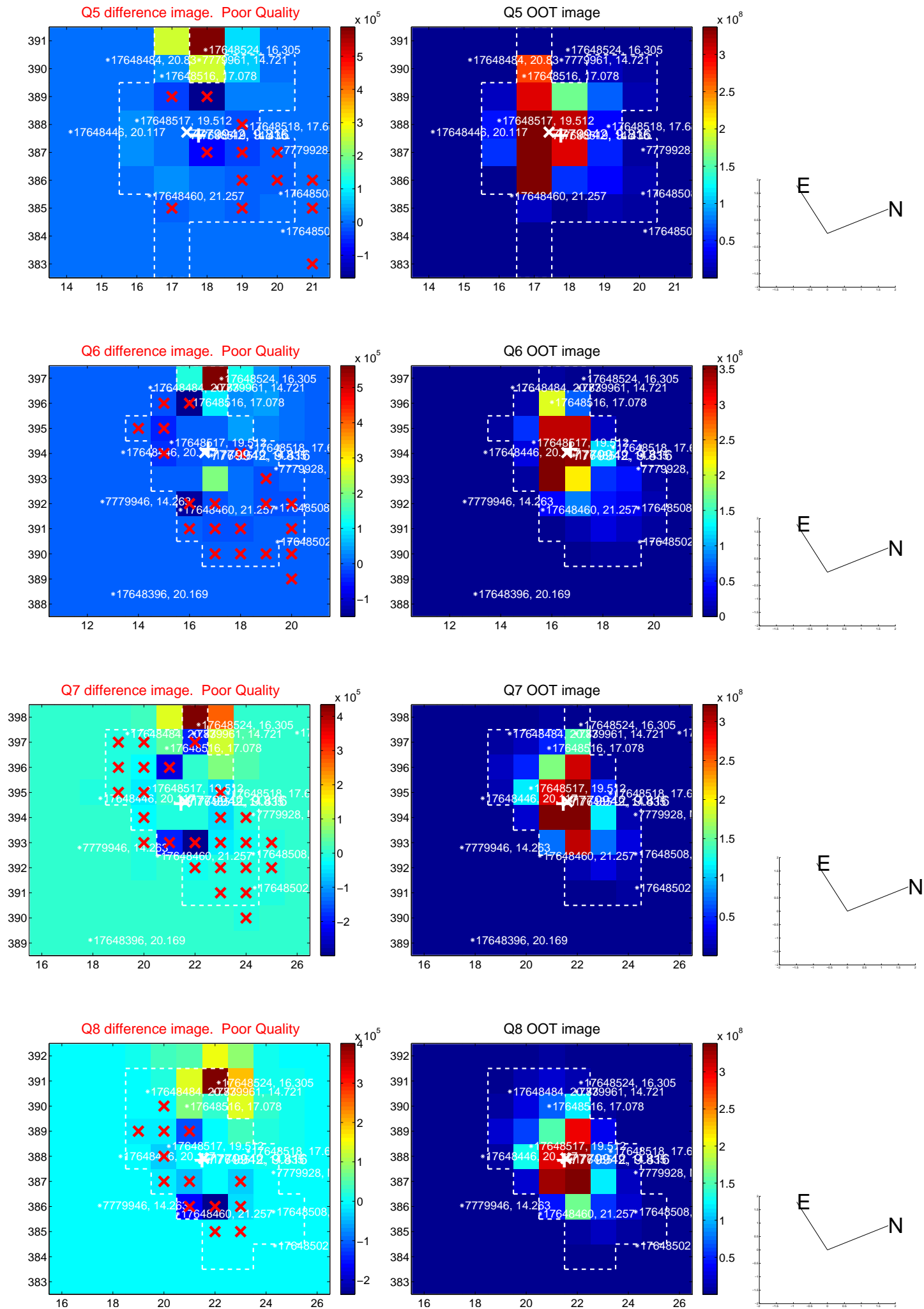


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

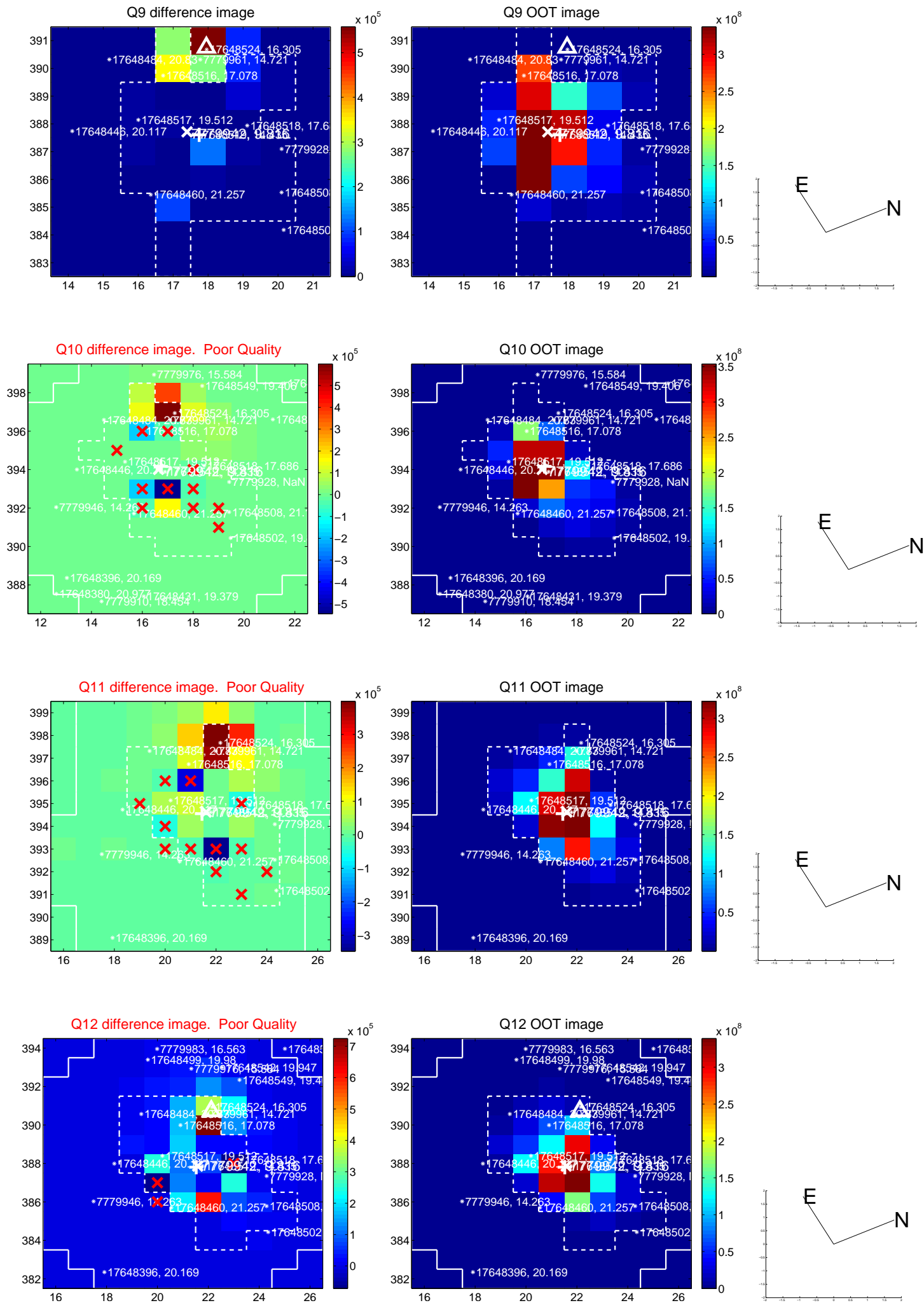
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



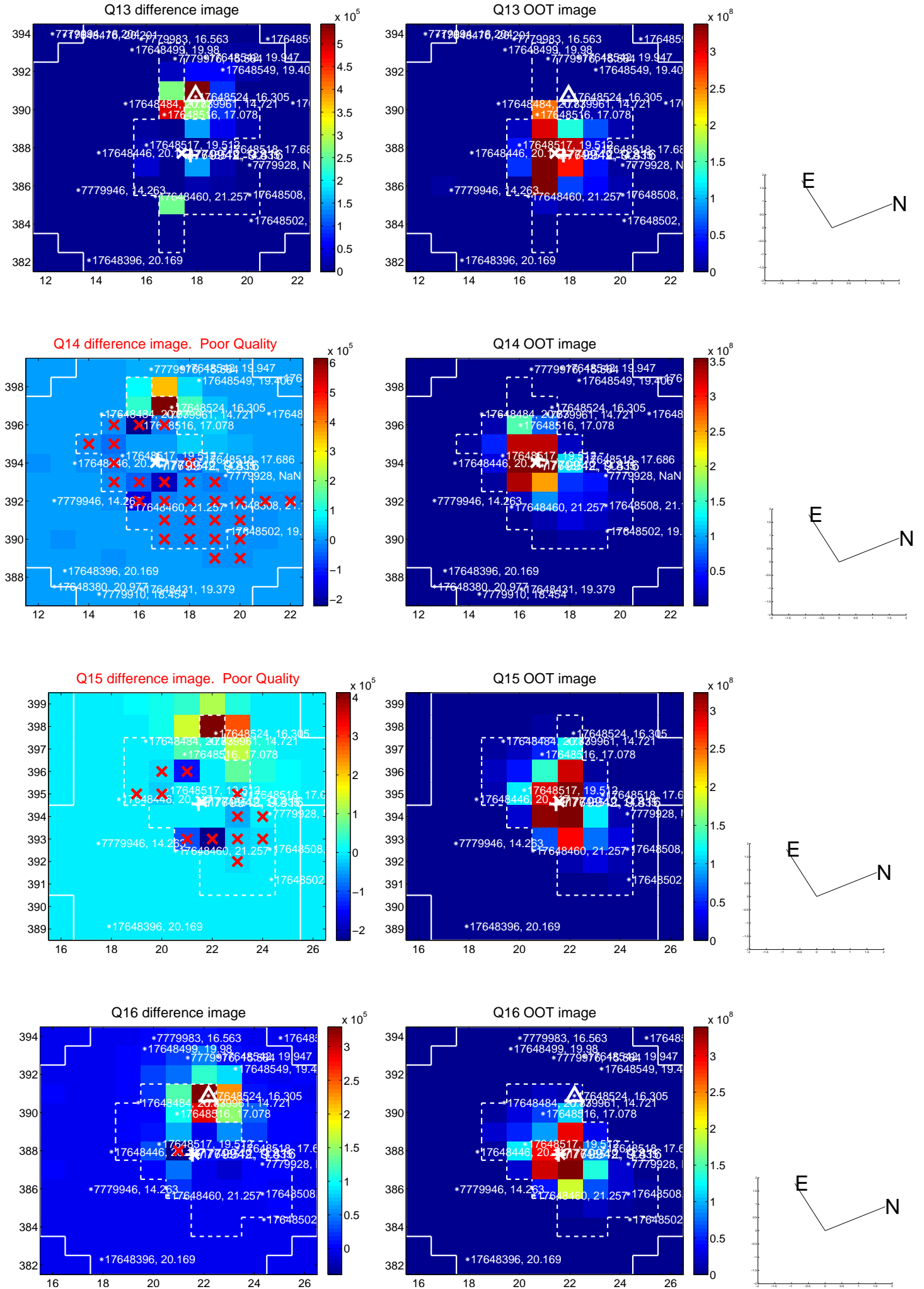
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



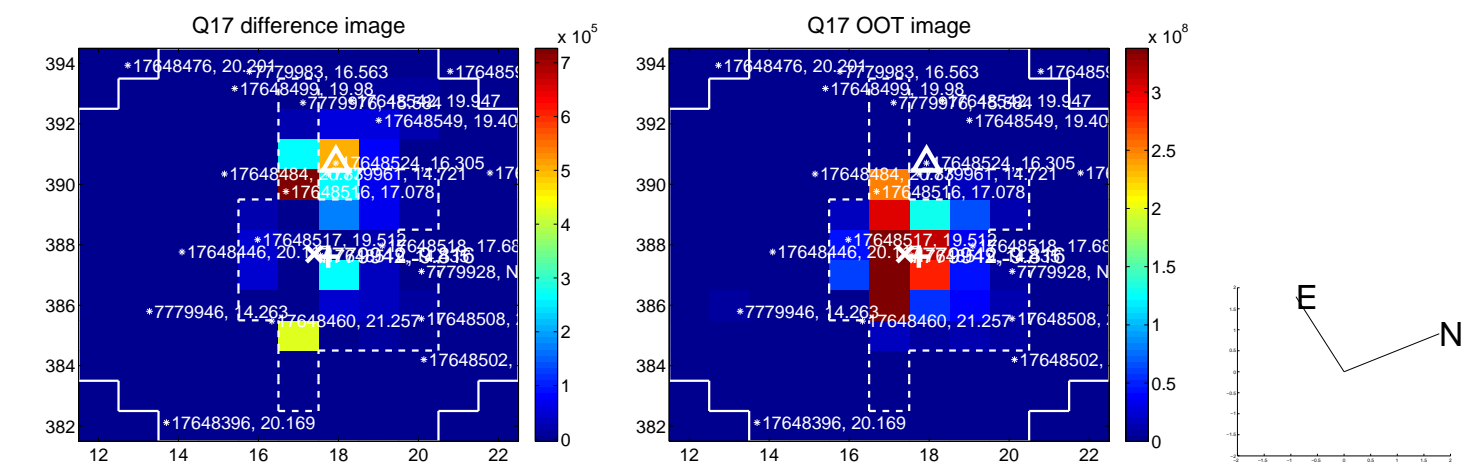
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



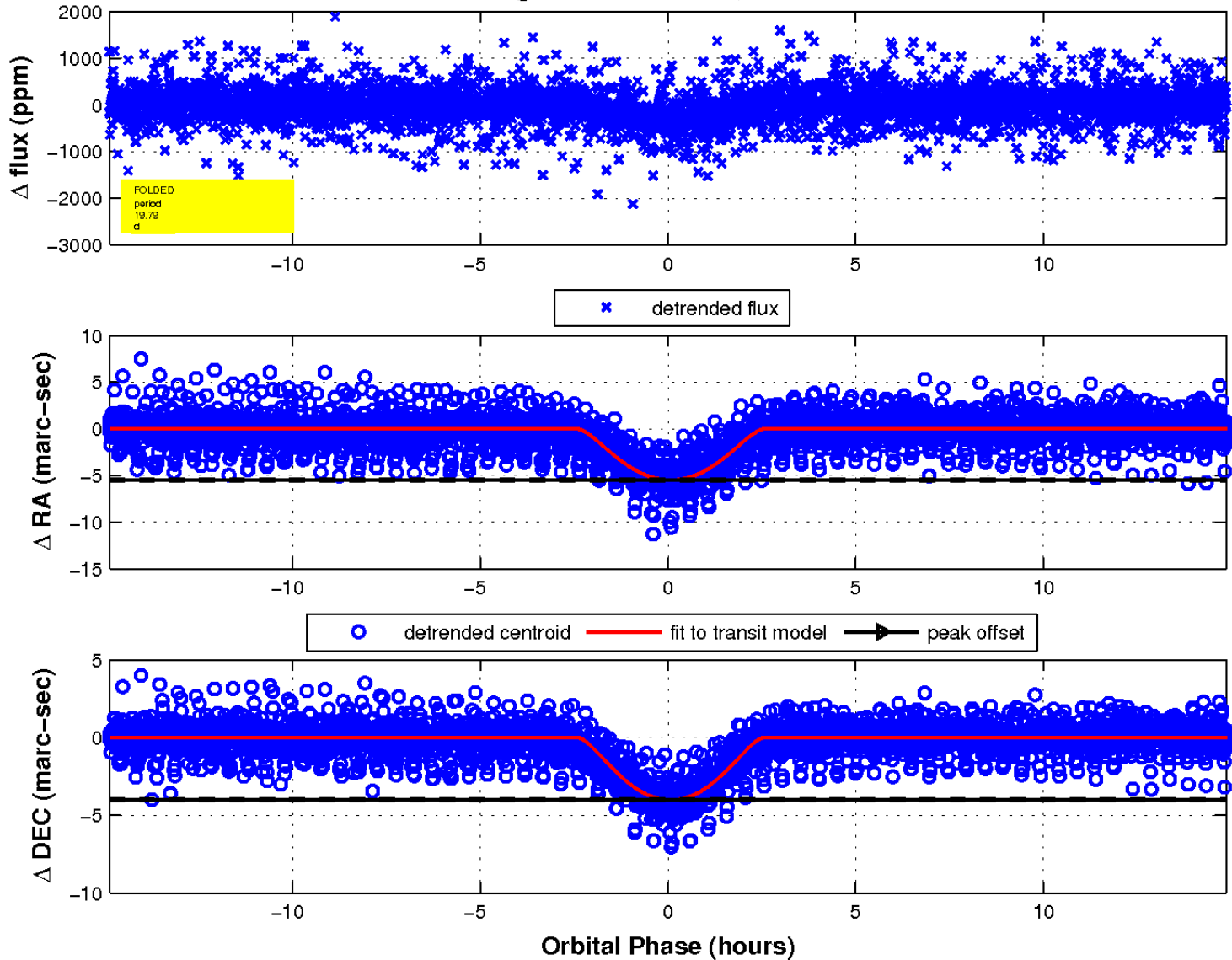
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

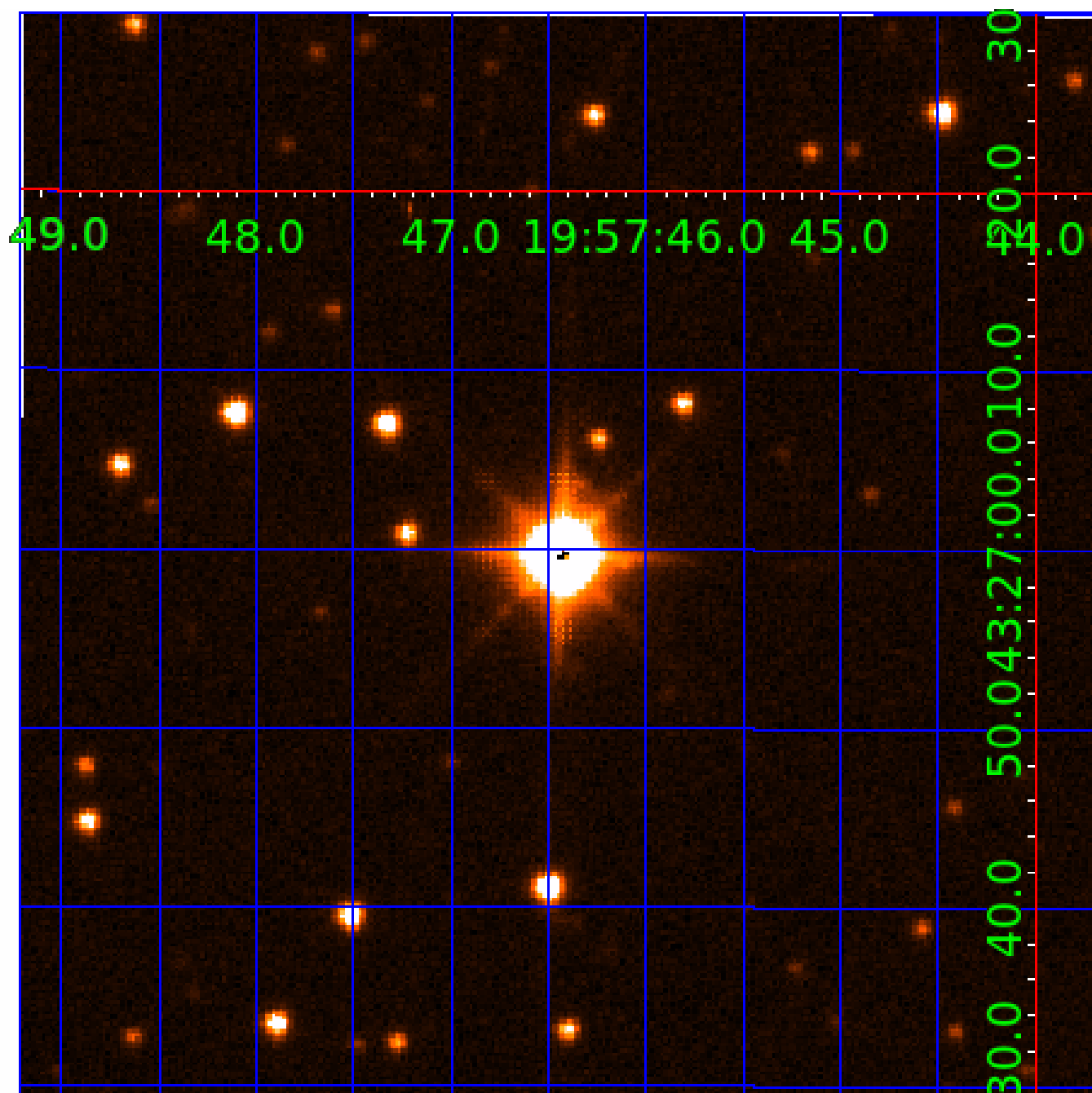


fluxWeightedCentroids, Planet 2 of 4



UKIRT Image

Declination



KIC 007779942

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})
007779942-01	OBS	6163.01	19.794635	135.993754	308.2	6.246	23.2	24.9	1.88	6731	6.33	250.02
007779942-02	OBS	No	19.794584	132.529991	324.7	4.963	22.8	24.9	1.88	6731	5.46	250.02
007779942-03	OBS	No	1.525423	132.052317	8.1	8.300	14.4	3.0	1.88	6731	0.54	7623.97
007779942-04	OBS	No	1.526086	132.389885	43.3	4.006	10.6	11.4	1.88	6731	1.33	7619.55

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007779942-01	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
007779942-02	OBS	FP	0.00	1	0	0	0	LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_SATURATED
007779942-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—CENT_SATURATED
007779942-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—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.

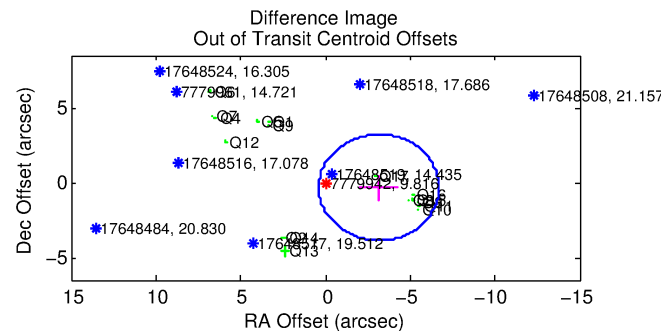
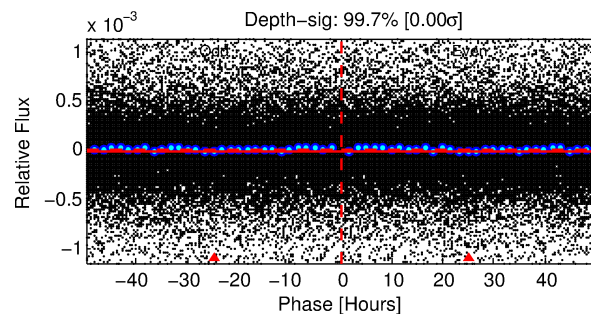
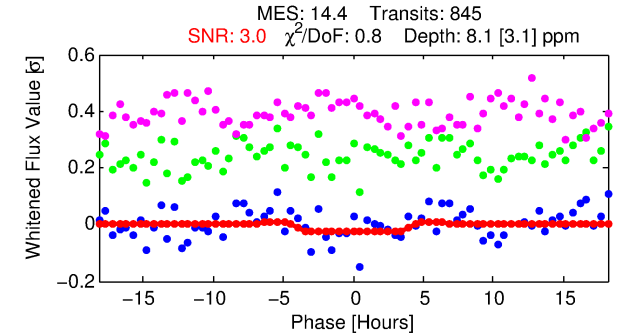
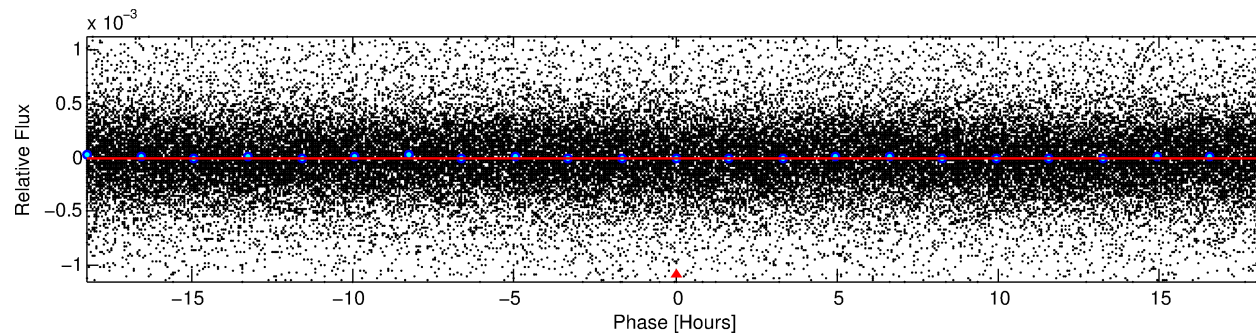
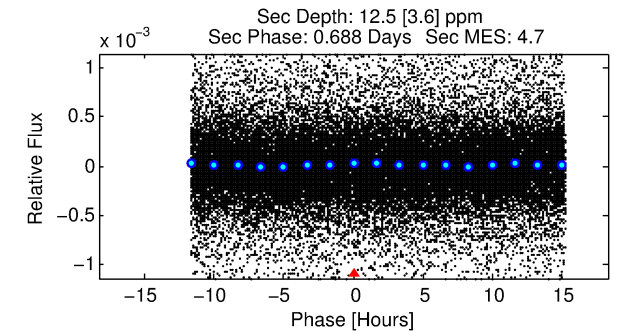
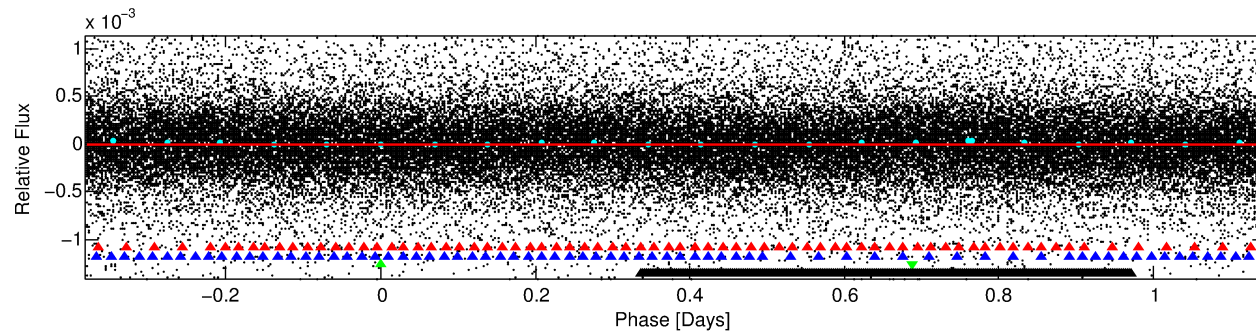
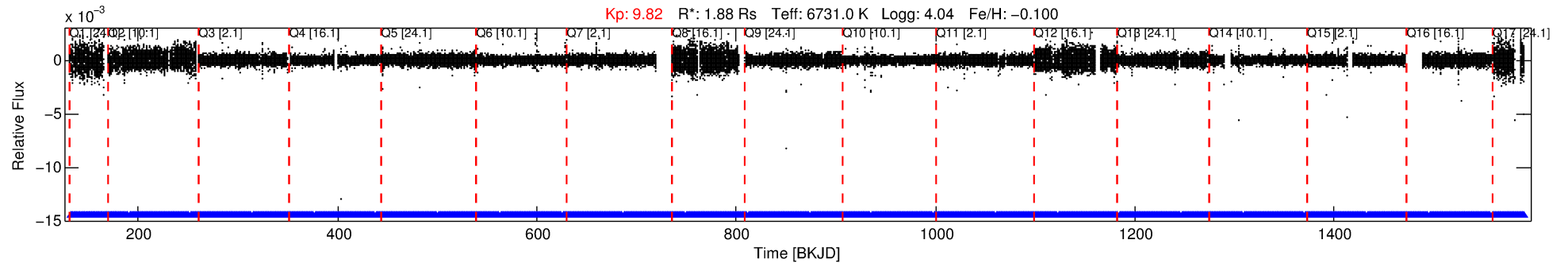
Ephemeris Match Information For 007779942-03

No Significant Match Found

DV One-Page Summary

KIC: 7779942 Candidate: 3 of 4 Period: 1.525 d

KOI: K06163 Corr: No Ephemeris Match



DV Fit Results:

Period = 1.52542 [0.00007] d
Epoch = 132.0523 [0.0255] BKJD
Rp/R* = 0.0026 [0.0077]
a/R* = 1.53 [14.10]
b = 0.07 [229.55]
Seff = 7623.97 [3318.47]
Teq = 2383 [259] K
Rp = 0.54 [1.59] Re
a = 0.0291 [0.0078] AU
Ag = 20.22 [119.73] [0.16σ]
Teffp = 7812 [11541] K [0.47σ]

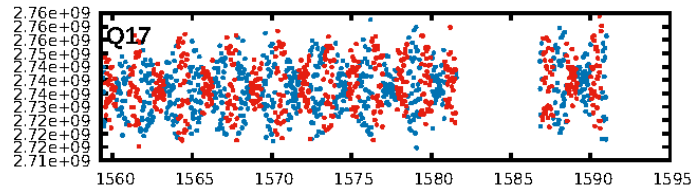
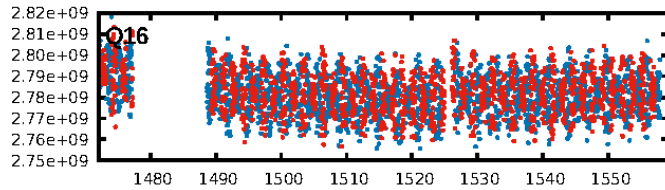
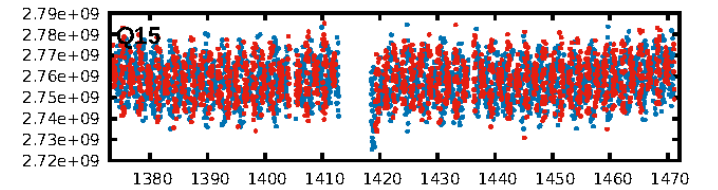
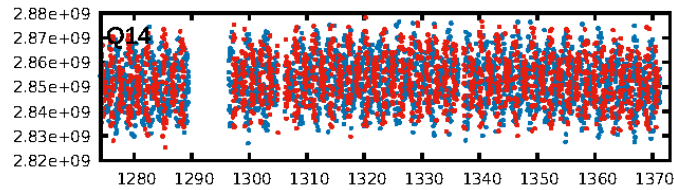
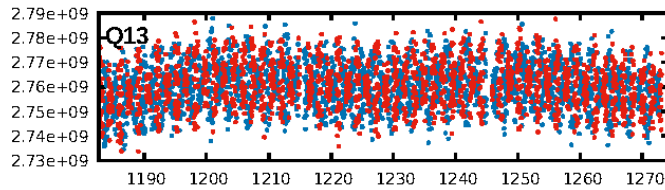
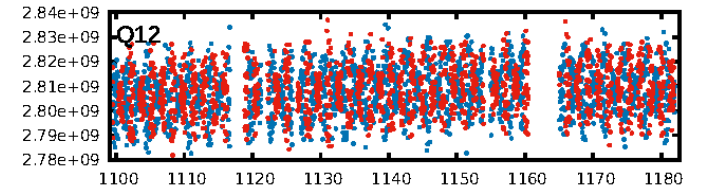
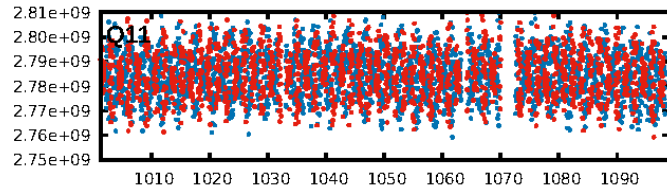
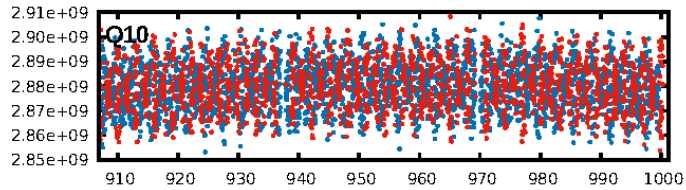
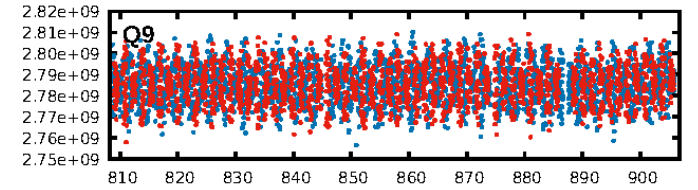
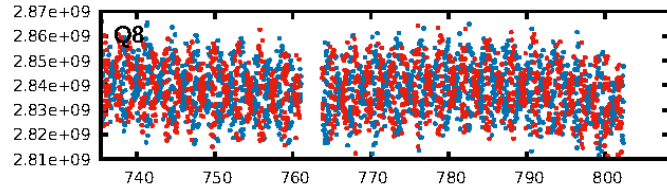
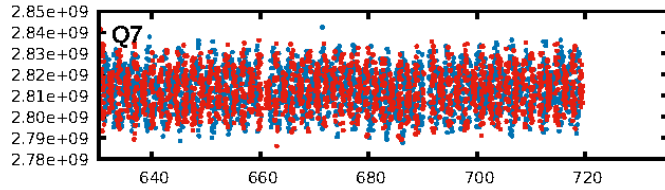
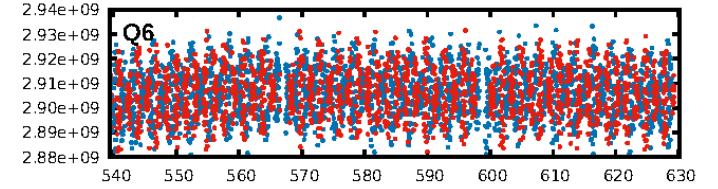
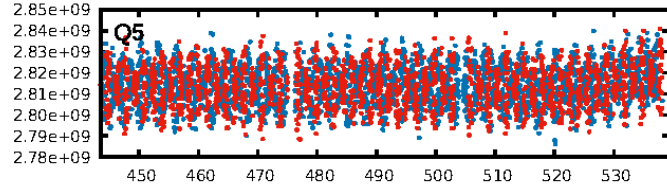
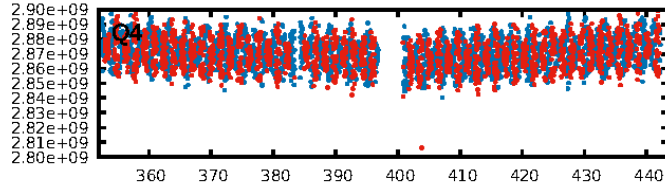
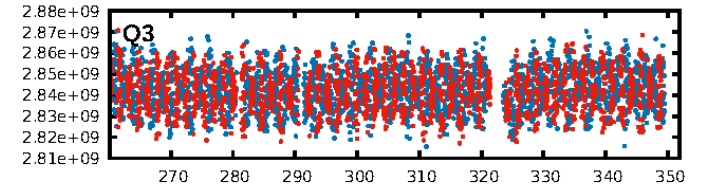
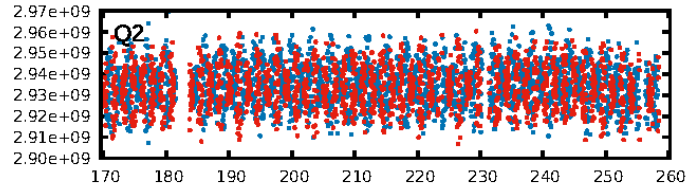
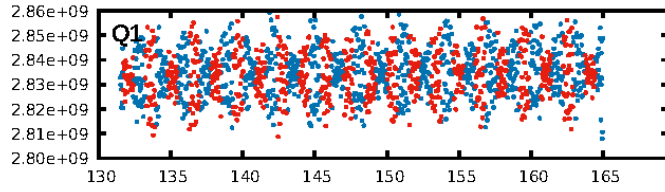
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.1% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.83e-36
RollingBand-fgt: 1.00 [807/807]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.1%
Centroid-so: 4.925 arcsec [2.24σ]
OotOffset-rm: 3.166 arcsec [2.68σ]
KicOffset-rm: 3.344 arcsec [2.80σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.06 [1/17]
DiffImageOverlap-fno: 0.12 [2/17]

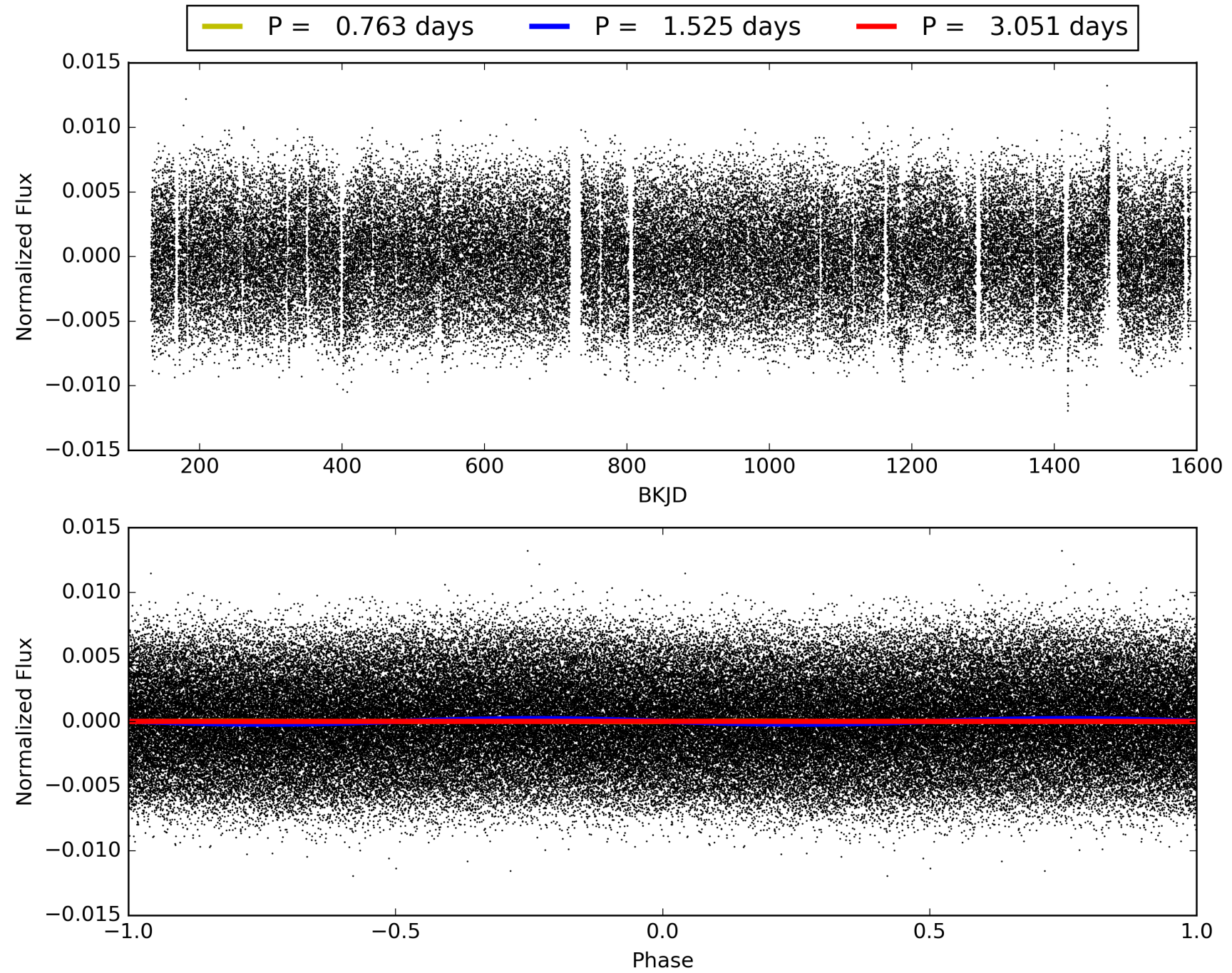
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 19:54:27 Z

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

TCE 007779942-03, PDC Light Curves

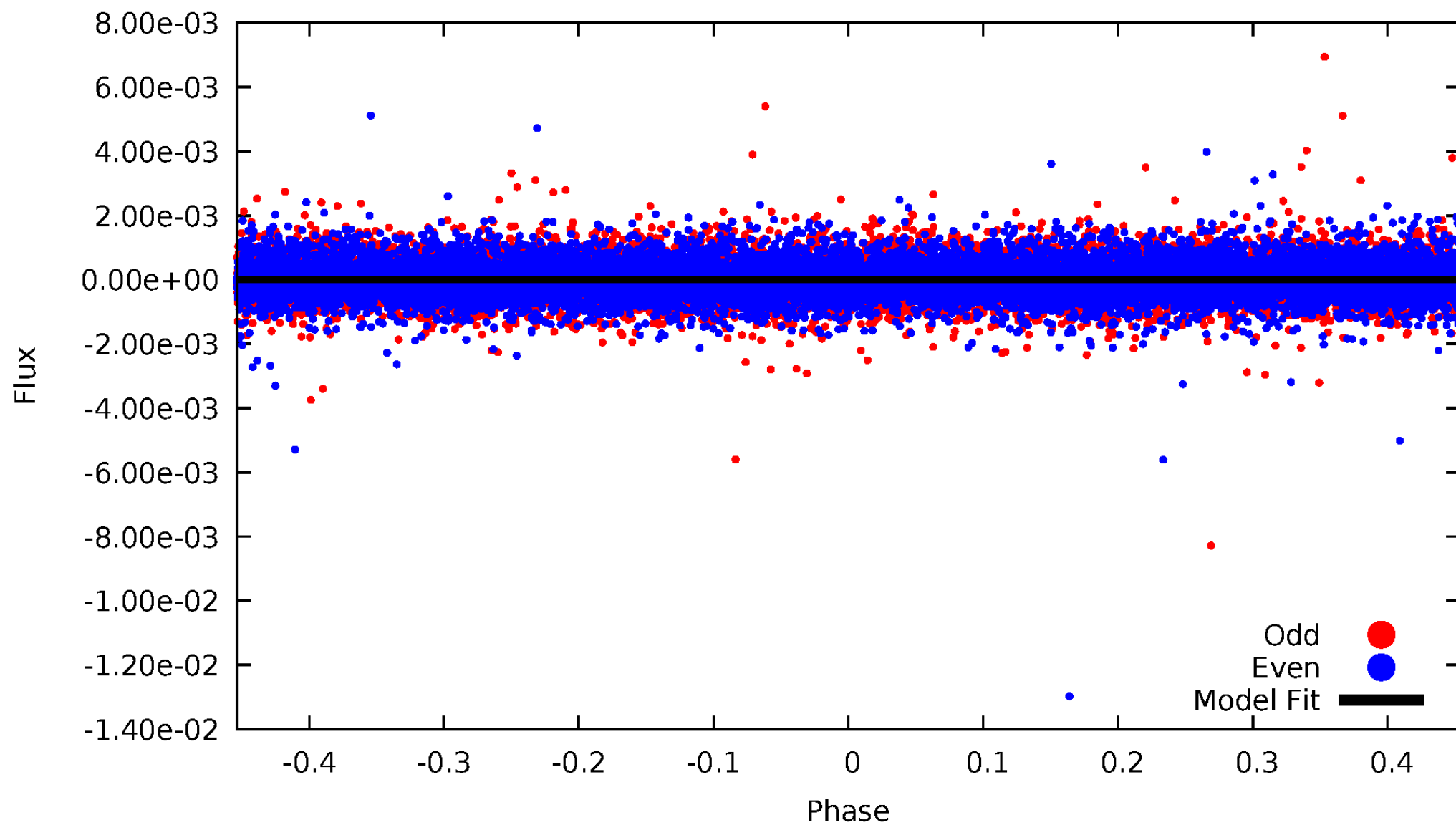


TCE 007779942-03



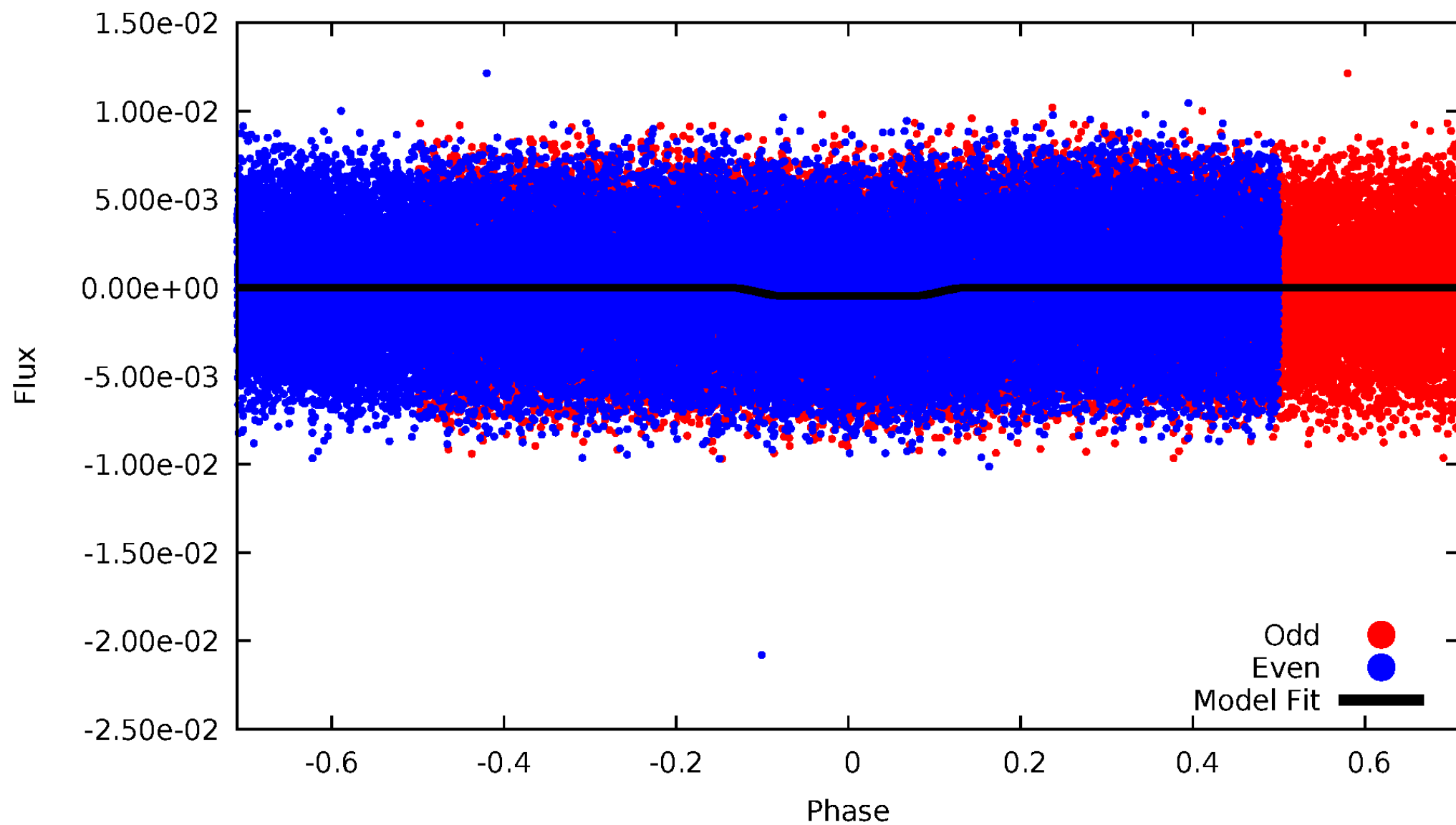
DV Odd/Even

TCE 007779942-03



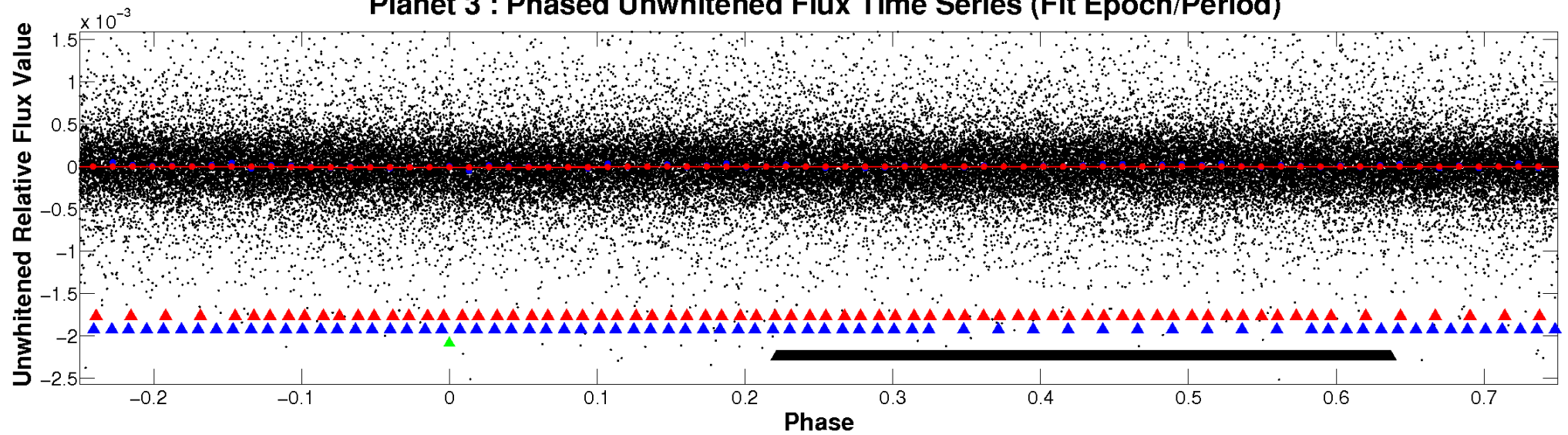
ALT Odd/Even

TCE 007779942-03

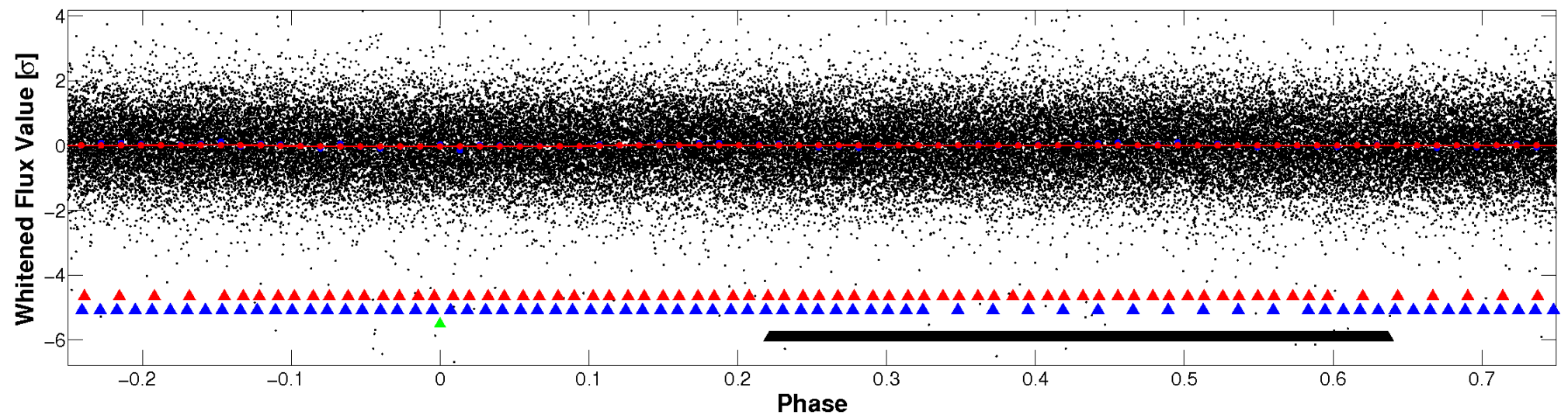


Non-Whitened Vs. Whitened Light Curve

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

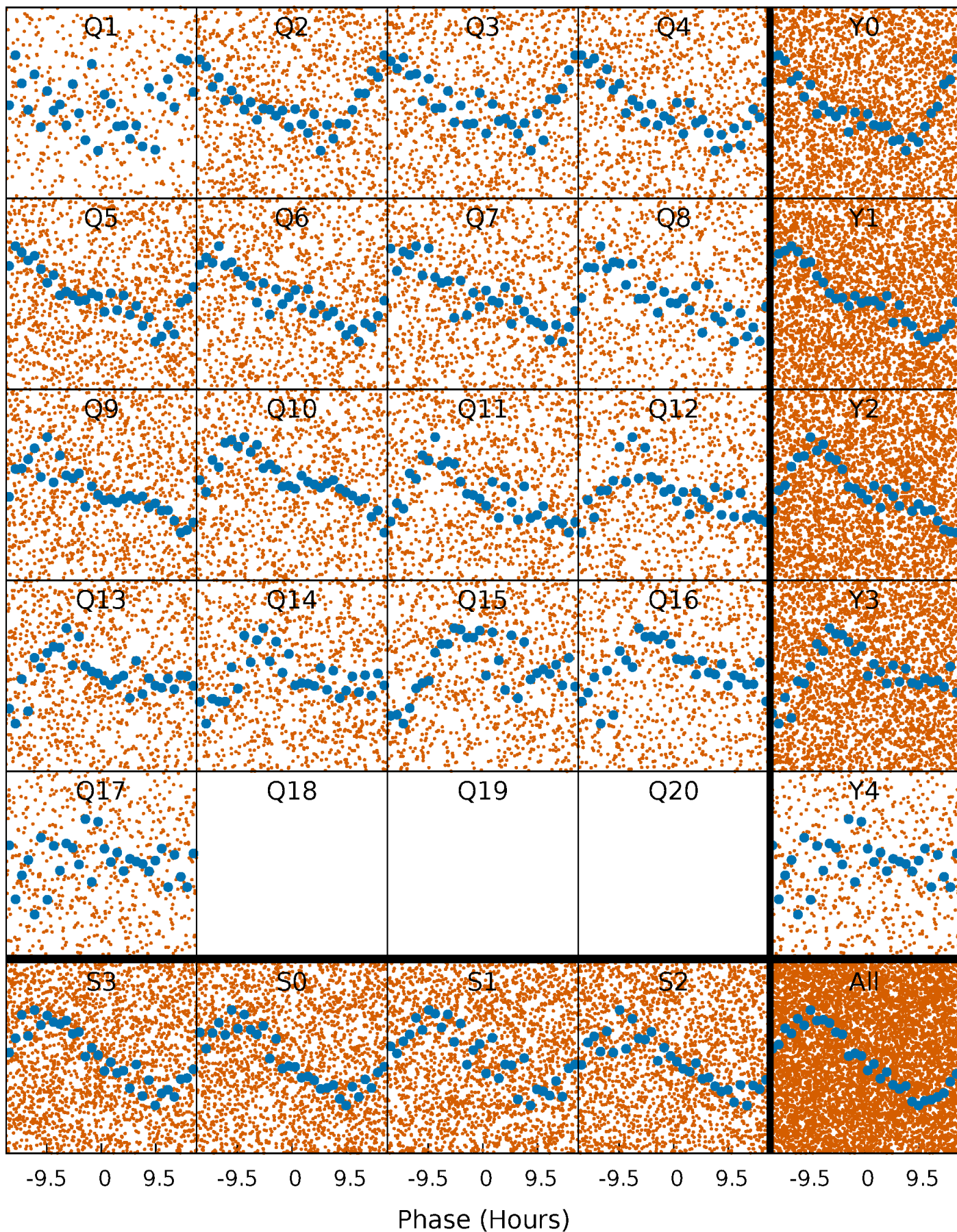


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



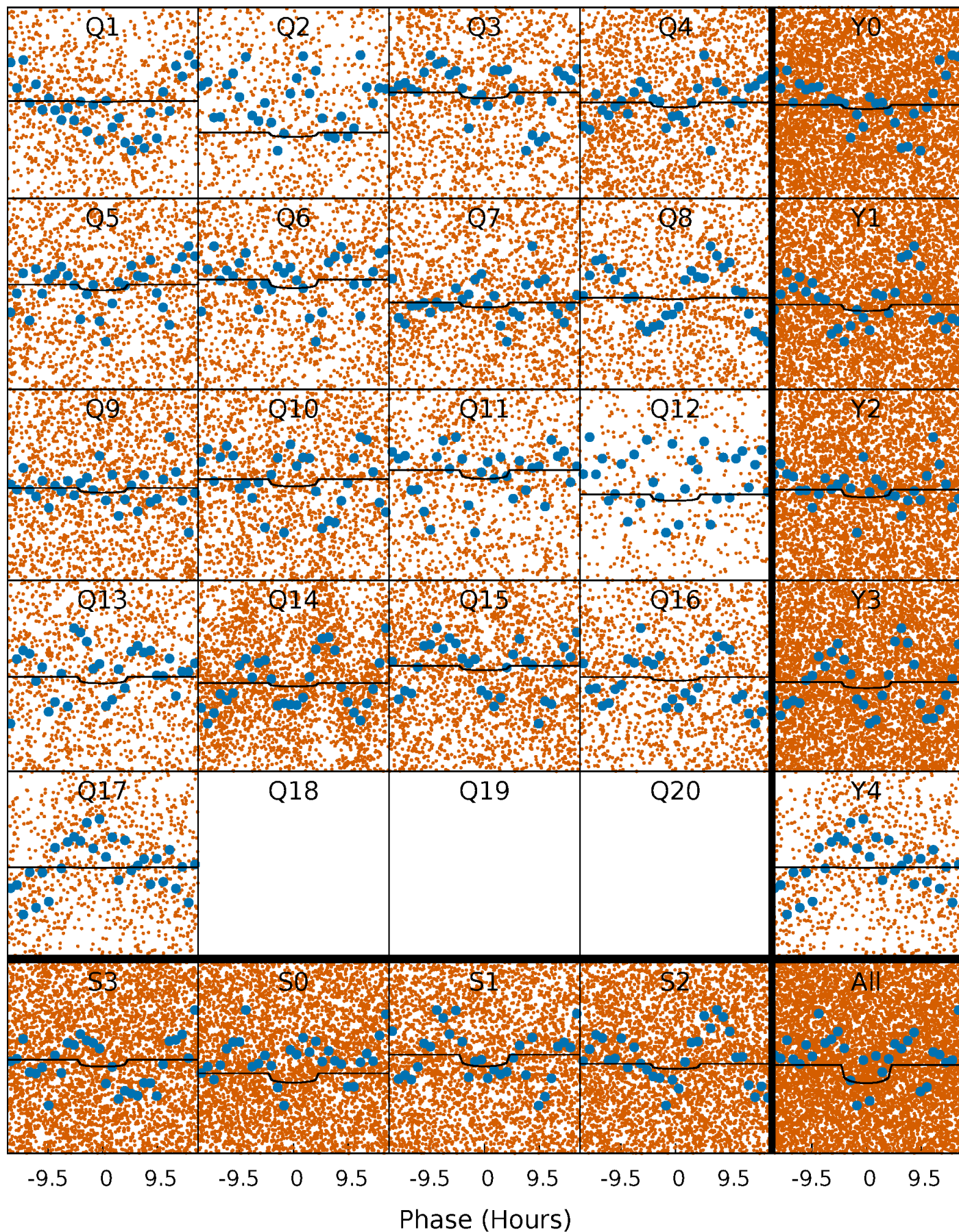
PDC Quarter-Phased Transit Curves

TCE 007779942-03 P= 1.525423 Days $T_0=132.052317$ (BKJD)



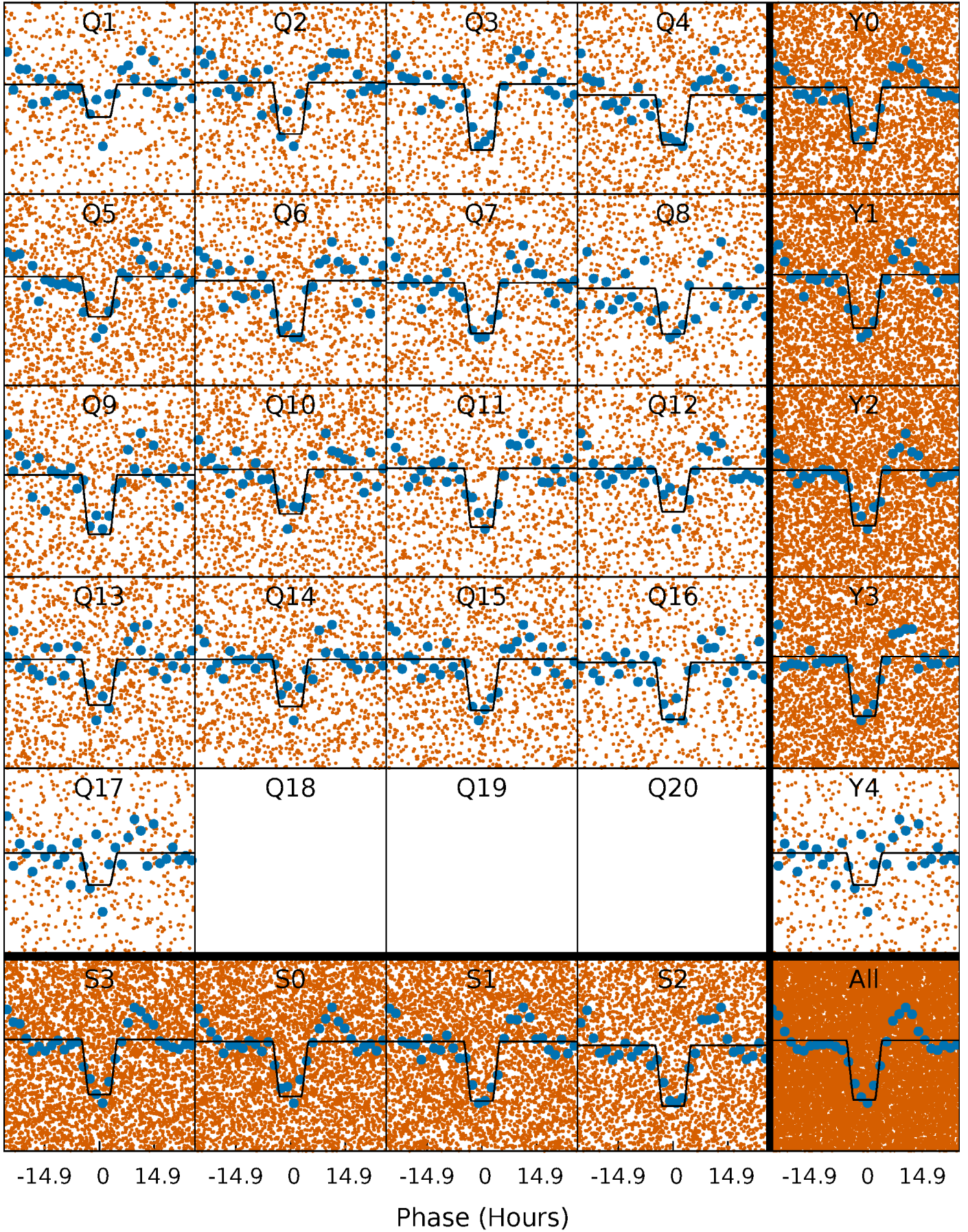
DV Quarter-Phased Transit Curves

TCE 007779942-03 P= 1.525423 Days $T_0=132.052317$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

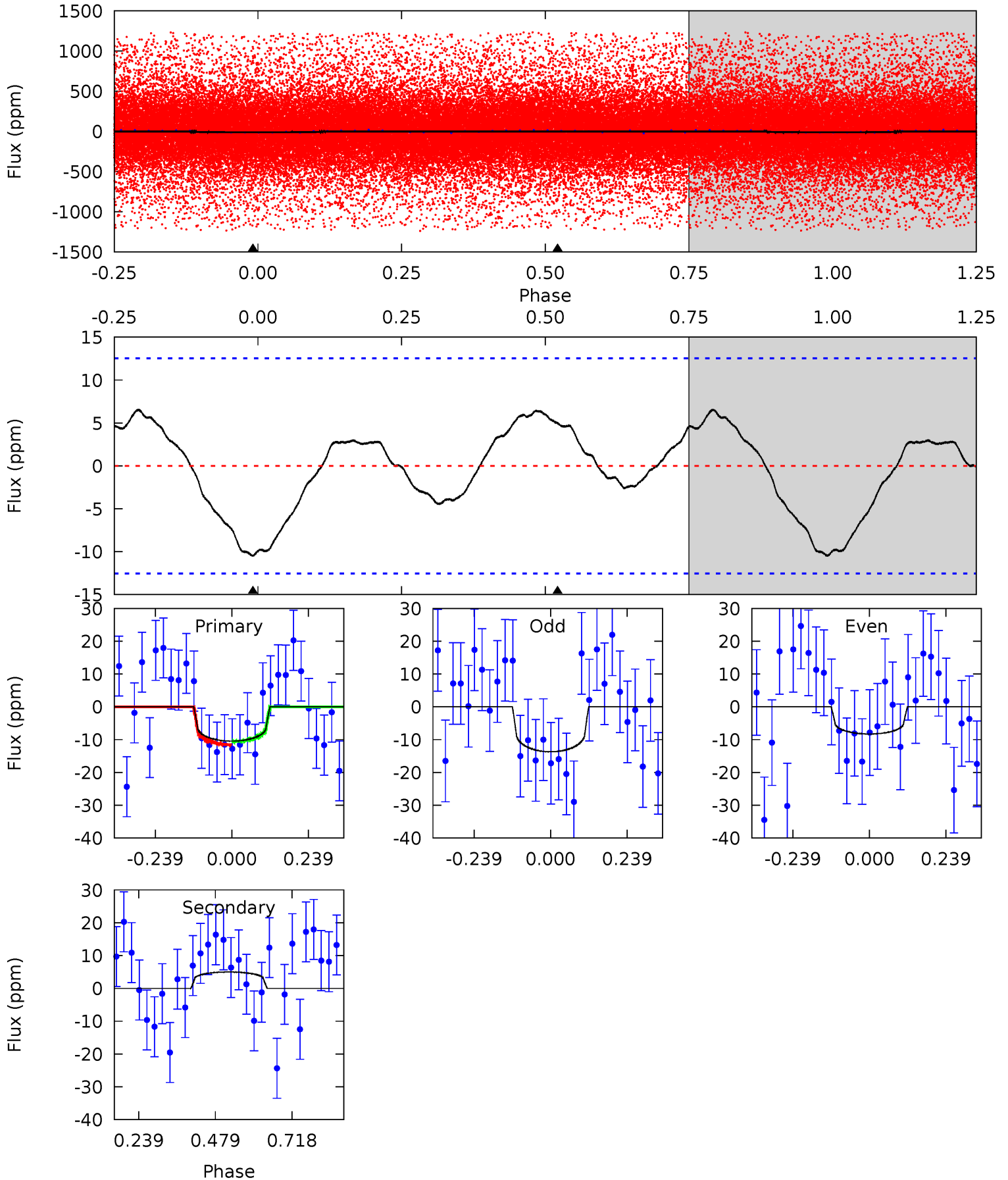
TCE 007779942-03 P= 1.526209 Days $T_0=132.315781$ (BKJD)



DV Model-Shift Uniqueness Test

007779942-03, P = 1.525423 Days, E = 130.526894 Days

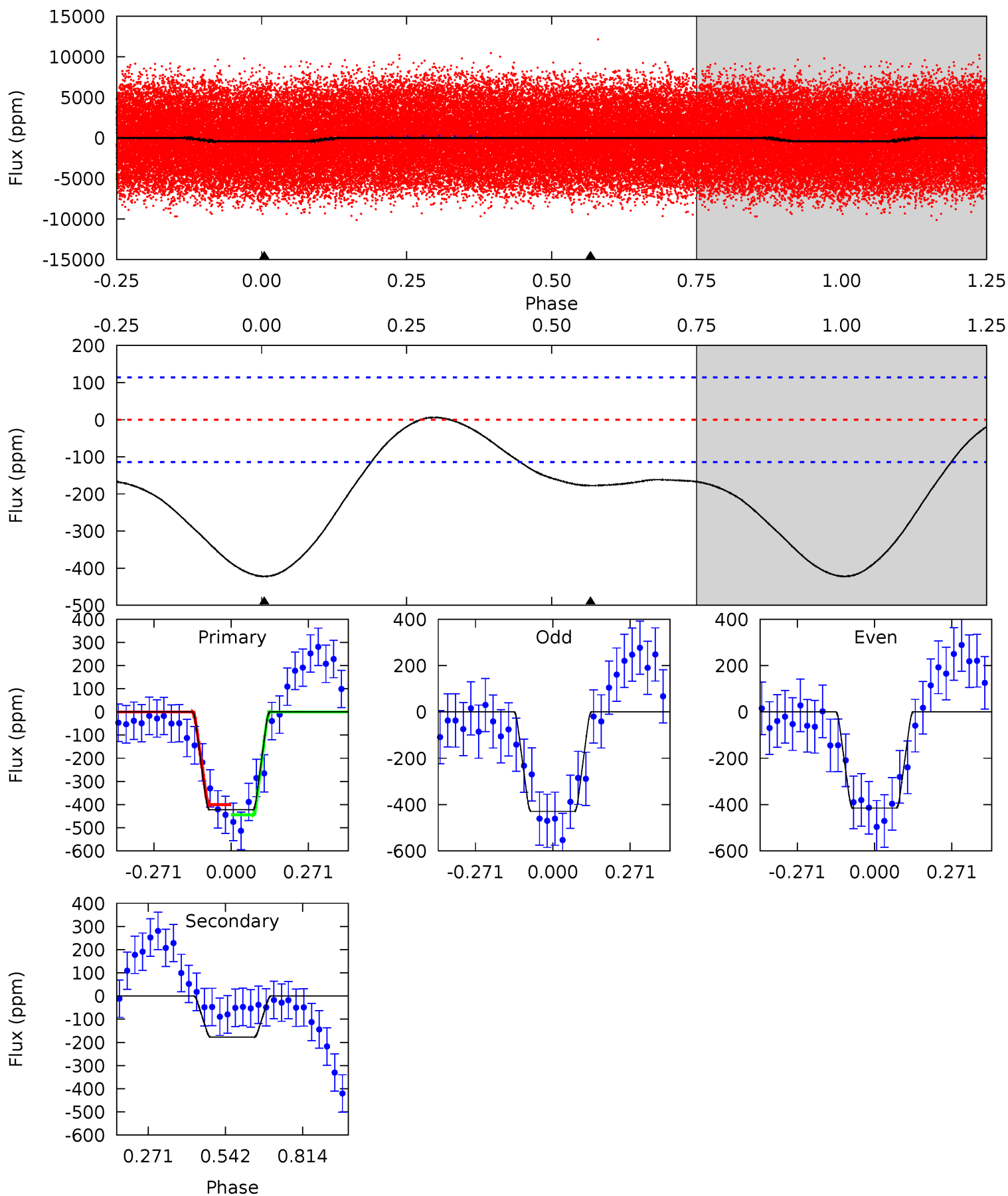
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.65	-1.74	0	0	4.38	1.18	0.94	3.65	3.65	-1.74	-1.74	0.95	0.84	0.38	0.17



Alt Model-Shift Uniqueness Test

007779942-03, P = 1.526209 Days, E = 130.789572 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.1	6.76	0	0	4.35	1.10	0.43	16.1	16.1	6.76	6.76	0.27	0.92	0.01	0.85



Stellar Parameters For KIC 007779942

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6731^{+189}_{-259}	$4.043^{+0.231}_{-0.168}$	$-0.100^{+0.250}_{-0.300}$	$1.876^{+0.563}_{-0.563}$	$1.420^{+0.196}_{-0.269}$	$0.303^{+0.432}_{-0.145}$
	+3%/-4%	+6%/-4%	+250%/-300%	+30%/-30%	+14%/-19%	+142%/-48%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007779942-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	5 ± 3	$1.22^{+1.31}_{-0.87}$	3312^{+253}_{-301}	-4299^{+709}_{-2987}	$-1.311^{+1.067}_{-15.039}$
Alt.	-177 ± 26	$4.31^{+1.70}_{-1.68}$	3316^{+251}_{-270}	5242^{+1276}_{-748}	$4.317^{+7.355}_{-2.148}$

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

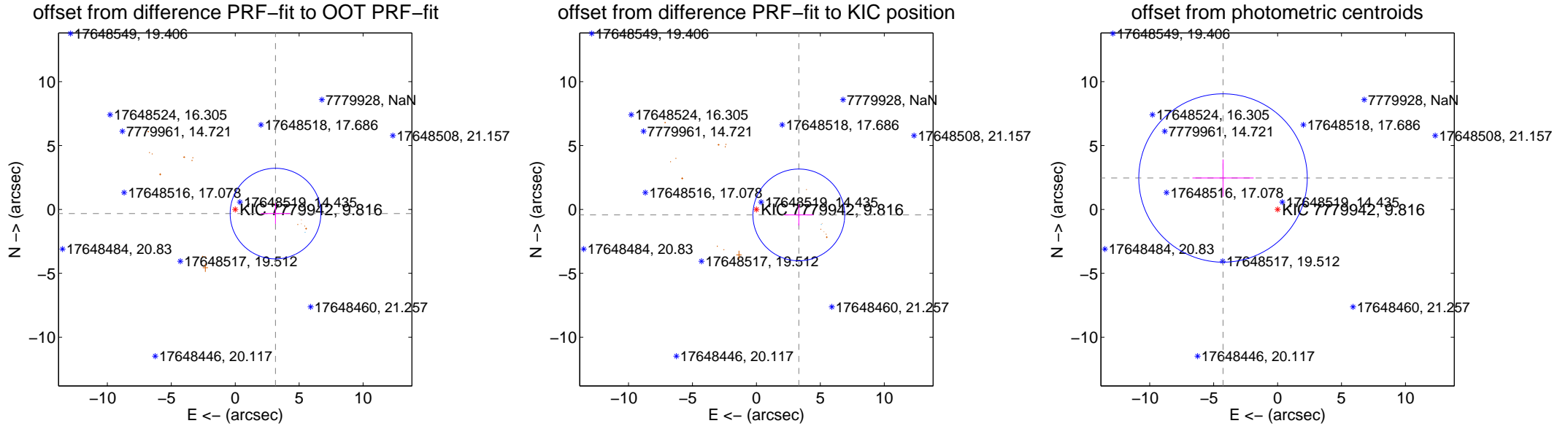
DV Centroid Data

Supplemental centroid analysis for 007779942-03. **Kepler magnitude: 9.82.** Transit SNR 2.96

There are 1 quarters with good PRF difference image offsets

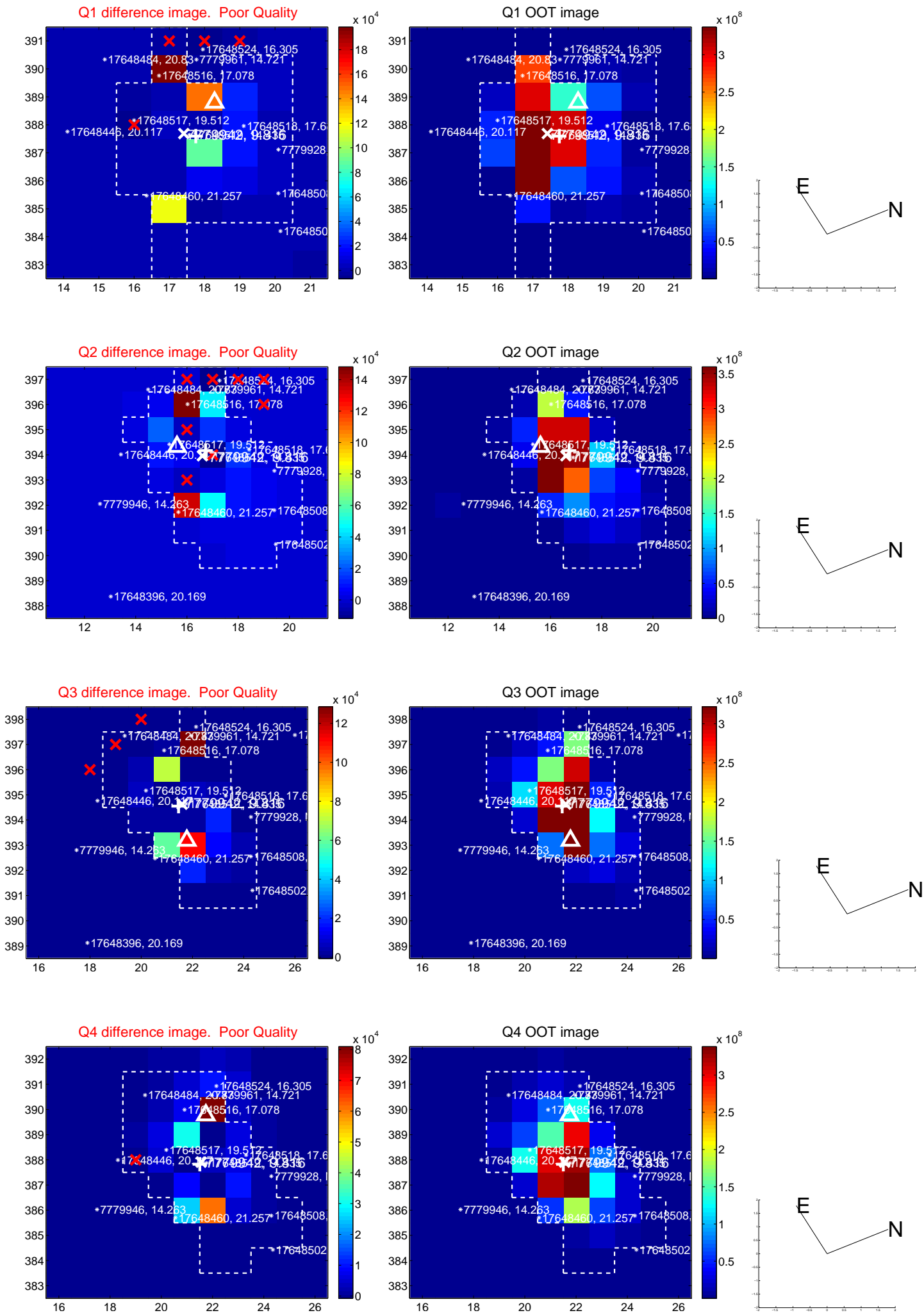
The direct PRF centroid is offset from the target star catalog position by about 1.44 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.166 ± 1.182	2.68	-3.150 ± 1.140	-0.325 ± 0.803
PRF-fit source offset from KIC position	3.344 ± 1.196	2.80	-3.316 ± 1.137	-0.429 ± 0.827
photometric centroid source offset	4.92 ± 2.20	2.24	4.27 ± 2.39	2.46 ± 1.45

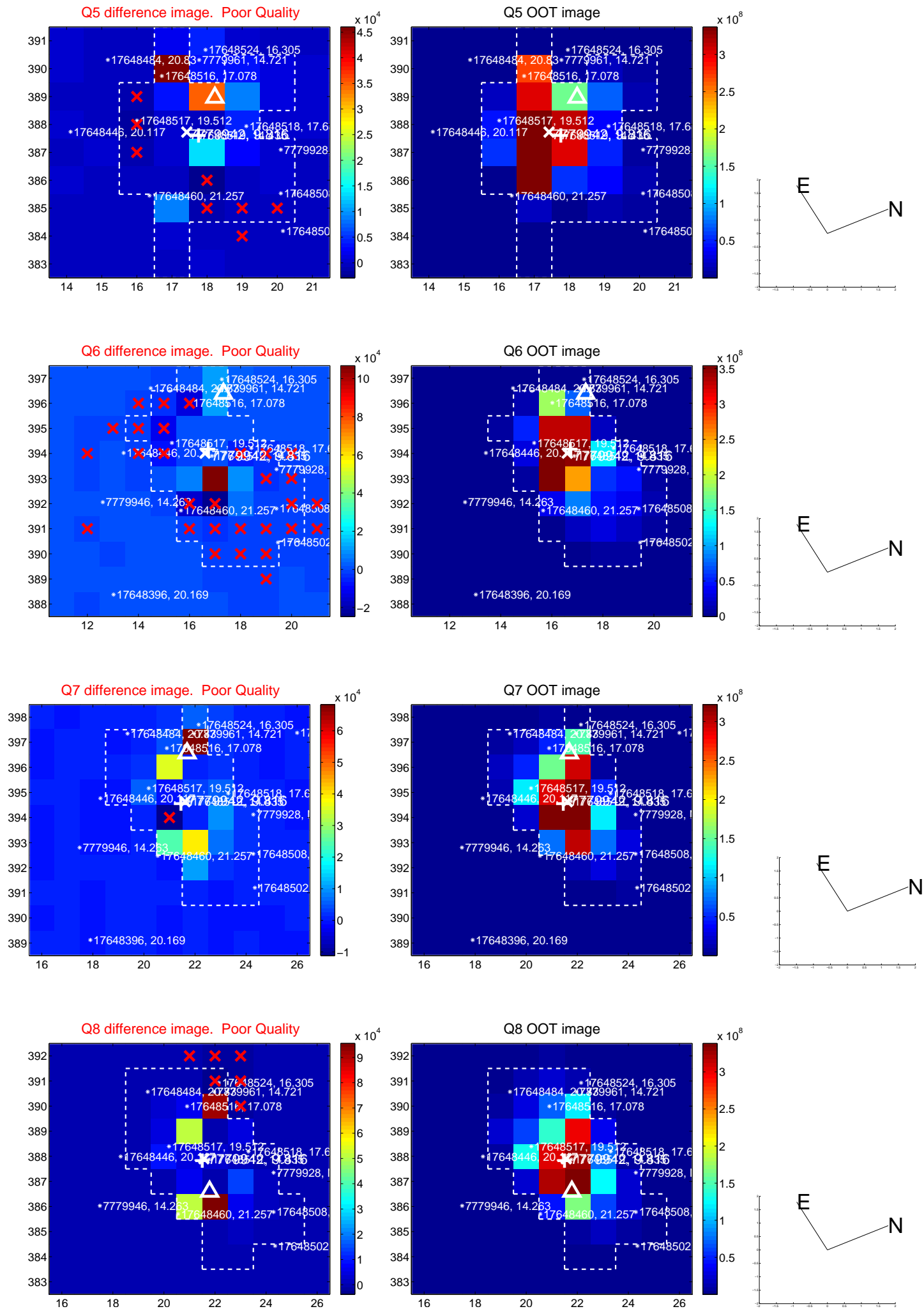


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

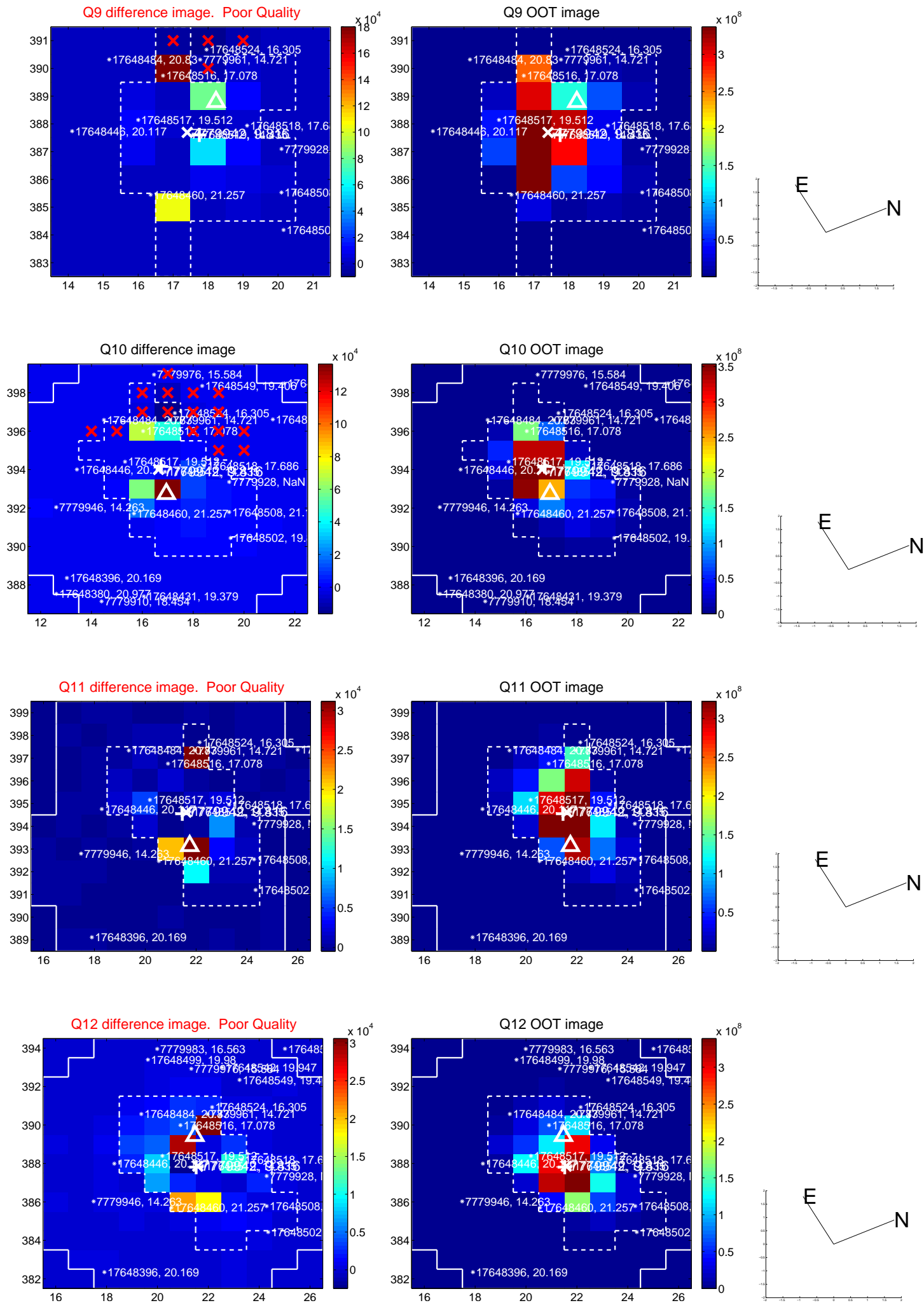
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



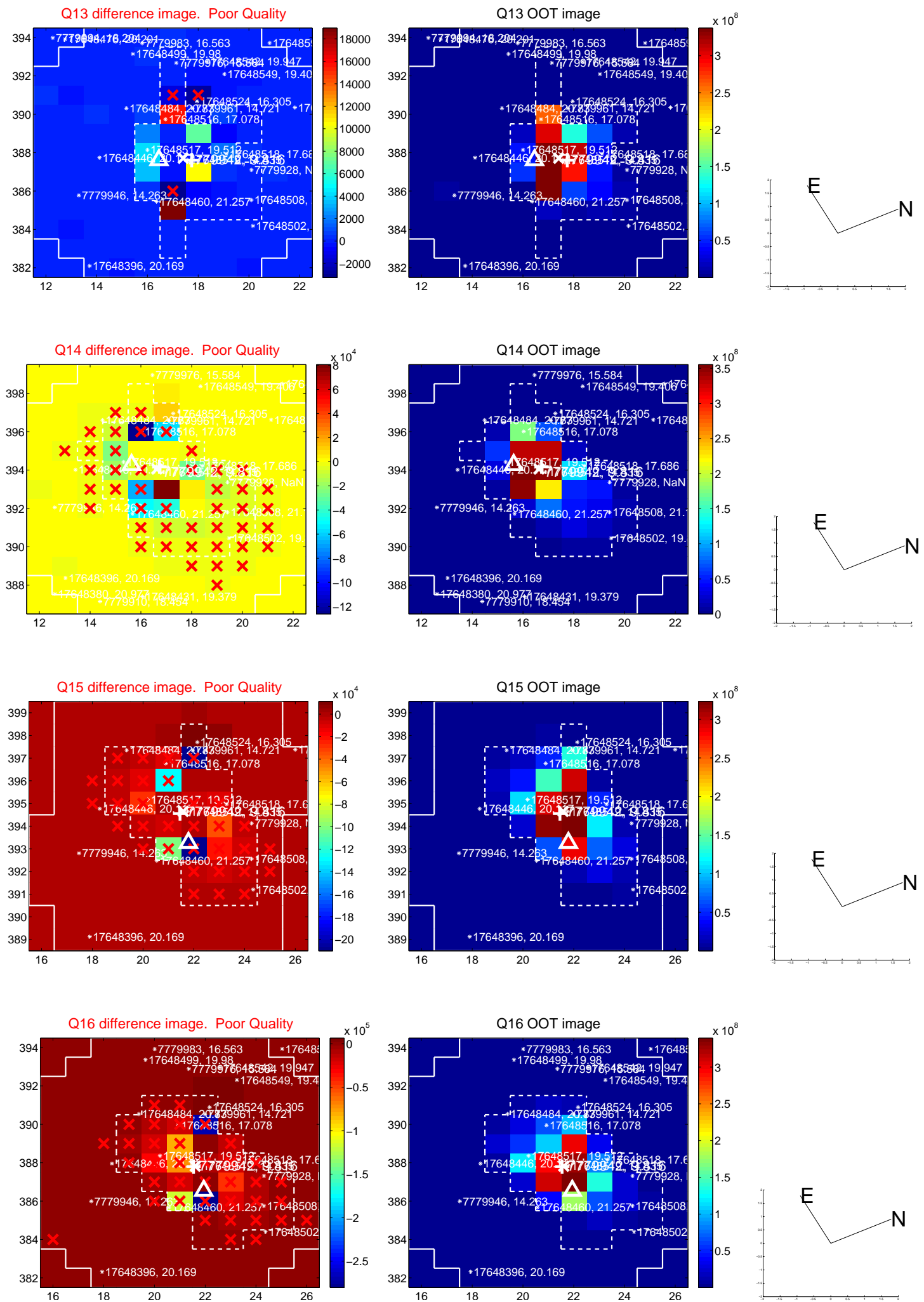
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



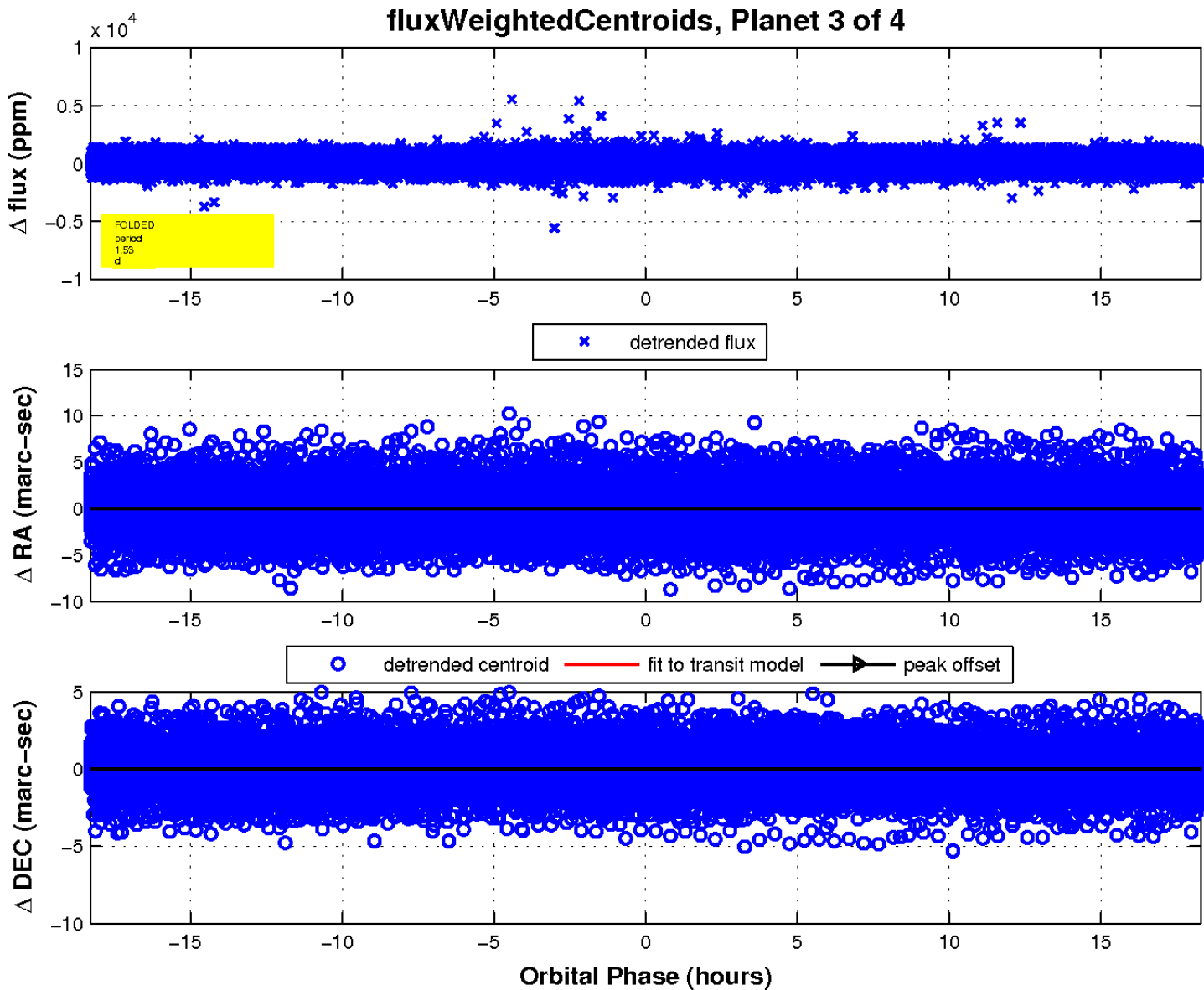
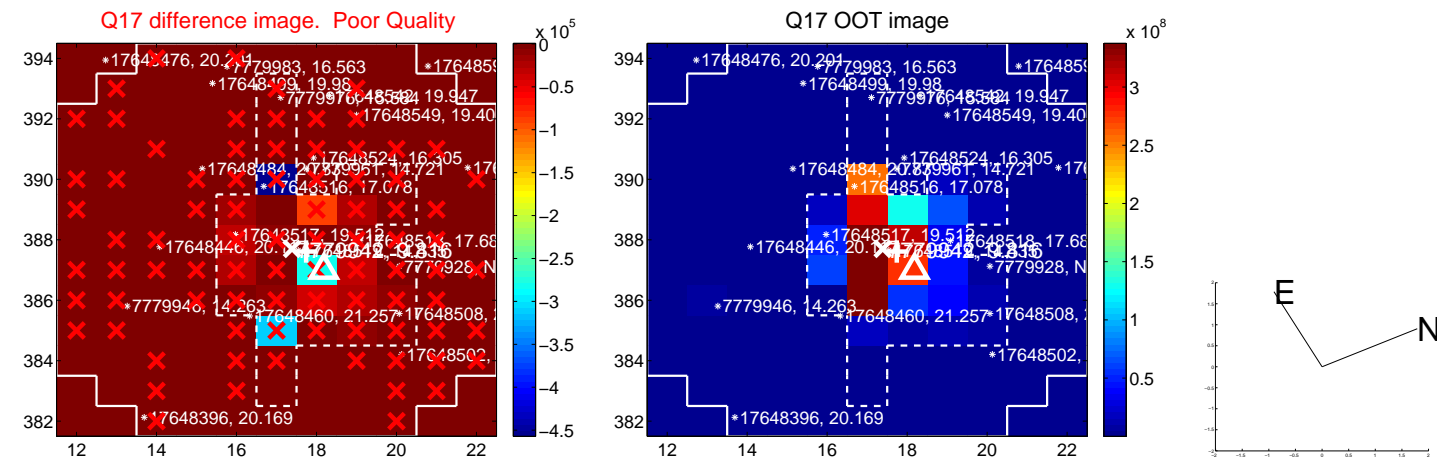
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

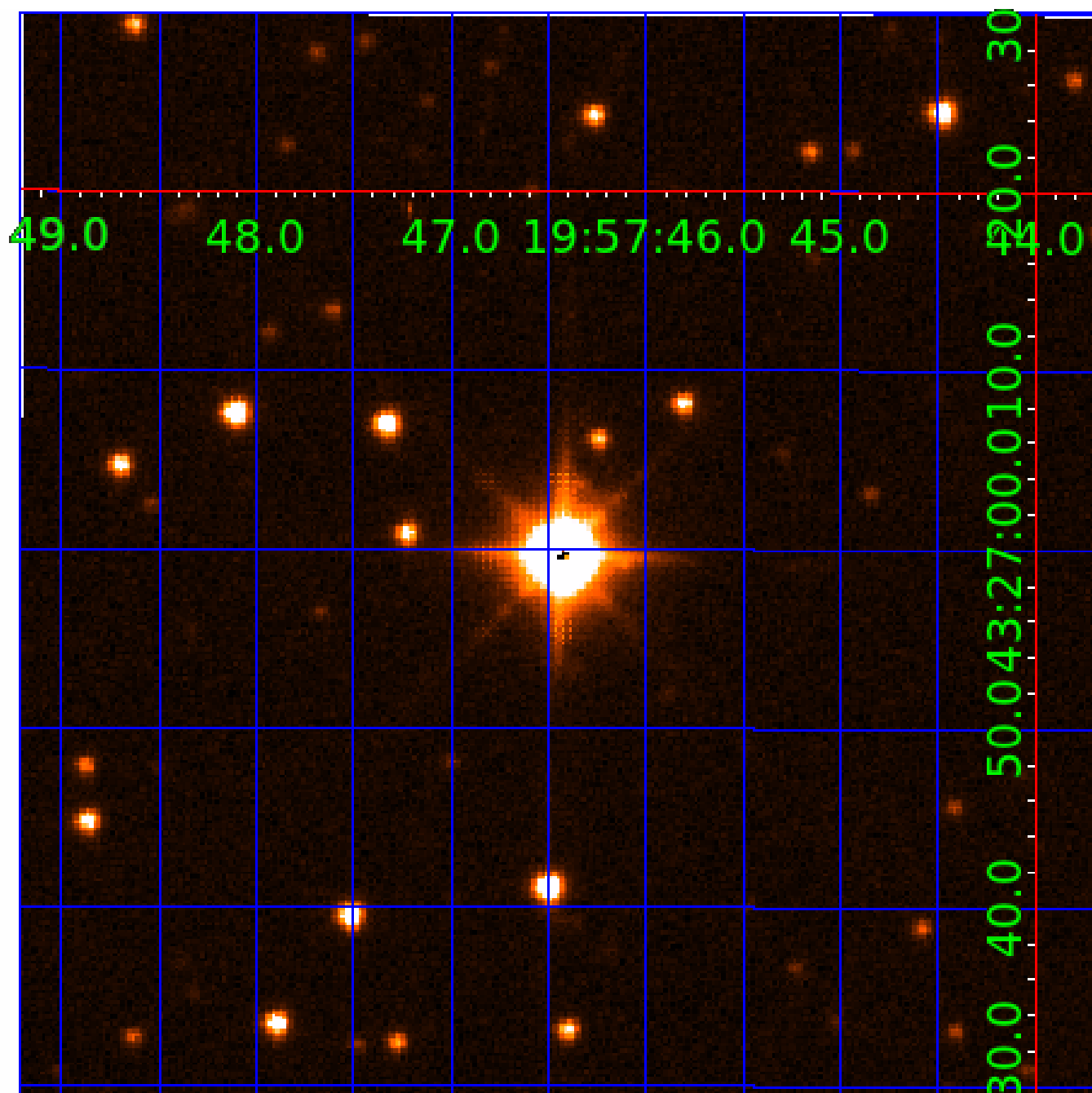


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007779942

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})
007779942-01	OBS	6163.01	19.794635	135.993754	308.2	6.246	23.2	24.9	1.88	6731	6.33	250.02
007779942-02	OBS	No	19.794584	132.529991	324.7	4.963	22.8	24.9	1.88	6731	5.46	250.02
007779942-03	OBS	No	1.525423	132.052317	8.1	8.300	14.4	3.0	1.88	6731	0.54	7623.97
007779942-04	OBS	No	1.526086	132.389885	43.3	4.006	10.6	11.4	1.88	6731	1.33	7619.55

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007779942-01	OBS	FP	0.00	1	0	0	0	MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
007779942-02	OBS	FP	0.00	1	0	0	0	LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_SATURATED
007779942-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—CENT_SATURATED
007779942-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—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 007779942-04

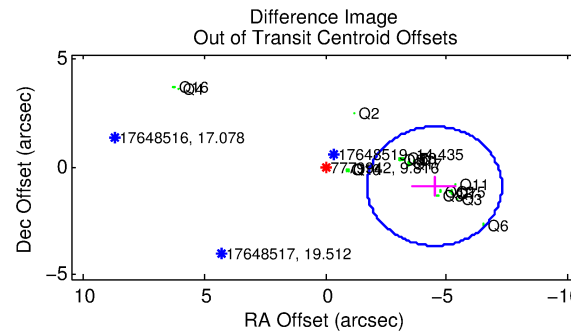
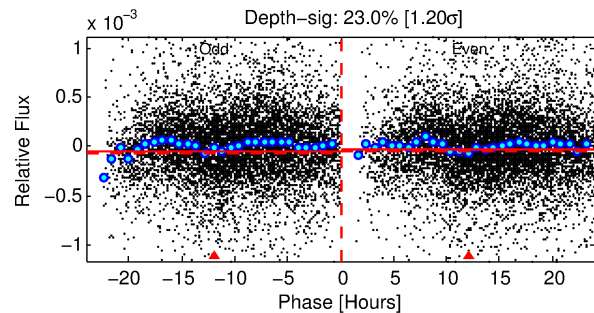
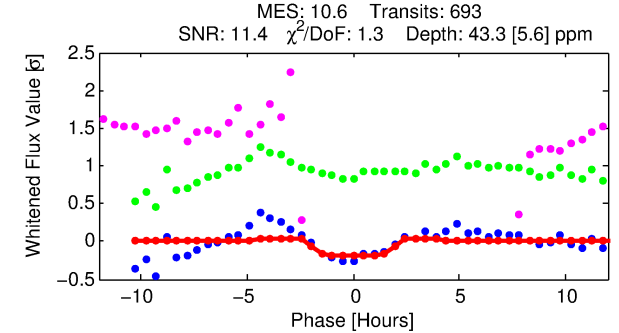
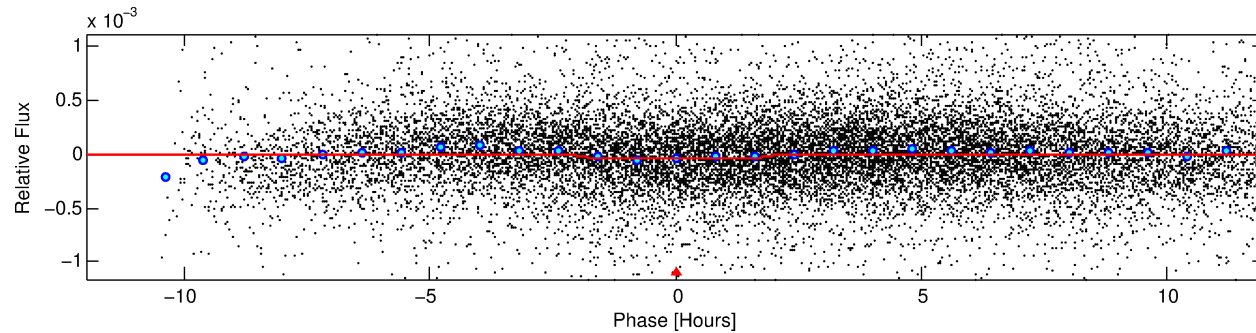
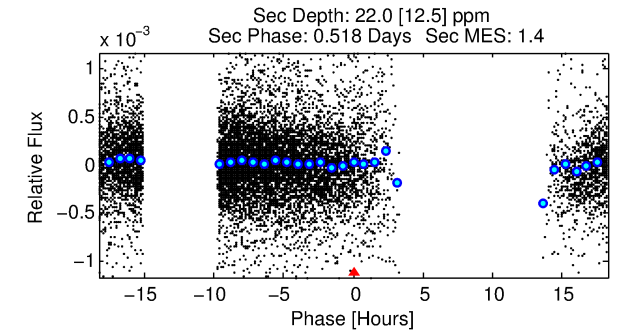
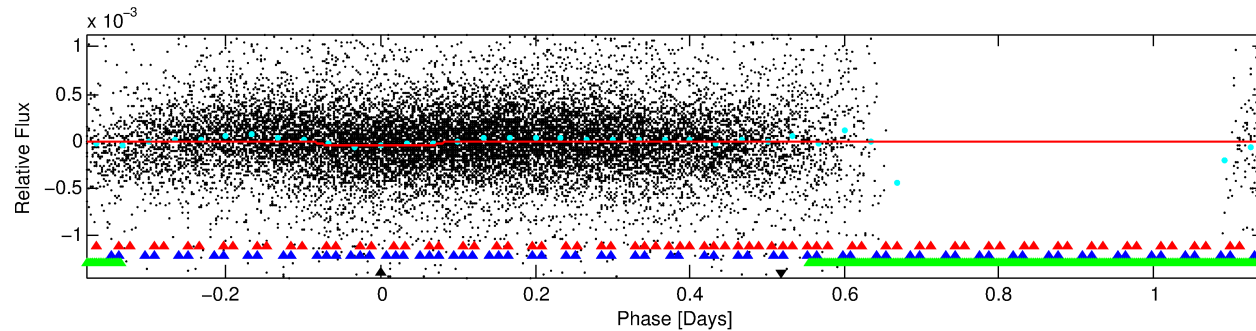
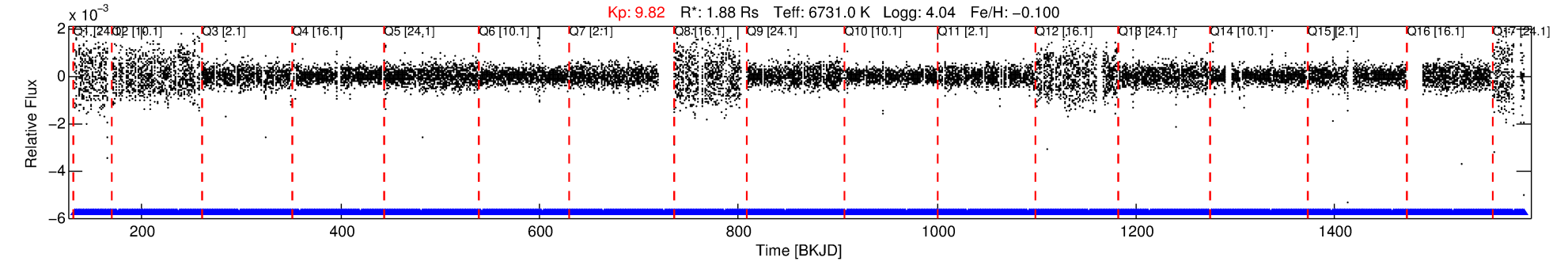
No Significant Match Found

DV One-Page Summary

KIC: 7779942 Candidate: 4 of 4 Period: 1.526 d

KOI: K06163 Corr: No Ephemeris Match

Kp: 9.82 R*: 1.88 Rs Teff: 6731.0 K Logg: 4.04 Fe/H: -0.100



DV Fit Results:

Period = 1.52609 [0.00002] d
Epoch = 132.3899 [0.0058] BKJD
Rp/R* = 0.0065 [0.0033]
a/R* = 2.21 [5.11]
b = 0.72 [1.97]
Seff = 7619.55 [3316.54]
Teq = 2382 [259] K
Rp = 1.33 [0.79] Re
a = 0.0291 [0.0078] AU
Ag = 5.82 [7.24] [0.67σ]
Teffp = 5722 [1694] K [1.95σ]

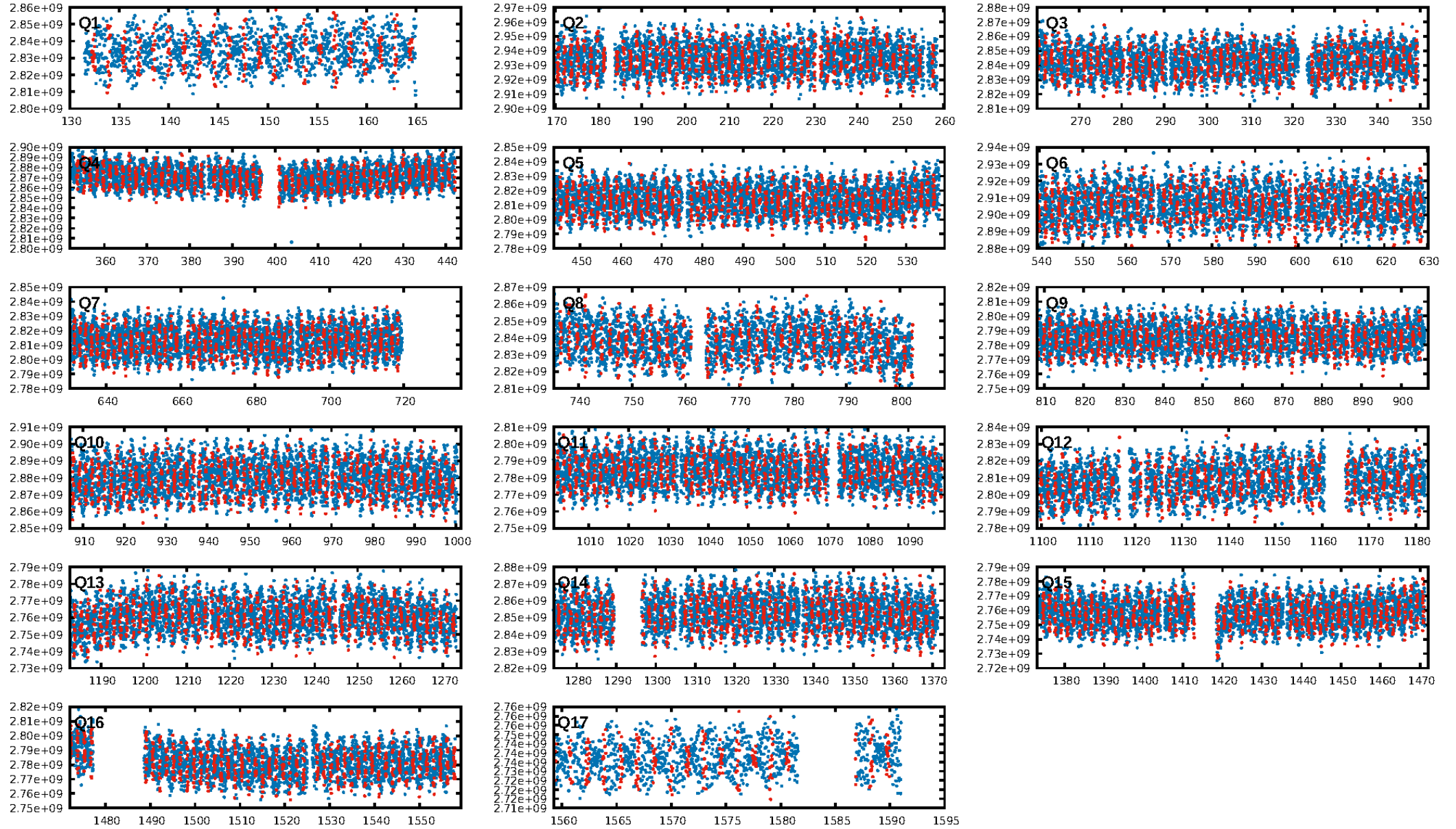
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]
LongPeriod-sig: 100.0% [68.75σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.10e-19
RollingBand-fgt: 1.00 [677/677]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 1.780 arcsec [4.92σ]
OotOffset-rm: 4.590 arcsec [4.95σ]
KicOffset-rm: 4.934 arcsec [5.46σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 0.71 [12/17]

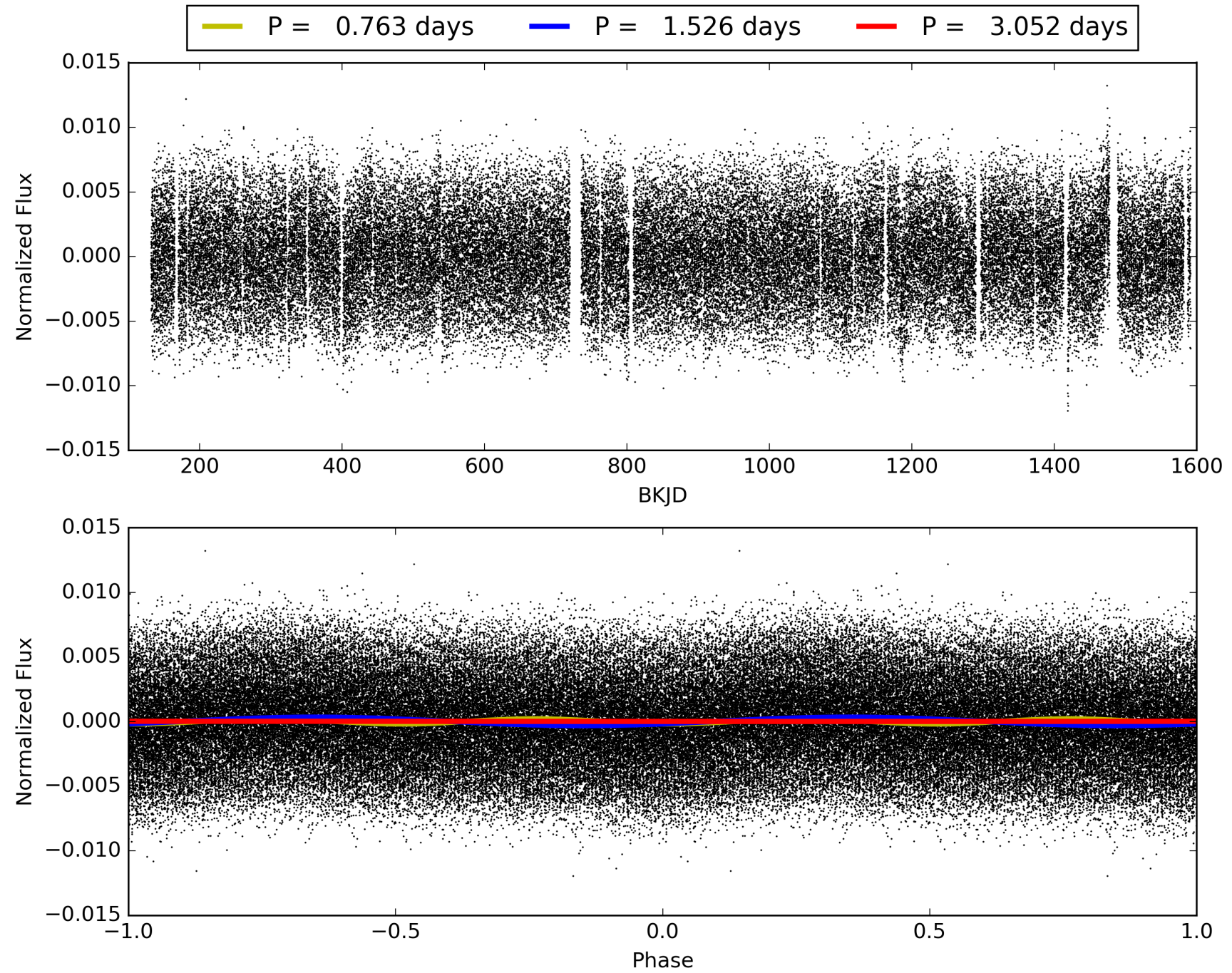
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 19:54:39 Z

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

TCE 007779942-04, PDC Light Curves

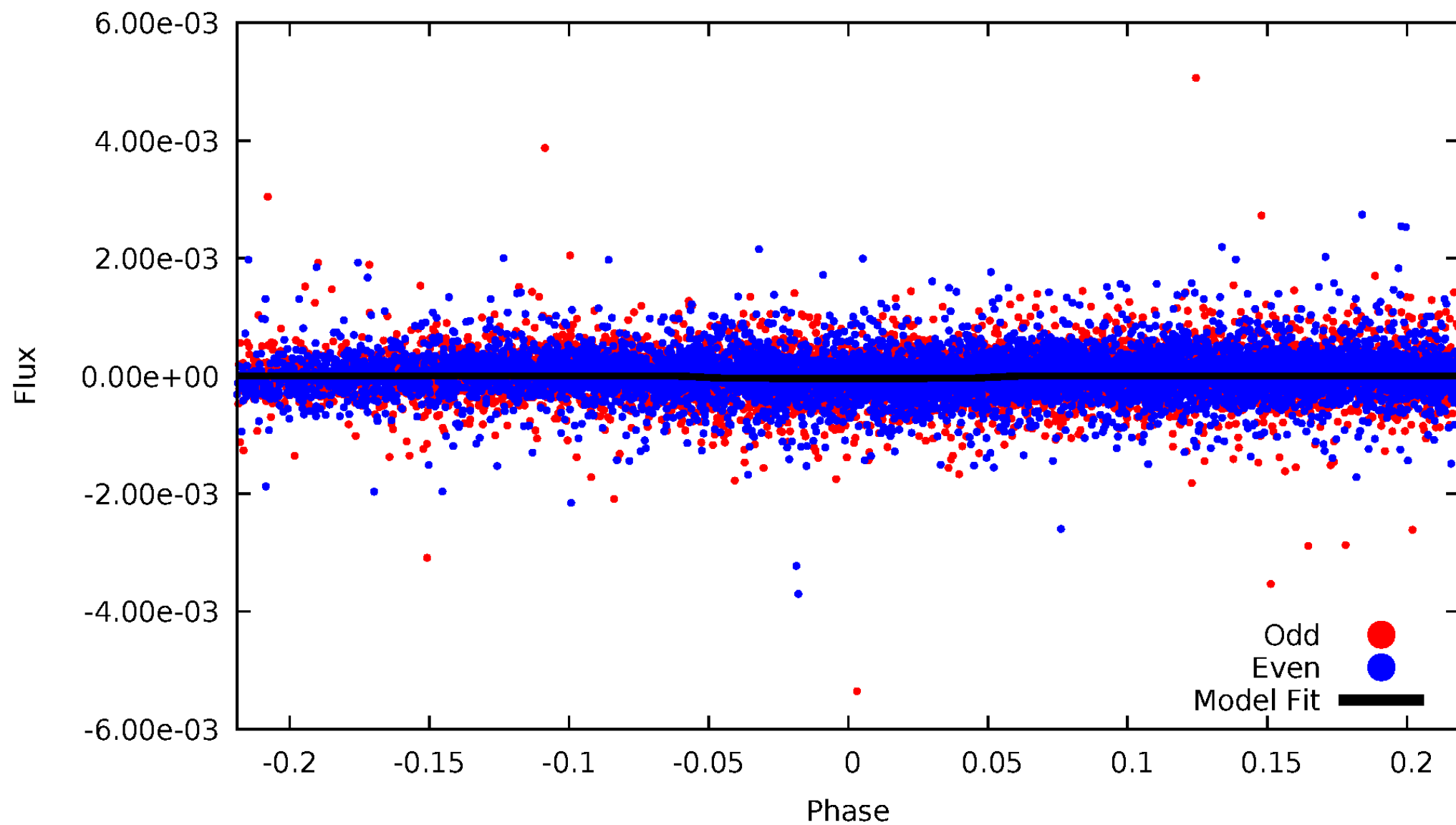


TCE 007779942-04



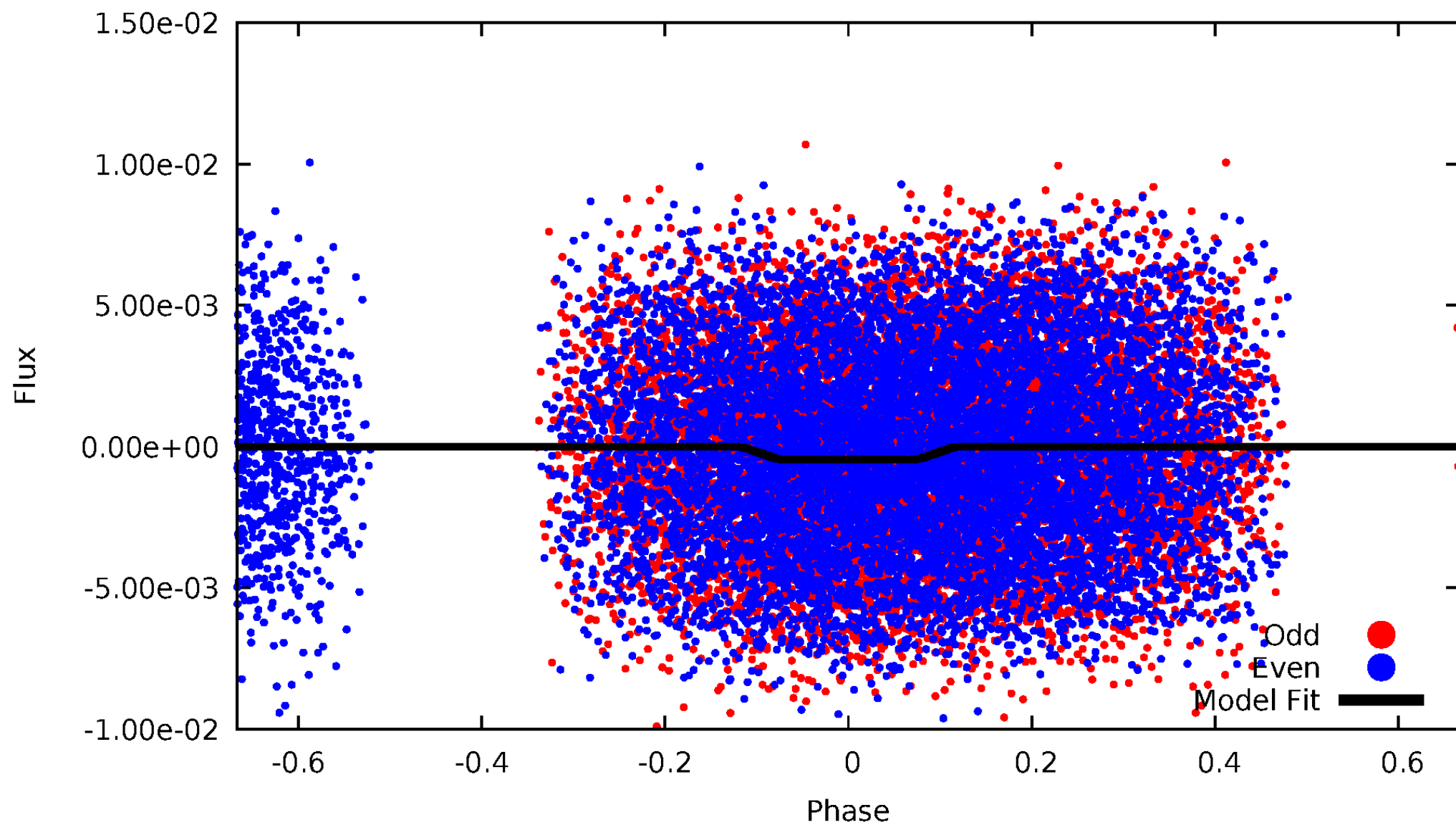
DV Odd/Even

TCE 007779942-04



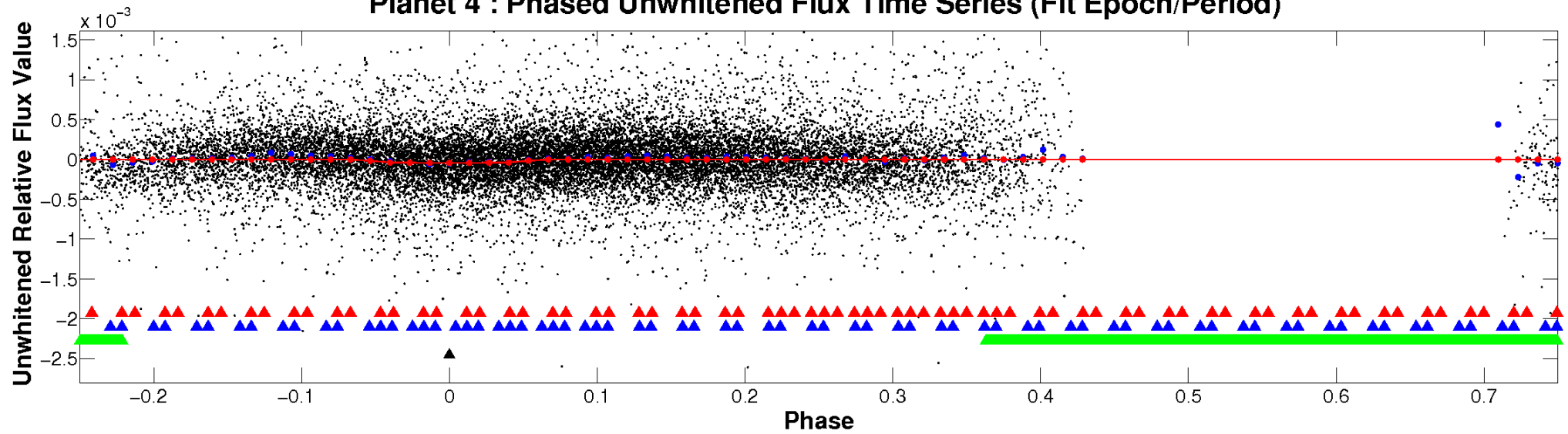
ALT Odd/Even

TCE 007779942-04

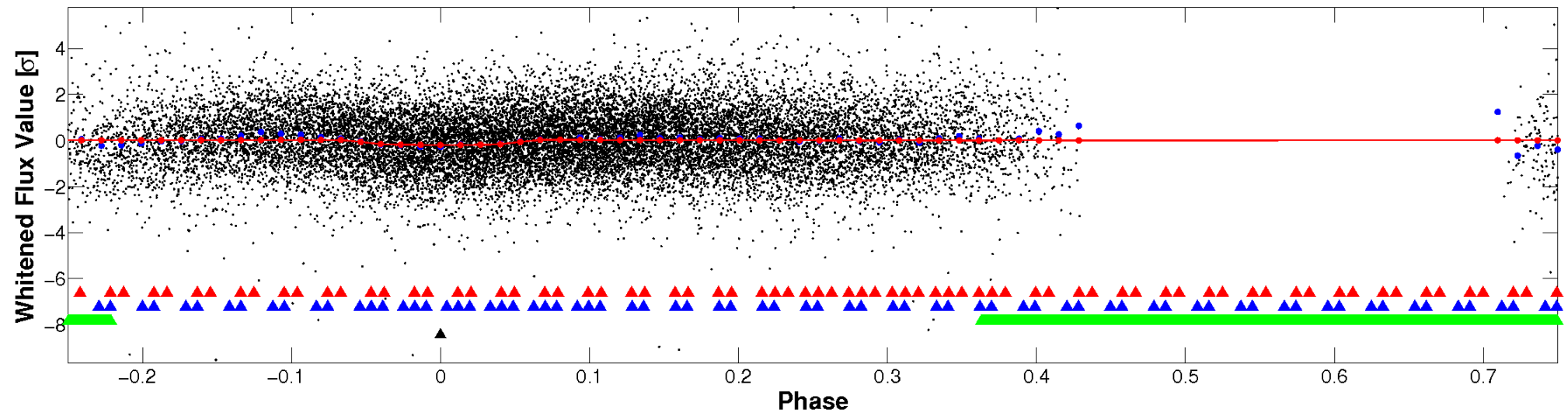


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

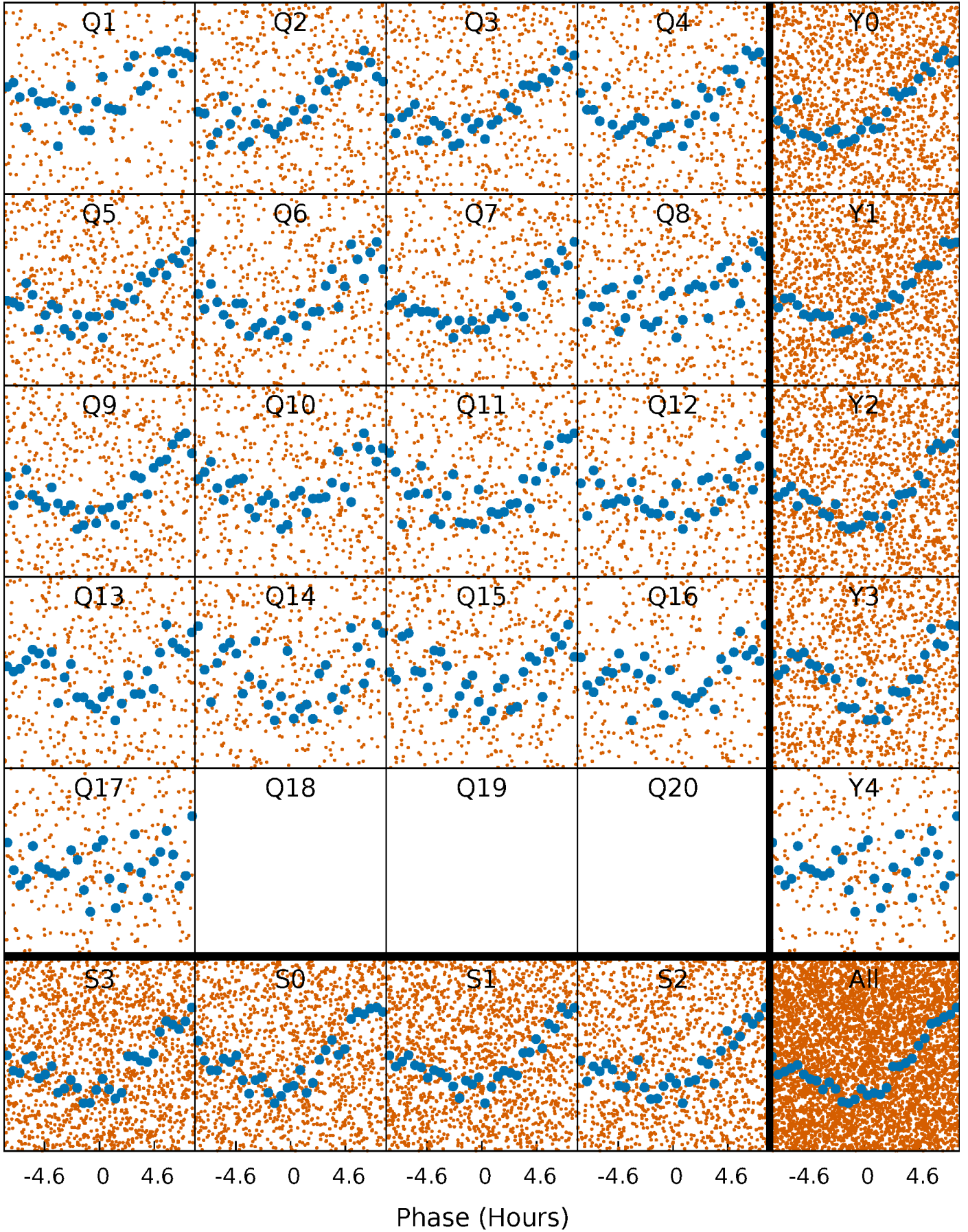


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



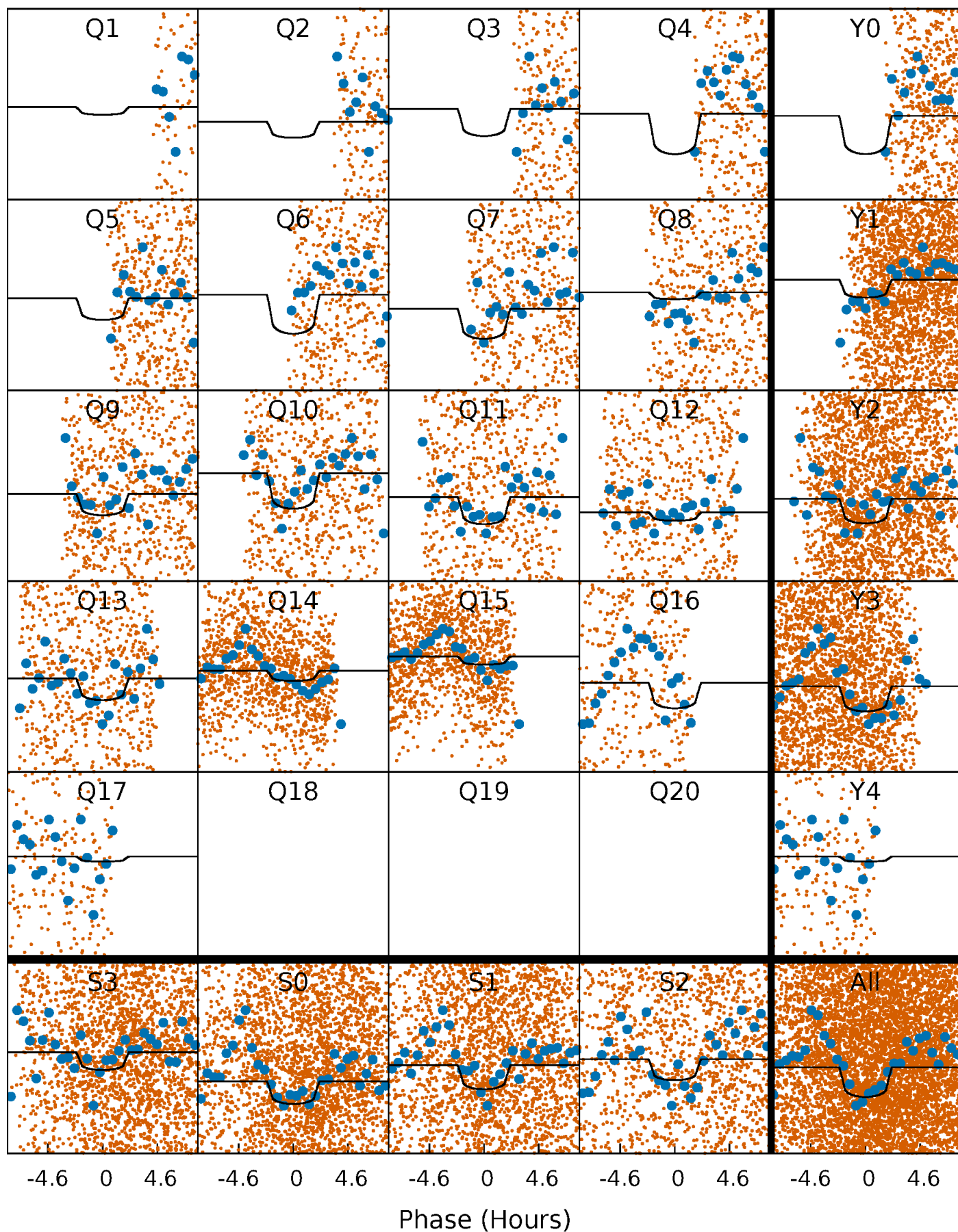
PDC Quarter-Phased Transit Curves

TCE 007779942-04 P= 1.526086 Days $T_0=132.389885$ (BKJD)



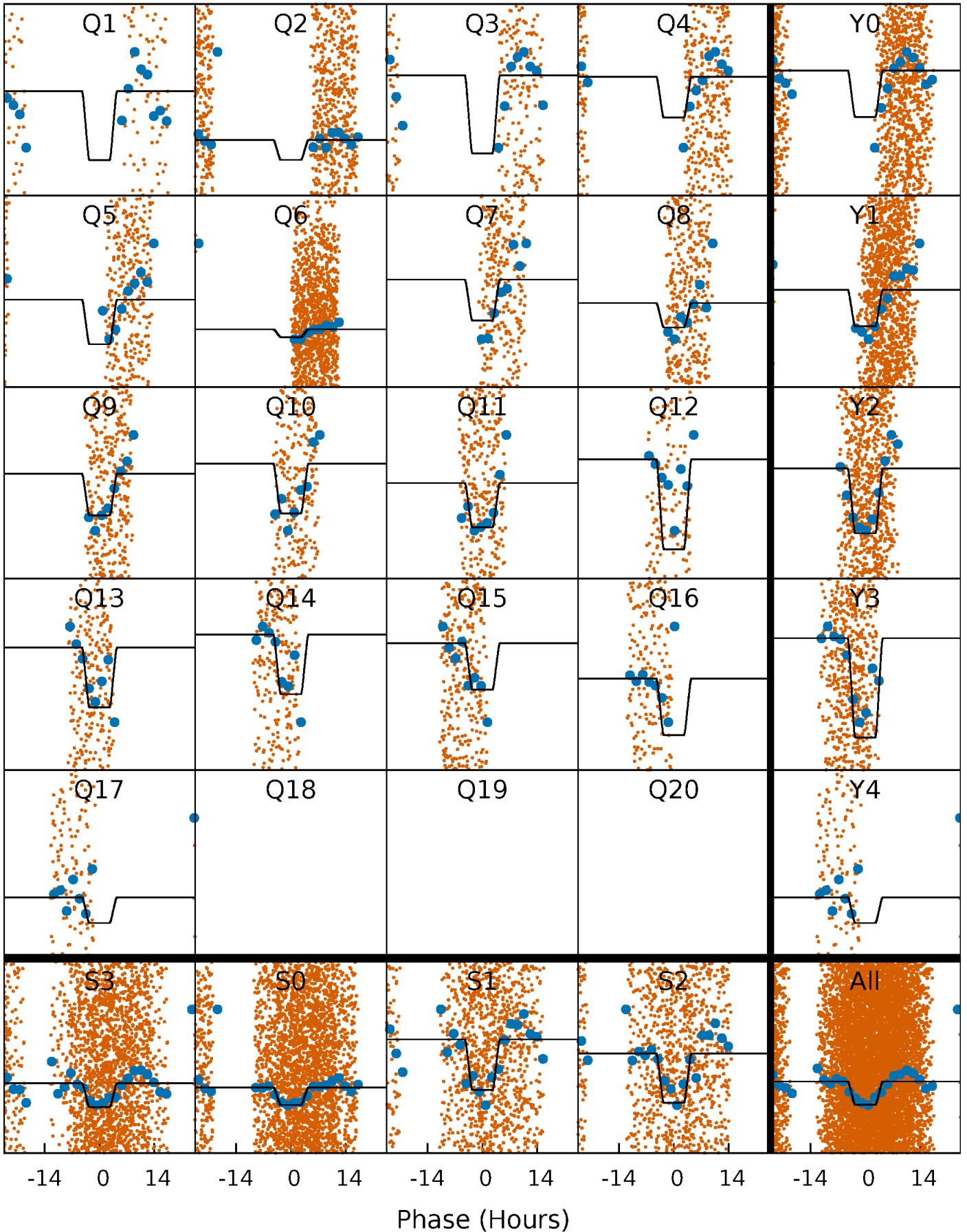
DV Quarter-Phased Transit Curves

TCE 007779942-04 P= 1.526086 Days $T_0=132.389885$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

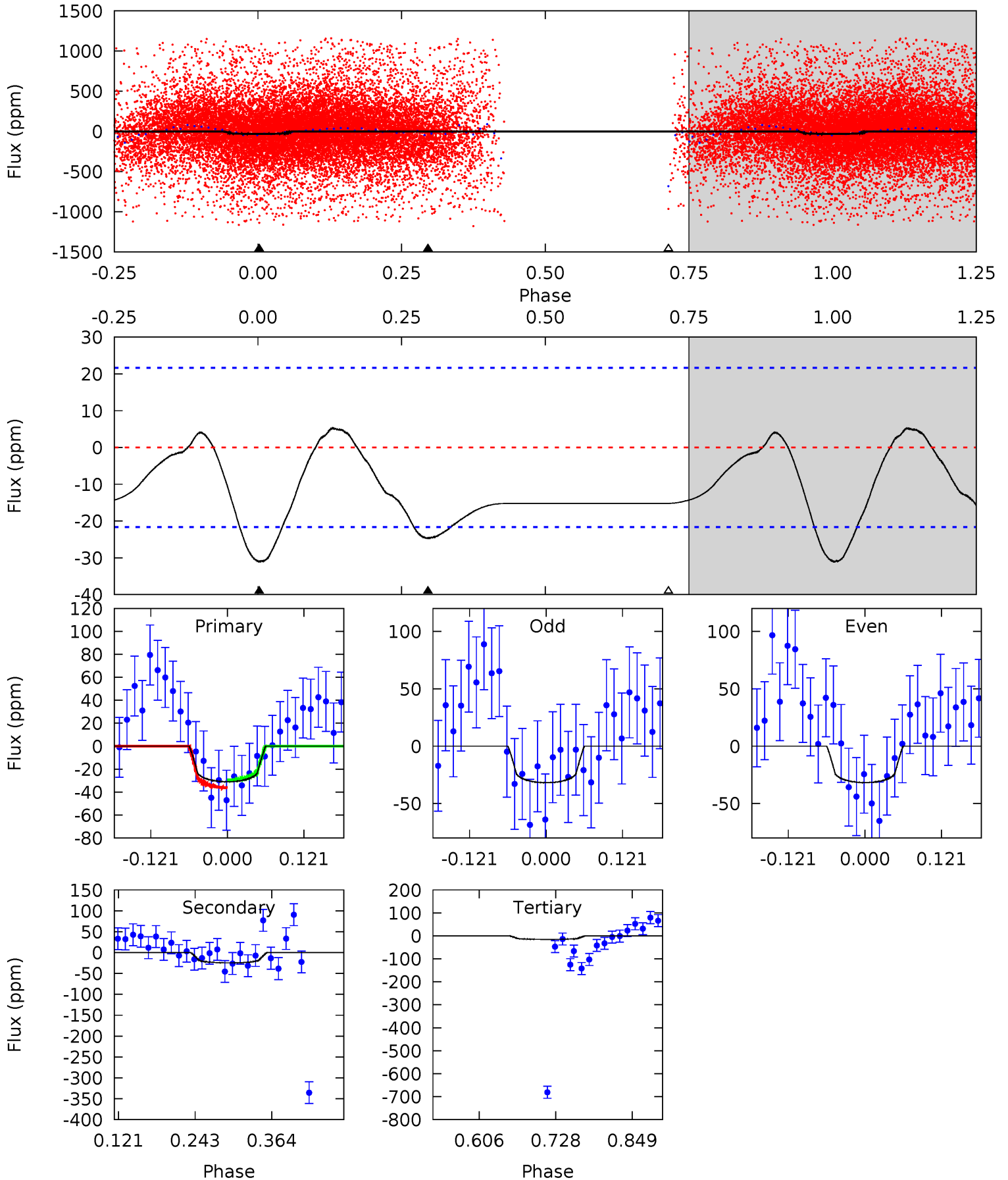
TCE 007779942-04 $P = 1.526253$ Days $T_0 = 132.312691$ (BKJD)



DV Model-Shift Uniqueness Test

007779942-04, P = 1.526086 Days, E = 130.863799 Days

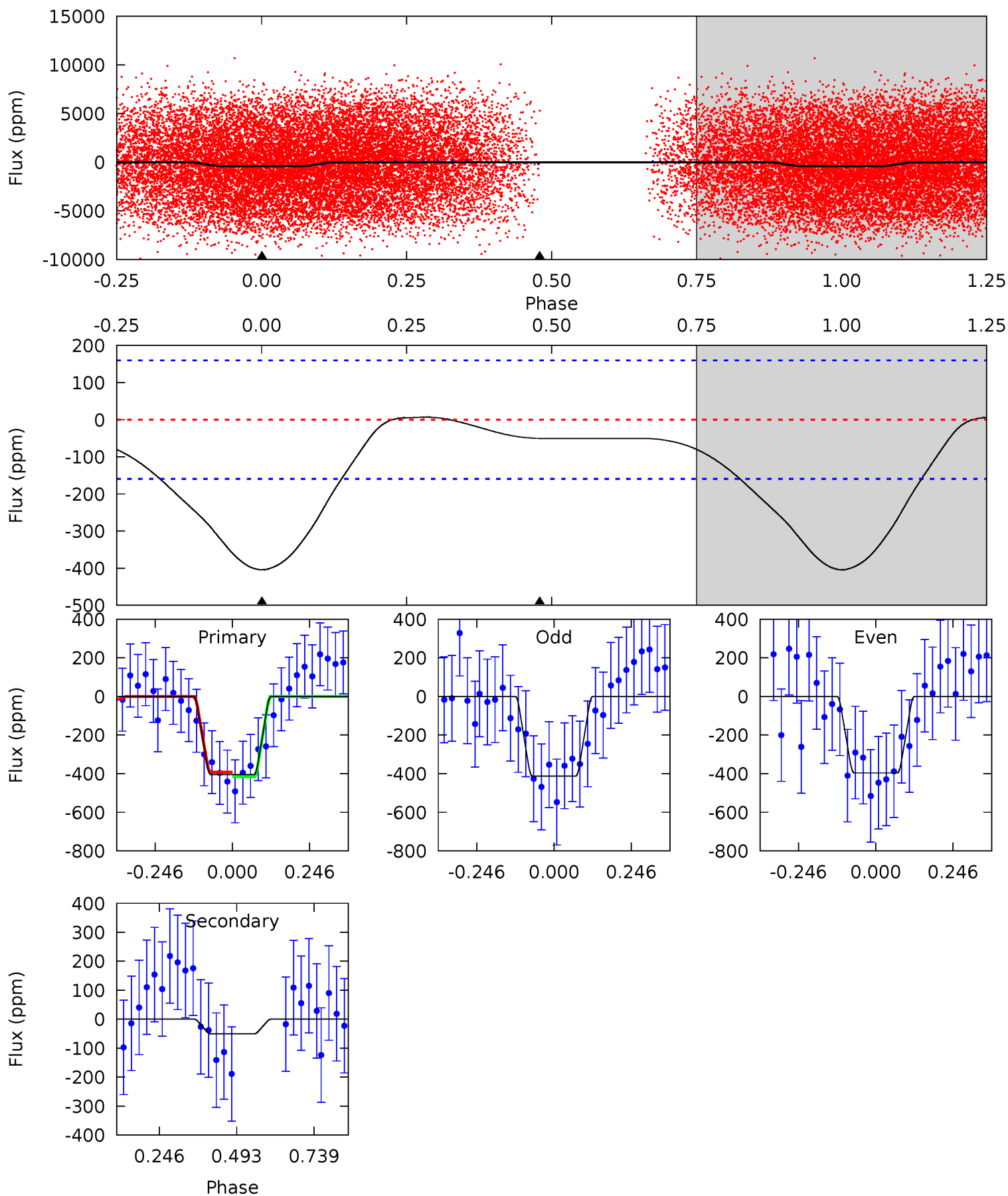
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.48	5.15	3.18	0	4.52	1.55	1.24	3.31	6.48	1.98	5.15	0.01	1.35	0.14	0.71



Alt Model-Shift Uniqueness Test

007779942-04, P = 1.526253 Days, E = 130.786438 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	1.38	0	0	4.37	1.16	1.16	11.1	11.1	1.38	1.38	0.23	1.19	0.02	0.31



Stellar Parameters For KIC 007779942

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6731^{+189}_{-259}	$4.043^{+0.231}_{-0.168}$	$-0.100^{+0.250}_{-0.300}$	$1.876^{+0.563}_{-0.563}$	$1.420^{+0.196}_{-0.269}$	$0.303^{+0.432}_{-0.145}$
	+3%/-4%	+6%/-4%	+250%/-300%	+30%/-30%	+14%/-19%	+142%/-48%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007779942-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-25 ± 5	$1.31^{+0.77}_{-0.64}$	3329^{+255}_{-283}	5800^{+2369}_{-1103}	$6.951^{+17.955}_{-4.354}$
Alt.	-50 ± 37	$4.30^{+1.05}_{-0.89}$	3316^{+267}_{-267}	3926^{+656}_{-1145}	$1.248^{+1.302}_{-0.855}$

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

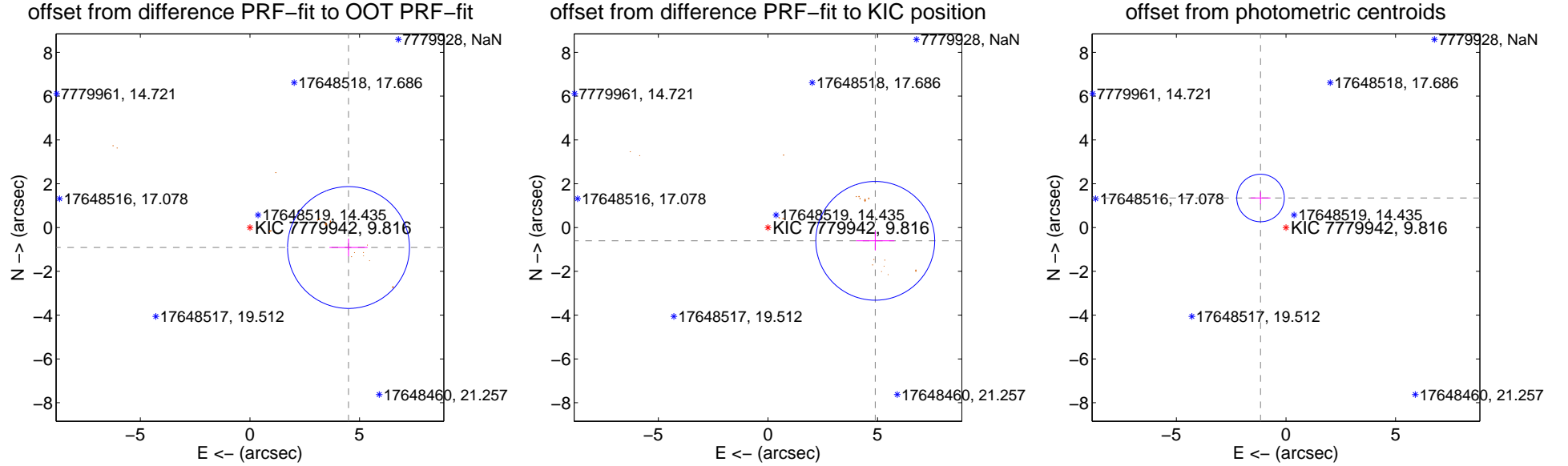
DV Centroid Data

Supplemental centroid analysis for 007779942-04. **Kepler magnitude: 9.82.** Transit SNR 11.39

There are 0 quarters with good PRF difference image offsets

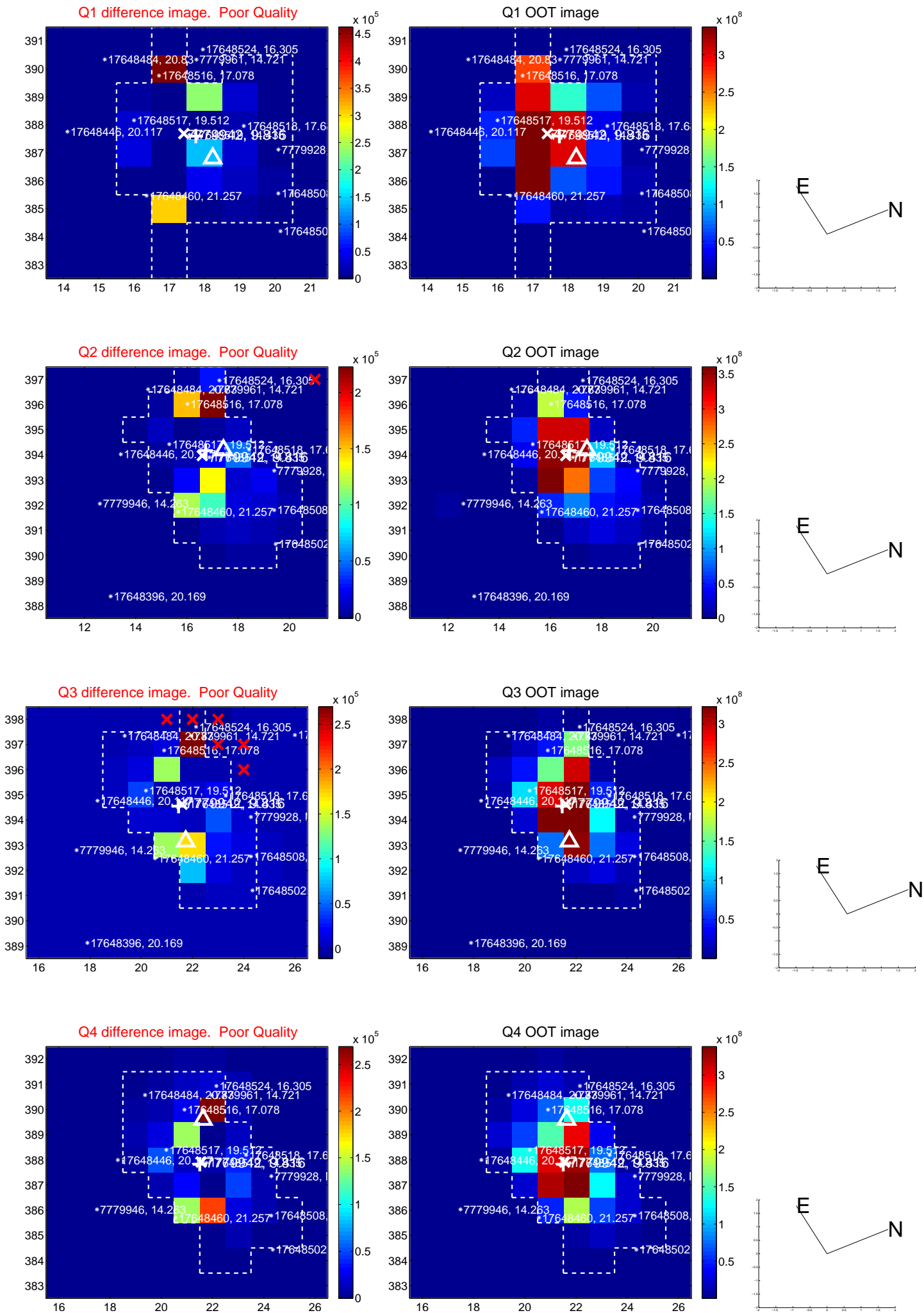
The direct PRF centroid is offset from the target star catalog position by about 1.46 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.590 ± 0.927	4.95	-4.499 ± 0.873	-0.913 ± 0.402
PRF-fit source offset from KIC position	4.934 ± 0.904	5.46	-4.897 ± 0.873	-0.607 ± 0.440
photometric centroid source offset	1.78 ± 0.36	4.92	1.16 ± 0.45	1.35 ± 0.27

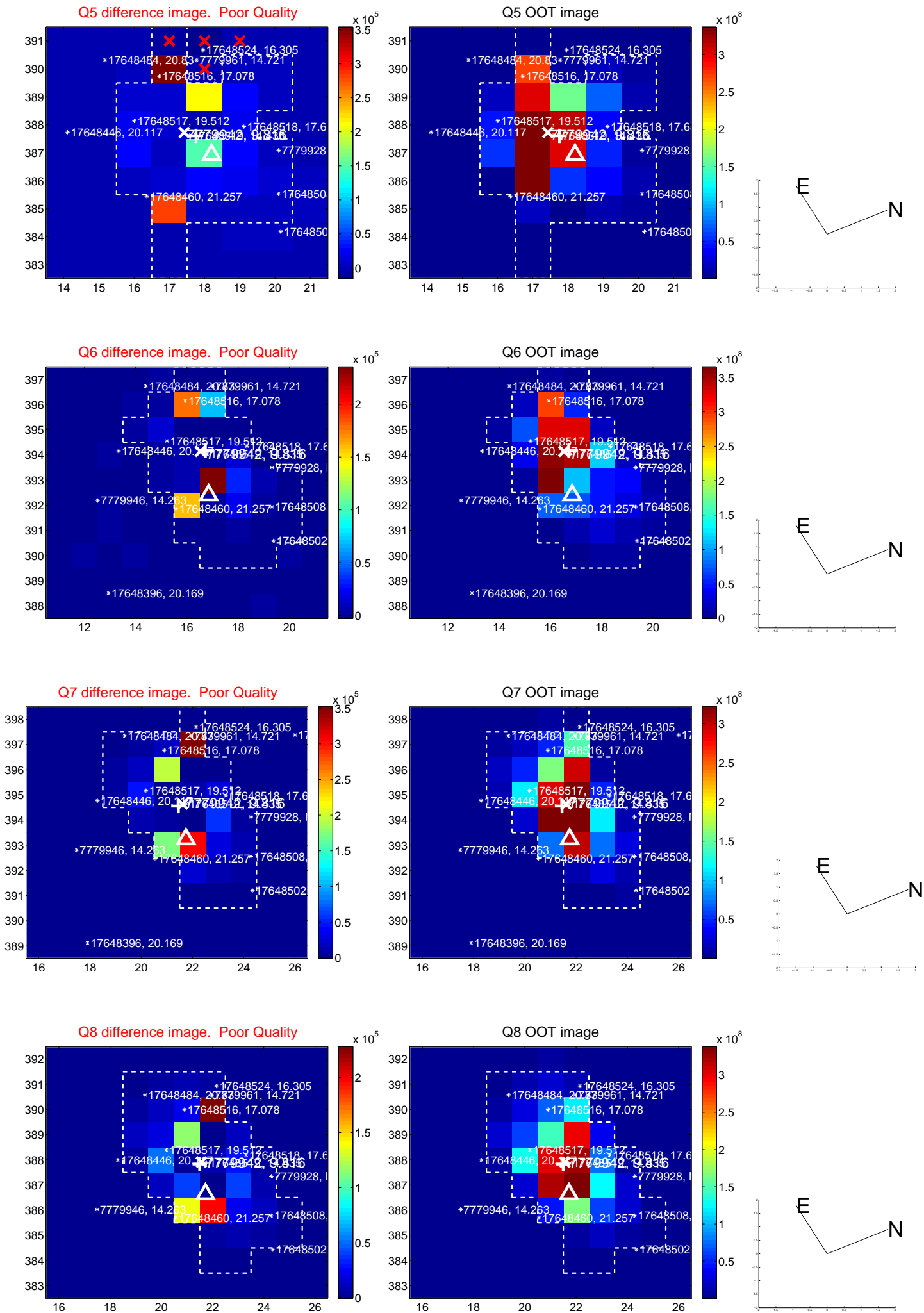


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

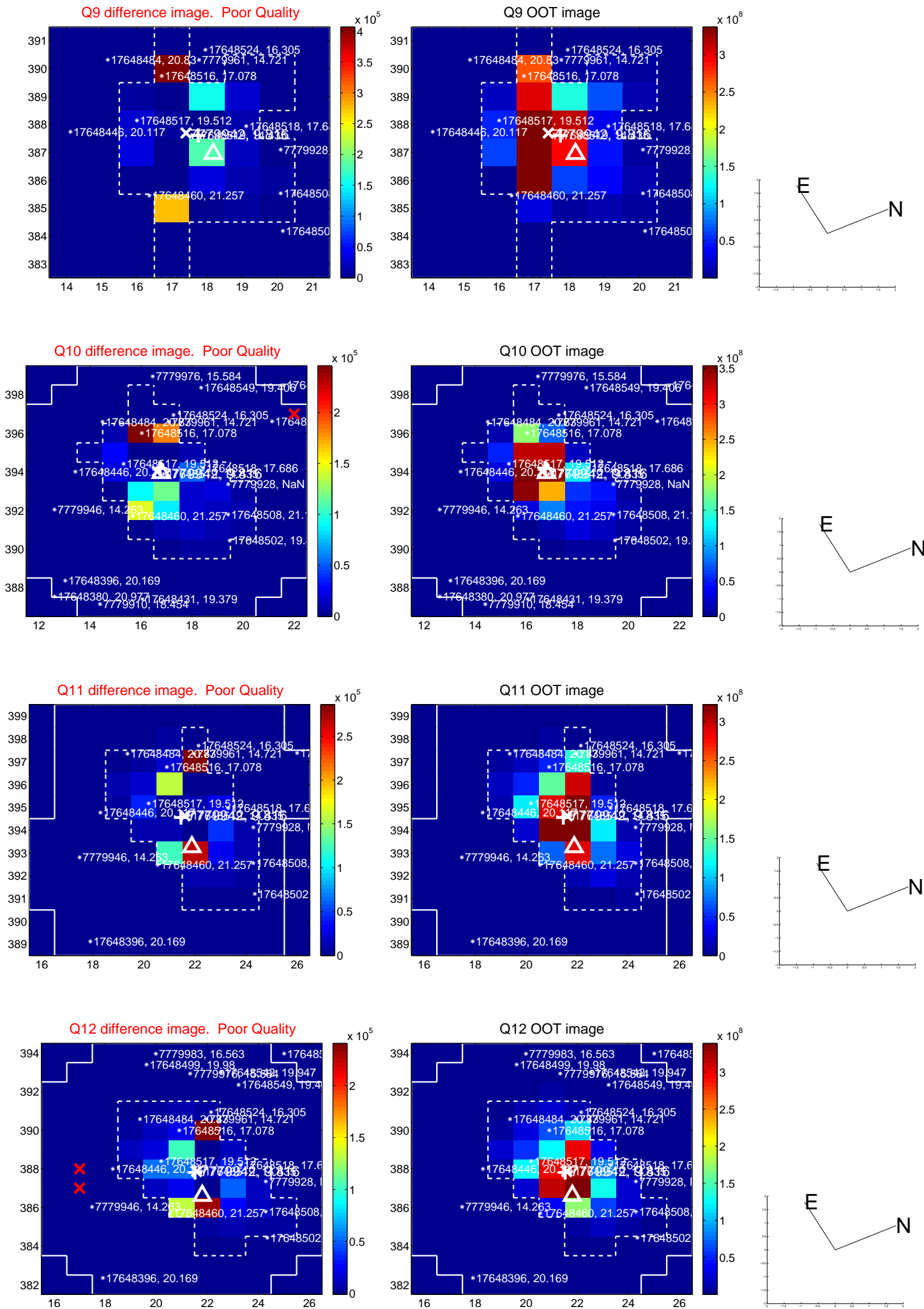
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



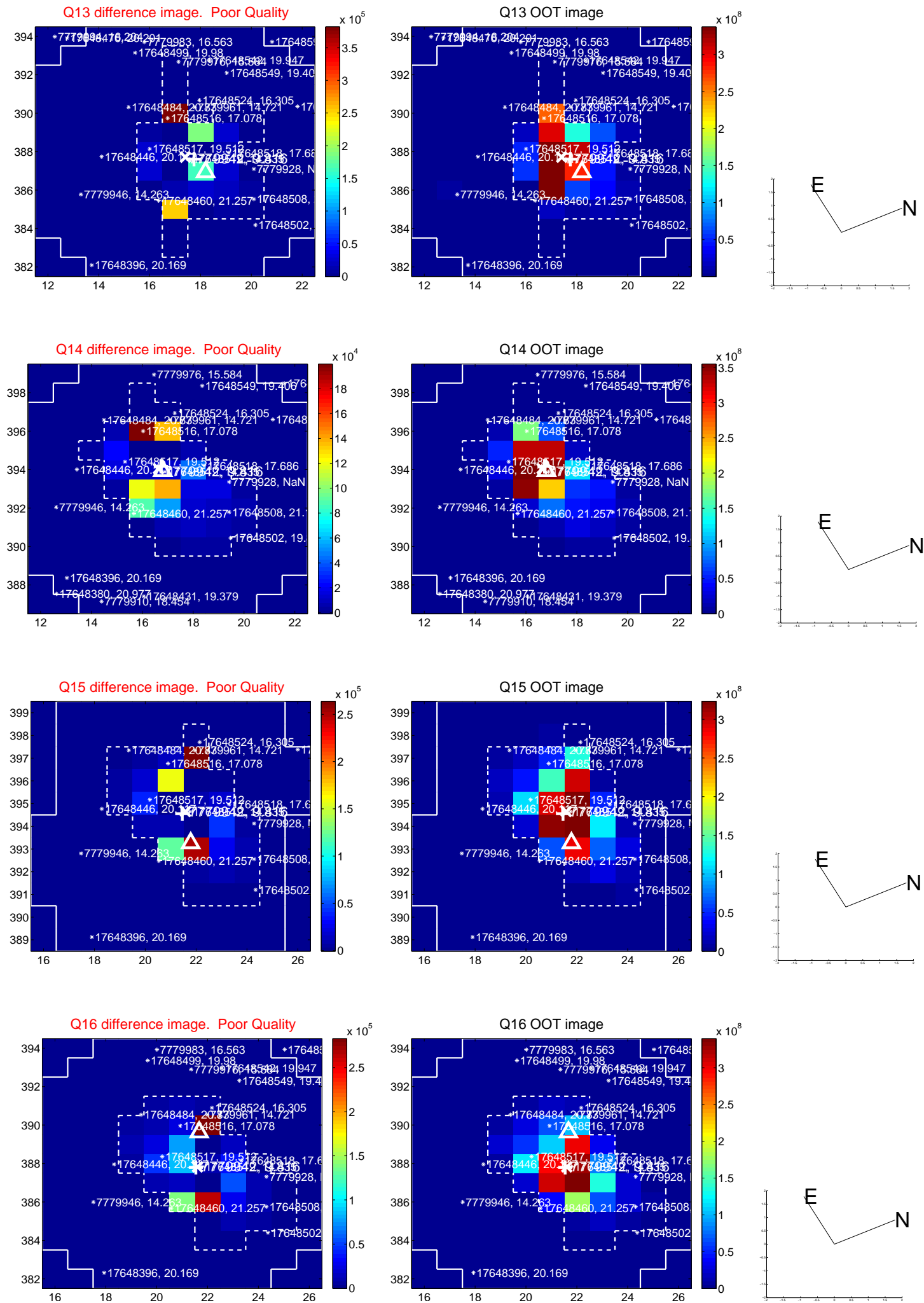
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



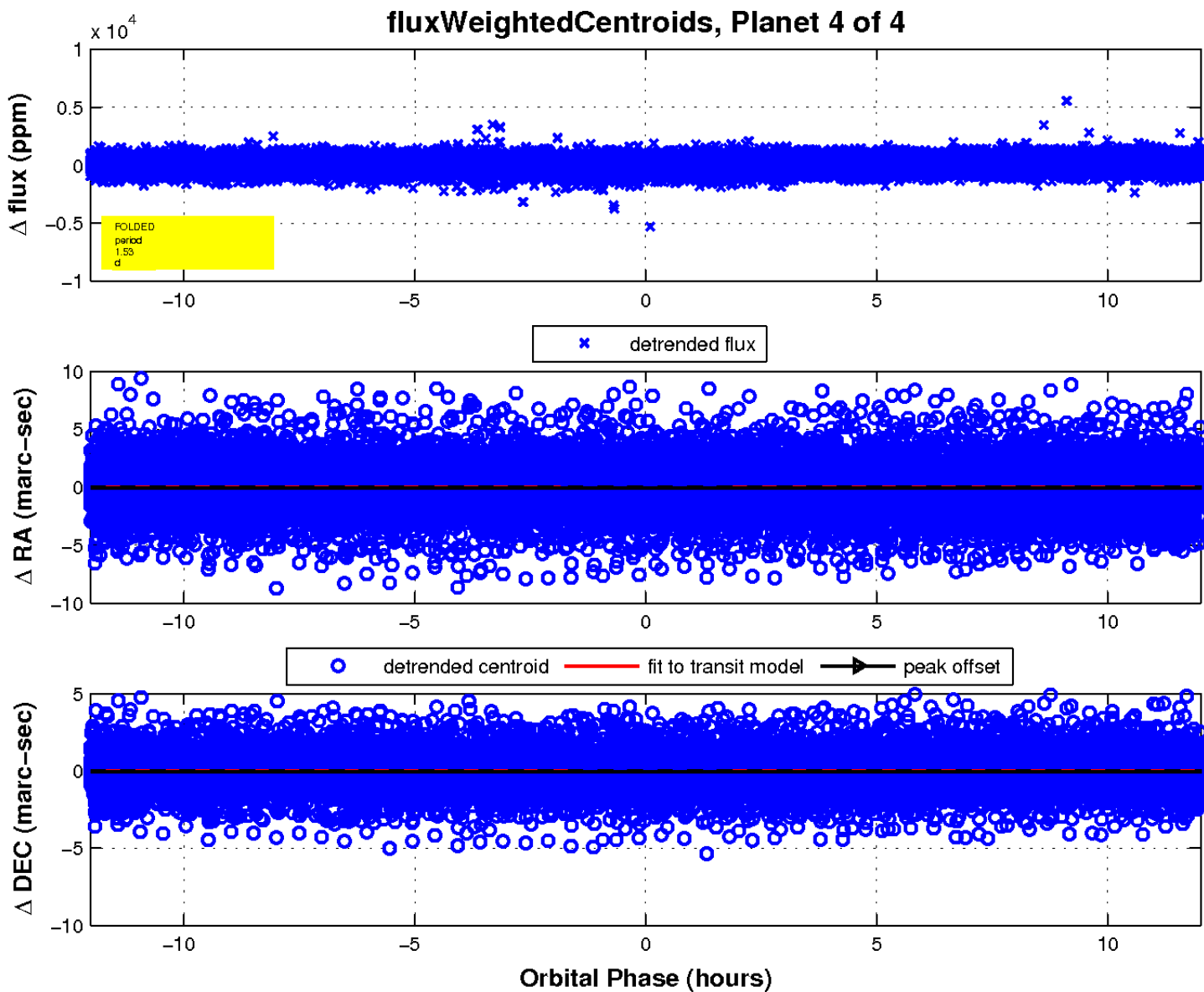
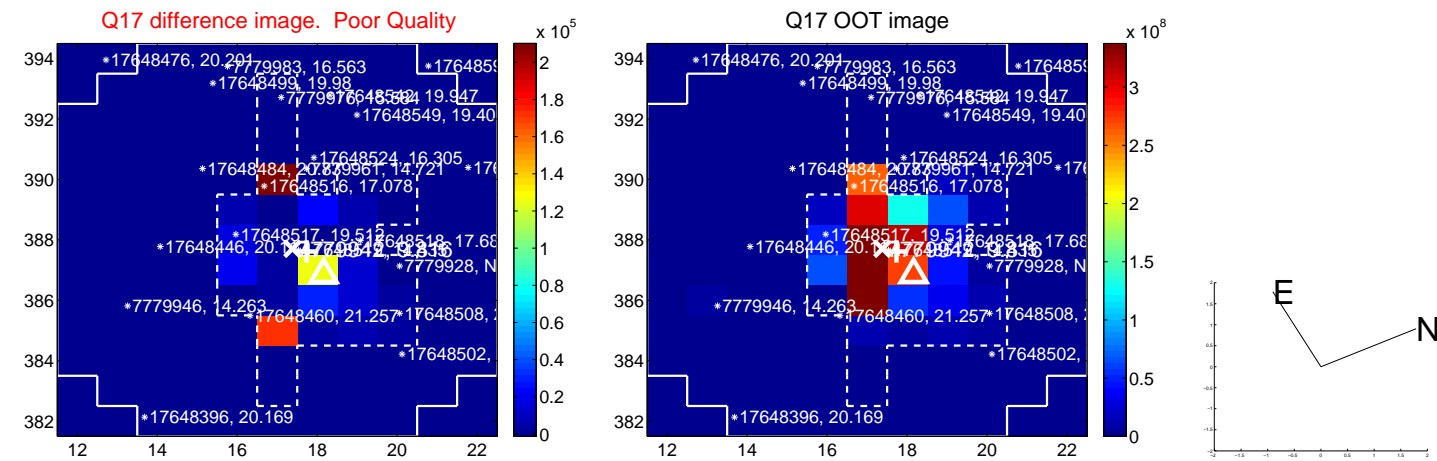
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

