

KIC 005450503

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})
005450503-01	OBS	No	2.401915	133.147962	52.3	10.256	8.4	7.8	2.08	7151	1.74	6325.62
005450503-02	OBS	No	1.107249	132.098602	0.0	7.692	8.3	0.0	2.08	7151	0.00	17763.13
005450503-03	OBS	No	8.438315	132.786270	674.3	6.051	14.5	6.6	2.08	7151	10.15	1184.42
005450503-04	OBS	No	14.686746	134.860256	156.0	2.416	10.9	2.2	2.08	7151	3.00	565.73
005450503-05	OBS	No	25.866420	137.934220	450.9	10.880	7.6	5.6	2.08	7151	4.65	265.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005450503-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
005450503-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—CENT_SATURATED
005450503-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
005450503-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
005450503-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

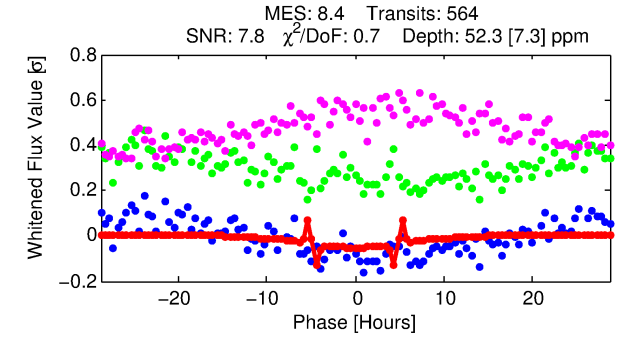
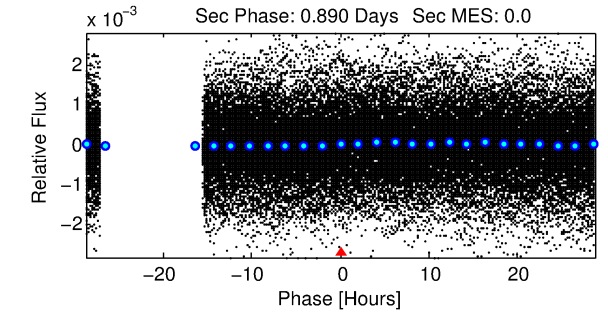
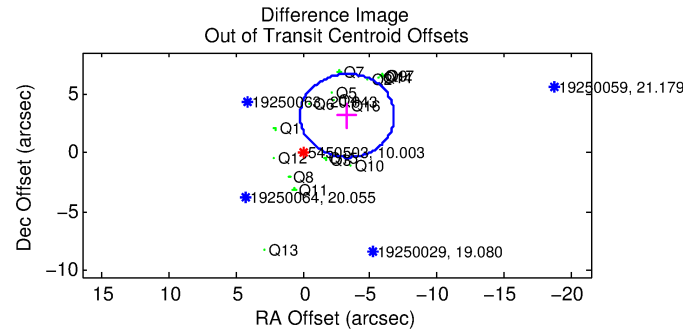
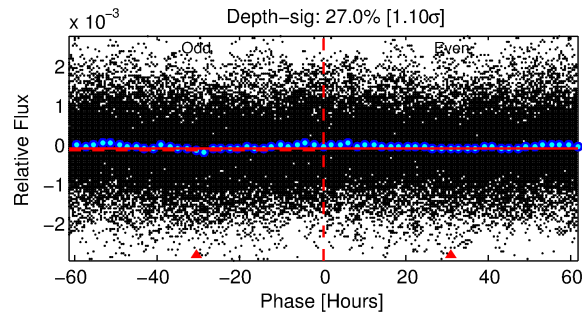
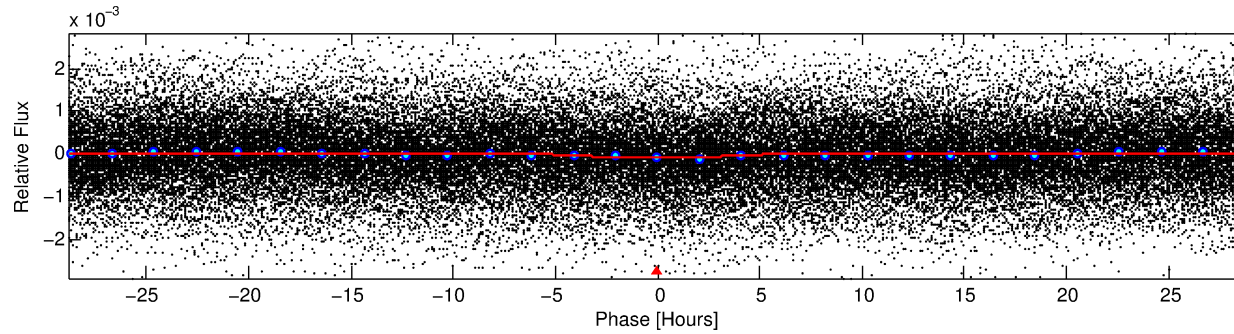
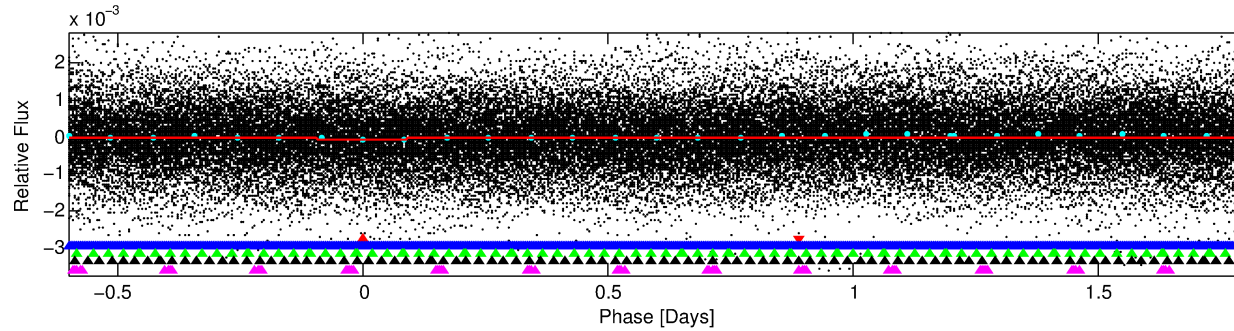
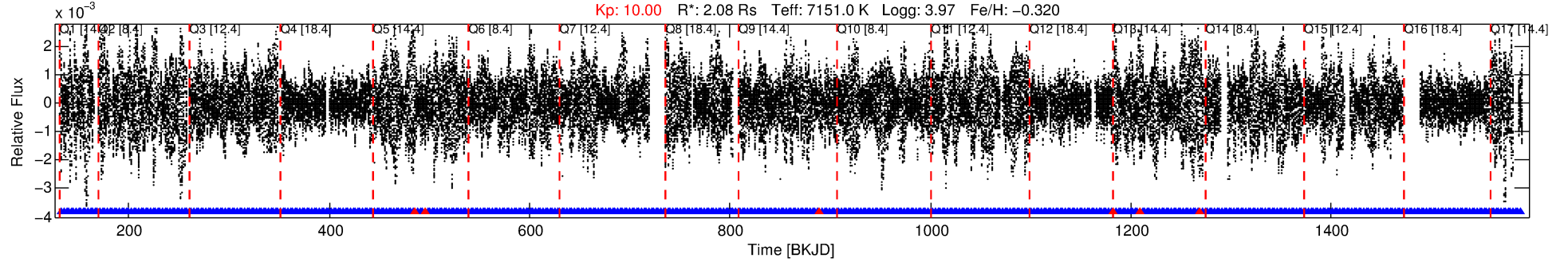
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005450503-01

No Significant Match Found

DV One-Page Summary

KIC: 5450503 Candidate: 1 of 5 Period: 2.402 d



DV Fit Results:

Period = 2.40191 [0.00001] d
Epoch = 133.1480 [0.0020] BKJD
Rp/R* = 0.0077 [0.0007]
a/R* = 1.25 [0.12]
b = 0.90 [0.06]
Seff = 6325.62 [3231.57]
Teq = 2274 [290] K
Rp = 1.74 [0.61] Re
a = 0.0400 [0.0126] AU
Ag = N/A
Teffp = N/A

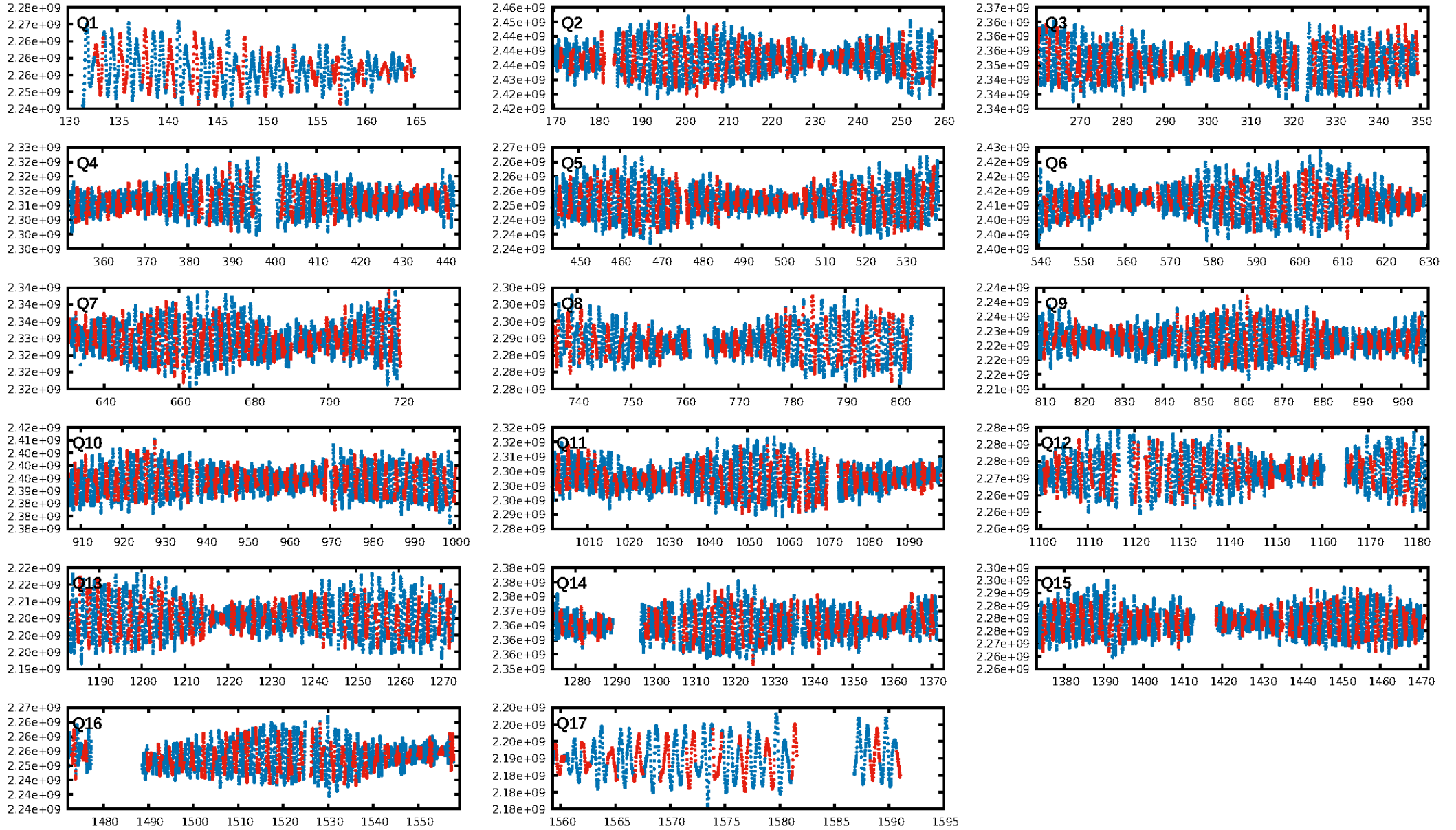
DV Diagnostic Results:

ShortPeriod-sig: 98.5% [2.42 σ]
LongPeriod-sig: 100.0% [12.17 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.56e-30
RollingBand-fgt: 0.99 [532/538]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: 0.984 arcsec [2.22 σ]
OotOffset-rm: 4.555 arcsec [3.88 σ]
KicOffset-rm: 4.071 arcsec [3.54 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.06 [1/17]
DiffImageOverlap-fno: 0.00 [0/17]

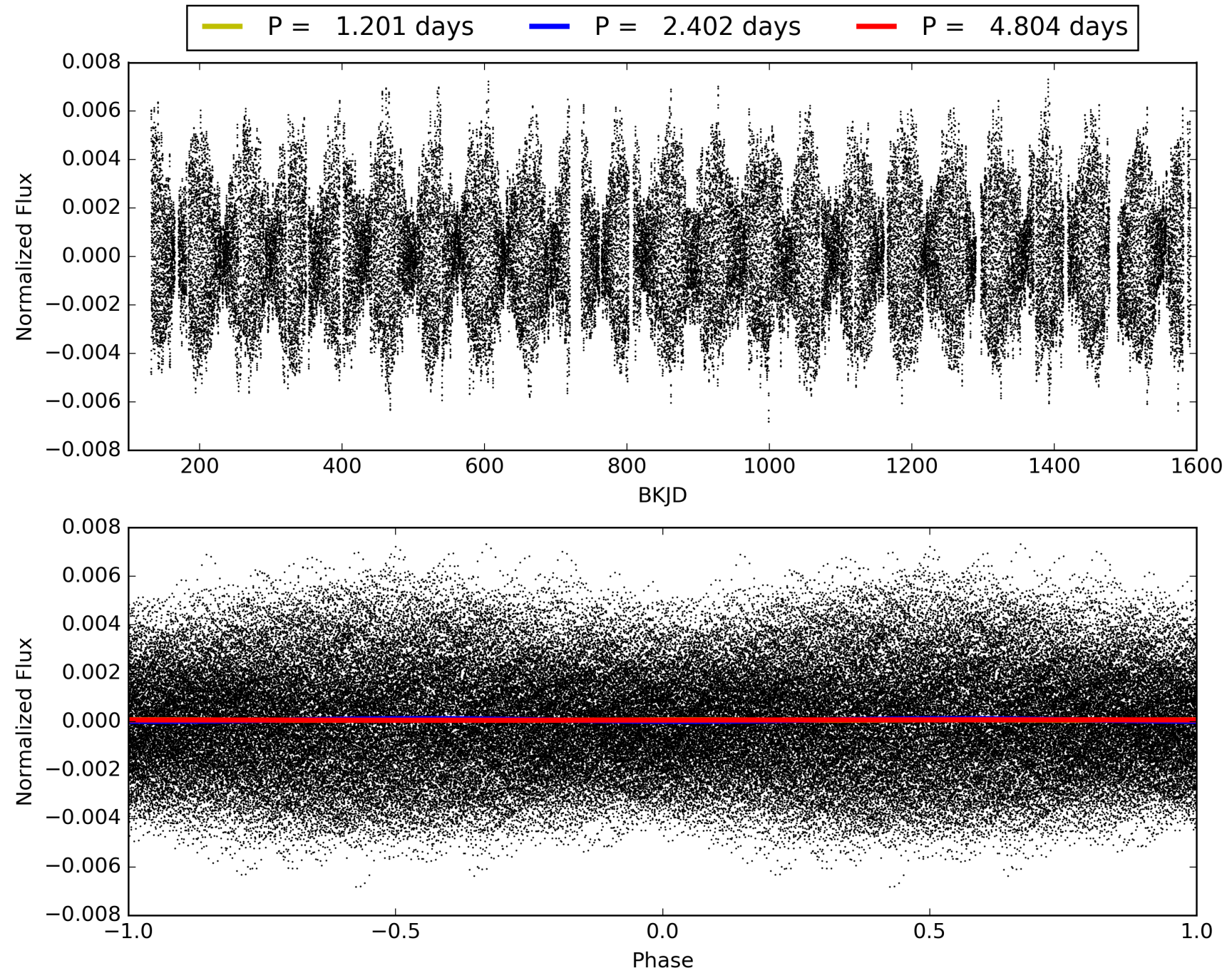
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005450503-01, PDC Light Curves

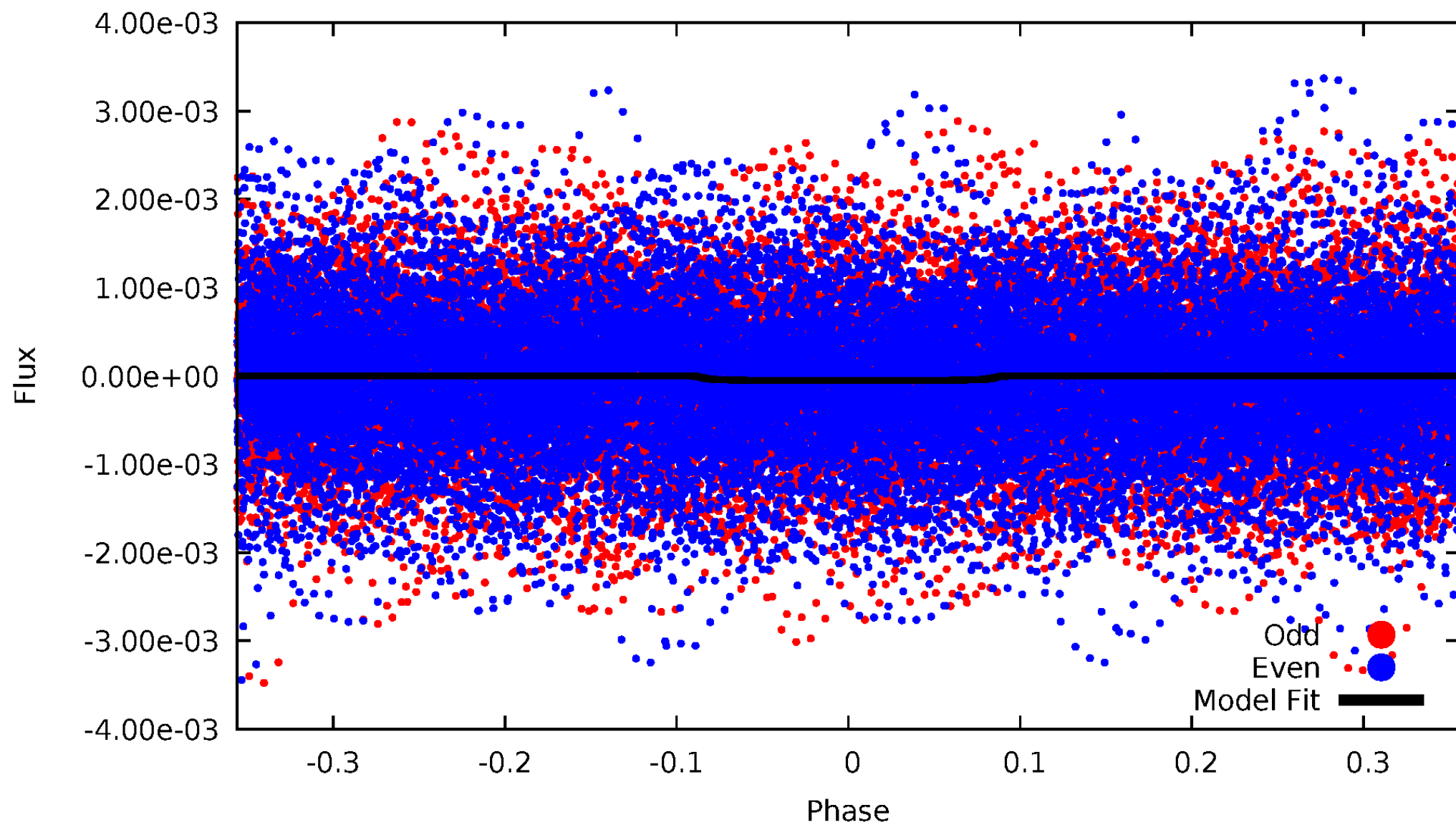


TCE 005450503-01



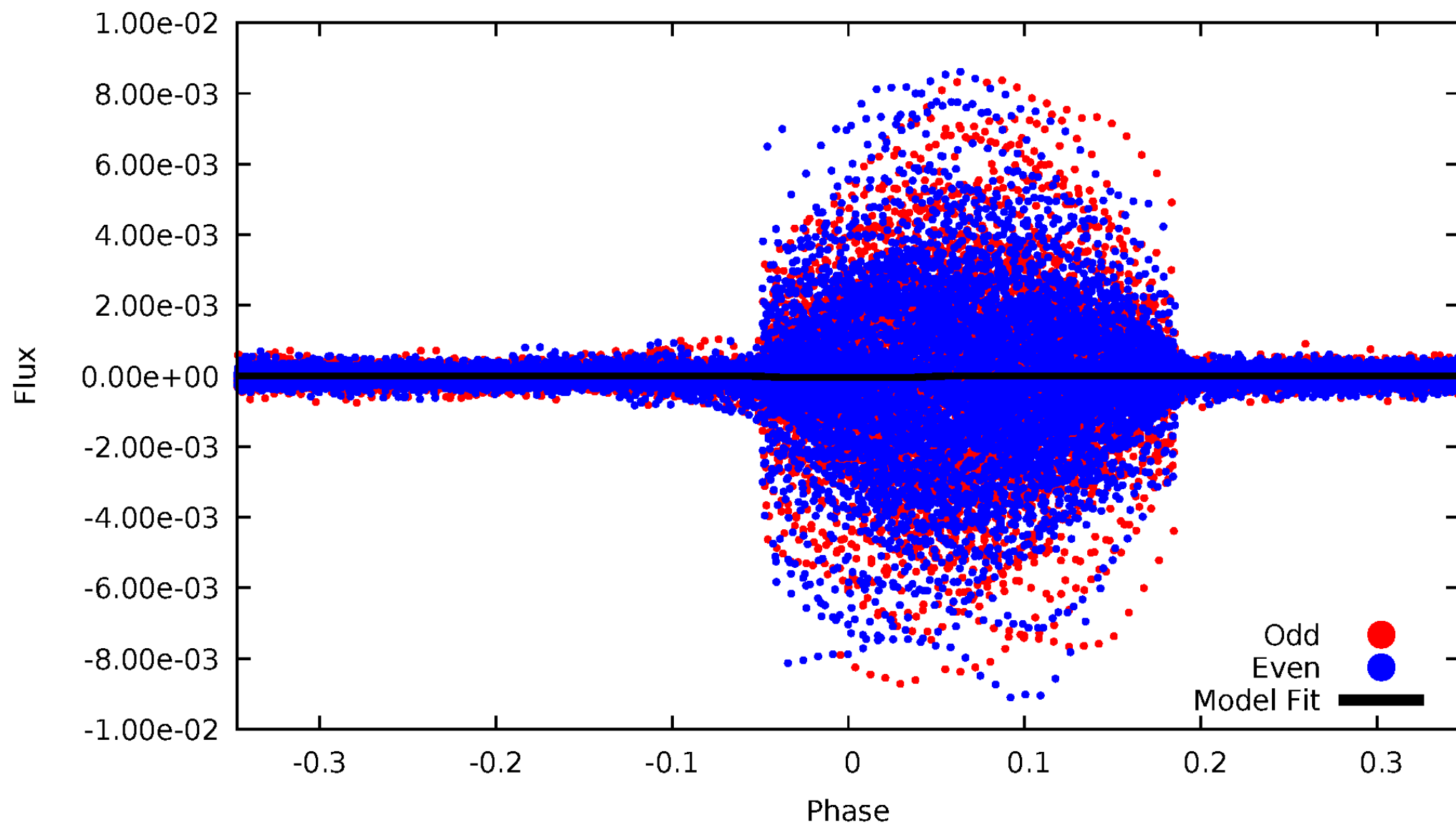
DV Odd/Even

TCE 005450503-01



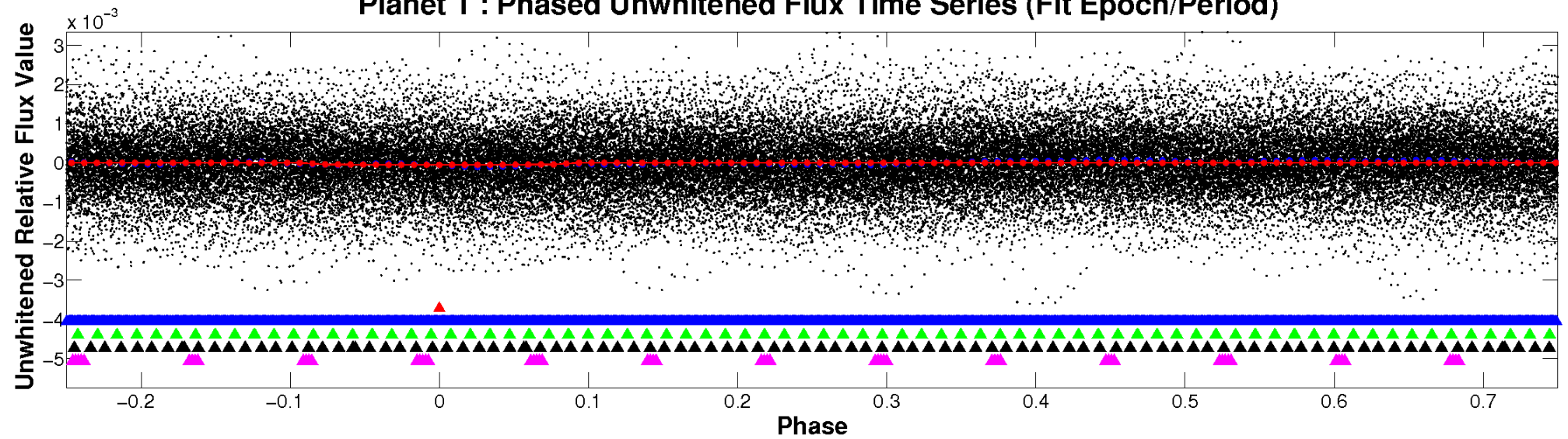
ALT Odd/Even

TCE 005450503-01

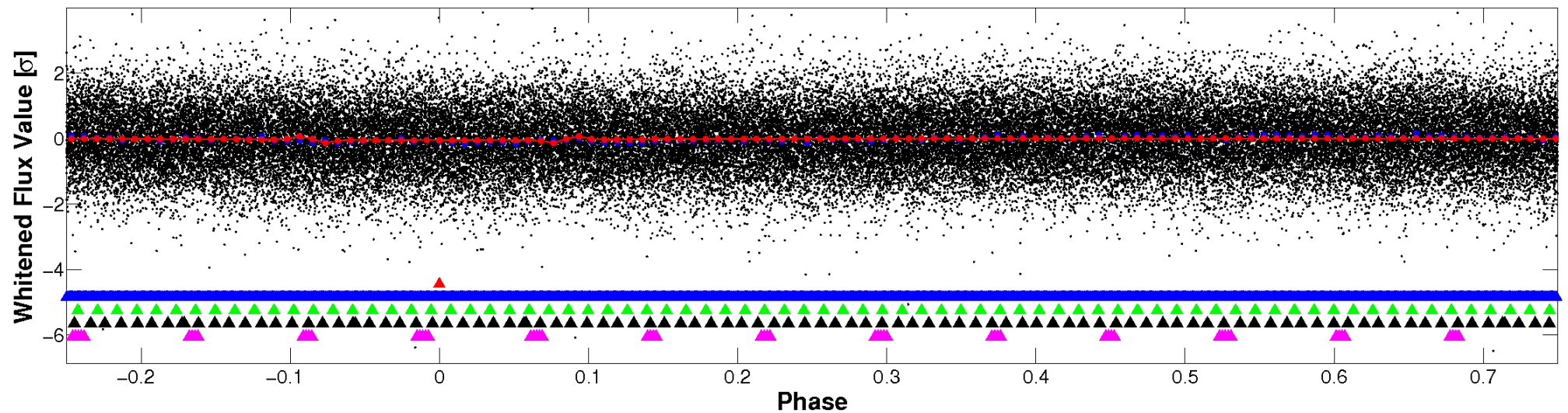


Non-Whitened Vs. Whitened Light Curve

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

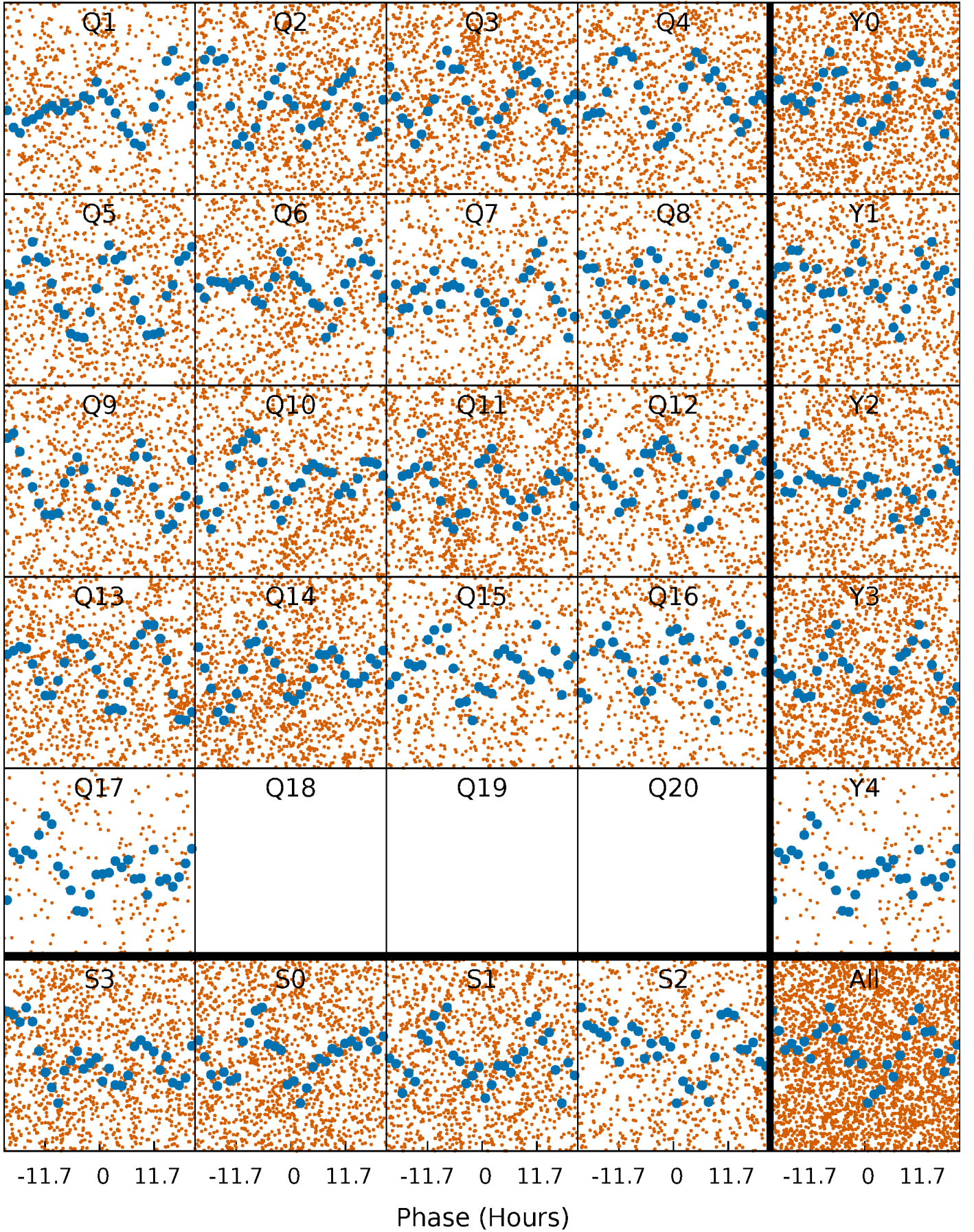


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



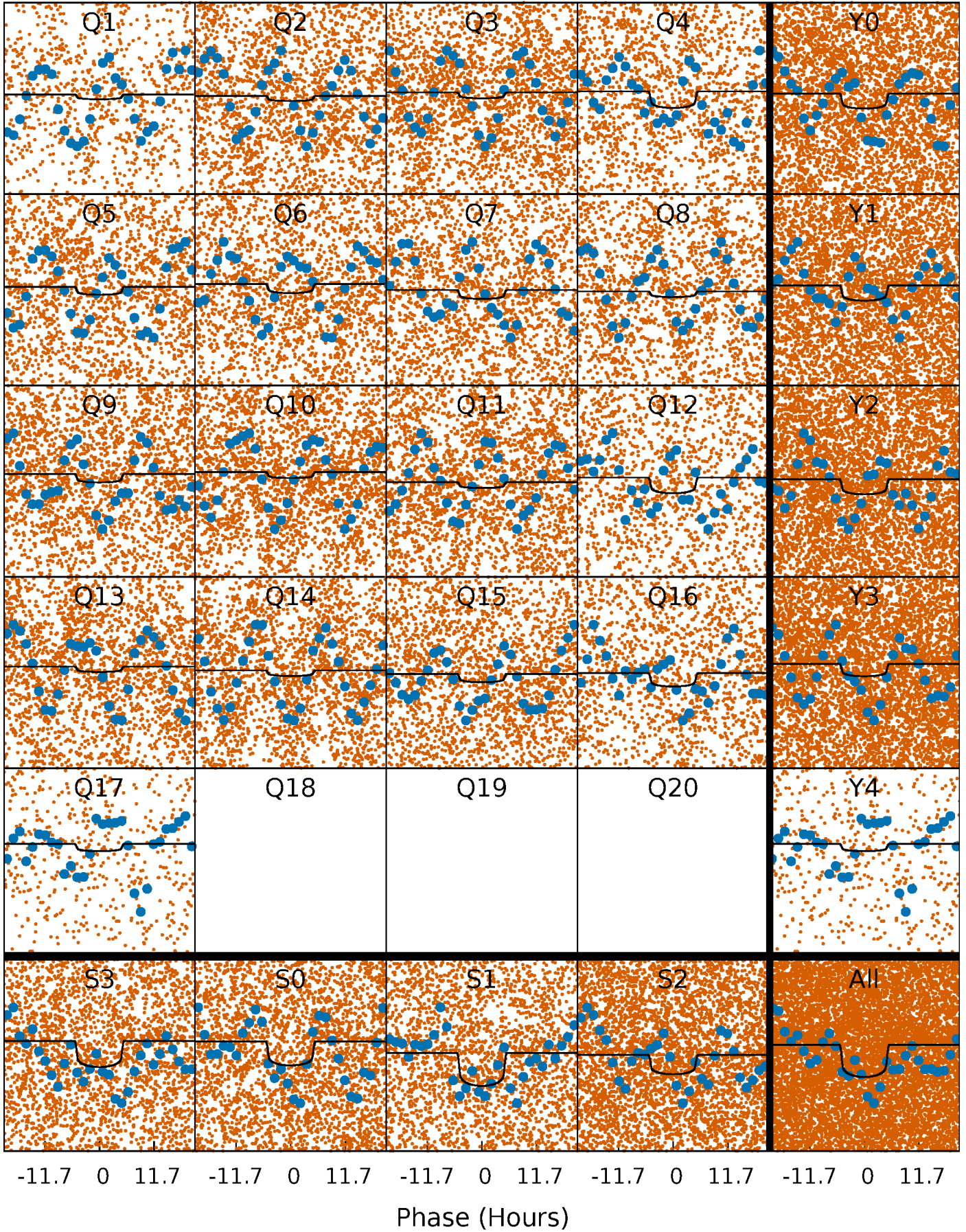
PDC Quarter-Phased Transit Curves

TCE 005450503-01 P= 2.401915 Days $T_0=133.147962$ (BKJD)



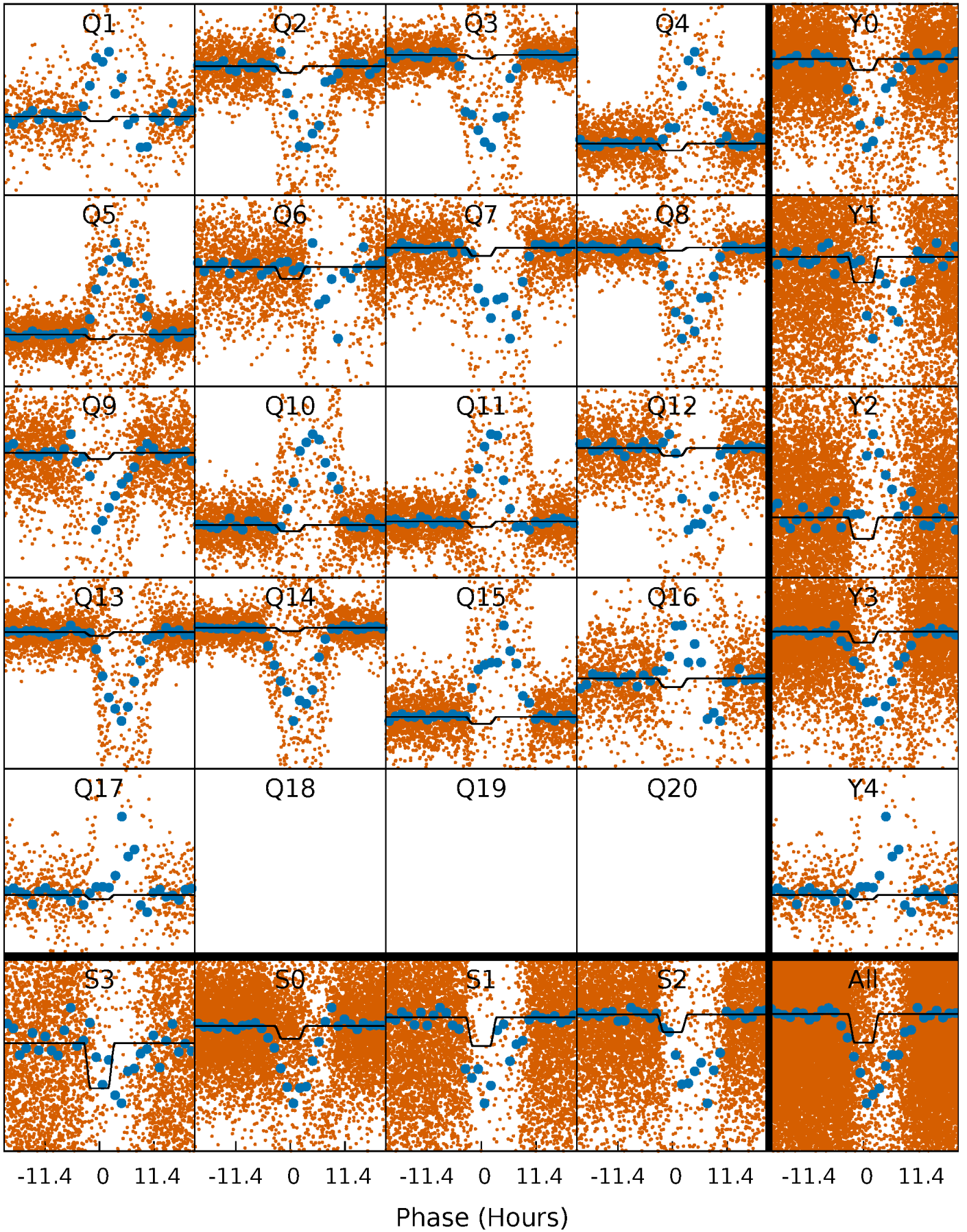
DV Quarter-Phased Transit Curves

TCE 005450503-01 P= 2.401915 Days $T_0=133.147962$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

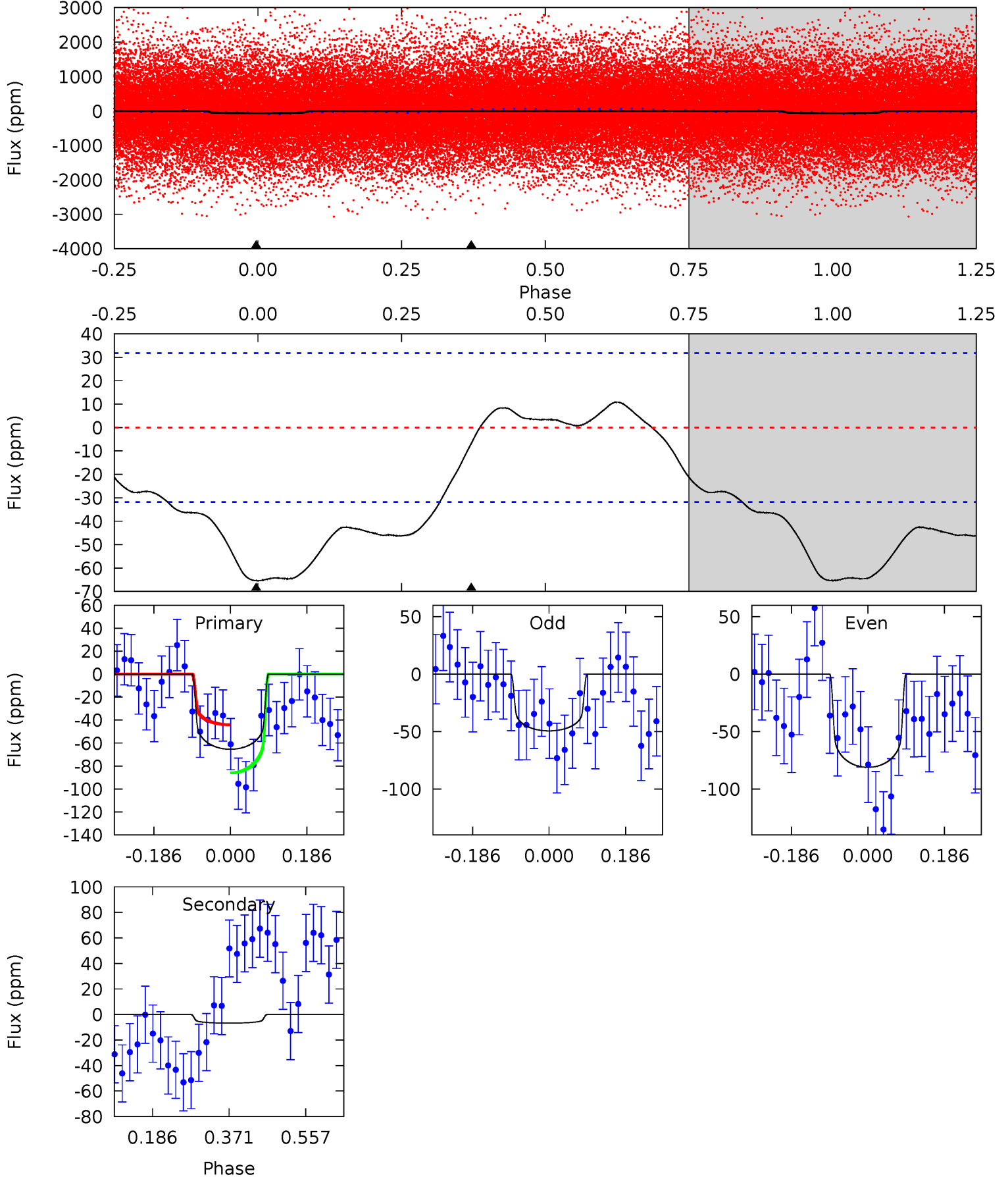
TCE 005450503-01 P= 2.401860 Days $T_0=133.146547$ (BKJD)



DV Model-Shift Uniqueness Test

005450503-01, P = 2.401915 Days, E = 130.746047 Days

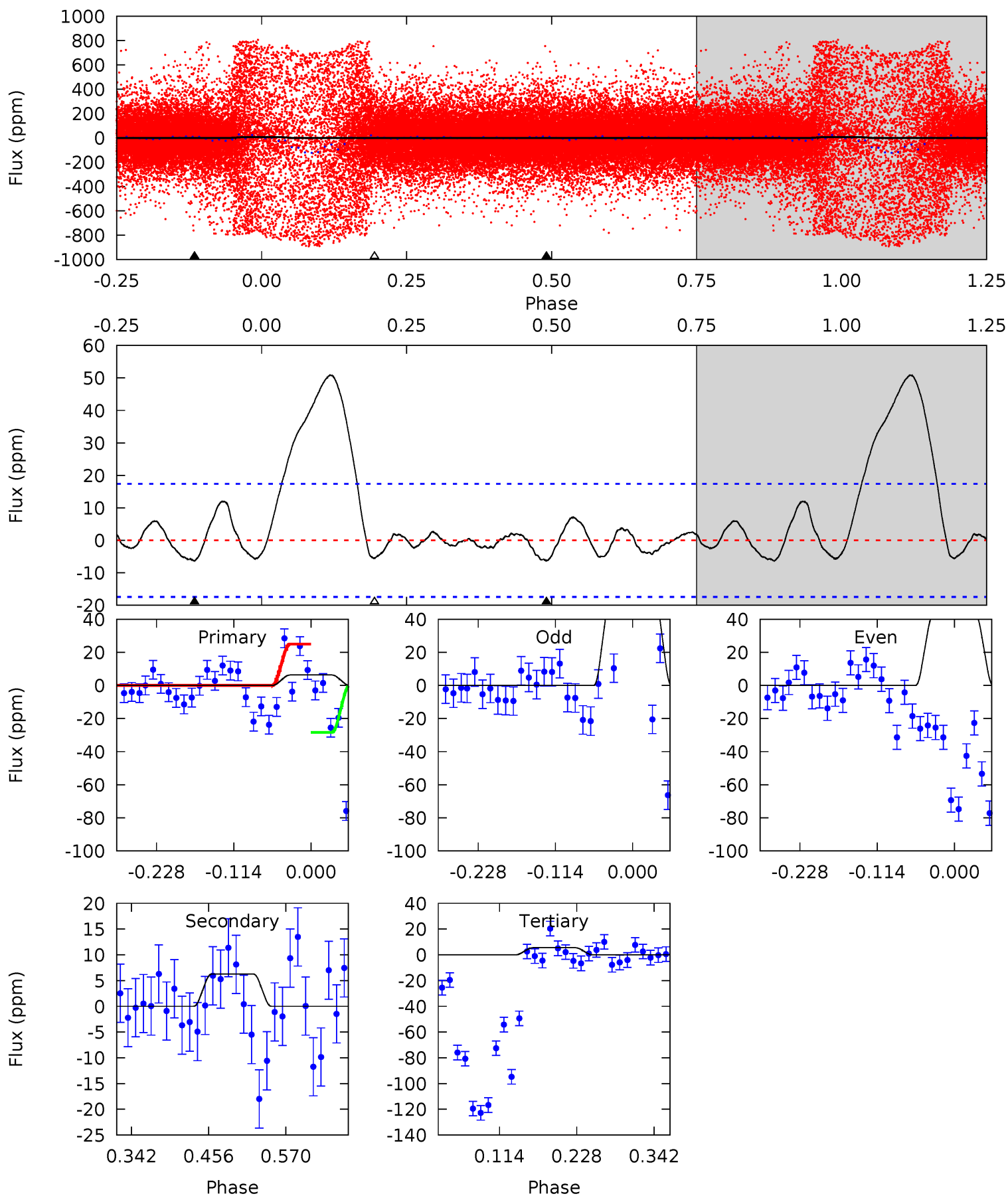
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.12	0.95	0	0	4.43	1.32	1.99	9.12	9.12	0.95	0.95	2.20	1.13	0.14	2.91



Alt Model-Shift Uniqueness Test

005450503-01, P = 2.401860 Days, E = 130.744687 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.64	1.63	1.44	0	4.54	1.58	3.19	0.20	1.64	0.19	1.63	2.22	58.5	0.89	0



Stellar Parameters For KIC 005450503

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7151^{+171}_{-235}	$3.972^{+0.286}_{-0.154}$	$-0.320^{+0.300}_{-0.300}$	$2.076^{+0.511}_{-0.703}$	$1.473^{+0.180}_{-0.308}$	$0.232^{+0.508}_{-0.090}$
	+2%/-3%	+7%/-4%	+94%/-94%	+25%/-34%	+12%/-21%	+219%/-39%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005450503-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-7 ± 7	$1.69^{+0.32}_{-0.33}$	3146^{+237}_{-288}	4226^{+736}_{-7322}	$2.098^{+2.405}_{-2.064}$
Alt.	-6 ± 4	$1.46^{+0.29}_{-0.31}$	3140^{+258}_{-287}	4457^{+573}_{-845}	$2.626^{+2.401}_{-1.572}$

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 $A_{obs} \gg 1.0$

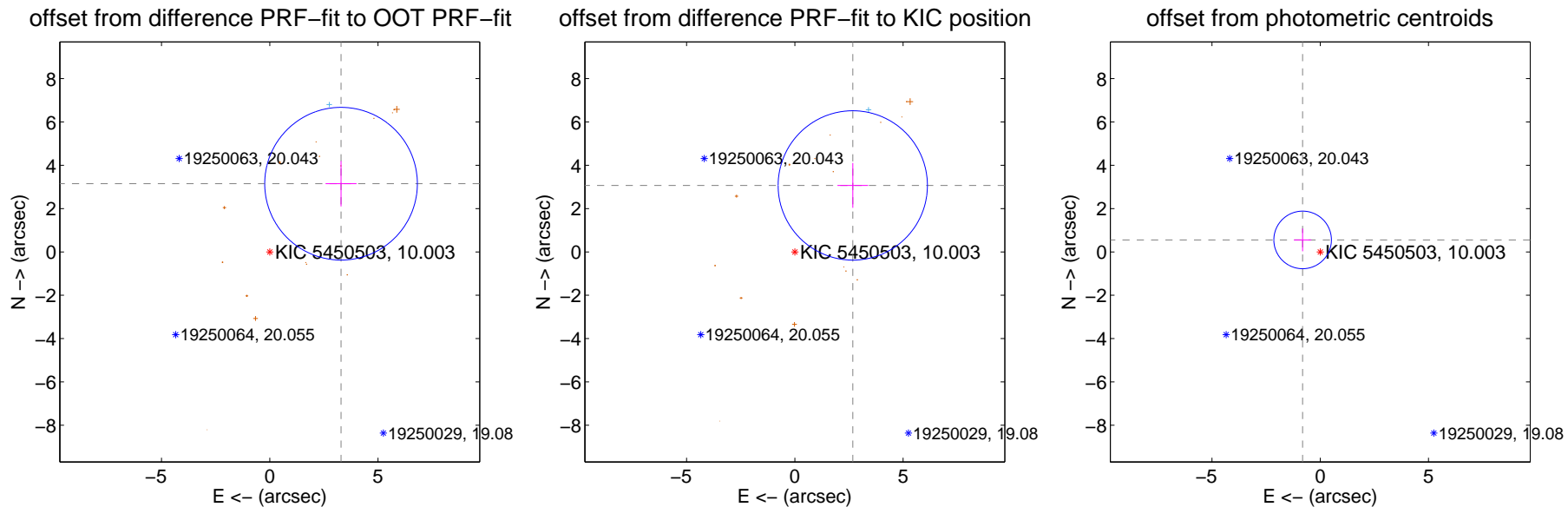
DV Centroid Data

Supplemental centroid analysis for 005450503-01. **Kepler magnitude: 10.00.** Transit SNR 7.85

There are 1 quarters with good PRF difference image offsets

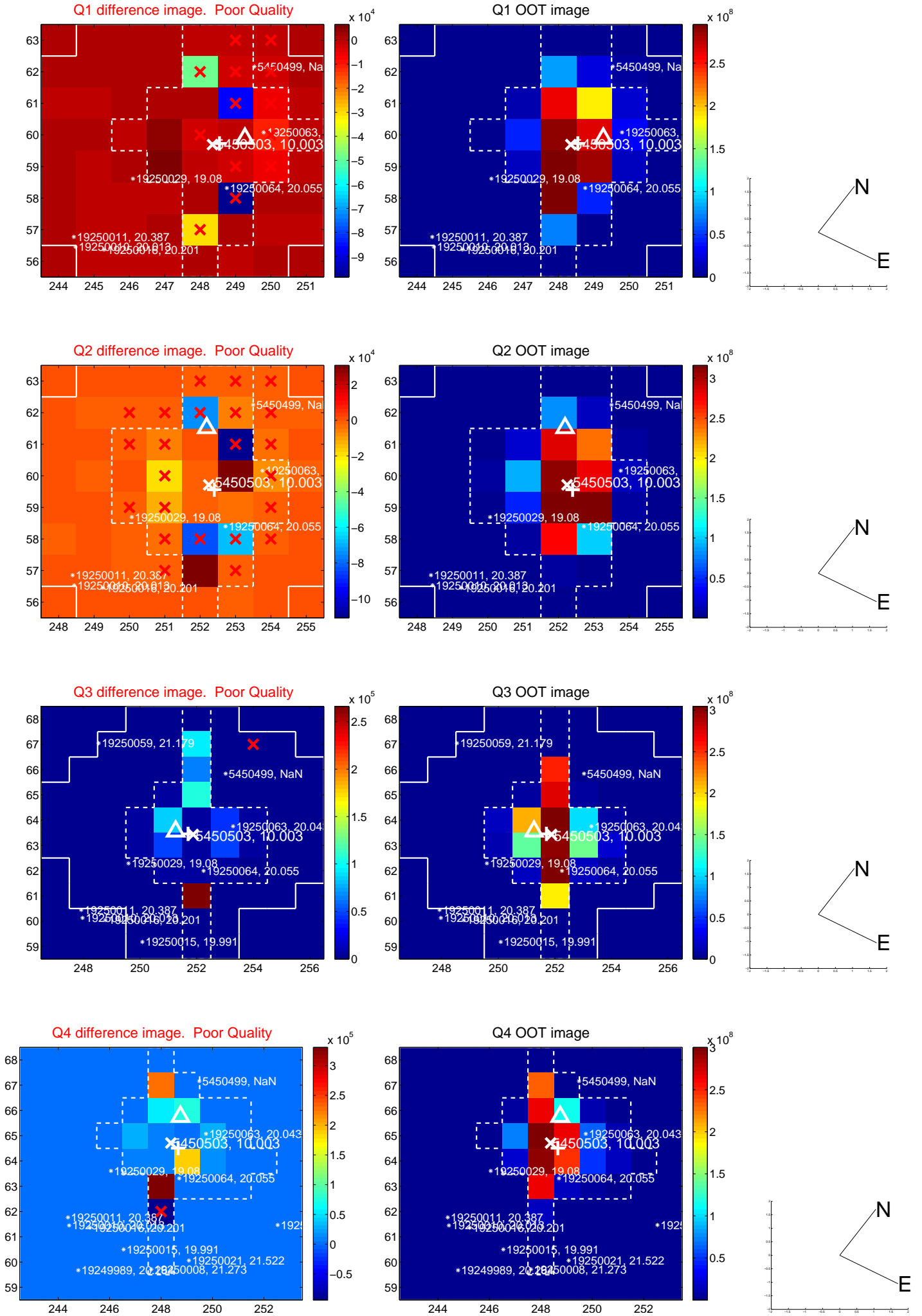
The direct PRF centroid is offset from the target star catalog position by about 0.69 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.555 ± 1.175	3.88	-3.292 ± 0.717	3.148 ± 1.049
PRF-fit source offset from KIC position	4.071 ± 1.149	3.54	-2.675 ± 0.708	3.069 ± 1.034
photometric centroid source offset	0.98 ± 0.44	2.22	0.81 ± 0.40	0.55 ± 0.53

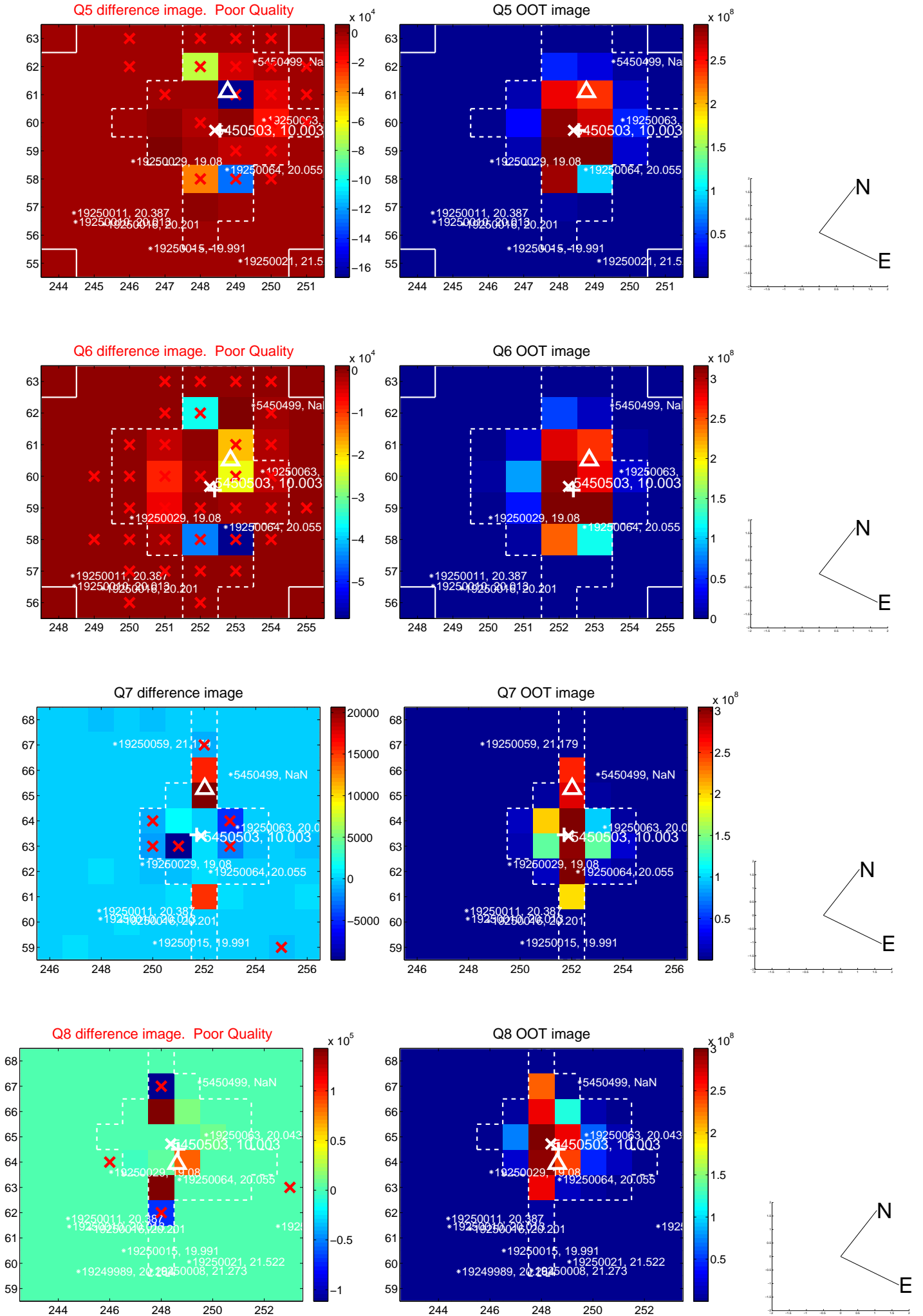


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

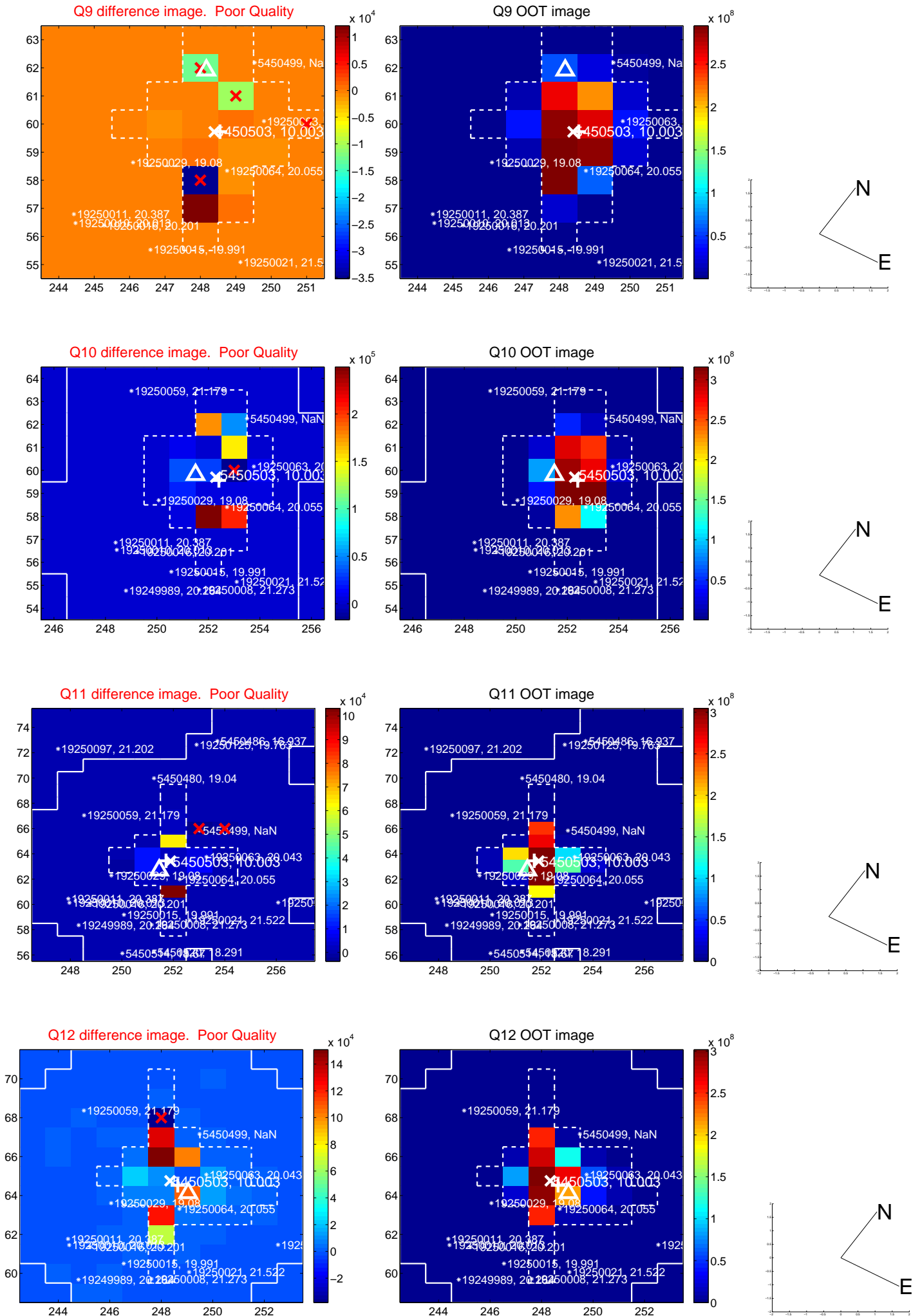
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



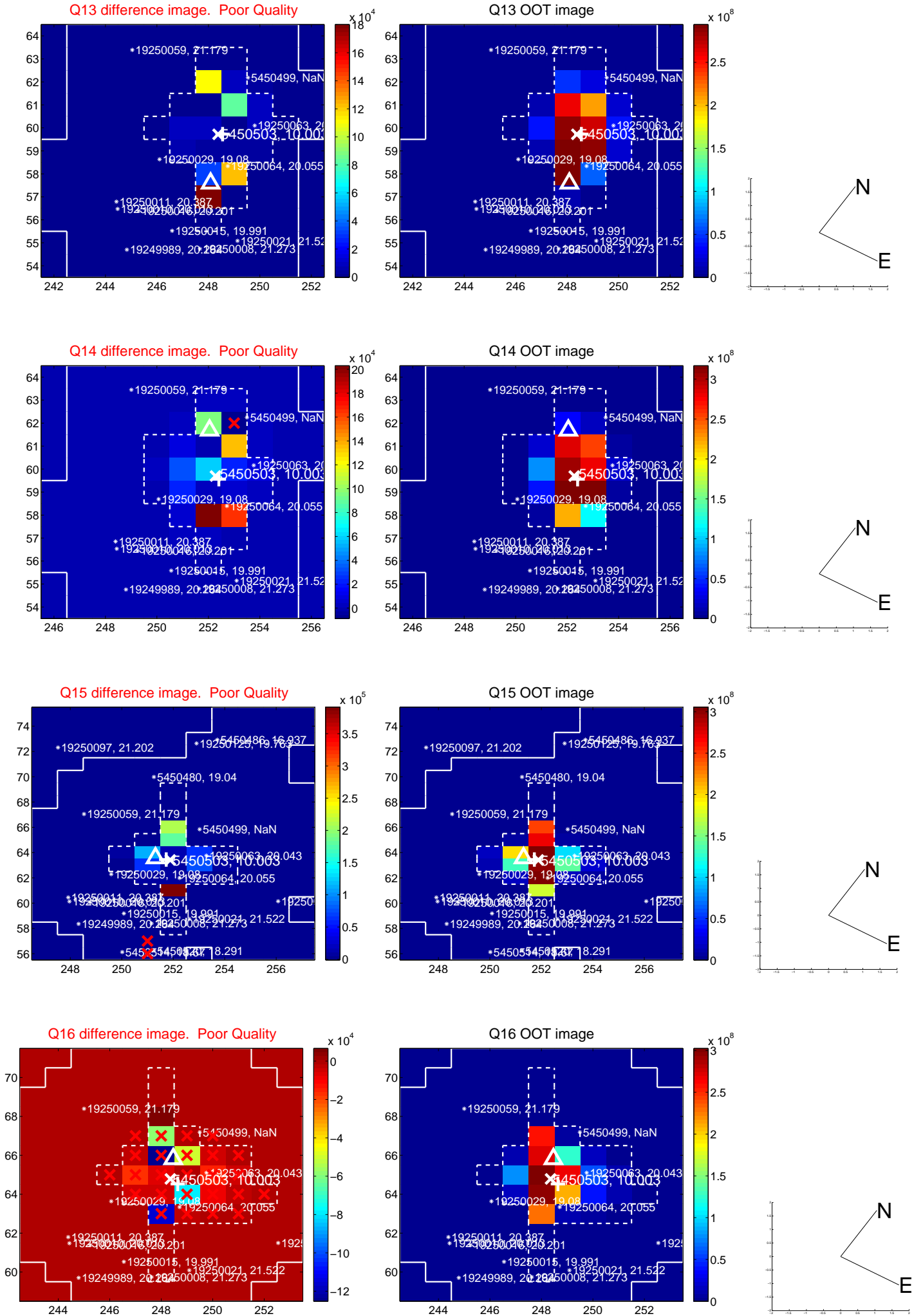
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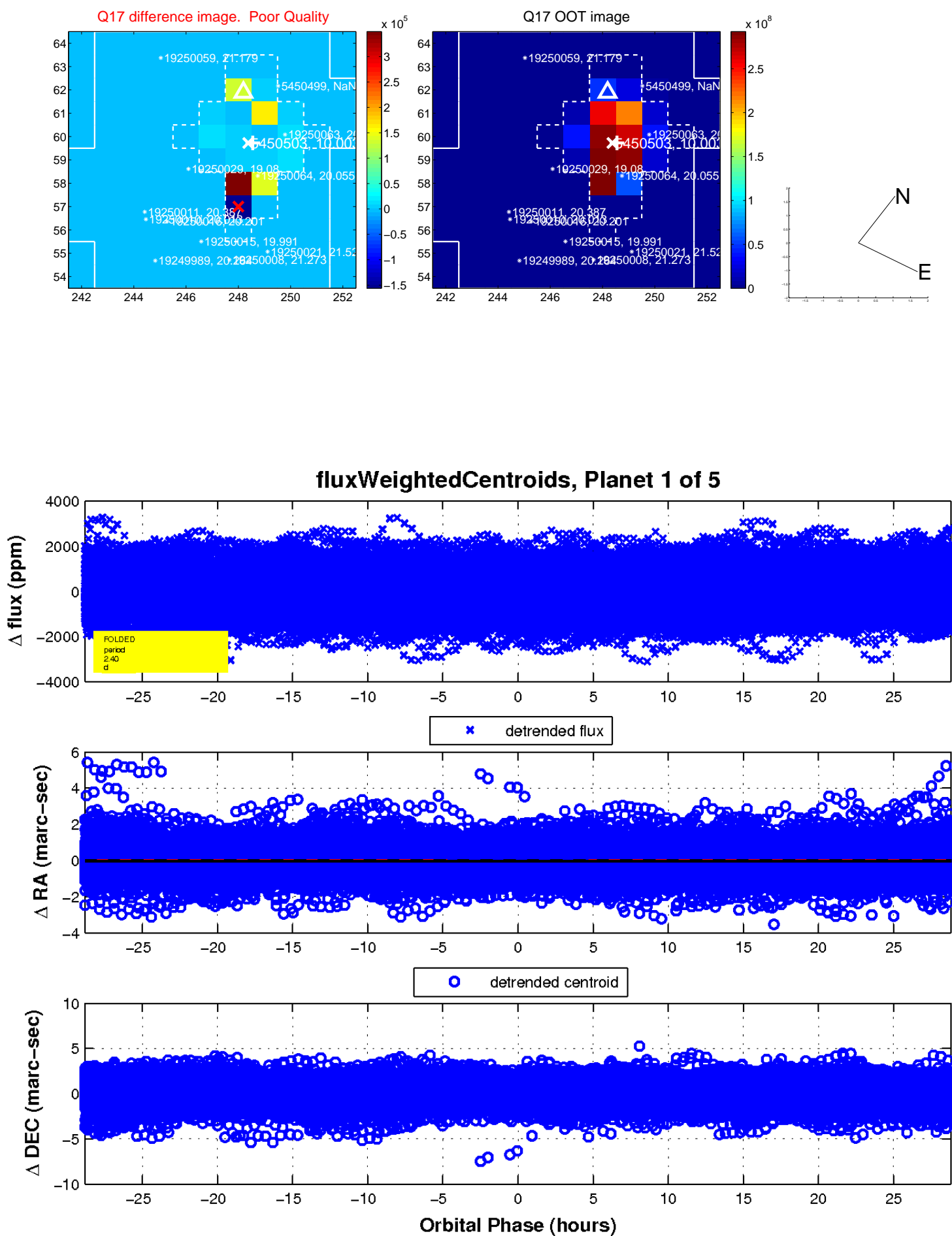
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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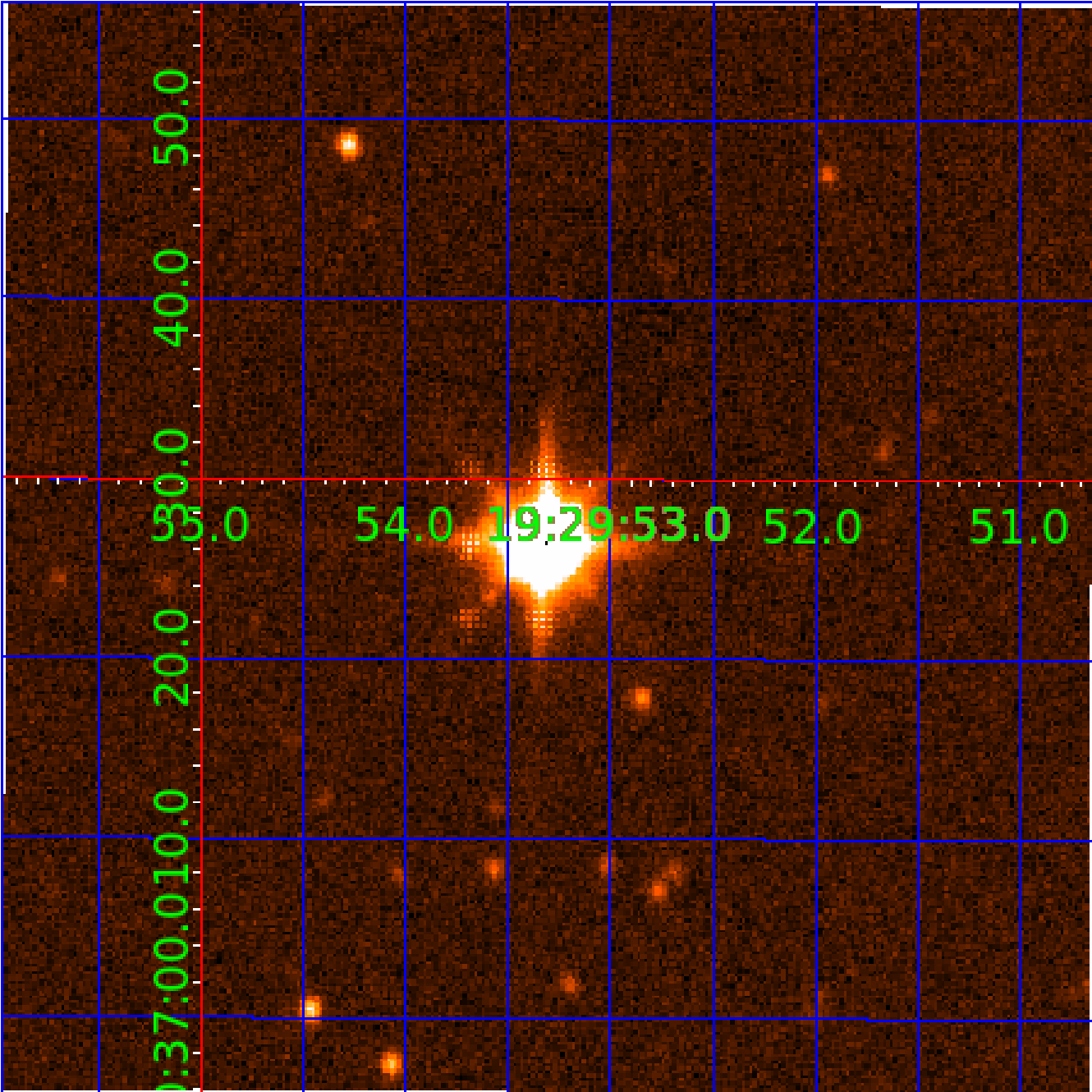


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005450503

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})
005450503-01	OBS	No	2.401915	133.147962	52.3	10.256	8.4	7.8	2.08	7151	1.74	6325.62
005450503-02	OBS	No	1.107249	132.098602	0.0	7.692	8.3	0.0	2.08	7151	0.00	17763.13
005450503-03	OBS	No	8.438315	132.786270	674.3	6.051	14.5	6.6	2.08	7151	10.15	1184.42
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005450503-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
005450503-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—CENT_SATURATED
005450503-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
005450503-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
005450503-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

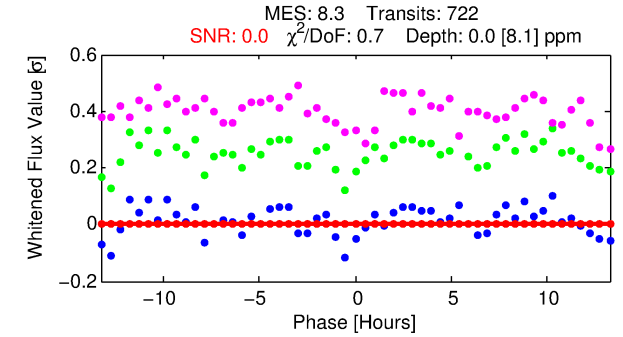
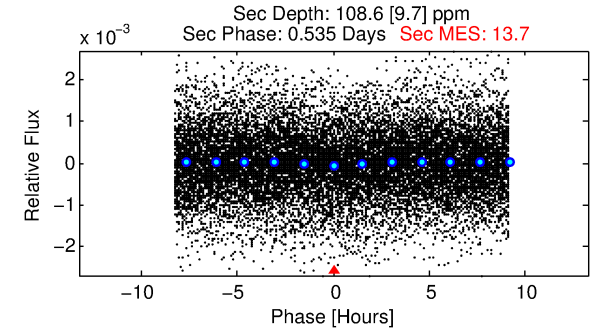
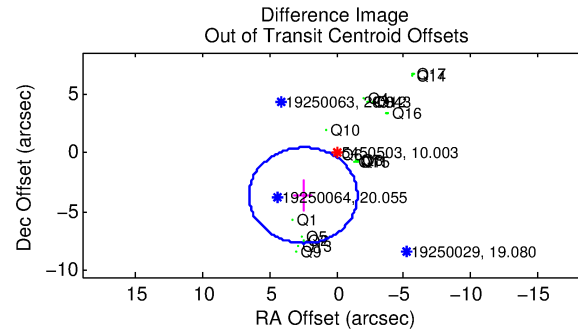
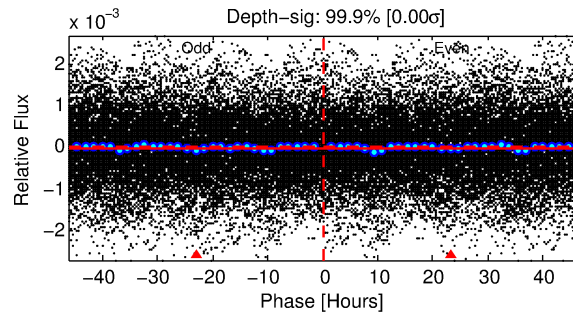
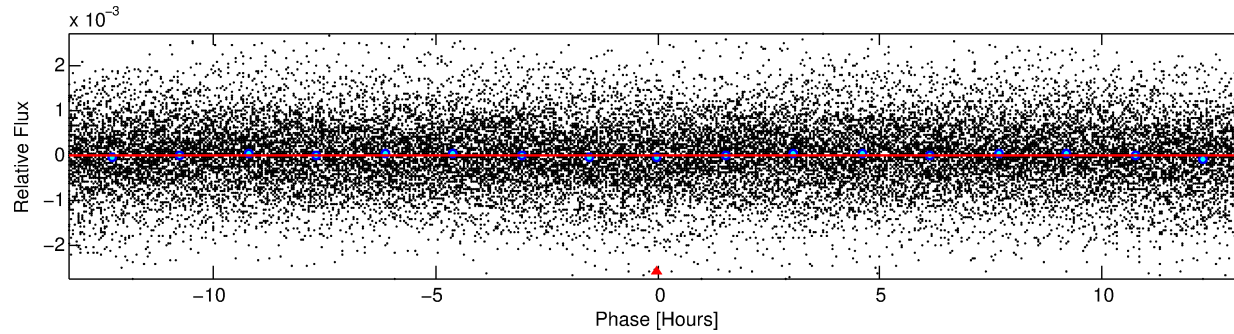
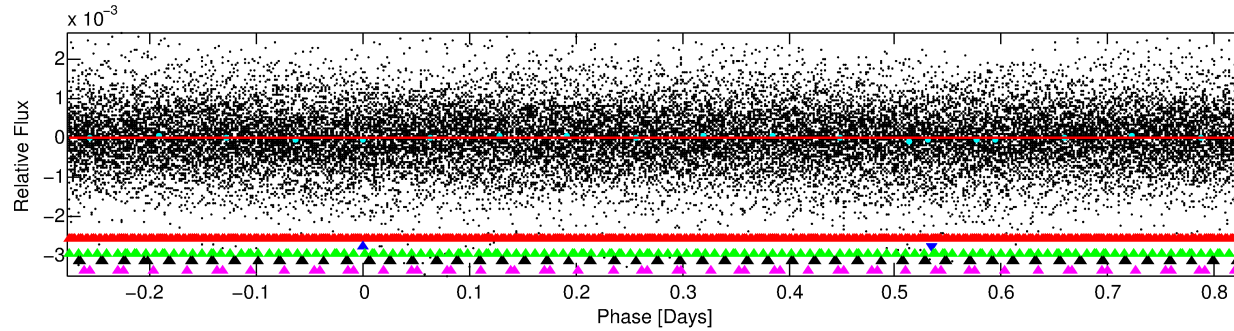
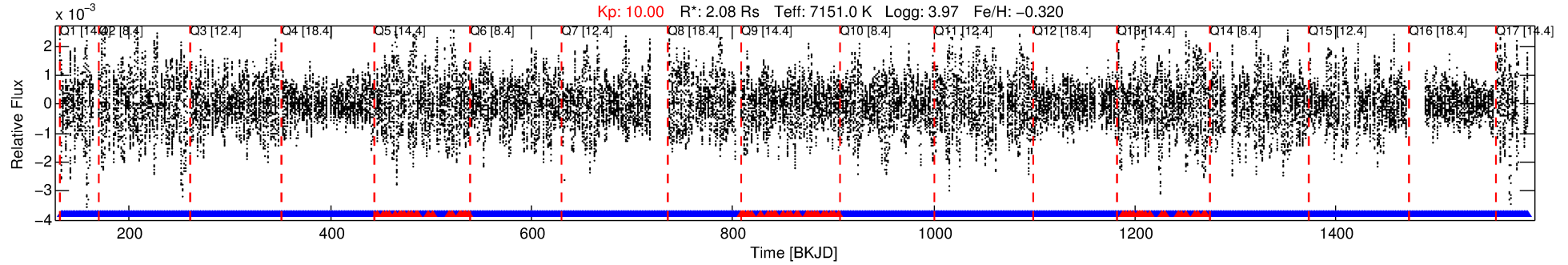
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005450503-02

No Significant Match Found

DV One-Page Summary

KIC: 5450503 Candidate: 2 of 5 Period: 1.107 d



DV Fit Results:

Period = 1.10725 [35.18809] d
Epoch = 132.0986 [4689.7968] BKJD
Rp/R* = 0.0000 [0.8739]
a/R* = 1.15 [1056.96]
b = 0.68 [11536.47]
Seff = 17763.13 [752731.87]
Teq = 2944 [31187] K
Rp = 0.00 [197.97] Re
a = 0.0238 [0.5052] AU
Ag = 33180985.97 [12982390385614.70] 10.006
Teffp = 345437 [33790913307] K [0.006]

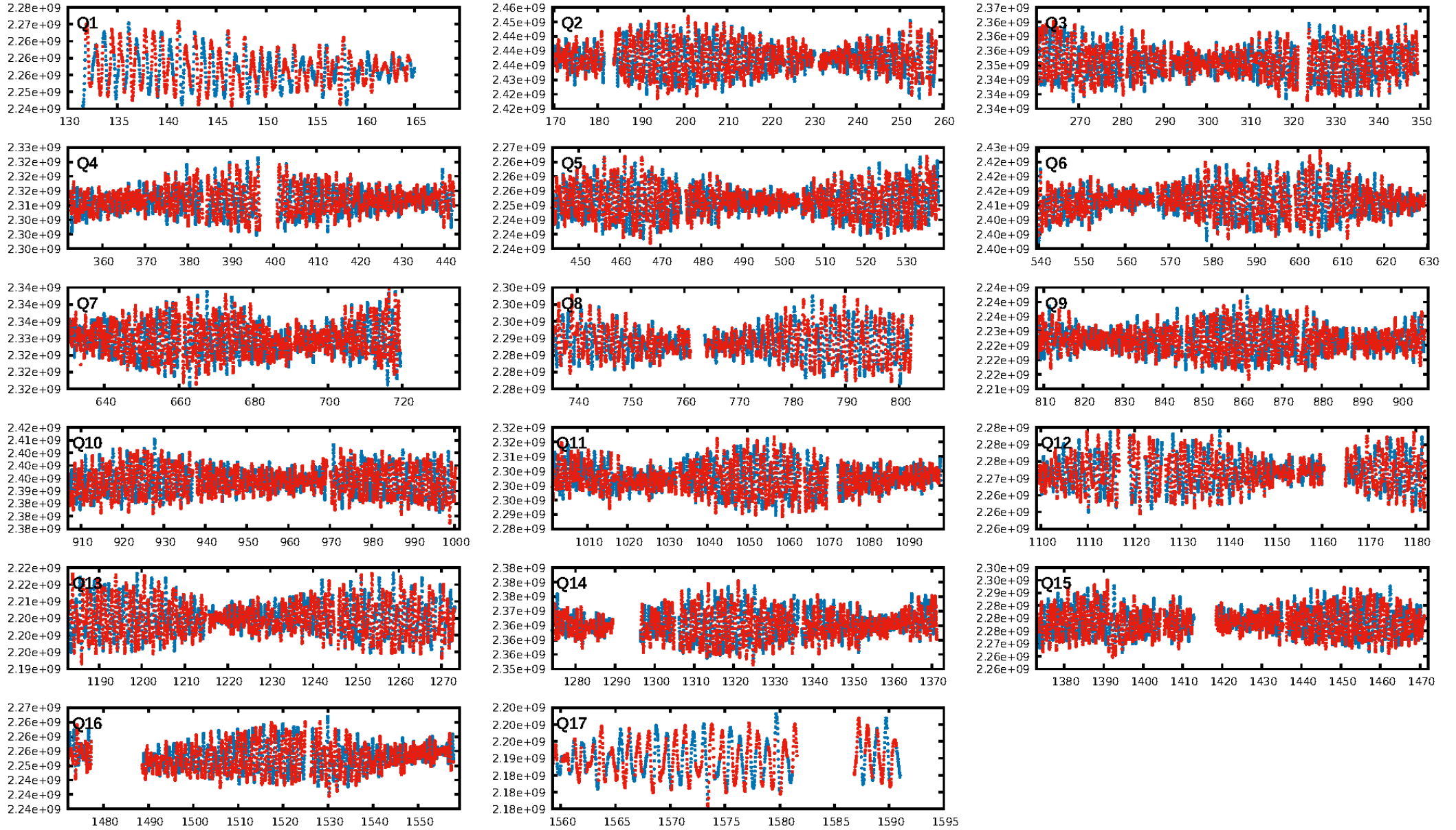
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 98.5% [2.42 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.14e-13
RollingBand-fgt: 0.90 [620/688]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
CentroidOffset-rm: 4.379 arcsec [3.24 σ]
CentroidOffset-rm: 4.666 arcsec [3.60 σ]
CentroidOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.06 [1/17]
DiffImageOverlap-fno: 1.00 [17/17]

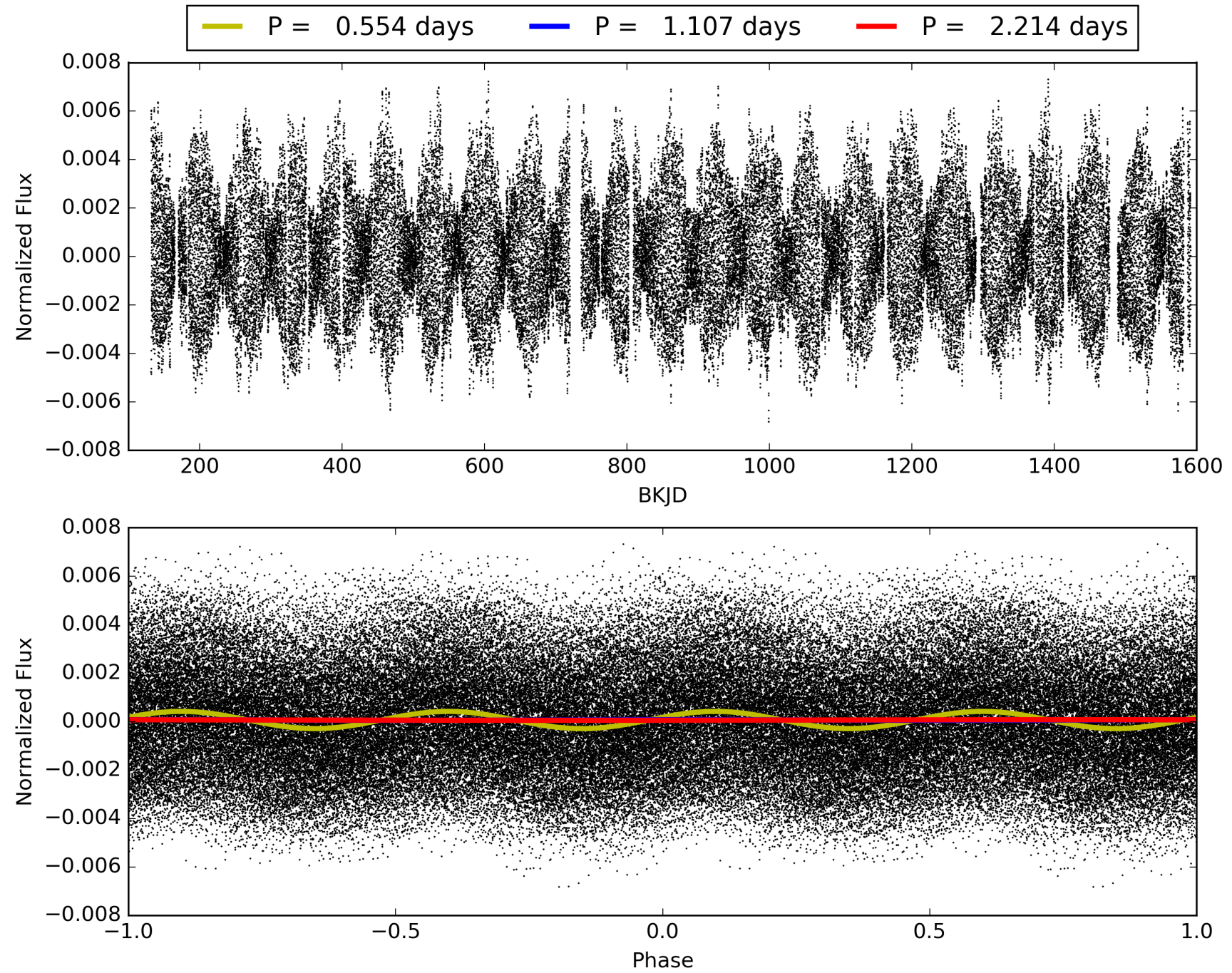
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:49:36 Z

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

TCE 005450503-02, PDC Light Curves

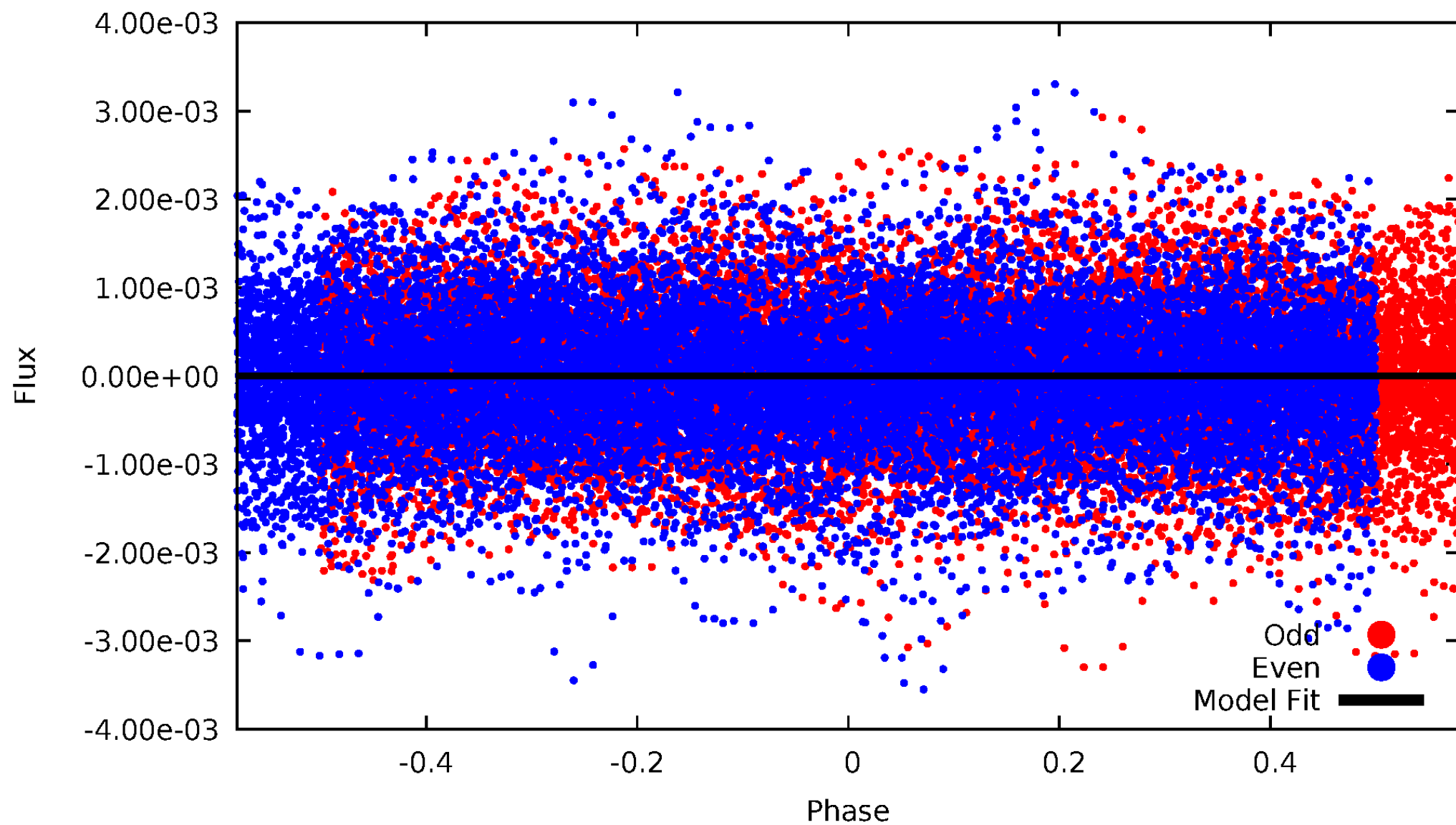


TCE 005450503-02



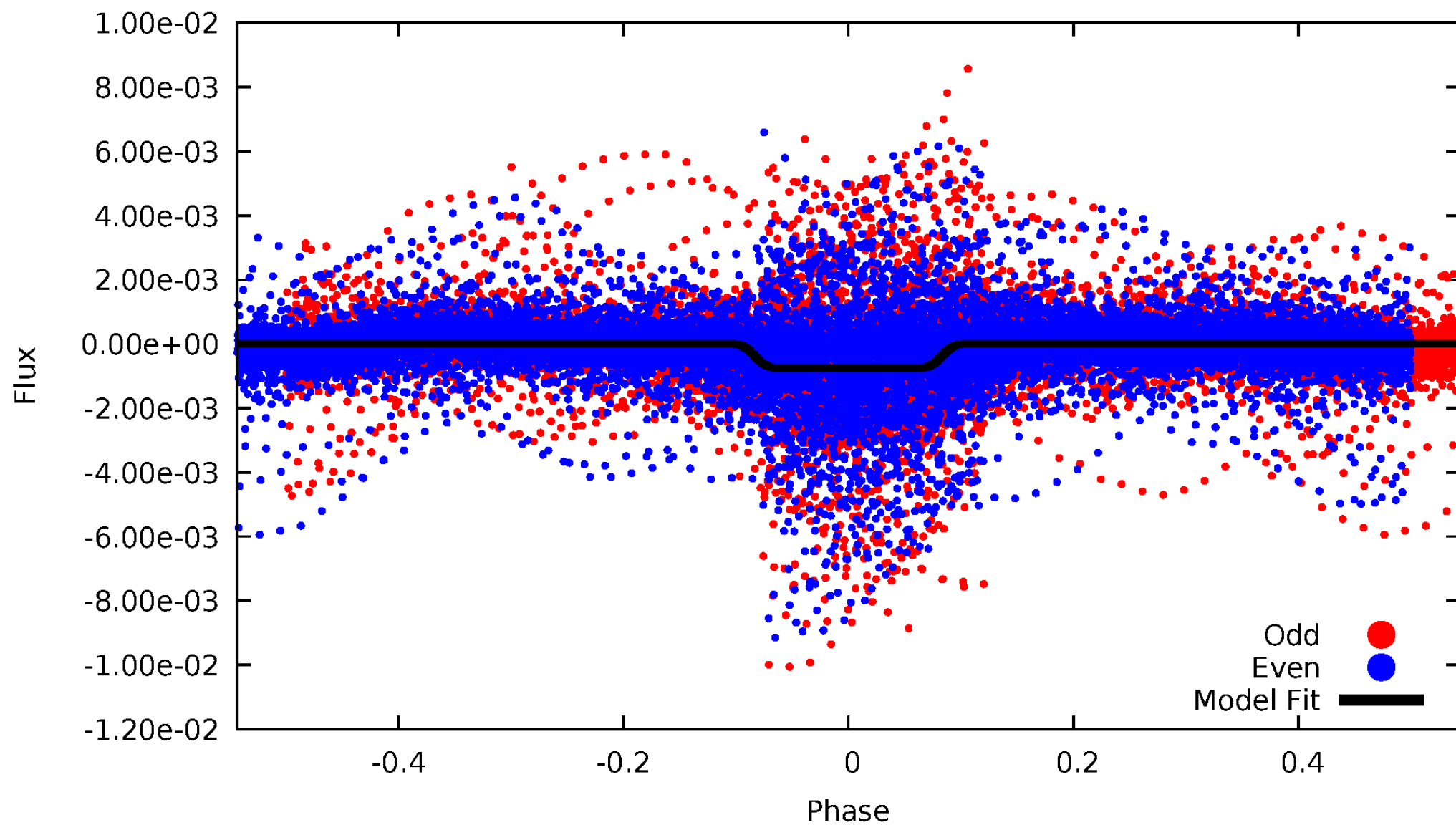
DV Odd/Even

TCE 005450503-02



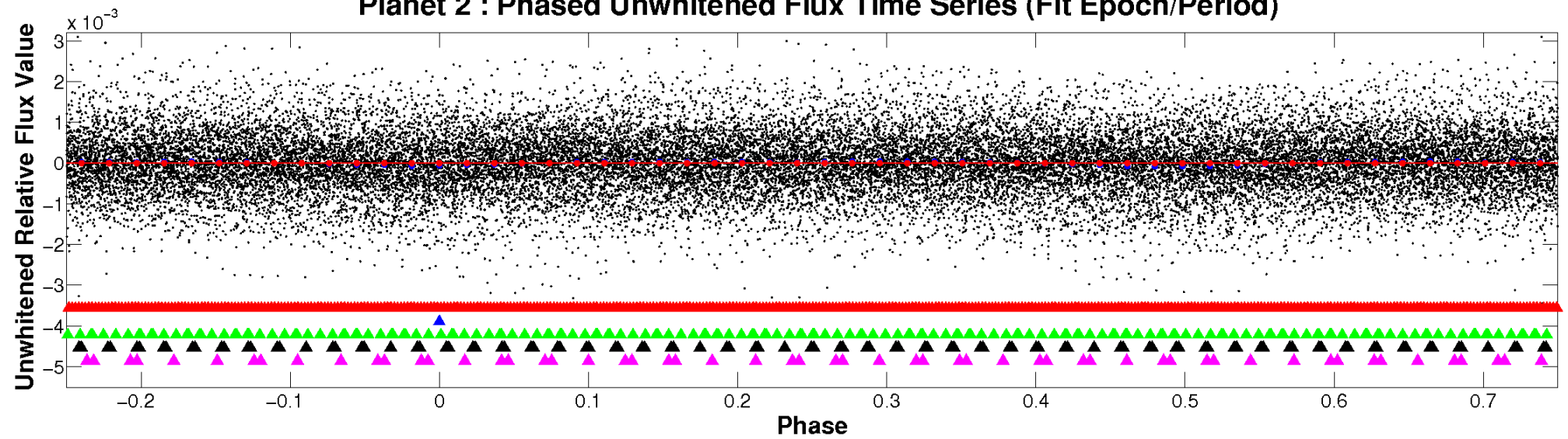
ALT Odd/Even

TCE 005450503-02

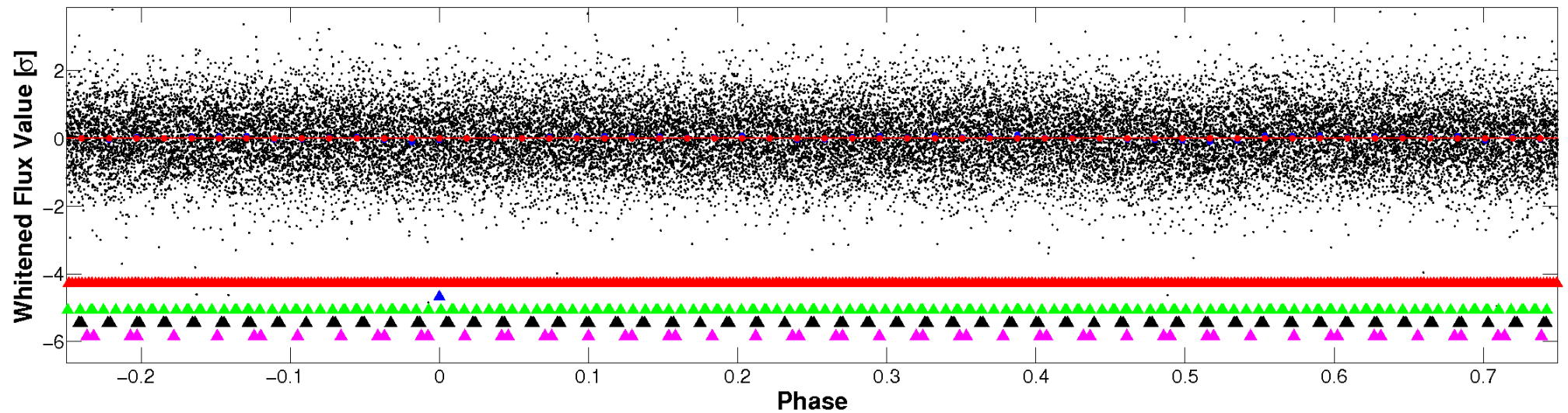


Non-Whitened Vs. Whitened Light Curve

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

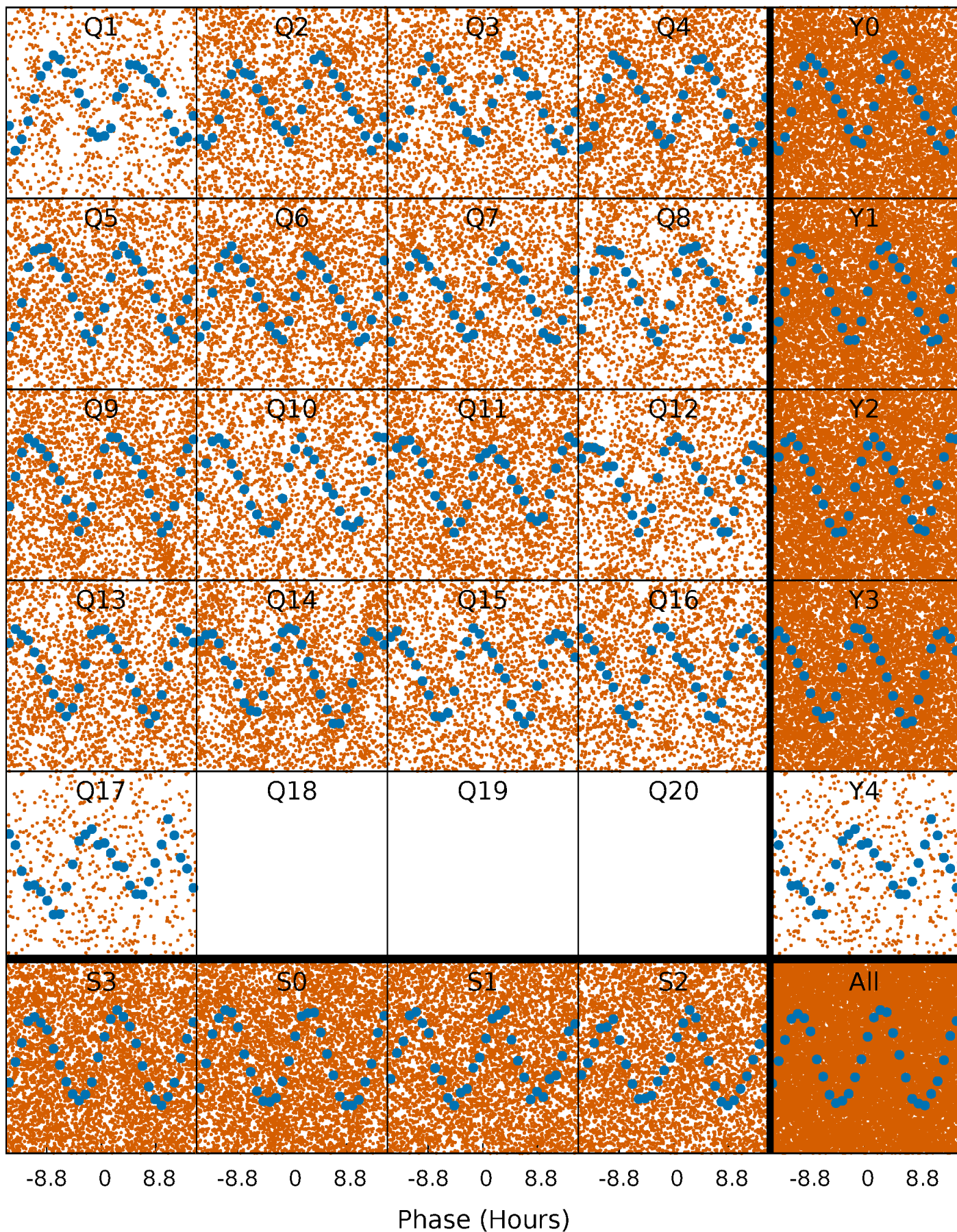


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



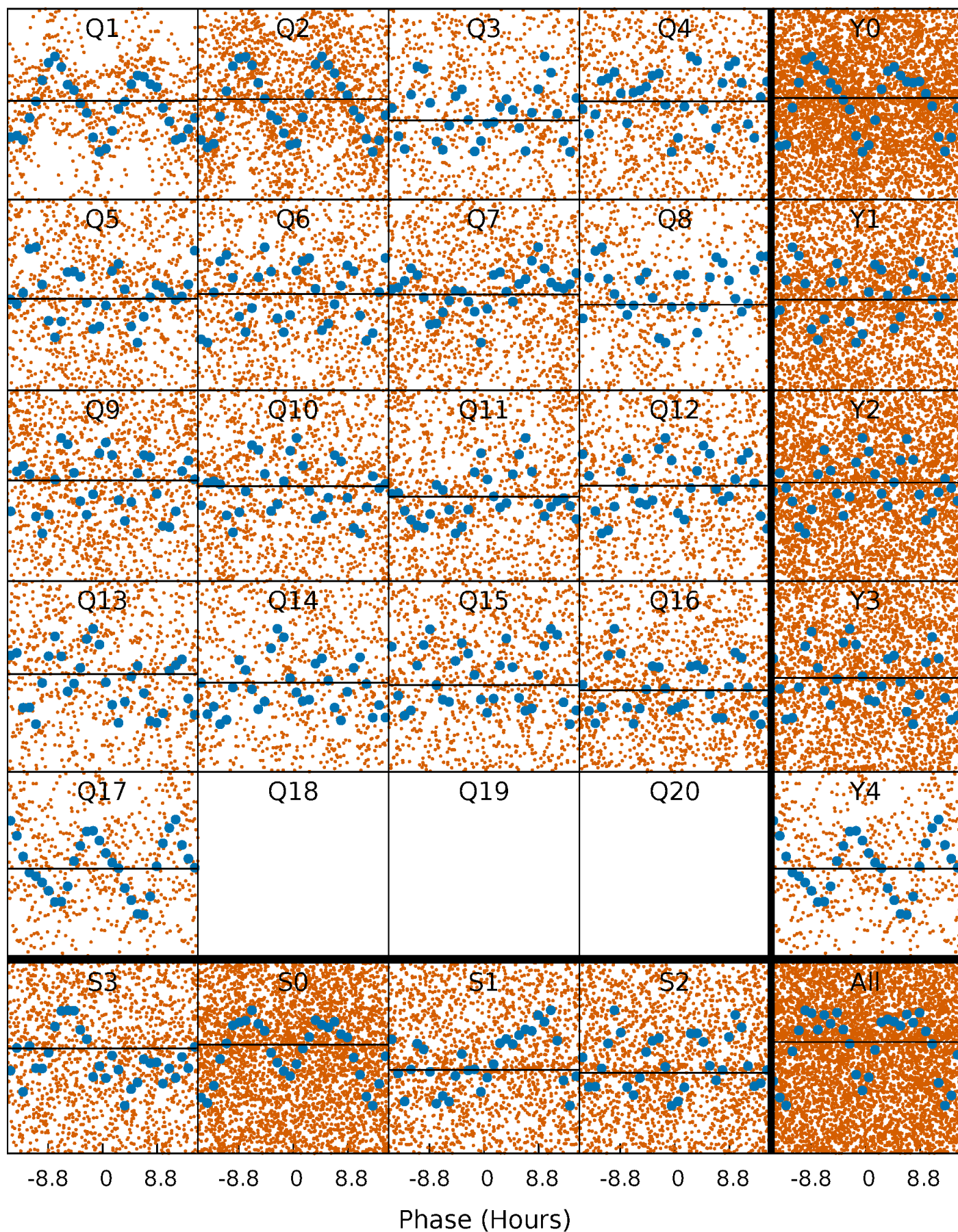
PDC Quarter-Phased Transit Curves

TCE 005450503-02 P= 1.107249 Days $T_0=132.098602$ (BKJD)



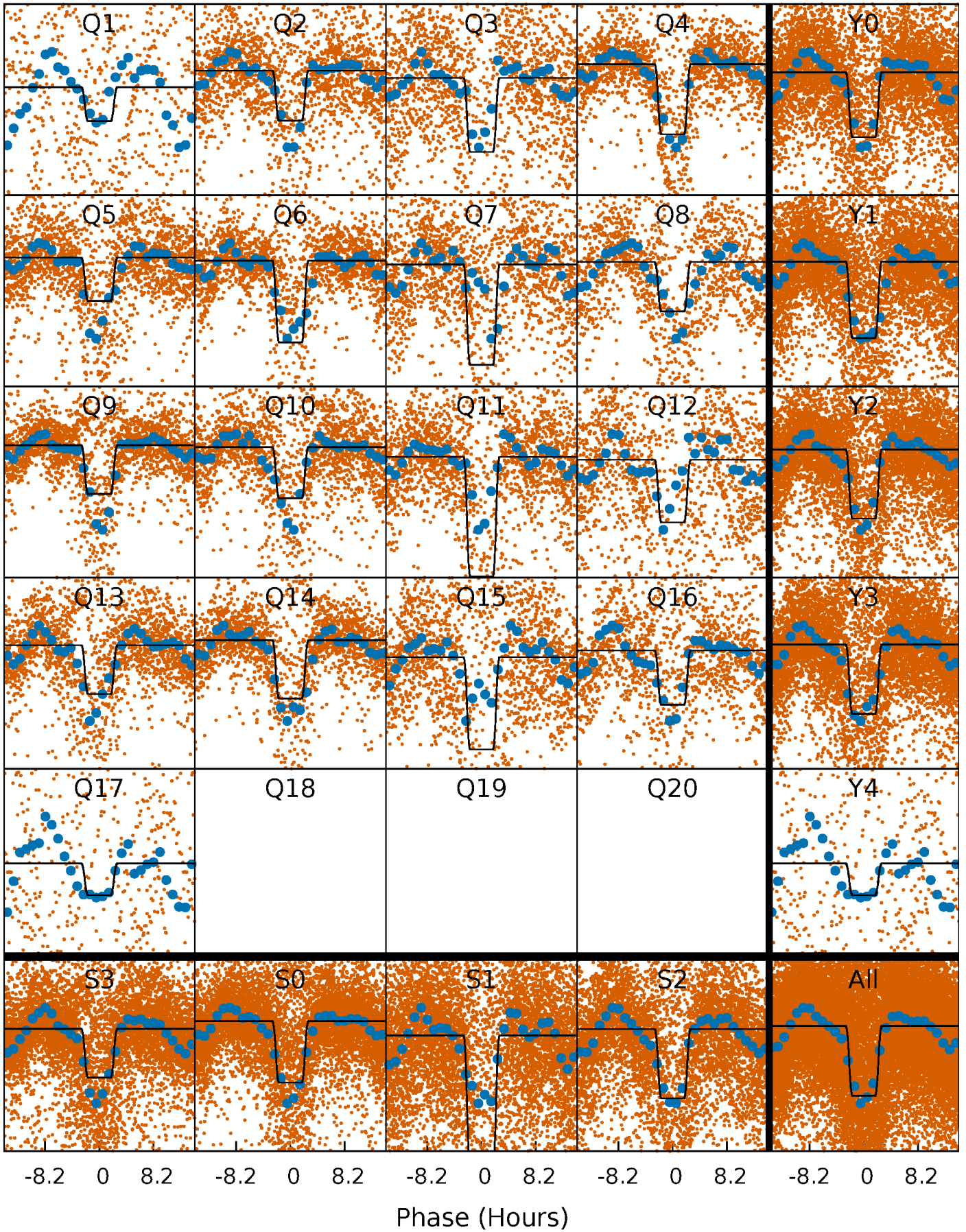
DV Quarter-Phased Transit Curves

TCE 005450503-02 P= 1.107249 Days $T_0=132.098602$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

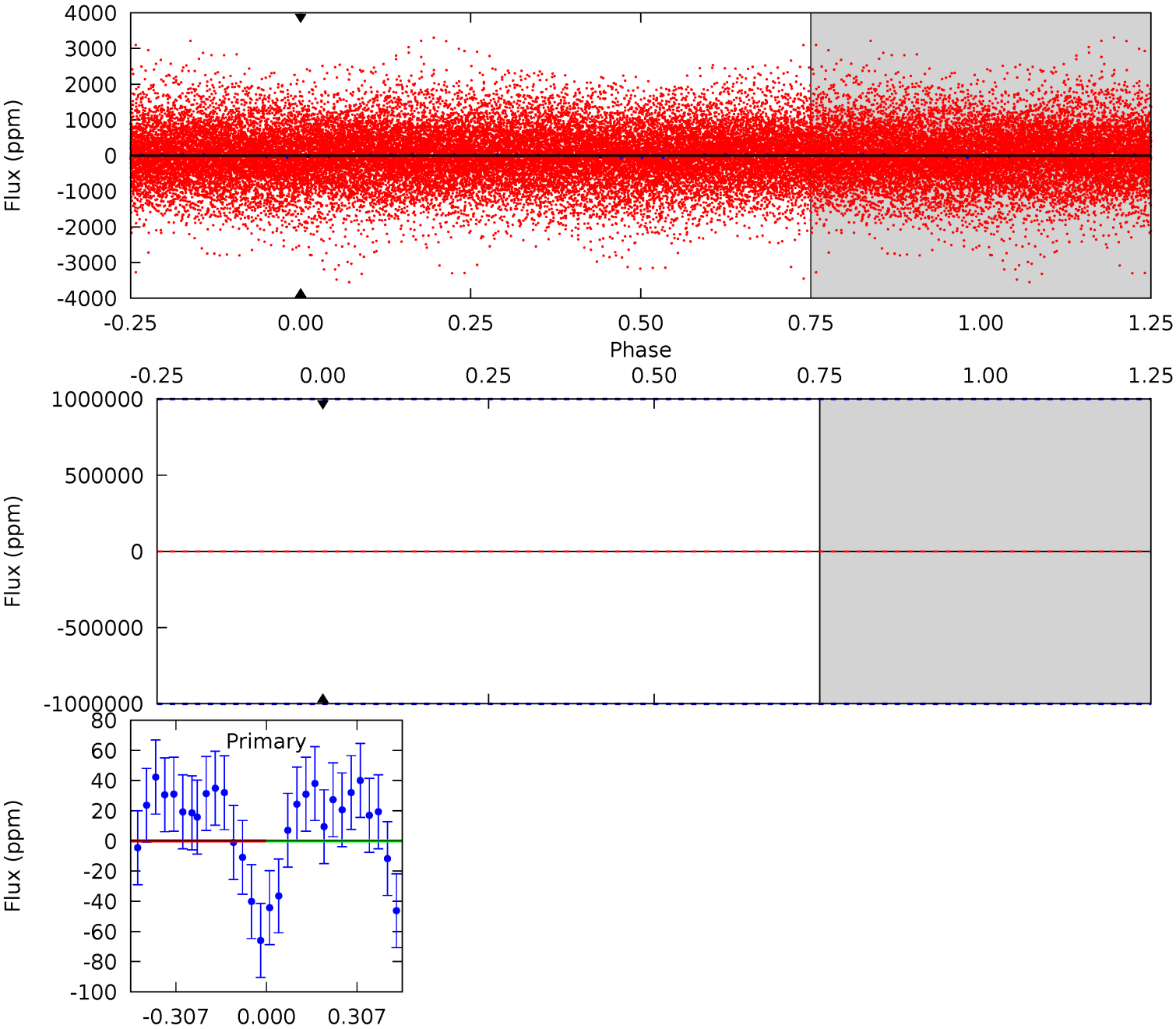
TCE 005450503-02 $P = 1.107013$ Days $T_0 = 132.121342$ (BKJD)



DV Model-Shift Uniqueness Test

005450503-02, P = 1.107249 Days, E = 130.991353 Days

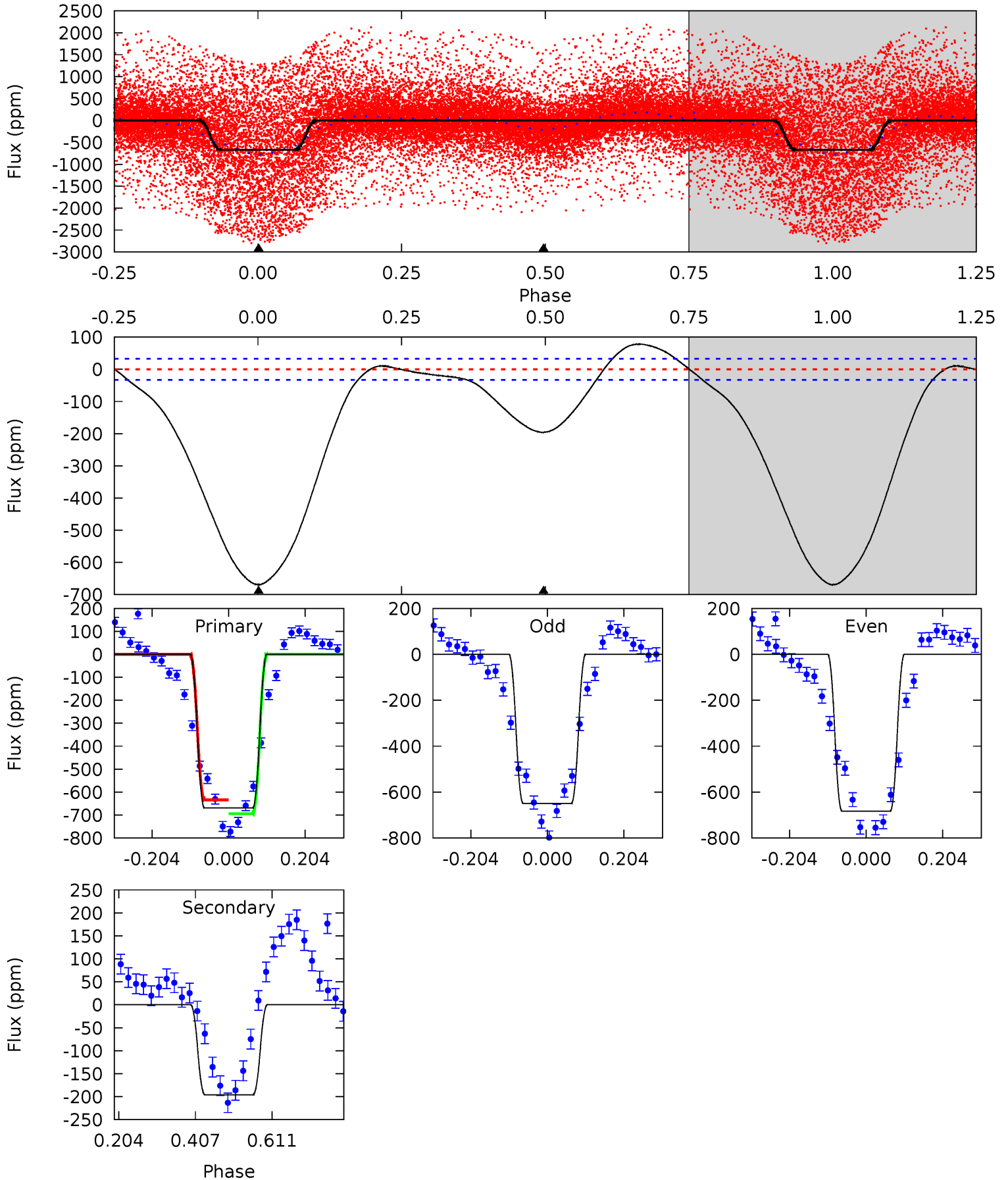
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

005450503-02, P = 1.107013 Days, E = 131.014329 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
90.1	26.4	0	0	4.41	1.27	3.78	90.1	90.1	26.4	26.4	2.31	1.16	0.10	4.06



Stellar Parameters For KIC 005450503

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7151^{+171}_{-235}	$3.972^{+0.286}_{-0.154}$	$-0.320^{+0.300}_{-0.300}$	$2.076^{+0.511}_{-0.703}$	$1.473^{+0.180}_{-0.308}$	$0.232^{+0.508}_{-0.090}$
	+2%/-3%	+7%/-4%	+94%/-94%	+25%/-34%	+12%/-21%	+219%/-39%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005450503-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$124.27^{+140.11}_{-86.70}$	1448^{+669}_{-335}	2686^{+3577}_{-8700}	$1.200^{+216.099}_{-233.383}$
Alt.	-196 ± 7	$121.29^{+150.39}_{-84.54}$	1464^{+701}_{-343}	-1783^{+4460}_{-681}	$0.219^{+2.994}_{-0.193}$

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 $A_{obs} \gg 1.0$

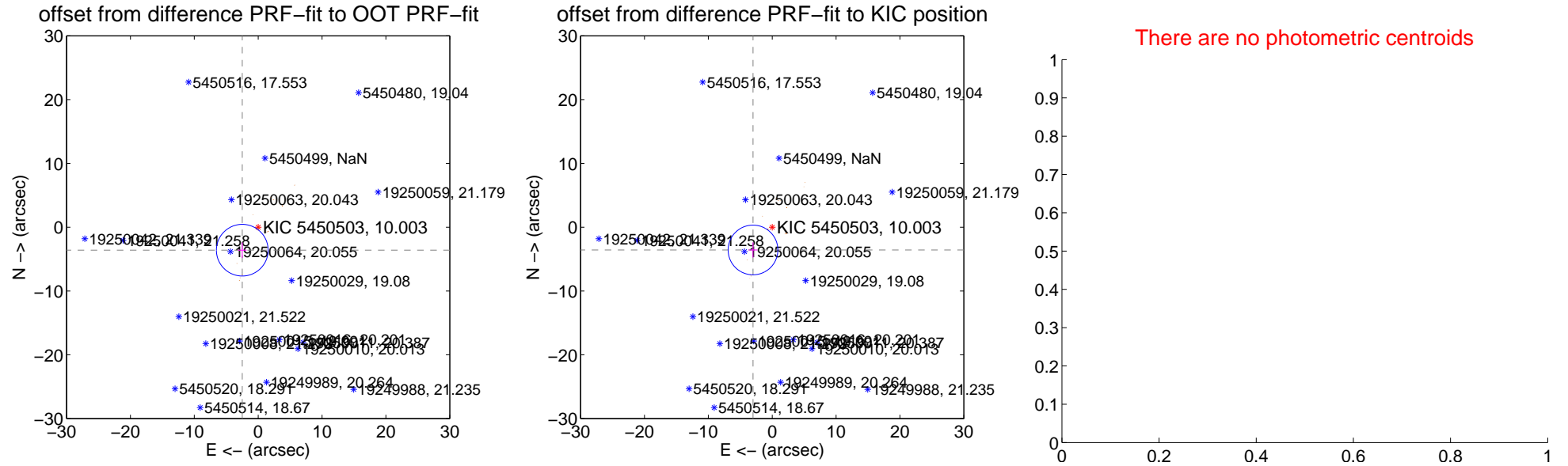
DV Centroid Data

Supplemental centroid analysis for 005450503-02. **Kepler magnitude: 10.00.** Transit SNR 0.00

There are 1 quarters with good PRF difference image offsets

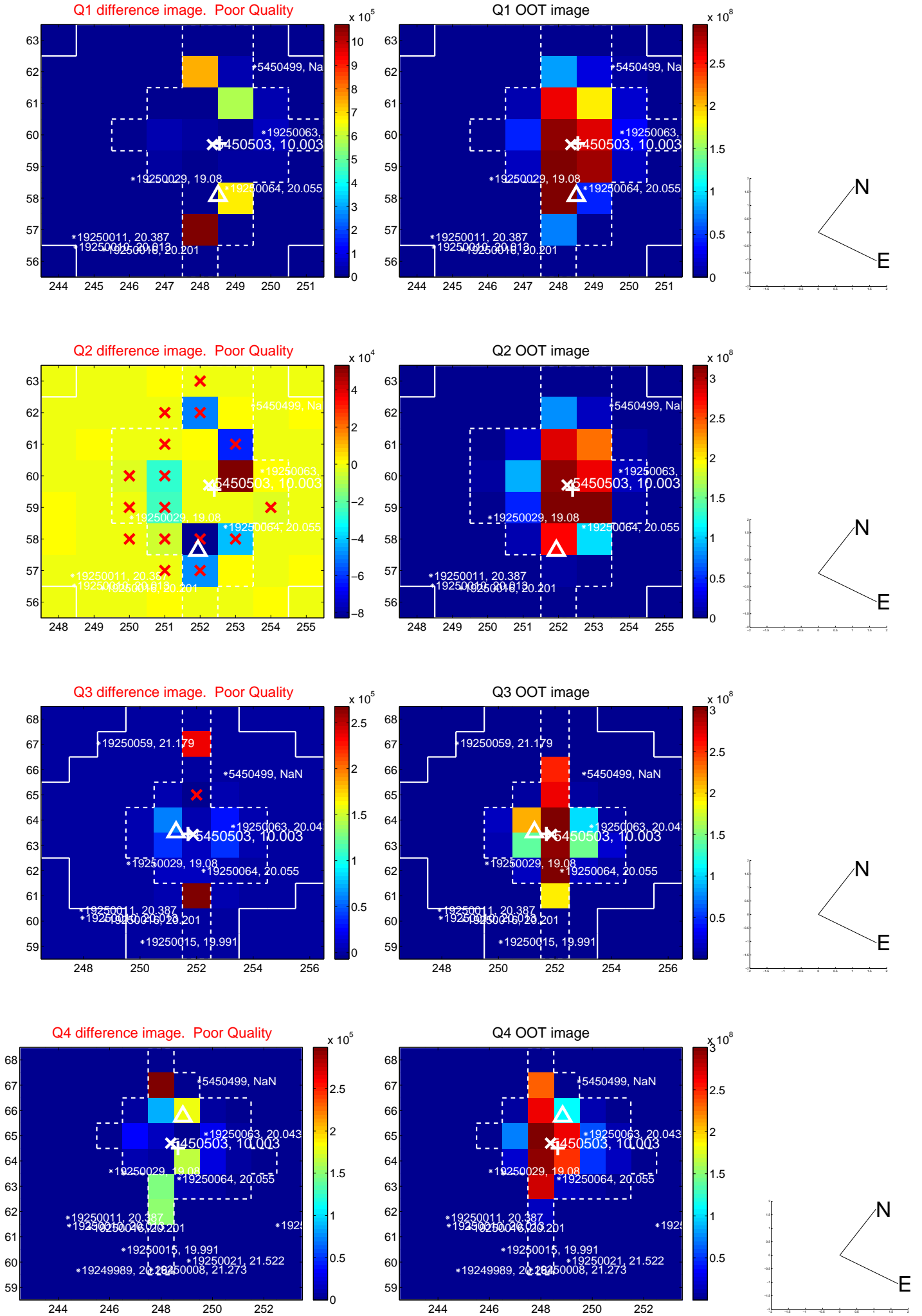
The direct PRF centroid is offset from the target star catalog position by about 0.69 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.379 \pm 1.350	3.24	2.492 \pm 0.663	-3.602 \pm 1.212
PRF-fit source offset from KIC position	4.666 \pm 1.298	3.60	3.008 \pm 0.680	-3.566 \pm 1.191
photometric centroid source offset	—	—	—	—

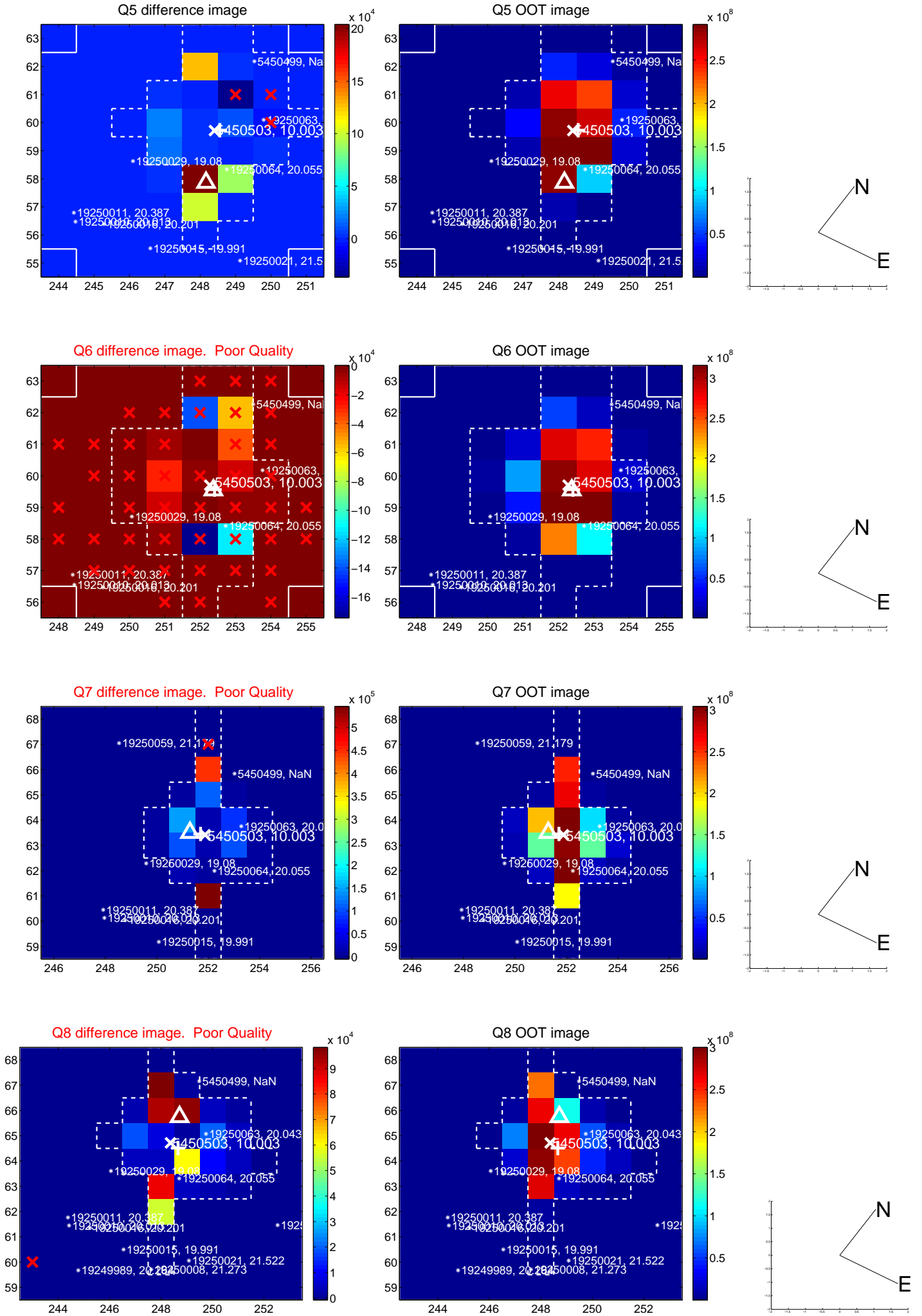


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

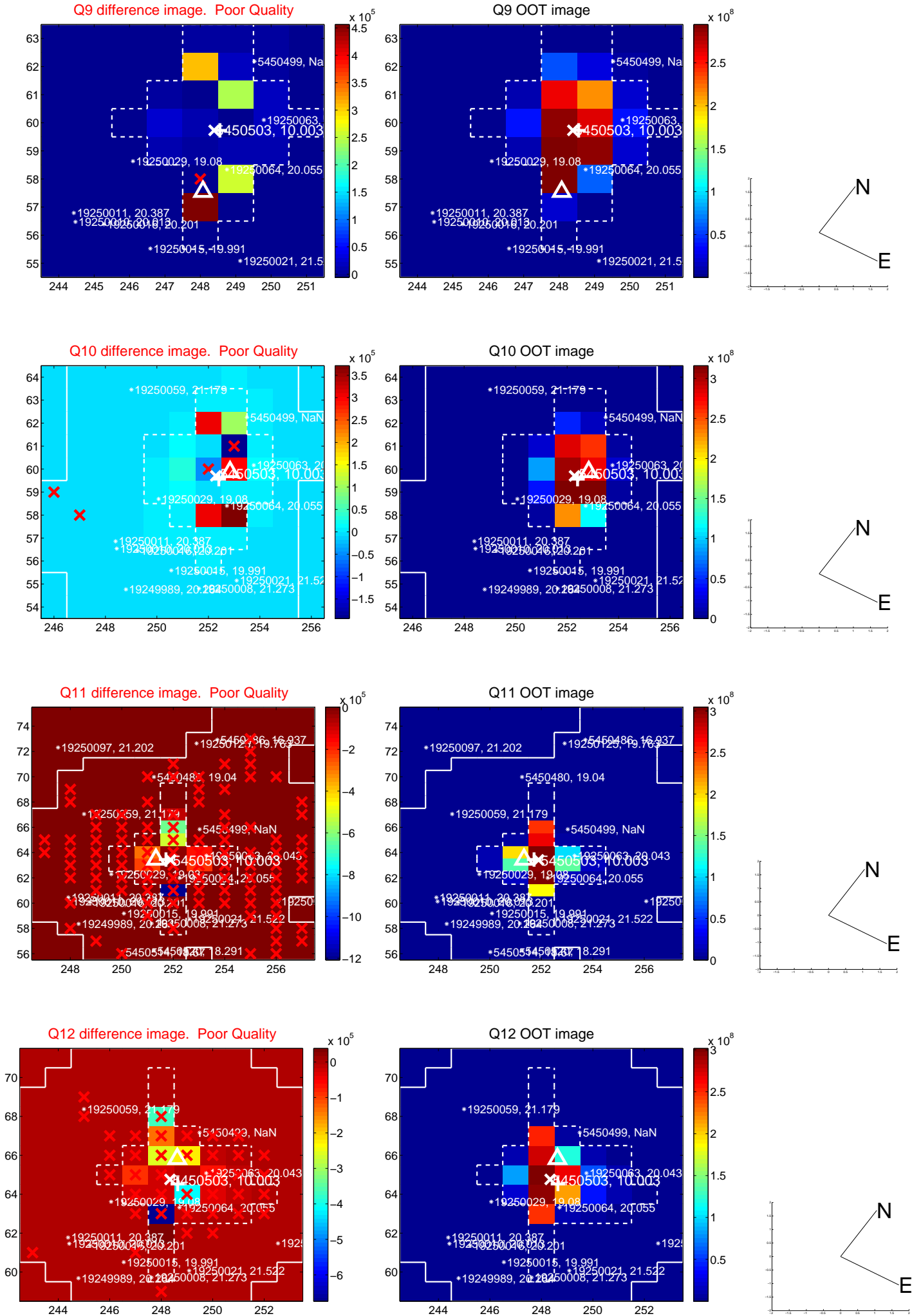
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



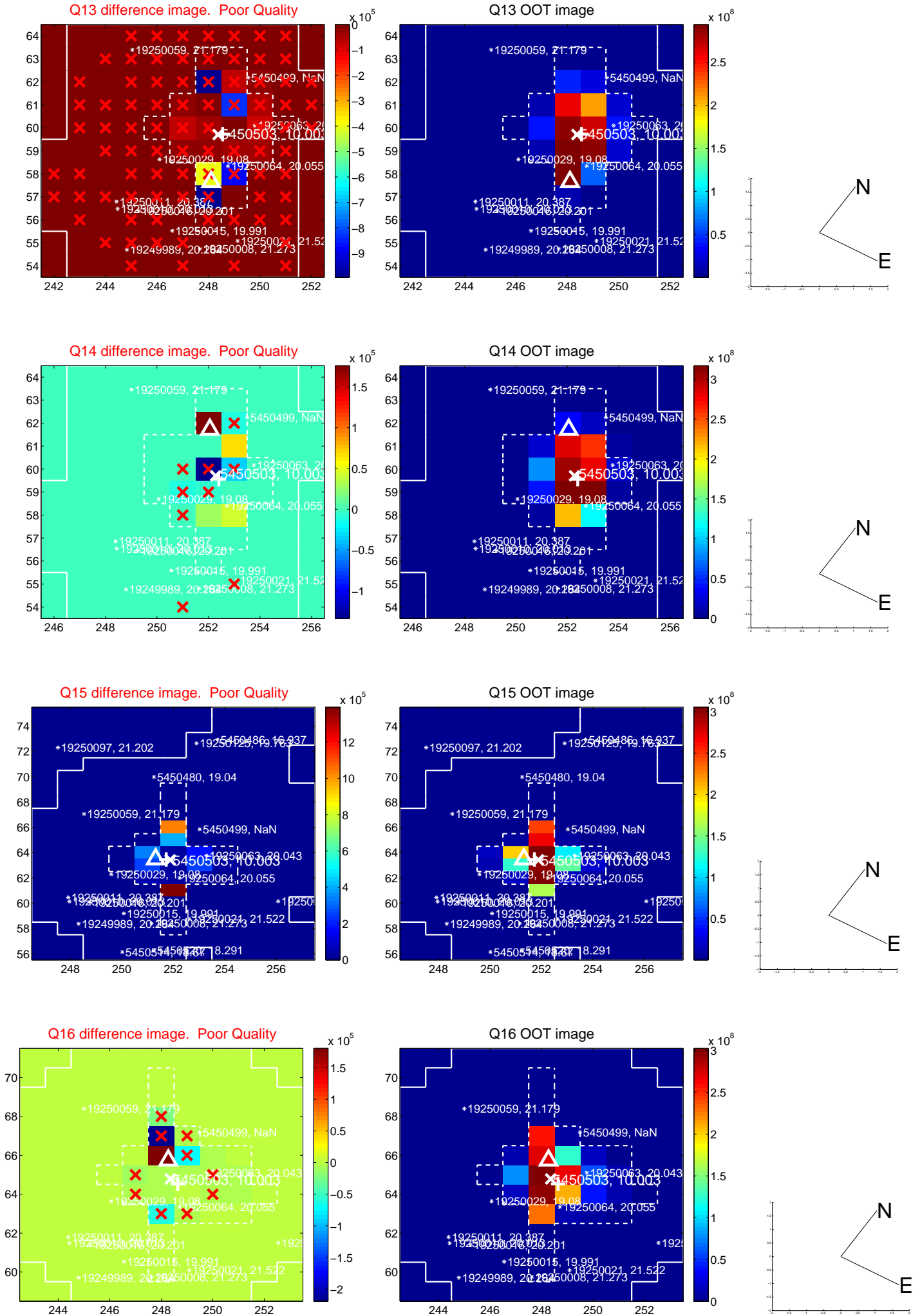
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



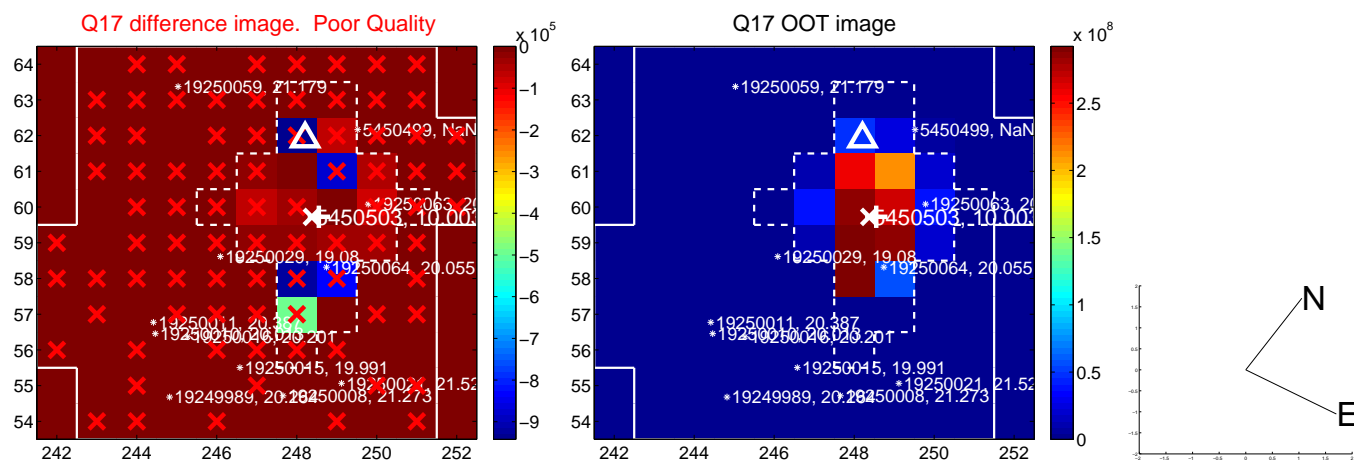
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

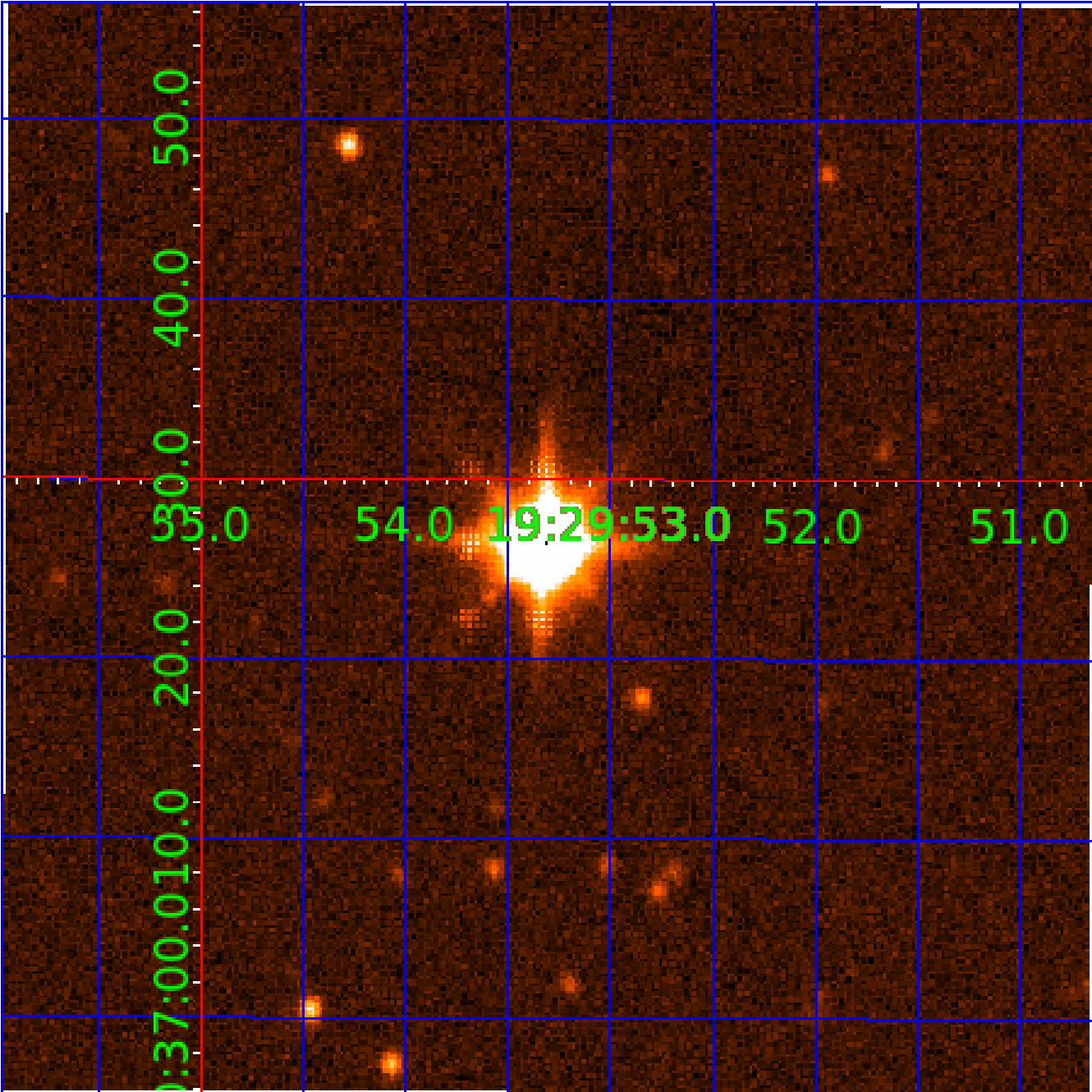


folded centroid time series figure for this object.



UKIRT Image

Declination



KIC 005450503

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})
005450503-01	OBS	No	2.401915	133.147962	52.3	10.256	8.4	7.8	2.08	7151	1.74	6325.62
005450503-02	OBS	No	1.107249	132.098602	0.0	7.692	8.3	0.0	2.08	7151	0.00	17763.13
005450503-03	OBS	No	8.438315	132.786270	674.3	6.051	14.5	6.6	2.08	7151	10.15	1184.42
005450503-04	OBS	No	14.686746	134.860256	156.0	2.416	10.9	2.2	2.08	7151	3.00	565.73
005450503-05	OBS	No	25.866420	137.934220	450.9	10.880	7.6	5.6	2.08	7151	4.65	265.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005450503-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
005450503-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—CENT_SATURATED
005450503-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
005450503-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
005450503-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

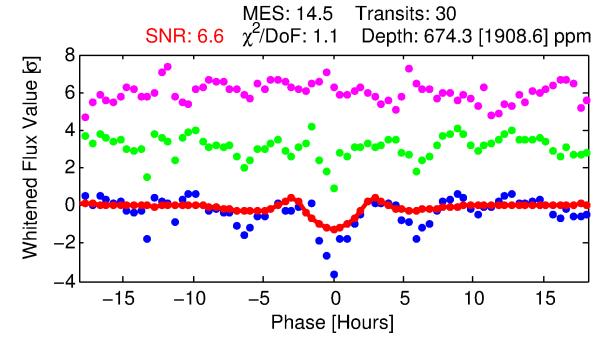
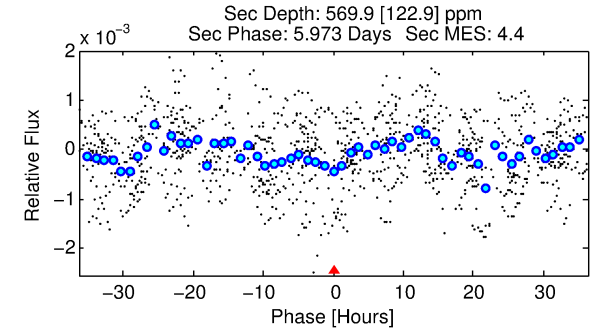
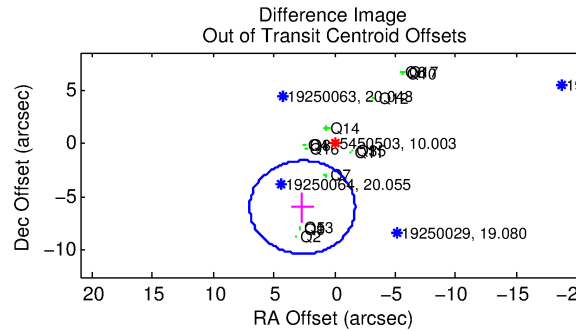
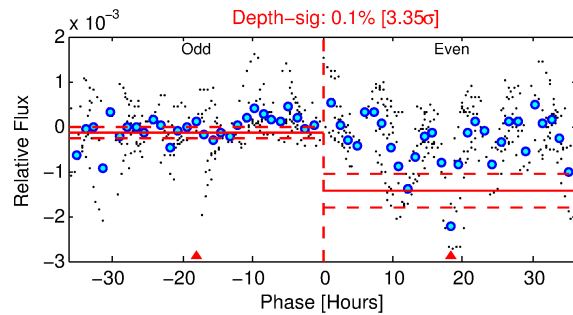
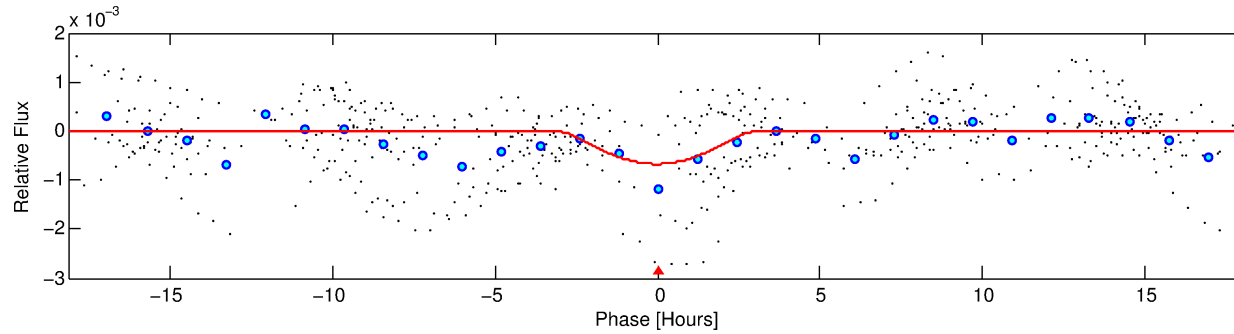
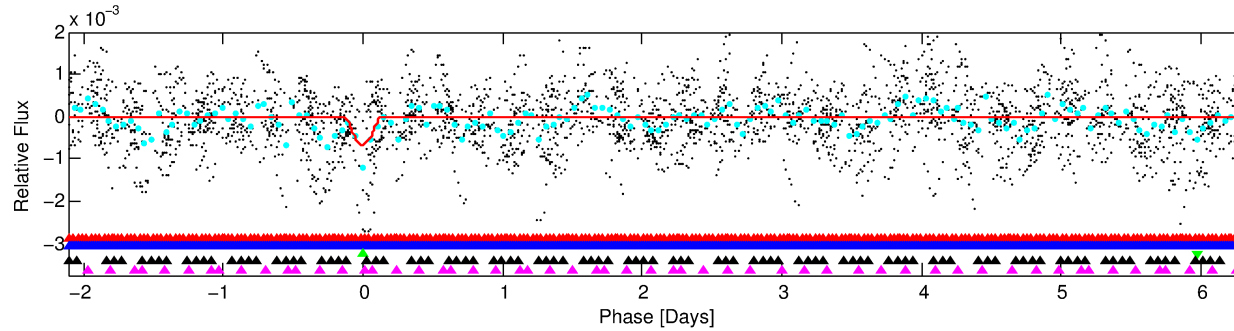
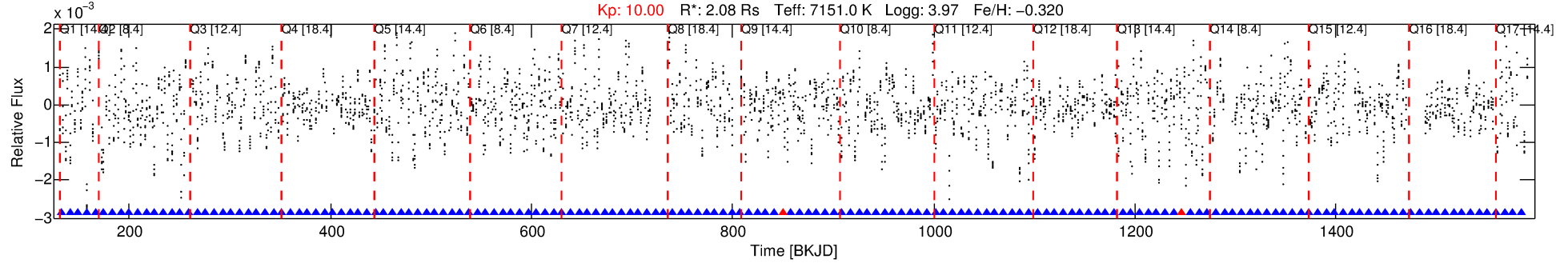
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005450503-03

No Significant Match Found

DV One-Page Summary

KIC: 5450503 Candidate: 3 of 5 Period: 8.438 d



DV Fit Results:

Period = 8.43831 [0.00015] d
Epoch = 132.7863 [0.0146] BKJD
Rp/R* = 0.0448 [0.0991]
a/R* = 3.38 [1.58]
b = 1.00 [0.23]
Seff = 1184.42 [605.08]
Teq = 1496 [191] K
Rp = 10.16 [22.71] Re
a = 0.0923 [0.0291] AU
Ag = 25.92 [115.42] [0.22 σ]
Teffp = 5218 [5777] K [0.64 σ]

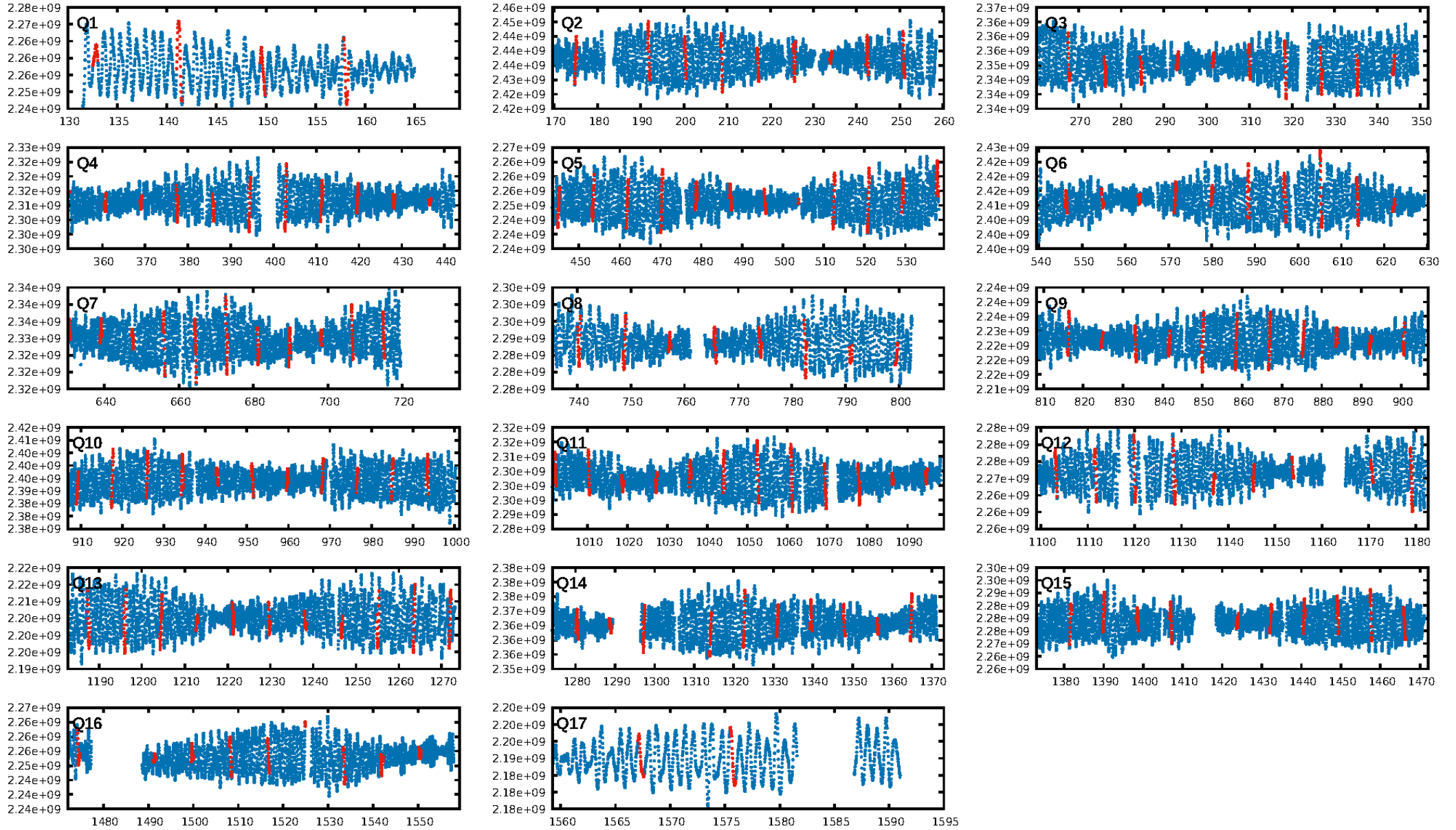
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [12.17 σ]
LongPeriod-sig: 100.0% [23.01 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.28e-26
RollingBand-fgt: 0.93 [27/29]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: 0.439 arcsec [3.69 σ]
OotOffset-rm: 6.549 arcsec [4.51 σ]
KicOffset-rm: 6.648 arcsec [4.79 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 0.00 [0/17]

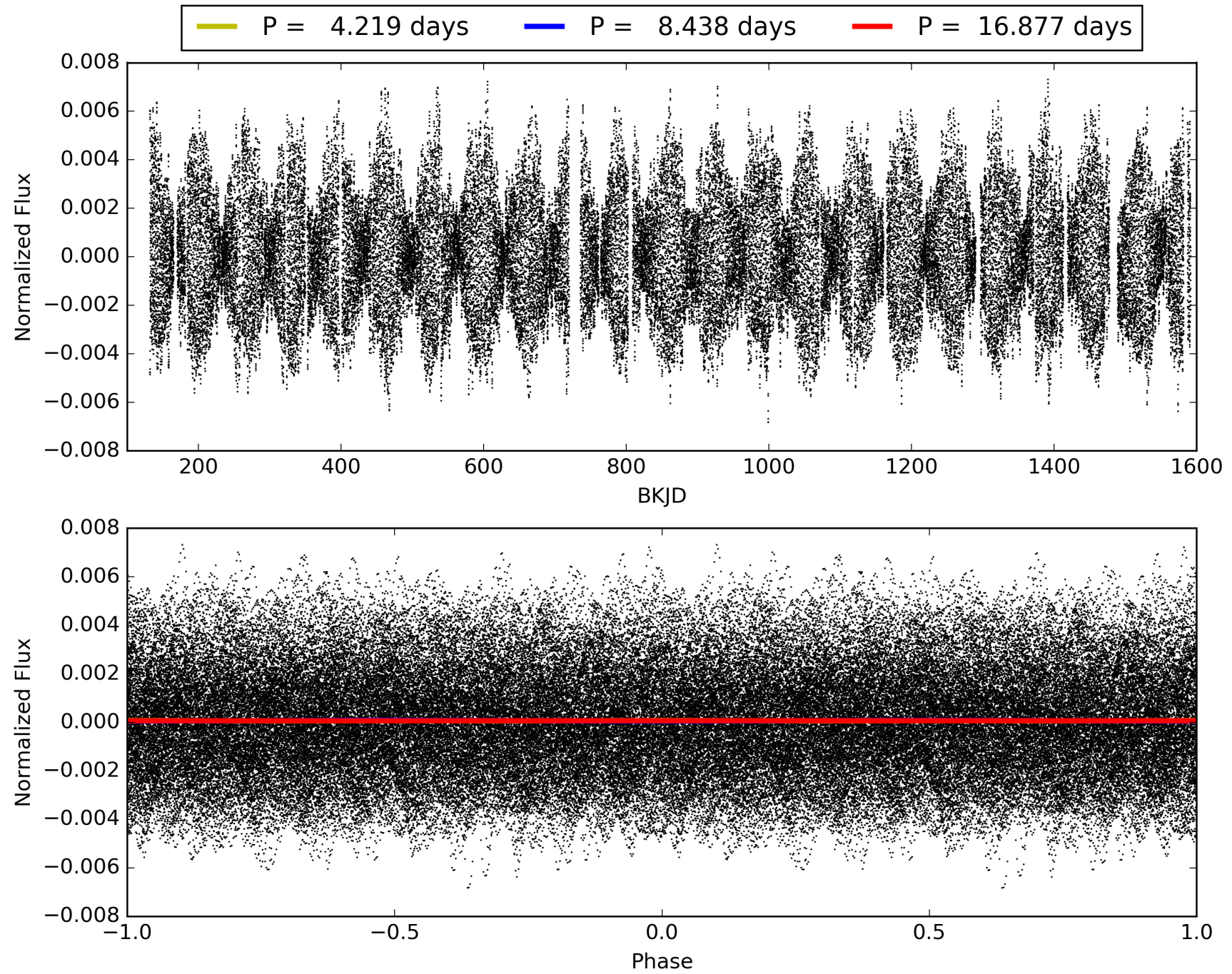
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:49:44 Z

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

TCE 005450503-03, PDC Light Curves

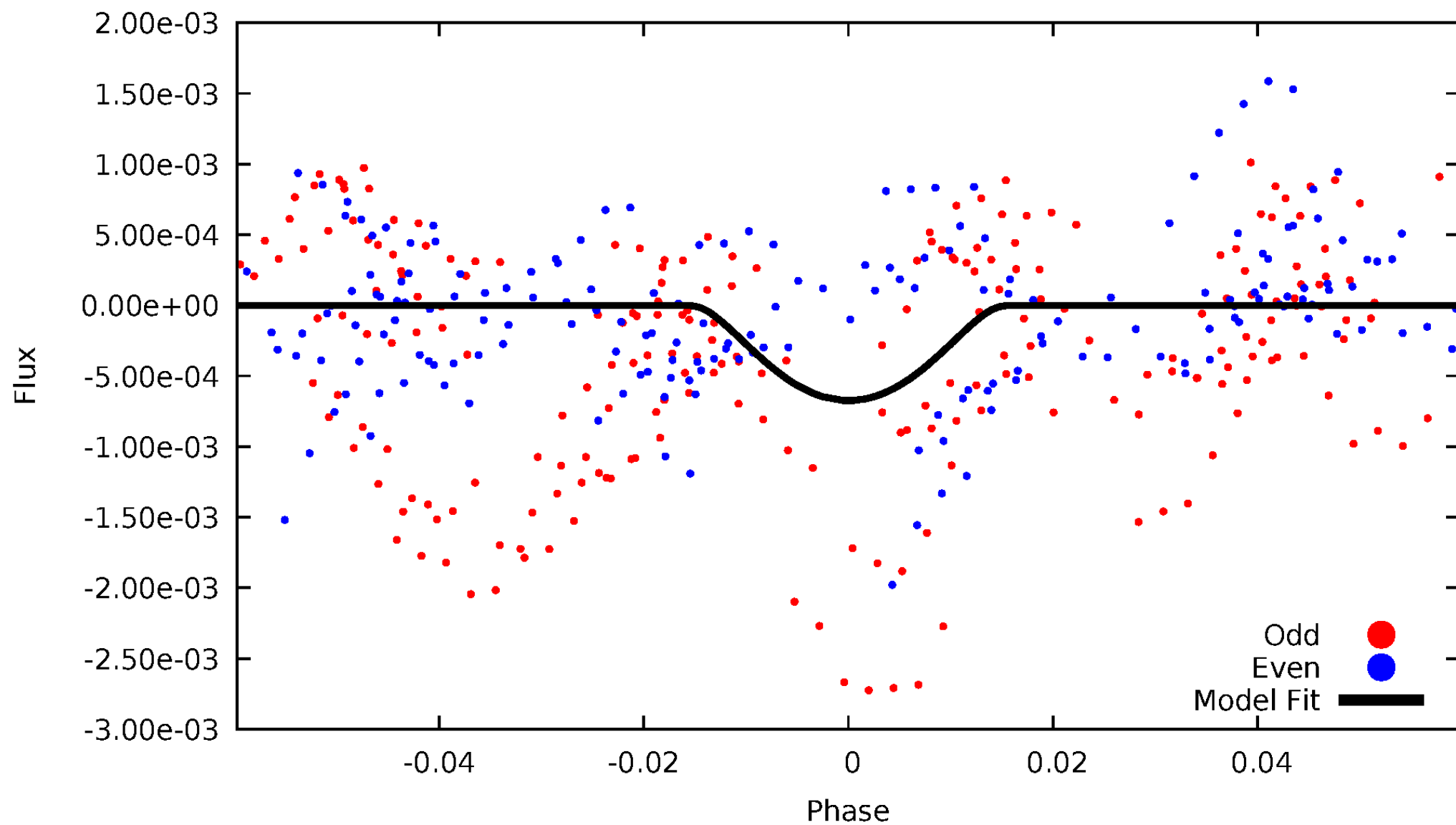


TCE 005450503-03



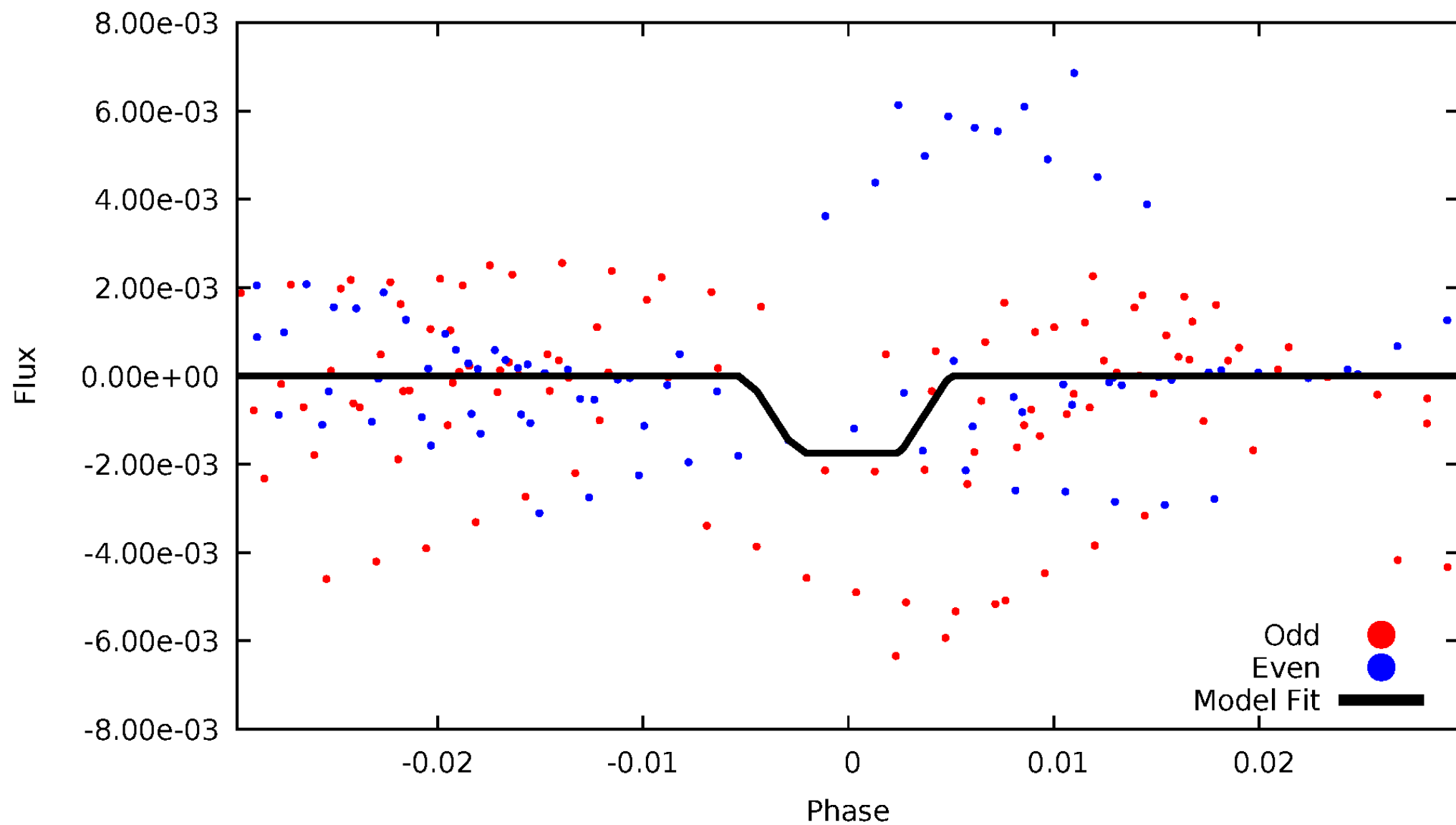
DV Odd/Even

TCE 005450503-03



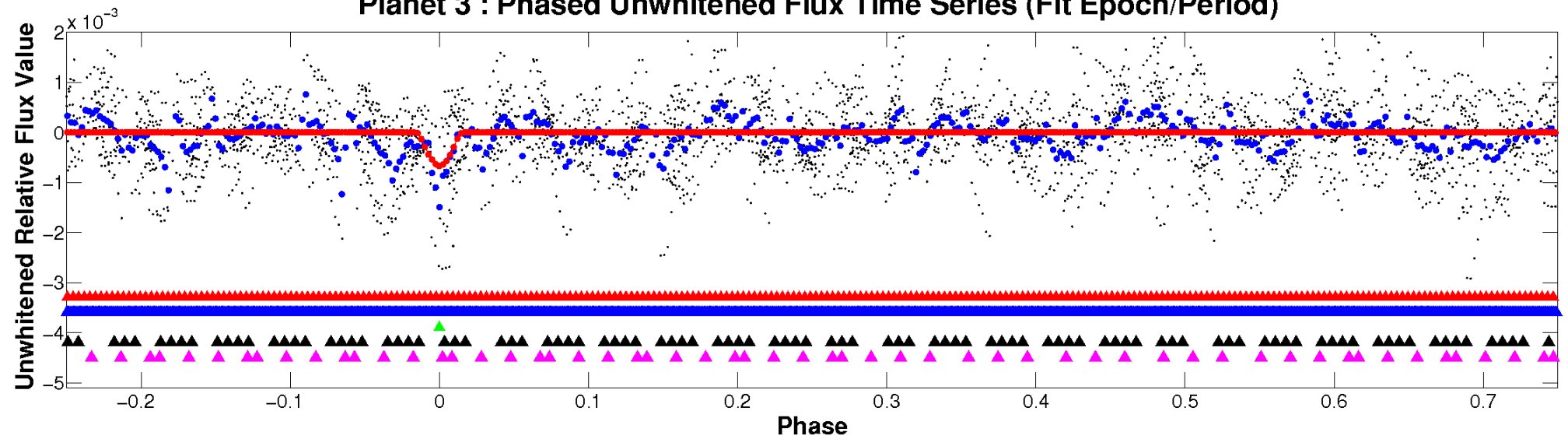
ALT Odd/Even

TCE 005450503-03

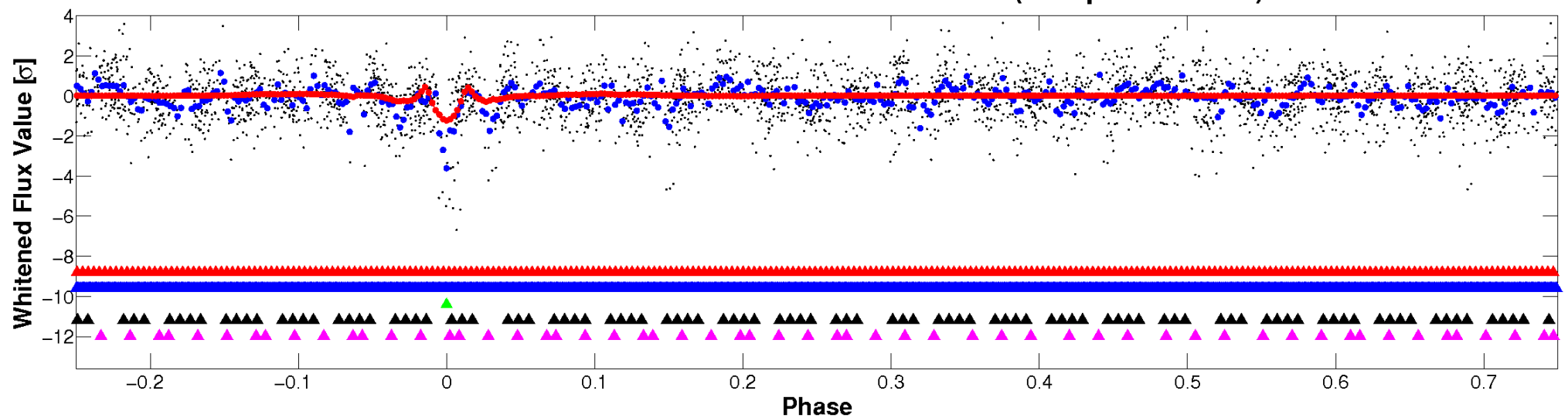


Non-Whitened Vs. Whitened Light Curve

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

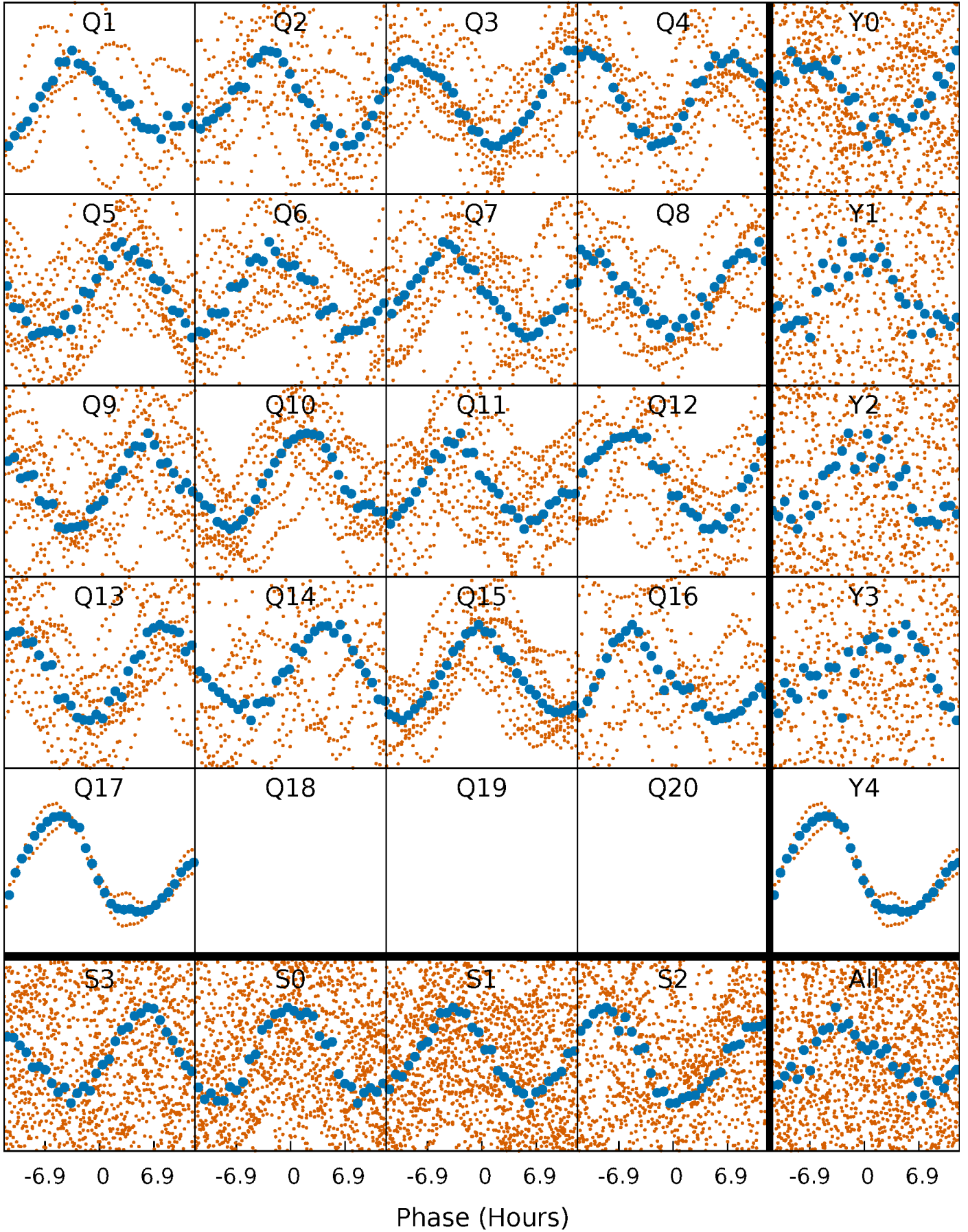


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



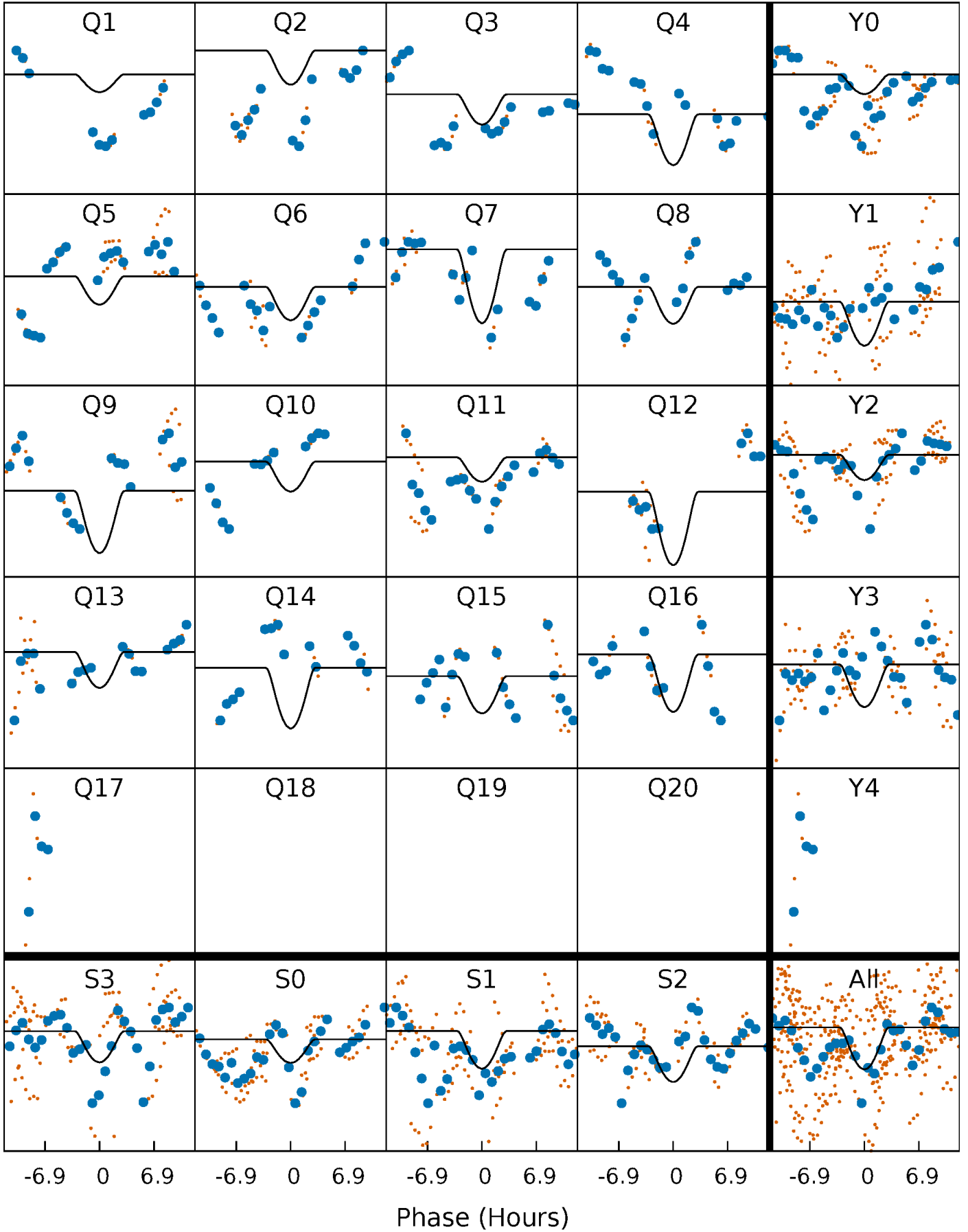
PDC Quarter-Phased Transit Curves

TCE 005450503-03 P= 8.438315 Days $T_0=132.786270$ (BKJD)



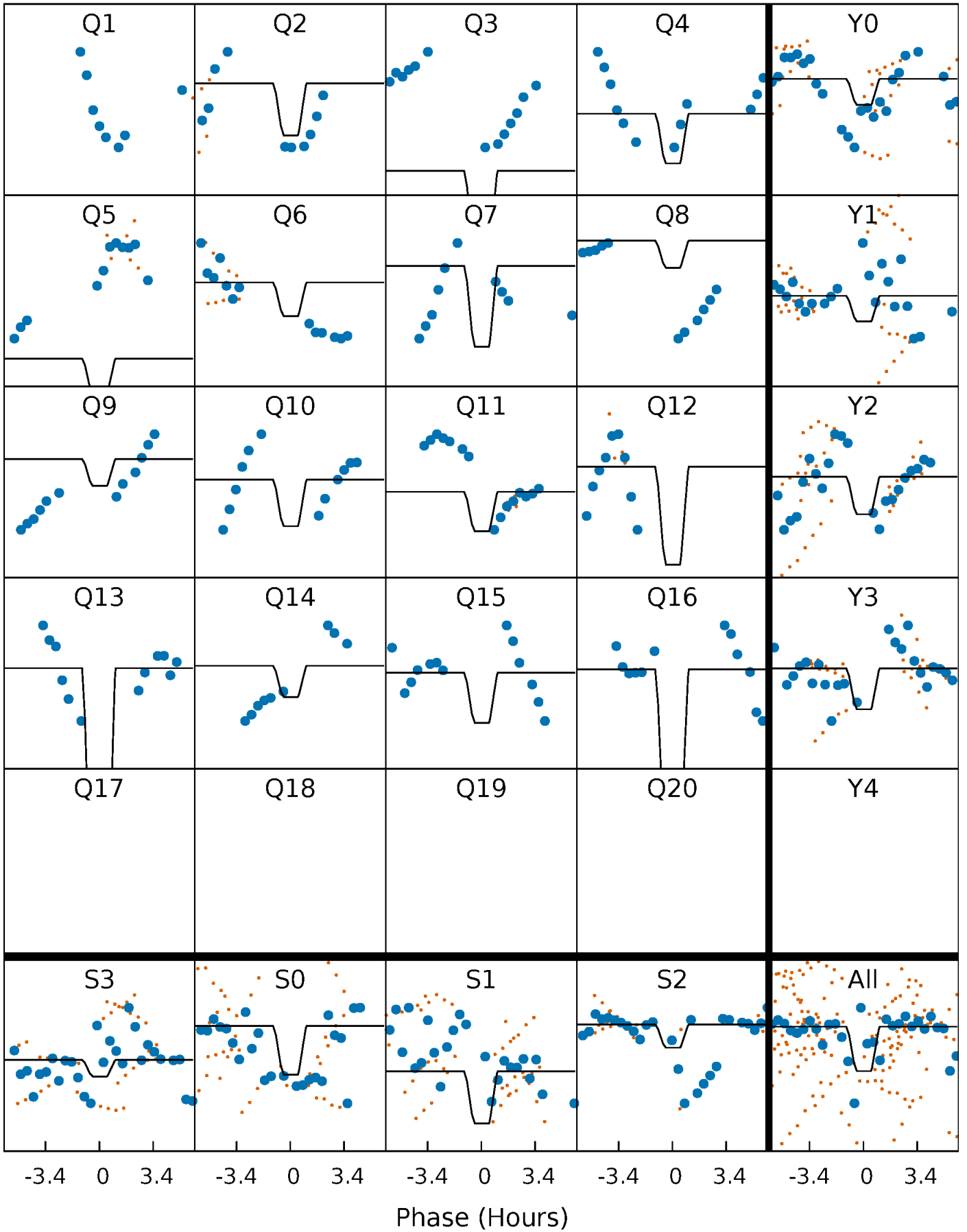
DV Quarter-Phased Transit Curves

TCE 005450503-03 $P = 8.438315$ Days $T_0 = 132.786270$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

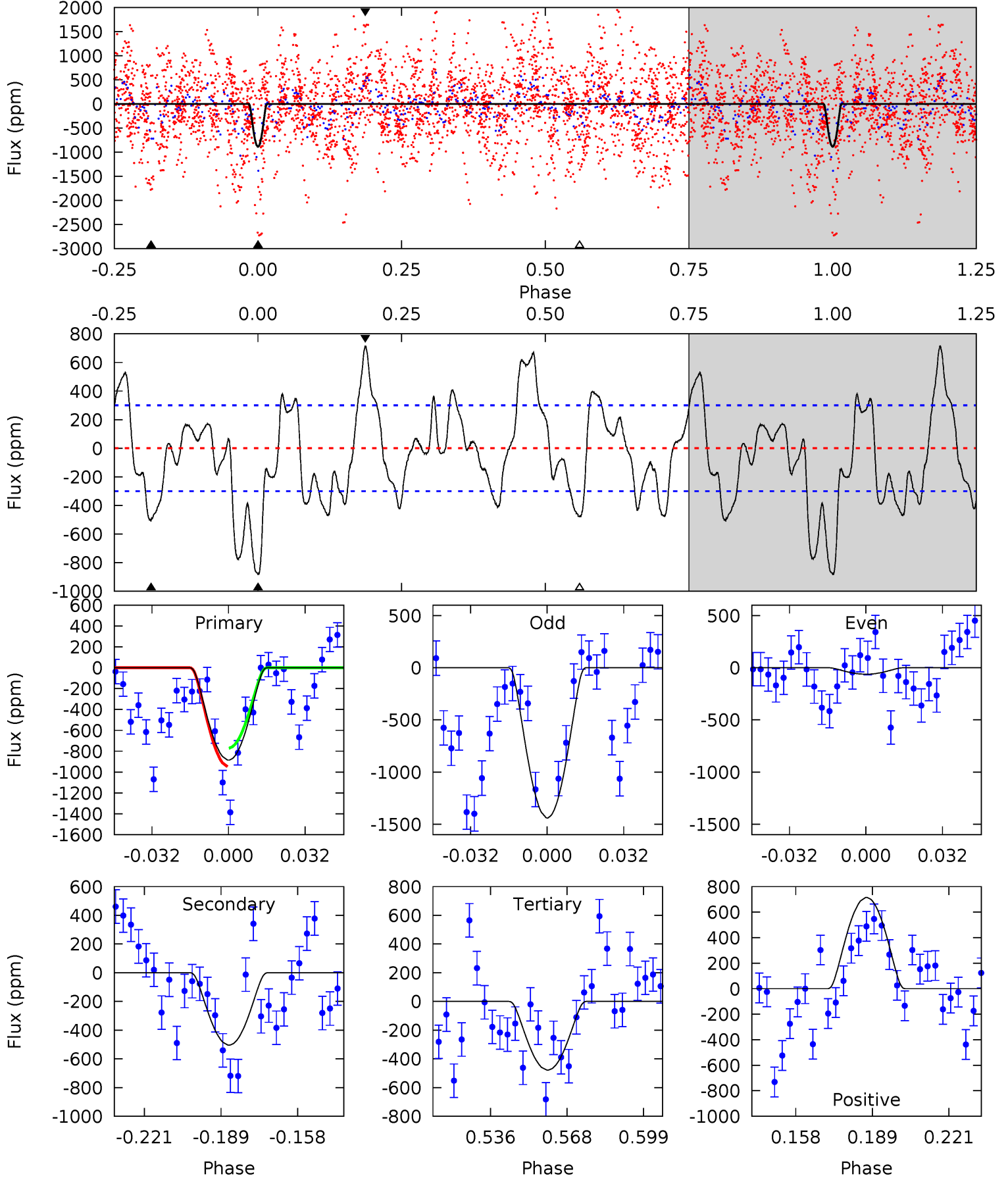
TCE 005450503-03 P= 8.438244 Days $T_0=132.800147$ (BKJD)



DV Model-Shift Uniqueness Test

005450503-03, P = 8.438315 Days, E = 124.347955 Days

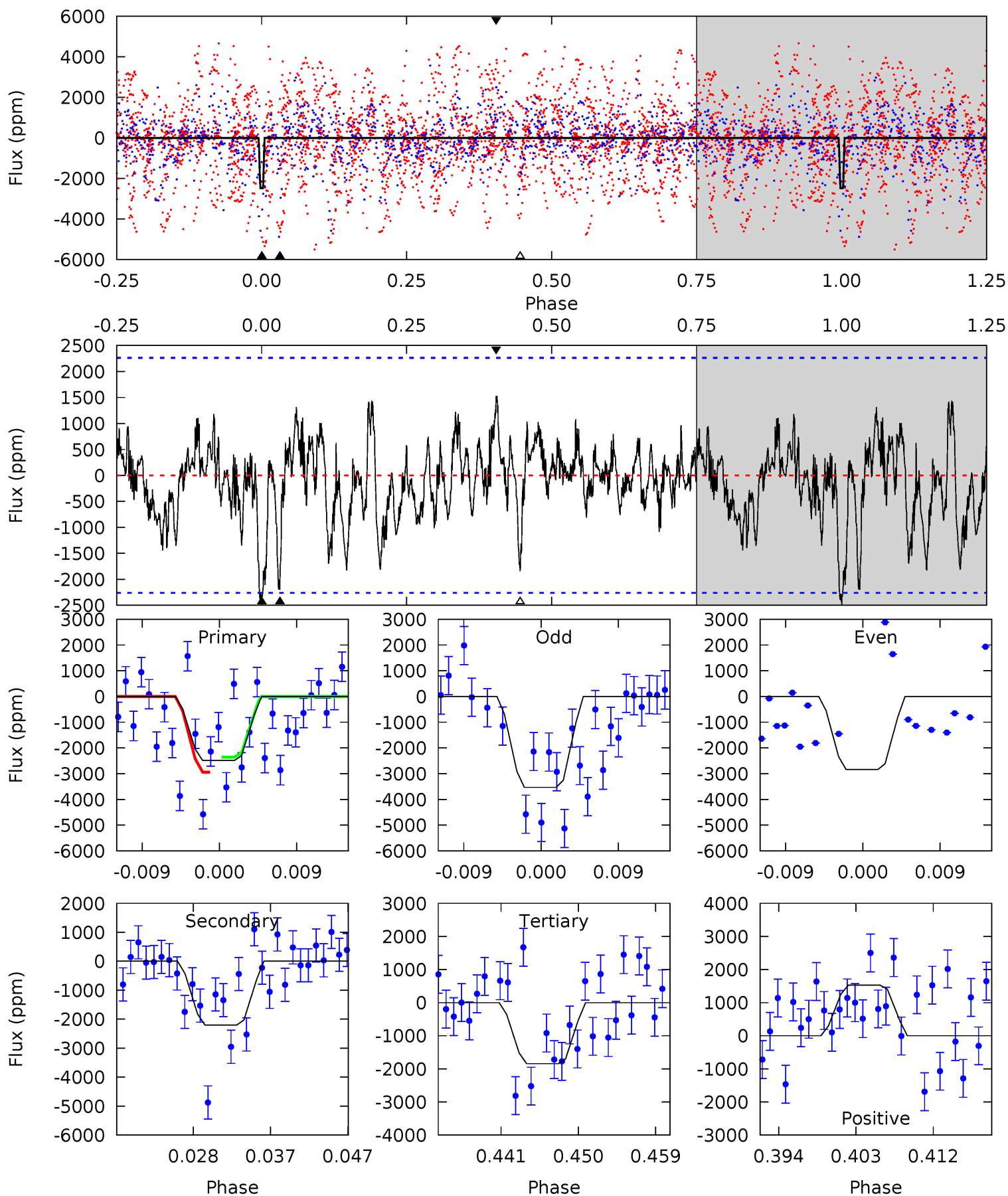
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	8.06	7.63	11.4	4.80	2.15	4.67	6.52	2.72	0.43	-3.37	10.9	1.09	0.45	1.41



Alt Model-Shift Uniqueness Test

005450503-03, P = 8.438244 Days, E = 124.361903 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.54	4.90	4.11	3.40	5.04	2.60	1.23	1.43	2.14	0.80	1.50	0.94	0.61	0.38	0



Stellar Parameters For KIC 005450503

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7151^{+171}_{-235}	$3.972^{+0.286}_{-0.154}$	$-0.320^{+0.300}_{-0.300}$	$2.076^{+0.511}_{-0.703}$	$1.473^{+0.180}_{-0.308}$	$0.232^{+0.508}_{-0.090}$
	+2%/-3%	+7%/-4%	+94%/-94%	+25%/-34%	+12%/-21%	+219%/-39%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005450503-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-505 ± 63	$18.41^{+18.37}_{-12.43}$	2079^{+150}_{-191}	3914^{+2469}_{-830}	$6.787^{+59.351}_{-5.056}$
Alt.	-2201 ± 449	$18.95^{+18.13}_{-13.46}$	2064^{+151}_{-201}	5229^{+5374}_{-1235}	30^{+314}_{-22}

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

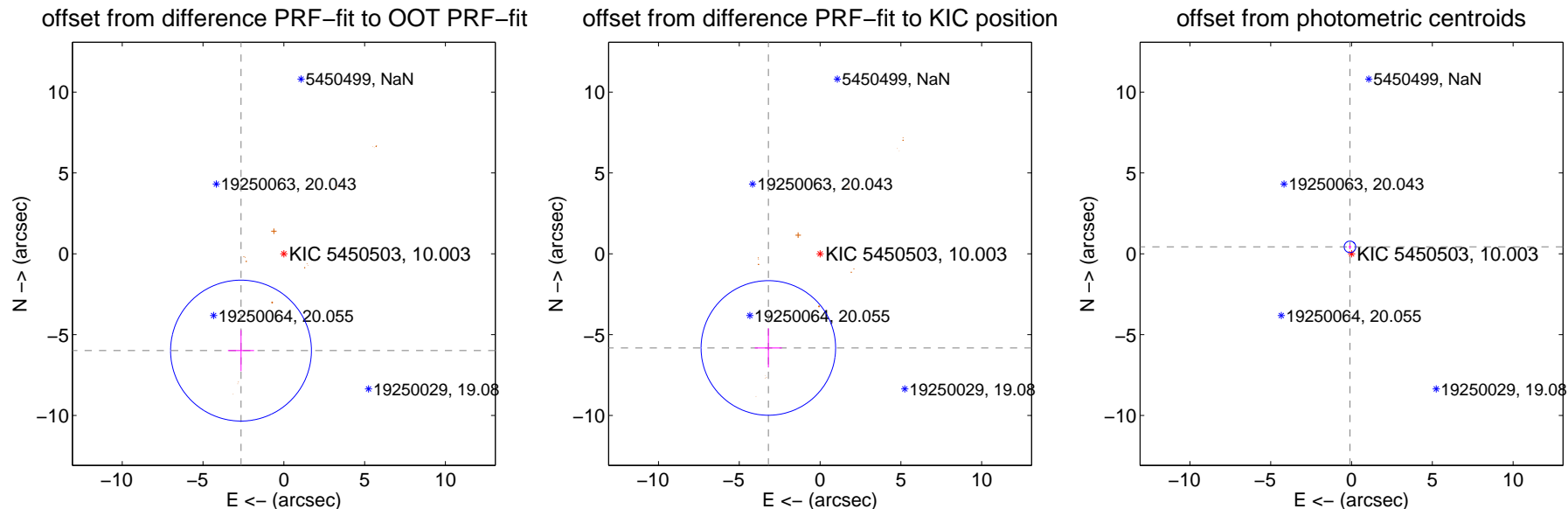
DV Centroid Data

Supplemental centroid analysis for 005450503-03. **Kepler magnitude: 10.00.** Transit SNR 6.63

There are 0 quarters with good PRF difference image offsets

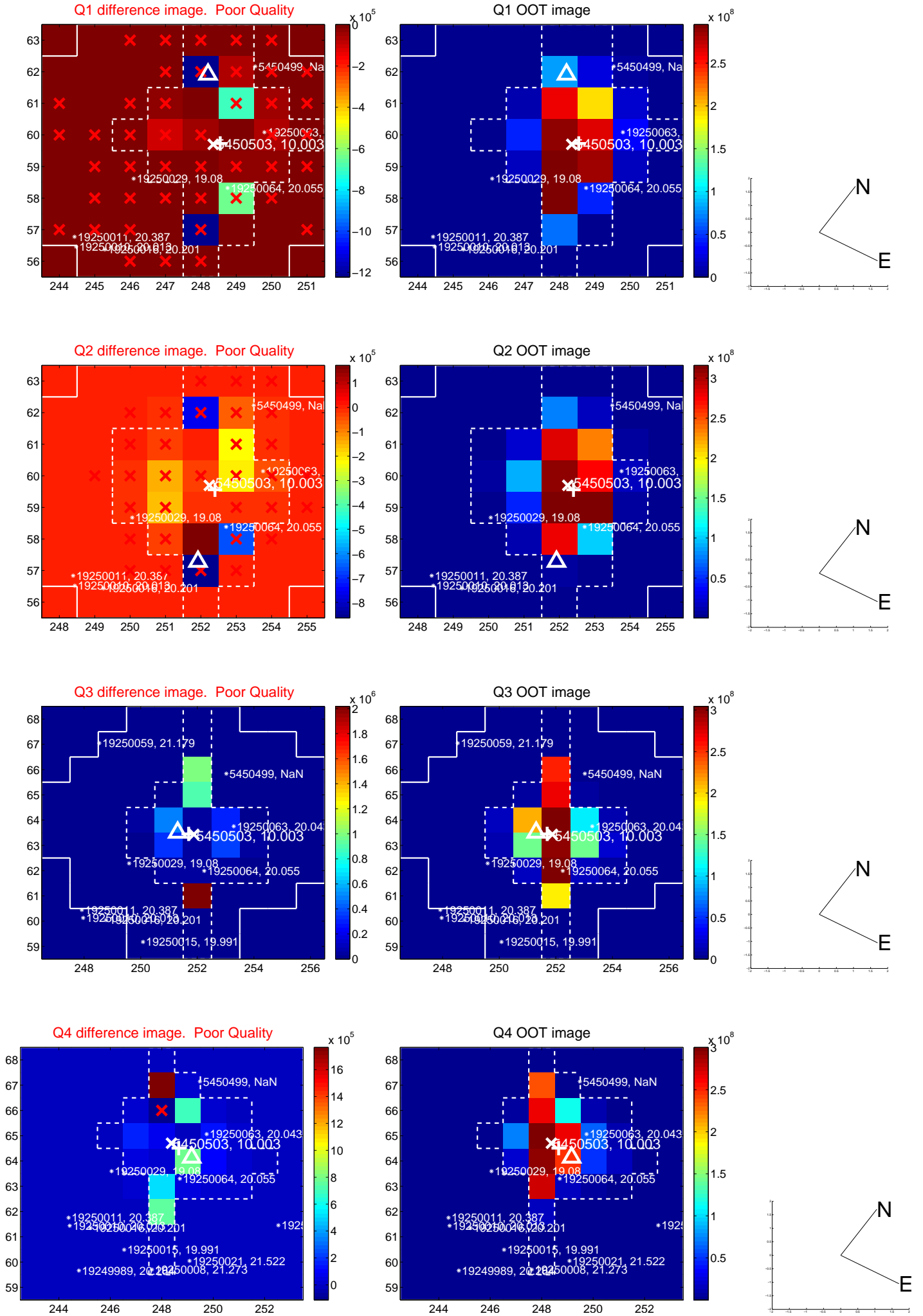
The direct PRF centroid is offset from the target star catalog position by about 0.69 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.549 ± 1.453	4.51	2.650 ± 0.808	-5.989 ± 1.271
PRF-fit source offset from KIC position	6.648 ± 1.388	4.79	3.203 ± 0.836	-5.826 ± 1.211
photometric centroid source offset	0.44 ± 0.12	3.69	0.10 ± 0.09	0.43 ± 0.12

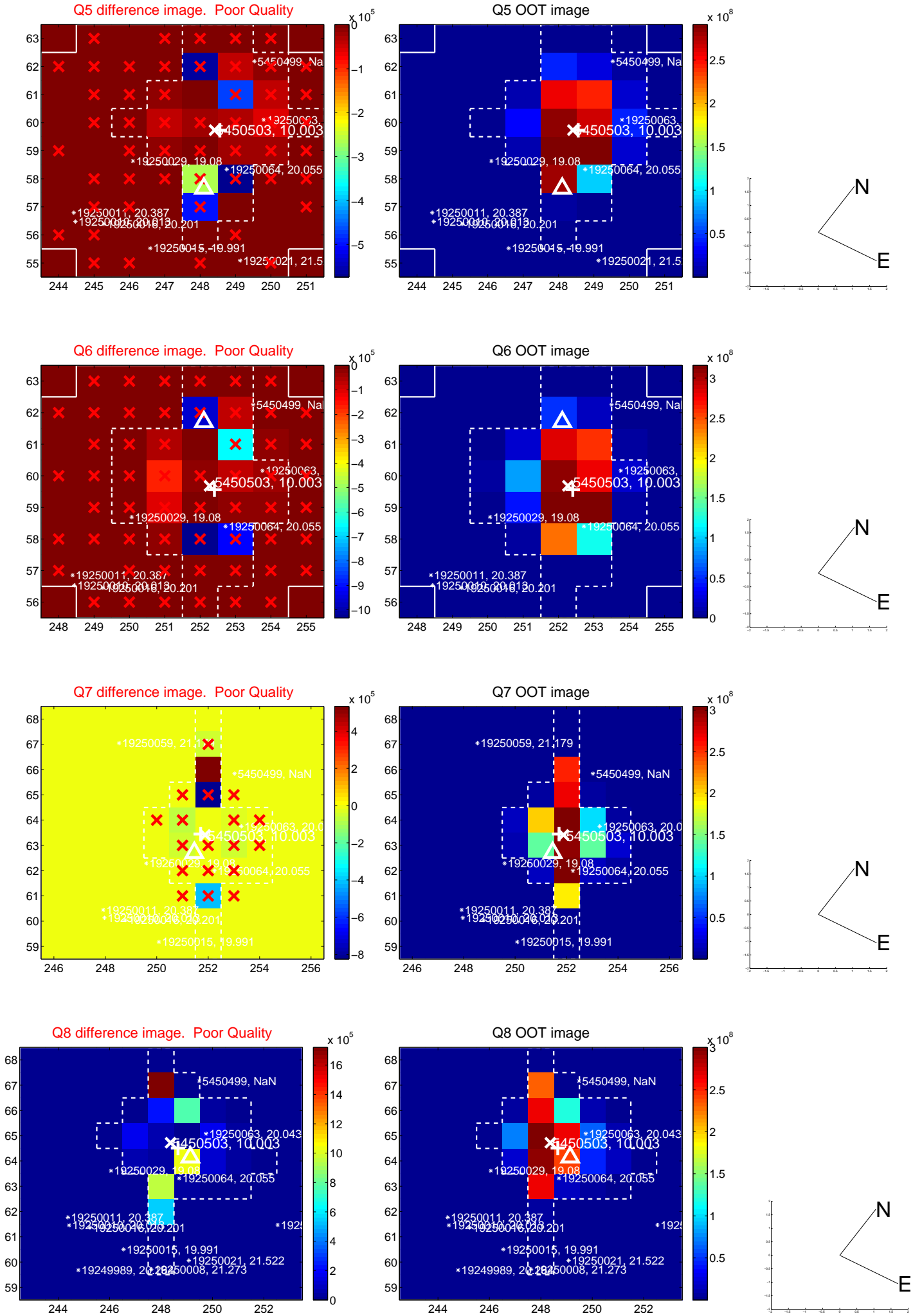


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

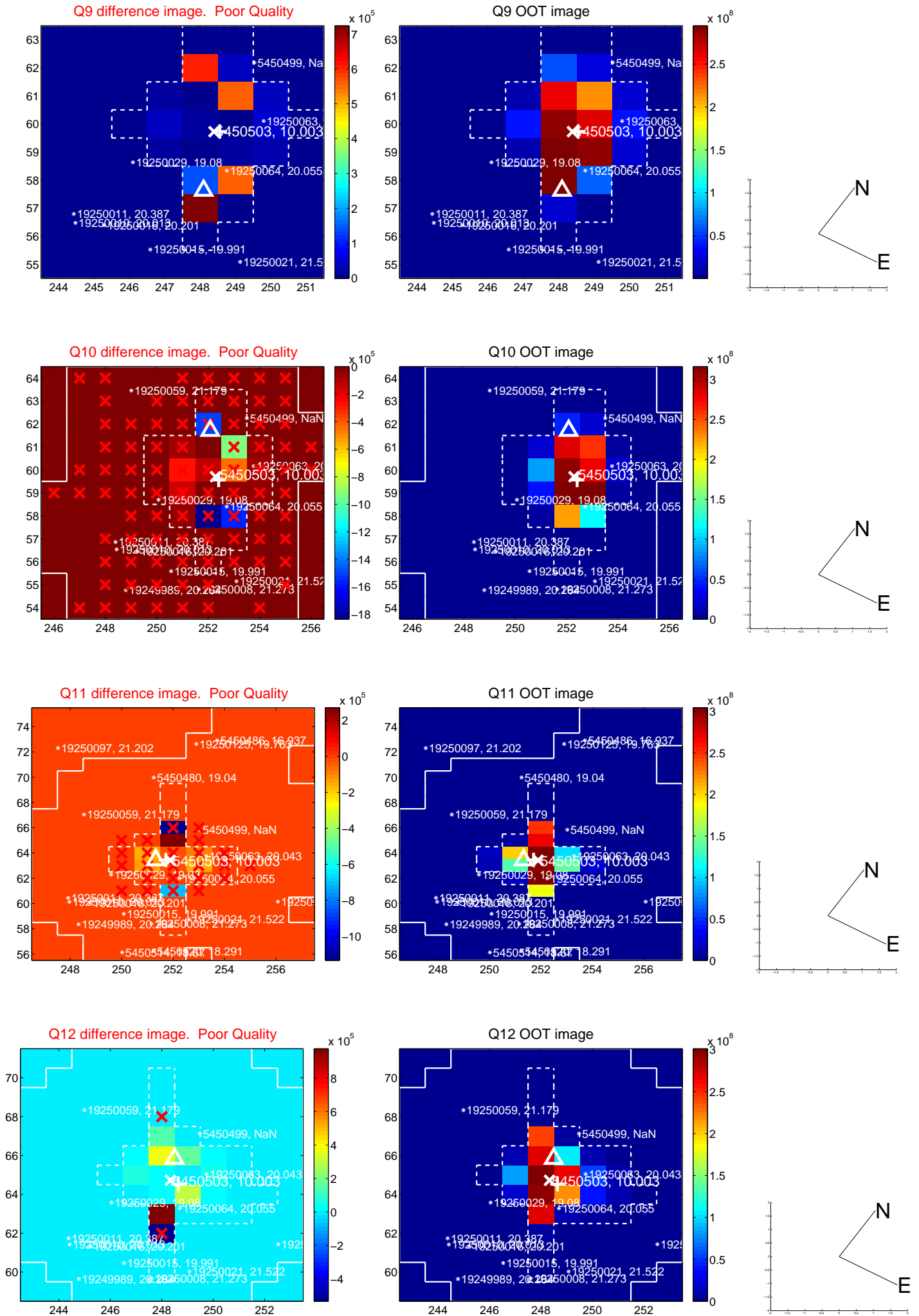
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



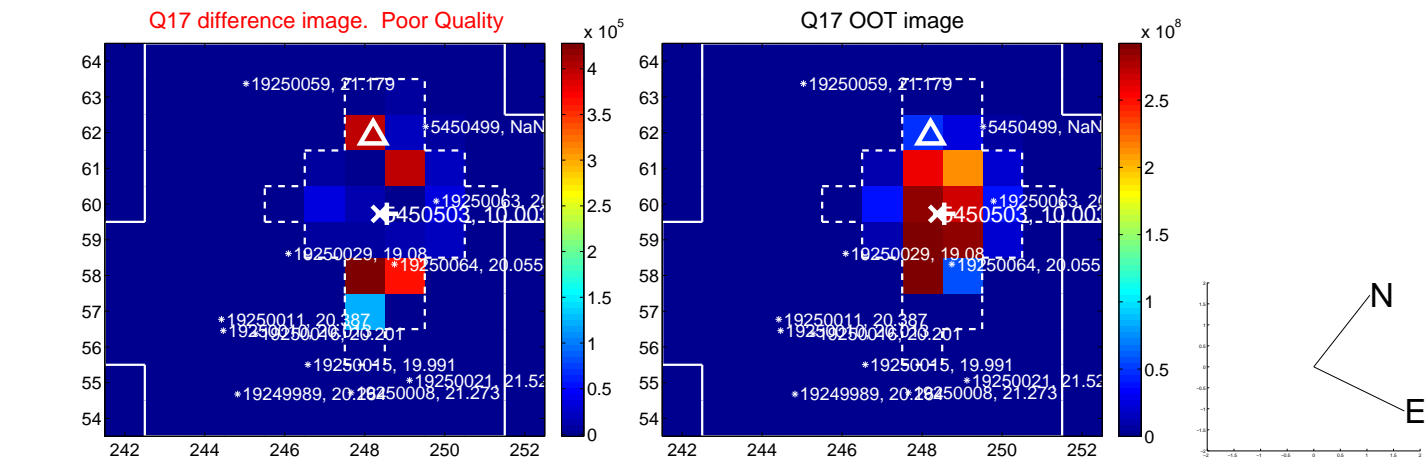
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



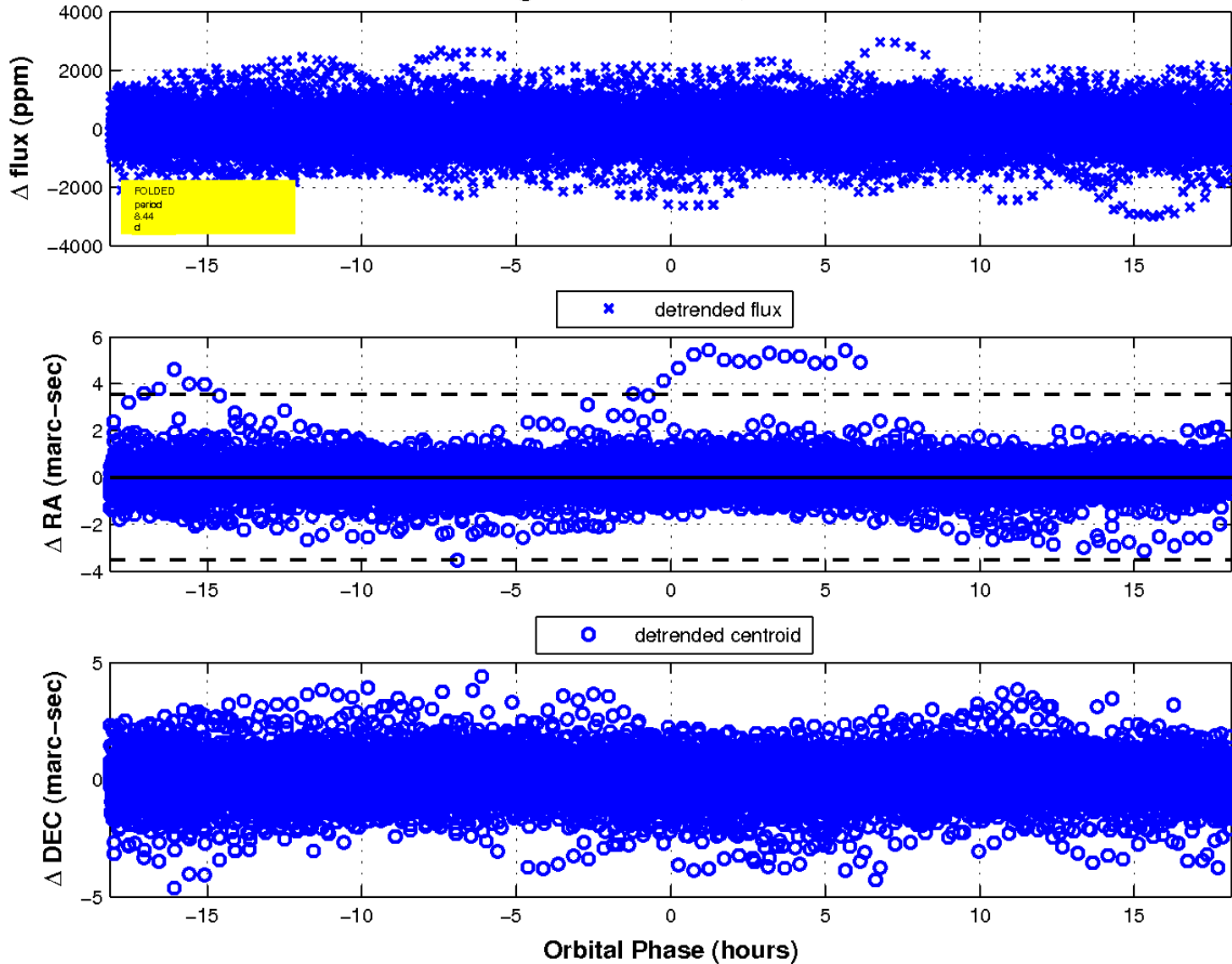
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

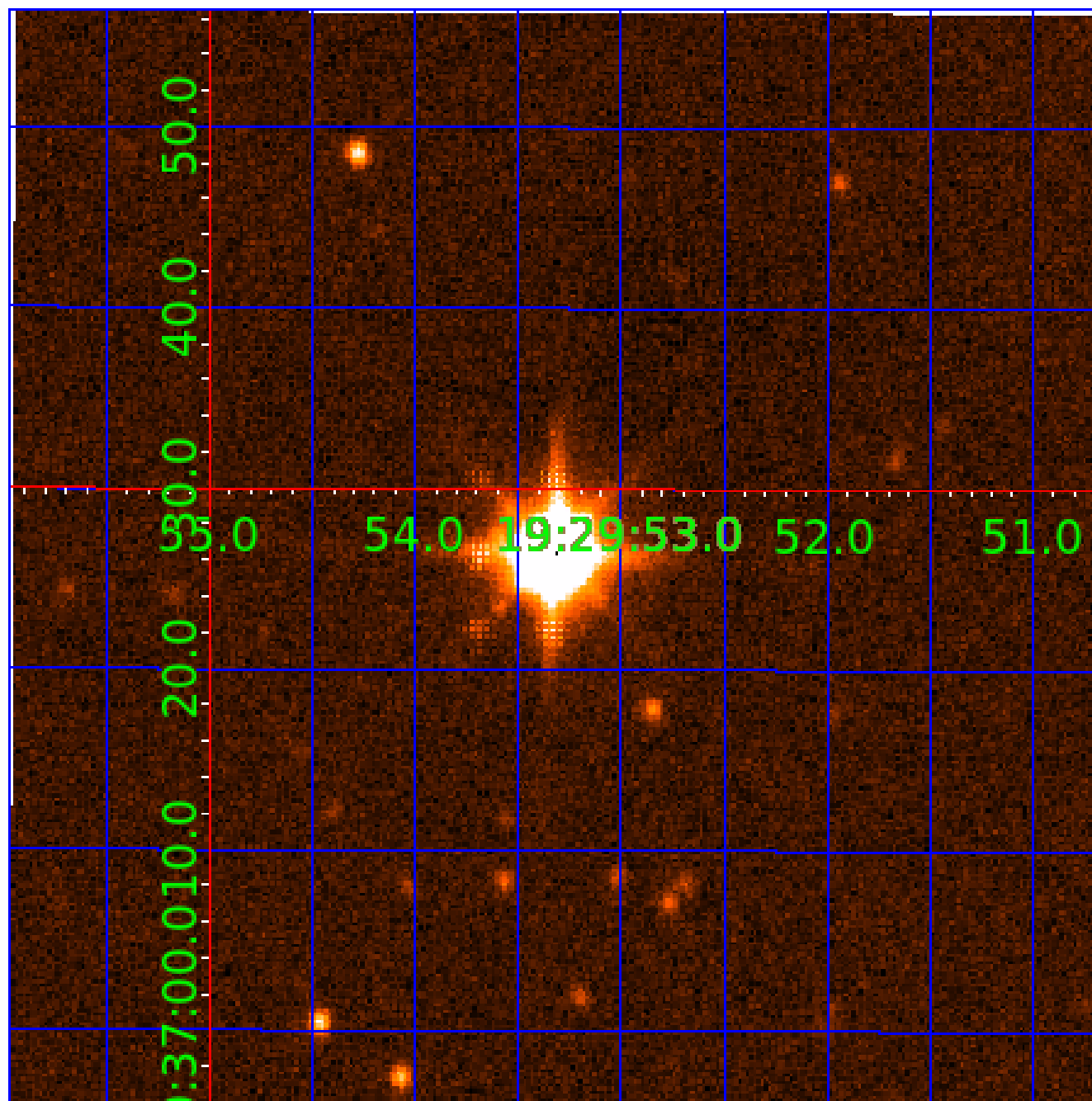


fluxWeightedCentroids, Planet 3 of 5



UKIRT Image

Declination



KIC 005450503

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})
005450503-01	OBS	No	2.401915	133.147962	52.3	10.256	8.4	7.8	2.08	7151	1.74	6325.62
005450503-02	OBS	No	1.107249	132.098602	0.0	7.692	8.3	0.0	2.08	7151	0.00	17763.13
005450503-03	OBS	No	8.438315	132.786270	674.3	6.051	14.5	6.6	2.08	7151	10.15	1184.42
005450503-04	OBS	No	14.686746	134.860256	156.0	2.416	10.9	2.2	2.08	7151	3.00	565.73
005450503-05	OBS	No	25.866420	137.934220	450.9	10.880	7.6	5.6	2.08	7151	4.65	265.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005450503-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
005450503-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—CENT_SATURATED
005450503-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
005450503-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
005450503-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

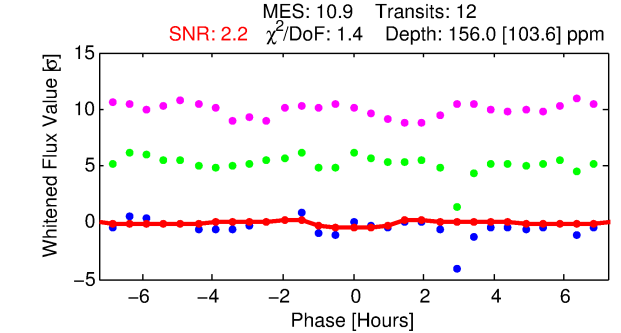
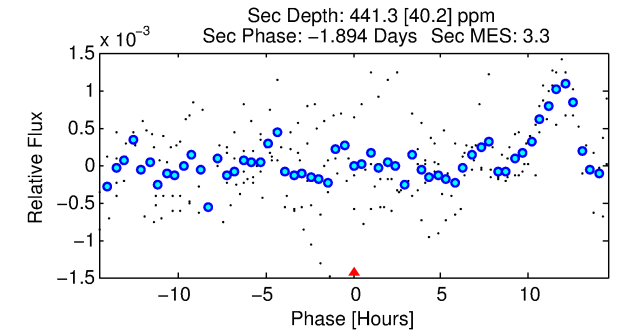
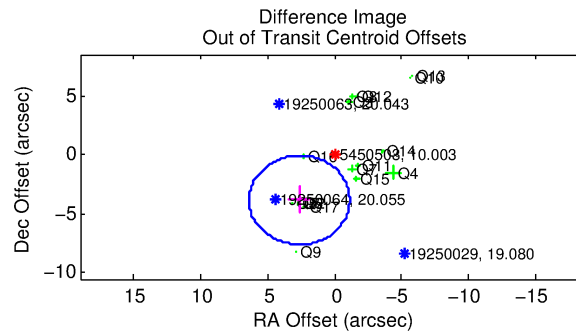
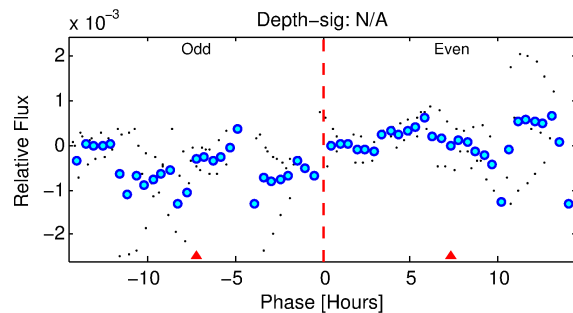
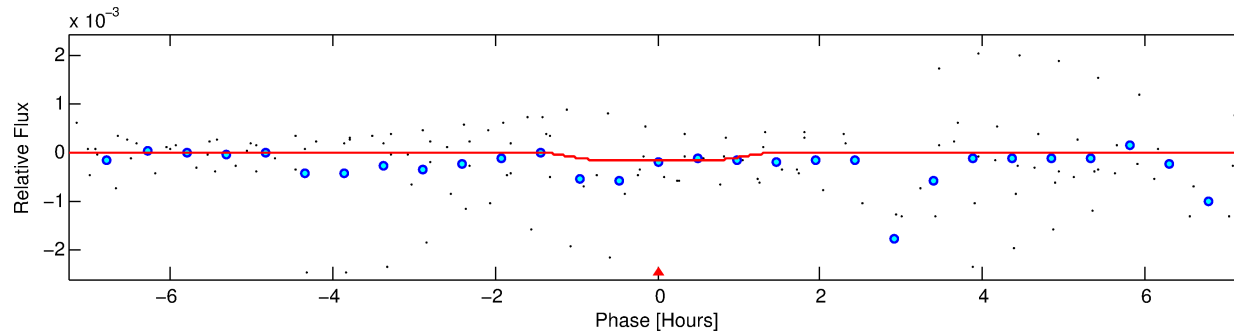
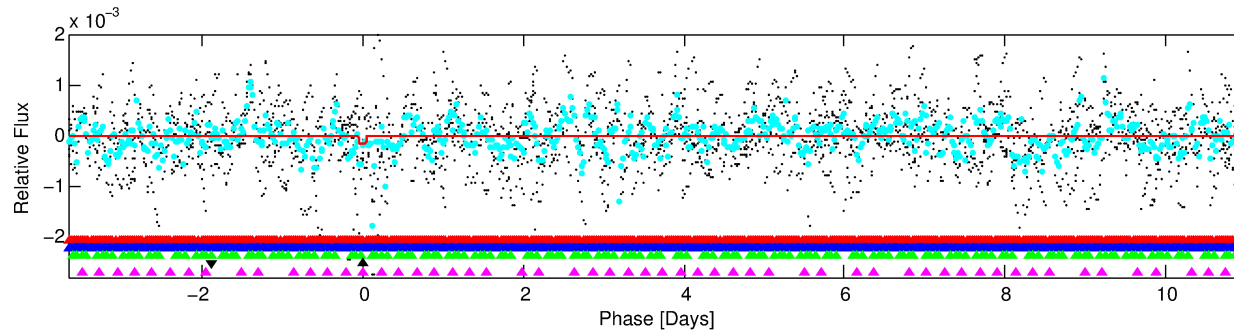
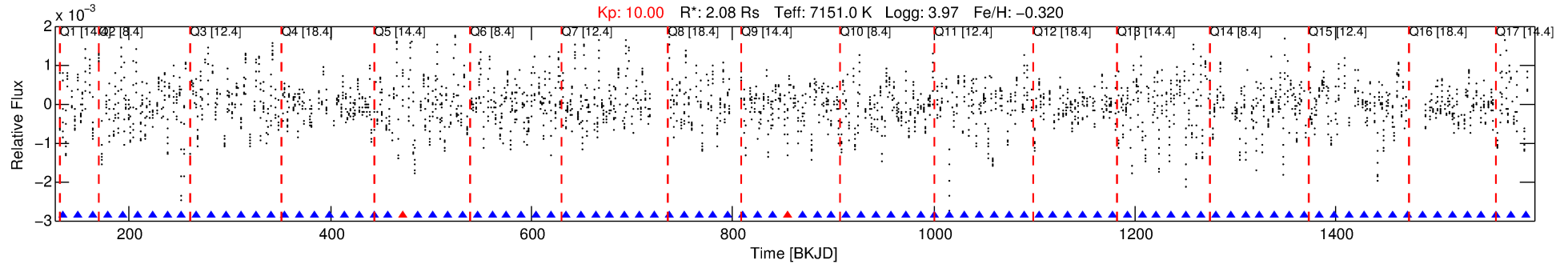
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005450503-04

No Significant Match Found

DV One-Page Summary

KIC: 5450503 Candidate: 4 of 5 Period: 14.687 d



DV Fit Results:

Period = 14.68675 [0.00057] d
Epoch = 134.8603 [0.0285] BKJD
Rp/R* = 0.0132 [0.0311]
a/R* = 22.27 [314.21]
b = 0.89 [3.28]
Seff = 565.73 [289.02]
Teq = 1244 [159] K
Rp = 3.00 [7.12] Re
a = 0.1336 [0.0421] AU
Ag = 482.43 [2281.91] [0.21σ]
Teffp = 9011 [10602] K [0.73σ]

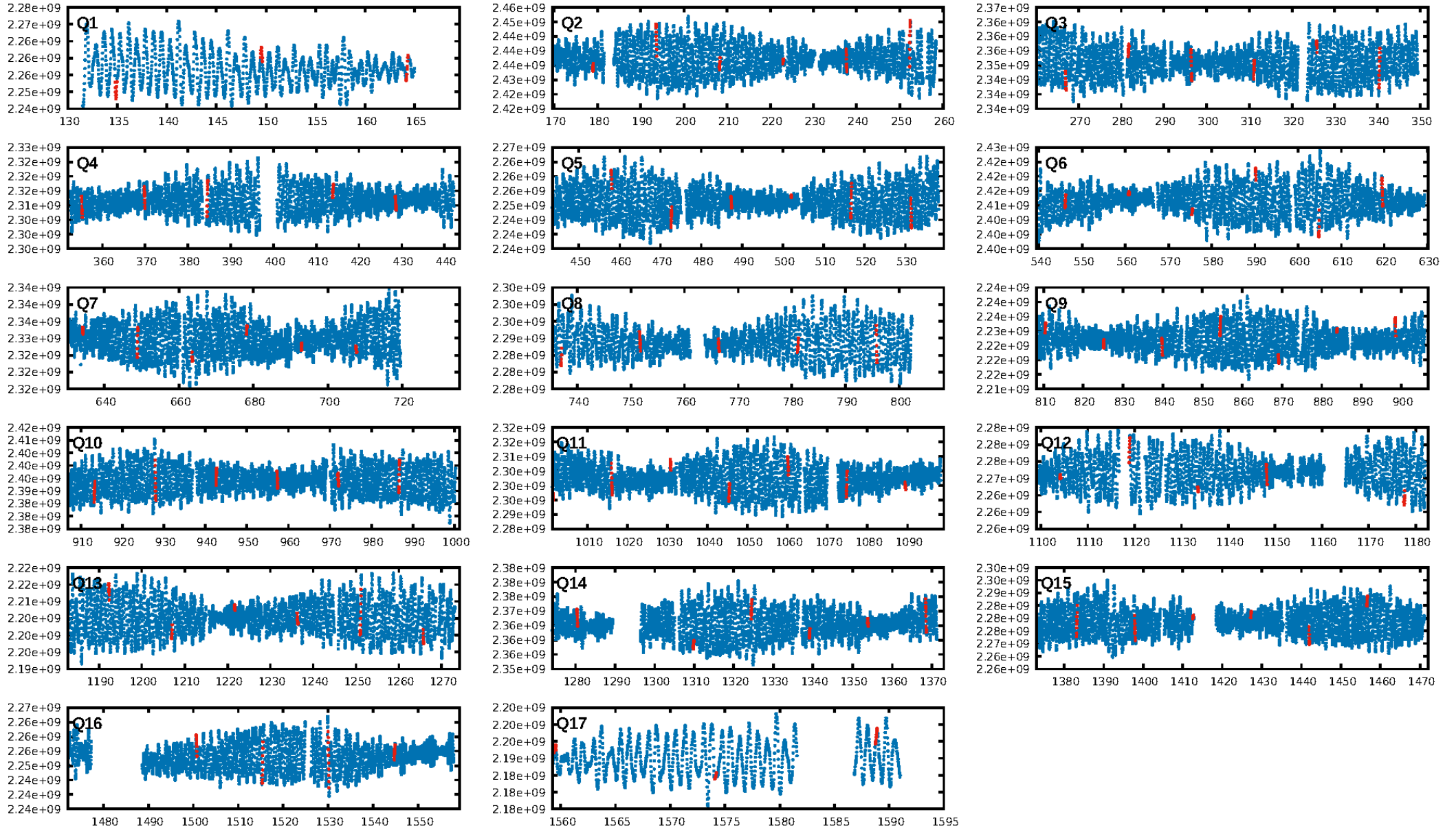
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [23.01σ]
LongPeriod-sig: 100.0% [24.07σ]
ModelChiSquare2-sig: 1.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.90e-75
RollingBand-fgt: 0.82 [9/11]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: 0.778 arcsec [1.91σ]
OotOffset-rm: 4.641 arcsec [3.70σ]
KicOffset-rm: 4.998 arcsec [4.05σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.06 [1/17]
DiffImageOverlap-fno: 0.53 [9/17]

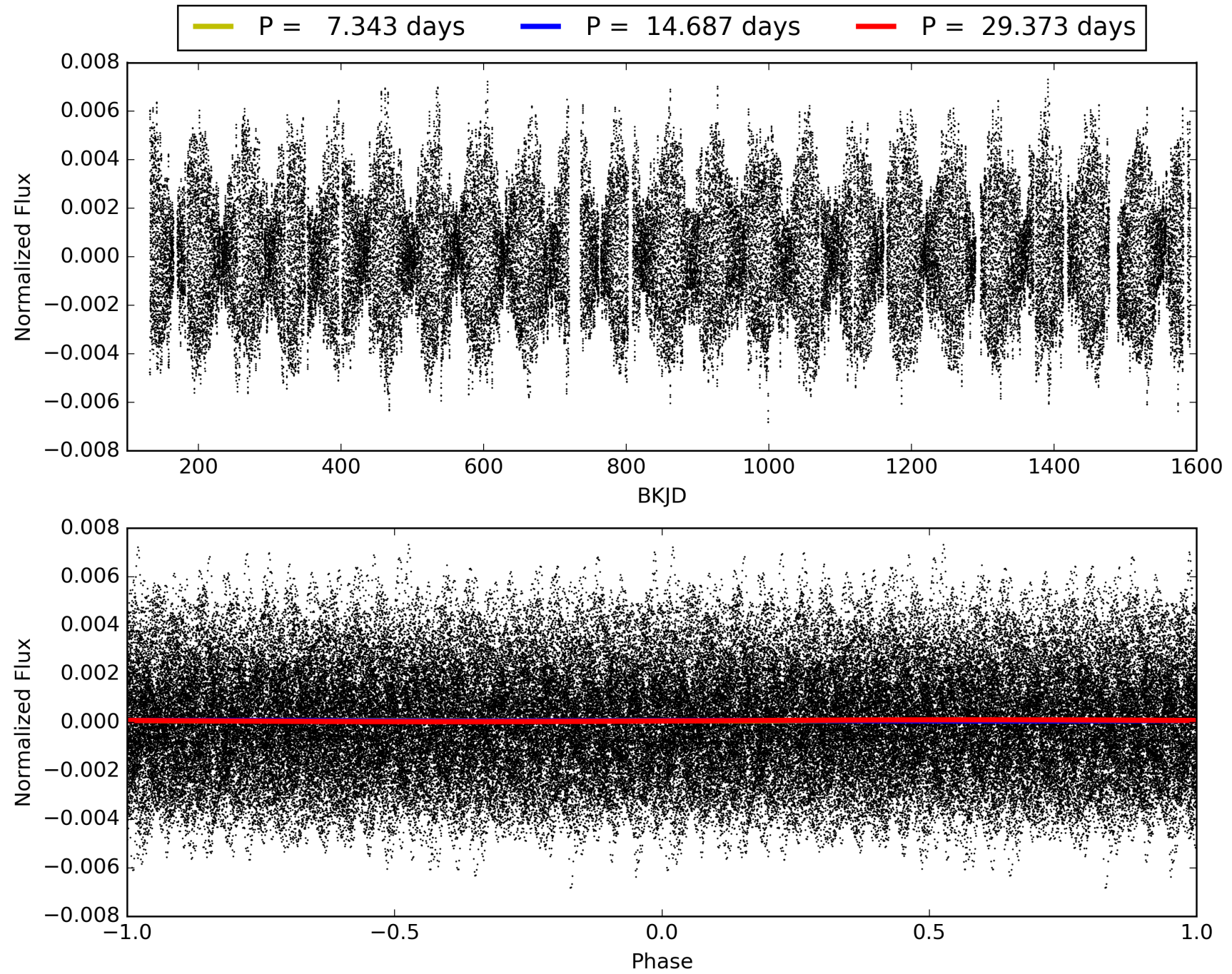
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:49:47 Z

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

TCE 005450503-04, PDC Light Curves

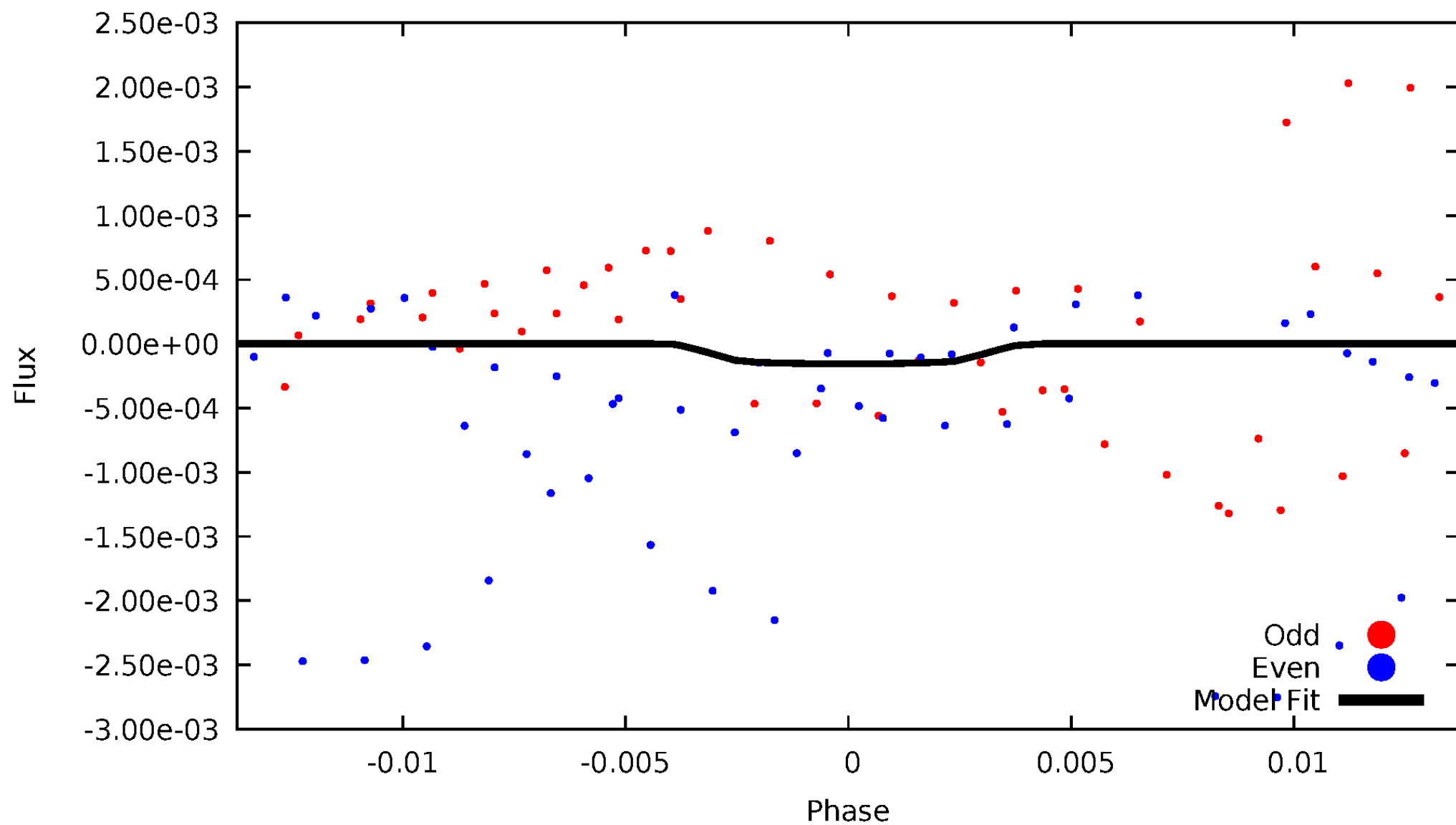


TCE 005450503-04



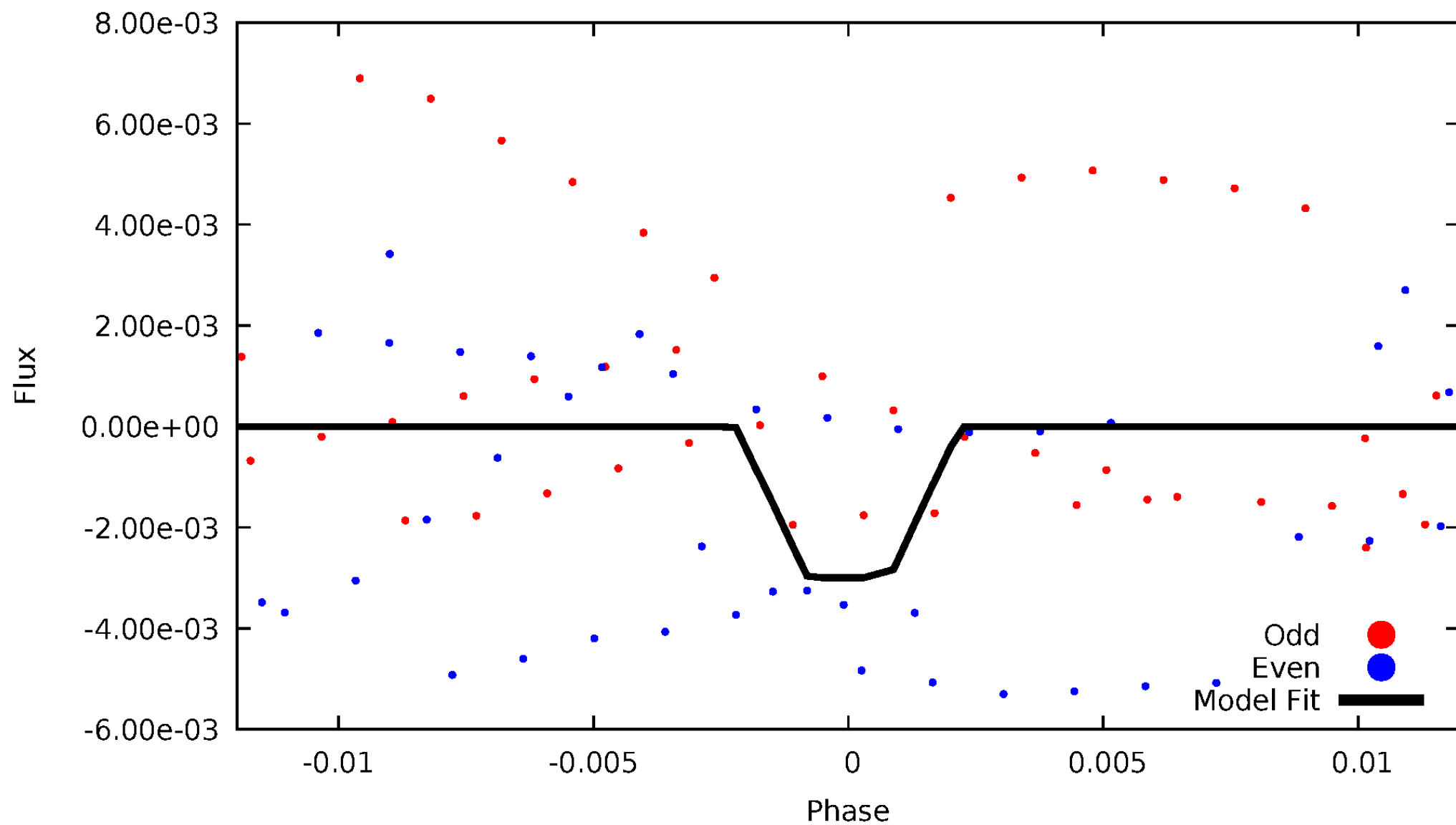
DV Odd/Even

TCE 005450503-04



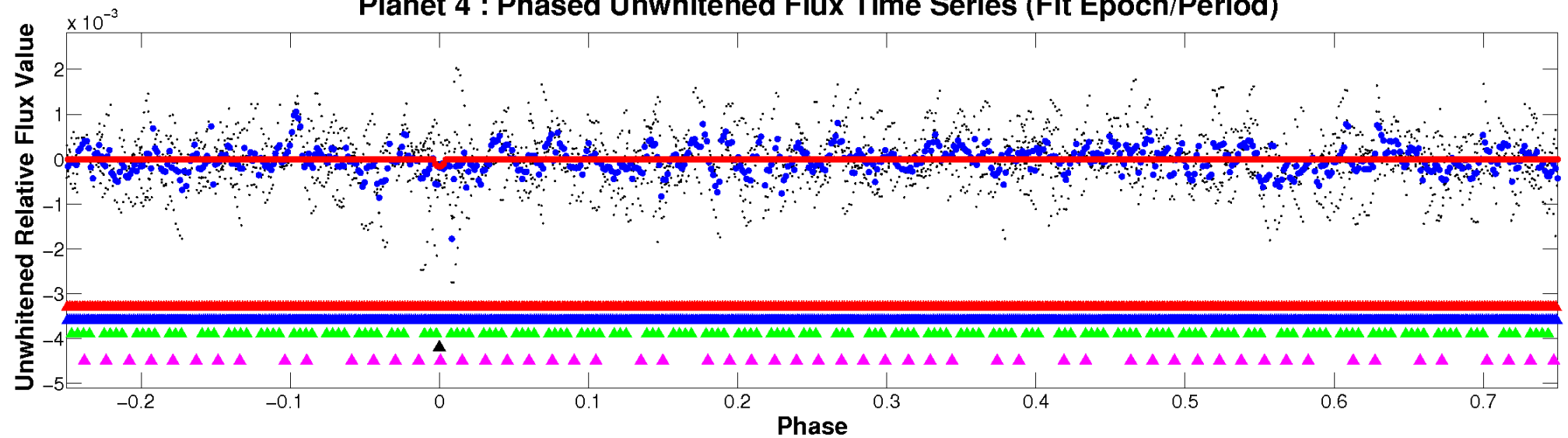
ALT Odd/Even

TCE 005450503-04

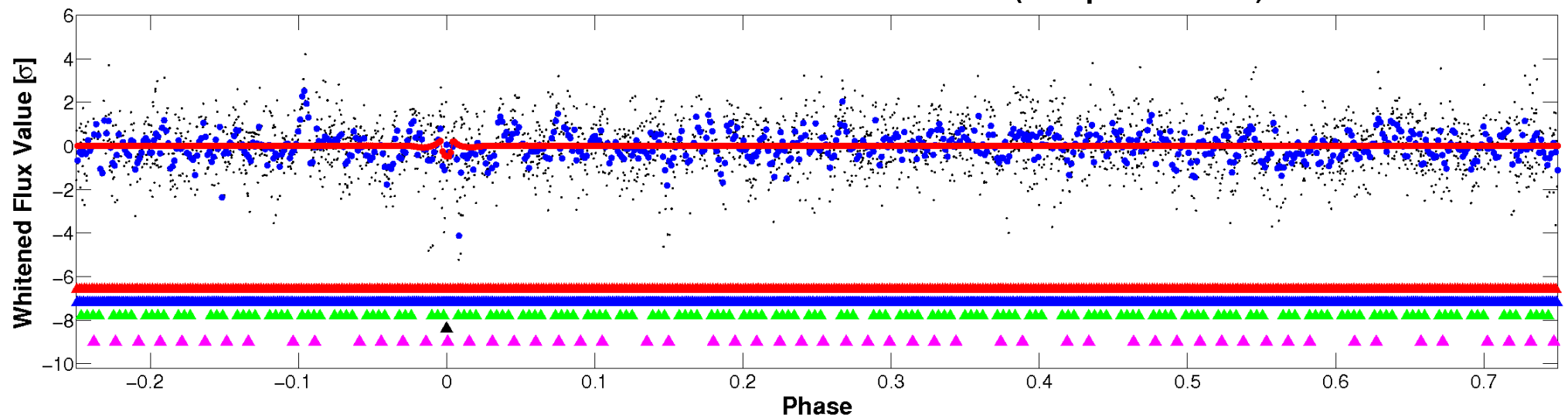


Non-Whitened Vs. Whitened Light Curve

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

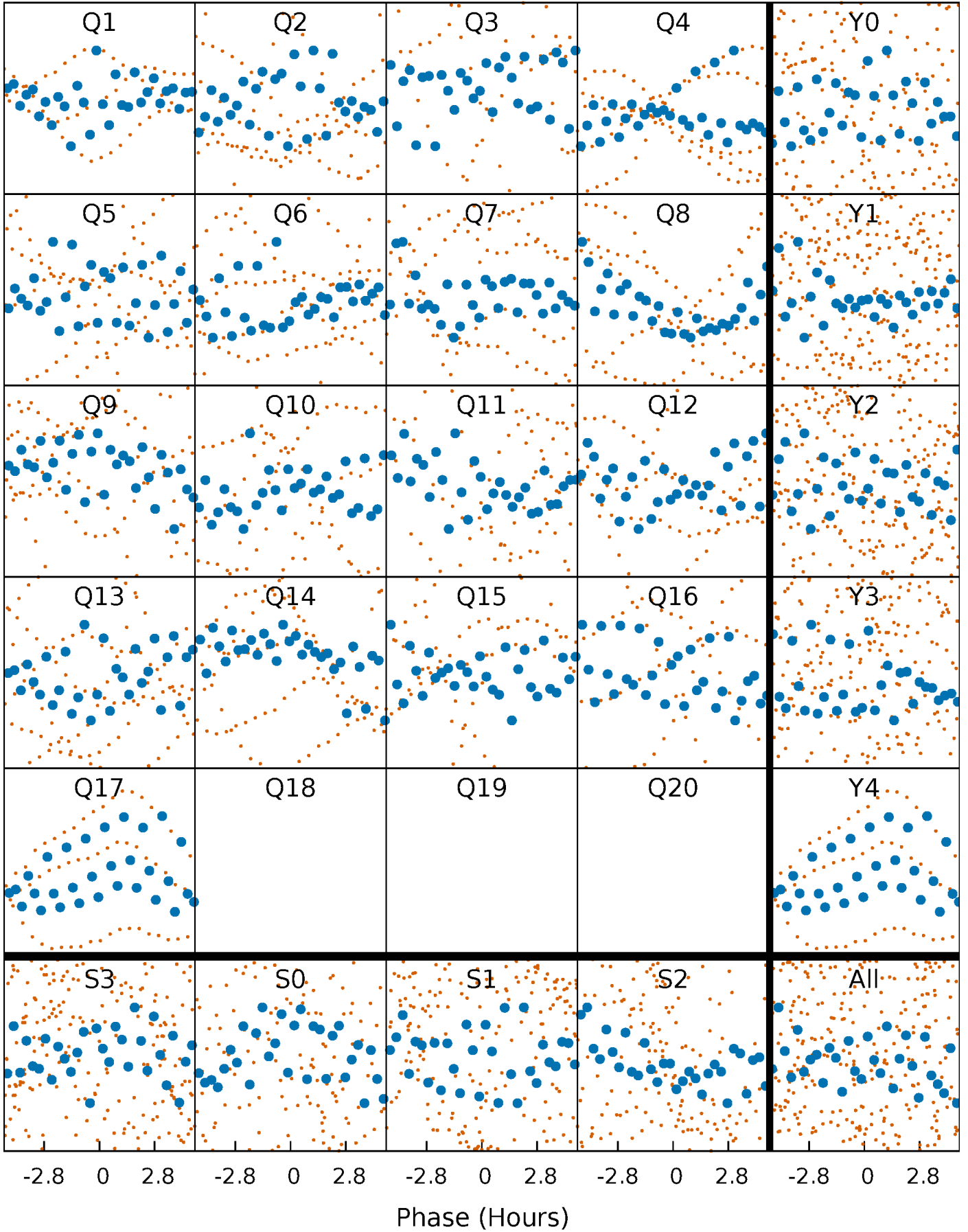


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



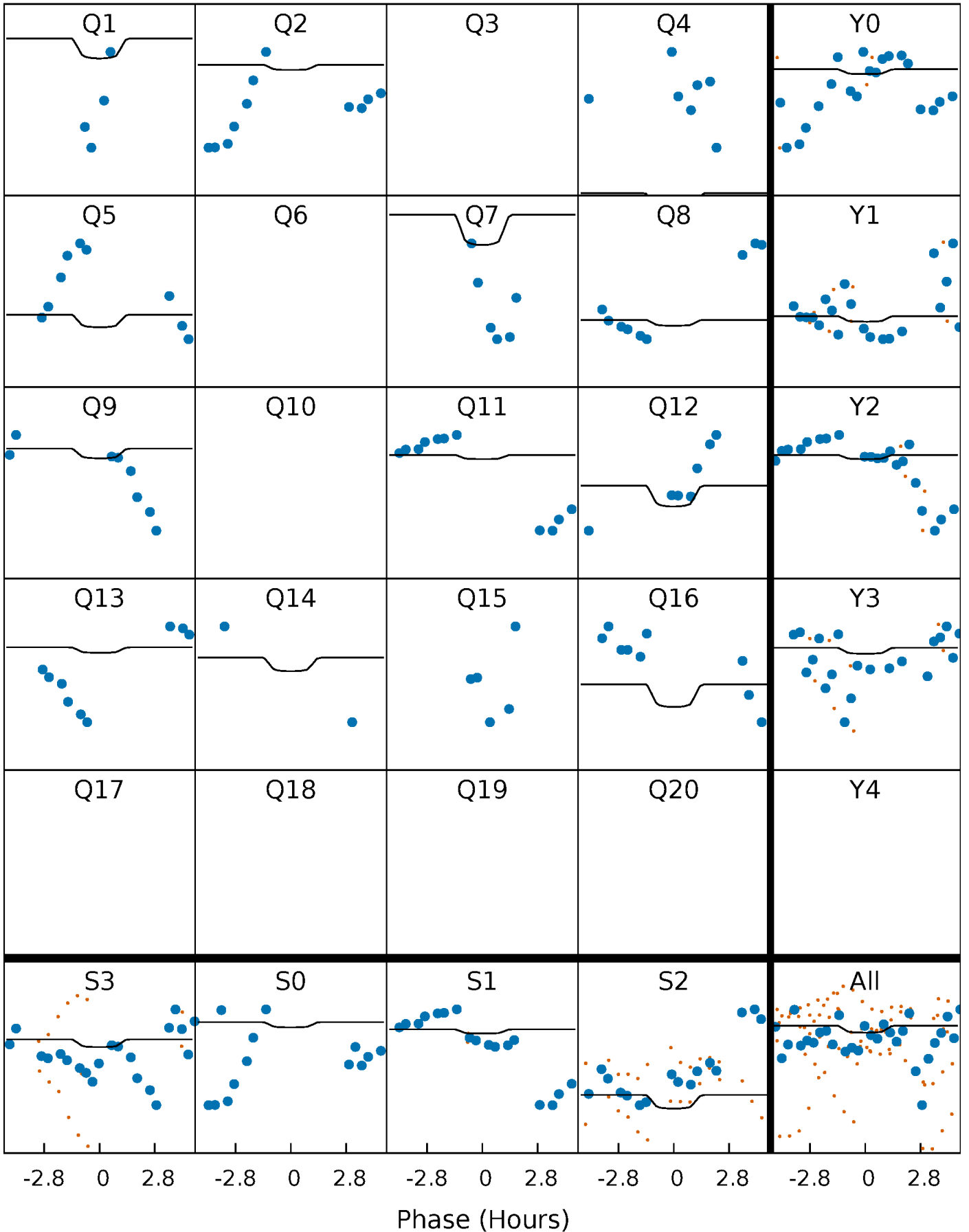
PDC Quarter-Phased Transit Curves

TCE 005450503-04 P= 14.686746 Days $T_0=134.860255$ (BKJD)



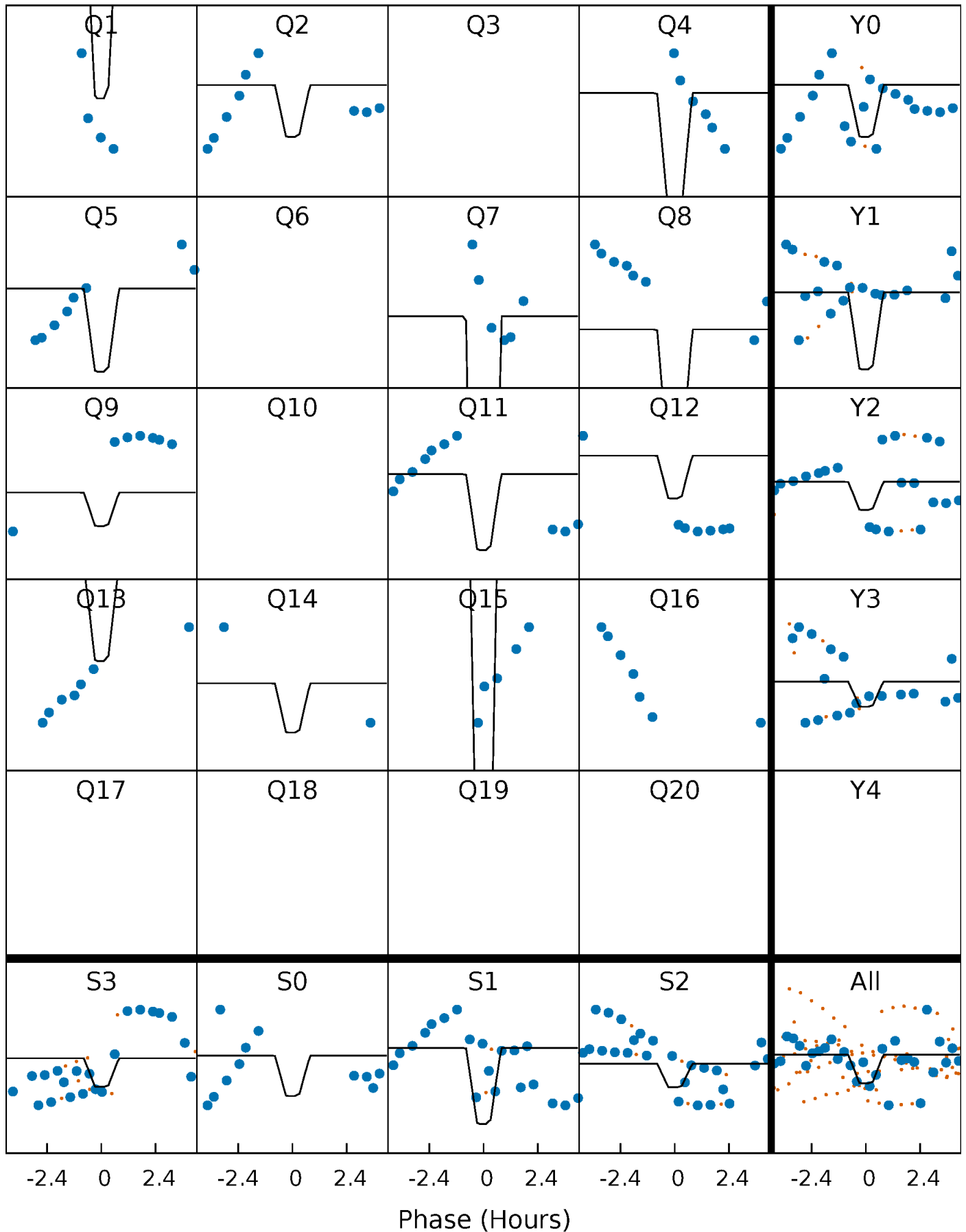
DV Quarter-Phased Transit Curves

TCE 005450503-04 $P = 14.686746$ Days $T_0 = 134.860255$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

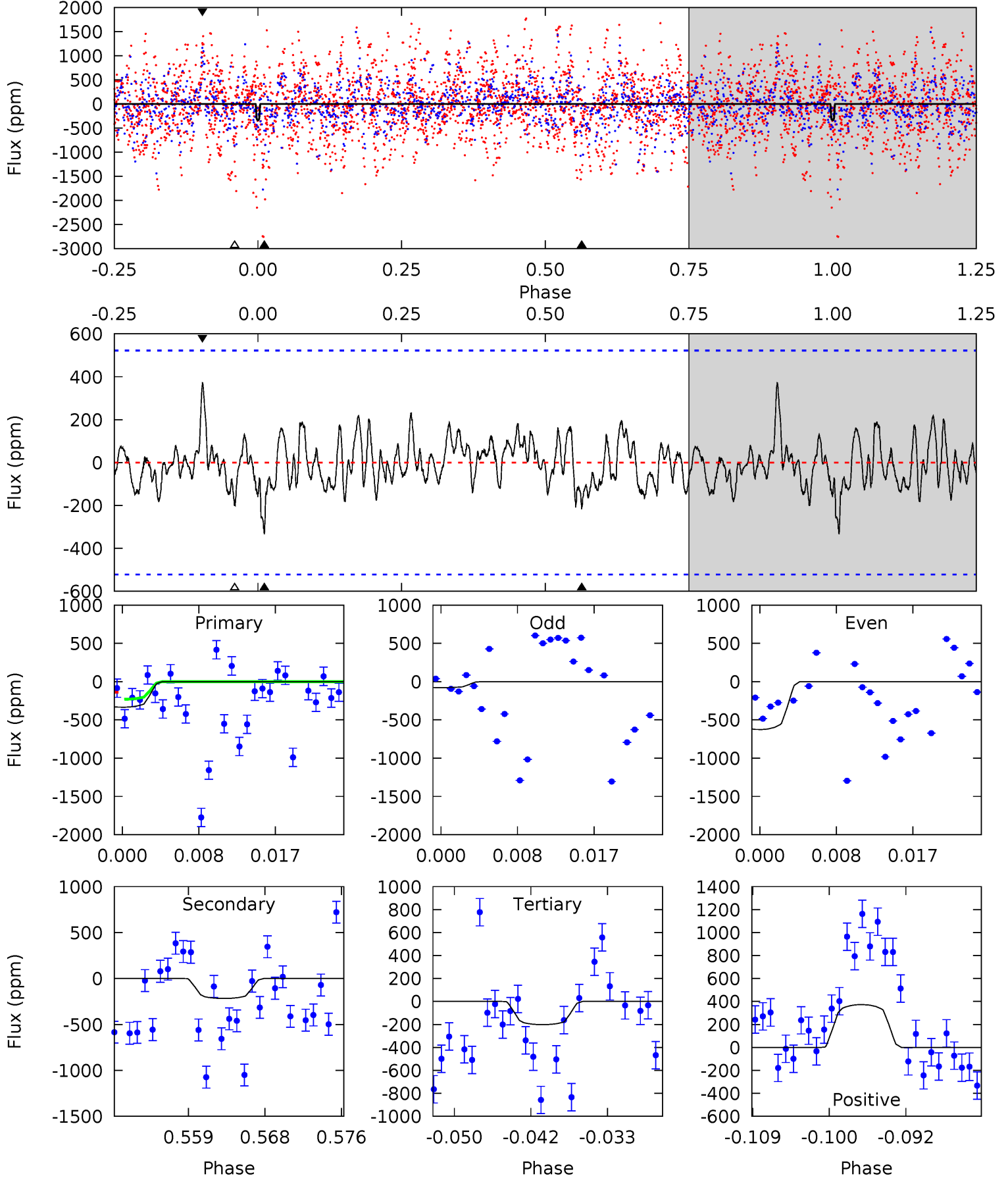
TCE 005450503-04 P= 14.686520 Days $T_0=134.865018$ (BKJD)



DV Model-Shift Uniqueness Test

005450503-04, P = 14.686746 Days, E = 120.173509 Days

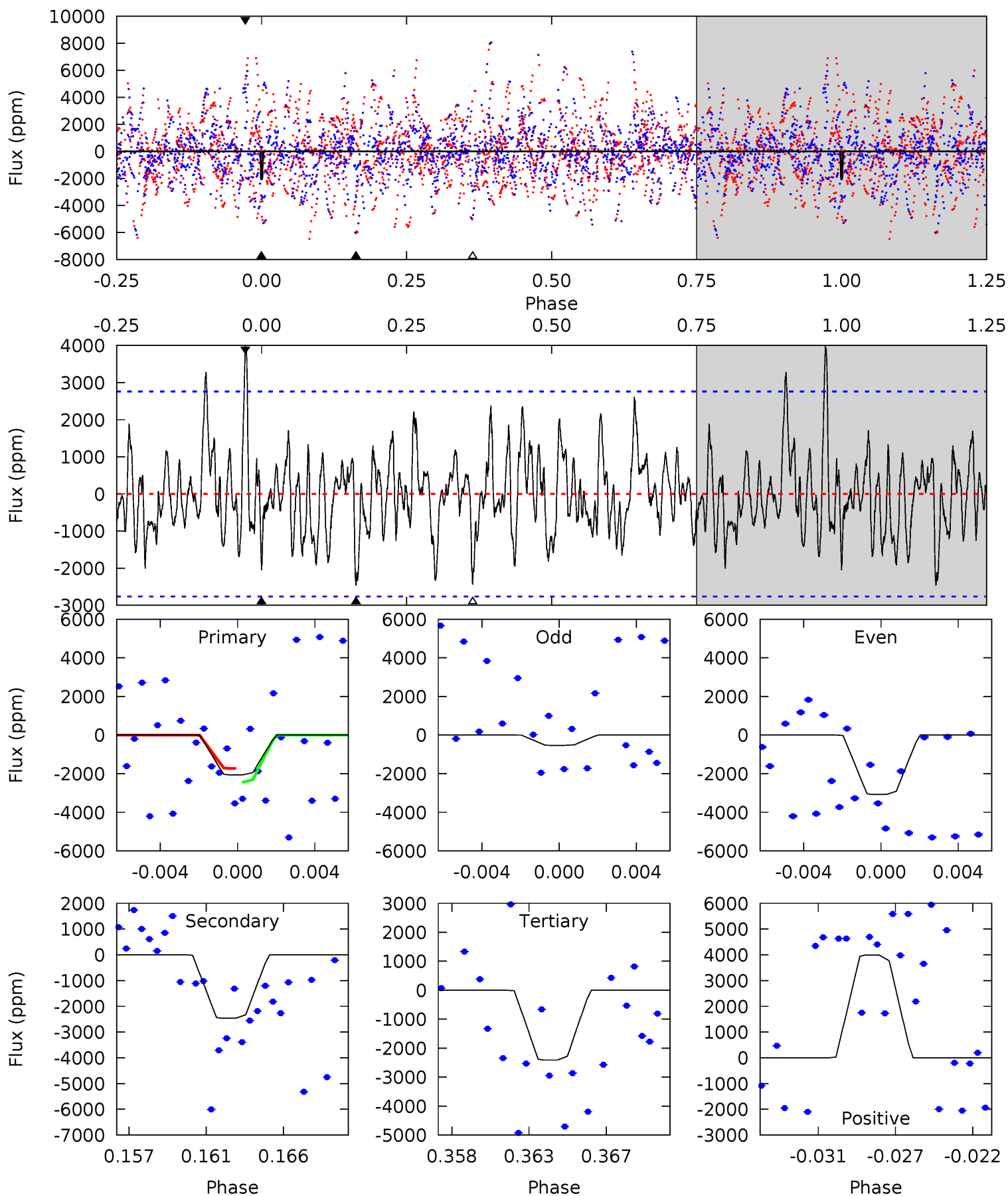
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.24	2.11	1.95	3.61	5.06	2.64	0.90	1.28	-0.37	0.15	-1.50	2.63	1.14	0.53	0.44



Alt Model-Shift Uniqueness Test

005450503-04, P = 14.686520 Days, E = 120.178498 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.86	4.62	4.52	7.48	5.18	2.84	1.75	-0.66	-3.62	0.10	-2.86	2.38	0.91	0.62	0.68



Stellar Parameters For KIC 005450503

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7151^{+171}_{-235}	$3.972^{+0.286}_{-0.154}$	$-0.320^{+0.300}_{-0.300}$	$2.076^{+0.511}_{-0.703}$	$1.473^{+0.180}_{-0.308}$	$0.232^{+0.508}_{-0.090}$
	+2%/-3%	+7%/-4%	+94%/-94%	+25%/-34%	+12%/-21%	+219%/-39%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005450503-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-217 ± 103	$6.21^{+5.91}_{-4.23}$	1719^{+137}_{-151}	5027^{+4317}_{-1257}	48^{+480}_{-38}
Alt.	-2464 ± 533	$12.25^{+7.43}_{-6.15}$	1717^{+123}_{-146}	6602^{+3821}_{-1344}	160^{+479}_{-102}

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 $A_{obs} \gg 1.0$

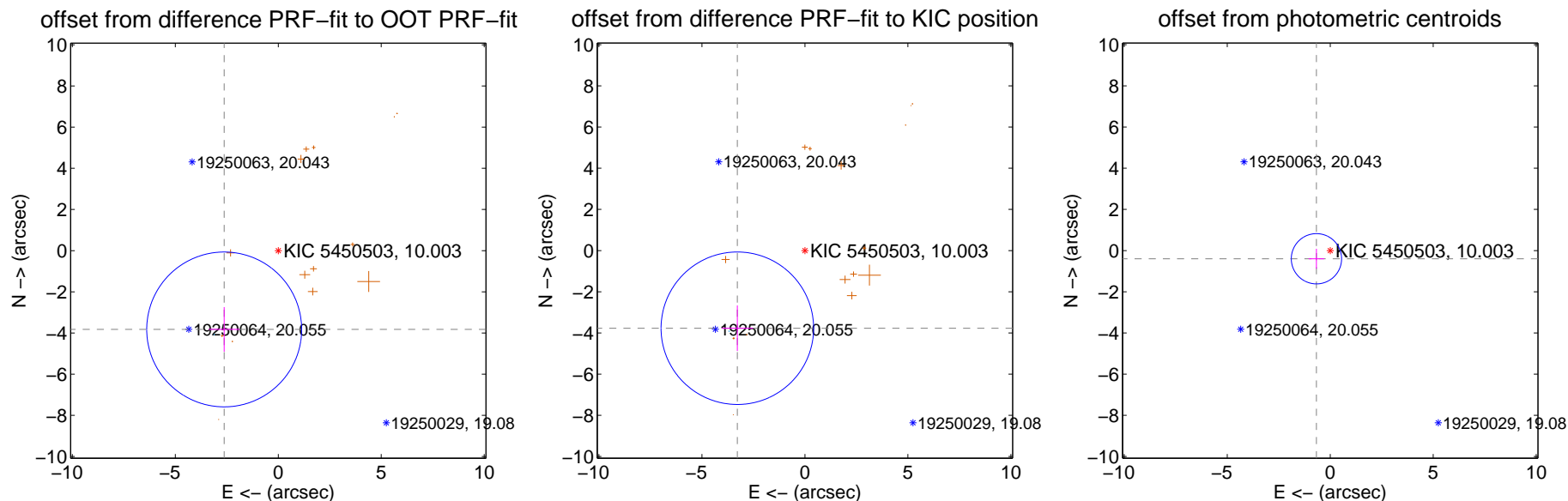
DV Centroid Data

Supplemental centroid analysis for 005450503-04. **Kepler magnitude: 10.00.** Transit SNR 2.17

There are 1 quarters with good PRF difference image offsets

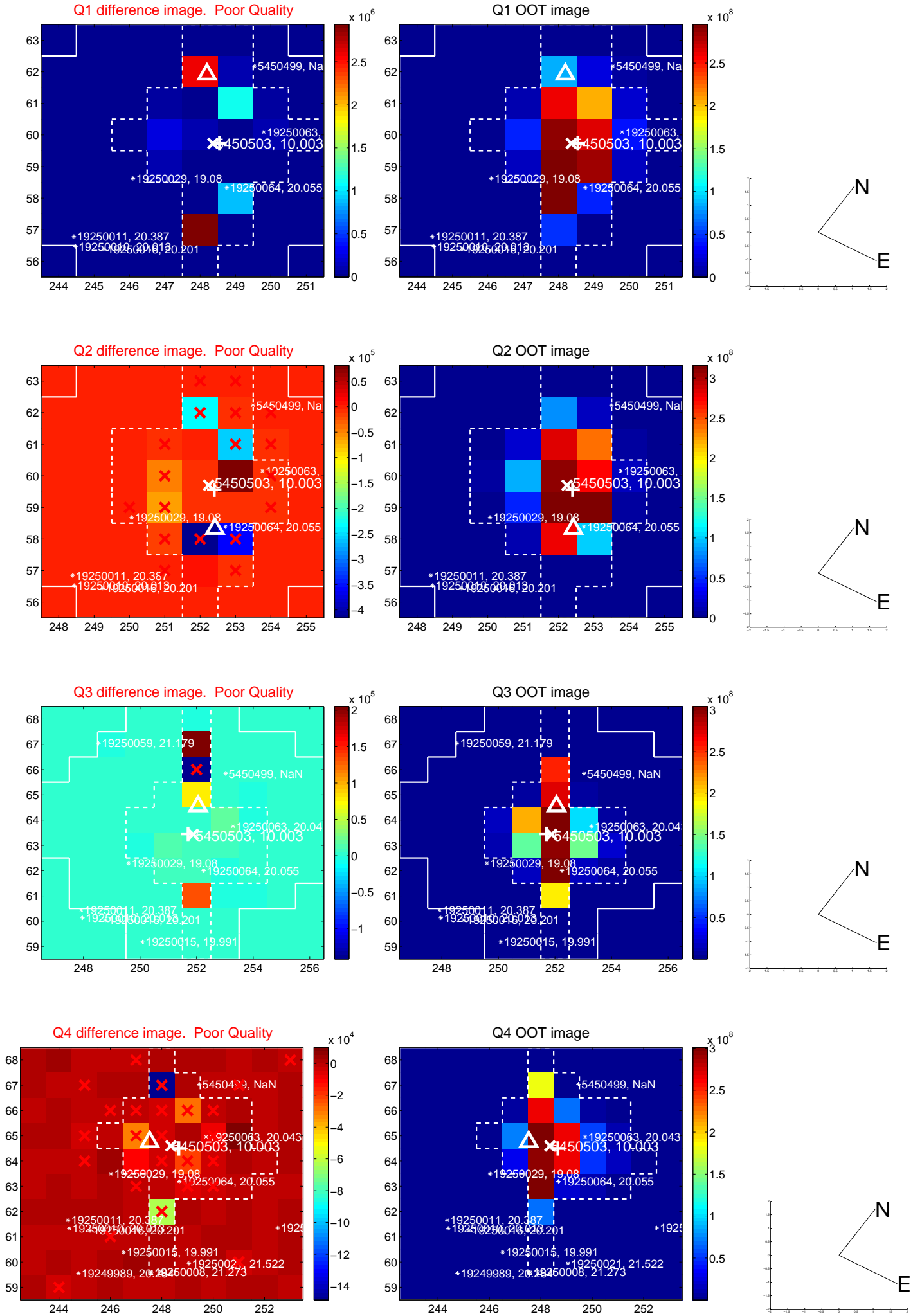
The direct PRF centroid is offset from the target star catalog position by about 0.67 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.641 ± 1.254	3.70	2.626 ± 0.745	-3.827 ± 1.086
PRF-fit source offset from KIC position	4.998 ± 1.234	4.05	3.280 ± 0.759	-3.771 ± 1.104
photometric centroid source offset	0.78 ± 0.41	1.91	0.67 ± 0.38	-0.40 ± 0.48

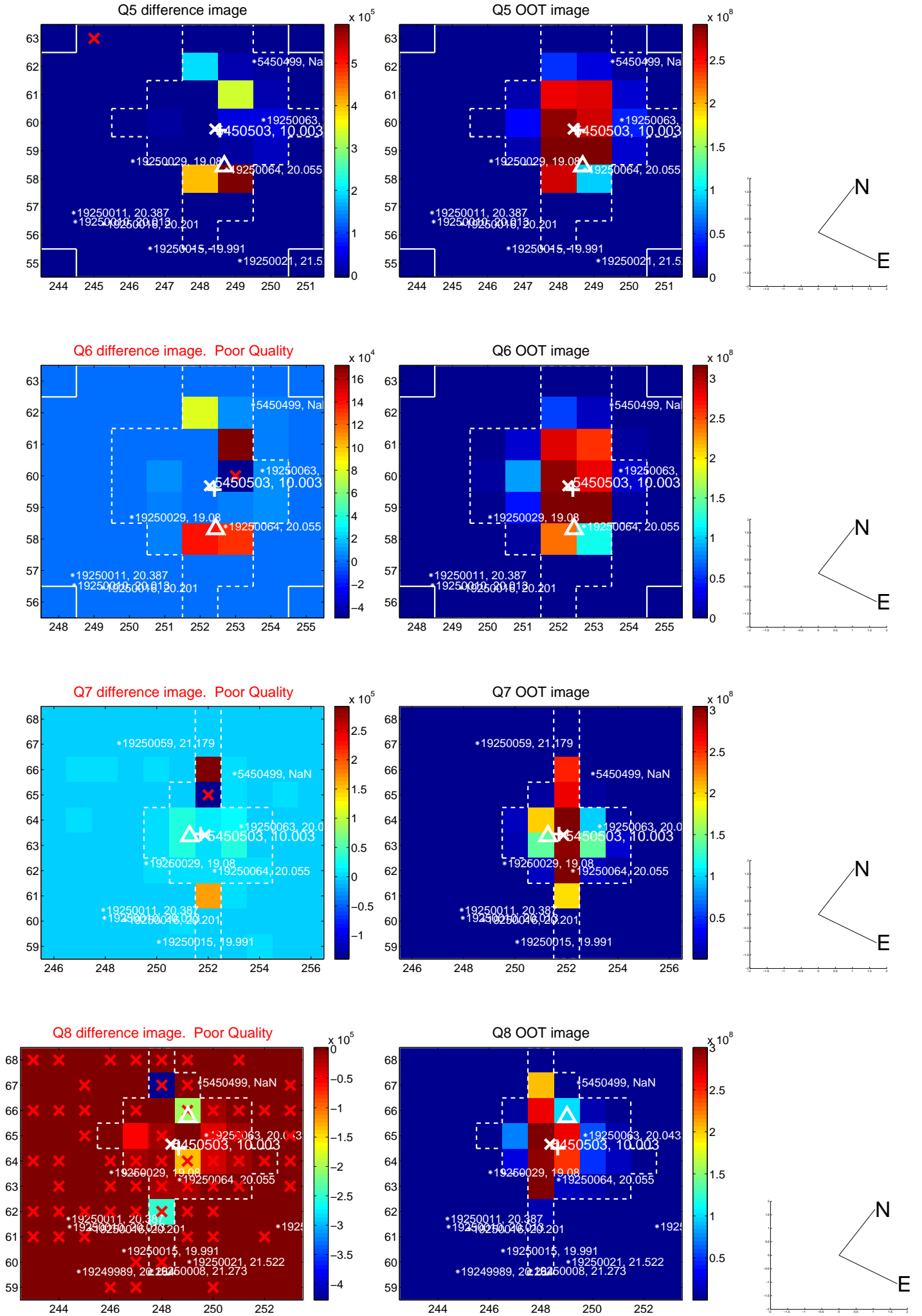


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

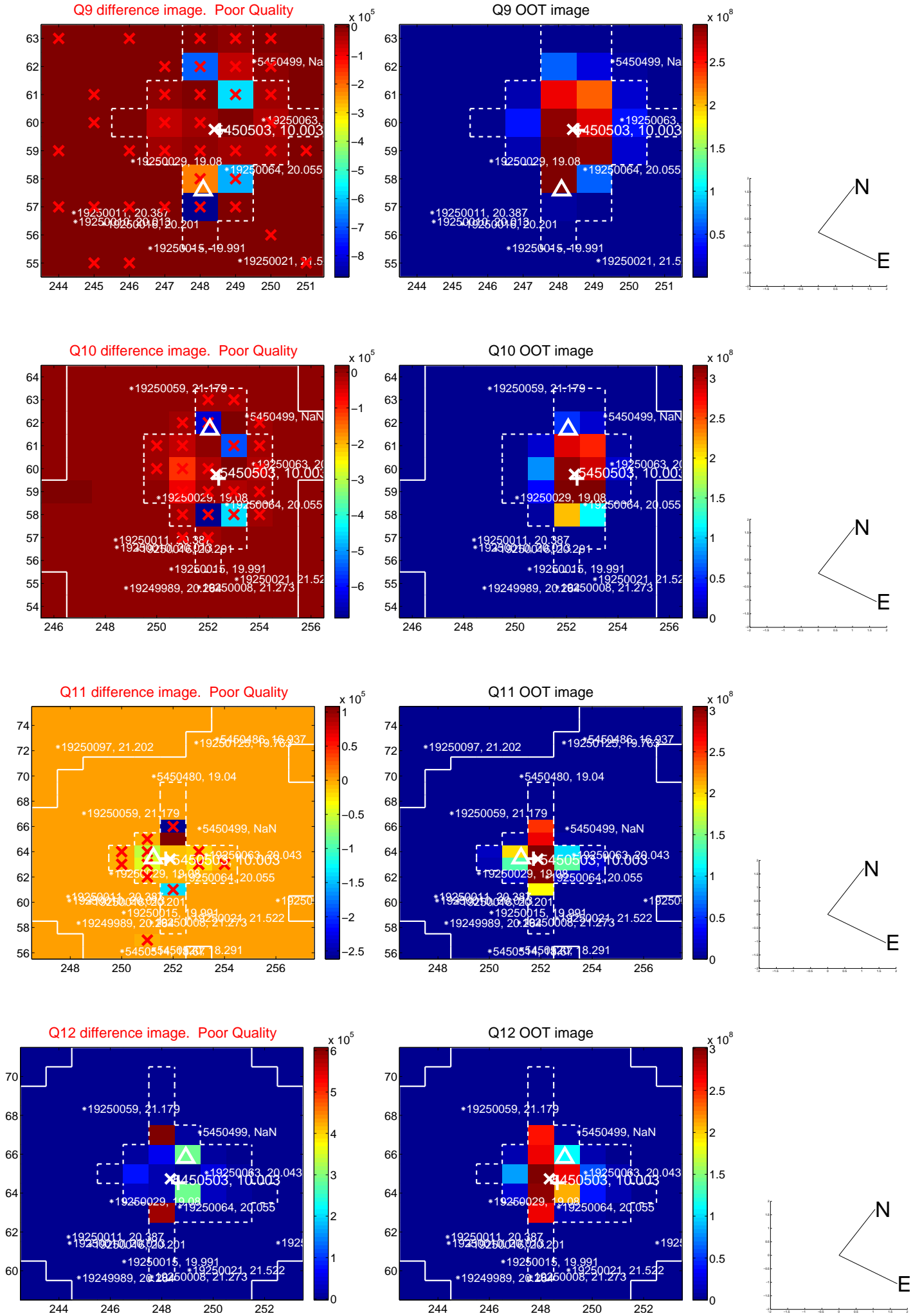
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



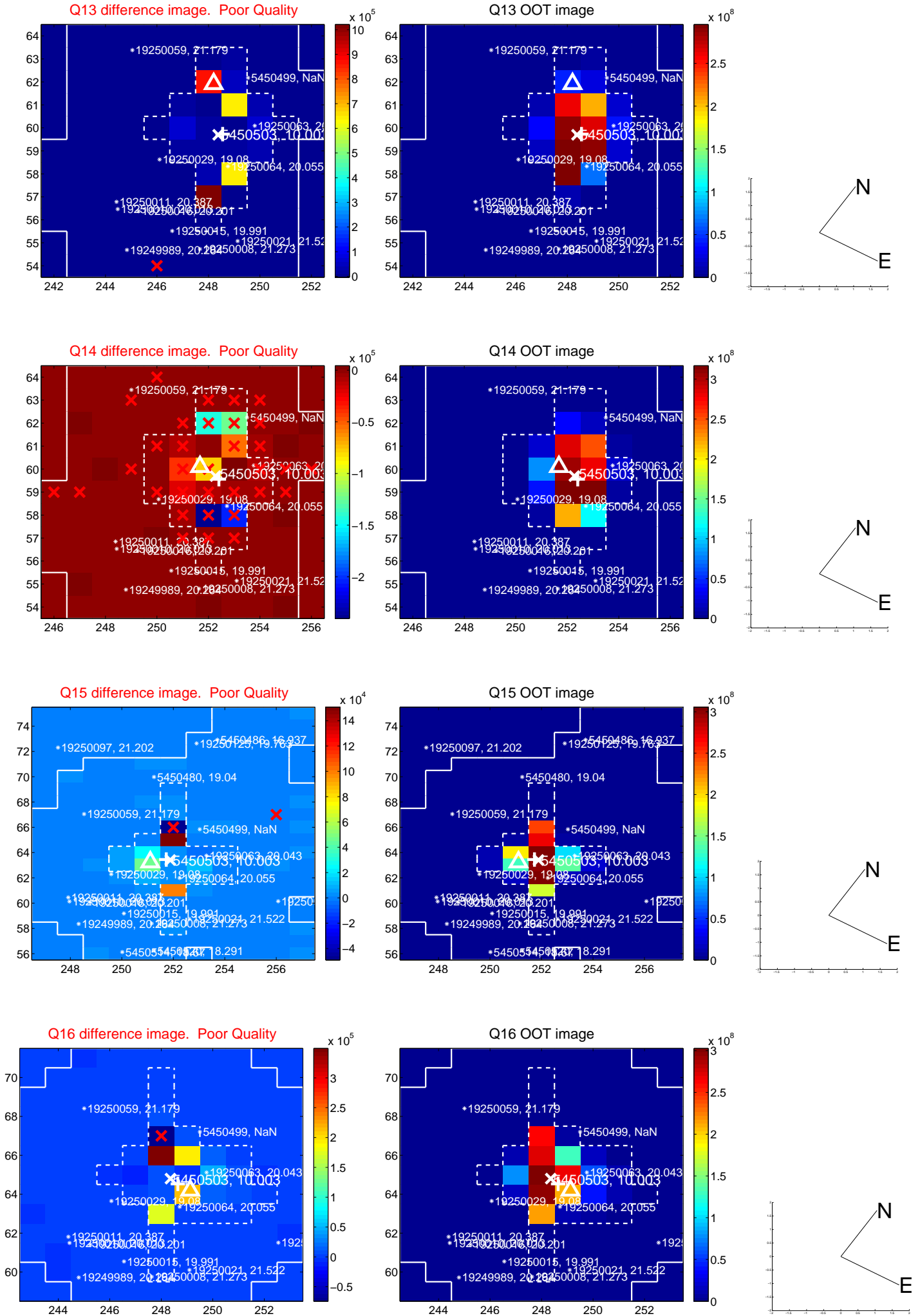
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



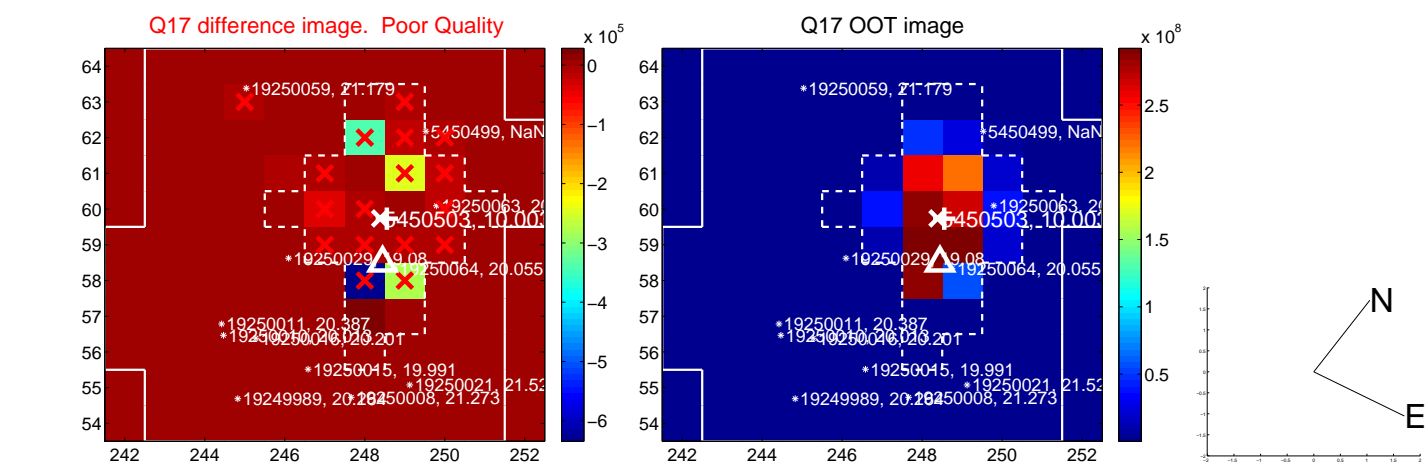
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



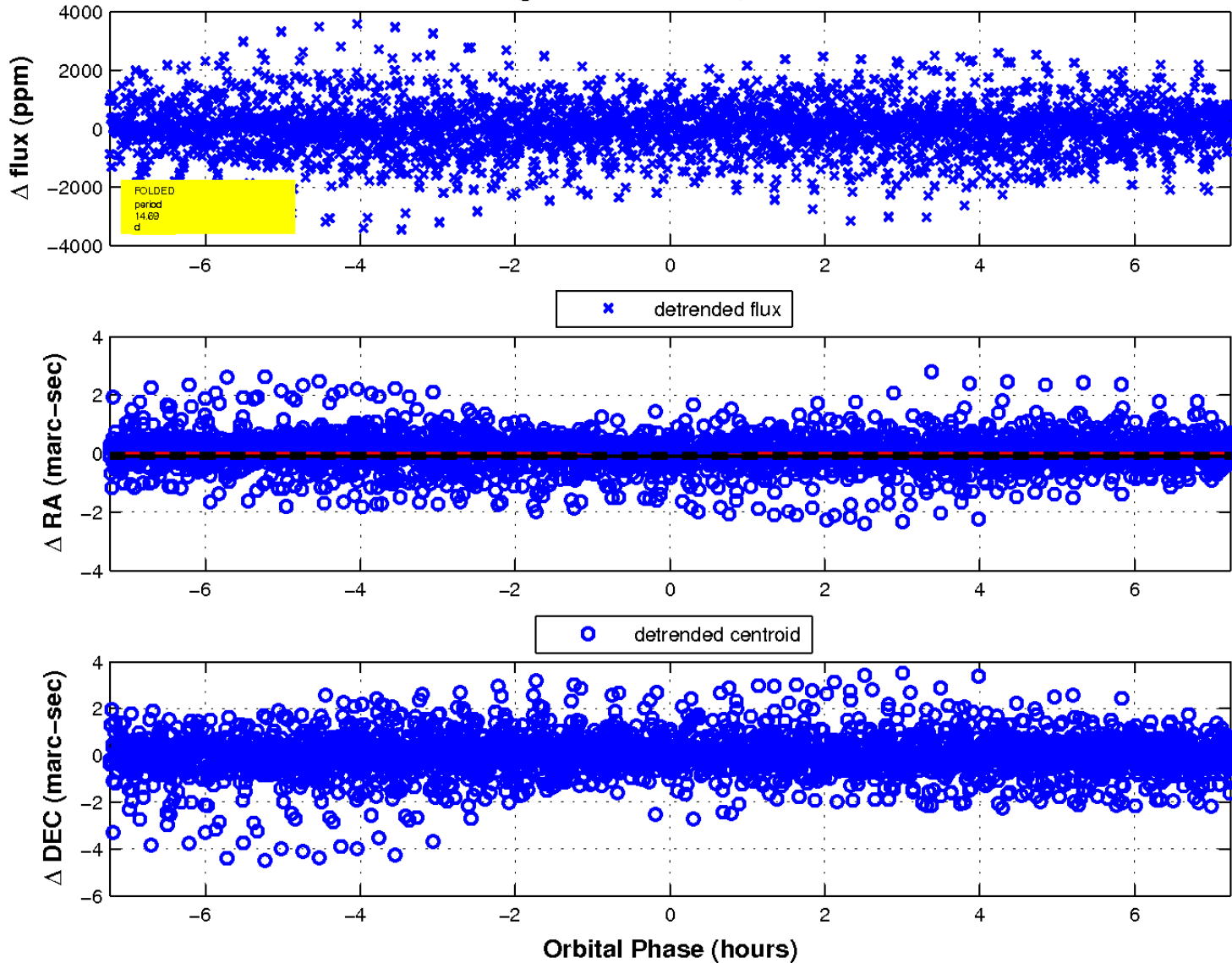
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



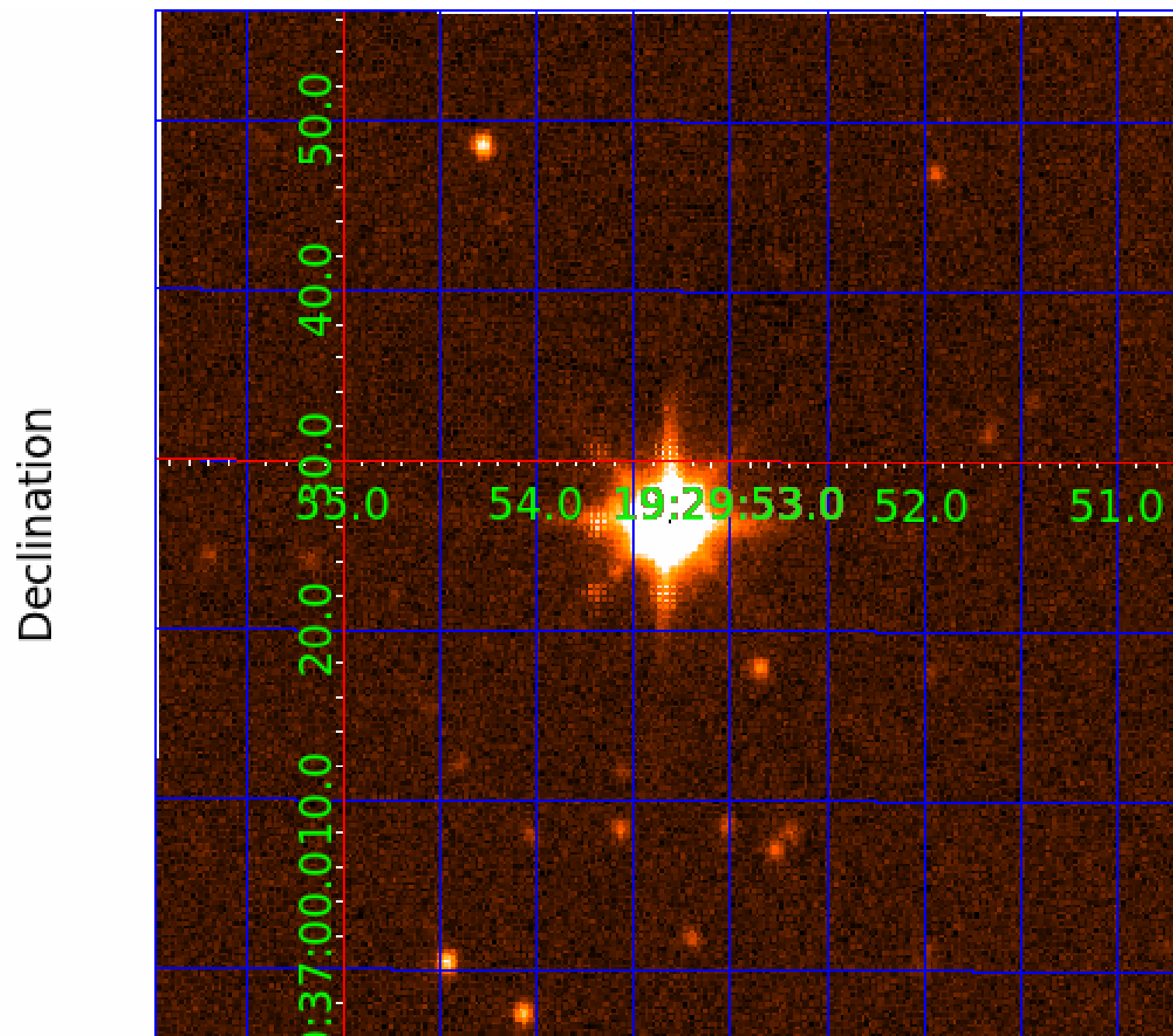
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 4 of 5



UKIRT Image



KIC 005450503

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})
005450503-01	OBS	No	2.401915	133.147962	52.3	10.256	8.4	7.8	2.08	7151	1.74	6325.62
005450503-02	OBS	No	1.107249	132.098602	0.0	7.692	8.3	0.0	2.08	7151	0.00	17763.13
005450503-03	OBS	No	8.438315	132.786270	674.3	6.051	14.5	6.6	2.08	7151	10.15	1184.42
005450503-04	OBS	No	14.686746	134.860256	156.0	2.416	10.9	2.2	2.08	7151	3.00	565.73
005450503-05	OBS	No	25.866420	137.934220	450.9	10.880	7.6	5.6	2.08	7151	4.65	265.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005450503-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
005450503-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—CENT_SATURATED
005450503-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
005450503-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
005450503-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

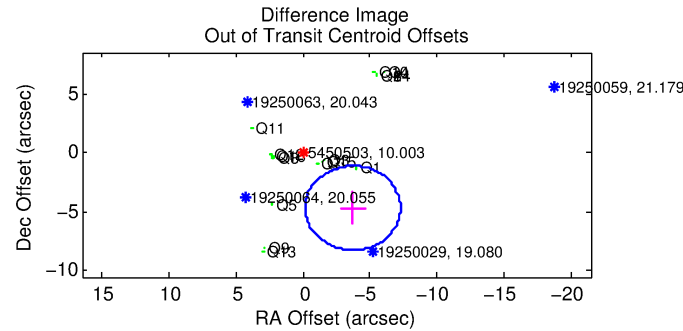
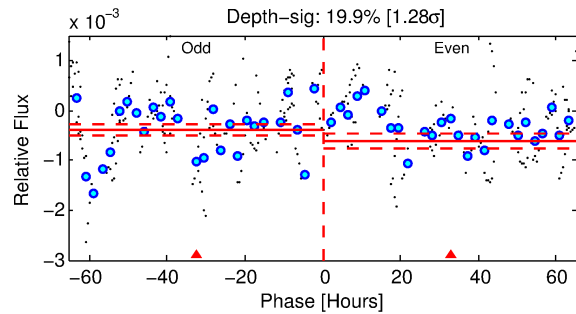
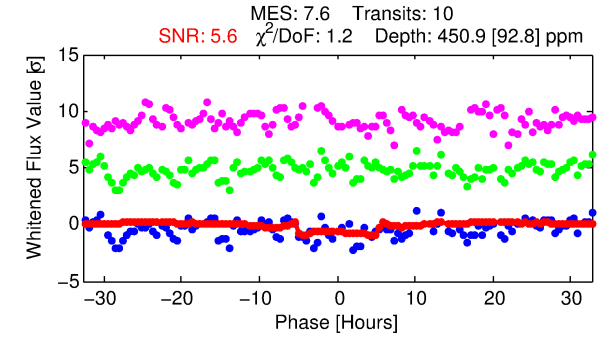
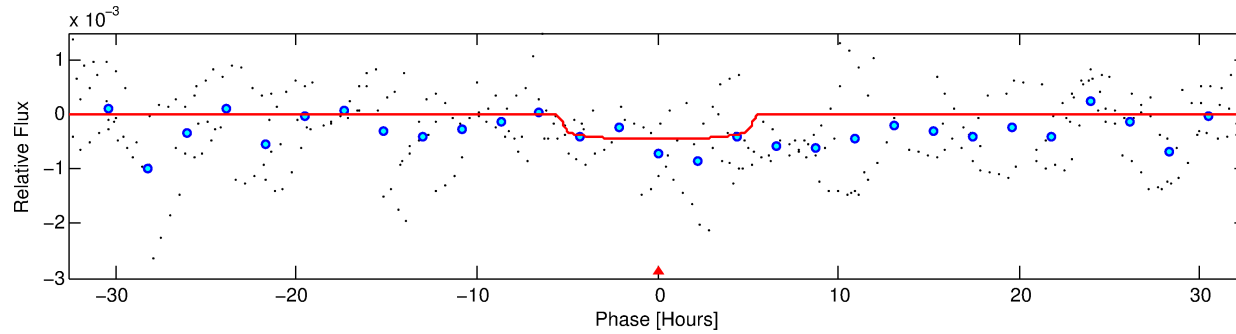
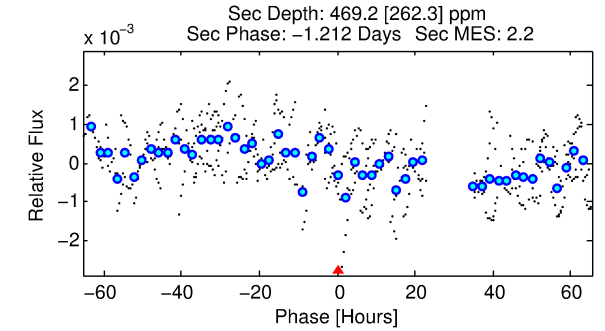
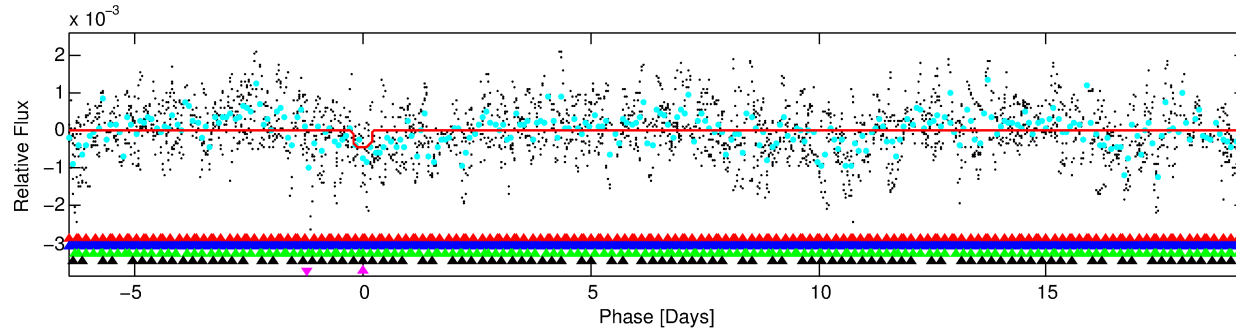
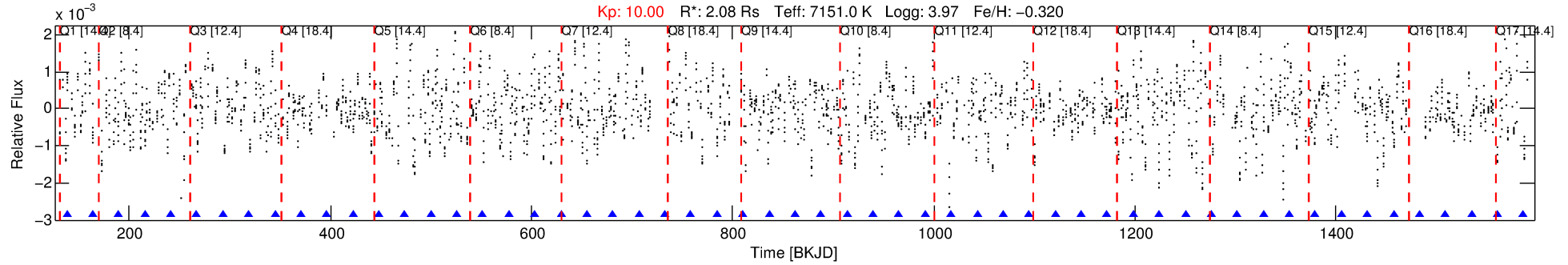
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005450503-05

No Significant Match Found

DV One-Page Summary

KIC: 5450503 Candidate: 5 of 5 Period: 25.866 d



DV Fit Results:

Period = 25.86642 [0.00053] d
Epoch = 137.9342 [0.0183] BKJD
Rp/R* = 0.0205 [0.0109]
a/R* = 14.63 [45.54]
b = 0.63 [3.00]
Seff = 265.99 [135.89]
Teq = 1030 [132] K
Rp = 4.65 [2.92] Re
a = 0.1948 [0.0614] AU
Ag = 452.33 [585.51] [0.77σ]
Teffp = 7343 [2210] K [2.85σ]

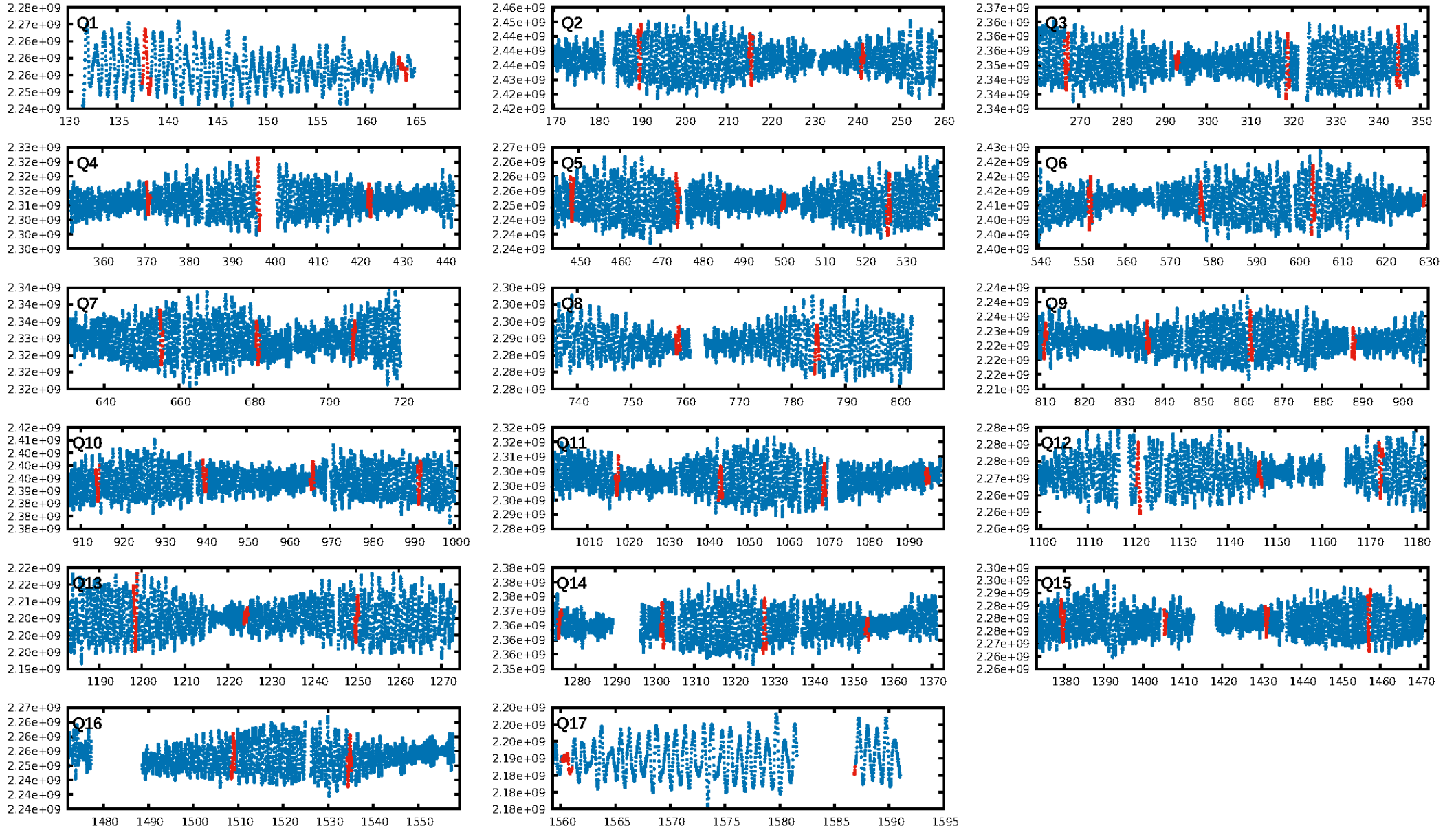
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [24.07σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.06e-10
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: 0.313 arcsec [1.43σ]
OotOffset-rm: 5.965 arcsec [5.03σ]
KicOffset-rm: 6.390 arcsec [6.90σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.12 [2/16]
DiffImageOverlap-fno: 0.00 [0/16]

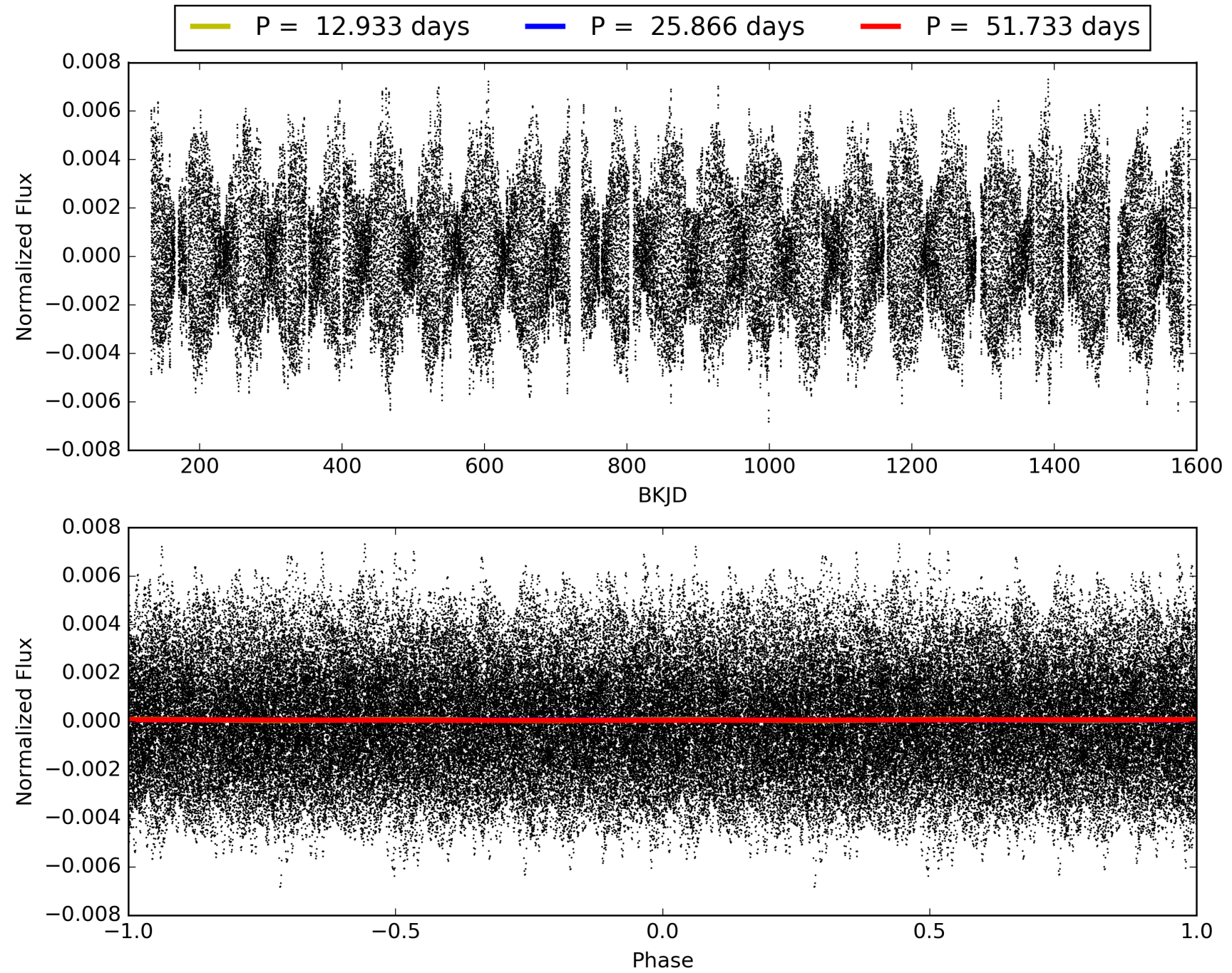
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:49:50 Z

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

TCE 005450503-05, PDC Light Curves

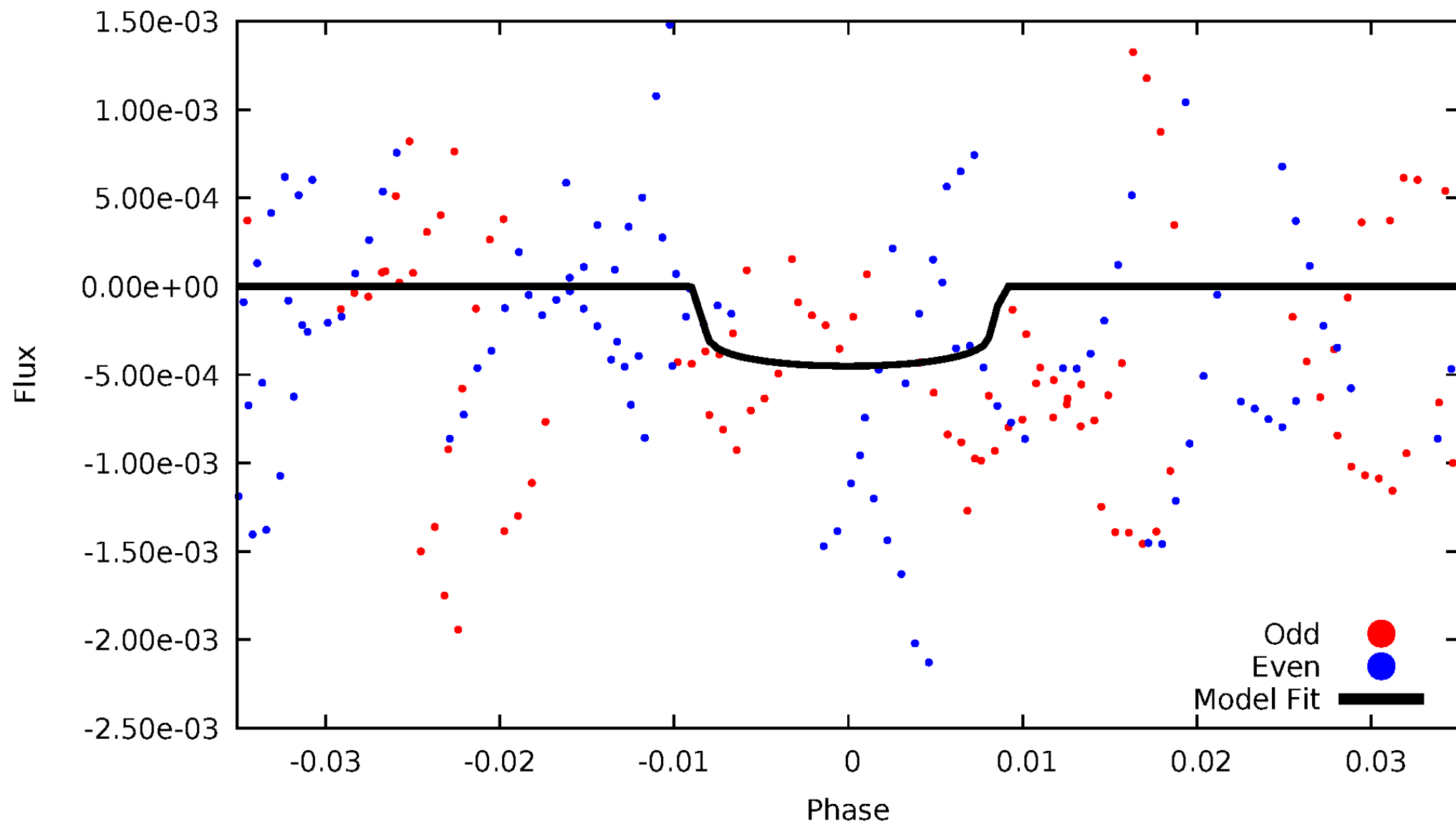


TCE 005450503-05



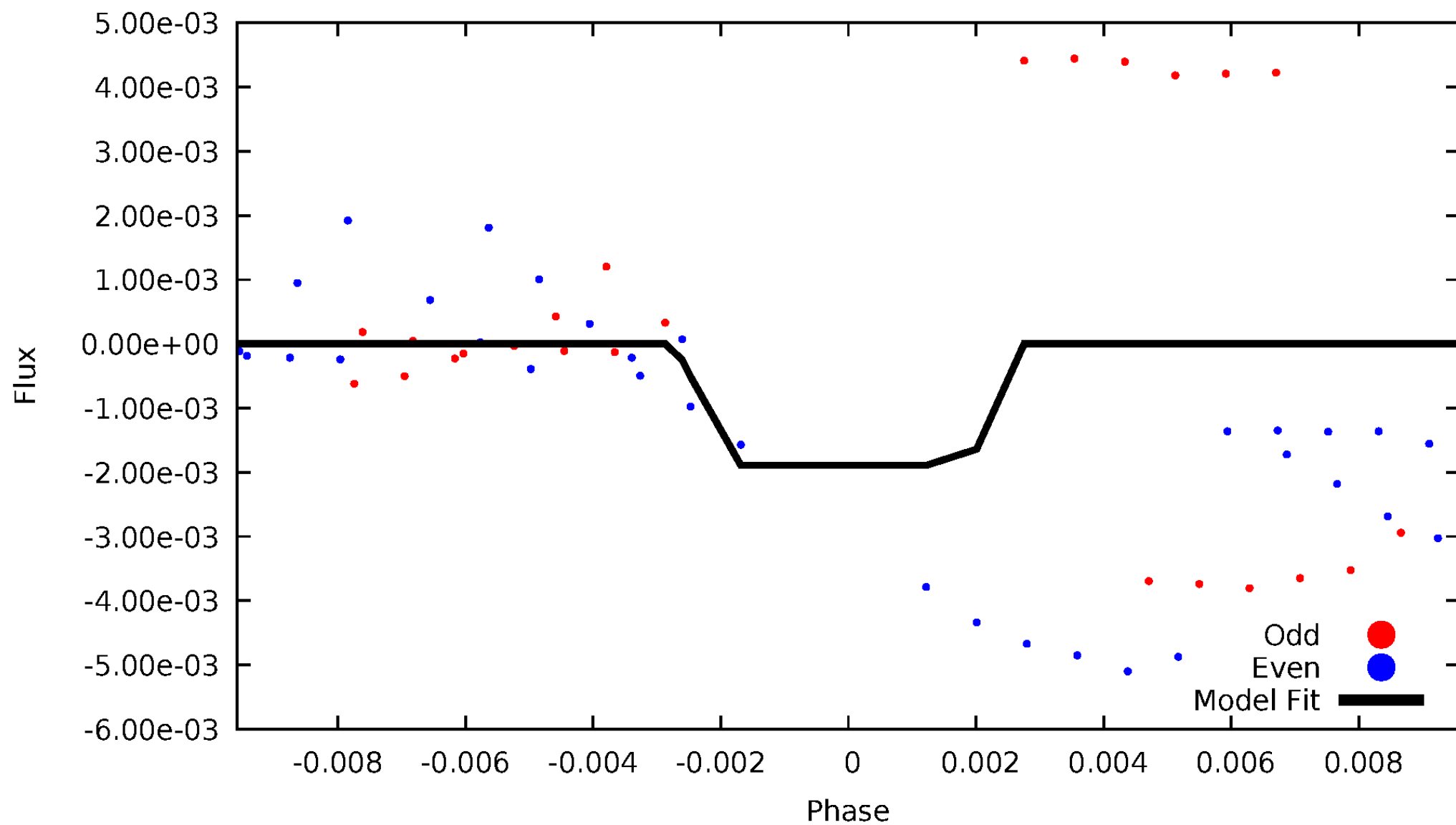
DV Odd/Even

TCE 005450503-05



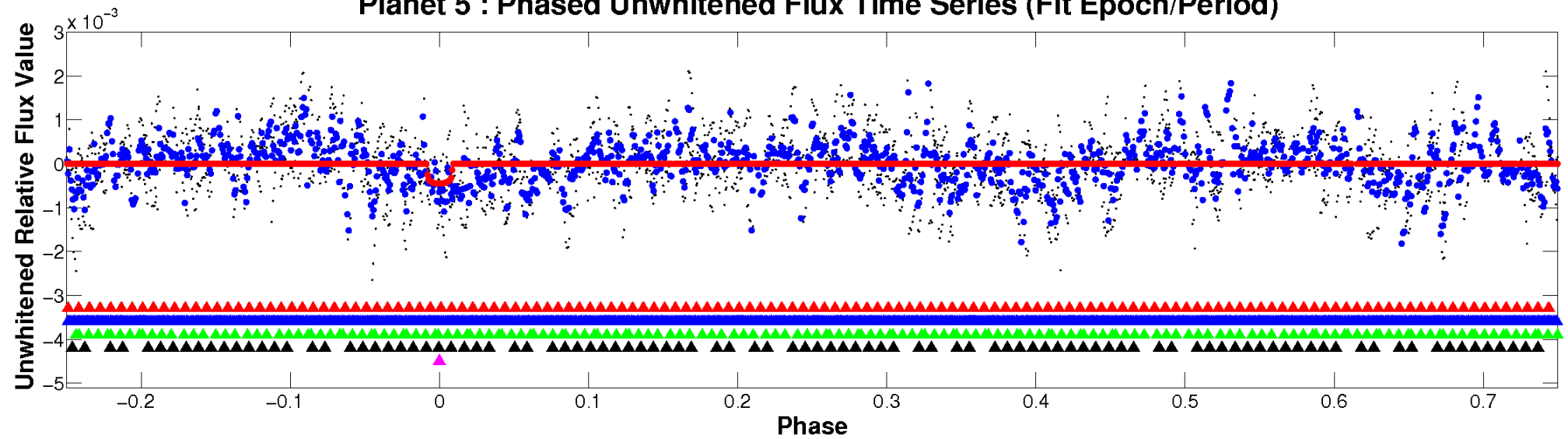
ALT Odd/Even

TCE 005450503-05

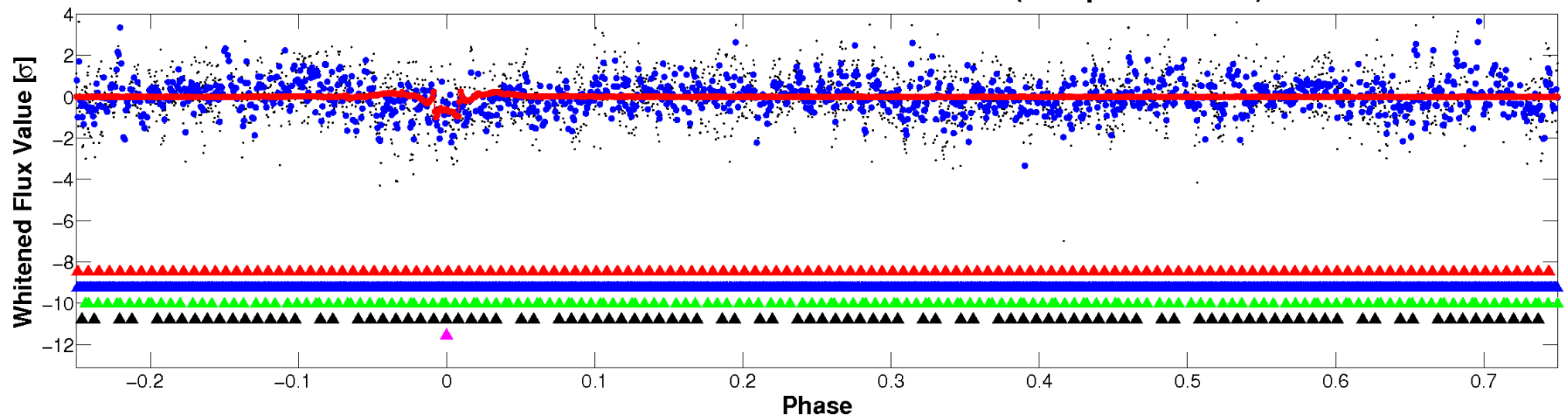


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

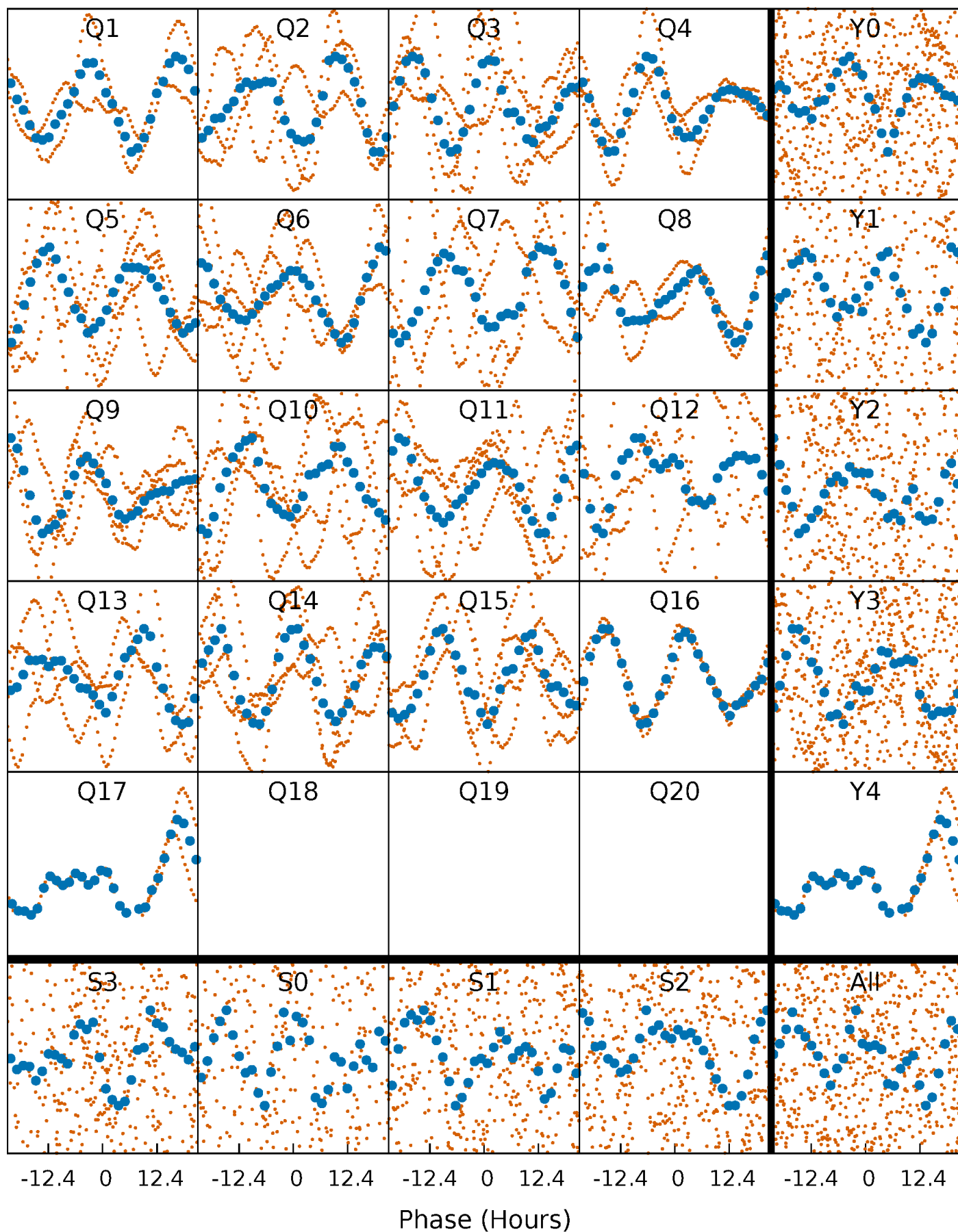


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



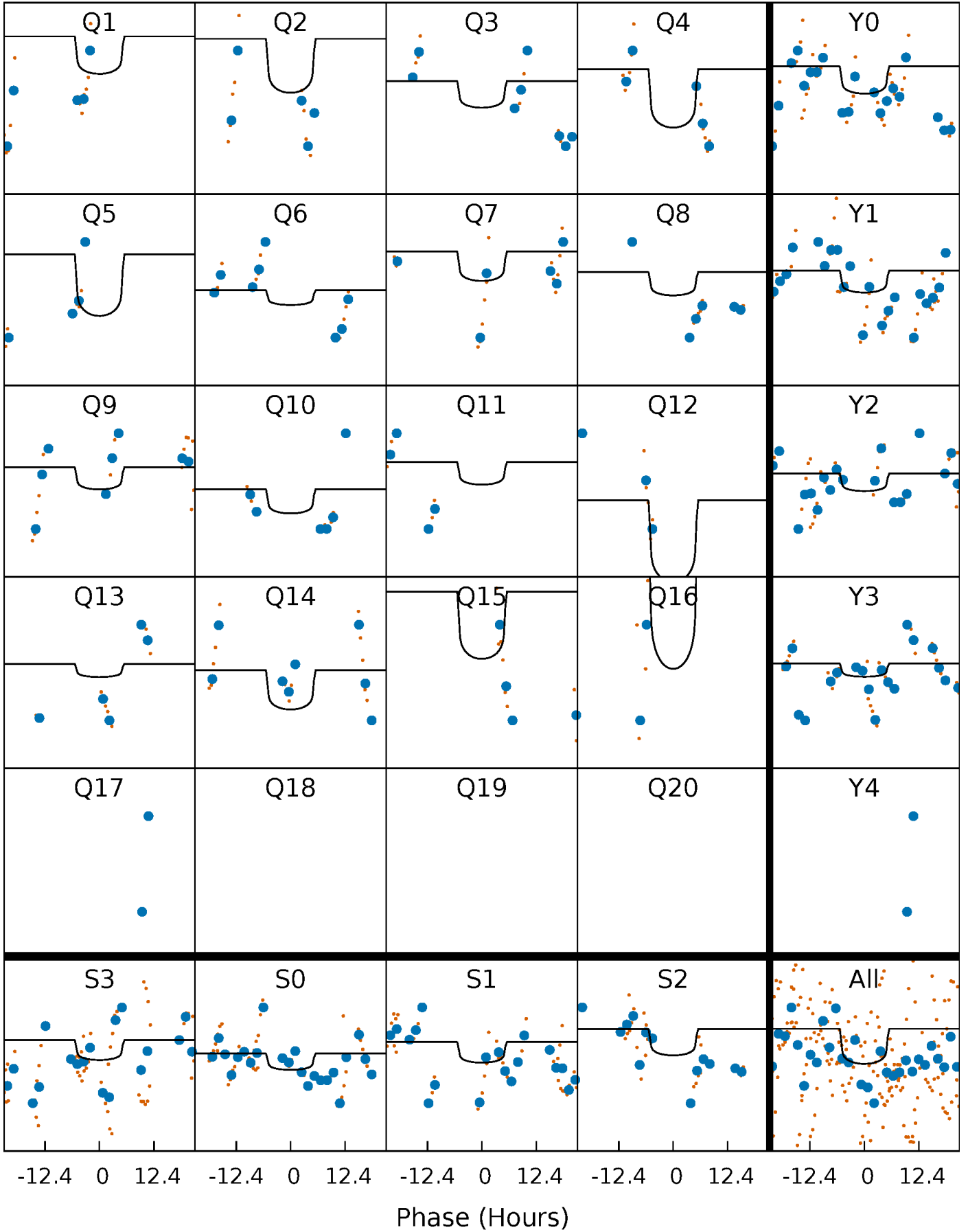
PDC Quarter-Phased Transit Curves

TCE 005450503-05 P= 25.866420 Days $T_0=137.934220$ (BKJD)



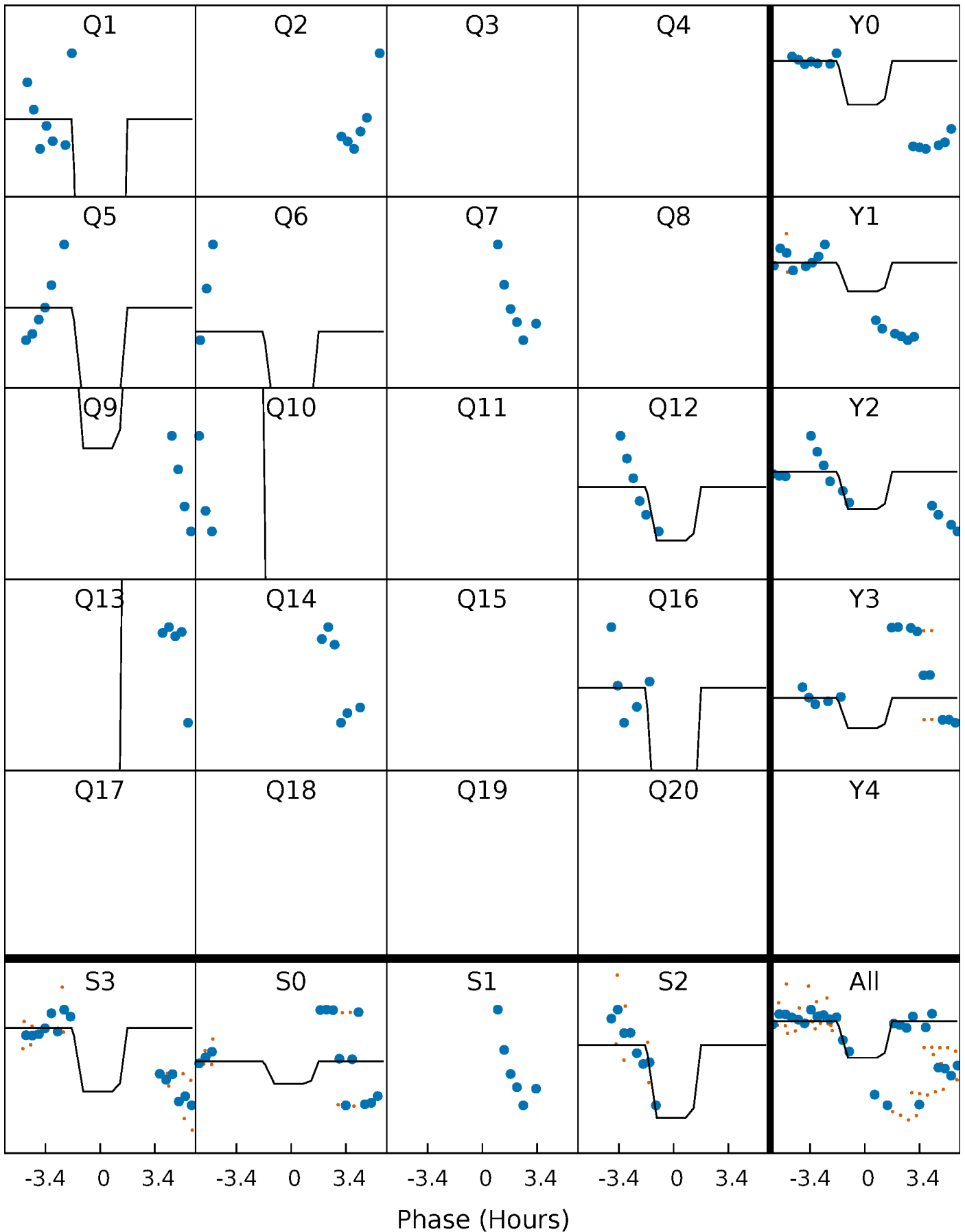
DV Quarter-Phased Transit Curves

TCE 005450503-05 P= 25.866420 Days $T_0=137.934220$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

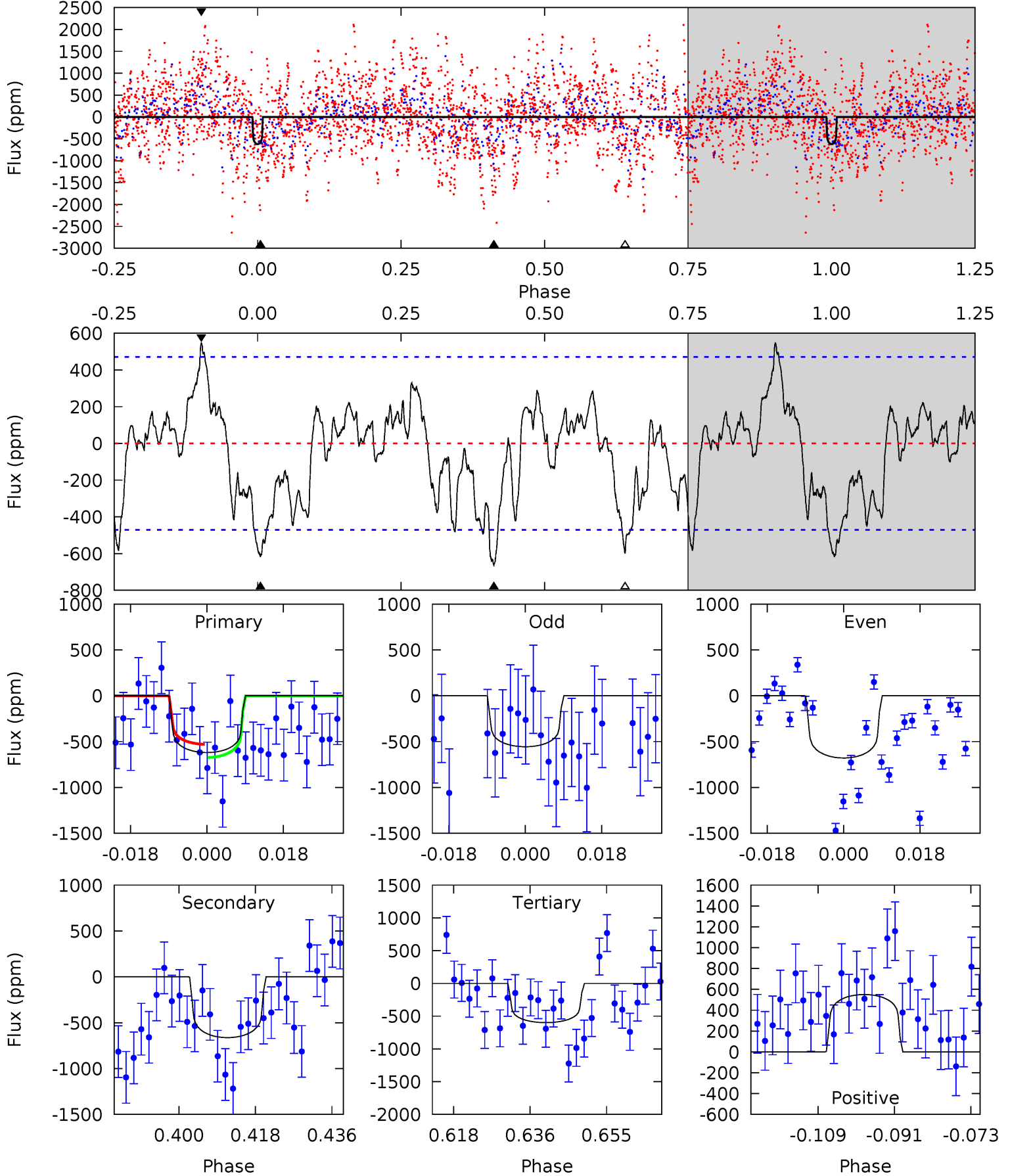
TCE 005450503-05 P= 25.863323 Days $T_0=137.927999$ (BKJD)



DV Model-Shift Uniqueness Test

005450503-05, P = 25.866420 Days, E = 112.067800 Days

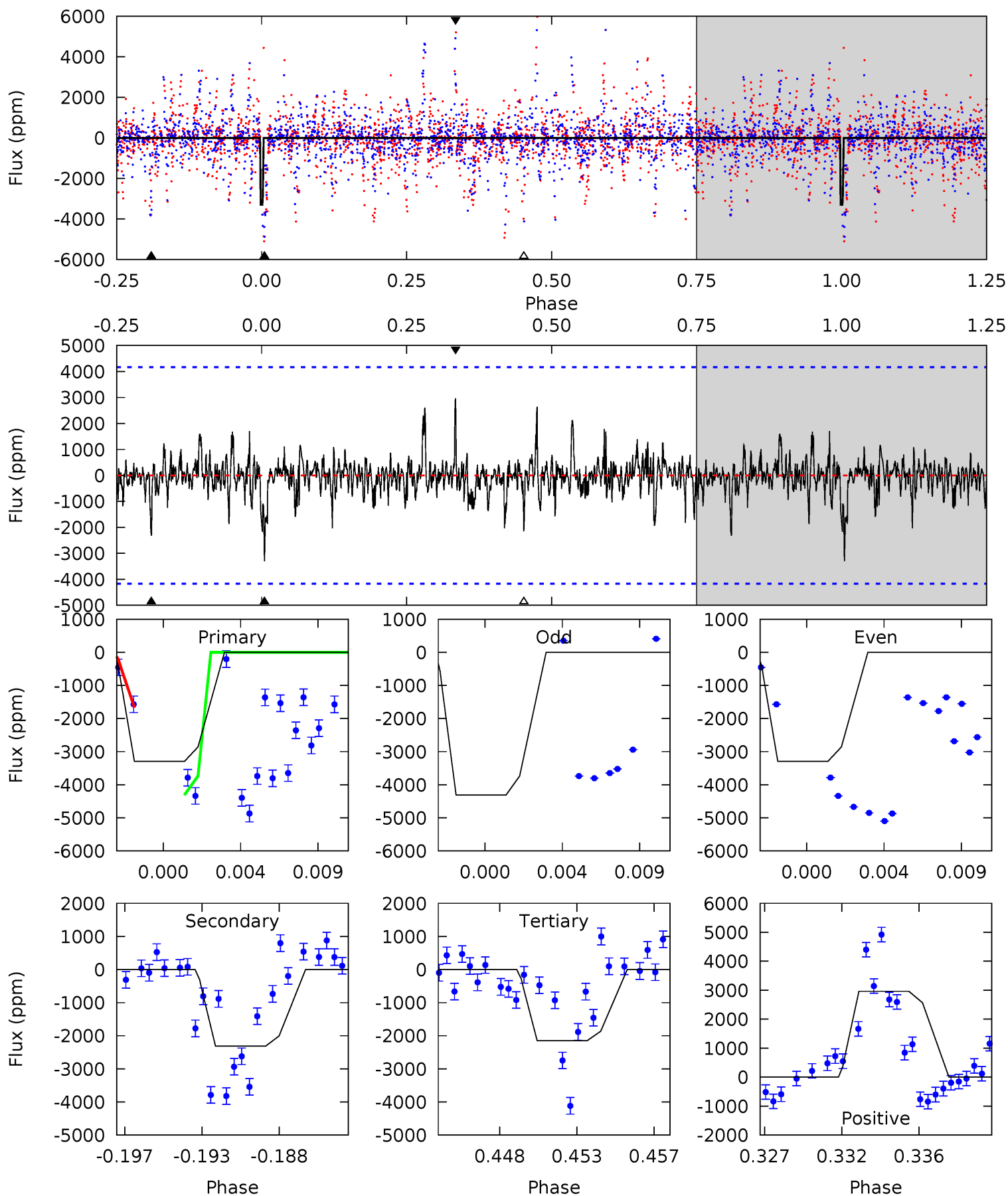
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.46	6.91	6.25	5.74	4.91	2.36	2.34	0.21	0.72	0.66	1.17	0.64	1.22	0.45	0.74



Alt Model-Shift Uniqueness Test

005450503-05, P = 25.863323 Days, E = 112.064676 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.10	2.88	2.67	3.68	5.18	2.84	0.67	1.43	0.42	0.21	-0.80	0.70	1.00	0.47	1.67



Stellar Parameters For KIC 005450503

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7151^{+171}_{-235}	$3.972^{+0.286}_{-0.154}$	$-0.320^{+0.300}_{-0.300}$	$2.076^{+0.511}_{-0.703}$	$1.473^{+0.180}_{-0.308}$	$0.232^{+0.508}_{-0.090}$
	+2%/-3%	+7%/-4%	+94%/-94%	+25%/-34%	+12%/-21%	+219%/-39%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005450503-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-663 ± 96	$4.48^{+2.66}_{-2.23}$	1422^{+104}_{-129}	8065^{+5146}_{-1696}	682^{+1945}_{-408}
Alt.	-2316 ± 805	$9.30^{+2.93}_{-2.59}$	1419^{+105}_{-124}	7638^{+1598}_{-1271}	541^{+543}_{-269}

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 $A_{obs} \gg 1.0$

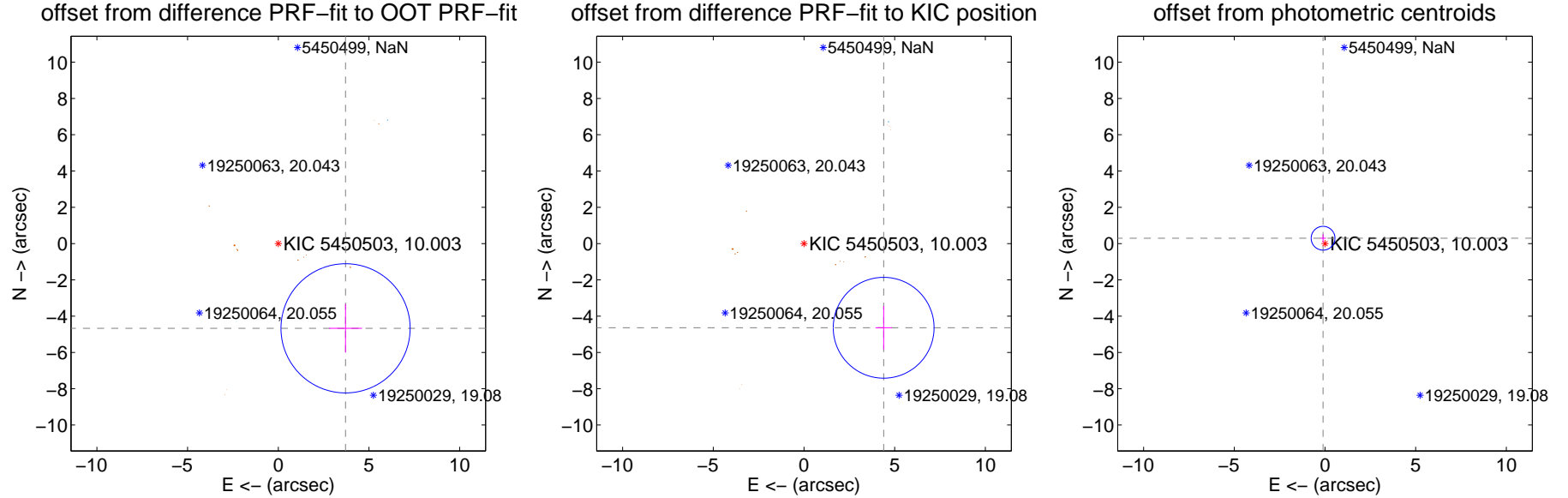
DV Centroid Data

Supplemental centroid analysis for 005450503-05. **Kepler magnitude: 10.00.** Transit SNR 5.57

There are 2 quarters with good PRF difference image offsets

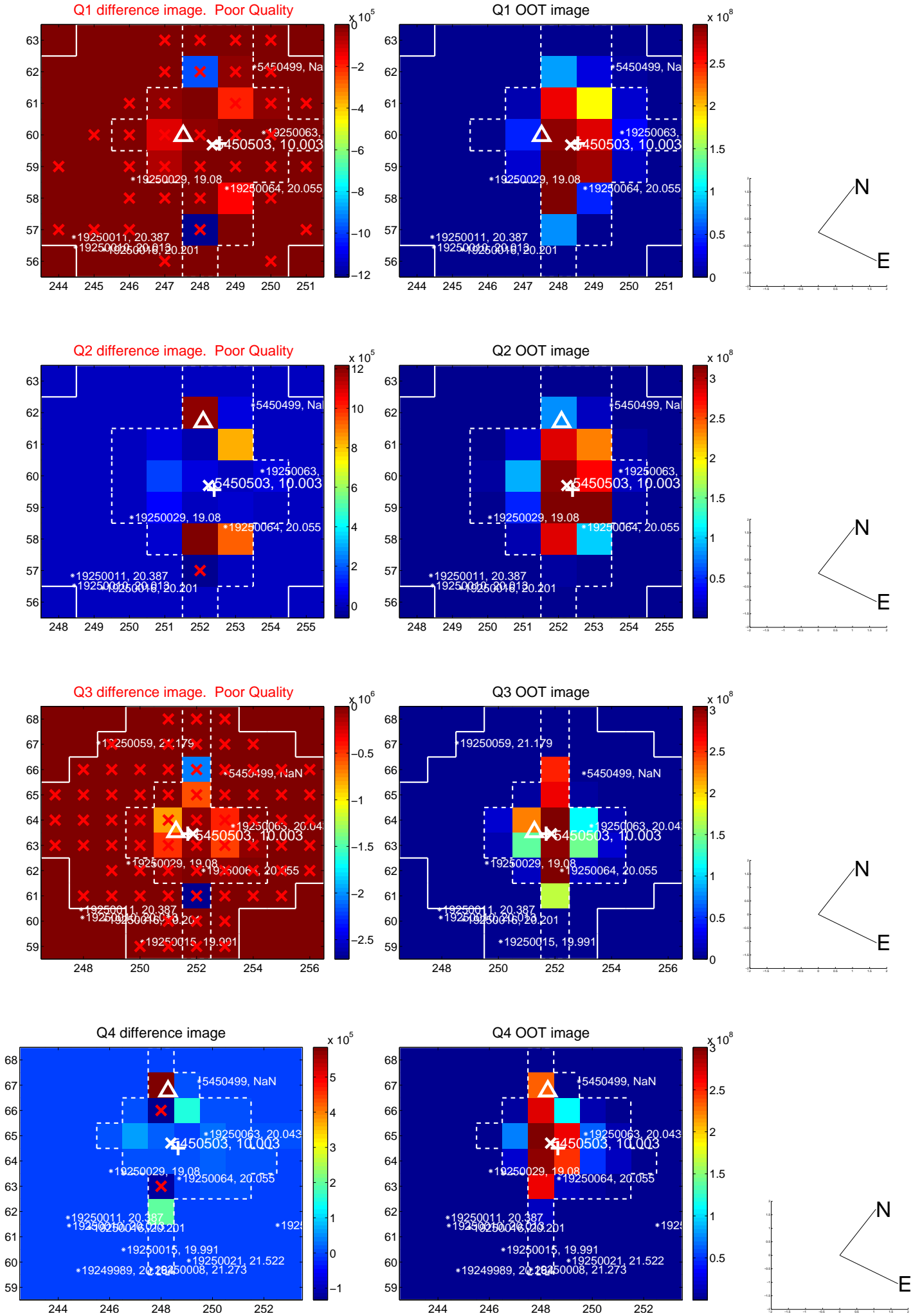
The direct PRF centroid is offset from the target star catalog position by about 1.52 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.965 ± 1.187	5.03	-3.710 ± 0.907	-4.671 ± 1.333
PRF-fit source offset from KIC position	6.390 ± 0.926	6.90	-4.393 ± 0.455	-4.640 ± 1.201
photometric centroid source offset	0.31 ± 0.22	1.43	0.11 ± 0.16	0.29 ± 0.22

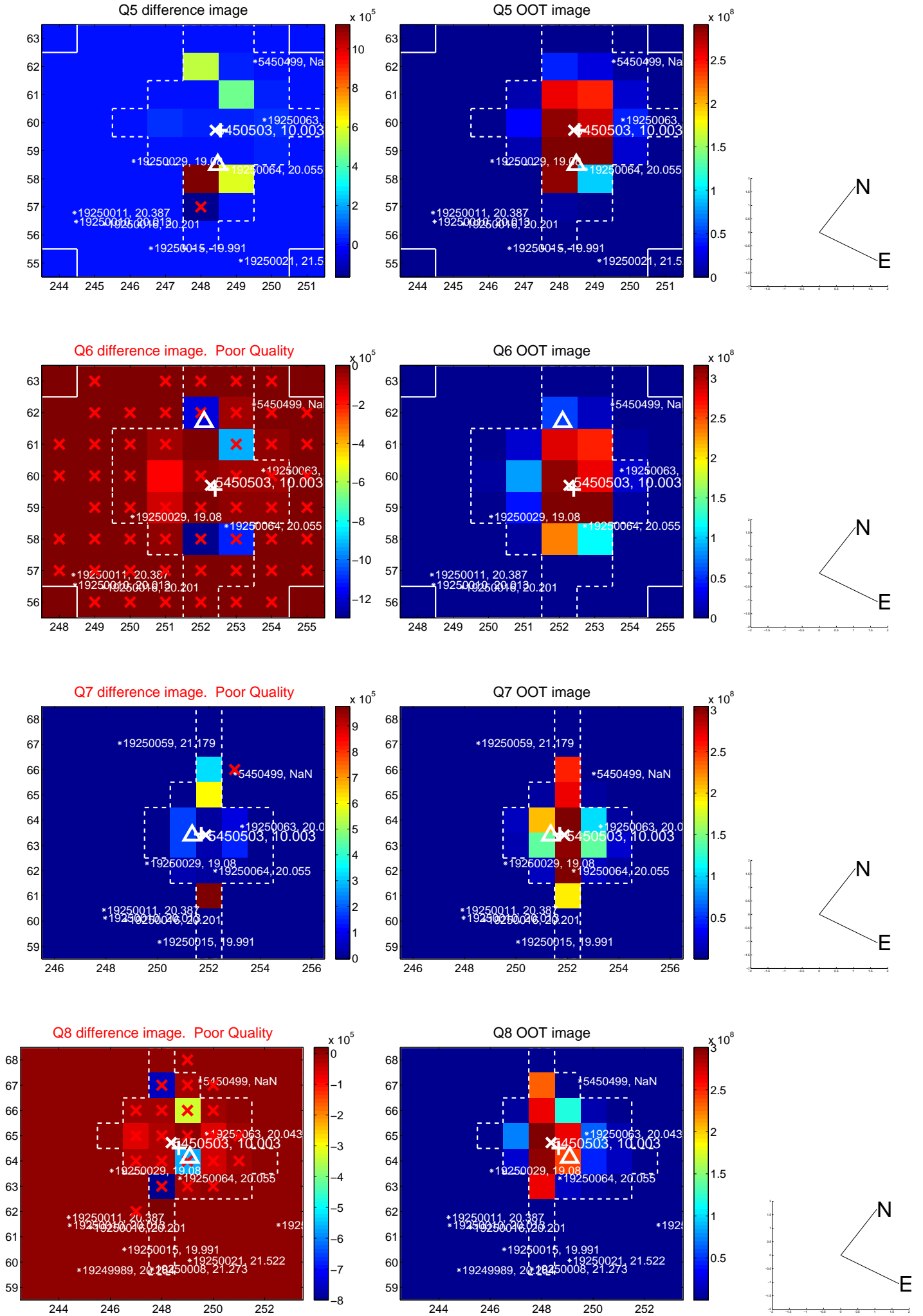


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

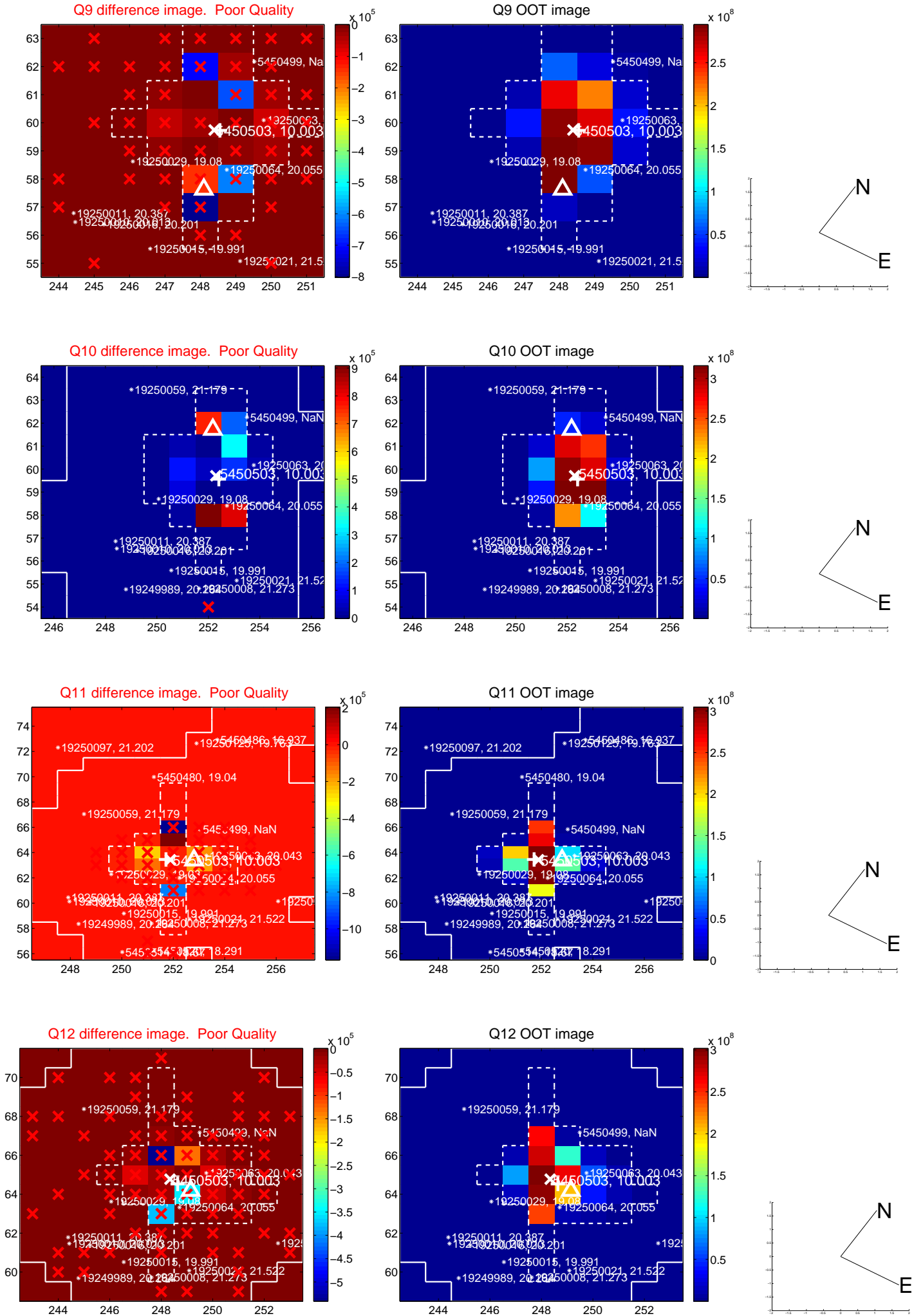
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



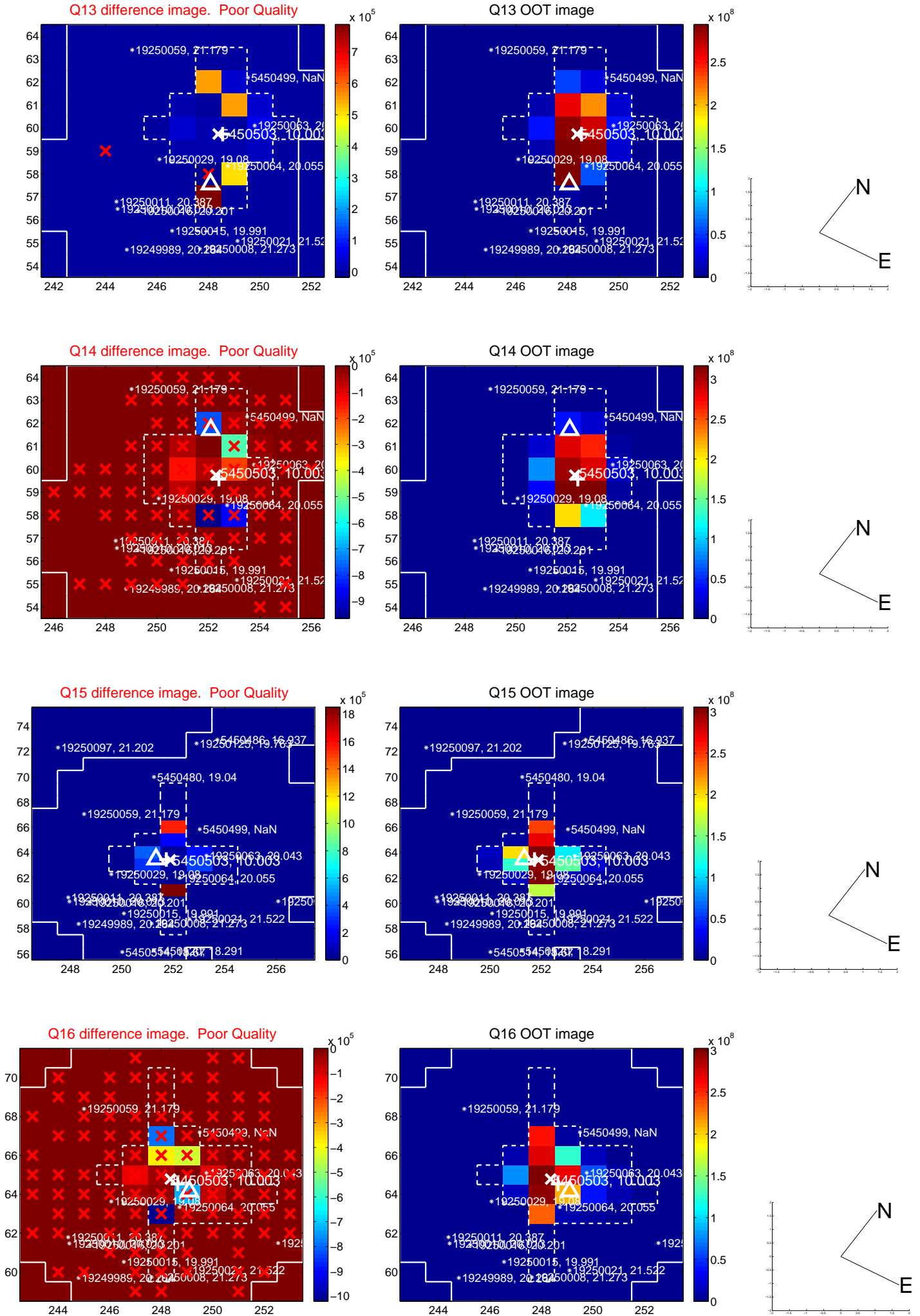
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



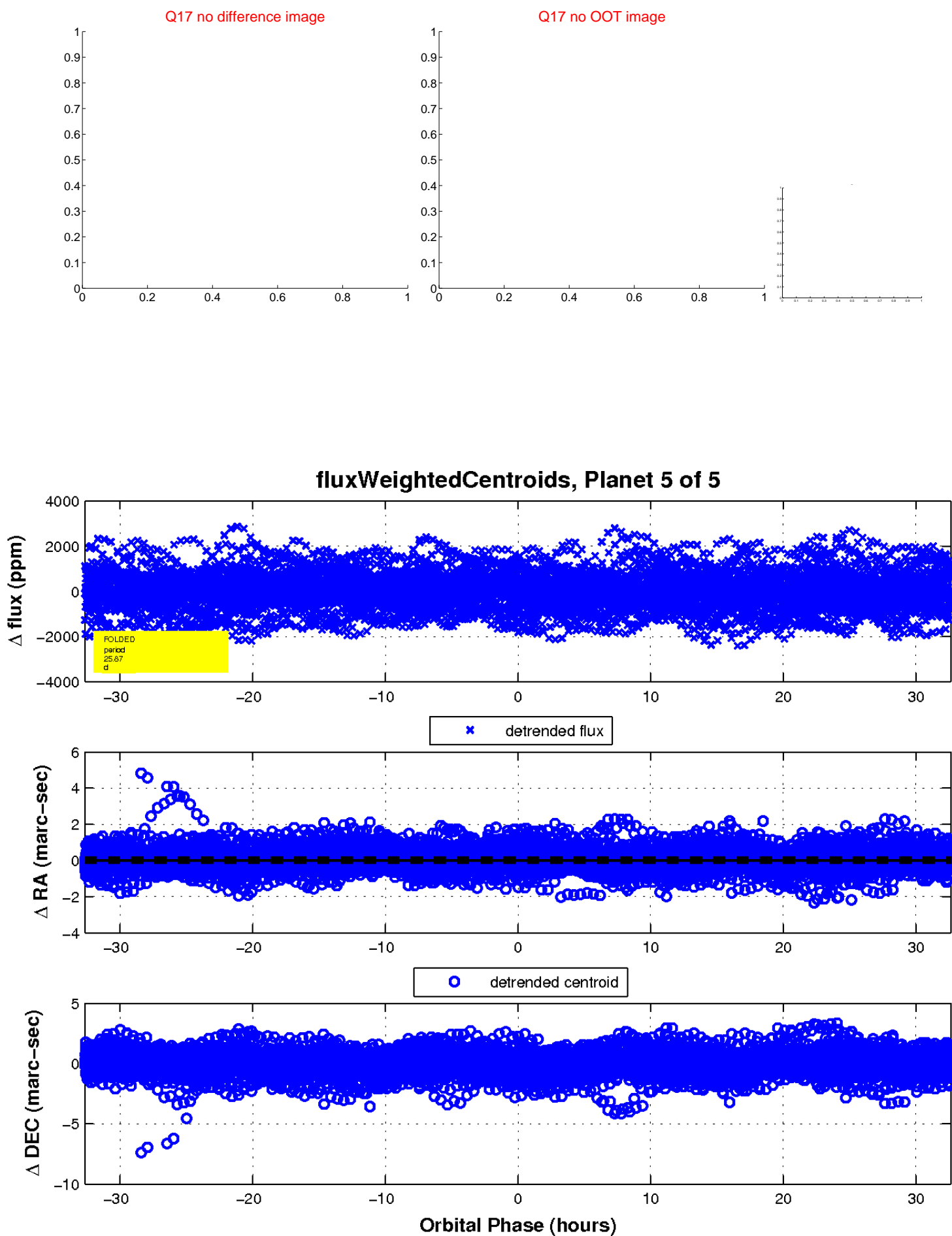
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

