

KIC 008264543

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})
008264543-01	OBS	No	0.663146	131.636992	31.8	2.090	12.3	10.6	2.92	8046	1.93	95753.18
008264543-02	OBS	No	0.663146	131.962692	36.4	1.408	12.1	11.3	2.92	8046	1.90	95753.06
008264543-03	OBS	No	1.743781	132.142537	89.5	3.380	9.1	11.0	2.92	8046	3.29	26382.09
008264543-04	OBS	No	0.581286	131.736425	65.2	3.094	8.4	11.9	2.92	8046	2.77	114142.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008264543-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
008264543-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD—CENT_SATURATED
008264543-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED
008264543-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_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.

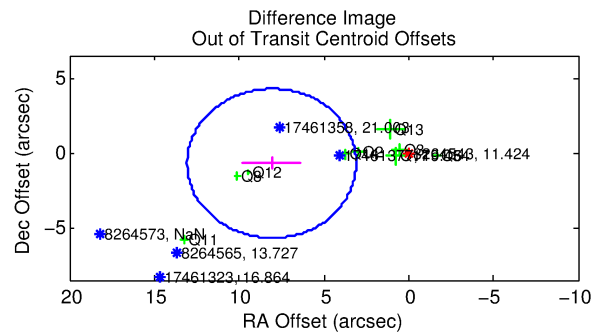
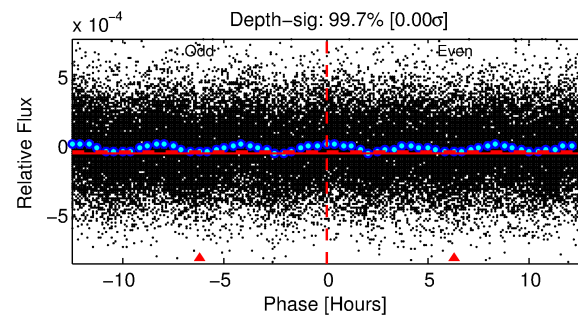
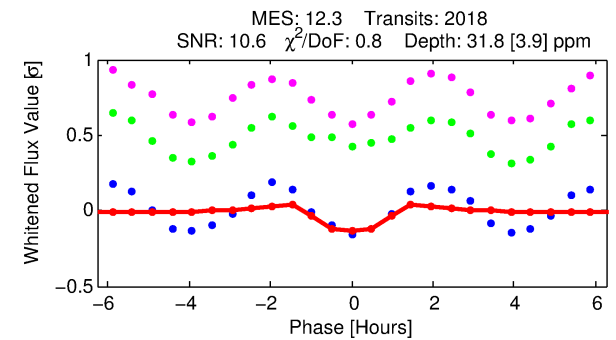
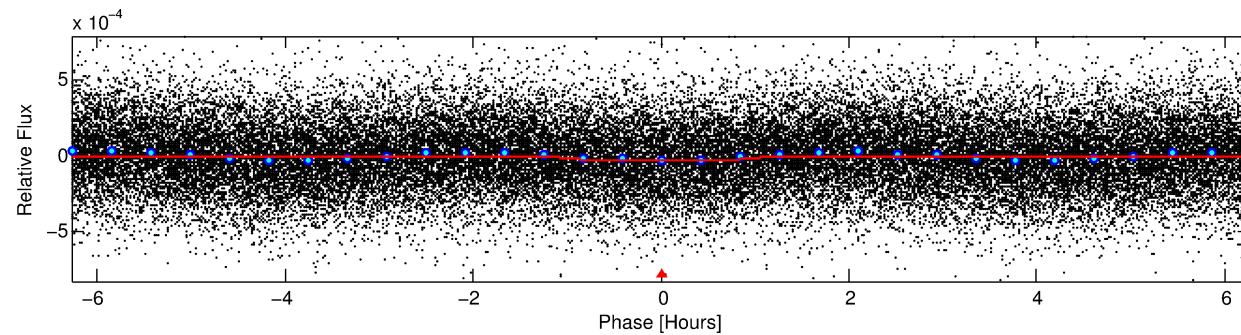
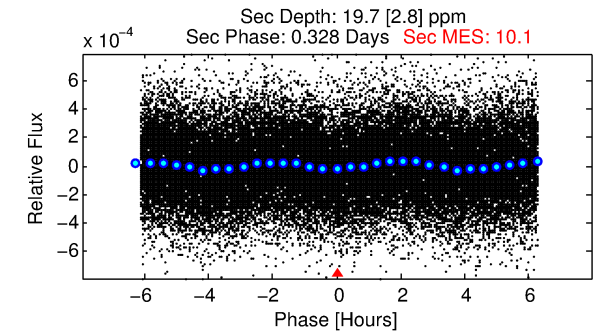
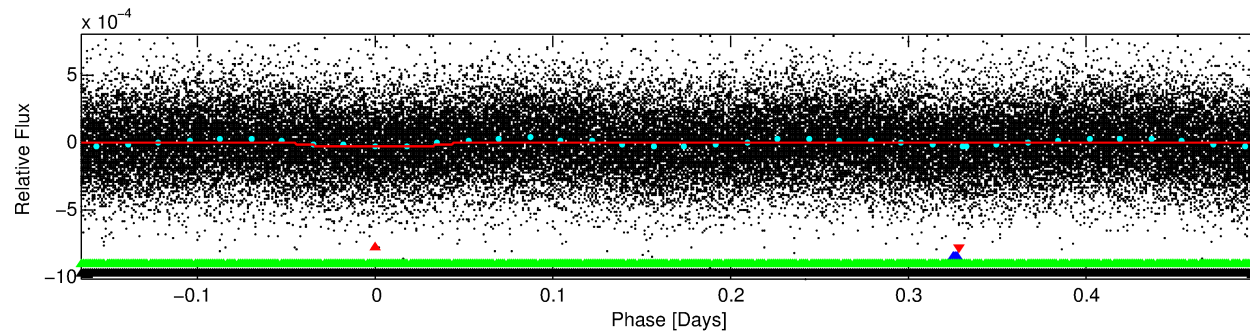
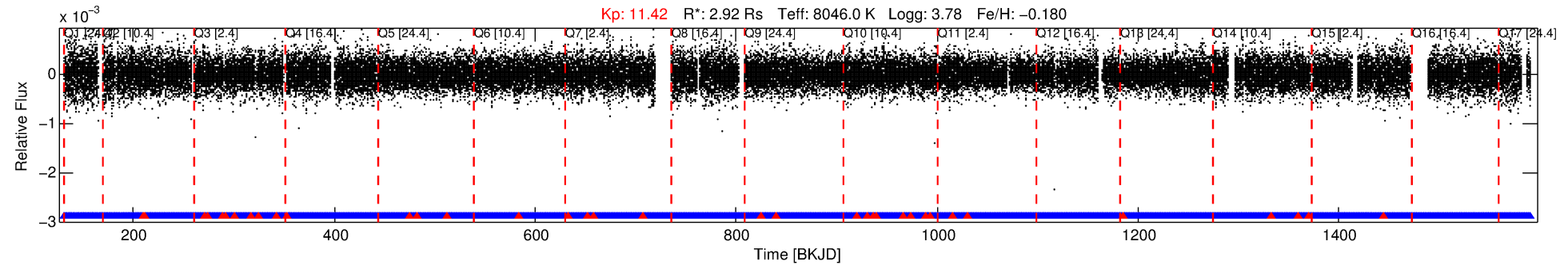
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008264543-01

No Significant Match Found

DV One-Page Summary

KIC: 8264543 Candidate: 1 of 4 Period: 0.663 d



DV Fit Results:

Period = 0.66315 [0.00001] d
Epoch = 131.6370 [0.0021] BKJD
Rp/R* = 0.0060 [0.0021]
a/R* = 1.44 [1.53]
b = 0.90 [0.45]
Seff = 95753.18 [62961.83]
Teq = 4486 [737] K
Rp = 1.92 [1.03] Re
a = 0.0183 [0.0073] AU
Ag = 0.98 [0.93] [-0.02σ]
Teffp = 6903 [1235] K [1.68σ]

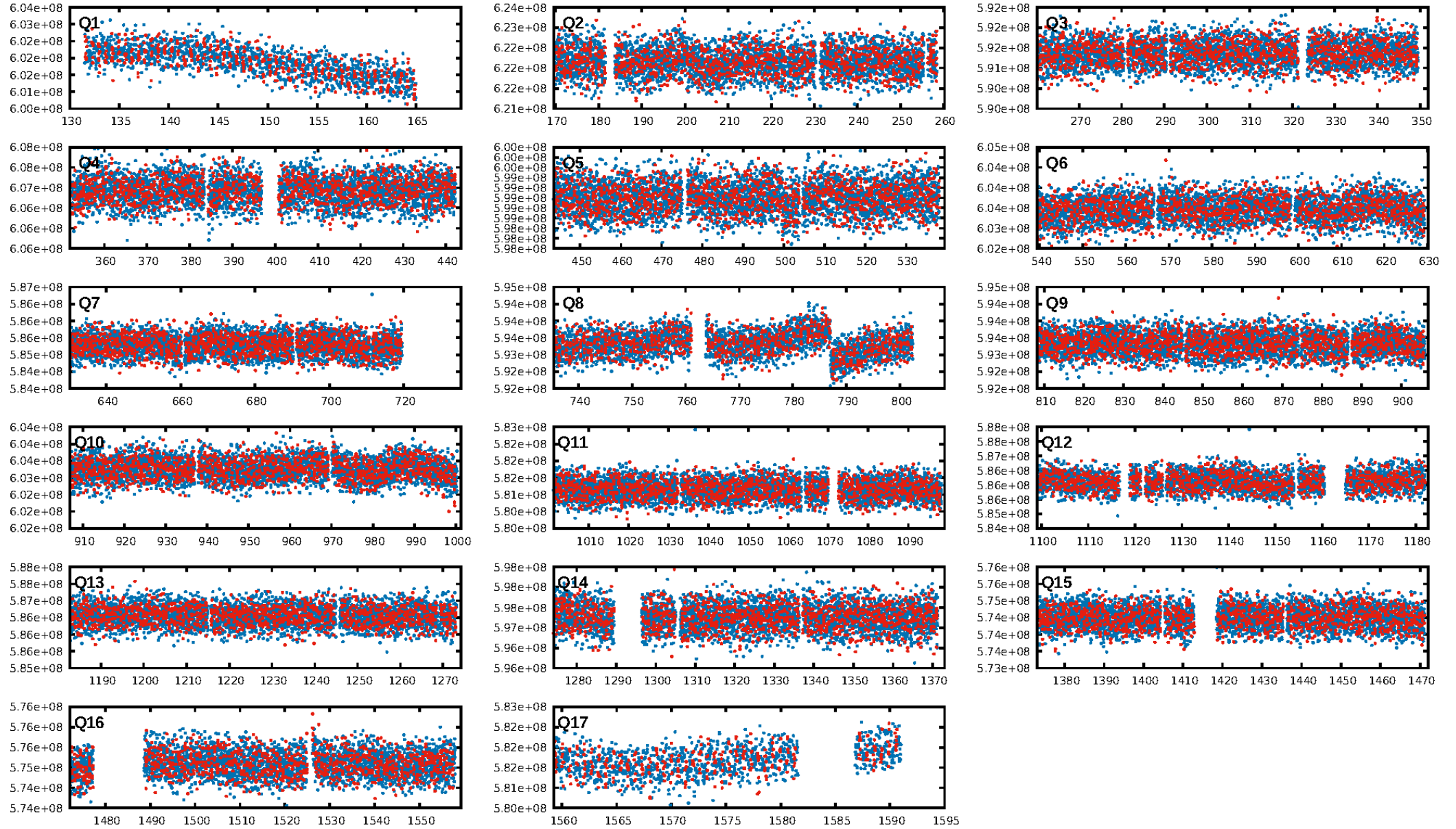
DV Diagnostic Results:

ShortPeriod-sig: 40.1% [0.53σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.23e-70
RollingBand-fgt: 0.98 [1891/1927]
GhostDiagnostic-chr: 4.926
Centroid-sig: 0.0%
Centroid-so: 0.268 arcsec [0.50σ]
OotOffset-rm: 8.113 arcsec [4.88σ]
KicOffset-rm: 10.886 arcsec [4.81σ]
OotOffset-st: 3/2/2/2 [9]
KicOffset-st: 3/2/2/2 [9]
DiffImageQuality-fgm: 0.11 [1/9]
DiffImageOverlap-fno: 0.00 [0/17]

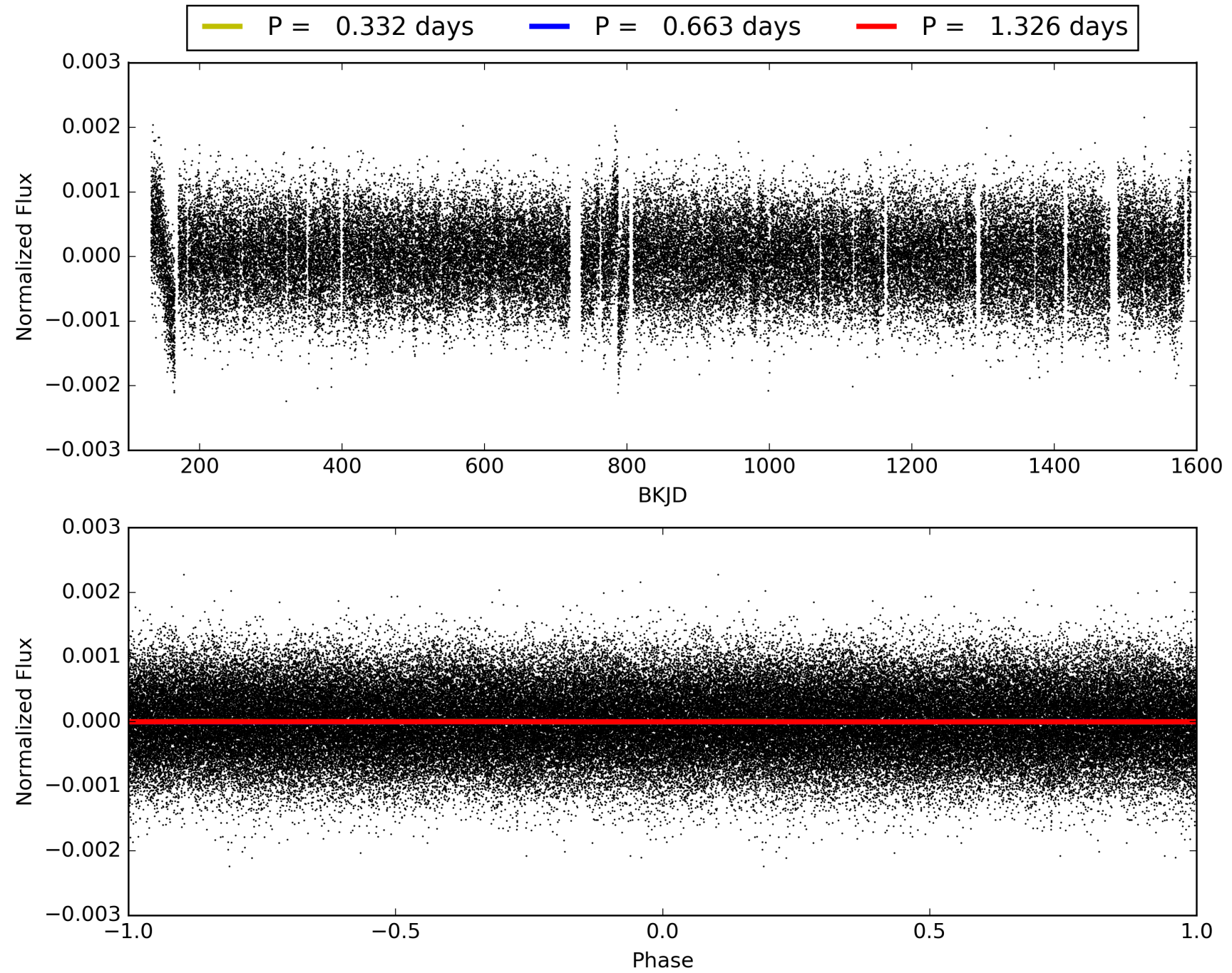
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:18:53 Z

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

TCE 008264543-01, PDC Light Curves

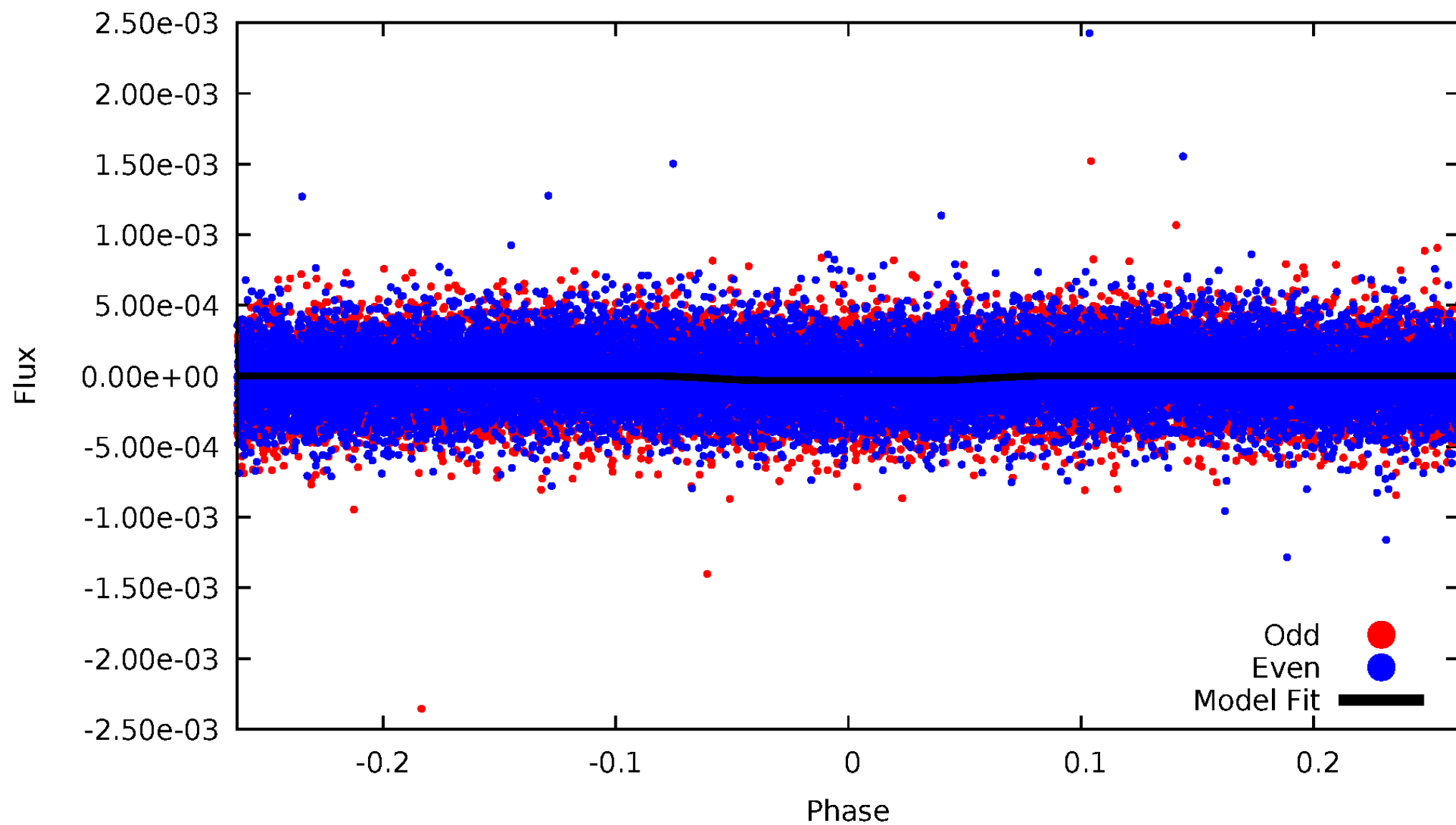


TCE 008264543-01



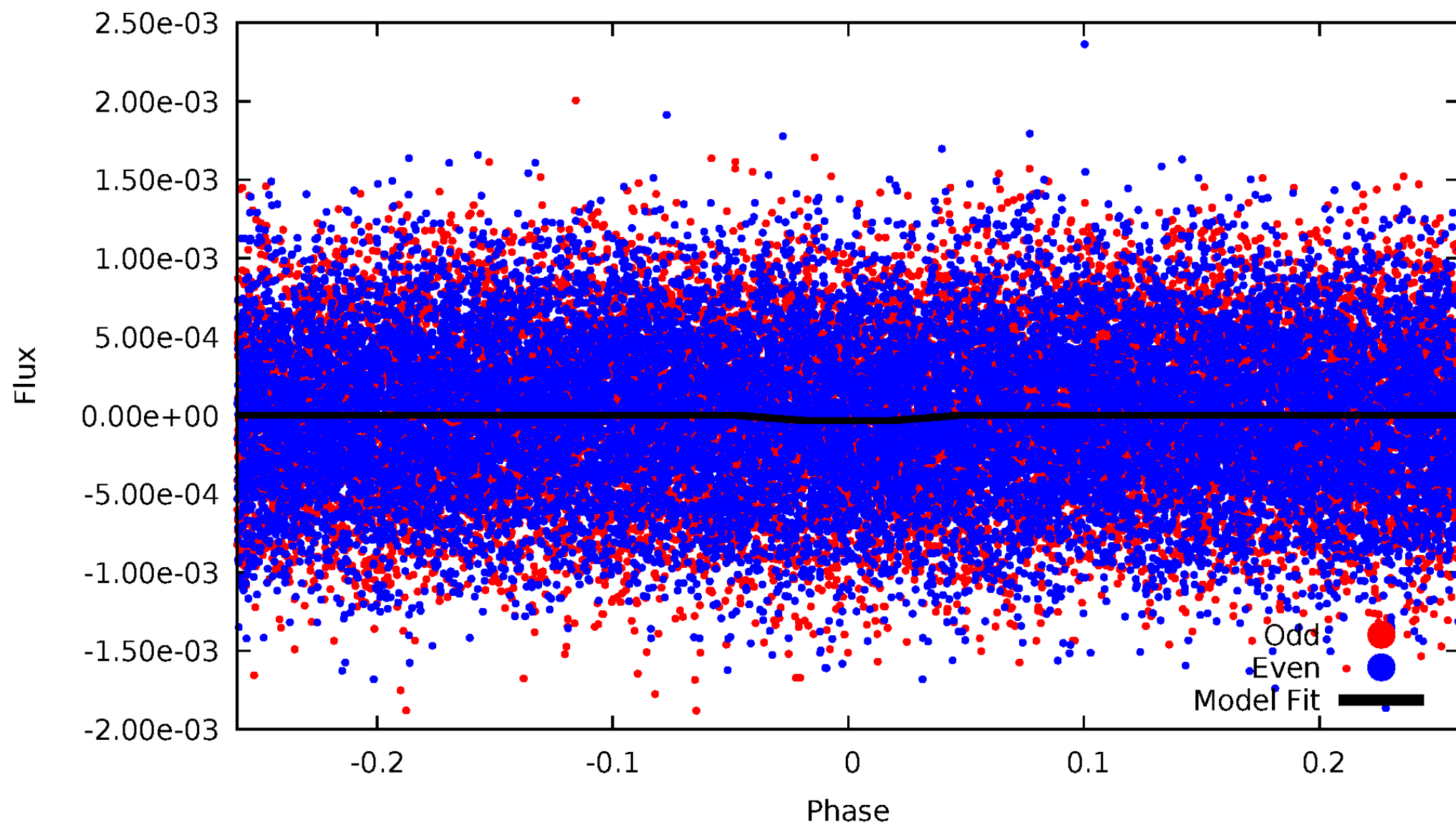
DV Odd/Even

TCE 008264543-01

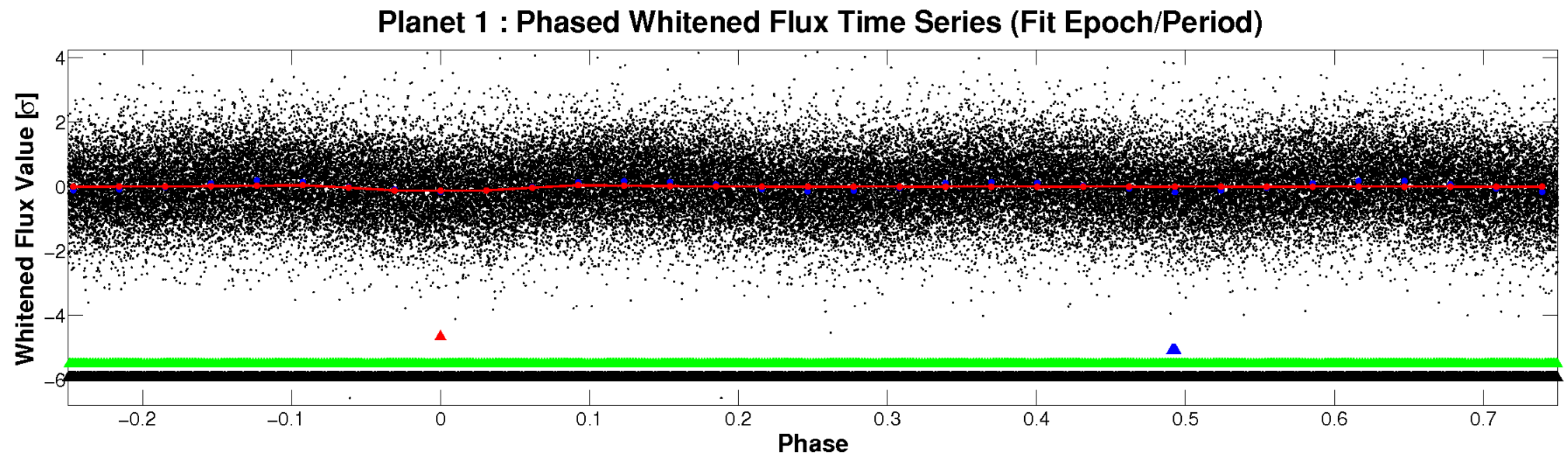
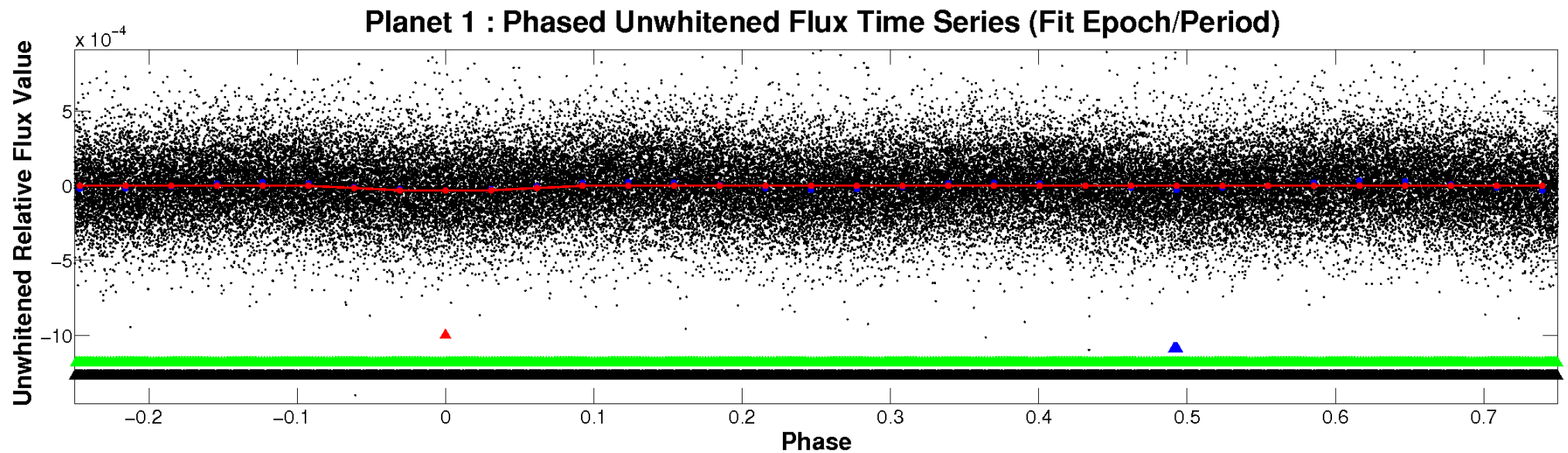


ALT Odd/Even

TCE 008264543-01

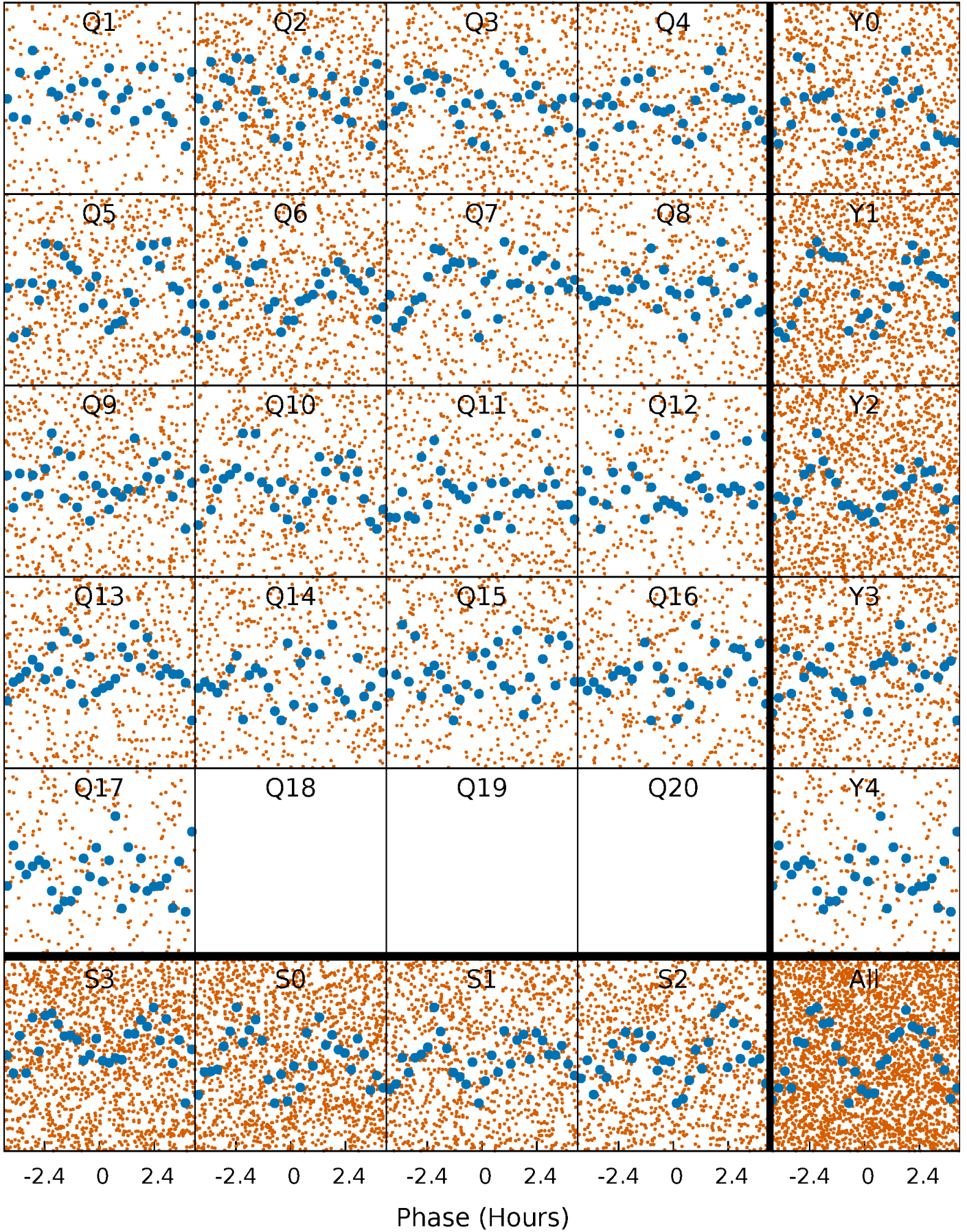


Non-Whitened Vs. Whitened Light Curve



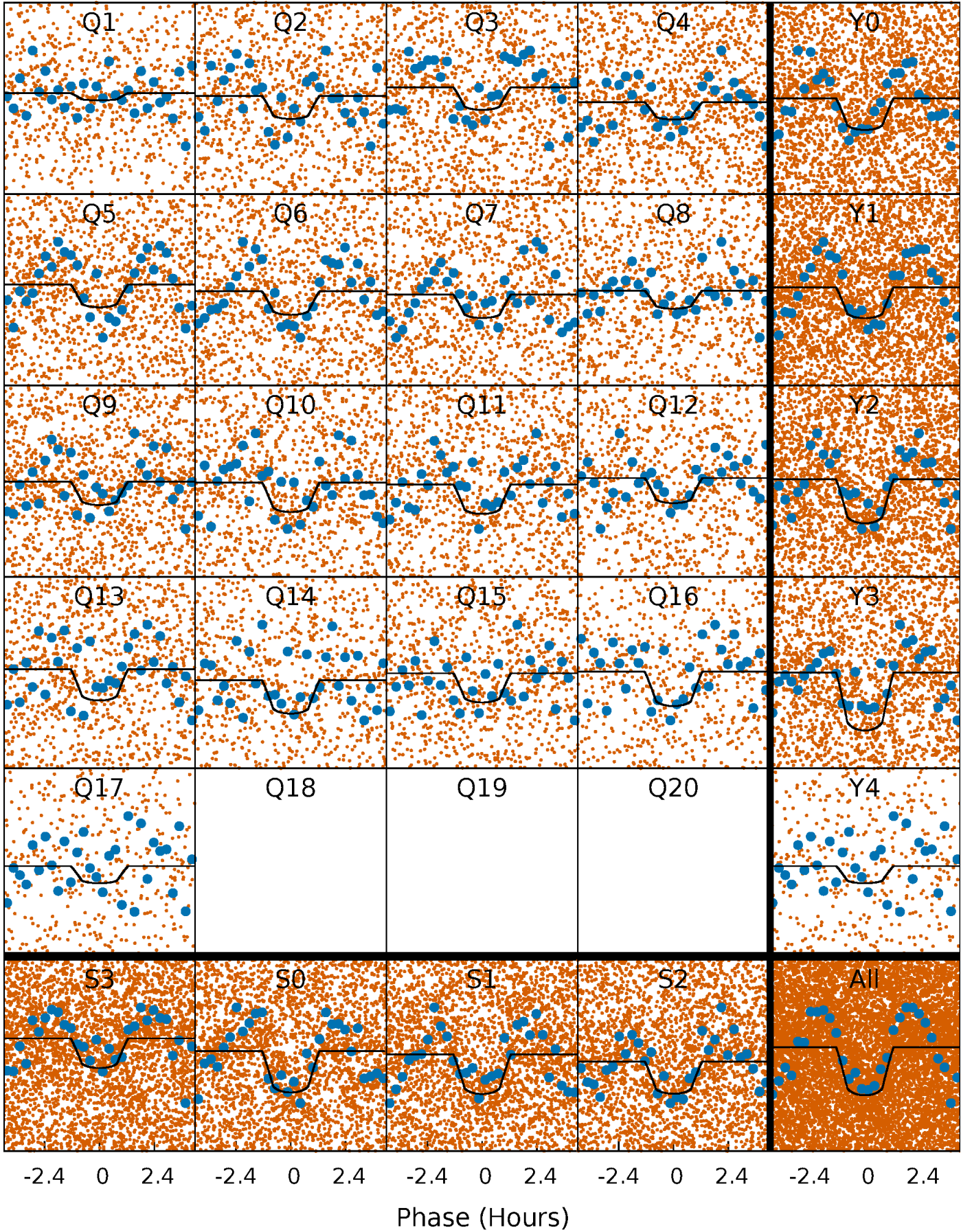
PDC Quarter-Phased Transit Curves

TCE 008264543-01 P= 0.663146 Days $T_0=131.636992$ (BKJD)



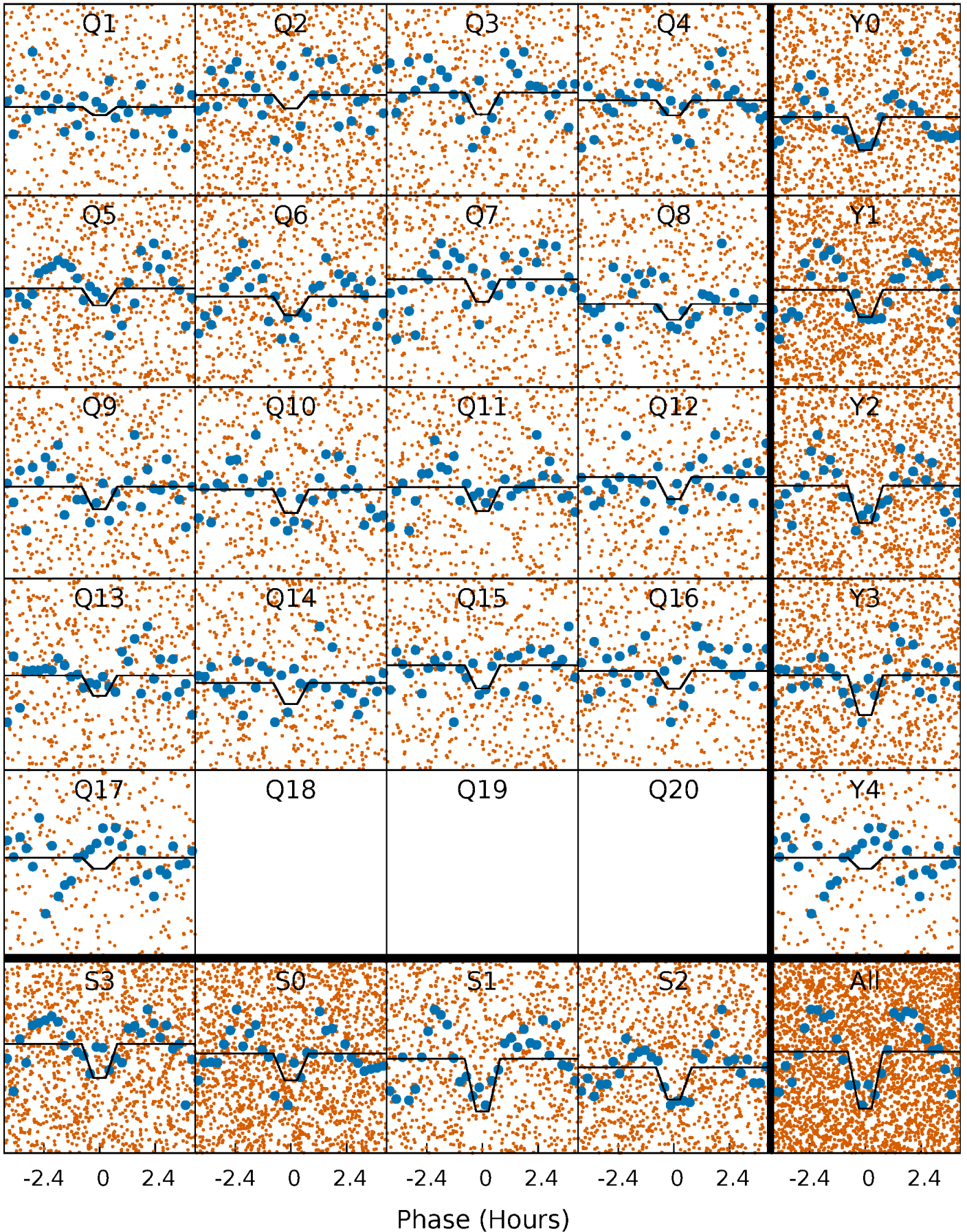
DV Quarter-Phased Transit Curves

TCE 008264543-01 P= 0.663146 Days $T_0=131.636992$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

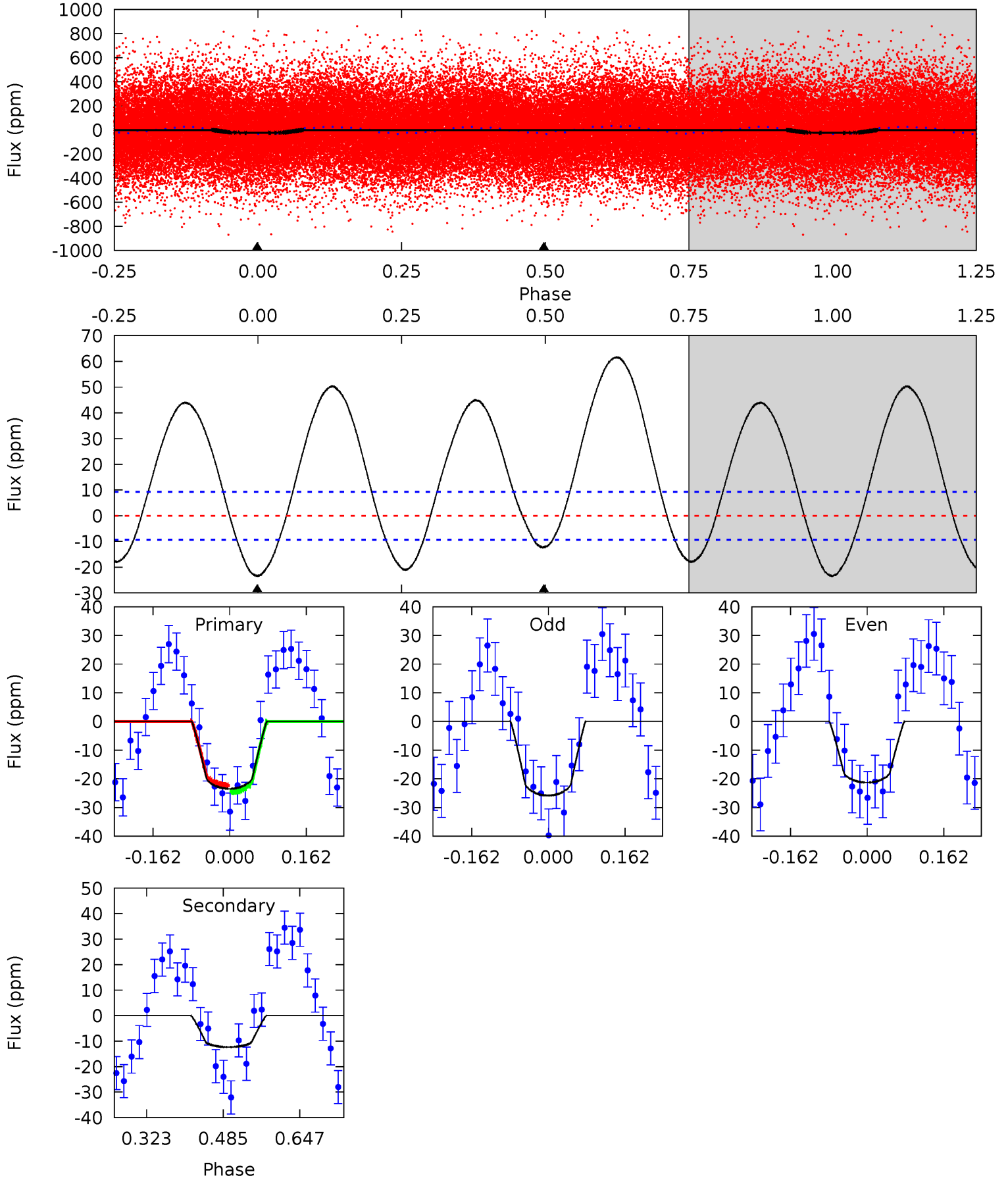
TCE 008264543-01 P= 0.663147 Days $T_0=131.636985$ (BKJD)



DV Model-Shift Uniqueness Test

008264543-01, P = 0.663146 Days, E = 130.973846 Days

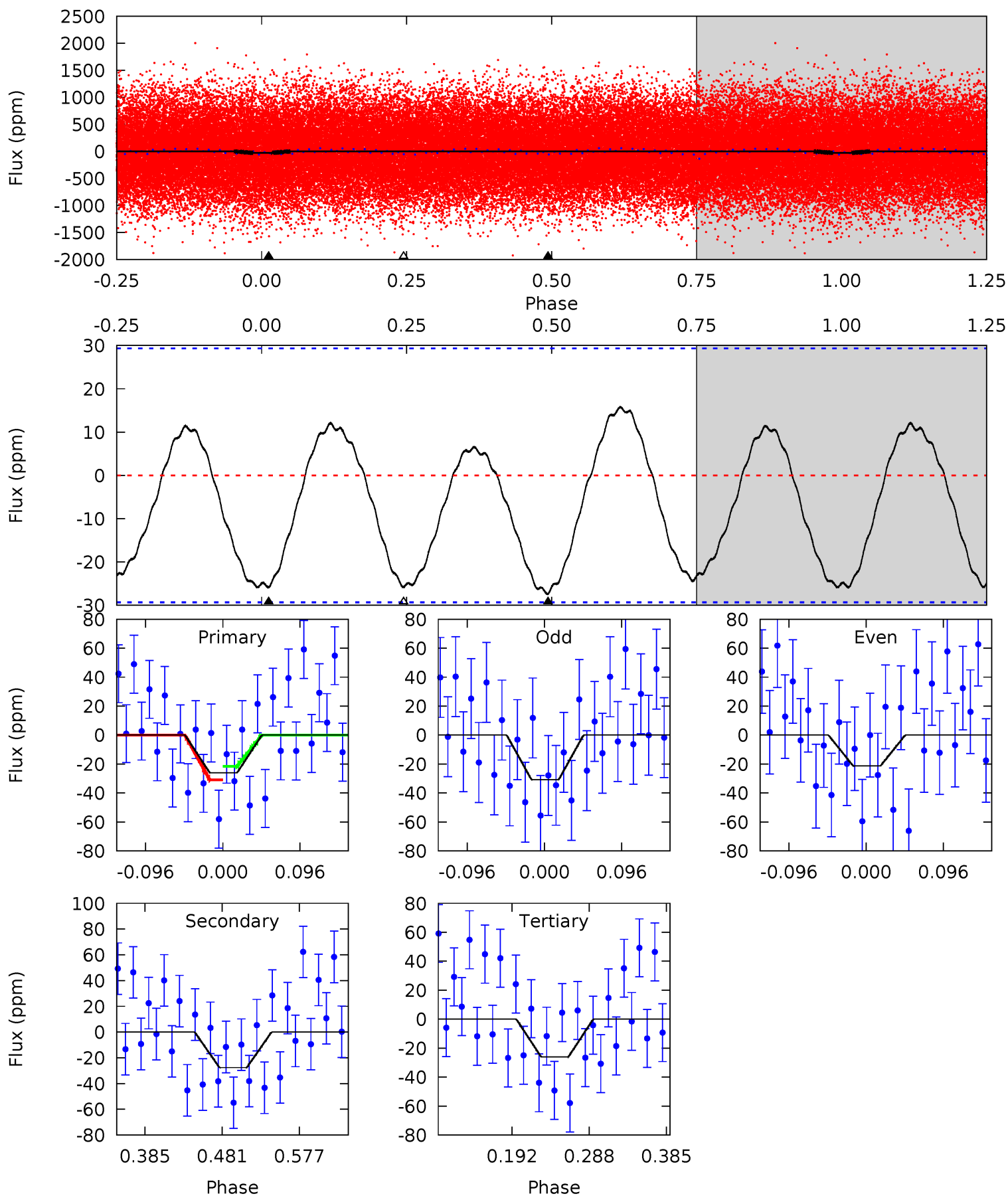
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	5.91	0	0	4.46	1.40	8.85	11.2	11.2	5.91	5.91	1.09	0.84	0.72	0.54



Alt Model-Shift Uniqueness Test

008264543-01, P = 0.663147 Days, E = 130.973838 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.06	4.30	4.05	0	4.57	1.66	2.05	0.01	4.06	0.25	4.30	0.74	1.00	0.37	0.73



Stellar Parameters For KIC 008264543

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8046^{+223}_{-307}	$3.776^{+0.376}_{-0.070}$	$-0.180^{+0.200}_{-0.350}$	$2.925^{+0.403}_{-1.209}$	$1.863^{+0.094}_{-0.377}$	$0.105^{+0.353}_{-0.030}$
	+3%/-4%	+10%/-2%	+111%/-194%	+14%/-41%	+5%/-20%	+337%/-29%
Source	KIC0	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 008264543-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-12 ± 2	$1.69^{+0.76}_{-0.69}$	6068^{+393}_{-724}	5262^{+2024}_{-1478}	$0.740^{+1.419}_{-0.371}$
Alt.	-28 ± 6	$1.72^{+0.69}_{-0.64}$	6088^{+397}_{-638}	7004^{+2567}_{-1445}	$1.709^{+2.478}_{-0.918}$

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 $A_{obs} \gg 1.0$

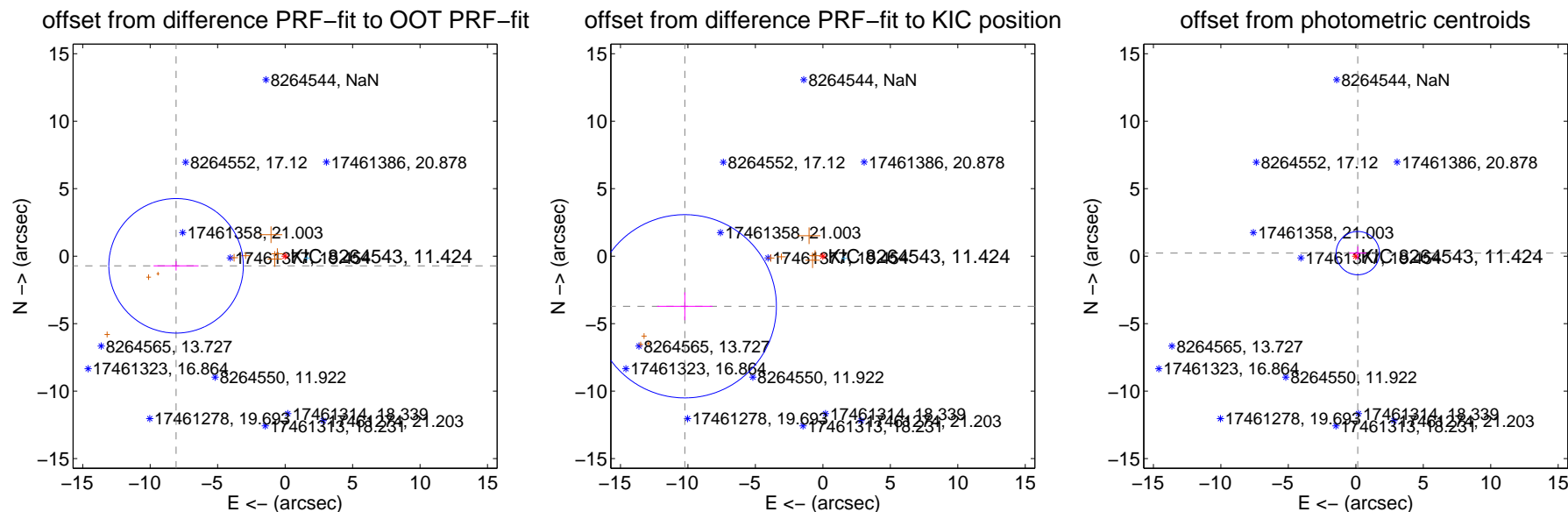
DV Centroid Data

Supplemental centroid analysis for 008264543-01. **Kepler magnitude: 11.42.** Transit SNR 10.58

There are 1 quarters with good PRF difference image offsets

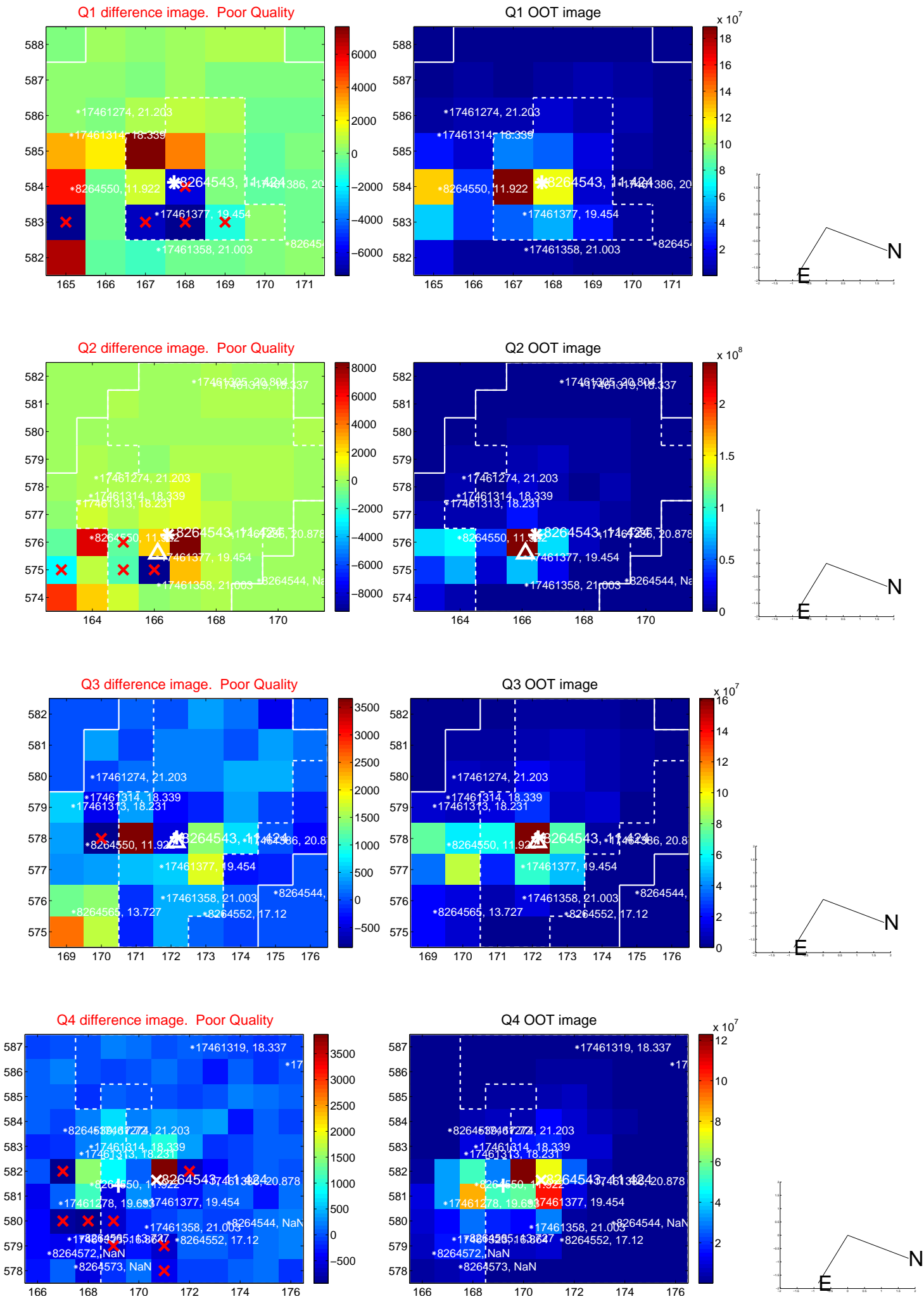
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.113 ± 1.661	4.88	8.081 ± 1.668	-0.717 ± 0.353
PRF-fit source offset from KIC position	10.886 ± 2.263	4.81	10.233 ± 2.047	-3.714 ± 1.031
photometric centroid source offset	0.27 ± 0.53	0.50	-0.15 ± 0.63	0.22 ± 0.49

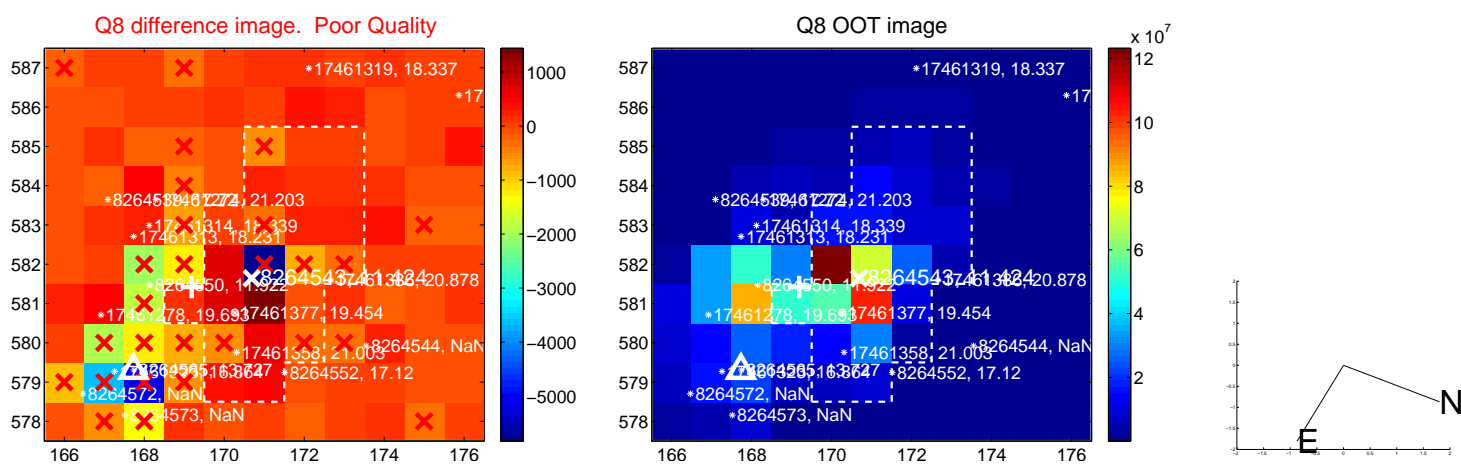
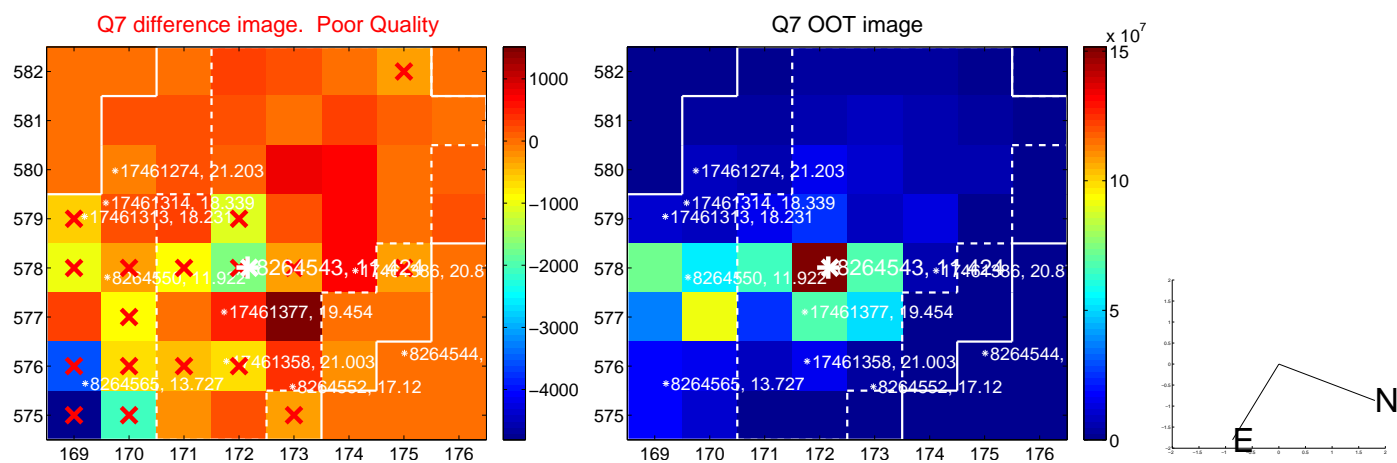
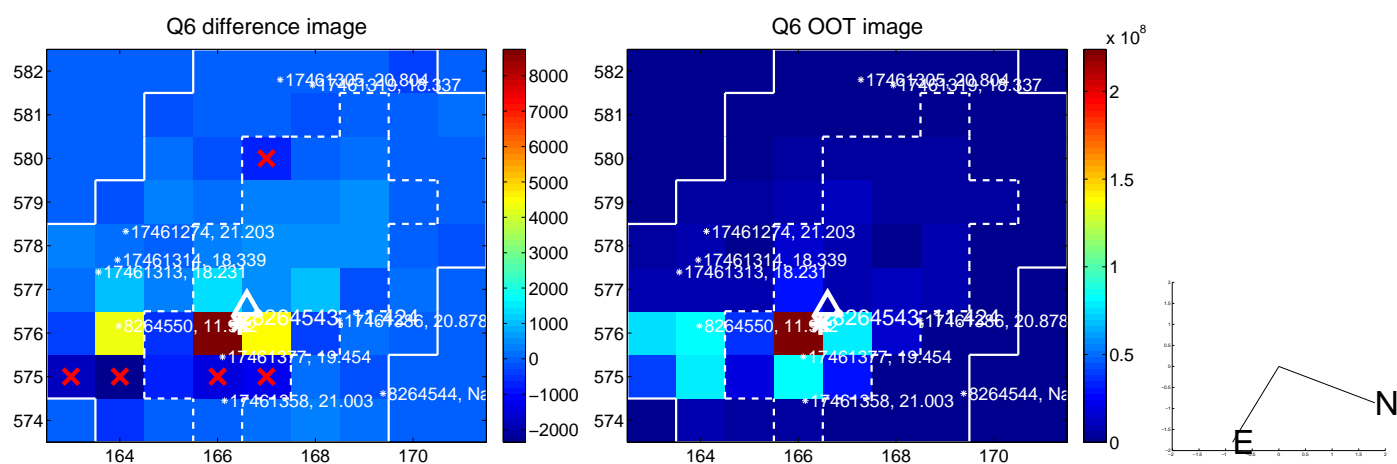
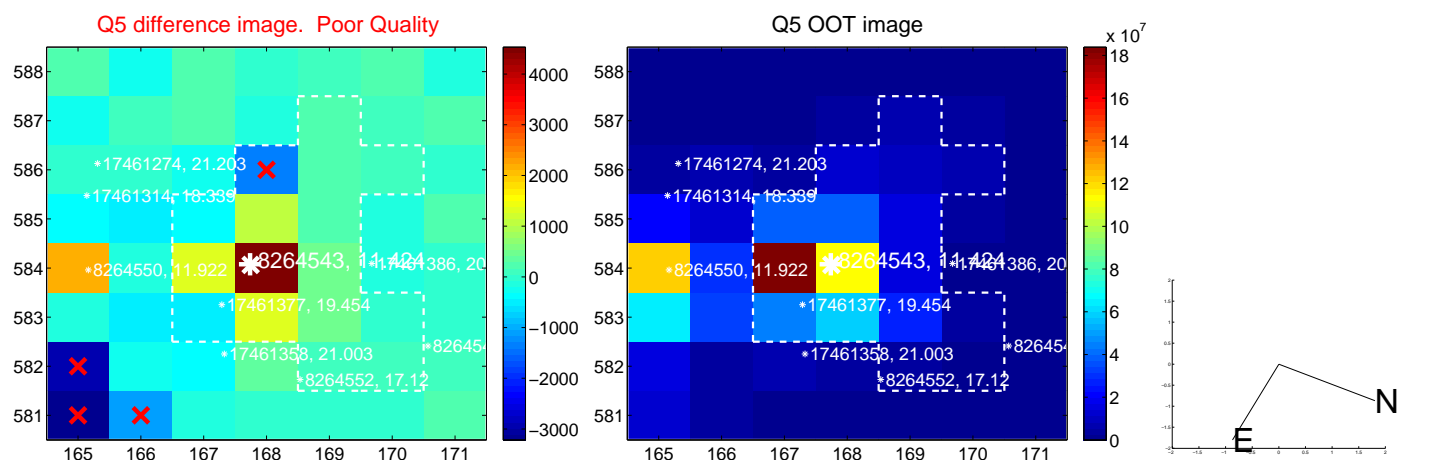


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

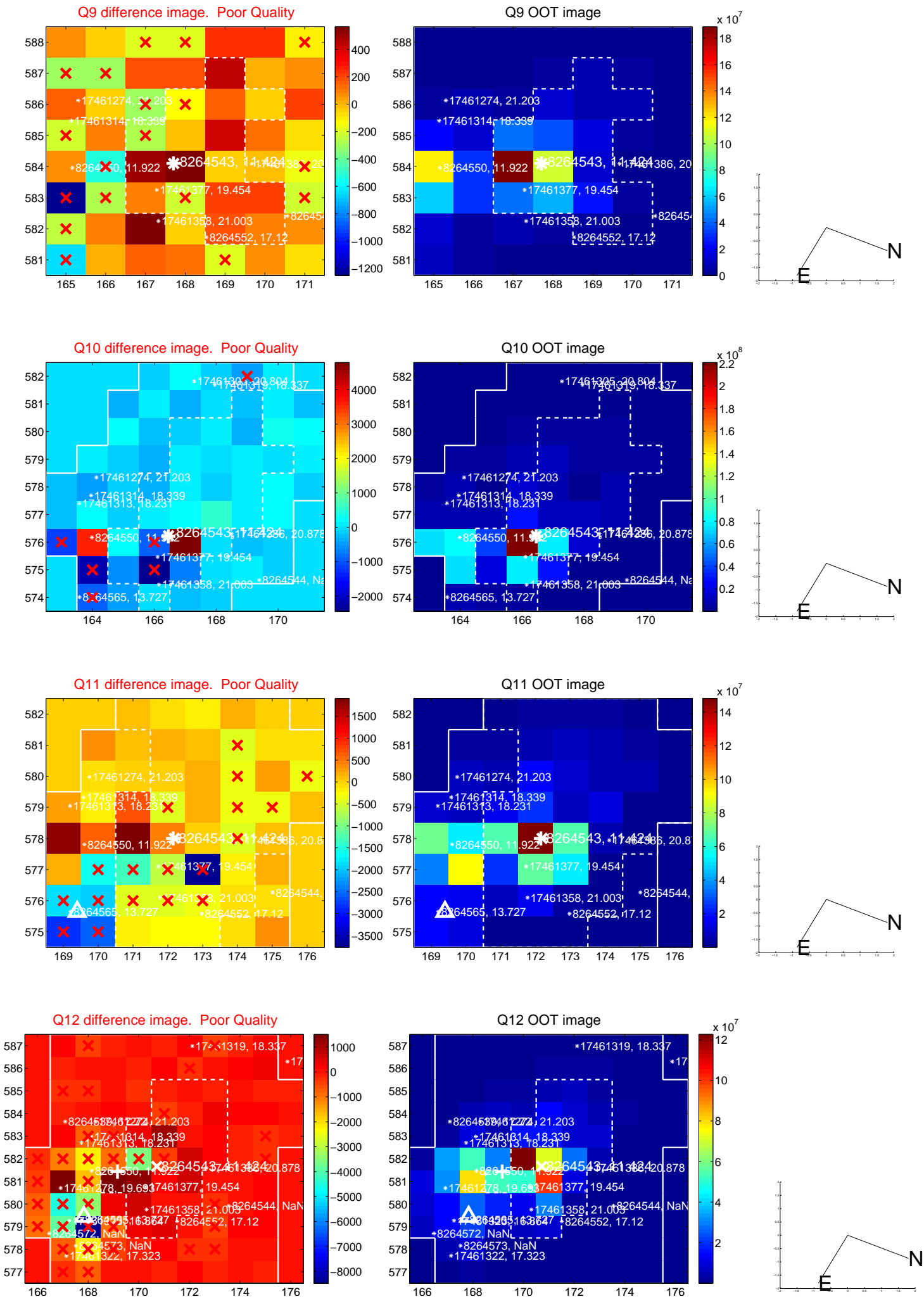
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



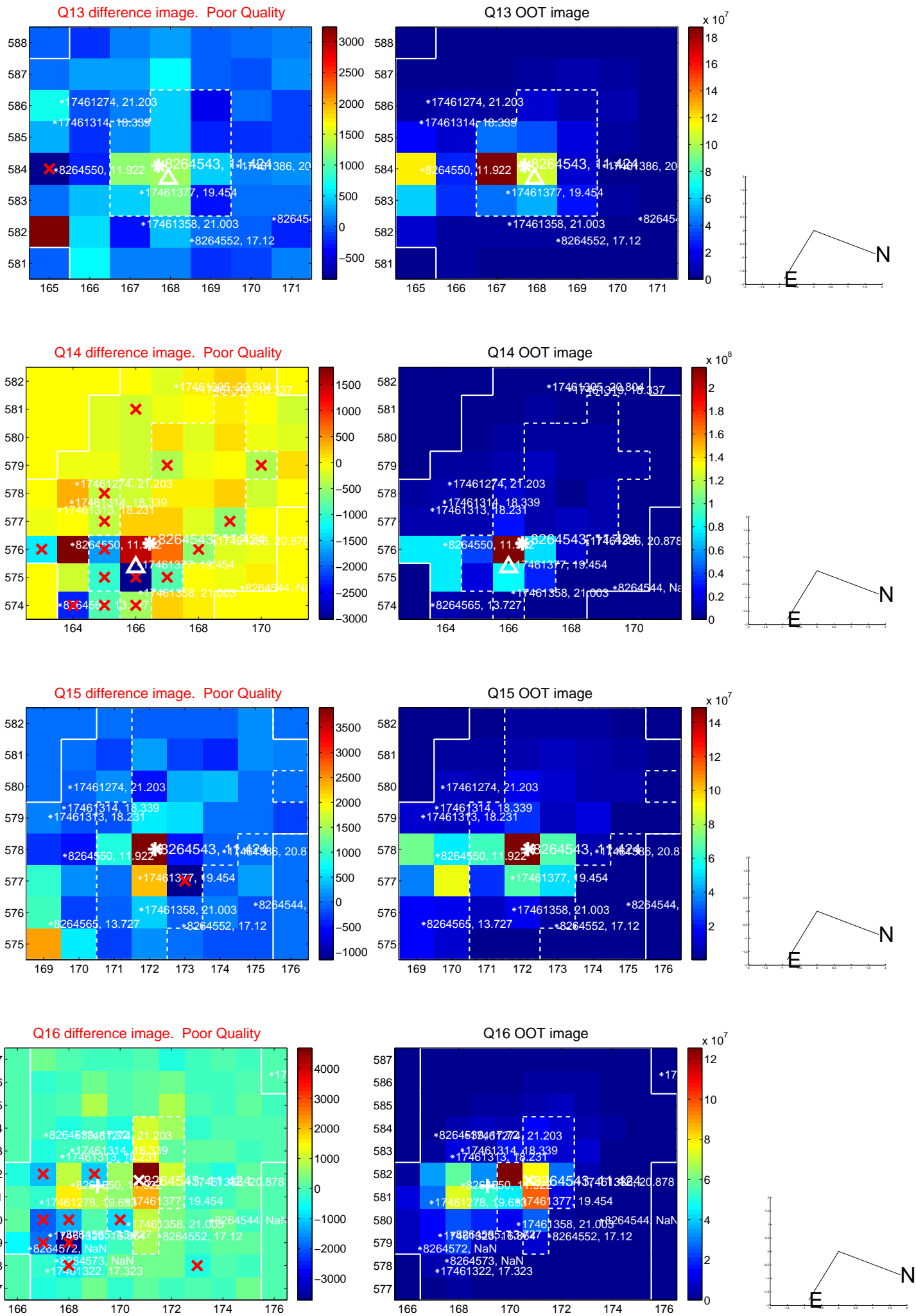
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



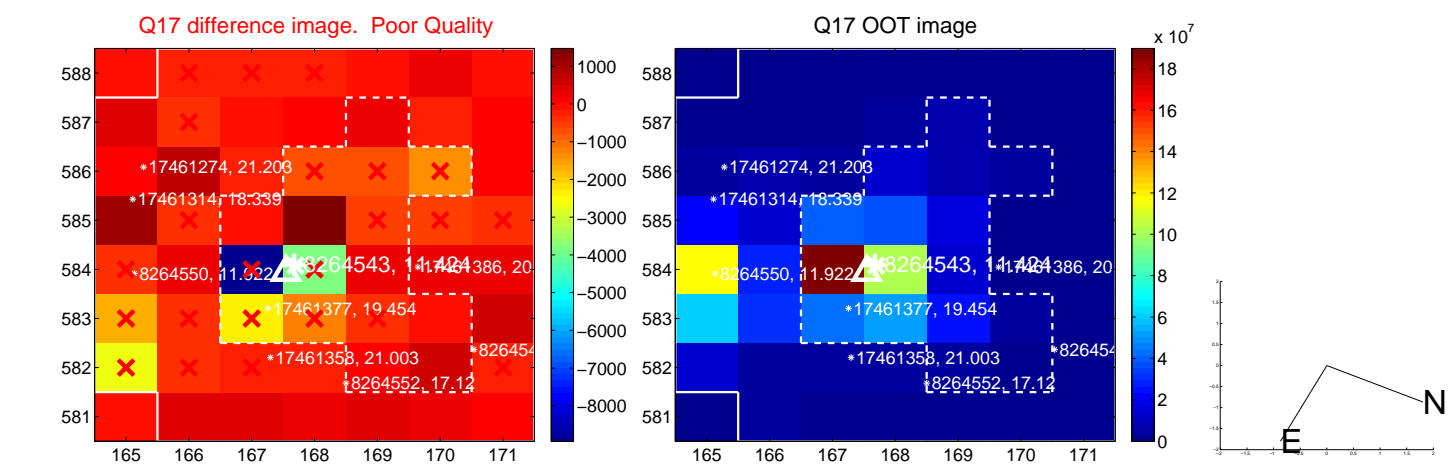
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



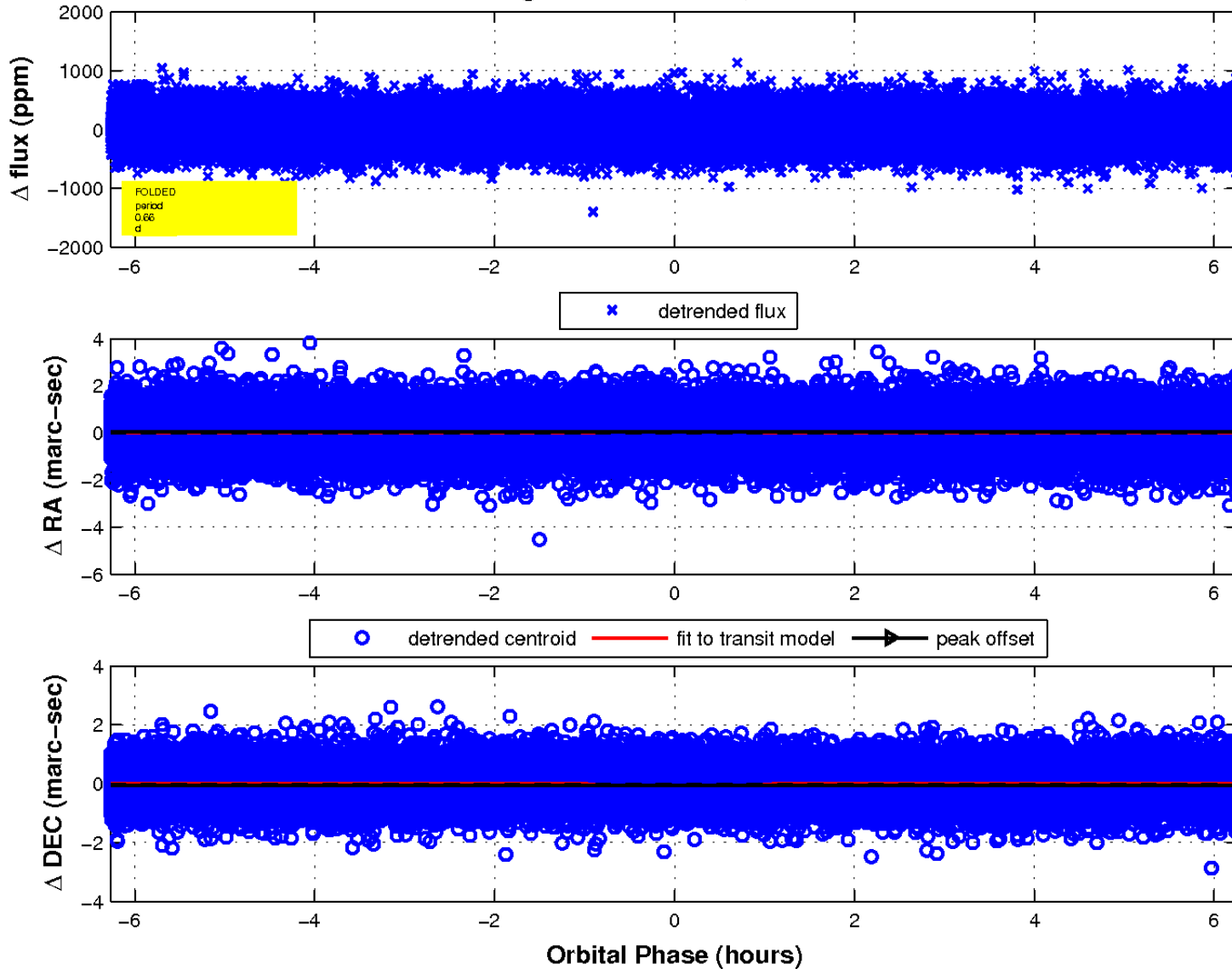
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

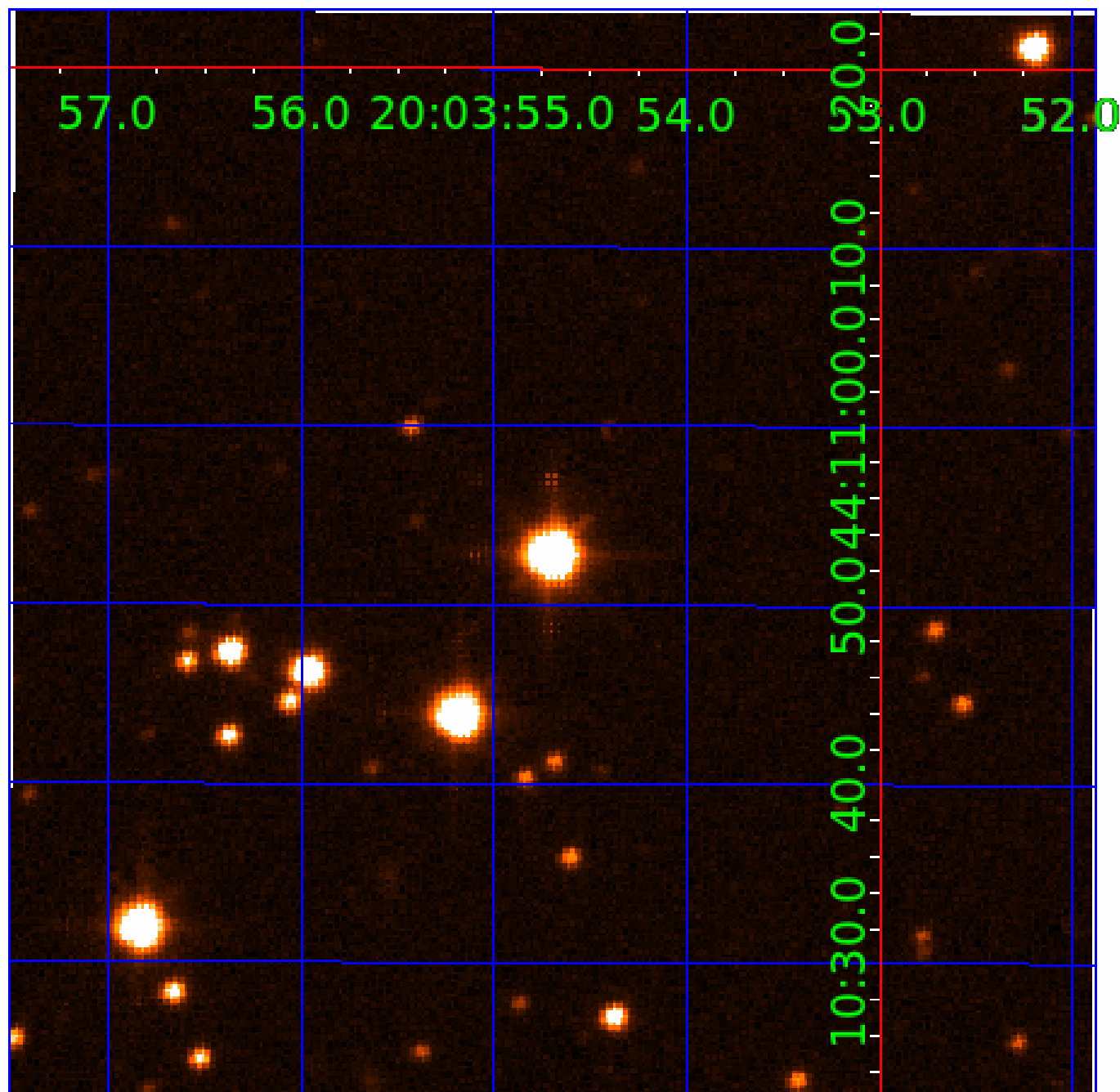


fluxWeightedCentroids, Planet 1 of 4



UKIRT Image

Declination



KIC 008264543

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})
008264543-01	OBS	No	0.663146	131.636992	31.8	2.090	12.3	10.6	2.92	8046	1.93	95753.18
008264543-02	OBS	No	0.663146	131.962692	36.4	1.408	12.1	11.3	2.92	8046	1.90	95753.06
008264543-03	OBS	No	1.743781	132.142537	89.5	3.380	9.1	11.0	2.92	8046	3.29	26382.09
008264543-04	OBS	No	0.581286	131.736425	65.2	3.094	8.4	11.9	2.92	8046	2.77	114142.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008264543-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
008264543-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD—CENT_SATURATED
008264543-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED
008264543-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_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.

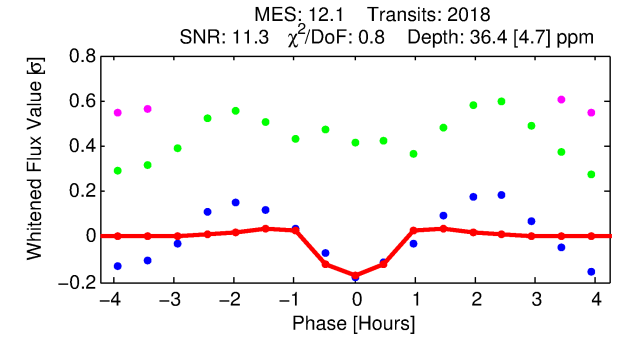
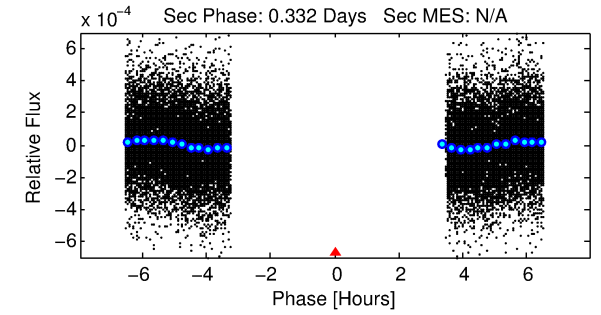
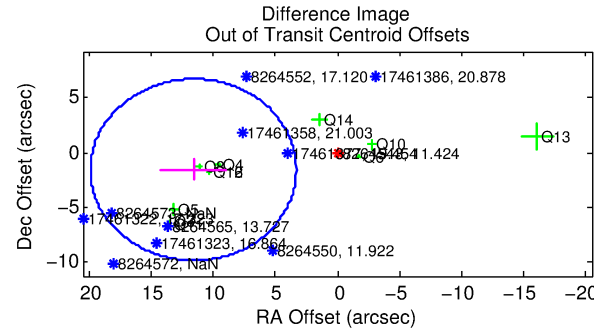
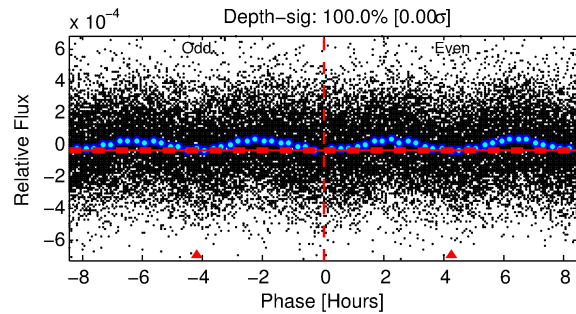
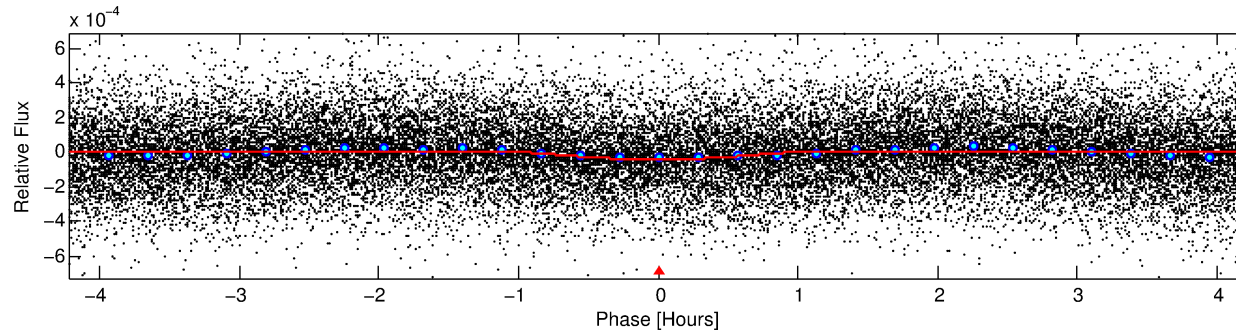
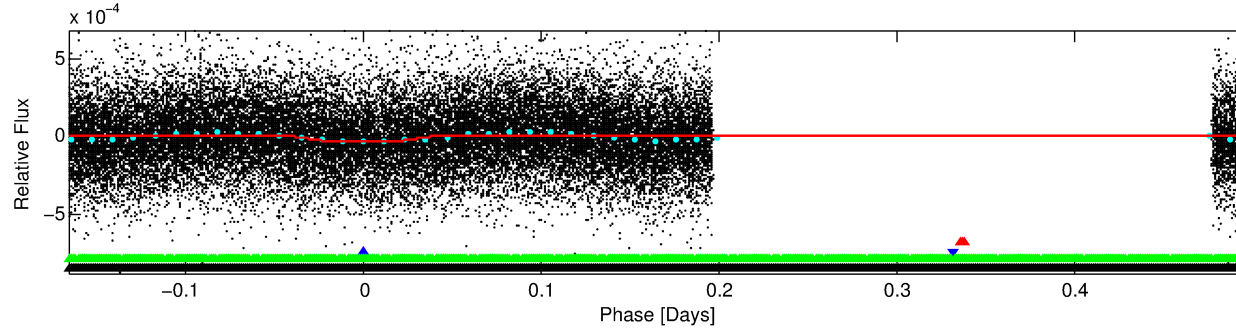
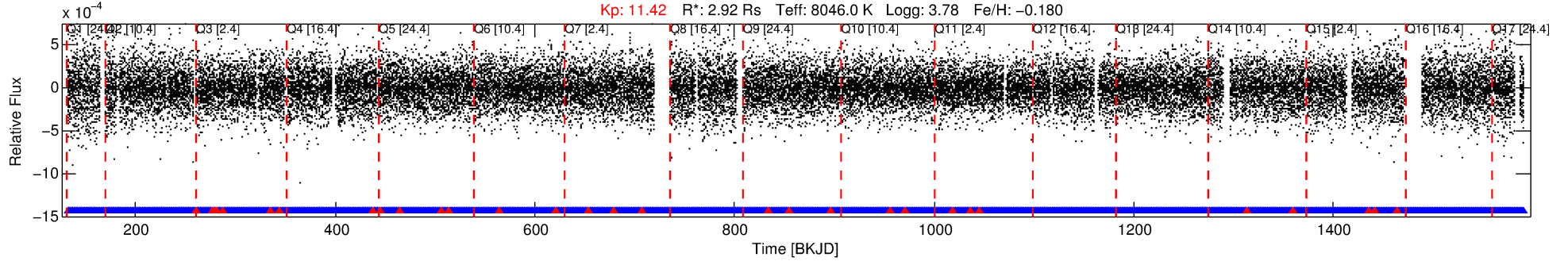
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008264543-02

No Significant Match Found

DV One-Page Summary

KIC: 8264543 Candidate: 2 of 4 Period: 0.663 d



DV Fit Results:

Period = 0.66315 [0.00001] d
Epoch = 131.9627 [0.0017] BKJD
Rp/R* = 0.0059 [0.0012]
a/R* = 2.73 [2.59]
b = 0.70 [0.81]
Seff = 95753.06 [62961.75]
Teq = 4486 [737] K
Rp = 1.90 [0.88] Re
a = 0.0183 [0.0073] AU

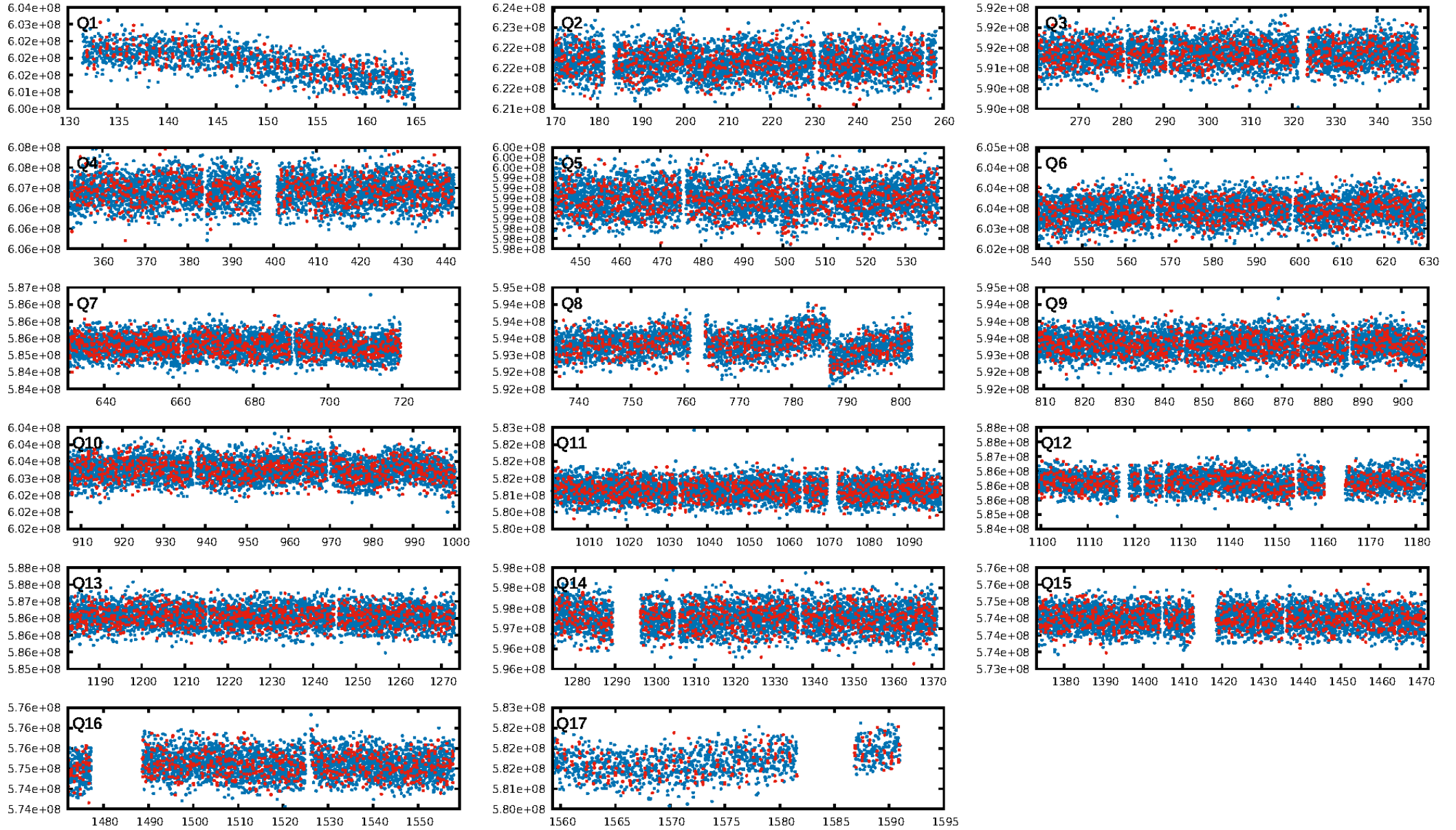
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: 100.0% [7.08 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.60e-54
RollingBand-fgt: 0.98 [1897/1927]
GhostDiagnostic-chr: 10.66
Centroid-sig: 0.0%
Centroid-so: 0.962 arcsec [1.57 σ]
OotOffset-rm: 11.699 arcsec [4.23 σ]
KicOffset-rm: 15.069 arcsec [4.56 σ]
OotOffset-st: 3/2/4/2 [11]
KicOffset-st: 3/2/4/2 [11]
DiffImageQuality-fgm: 0.45 [5/11]
DiffImageOverlap-fno: 0.41 [7/17]

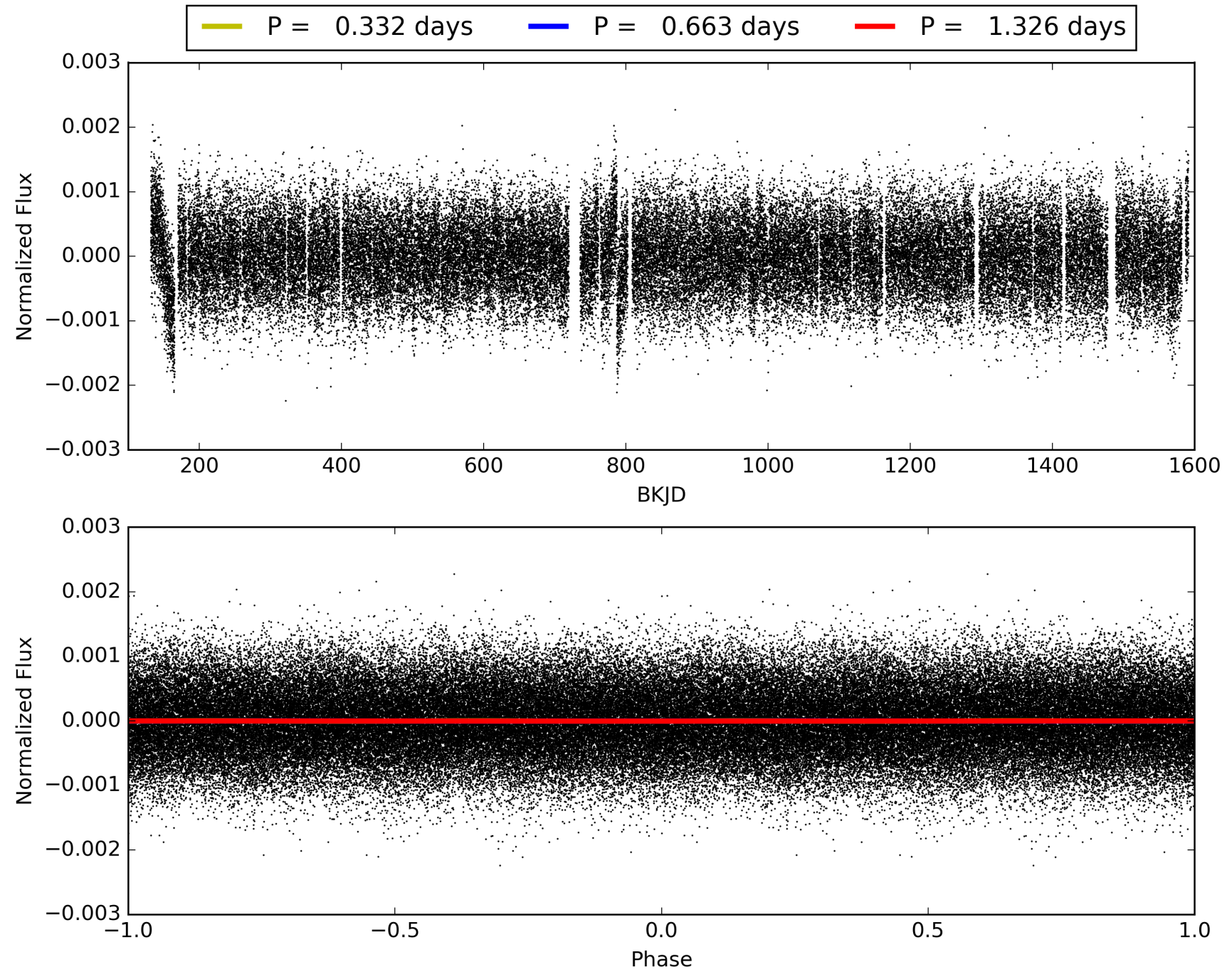
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:19:04 Z

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

TCE 008264543-02, PDC Light Curves

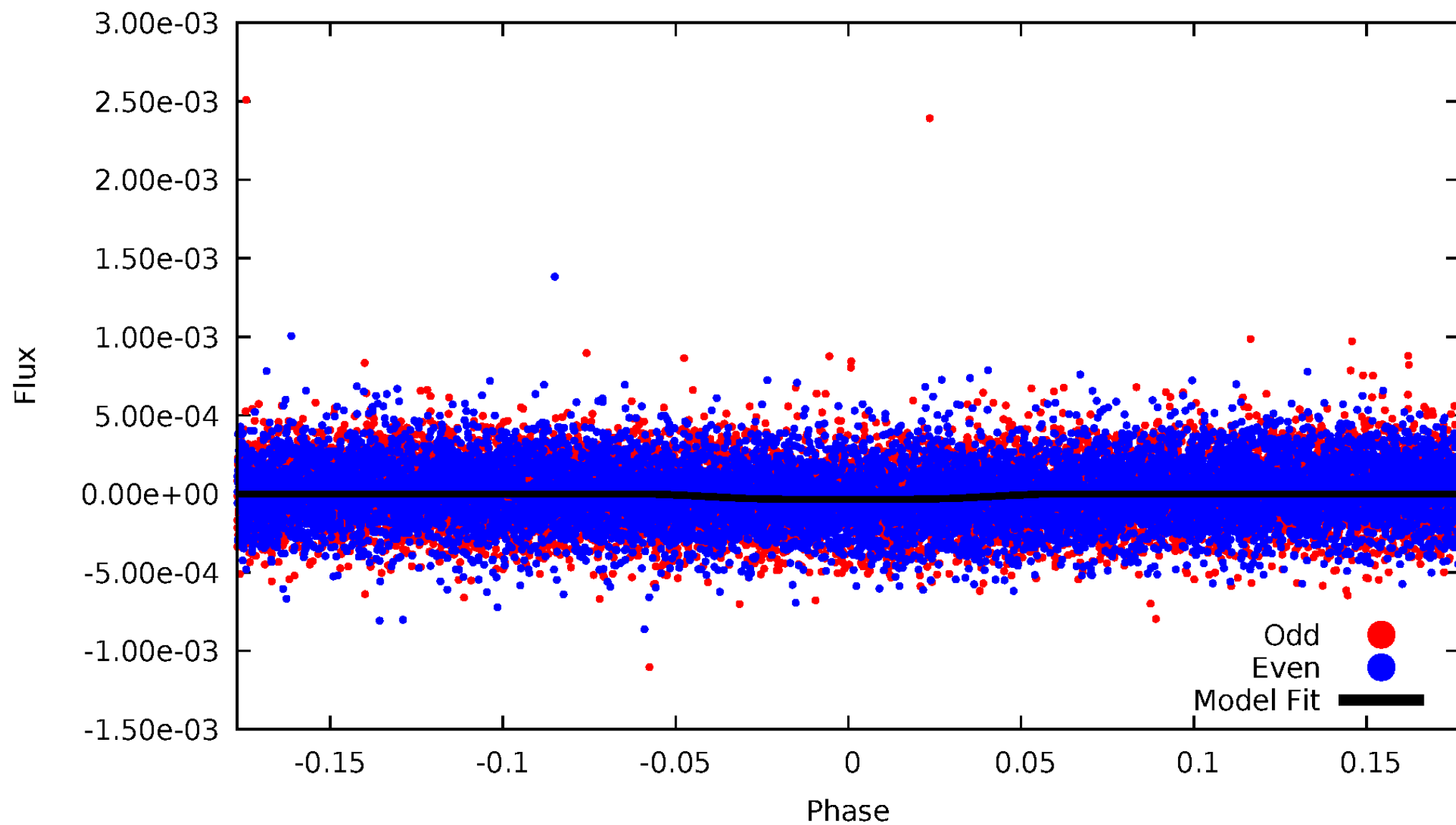


TCE 008264543-02



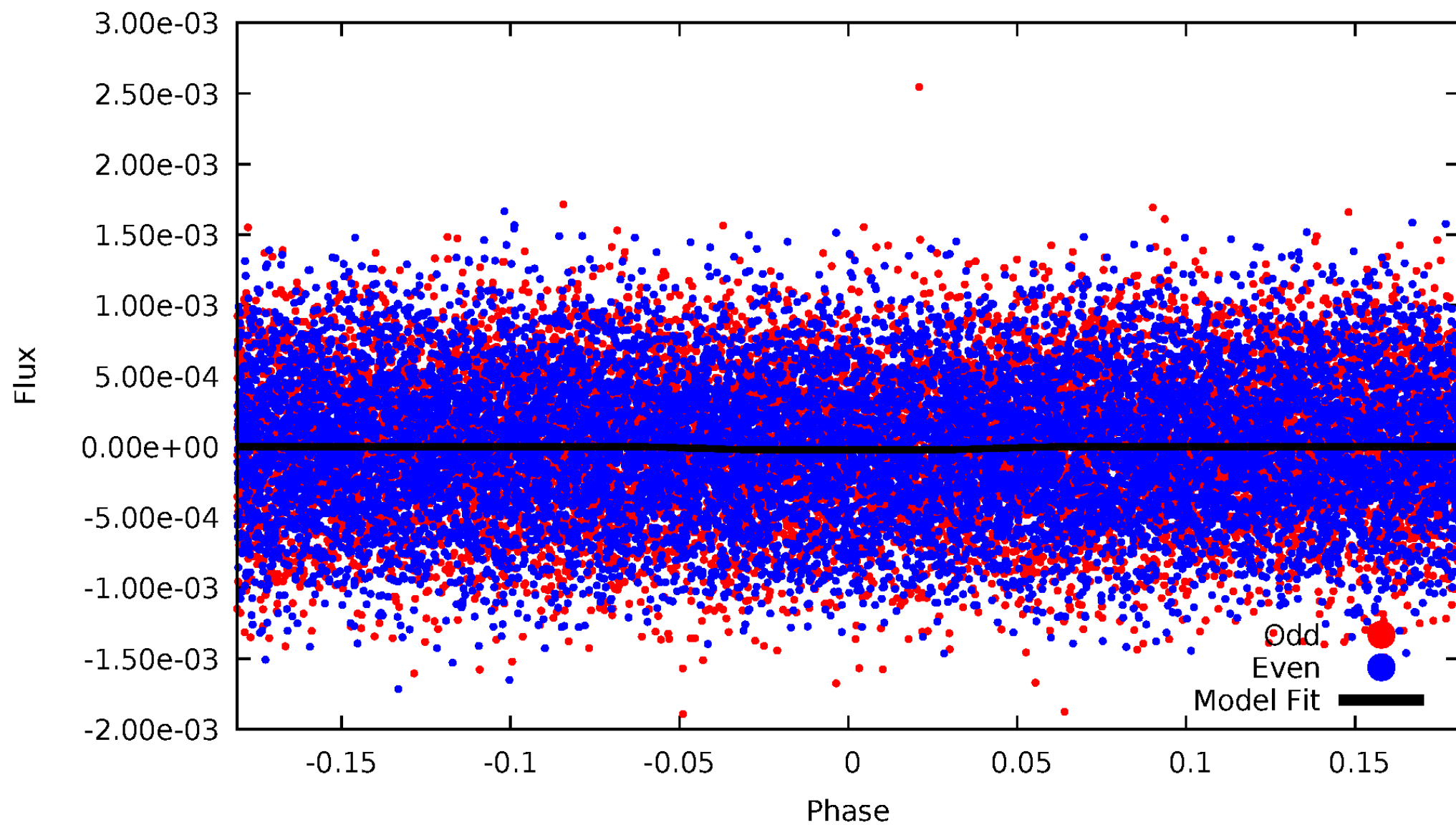
DV Odd/Even

TCE 008264543-02



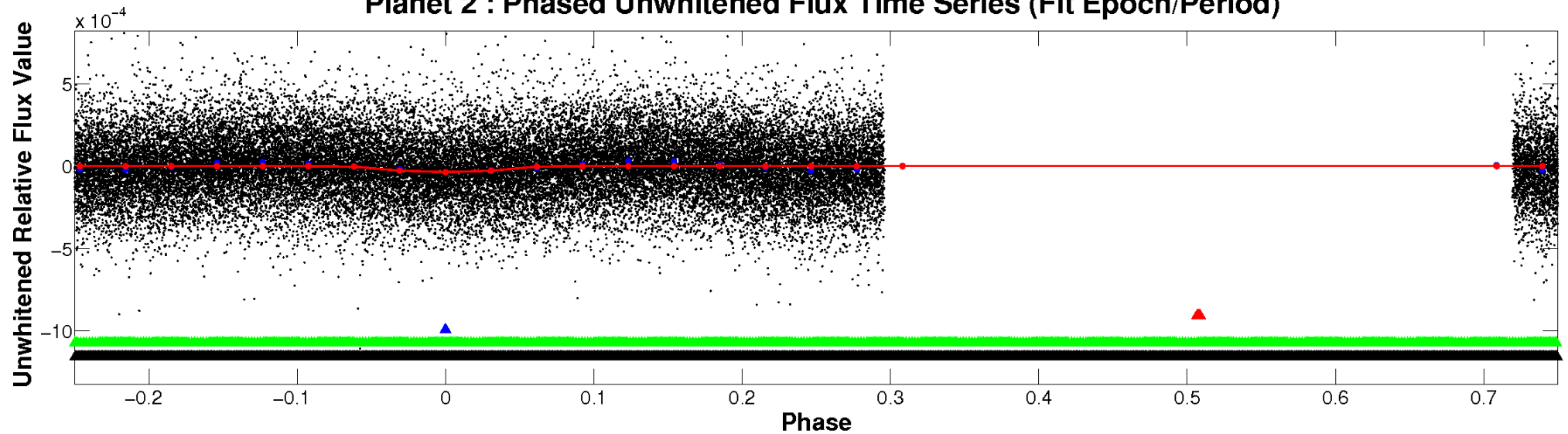
ALT Odd/Even

TCE 008264543-02

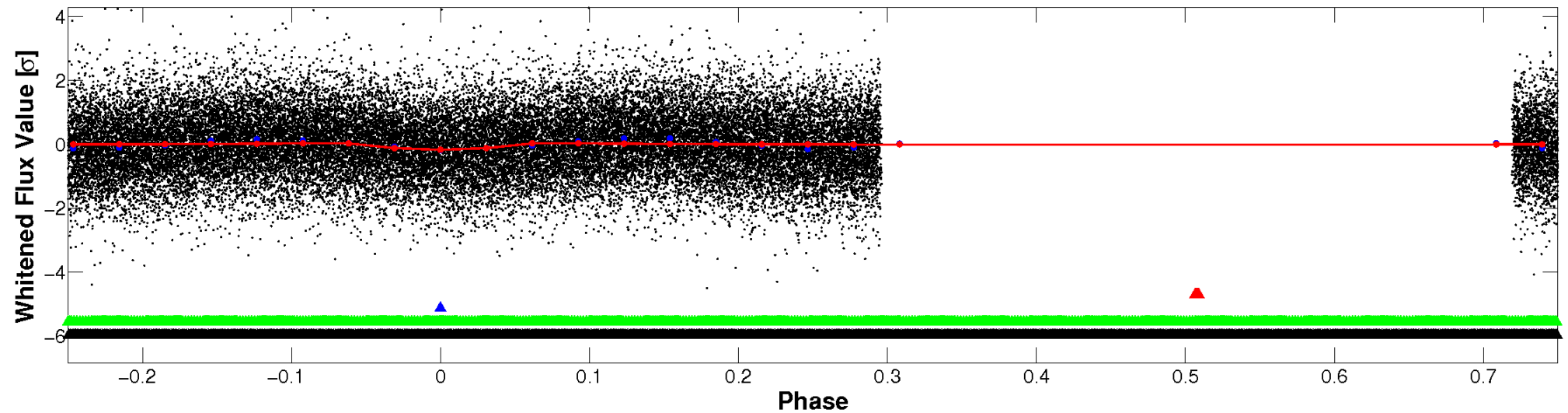


Non-Whitened Vs. Whitened Light Curve

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

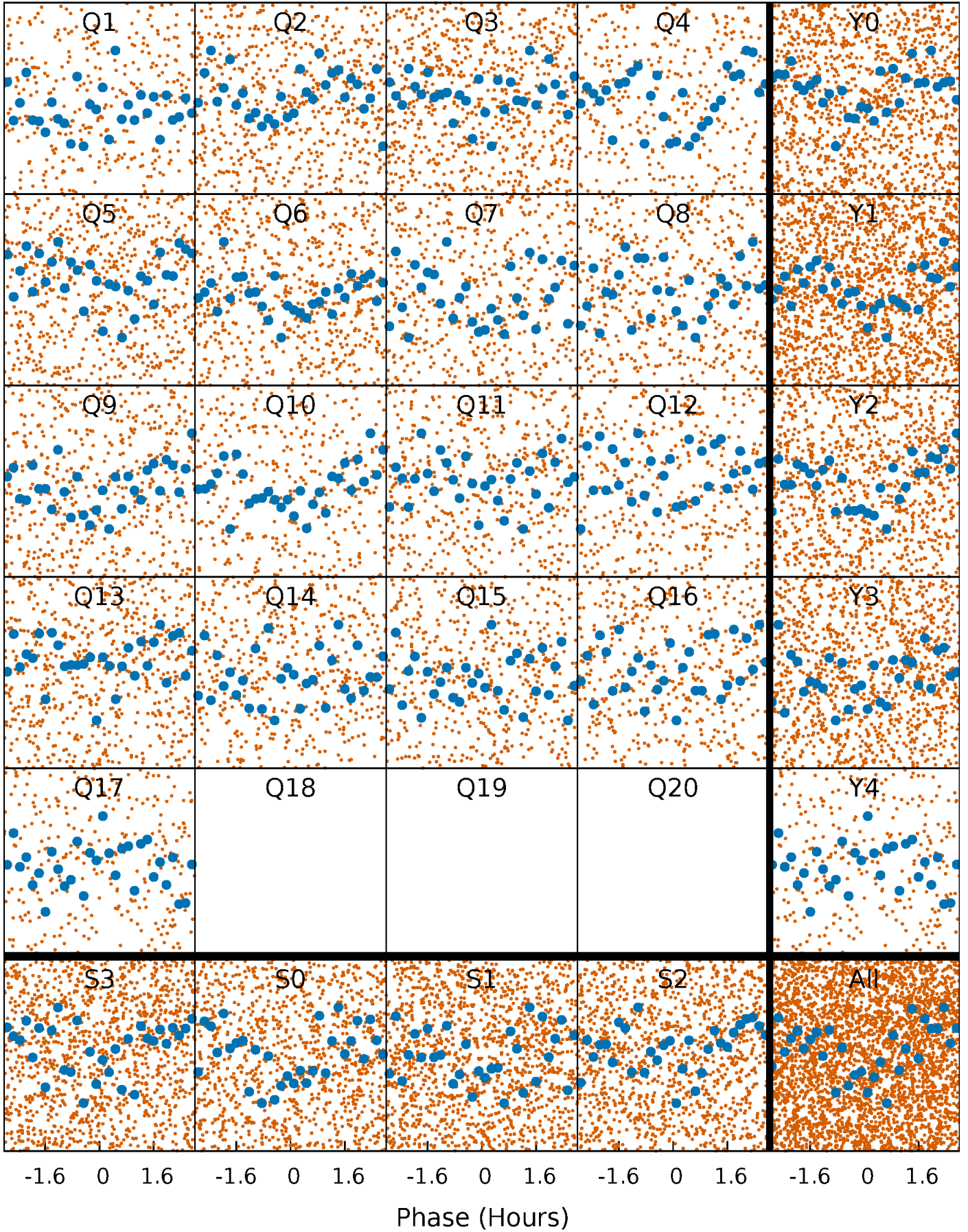


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



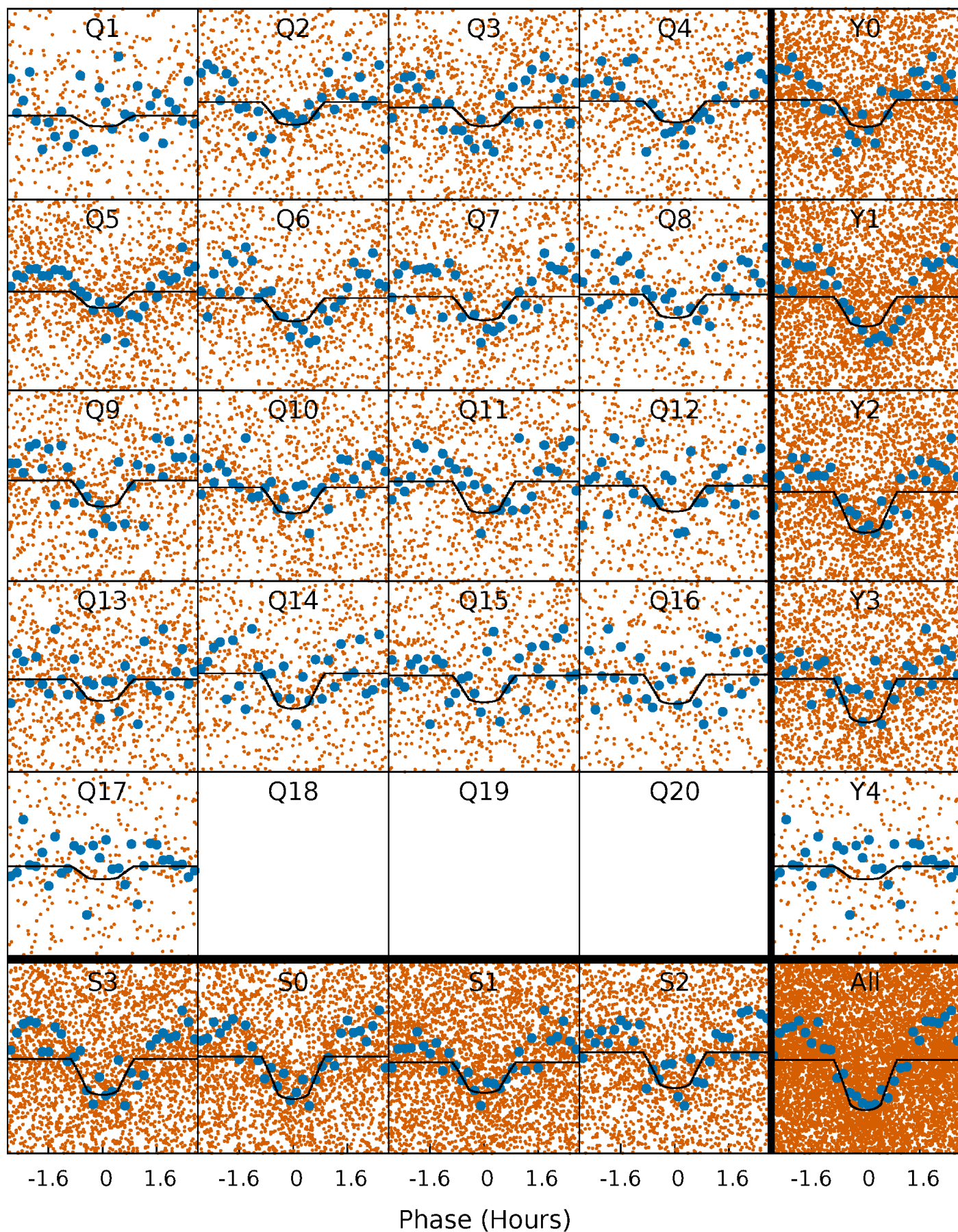
PDC Quarter-Phased Transit Curves

TCE 008264543-02 P= 0.663146 Days $T_0=131.962692$ (BKJD)



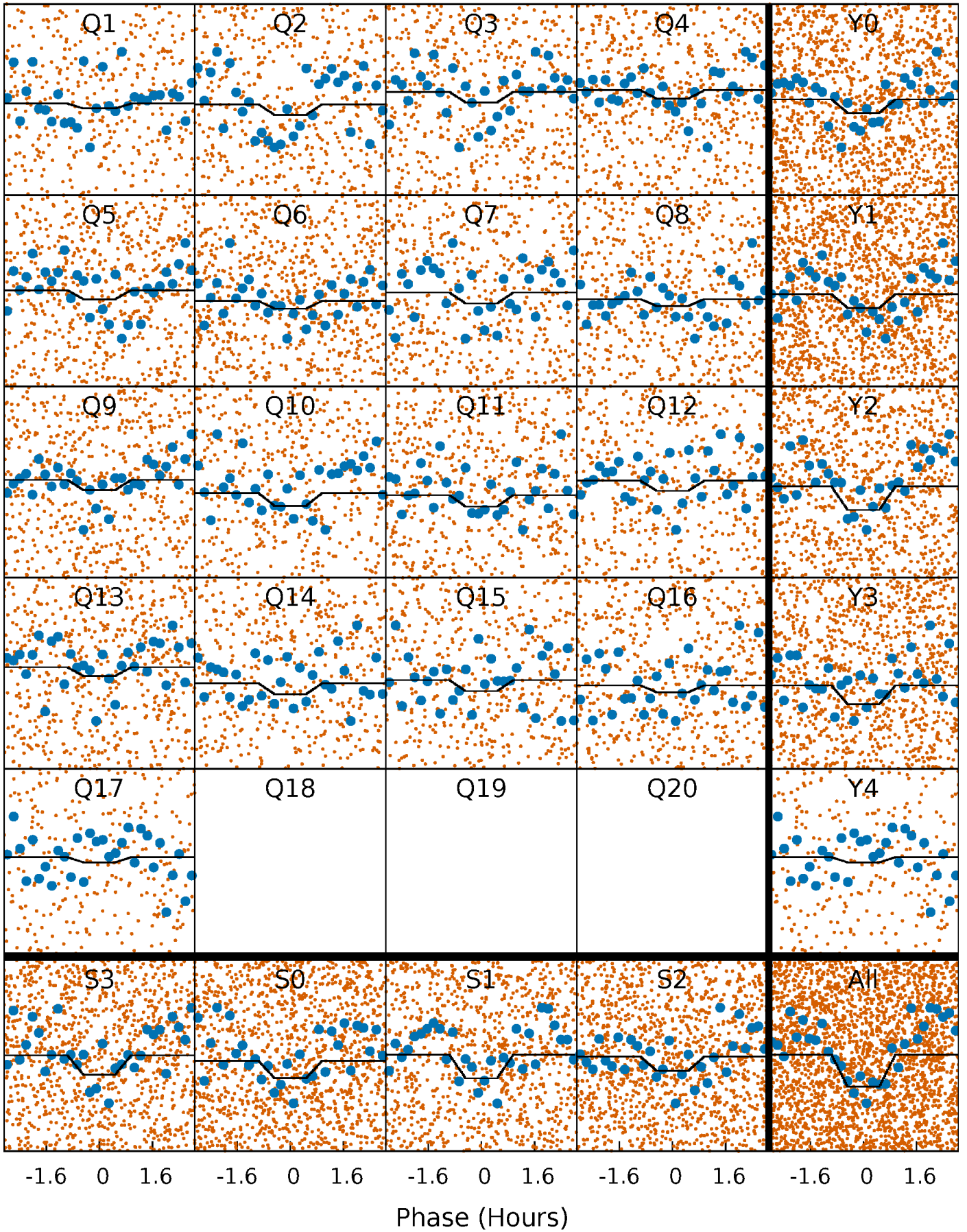
DV Quarter-Phased Transit Curves

TCE 008264543-02 P= 0.663146 Days $T_0=131.962692$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

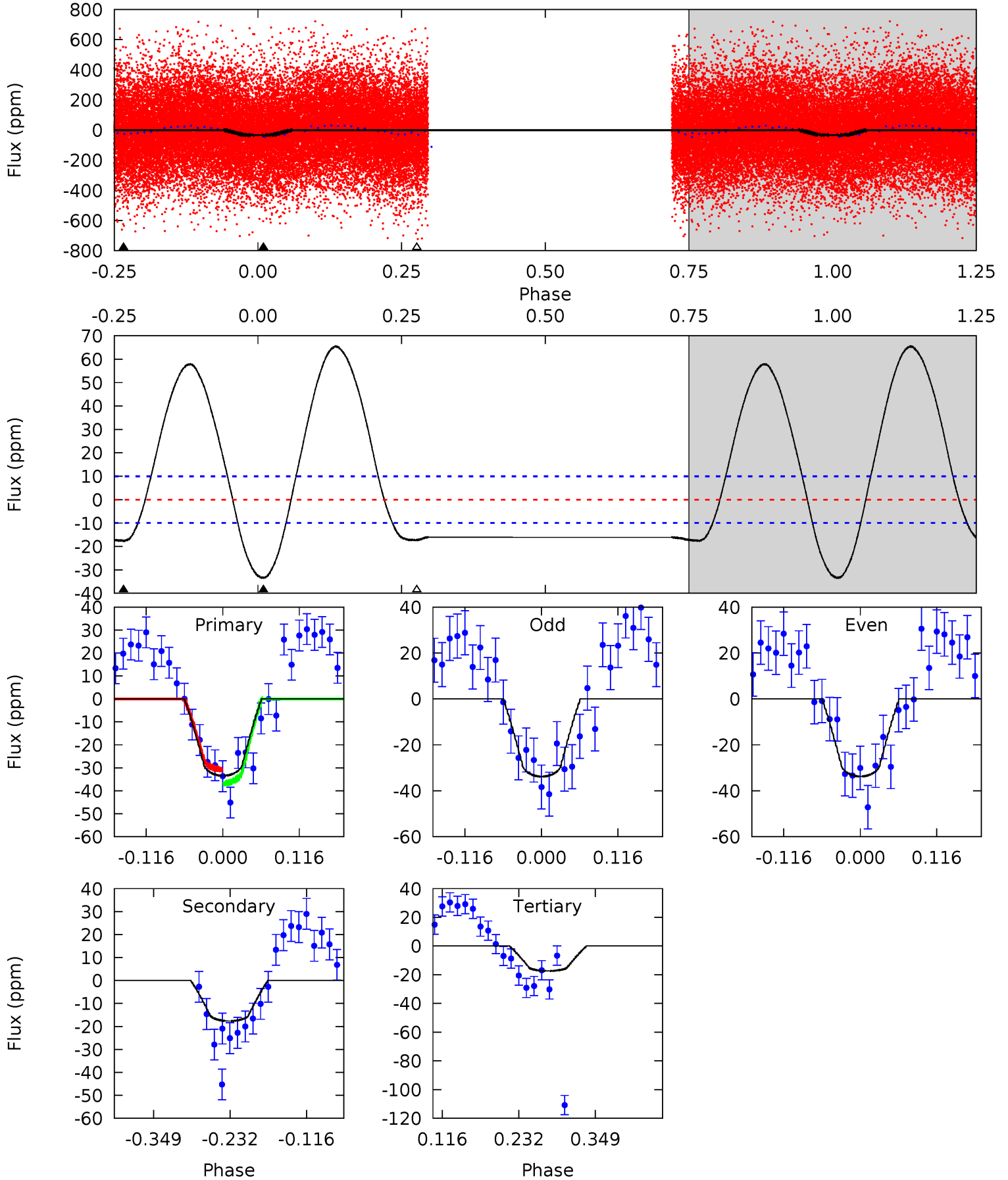
TCE 008264543-02 P= 0.663151 Days $T_0=131.955354$ (BKJD)



DV Model-Shift Uniqueness Test

008264543-02, P = 0.663146 Days, E = 131.299546 Days

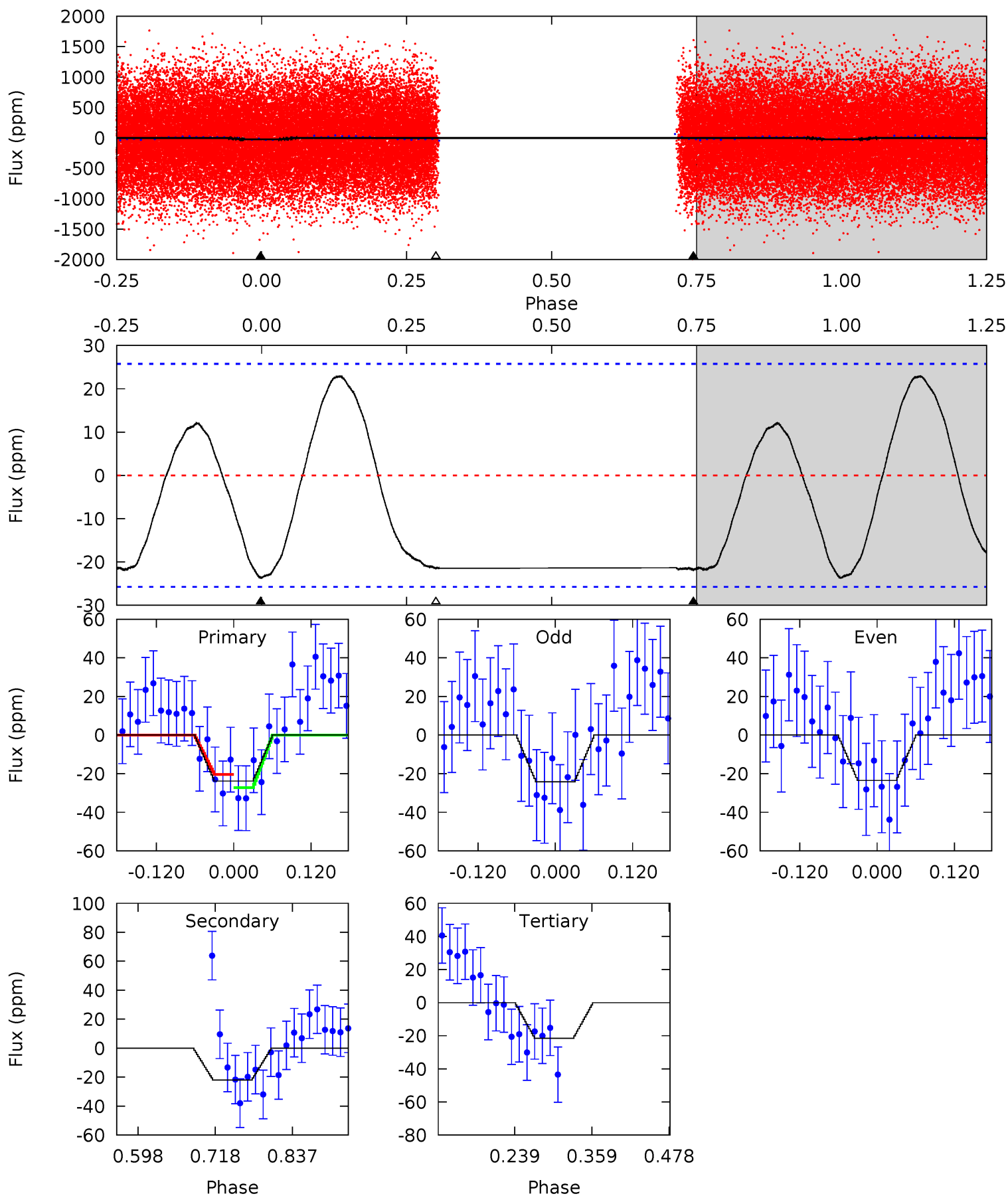
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.2	8.04	7.90	0	4.53	1.57	14.9	7.32	15.2	0.14	8.04	0.02	0.99	0.66	1.41



Alt Model-Shift Uniqueness Test

008264543-02, P = 0.663151 Days, E = 131.292203 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.19	3.87	3.80	0	4.53	1.56	2.91	0.39	4.19	0.07	3.87	0.06	0.73	0.49	0.59



Stellar Parameters For KIC 008264543

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8046^{+223}_{-307}	$3.776^{+0.376}_{-0.070}$	$-0.180^{+0.200}_{-0.350}$	$2.925^{+0.403}_{-1.209}$	$1.863^{+0.094}_{-0.377}$	$0.105^{+0.353}_{-0.030}$
	+3%/-4%	+10%/-2%	+111%/-194%	+14%/-41%	+5%/-20%	+337%/-29%
Source	KIC0	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 008264543-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-18 ± 2	$1.72^{+0.51}_{-0.47}$	6050^{+394}_{-657}	6027^{+1076}_{-856}	$1.094^{+0.919}_{-0.441}$
Alt.	-22 ± 6	$1.37^{+0.48}_{-0.43}$	6048^{+395}_{-605}	7491^{+1905}_{-1314}	$2.100^{+2.322}_{-1.009}$

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 $A_{obs} \gg 1.0$

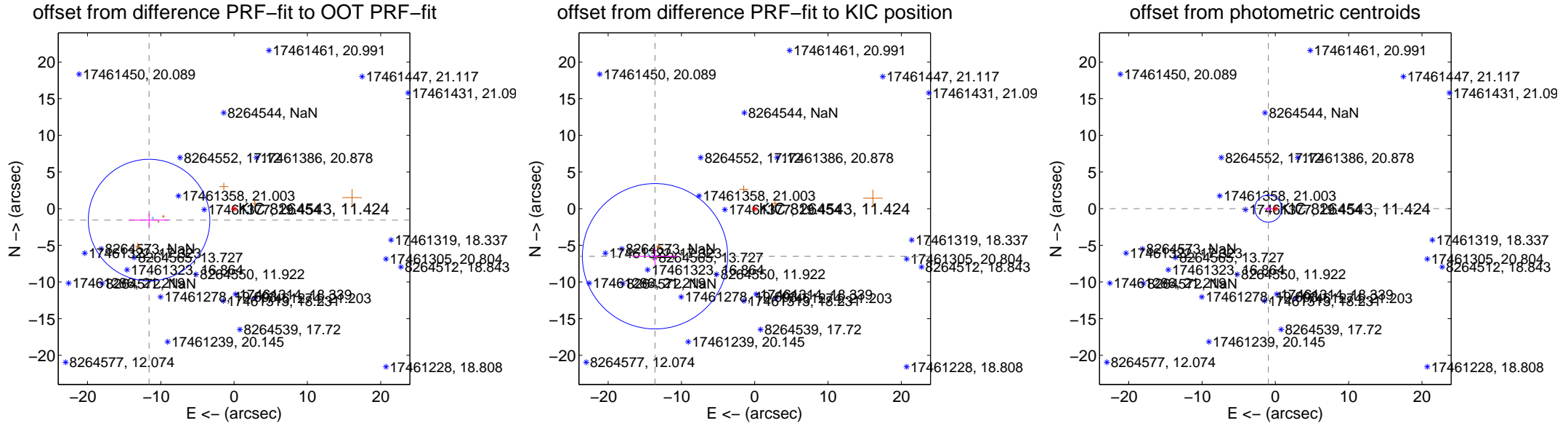
DV Centroid Data

Supplemental centroid analysis for 008264543-02. **Kepler magnitude: 11.42.** Transit SNR 11.26

There are 5 quarters with good PRF difference image offsets

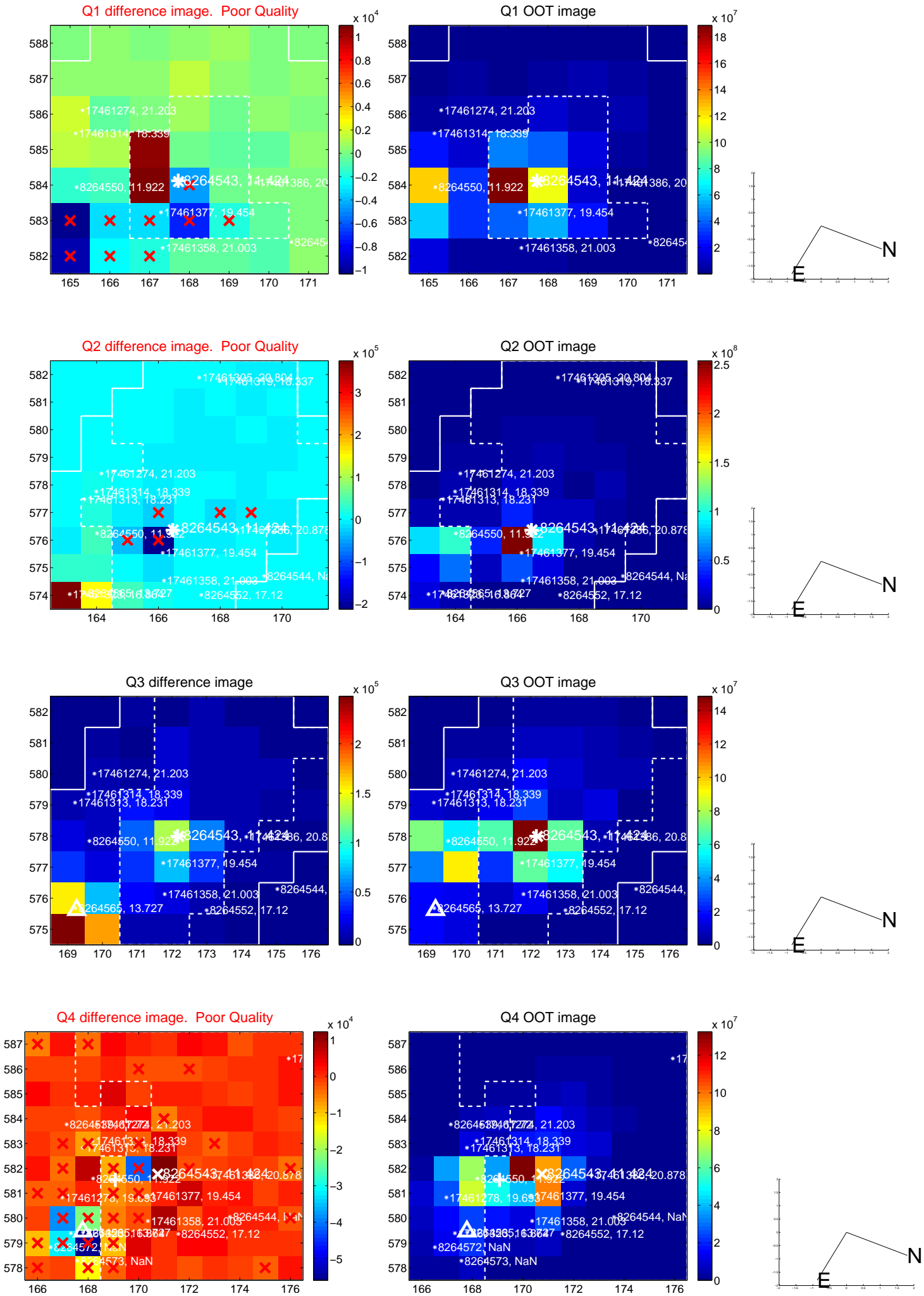
The OOT PRF centroid is offset from the target star catalog position by about 5.84 arcsec so the offset from difference PRF-fit to OOT-PRF-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	11.699 ± 2.763	4.23	11.595 ± 2.688	-1.556 ± 0.905
PRF-fit source offset from KIC position	15.069 ± 3.303	4.56	13.600 ± 3.128	-6.489 ± 1.210
photometric centroid source offset	0.96 ± 0.61	1.57	0.96 ± 0.61	0.01 ± 0.48

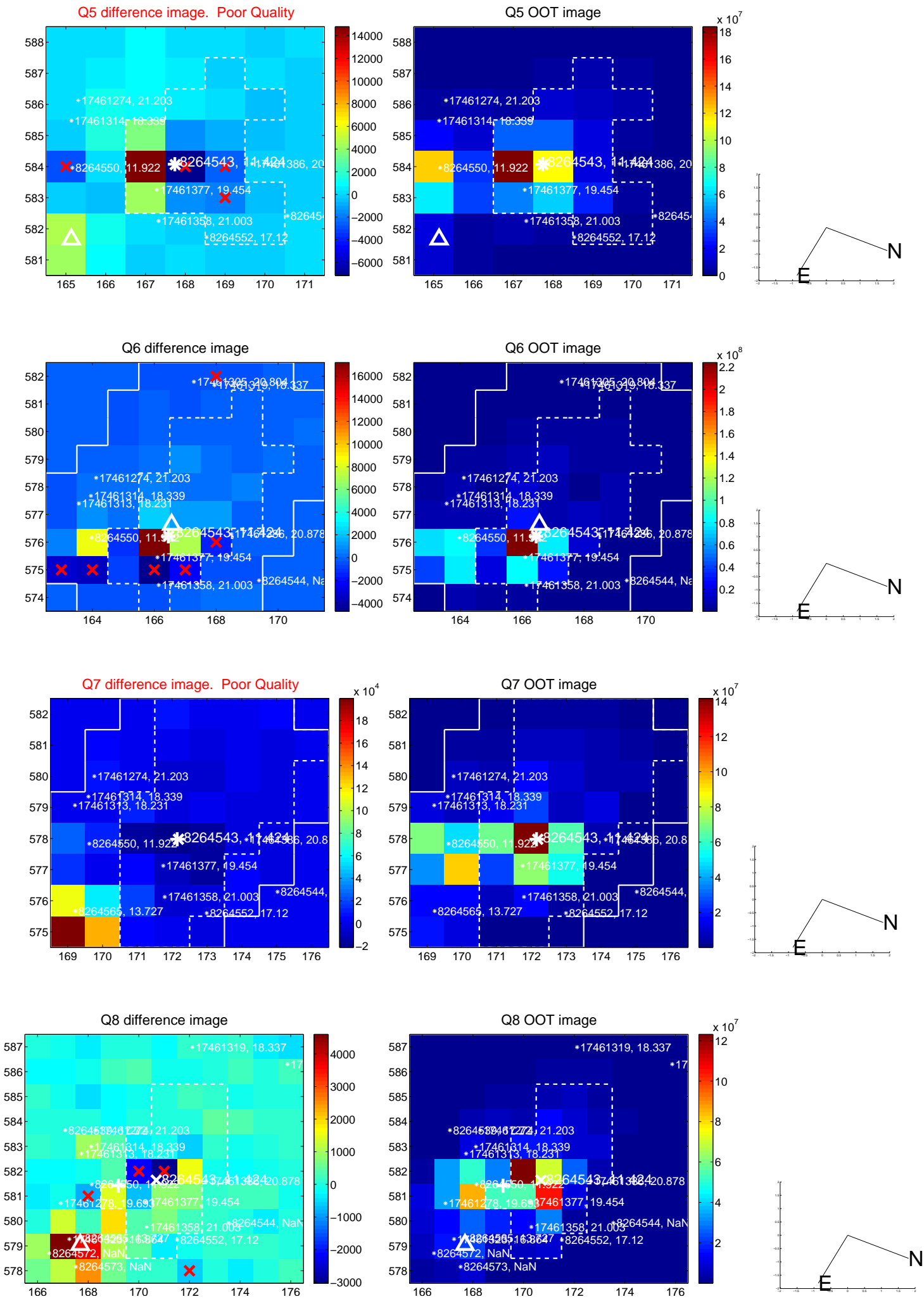


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

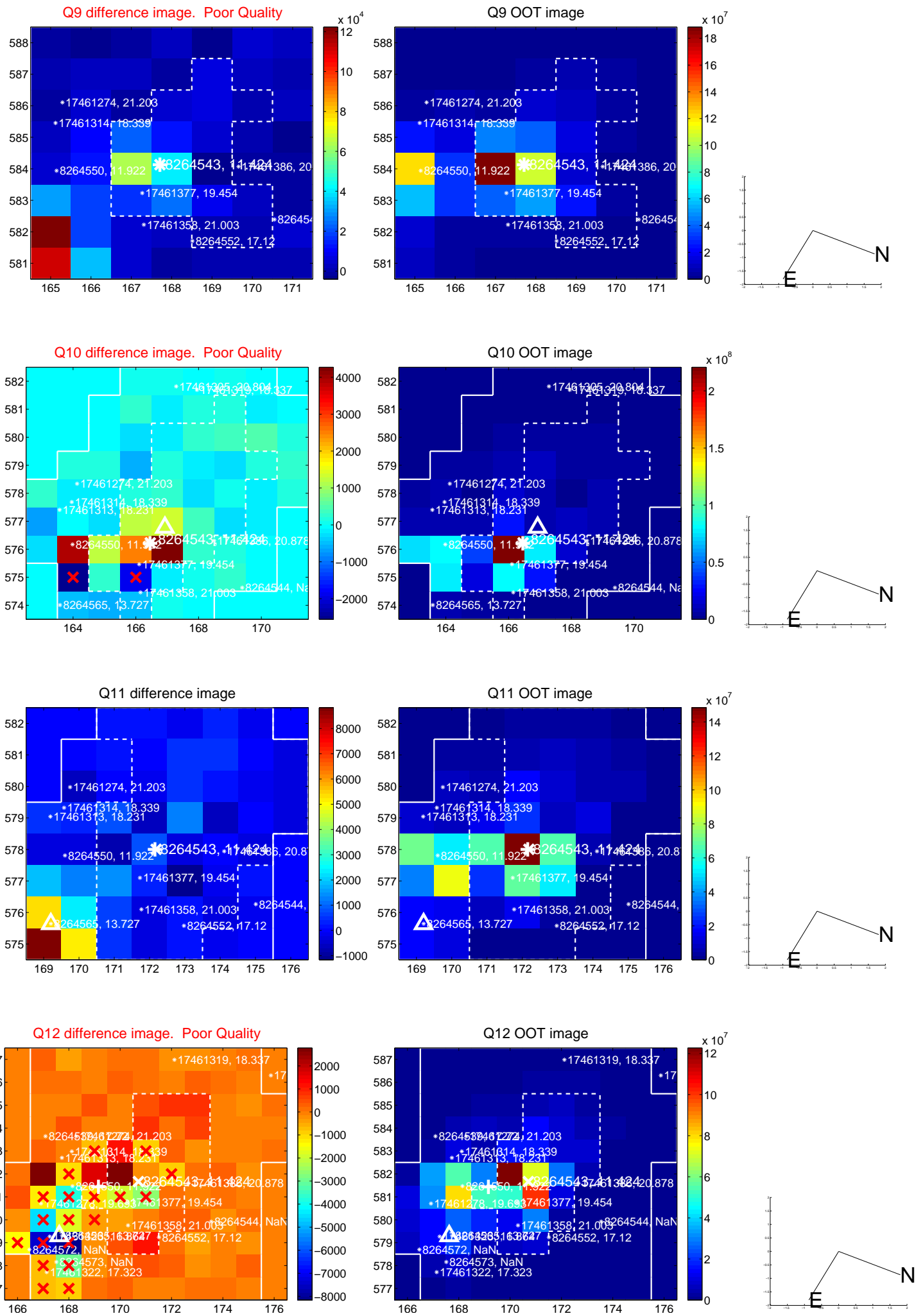
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



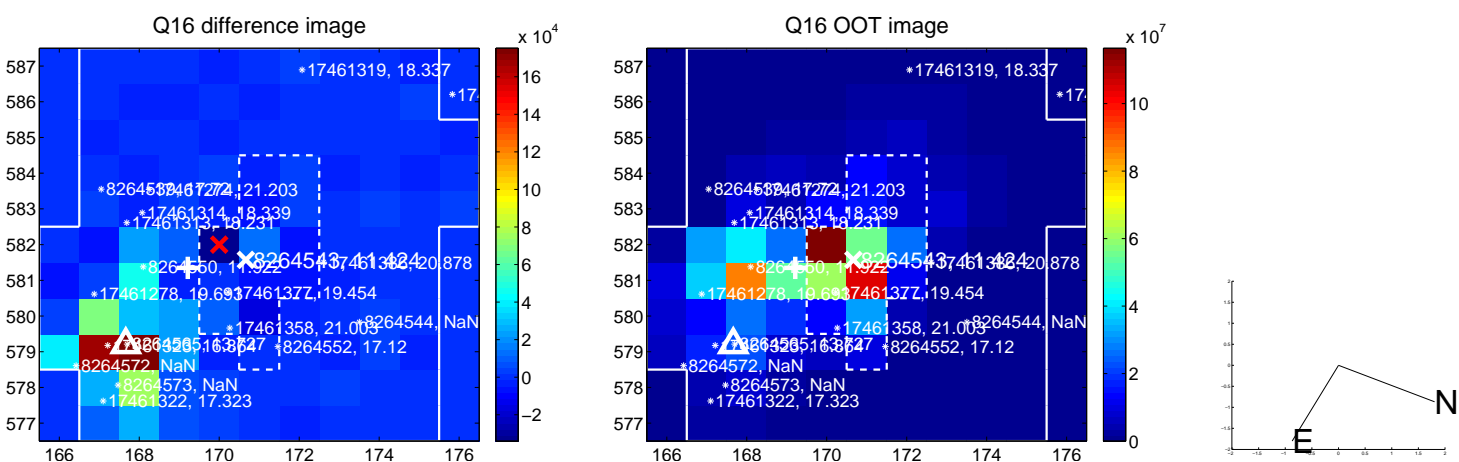
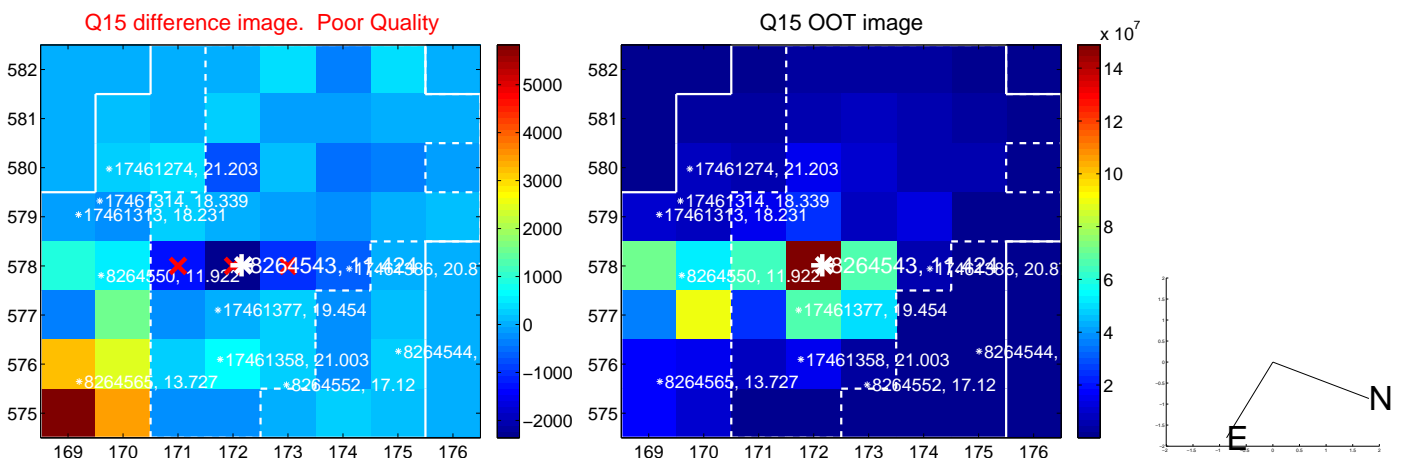
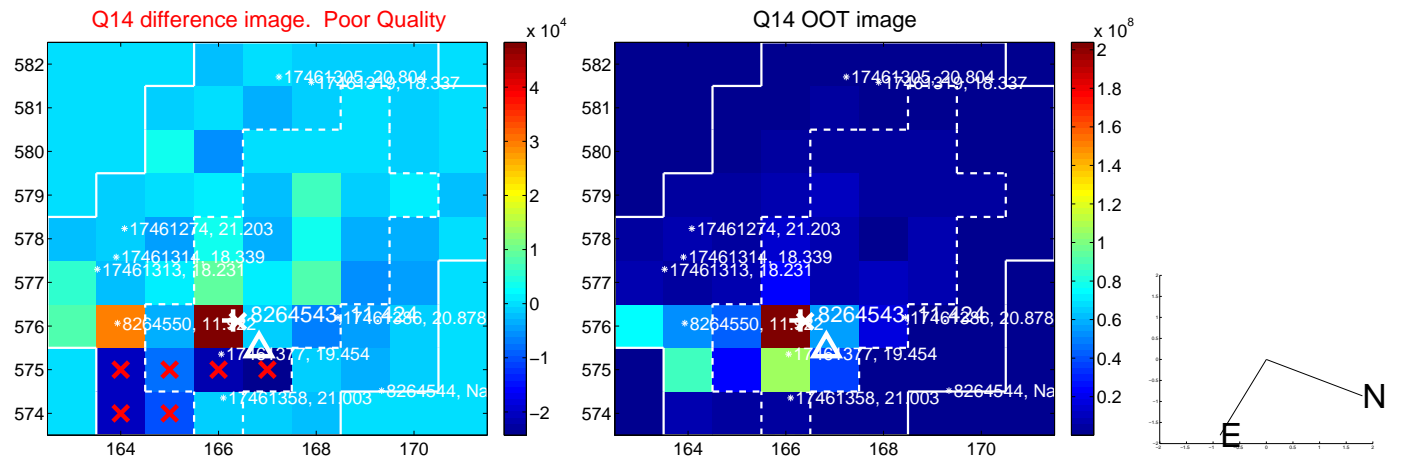
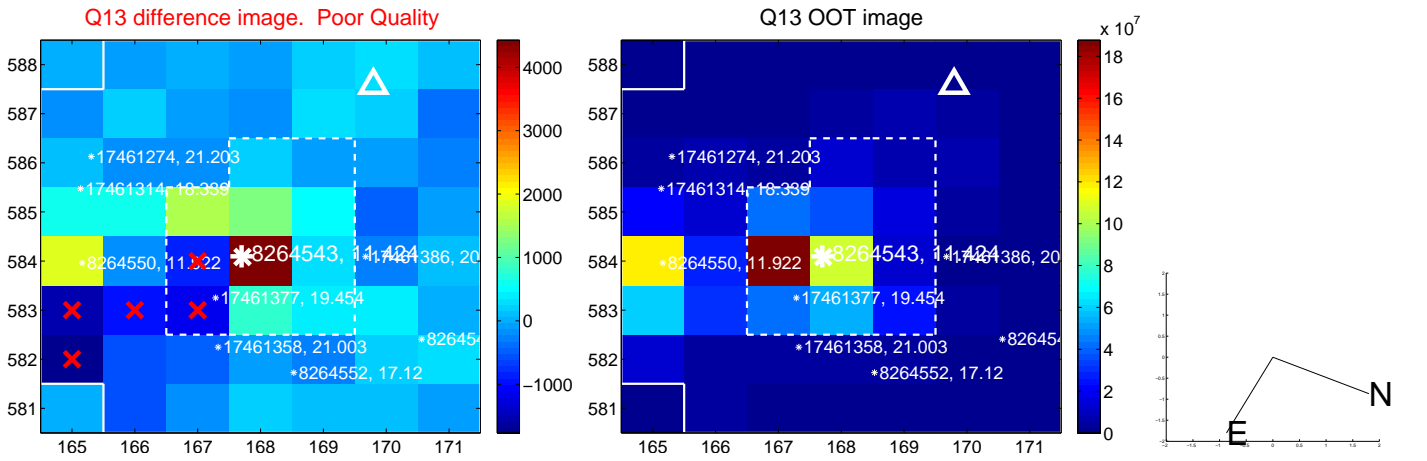
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



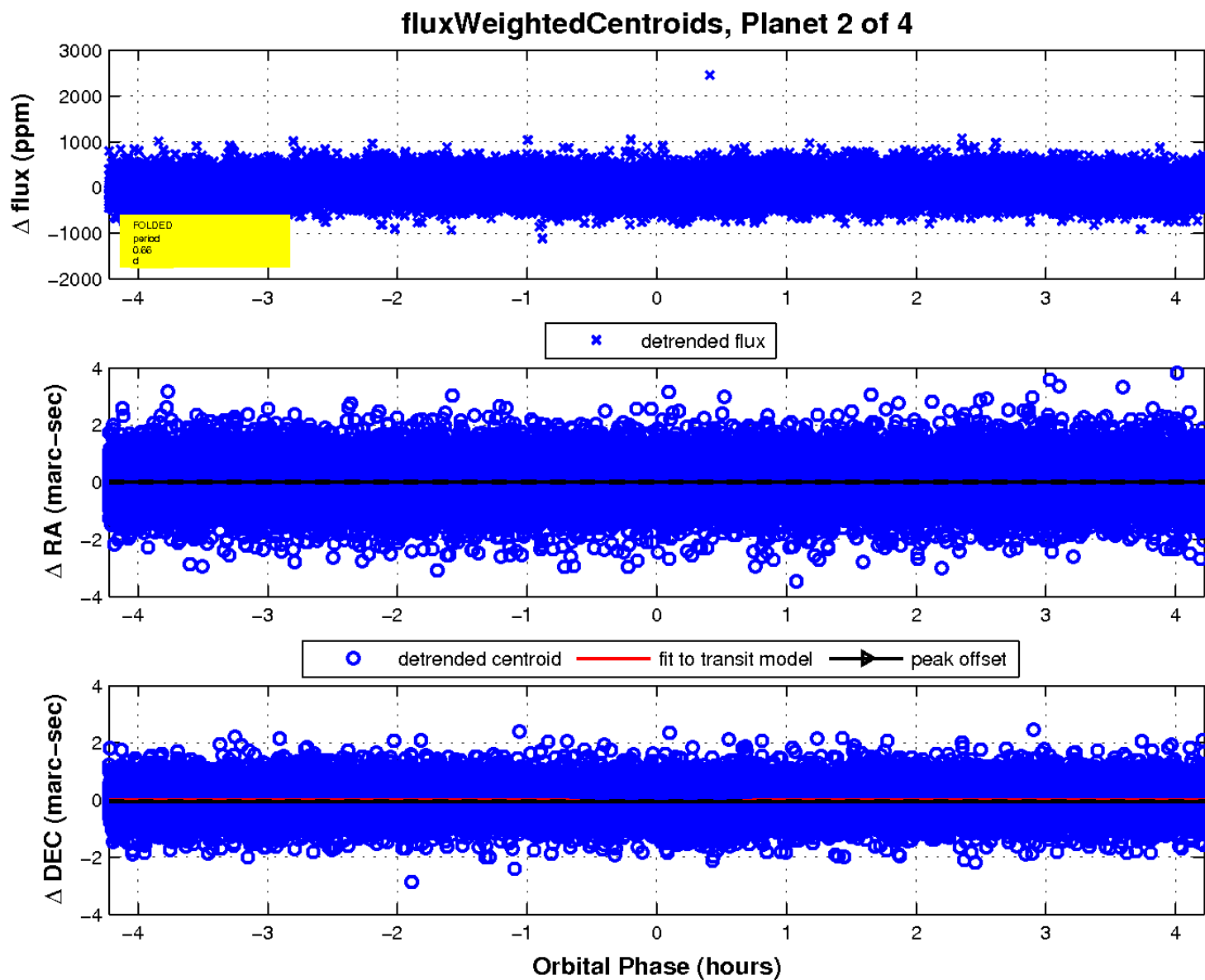
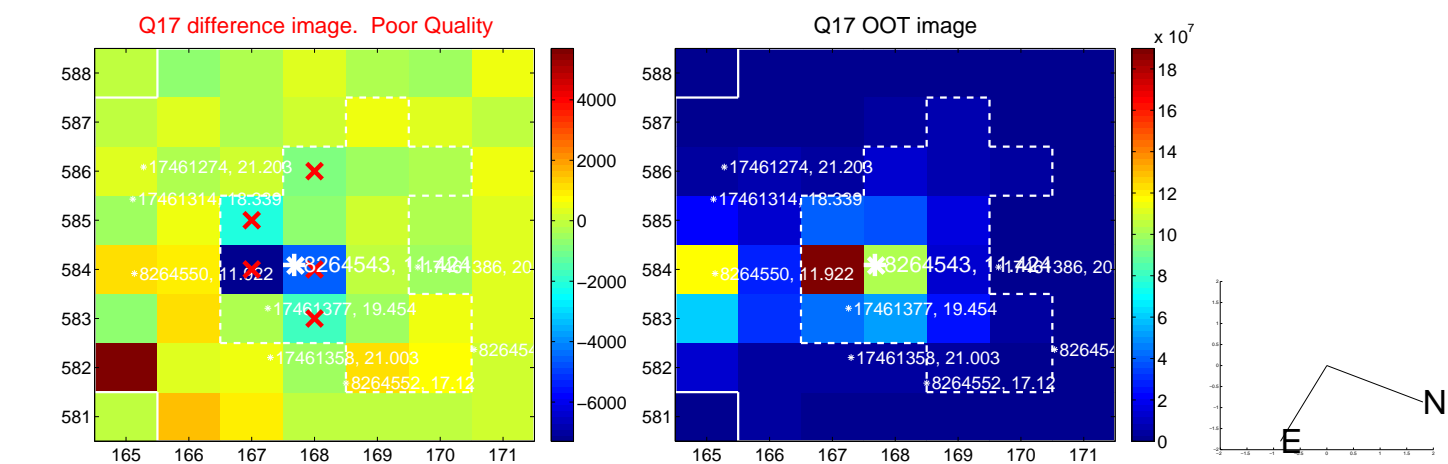
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

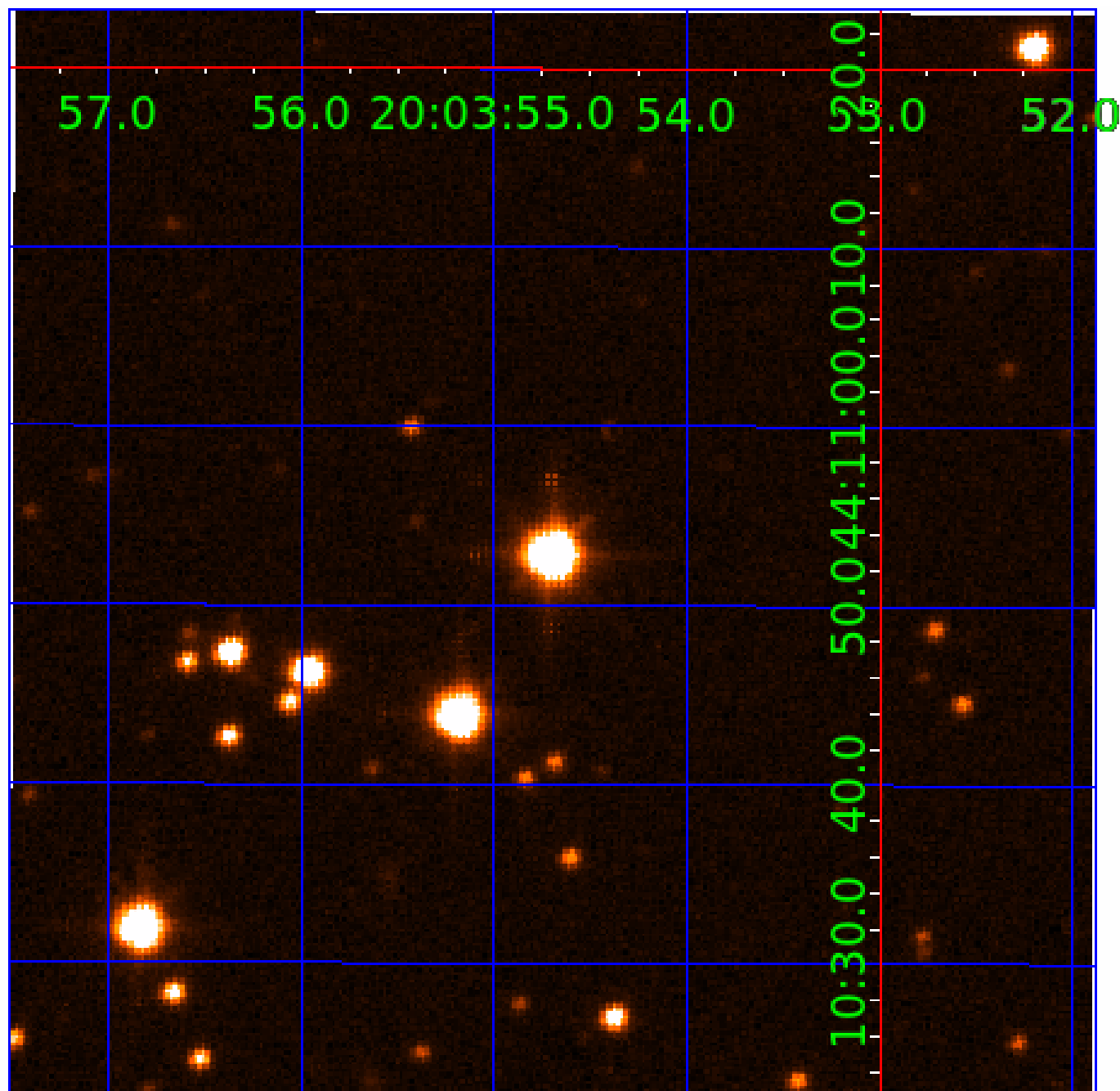


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008264543

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})
008264543-01	OBS	No	0.663146	131.636992	31.8	2.090	12.3	10.6	2.92	8046	1.93	95753.18
008264543-02	OBS	No	0.663146	131.962692	36.4	1.408	12.1	11.3	2.92	8046	1.90	95753.06
008264543-03	OBS	No	1.743781	132.142537	89.5	3.380	9.1	11.0	2.92	8046	3.29	26382.09
008264543-04	OBS	No	0.581286	131.736425	65.2	3.094	8.4	11.9	2.92	8046	2.77	114142.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008264543-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
008264543-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD—CENT_SATURATED
008264543-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED
008264543-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_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.

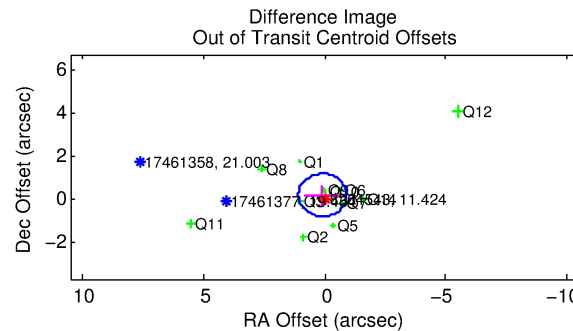
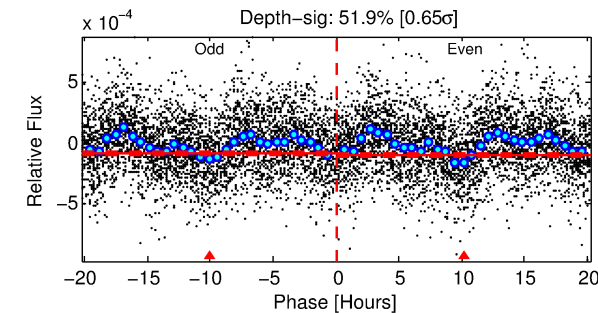
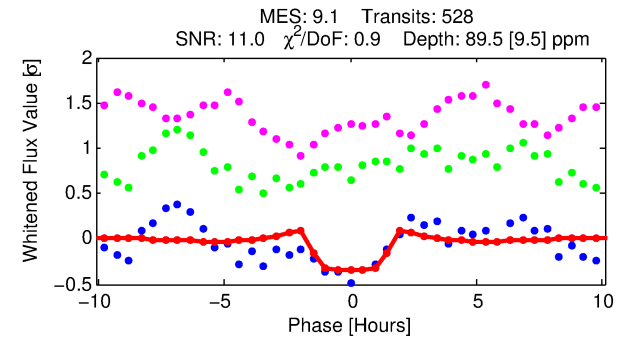
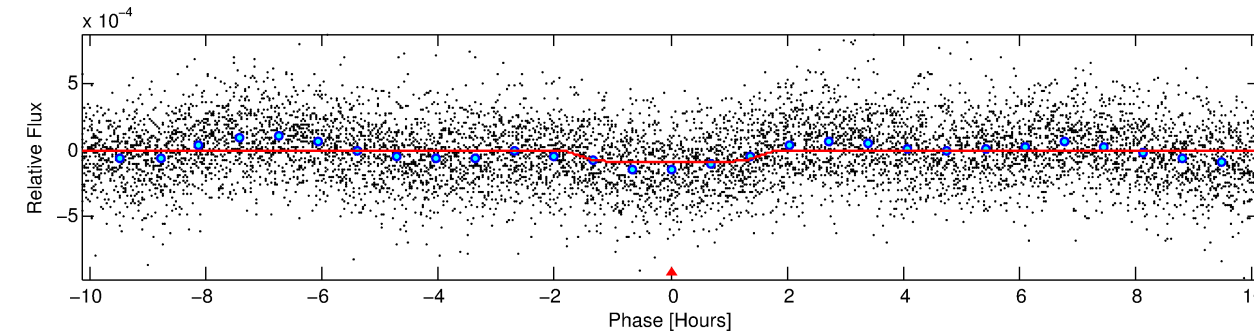
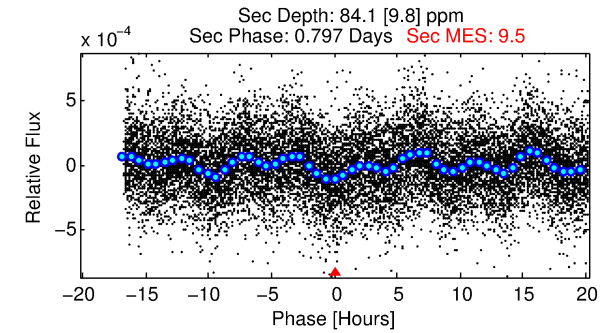
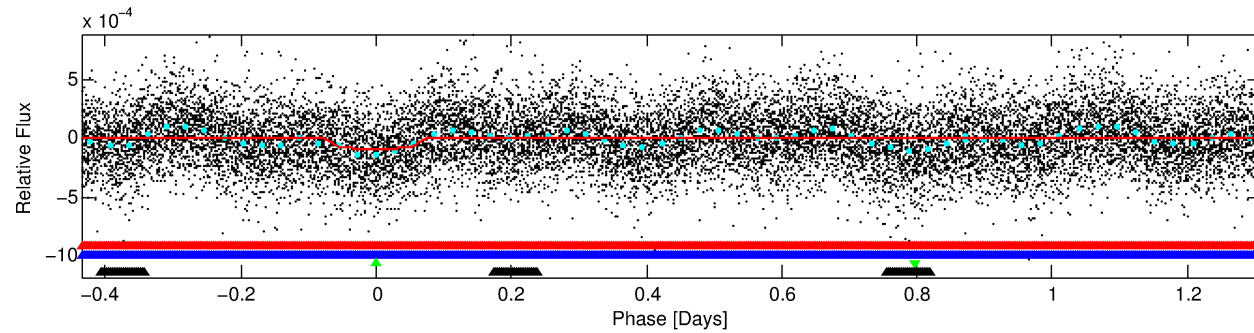
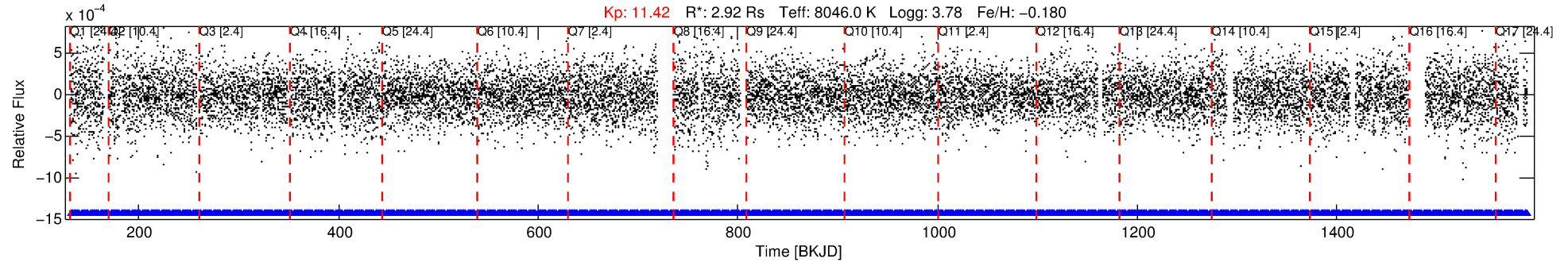
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008264543-03

No Significant Match Found

DV One-Page Summary

KIC: 8264543 Candidate: 3 of 4 Period: 1.744 d



DV Fit Results:

Period = 1.74378 [0.00001] d
Epoch = 132.1425 [0.0031] BKJD
Rp/R* = 0.0103 [0.0028]
a/R* = 1.89 [2.20]
b = 0.92 [0.27]
Seff = 26382.09 [17347.36]
Teq = 3250 [534] K
Rp = 3.29 [1.62] Re
a = 0.0349 [0.0139] AU
Ag = 5.21 [4.39] [0.96σ]
Teffp = 7590 [1079] K [3.60σ]

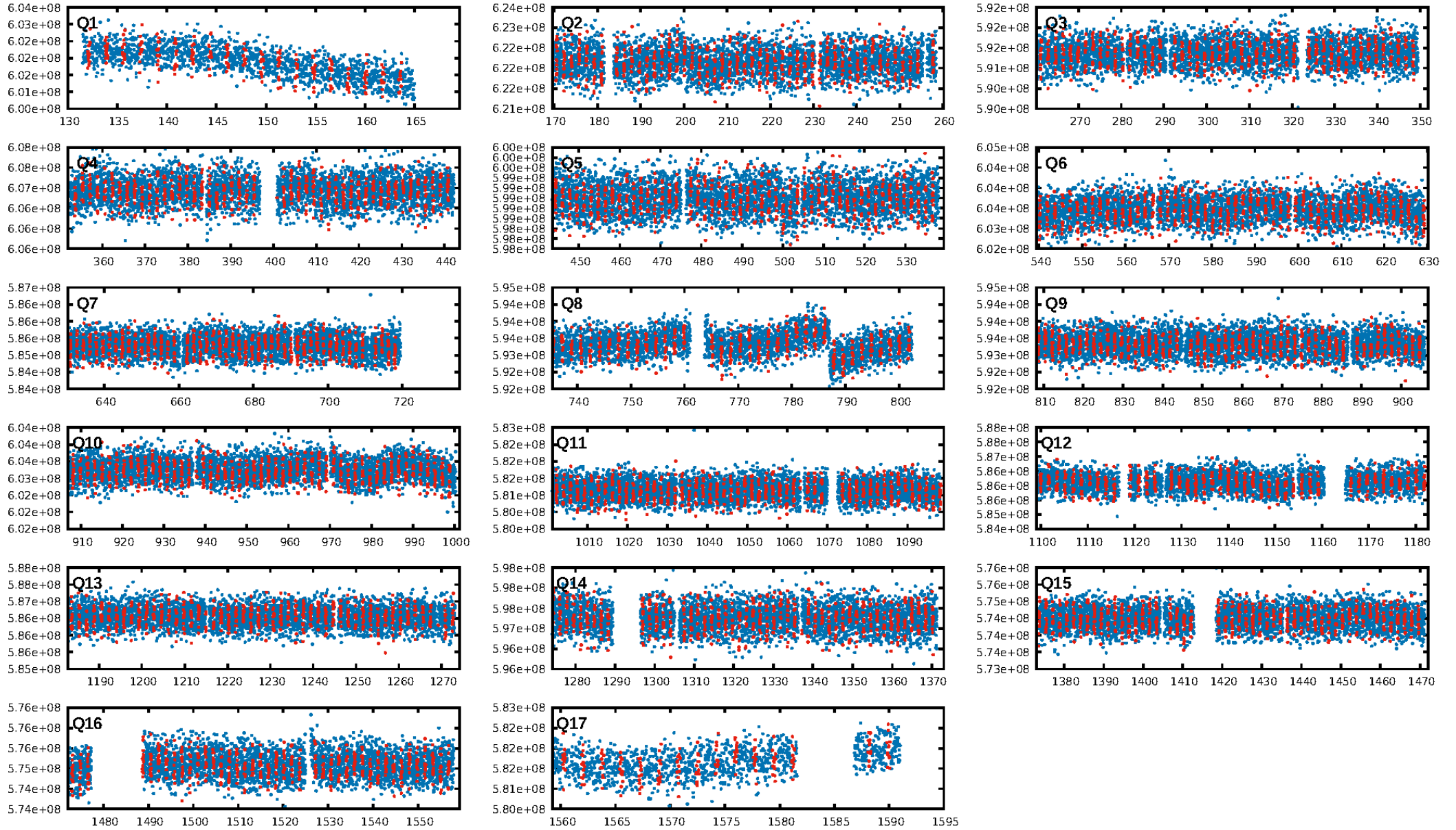
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [7.08σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 1.28e-39
RollingBand-fgt: 1.00 [506/506]
GhostDiagnostic-chr: 1.417
Centroid-sig: 0.0%
Centroid-so: 0.881 arcsec [3.30σ]
OotOffset-rm: 0.194 arcsec [0.58σ]
OotOffset-st: 4/3/2/3 [12]
KicOffset-rm: 0.158 arcsec [0.23σ]
KicOffset-st: 4/3/2/3 [12]
DiffImageQuality-fgm: 0.75 [9/12]
DiffImageOverlap-fno: 0.00 [0/17]

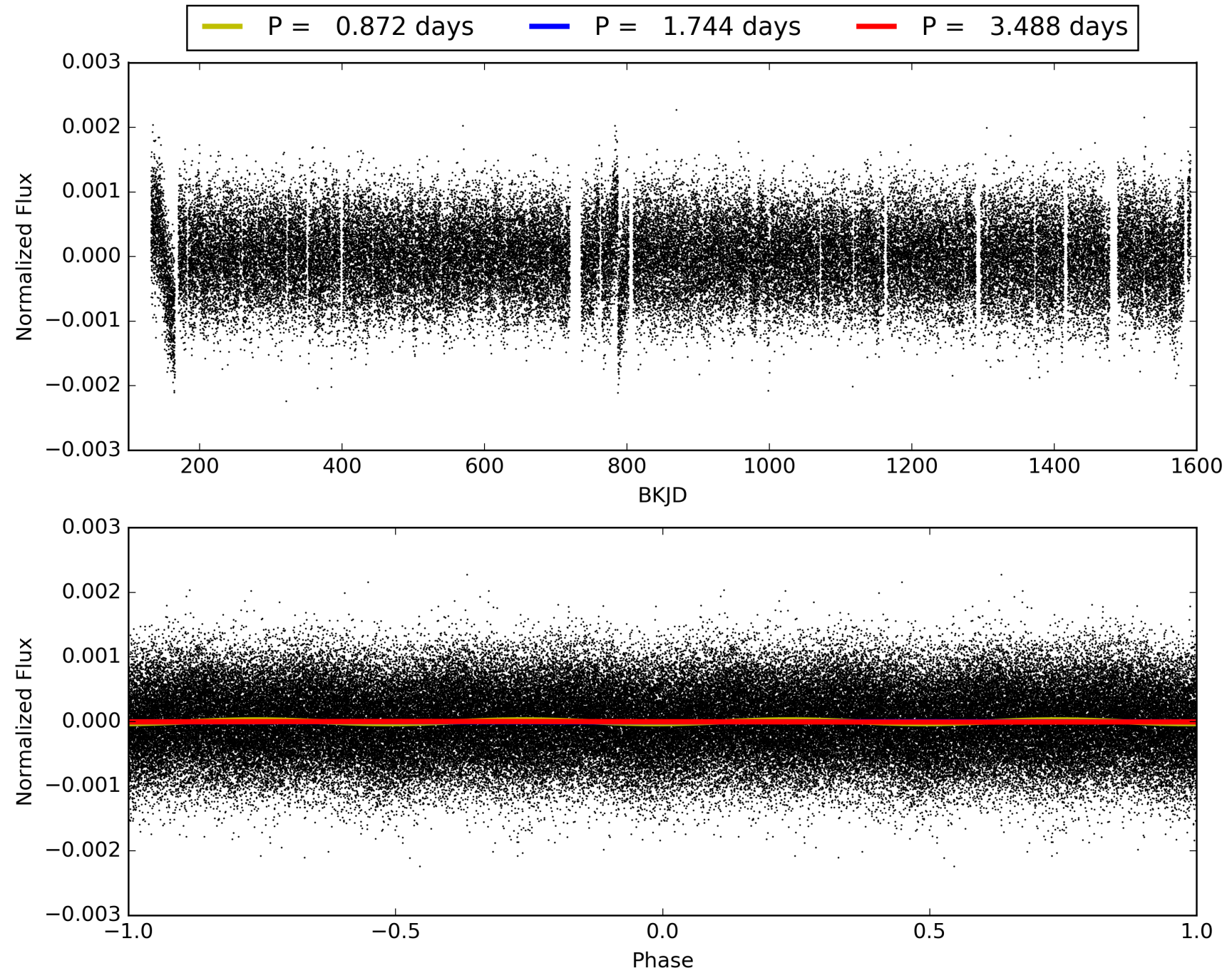
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:19:12 Z

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

TCE 008264543-03, PDC Light Curves

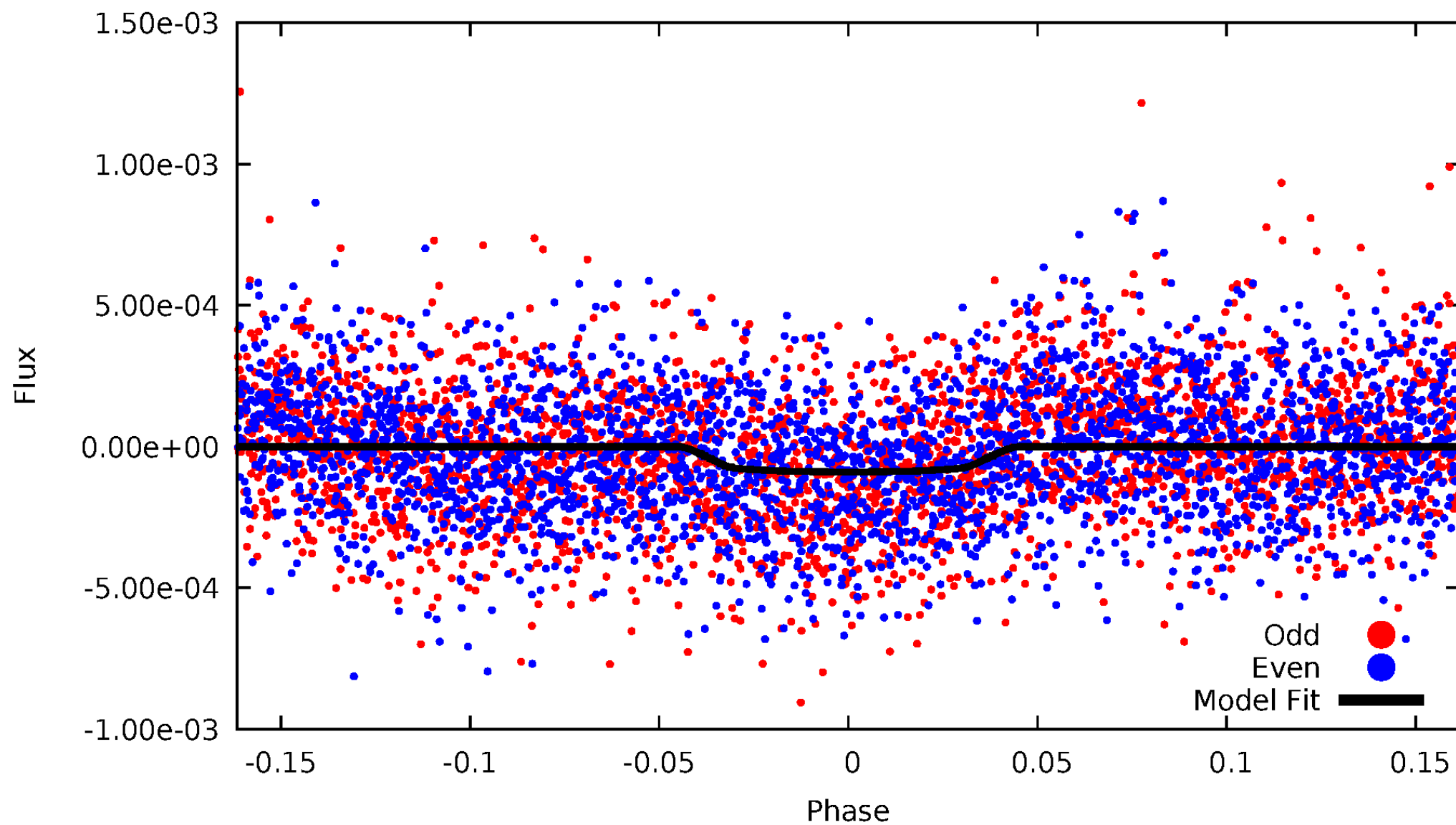


TCE 008264543-03



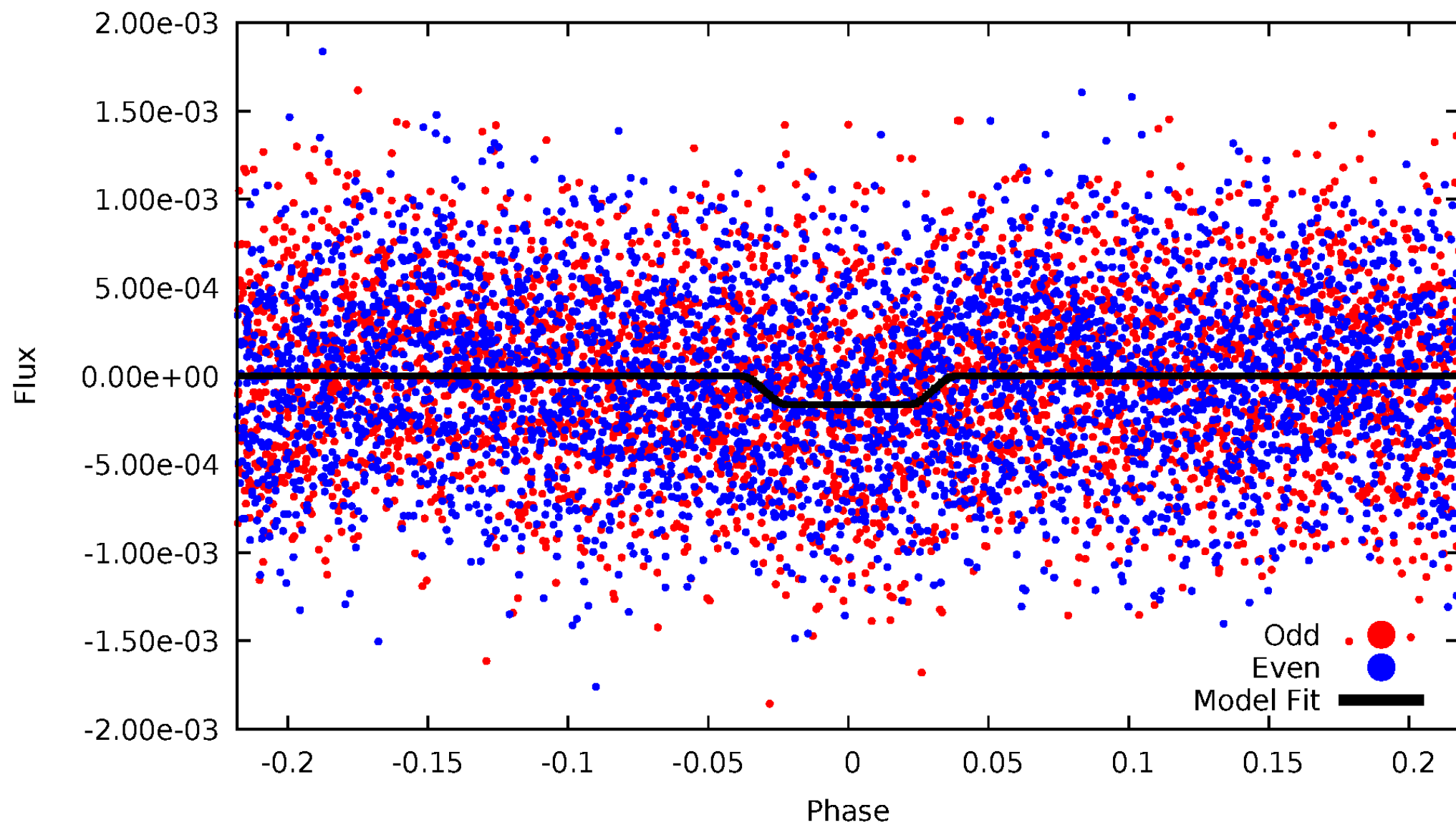
DV Odd/Even

TCE 008264543-03



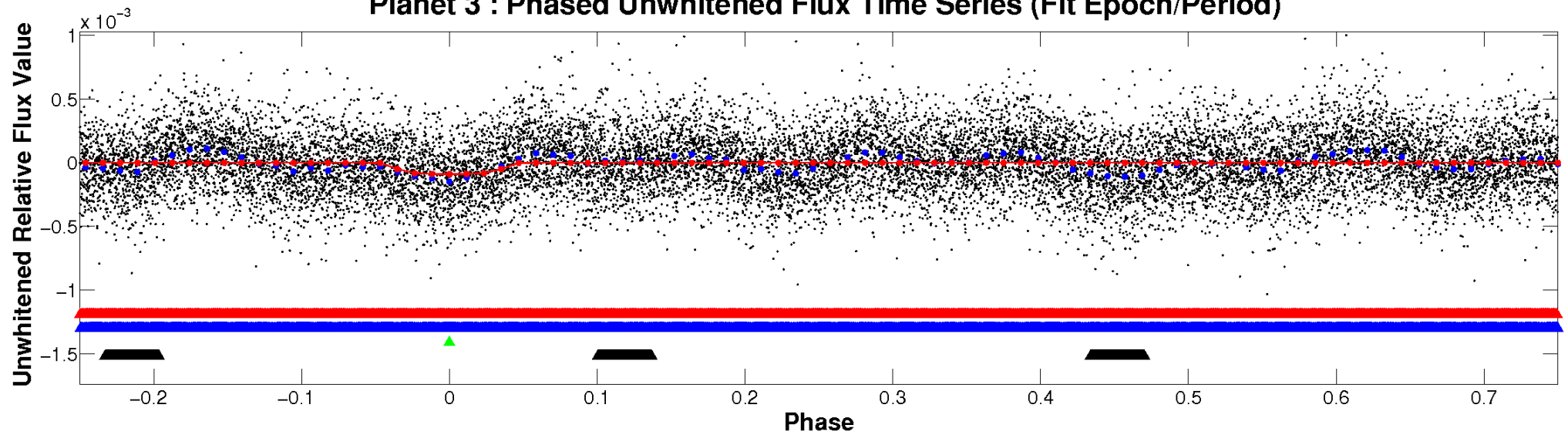
ALT Odd/Even

TCE 008264543-03

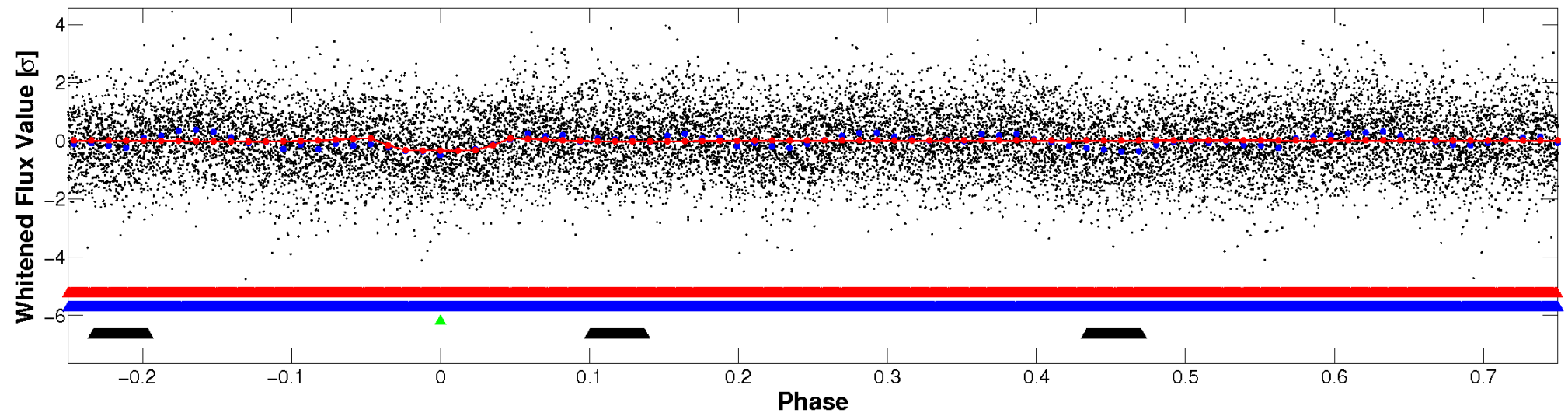


Non-Whitened Vs. Whitened Light Curve

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

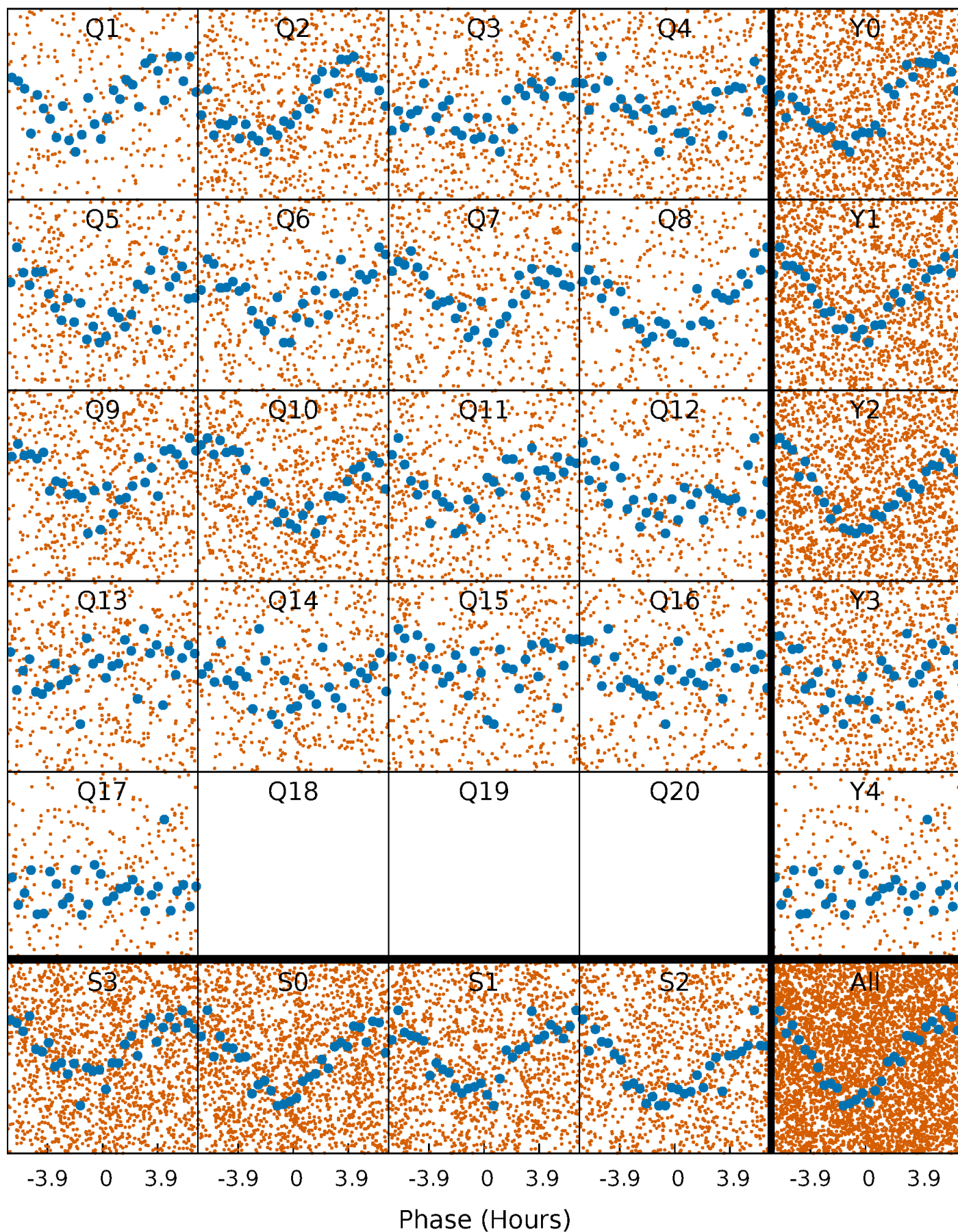


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



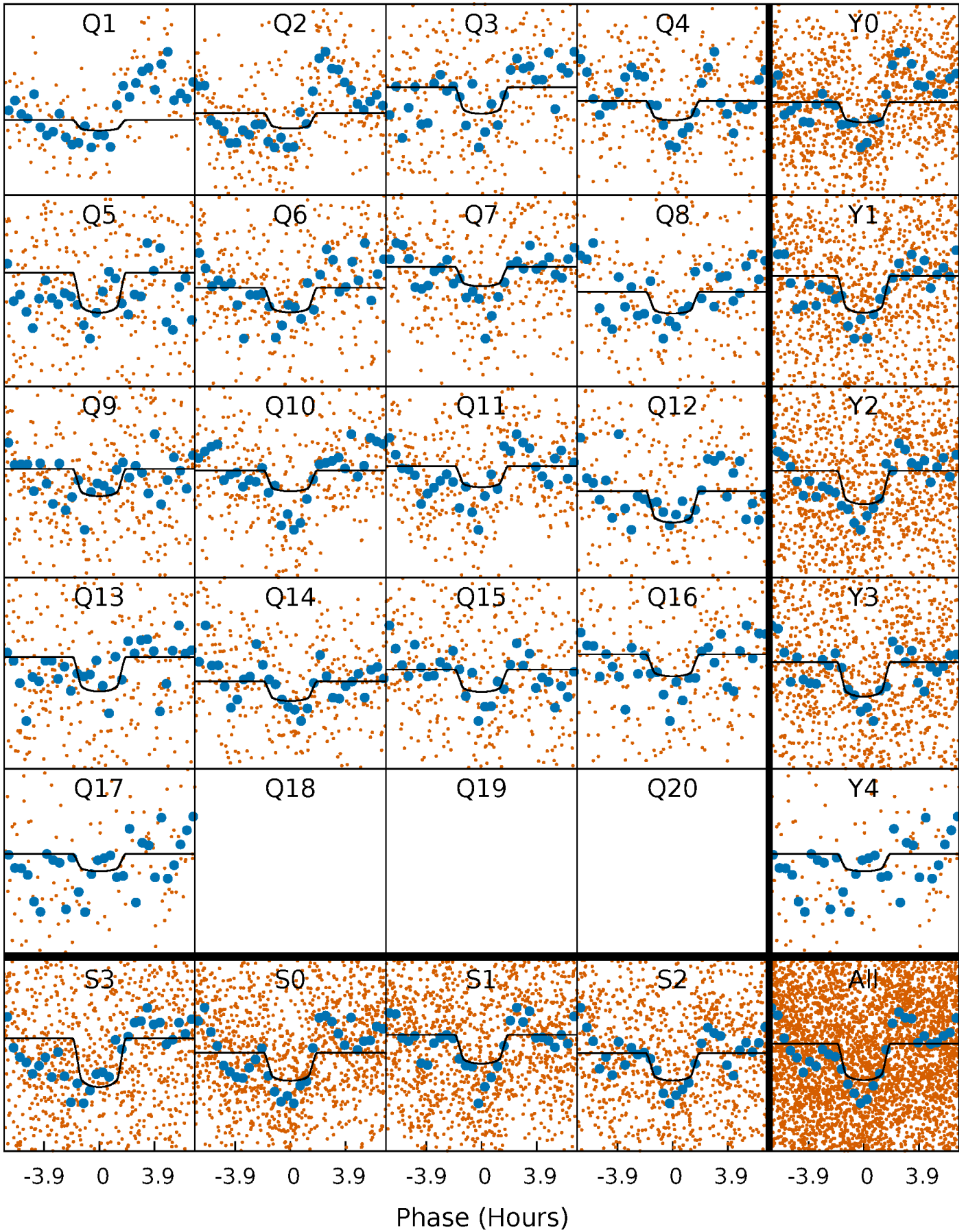
PDC Quarter-Phased Transit Curves

TCE 008264543-03 P= 1.743781 Days $T_0=132.142537$ (BKJD)



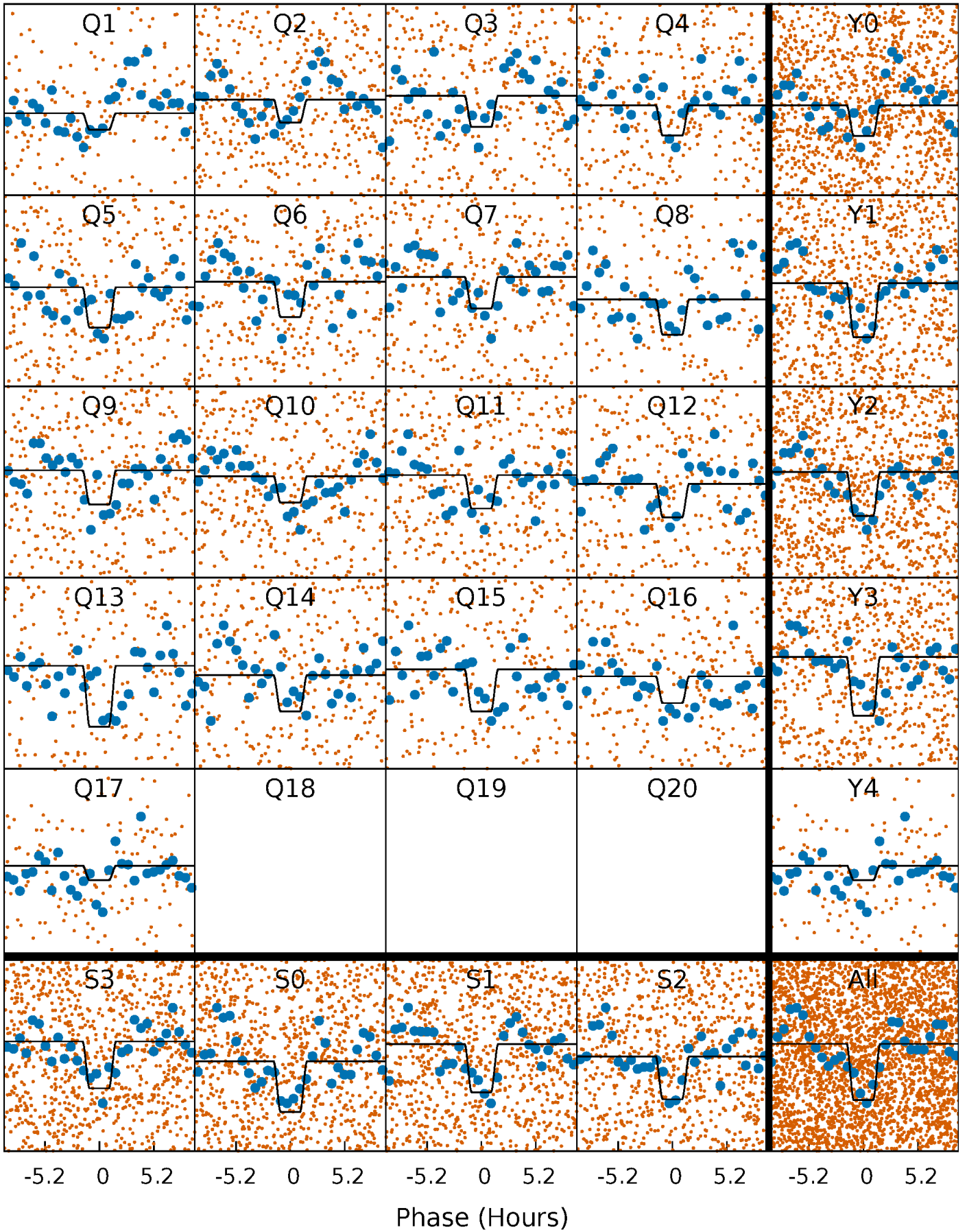
DV Quarter-Phased Transit Curves

TCE 008264543-03 P= 1.743781 Days $T_0=132.142537$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

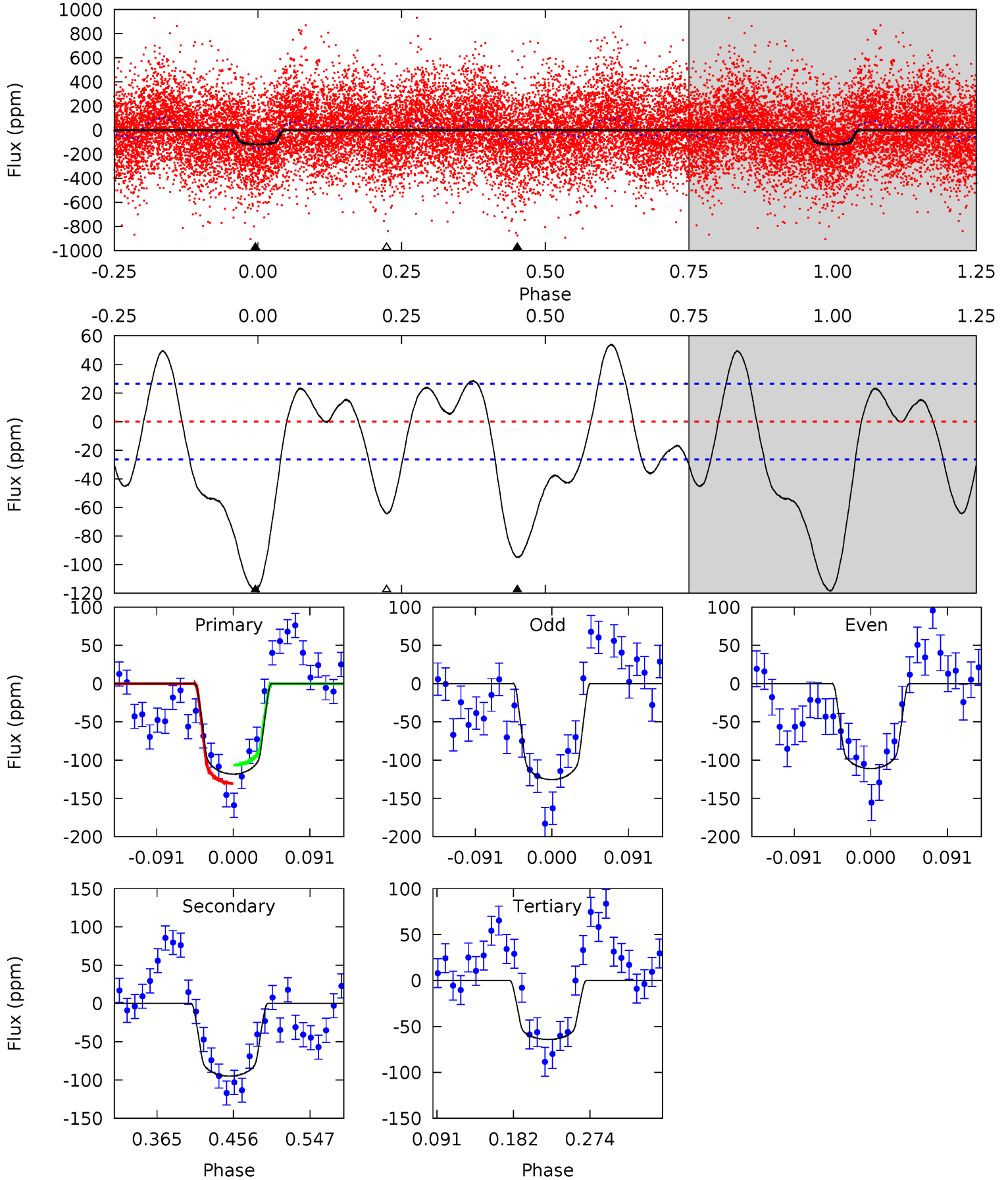
TCE 008264543-03 P= 1.743739 Days $T_0=132.143007$ (BKJD)



DV Model-Shift Uniqueness Test

008264543-03, P = 1.743781 Days, E = 130.398756 Days

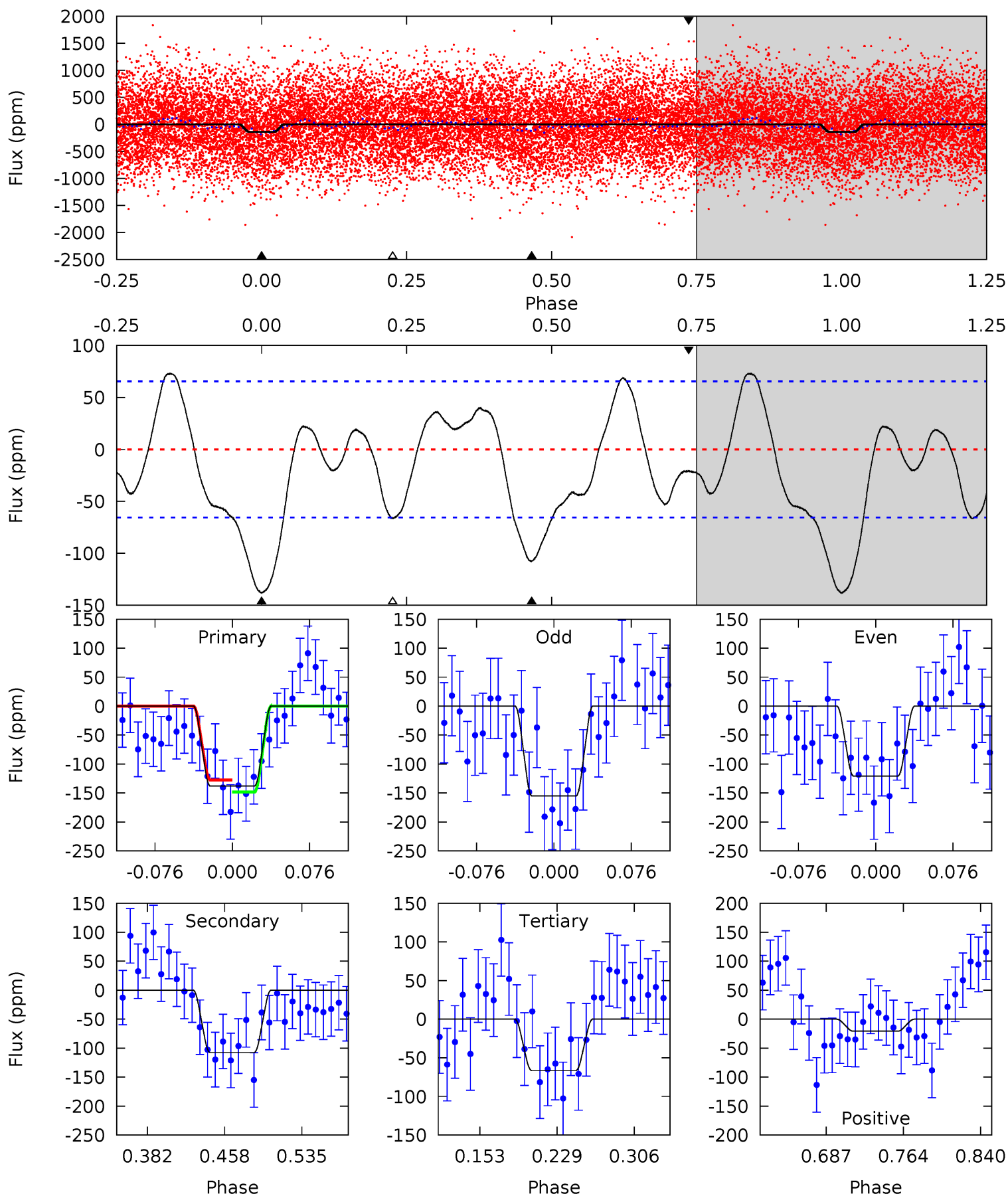
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.5	16.5	11.1	0	4.58	1.69	5.18	9.38	20.5	5.32	16.5	1.26	0.90	0.31	2.09



Alt Model-Shift Uniqueness Test

008264543-03, P = 1.743739 Days, E = 130.399268 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.74	7.59	4.69	-1.47	4.62	1.77	2.59	5.05	11.2	2.90	9.06	1.21	0.91	0.35	0.73



Stellar Parameters For KIC 008264543

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8046^{+223}_{-307}	$3.776^{+0.376}_{-0.070}$	$-0.180^{+0.200}_{-0.350}$	$2.925^{+0.403}_{-1.209}$	$1.863^{+0.094}_{-0.377}$	$0.105^{+0.353}_{-0.030}$
	+3%/-4%	+10%/-2%	+111%/-194%	+14%/-41%	+5%/-20%	+337%/-29%
Source	KIC0	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 008264543-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-95 ± 6	$2.92^{+1.00}_{-0.88}$	4395^{+269}_{-438}	7681^{+1692}_{-1047}	$7.306^{+7.319}_{-3.280}$
Alt.	-108 ± 14	$3.68^{+1.09}_{-1.13}$	4389^{+272}_{-461}	6974^{+1305}_{-814}	$5.231^{+5.380}_{-2.147}$

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 $A_{obs} \gg 1.0$

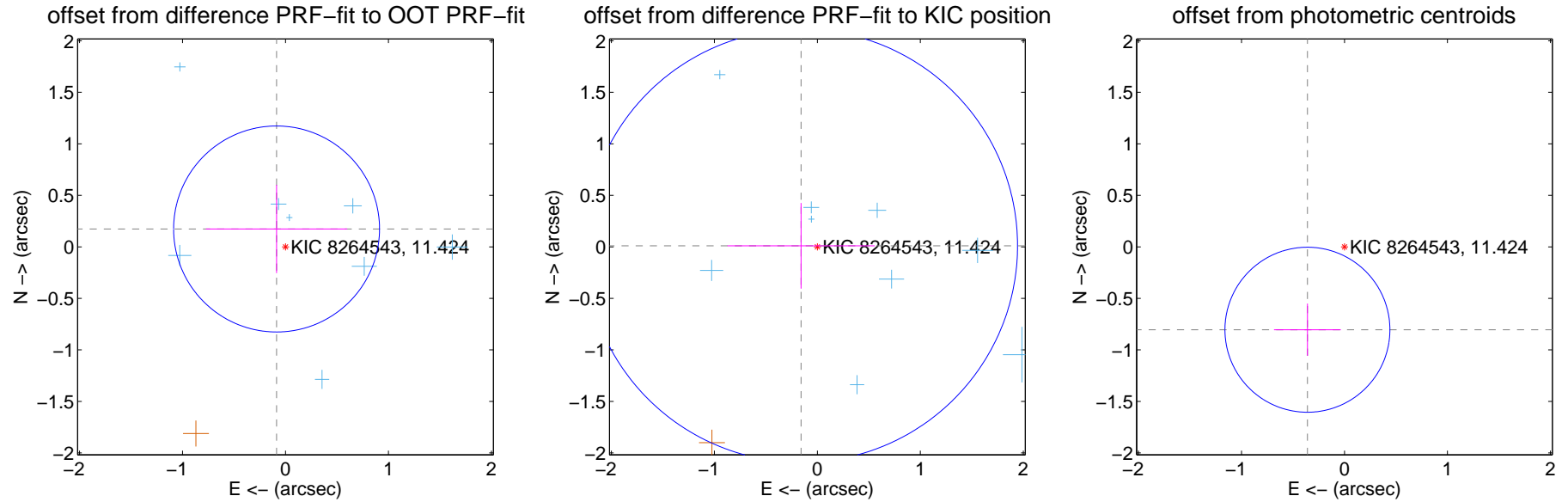
DV Centroid Data

Supplemental centroid analysis for 008264543-03. **Kepler magnitude: 11.42**. Transit SNR 11.05

There are 9 quarters with good PRF difference image offsets

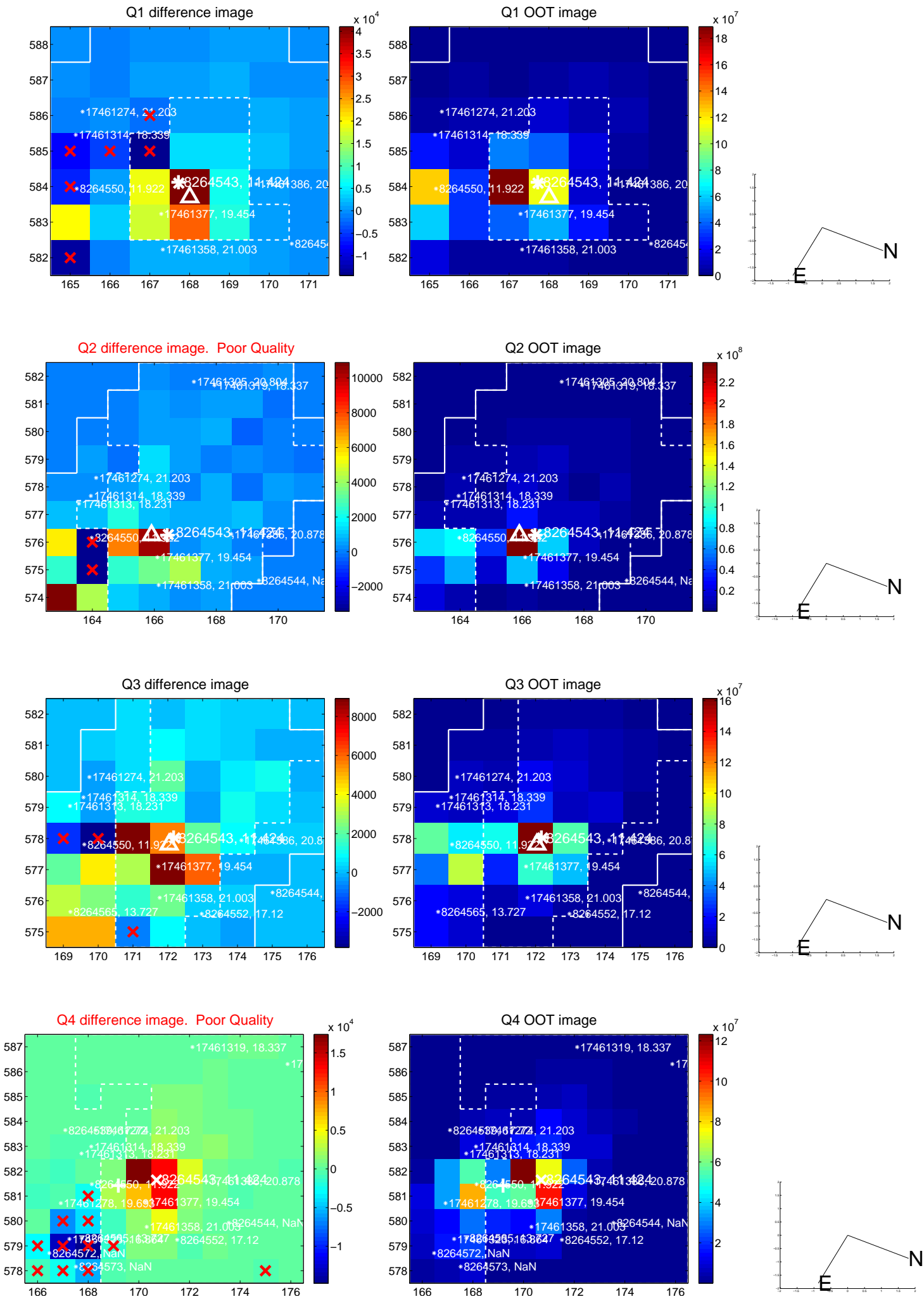
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.194 ± 0.333	0.58	0.086 ± 0.686	0.173 ± 0.428
PRF-fit source offset from KIC position	0.158 ± 0.701	0.23	0.158 ± 0.715	0.010 ± 0.416
photometric centroid source offset	0.88 ± 0.27	3.30	0.36 ± 0.32	-0.80 ± 0.25

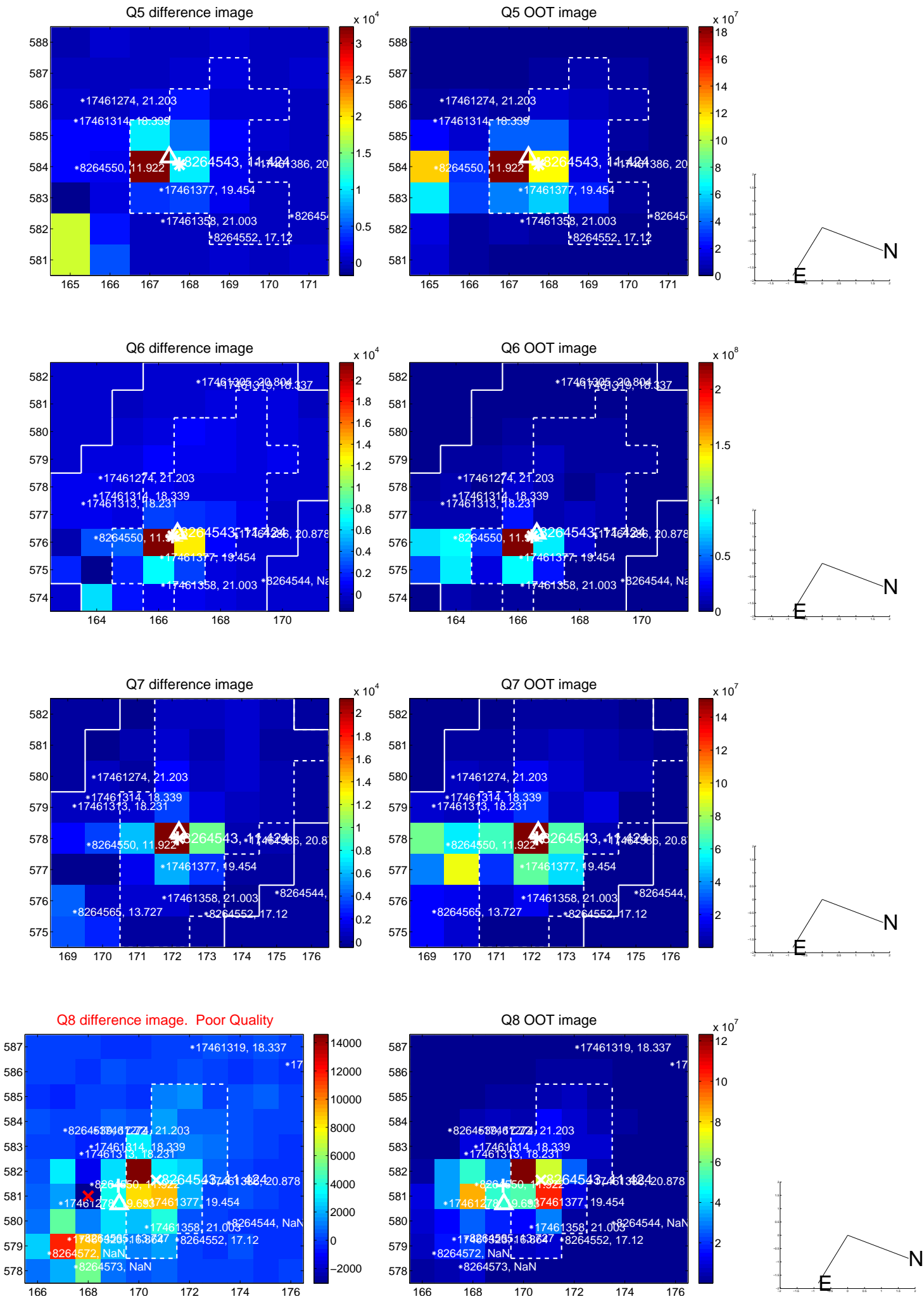


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

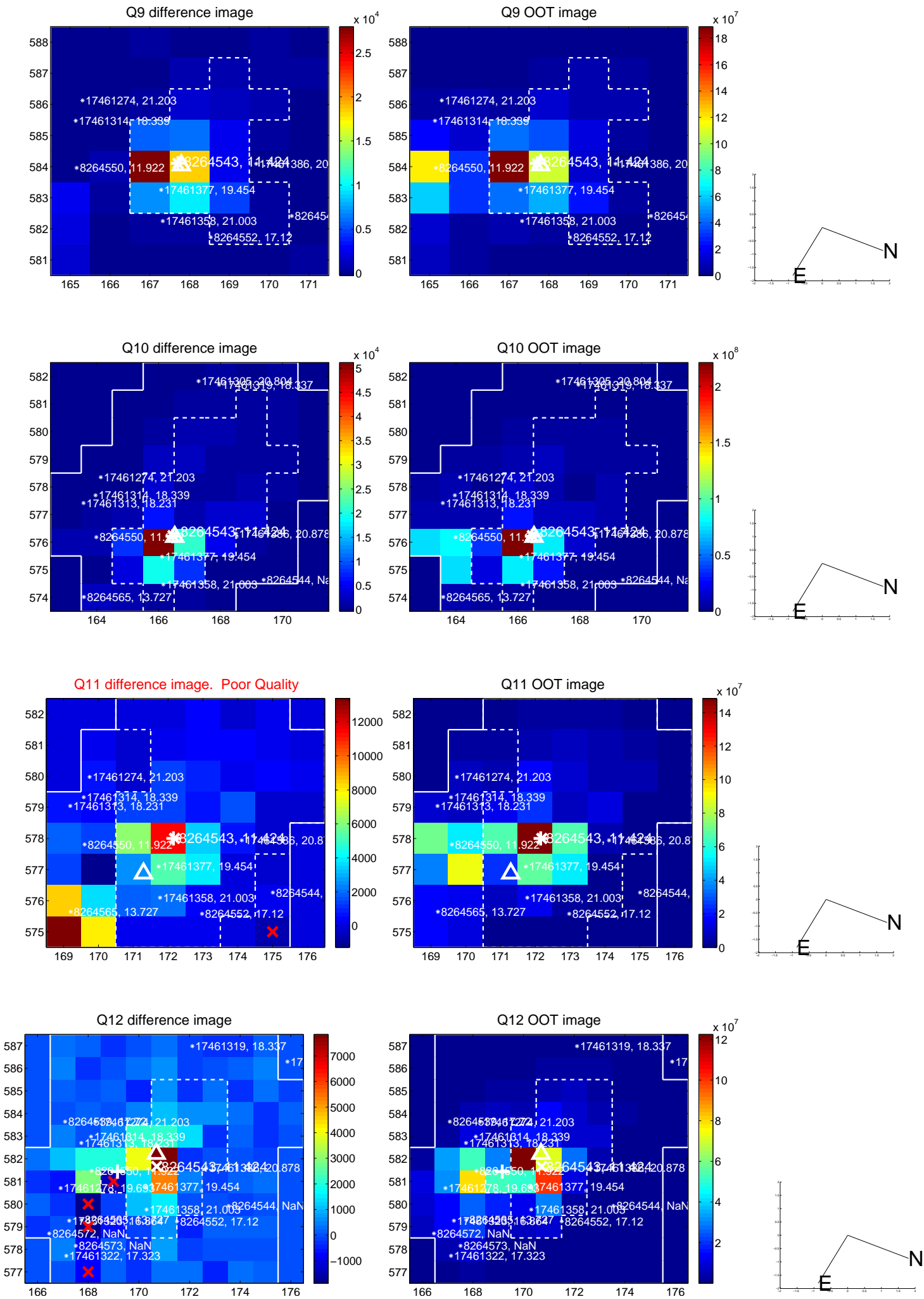
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



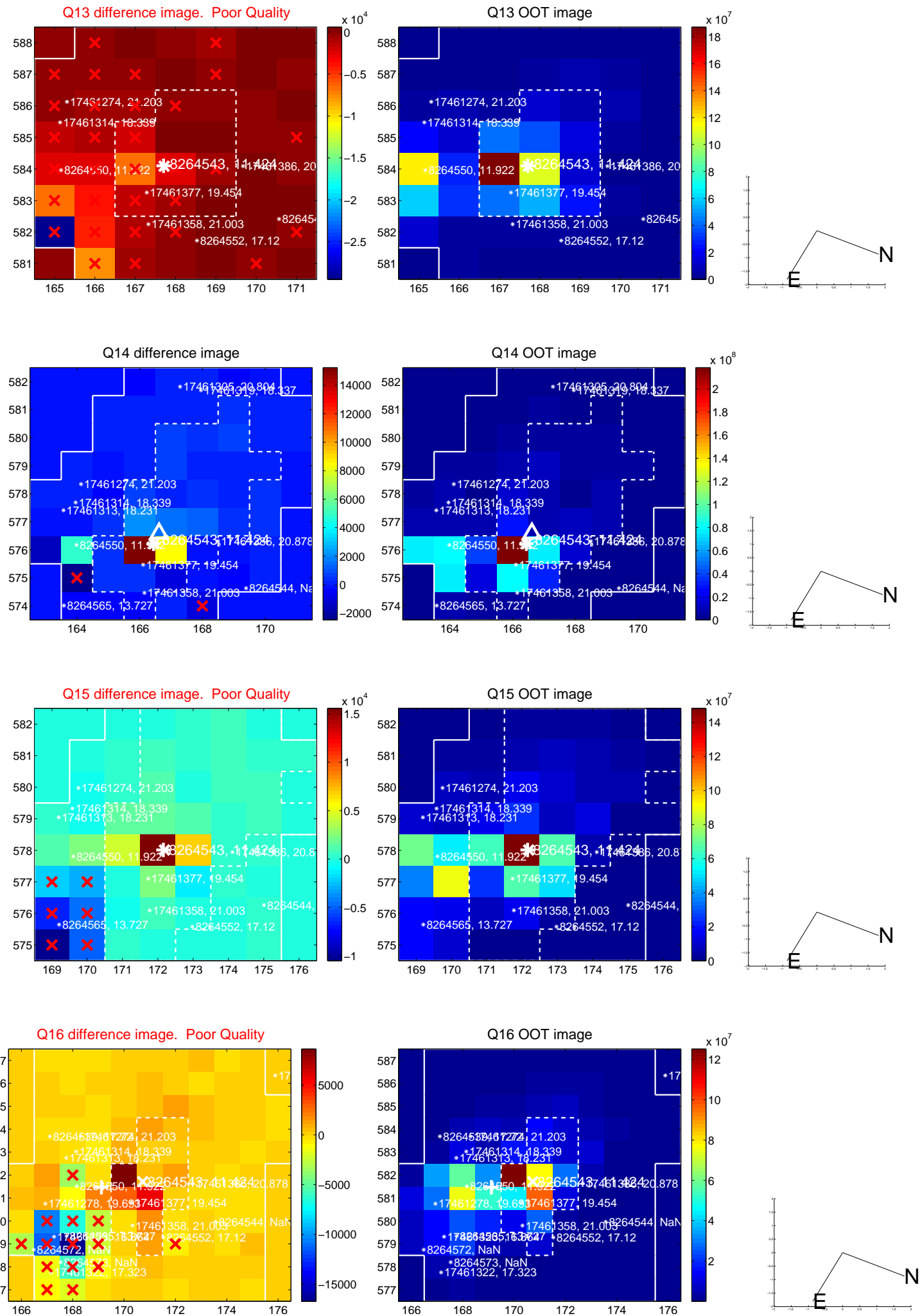
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



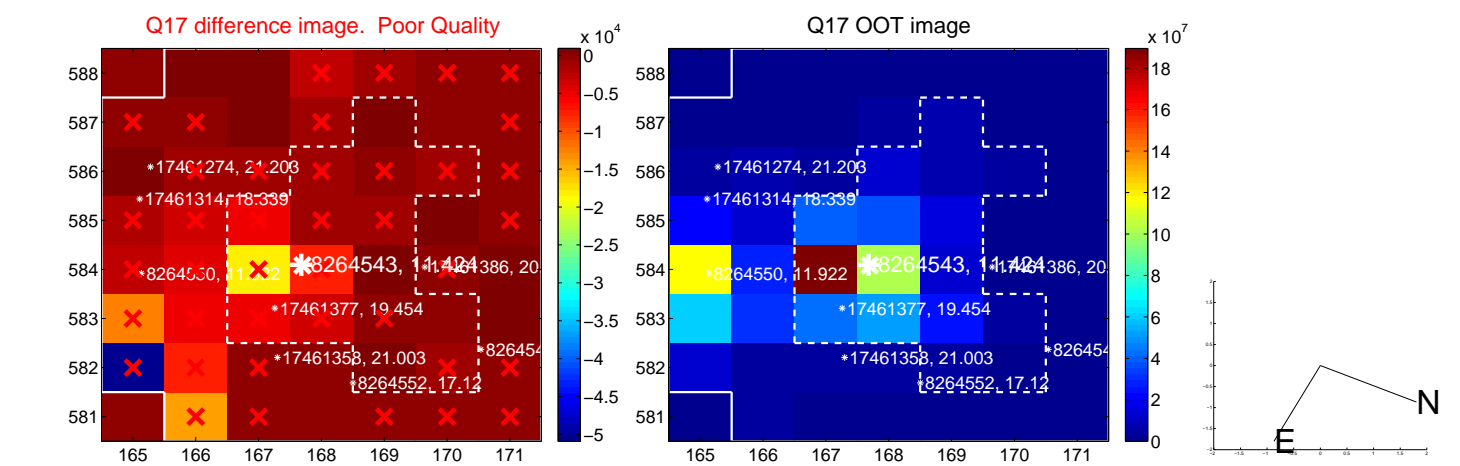
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



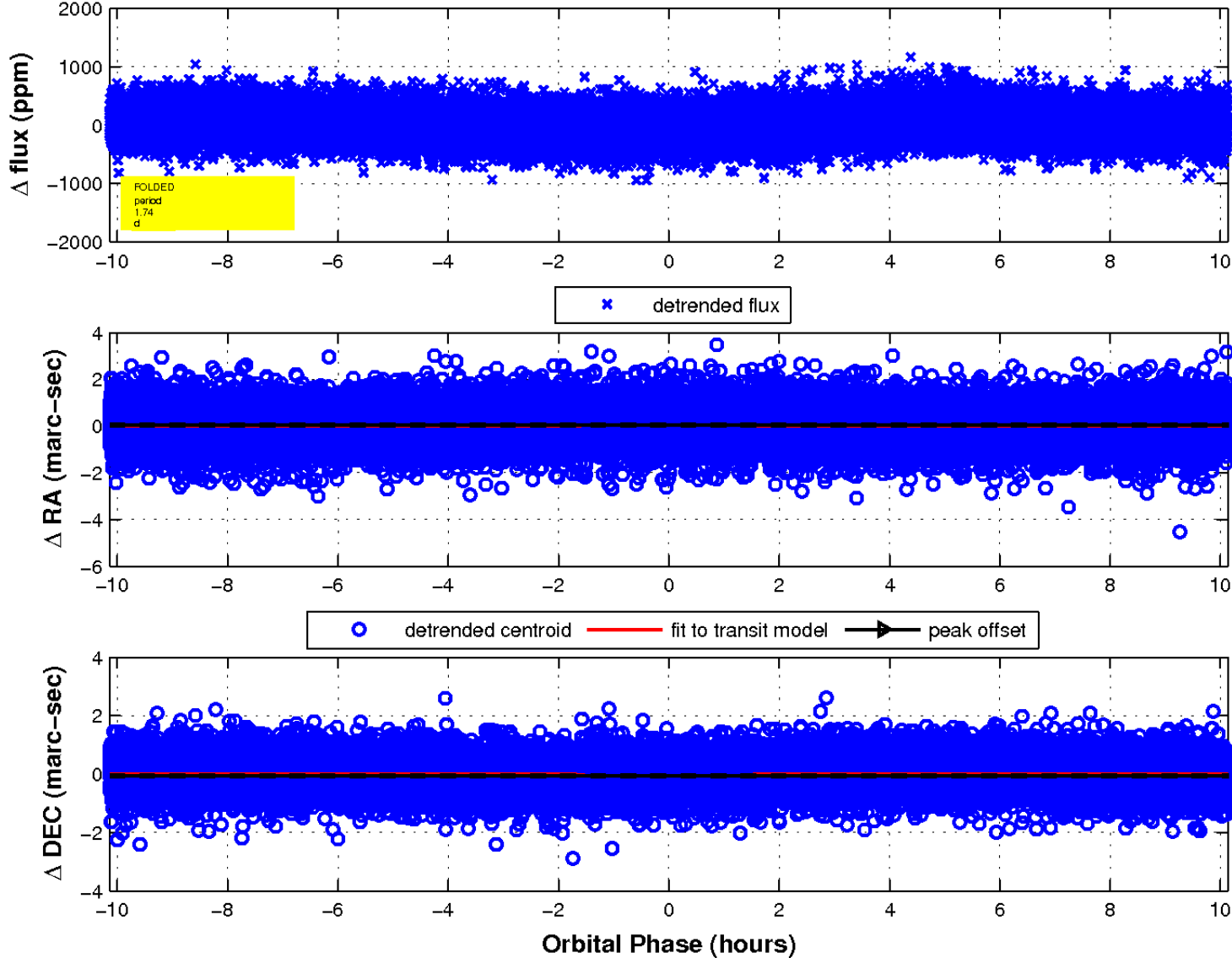
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



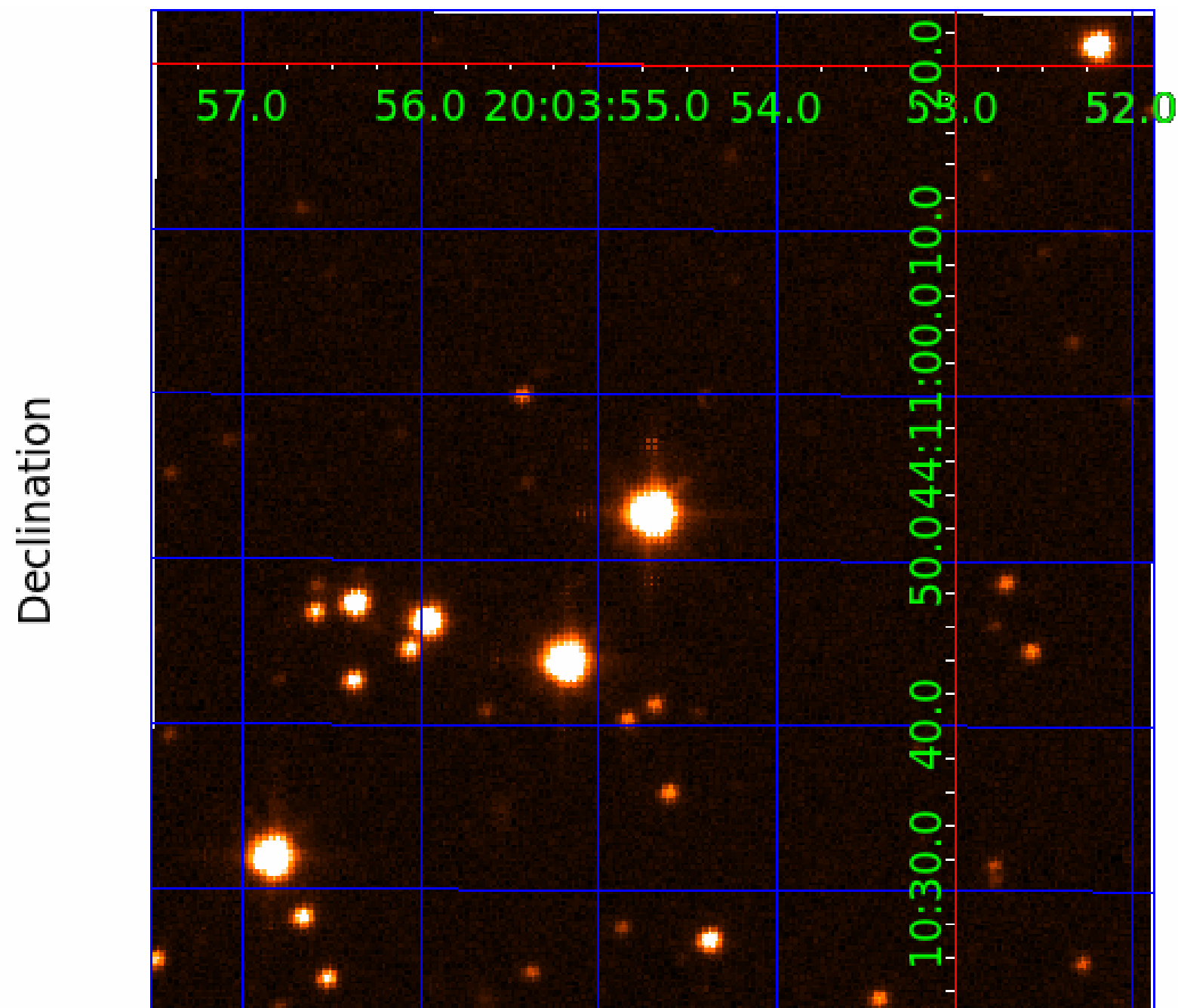
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 3 of 4



UKIRT Image



KIC 008264543

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})
008264543-01	OBS	No	0.663146	131.636992	31.8	2.090	12.3	10.6	2.92	8046	1.93	95753.18
008264543-02	OBS	No	0.663146	131.962692	36.4	1.408	12.1	11.3	2.92	8046	1.90	95753.06
008264543-03	OBS	No	1.743781	132.142537	89.5	3.380	9.1	11.0	2.92	8046	3.29	26382.09
008264543-04	OBS	No	0.581286	131.736425	65.2	3.094	8.4	11.9	2.92	8046	2.77	114142.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008264543-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
008264543-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—SAME_NTL_PERIOD—CENT_SATURATED
008264543-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED
008264543-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_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.

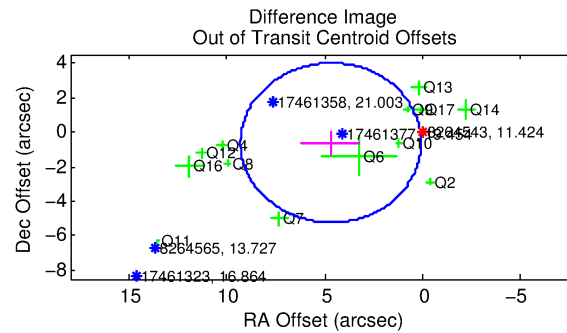
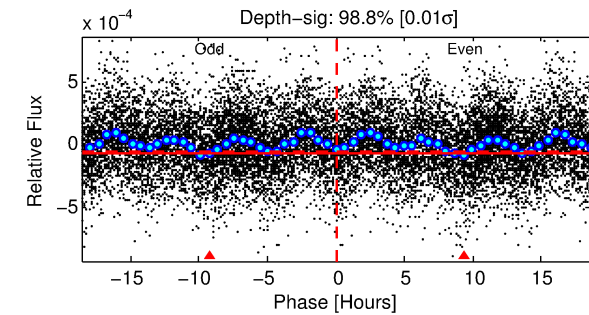
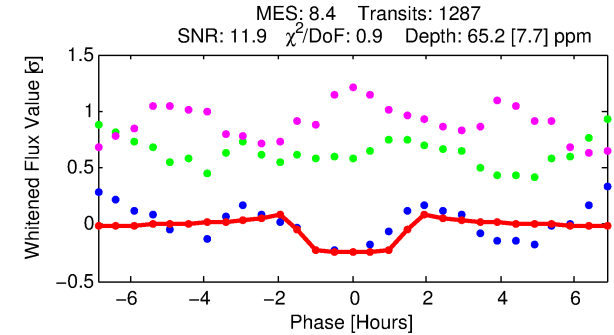
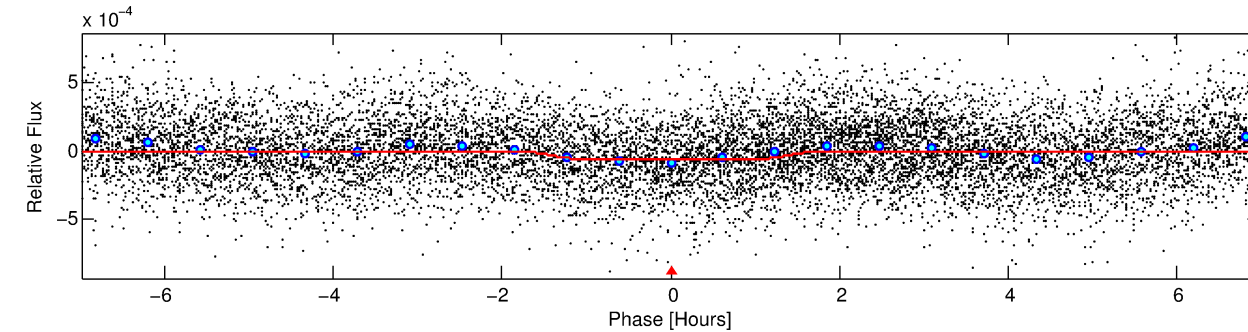
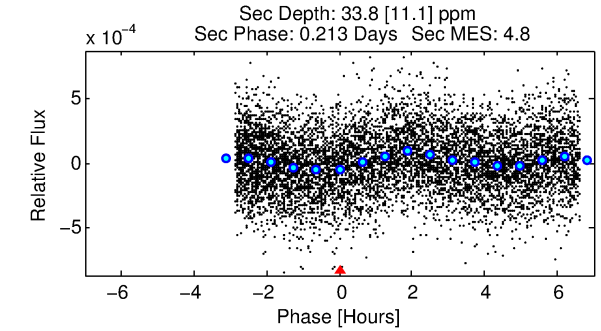
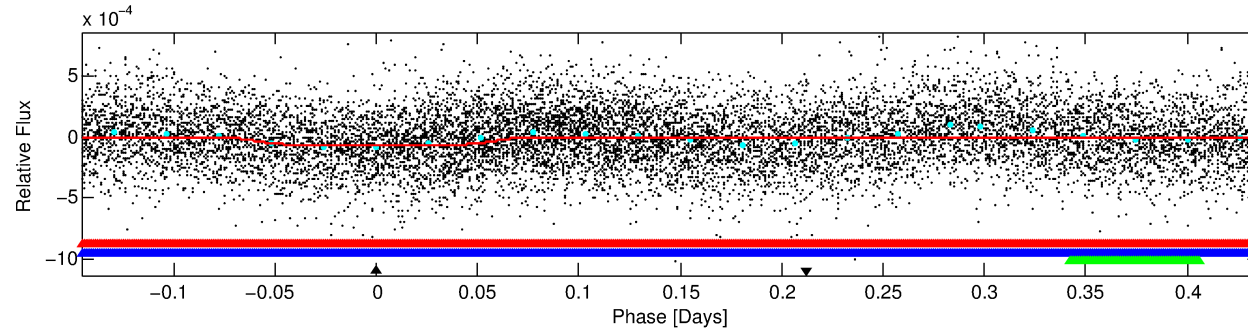
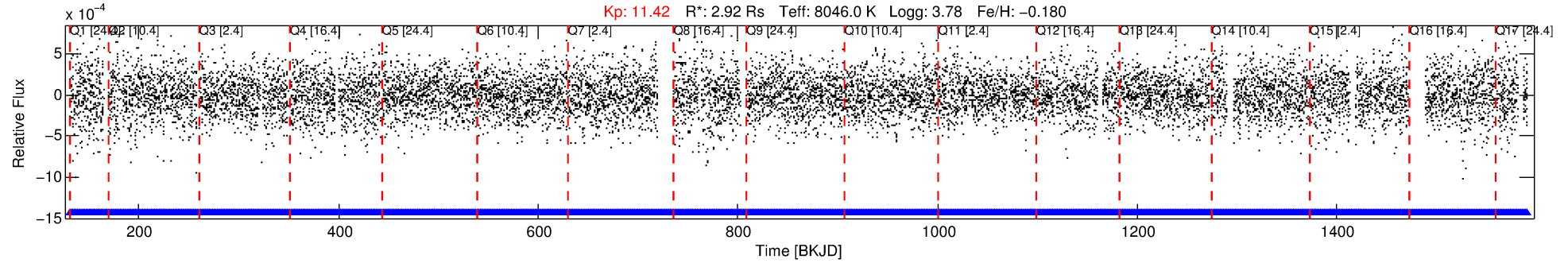
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008264543-04

No Significant Match Found

DV One-Page Summary

KIC: 8264543 Candidate: 4 of 4 Period: 0.581 d



DV Fit Results:

Period = 0.58129 [0.00001] d
Epoch = 131.7364 [0.0024] BKJD
Rp/R* = 0.0087 [0.0034]
a/R* = 1.14 [0.61]
b = 0.91 [0.47]
Seff = 114142.05 [75053.30]
Teq = 4687 [770] K
Rp = 2.77 [1.57] Re
a = 0.0168 [0.0067] AU
Ag = 0.68 [0.72] [-0.44σ]
Teffp = 6585 [1408] K [1.18σ]

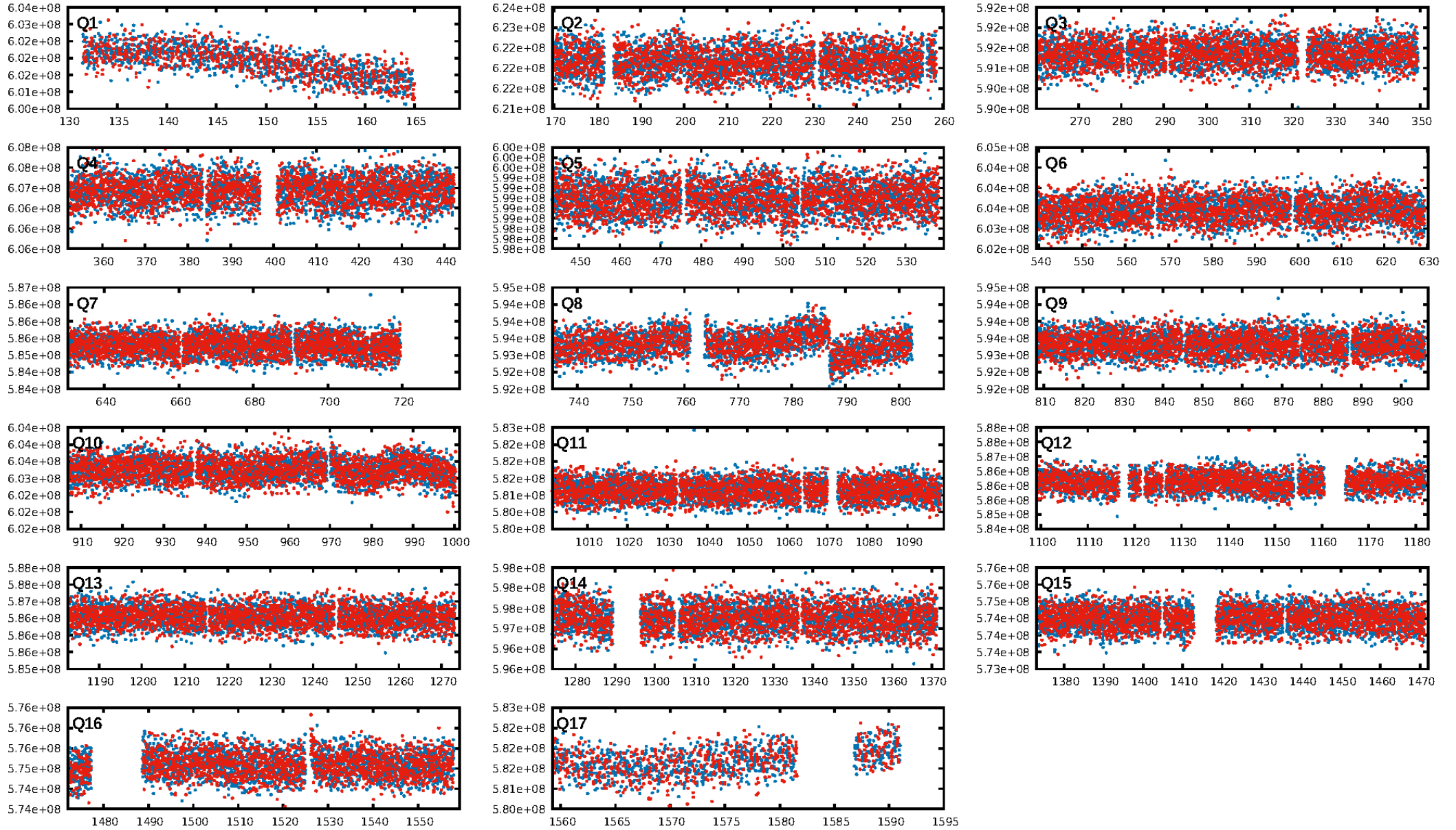
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 40.1% [0.53σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.72e-39
RollingBand-fgt: 1.00 [1227/1227]
GhostDiagnostic-chr: 1.931
Centroid-sig: 45.6%
Centroid-so: 1.630 arcsec [7.78σ]
OotOffset-rm: 4.727 arcsec [3.07σ]
KicOffset-rm: 9.306 arcsec [4.53σ]
OotOffset-st: 4/2/4/3 [13]
KicOffset-st: 4/2/4/3 [13]
DiffImageQuality-fgm: 0.23 [3/13]
DiffImageOverlap-fno: 0.00 [0/17]

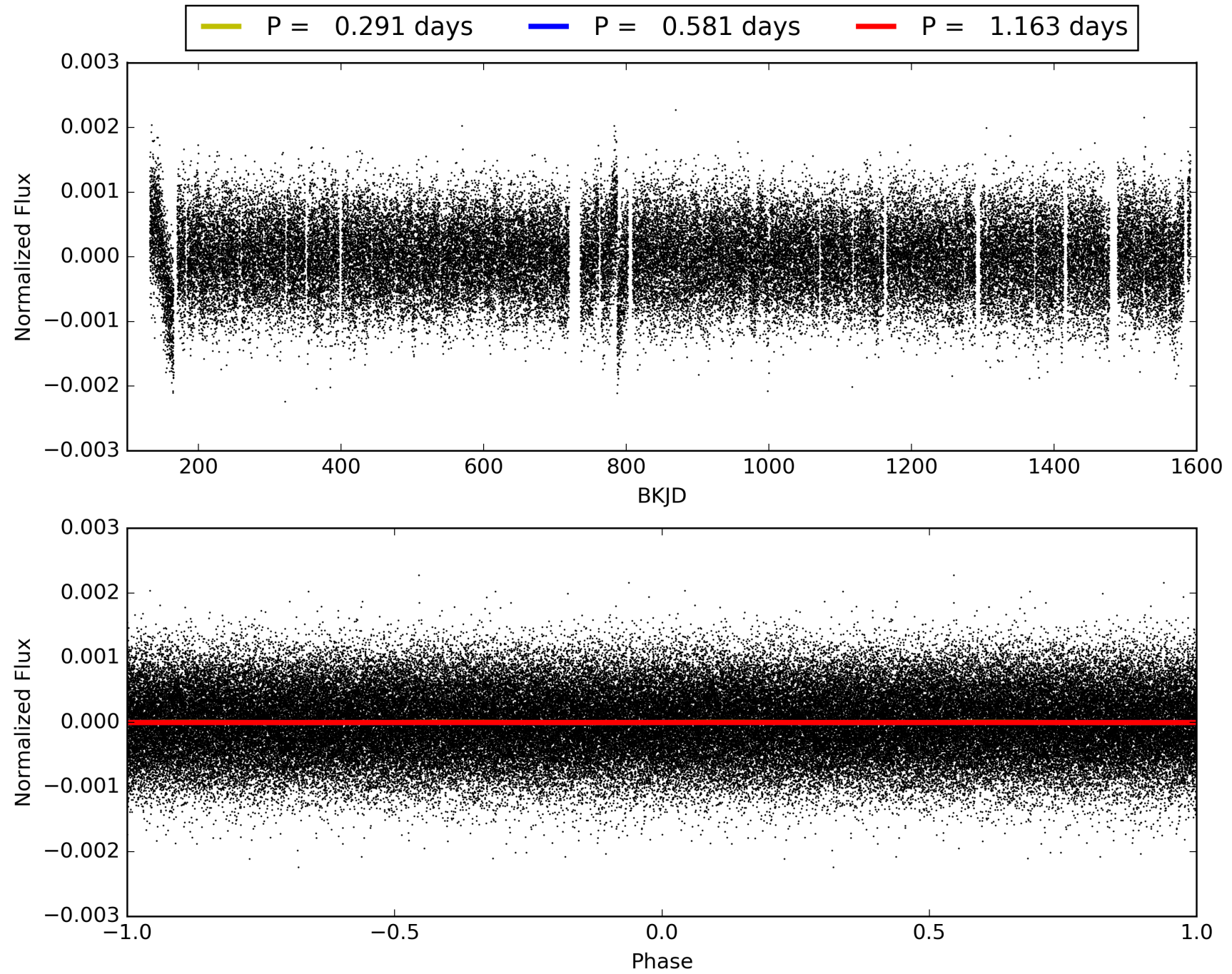
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:19:21 Z

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

TCE 008264543-04, PDC Light Curves

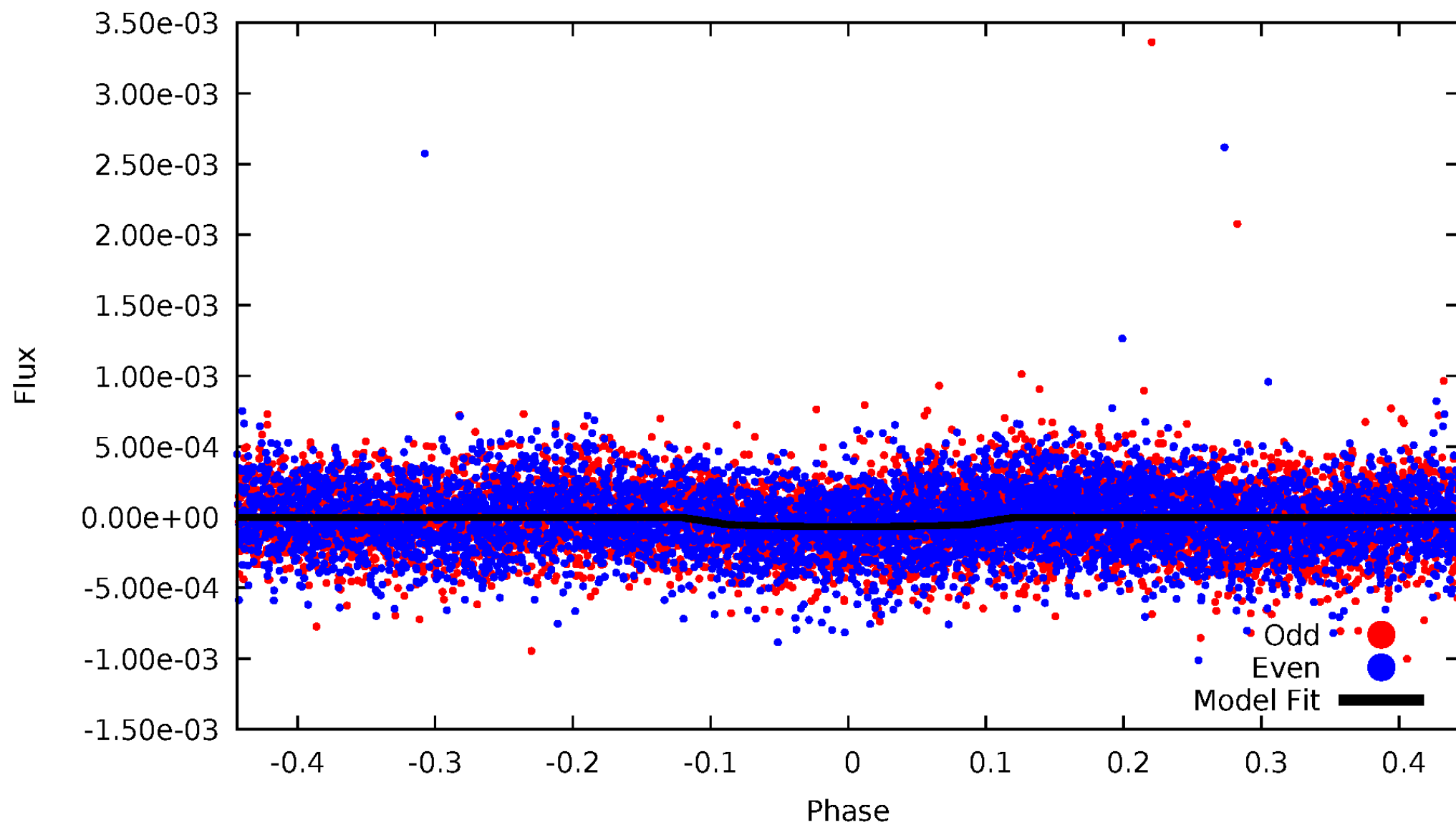


TCE 008264543-04



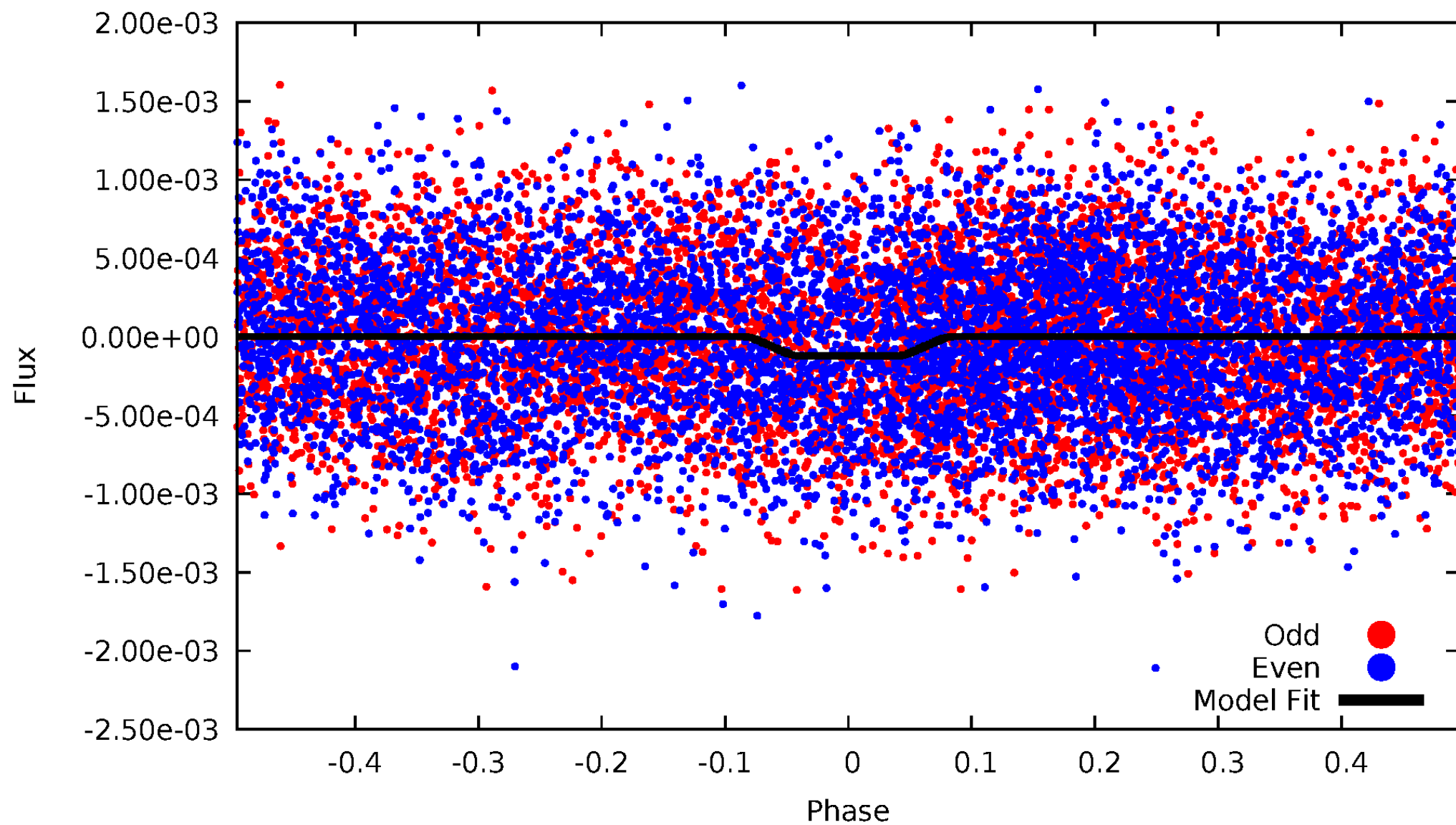
DV Odd/Even

TCE 008264543-04



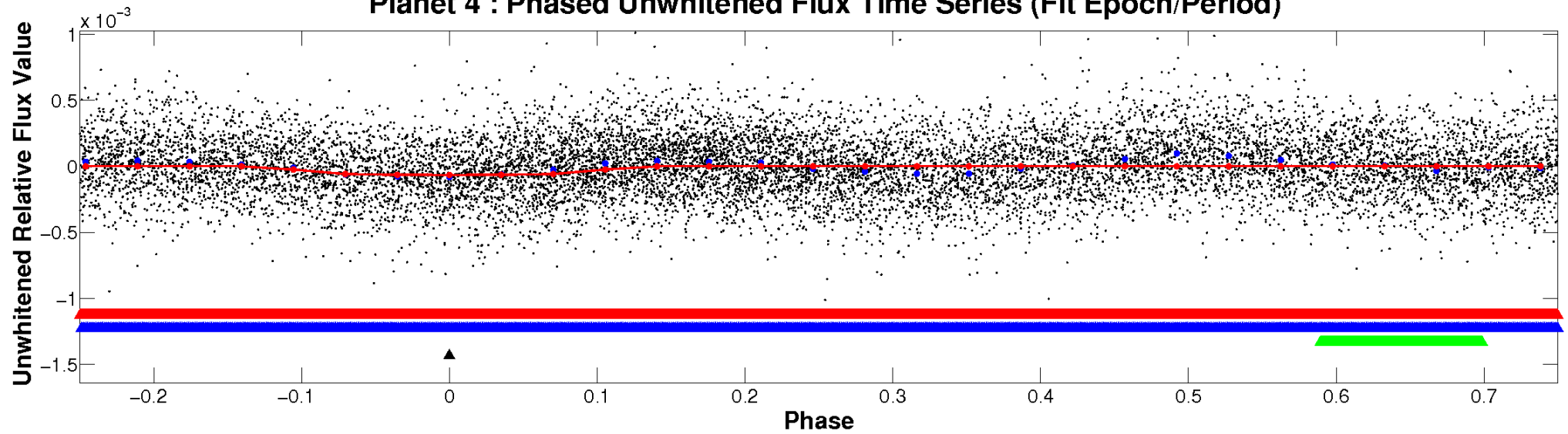
ALT Odd/Even

TCE 008264543-04

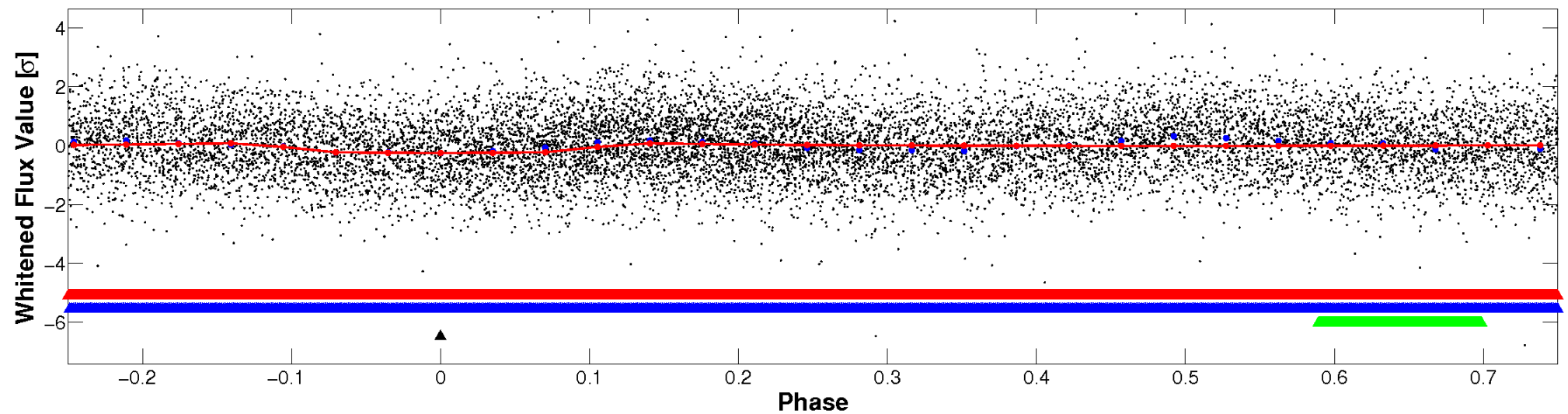


Non-Whitened Vs. Whitened Light Curve

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

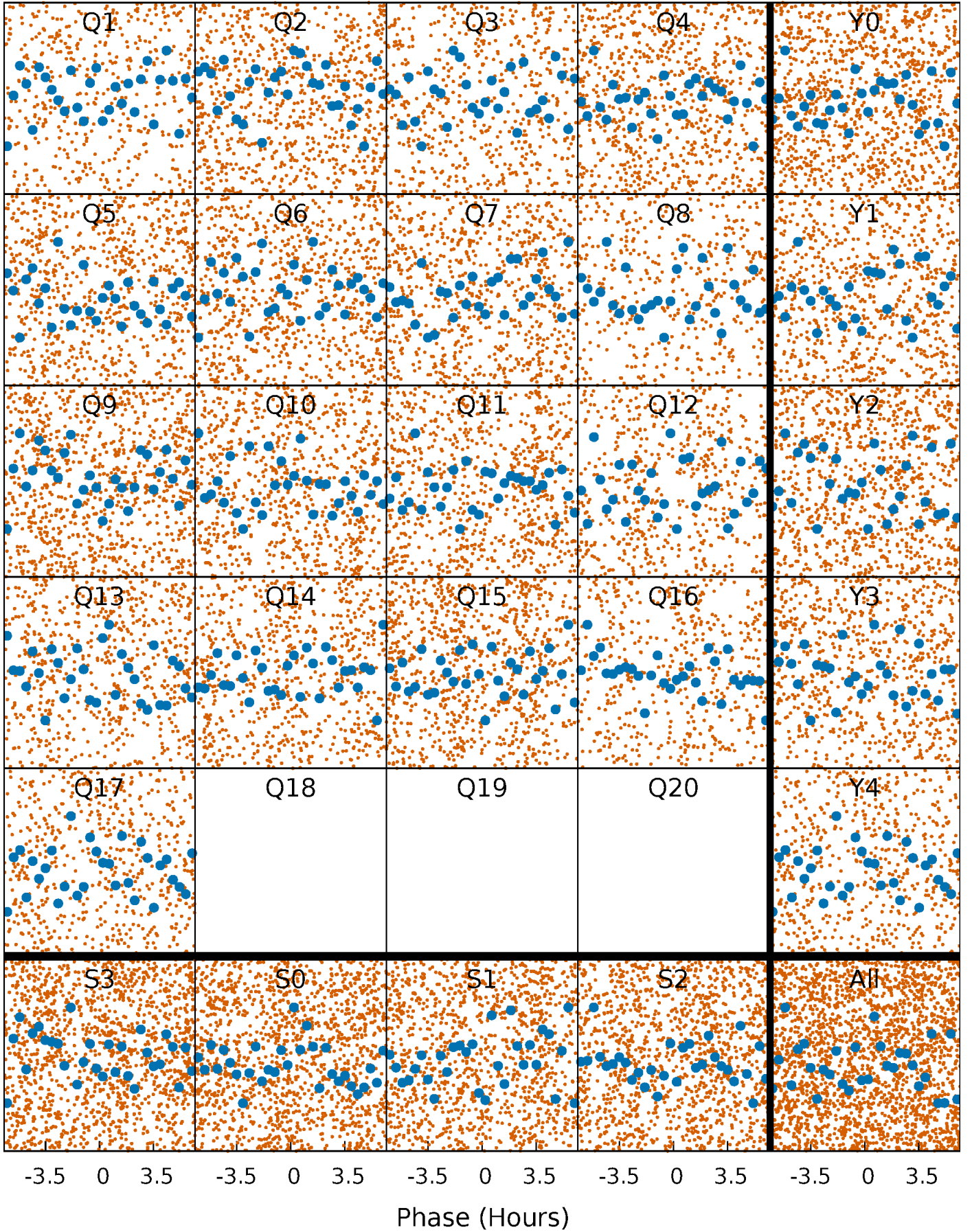


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



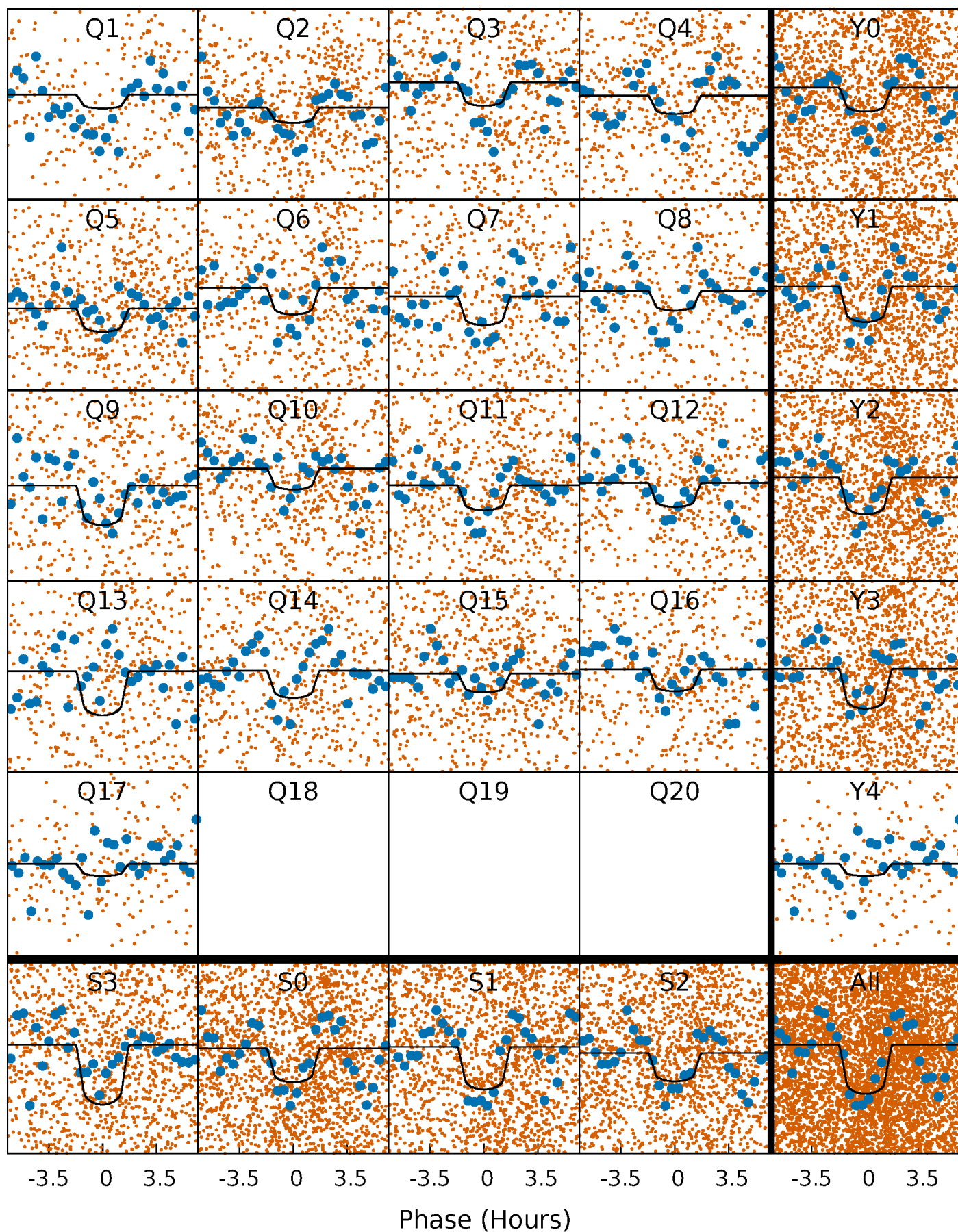
PDC Quarter-Phased Transit Curves

TCE 008264543-04 $P = 0.581286$ Days $T_0 = 131.736425$ (BKJD)



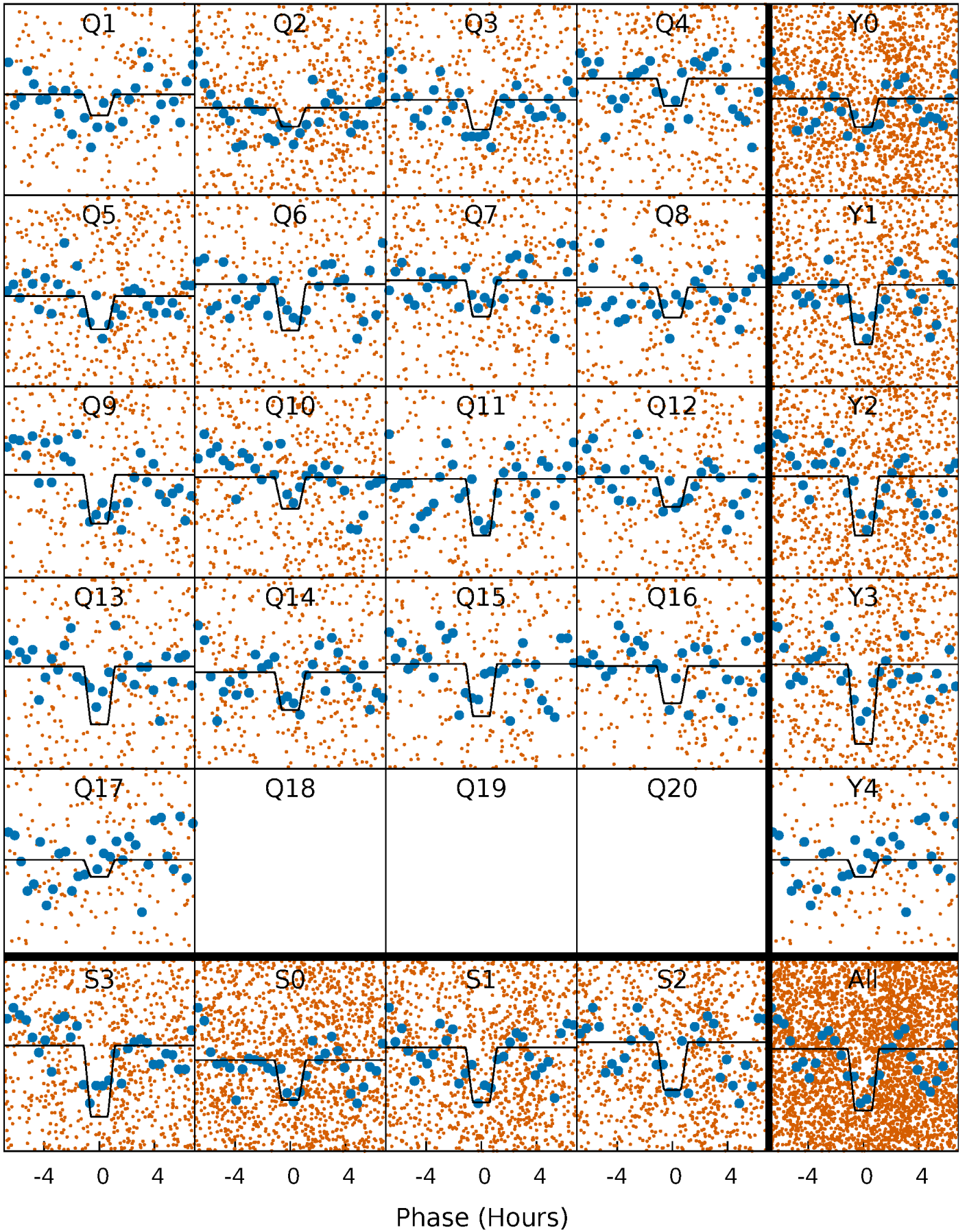
DV Quarter-Phased Transit Curves

TCE 008264543-04 P= 0.581286 Days $T_0=131.736425$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

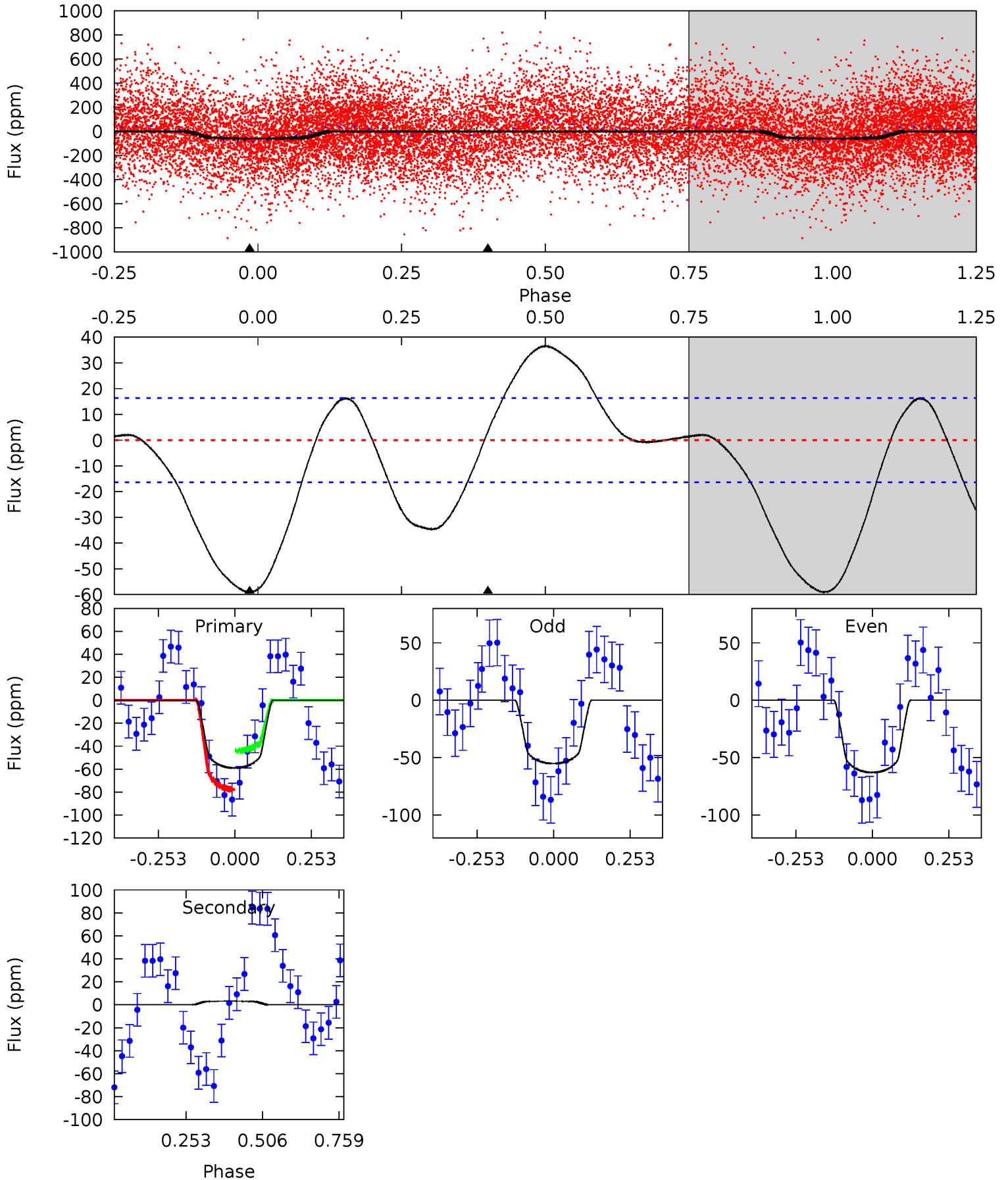
TCE 008264543-04 $P = 0.581271$ Days $T_0 = 131.740484$ (BKJD)



DV Model-Shift Uniqueness Test

008264543-04, P = 0.581286 Days, E = 131.736425 Days

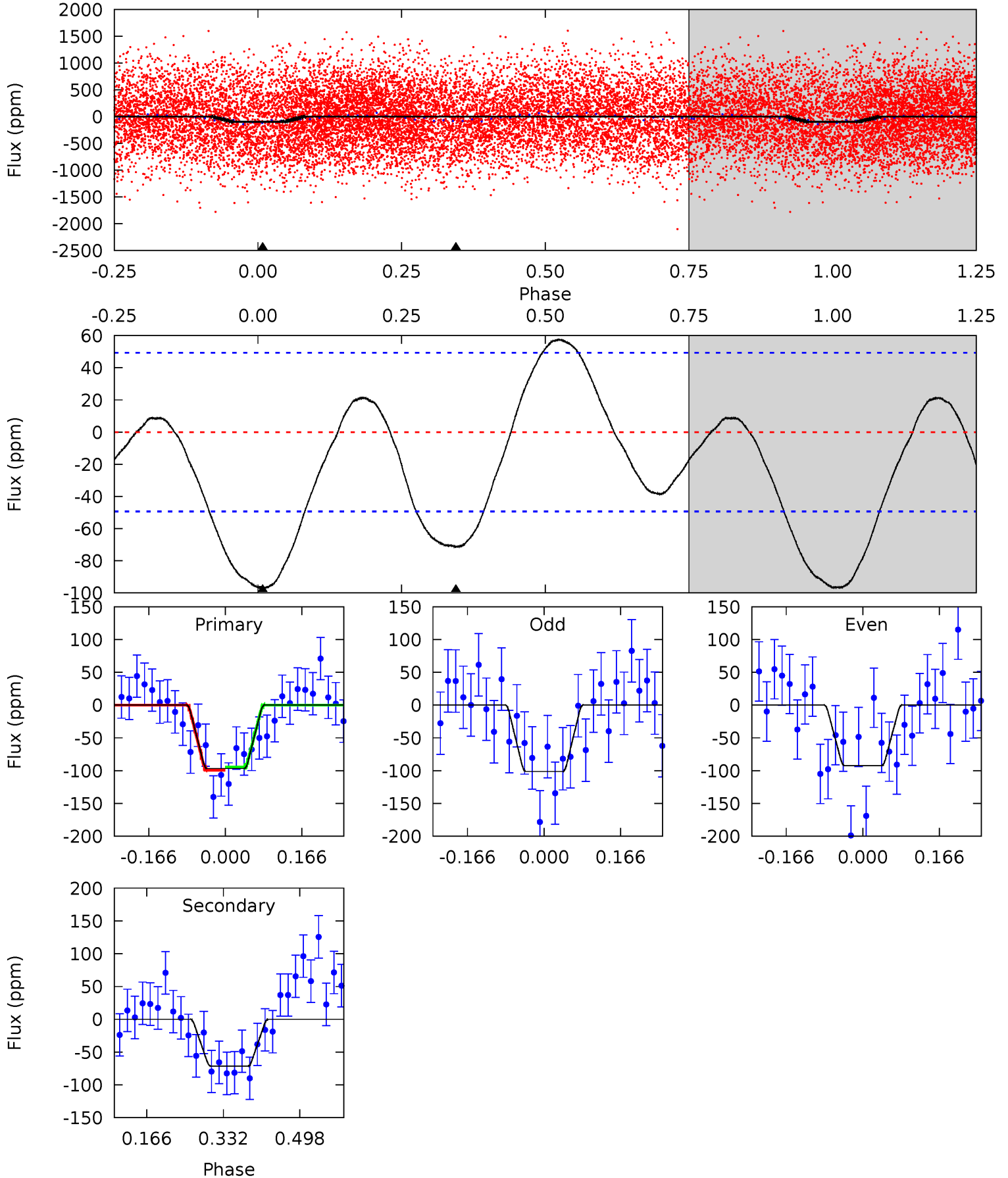
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.8	-0.84	0	0	4.37	1.14	0.21	15.8	15.8	-0.84	-0.84	1.04	1.04	0.38	4.30



Alt Model-Shift Uniqueness Test

008264543-04, P = 0.581271 Days, E = 131.740484 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.74	6.45	0	0	4.46	1.39	2.73	8.74	8.74	6.45	6.45	0.40	0.84	0.37	0.21



Stellar Parameters For KIC 008264543

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8046^{+223}_{-307}	$3.776^{+0.376}_{-0.070}$	$-0.180^{+0.200}_{-0.350}$	$2.925^{+0.403}_{-1.209}$	$1.863^{+0.094}_{-0.377}$	$0.105^{+0.353}_{-0.030}$
	+3%/-4%	+10%/-2%	+111%/-194%	+14%/-41%	+5%/-20%	+337%/-29%
Source	KIC0	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 008264543-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	3 ± 4	$2.54^{+1.18}_{-1.05}$	6303^{+454}_{-684}	-5366^{+518}_{-543}	$-0.069^{+0.085}_{-0.178}$
Alt.	-71 ± 11	$3.21^{+1.24}_{-1.09}$	6348^{+403}_{-675}	6189^{+1816}_{-1216}	$1.056^{+1.335}_{-0.510}$

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

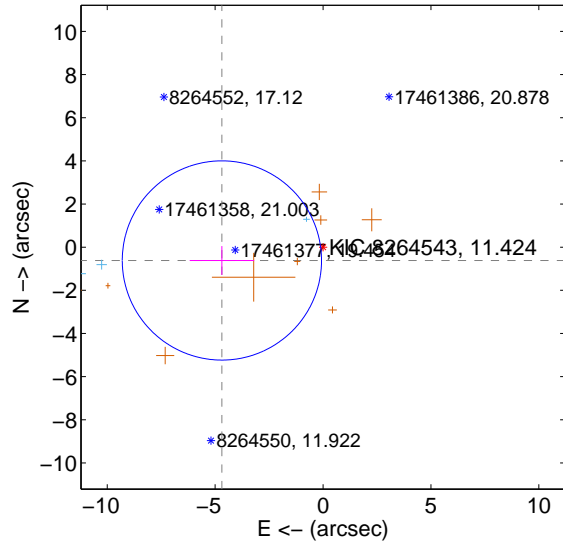
Supplemental centroid analysis for 008264543-04. **Kepler magnitude: 11.42.** Transit SNR 11.95

There are 3 quarters with good PRF difference image offsets

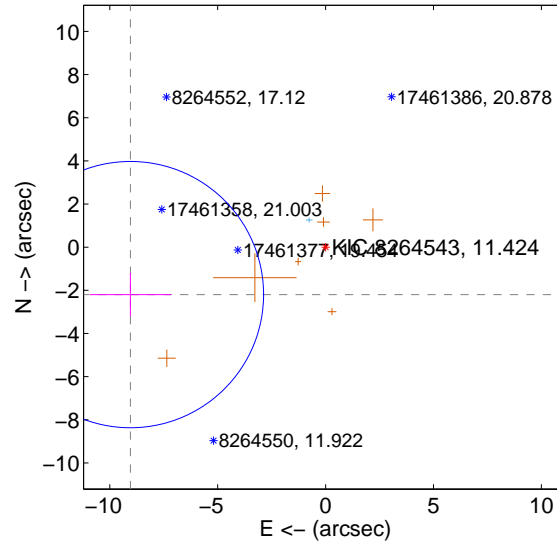
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.727 ± 1.539	3.07	4.686 ± 1.493	-0.616 ± 0.669
PRF-fit source offset from KIC position	9.306 ± 2.056	4.53	9.042 ± 1.885	-2.198 ± 1.009
photometric centroid source offset	1.63 ± 0.21	7.78	0.60 ± 0.26	-1.51 ± 0.20

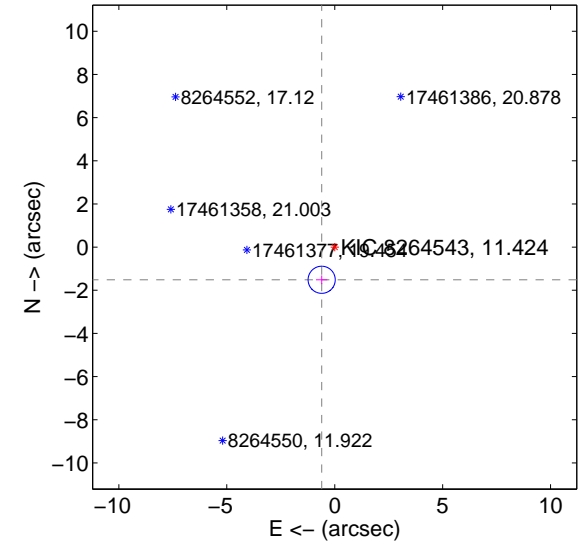
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

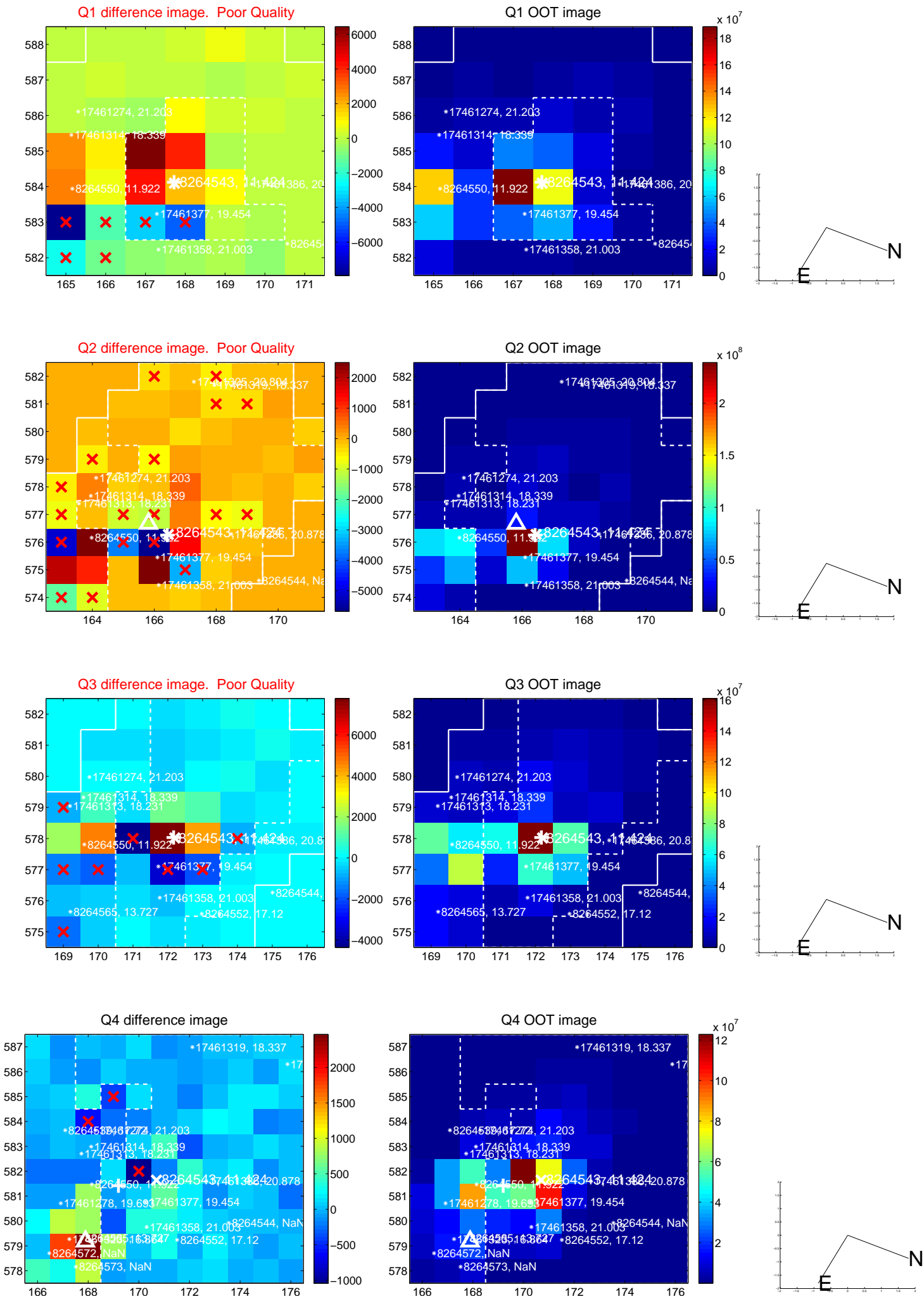


offset from photometric centroids

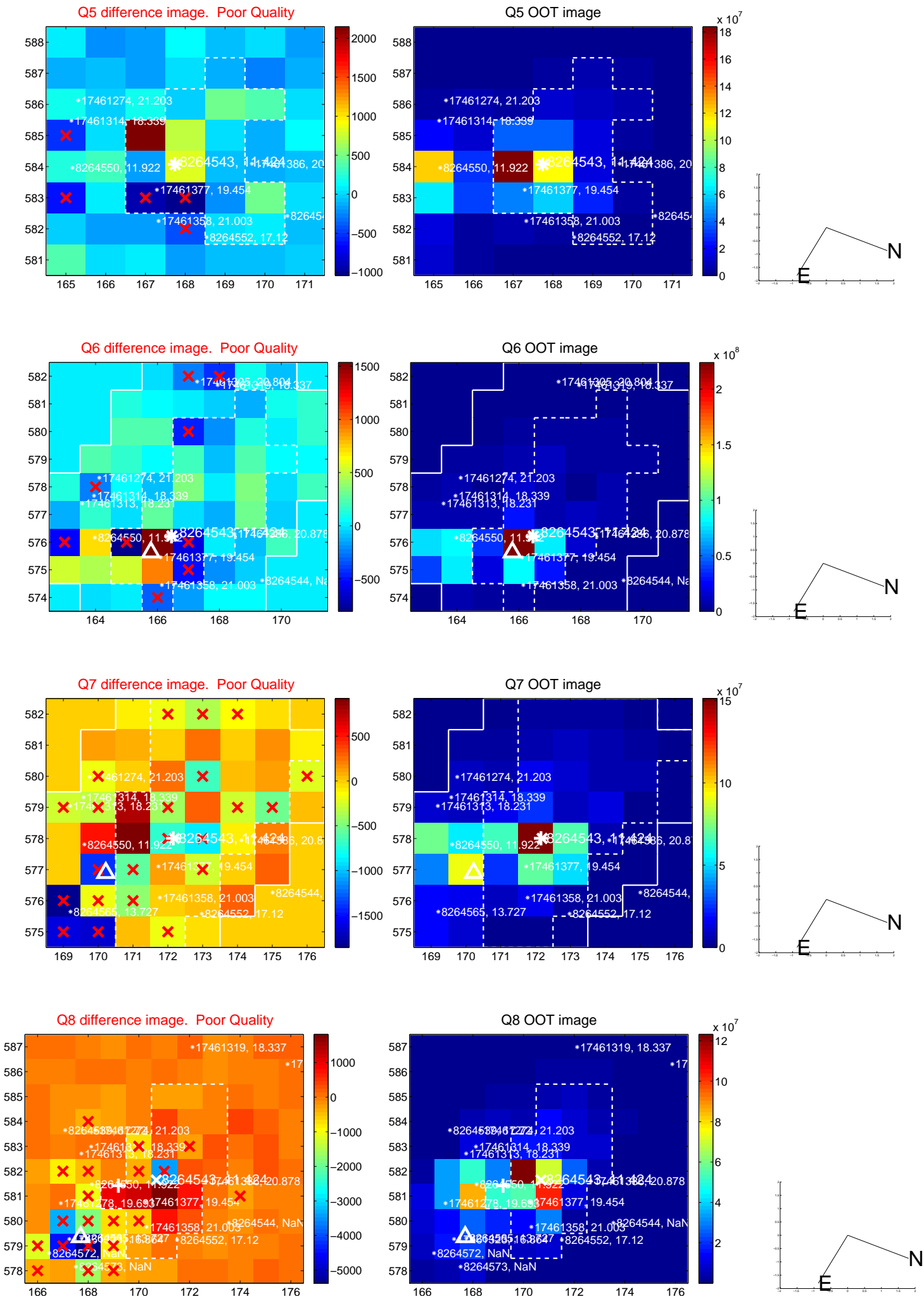


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

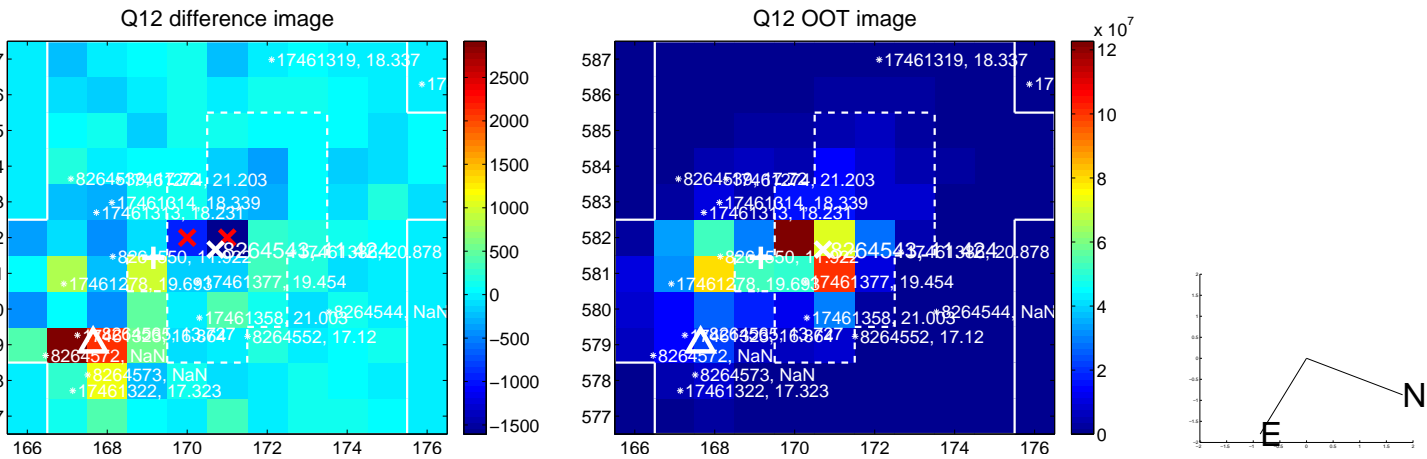
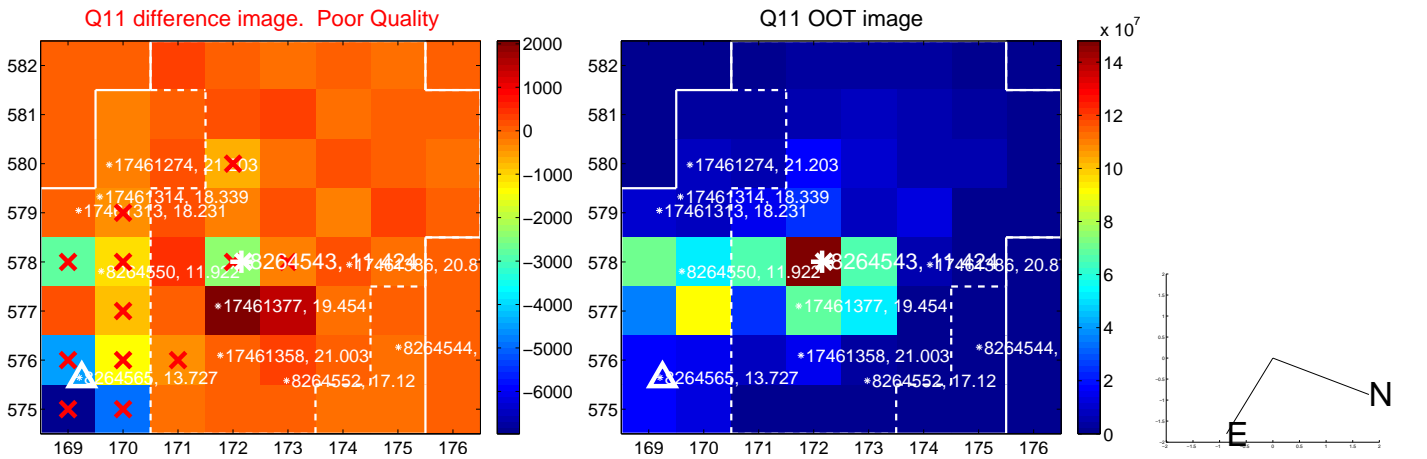
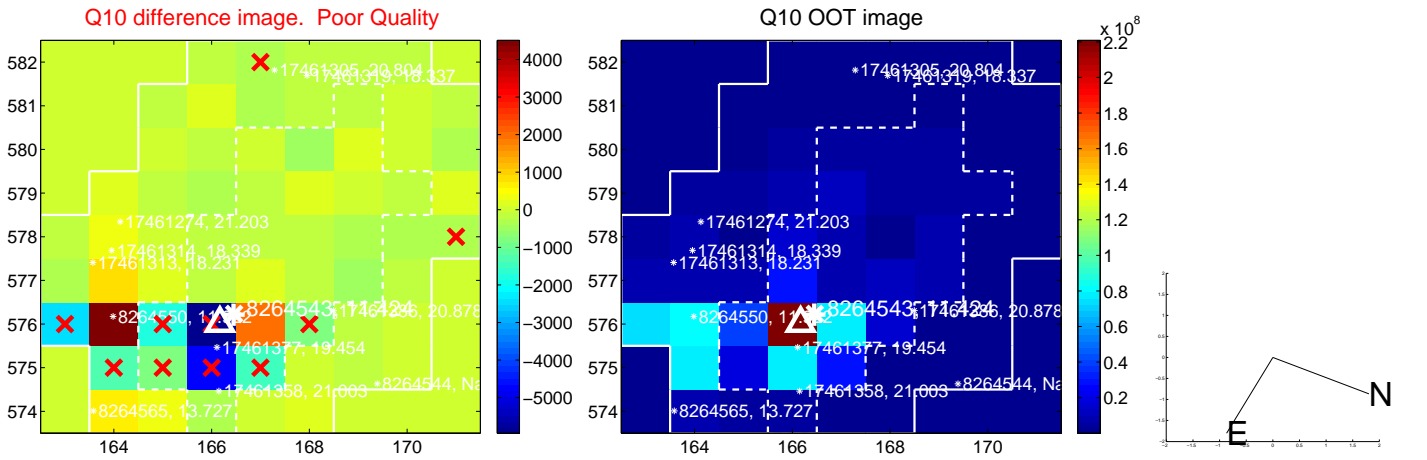
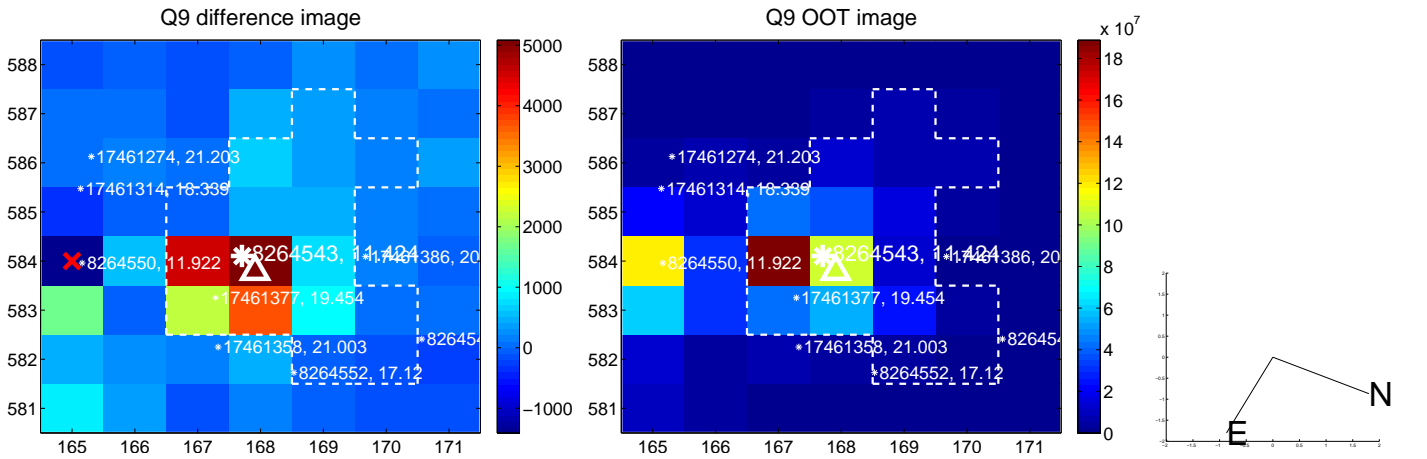
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



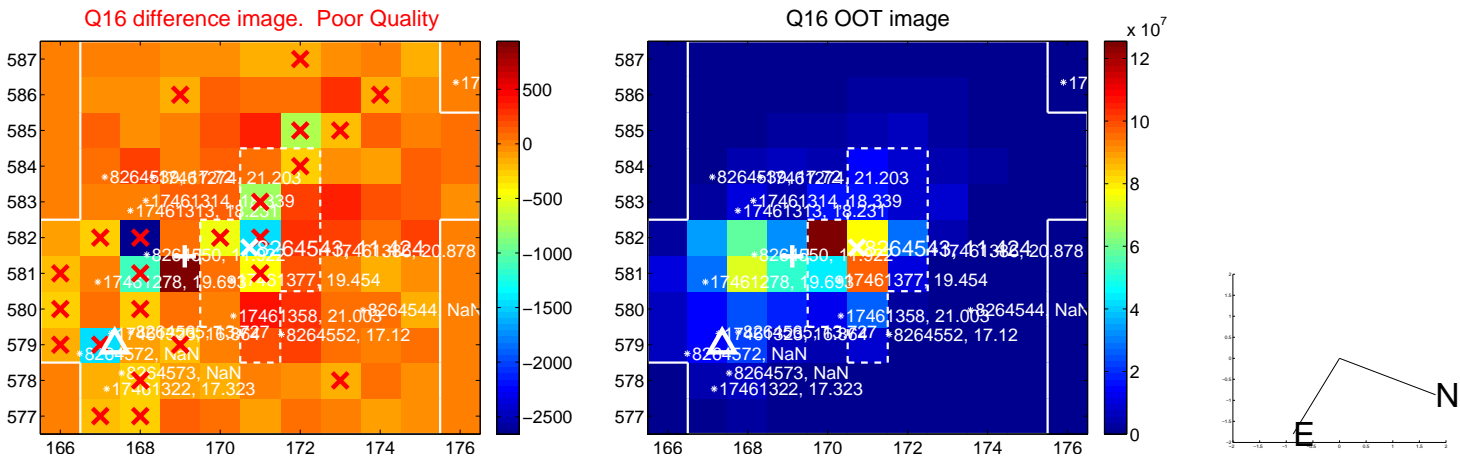
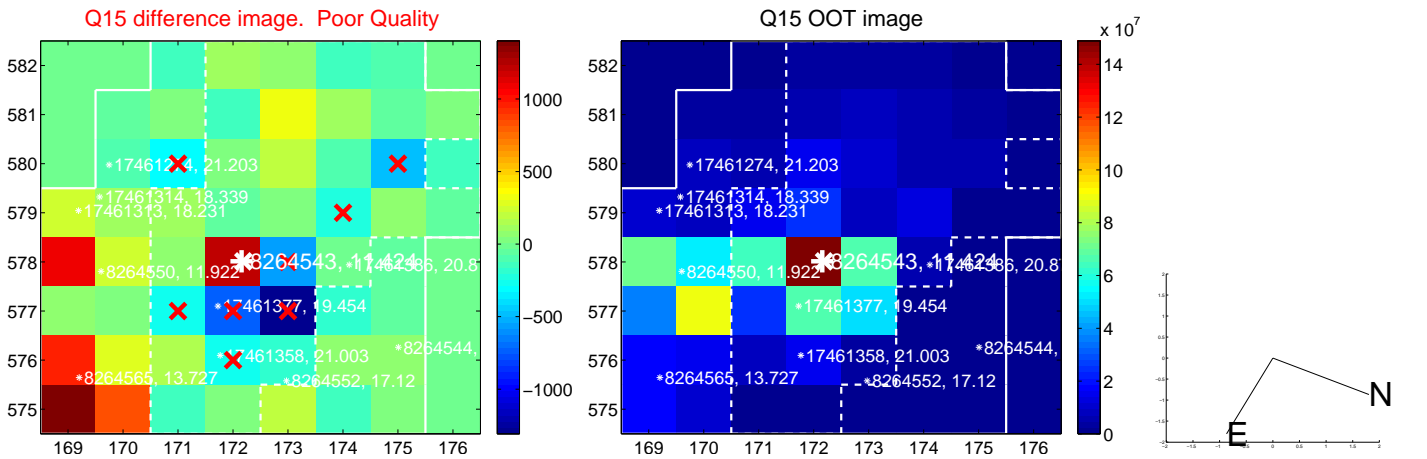
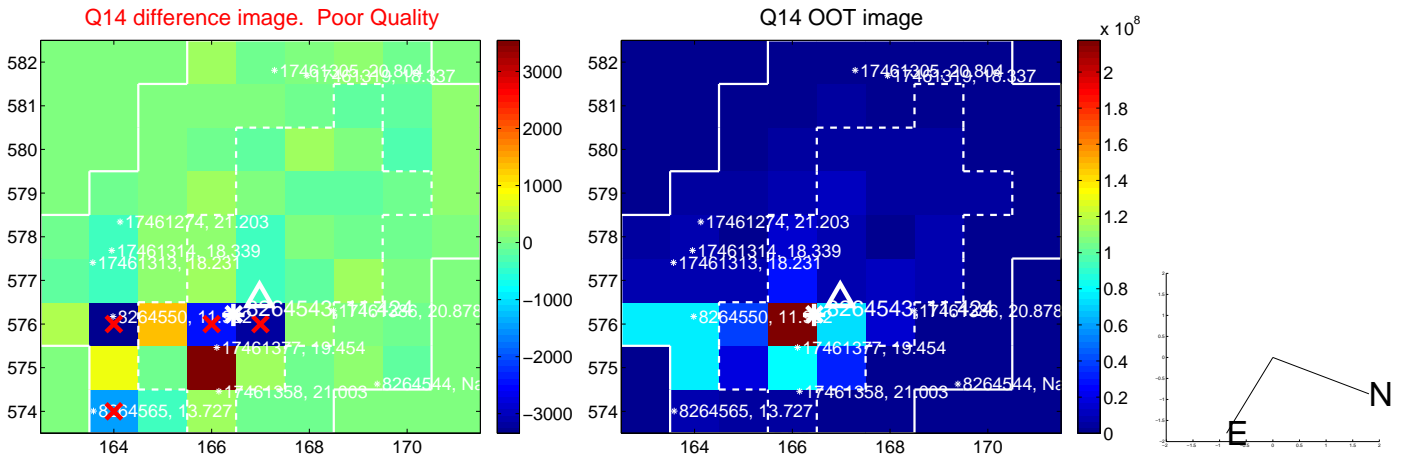
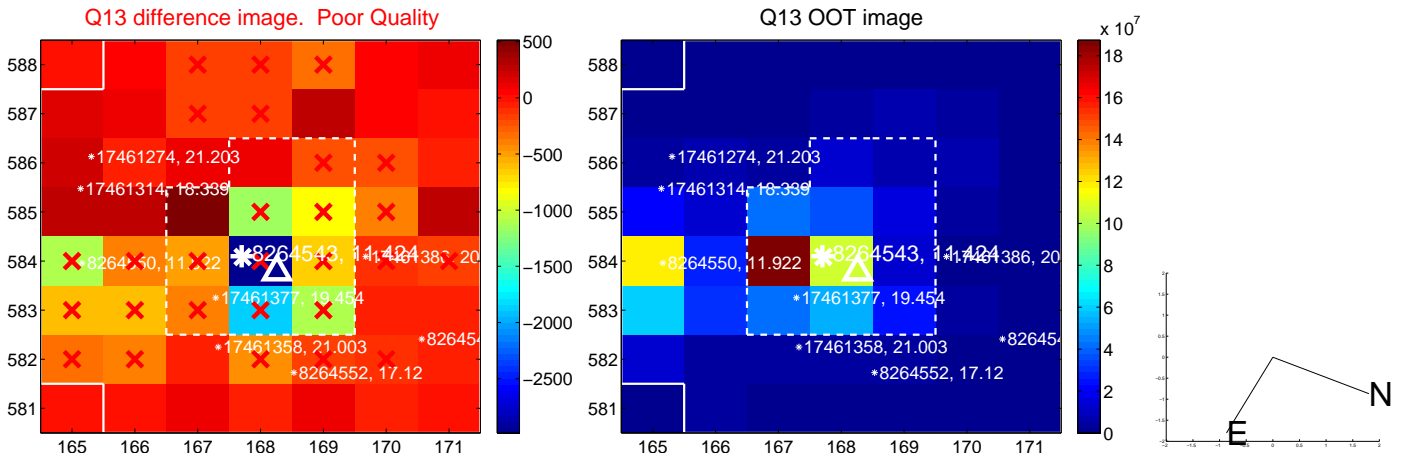
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



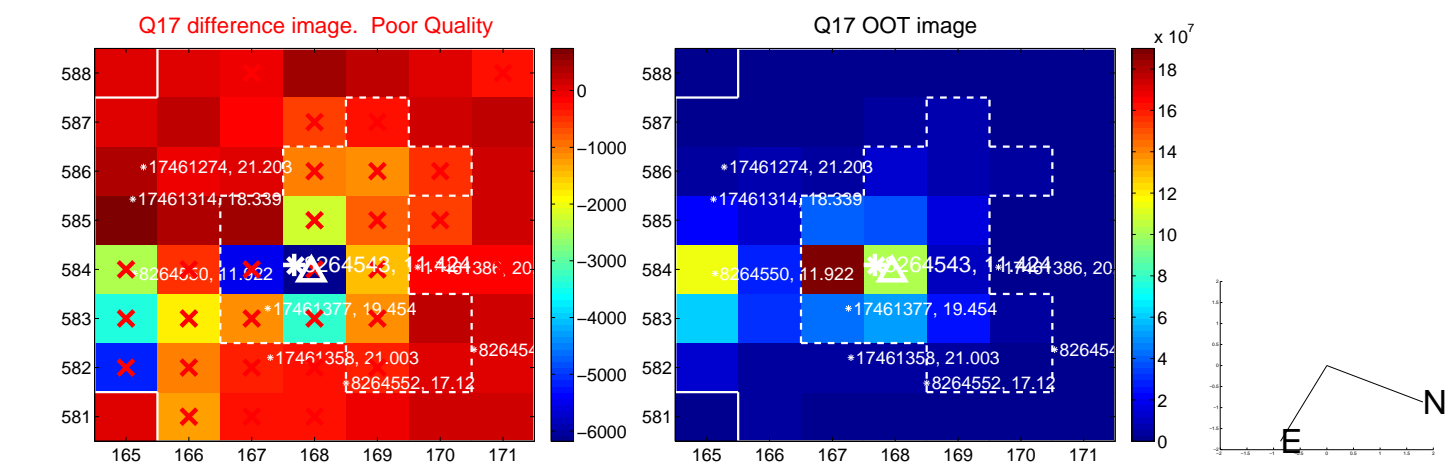
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



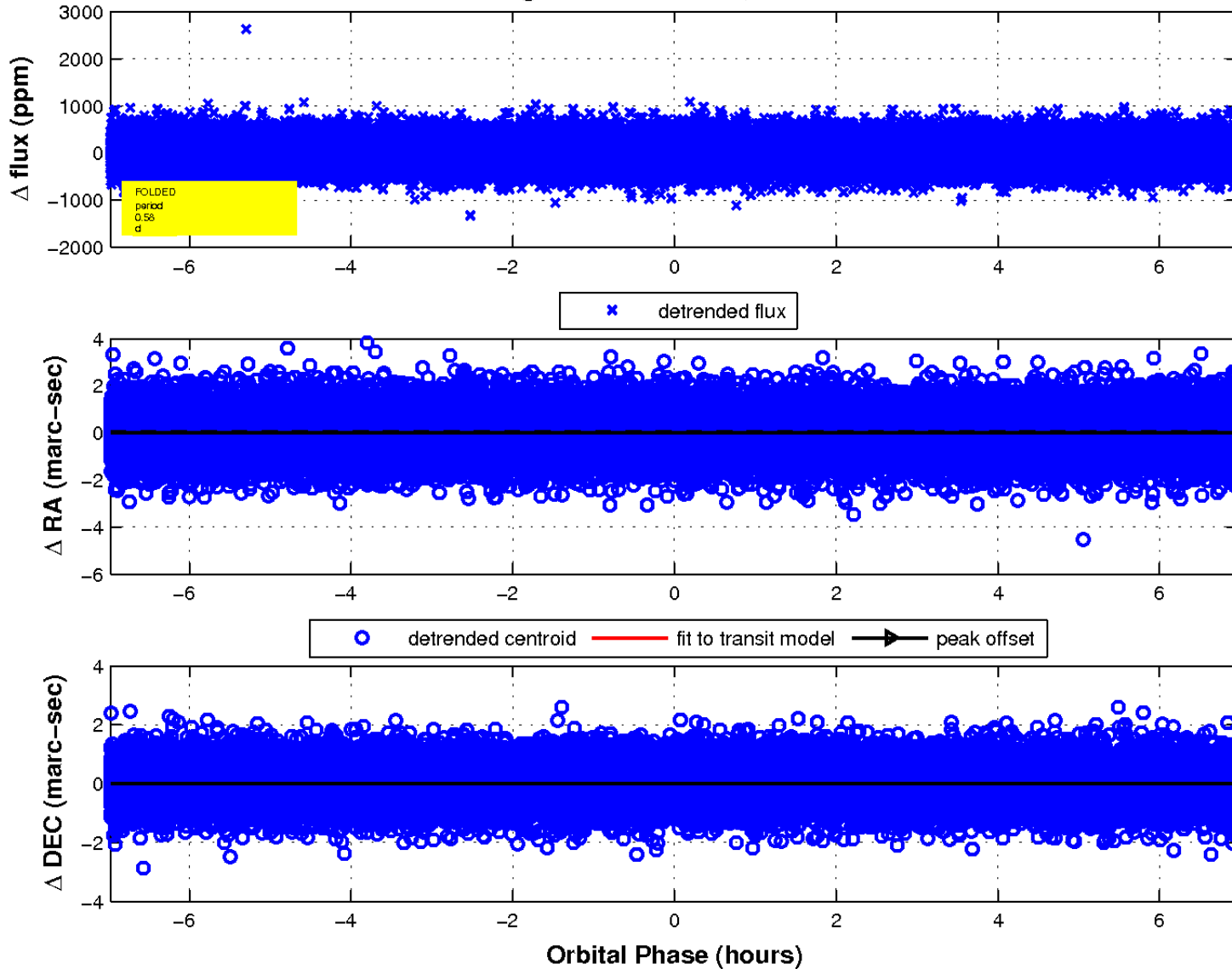
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 4 of 4



UKIRT Image

Declination

