

KIC 002568971

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})
002568971-01	OBS	6278.01	5.088575	134.057086	202.9	5.670	26.6	29.5	1.96	7514	5.48	2408.14
002568971-02	OBS	No	5.088710	136.488332	76.9	5.867	14.0	13.9	1.96	7514	2.01	2408.06
002568971-03	OBS	No	0.848159	131.771804	35.9	3.627	13.4	14.1	1.96	7514	1.35	26252.70
002568971-05	OBS	No	1.271905	131.741540	45.3	8.921	12.0	10.2	1.96	7514	1.34	15294.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002568971-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_UNRESOLVED_OFFSET
002568971-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
002568971-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
002568971-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—SWEET_NTL—LPP_DV—LPP_ALT—CENT_NOFITS

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

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

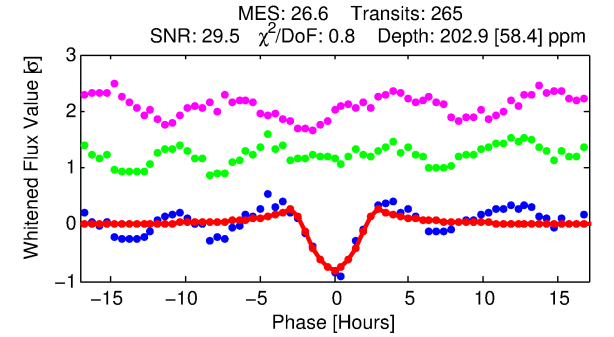
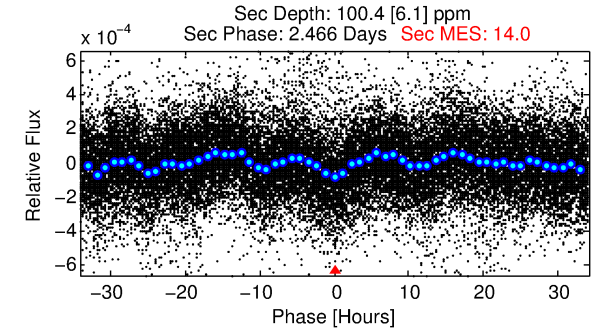
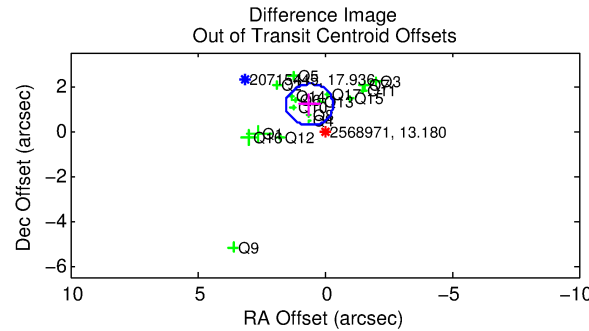
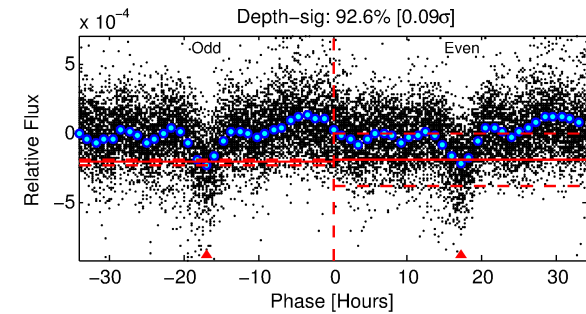
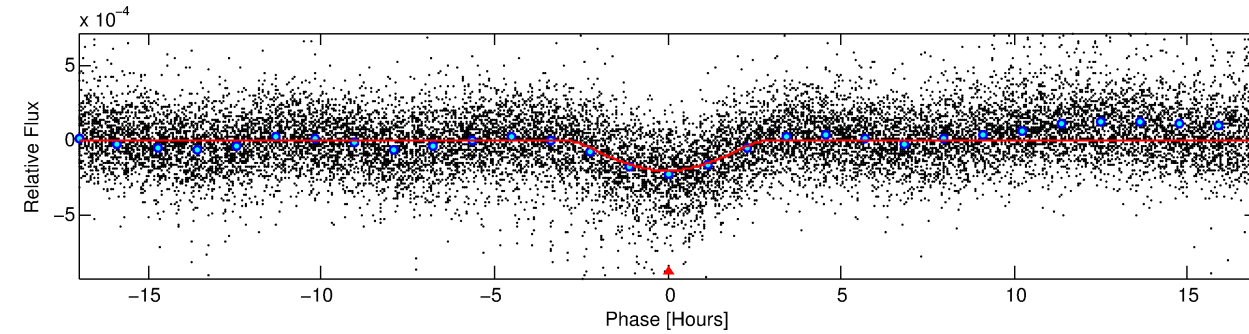
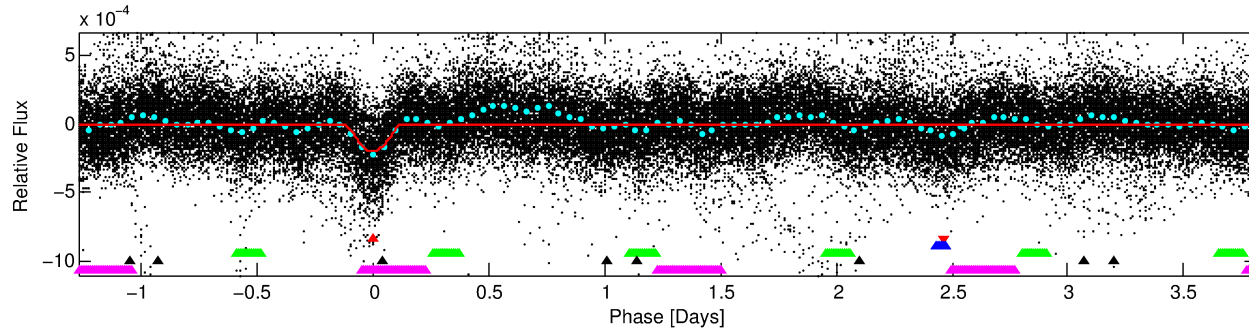
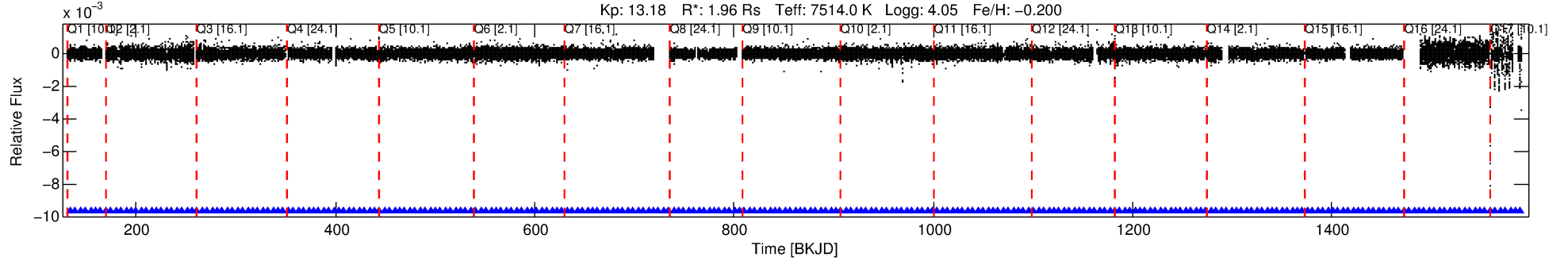
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002568971-01

No Significant Match Found

DV One-Page Summary

KIC: 2568971 Candidate: 1 of 5 Period: 5.089 d
KOI: K06278 Corr: No Ephemeris Match



DV Fit Results:

Period = 5.08857 [0.00002] d
Epoch = 134.0571 [0.0035] BKJD
Rp/R* = 0.0257 [0.0201]
a/R* = 1.86 [0.27]
b = 1.00 [0.02]
Seff = 2408.14 [922.65]
Teff = 1786 [171] K
Rp = 5.48 [4.52] Re
a = 0.0673 [0.0155] AU
Ag = 8.33 [13.33] [0.55 σ]
Teffp = 4692 [1843] K [1.57 σ]

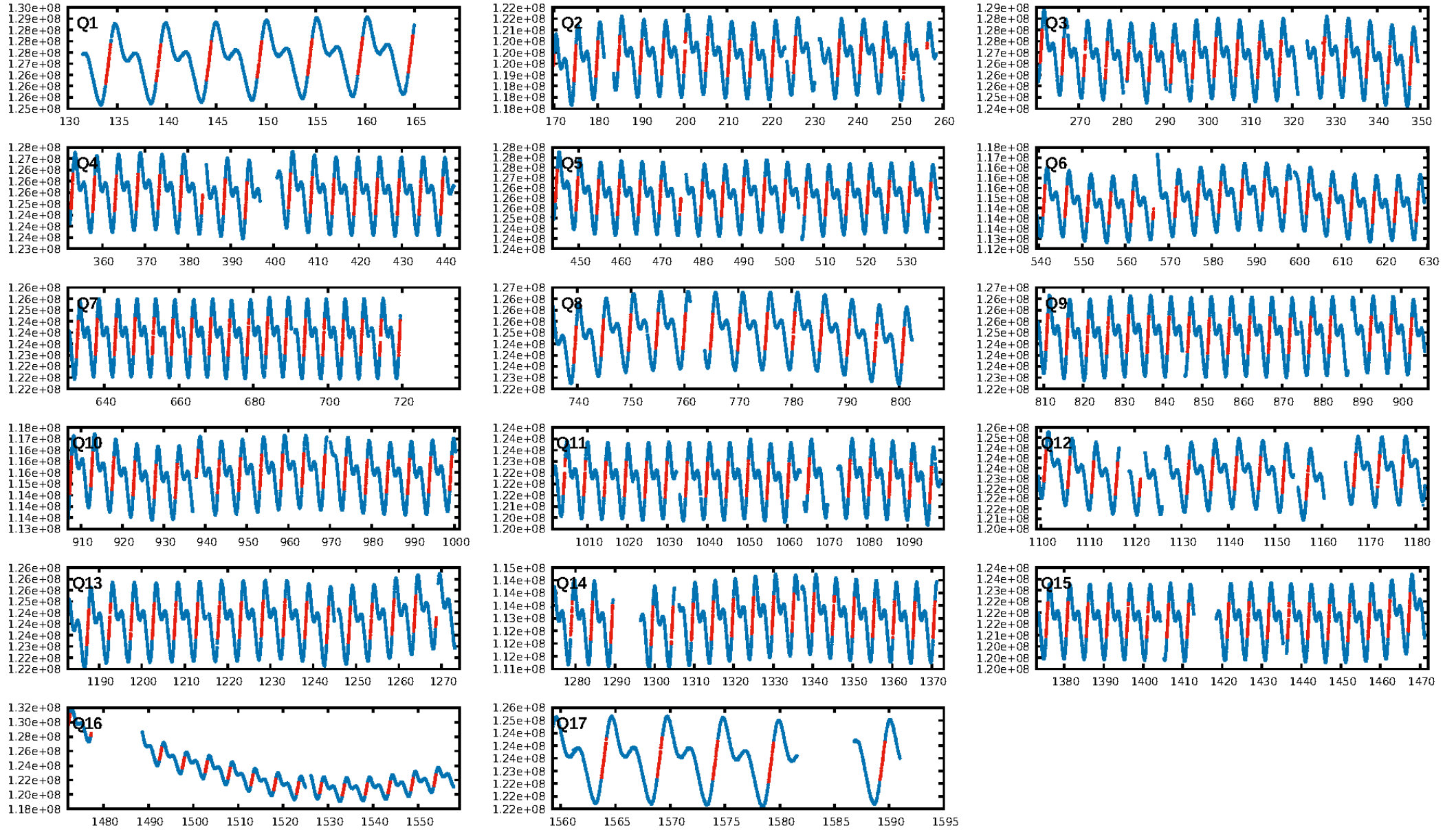
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [8.67 σ]
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [253/253]
GhostDiagnostic-chr: 0.9971
Centroid-sig: 0.0%
Centroid-so: 0.182 arcsec [0.28 σ]
OotOffset-rm: 1.315 arcsec [4.29 σ]
KicOffset-rm: 1.219 arcsec [4.64 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.82 [14/17]
DiffImageOverlap-fno: 0.00 [0/17]

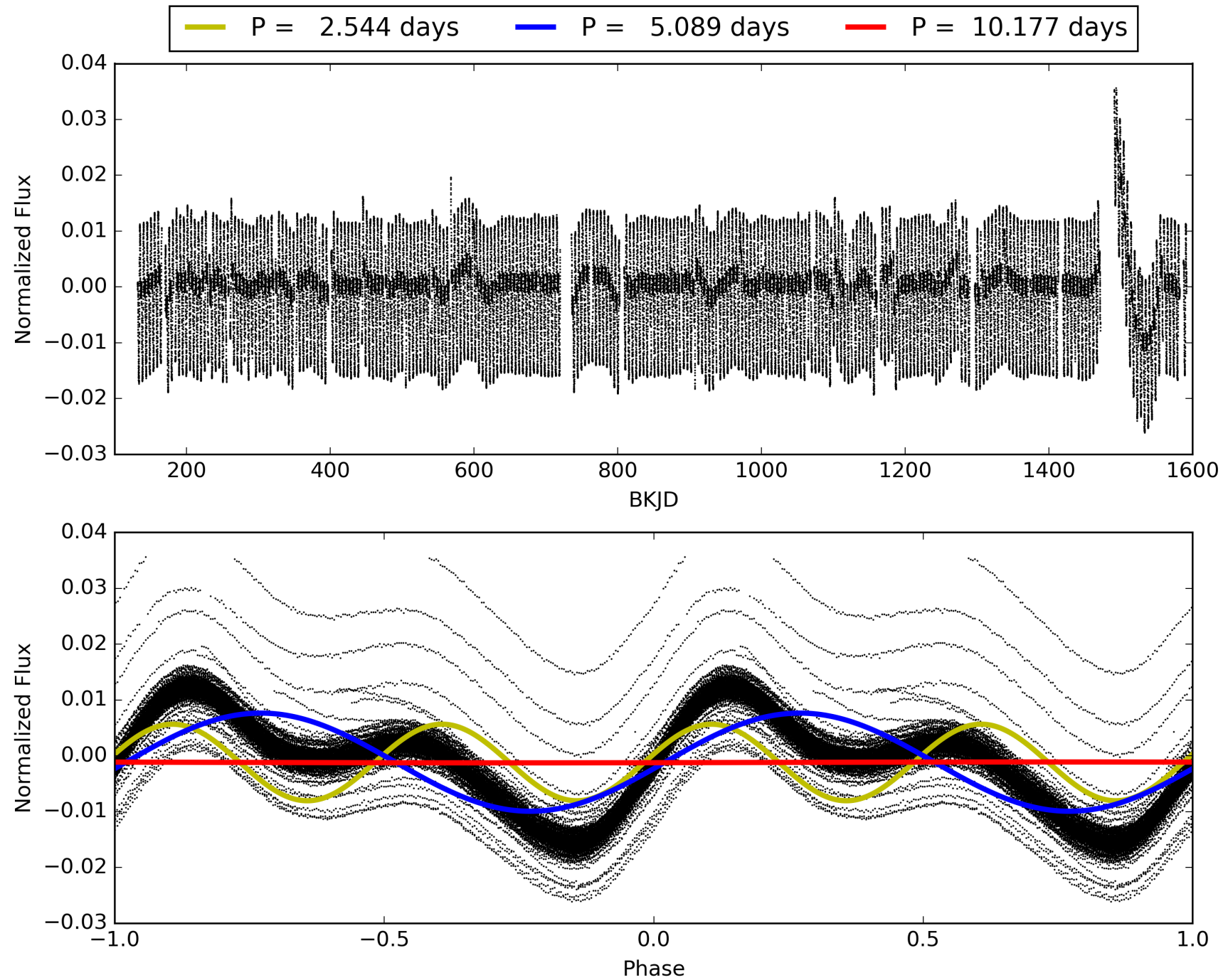
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:47:23 Z

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

TCE 002568971-01, PDC Light Curves

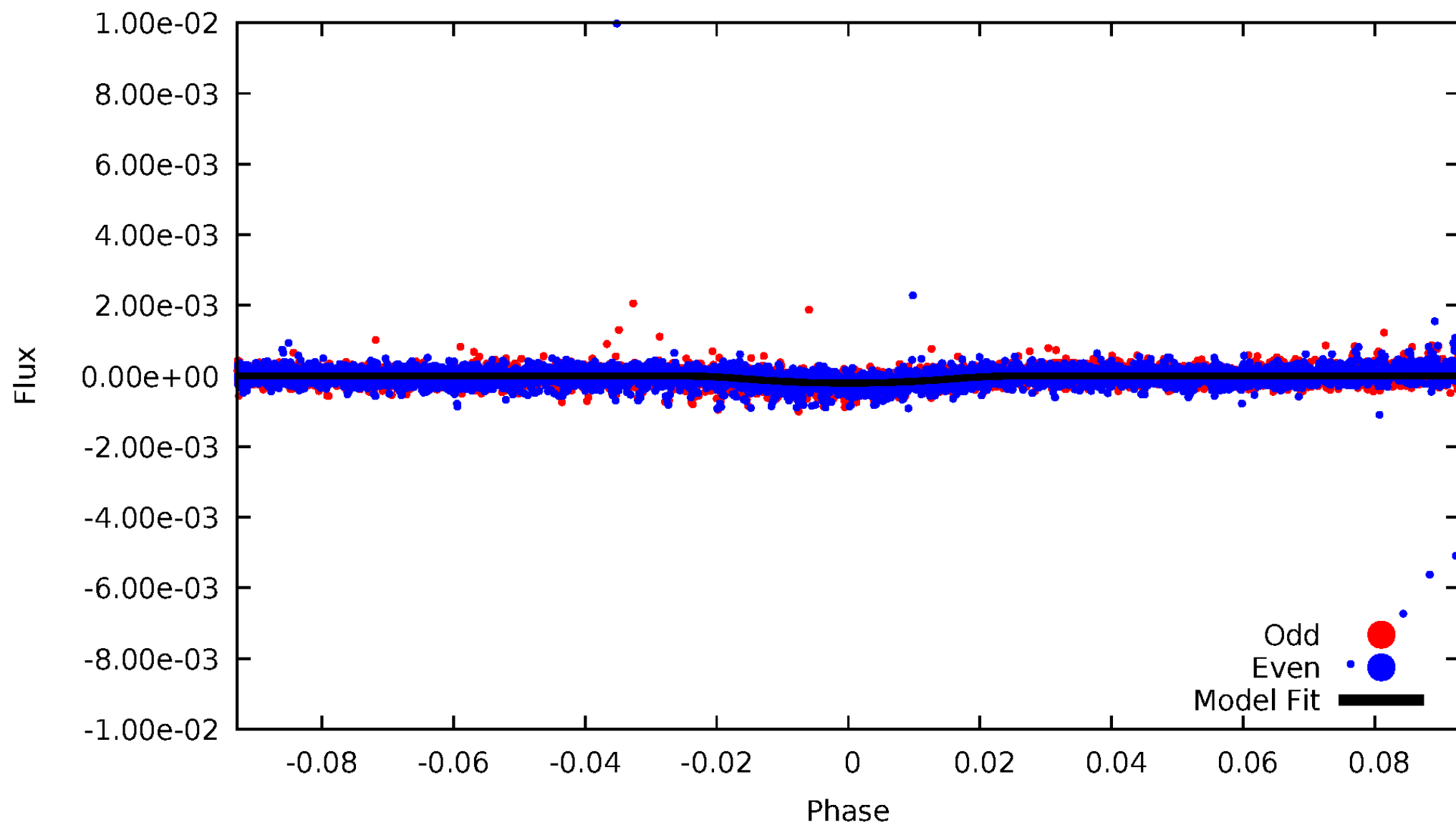


TCE 002568971-01



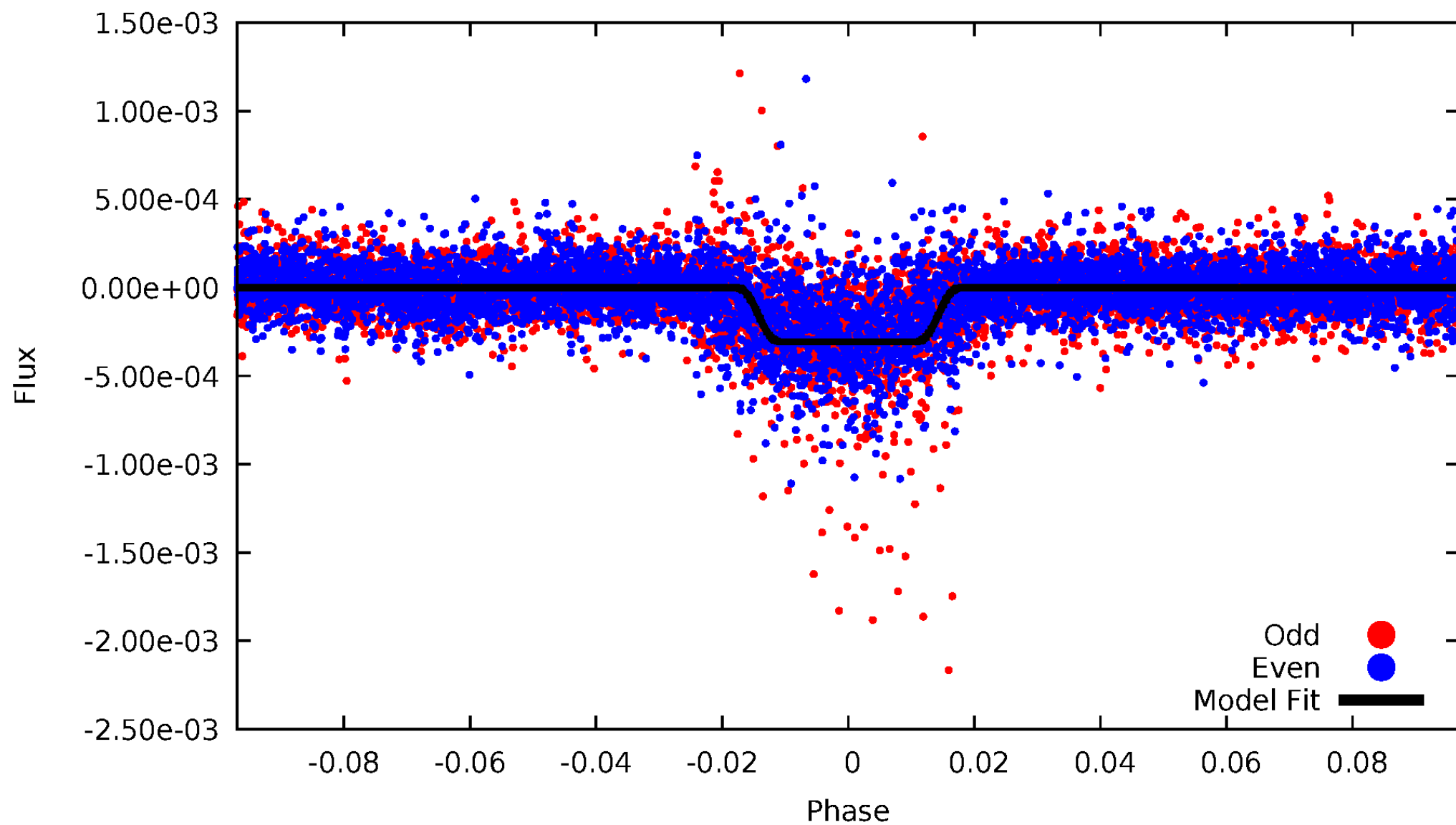
DV Odd/Even

TCE 002568971-01



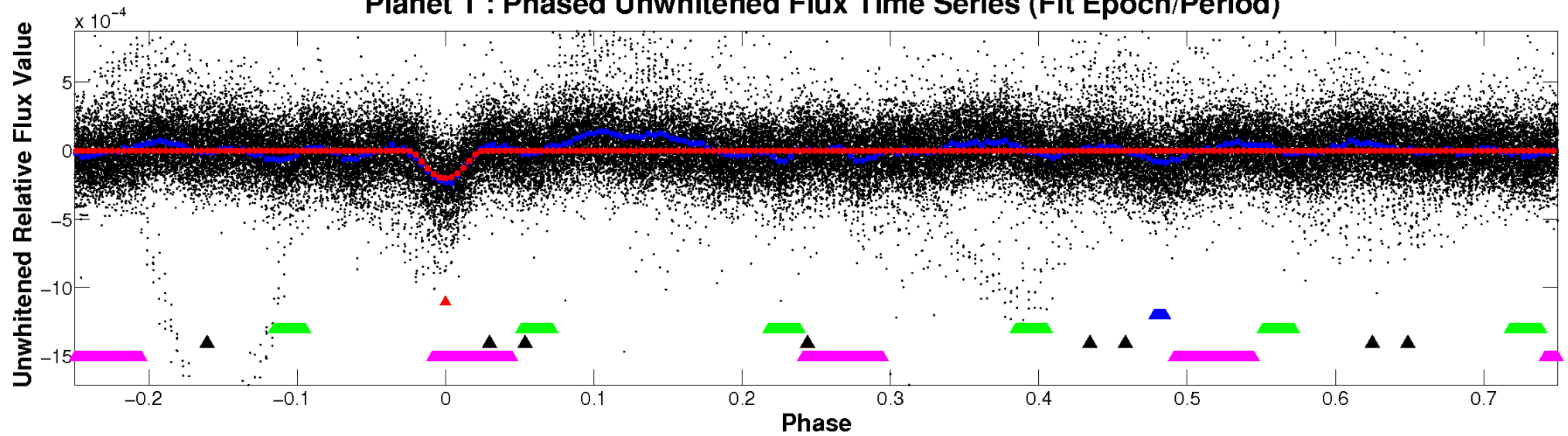
ALT Odd/Even

TCE 002568971-01

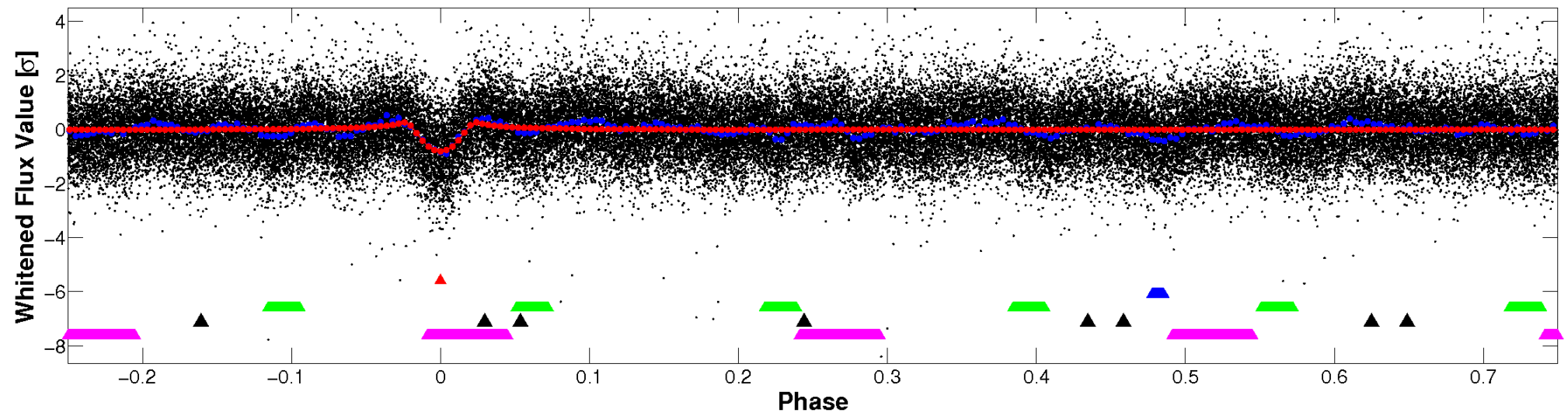


Non-Whitened Vs. Whitened Light Curve

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

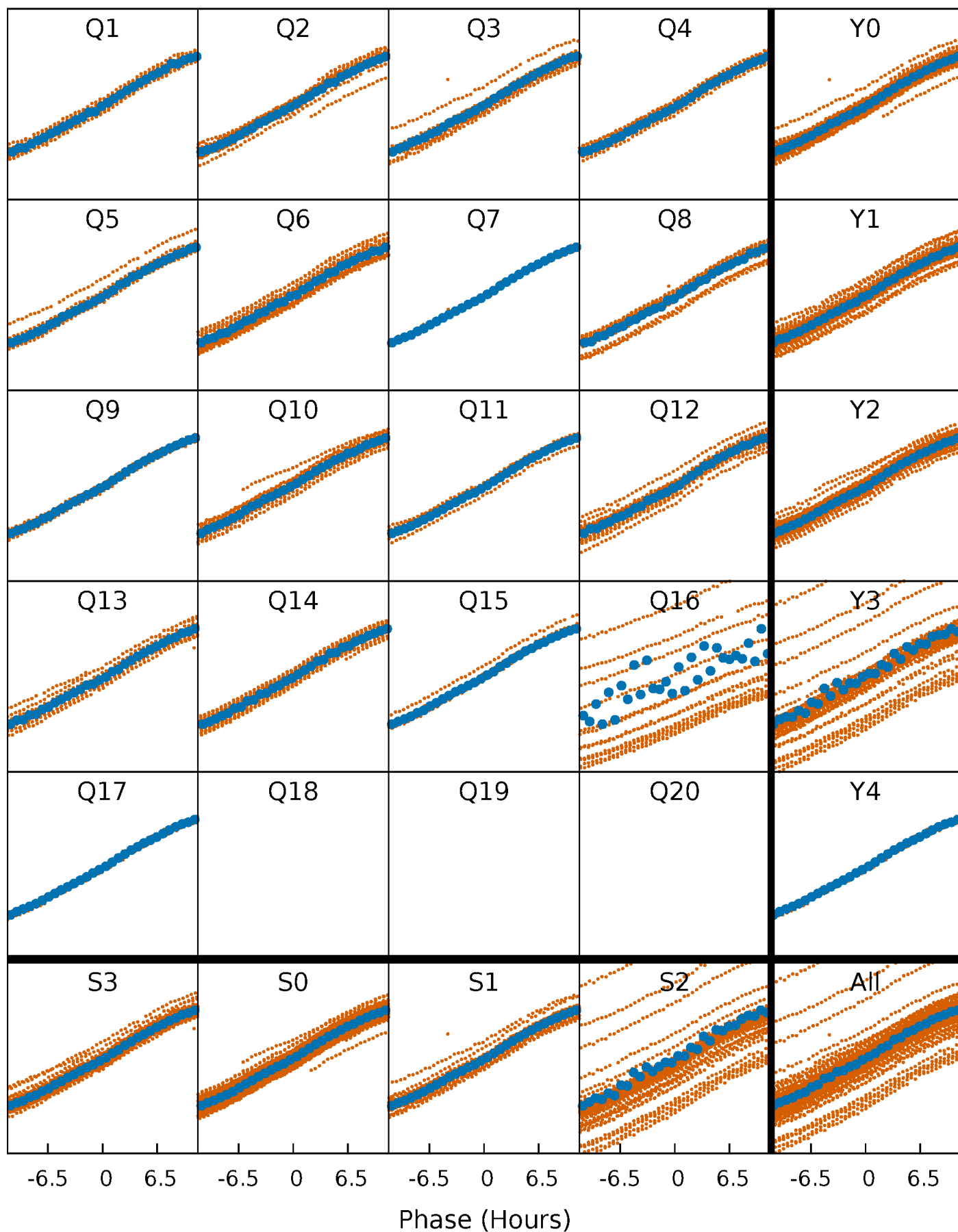


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



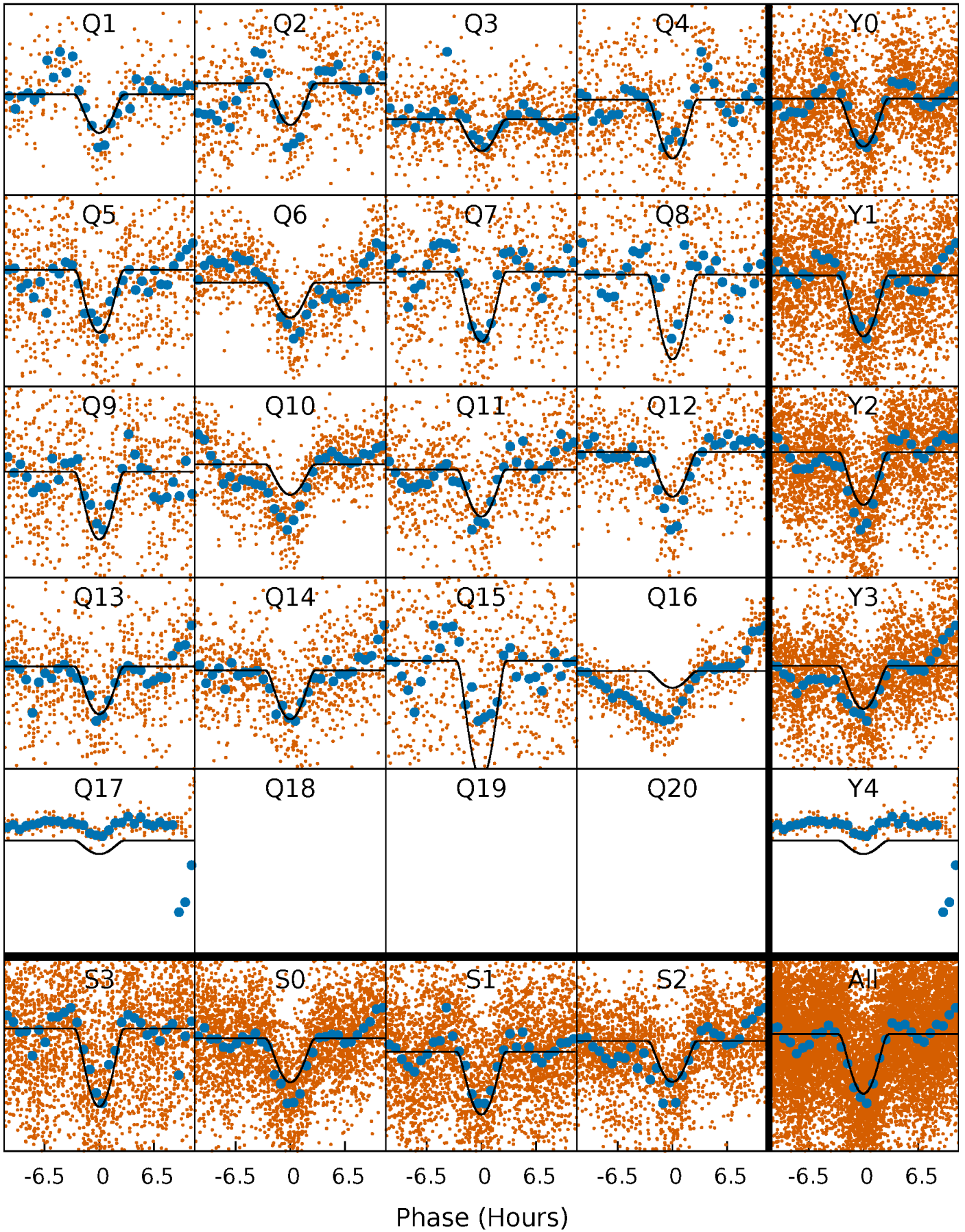
PDC Quarter-Phased Transit Curves

TCE 002568971-01 P= 5.088575 Days $T_0=134.057086$ (BKJD)



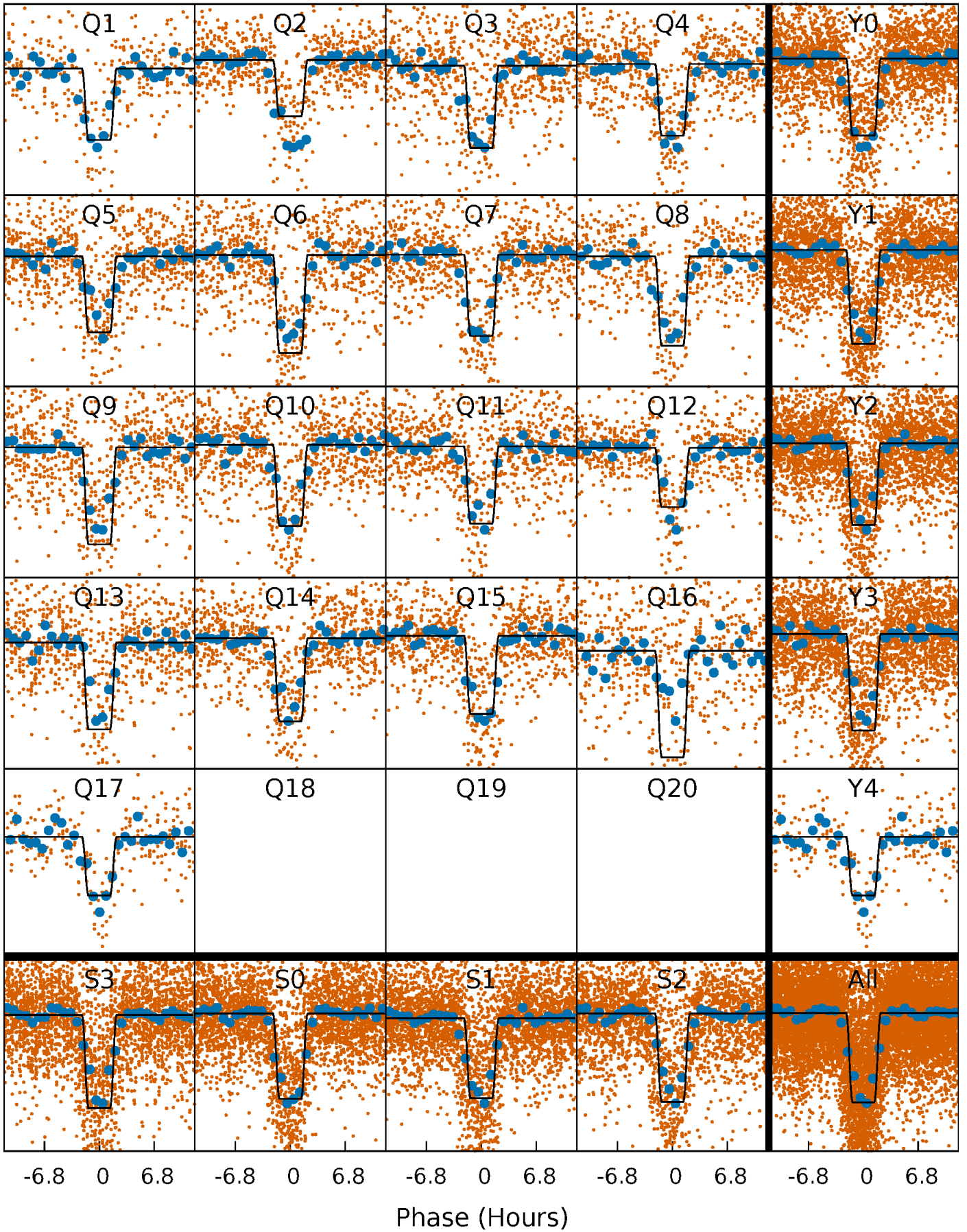
DV Quarter-Phased Transit Curves

TCE 002568971-01 P= 5.088575 Days $T_0=134.057086$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

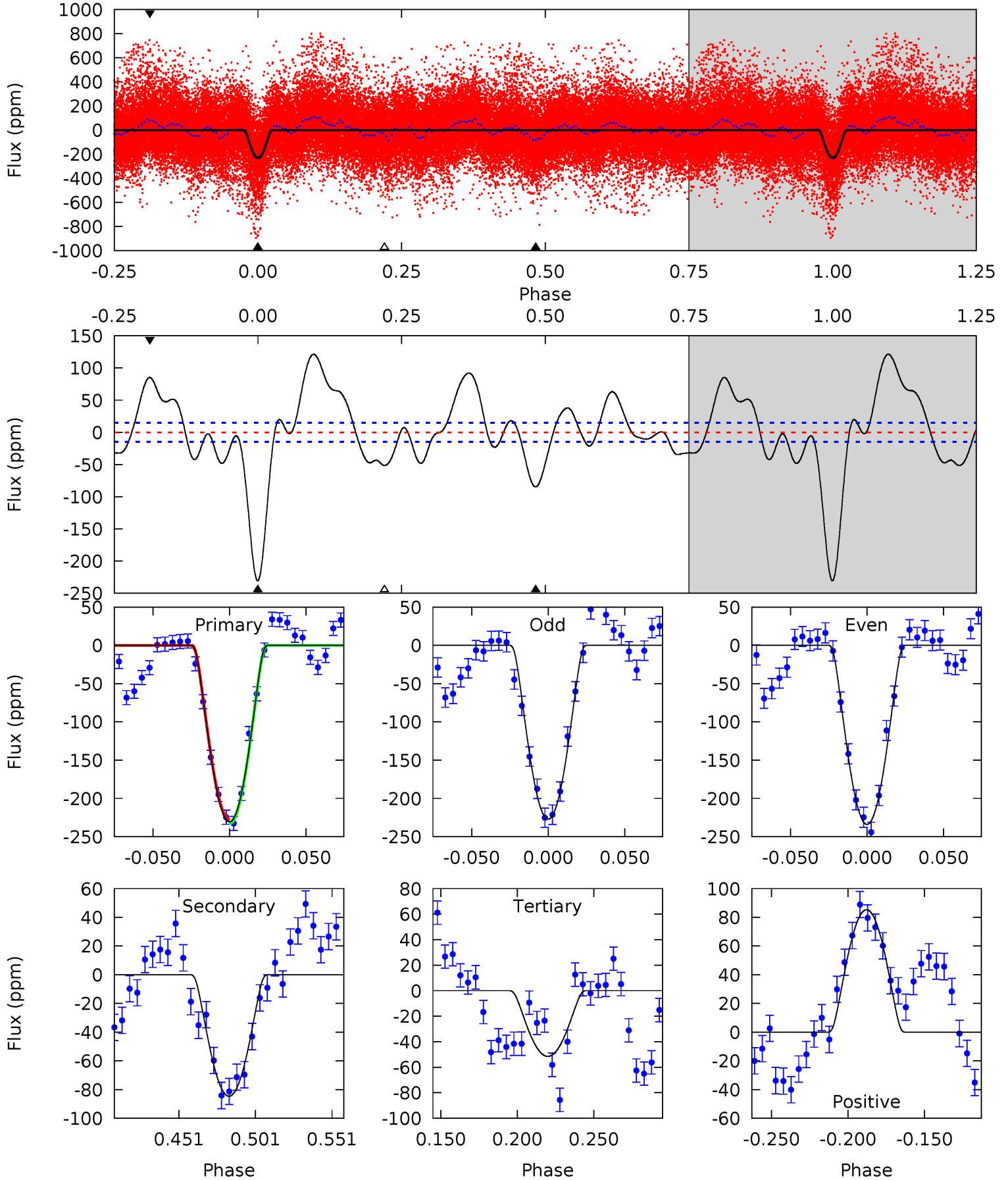
TCE 002568971-01 P= 5.088569 Days $T_0=134.061963$ (BKJD)



DV Model-Shift Uniqueness Test

002568971-01, P = 5.088575 Days, E = 128.968511 Days

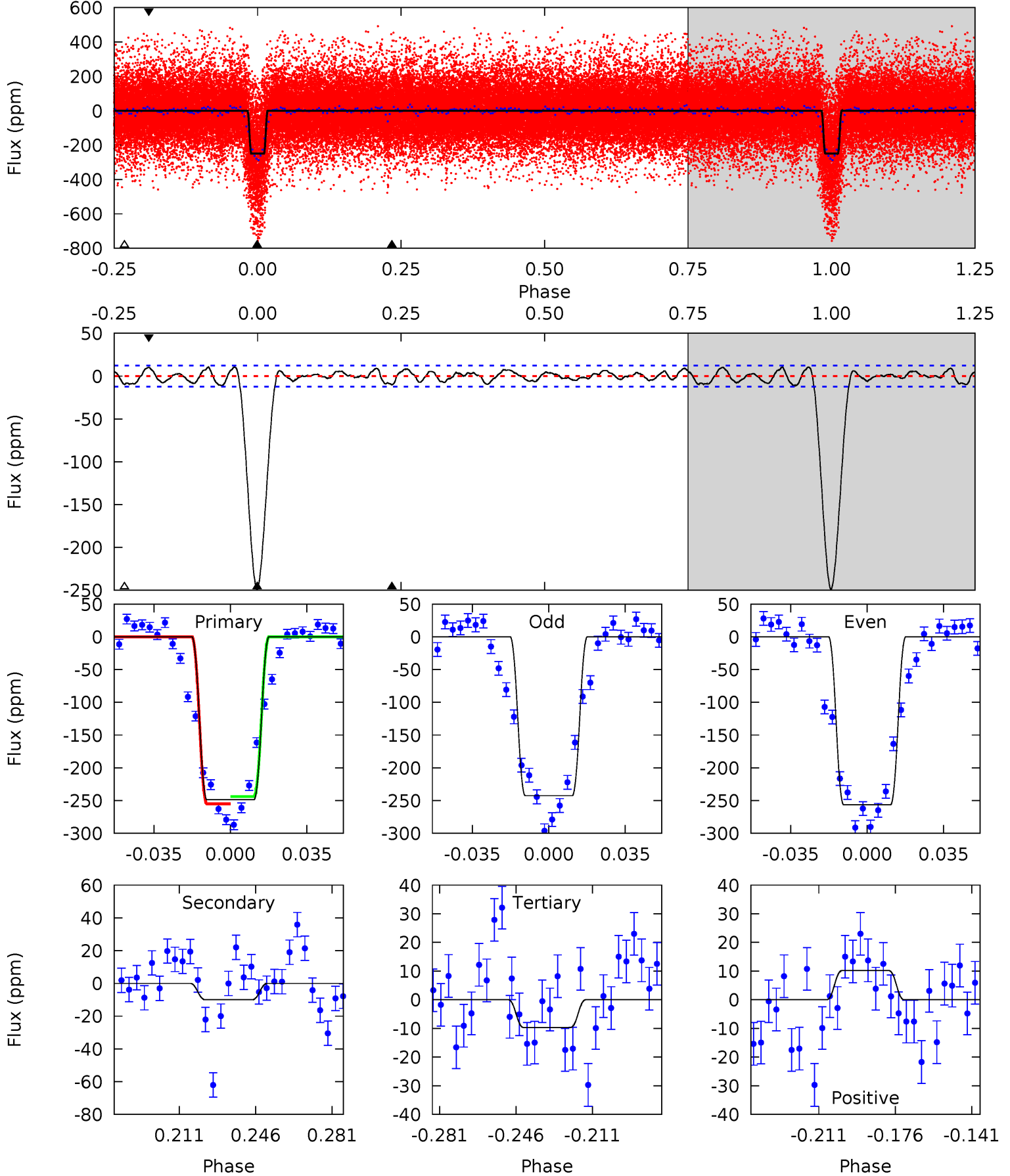
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
73.2	26.9	16.3	27.1	4.71	1.96	13.9	56.8	46.1	10.5	-0.20	1.08	1.12	0.35	0.74



Alt Model-Shift Uniqueness Test

002568971-01, P = 5.088569 Days, E = 128.973394 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
96.0	3.85	3.73	3.92	4.78	2.11	1.79	92.3	92.1	0.12	-0.07	2.65	1.04	0.04	0



Stellar Parameters For KIC 002568971

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7514^{+235}_{-314}	$4.052^{+0.193}_{-0.158}$	$-0.200^{+0.250}_{-0.350}$	$1.955^{+0.517}_{-0.517}$	$1.571^{+0.212}_{-0.259}$	$0.296^{+0.311}_{-0.130}$
	+3%/-4%	+5%/-4%	+125%/-175%	+26%/-26%	+13%/-16%	+105%/-44%
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 002568971-01 / KOI 6278.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-85 ± 3	$6.08^{+4.16}_{-3.55}$	2474^{+190}_{-181}	4342^{+2118}_{-802}	$5.746^{+26.424}_{-3.753}$
Alt.	-10 ± 3	$4.42^{+4.03}_{-2.60}$	2480^{+183}_{-188}	3193^{+1361}_{-1150}	$1.163^{+5.915}_{-0.843}$

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

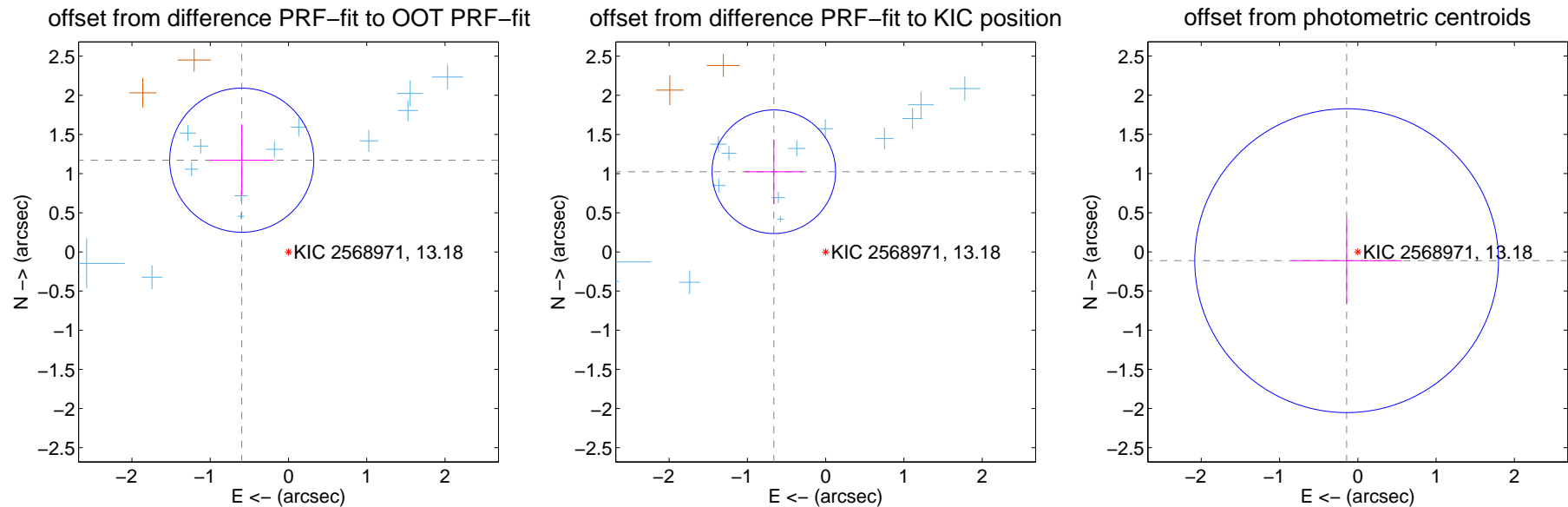
DV Centroid Data

Supplemental centroid analysis for 002568971-01. Kepler magnitude: 13.18. Transit SNR 29.47

There are 14 quarters with good PRF difference image offsets

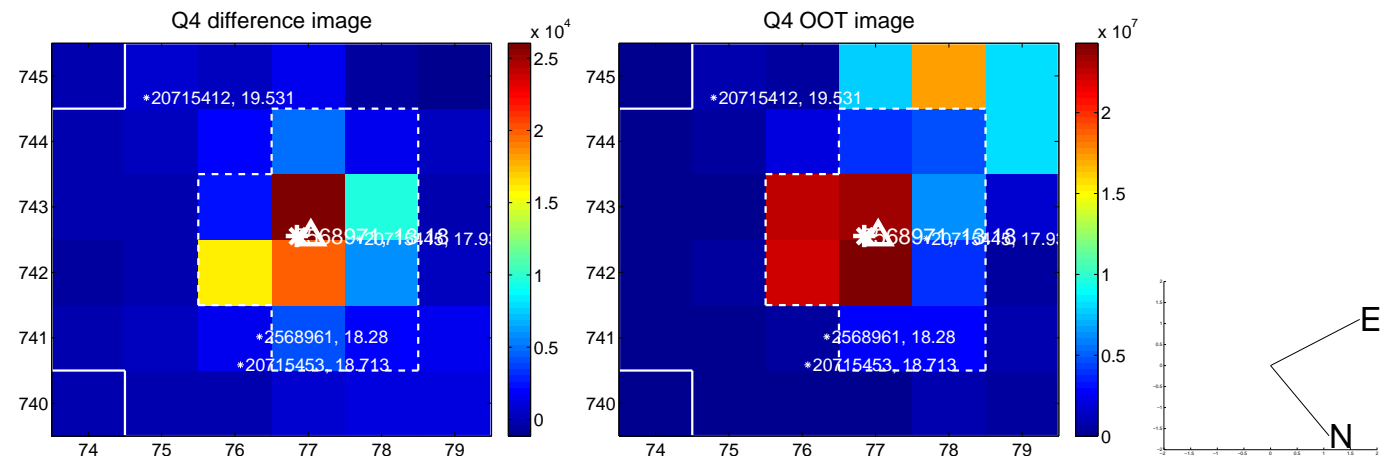
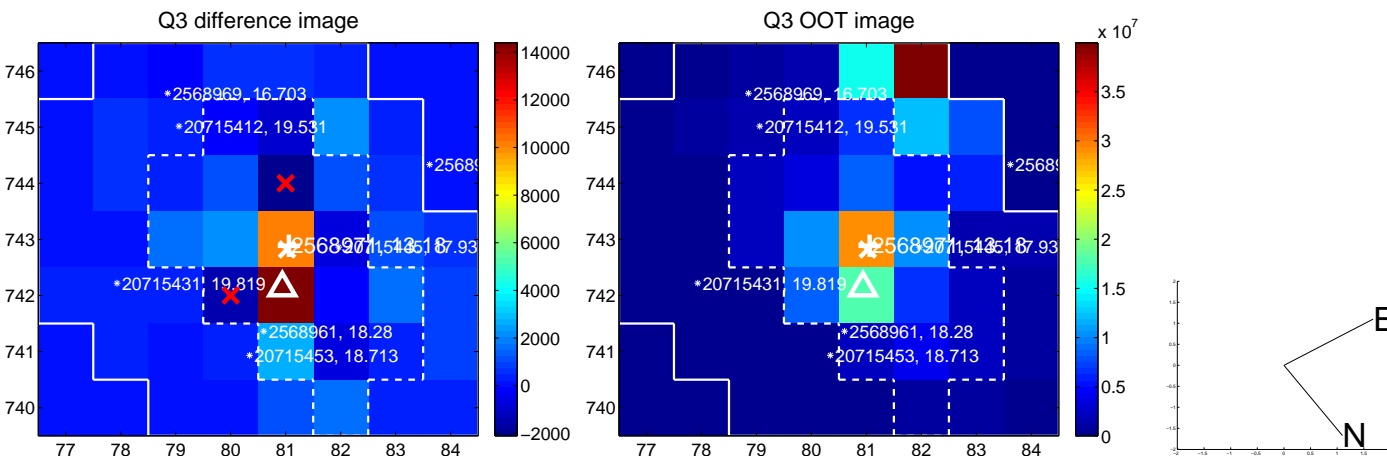
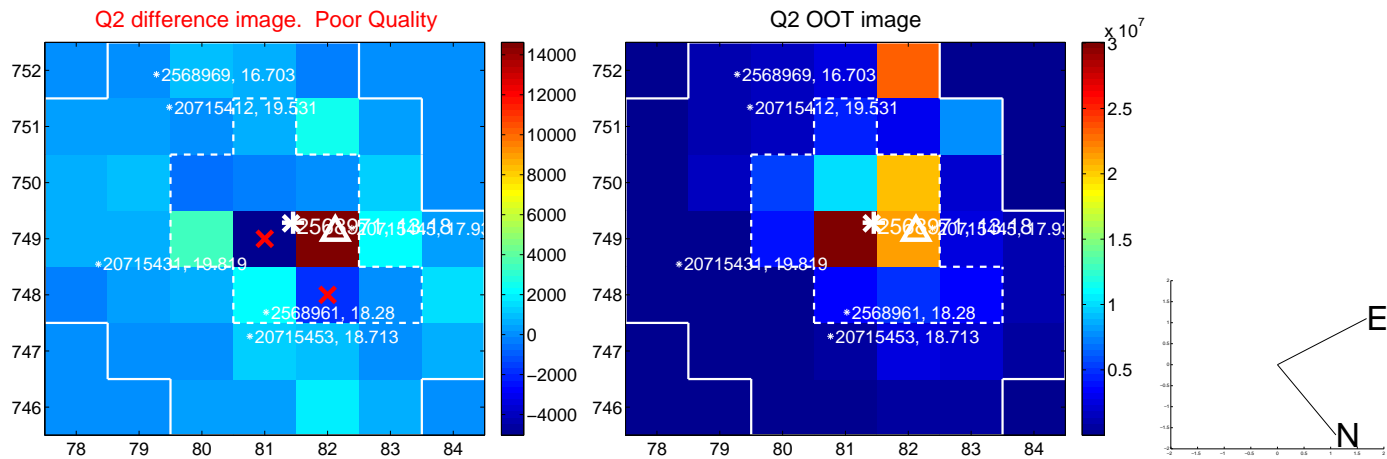
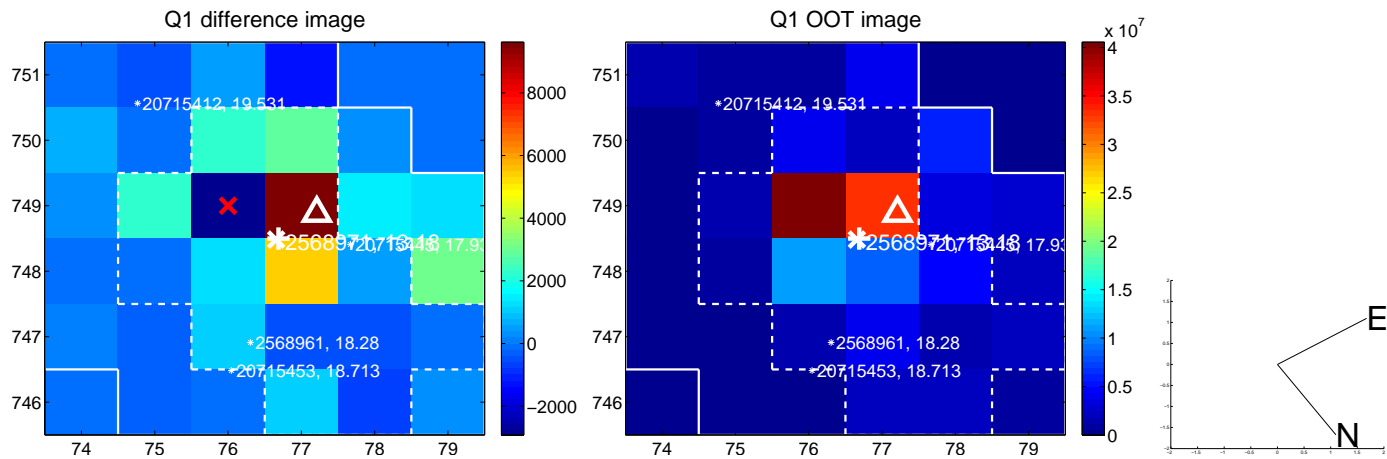
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.315 ± 0.307	4.29	0.597 ± 0.409	1.171 ± 0.457
PRF-fit source offset from KIC position	1.219 ± 0.263	4.64	0.662 ± 0.370	1.024 ± 0.409
photometric centroid source offset	0.18 ± 0.65	0.28	0.14 ± 0.70	-0.11 ± 0.54

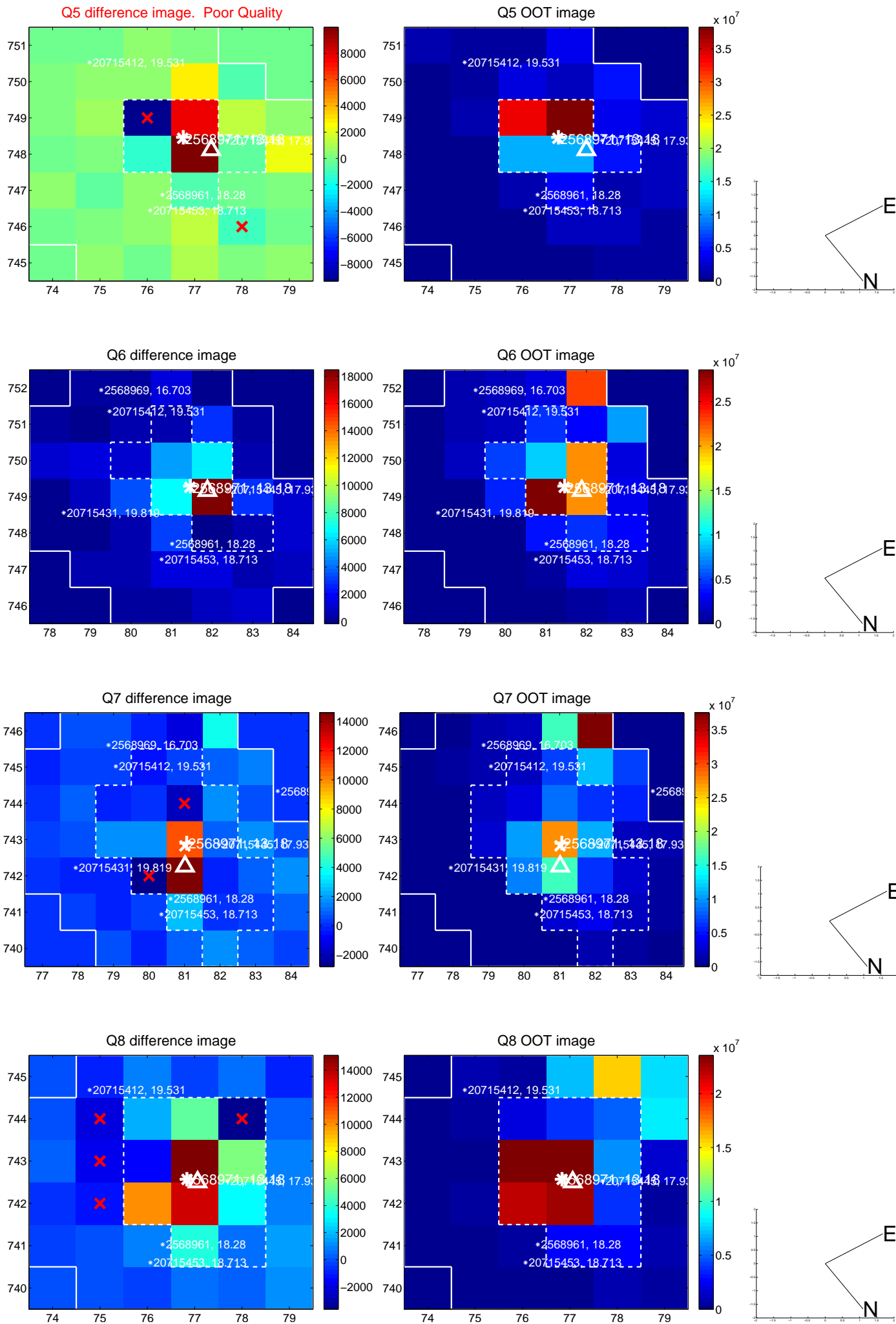


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

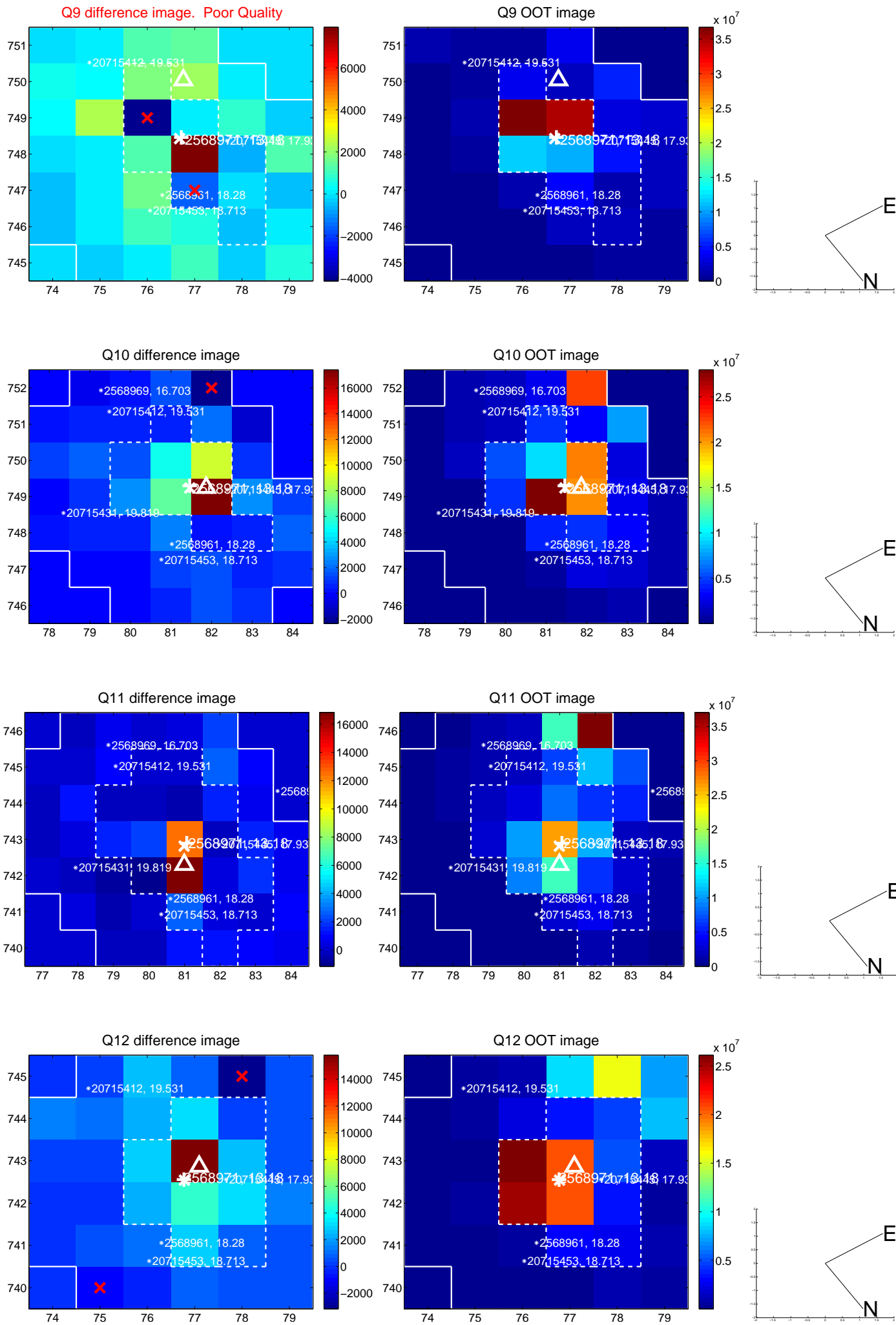
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



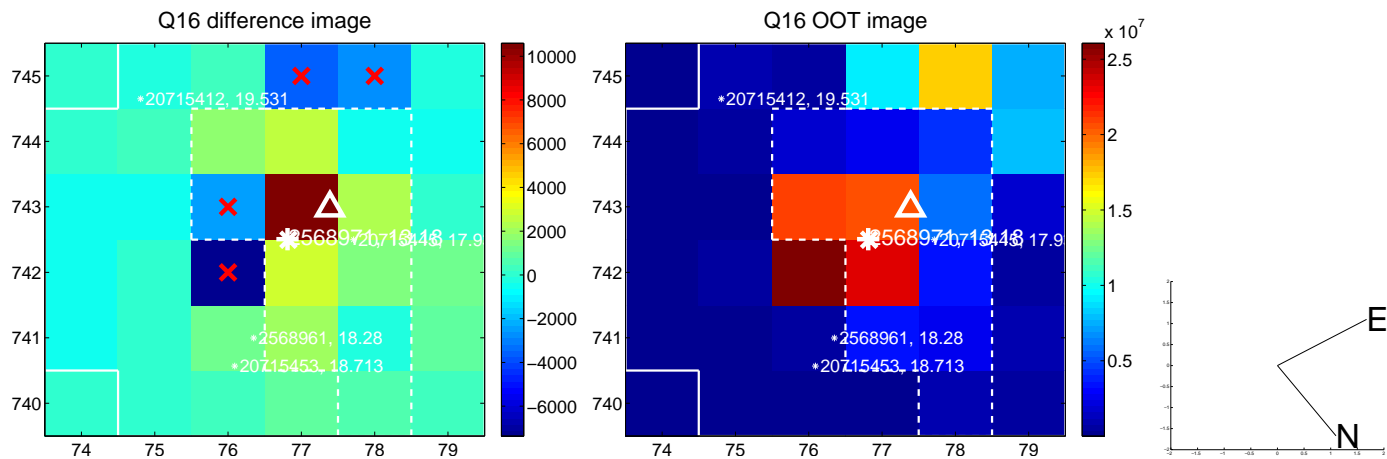
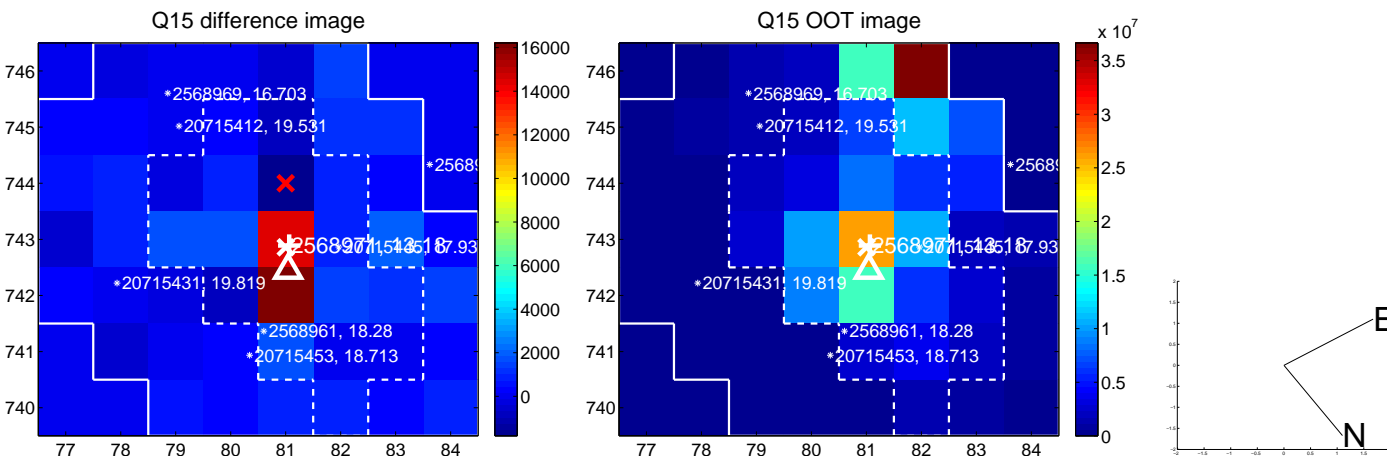
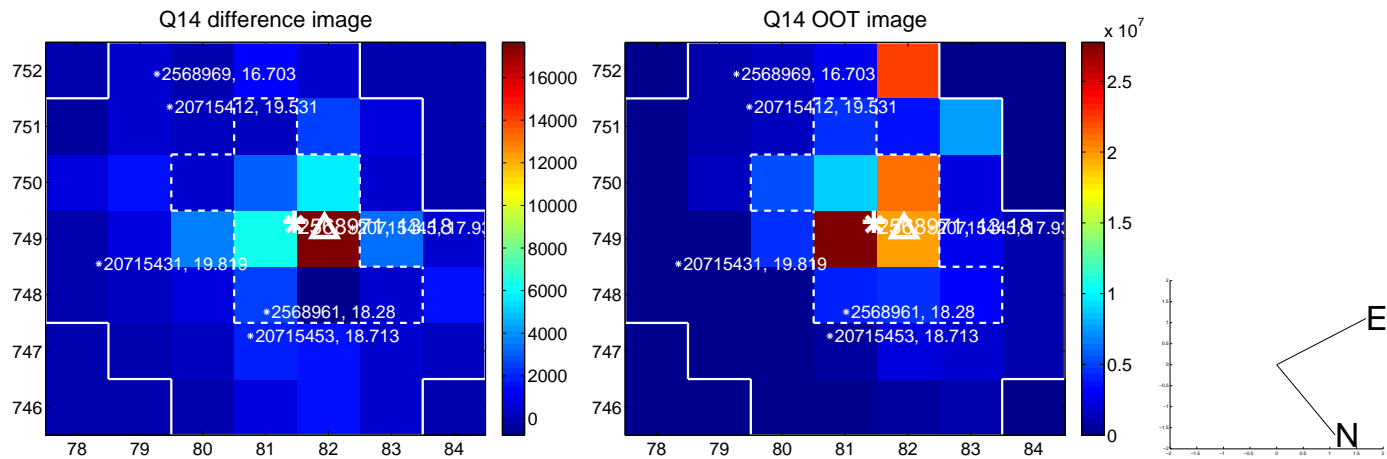
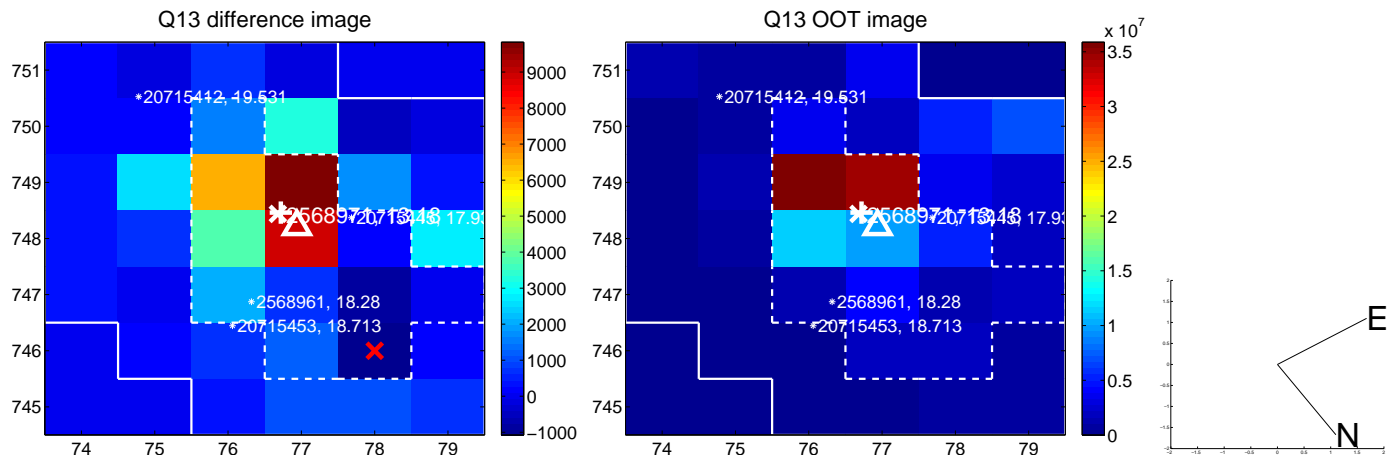
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



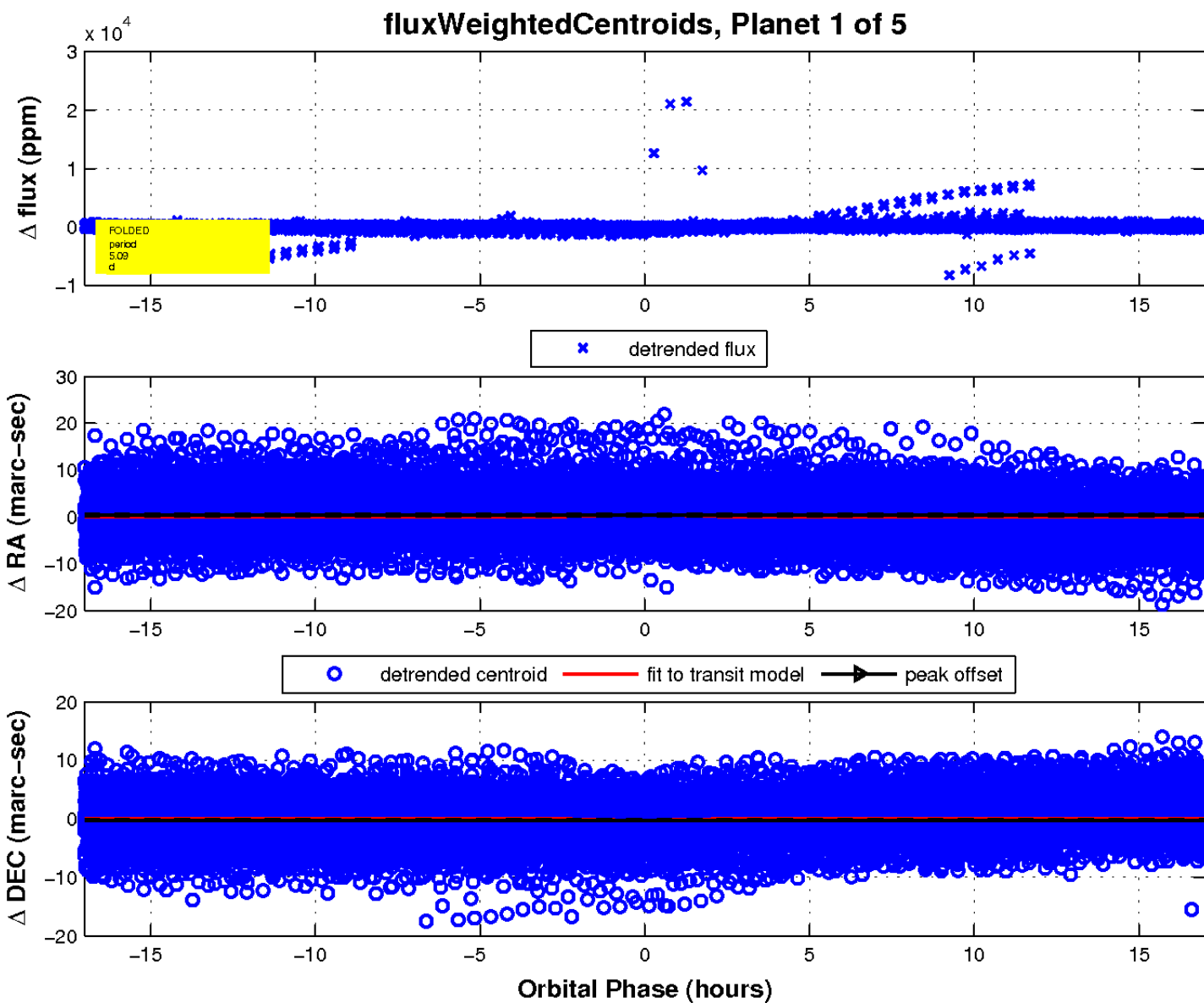
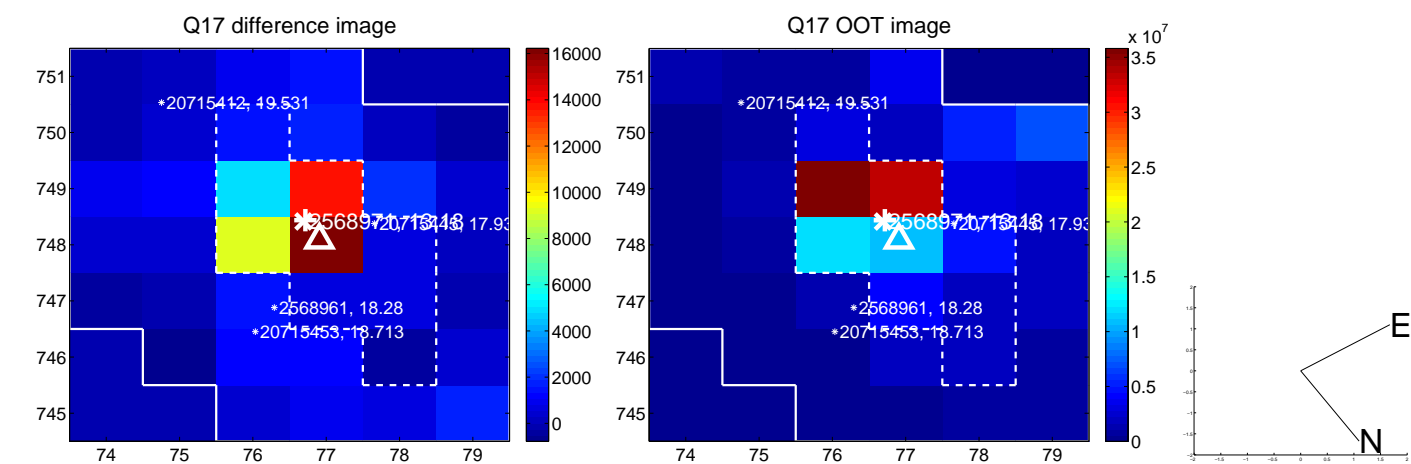
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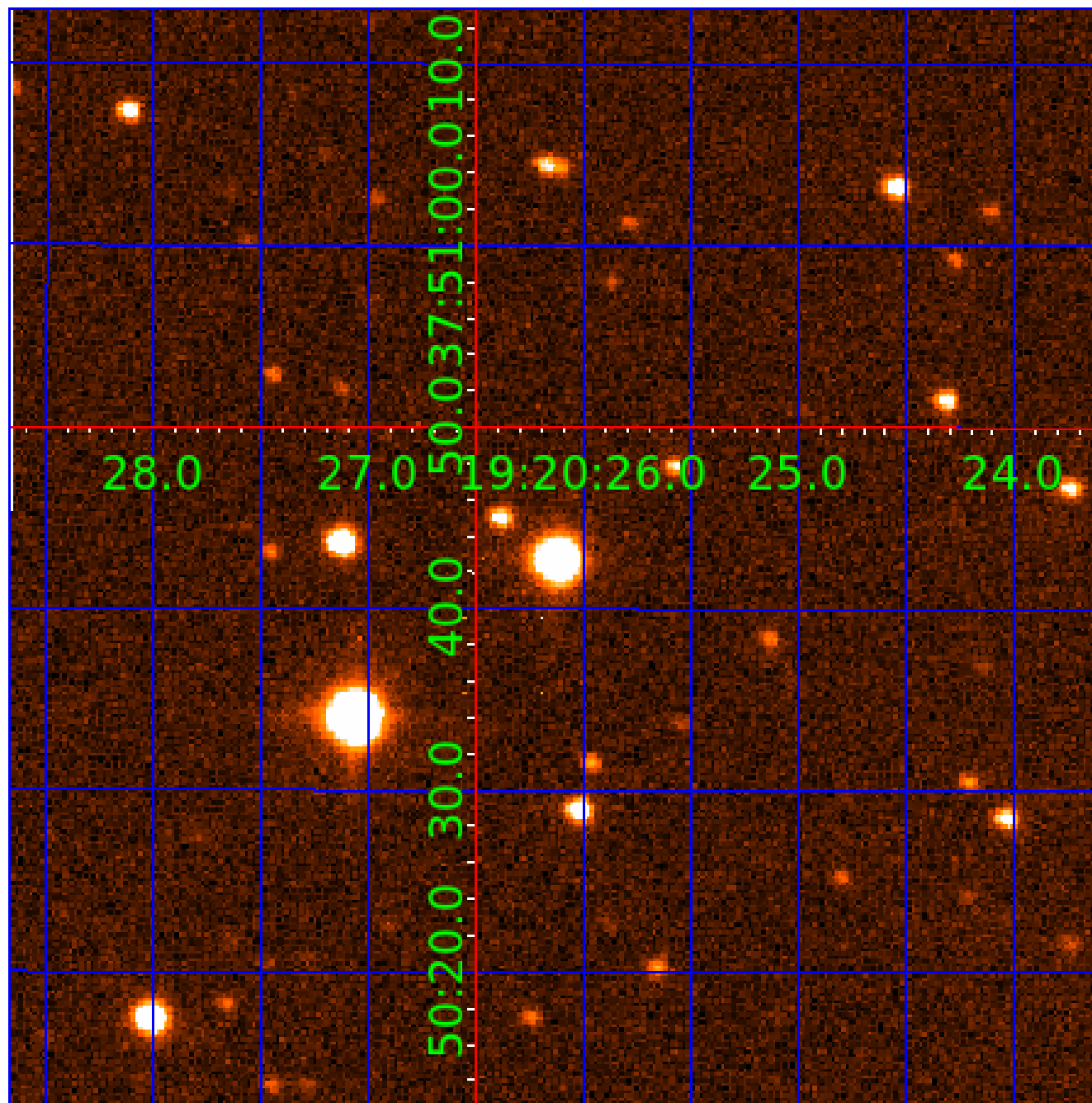


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002568971

Q1-17 DR25 TCE Parameters

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Robovetter Results

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002568971-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
002568971-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
002568971-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—SWEET_NTL—LPP_DV—LPP_ALT—CENT_NOFITS

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.

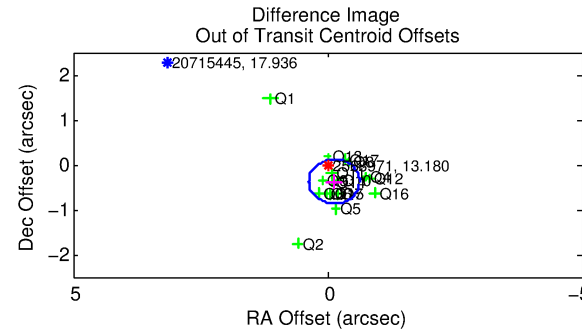
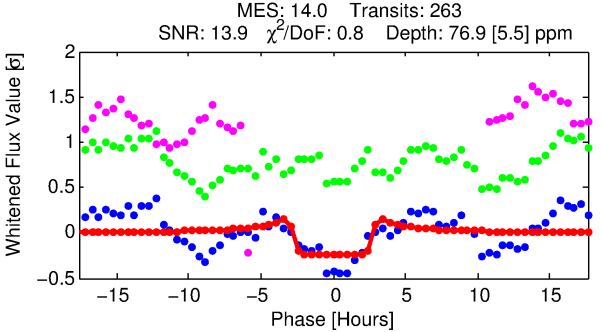
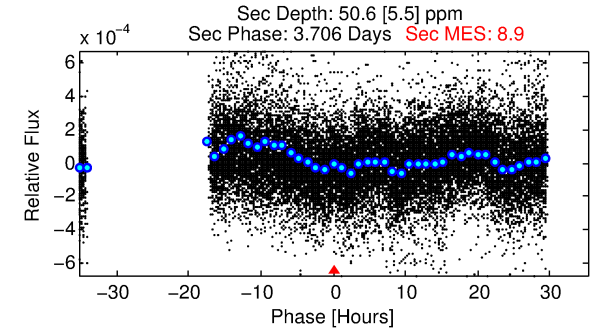
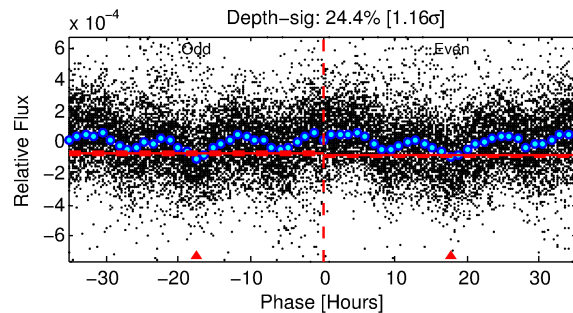
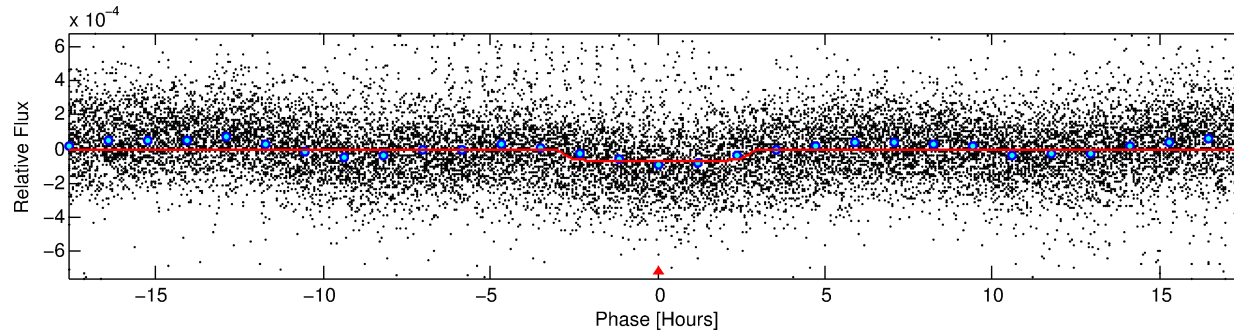
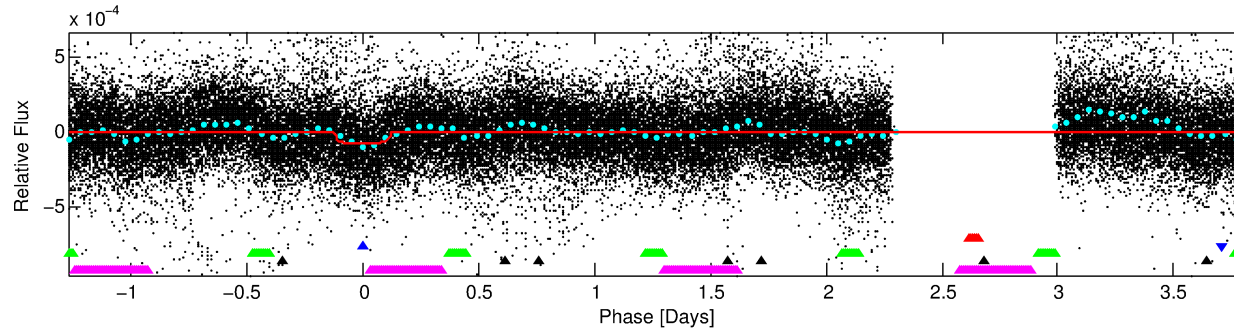
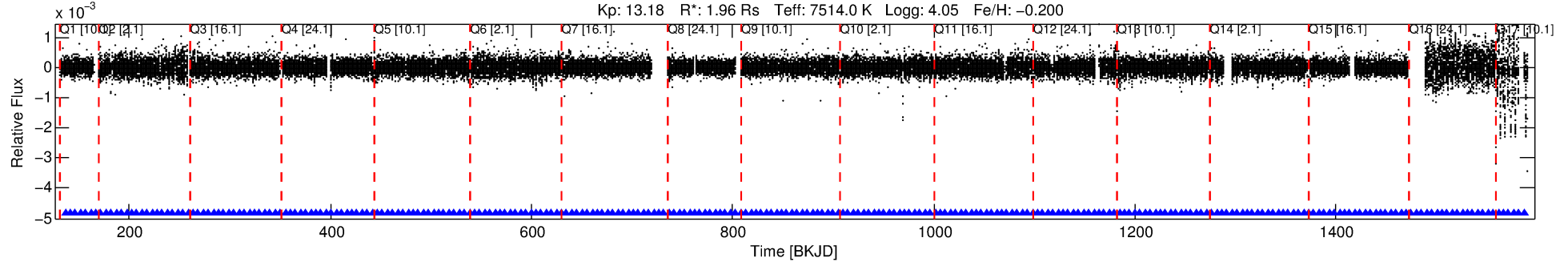
Ephemeris Match Information For 002568971-02

No Significant Match Found

DV One-Page Summary

KIC: 2568971 Candidate: 2 of 5 Period: 5.089 d
KOI: K06278 Corr: No Ephemeris Match

Kp: 13.18 R*: 1.96 Rs Teff: 7514.0 K Logg: 4.05 Fe/H: -0.200



DV Fit Results:

Period = 5.08871 [0.00003] d
Epoch = 136.4883 [0.0037] BKJD
Rp/R* = 0.0094 [0.0014]
a/R* = 3.17 [2.36]
b = 0.90 [0.18]
Seff = 2408.06 [922.62]
Teq = 1786 [171] K
Rp = 2.01 [0.61] Re
a = 0.0673 [0.0155] AU
Ag = 31.21 [14.68] [2.06σ]
Teffp = 6528 [589] K [7.73σ]

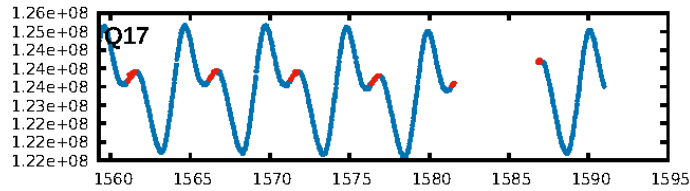
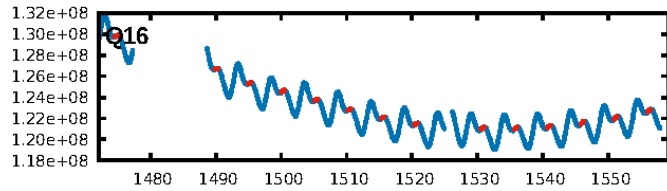
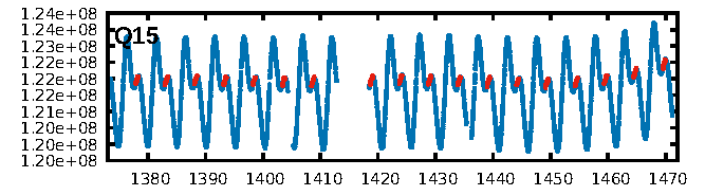
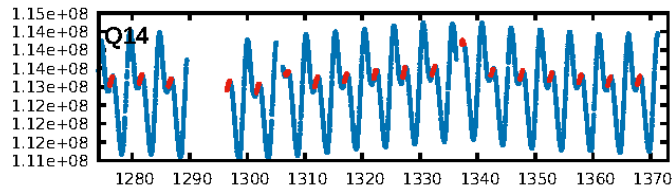
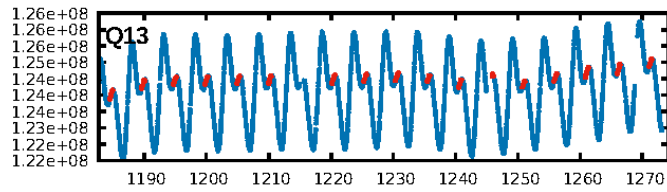
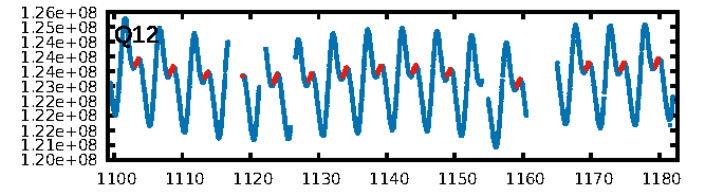
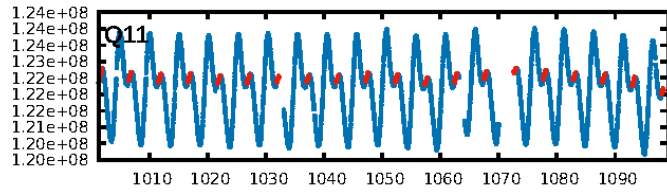
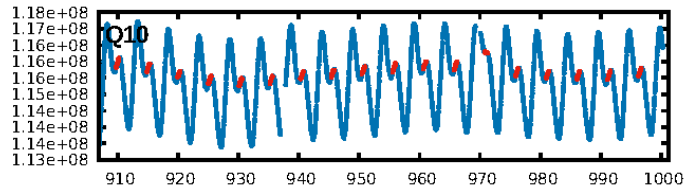
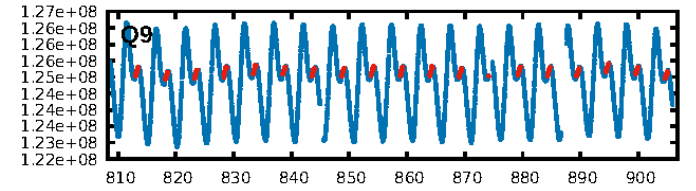
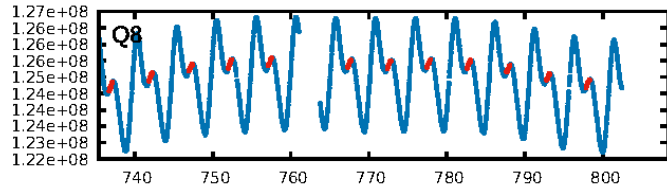
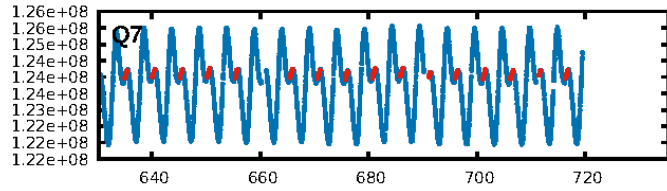
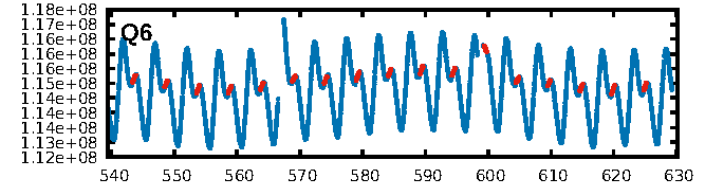
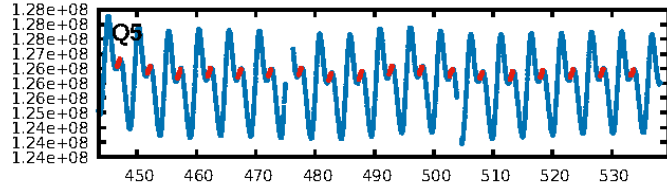
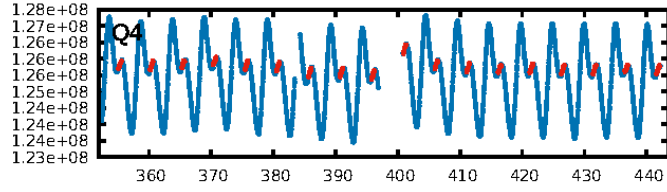
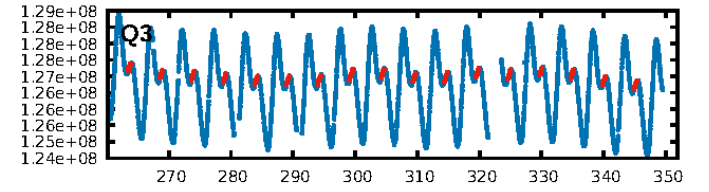
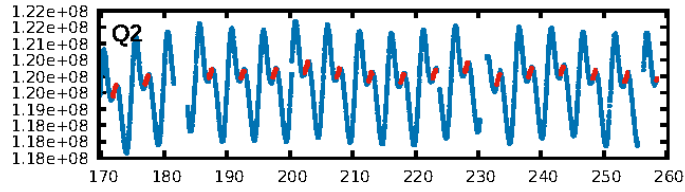
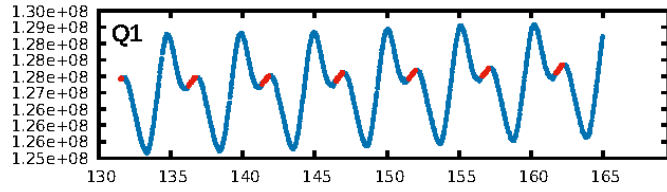
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [488.90σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [250/250]
GhostDiagnostic-chr: 0.9782
Centroid-sig: 45.3%
Centroid-so: 1.382 arcsec [1.04σ]
OotOffset-rm: 0.397 arcsec [2.39σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.514 arcsec [3.01σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 0.00 [0/17]

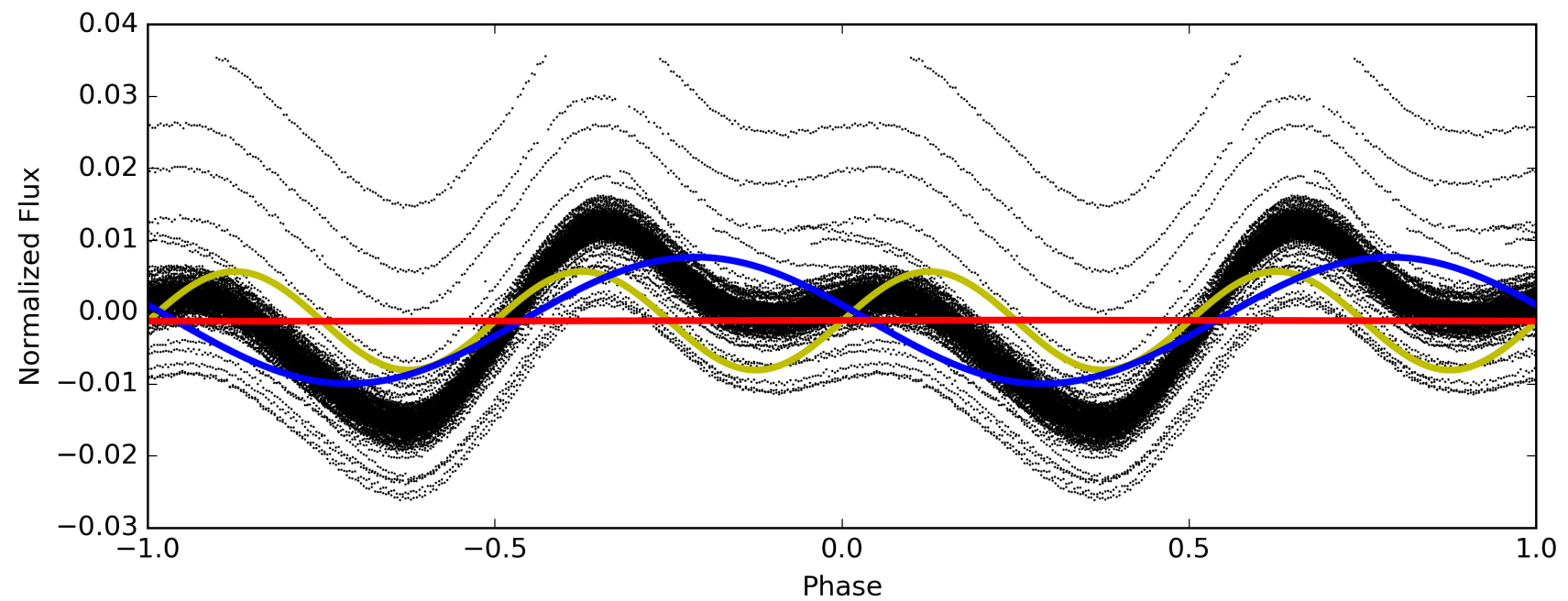
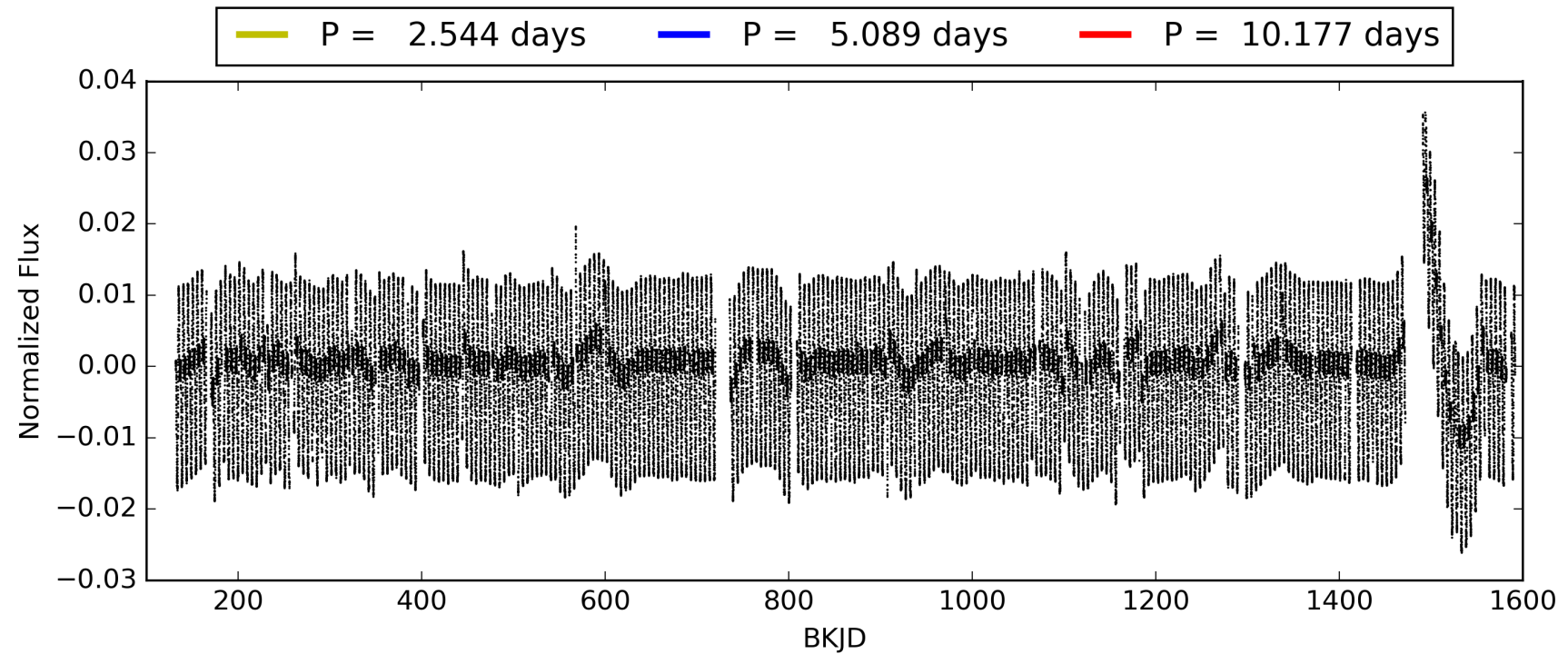
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:47:31 Z

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

TCE 002568971-02, PDC Light Curves

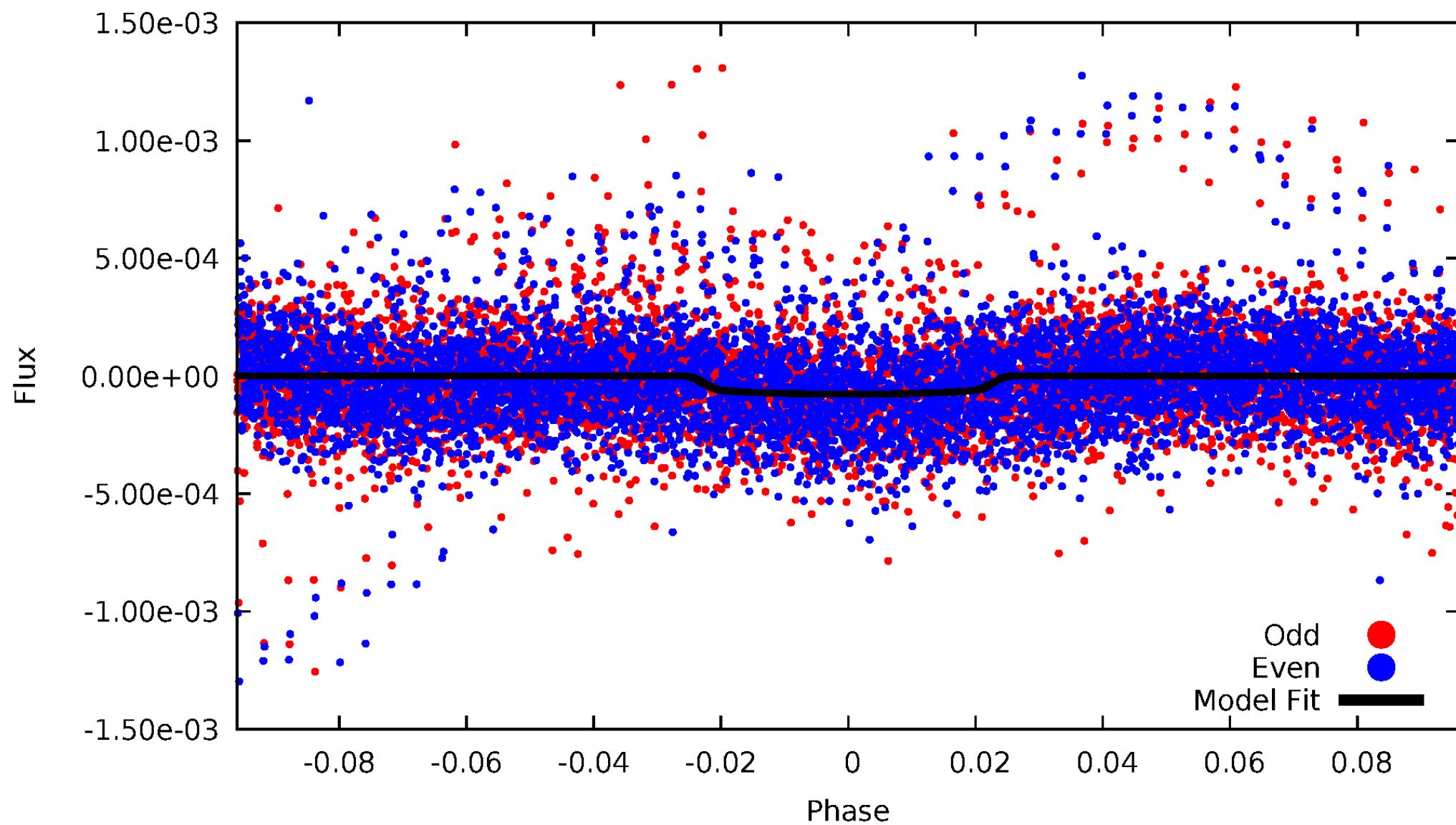


TCE 002568971-02



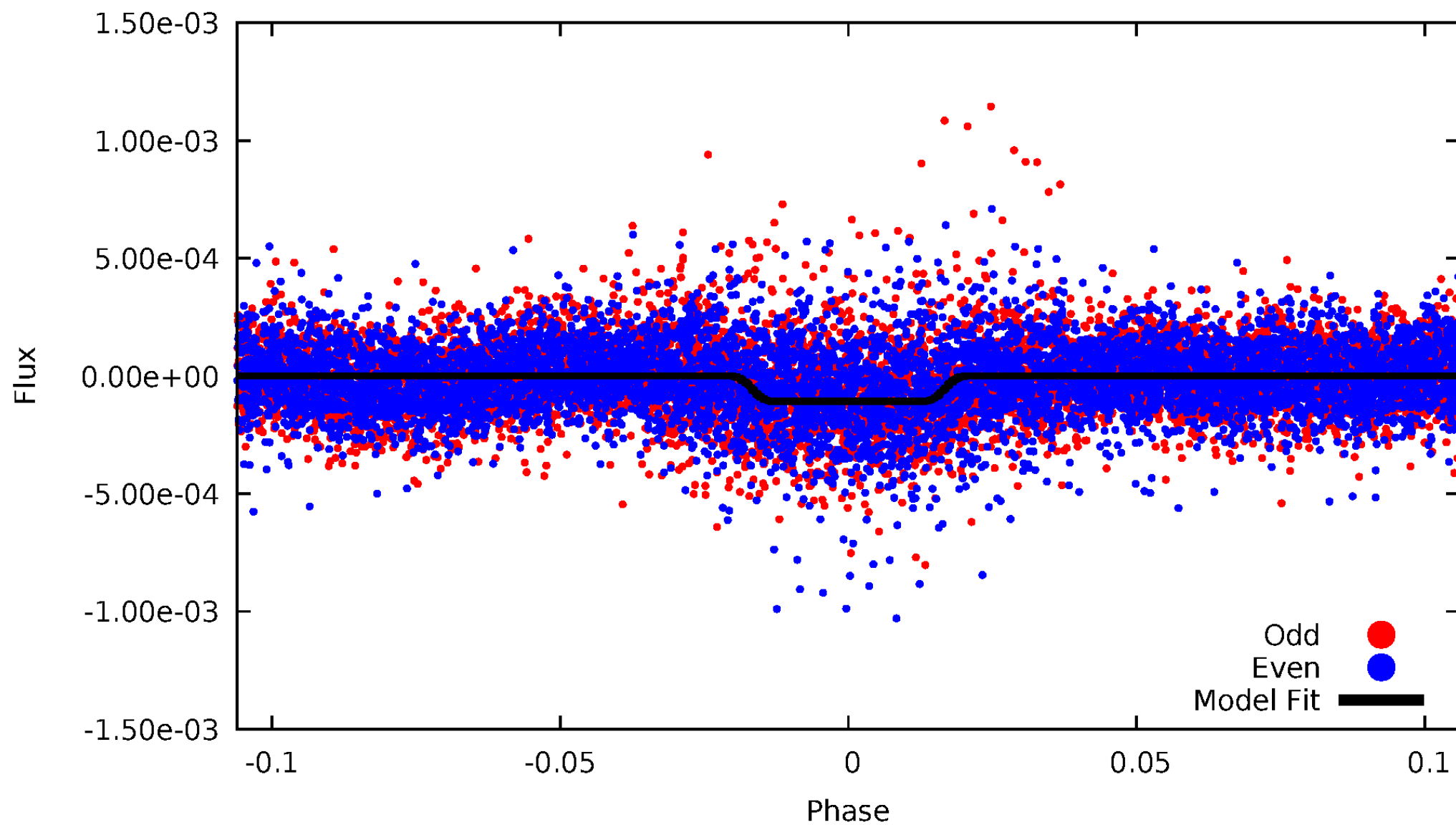
DV Odd/Even

TCE 002568971-02



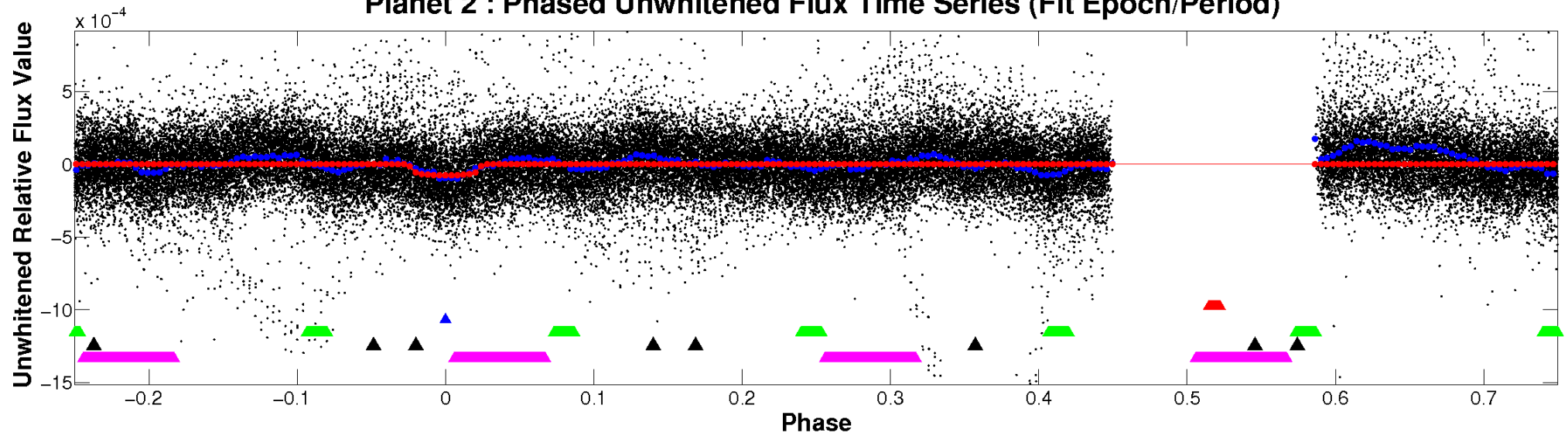
ALT Odd/Even

TCE 002568971-02

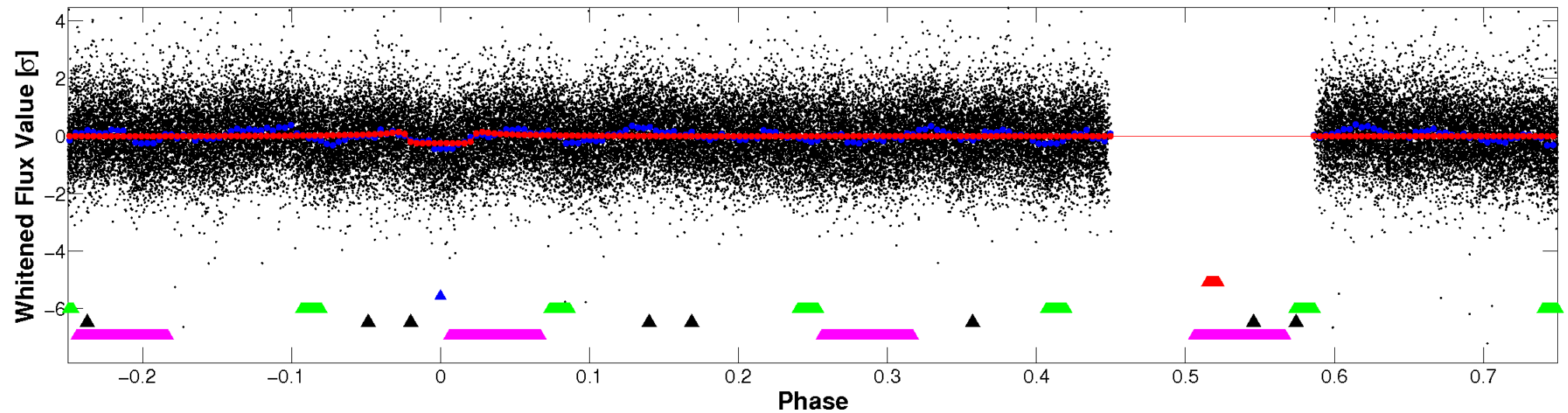


Non-Whitened Vs. Whitened Light Curve

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

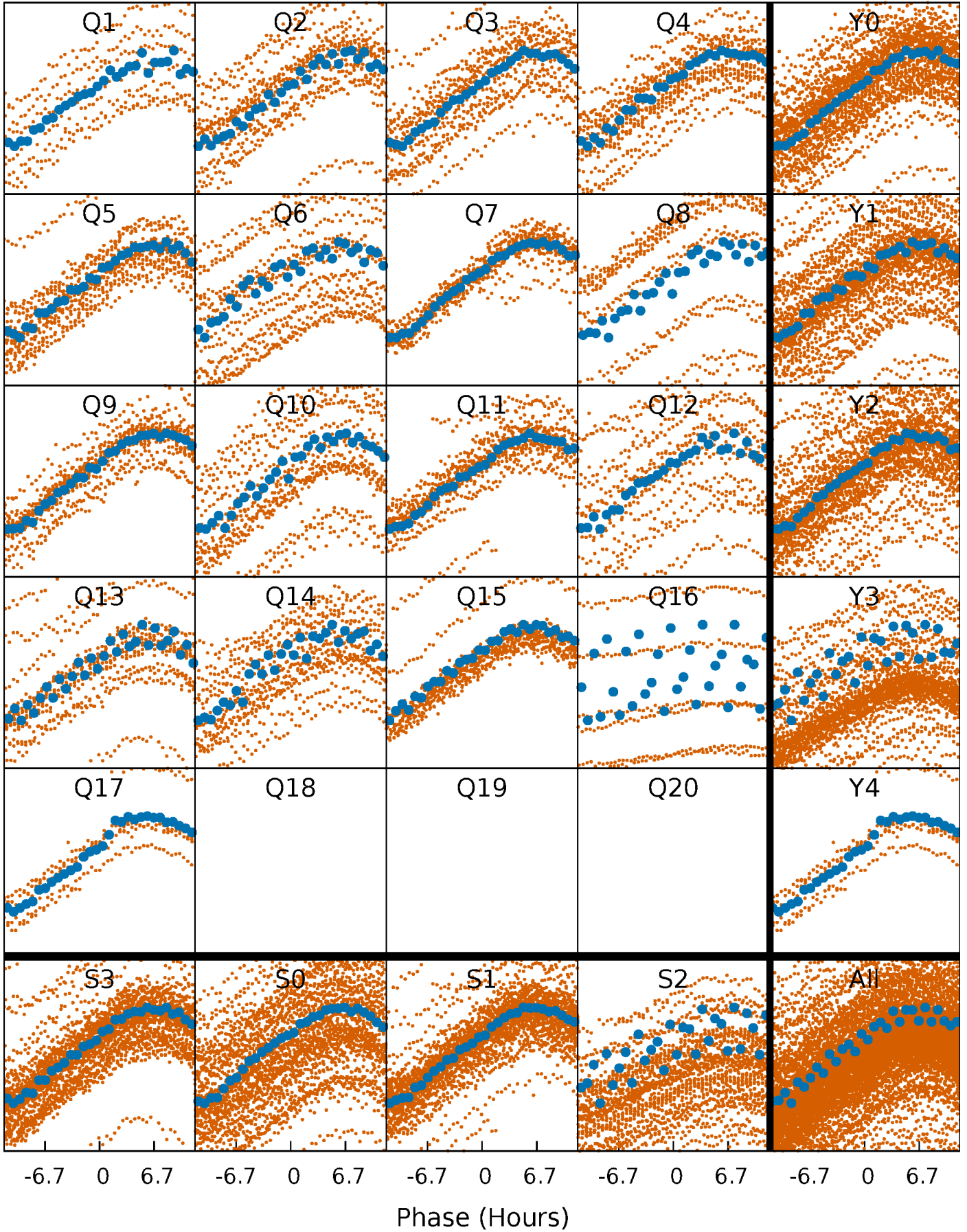


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



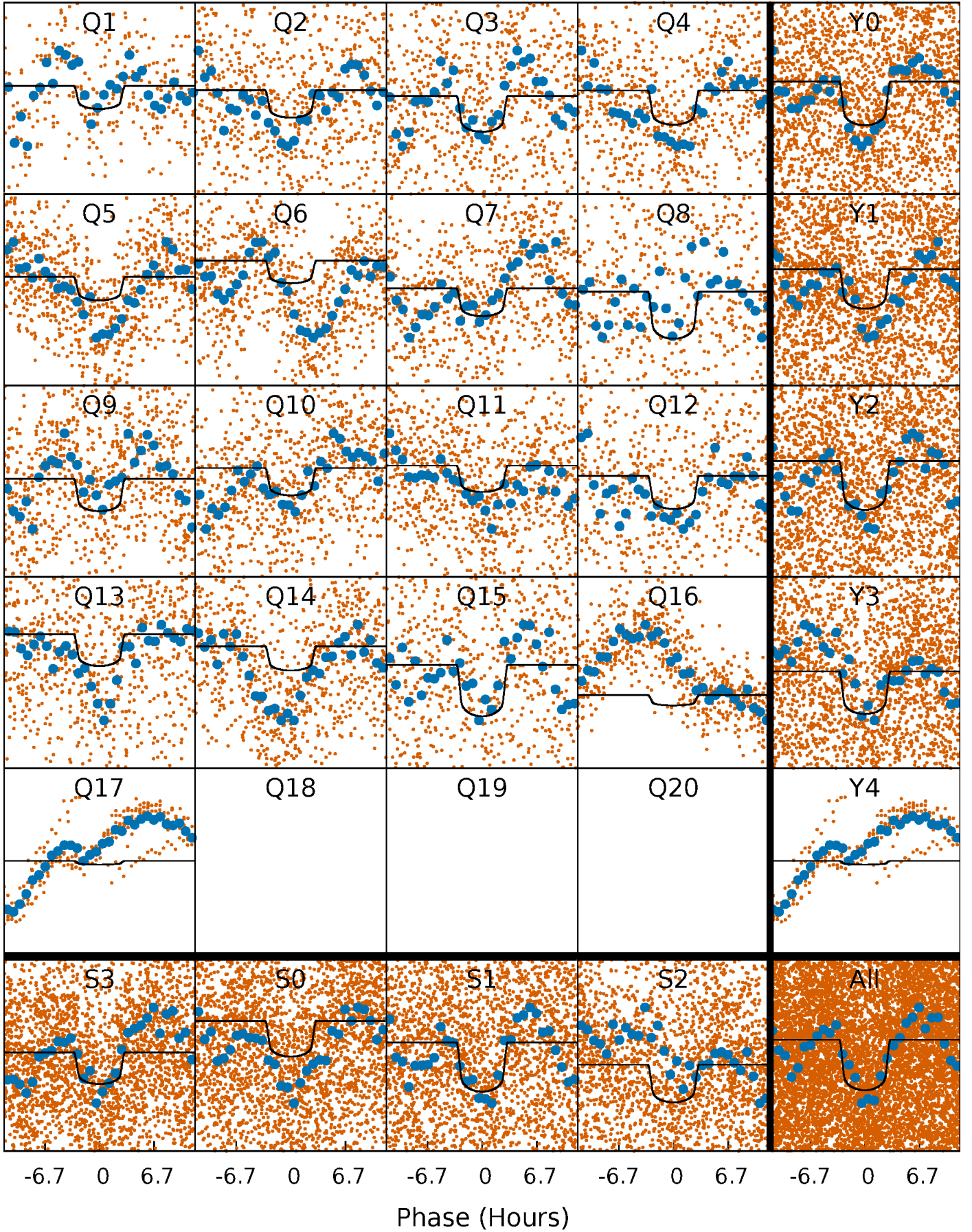
PDC Quarter-Phased Transit Curves

TCE 002568971-02 P= 5.088710 Days $T_0=136.488332$ (BKJD)



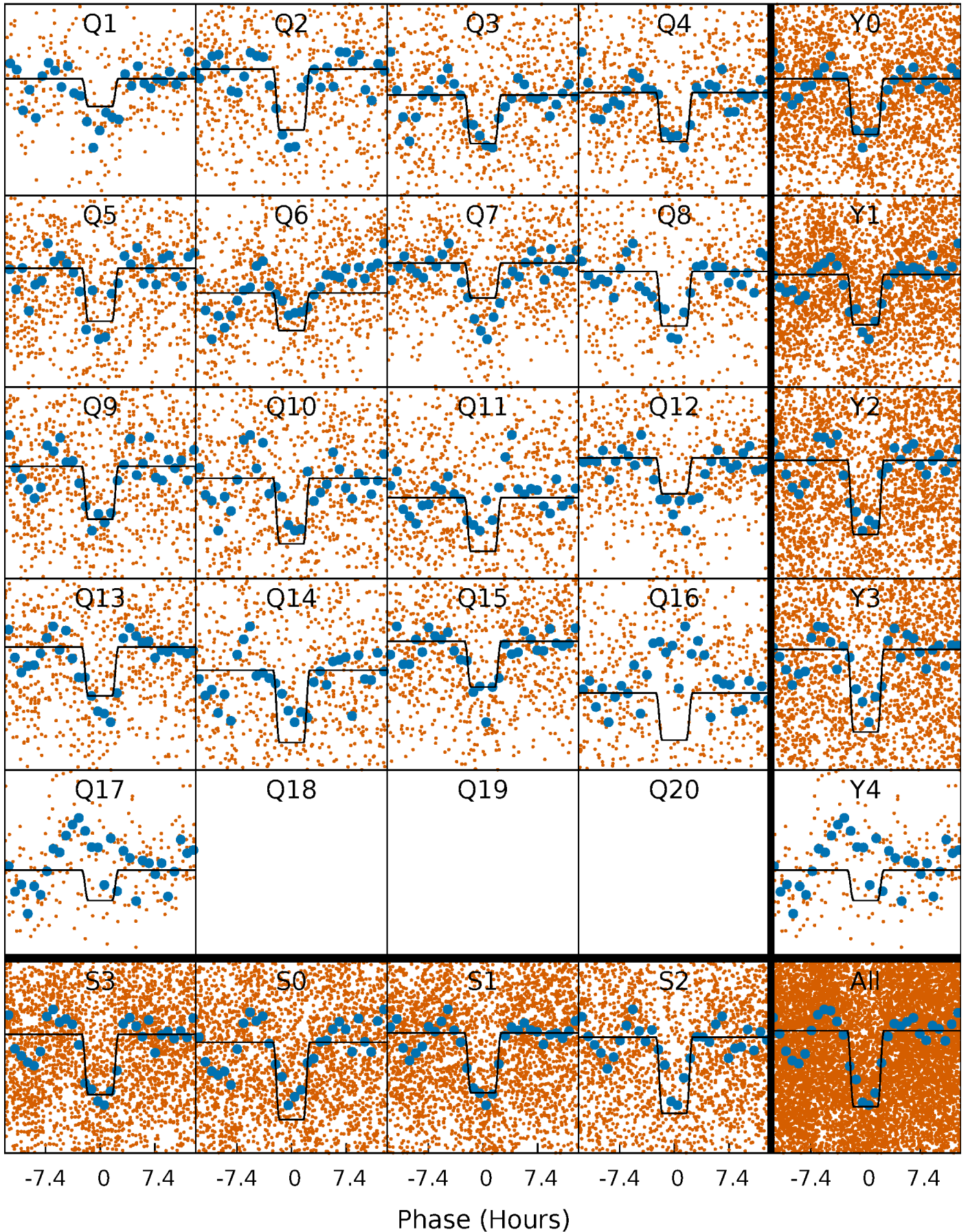
DV Quarter-Phased Transit Curves

TCE 002568971-02 P= 5.088710 Days $T_0=136.488332$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

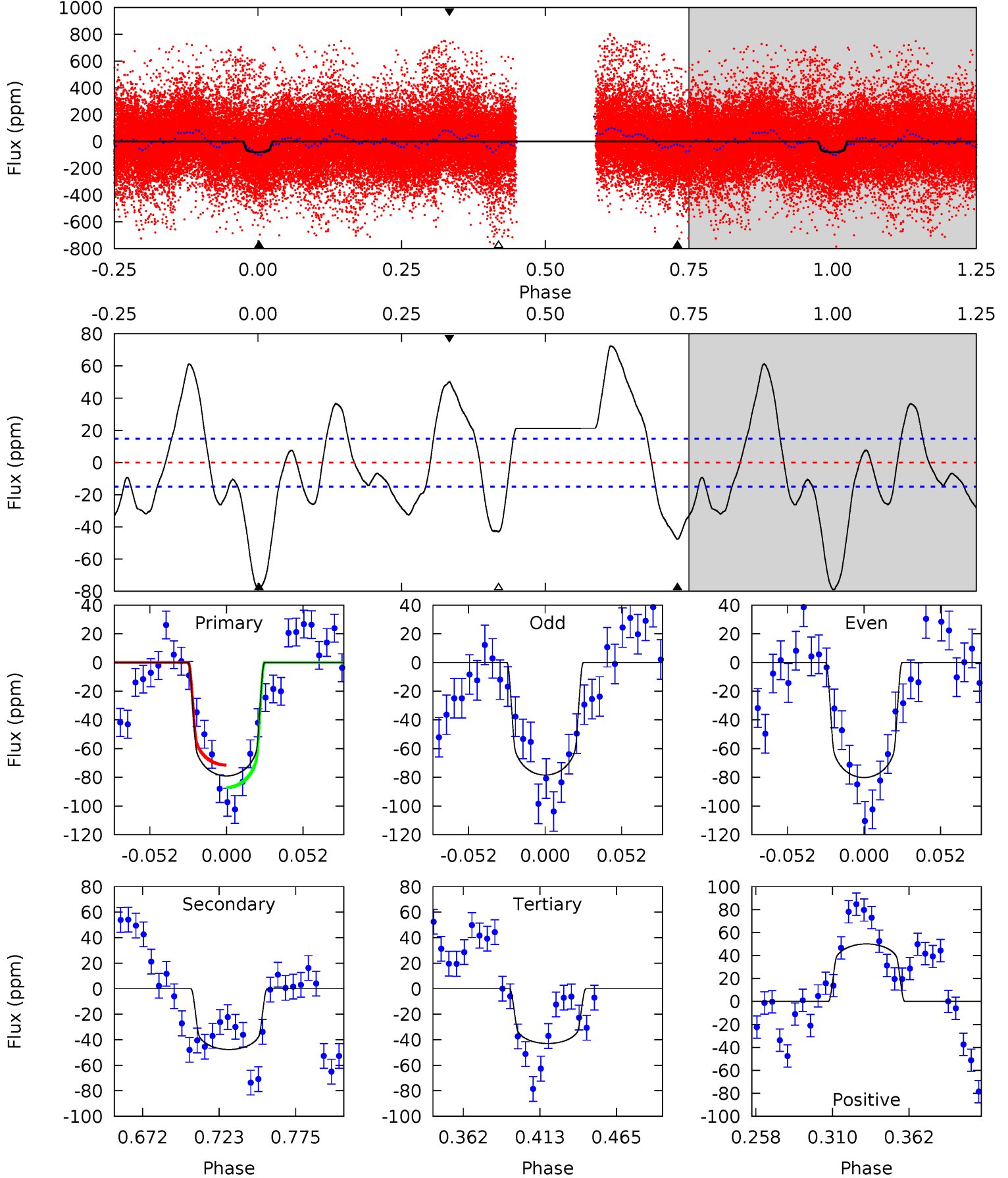
TCE 002568971-02 P= 5.088575 Days $T_0=136.489992$ (BKJD)



DV Model-Shift Uniqueness Test

002568971-02, P = 5.088710 Days, E = 131.399622 Days

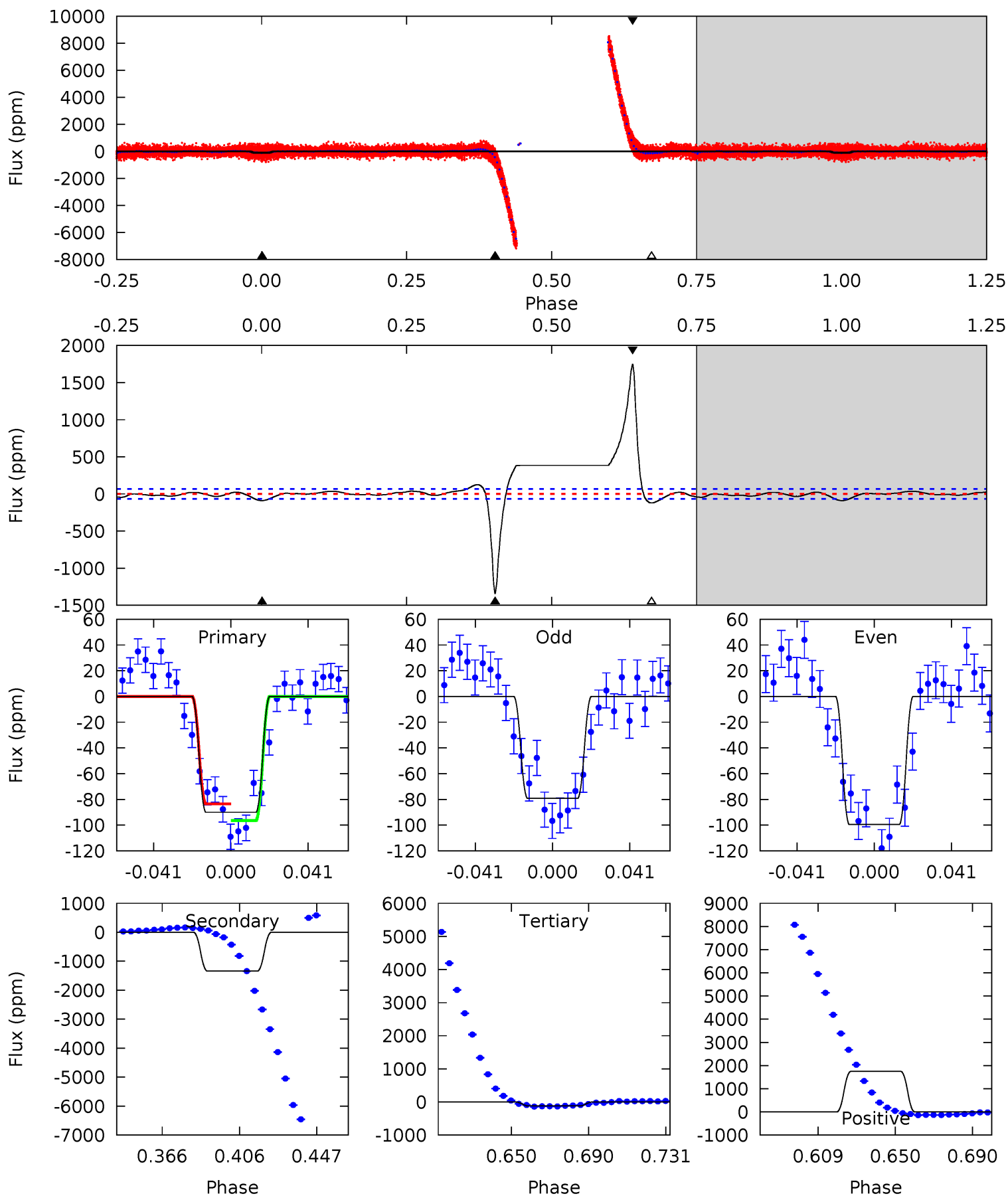
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.9	15.0	13.5	15.8	4.70	1.95	9.66	11.4	9.13	1.48	-0.77	0.27	0.76	0.48	2.52



Alt Model-Shift Uniqueness Test

002568971-02, P = 5.088575 Days, E = 131.401417 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.39	95.4	8.63	124.1	4.75	2.05	15.1	-2.23	-117.7	86.7	-28.7	0.73	0.96	0.57	0.41



Stellar Parameters For KIC 002568971

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7514^{+235}_{-314}	$4.052^{+0.193}_{-0.158}$	$-0.200^{+0.250}_{-0.350}$	$1.955^{+0.517}_{-0.517}$	$1.571^{+0.212}_{-0.259}$	$0.296^{+0.311}_{-0.130}$
	+3%/-4%	+5%/-4%	+125%/-175%	+26%/-26%	+13%/-16%	+105%/-44%
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 002568971-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-48 ± 3	$1.99^{+0.42}_{-0.39}$	2482^{+176}_{-182}	6282^{+611}_{-456}	29^{+16}_{-10}
Alt.	-1342 ± 14	$2.19^{+0.47}_{-0.40}$	2476^{+176}_{-188}	21211^{+4536}_{-3033}	701^{+332}_{-220}

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

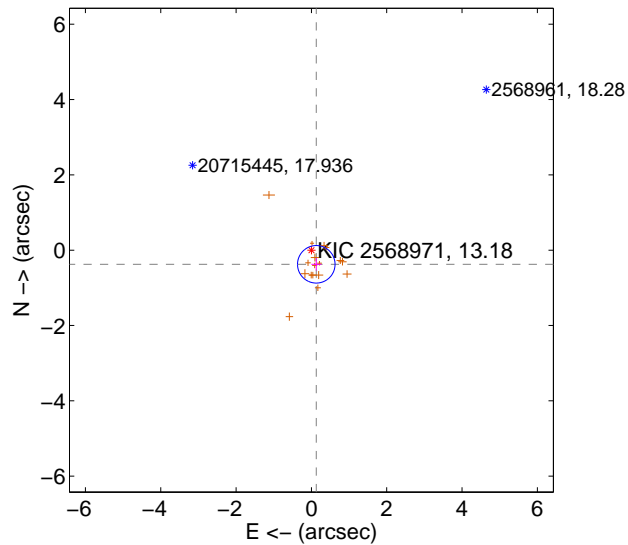
Supplemental centroid analysis for 002568971-02. Kepler magnitude: 13.18. Transit SNR 13.95

There are 0 quarters with good PRF difference image offsets

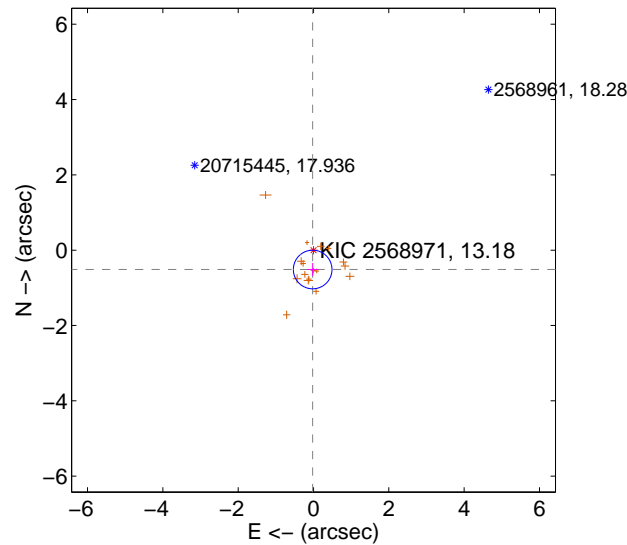
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.397 ± 0.166	2.39	-0.130 ± 0.132	-0.375 ± 0.164
PRF-fit source offset from KIC position	0.514 ± 0.171	3.01	0.022 ± 0.153	-0.513 ± 0.172
photometric centroid source offset	1.38 ± 1.32	1.04	0.84 ± 1.57	-1.10 ± 1.15

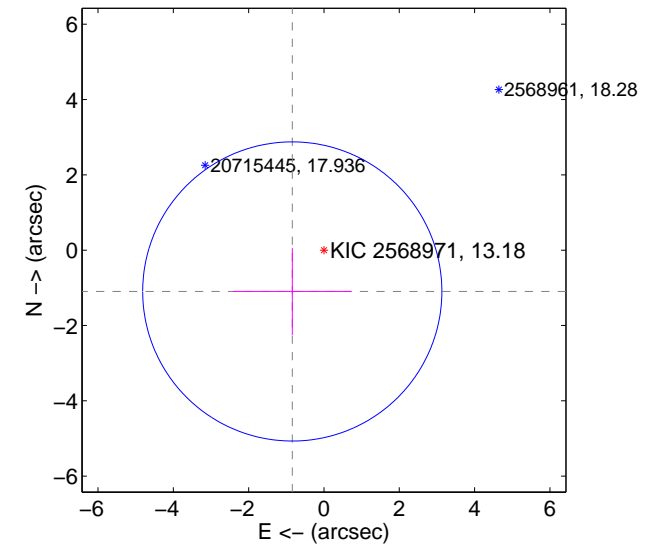
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

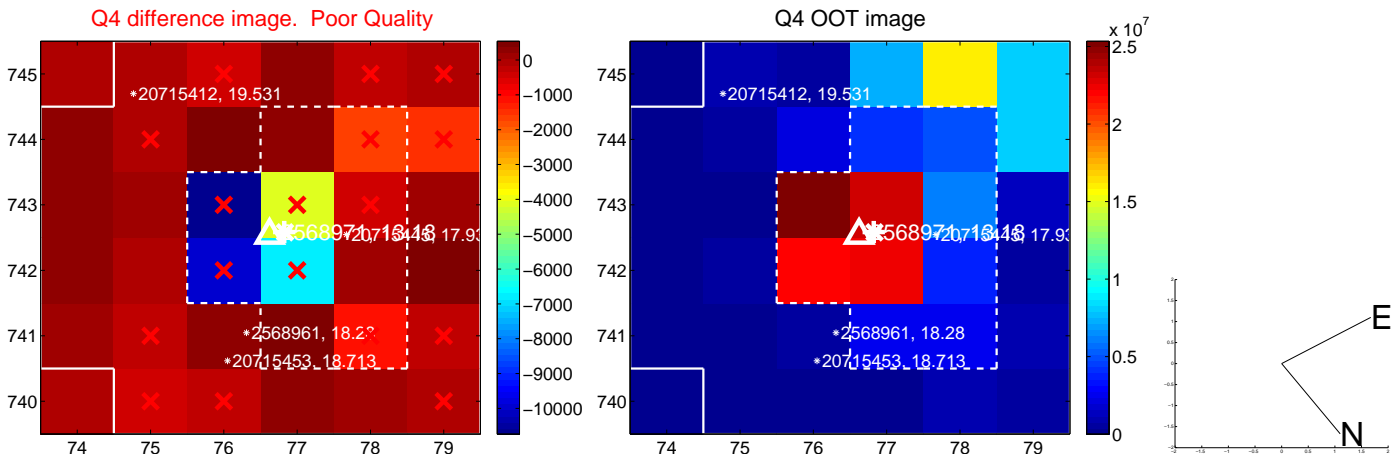
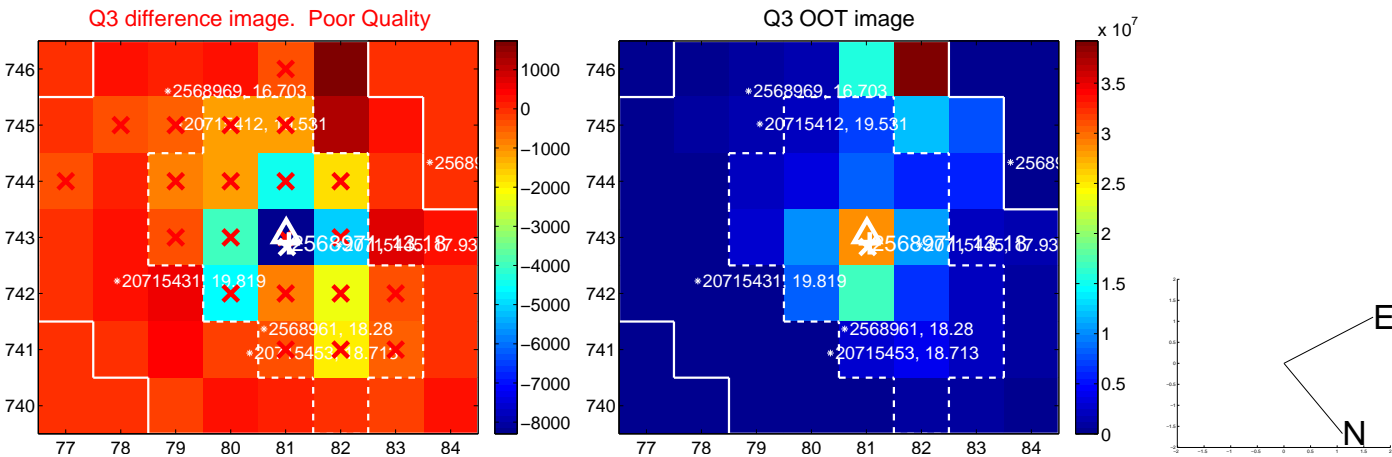
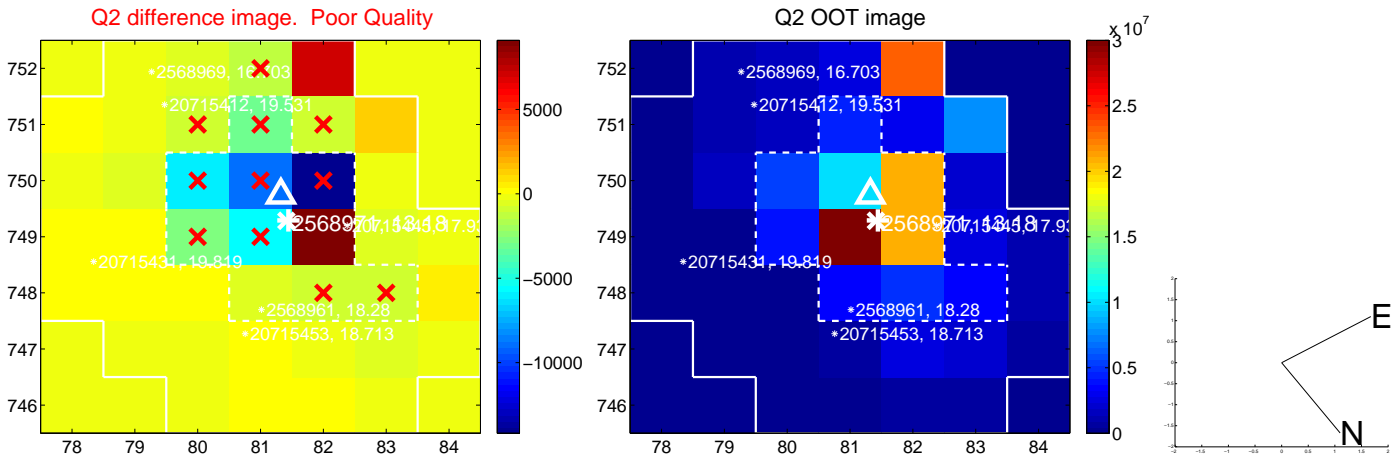
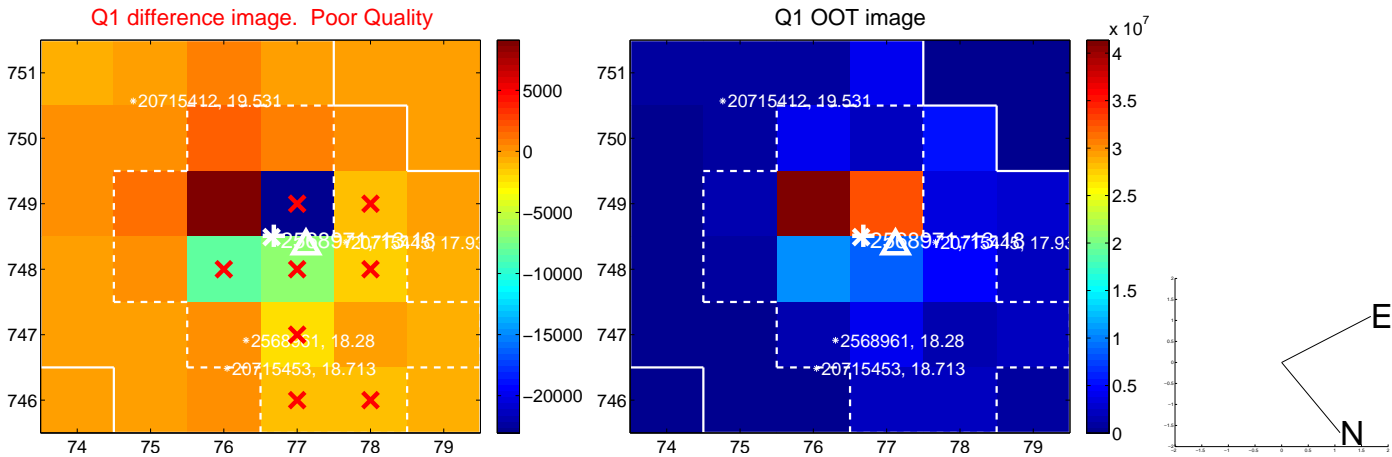


offset from photometric centroids

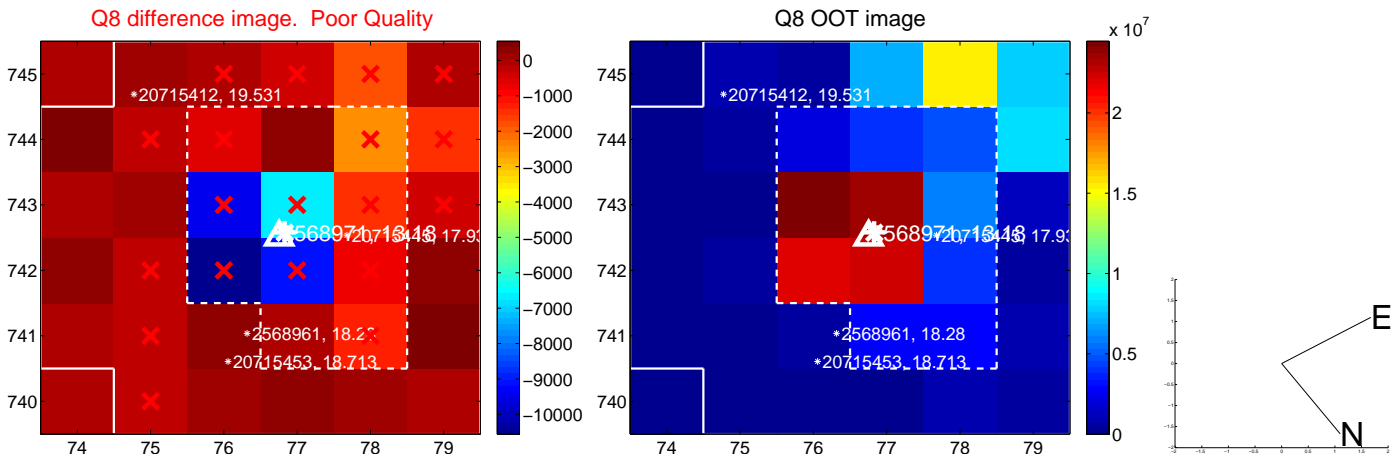
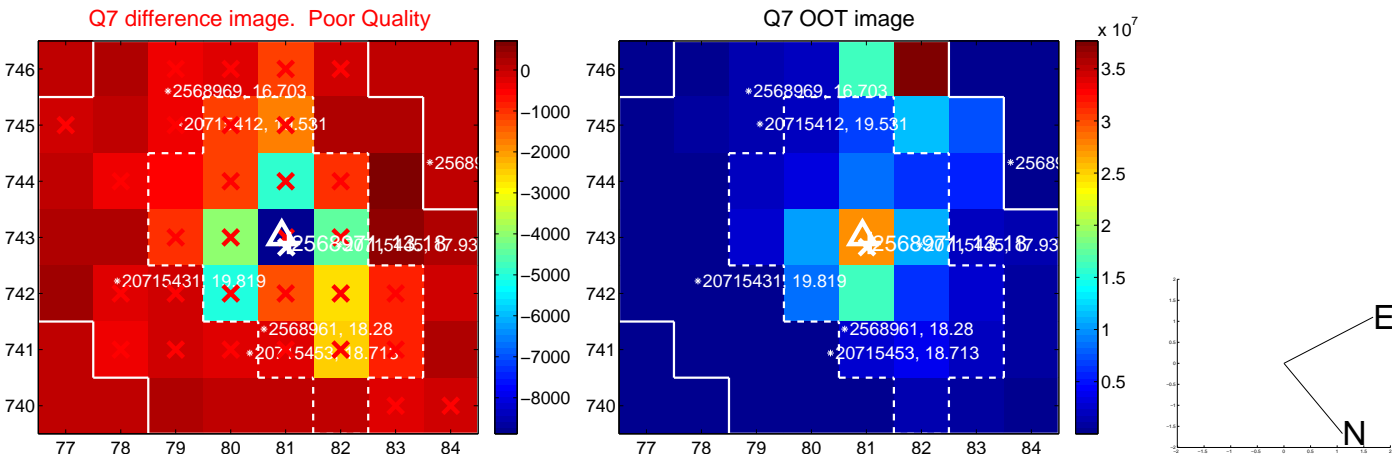
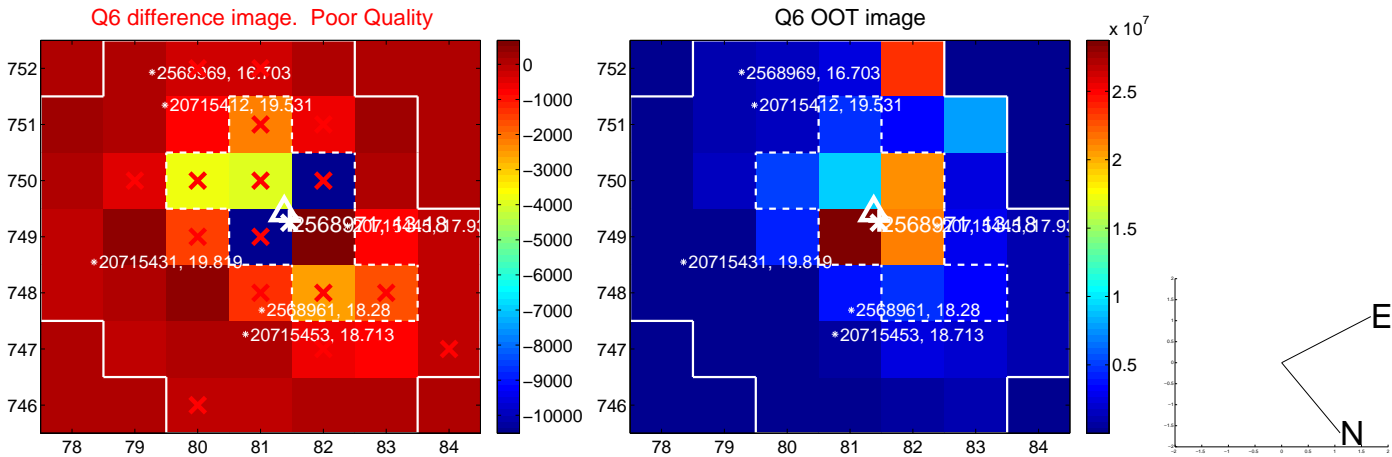
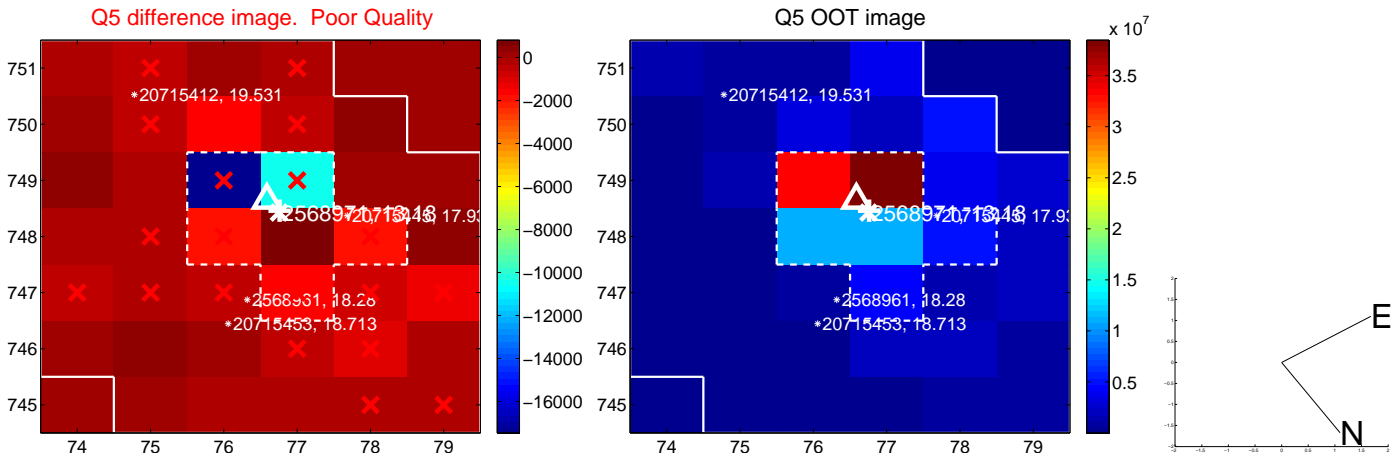


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

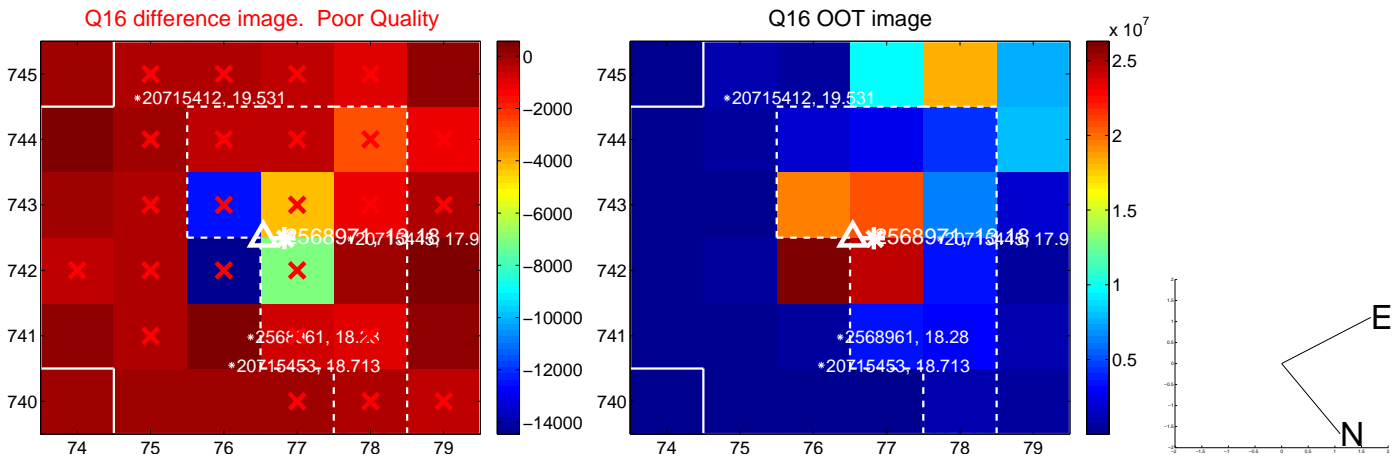
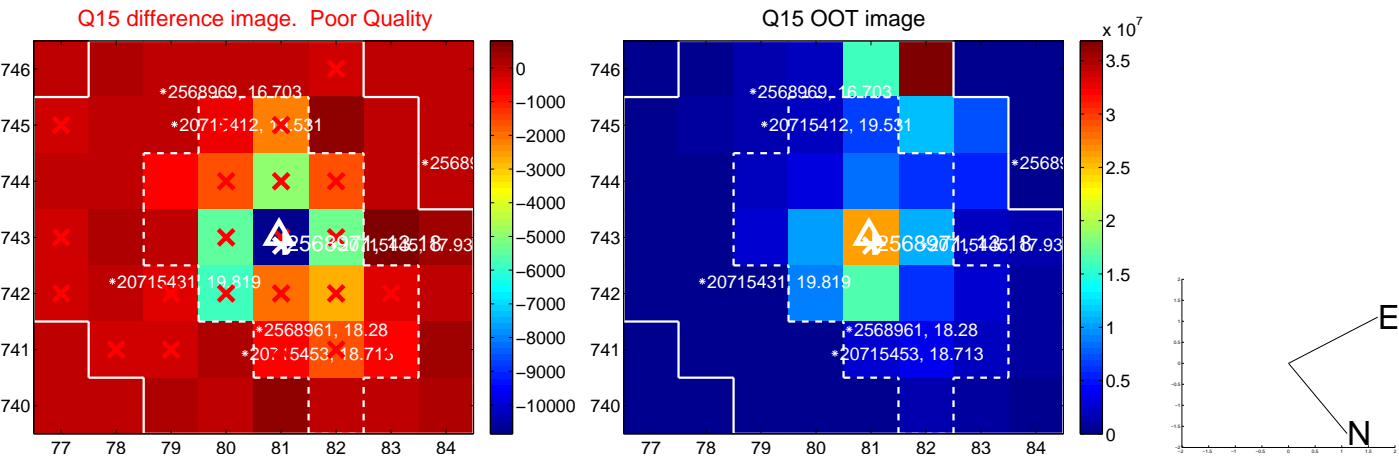
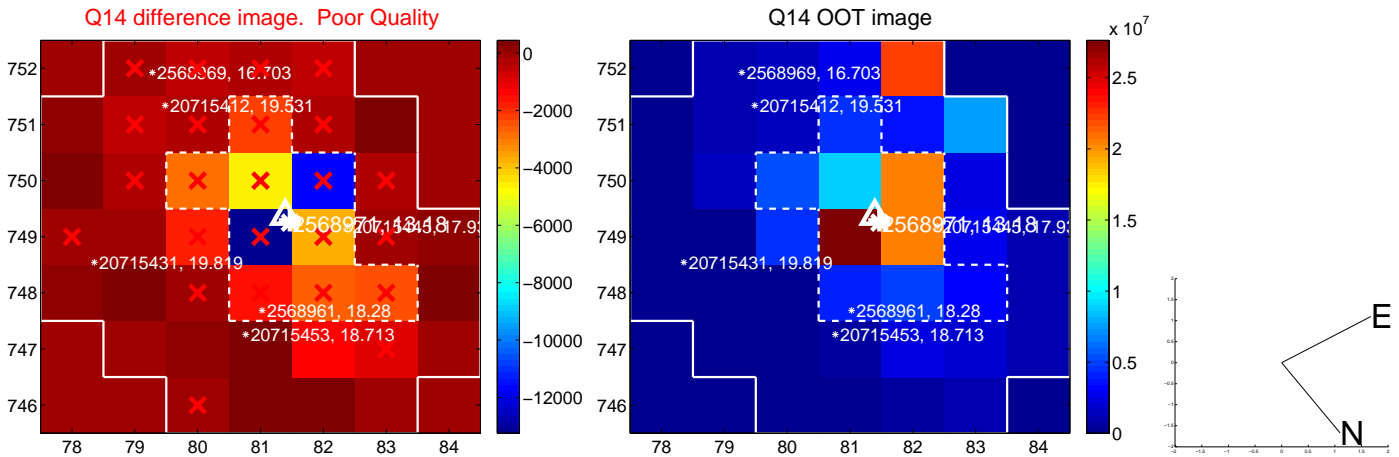
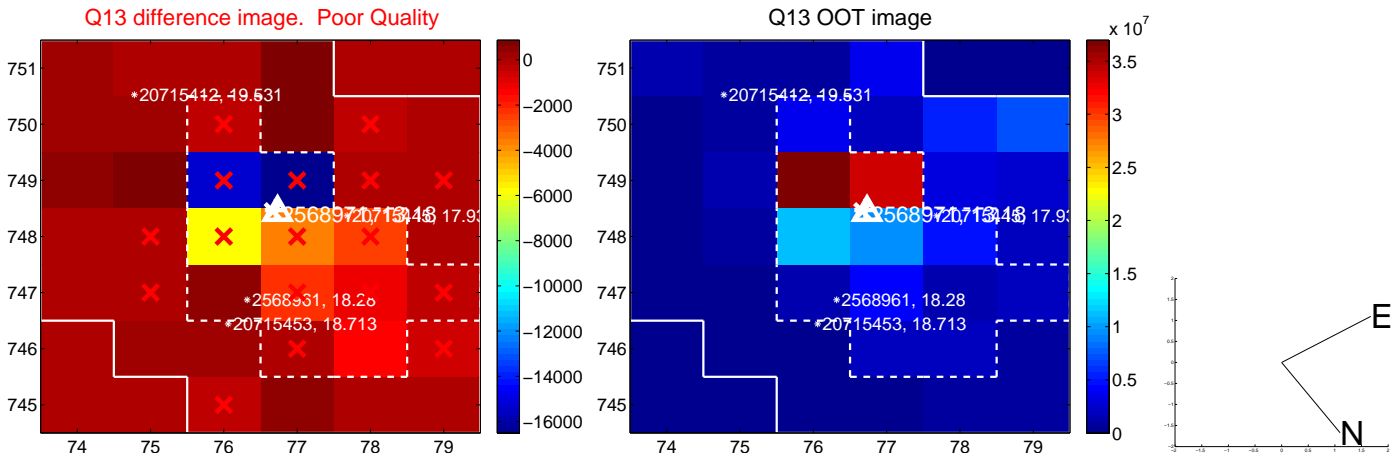
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



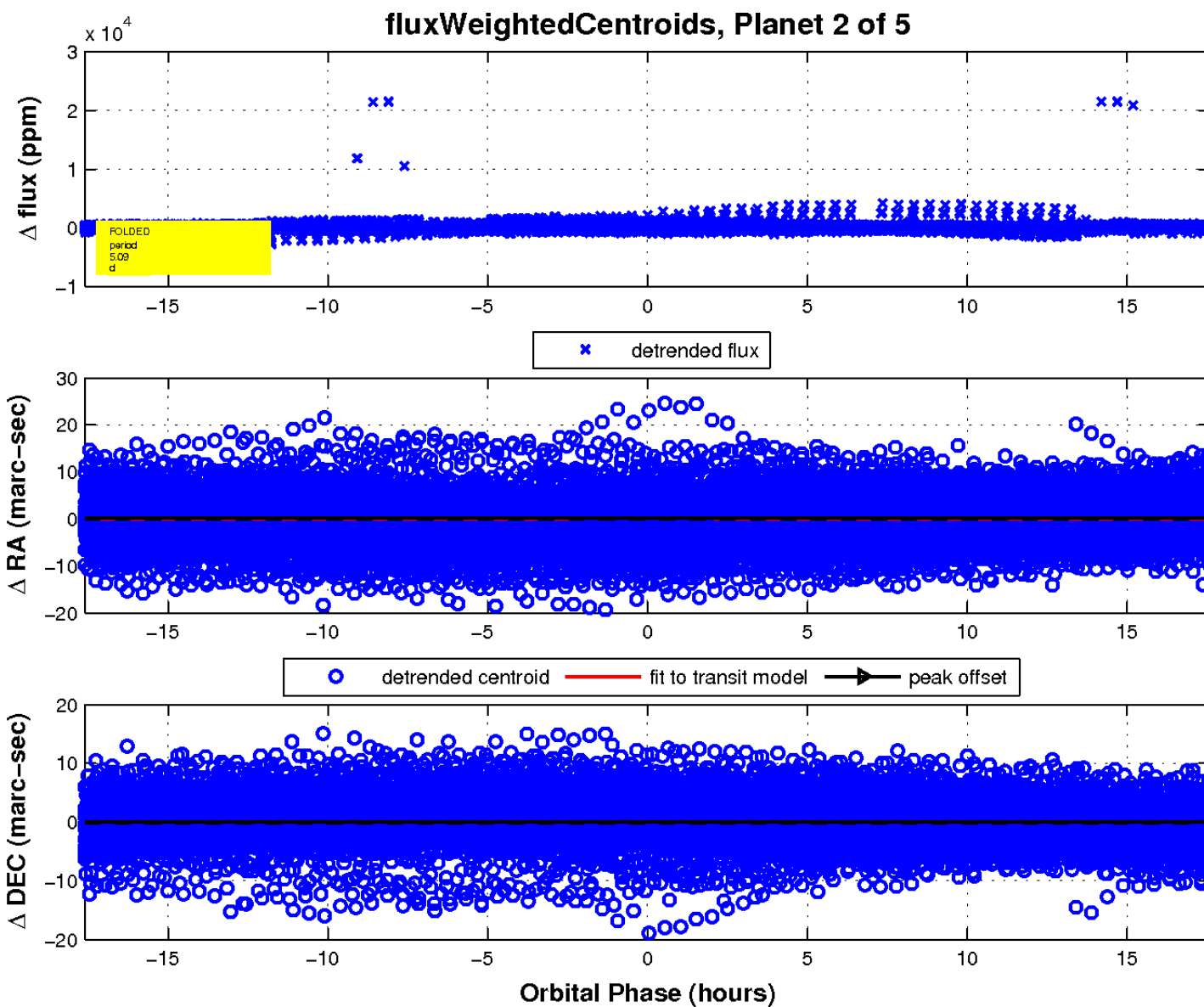
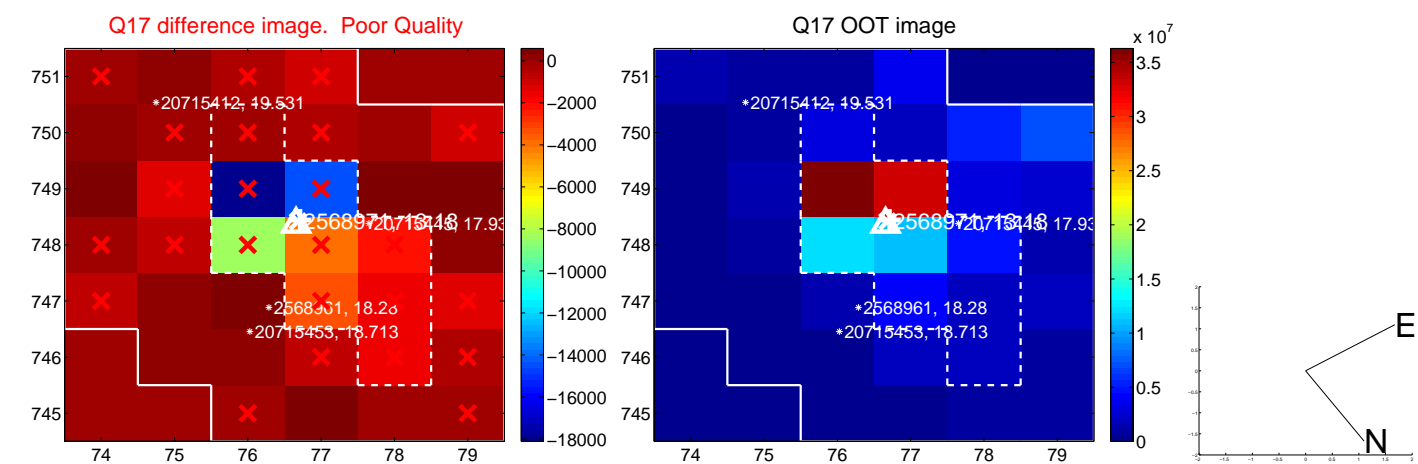
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

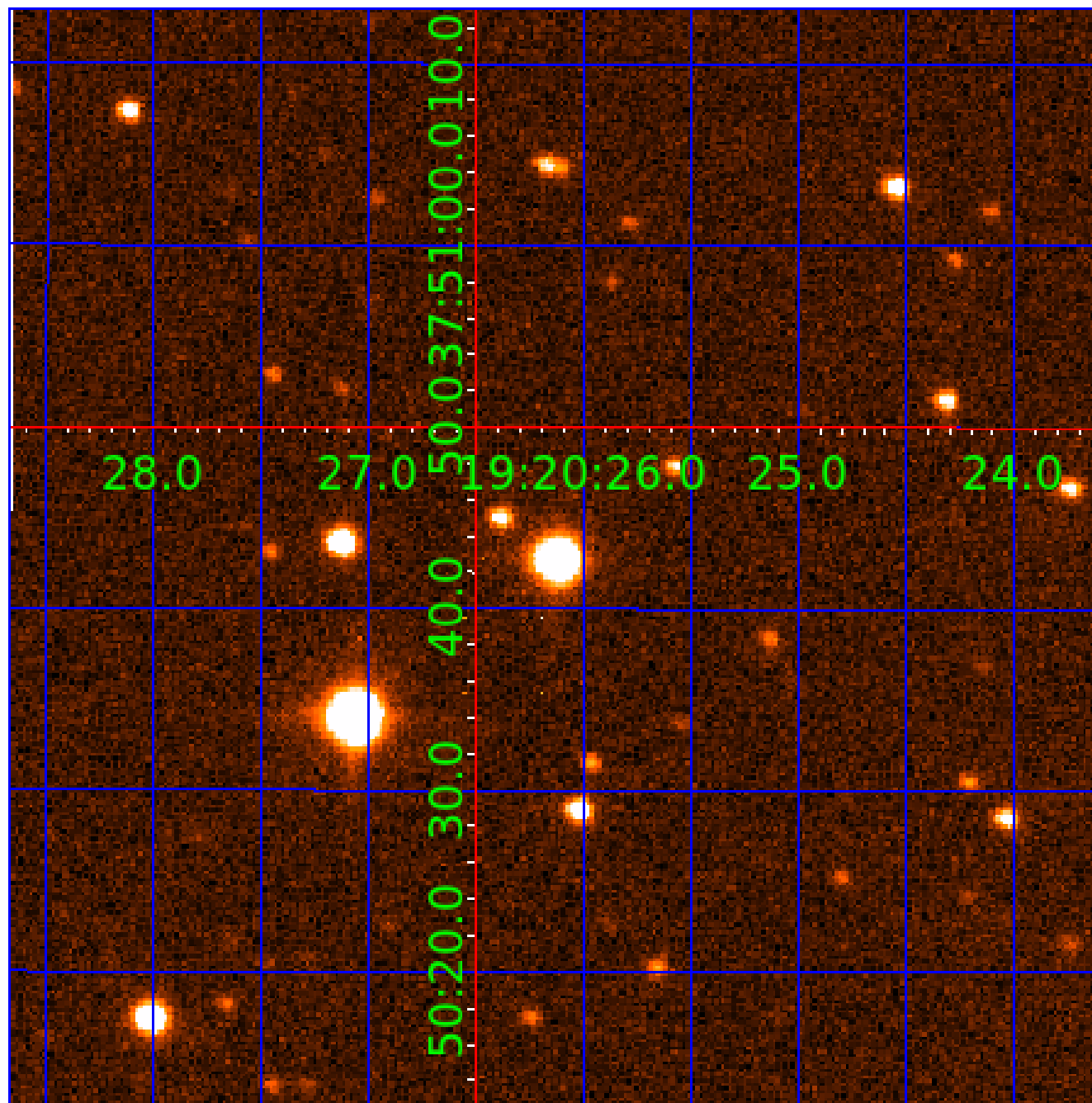


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002568971

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})
002568971-01	OBS	6278.01	5.088575	134.057086	202.9	5.670	26.6	29.5	1.96	7514	5.48	2408.14
002568971-02	OBS	No	5.088710	136.488332	76.9	5.867	14.0	13.9	1.96	7514	2.01	2408.06
002568971-03	OBS	No	0.848159	131.771804	35.9	3.627	13.4	14.1	1.96	7514	1.35	26252.70
002568971-05	OBS	No	1.271905	131.741540	45.3	8.921	12.0	10.2	1.96	7514	1.34	15294.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002568971-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_UNRESOLVED_OFFSET
002568971-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
002568971-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
002568971-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—SWEET_NTL—LPP_DV—LPP_ALT—CENT_NOFITS

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.

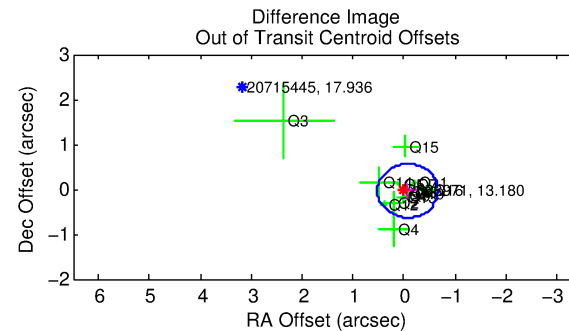
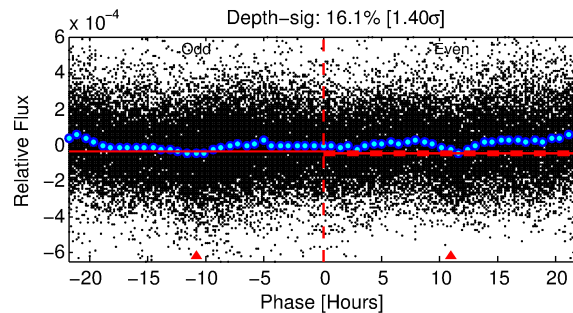
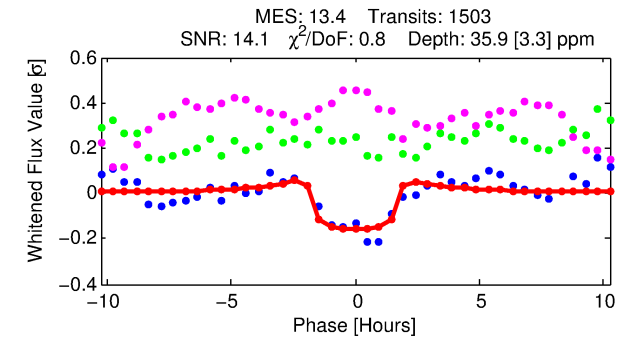
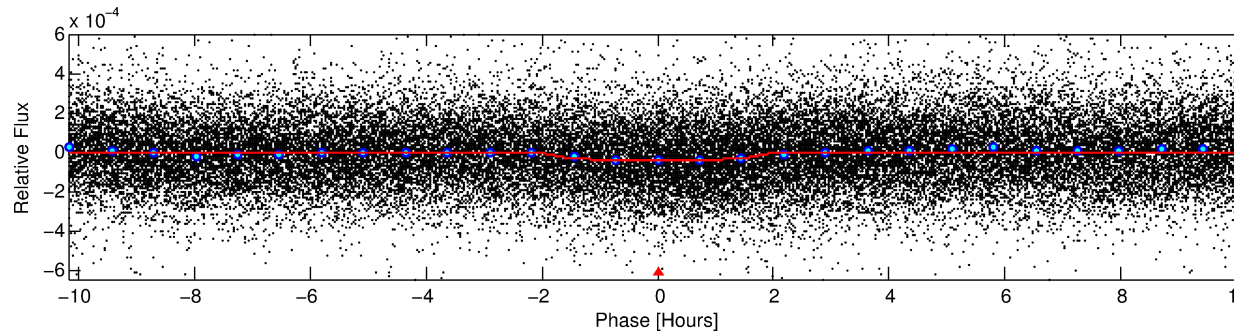
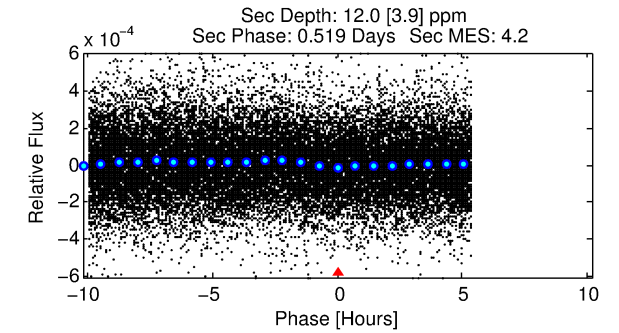
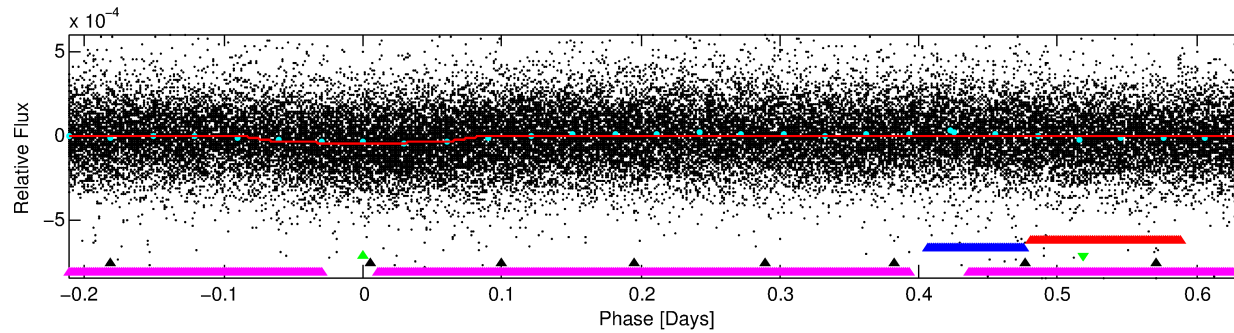
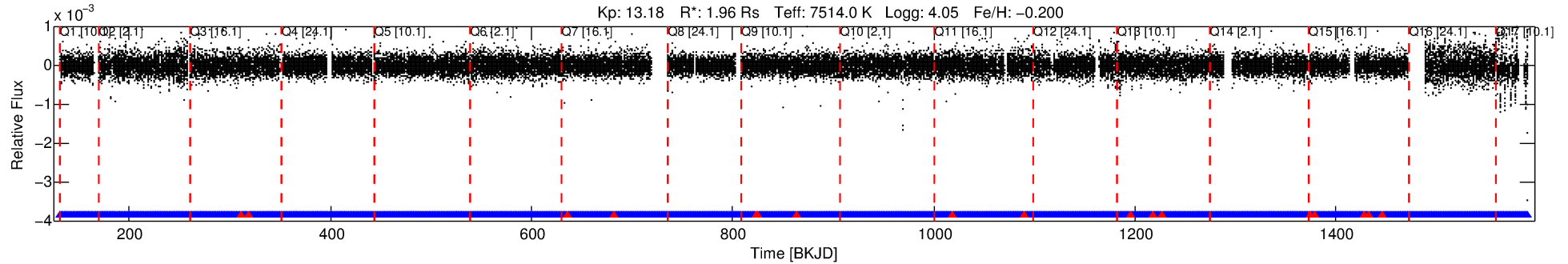
Ephemeris Match Information For 002568971-03

No Significant Match Found

DV One-Page Summary

KIC: 2568971 Candidate: 3 of 5 Period: 0.848 d
KOI: K06278 Corr: No Ephemeris Match

Kp: 13.18 R*: 1.96 Rs Teff: 7514.0 K Logg: 4.05 Fe/H: -0.200



DV Fit Results:

Period = 0.84816 [0.00001] d
Epoch = 131.7718 [0.0023] BKJD
Rp/R* = 0.0063 [0.0020]
a/R* = 1.28 [0.87]
b = 0.87 [0.48]
Seff = 26252.70 [10058.45]
Teq = 3246 [311] K
Rp = 1.35 [0.55] Re
a = 0.0204 [0.0047] AU
Ag = 1.51 [1.18] [0.43σ]
Teffp = 5563 [1002] K [2.21σ]

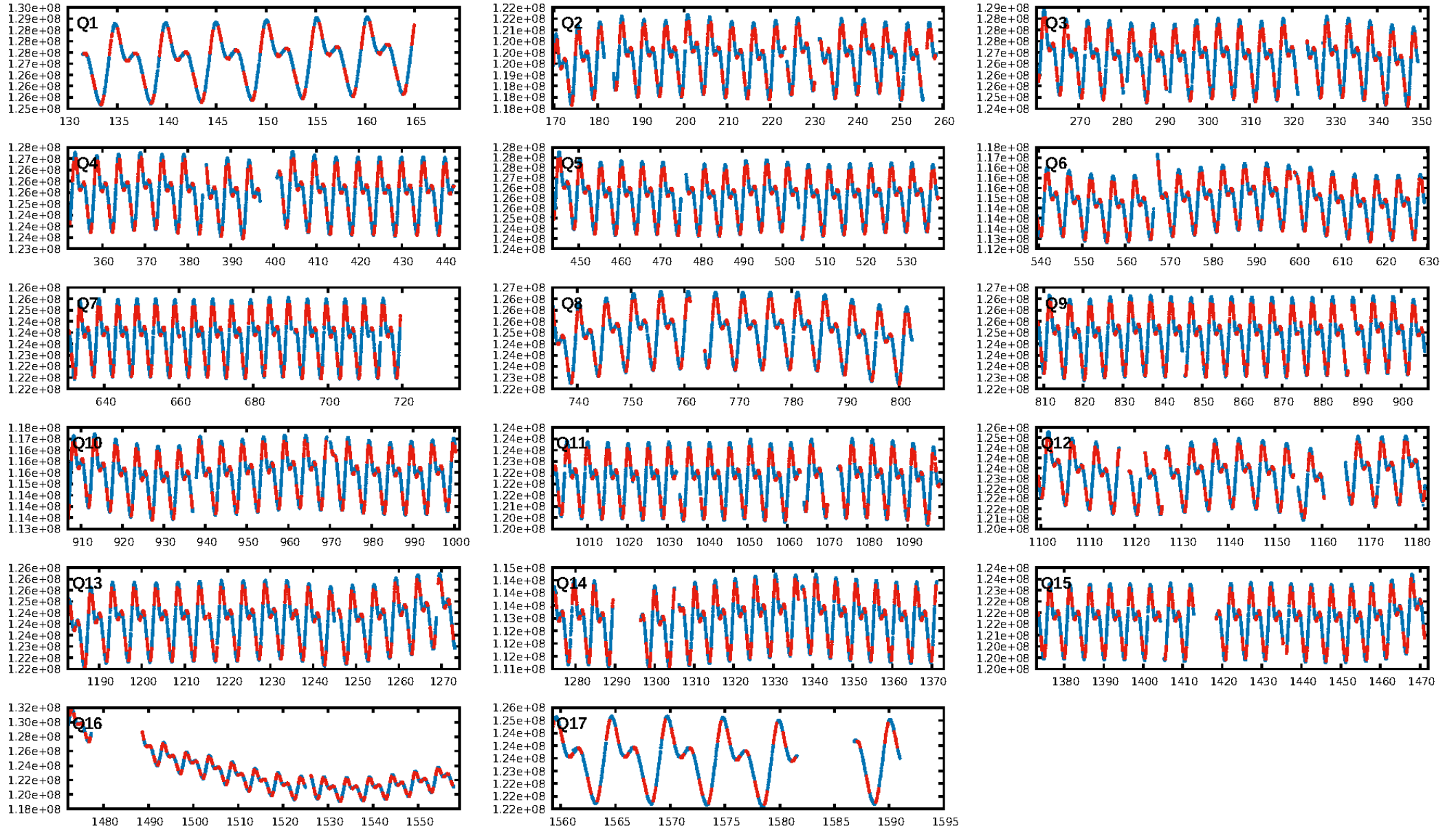
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 70.9% [1.06σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [1421/1438]
GhostDiagnostic-chr: 4.821
Centroid-sig: 4.9%
Centroid-so: 1.587 arcsec [1.17σ]
OotOffset-rm: 0.084 arcsec [0.42σ]
KicOffset-rm: 0.212 arcsec [1.65σ]
OotOffset-st: 4/4/4/3 [15]
KicOffset-st: 4/4/4/3 [15]
DiffImageQuality-fgm: 0.93 [14/15]
DiffImageOverlap-fno: 0.47 [8/17]

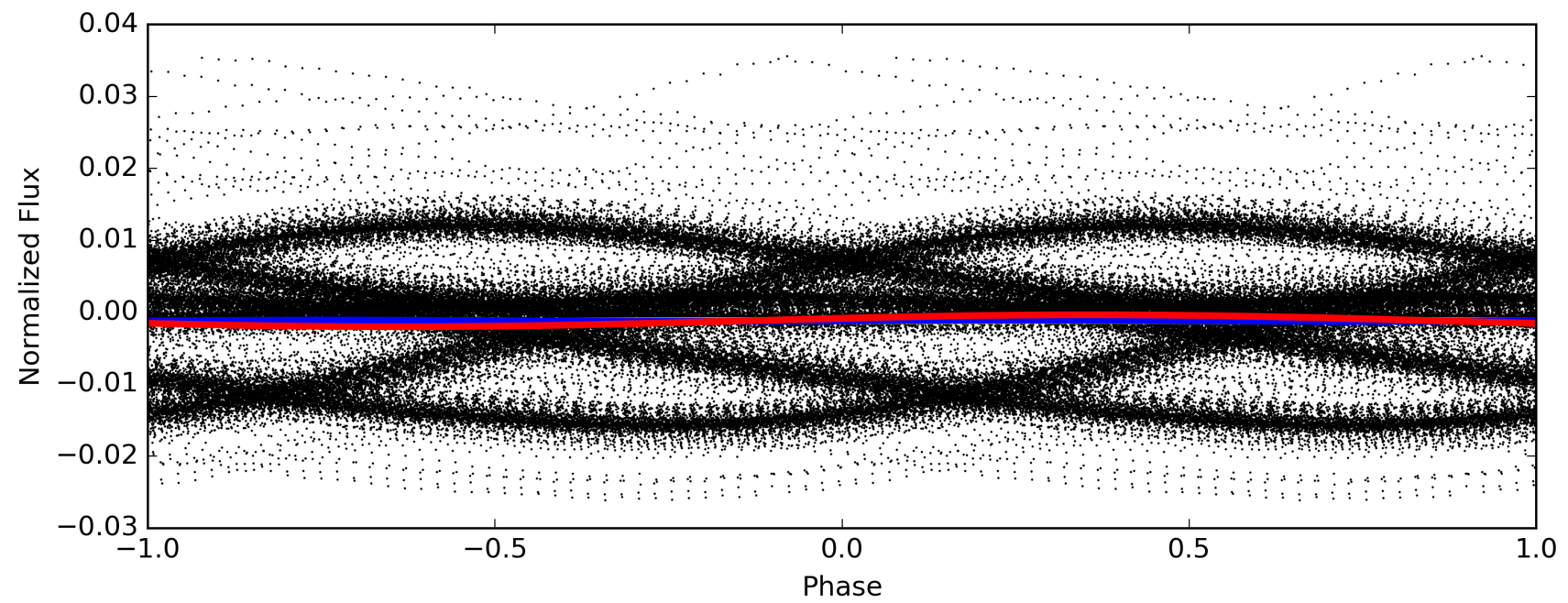
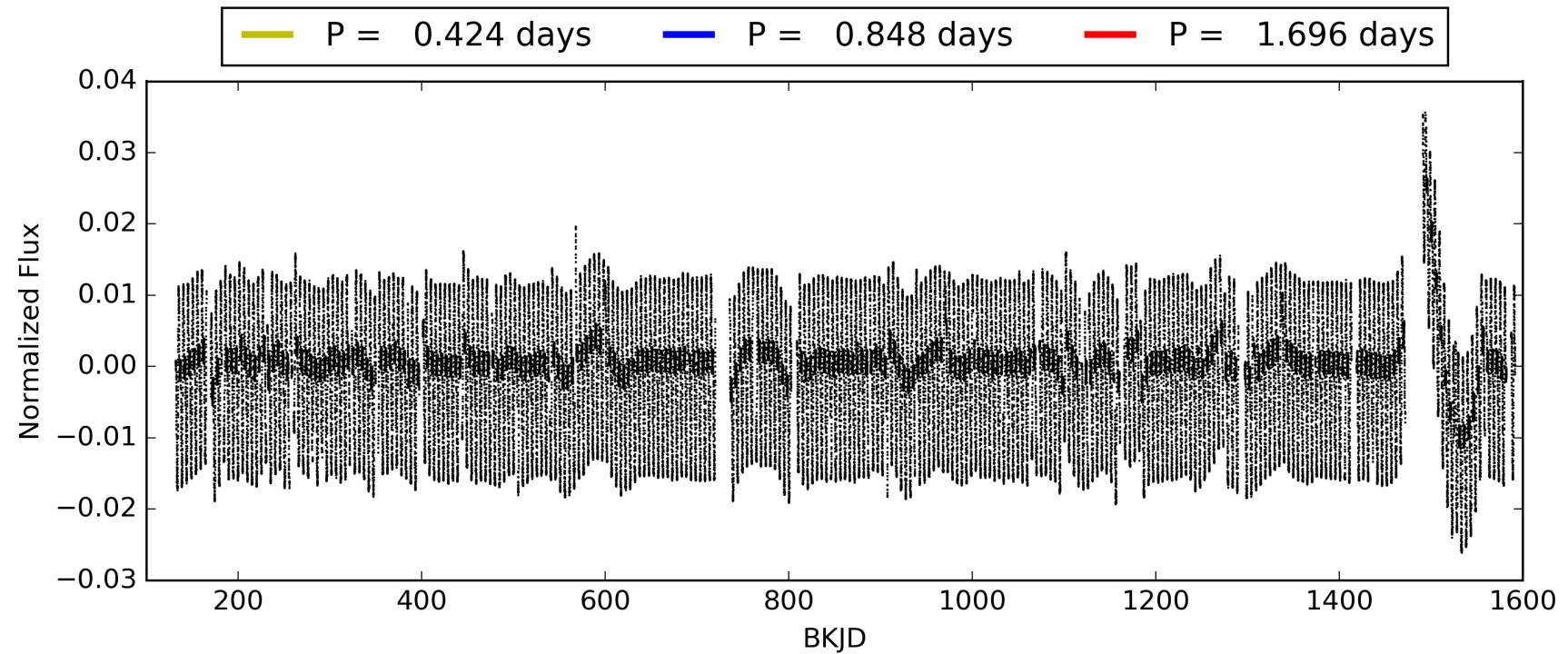
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:47:40 Z

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

TCE 002568971-03, PDC Light Curves

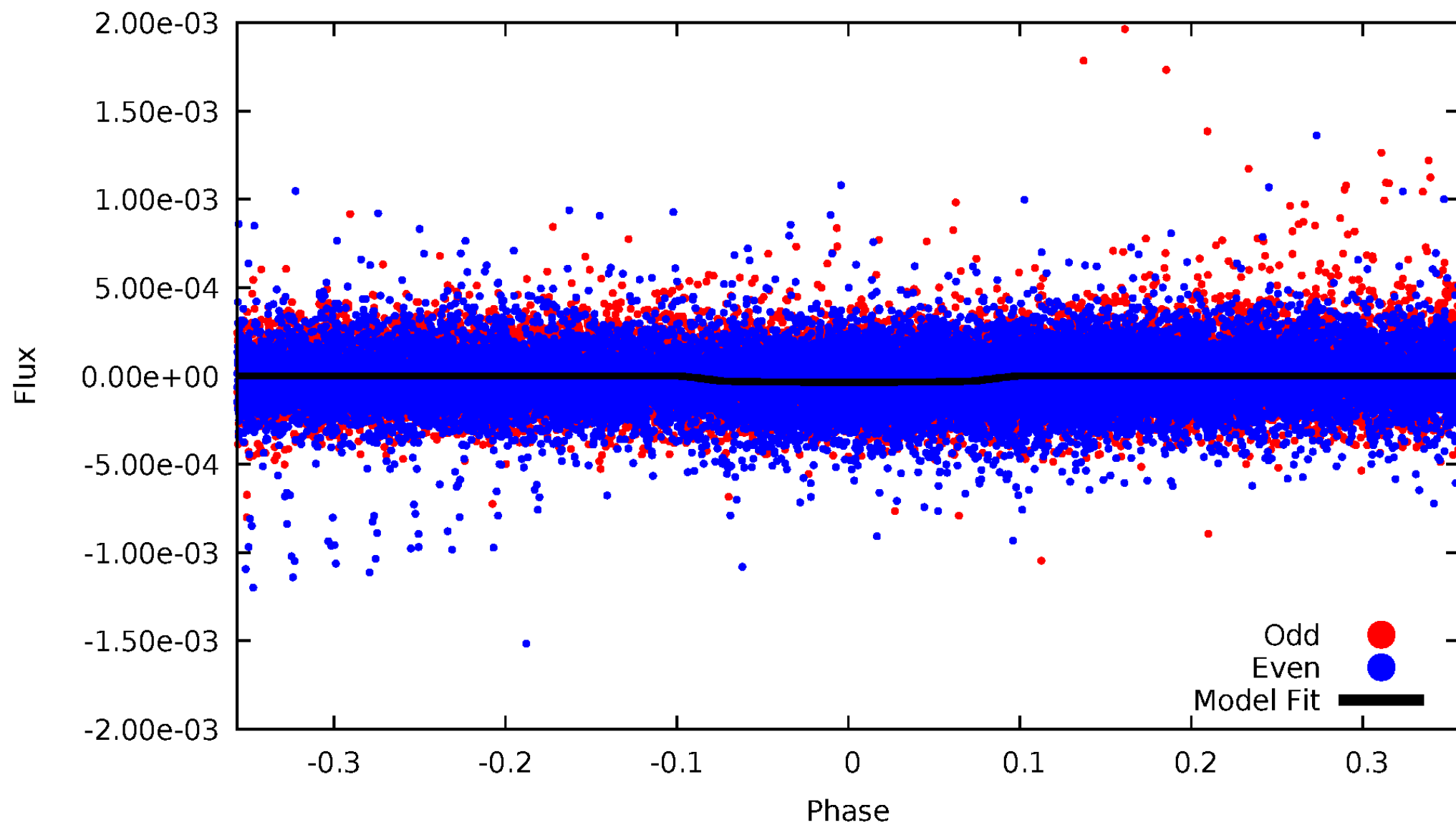


TCE 002568971-03



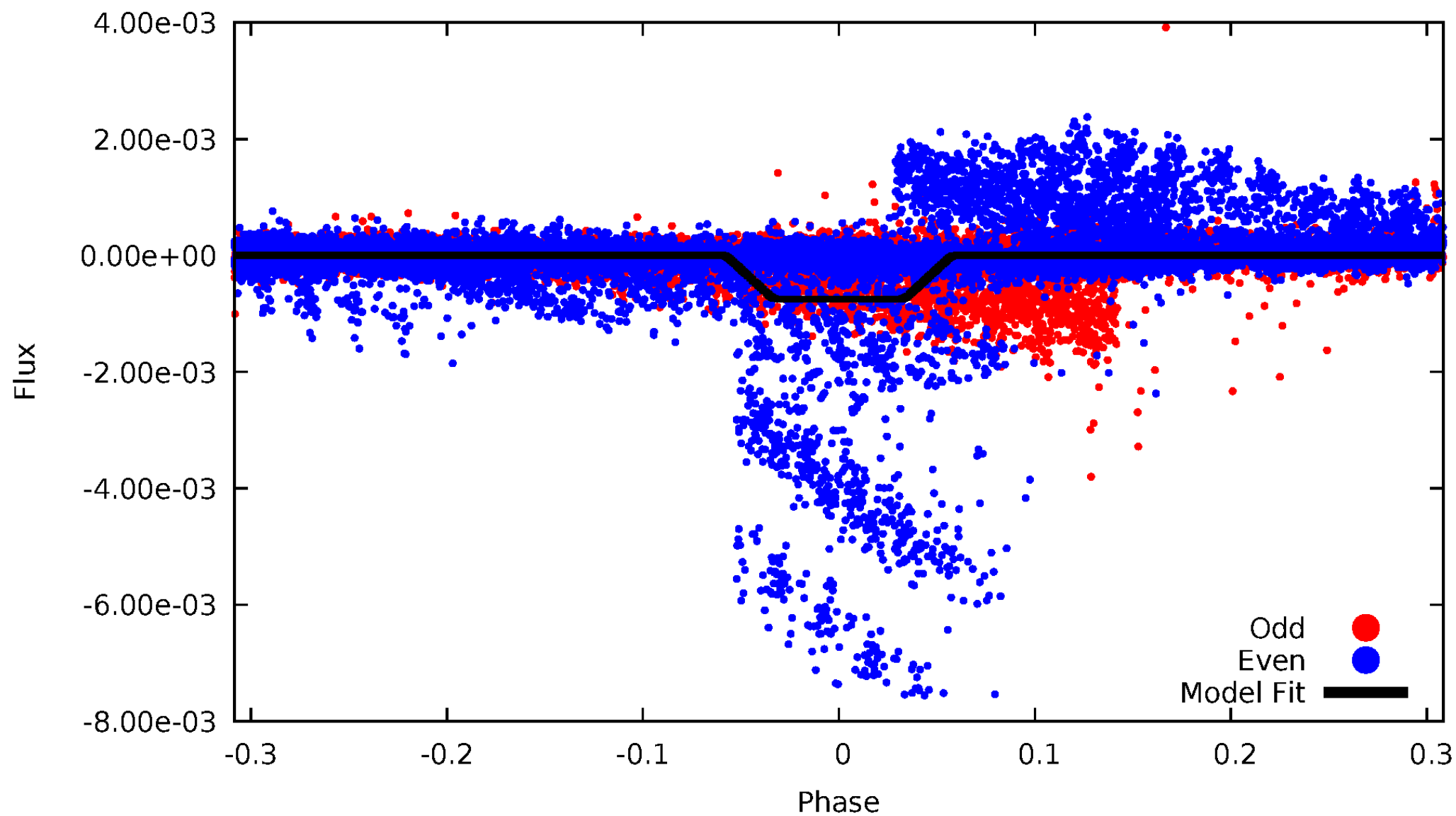
DV Odd/Even

TCE 002568971-03



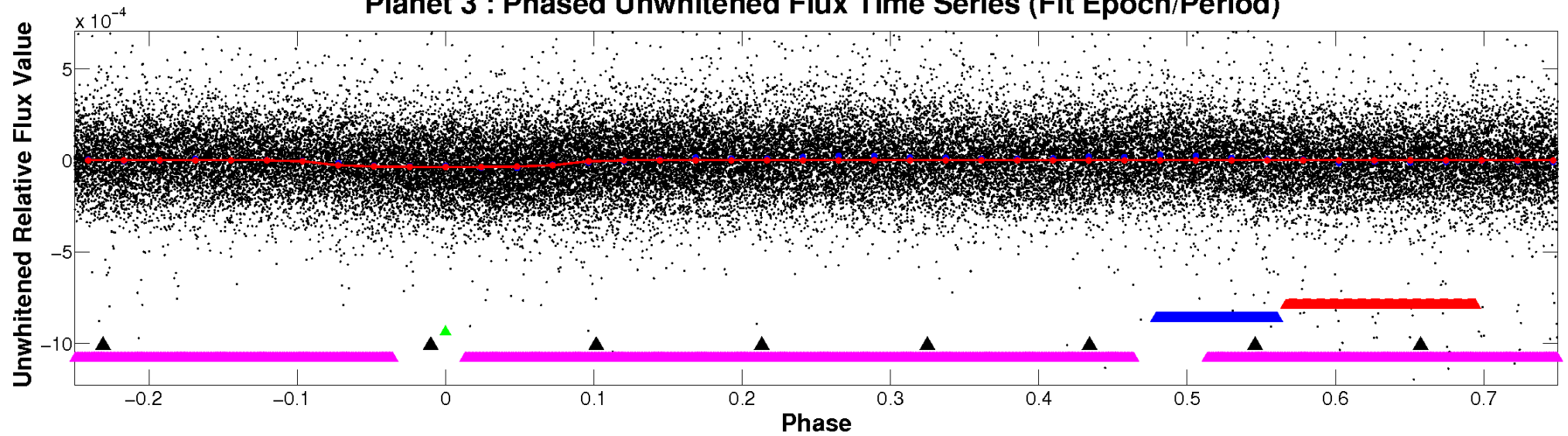
ALT Odd/Even

TCE 002568971-03

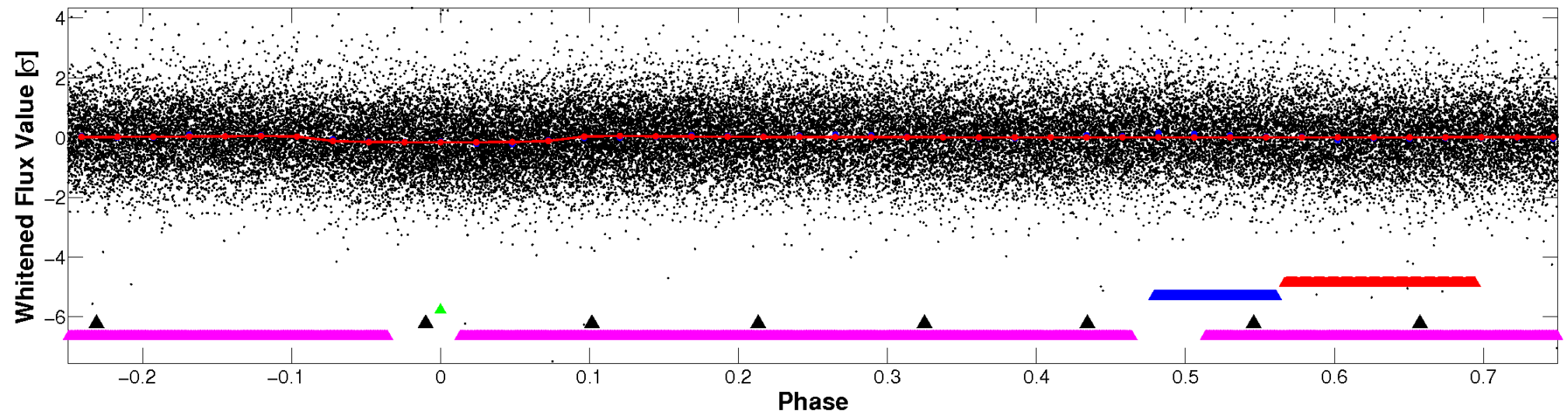


Non-Whitened Vs. Whitened Light Curve

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

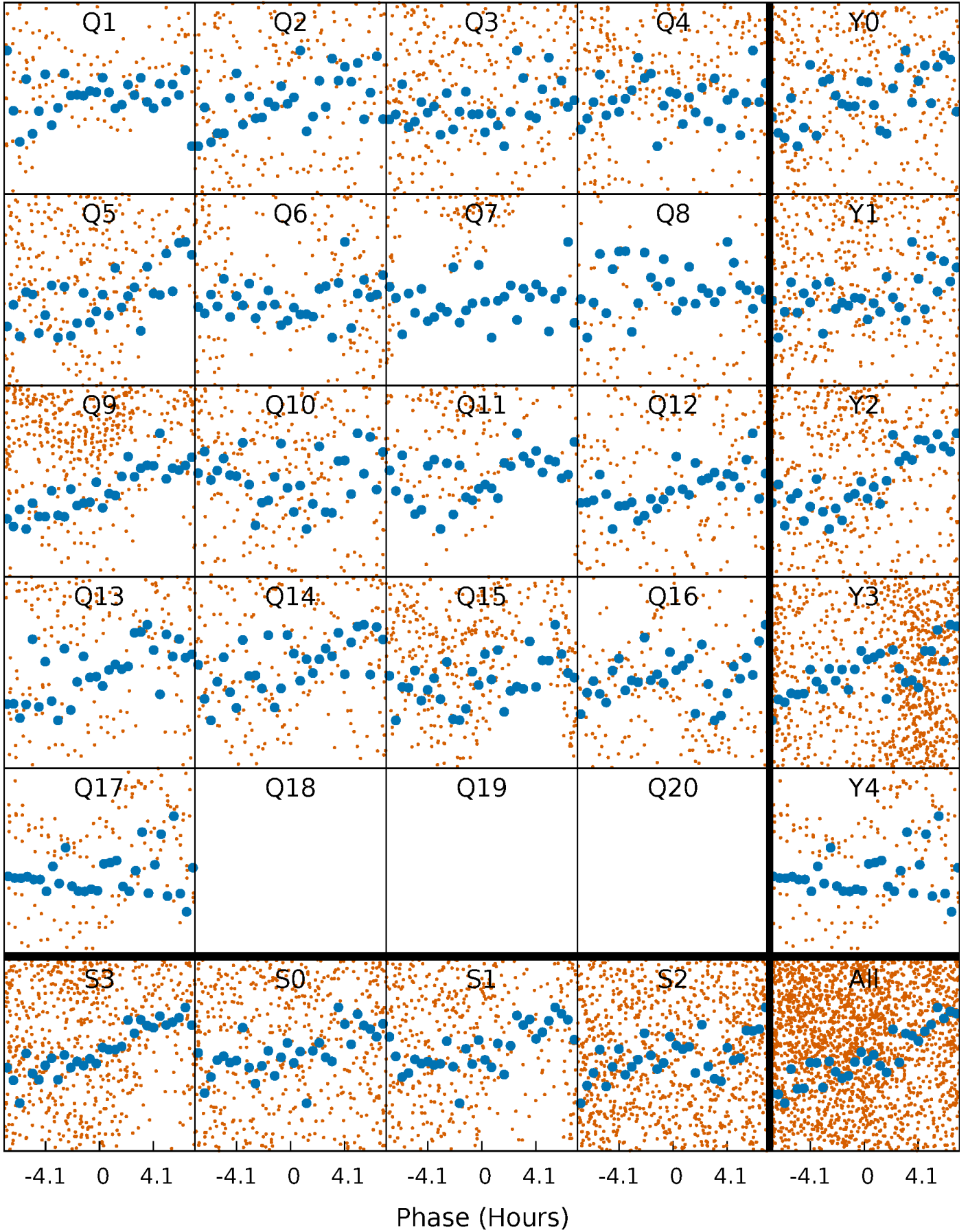


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



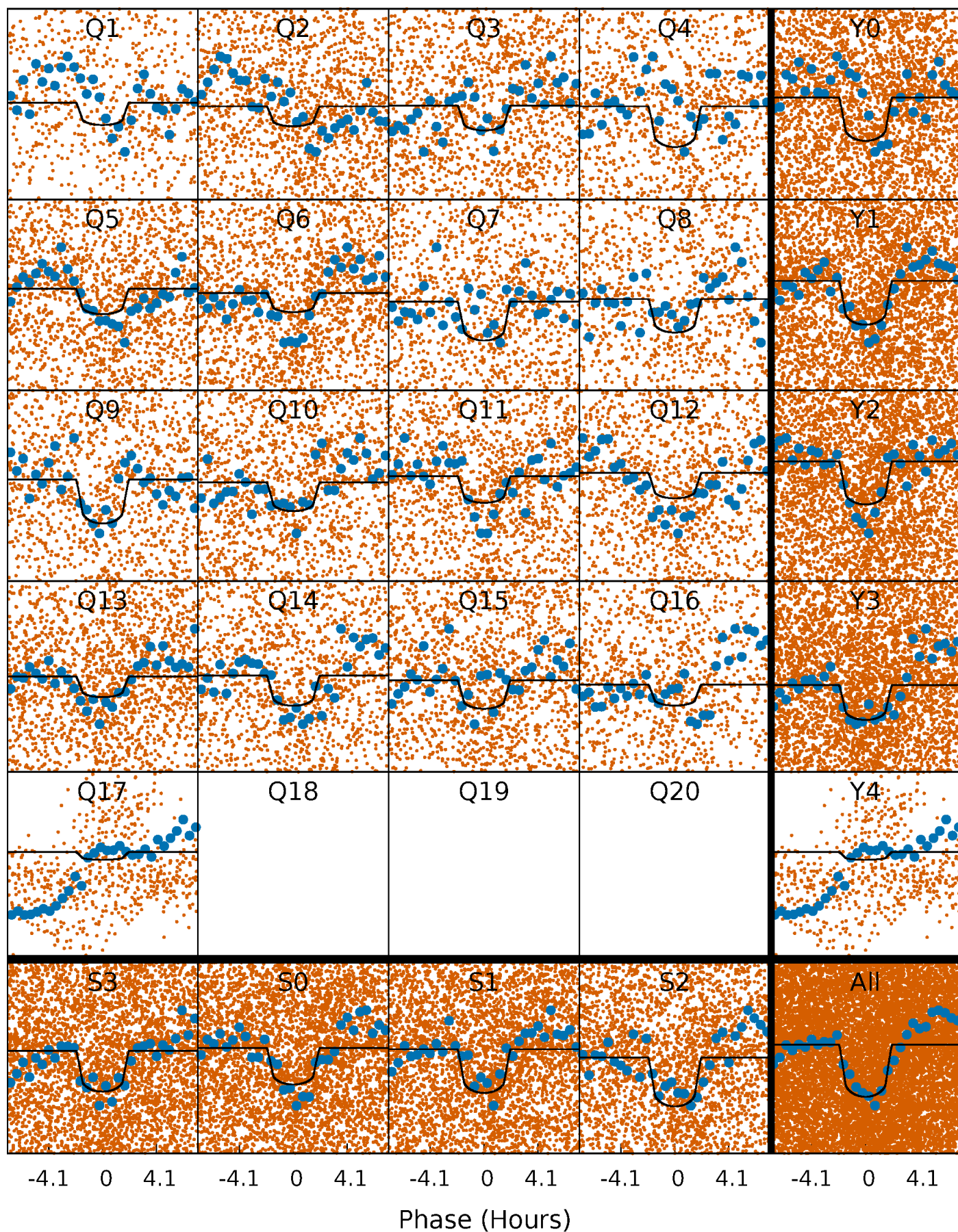
PDC Quarter-Phased Transit Curves

TCE 002568971-03 P= 0.848159 Days $T_0=131.771804$ (BKJD)



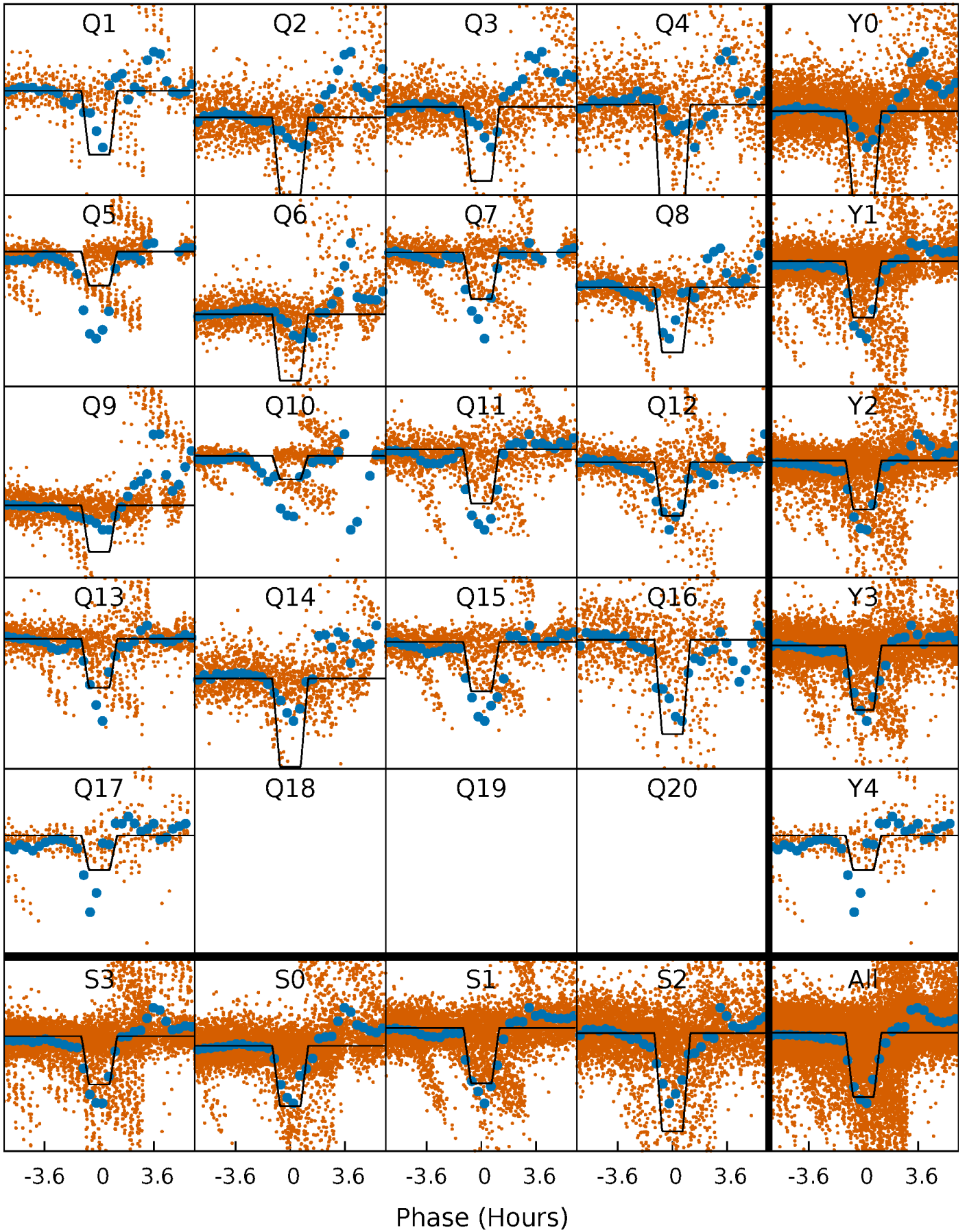
DV Quarter-Phased Transit Curves

TCE 002568971-03 $P = 0.848159$ Days $T_0 = 131.771804$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

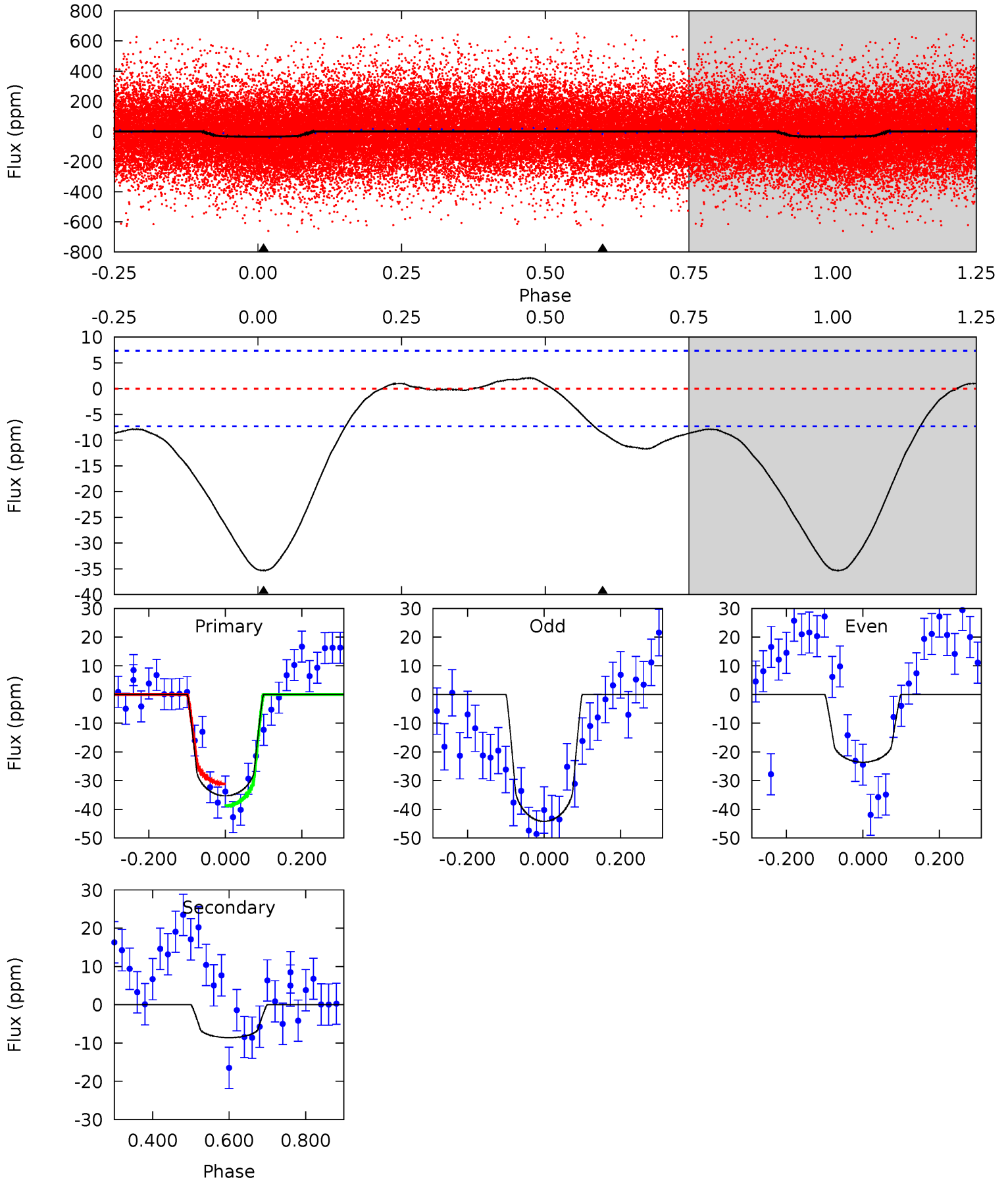
TCE 002568971-03 P= 0.848120 Days $T_0=131.749406$ (BKJD)



DV Model-Shift Uniqueness Test

002568971-03, P = 0.848159 Days, E = 131.771804 Days

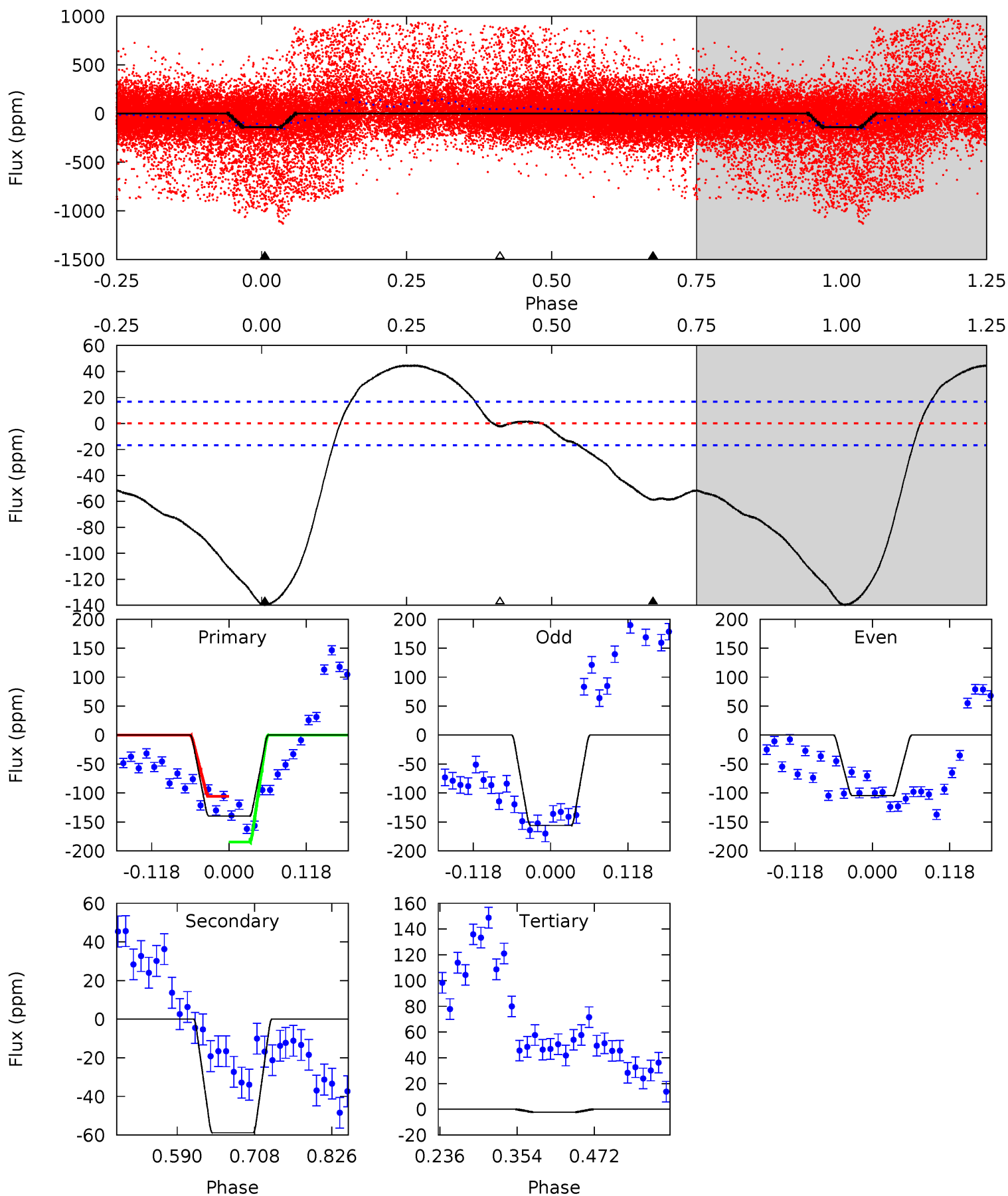
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.3	5.18	0	0	4.42	1.28	1.12	21.3	21.3	5.18	5.18	6.31	0.98	0.05	2.35



Alt Model-Shift Uniqueness Test

002568971-03, P = 0.848120 Days, E = 131.749406 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.8	15.9	0.61	0	4.53	1.56	10.5	37.2	37.8	15.3	15.9	6.53	8.78	0.24	0



Stellar Parameters For KIC 002568971

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7514^{+235}_{-314}	$4.052^{+0.193}_{-0.158}$	$-0.200^{+0.250}_{-0.350}$	$1.955^{+0.517}_{-0.517}$	$1.571^{+0.212}_{-0.259}$	$0.296^{+0.311}_{-0.130}$
	+3%/-4%	+5%/-4%	+125%/-175%	+26%/-26%	+13%/-16%	+105%/-44%
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 002568971-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-9 ± 2	$1.31^{+0.46}_{-0.43}$	4518^{+315}_{-338}	4783^{+1218}_{-719}	$1.130^{+1.397}_{-0.500}$
Alt.	-59 ± 4	$5.81^{+1.06}_{-0.87}$	4512^{+346}_{-329}	3312^{+374}_{-5883}	$0.397^{+0.132}_{-0.110}$

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

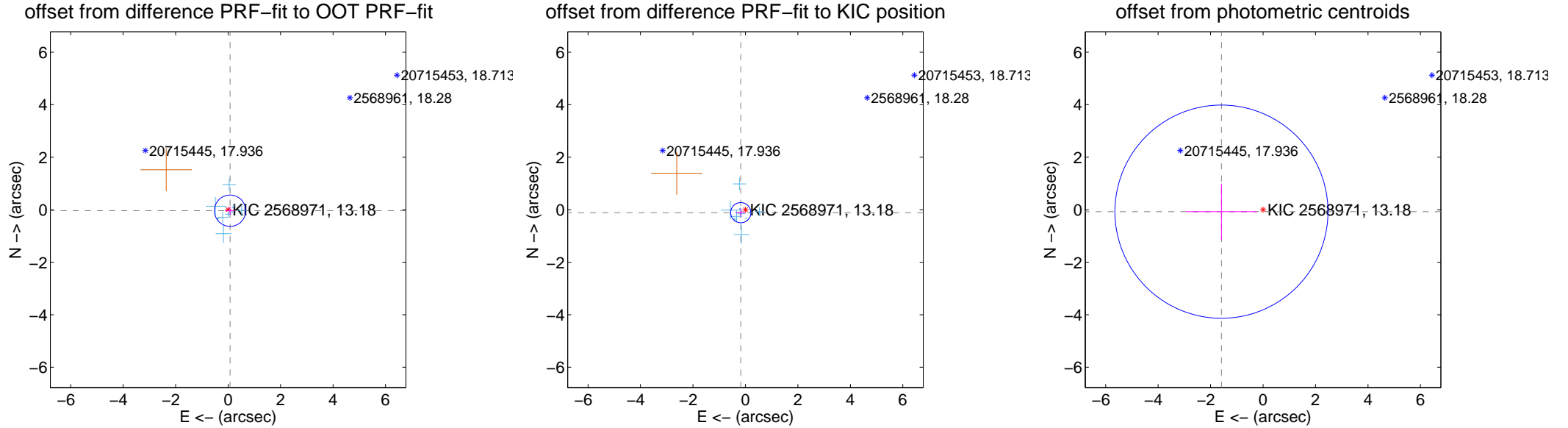
DV Centroid Data

Supplemental centroid analysis for 002568971-03. Kepler magnitude: 13.18. Transit SNR 14.06

There are 14 quarters with good PRF difference image offsets

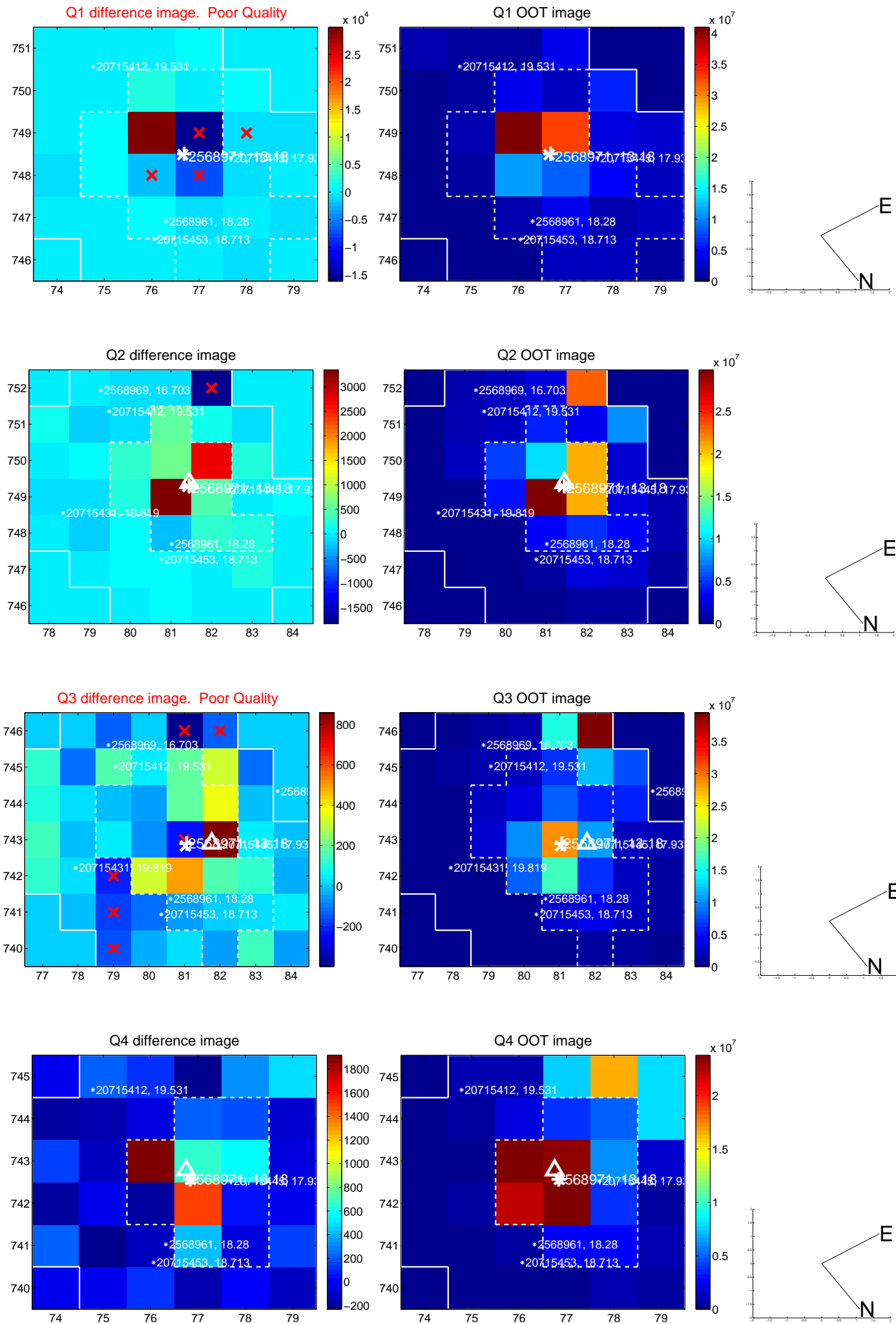
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.084 ± 0.199	0.42	-0.075 ± 0.176	-0.038 ± 0.154
PRF-fit source offset from KIC position	0.212 ± 0.128	1.65	0.178 ± 0.187	-0.114 ± 0.155
photometric centroid source offset	1.59 ± 1.35	1.17	1.59 ± 1.35	-0.07 ± 1.07

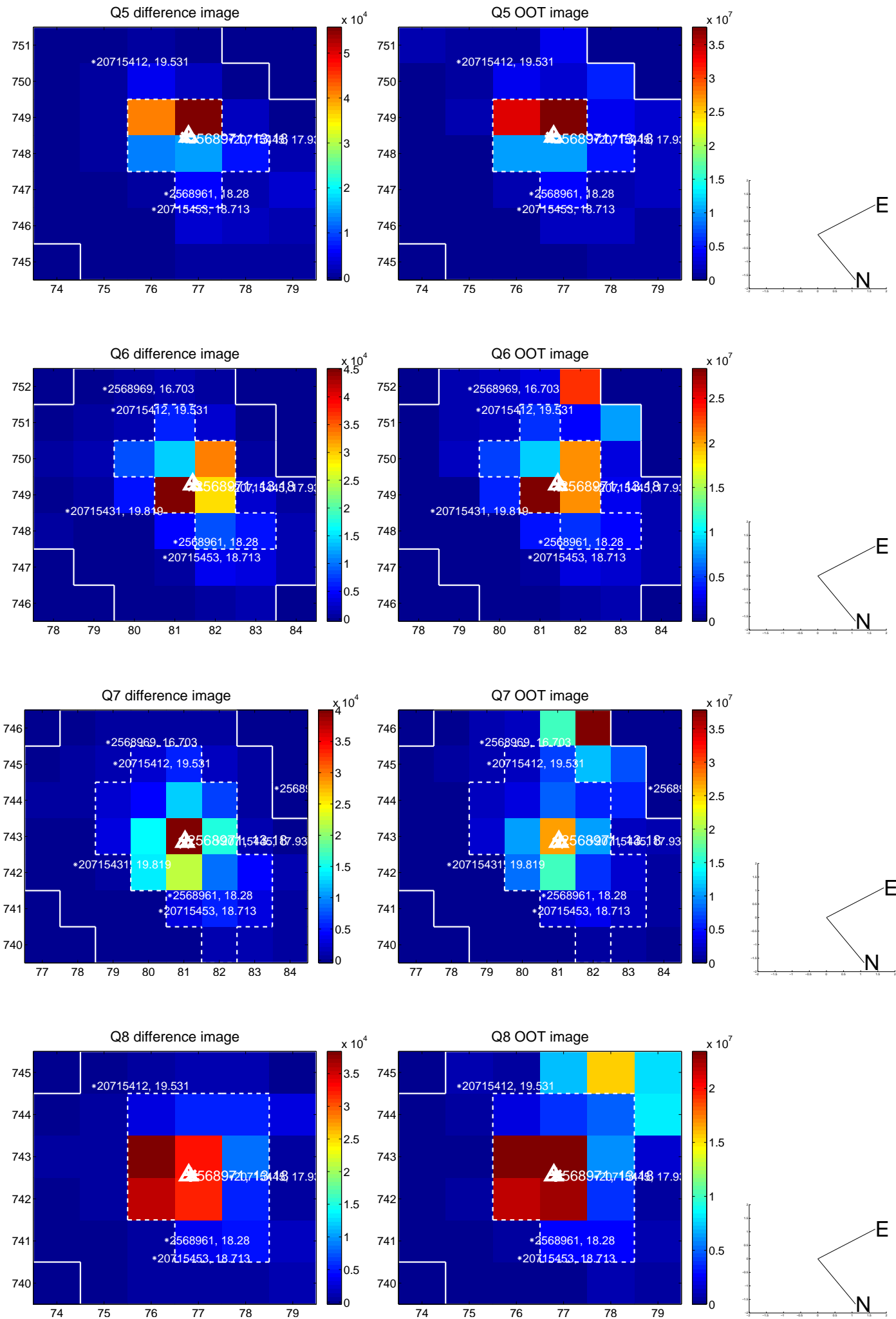


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

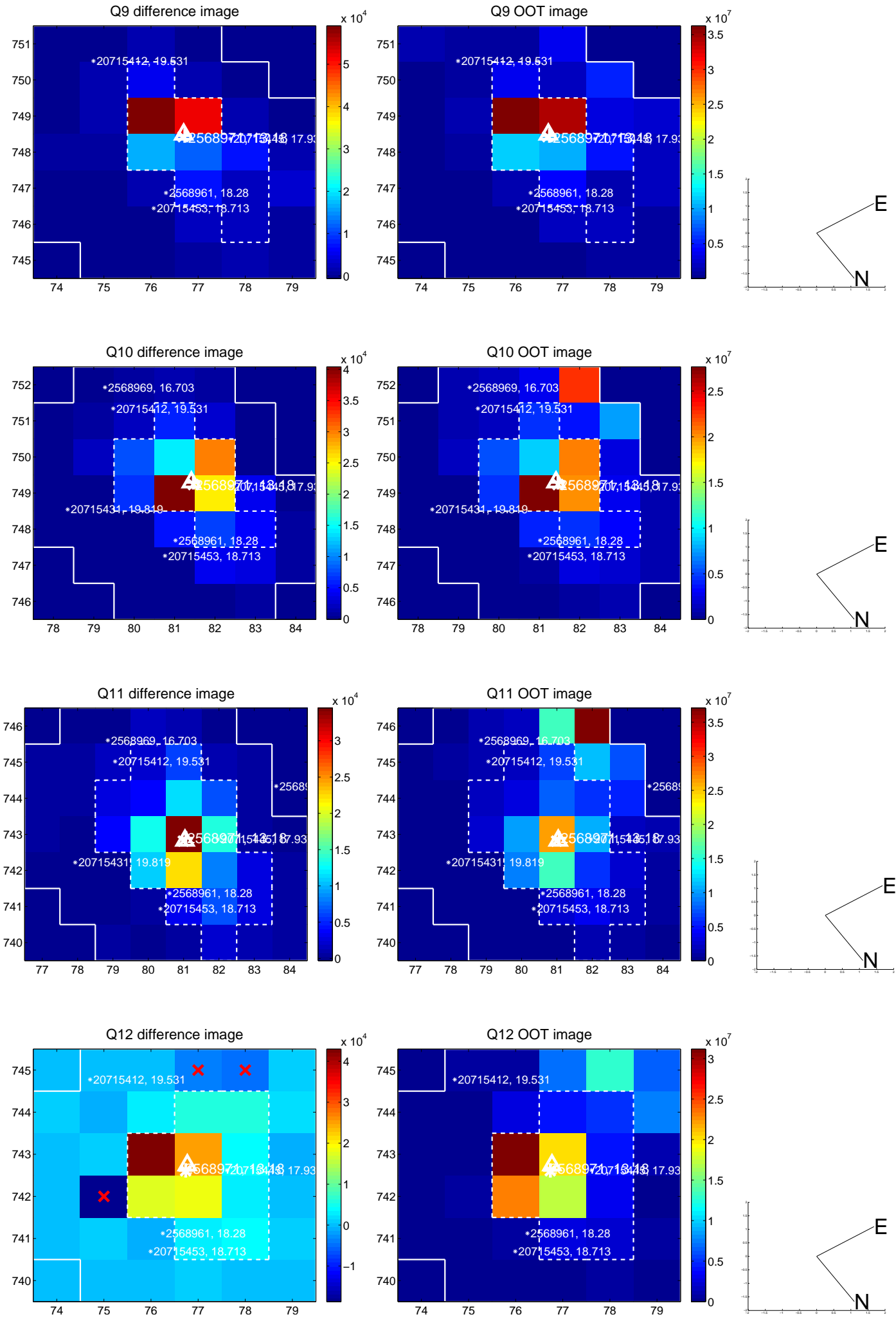
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



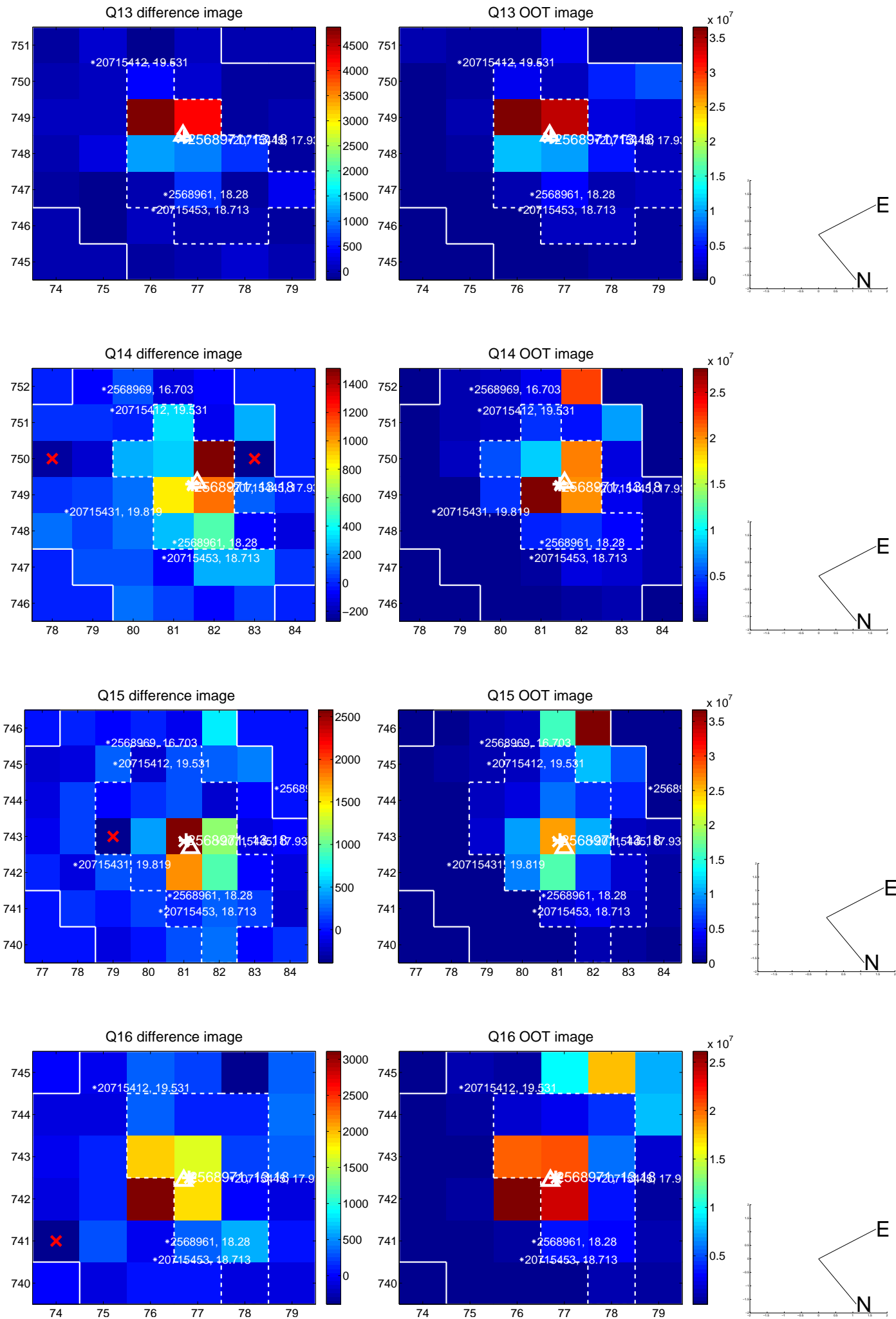
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



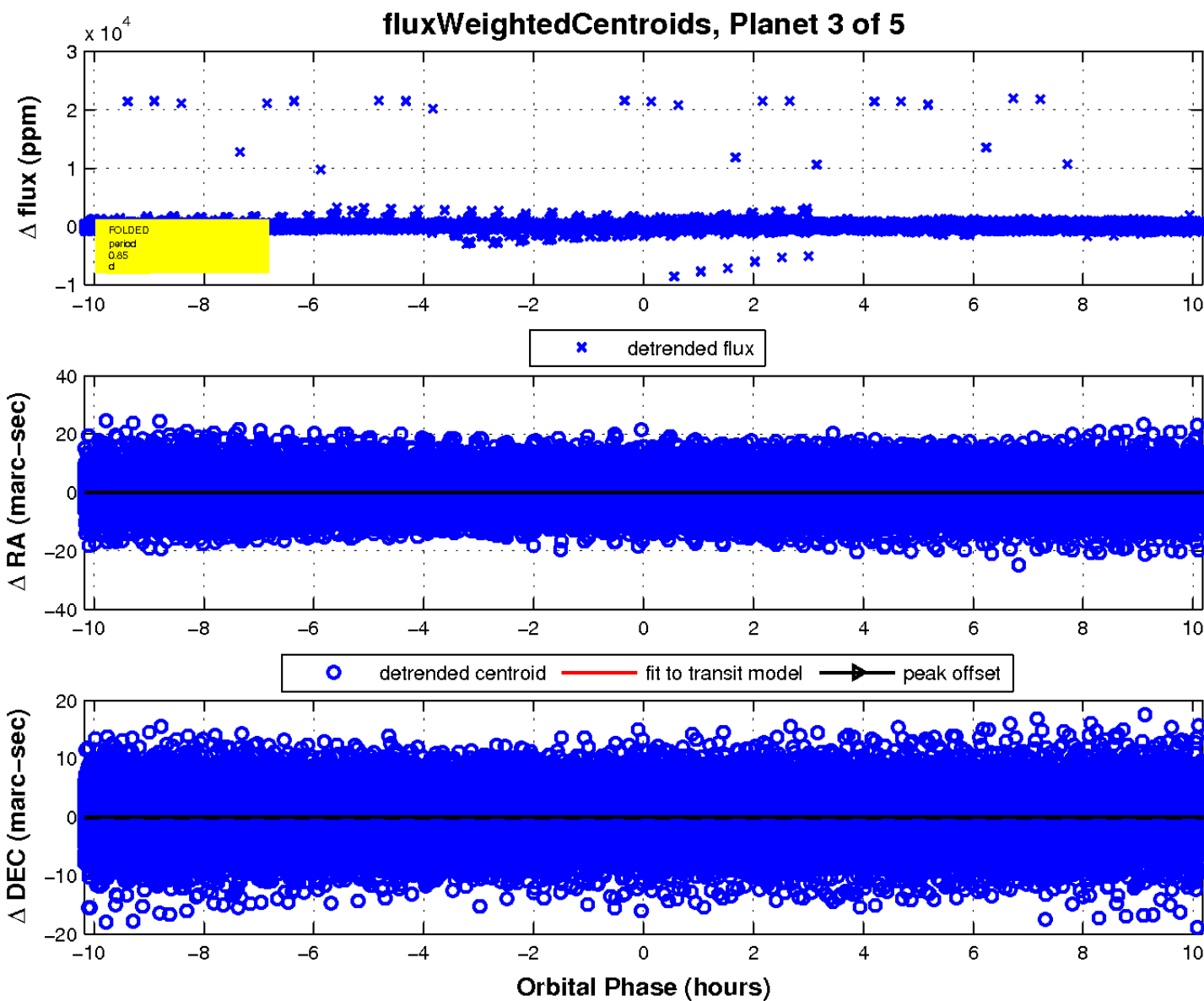
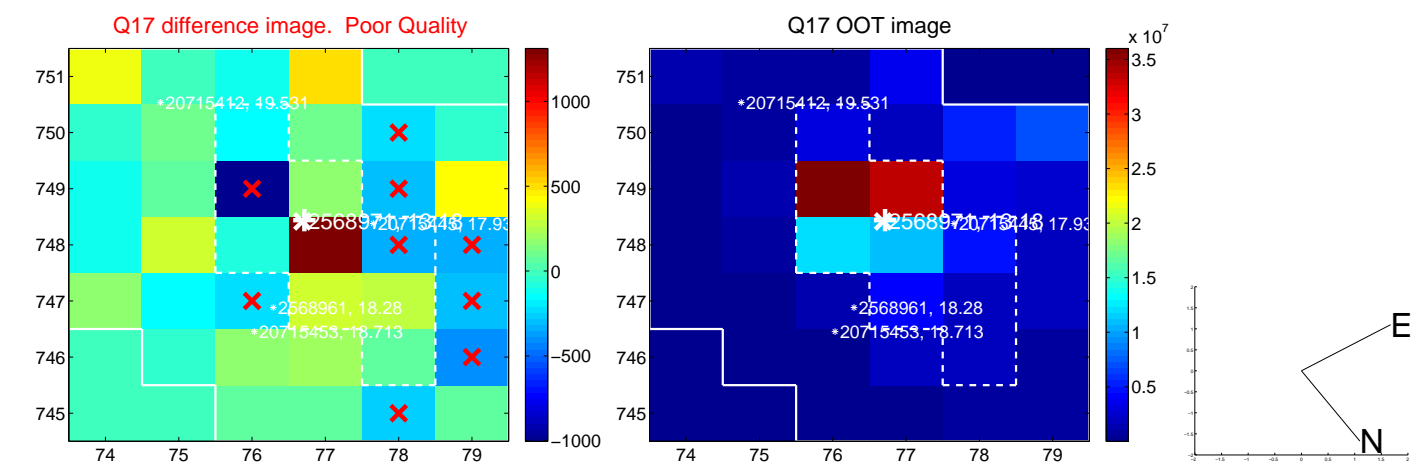
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

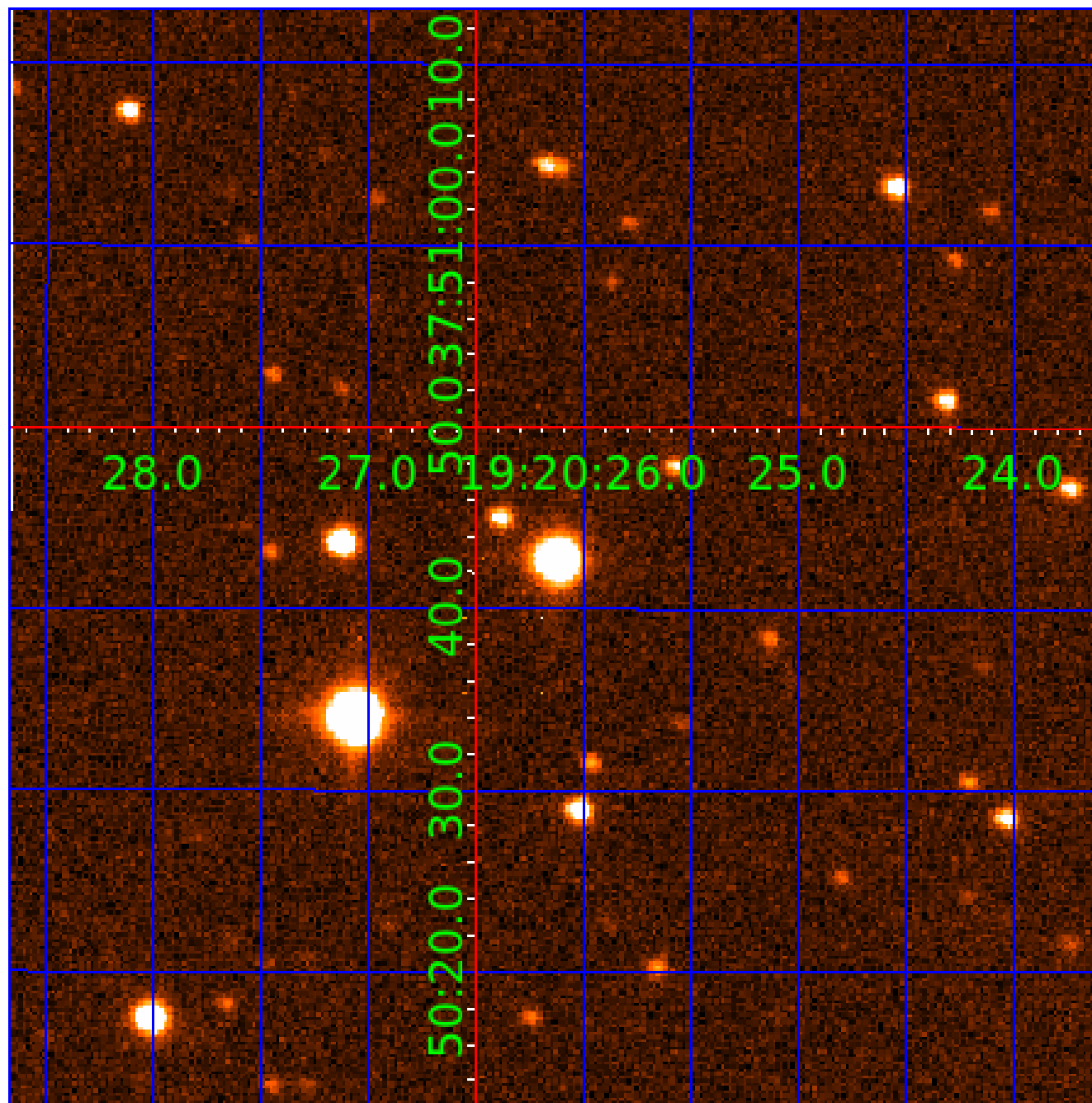


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002568971

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})
002568971-01	OBS	6278.01	5.088575	134.057086	202.9	5.670	26.6	29.5	1.96	7514	5.48	2408.14
002568971-02	OBS	No	5.088710	136.488332	76.9	5.867	14.0	13.9	1.96	7514	2.01	2408.06
002568971-03	OBS	No	0.848159	131.771804	35.9	3.627	13.4	14.1	1.96	7514	1.35	26252.70
002568971-05	OBS	No	1.271905	131.741540	45.3	8.921	12.0	10.2	1.96	7514	1.34	15294.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002568971-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_UNRESOLVED_OFFSET
002568971-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS
002568971-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
002568971-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—SWEET_NTL—LPP_DV—LPP_ALT—CENT_NOFITS

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.

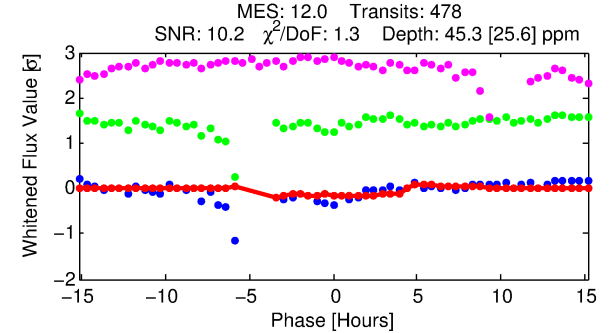
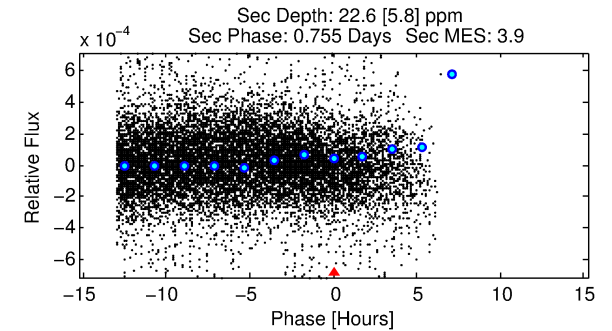
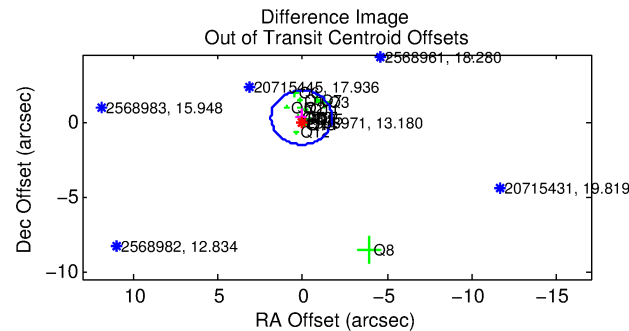
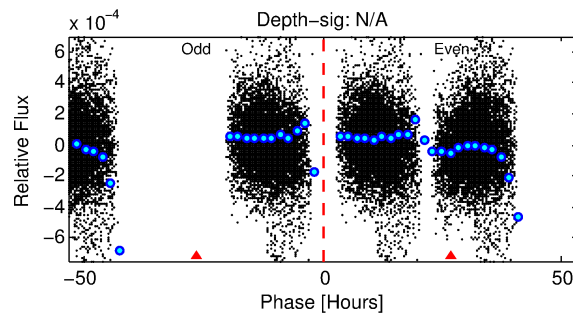
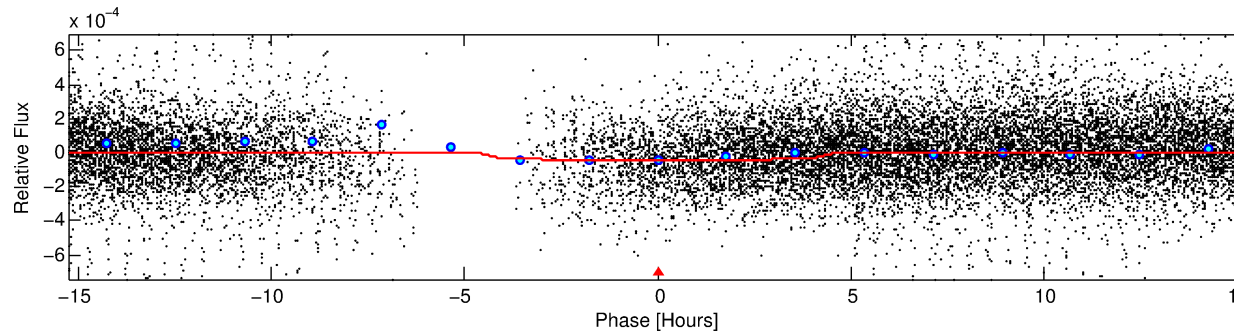
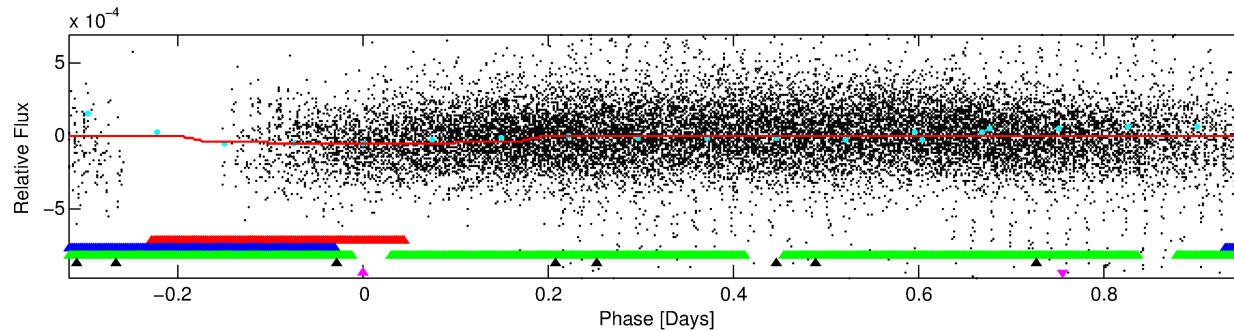
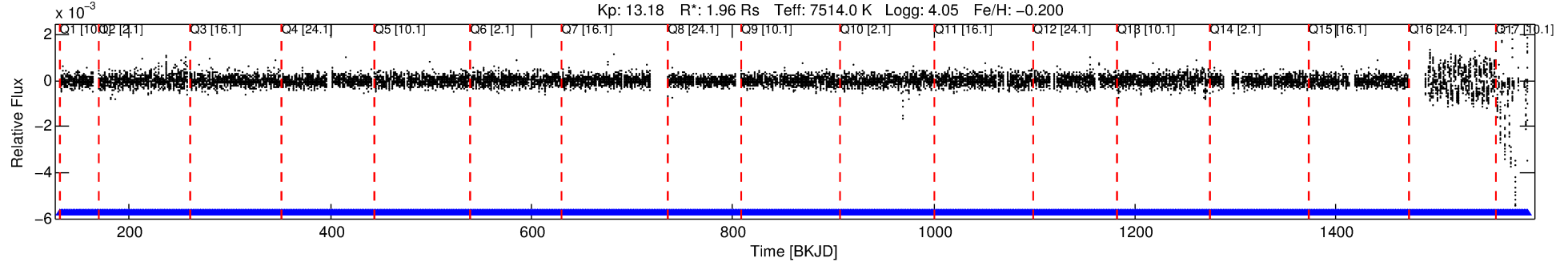
Ephemeris Match Information For 002568971-05

No Significant Match Found

DV One-Page Summary

KIC: 2568971 Candidate: 5 of 5 Period: 1.272 d
KOI: K06278 Corr: No Ephemeris Match

Kp: 13.18 R*: 1.96 Rs Teff: 7514.0 K Logg: 4.05 Fe/H: -0.200



DV Fit Results:

Period = 1.27190 [0.00002] d
Epoch = 131.7415 [0.0170] BKJD
Rp/R* = 0.0063 [0.0051]
a/R* = 1.24 [1.79]
b = 0.35 [14.71]
Seff = 15294.58 [5859.96]
Teq = 2836 [272] K
Rp = 1.34 [1.15] Re
a = 0.0267 [0.0062] AU
Ag = 4.98 [8.46] [0.47σ]
Teff = 6551 [2736] K [1.35σ]

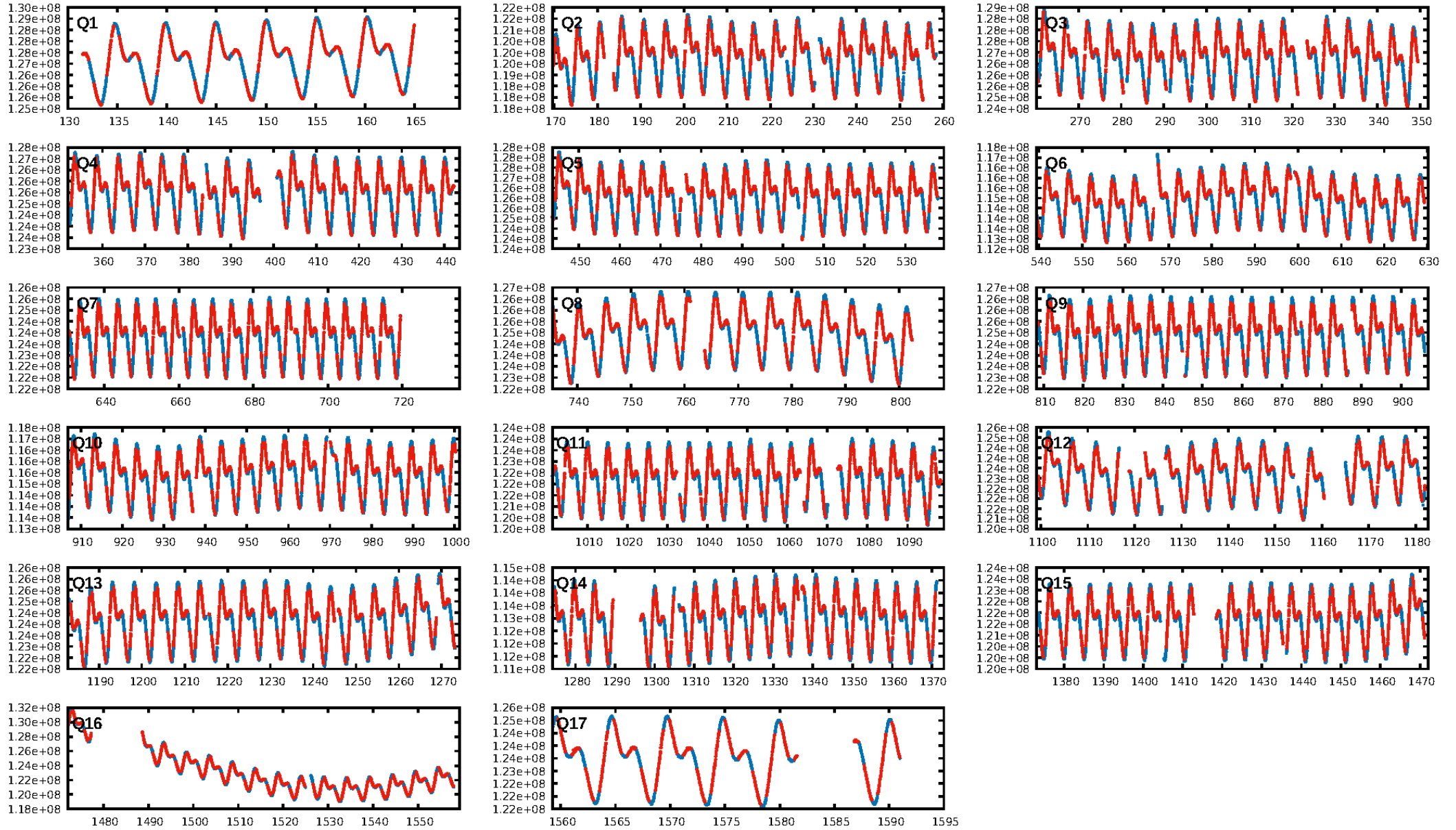
DV Diagnostic Results:

ShortPeriod-sig: 70.9% [1.06σ]
LongPeriod-sig: 100.0% [8.67σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [465/465]
GhostDiagnostic-chr: 3.1
Centroid-sig: 89.9%
Centroid-so: 2.831 arcsec [2.20σ]
OotOffset-rm: 0.287 arcsec [0.48σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.263 arcsec [0.43σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.88 [15/17]
DiffImageOverlap-fno: 0.00 [0/17]

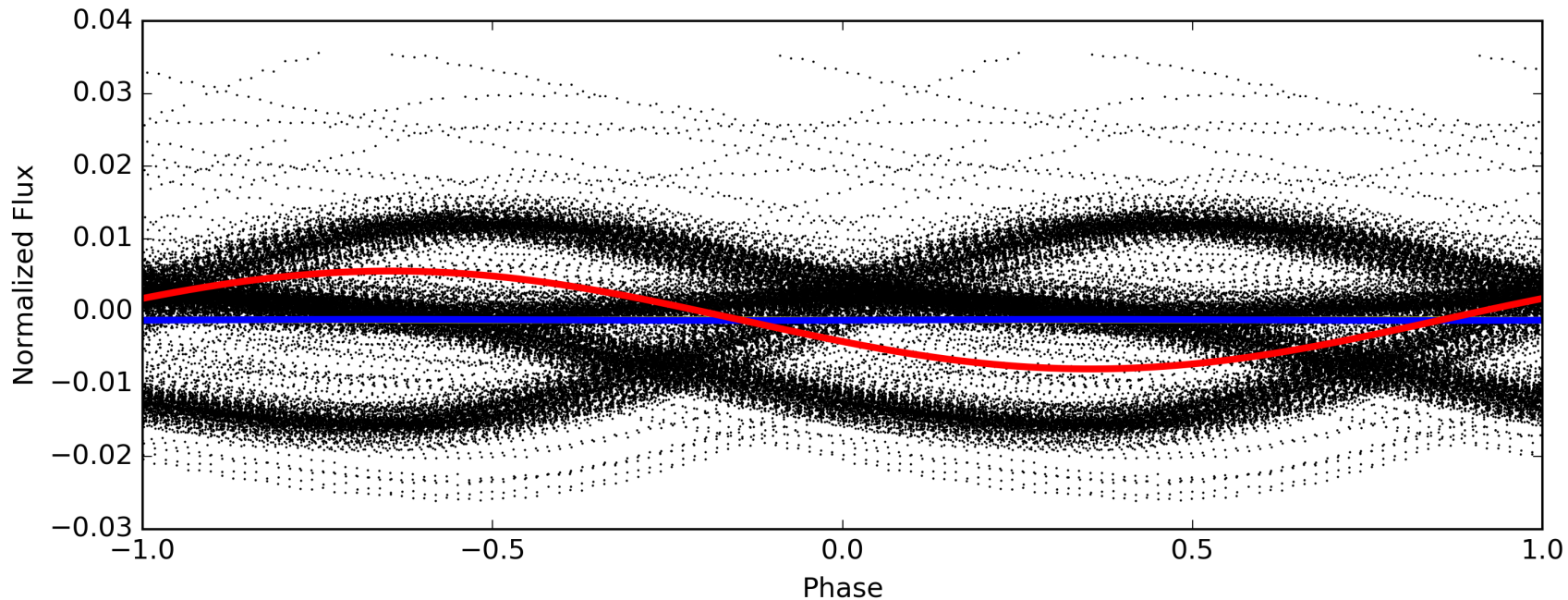
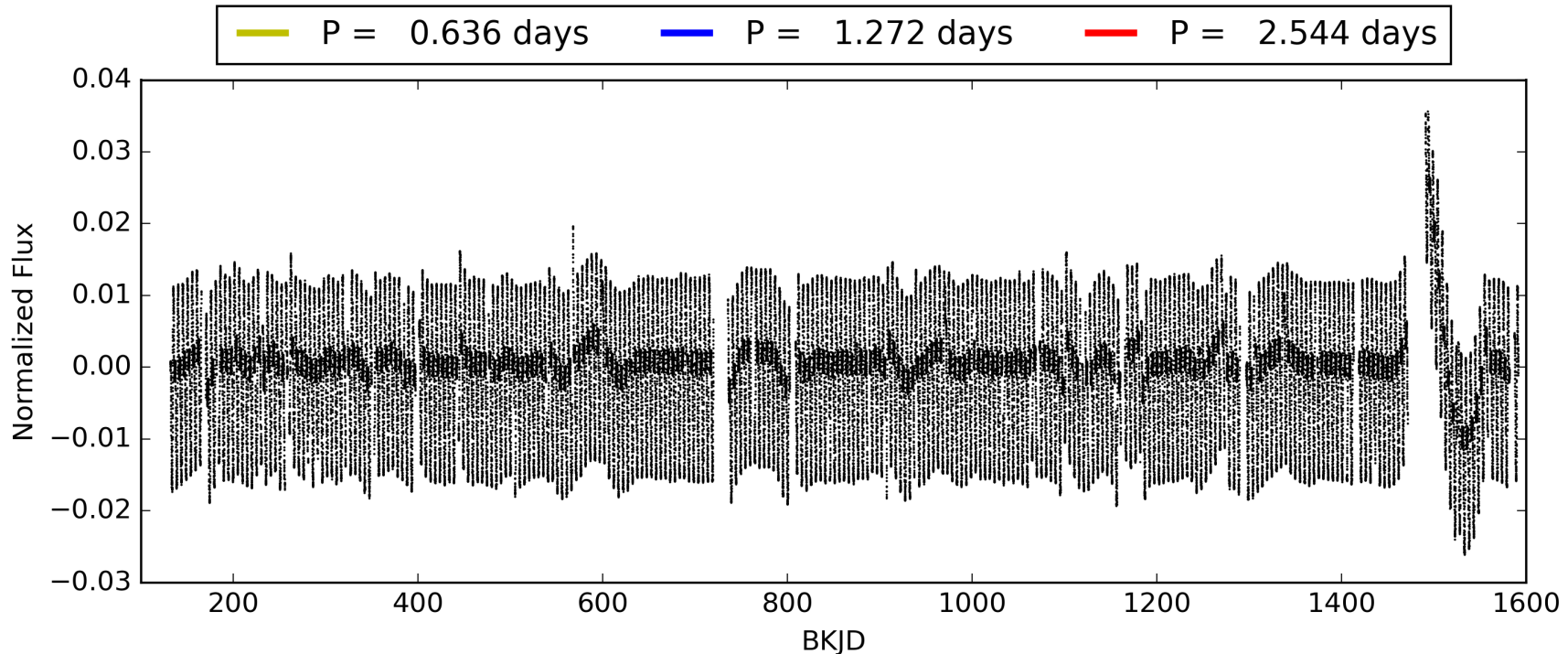
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:47:59 Z

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

TCE 002568971-05, PDC Light Curves

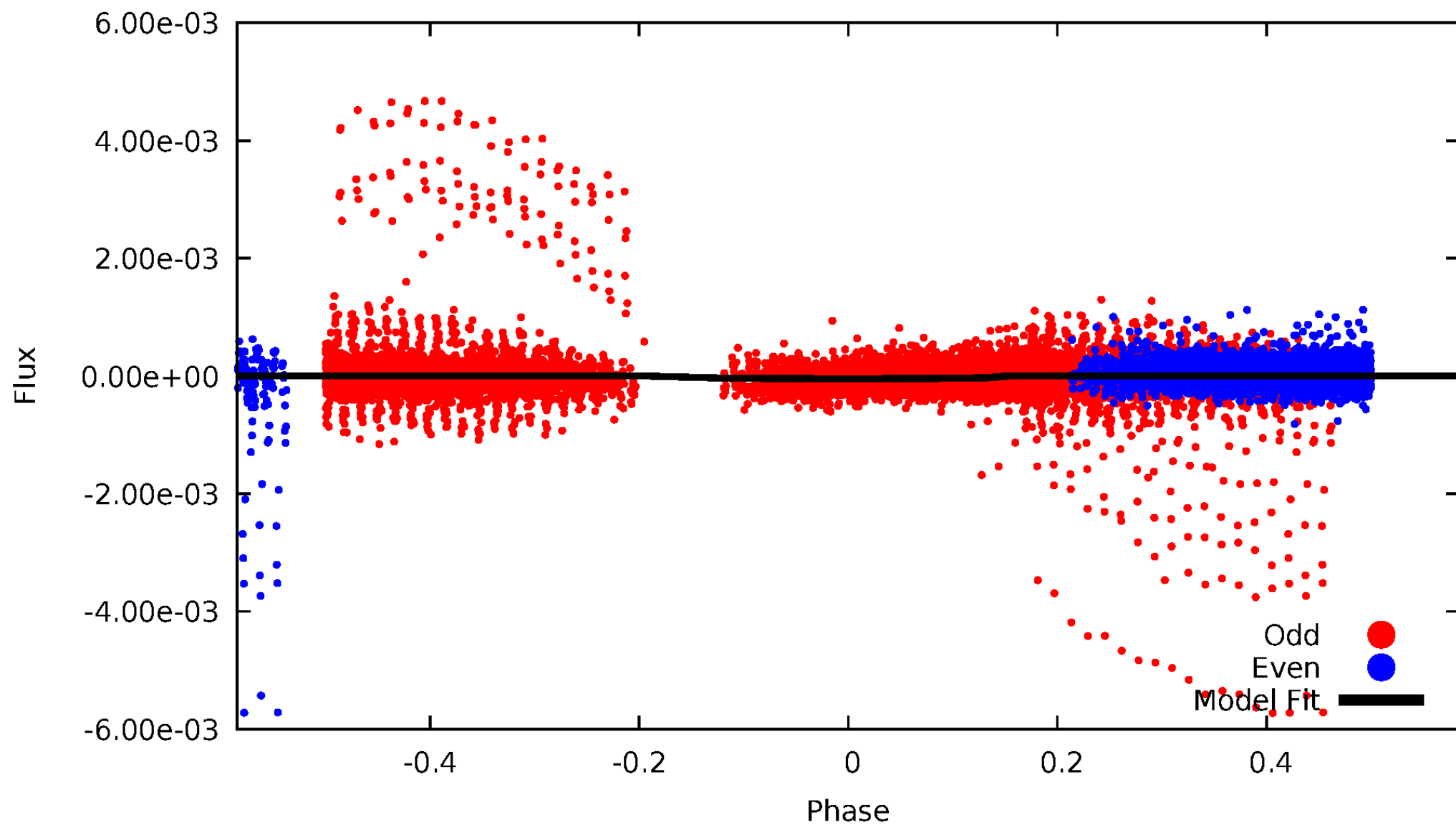


TCE 002568971-05



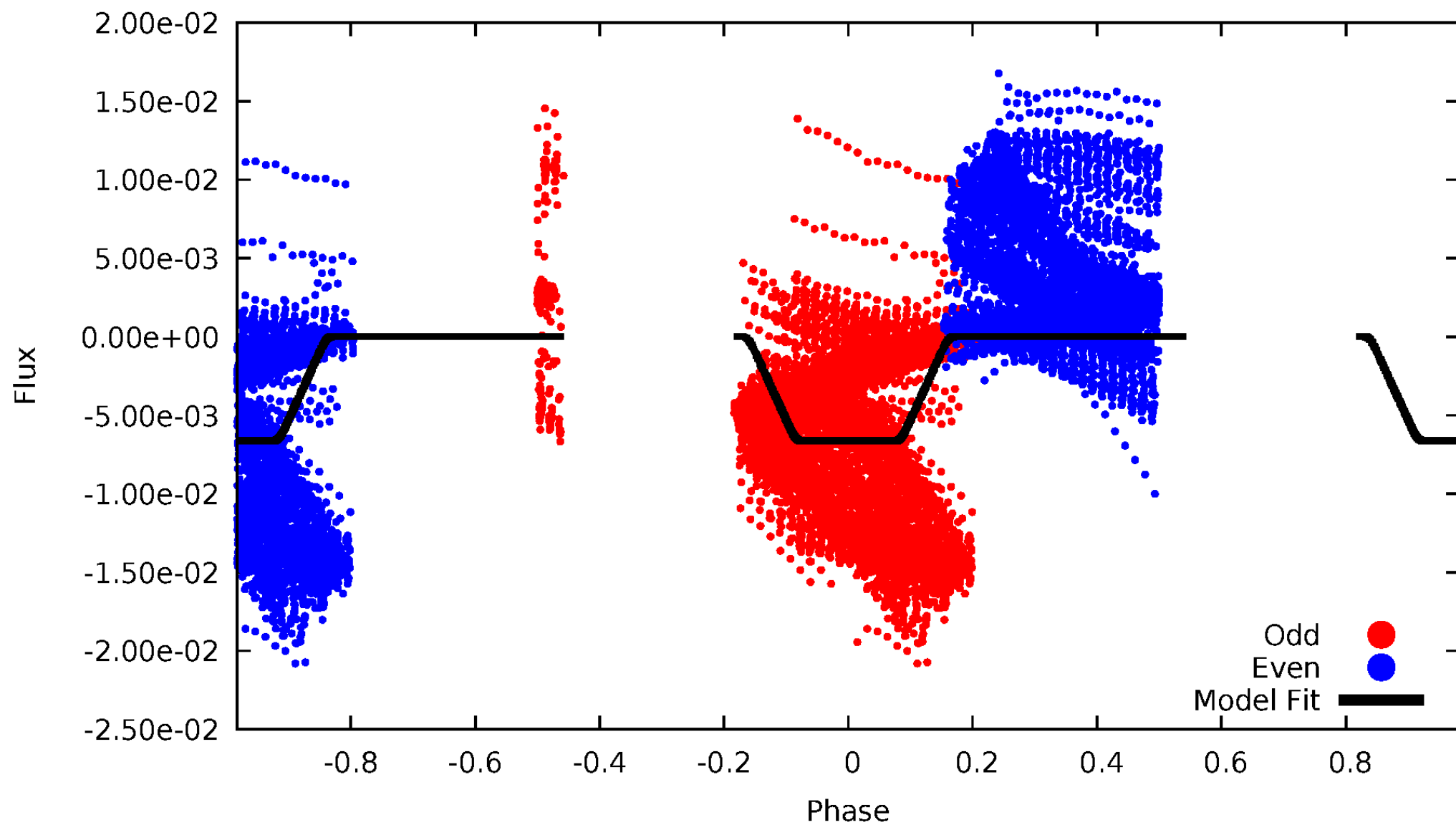
DV Odd/Even

TCE 002568971-05



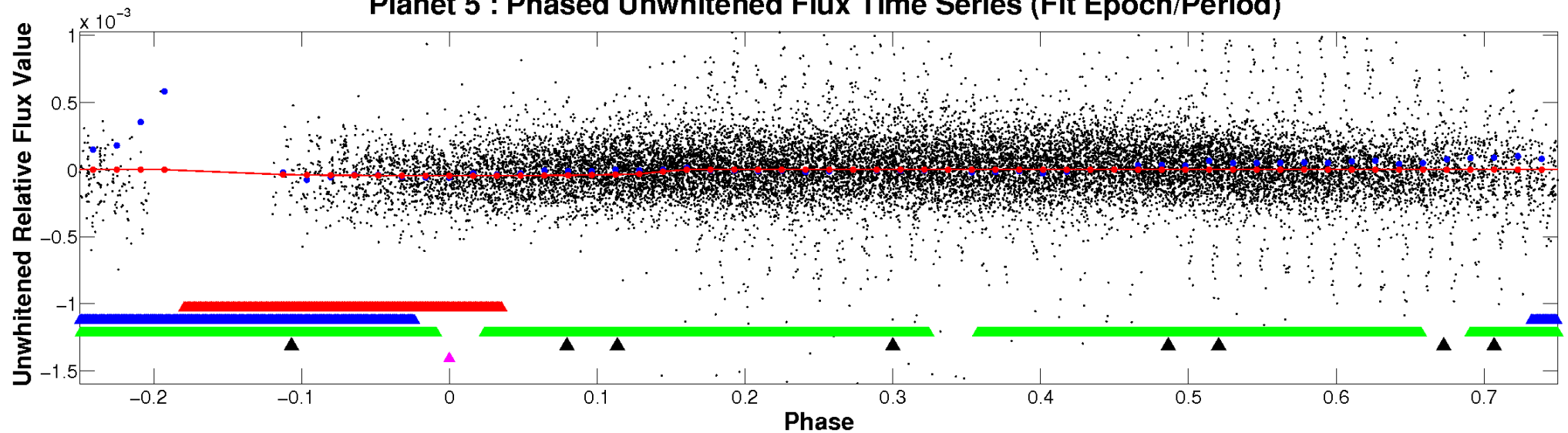
ALT Odd/Even

TCE 002568971-05

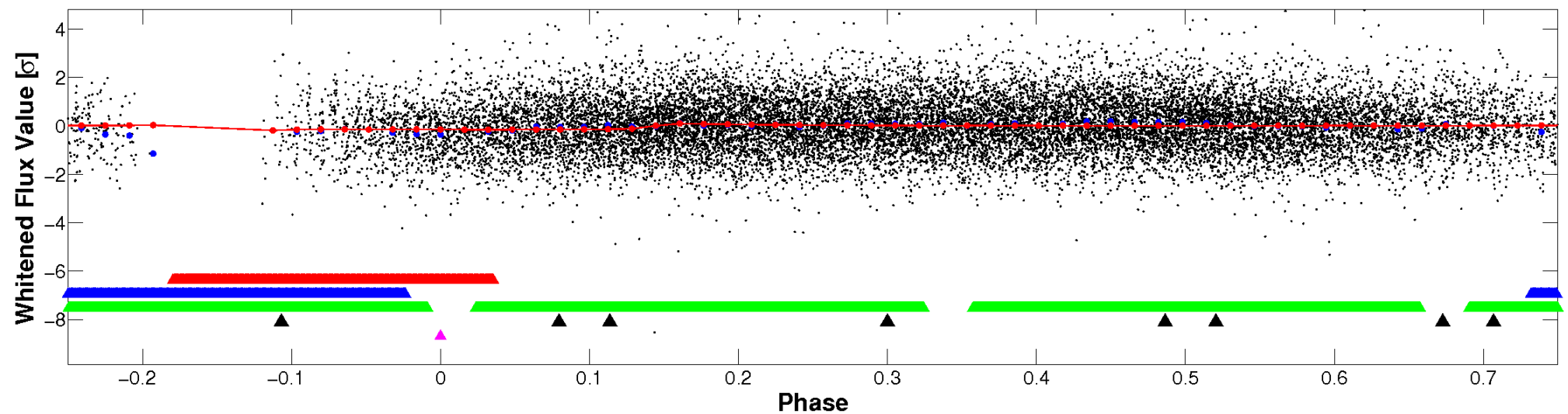


Non-Whitened Vs. Whitened Light Curve

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

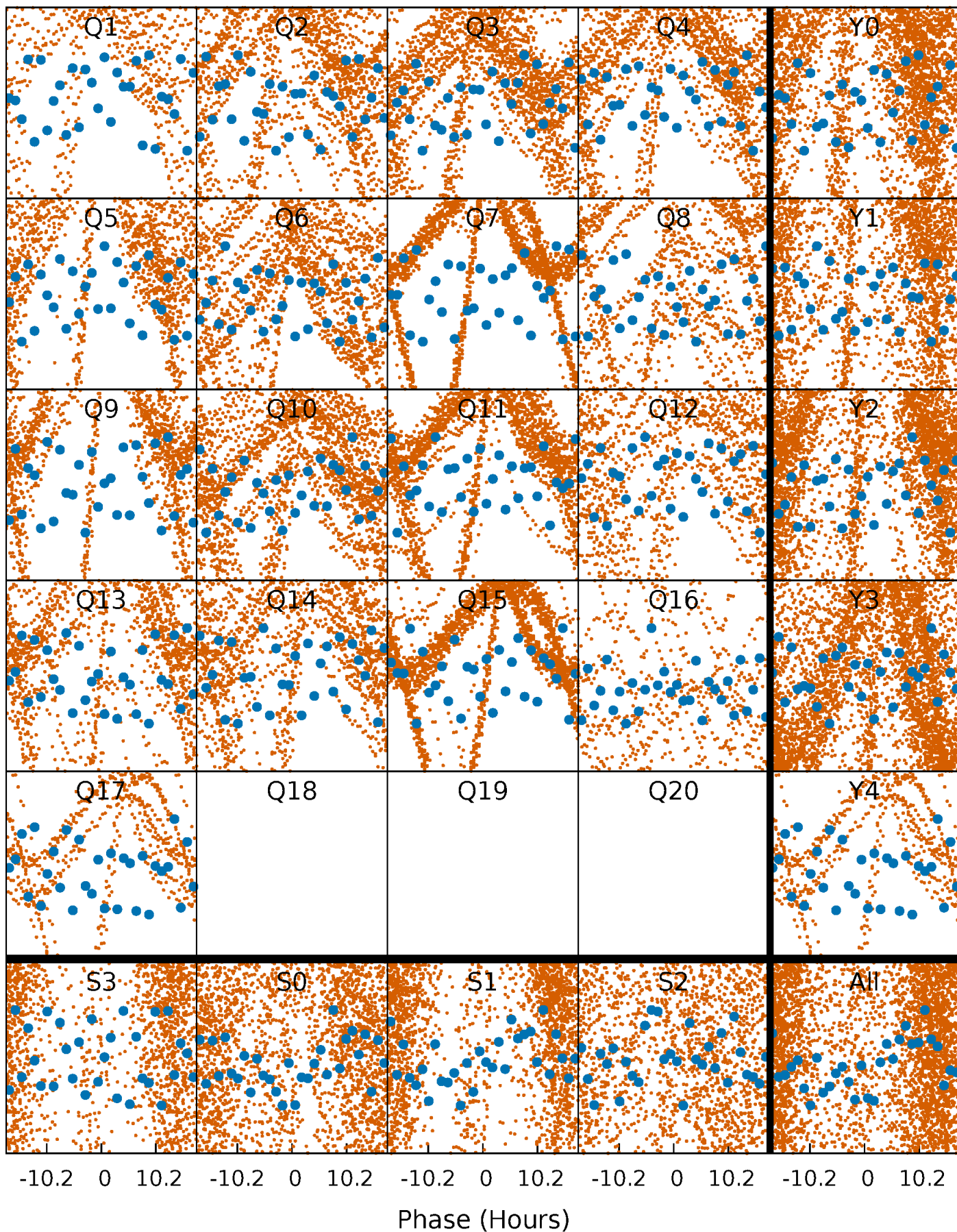


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



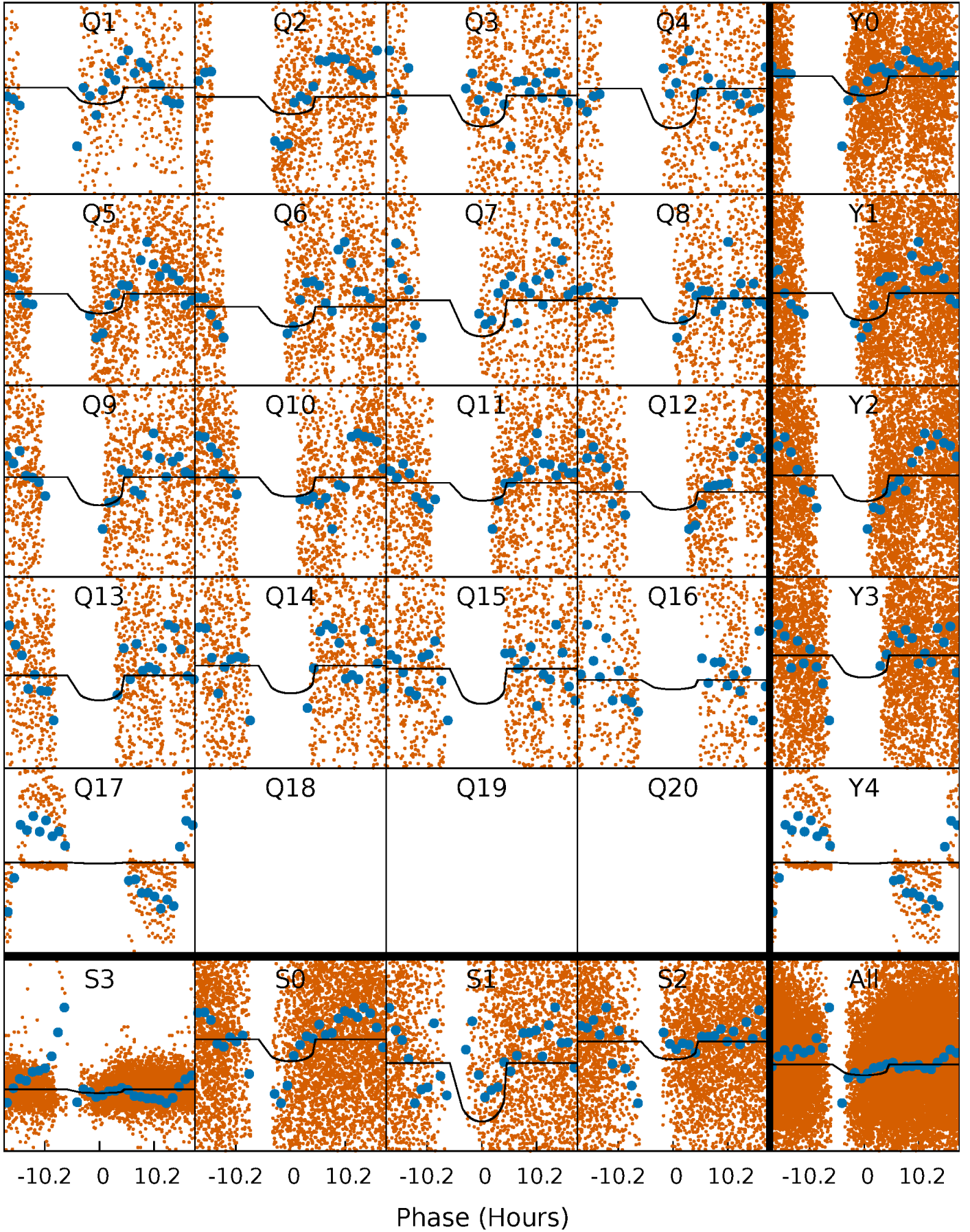
PDC Quarter-Phased Transit Curves

TCE 002568971-05 $P = 1.271905$ Days $T_0 = 131.741540$ (BKJD)



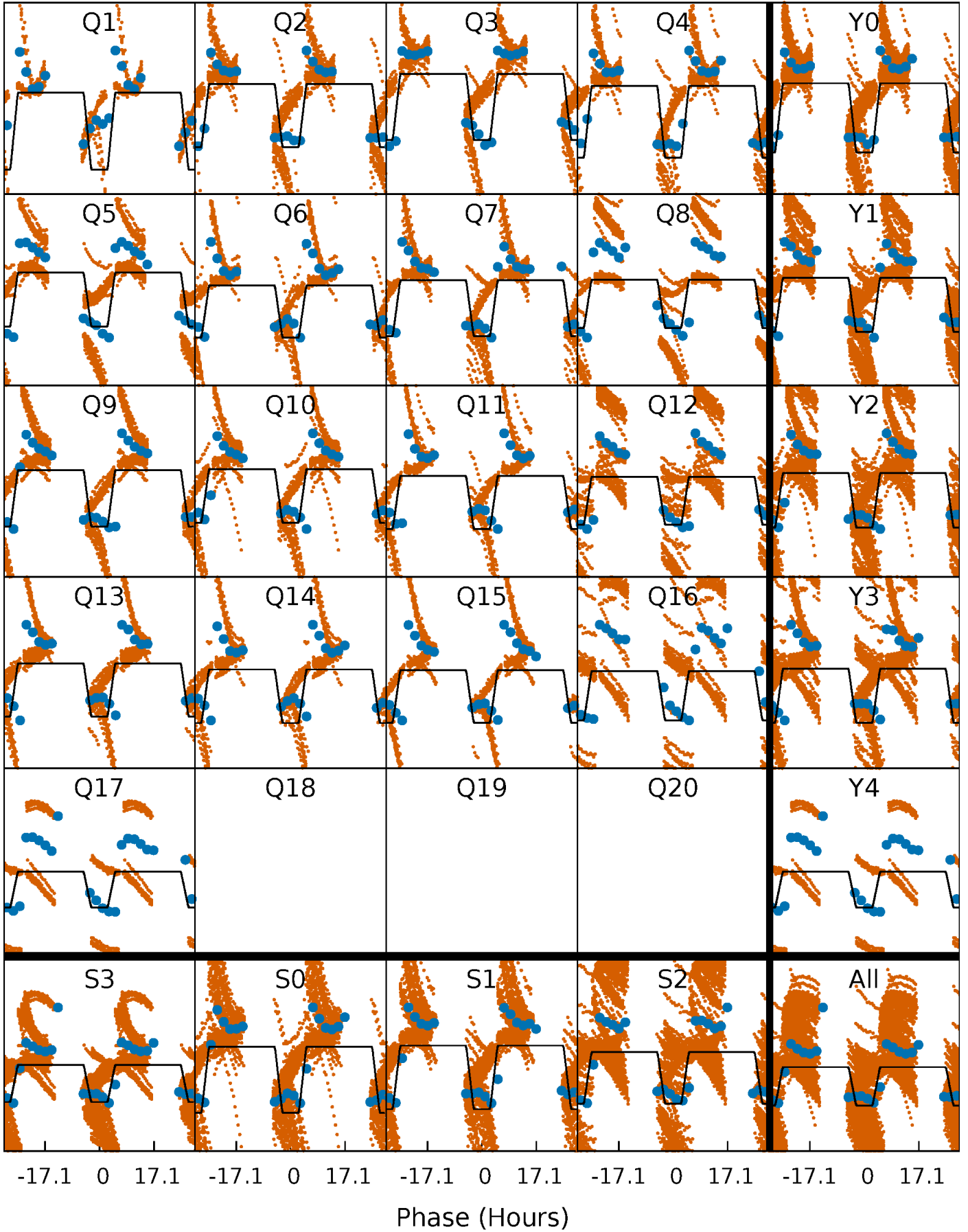
DV Quarter-Phased Transit Curves

TCE 002568971-05 $P = 1.271905$ Days $T_0 = 131.741540$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

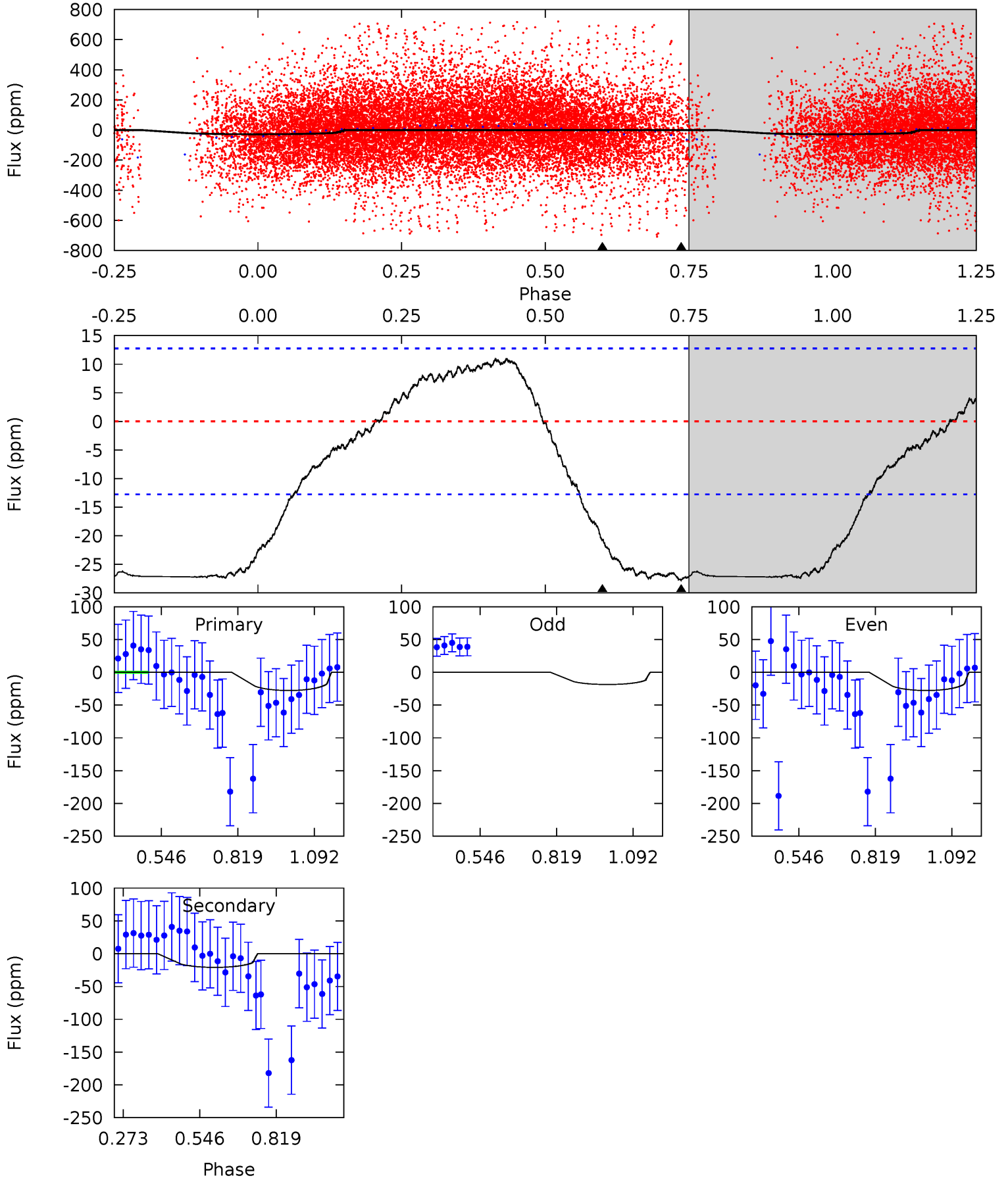
TCE 002568971-05 P= 1.272127 Days $T_0=131.821156$ (BKJD)



DV Model-Shift Uniqueness Test

002568971-05, P = 1.271905 Days, E = 131.741540 Days

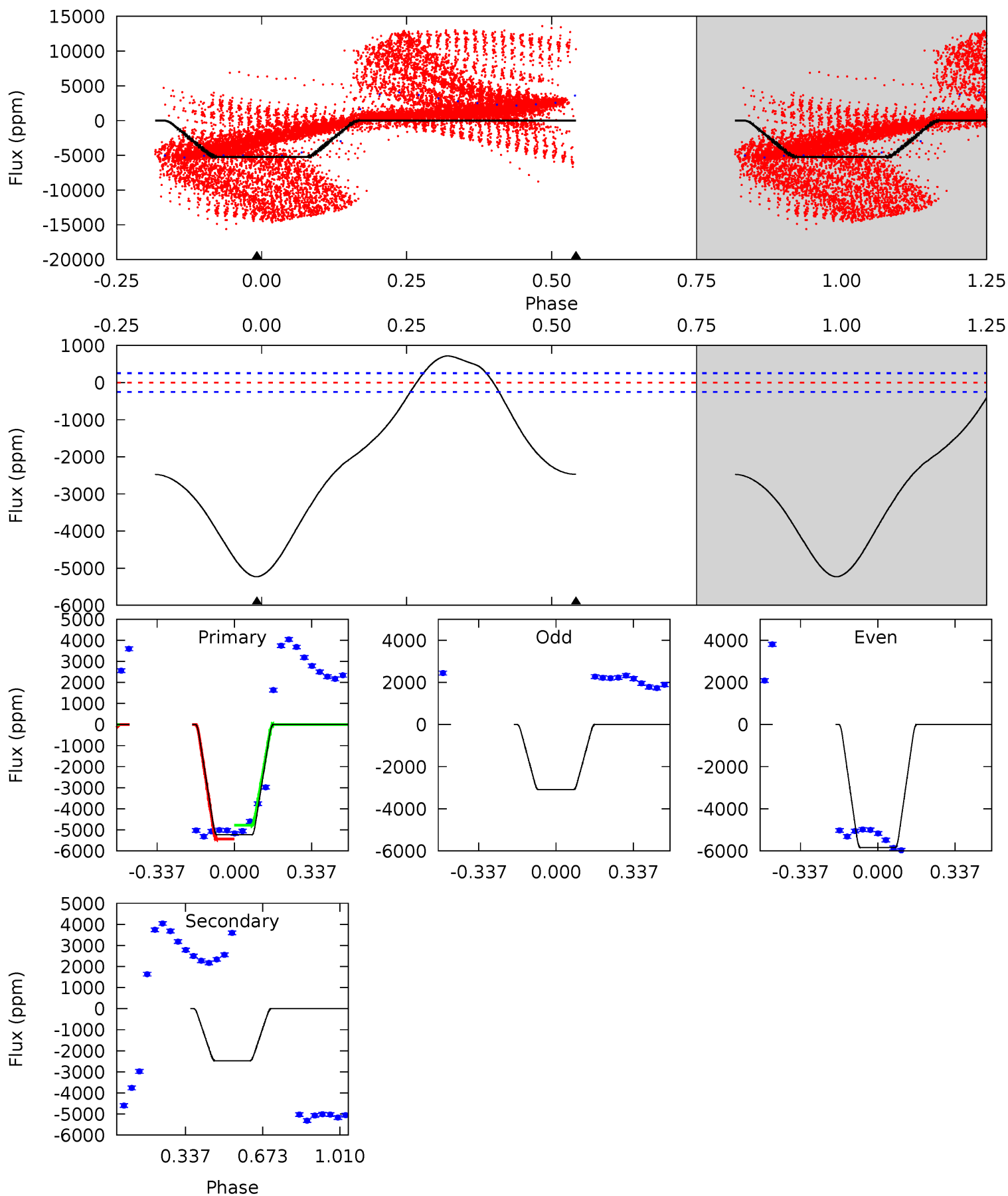
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.47	7.10	0	0	4.35	1.10	2.33	9.47	9.47	7.10	7.10	2.13	1.16	0.28	4.60



Alt Model-Shift Uniqueness Test

002568971-05, P = 1.272127 Days, E = 131.821156 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
89.1	42.1	0	0	4.30	0.96	6.29	89.1	89.1	42.1	42.1	6.45	1.69	0.12	5.68



Stellar Parameters For KIC 002568971

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7514^{+235}_{-314}	$4.052^{+0.193}_{-0.158}$	$-0.200^{+0.250}_{-0.350}$	$1.955^{+0.517}_{-0.517}$	$1.571^{+0.212}_{-0.259}$	$0.296^{+0.311}_{-0.130}$
	+3%/-4%	+5%/-4%	+125%/-175%	+26%/-26%	+13%/-16%	+105%/-44%
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 002568971-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-21 ± 3	$1.43^{+1.15}_{-0.82}$	3941^{+305}_{-293}	5898^{+4369}_{-1444}	$3.880^{+18.708}_{-2.648}$
Alt.	-2471 ± 59	$17.16^{+2.82}_{-2.58}$	3931^{+291}_{-309}	5632^{+256}_{-245}	$3.264^{+1.131}_{-0.779}$

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

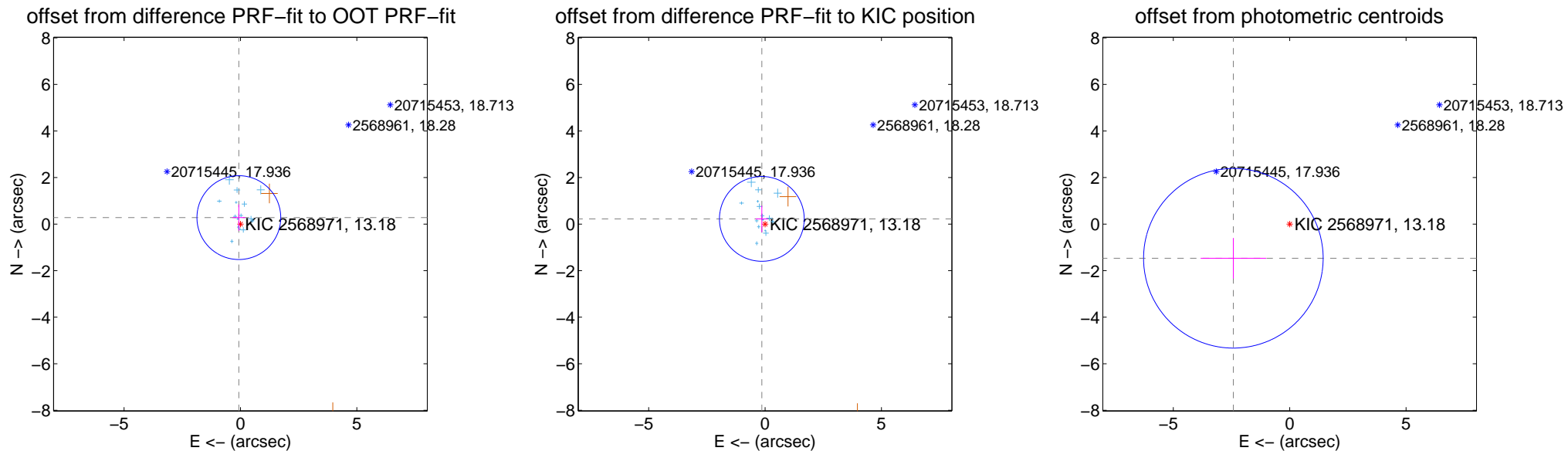
DV Centroid Data

Supplemental centroid analysis for 002568971-05. Kepler magnitude: 13.18. Transit SNR 10.16

There are 15 quarters with good PRF difference image offsets

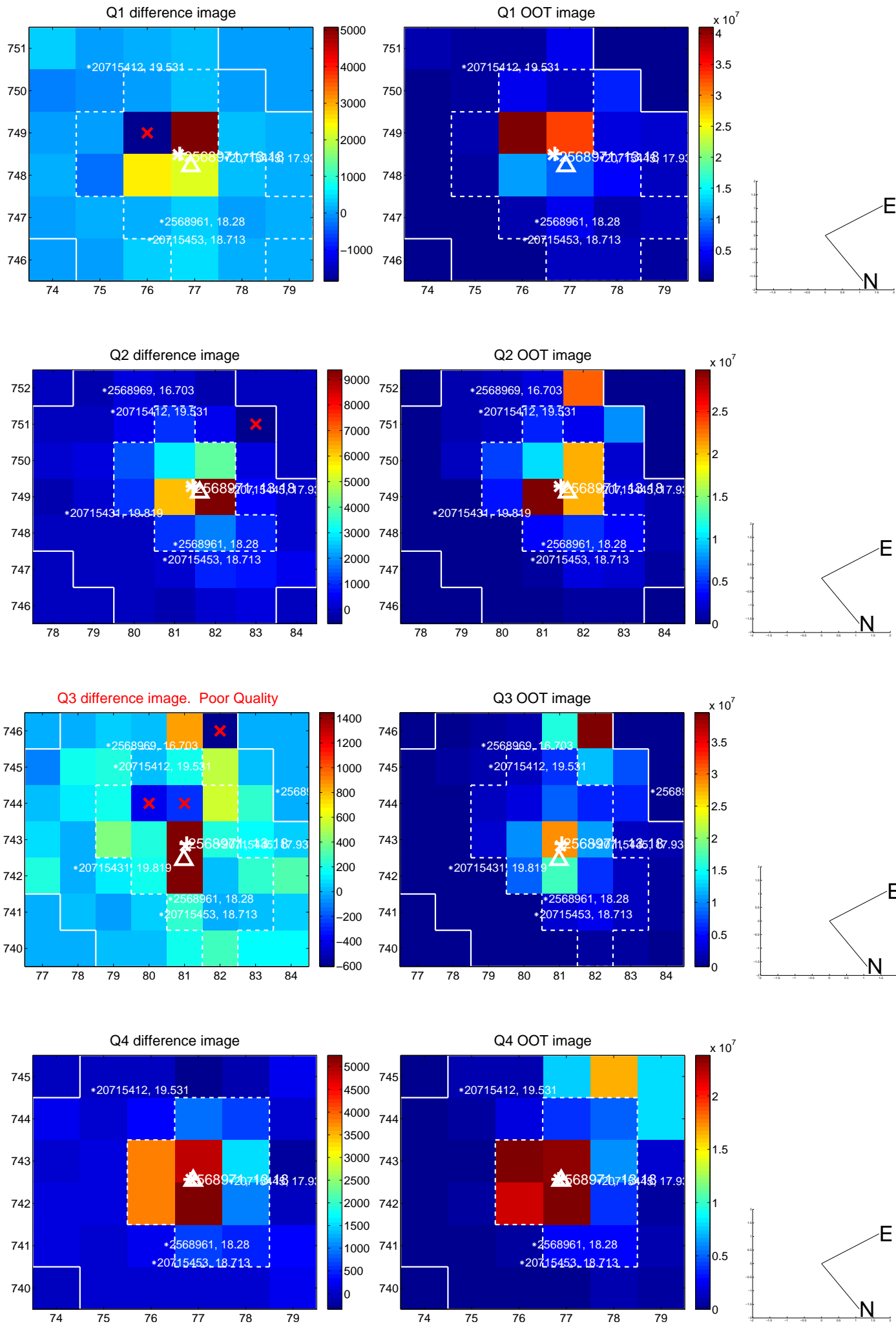
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.287 ± 0.600	0.48	0.069 ± 0.277	0.278 ± 0.562
PRF-fit source offset from KIC position	0.263 ± 0.607	0.43	0.139 ± 0.267	0.224 ± 0.570
photometric centroid source offset	2.83 ± 1.29	2.20	2.42 ± 1.41	-1.47 ± 0.87

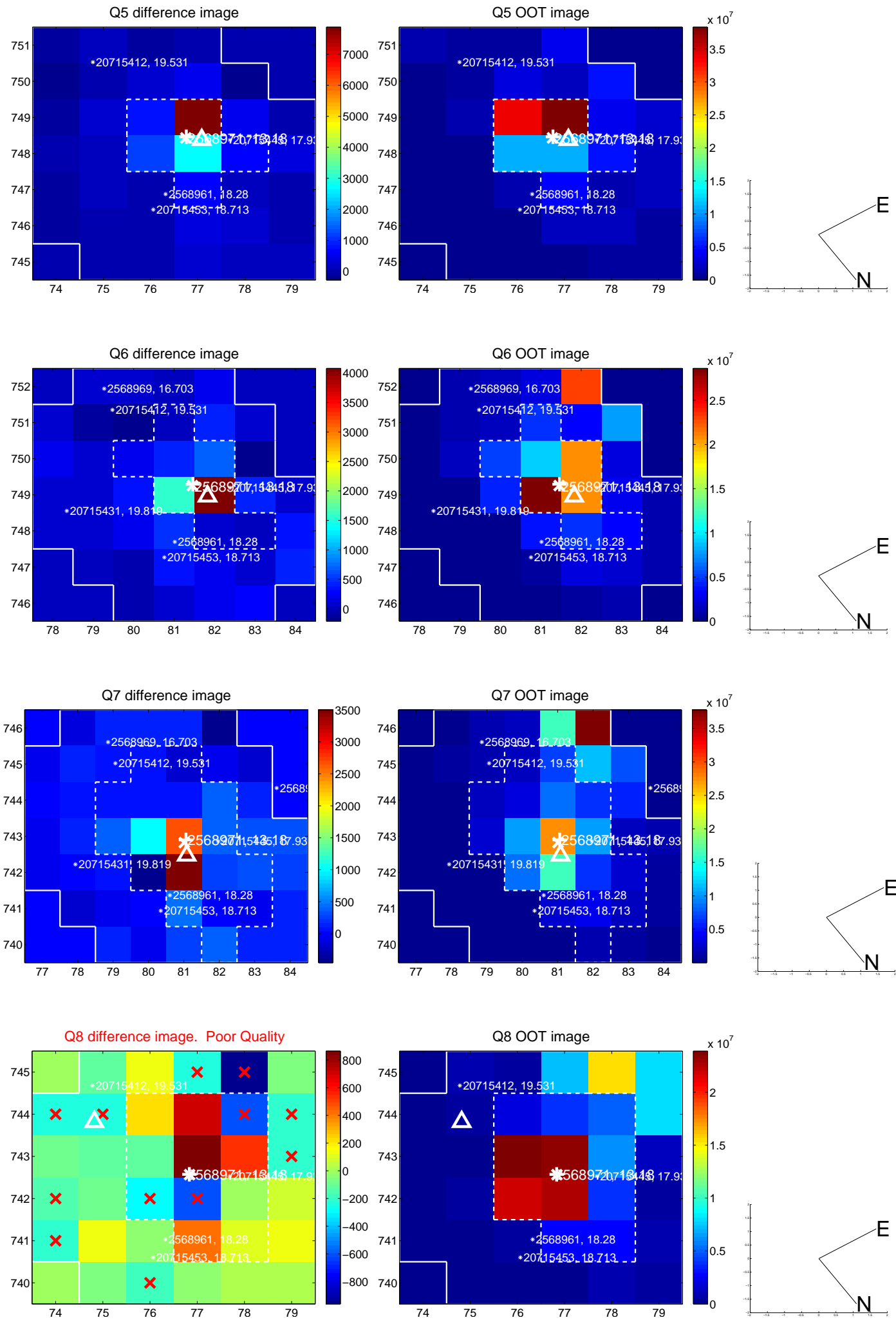


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

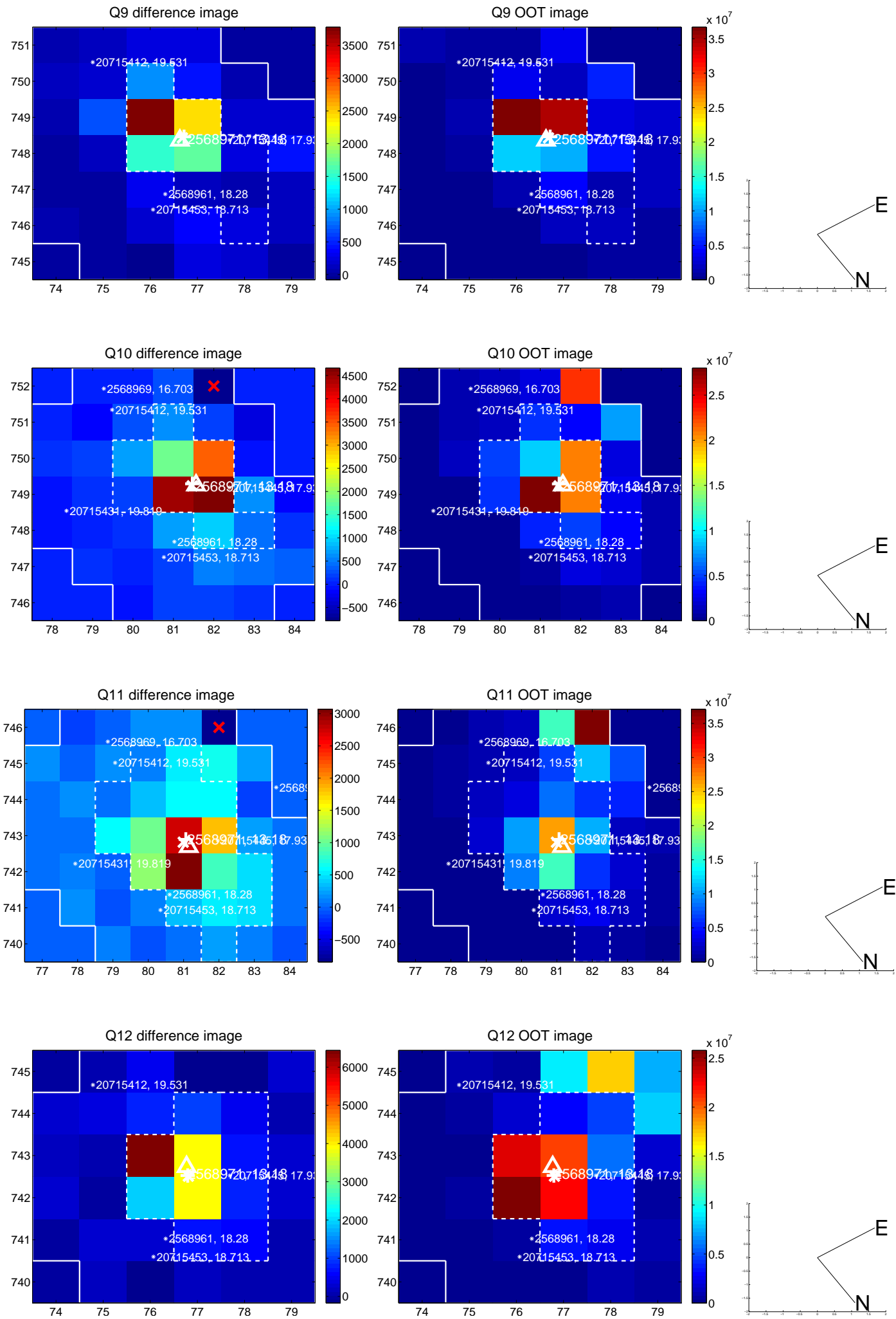
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



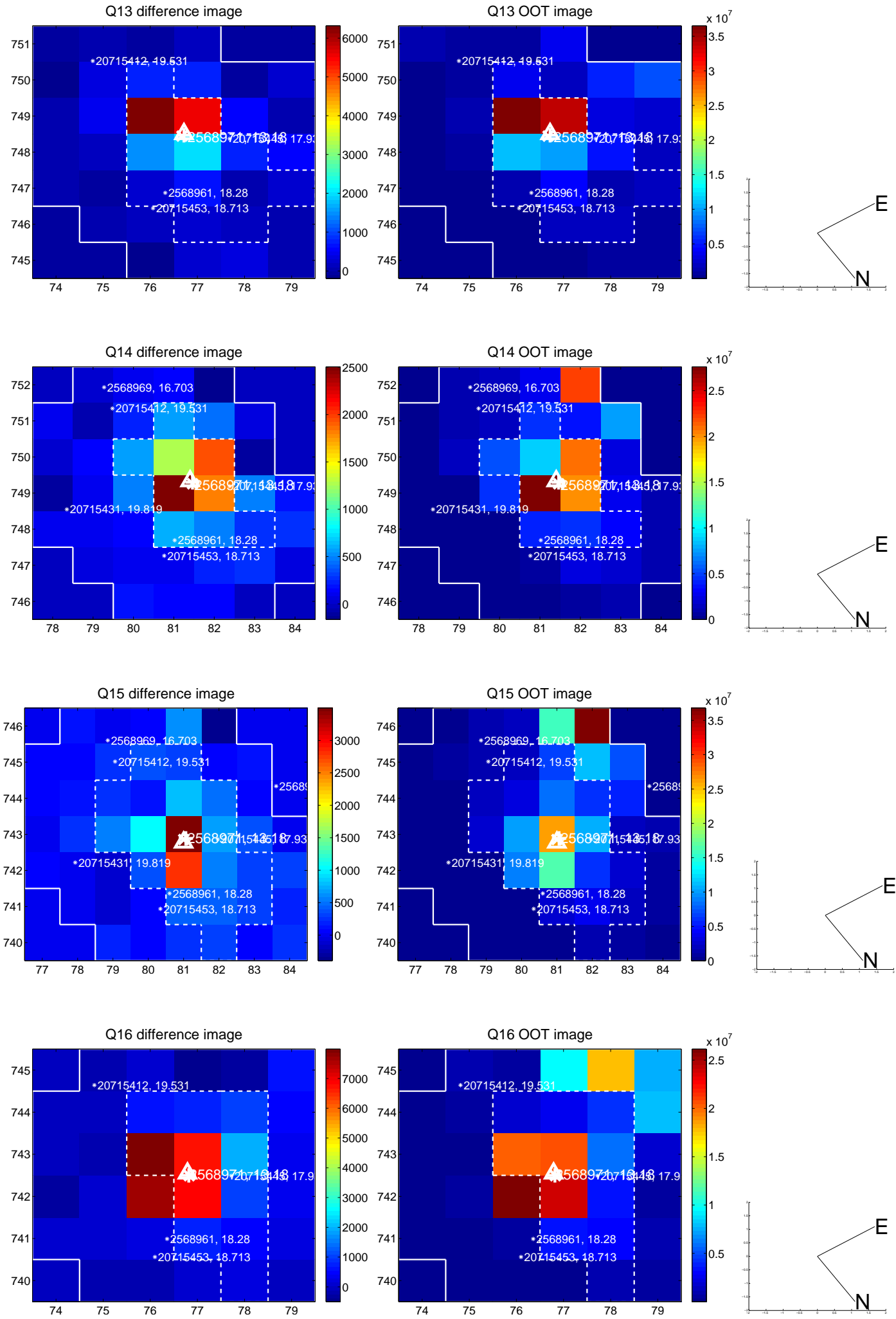
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



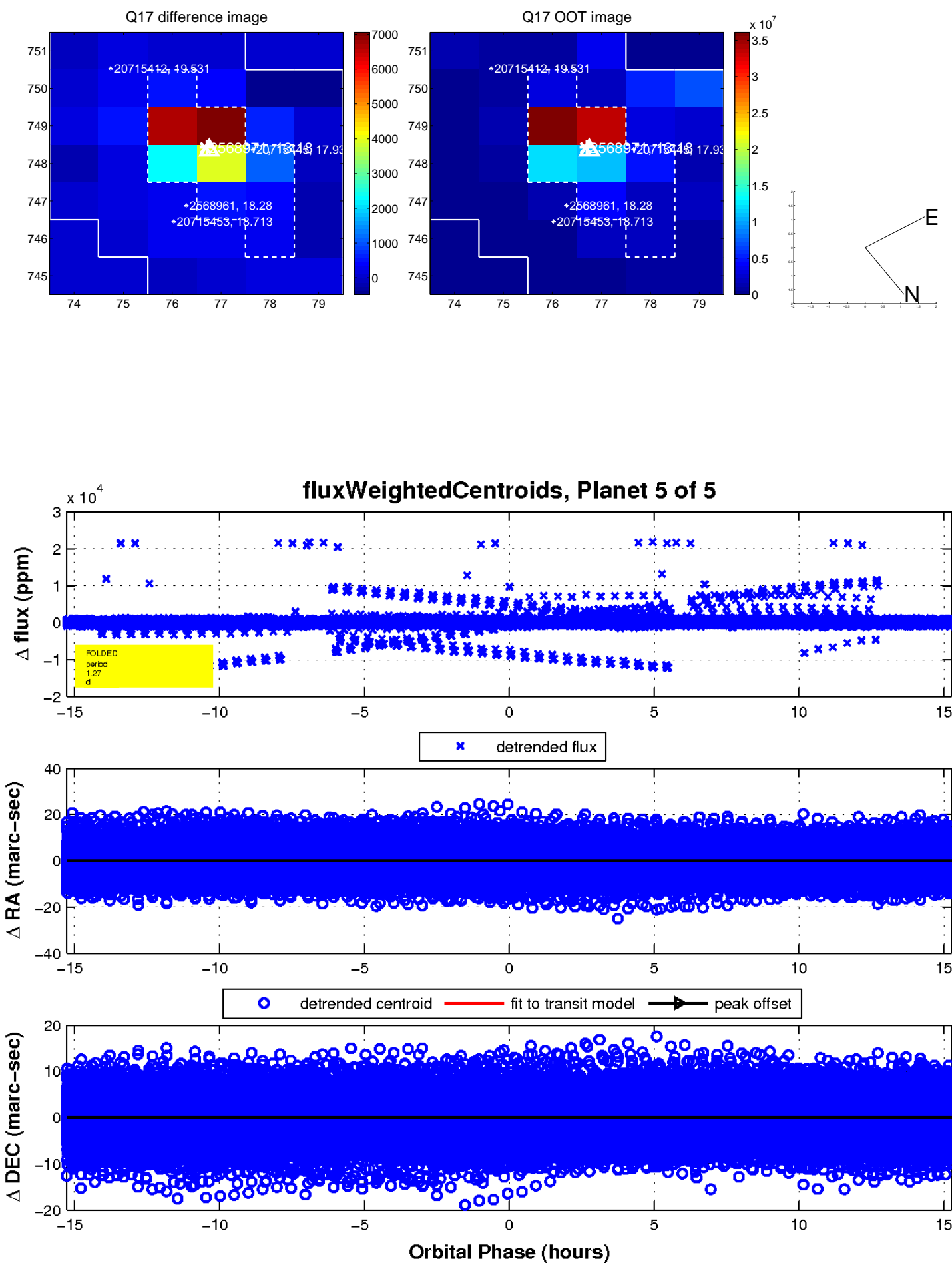
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

