

KIC 005387183

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})
005387183-01	OBS	No	0.952734	132.015022	337.2	3.500	10.3	-1.0	0.99	6647	1.84	4588.73
005387183-02	OBS	No	0.952740	132.339747	49.9	2.997	10.2	10.1	0.99	6647	0.73	4588.69
005387183-03	OBS	No	61.078651	164.258569	107.4	2.071	8.2	1.2	0.99	6647	1.06	17.88
005387183-04	OBS	No	60.793629	164.835711	295.2	0.996	8.6	2.3	0.99	6647	2.74	18.00
005387183-05	OBS	No	61.082615	163.748198	489.5	7.171	8.5	6.9	0.99	6647	2.40	17.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005387183-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
005387183-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
005387183-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005387183-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005387183-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—HALO_GHOST

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

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

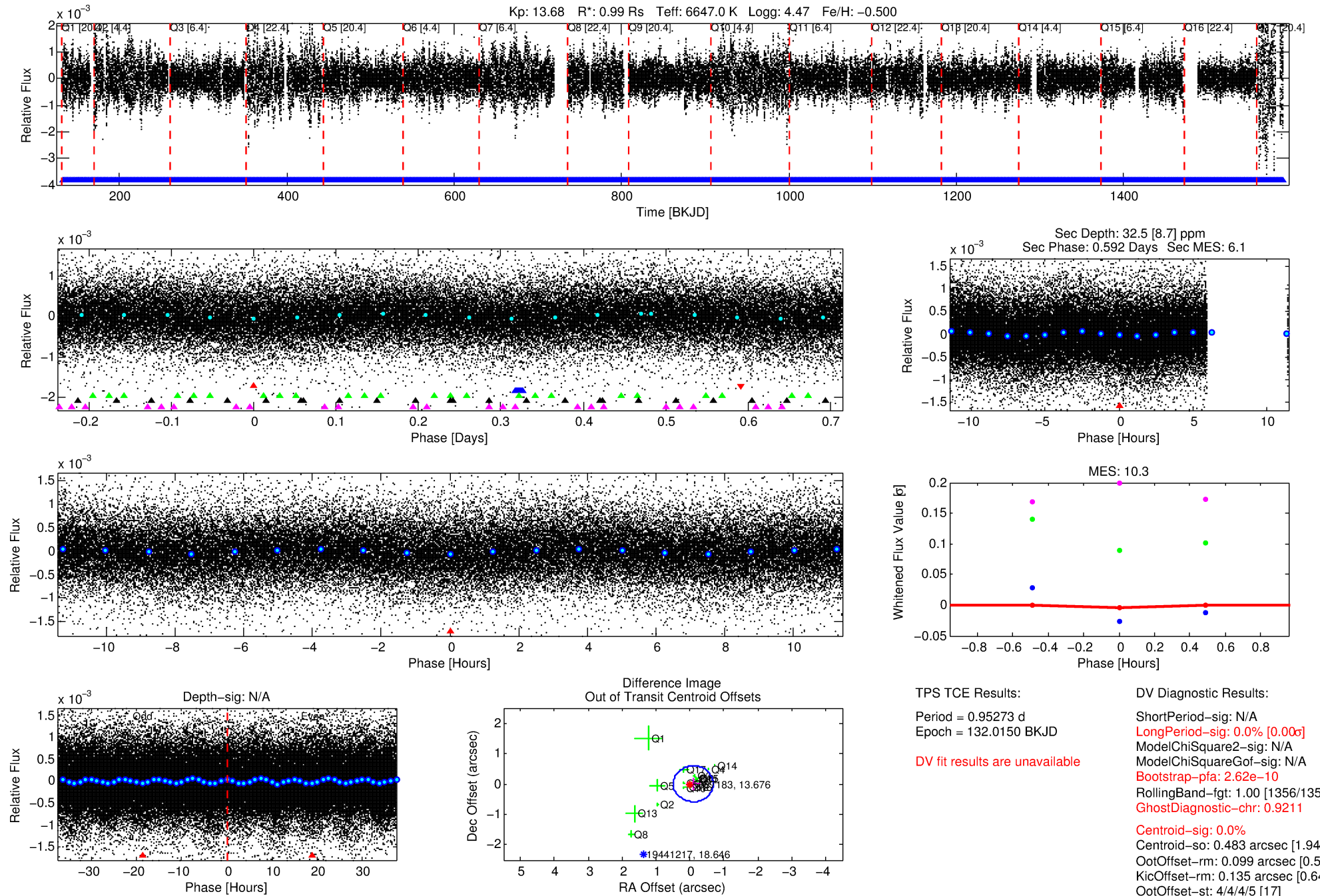
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005387183-01

No Significant Match Found

DV One-Page Summary

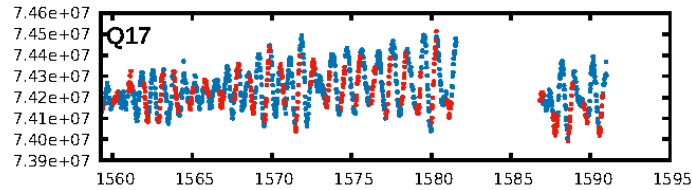
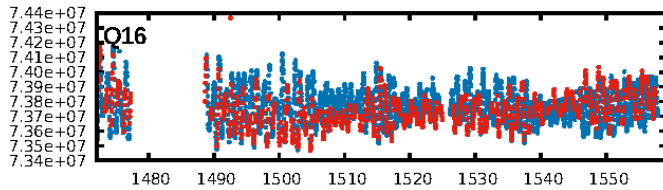
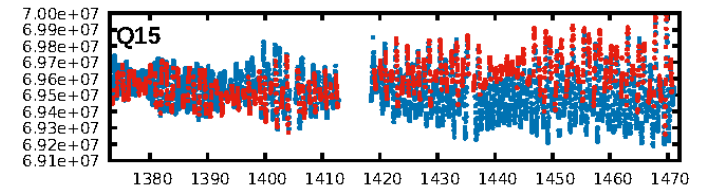
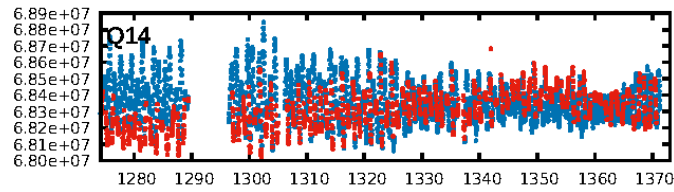
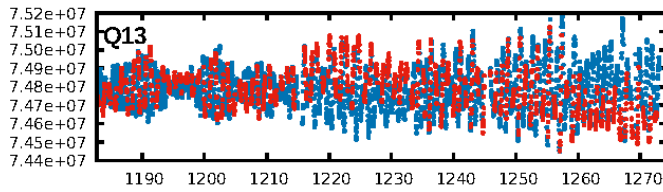
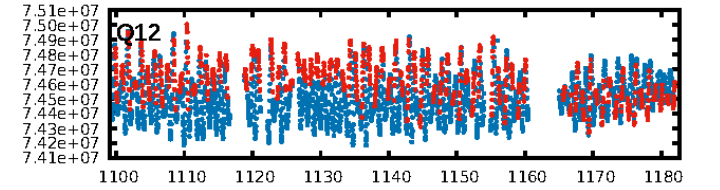
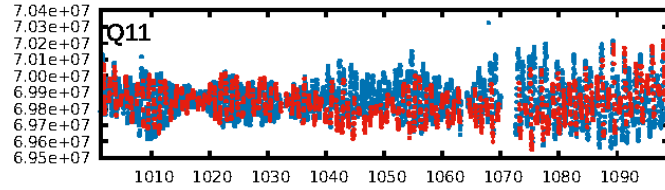
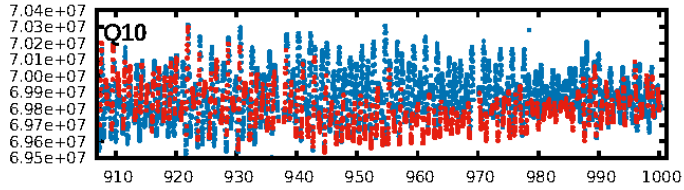
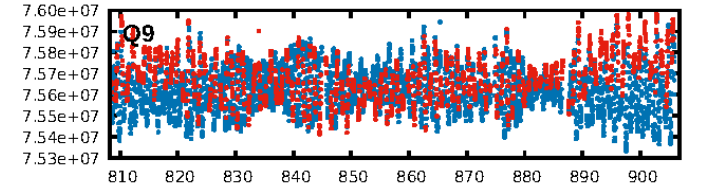
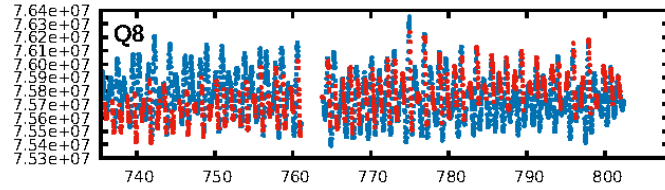
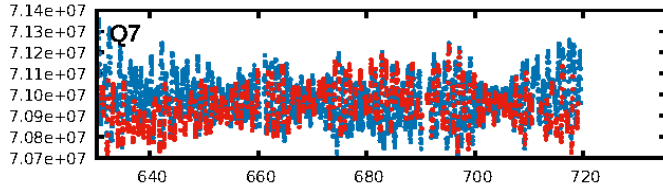
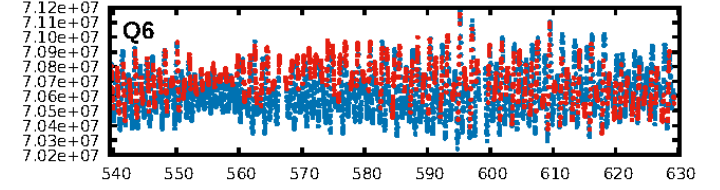
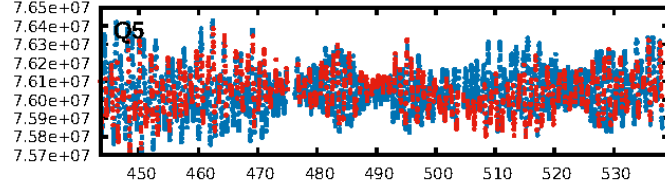
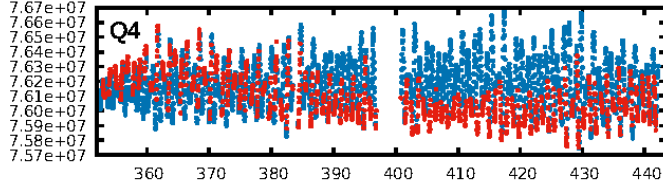
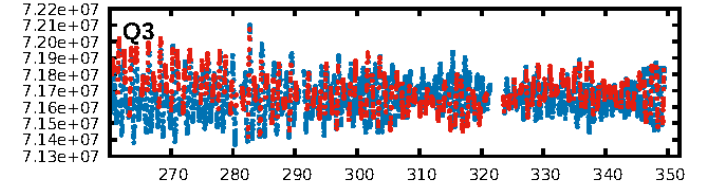
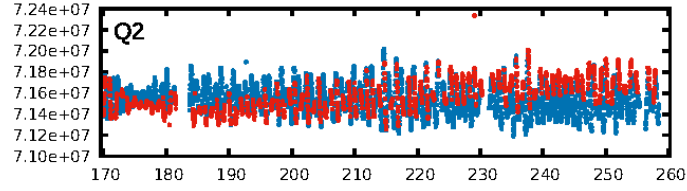
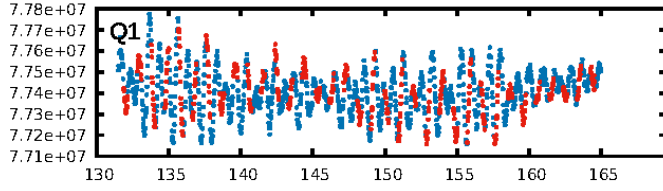
KIC: 5387183 Candidate: 1 of 5 Period: 0.953 d



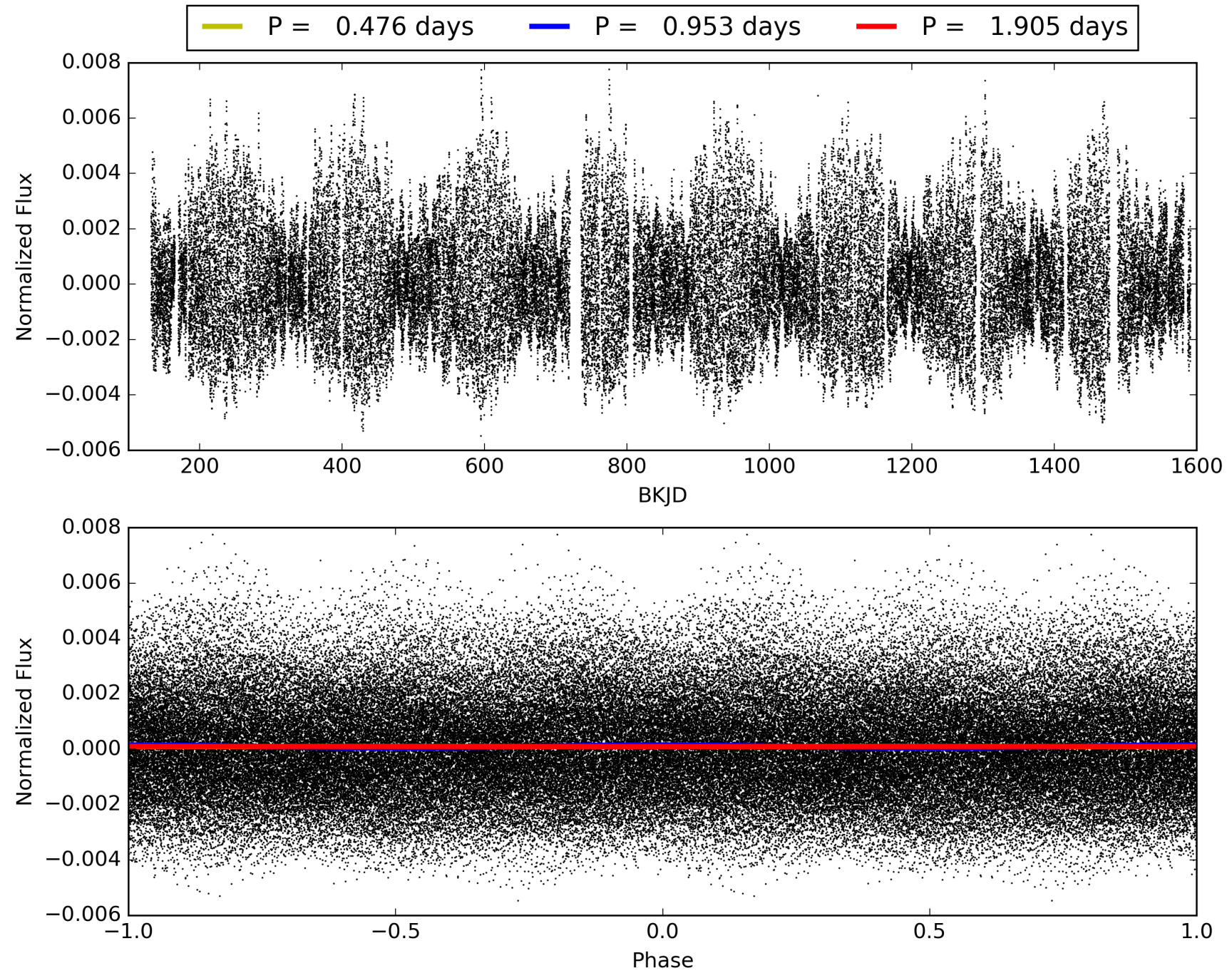
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005387183-01, PDC Light Curves

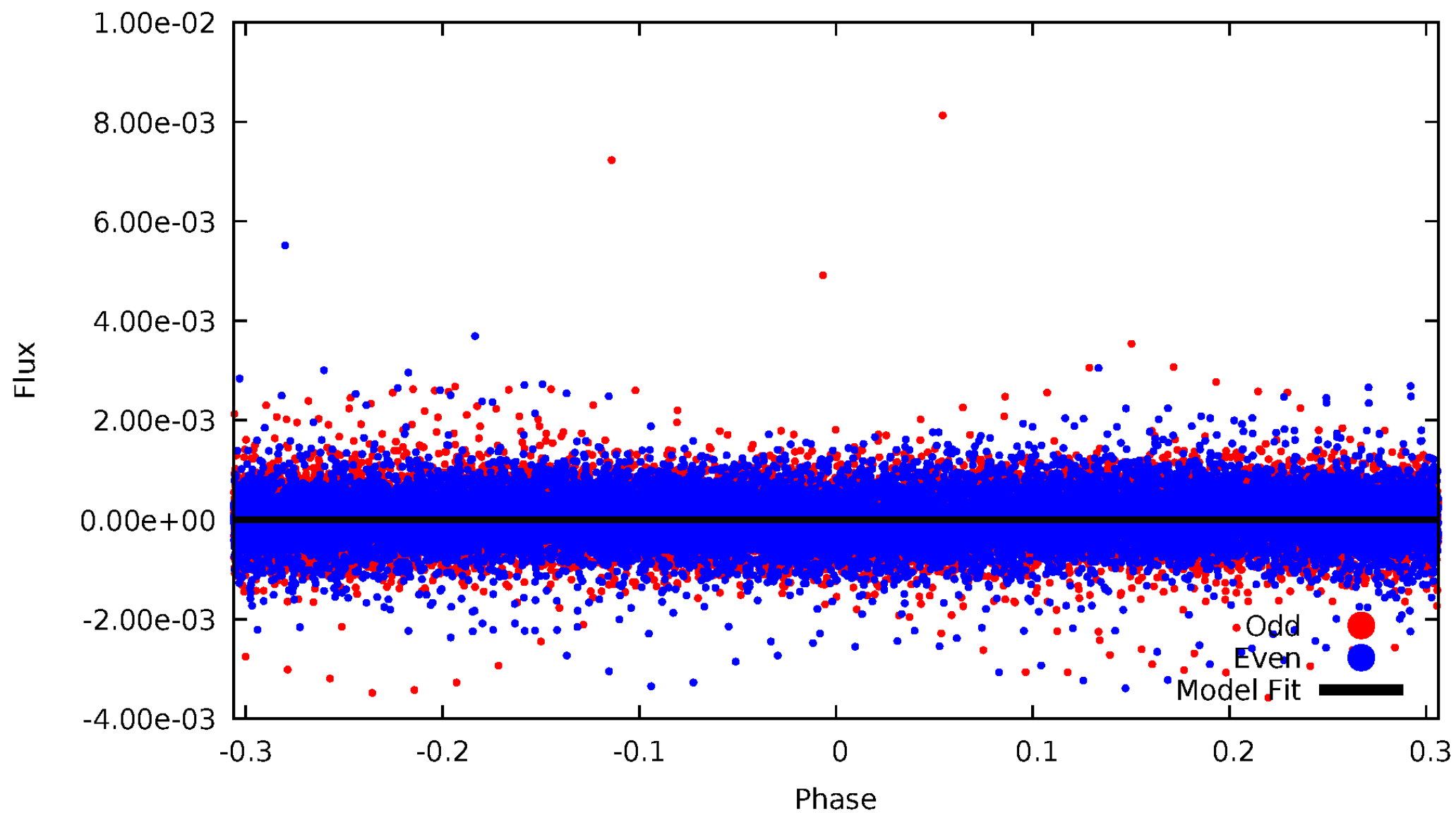


TCE 005387183-01



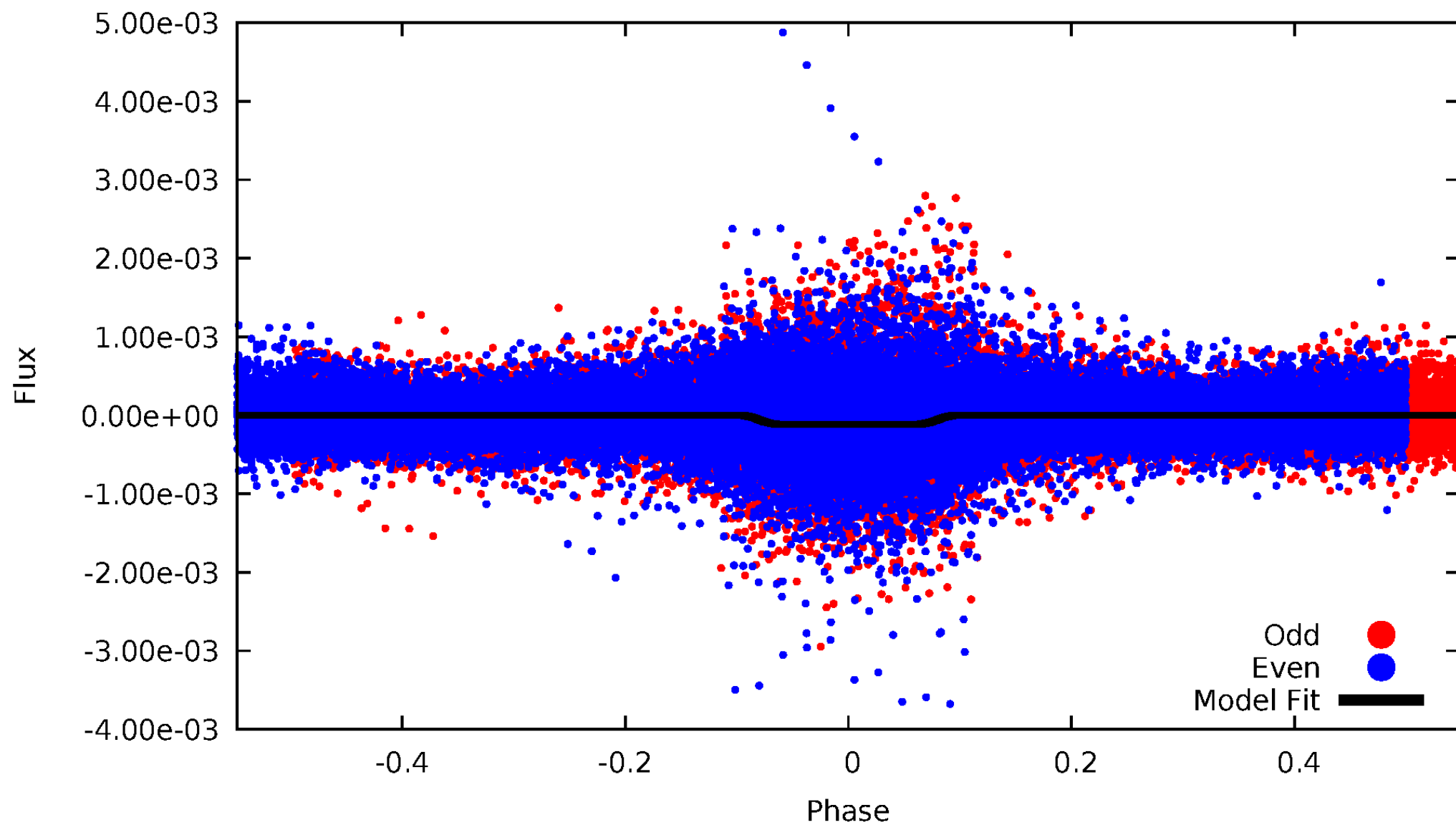
DV Odd/Even

TCE 005387183-01

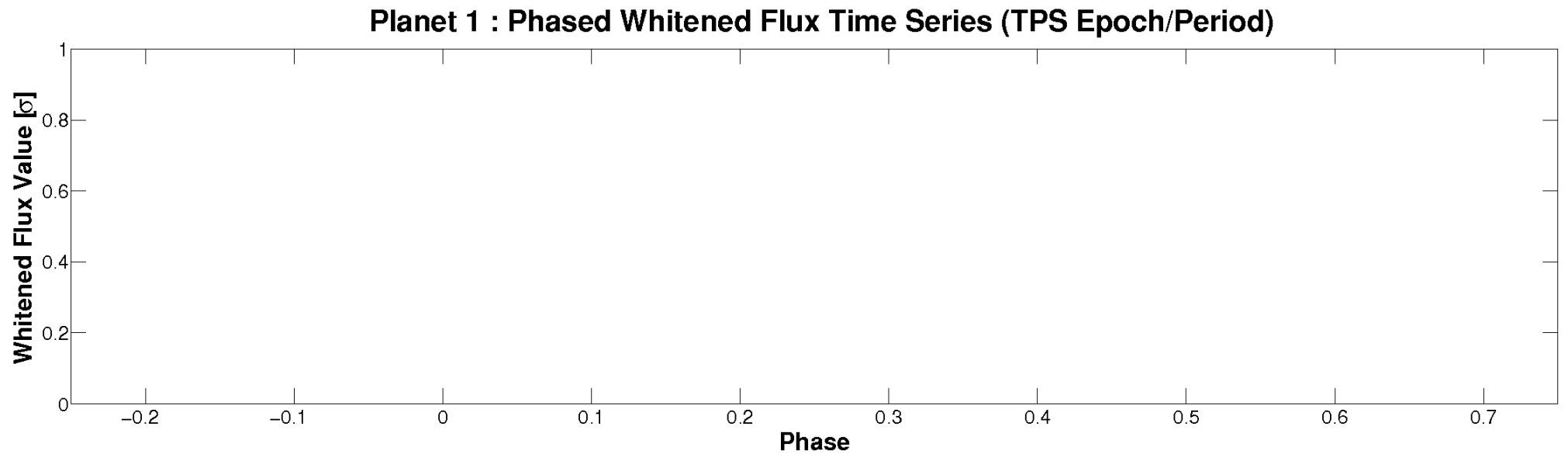
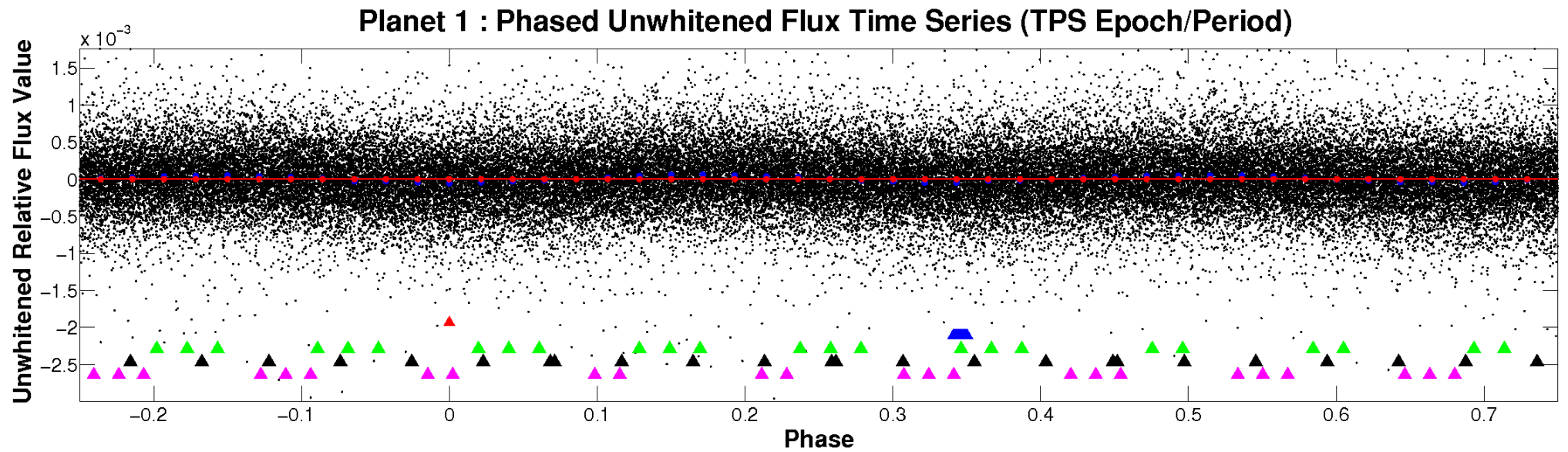


ALT Odd/Even

TCE 005387183-01

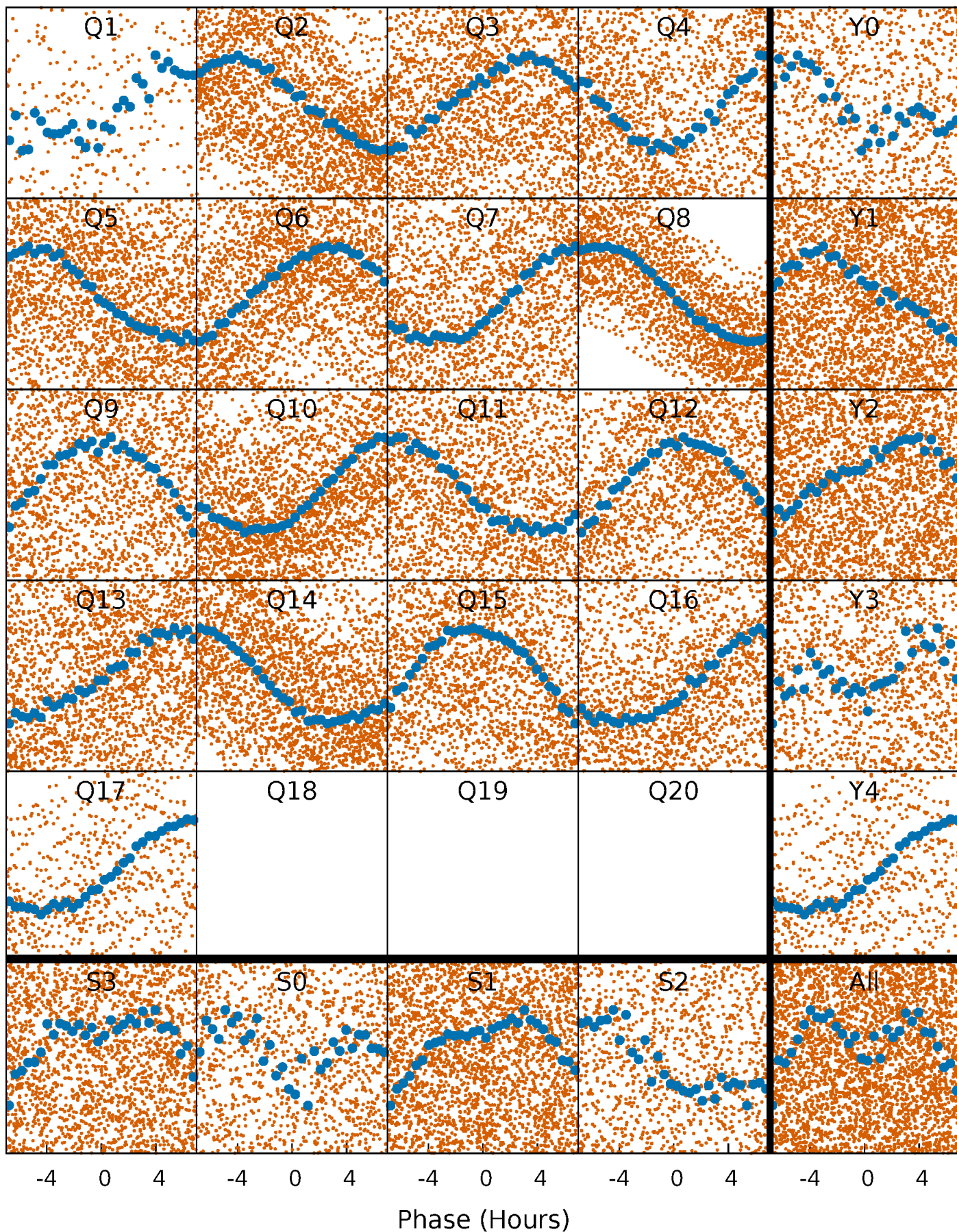


Non-Whitened Vs. Whitened Light Curve



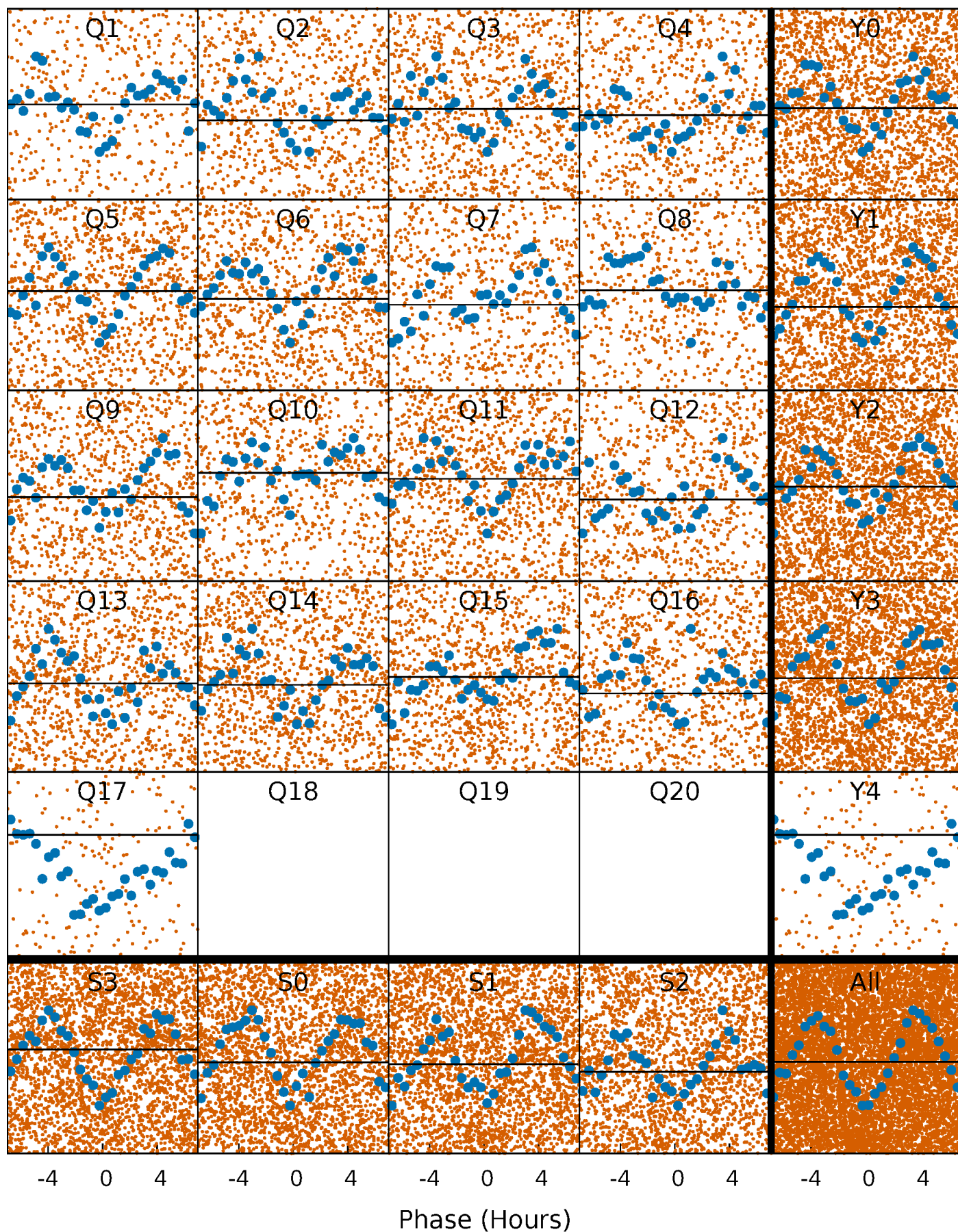
PDC Quarter-Phased Transit Curves

TCE 005387183-01 P= 0.952734 Days $T_0=132.015022$ (BKJD)



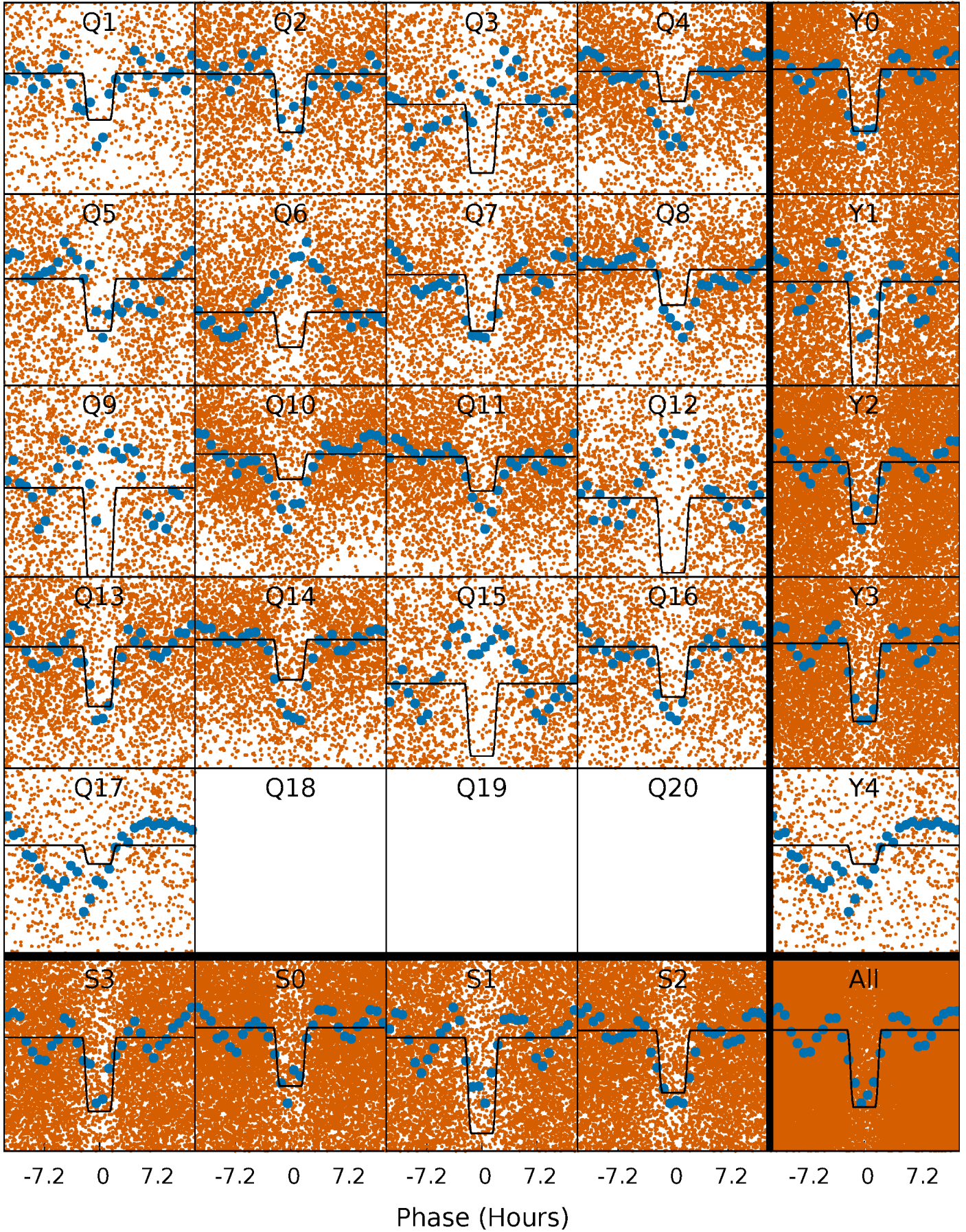
DV Quarter-Phased Transit Curves

TCE 005387183-01 P= 0.952734 Days $T_0=132.015022$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

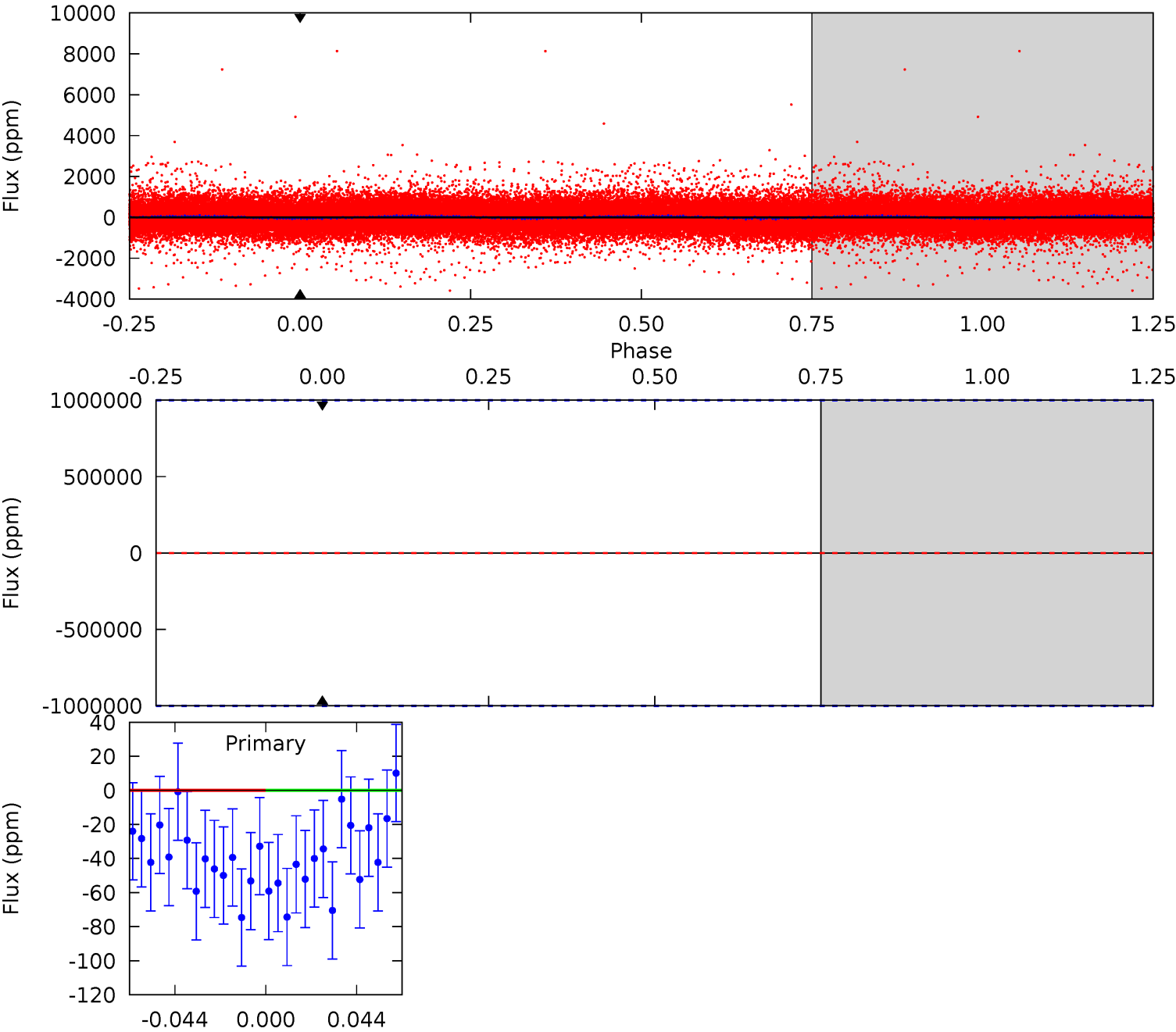
TCE 005387183-01 P= 0.952734 Days $T_0=132.022148$ (BKJD)



DV Model-Shift Uniqueness Test

005387183-01, P = 0.952734 Days, E = 131.062288 Days

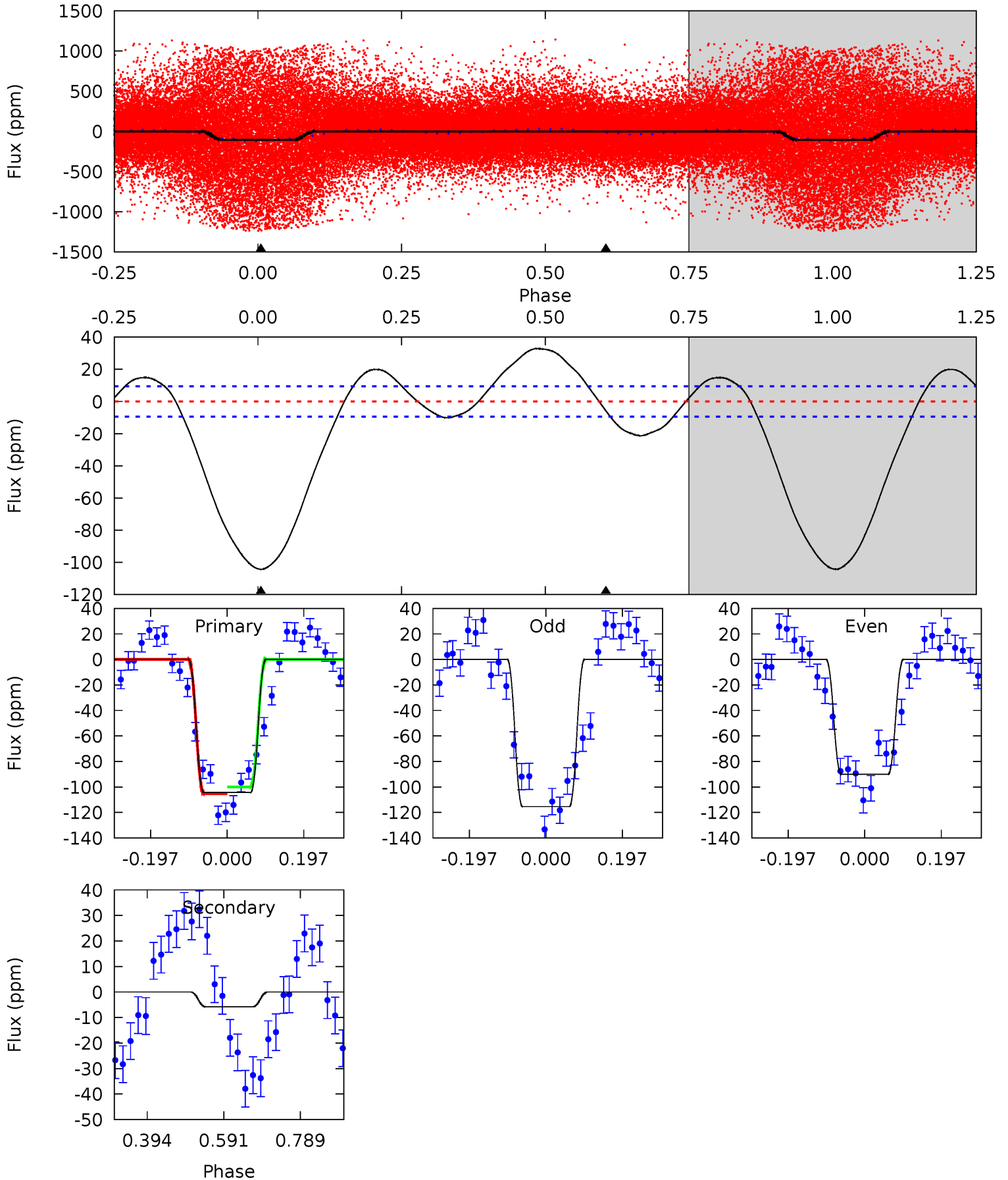
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

005387183-01, P = 0.952734 Days, E = 131.069414 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
48.9	2.72	0	0	4.42	1.29	4.65	48.9	48.9	2.72	2.72	5.91	0.90	0.24	1.19



Stellar Parameters For KIC 005387183

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6647^{+158}_{-218}	$4.474^{+0.037}_{-0.213}$	$-0.500^{+0.300}_{-0.300}$	$0.994^{+0.314}_{-0.078}$	$1.088^{+0.138}_{-0.138}$	$1.559^{+0.323}_{-0.824}$
	+2%/-3%	+1%/-5%	+60%/-60%	+32%/-8%	+13%/-13%	+21%/-53%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005387183-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$9.11^{+8.34}_{-6.48}$	2998^{+210}_{-124}	-4632^{+30693}_{-22751}	$-2.951^{+410.816}_{-494.777}$
Alt.	-6 ± 2	$8.09^{+9.14}_{-5.44}$	3004^{+211}_{-134}	-3034^{+266}_{-142}	$0.016^{+0.155}_{-0.013}$

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 $A_{obs} \gg 1.0$

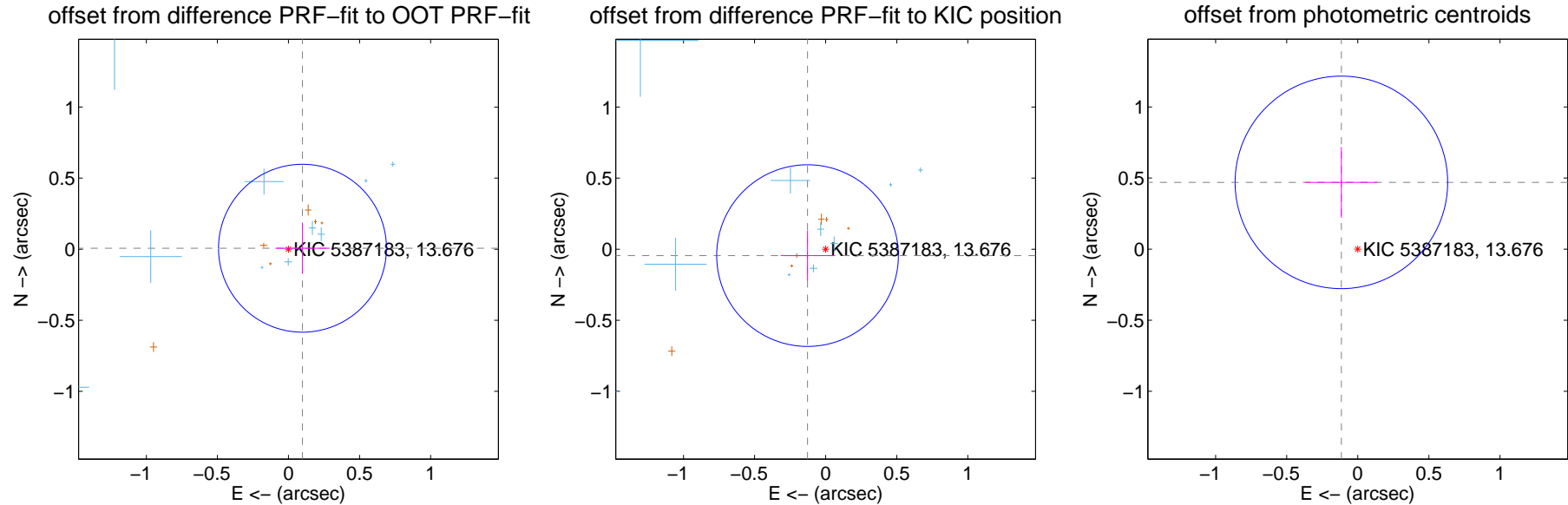
DV Centroid Data

Supplemental centroid analysis for 005387183-01. Kepler magnitude: 13.68. Transit SNR -1.00

There are 11 quarters with good PRF difference image offsets

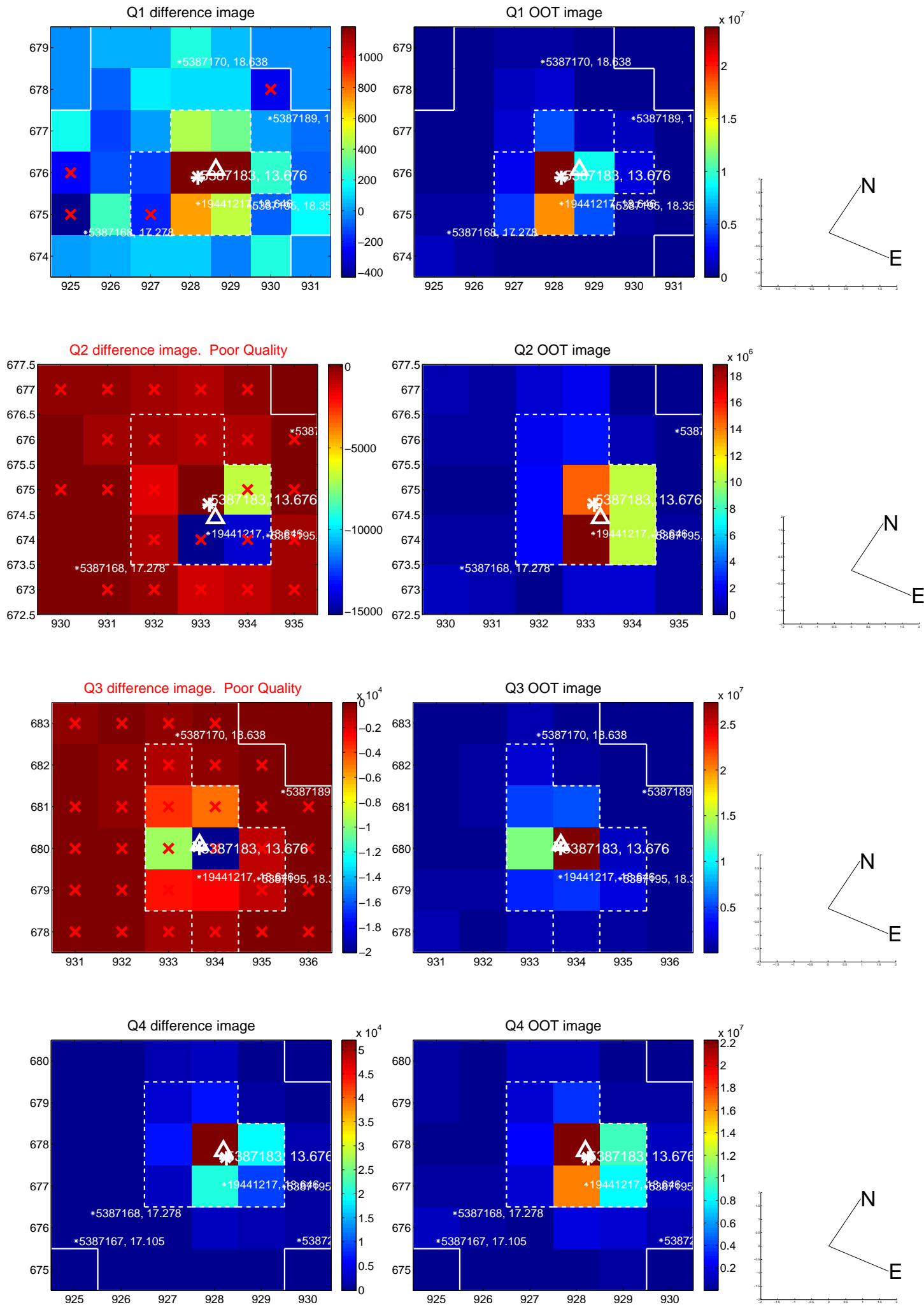
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.099 ± 0.197	0.50	-0.098 ± 0.191	0.007 ± 0.180
PRF-fit source offset from KIC position	0.135 ± 0.213	0.64	0.128 ± 0.189	-0.045 ± 0.176
photometric centroid source offset	0.48 ± 0.25	1.94	0.12 ± 0.25	0.47 ± 0.25

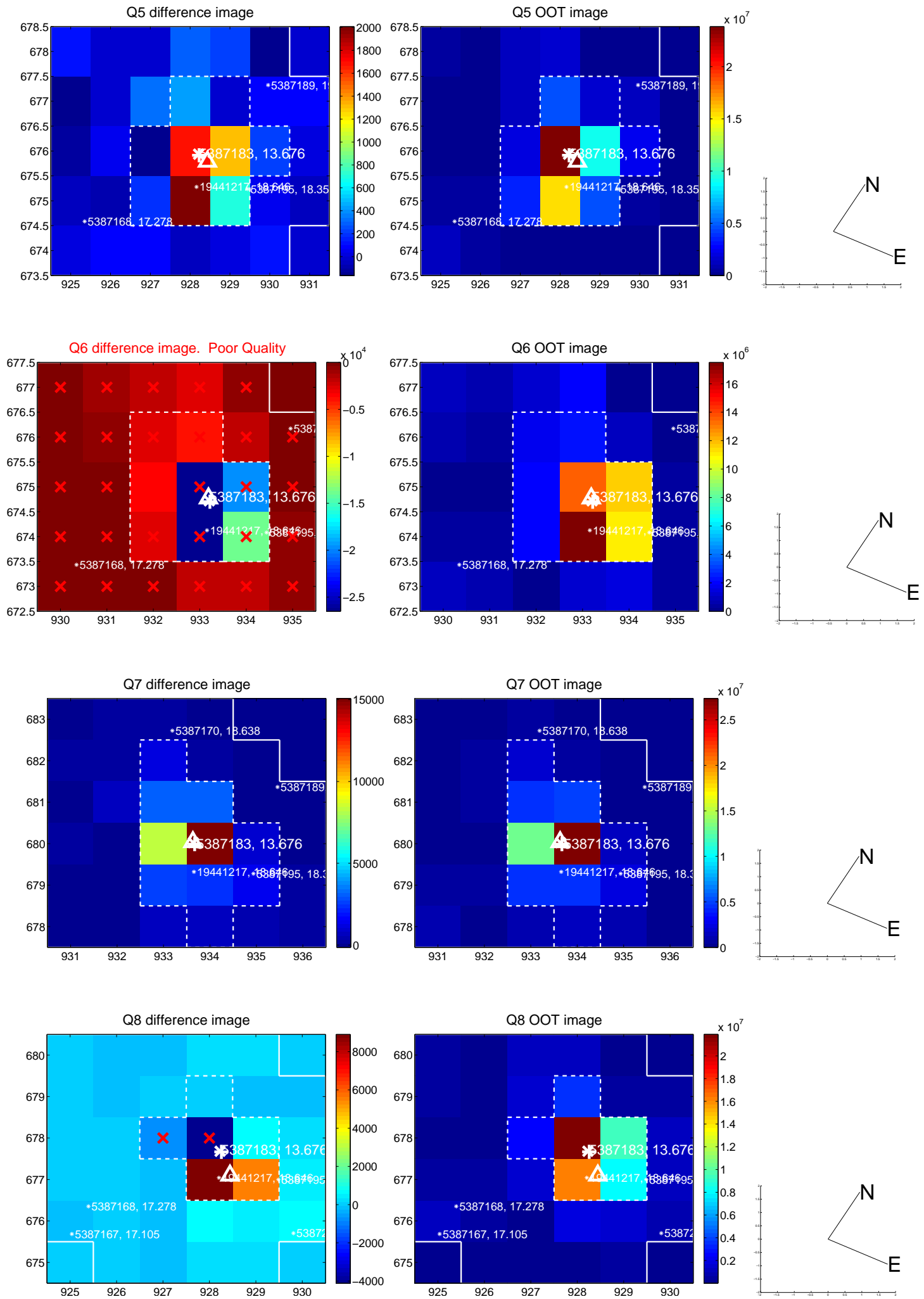


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

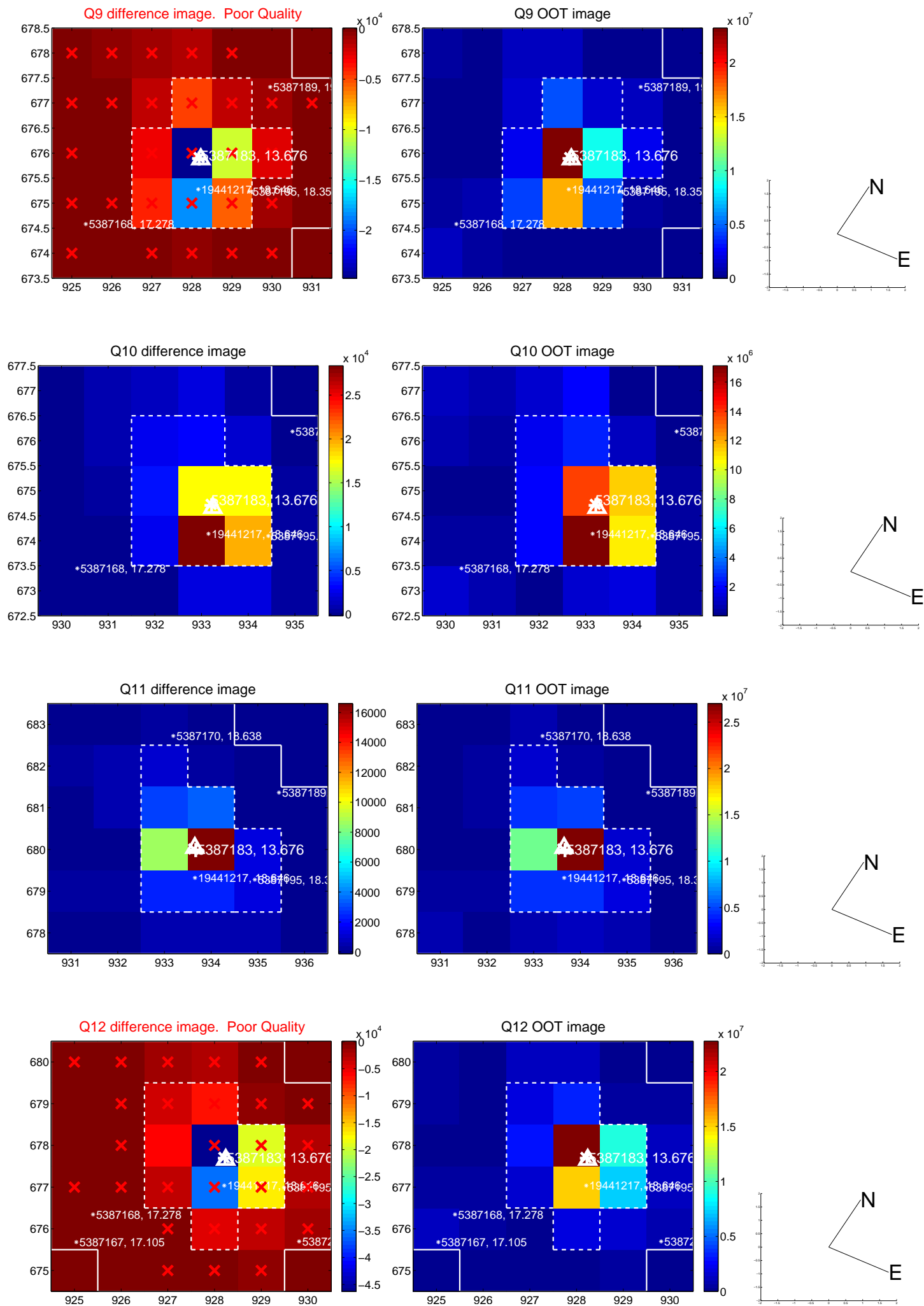
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



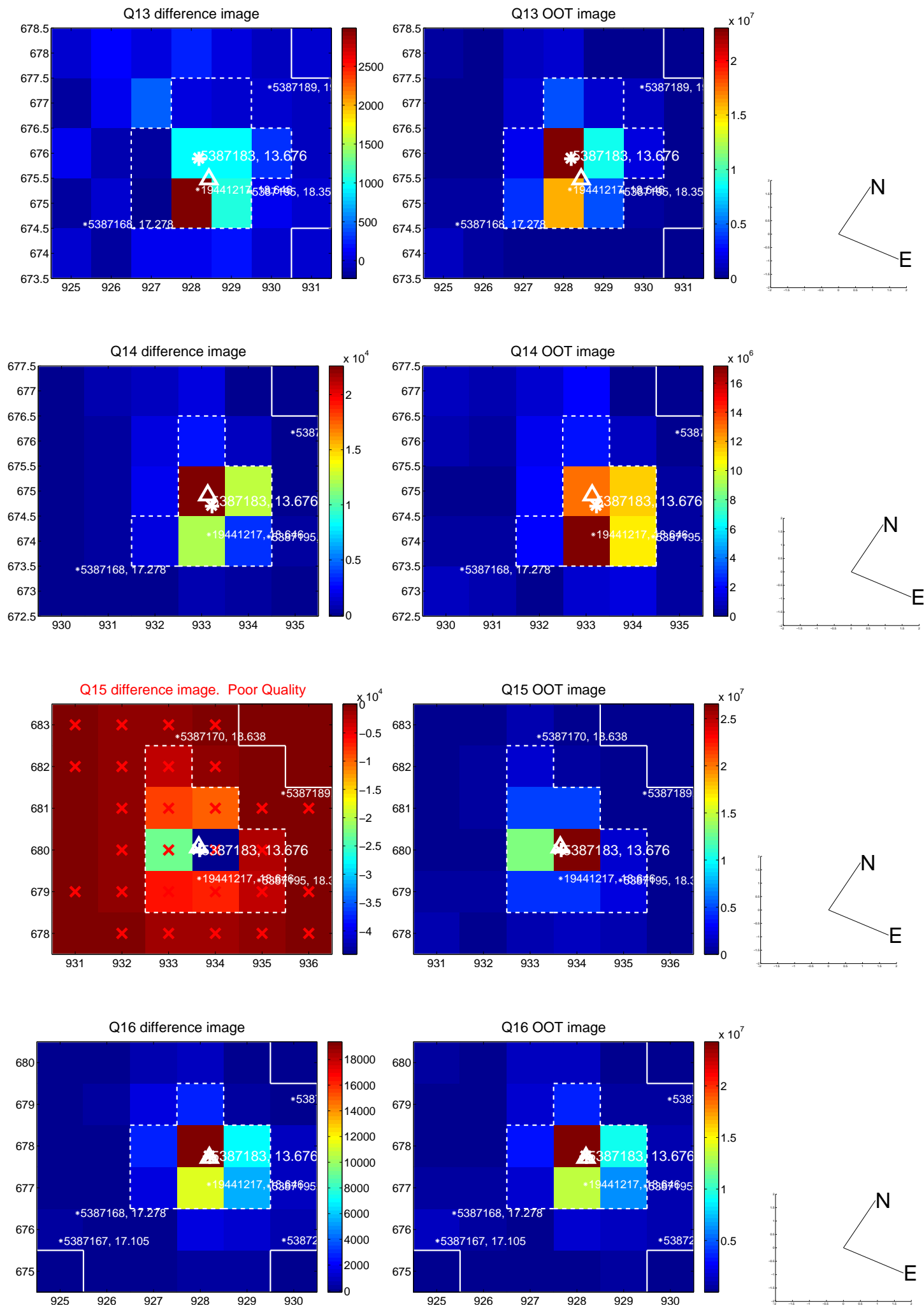
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



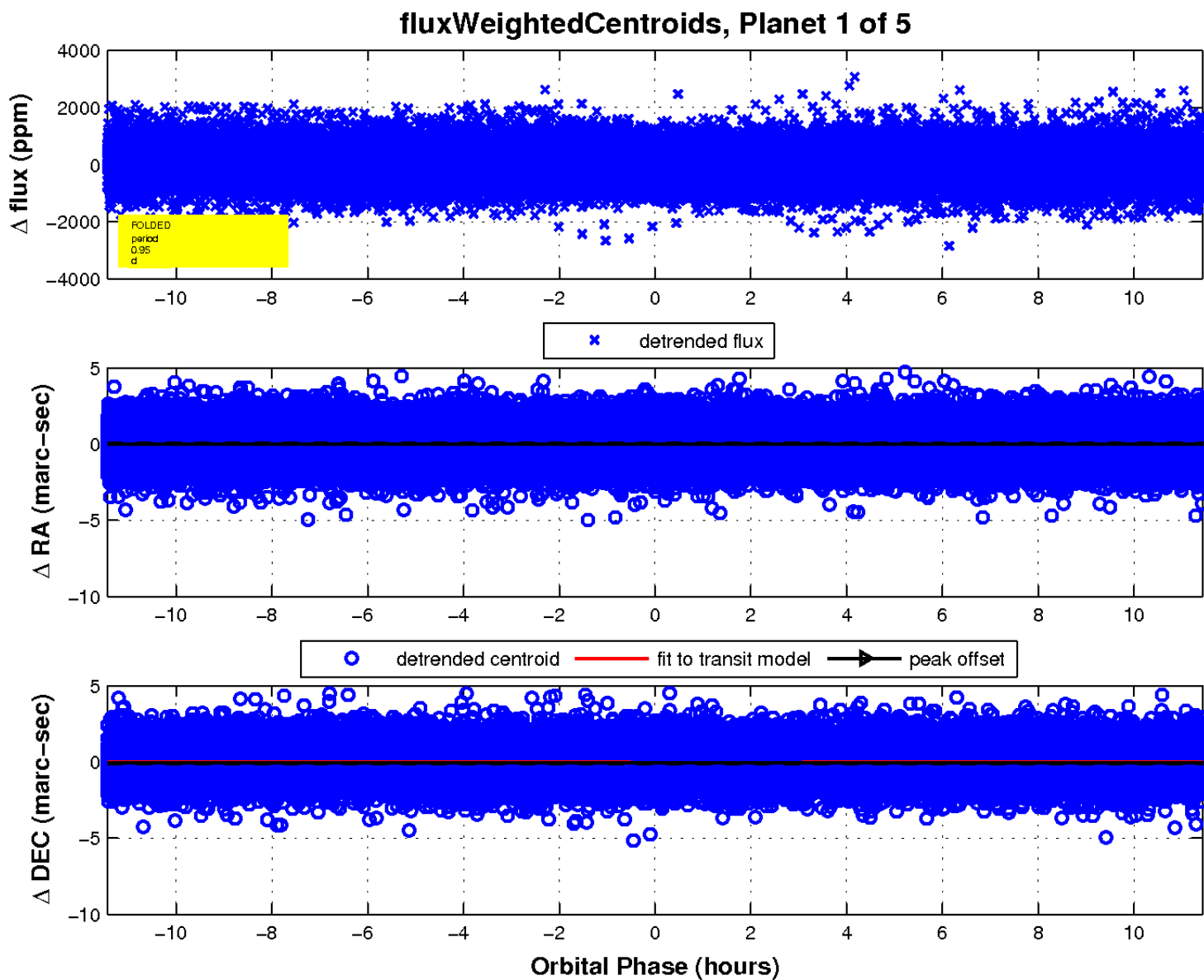
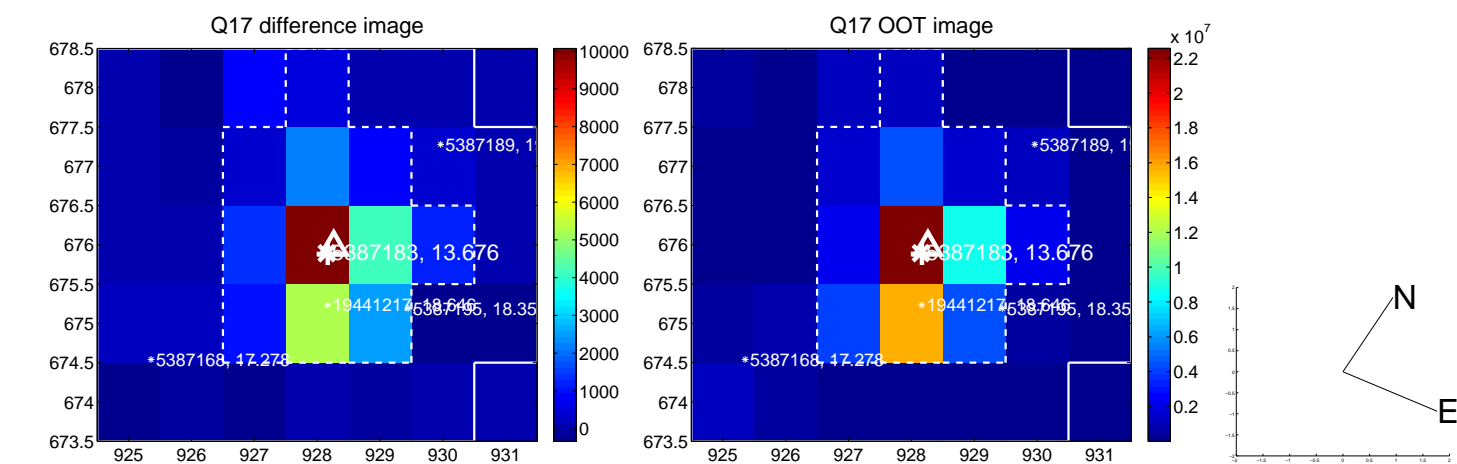
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

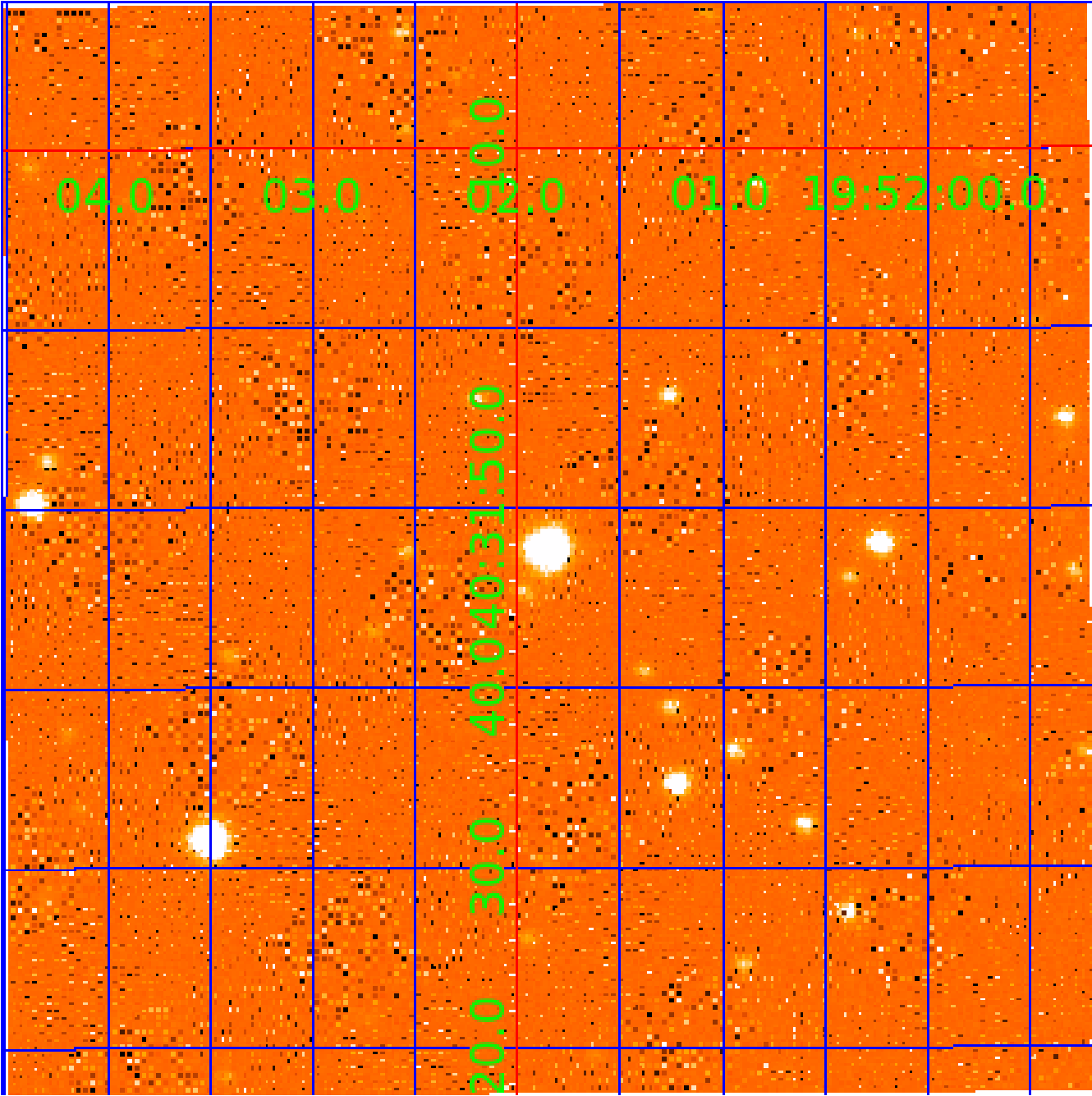


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005387183

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})
005387183-01	OBS	No	0.952734	132.015022	337.2	3.500	10.3	-1.0	0.99	6647	1.84	4588.73
005387183-02	OBS	No	0.952740	132.339747	49.9	2.997	10.2	10.1	0.99	6647	0.73	4588.69
005387183-03	OBS	No	61.078651	164.258569	107.4	2.071	8.2	1.2	0.99	6647	1.06	17.88
005387183-04	OBS	No	60.793629	164.835711	295.2	0.996	8.6	2.3	0.99	6647	2.74	18.00
005387183-05	OBS	No	61.082615	163.748198	489.5	7.171	8.5	6.9	0.99	6647	2.40	17.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005387183-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
005387183-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
005387183-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005387183-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005387183-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—HALO_GHOST

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

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

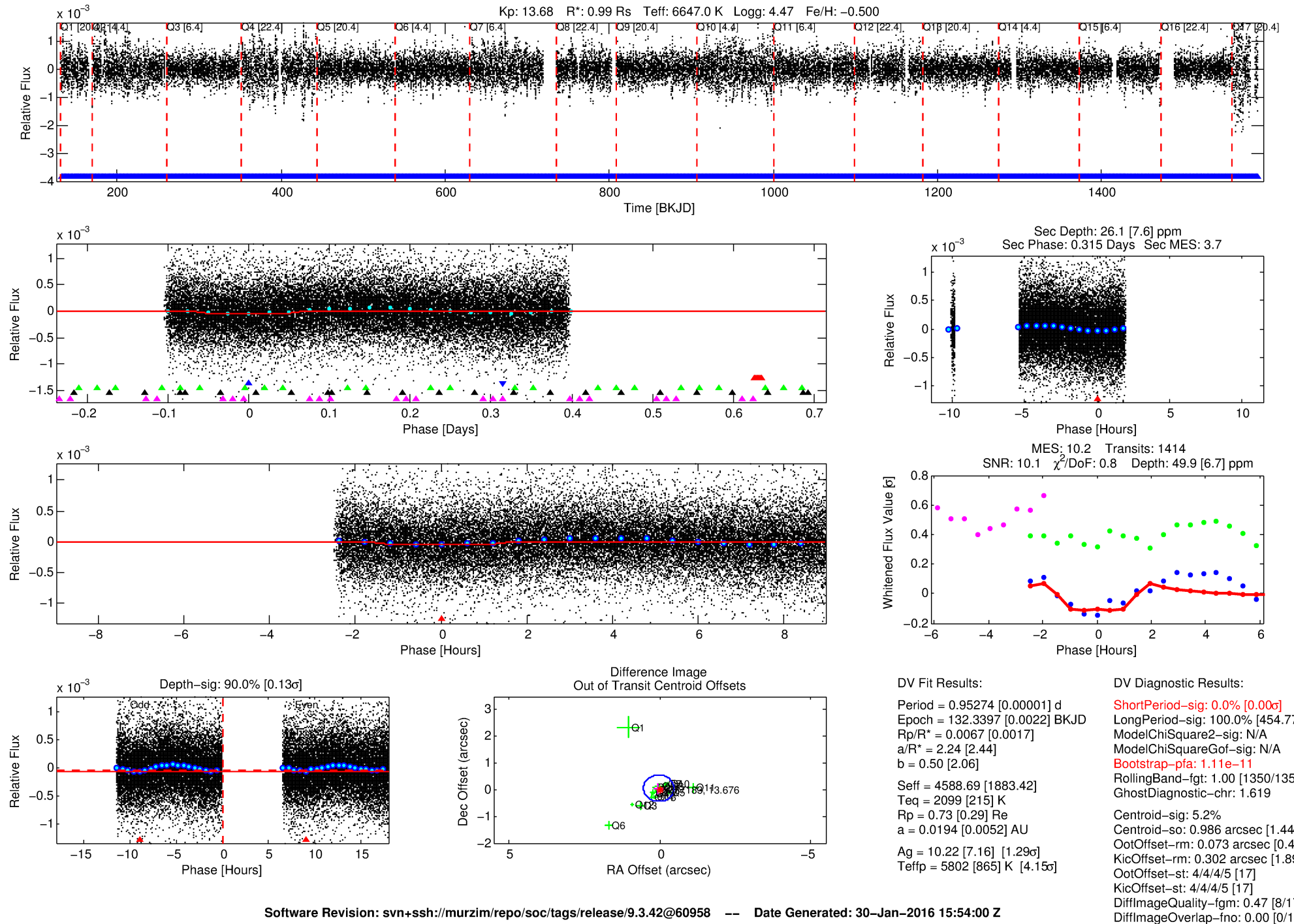
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005387183-02

No Significant Match Found

DV One-Page Summary

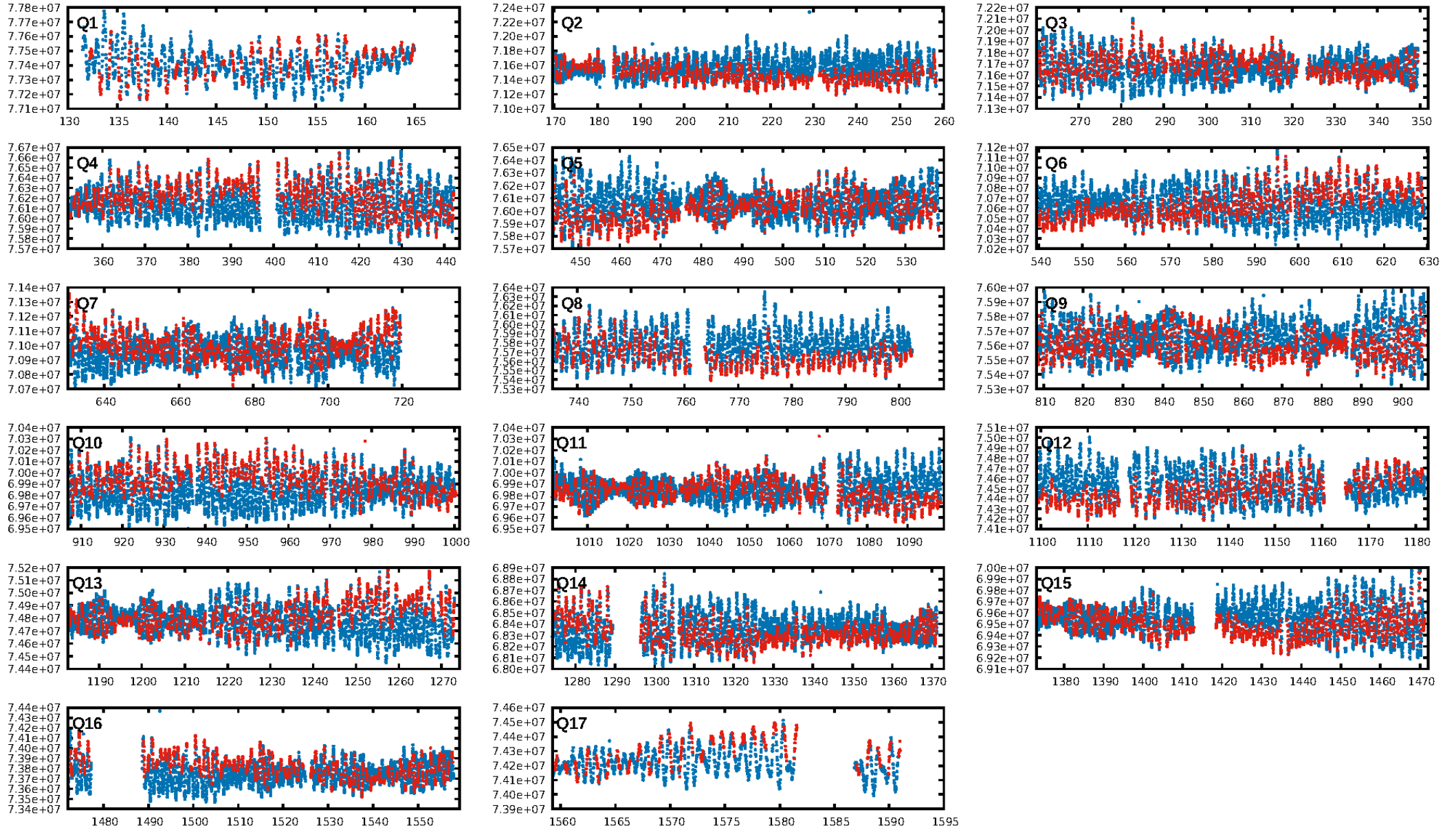
KIC: 5387183 Candidate: 2 of 5 Period: 0.953 d



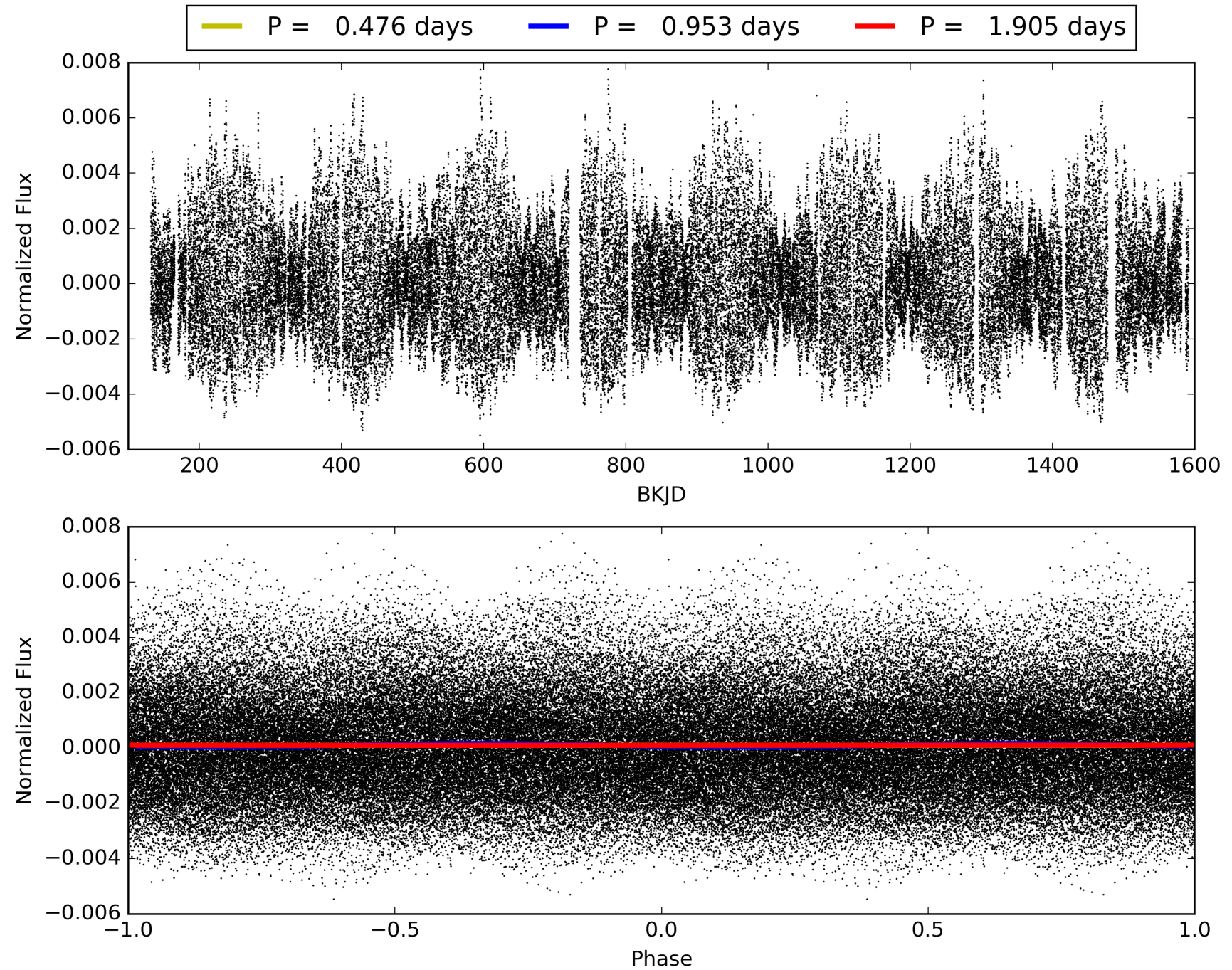
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:54:00 Z

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

TCE 005387183-02, PDC Light Curves

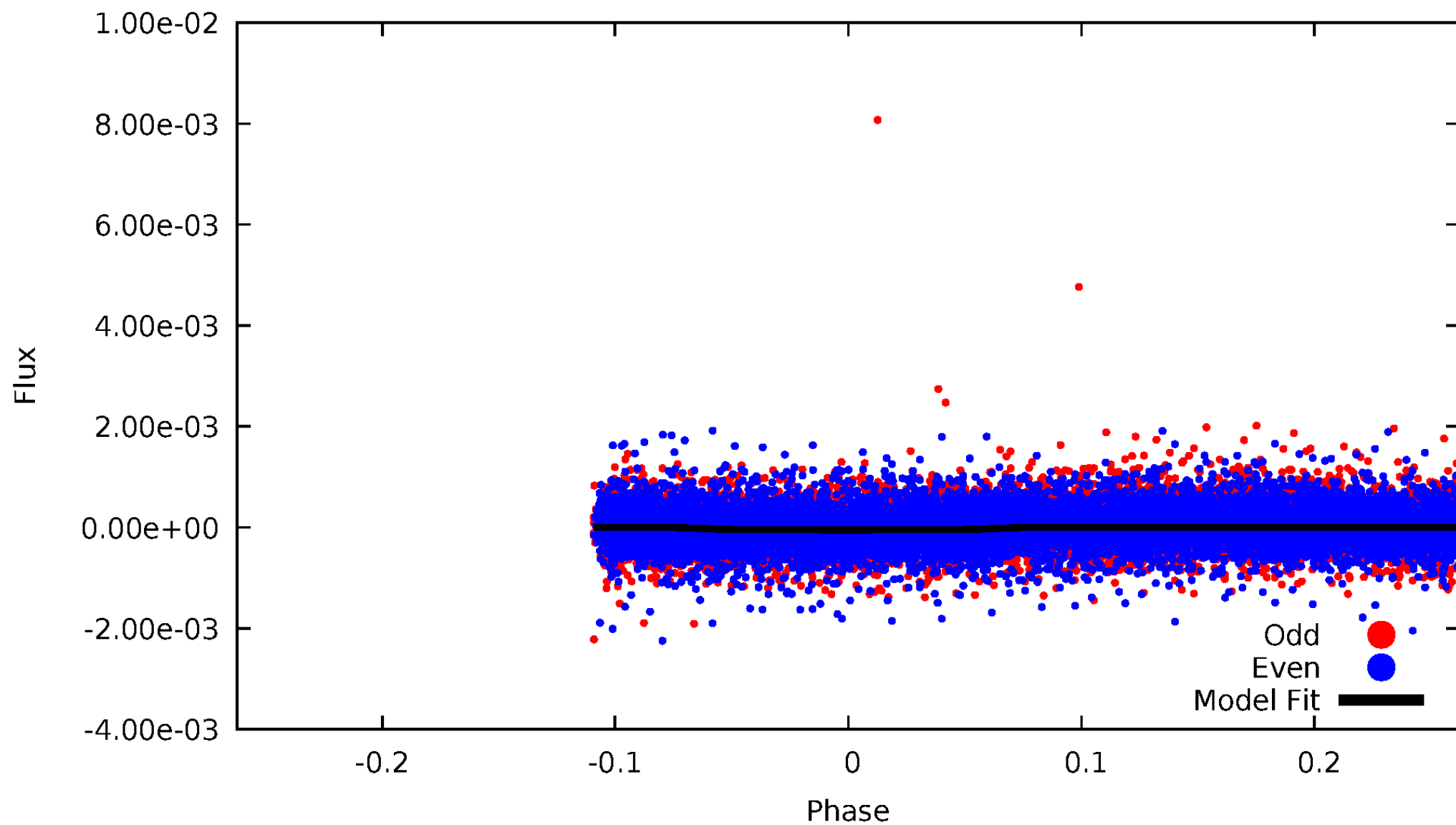


TCE 005387183-02



DV Odd/Even

TCE 005387183-02

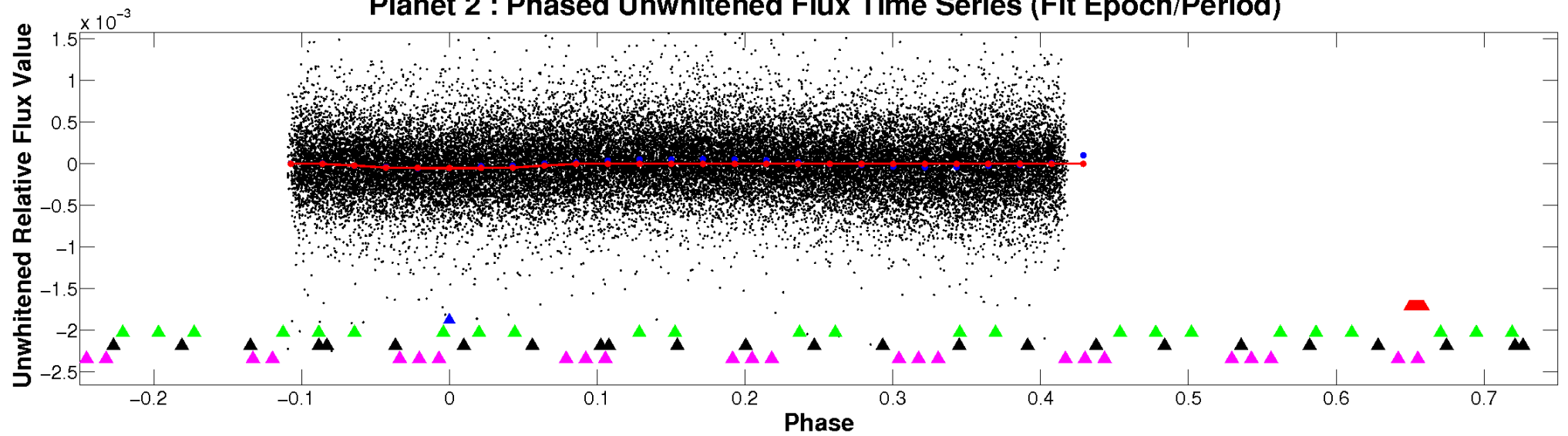


ALT Odd/Even

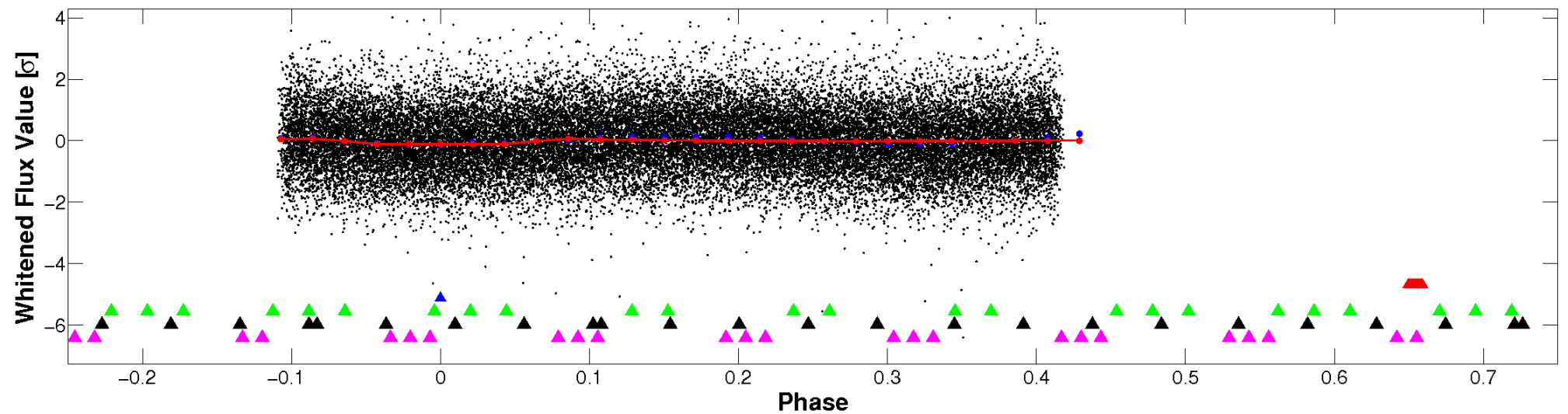
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

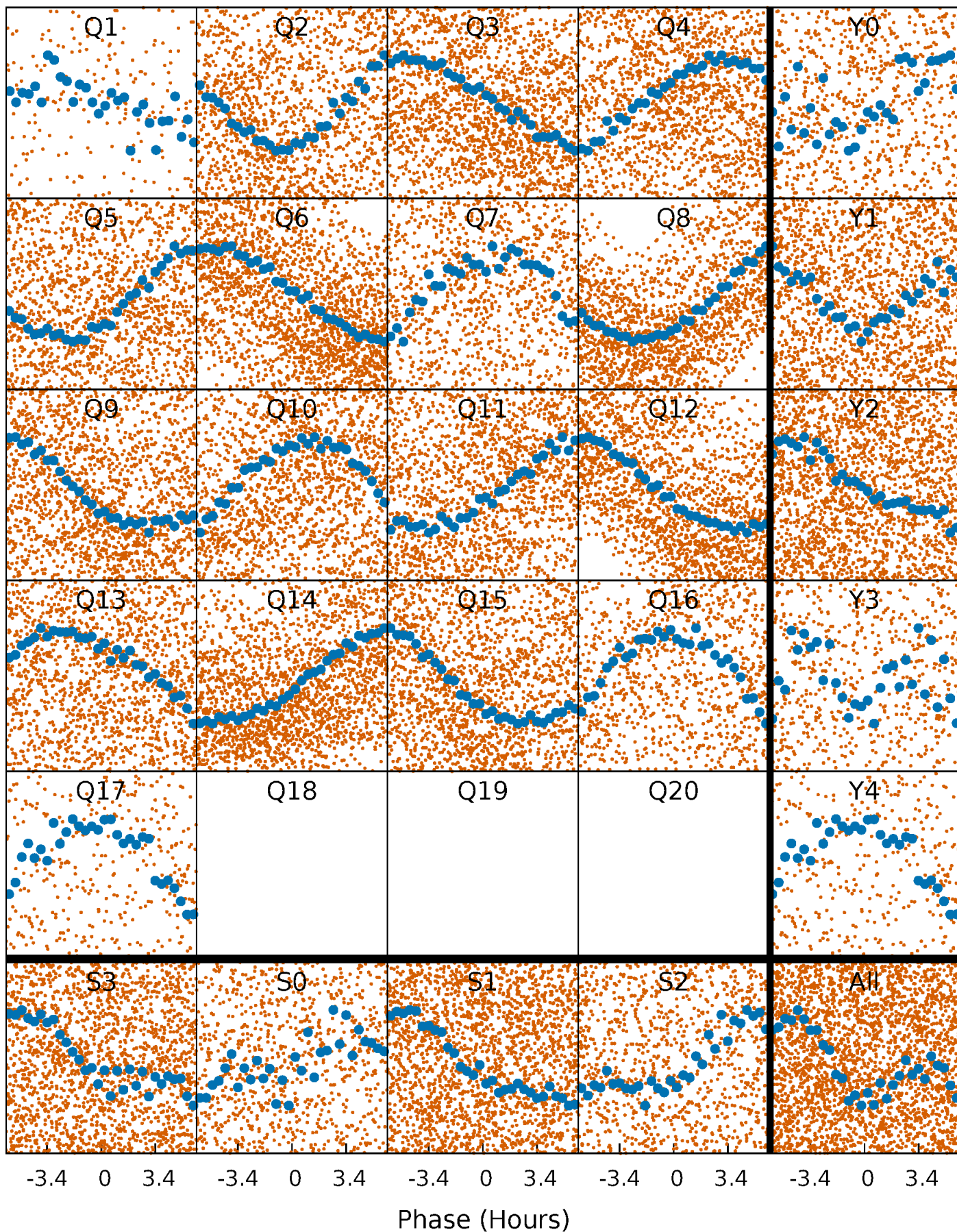


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



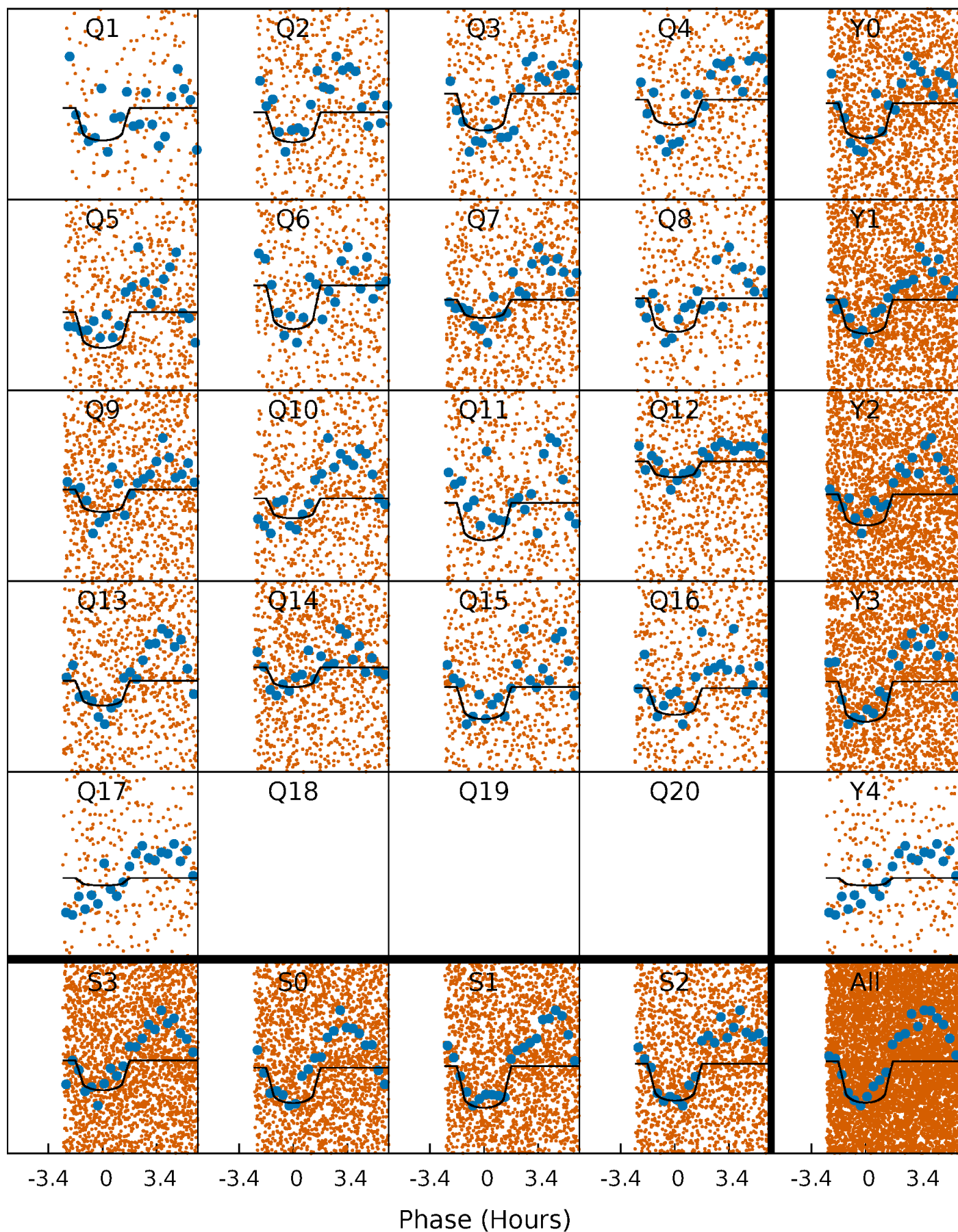
PDC Quarter-Phased Transit Curves

TCE 005387183-02 P= 0.952740 Days $T_0=132.339747$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 005387183-02 $P = 0.952740$ Days $T_0 = 132.339747$ (BKJD)

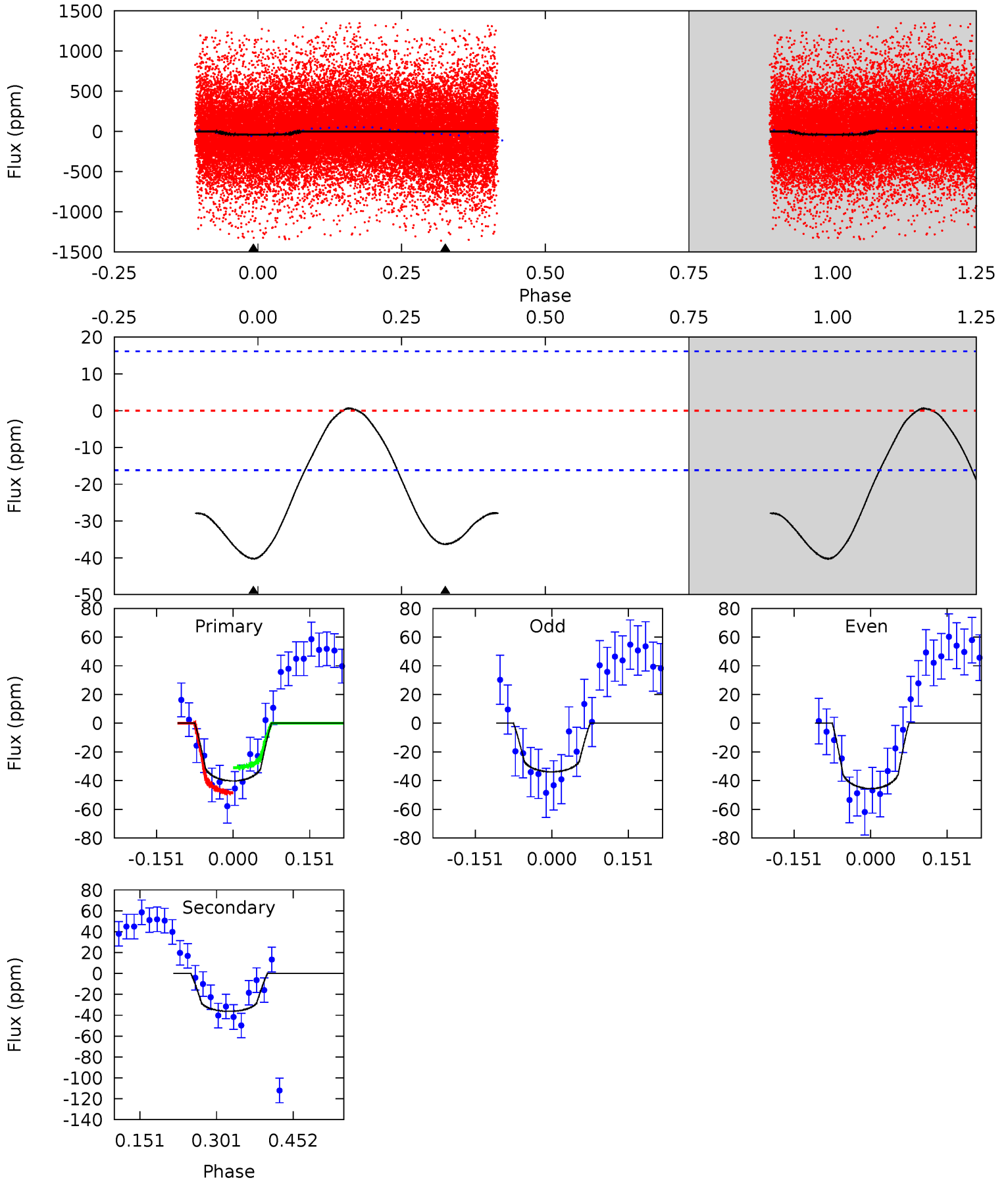


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

005387183-02, P = 0.952740 Days, E = 131.387007 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	10.1	0	0	4.48	1.44	0.18	11.2	11.2	10.1	10.1	1.64	1.23	0.02	2.42



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 005387183

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6647^{+158}_{-218}	$4.474^{+0.037}_{-0.213}$	$-0.500^{+0.300}_{-0.300}$	$0.994^{+0.314}_{-0.078}$	$1.088^{+0.138}_{-0.138}$	$1.559^{+0.323}_{-0.824}$
	+2%/-3%	+1%/-5%	+60%/-60%	+32%/-8%	+13%/-13%	+21%/-53%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005387183-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-36 ± 4	$0.78^{+0.23}_{-0.23}$	2997^{+223}_{-129}	6198^{+1120}_{-707}	12^{+11}_{-5}
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

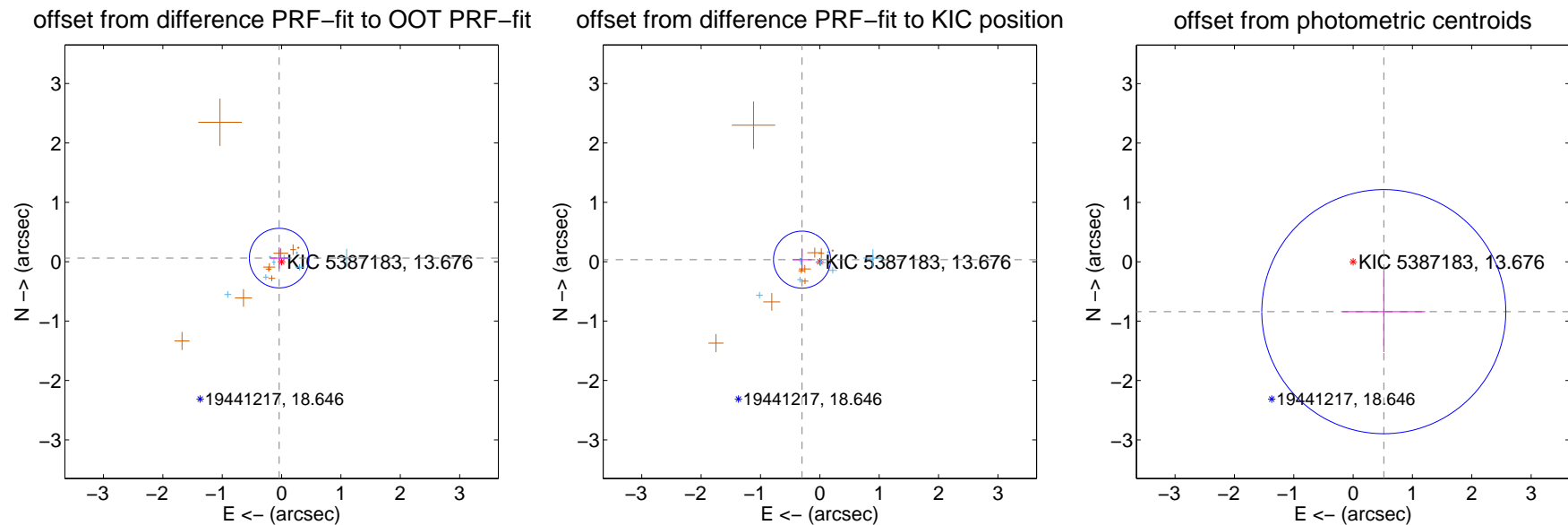
DV Centroid Data

Supplemental centroid analysis for 005387183-02. Kepler magnitude: 13.68. Transit SNR 10.13

There are 8 quarters with good PRF difference image offsets

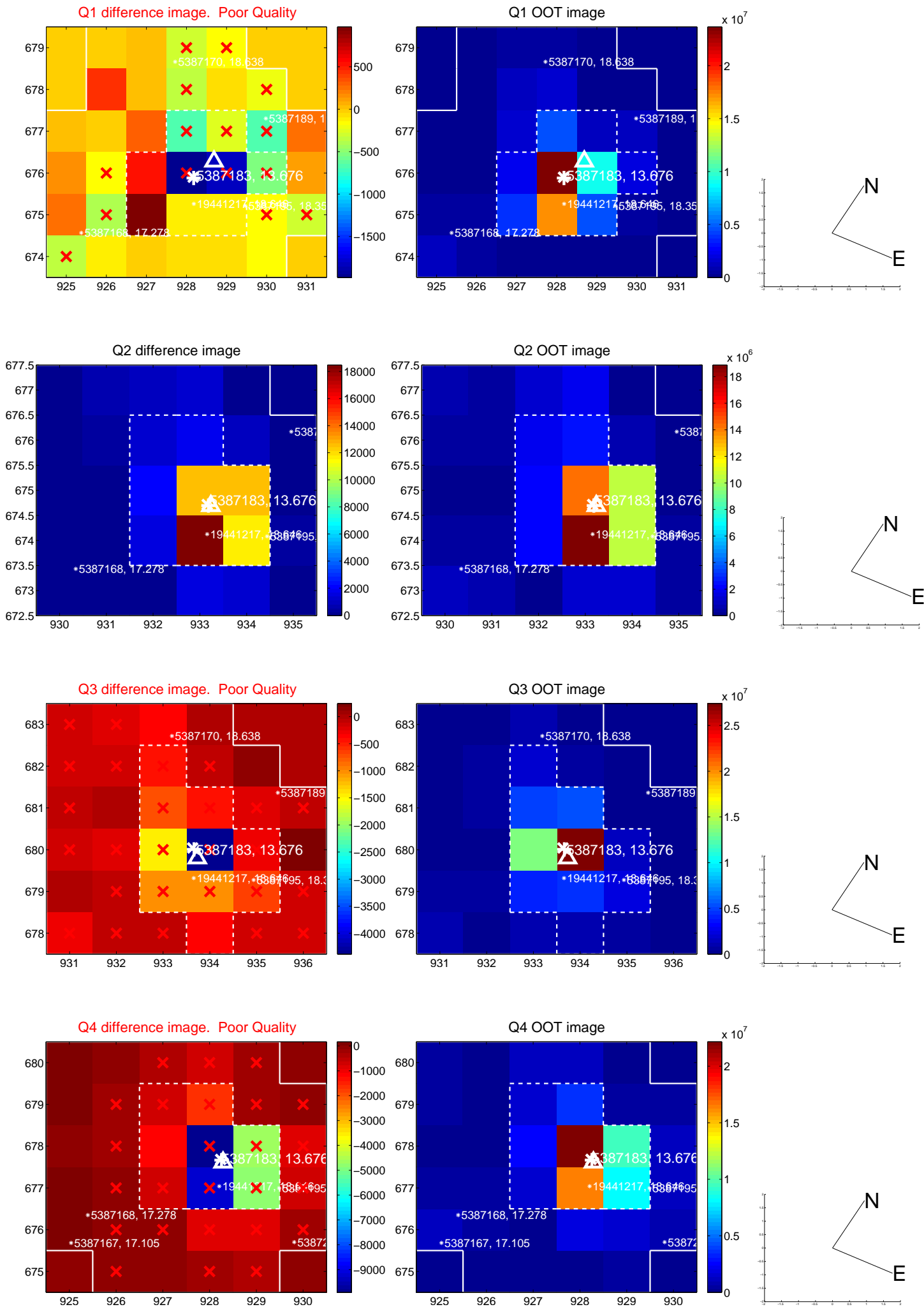
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.073 ± 0.167	0.44	0.041 ± 0.151	0.060 ± 0.182
PRF-fit source offset from KIC position	0.302 ± 0.160	1.89	0.300 ± 0.163	0.034 ± 0.189
photometric centroid source offset	0.99 ± 0.68	1.44	-0.52 ± 0.70	-0.84 ± 0.68

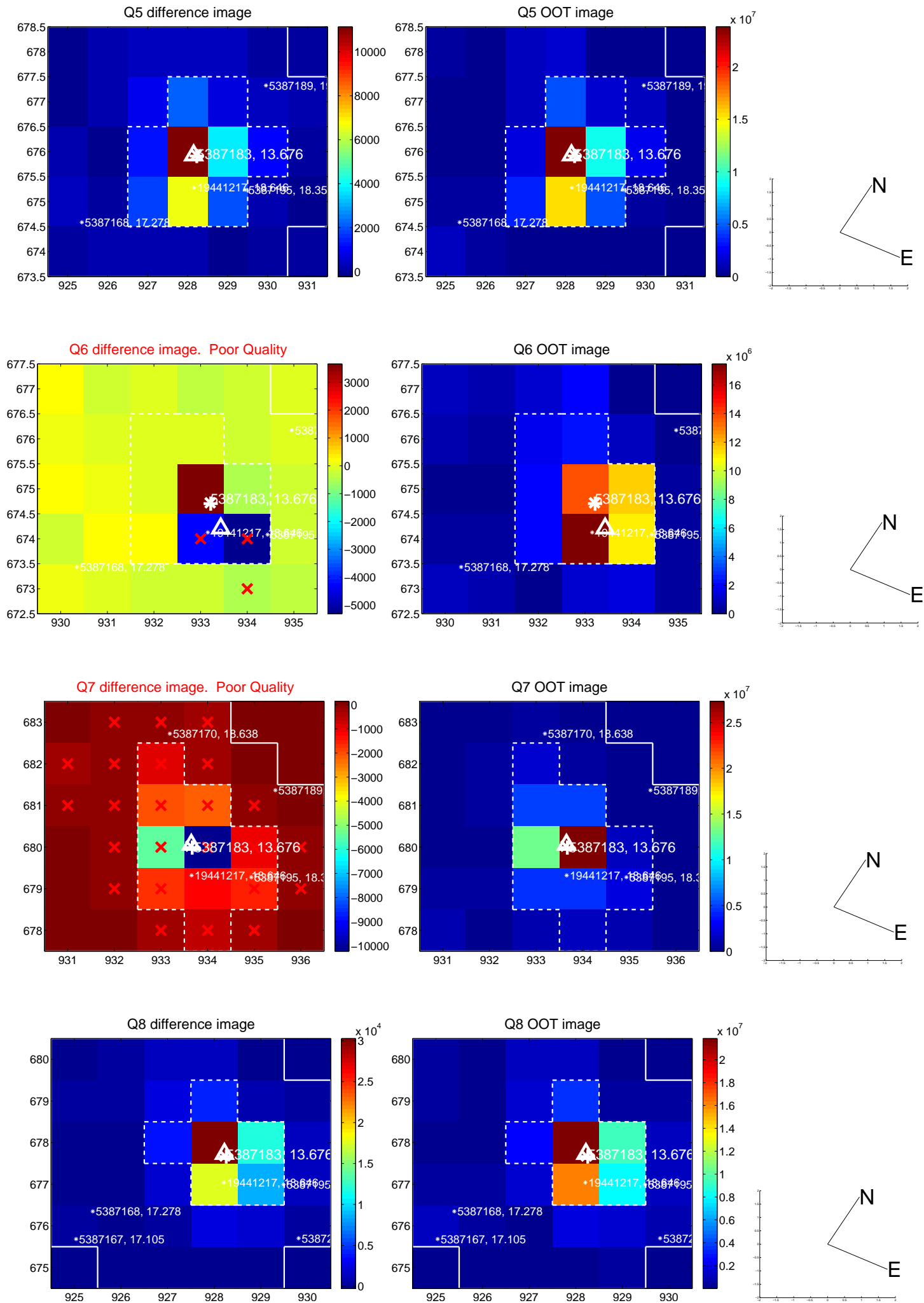


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

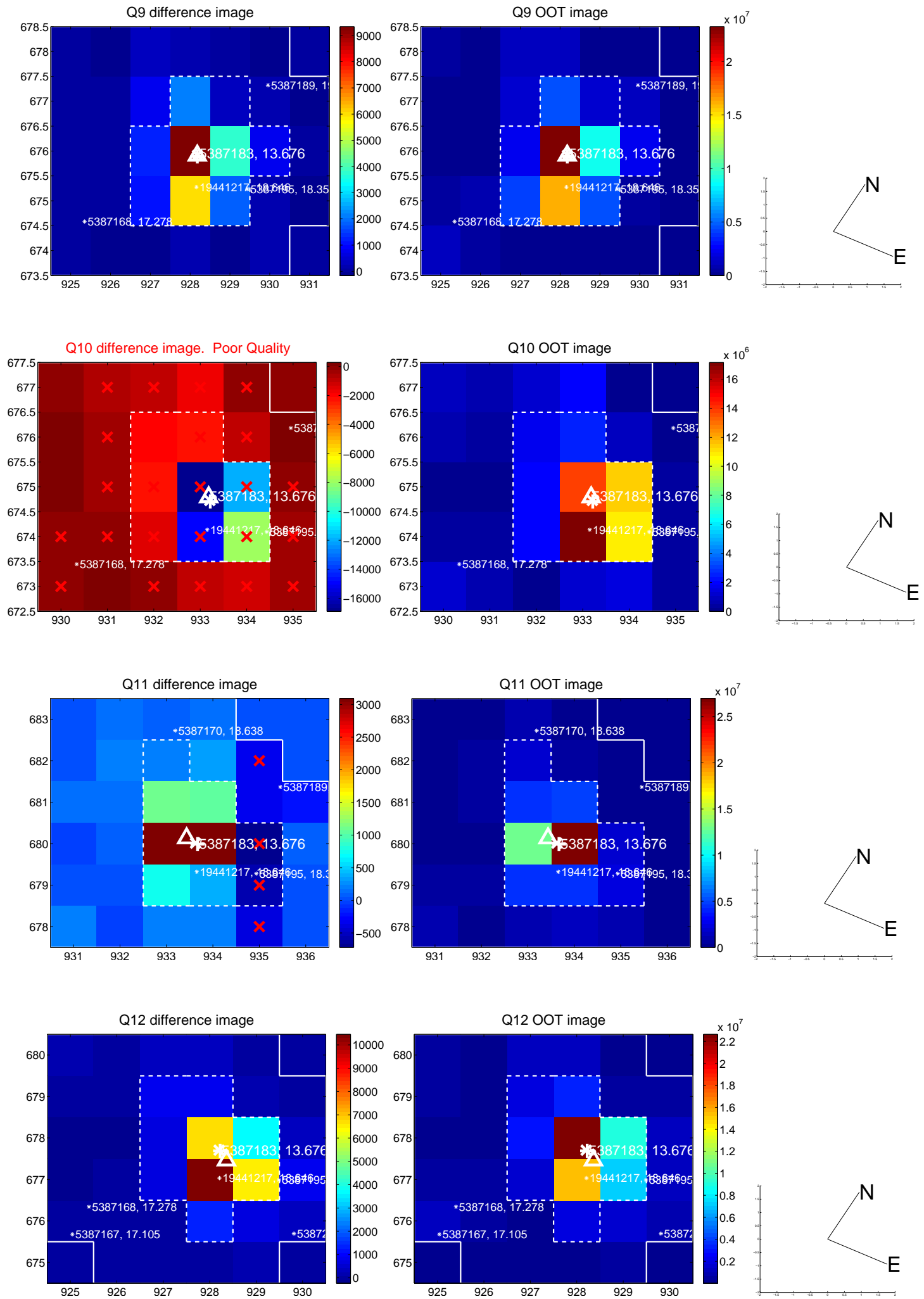
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



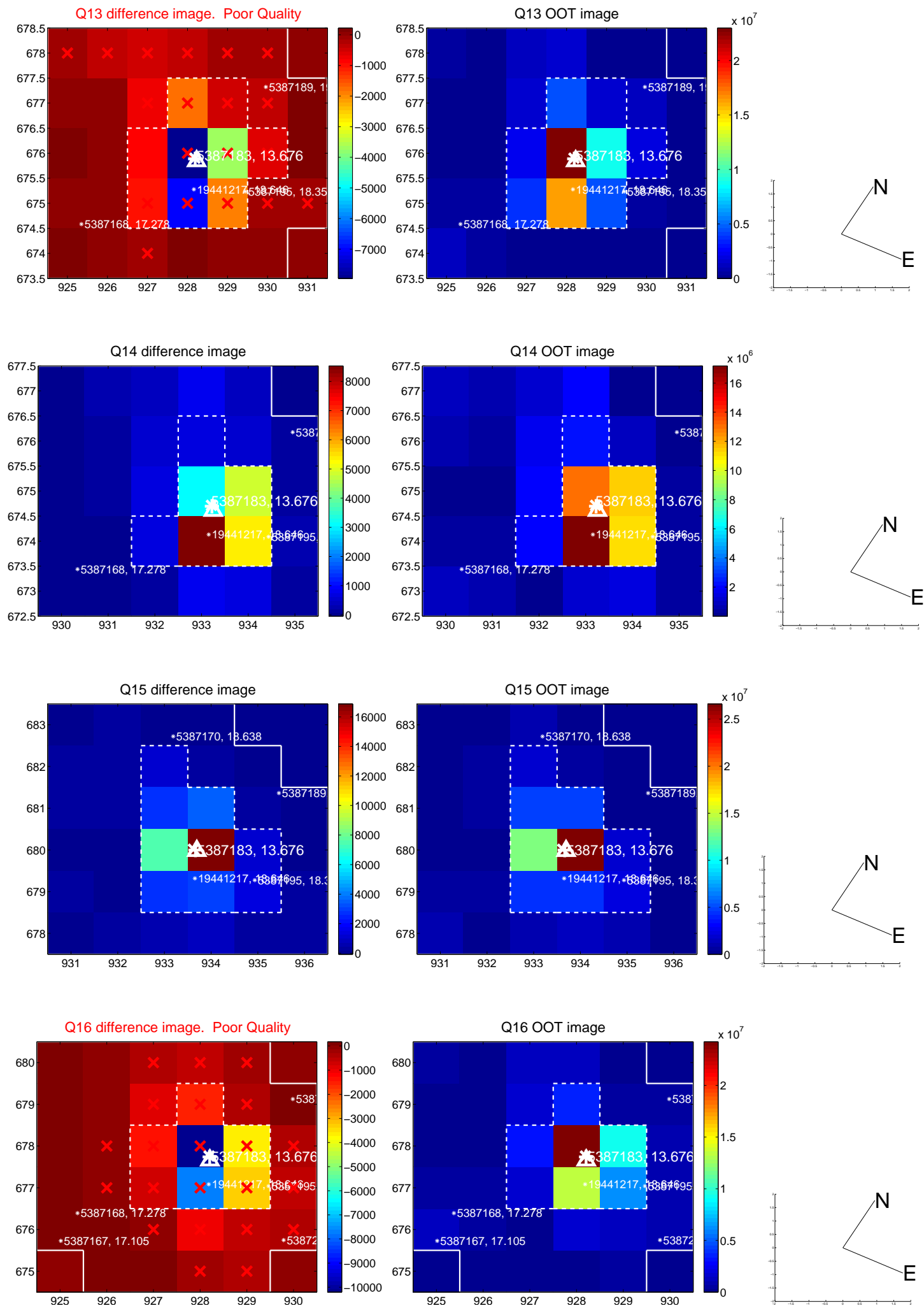
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

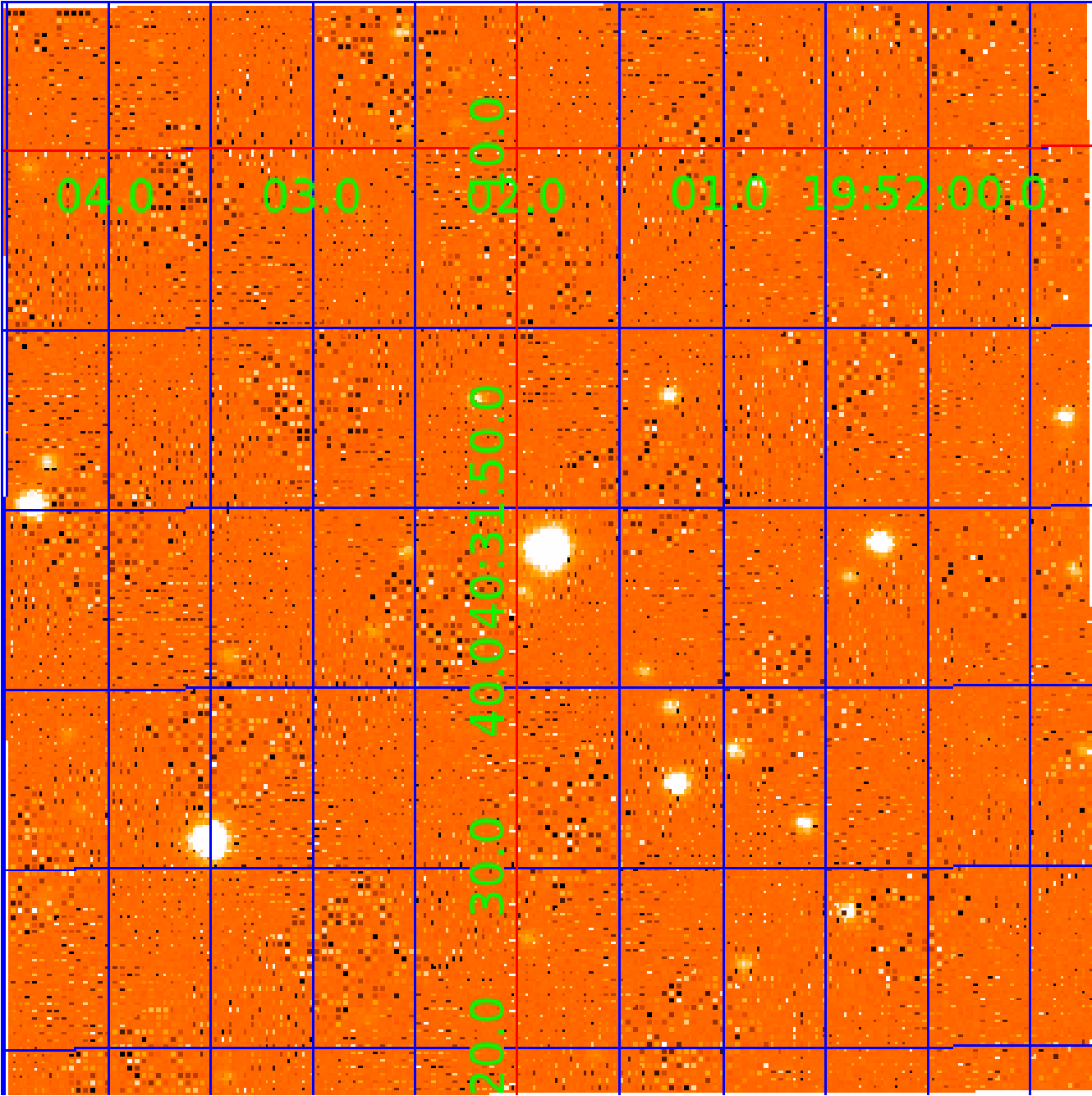


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005387183

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})
005387183-01	OBS	No	0.952734	132.015022	337.2	3.500	10.3	-1.0	0.99	6647	1.84	4588.73
005387183-02	OBS	No	0.952740	132.339747	49.9	2.997	10.2	10.1	0.99	6647	0.73	4588.69
005387183-03	OBS	No	61.078651	164.258569	107.4	2.071	8.2	1.2	0.99	6647	1.06	17.88
005387183-04	OBS	No	60.793629	164.835711	295.2	0.996	8.6	2.3	0.99	6647	2.74	18.00
005387183-05	OBS	No	61.082615	163.748198	489.5	7.171	8.5	6.9	0.99	6647	2.40	17.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005387183-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
005387183-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
005387183-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005387183-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005387183-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—HALO_GHOST

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

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

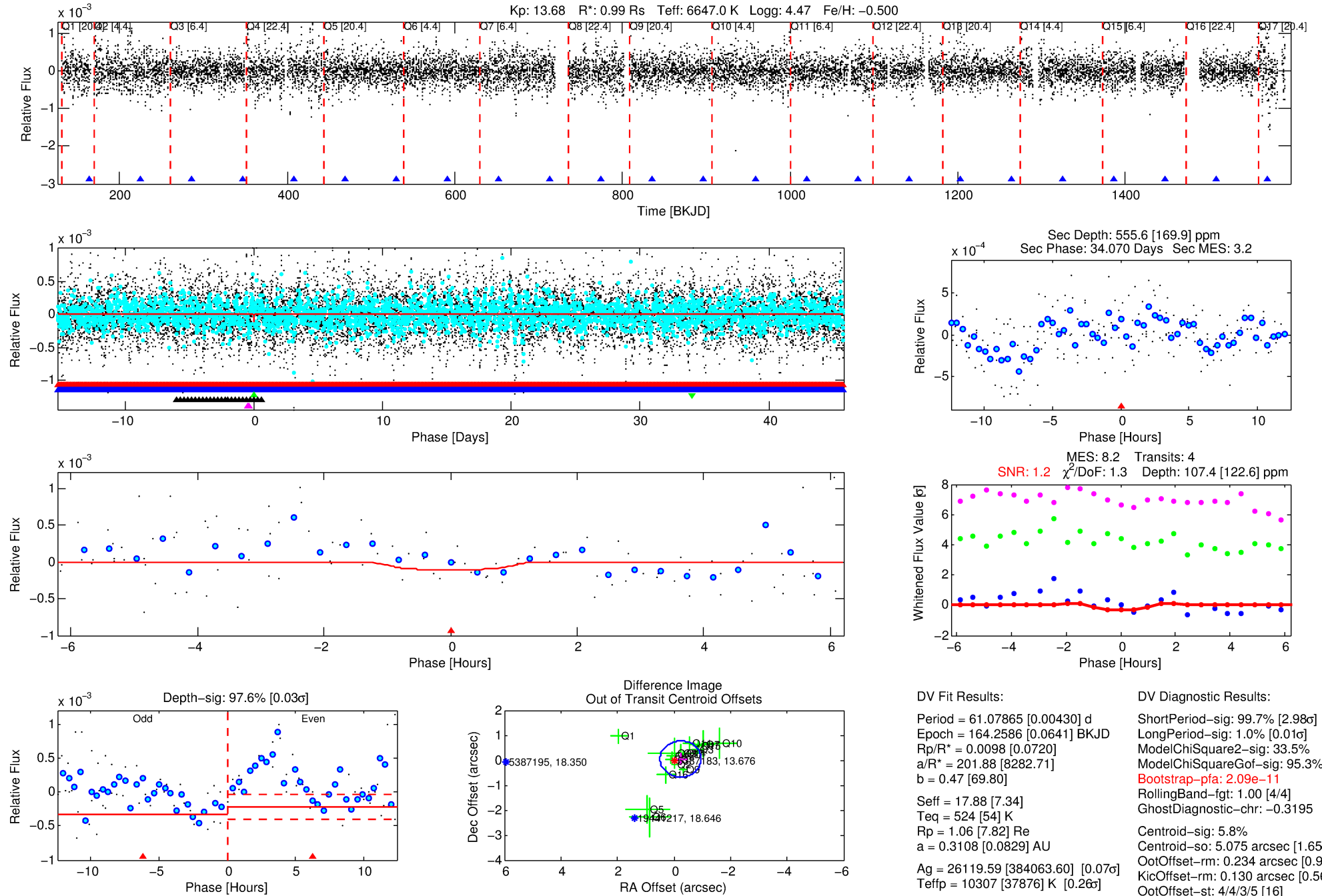
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005387183-03

No Significant Match Found

DV One-Page Summary

KIC: 5387183 Candidate: 3 of 5 Period: 61.079 d



DV Fit Results:

Period = 61.07865 [0.00430] d
Epoch = 164.2586 [0.0641] BKJD
Rp/R* = 0.0098 [0.0720]
a/R* = 201.88 [8282.71]
b = 0.47 [69.80]
Seff = 17.88 [7.34]
Teff = 524 [54] K
Rp = 1.06 [7.82] Re
a = 0.3108 [0.0829] AU
Ag = 26119.59 [384063.60] [0.07 σ]
Teffp = 10307 [37876] K [0.26 σ]

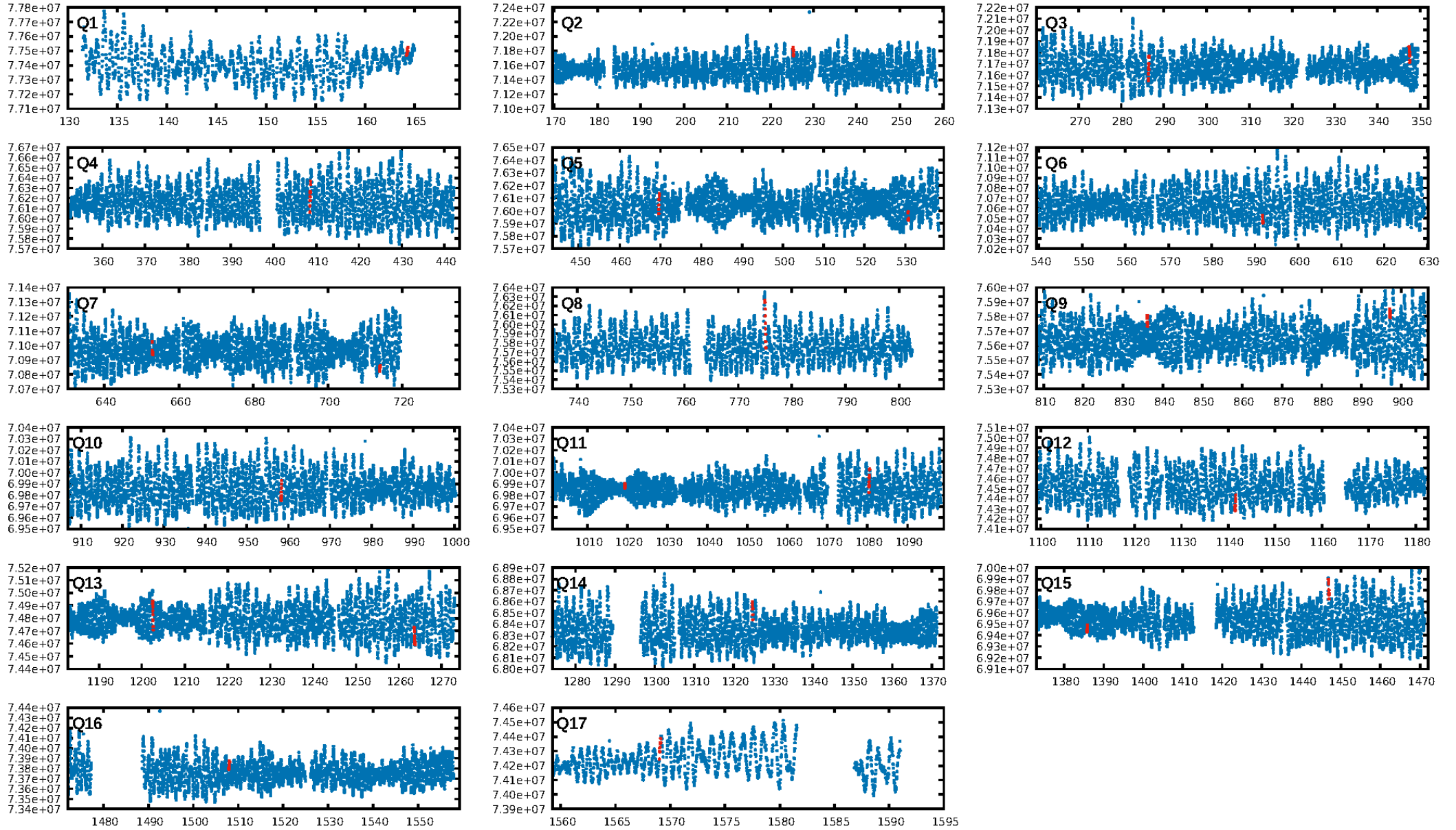
DV Diagnostic Results:

ShortPeriod-sig: 99.7% [2.98 σ]
LongPeriod-sig: 1.0% [0.01 σ]
ModelChiSquare2-sig: 33.5%
ModelChiSquareGof-sig: 95.3%
Bootstrap-pfa: 2.09e-11
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.3195
Centroid-sig: 5.8%
Centroid-so: 5.075 arcsec [1.65 σ]
OotOffset-rm: 0.234 arcsec [0.97 σ]
KicOffset-rm: 0.130 arcsec [0.56 σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.31 [5/16]
DiffImageOverlap-fno: 0.00 [0/17]

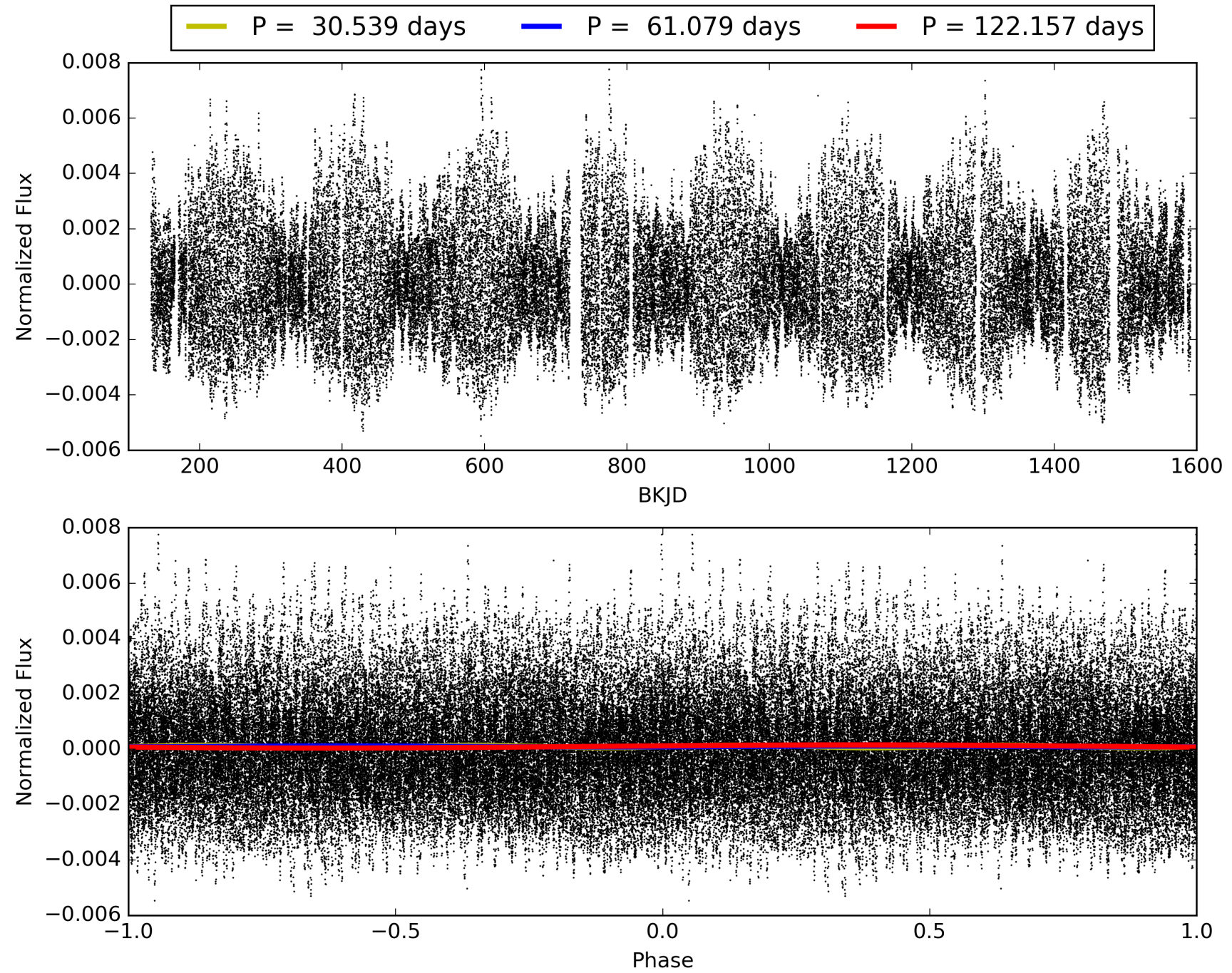
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:54:07 Z

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

TCE 005387183-03, PDC Light Curves

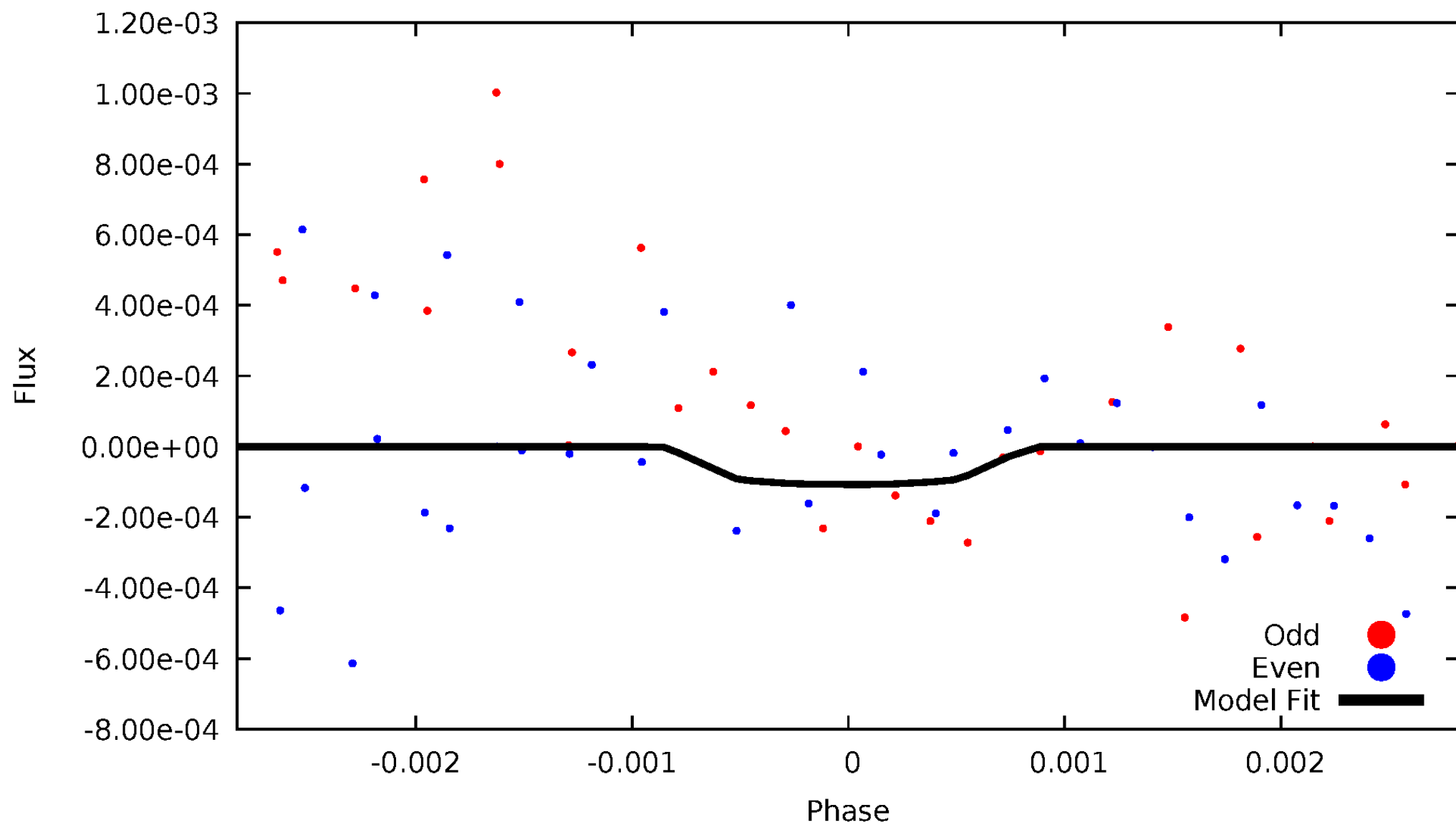


TCE 005387183-03



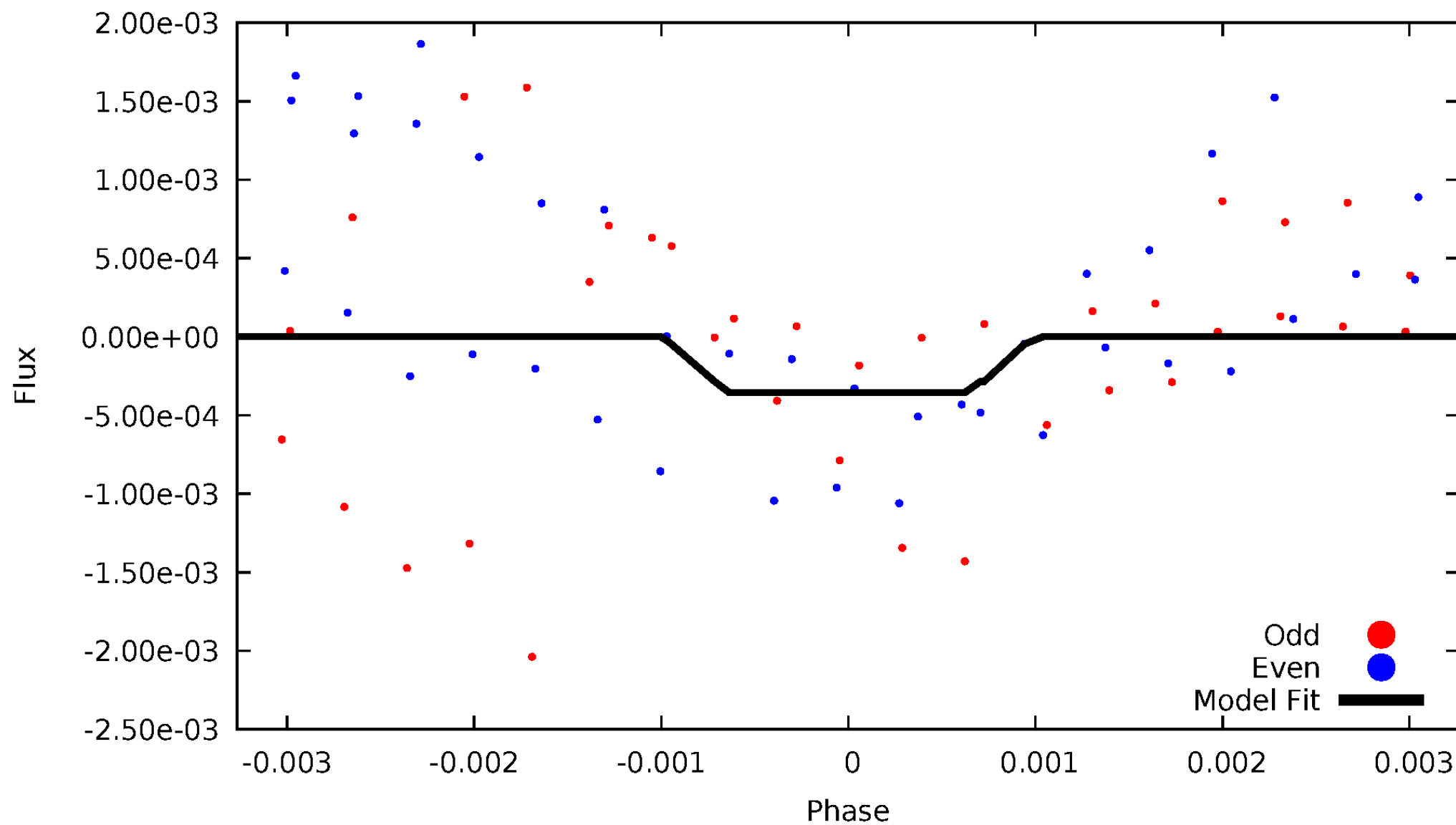
DV Odd/Even

TCE 005387183-03

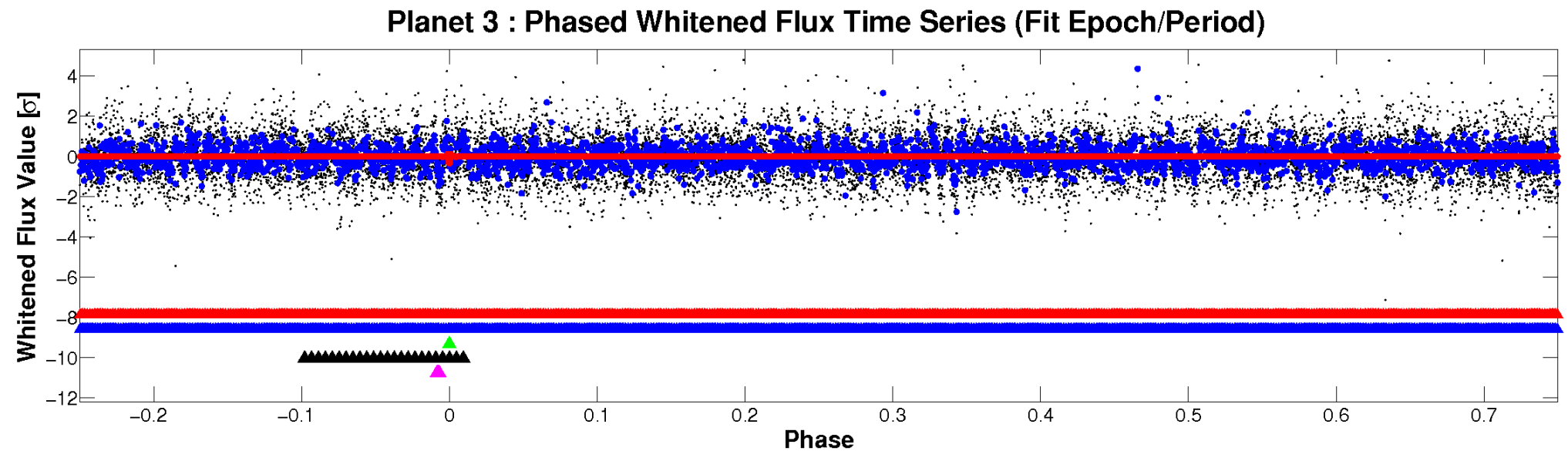
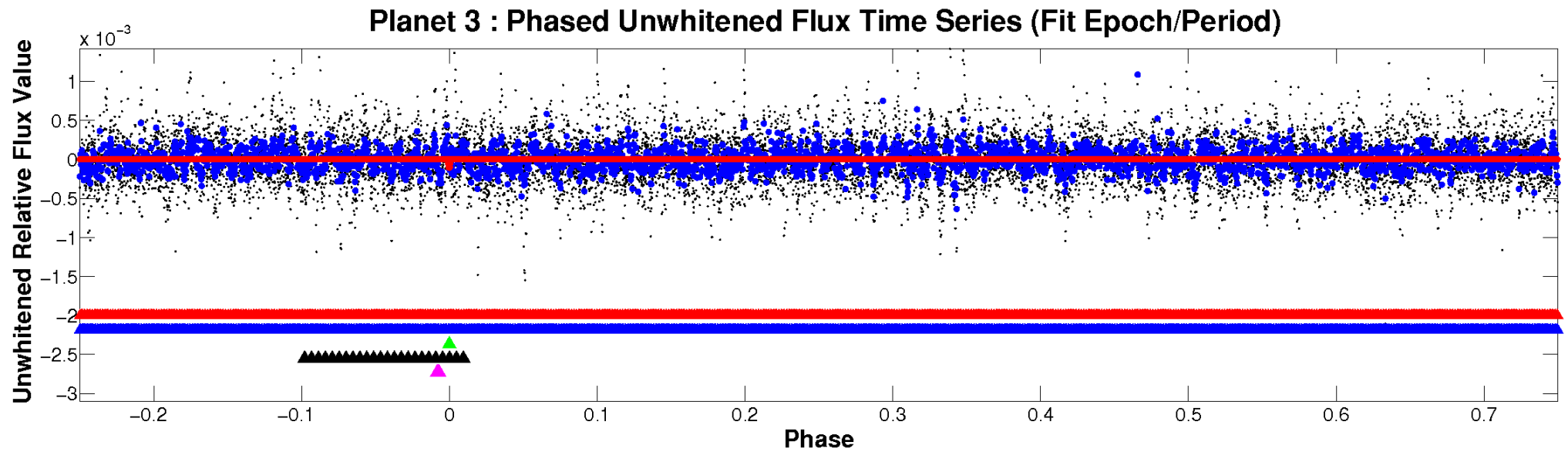


ALT Odd/Even

TCE 005387183-03

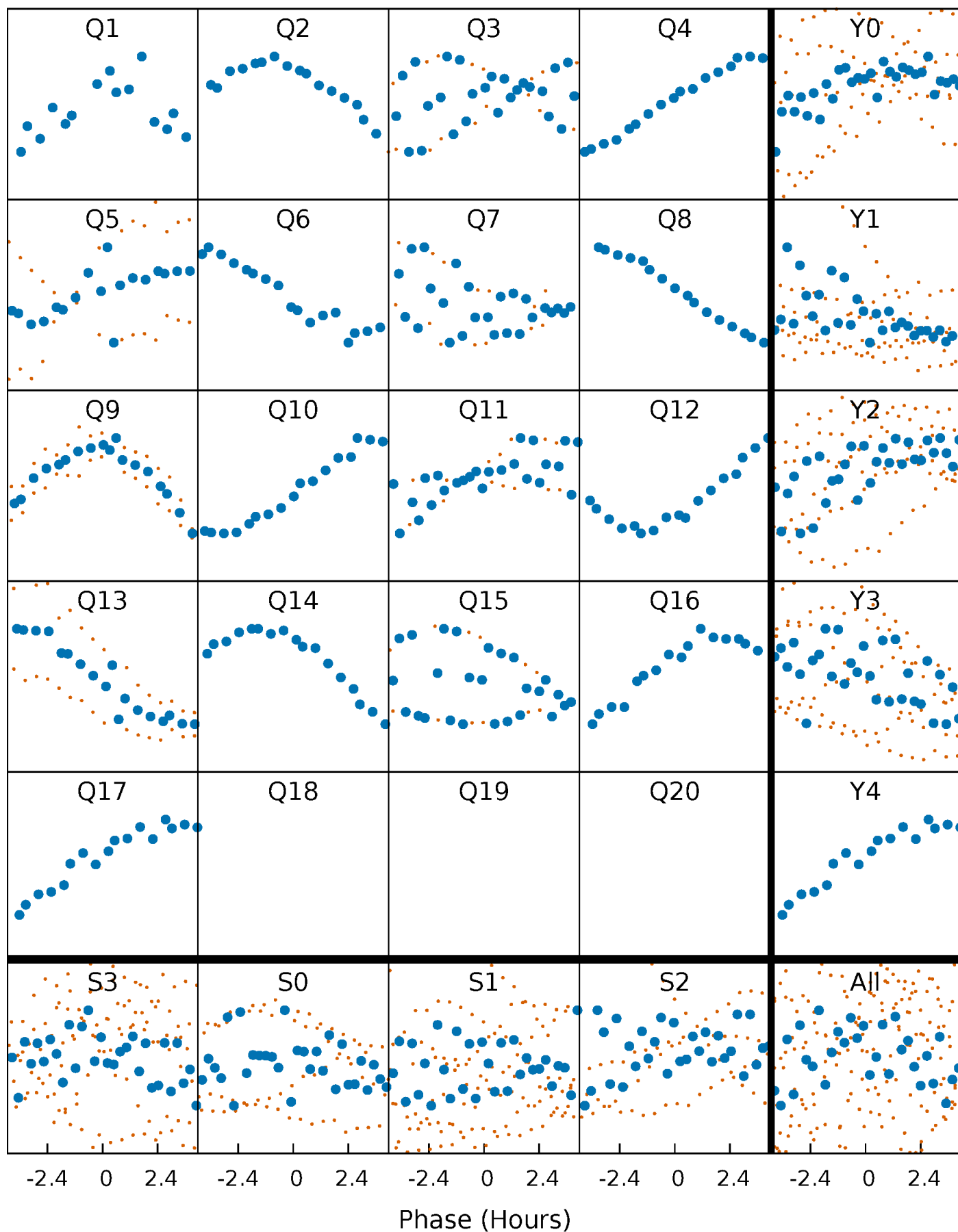


Non-Whitened Vs. Whitened Light Curve



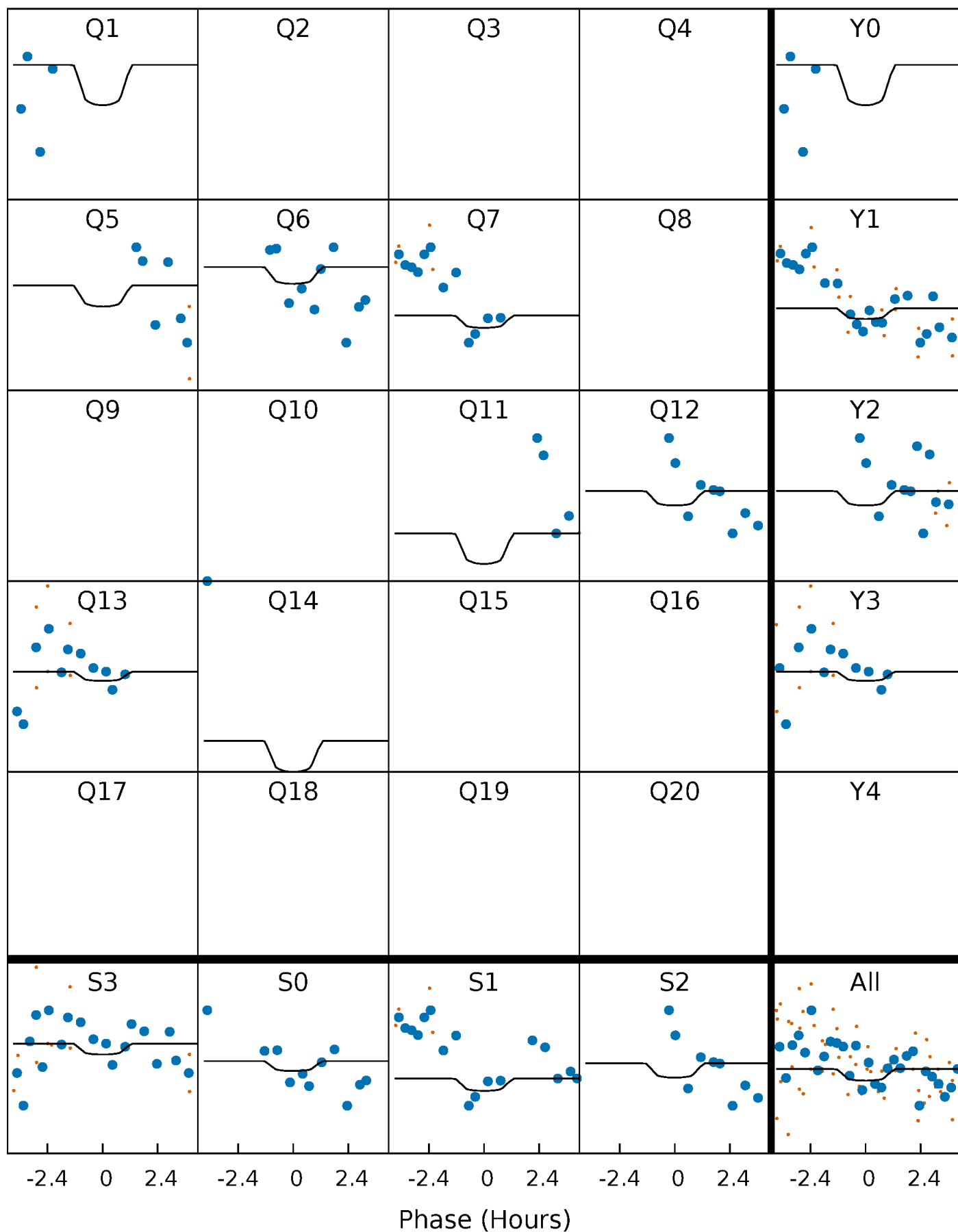
PDC Quarter-Phased Transit Curves

TCE 005387183-03 P= 61.078651 Days $T_0=164.258569$ (BKJD)



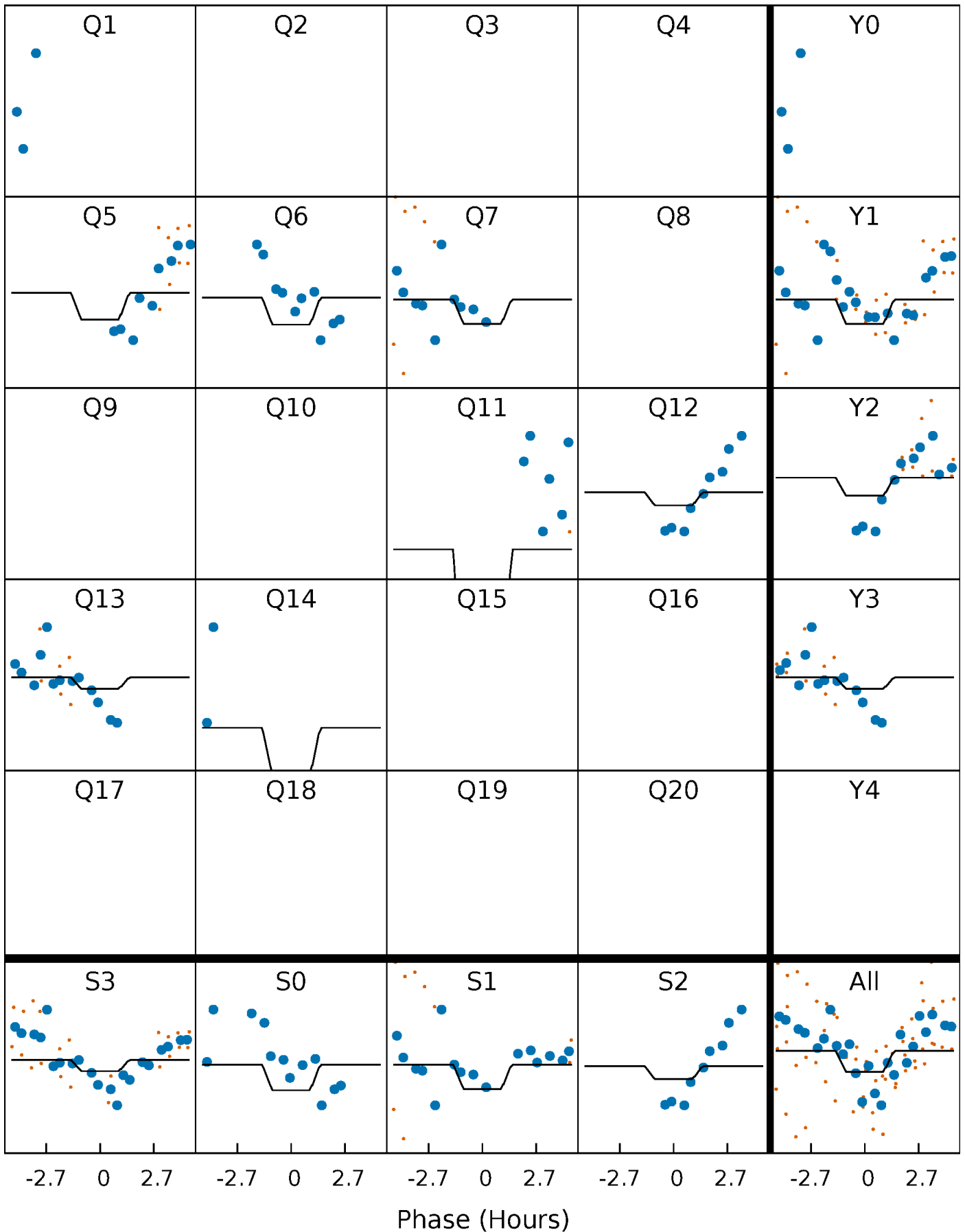
DV Quarter-Phased Transit Curves

TCE 005387183-03 P= 61.078651 Days $T_0=164.258569$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

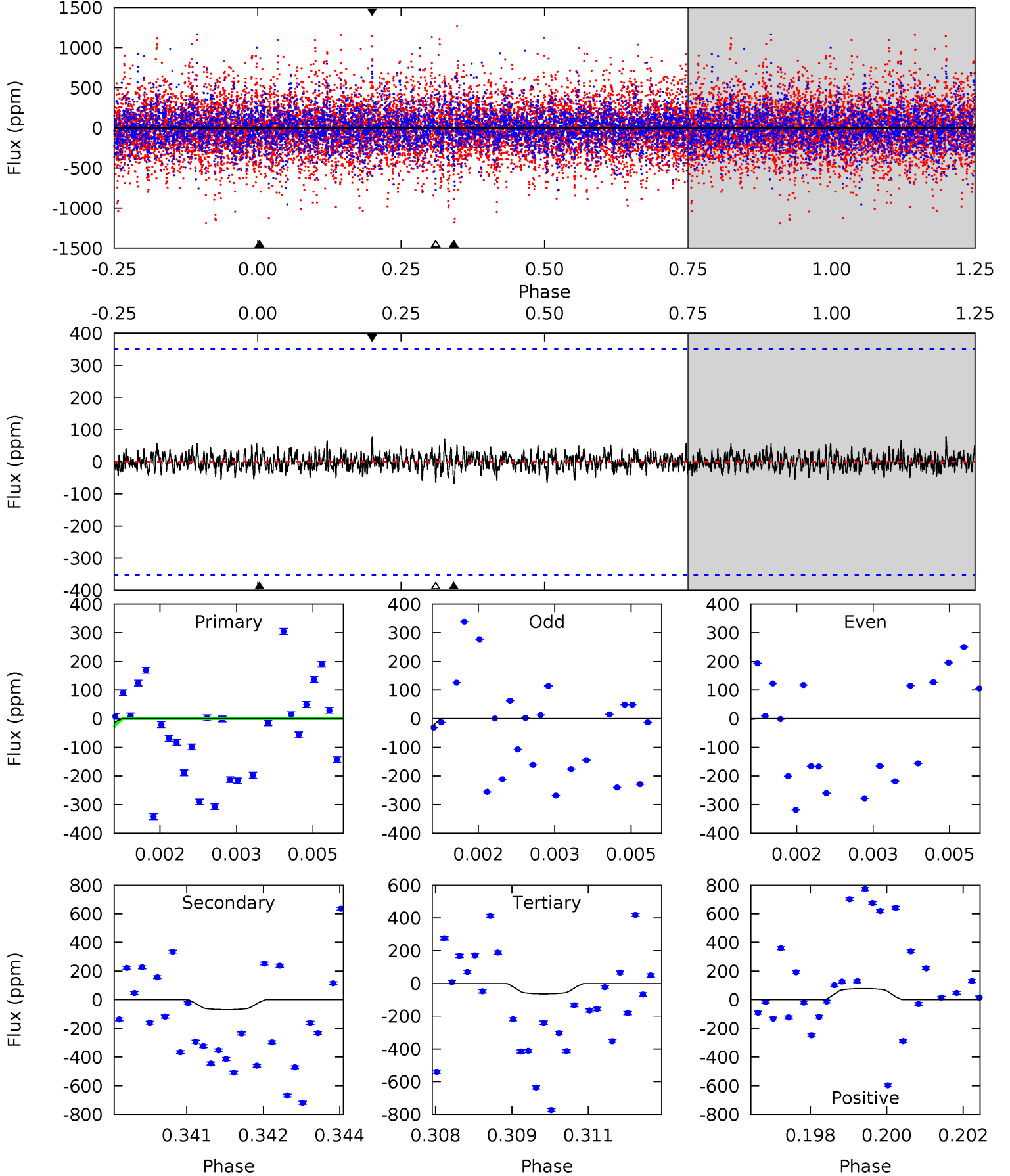
TCE 005387183-03 P= 61.076189 Days $T_0=164.306018$ (BKJD)



DV Model-Shift Uniqueness Test

005387183-03, P = 61.078651 Days, E = 103.179918 Days

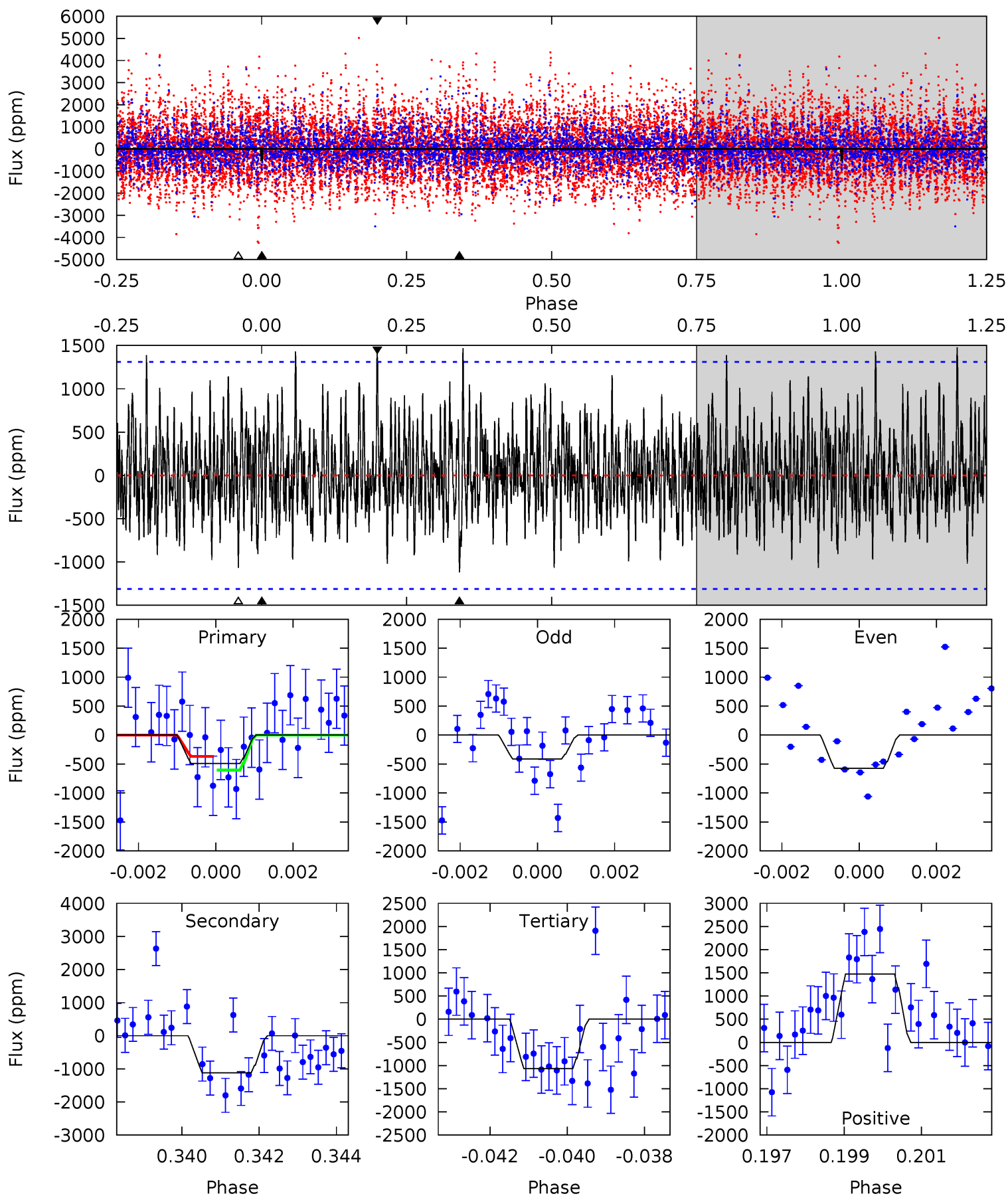
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.52	1.05	0.98	1.19	5.35	3.13	0.31	-0.45	-0.67	0.07	-0.15	0.51	0.42	0.53	0.45



Alt Model-Shift Uniqueness Test

005387183-03, P = 61.076189 Days, E = 103.229829 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.99	4.55	4.33	6.00	5.33	3.09	1.64	-2.34	-4.00	0.21	-1.45	0.33	0.89	0.57	0.48



Stellar Parameters For KIC 005387183

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6647^{+158}_{-218}	$4.474^{+0.037}_{-0.213}$	$-0.500^{+0.300}_{-0.300}$	$0.994^{+0.314}_{-0.078}$	$1.088^{+0.138}_{-0.138}$	$1.559^{+0.323}_{-0.824}$
	+2%/-3%	+1%/-5%	+60%/-60%	+32%/-8%	+13%/-13%	+21%/-53%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005387183-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-69 ± 66	$6.15^{+6.83}_{-4.36}$	751^{+54}_{-36}	3061^{+1667}_{-1345}	69^{+854}_{-68}
Alt.	-1119 ± 246	$6.38^{+7.24}_{-4.86}$	750^{+56}_{-35}	5145^{+6783}_{-1278}	1365^{+22549}_{-1061}

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

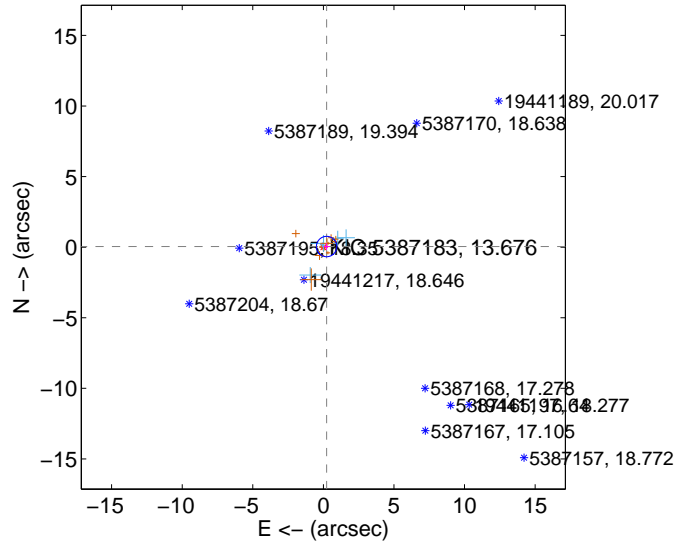
Supplemental centroid analysis for 005387183-03. Kepler magnitude: 13.68. Transit SNR 1.23

There are 5 quarters with good PRF difference image offsets

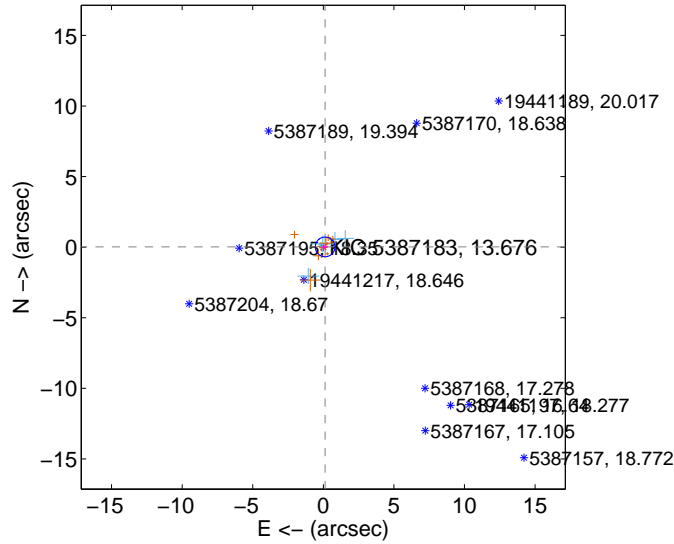
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.234 ± 0.240	0.97	-0.230 ± 0.224	0.044 ± 0.233
PRF-fit source offset from KIC position	0.130 ± 0.232	0.56	-0.128 ± 0.219	0.019 ± 0.226
photometric centroid source offset	5.08 ± 3.07	1.65	4.94 ± 3.07	-1.17 ± 2.98

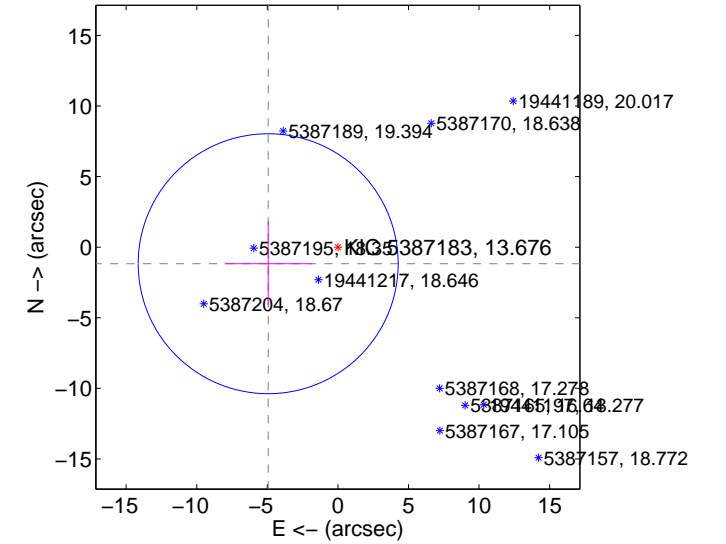
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

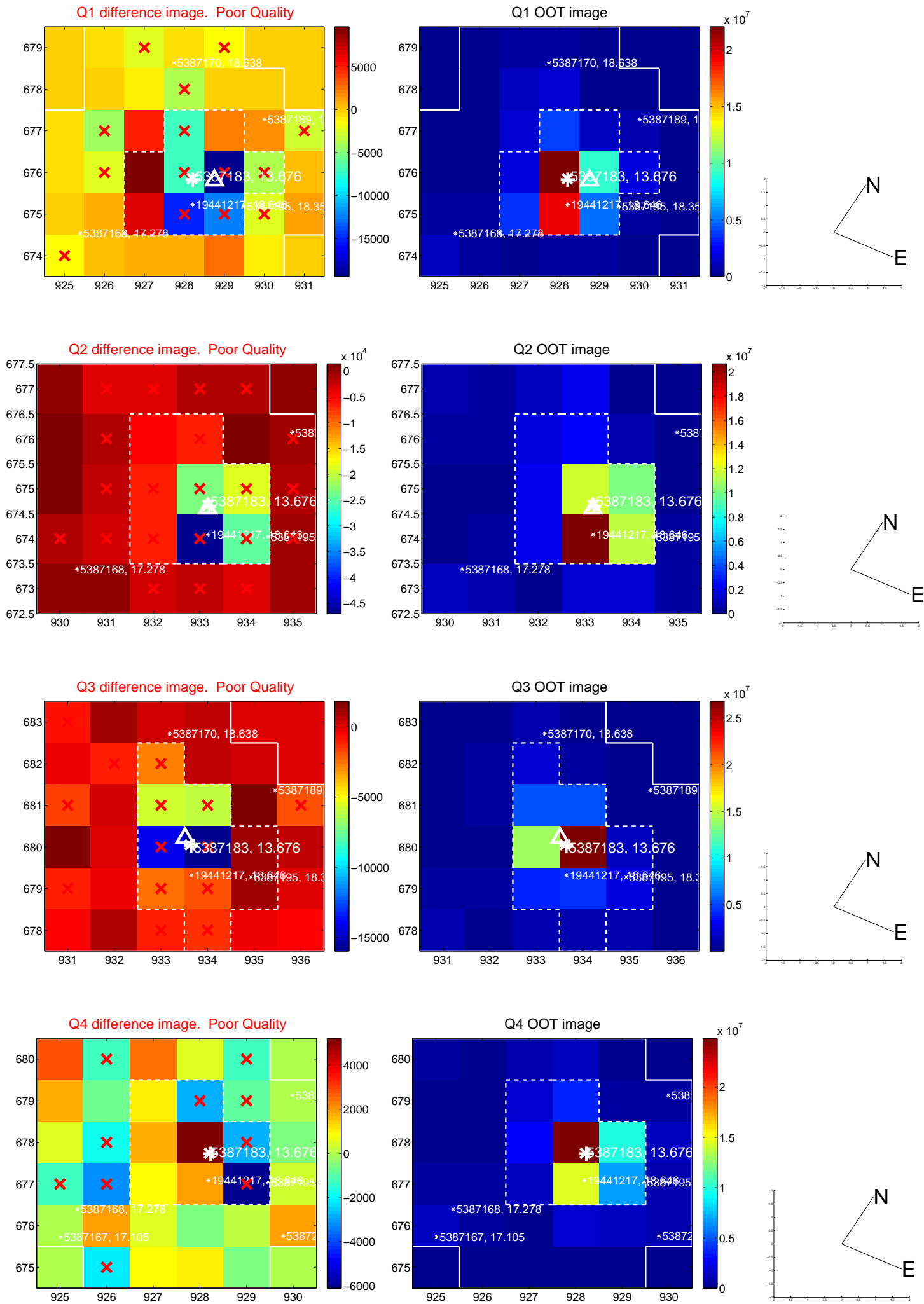


offset from photometric centroids

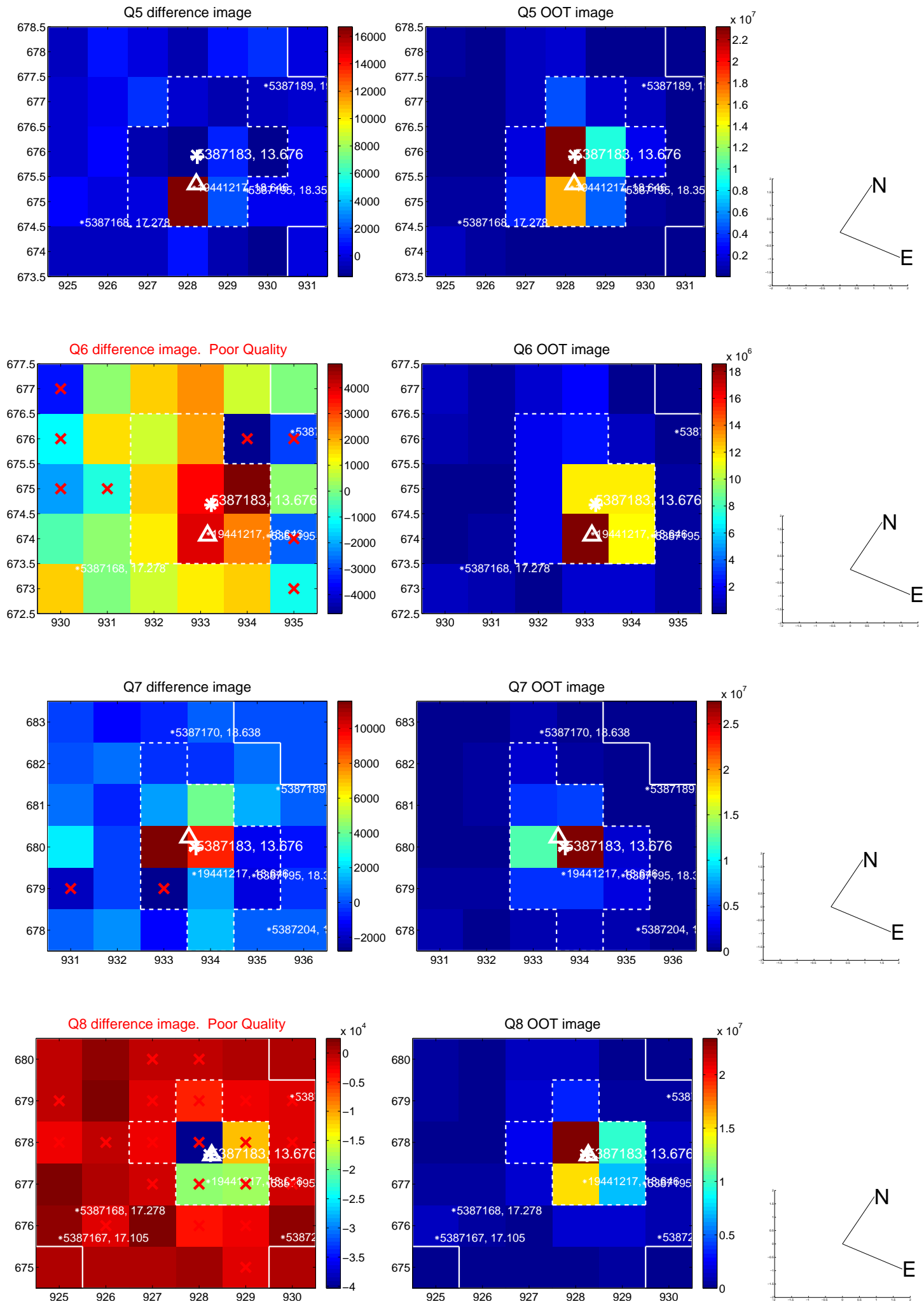


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

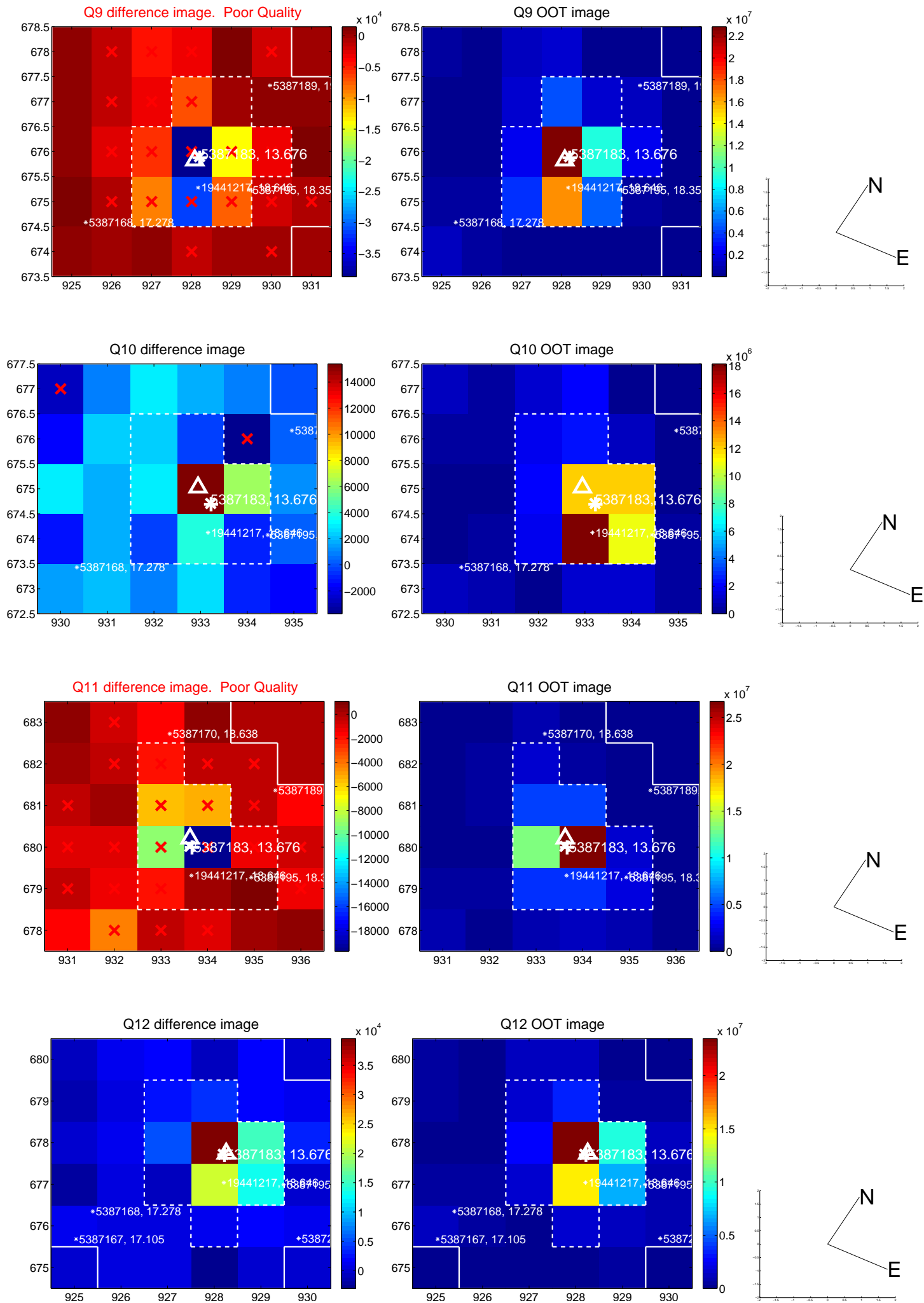
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



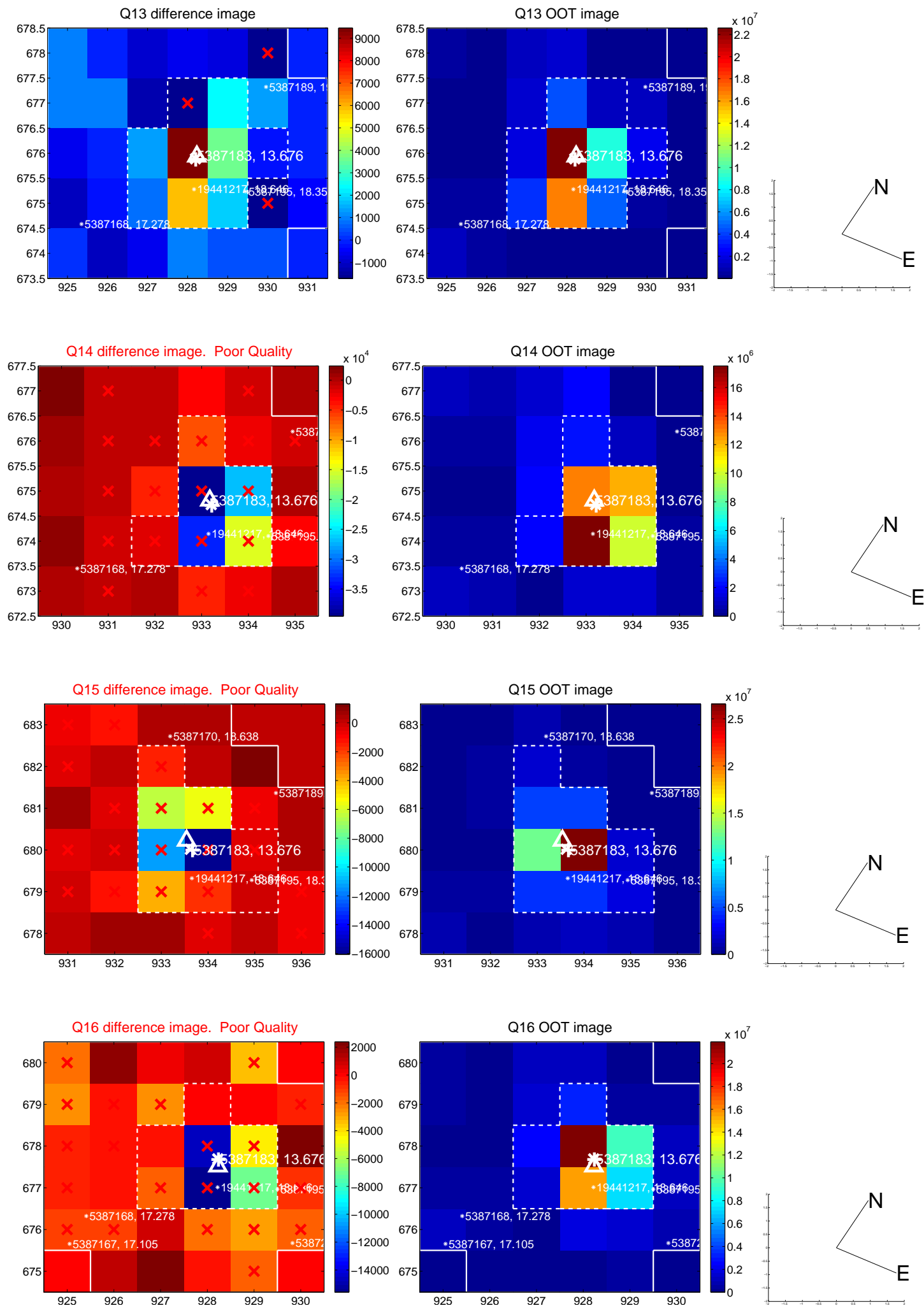
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



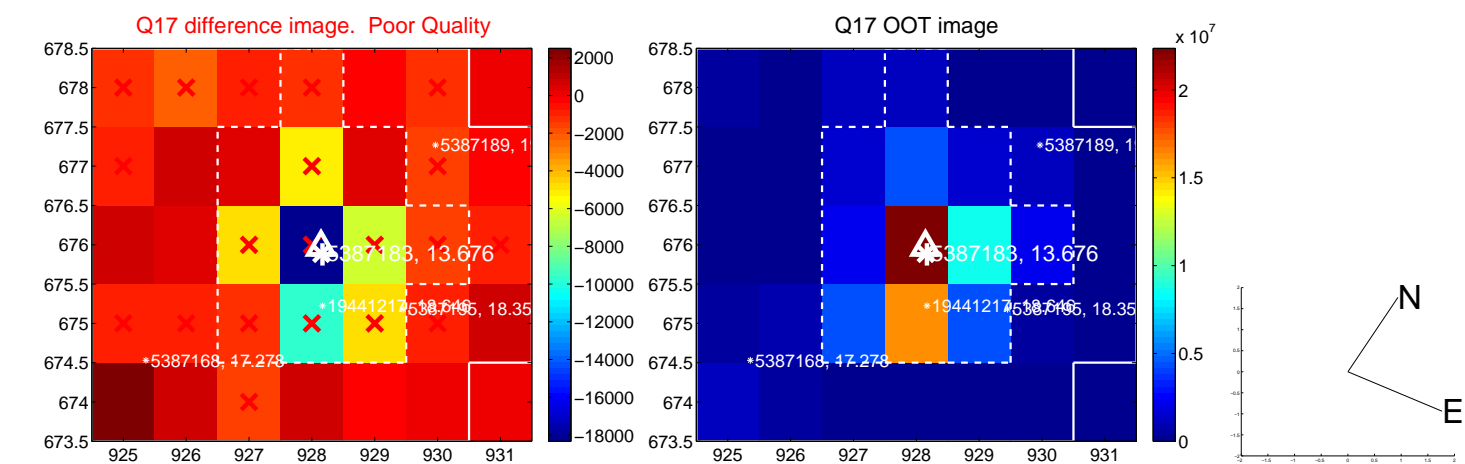
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



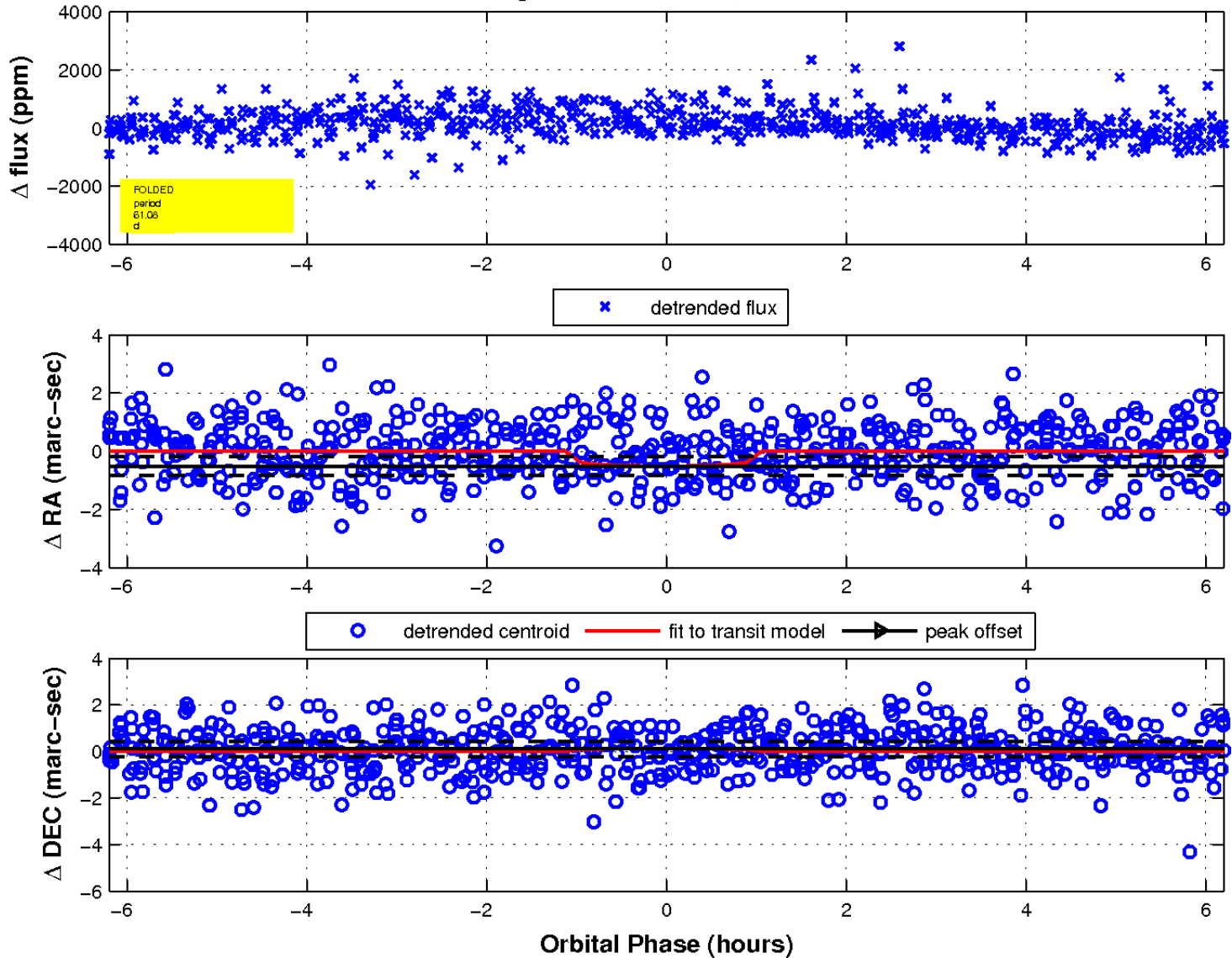
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

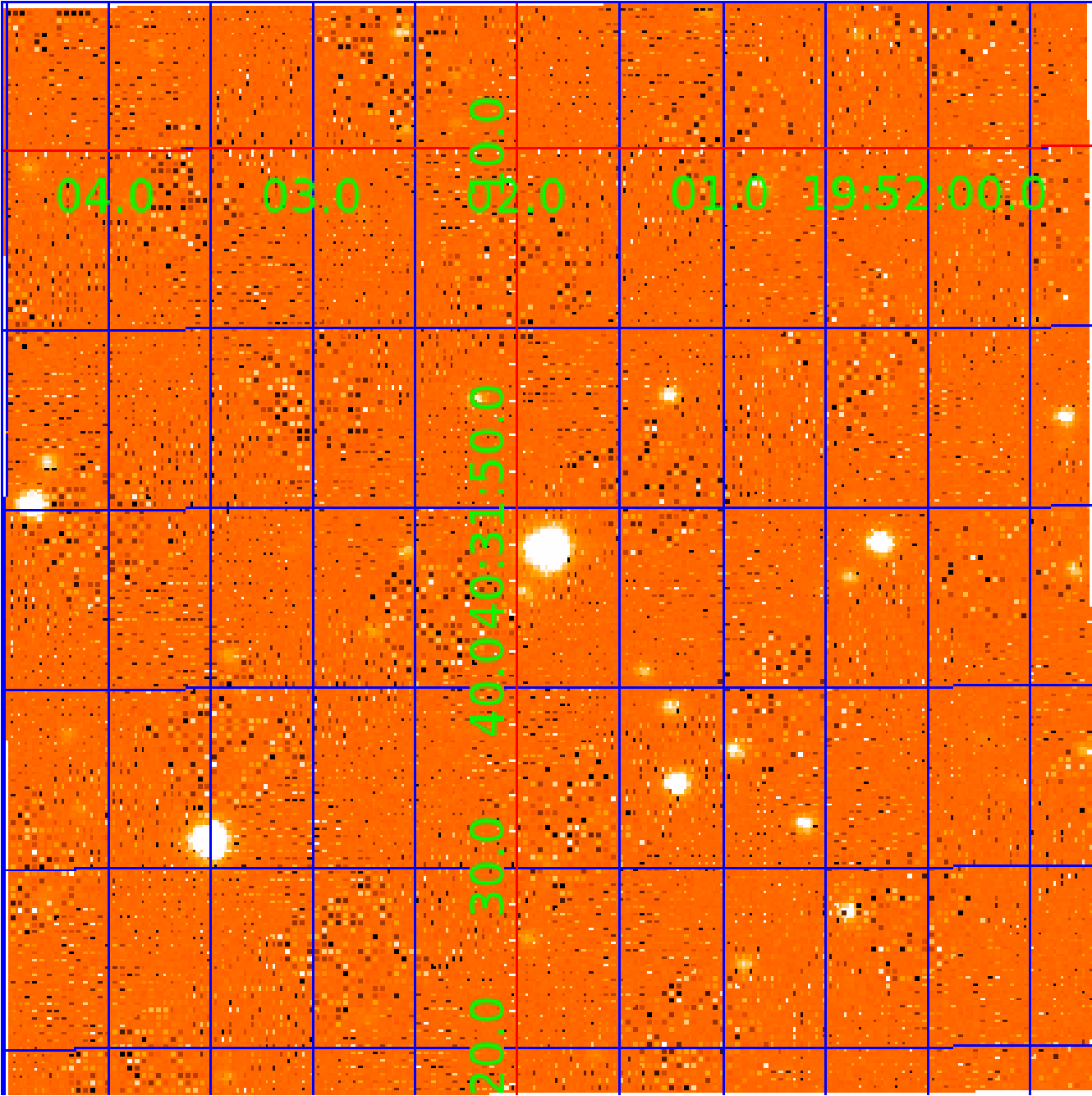


fluxWeightedCentroids, Planet 3 of 5



UKIRT Image

Declination



KIC 005387183

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})
005387183-01	OBS	No	0.952734	132.015022	337.2	3.500	10.3	-1.0	0.99	6647	1.84	4588.73
005387183-02	OBS	No	0.952740	132.339747	49.9	2.997	10.2	10.1	0.99	6647	0.73	4588.69
005387183-03	OBS	No	61.078651	164.258569	107.4	2.071	8.2	1.2	0.99	6647	1.06	17.88
005387183-04	OBS	No	60.793629	164.835711	295.2	0.996	8.6	2.3	0.99	6647	2.74	18.00
005387183-05	OBS	No	61.082615	163.748198	489.5	7.171	8.5	6.9	0.99	6647	2.40	17.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005387183-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
005387183-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
005387183-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005387183-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005387183-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—HALO_GHOST

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

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

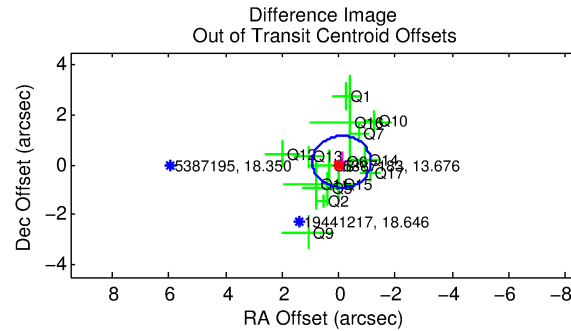
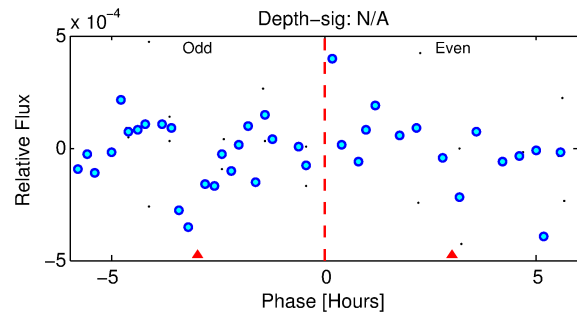
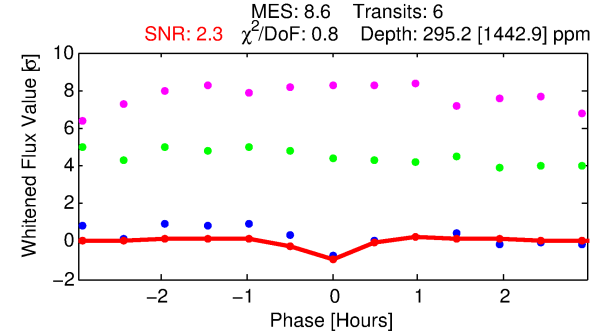
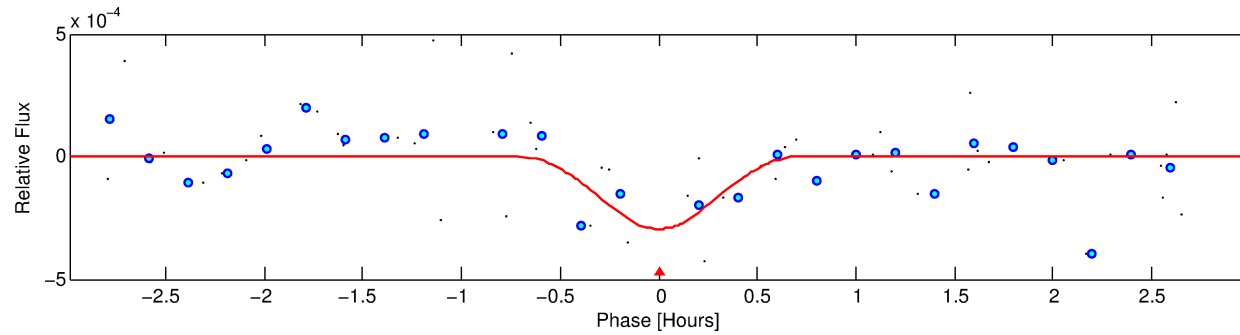
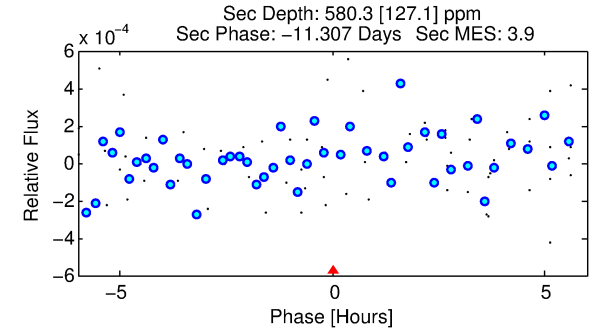
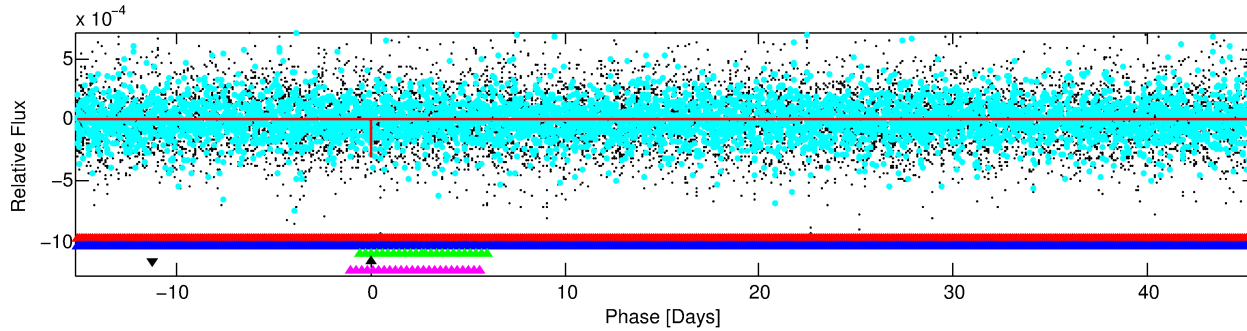
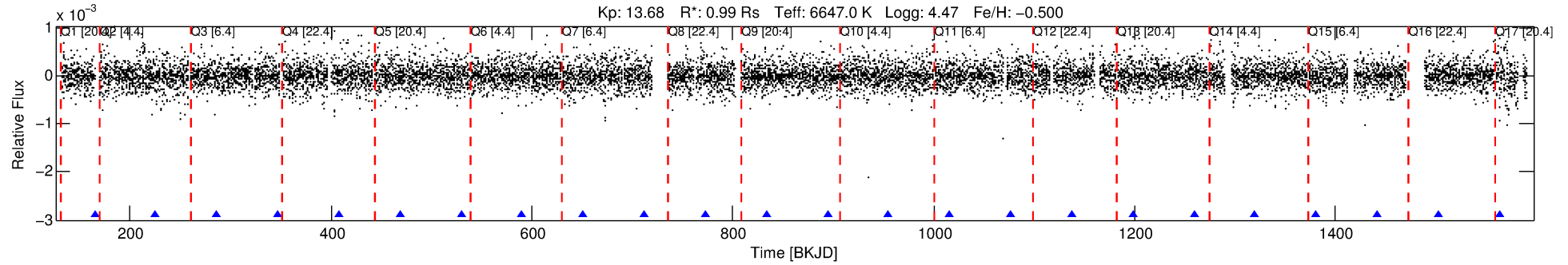
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005387183-04

No Significant Match Found

DV One-Page Summary

KIC: 5387183 Candidate: 4 of 5 Period: 60.794 d



DV Fit Results:

Period = 60.79363 [0.00152] d
Epoch = 164.8357 [0.0213] BKJD
Rp/R* = 0.0253 [0.9226]
a/R* = 127.19 [1800.85]
b = 0.99 [1.82]
Seff = 18.00 [7.39]
Teq = 525 [54] K
Rp = 2.74 [100.07] Re
a = 0.3099 [0.0826] AU
Ag = 4083.72 [298312.43] [0.01σ]
Teffp = 6491 [118543] K [0.05σ]

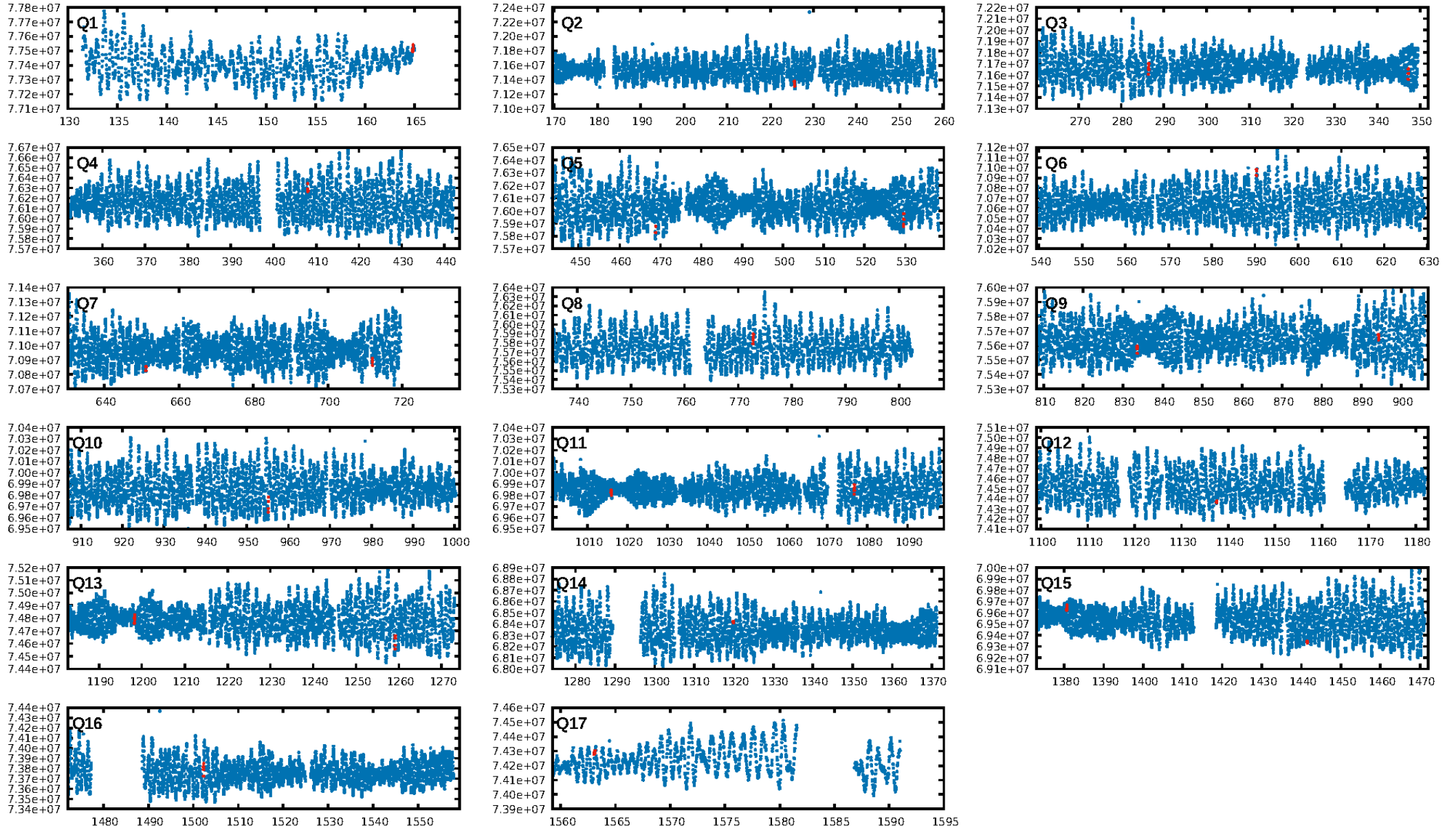
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [454.77σ]
LongPeriod-sig: 99.7% [2.98σ]
ModelChiSquare2-sig: 90.7%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 4.24e-12
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 2.977
Centroid-sig: 32.2%
Centroid-so: 1.218 arcsec [0.63σ]
OotOffset-rm: 0.154 arcsec [0.45σ]
KicOffset-rm: 0.102 arcsec [0.29σ]
OotOffset-st: 4/3/3/5 [15]
KicOffset-st: 4/3/3/5 [15]
DiffImageQuality-fgm: 0.53 [8/15]
DiffImageOverlap-fno: 0.00 [0/17]

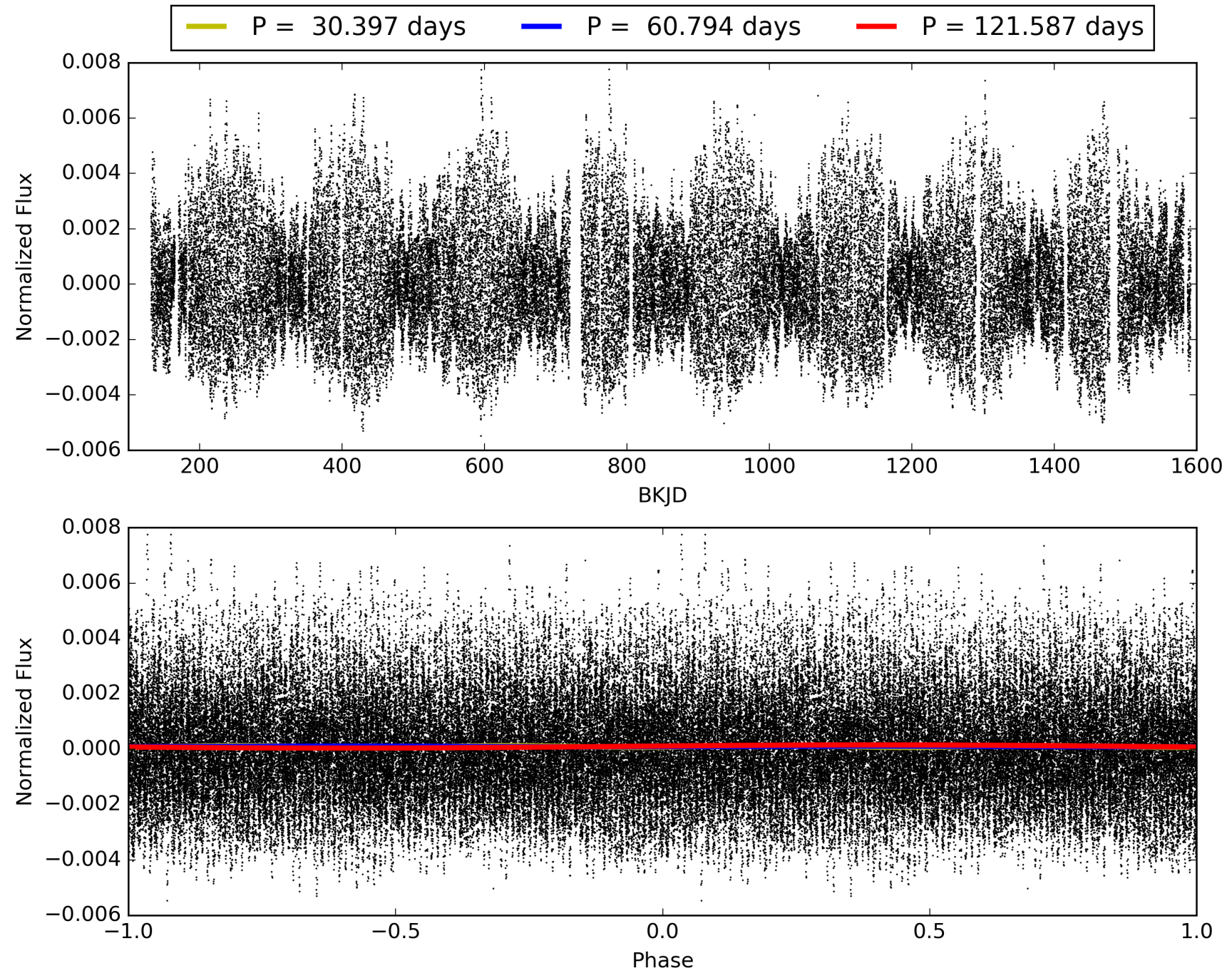
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:54:12 Z

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

TCE 005387183-04, PDC Light Curves

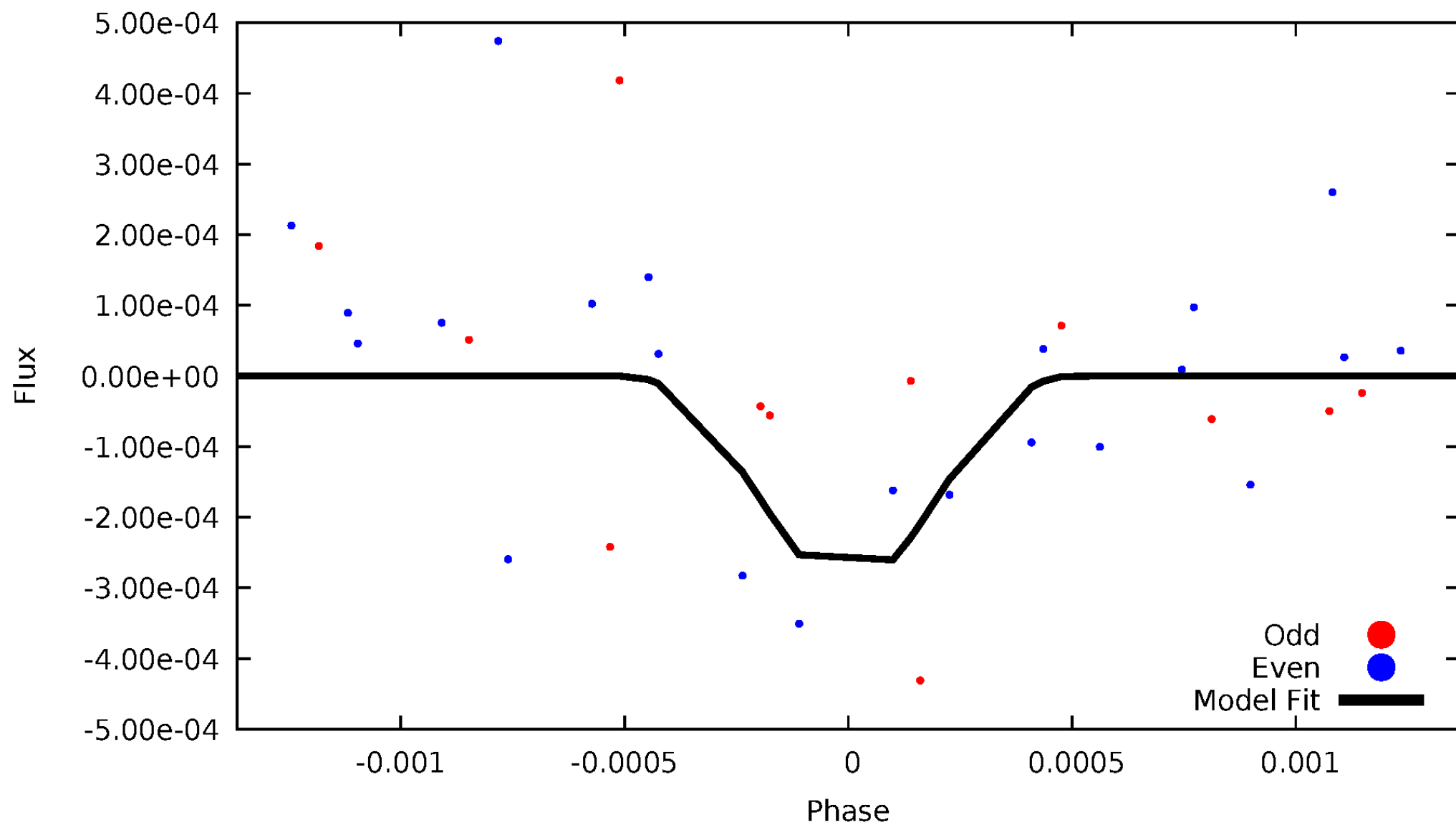


TCE 005387183-04



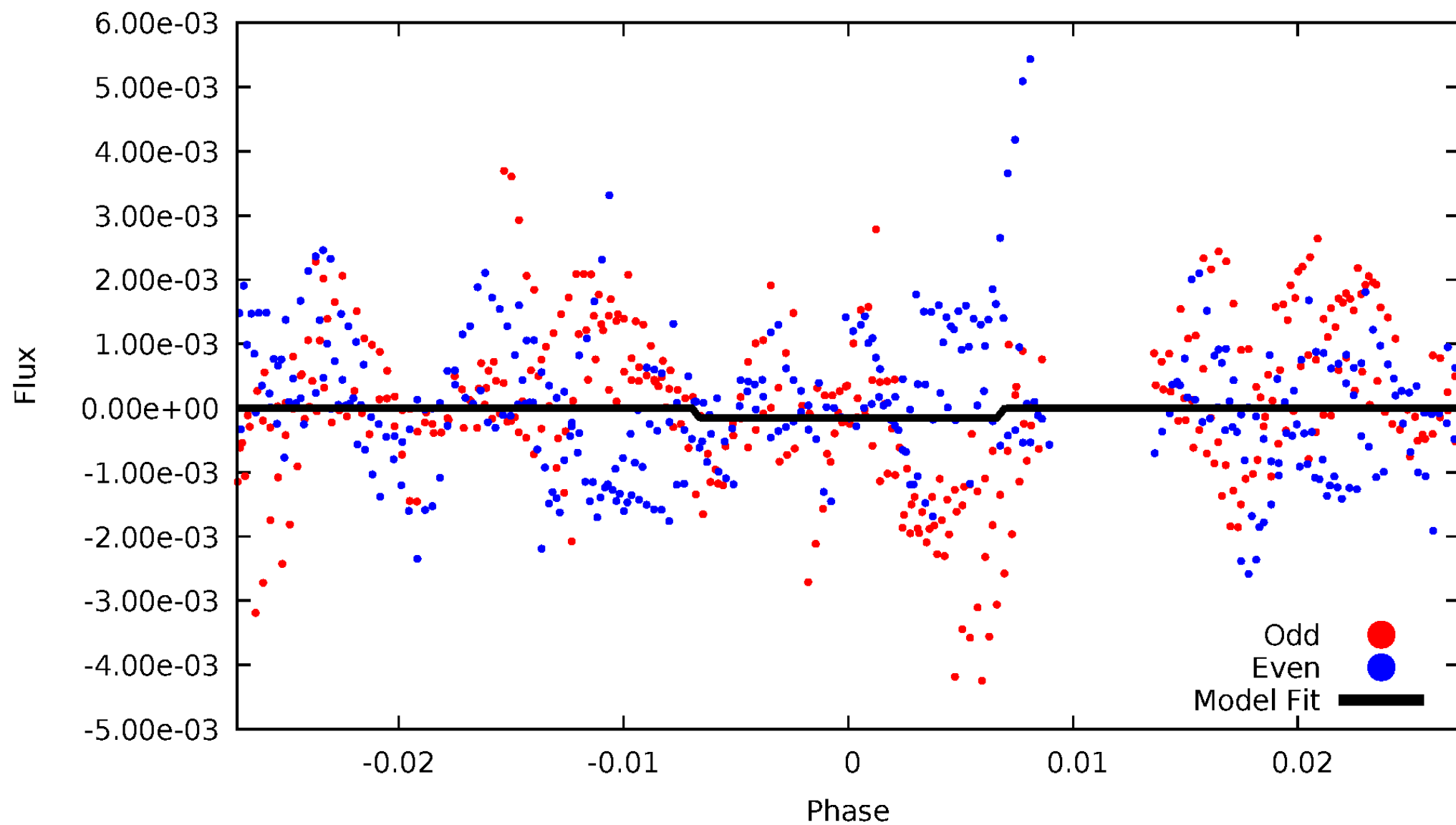
DV Odd/Even

TCE 005387183-04



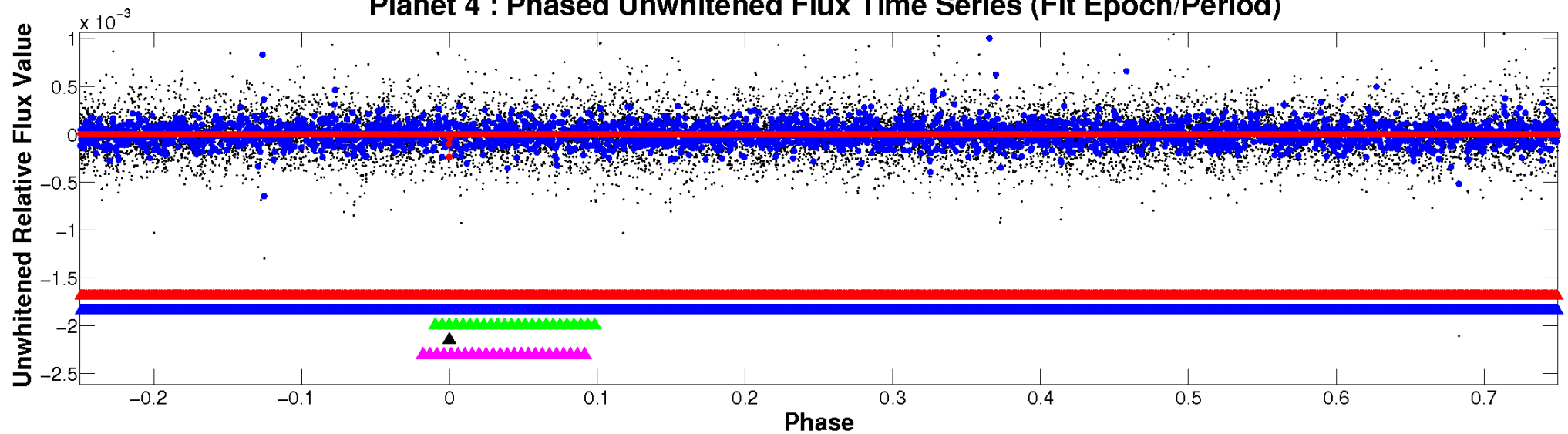
ALT Odd/Even

TCE 005387183-04

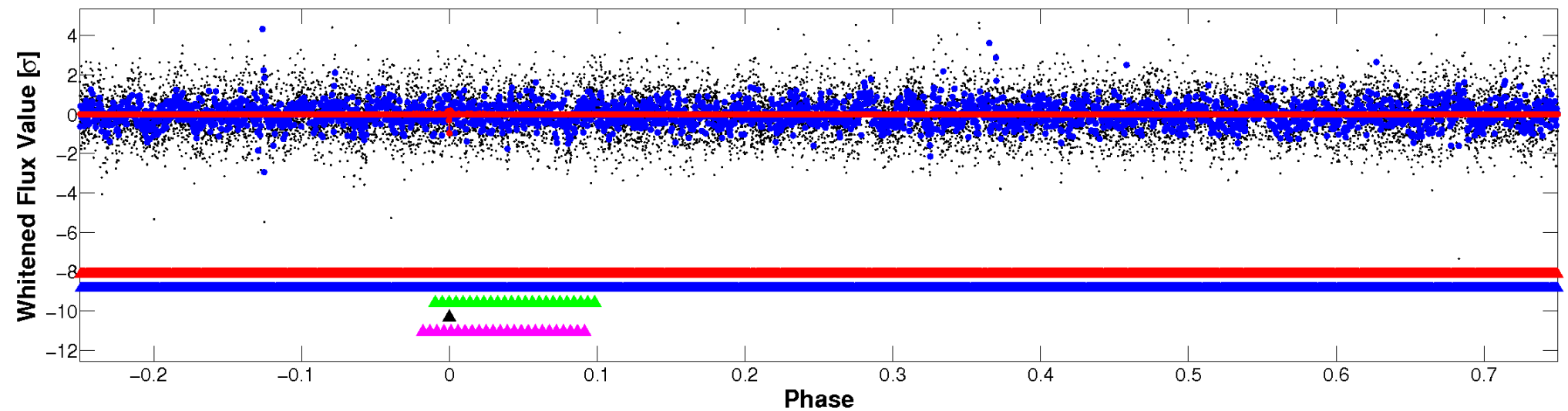


Non-Whitened Vs. Whitened Light Curve

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

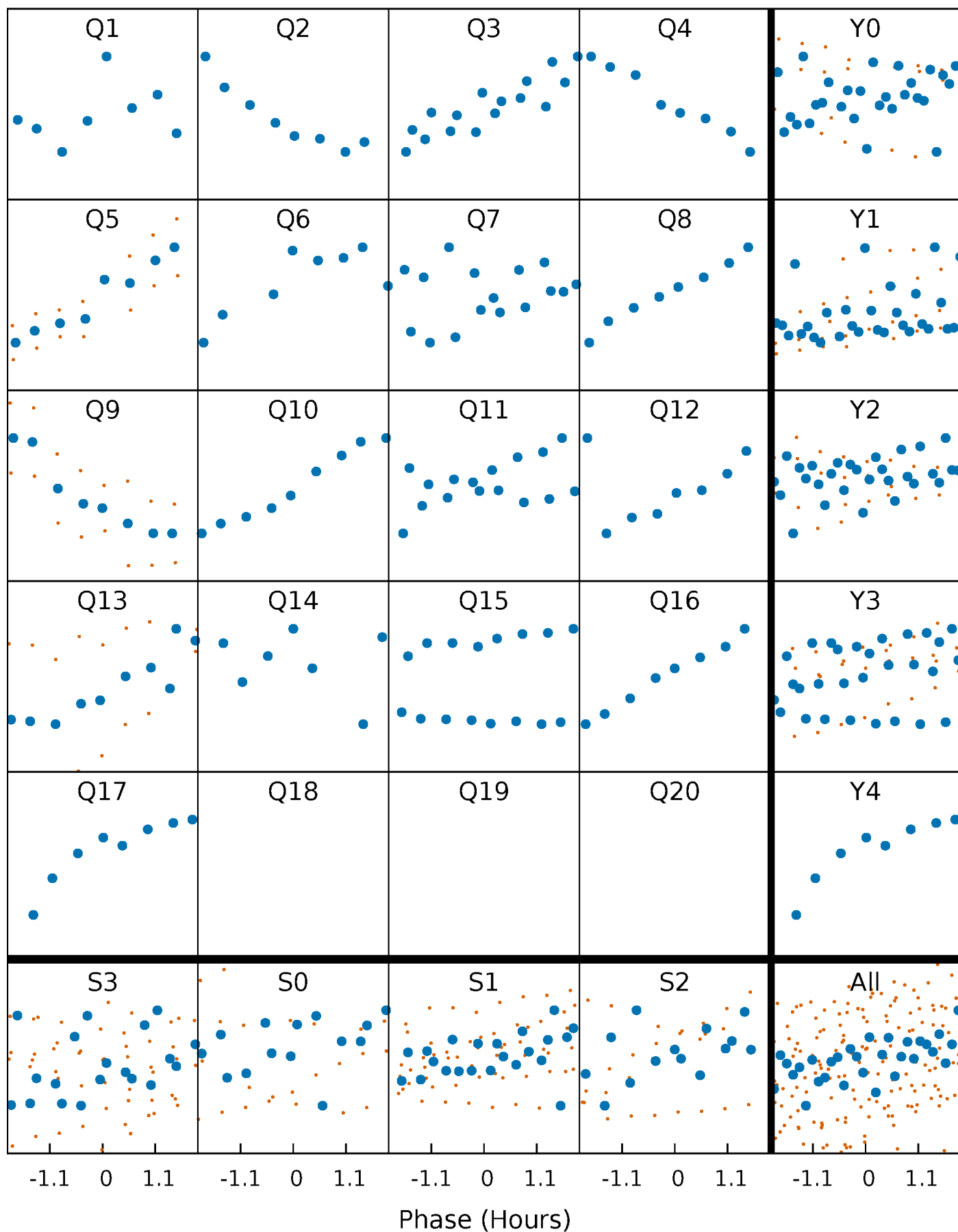


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



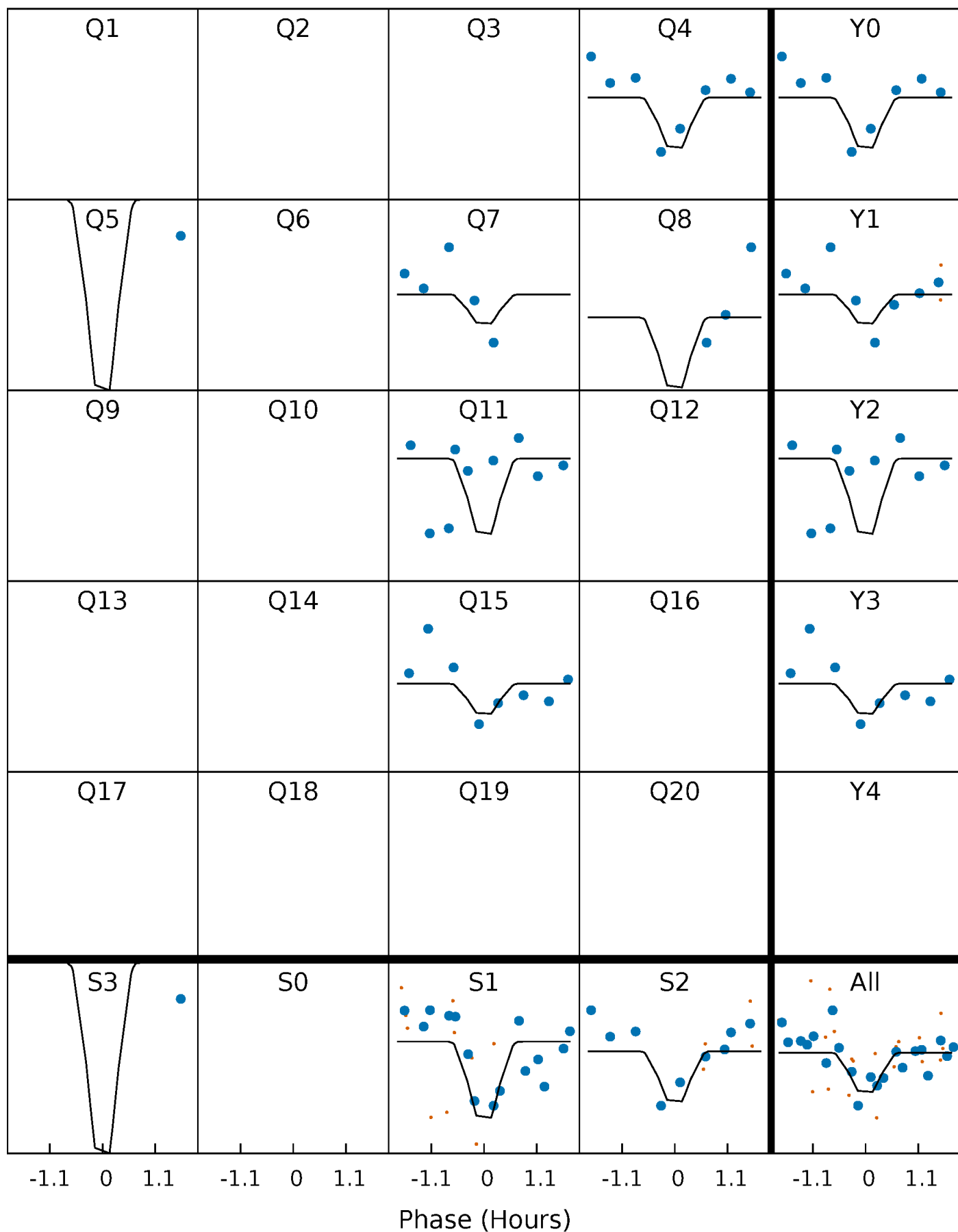
PDC Quarter-Phased Transit Curves

TCE 005387183-04 P= 60.793629 Days $T_0=164.835711$ (BKJD)



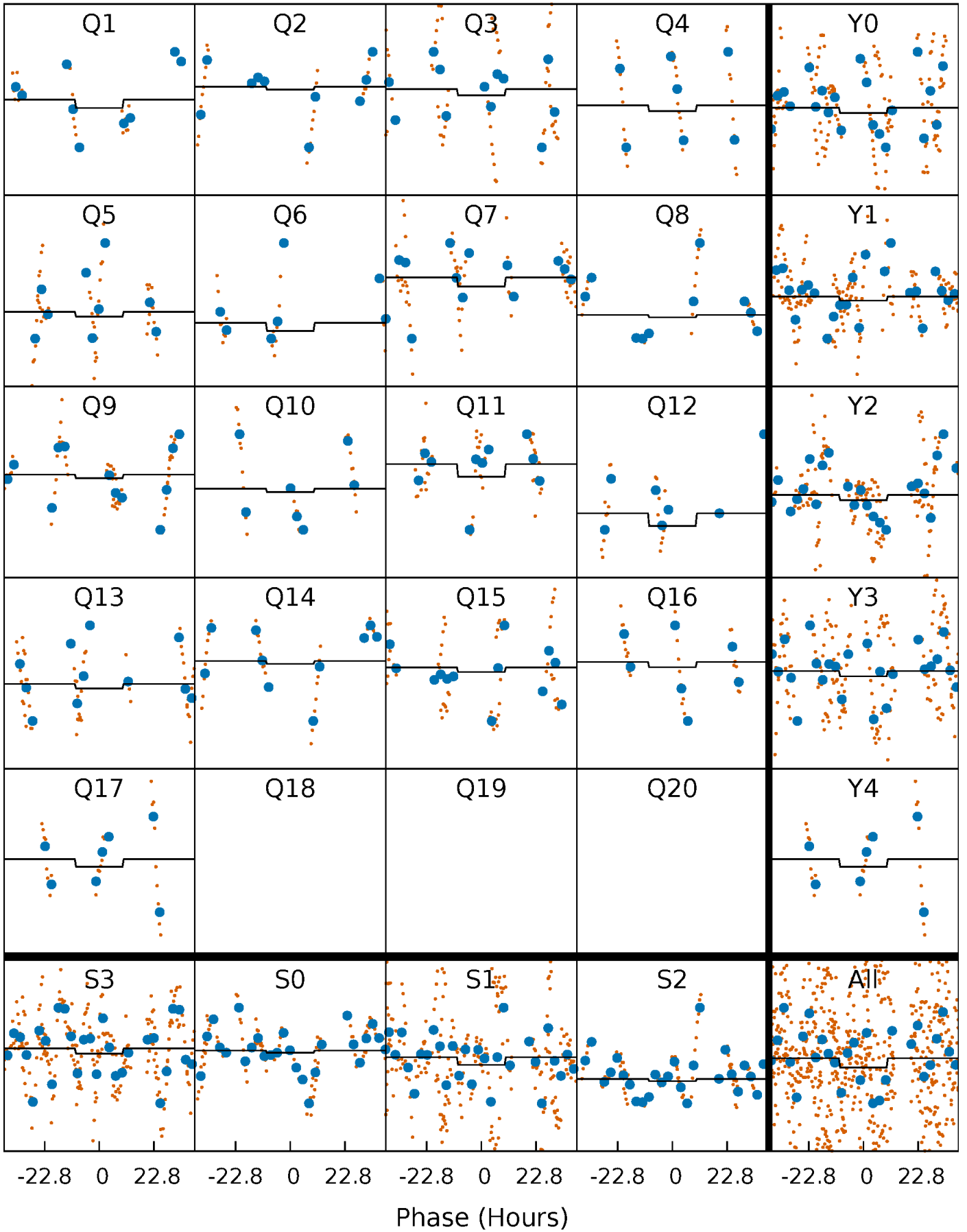
DV Quarter-Phased Transit Curves

TCE 005387183-04 P= 60.793629 Days $T_0=164.835711$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

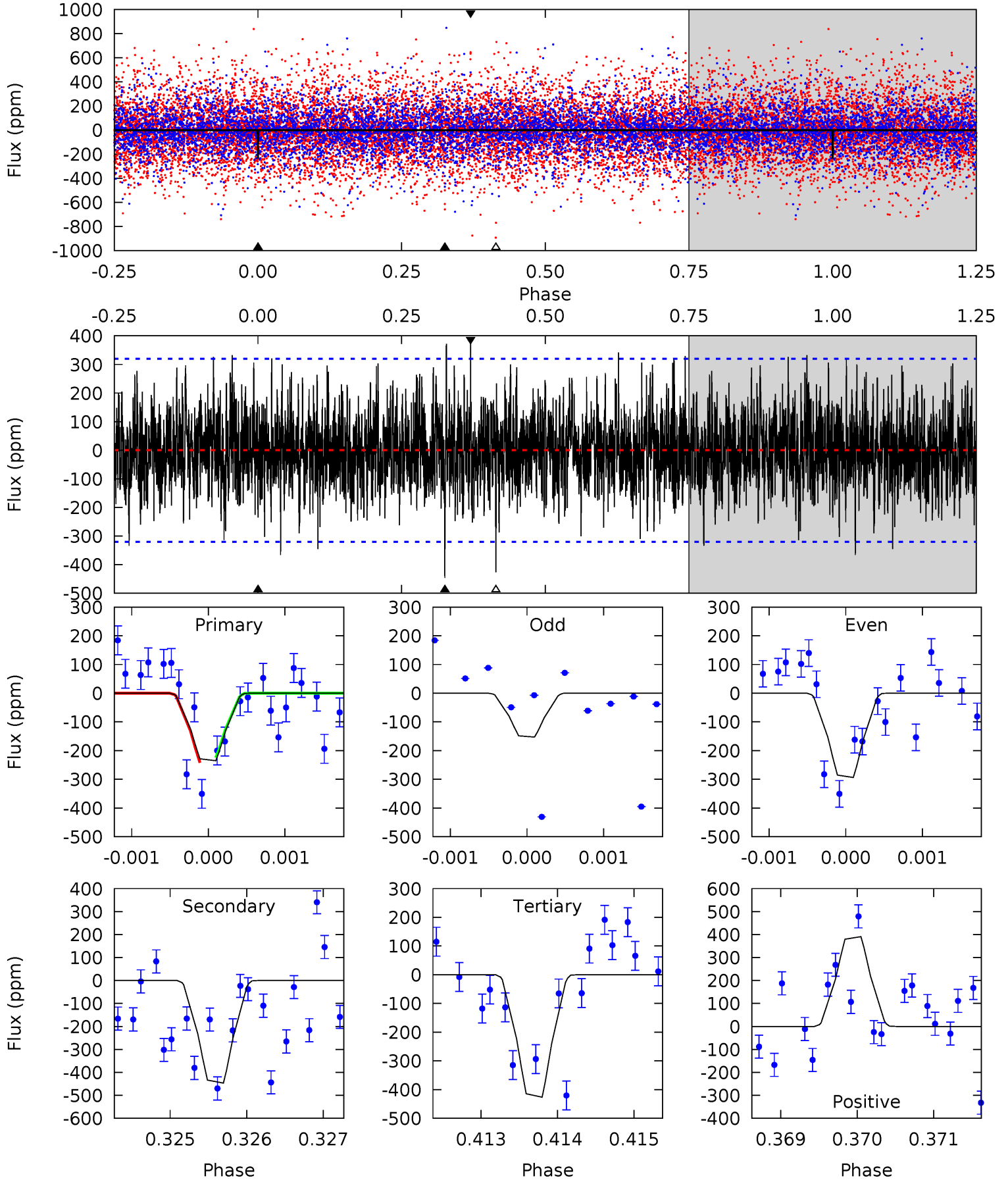
TCE 005387183-04 P= 61.077662 Days $T_0=163.590045$ (BKJD)



DV Model-Shift Uniqueness Test

005387183-04, P = 60.793629 Days, E = 104.042082 Days

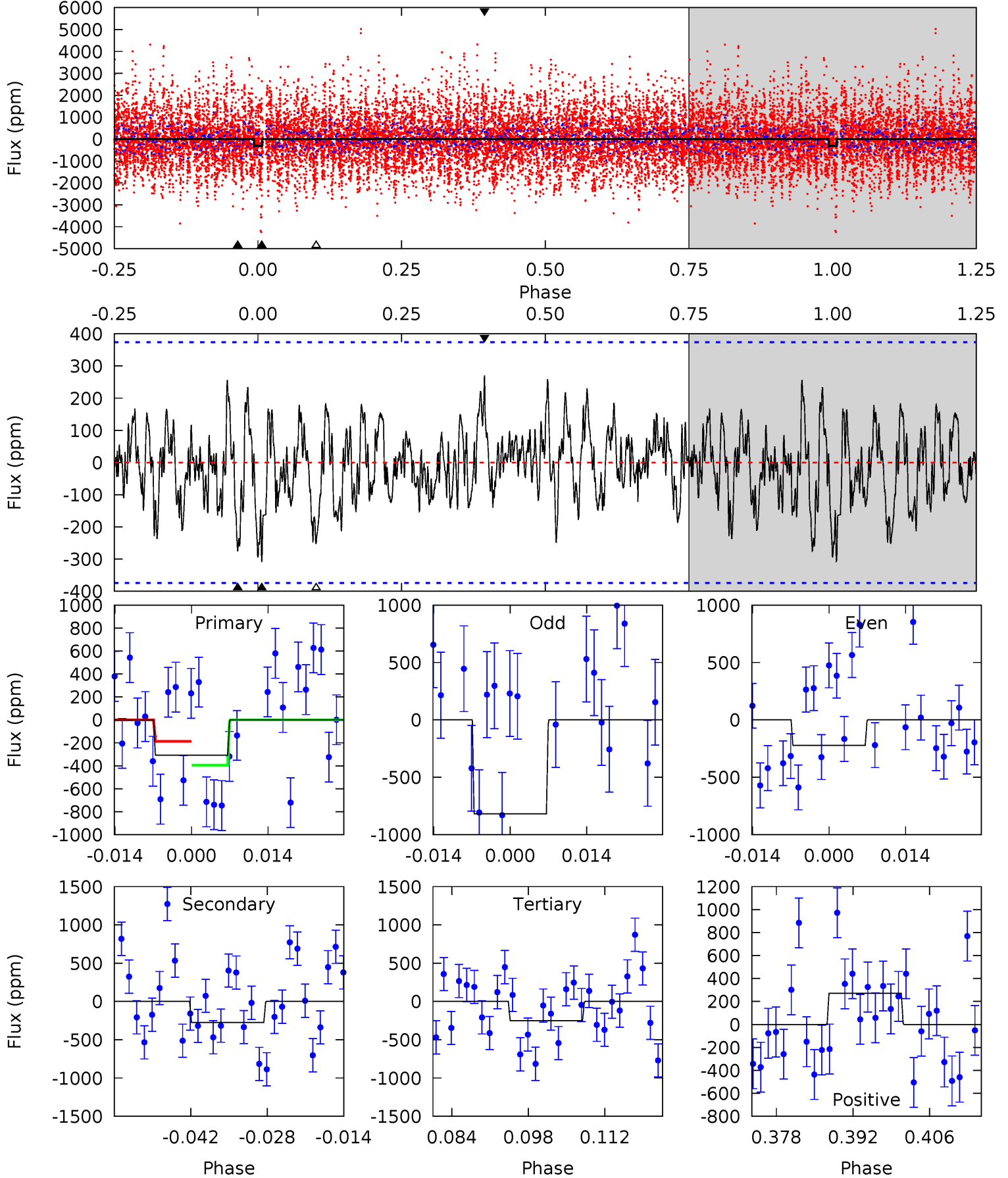
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.01	7.61	7.27	6.66	5.45	3.29	1.73	-3.26	-2.65	0.34	0.95	1.17	0.83	0.47	0.15



Alt Model-Shift Uniqueness Test

005387183-04, P = 61.077662 Days, E = 102.512383 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.07	3.66	3.34	3.59	4.96	2.46	1.22	0.73	0.48	0.32	0.06	3.96	27.7	0.47	1.37



Stellar Parameters For KIC 005387183

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6647^{+158}_{-218}	$4.474^{+0.037}_{-0.213}$	$-0.500^{+0.300}_{-0.300}$	$0.994^{+0.314}_{-0.078}$	$1.088^{+0.138}_{-0.138}$	$1.559^{+0.323}_{-0.824}$
	+2%/-3%	+1%/-5%	+60%/-60%	+32%/-8%	+13%/-13%	+21%/-53%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005387183-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-447 ± 59	$70.74^{+83.43}_{-51.62}$	750^{+53}_{-35}	2163^{+846}_{-362}	$4.530^{+62.828}_{-3.550}$
Alt.	-276 ± 75	$69.60^{+85.02}_{-48.16}$	751^{+52}_{-35}	2055^{+707}_{-394}	$2.985^{+29.972}_{-2.398}$

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

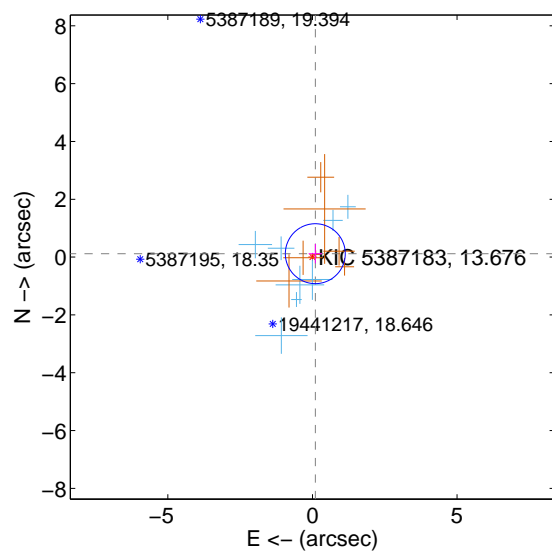
Supplemental centroid analysis for 005387183-04. Kepler magnitude: 13.68. Transit SNR 2.35

There are 8 quarters with good PRF difference image offsets

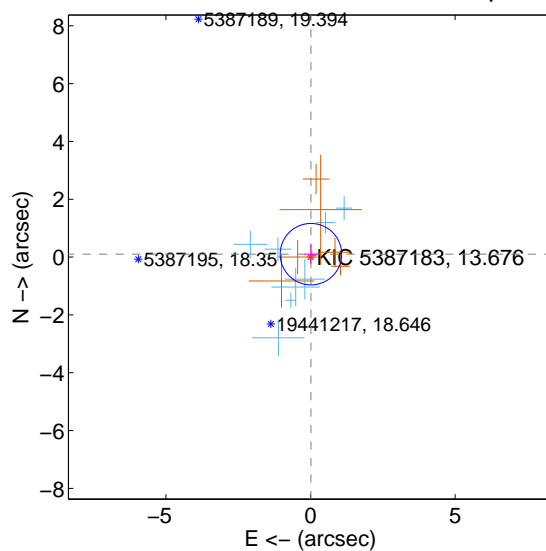
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.154 ± 0.345	0.45	-0.099 ± 0.232	0.118 ± 0.335
PRF-fit source offset from KIC position	0.102 ± 0.354	0.29	-0.014 ± 0.242	0.101 ± 0.342
photometric centroid source offset	1.22 ± 1.92	0.63	0.49 ± 2.03	1.12 ± 1.90

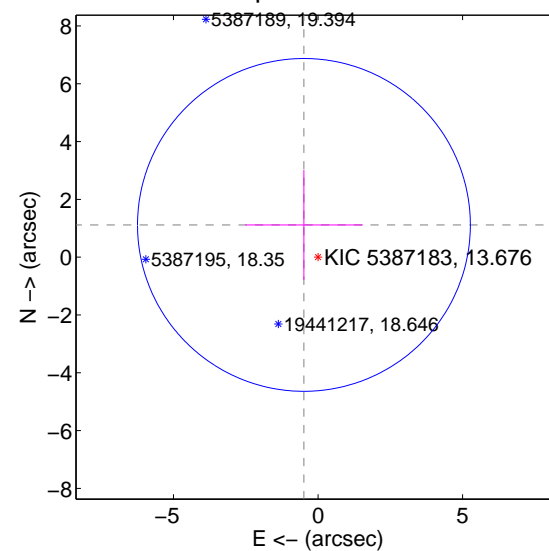
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

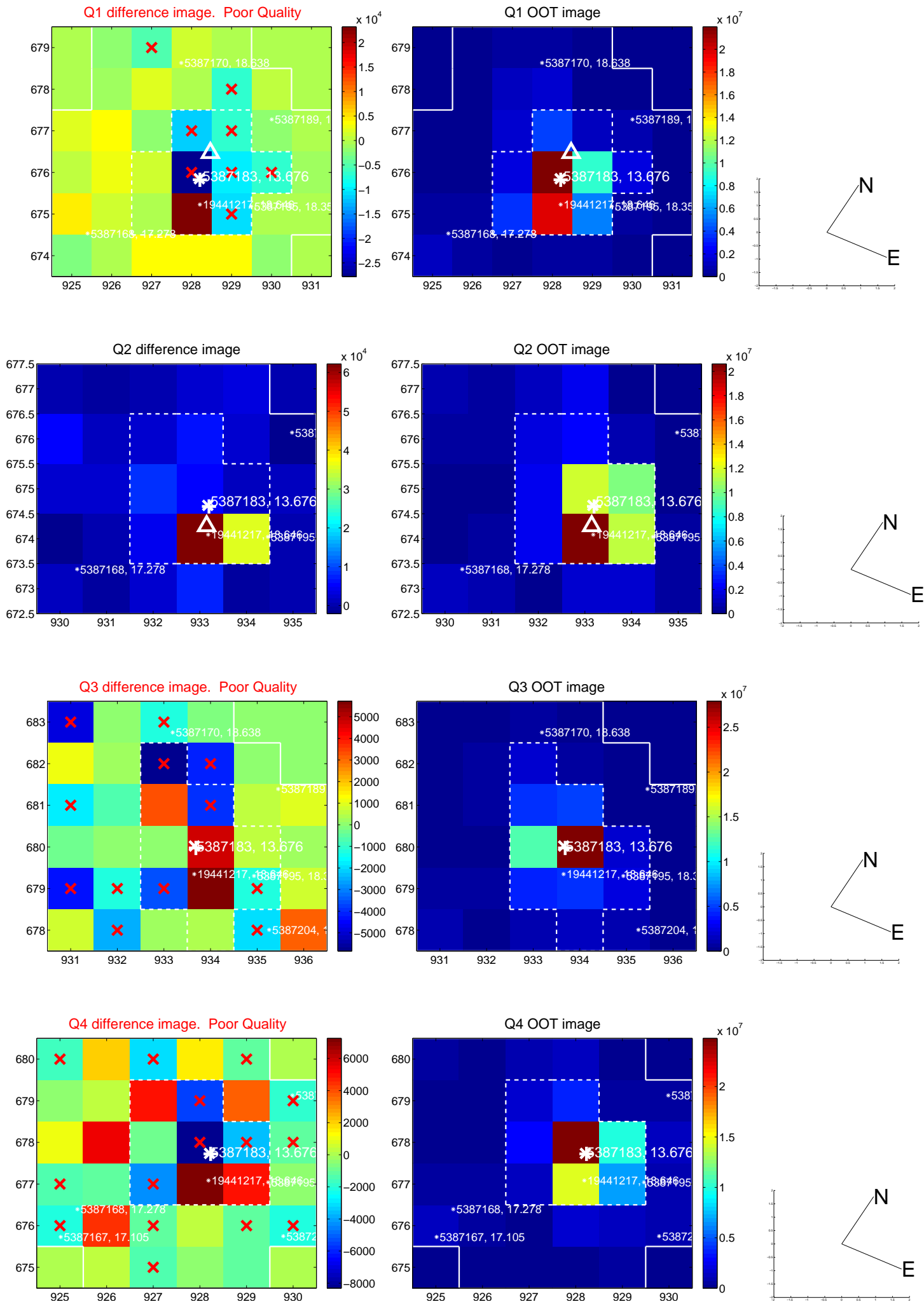


offset from photometric centroids

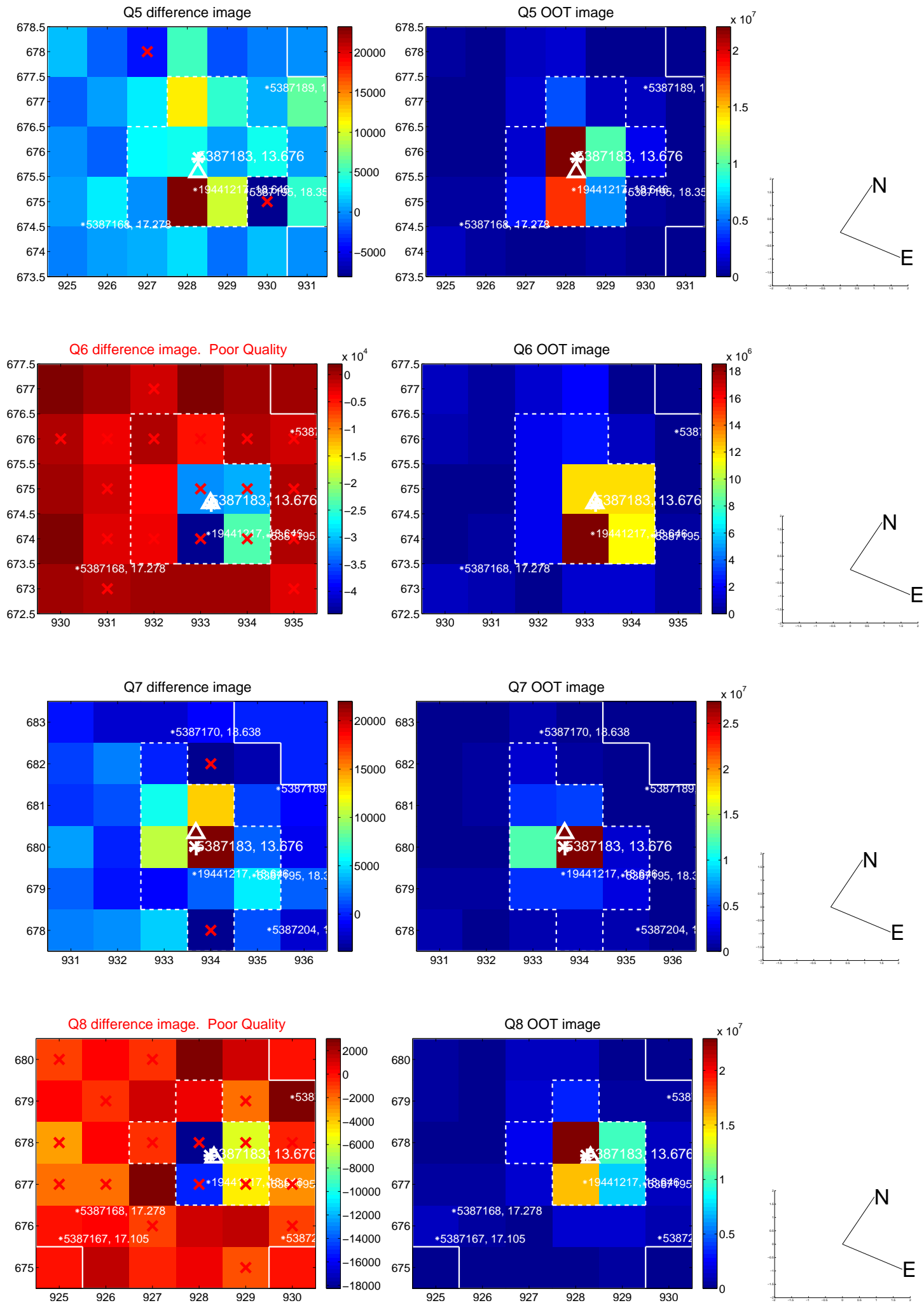


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

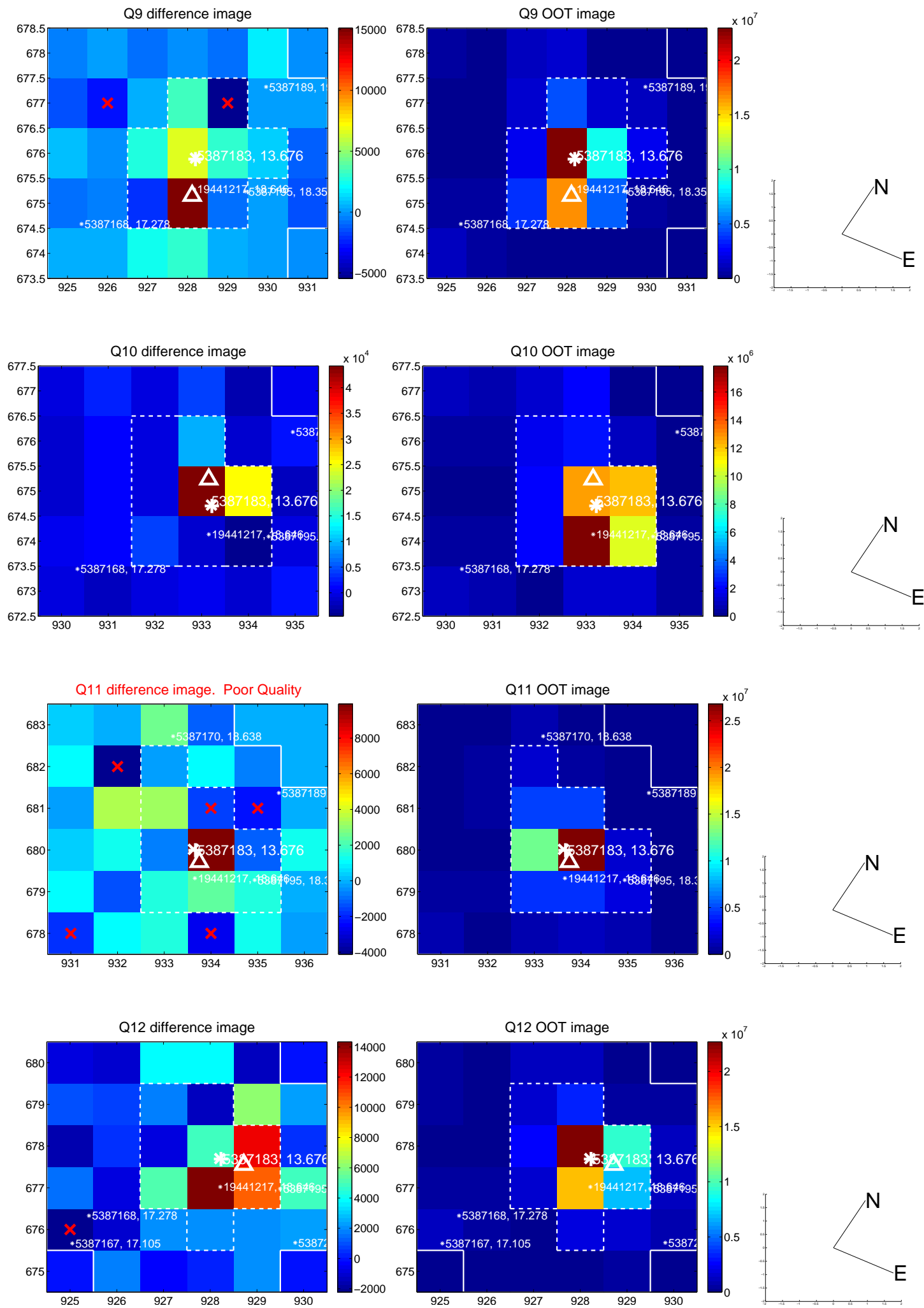
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



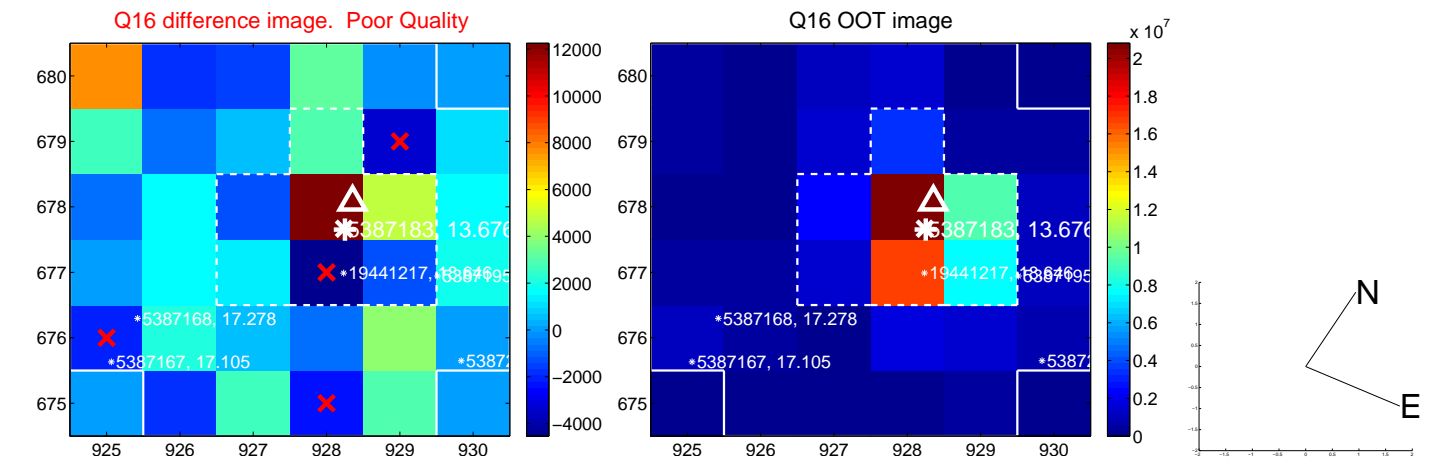
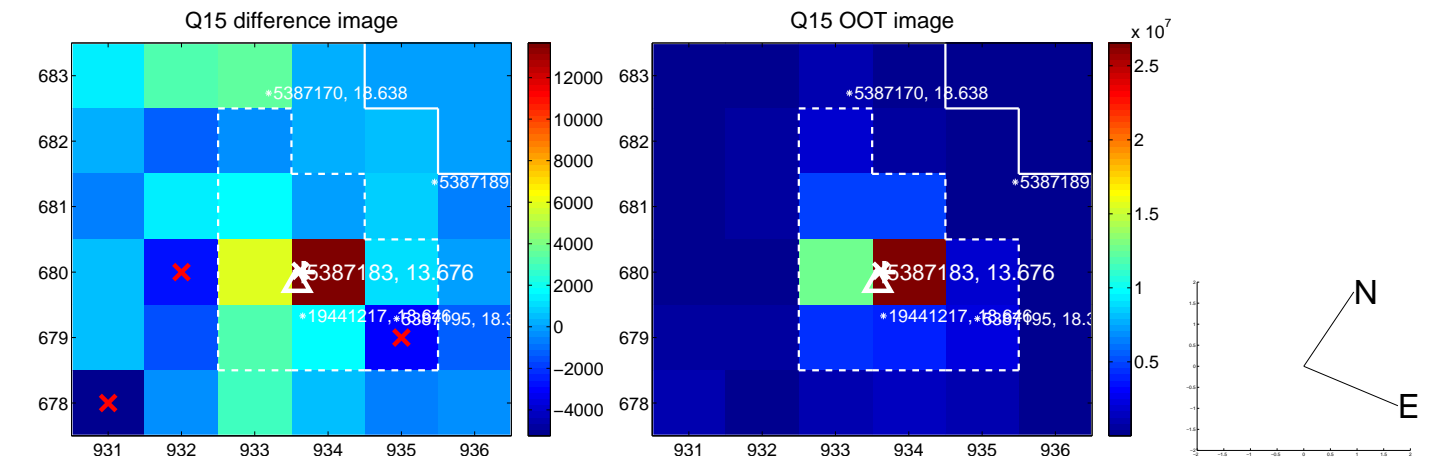
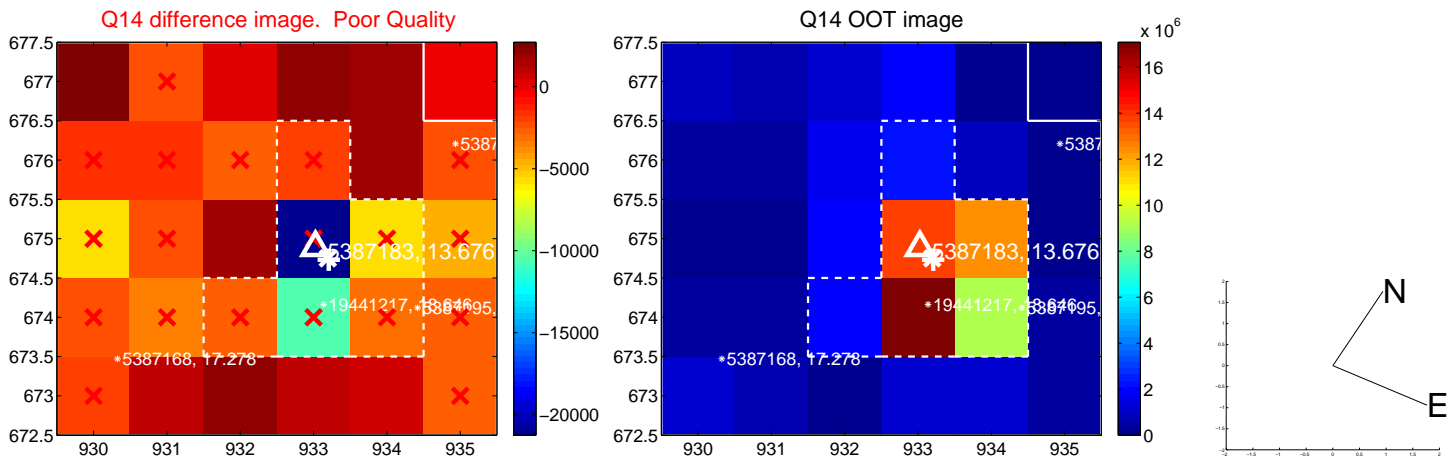
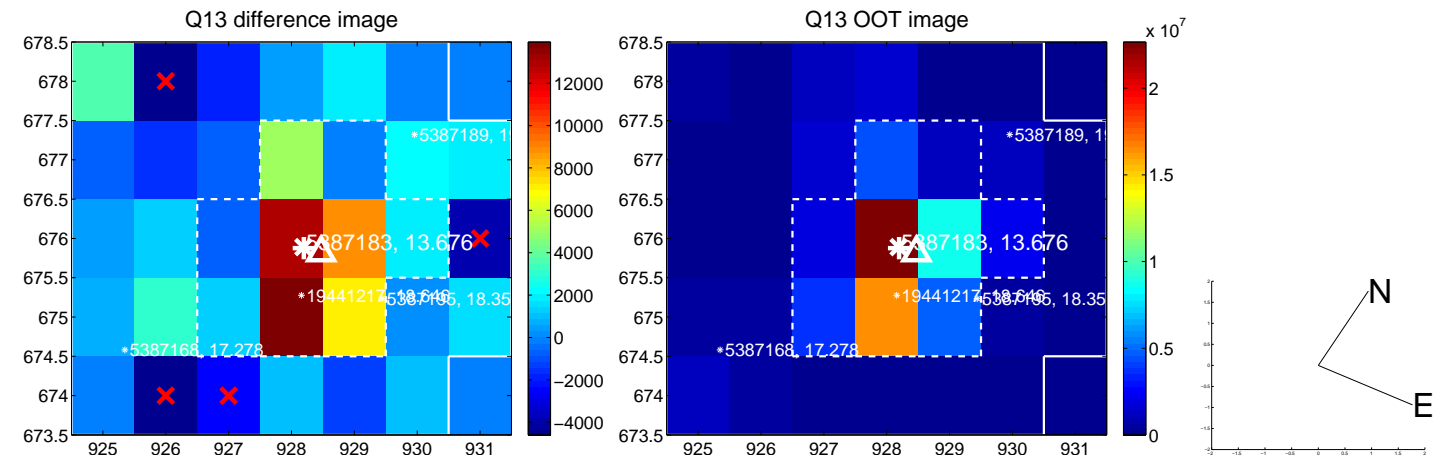
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



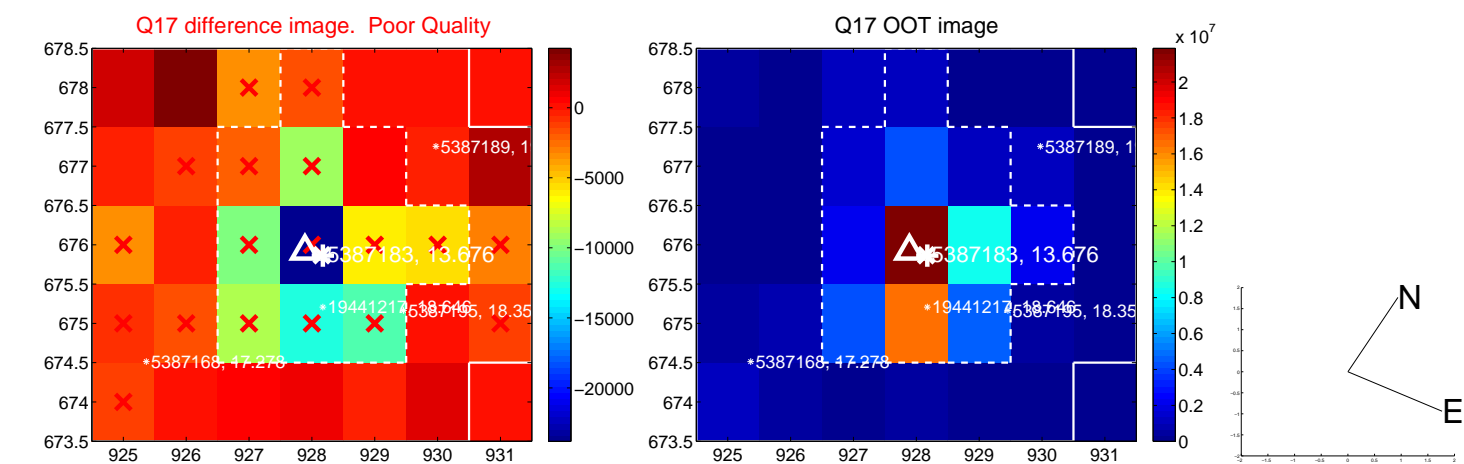
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



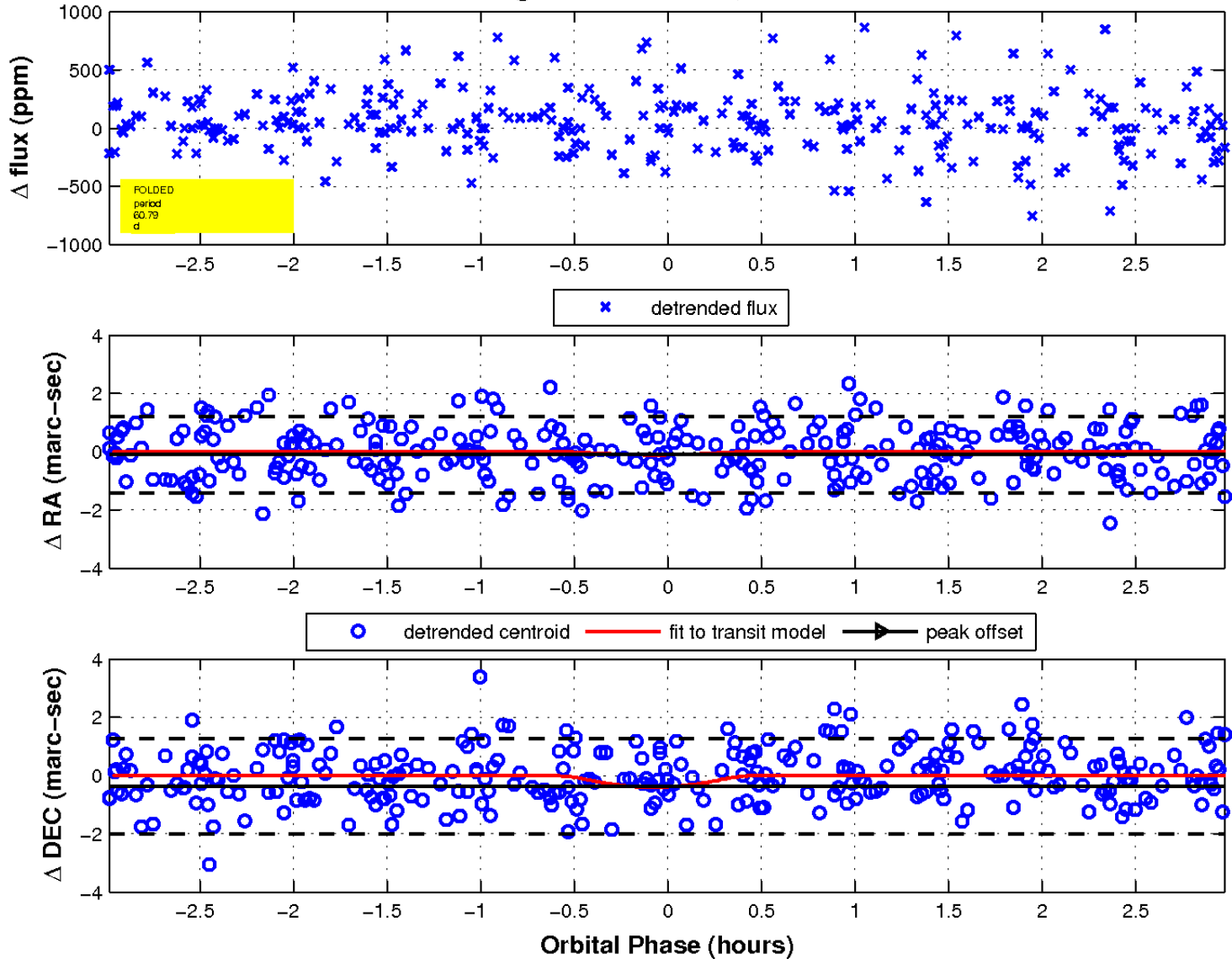
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

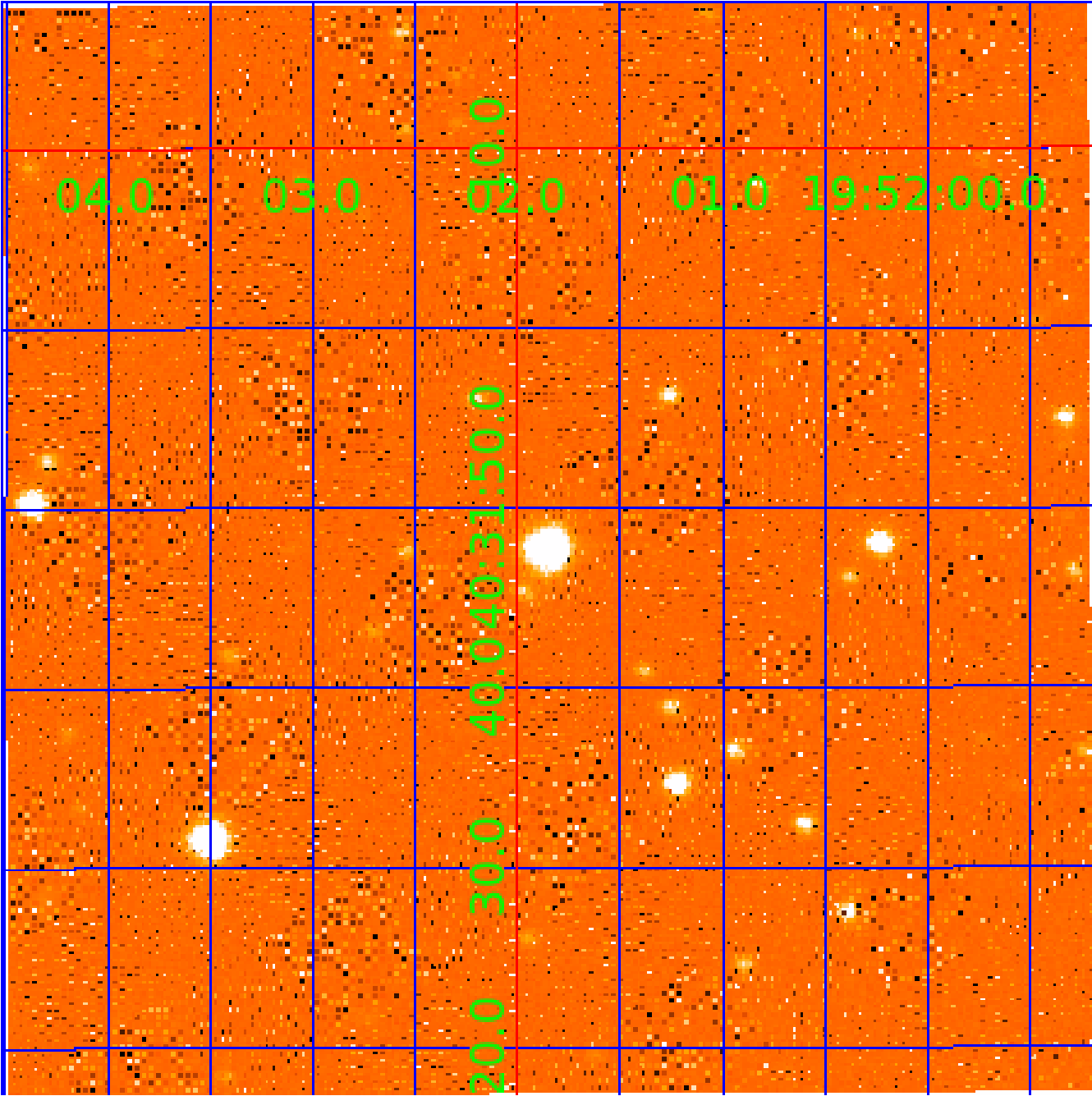


fluxWeightedCentroids, Planet 4 of 5



UKIRT Image

Declination



KIC 005387183

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})
005387183-01	OBS	No	0.952734	132.015022	337.2	3.500	10.3	-1.0	0.99	6647	1.84	4588.73
005387183-02	OBS	No	0.952740	132.339747	49.9	2.997	10.2	10.1	0.99	6647	0.73	4588.69
005387183-03	OBS	No	61.078651	164.258569	107.4	2.071	8.2	1.2	0.99	6647	1.06	17.88
005387183-04	OBS	No	60.793629	164.835711	295.2	0.996	8.6	2.3	0.99	6647	2.74	18.00
005387183-05	OBS	No	61.082615	163.748198	489.5	7.171	8.5	6.9	0.99	6647	2.40	17.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005387183-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
005387183-02	OBS	FP	0.00	1	0	0	0	LPP_DV—SAME_NTL_PERIOD
005387183-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005387183-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005387183-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—HALO_GHOST

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

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

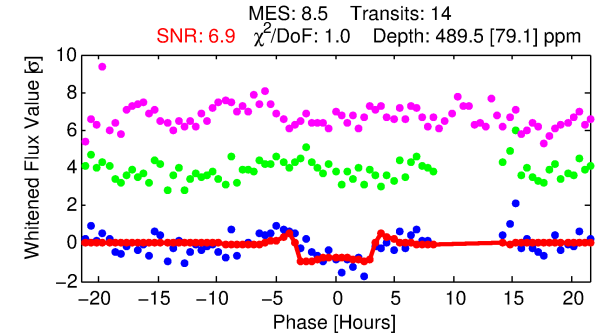
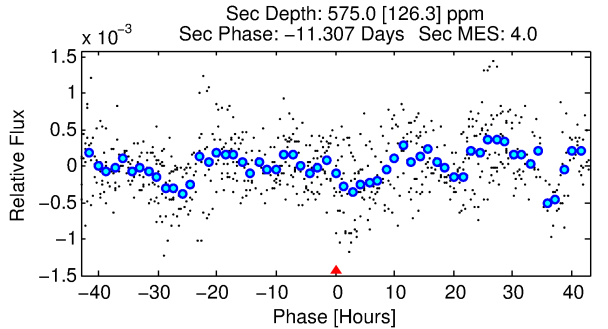
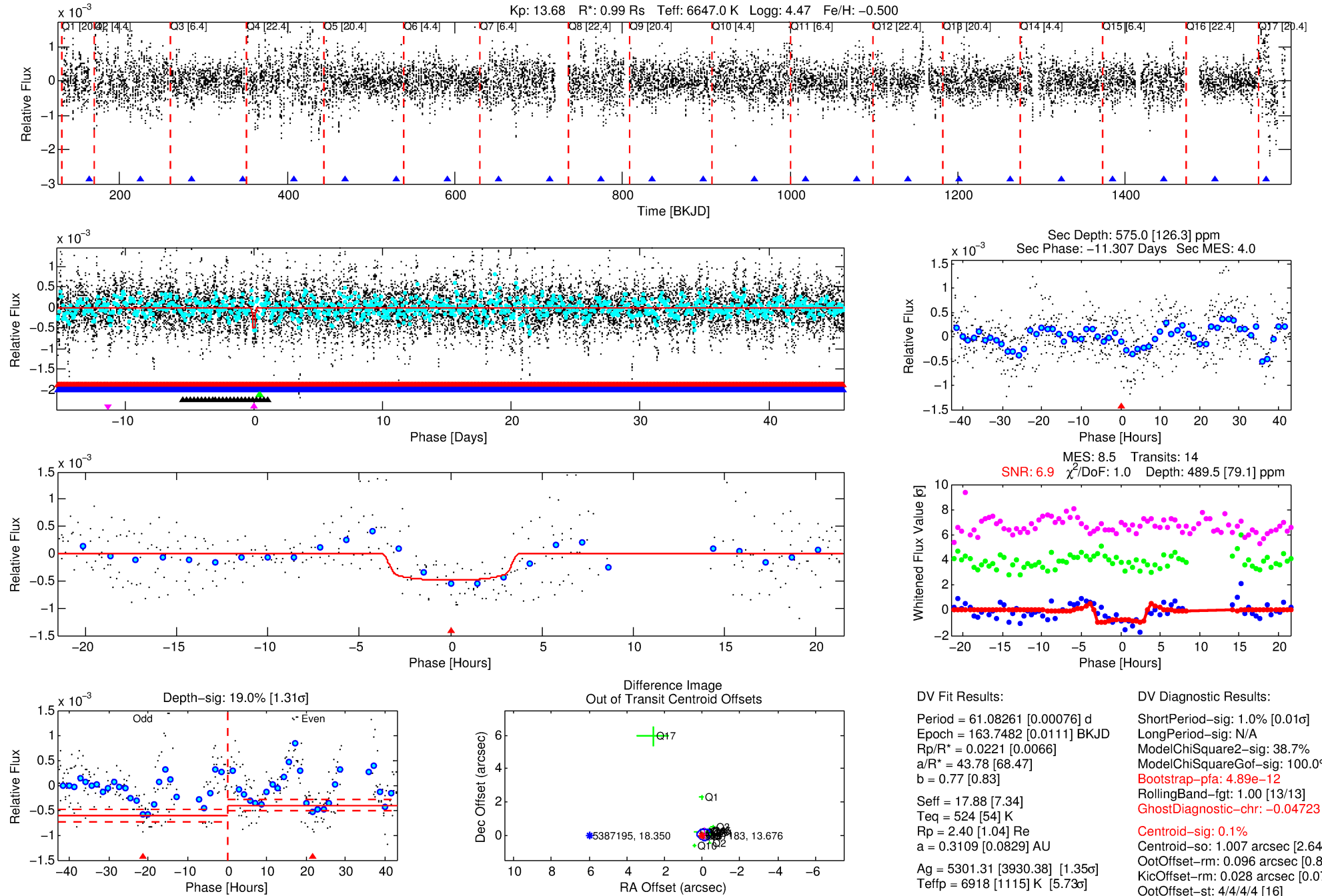
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005387183-05

No Significant Match Found

DV One-Page Summary

KIC: 5387183 Candidate: 5 of 5 Period: 61.083 d



DV Fit Results:

Period = 61.08261 [0.00076] d
Epoch = 163.7482 [0.0111] BKJD
Rp/R* = 0.0221 [0.0066]
a/R* = 43.78 [68.47]
b = 0.77 [0.83]
Seff = 17.88 [7.34]
Teq = 524 [54] K
Rp = 2.40 [1.04] Re
a = 0.3109 [0.0829] AU
Ag = 5301.31 [3930.38] [1.35 σ]
Teff = 6918 [1115] K [5.73 σ]

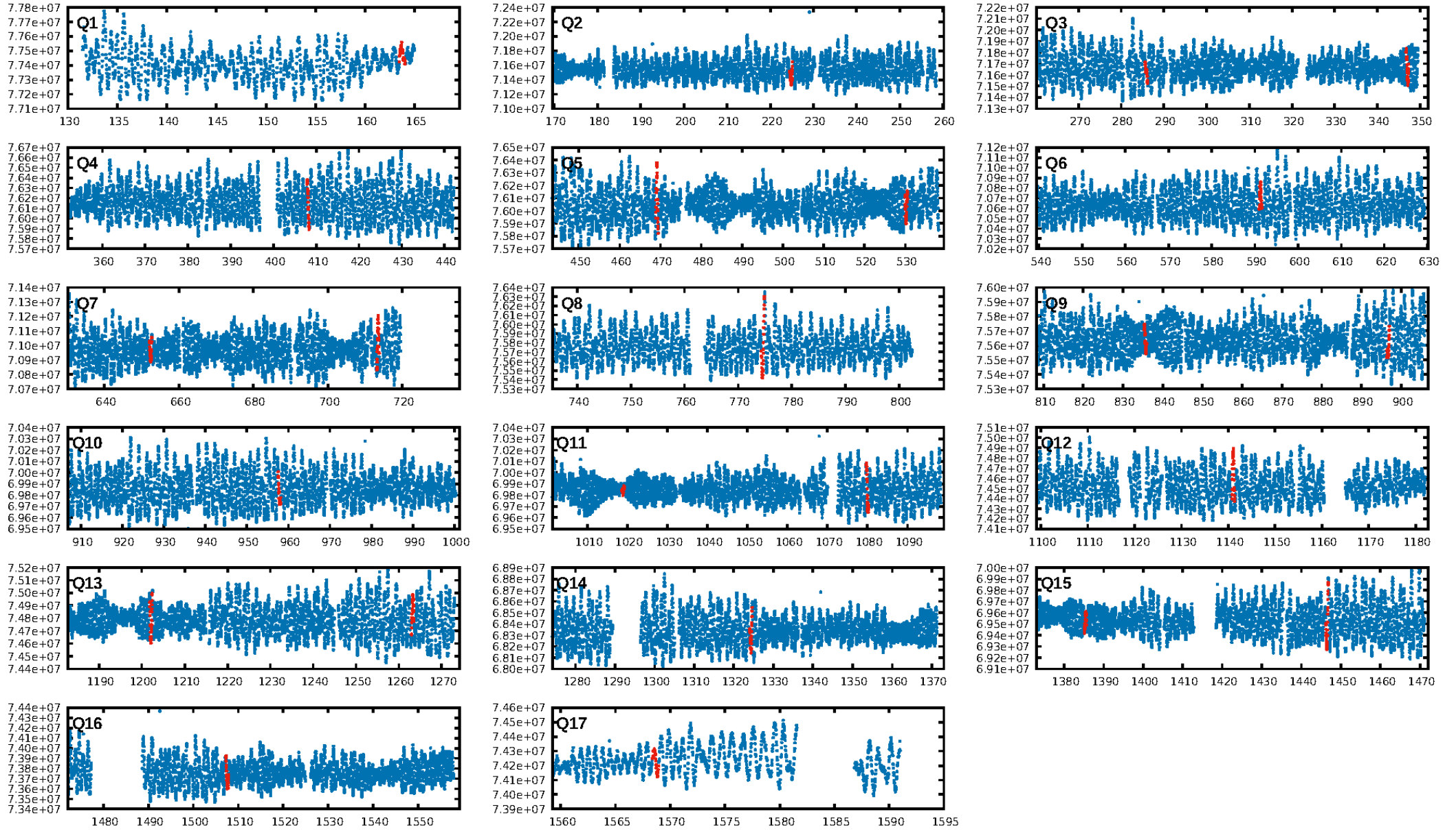
DV Diagnostic Results:

ShortPeriod-sig: 1.0% [0.01 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 38.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.89e-12
RollingBand-fgt: 1.00 [13/13]
GhostDiagnostic-chr: -0.04723
Centroid-sig: 0.1%
Centroid-so: 1.007 arcsec [2.64 σ]
OotOffset-rm: 0.096 arcsec [0.84 σ]
KicOffset-rm: 0.028 arcsec [0.07 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.56 [9/16]
DiffImageOverlap-fno: 0.00 [0/17]

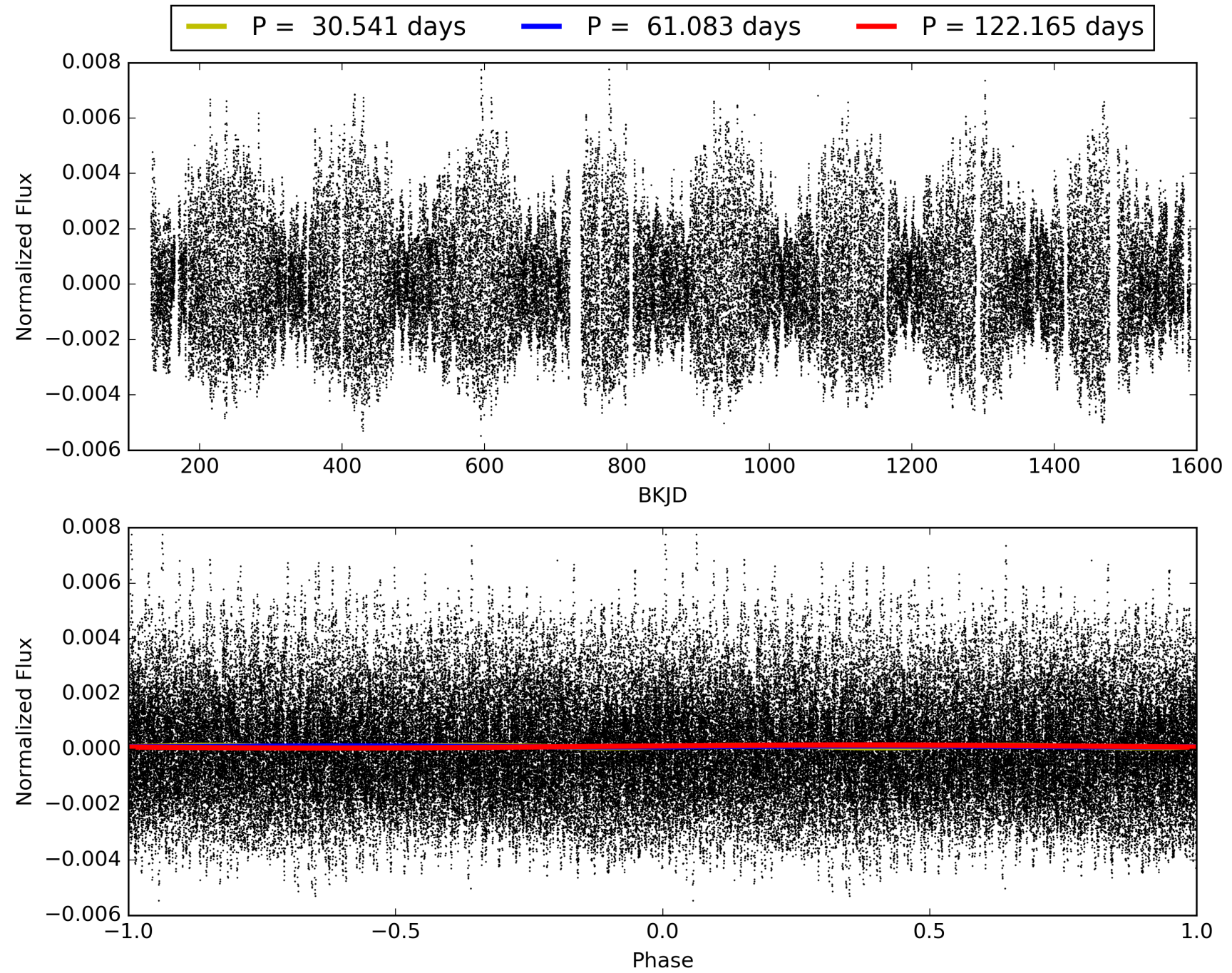
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:54:16 Z

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

TCE 005387183-05, PDC Light Curves

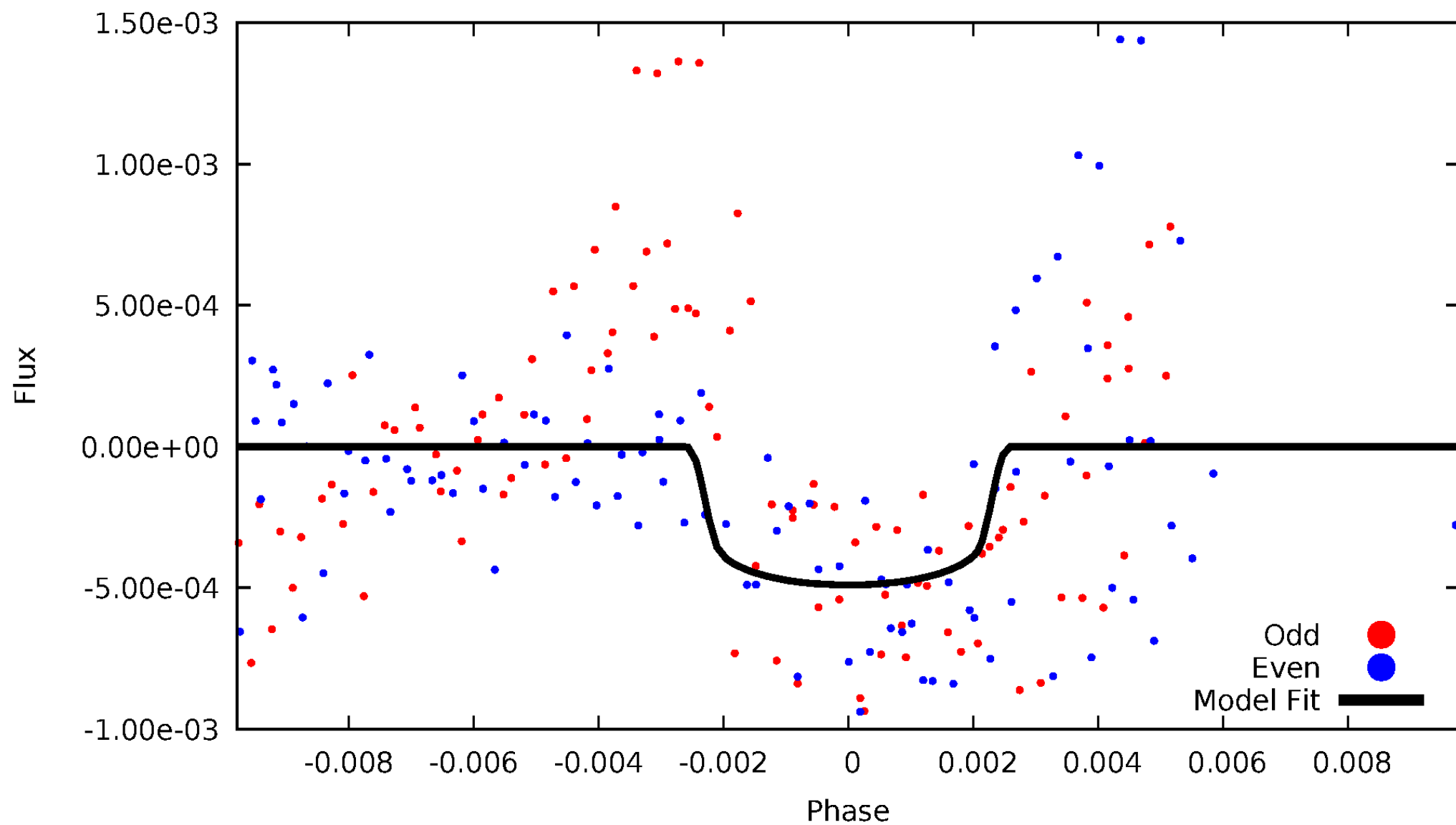


TCE 005387183-05



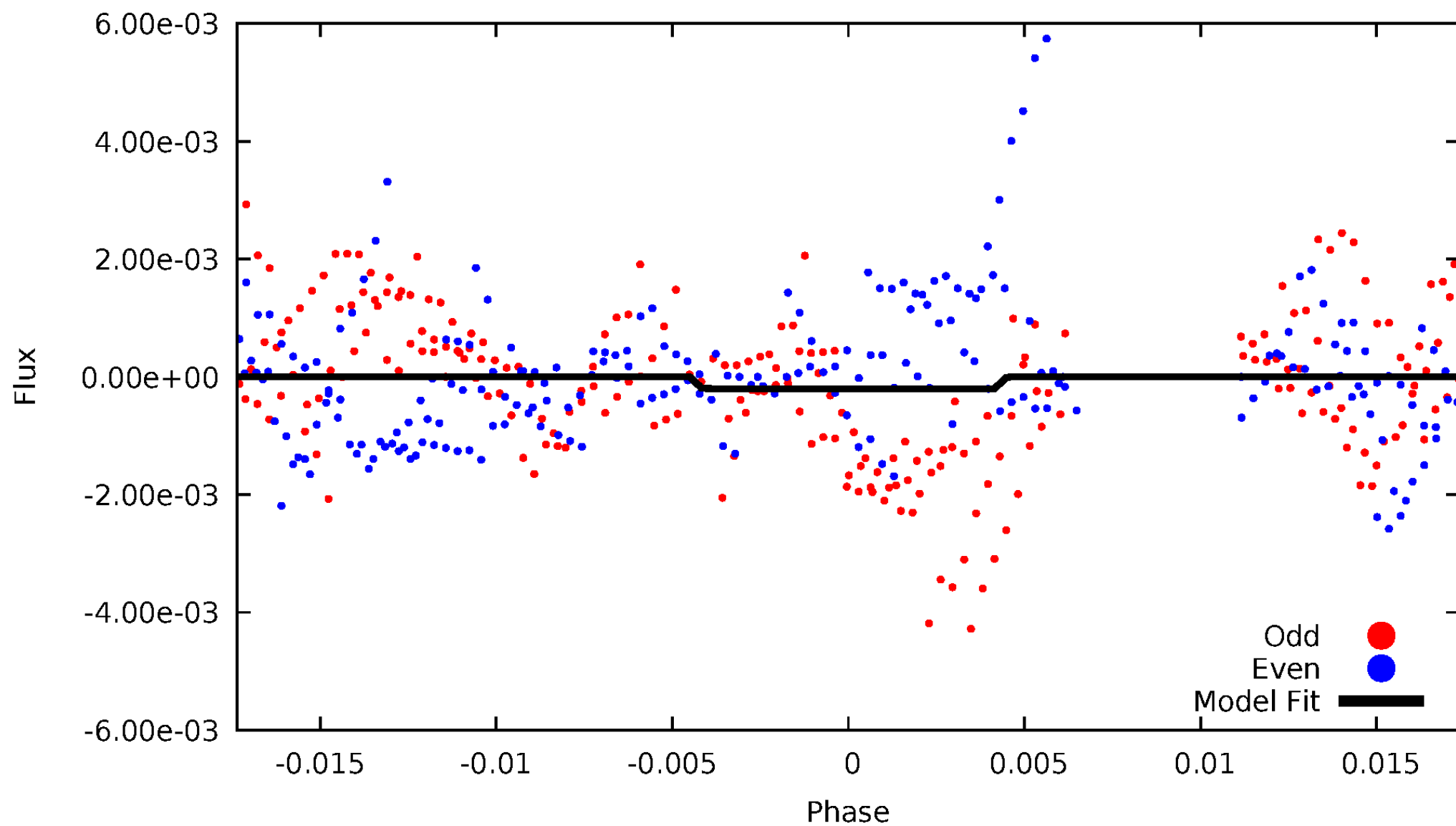
DV Odd/Even

TCE 005387183-05



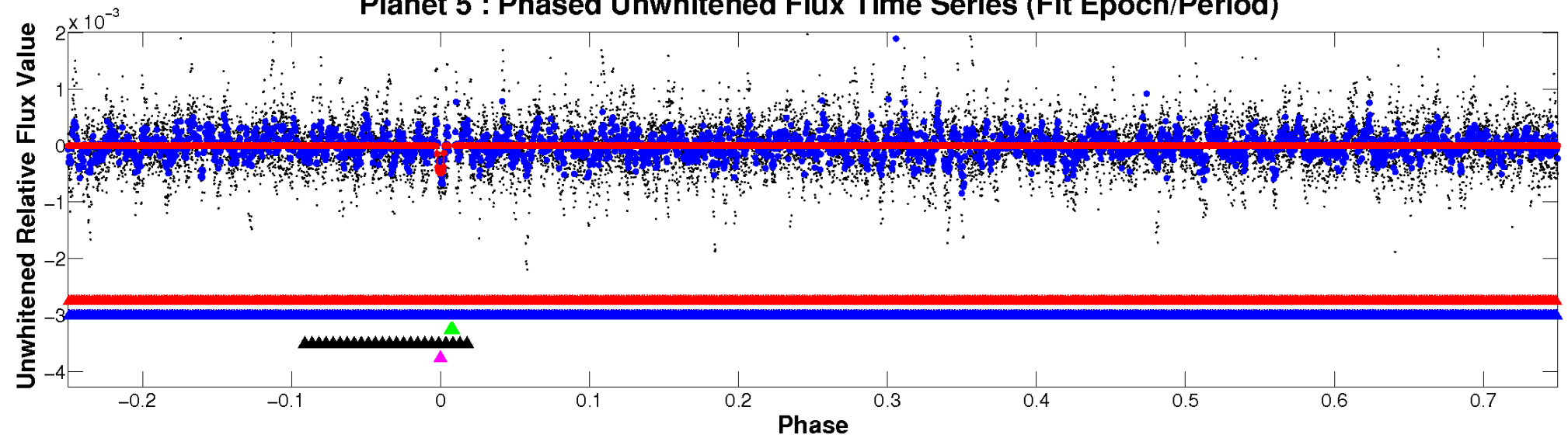
ALT Odd/Even

TCE 005387183-05

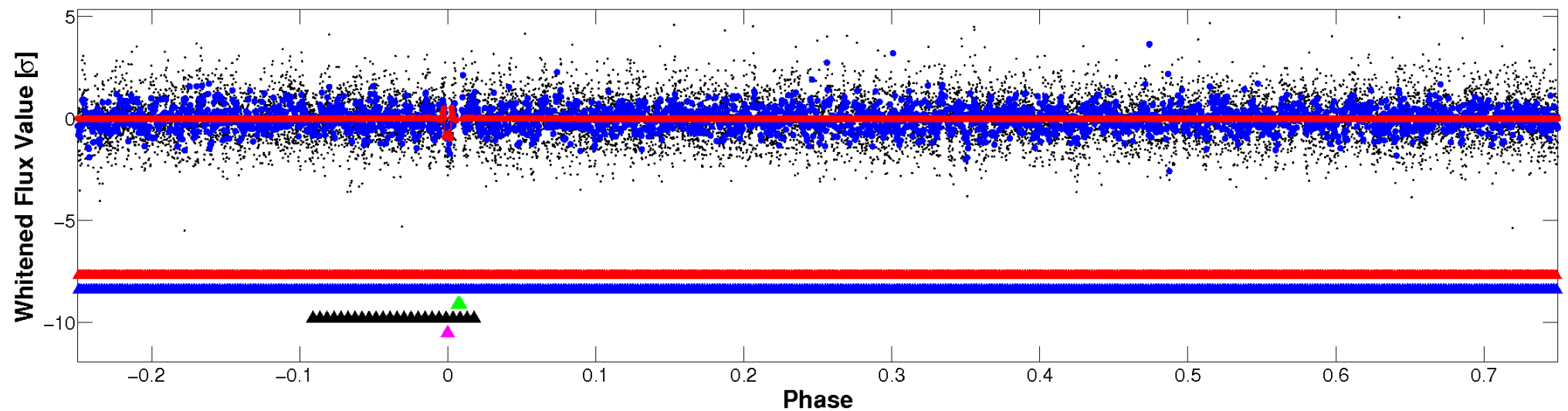


Non-Whitened Vs. Whitened Light Curve

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

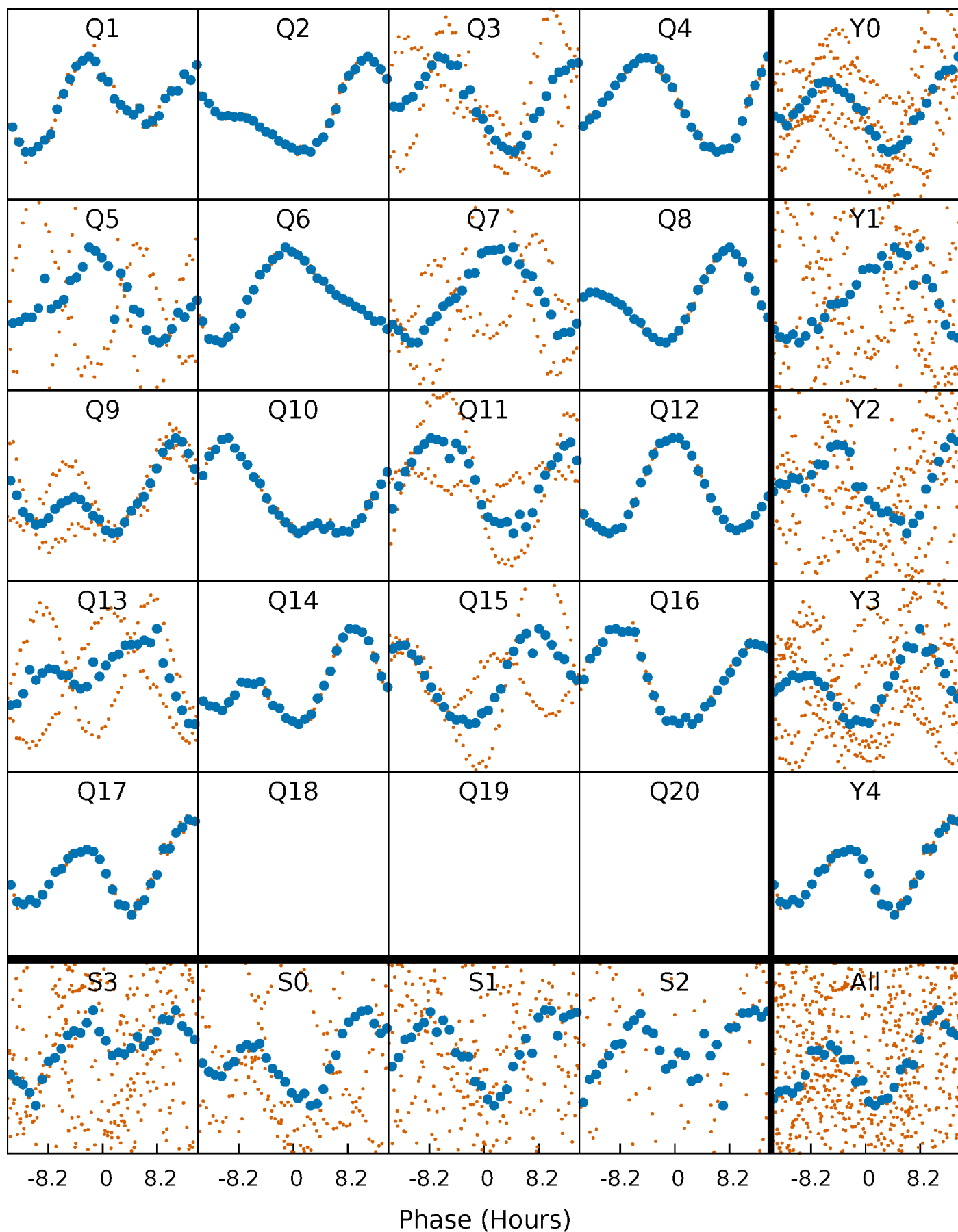


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



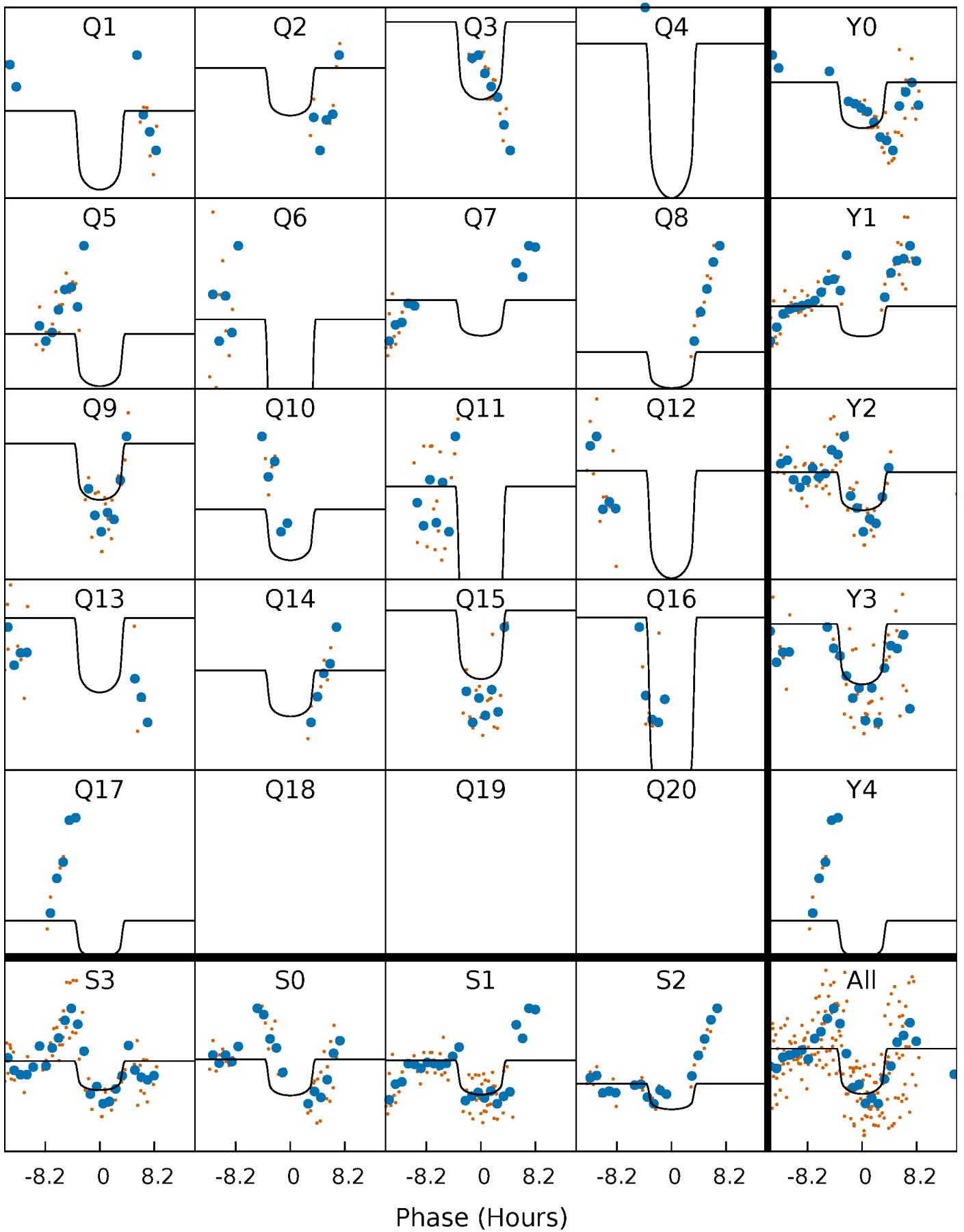
PDC Quarter-Phased Transit Curves

TCE 005387183-05 P= 61.082615 Days $T_0=163.748198$ (BKJD)



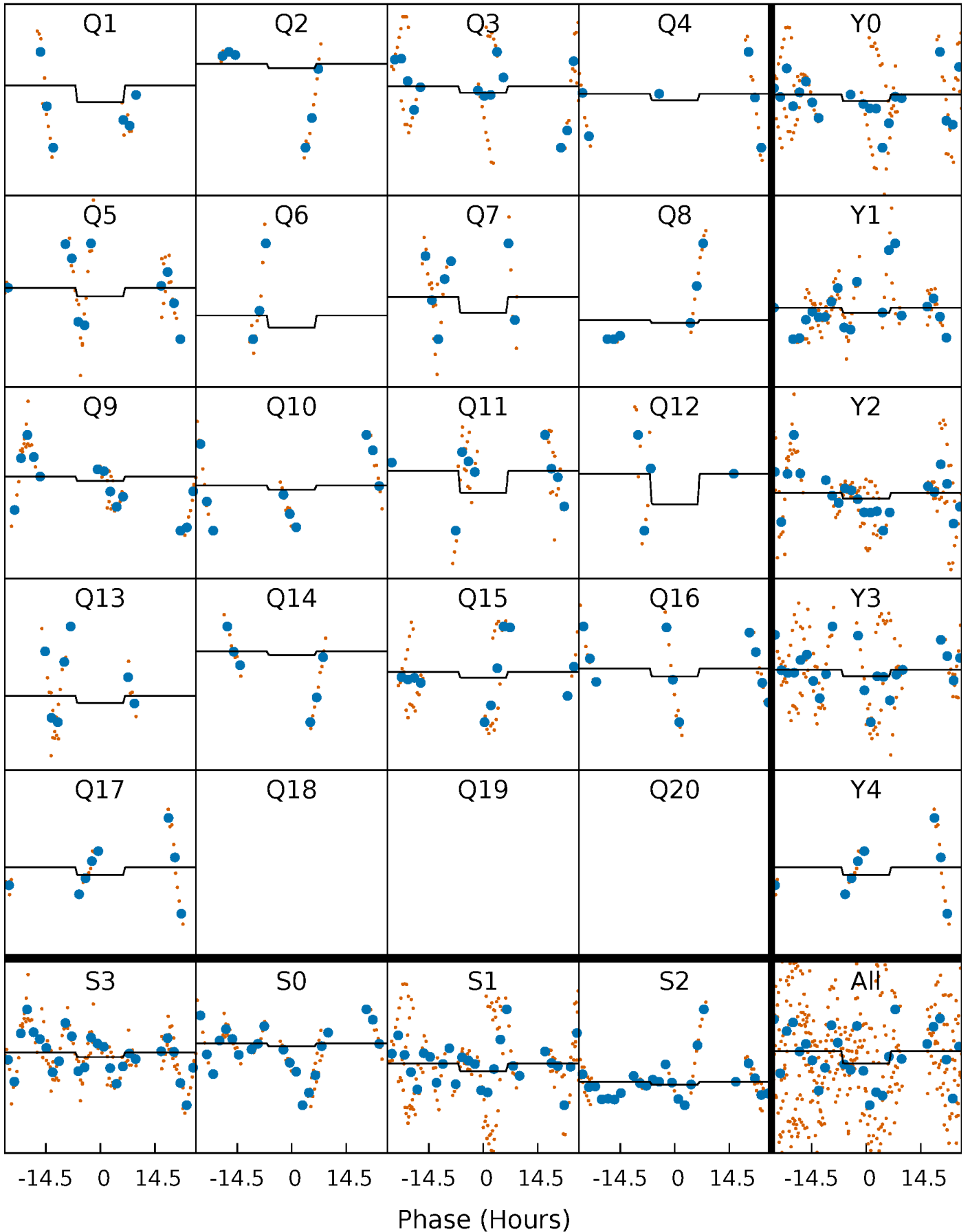
DV Quarter-Phased Transit Curves

TCE 005387183-05 P= 61.082615 Days $T_0=163.748198$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

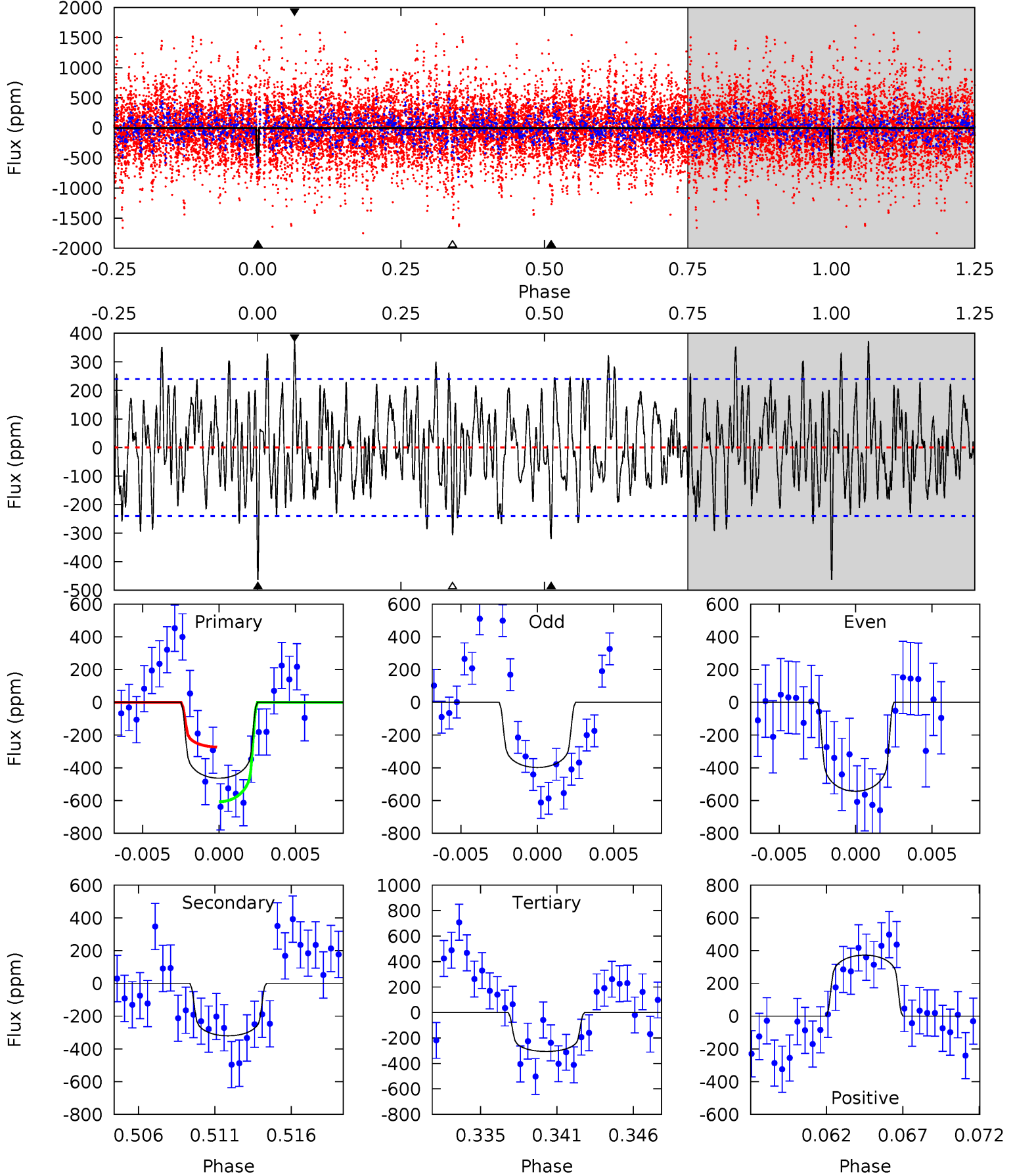
TCE 005387183-05 $P = 61.077662$ Days $T_0 = 163.740089$ (BKJD)



DV Model-Shift Uniqueness Test

005387183-05, P = 61.082615 Days, E = 102.665583 Days

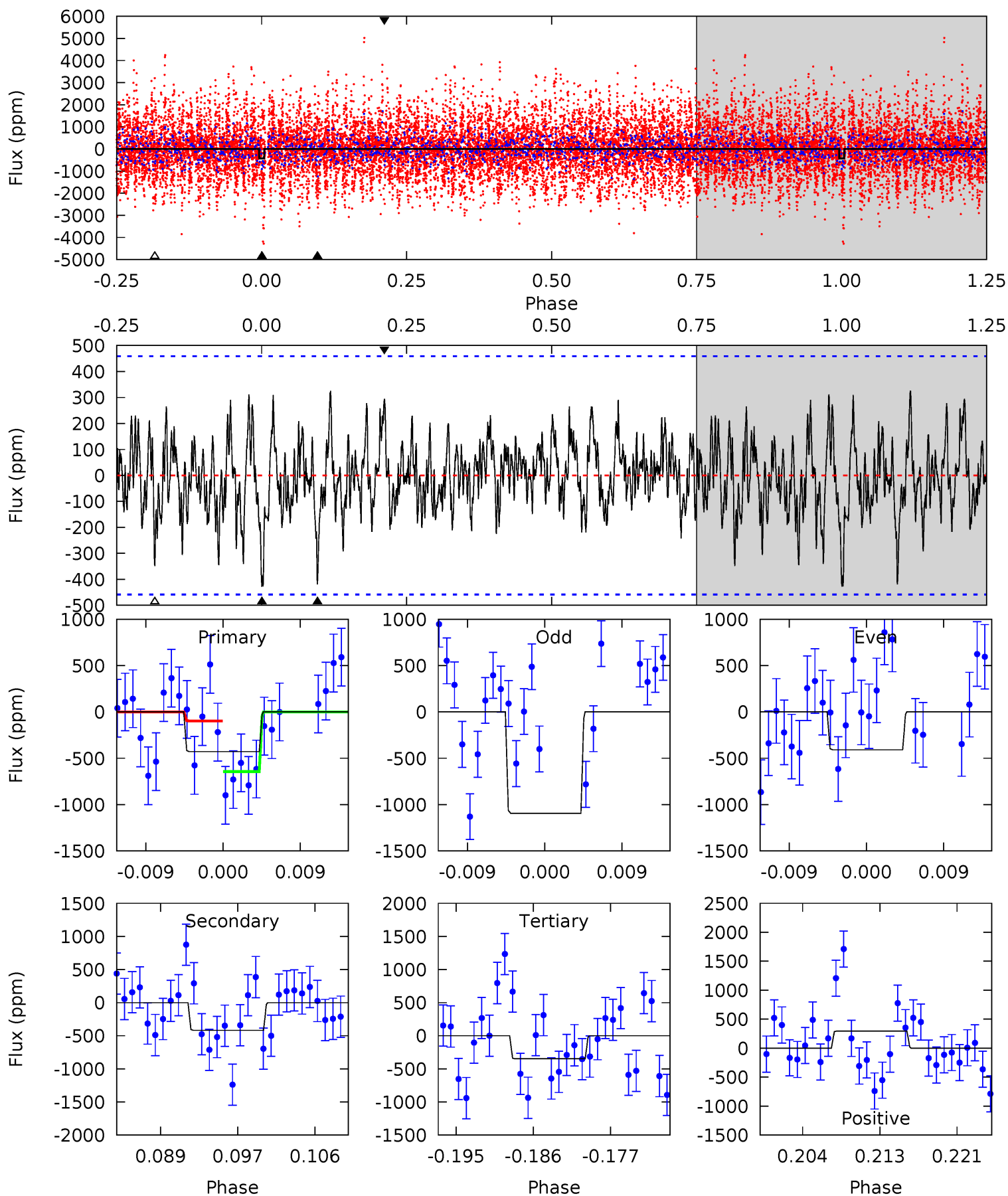
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.95	6.87	6.57	7.99	5.15	2.80	2.67	3.38	1.96	0.30	-1.12	1.55	0.71	0.45	3.56



Alt Model-Shift Uniqueness Test

005387183-05, P = 61.077662 Days, E = 102.662427 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.72	4.61	3.84	3.24	5.05	2.62	1.25	0.88	1.48	0.78	1.37	3.79	1.72	0.43	2.99



Stellar Parameters For KIC 005387183

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6647^{+158}_{-218}	$4.474^{+0.037}_{-0.213}$	$-0.500^{+0.300}_{-0.300}$	$0.994^{+0.314}_{-0.078}$	$1.088^{+0.138}_{-0.138}$	$1.559^{+0.323}_{-0.824}$
	+2%/-3%	+1%/-5%	+60%/-60%	+32%/-8%	+13%/-13%	+21%/-53%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005387183-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-320 ± 47	$2.54^{+0.86}_{-0.81}$	750^{+52}_{-33}	5990^{+1251}_{-738}	2624^{+3009}_{-1215}
Alt.	-419 ± 91	$1.66^{+0.80}_{-0.78}$	748^{+51}_{-33}	8034^{+4752}_{-1557}	7874^{+20141}_{-4318}

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 $A_{obs} \gg 1.0$

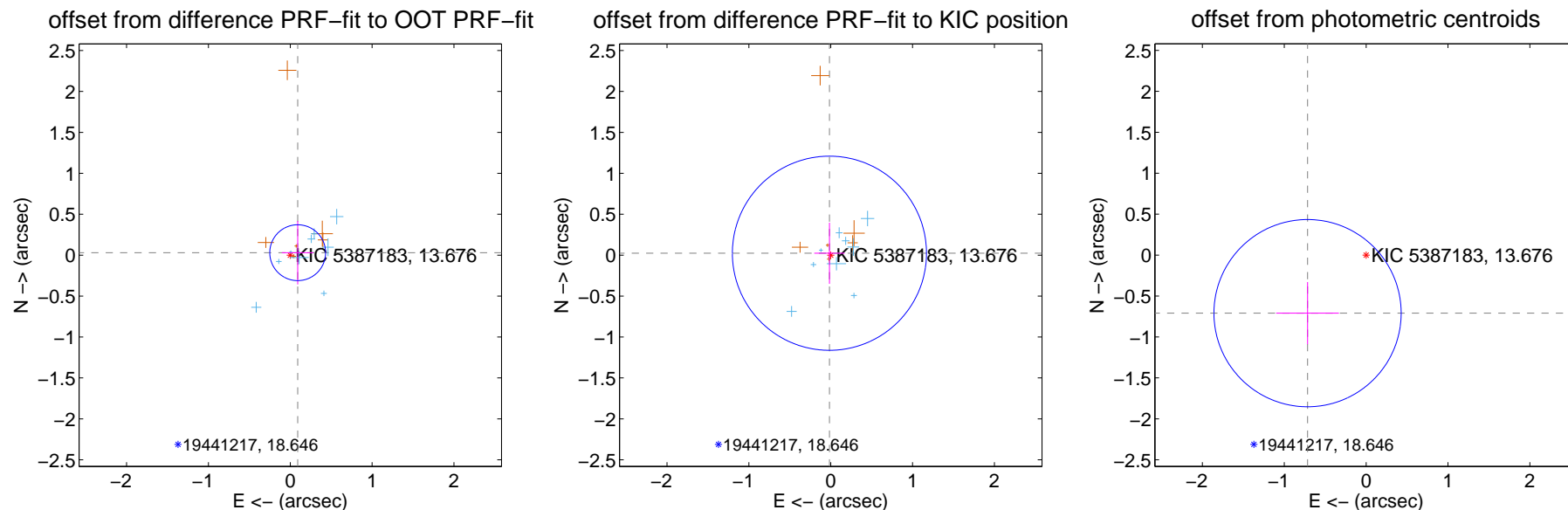
DV Centroid Data

Supplemental centroid analysis for 005387183-05. Kepler magnitude: 13.68. Transit SNR 6.89

There are 9 quarters with good PRF difference image offsets

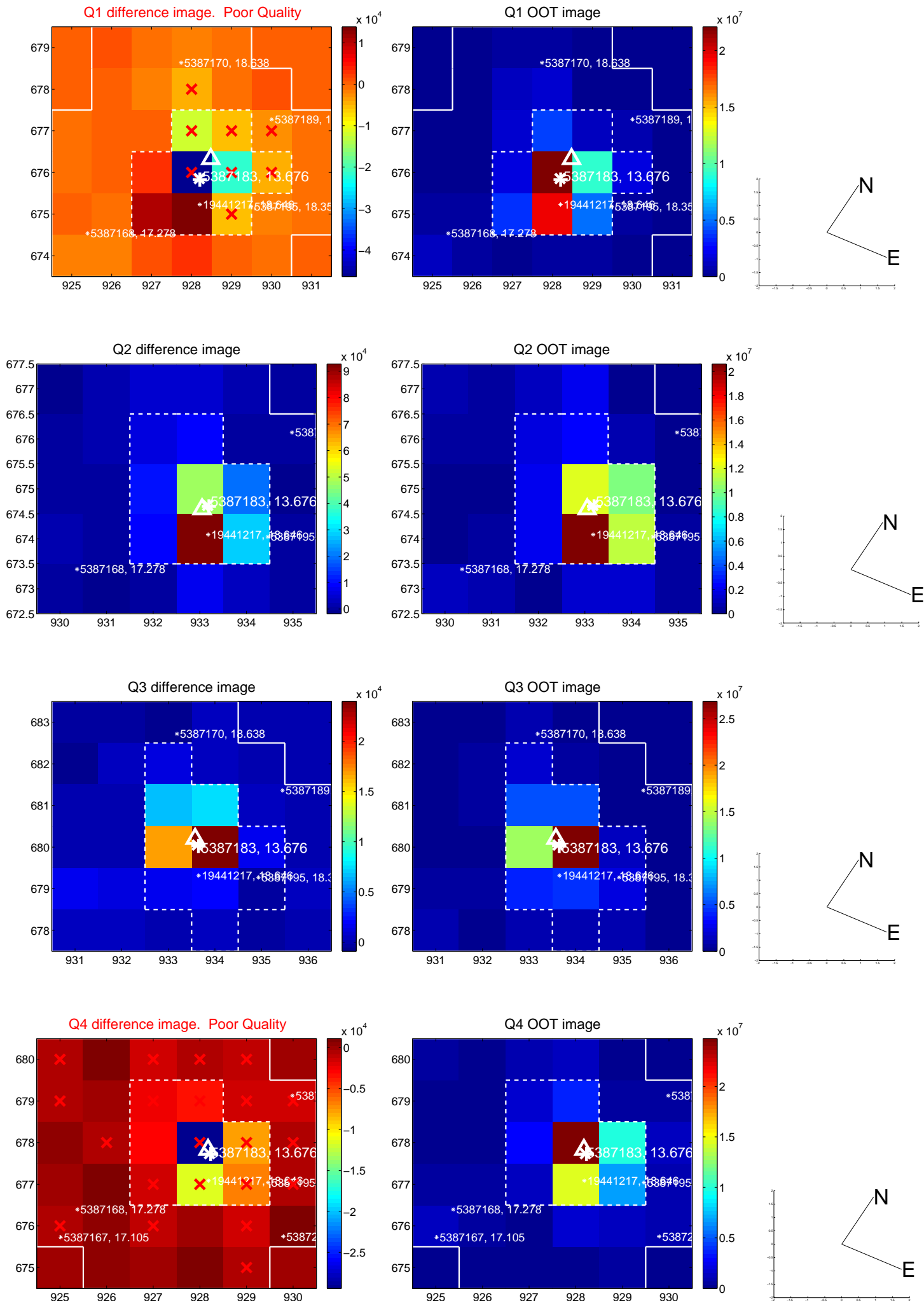
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.096 ± 0.114	0.84	-0.091 ± 0.193	0.030 ± 0.388
PRF-fit source offset from KIC position	0.028 ± 0.395	0.07	0.016 ± 0.185	0.023 ± 0.373
photometric centroid source offset	1.01 ± 0.38	2.64	0.72 ± 0.38	-0.71 ± 0.38

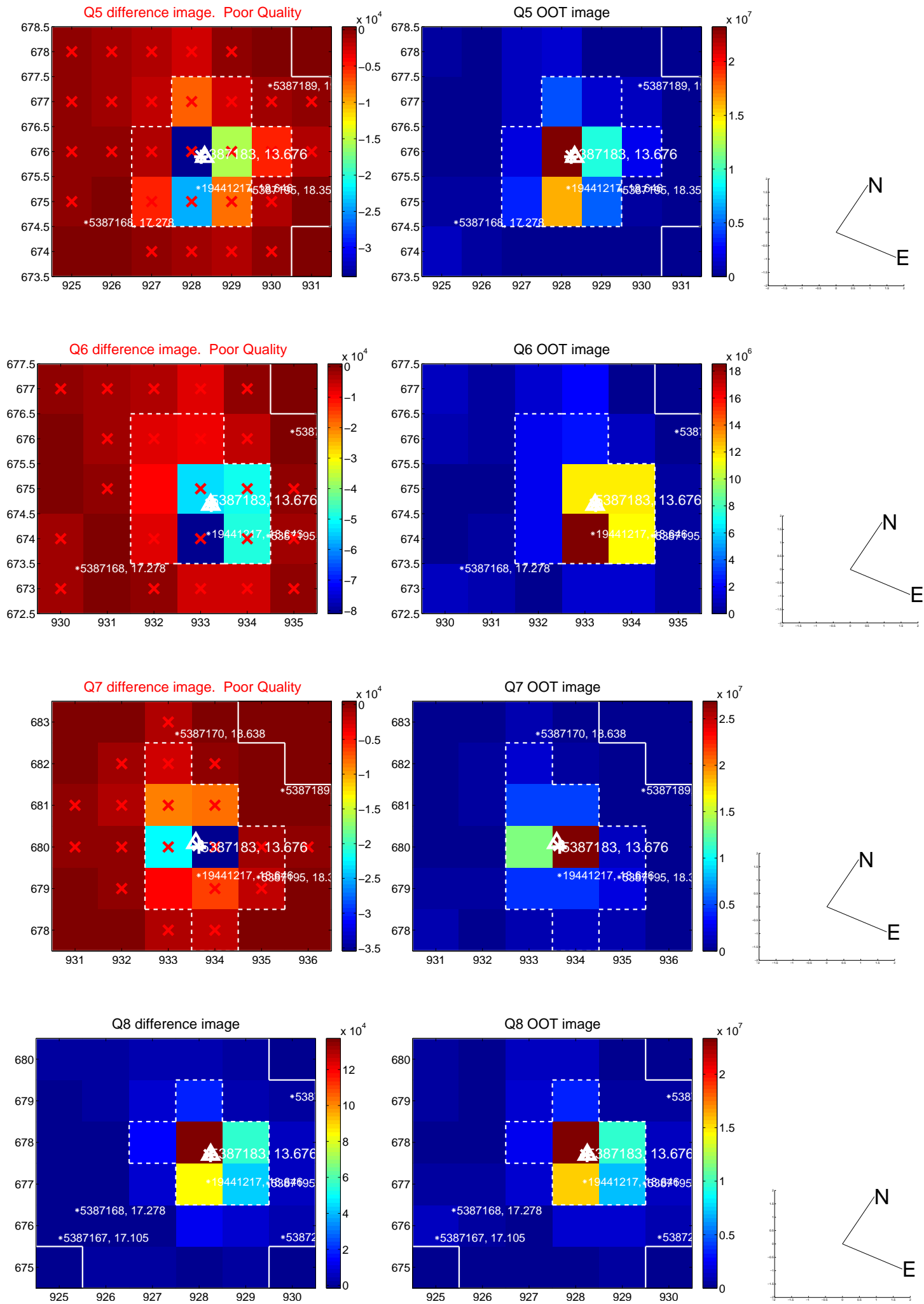


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

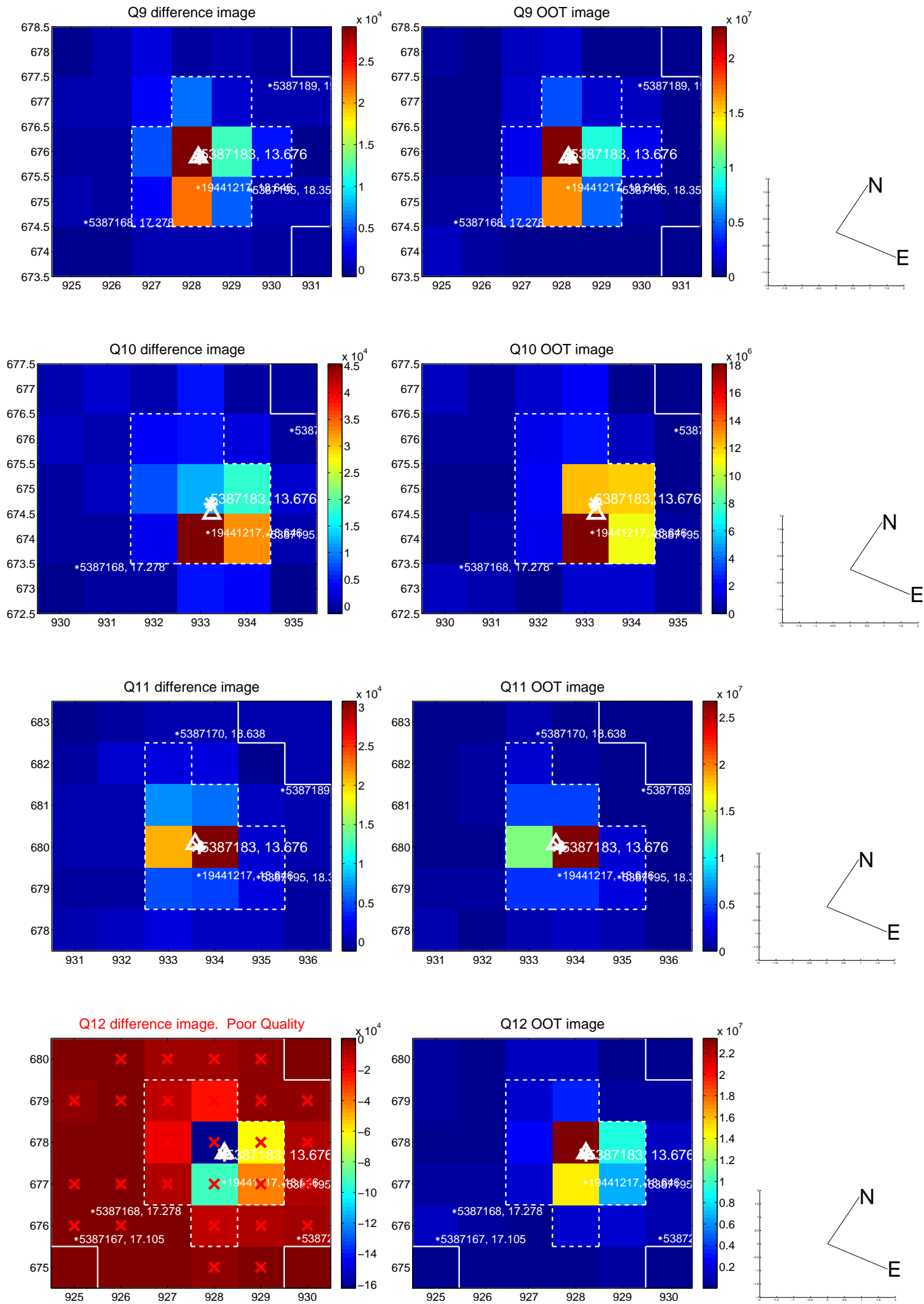
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



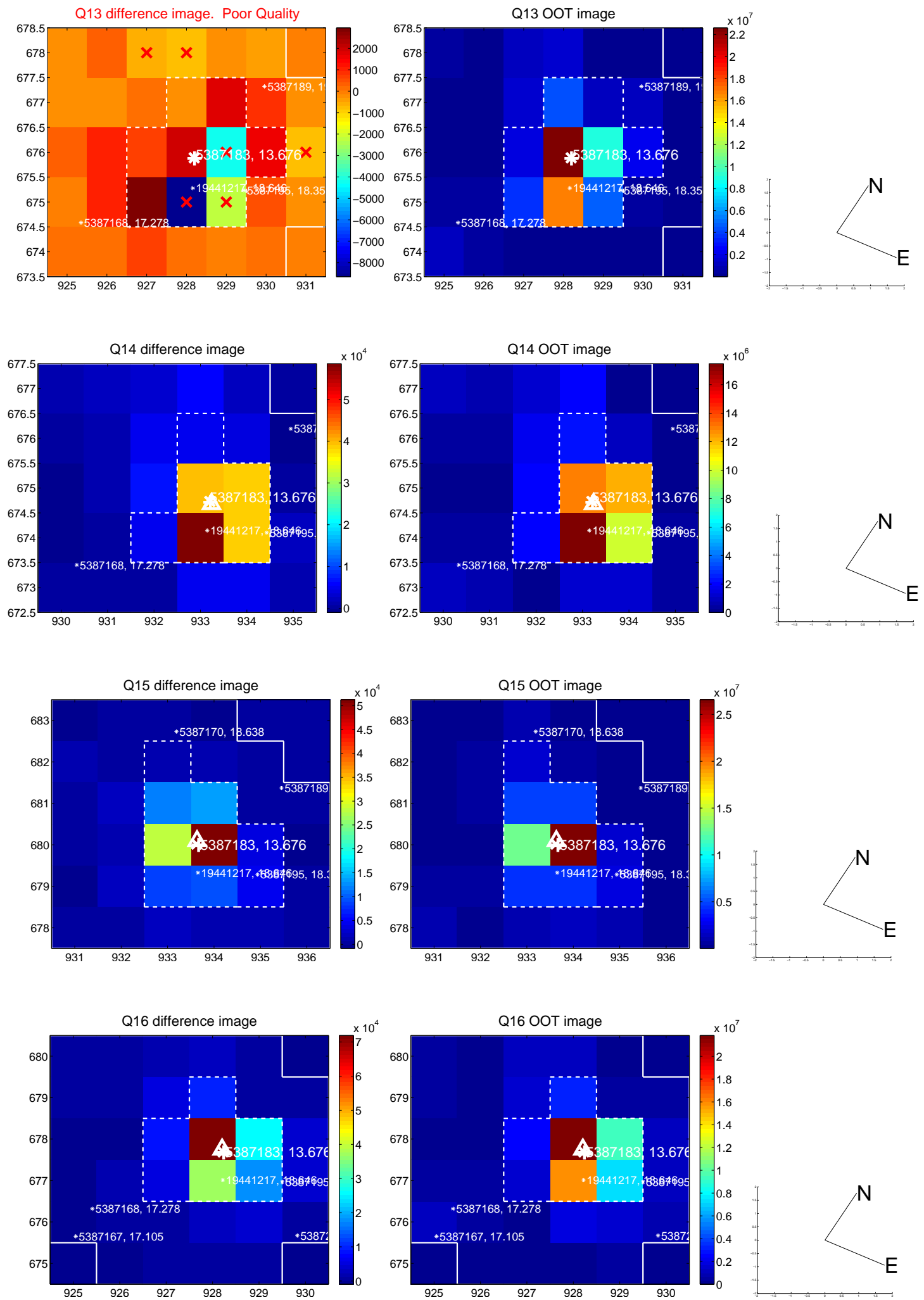
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



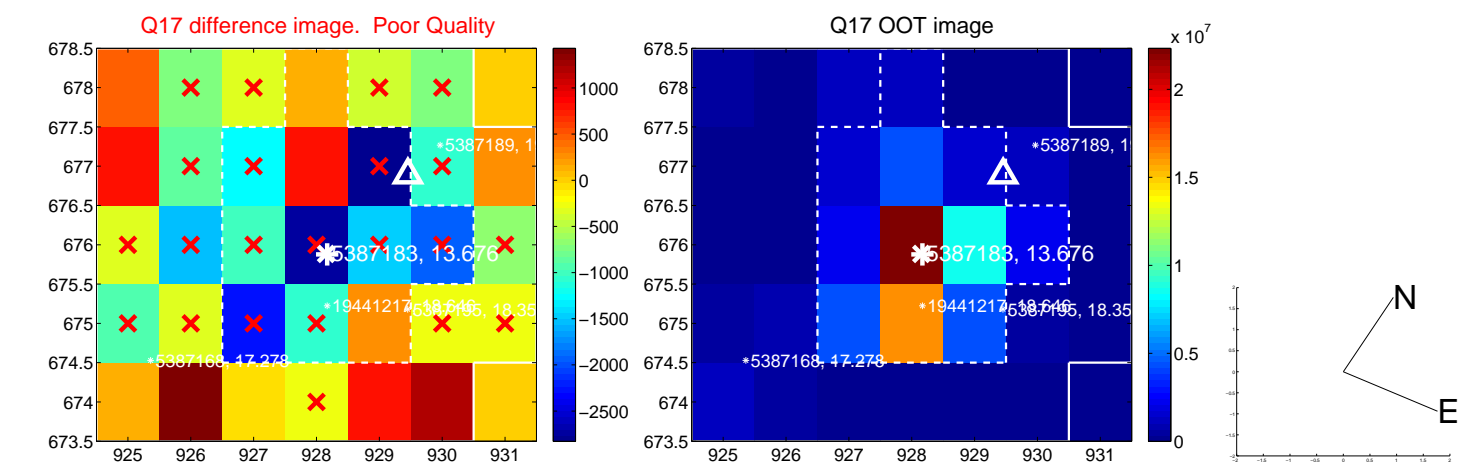
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



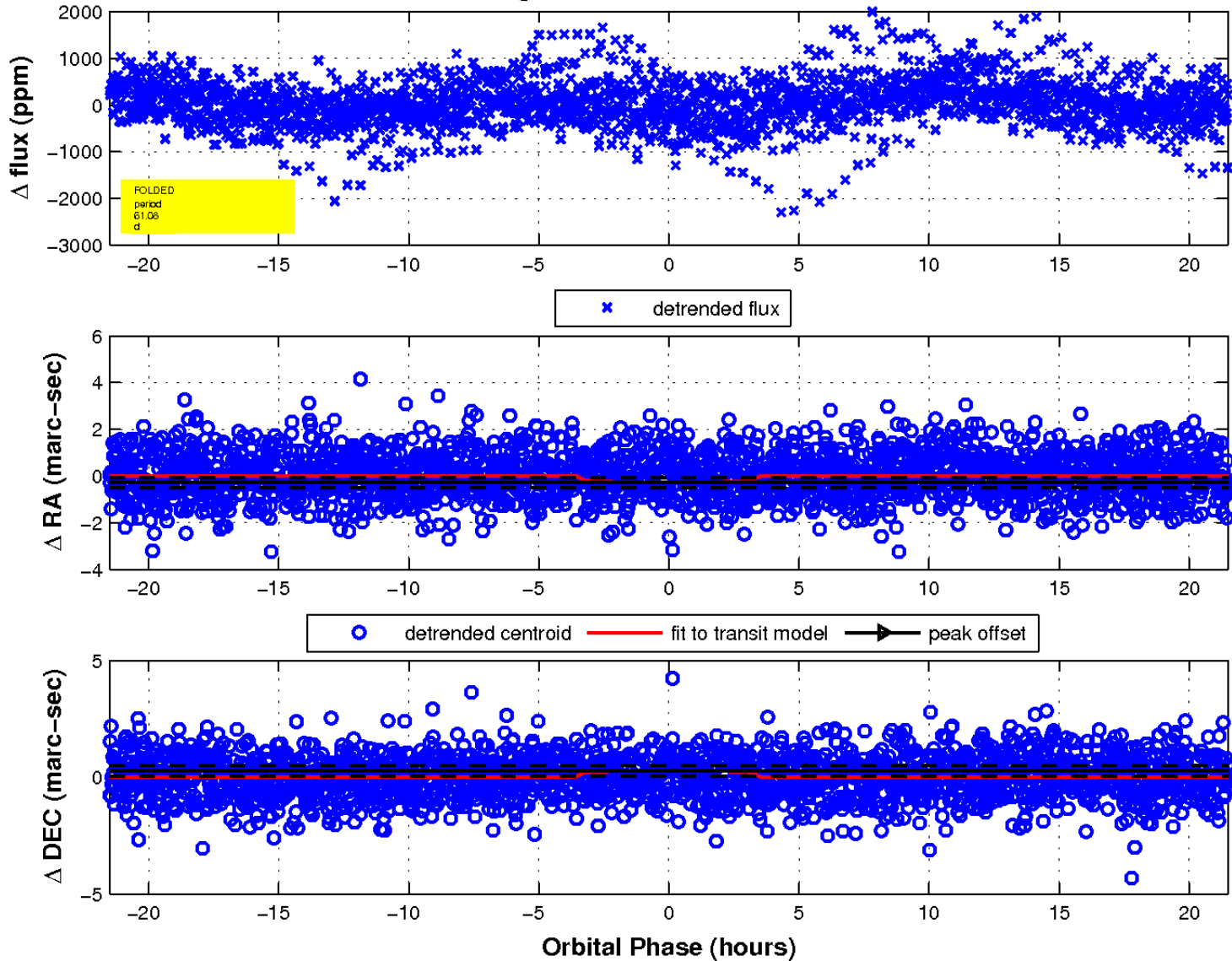
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 5 of 5



UKIRT Image

Declination

