

KIC 007974853

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})
007974853-01	OBS	No	7.090811	138.294322	20.6	23.205	10.9	11.9	2.39	7906	1.26	2459.84
007974853-02	OBS	No	7.090238	135.854037	21.4	22.612	8.2	12.4	2.39	7906	1.23	2460.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007974853-01	OBS	FP	0.00	1	0	0	0	LPP_DV
007974853-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

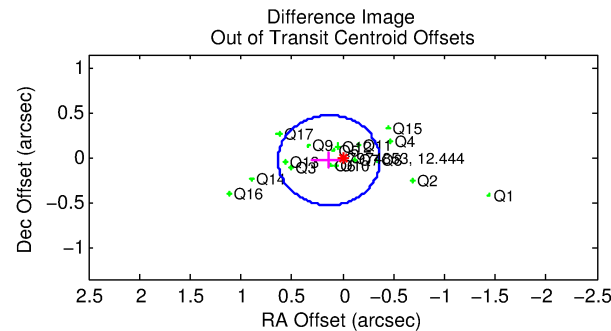
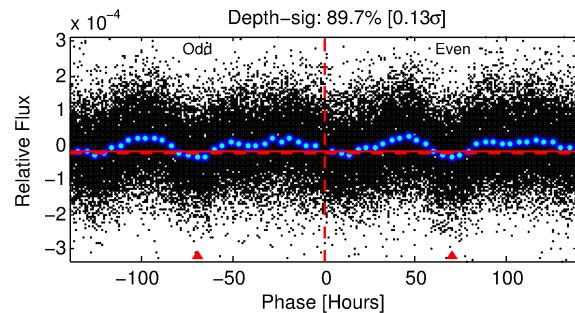
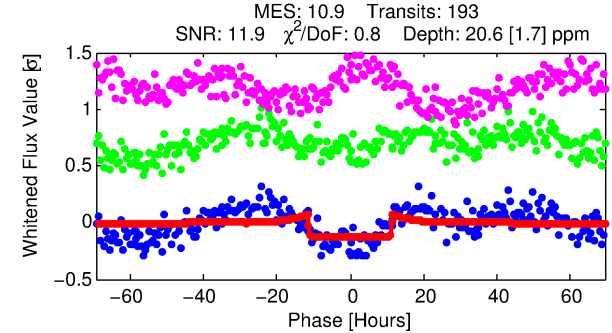
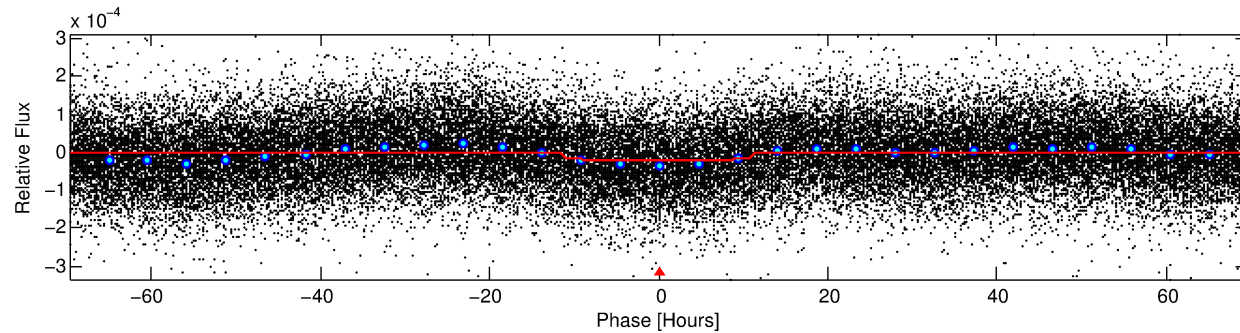
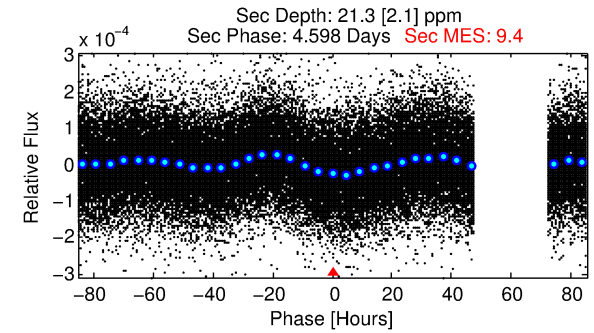
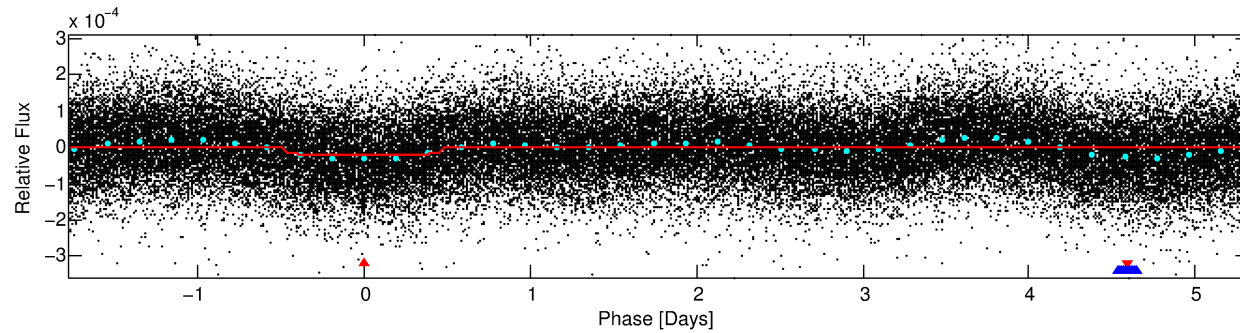
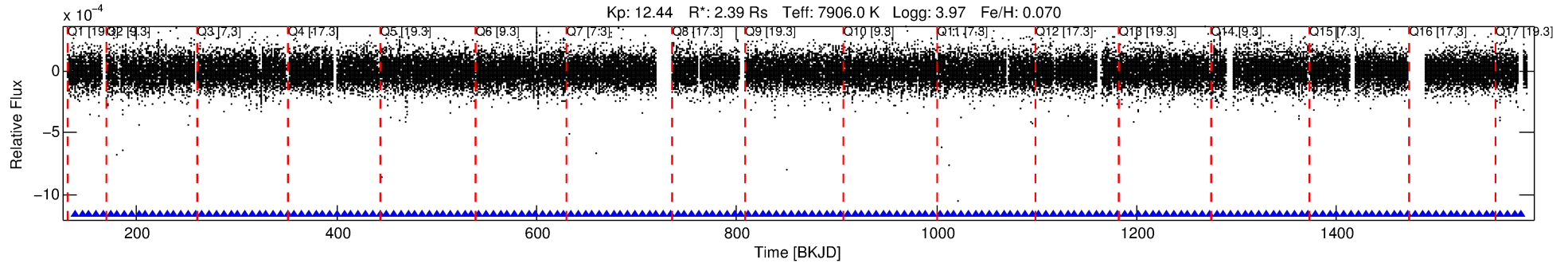
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007974853-01

No Significant Match Found

DV One-Page Summary

KIC: 7974853 Candidate: 1 of 2 Period: 7.091 d



DV Fit Results:

Period = 7.09081 [0.00013] d
Epoch = 138.2943 [0.0132] BKJD
Rp/R* = 0.0049 [0.0004]
a/R* = 1.38 [0.24]
b = 0.91 [0.07]
Seff = 2459.84 [993.36]
Teq = 1796 [181] K
Rp = 1.26 [0.38] Re
a = 0.0900 [0.0225] AU
Ag = 59.55 [24.30] [2.41σ]
Teffp = 7713 [461] K [11.95σ]

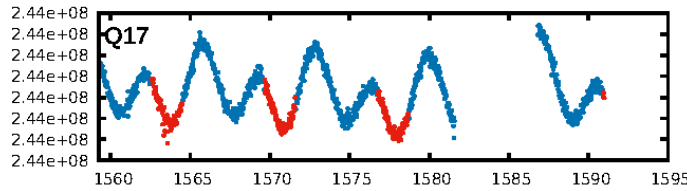
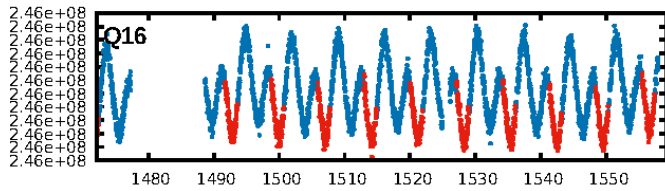
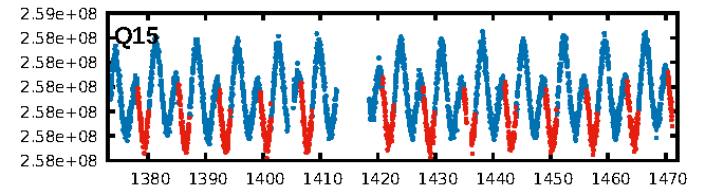
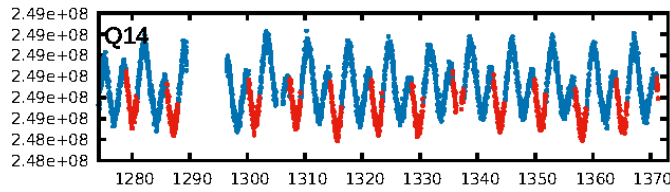
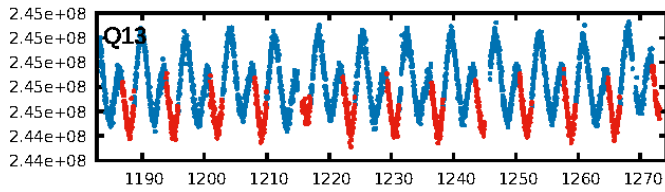
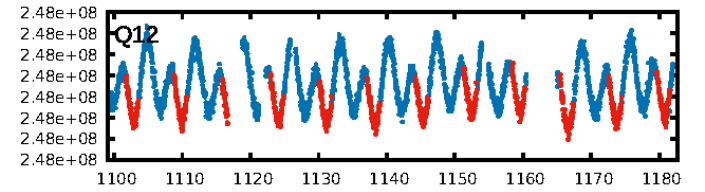
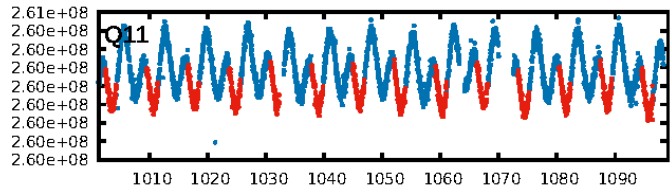
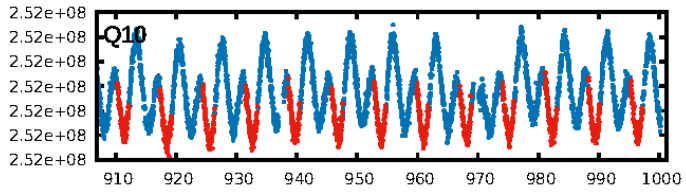
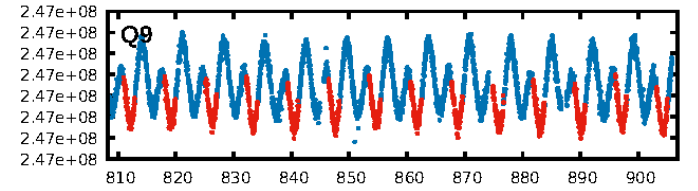
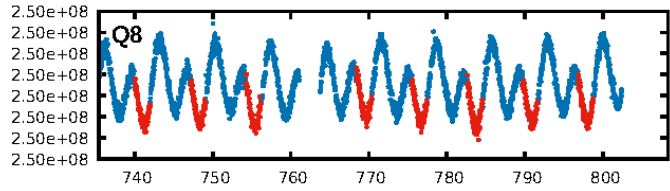
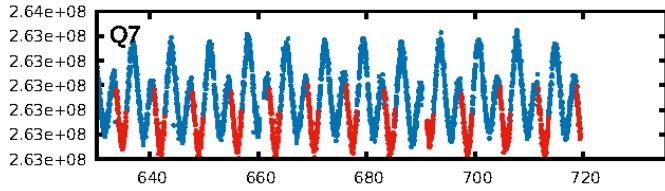
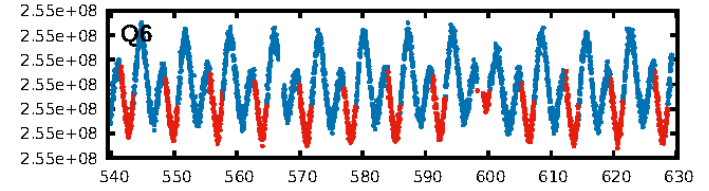
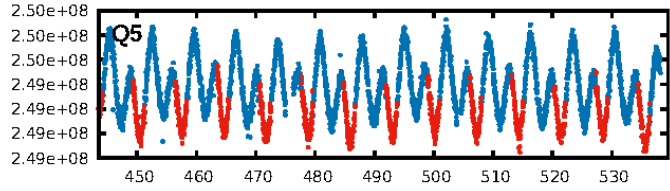
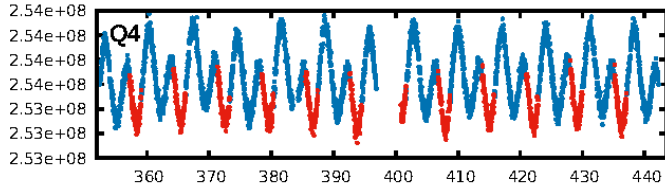
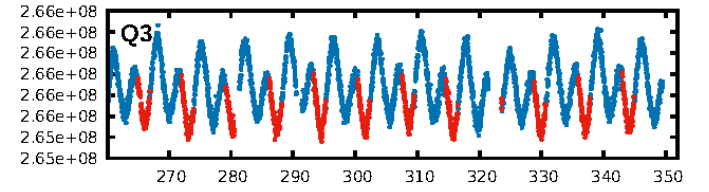
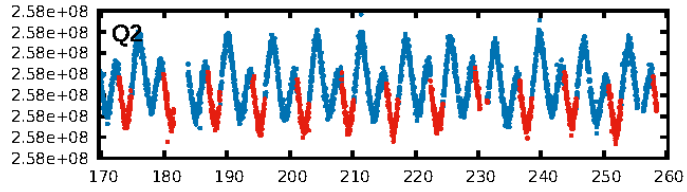
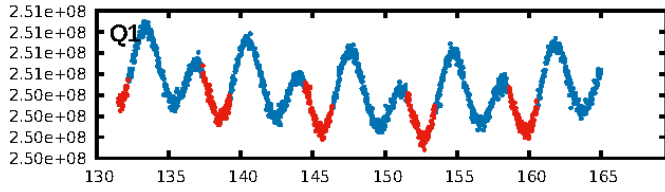
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.71e-33
RollingBand-fgt: 1.00 [185/185]
GhostDiagnostic-chr: 4.304
Centroid-sig: 40.5%
Centroid-so: 0.460 arcsec [0.58σ]
OotOffset-rm: 0.139 arcsec [0.84σ]
KicOffset-rm: 0.112 arcsec [0.91σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

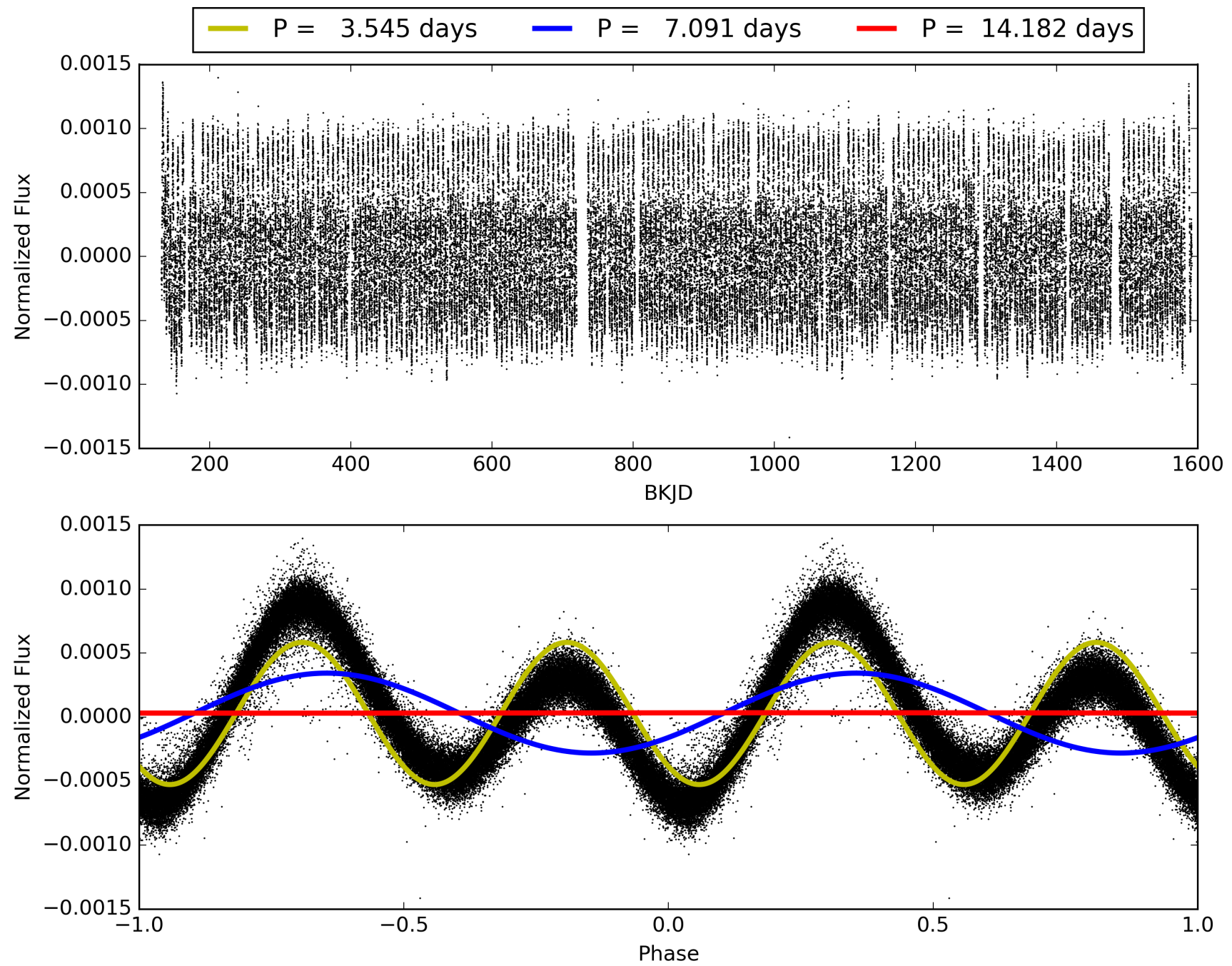
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:35:44 Z

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

TCE 007974853-01, PDC Light Curves

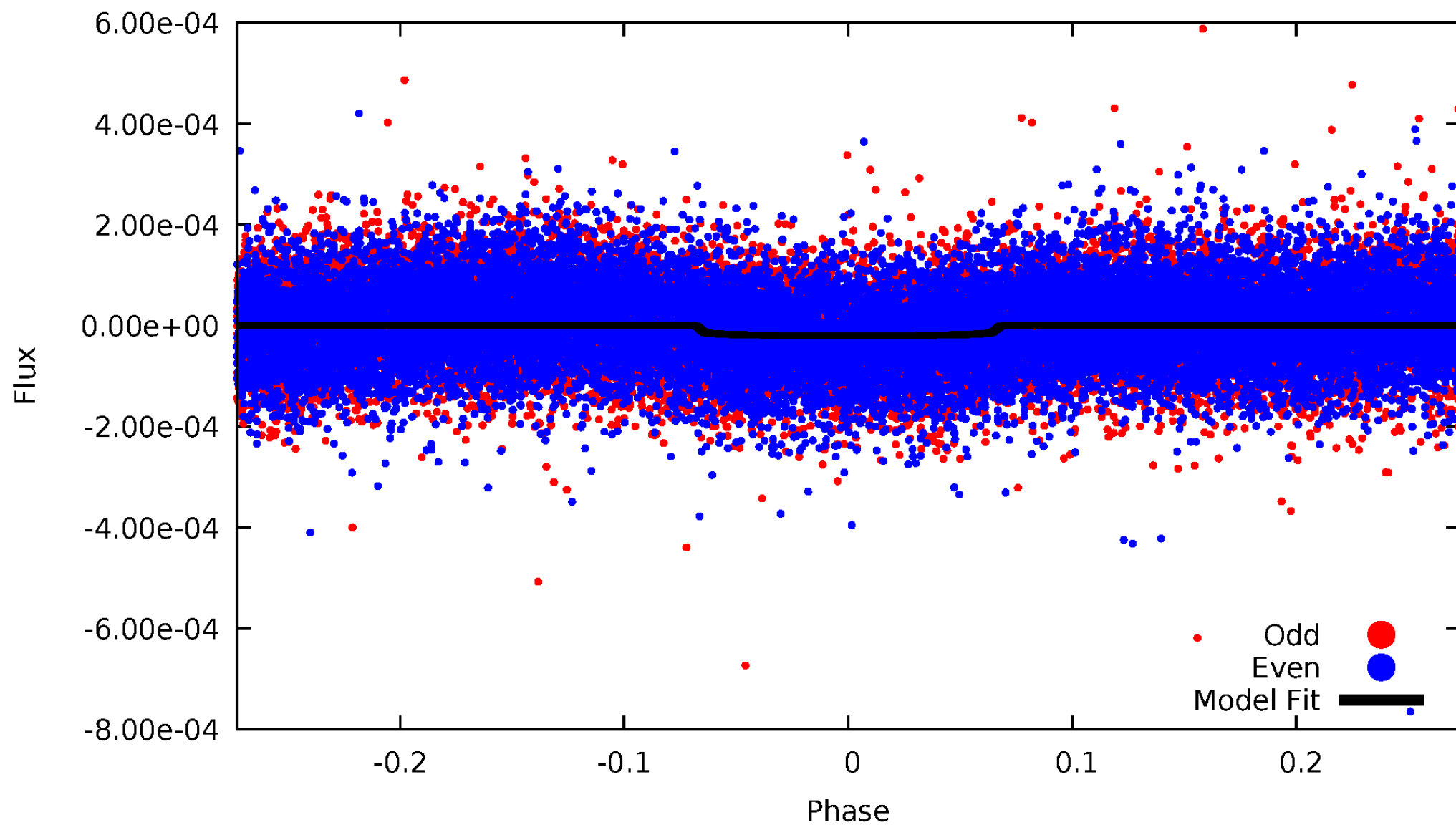


TCE 007974853-01



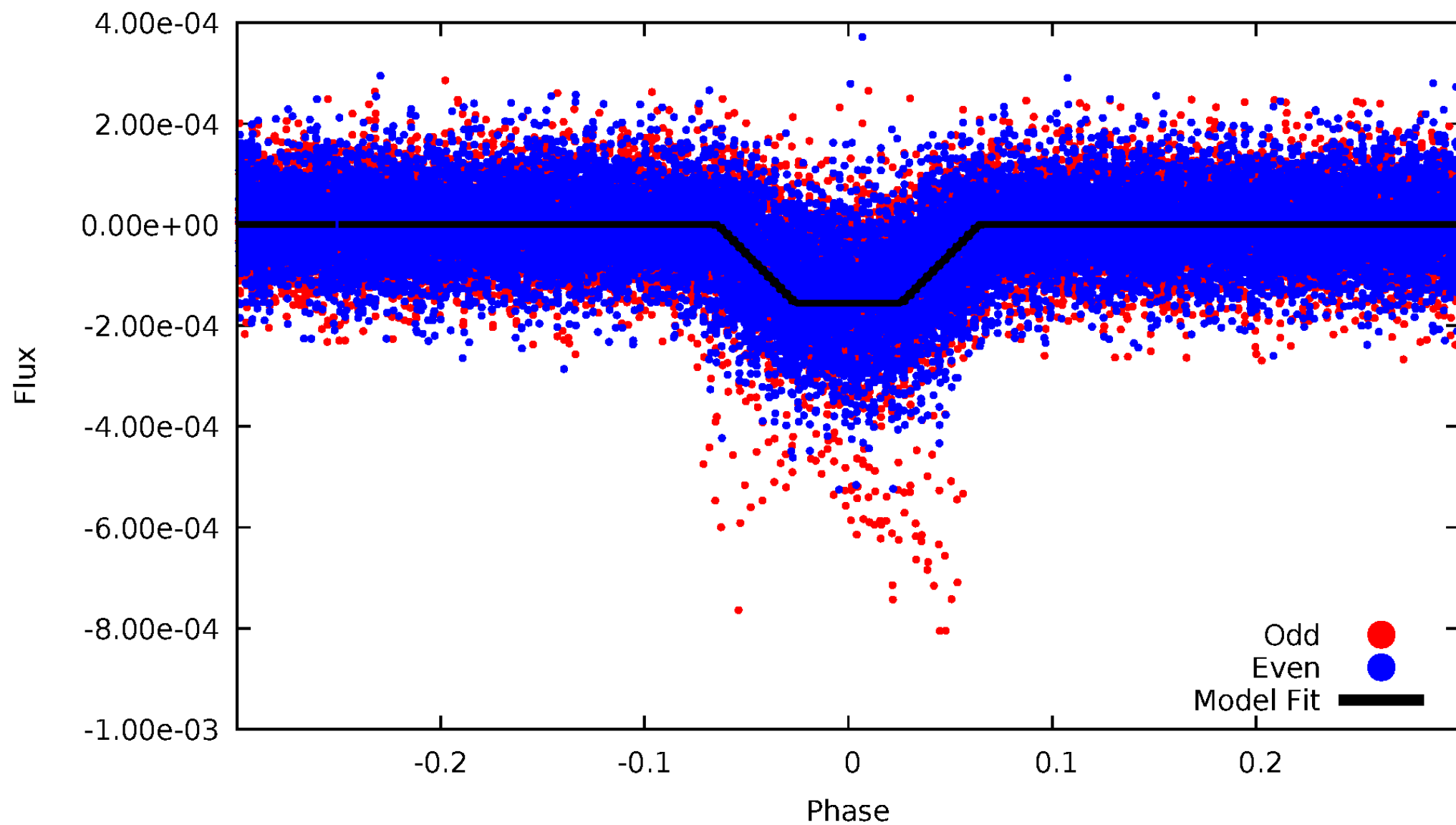
DV Odd/Even

TCE 007974853-01

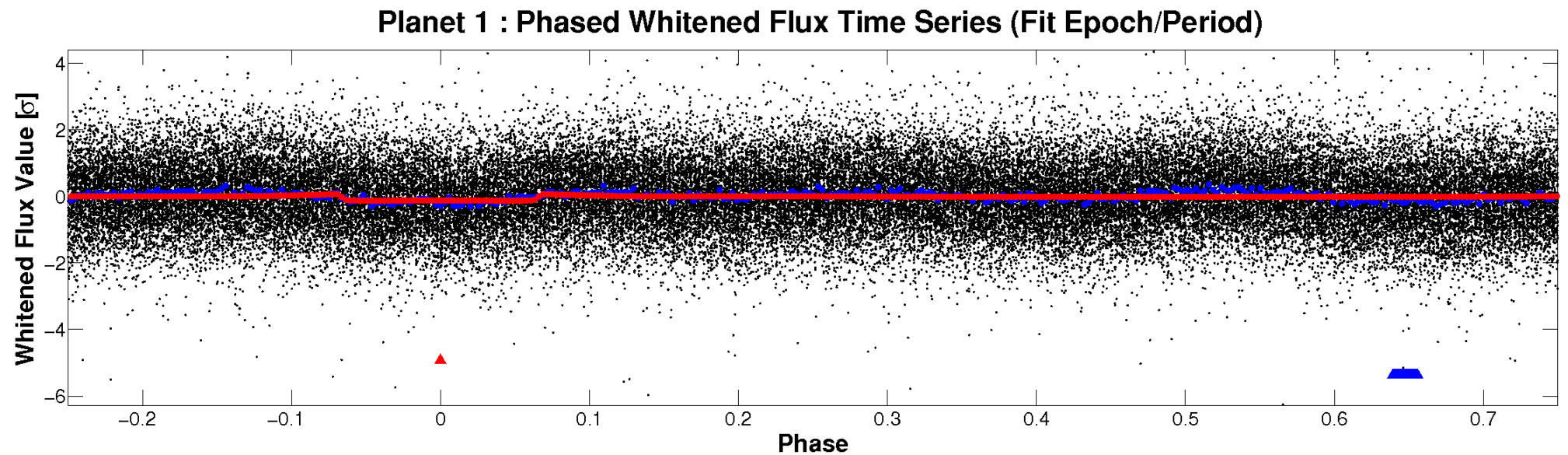
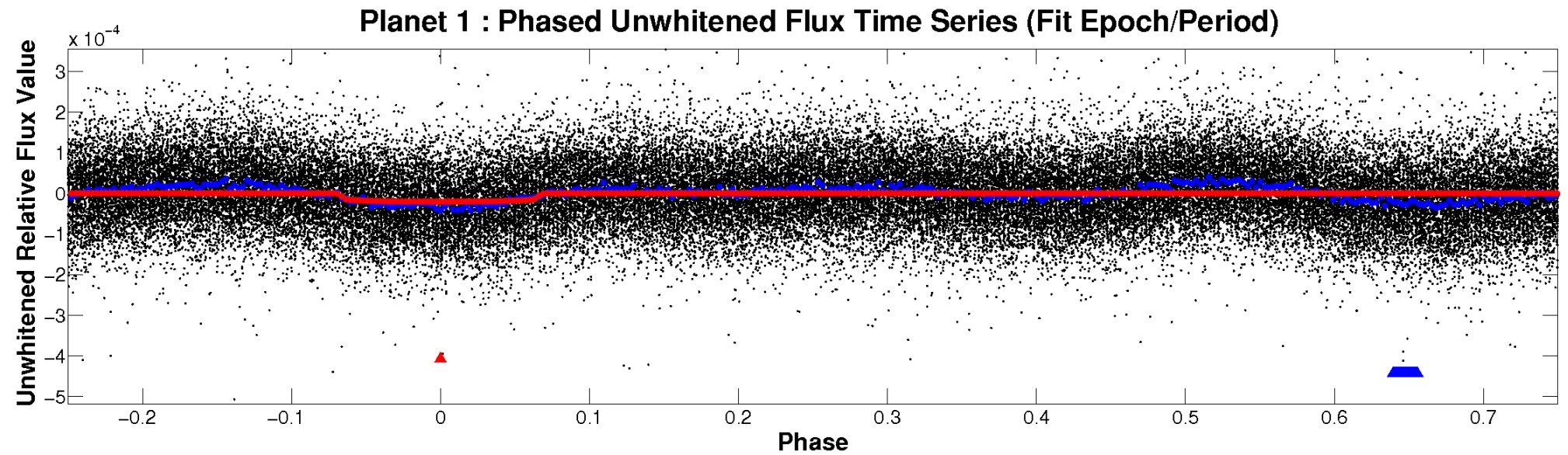


ALT Odd/Even

TCE 007974853-01

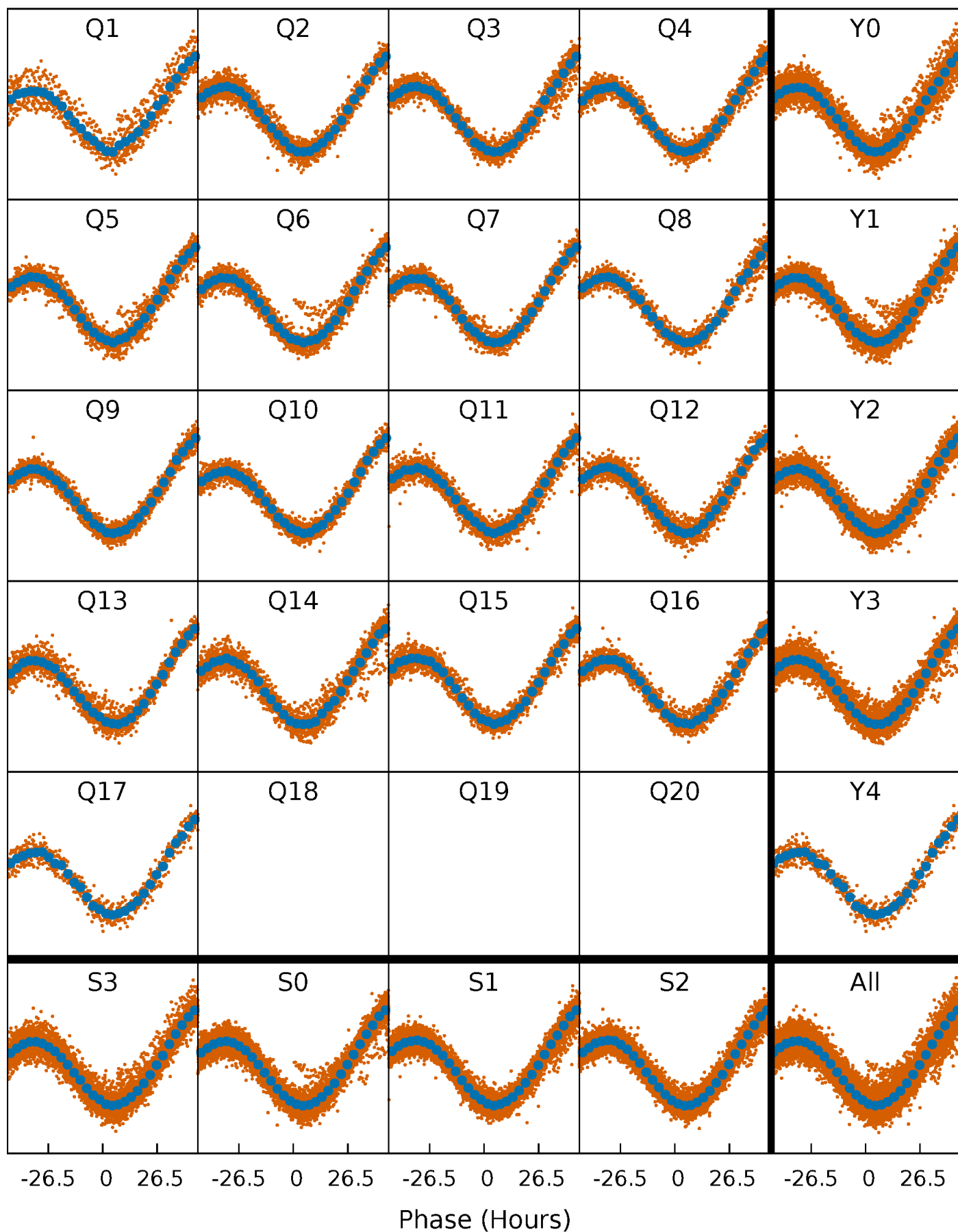


Non-Whitened Vs. Whitened Light Curve



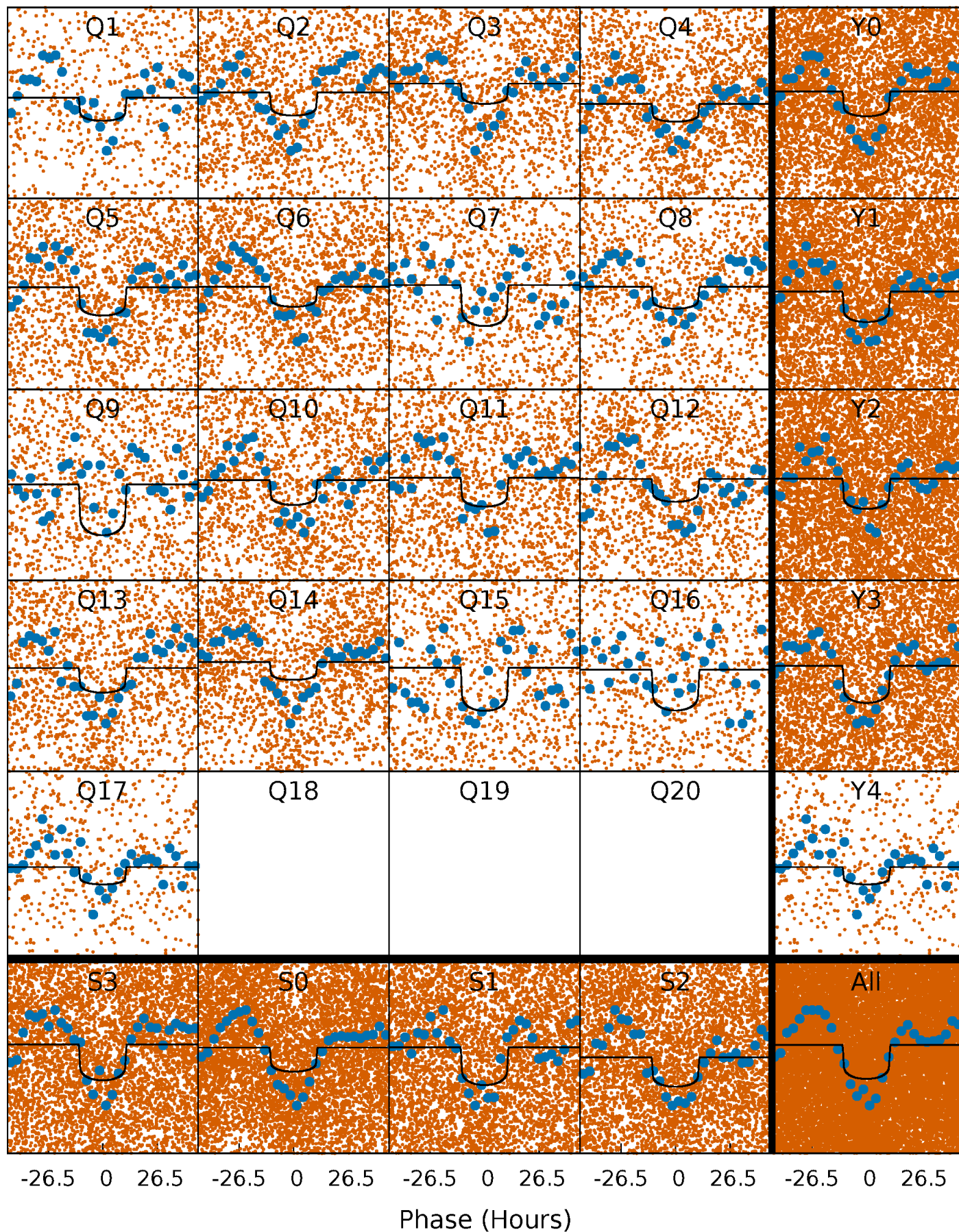
PDC Quarter-Phased Transit Curves

TCE 007974853-01 P= 7.090811 Days $T_0=138.294322$ (BKJD)



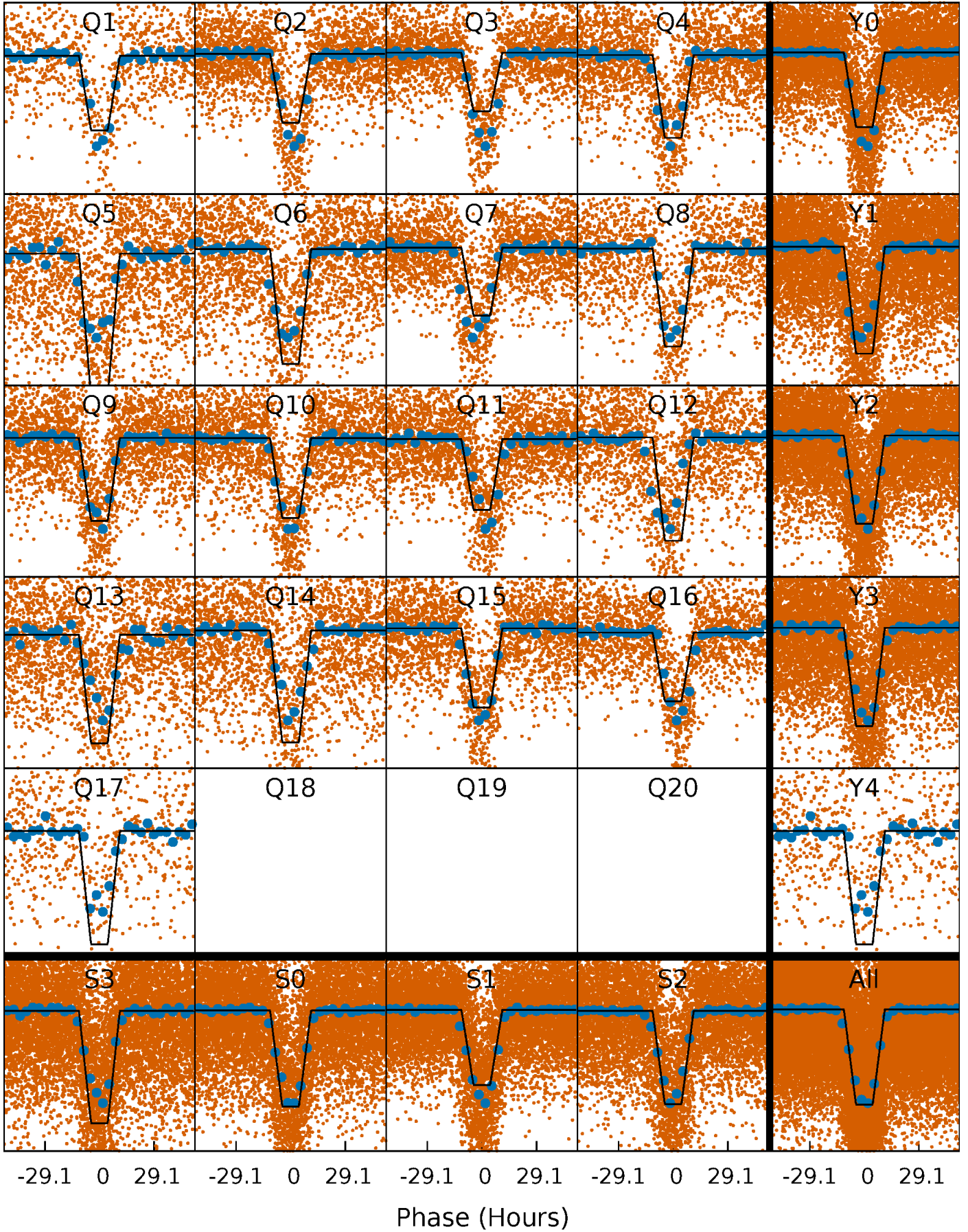
DV Quarter-Phased Transit Curves

TCE 007974853-01 P= 7.090811 Days $T_0=138.294322$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

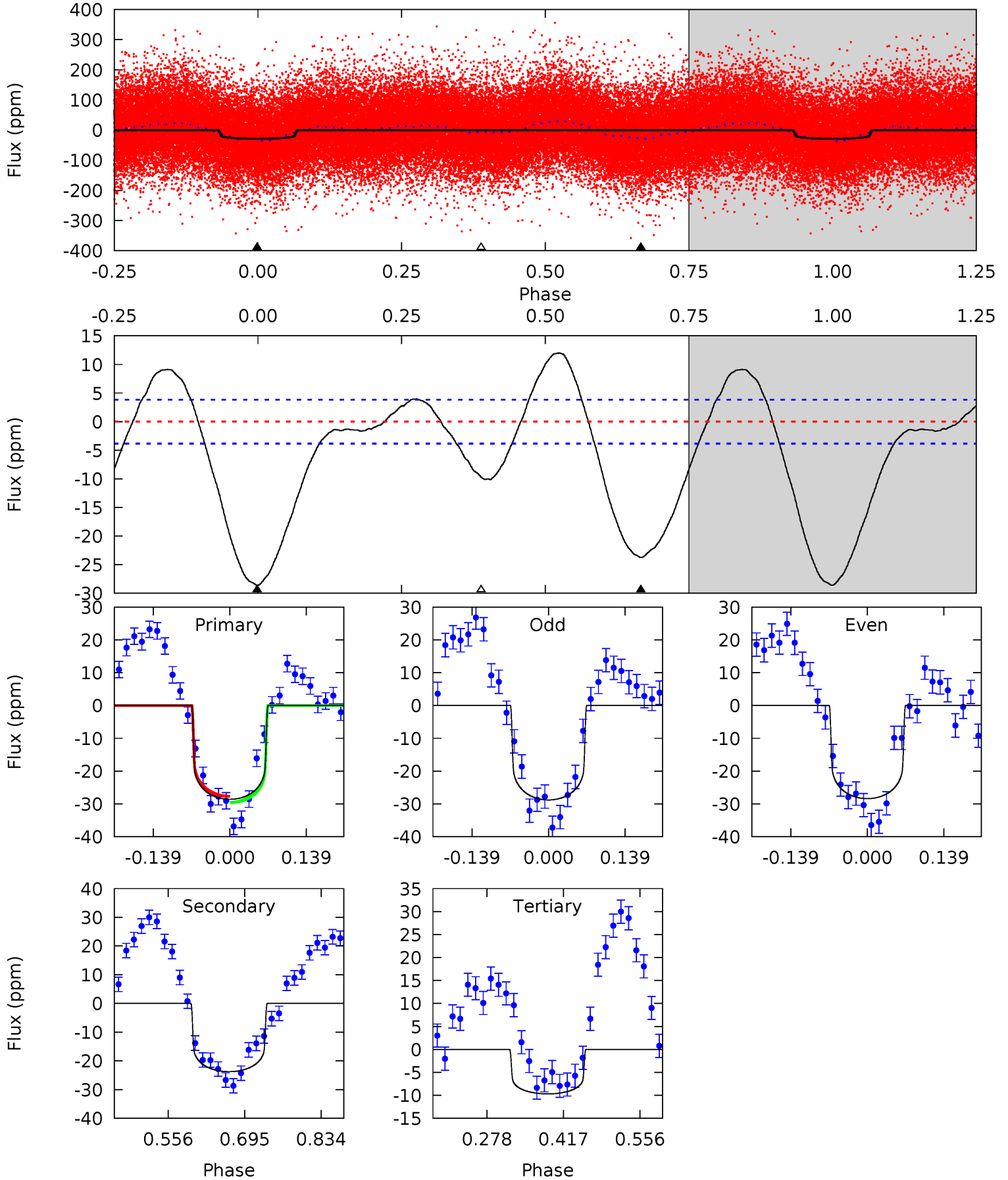
TCE 007974853-01 P= 7.090469 Days $T_0=138.346583$ (BKJD)



DV Model-Shift Uniqueness Test

007974853-01, P = 7.090811 Days, E = 131.203511 Days

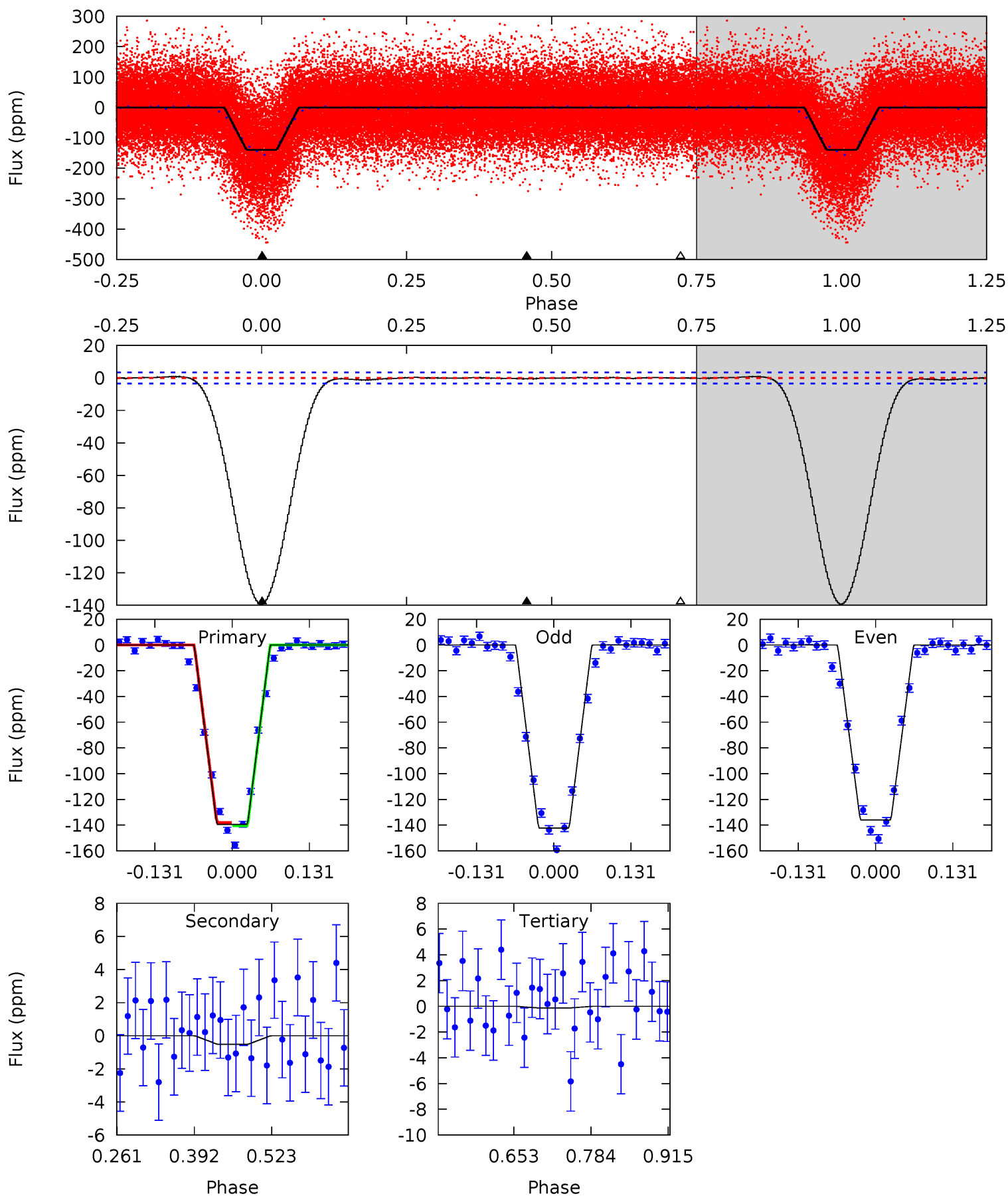
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.6	27.9	11.4	0	4.50	1.48	7.06	22.2	33.6	16.5	27.9	0.24	0.93	0.30	1.10



Alt Model-Shift Uniqueness Test

007974853-01, P = 7.090469 Days, E = 131.256114 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
182.6	0.68	0.17	0	4.51	1.51	0.61	182.5	182.6	0.51	0.68	4.03	1.13	0.01	1.65



Stellar Parameters For KIC 007974853

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7906^{+216}_{-324}	$3.969^{+0.204}_{-0.136}$	$0.070^{+0.150}_{-0.400}$	$2.386^{+0.466}_{-0.699}$	$1.932^{+0.206}_{-0.383}$	$0.200^{+0.243}_{-0.075}$
	+3%/-4%	+5%/-3%	+214%/-571%	+20%/-29%	+11%/-20%	+121%/-37%
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 007974853-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-24 ± 1	$1.24^{+0.19}_{-0.20}$	2475^{+171}_{-162}	7891^{+454}_{-428}	68^{+23}_{-15}
Alt.	-1 ± 1	$3.25^{+0.36}_{-0.49}$	2496^{+148}_{-195}	-2344^{+4997}_{-547}	$0.218^{+0.308}_{-0.318}$

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

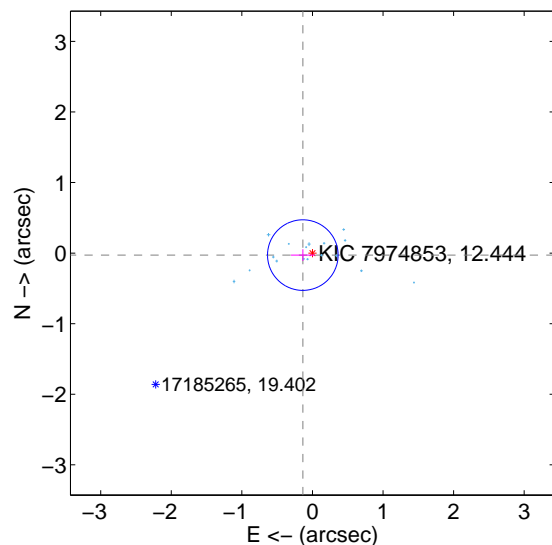
Supplemental centroid analysis for 007974853-01. Kepler magnitude: 12.44. Transit SNR 11.87

There are 17 quarters with good PRF difference image offsets

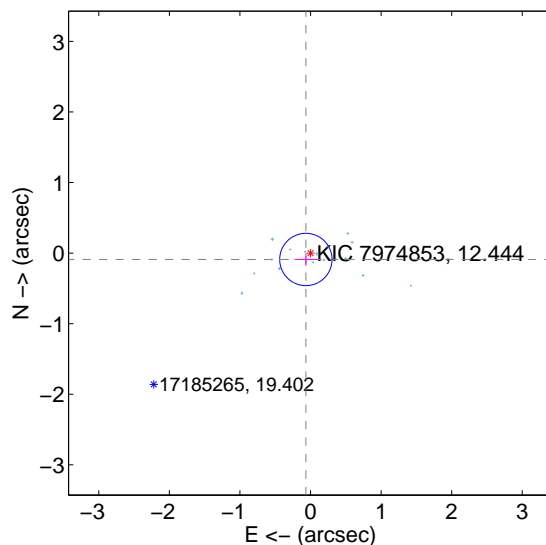
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.139 ± 0.167	0.84	0.136 ± 0.168	-0.028 ± 0.083
PRF-fit source offset from KIC position	0.112 ± 0.124	0.91	0.066 ± 0.162	-0.090 ± 0.088
photometric centroid source offset	0.46 ± 0.80	0.58	0.19 ± 0.73	0.42 ± 0.81

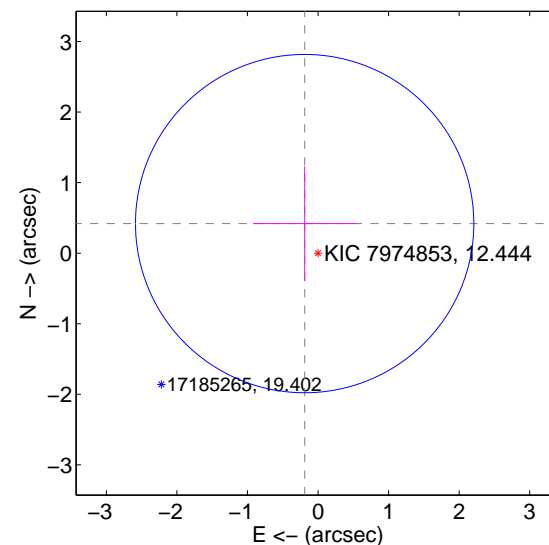
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

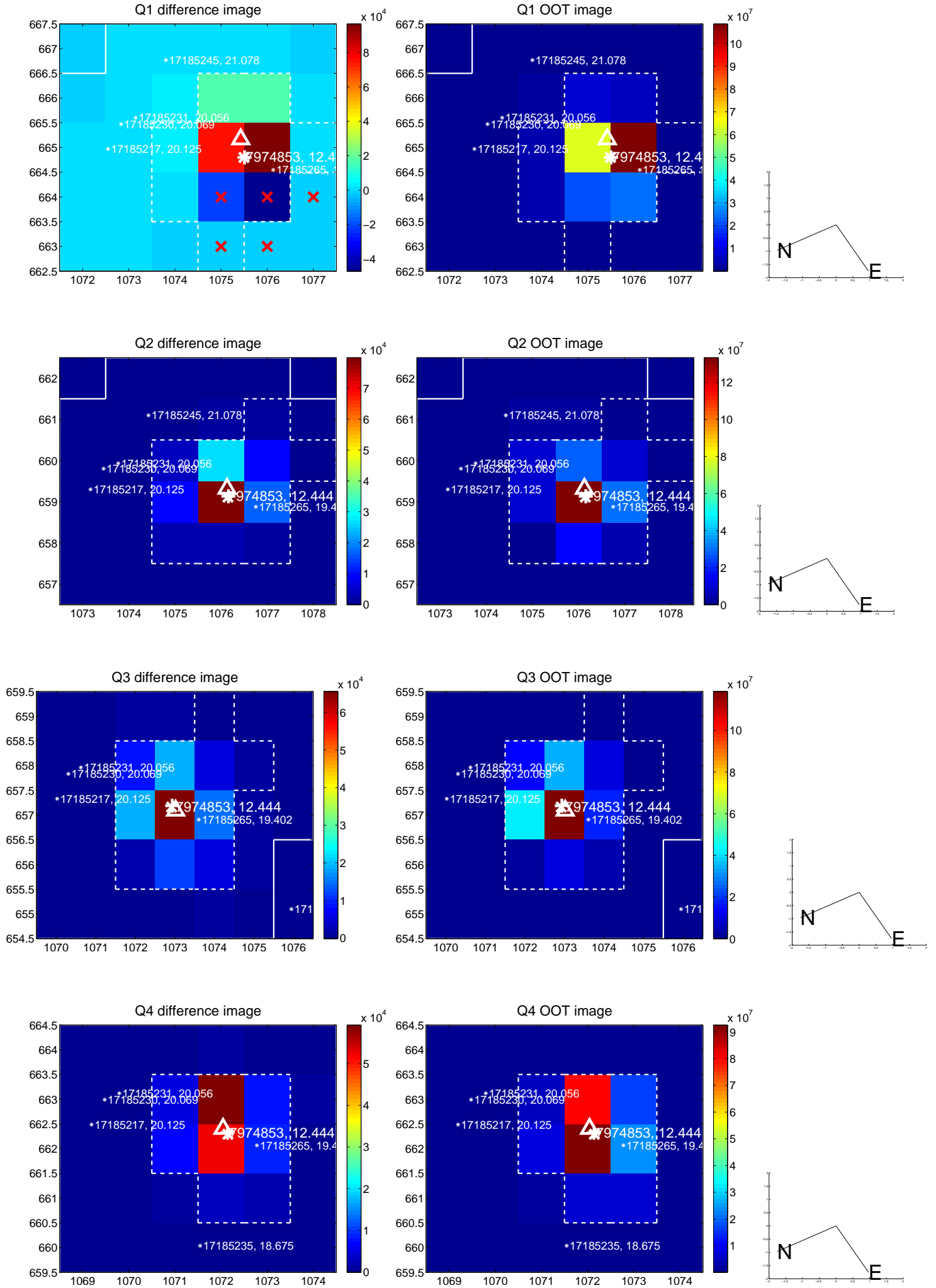


offset from photometric centroids

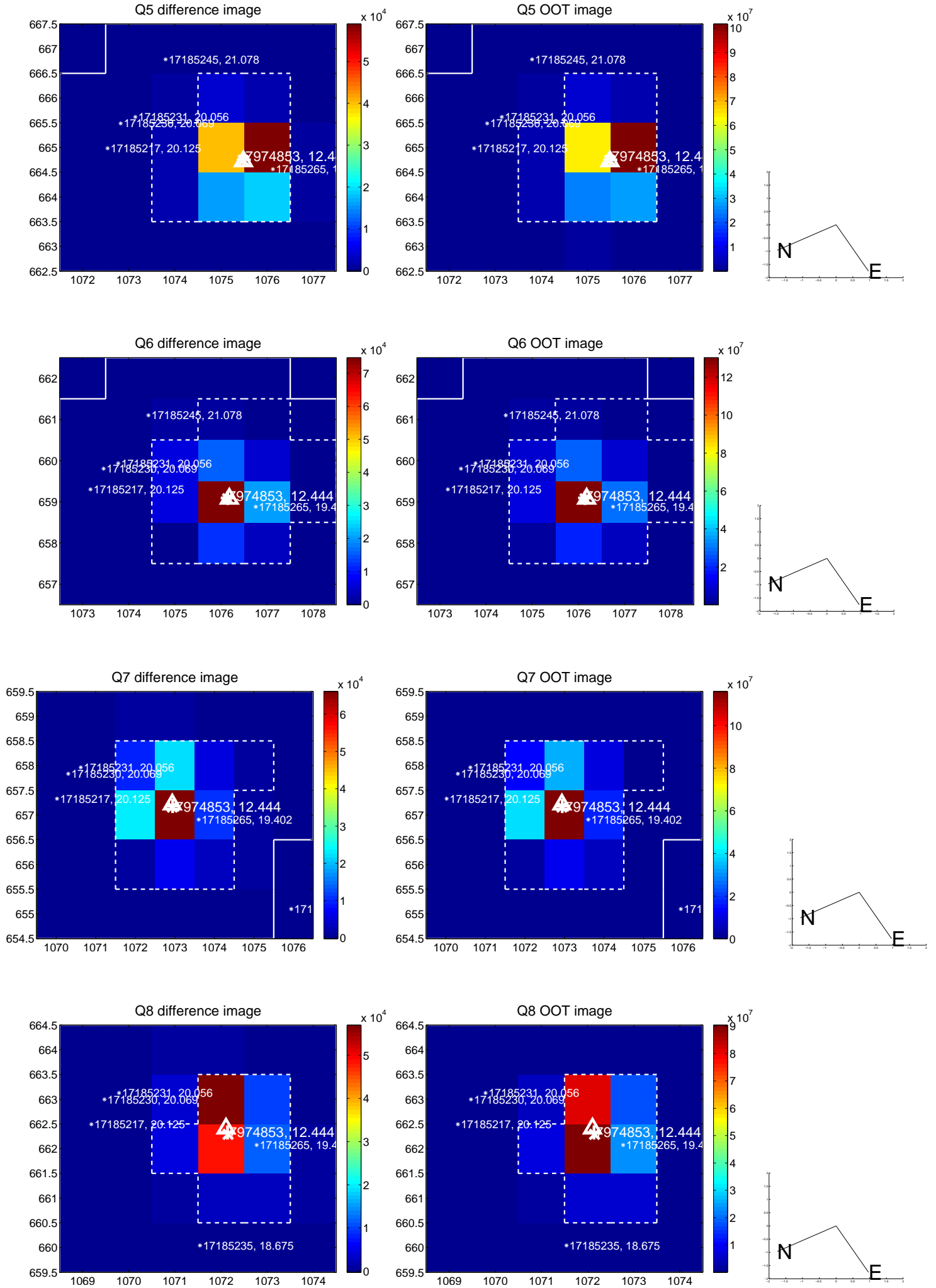


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

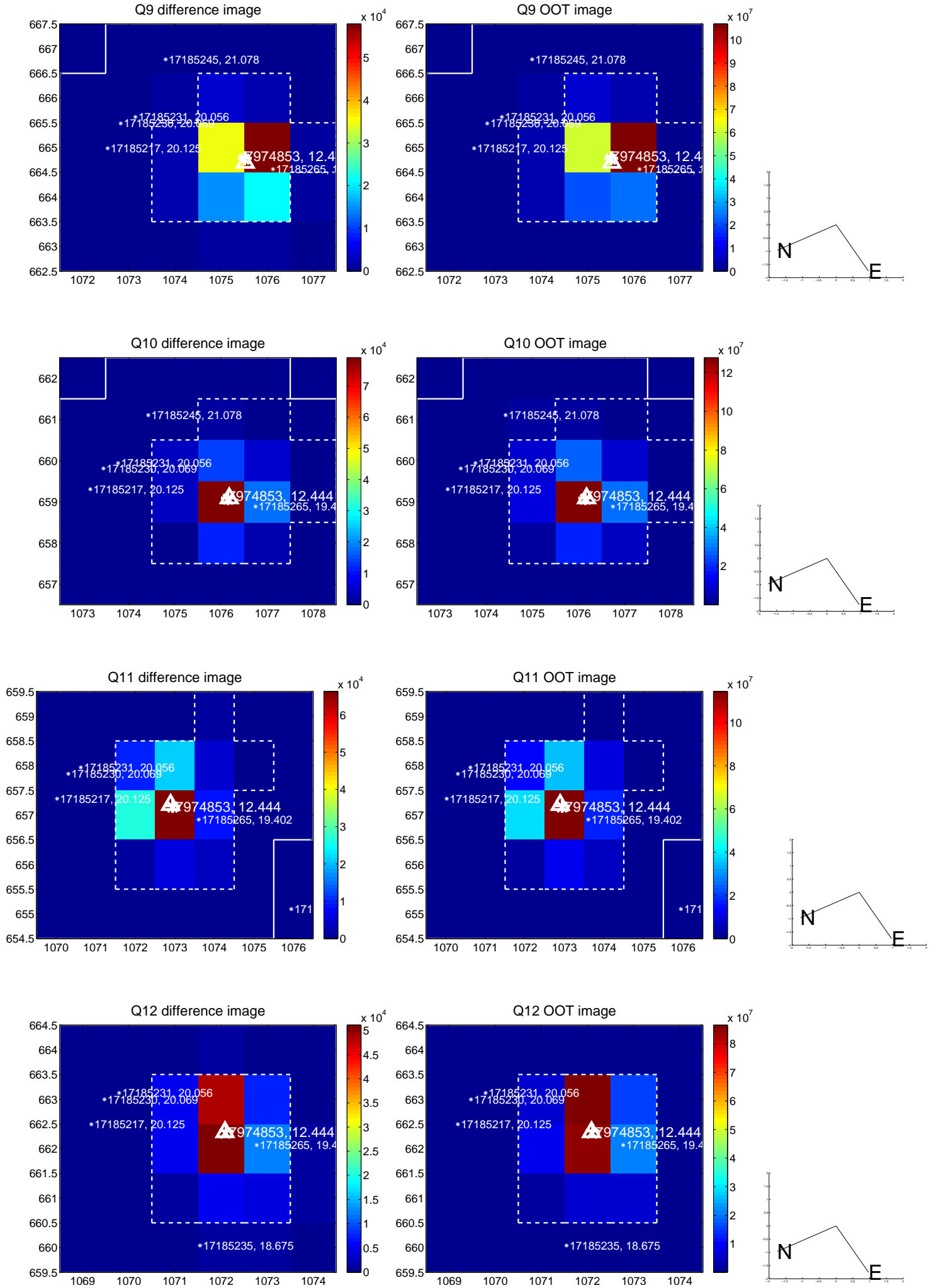
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



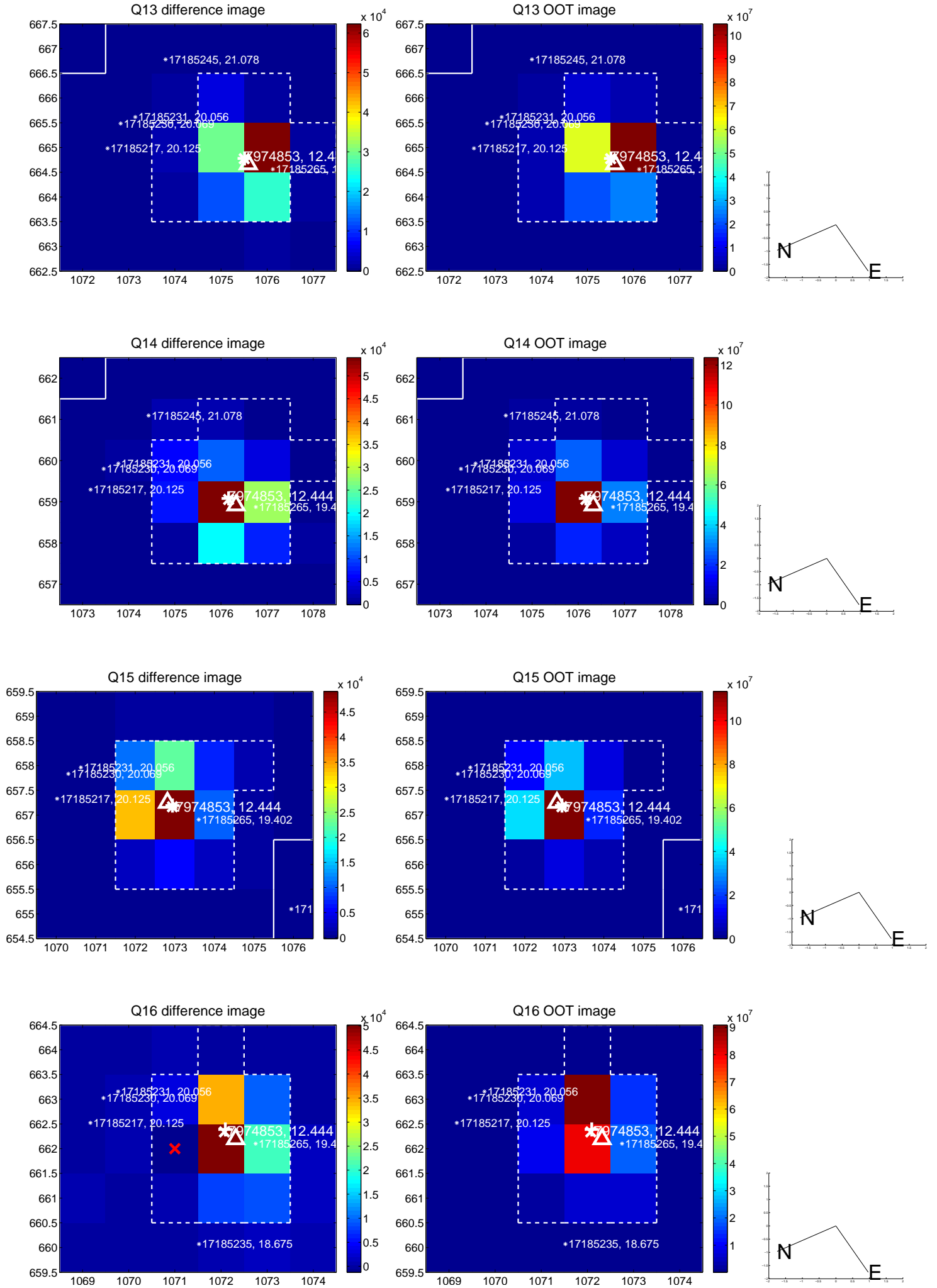
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



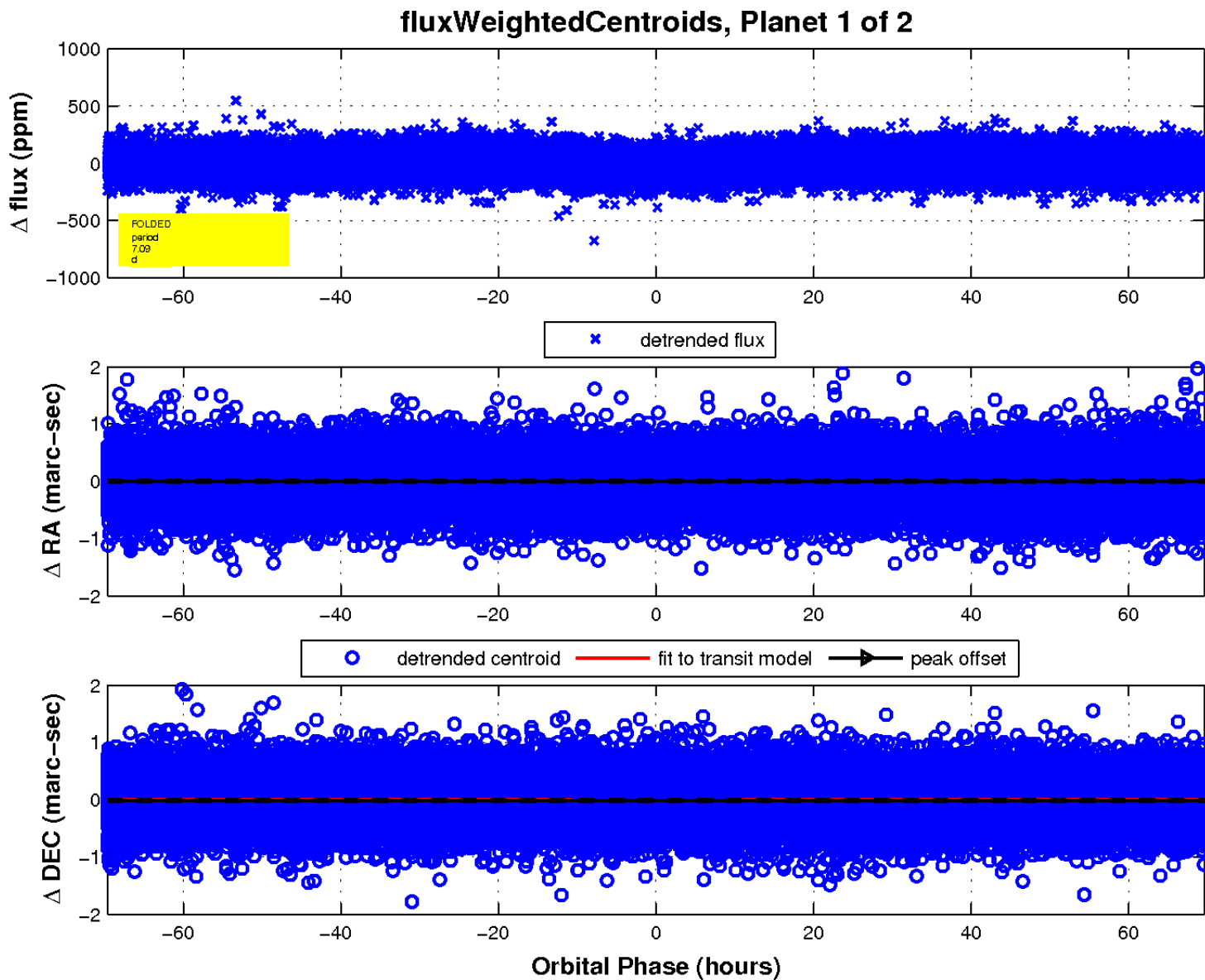
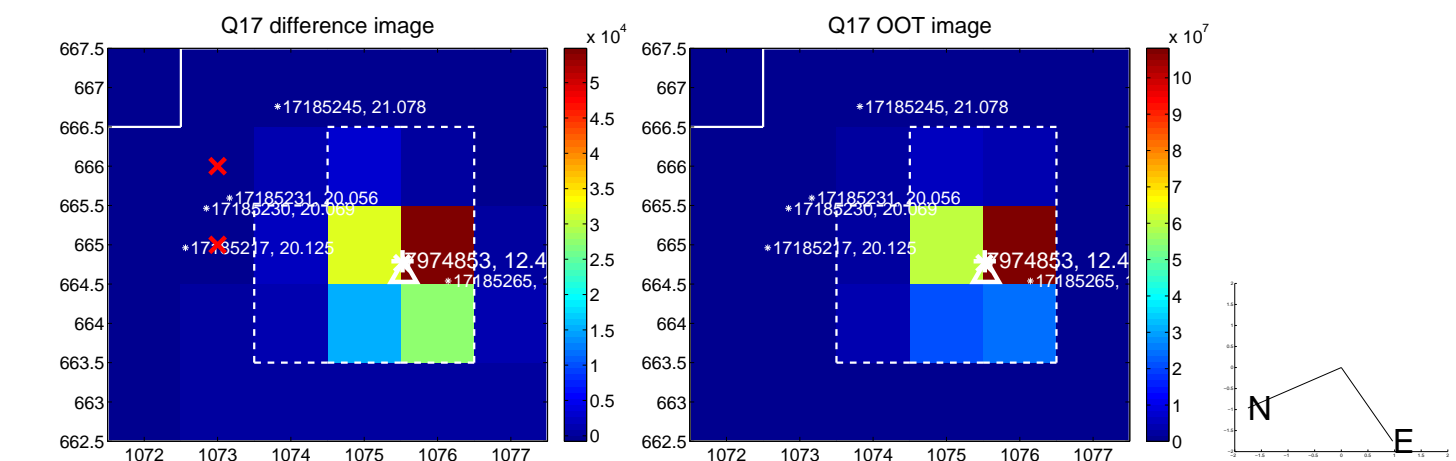
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

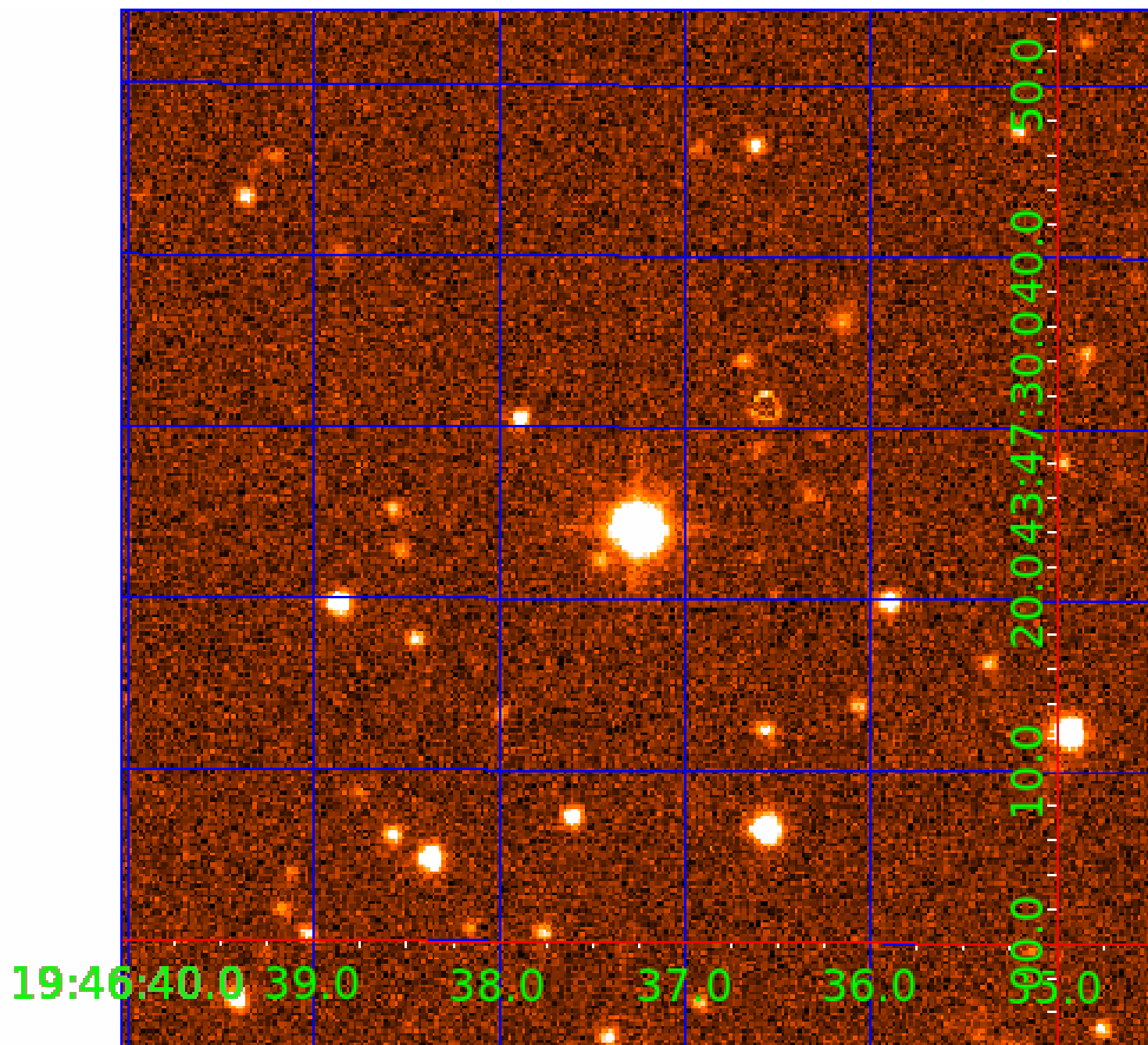


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007974853

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})
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007974853-01	OBS	FP	0.00	1	0	0	0	LPP_DV
007974853-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD

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

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

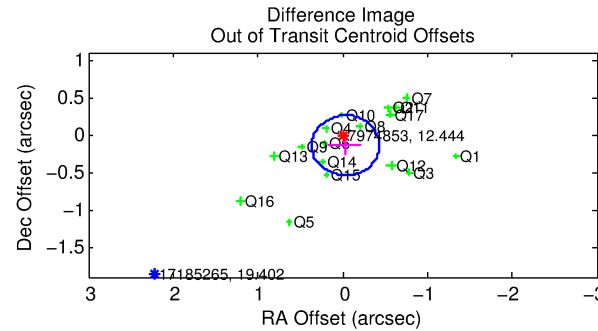
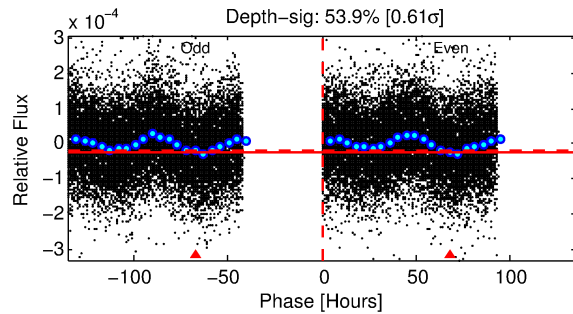
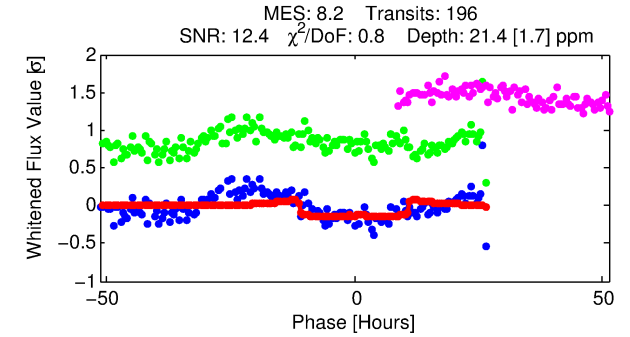
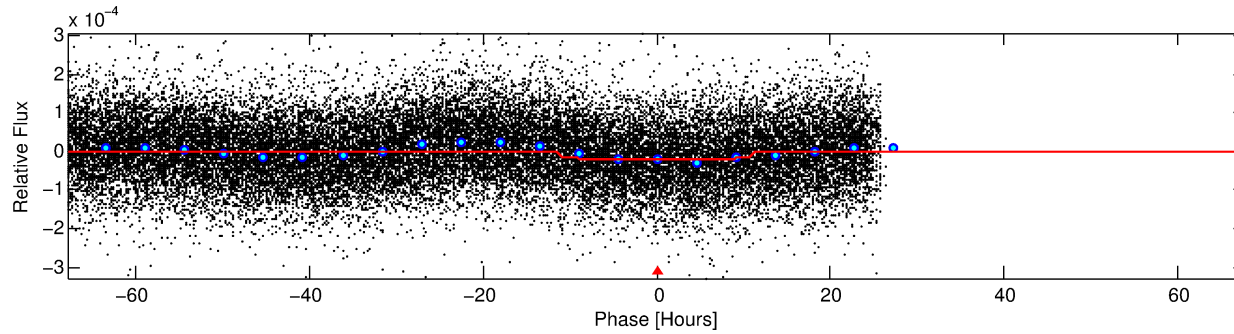
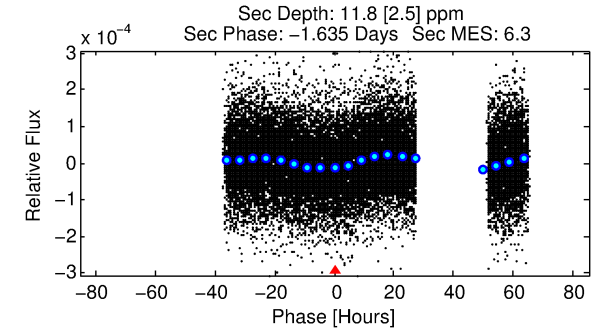
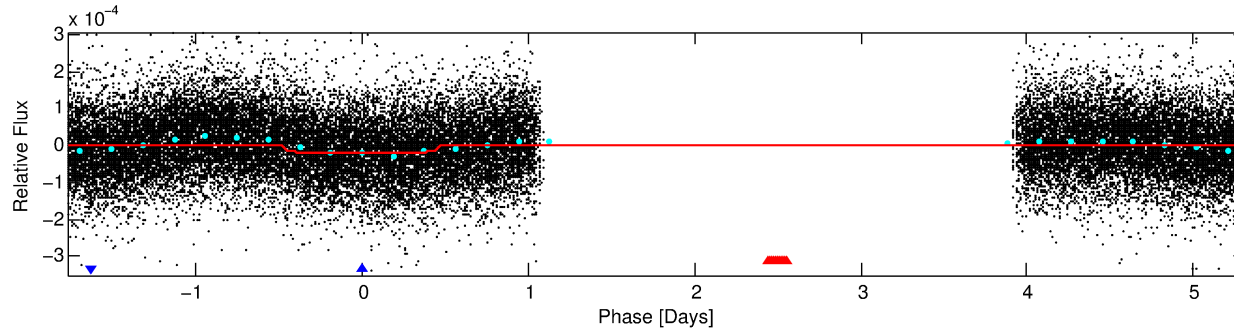
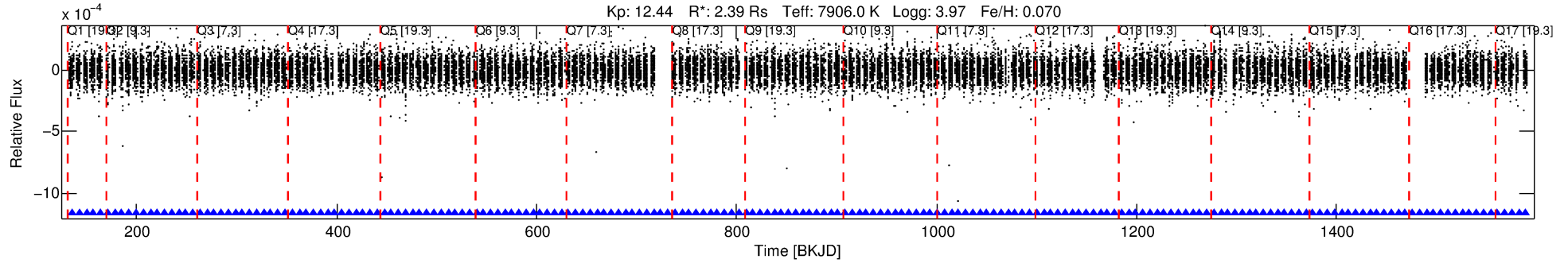
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007974853-02

No Significant Match Found

DV One-Page Summary

KIC: 7974853 Candidate: 2 of 2 Period: 7.090 d



DV Fit Results:

Period = 7.09024 [0.00010] d
Epoch = 135.8540 [0.0106] BKJD
Rp/R* = 0.0047 [0.0005]
a/R* = 1.66 [0.57]
b = 0.82 [0.22]
Seff = 2460.11 [993.47]
Teff = 1796 [181] K
Rp = 1.22 [0.38] Re
a = 0.0900 [0.0225] AU
Ag = 34.97 [16.40] [2.07σ]
Teffp = 6752 [561] K [8.40σ]

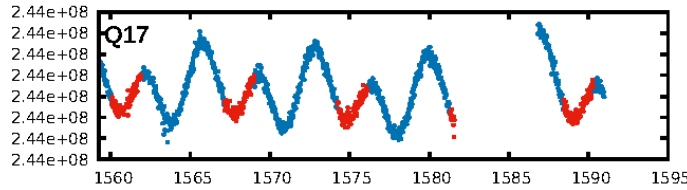
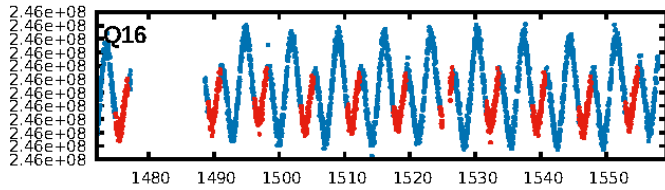
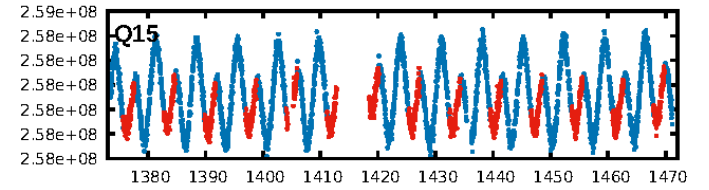
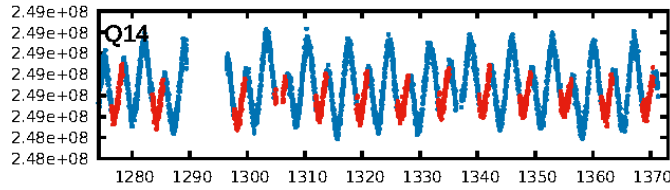
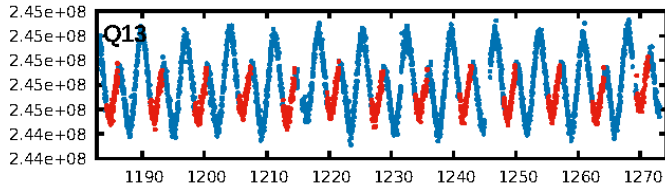
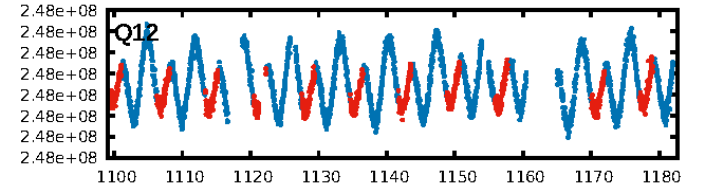
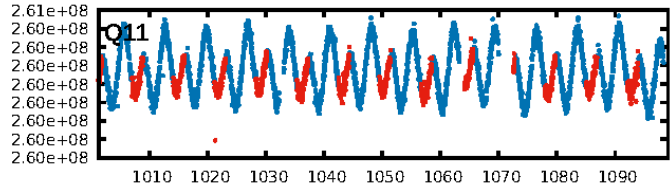
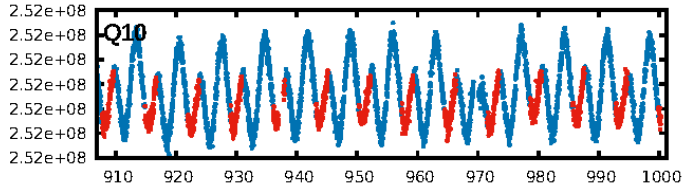
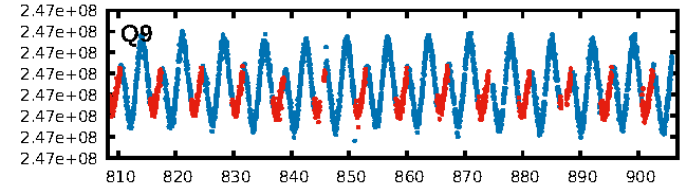
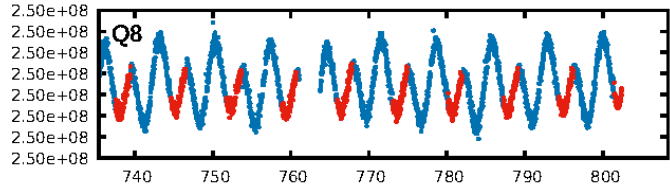
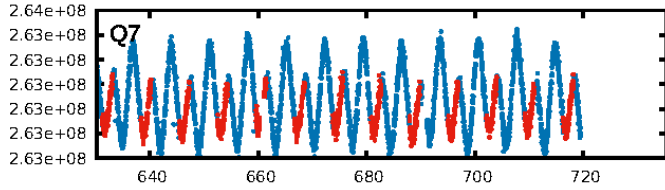
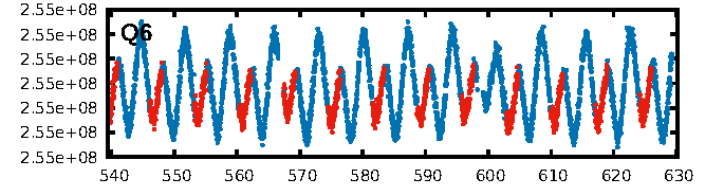
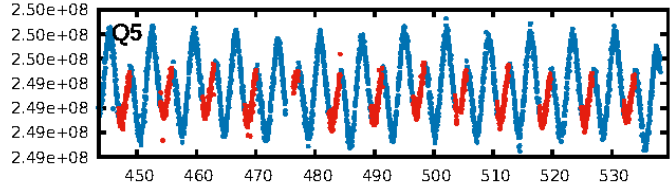
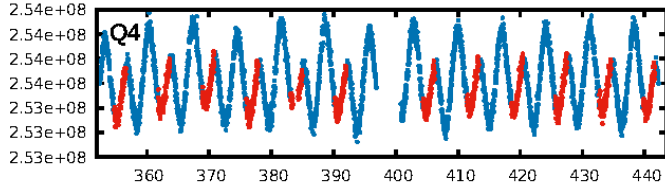
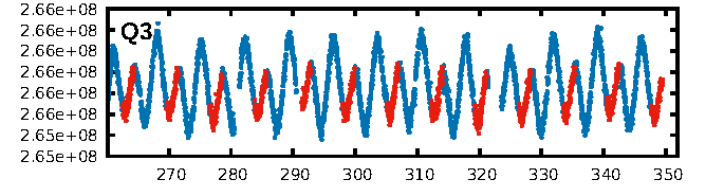
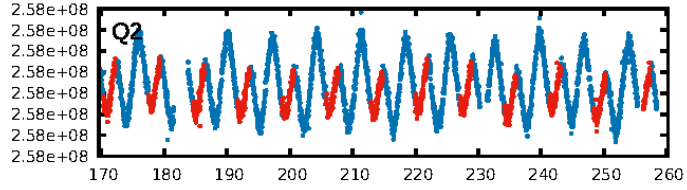
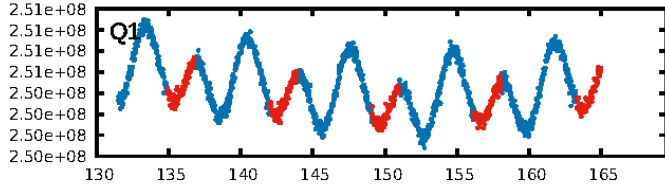
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.52e-20
RollingBand-fgt: 1.00 [187/187]
GhostDiagnostic-chr: 1.088
Centroid-sig: 32.5%
Centroid-so: 0.942 arcsec [1.32σ]
OotOffset-rm: 0.145 arcsec [1.09σ]
KicOffset-rm: 0.234 arcsec [1.57σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

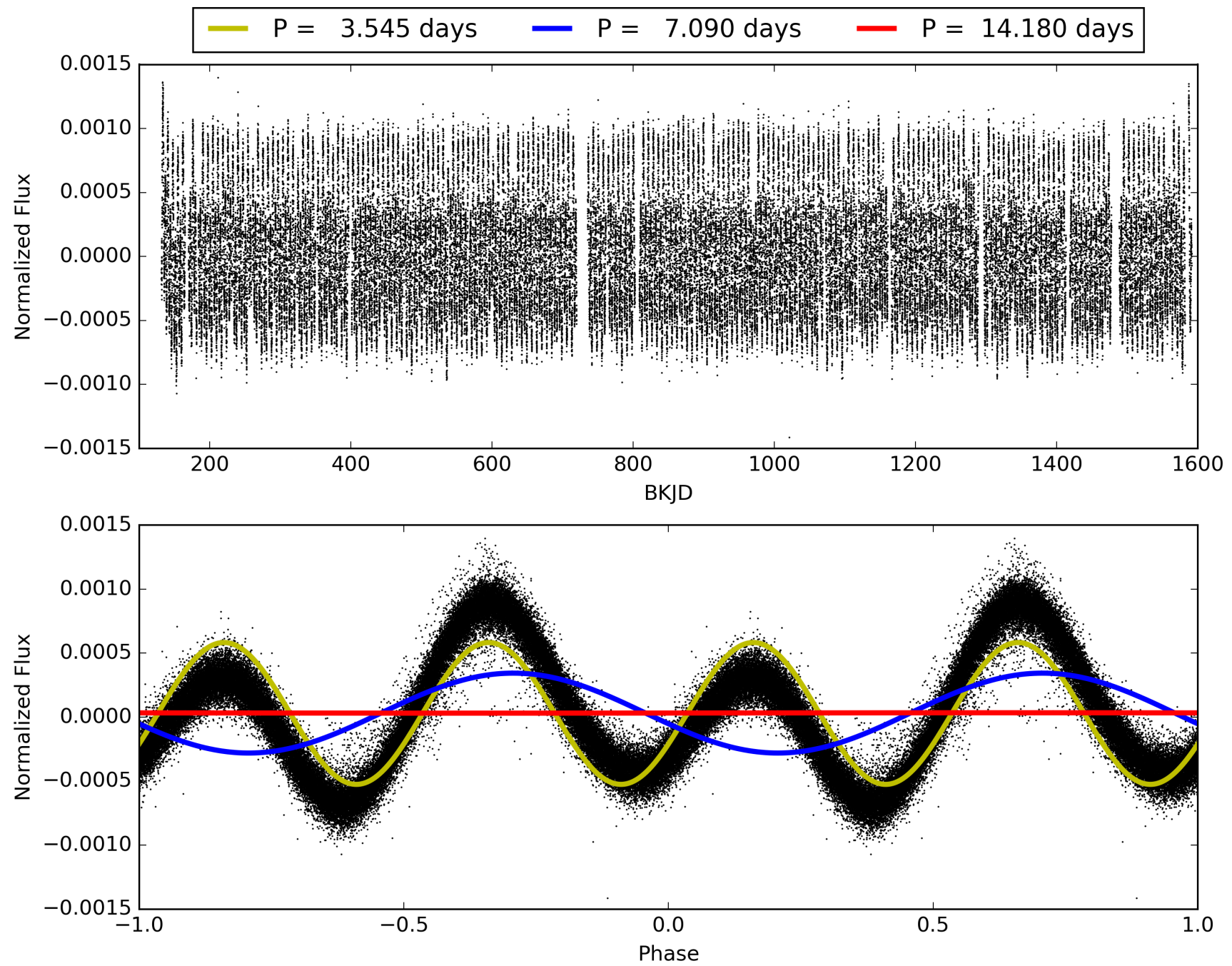
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:35:56 Z

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

TCE 007974853-02, PDC Light Curves

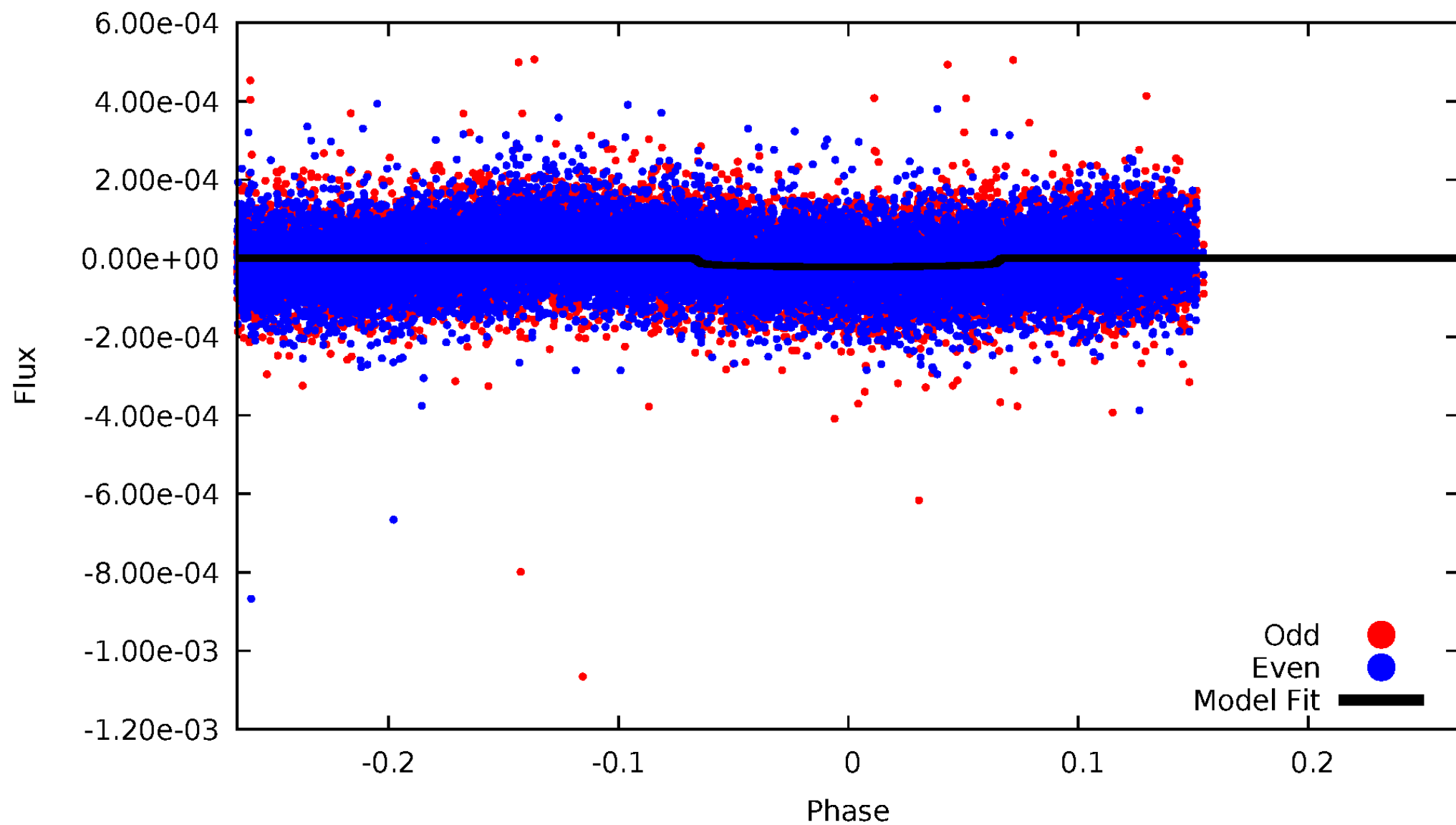


TCE 007974853-02



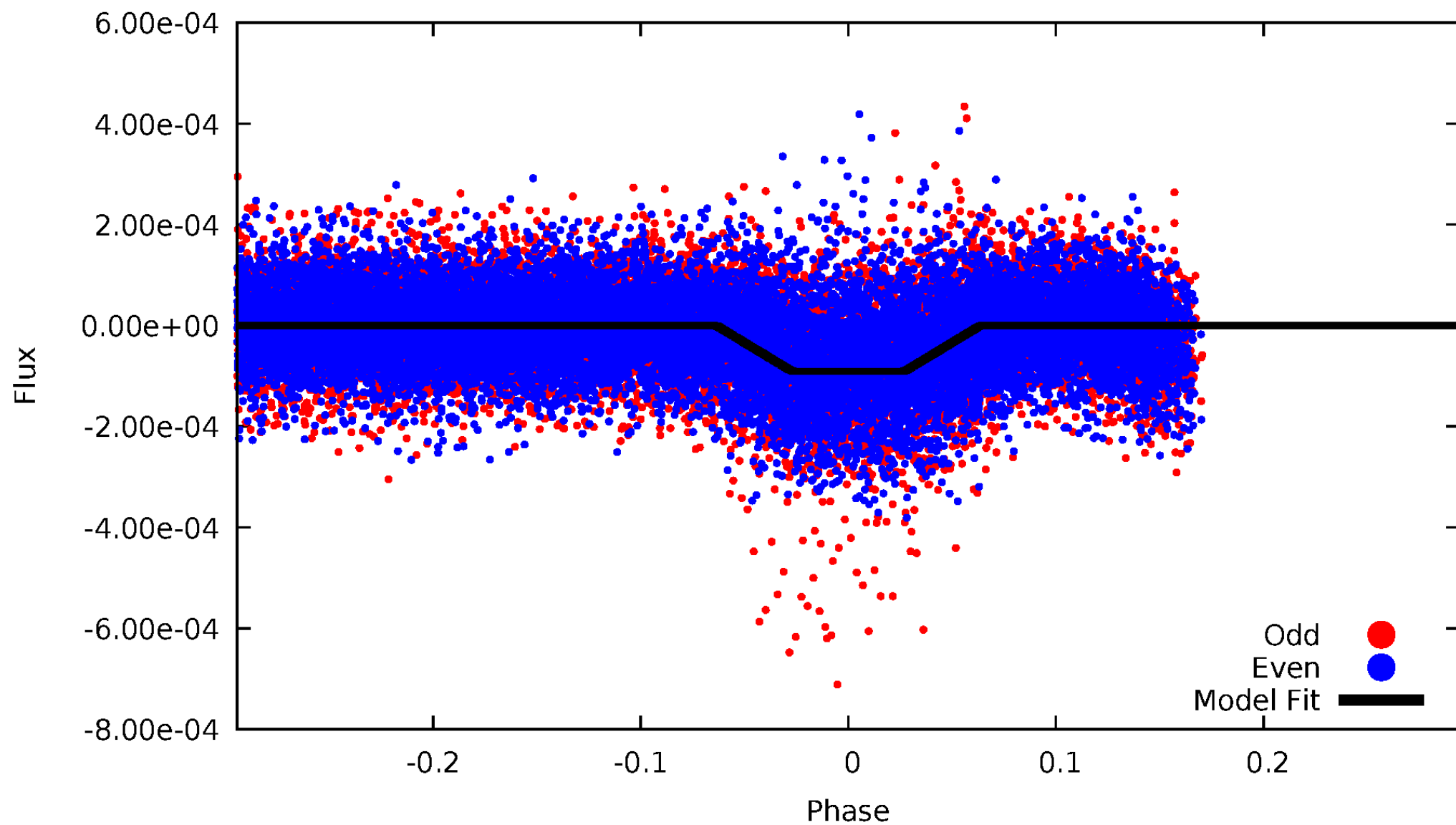
DV Odd/Even

TCE 007974853-02



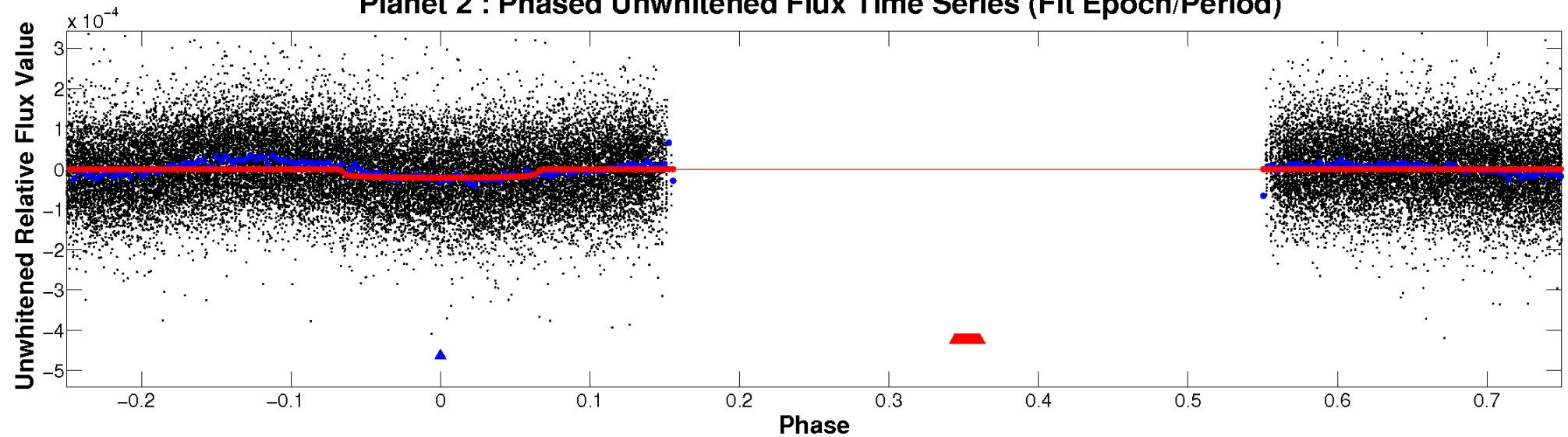
ALT Odd/Even

TCE 007974853-02

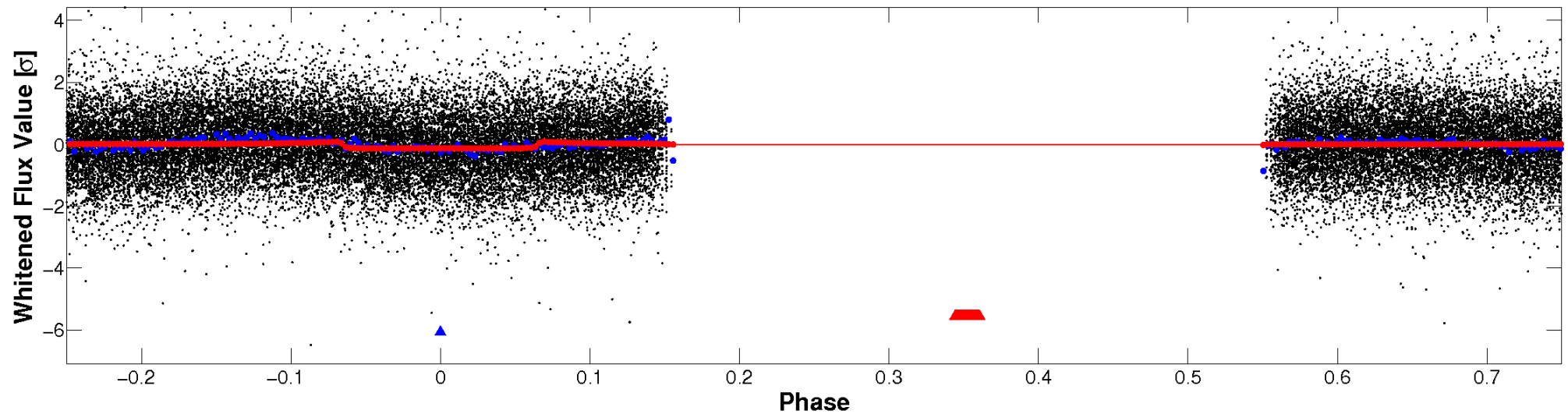


Non-Whitened Vs. Whitened Light Curve

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

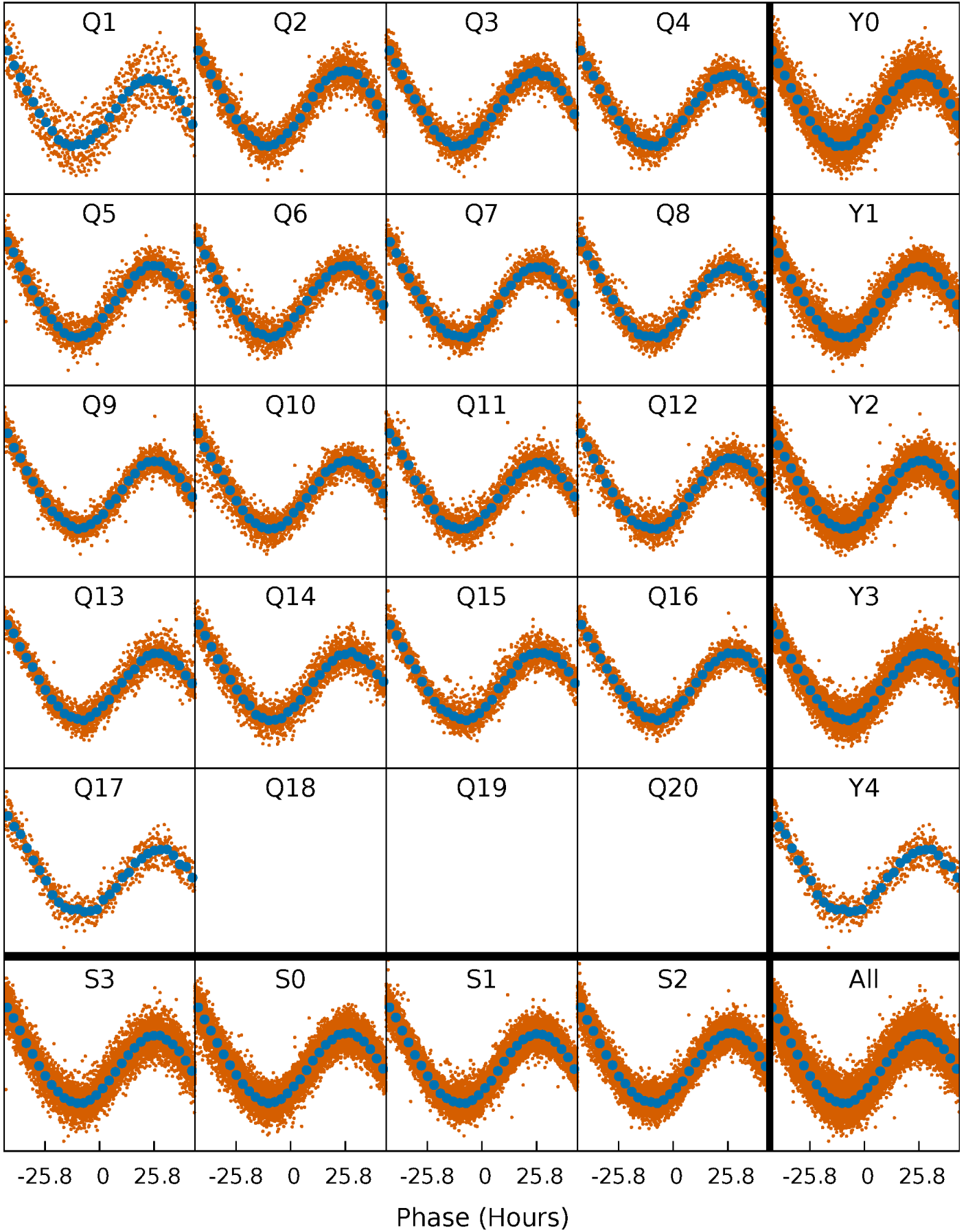


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



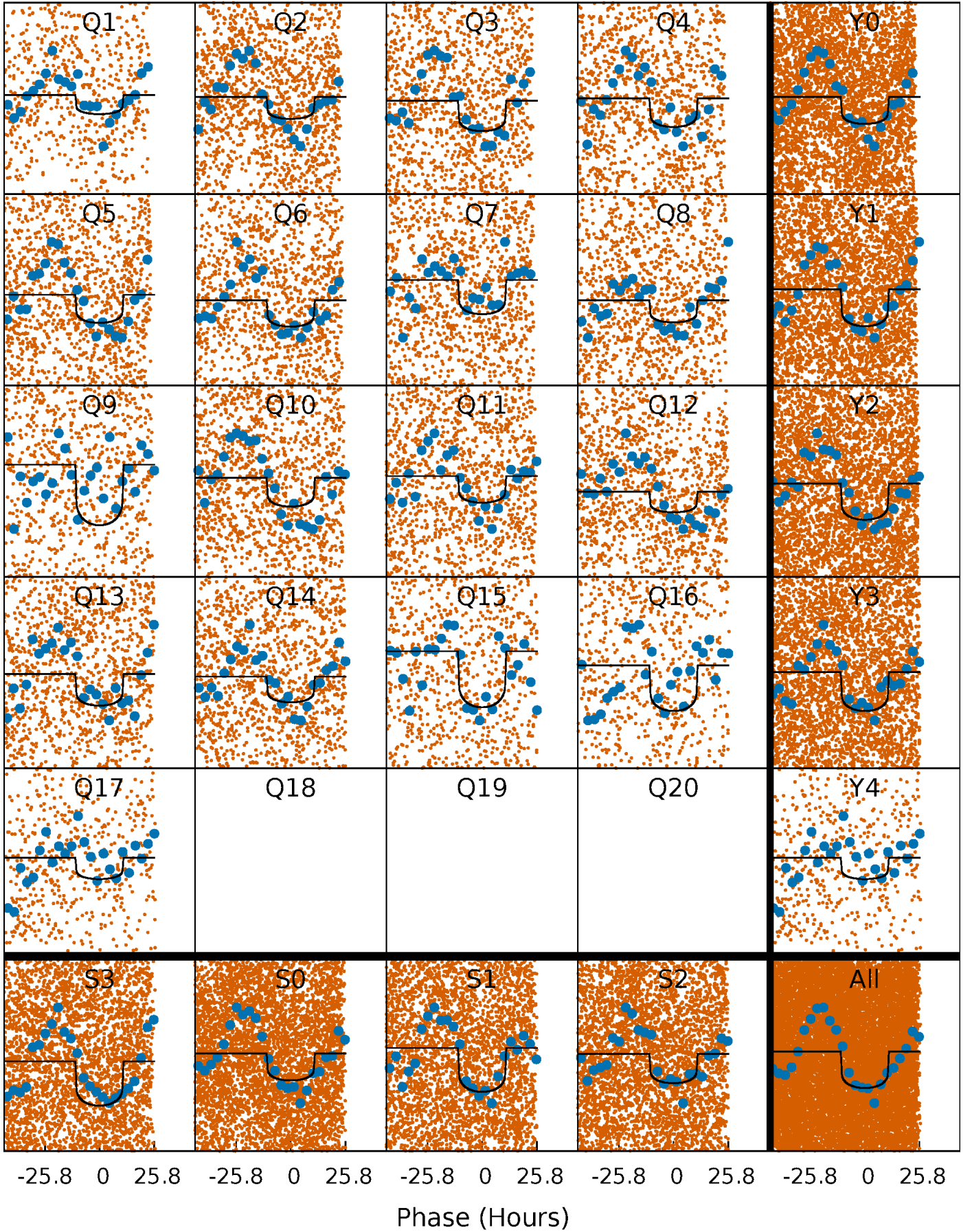
PDC Quarter-Phased Transit Curves

TCE 007974853-02 P= 7.090238 Days $T_0=135.854037$ (BKJD)



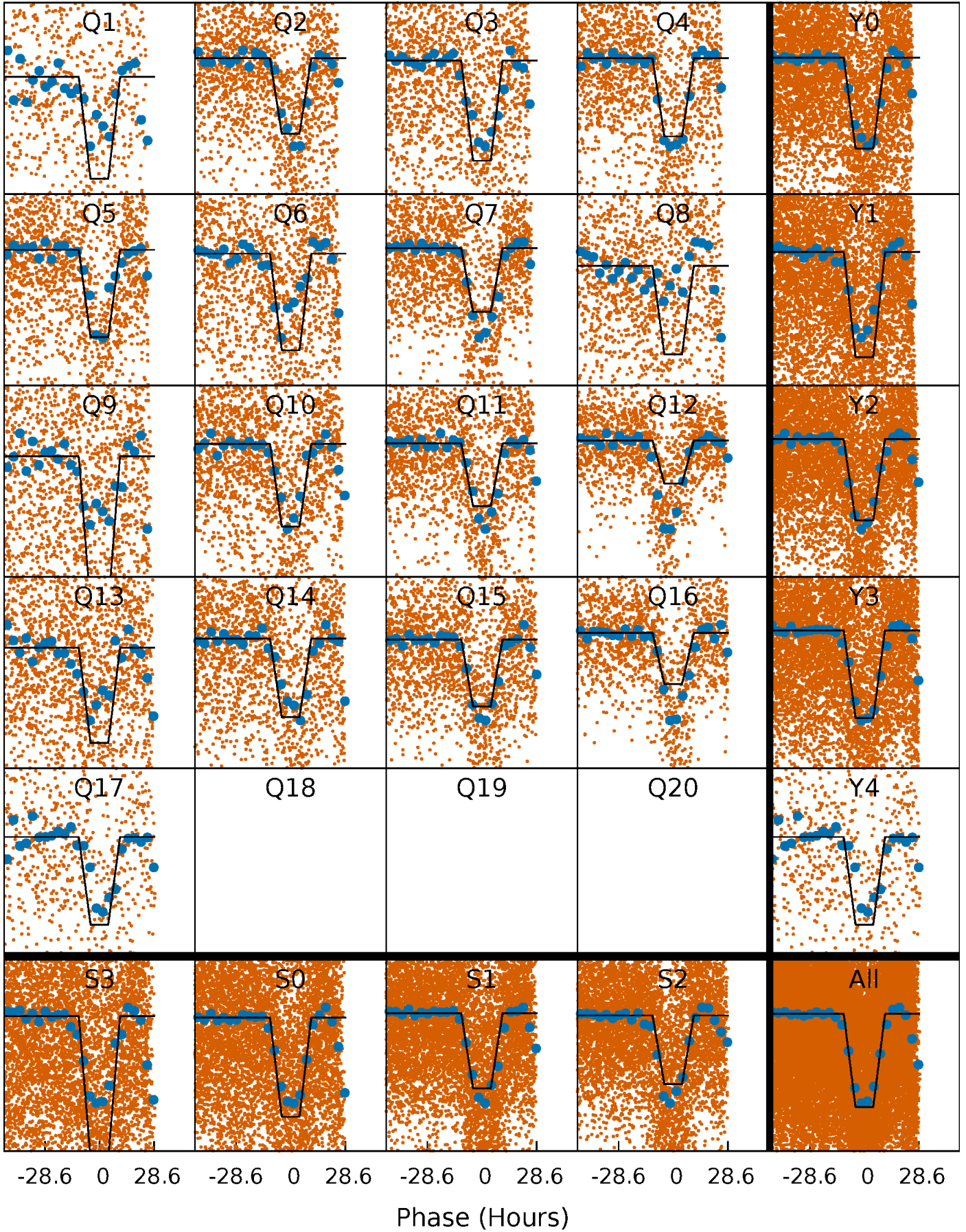
DV Quarter-Phased Transit Curves

TCE 007974853-02 P= 7.090238 Days $T_0=135.854037$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

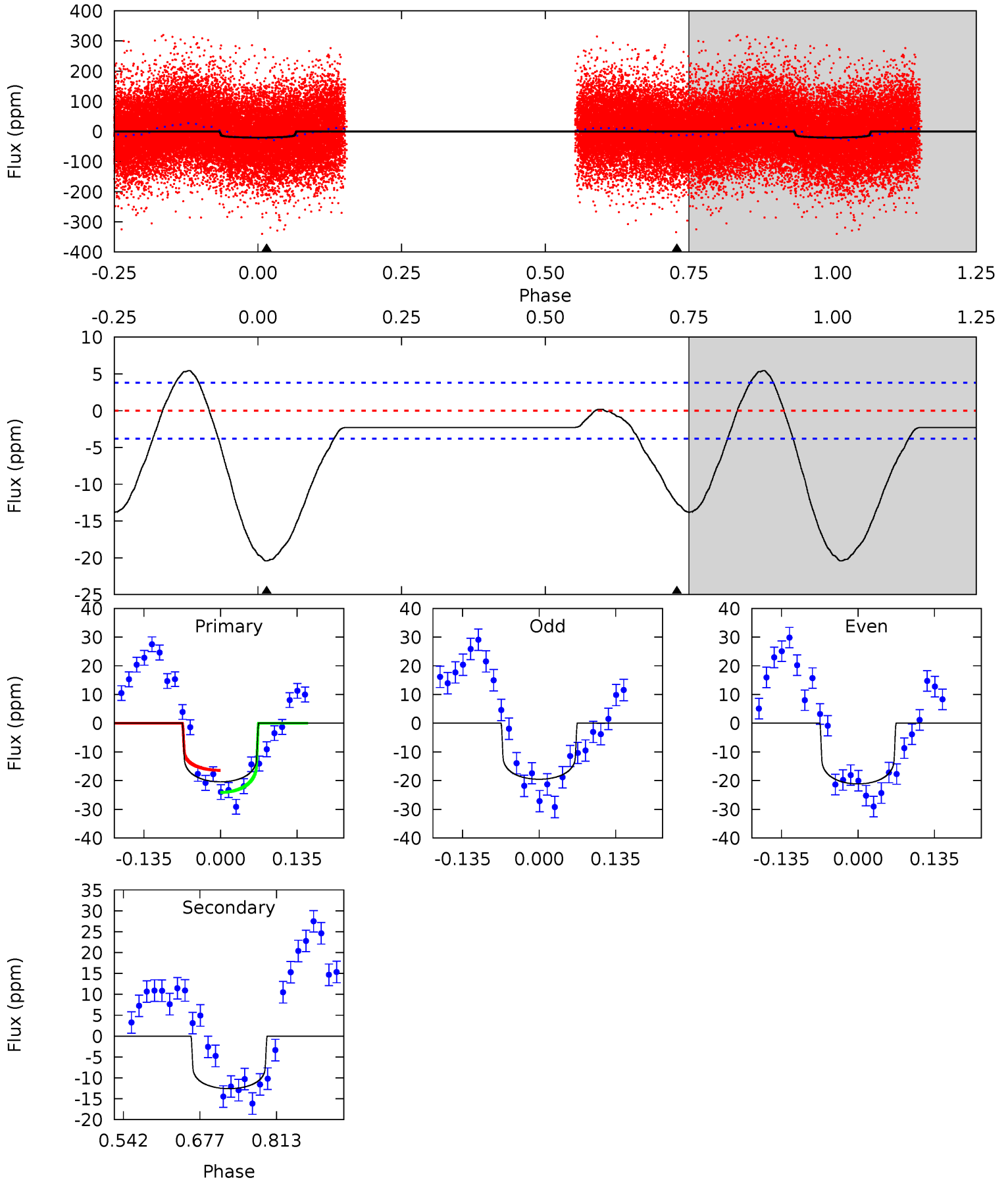
TCE 007974853-02 P= 7.089862 Days $T_0=135.818588$ (BKJD)



DV Model-Shift Uniqueness Test

007974853-02, P = 7.090238 Days, E = 128.763799 Days

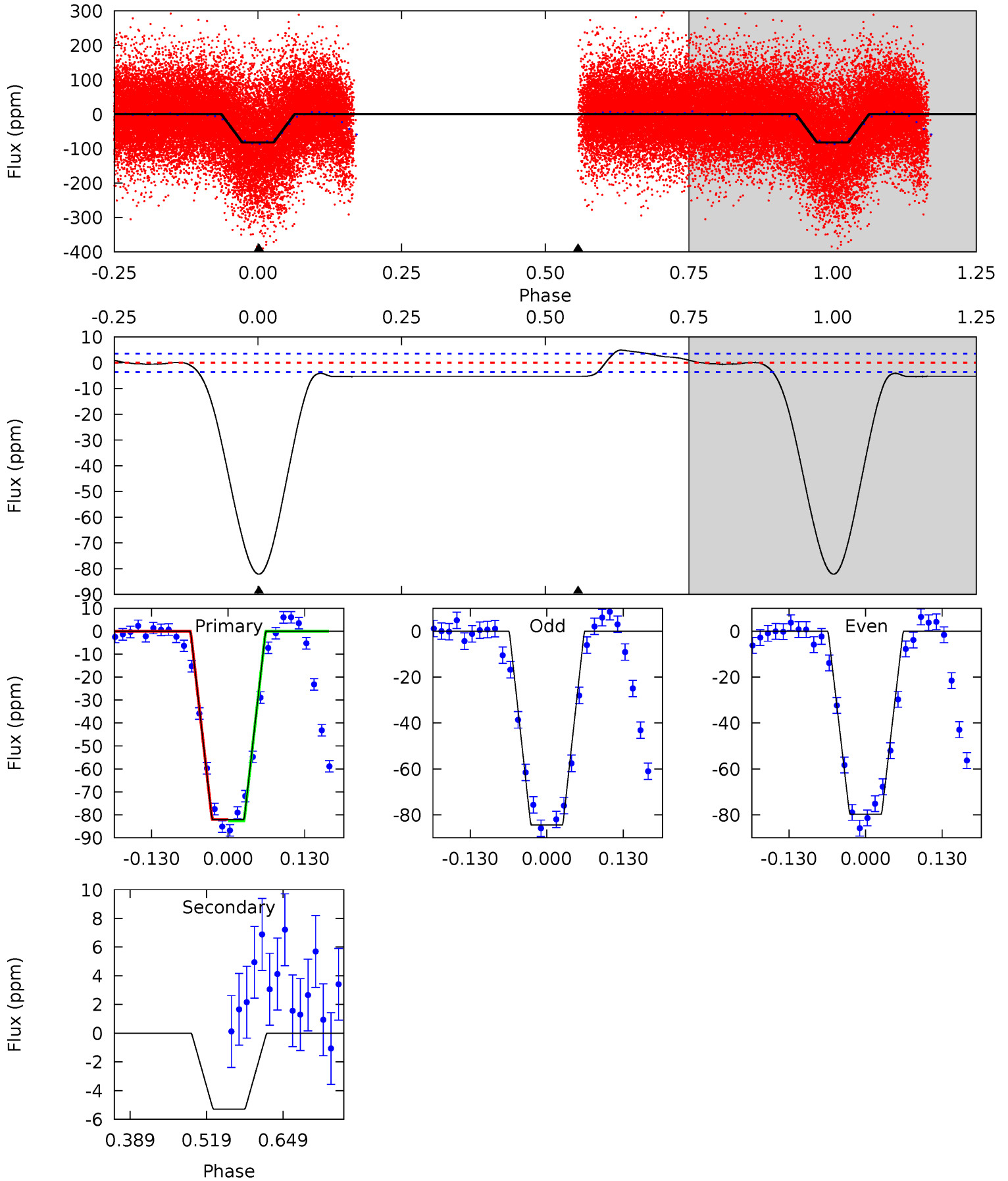
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.2	14.9	0	0	4.50	1.49	3.47	24.2	24.2	14.9	14.9	0.96	0.94	0.21	4.60



Alt Model-Shift Uniqueness Test

007974853-02, P = 7.089862 Days, E = 128.728726 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
103.7	6.68	0	0	4.51	1.51	2.83	103.7	103.7	6.68	6.68	2.97	1.03	0.06	0.31



Stellar Parameters For KIC 007974853

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7906^{+216}_{-324}	$3.969^{+0.204}_{-0.136}$	$0.070^{+0.150}_{-0.400}$	$2.386^{+0.466}_{-0.699}$	$1.932^{+0.206}_{-0.383}$	$0.200^{+0.243}_{-0.075}$
	+3%/-4%	+5%/-3%	+214%/-571%	+20%/-29%	+11%/-20%	+121%/-37%
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 007974853-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-13 ± 1	$1.21^{+0.19}_{-0.21}$	2495^{+158}_{-202}	6654^{+448}_{-382}	38^{+16}_{-10}
Alt.	-5 ± 1	$2.46^{+0.32}_{-0.40}$	2486^{+166}_{-185}	4025^{+154}_{-166}	$3.895^{+1.380}_{-0.934}$

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

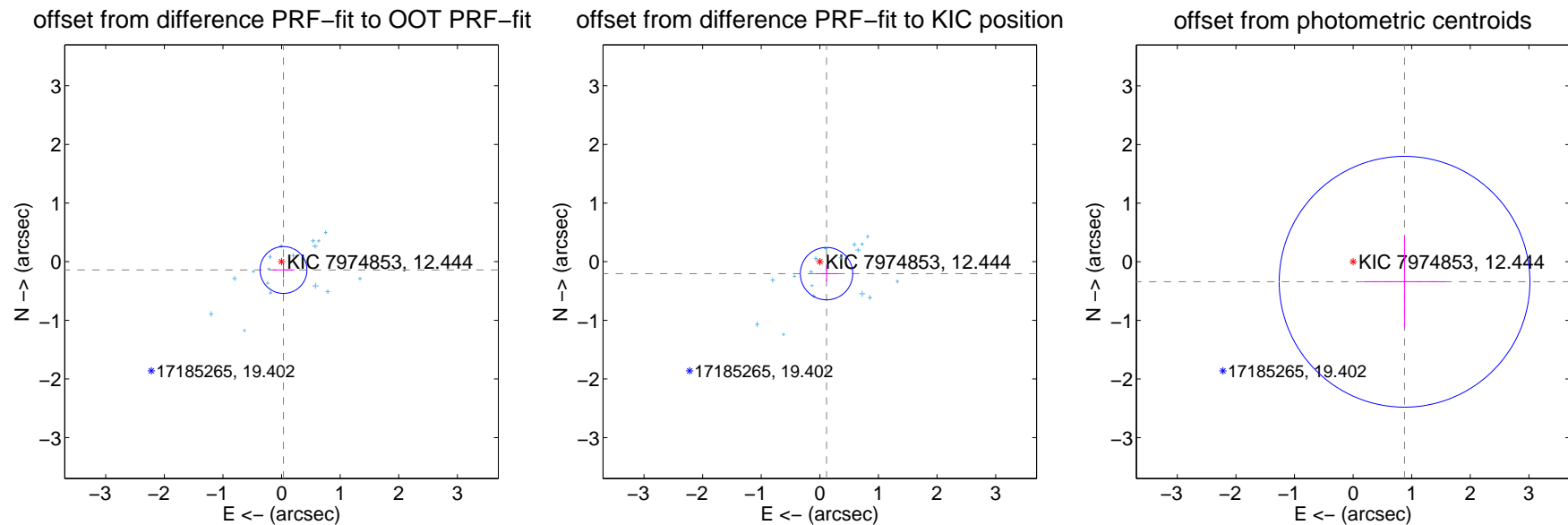
DV Centroid Data

Supplemental centroid analysis for 007974853-02. Kepler magnitude: 12.44. Transit SNR 12.38

There are 17 quarters with good PRF difference image offsets

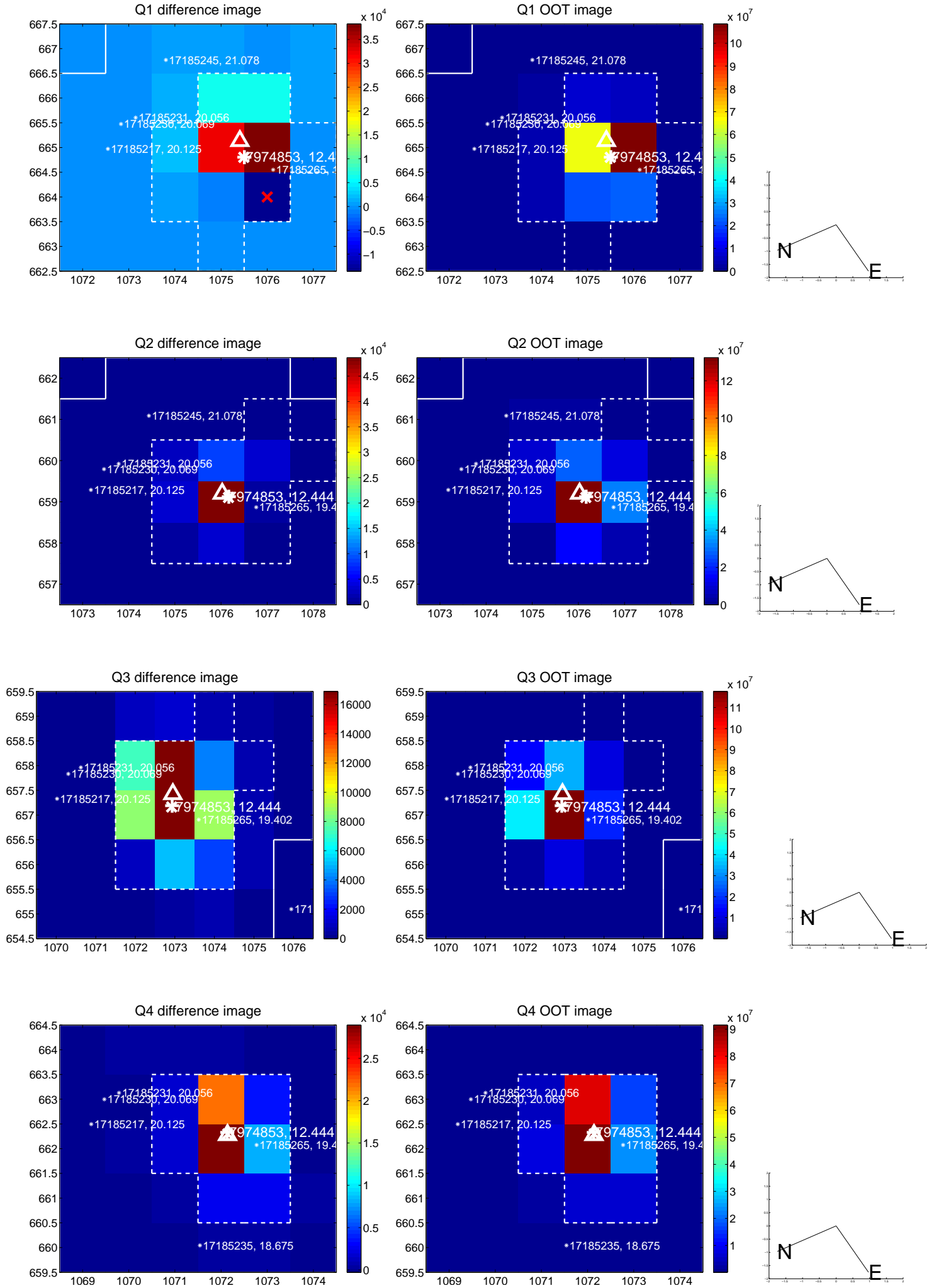
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.145 ± 0.133	1.09	-0.033 ± 0.187	-0.142 ± 0.130
PRF-fit source offset from KIC position	0.234 ± 0.149	1.57	-0.114 ± 0.191	-0.204 ± 0.133
photometric centroid source offset	0.94 ± 0.71	1.32	-0.88 ± 0.70	-0.34 ± 0.78

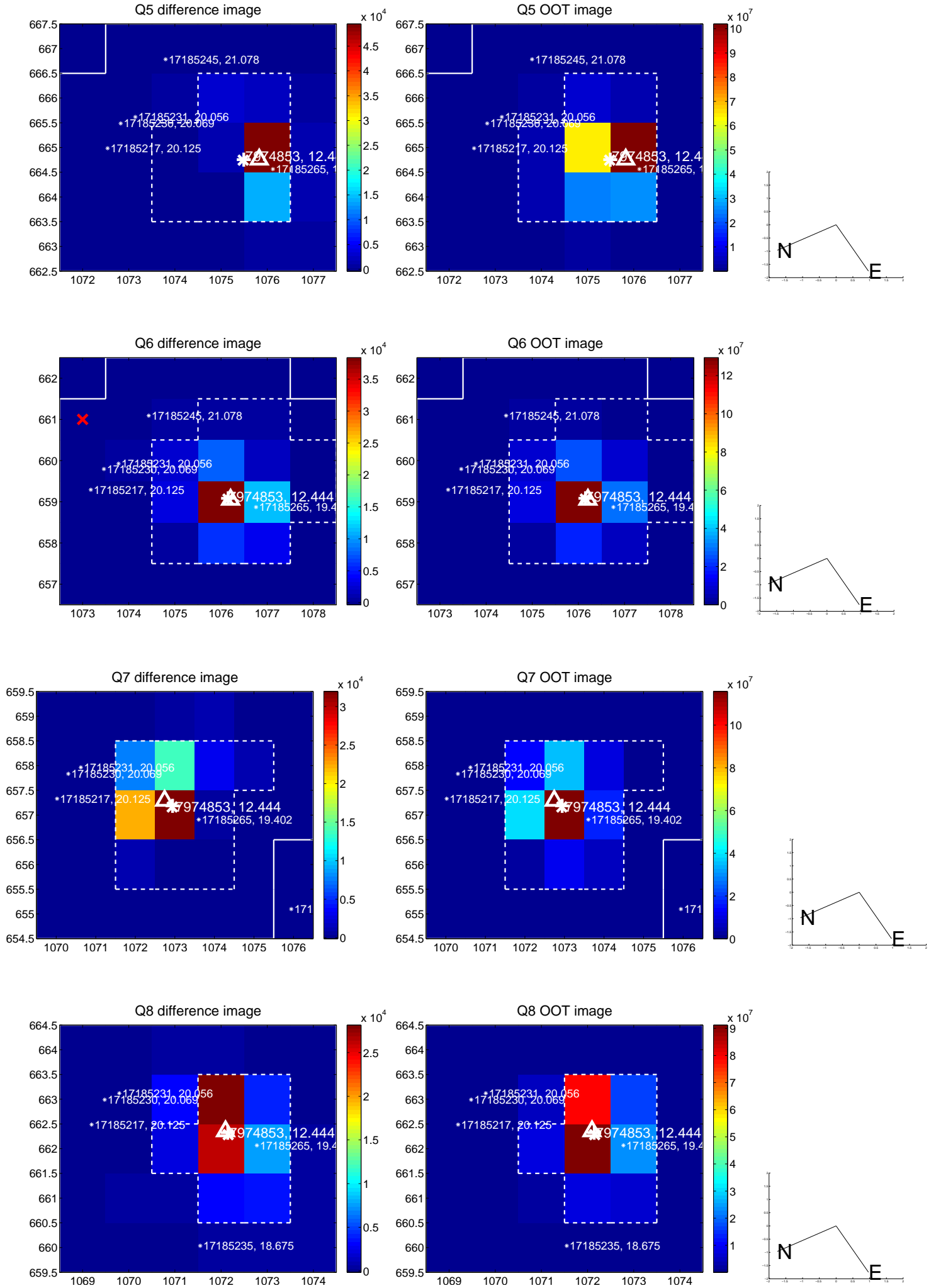


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

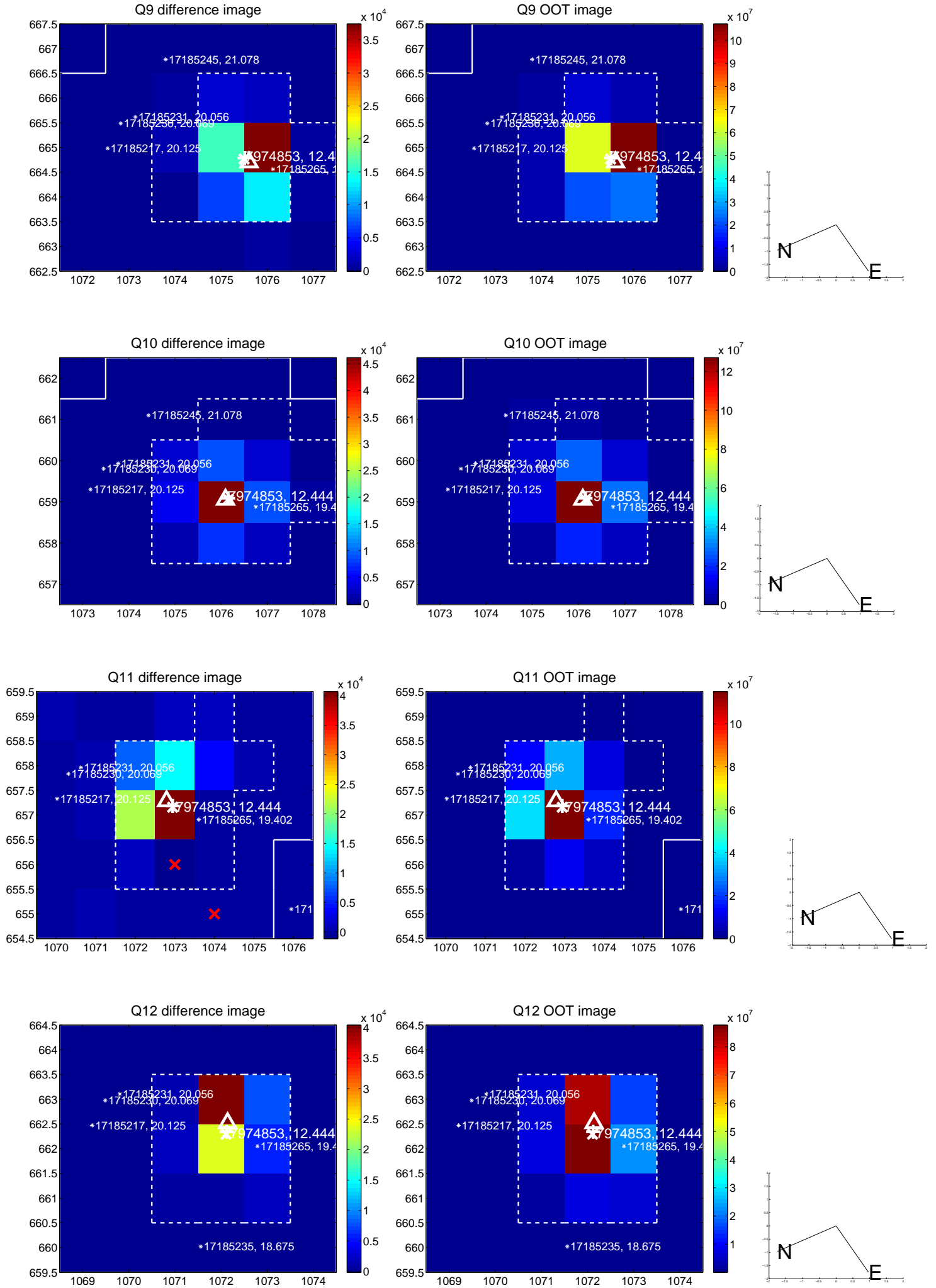
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



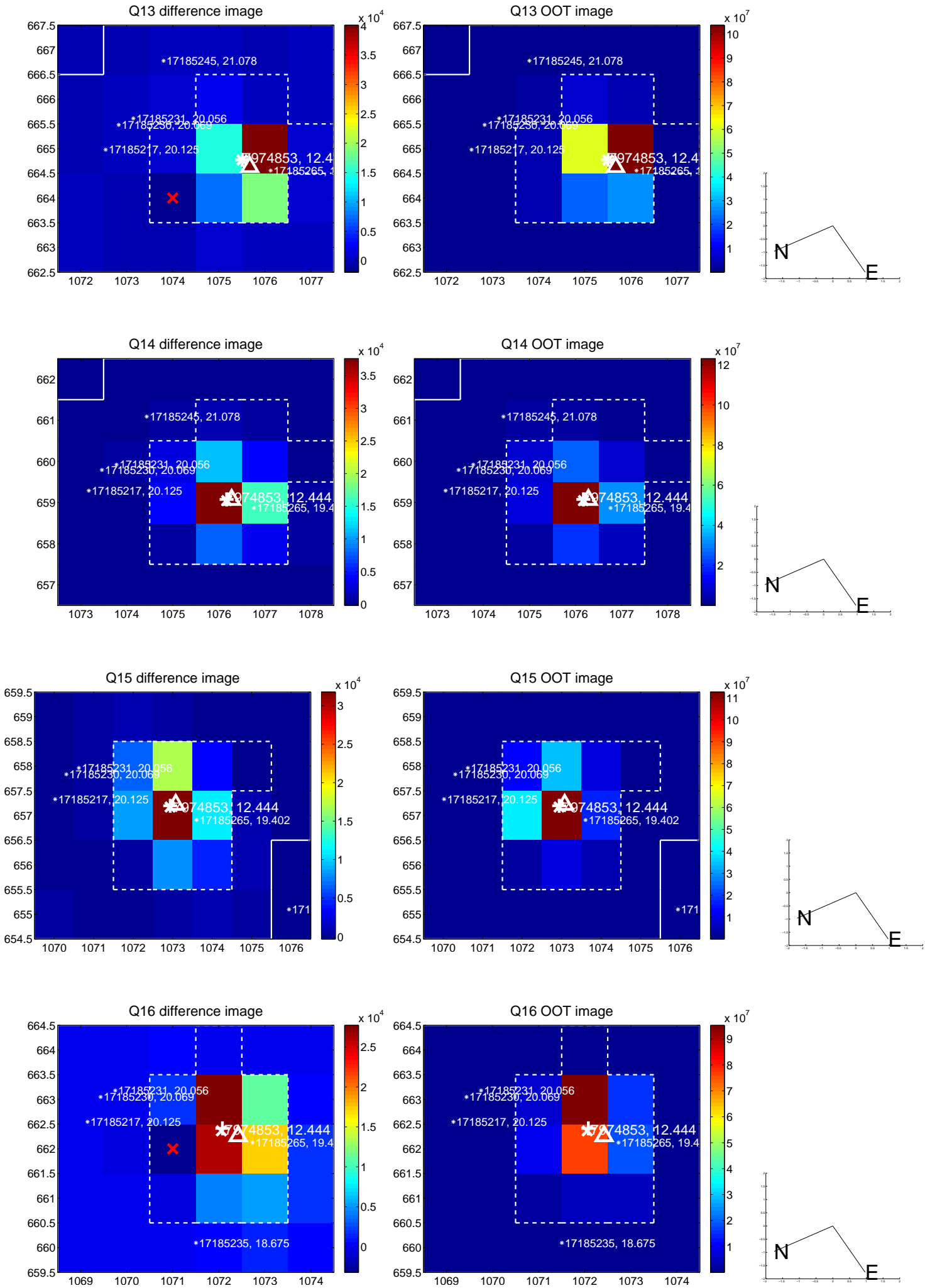
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



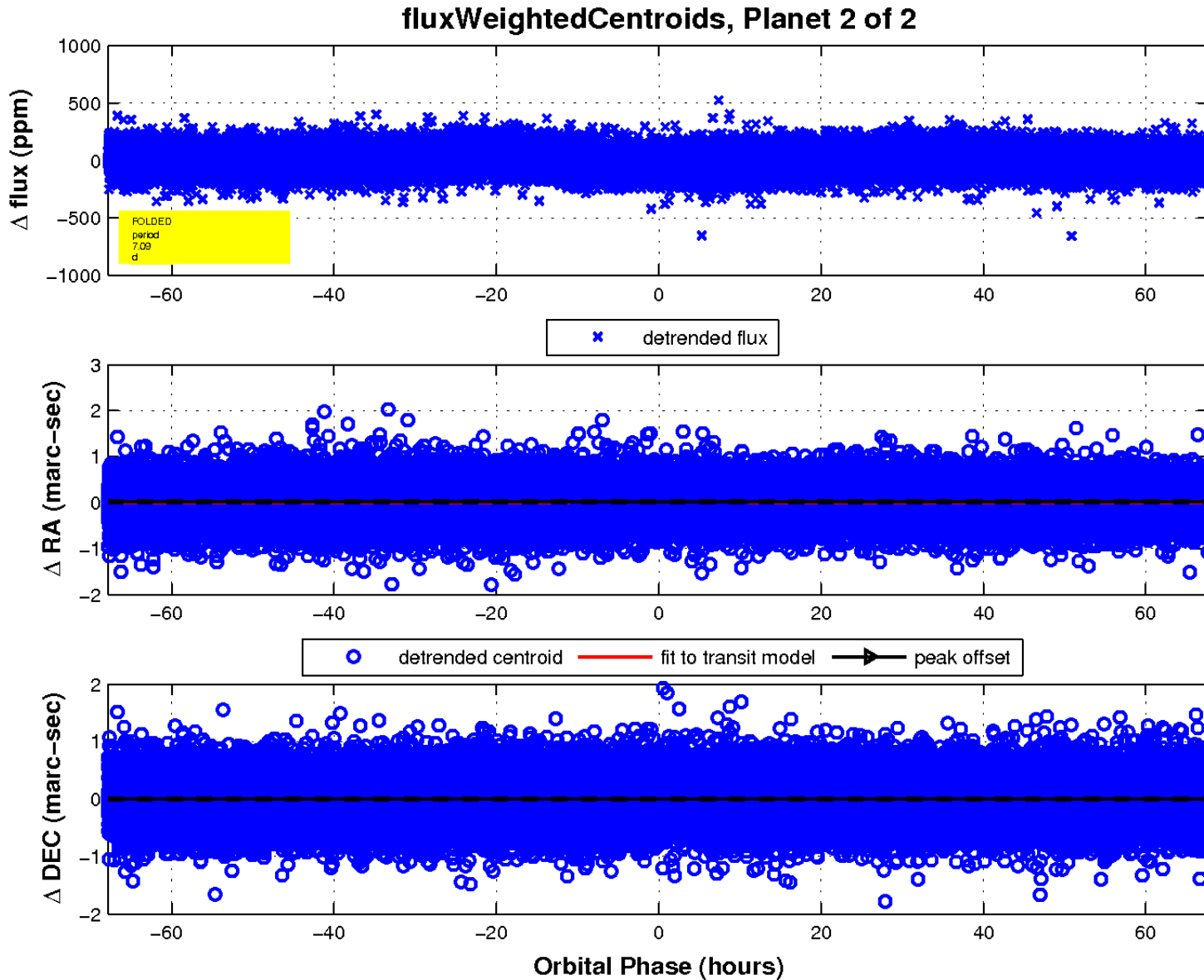
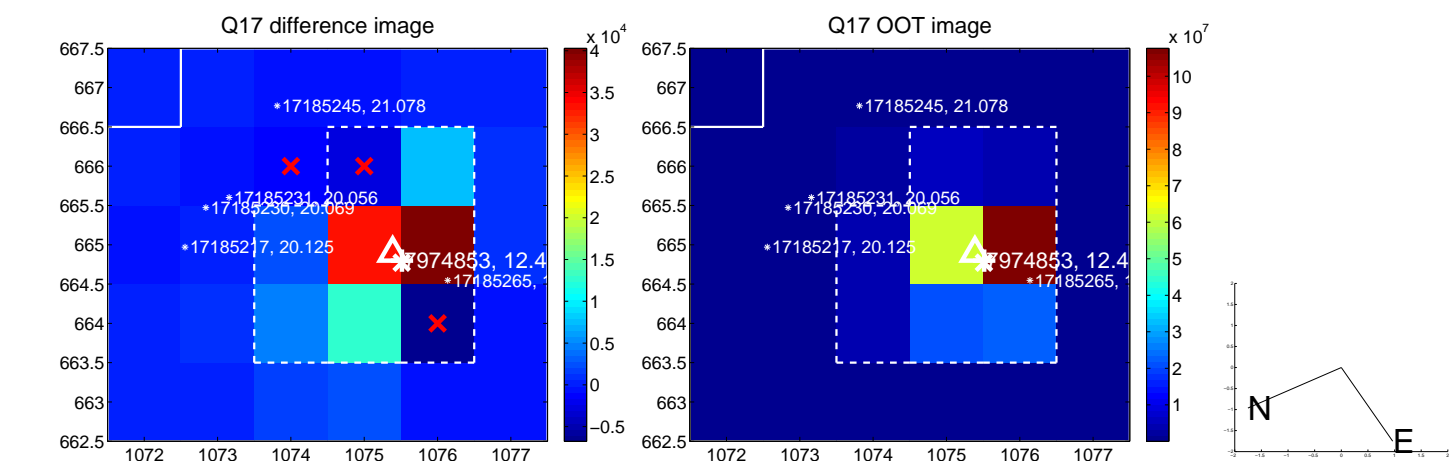
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

