

KIC 003336845

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})
003336845-01	OBS	4275.01	0.996850	132.106692	80.4	1.013	16.9	18.6	0.78	5418	0.74	1505.04
003336845-02	OBS	No	0.996854	131.608567	41.6	1.321	9.9	11.2	0.78	5418	0.60	1505.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003336845-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET
003336845-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET—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.

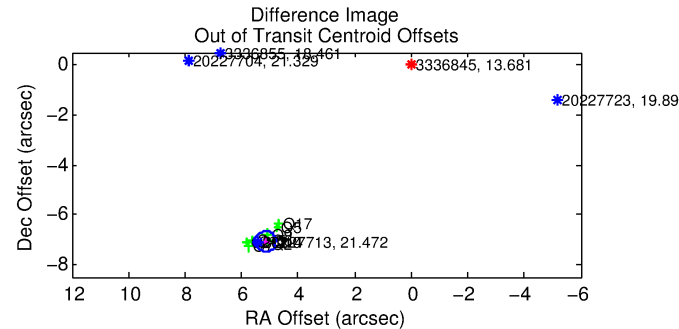
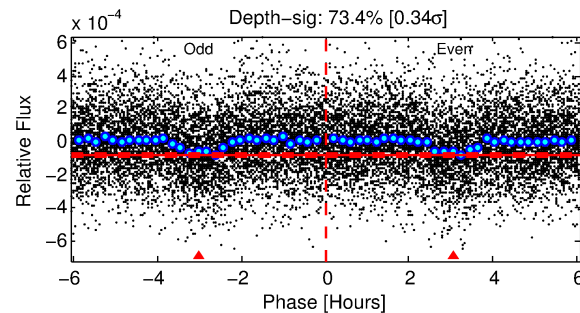
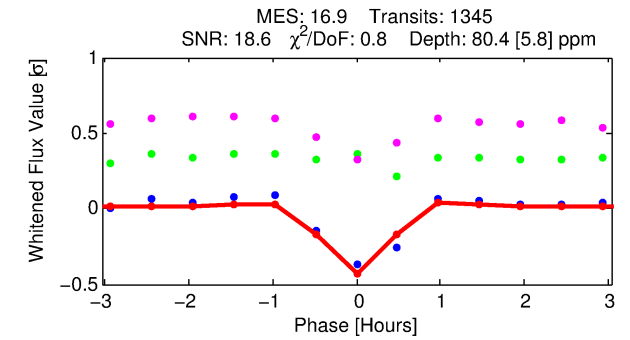
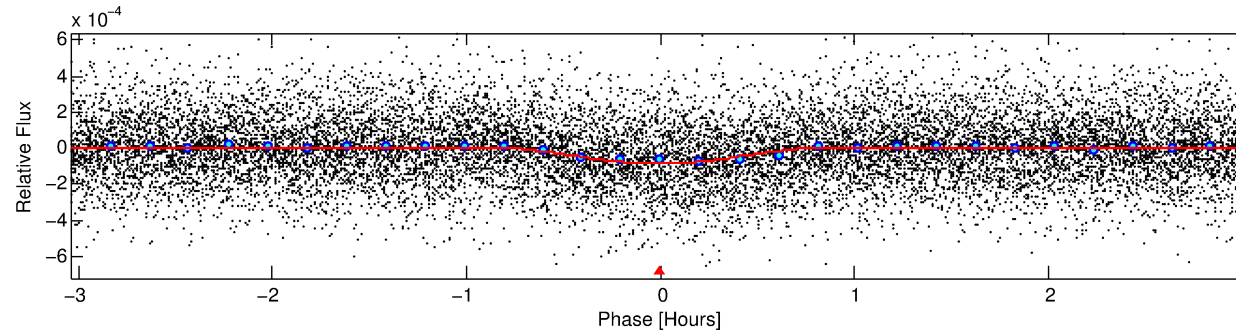
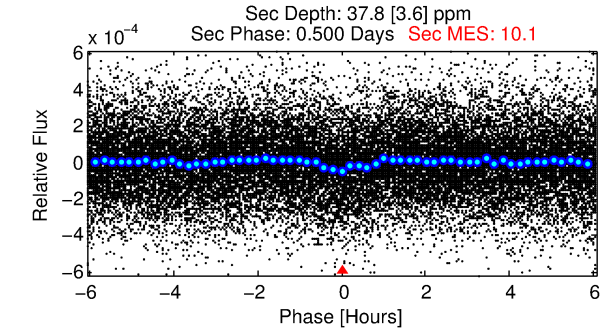
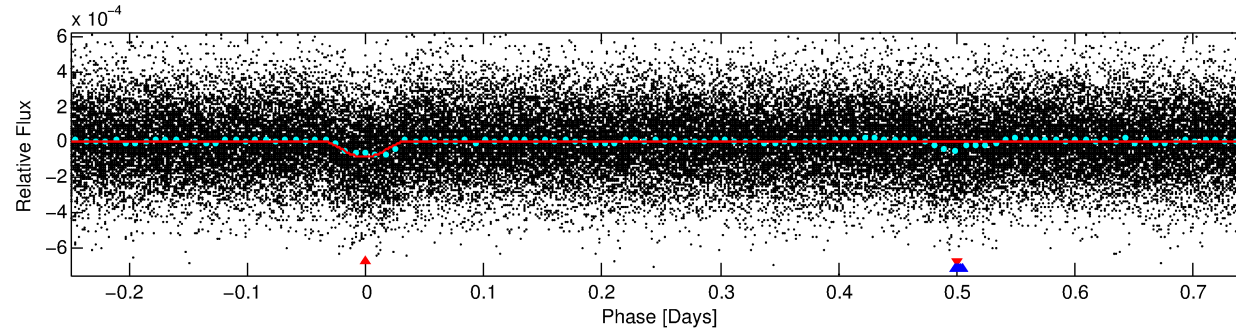
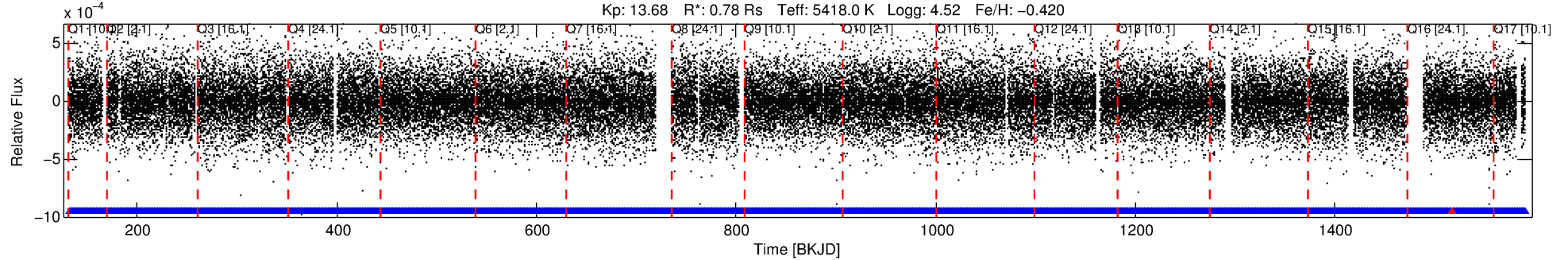
Ephemeris Match Information For 003336845-01

No Significant Match Found

DV One-Page Summary

KIC: 3336845 Candidate: 1 of 2 Period: 0.997 d
KOI: K04275 Corr: No Ephemeris Match

Kp: 13.68 R*: 0.78 Rs Teff: 5418.0 K Logg: 4.52 Fe/H: -0.420



DV Fit Results:

Period = 0.99685 [0.00001] d
Epoch = 132.1067 [0.0009] BKJD
Rp/R* = 0.0086 [0.0023]
a/R* = 6.09 [6.74]
b = 0.61 [1.18]
Seff = 1505.04 [309.02]
Teq = 1588 [82] K
Rp = 0.74 [0.23] Re
a = 0.0177 [0.0021] AU
Ag = 12.01 [6.92] [1.59σ]
Teffp = 4572 [644] K [4.59σ]

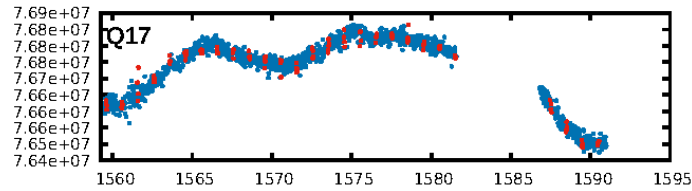
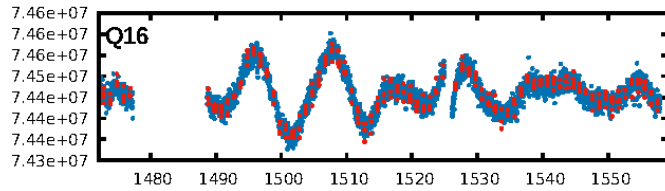
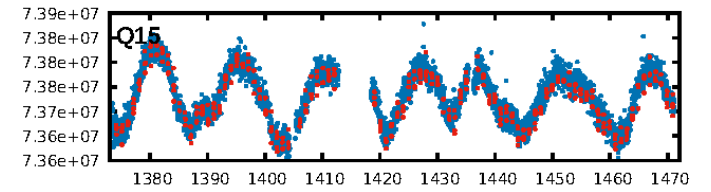
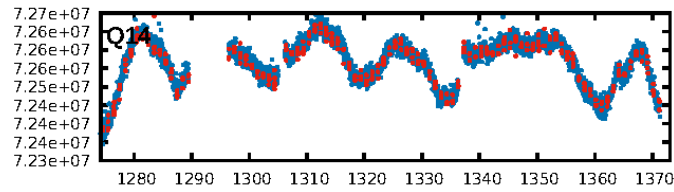
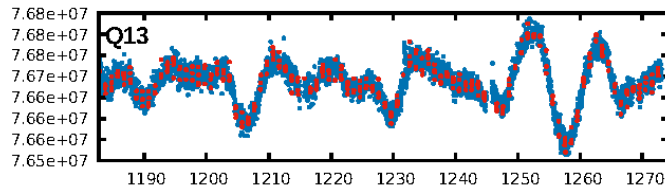
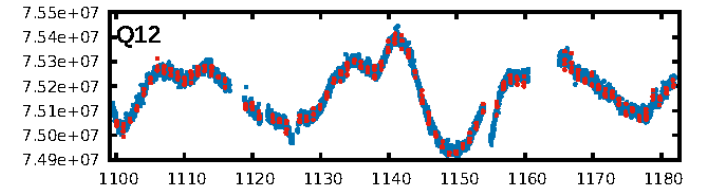
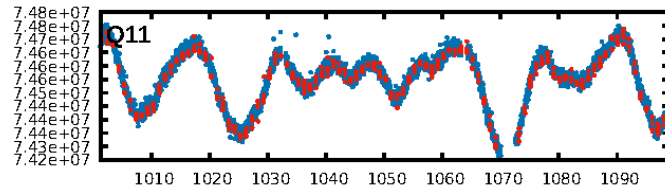
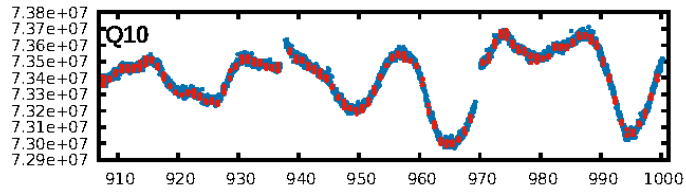
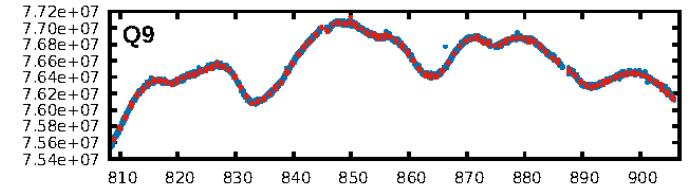
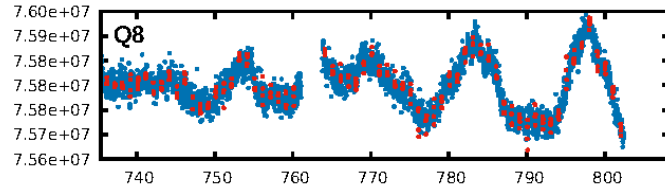
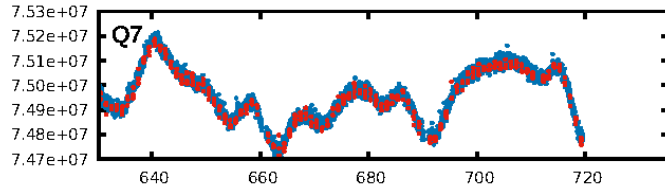
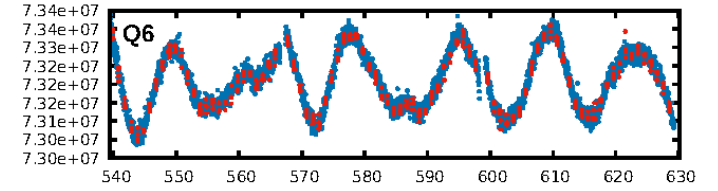
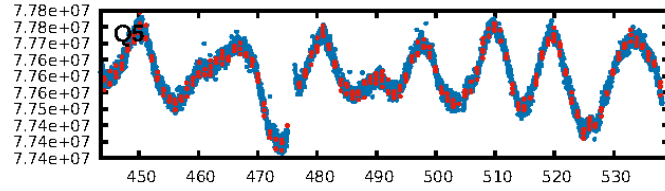
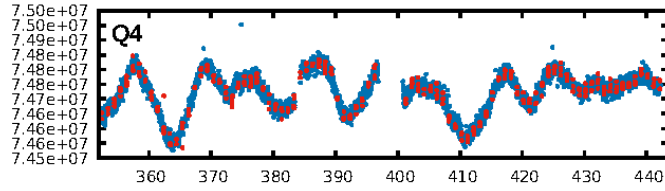
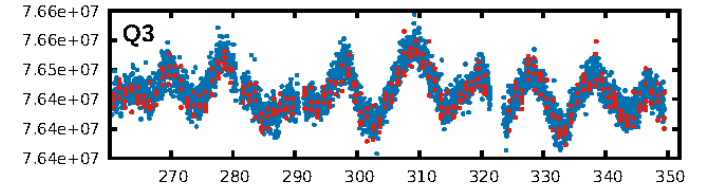
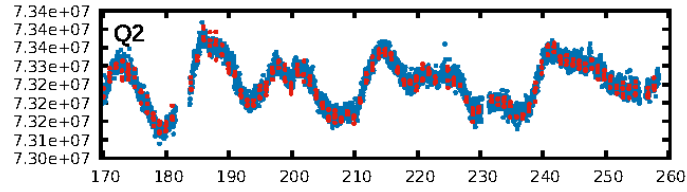
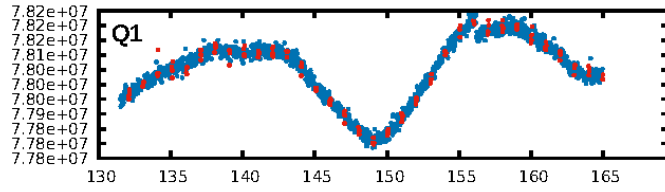
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.48e-61
RollingBand-fgt: 1.00 [1283/1284]
GhostDiagnostic-chr: -0.5193
Centroid-sig: 0.0%
Centroid-so: 13.708 arcsec [18.52σ]
OotOffset-rm: 8.764 arcsec [65.85σ]
KicOffset-rm: 8.711 arcsec [62.01σ]
OotOffset-st: 4/4/0/3 [11]
KicOffset-st: 4/4/0/3 [11]
DiffImageQuality-fgm: 1.00 [11/11]
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:21:16 Z

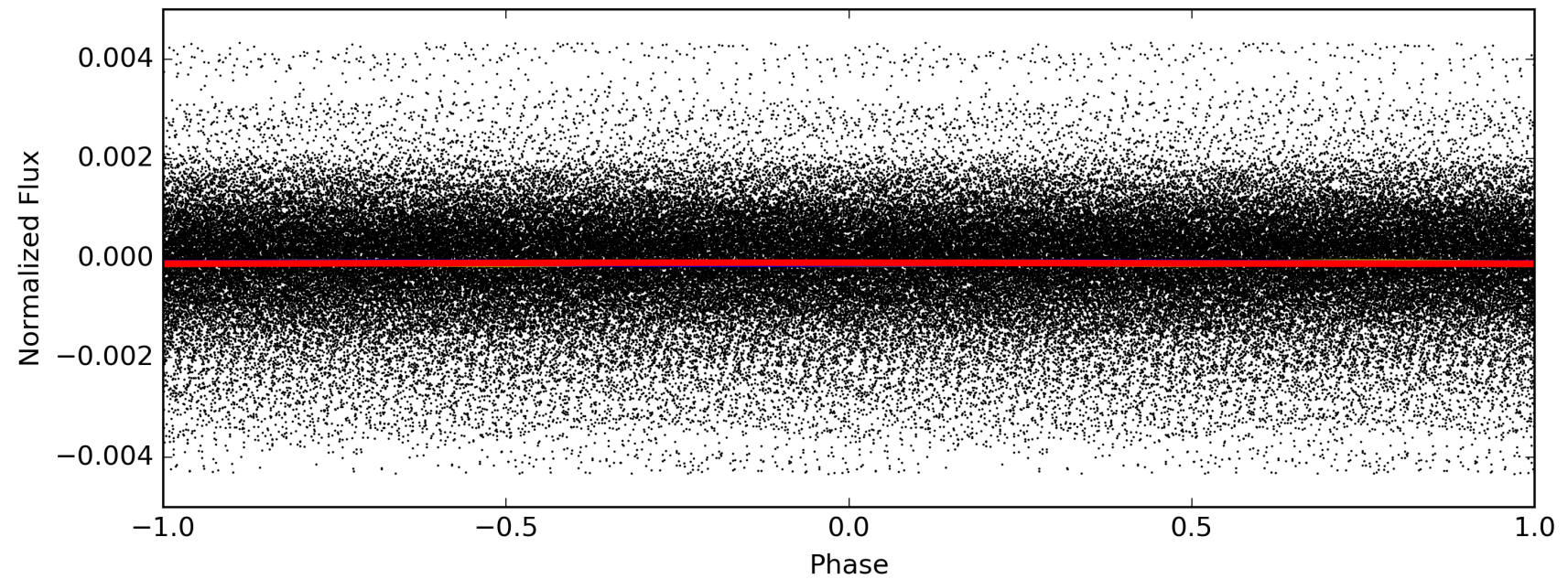
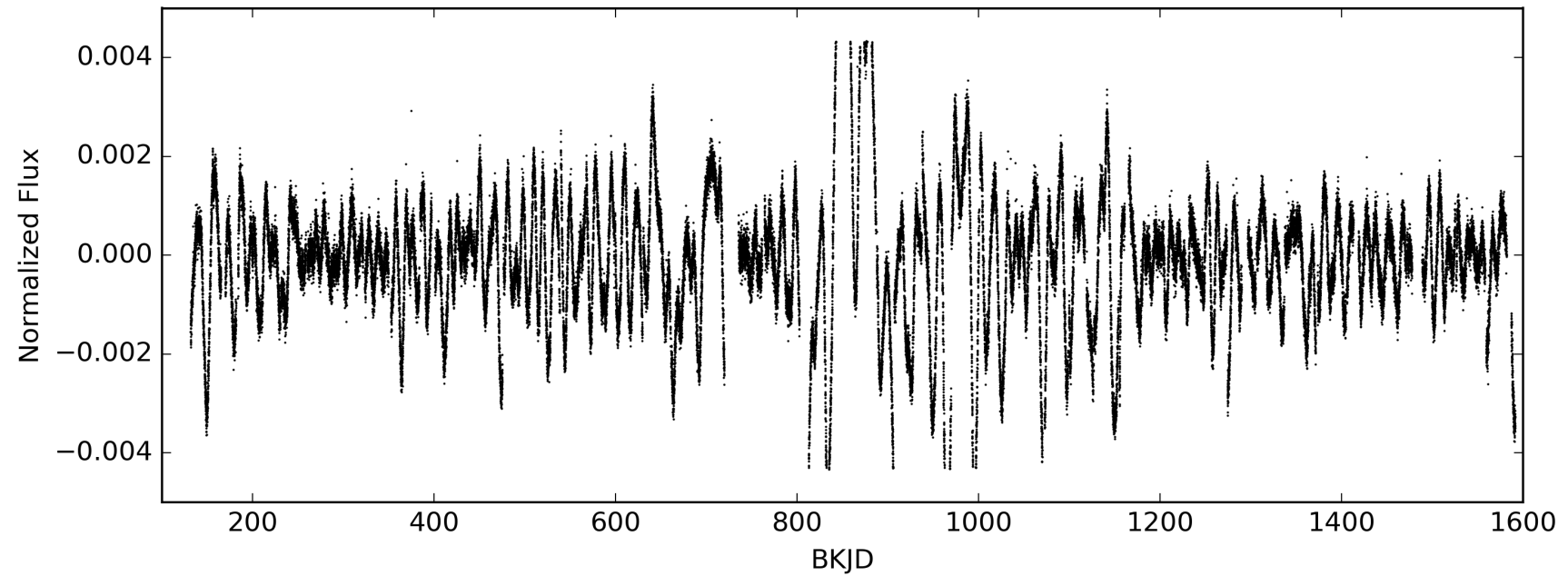
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 003336845-01, PDC Light Curves



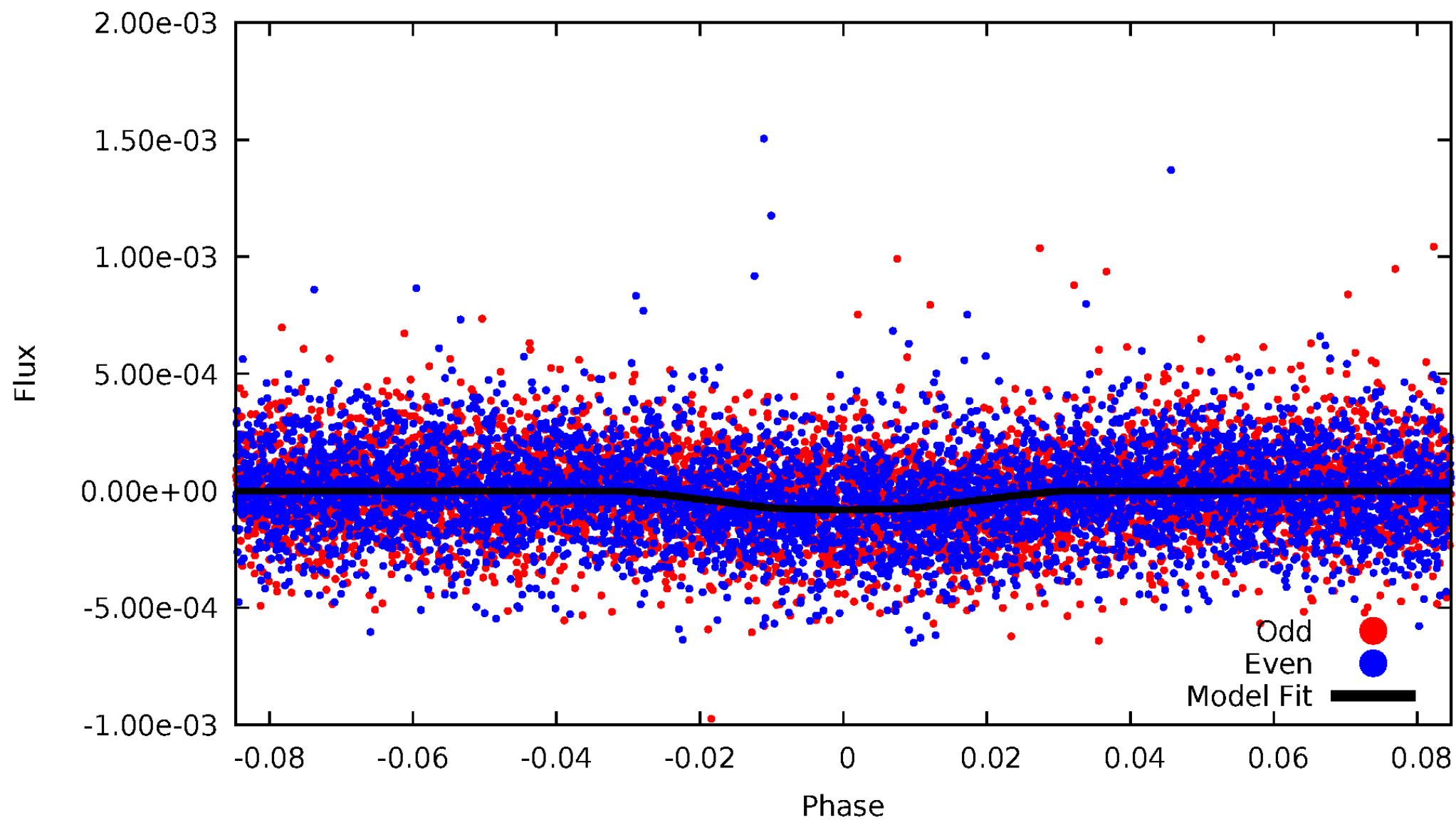
TCE 003336845-01

— P = 0.498 days — P = 0.997 days — P = 1.994 days



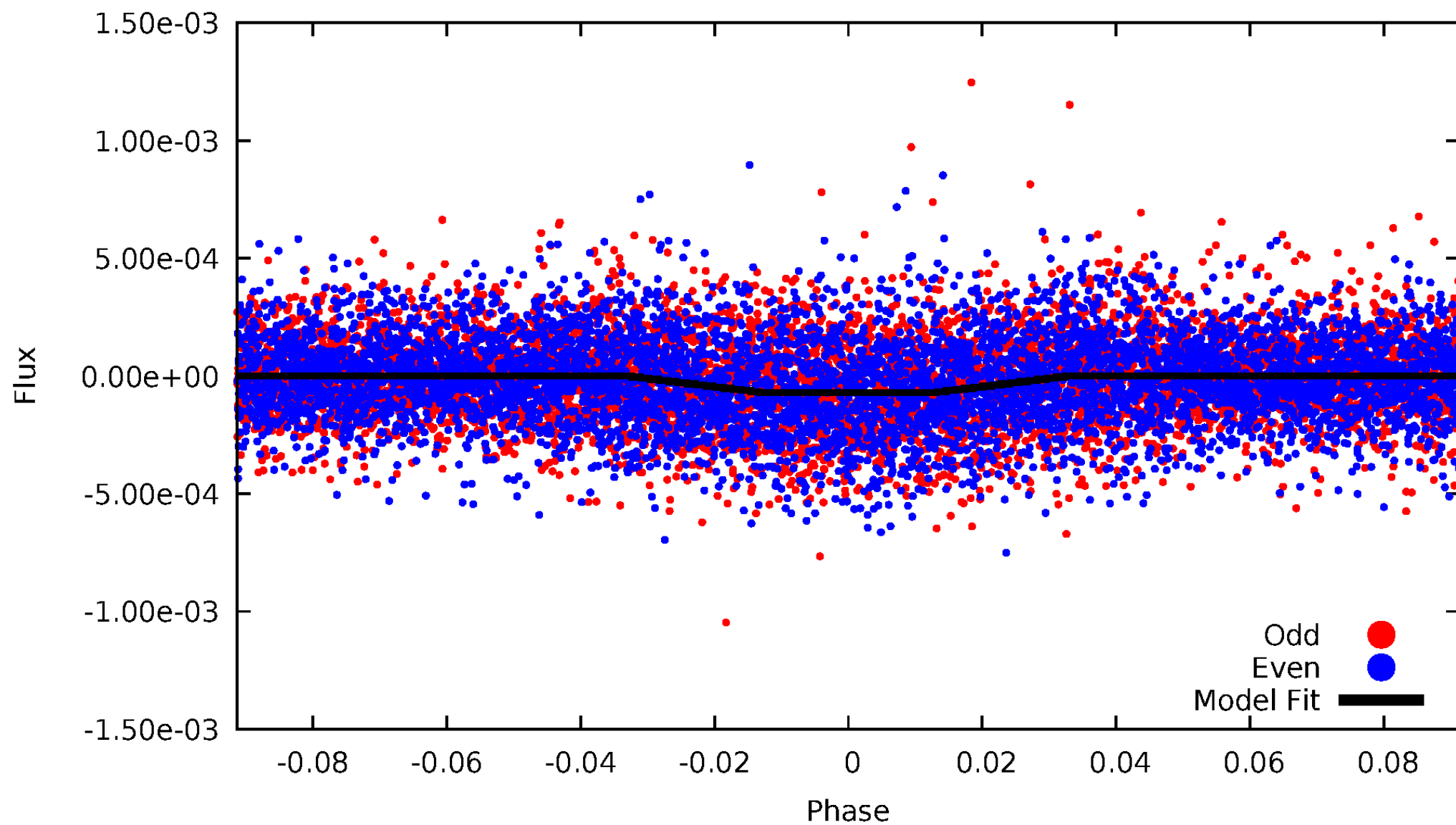
DV Odd/Even

TCE 003336845-01



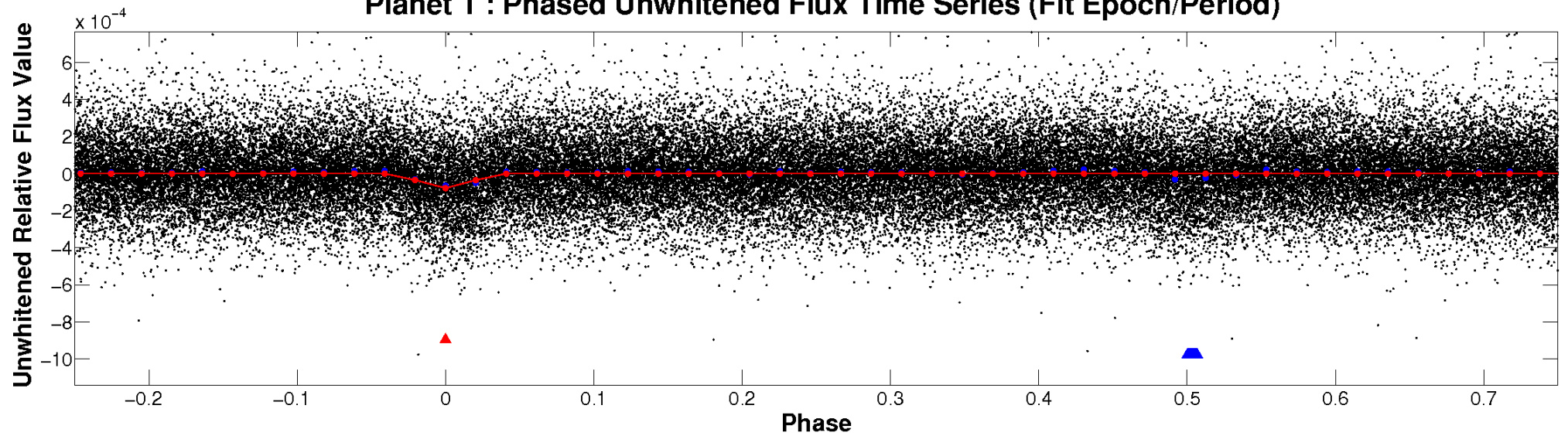
ALT Odd/Even

TCE 003336845-01

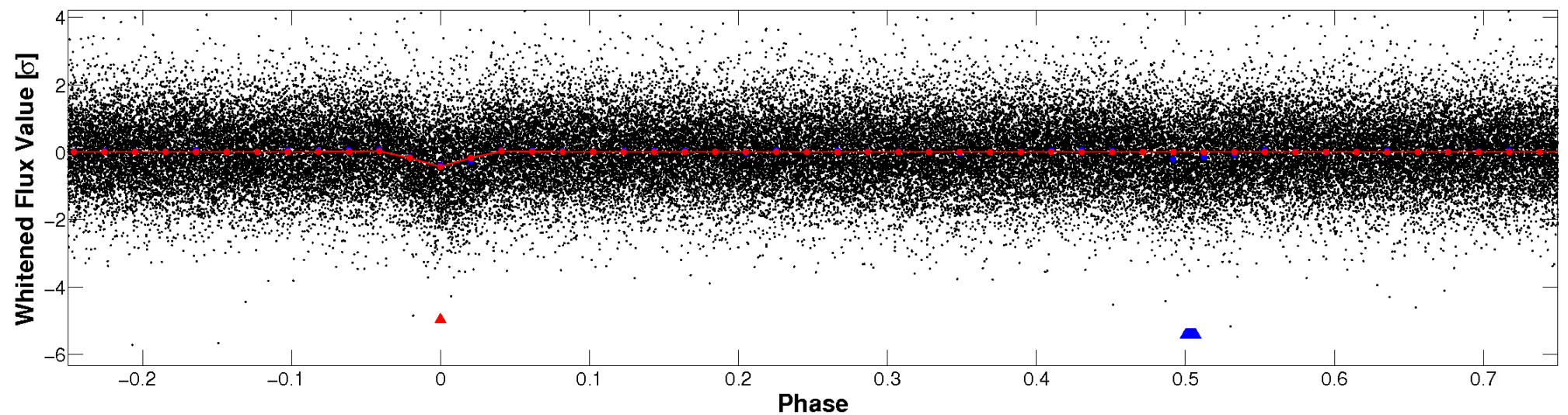


Non-Whitened Vs. Whitened Light Curve

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

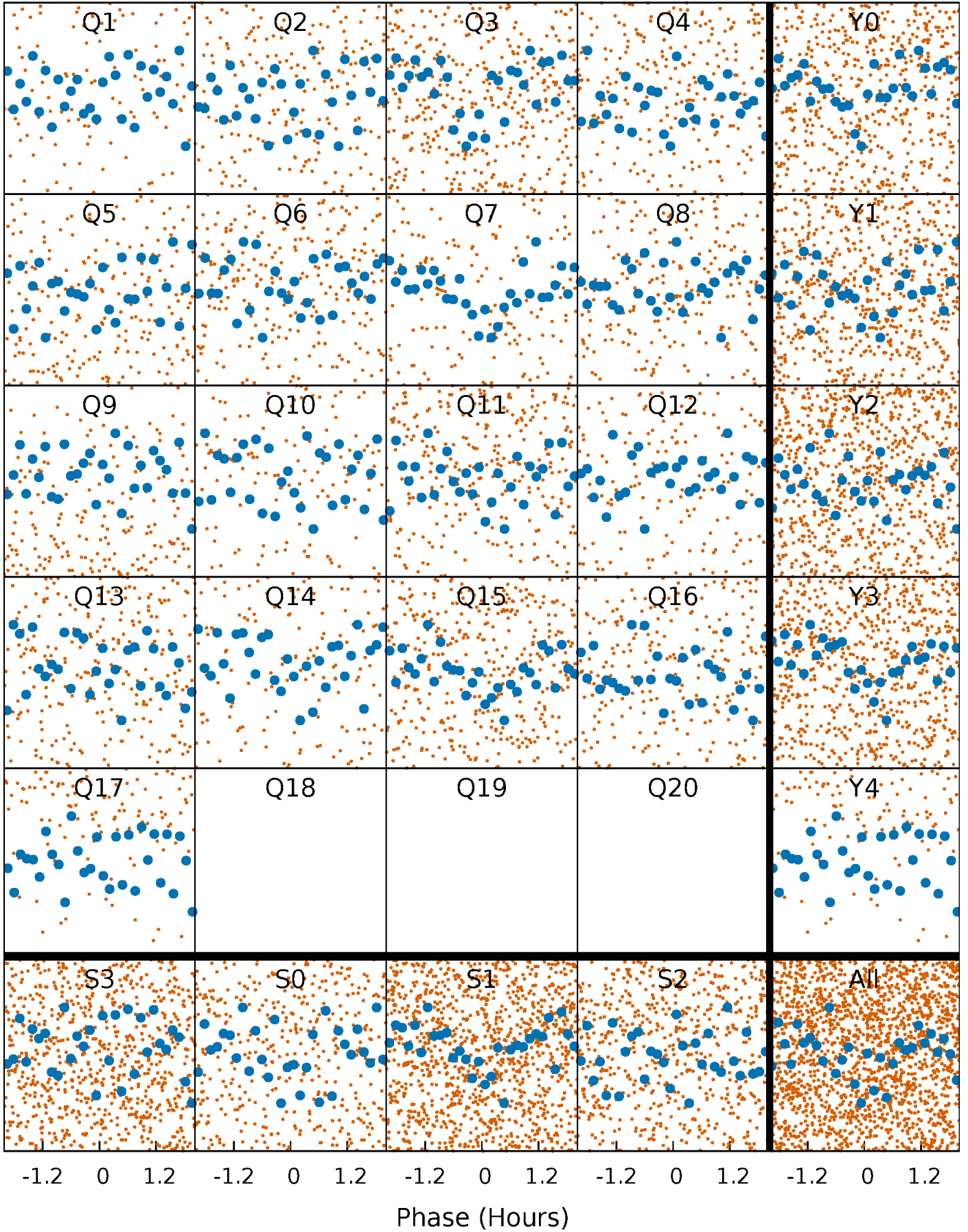


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



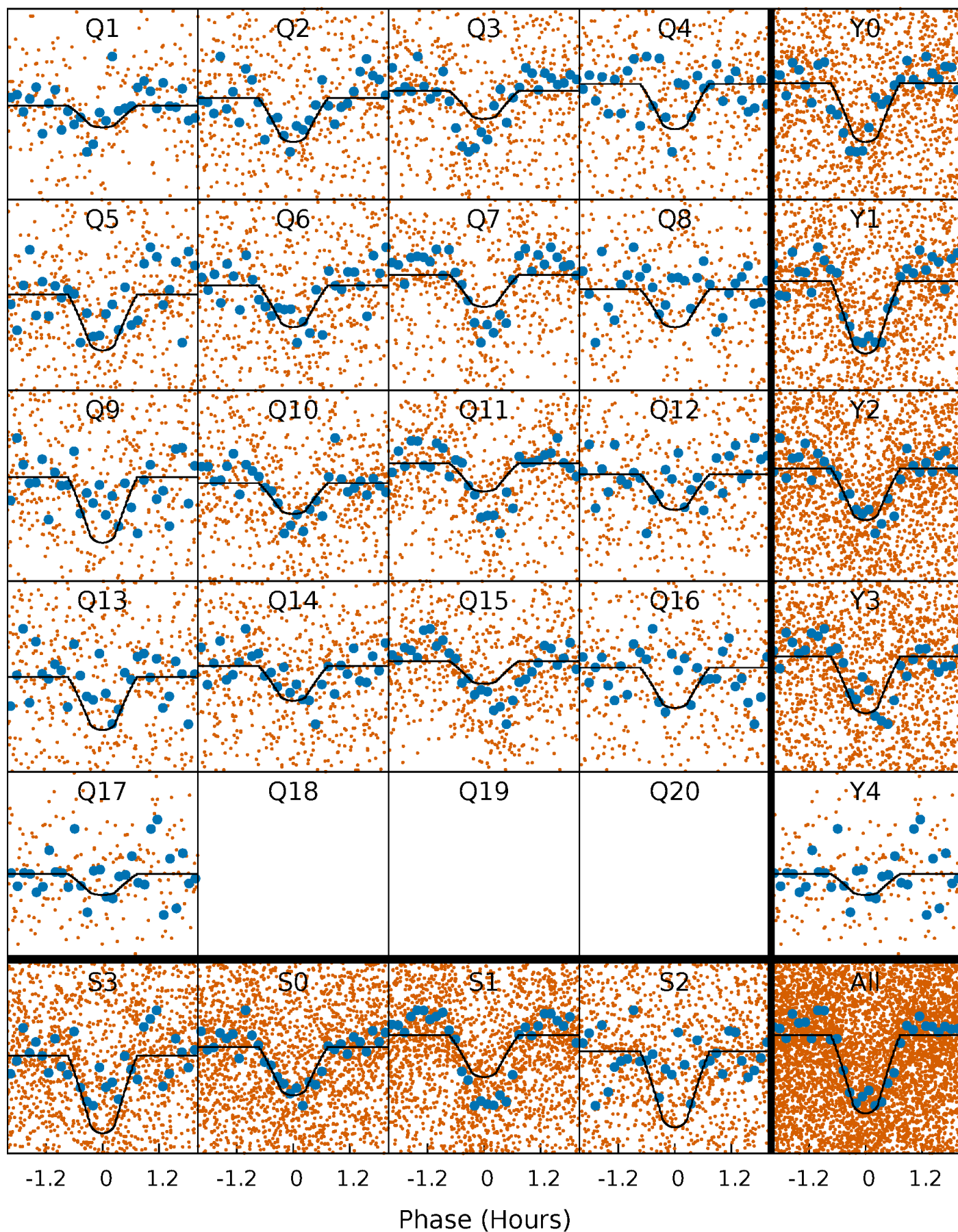
PDC Quarter-Phased Transit Curves

TCE 003336845-01 P= 0.996850 Days $T_0=132.106692$ (BKJD)



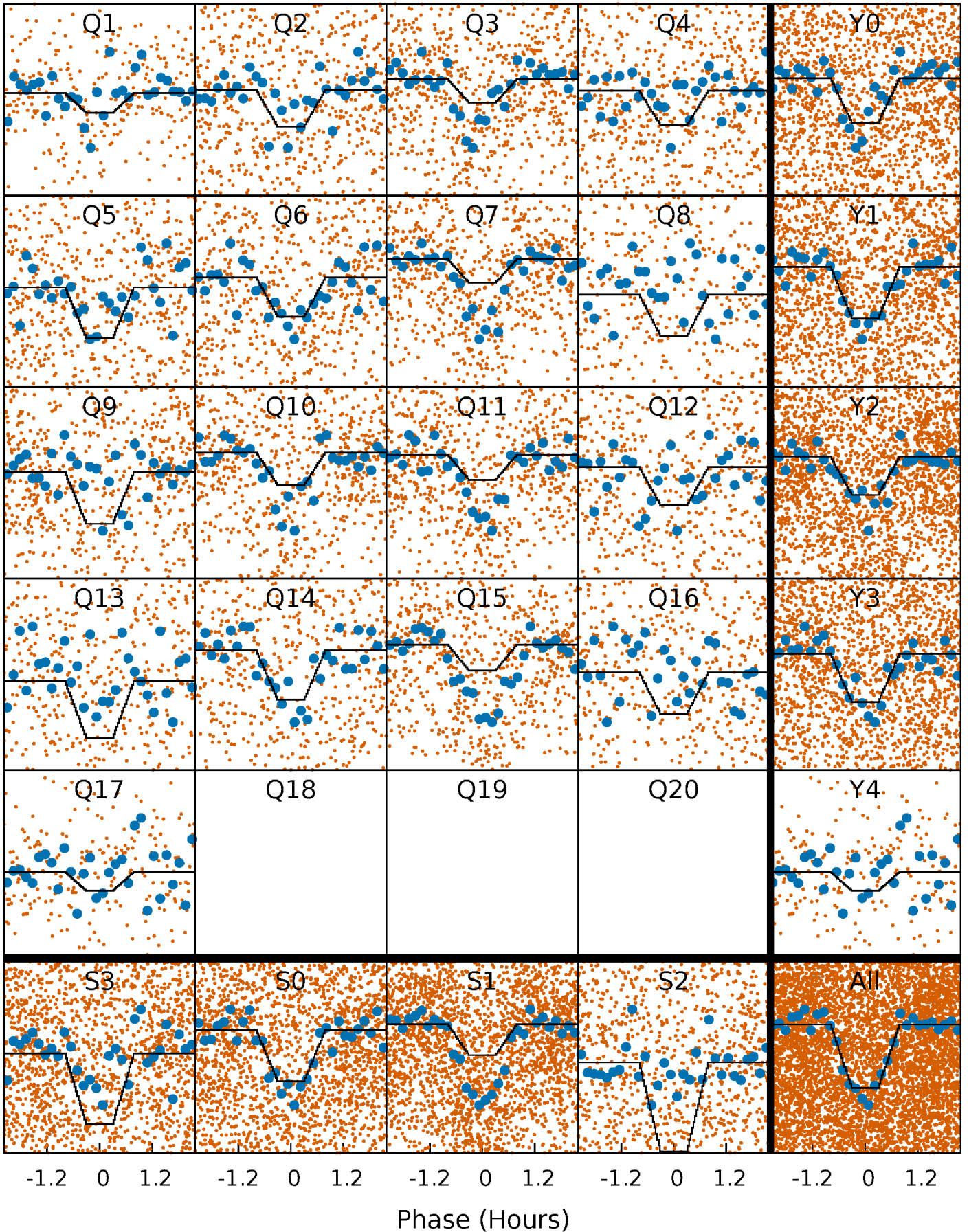
DV Quarter-Phased Transit Curves

TCE 003336845-01 P= 0.996850 Days $T_0=132.106692$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

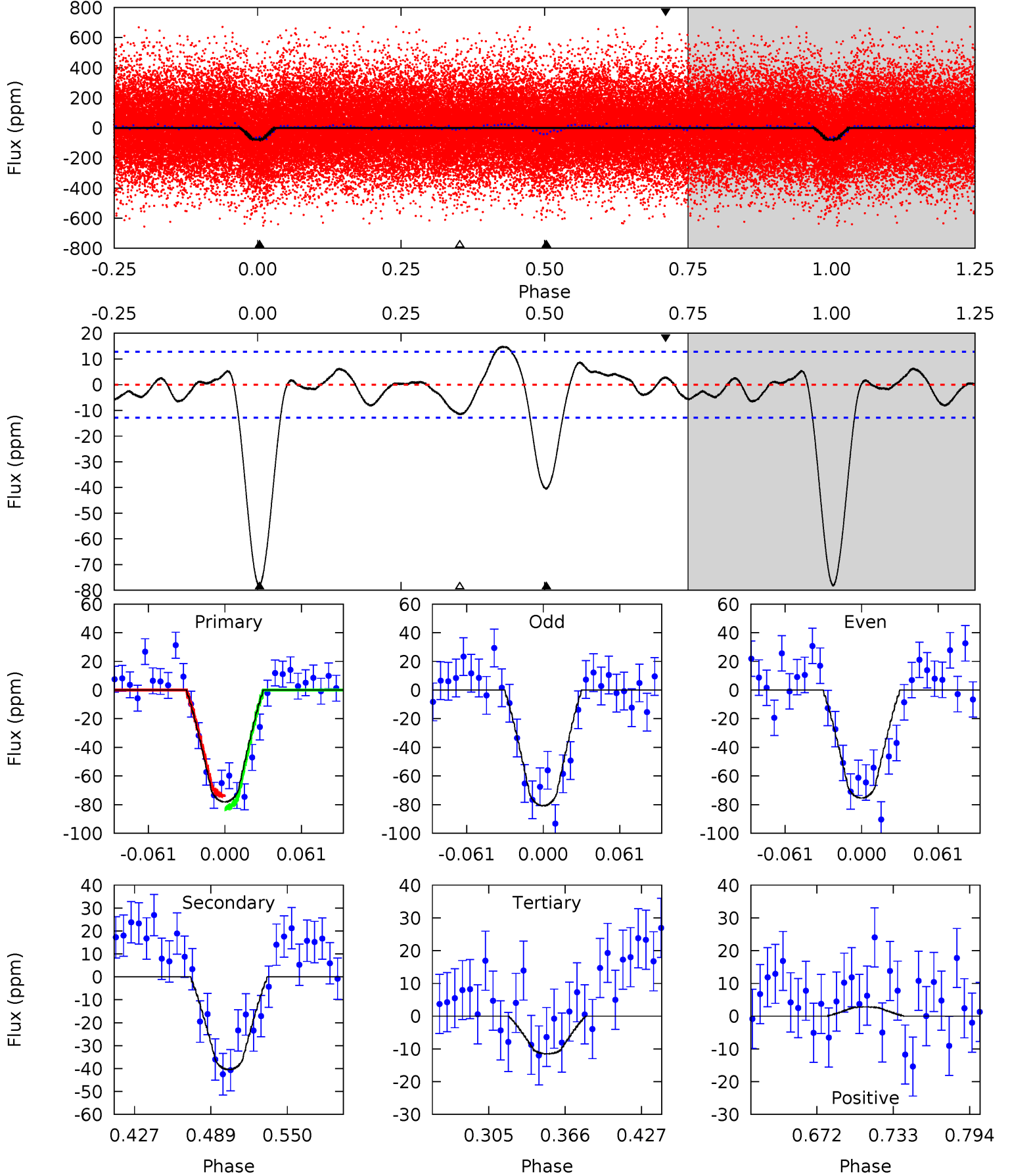
TCE 003336845-01 P= 0.996857 Days $T_0=132.104803$ (BKJD)



DV Model-Shift Uniqueness Test

003336845-01, P = 0.996850 Days, E = 131.109842 Days

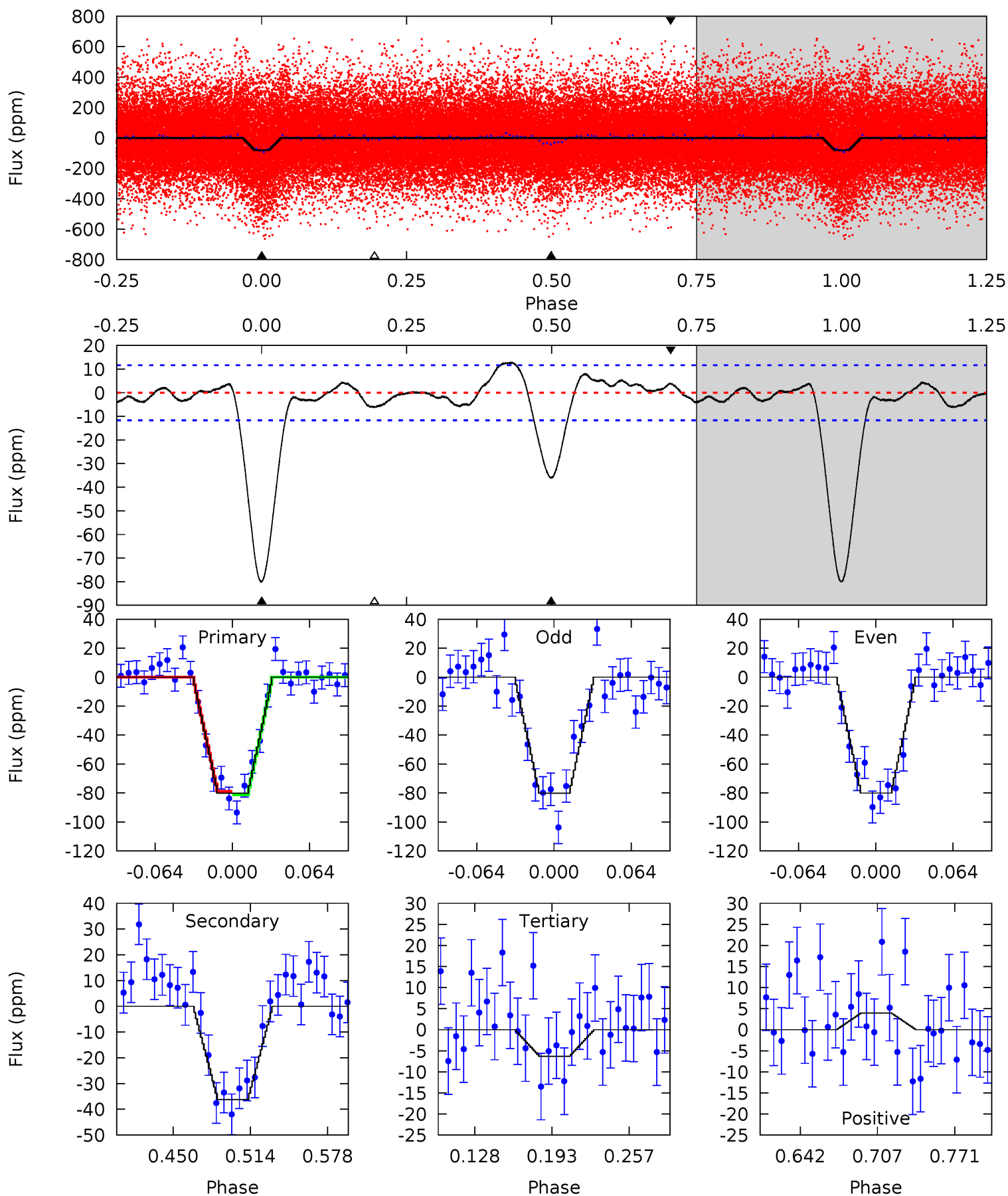
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.4	14.7	4.18	1.02	4.67	1.87	1.85	24.2	27.4	10.5	13.7	0.98	0.94	0.16	1.57



Alt Model-Shift Uniqueness Test

003336845-01, P = 0.996857 Days, E = 131.107946 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.0	14.4	2.51	1.58	4.66	1.85	1.57	29.5	30.4	11.9	12.9	0.03	0.93	0.14	0.49



Stellar Parameters For KIC 003336845

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5418^{+160}_{-144}	$4.524^{+0.090}_{-0.090}$	$-0.420^{+0.350}_{-0.300}$	$0.782^{+0.112}_{-0.092}$	$0.746^{+0.101}_{-0.050}$	$2.199^{+0.777}_{-0.630}$
	+3%/-3%	+2%/-2%	+83%/-71%	+14%/-12%	+14%/-7%	+35%/-29%
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 003336845-01 / KOI 4275.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-40 ± 3	$0.74^{+0.21}_{-0.20}$	2225^{+99}_{-92}	4752^{+724}_{-431}	13^{+11}_{-5}
Alt.	-36 ± 3	$0.73^{+0.21}_{-0.19}$	2220^{+101}_{-89}	4649^{+652}_{-428}	12^{+9}_{-5}

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 $A_{obs} \gg 1.0$

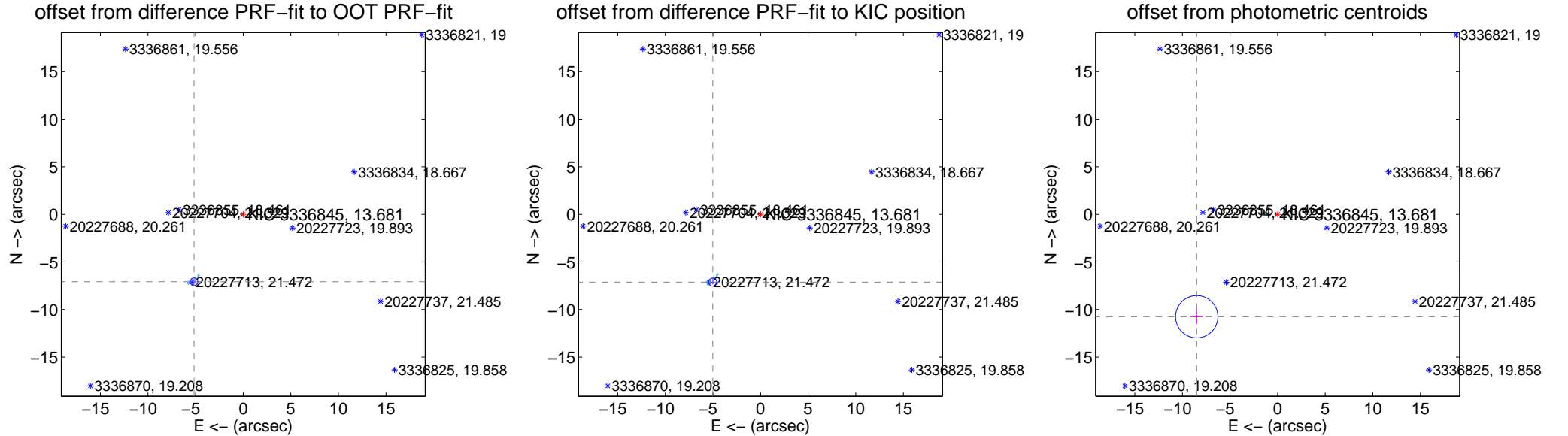
DV Centroid Data

Supplemental centroid analysis for 003336845-01. Kepler magnitude: 13.68. Transit SNR 18.62

There are 11 quarters with good PRF difference image offsets

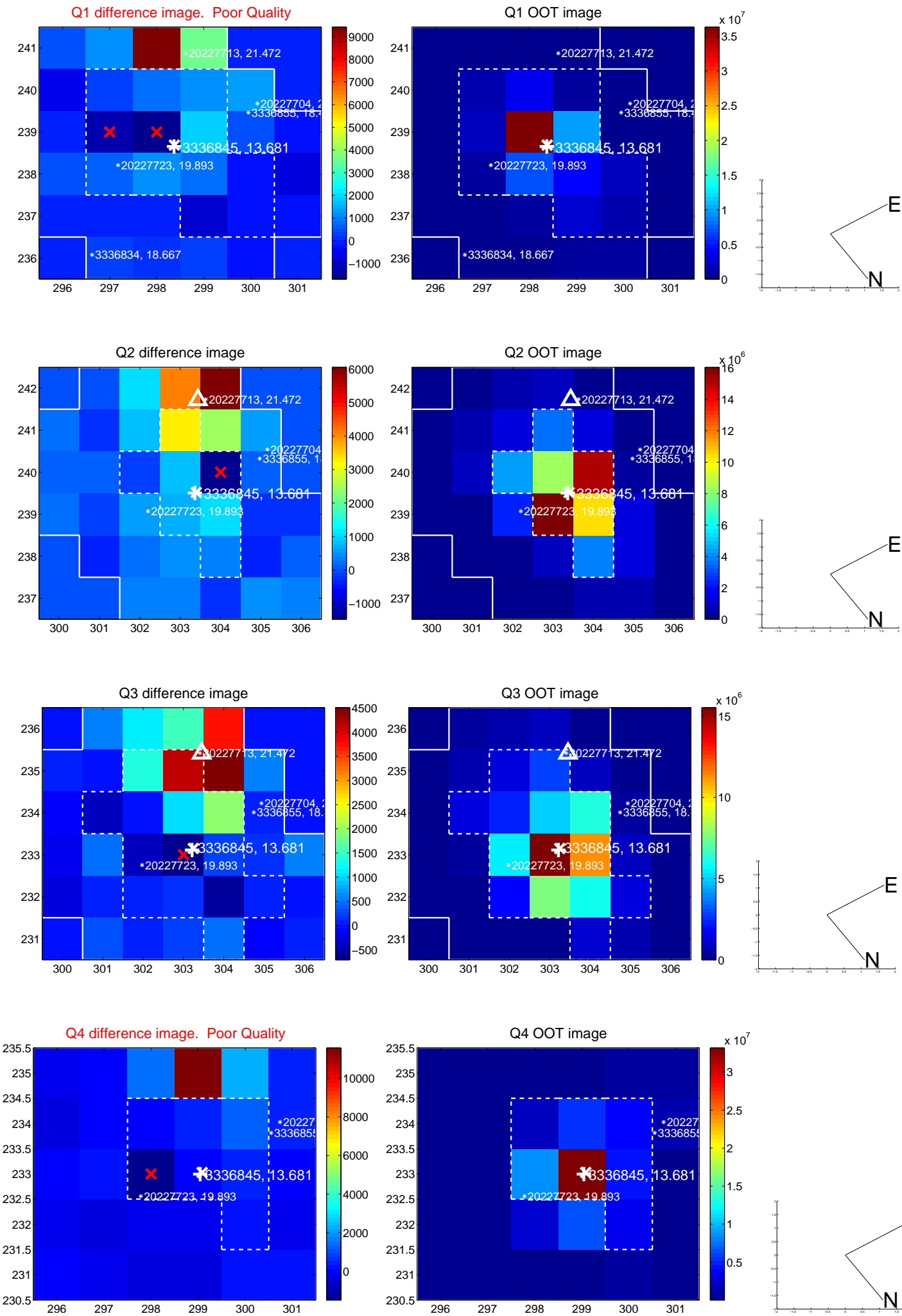
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.764 ± 0.133	65.85	5.165 ± 0.130	-7.080 ± 0.099
PRF-fit source offset from KIC position	8.711 ± 0.140	62.01	5.019 ± 0.127	-7.120 ± 0.112
photometric centroid source offset	13.71 ± 0.74	18.52	8.50 ± 0.68	-10.76 ± 0.78

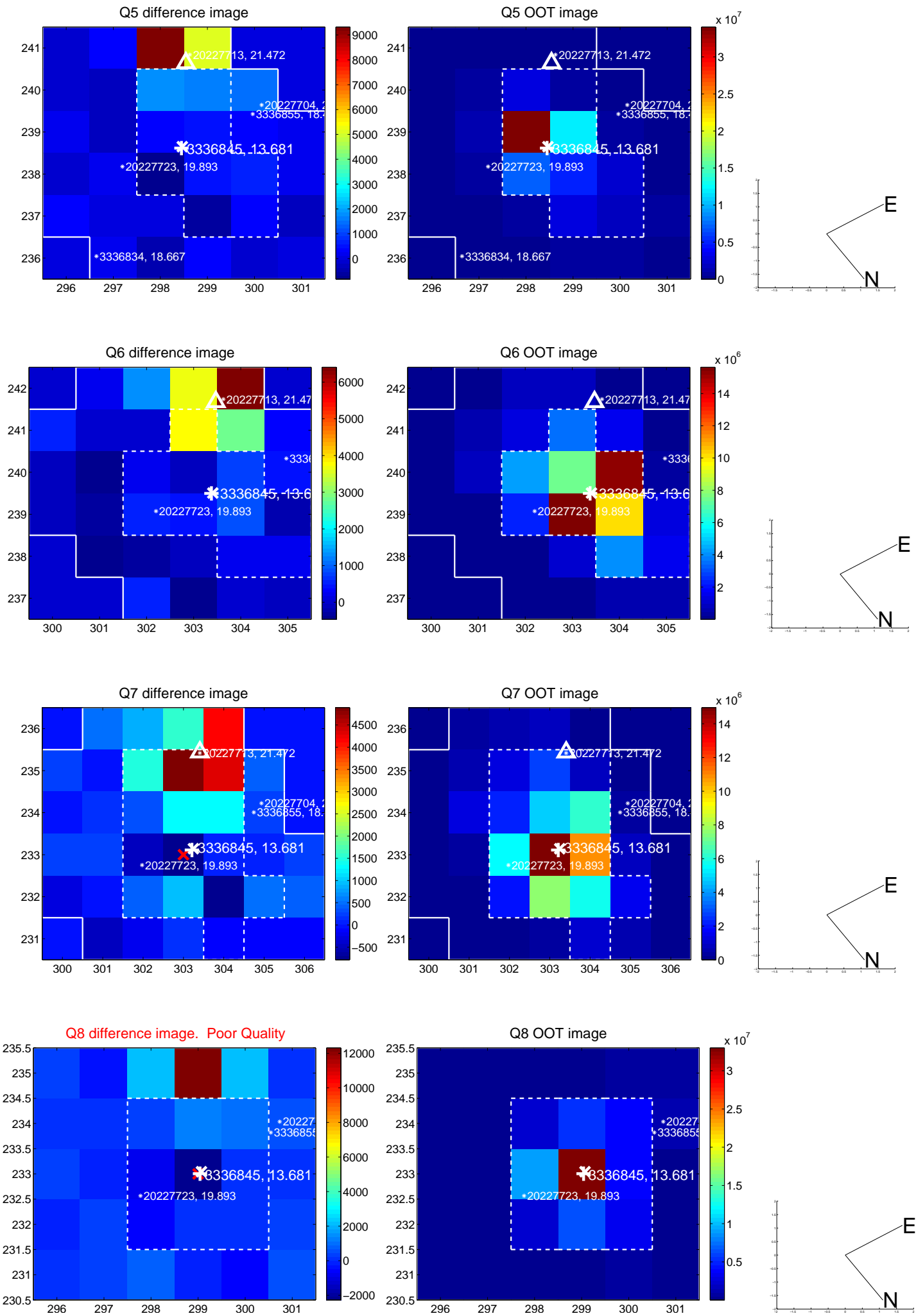


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

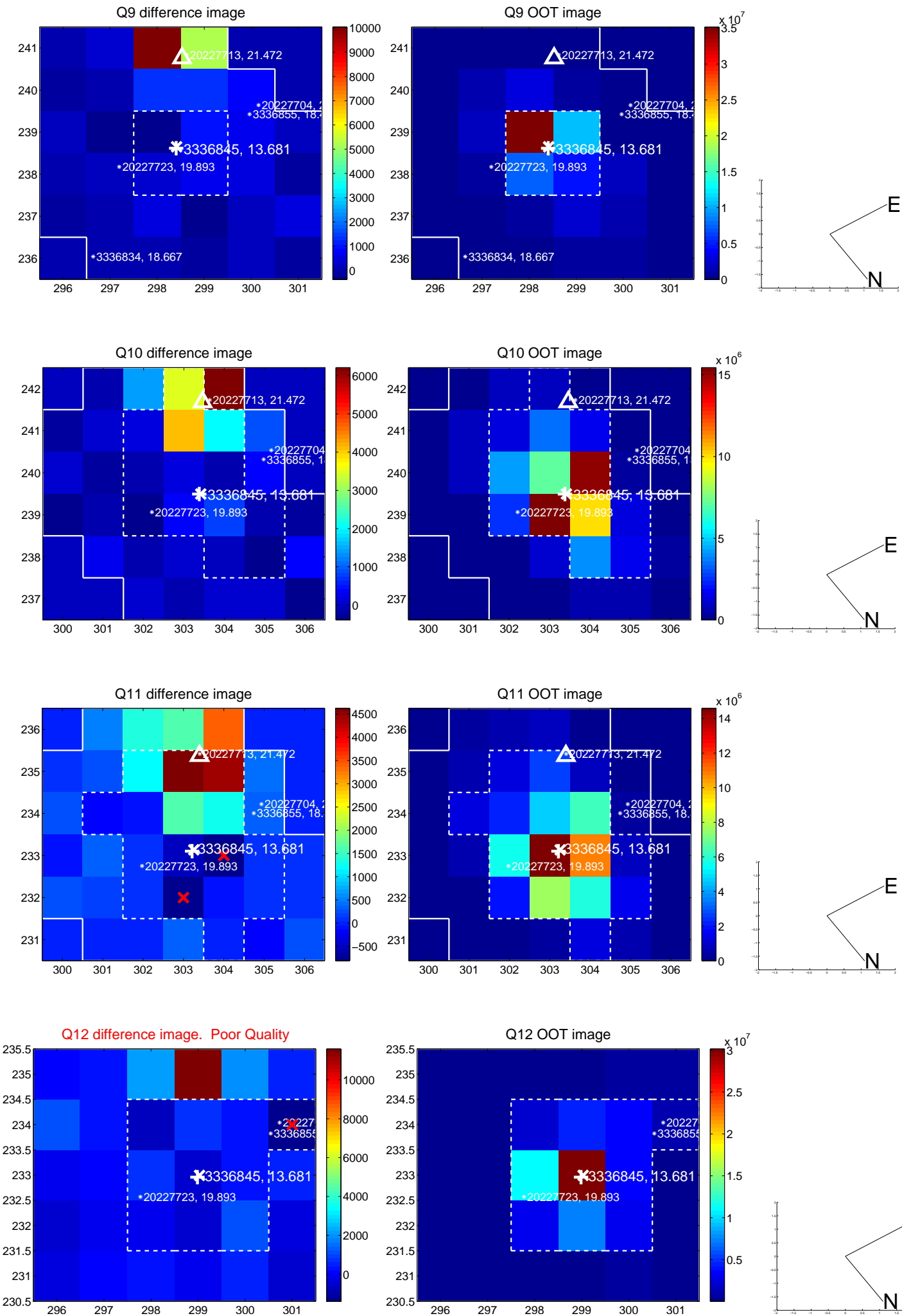
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



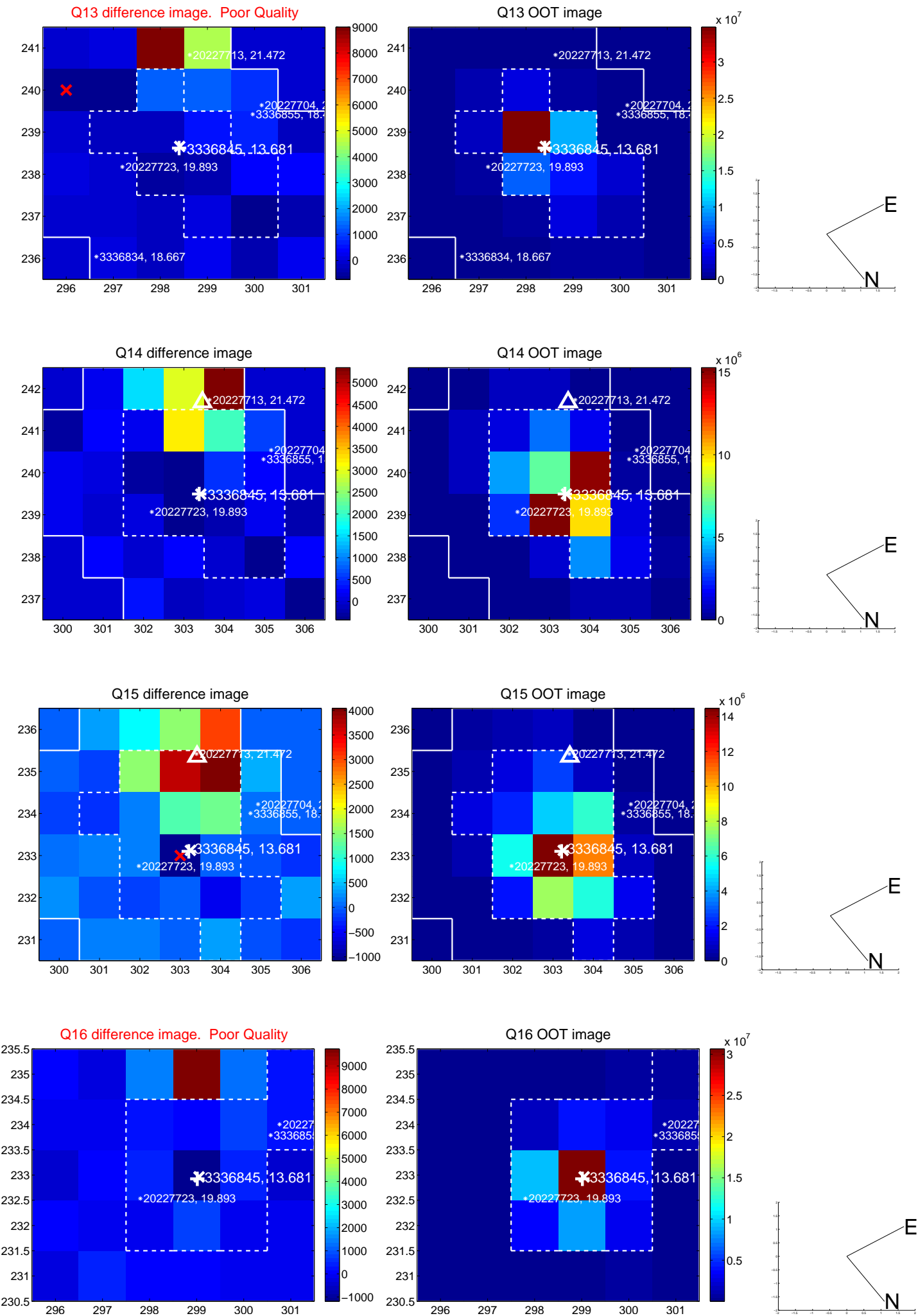
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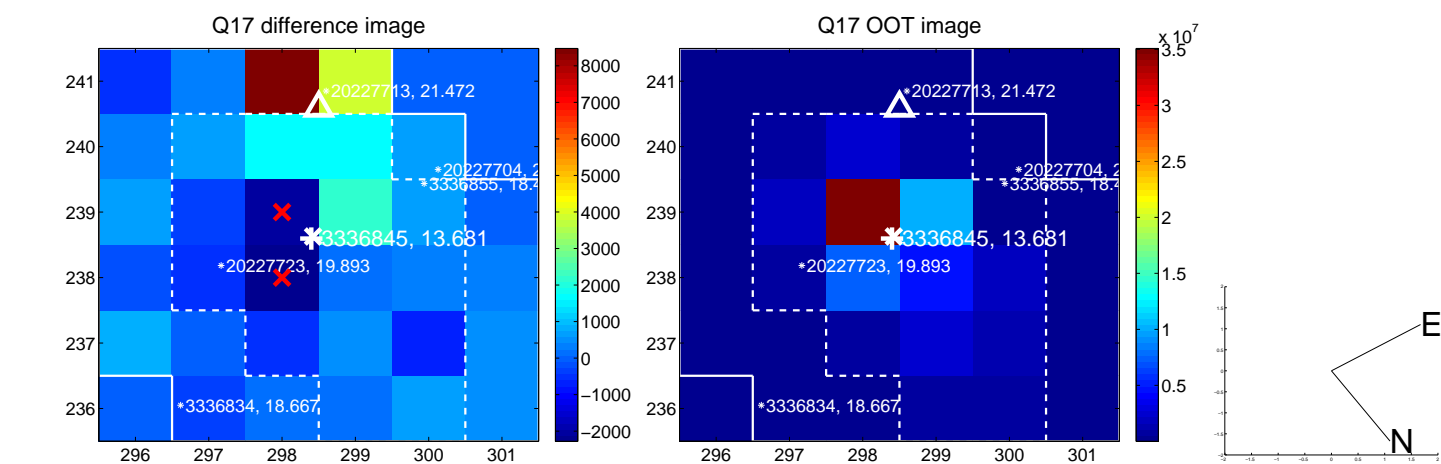
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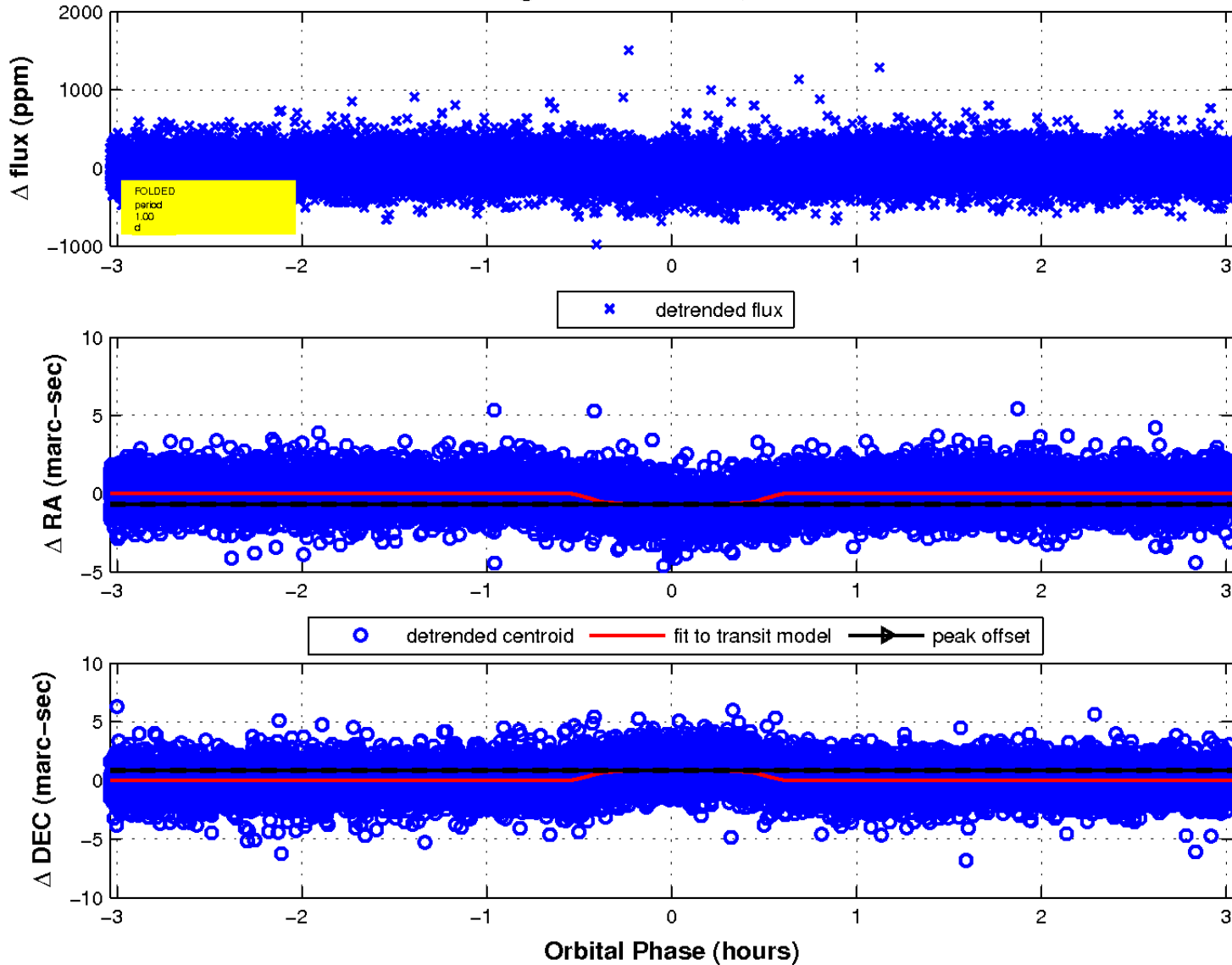
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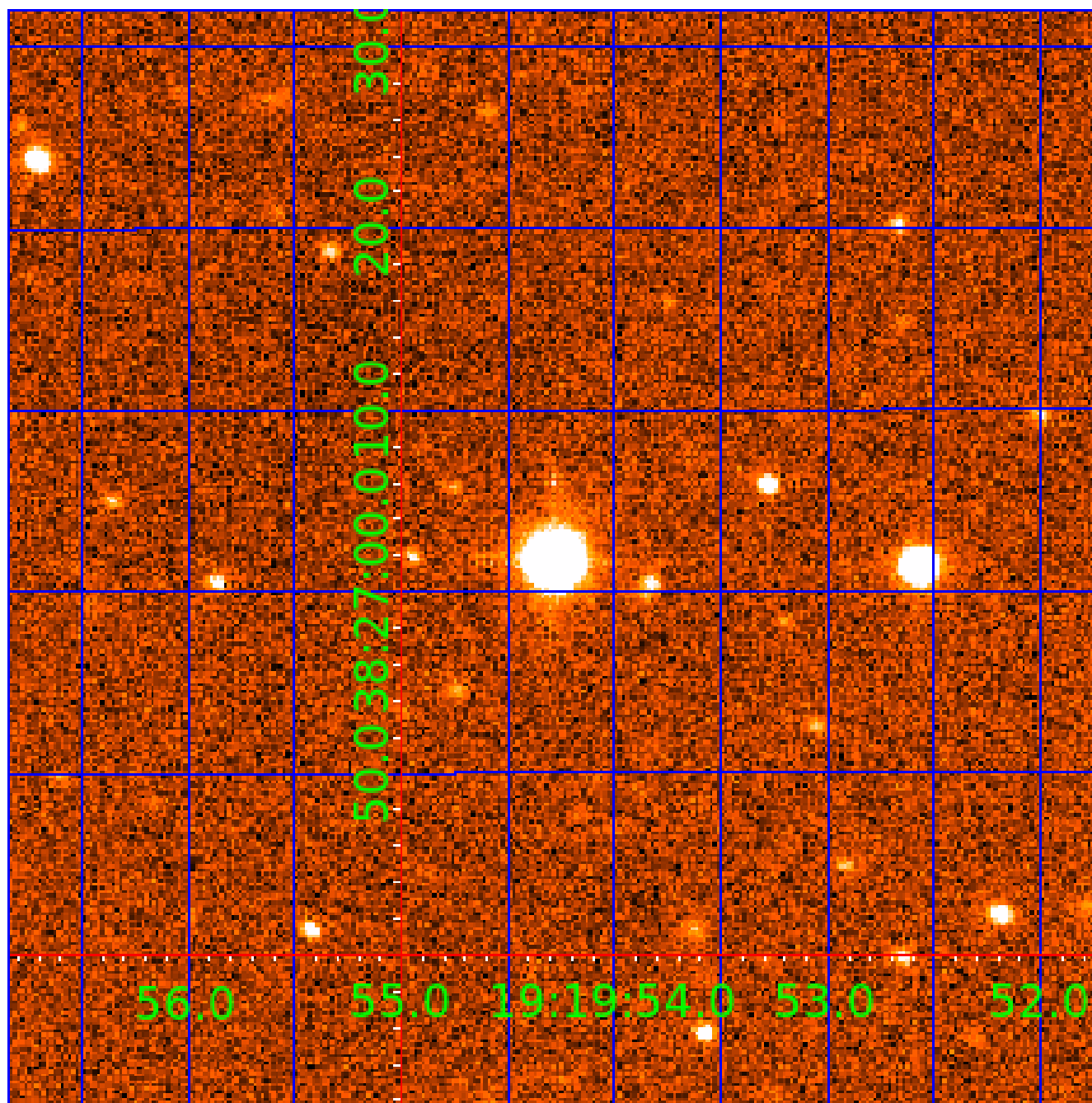


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 003336845

Q1-17 DR25 TCE Parameters

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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 003336845-02

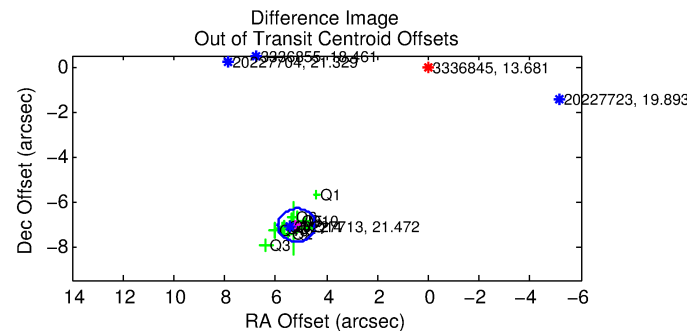
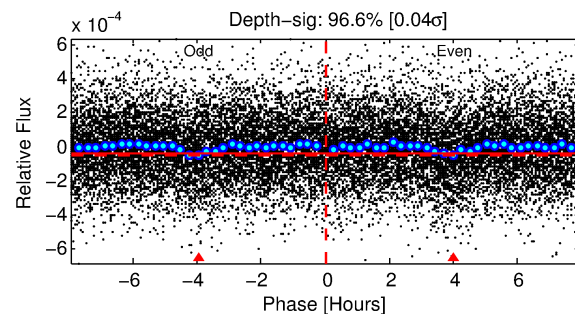
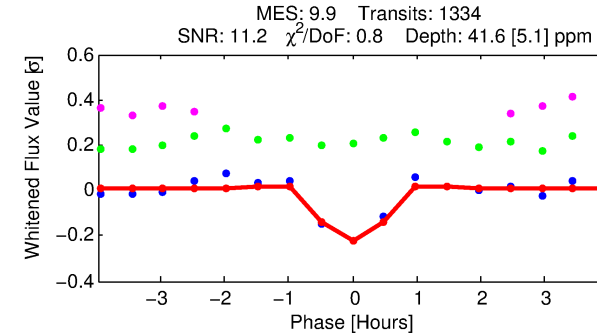
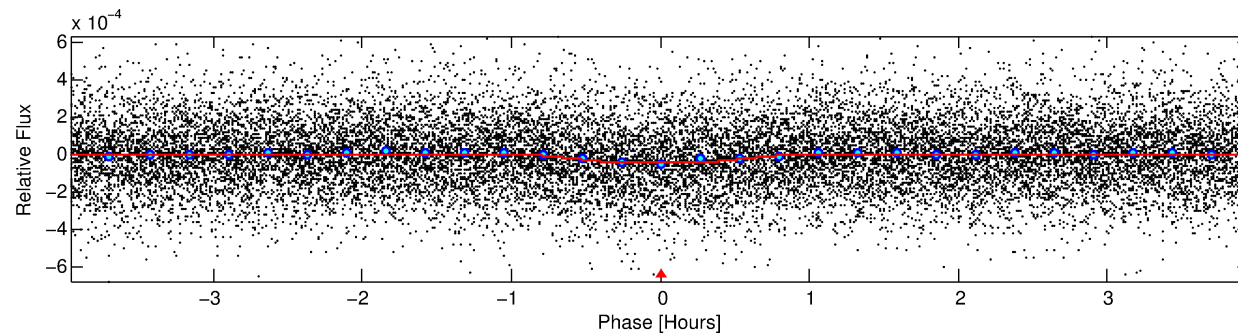
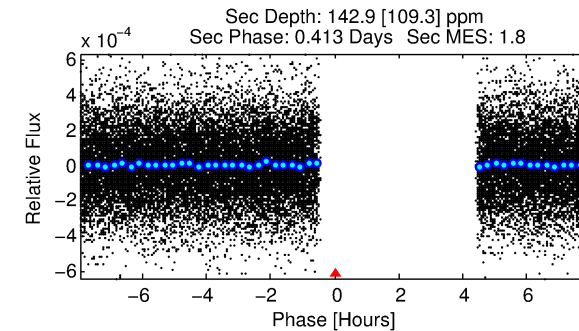
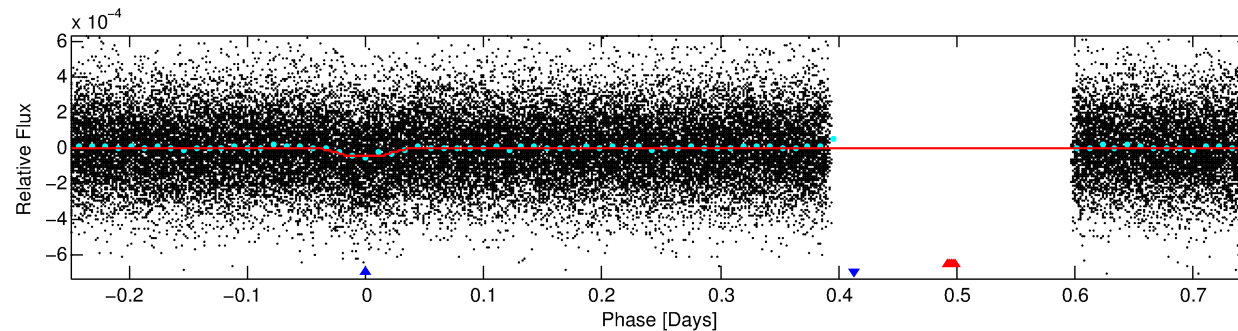
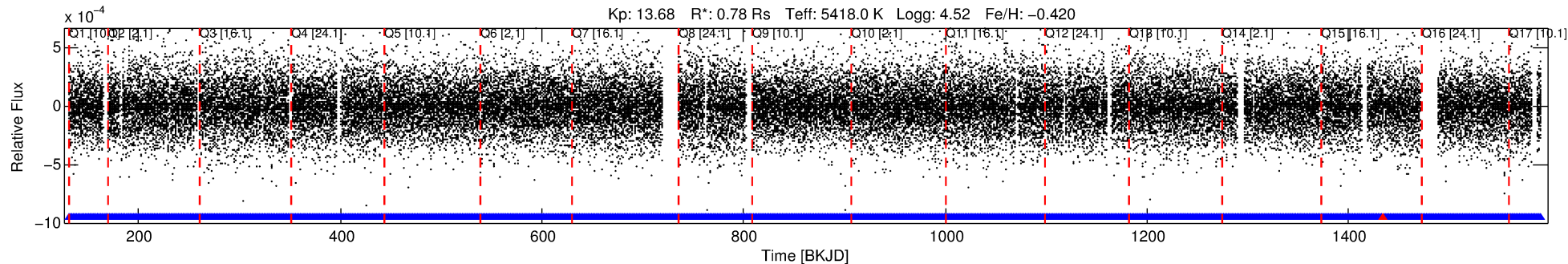
No Significant Match Found

DV One-Page Summary

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KOI: K04275 Corr: No Ephemeris Match

Kp: 13.68 R*: 0.78 Rs Teff: 5418.0 K Logg: 4.52 Fe/H: -0.420



DV Fit Results:

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Epoch = 131.6086 [0.0018] BKJD
Rp/R* = 0.0071 [0.0029]
a/R* = 2.77 [4.53]
b = 0.90 [0.41]
Seff = 1505.03 [309.02]
Teq = 1588 [82] K
Rp = 0.61 [0.26] Re
a = 0.0177 [0.0021] AU
Ag = 67.34 [76.69] [0.87σ]
Teffp = 7034 [1992] K [2.73σ]

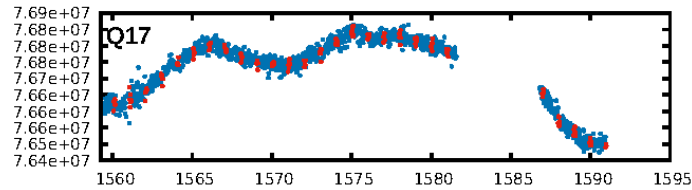
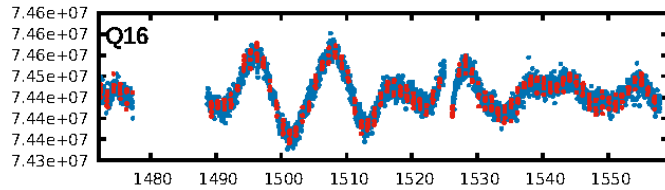
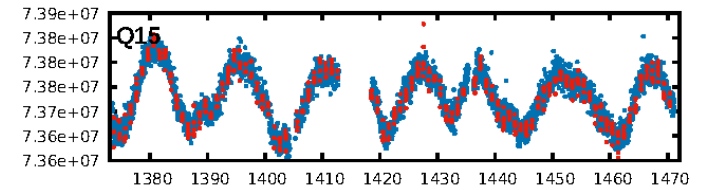
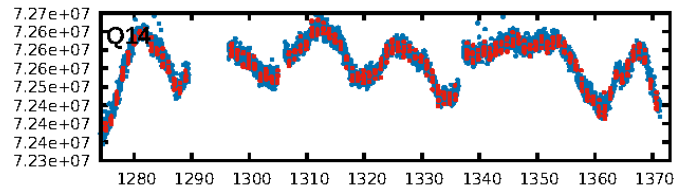
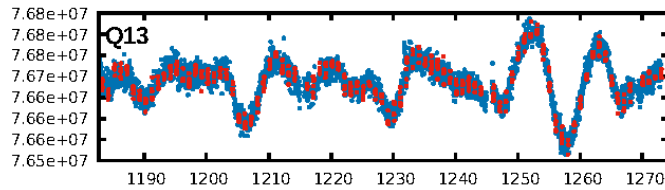
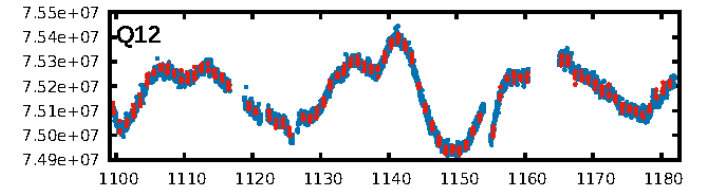
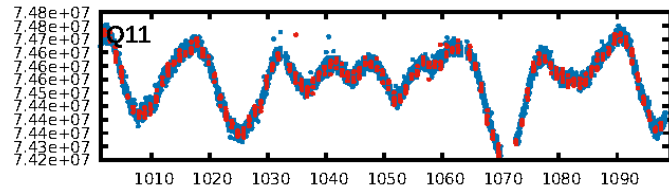
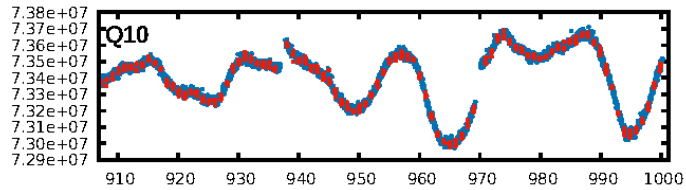
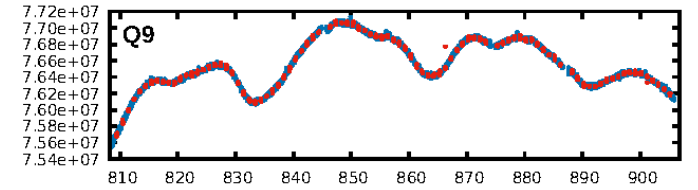
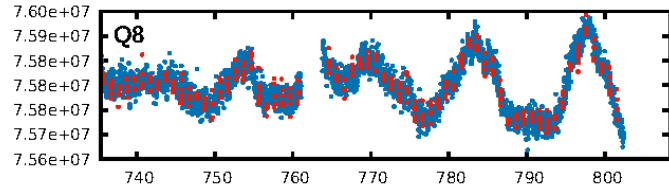
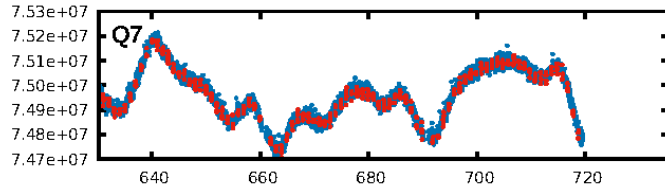
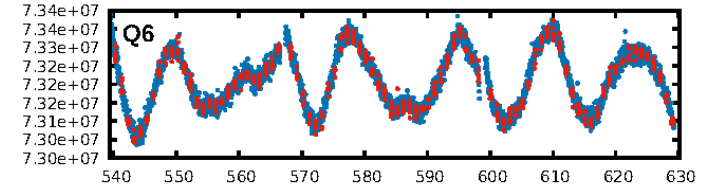
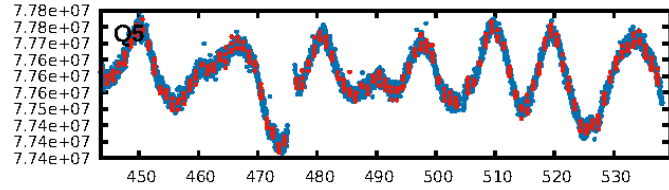
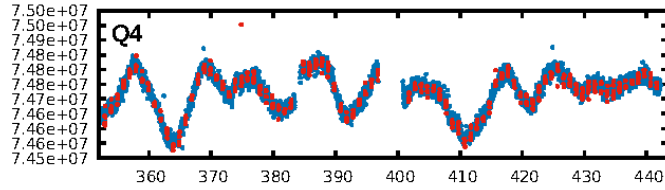
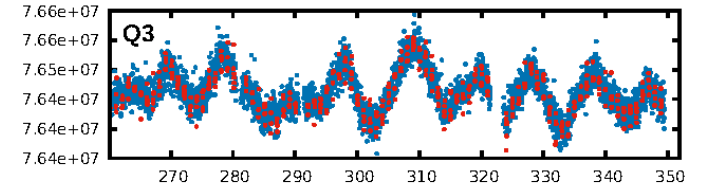
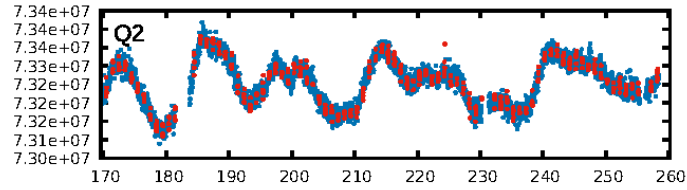
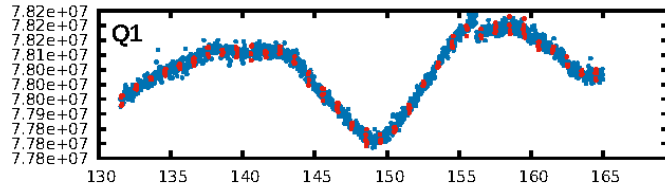
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.16e-23
RollingBand-fgt: 1.00 [1272/1273]
GhostDiagnostic-chr: -0.1807
Centroid-sig: 0.0%
Centroid-so: 5.030 arcsec [4.10σ]
OotOffset-rm: 8.754 arcsec [35.82σ]
KicOffset-rm: 8.719 arcsec [37.30σ]
OotOffset-st: 4/4/0/3 [11]
KicOffset-st: 4/4/0/3 [11]
DiffImageQuality-fgm: 1.00 [11/11]
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:21:25 Z

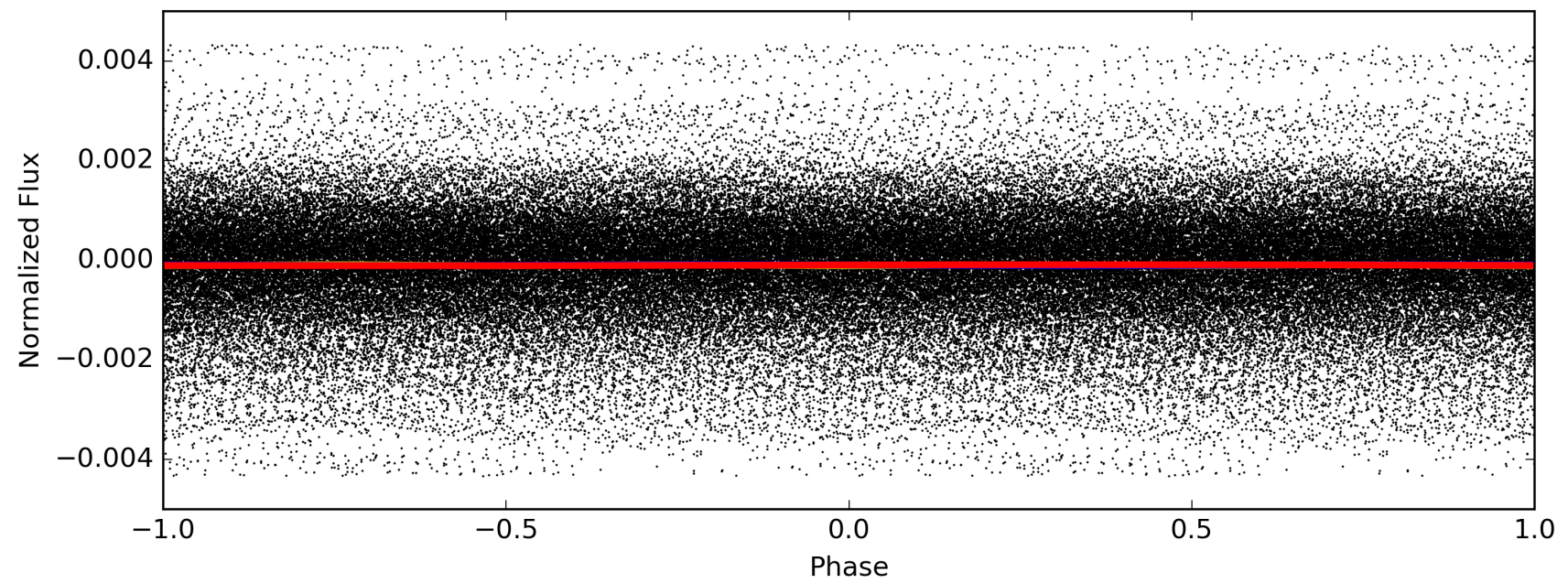
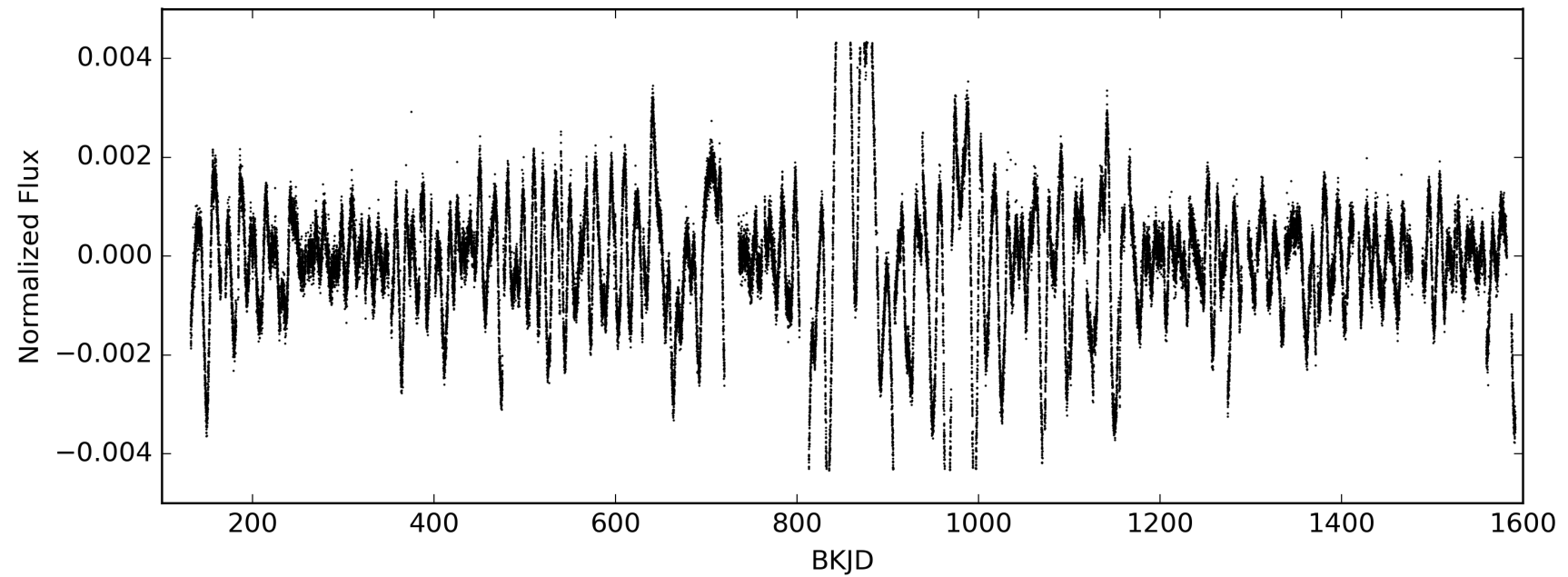
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 003336845-02, PDC Light Curves



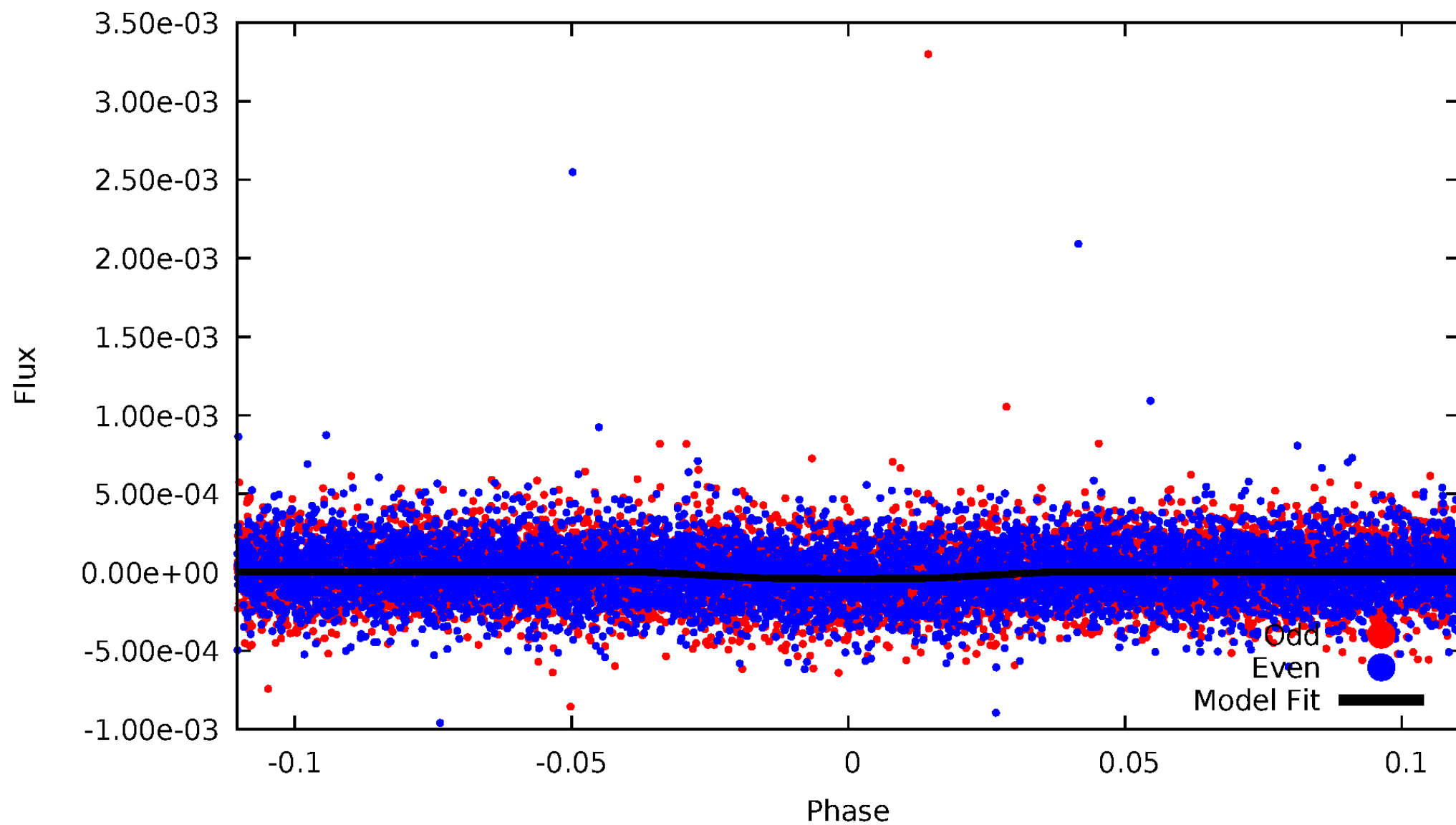
TCE 003336845-02

— P = 0.498 days — P = 0.997 days — P = 1.994 days



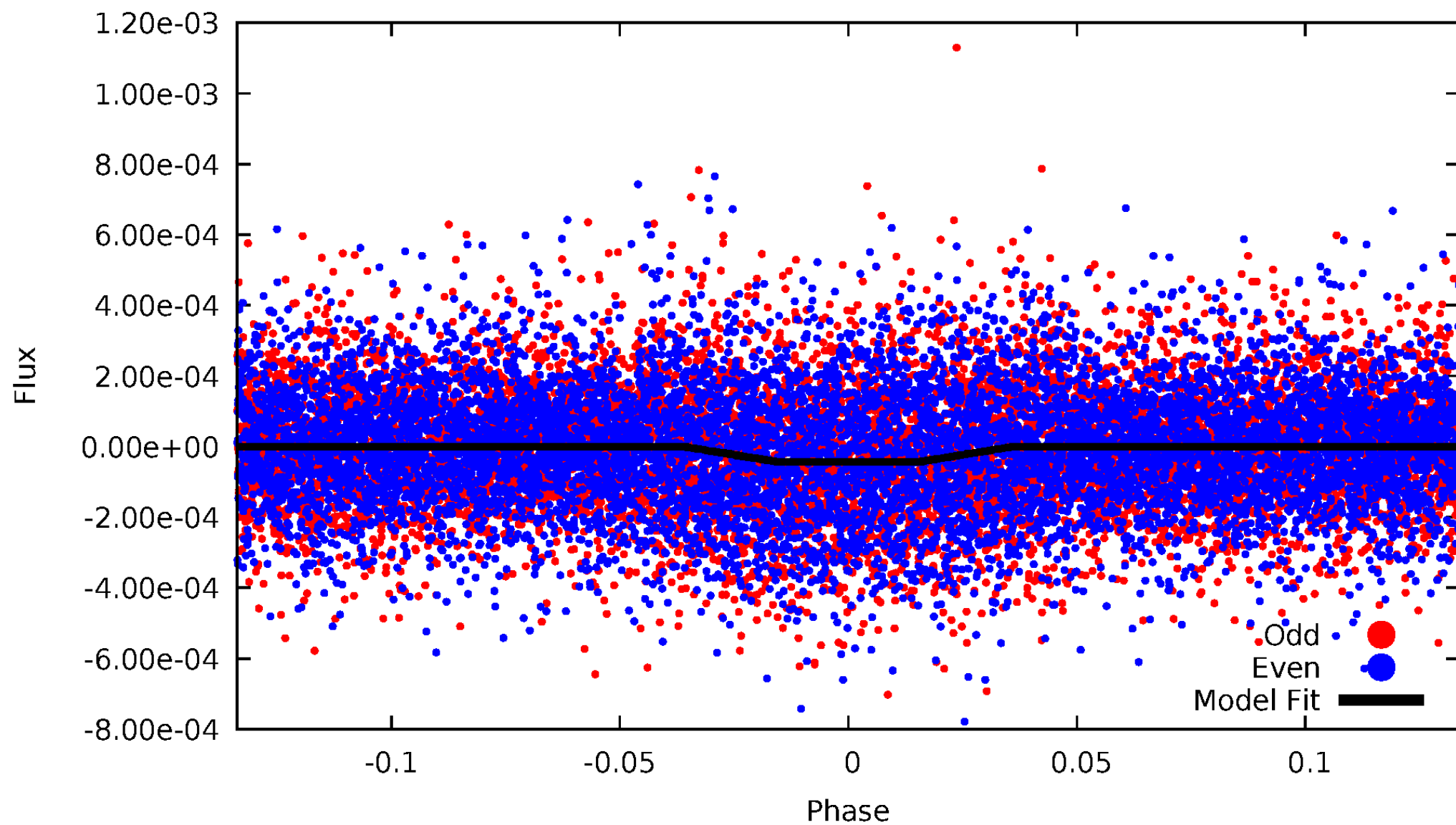
DV Odd/Even

TCE 003336845-02



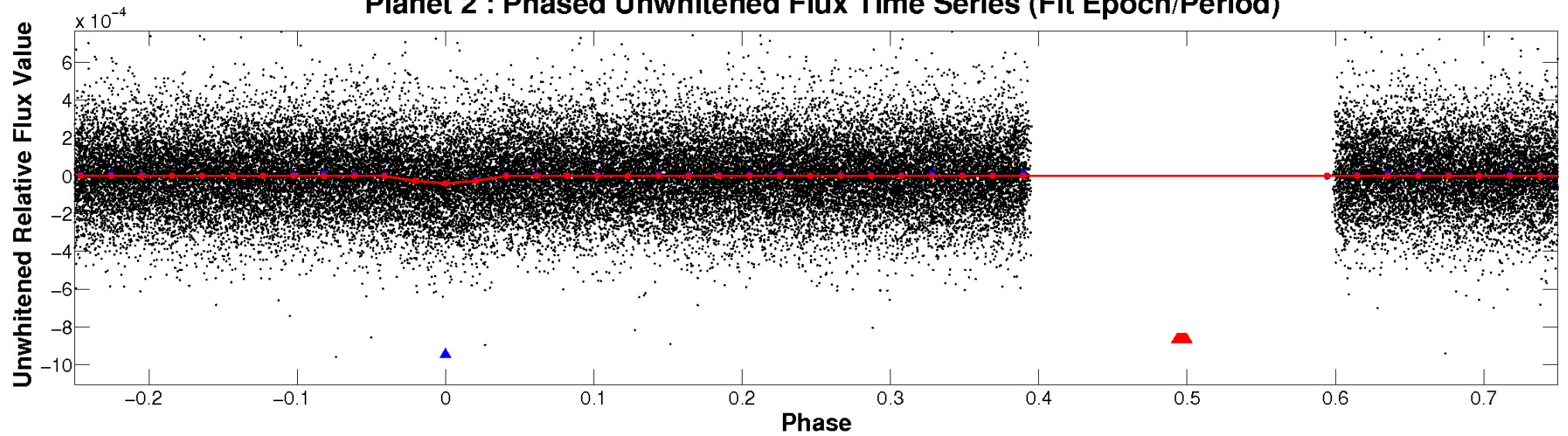
ALT Odd/Even

TCE 003336845-02

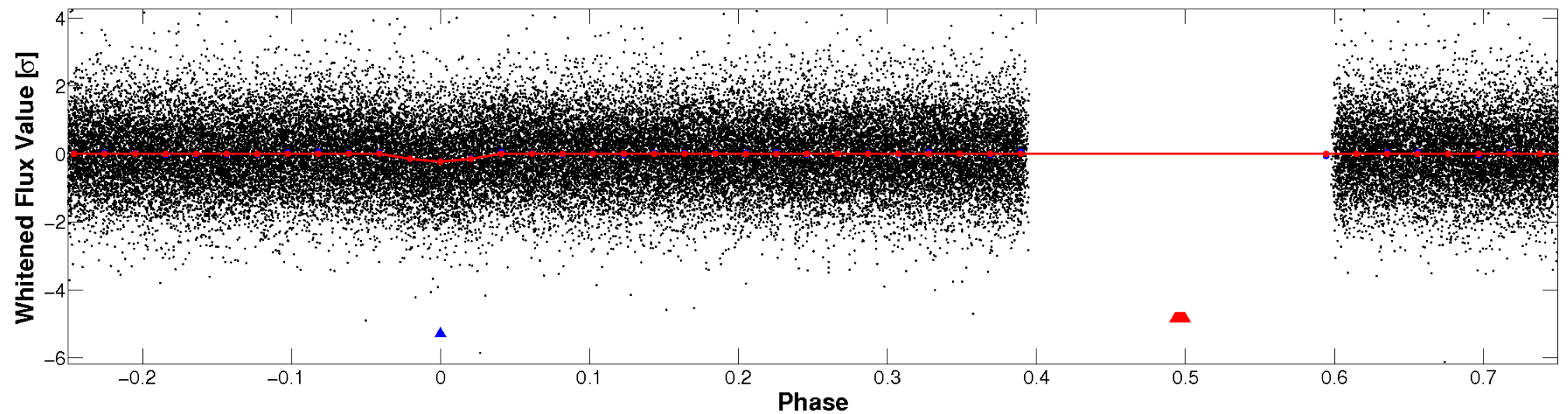


Non-Whitened Vs. Whitened Light Curve

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

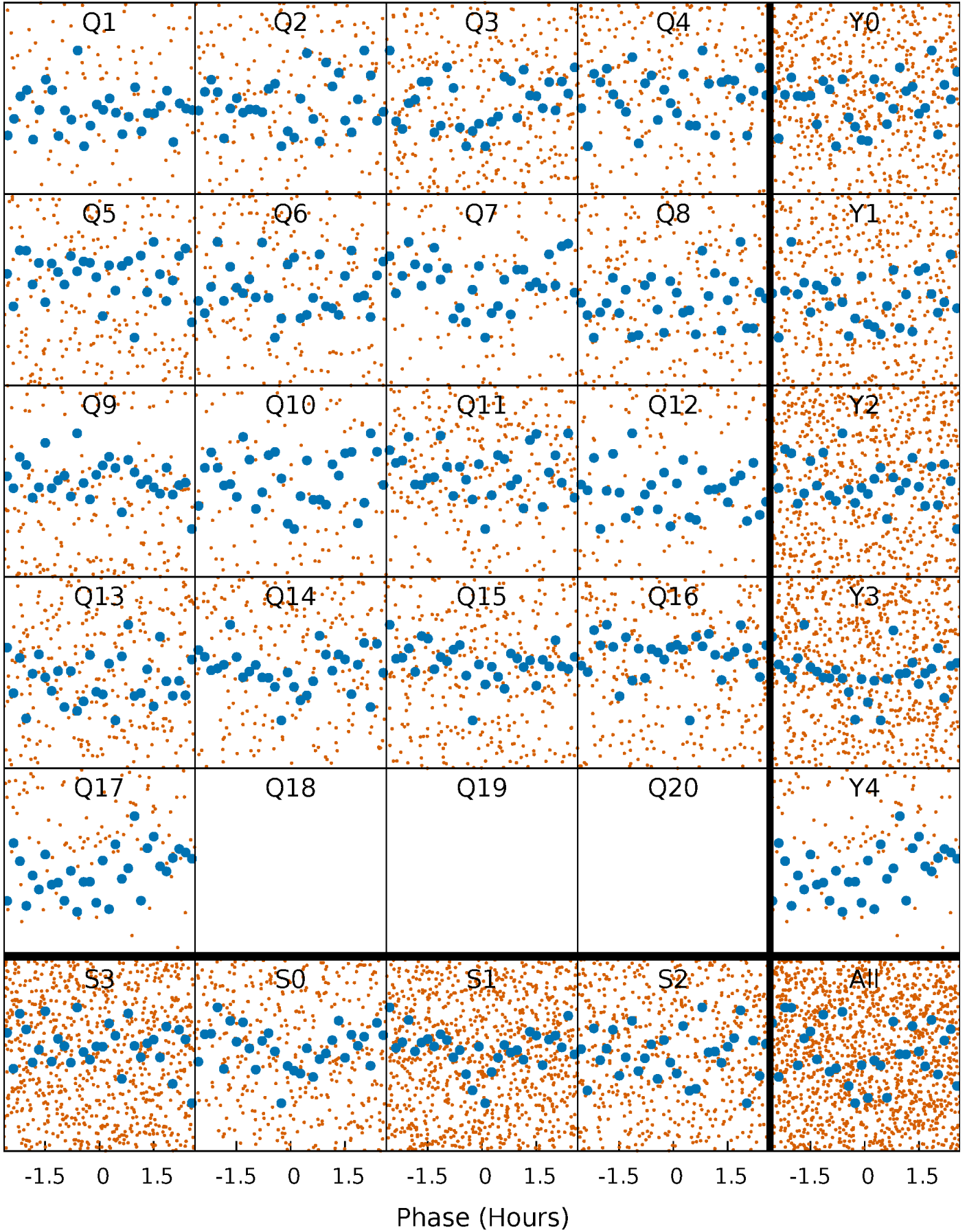


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



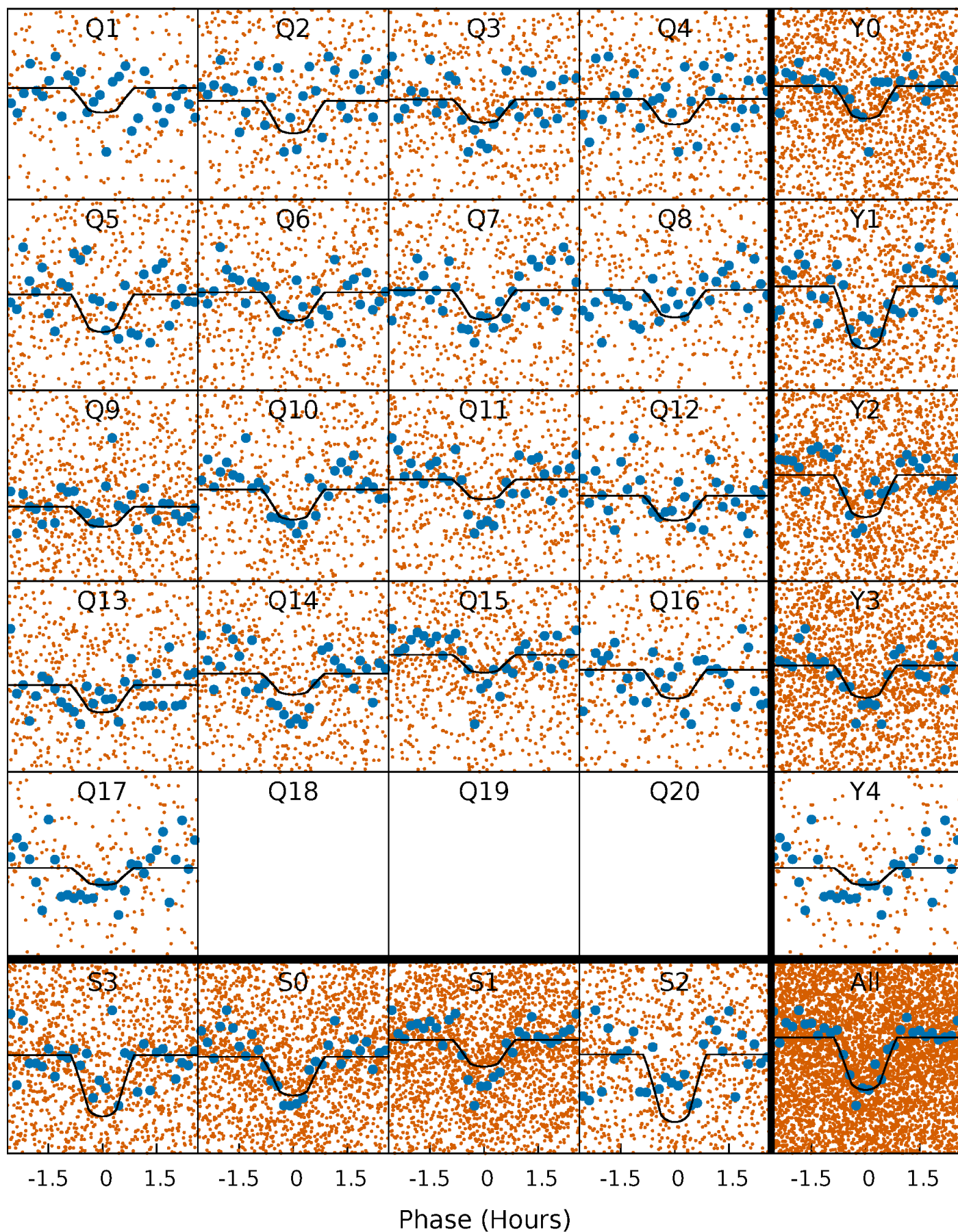
PDC Quarter-Phased Transit Curves

TCE 003336845-02 P= 0.996854 Days $T_0=131.608567$ (BKJD)



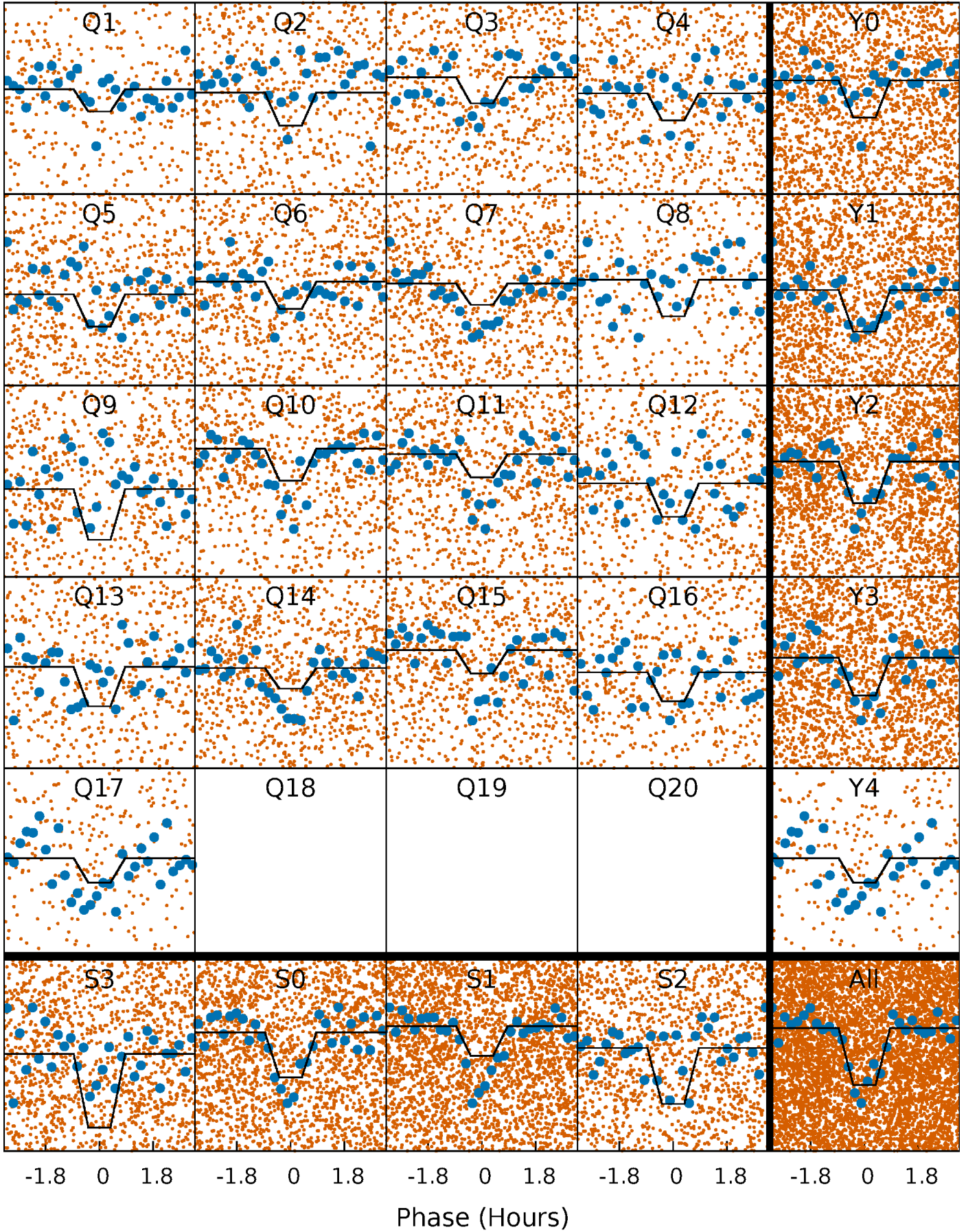
DV Quarter-Phased Transit Curves

TCE 003336845-02 P= 0.996854 Days $T_0=131.608567$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

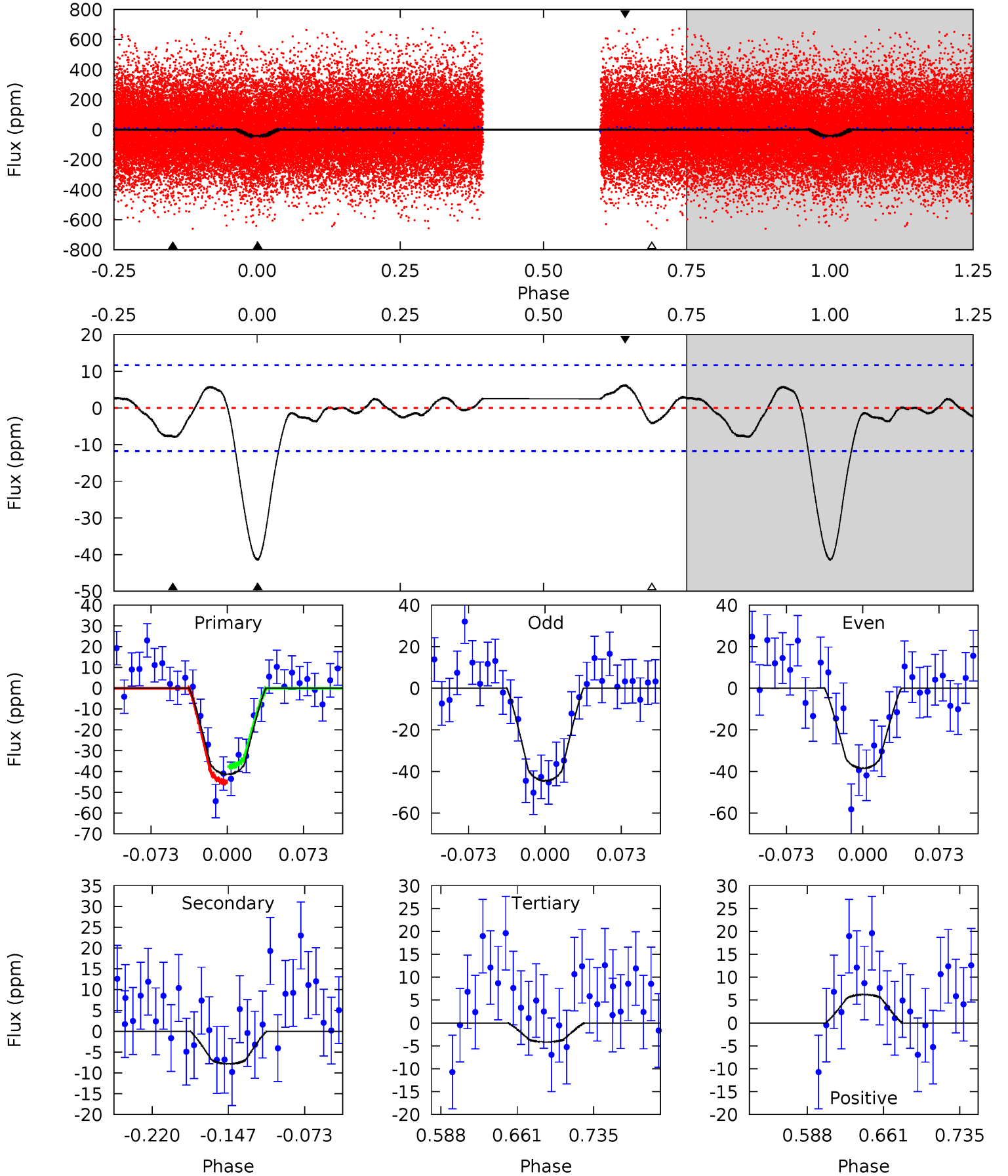
TCE 003336845-02 P= 0.996849 Days $T_0=131.613945$ (BKJD)



DV Model-Shift Uniqueness Test

003336845-02, P = 0.996854 Days, E = 130.611713 Days

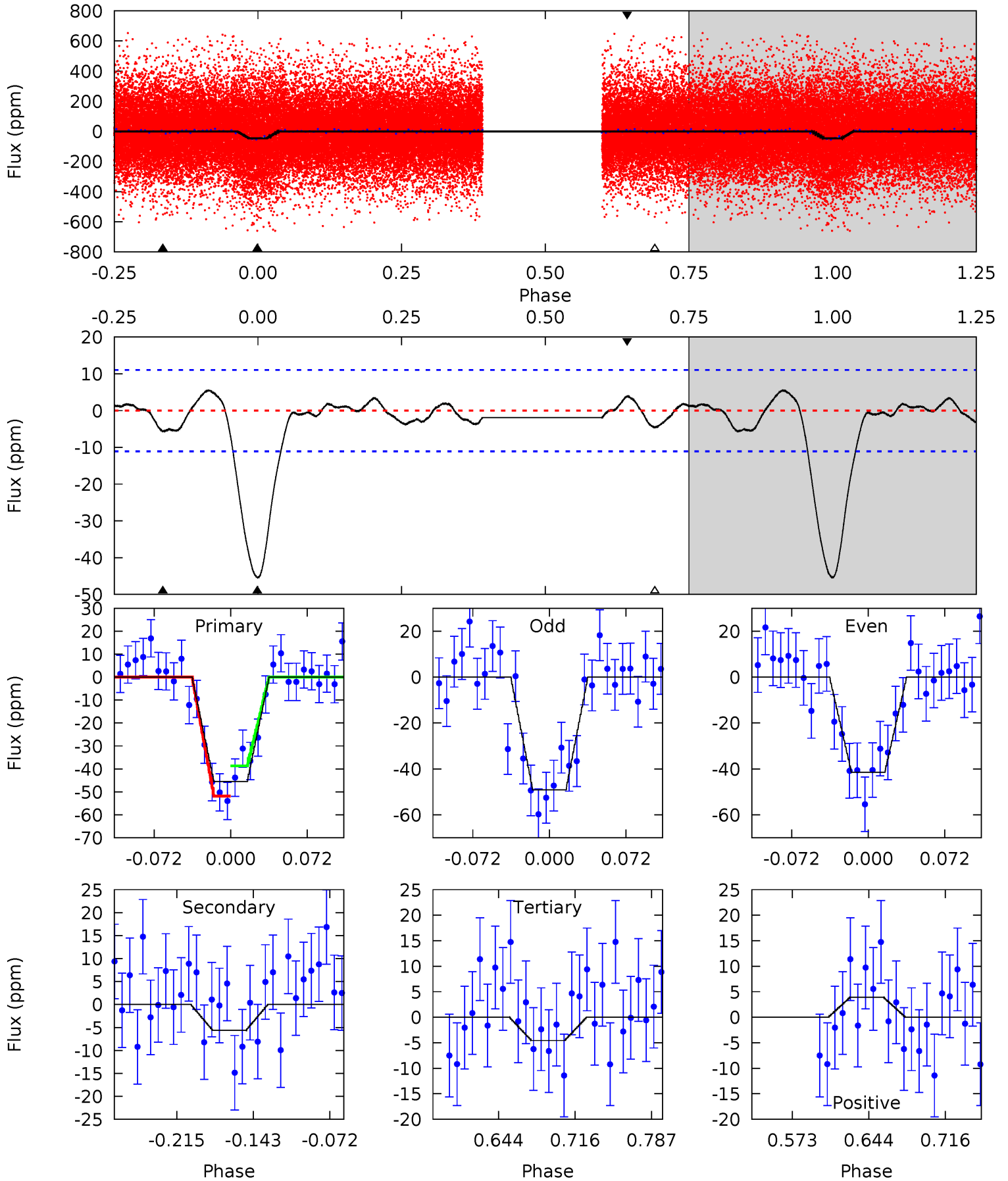
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.4	3.09	1.65	2.44	4.63	1.79	0.97	14.7	13.9	1.45	0.65	1.20	0.97	0.13	1.51



Alt Model-Shift Uniqueness Test

003336845-02, P = 0.996849 Days, E = 130.617096 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.0	2.36	1.91	1.65	4.63	1.80	0.97	17.1	17.4	0.45	0.71	1.59	1.15	0.11	2.77



Stellar Parameters For KIC 003336845

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5418^{+160}_{-144}	$4.524^{+0.090}_{-0.090}$	$-0.420^{+0.350}_{-0.300}$	$0.782^{+0.112}_{-0.092}$	$0.746^{+0.101}_{-0.050}$	$2.199^{+0.777}_{-0.630}$
	+3%/-3%	+2%/-2%	+83%/-71%	+14%/-12%	+14%/-7%	+35%/-29%
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 003336845-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-8 ± 3	$0.61^{+0.27}_{-0.25}$	2218^{+106}_{-92}	3684^{+892}_{-484}	$3.551^{+7.241}_{-1.943}$
Alt.	-6 ± 2	$0.57^{+0.29}_{-0.26}$	2222^{+96}_{-96}	3542^{+1040}_{-520}	$2.904^{+7.596}_{-1.765}$

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 $A_{obs} \gg 1.0$

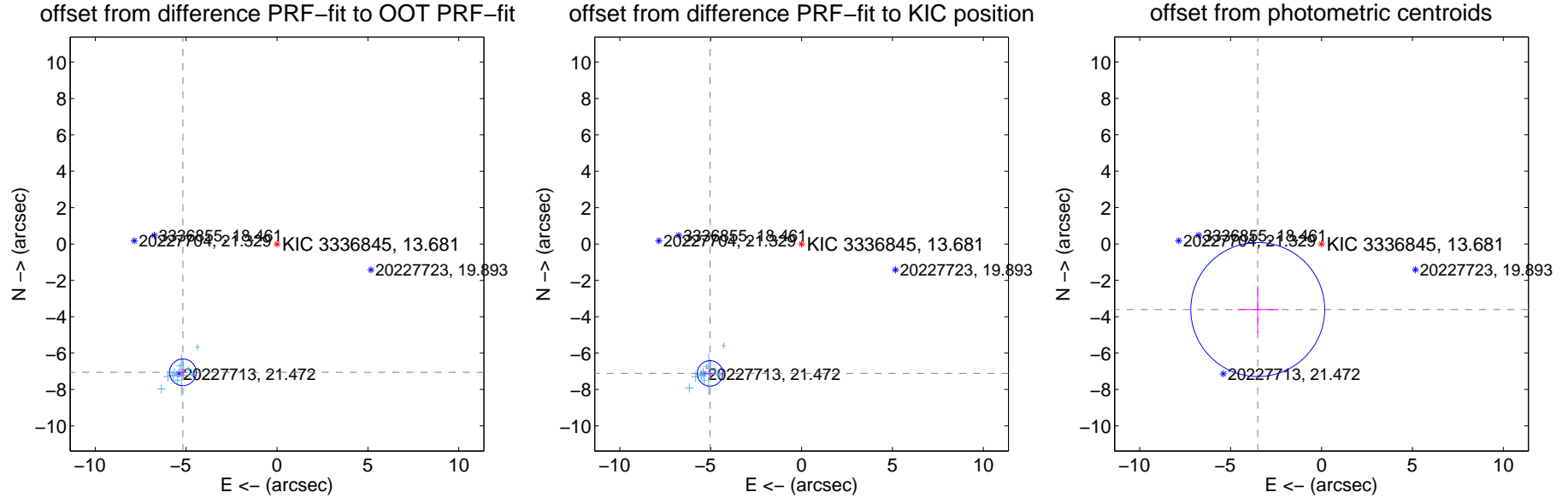
DV Centroid Data

Supplemental centroid analysis for 003336845-02. Kepler magnitude: 13.68. Transit SNR 11.18

There are 11 quarters with good PRF difference image offsets

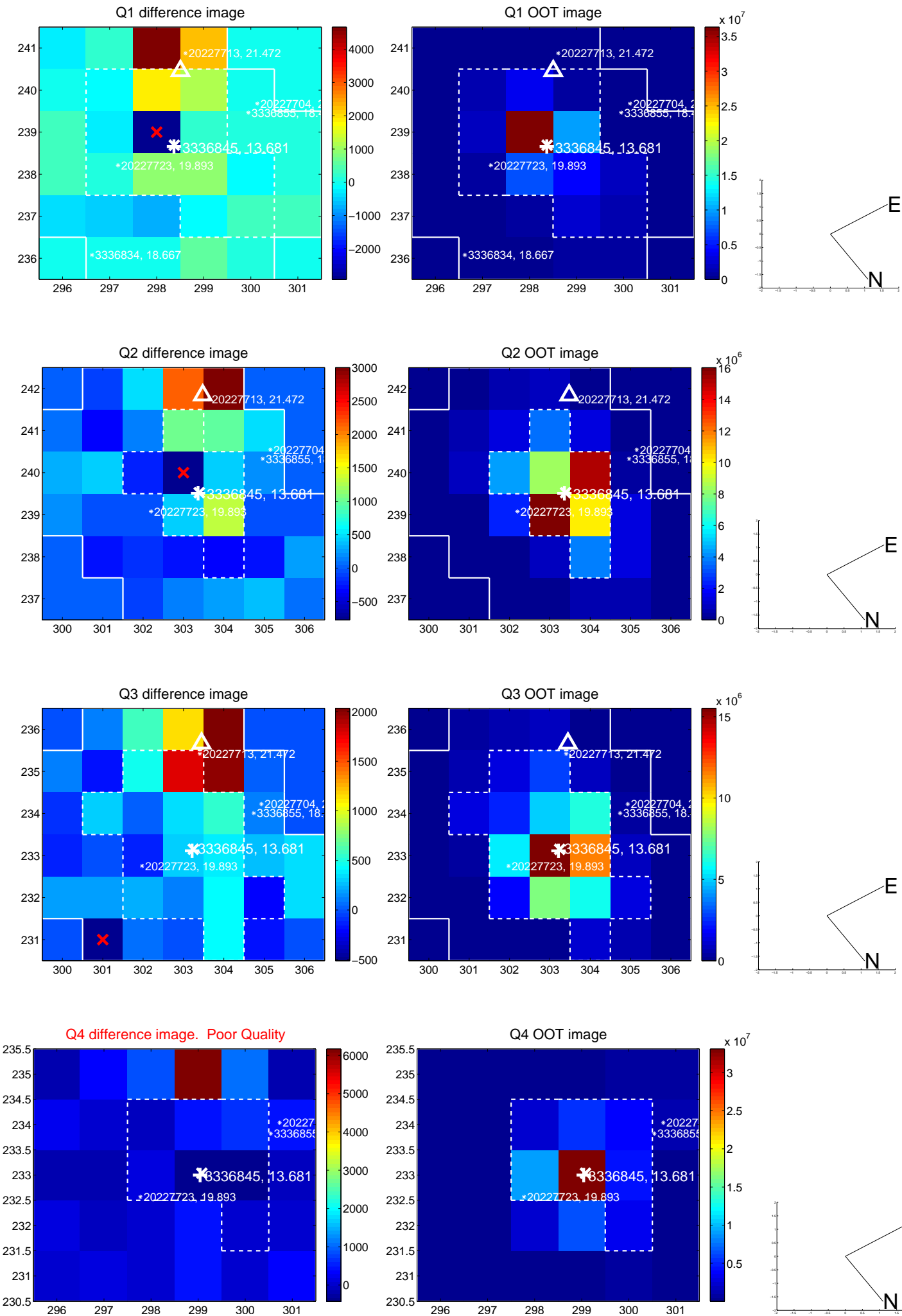
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.754 ± 0.244	35.82	5.181 ± 0.193	-7.057 ± 0.187
PRF-fit source offset from KIC position	8.719 ± 0.234	37.30	5.038 ± 0.184	-7.116 ± 0.183
photometric centroid source offset	5.03 ± 1.23	4.10	3.51 ± 1.13	-3.60 ± 1.31

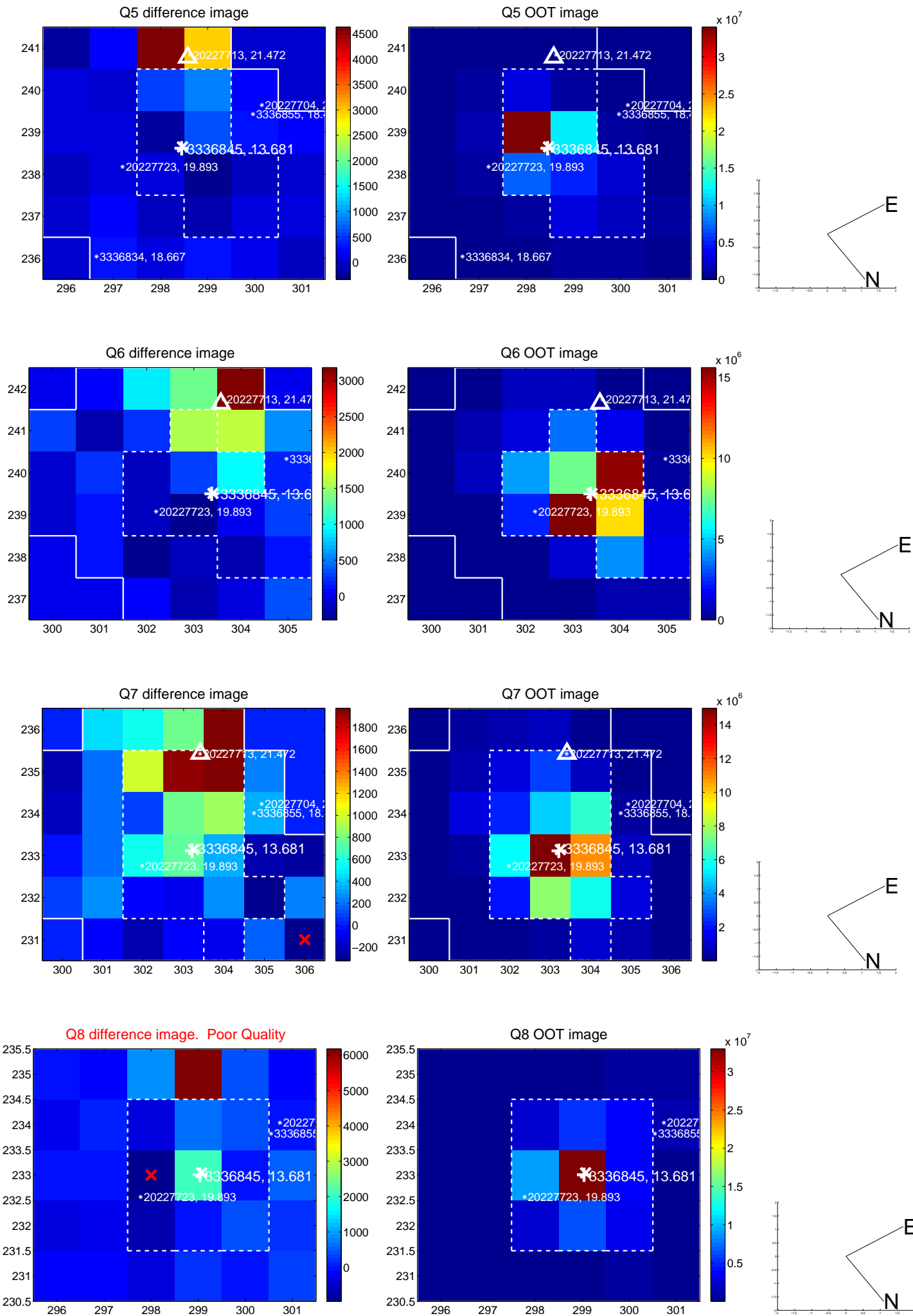


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

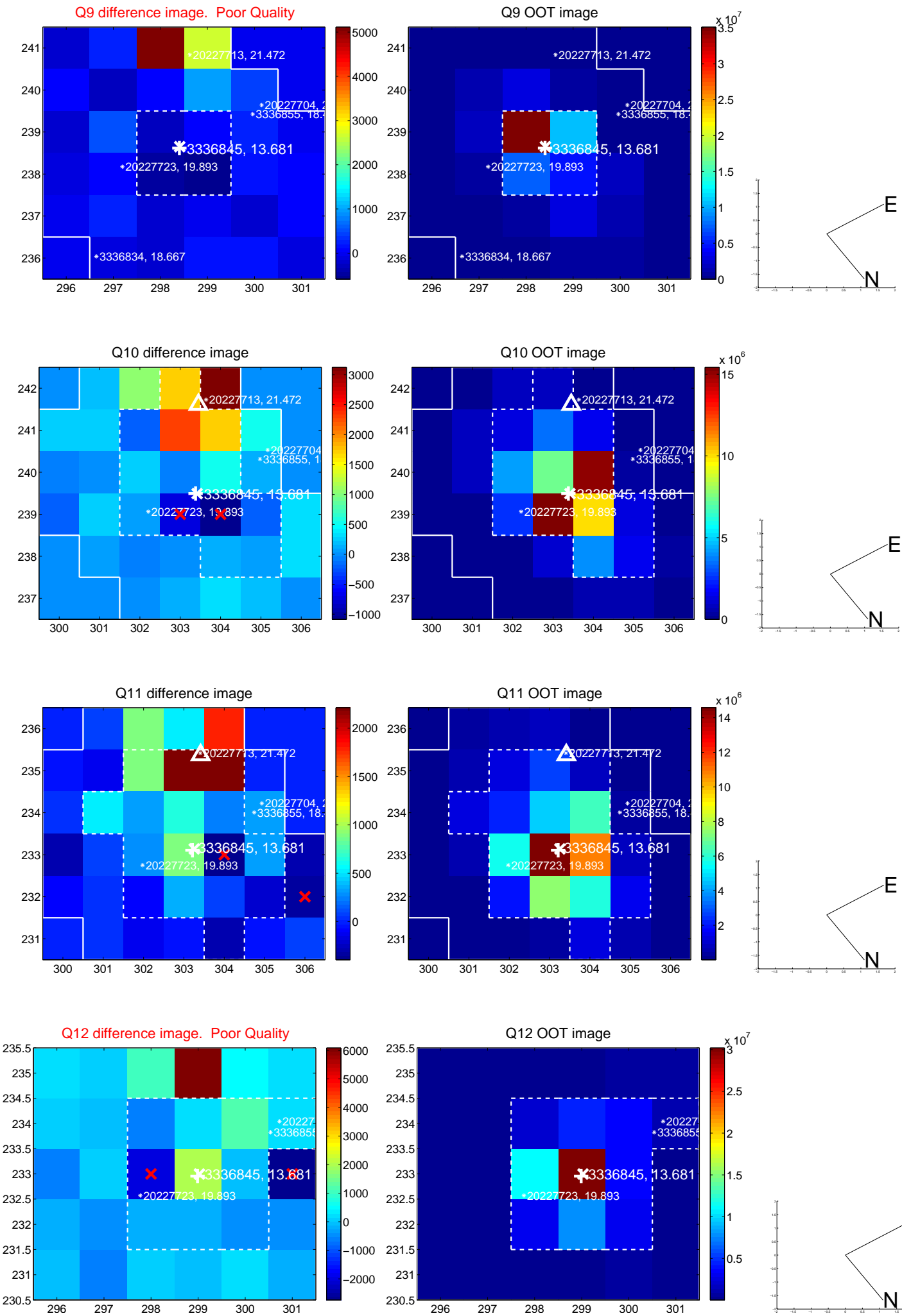
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



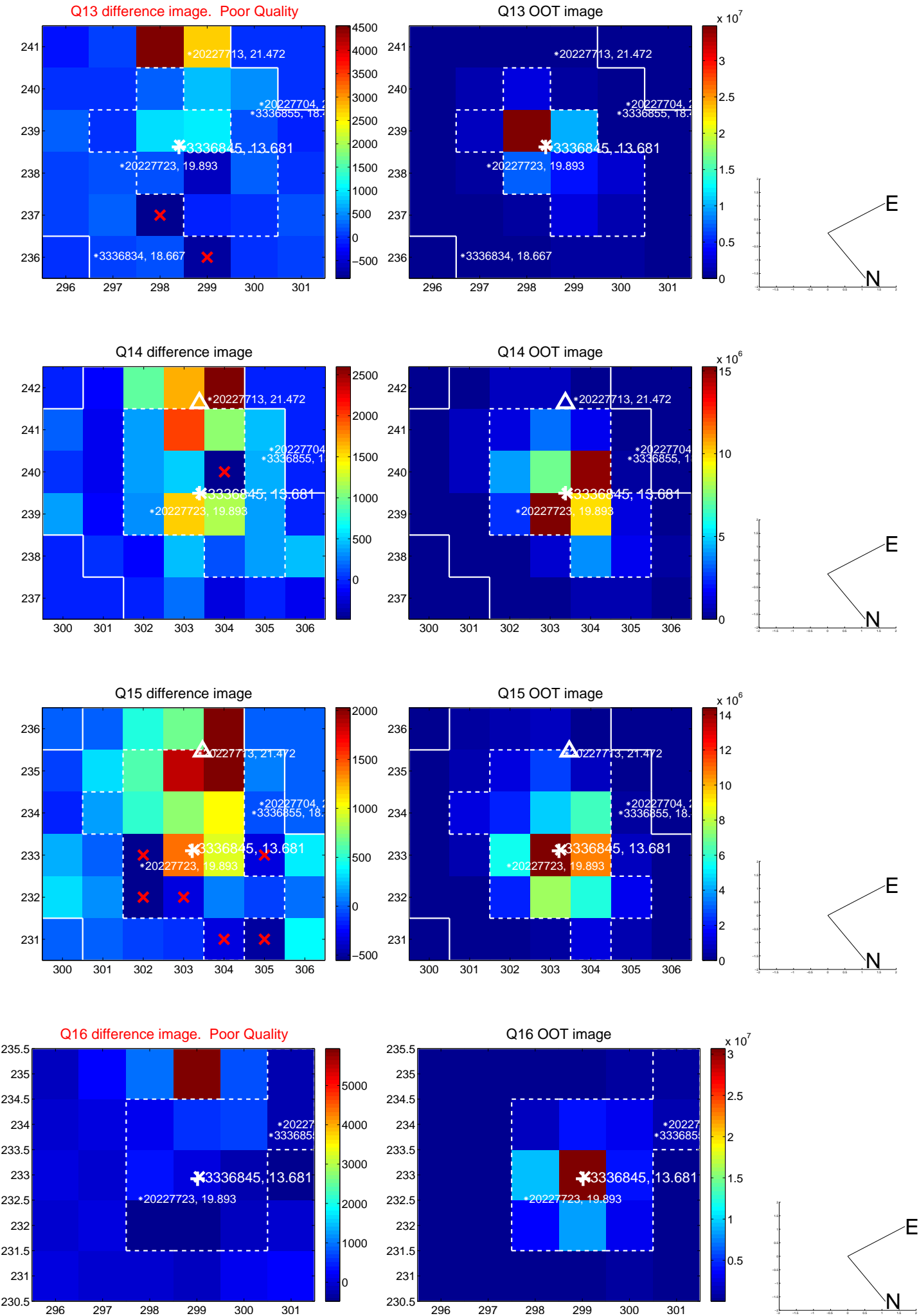
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



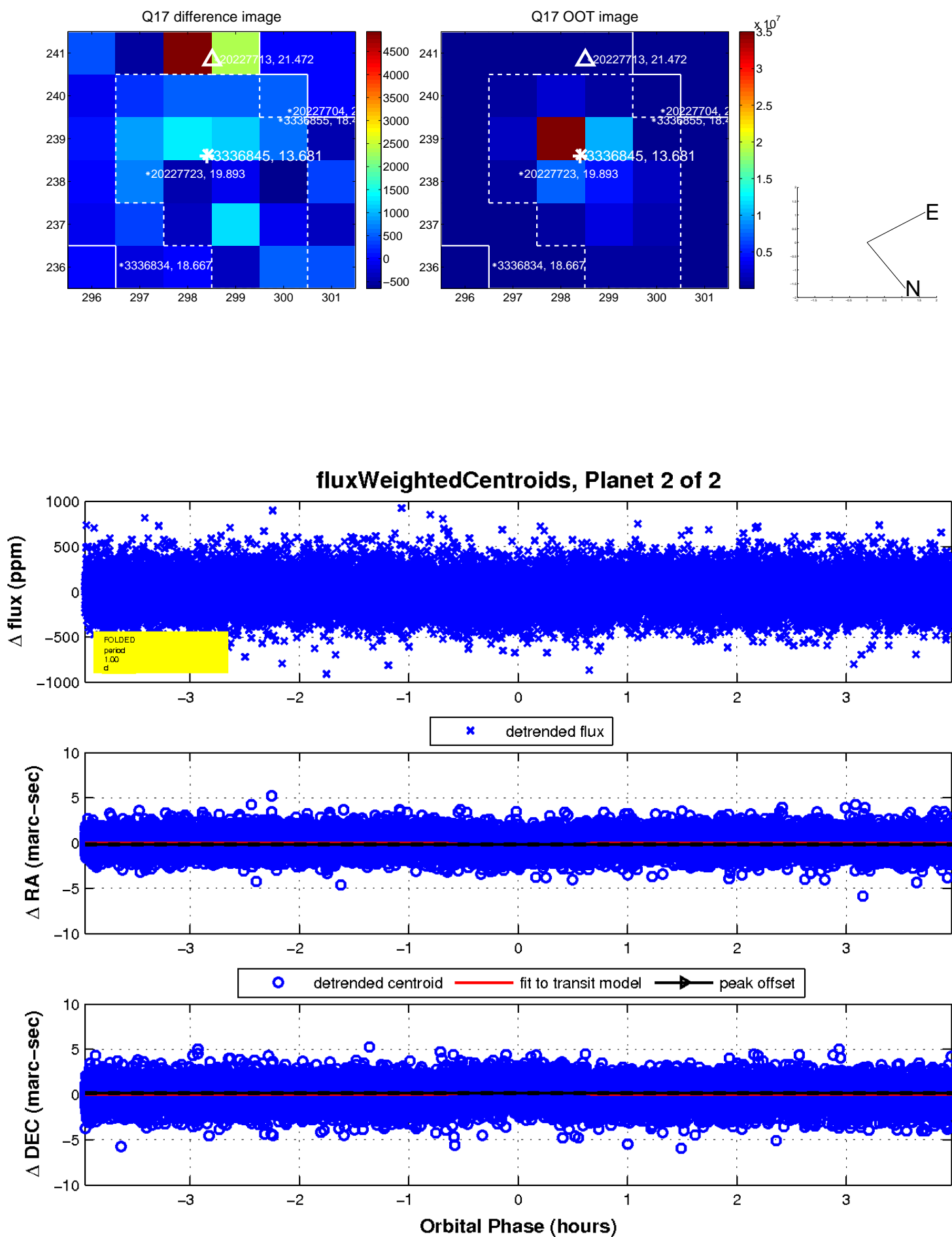
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

