

KIC 007051984

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})
007051984-01	OBS	2879.01	0.678135	131.535528	43.6	0.991	18.1	23.5	2.18	5653	1.44	16734.96
007051984-02	OBS	No	0.678144	131.865202	41.4	0.966	17.4	22.6	2.18	5653	1.69	16734.67

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007051984-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
007051984-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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 007051984-01

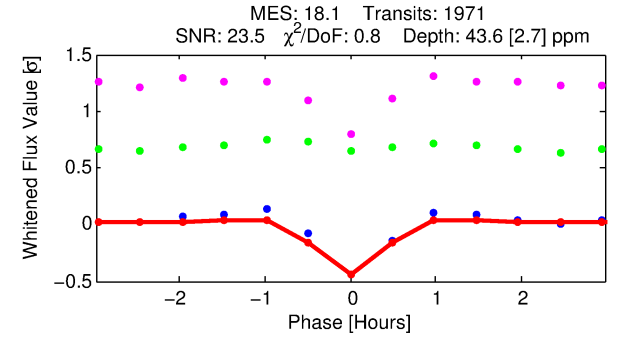
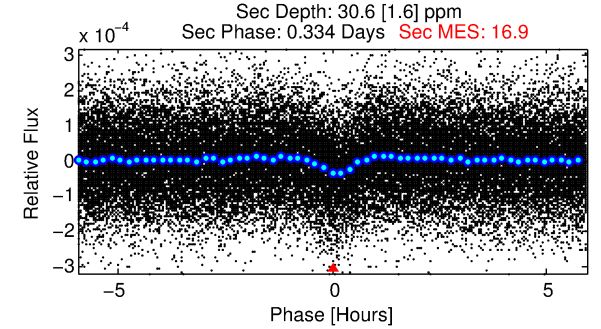
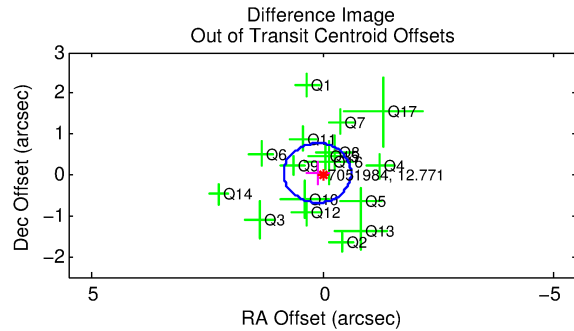
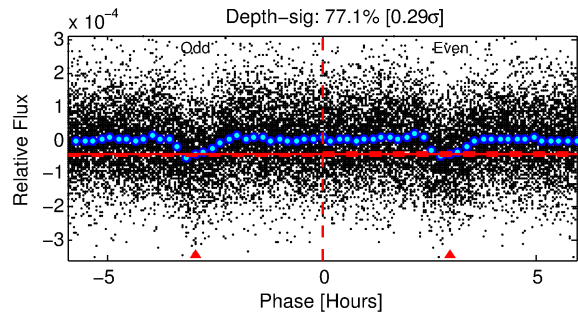
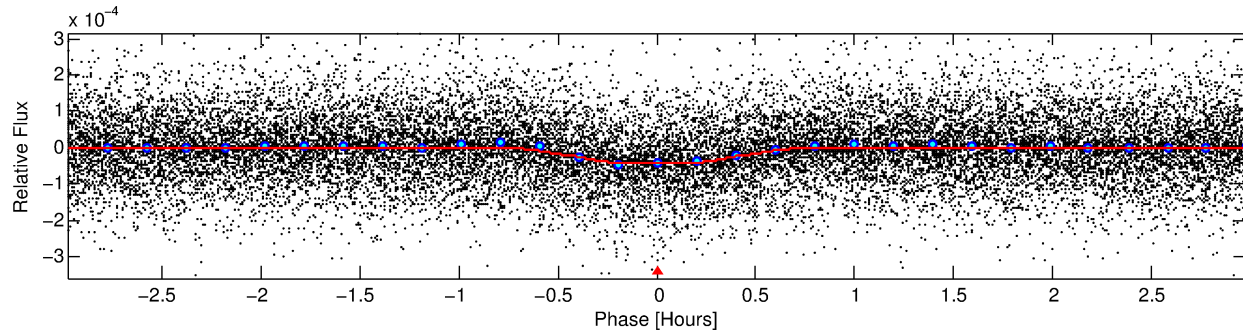
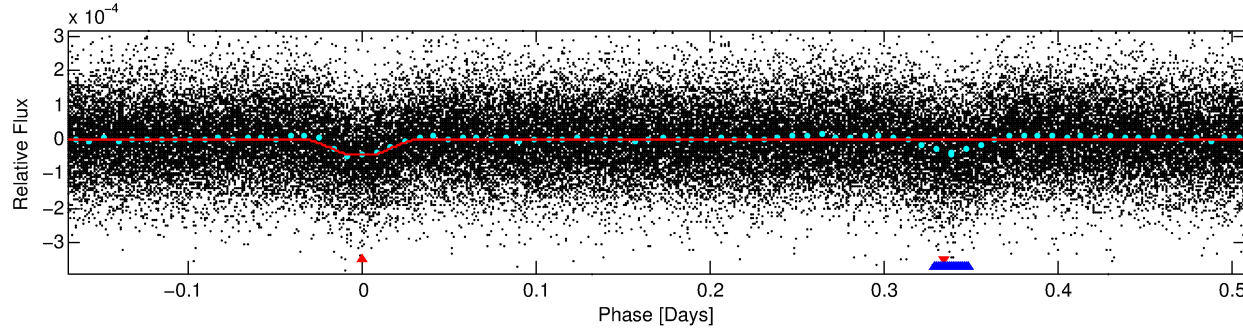
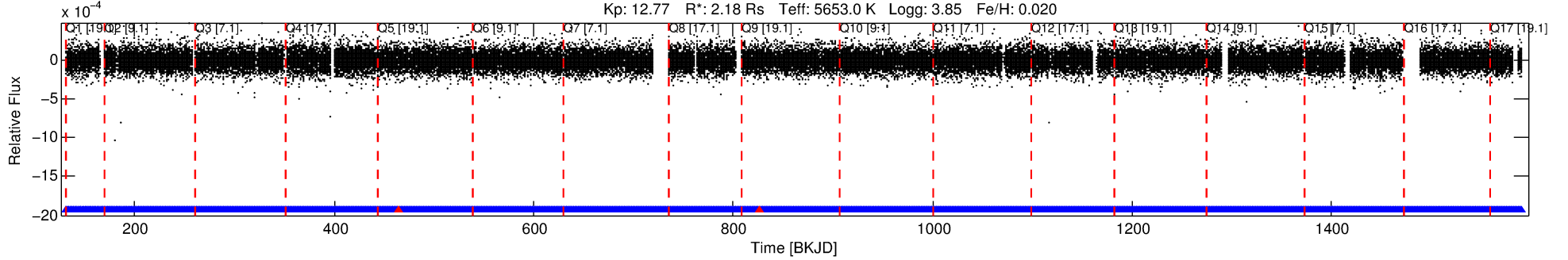
No Significant Match Found

DV One-Page Summary

KIC: 7051984 Candidate: 1 of 2 Period: 0.678 d

KOI: K02879 Corr: No Ephemeris Match

Kp: 12.77 R*: 2.18 Rs Teff: 5653.0 K Logg: 3.85 Fe/H: 0.020



DV Fit Results:

Period = 0.67814 [0.00000] d
Epoch = 131.5355 [0.0007] BKJD
Rp/R* = 0.0060 [0.0052]
a/R* = 5.28 [18.68]
b = 0.08 [45.71]
Seff = 16734.96 [15683.87]
Teff = 2900 [680] K
Rp = 1.44 [1.45] Re
a = 0.0161 [0.0090] AU
Ag = 2.13 [4.15] [0.27σ]
Teffp = 5414 [2327] K [1.04σ]

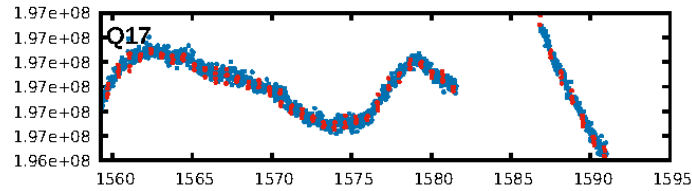
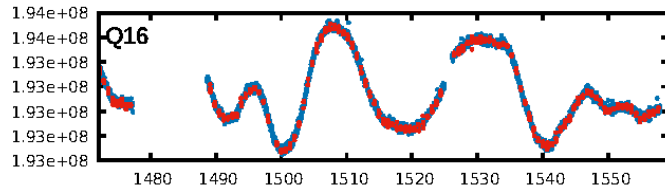
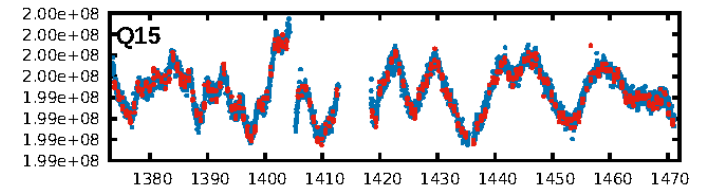
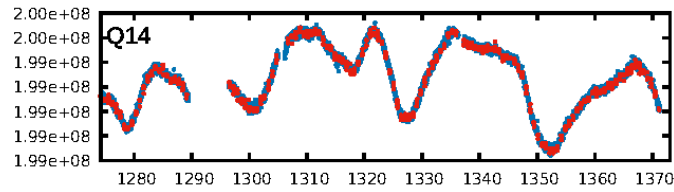
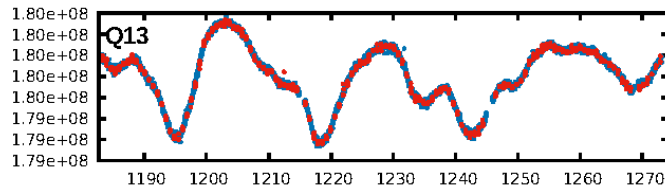
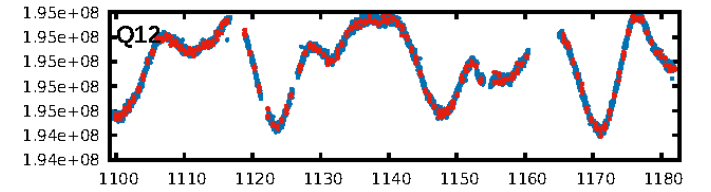
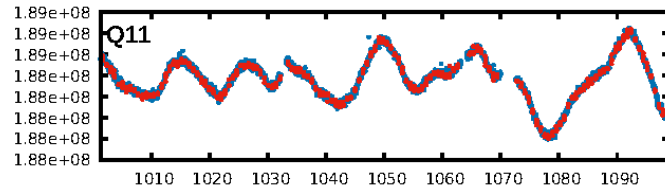
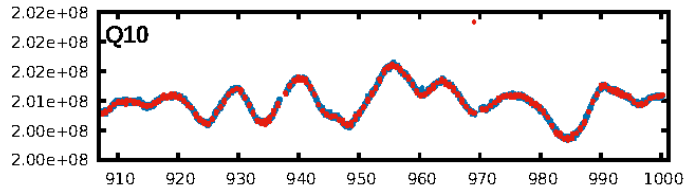
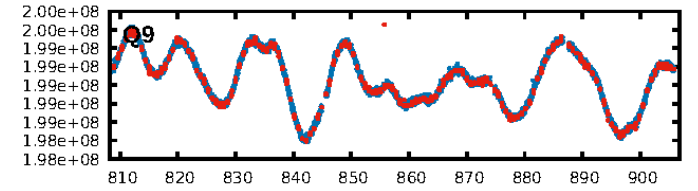
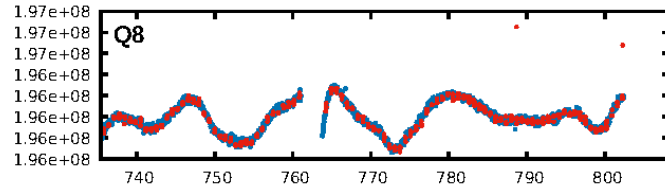
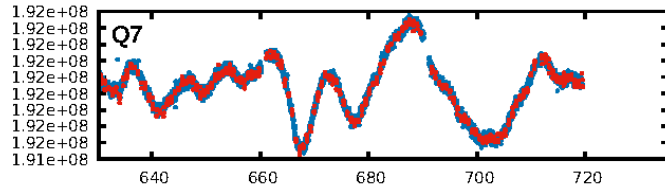
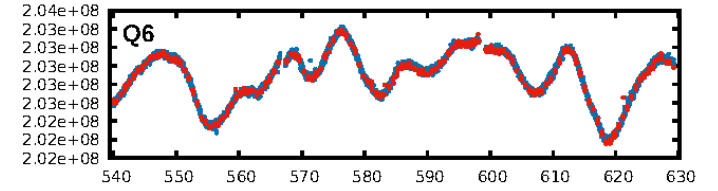
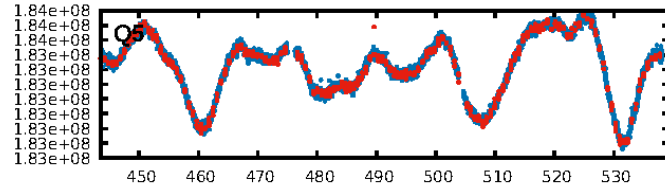
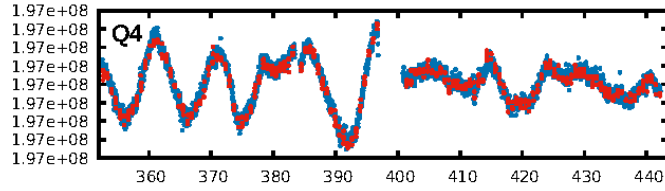
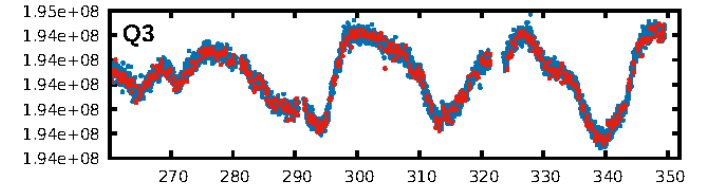
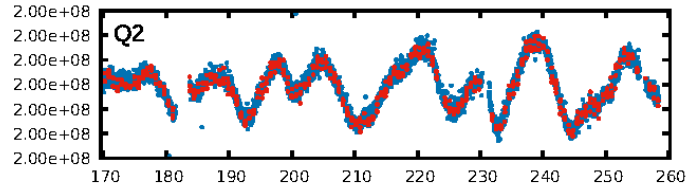
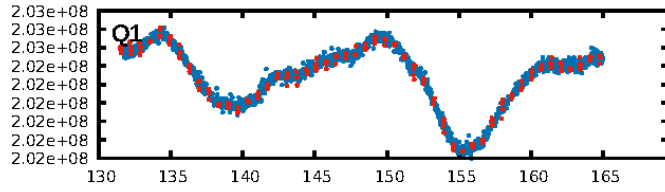
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.59e-72
RollingBand-fgt: 1.00 [1879/1881]
GhostDiagnostic-chr: -15.08
Centroid-sig: 0.0%
Centroid-so: 1.535 arcsec [3.00σ]
OotOffset-rm: 0.124 arcsec [0.51σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.370 arcsec [1.48σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

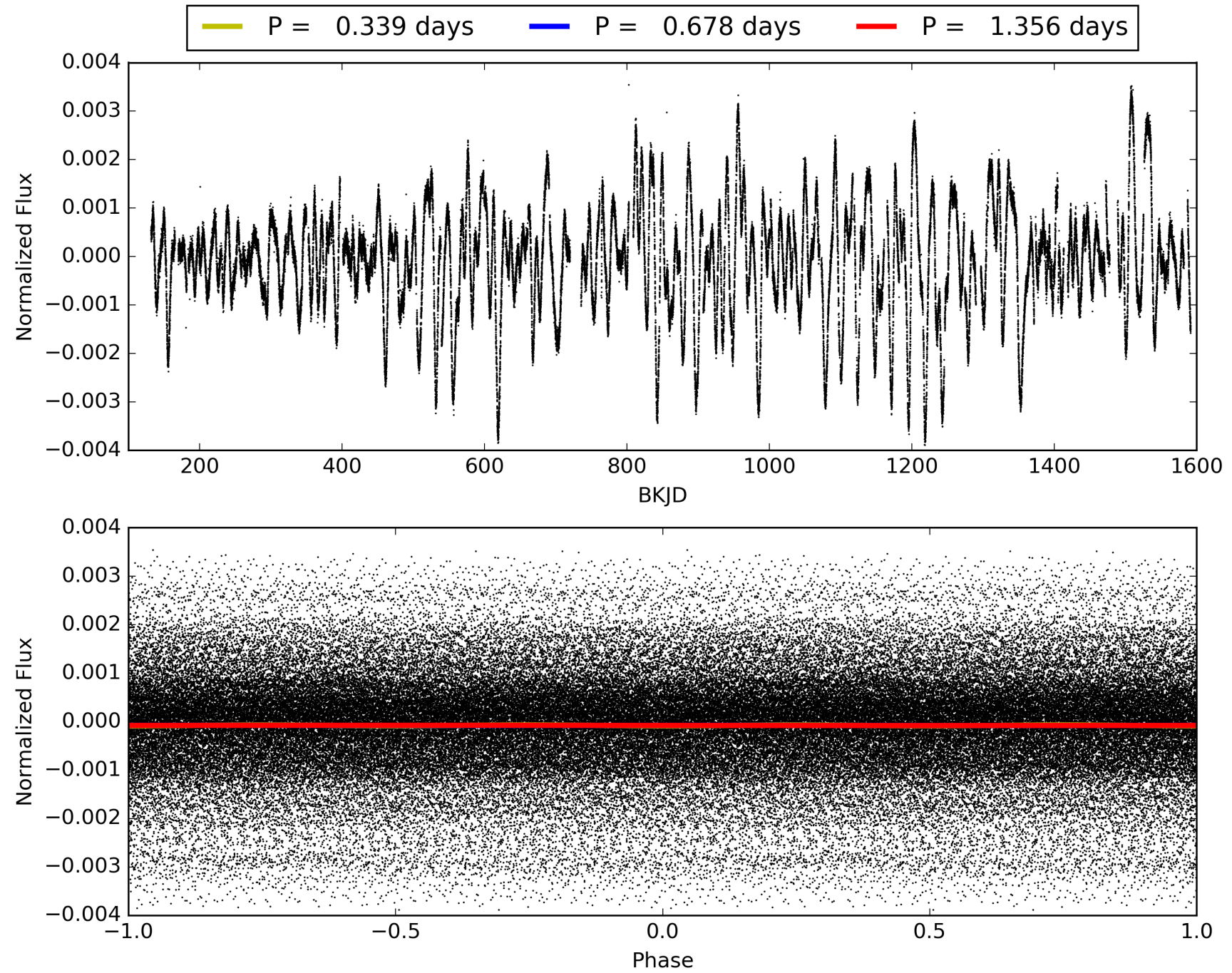
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:43:59 Z

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

TCE 007051984-01, PDC Light Curves

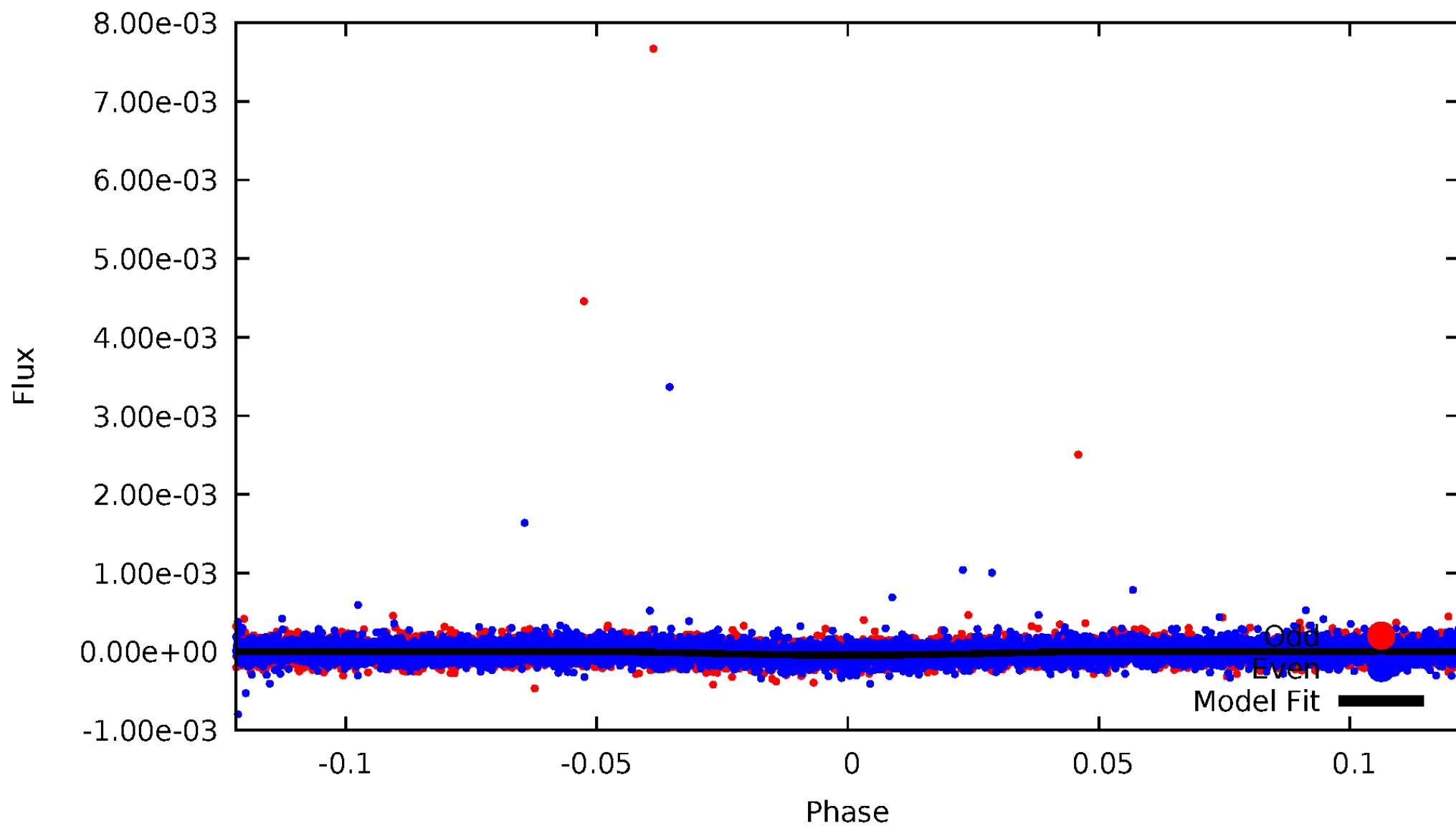


TCE 007051984-01



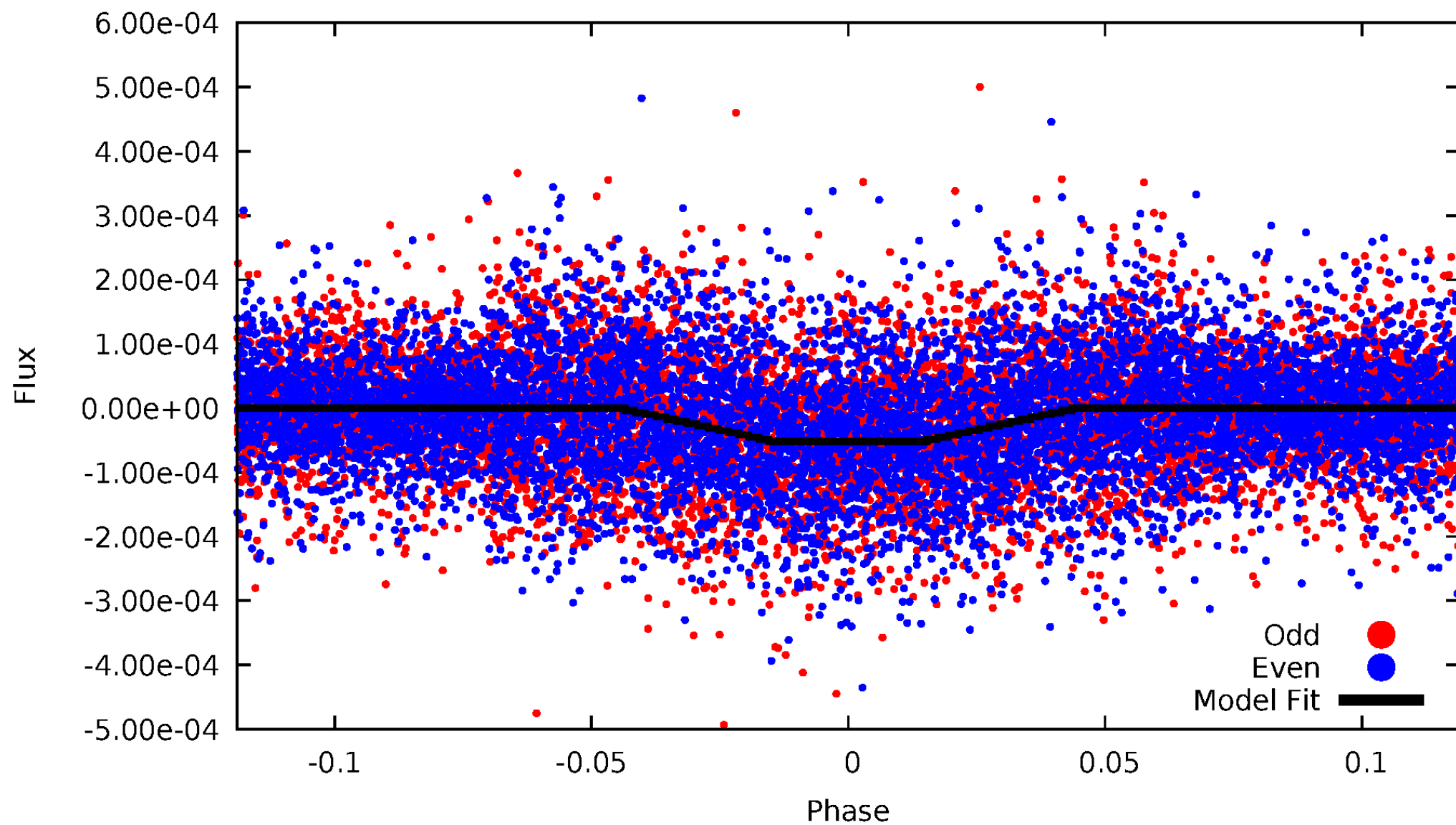
DV Odd/Even

TCE 007051984-01



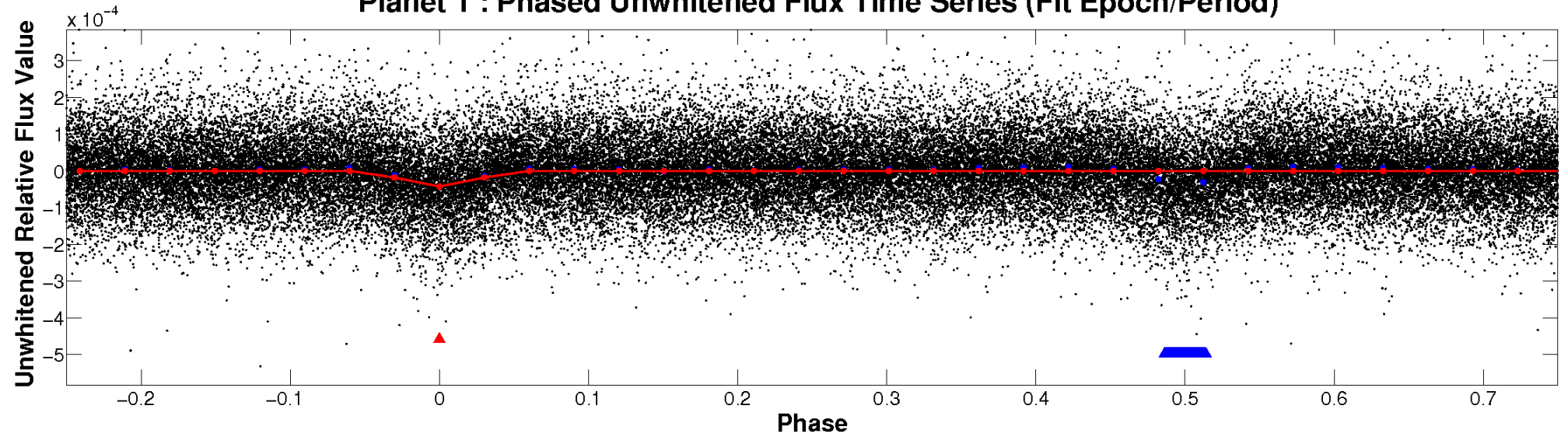
ALT Odd/Even

TCE 007051984-01

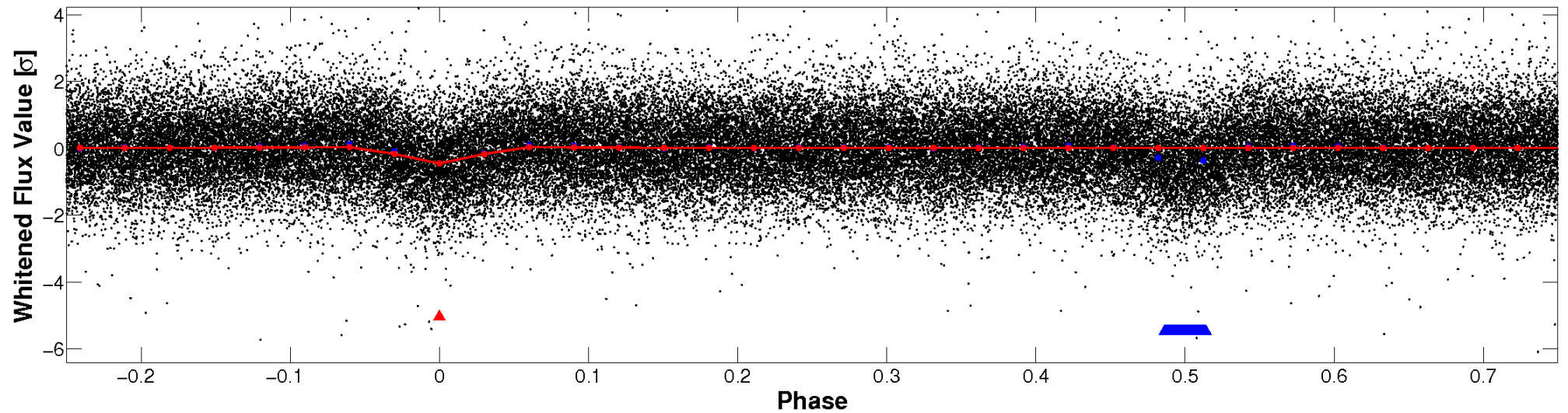


Non-Whitened Vs. Whitened Light Curve

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

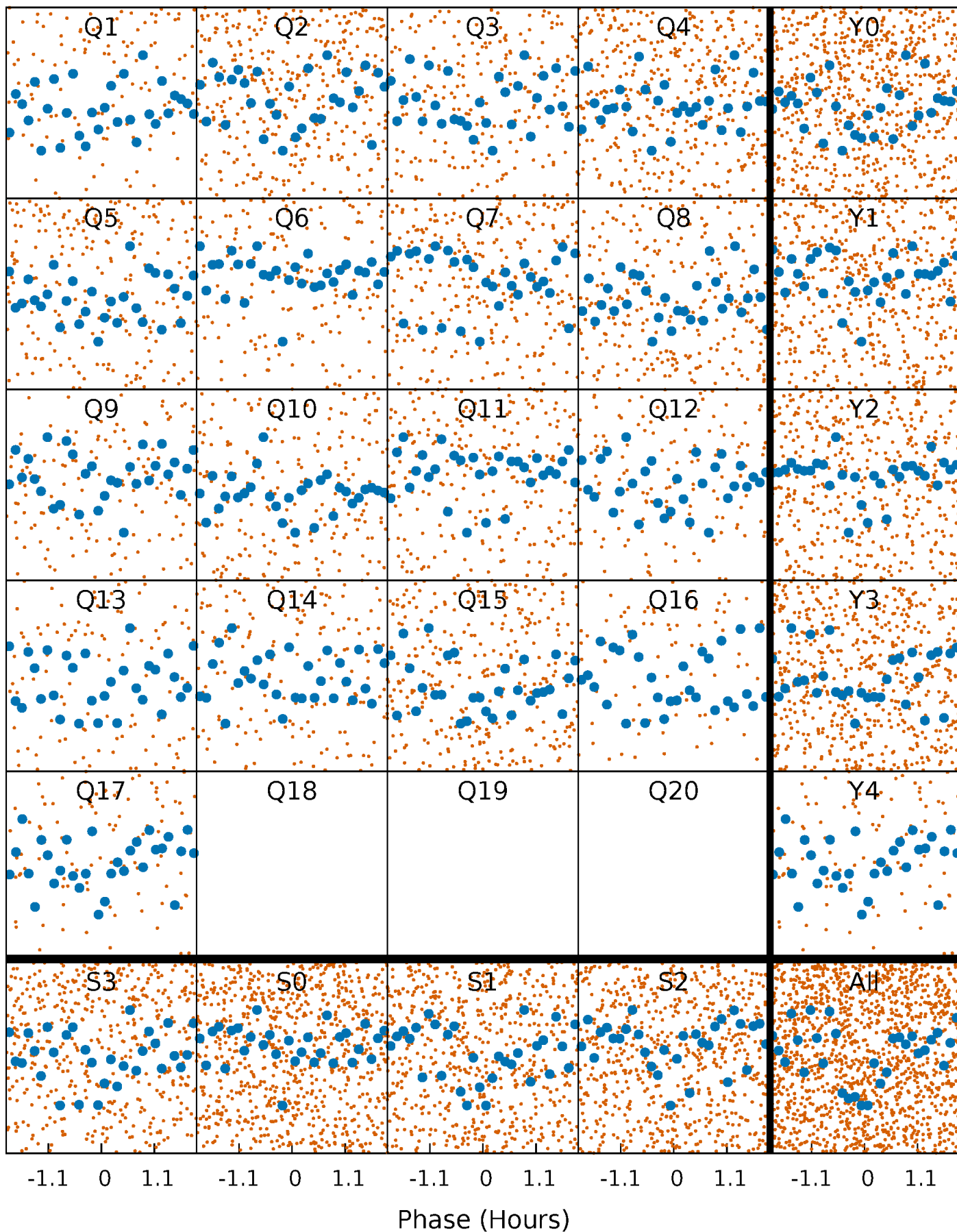


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



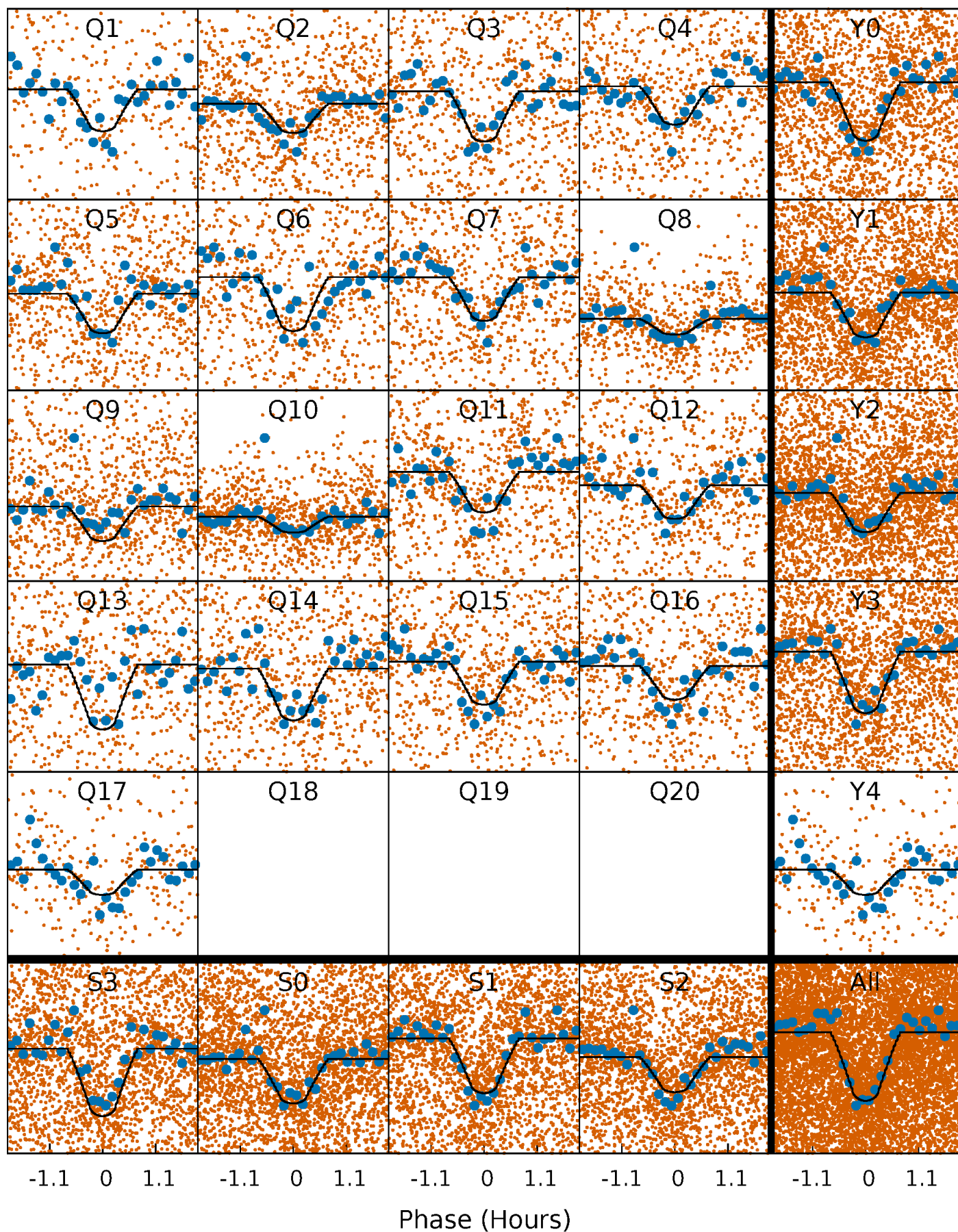
PDC Quarter-Phased Transit Curves

TCE 007051984-01 P= 0.678135 Days $T_0=131.535528$ (BKJD)



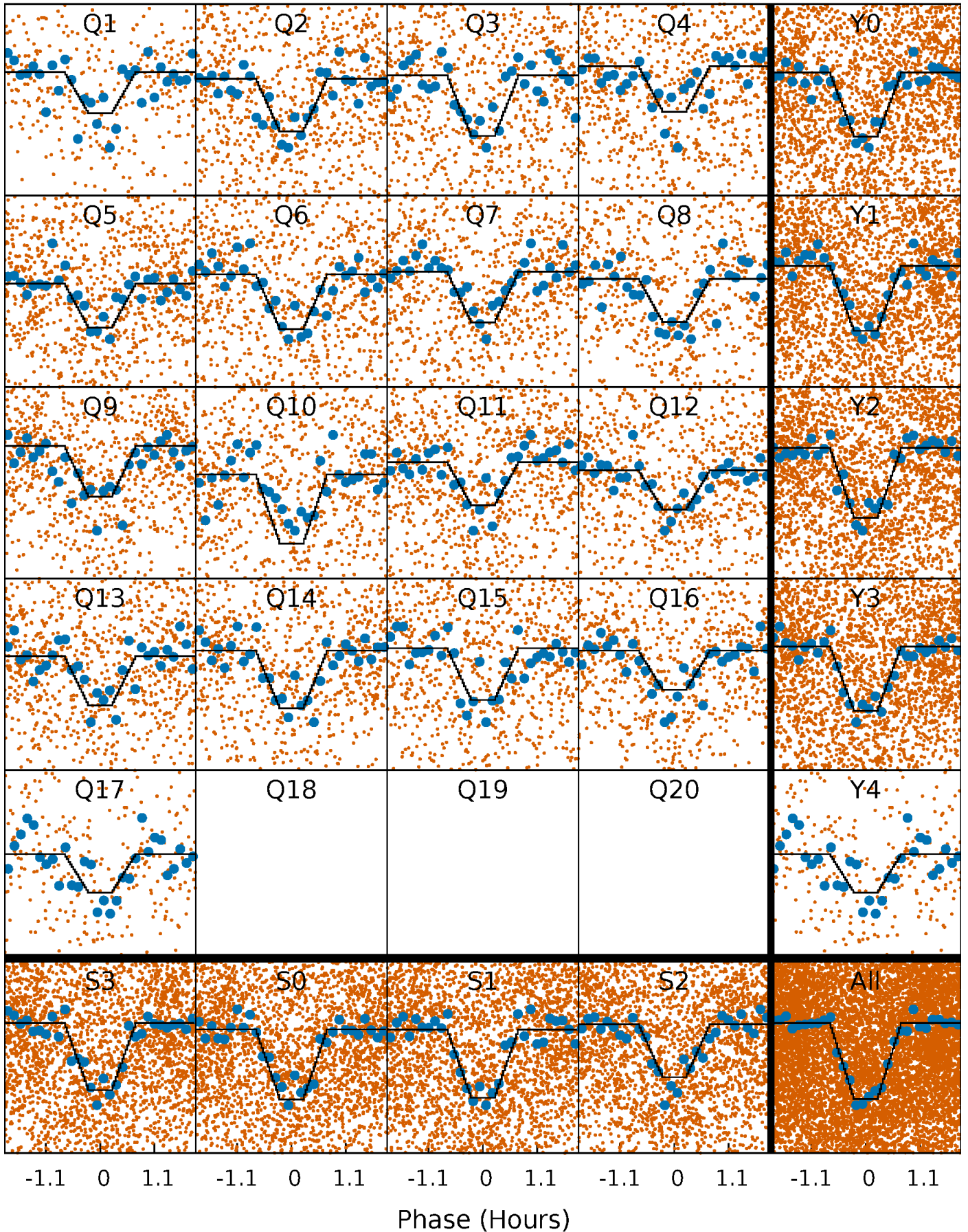
DV Quarter-Phased Transit Curves

TCE 007051984-01 P= 0.678135 Days $T_0=131.535528$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

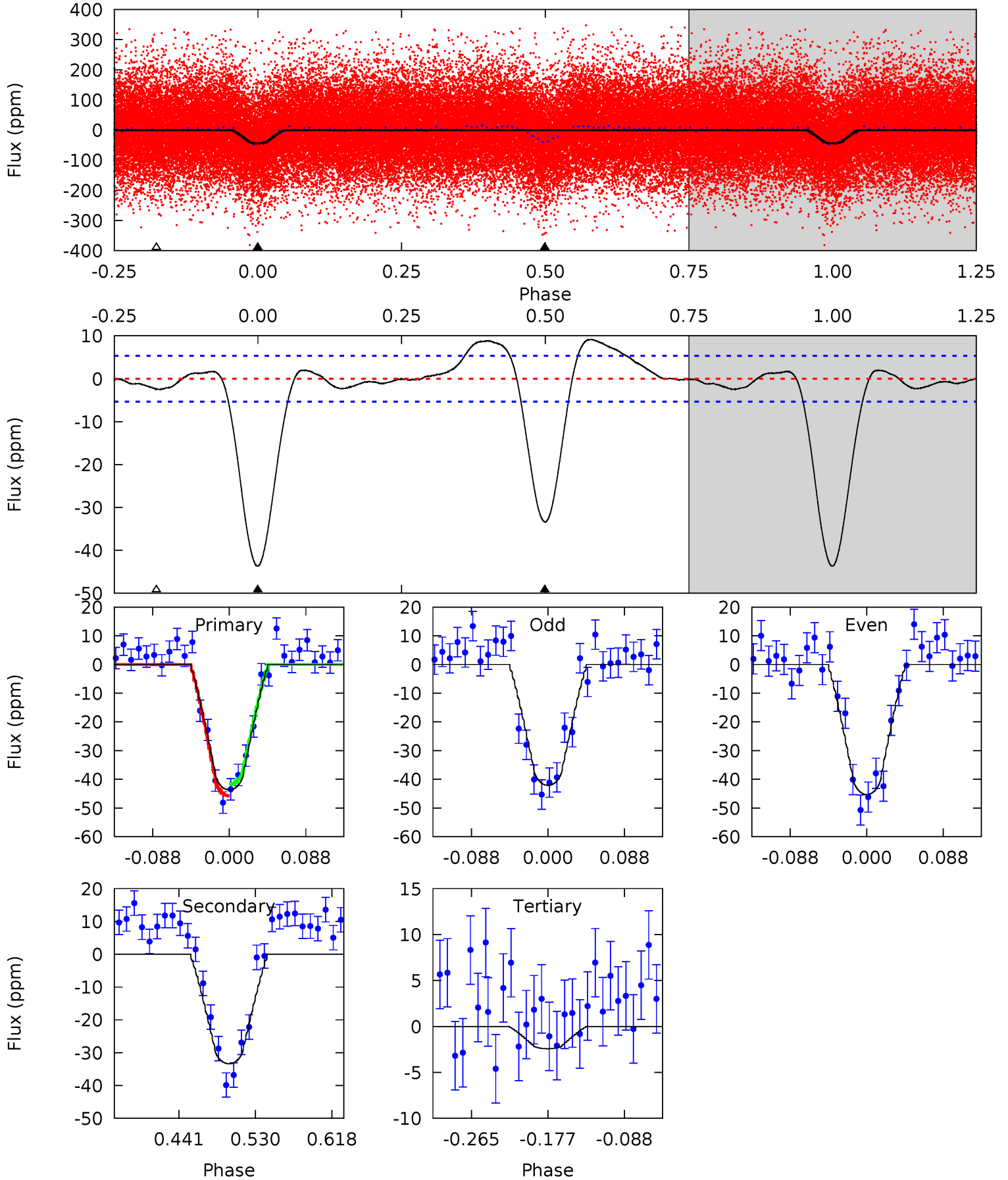
TCE 007051984-01 P= 0.678137 Days $T_0=131.533352$ (BKJD)



DV Model-Shift Uniqueness Test

007051984-01, P = 0.678135 Days, E = 130.857393 Days

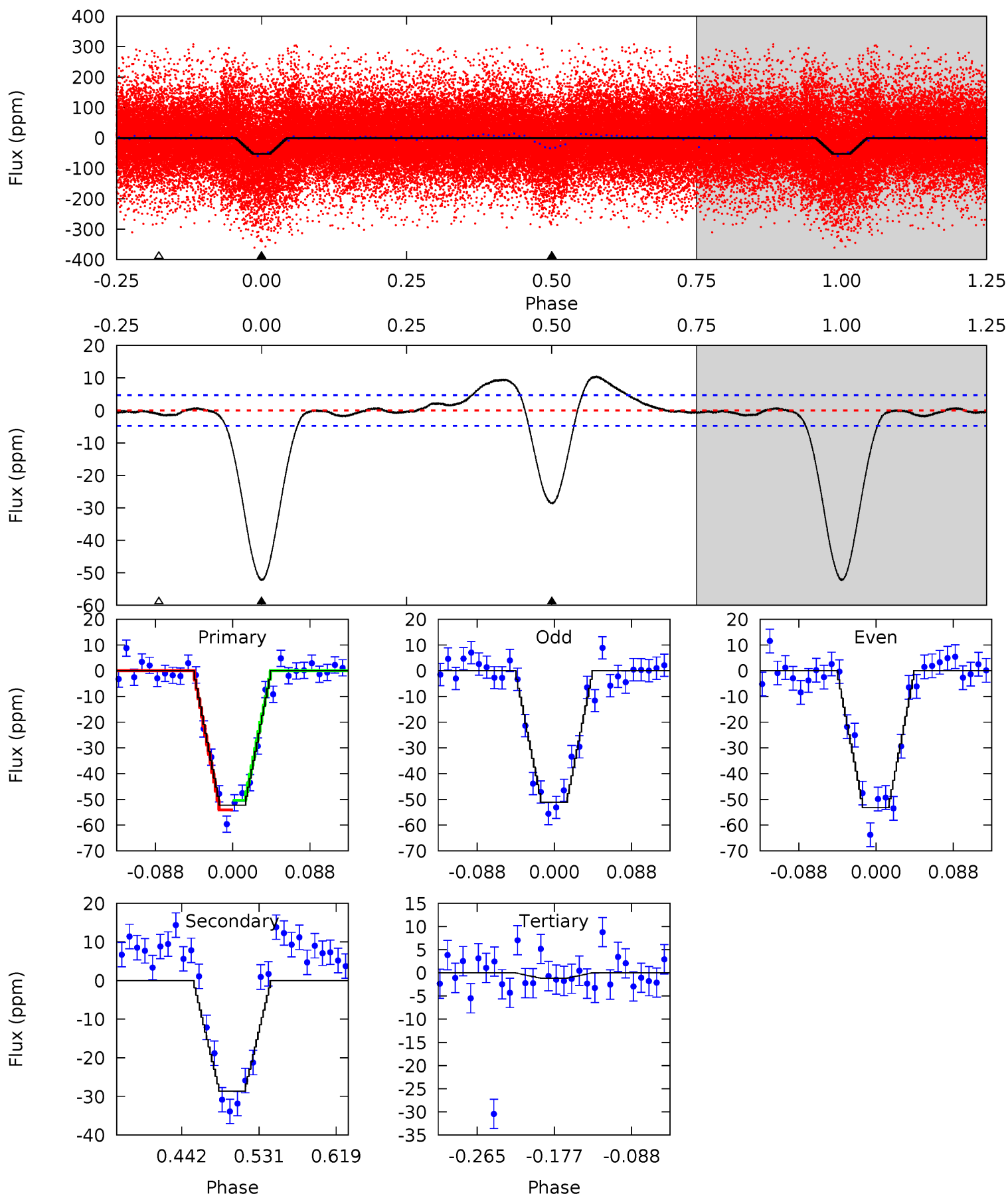
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.4	28.6	2.08	0	4.59	1.70	2.75	35.3	37.4	26.5	28.6	1.37	0.99	0.17	1.74



Alt Model-Shift Uniqueness Test

007051984-01, P = 0.678137 Days, E = 130.855215 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
50.5	27.7	1.14	0	4.59	1.70	2.76	49.4	50.5	26.6	27.7	1.02	0.99	0.17	1.80



Stellar Parameters For KIC 007051984

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5653^{+169}_{-152}	$3.846^{+0.560}_{-0.140}$	$0.020^{+0.250}_{-0.250}$	$2.183^{+0.496}_{-1.158}$	$1.216^{+0.131}_{-0.283}$	$0.165^{+1.103}_{-0.065}$
	+3%/-3%	+15%/-4%	+1250%/-1250%	+23%/-53%	+11%/-23%	+669%/-39%
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 007051984-01 / KOI 2879.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-33 ± 1	$1.42^{+1.12}_{-0.90}$	3973^{+312}_{-546}	5094^{+3483}_{-1272}	$2.325^{+14.756}_{-1.618}$
Alt.	-29 ± 1	$1.58^{+1.30}_{-0.94}$	3975^{+307}_{-558}	4666^{+2762}_{-1284}	$1.627^{+7.911}_{-1.136}$

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

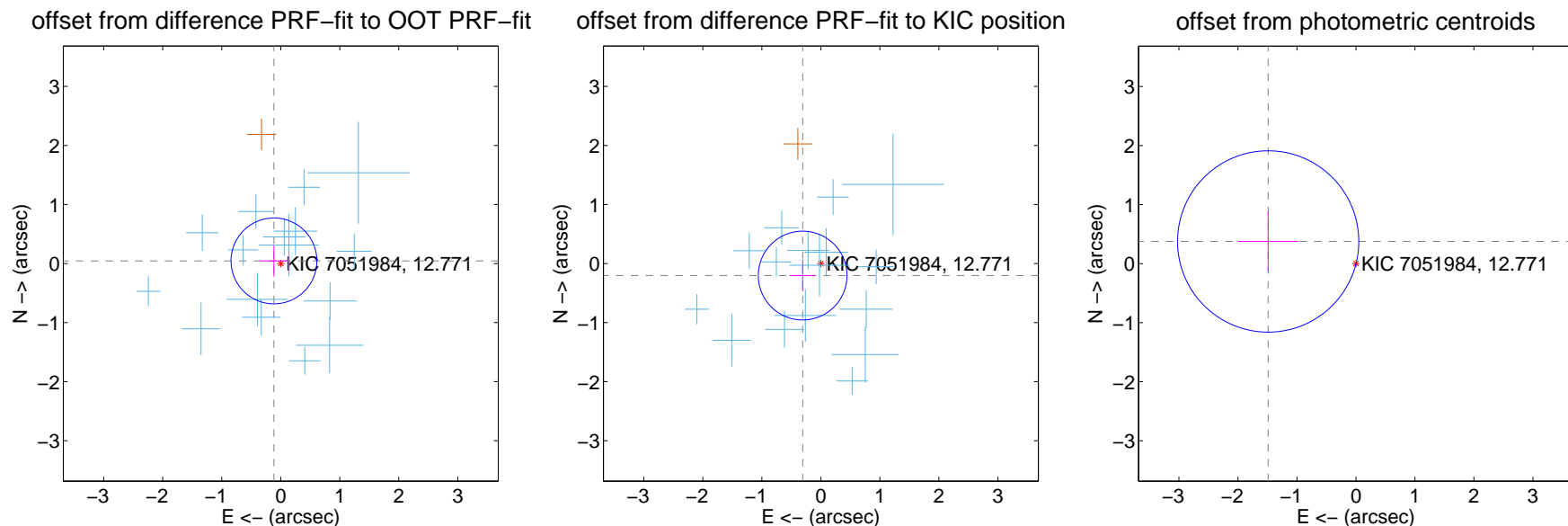
DV Centroid Data

Supplemental centroid analysis for 007051984-01. Kepler magnitude: 12.77. Transit SNR 23.52

There are 16 quarters with good PRF difference image offsets

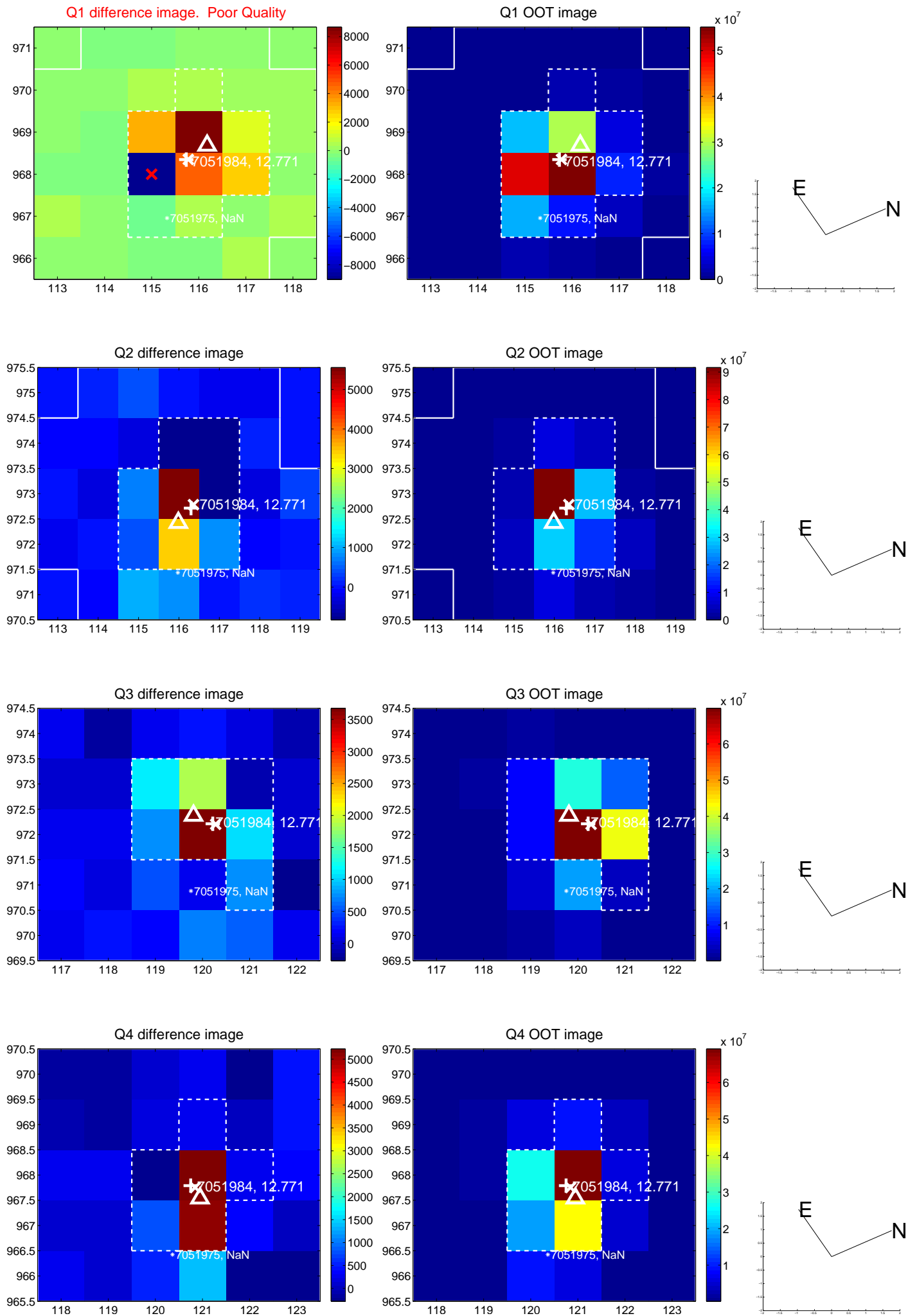
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.124 ± 0.242	0.51	0.115 ± 0.240	0.045 ± 0.264
PRF-fit source offset from KIC position	0.370 ± 0.251	1.48	0.308 ± 0.223	-0.204 ± 0.266
photometric centroid source offset	1.53 ± 0.51	3.00	1.49 ± 0.51	0.38 ± 0.51

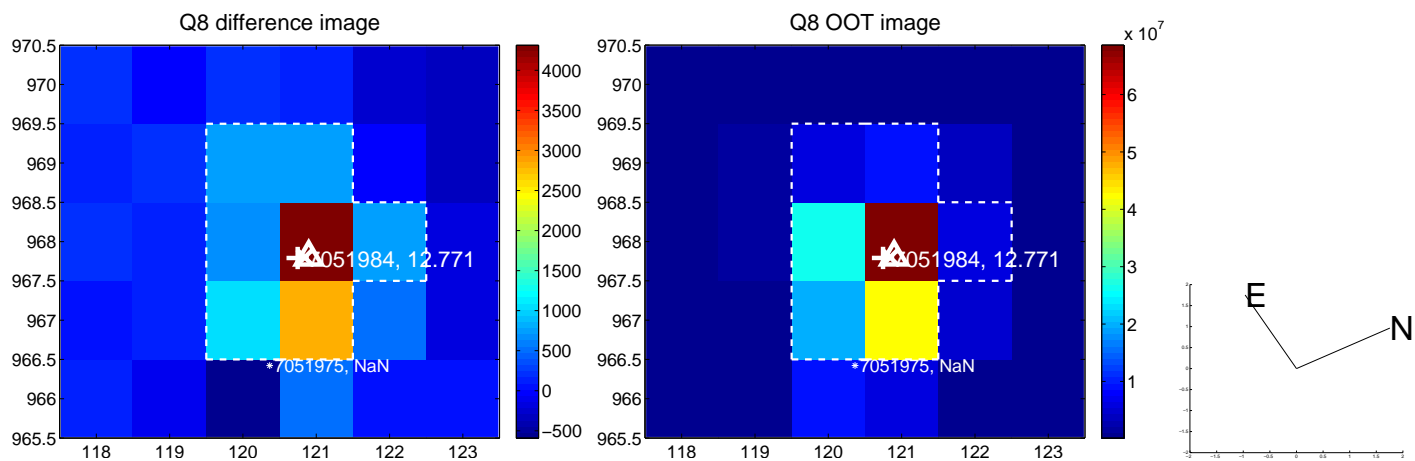
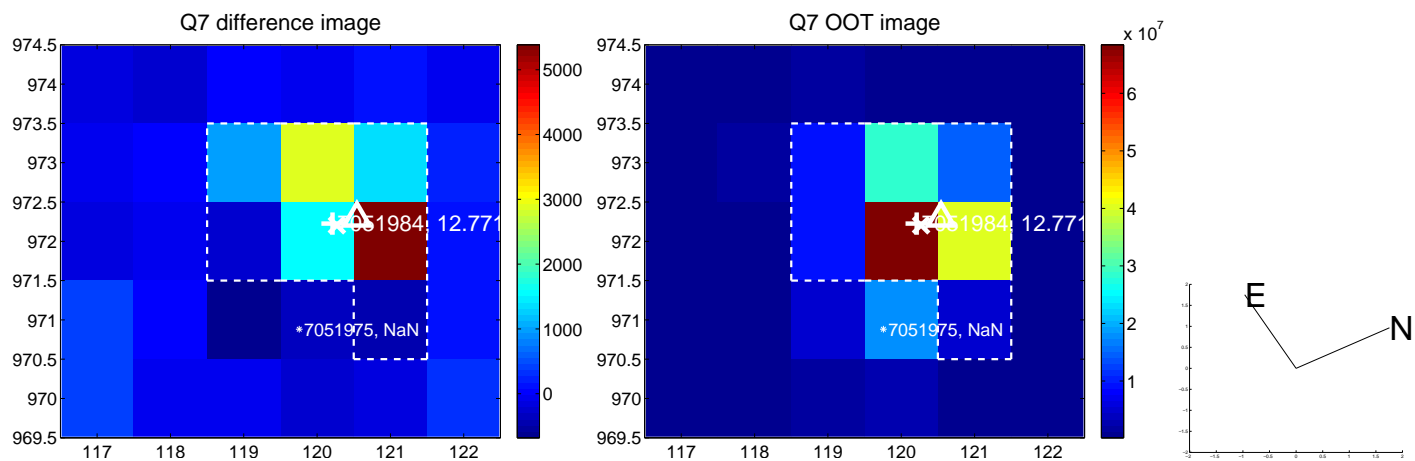
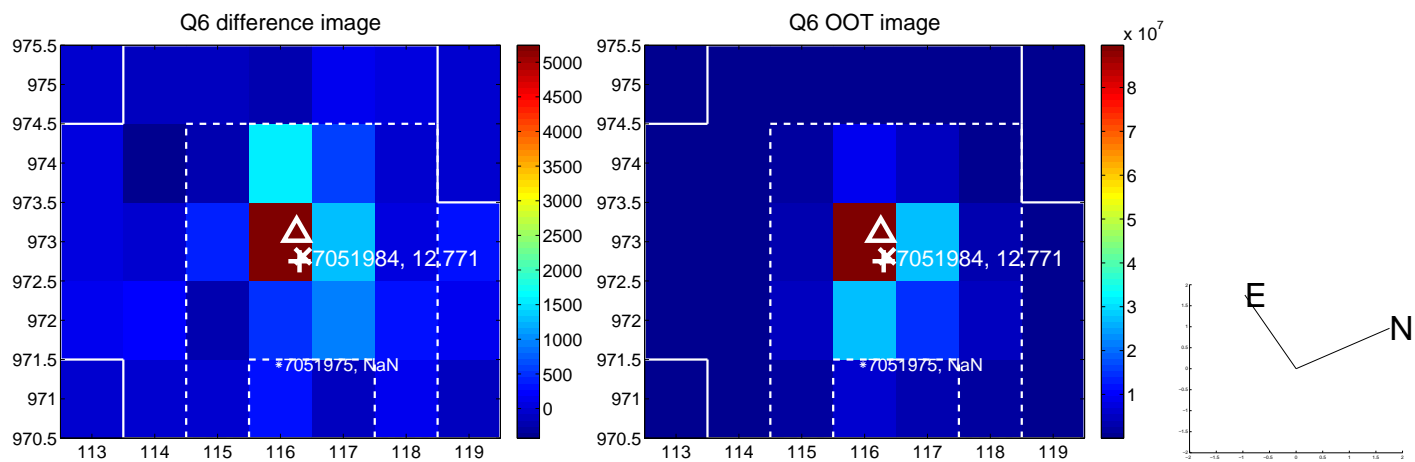
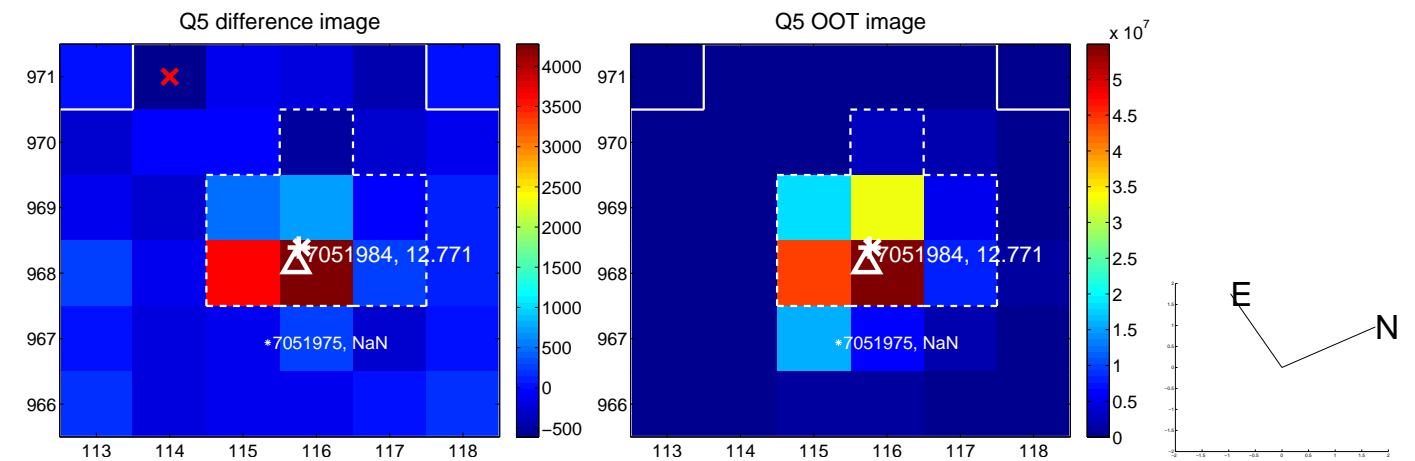


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

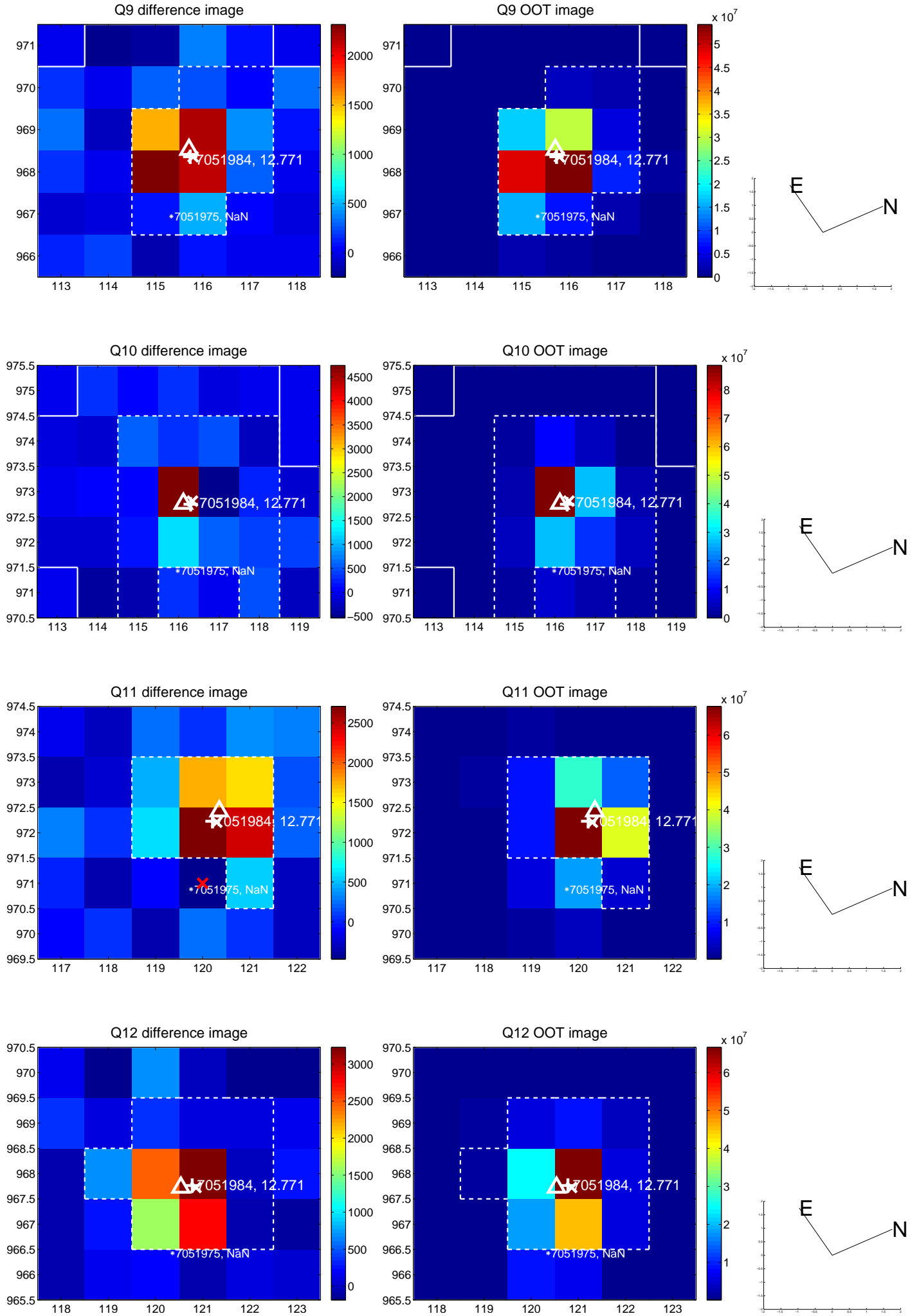
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



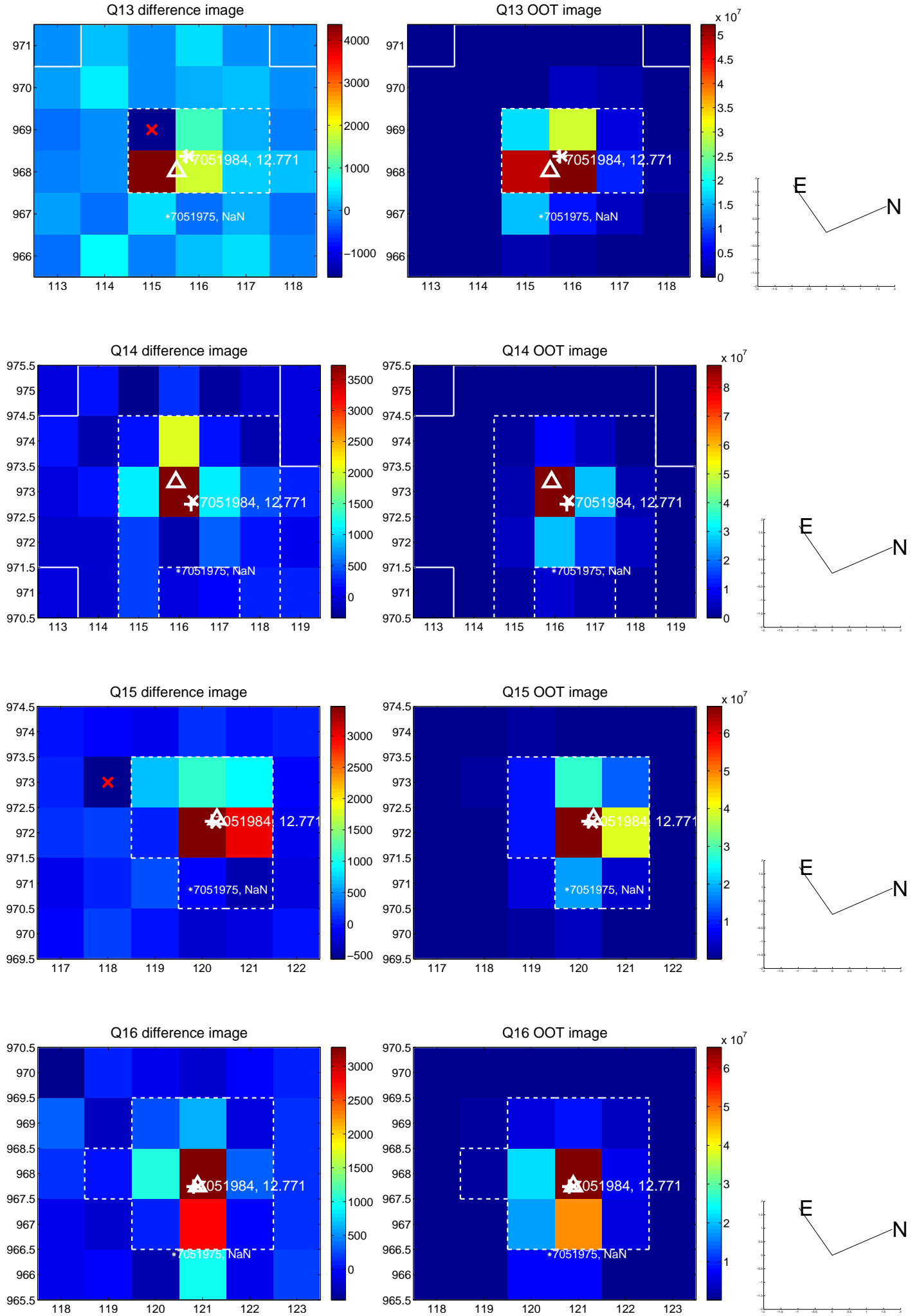
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

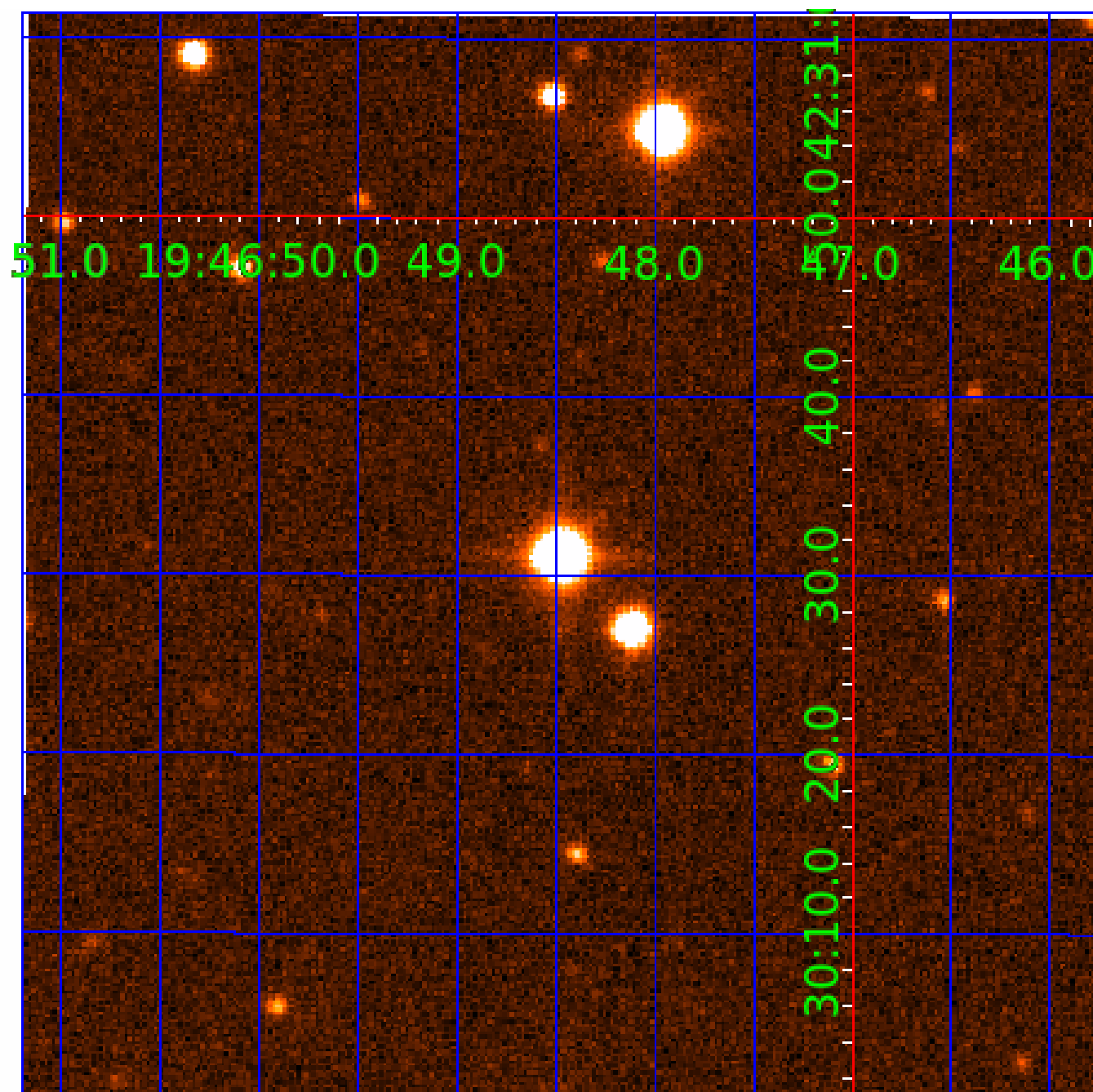


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007051984

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

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007051984-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
007051984-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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 007051984-02

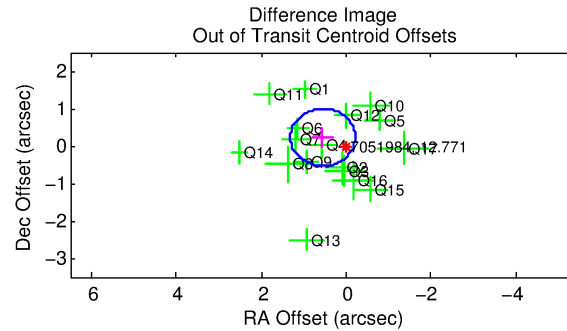
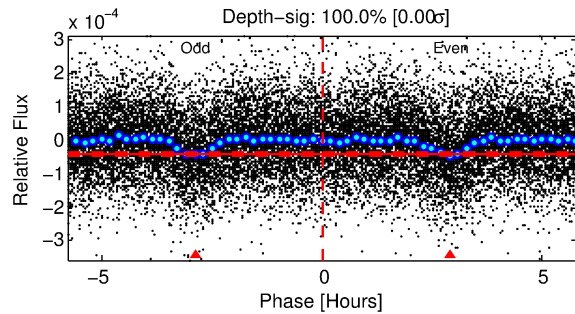
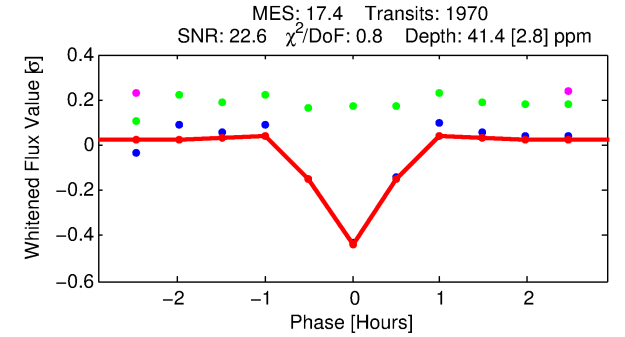
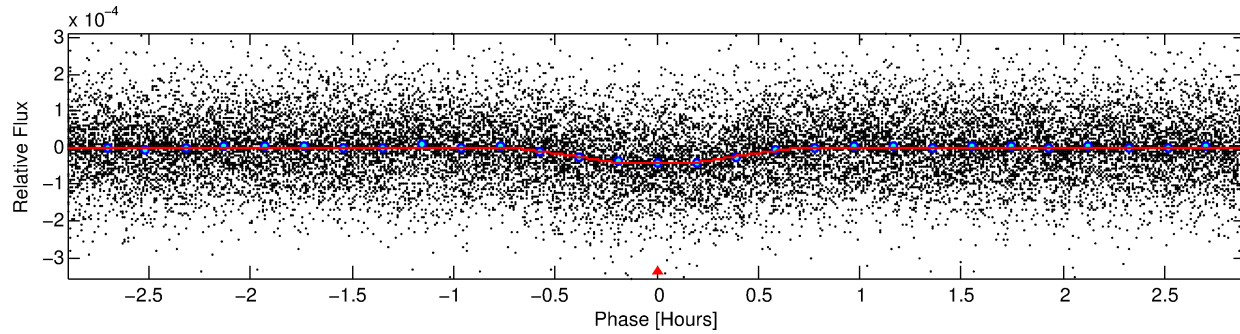
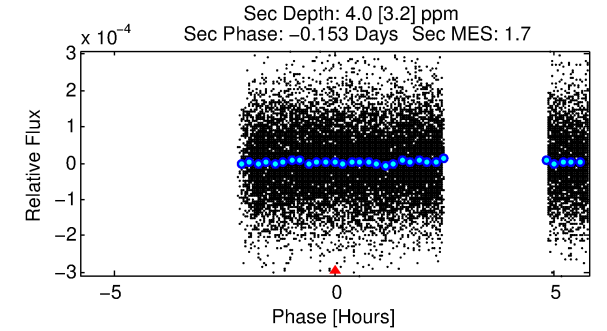
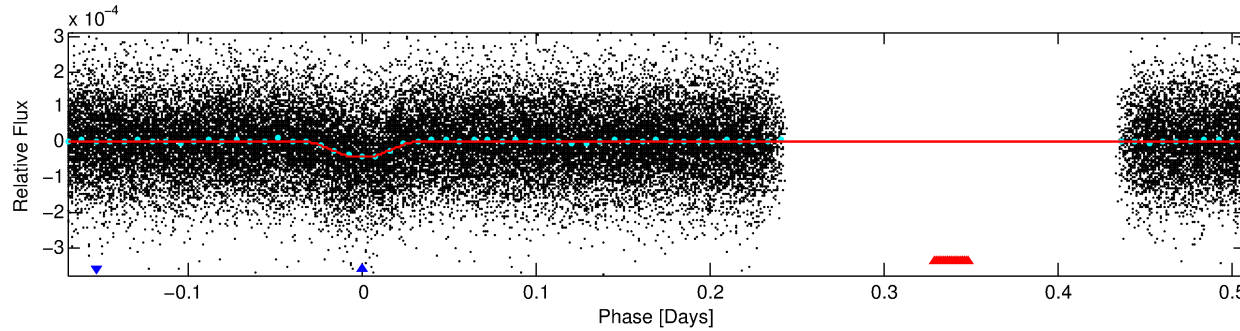
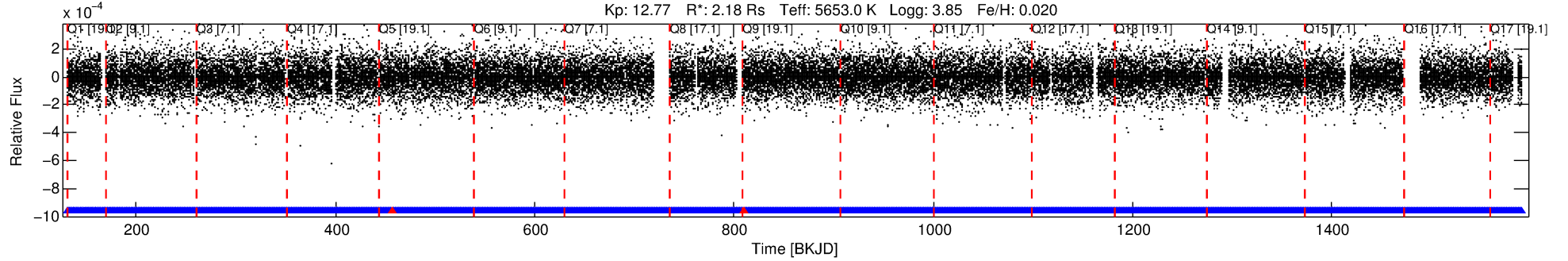
No Significant Match Found

DV One-Page Summary

KIC: 7051984 Candidate: 2 of 2 Period: 0.678 d

KOI: K02879 Corr: No Ephemeris Match

Kp: 12.77 R*: 2.18 Rs Teff: 5653.0 K Logg: 3.85 Fe/H: 0.020



DV Fit Results:

Period = 0.67814 [0.00000] d
Epoch = 131.8652 [0.0007] BKJD
Rp/R* = 0.0071 [0.0011]
a/R* = 2.59 [1.51]
b = 0.90 [0.15]
Seff = 16734.66 [15683.60]
Teff = 2900 [680] K
Rp = 1.69 [0.93] Re
a = 0.0161 [0.0090] AU
Ag = 0.20 [0.25] [-3.16σ]
Teffp = 3000 [645] K [0.11σ]

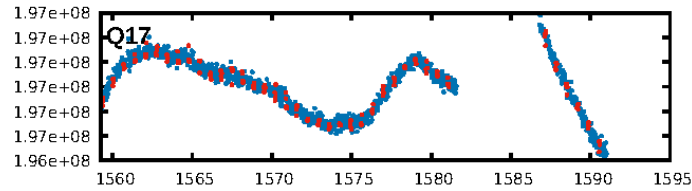
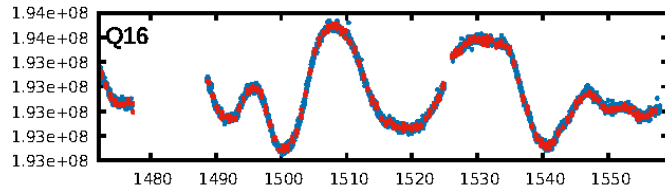
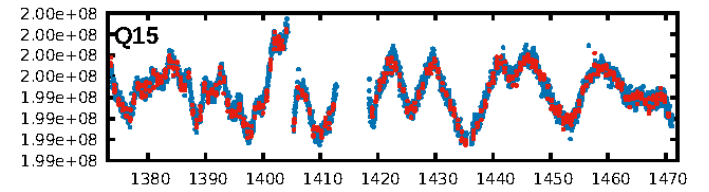
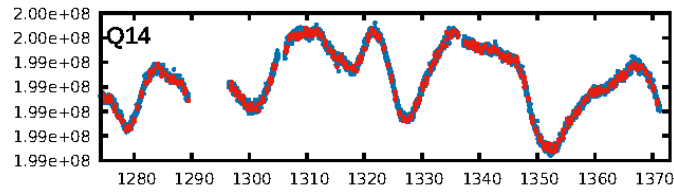
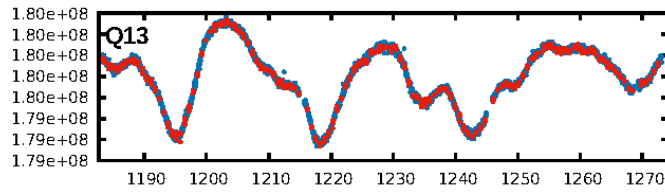
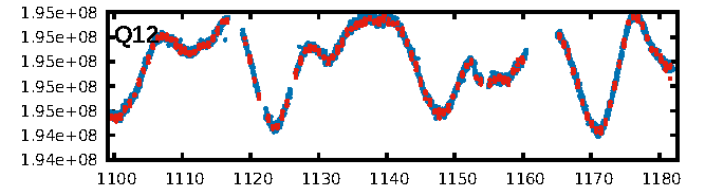
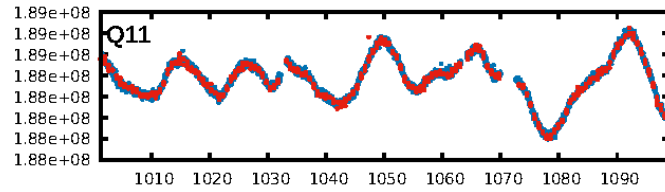
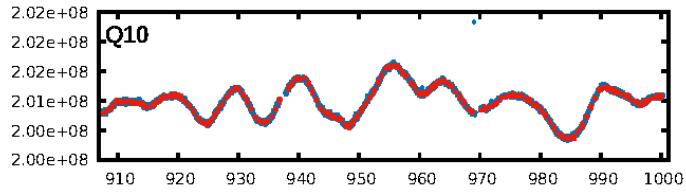
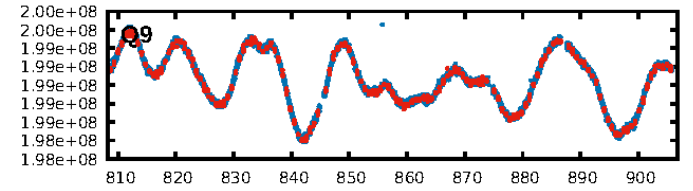
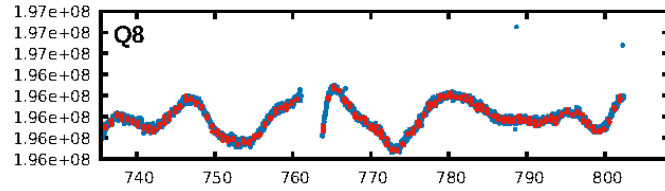
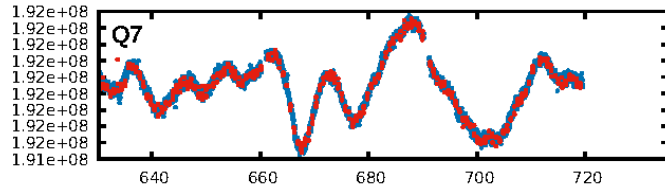
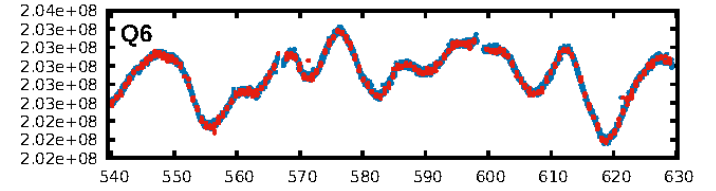
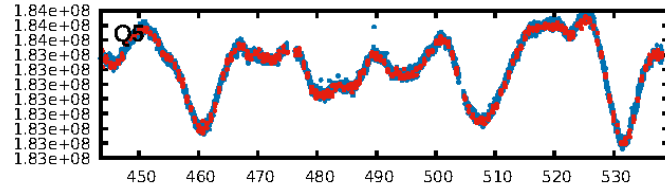
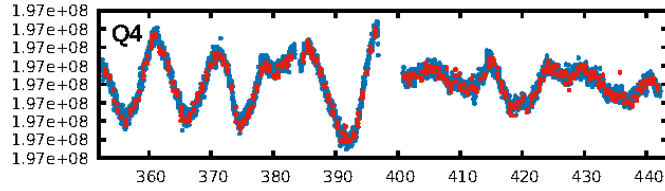
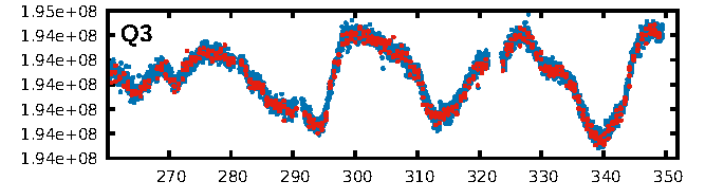
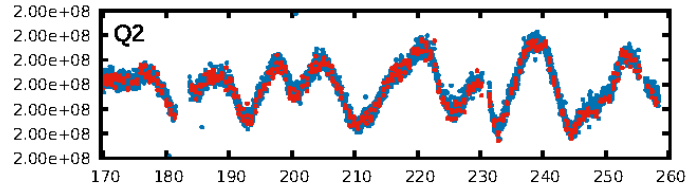
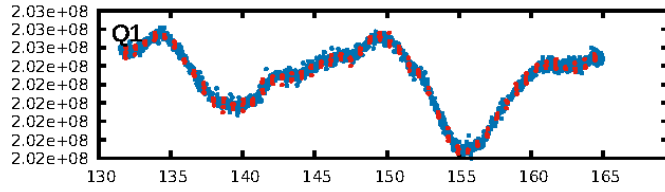
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.34e-67
RollingBand-fgt: 1.00 [1880/1882]
GhostDiagnostic-chr: 3.14
Centroid-sig: 0.0%
Centroid-so: 1.741 arcsec [3.20σ]
OotOffset-rm: 0.590 arcsec [2.32σ]
KicOffset-rm: 0.653 arcsec [2.72σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

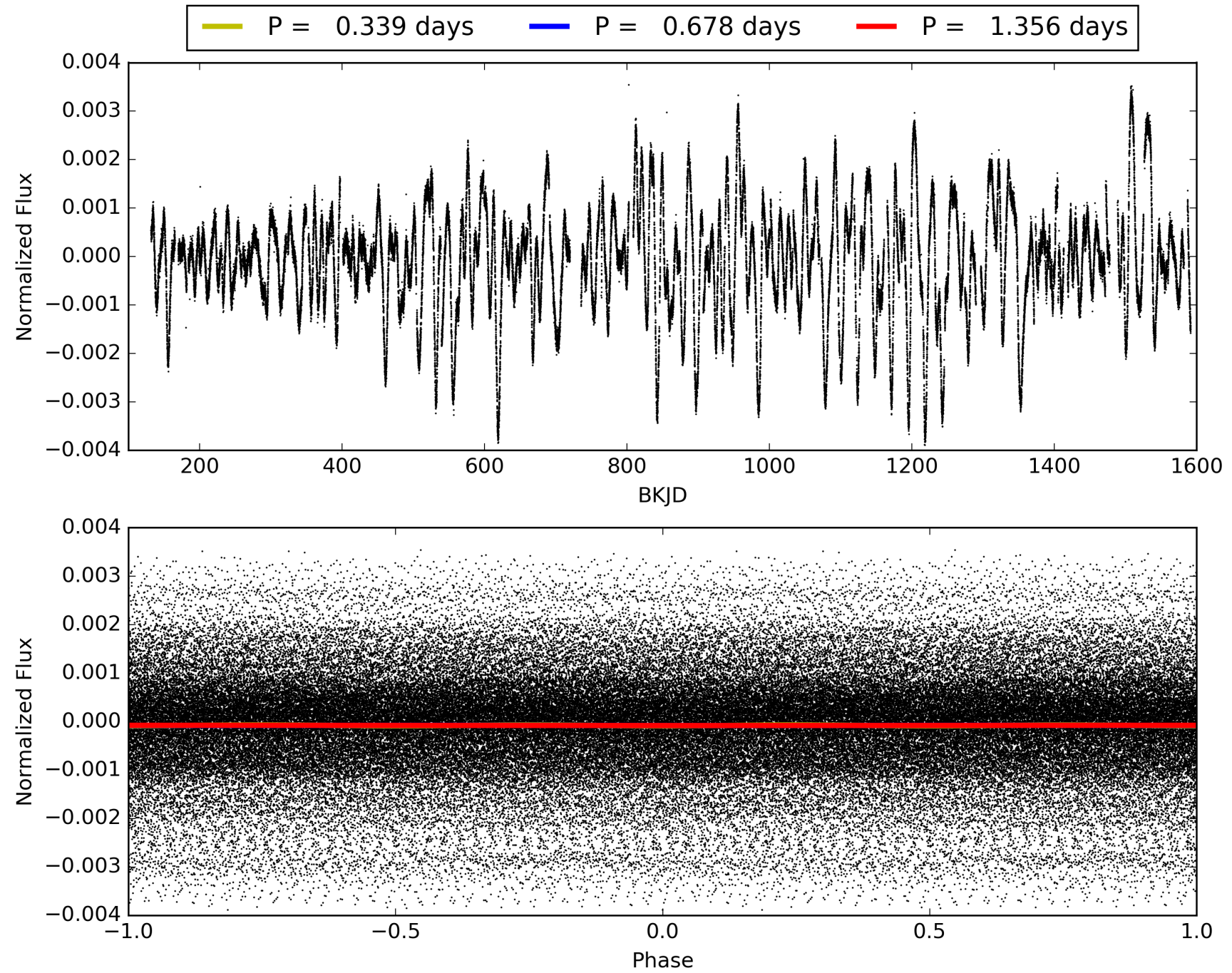
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:44:09 Z

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

TCE 007051984-02, PDC Light Curves

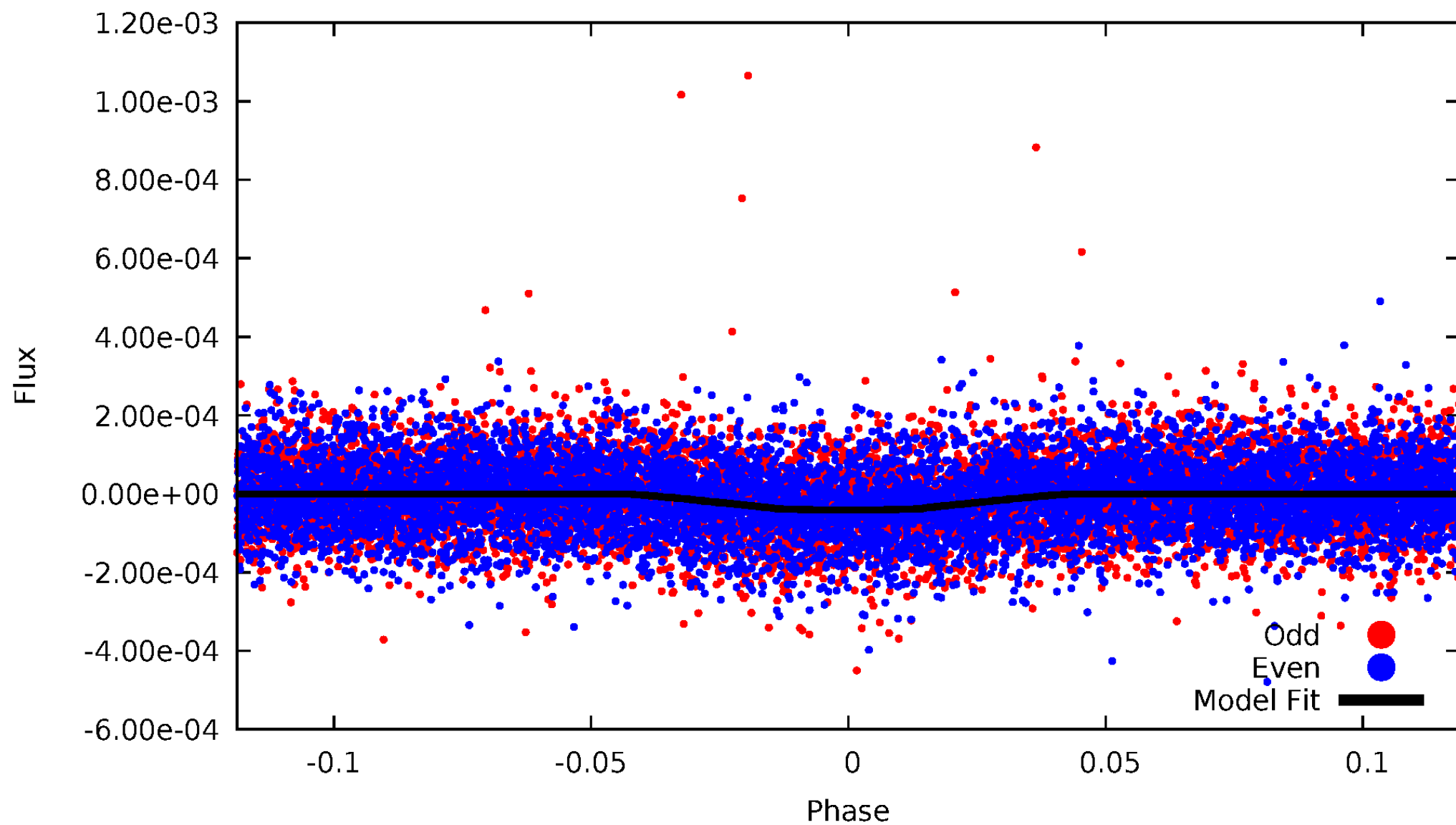


TCE 007051984-02



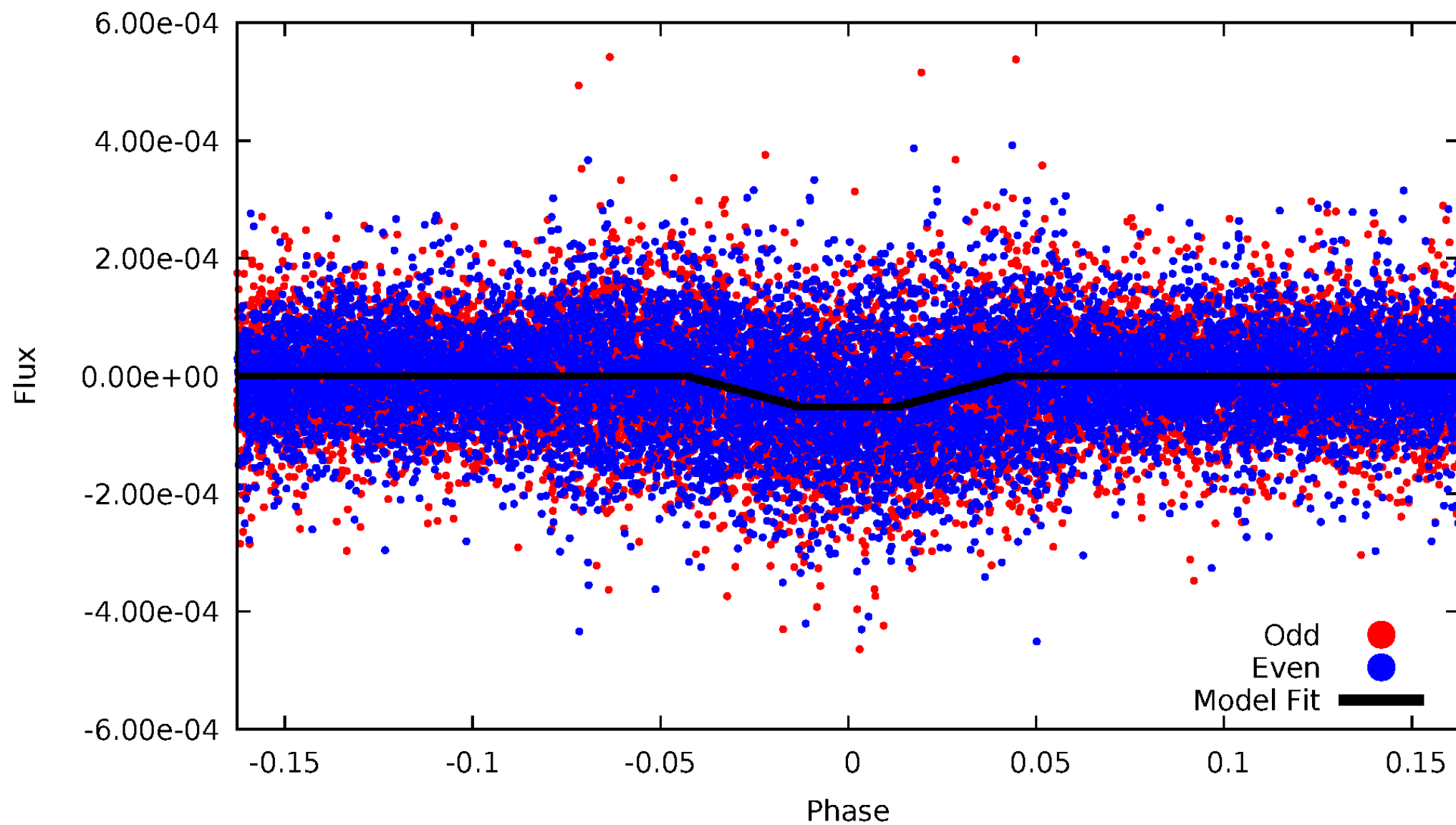
DV Odd/Even

TCE 007051984-02



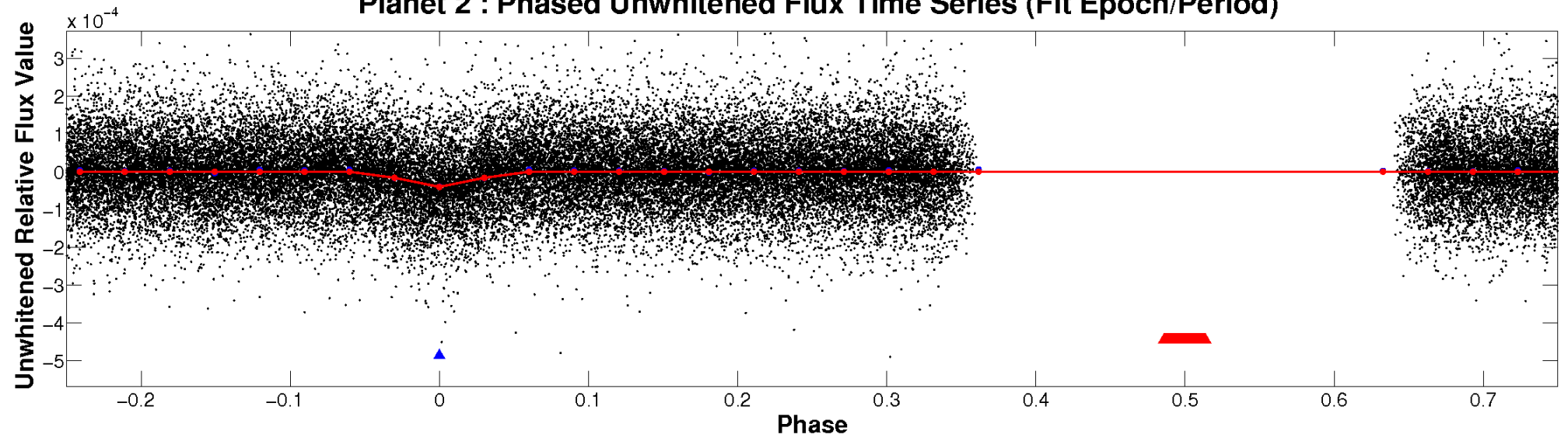
ALT Odd/Even

TCE 007051984-02

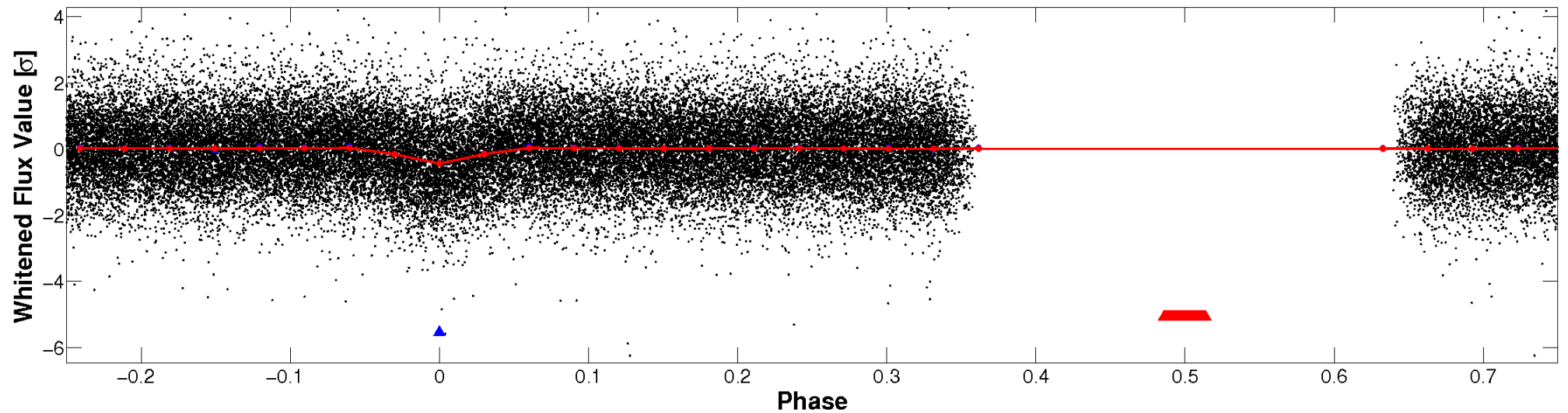


Non-Whitened Vs. Whitened Light Curve

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

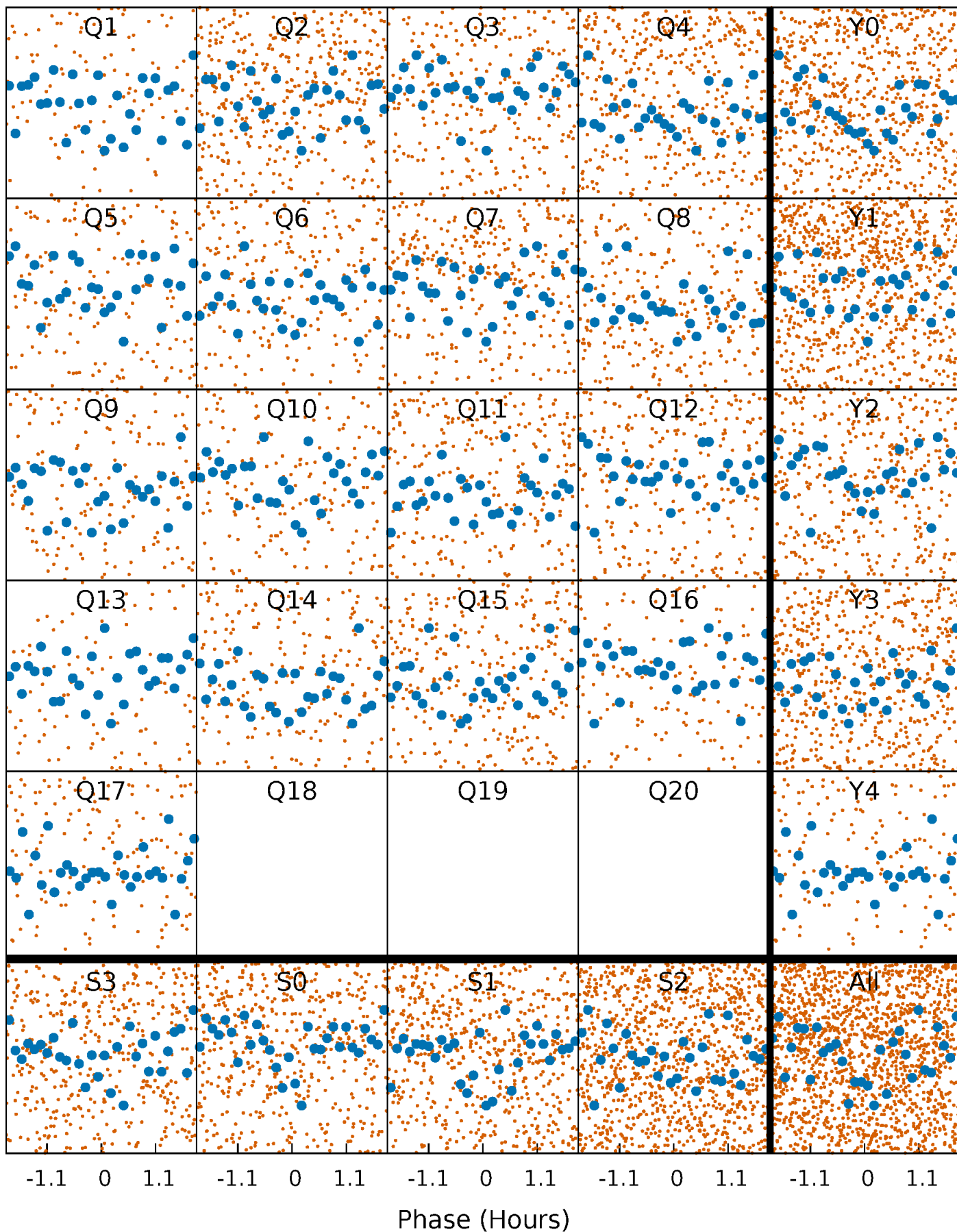


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



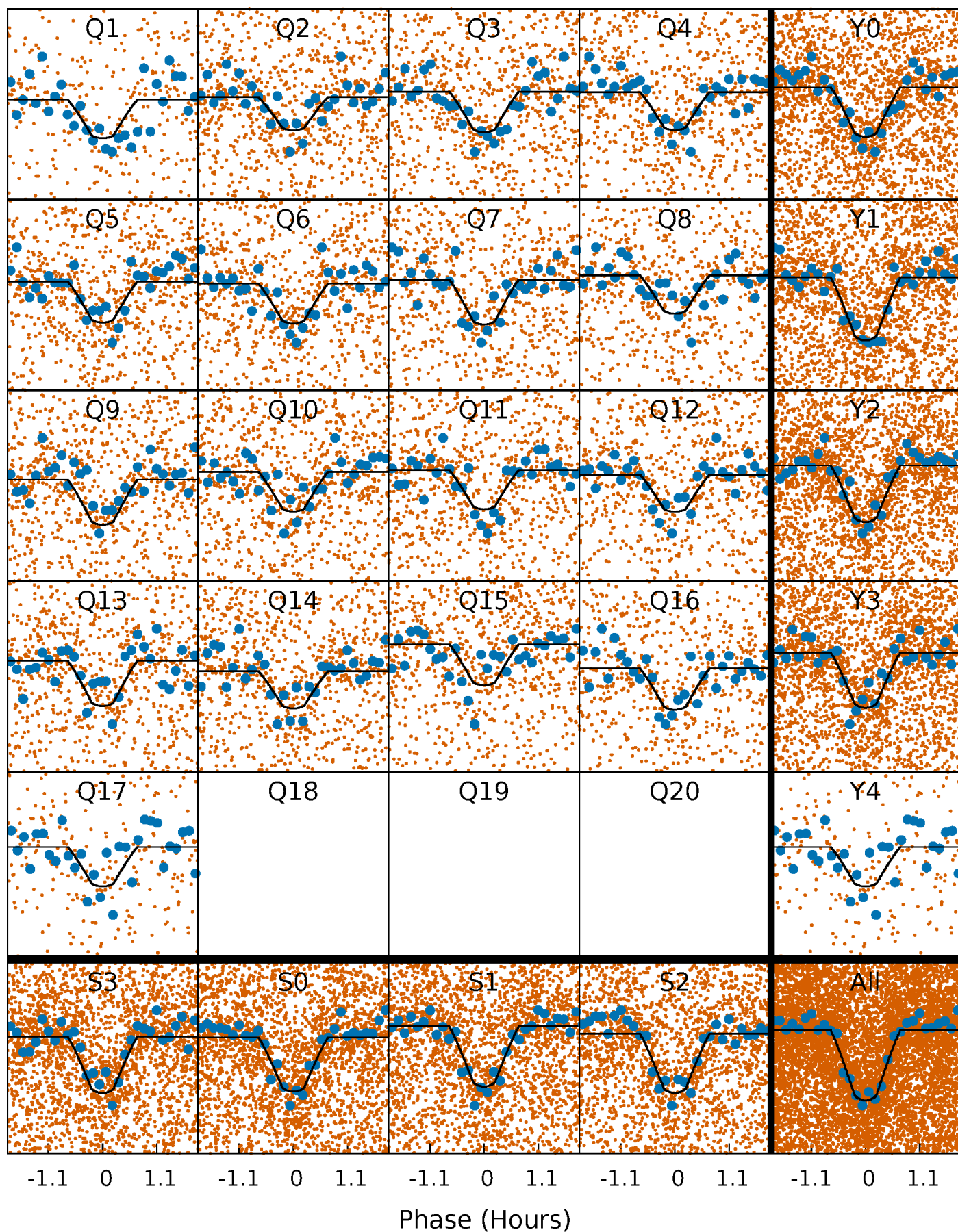
PDC Quarter-Phased Transit Curves

TCE 007051984-02 P= 0.678144 Days $T_0=131.865202$ (BKJD)



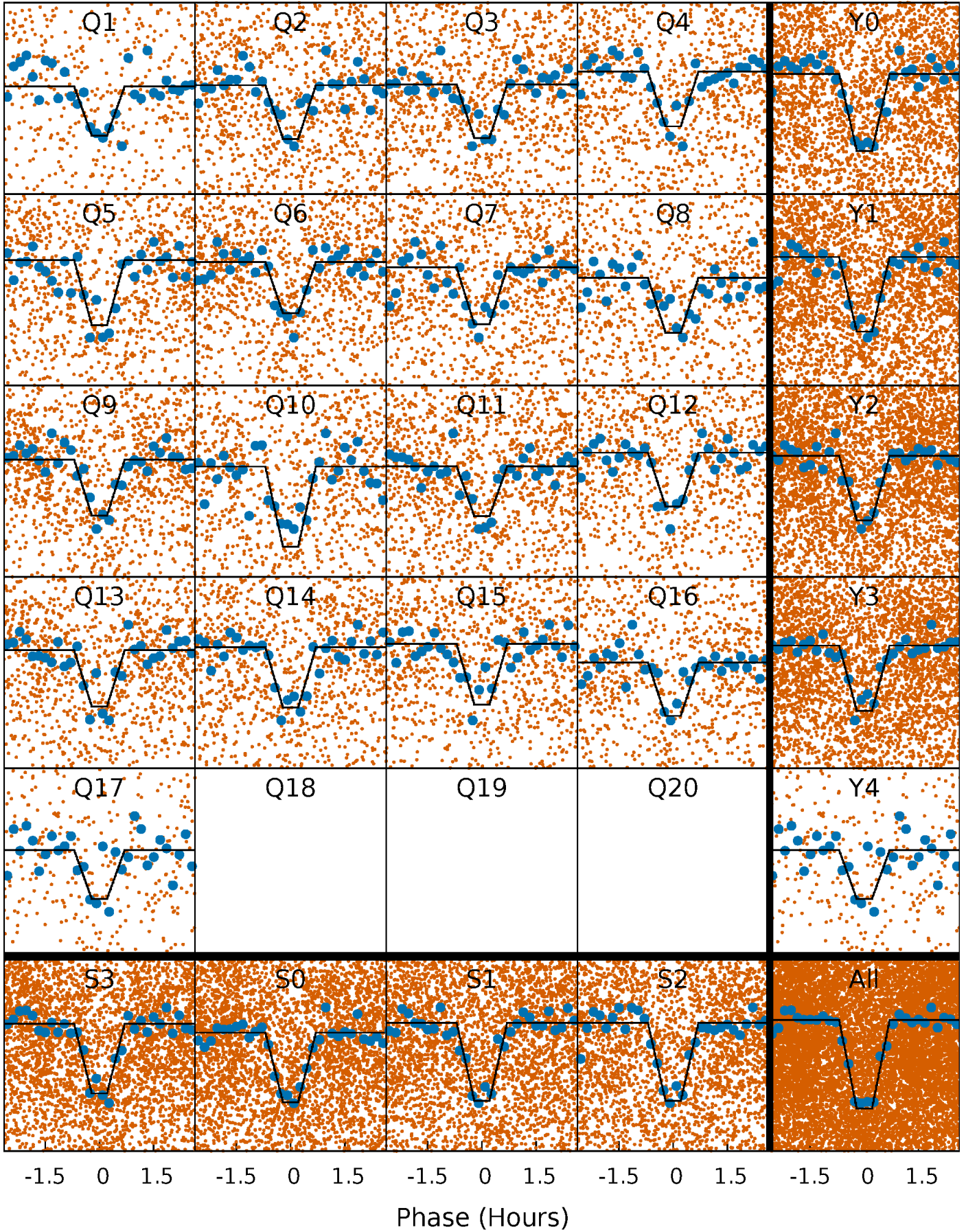
DV Quarter-Phased Transit Curves

TCE 007051984-02 P= 0.678144 Days $T_0=131.865202$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

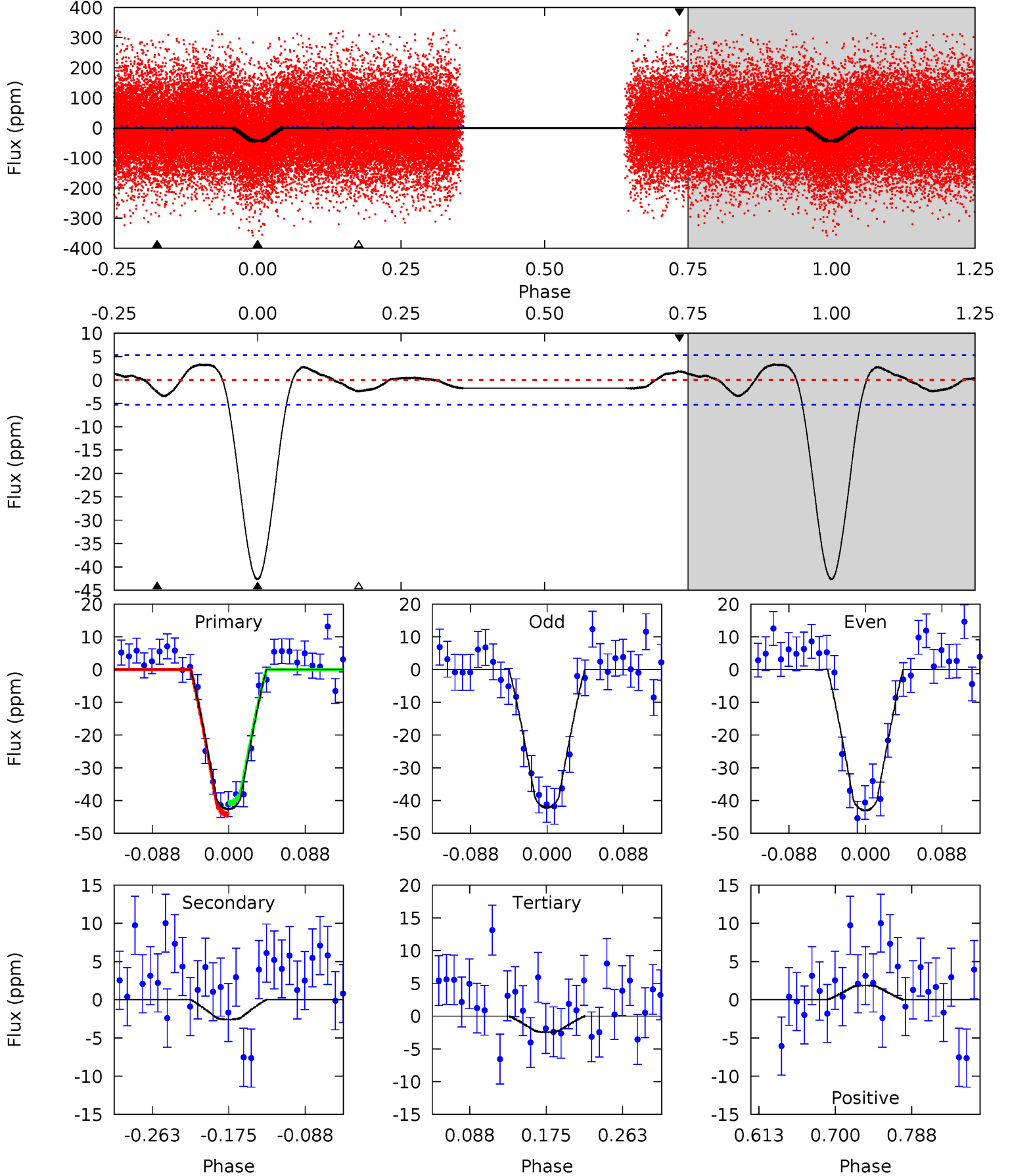
TCE 007051984-02 P= 0.678143 Days $T_0=131.866296$ (BKJD)



DV Model-Shift Uniqueness Test

007051984-02, P = 0.678144 Days, E = 131.187058 Days

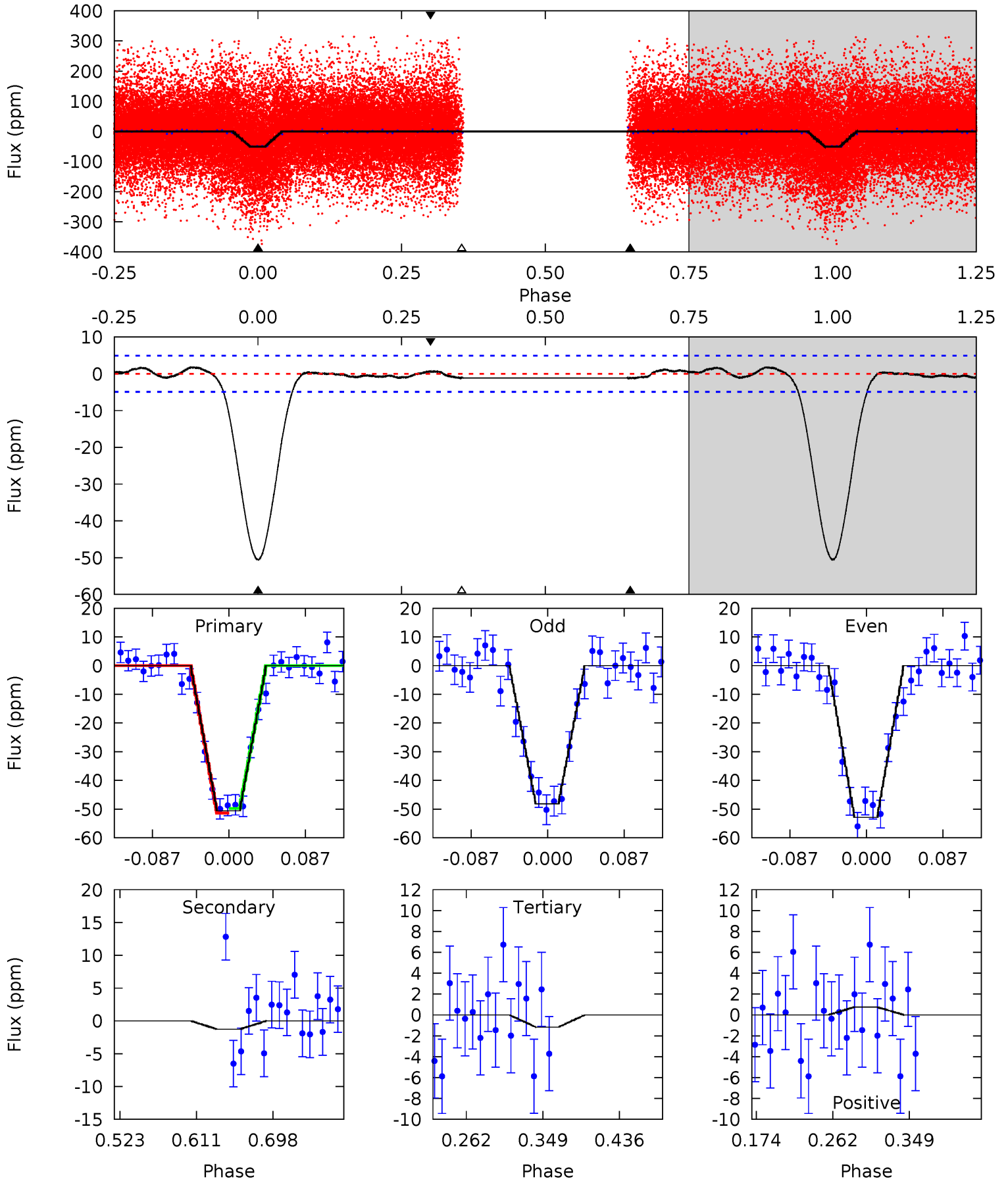
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.9	2.24	2.11	1.62	4.59	1.71	1.09	34.8	35.3	0.13	0.62	0.37	0.96	0.07	1.52



Alt Model-Shift Uniqueness Test

007051984-02, P = 0.678143 Days, E = 131.188153 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
47.2	1.19	1.09	0.70	4.59	1.71	0.73	46.1	46.5	0.10	0.48	2.23	1.02	0.03	0.78



Stellar Parameters For KIC 007051984

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5653^{+169}_{-152}	$3.846^{+0.560}_{-0.140}$	$0.020^{+0.250}_{-0.250}$	$2.183^{+0.496}_{-1.158}$	$1.216^{+0.131}_{-0.283}$	$0.165^{+1.103}_{-0.065}$
	+3%/-3%	+15%/-4%	+1250%/-1250%	+23%/-53%	+11%/-23%	+669%/-39%
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 007051984-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-3 ± 1	$1.53^{+0.43}_{-0.45}$	3948^{+332}_{-563}	-3270^{+5109}_{-359}	$0.144^{+0.158}_{-0.073}$
Alt.	-1 ± 1	$1.57^{+0.43}_{-0.44}$	3964^{+336}_{-565}	-3501^{+503}_{-269}	$0.067^{+0.099}_{-0.059}$

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

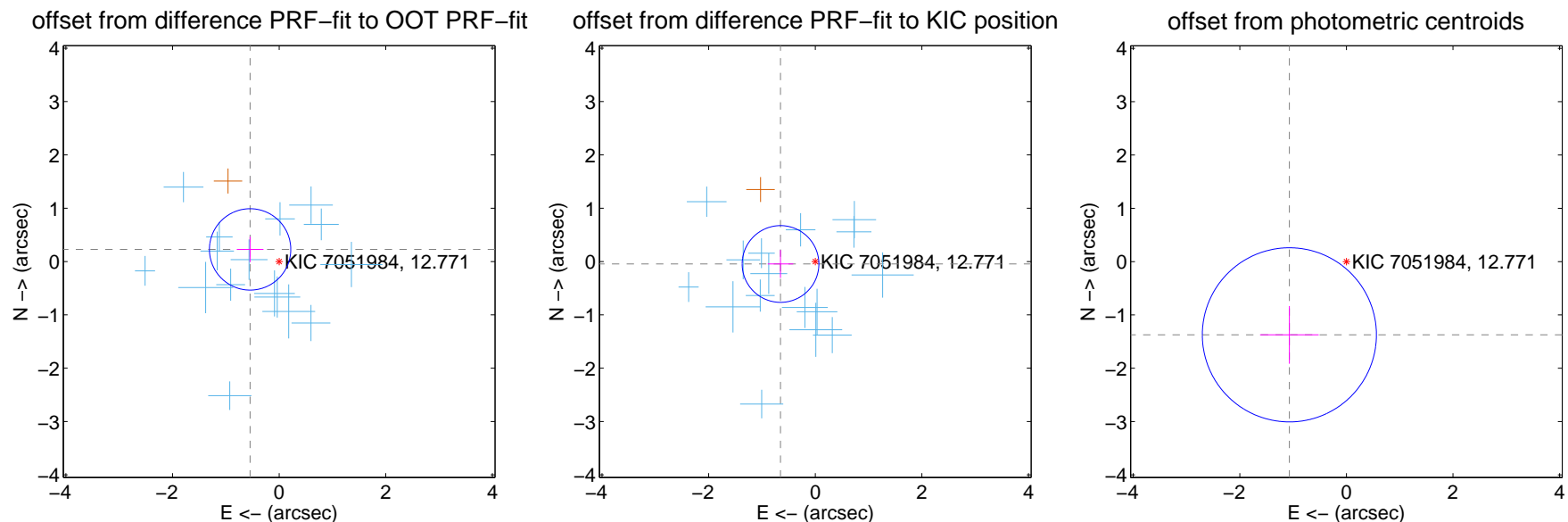
DV Centroid Data

Supplemental centroid analysis for 007051984-02. Kepler magnitude: 12.77. Transit SNR 22.59

There are 16 quarters with good PRF difference image offsets

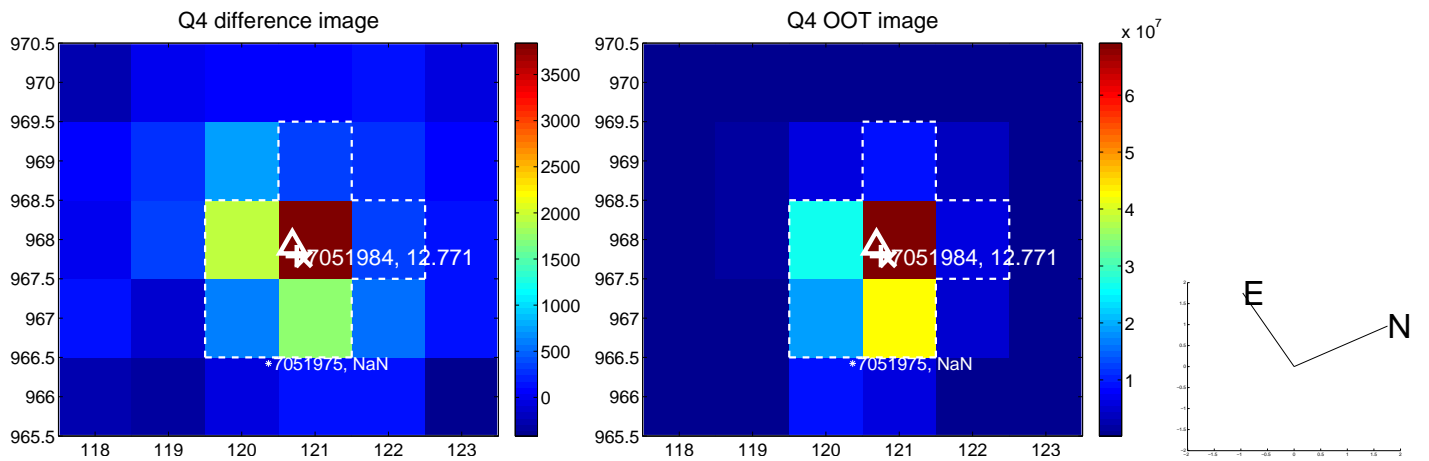
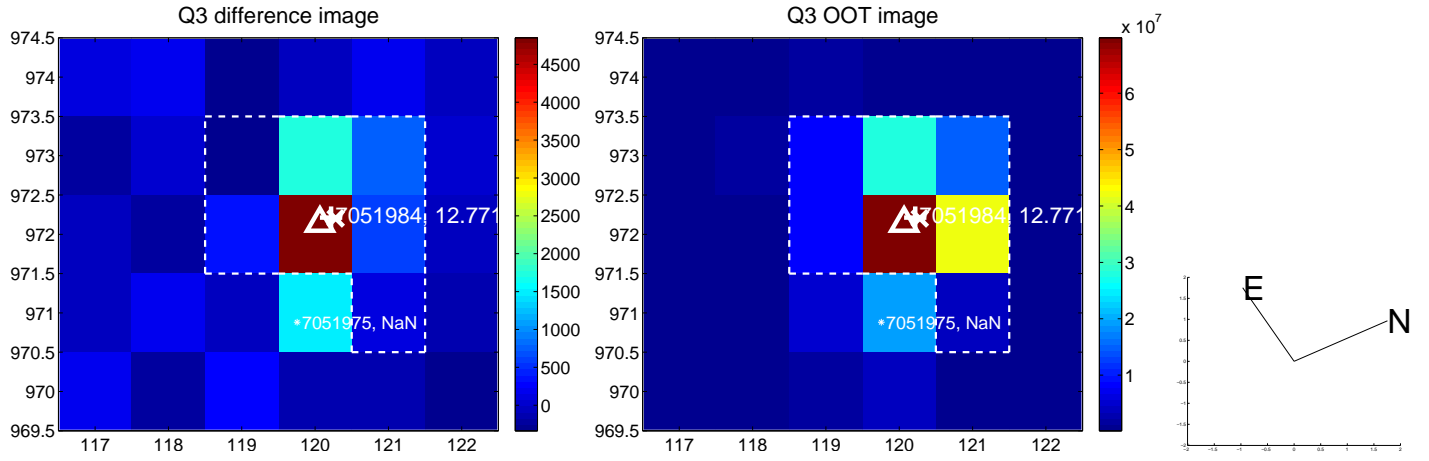
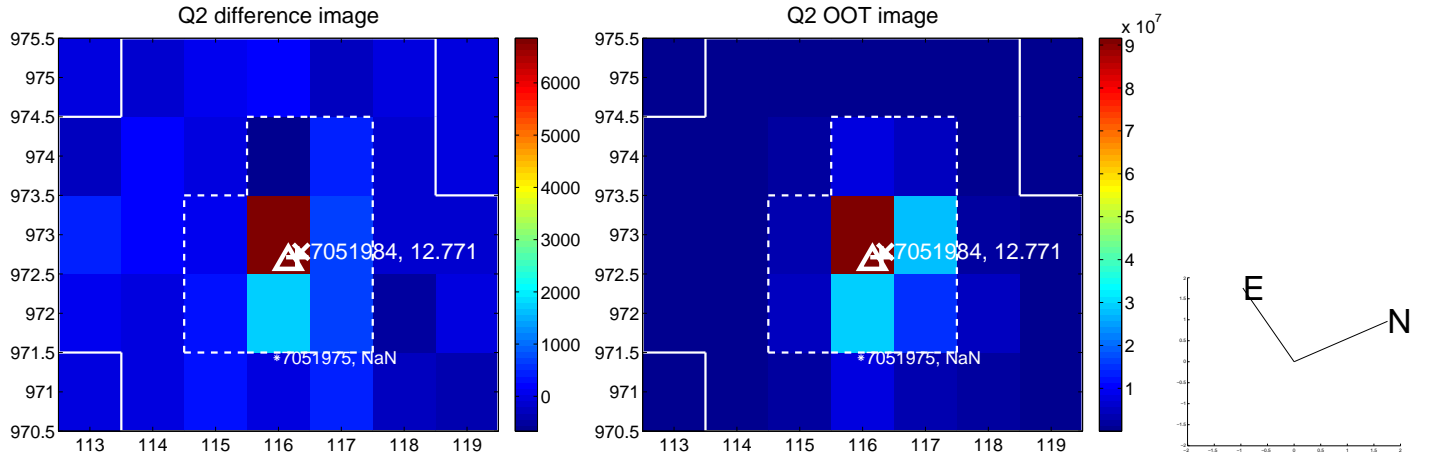
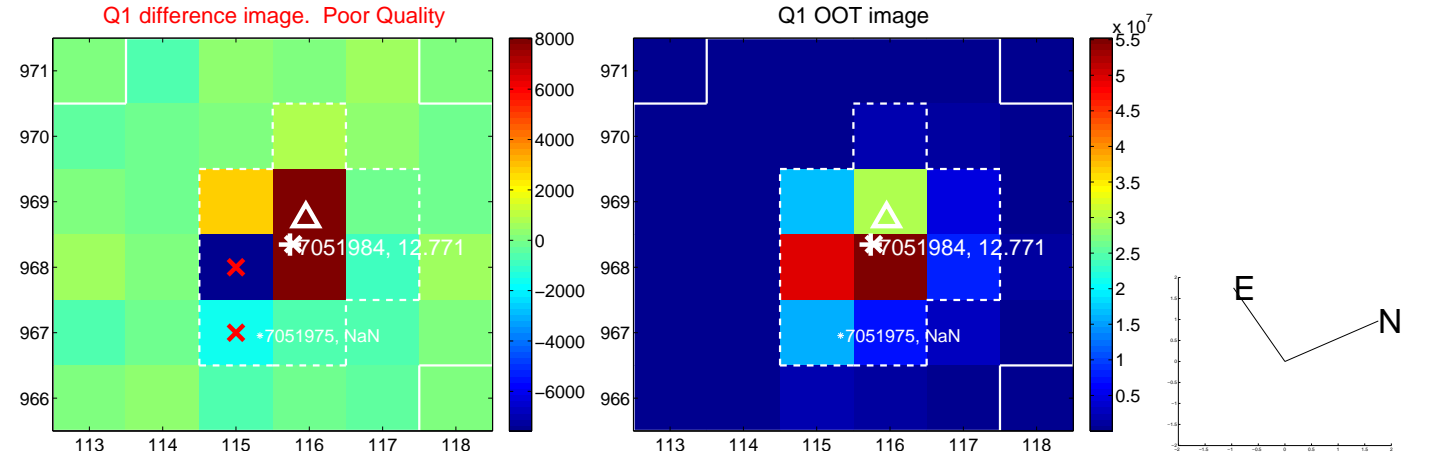
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.590 ± 0.254	2.32	0.545 ± 0.250	0.228 ± 0.237
PRF-fit source offset from KIC position	0.653 ± 0.240	2.72	0.652 ± 0.240	-0.046 ± 0.262
photometric centroid source offset	1.74 ± 0.54	3.20	1.07 ± 0.55	-1.37 ± 0.54

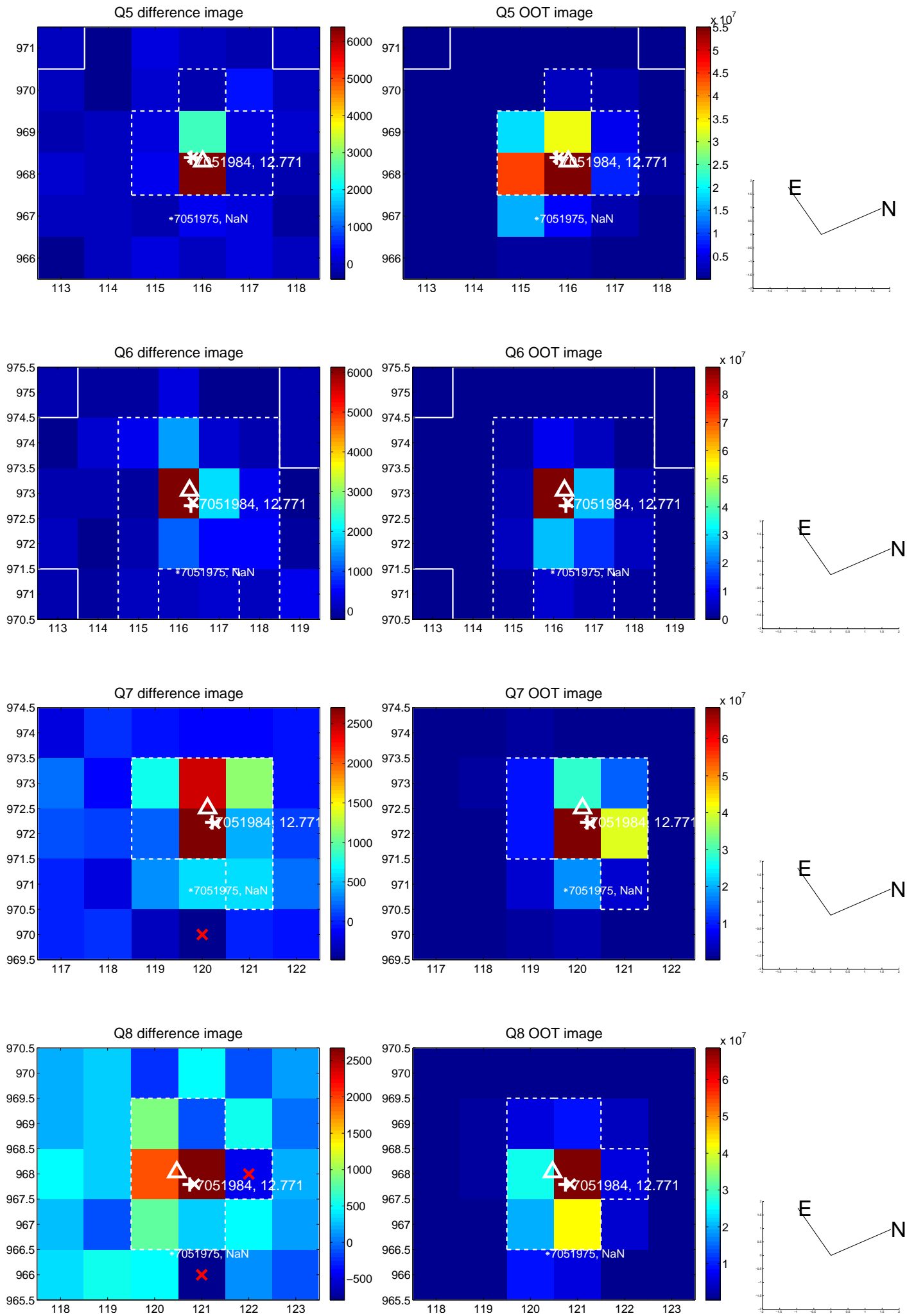


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

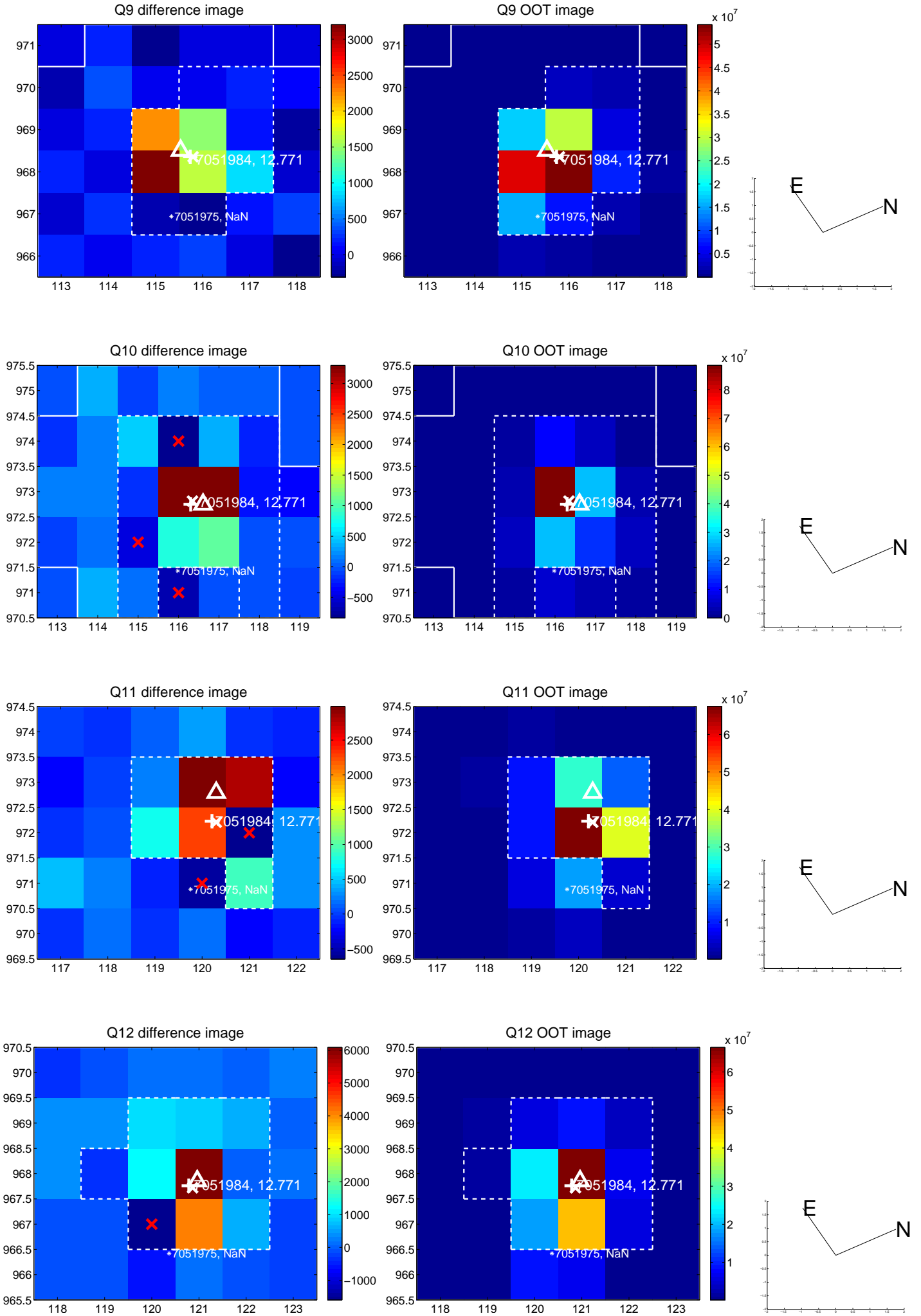
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



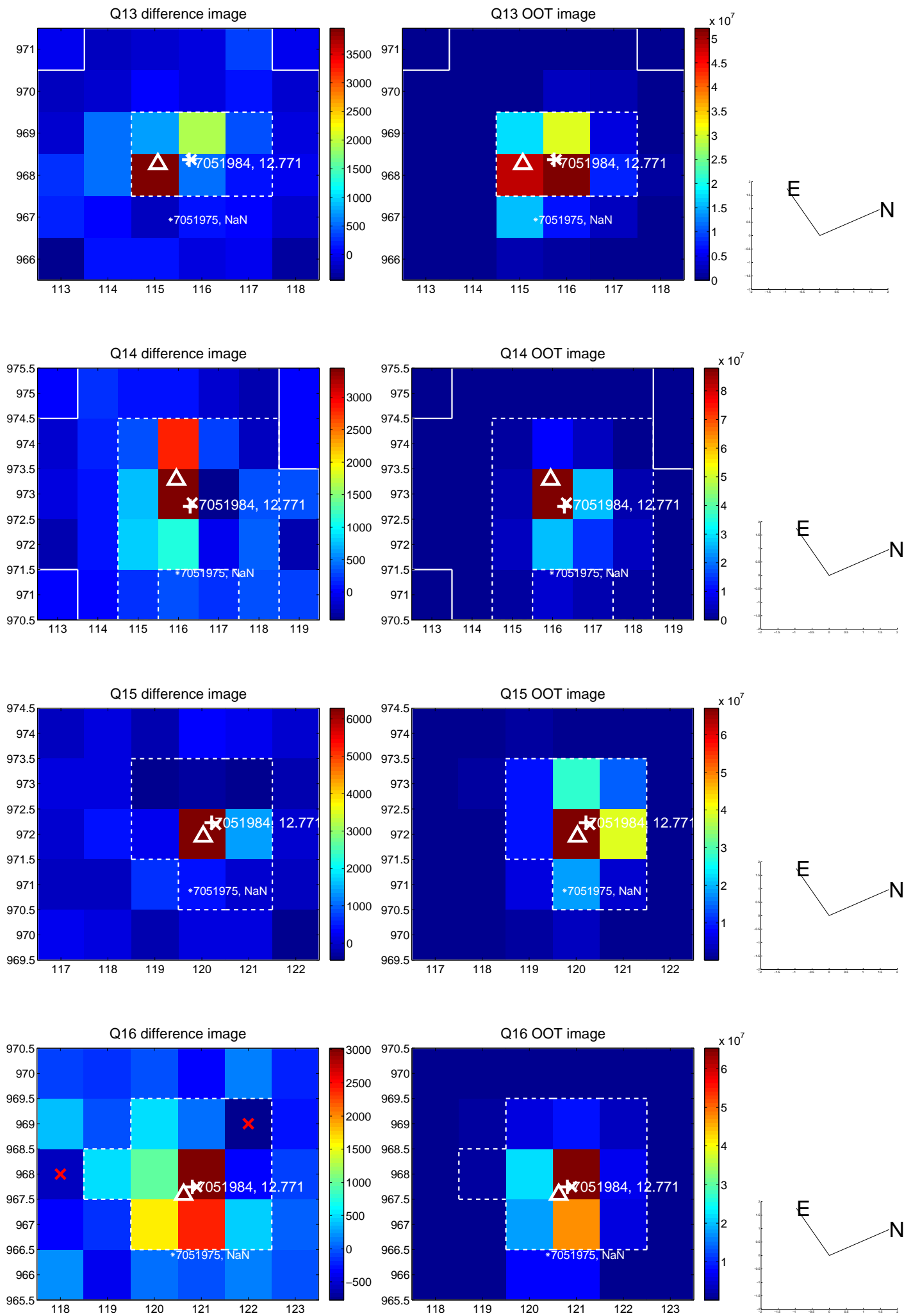
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



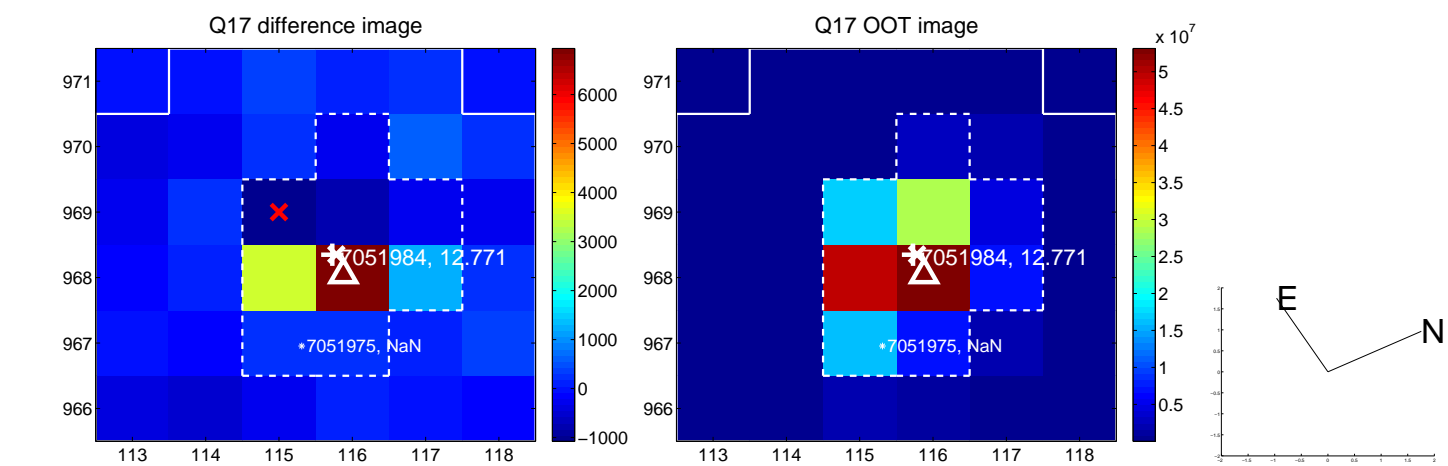
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



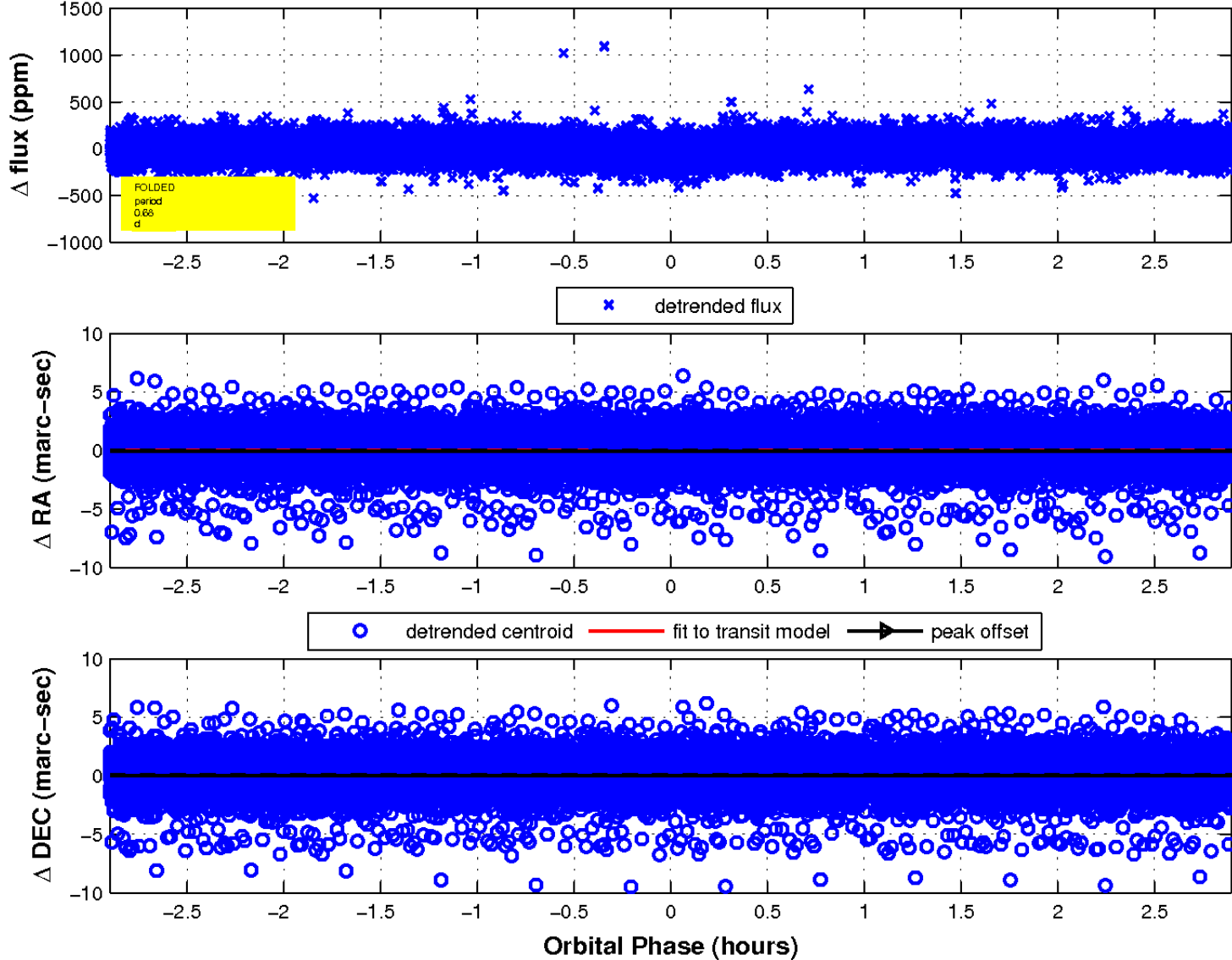
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

