

KIC 005982353

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})
005982353-01	OBS	1036.01	19.563094	134.354766	12971.9	6.957	2029.0	1999.0	1.83	6208	23.74	205.70
005982353-02	OBS	No	19.563100	144.845249	360.6	6.872	57.3	59.7	1.83	6208	4.46	205.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005982353-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_SATURATED
005982353-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_SATURATED

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

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

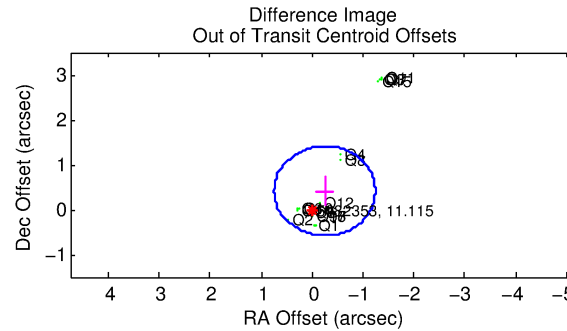
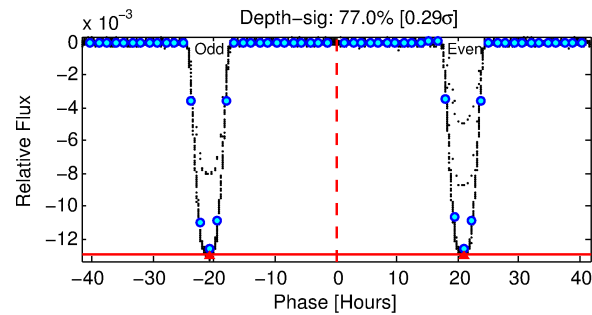
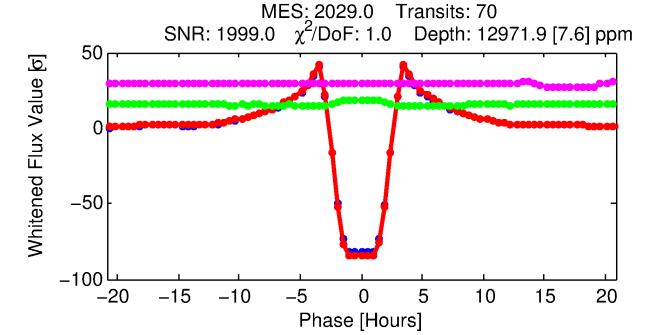
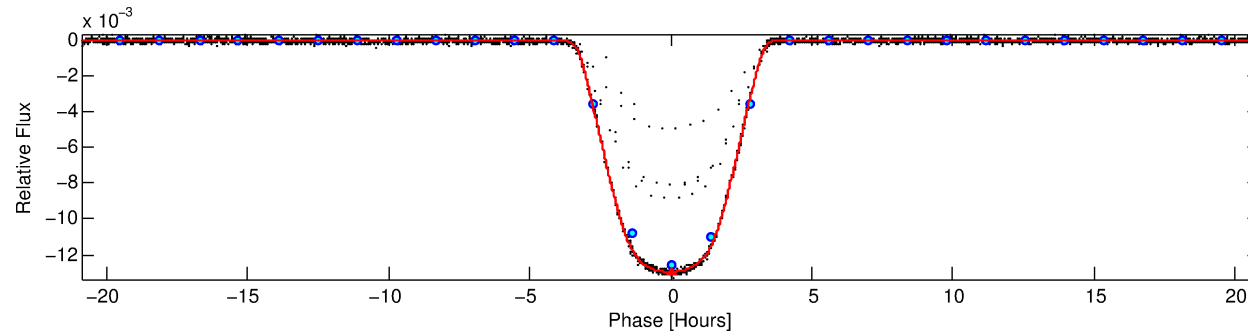
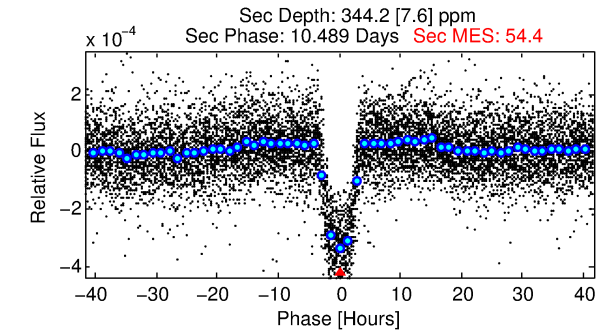
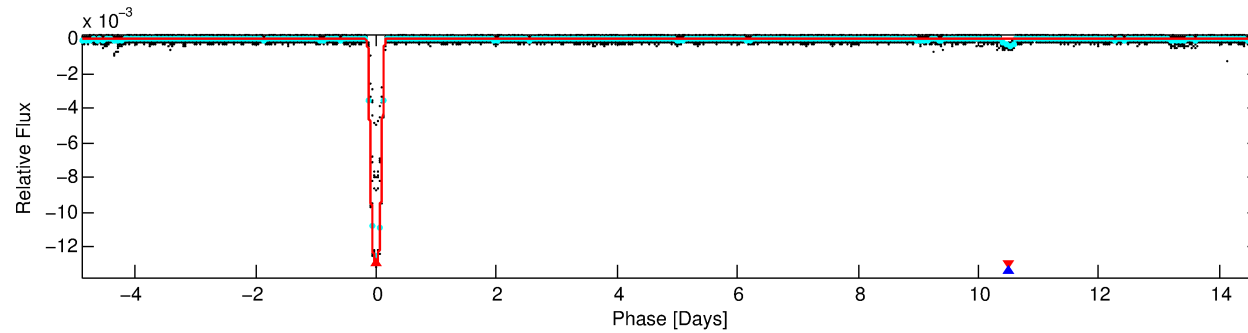
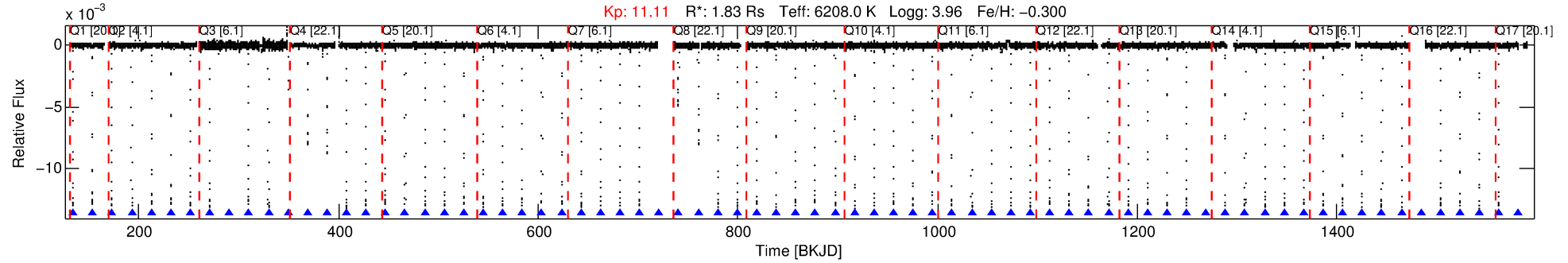
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005982353-01

No Significant Match Found

DV One-Page Summary

KIC: 5982353 Candidate: 1 of 2 Period: 19.563 d
KOI: K01036.01 Corr: 0.983



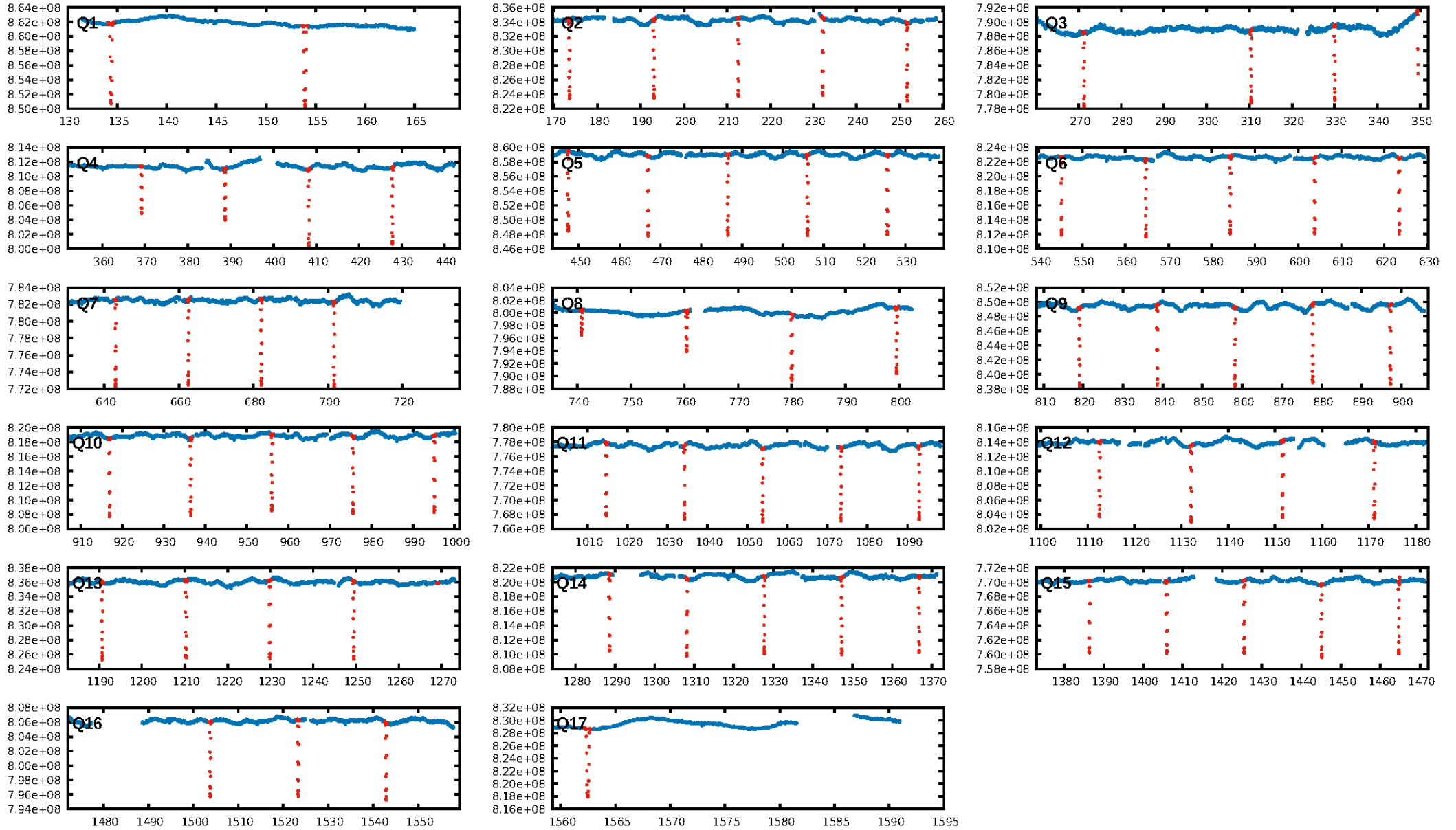
DV Fit Results:

Period = 19.56309 [0.00000] d
Epoch = 134.3548 [0.0001] BKJD
Rp/R* = 0.1188 [0.0000]
a/R* = 15.76 [0.01]
b = 0.85 [0.00]
Seff = 205.70 [102.55]
Teq = 966 [120] K
Rp = 23.74 [7.51] Re
a = 0.1473 [0.0447] AU
Ag = 7.29 [3.54] [1.77σ]
Teffp = 2453 [70] K [10.67σ]

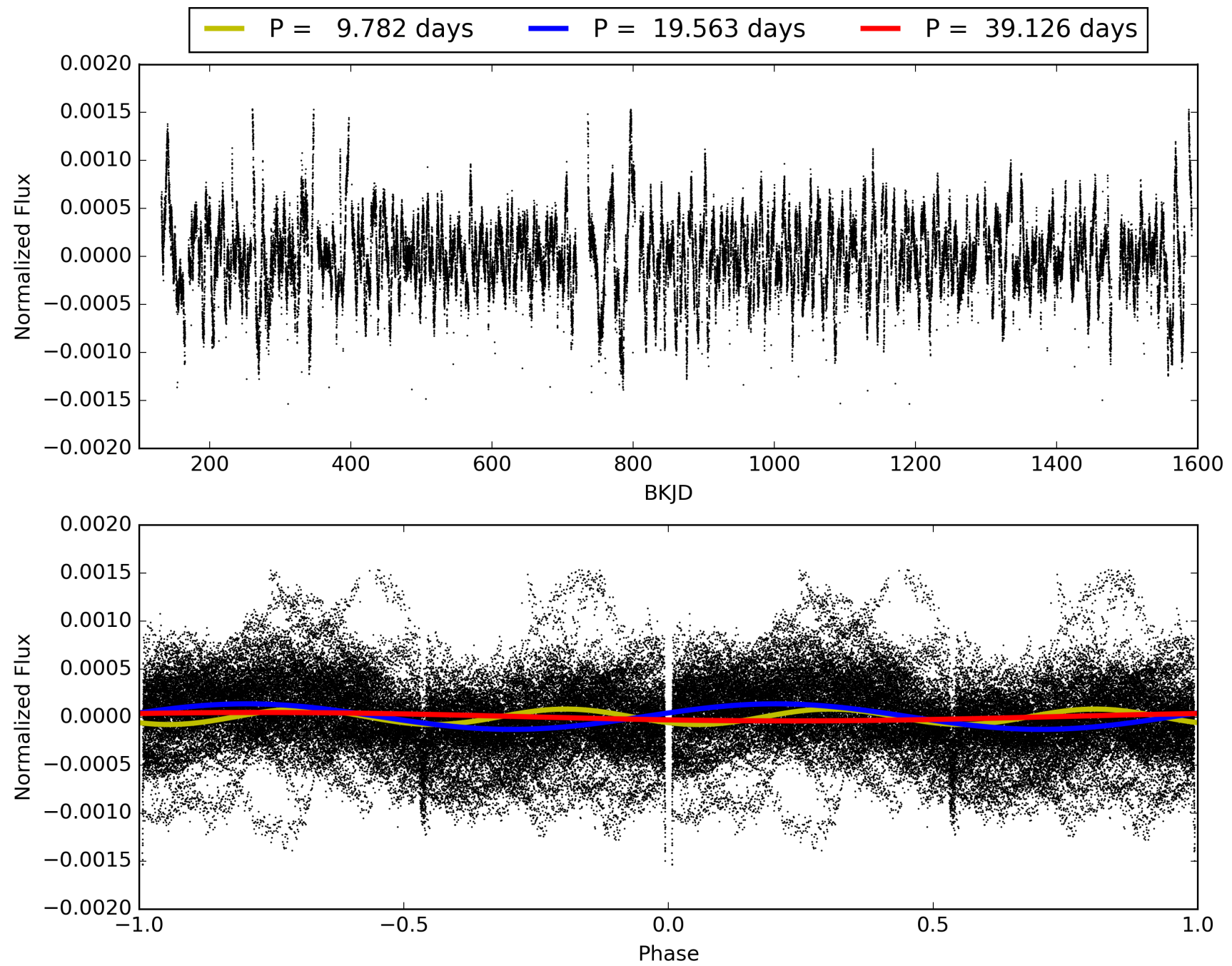
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [67/67]
GhostDiagnostic-chr: 7.061
Centroid-sig: 0.0%
Centroid-so: 0.103 arcsec [31.75σ]
OotOffset-rm: 0.484 arcsec [1.46σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.451 arcsec [1.31σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005982353-01, PDC Light Curves

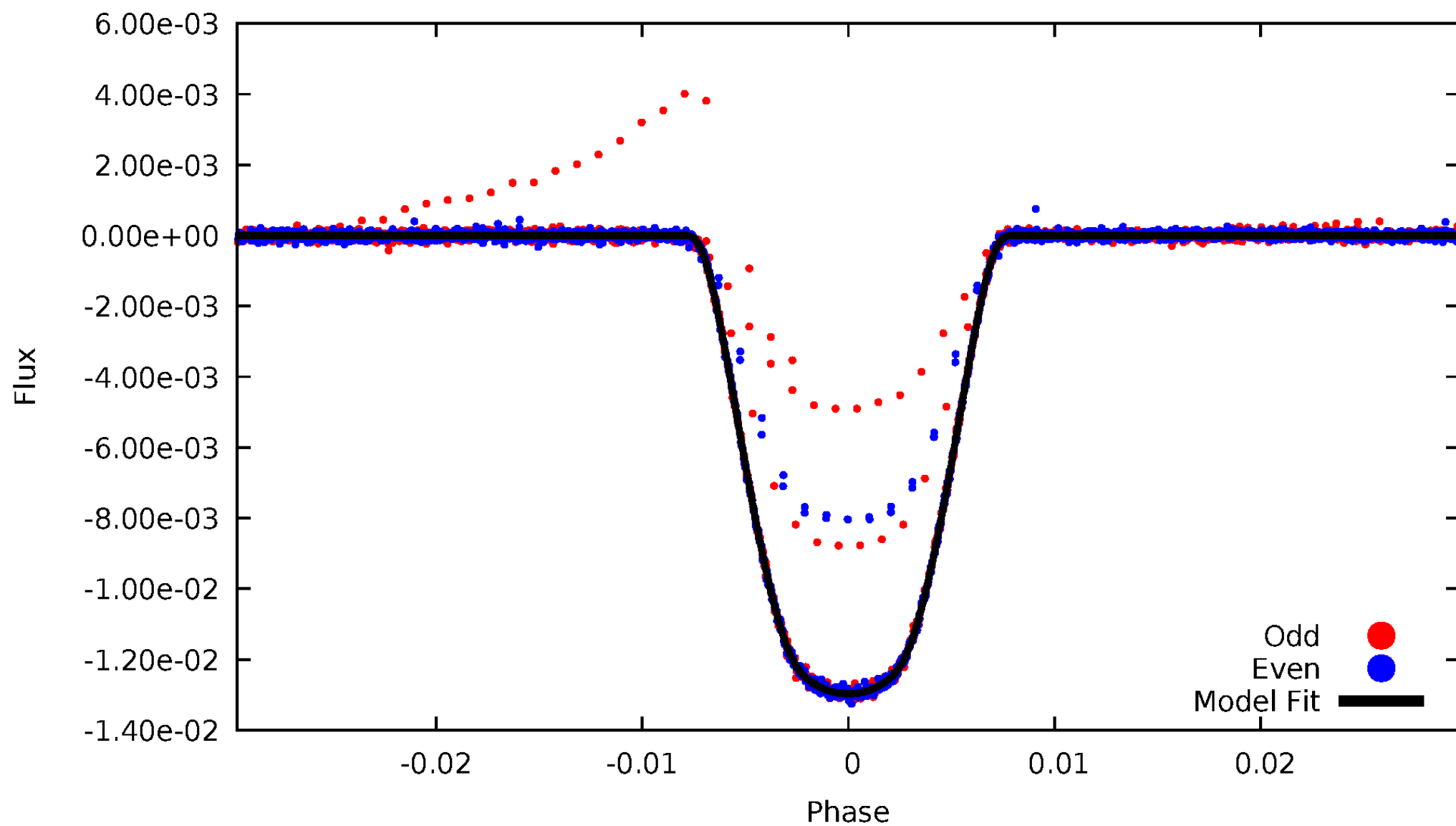


TCE 005982353-01



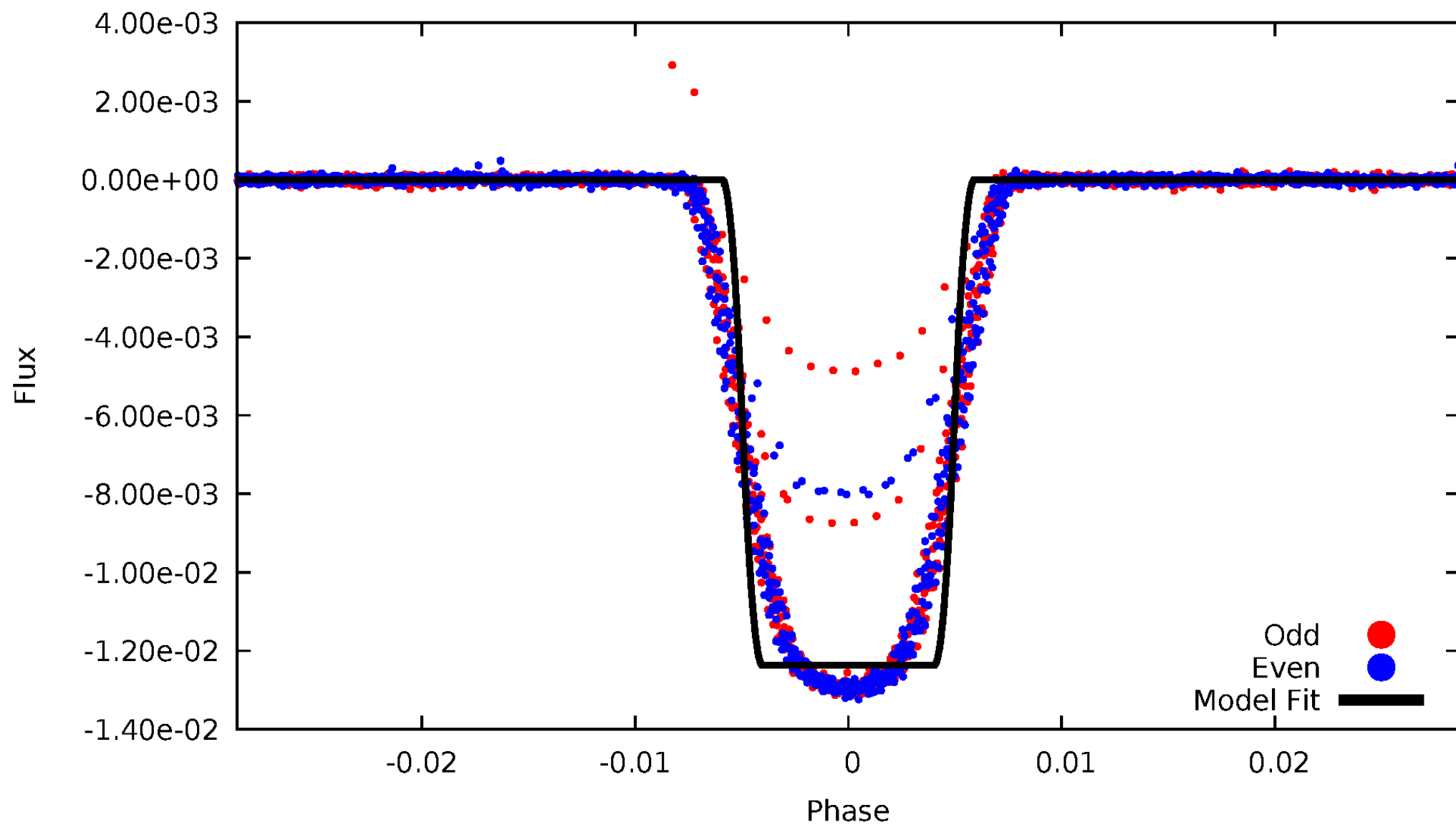
DV Odd/Even

TCE 005982353-01



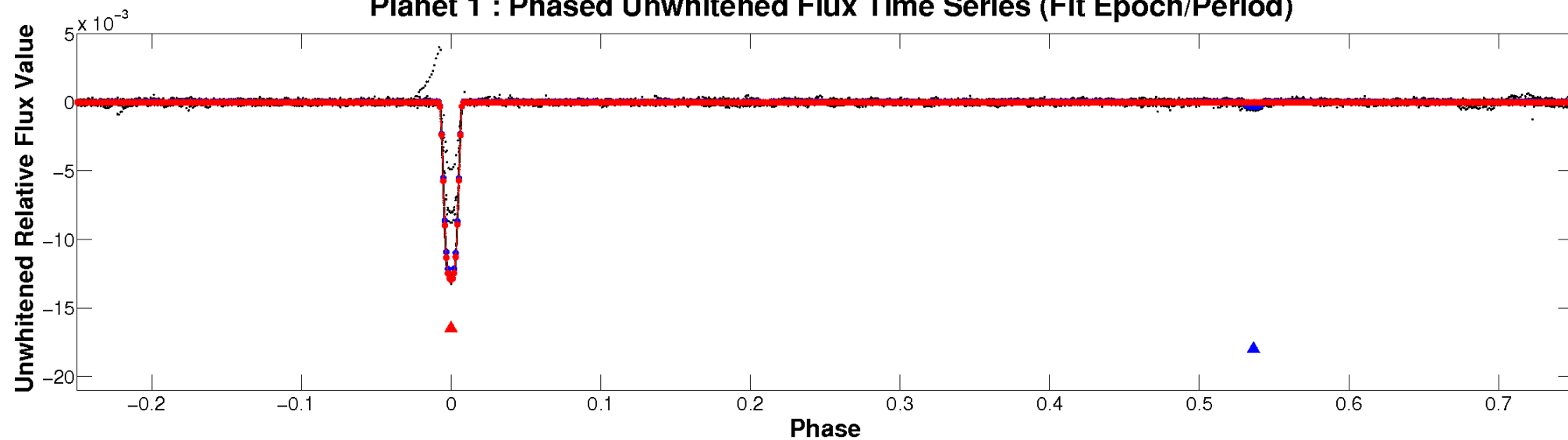
ALT Odd/Even

TCE 005982353-01

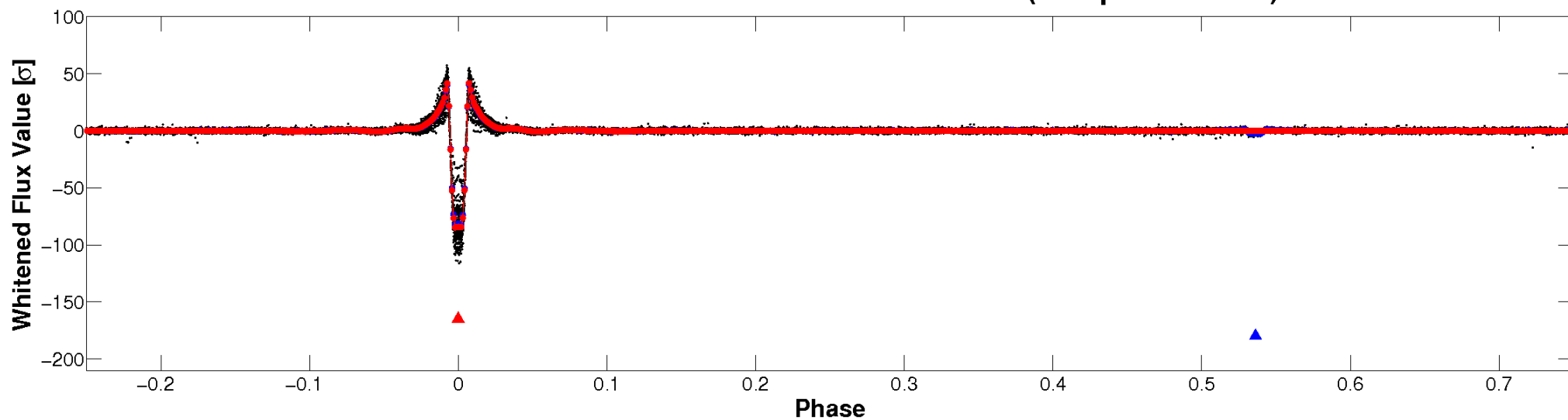


Non-Whitened Vs. Whitened Light Curve

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

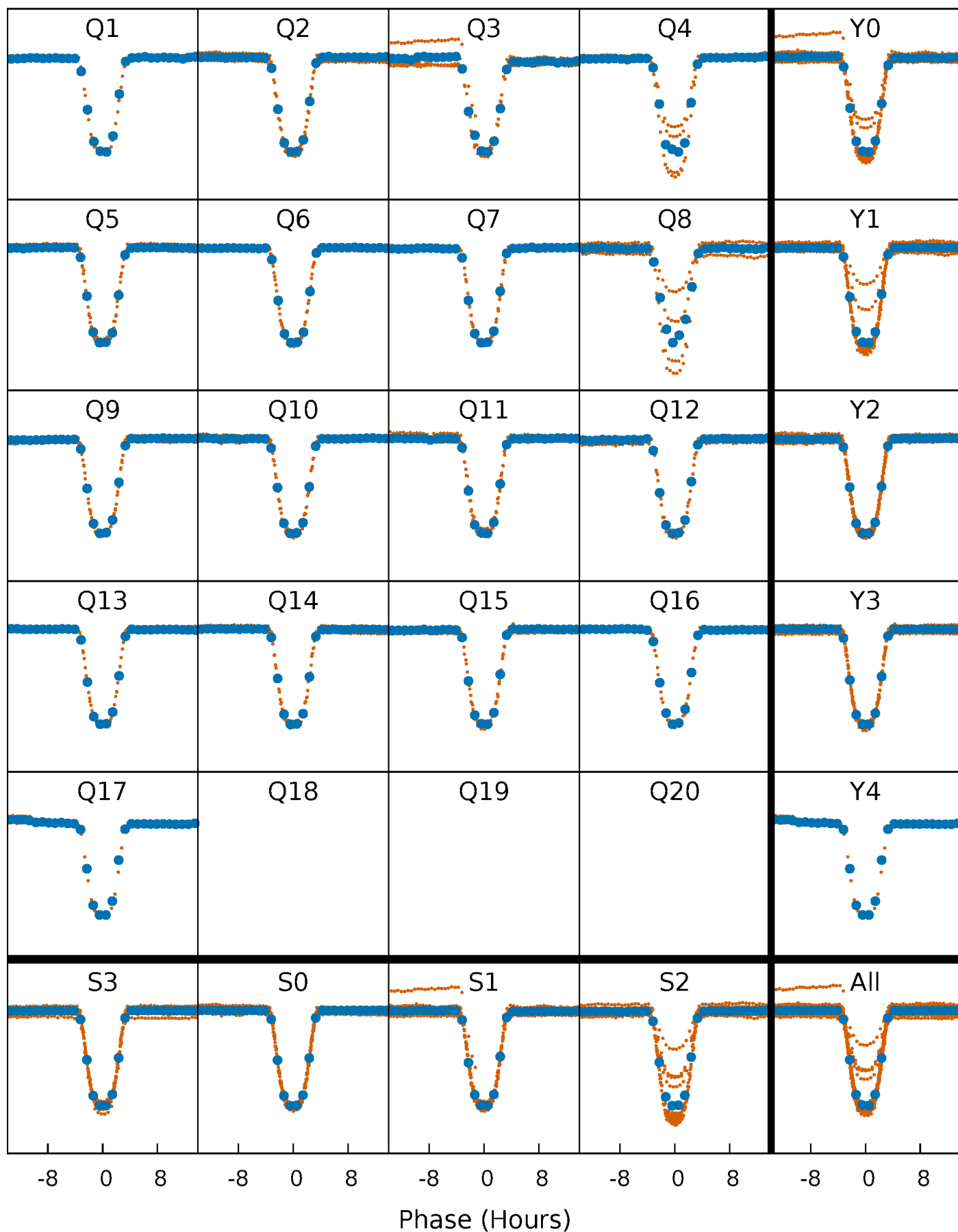


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



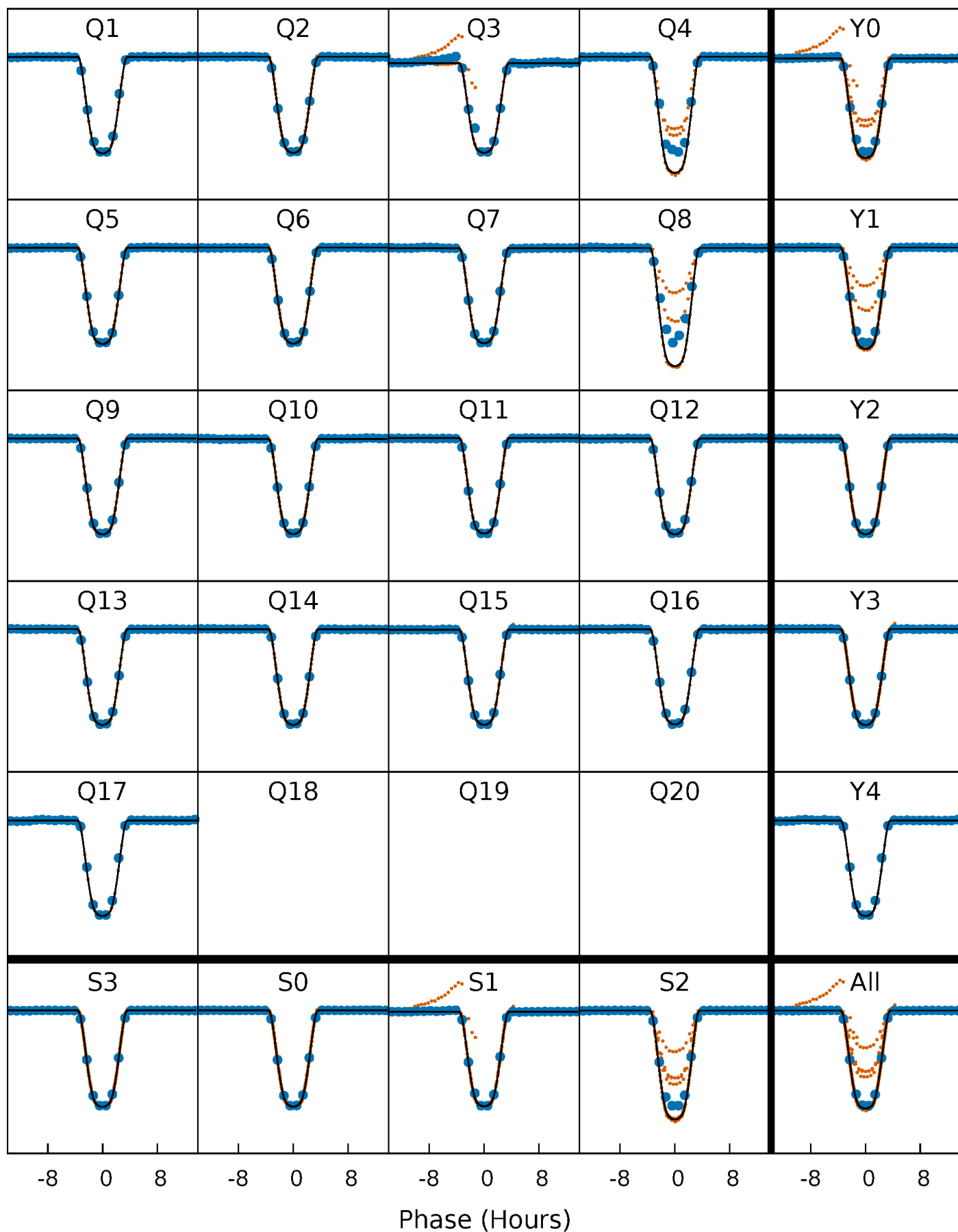
PDC Quarter-Phased Transit Curves

TCE 005982353-01 P= 19.563094 Days $T_0=134.354766$ (BKJD)



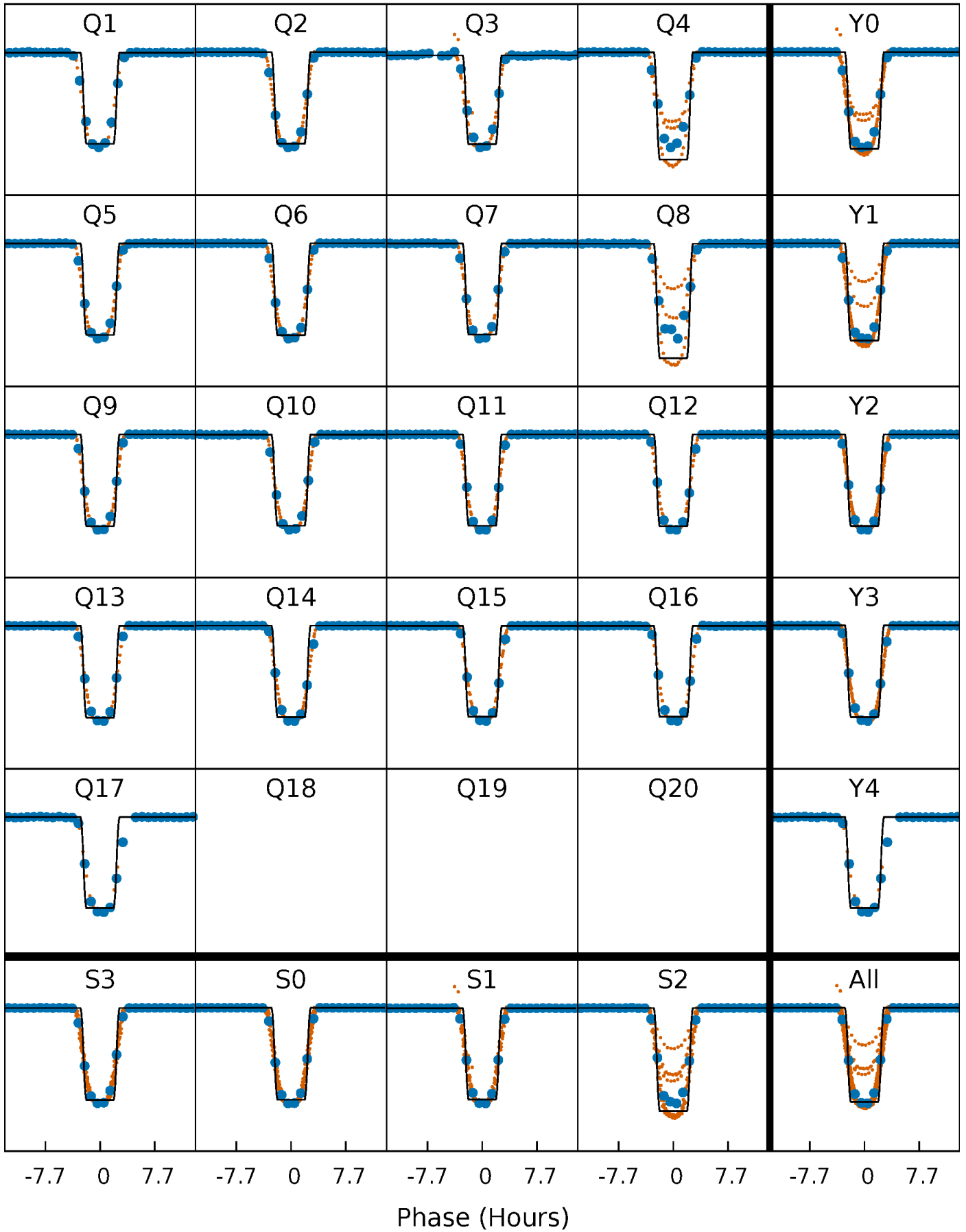
DV Quarter-Phased Transit Curves

TCE 005982353-01 P= 19.563094 Days $T_0=134.354766$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

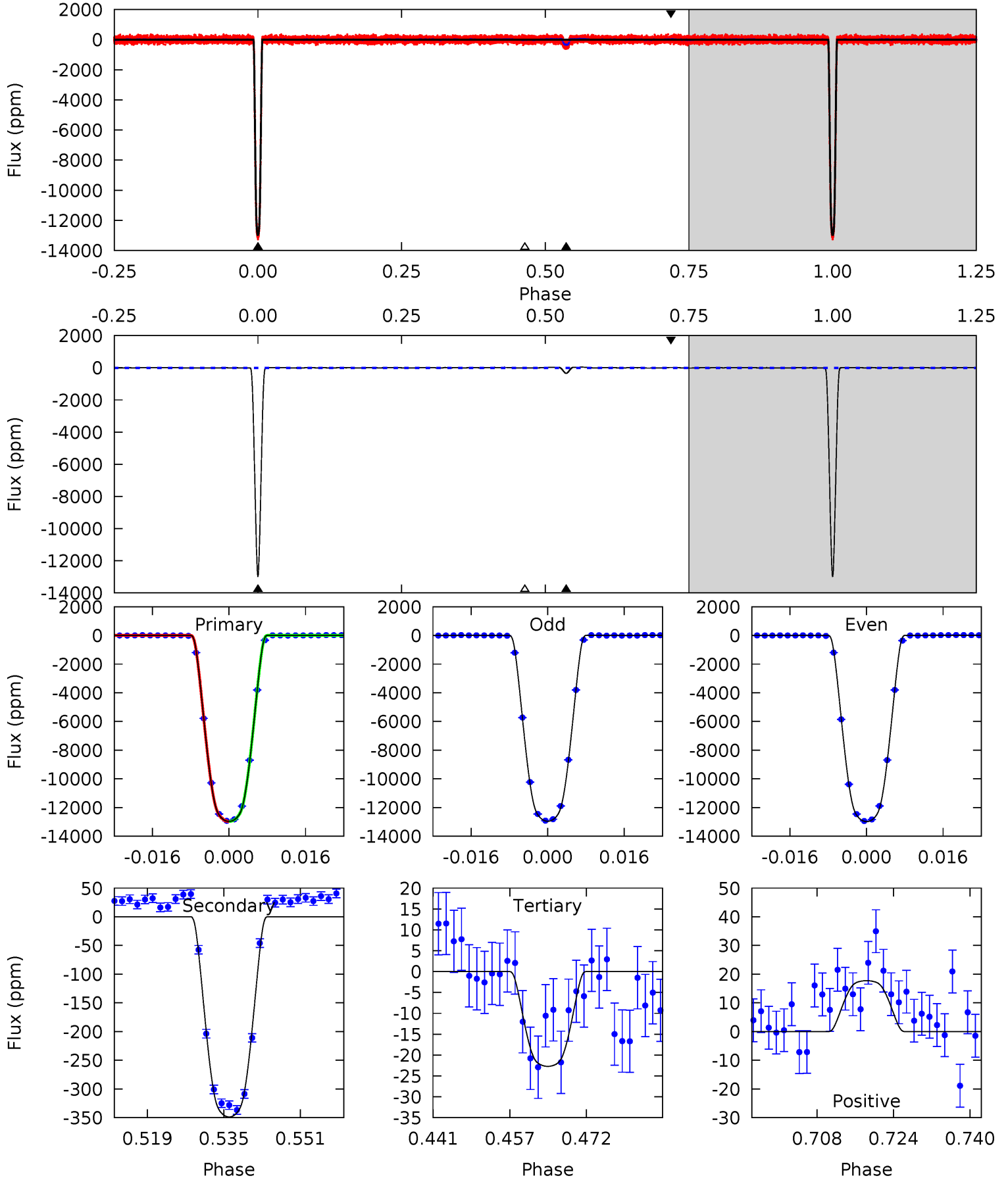
TCE 005982353-01 P= 19.562853 Days $T_0=134.363844$ (BKJD)



DV Model-Shift Uniqueness Test

005982353-01, P = 19.563094 Days, E = 114.791672 Days

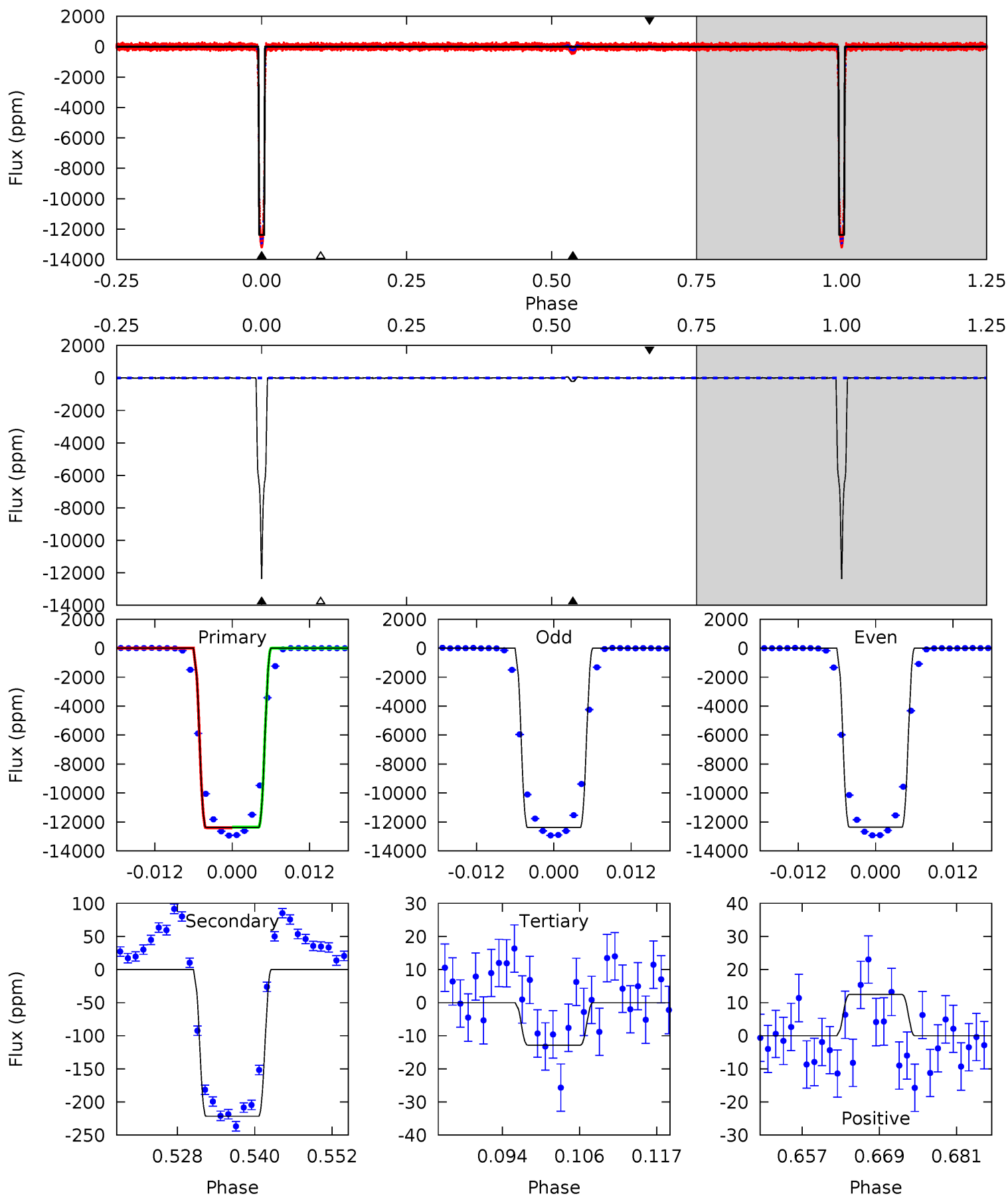
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4909	132.0	8.60	6.71	4.94	2.41	3.69	4900	4902	123.4	125.3	4.57	0.97	0.00	0



Alt Model-Shift Uniqueness Test

005982353-01, P = 19.562853 Days, E = 114.800991 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3651	65.3	3.78	3.67	5.00	2.52	1.54	3647	3647	61.6	61.7	4.37	0.97	0.01	5.89



Stellar Parameters For KIC 005982353

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6208^{+175}_{-159}	$3.959^{+0.285}_{-0.114}$	$-0.300^{+0.300}_{-0.300}$	$1.831^{+0.386}_{-0.579}$	$1.112^{+0.210}_{-0.172}$	$0.255^{+0.437}_{-0.089}$
	+3%/-3%	+7%/-3%	+100%/-100%	+21%/-32%	+19%/-15%	+171%/-35%
Source	PHO1	FLK73	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 005982353-01 / KOI 1036.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-349 ± 3	$23.50^{+2.93}_{-3.64}$	1337^{+80}_{-108}	3082^{+49}_{-47}	$7.670^{+2.849}_{-1.390}$
Alt.	-222 ± 3	$21.90^{+2.63}_{-3.72}$	1332^{+83}_{-112}	2939^{+43}_{-45}	$5.646^{+2.221}_{-1.073}$

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

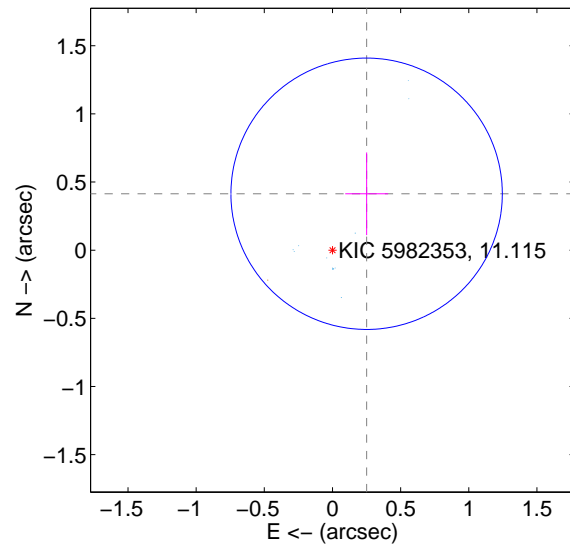
Supplemental centroid analysis for 005982353-01. **Kepler magnitude: 11.12.** Transit SNR 1999.00

There are 16 quarters with good PRF difference image offsets

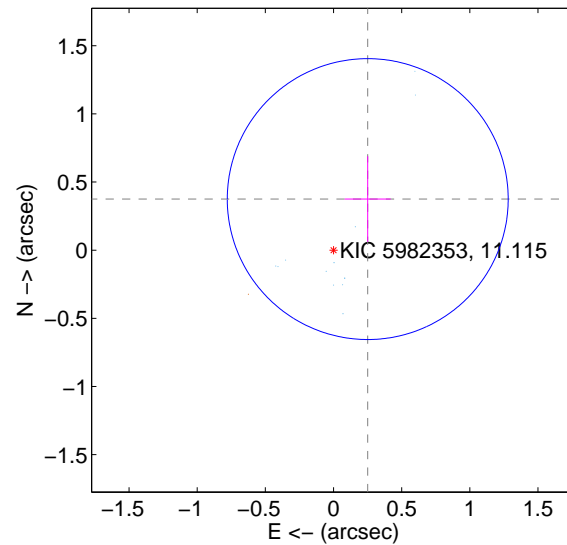
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.484 ± 0.332	1.46	-0.250 ± 0.157	0.414 ± 0.303
PRF-fit source offset from KIC position	0.451 ± 0.343	1.31	-0.251 ± 0.169	0.375 ± 0.314
photometric centroid source offset	0.10 ± 0.00	31.75	-0.10 ± 0.00	-0.01 ± 0.00

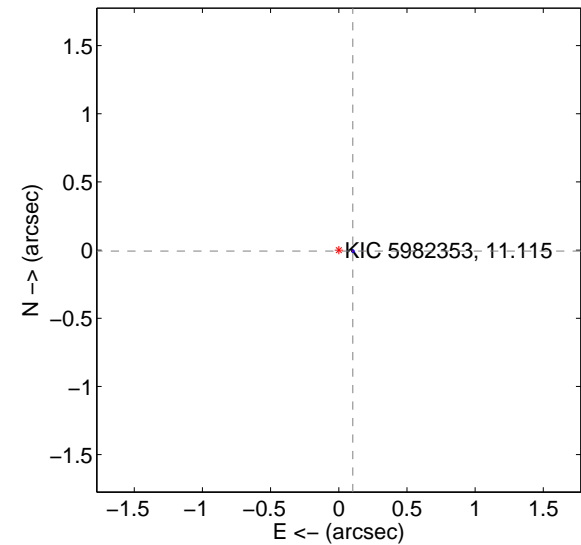
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

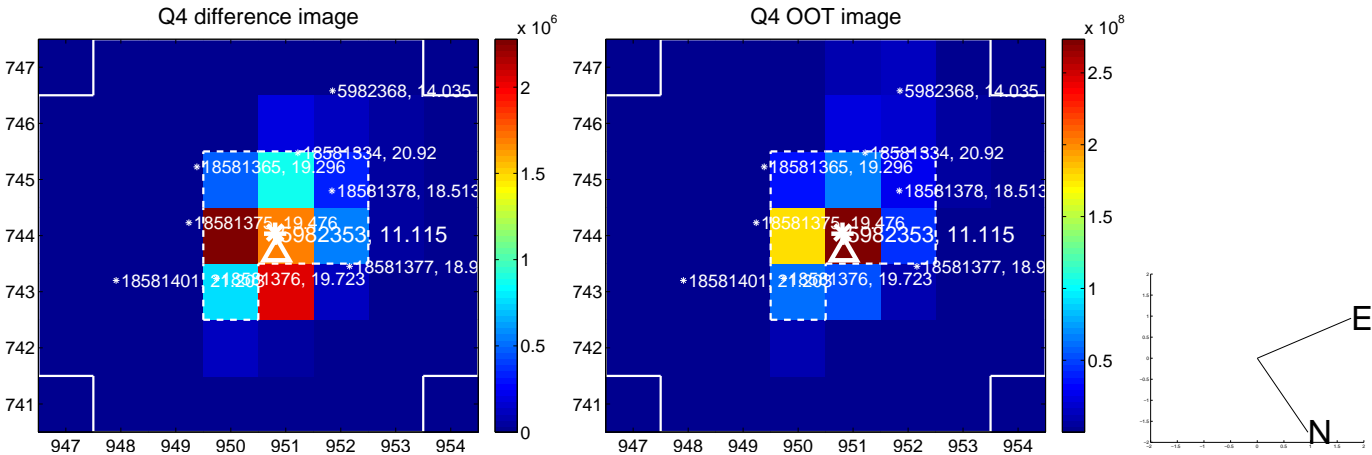
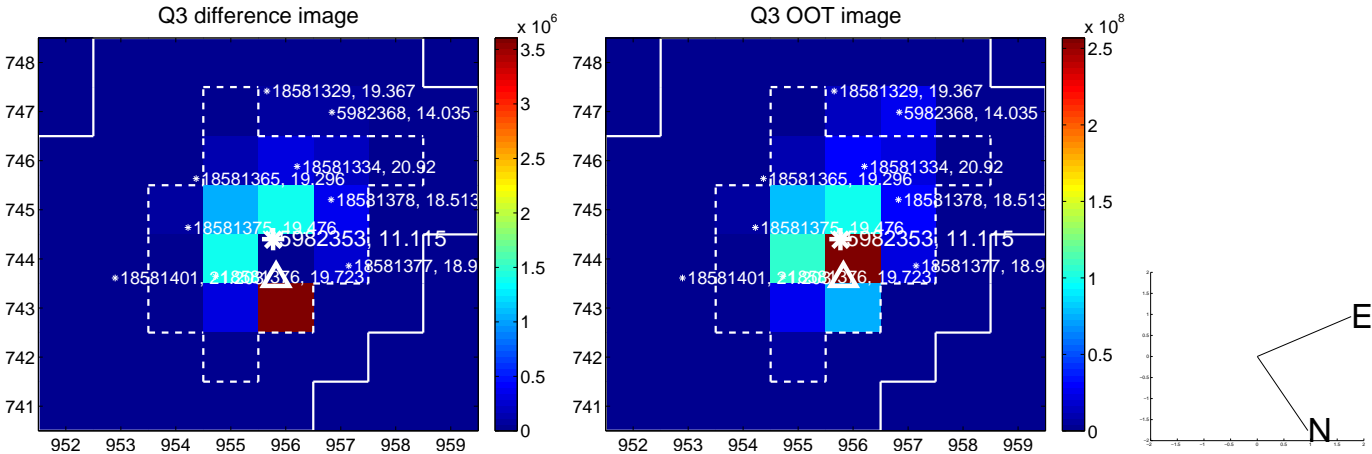
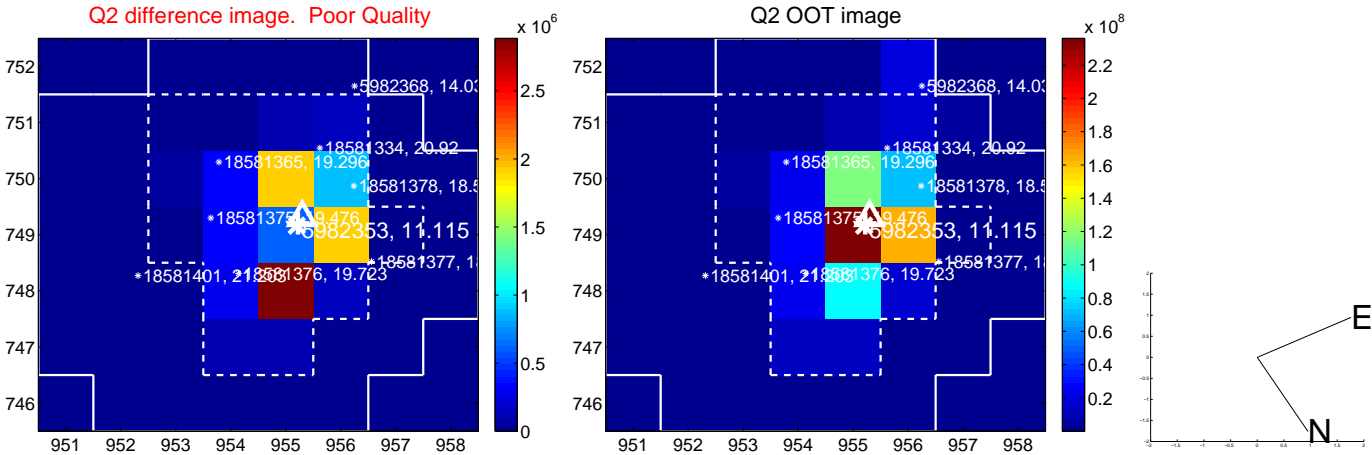
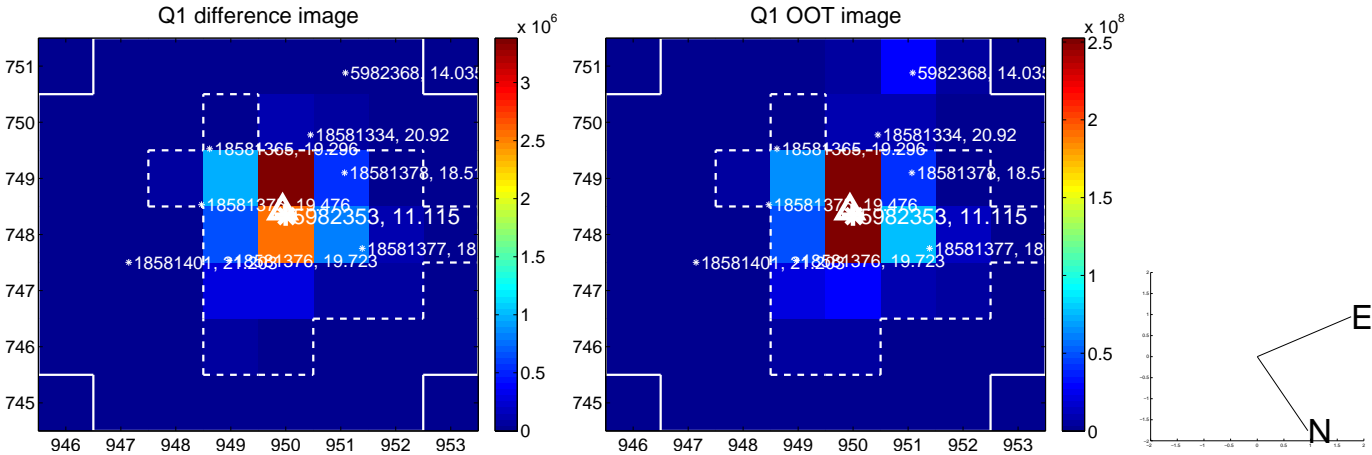


offset from photometric centroids

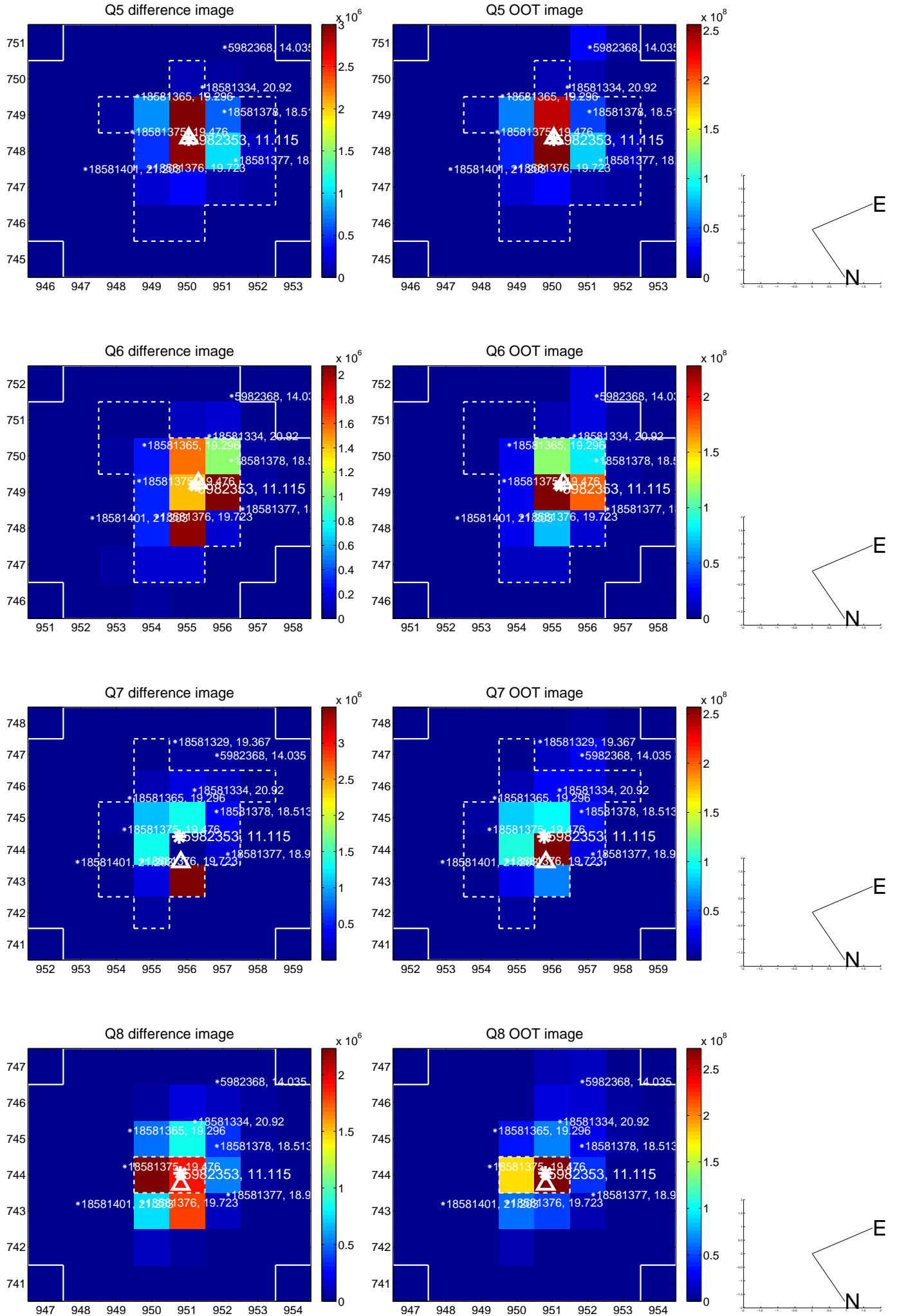


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

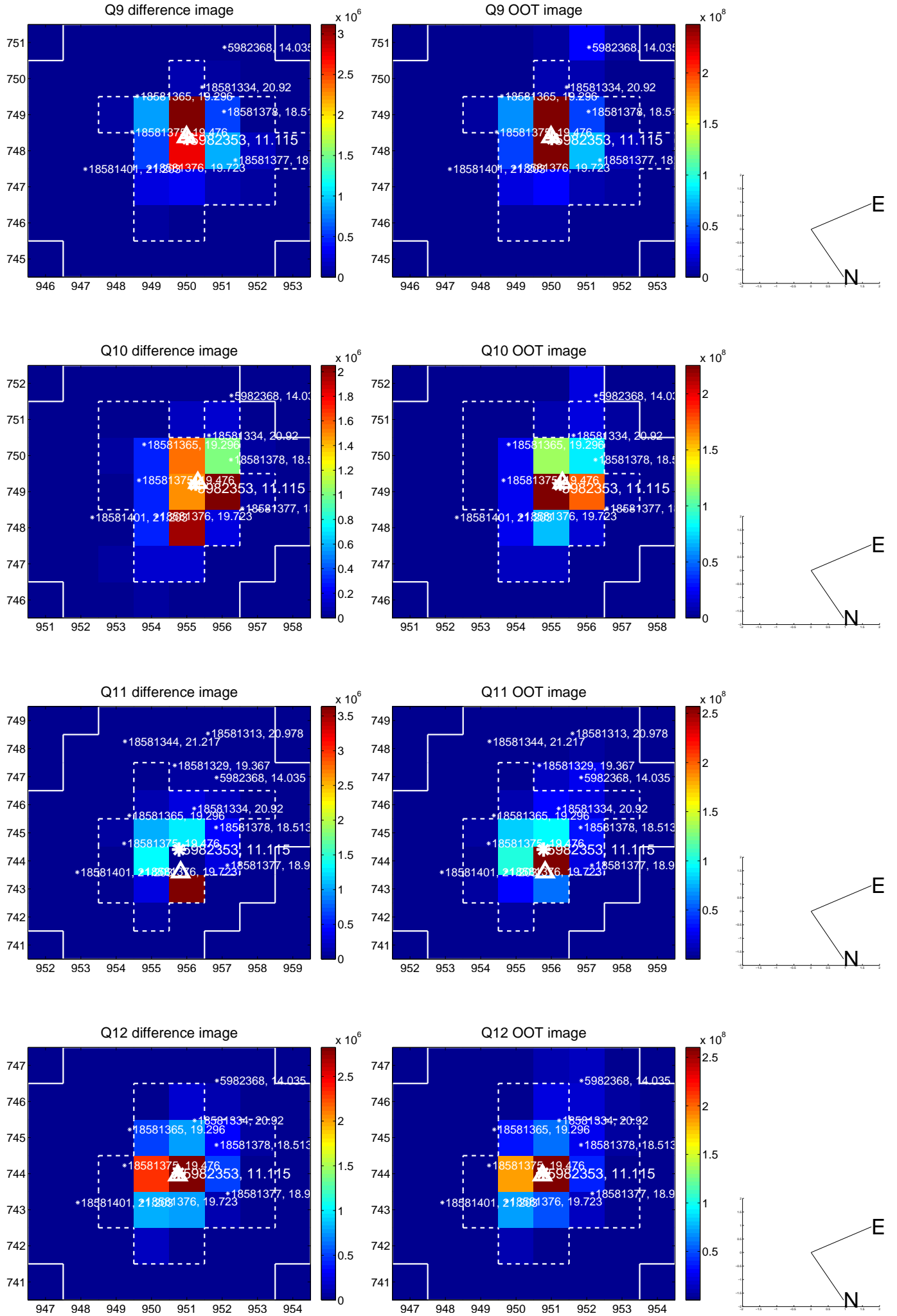
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



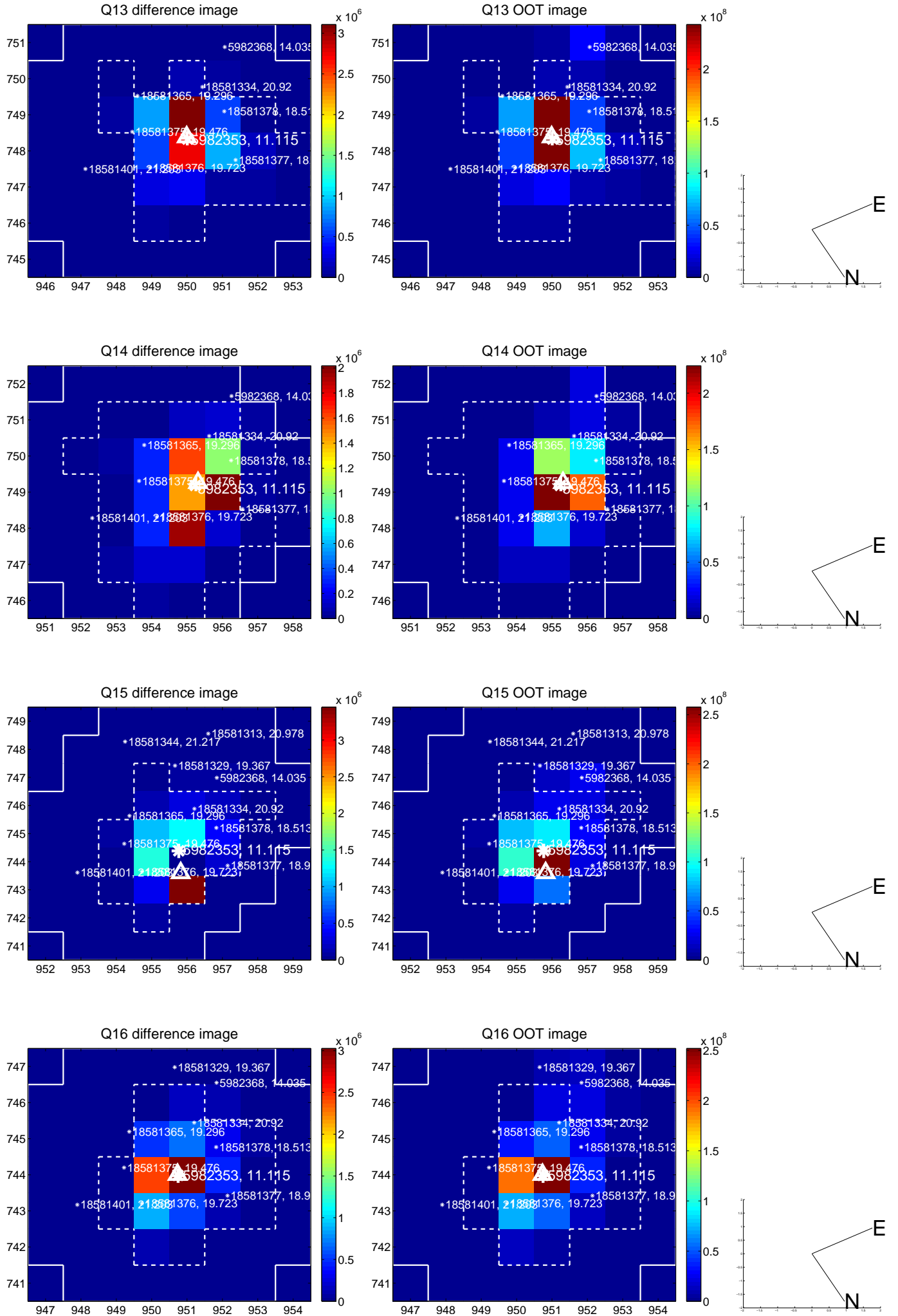
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



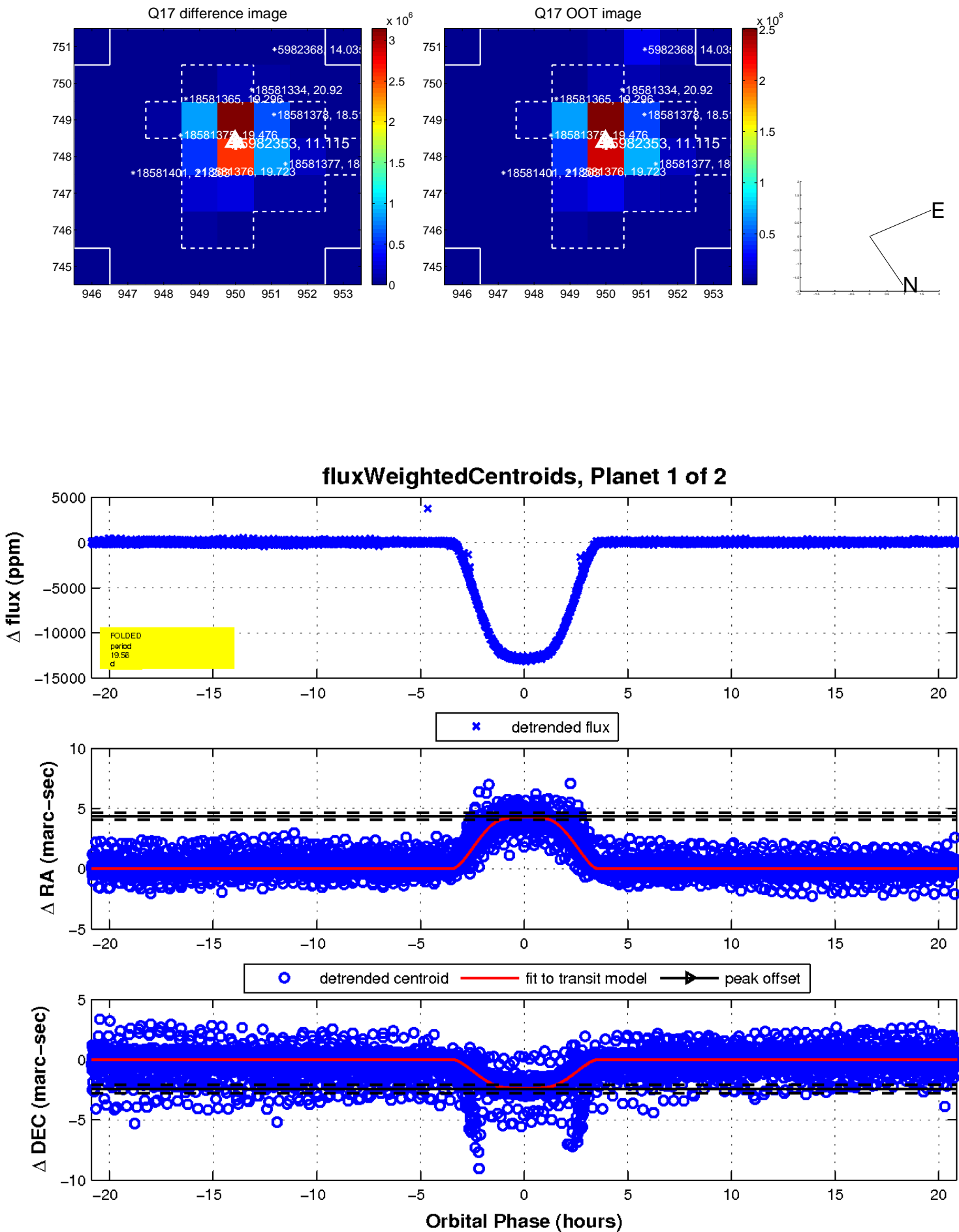
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



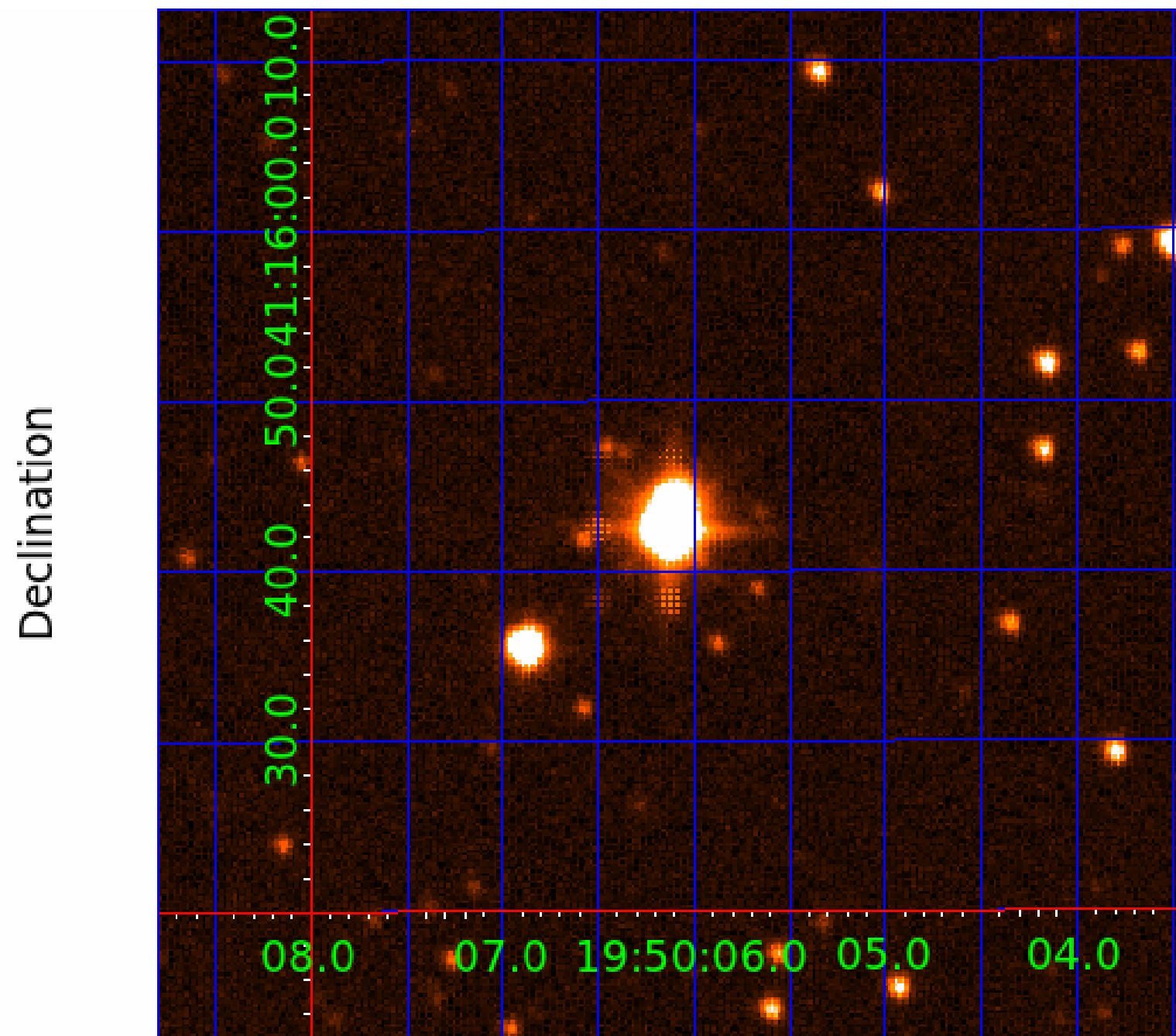
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 005982353

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})
005982353-01	OBS	1036.01	19.563094	134.354766	12971.9	6.957	2029.0	1999.0	1.83	6208	23.74	205.70
005982353-02	OBS	No	19.563100	144.845249	360.6	6.872	57.3	59.7	1.83	6208	4.46	205.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005982353-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_SATURATED
005982353-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_SATURATED

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 005982353-02

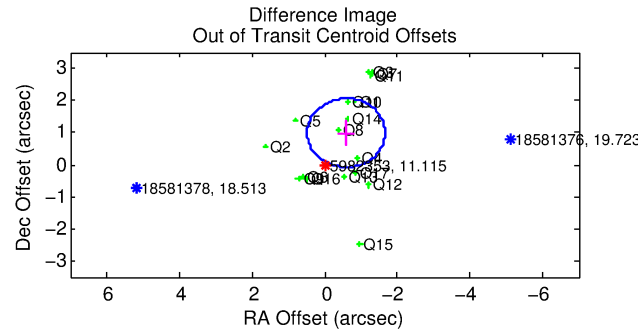
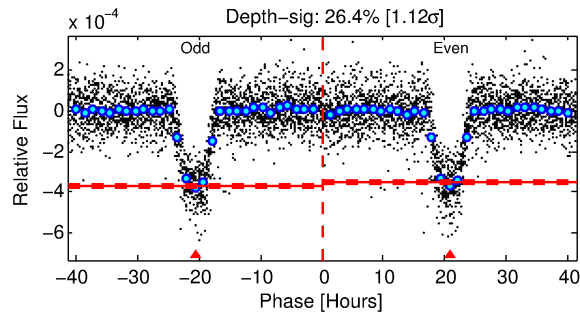
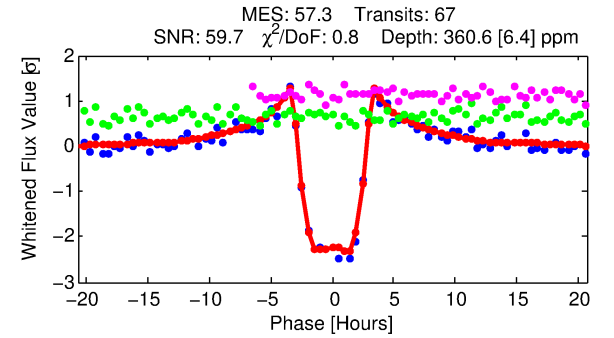
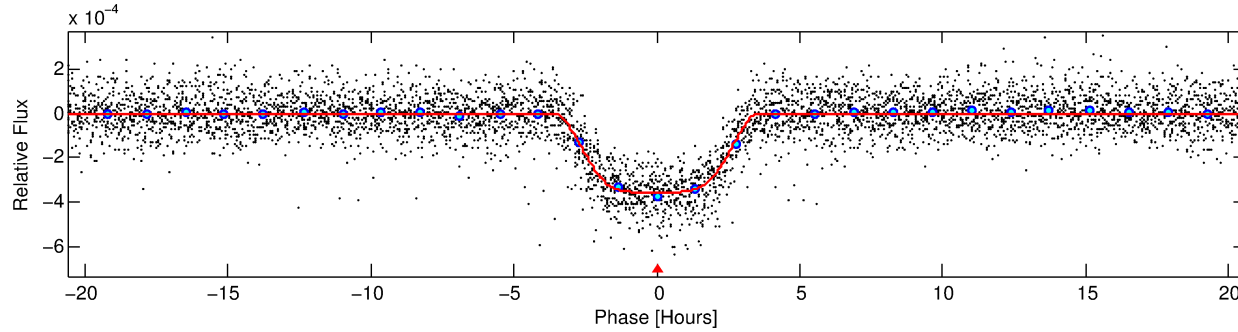
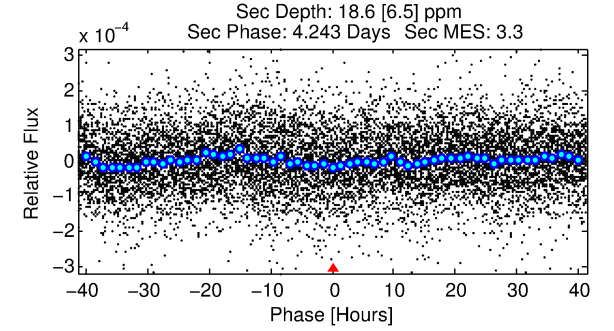
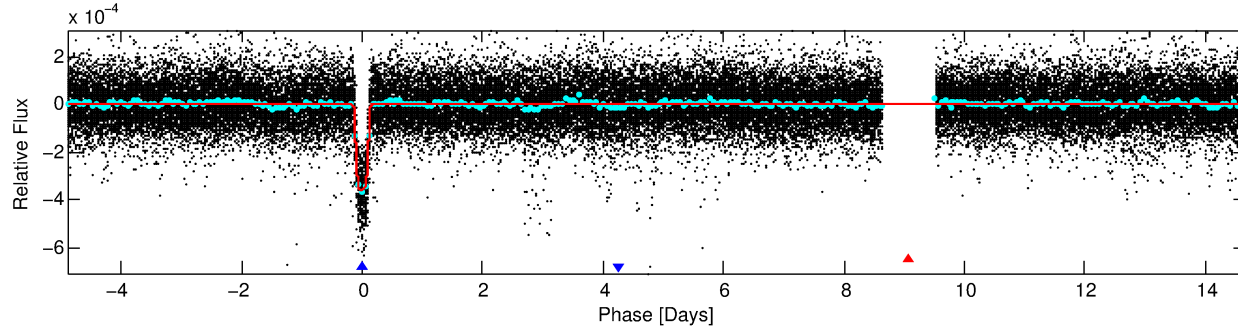
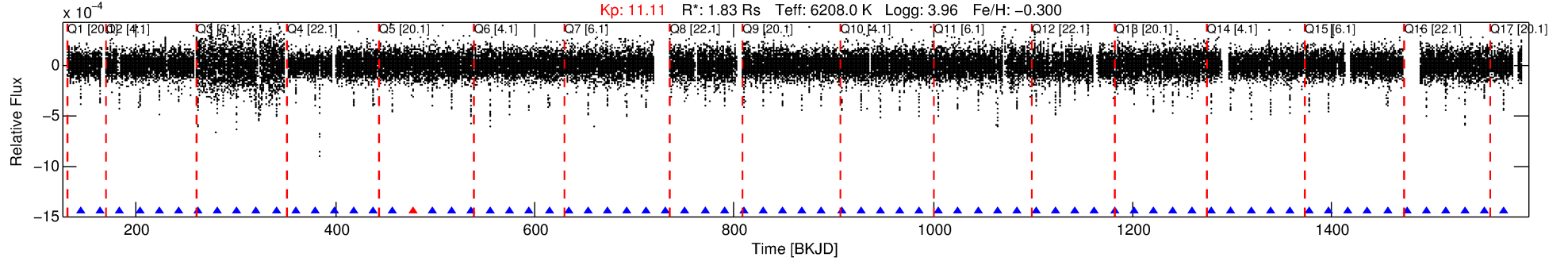
No Significant Match Found

DV One-Page Summary

KIC: 5982353 Candidate: 2 of 2 Period: 19.563 d

KOI: K01036 Corr: No Ephemeris Match

Kp: 11.11 R*: 1.83 Rs Teff: 6208.0 K Logg: 3.96 Fe/H: -0.300



DV Fit Results:

Period = 19.56310 [0.00004] d
Epoch = 144.8452 [0.0017] BKJD
Rp/R* = 0.0223 [0.0002]
a/R* = 7.36 [0.16]
b = 0.97 [0.00]
Seff = 205.70 [102.55]
Teff = 966 [120] K
Rp = 4.46 [1.41] Re
a = 0.1473 [0.0447] AU
Ag = 11.16 [6.67] [1.52σ]
Teffp = 2729 [250] K [6.36σ]

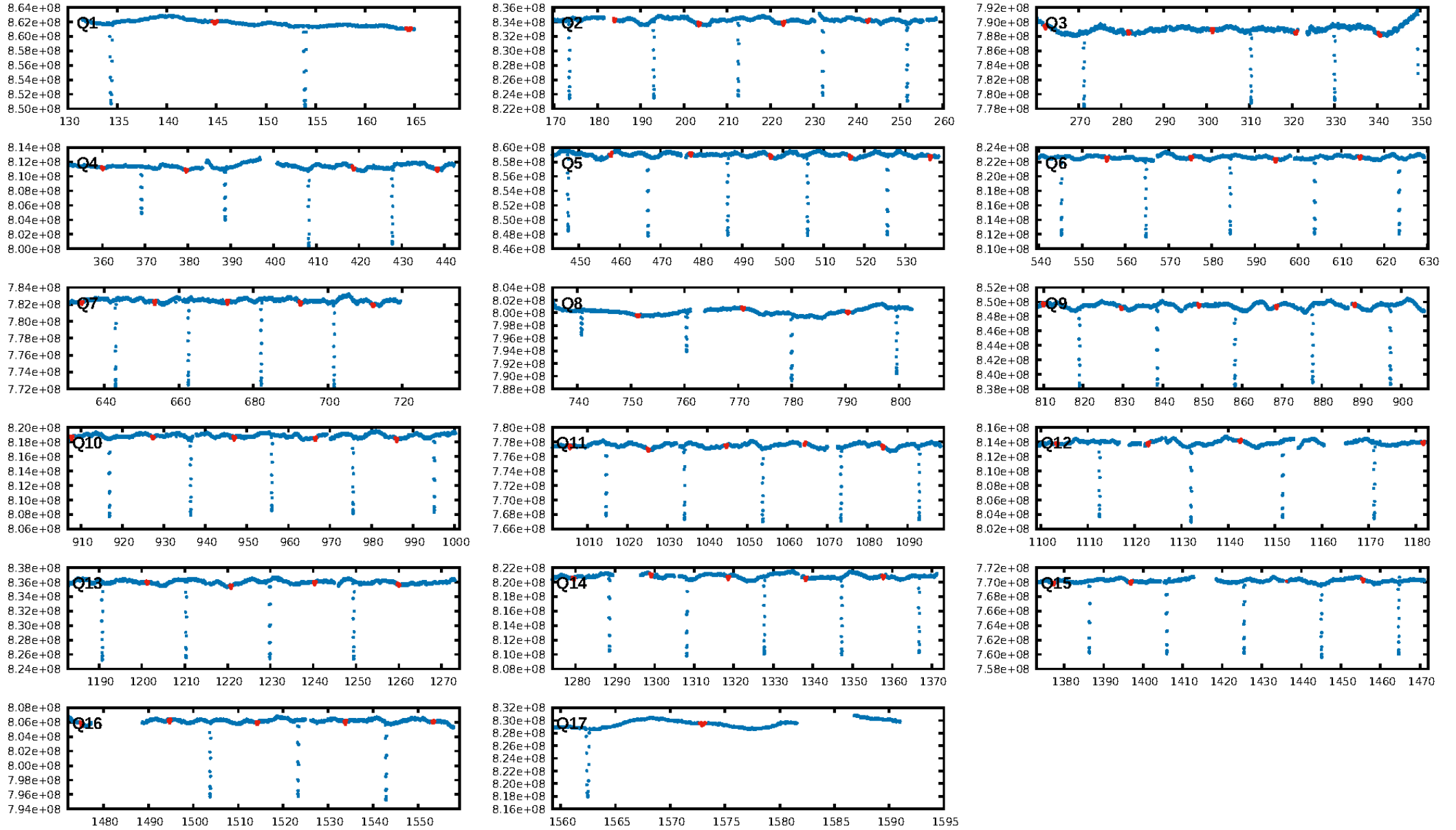
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 39.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.98 [63/64]
GhostDiagnostic-chr: 3.168
Centroid-sig: 0.0%
Centroid-so: 0.153 arcsec [1.30σ]
OotOffset-rm: 1.150 arcsec [3.22σ]
KicOffset-rm: 1.102 arcsec [3.04σ]
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]

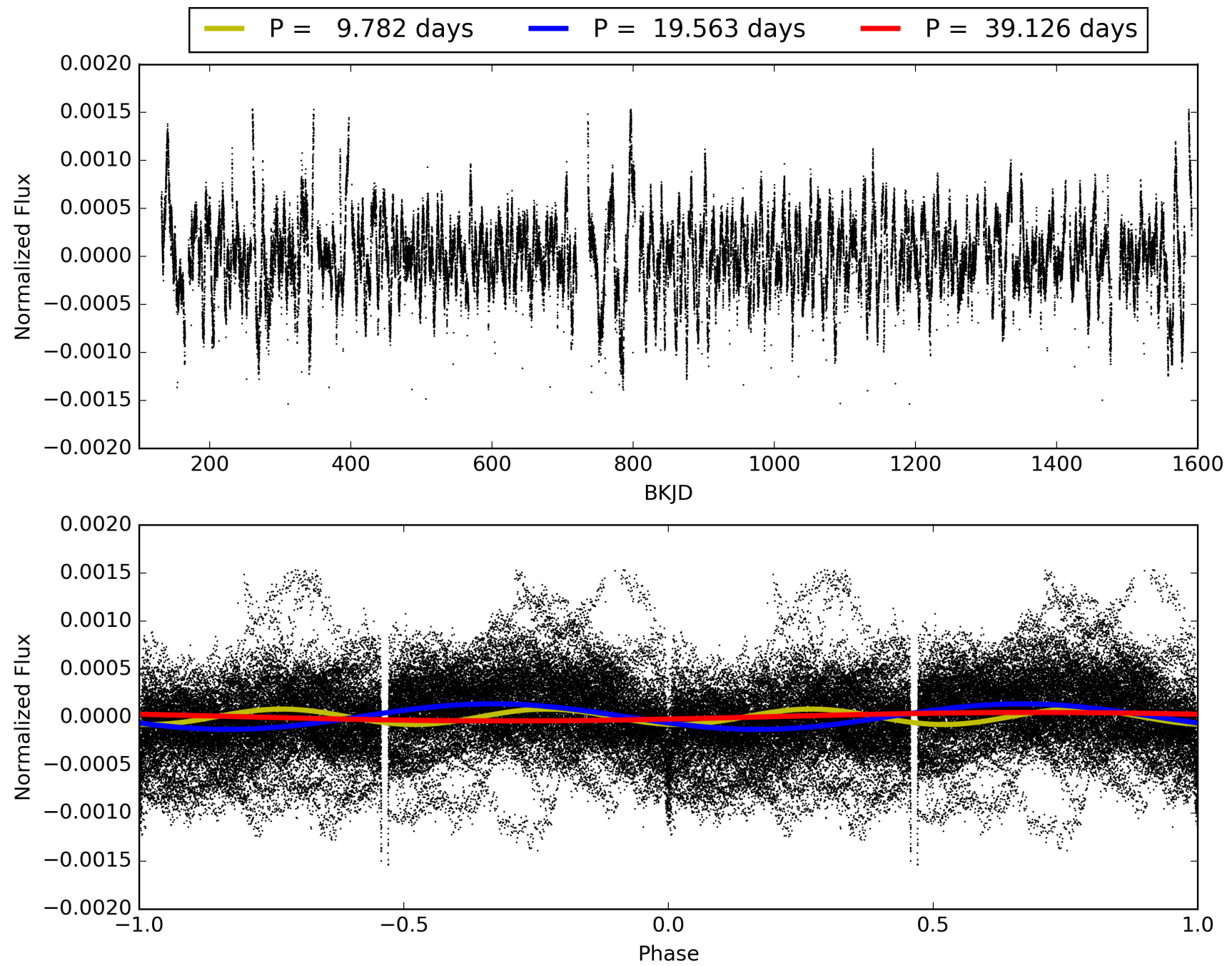
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:32:37 Z

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

TCE 005982353-02, PDC Light Curves

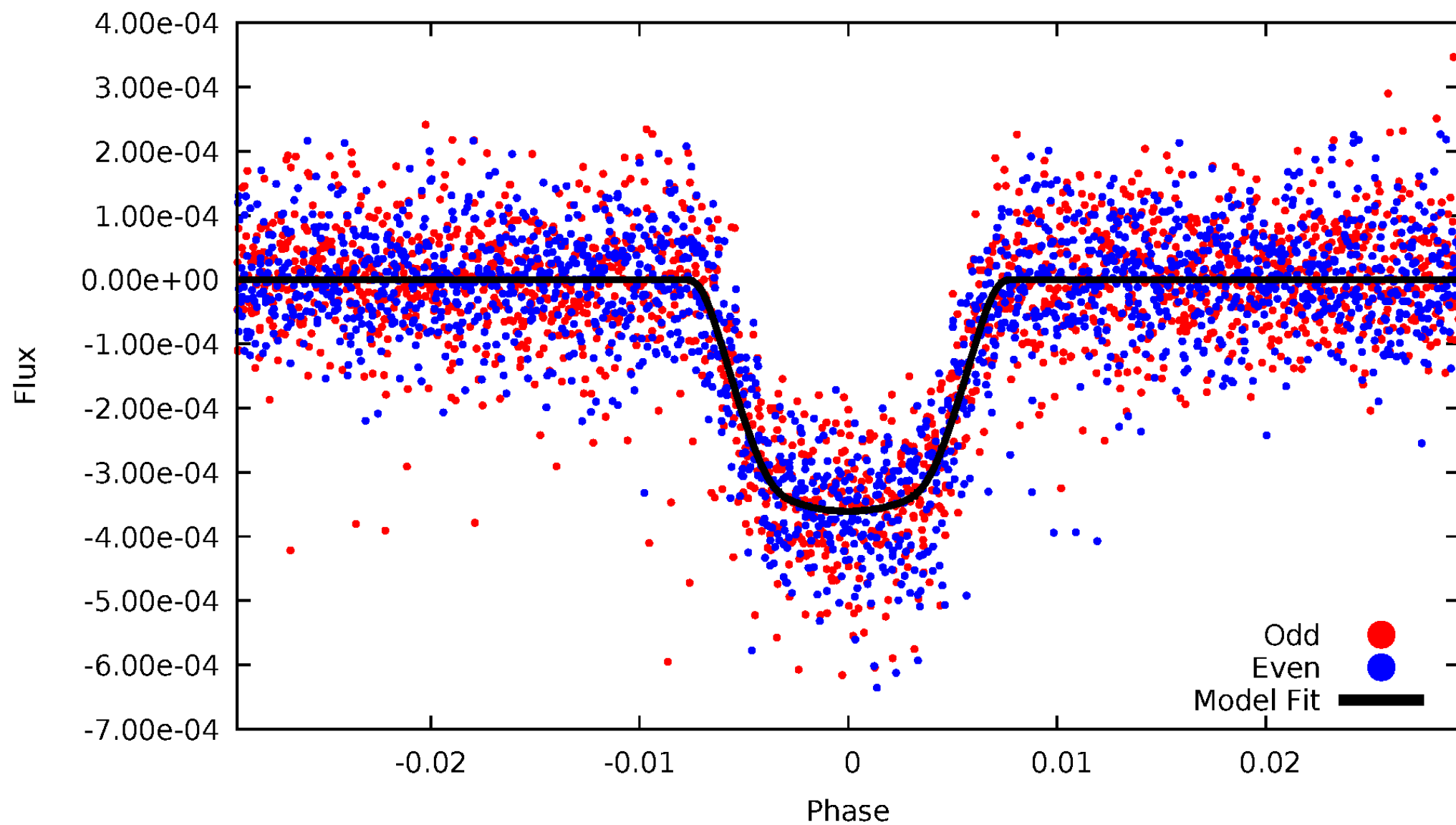


TCE 005982353-02



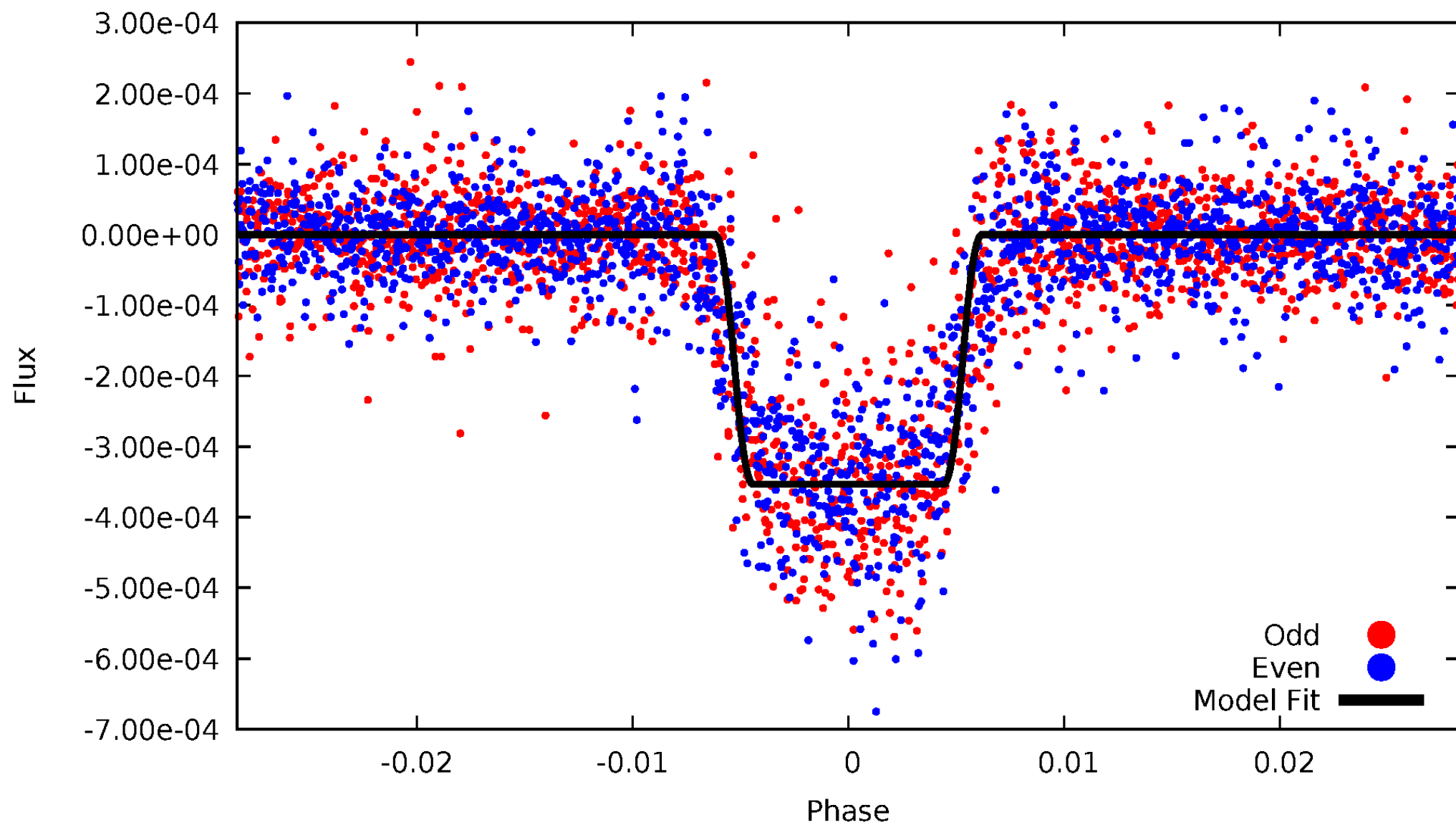
DV Odd/Even

TCE 005982353-02



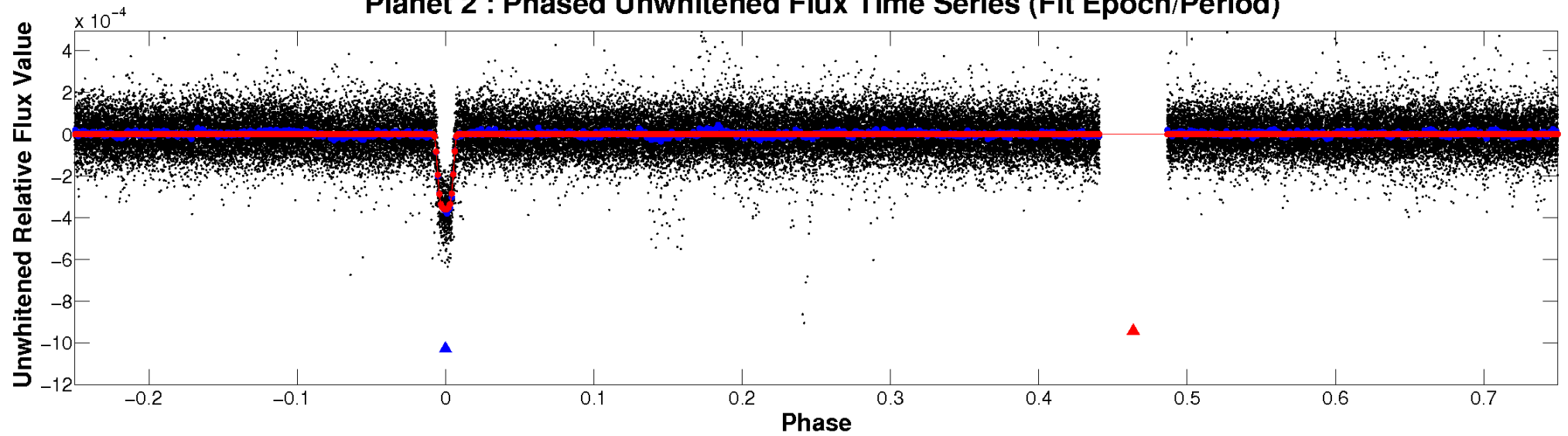
ALT Odd/Even

TCE 005982353-02

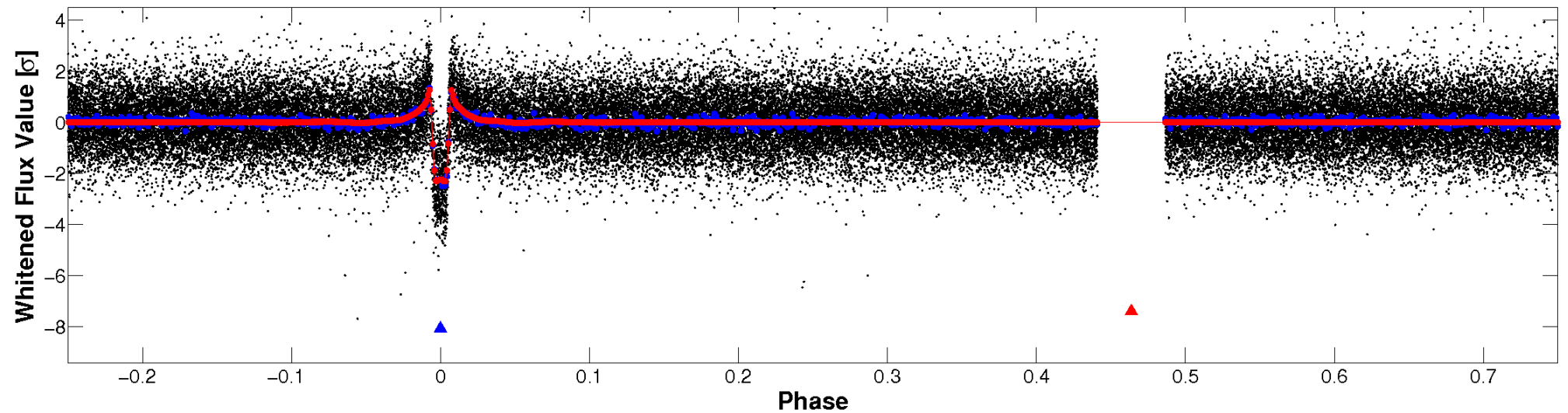


Non-Whitened Vs. Whitened Light Curve

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

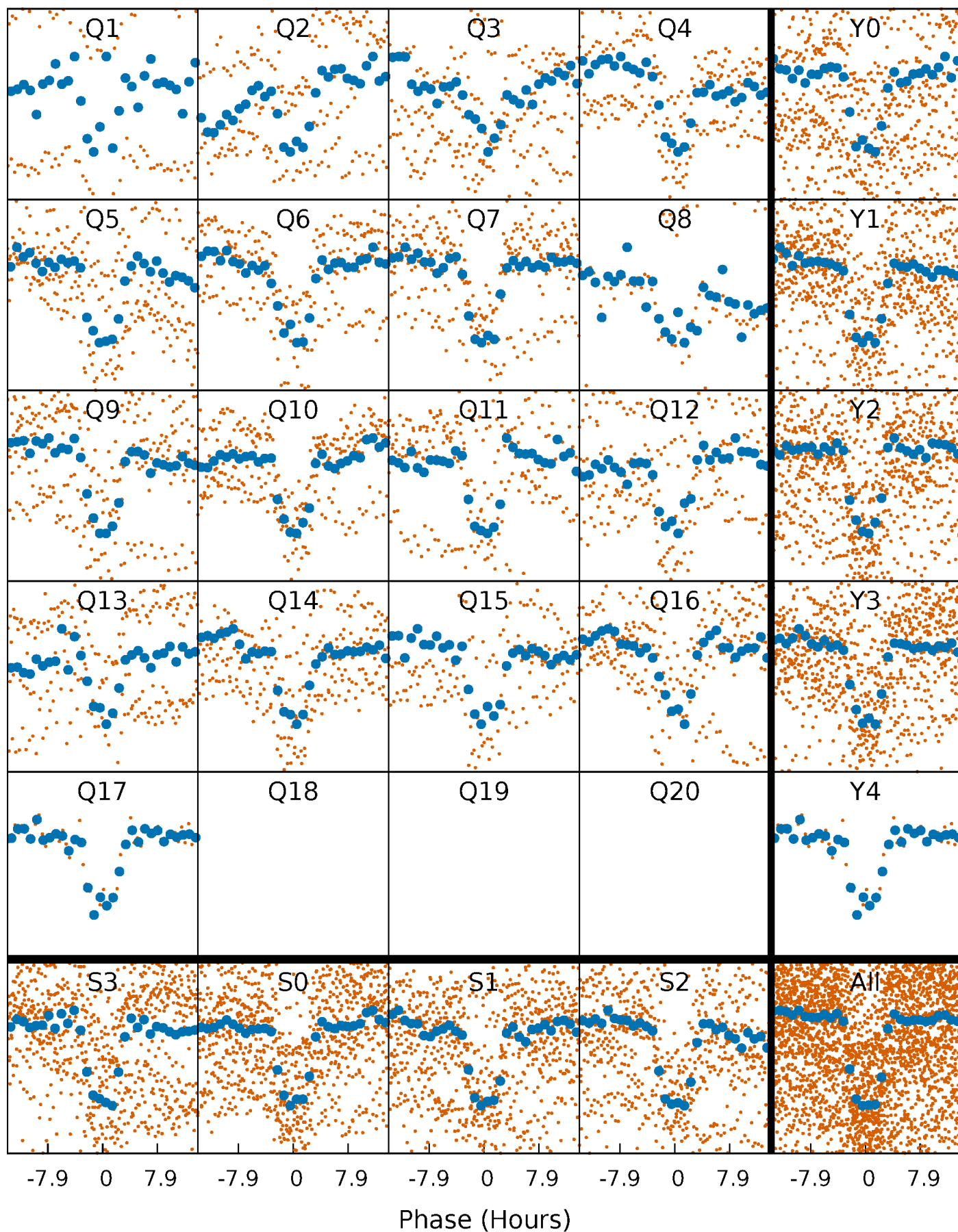


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



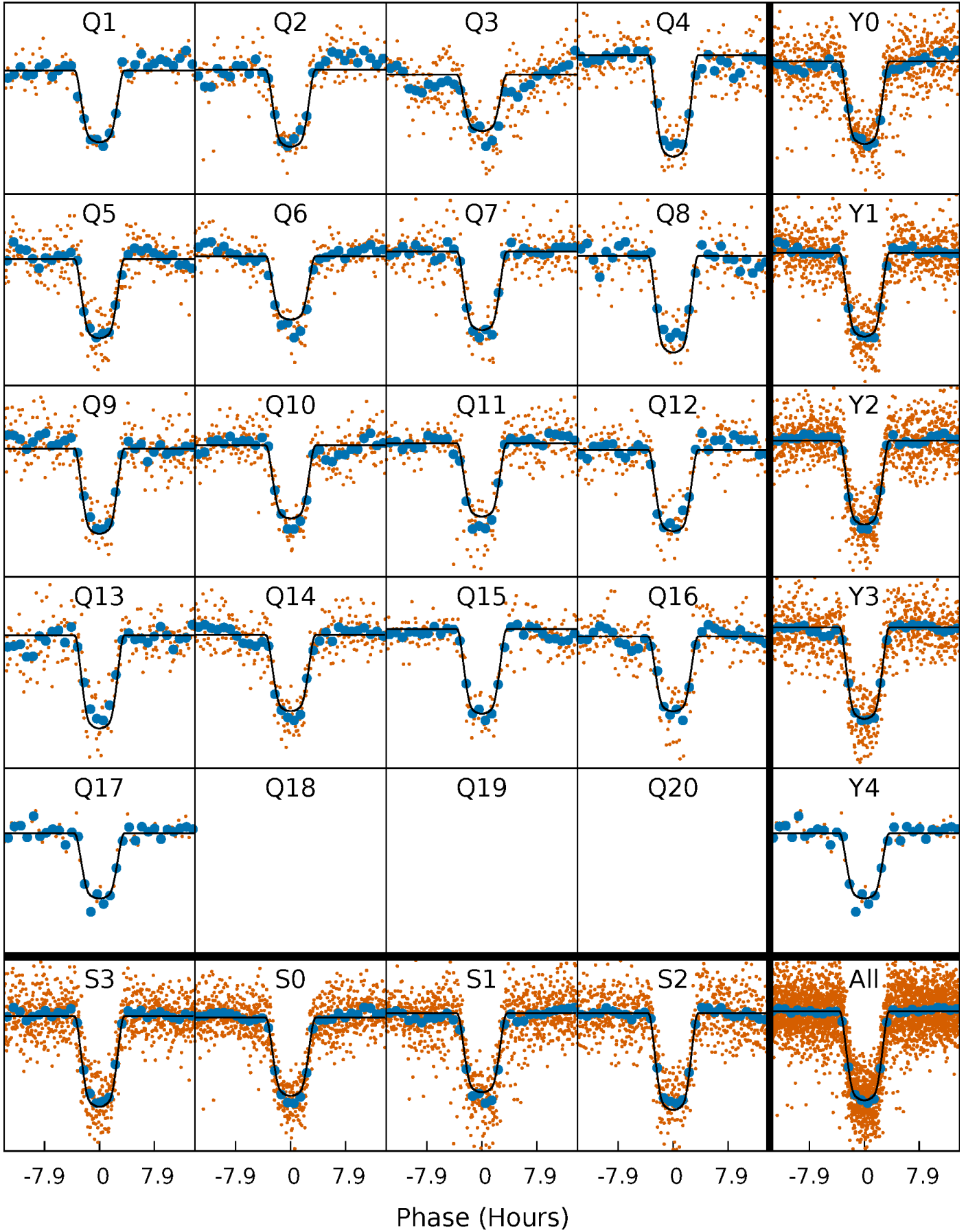
PDC Quarter-Phased Transit Curves

TCE 005982353-02 P= 19.563100 Days $T_0=144.845249$ (BKJD)



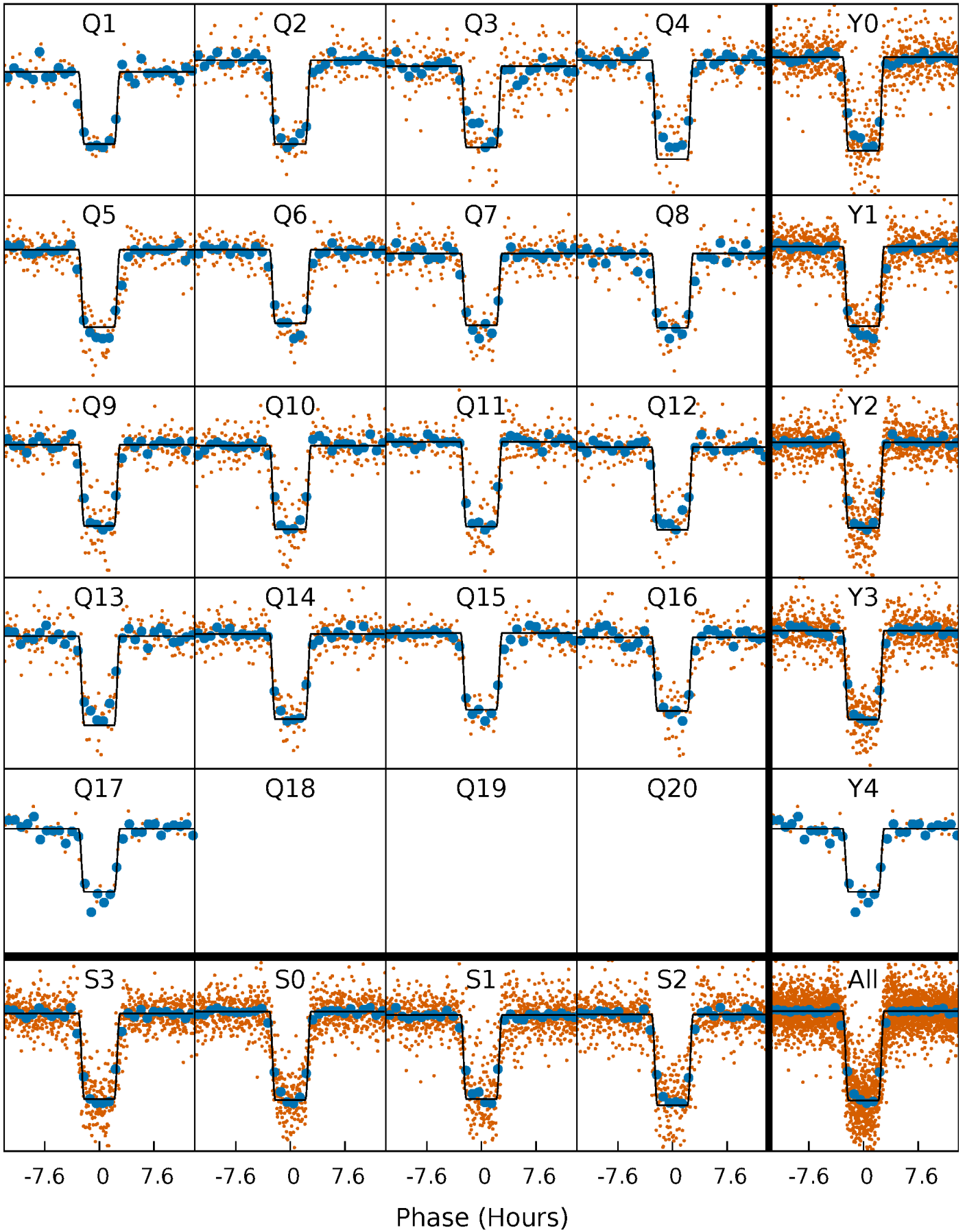
DV Quarter-Phased Transit Curves

TCE 005982353-02 P= 19.563100 Days $T_0=144.845249$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

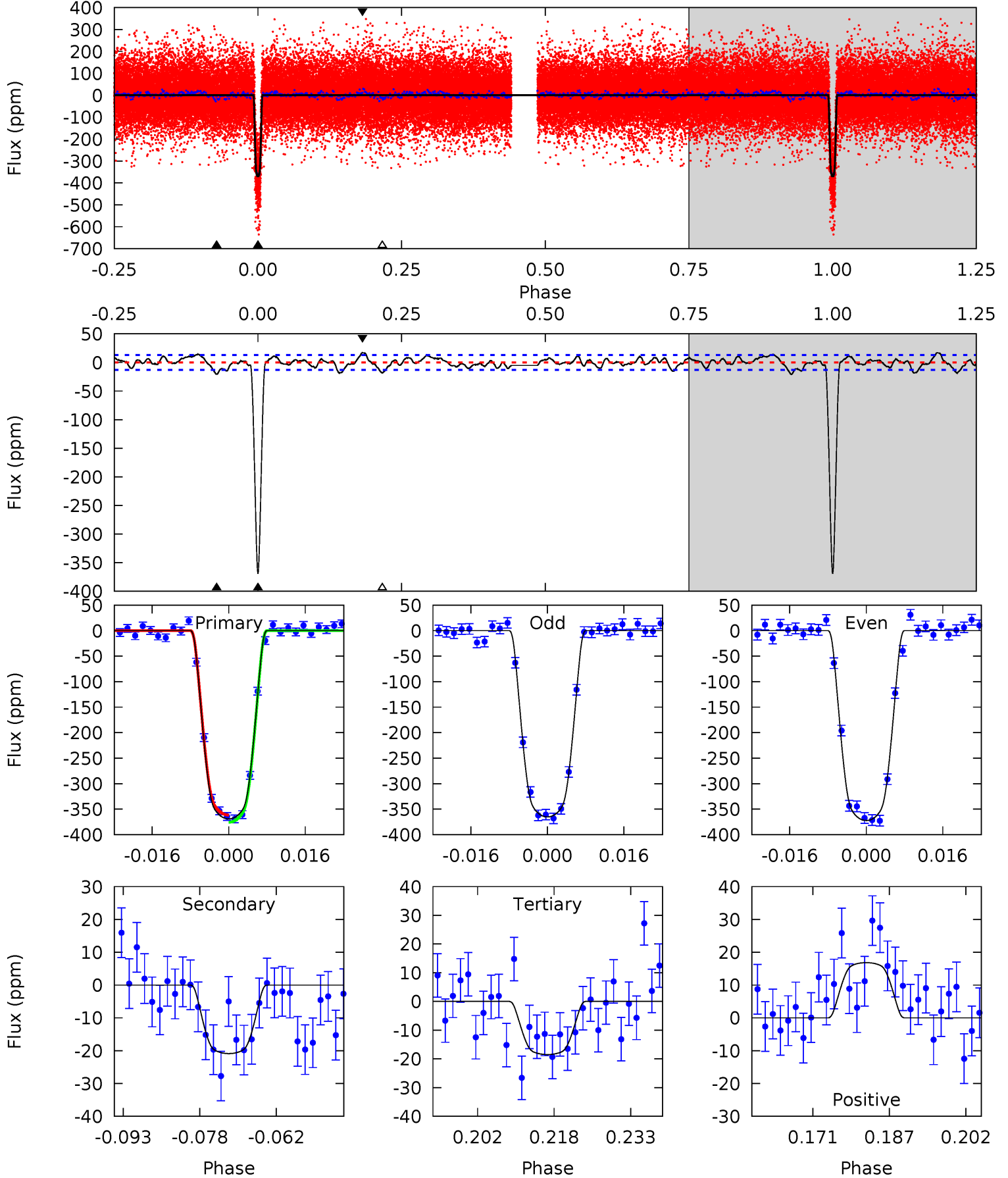
TCE 005982353-02 P= 19.563069 Days $T_0=144.847198$ (BKJD)



DV Model-Shift Uniqueness Test

005982353-02, $P = 19.563100$ Days, $E = 125.282149$ Days

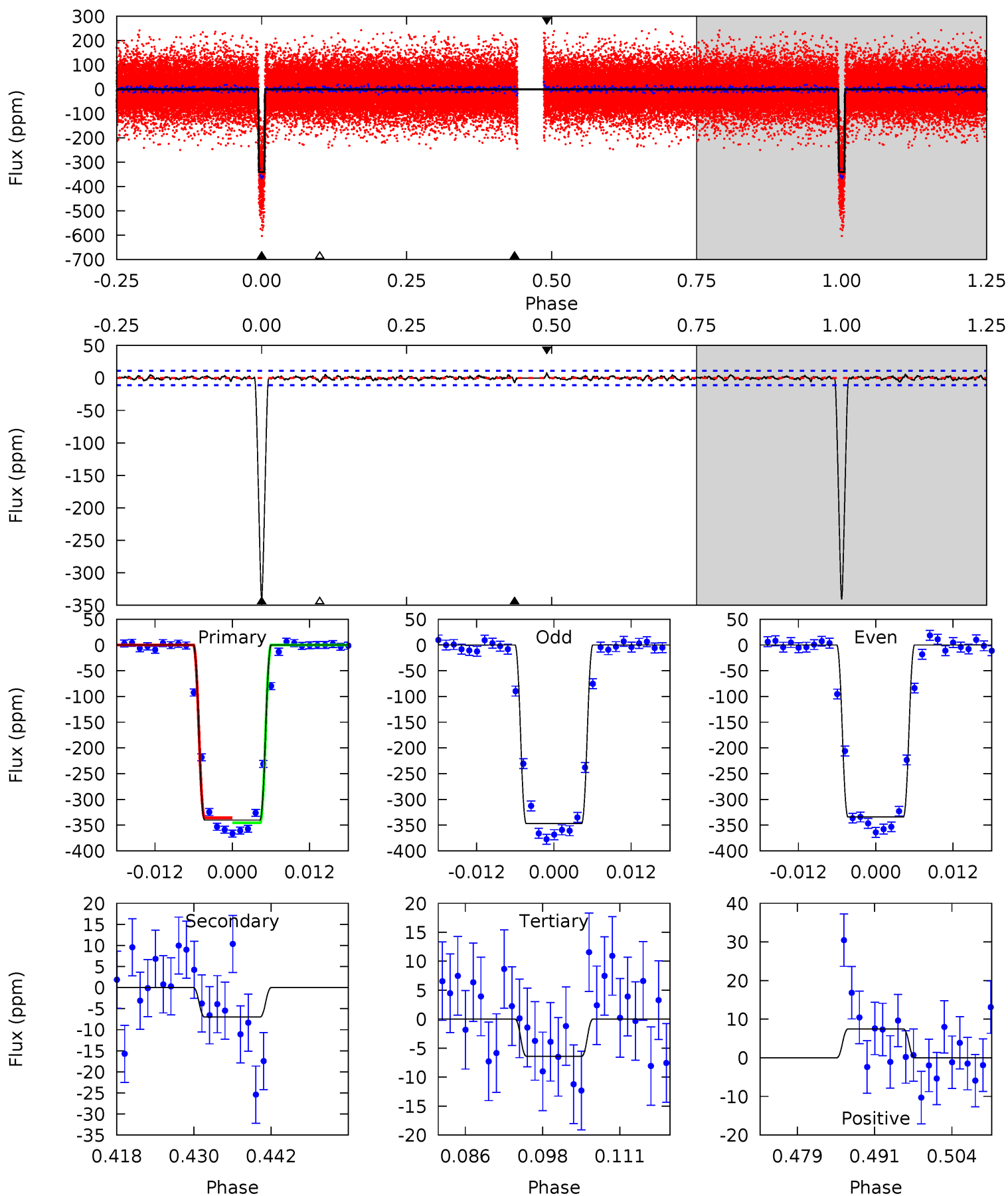
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
140.9	7.98	7.06	6.43	4.94	2.42	2.47	133.8	134.4	0.92	1.55	1.36	0.99	0.04	2.68



Alt Model-Shift Uniqueness Test

005982353-02, P = 19.563069 Days, E = 125.284129 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
154.4	3.18	2.90	3.39	4.99	2.50	0.79	151.5	151.1	0.27	-0.22	2.91	0.97	0.02	2.12



Stellar Parameters For KIC 005982353

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6208^{+175}_{-159}	$3.959^{+0.285}_{-0.114}$	$-0.300^{+0.300}_{-0.300}$	$1.831^{+0.386}_{-0.579}$	$1.112^{+0.210}_{-0.172}$	$0.255^{+0.437}_{-0.089}$
	+3%/-3%	+7%/-3%	+100%/-100%	+21%/-32%	+19%/-15%	+171%/-35%
Source	PHO1	FLK73	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 005982353-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-21 ± 3	$4.41^{+0.55}_{-0.78}$	1331^{+80}_{-120}	3337^{+89}_{-88}	13^{+6}_{-3}
Alt.	-7 ± 2	$3.63^{+0.54}_{-0.56}$	1324^{+90}_{-112}	2974^{+143}_{-166}	$6.406^{+3.106}_{-2.369}$

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

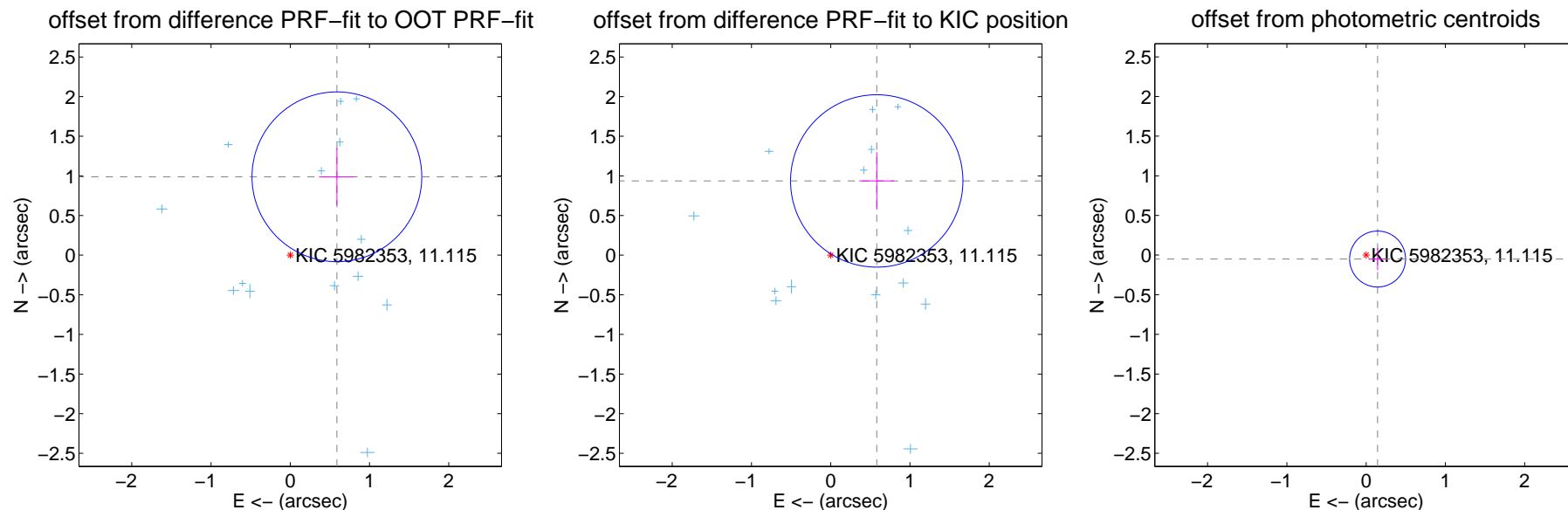
DV Centroid Data

Supplemental centroid analysis for 005982353-02. **Kepler magnitude: 11.12.** Transit SNR 59.72

There are 17 quarters with good PRF difference image offsets

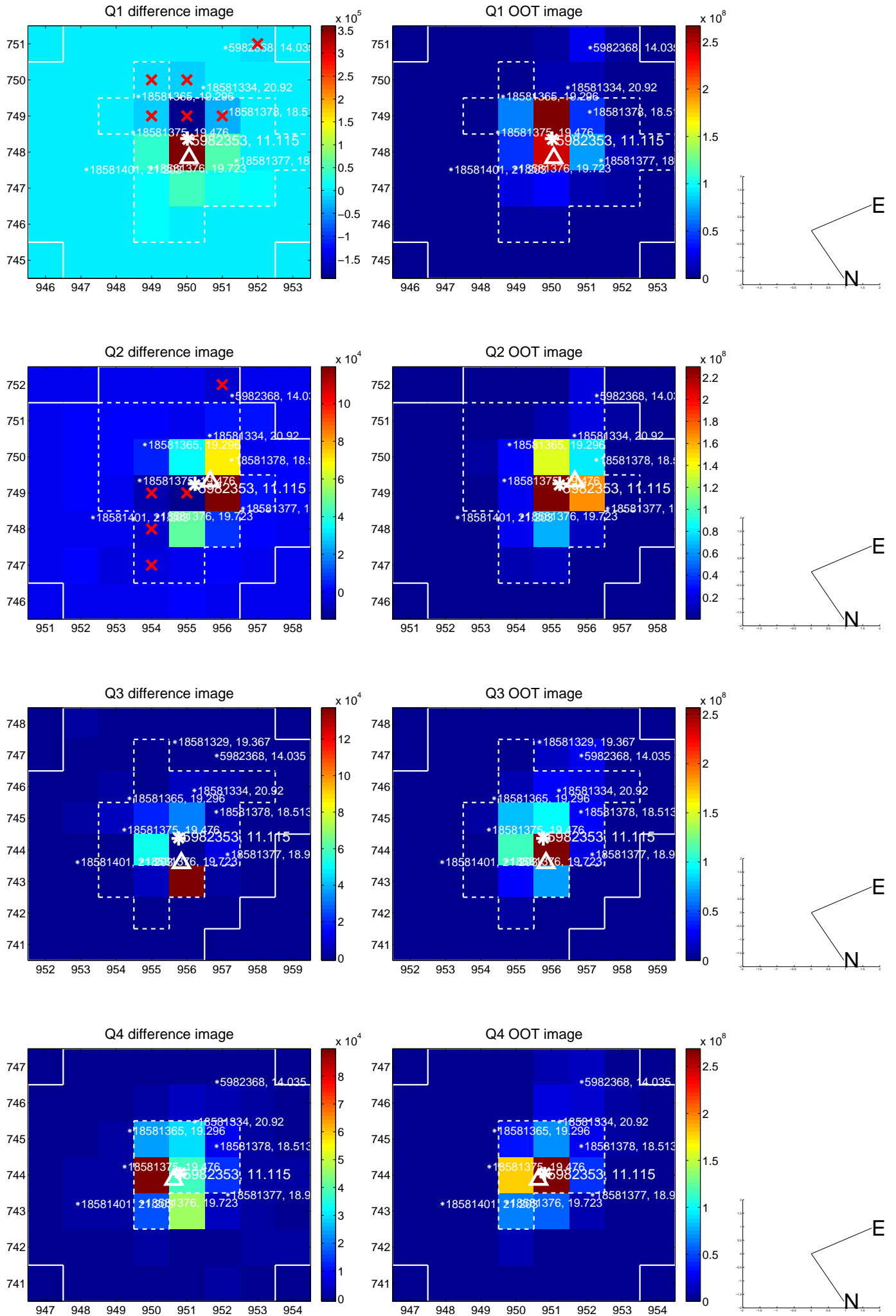
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.150 ± 0.357	3.22	-0.588 ± 0.226	0.988 ± 0.360
PRF-fit source offset from KIC position	1.102 ± 0.362	3.04	-0.581 ± 0.219	0.936 ± 0.363
photometric centroid source offset	0.15 ± 0.12	1.30	-0.14 ± 0.11	-0.05 ± 0.14

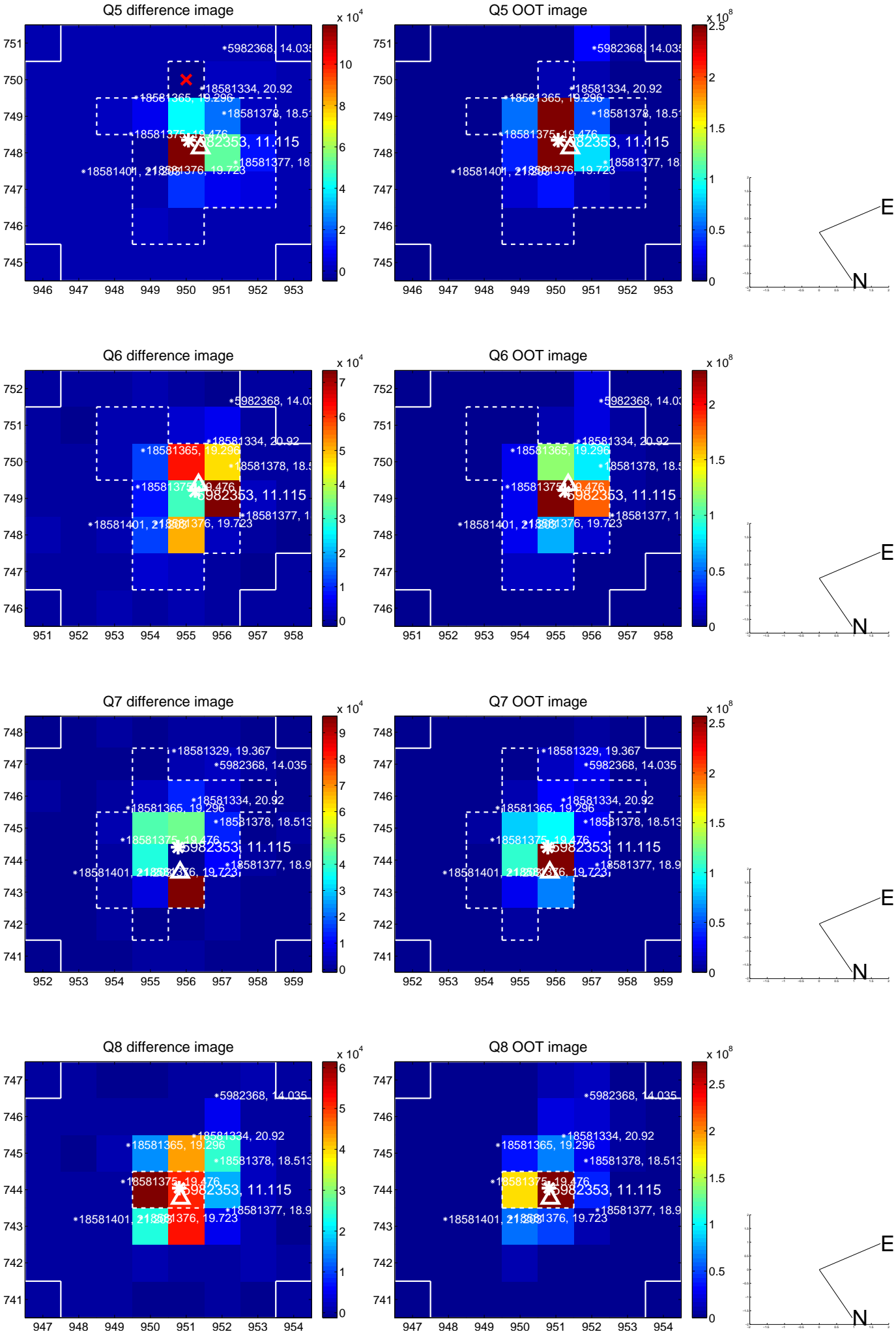


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

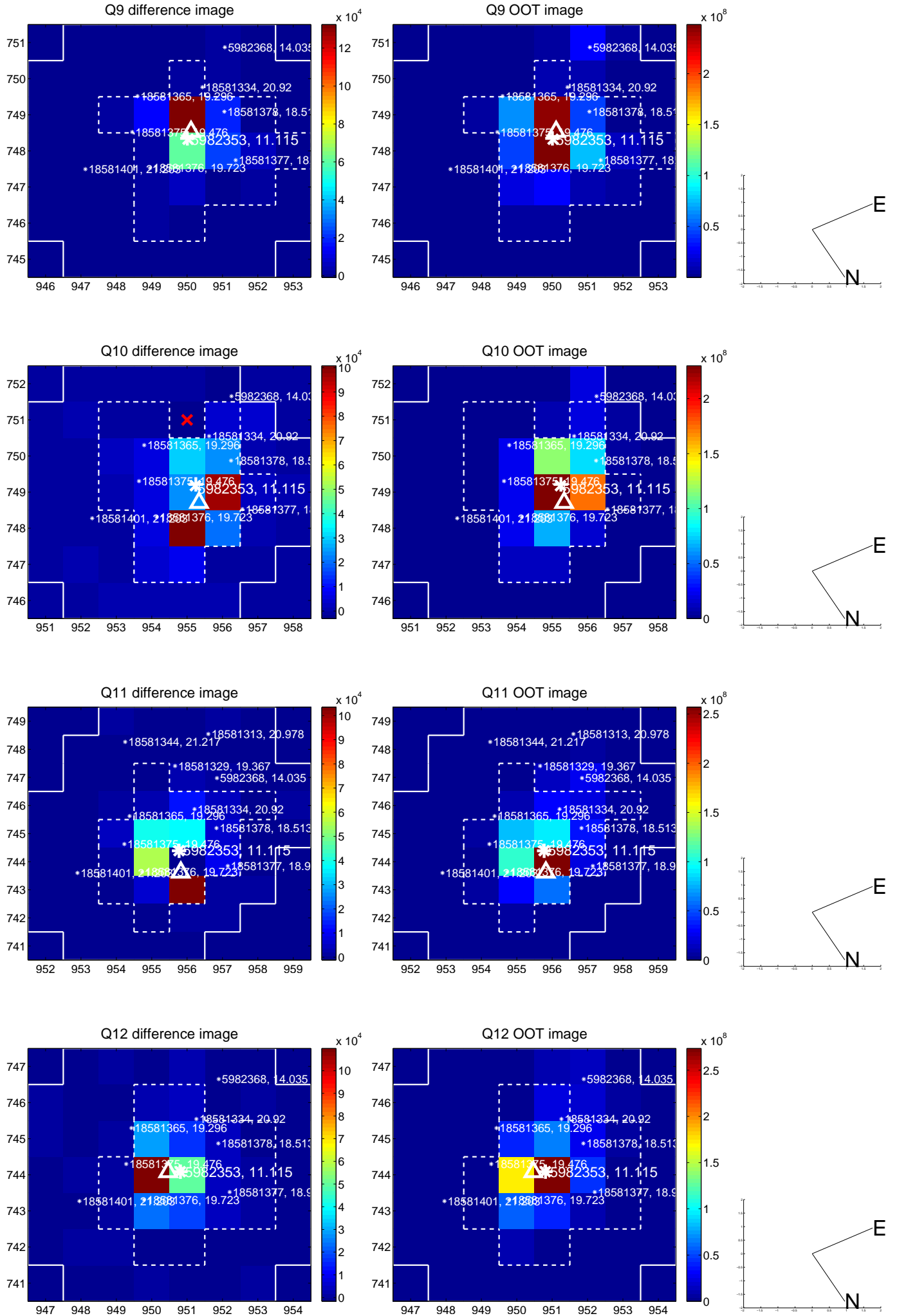
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



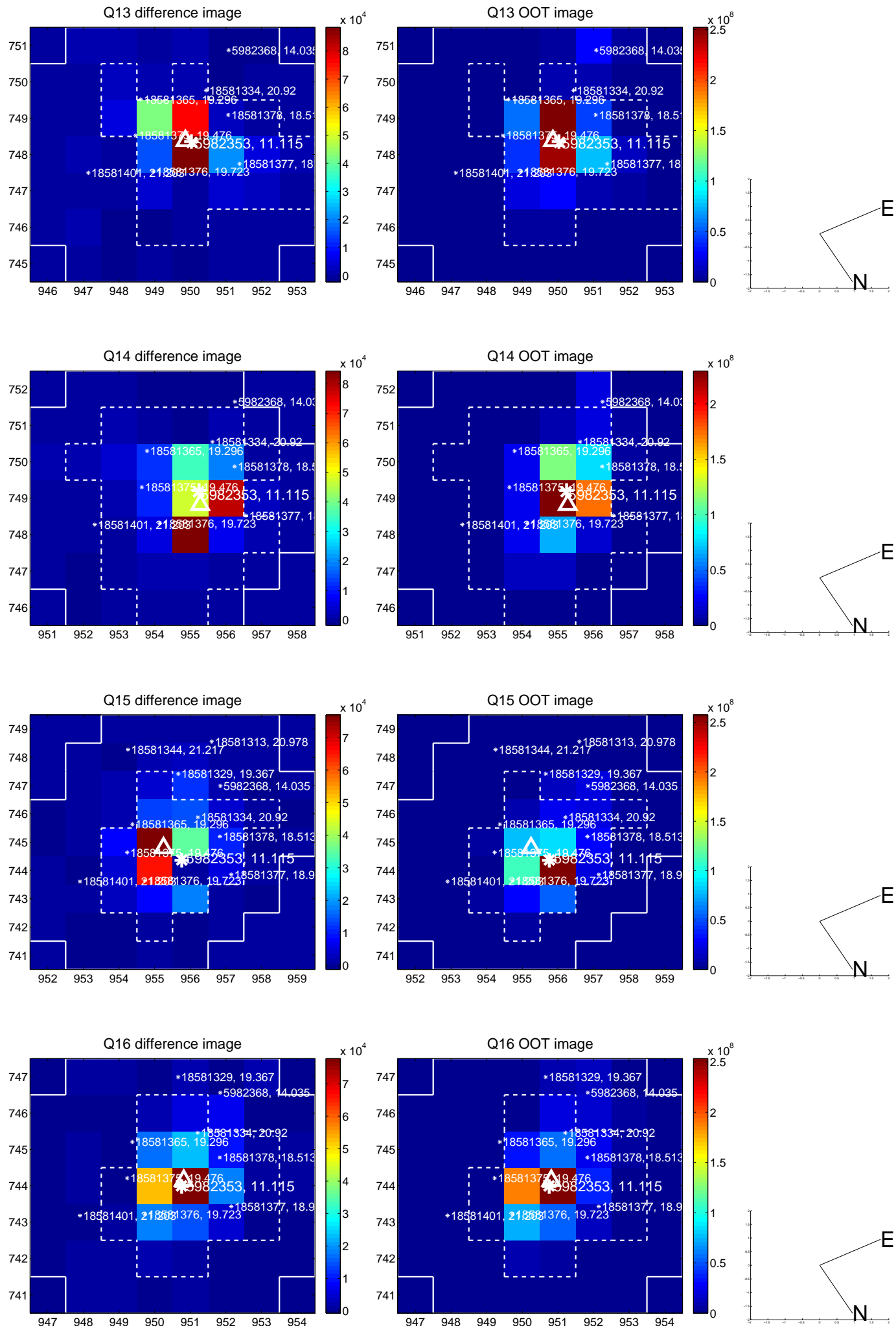
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

