

KIC 006511354

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})
006511354-01	OBS	No	1.299687	132.553441	53.3	5.347	11.6	11.6	2.34	7675	1.97	21734.39
006511354-02	OBS	No	3.285596	133.554344	179.1	39.427	10.5	19.0	2.34	7675	4.45	6311.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006511354-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
006511354-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—CENT_FEW_DIFFS

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

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

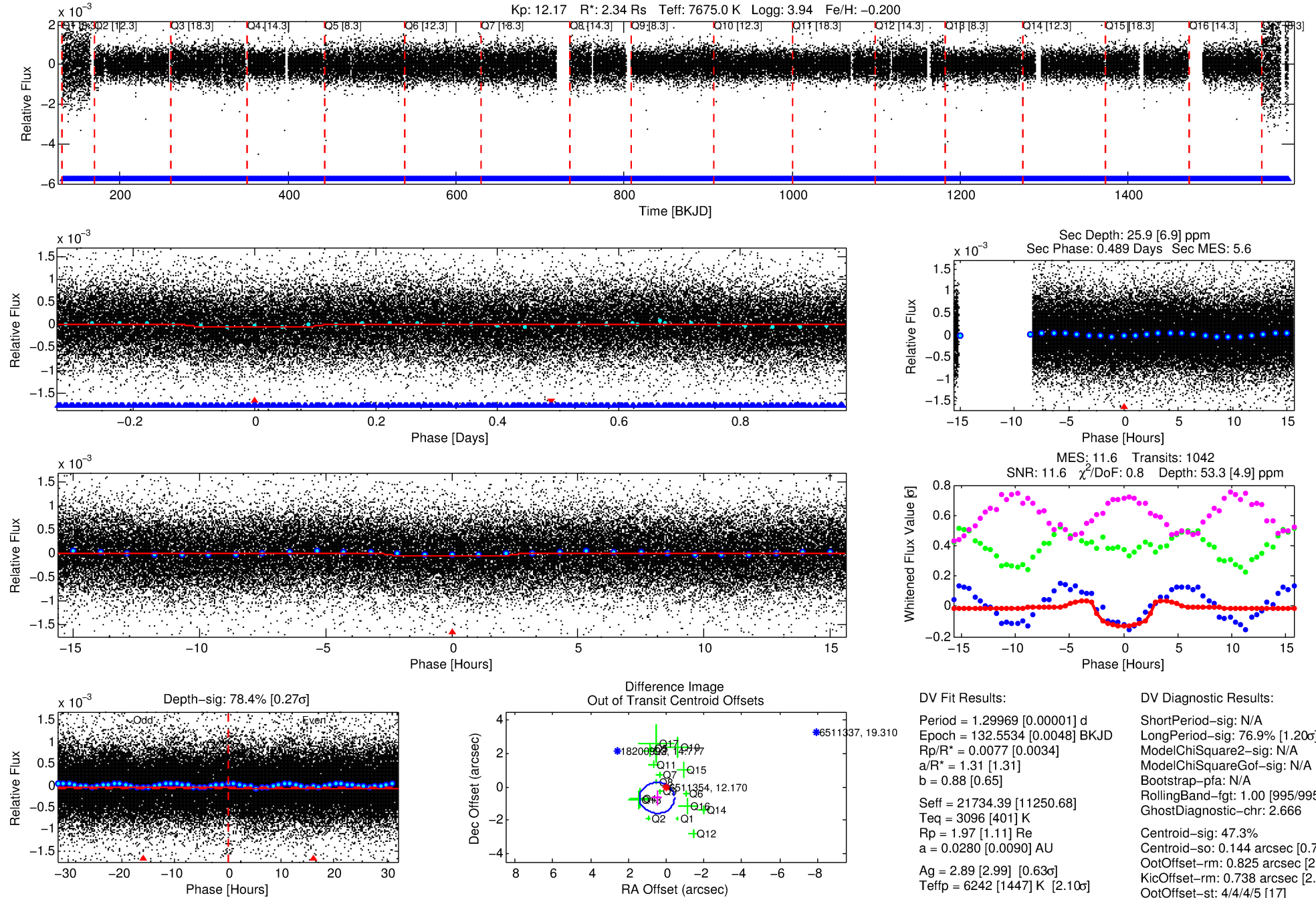
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006511354-01

No Significant Match Found

DV One-Page Summary

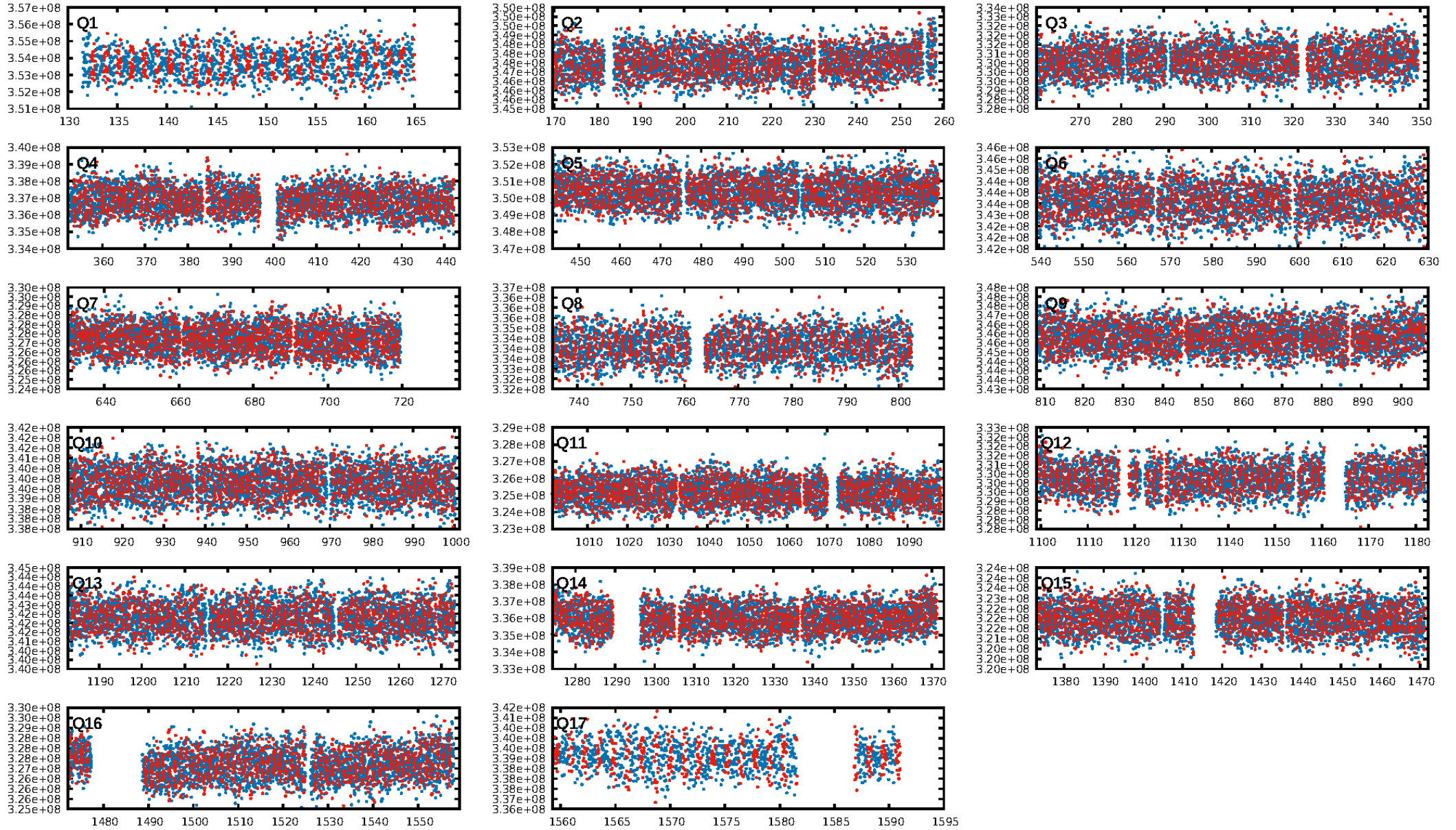
KIC: 6511354 Candidate: 1 of 2 Period: 1.300 d



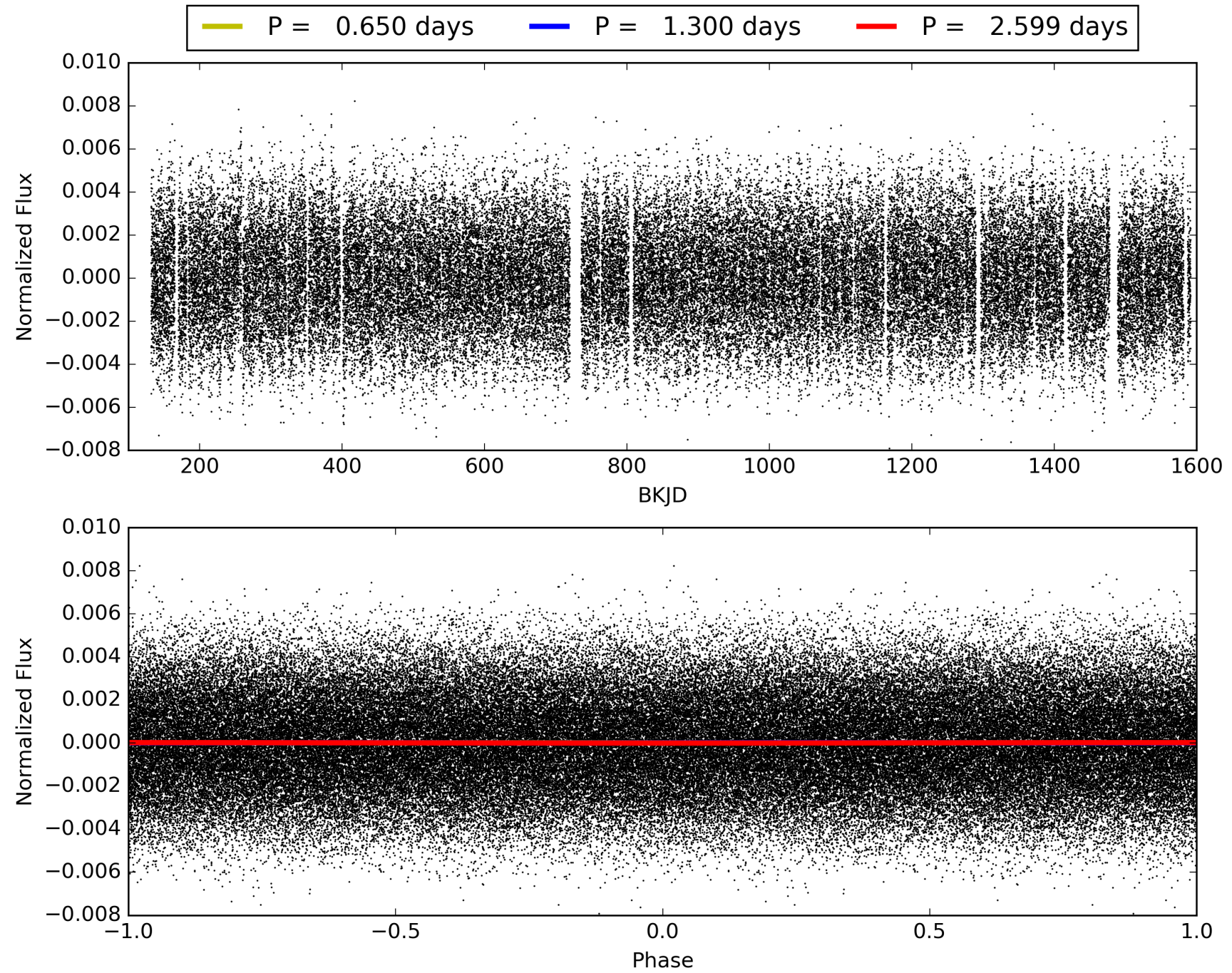
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:11:46 Z

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

TCE 006511354-01, PDC Light Curves

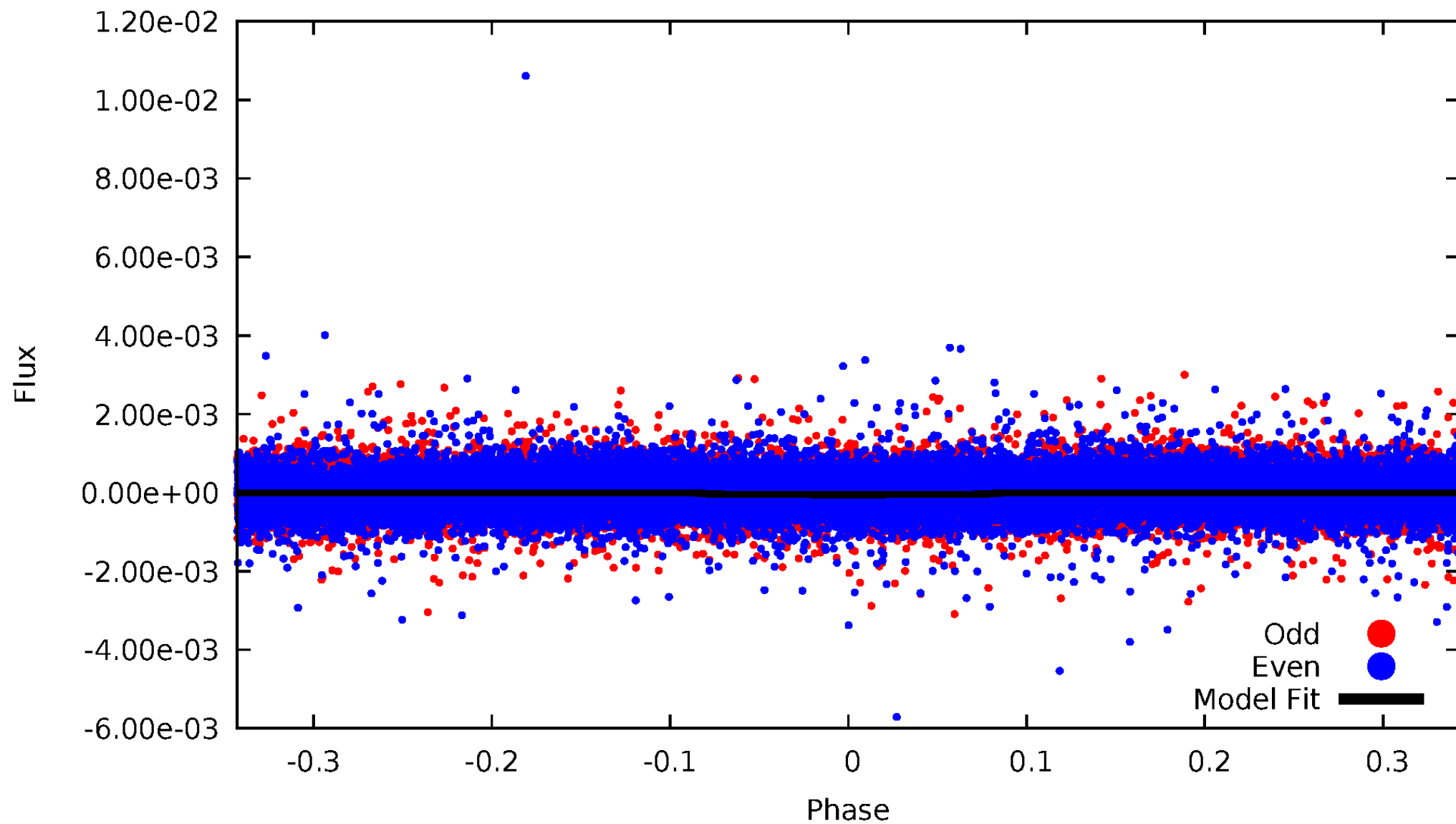


TCE 006511354-01



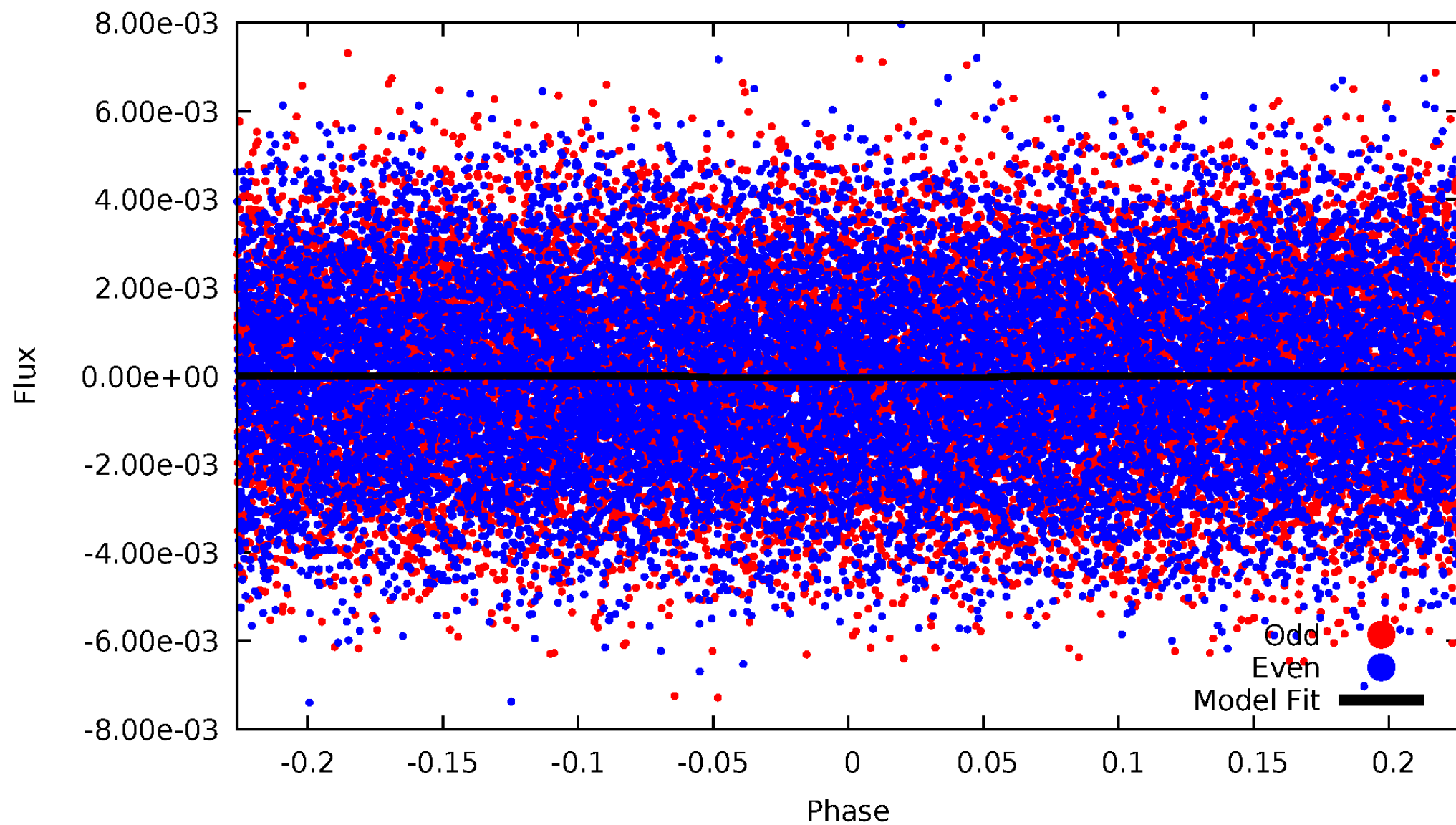
DV Odd/Even

TCE 006511354-01



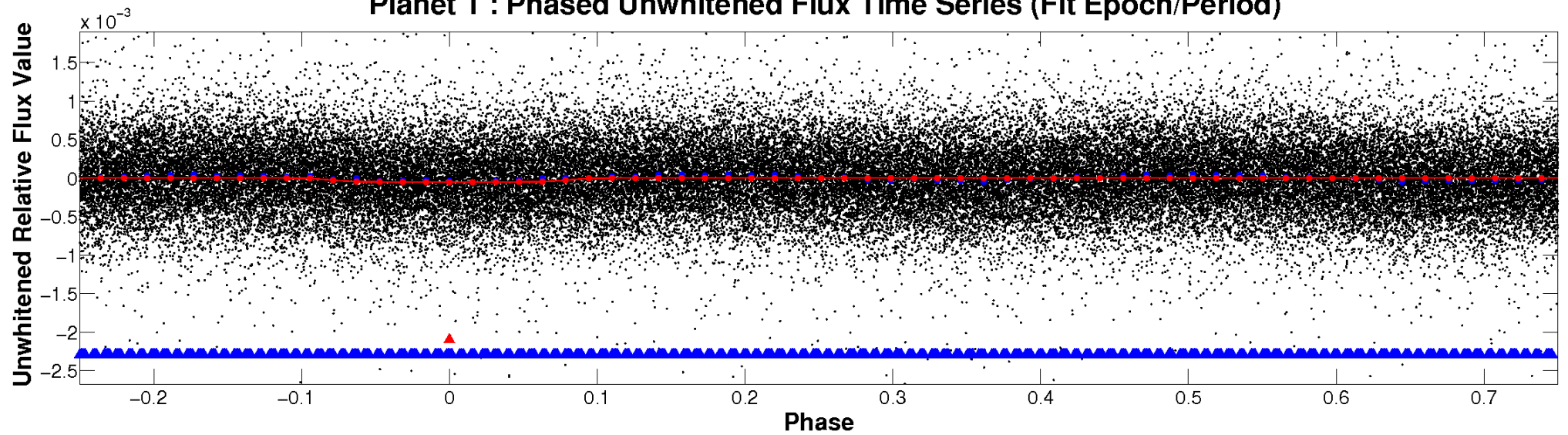
ALT Odd/Even

TCE 006511354-01

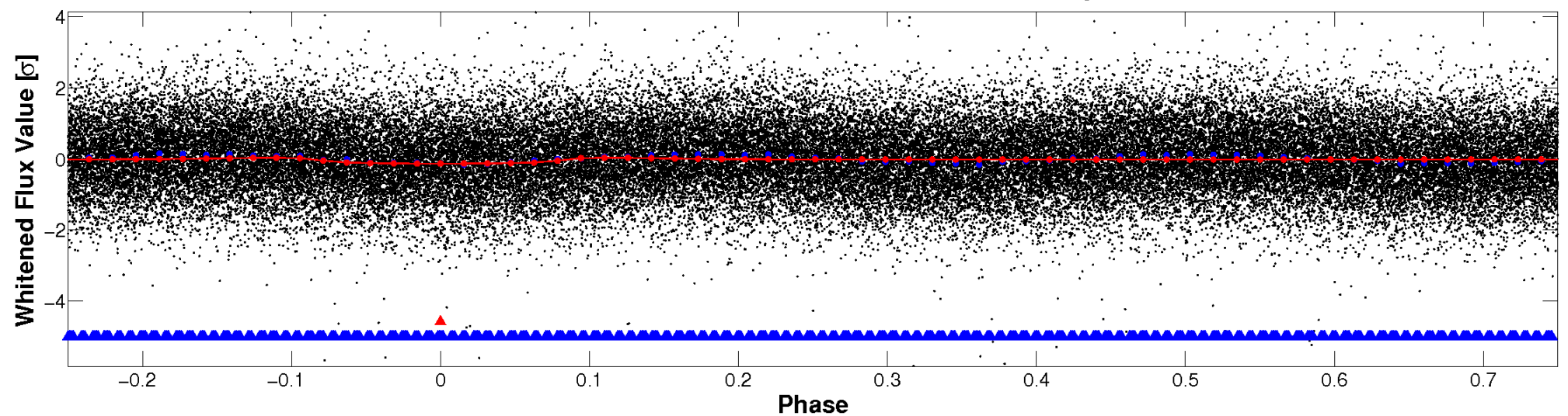


Non-Whitened Vs. Whitened Light Curve

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

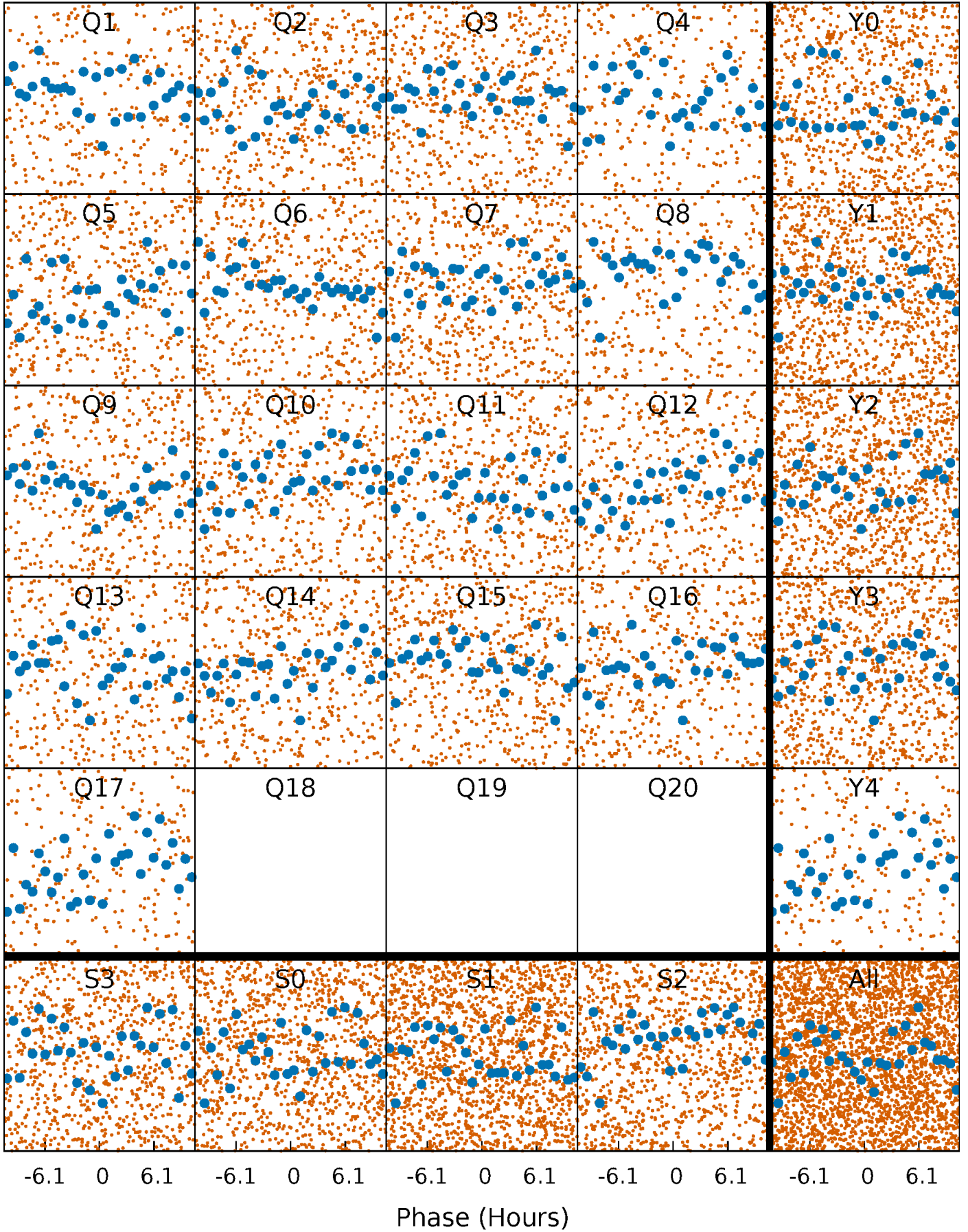


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



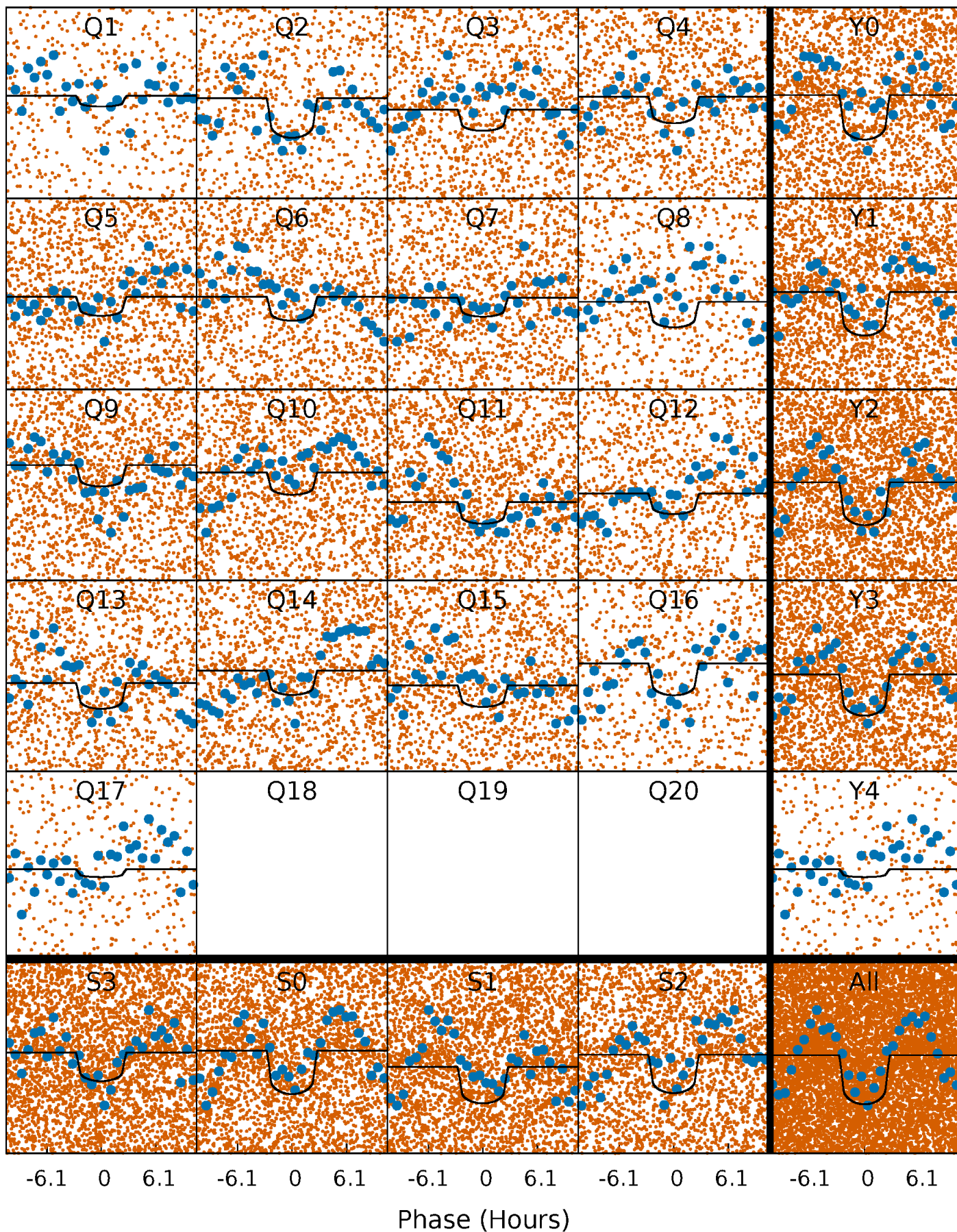
PDC Quarter-Phased Transit Curves

TCE 006511354-01 P= 1.299687 Days $T_0=132.553441$ (BKJD)



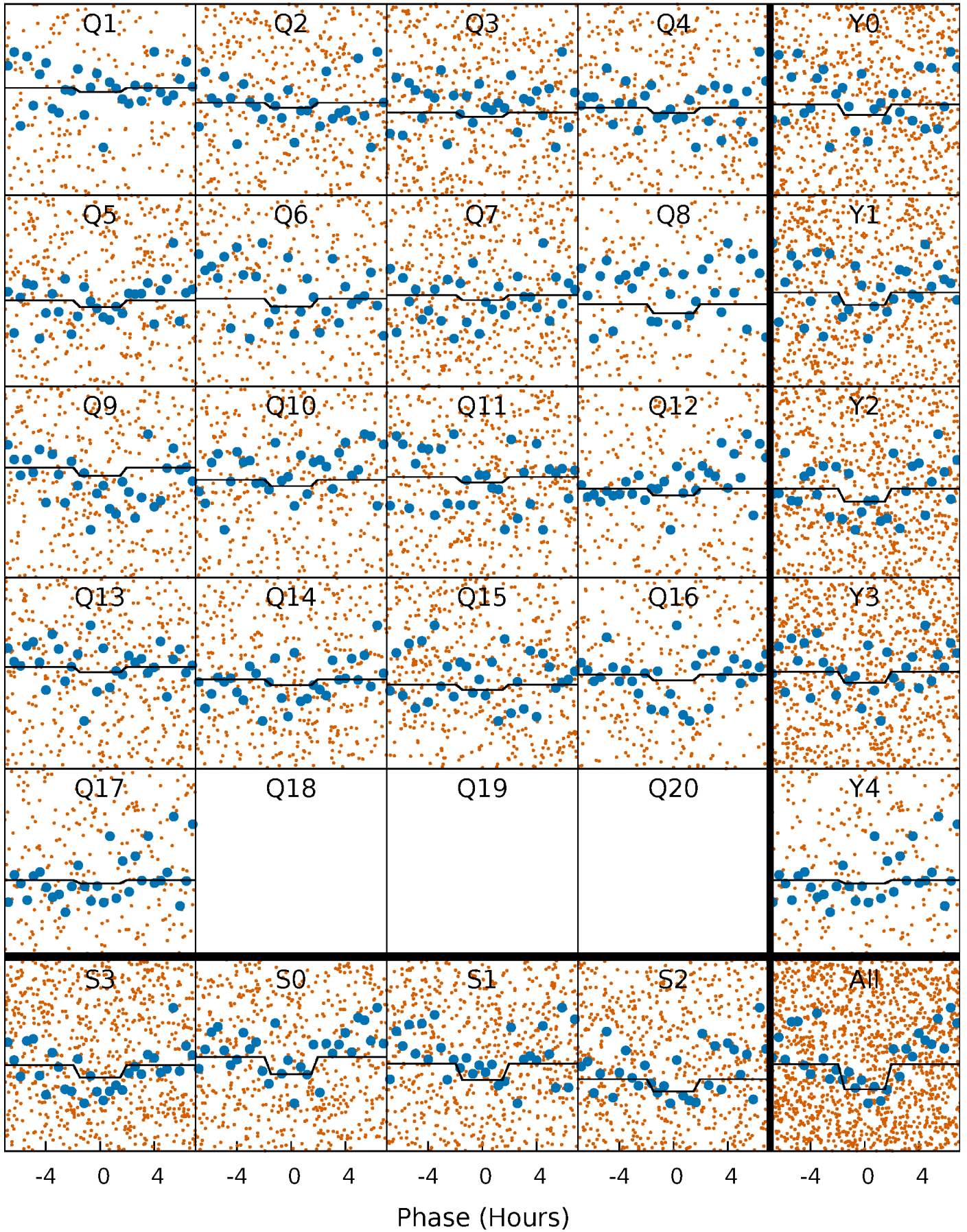
DV Quarter-Phased Transit Curves

TCE 006511354-01 P= 1.299687 Days $T_0=132.553441$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

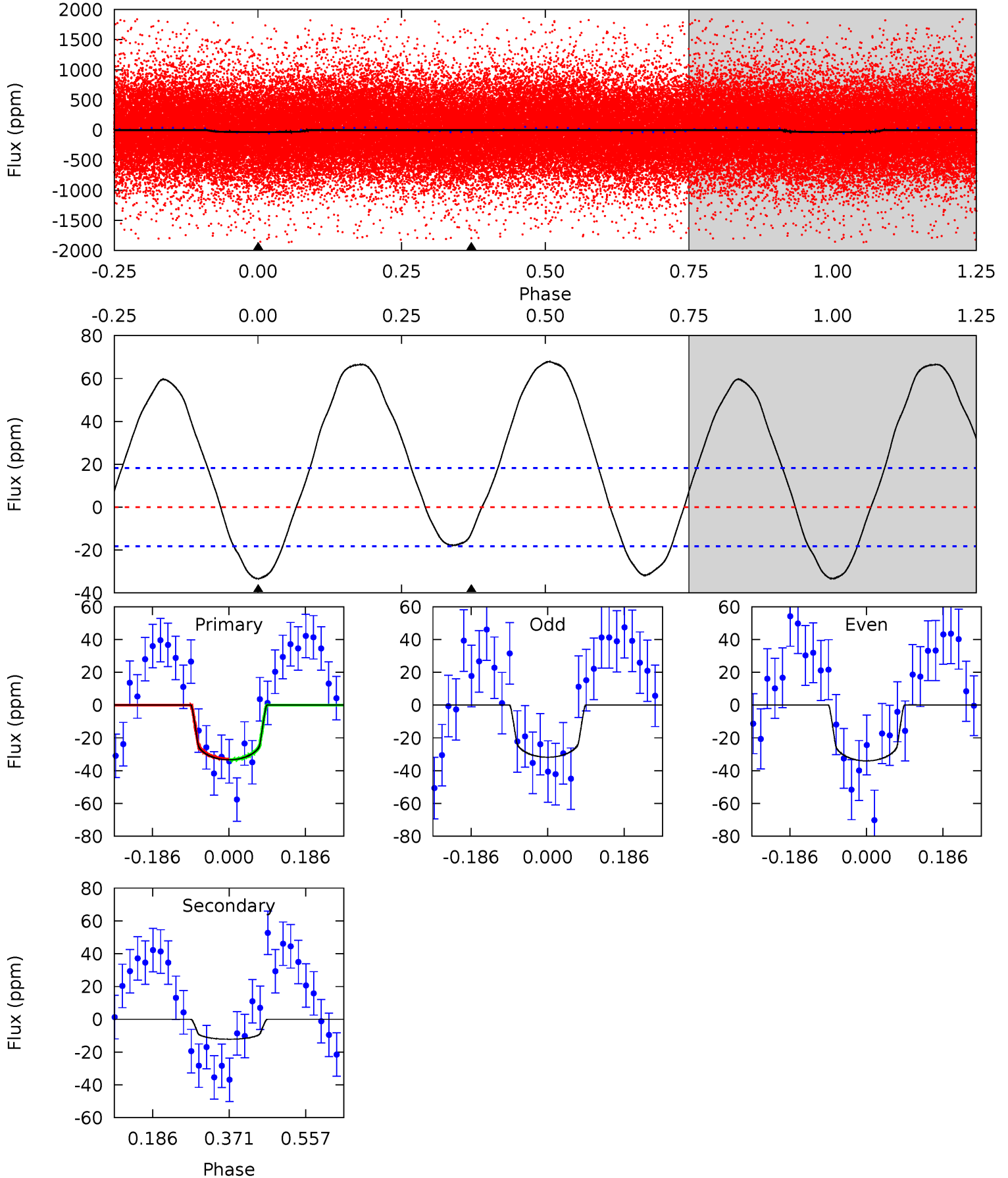
TCE 006511354-01 P= 1.299697 Days $T_0=132.553000$ (BKJD)



DV Model-Shift Uniqueness Test

006511354-01, P = 1.299687 Days, E = 131.253754 Days

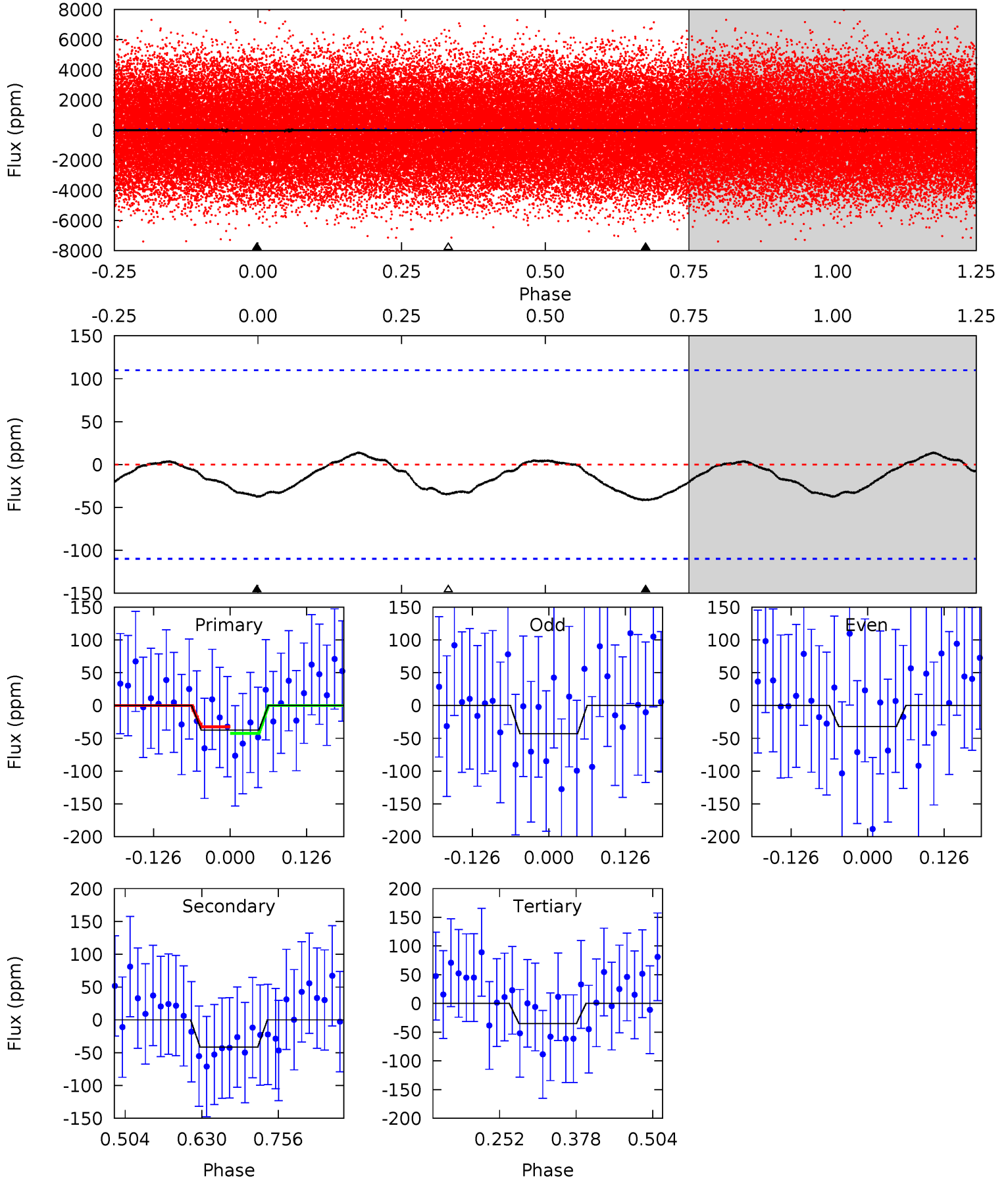
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.10	2.96	0	0	4.43	1.32	6.59	8.10	8.10	2.96	2.96	0.27	1.49	0.67	0.05



Alt Model-Shift Uniqueness Test

006511354-01, P = 1.299697 Days, E = 131.253303 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.54	1.71	1.43	0	4.52	1.53	0.60	0.11	1.54	0.28	1.71	0.22	0.87	0.25	0.21



Stellar Parameters For KIC 006511354

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7675^{+211}_{-316}	$3.938^{+0.280}_{-0.120}$	$-0.200^{+0.200}_{-0.350}$	$2.342^{+0.448}_{-0.832}$	$1.735^{+0.194}_{-0.360}$	$0.190^{+0.351}_{-0.068}$
	+3%/-4%	+7%/-3%	+100%/-175%	+19%/-36%	+11%/-21%	+185%/-36%
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 006511354-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-12 ± 4	$1.84^{+0.90}_{-0.76}$	4271^{+288}_{-366}	4904^{+1649}_{-1119}	$1.492^{+3.141}_{-0.876}$
Alt.	-41 ± 24	$1.53^{+0.83}_{-0.76}$	4222^{+305}_{-382}	7523^{+4637}_{-2316}	$7.141^{+22.064}_{-5.111}$

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 $A_{obs} \gg 1.0$

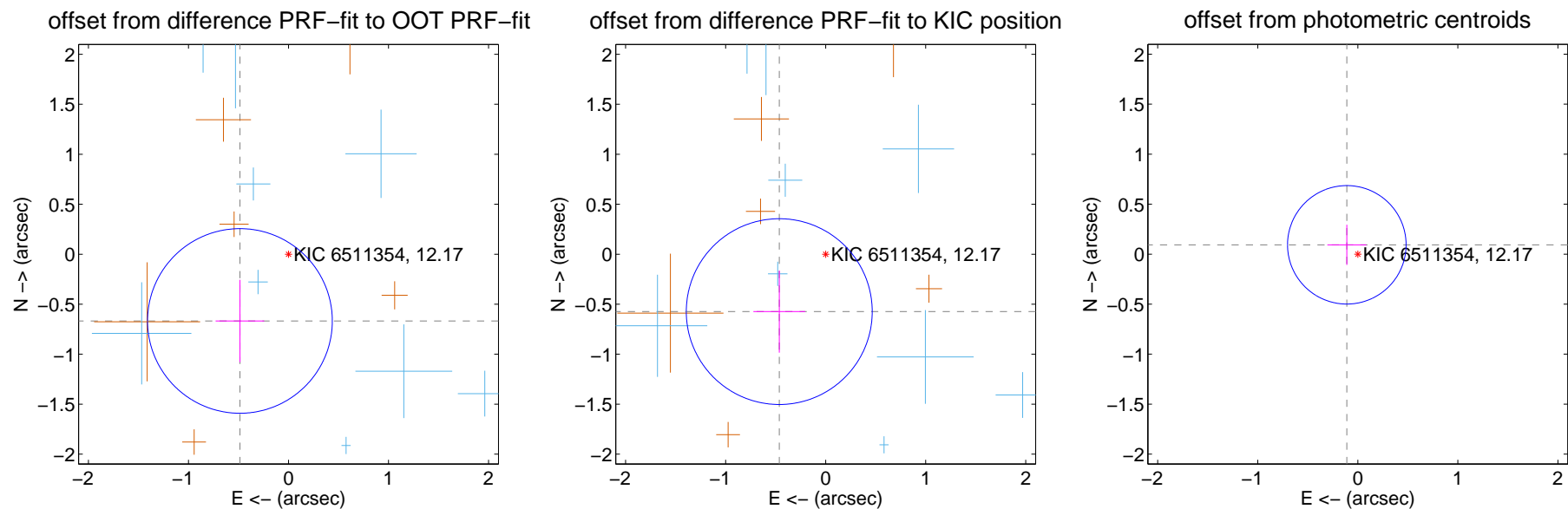
DV Centroid Data

Supplemental centroid analysis for 006511354-01. Kepler magnitude: 12.17. Transit SNR 11.57

There are 10 quarters with good PRF difference image offsets

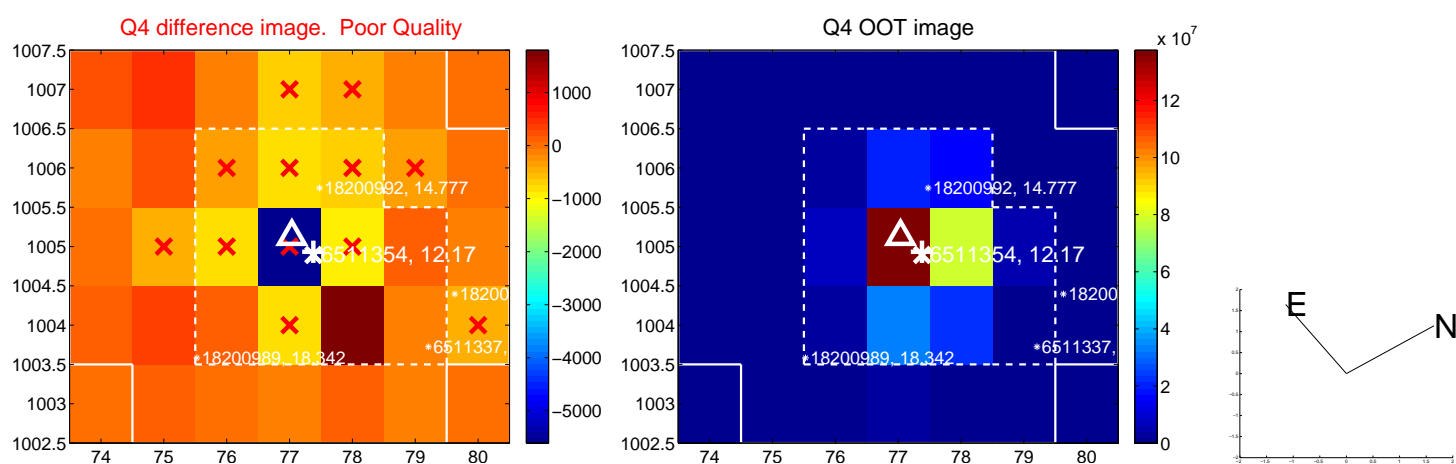
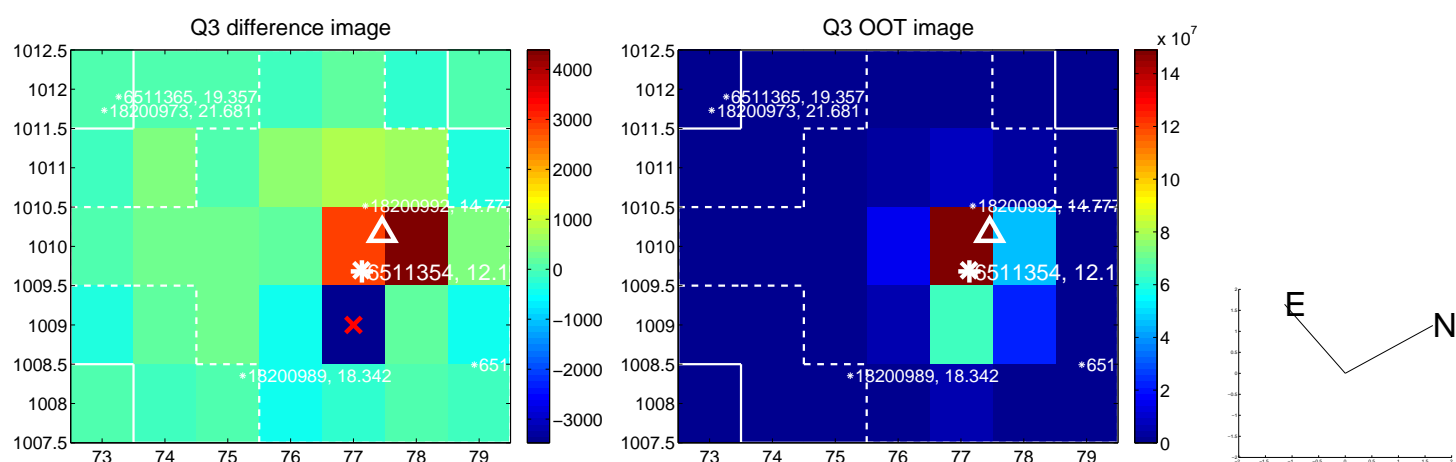
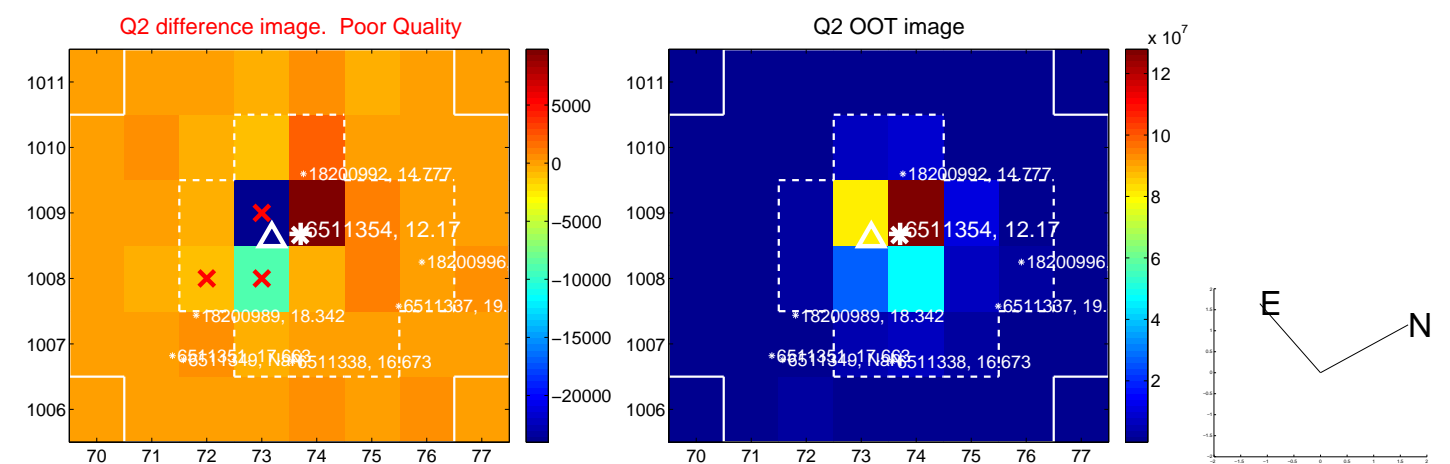
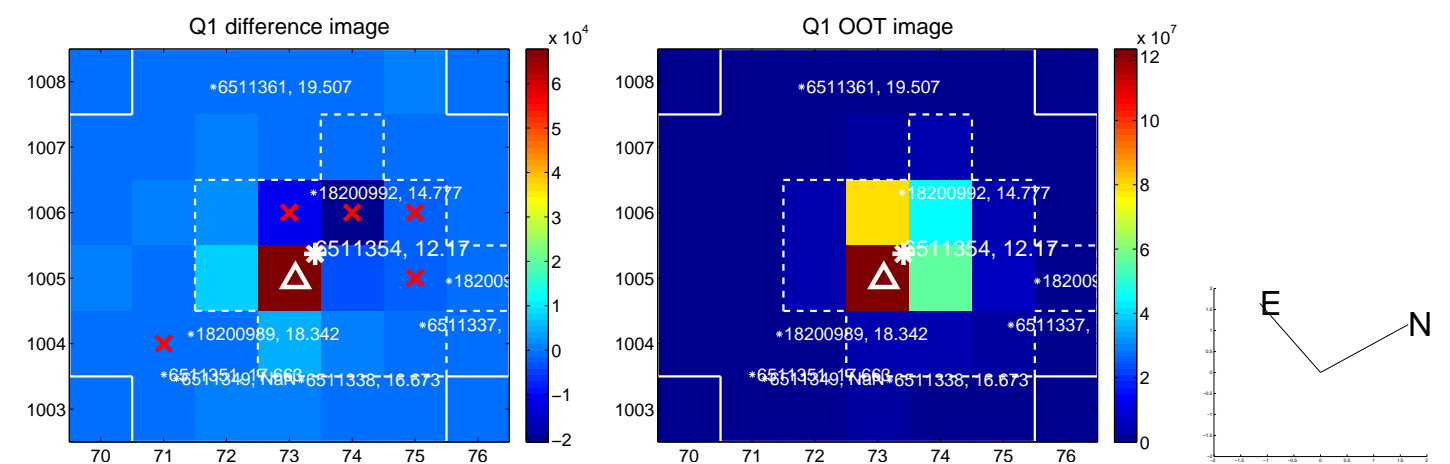
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.825 ± 0.308	2.68	0.485 ± 0.243	-0.668 ± 0.412
PRF-fit source offset from KIC position	0.738 ± 0.310	2.38	0.464 ± 0.259	-0.574 ± 0.410
photometric centroid source offset	0.14 ± 0.20	0.73	0.11 ± 0.19	0.09 ± 0.20

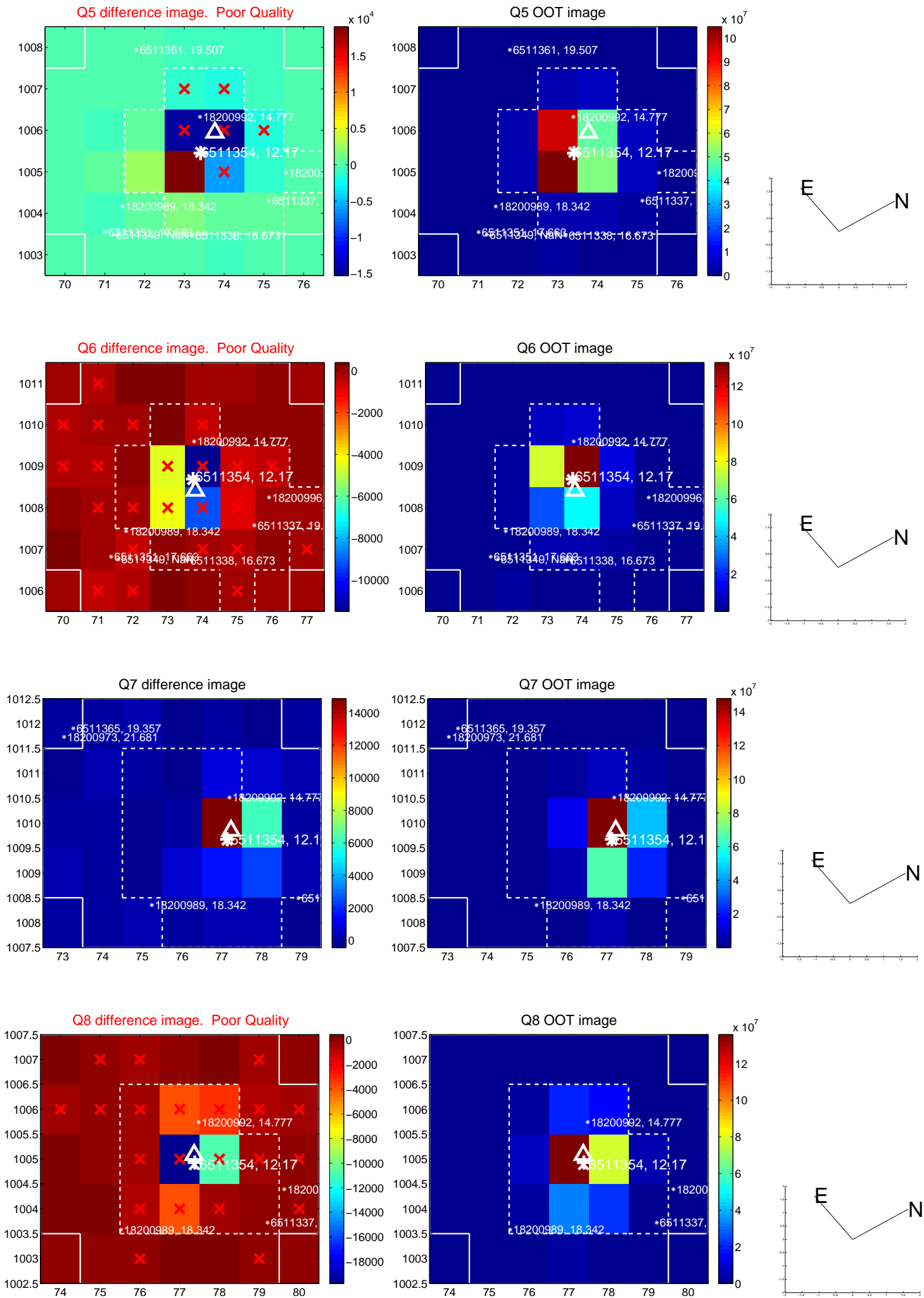


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

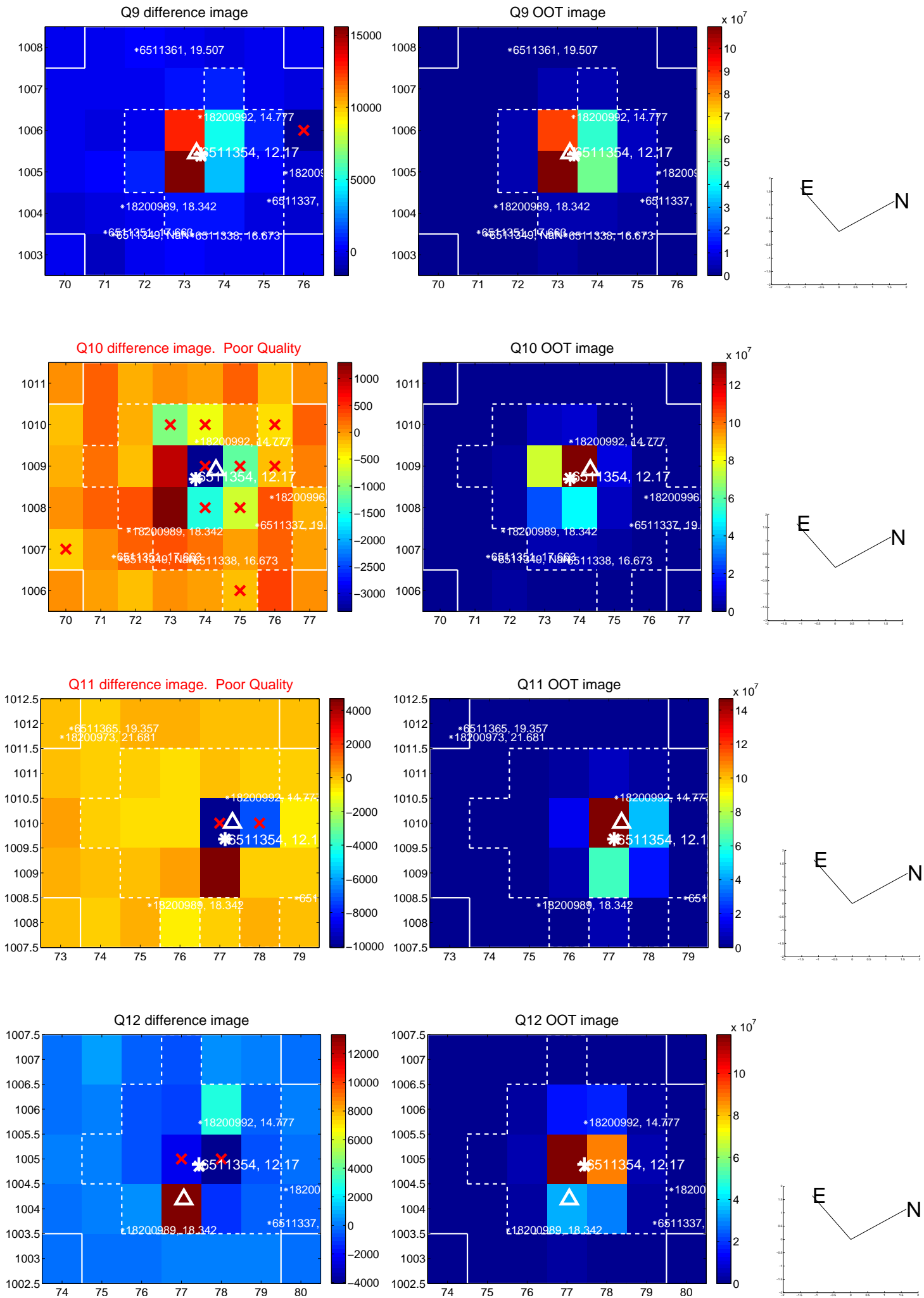
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



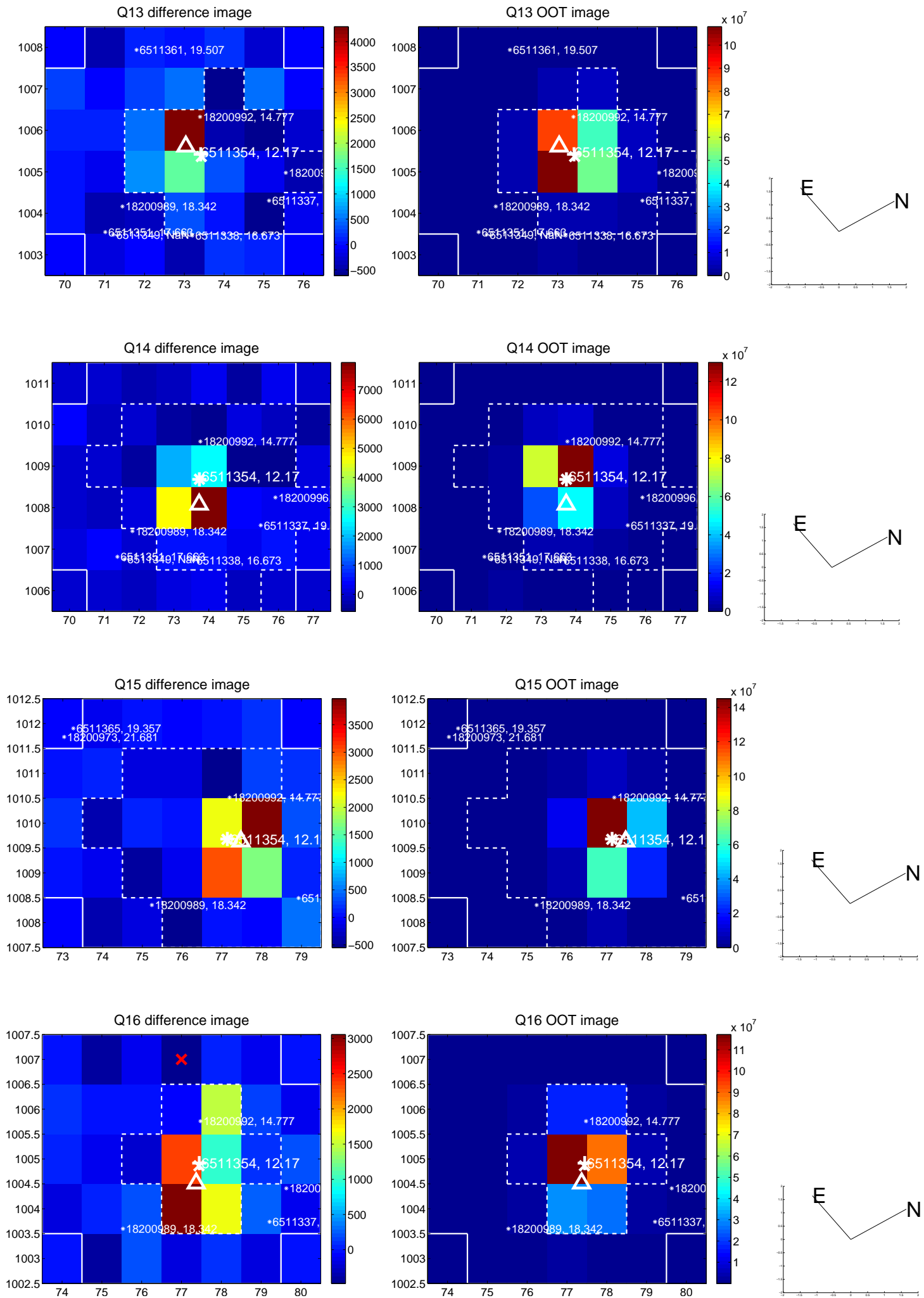
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



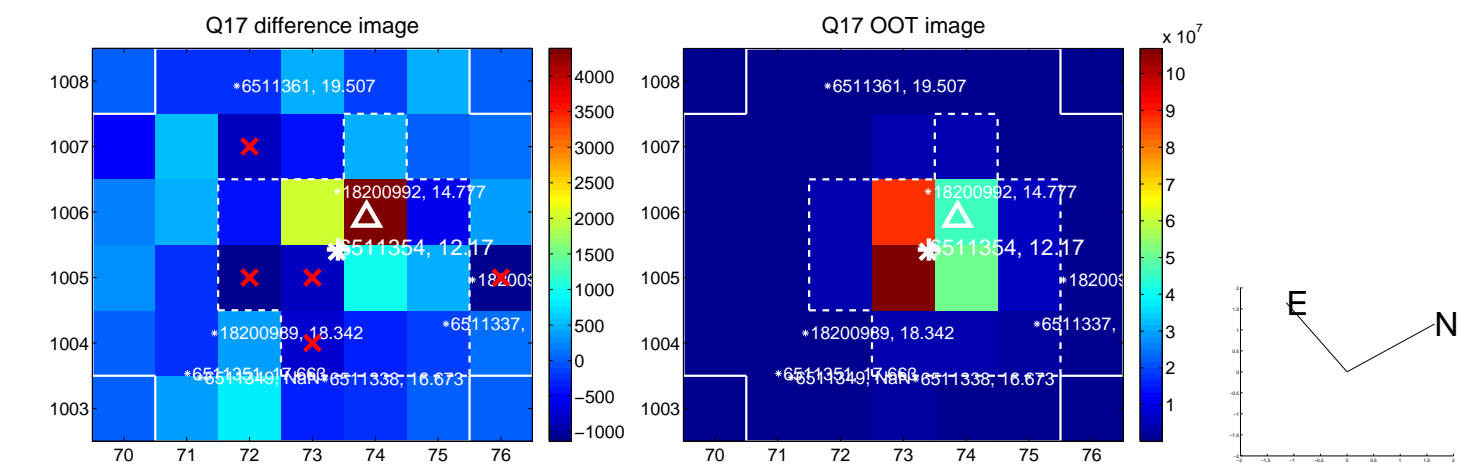
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



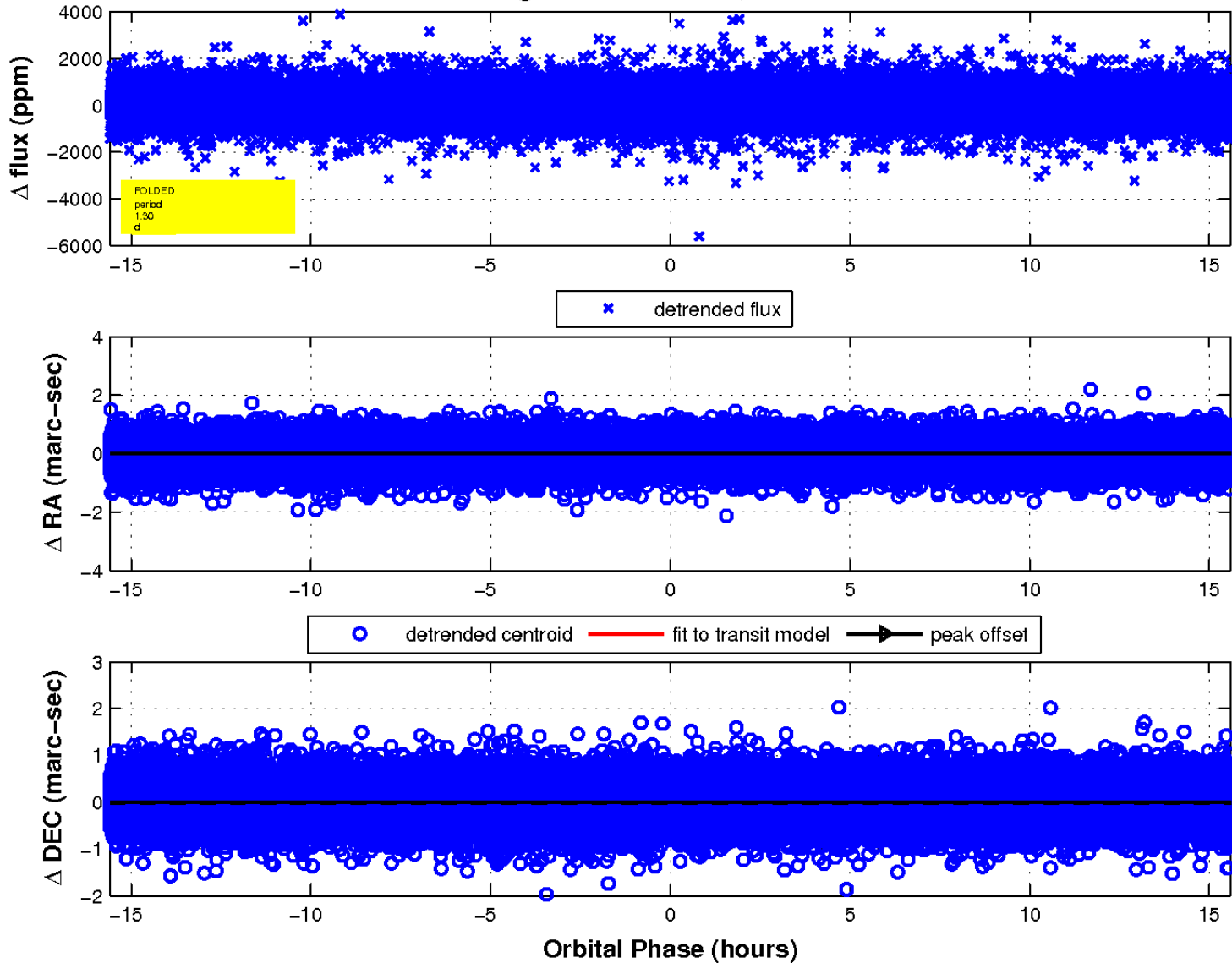
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

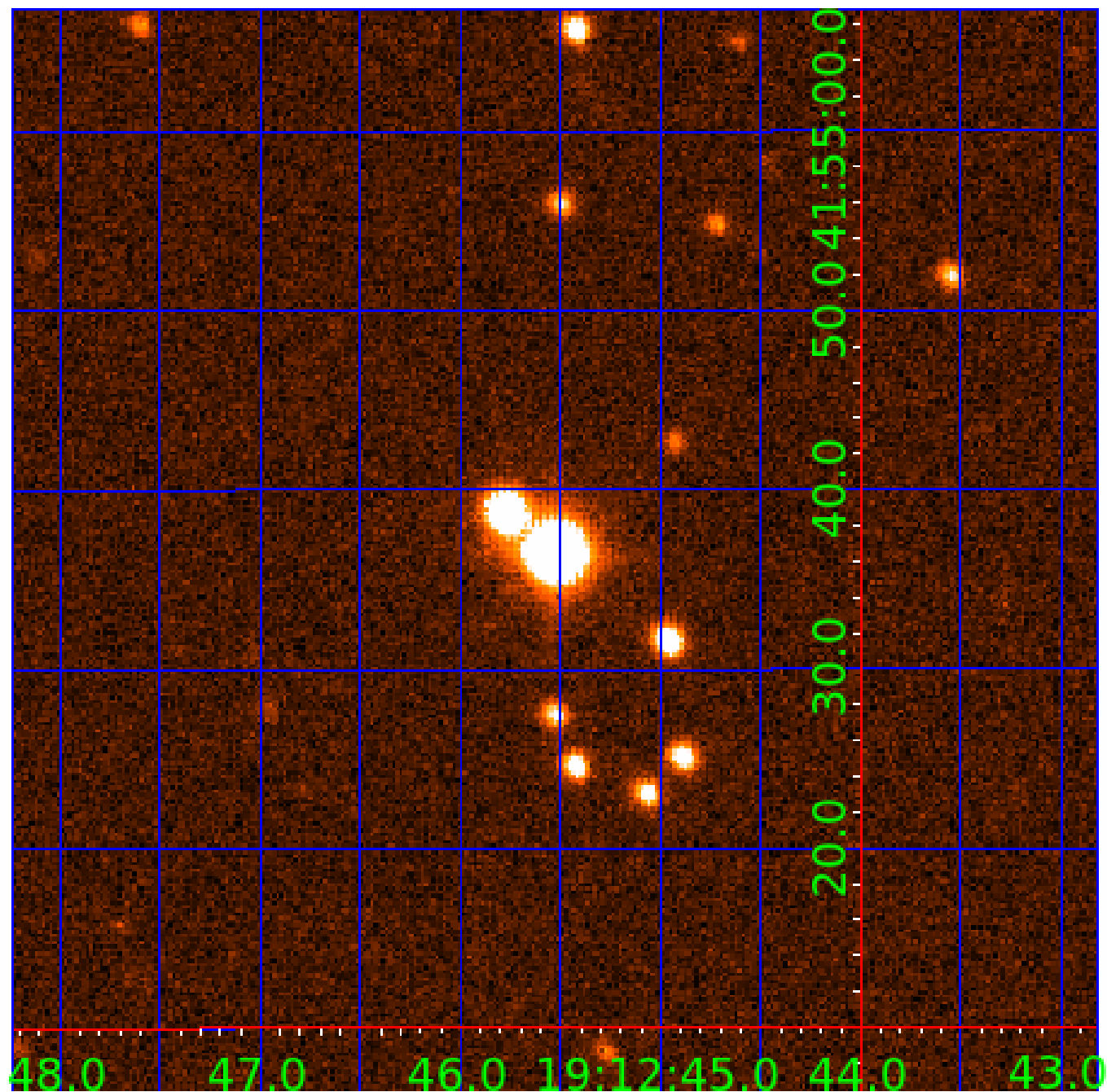


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 006511354

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})
006511354-01	OBS	No	1.299687	132.553441	53.3	5.347	11.6	11.6	2.34	7675	1.97	21734.39
006511354-02	OBS	No	3.285596	133.554344	179.1	39.427	10.5	19.0	2.34	7675	4.45	6311.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006511354-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
006511354-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—CENT_FEW_DIFFS

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

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

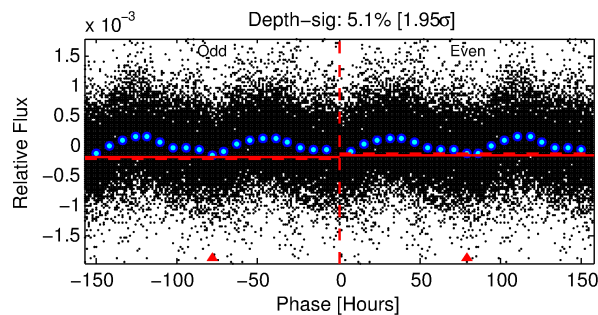
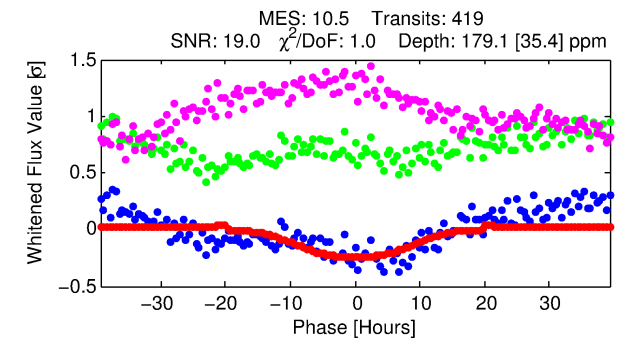
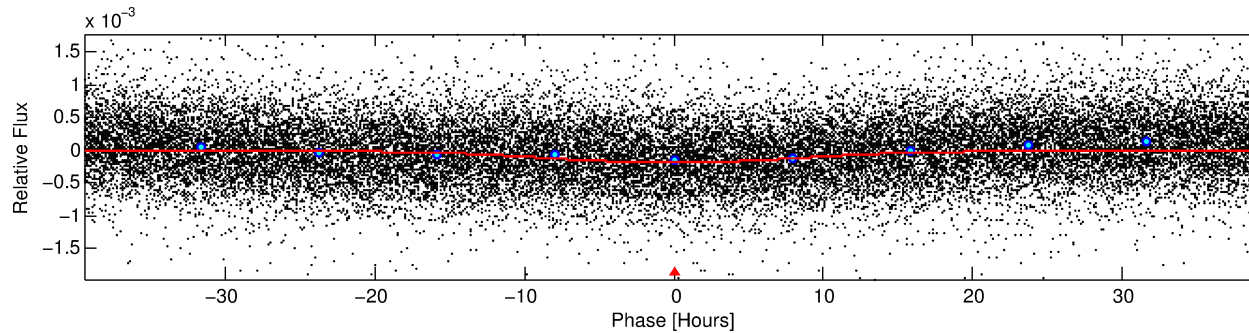
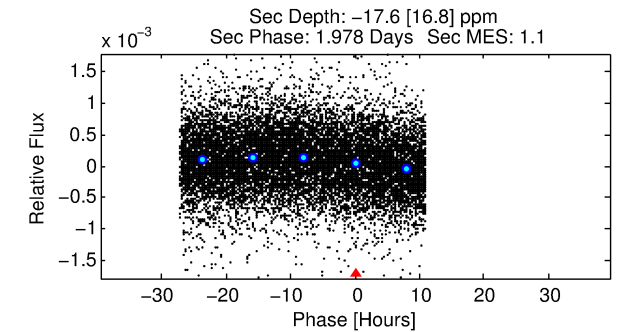
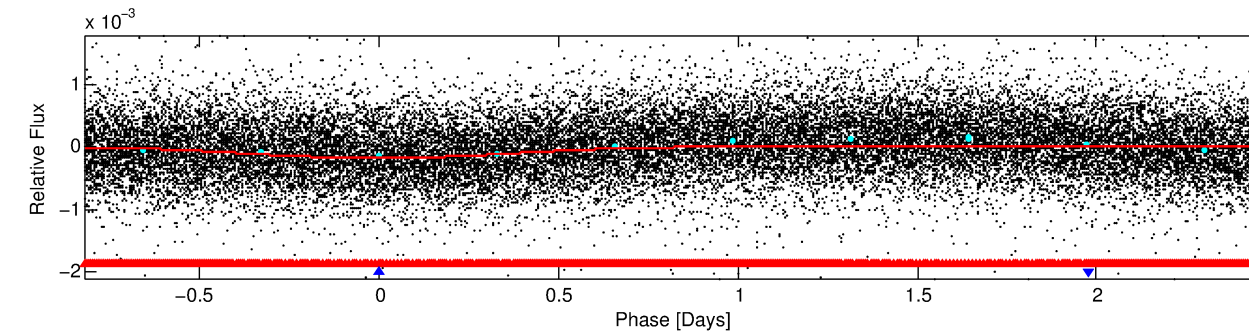
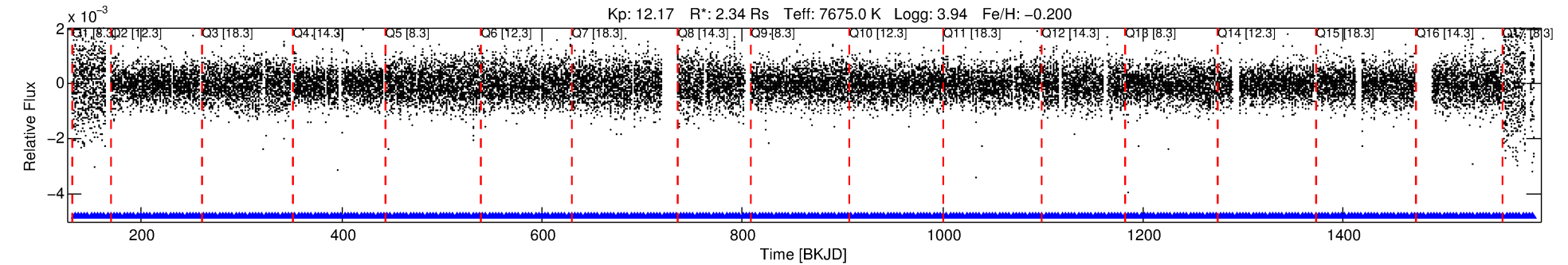
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006511354-02

No Significant Match Found

DV One-Page Summary

KIC: 6511354 Candidate: 2 of 2 Period: 3.286 d



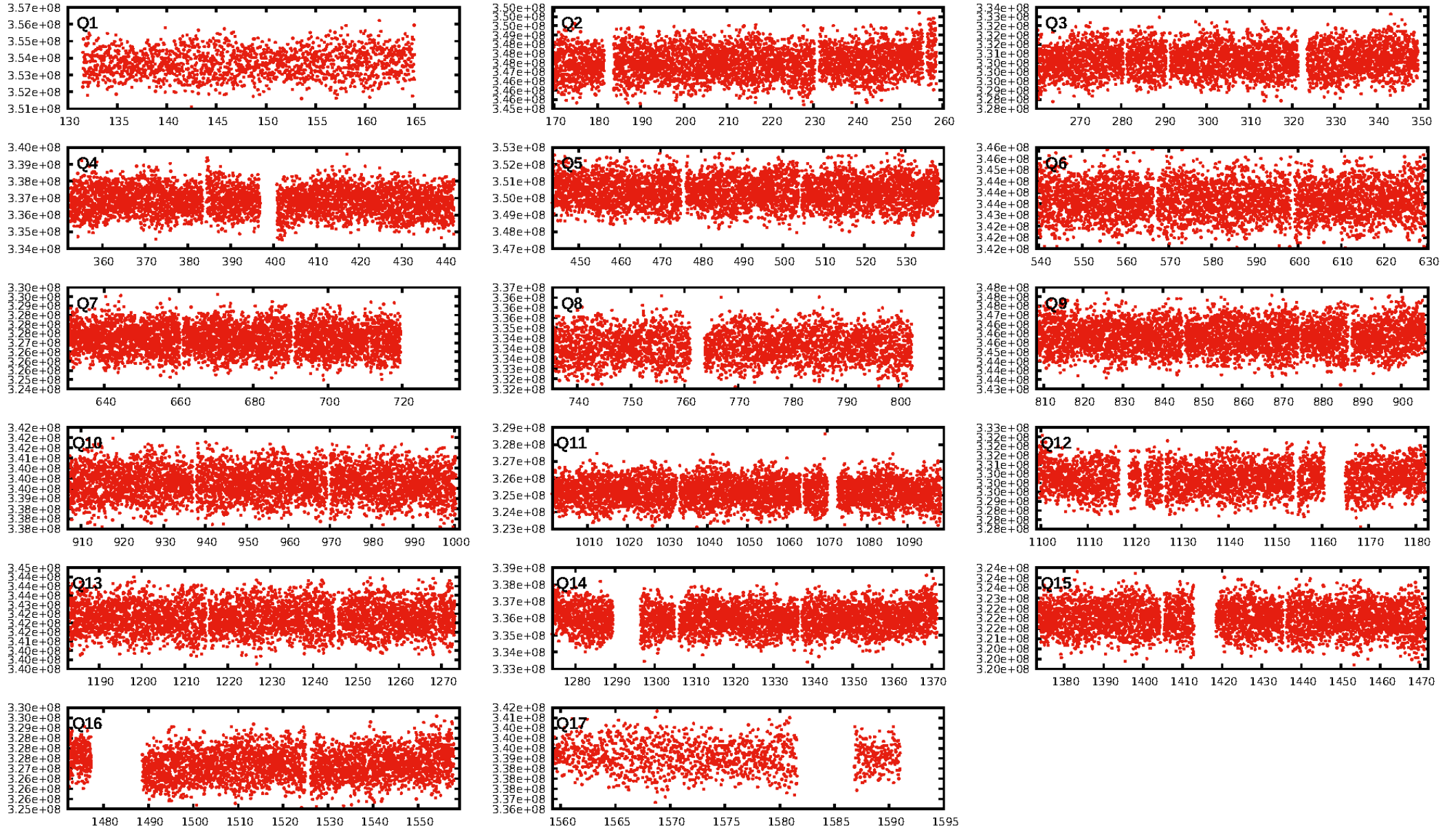
DV Fit Results:

Period = 3.28560 [0.00011] d
Epoch = 133.5543 [0.0251] BKJD
Rp/R* = 0.0174 [0.0036]
a/R* = 1.01 [0.00]
b = 0.99 [0.01]
Seff = 6311.22 [3266.97]
Teq = 2273 [294] K
Rp = 4.45 [1.82] Re
a = 0.0520 [0.0166] AU
Ag = N/A
Teffp = N/A

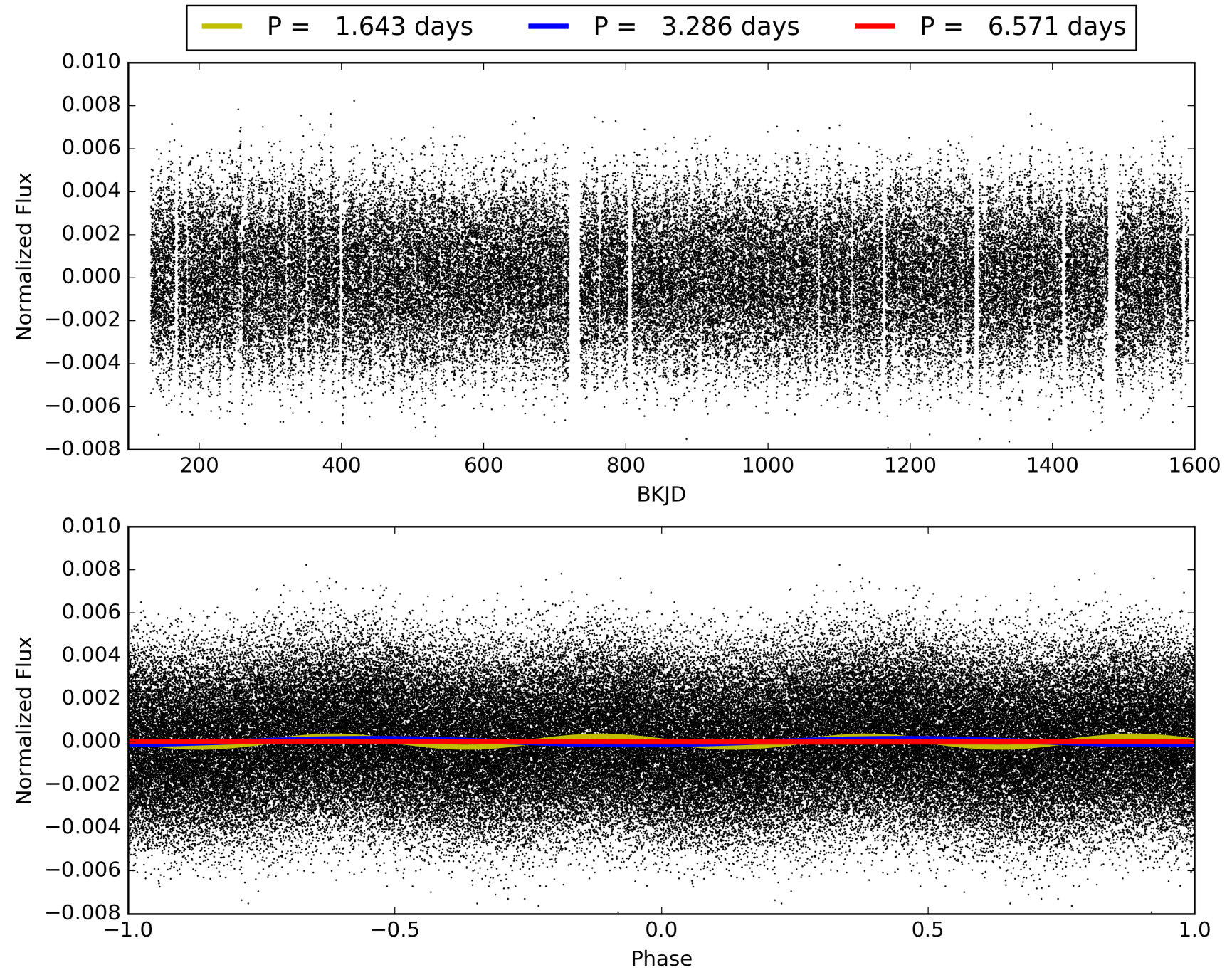
DV Diagnostic Results:

ShortPeriod-sig: 76.9% [1.20 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [401/401]
GhostDiagnostic-chr: 2.326
Centroid-sig: 0.0%
Centroid-so: 0.288 arcsec [4.56 σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 0.00 [0/17]

TCE 006511354-02, PDC Light Curves

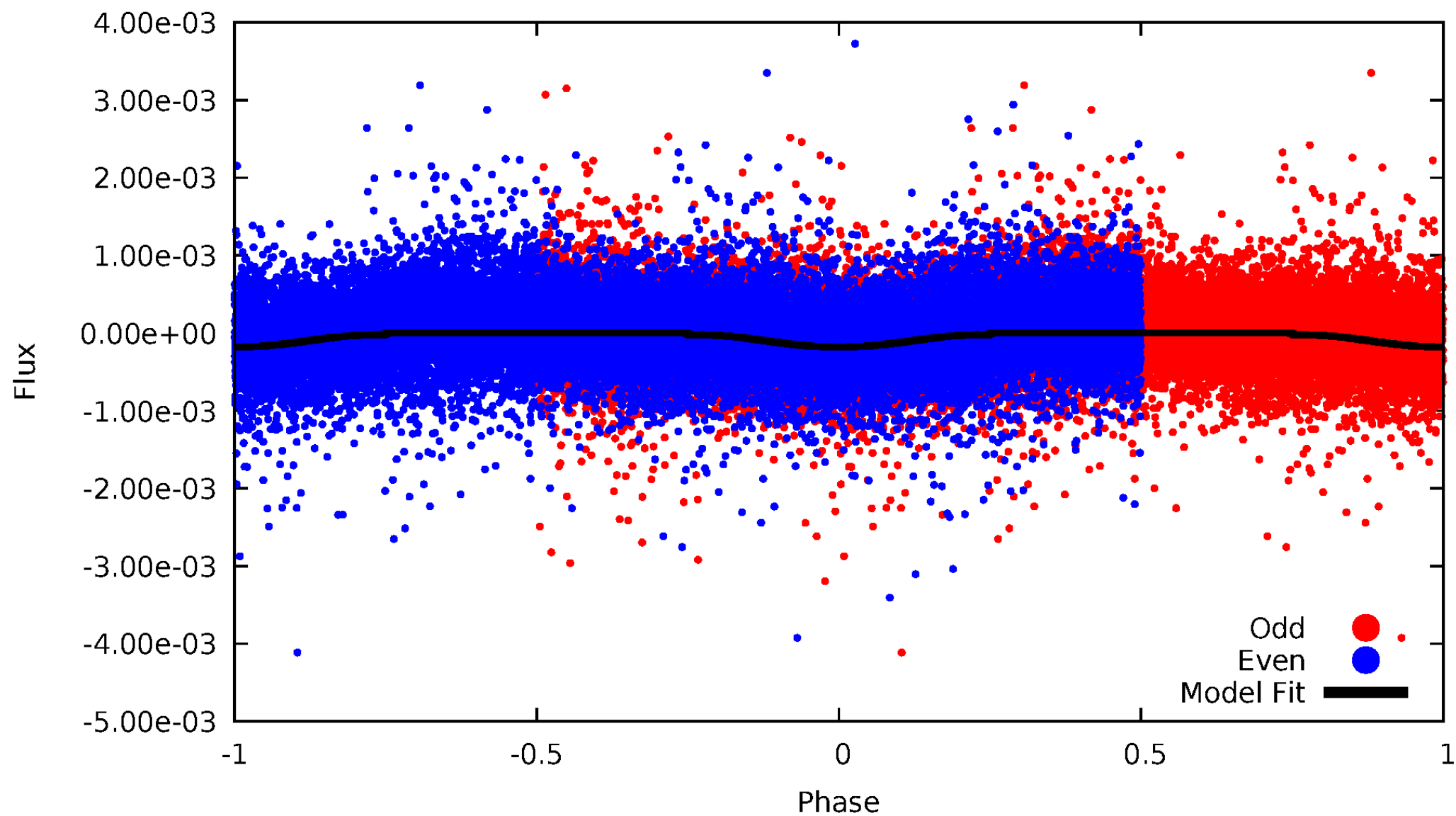


TCE 006511354-02



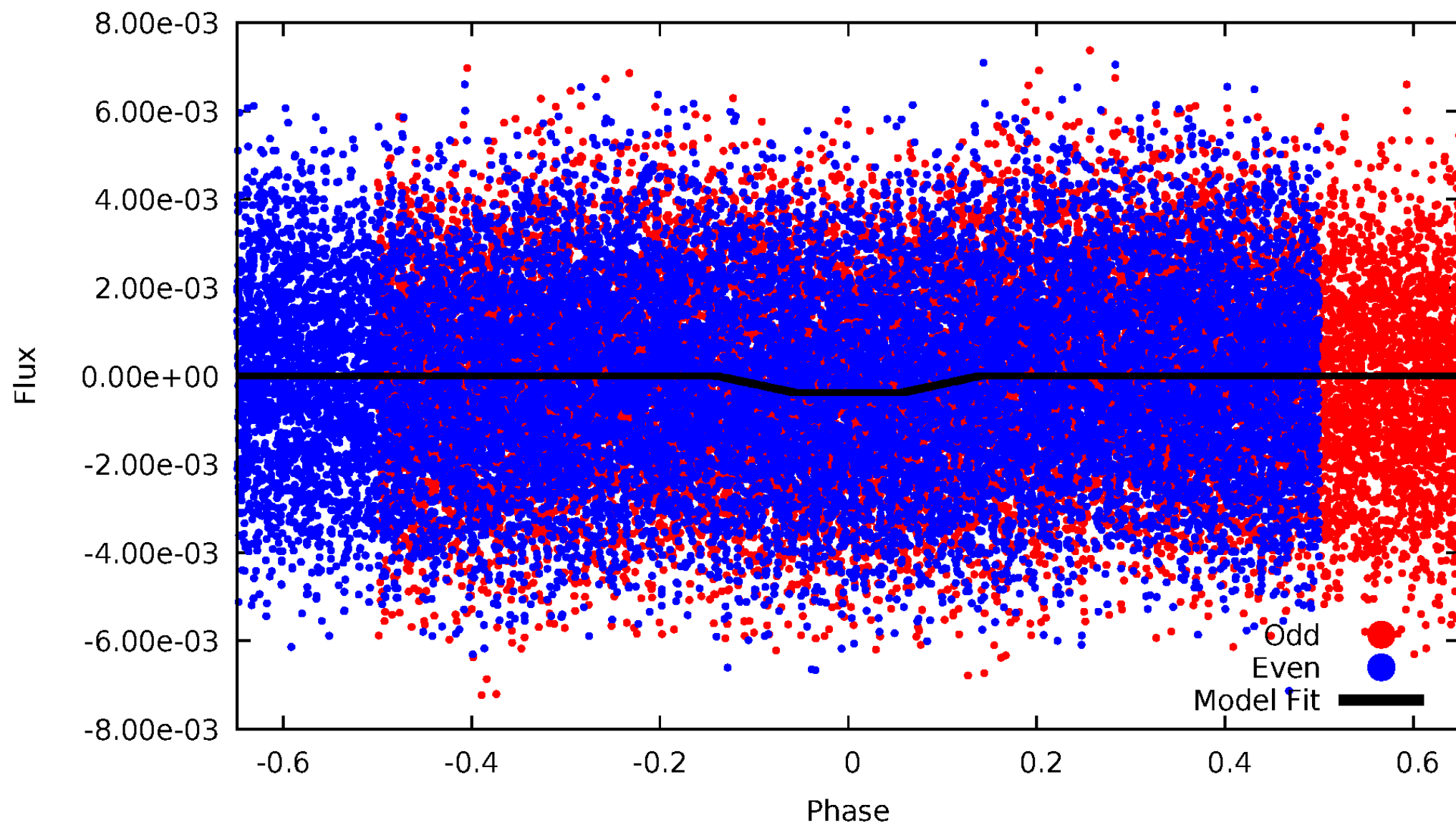
DV Odd/Even

TCE 006511354-02



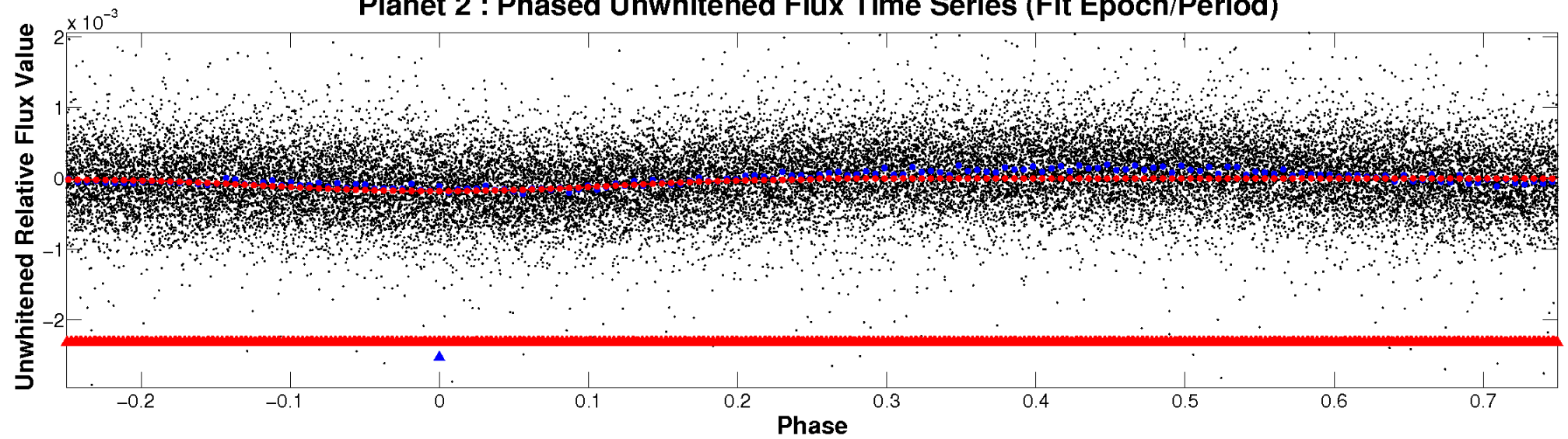
ALT Odd/Even

TCE 006511354-02

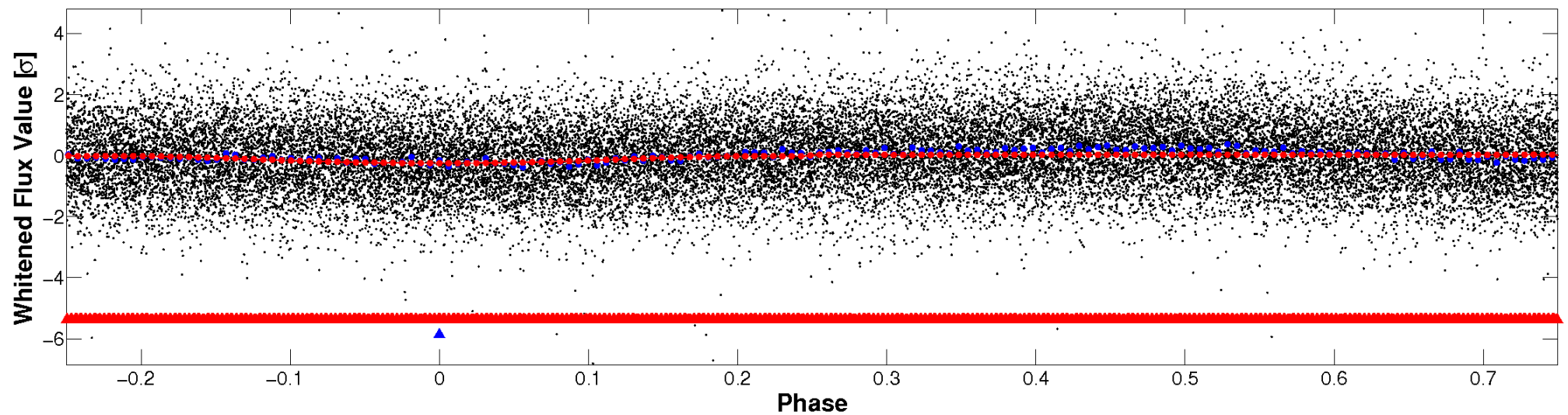


Non-Whitened Vs. Whitened Light Curve

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

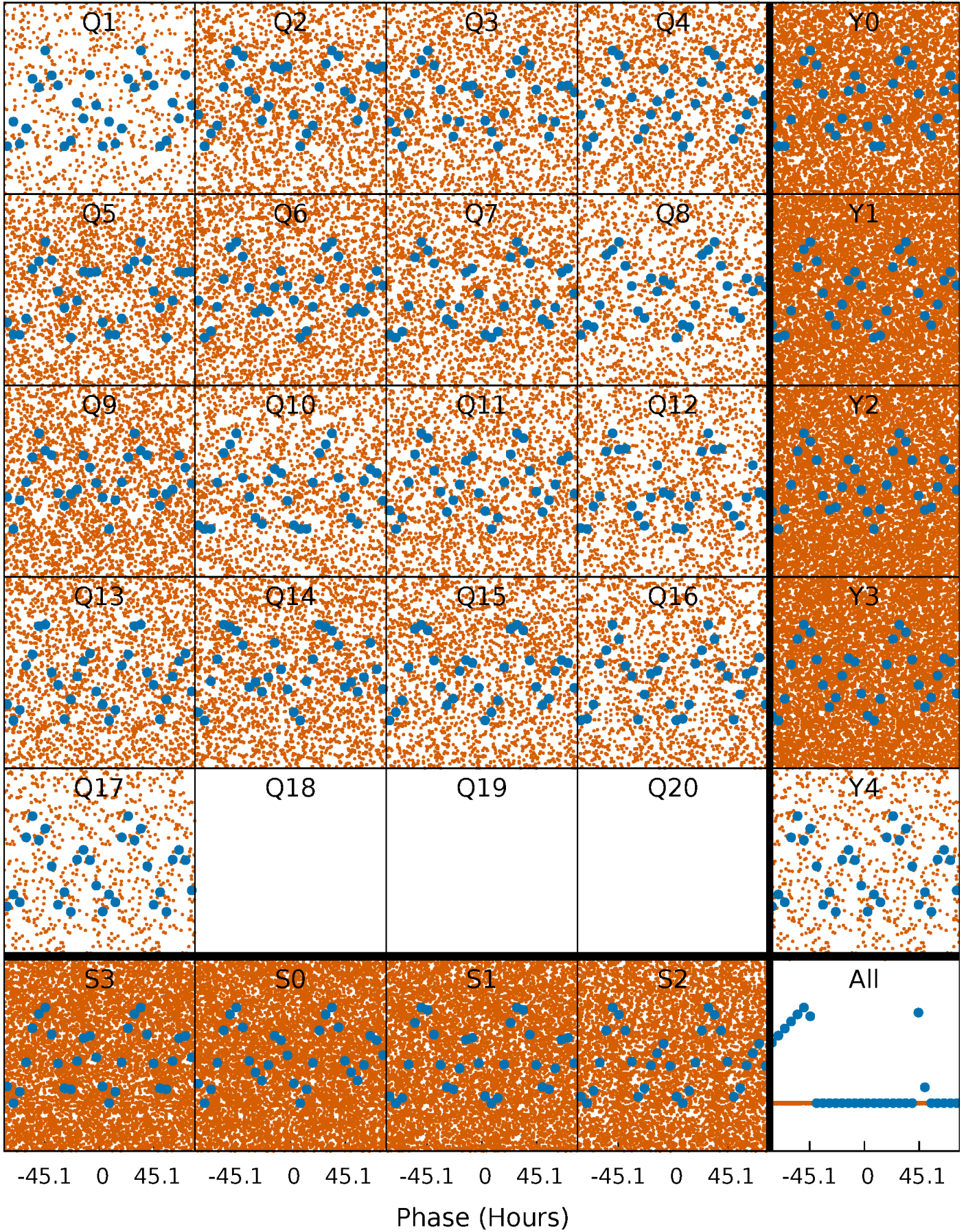


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



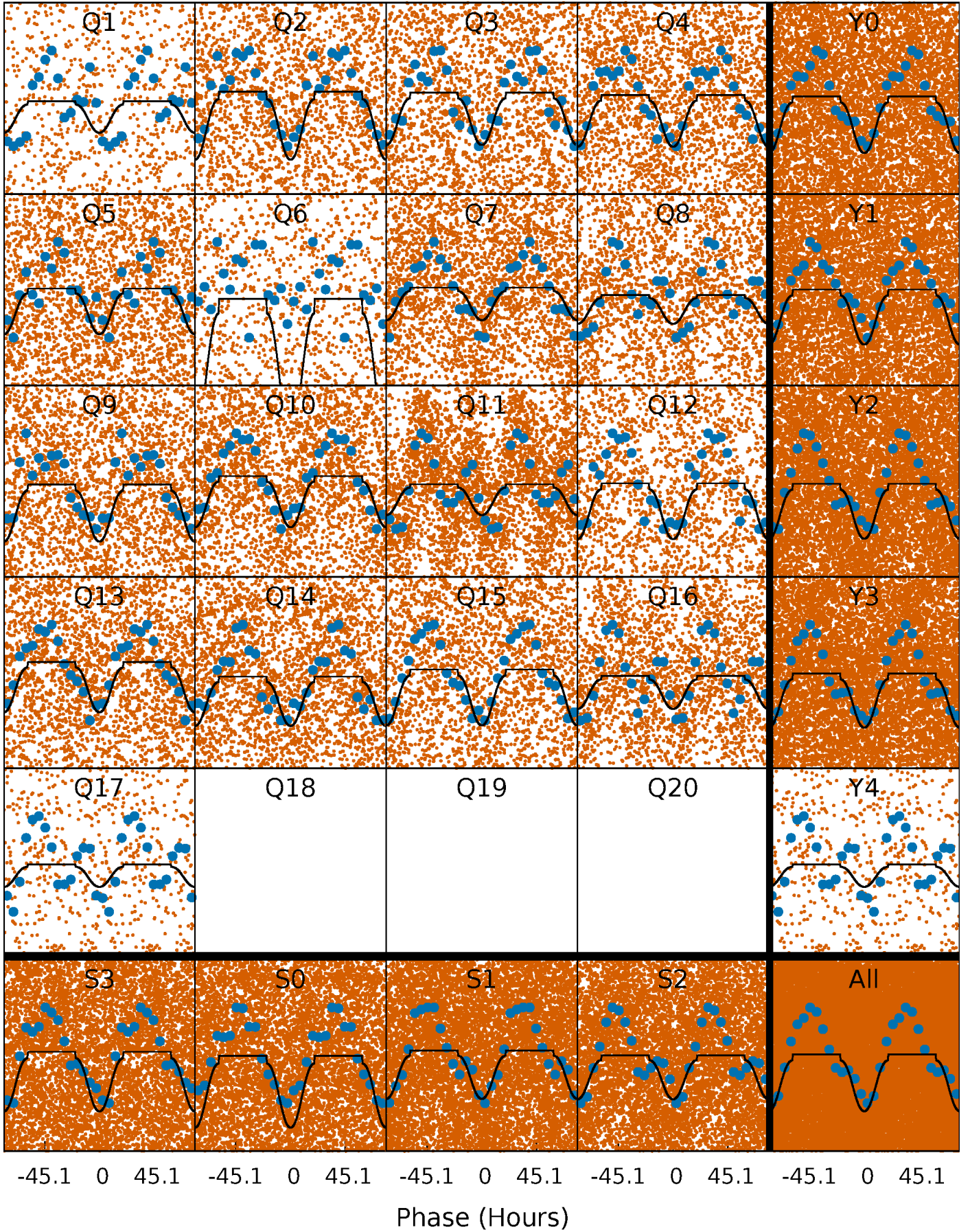
PDC Quarter-Phased Transit Curves

TCE 006511354-02 P= 3.285596 Days $T_0=133.554344$ (BKJD)



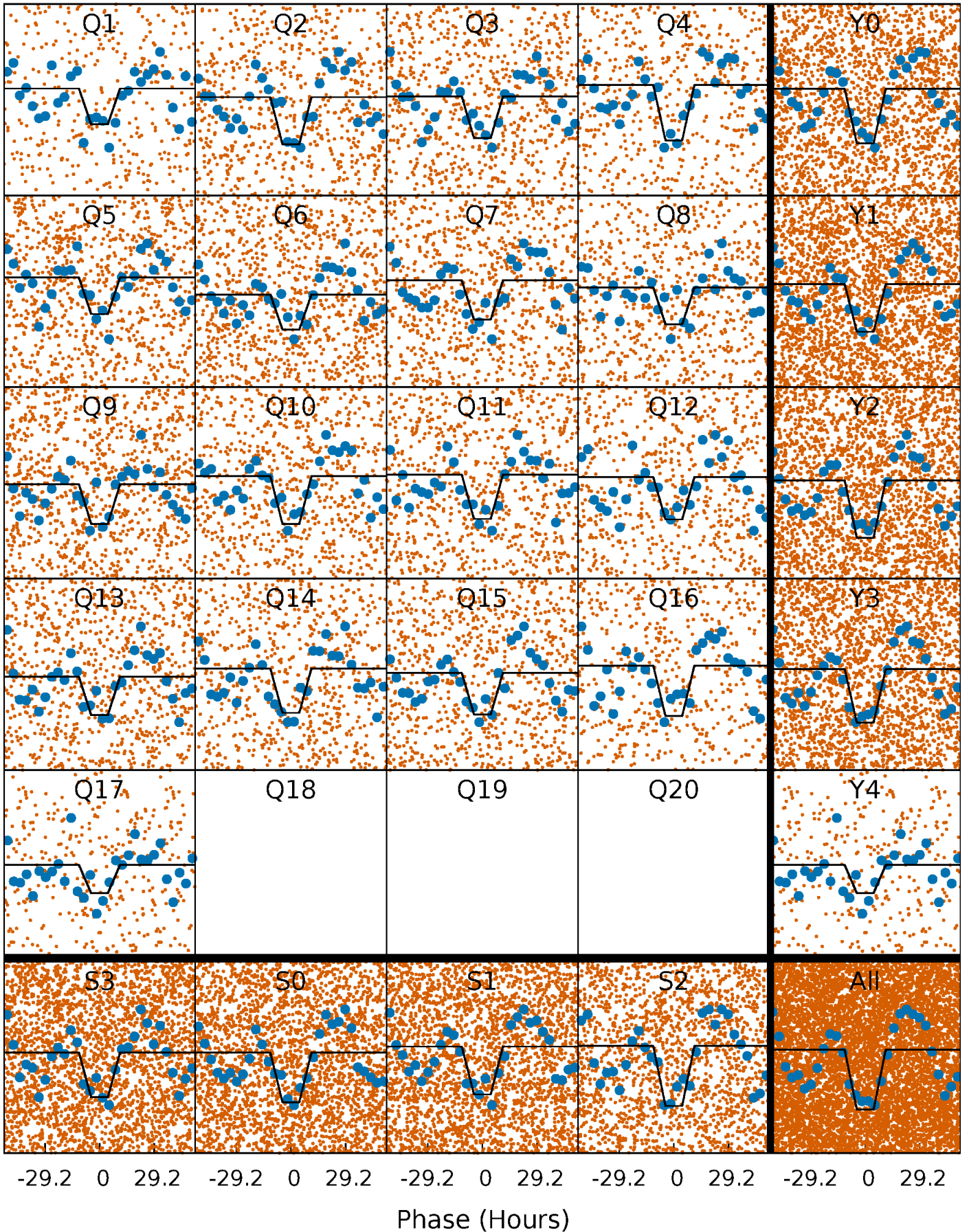
DV Quarter-Phased Transit Curves

TCE 006511354-02 P= 3.285596 Days $T_0=133.554344$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

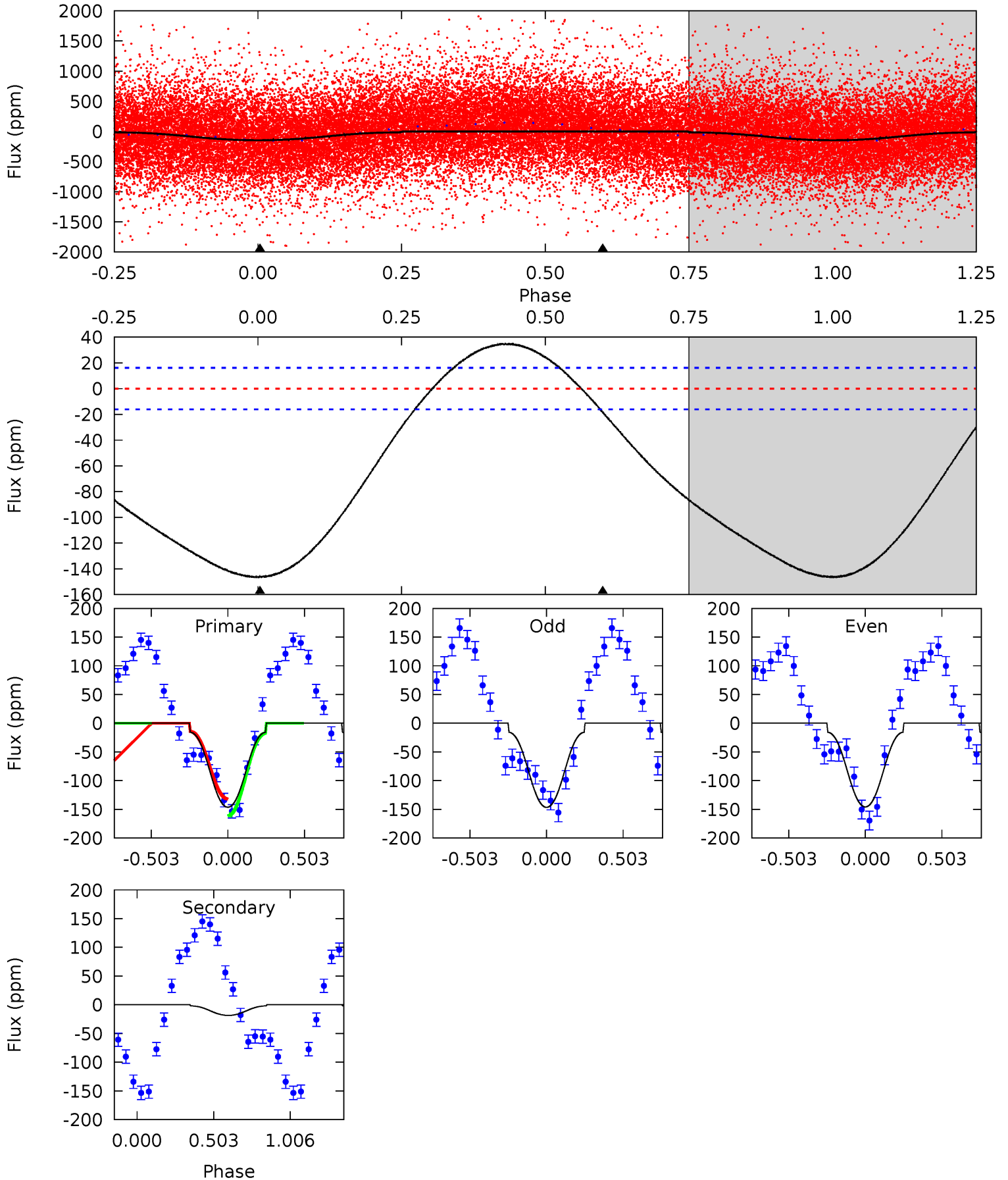
TCE 006511354-02 P= 3.285516 Days $T_0=133.888753$ (BKJD)



DV Model-Shift Uniqueness Test

006511354-02, P = 3.285596 Days, E = 130.268748 Days

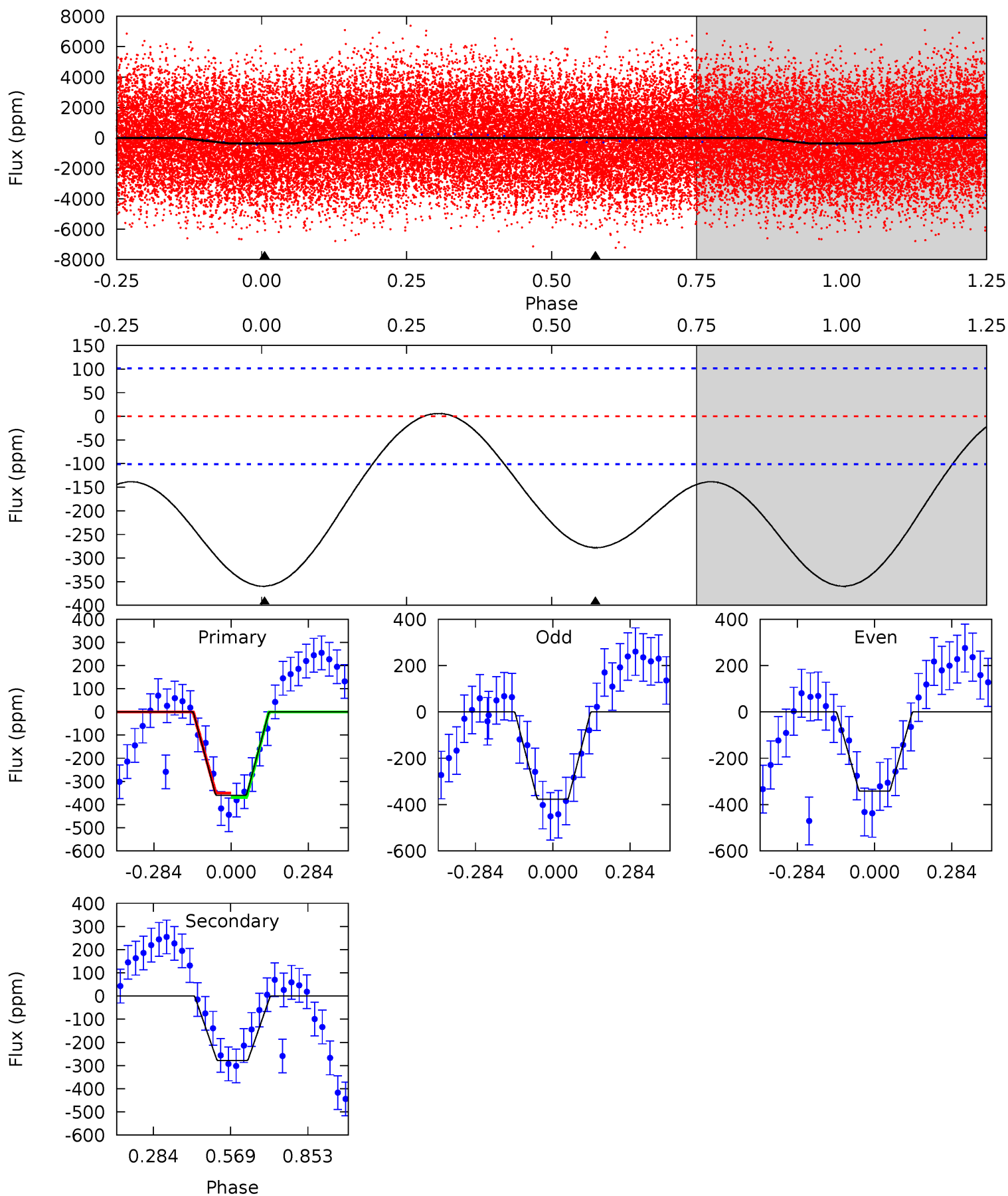
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.3	4.84	0	0	4.21	0.67	3.83	38.3	38.3	4.84	4.84	0.10	1.22	0.20	3.96



Alt Model-Shift Uniqueness Test

006511354-02, P = 3.285516 Days, E = 130.603237 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.4	11.9	0	0	4.34	1.07	0.44	15.4	15.4	11.9	11.9	0.74	1.10	0.02	0.41



Stellar Parameters For KIC 006511354

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7675^{+211}_{-316}	$3.938^{+0.280}_{-0.120}$	$-0.200^{+0.200}_{-0.350}$	$2.342^{+0.448}_{-0.832}$	$1.735^{+0.194}_{-0.360}$	$0.190^{+0.351}_{-0.068}$
	+3%/-4%	+7%/-3%	+100%/-175%	+19%/-36%	+11%/-21%	+185%/-36%
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 006511354-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-18 ± 4	$4.25^{+1.14}_{-1.15}$	3138^{+210}_{-299}	3873^{+480}_{-356}	$1.532^{+1.276}_{-0.637}$
Alt.	-278 ± 23	$4.83^{+1.20}_{-1.06}$	3135^{+202}_{-292}	6921^{+929}_{-645}	18^{+11}_{-6}

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

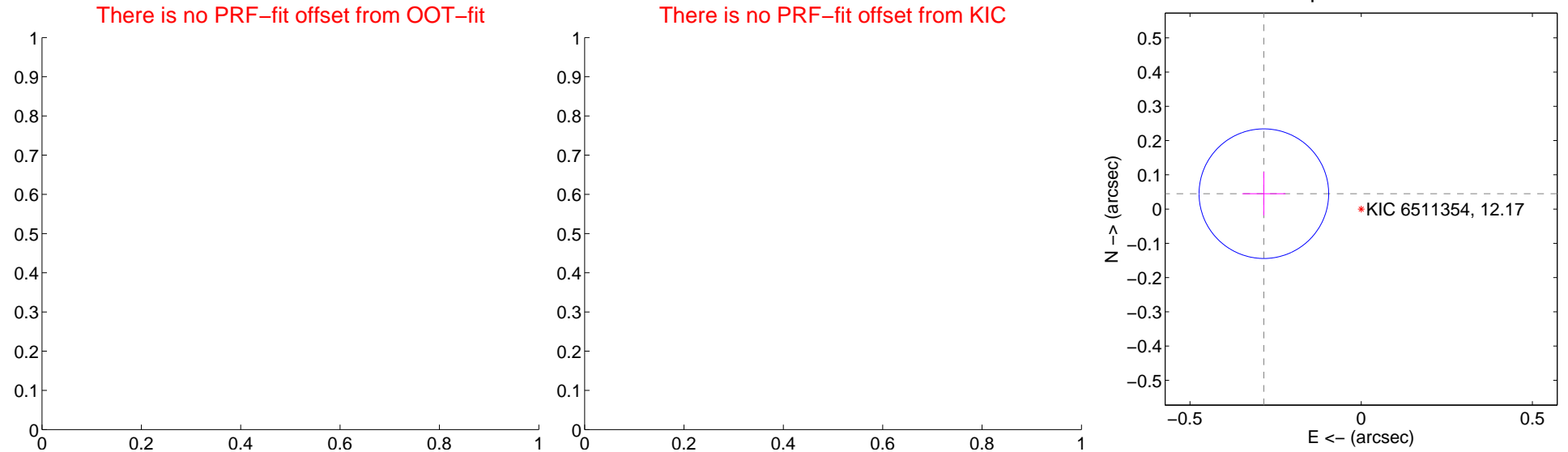
DV Centroid Data

Supplemental centroid analysis for 006511354-02. Kepler magnitude: 12.17. Transit SNR 18.97

There are 0 quarters with good PRF difference image offsets

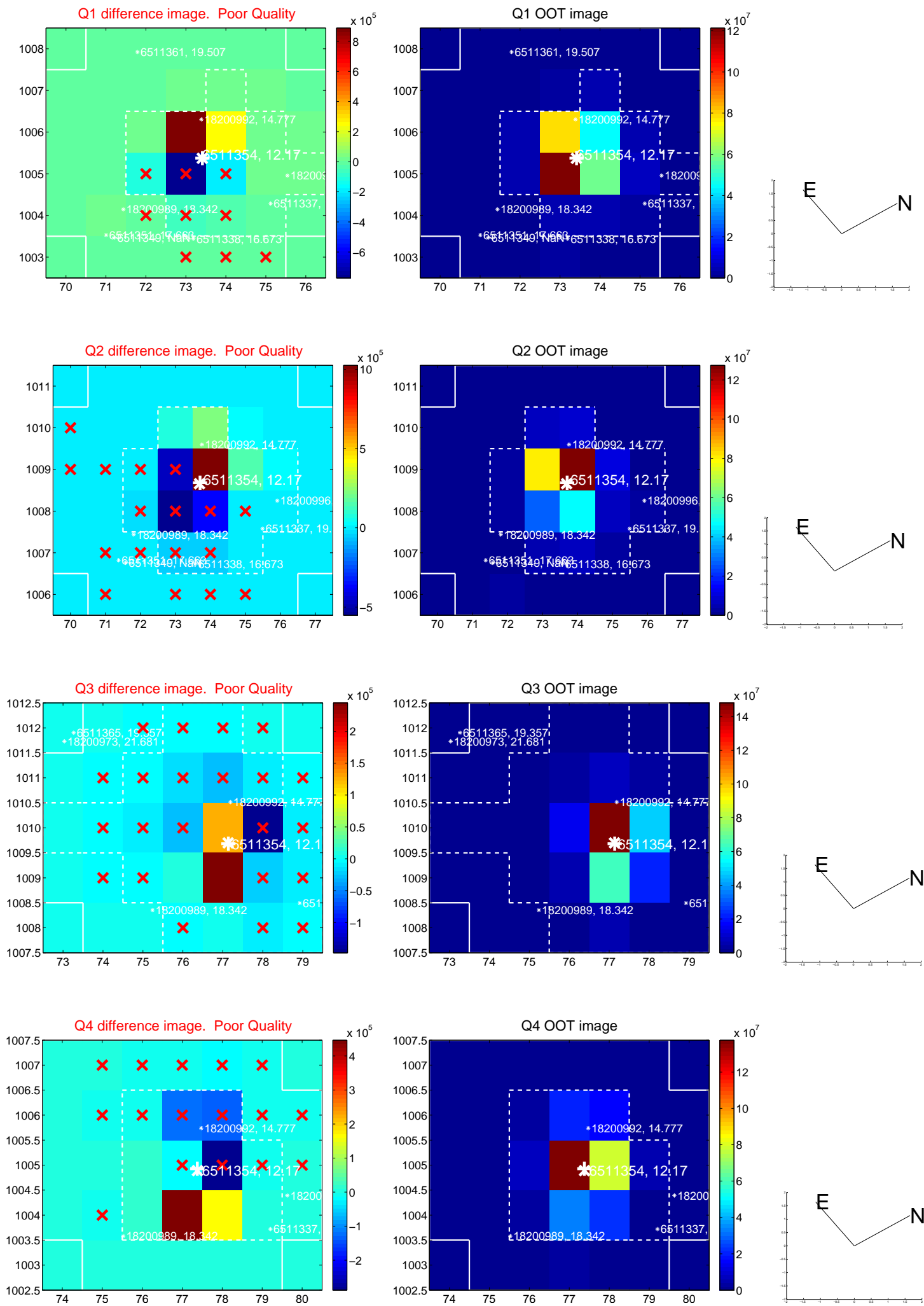
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	0.29 ± 0.06	4.56	0.28 ± 0.06	0.04 ± 0.06

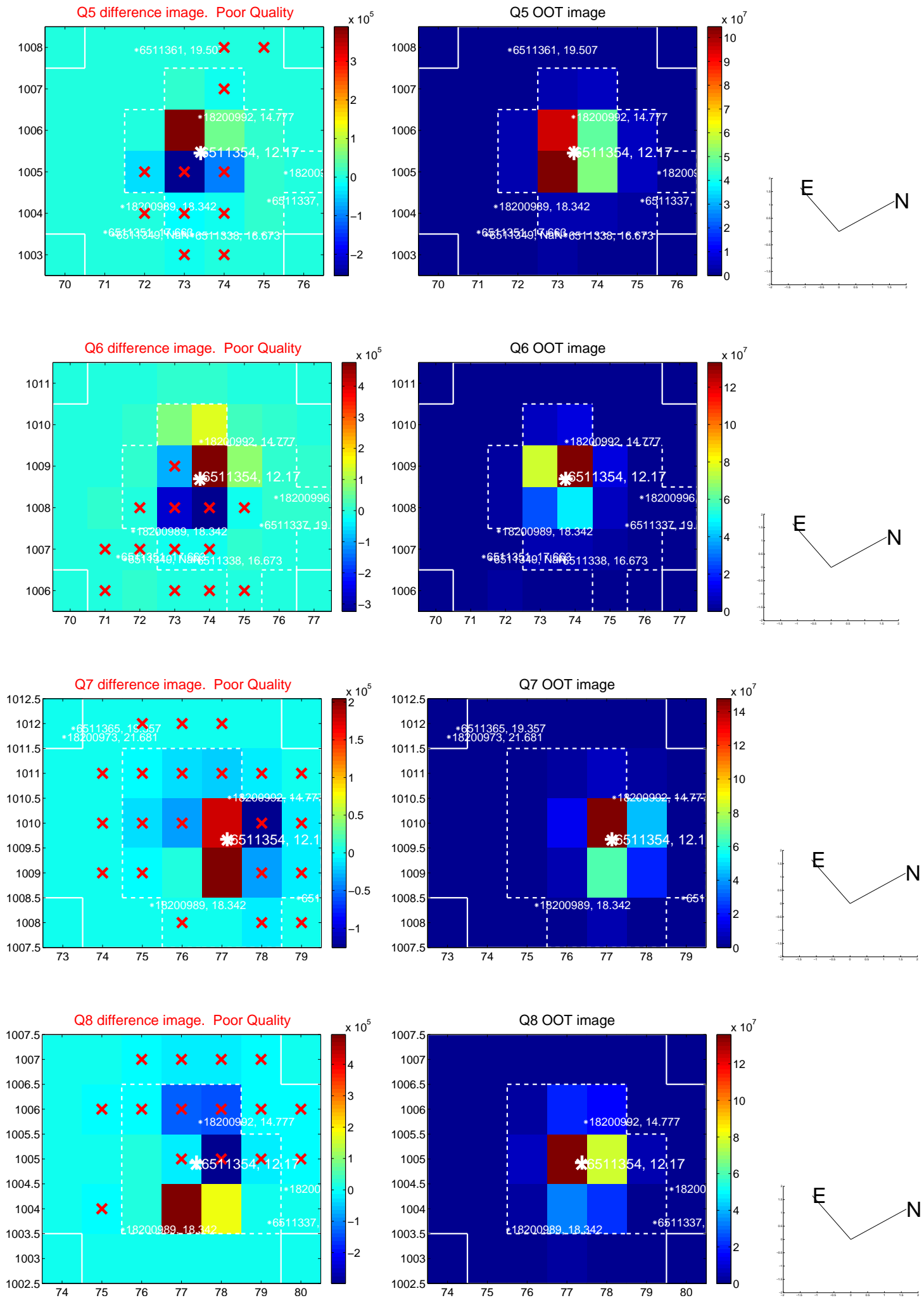


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

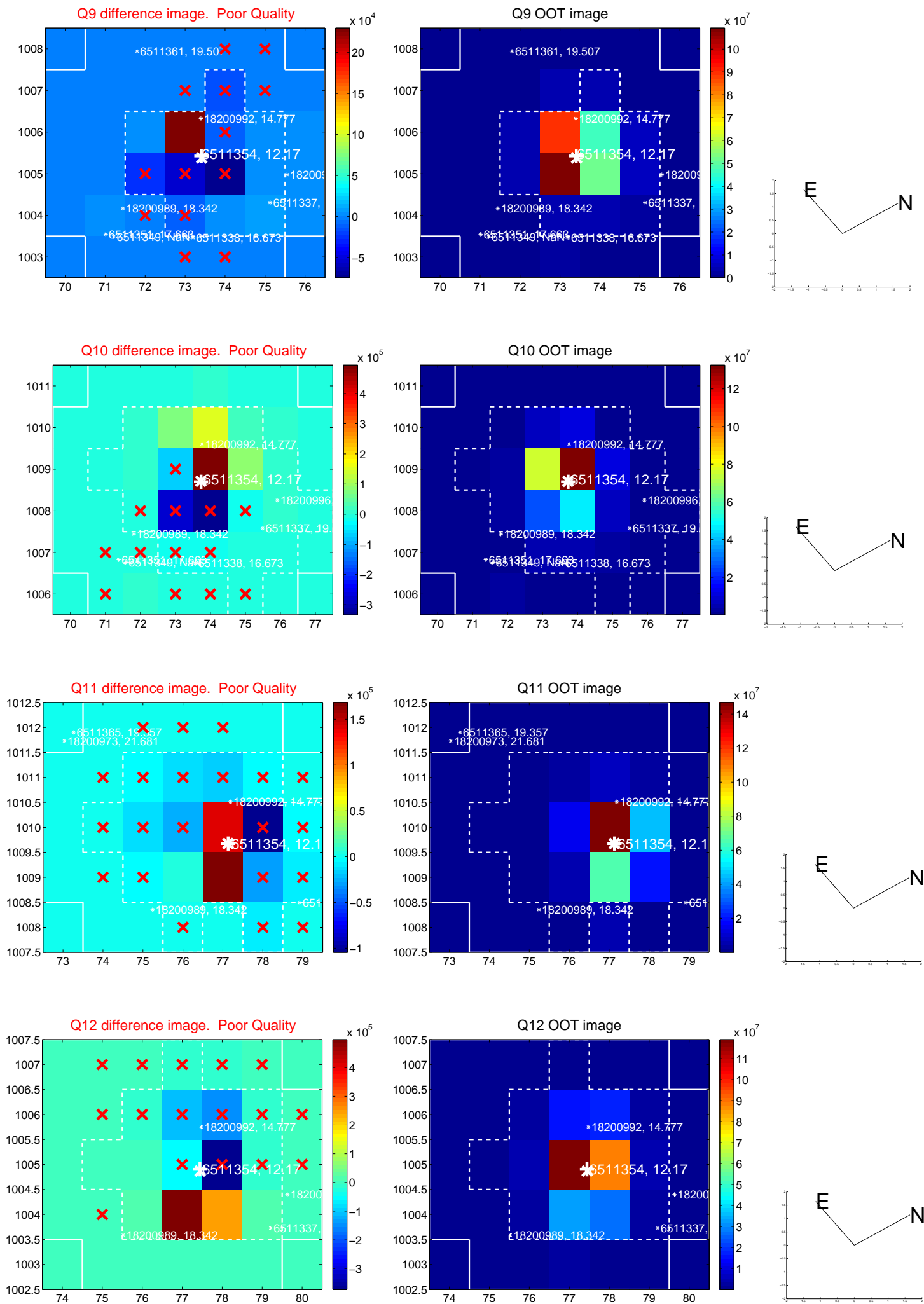
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



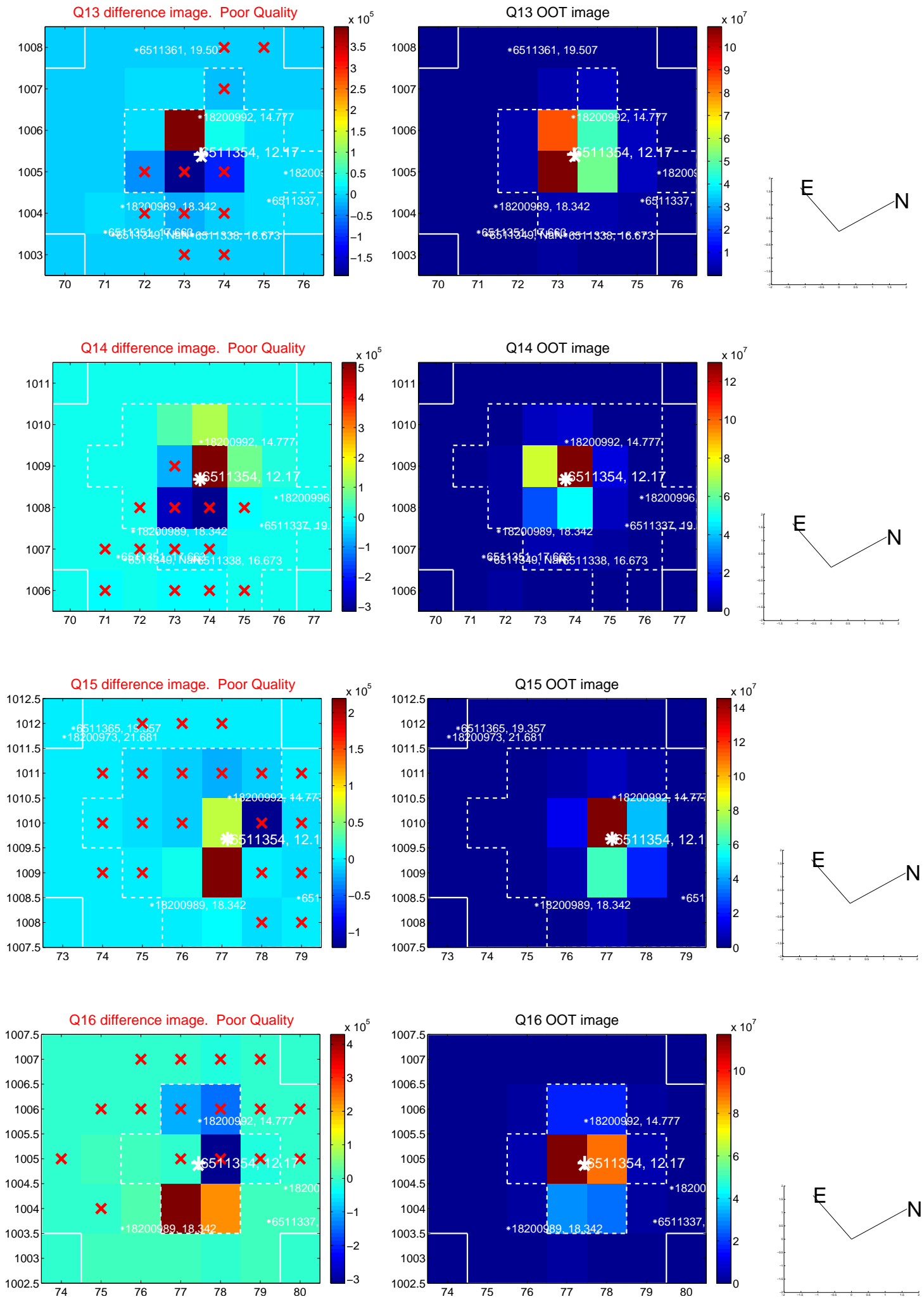
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



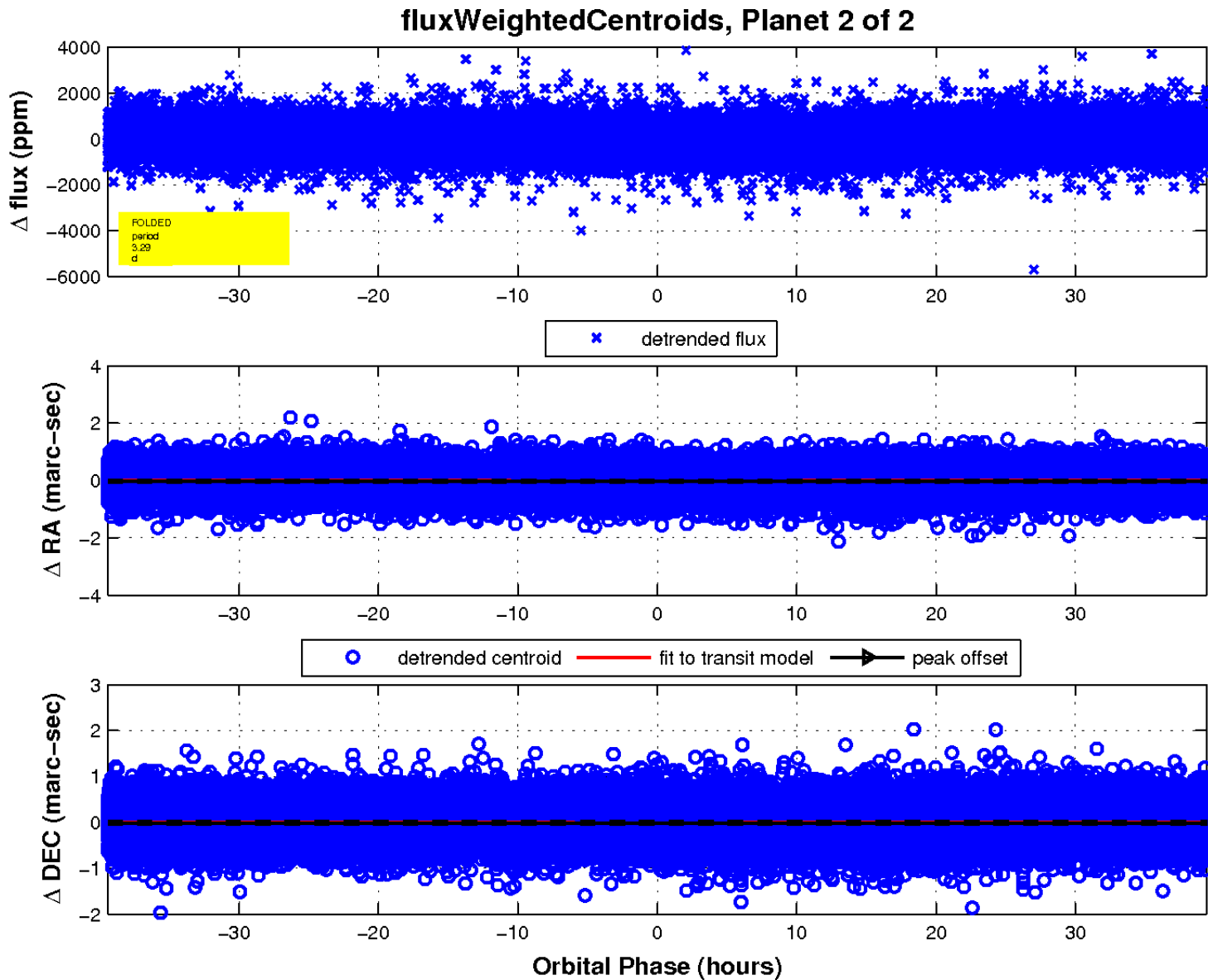
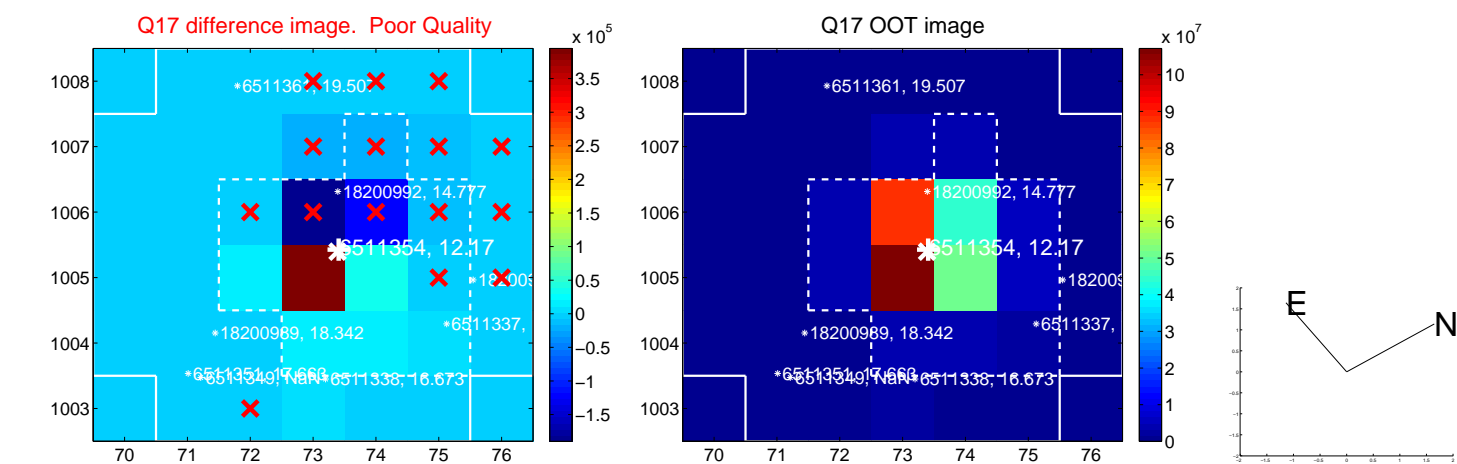
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

