

KIC 005130005

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})
005130005-01	OBS	No	1.592727	133.299771	2.0	1.494	11.7	0.9	1.03	6395	0.15	2233.63
005130005-02	OBS	No	1.593010	132.998249	13.1	2.895	9.5	5.1	1.03	6395	0.42	2233.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005130005-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
005130005-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_SATURATED

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

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

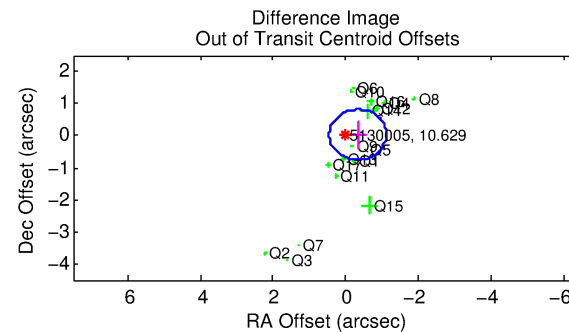
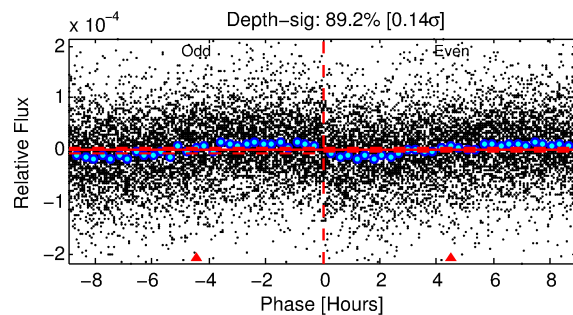
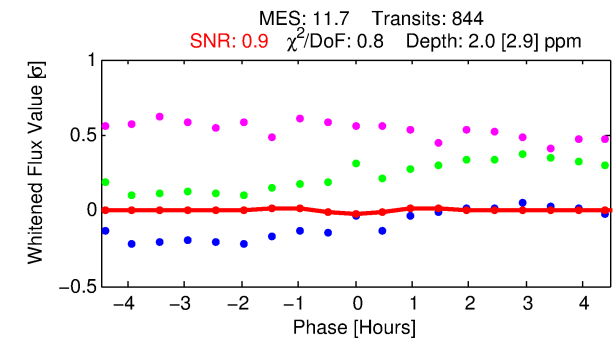
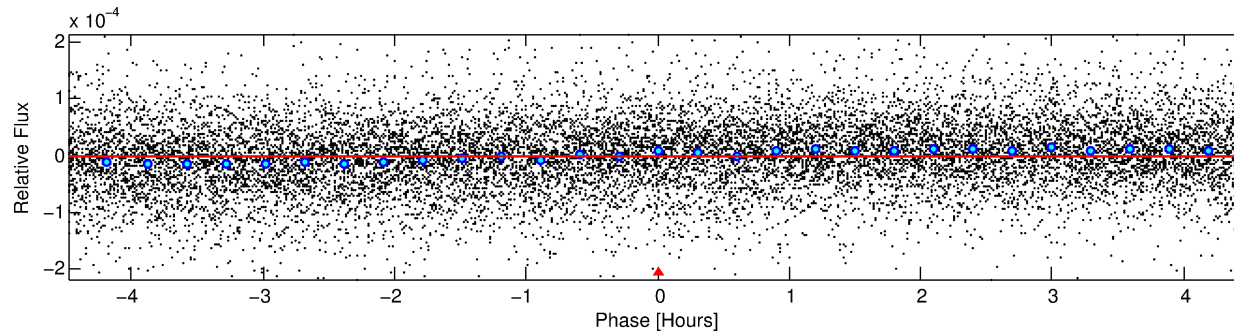
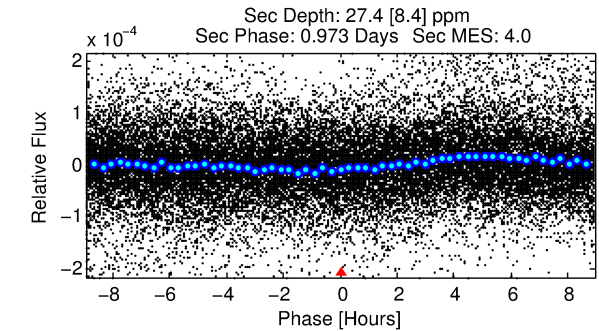
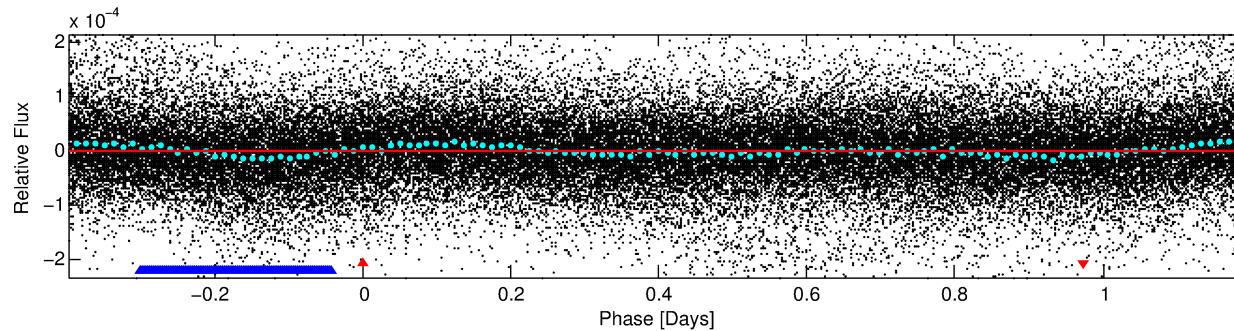
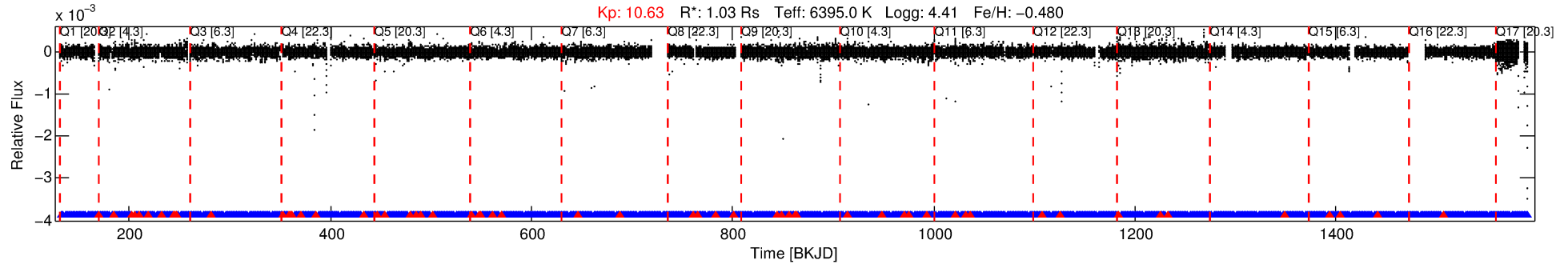
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005130005-01

No Significant Match Found

DV One-Page Summary

KIC: 5130005 Candidate: 1 of 2 Period: 1.593 d



DV Fit Results:

Period = 1.59273 [0.00009] d
Epoch = 133.2998 [0.0177] BKJD
Rp/R* = 0.0013 [0.0123]
a/R* = 8.13 [391.74]
b = 0.11 [449.02]
Seff = 2233.63 [856.14]
Teq = 1753 [168] K
Rp = 0.15 [1.38] Re
a = 0.0267 [0.0066] AU
Ag = 486.31 [9025.53] [0.05σ]
Teffp = 12728 [59045] K [0.19σ]

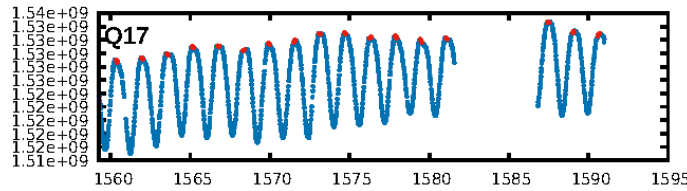
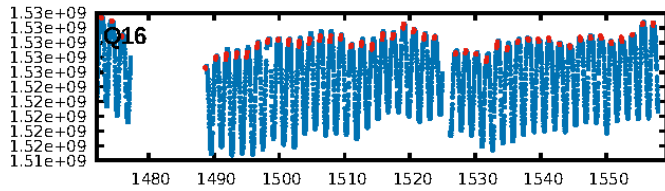
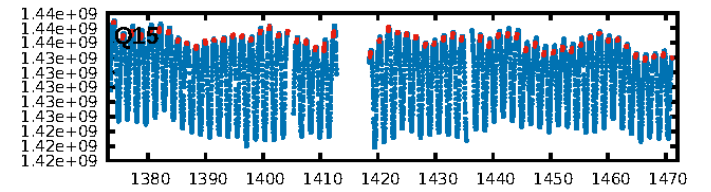
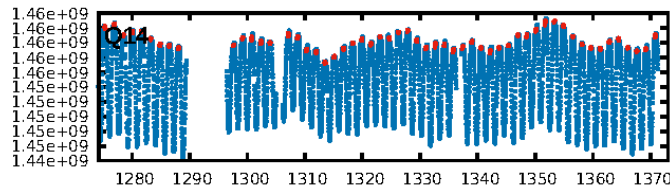
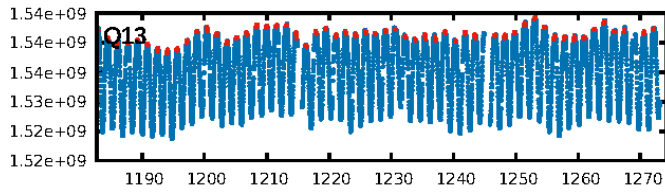
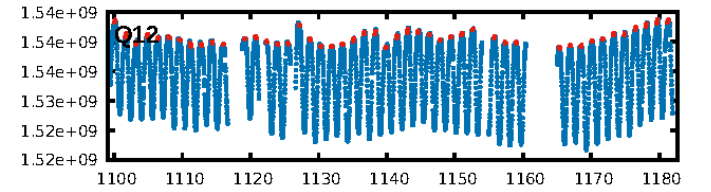
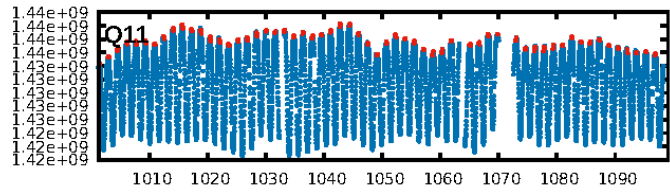
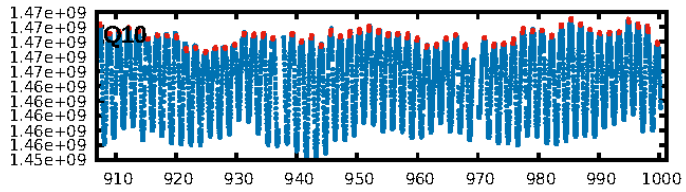
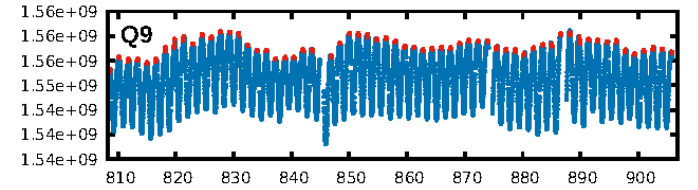
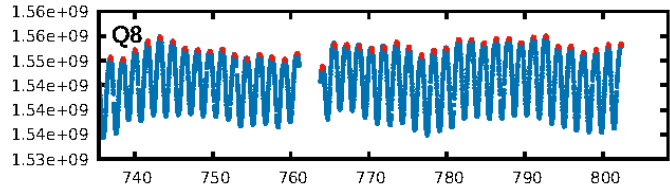
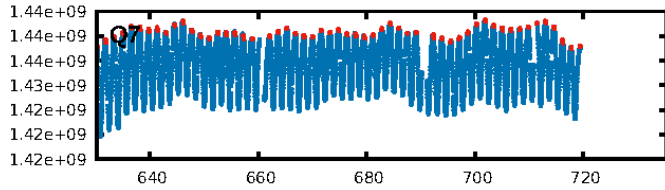
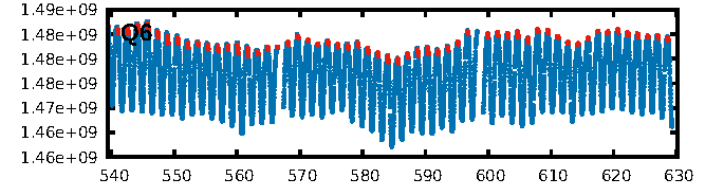
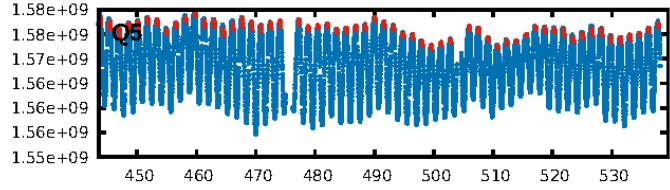
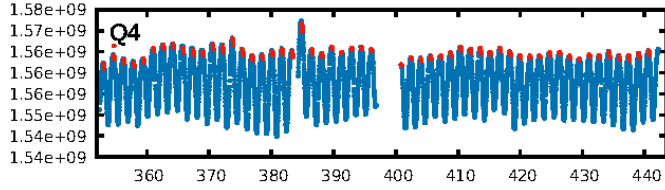
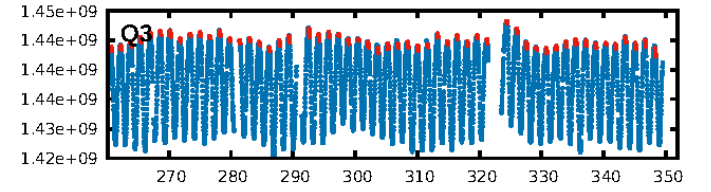
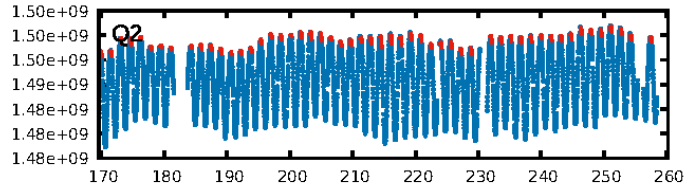
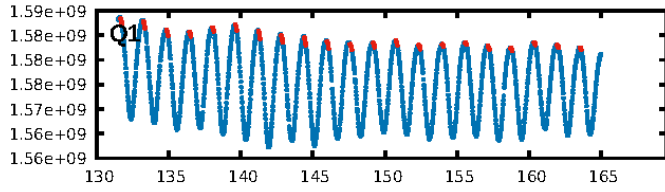
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.2% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.79e-30
RollingBand-fgt: 0.93 [748/806]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.328 arcsec [1.25σ]
KicOffset-rm: 0.657 arcsec [2.50σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 0.12 [2/17]

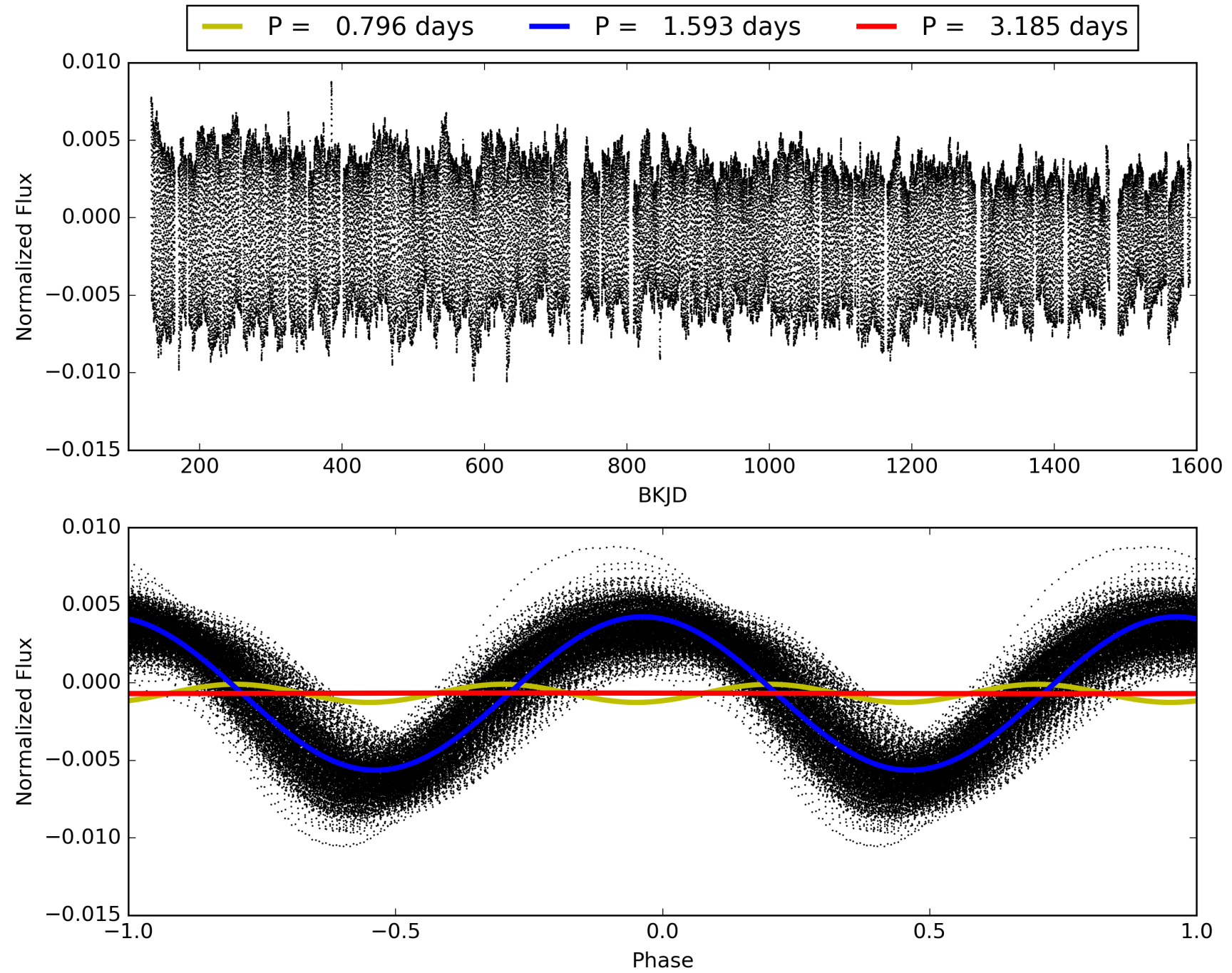
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005130005-01, PDC Light Curves

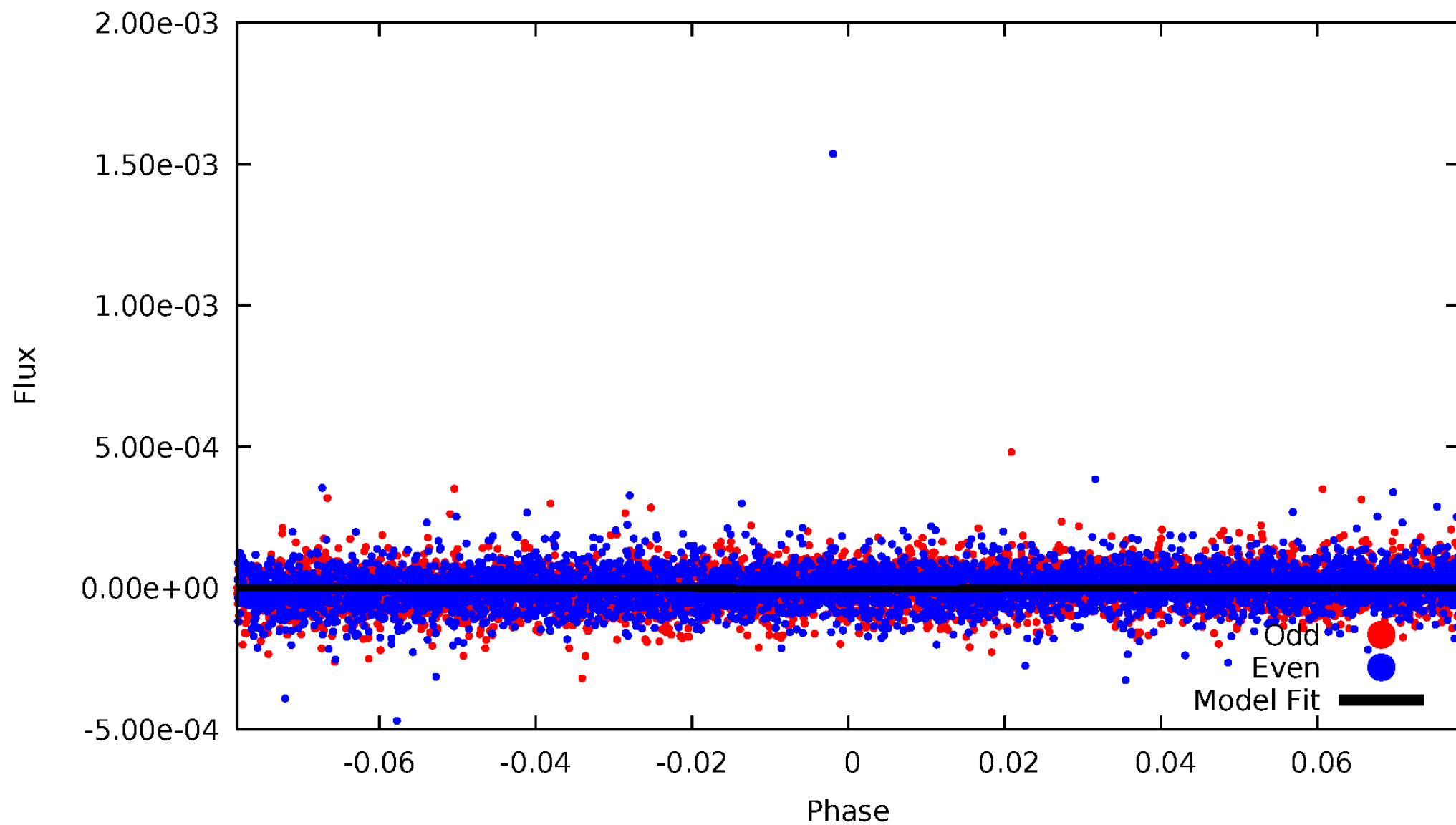


TCE 005130005-01



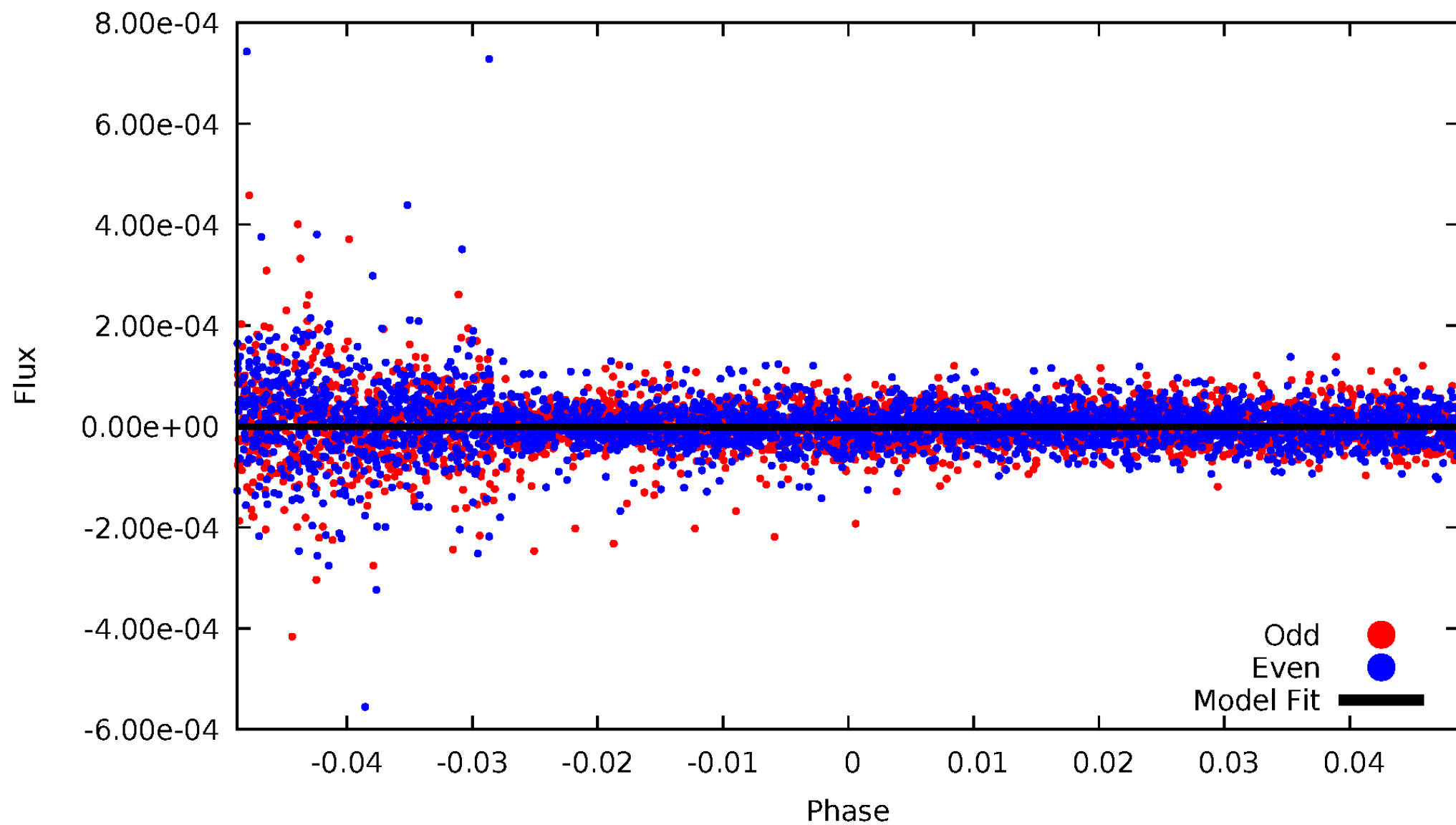
DV Odd/Even

TCE 005130005-01



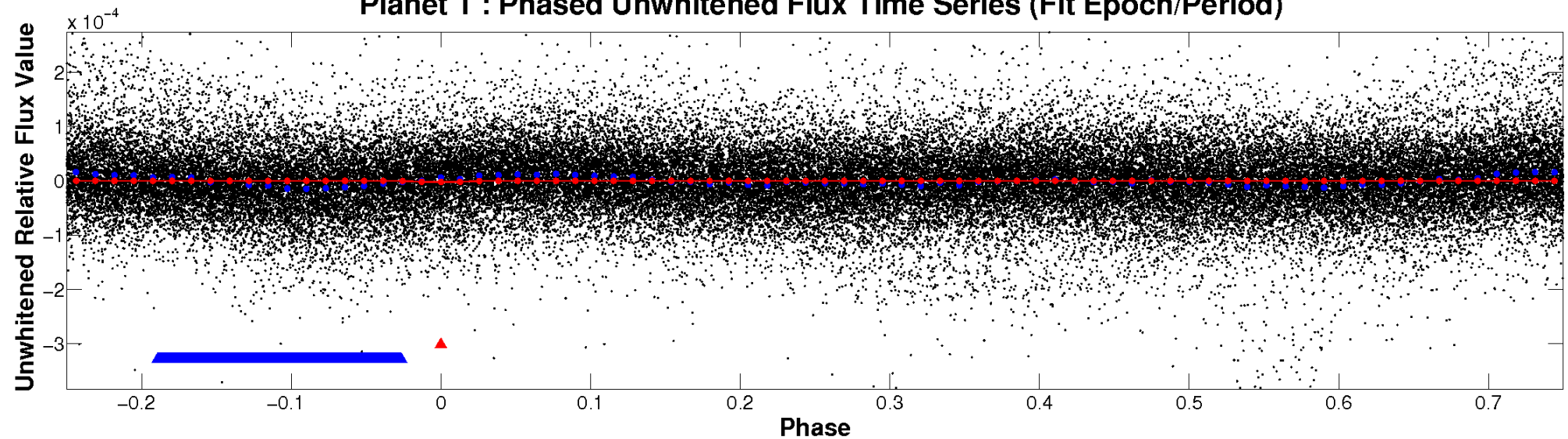
ALT Odd/Even

TCE 005130005-01

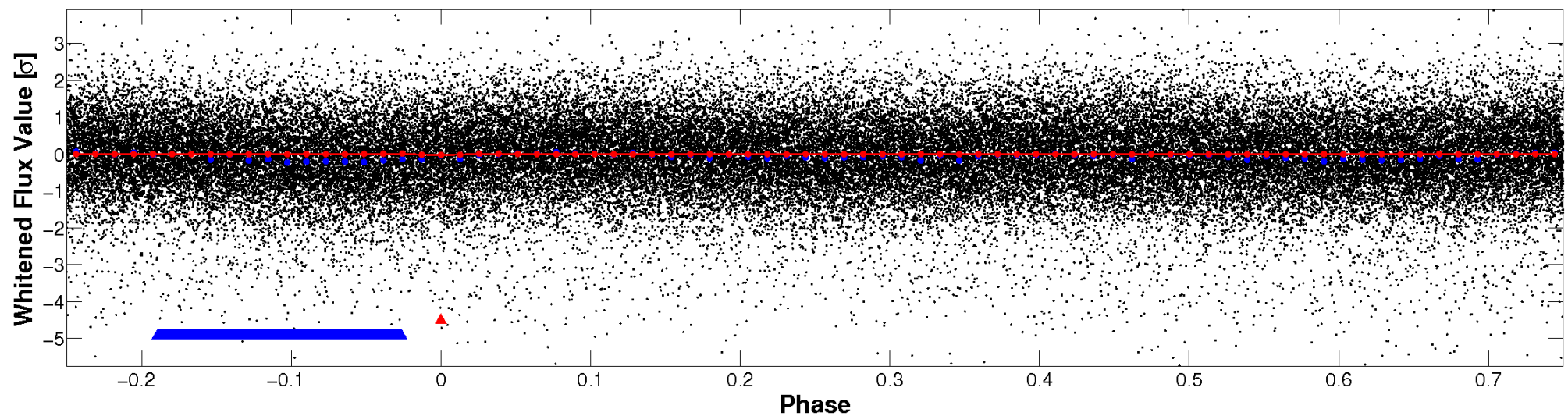


Non-Whitened Vs. Whitened Light Curve

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

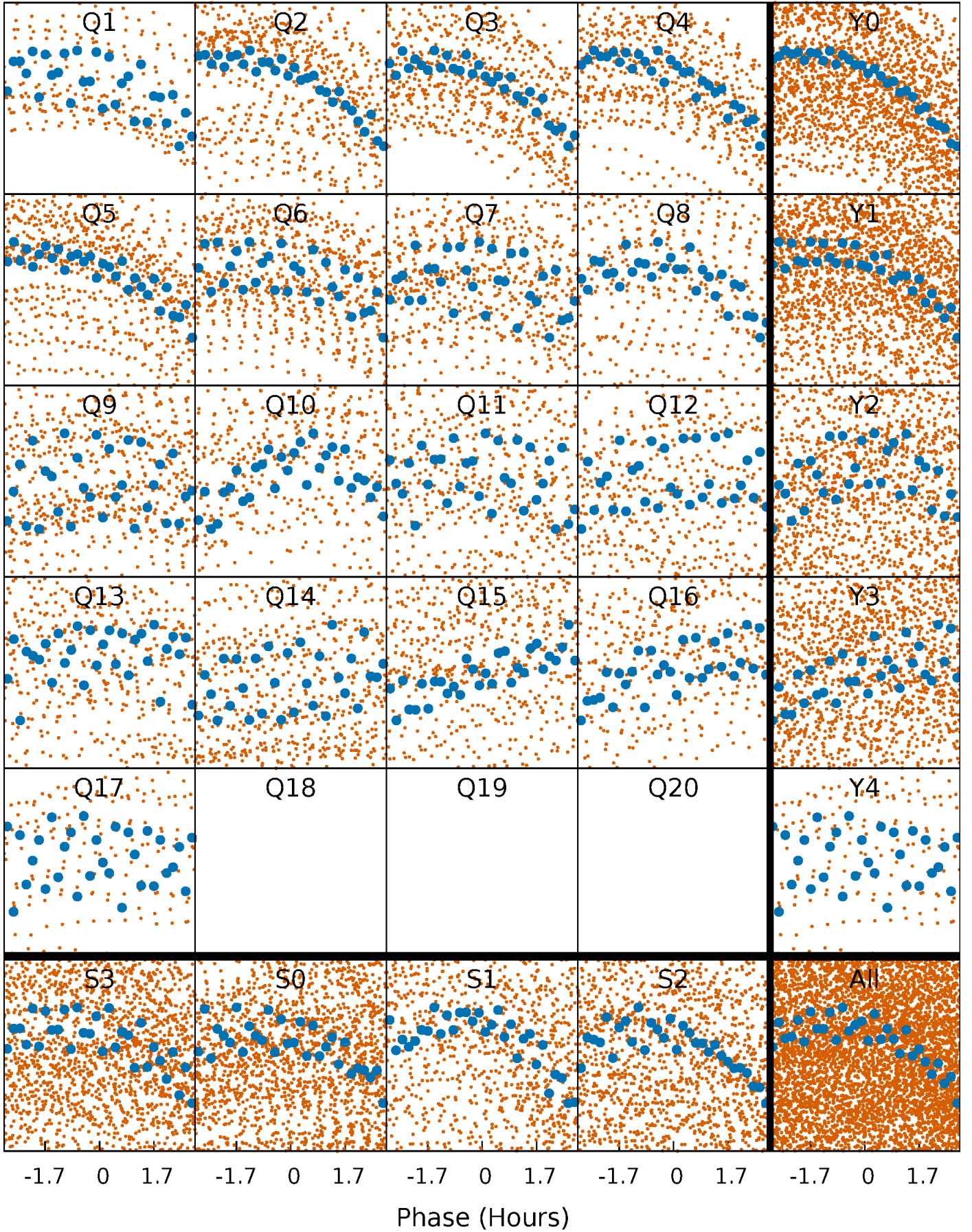


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



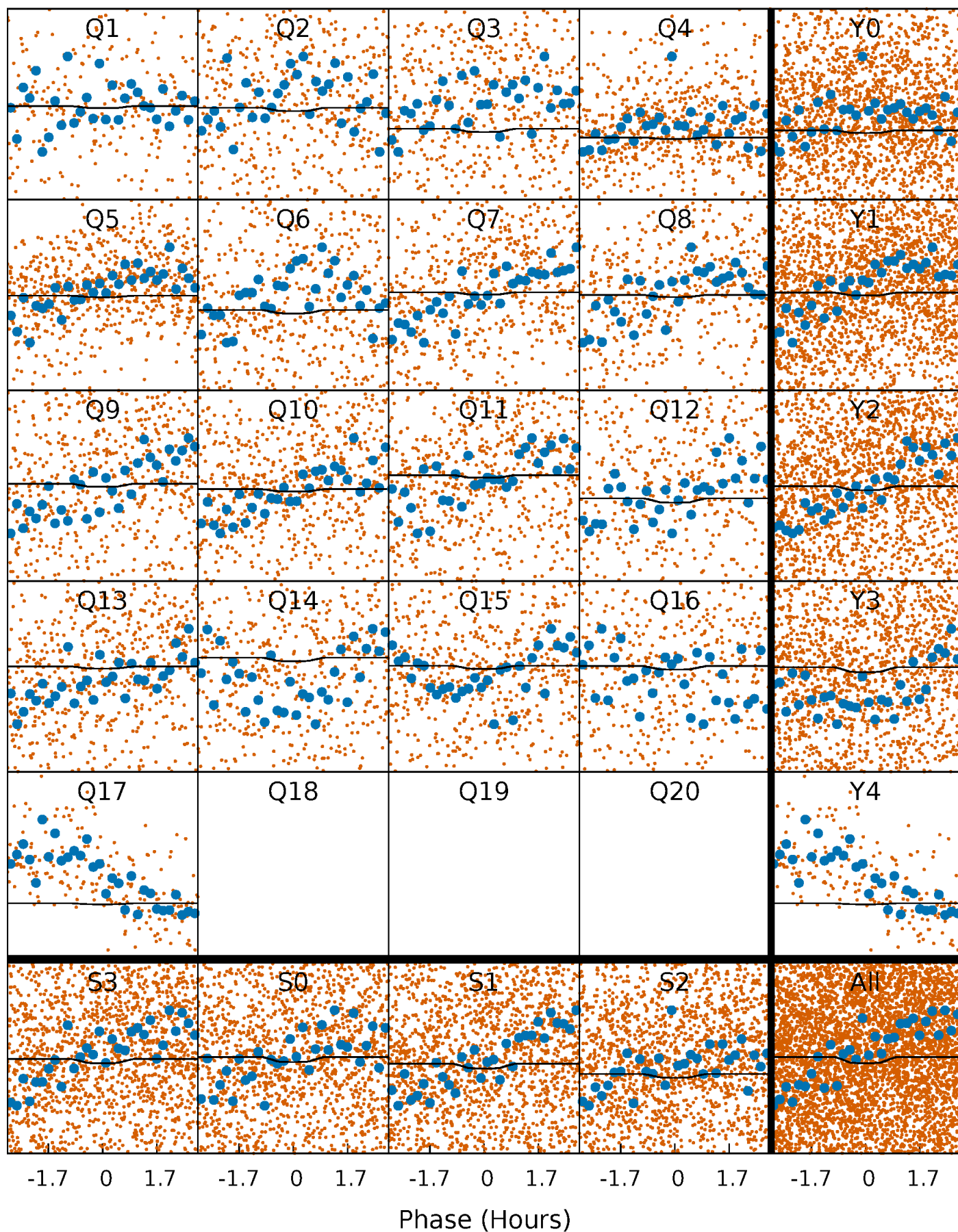
PDC Quarter-Phased Transit Curves

TCE 005130005-01 P= 1.592727 Days $T_0=133.299771$ (BKJD)



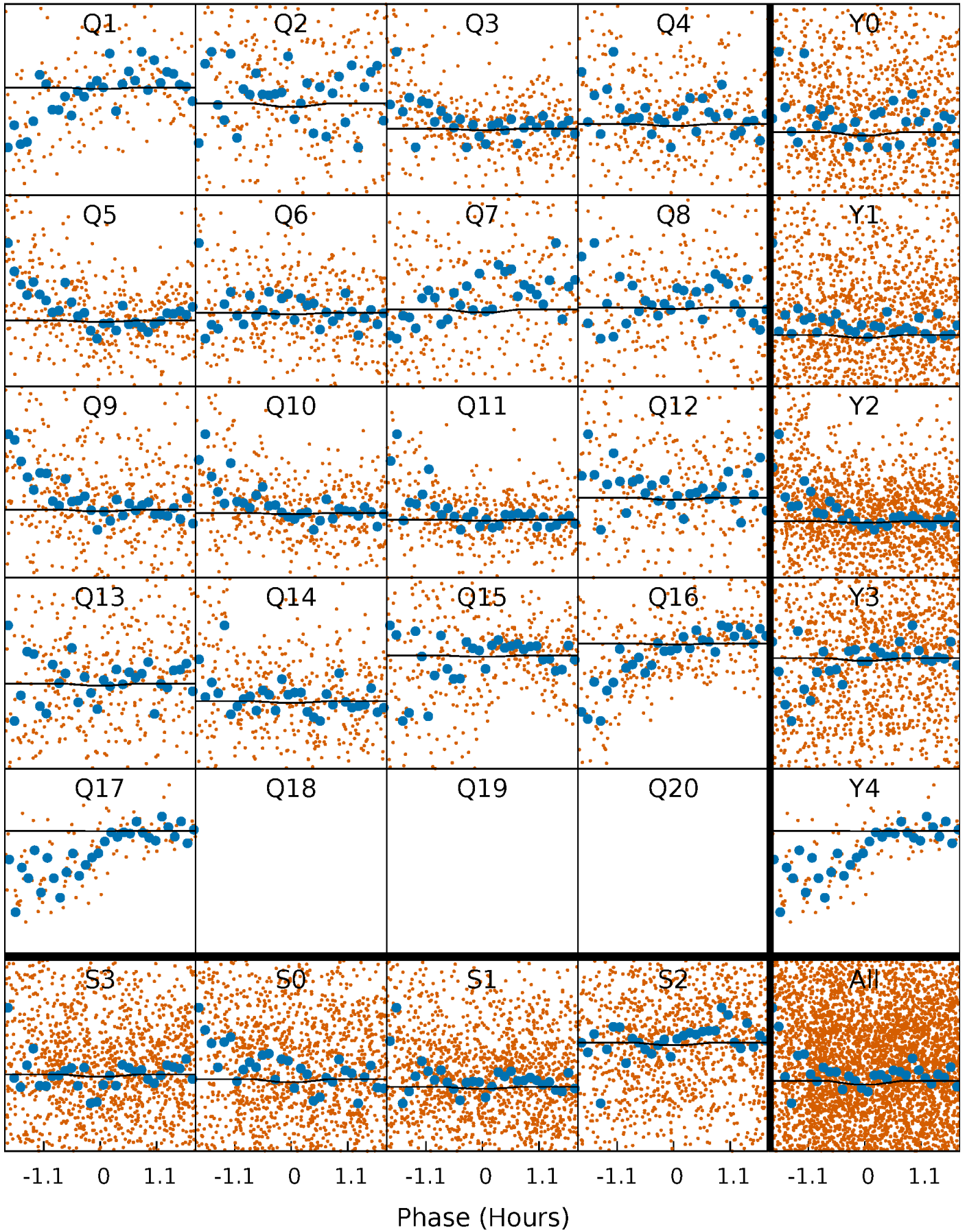
DV Quarter-Phased Transit Curves

TCE 005130005-01 P= 1.592727 Days $T_0=133.299771$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

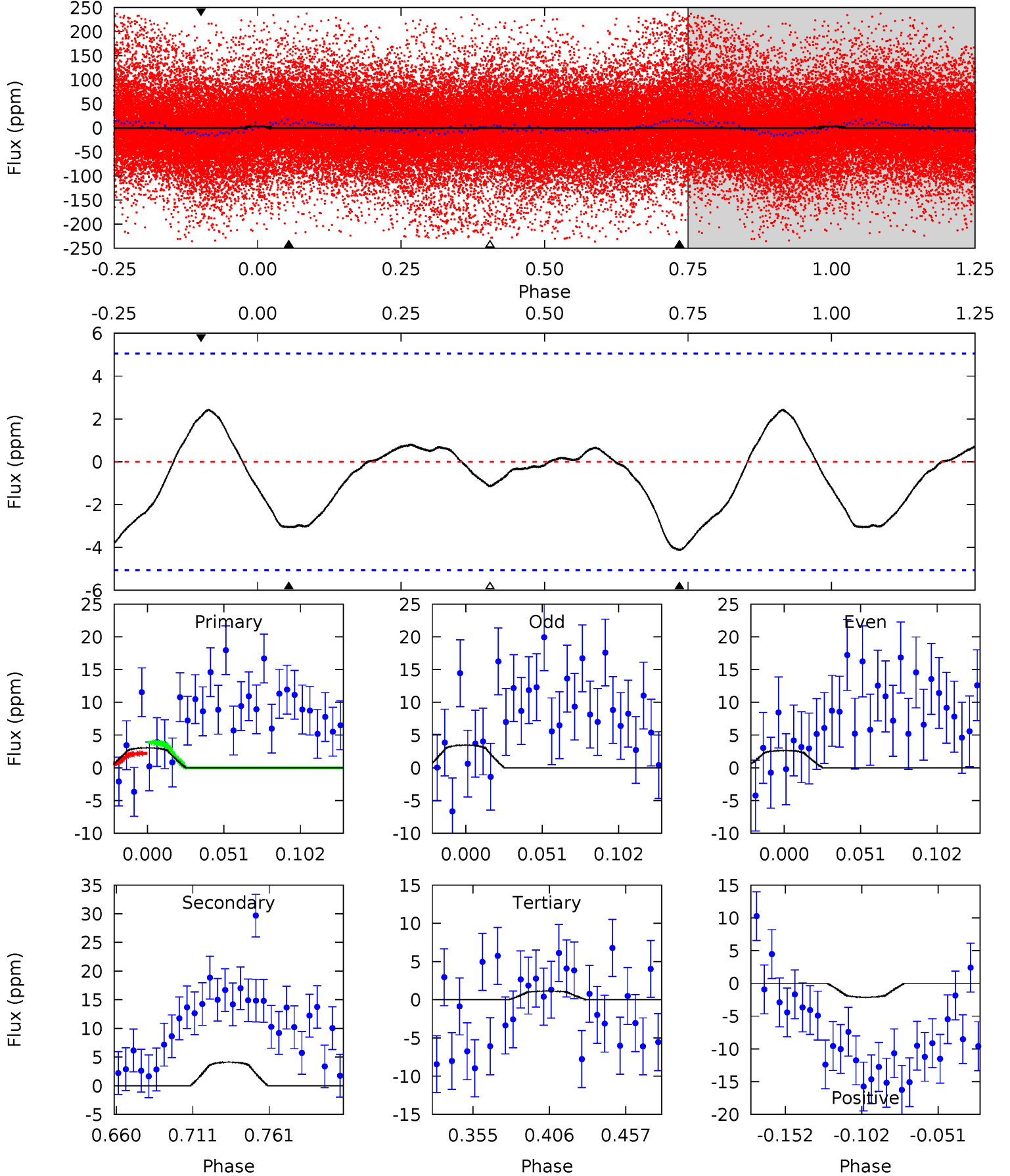
TCE 005130005-01 P= 1.593021 Days $T_0=133.297889$ (BKJD)



DV Model-Shift Uniqueness Test

005130005-01, P = 1.592727 Days, E = 130.114317 Days

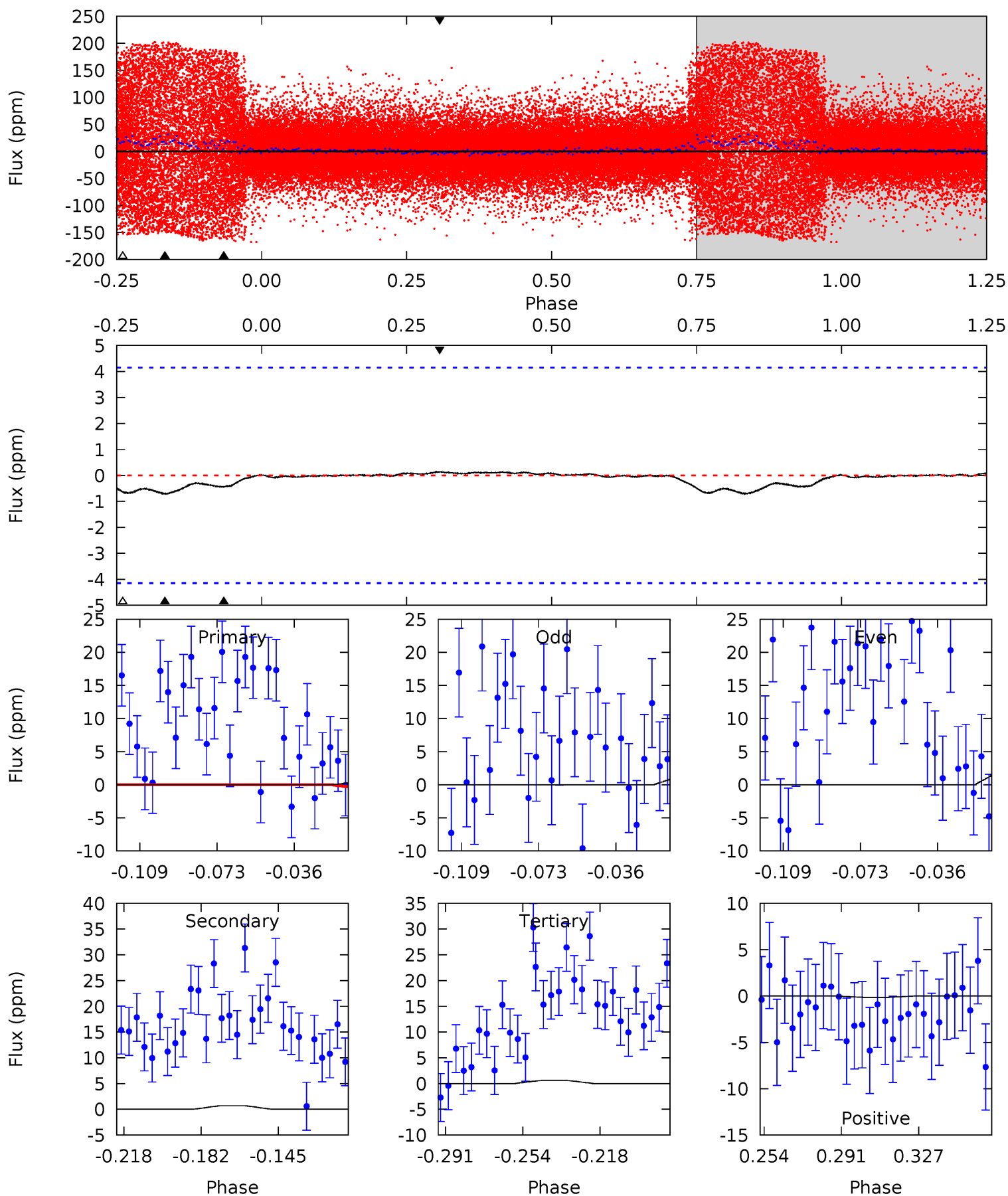
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.84	3.84	1.06	1.97	4.71	1.95	0.99	1.78	0.88	2.78	1.87	0.39	0.45	0.37	0.79



Alt Model-Shift Uniqueness Test

005130005-01, P = 1.593021 Days, E = 130.111847 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.50	0.81	0.73	0.16	4.77	2.09	0.19	-0.23	0.33	0.08	0.65	0.53	-0.37	0.17	0.14



Stellar Parameters For KIC 005130005

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6395^{+177}_{-244}	$4.411^{+0.087}_{-0.188}$	$-0.480^{+0.250}_{-0.300}$	$1.029^{+0.310}_{-0.133}$	$0.995^{+0.145}_{-0.119}$	$1.286^{+0.566}_{-0.667}$
	+3%/-4%	+2%/-4%	+52%/-62%	+30%/-13%	+15%/-12%	+44%/-52%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 005130005-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-4 ± 1	$1.06^{+1.08}_{-0.76}$	2478^{+160}_{-134}	3301^{+2237}_{-1238}	$1.363^{+15.246}_{-1.036}$
Alt.	-1 ± 1	$1.02^{+1.14}_{-0.70}$	2469^{+160}_{-137}	-2474^{+6103}_{-400}	$0.180^{+2.118}_{-0.211}$

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

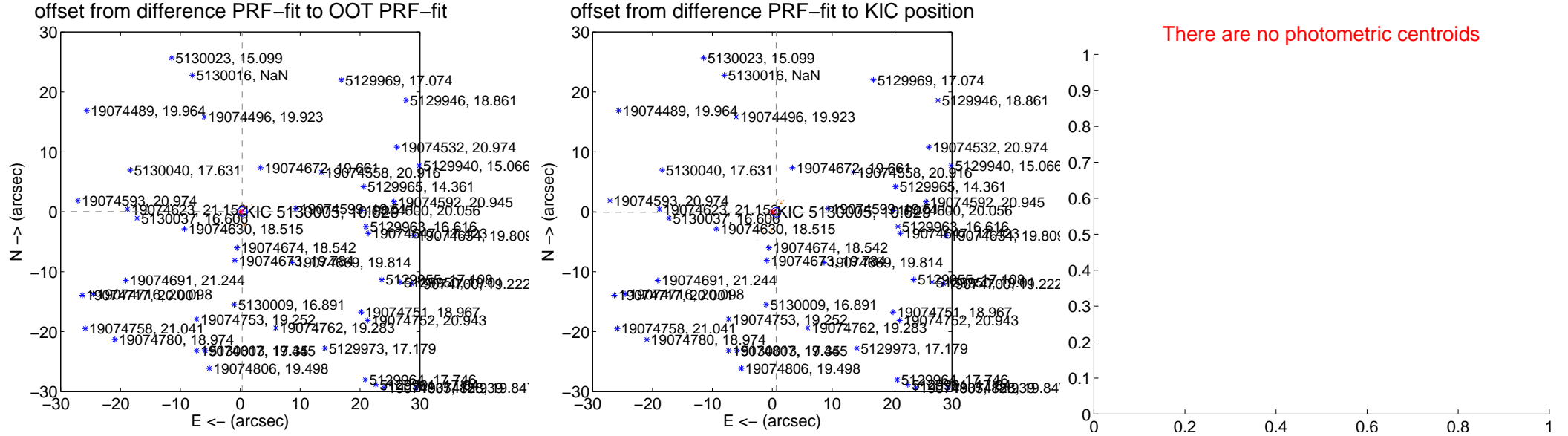
DV Centroid Data

Supplemental centroid analysis for 005130005-01. **Kepler magnitude: 10.63.** Transit SNR 0.89

There are 0 quarters with good PRF difference image offsets

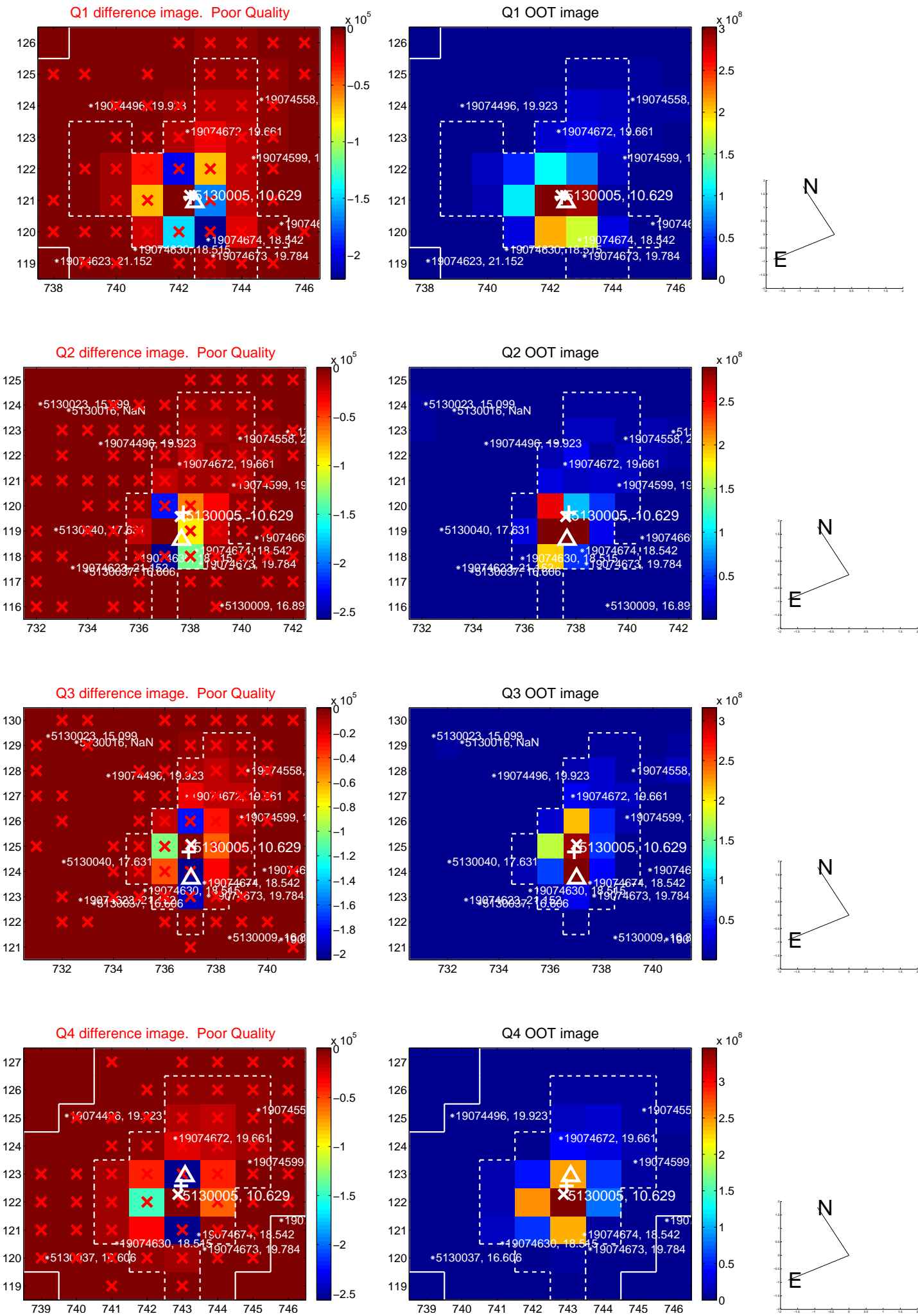
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.328 ± 0.262	1.25	-0.327 ± 0.233	0.029 ± 0.423
PRF-fit source offset from KIC position	0.657 ± 0.263	2.50	-0.651 ± 0.341	-0.092 ± 0.580
photometric centroid source offset	—	—	—	—

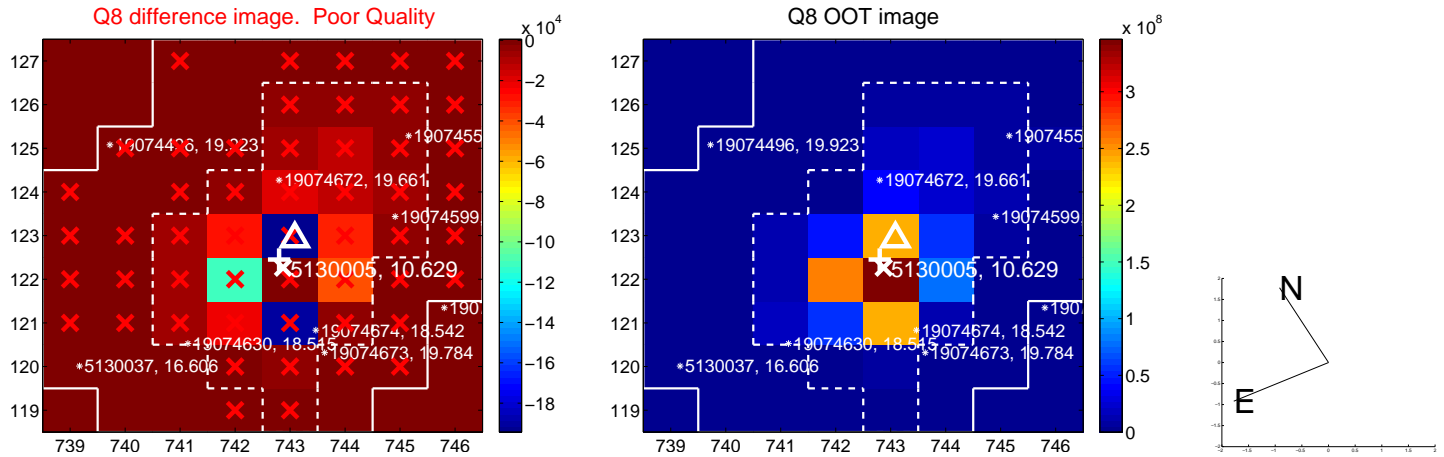
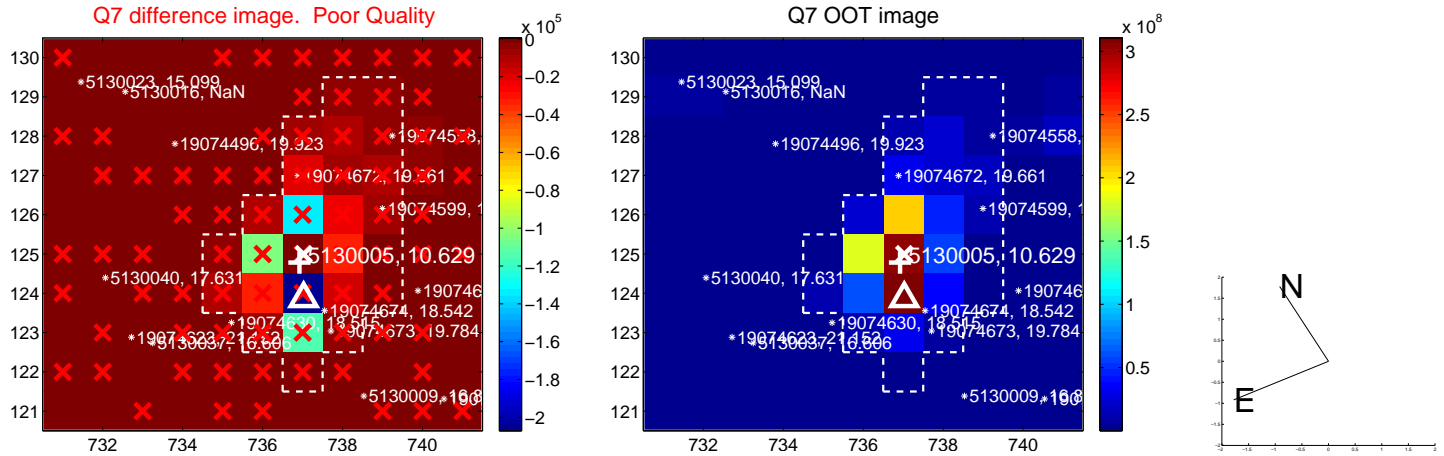
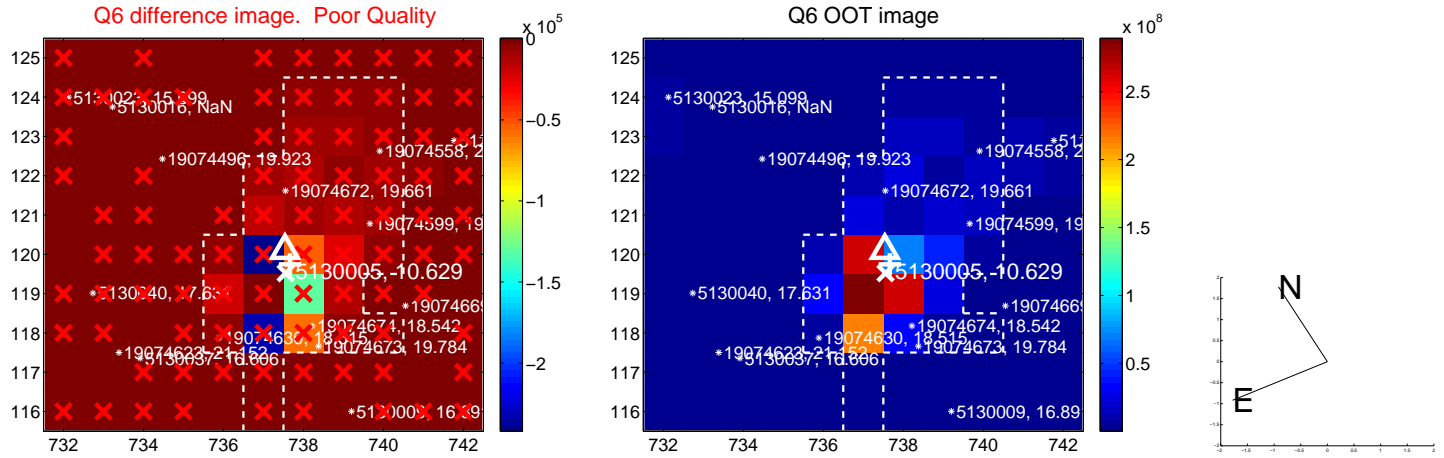
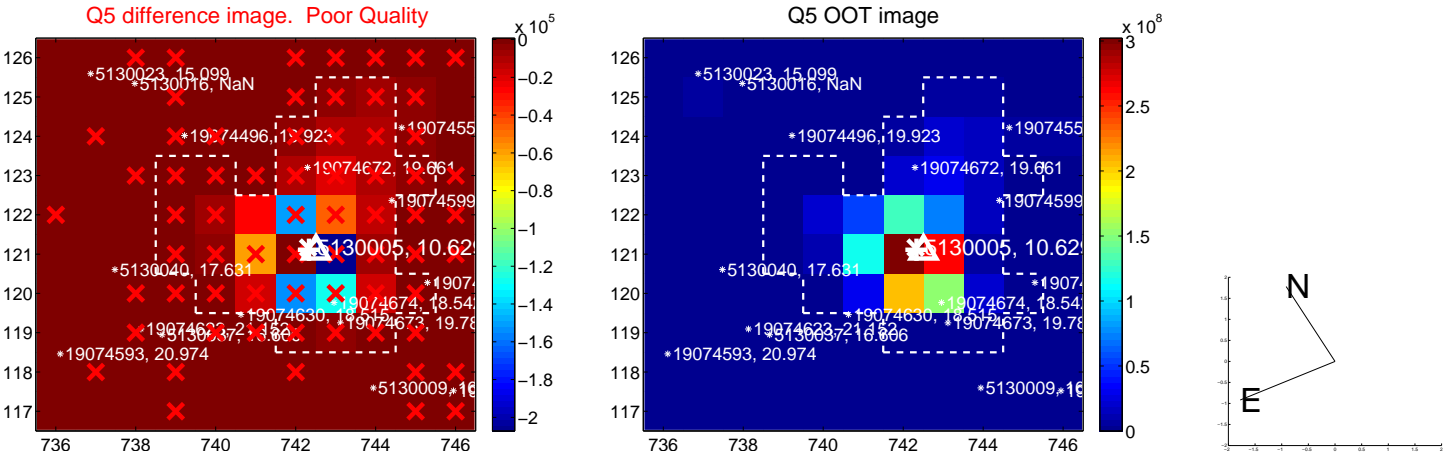


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

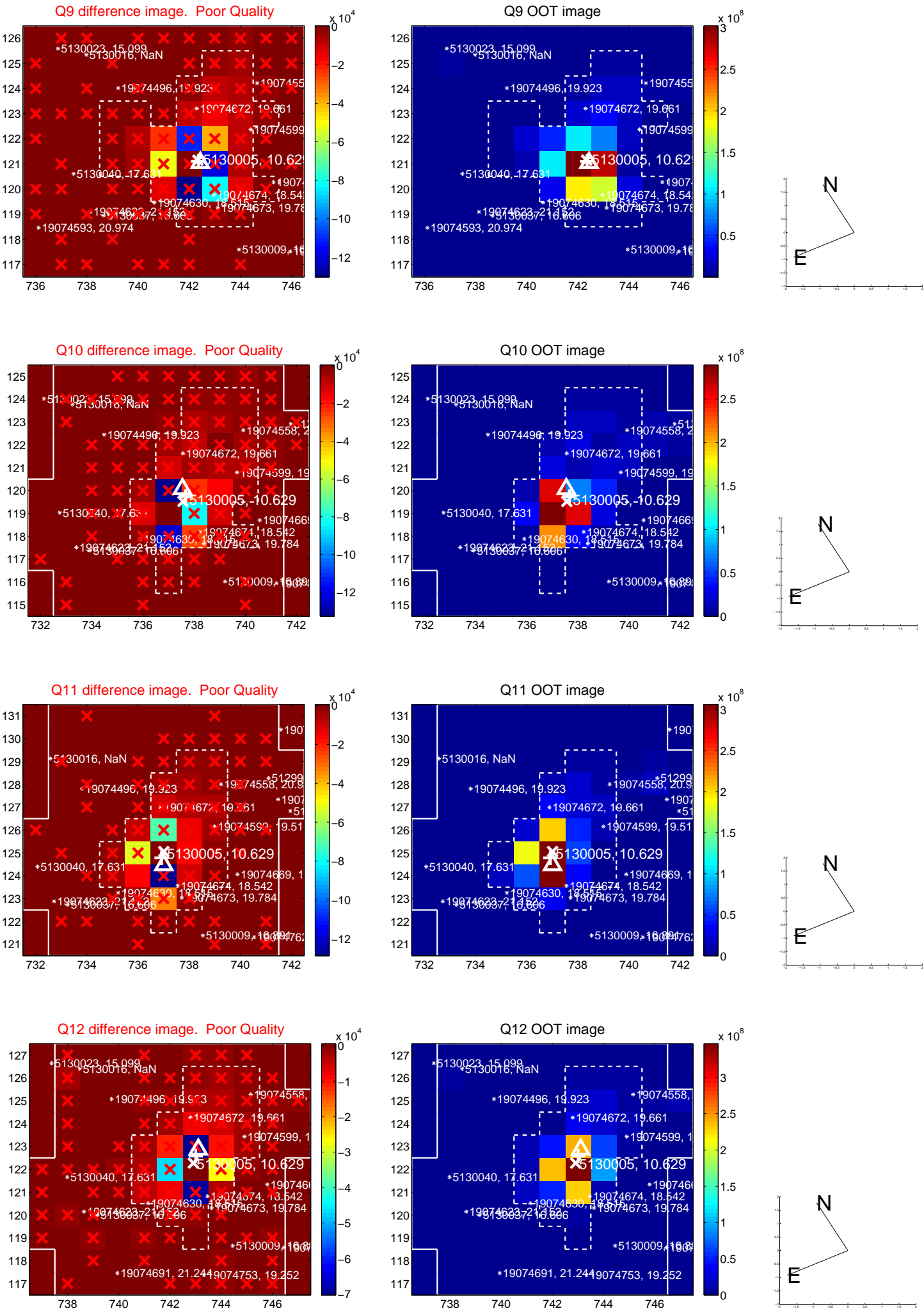
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



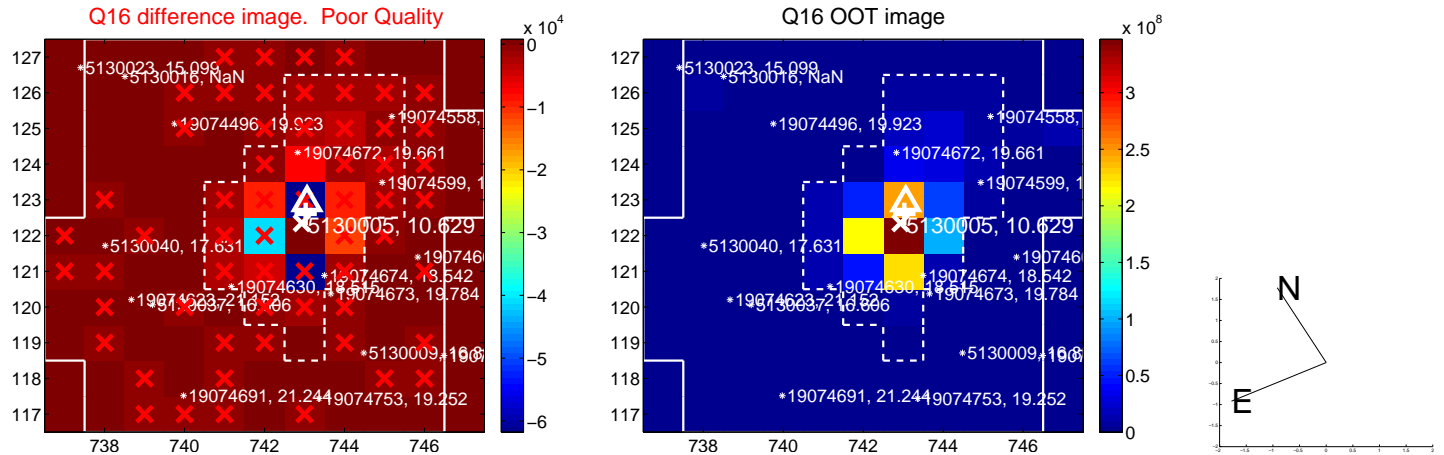
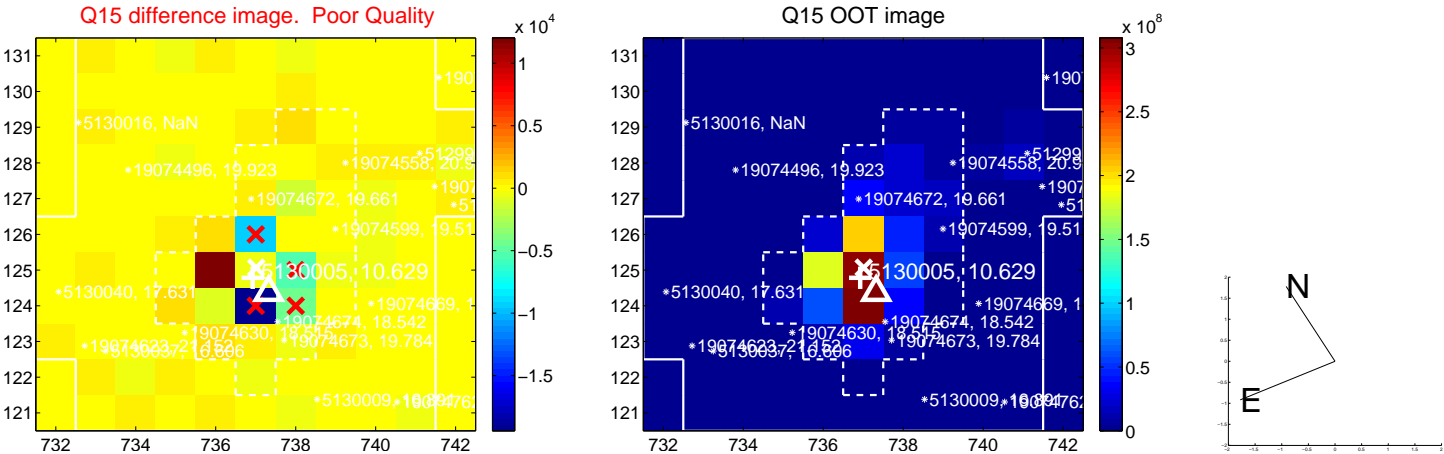
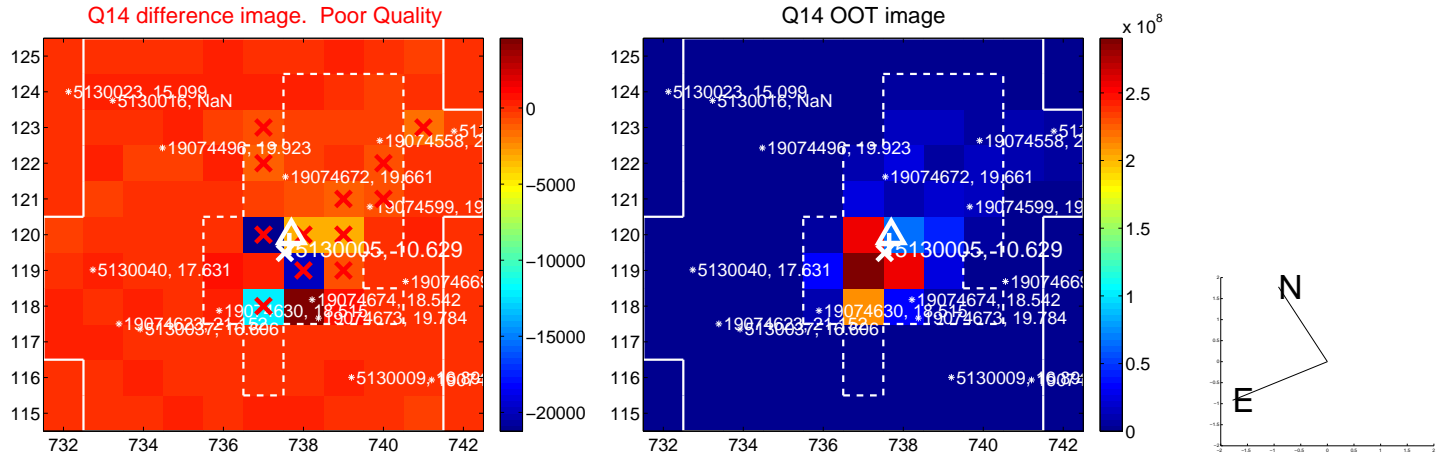
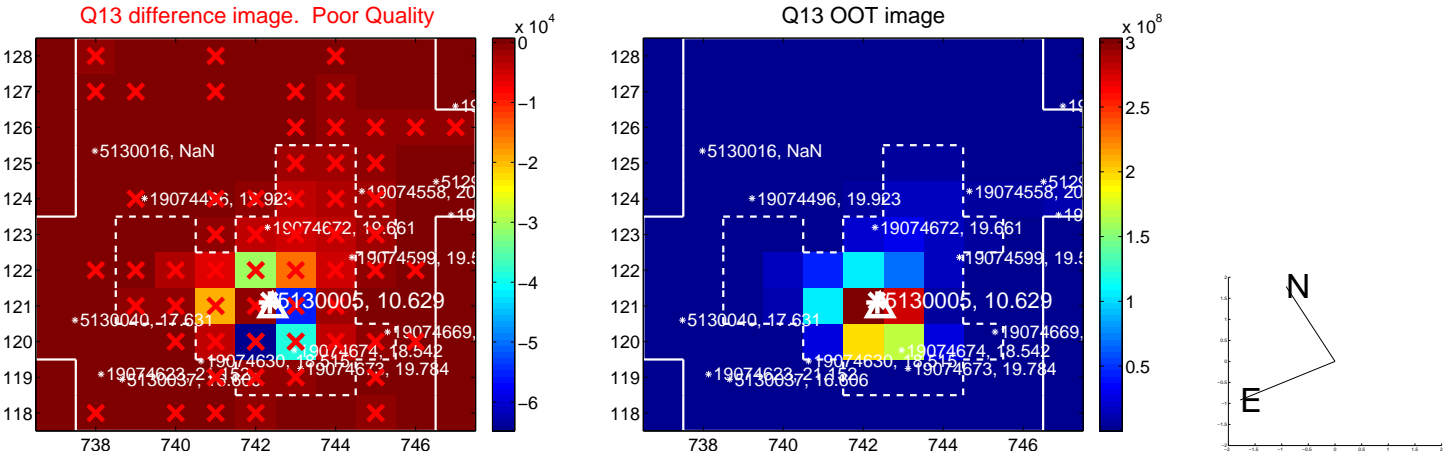
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



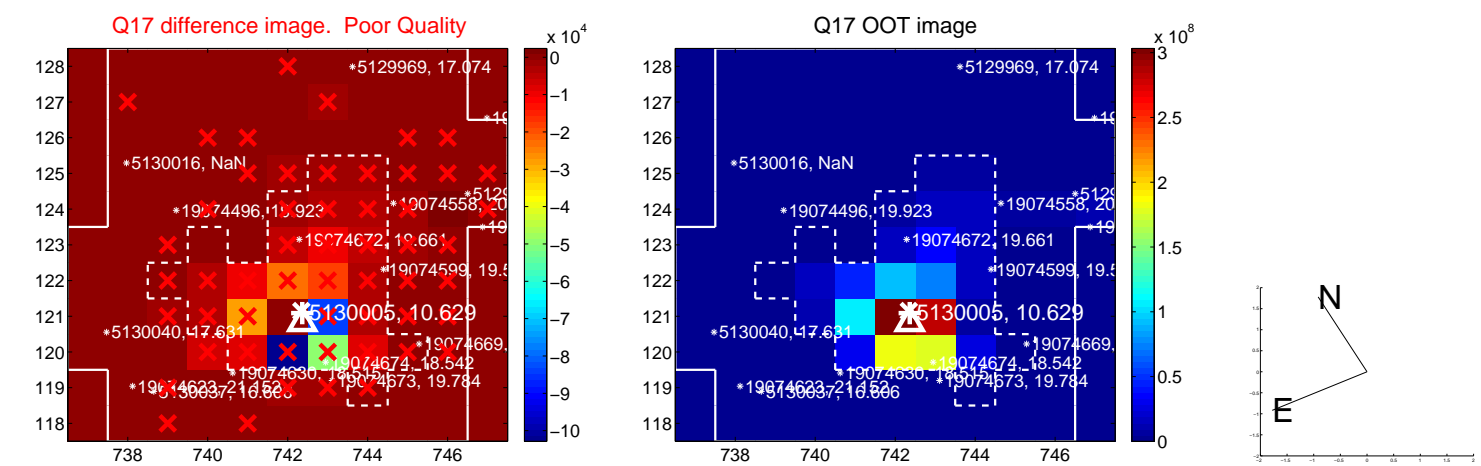
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



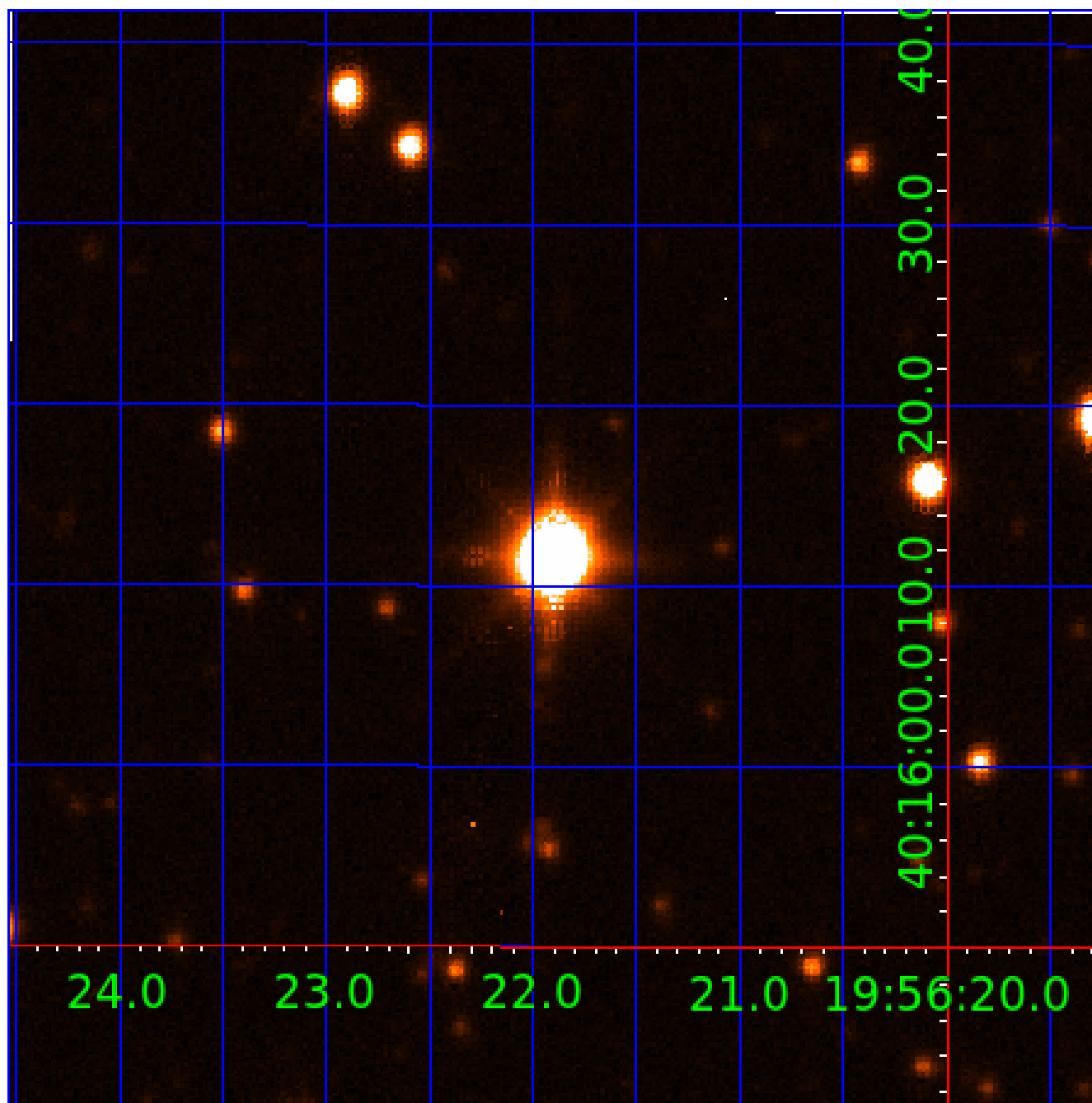
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 005130005

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})
005130005-01	OBS	No	1.592727	133.299771	2.0	1.494	11.7	0.9	1.03	6395	0.15	2233.63
005130005-02	OBS	No	1.593010	132.998249	13.1	2.895	9.5	5.1	1.03	6395	0.42	2233.10

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005130005-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
005130005-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_SATURATED

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

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

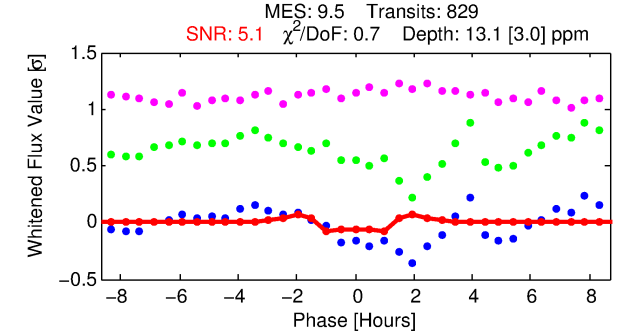
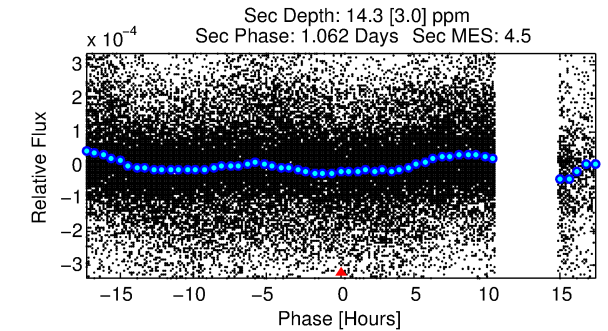
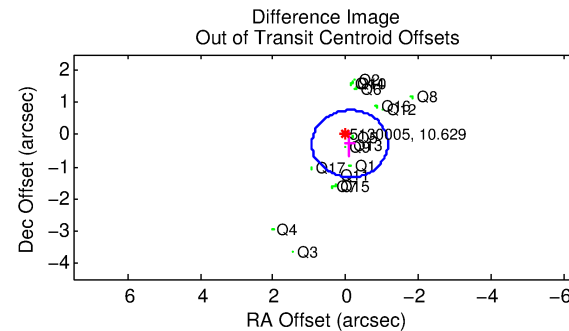
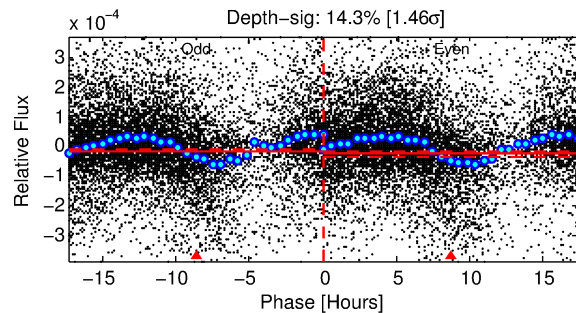
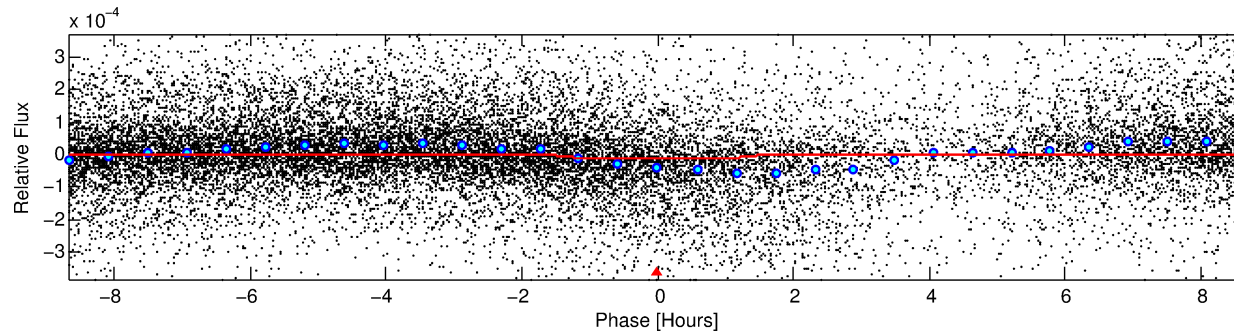
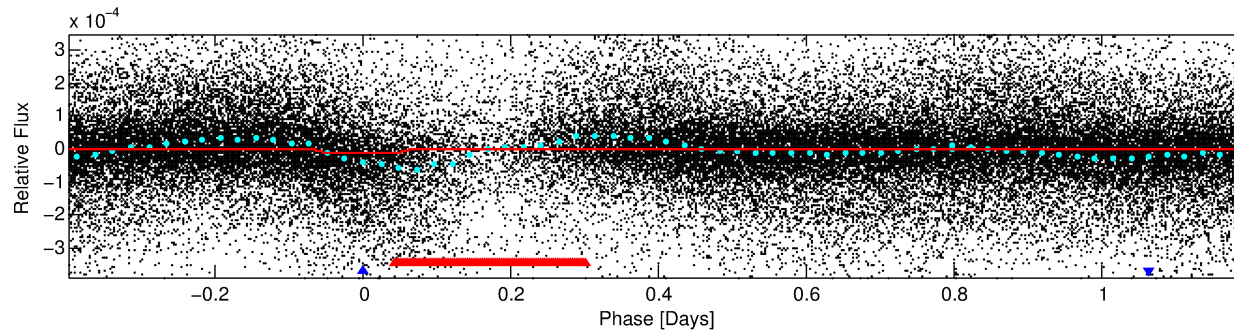
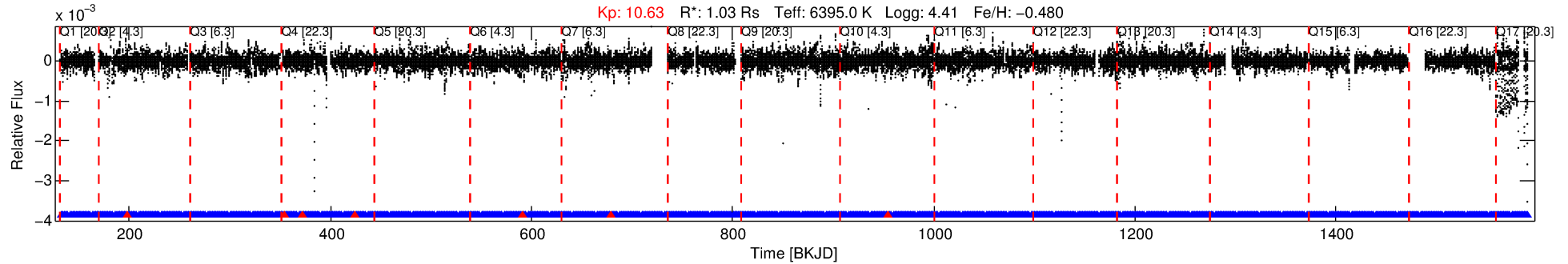
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005130005-02

No Significant Match Found

DV One-Page Summary

KIC: 5130005 Candidate: 2 of 2 Period: 1.593 d



DV Fit Results:

Period = 1.59301 [0.00002] d
Epoch = 132.9982 [0.0034] BKJD
Rp/R* = 0.0037 [0.0006]
a/R* = 2.50 [1.27]
b = 0.84 [0.22]
Seff = 2233.10 [855.94]
Teq = 1753 [168] K
Rp = 0.42 [0.14] Re
a = 0.0267 [0.0066] AU
Ag = 31.93 [16.51] [1.87 σ]
Teffp = 6442 [658] K [6.91 σ]

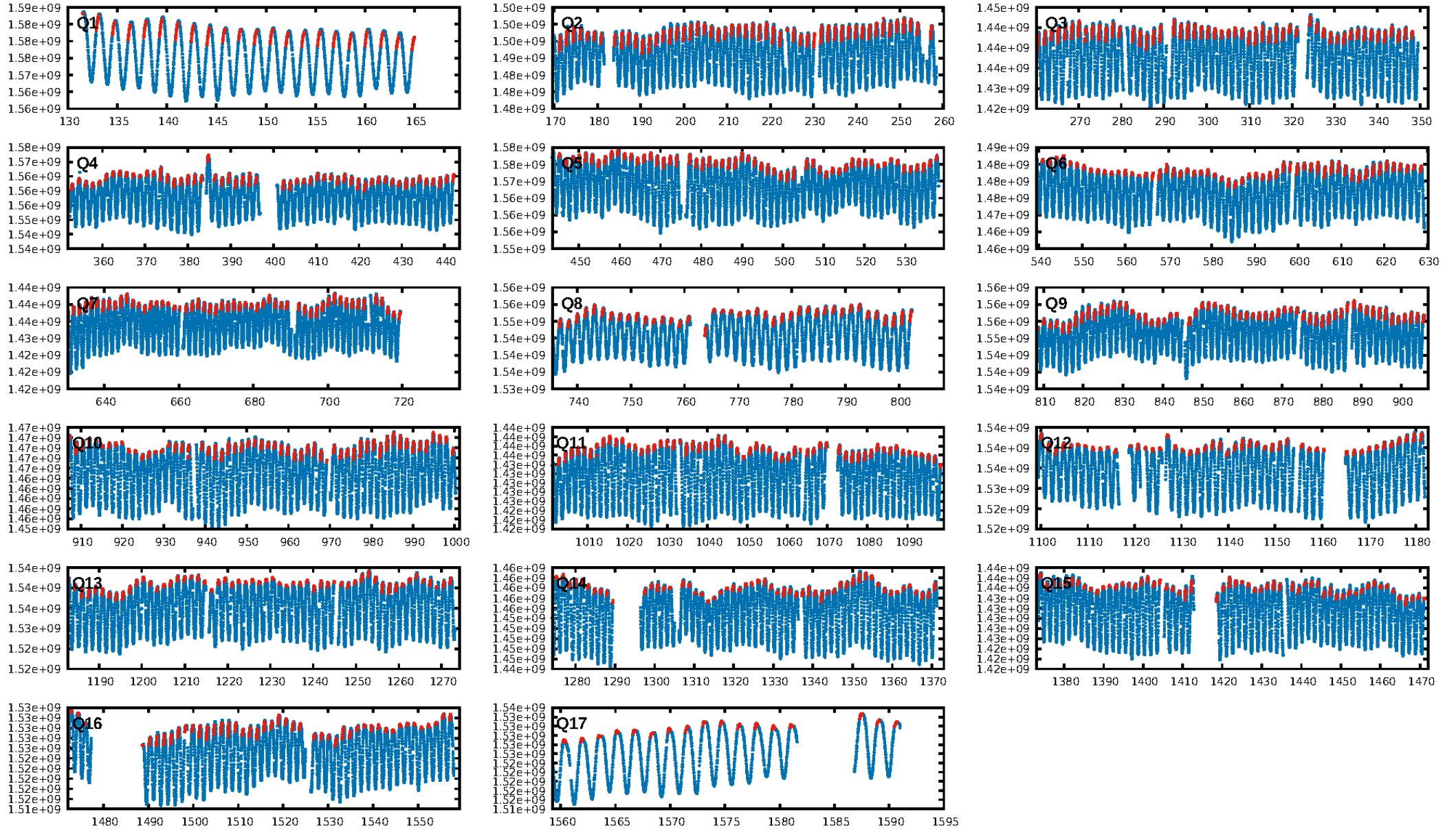
DV Diagnostic Results:

ShortPeriod-sig: 0.2% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.36e-22
RollingBand-fgt: 0.99 [791/798]
GhostDiagnostic-chr: 1.222
Centroid-sig: 23.1%
Centroid-so: 1.430 arcsec [1.01 σ]
OotOffset-rm: 0.311 arcsec [0.89 σ]
KicOffset-rm: 0.513 arcsec [1.06 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 0.00 [0/17]

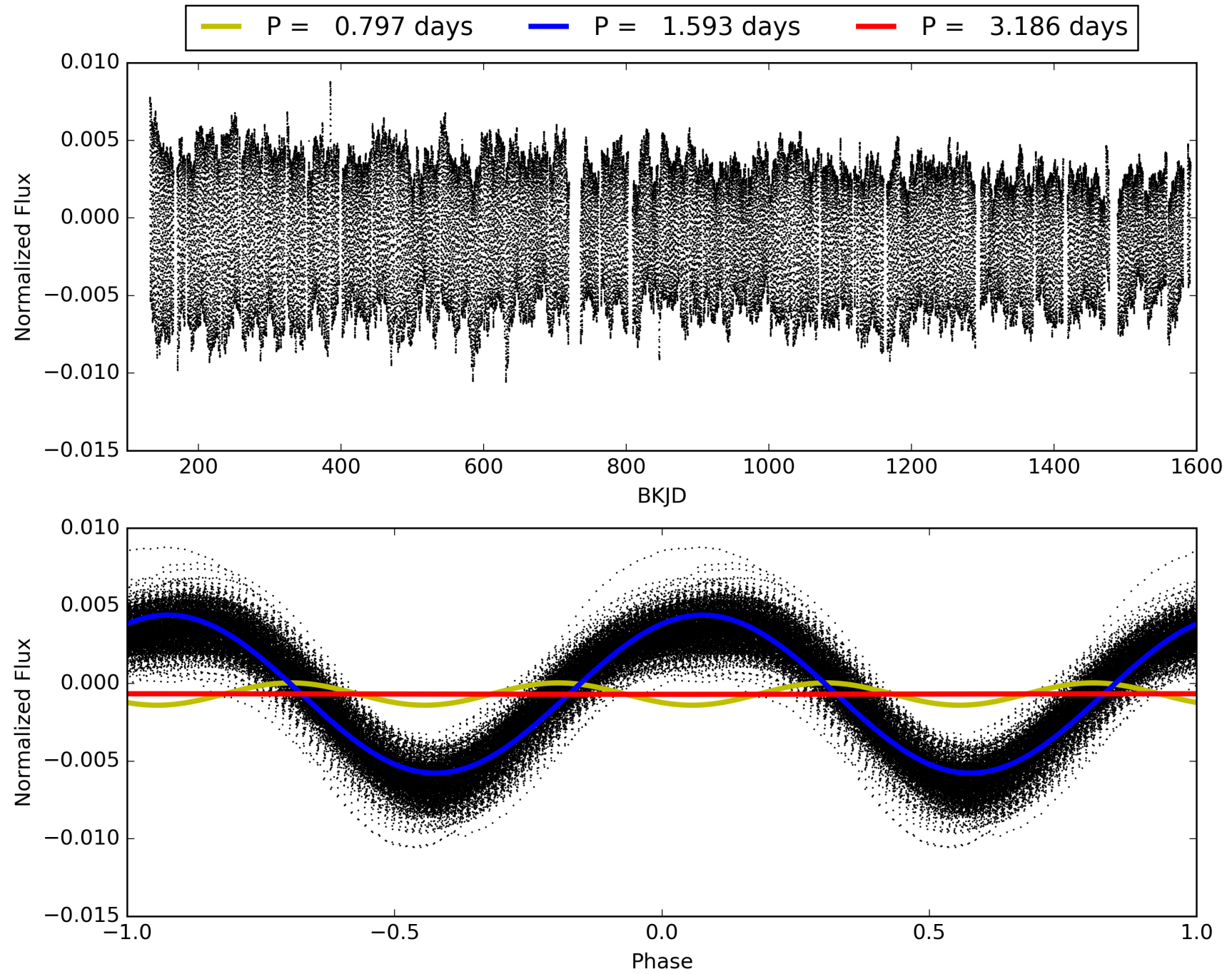
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 09:47:01 Z

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

TCE 005130005-02, PDC Light Curves

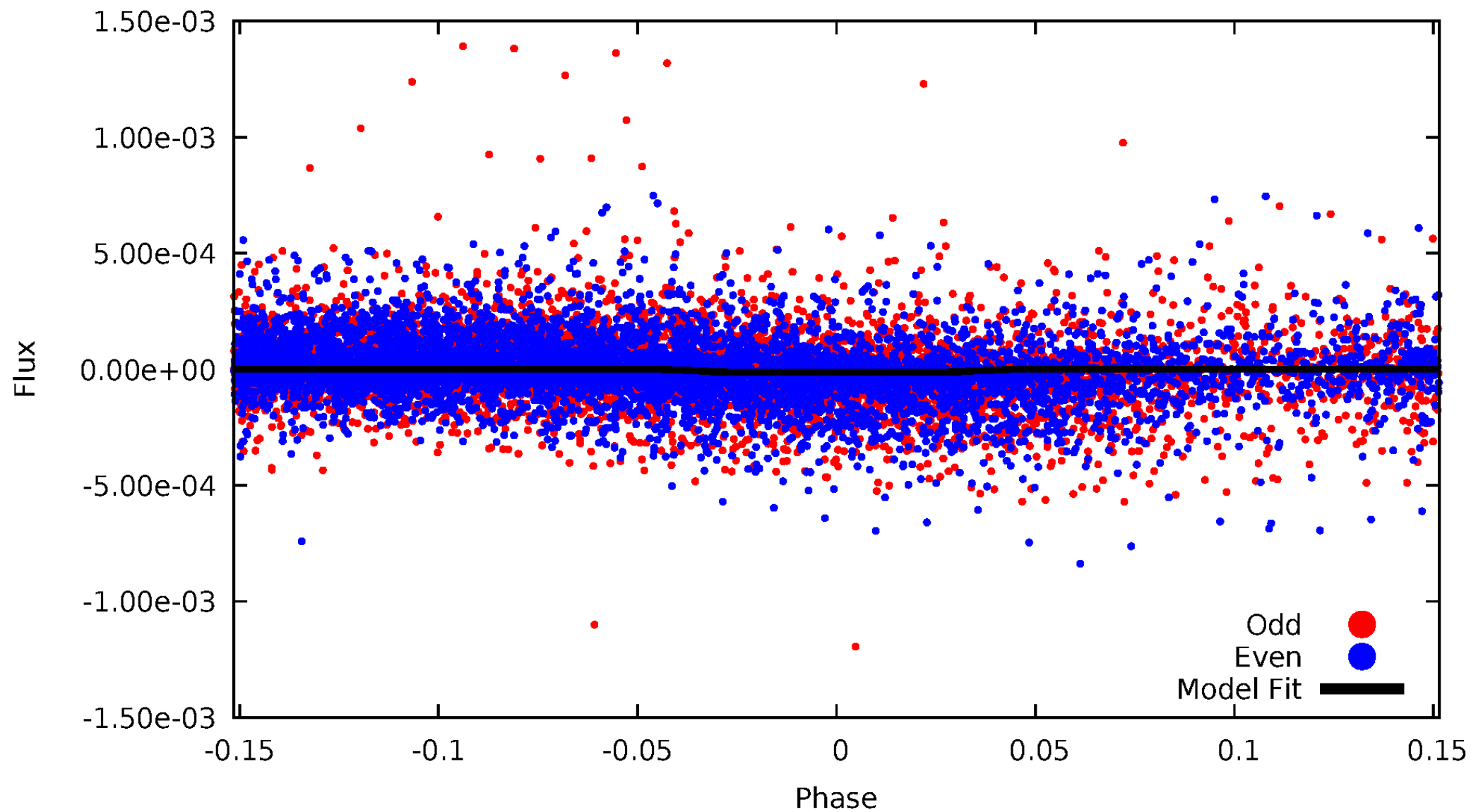


TCE 005130005-02



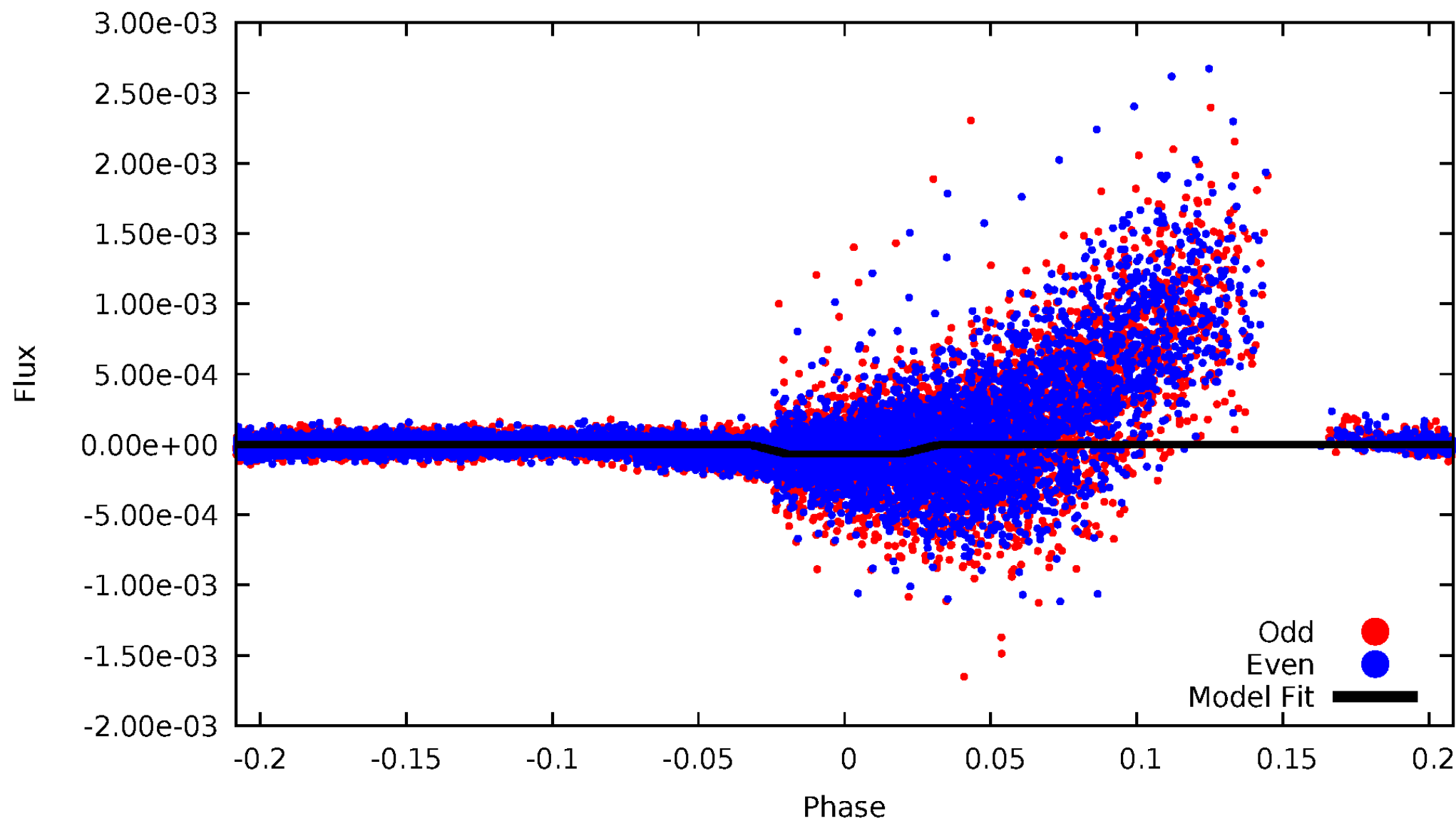
DV Odd/Even

TCE 005130005-02



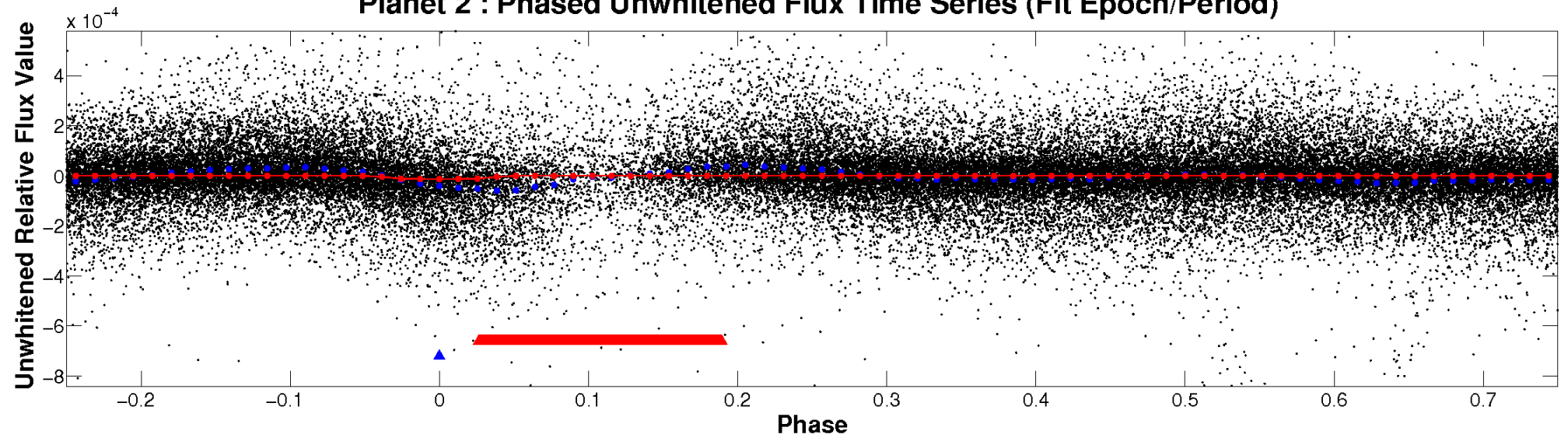
ALT Odd/Even

TCE 005130005-02

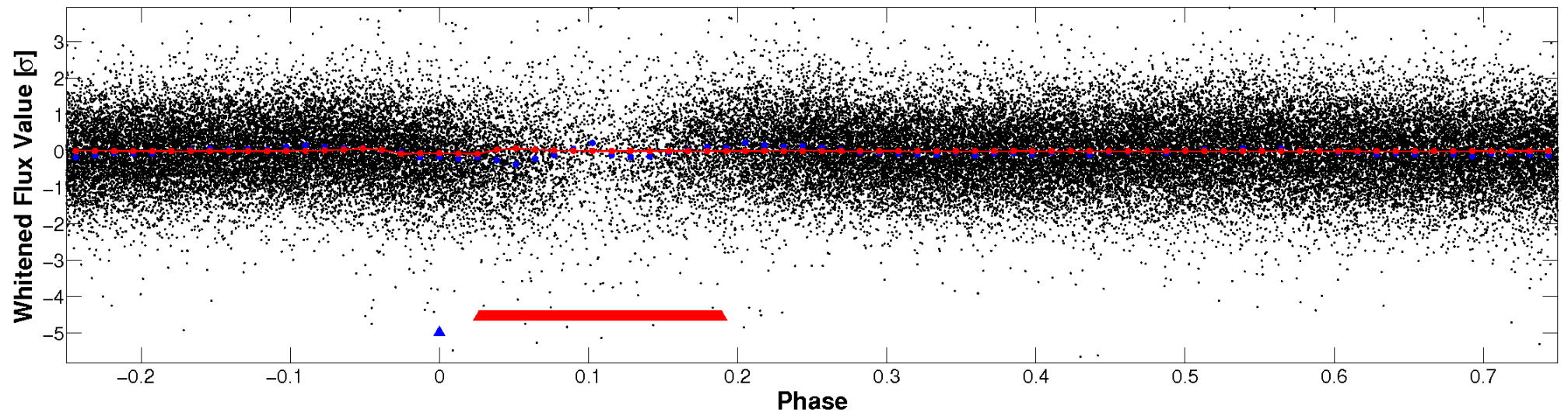


Non-Whitened Vs. Whitened Light Curve

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

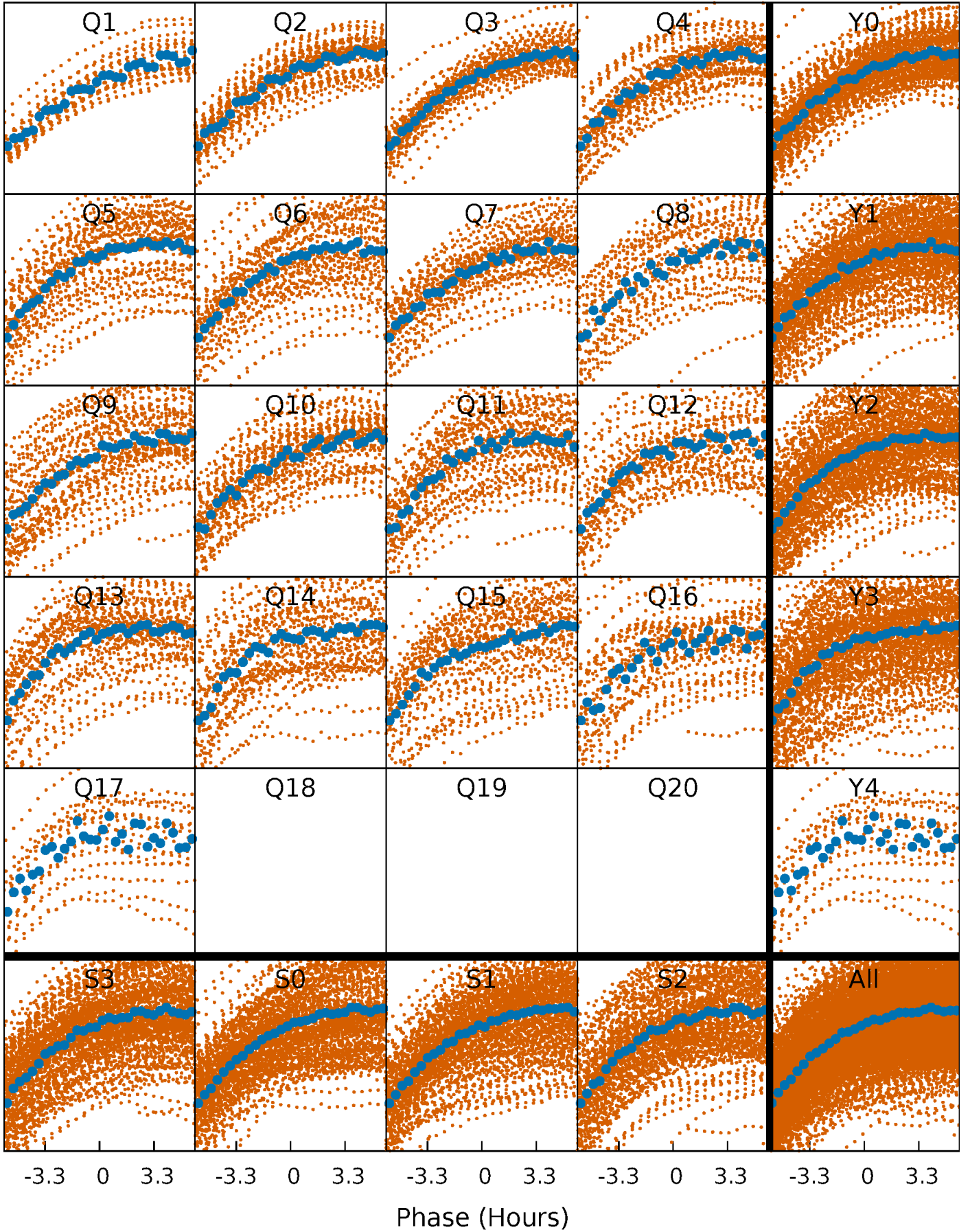


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



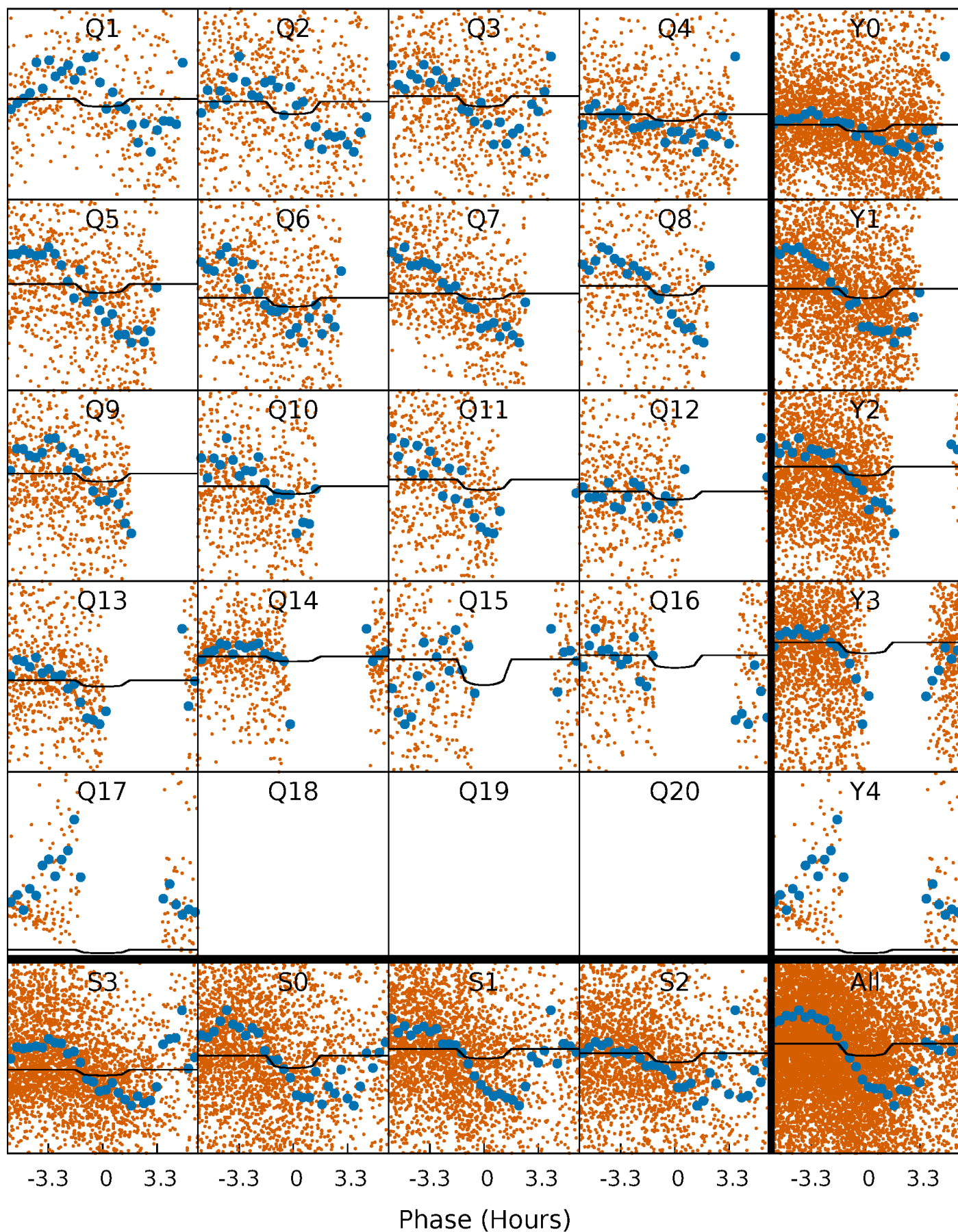
PDC Quarter-Phased Transit Curves

TCE 005130005-02 P= 1.593010 Days $T_0=132.998249$ (BKJD)



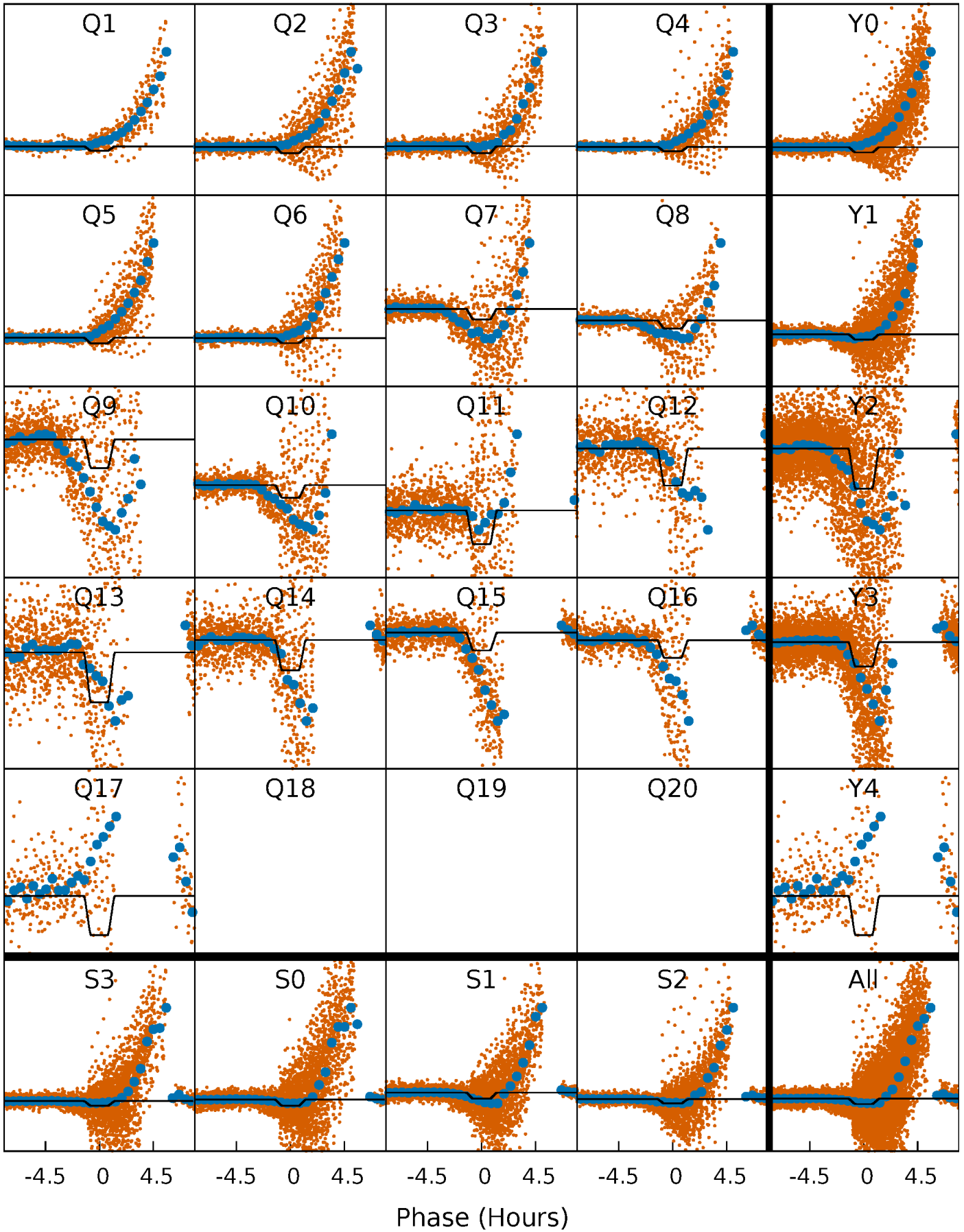
DV Quarter-Phased Transit Curves

TCE 005130005-02 P= 1.593010 Days $T_0=132.998249$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

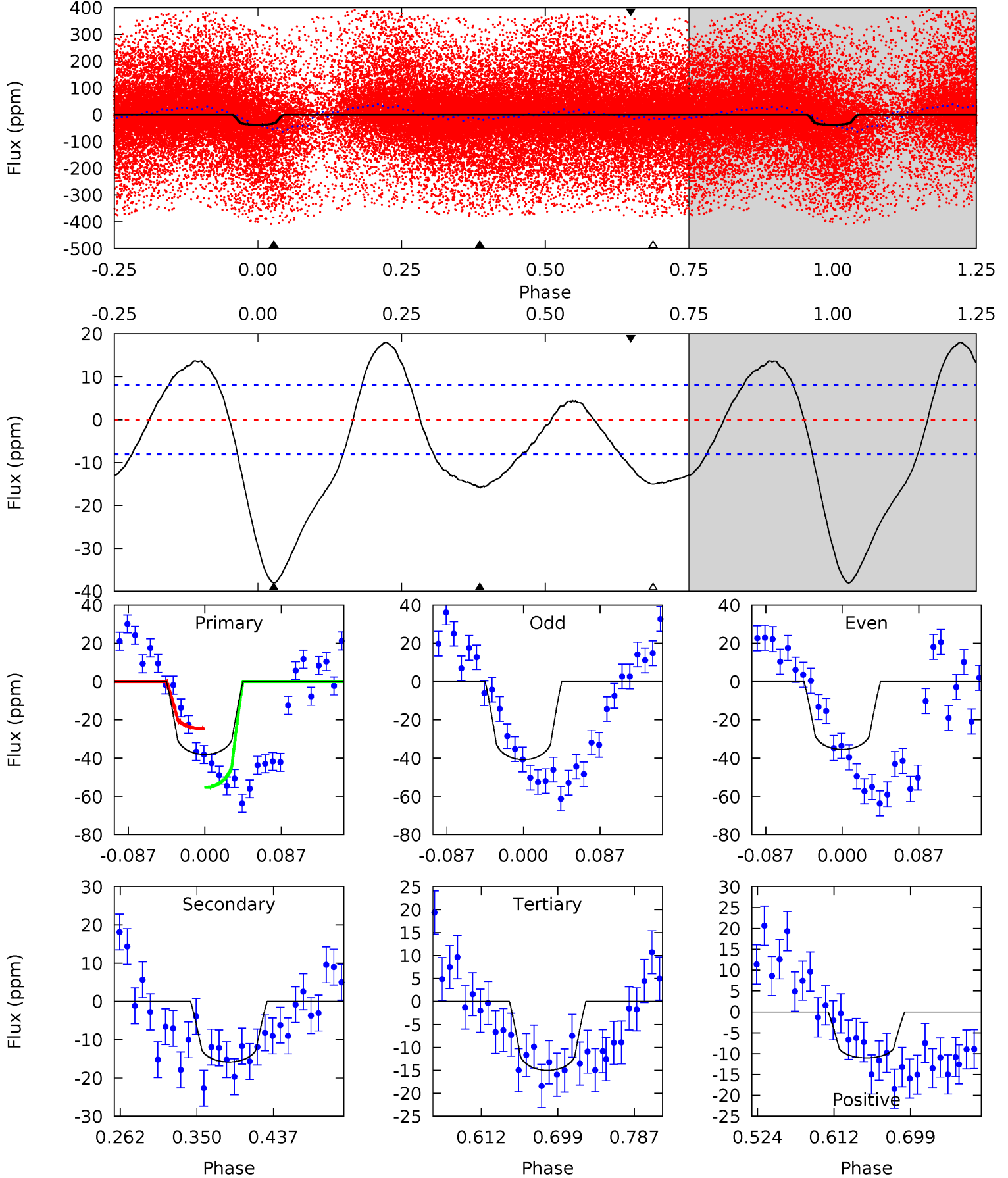
TCE 005130005-02 $P = 1.592926$ Days $T_0 = 132.962777$ (BKJD)



DV Model-Shift Uniqueness Test

005130005-02, P = 1.593010 Days, E = 131.405239 Days

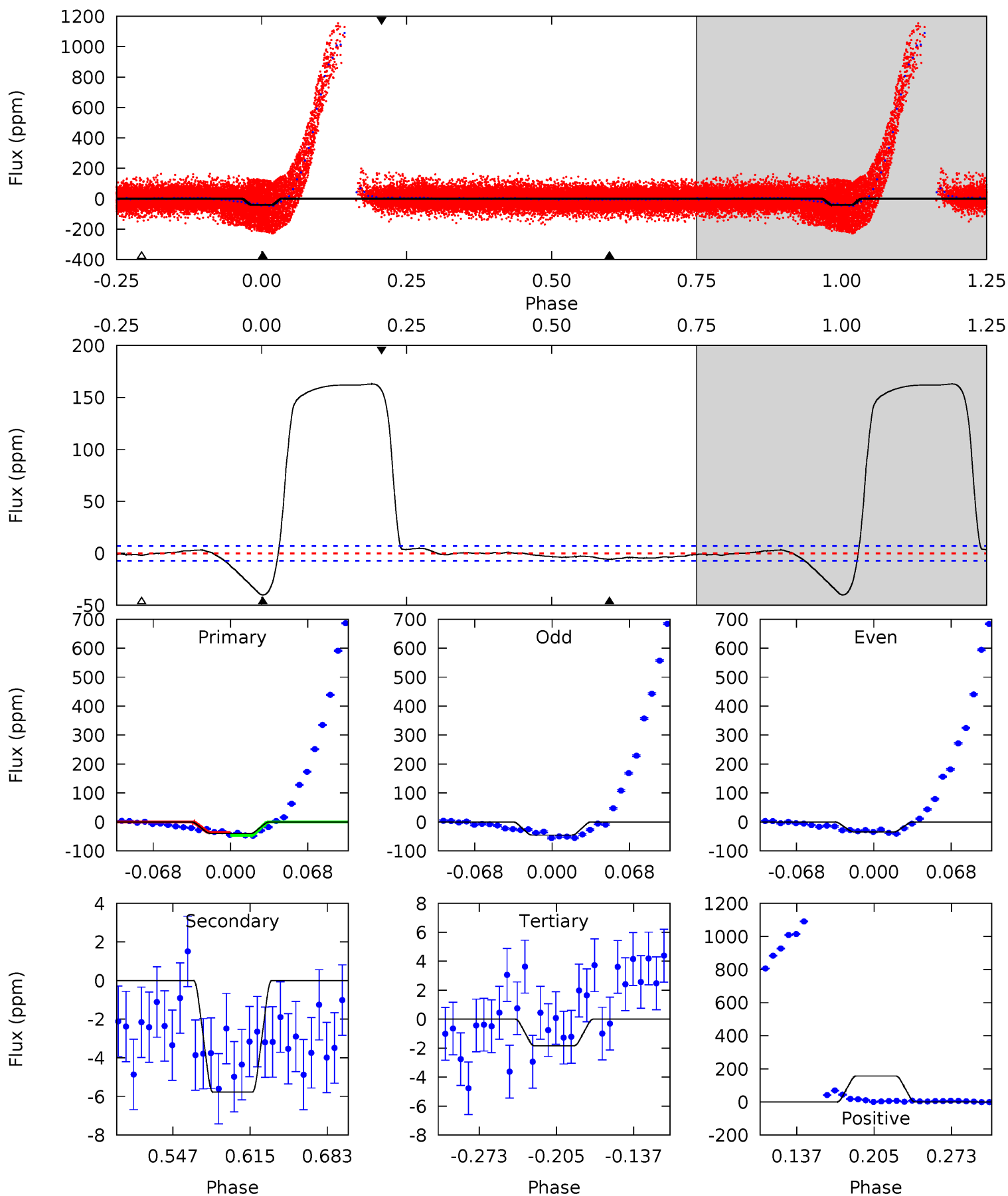
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.5	8.95	8.49	-6.23	4.59	1.71	5.61	13.1	27.8	0.45	15.2	1.54	1.16	0.32	8.82



Alt Model-Shift Uniqueness Test

005130005-02, P = 1.592926 Days, E = 131.369851 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.1	3.77	1.20	102.4	4.64	1.82	20.3	24.9	-76.3	2.57	-98.6	3.72	1.28	0.80	2.66



Stellar Parameters For KIC 005130005

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6395^{+177}_{-244}	$4.411^{+0.087}_{-0.188}$	$-0.480^{+0.250}_{-0.300}$	$1.029^{+0.310}_{-0.133}$	$0.995^{+0.145}_{-0.119}$	$1.286^{+0.566}_{-0.667}$
	+3%/-4%	+2%/-4%	+52%/-62%	+30%/-13%	+15%/-12%	+44%/-52%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 005130005-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-16 ± 2	$0.43^{+0.09}_{-0.08}$	2471^{+176}_{-141}	6590^{+739}_{-566}	34^{+17}_{-11}
Alt.	-6 ± 2	$0.95^{+0.16}_{-0.11}$	2471^{+168}_{-128}	3715^{+218}_{-260}	$2.416^{+0.999}_{-0.830}$

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

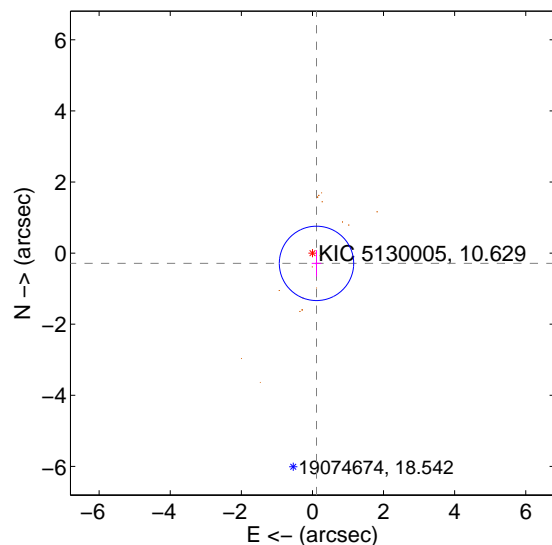
Supplemental centroid analysis for 005130005-02. **Kepler magnitude: 10.63.** Transit SNR 5.11

There are 0 quarters with good PRF difference image offsets

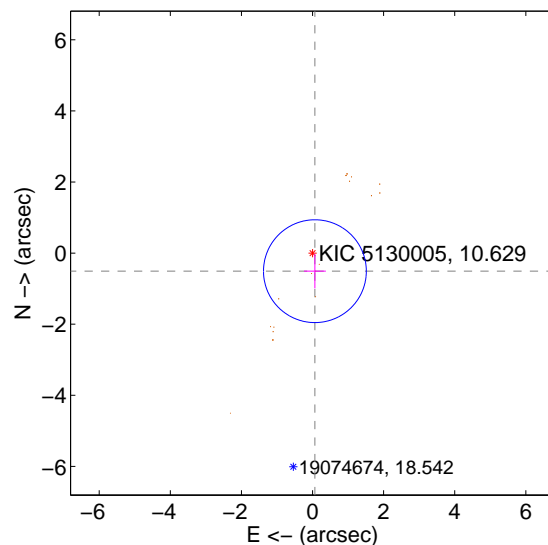
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.311 ± 0.349	0.89	-0.114 ± 0.135	-0.289 ± 0.371
PRF-fit source offset from KIC position	0.513 ± 0.482	1.06	-0.067 ± 0.307	-0.509 ± 0.484
photometric centroid source offset	1.43 ± 1.41	1.01	-0.53 ± 1.16	1.33 ± 1.45

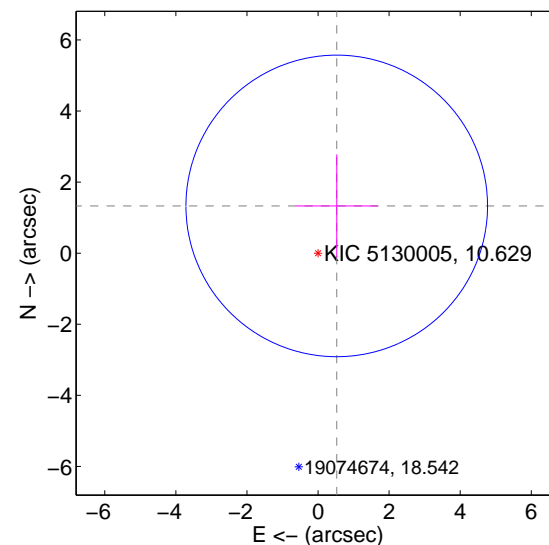
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

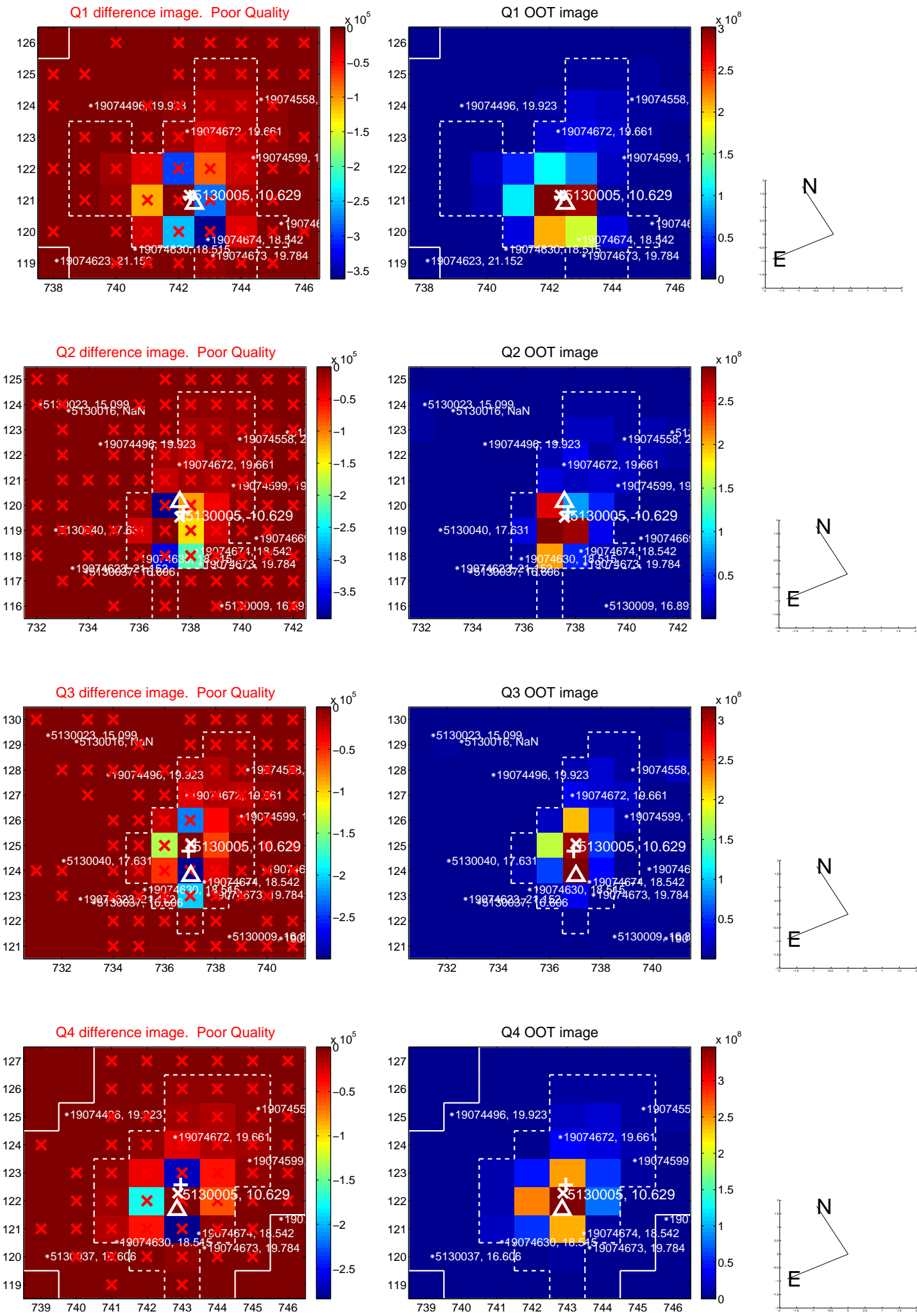


offset from photometric centroids

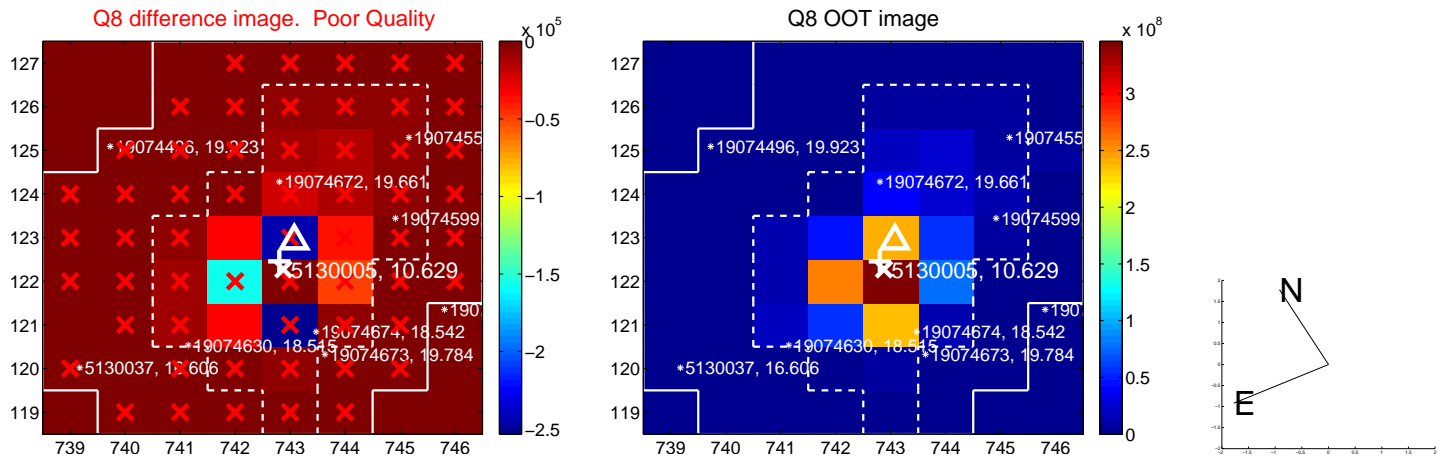
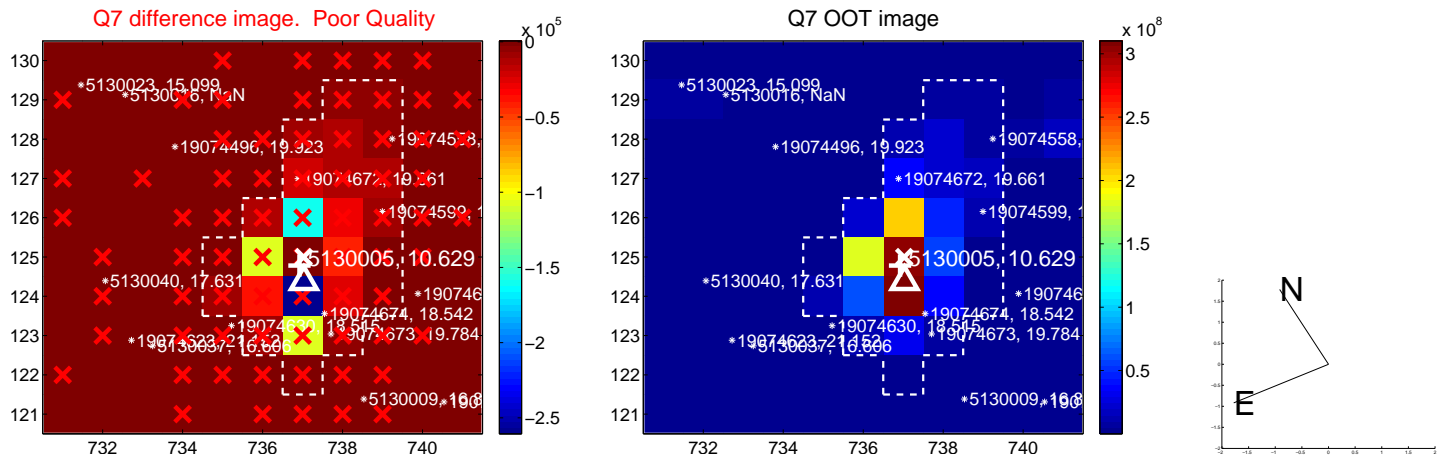
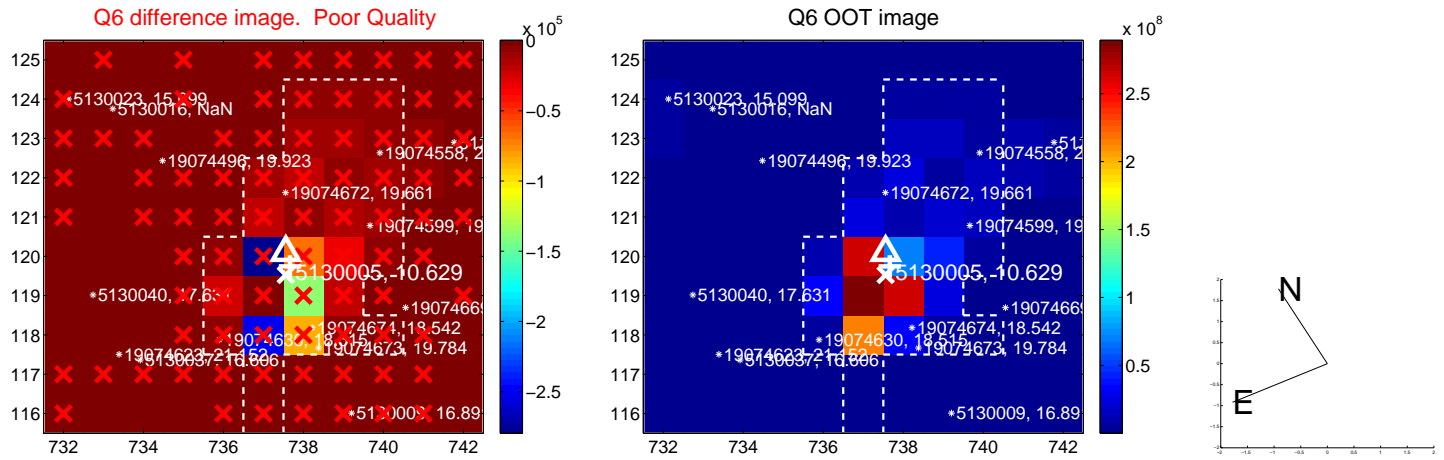
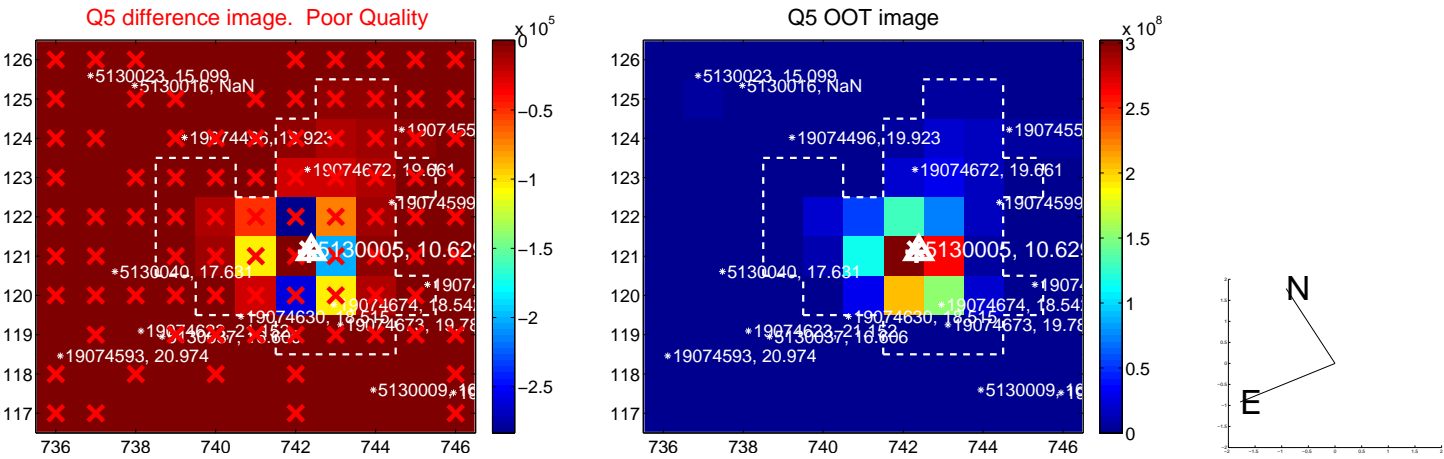


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

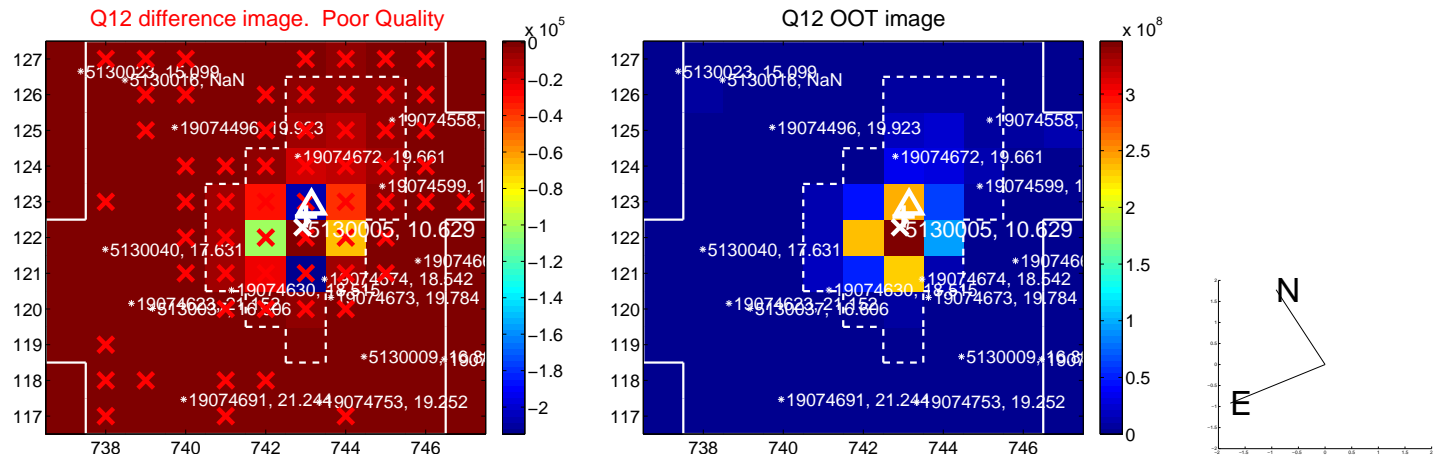
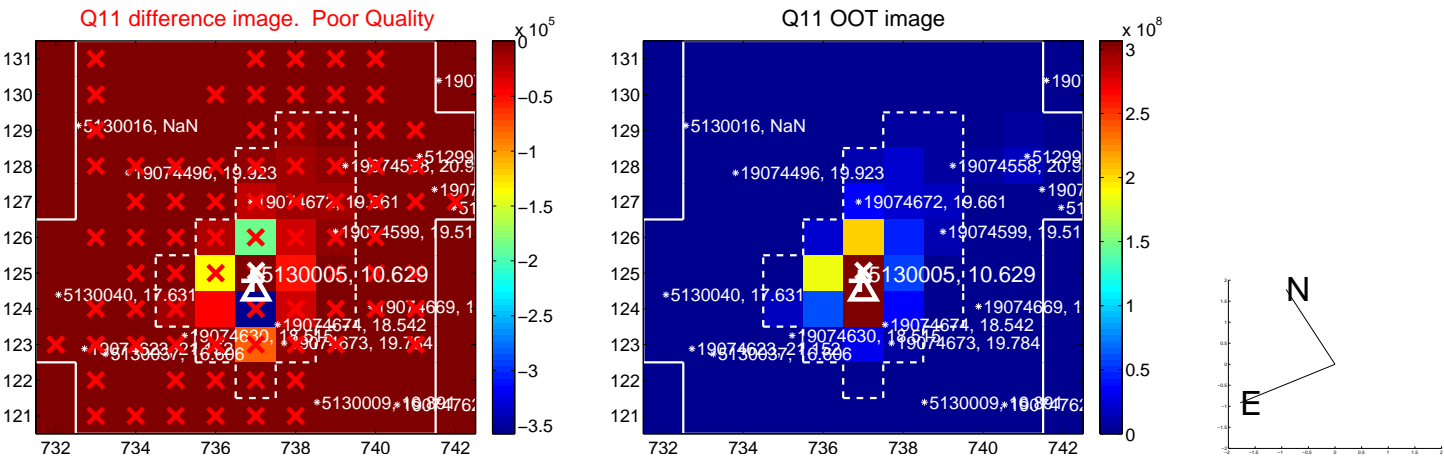
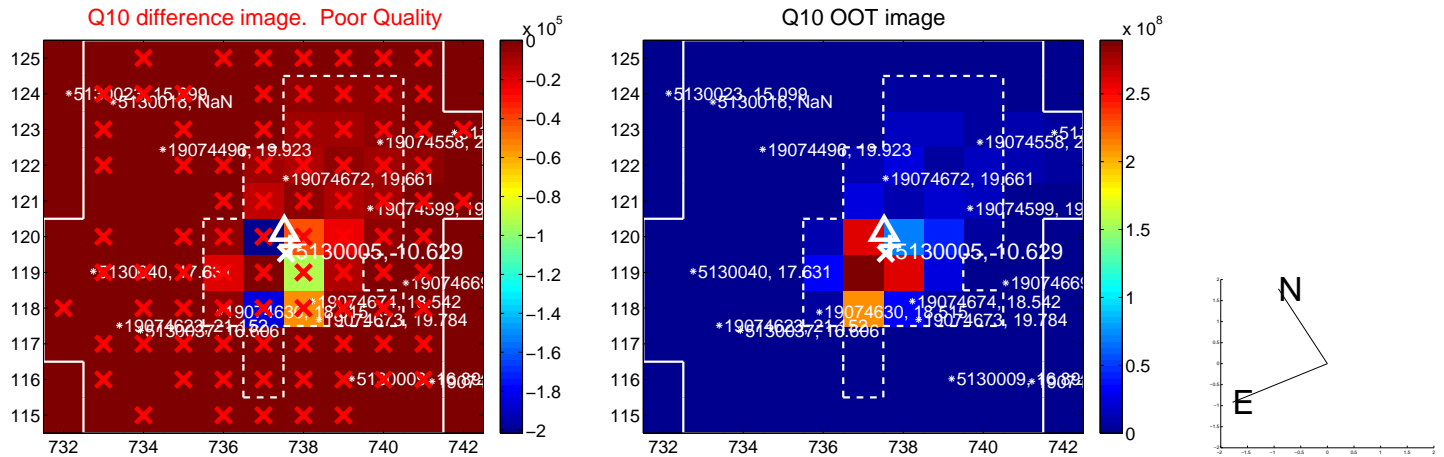
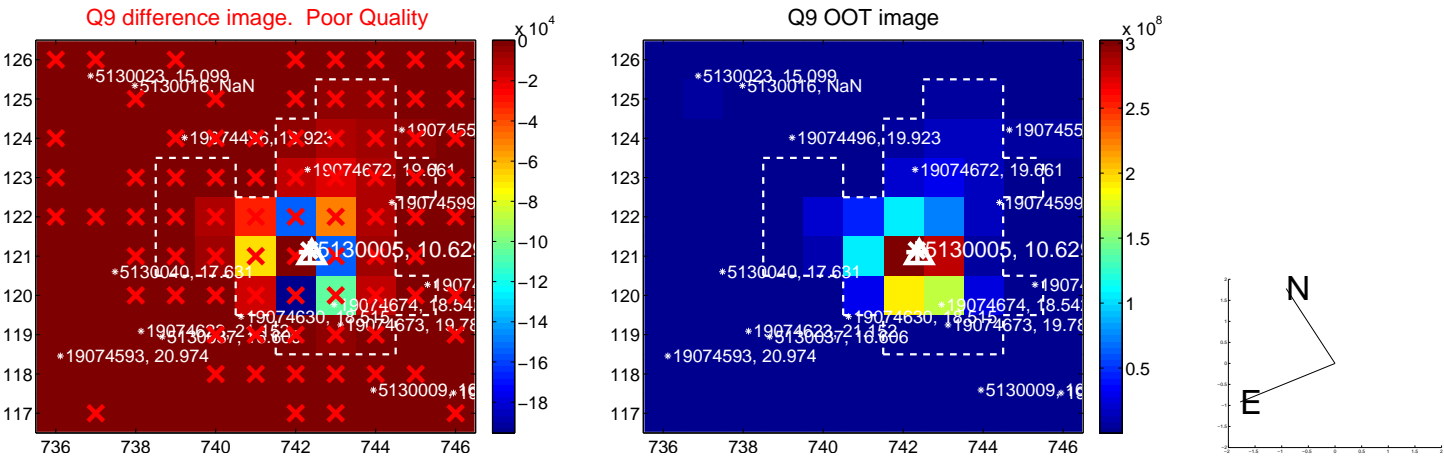
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



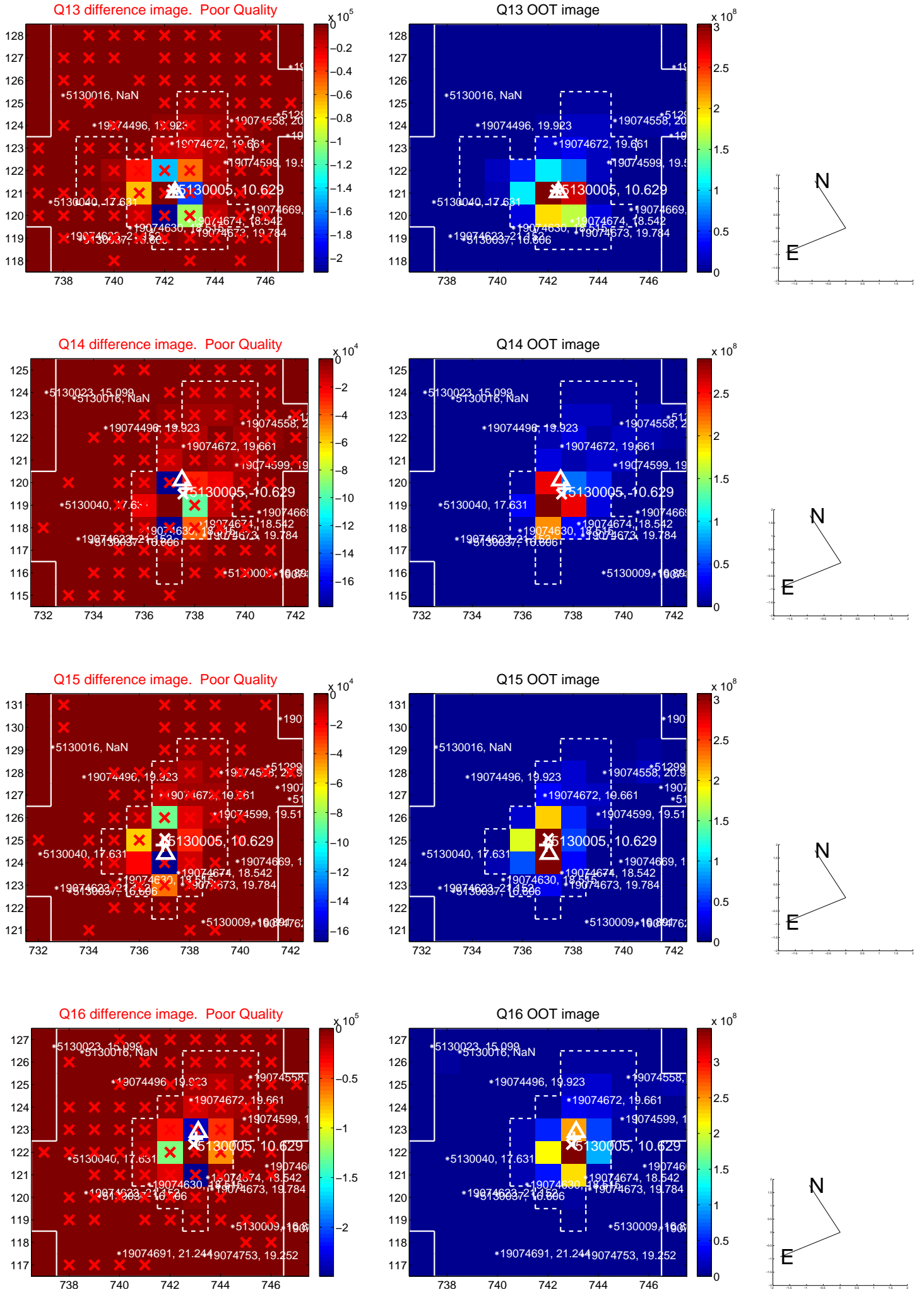
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



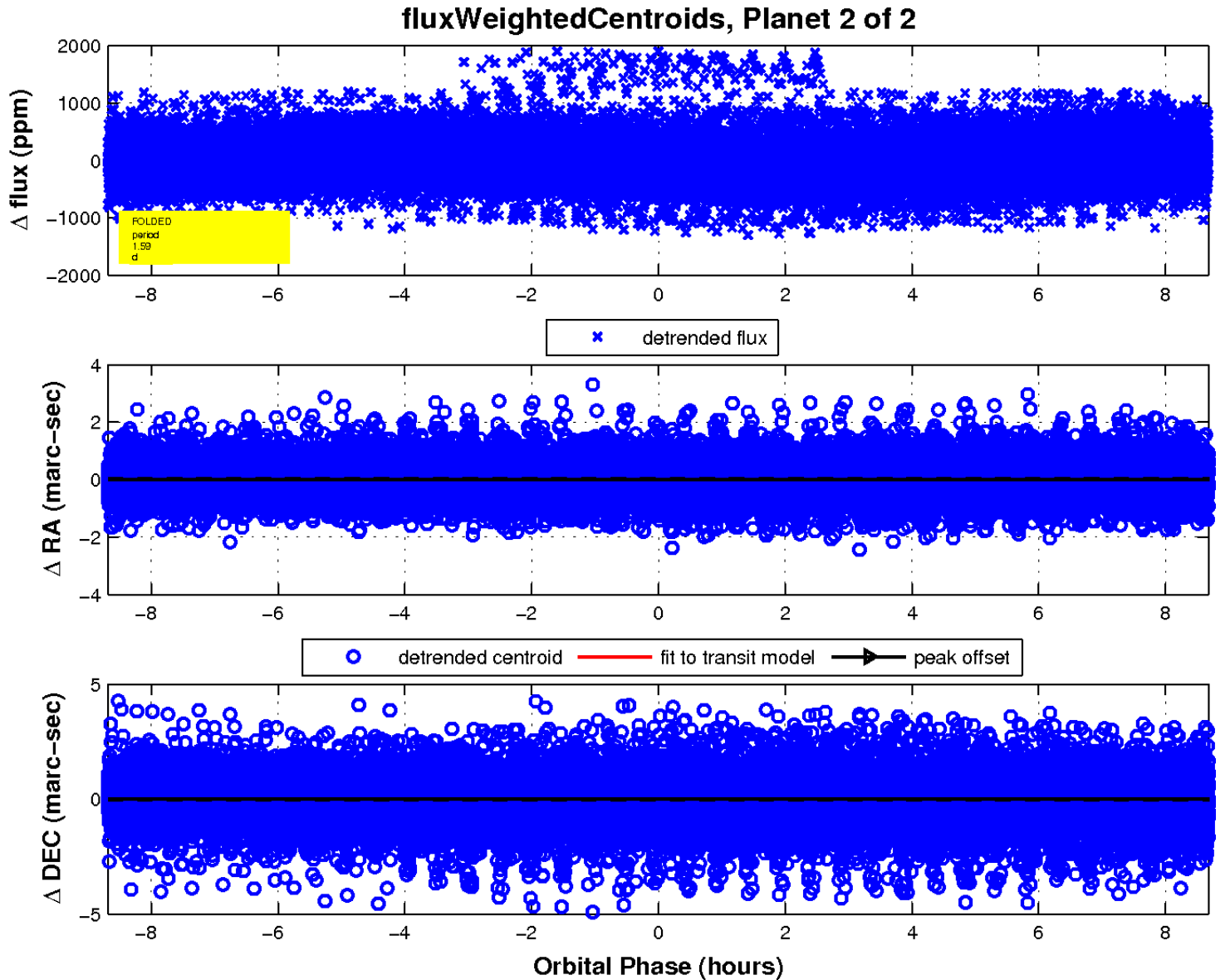
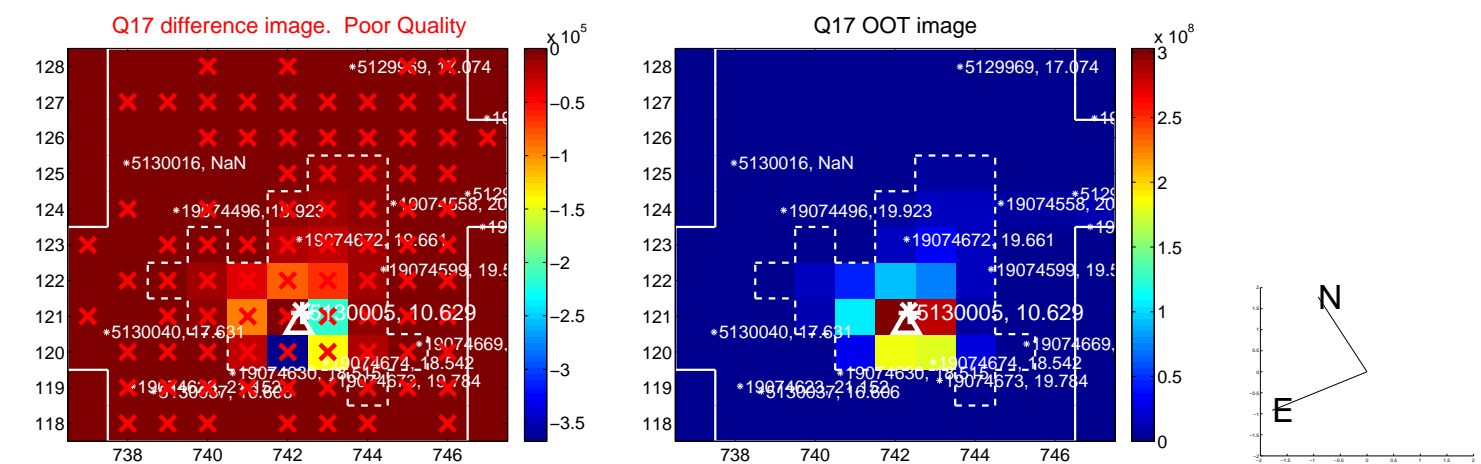
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

