

KIC 011026045

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})
011026045-01	OBS	No	1.695921	132.011898	187.9	7.101	11.3	12.5	2.07	6788	3.30	7625.13
011026045-02	OBS	No	2.871688	132.167772	317.8	14.693	8.6	13.1	2.07	6788	4.03	3778.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011026045-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
011026045-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—CENT_SATURATED

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

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

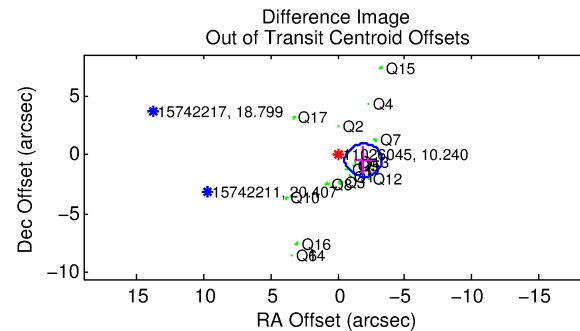
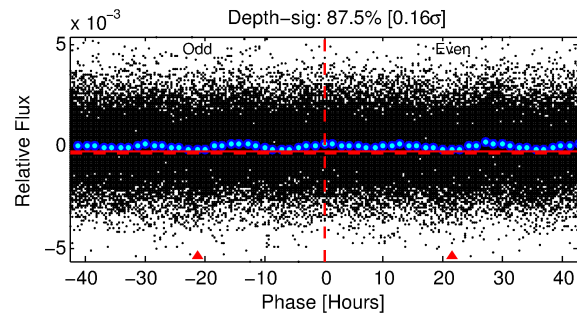
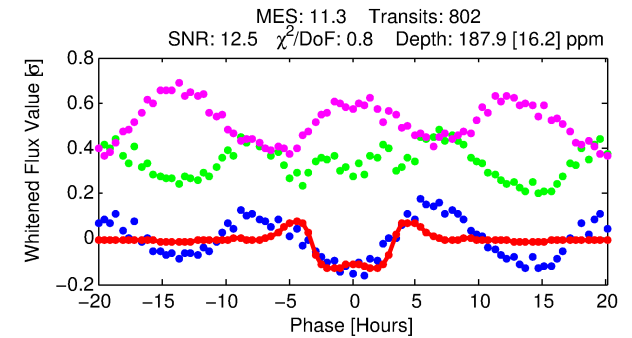
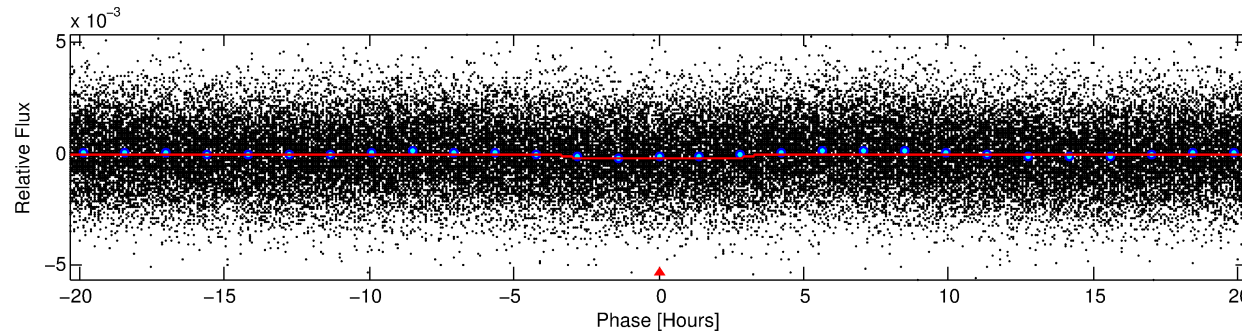
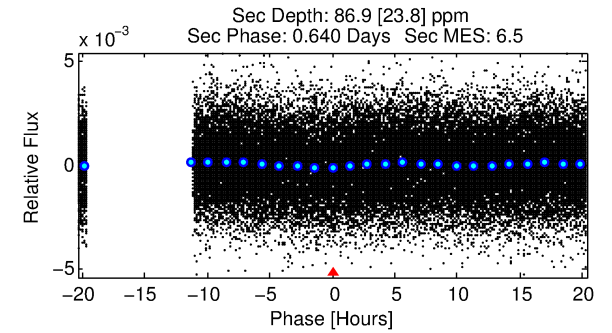
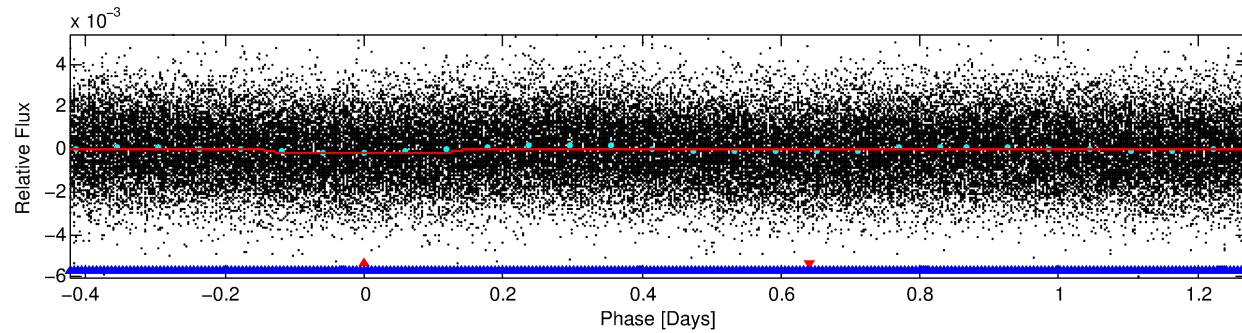
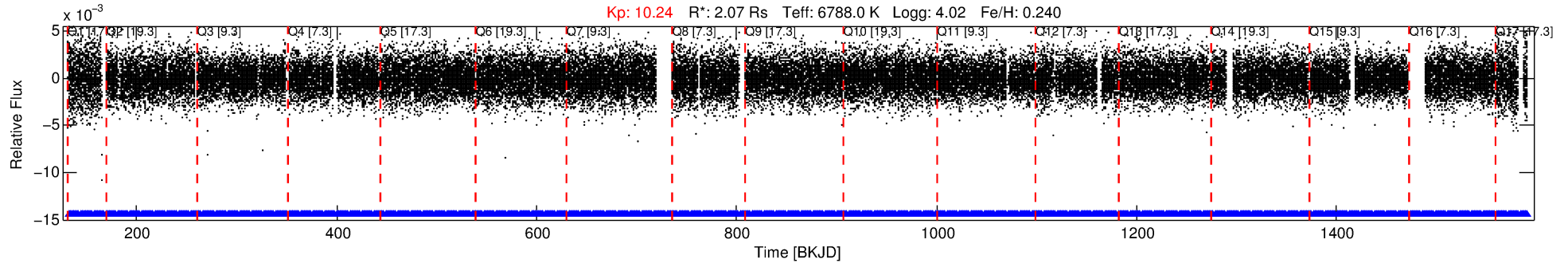
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011026045-01

No Significant Match Found

DV One-Page Summary

KIC: 11026045 Candidate: 1 of 2 Period: 1.696 d



DV Fit Results:

Period = 1.69592 [0.00001] d
Epoch = 132.0119 [0.0052] BKJD
Rp/R* = 0.0146 [0.0025]
a/R* = 1.28 [0.47]
b = 0.89 [0.21]
Seff = 7625.13 [3236.58]
Teq = 2383 [253] K
Rp = 3.30 [1.13] Re
a = 0.0327 [0.0085] AU
Ag = 4.71 [2.77] [1.34σ]
Teffp = 5427 [634] K [4.46σ]

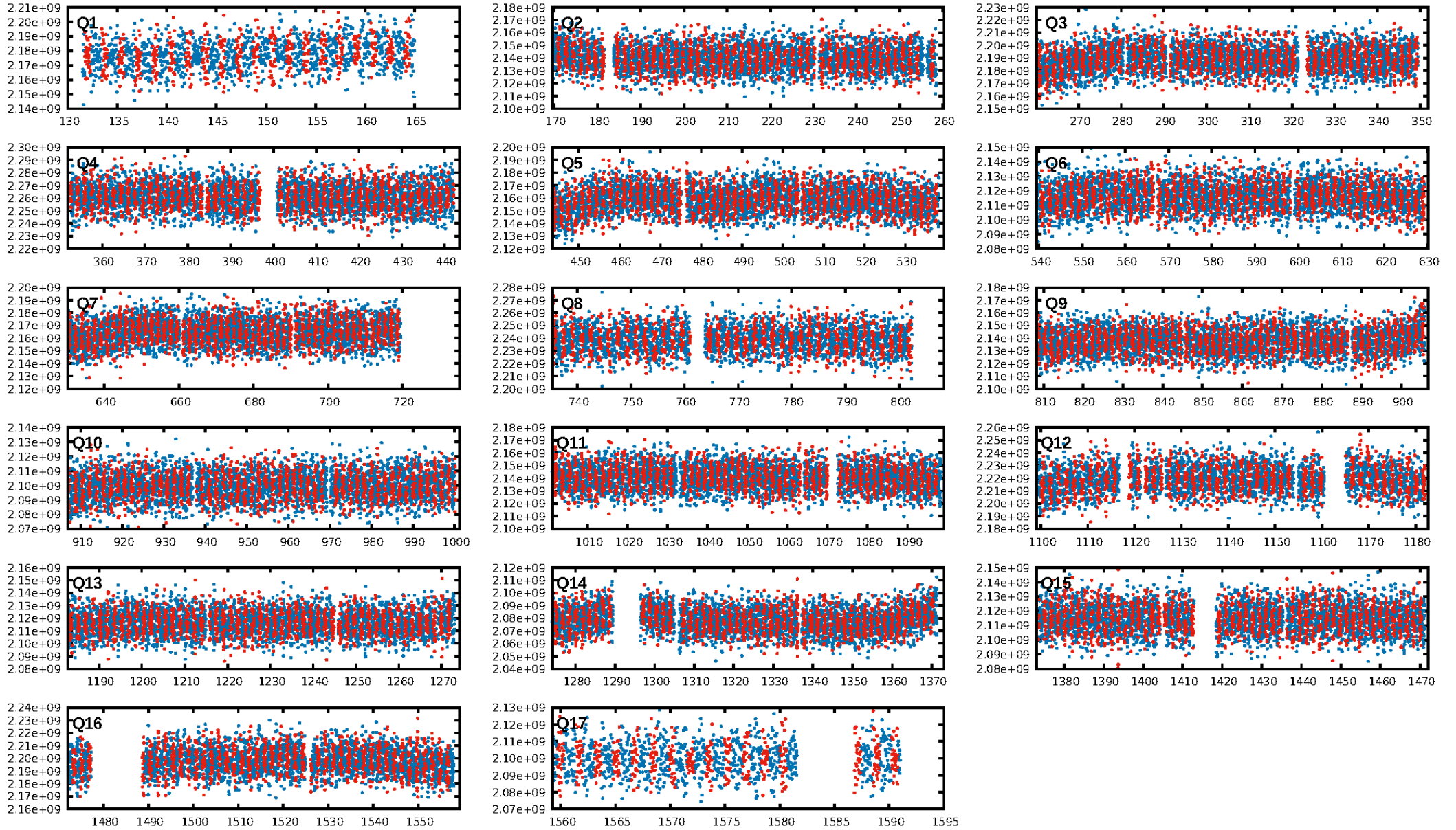
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 91.6% [1.73σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.69e-10
RollingBand-fgt: 1.00 [766/766]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 0.808 arcsec [4.85σ]
OotOffset-rm: 1.970 arcsec [4.27σ]
KicOffset-rm: 2.268 arcsec [5.08σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 1.00 [17/17]

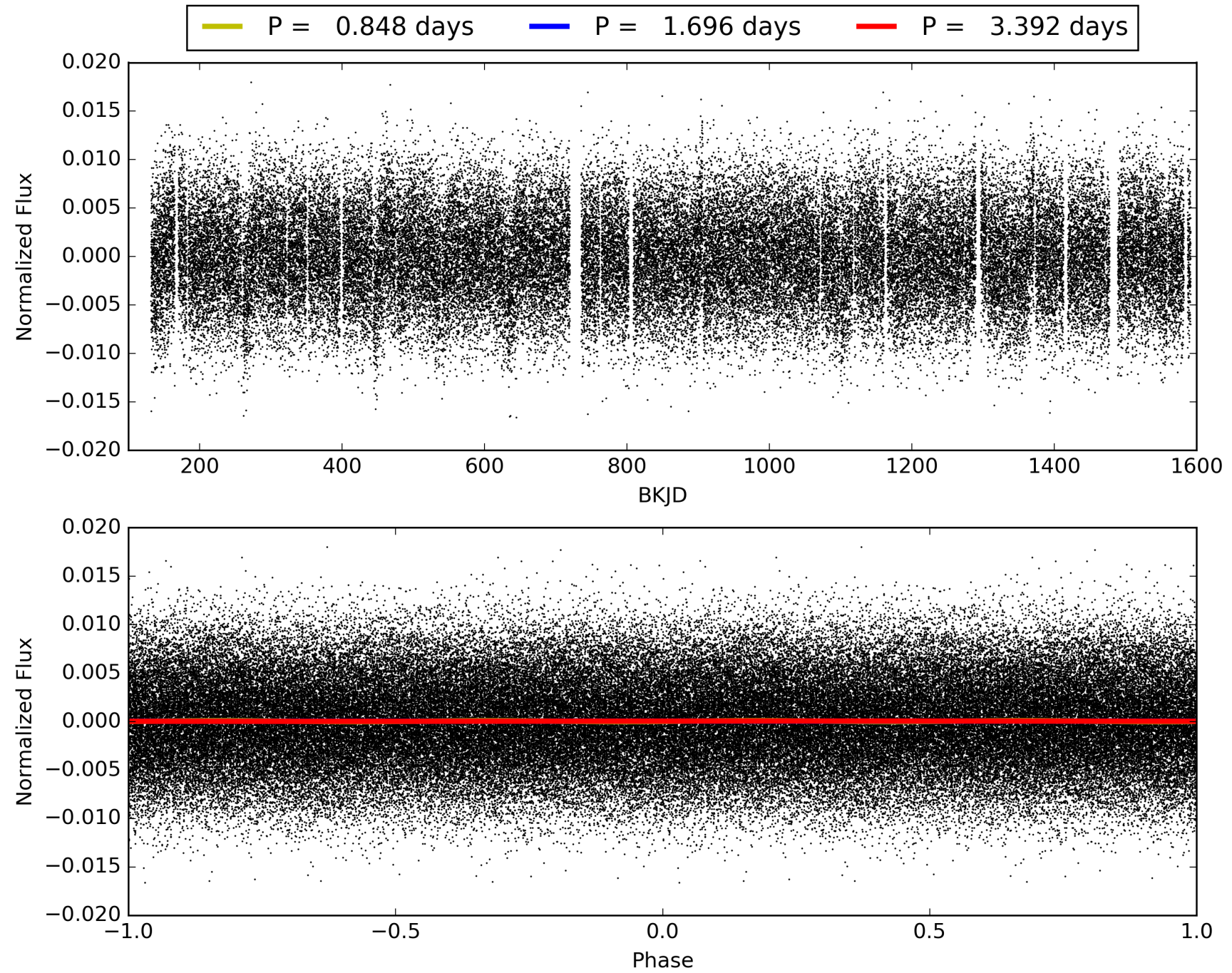
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:23:55 Z

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

TCE 011026045-01, PDC Light Curves

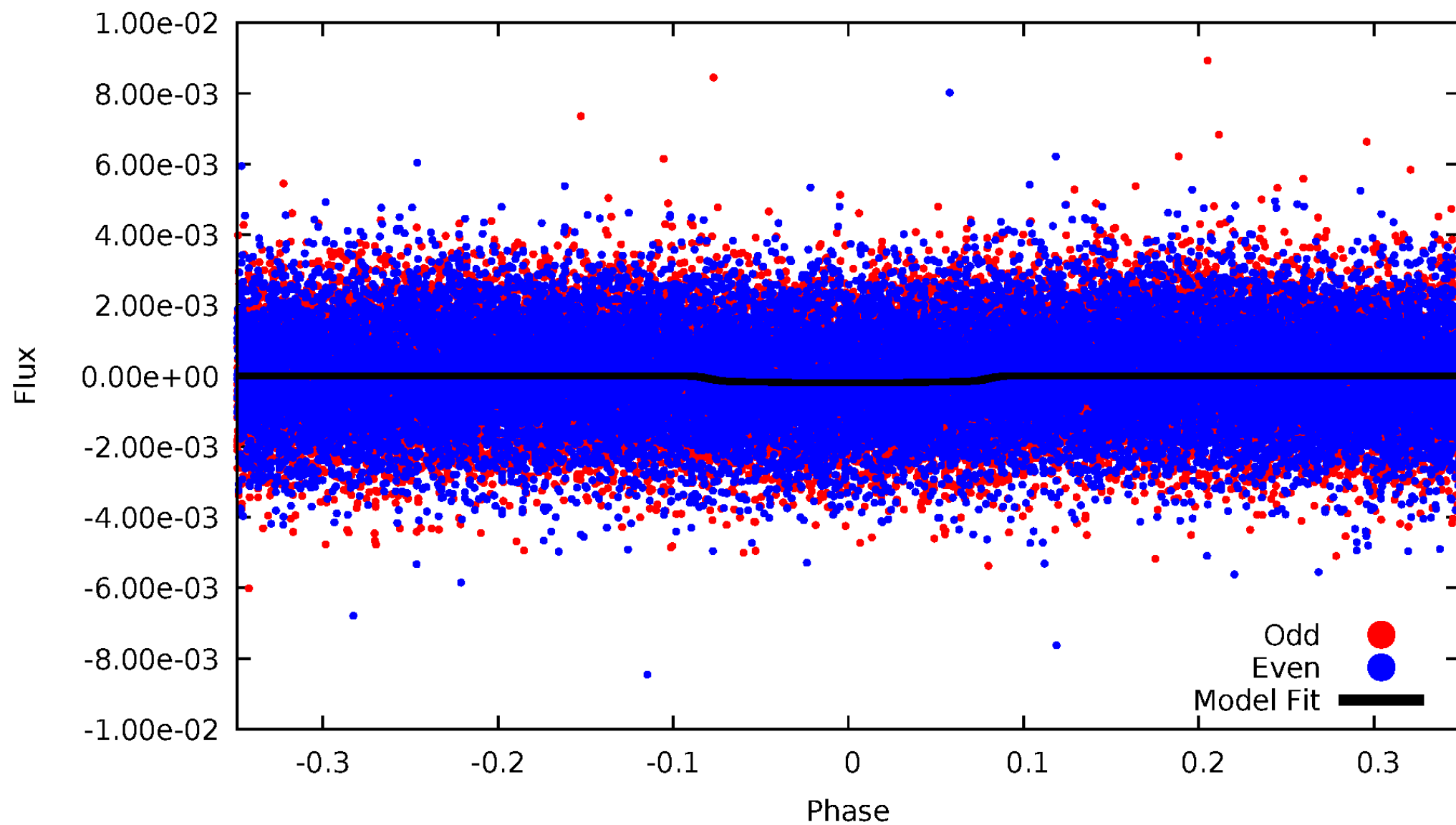


TCE 011026045-01



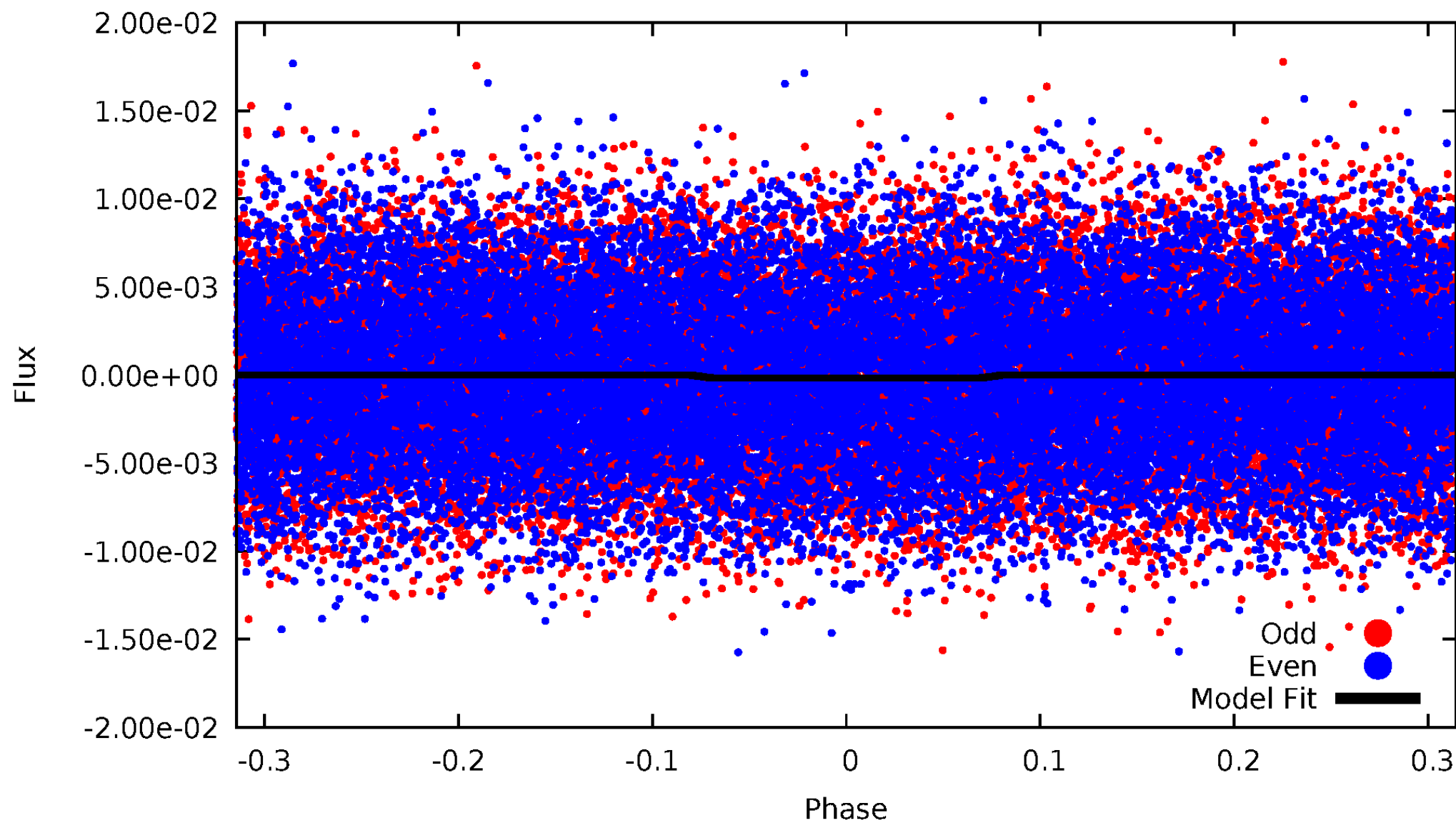
DV Odd/Even

TCE 011026045-01



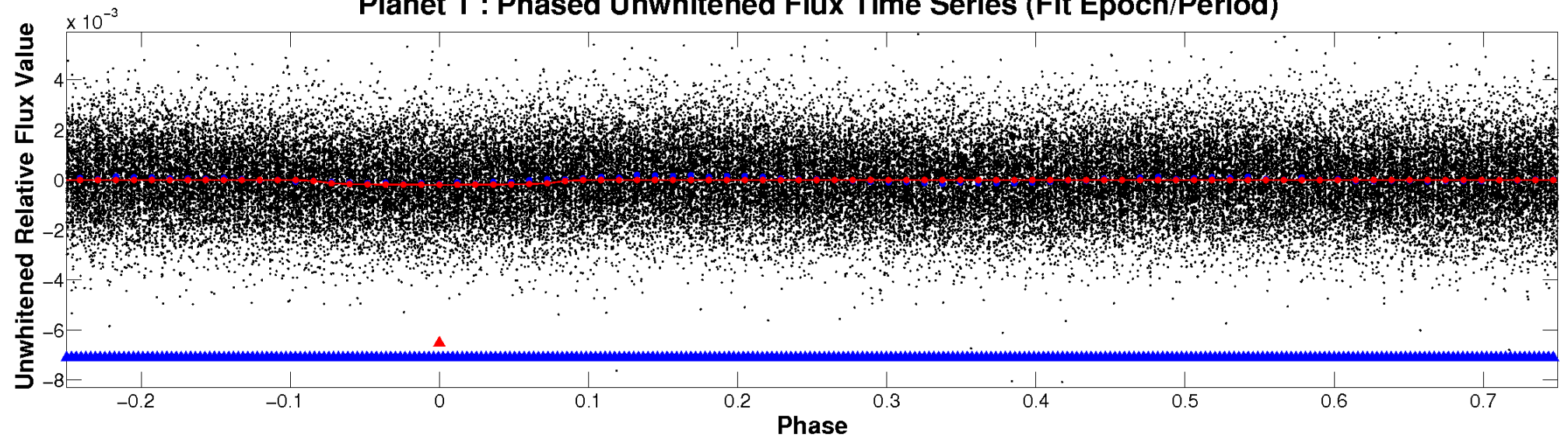
ALT Odd/Even

TCE 011026045-01

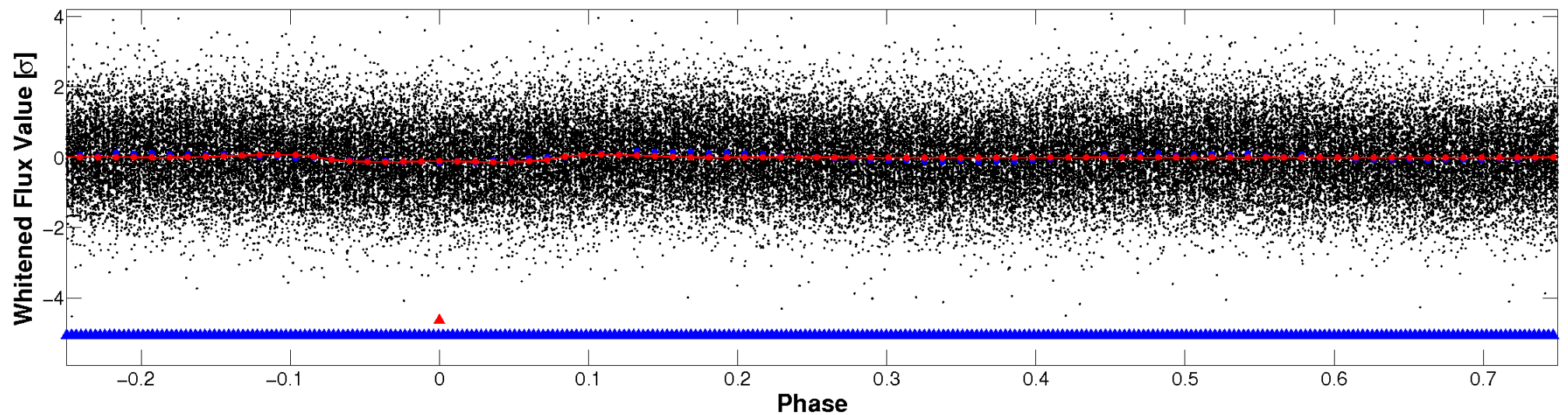


Non-Whitened Vs. Whitened Light Curve

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

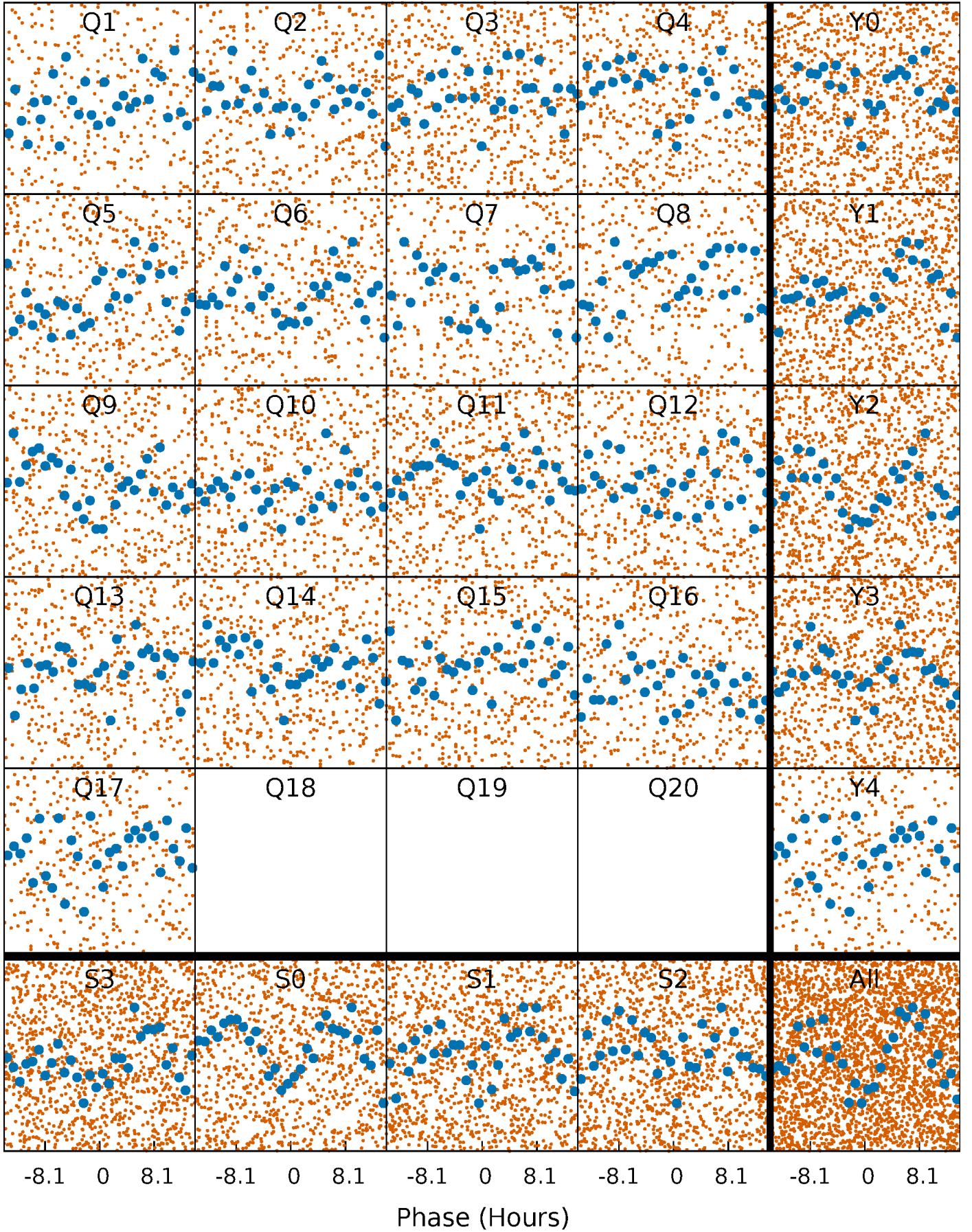


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



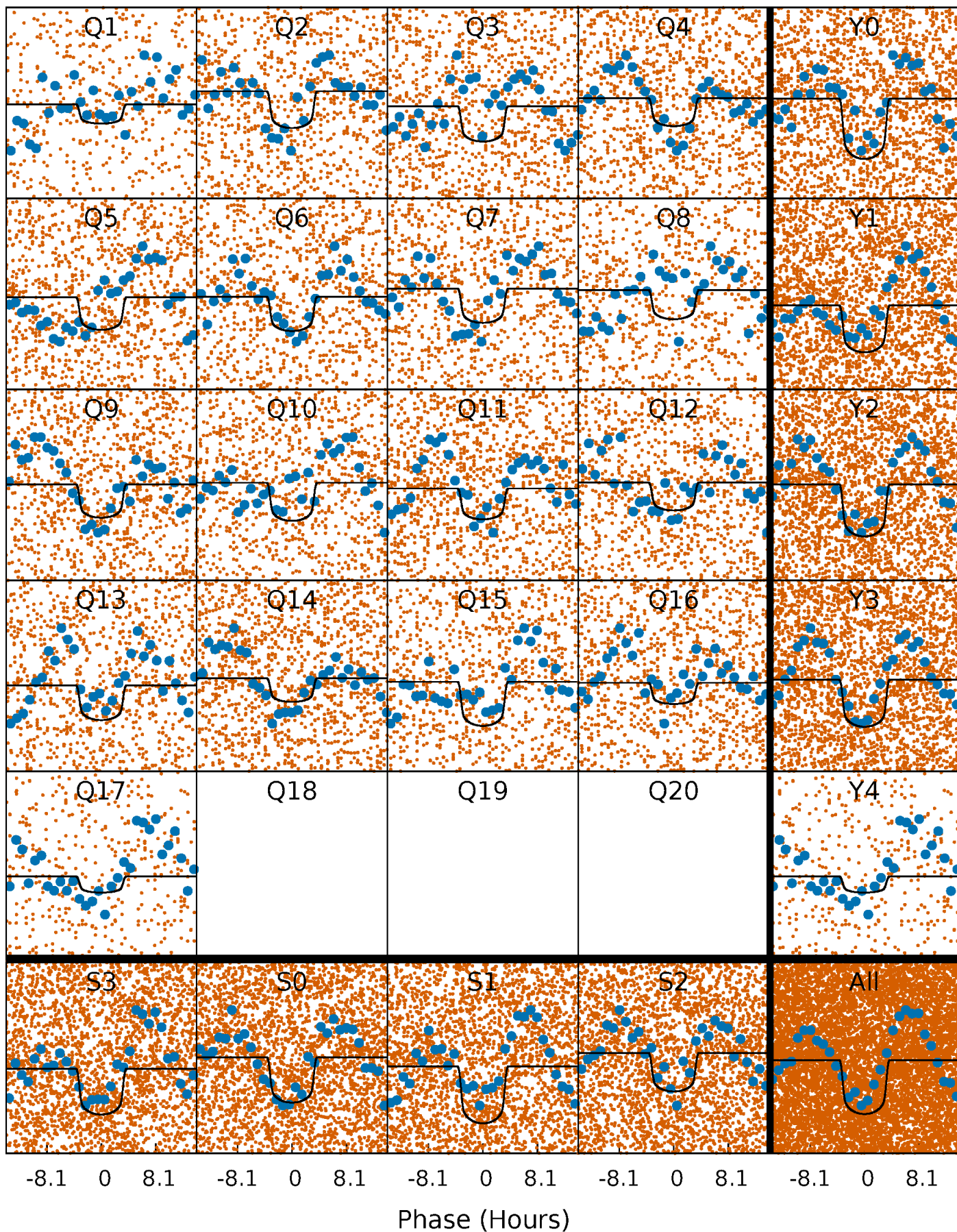
PDC Quarter-Phased Transit Curves

TCE 011026045-01 P= 1.695921 Days $T_0=132.011898$ (BKJD)



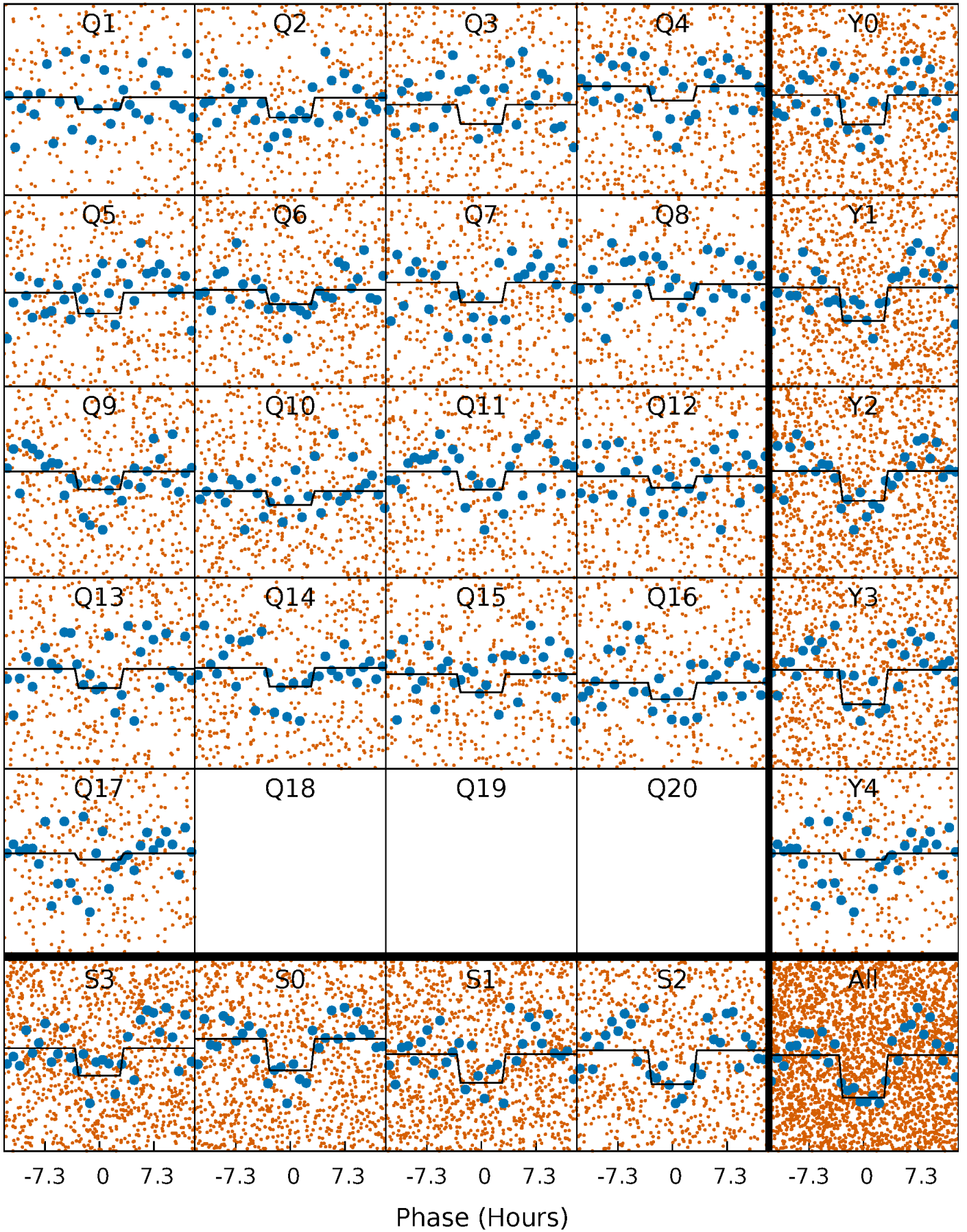
DV Quarter-Phased Transit Curves

TCE 011026045-01 P= 1.695921 Days $T_0=132.011898$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

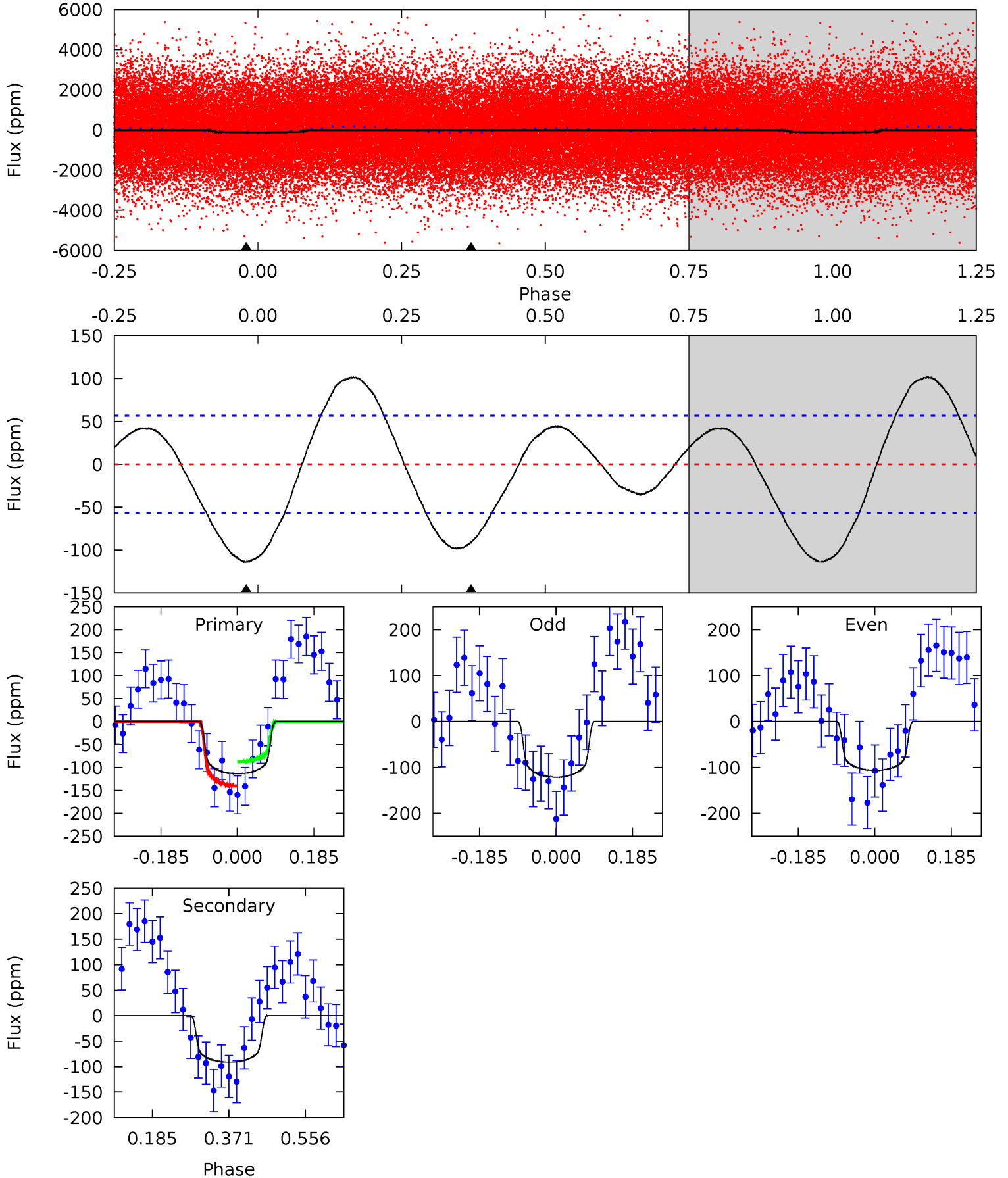
TCE 011026045-01 P= 1.695853 Days $T_0=132.014952$ (BKJD)



DV Model-Shift Uniqueness Test

011026045-01, P = 1.695921 Days, E = 130.315977 Days

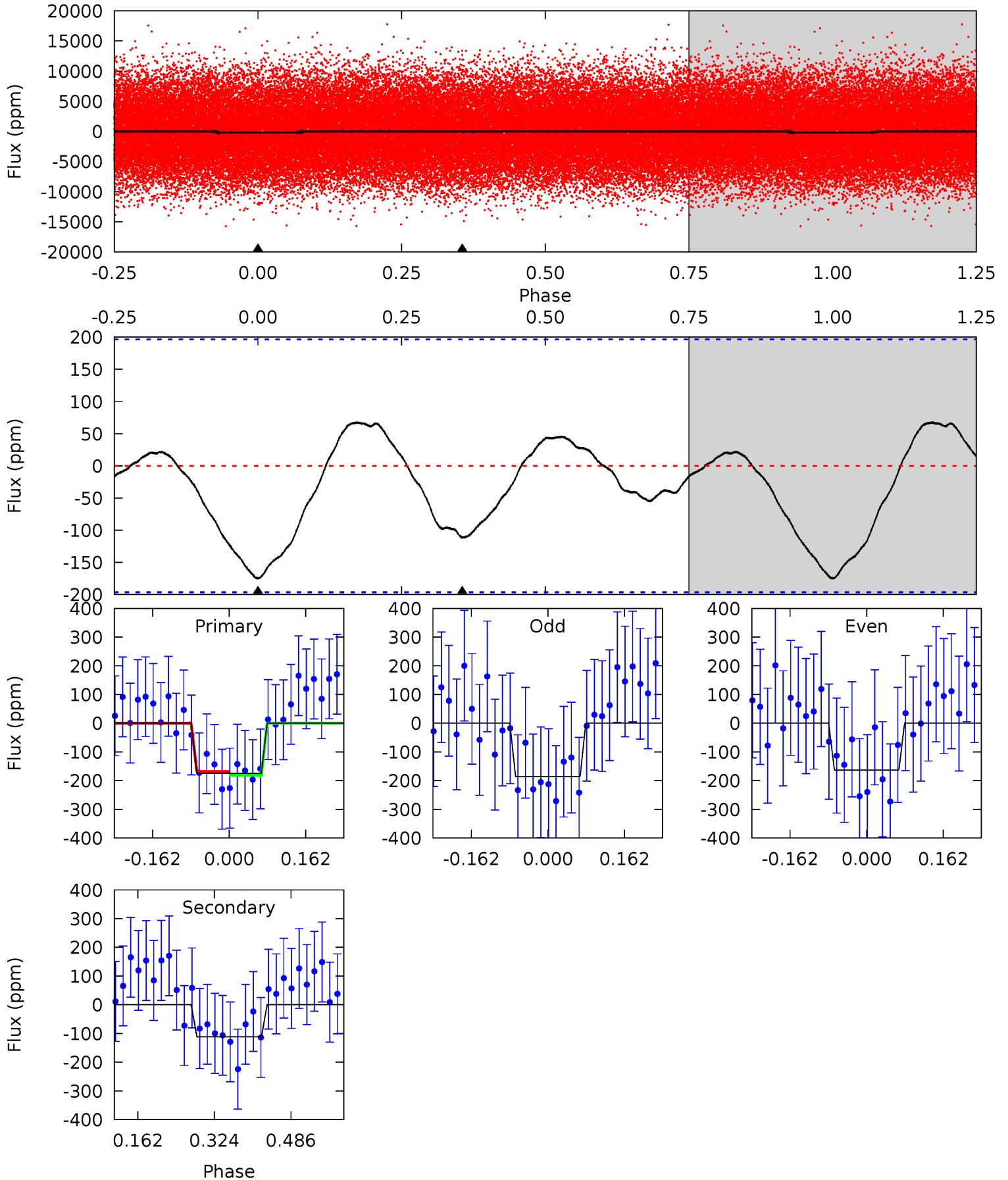
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.94	7.15	0	0	4.43	1.32	2.84	8.94	8.94	7.15	7.15	0.58	0.80	0.47	2.08



Alt Model-Shift Uniqueness Test

011026045-01, P = 1.695853 Days, E = 130.319099 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.97	2.54	0	0	4.46	1.40	0.81	3.97	3.97	2.54	2.54	0.26	0.88	0.28	0.16



Stellar Parameters For KIC 011026045

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6788^{+185}_{-278}	$4.016^{+0.220}_{-0.180}$	$0.240^{+0.200}_{-0.350}$	$2.072^{+0.616}_{-0.616}$	$1.621^{+0.200}_{-0.300}$	$0.257^{+0.374}_{-0.125}$
	+3%/-4%	+5%/-4%	+83%/-146%	+30%/-30%	+12%/-19%	+146%/-49%
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 011026045-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-91±13	$3.17^{+0.78}_{-0.66}$	3316^{+234}_{-251}	5426^{+605}_{-458}	$5.311^{+2.969}_{-2.079}$
Alt.	-112±44	$2.94^{+0.81}_{-0.67}$	3319^{+277}_{-270}	5889^{+1007}_{-789}	$7.193^{+5.933}_{-3.553}$

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 $A_{obs} \gg 1.0$

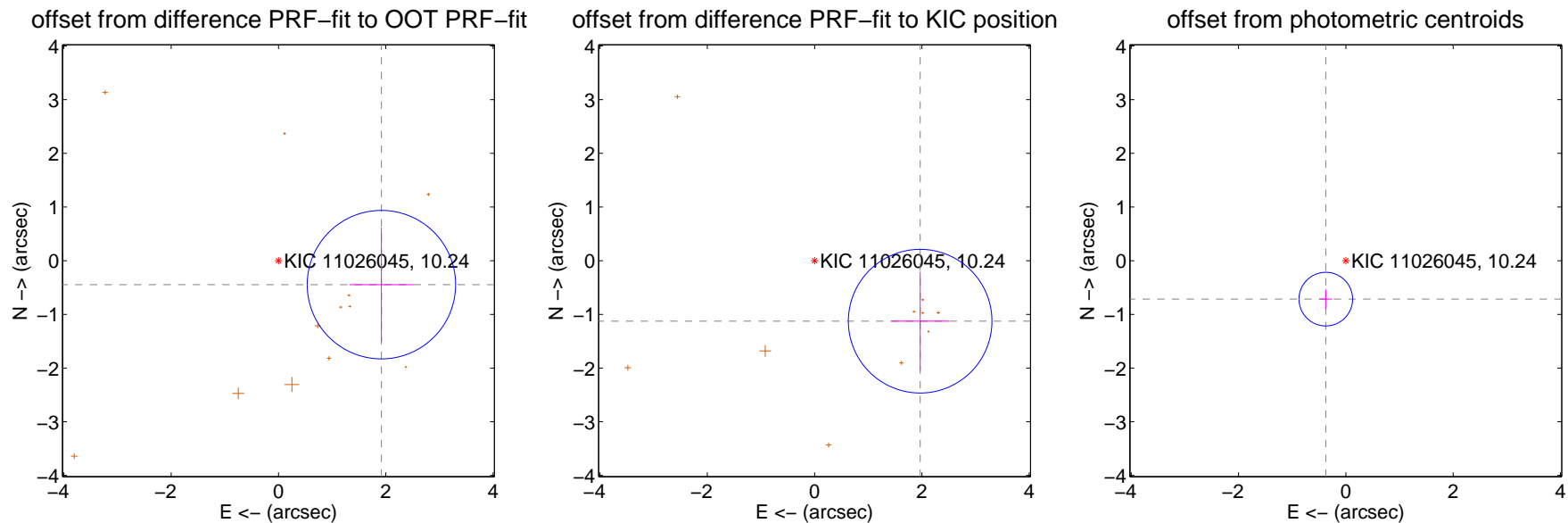
DV Centroid Data

Supplemental centroid analysis for 011026045-01. **Kepler magnitude: 10.24.** Transit SNR 12.52

There are 0 quarters with good PRF difference image offsets

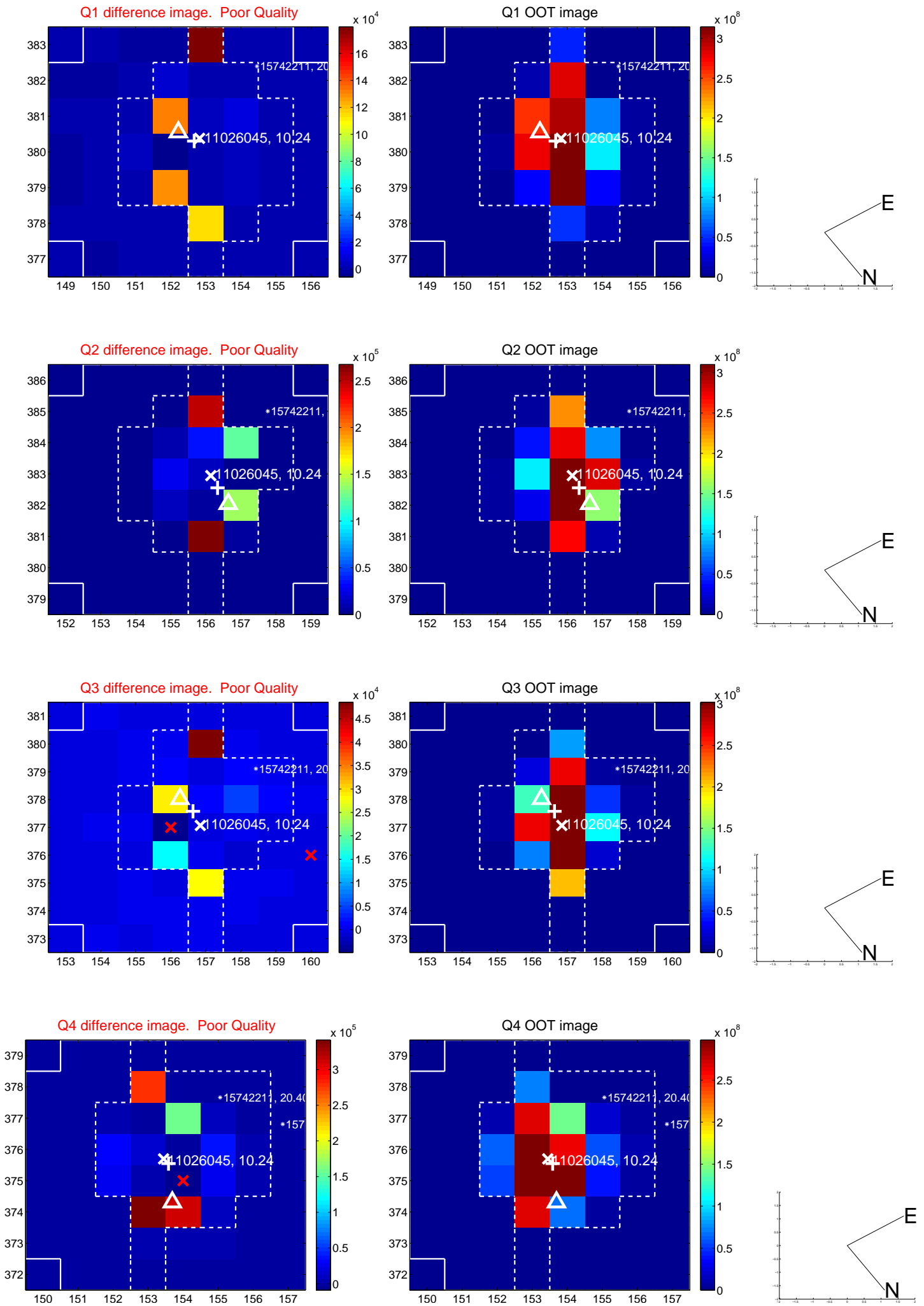
The direct PRF centroid is offset from the target star catalog position by about 0.68 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.970 ± 0.461	4.27	-1.919 ± 0.597	-0.446 ± 1.062
PRF-fit source offset from KIC position	2.268 ± 0.446	5.08	-1.968 ± 0.542	-1.127 ± 0.919
photometric centroid source offset	0.81 ± 0.17	4.85	0.37 ± 0.12	-0.72 ± 0.18

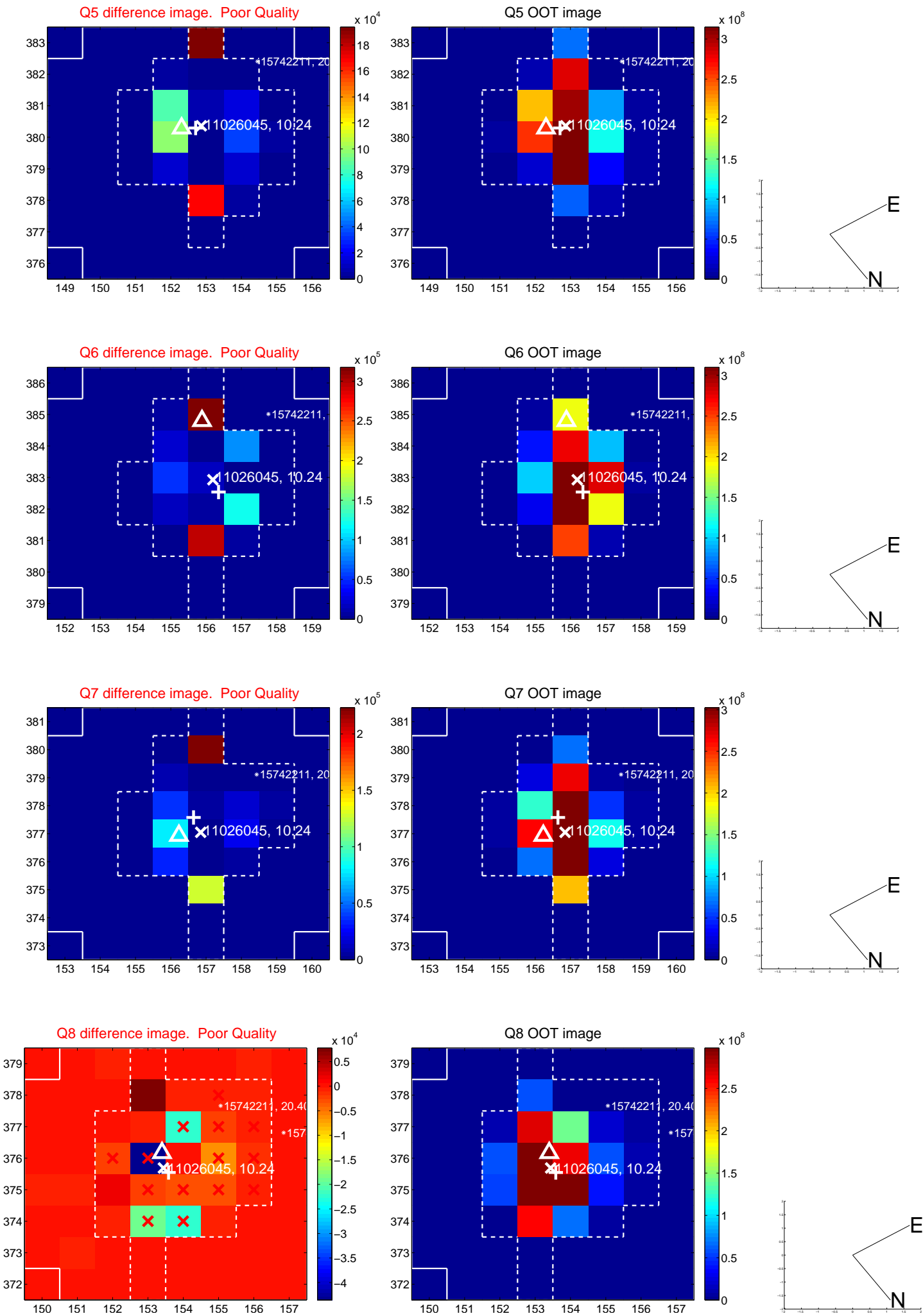


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

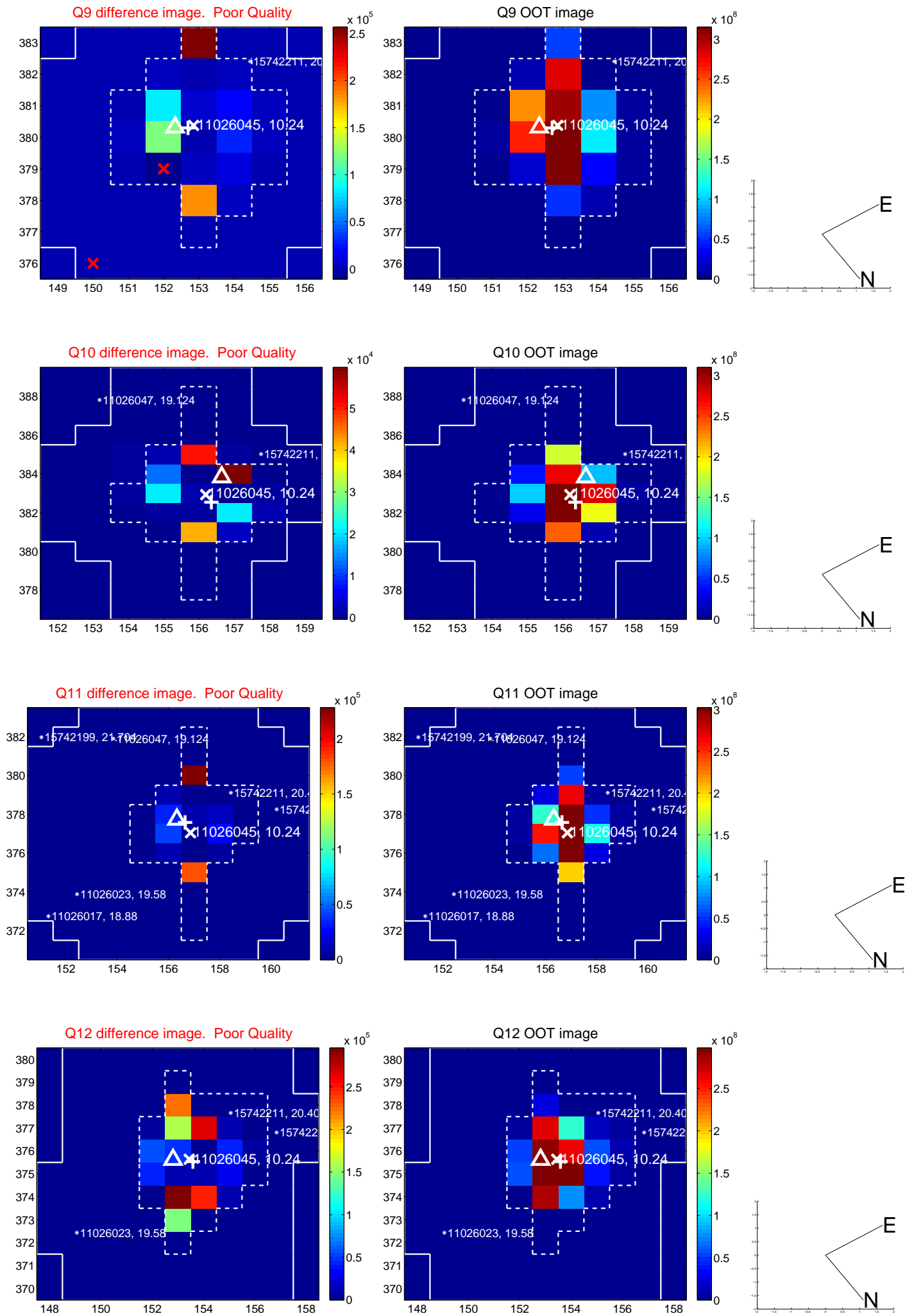
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



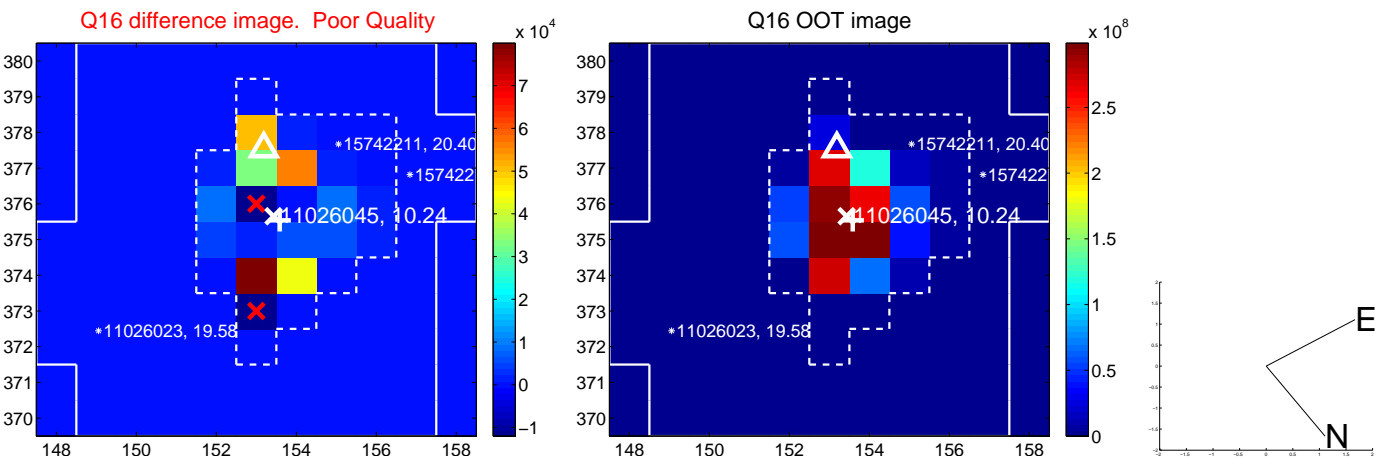
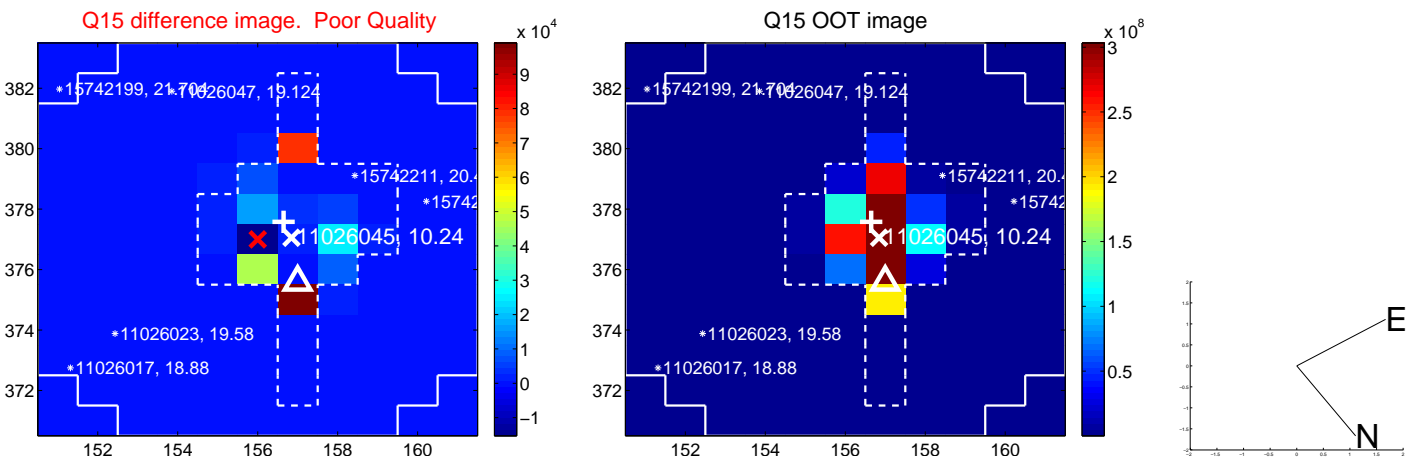
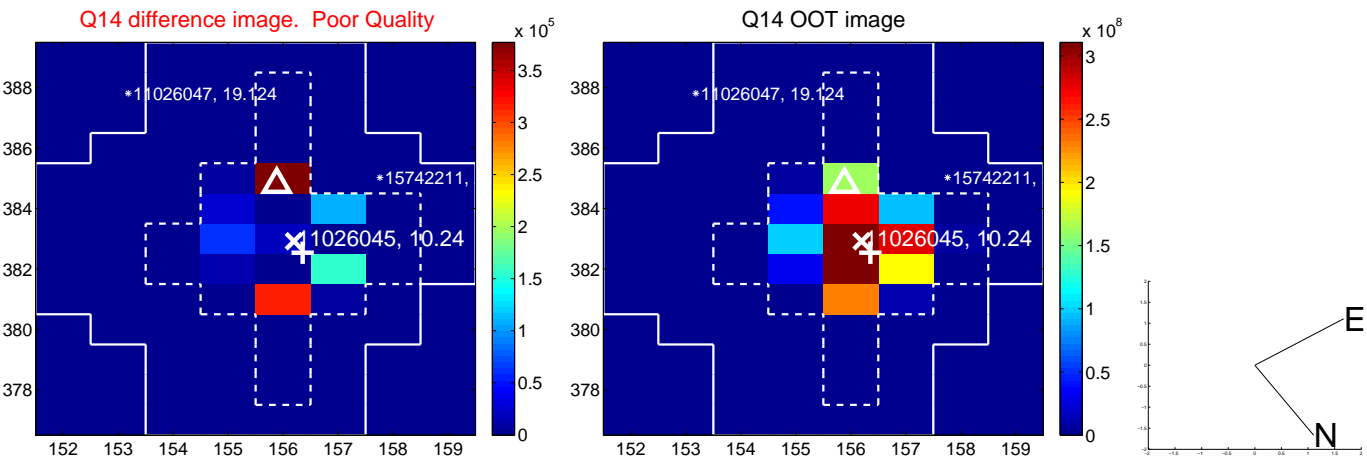
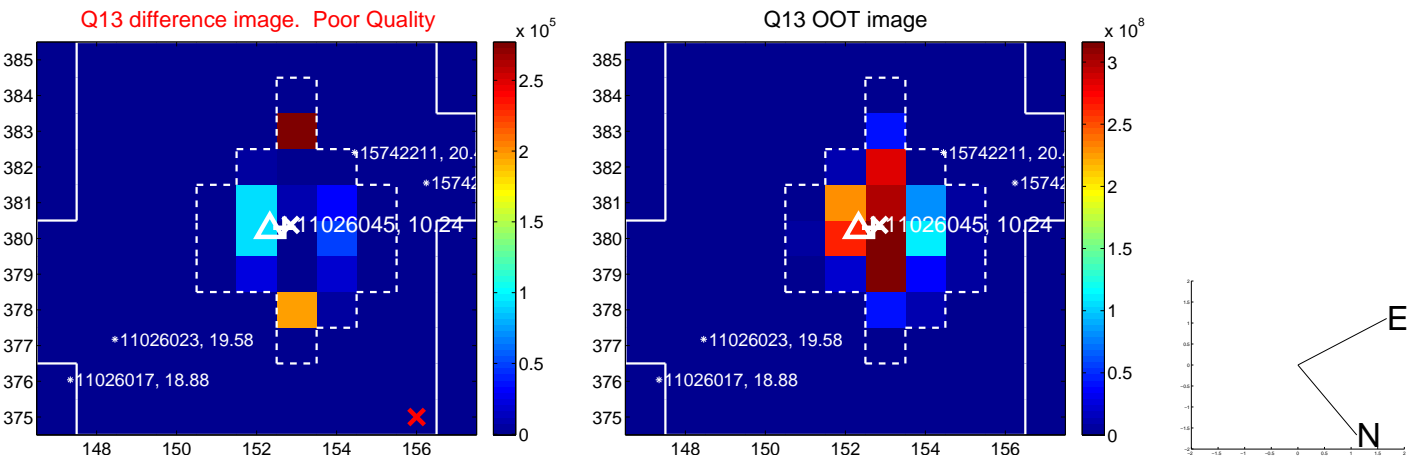
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



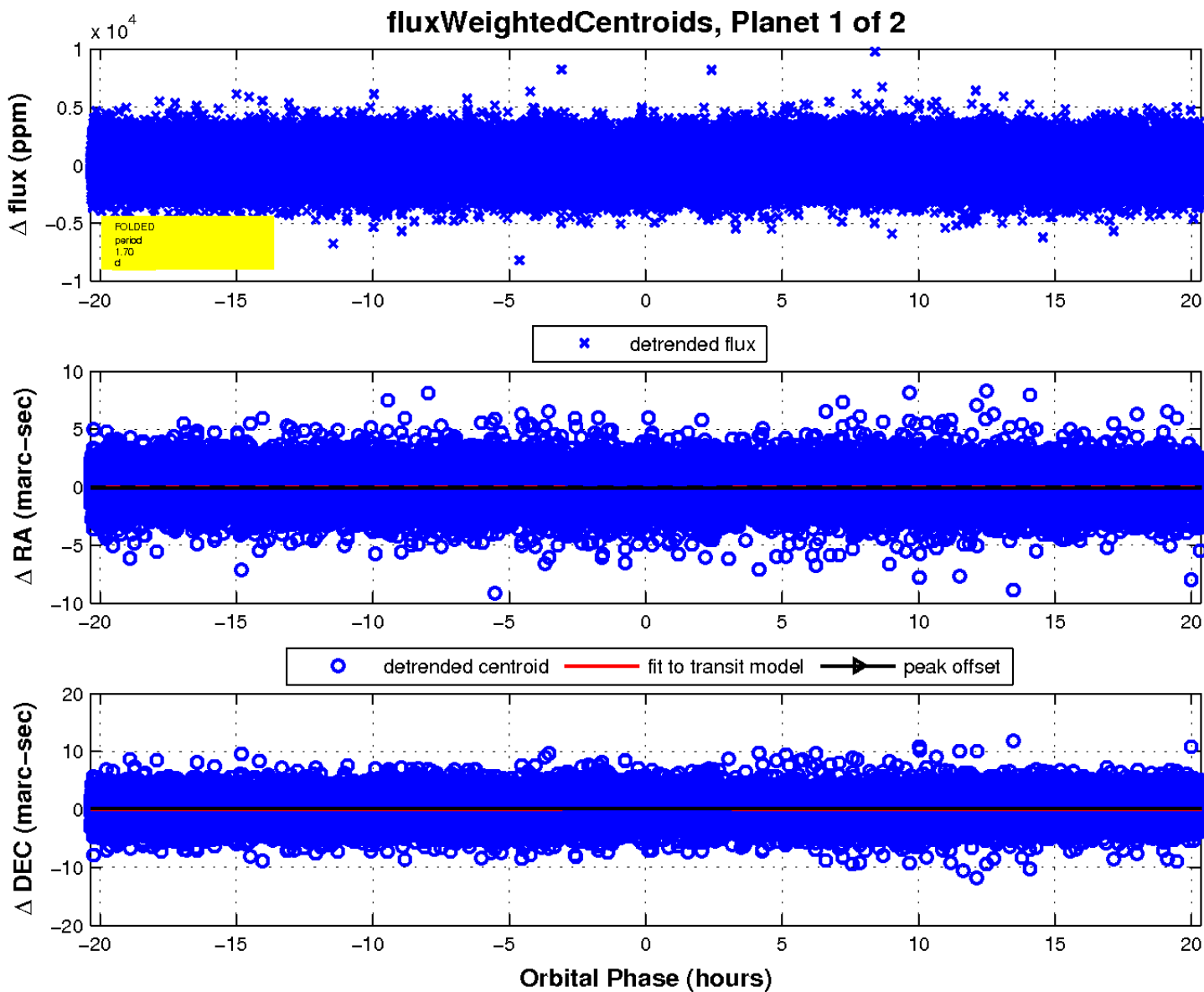
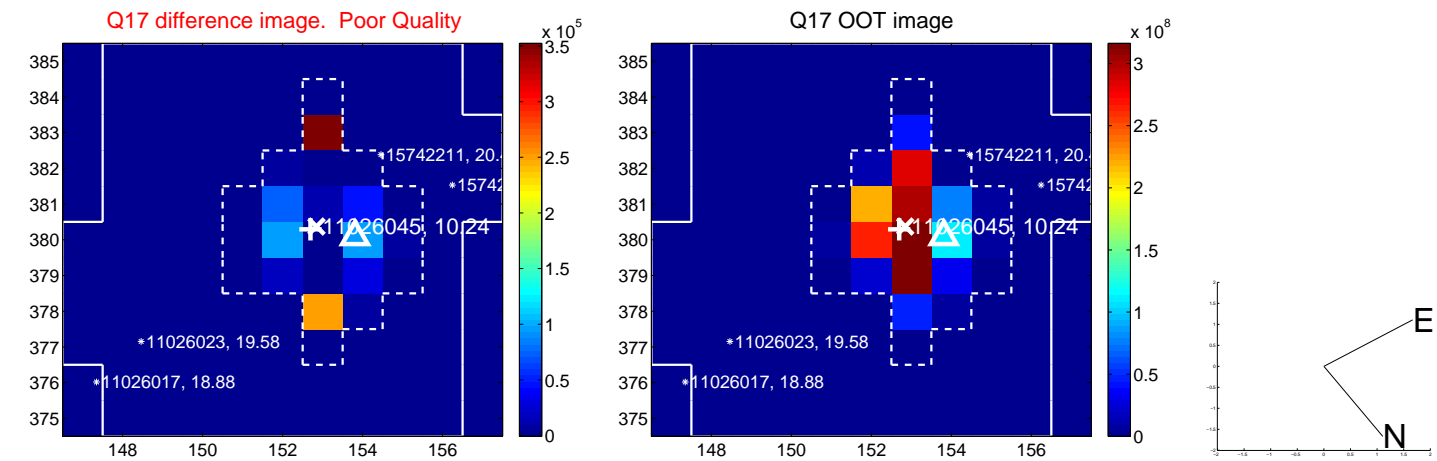
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

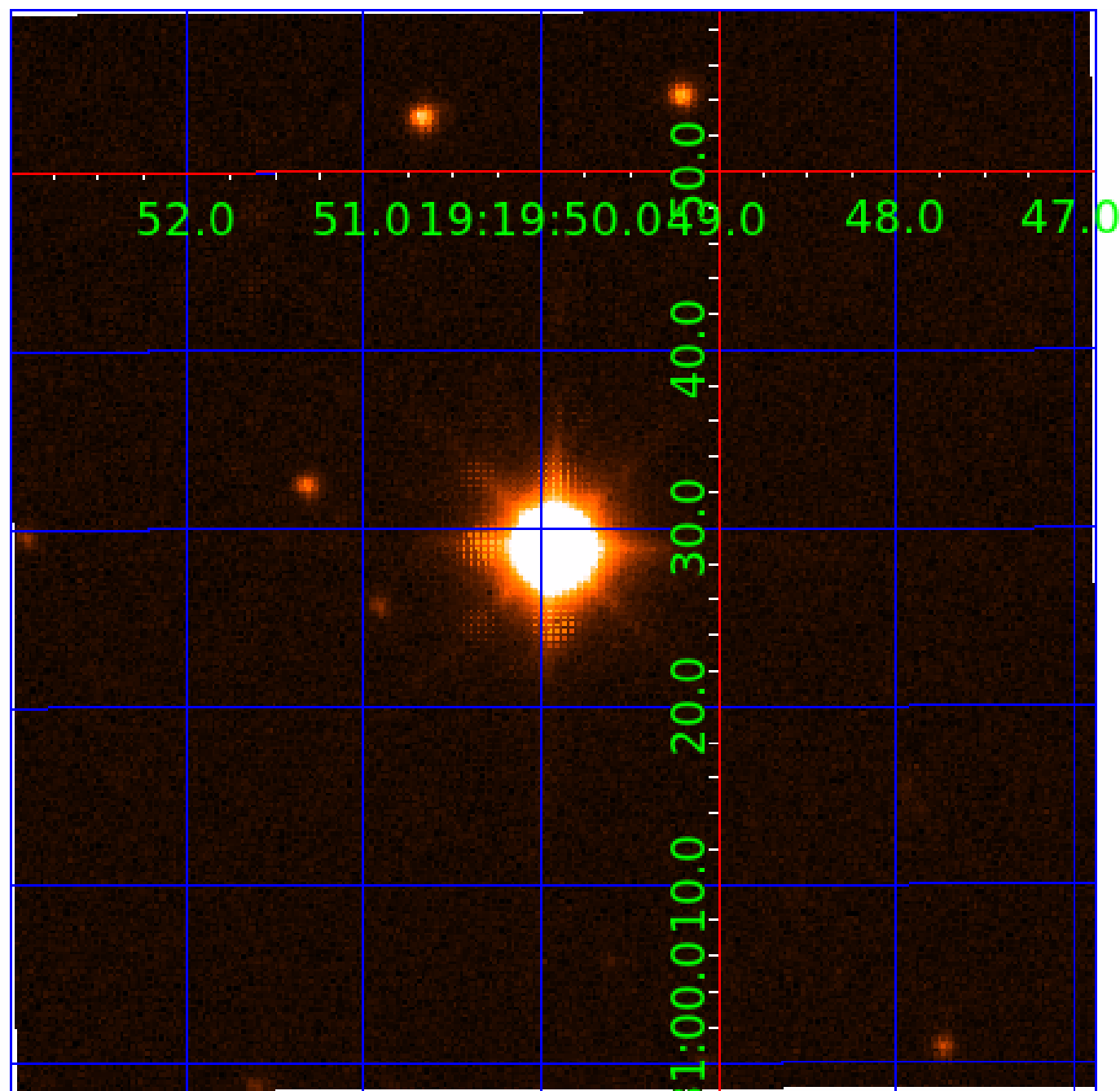


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011026045

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})
011026045-01	OBS	No	1.695921	132.011898	187.9	7.101	11.3	12.5	2.07	6788	3.30	7625.13
011026045-02	OBS	No	2.871688	132.167772	317.8	14.693	8.6	13.1	2.07	6788	4.03	3778.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011026045-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
011026045-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—CENT_SATURATED

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

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

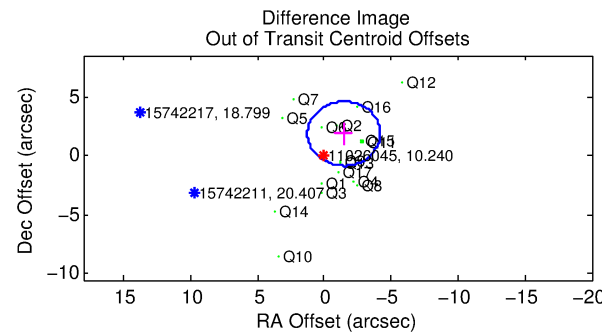
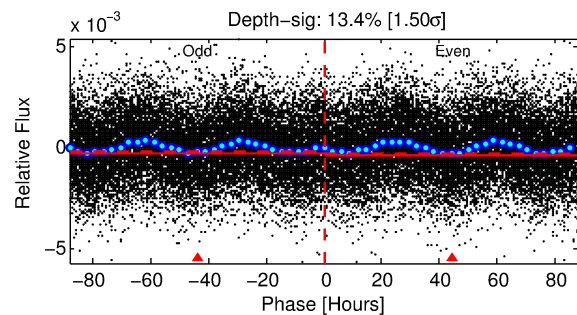
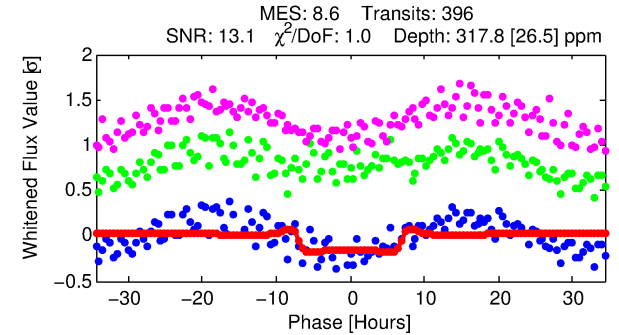
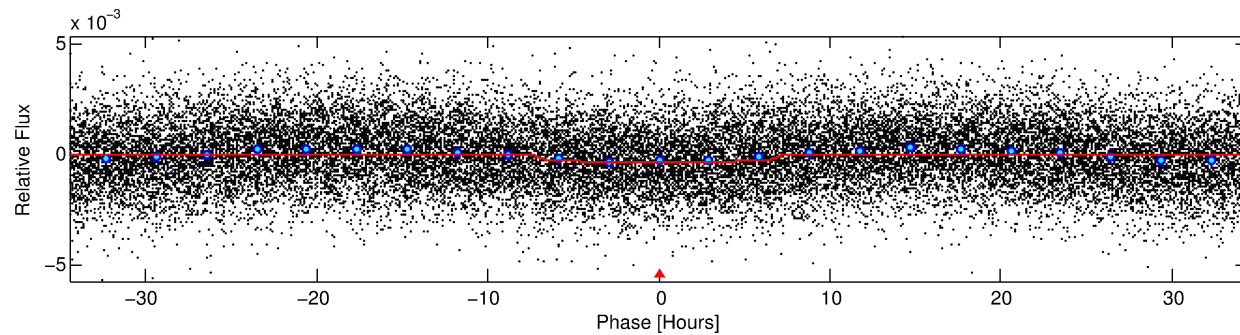
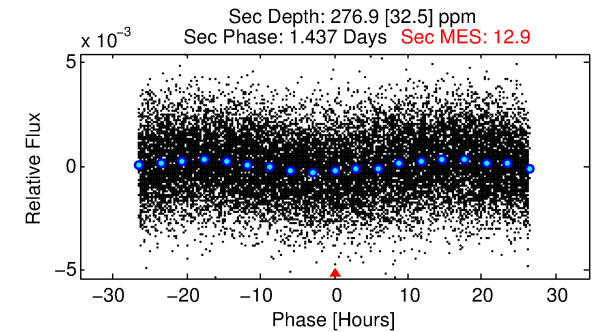
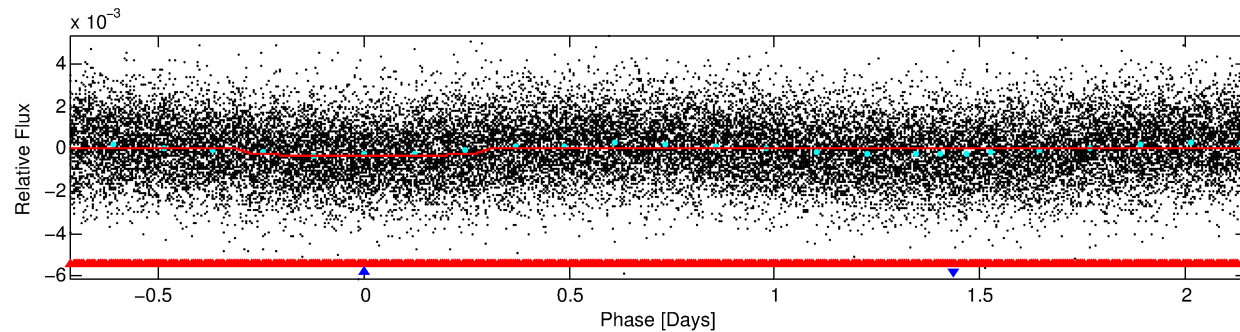
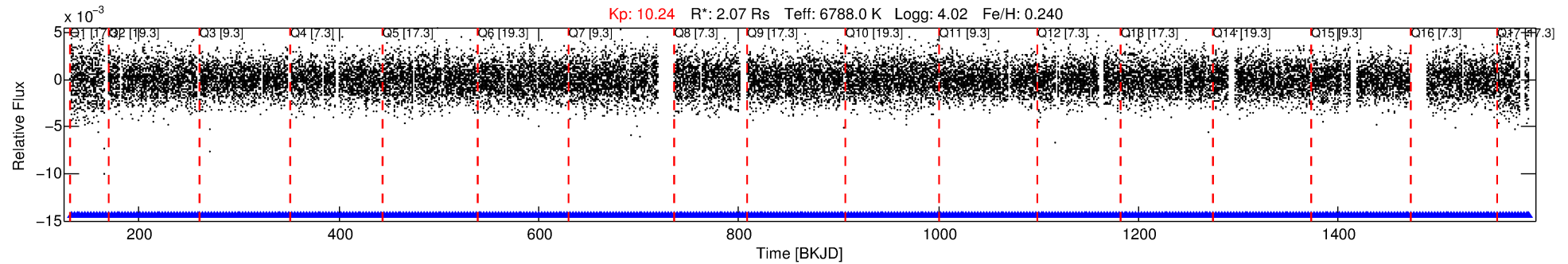
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011026045-02

No Significant Match Found

DV One-Page Summary

KIC: 11026045 Candidate: 2 of 2 Period: 2.872 d



DV Fit Results:

Period = 2.87169 [0.00004] d
Epoch = 132.1678 [0.0098] BKJD
Rp/R* = 0.0178 [0.0028]
a/R* = 1.32 [0.48]
b = 0.77 [0.46]
Seff = 3778.09 [1603.66]
Teq = 1999 [212] K
Rp = 4.03 [1.35] Re
a = 0.0465 [0.0121] AU
Ag = 20.27 [10.43] [1.85σ]
Teff = 6559 [609] K [7.07σ]

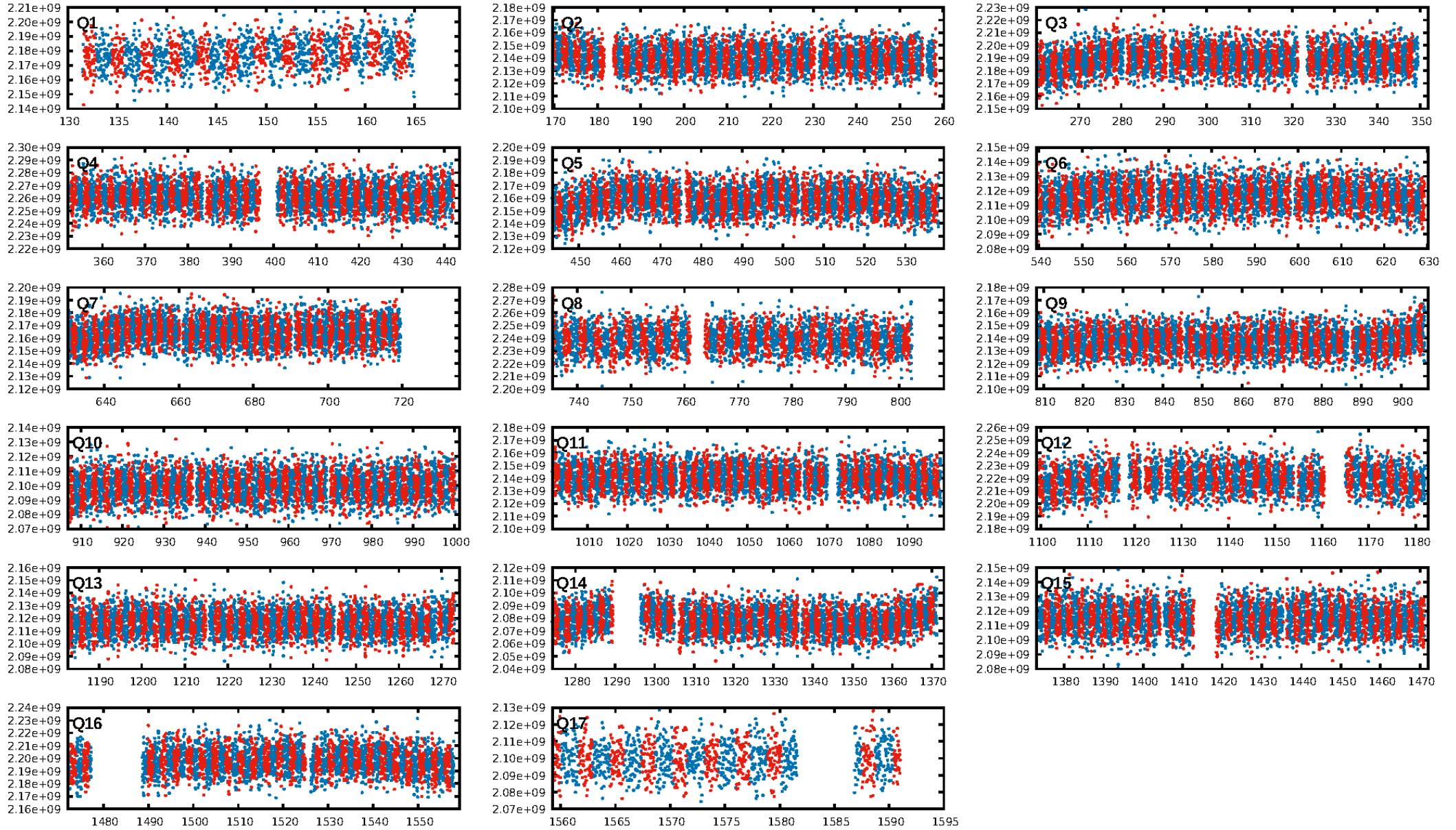
DV Diagnostic Results:

ShortPeriod-sig: 91.6% [1.73σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.63e-04
RollingBand-fgt: 1.00 [377/377]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.0%
Centroid-so: 0.376 arcsec [3.39σ]
OotOffset-rm: 2.373 arcsec [2.62σ]
KicOffset-rm: 2.310 arcsec [2.76σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.06 [1/17]
DiffImageOverlap-fno: 0.00 [0/17]

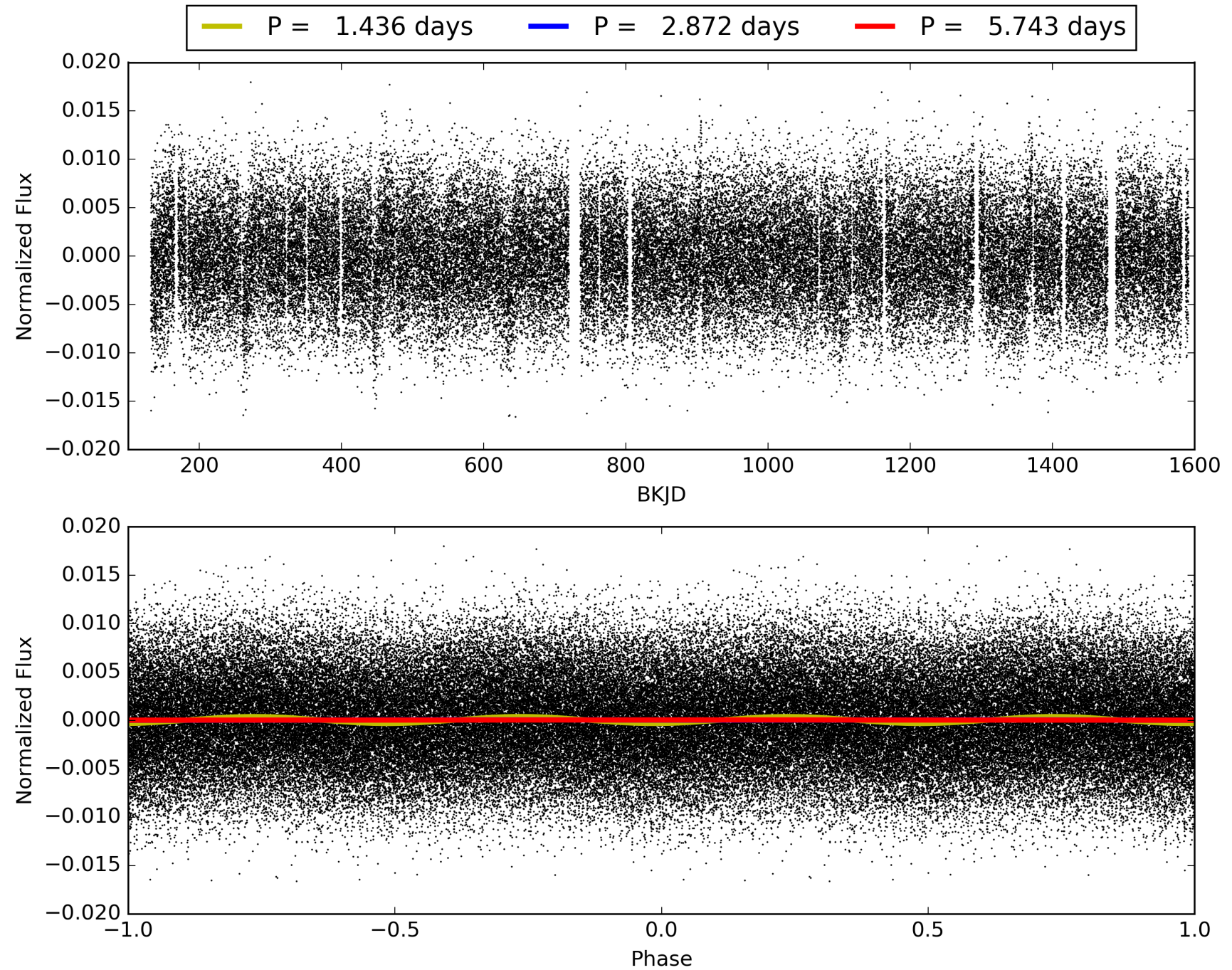
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:24:09 Z

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

TCE 011026045-02, PDC Light Curves

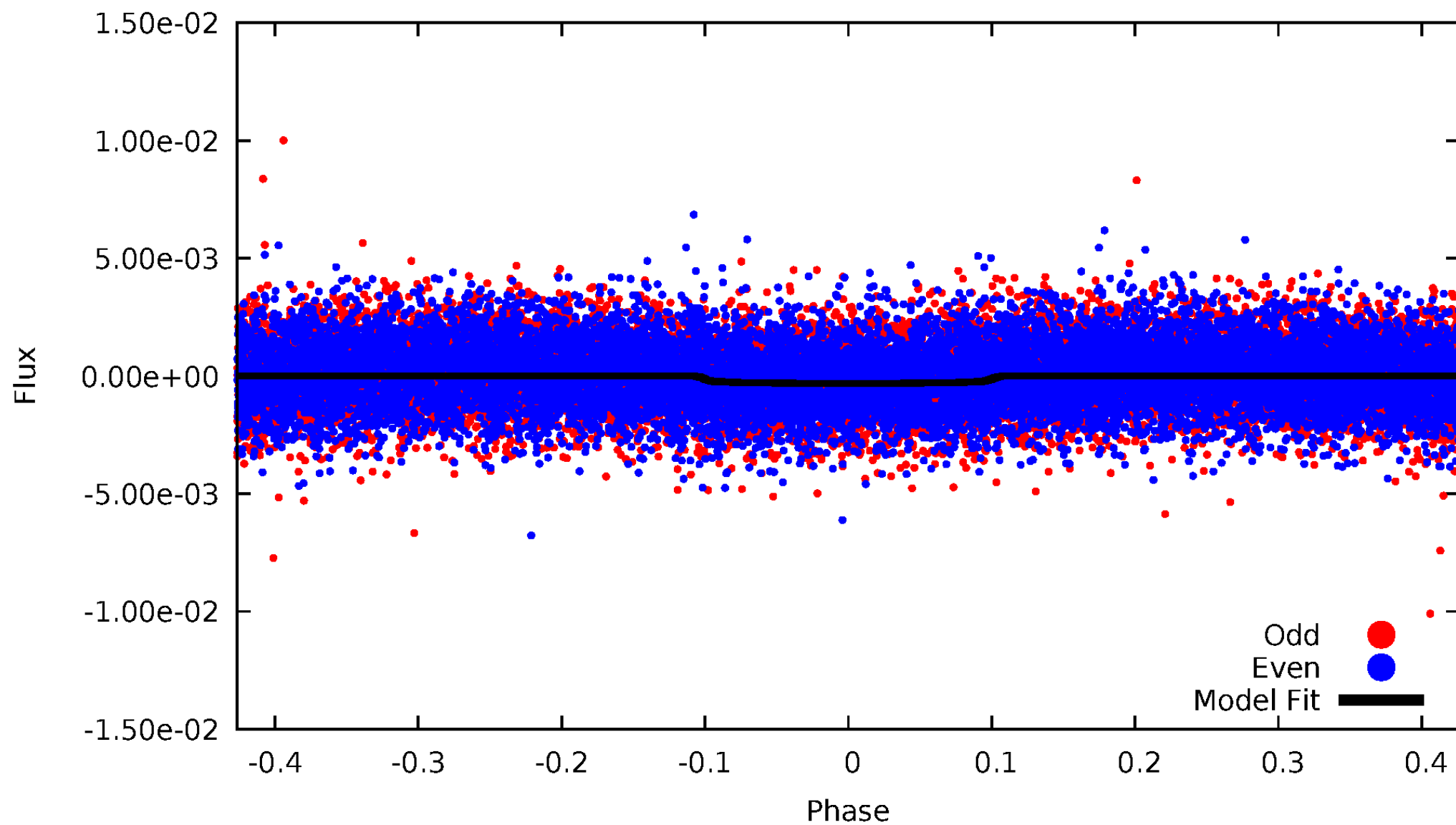


TCE 011026045-02



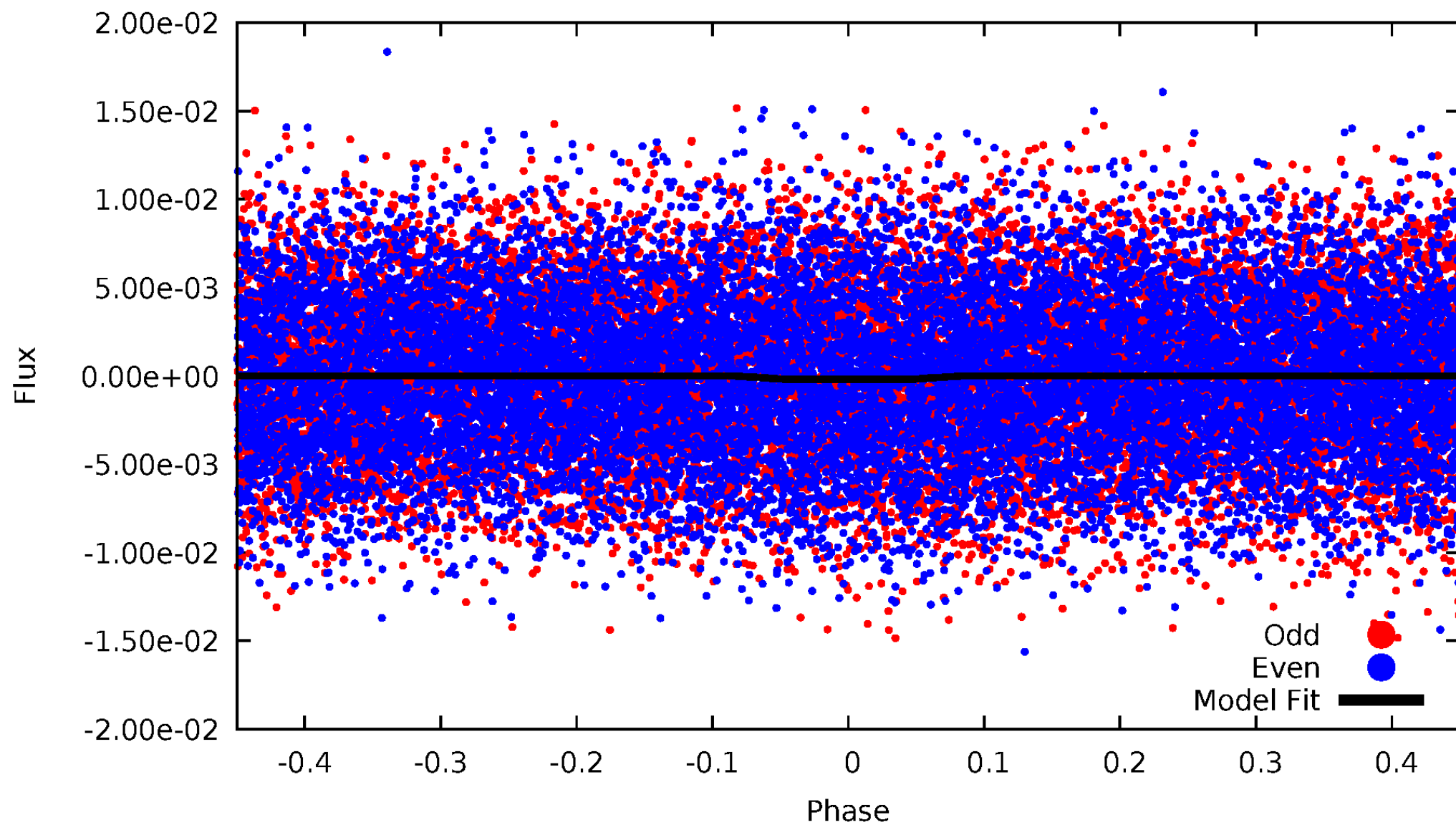
DV Odd/Even

TCE 011026045-02



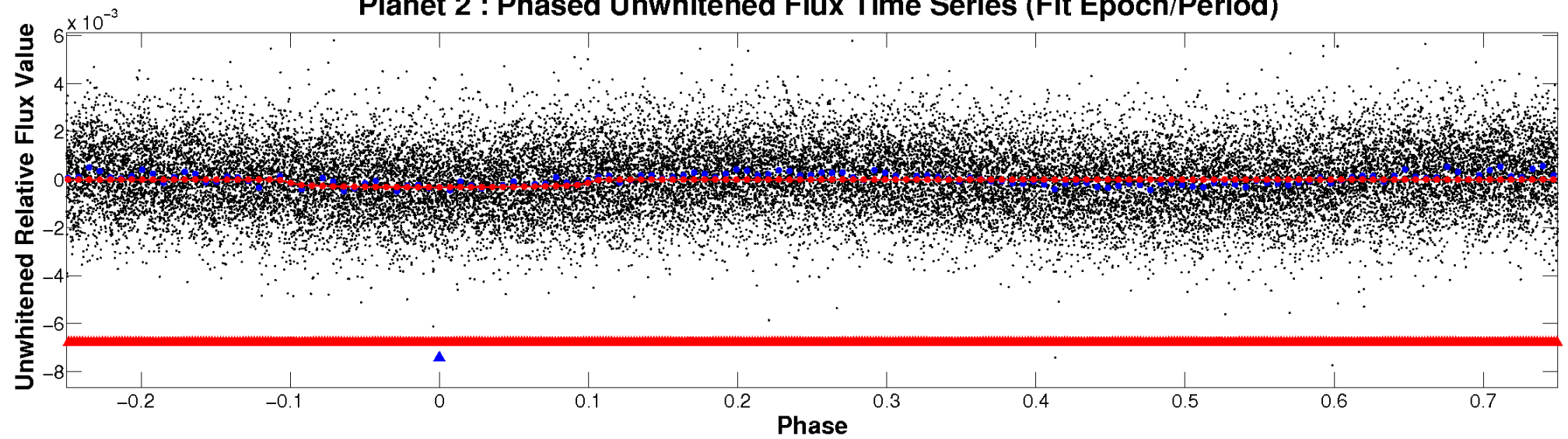
ALT Odd/Even

TCE 011026045-02

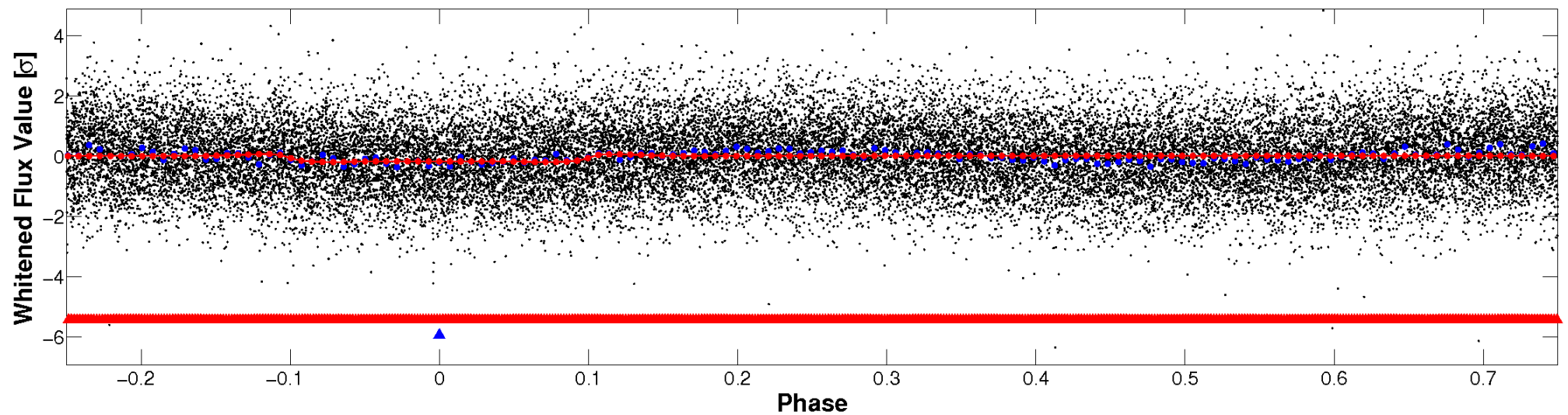


Non-Whitened Vs. Whitened Light Curve

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

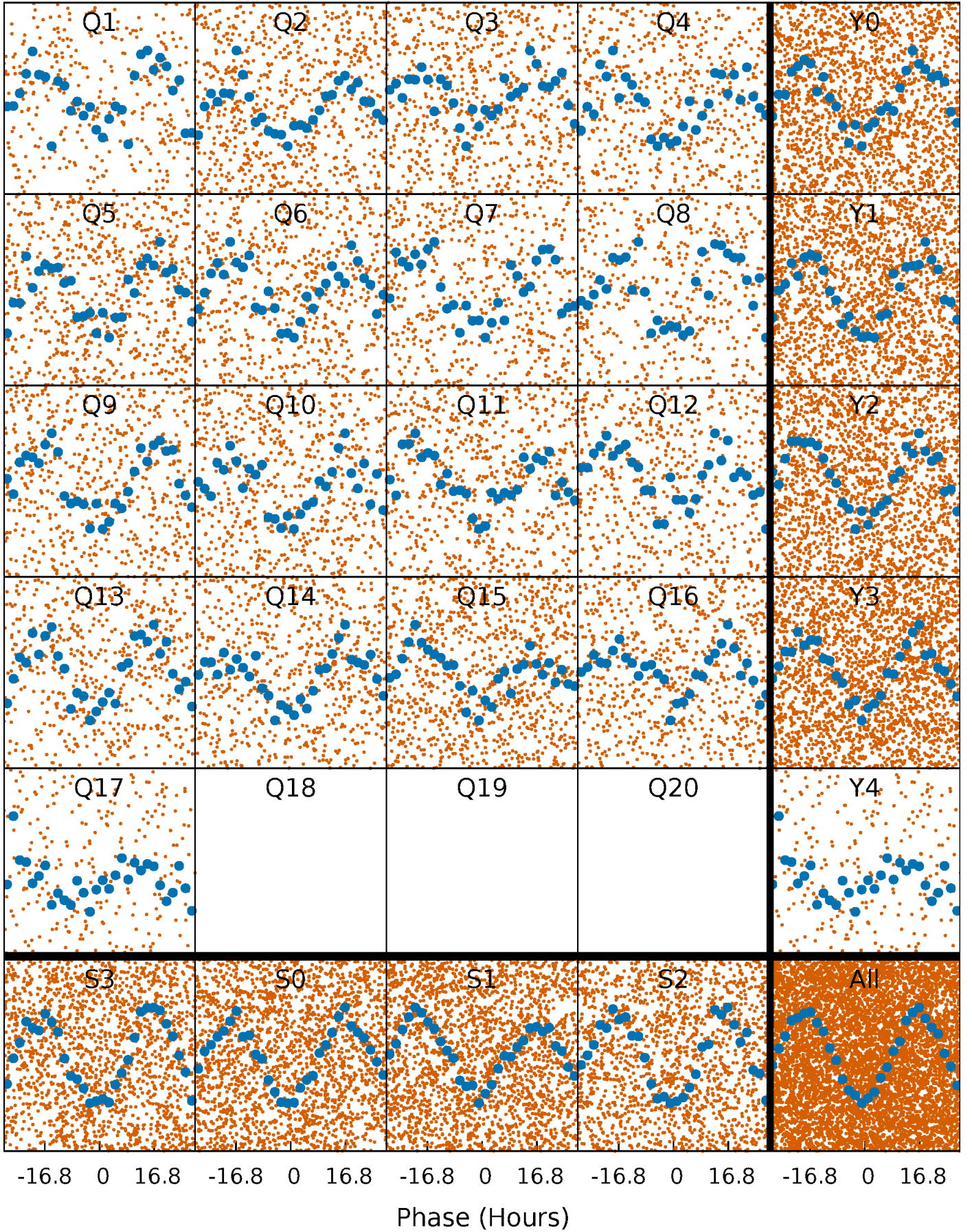


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



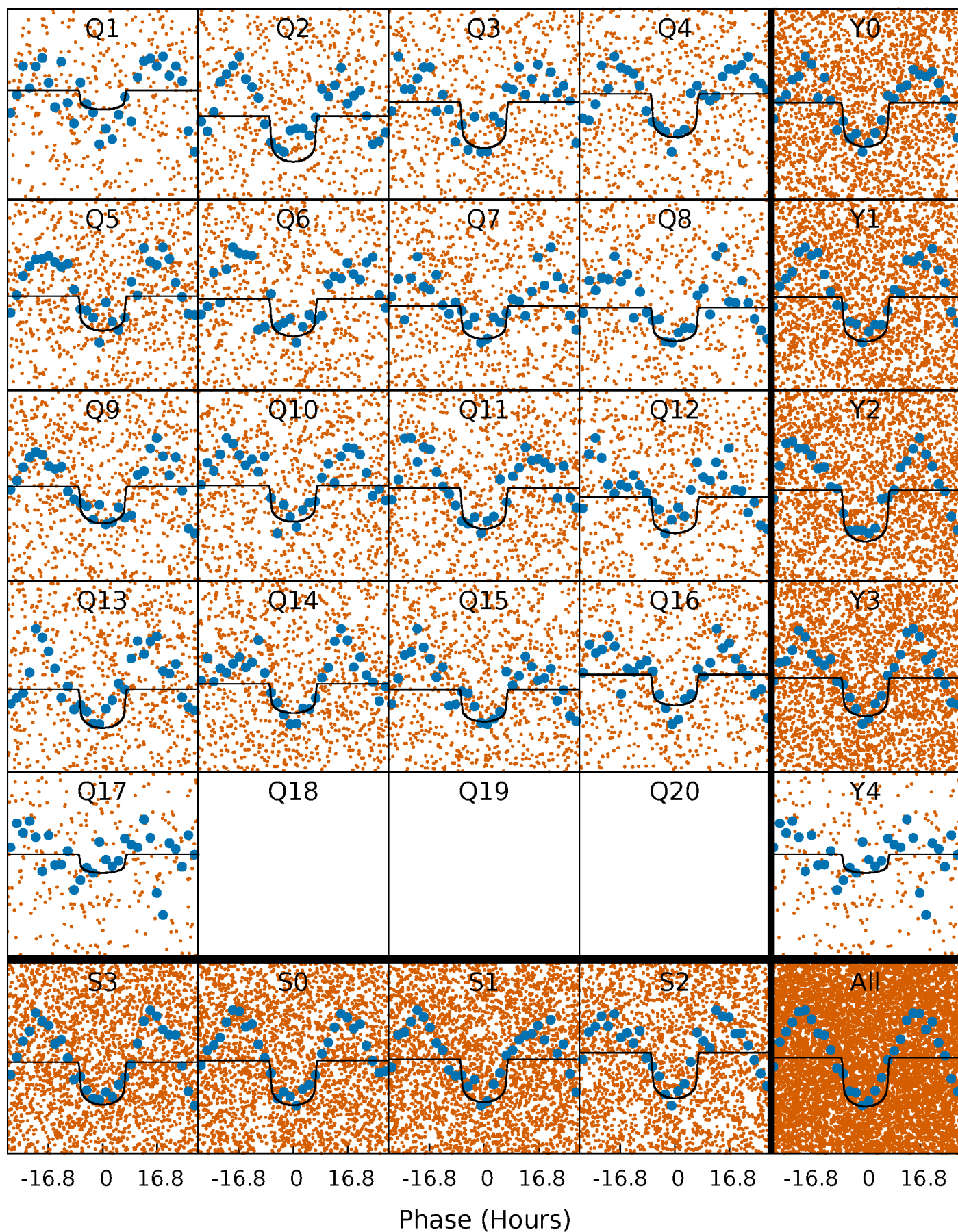
PDC Quarter-Phased Transit Curves

TCE 011026045-02 P= 2.871688 Days $T_0=132.167772$ (BKJD)



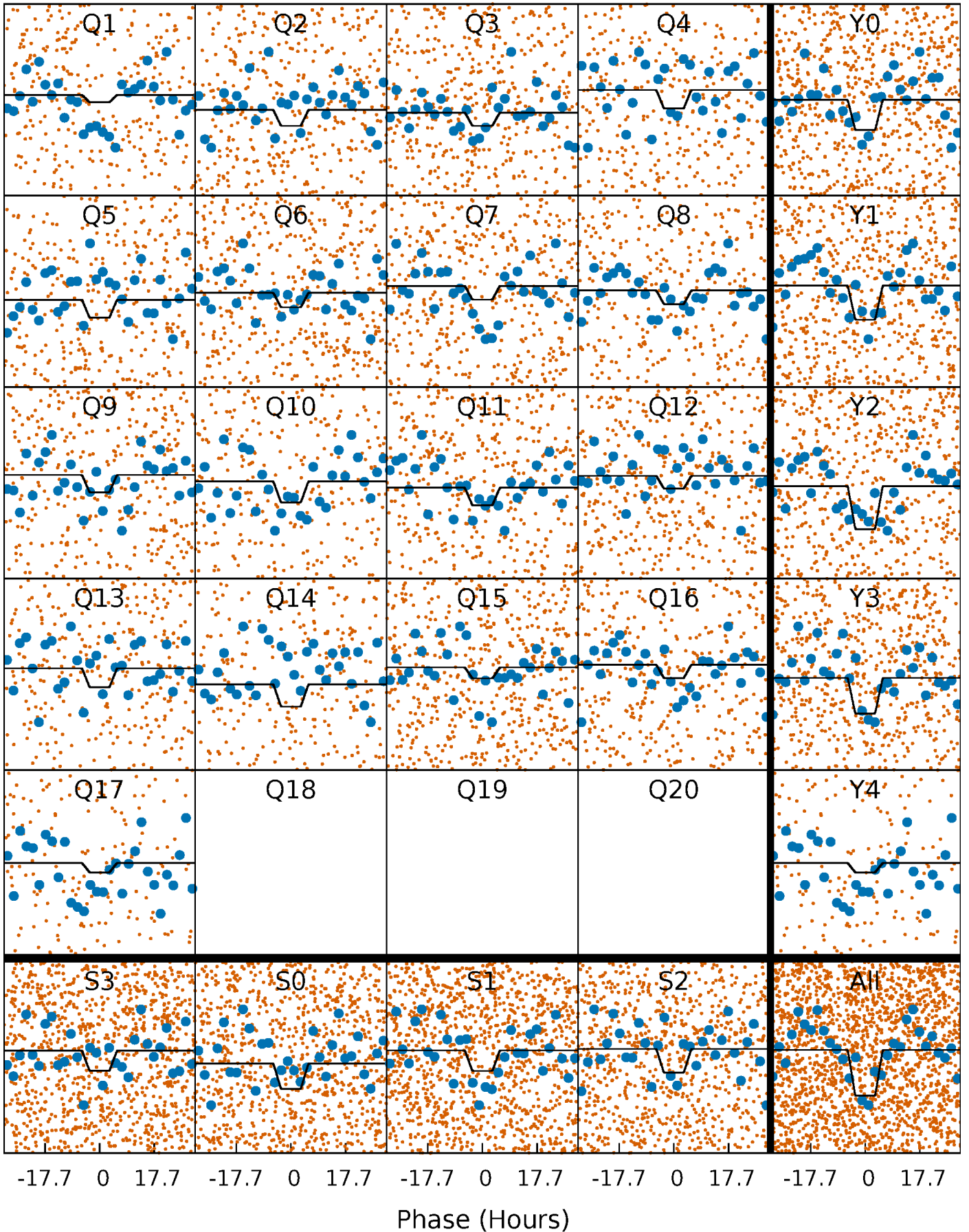
DV Quarter-Phased Transit Curves

TCE 011026045-02 P= 2.871688 Days $T_0=132.167772$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

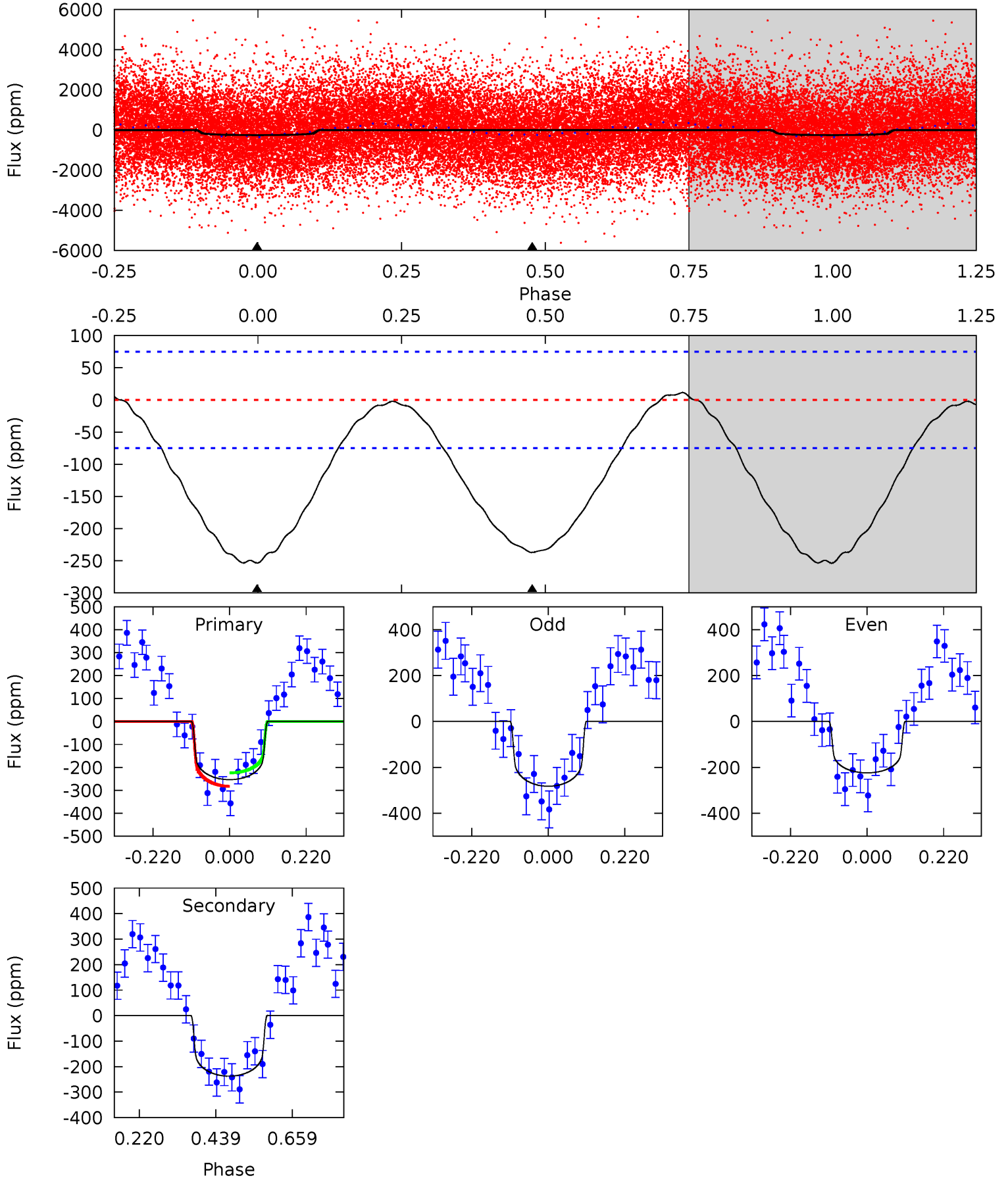
TCE 011026045-02 P= 2.871501 Days $T_0=132.194945$ (BKJD)



DV Model-Shift Uniqueness Test

011026045-02, P = 2.871688 Days, E = 129.296084 Days

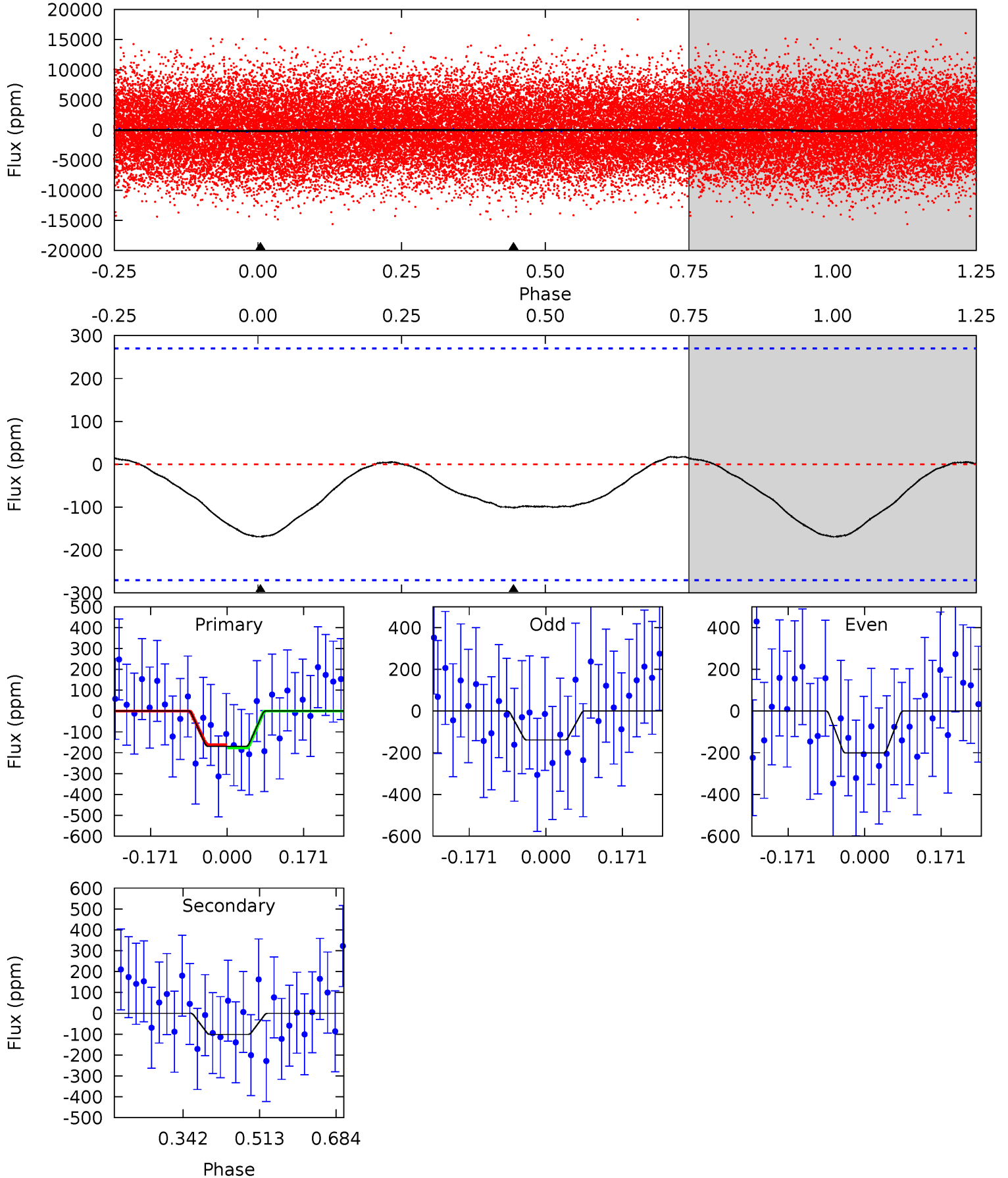
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.9	13.9	0	0	4.40	1.23	0.38	14.9	14.9	13.9	13.9	1.71	1.02	0.04	1.71



Alt Model-Shift Uniqueness Test

011026045-02, P = 2.871501 Days, E = 129.323444 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.79	1.67	0	0	4.45	1.37	0.31	2.79	2.79	1.67	1.67	0.51	0.55	0.09	0.13



Stellar Parameters For KIC 011026045

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6788^{+185}_{-278}	$4.016^{+0.220}_{-0.180}$	$0.240^{+0.200}_{-0.350}$	$2.072^{+0.616}_{-0.616}$	$1.621^{+0.200}_{-0.300}$	$0.257^{+0.374}_{-0.125}$
	+3%/-4%	+5%/-4%	+83%/-146%	+30%/-30%	+12%/-19%	+146%/-49%
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 011026045-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-237 ± 17	$3.96^{+0.96}_{-0.84}$	2779^{+233}_{-218}	6210^{+690}_{-475}	17^{+11}_{-6}
Alt.	-101 ± 61	$3.08^{+0.83}_{-0.77}$	2777^{+239}_{-229}	5702^{+1036}_{-1100}	12^{+14}_{-7}

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

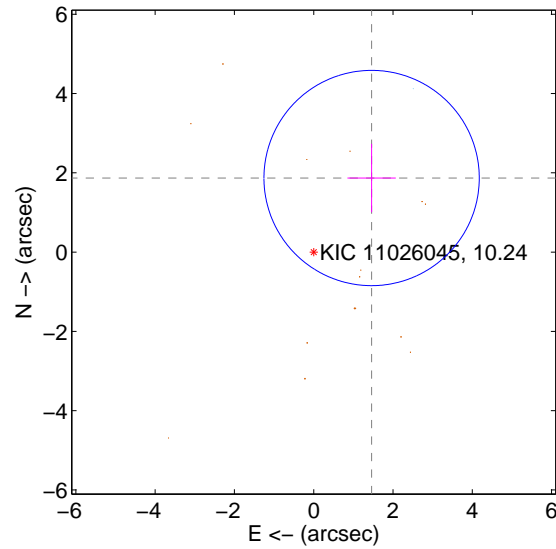
Supplemental centroid analysis for 011026045-02. **Kepler magnitude: 10.24.** Transit SNR 13.09

There are 1 quarters with good PRF difference image offsets

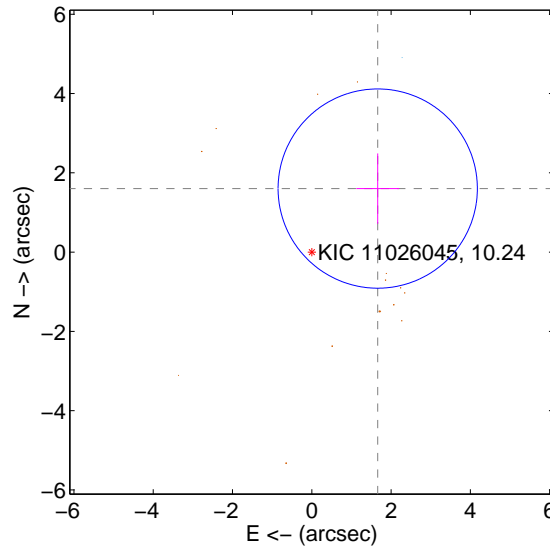
The direct PRF centroid is offset from the target star catalog position by about 0.68 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.373 ± 0.905	2.62	-1.461 ± 0.610	1.869 ± 0.863
PRF-fit source offset from KIC position	2.310 ± 0.838	2.76	-1.664 ± 0.542	1.603 ± 0.887
photometric centroid source offset	0.38 ± 0.11	3.39	0.24 ± 0.09	-0.29 ± 0.13

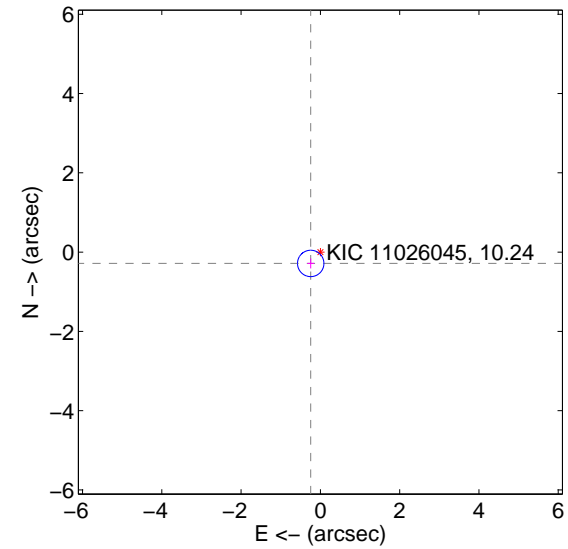
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

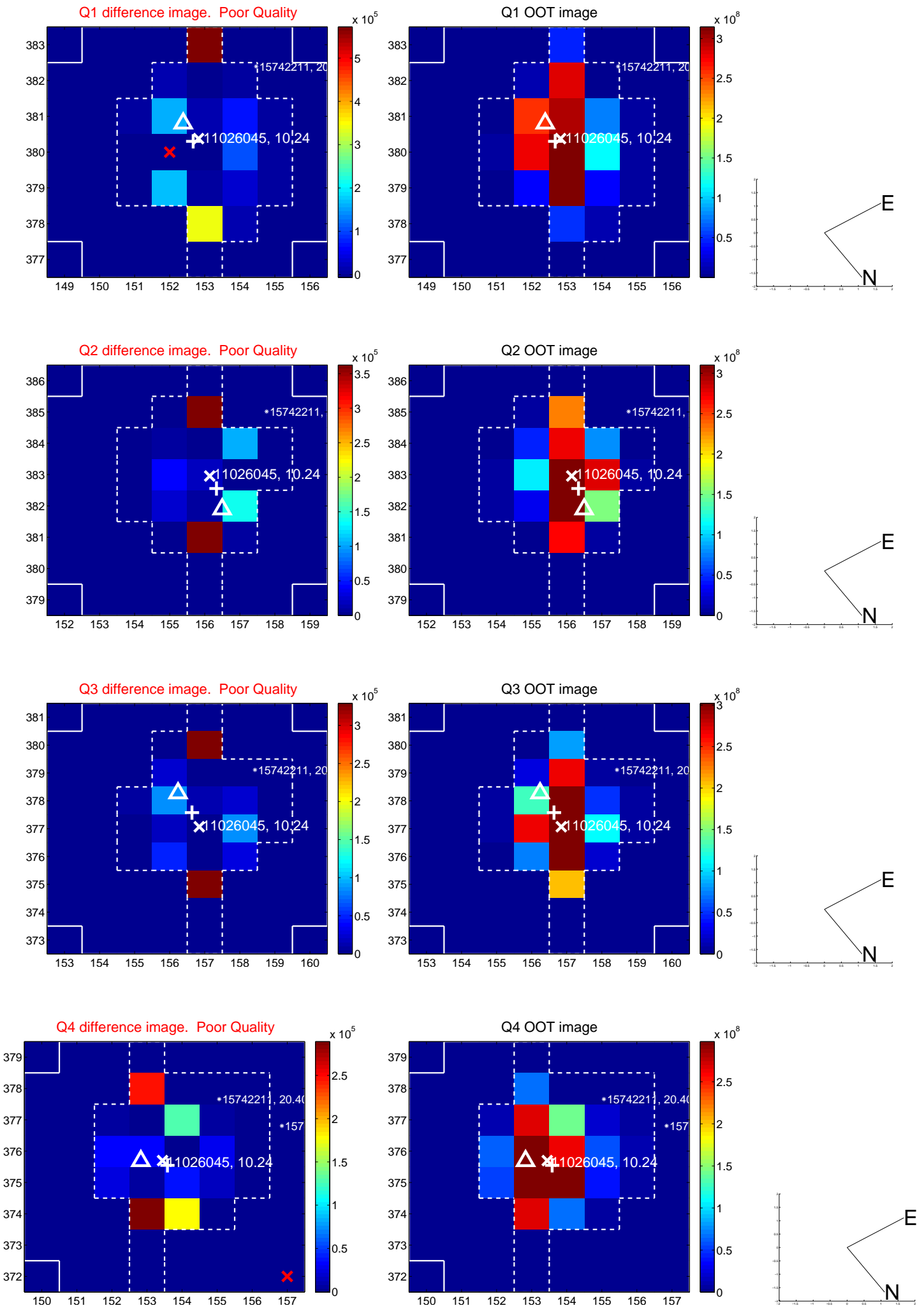


offset from photometric centroids

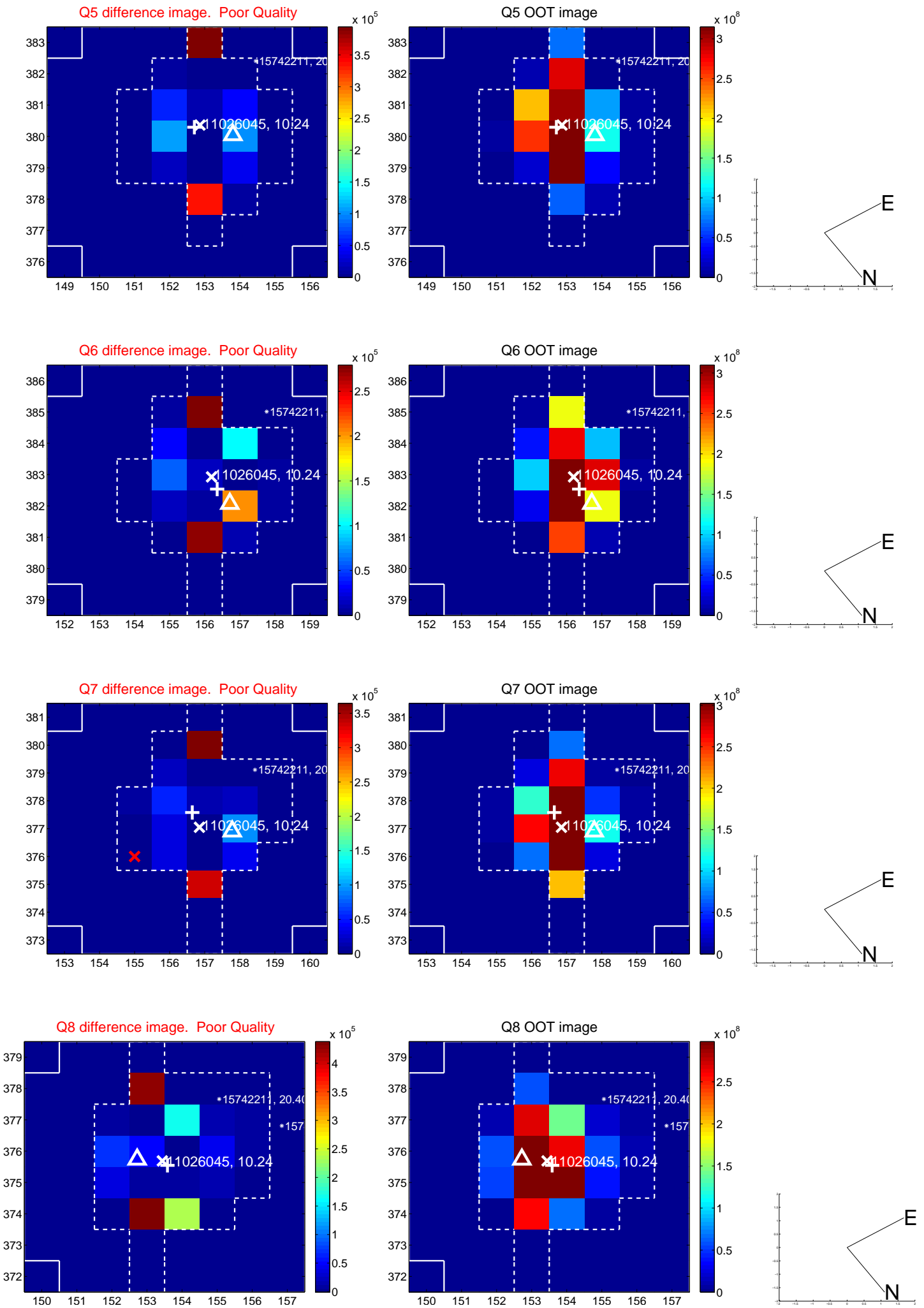


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

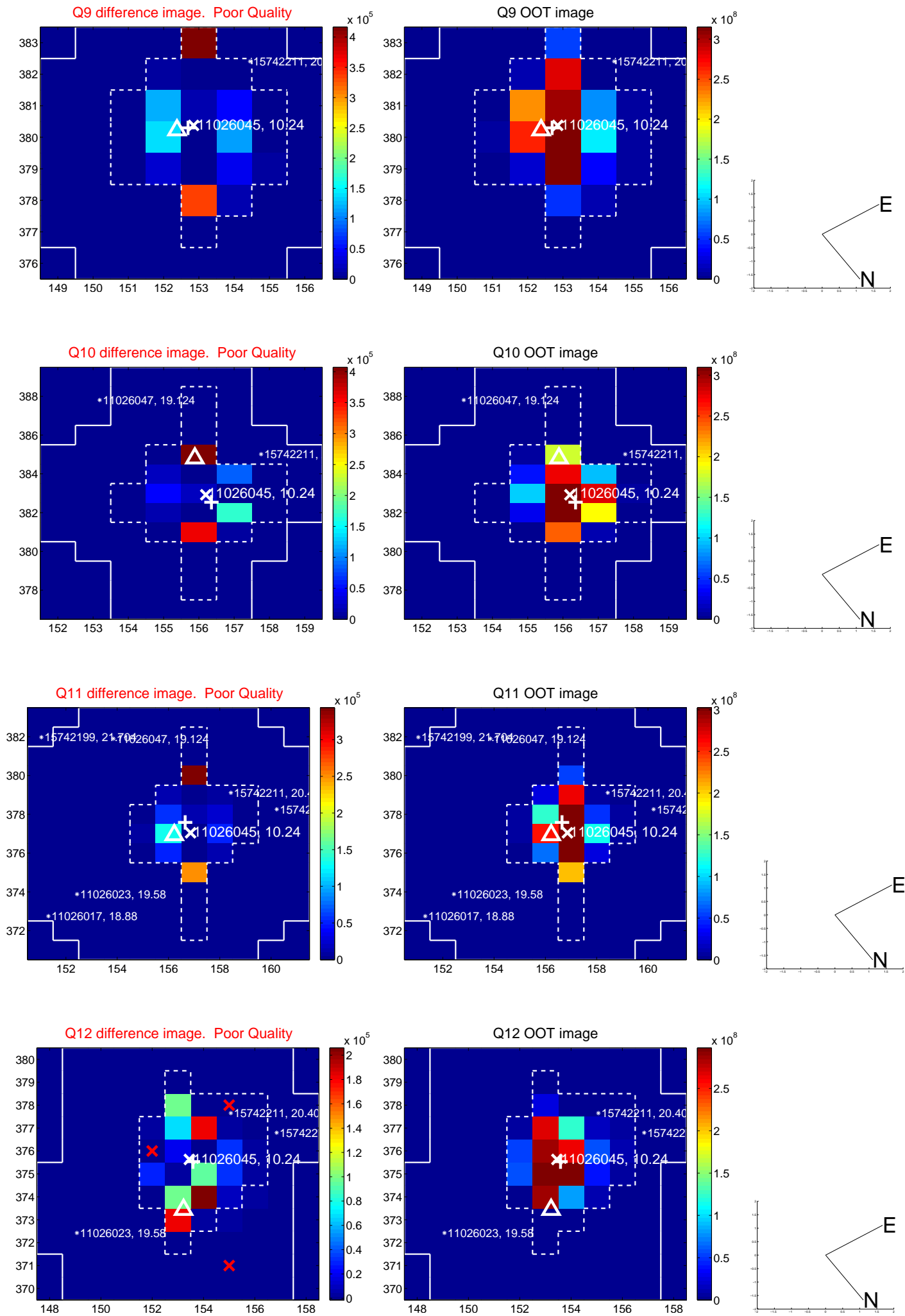
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



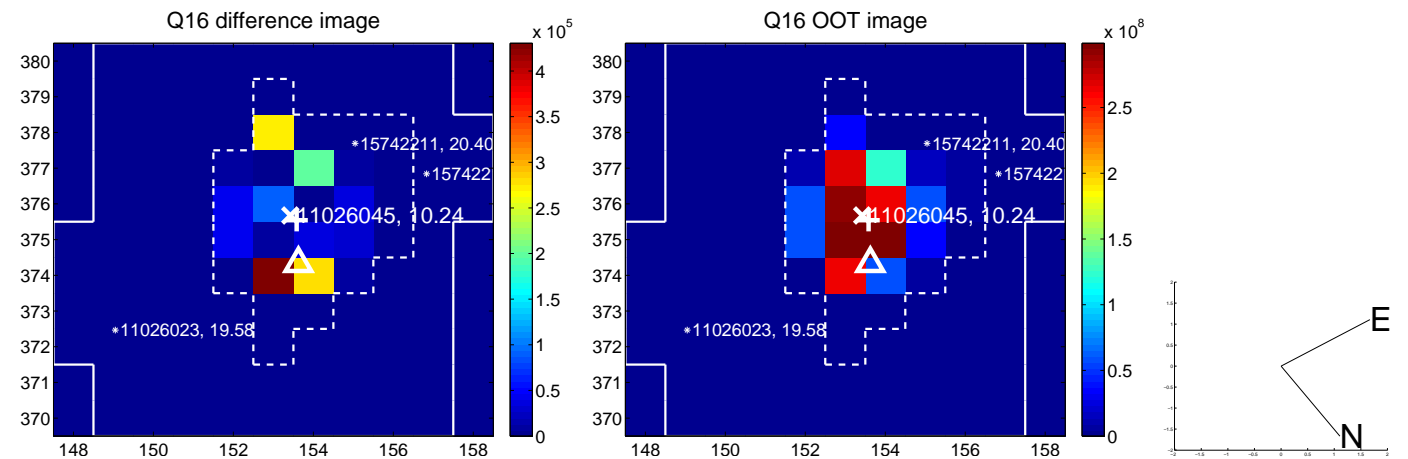
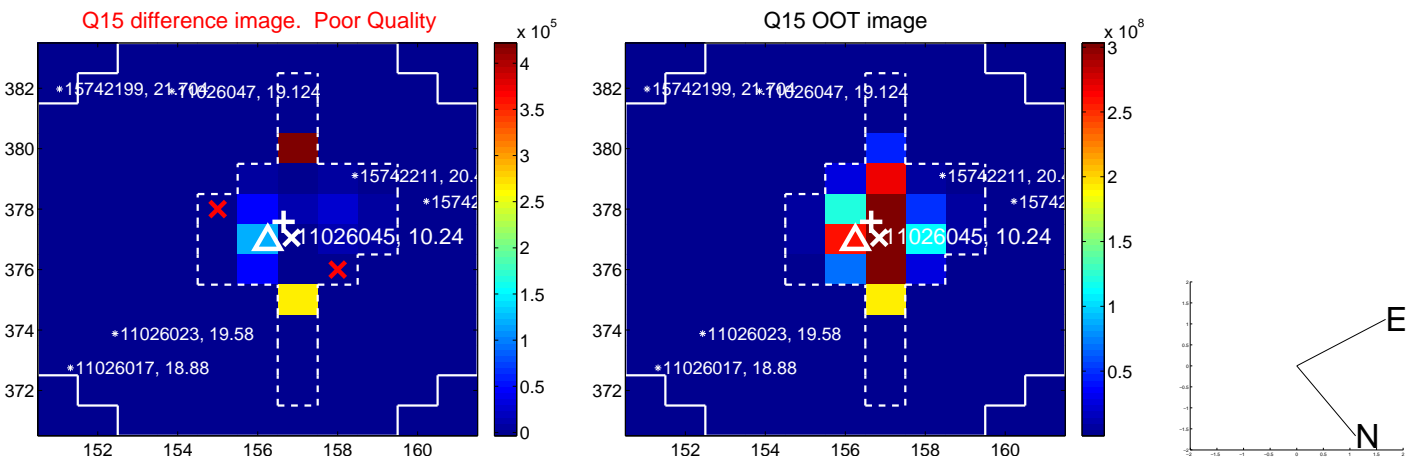
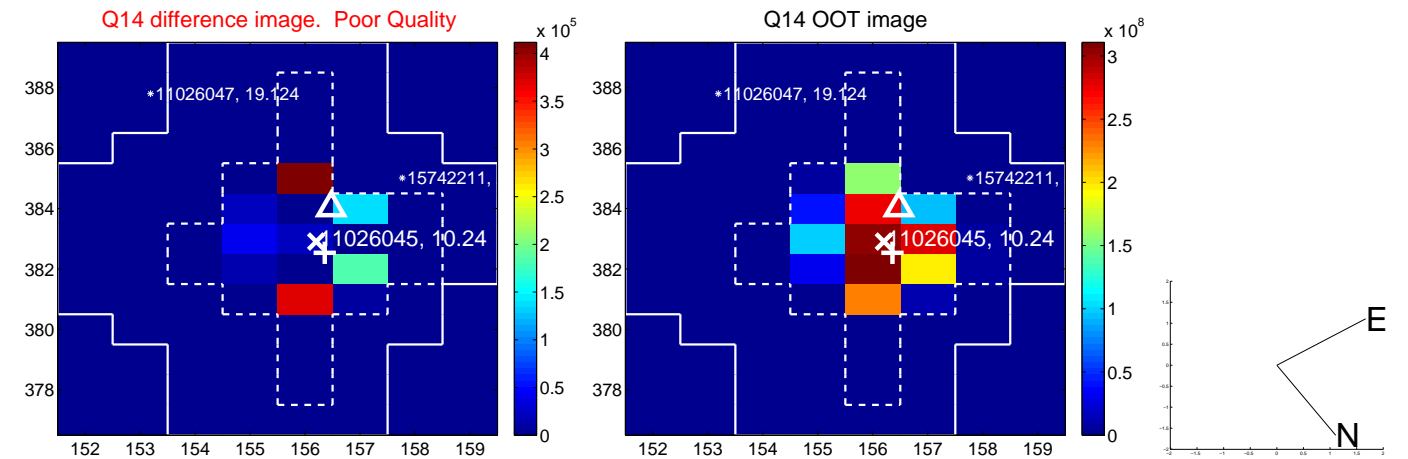
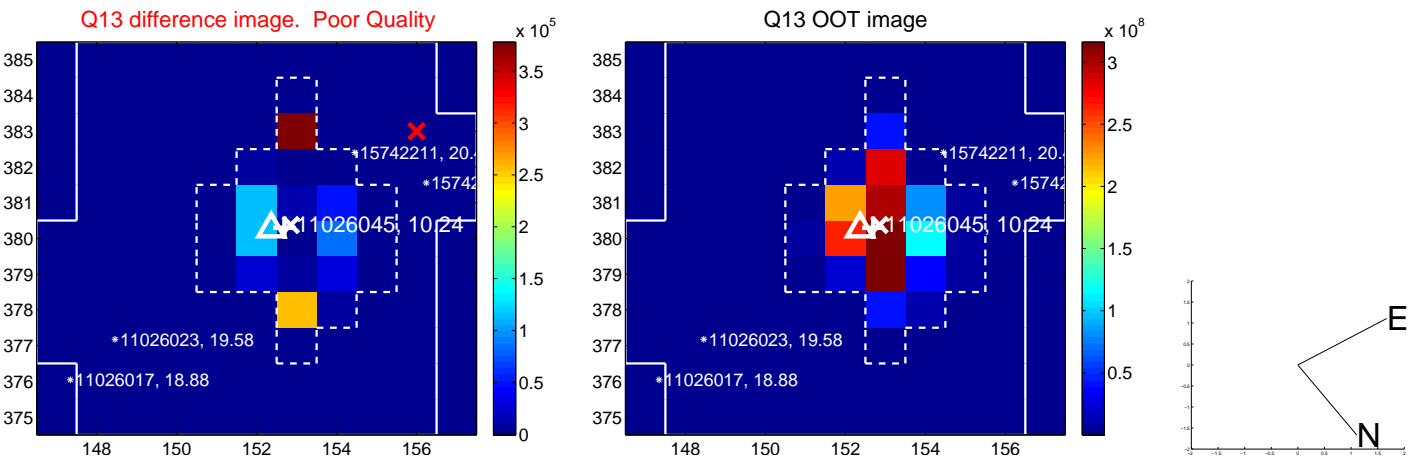
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



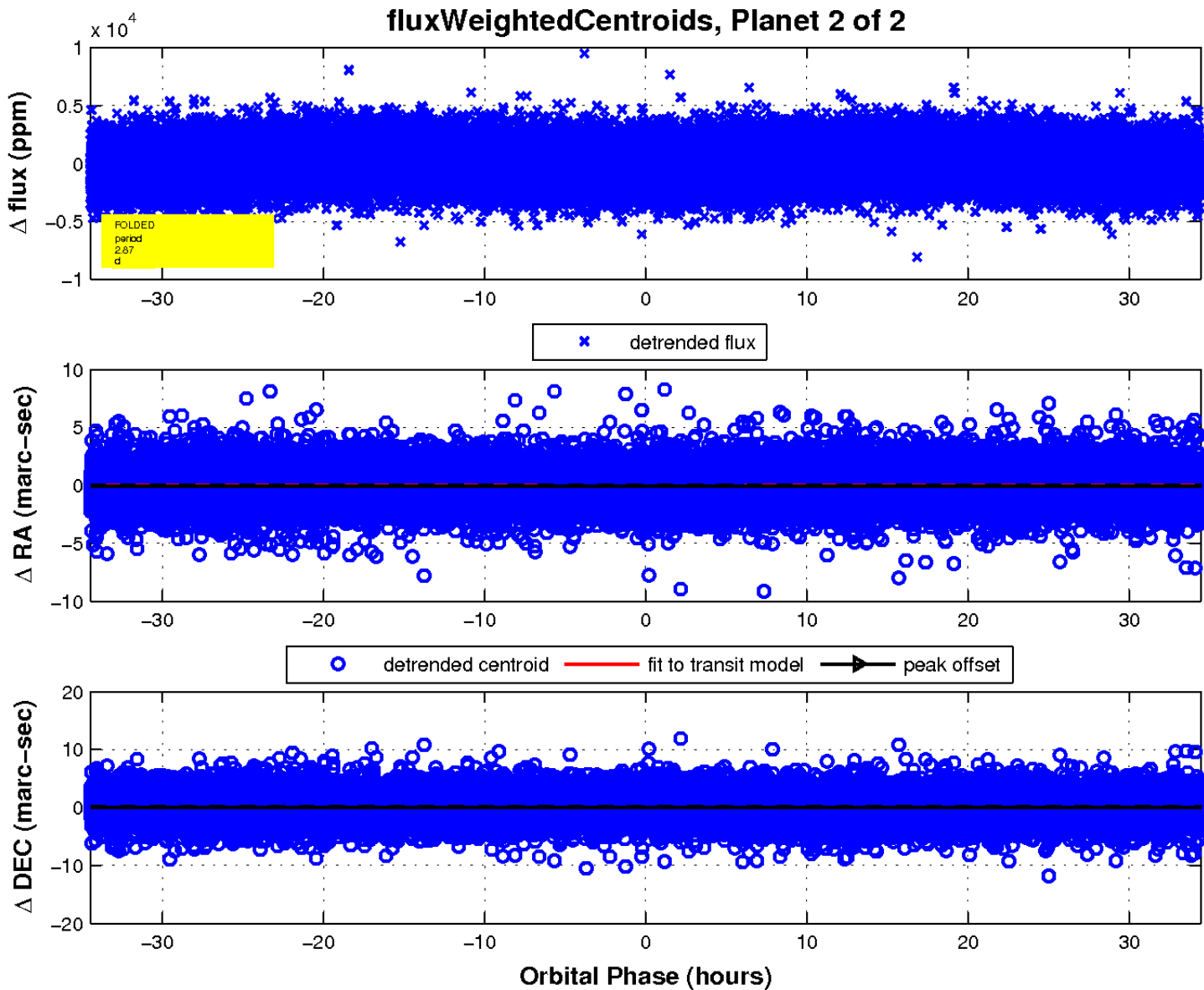
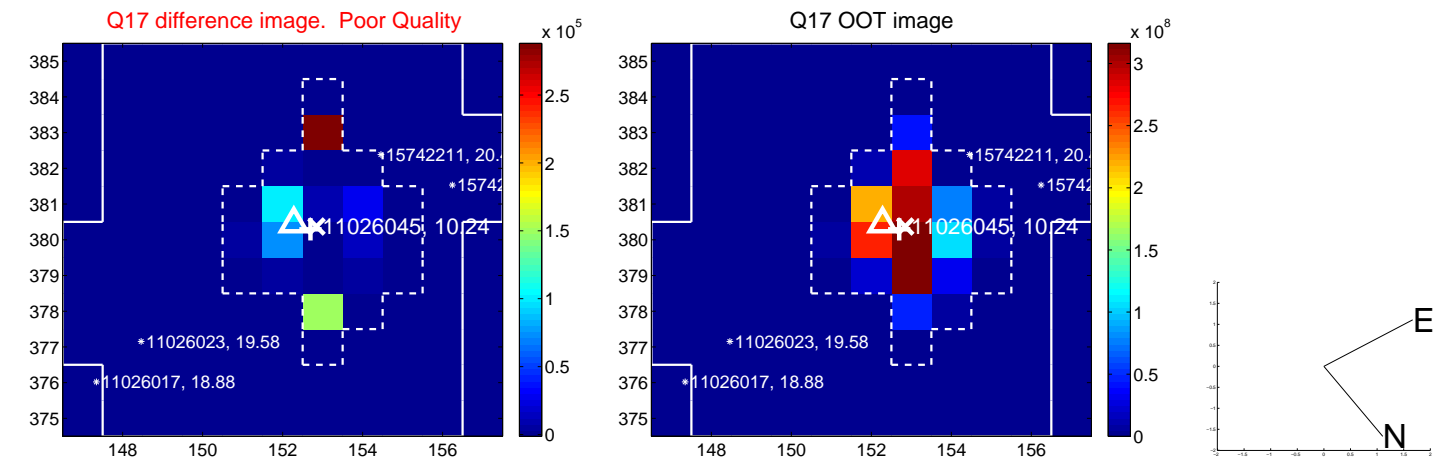
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

Declination

