

KIC 007265427

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})
007265427-01	OBS	No	4.014222	131.972467	73.5	8.676	8.1	9.5	1.82	7776	2.11	3260.57
007265427-02	OBS	No	0.573471	131.984947	77.0	6.882	8.6	17.3	1.82	7776	2.17	43659.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007265427-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007265427-02	OBS	FP	0.00	1	0	0	0	LPP_DV—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.

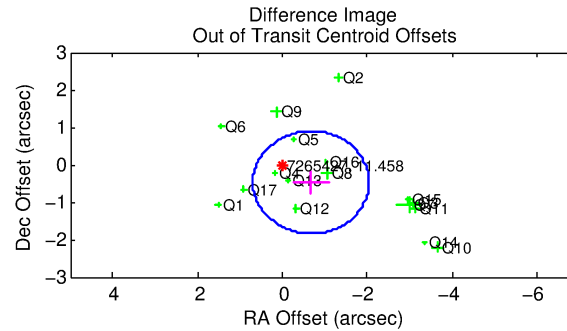
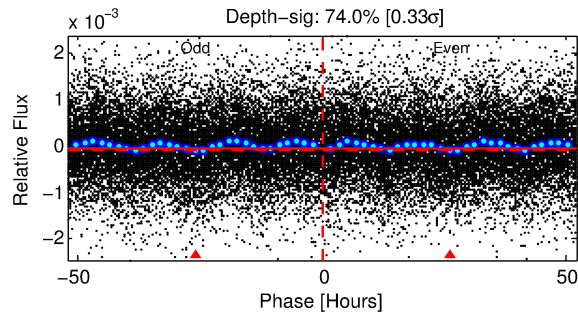
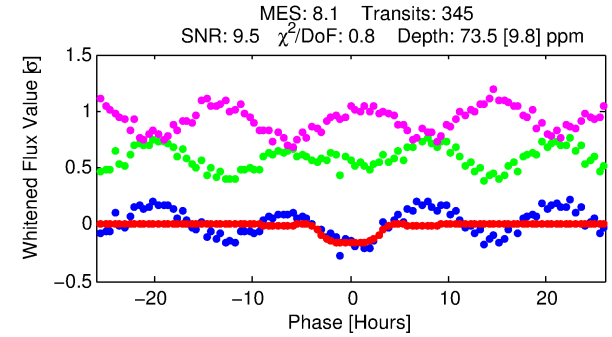
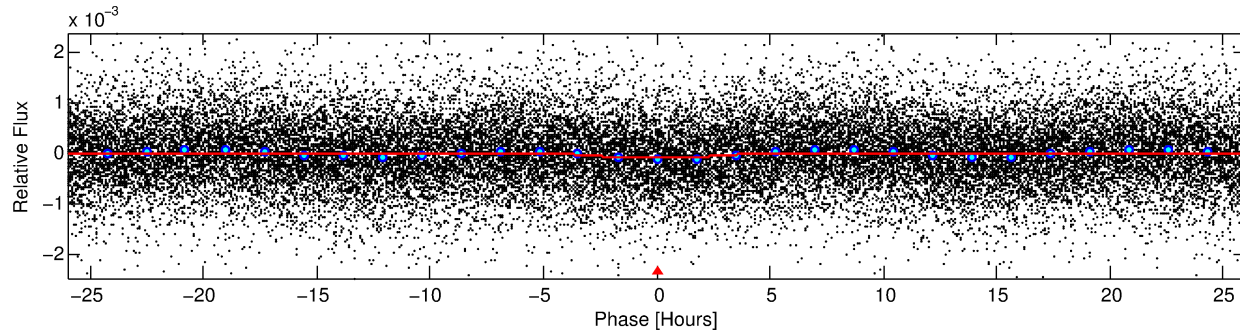
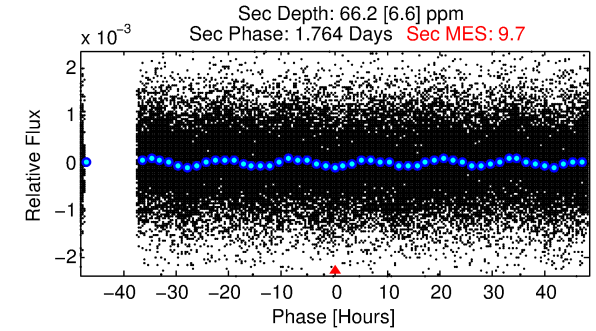
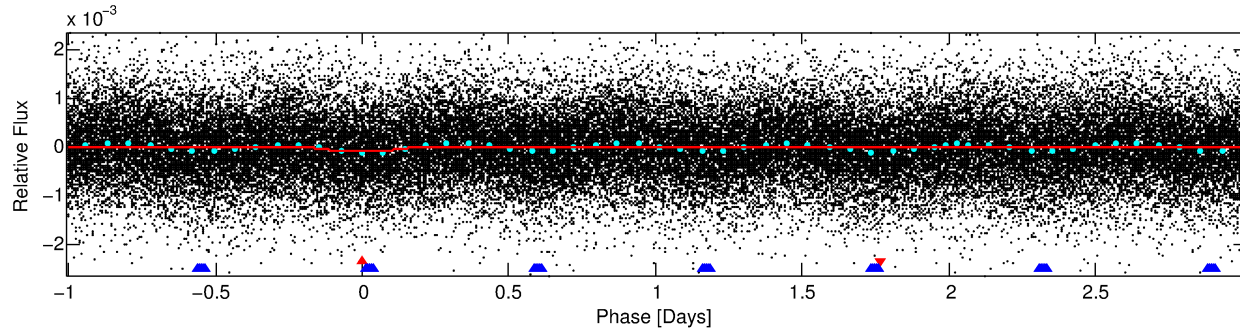
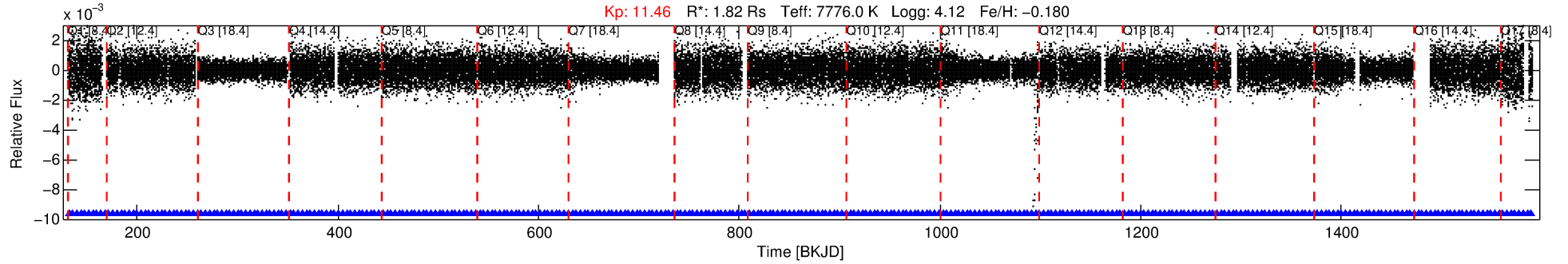
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007265427-01

No Significant Match Found

DV One-Page Summary

KIC: 7265427 Candidate: 1 of 2 Period: 4.014 d



DV Fit Results:

Period = 4.01422 [0.00010] d
Epoch = 131.9725 [0.0189] BKJD
Rp/R* = 0.0106 [0.0009]
a/R* = 1.25 [0.09]
b = 0.99 [0.01]
Seff = 3260.56 [1168.13]
Teq = 1927 [173] K
Rp = 2.11 [0.60] Re
a = 0.0578 [0.0128] AU
Ag = 27.26 [10.09] [2.60σ]
Teffp = 6808 [432] K [10.50σ]

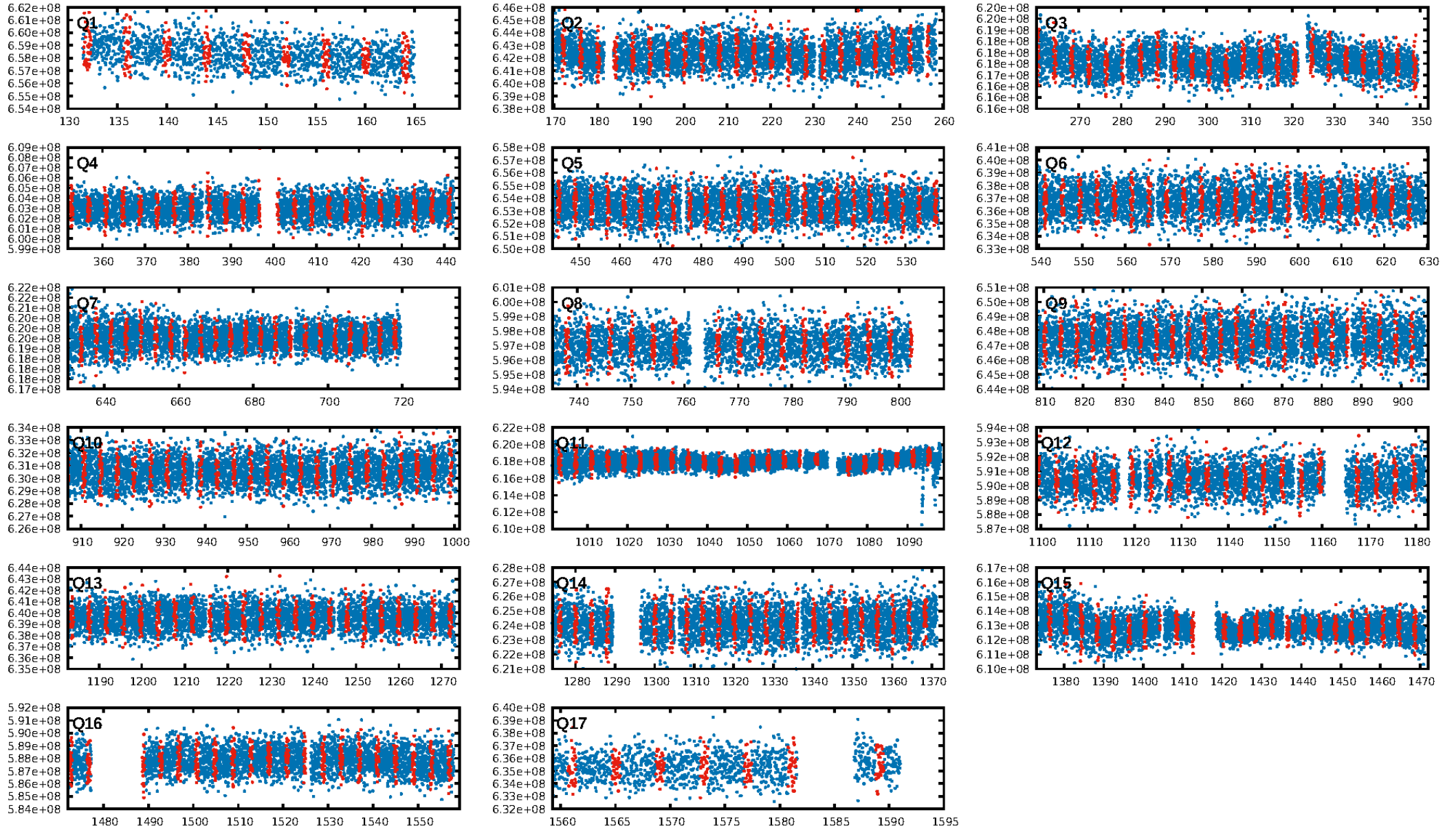
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [7.46σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [329/329]
GhostDiagnostic-chr: 0.273
Centroid-sig: 0.0%
Centroid-so: 0.564 arcsec [2.25σ]
OotOffset-rm: 0.827 arcsec [1.81σ]
KicOffset-rm: 0.681 arcsec [1.63σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.82 [14/17]
DiffImageOverlap-fno: 0.00 [0/17]

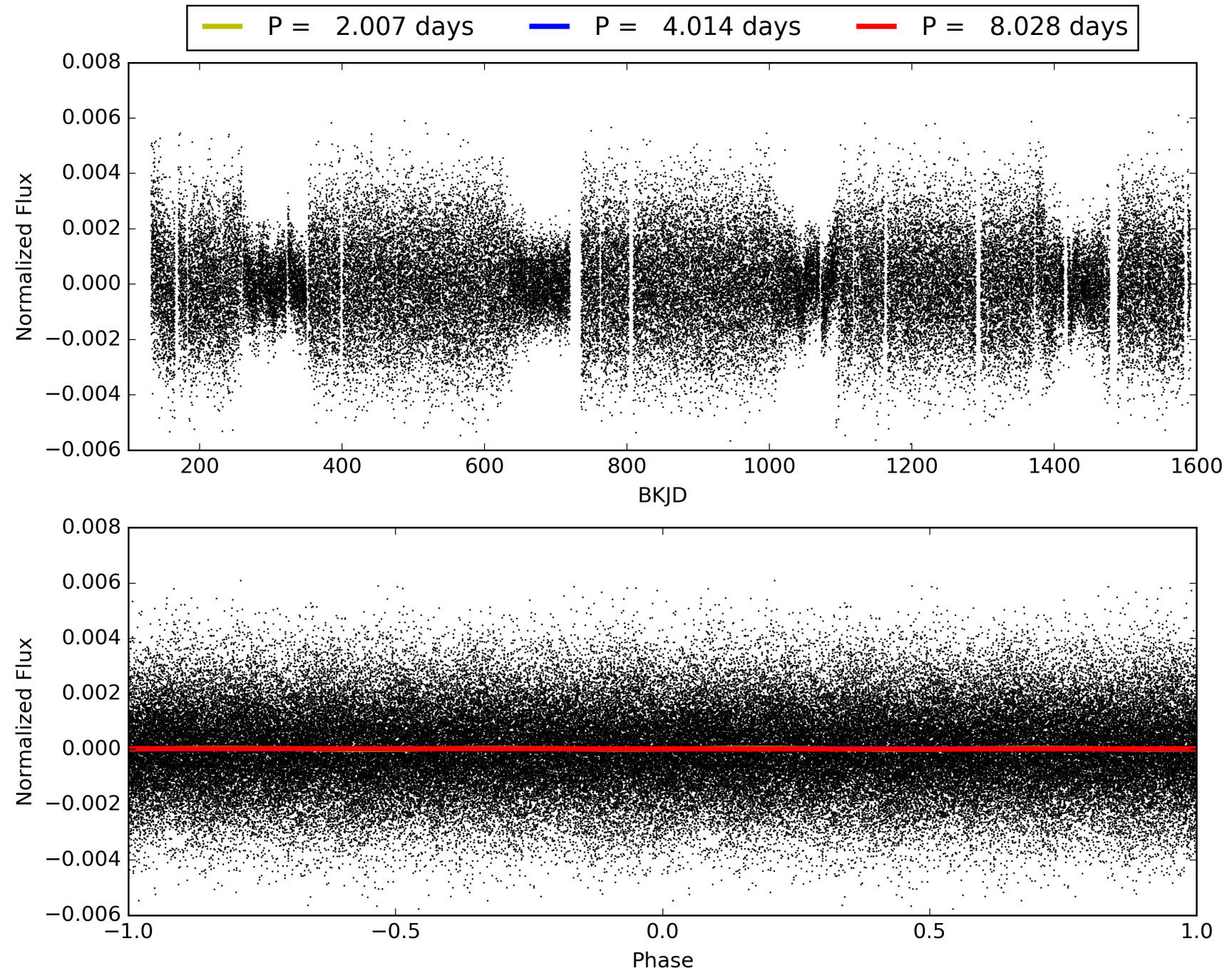
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 22:55:54 Z

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

TCE 007265427-01, PDC Light Curves

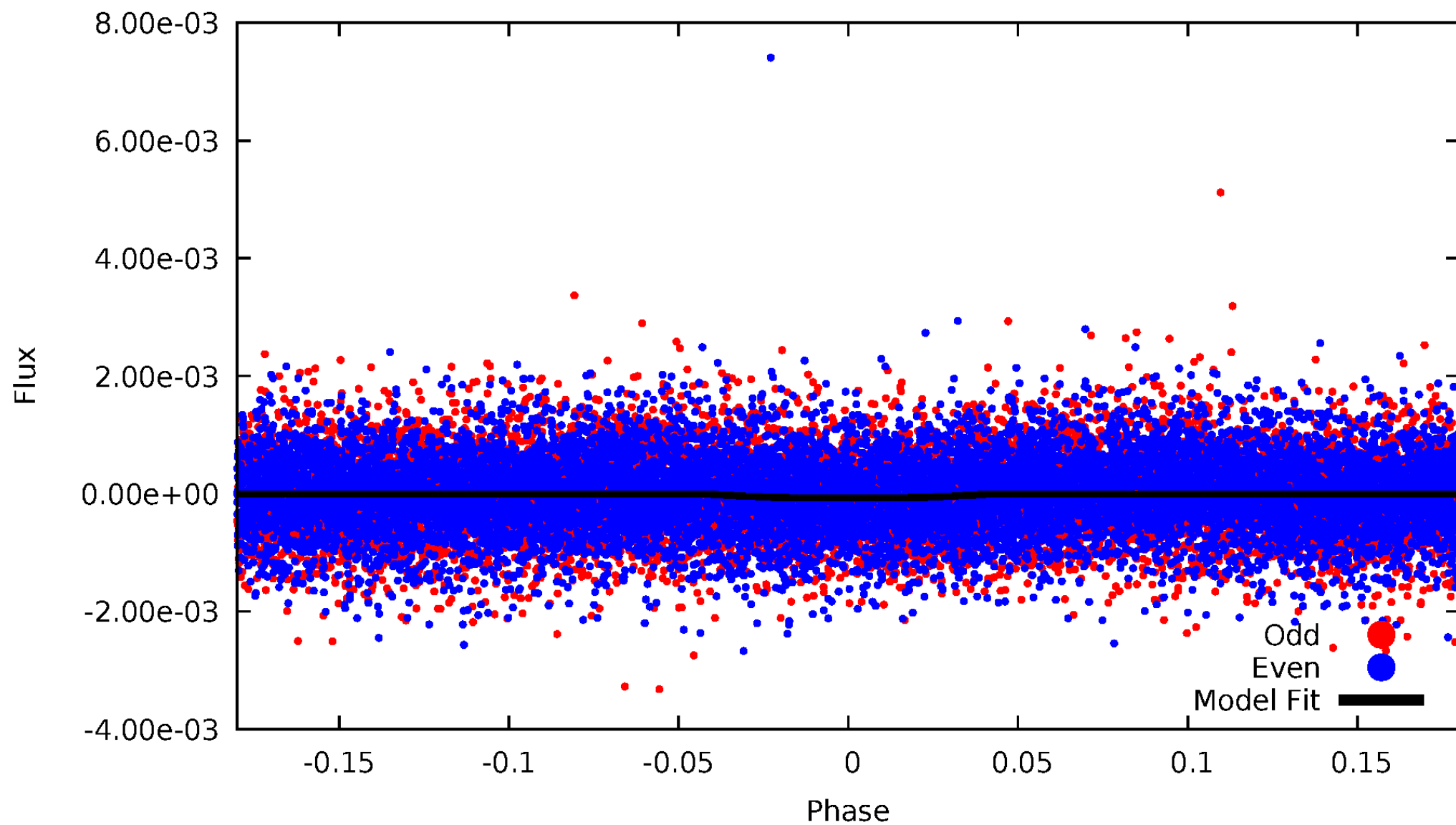


TCE 007265427-01



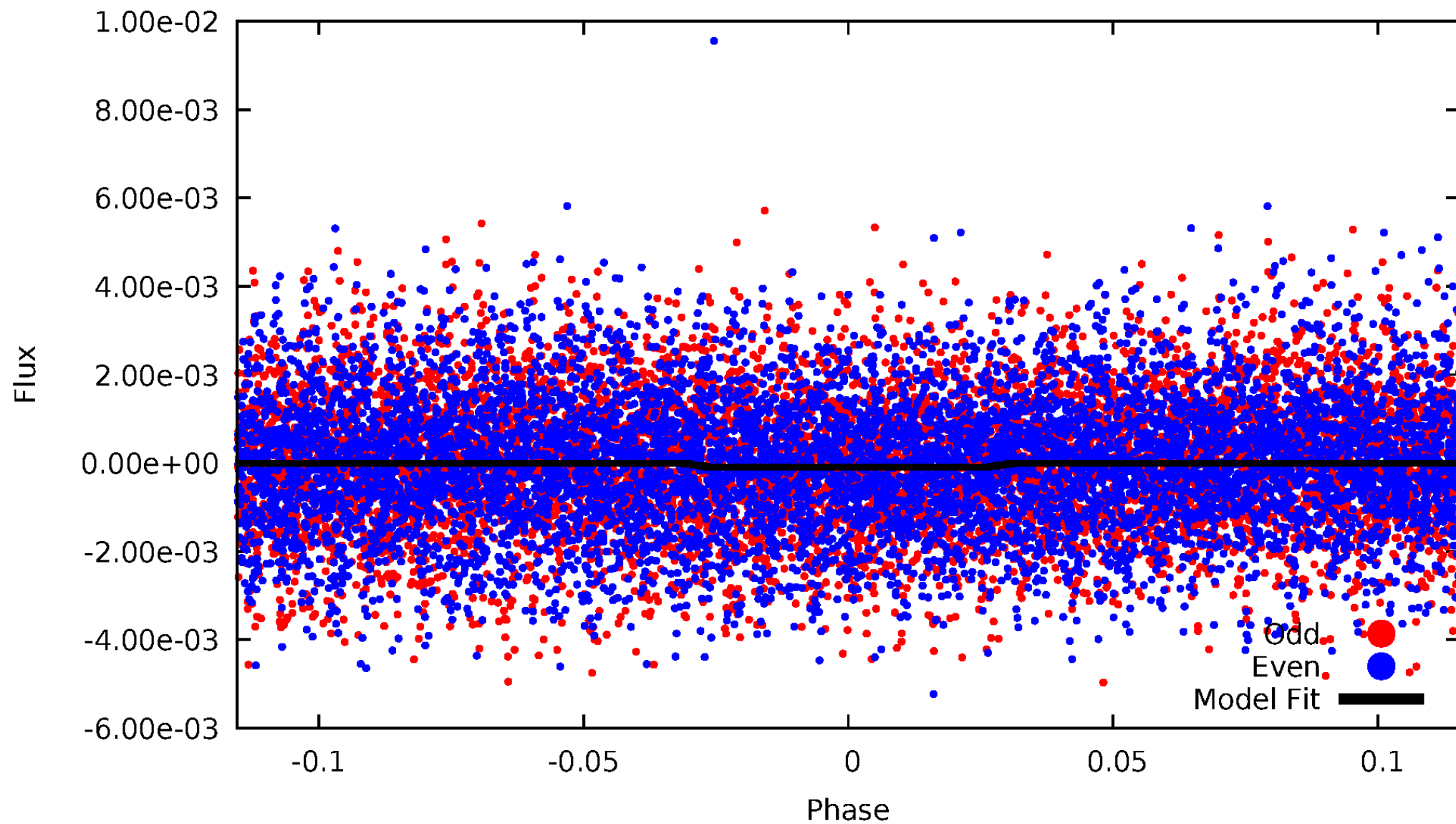
DV Odd/Even

TCE 007265427-01



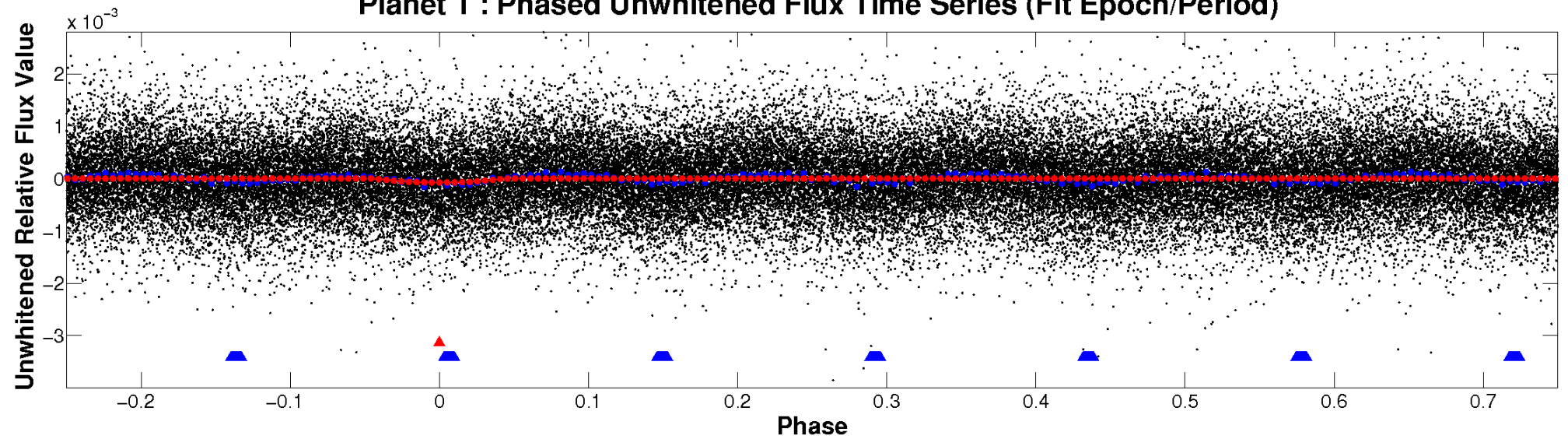
ALT Odd/Even

TCE 007265427-01

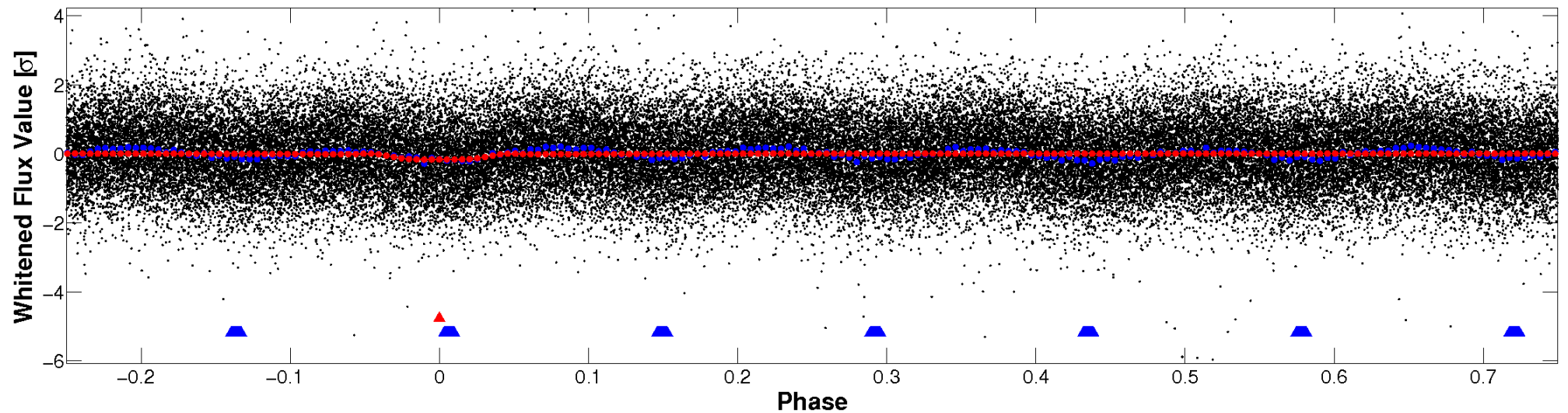


Non-Whitened Vs. Whitened Light Curve

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

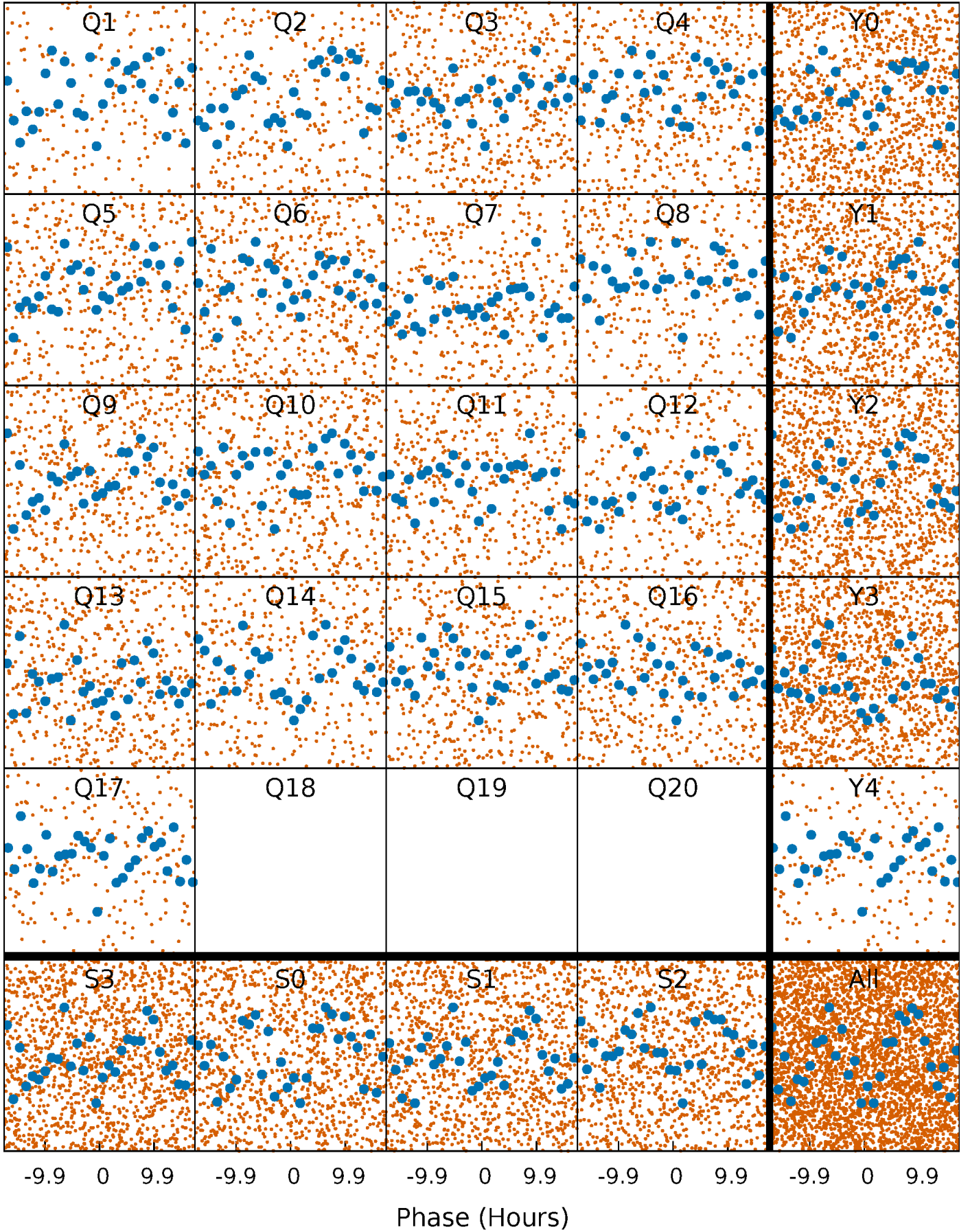


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



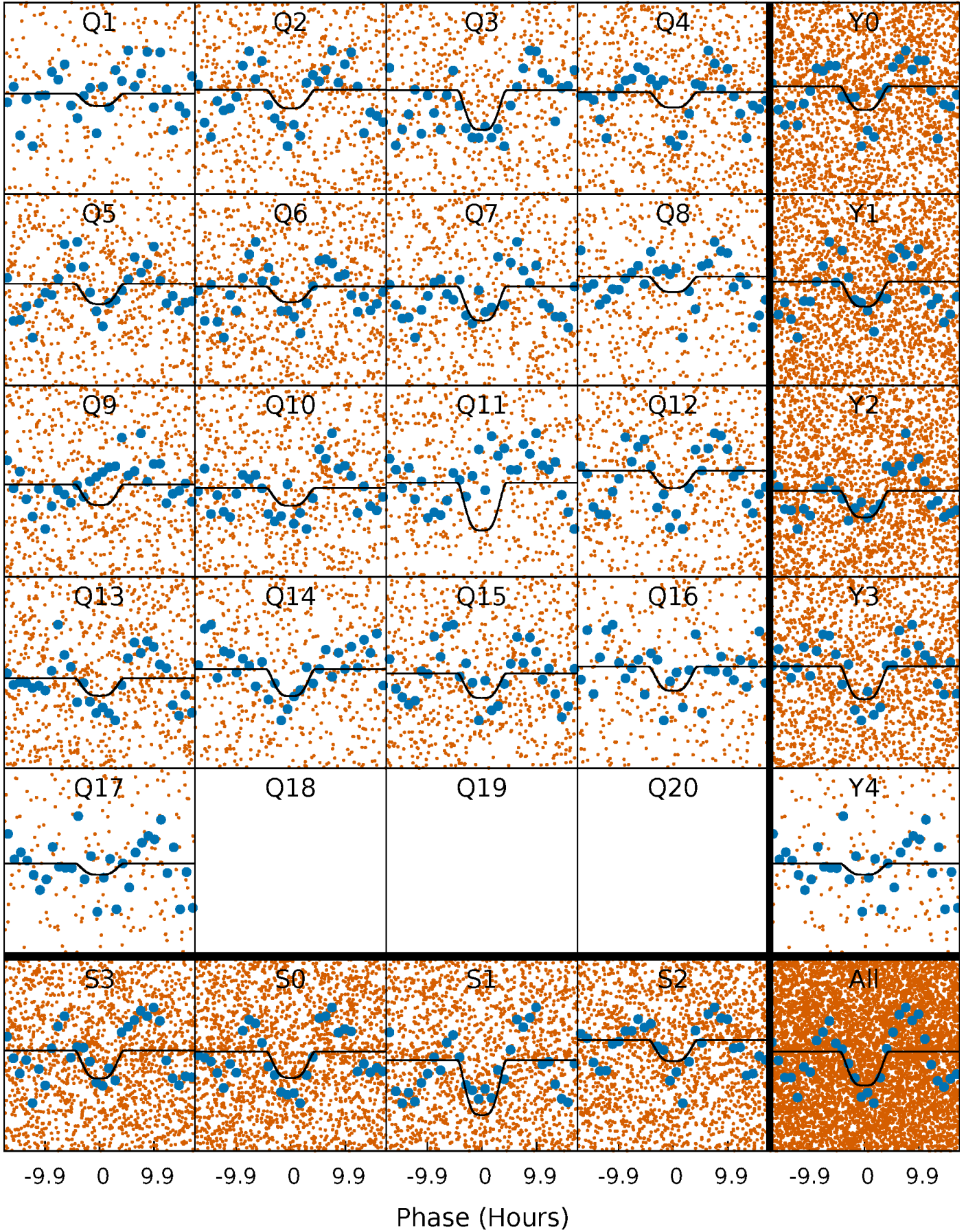
PDC Quarter-Phased Transit Curves

TCE 007265427-01 P= 4.014222 Days $T_0=131.972467$ (BKJD)



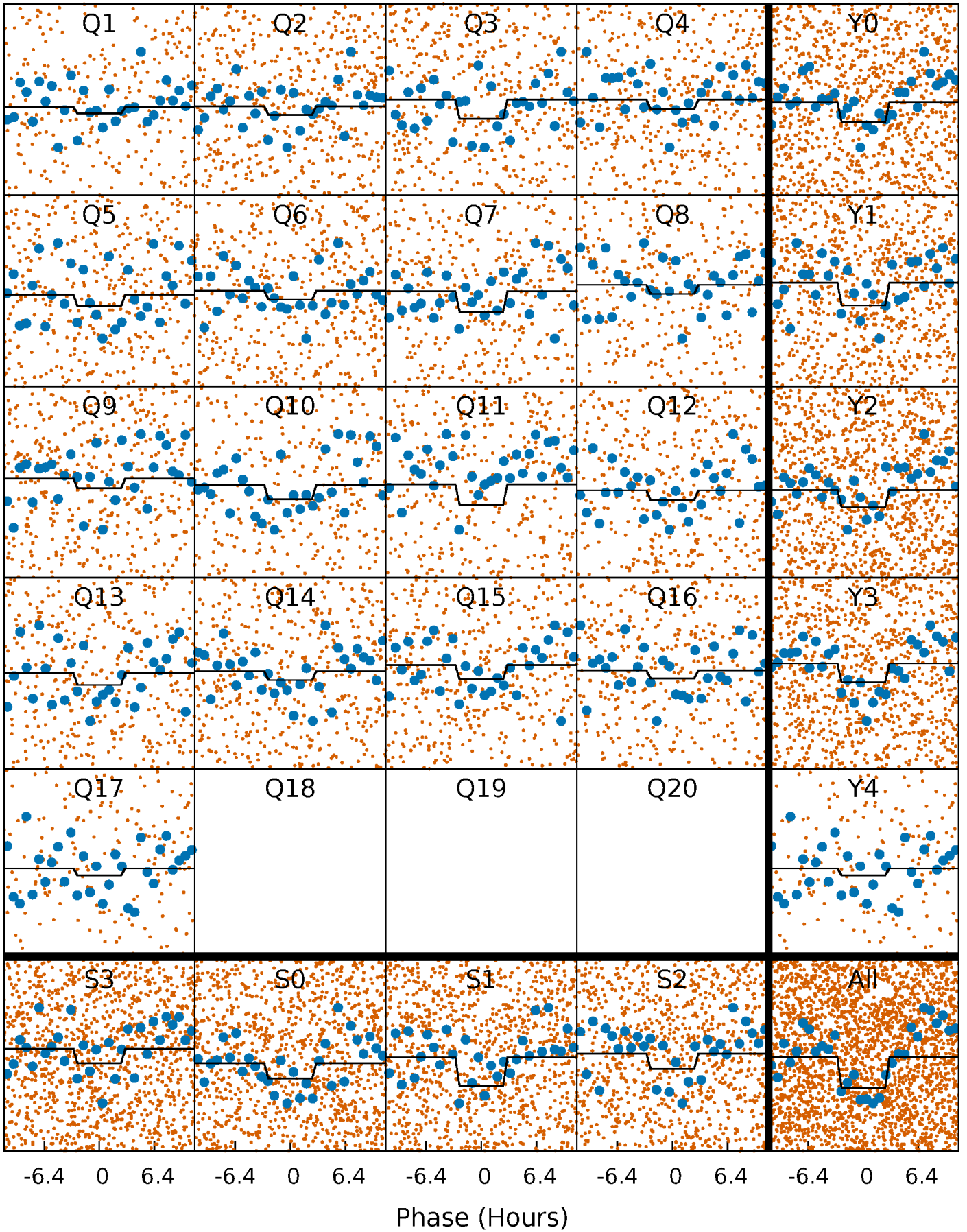
DV Quarter-Phased Transit Curves

TCE 007265427-01 P= 4.014222 Days $T_0=131.972467$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

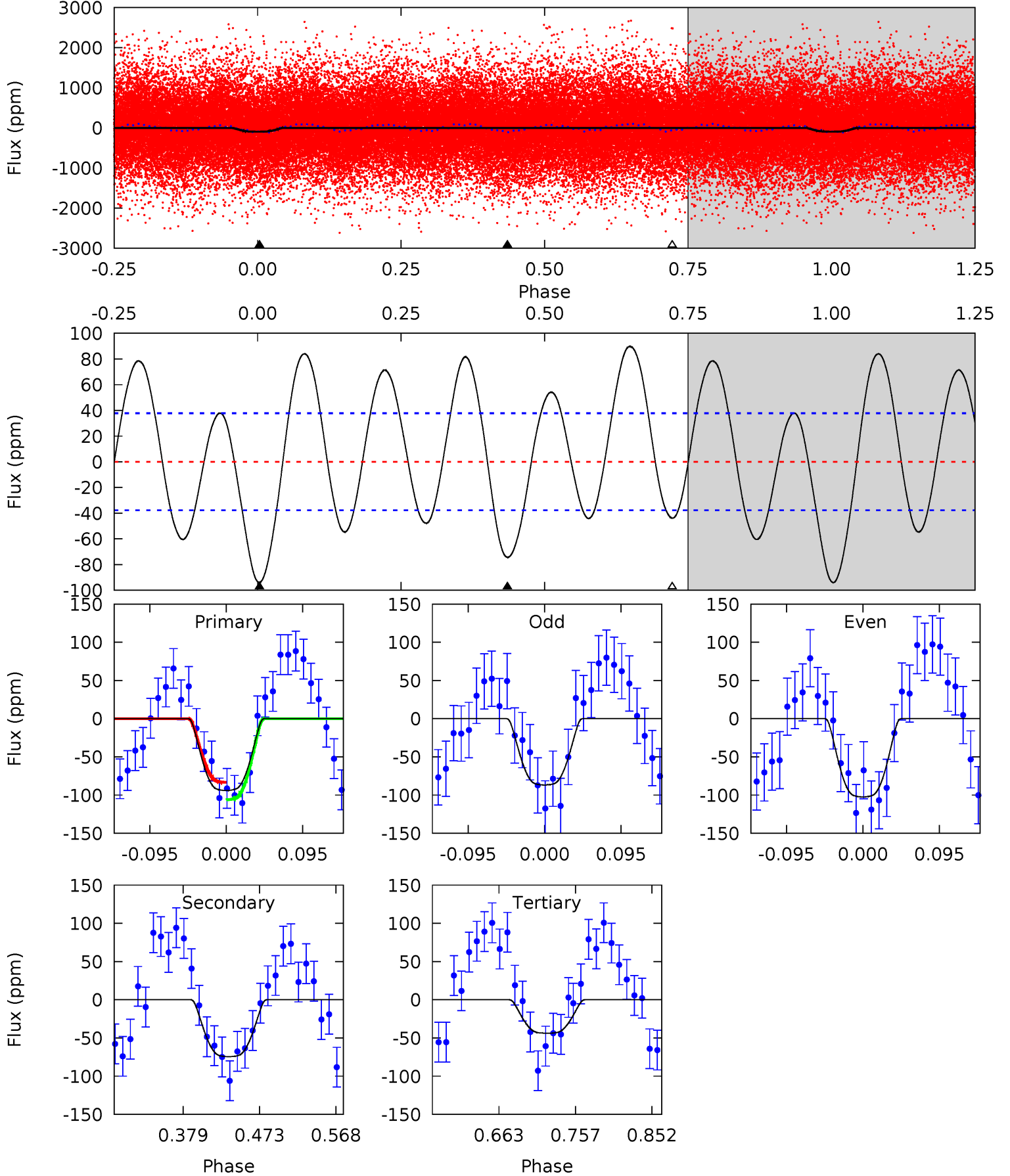
TCE 007265427-01 P= 4.014280 Days $T_0=131.978391$ (BKJD)



DV Model-Shift Uniqueness Test

007265427-01, P = 4.014222 Days, E = 127.958245 Days

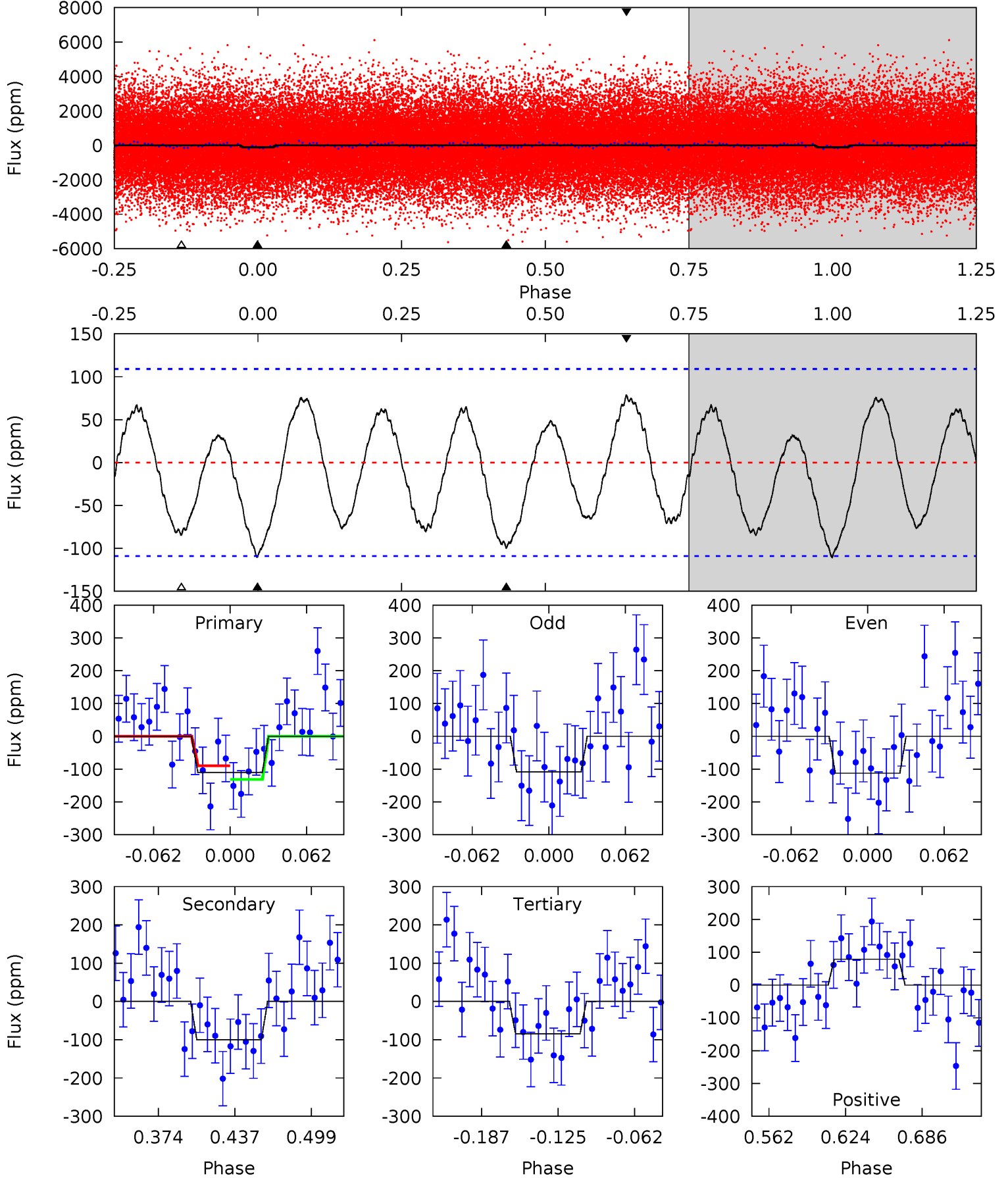
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	9.02	5.31	0	4.58	1.67	5.44	6.08	11.4	3.71	9.02	0.95	1.15	0.49	1.38



Alt Model-Shift Uniqueness Test

007265427-01, P = 4.014280 Days, E = 127.964111 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.72	4.28	3.61	3.37	4.66	1.86	2.11	1.11	1.35	0.67	0.91	0.09	0.91	0.42	0.90



Stellar Parameters For KIC 007265427

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7776^{+216}_{-325}	$4.120^{+0.139}_{-0.170}$	$-0.180^{+0.200}_{-0.300}$	$1.825^{+0.492}_{-0.358}$	$1.600^{+0.195}_{-0.238}$	$0.371^{+0.261}_{-0.179}$
	+3%/-4%	+3%/-4%	+111%/-167%	+27%/-20%	+12%/-15%	+70%/-48%
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 007265427-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-74 ± 8	$2.13^{+0.34}_{-0.31}$	2692^{+198}_{-171}	6857^{+437}_{-428}	30^{+11}_{-8}
Alt.	-100 ± 23	$1.88^{+0.33}_{-0.27}$	2699^{+194}_{-177}	8043^{+896}_{-767}	51^{+23}_{-16}

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

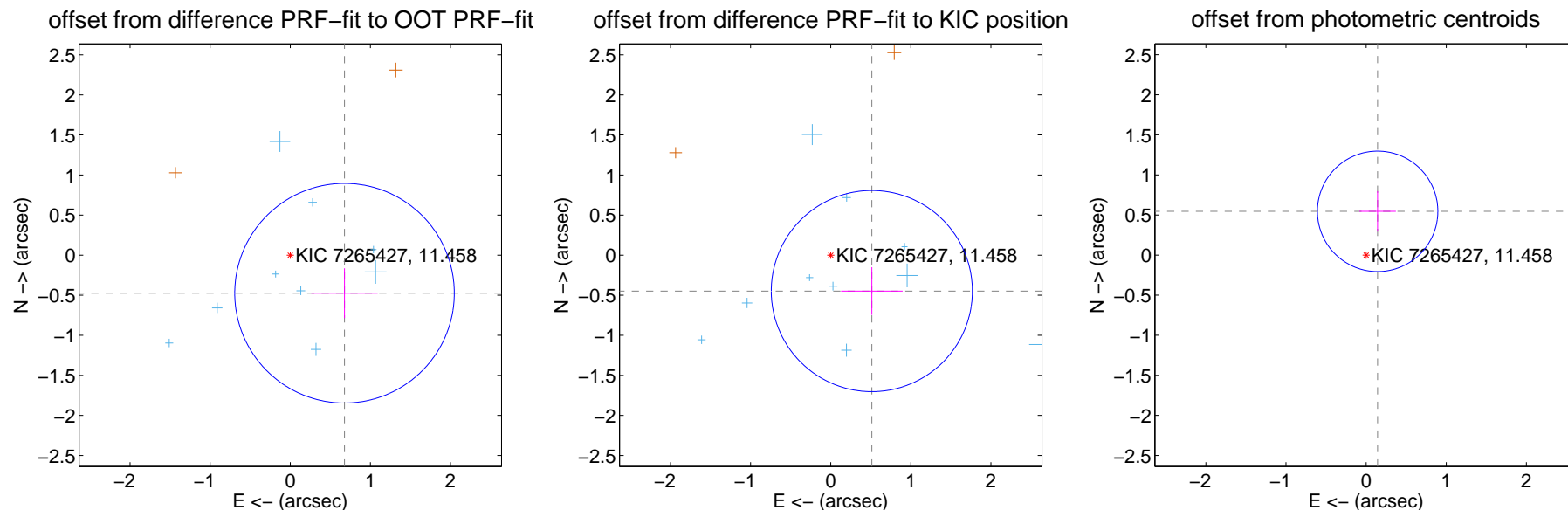
DV Centroid Data

Supplemental centroid analysis for 007265427-01. **Kepler magnitude: 11.46.** Transit SNR 9.46

There are 14 quarters with good PRF difference image offsets

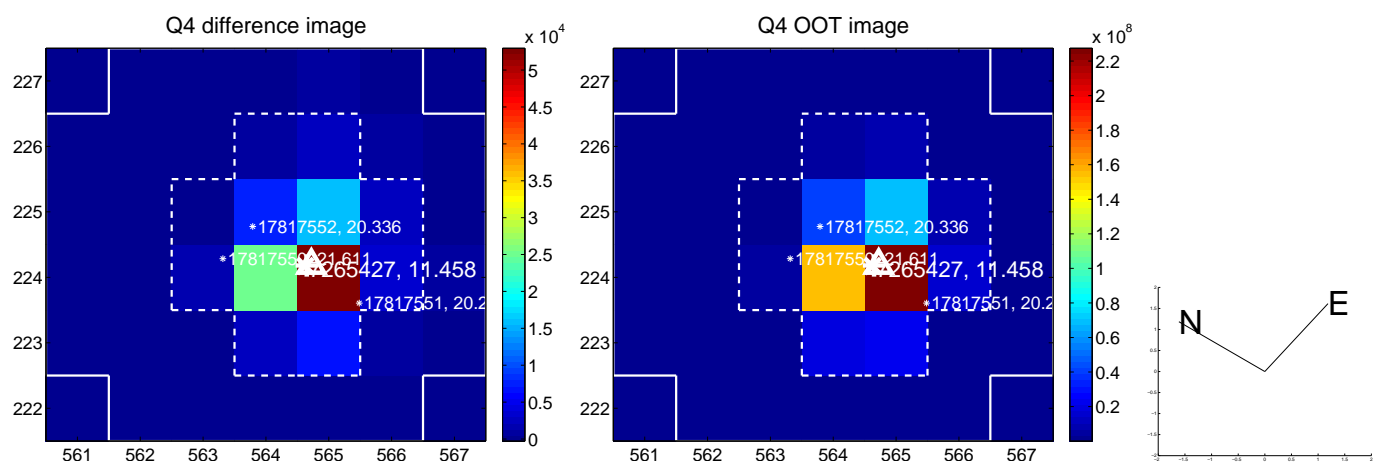
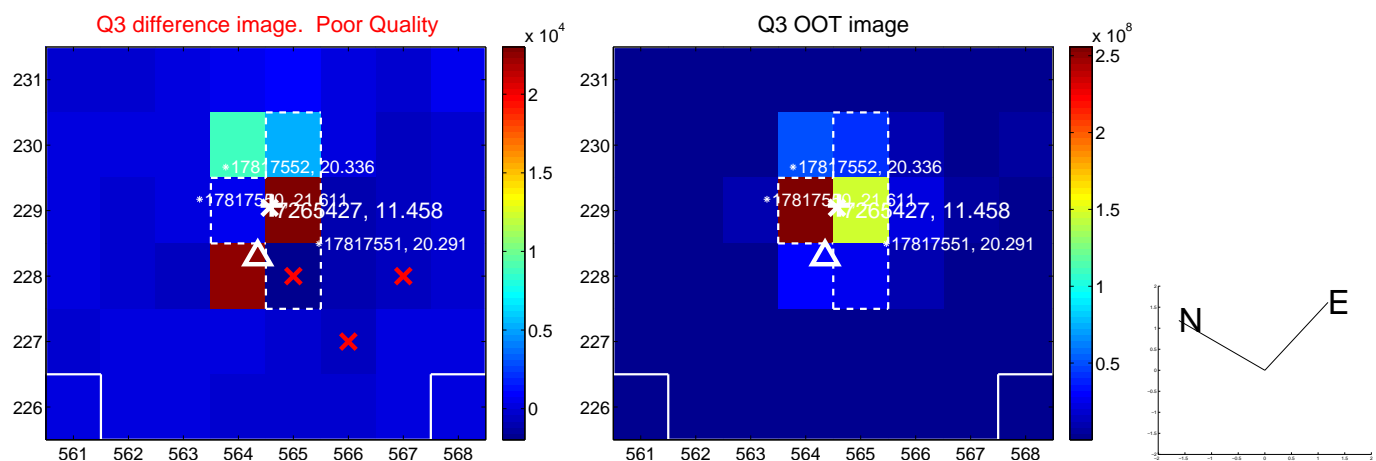
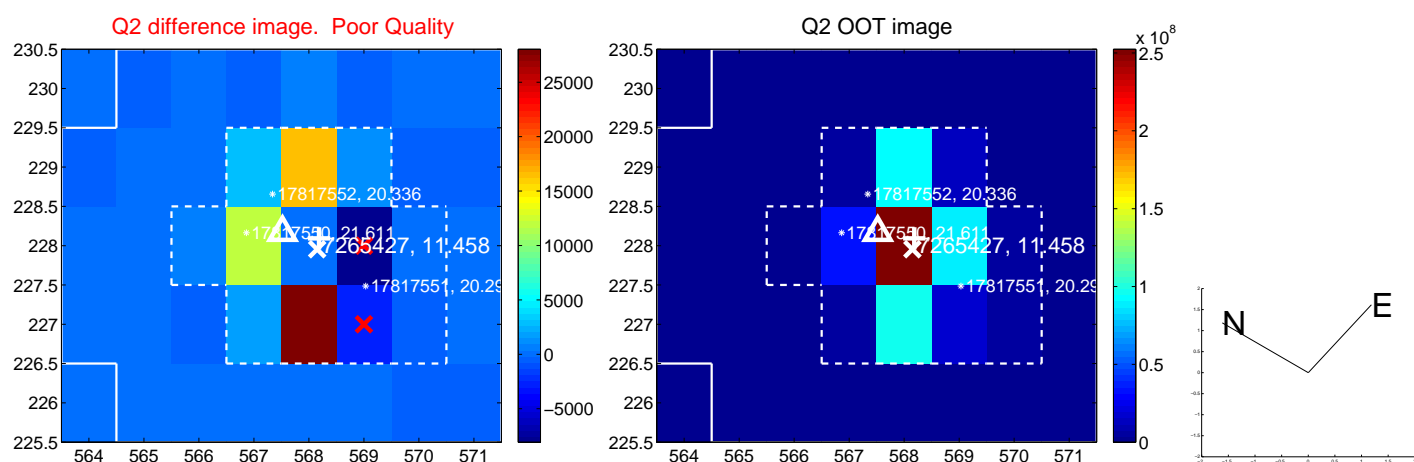
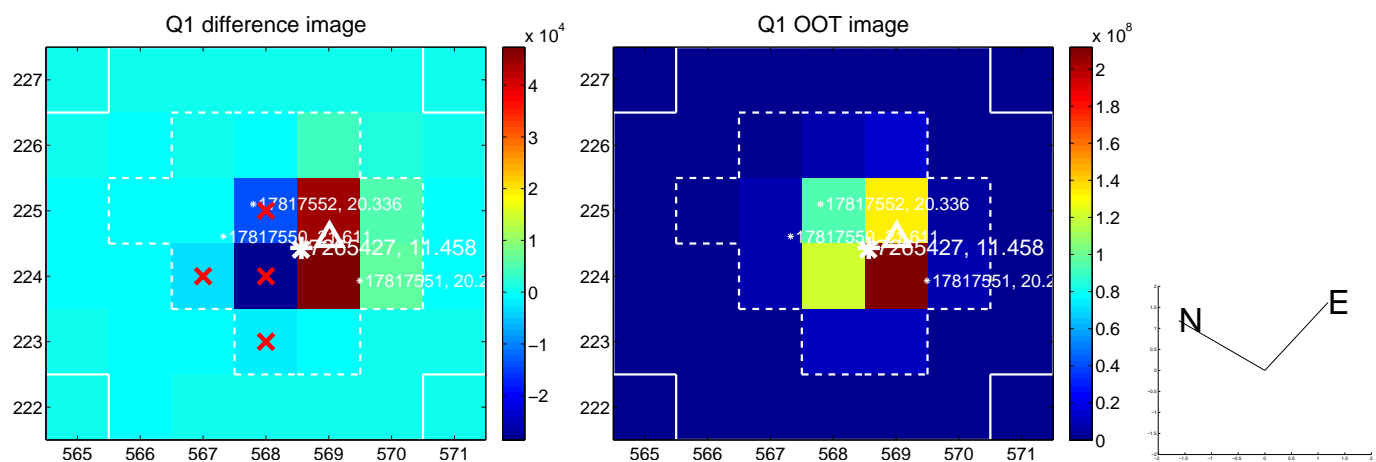
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.827 ± 0.457	1.81	-0.677 ± 0.414	-0.475 ± 0.310
PRF-fit source offset from KIC position	0.681 ± 0.418	1.63	-0.513 ± 0.384	-0.448 ± 0.298
photometric centroid source offset	0.56 ± 0.25	2.25	-0.14 ± 0.23	0.55 ± 0.25

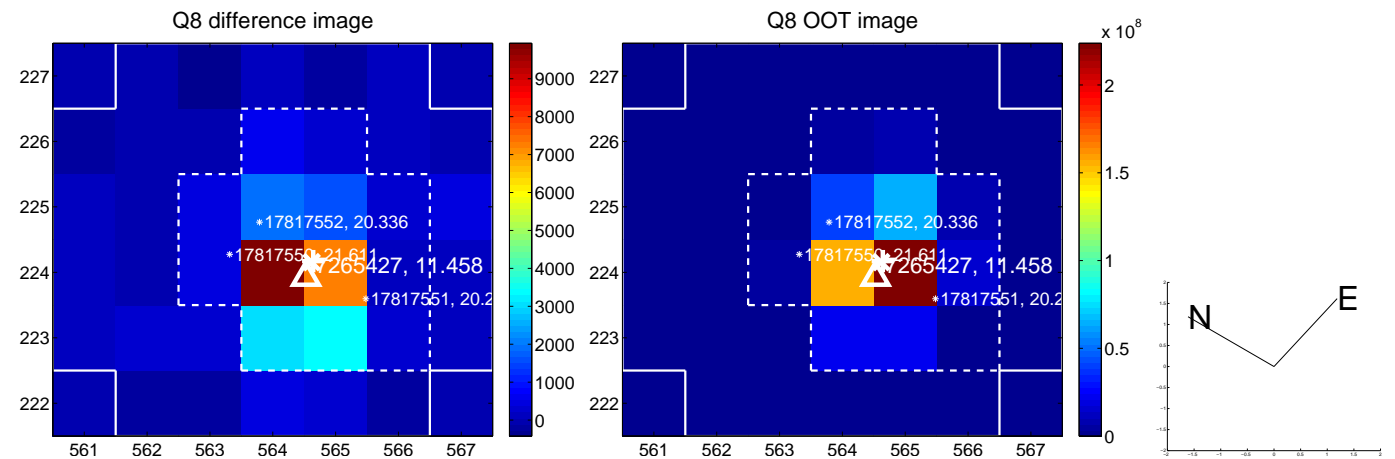
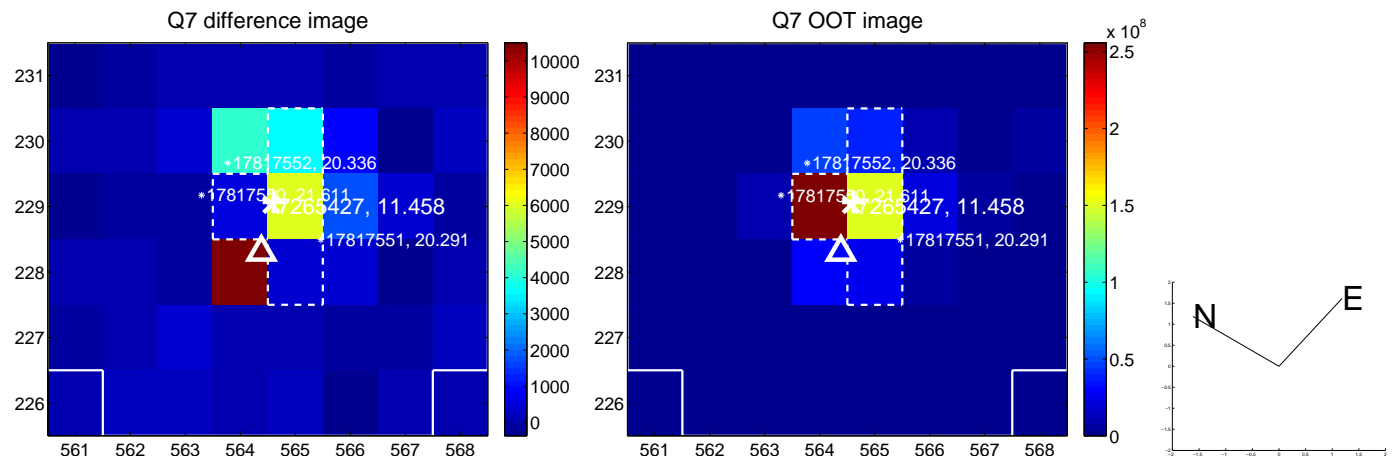
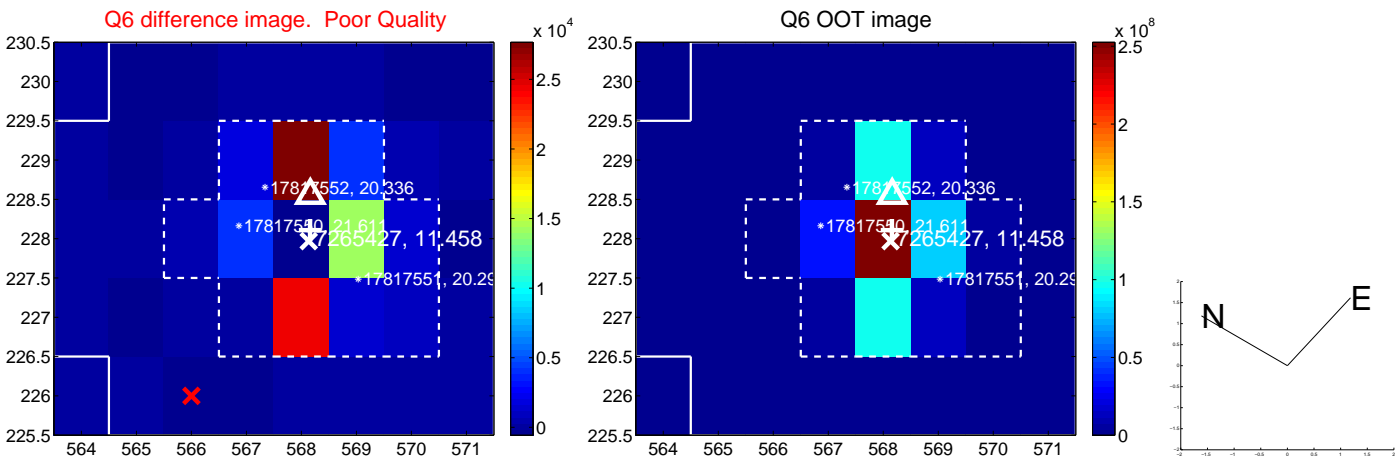
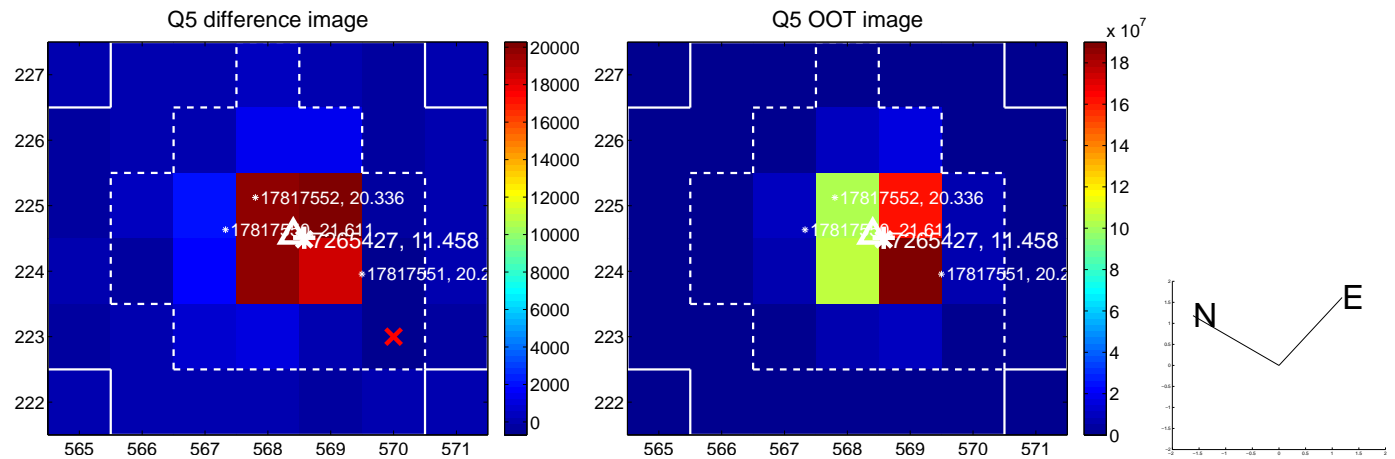


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

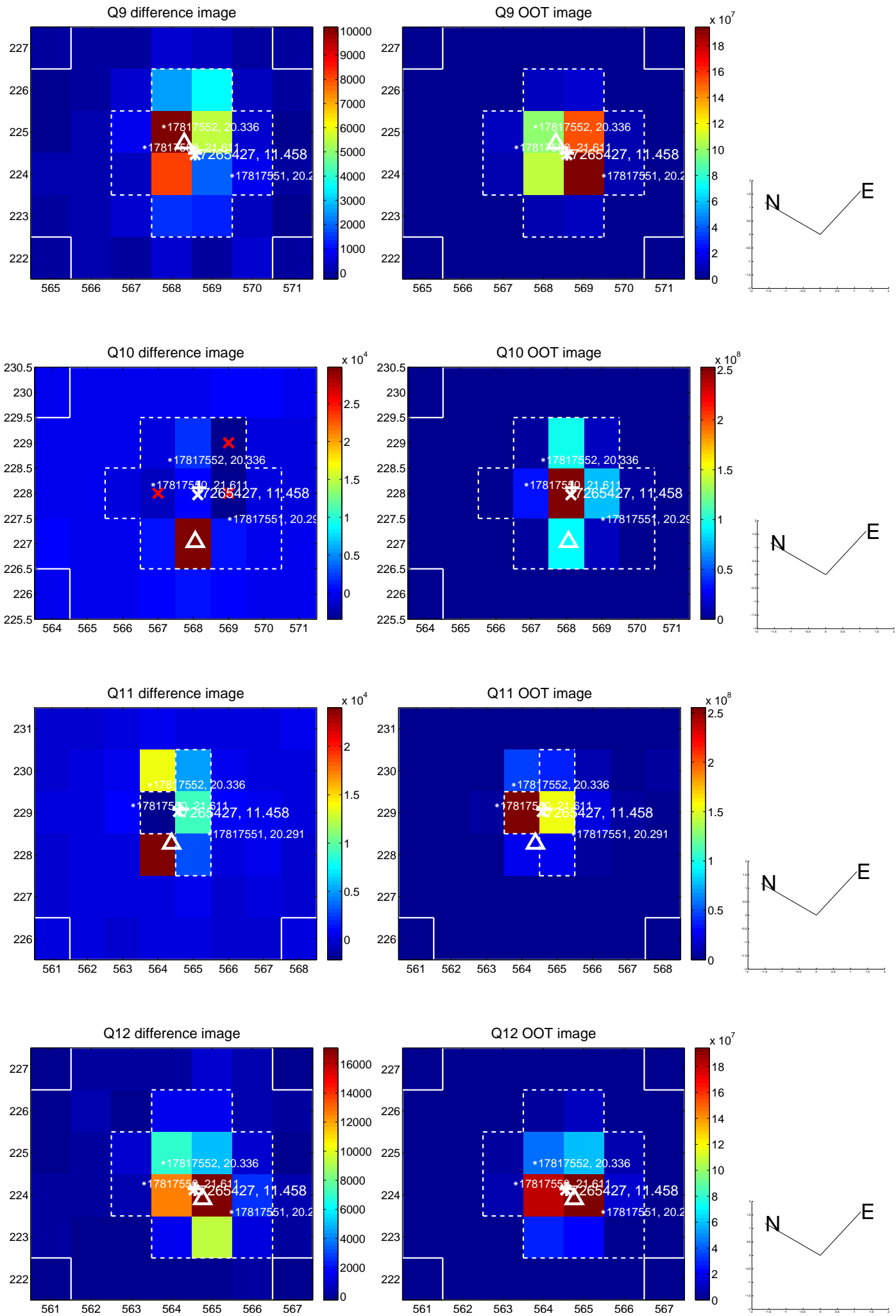
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



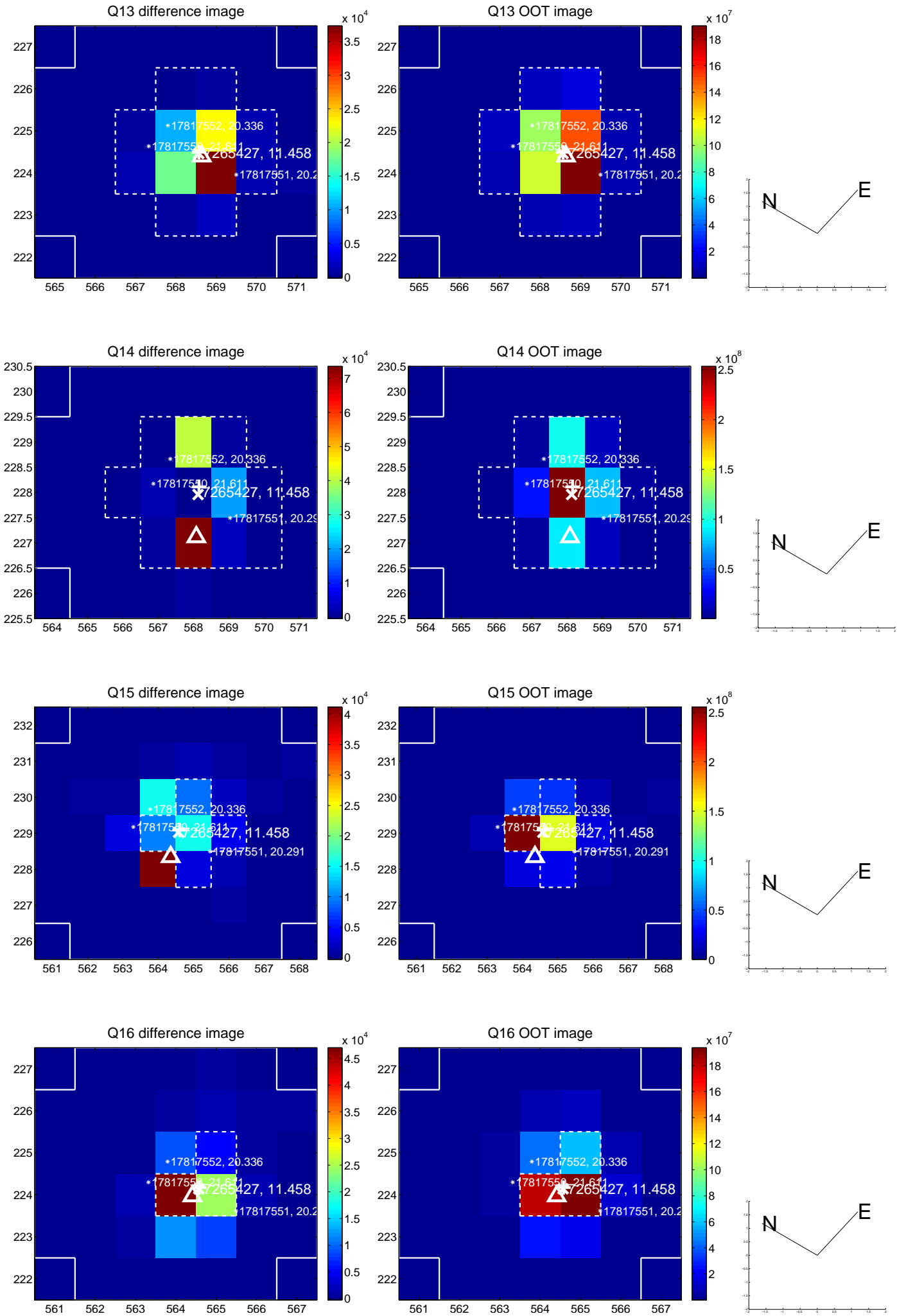
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



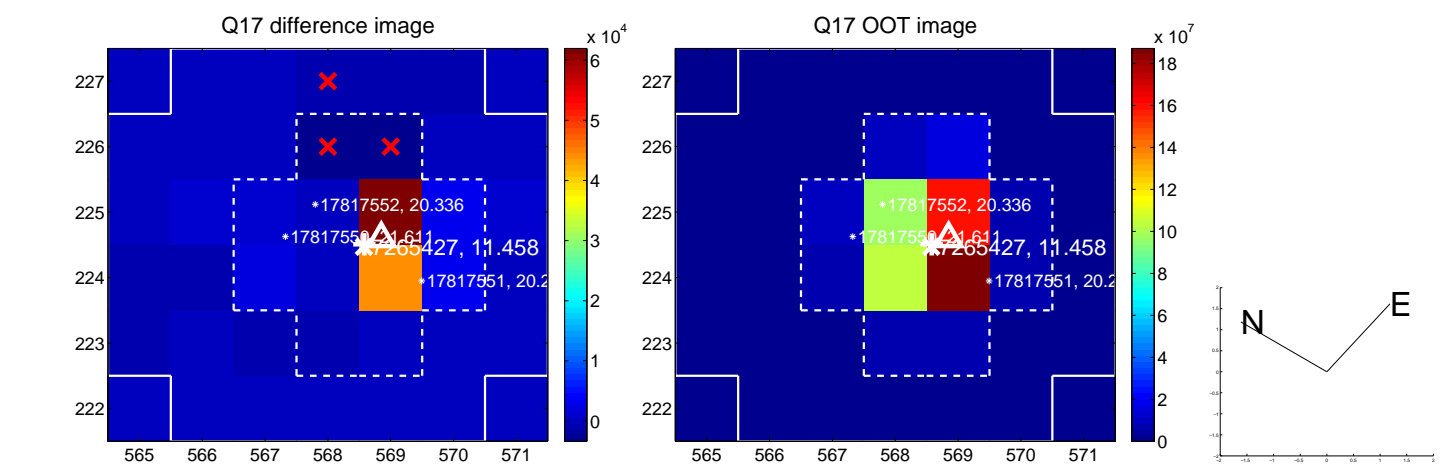
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



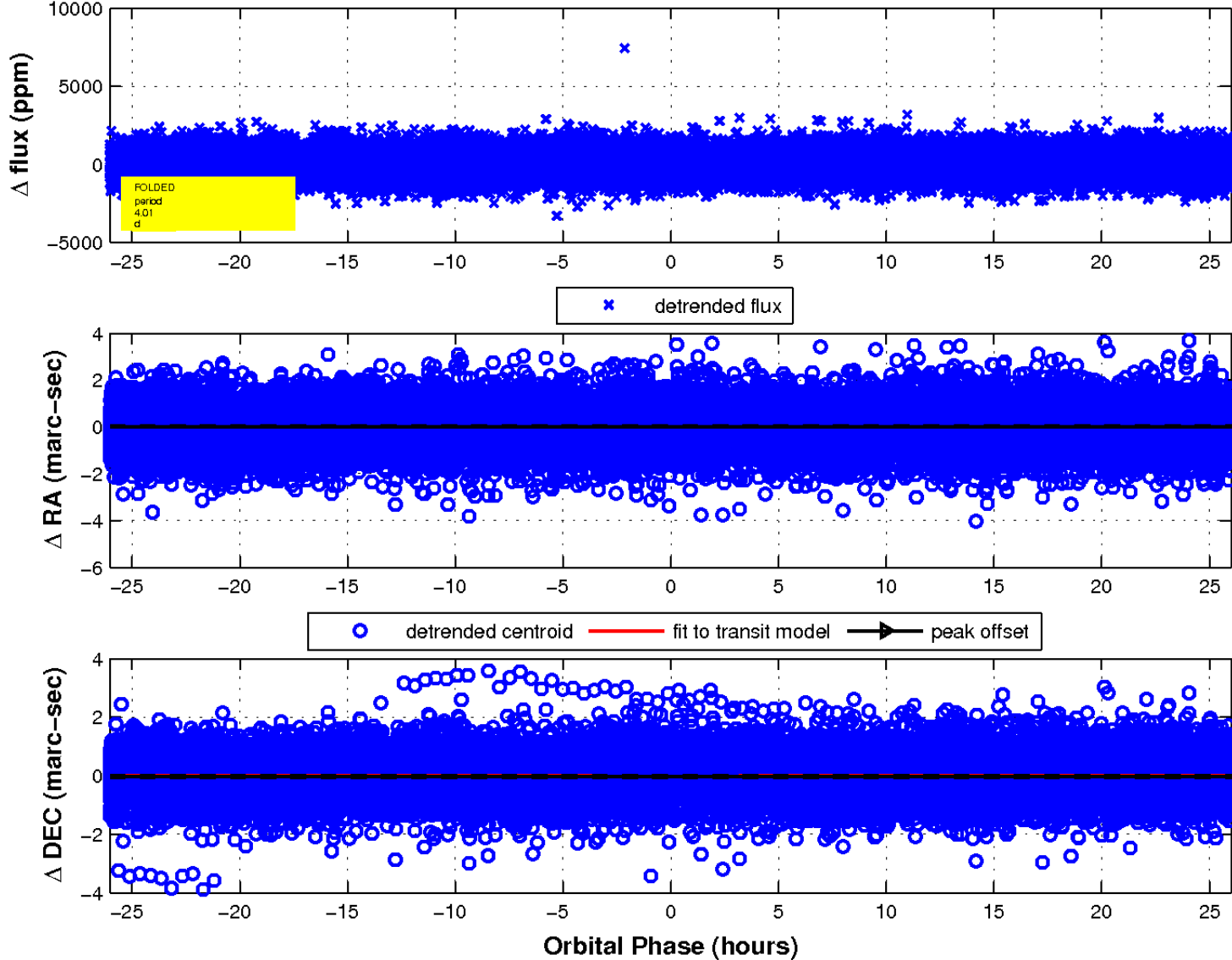
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

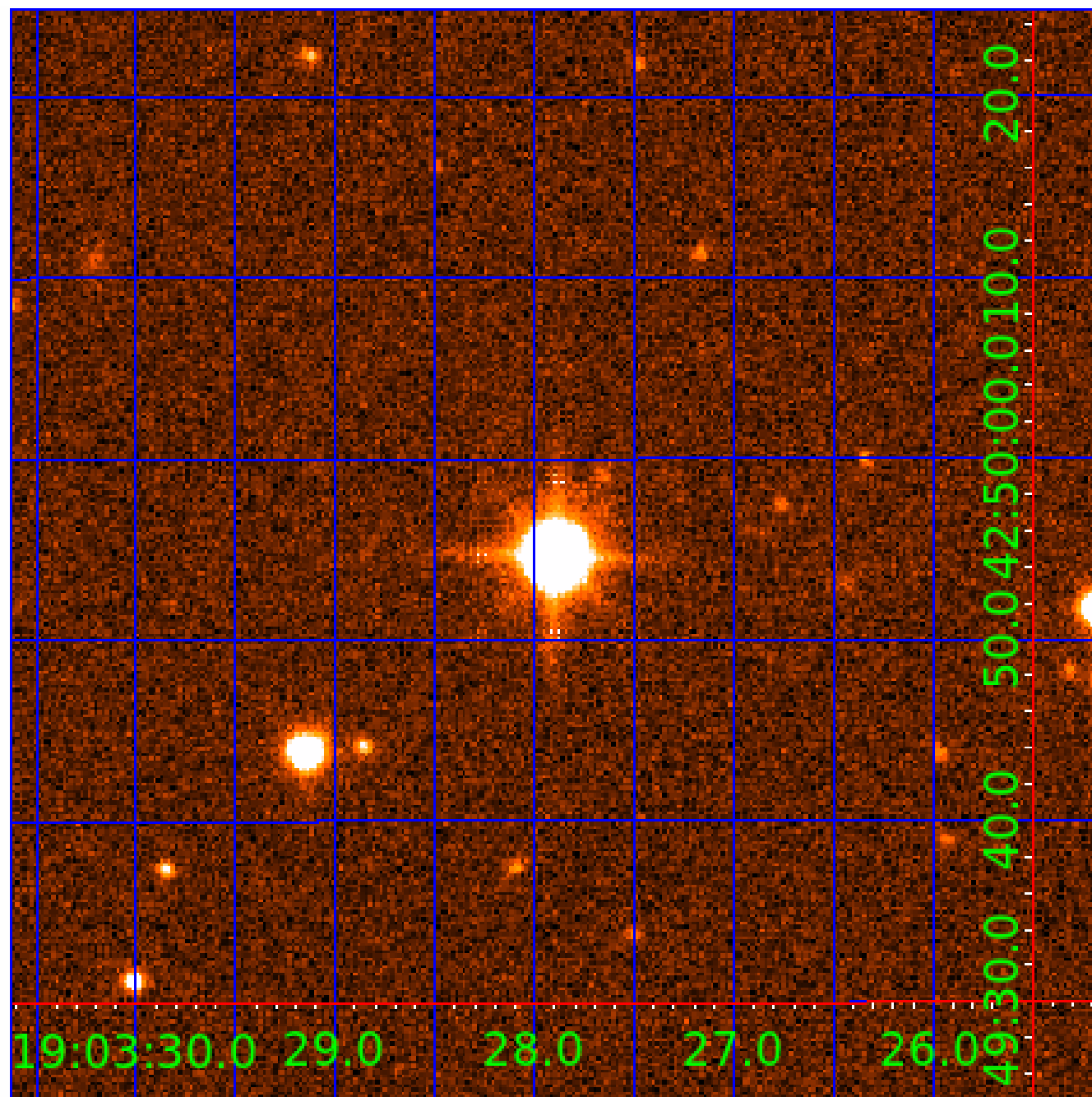


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 007265427

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})
007265427-01	OBS	No	4.014222	131.972467	73.5	8.676	8.1	9.5	1.82	7776	2.11	3260.57
007265427-02	OBS	No	0.573471	131.984947	77.0	6.882	8.6	17.3	1.82	7776	2.17	43659.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007265427-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
007265427-02	OBS	FP	0.00	1	0	0	0	LPP_DV—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.

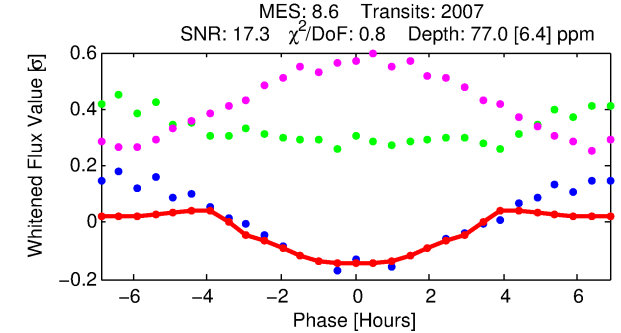
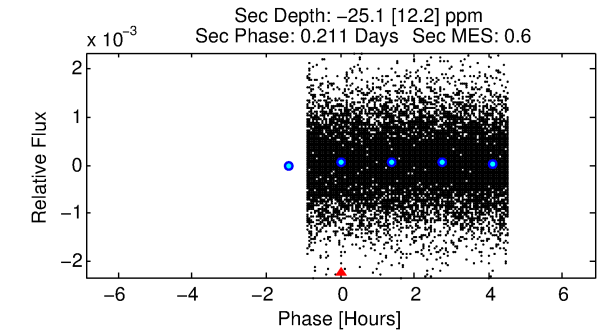
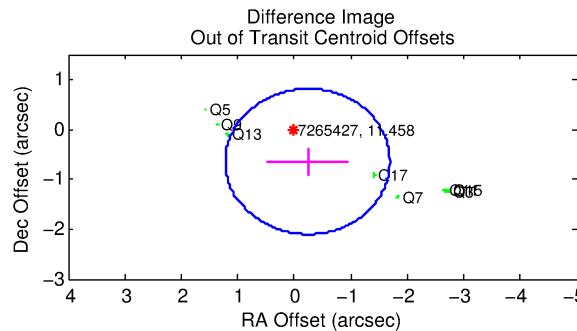
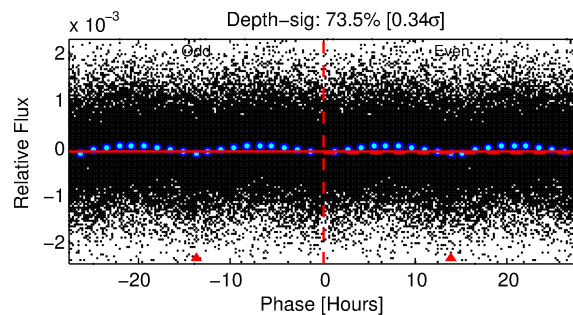
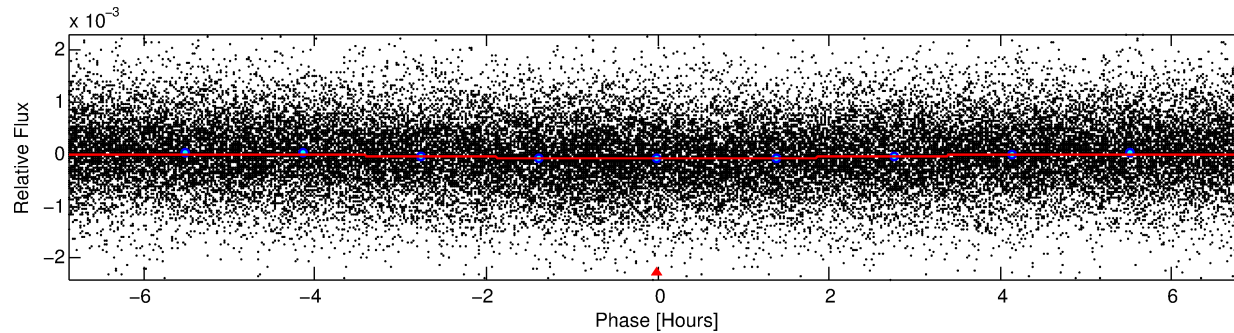
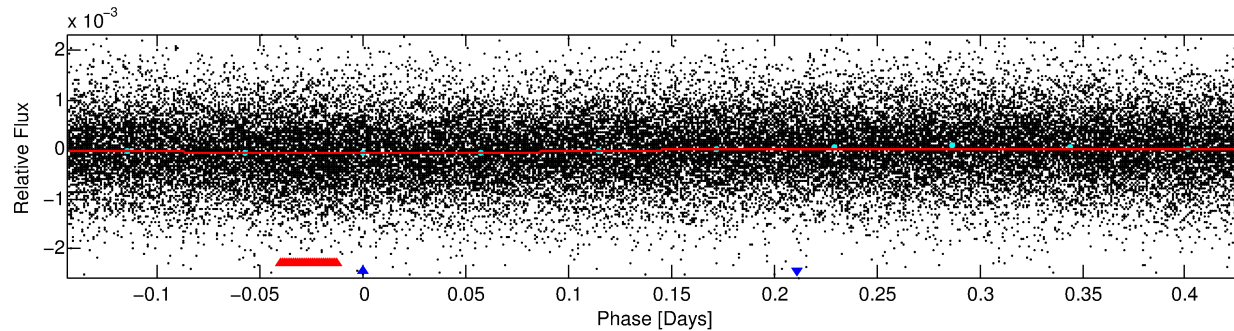
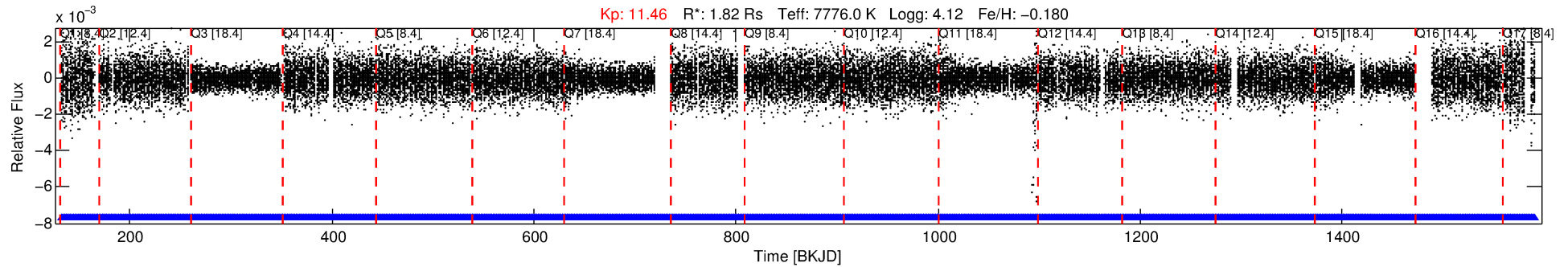
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007265427-02

No Significant Match Found

DV One-Page Summary

KIC: 7265427 Candidate: 2 of 2 Period: 0.573 d



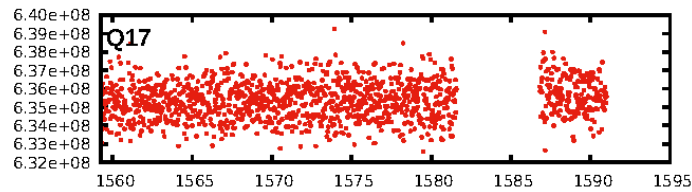
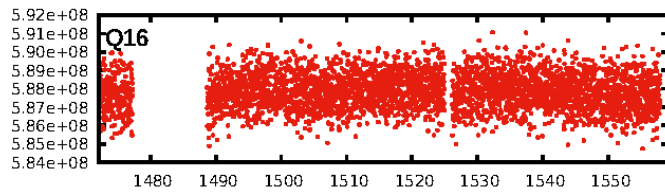
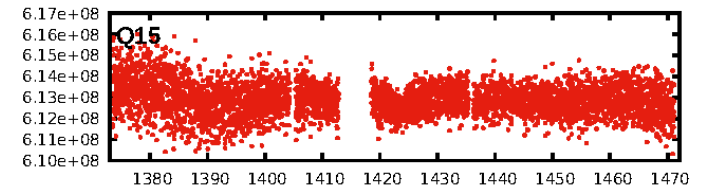
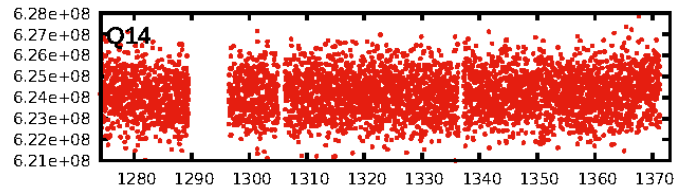
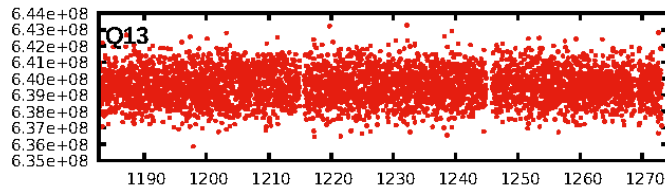
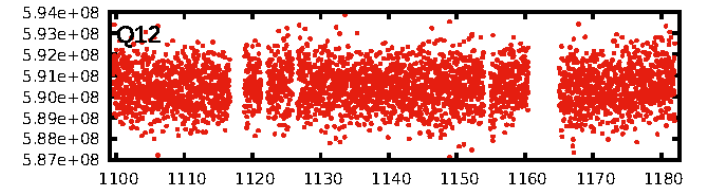
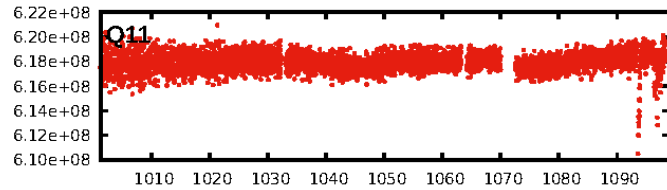
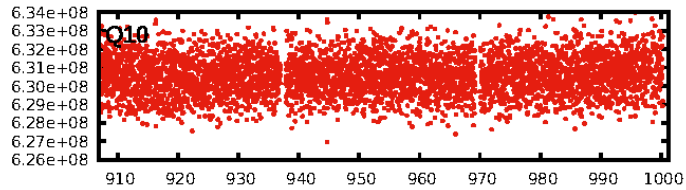
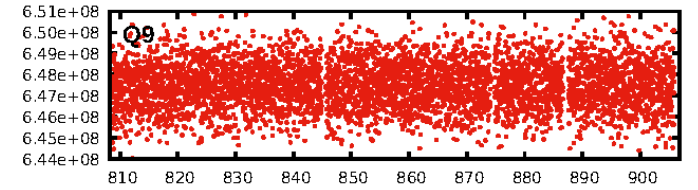
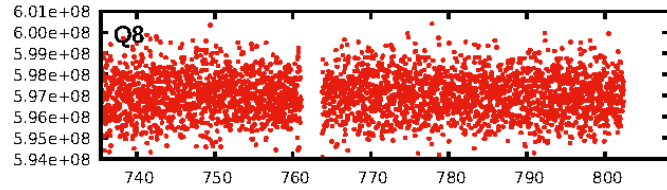
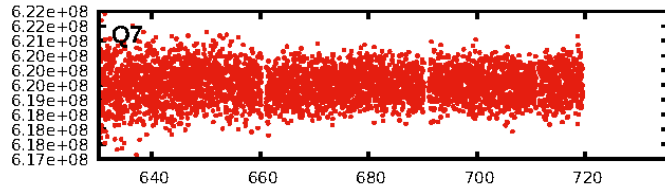
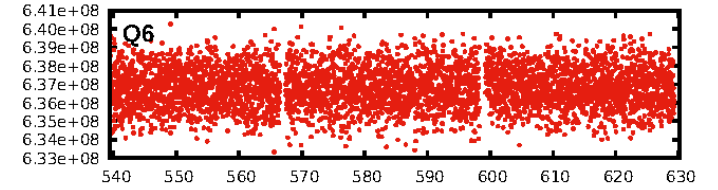
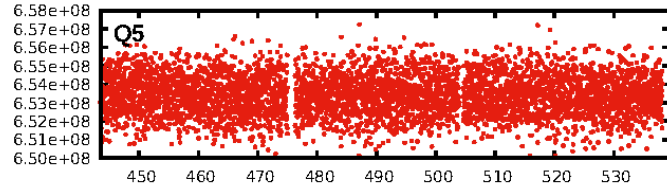
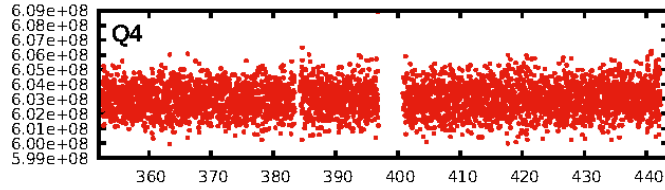
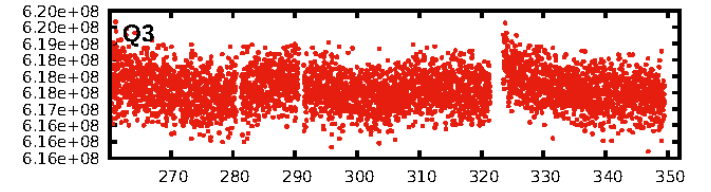
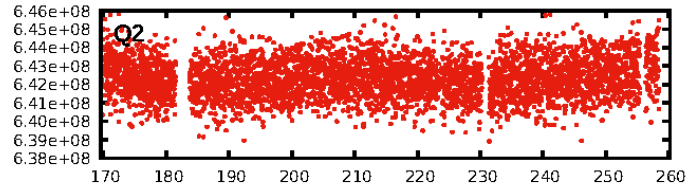
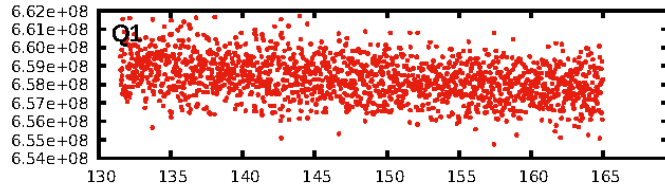
DV Fit Results:

Period = 0.57347 [0.00001] d
Epoch = 131.9849 [0.0043] BKJD
Rp/R* = 0.0109 [0.0005]
a/R* = 1.00 [0.00]
b = 0.99 [0.00]
Seff = 43659.54 [15641.51]
Teq = 3686 [330] K
Rp = 2.16 [0.59] Re
a = 0.0158 [0.0035] AU
Ag = N/A
Teffp = N/A

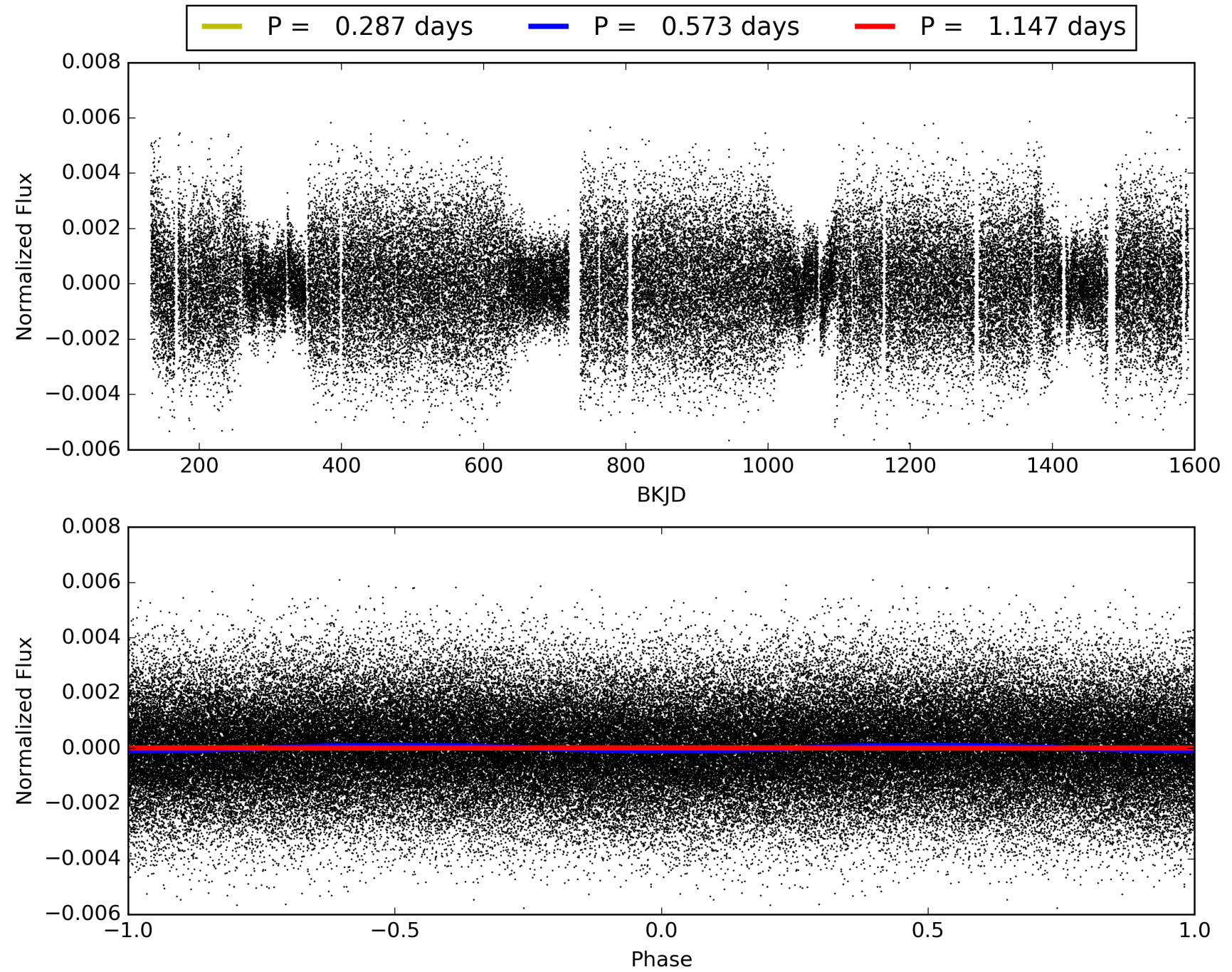
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [7.46 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1918/1918]
GhostDiagnostic-chr: 1.993
Centroid-sig: 0.0%
Centroid-so: 0.284 arcsec [3.12 σ]
OotOffset-rm: 0.690 arcsec [1.42 σ]
KicOffset-rm: 0.623 arcsec [1.63 σ]
OotOffset-st: 0/4/0/4 [8]
KicOffset-st: 0/4/0/4 [8]
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DiffImageOverlap-fno: 1.00 [17/17]

TCE 007265427-02, PDC Light Curves

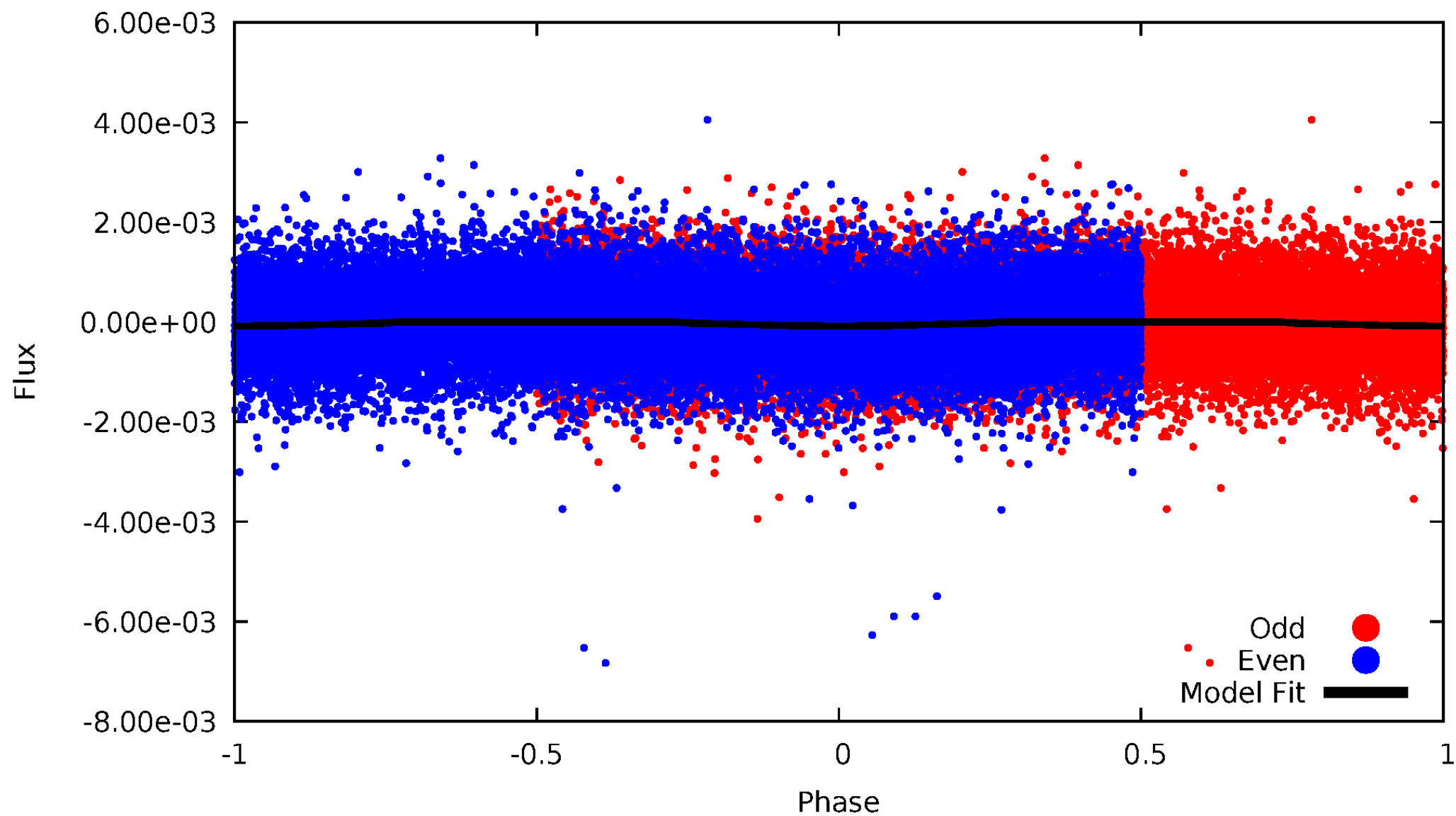


TCE 007265427-02



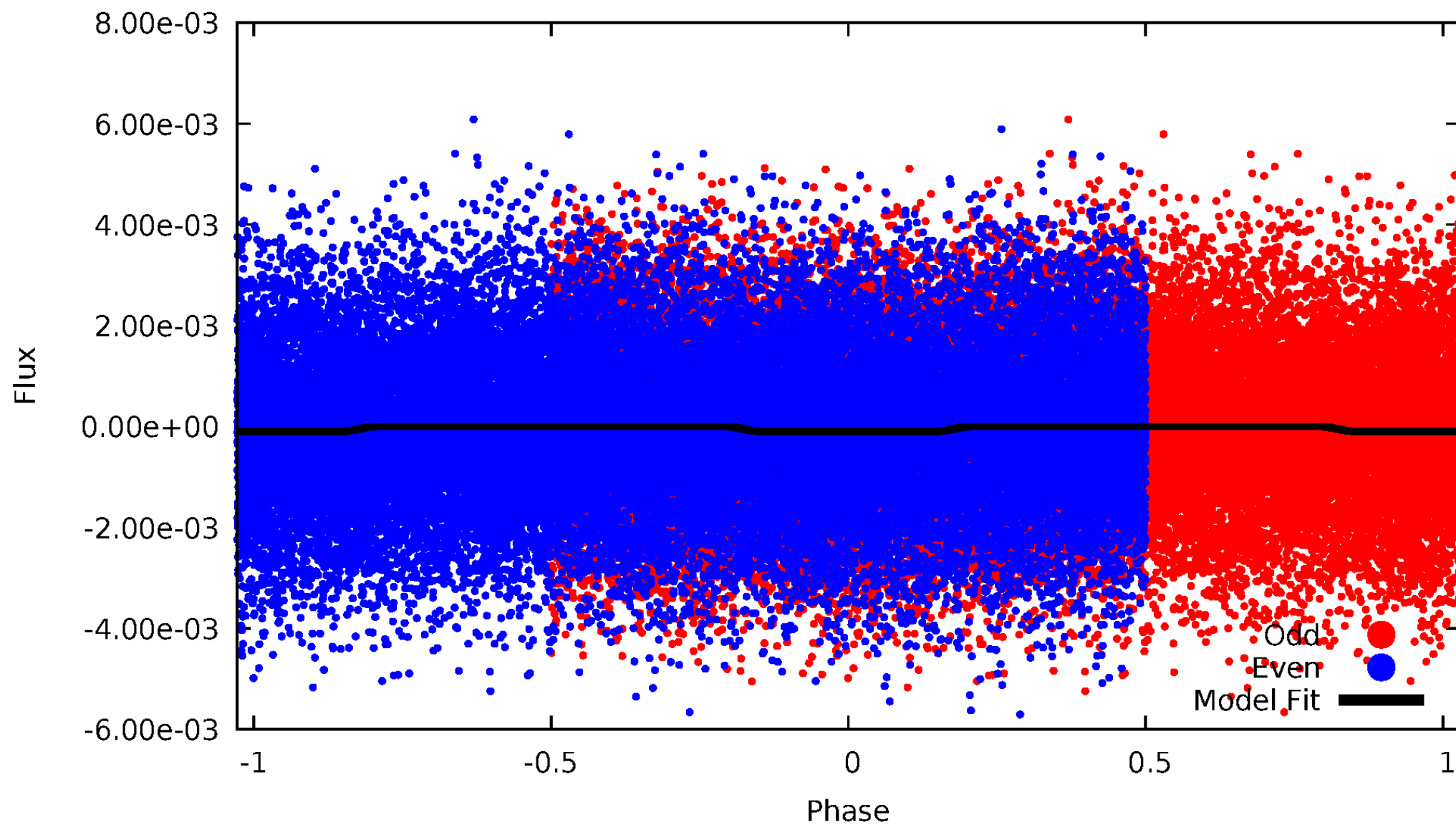
DV Odd/Even

TCE 007265427-02



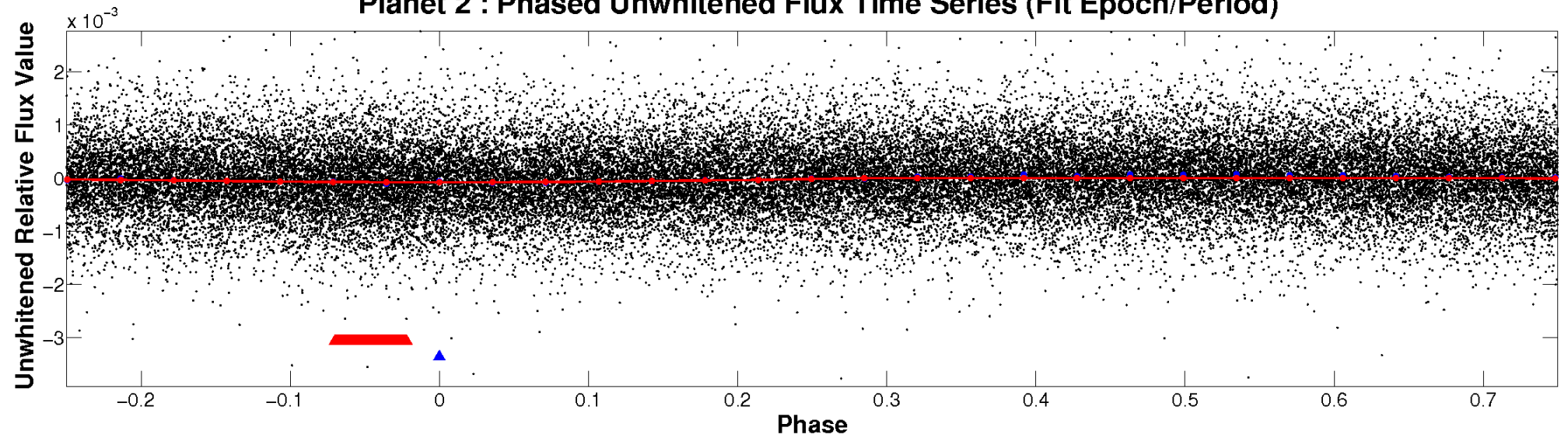
ALT Odd/Even

TCE 007265427-02

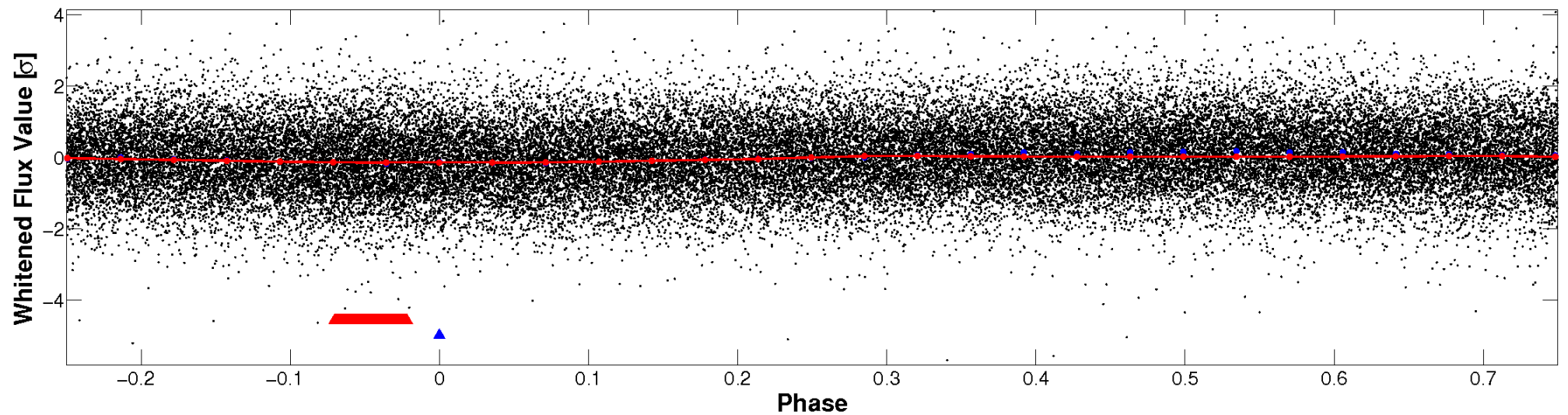


Non-Whitened Vs. Whitened Light Curve

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

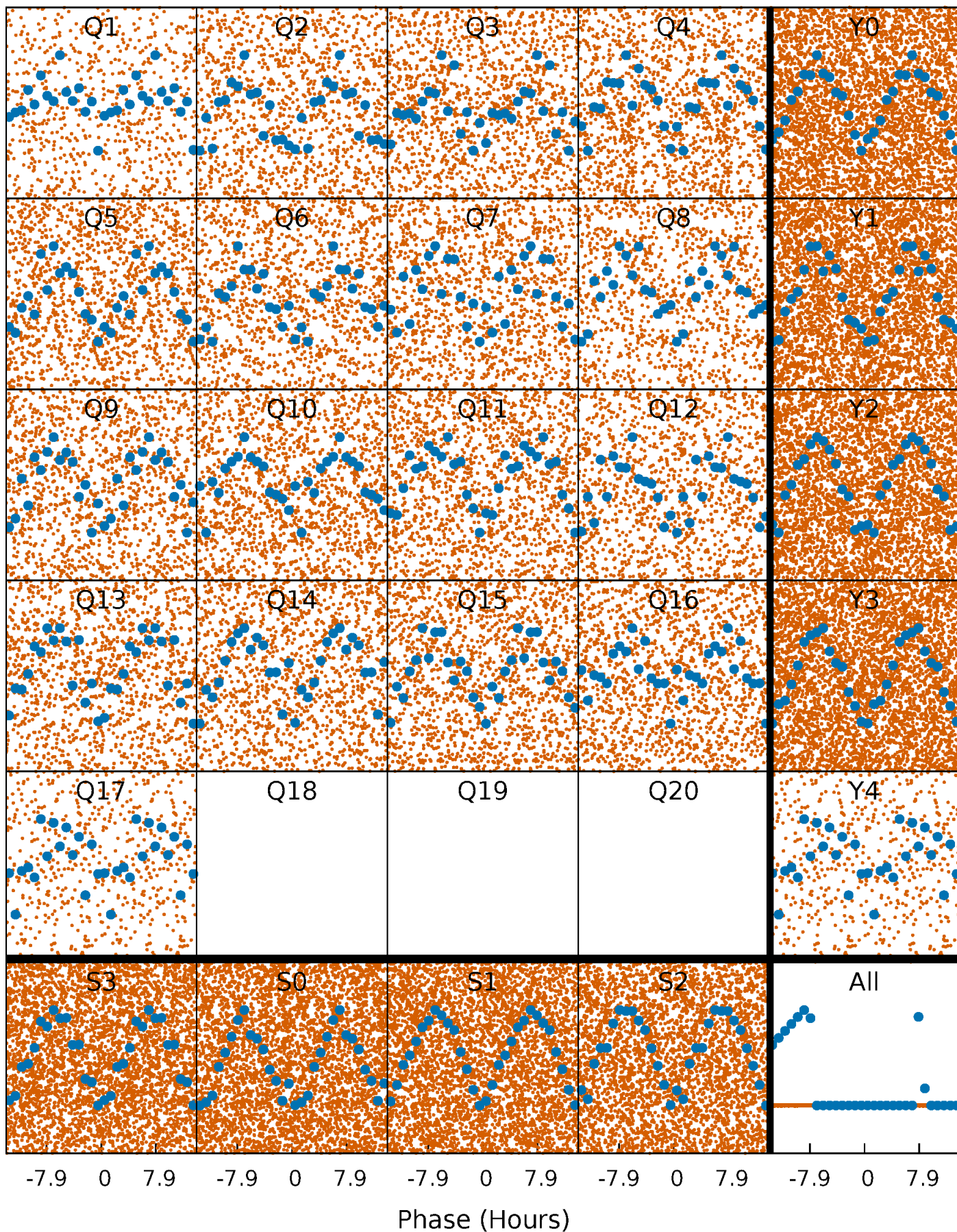


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



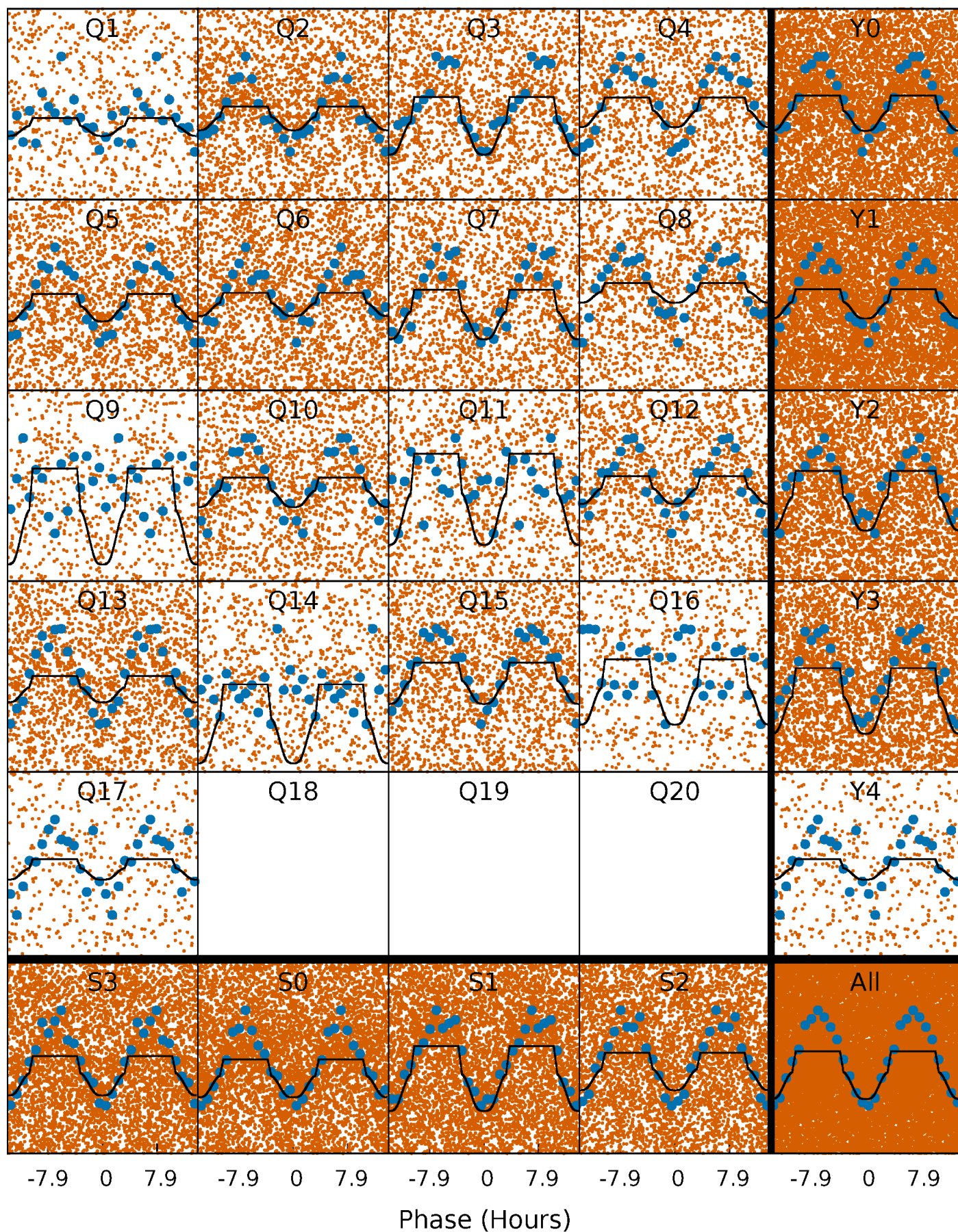
PDC Quarter-Phased Transit Curves

TCE 007265427-02 P= 0.573471 Days $T_0=131.984947$ (BKJD)



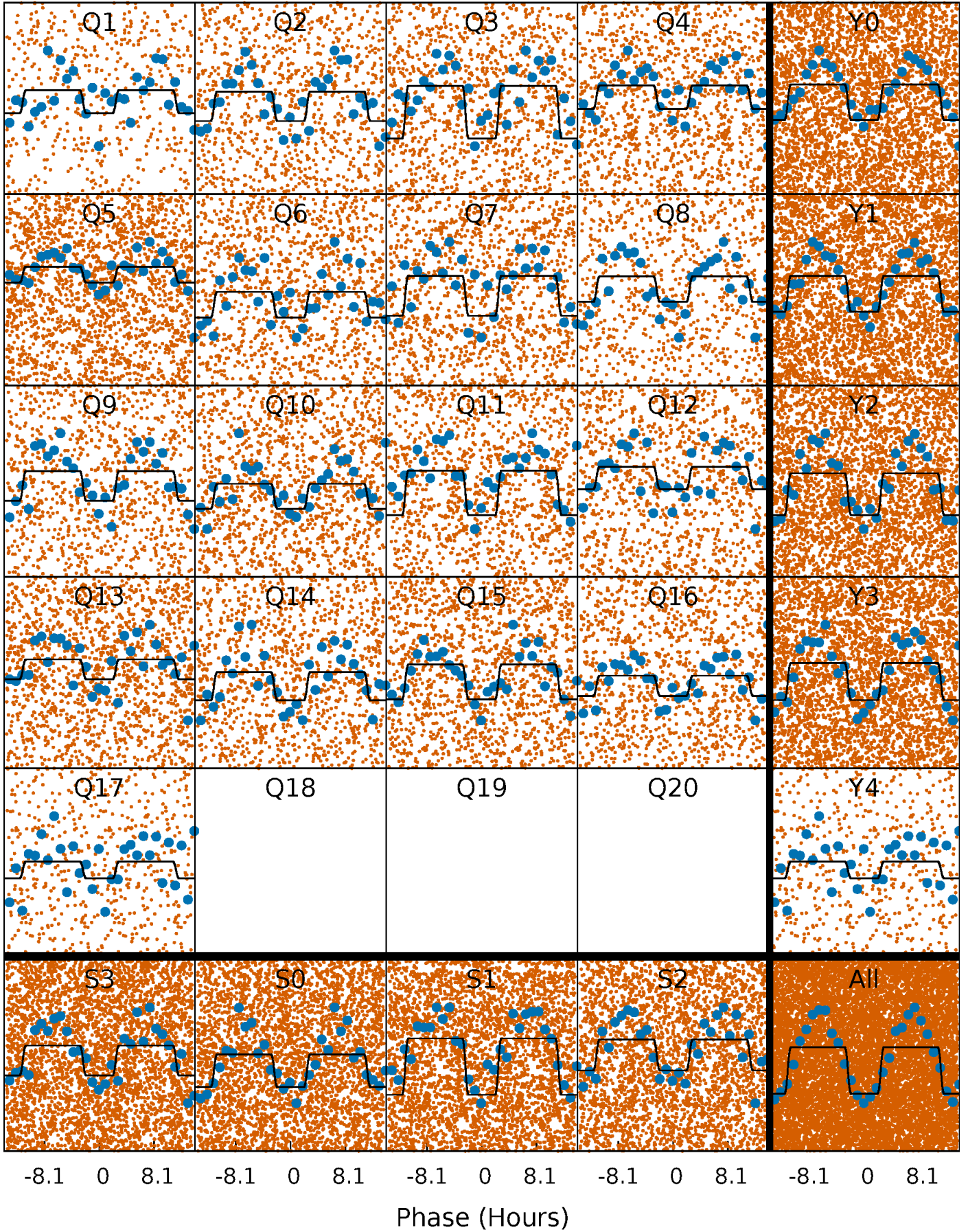
DV Quarter-Phased Transit Curves

TCE 007265427-02 P= 0.573471 Days $T_0=131.984947$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

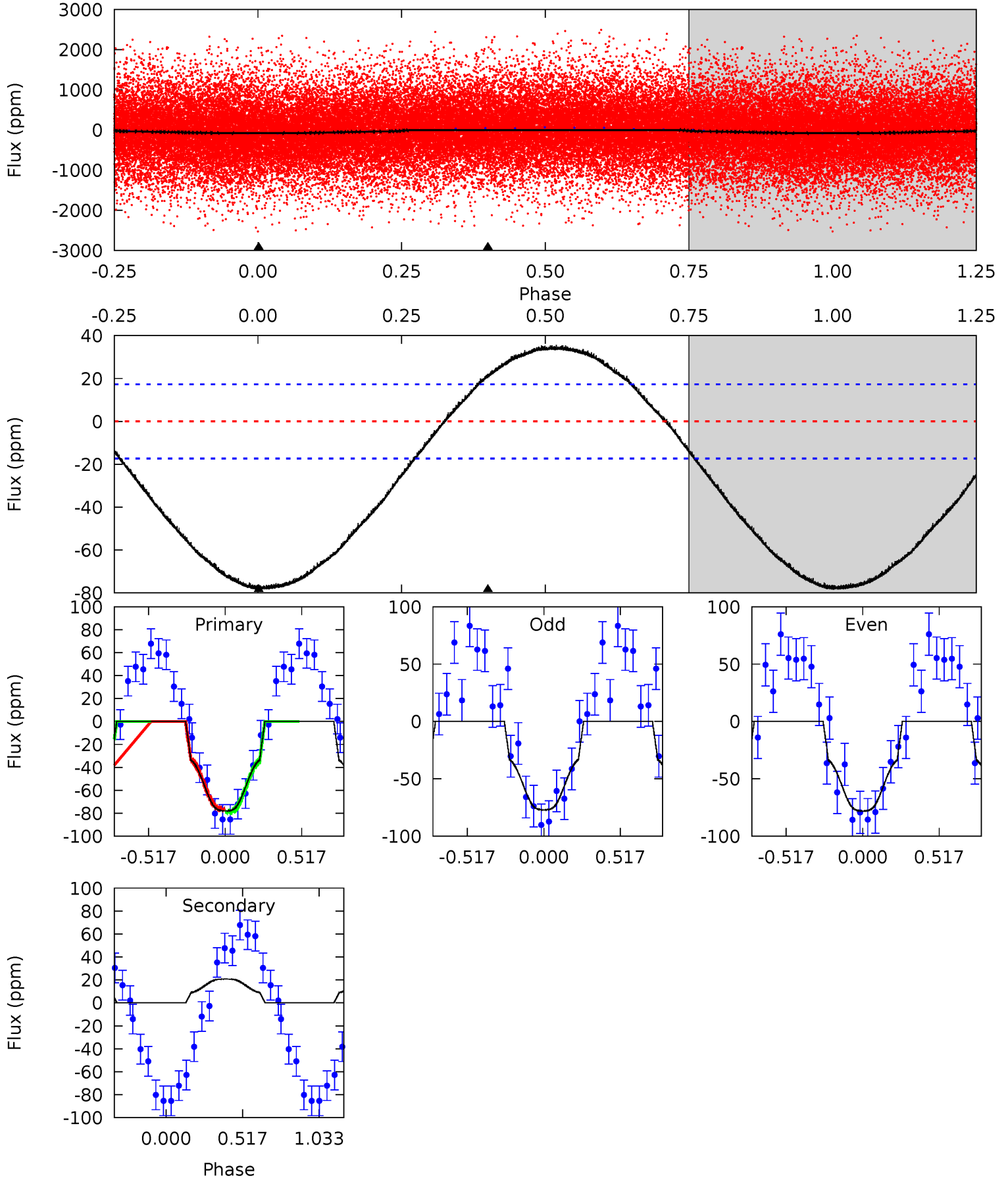
TCE 007265427-02 P= 0.573486 Days $T_0=131.961992$ (BKJD)



DV Model-Shift Uniqueness Test

007265427-02, P = 0.573471 Days, E = 131.984947 Days

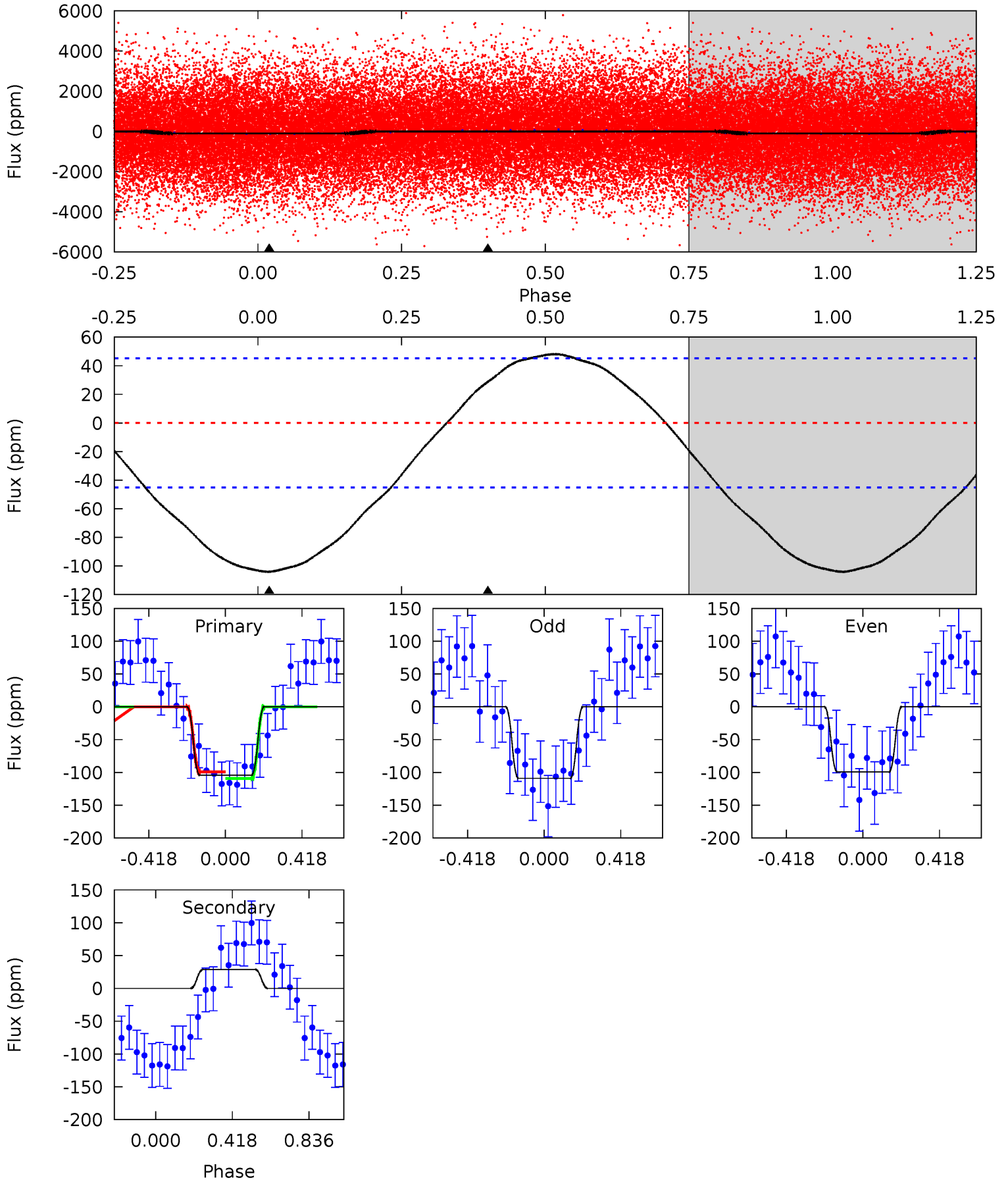
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.0	-5.05	0	0	4.21	0.65	2.32	19.0	19.0	-5.05	-5.05	0.12	1.08	0.31	0.30



Alt Model-Shift Uniqueness Test

007265427-02, P = 0.573486 Days, E = 131.961992 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.81	-2.71	0	0	4.26	0.81	1.27	9.81	9.81	-2.71	-2.71	0.45	1.04	0.32	0.46



Stellar Parameters For KIC 007265427

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7776^{+216}_{-325}	$4.120^{+0.139}_{-0.170}$	$-0.180^{+0.200}_{-0.300}$	$1.825^{+0.492}_{-0.358}$	$1.600^{+0.195}_{-0.238}$	$0.371^{+0.261}_{-0.179}$
	+3%/-4%	+3%/-4%	+111%/-167%	+27%/-20%	+12%/-15%	+70%/-48%
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 007265427-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	21 ± 4	$2.20^{+0.30}_{-0.28}$	5149^{+392}_{-303}	-5484^{+277}_{-250}	$-0.579^{+0.166}_{-0.222}$
Alt.	29 ± 11	$2.02^{+0.32}_{-0.25}$	5154^{+396}_{-343}	-5913^{+431}_{-458}	$-0.946^{+0.369}_{-0.463}$

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 $A_{obs} \gg 1.0$

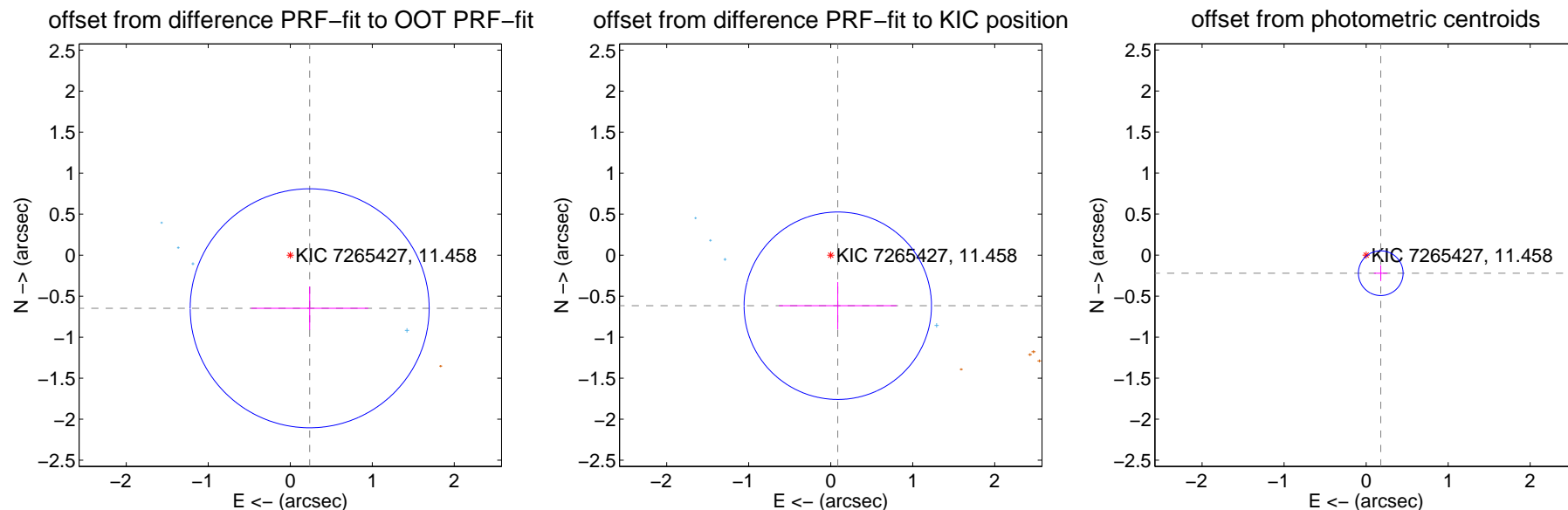
DV Centroid Data

Supplemental centroid analysis for 007265427-02. **Kepler magnitude: 11.46.** Transit SNR 17.25

There are 4 quarters with good PRF difference image offsets

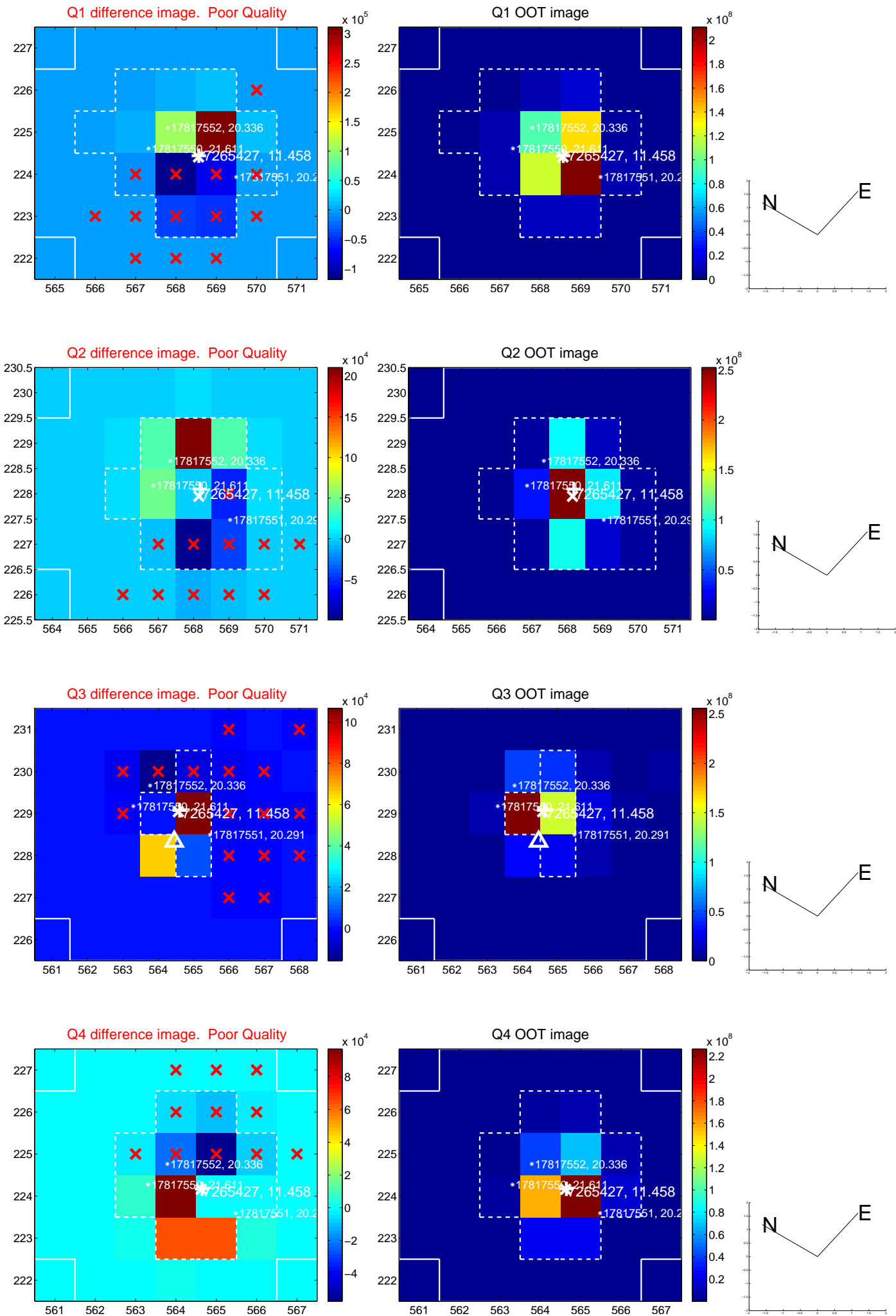
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.690 ± 0.486	1.42	-0.237 ± 0.714	-0.648 ± 0.264
PRF-fit source offset from KIC position	0.623 ± 0.381	1.63	-0.086 ± 0.718	-0.617 ± 0.289
photometric centroid source offset	0.28 ± 0.09	3.12	-0.18 ± 0.08	-0.22 ± 0.10

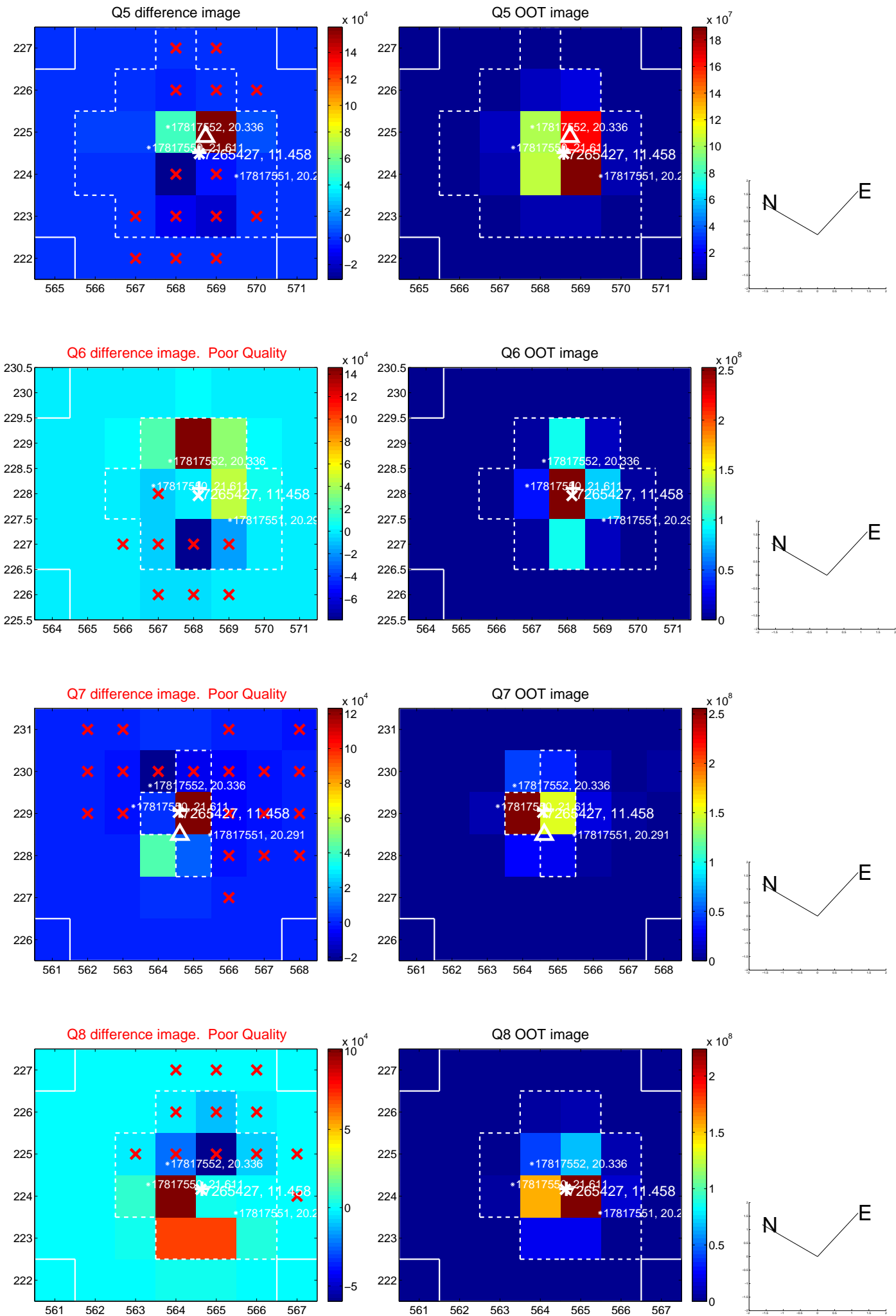


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

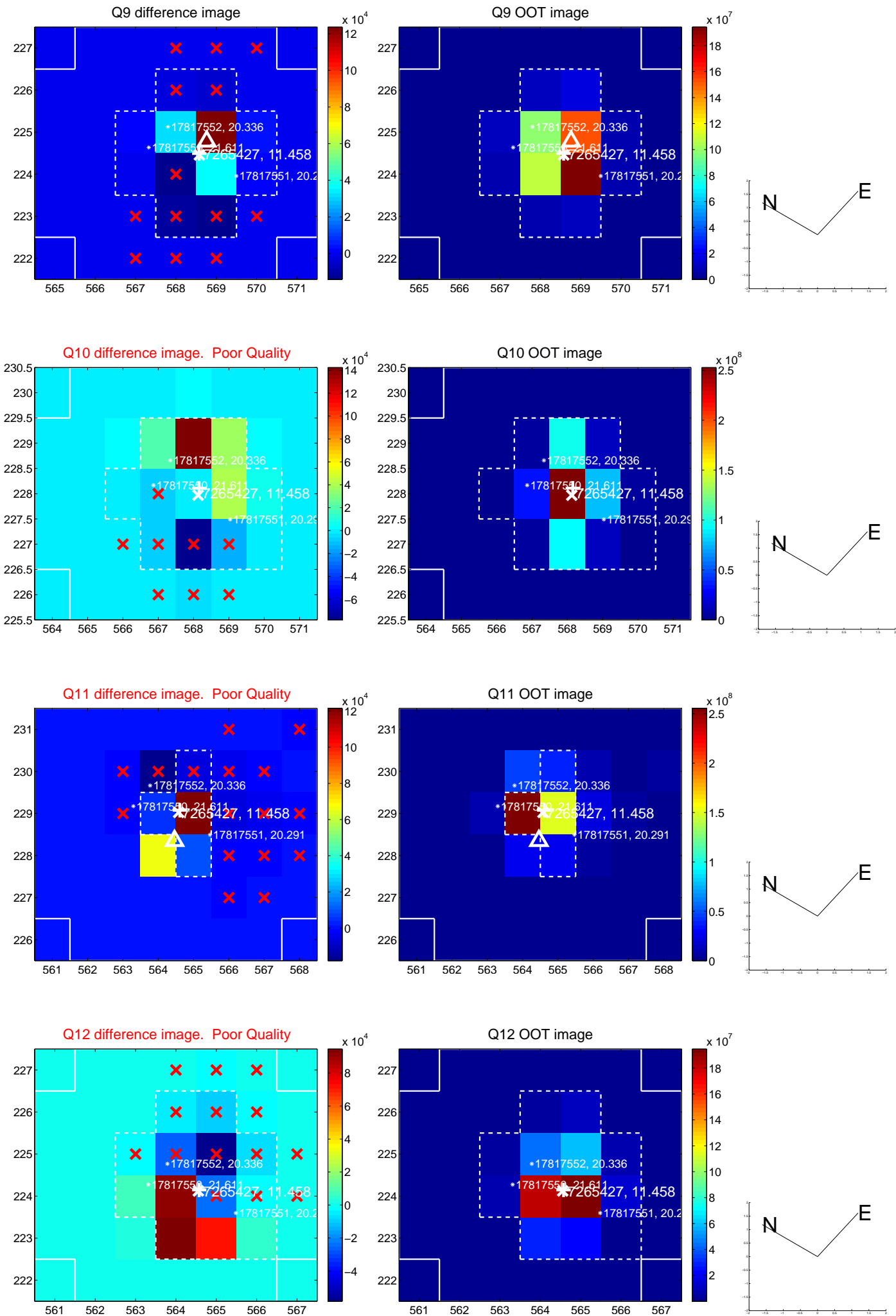
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

