

# KIC 001571717

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
001571717-01	OBS	No	1.019803	132.338418	10.3	7.413	9.9	6.3	2.13	8302	0.70	33347.74
001571717-02	OBS	No	15.107407	145.585070	251.1	1.169	13.1	13.2	2.13	8302	3.45	916.58
001571717-03	OBS	No	26.962963	147.496581	311.1	1.565	13.3	11.8	2.13	8302	4.37	423.38
001571717-04	OBS	No	19.985456	136.438743	180.3	2.119	10.7	11.4	2.13	8302	3.07	631.15
001571717-05	OBS	No	100.950826	142.158723	136.4	0.752	11.0	4.0	2.13	8302	2.94	72.82
001571717-06	OBS	No	43.176197	148.076164	148.6	4.221	10.3	10.0	2.13	8302	3.01	225.99
001571717-07	OBS	No	25.943432	134.675594	279.1	1.345	10.6	10.1	2.13	8302	3.96	445.71

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001571717-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED
001571717-02	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED—HALO_GHOST
001571717-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED—HALO_GHOST
001571717-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
001571717-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
001571717-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
001571717-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED

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

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

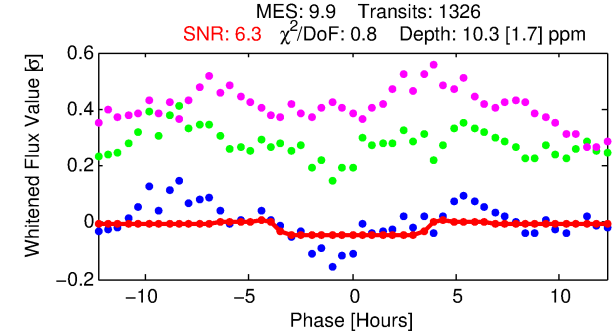
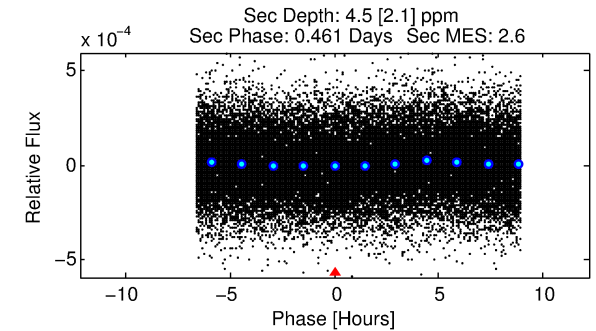
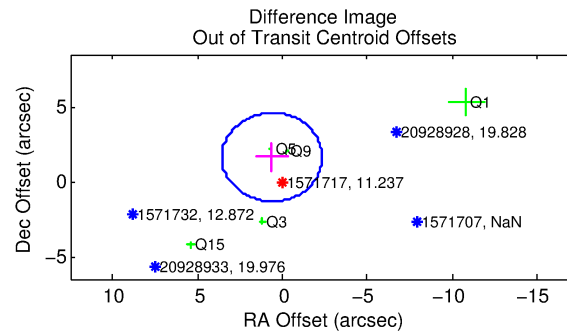
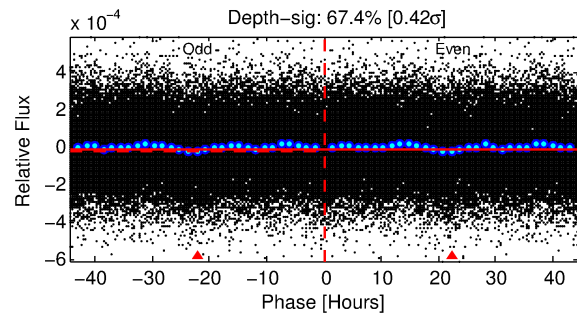
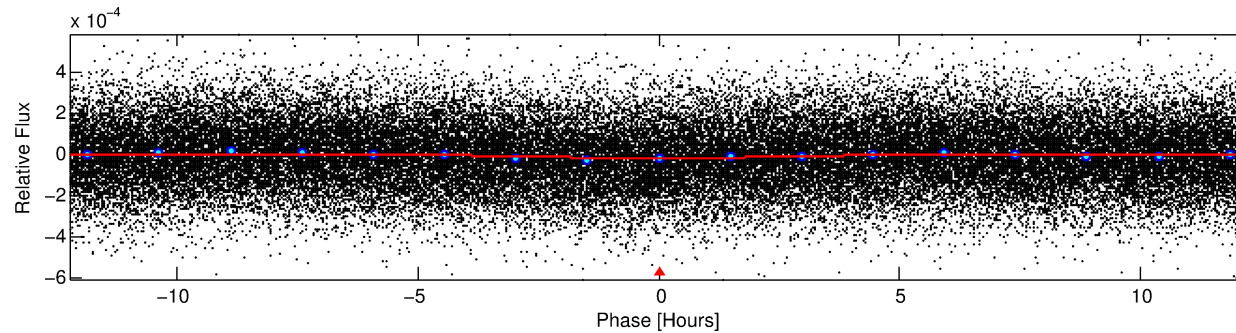
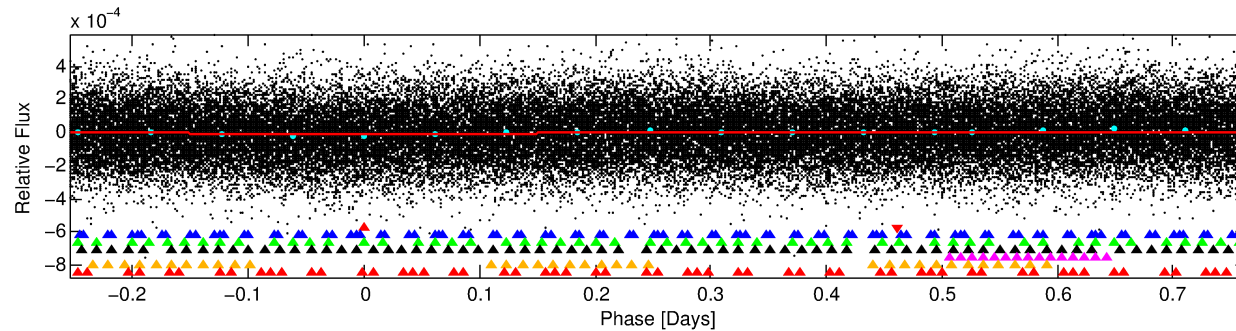
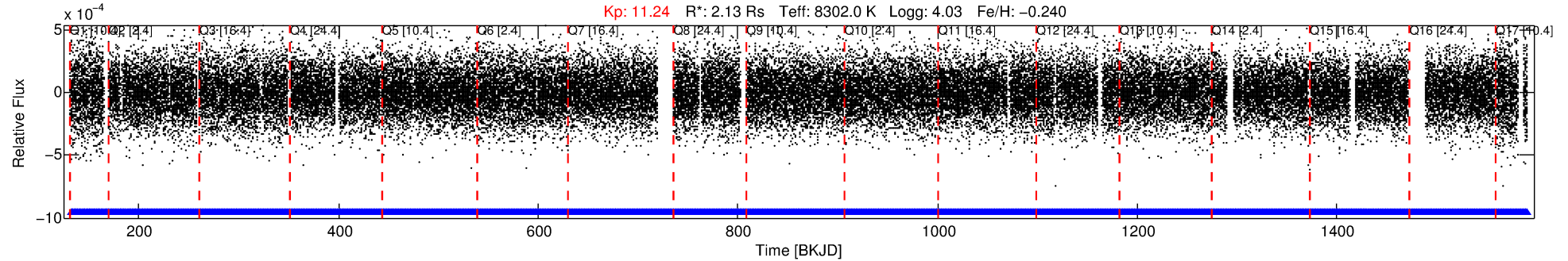
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 001571717-01

No Significant Match Found

# DV One-Page Summary

KIC: 1571717 Candidate: 1 of 7 Period: 1.020 d



## DV Fit Results:

Period = 1.01980 [0.00003] d  
Epoch = 132.3384 [0.0089] BKJD  
Rp/R\* = 0.0030 [0.0031]  
a/R\* = 1.21 [2.28]  
b = 0.33 [16.14]  
Seff = 33347.74 [12611.37]  
Teq = 3446 [326] K  
Rp = 0.70 [0.75] Re  
a = 0.0241 [0.0054] AU  
Ag = 2.95 [6.36] [0.31 $\sigma$ ]  
Teffp = 6981 [3730] K [0.94 $\sigma$ ]

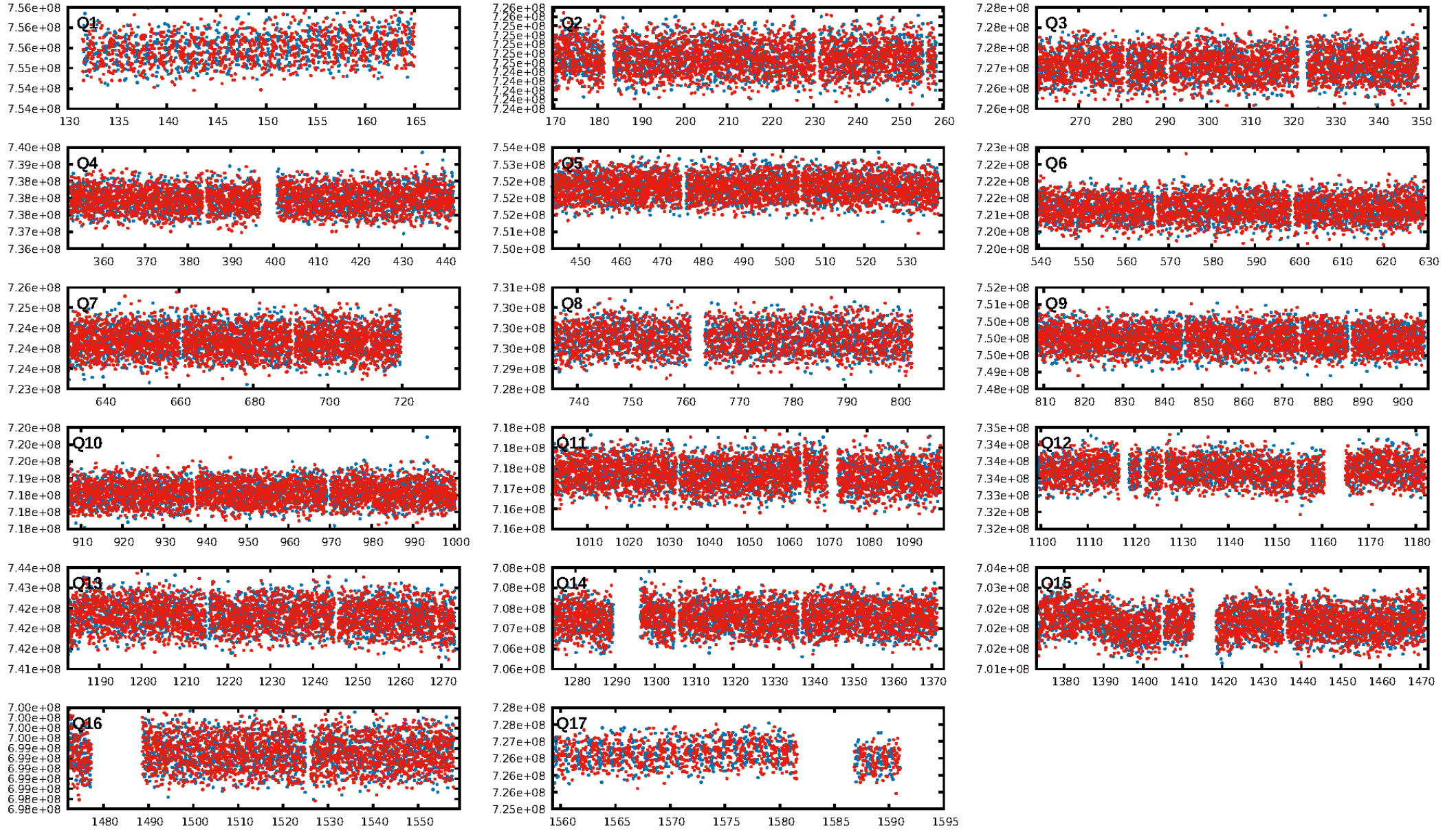
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [45.05 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 8.18e-23  
RollingBand-fgt: 1.00 [1267/1267]  
GhostDiagnostic-chr: 3.983  
Centroid-sig: 0.2%  
Centroid-so: 1.967 arcsec [1.53 $\sigma$ ]  
OotOffset-rm: 1.738 arcsec [1.77 $\sigma$ ]  
KicOffset-rm: 1.845 arcsec [1.90 $\sigma$ ]  
OotOffset-st: 0/2/0/3 [5]  
KicOffset-st: 0/2/0/3 [5]  
DiffImageQuality-fgm: 0.40 [2/5]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:57:20 Z

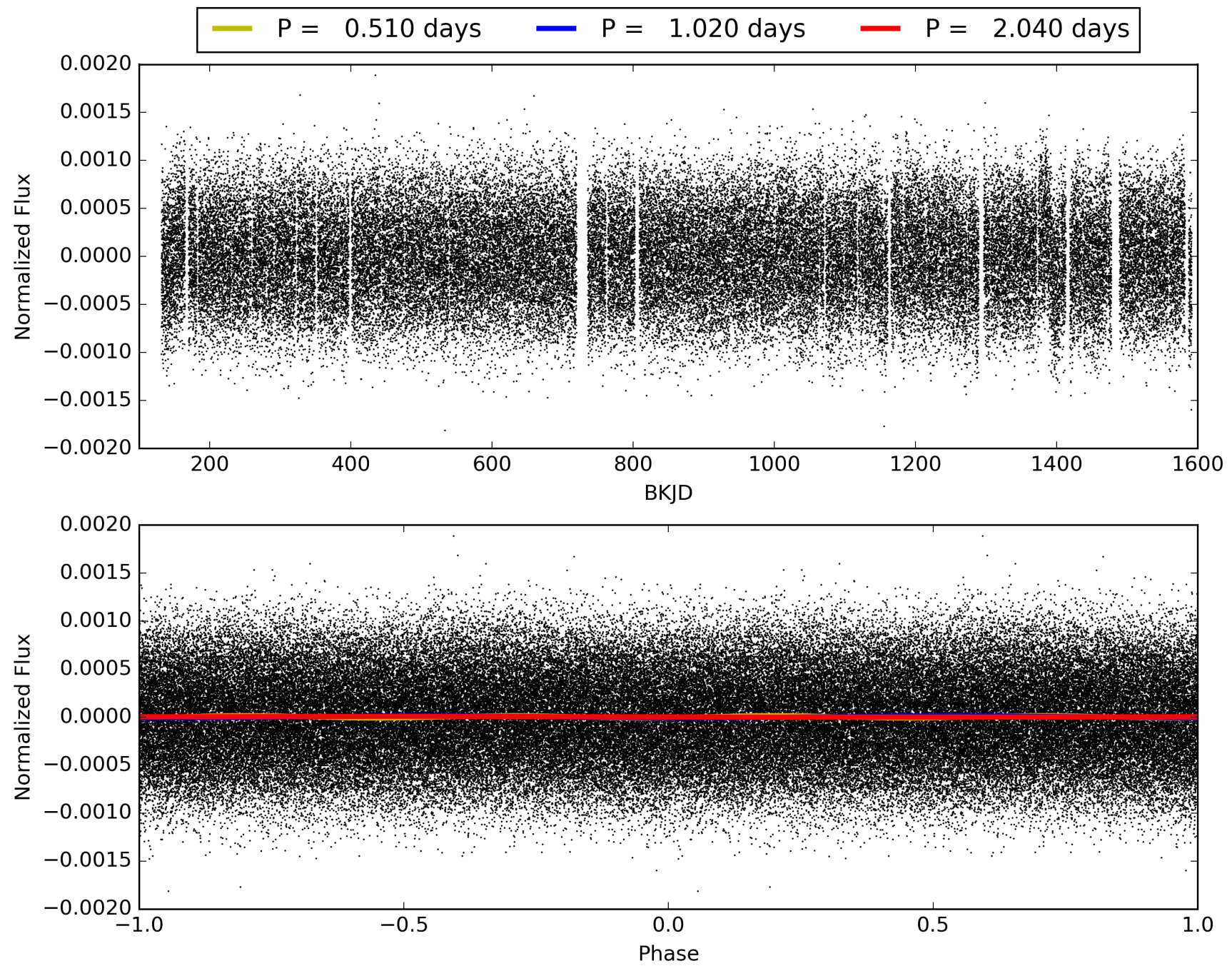
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 001571717-01, PDC Light Curves





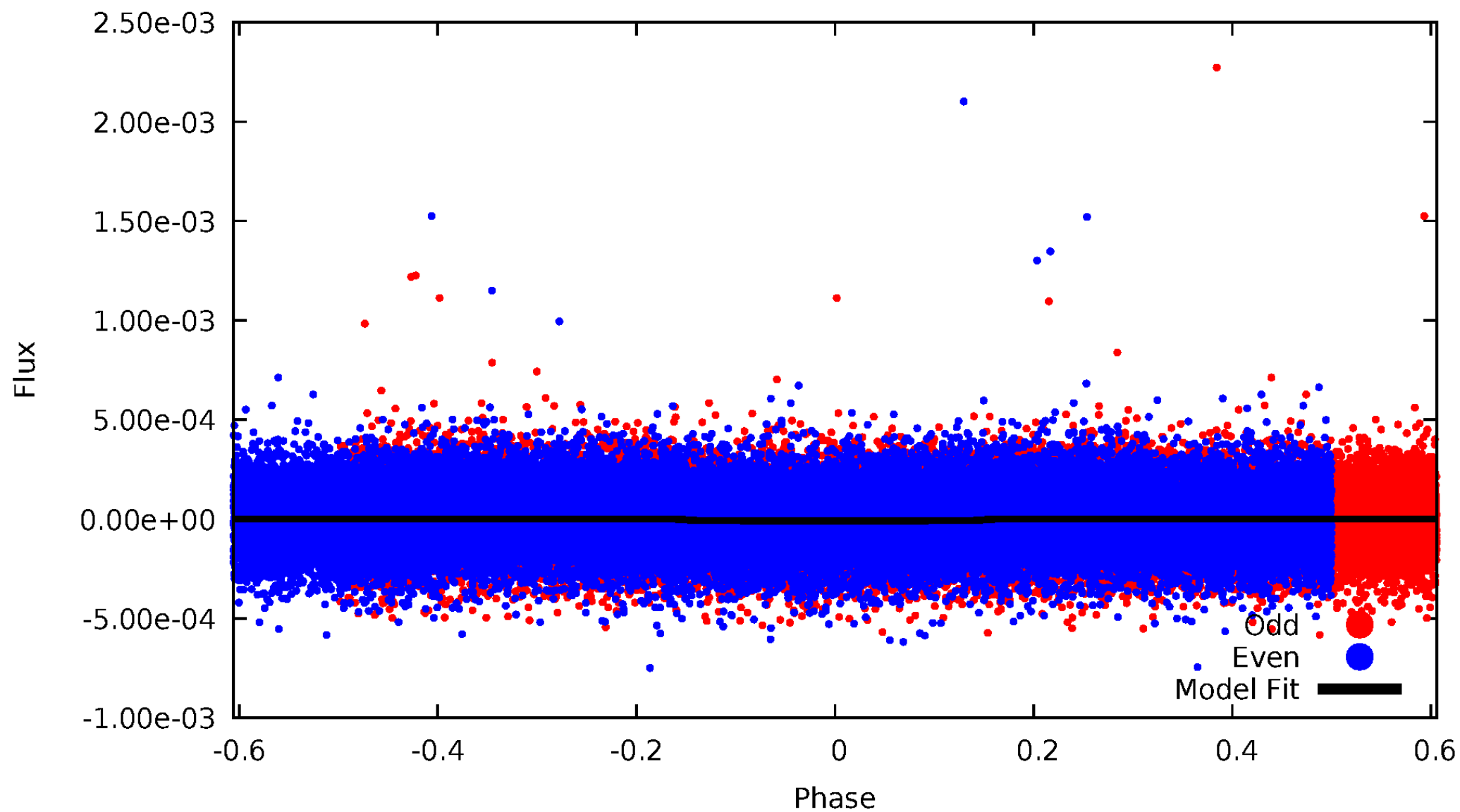
# TCE 001571717-01





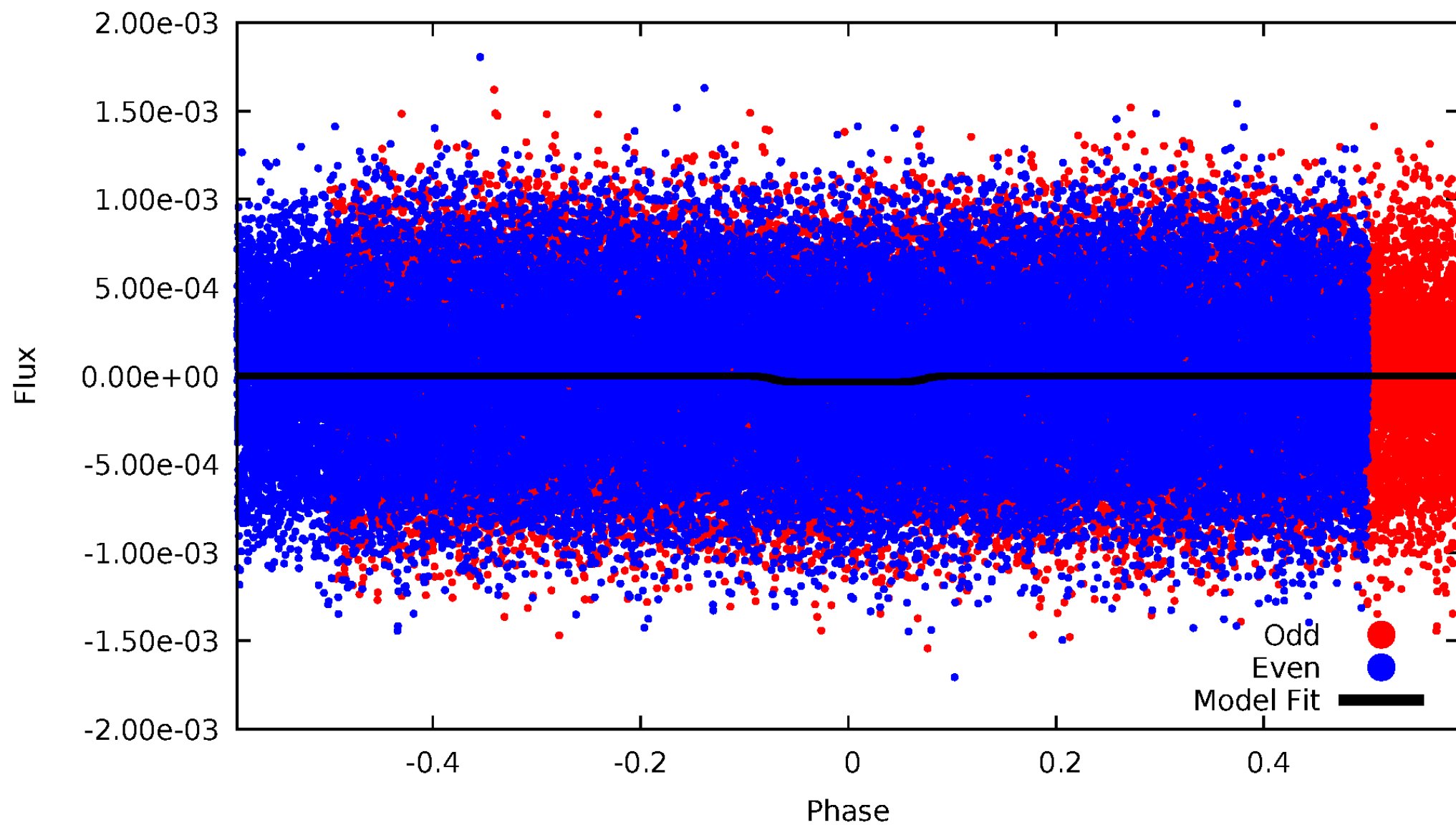
# DV Odd/Even

TCE 001571717-01

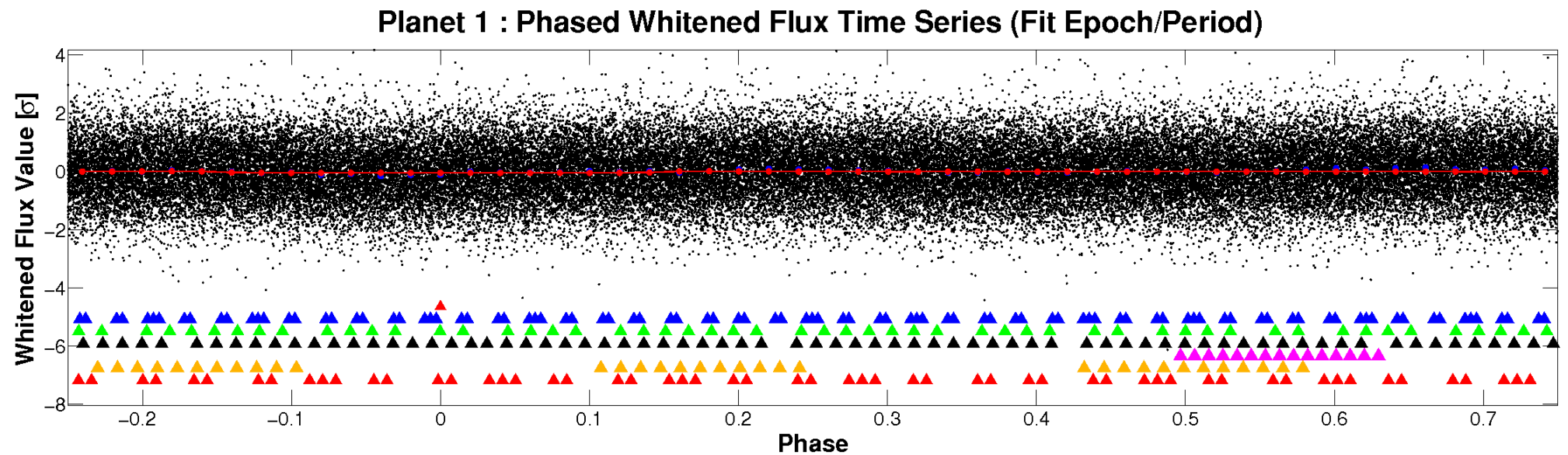
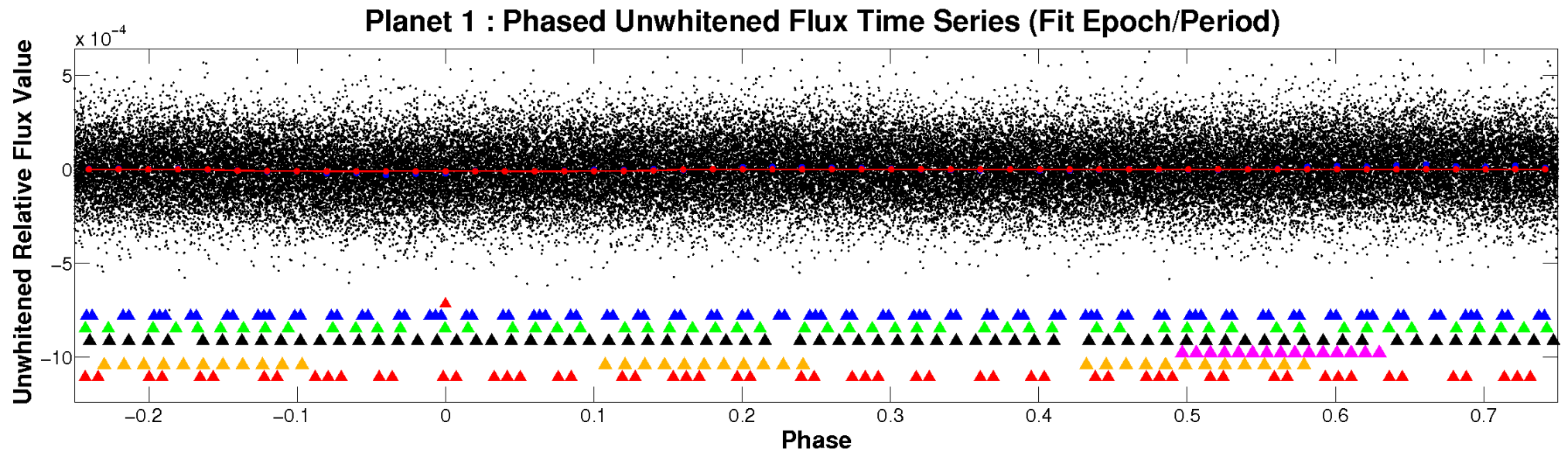


# ALT Odd/Even

TCE 001571717-01



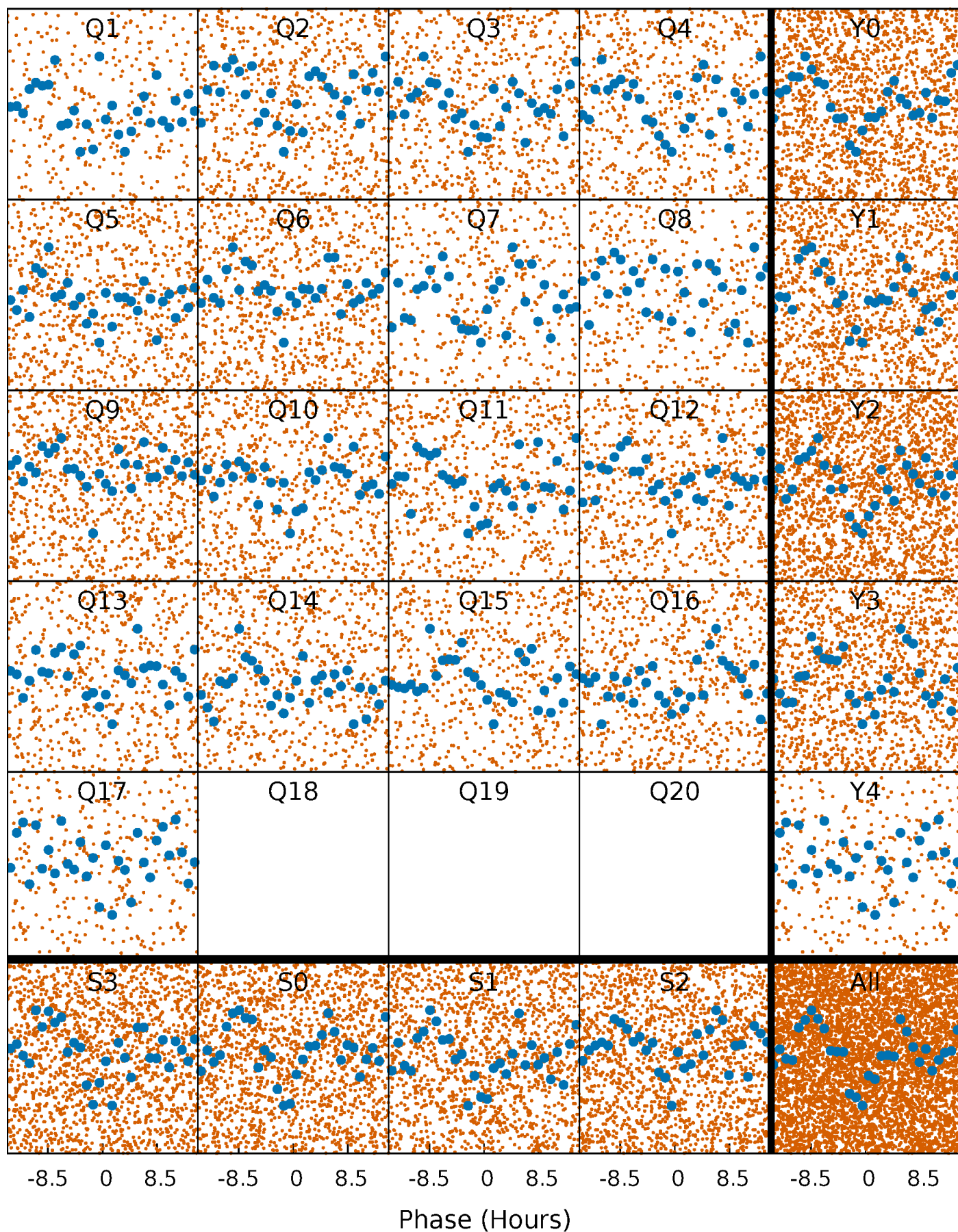
# Non-Whitened Vs. Whitened Light Curve





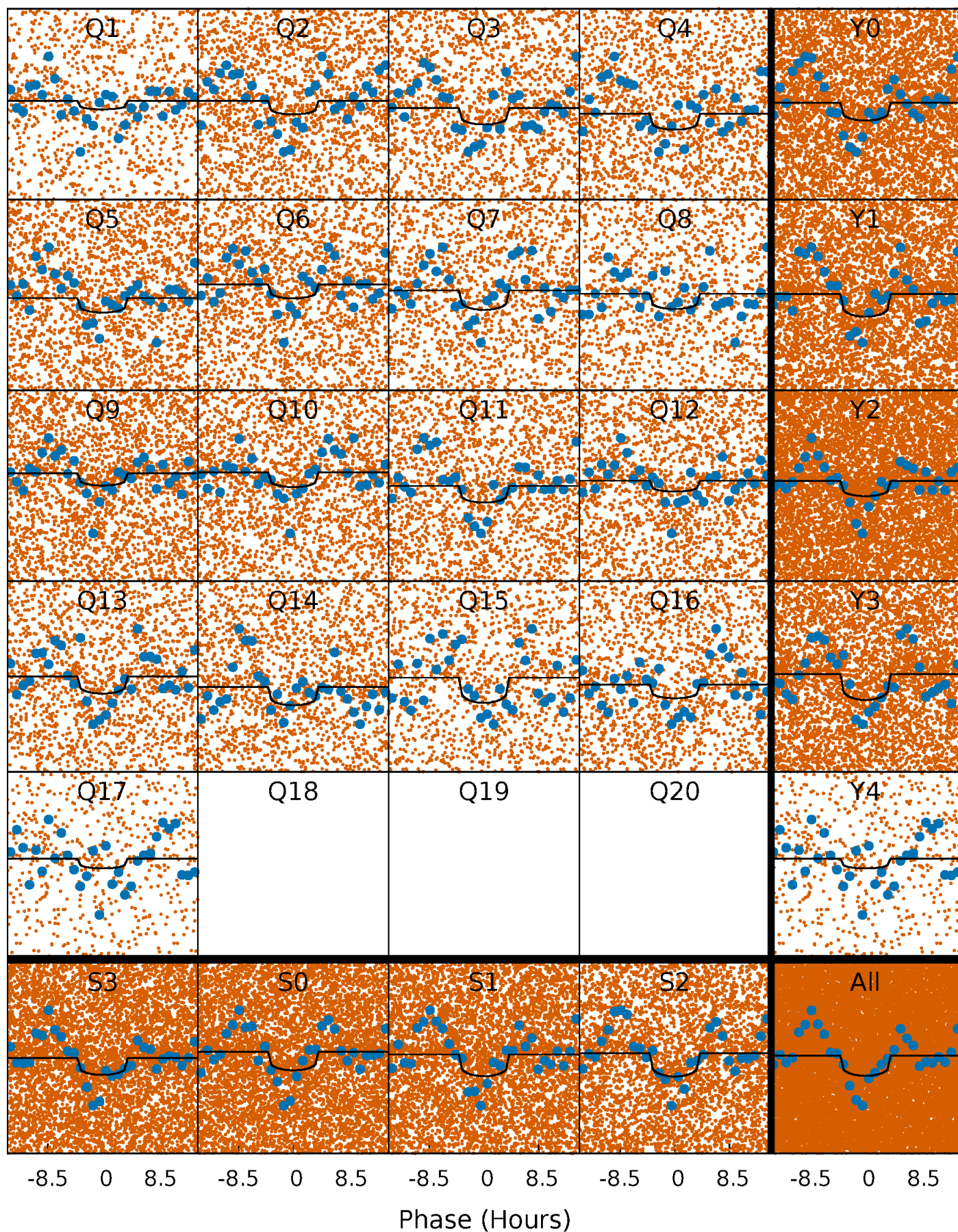
# PDC Quarter-Phased Transit Curves

TCE 001571717-01 P= 1.019803 Days  $T_0=132.338418$  (BKJD)



# DV Quarter-Phased Transit Curves

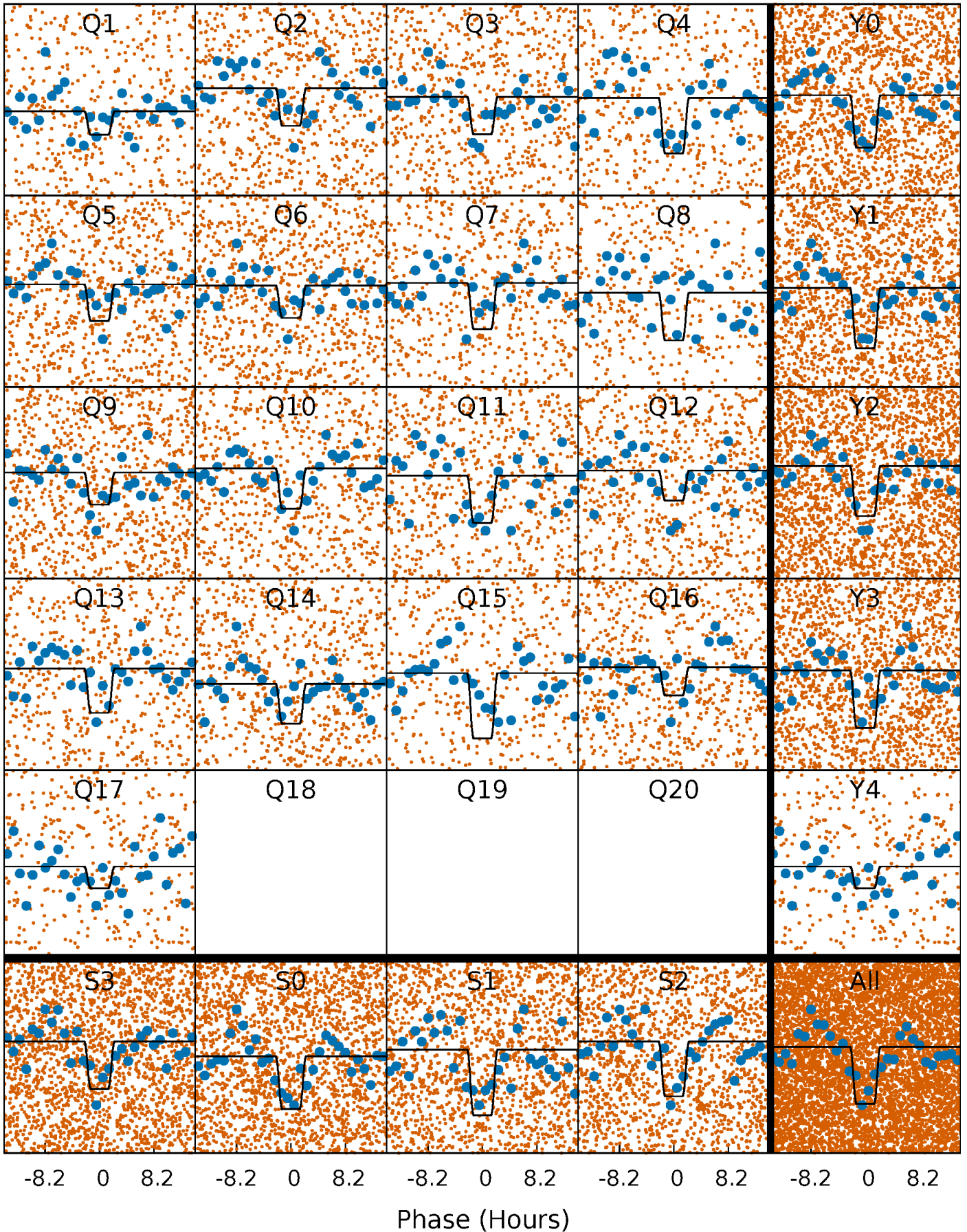
TCE 001571717-01 P= 1.019803 Days  $T_0=132.338418$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 001571717-01 P= 1.019856 Days  $T_0=132.269577$  (BKJD)

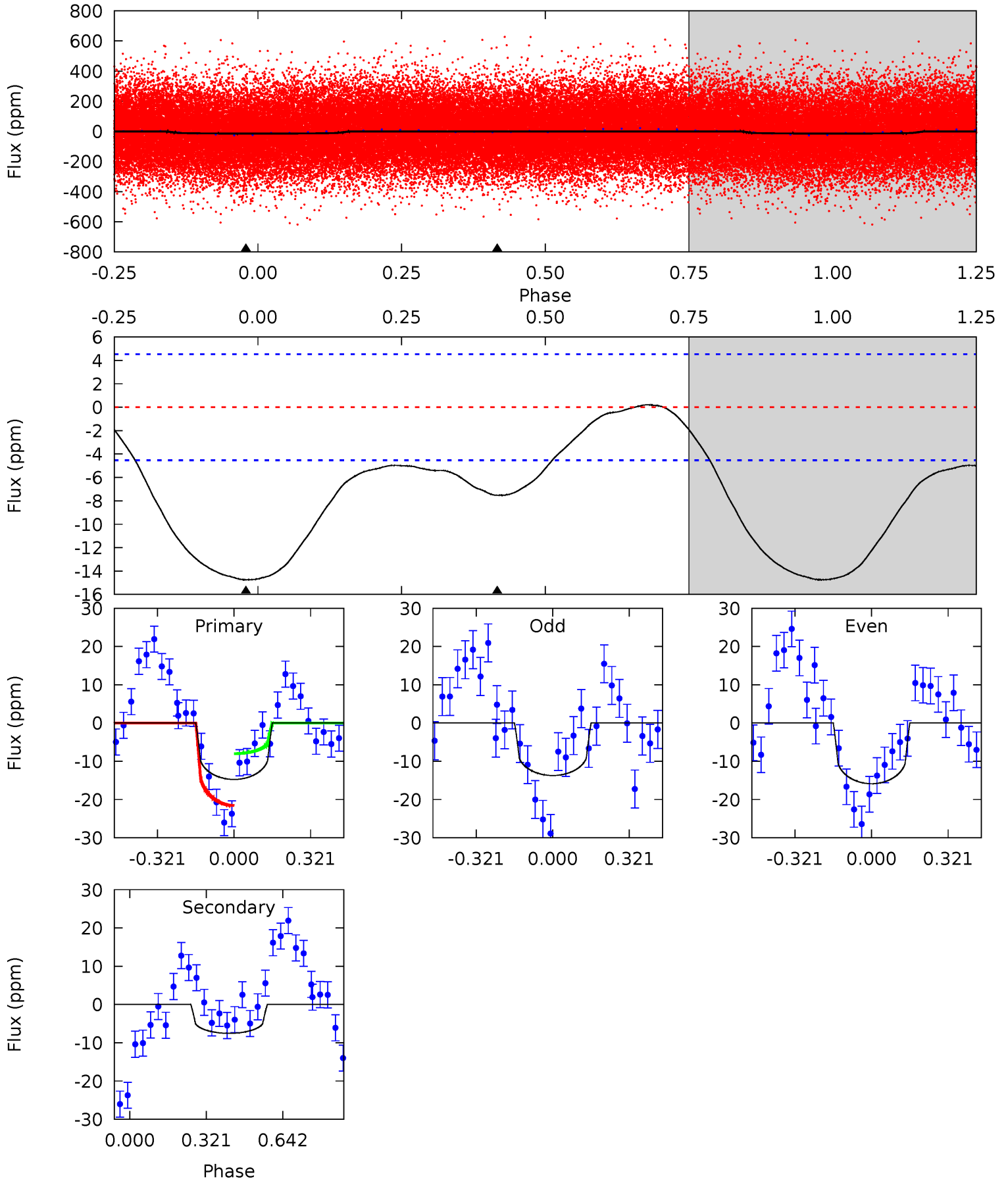




# DV Model-Shift Uniqueness Test

001571717-01, P = 1.019803 Days, E = 131.318615 Days

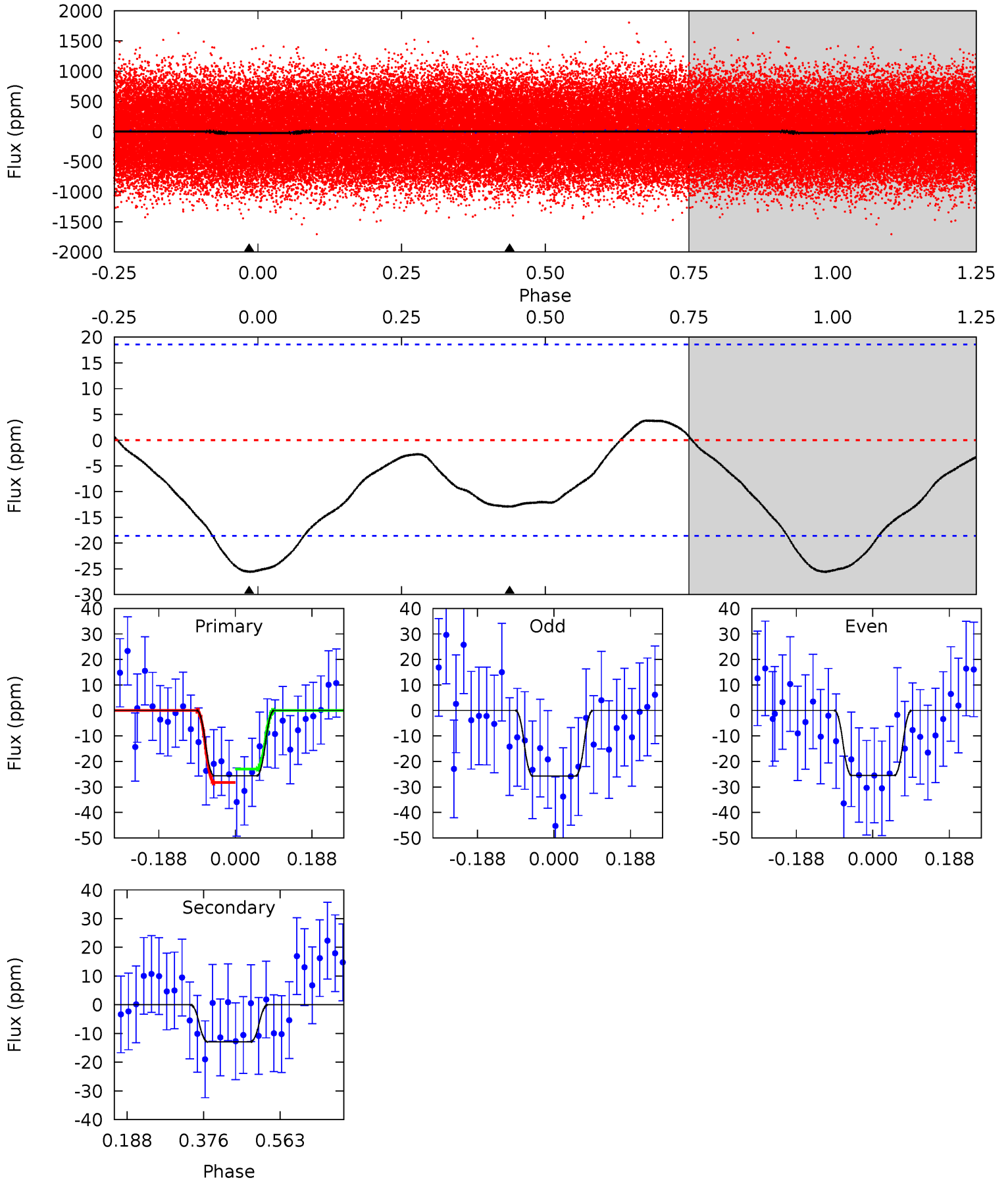
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.0	7.17	0	0	4.31	0.99	0.52	14.0	14.0	7.17	7.17	1.02	0.91	0.01	6.45



# Alt Model-Shift Uniqueness Test

001571717-01, P = 1.019856 Days, E = 131.249721 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.10	3.08	0	0	4.43	1.32	0.95	6.10	6.10	3.08	3.08	0.03	0.91	0.13	0.64



### Stellar Parameters For KIC 001571717

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8302^{+232}_{-348}$	$4.034^{+0.192}_{-0.128}$	$-0.240^{+0.250}_{-0.300}$	$2.134^{+0.439}_{-0.536}$	$1.796^{+0.136}_{-0.294}$	$0.260^{+0.282}_{-0.101}$
	+3%/-4%	+5%/-3%	+104%/-125%	+21%/-25%	+8%/-16%	+108%/-39%
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 001571717-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-8 \pm 1$	$0.81^{+0.69}_{-0.49}$	$4762^{+302}_{-349}$	$6731^{+6585}_{-1882}$	$3.409^{+18.752}_{-2.365}$
Alt.	$-13 \pm 4$	$1.30^{+0.71}_{-0.63}$	$4751^{+318}_{-343}$	$5966^{+3025}_{-1360}$	$2.288^{+6.218}_{-1.429}$

$T_{max}$  = 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  $A_{obs} \gg 1.0$



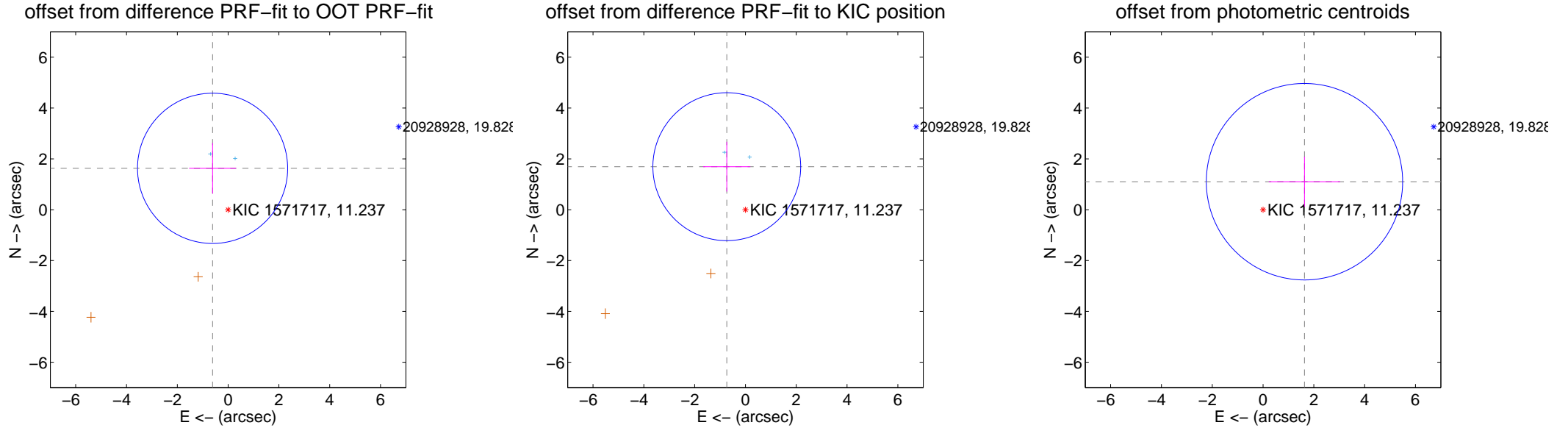
## DV Centroid Data

Supplemental centroid analysis for 001571717-01. **Kepler magnitude: 11.24.** Transit SNR 6.34

**There are 2 quarters with good PRF difference image offsets**

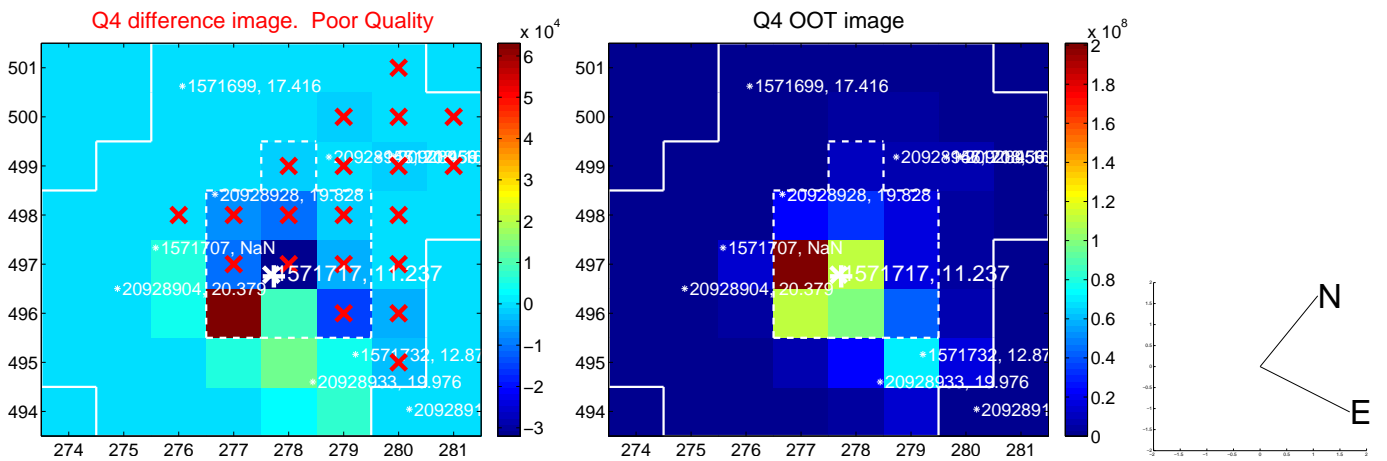
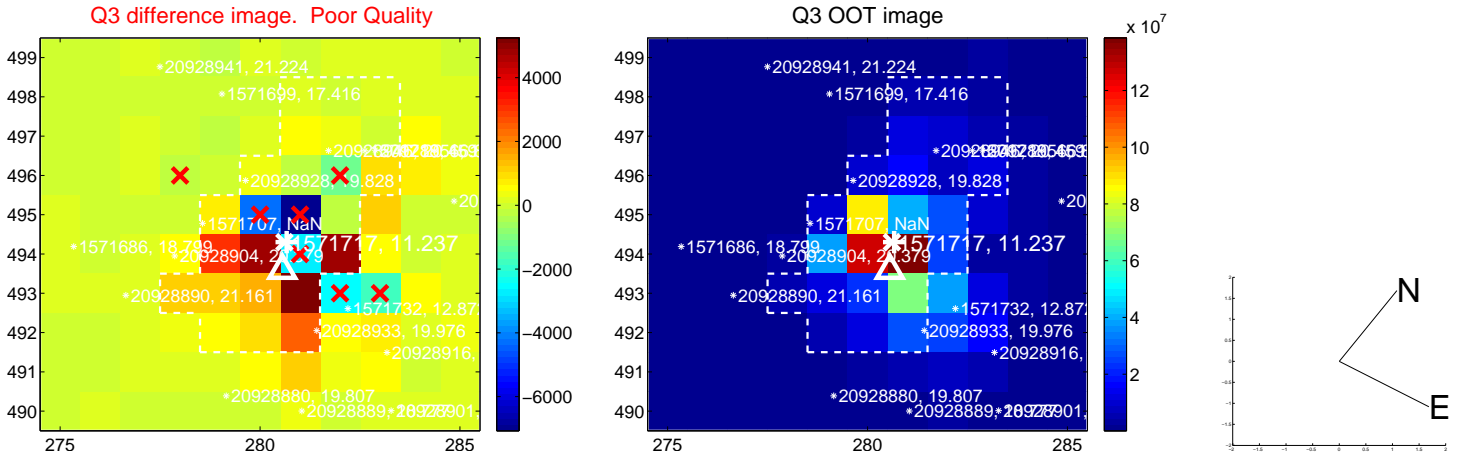
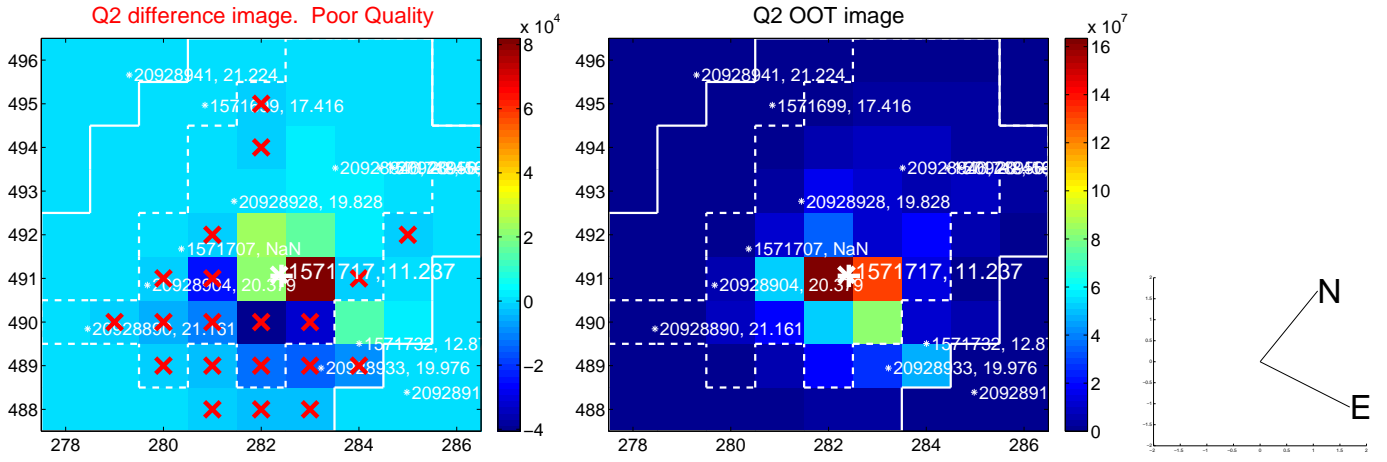
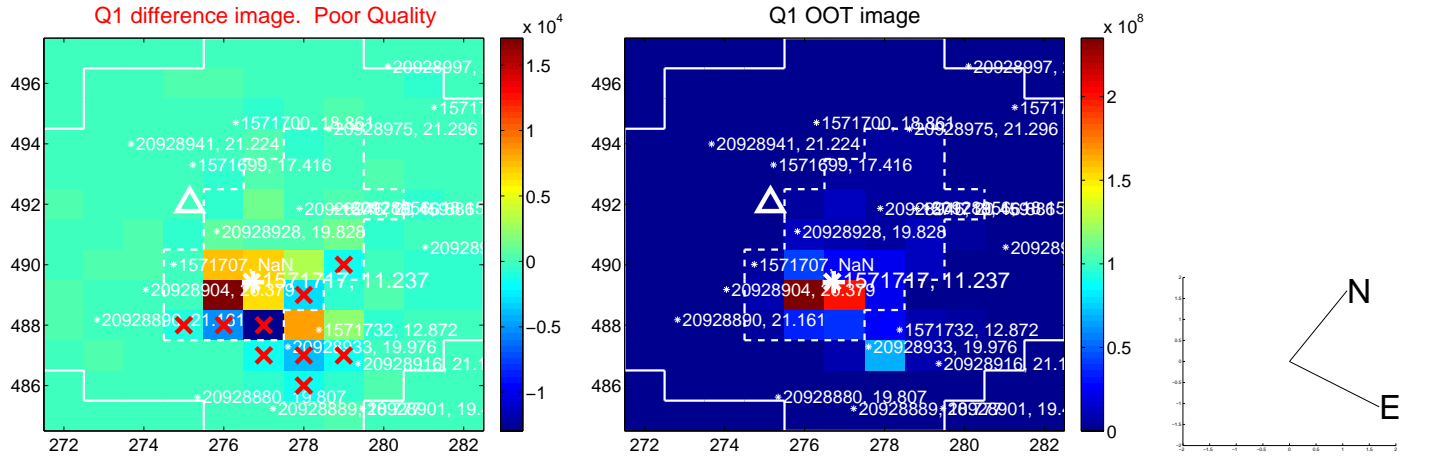
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.738 \pm 0.985$	1.77	$0.611 \pm 0.923$	$1.627 \pm 0.993$
PRF-fit source offset from KIC position	$1.845 \pm 0.970$	1.90	$0.734 \pm 0.928$	$1.692 \pm 0.977$
photometric centroid source offset	$1.97 \pm 1.29$	1.53	$-1.63 \pm 1.41$	$1.10 \pm 0.98$

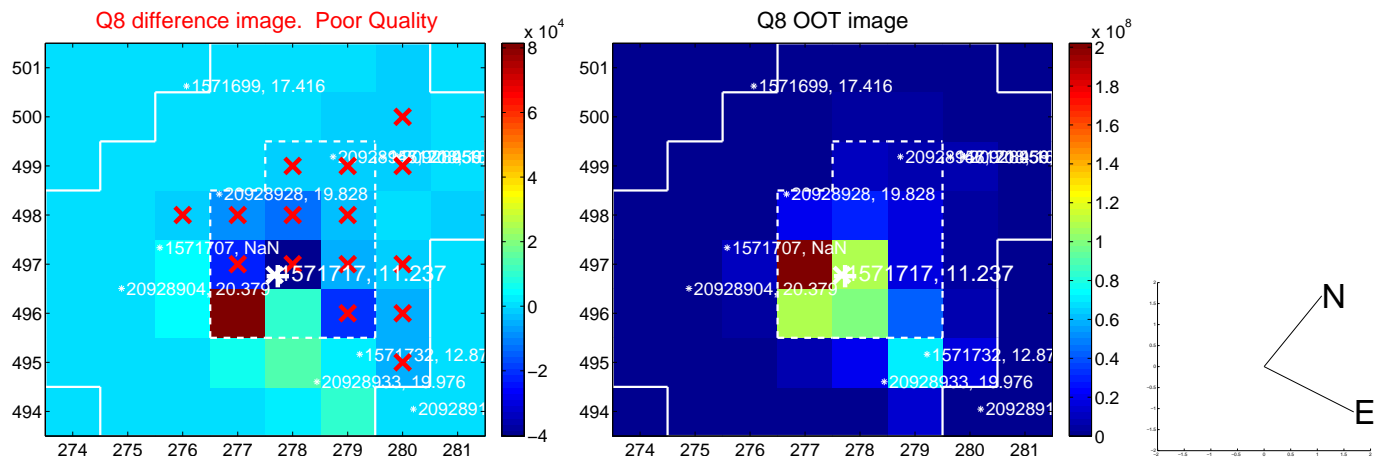
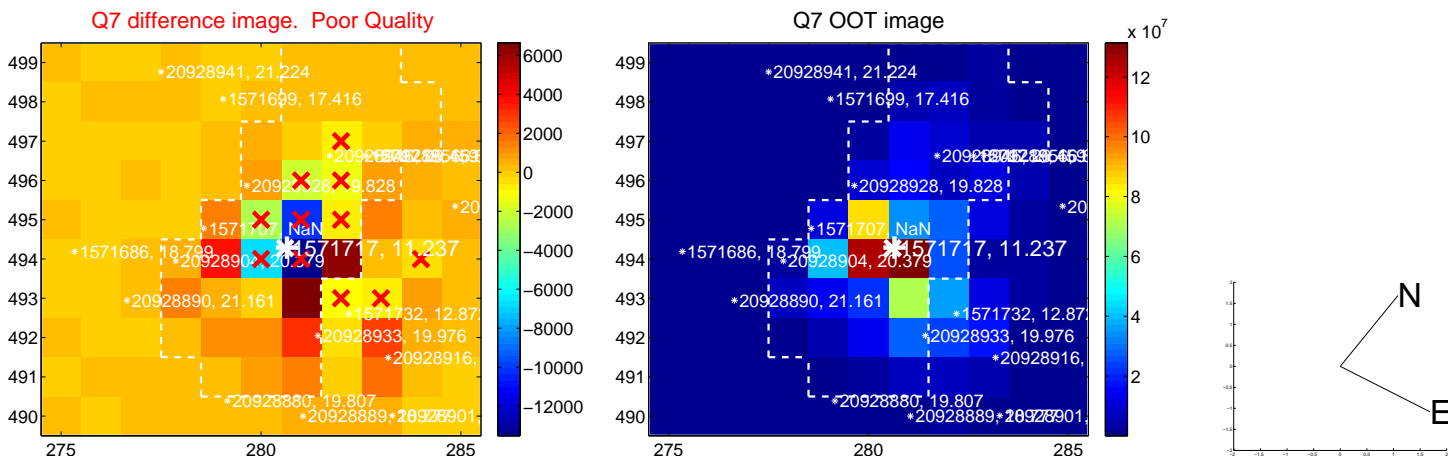
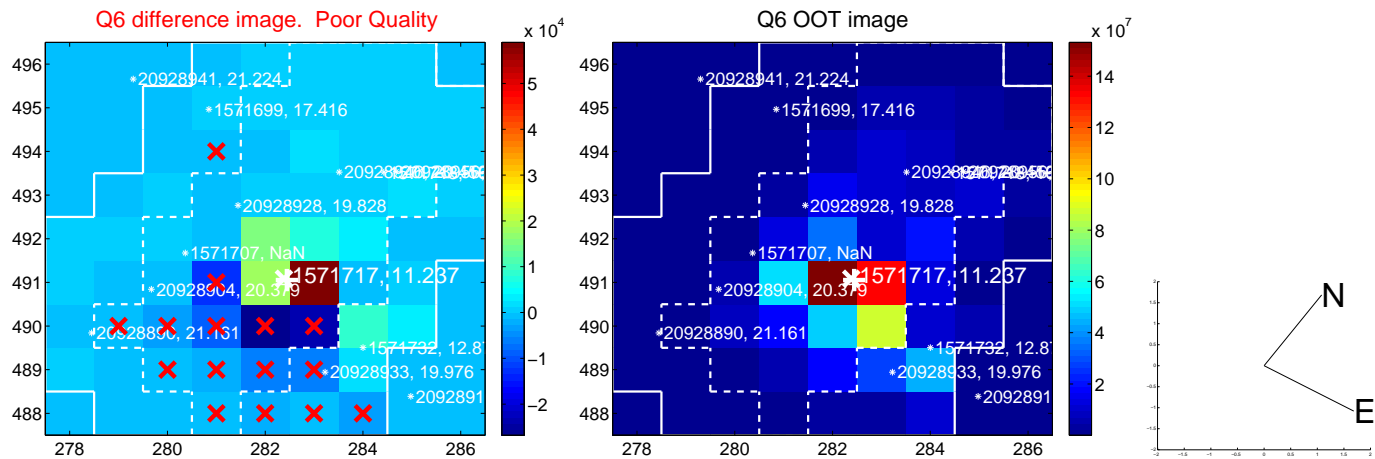
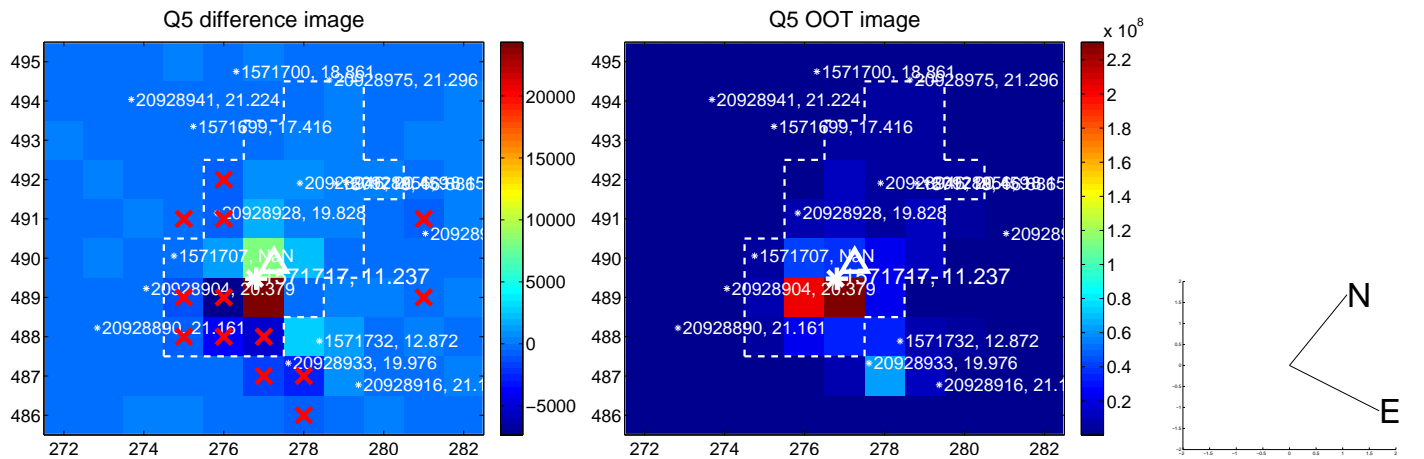


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

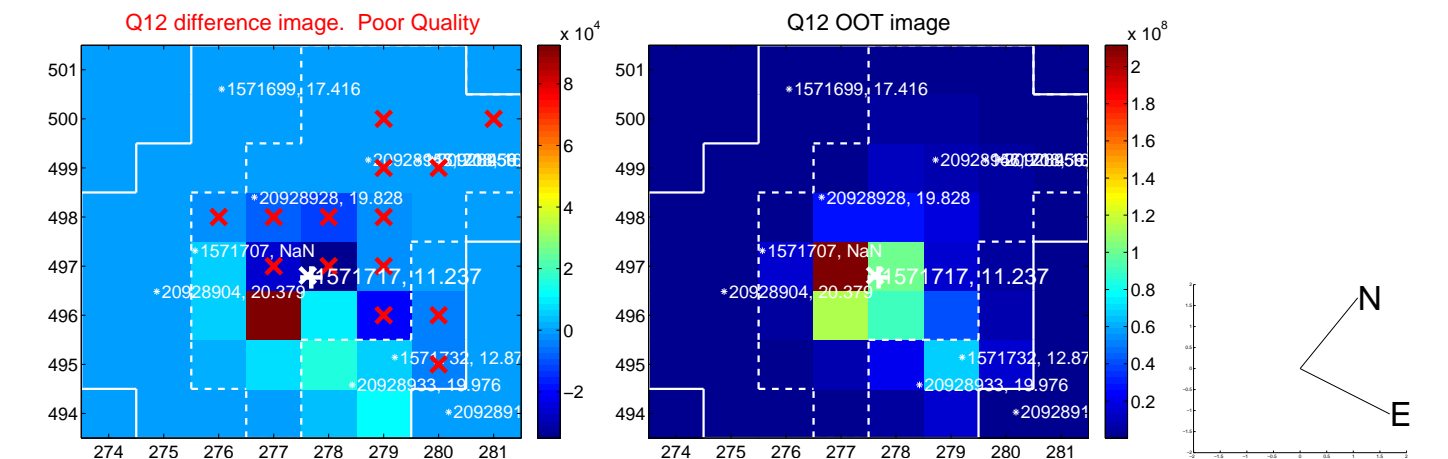
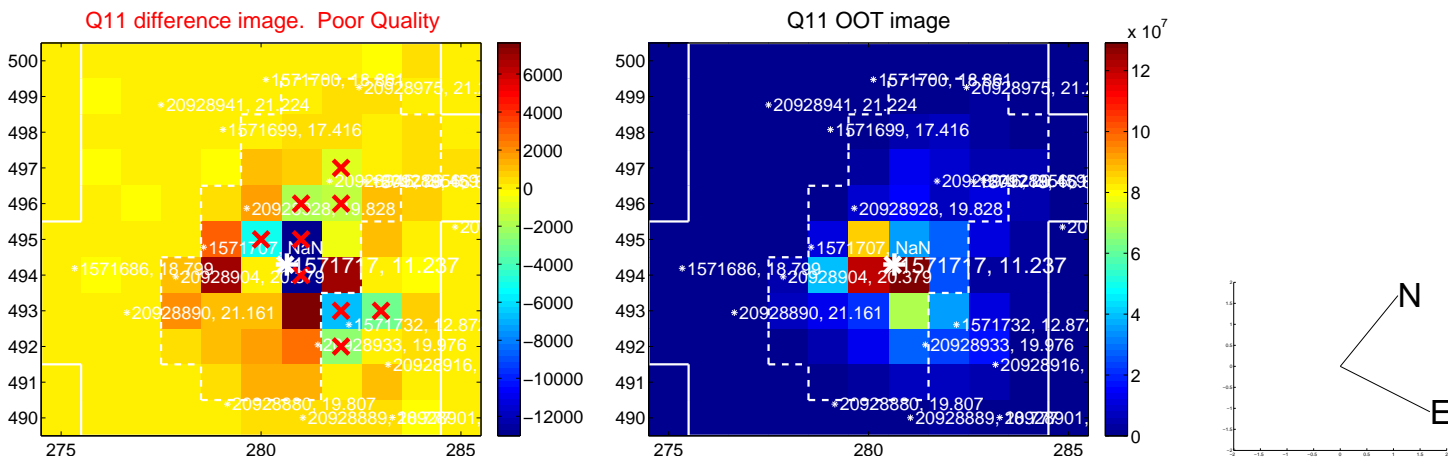
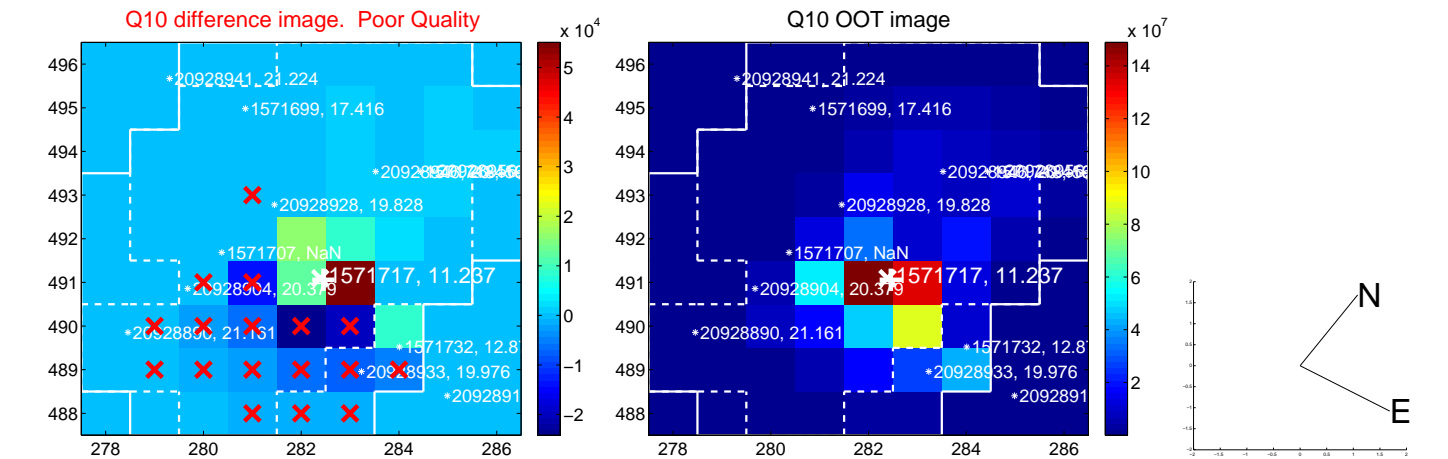
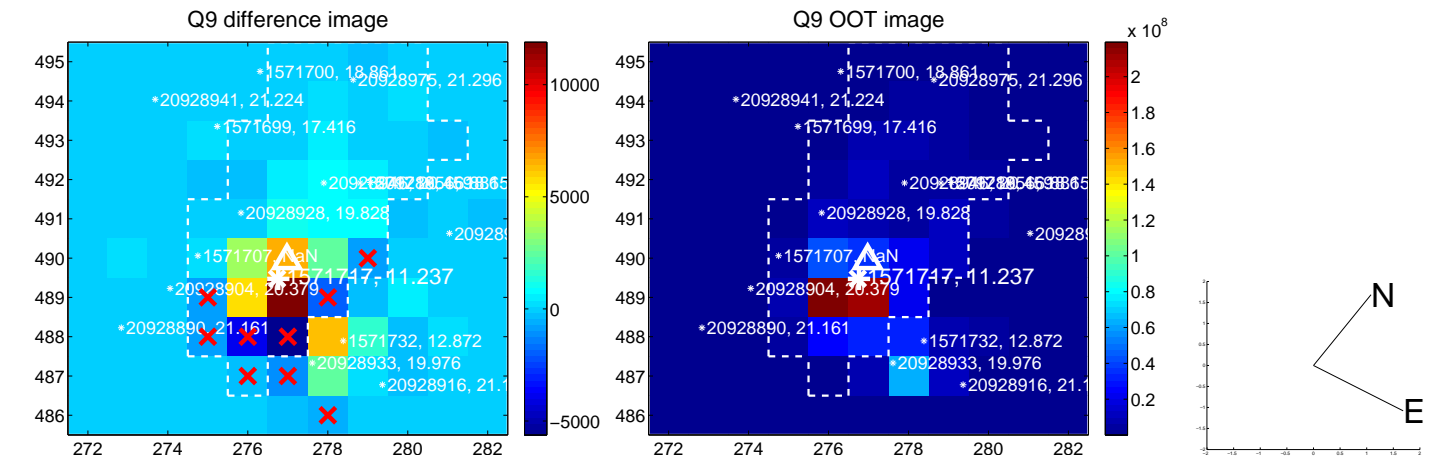


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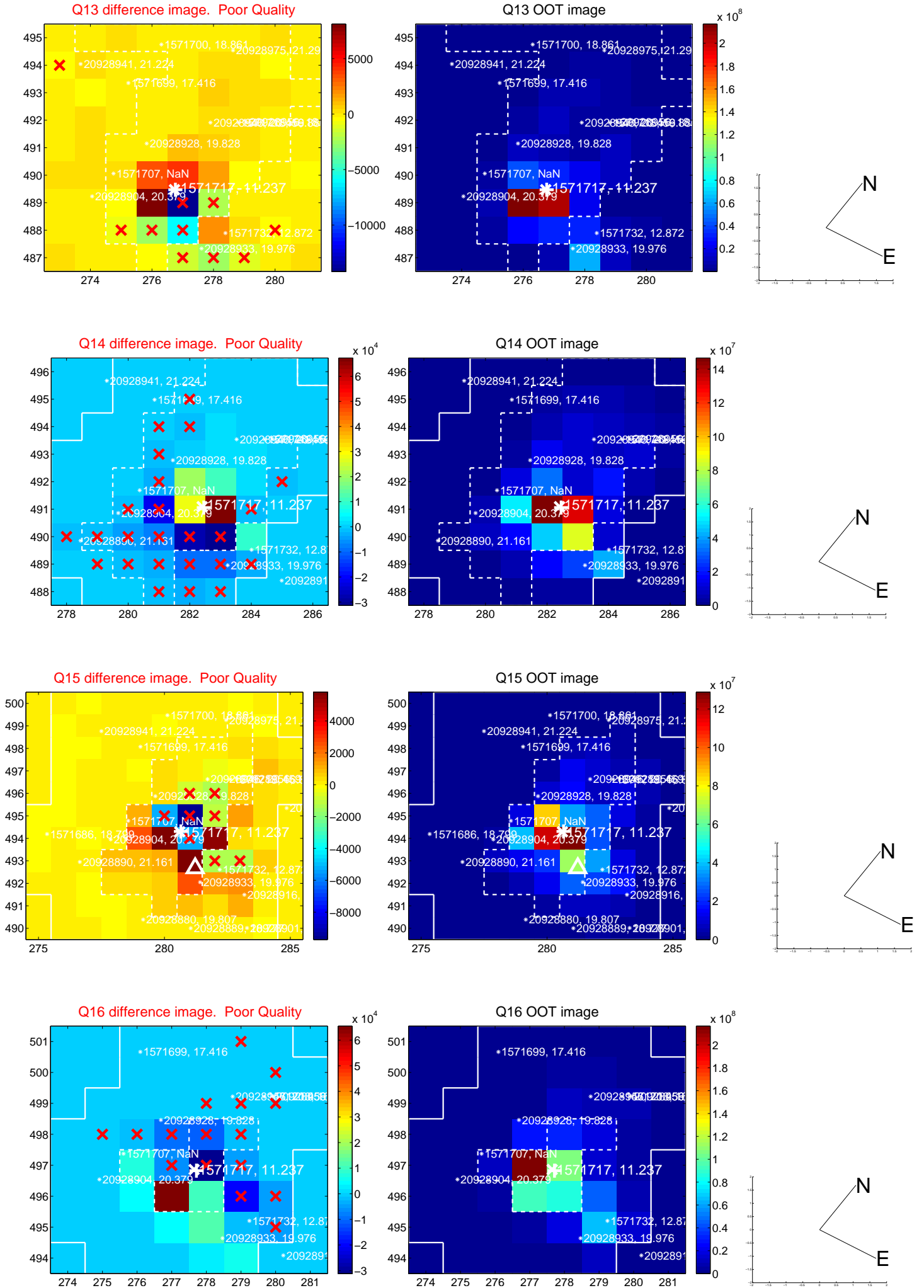




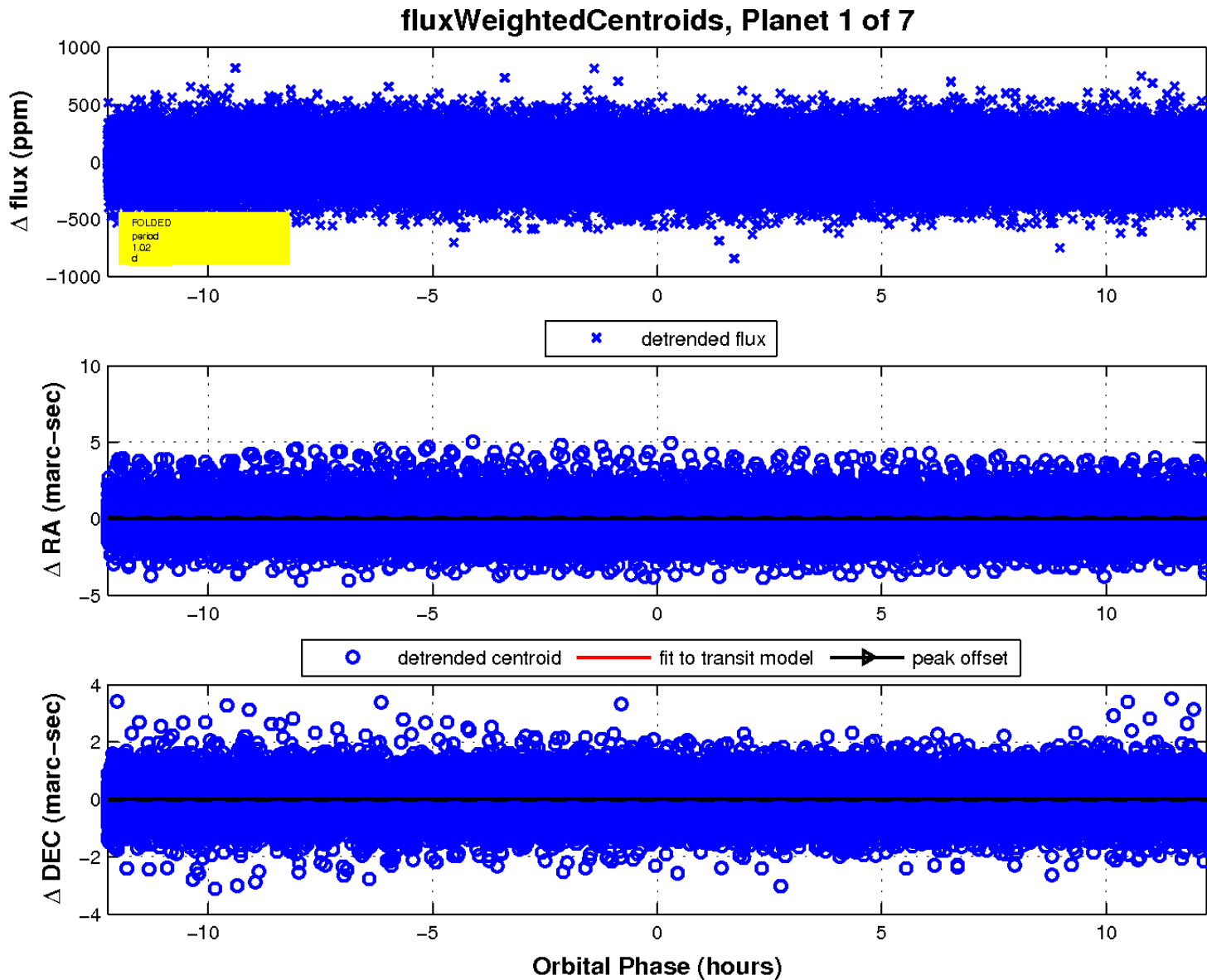
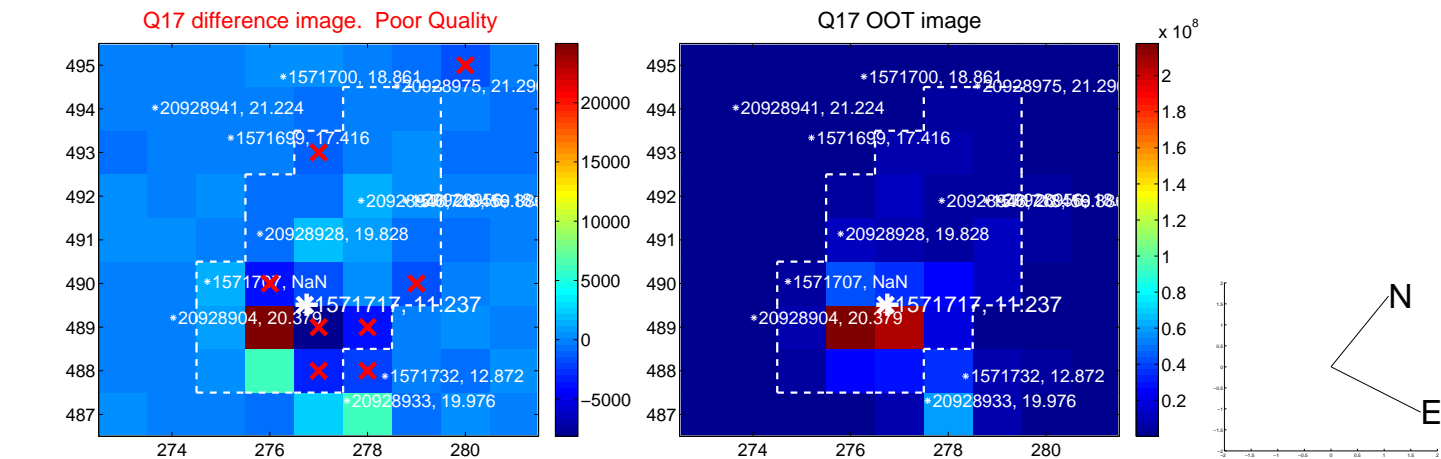
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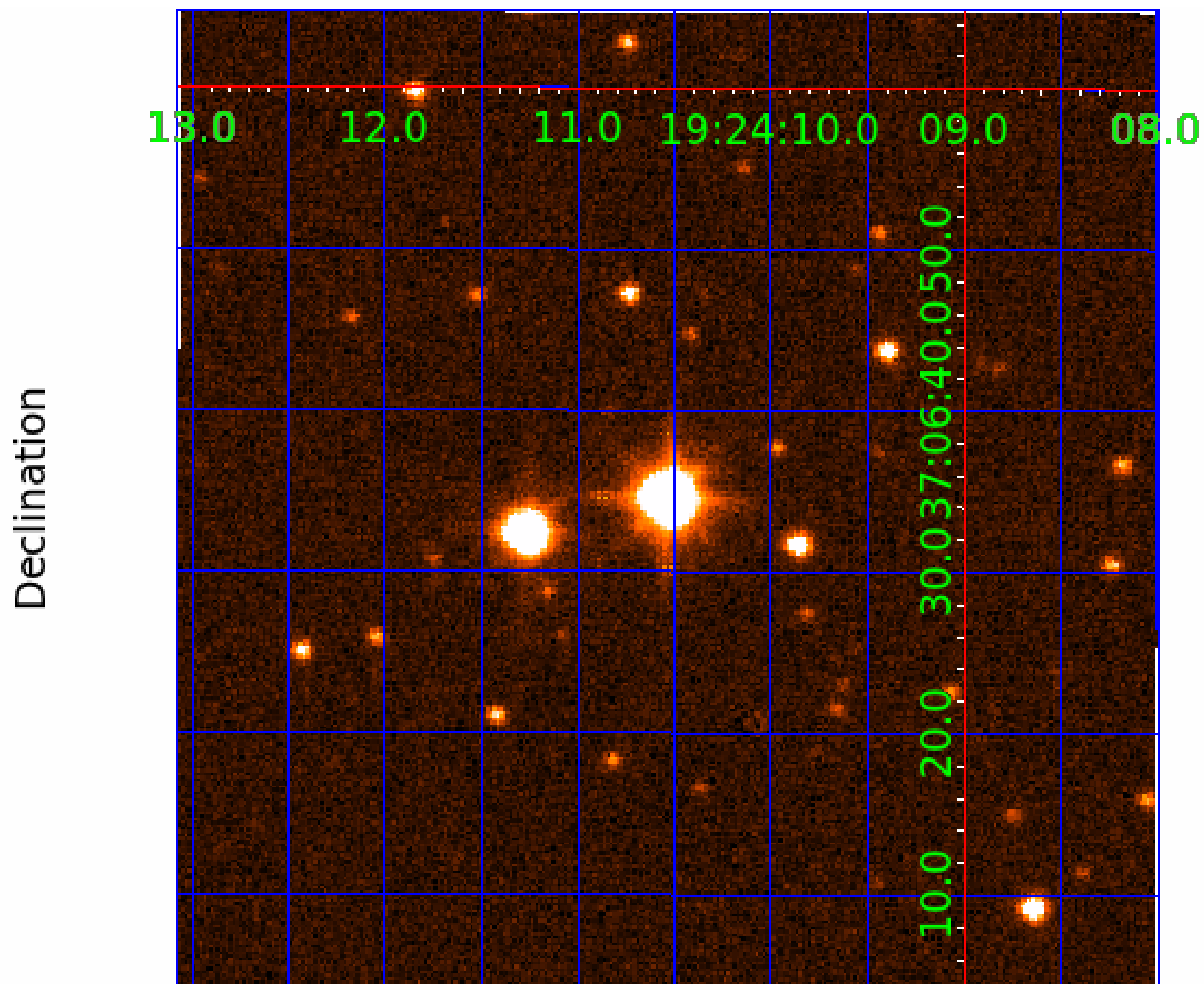
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UKIRT Image



# KIC 001571717

## Q1-17 DR25 TCE Parameters

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001571717-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED— HALO_GHOST
001571717-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
001571717-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
001571717-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
001571717-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED

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

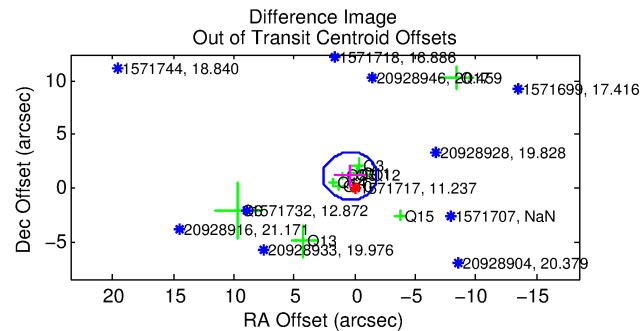
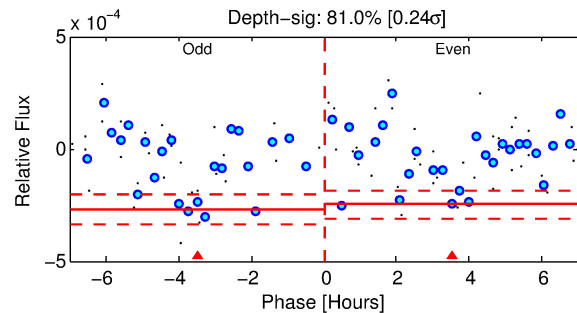
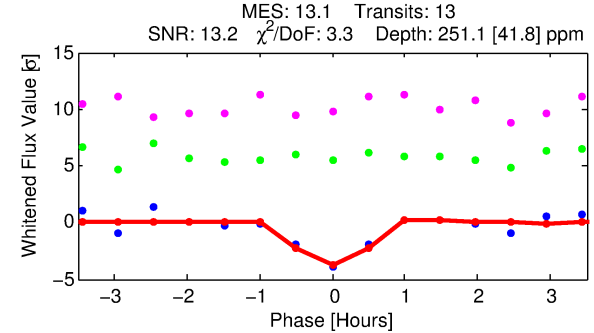
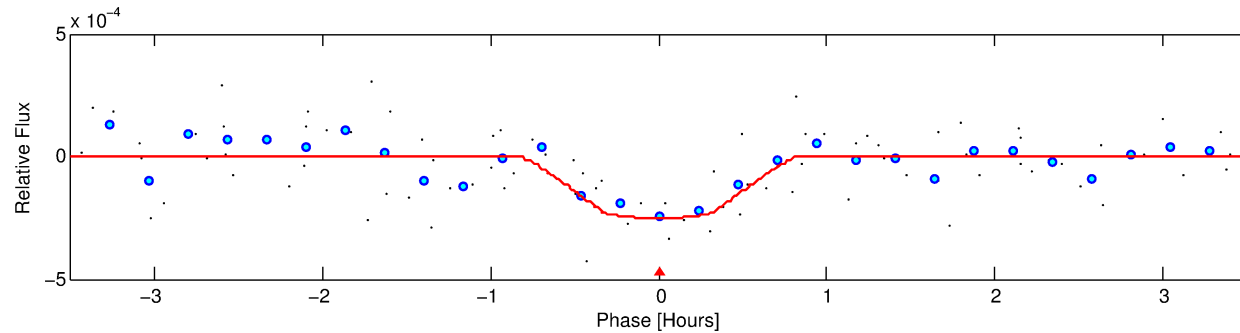
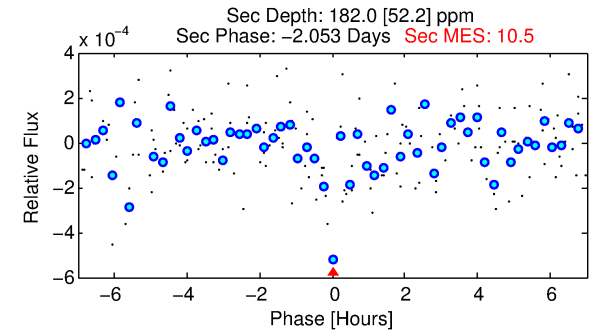
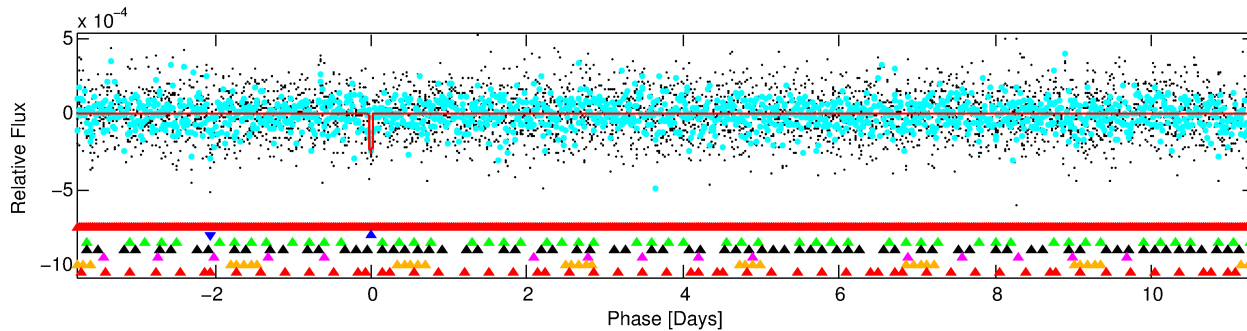
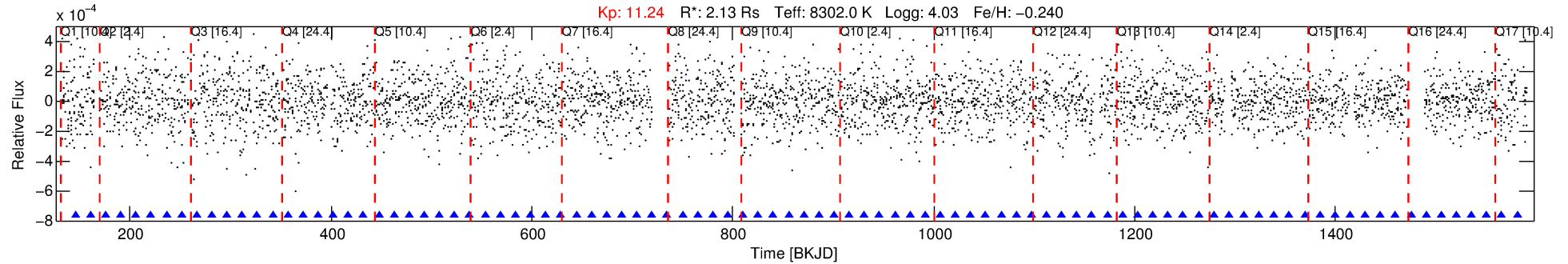
Ephemeris Match Information For 001571717-02

No Significant Match Found



# DV One-Page Summary

KIC: 1571717 Candidate: 2 of 7 Period: 15.107 d



## DV Fit Results:

Period = 15.10741 [0.00011] d  
Epoch = 145.5851 [0.0068] BKJD  
Rp/R\* = 0.0148 [0.0211]  
a/R\* = 98.39 [813.44]  
b = 0.19 [42.21]  
Seff = 916.58 [346.63]  
Teq = 1403 [133] K  
Rp = 3.45 [5.00] Re  
a = 0.1454 [0.0324] AU  
Ag = 178.20 [514.75] [0.34σ]  
Teffp = 7926 [5694] K [1.15σ]

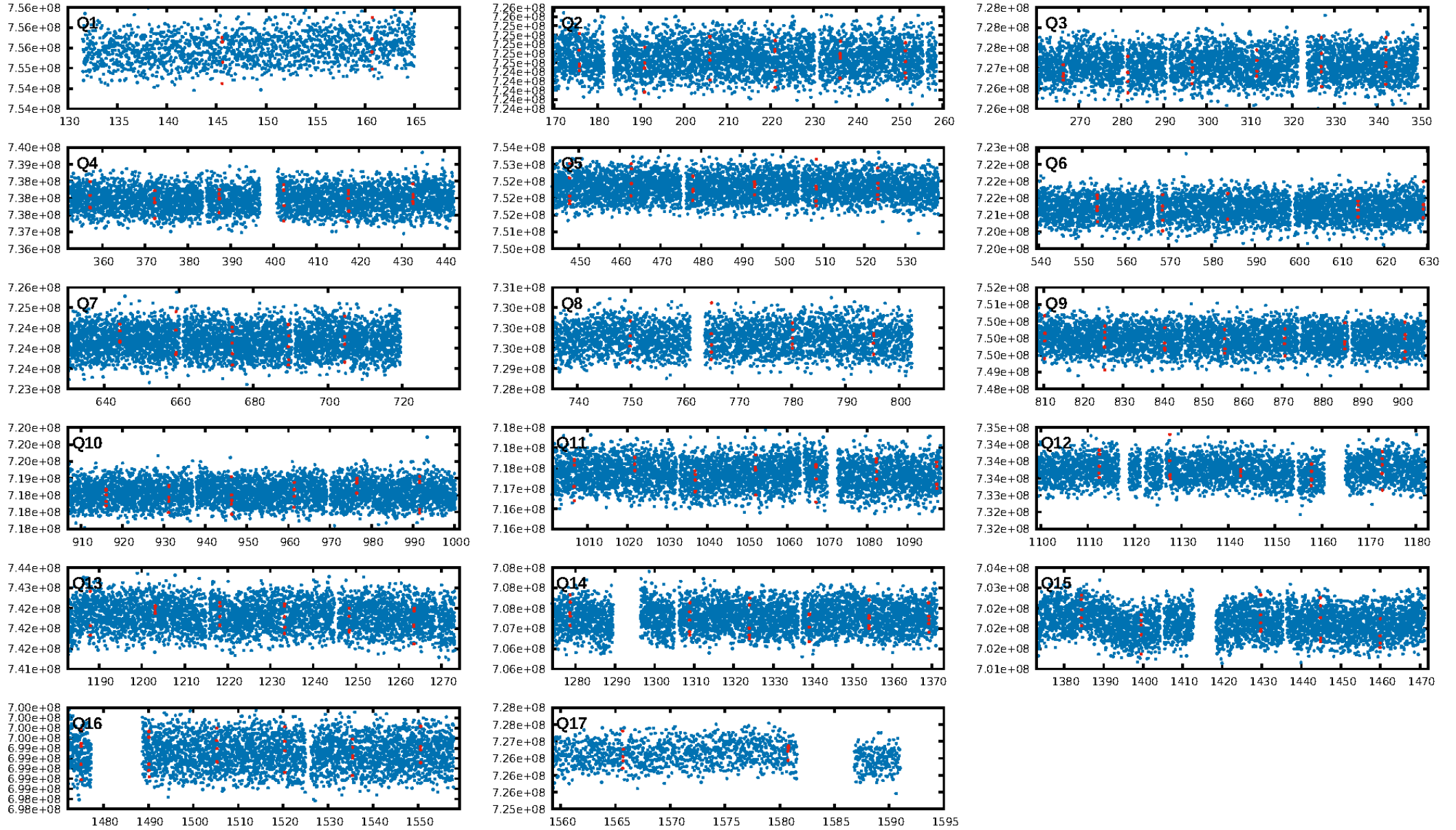
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [45.05σ]  
LongPeriod-sig: 100.0% [48.36σ]  
ModelChiSquare2-sig: 0.1%  
ModelChiSquareGof-sig: 36.0%  
Bootstrap-pfa: 1.16e-12  
RollingBand-fgt: 1.00 [12/12]  
GhostDiagnostic-chr: -0.1757  
Centroid-sig: 9.1%  
Centroid-so: 1.189 arcsec [3.65σ]  
OotOffset-rm: 1.201 arcsec [1.62σ]  
KicOffset-rm: 1.320 arcsec [1.87σ]  
OotOffset-st: 4/3/1/3 [11]  
KicOffset-st: 4/3/1/3 [11]  
DiffImageQuality-fgm: 0.55 [6/11]  
DiffImageOverlap-fno: 0.94 [16/17]

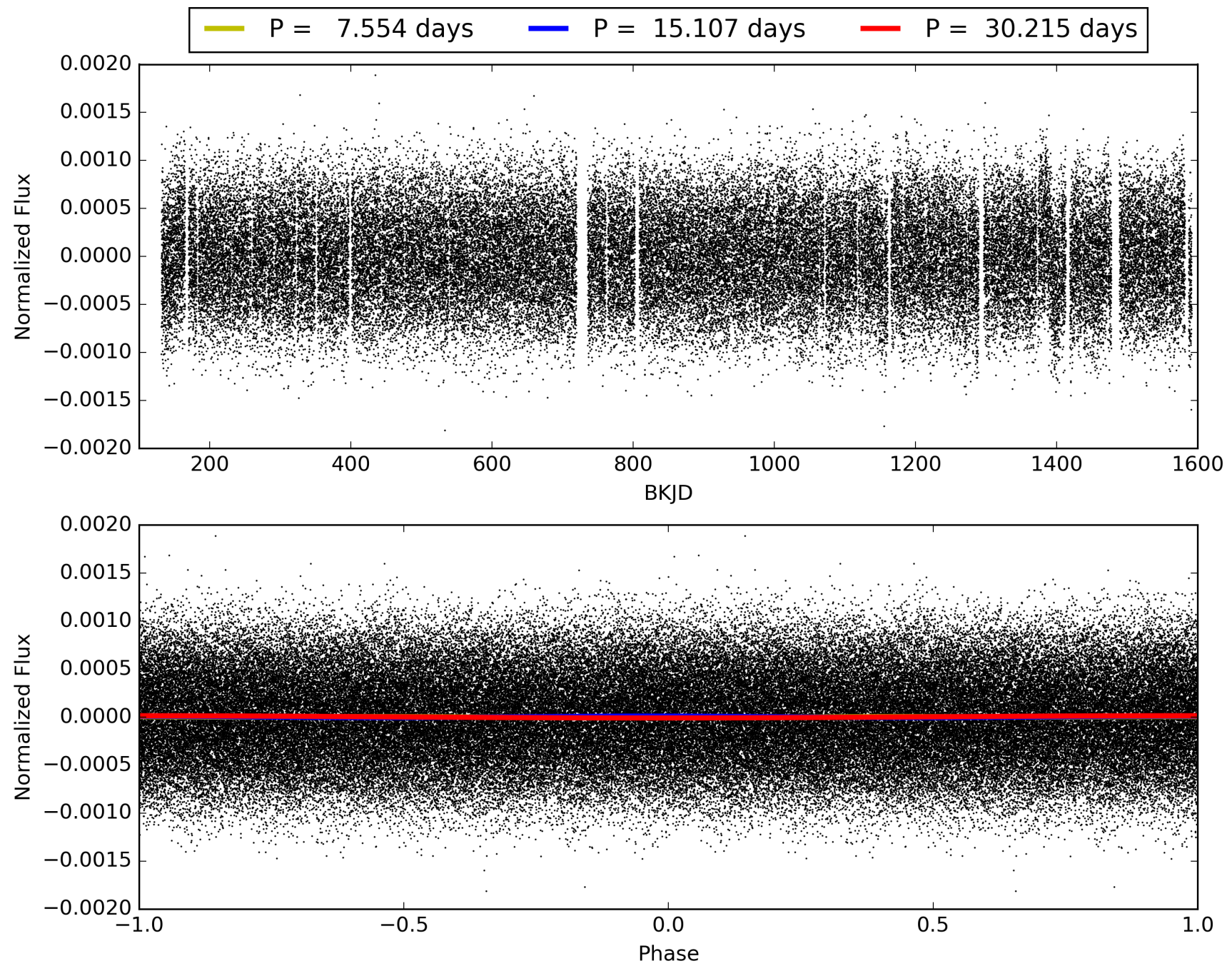
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:57:32 Z

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

# TCE 001571717-02, PDC Light Curves

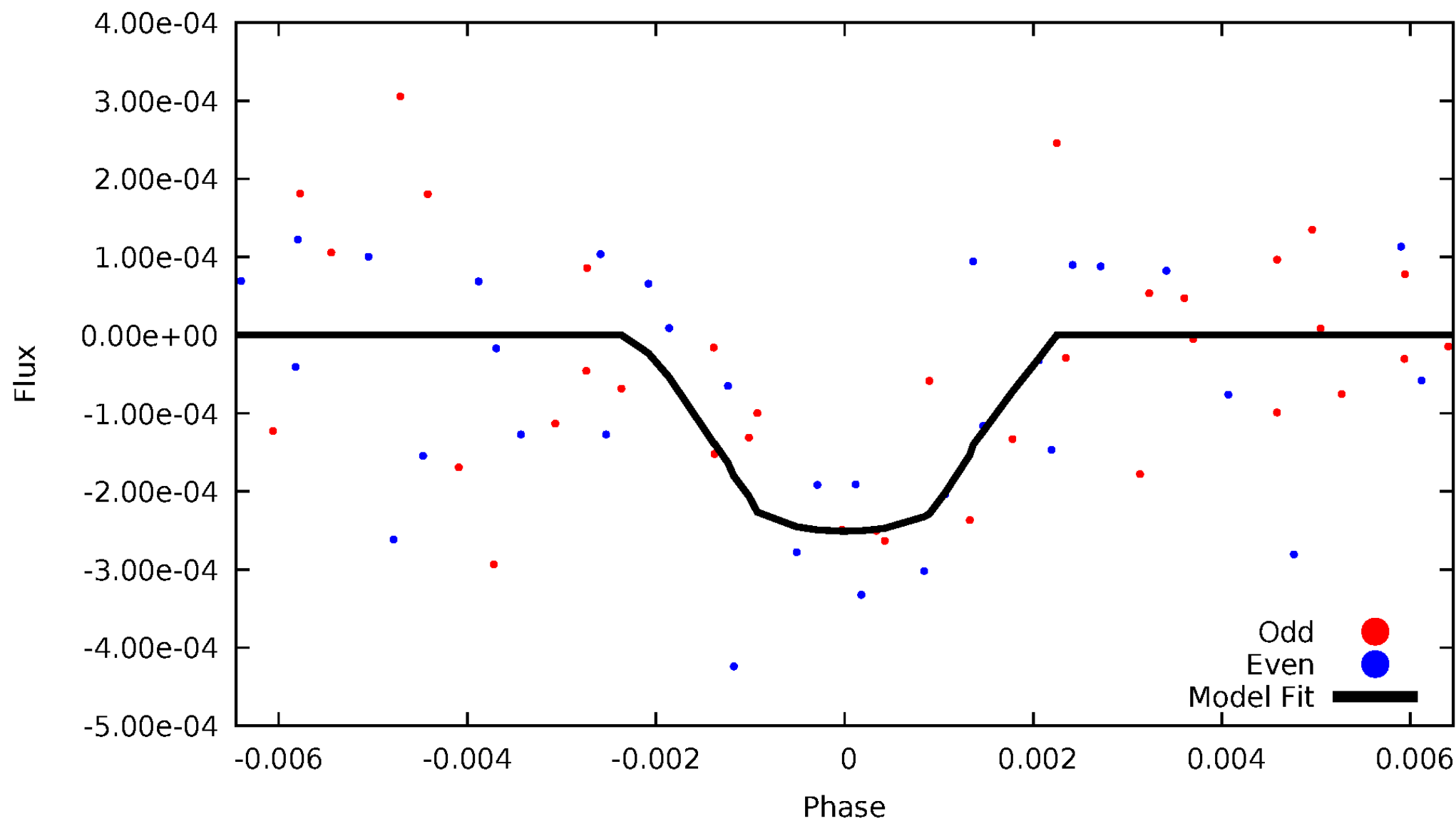


TCE 001571717-02



# DV Odd/Even

TCE 001571717-02





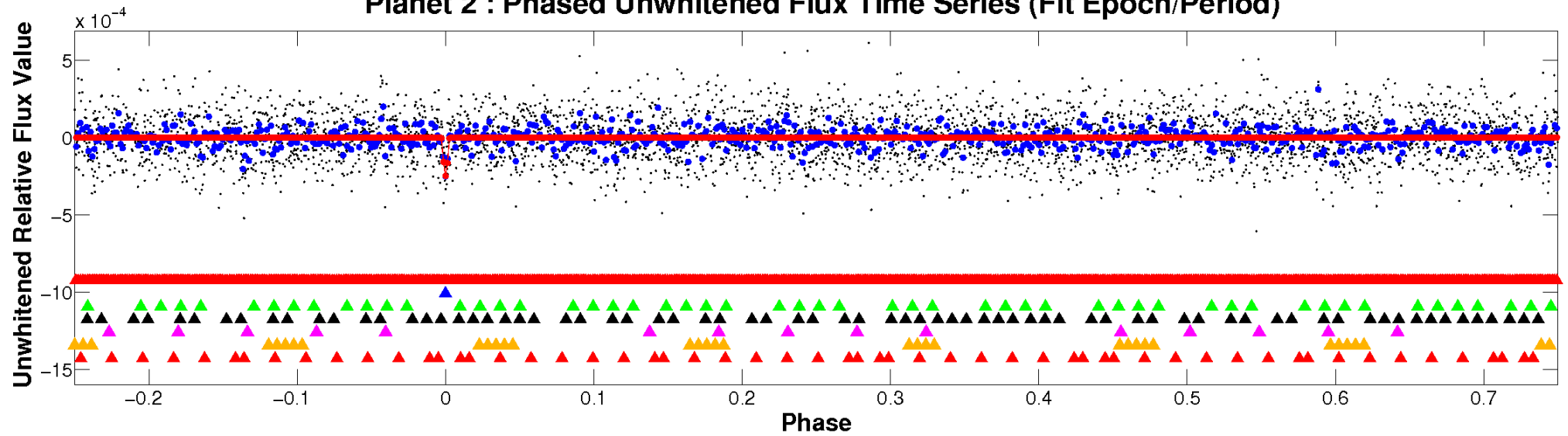


ALT Odd/Even

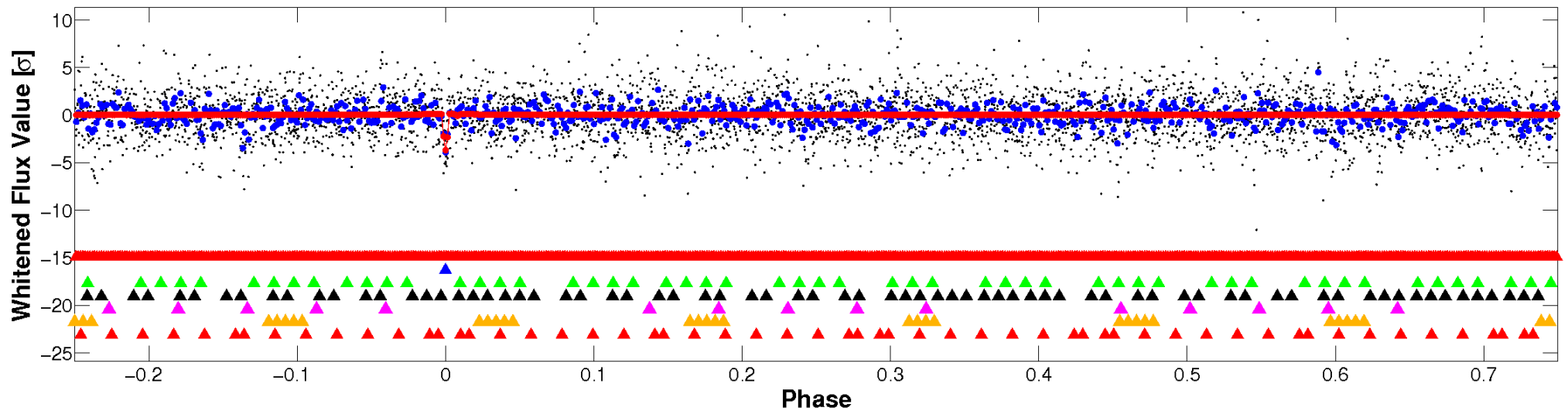
This plot does not exist for this TCE.

# Non-Whitened Vs. Whitened Light Curve

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

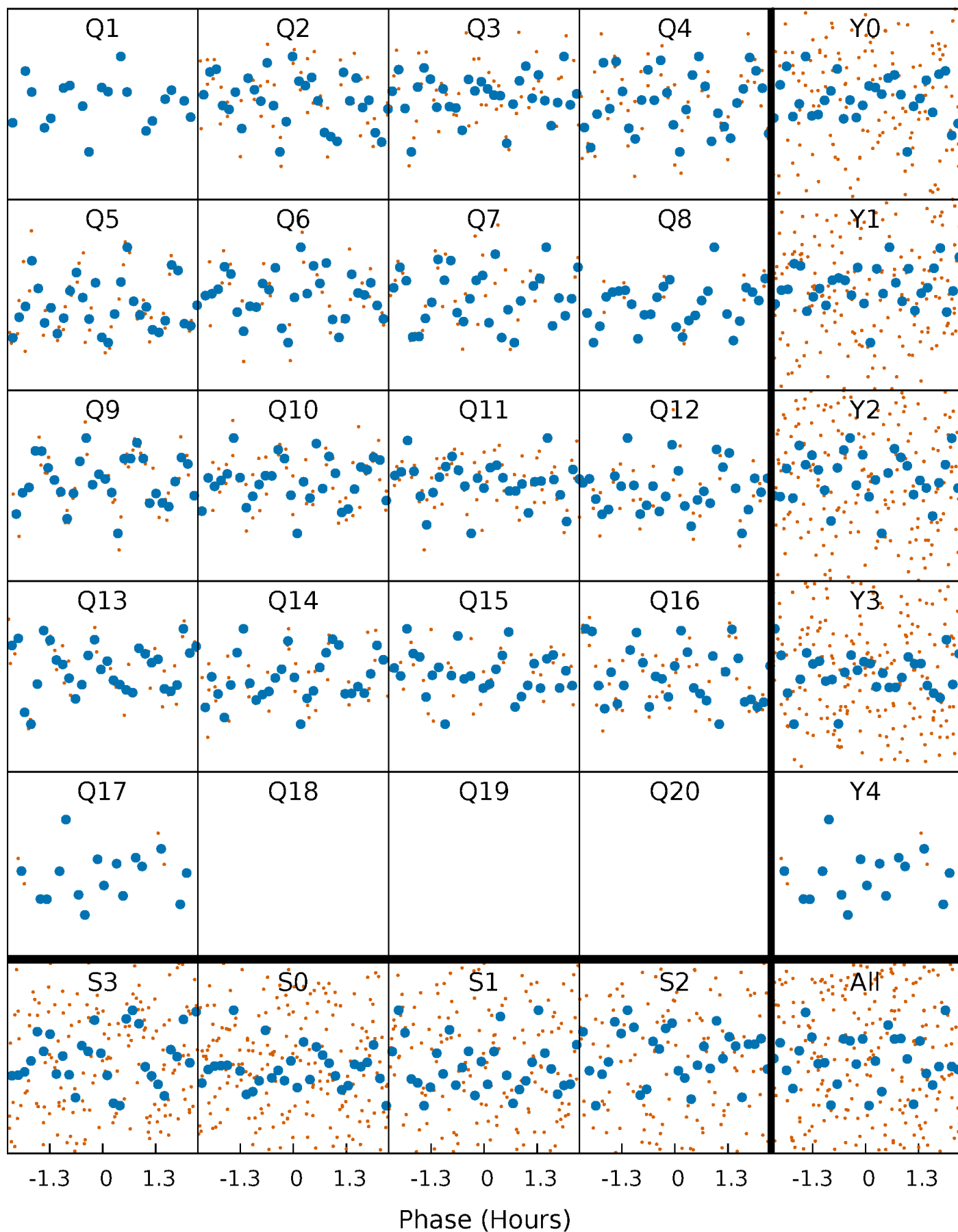


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



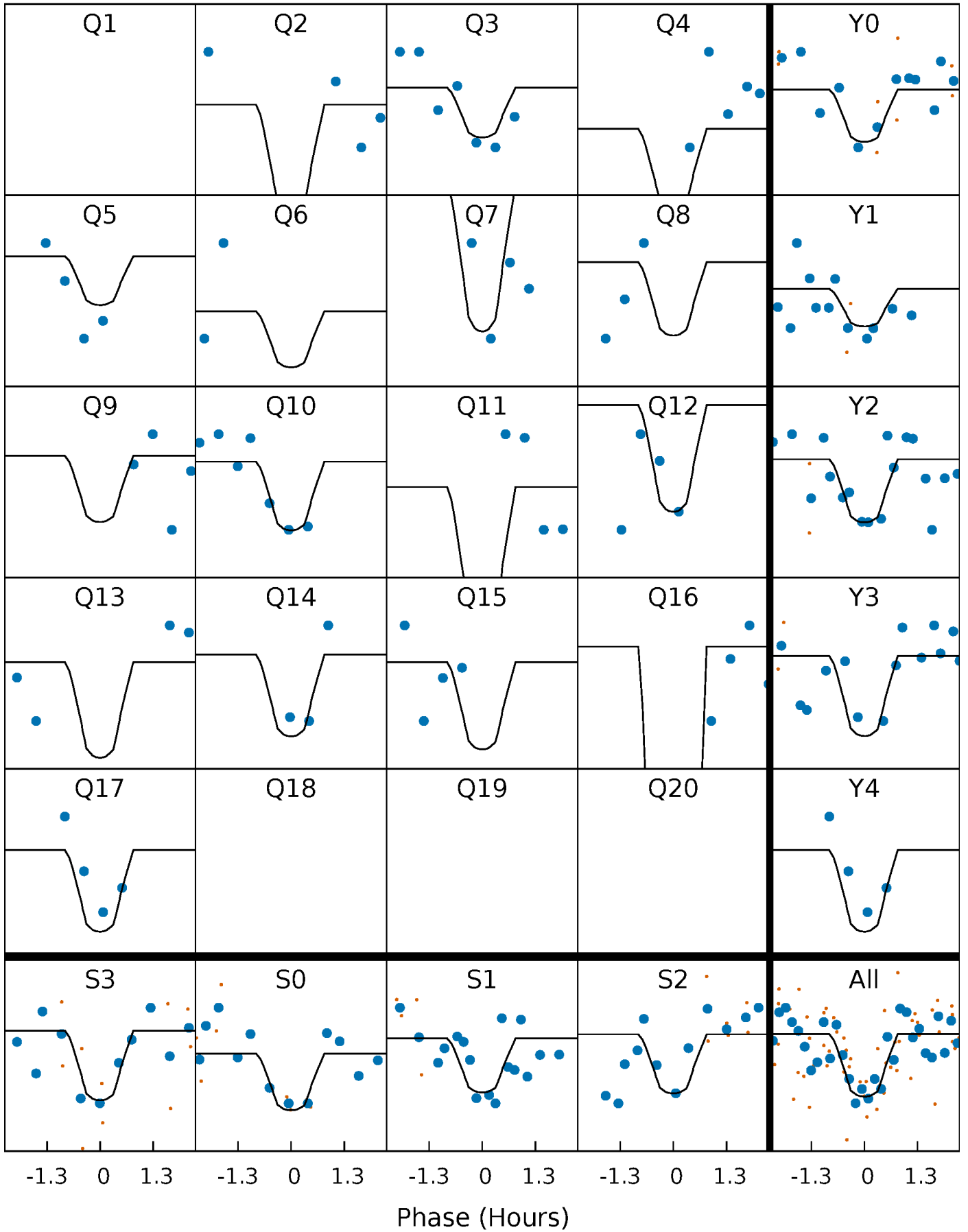
# PDC Quarter-Phased Transit Curves

TCE 001571717-02 P= 15.107407 Days  $T_0=145.585070$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 001571717-02 P= 15.107407 Days  $T_0=145.585070$  (BKJD)



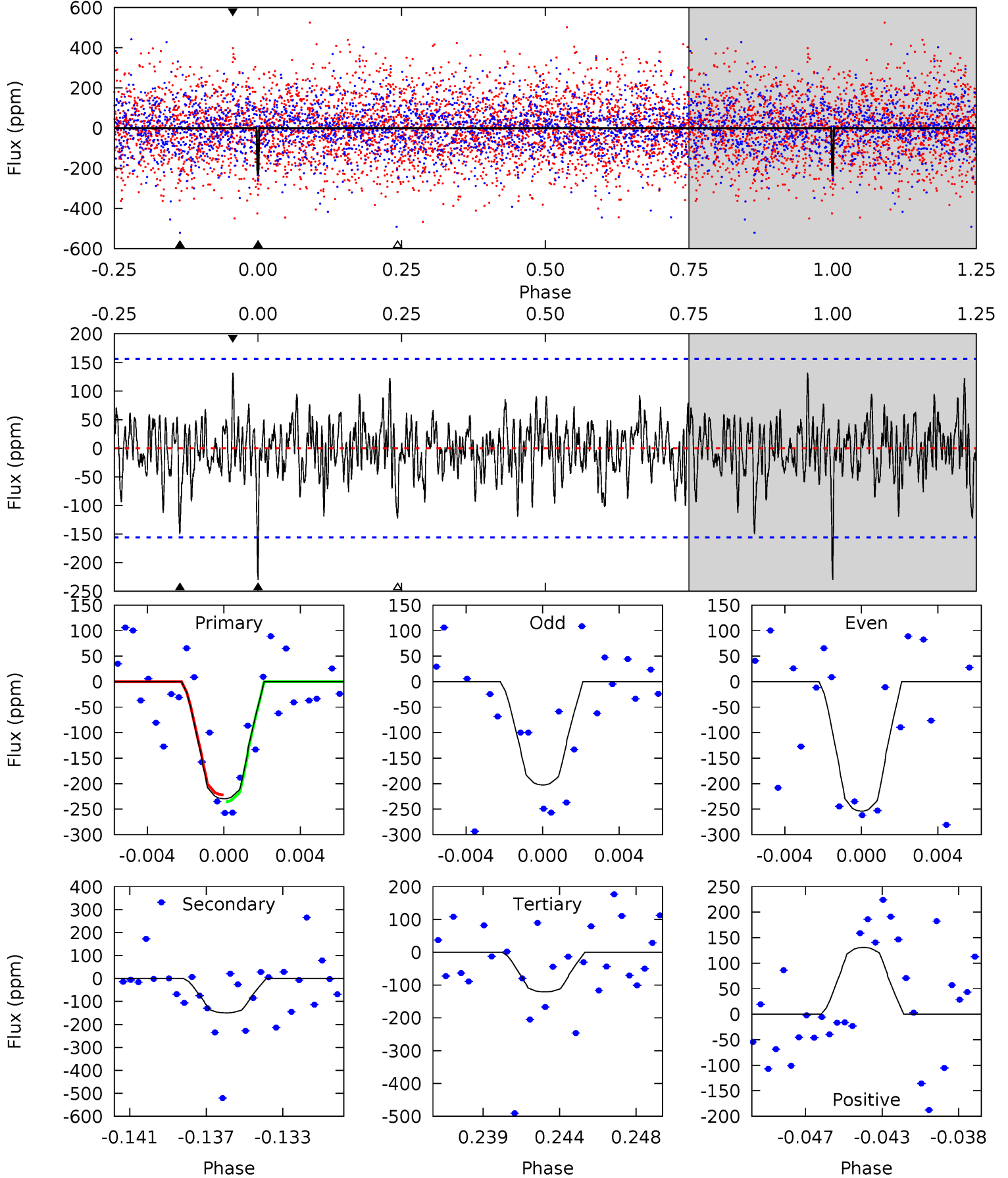


This plot does not exist for this TCE.

# DV Model-Shift Uniqueness Test

001571717-02,  $P = 15.107407$  Days,  $E = 130.477663$  Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.63	4.98	4.01	4.35	5.19	2.86	1.29	3.62	3.29	0.96	0.63	0.85	1.20	0.36	0.22



## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 001571717

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8302^{+232}_{-348}$	$4.034^{+0.192}_{-0.128}$	$-0.240^{+0.250}_{-0.300}$	$2.134^{+0.439}_{-0.536}$	$1.796^{+0.136}_{-0.294}$	$0.260^{+0.282}_{-0.101}$
	+3%/-4%	+5%/-3%	+104%/-125%	+21%/-25%	+8%/-16%	+108%/-39%
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 001571717-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-150 \pm 30$	$4.58^{+4.59}_{-3.03}$	$1944^{+124}_{-139}$	$6178^{+5863}_{-1604}$	$80^{+602}_{-60}$
Alt.	N/A	N/A	N/A	N/A	N/A

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature

$T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{\text{obs}}$  = 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

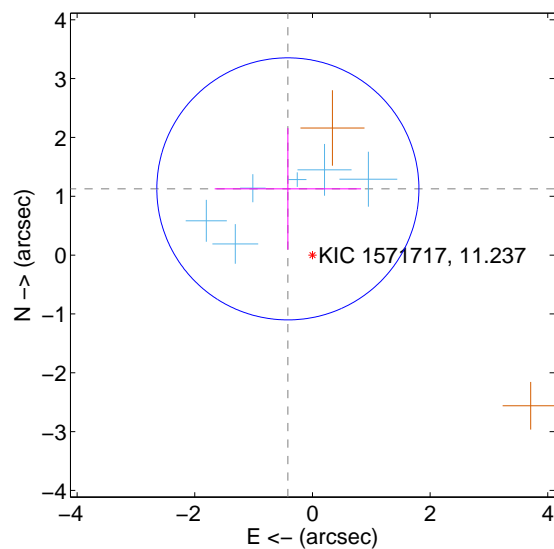
Supplemental centroid analysis for 001571717-02. **Kepler magnitude: 11.24.** Transit SNR 13.25

There are 6 quarters with good PRF difference image offsets

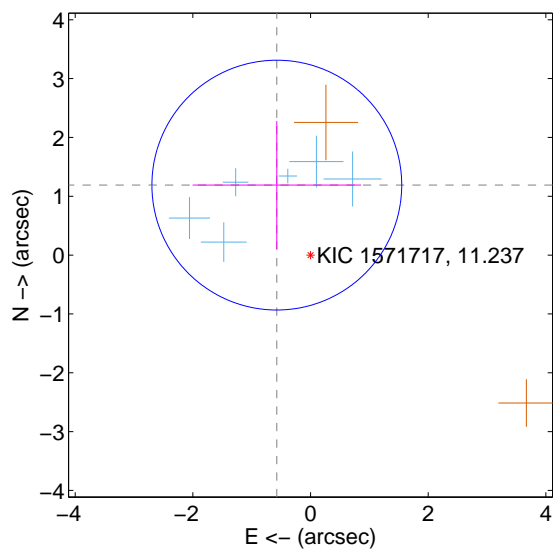
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.201 \pm 0.742$	1.62	$0.418 \pm 1.243$	$1.126 \pm 1.033$
PRF-fit source offset from KIC position	$1.320 \pm 0.708$	1.87	$0.573 \pm 1.432$	$1.190 \pm 1.089$
photometric centroid source offset	<b><math>1.19 \pm 0.33</math></b>	<b>3.65</b>	$1.15 \pm 0.33$	$0.31 \pm 0.33$

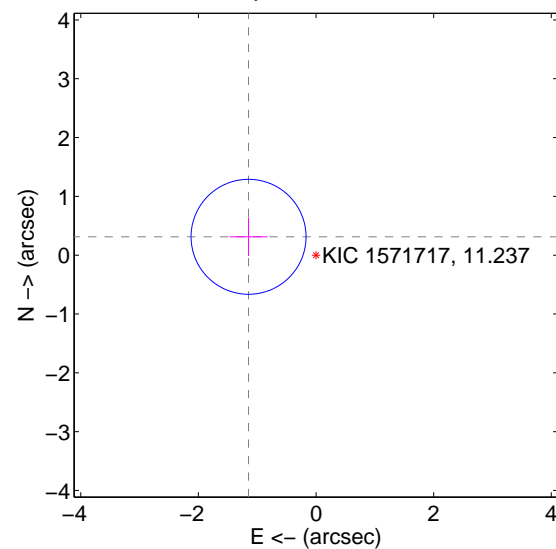
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

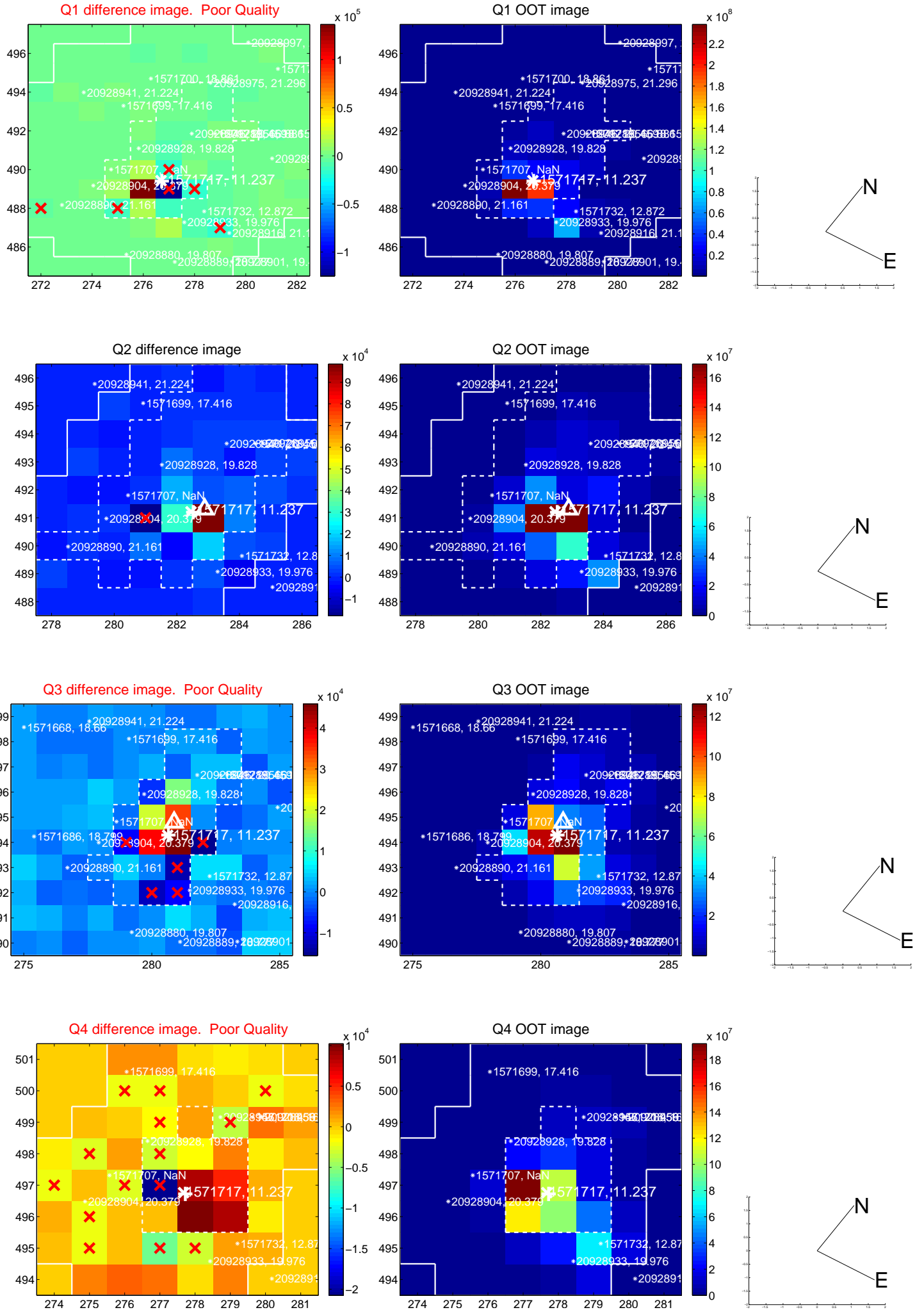


offset from photometric centroids

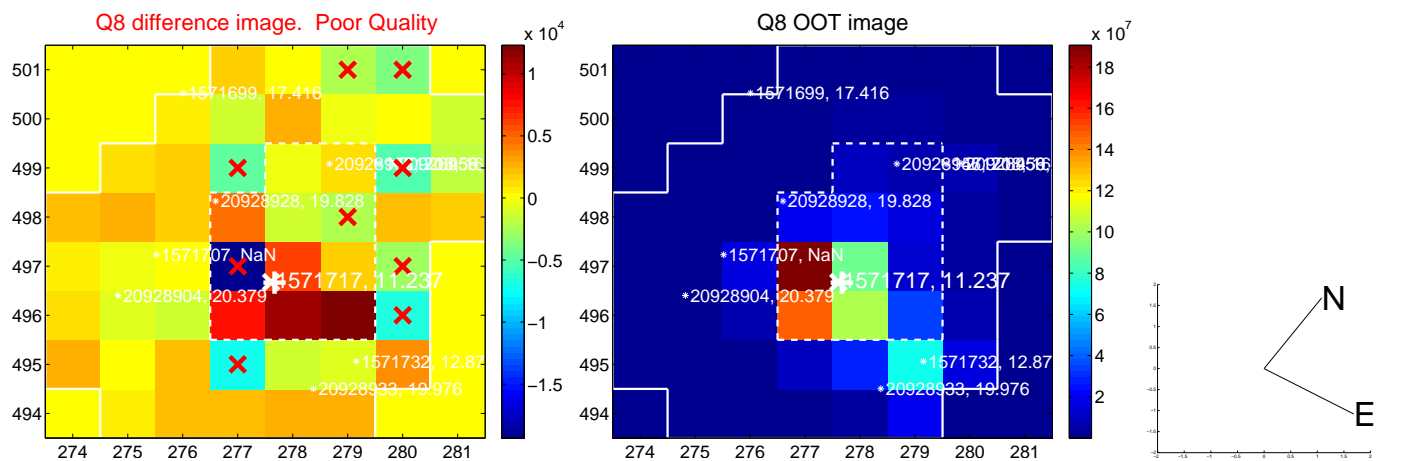
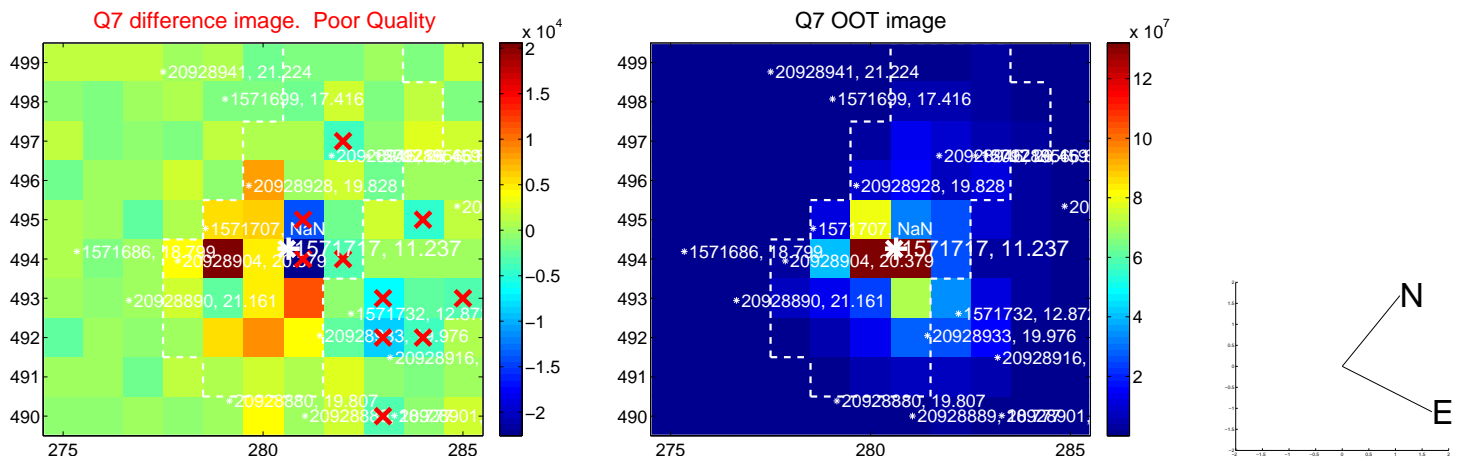
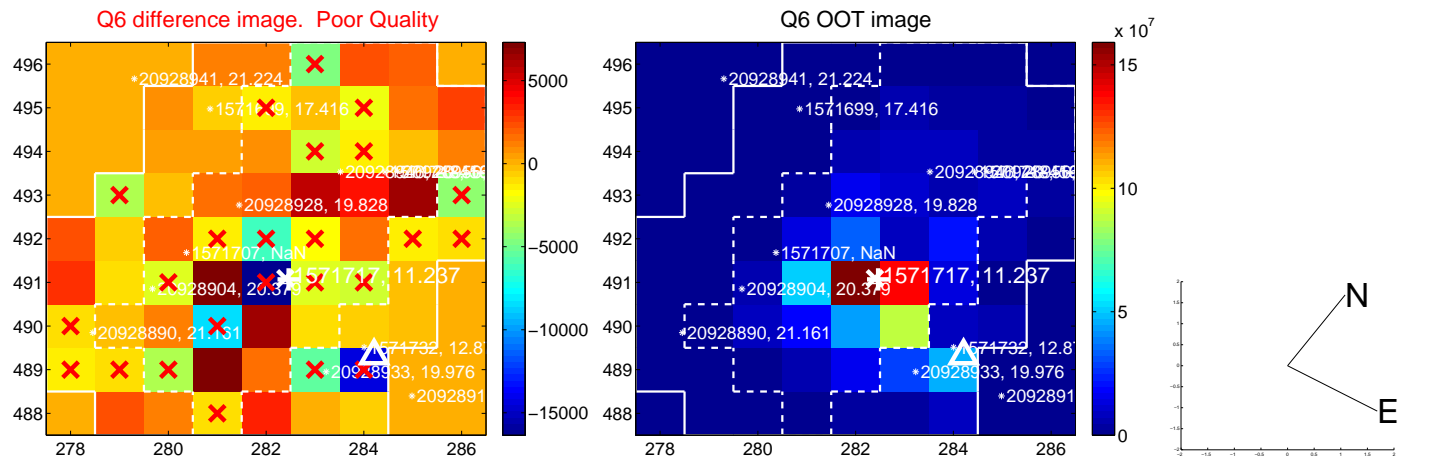
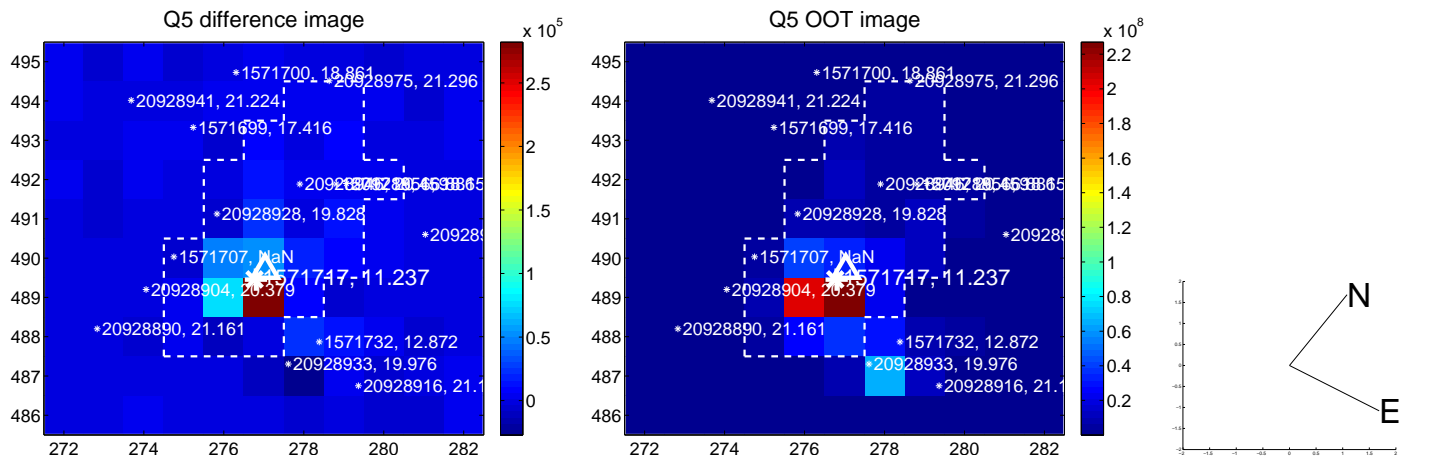


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

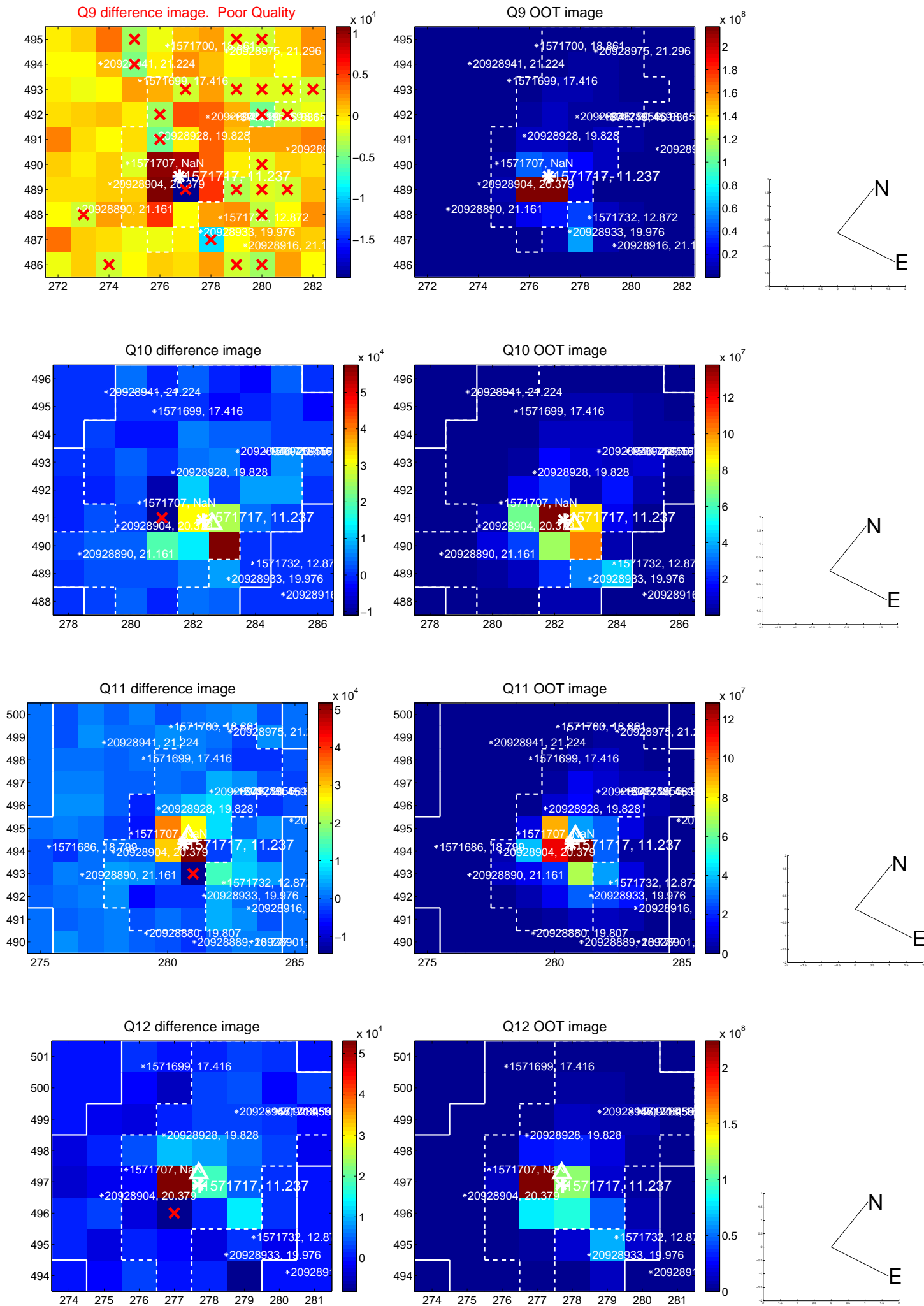
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



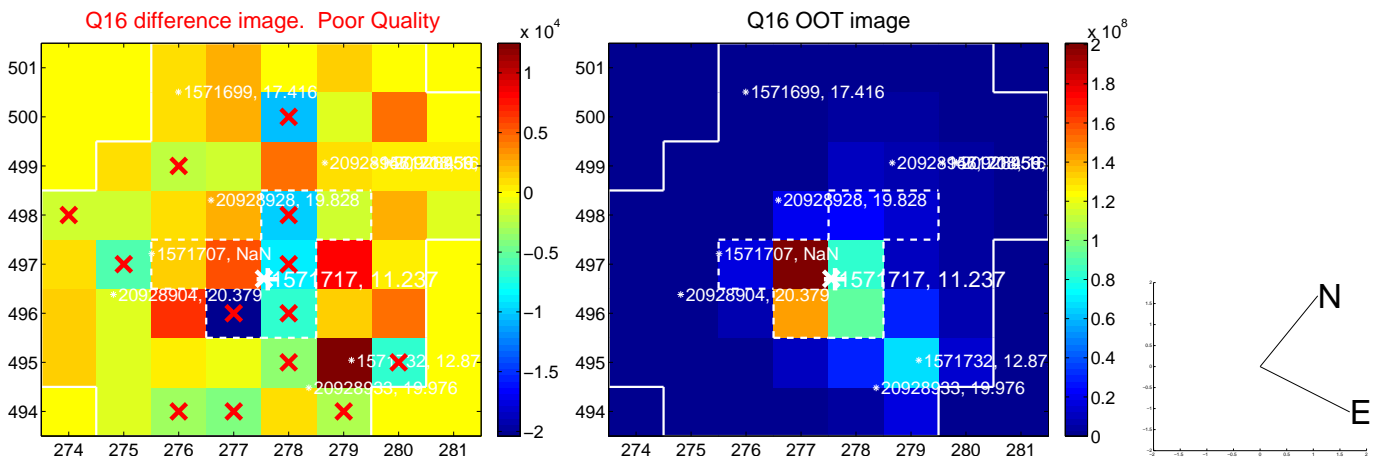
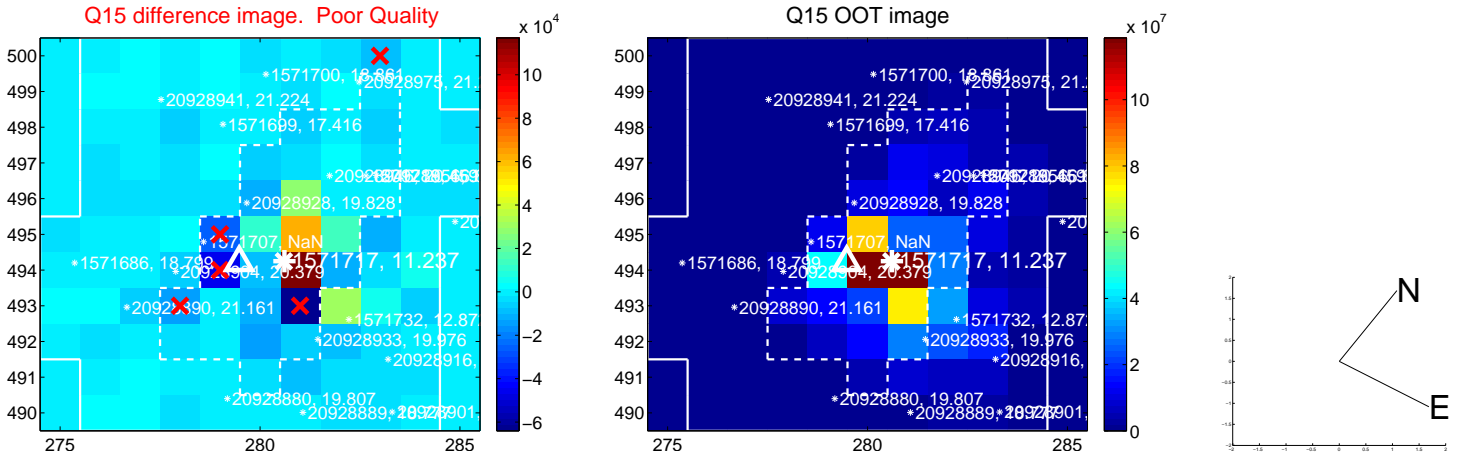
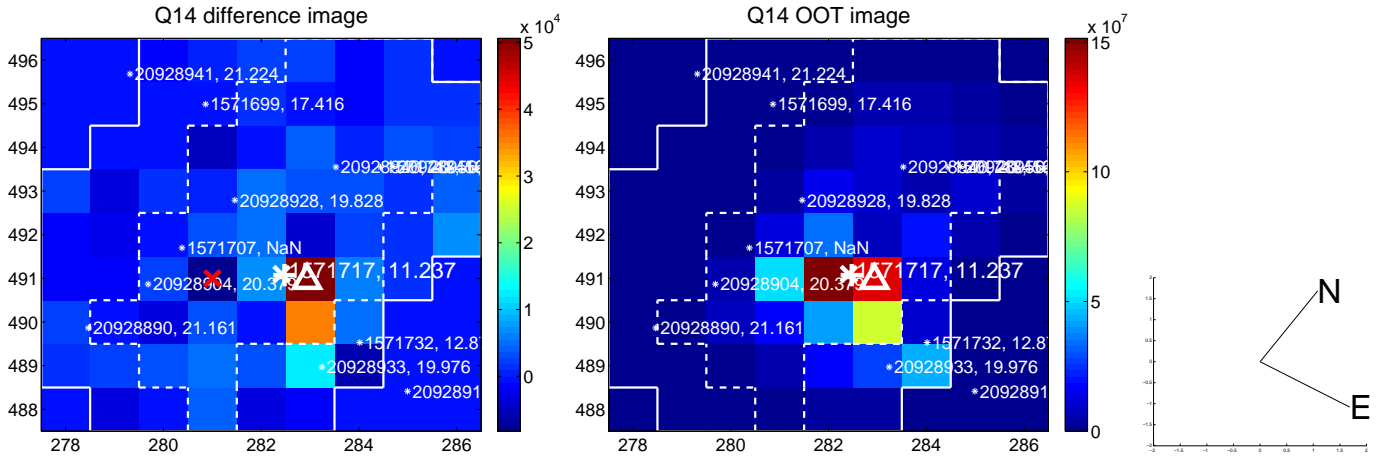
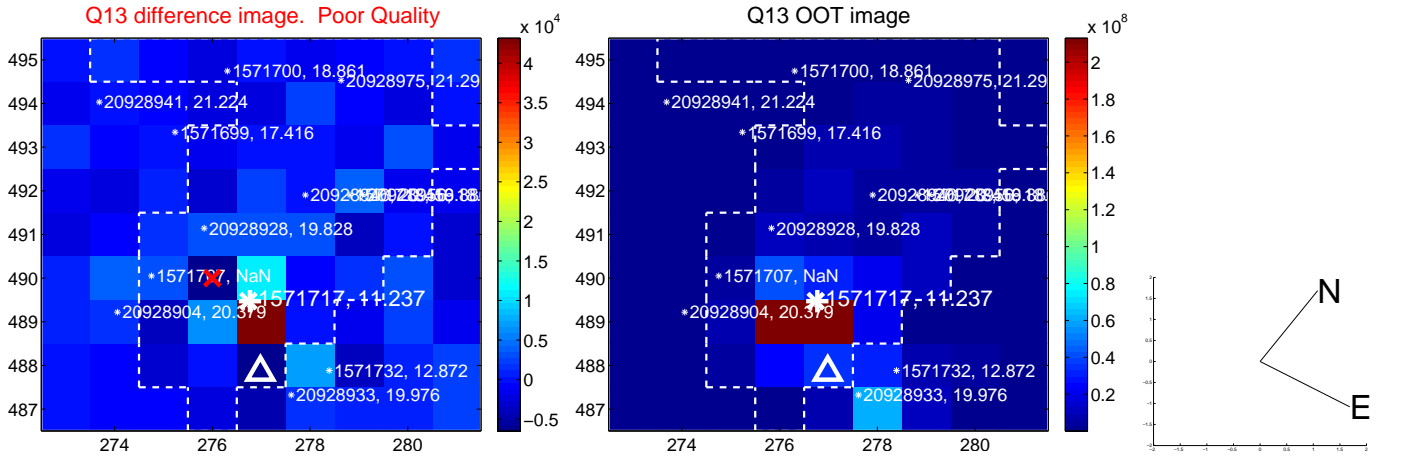
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



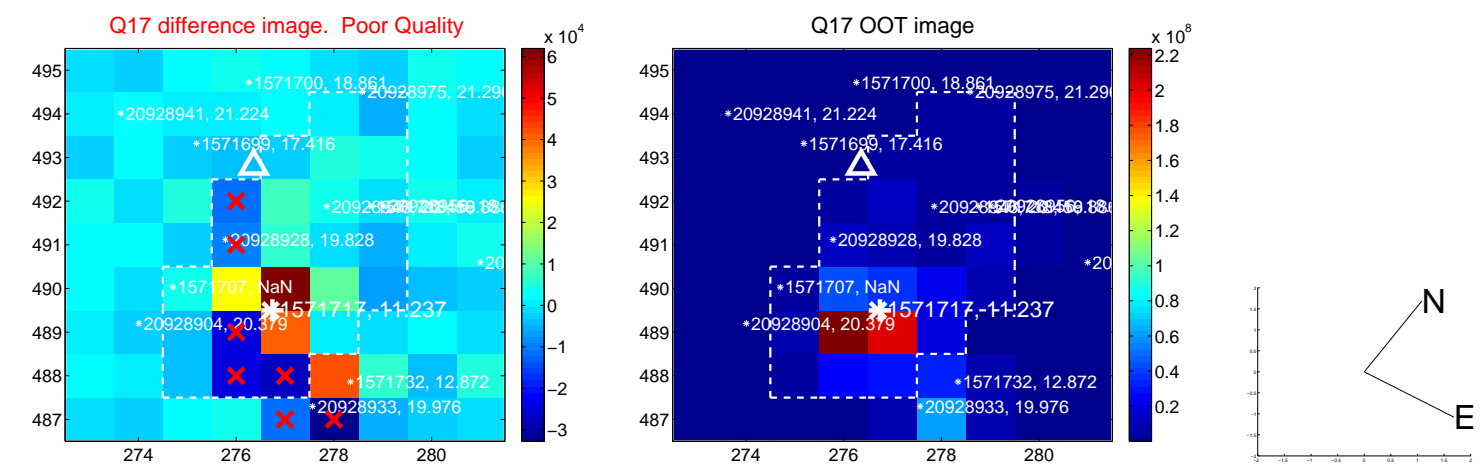
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



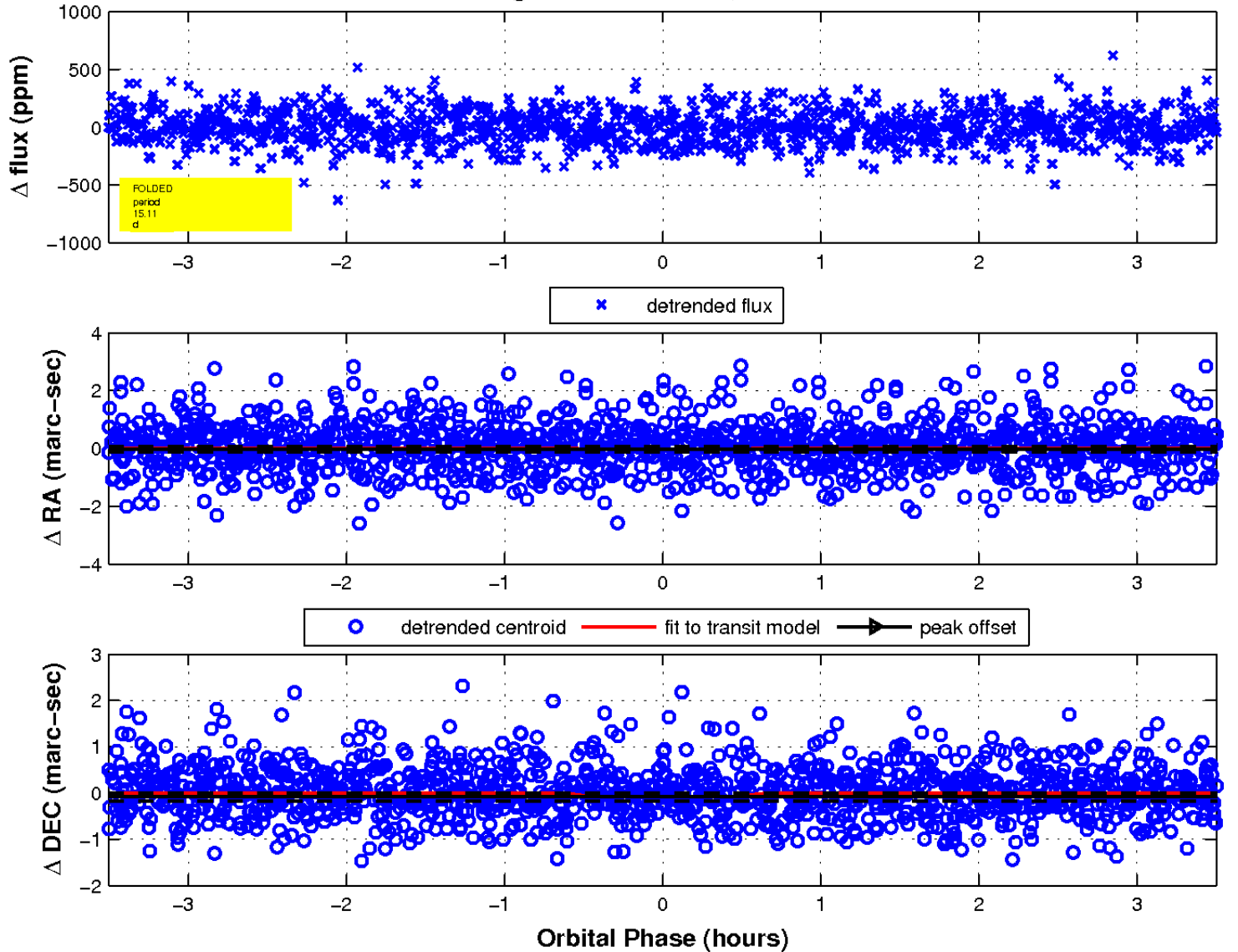
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

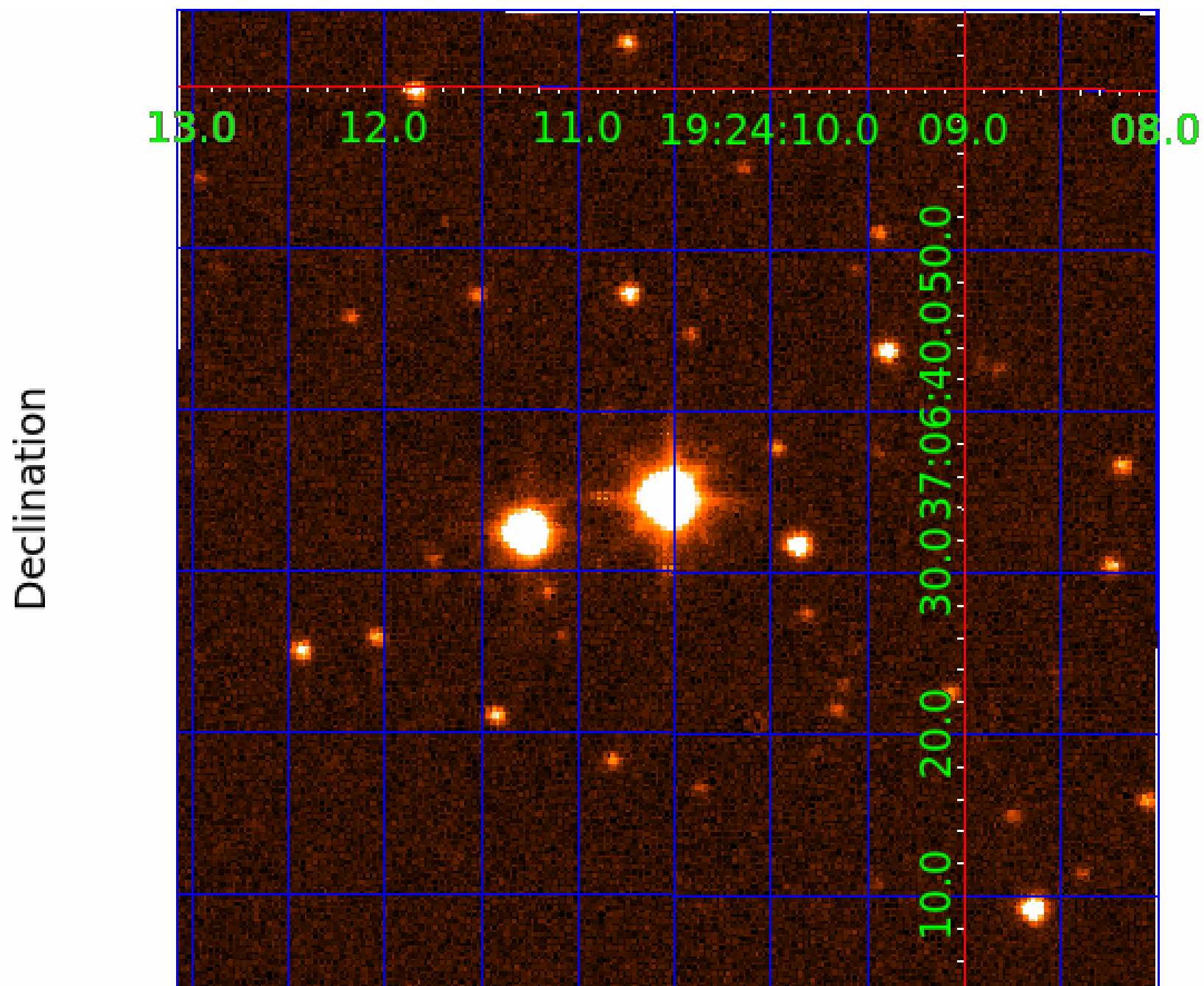


fluxWeightedCentroids, Planet 2 of 7





UKIRT Image



# KIC 001571717

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
001571717-01	OBS	No	1.019803	132.338418	10.3	7.413	9.9	6.3	2.13	8302	0.70	33347.74
001571717-02	OBS	No	15.107407	145.585070	251.1	1.169	13.1	13.2	2.13	8302	3.45	916.58
001571717-03	OBS	No	26.962963	147.496581	311.1	1.565	13.3	11.8	2.13	8302	4.37	423.38
001571717-04	OBS	No	19.985456	136.438743	180.3	2.119	10.7	11.4	2.13	8302	3.07	631.15
001571717-05	OBS	No	100.950826	142.158723	136.4	0.752	11.0	4.0	2.13	8302	2.94	72.82
001571717-06	OBS	No	43.176197	148.076164	148.6	4.221	10.3	10.0	2.13	8302	3.01	225.99
001571717-07	OBS	No	25.943432	134.675594	279.1	1.345	10.6	10.1	2.13	8302	3.96	445.71

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001571717-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED
001571717-02	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED—HALO_GHOST
001571717-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED—HALO_GHOST
001571717-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
001571717-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
001571717-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
001571717-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED

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

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

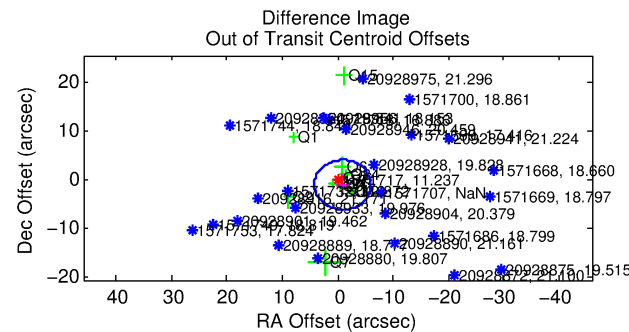
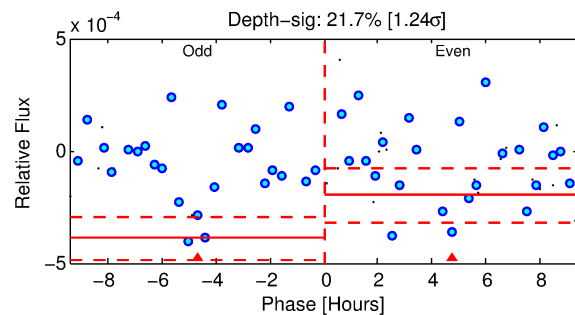
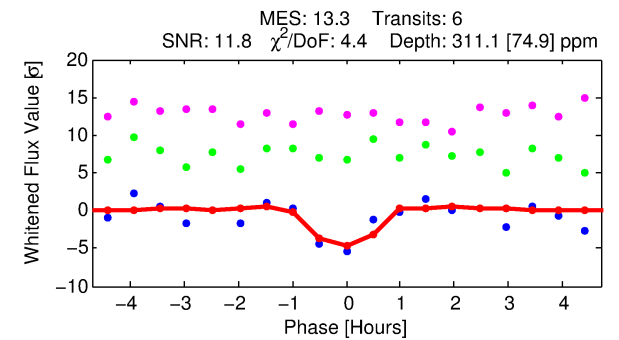
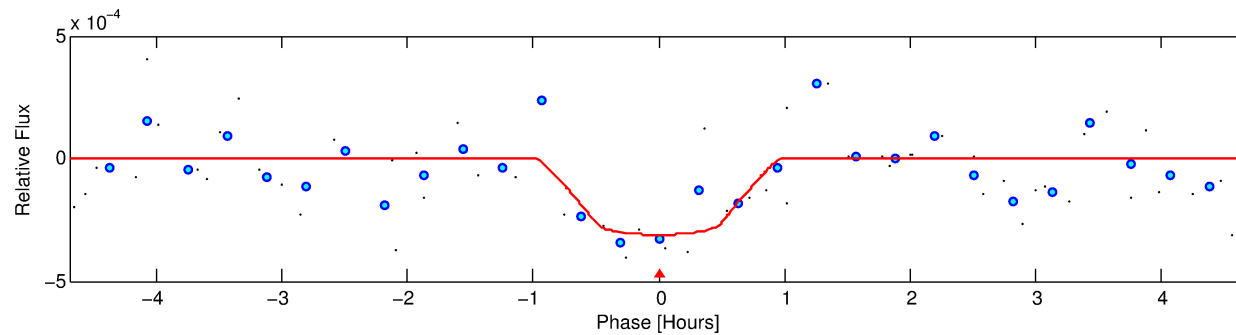
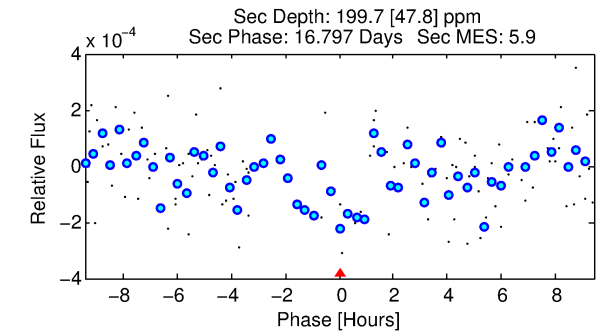
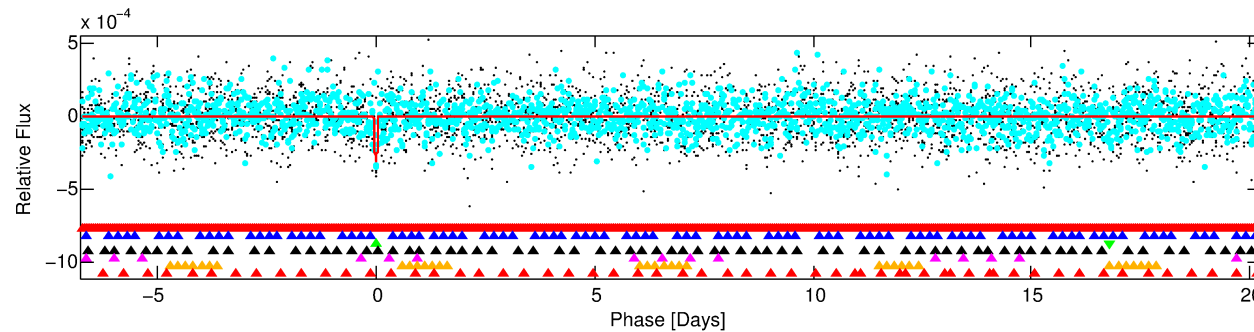
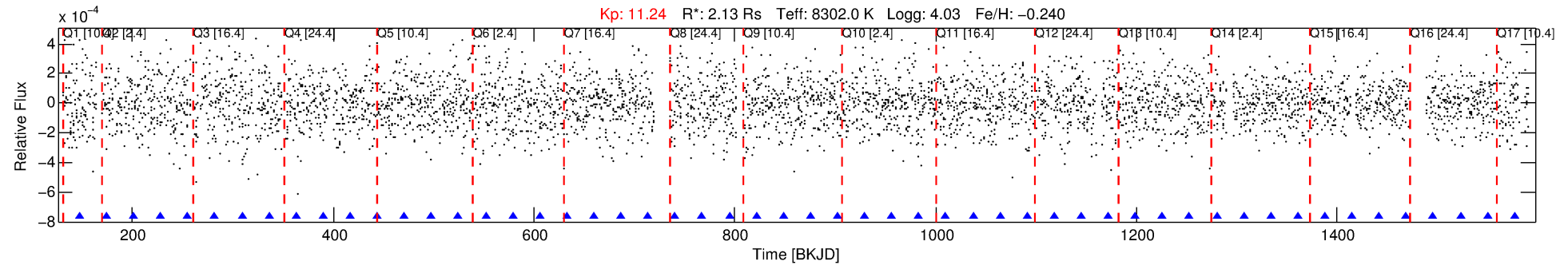
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 001571717-03

No Significant Match Found

# DV One-Page Summary

KIC: 1571717 Candidate: 3 of 7 Period: 26.963 d



## DV Fit Results:

Period = 26.96296 [0.00042] d  
Epoch = 147.4966 [0.0097] BKJD  
Rp/R\* = 0.0188 [0.0202]  
a/R\* = 64.35 [413.59]  
b = 0.89 [1.49]  
Seff = 423.38 [160.11]  
Teq = 1157 [109] K  
Rp = 4.37 [4.82] Re  
a = 0.2140 [0.0477] AU  
Ag = 263.25 [576.23] [0.46 $\sigma$ ]  
Teffp = 7203 [3906] K [1.55 $\sigma$ ]

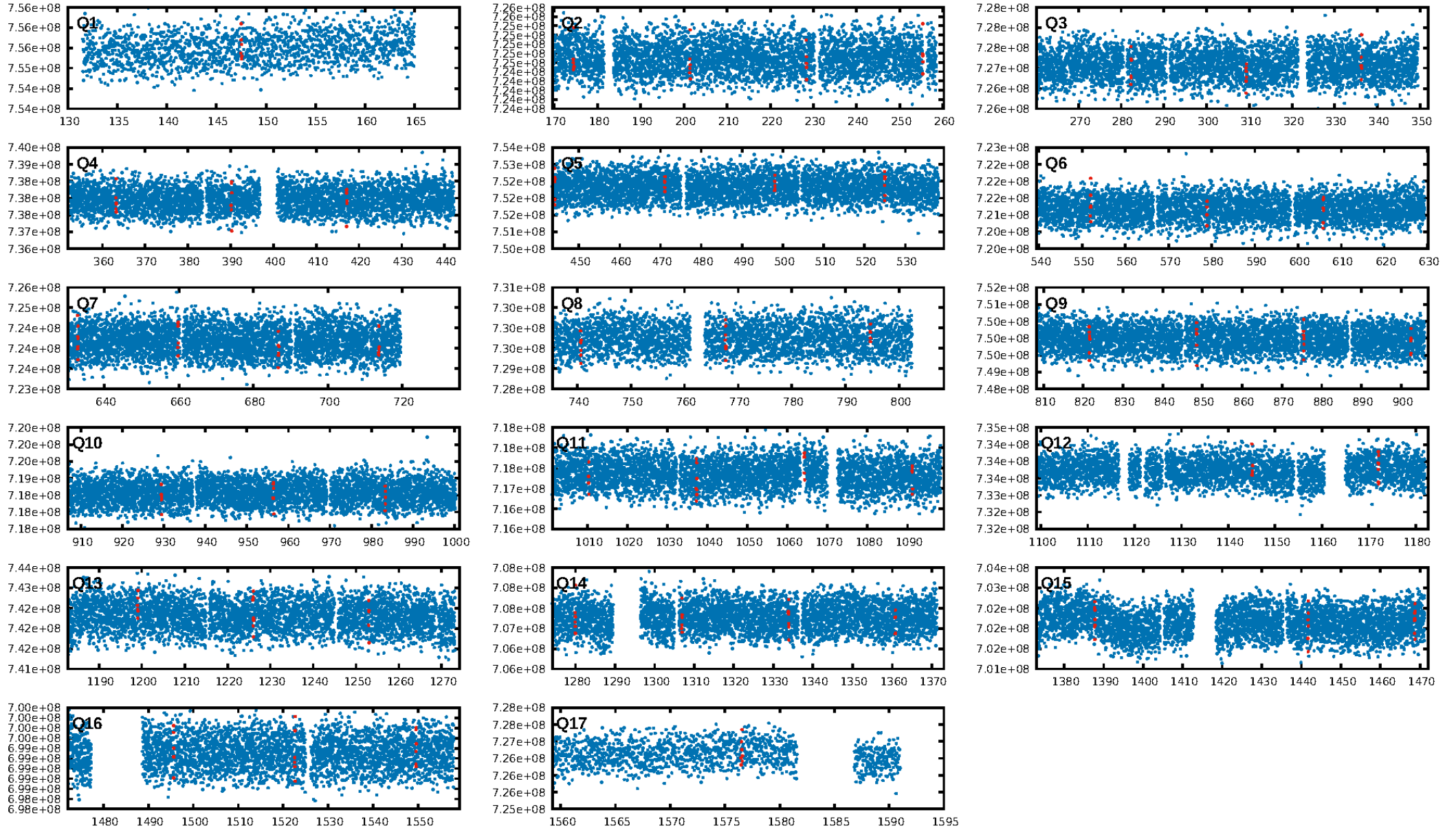
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [11.86 $\sigma$ ]  
LongPeriod-sig: 100.0% [86.44 $\sigma$ ]  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 15.2%  
Bootstrap-pfa: 7.44e-14  
RollingBand-fgt: 1.00 [6/6]  
GhostDiagnostic-chr: 0.1647  
Centroid-sig: 0.5%  
Centroid-so: 1.279 arcsec [4.11 $\sigma$ ]  
OotOffset-rm: 1.326 arcsec [0.78 $\sigma$ ]  
KicOffset-rm: 1.145 arcsec [0.67 $\sigma$ ]  
OotOffset-st: 4/4/3/3 [14]  
KicOffset-st: 4/4/3/3 [14]  
DiffImageQuality-fgm: 0.07 [1/14]  
DiffImageOverlap-fno: 0.41 [7/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:57:35 Z

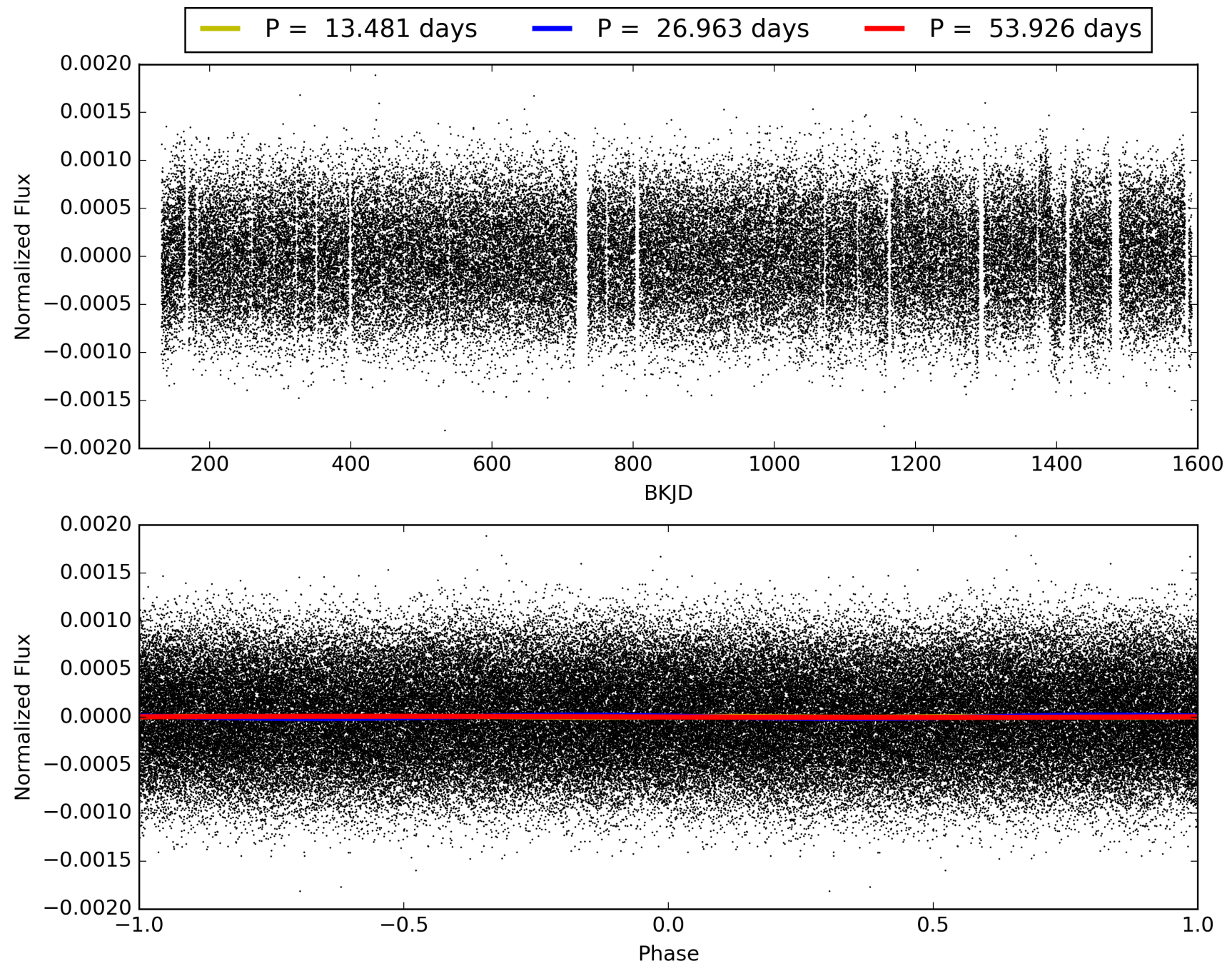
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 001571717-03, PDC Light Curves



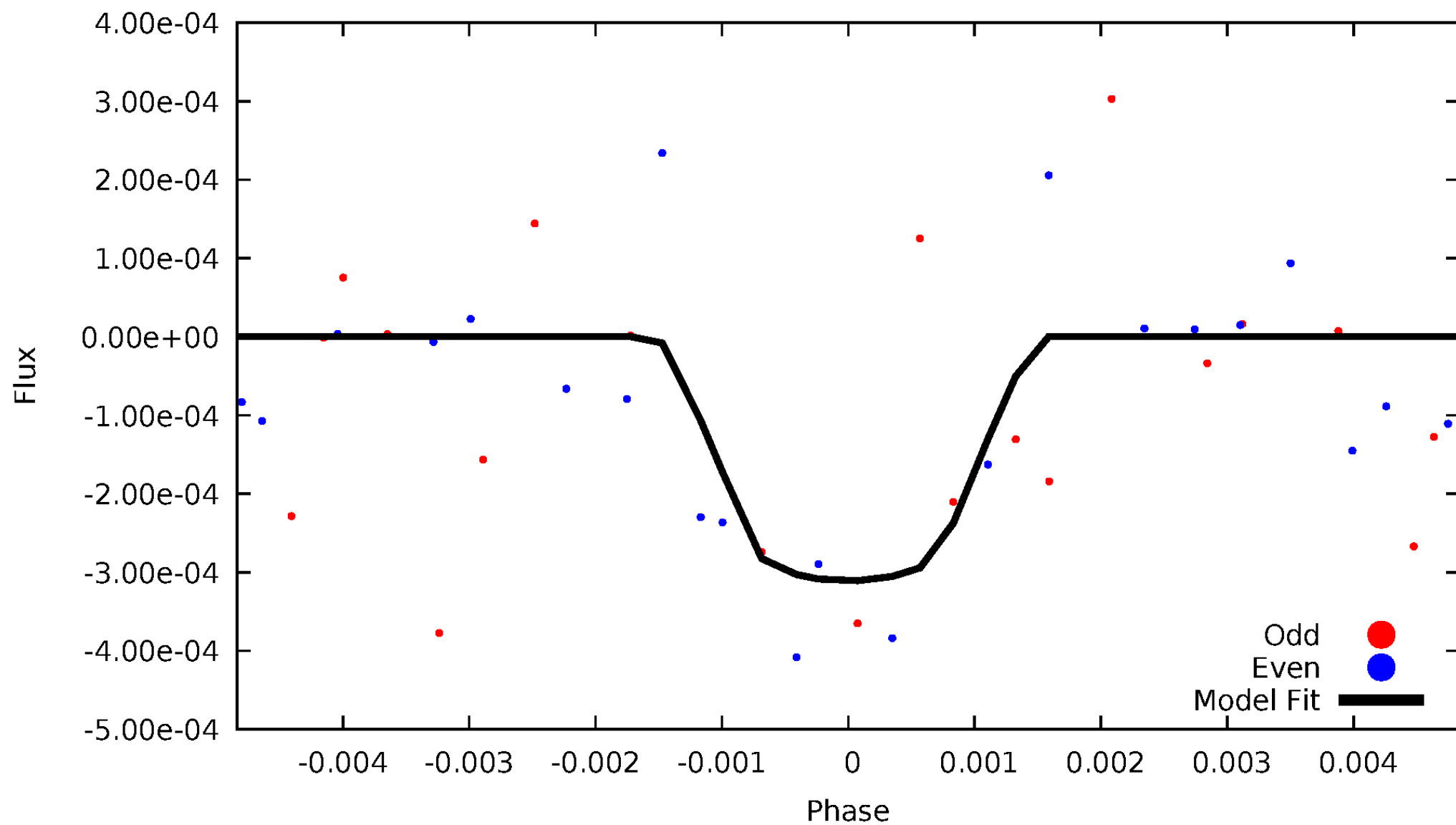


TCE 001571717-03



# DV Odd/Even

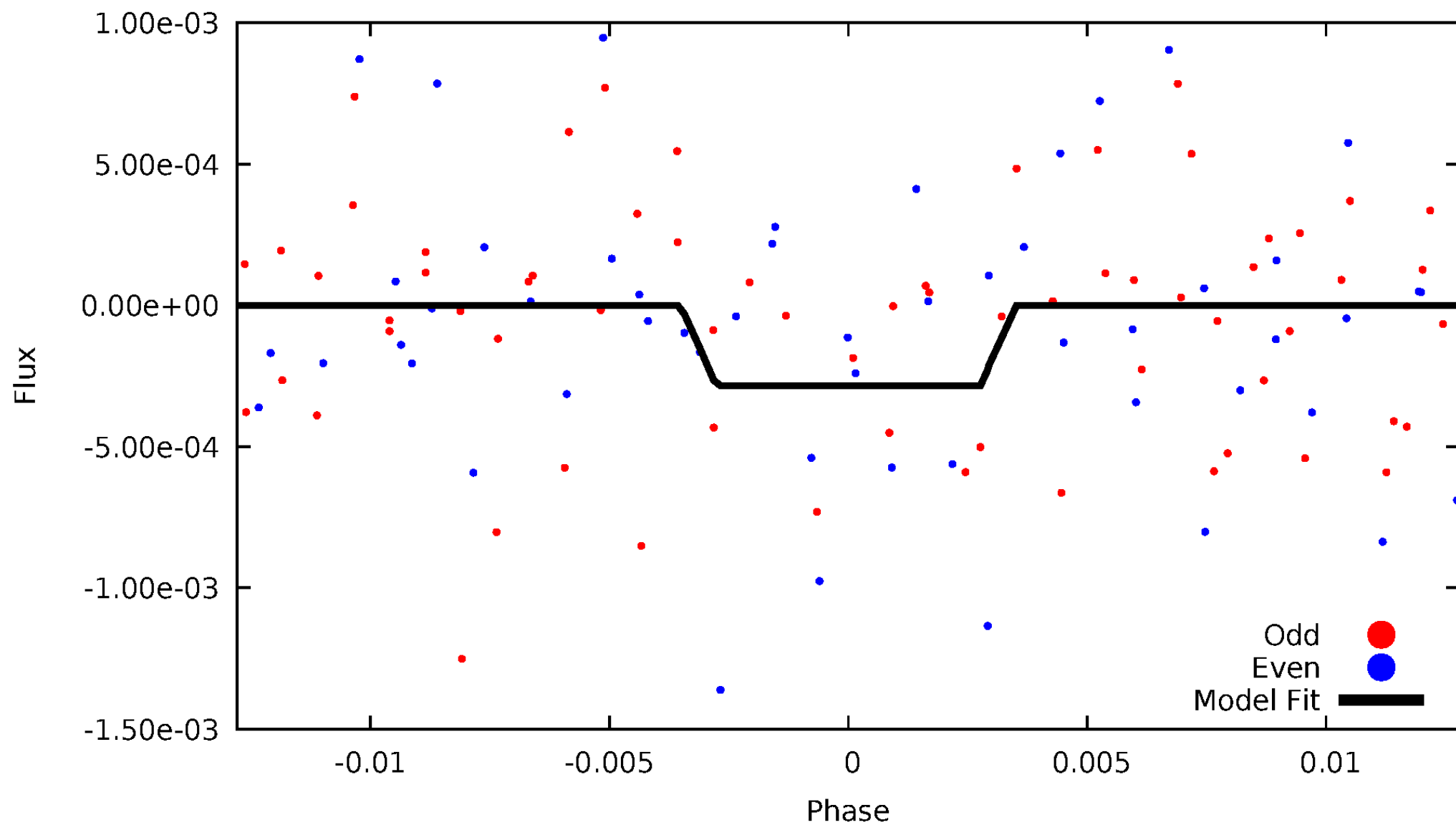
TCE 001571717-03



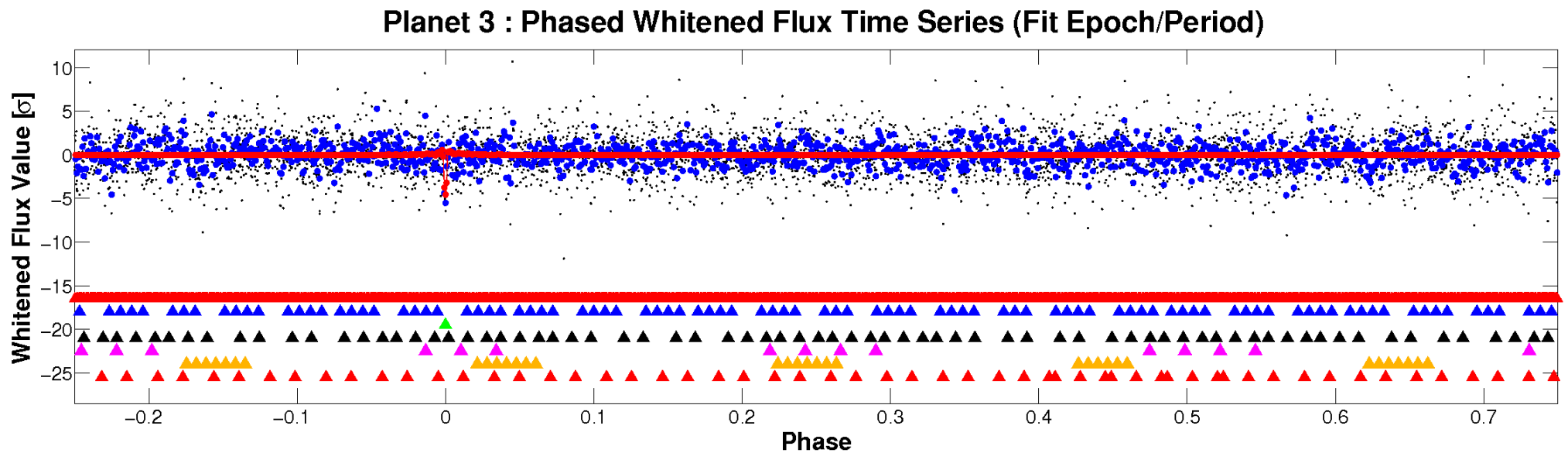
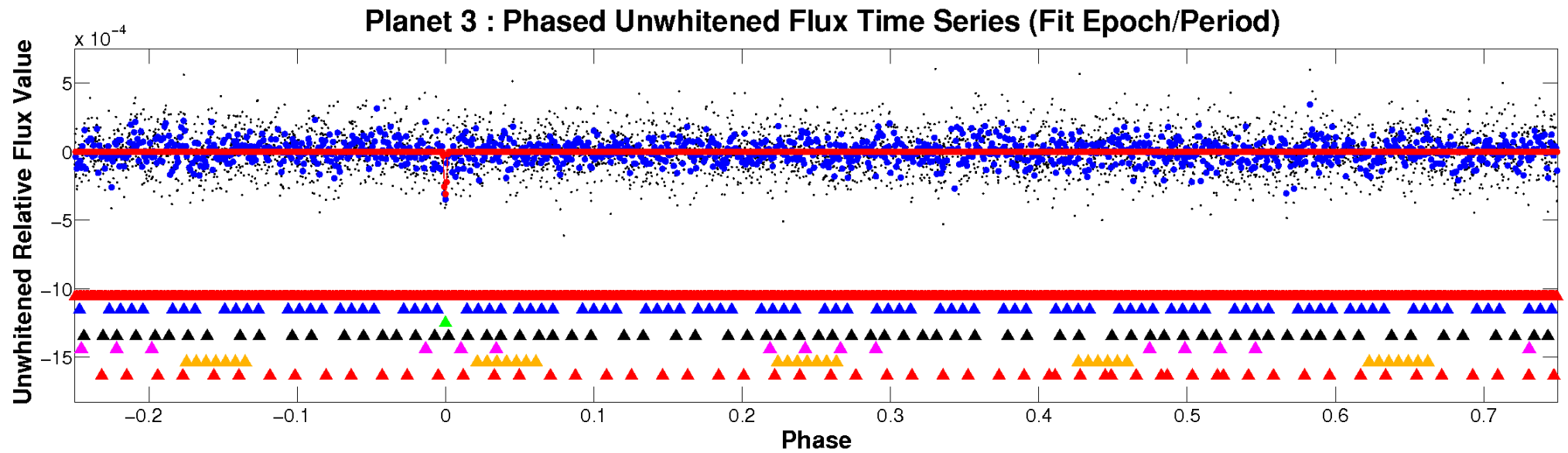


# ALT Odd/Even

TCE 001571717-03

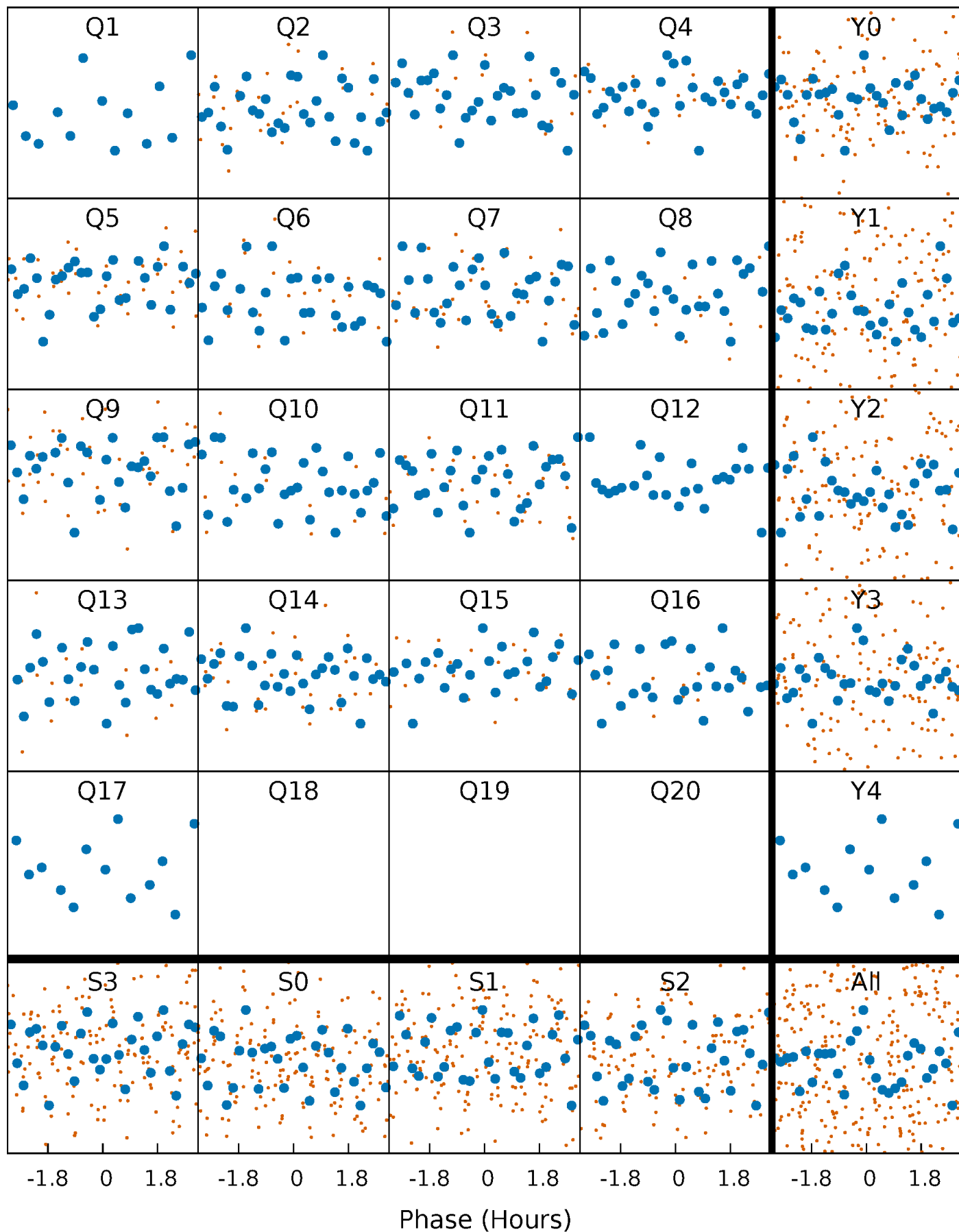


# Non-Whitened Vs. Whitened Light Curve



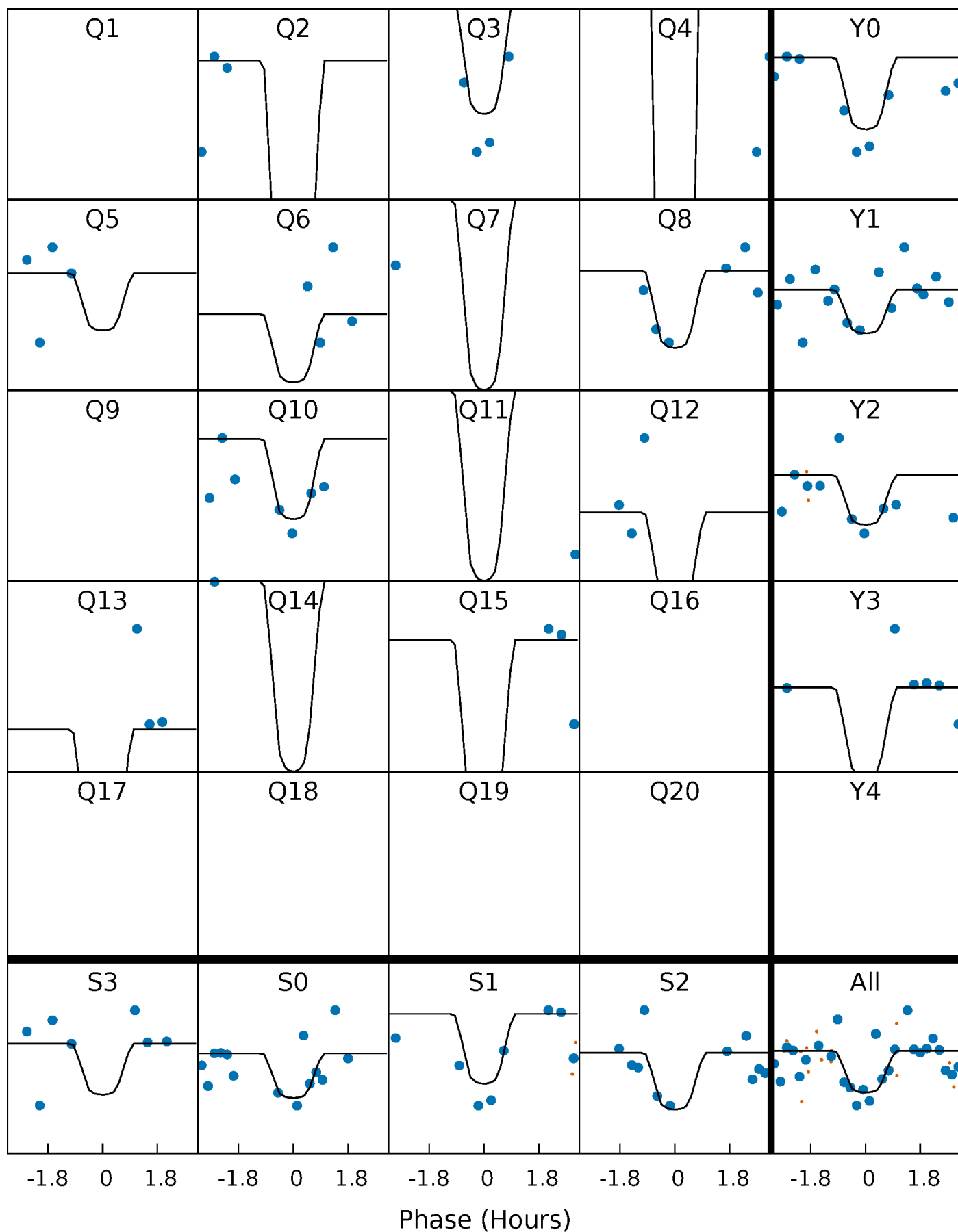
# PDC Quarter-Phased Transit Curves

TCE 001571717-03 P= 26.962963 Days  $T_0=147.496581$  (BKJD)



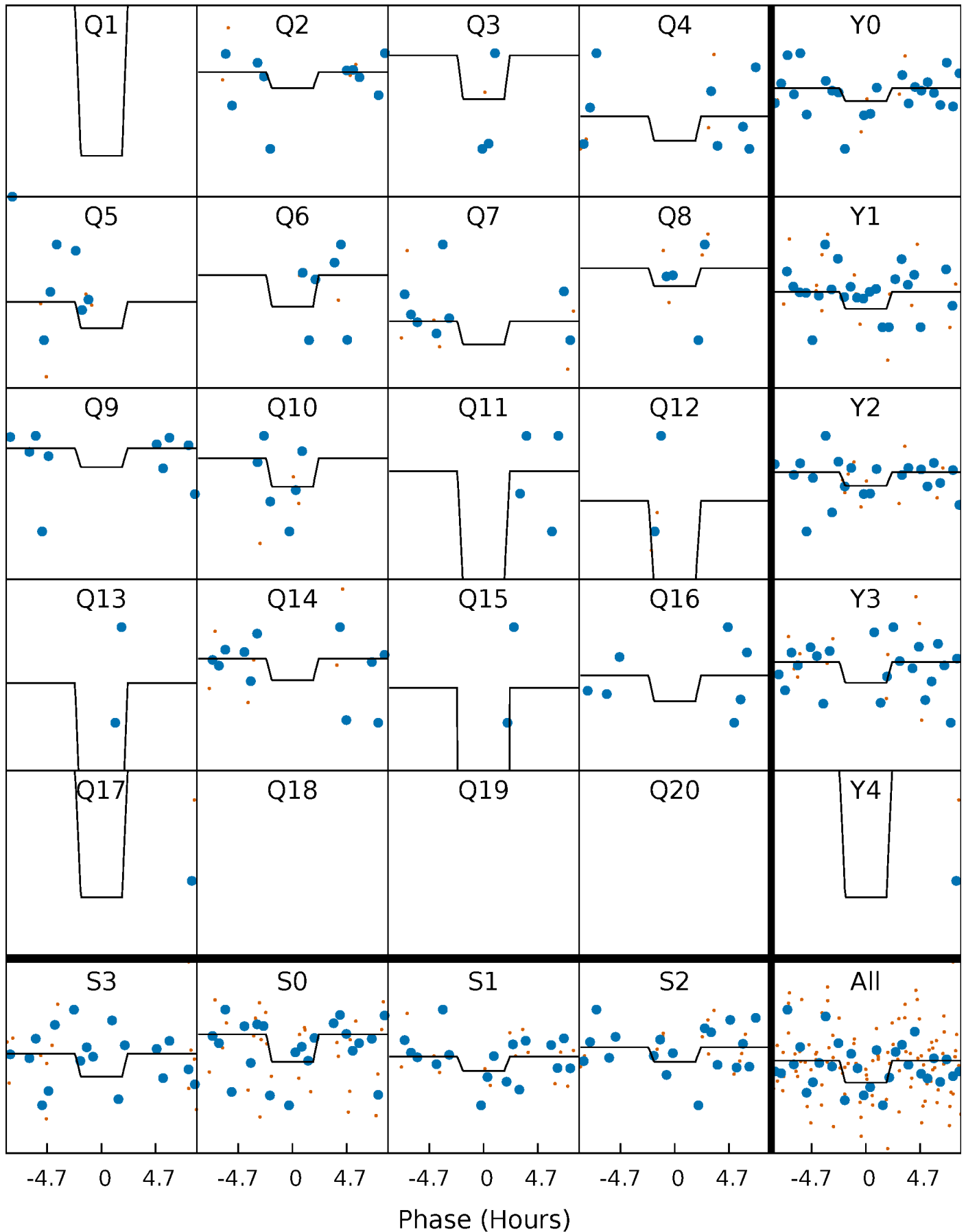
# DV Quarter-Phased Transit Curves

TCE 001571717-03 P= 26.962963 Days  $T_0=147.496581$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

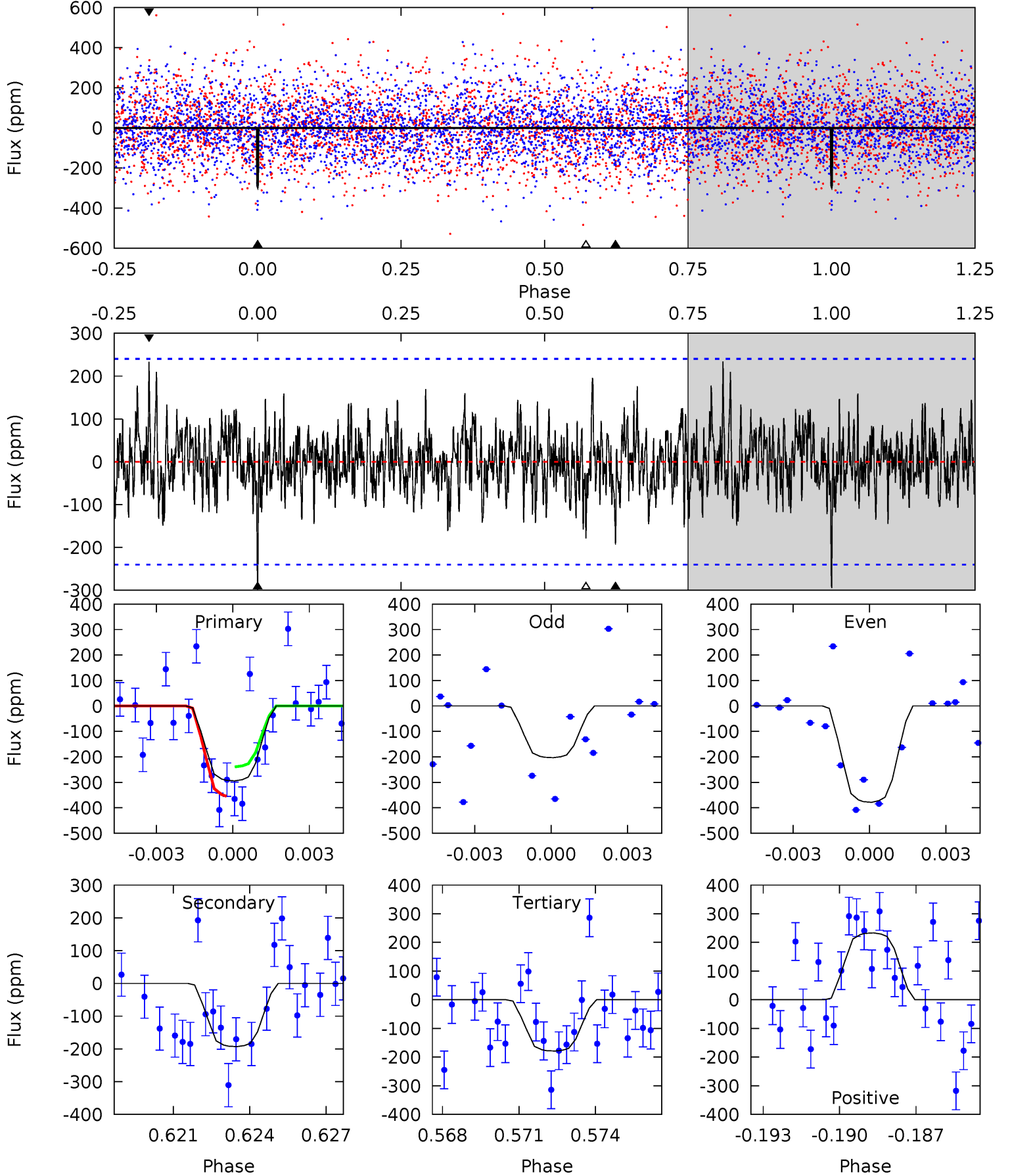
TCE 001571717-03 P= 26.963538 Days  $T_0=147.477948$  (BKJD)



# DV Model-Shift Uniqueness Test

001571717-03, P = 26.962963 Days, E = 120.533618 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.45	4.23	3.92	5.11	5.27	2.99	1.29	2.53	1.34	0.31	-0.88	1.89	0.74	0.44	1.27

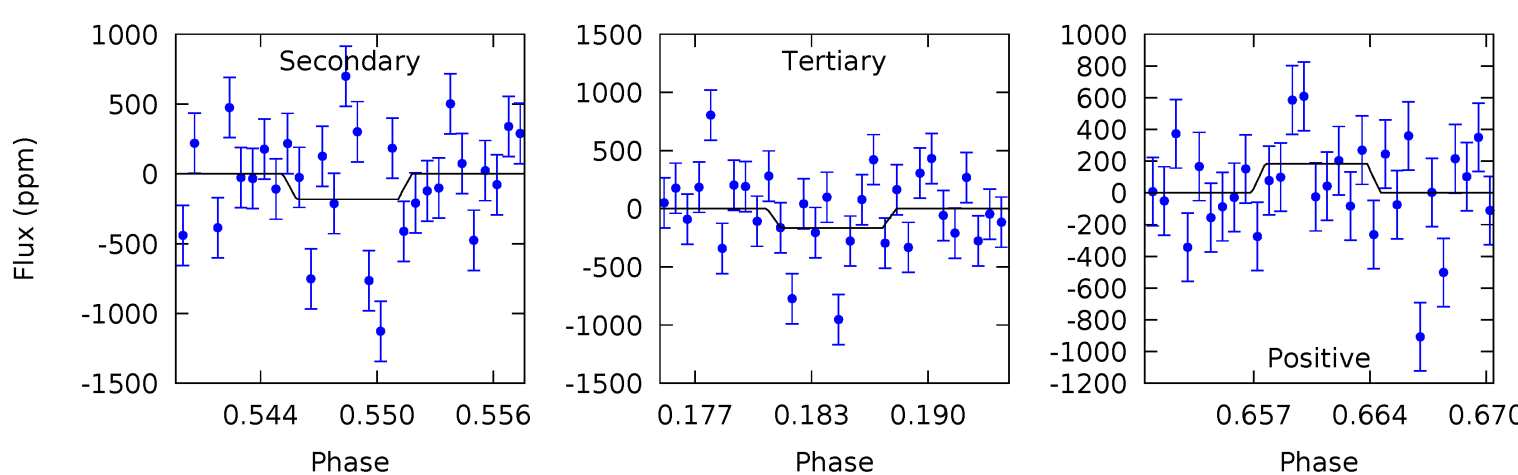
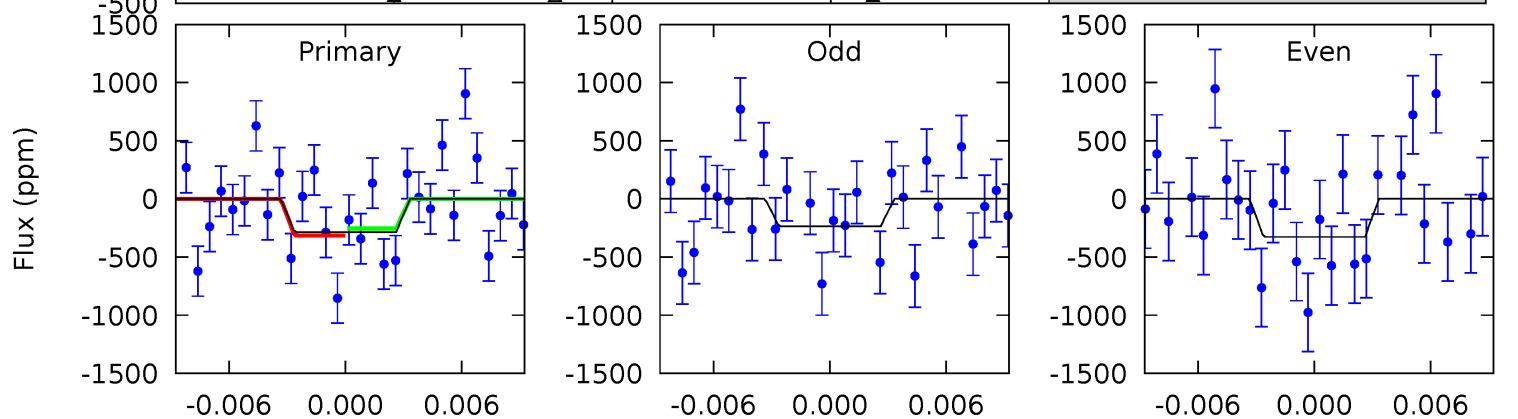
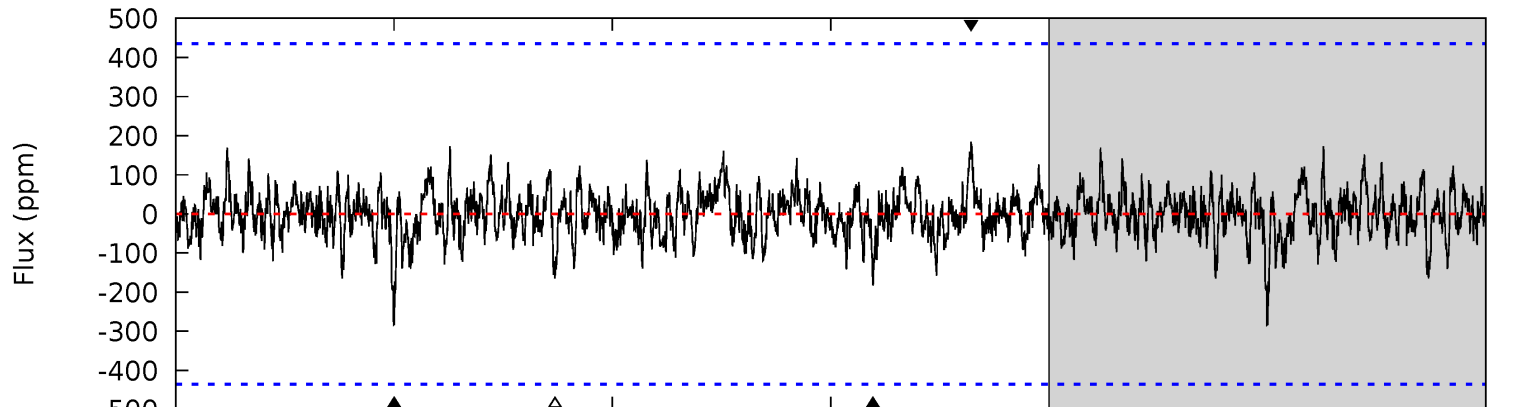
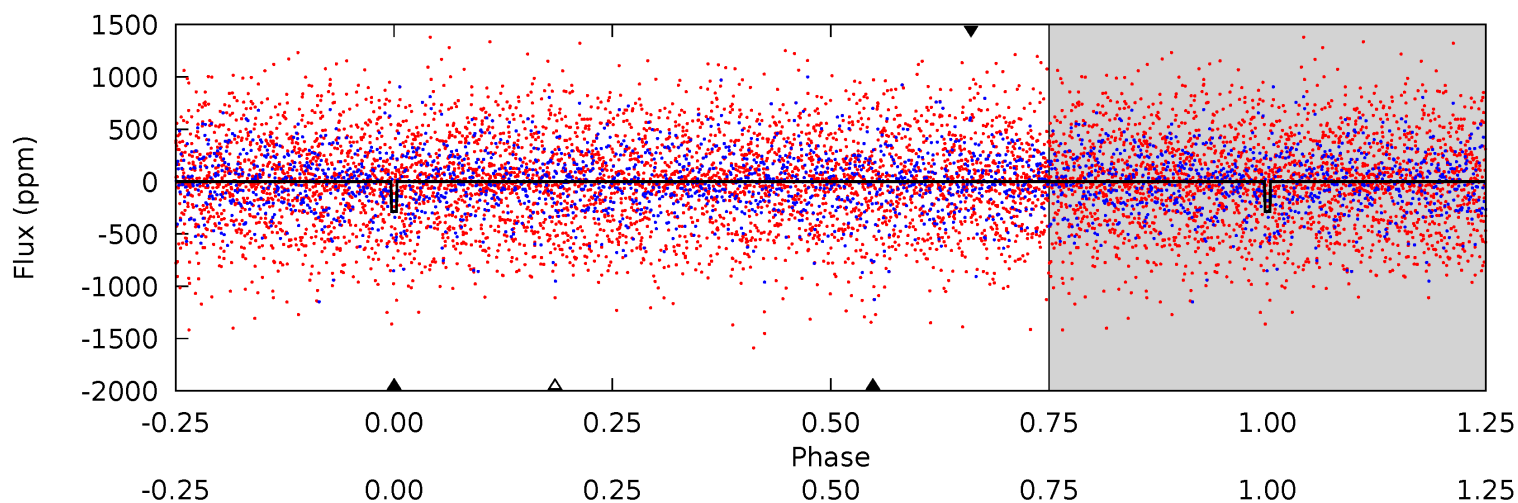




# Alt Model-Shift Uniqueness Test

001571717-03, P = 26.963538 Days, E = 120.514410 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.34	2.15	1.94	2.16	5.11	2.73	0.62	1.40	1.18	0.20	-0.02	0.53	2.00	0.39	0.36



### Stellar Parameters For KIC 001571717

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8302^{+232}_{-348}$	$4.034^{+0.192}_{-0.128}$	$-0.240^{+0.250}_{-0.300}$	$2.134^{+0.439}_{-0.536}$	$1.796^{+0.136}_{-0.294}$	$0.260^{+0.282}_{-0.101}$
	+3%/-4%	+5%/-3%	+104%/-125%	+21%/-25%	+8%/-16%	+108%/-39%
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 001571717-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-193 \pm 46$	$5.13^{+4.37}_{-3.21}$	$1595^{+104}_{-117}$	$6210^{+5283}_{-1517}$	$173^{+1142}_{-122}$
Alt.	$-183 \pm 85$	$4.72^{+4.51}_{-3.15}$	$1602^{+99}_{-114}$	$6261^{+6419}_{-1677}$	$186^{+1315}_{-141}$

$T_{max}$  = 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  $A_{obs} \gg 1.0$

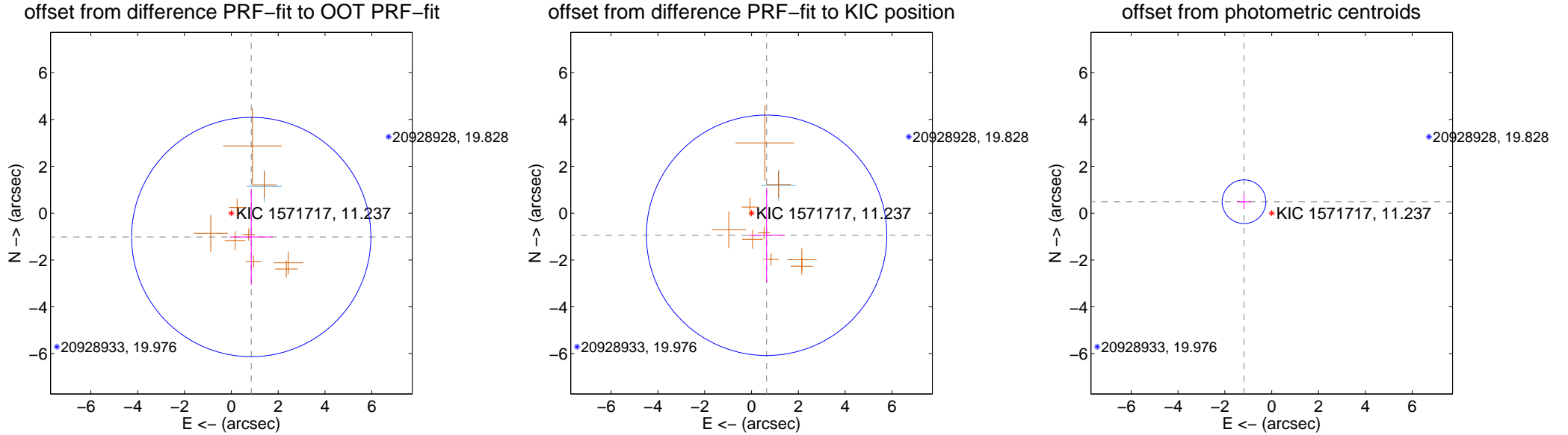
## DV Centroid Data

Supplemental centroid analysis for 001571717-03. **Kepler magnitude: 11.24.** Transit SNR 11.79

**There are 1 quarters with good PRF difference image offsets**

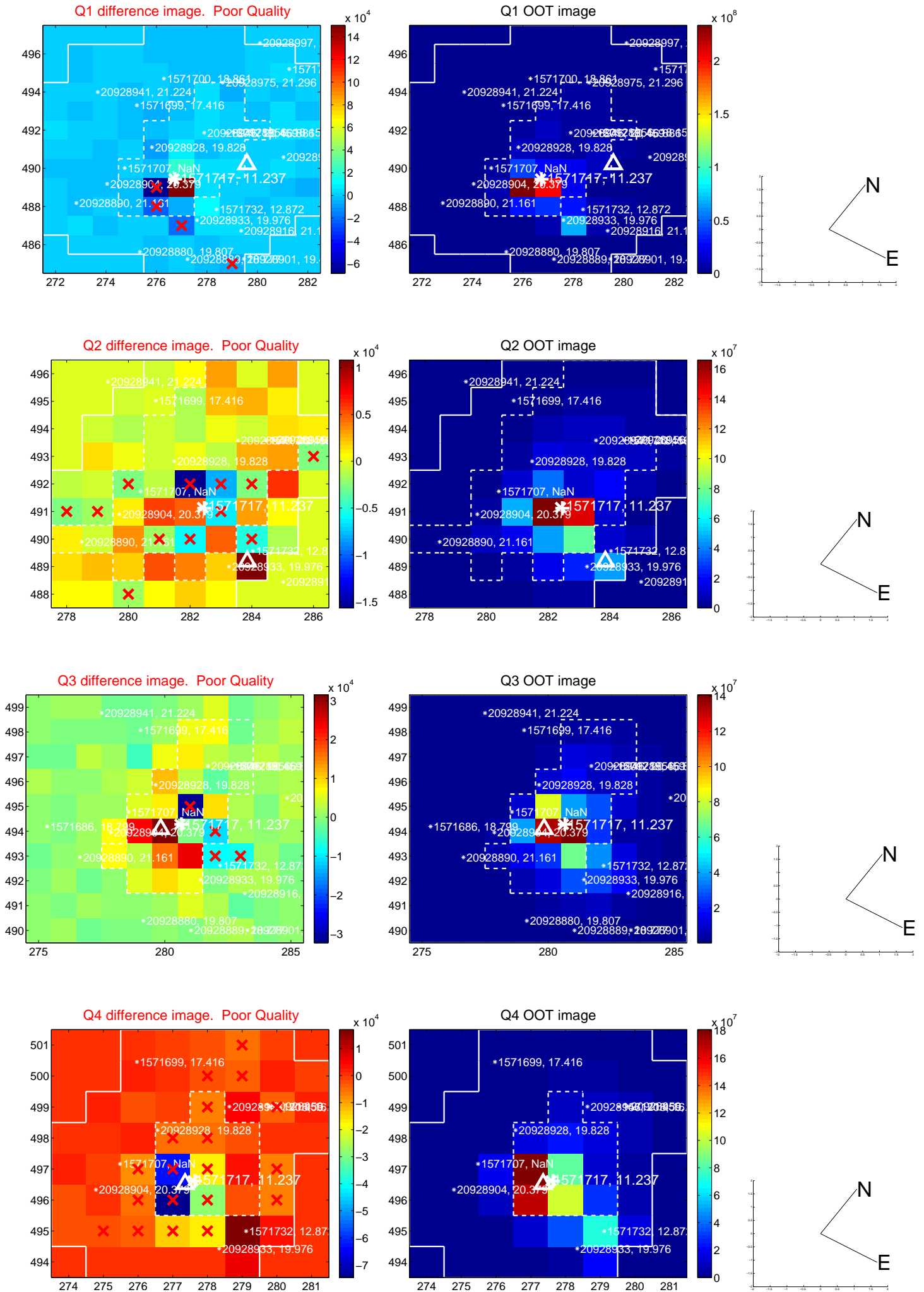
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.326 \pm 1.703$	0.78	$-0.849 \pm 0.918$	$-1.019 \pm 2.048$
PRF-fit source offset from KIC position	$1.145 \pm 1.711$	0.67	$-0.644 \pm 0.778$	$-0.946 \pm 2.016$
photometric centroid source offset	<b><math>1.28 \pm 0.31</math></b>	<b>4.11</b>	$1.18 \pm 0.31$	$0.49 \pm 0.31$

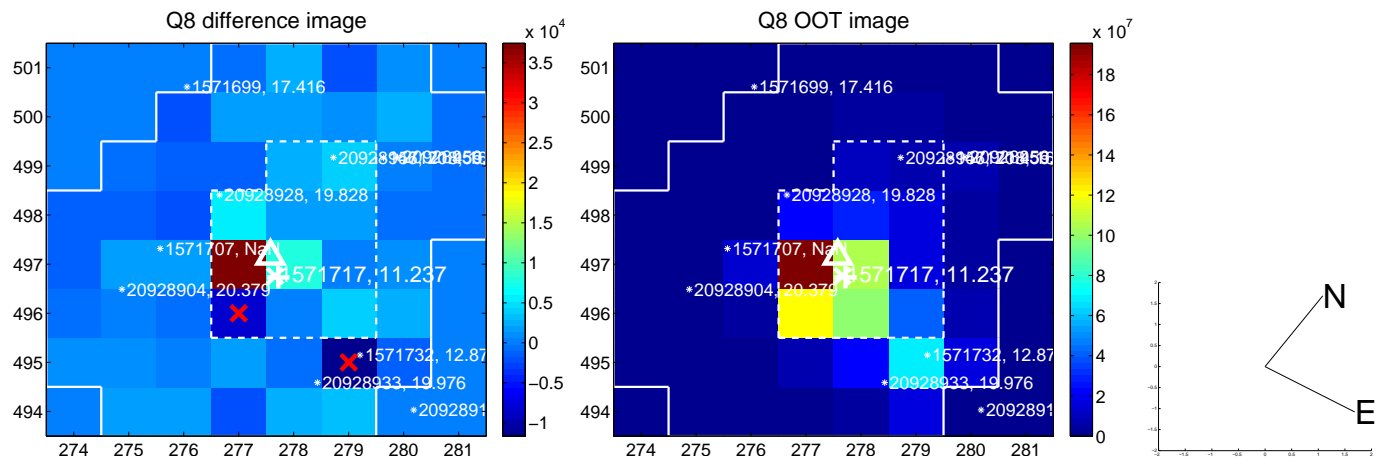
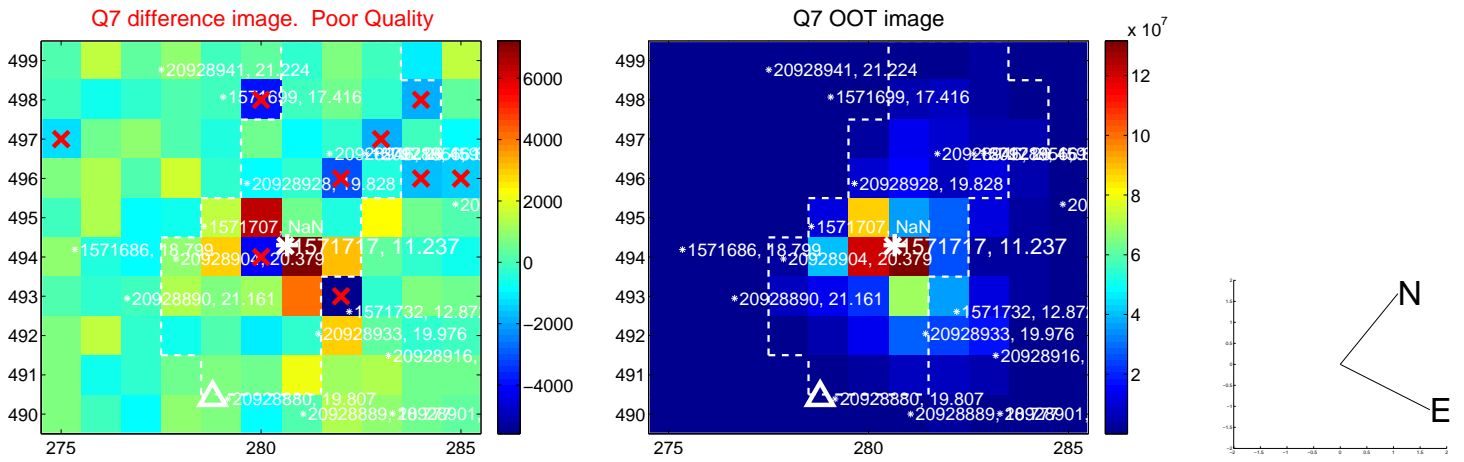
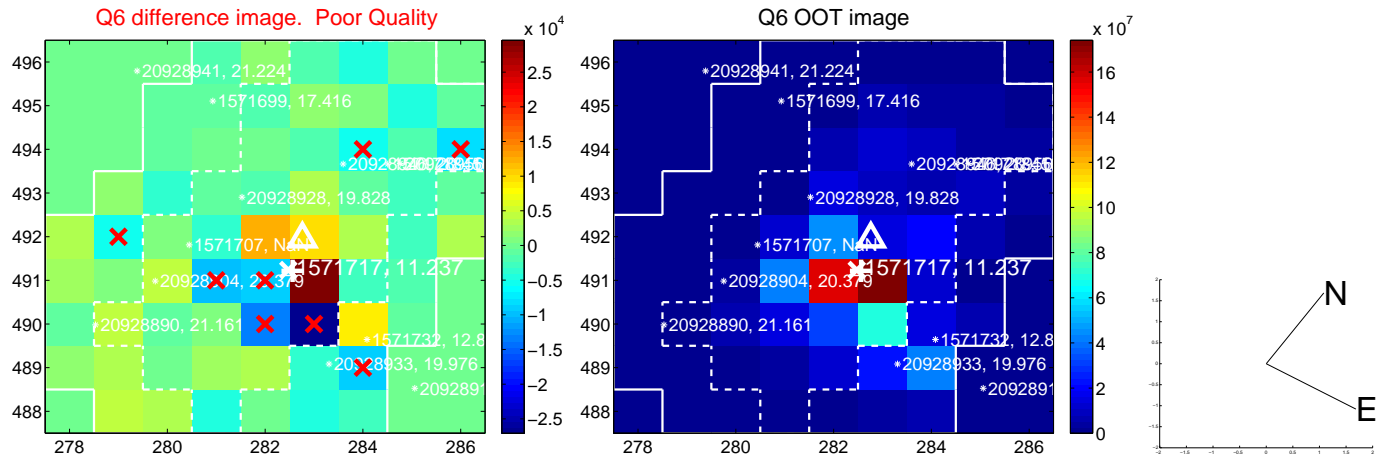
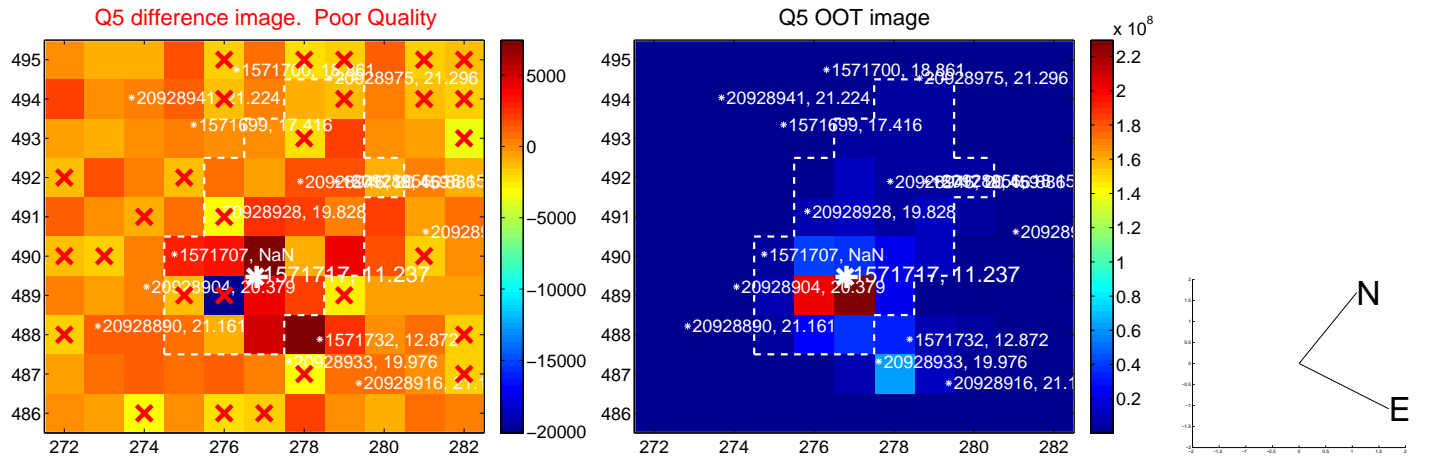


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

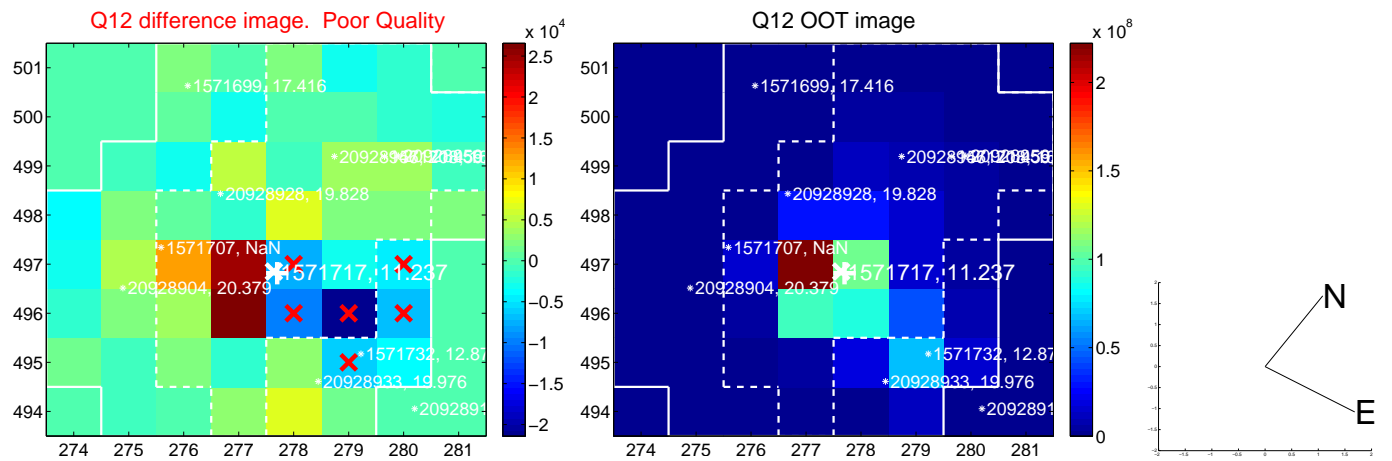
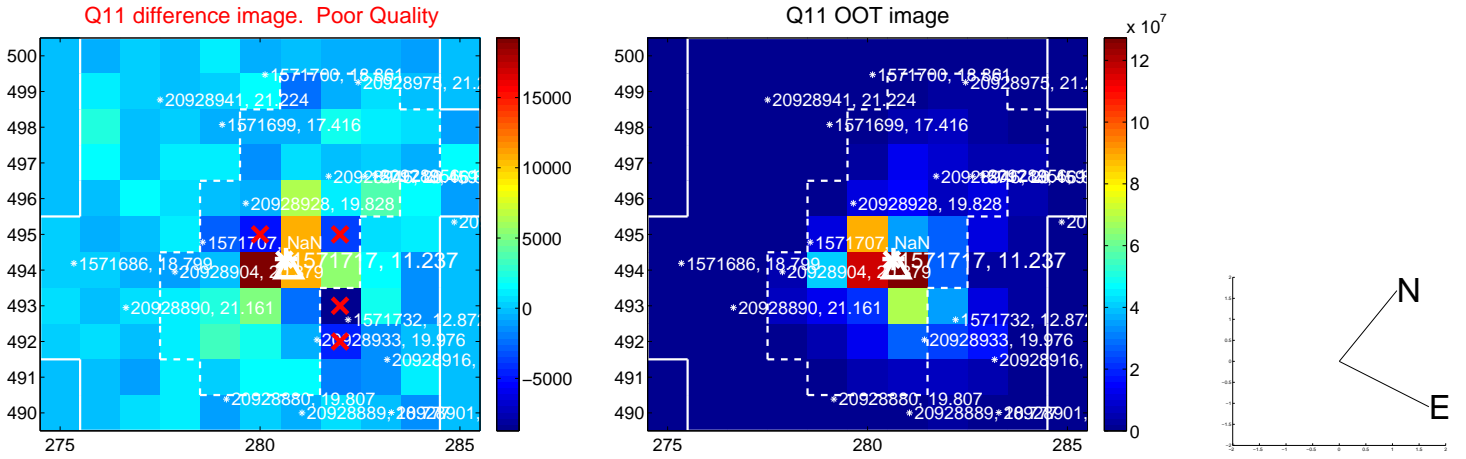
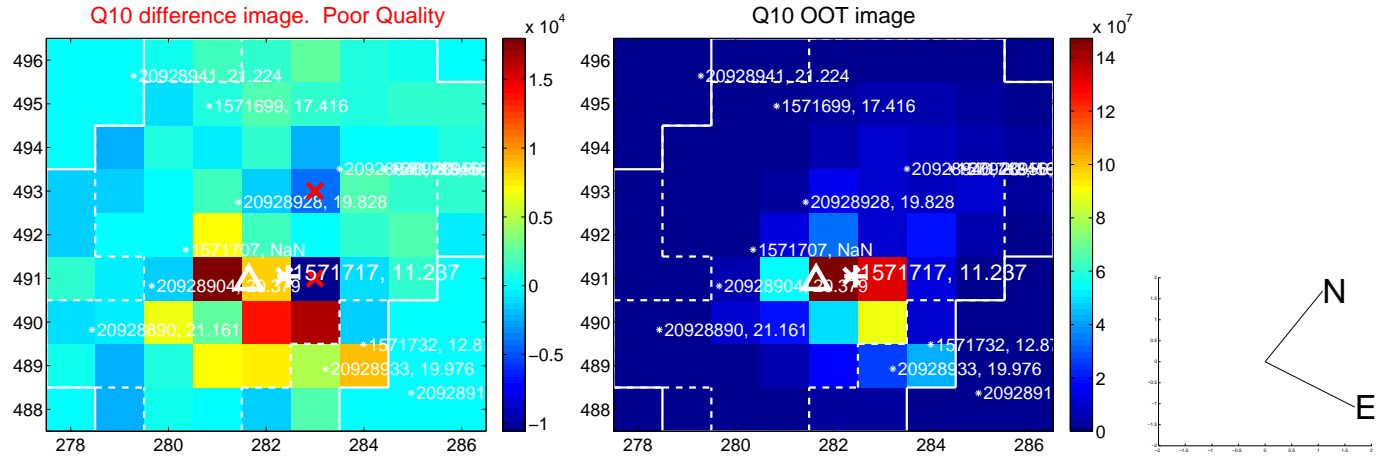
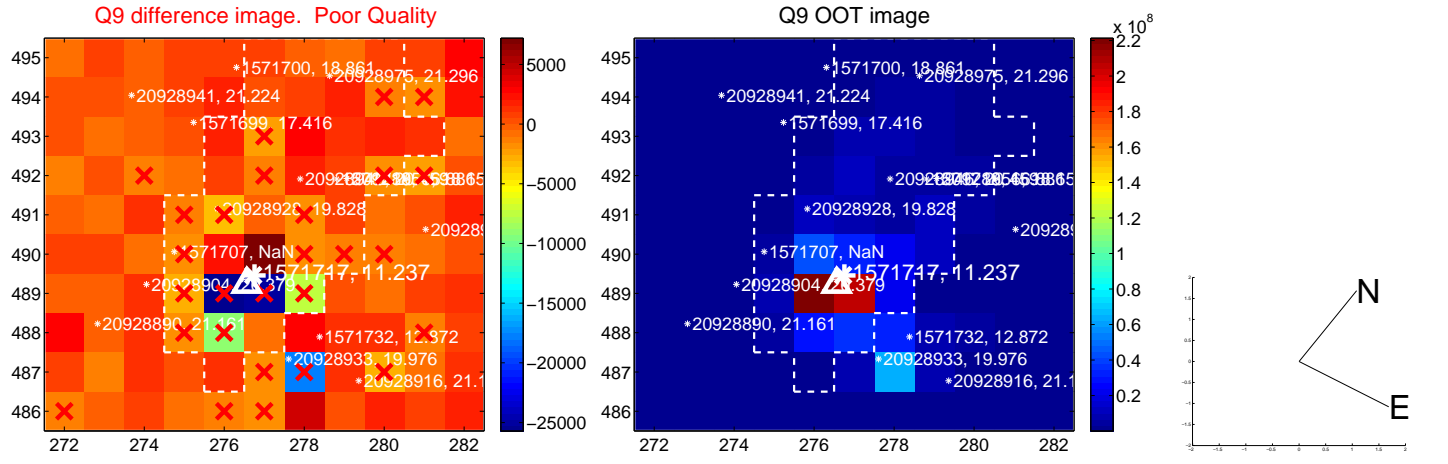
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

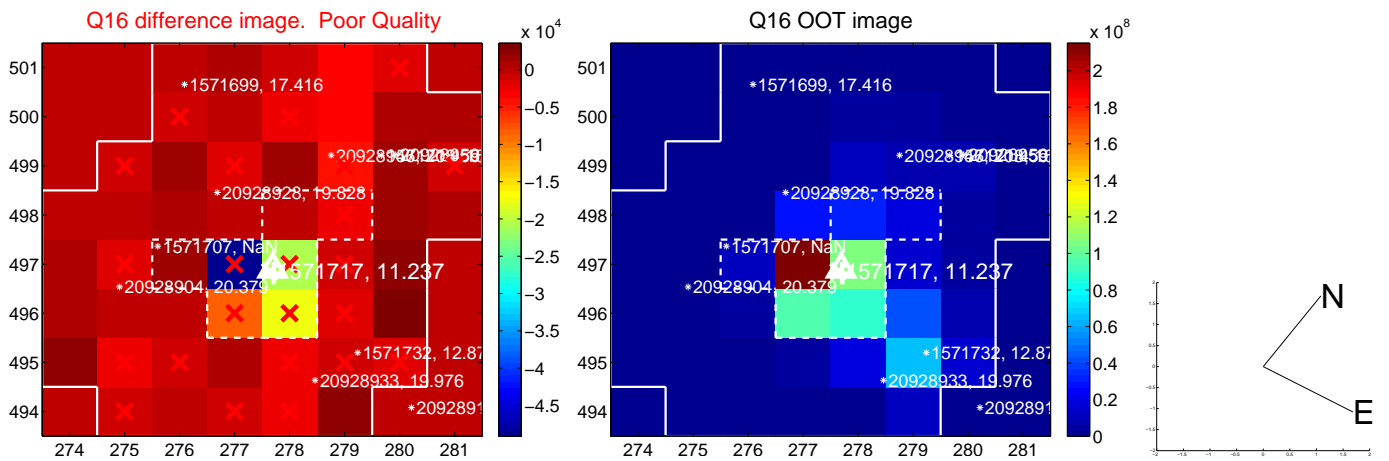
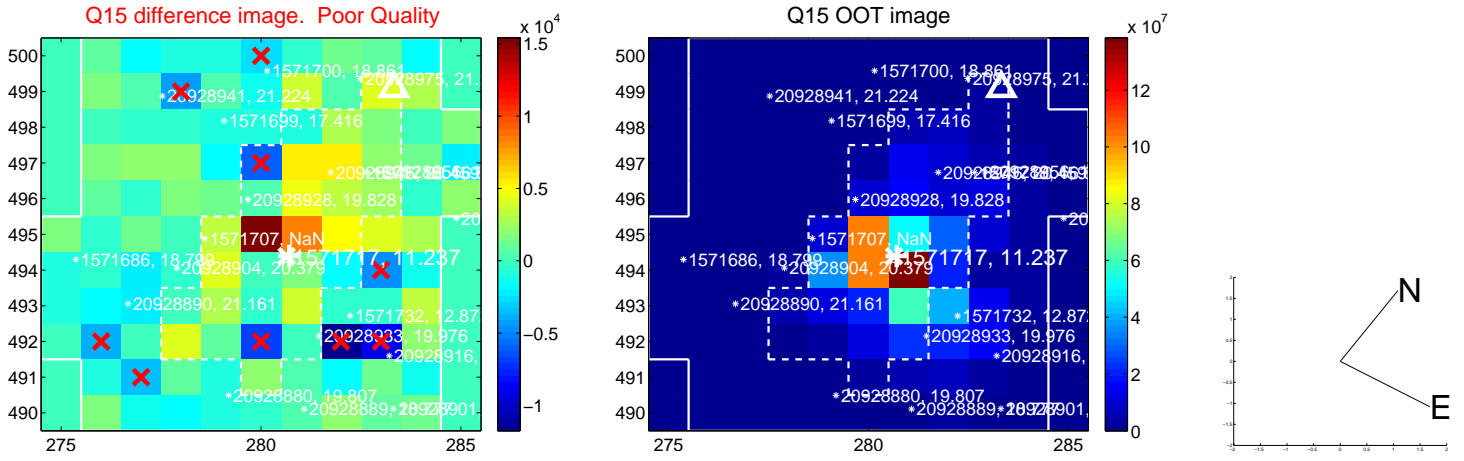
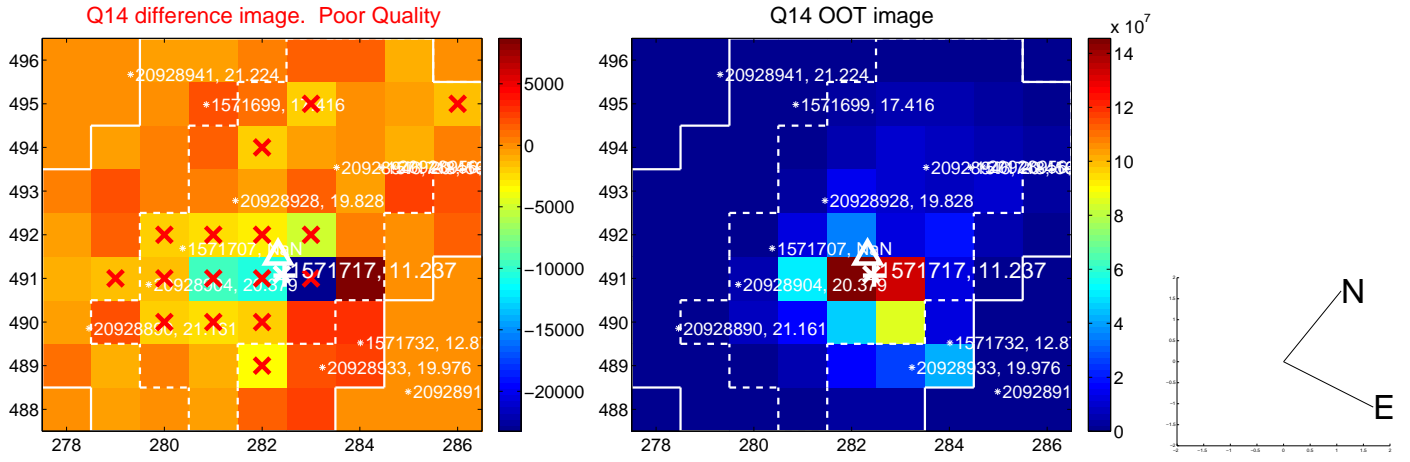
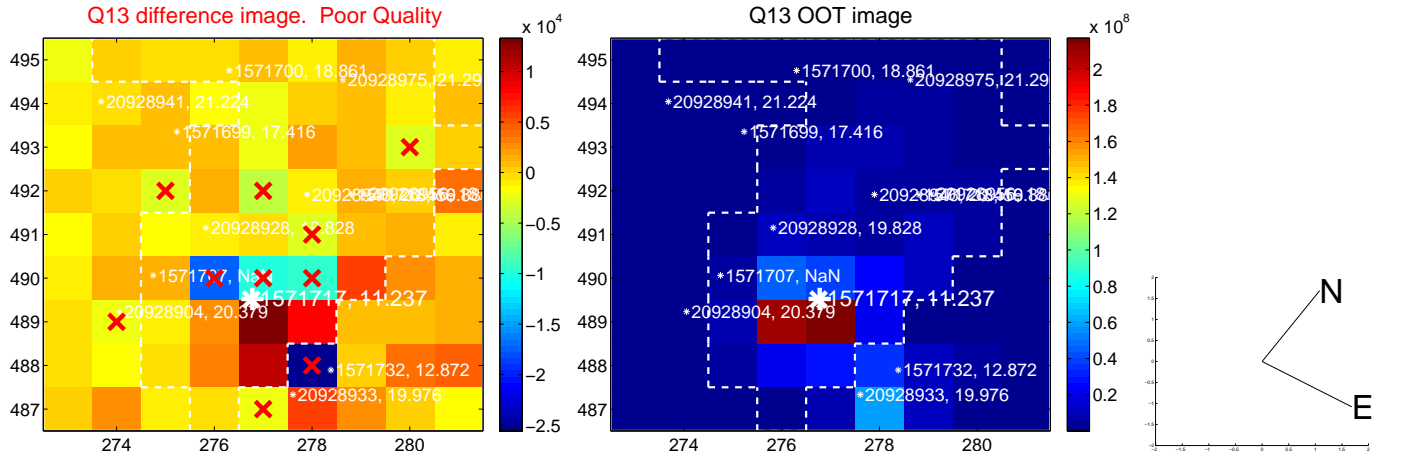


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

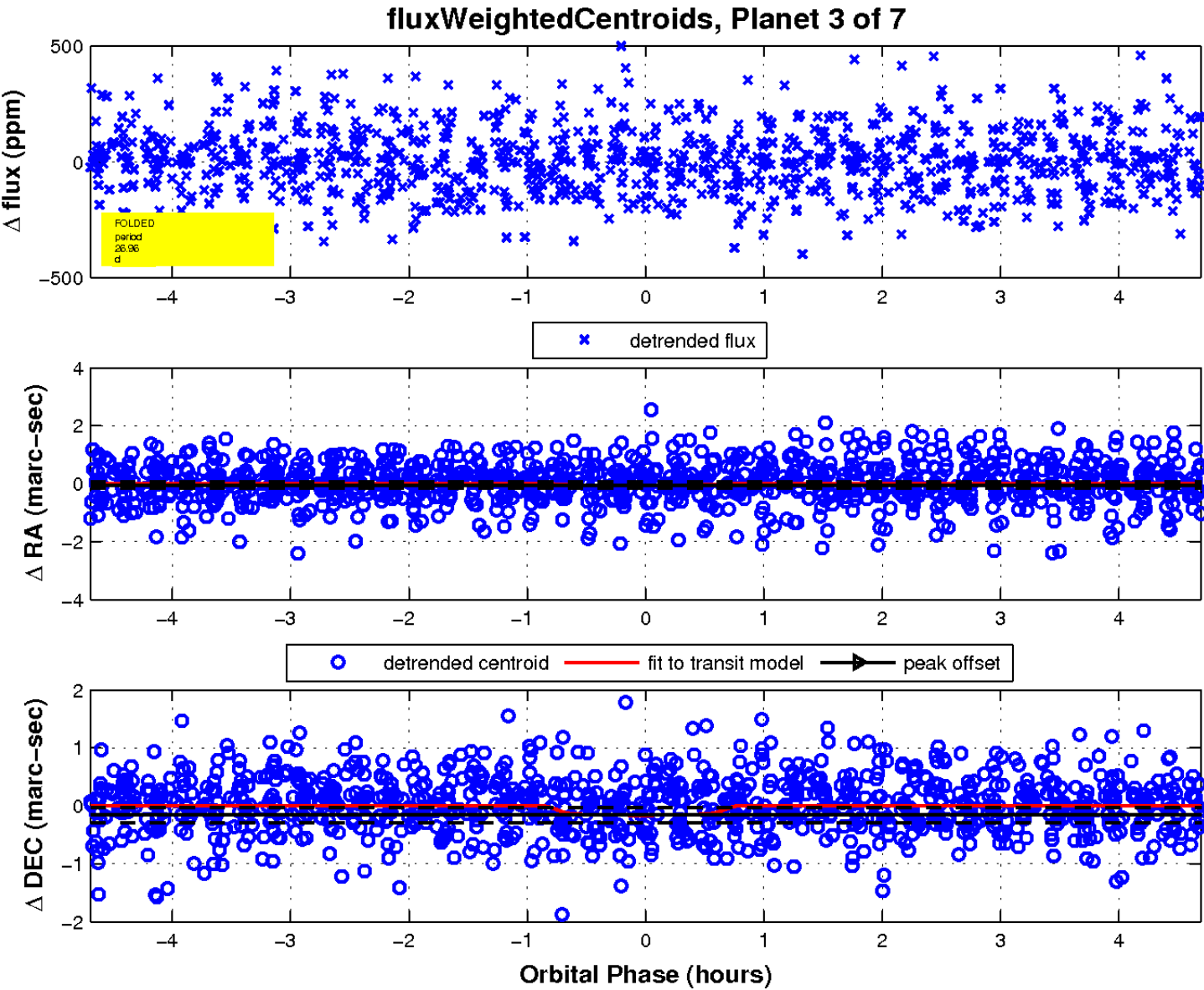
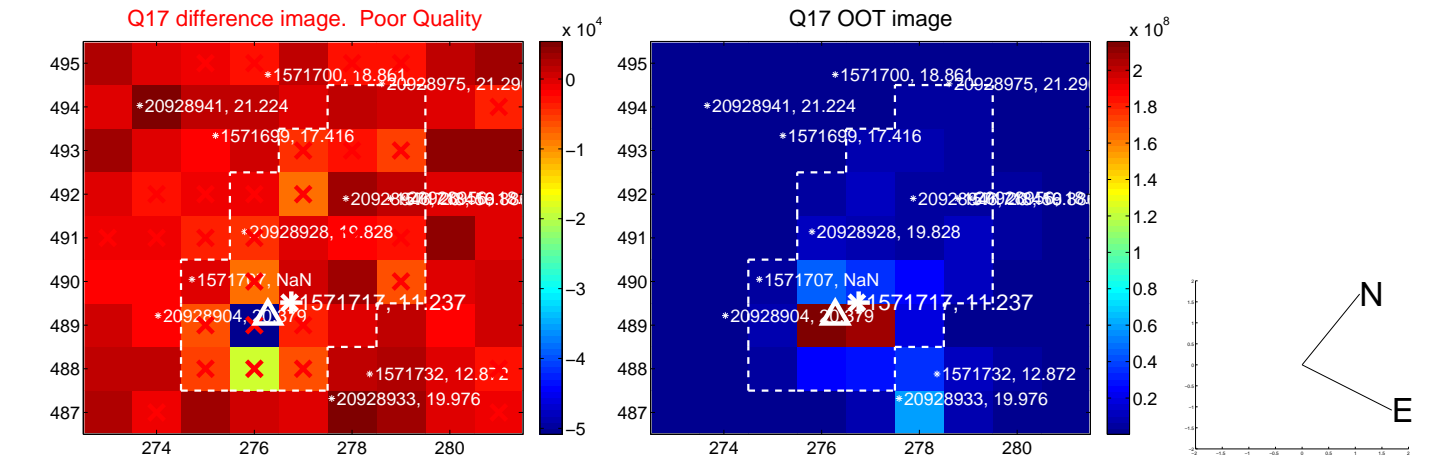




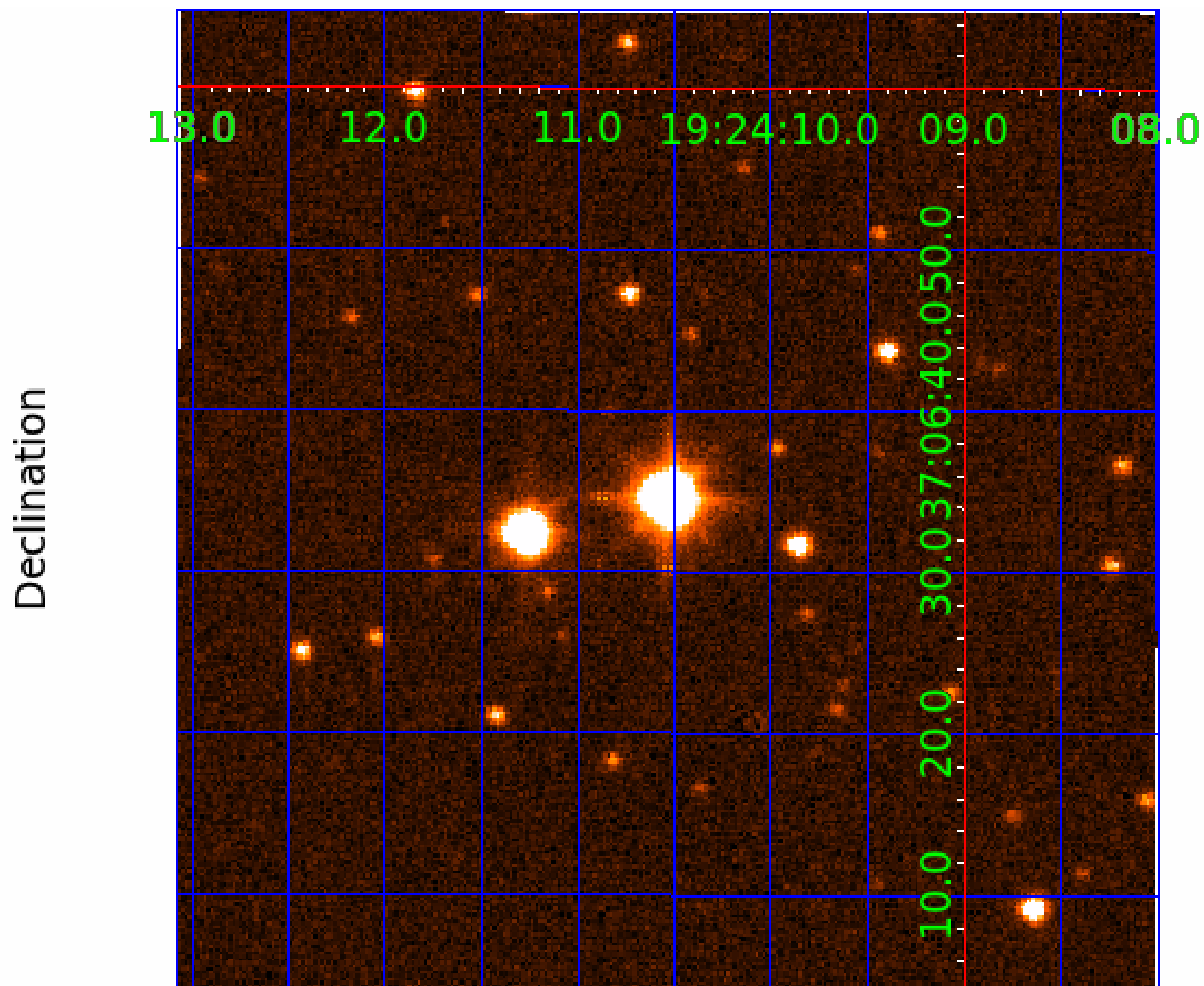
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image



# KIC 001571717

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
001571717-01	OBS	No	1.019803	132.338418	10.3	7.413	9.9	6.3	2.13	8302	0.70	33347.74
001571717-02	OBS	No	15.107407	145.585070	251.1	1.169	13.1	13.2	2.13	8302	3.45	916.58
001571717-03	OBS	No	26.962963	147.496581	311.1	1.565	13.3	11.8	2.13	8302	4.37	423.38
001571717-04	OBS	No	19.985456	136.438743	180.3	2.119	10.7	11.4	2.13	8302	3.07	631.15
001571717-05	OBS	No	100.950826	142.158723	136.4	0.752	11.0	4.0	2.13	8302	2.94	72.82
001571717-06	OBS	No	43.176197	148.076164	148.6	4.221	10.3	10.0	2.13	8302	3.01	225.99
001571717-07	OBS	No	25.943432	134.675594	279.1	1.345	10.6	10.1	2.13	8302	3.96	445.71

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001571717-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED
001571717-02	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED—HALO_GHOST
001571717-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED— HALO_GHOST
001571717-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
001571717-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
001571717-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
001571717-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED

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

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

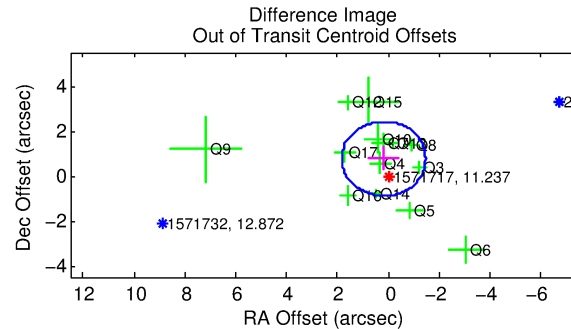
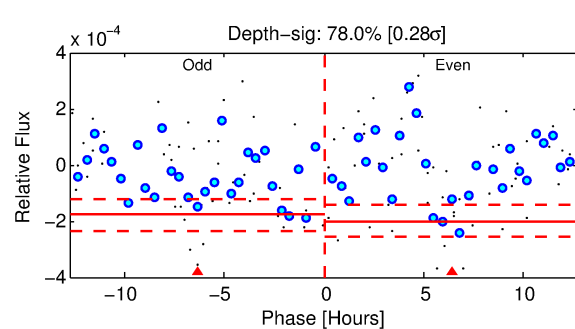
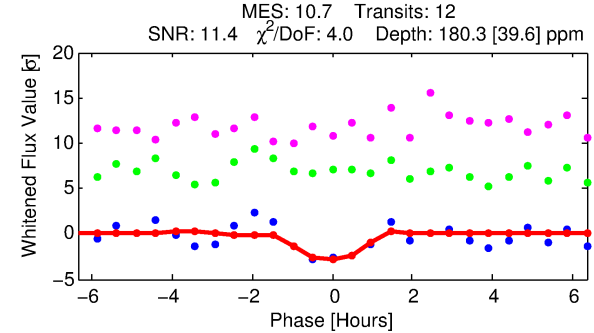
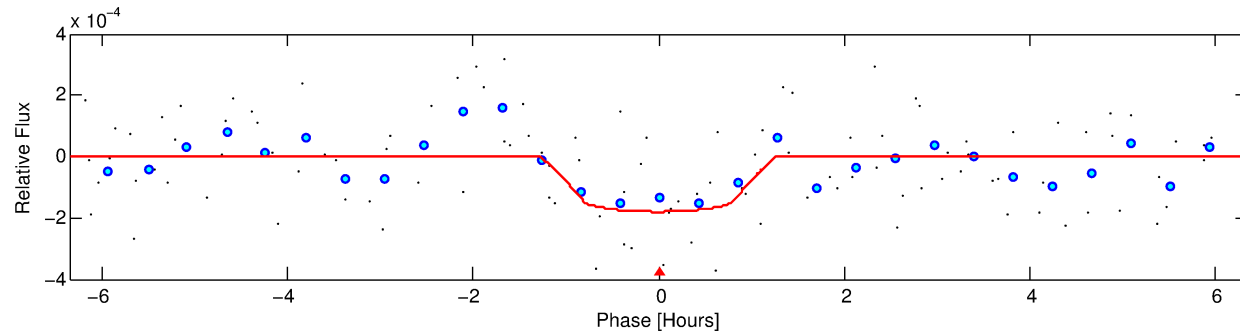
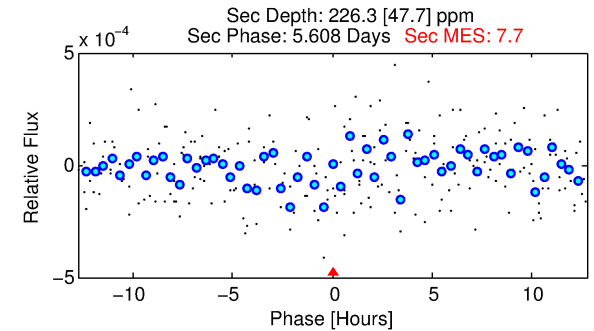
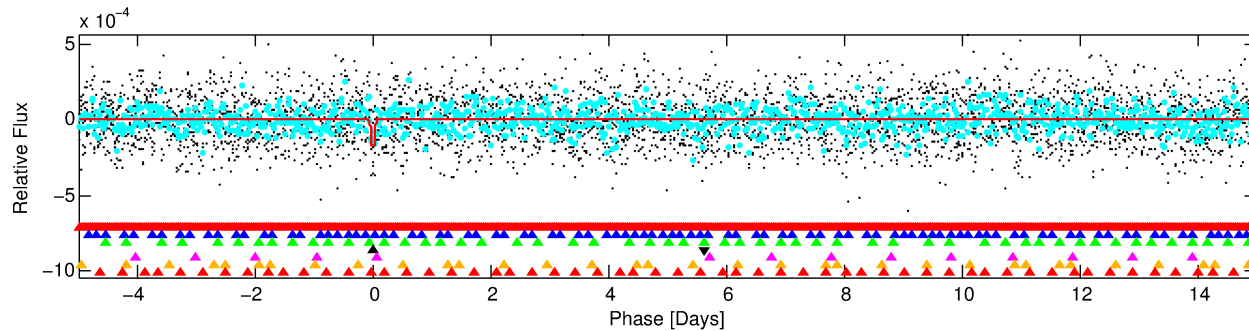
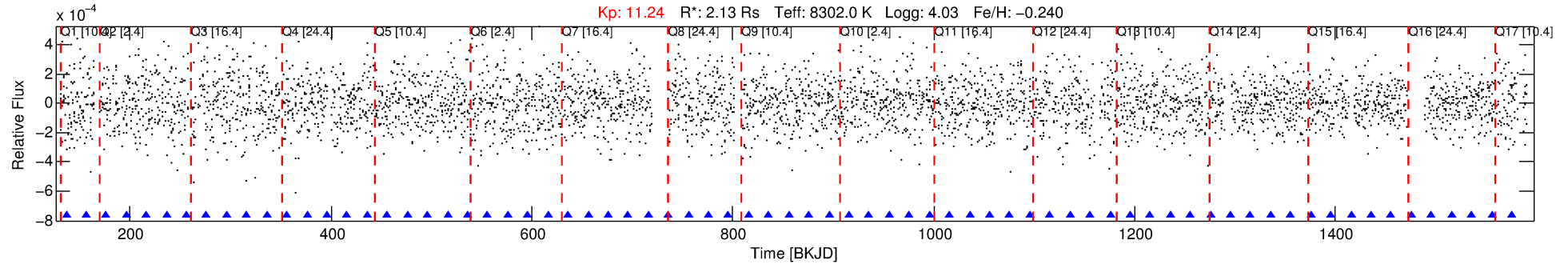
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 001571717-04

No Significant Match Found

# DV One-Page Summary

KIC: 1571717 Candidate: 4 of 7 Period: 19.985 d



## DV Fit Results:

Period = 19.98546 [0.00072] d  
Epoch = 136.4387 [0.0321] BKJD  
Rp/R\* = 0.0132 [0.0244]  
a/R\* = 53.07 [562.56]  
b = 0.70 [8.01]  
Seff = 631.16 [238.69]  
Teq = 1278 [121] K  
Rp = 3.07 [5.72] Re  
a = 0.1752 [0.0391] AU  
Ag = 405.06 [1504.56] [0.27 $\sigma$ ]  
Teffp = 8865 [8206] K [0.92 $\sigma$ ]

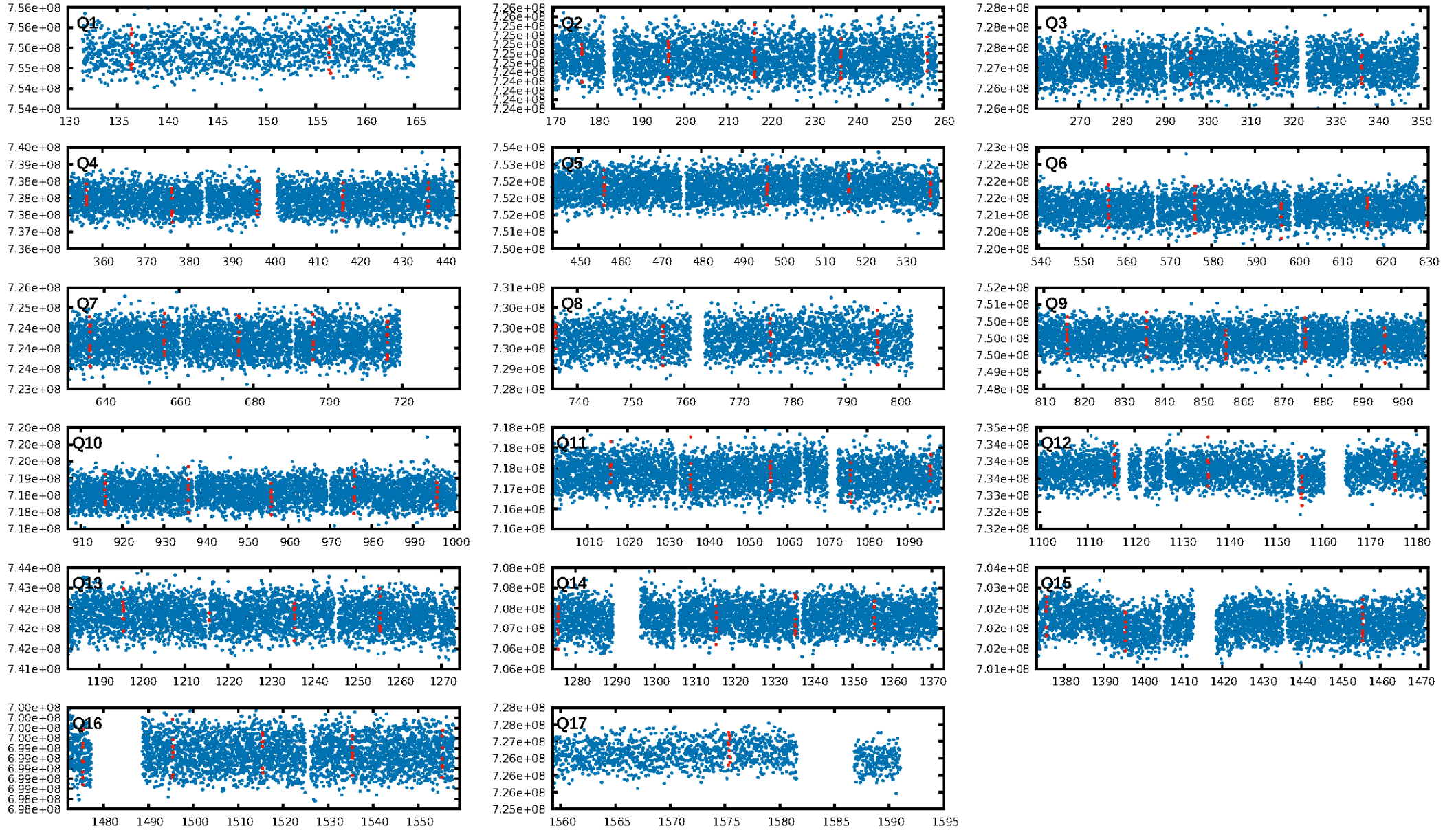
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [48.36 $\sigma$ ]  
LongPeriod-sig: 100.0% [56.96 $\sigma$ ]  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 43.4%  
Bootstrap-pfa: 7.54e-10  
RollingBand-fgt: 1.00 [12/12]  
GhostDiagnostic-chr: 1.076  
Centroid-sig: 4.7%  
Centroid-so: 0.560 arcsec [1.36 $\sigma$ ]  
OotOffset-rm: 0.782 arcsec [1.42 $\sigma$ ]  
KicOffset-rm: 0.932 arcsec [1.74 $\sigma$ ]  
OotOffset-st: 3/3/4/4 [14]  
KicOffset-st: 3/3/4/4 [14]  
DiffImageQuality-fgm: 0.36 [5/14]  
DiffImageOverlap-fno: 0.65 [11/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:57:38 Z

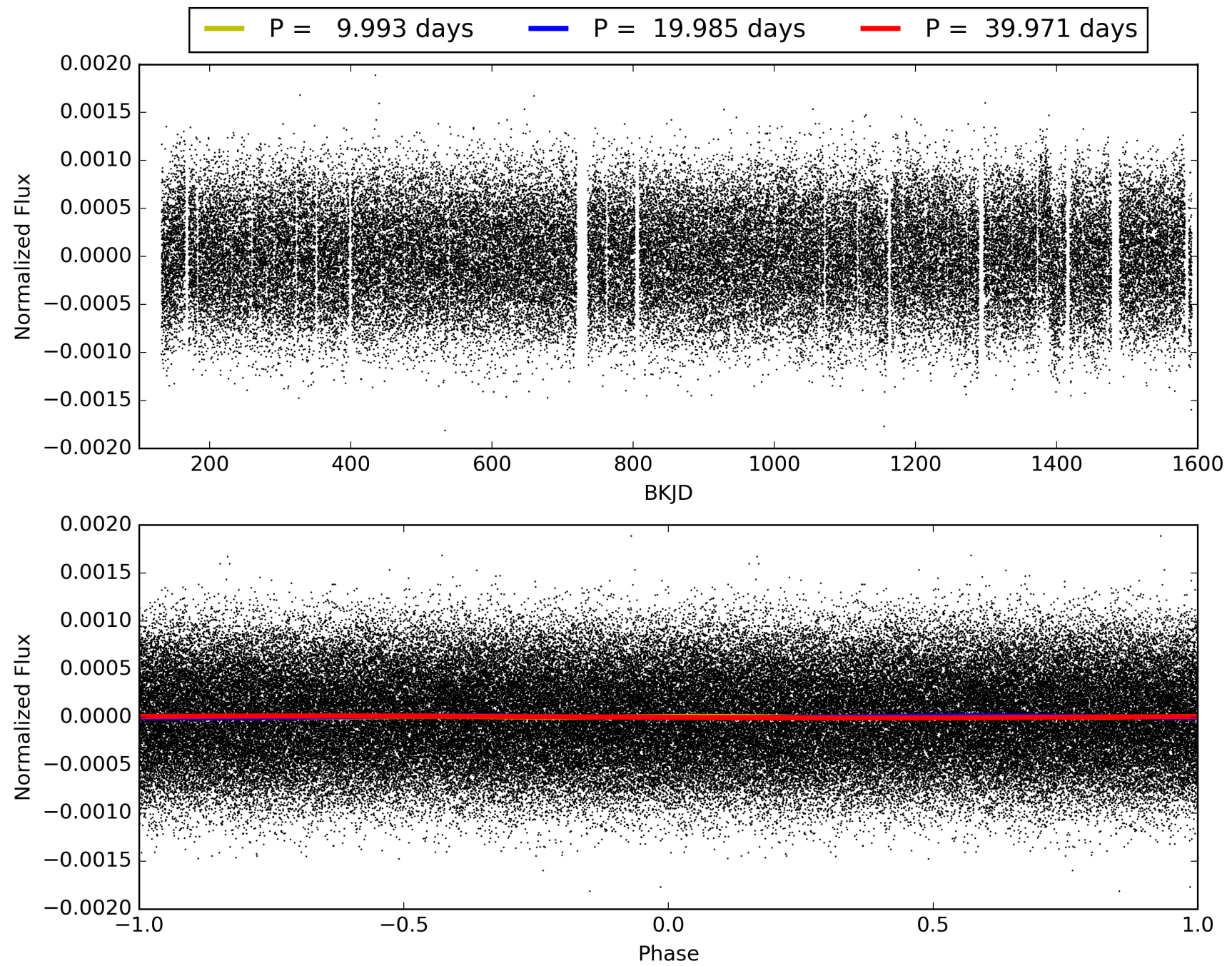
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 001571717-04, PDC Light Curves



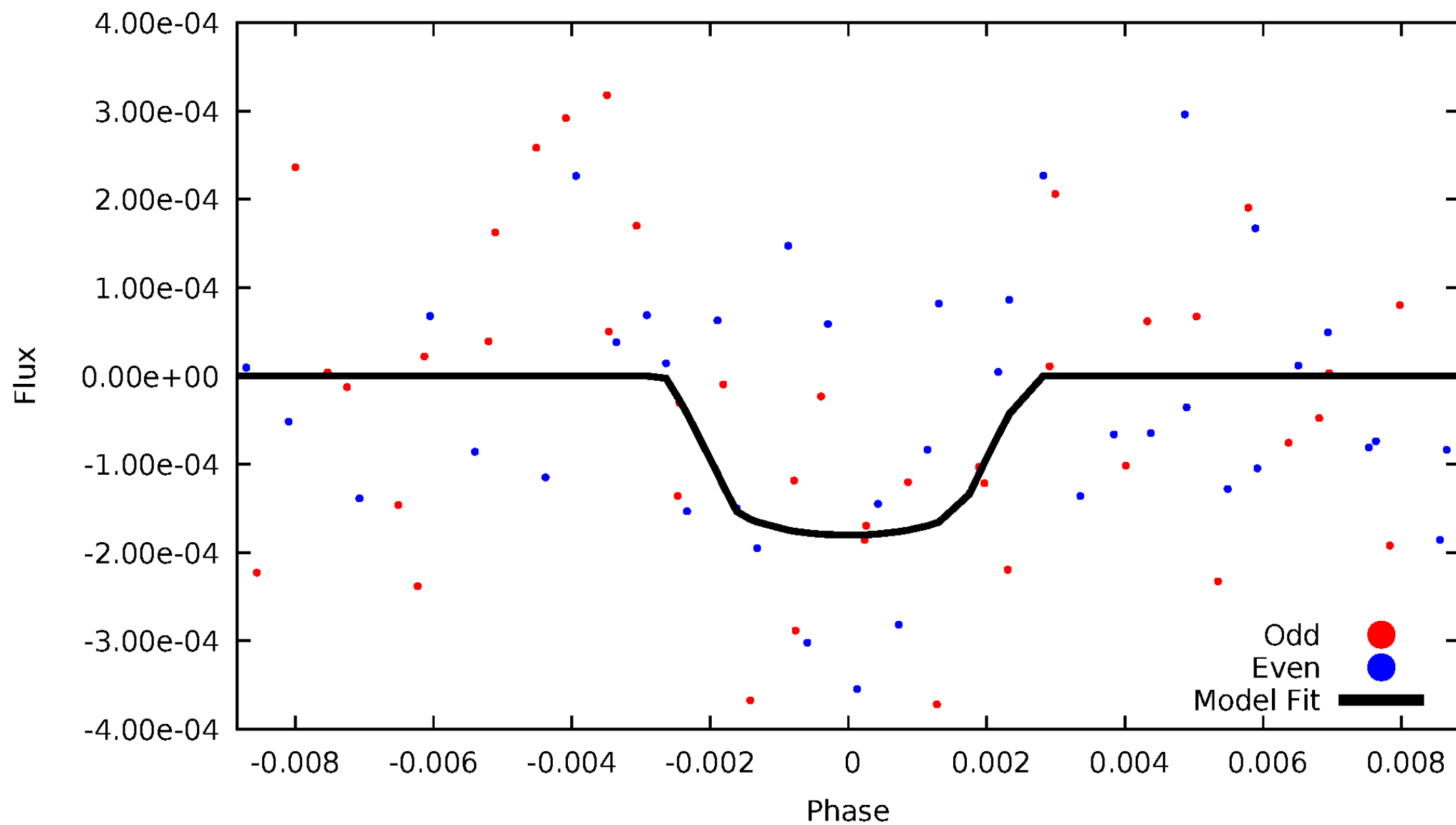


TCE 001571717-04



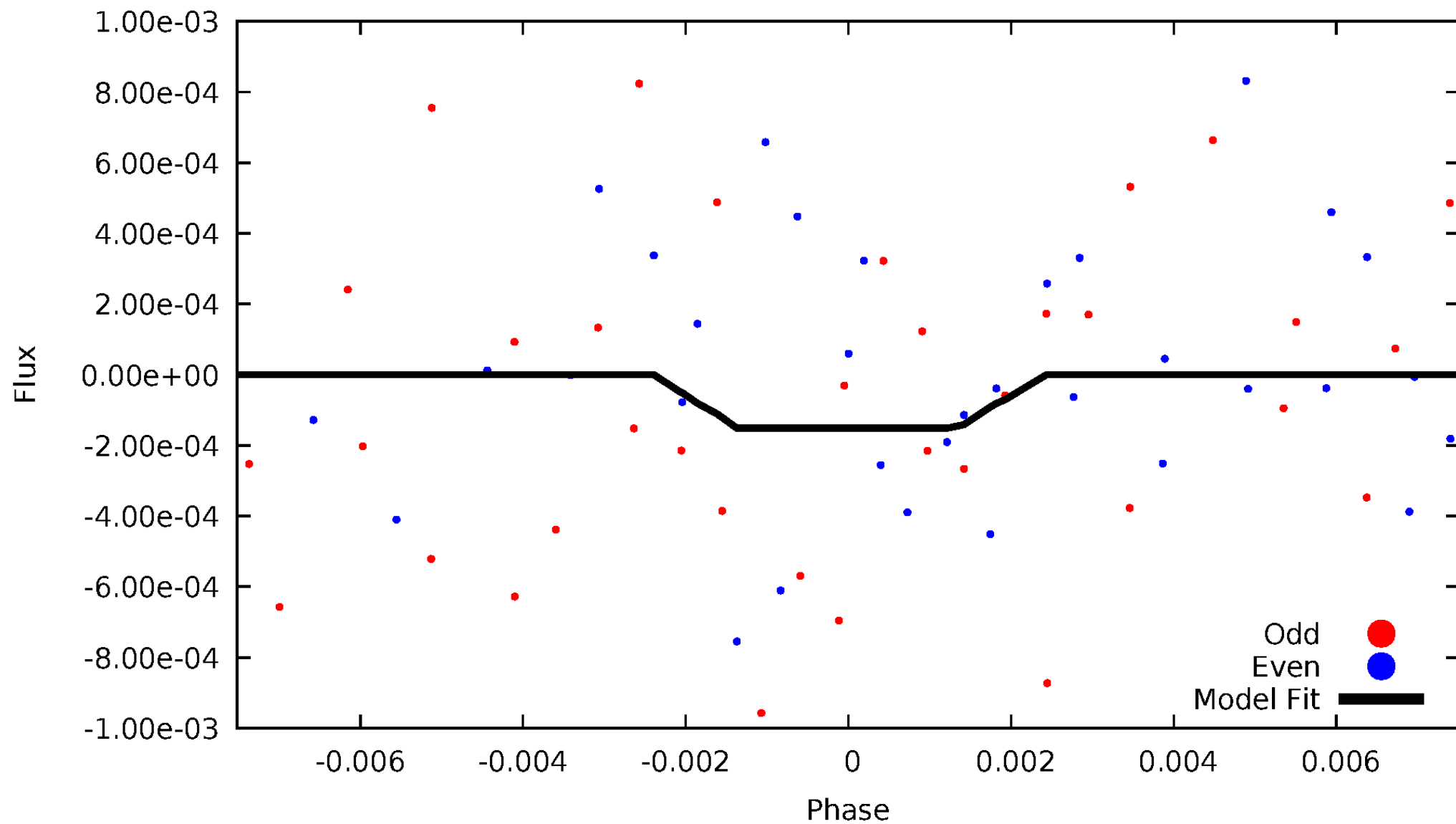
# DV Odd/Even

TCE 001571717-04



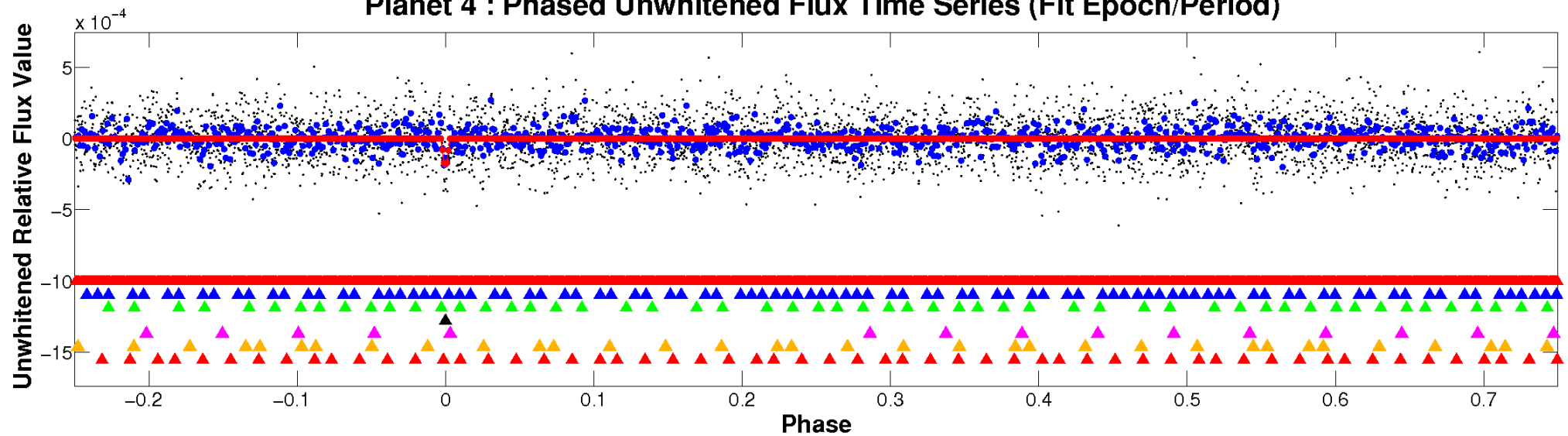
# ALT Odd/Even

TCE 001571717-04

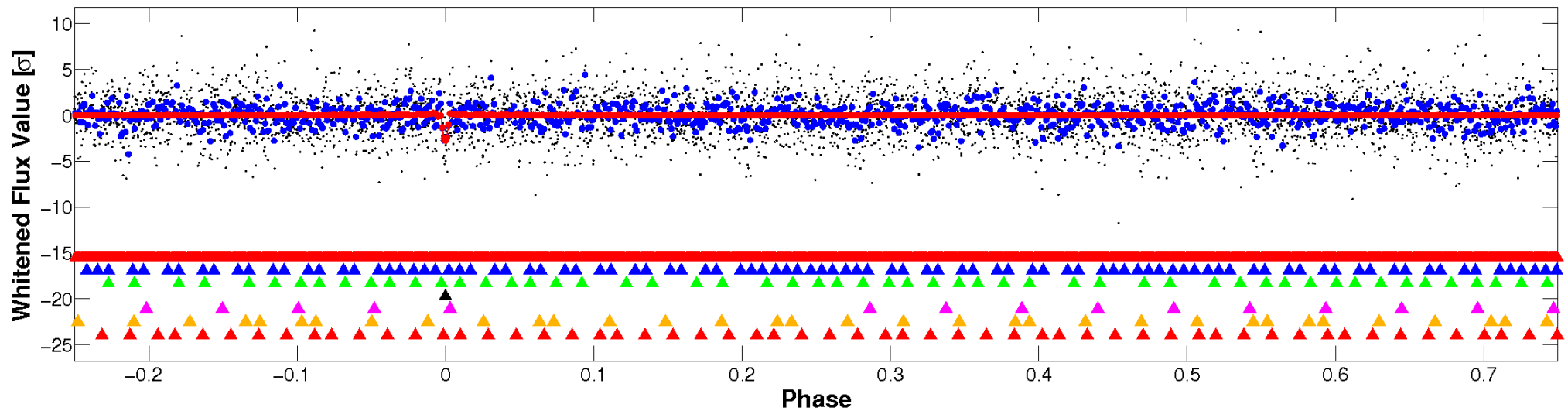


# Non-Whitened Vs. Whitened Light Curve

## Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

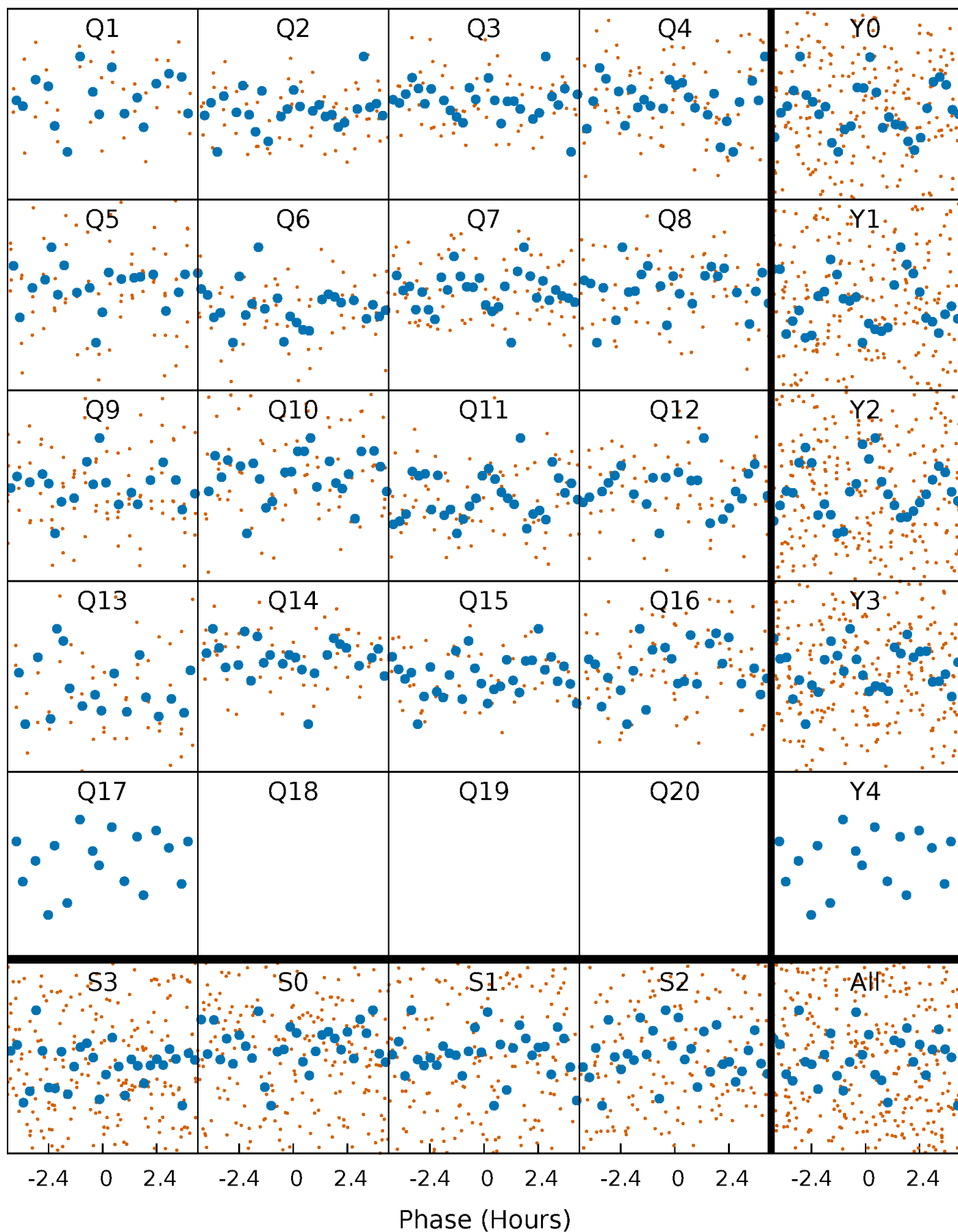


## Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



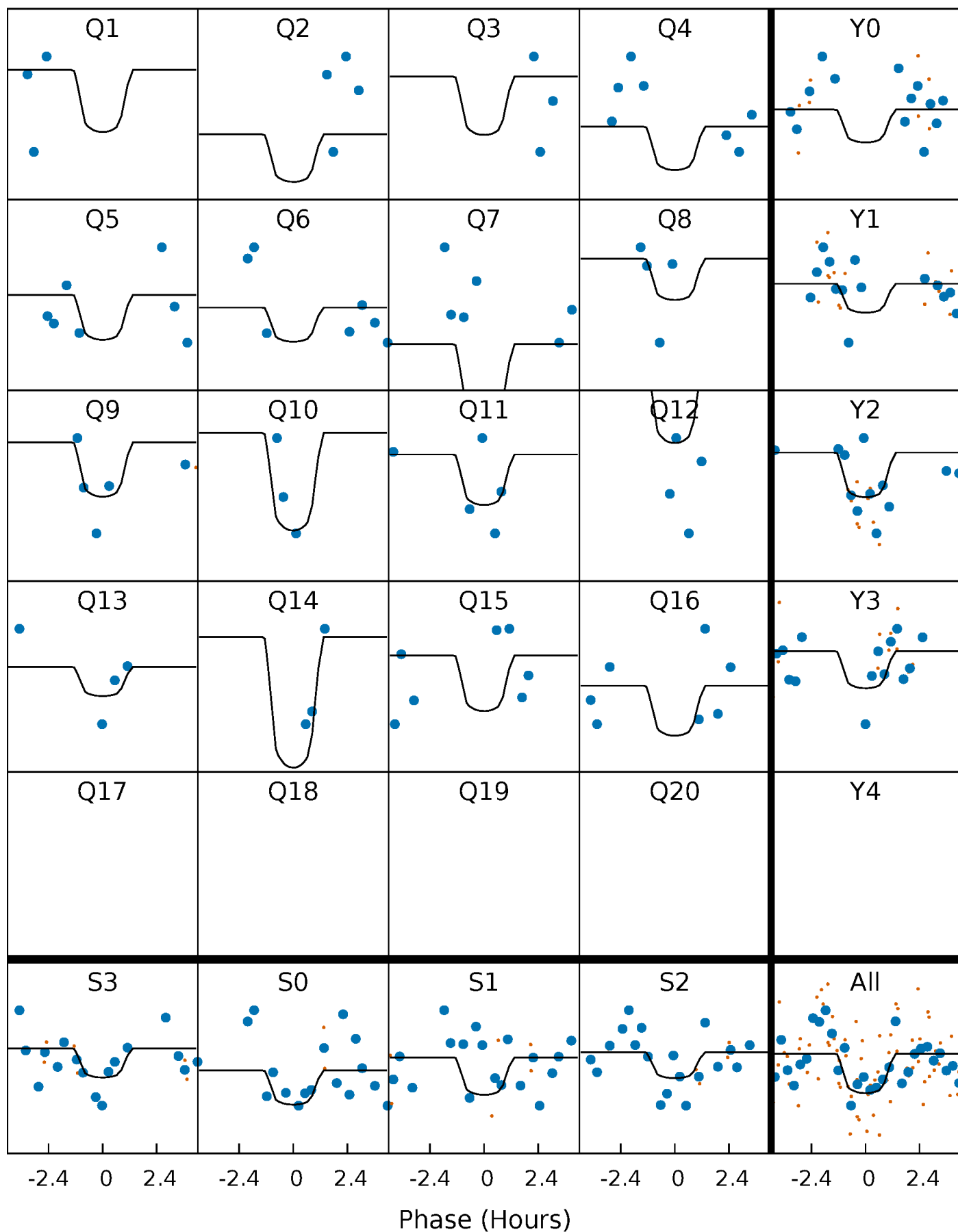
# PDC Quarter-Phased Transit Curves

TCE 001571717-04 P= 19.985456 Days  $T_0=136.438743$  (BKJD)



# DV Quarter-Phased Transit Curves

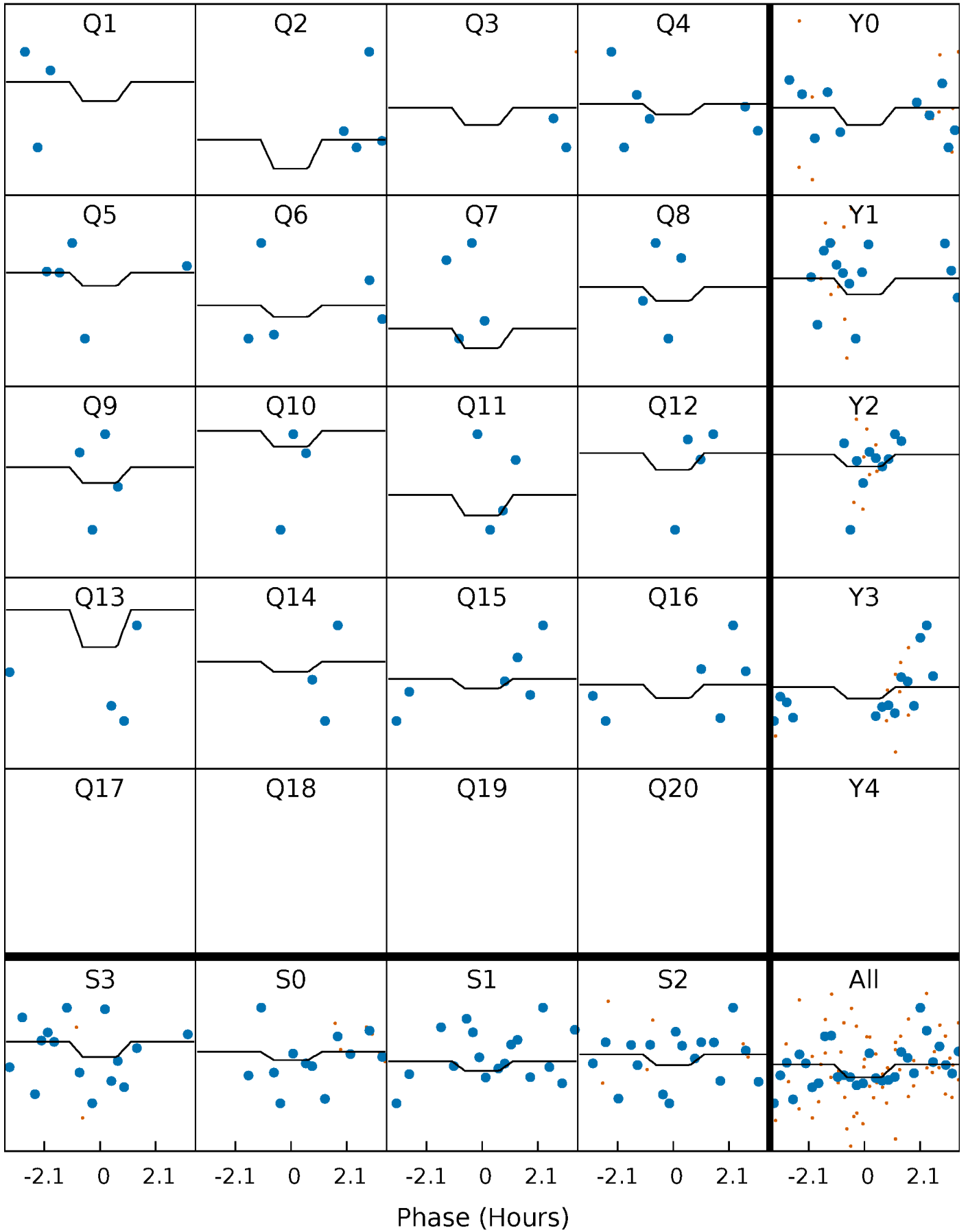
TCE 001571717-04 P= 19.985456 Days  $T_0=136.438743$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

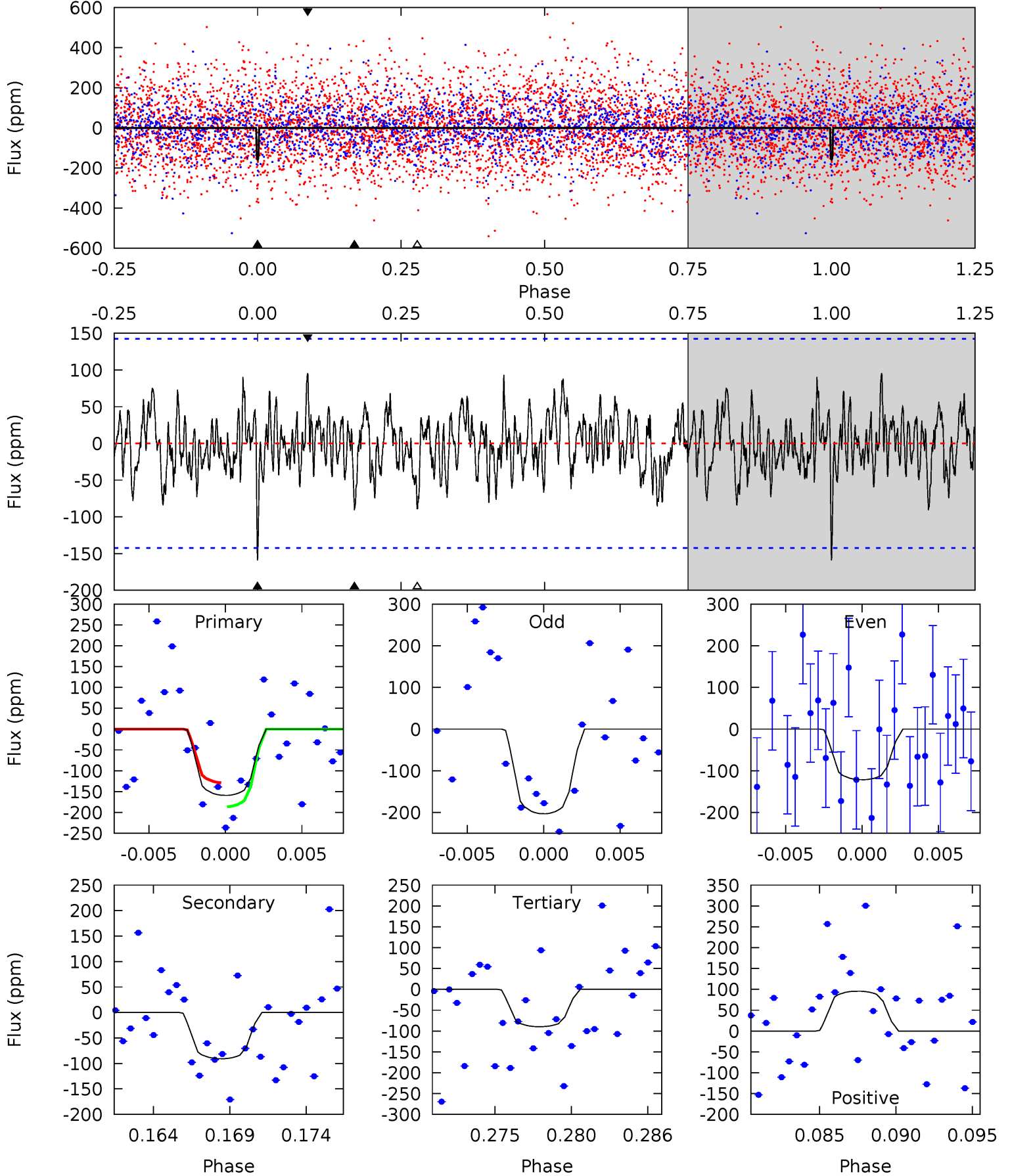
TCE 001571717-04 P= 19.985636 Days  $T_0=136.416602$  (BKJD)



# DV Model-Shift Uniqueness Test

001571717-04, P = 19.985456 Days, E = 116.453287 Days

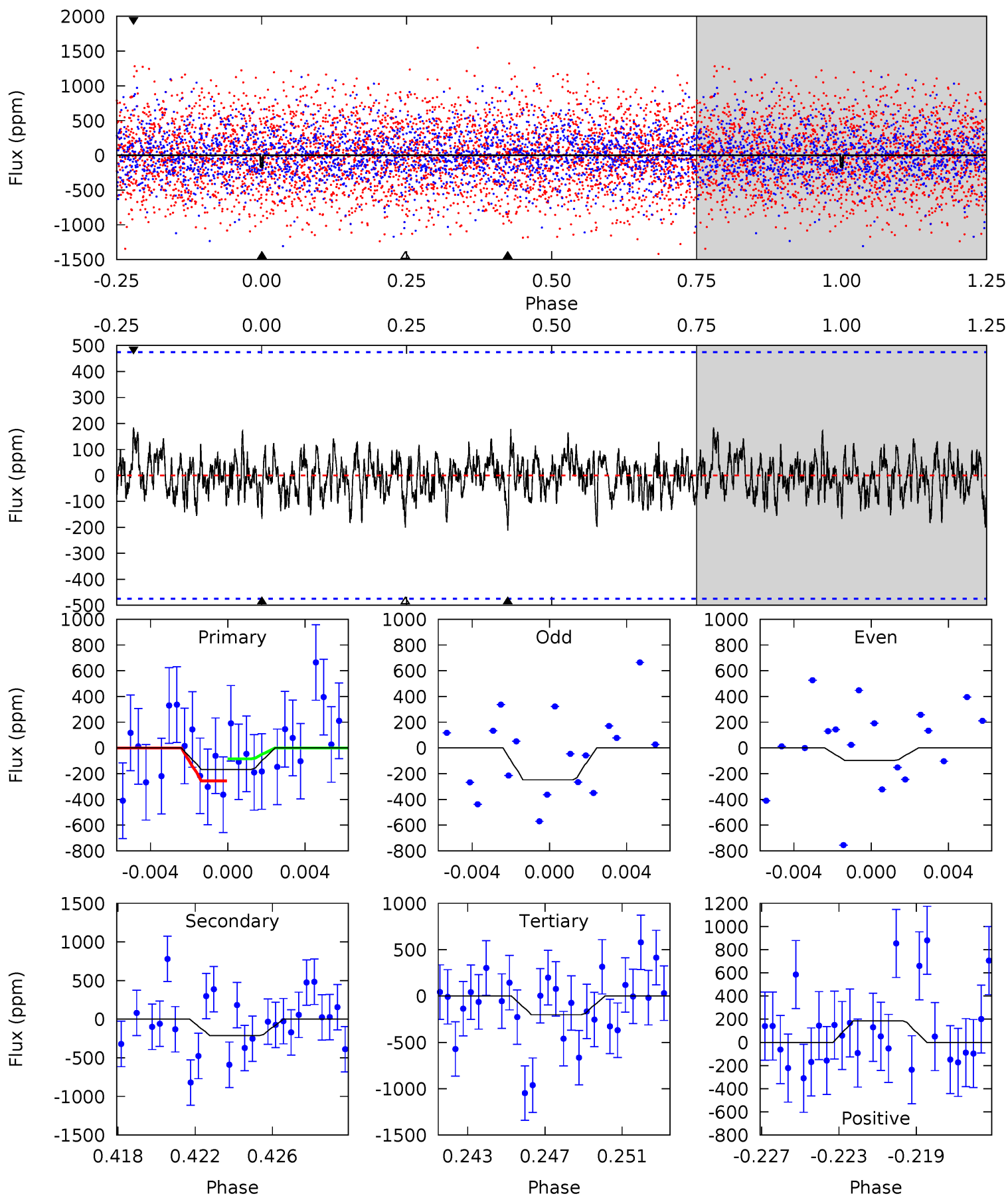
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.75	3.28	3.24	3.46	5.15	2.79	1.19	2.51	2.29	0.04	-0.18	1.48	0.81	0.38	1.04



# Alt Model-Shift Uniqueness Test

001571717-04, P = 19.985636 Days, E = 116.430966 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.82	2.32	2.20	2.02	5.20	2.88	0.68	-0.38	-0.20	0.12	0.30	0.82	1.03	0.47	0.94



### Stellar Parameters For KIC 001571717

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$8302^{+232}_{-348}$	$4.034^{+0.192}_{-0.128}$	$-0.240^{+0.250}_{-0.300}$	$2.134^{+0.439}_{-0.536}$	$1.796^{+0.136}_{-0.294}$	$0.260^{+0.282}_{-0.101}$
	+3%/-4%	+5%/-3%	+104%/-125%	+21%/-25%	+8%/-16%	+108%/-39%
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 001571717-04 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-91 \pm 28$	$4.89^{+4.51}_{-3.24}$	$1770^{+119}_{-138}$	$5208^{+4495}_{-1155}$	$59^{+460}_{-43}$
Alt.	$-212 \pm 91$	$4.88^{+4.67}_{-3.17}$	$1773^{+110}_{-134}$	$6480^{+7439}_{-1849}$	$143^{+1087}_{-112}$

$T_{max}$  = 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  $A_{obs} \gg 1.0$

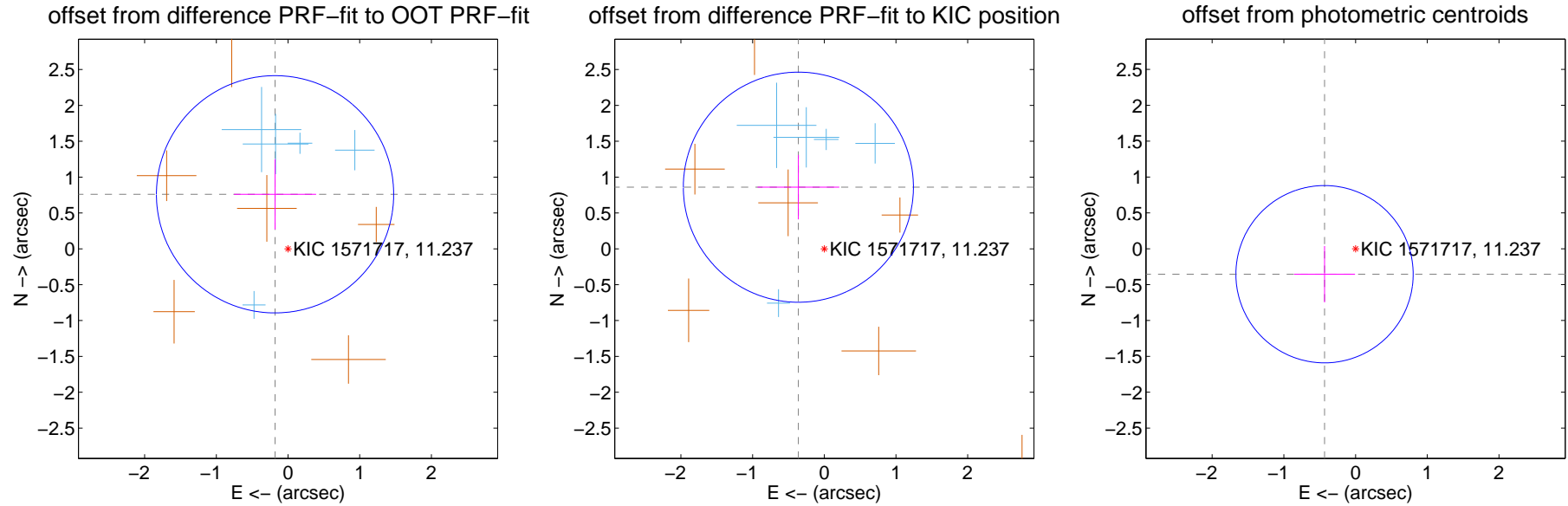
## DV Centroid Data

Supplemental centroid analysis for 001571717-04. **Kepler magnitude: 11.24.** Transit SNR 11.36

There are 5 quarters with good PRF difference image offsets

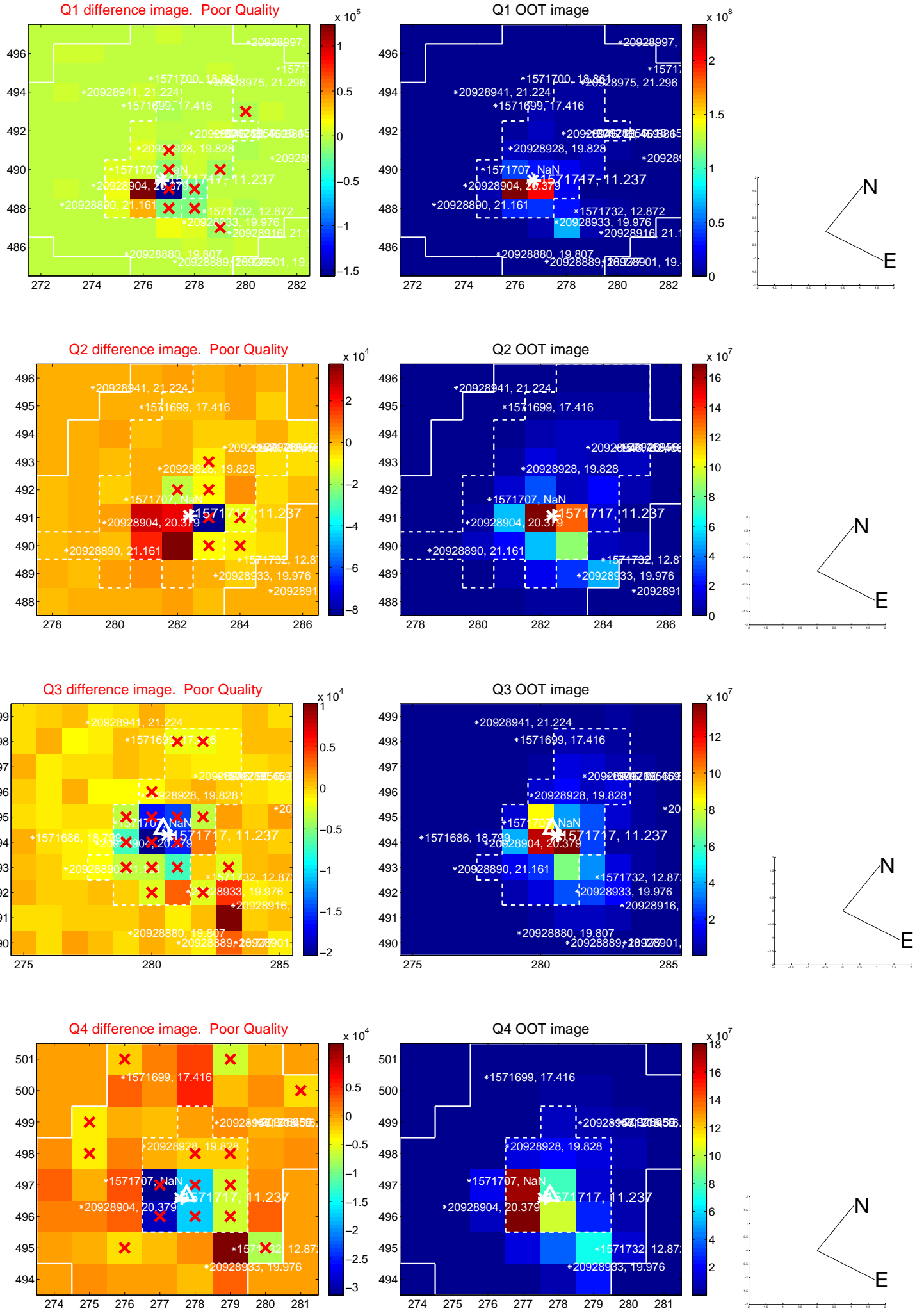
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.782 \pm 0.551$	1.42	$0.181 \pm 0.573$	$0.761 \pm 0.491$
PRF-fit source offset from KIC position	$0.932 \pm 0.535$	1.74	$0.361 \pm 0.571$	$0.859 \pm 0.449$
photometric centroid source offset	$0.56 \pm 0.41$	1.36	$0.43 \pm 0.42$	$-0.35 \pm 0.39$



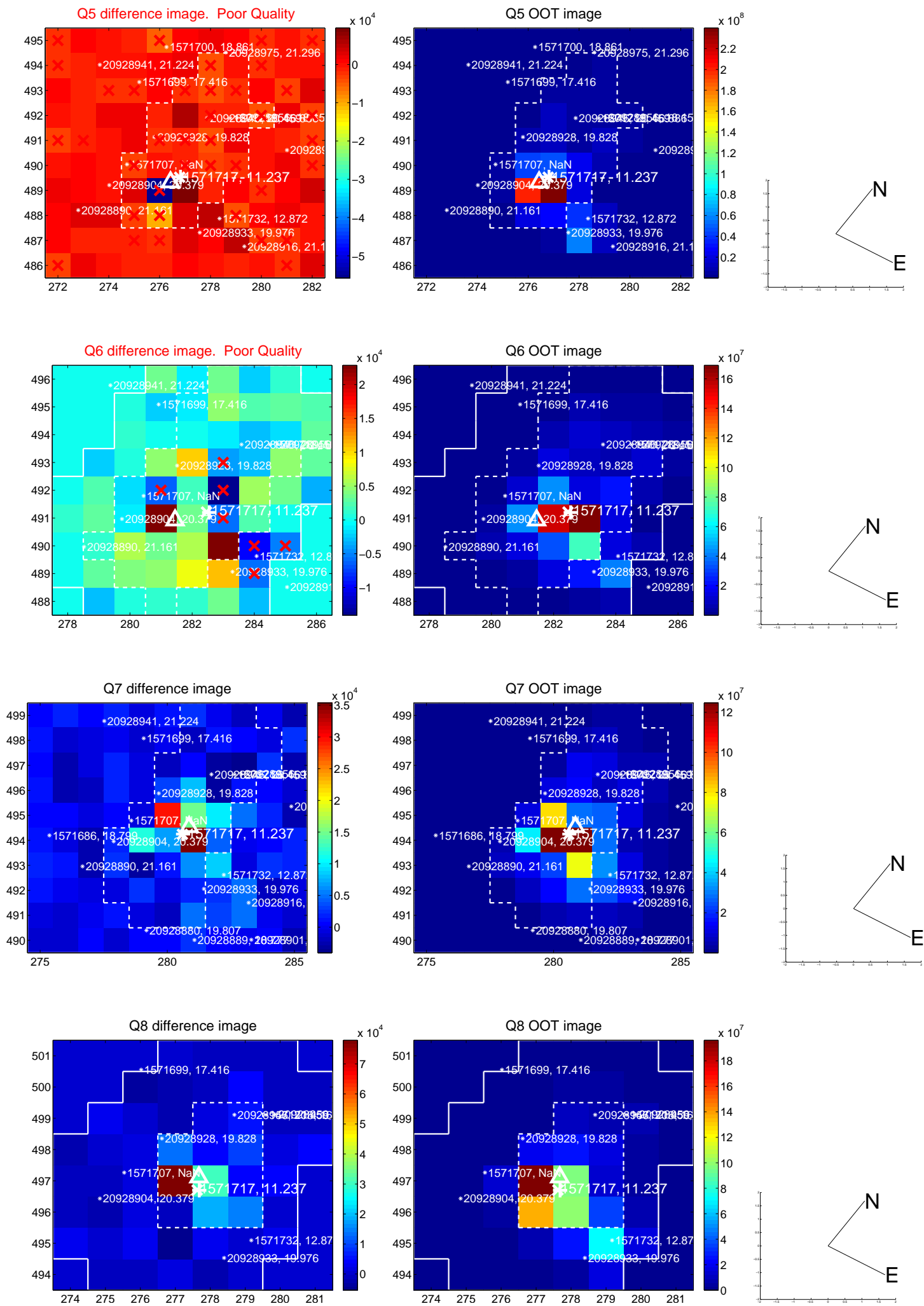
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

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

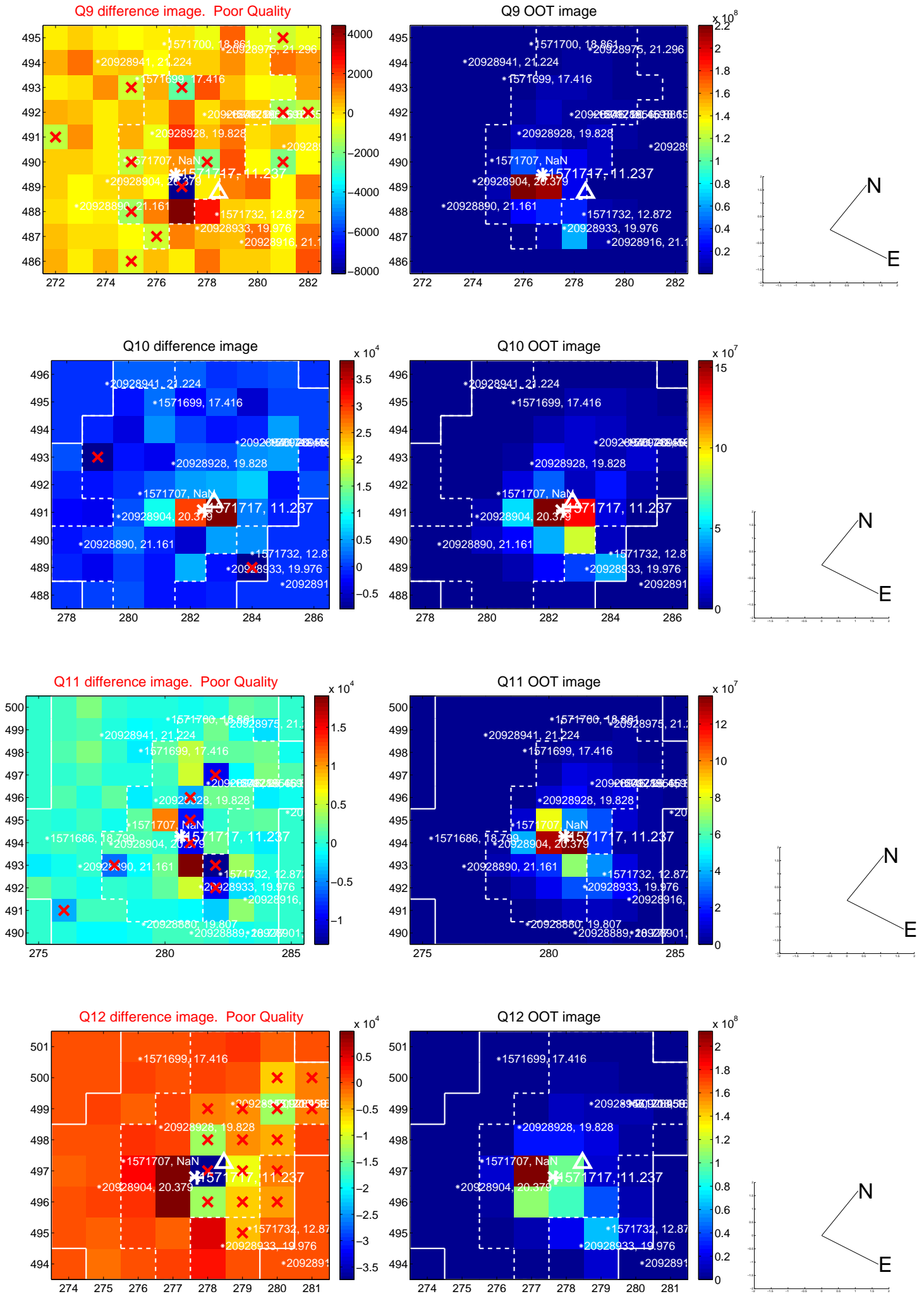




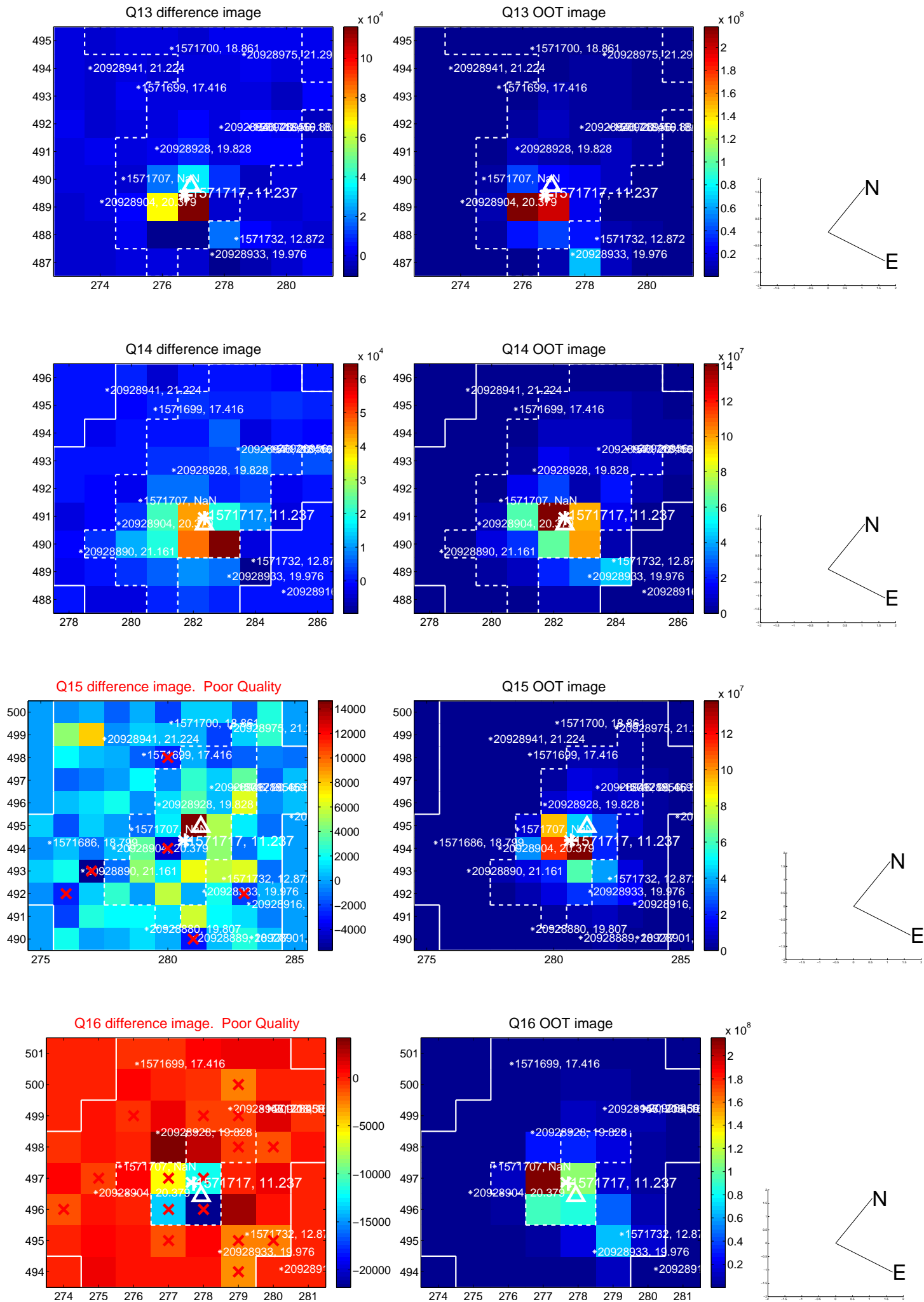
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



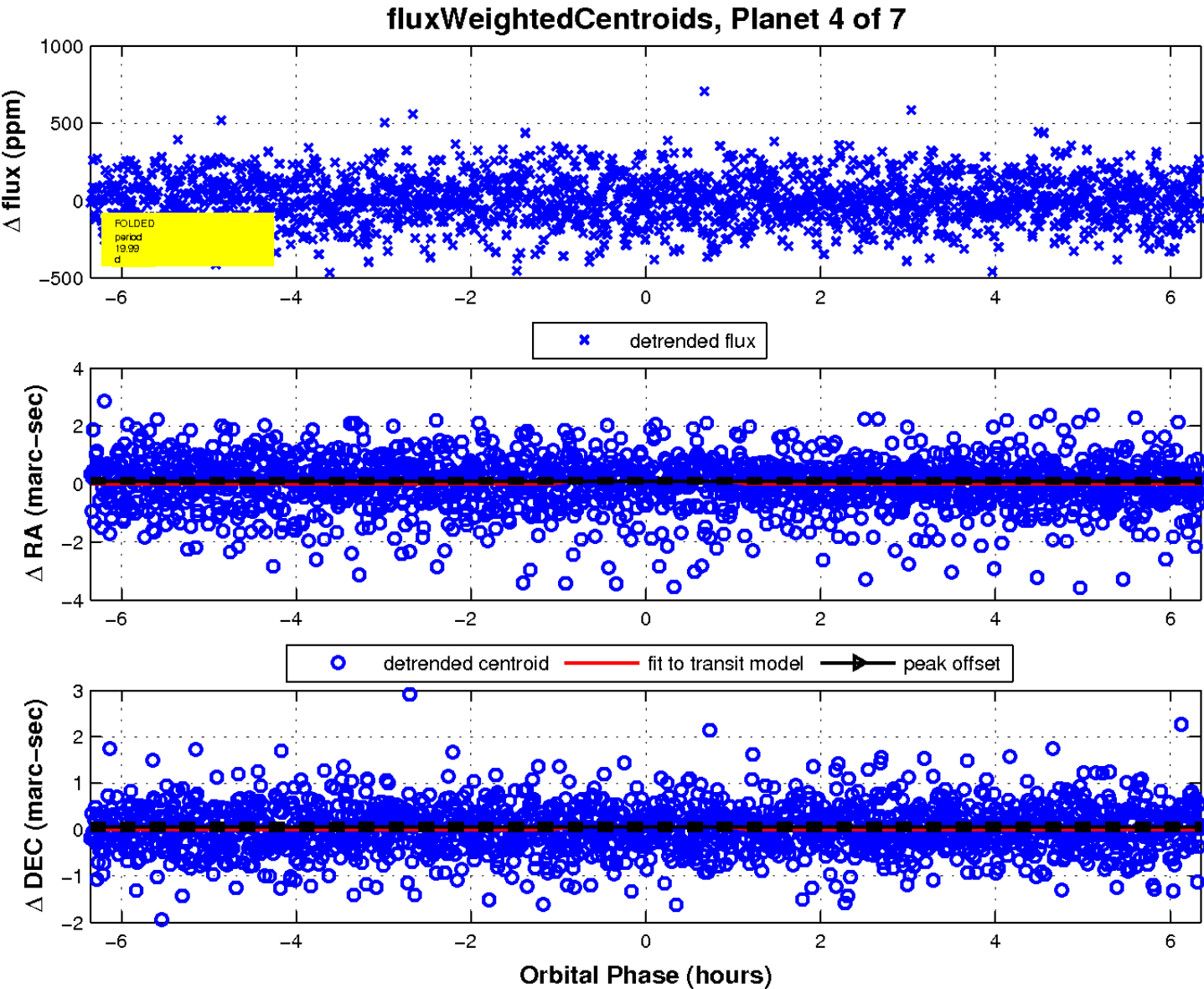
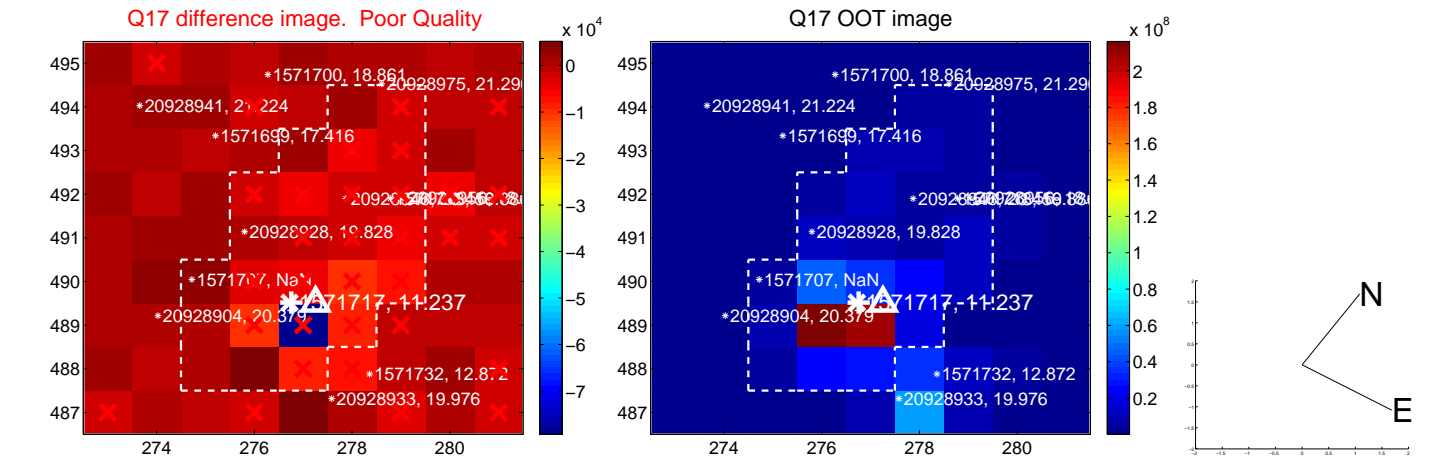
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



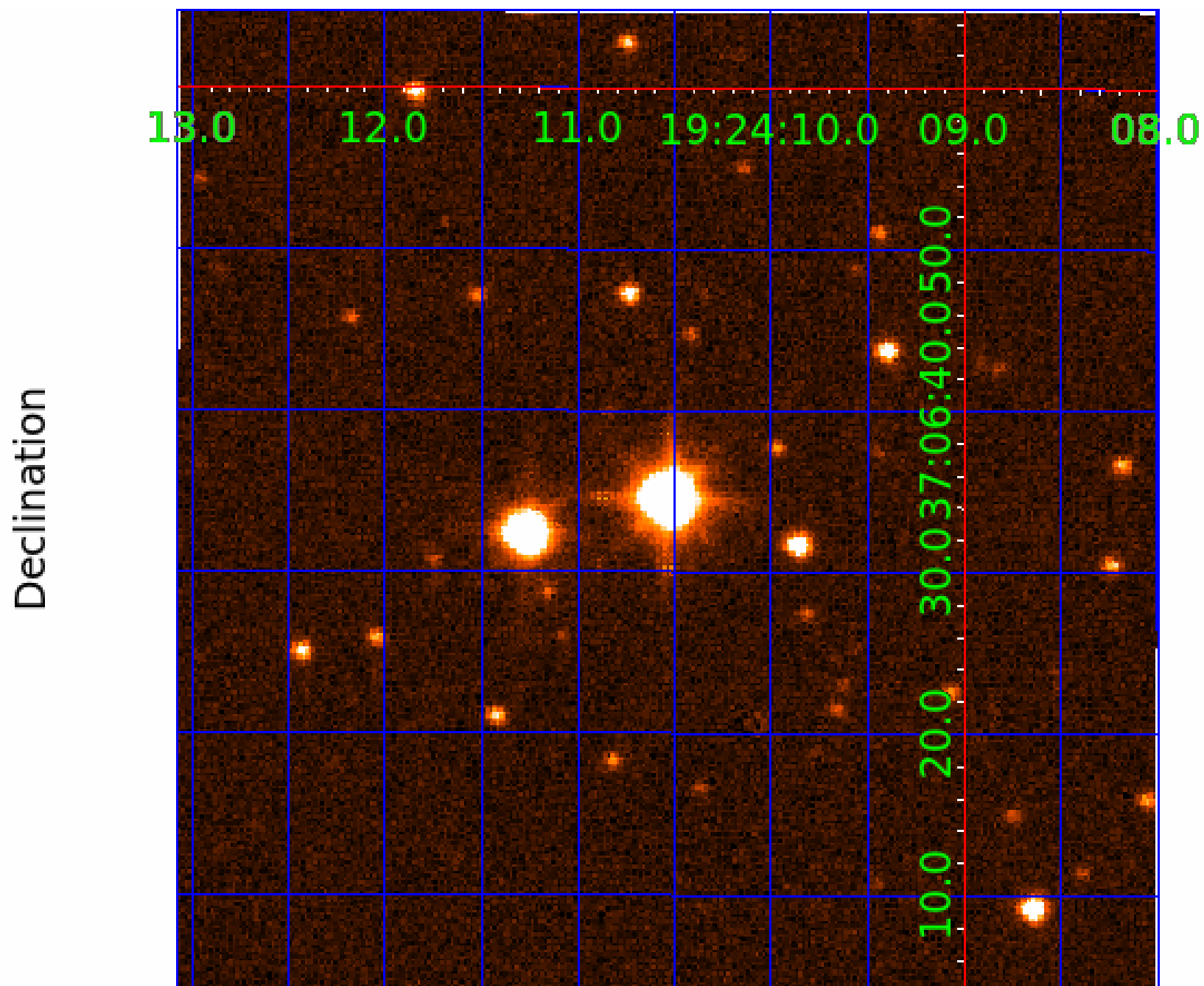
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image



# KIC 001571717

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
001571717-01	OBS	No	1.019803	132.338418	10.3	7.413	9.9	6.3	2.13	8302	0.70	33347.74
001571717-02	OBS	No	15.107407	145.585070	251.1	1.169	13.1	13.2	2.13	8302	3.45	916.58
001571717-03	OBS	No	26.962963	147.496581	311.1	1.565	13.3	11.8	2.13	8302	4.37	423.38
001571717-04	OBS	No	19.985456	136.438743	180.3	2.119	10.7	11.4	2.13	8302	3.07	631.15
001571717-05	OBS	No	100.950826	142.158723	136.4	0.752	11.0	4.0	2.13	8302	2.94	72.82
001571717-06	OBS	No	43.176197	148.076164	148.6	4.221	10.3	10.0	2.13	8302	3.01	225.99
001571717-07	OBS	No	25.943432	134.675594	279.1	1.345	10.6	10.1	2.13	8302	3.96	445.71

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001571717-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED
001571717-02	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED—HALO_GHOST
001571717-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED— HALO_GHOST
001571717-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
001571717-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
001571717-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
001571717-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—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](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

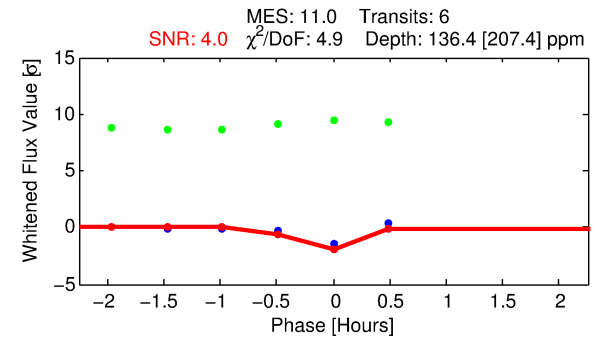
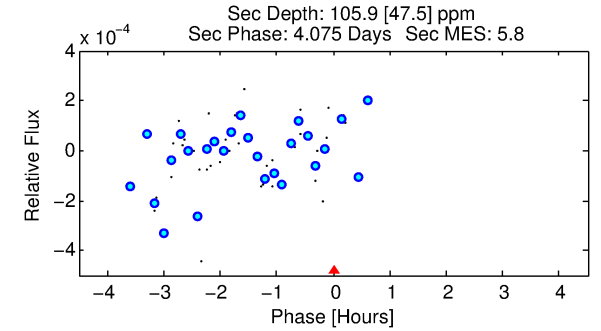
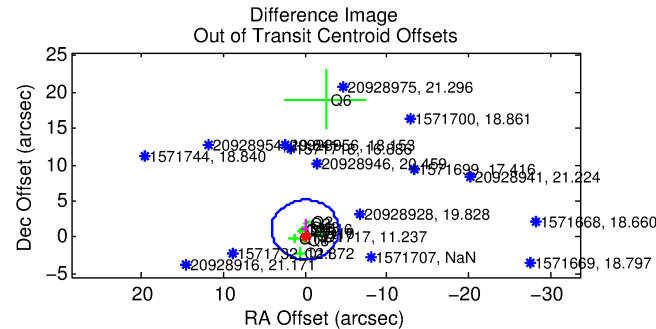
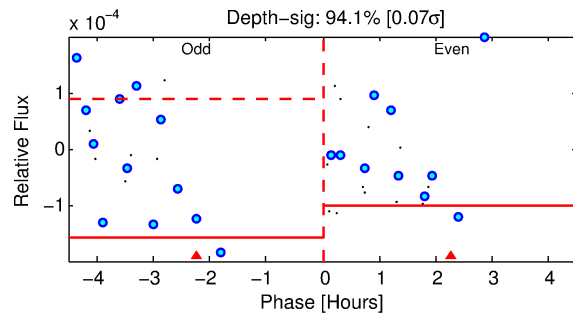
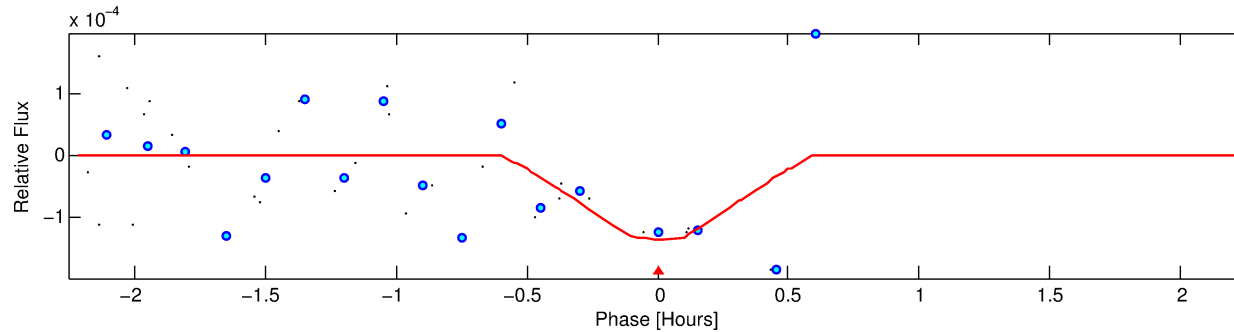
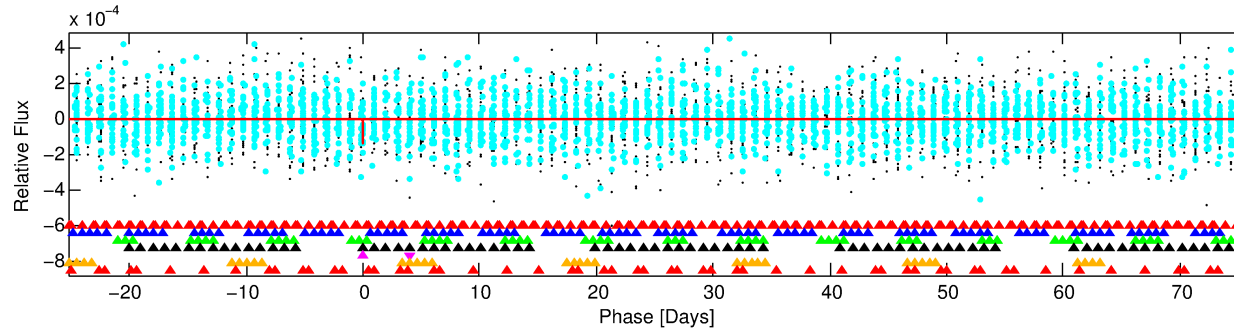
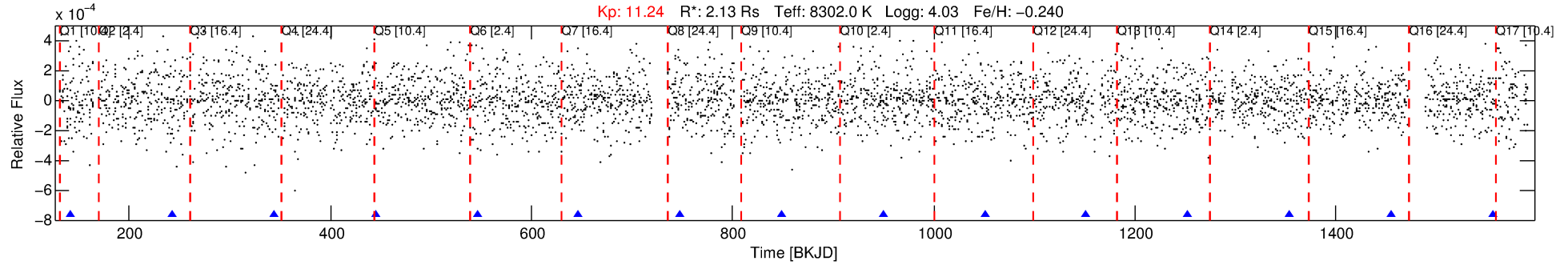
Ephemeris Match Information For 001571717-05

No Significant Match Found



# DV One-Page Summary

KIC: 1571717 Candidate: 5 of 7 Period: 100.951 d



## DV Fit Results:

Period = 100.95083 [0.00476] d  
Epoch = 142.1587 [0.0563] BKJD  
 $R_p/R^* = 0.0126$  [0.0254]  
 $a/R^* = 476.11$  [5672.85]  
 $b = 0.90$  [2.50]  
 $\text{Seff} = 72.82$  [27.54]  
 $T_{\text{eq}} = 745$  [70] K  
 $R_p = 2.94$  [5.97]  $R_e$   
 $a = 0.5159$  [0.1151] AU  
 $A_g = 1794.25$  [7296.98] [0.25 $\sigma$ ]  
 $T_{\text{eff}} = 7496$  [7601] K [0.89 $\sigma$ ]

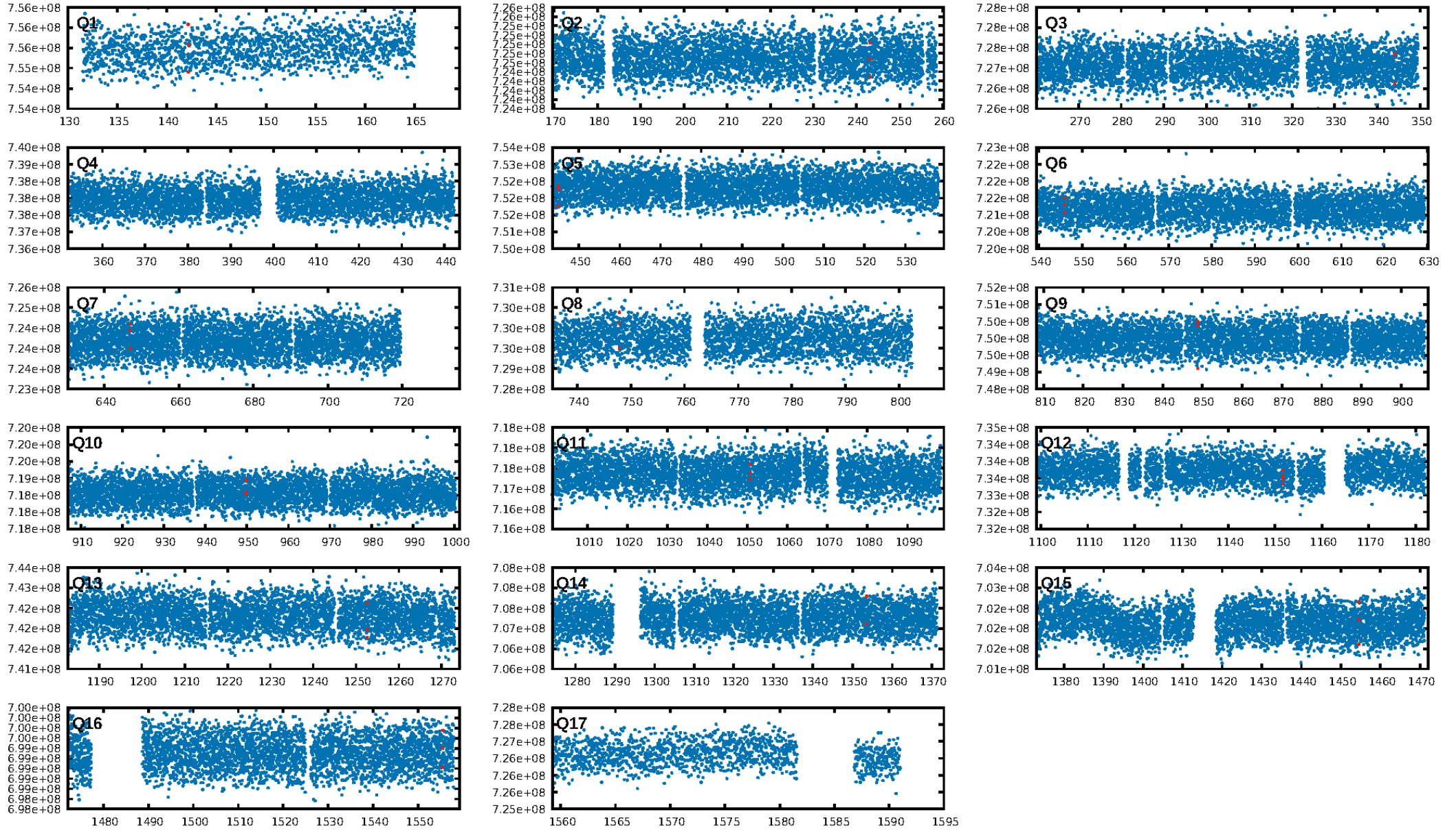
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [323.39 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 29.3%  
ModelChiSquareGof-sig: 33.1%  
Bootstrap-pfa: 1.56e-09  
RollingBand-fgt: 1.00 [6/6]  
GhostDiagnostic-chr: 9.411  
Centroid-sig: 2.6%  
Centroid-so: 4.106 arcsec [2.31 $\sigma$ ]  
OotOffset-rm: 1.013 arcsec [0.74 $\sigma$ ]  
OotOffset-st: 4/4/2/3 [13]  
KicOffset-rm: 1.124 arcsec [0.90 $\sigma$ ]  
KicOffset-st: 4/4/2/3 [13]  
DiffImageQuality-fgm: 0.85 [11/13]  
DiffImageOverlap-fno: 0.85 [11/13]

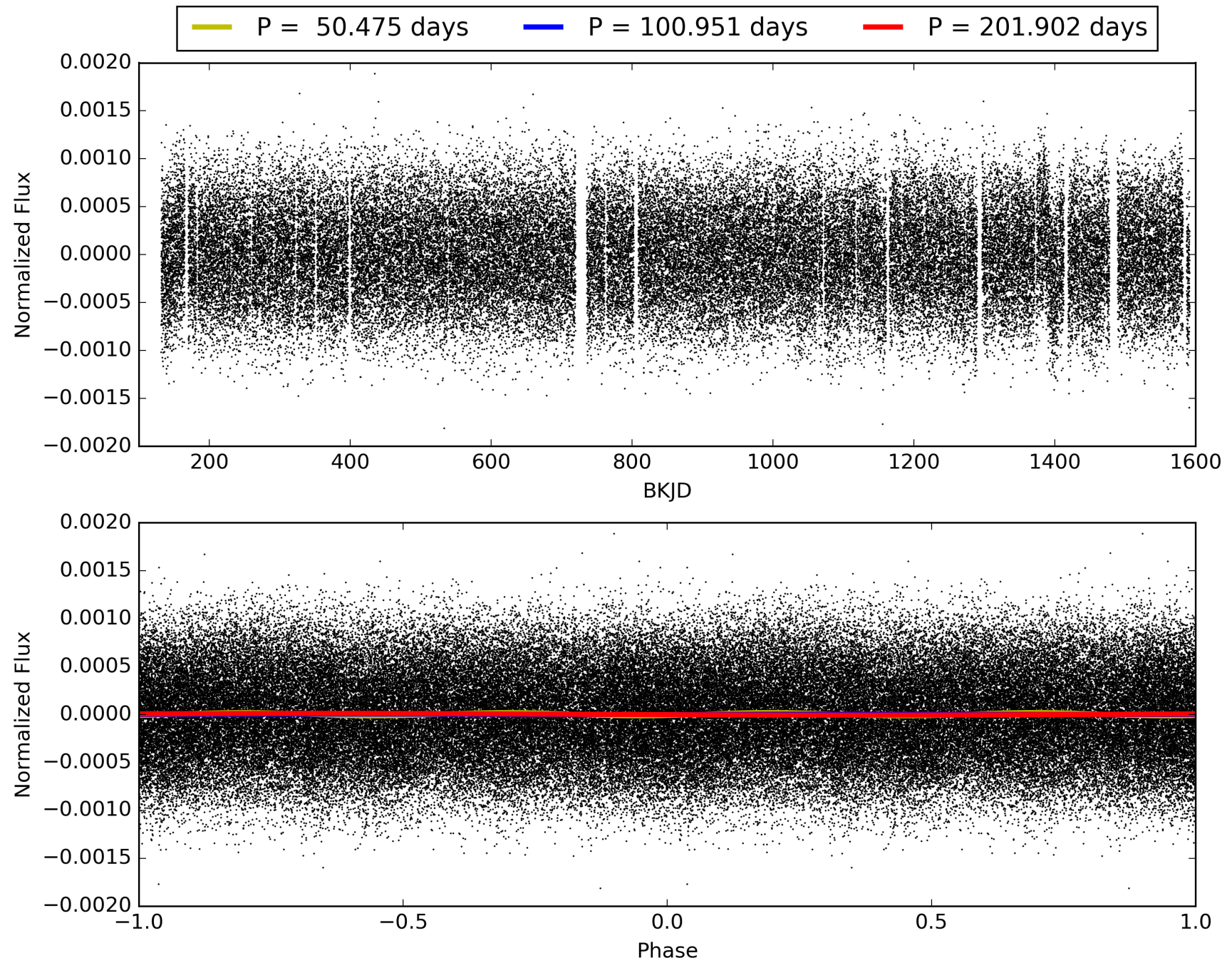
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:57:42 Z

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

# TCE 001571717-05, PDC Light Curves

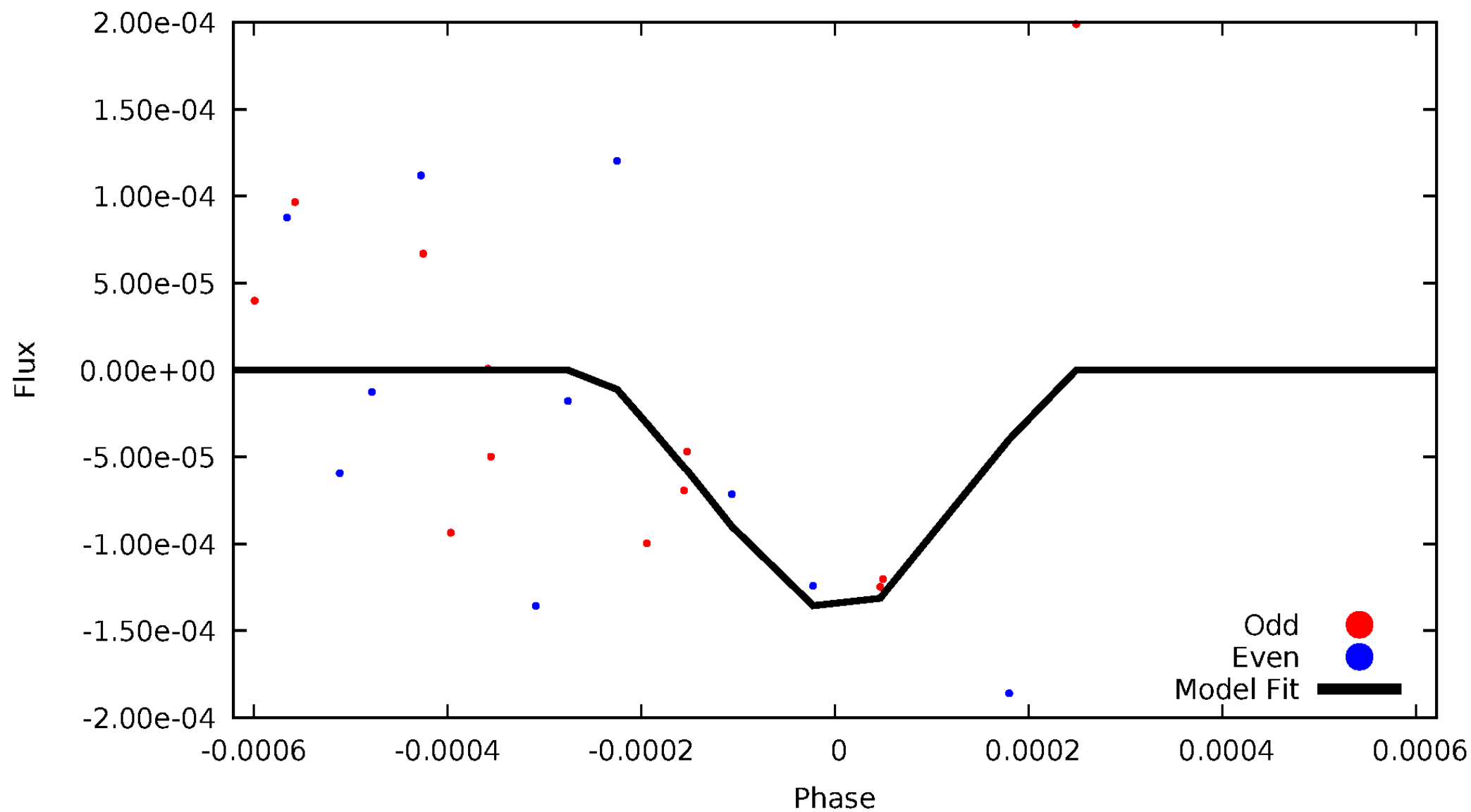


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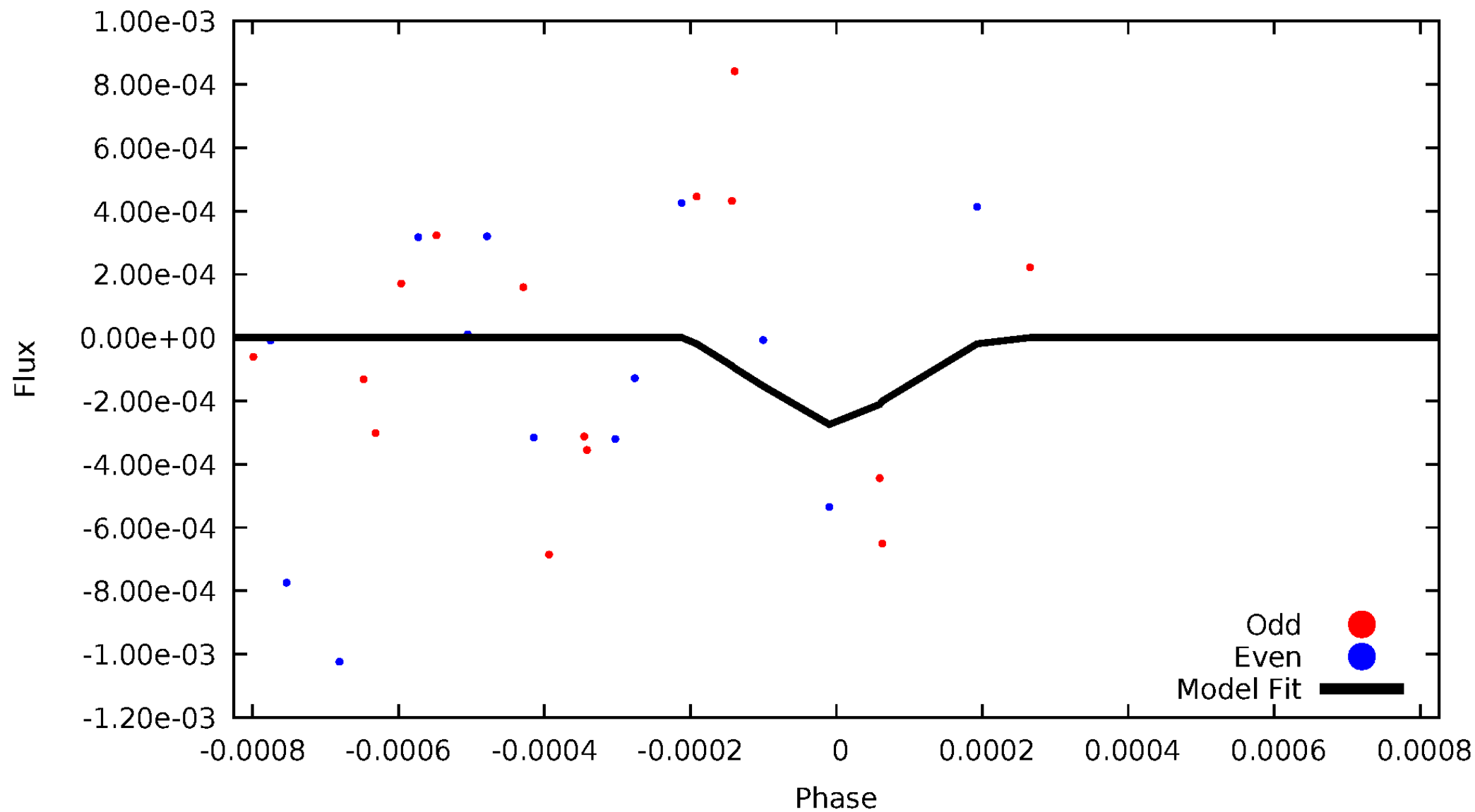
# DV Odd/Even

TCE 001571717-05



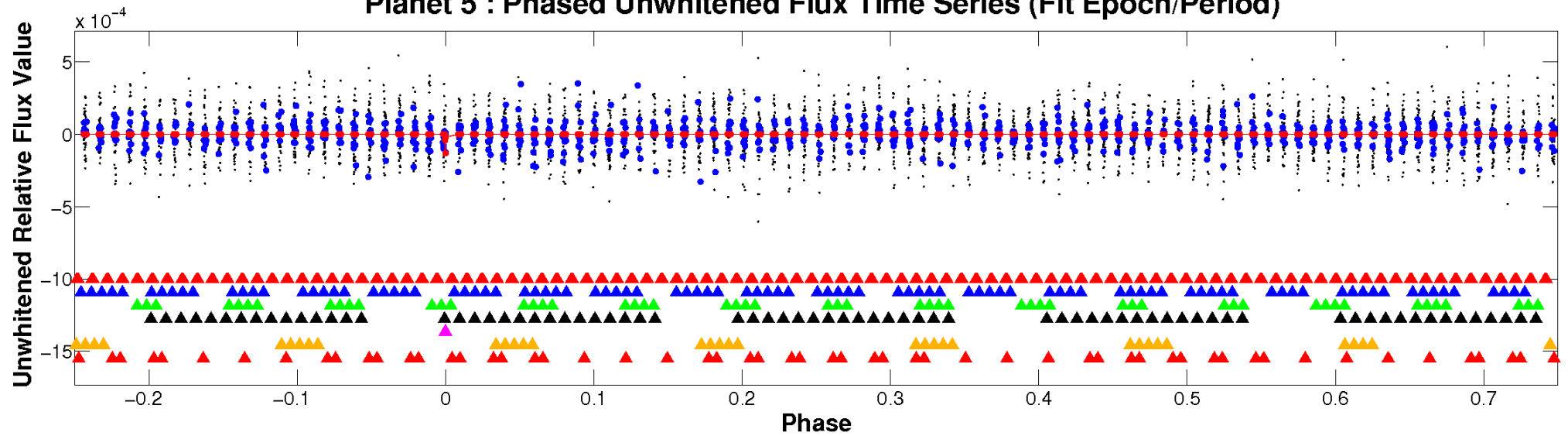
# ALT Odd/Even

TCE 001571717-05

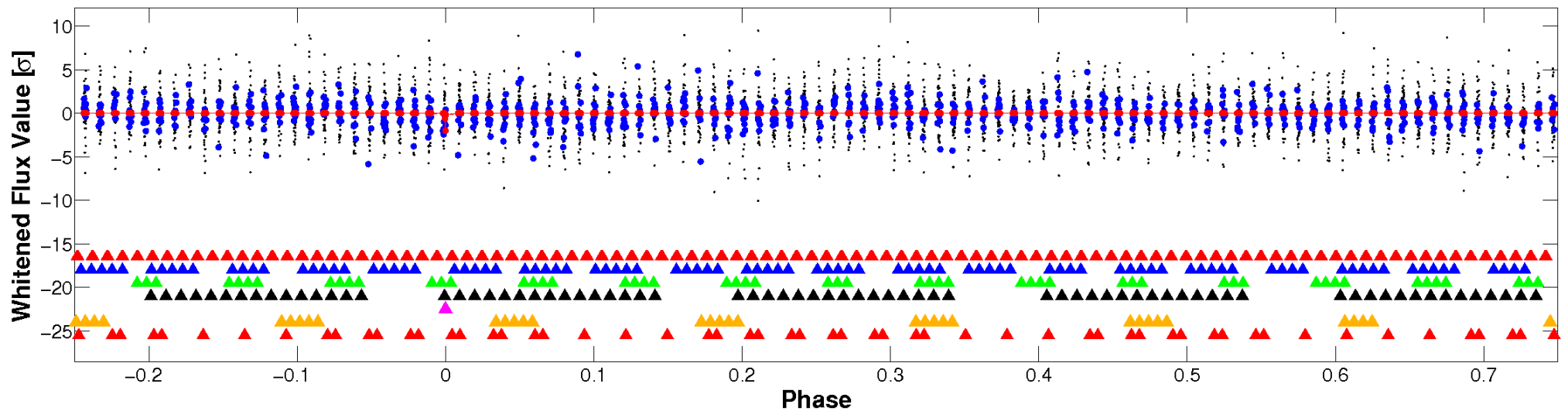


# Non-Whitened Vs. Whitened Light Curve

## Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)



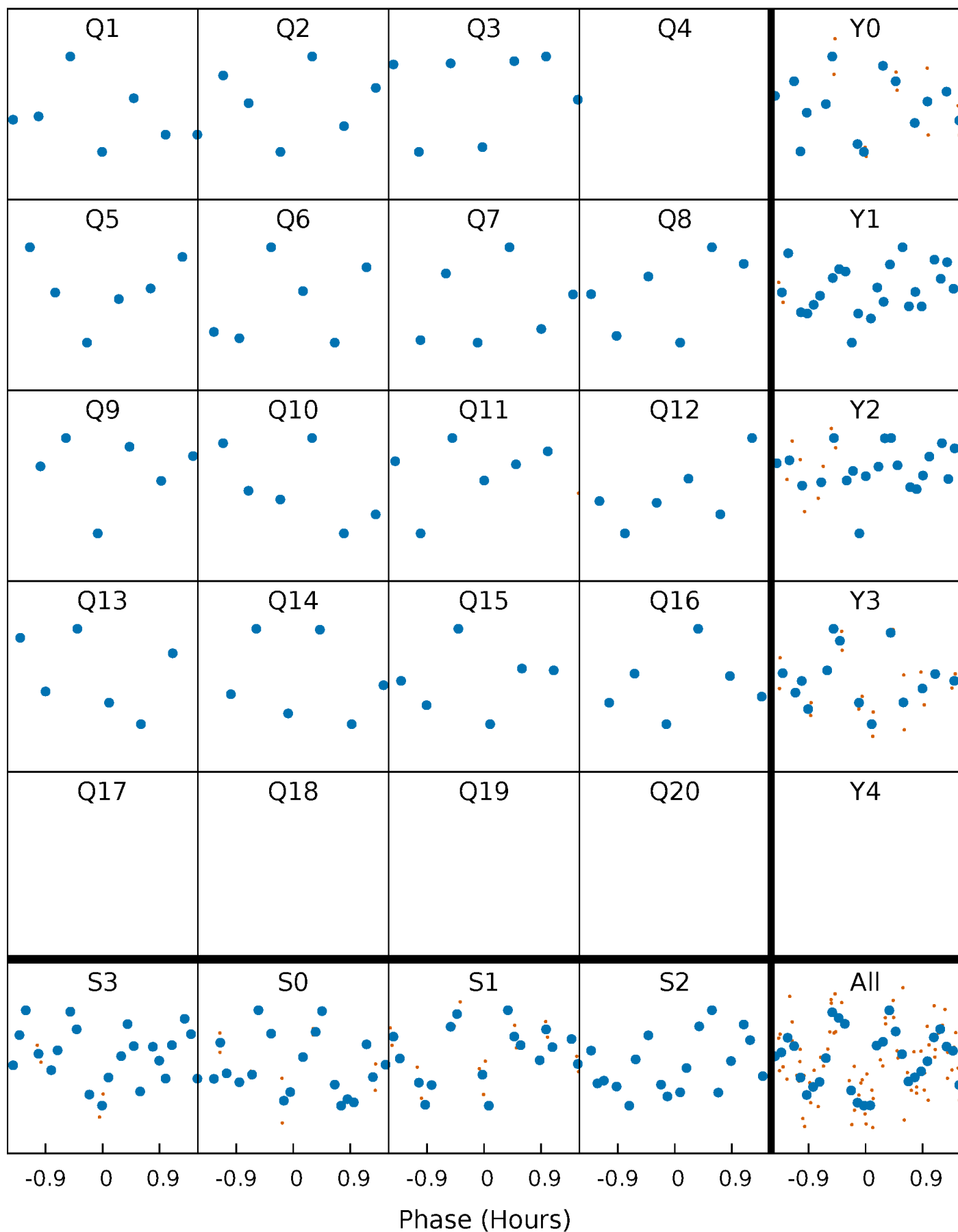
## Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)





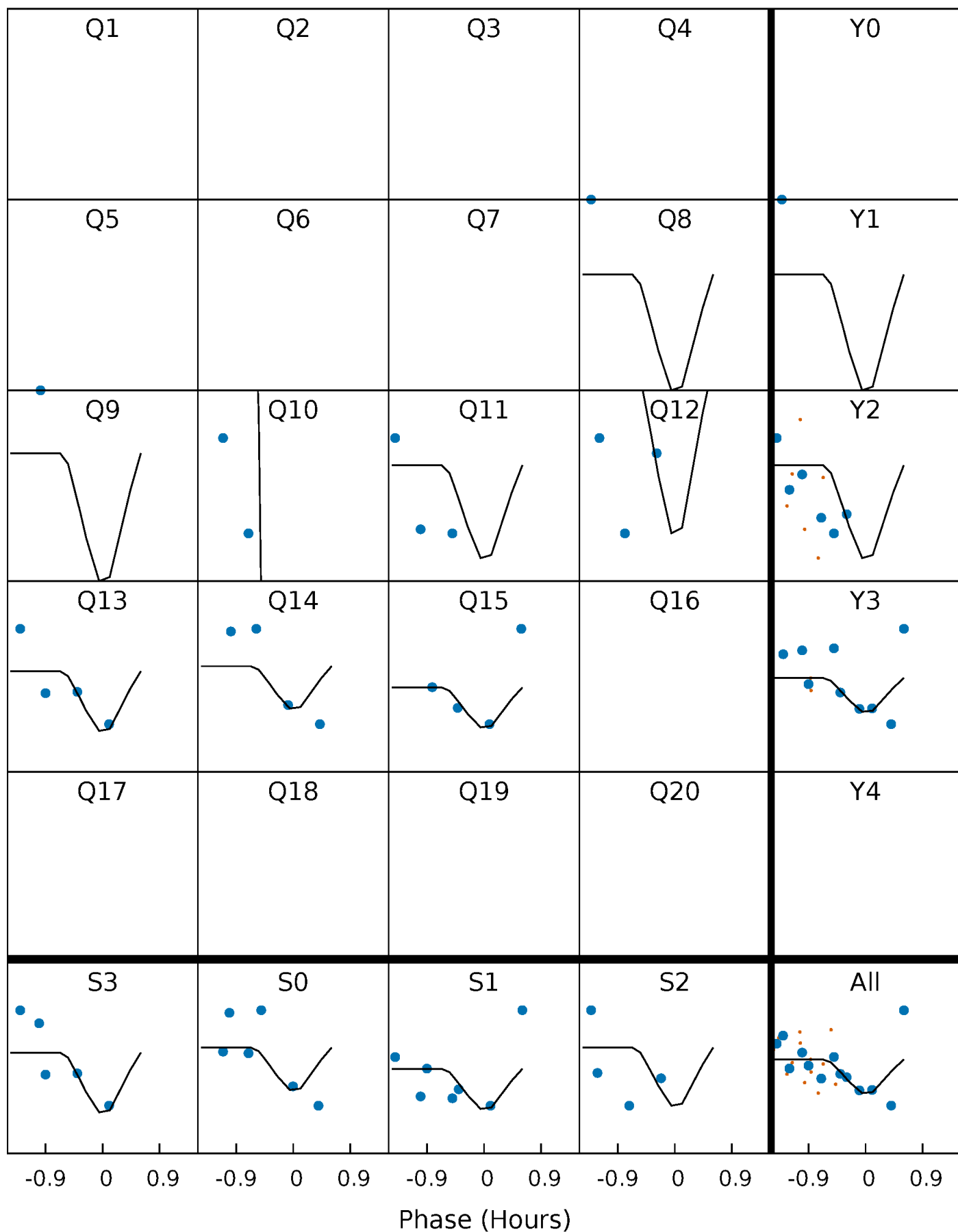
# PDC Quarter-Phased Transit Curves

TCE 001571717-05     $P=100.950826$  Days     $T_0=142.158724$  (BKJD)



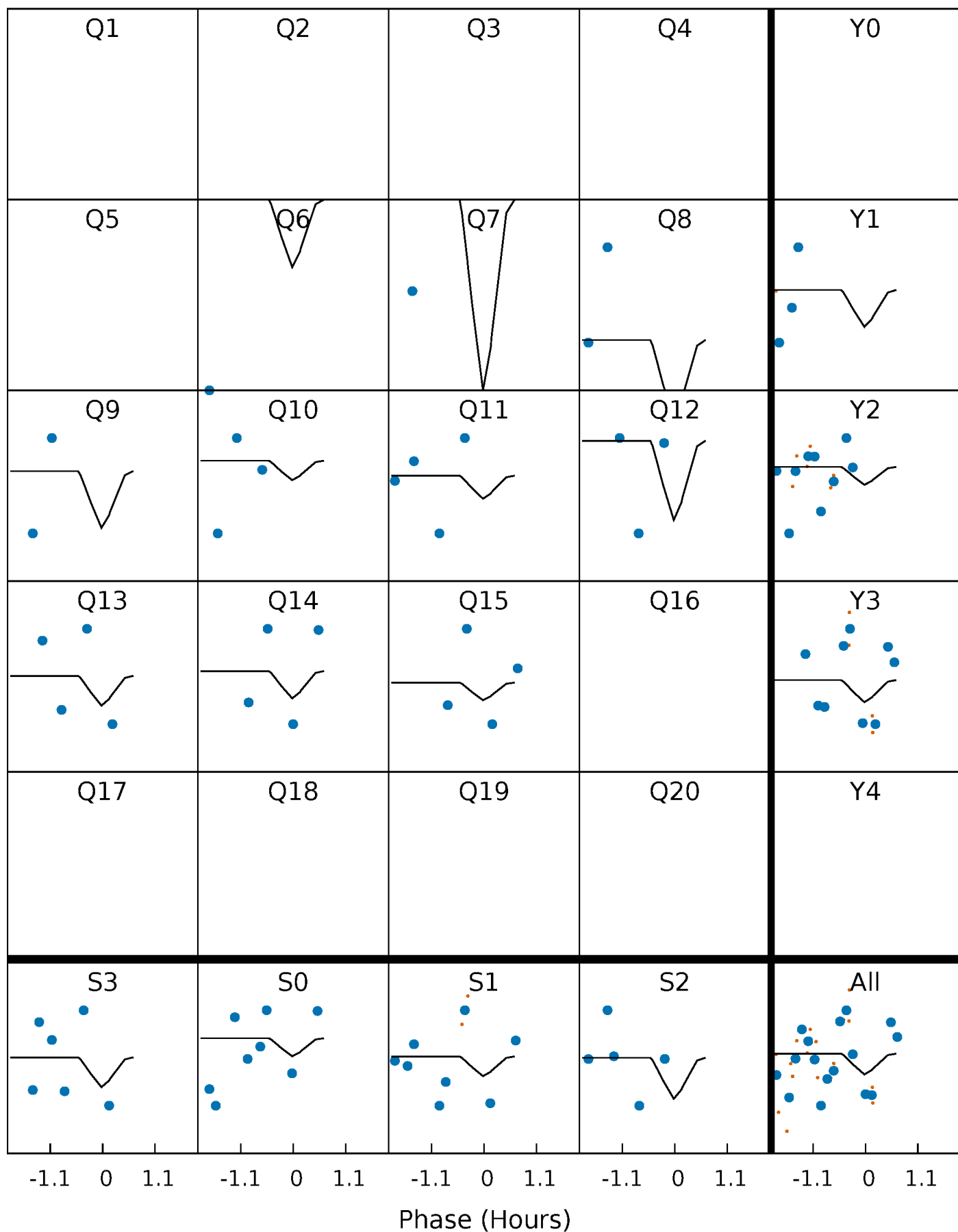
# DV Quarter-Phased Transit Curves

TCE 001571717-05     $P=100.950826$  Days     $T_0=142.158724$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

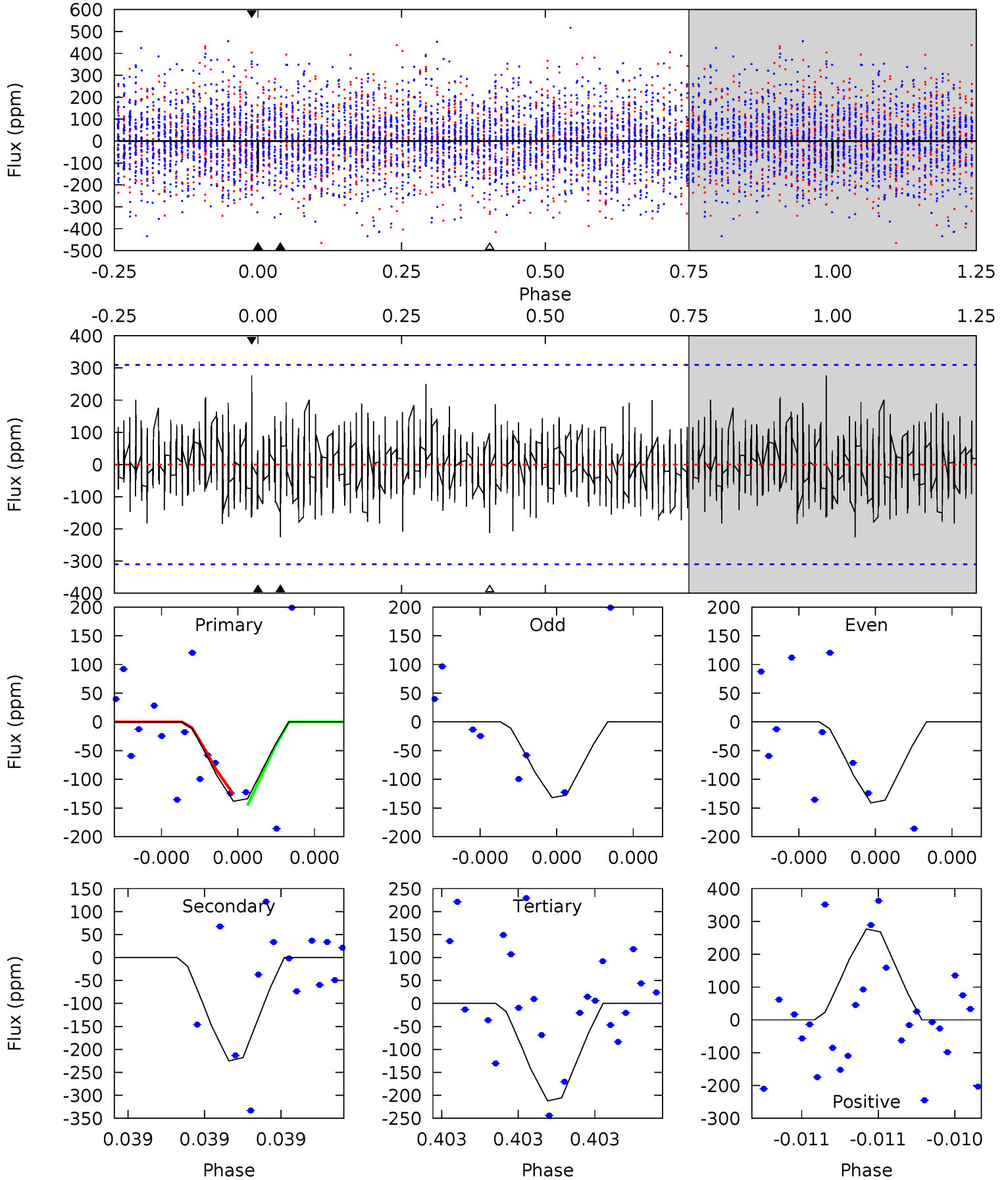
TCE 001571717-05 P=100.950487 Days  $T_0=142.161494$  (BKJD)



# DV Model-Shift Uniqueness Test

001571717-05,  $P = 100.950826$  Days,  $E = 41.207898$  Days

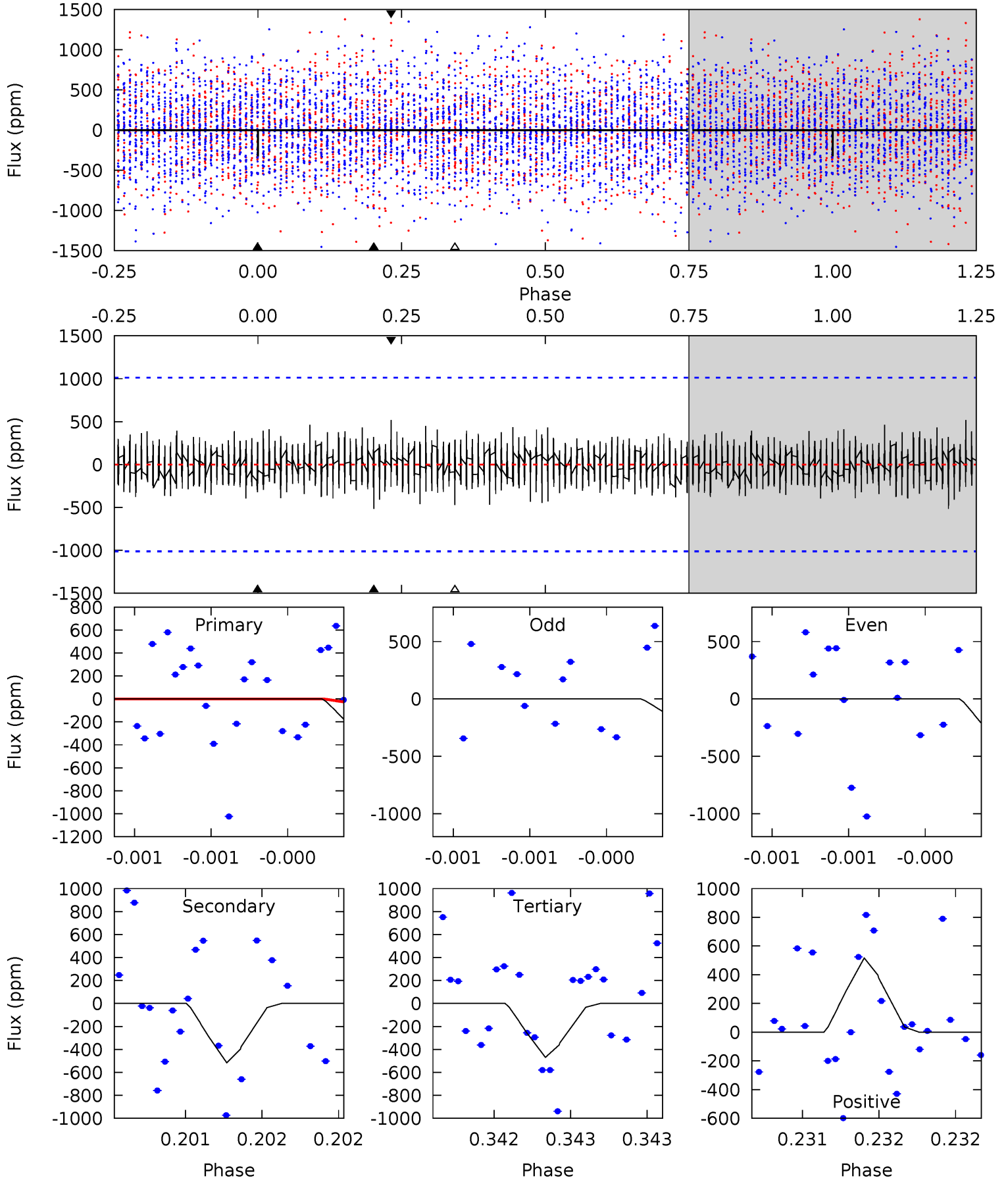
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.51	4.09	3.85	5.03	5.62	3.56	1.18	-1.34	-2.52	0.24	-0.94	0.08	1.02	0.55	0.17



# Alt Model-Shift Uniqueness Test

001571717-05, P = 100.950487 Days, E = 41.211007 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.79	2.87	2.61	2.87	5.62	3.55	0.85	-0.82	-1.08	0.26	-0.00	0.49	1.23	0.50	1.27



### Stellar Parameters For KIC 001571717

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8302^{+232}_{-348}$	$4.034^{+0.192}_{-0.128}$	$-0.240^{+0.250}_{-0.300}$	$2.134^{+0.439}_{-0.536}$	$1.796^{+0.136}_{-0.294}$	$0.260^{+0.282}_{-0.101}$
	+3%/-4%	+5%/-3%	+104%/-125%	+21%/-25%	+8%/-16%	+108%/-39%
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 001571717-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-225 \pm 55$	$5.26^{+5.19}_{-3.75}$	$1031^{+71}_{-75}$	$6374^{+8833}_{-1674}$	$1184^{+13219}_{-894}$
Alt.	$-516 \pm 180$	$5.41^{+5.47}_{-3.43}$	$1032^{+67}_{-76}$	$7838^{+9628}_{-2365}$	$2341^{+16812}_{-1739}$

$T_{max}$  = 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  $A_{obs} \gg 1.0$

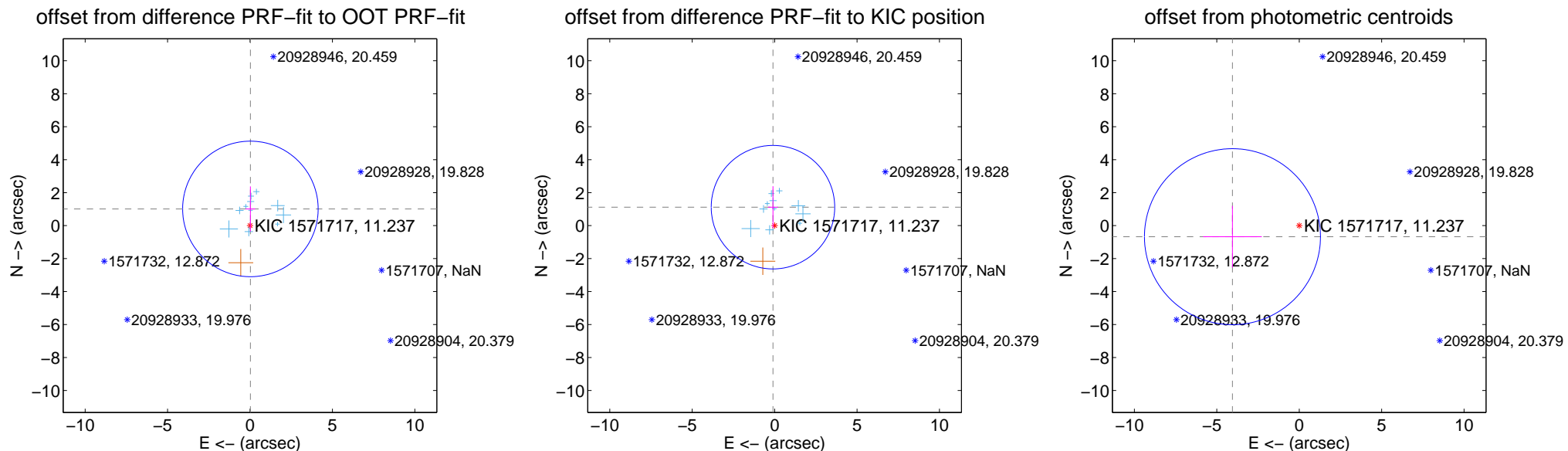
## DV Centroid Data

Supplemental centroid analysis for 001571717-05. **Kepler magnitude: 11.24.** Transit SNR 3.96

There are 11 quarters with good PRF difference image offsets

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

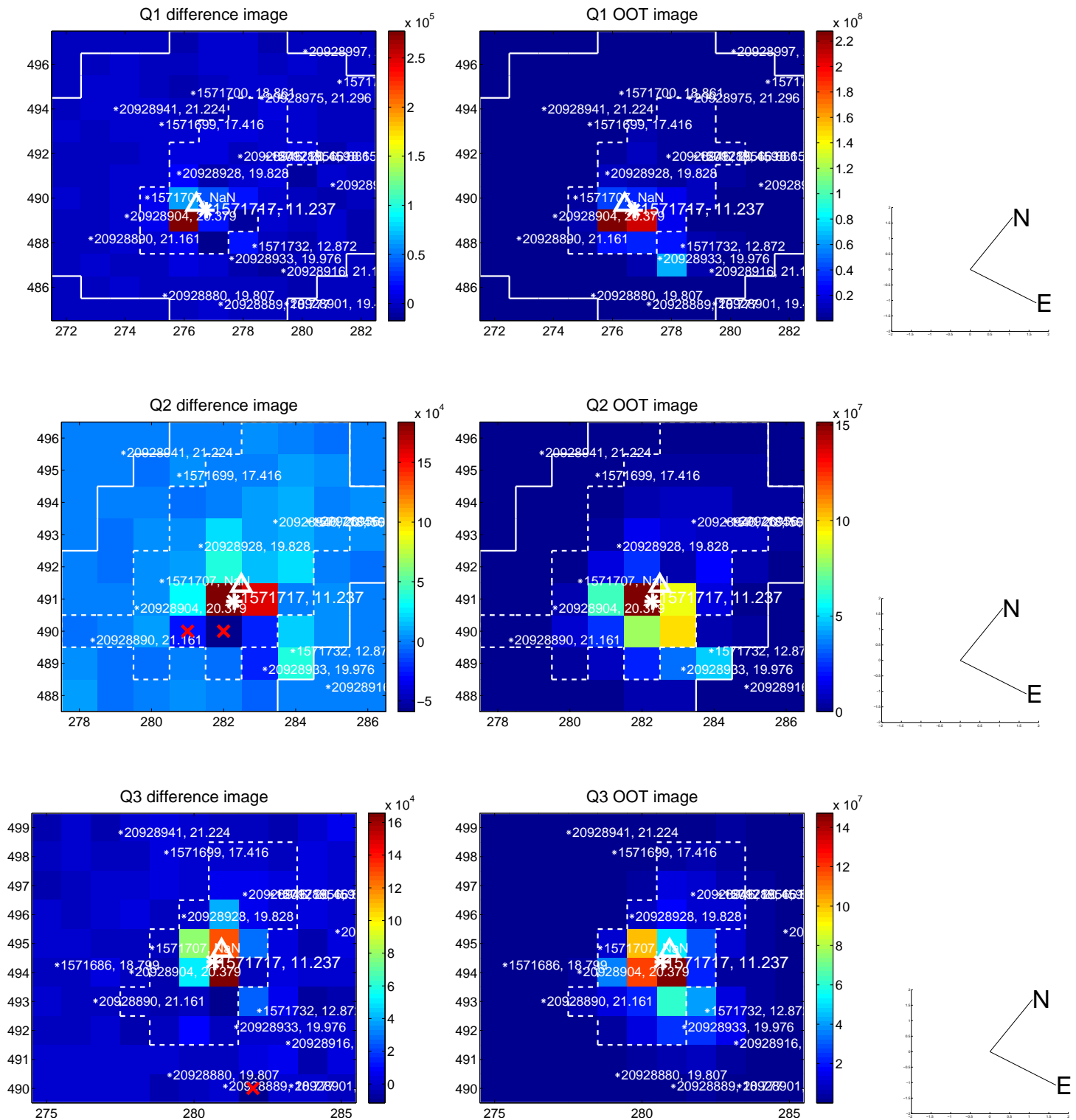
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.013 \pm 1.370$	0.74	$-0.024 \pm 0.291$	$1.013 \pm 1.367$
PRF-fit source offset from KIC position	$1.124 \pm 1.249$	0.90	$0.100 \pm 0.300$	$1.120 \pm 1.270$
photometric centroid source offset	$4.11 \pm 1.78$	2.31	$4.05 \pm 1.78$	$-0.67 \pm 1.87$



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- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000 are from the UKIRT catalog.

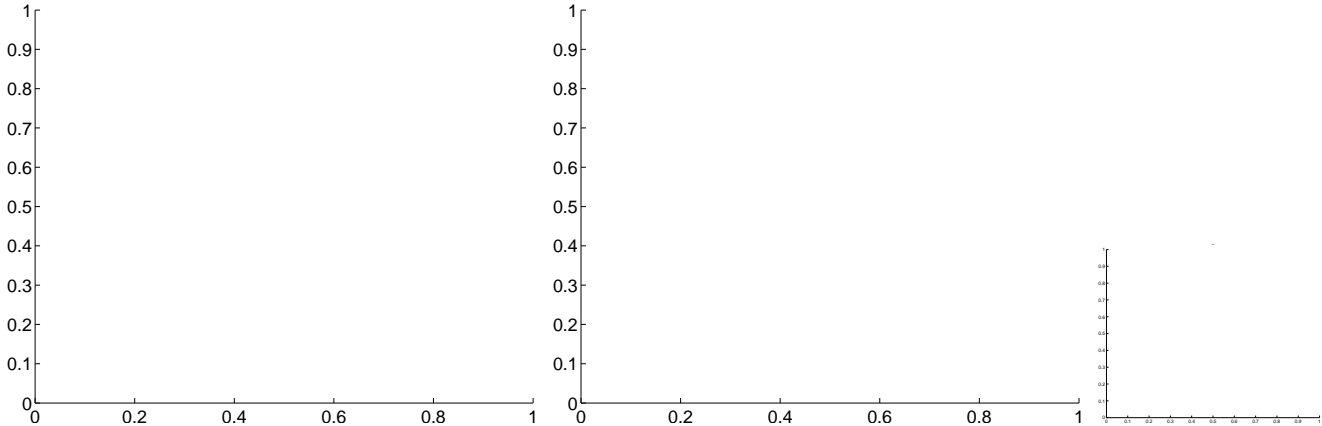


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

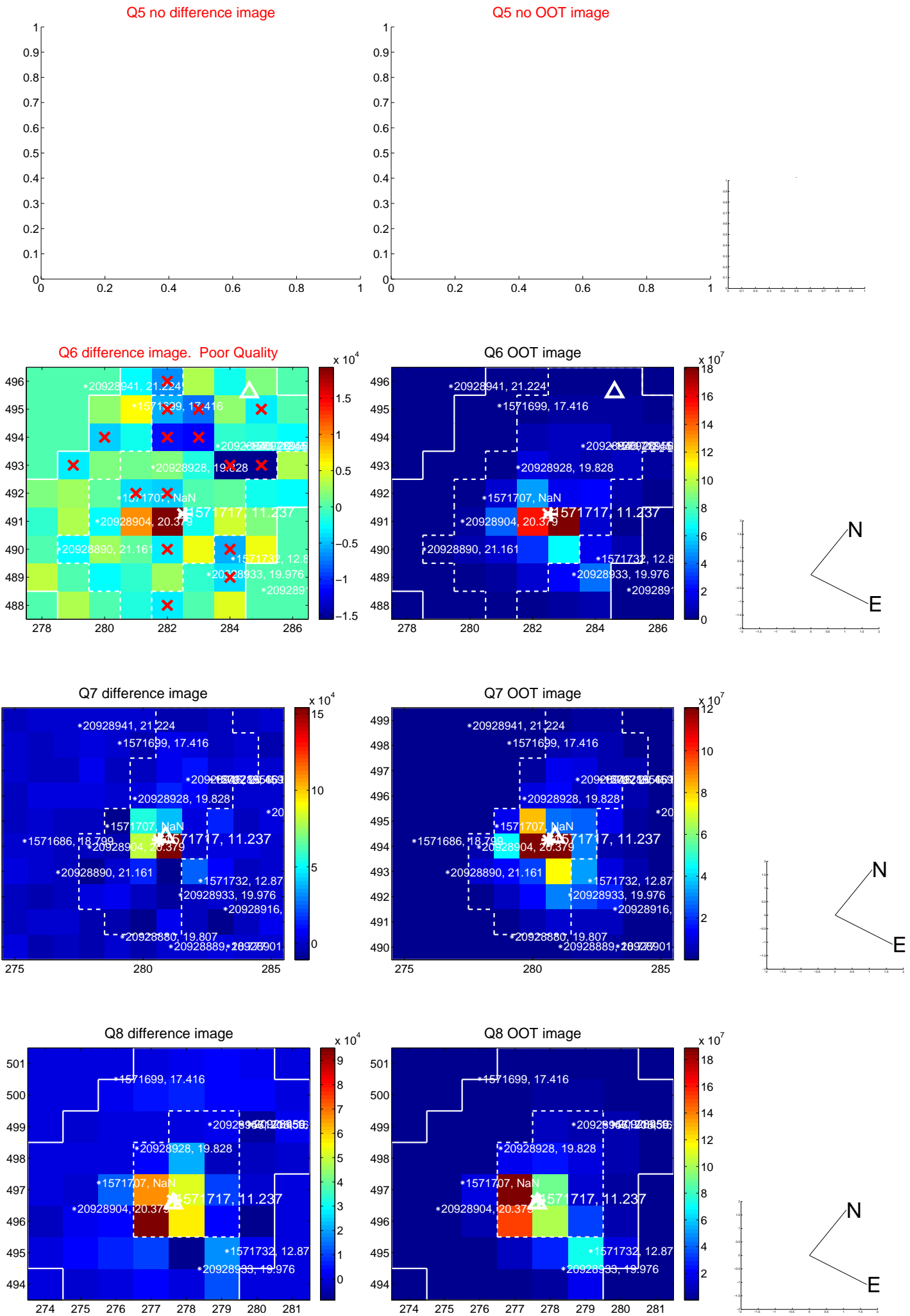


Q4 no difference image

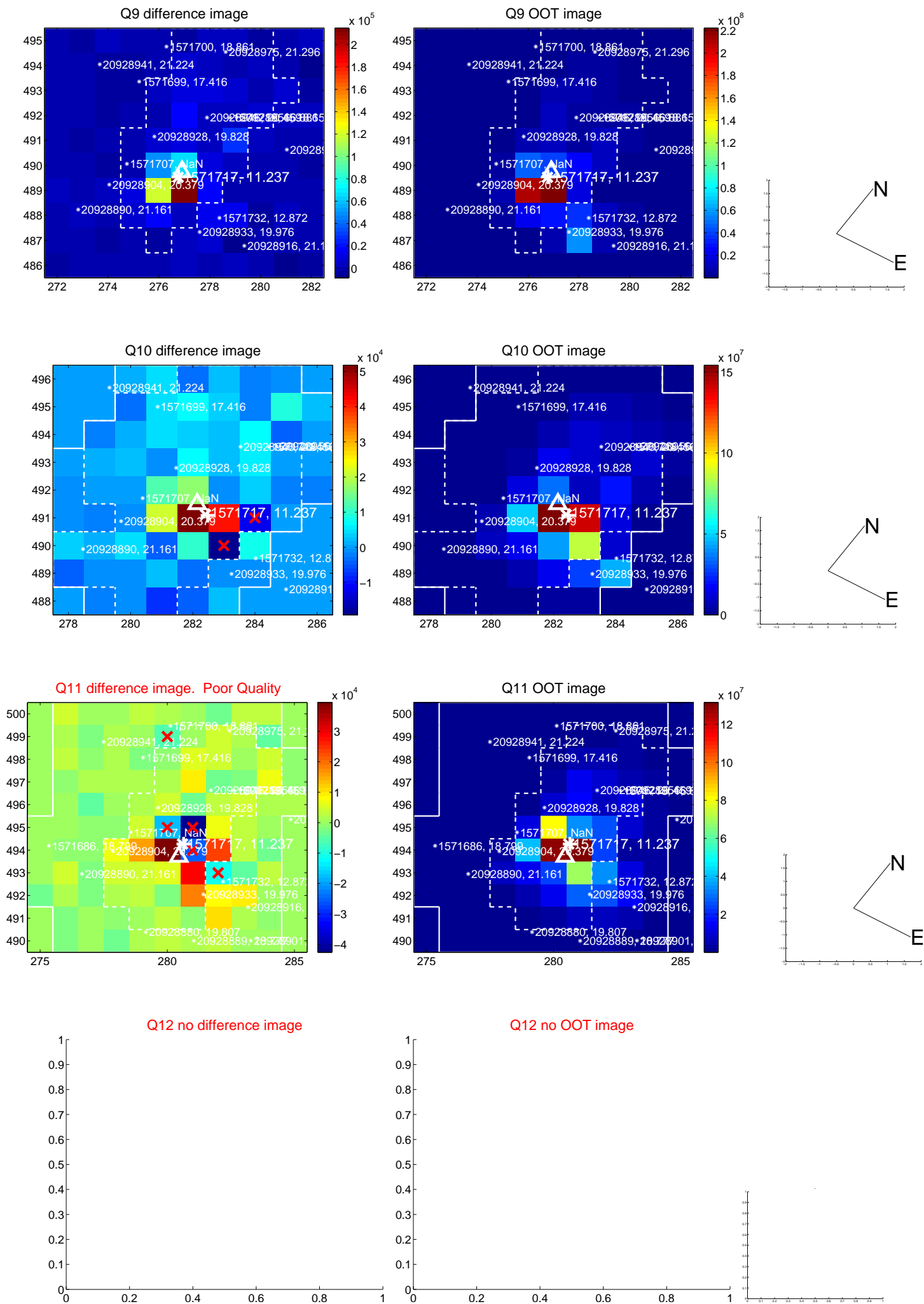
Q4 no OOT image



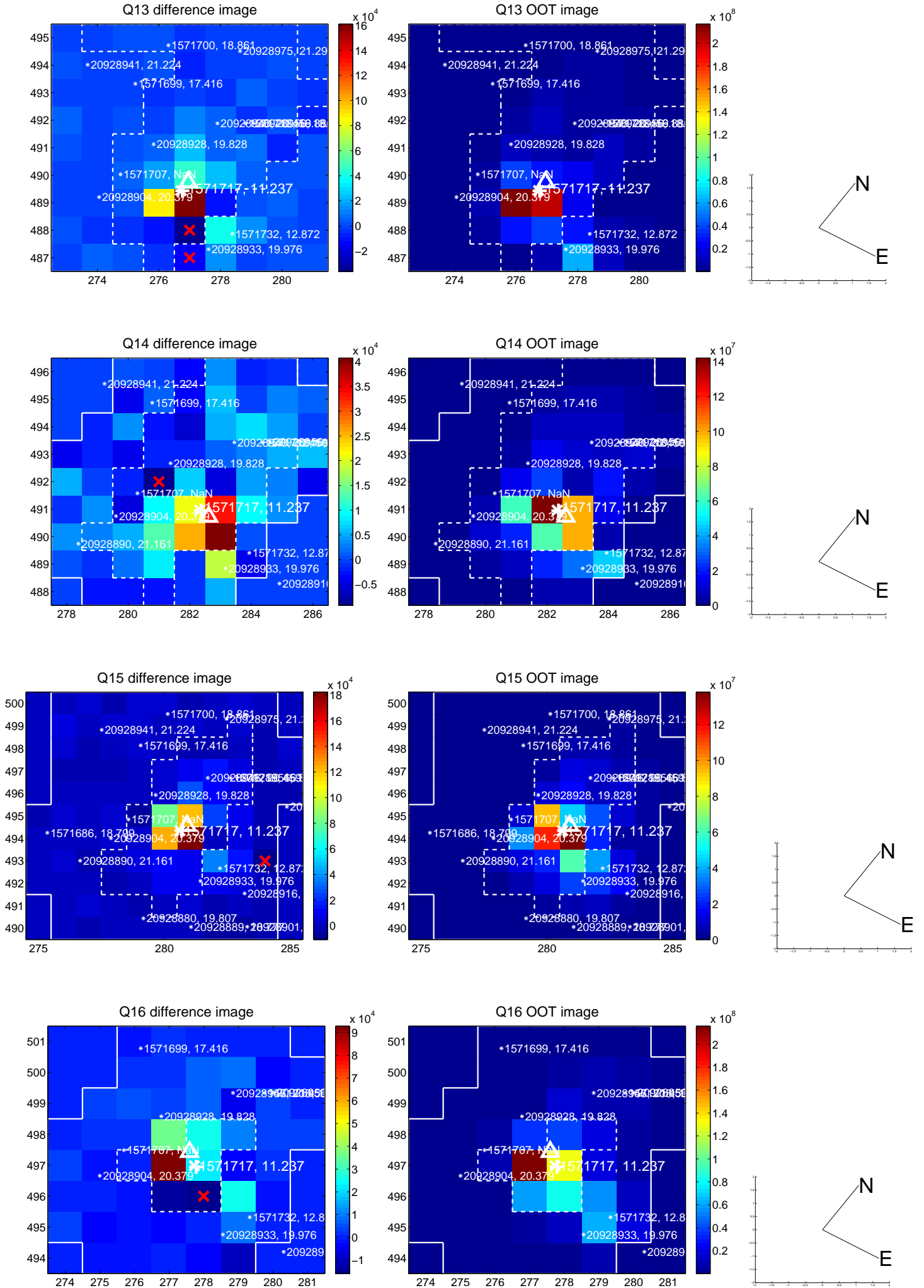
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



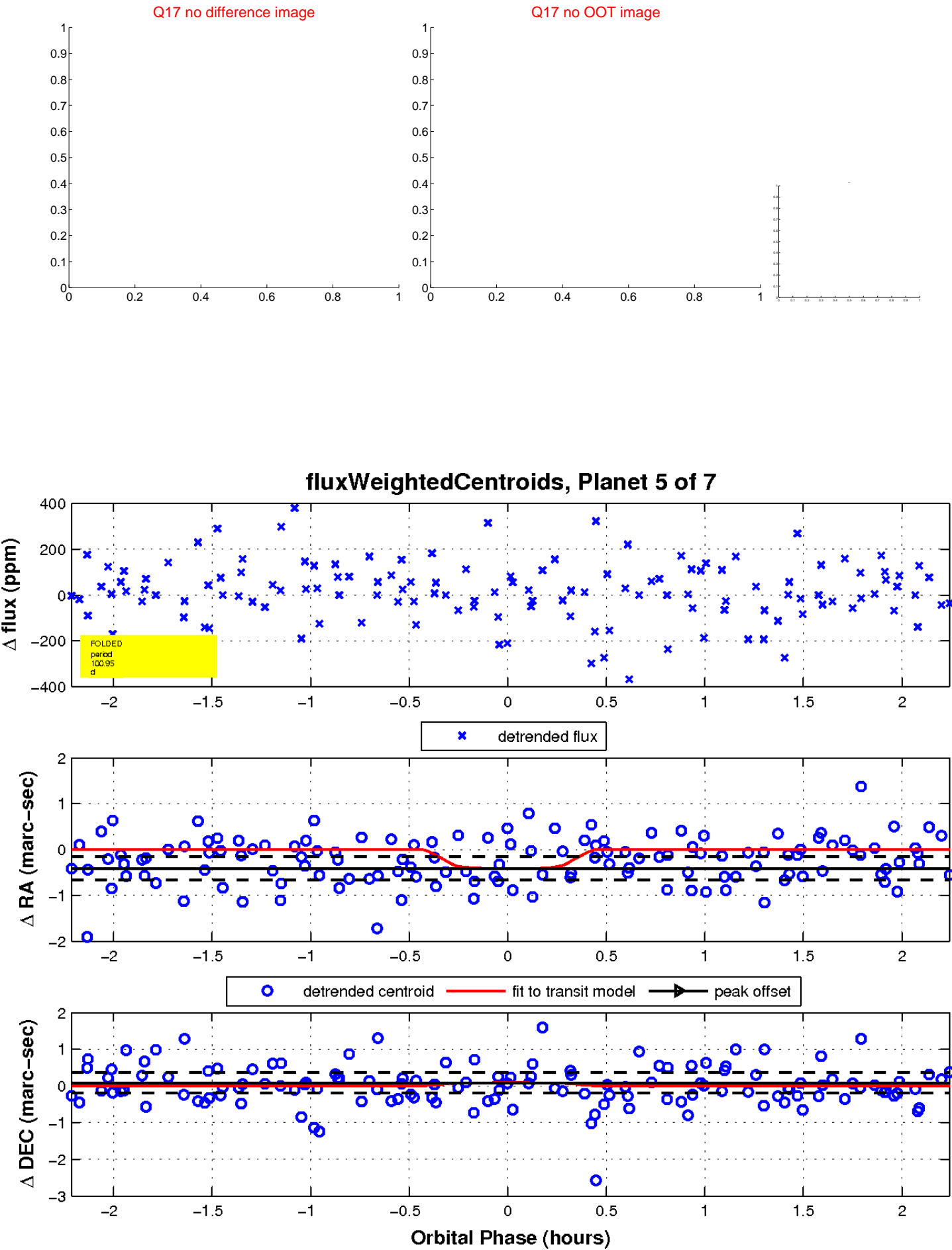
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



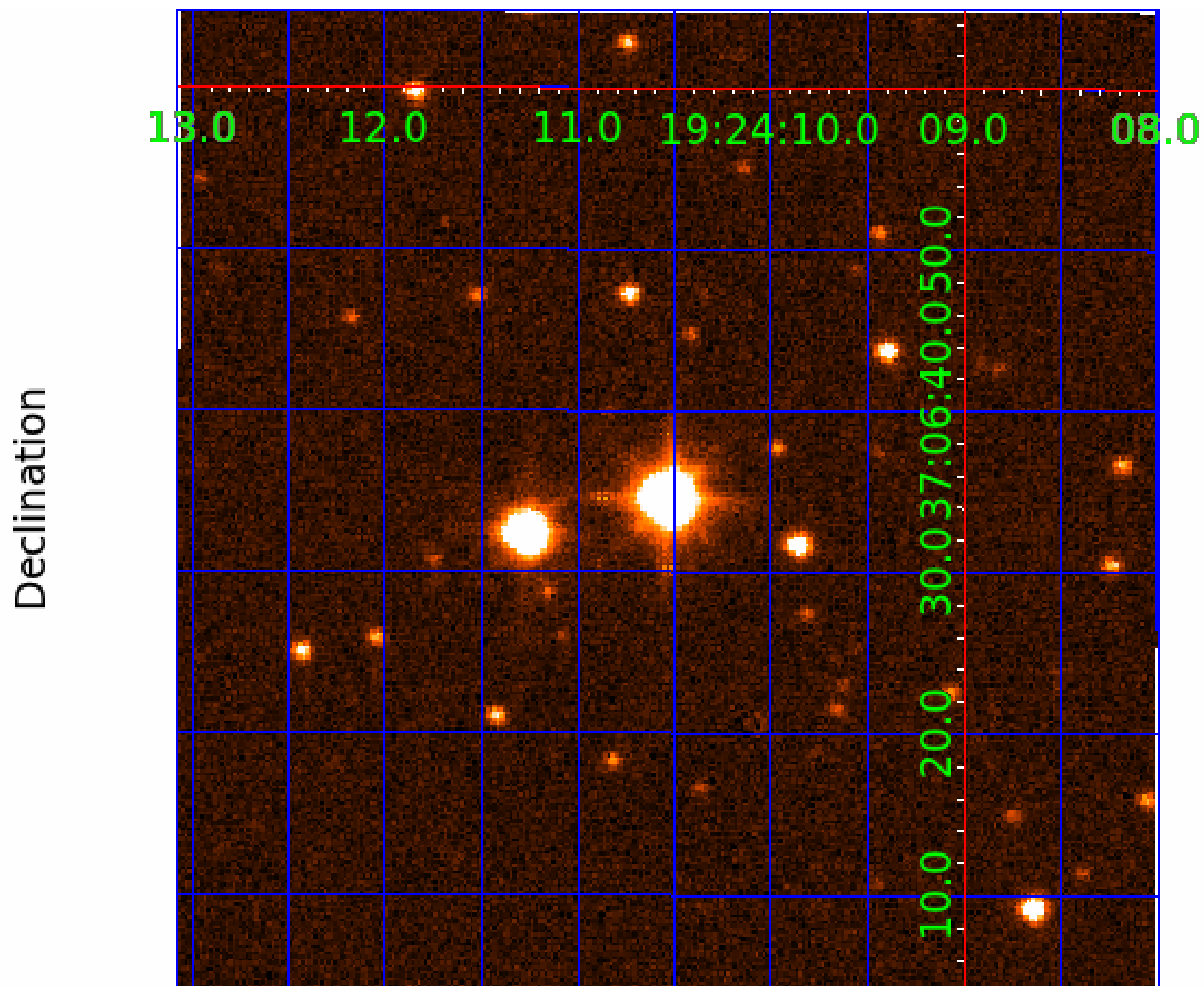
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image



# KIC 001571717

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
001571717-01	OBS	No	1.019803	132.338418	10.3	7.413	9.9	6.3	2.13	8302	0.70	33347.74
001571717-02	OBS	No	15.107407	145.585070	251.1	1.169	13.1	13.2	2.13	8302	3.45	916.58
001571717-03	OBS	No	26.962963	147.496581	311.1	1.565	13.3	11.8	2.13	8302	4.37	423.38
001571717-04	OBS	No	19.985456	136.438743	180.3	2.119	10.7	11.4	2.13	8302	3.07	631.15
001571717-05	OBS	No	100.950826	142.158723	136.4	0.752	11.0	4.0	2.13	8302	2.94	72.82
001571717-06	OBS	No	43.176197	148.076164	148.6	4.221	10.3	10.0	2.13	8302	3.01	225.99
001571717-07	OBS	No	25.943432	134.675594	279.1	1.345	10.6	10.1	2.13	8302	3.96	445.71

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001571717-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED
001571717-02	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED—HALO_GHOST
001571717-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED—HALO_GHOST
001571717-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
001571717-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
001571717-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
001571717-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—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](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

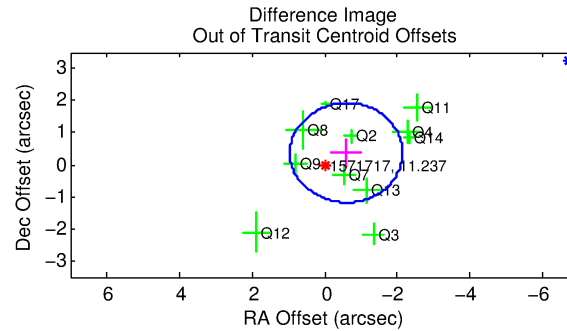
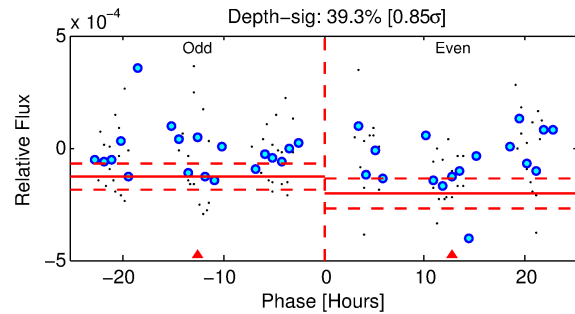
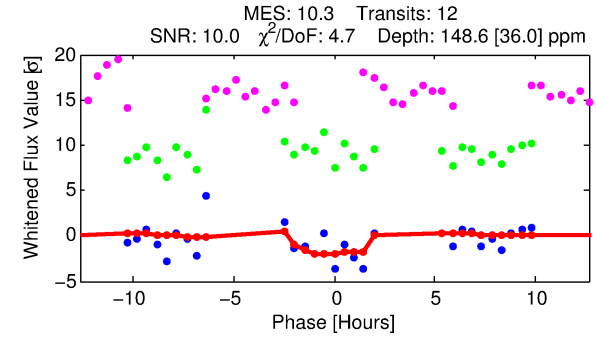
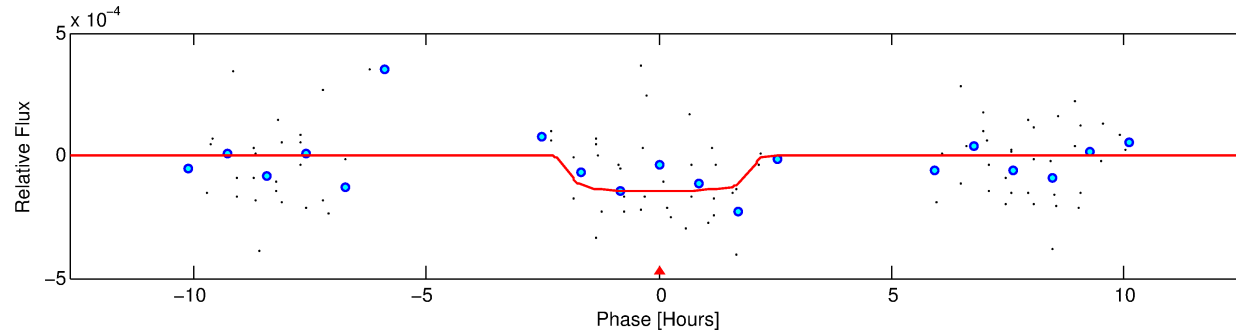
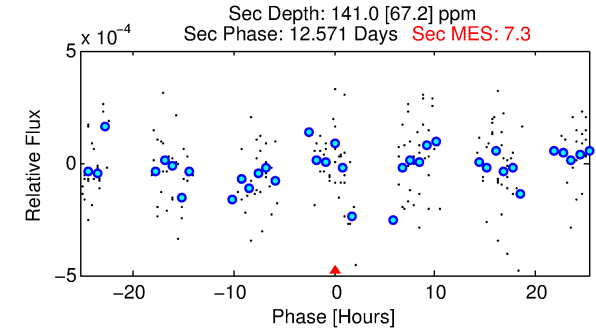
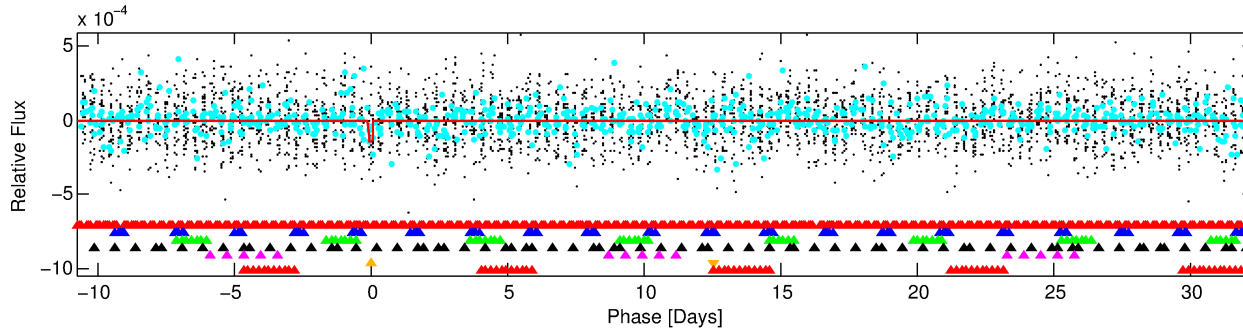
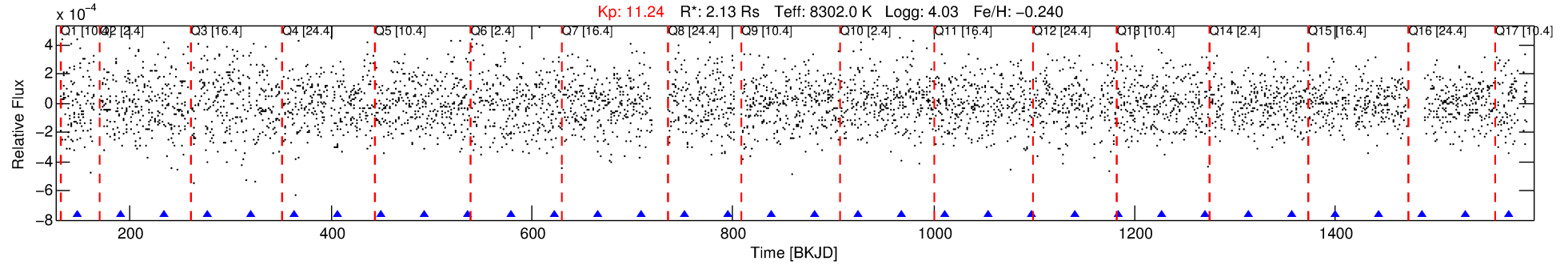
Ephemeris Match Information For 001571717-06

No Significant Match Found



# DV One-Page Summary

KIC: 1571717 Candidate: 6 of 7 Period: 43.176 d



## DV Fit Results:

Period = 43.17620 [0.00453] d  
Epoch = 148.0762 [0.0819] BKJD  
Rp/R\* = 0.0129 [0.0162]  
a/R\* = 37.51 [315.85]  
b = 0.89 [1.81]  
Seff = 225.99 [85.47]  
Teq = 989 [93] K  
Rp = 3.01 [3.85] Re  
a = 0.2929 [0.0653] AU  
Ag = 734.94 [1891.35] [0.39σ]  
Teffp = 7959 [5087] K [1.37σ]

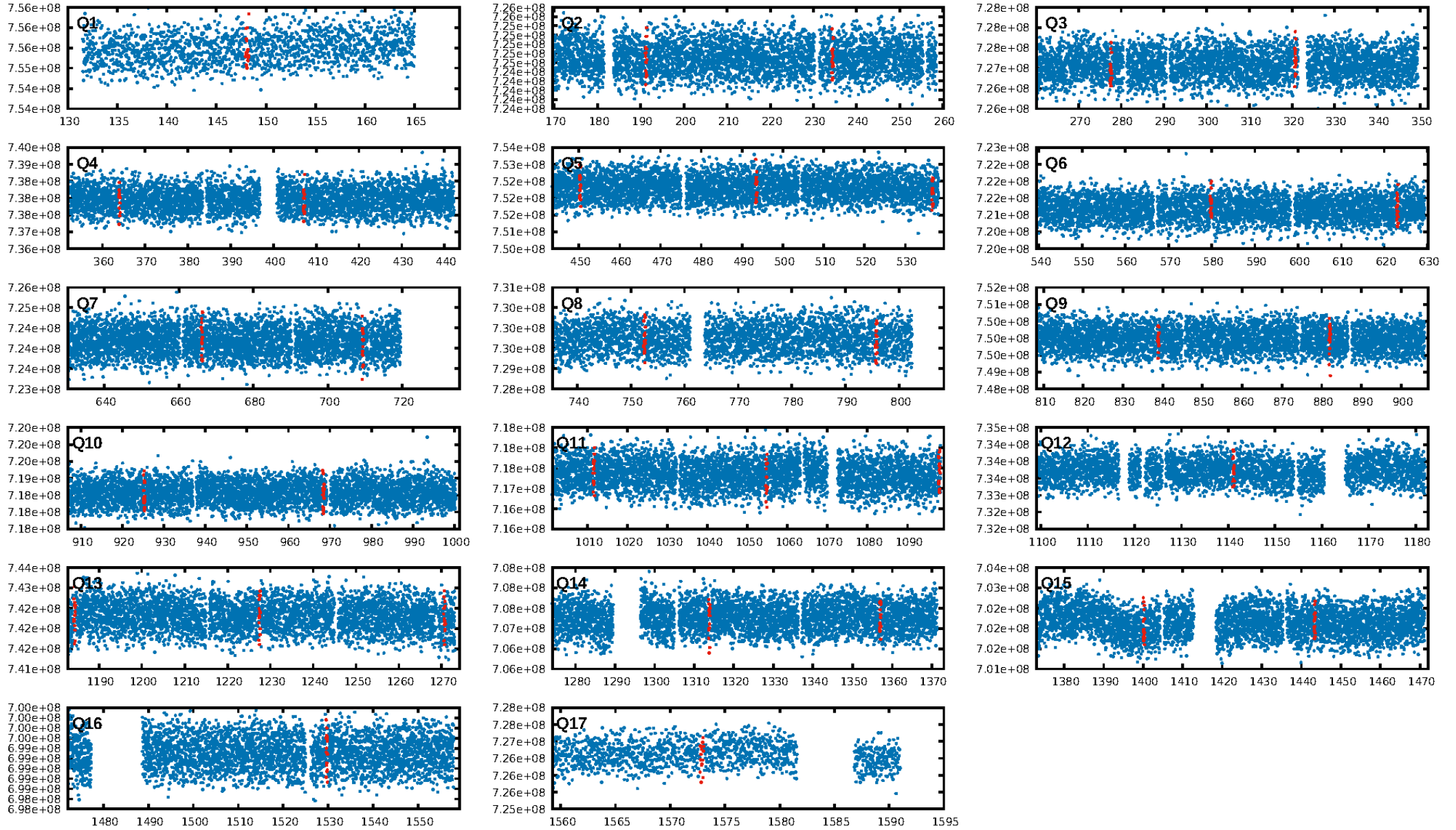
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [86.44σ]  
LongPeriod-sig: 100.0% [323.39σ]  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 48.5%  
Bootstrap-pfa: 6.32e-09  
RollingBand-fgt: 1.00 [10/10]  
GhostDiagnostic-chr: -1.205  
Centroid-sig: 8.9%  
Centroid-so: 0.122 arcsec [0.21σ]  
OotOffset-rm: 0.697 arcsec [1.35σ]  
OotOffset-st: 2/3/3/3 [11]  
KicOffset-rm: 0.612 arcsec [1.23σ]  
KicOffset-st: 2/3/3/3 [11]  
DiffImageQuality-fgm: 0.36 [4/11]  
DiffImageOverlap-fno: 0.00 [0/17]

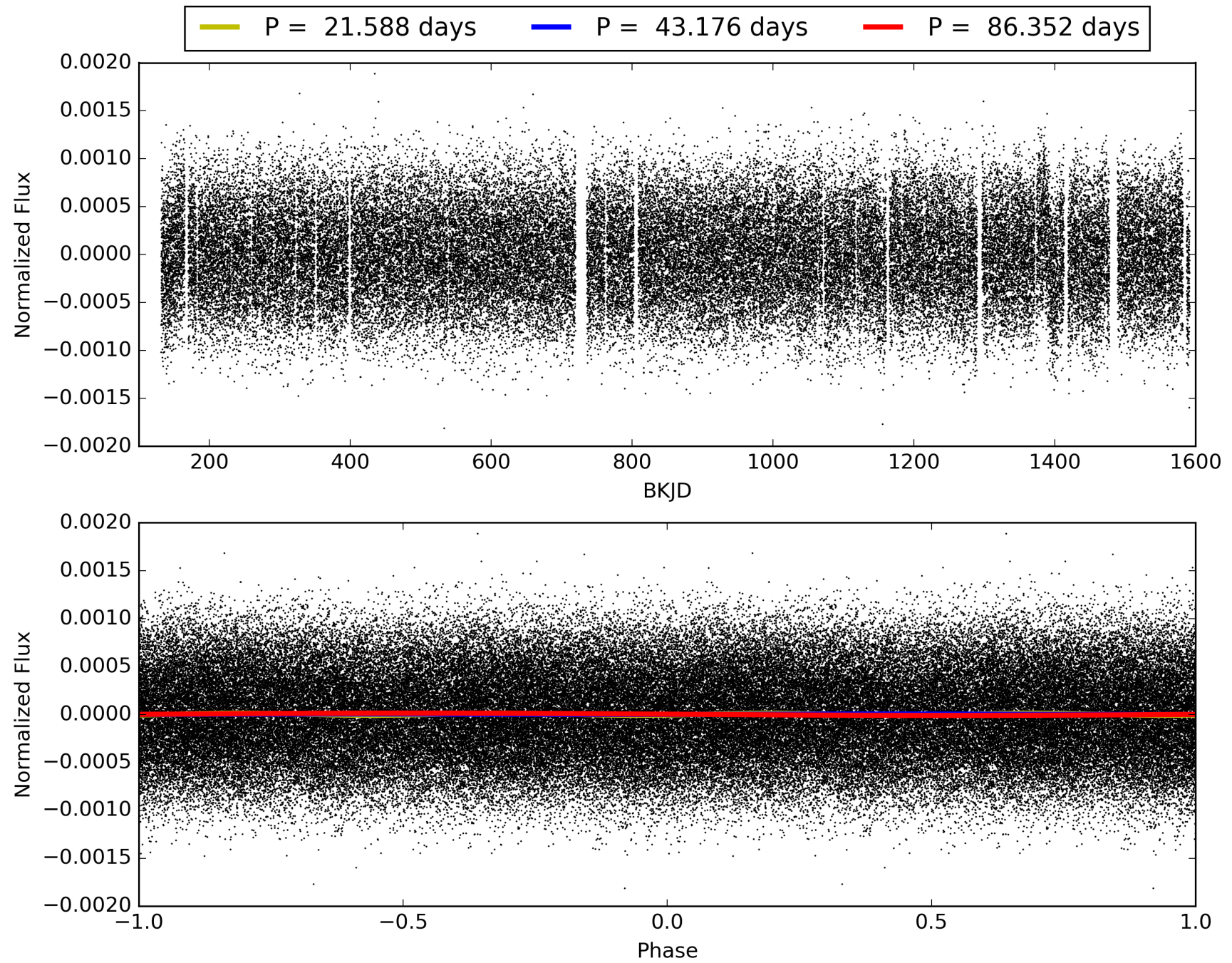
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:57:45 Z

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

# TCE 001571717-06, PDC Light Curves

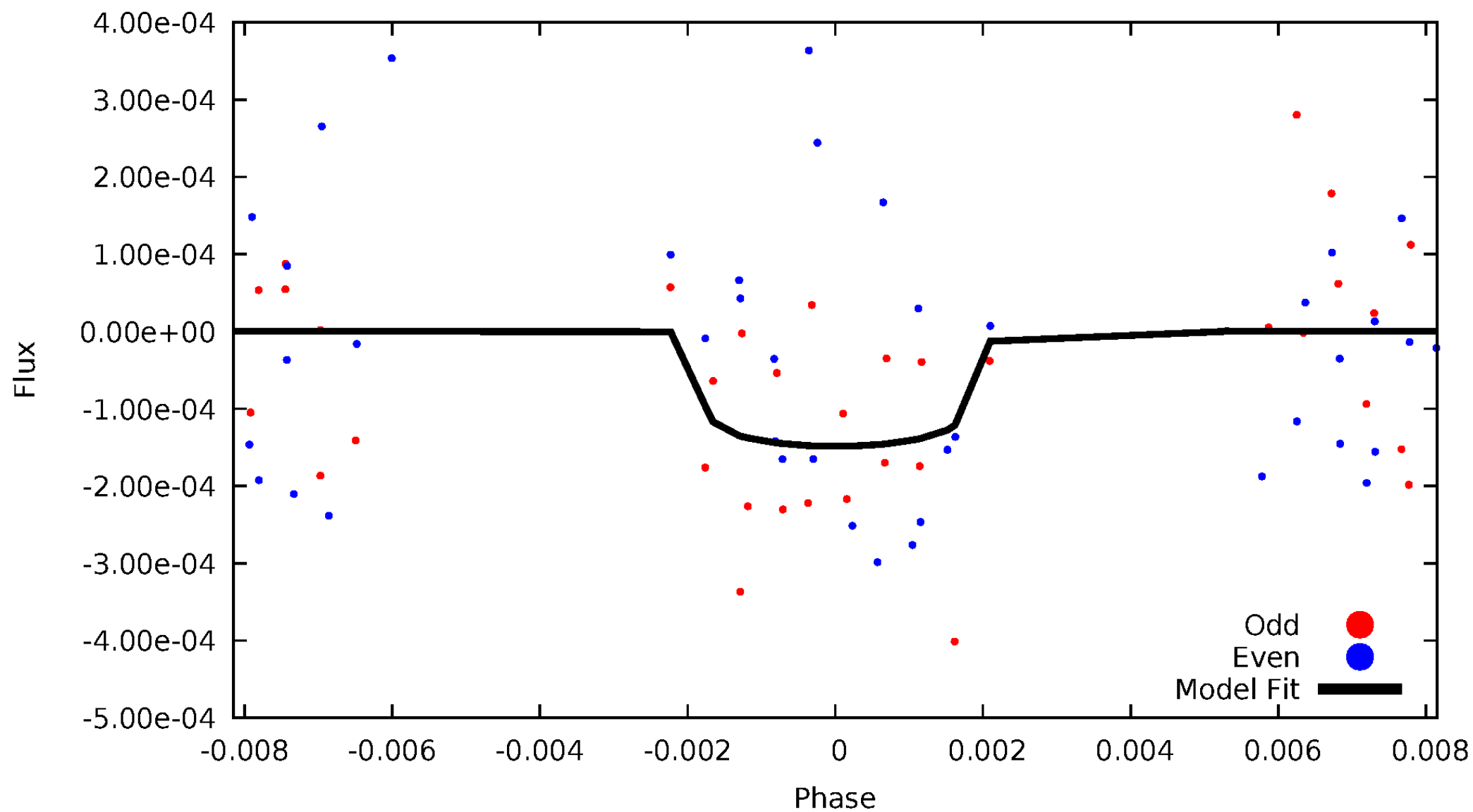


# TCE 001571717-06



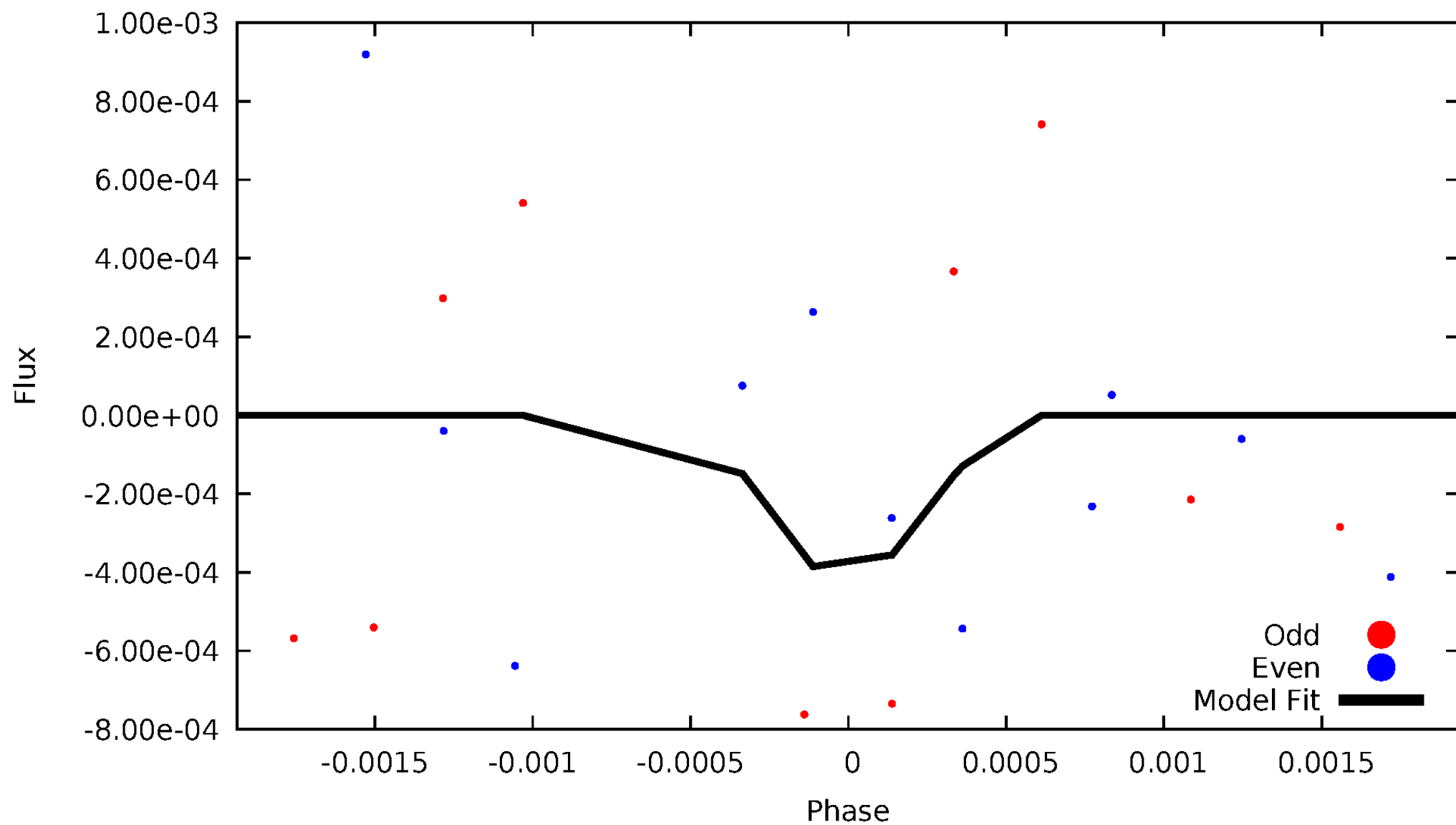
# DV Odd/Even

TCE 001571717-06



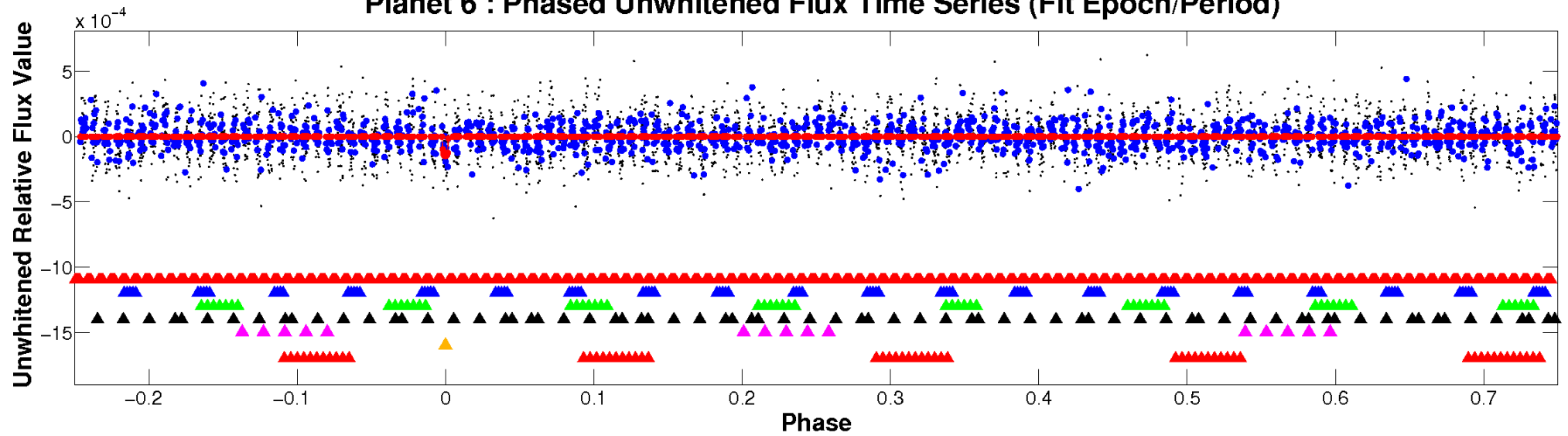
# ALT Odd/Even

TCE 001571717-06

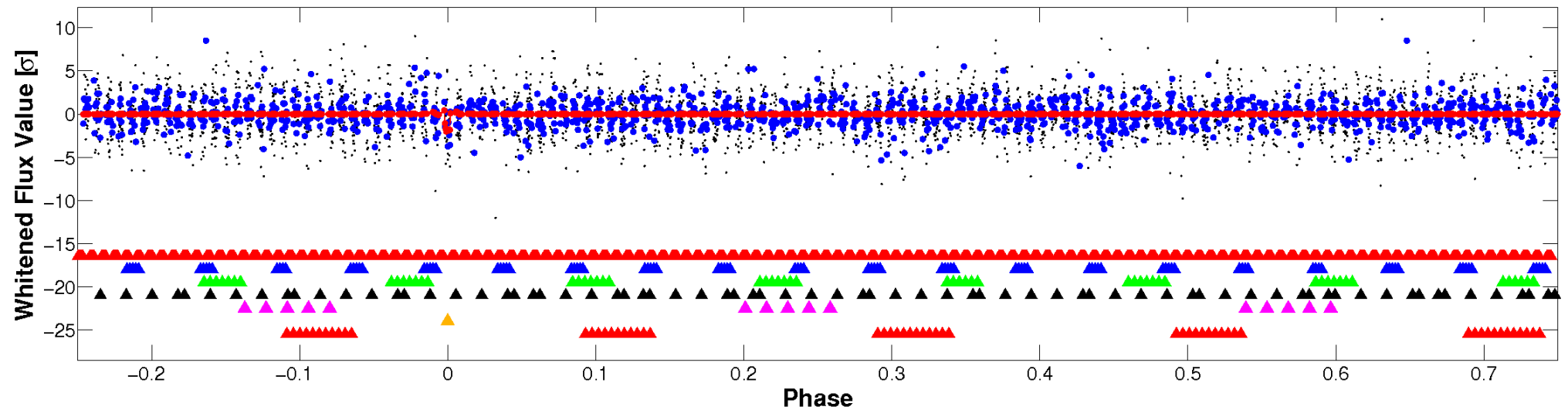


# Non-Whitened Vs. Whitened Light Curve

## Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)



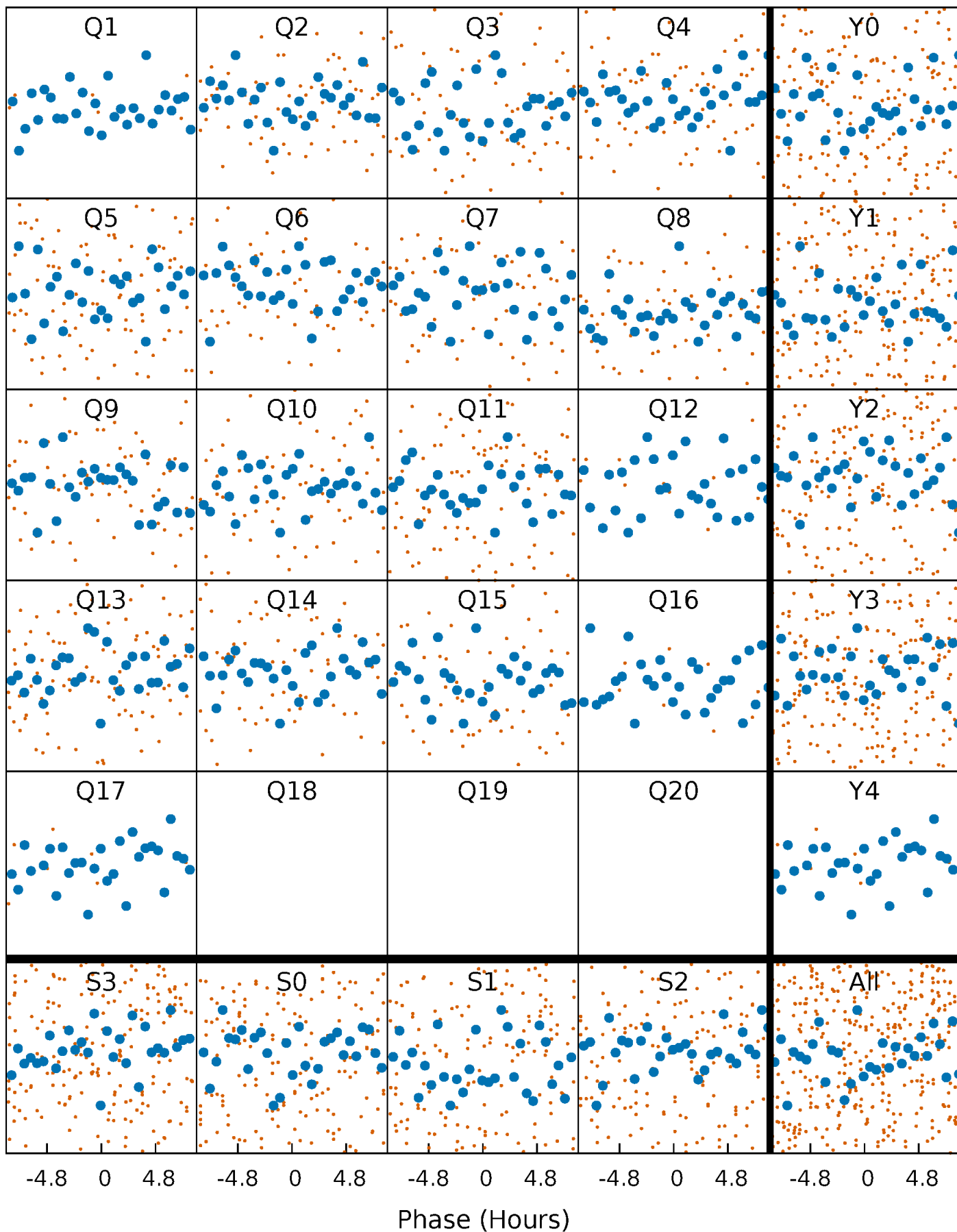
## Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)





# PDC Quarter-Phased Transit Curves

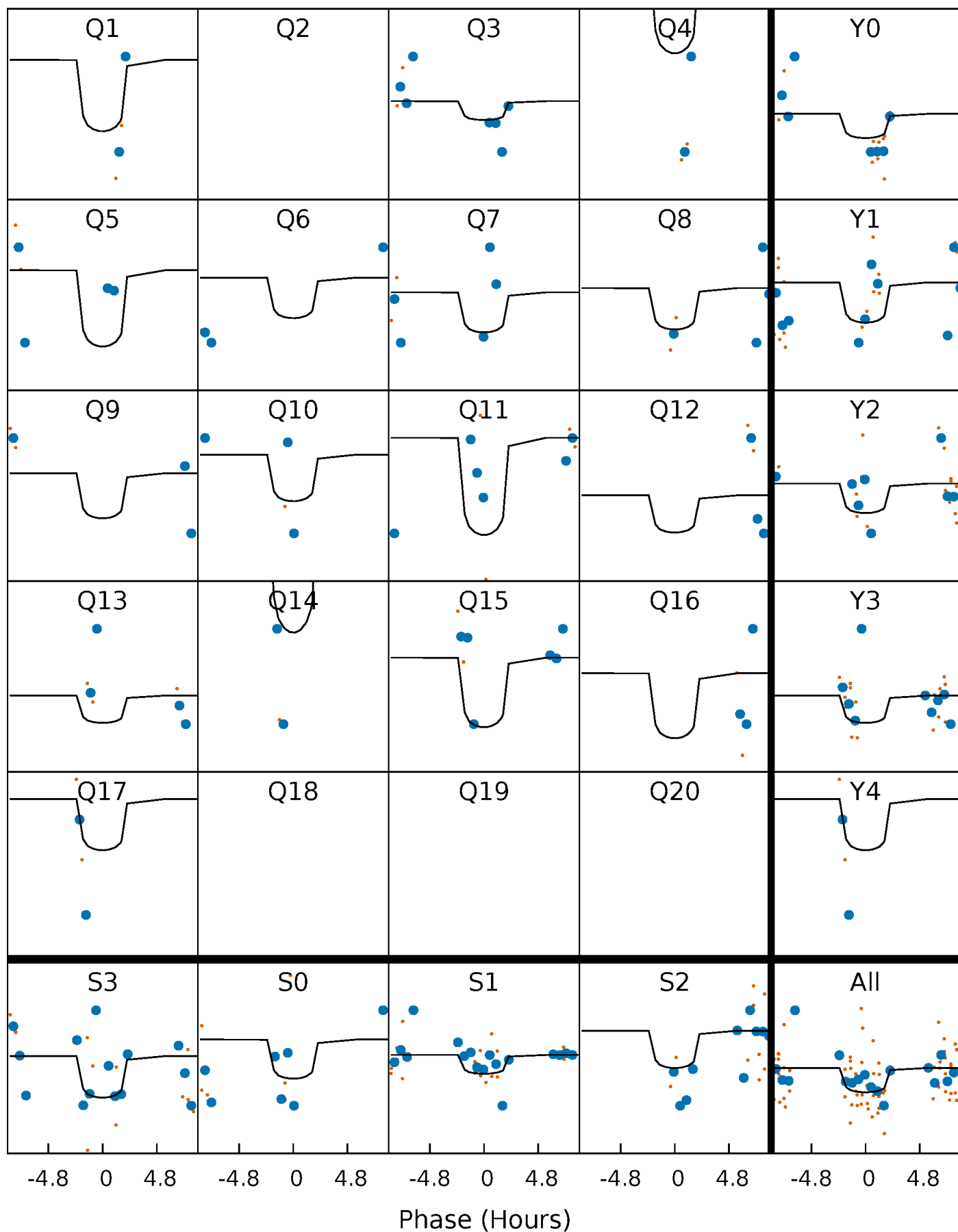
TCE 001571717-06 P= 43.176197 Days  $T_0=148.076164$  (BKJD)





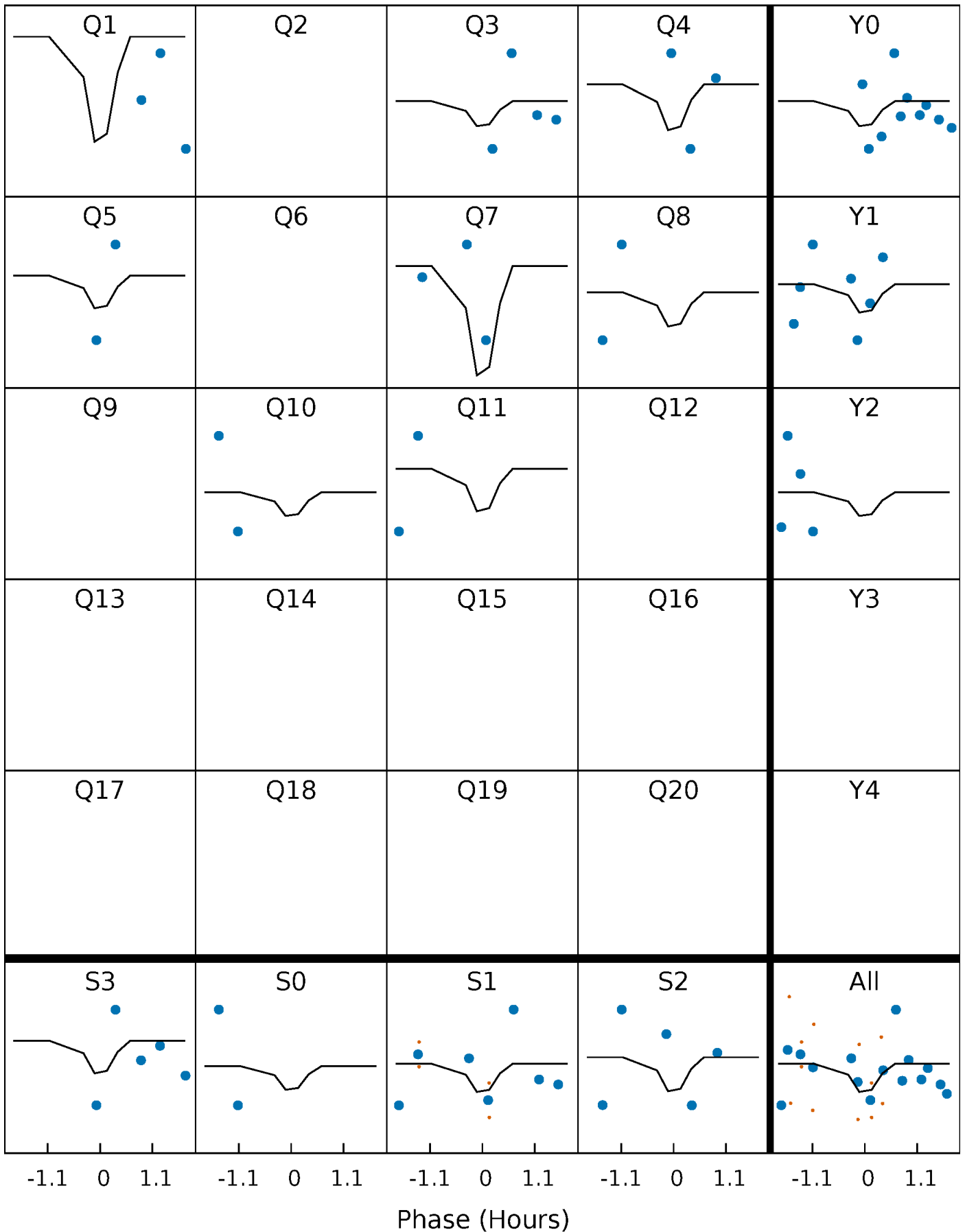
# DV Quarter-Phased Transit Curves

TCE 001571717-06 P= 43.176197 Days  $T_0=148.076164$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

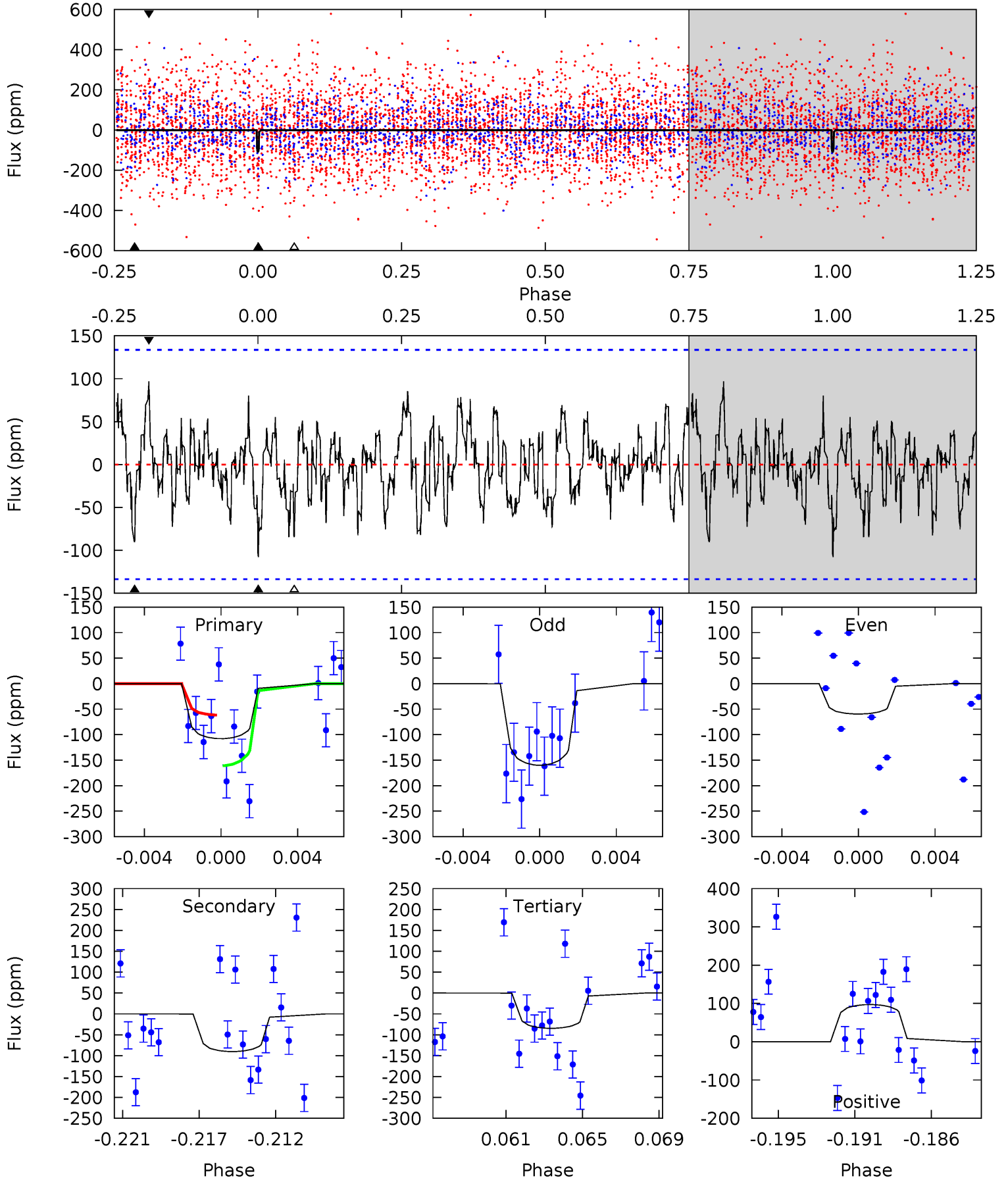
TCE 001571717-06 P= 43.178374 Days  $T_0=148.092628$  (BKJD)



# DV Model-Shift Uniqueness Test

001571717-06, P = 43.176197 Days, E = 104.899967 Days

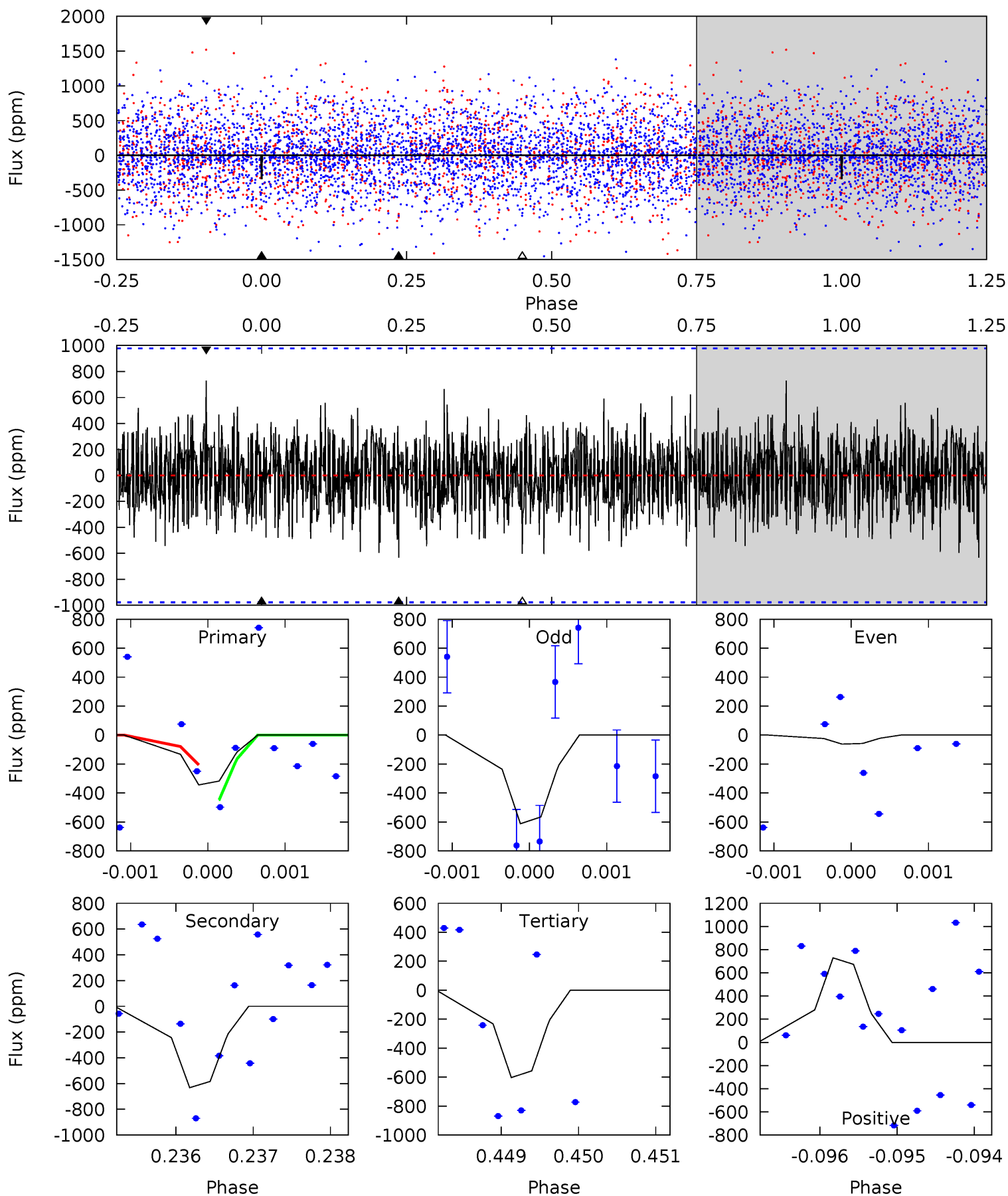
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.18	3.50	3.28	3.76	5.18	2.85	1.32	0.91	0.42	0.22	-0.27	1.95	1.10	0.47	1.94



# Alt Model-Shift Uniqueness Test

001571717-06,  $P = 43.178374$  Days,  $E = 104.914254$  Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.92	3.53	3.37	4.07	5.46	3.31	1.09	-1.45	-2.15	0.16	-0.54	1.63	1.09	0.54	0.63



### Stellar Parameters For KIC 001571717

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8302^{+232}_{-348}$	$4.034^{+0.192}_{-0.128}$	$-0.240^{+0.250}_{-0.300}$	$2.134^{+0.439}_{-0.536}$	$1.796^{+0.136}_{-0.294}$	$0.260^{+0.282}_{-0.101}$
	+3%/-4%	+5%/-3%	+104%/-125%	+21%/-25%	+8%/-16%	+108%/-39%
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 001571717-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-90 \pm 26$	$3.86^{+3.42}_{-2.49}$	$1369^{+89}_{-97}$	$5905^{+5274}_{-1338}$	$283^{+2002}_{-204}$
Alt.	$-632 \pm 179$	$5.27^{+3.77}_{-3.05}$	$1370^{+86}_{-102}$	$8450^{+9351}_{-2165}$	$994^{+4550}_{-662}$

$T_{max}$  = 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  $A_{obs} \gg 1.0$

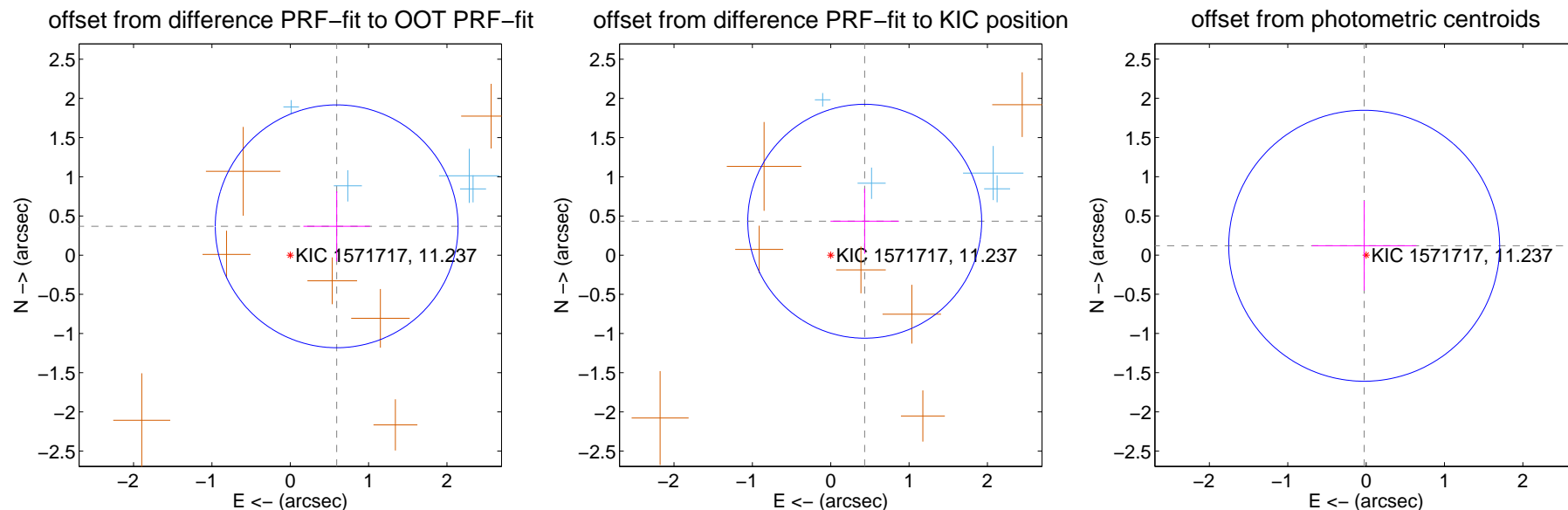
## DV Centroid Data

Supplemental centroid analysis for 001571717-06. **Kepler magnitude: 11.24.** Transit SNR 10.03

There are 4 quarters with good PRF difference image offsets

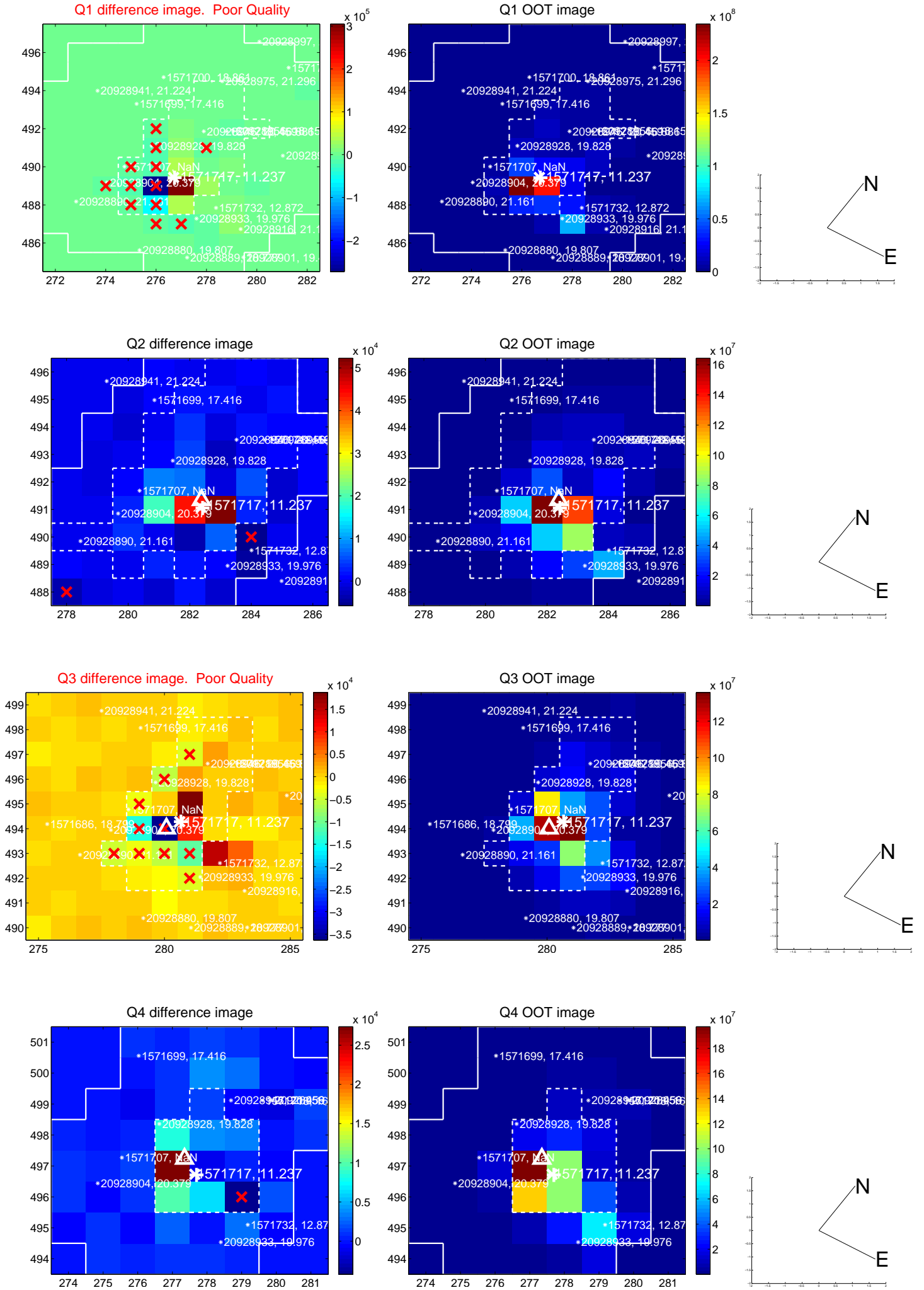
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.697 \pm 0.516$	1.35	$-0.592 \pm 0.424$	$0.368 \pm 0.447$
PRF-fit source offset from KIC position	$0.612 \pm 0.497$	1.23	$-0.434 \pm 0.437$	$0.432 \pm 0.415$
photometric centroid source offset	$0.12 \pm 0.58$	0.21	$0.02 \pm 0.67$	$0.12 \pm 0.57$



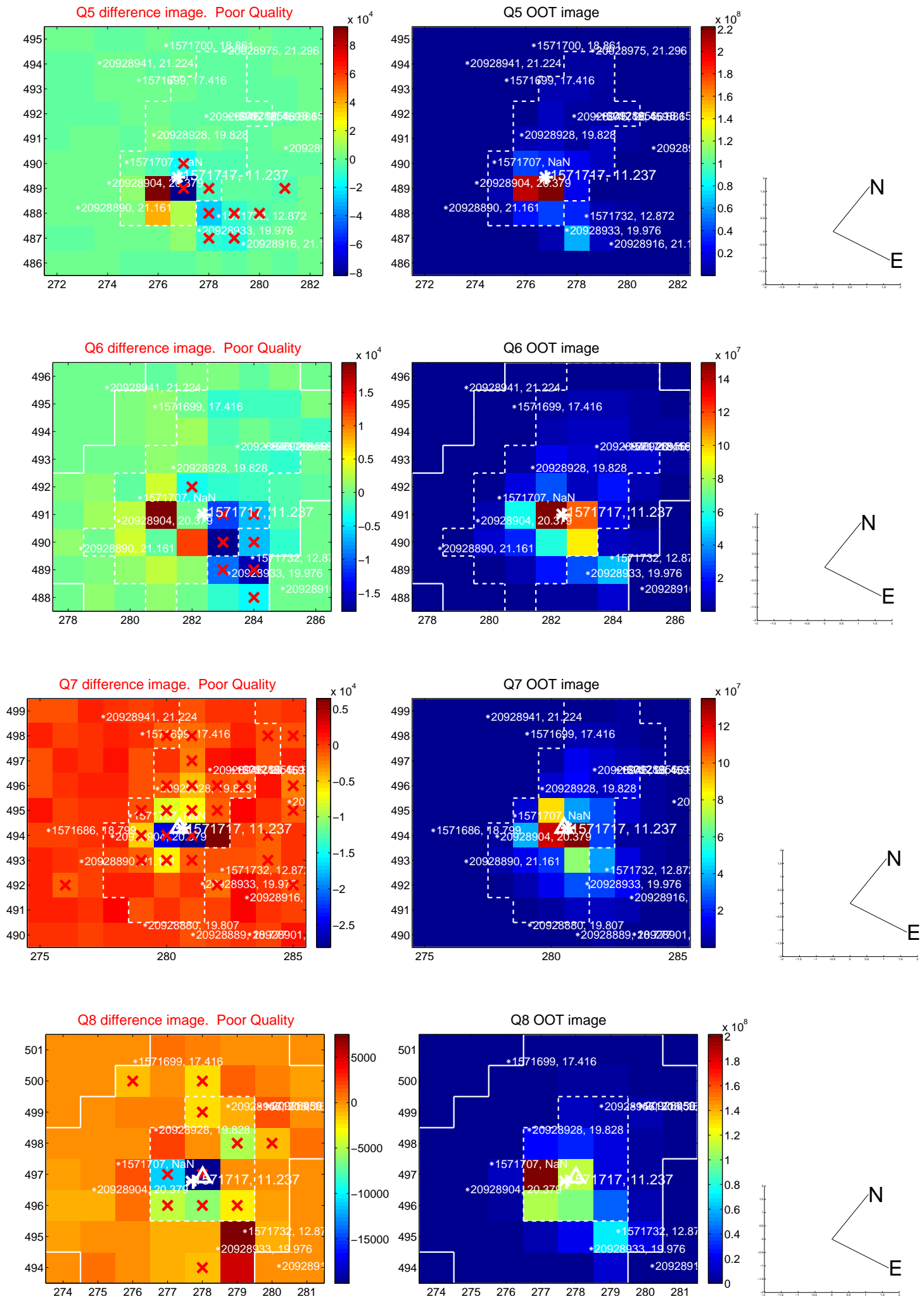
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

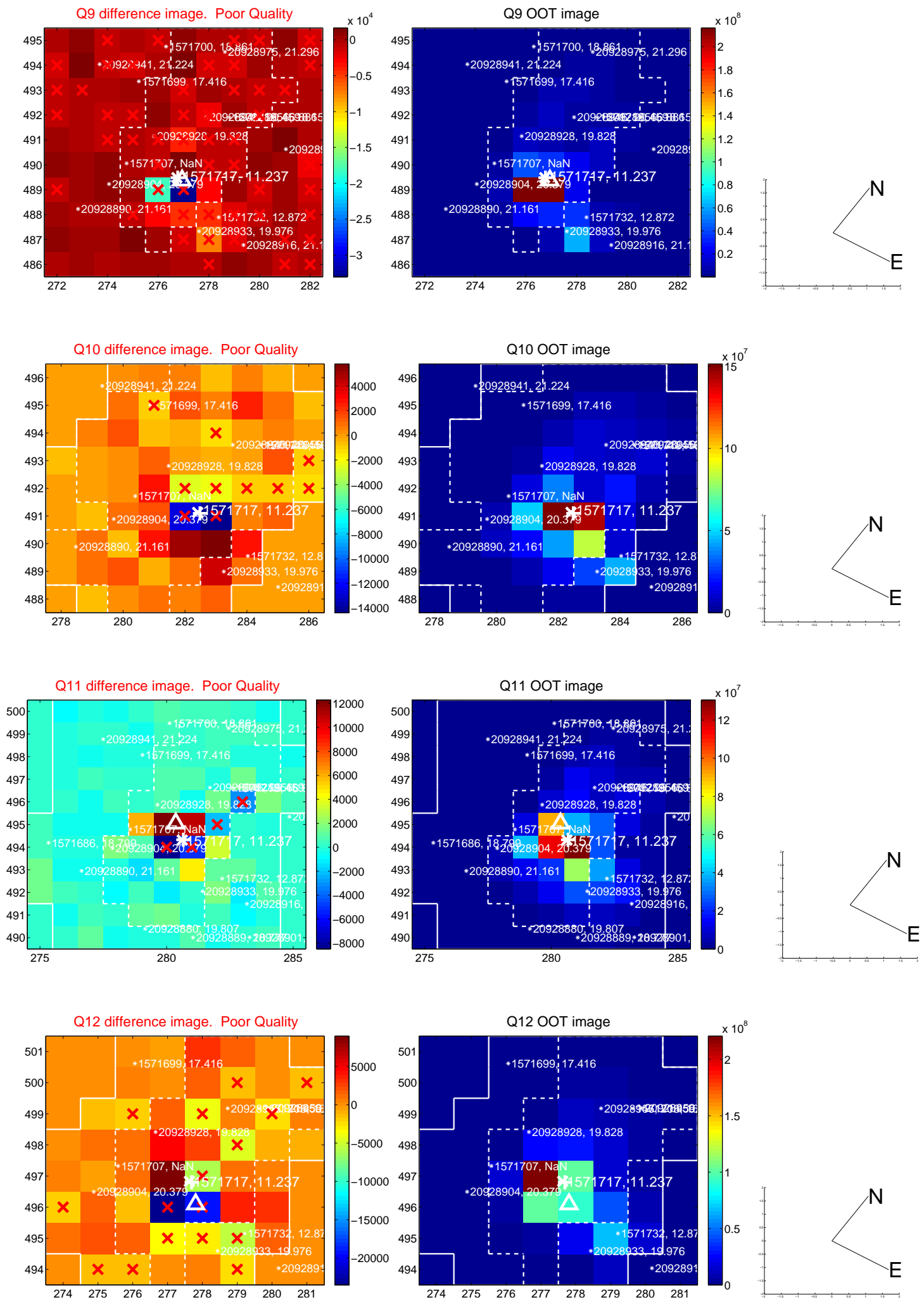




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

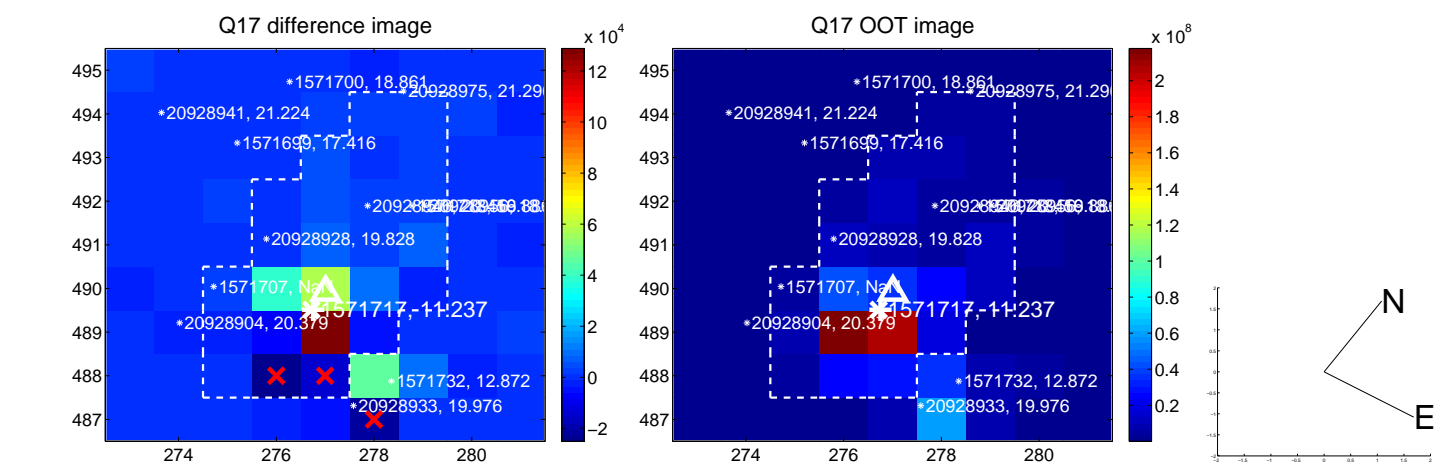


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

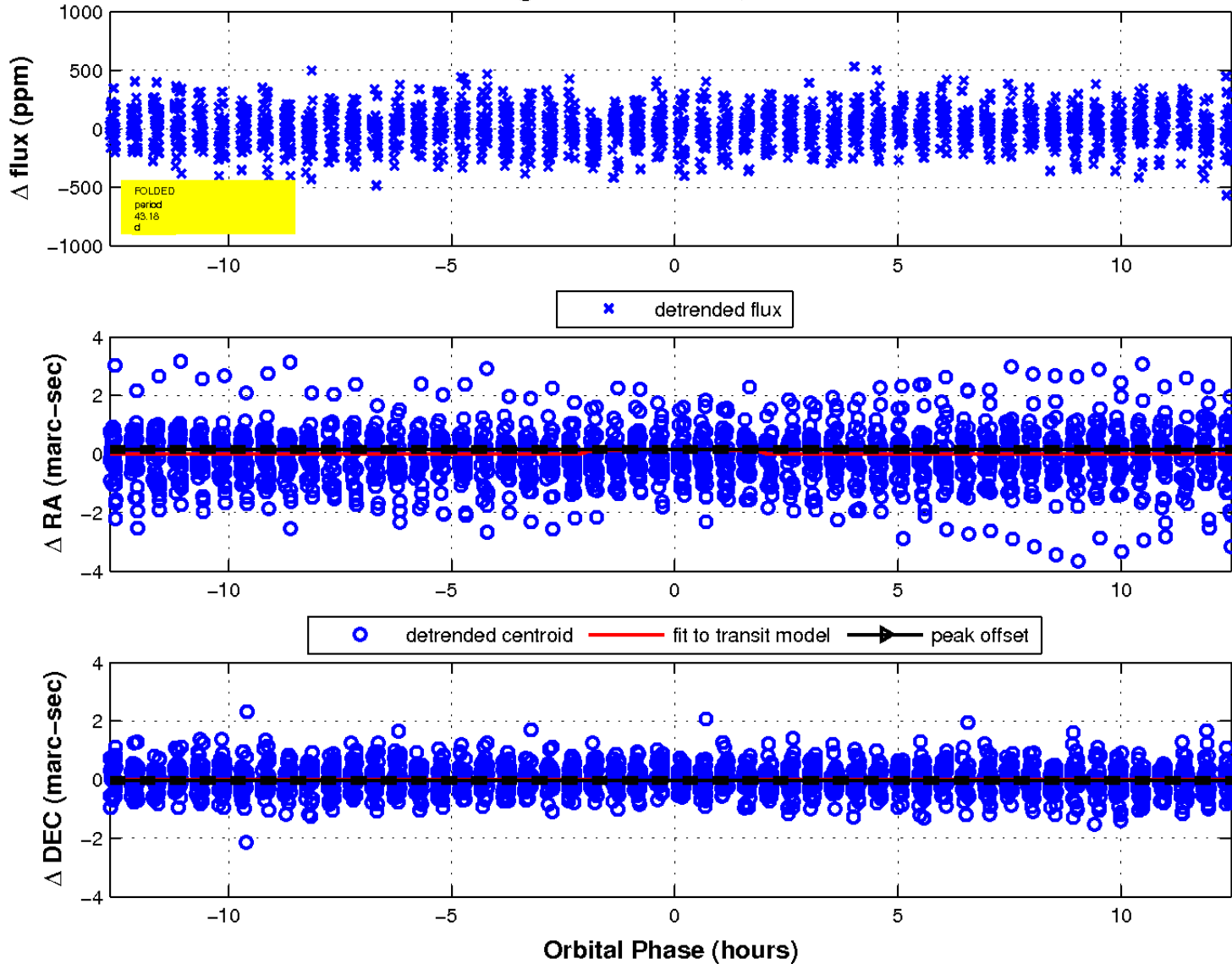




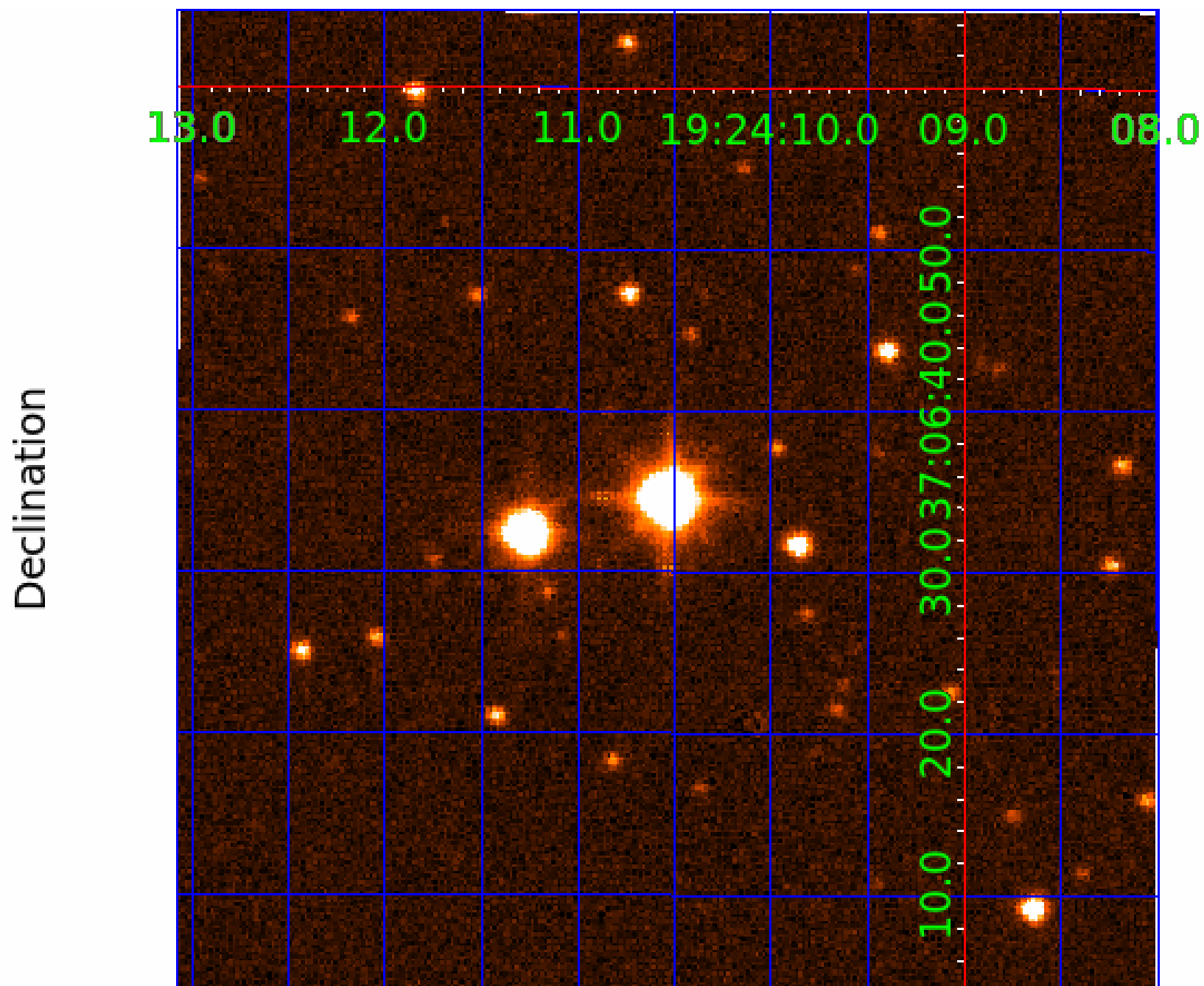
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 6 of 7



UKIRT Image



# KIC 001571717

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
001571717-01	OBS	No	1.019803	132.338418	10.3	7.413	9.9	6.3	2.13	8302	0.70	33347.74
001571717-02	OBS	No	15.107407	145.585070	251.1	1.169	13.1	13.2	2.13	8302	3.45	916.58
001571717-03	OBS	No	26.962963	147.496581	311.1	1.565	13.3	11.8	2.13	8302	4.37	423.38
001571717-04	OBS	No	19.985456	136.438743	180.3	2.119	10.7	11.4	2.13	8302	3.07	631.15
001571717-05	OBS	No	100.950826	142.158723	136.4	0.752	11.0	4.0	2.13	8302	2.94	72.82
001571717-06	OBS	No	43.176197	148.076164	148.6	4.221	10.3	10.0	2.13	8302	3.01	225.99
001571717-07	OBS	No	25.943432	134.675594	279.1	1.345	10.6	10.1	2.13	8302	3.96	445.71

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001571717-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED
001571717-02	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED—HALO_GHOST
001571717-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED— HALO_GHOST
001571717-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
001571717-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
001571717-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
001571717-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED

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

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

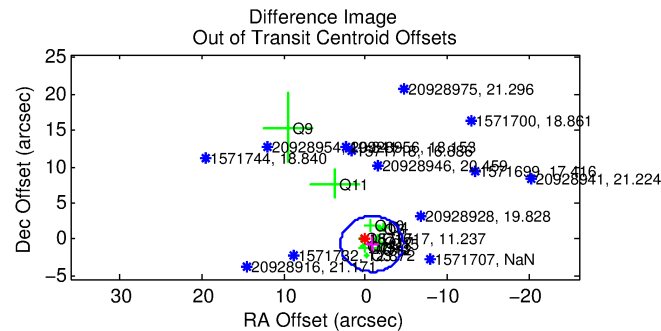
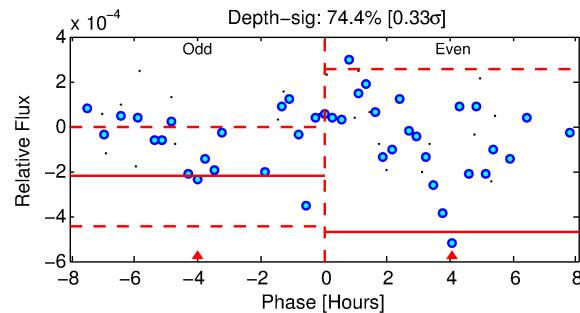
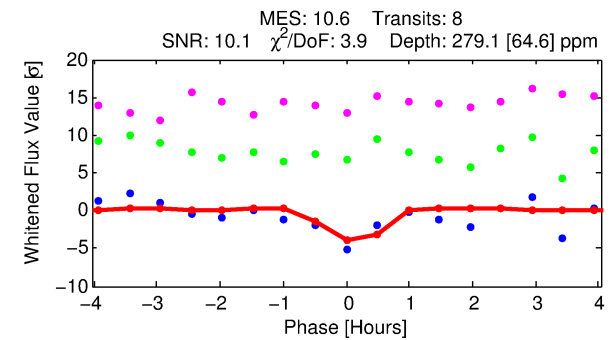
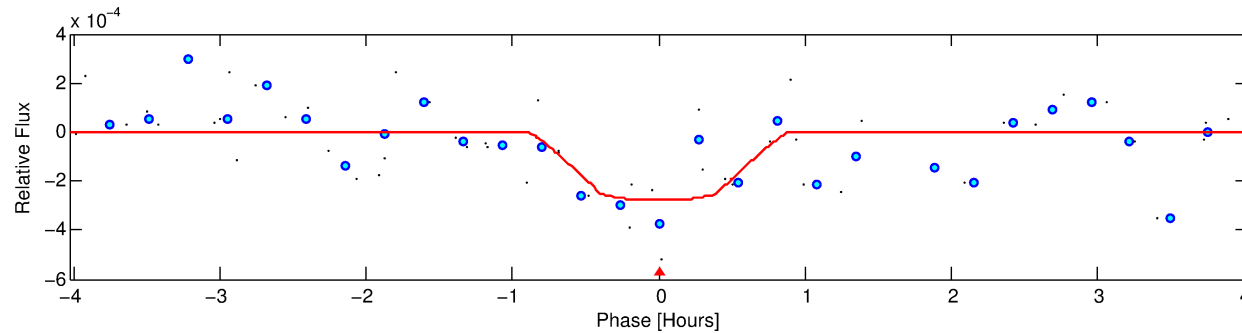
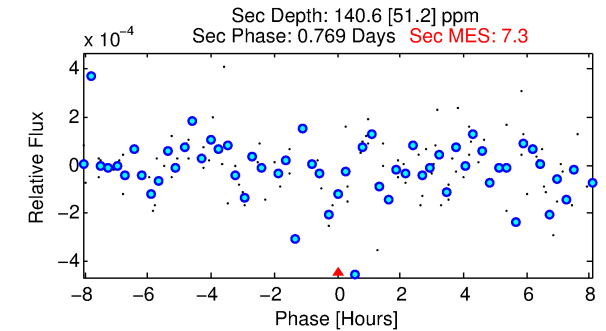
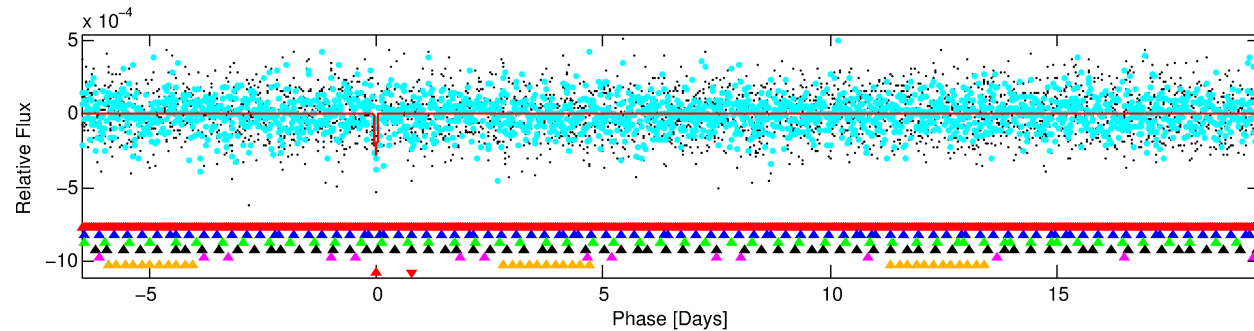
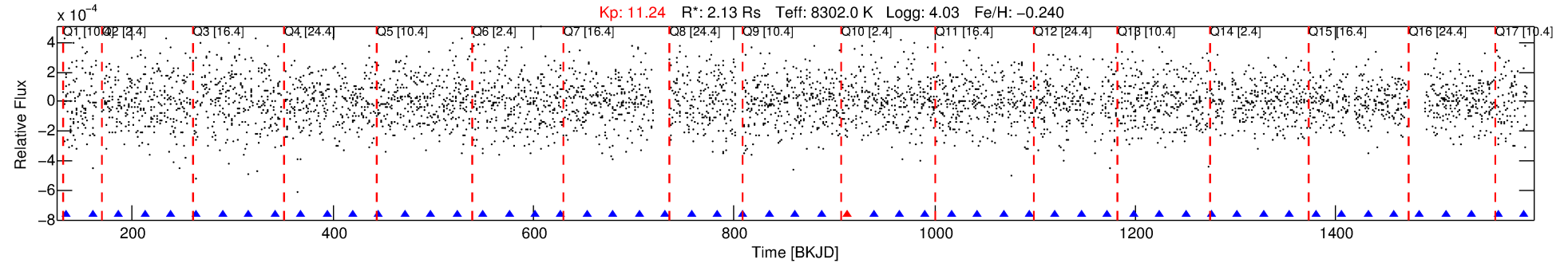
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 001571717-07

No Significant Match Found

# DV One-Page Summary

KIC: 1571717 Candidate: 7 of 7 Period: 25.943 d



## DV Fit Results:

Period = 25.94343 [0.00026] d  
Epoch = 134.6756 [0.0087] BKJD  
Rp/R\* = 0.0170 [0.0267]  
a/R\* = 92.01 [876.85]  
b = 0.80 [4.29]  
Seff = 445.71 [168.56]  
Teq = 1172 [111] K  
Rp = 3.95 [6.29] Re  
a = 0.2085 [0.0465] AU  
Ag = 214.99 [683.99] [0.31 $\sigma$ ]  
Teffp = 6936 [5493] K [1.05 $\sigma$ ]

## DV Diagnostic Results:

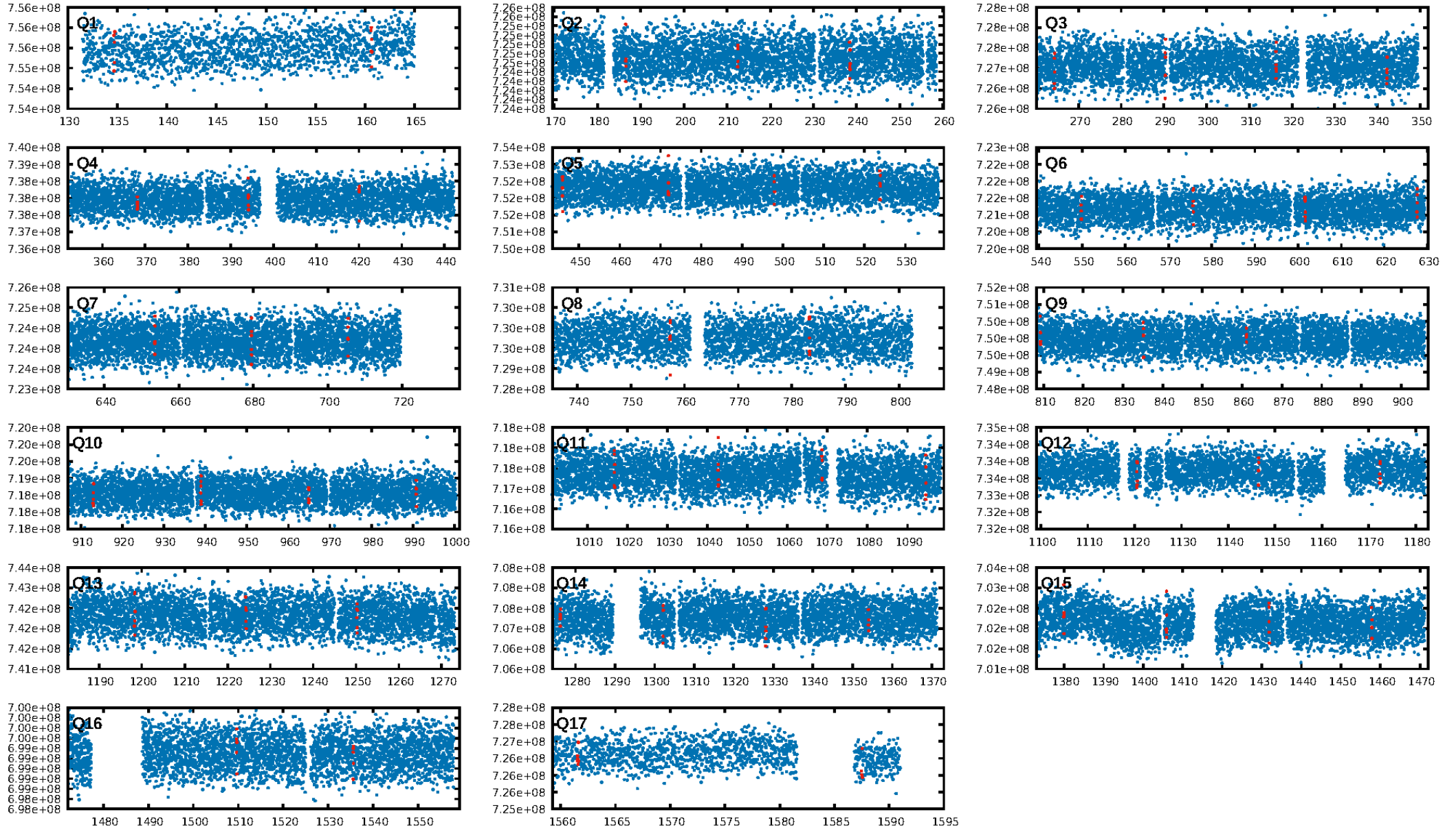
ShortPeriod-sig: 100.0% [56.96 $\sigma$ ]  
LongPeriod-sig: 100.0% [11.86 $\sigma$ ]  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 29.8%  
Bootstrap-pfa: 6.04e-09  
RollingBand-fgt: 0.86 [6/7]  
GhostDiagnostic-chr: 2.157  
Centroid-sig: 84.0%  
Centroid-so: 0.878 arcsec [2.43 $\sigma$ ]  
OotOffset-rm: 1.014 arcsec [0.80 $\sigma$ ]  
OotOffset-st: 3/4/4/3 [14]  
KicOffset-rm: 0.847 arcsec [0.60 $\sigma$ ]  
KicOffset-st: 3/4/4/3 [14]  
DiffImageQuality-fgm: 0.64 [9/14]  
DiffImageOverlap-fno: 0.71 [12/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:57:48 Z

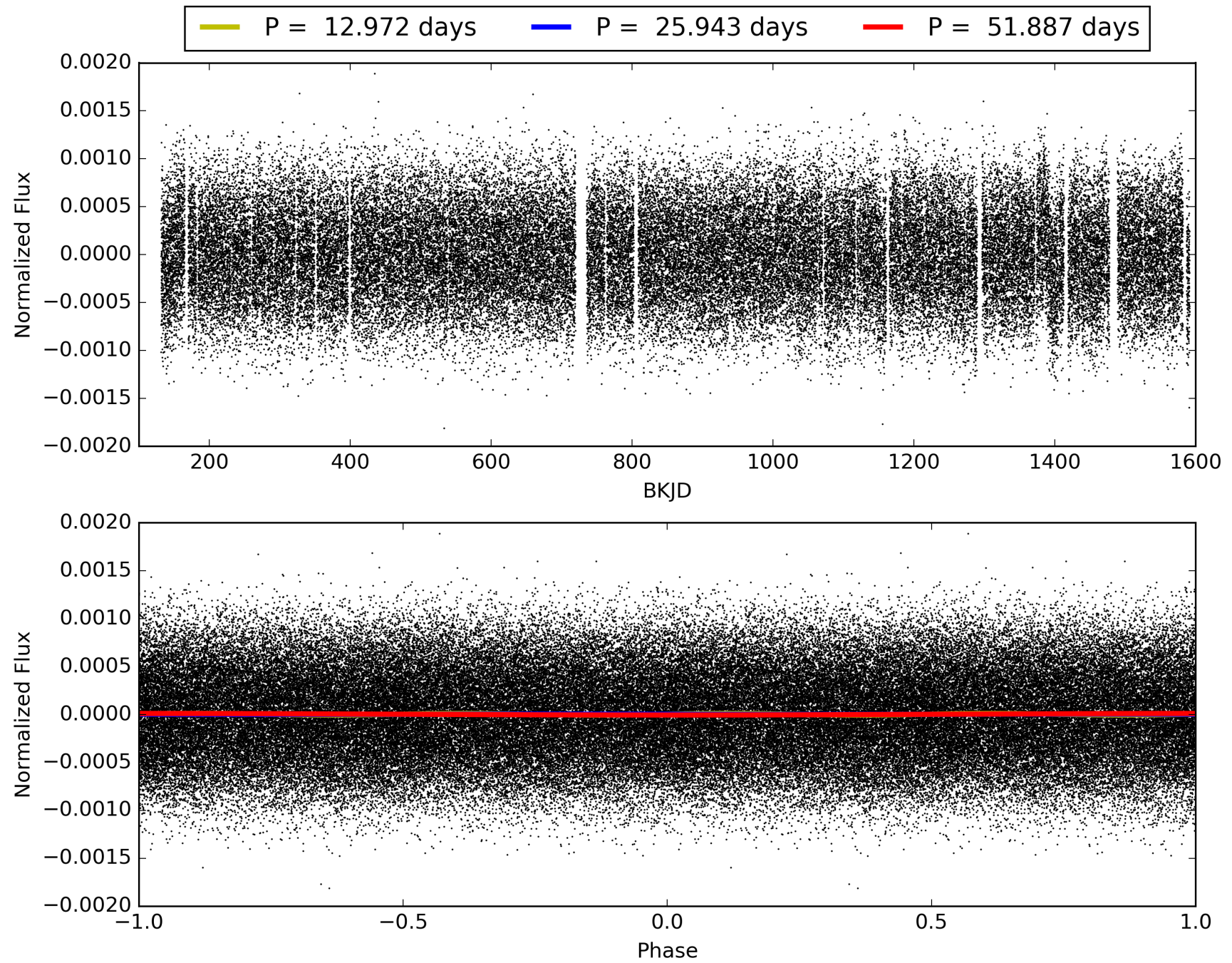
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# TCE 001571717-07, PDC Light Curves

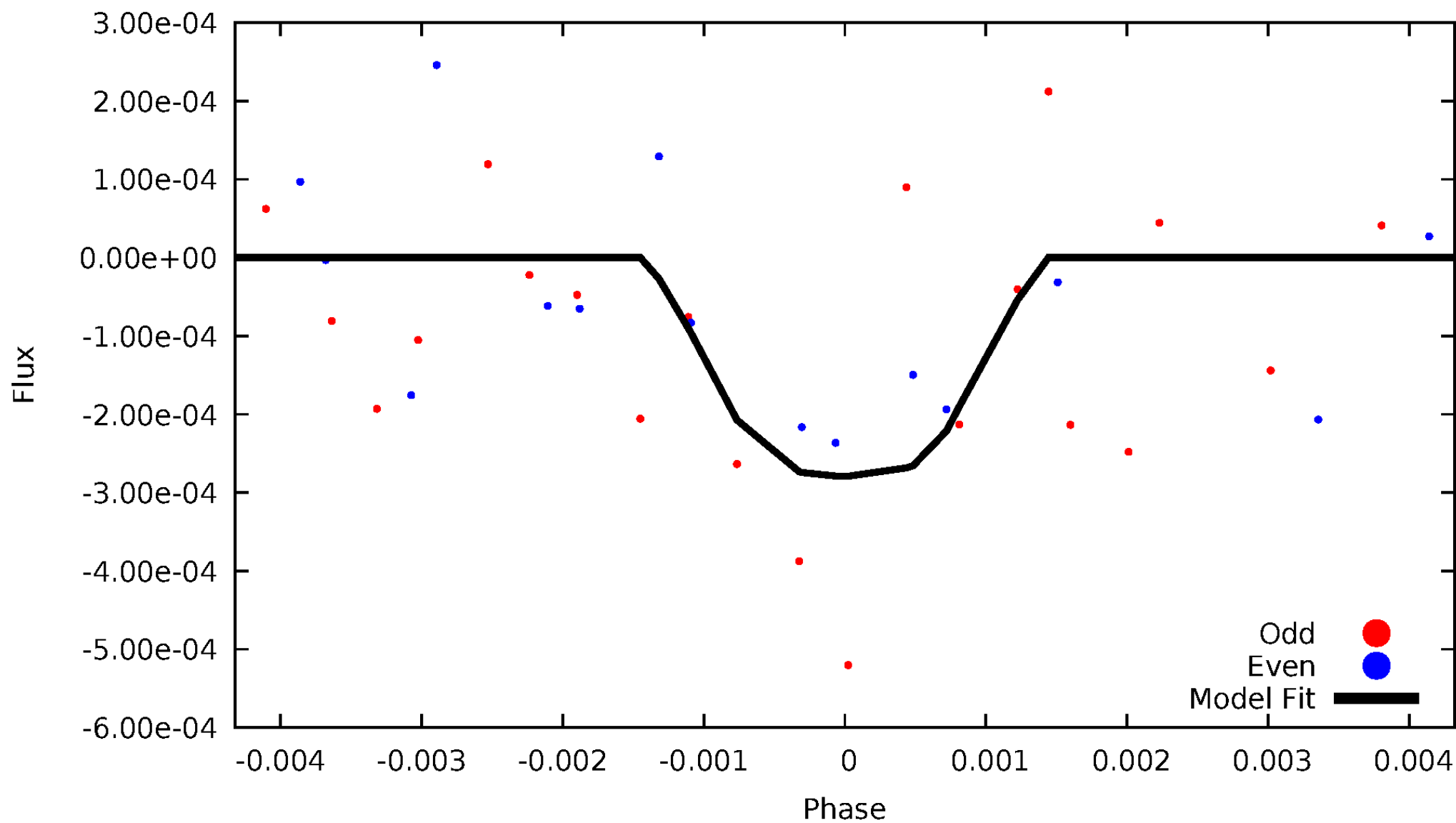


# TCE 001571717-07



# DV Odd/Even

TCE 001571717-07

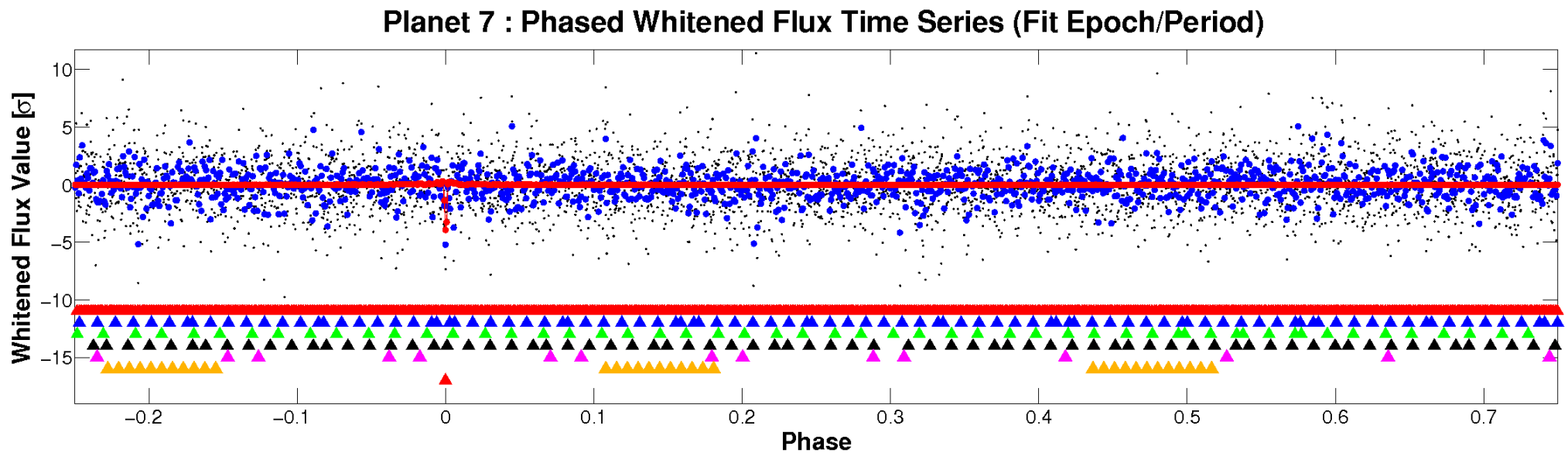
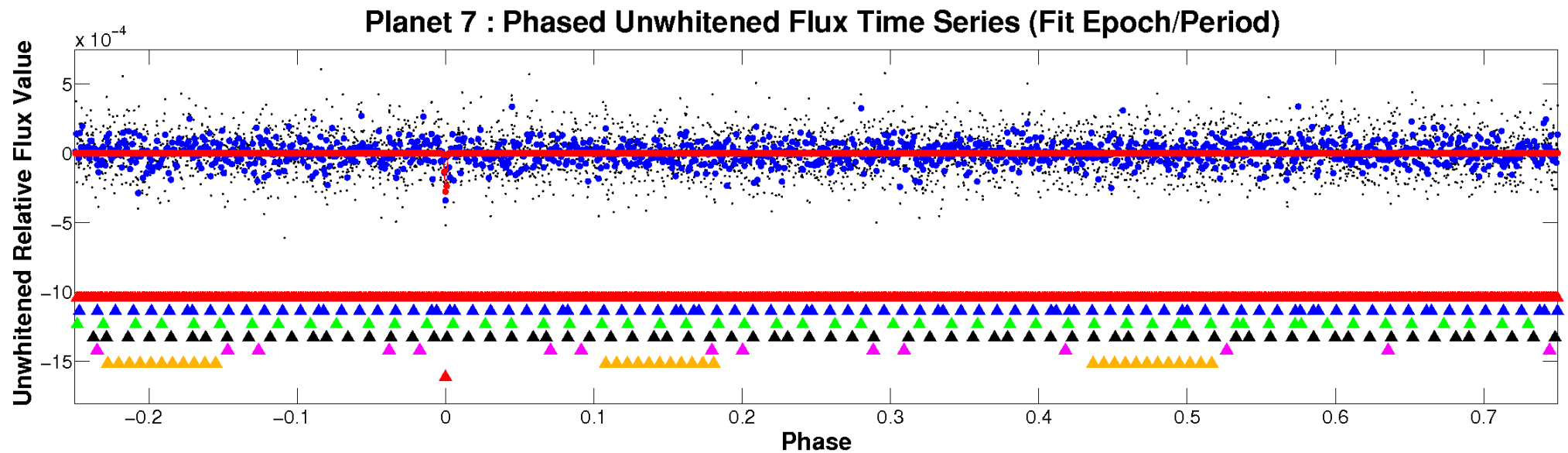




ALT Odd/Even

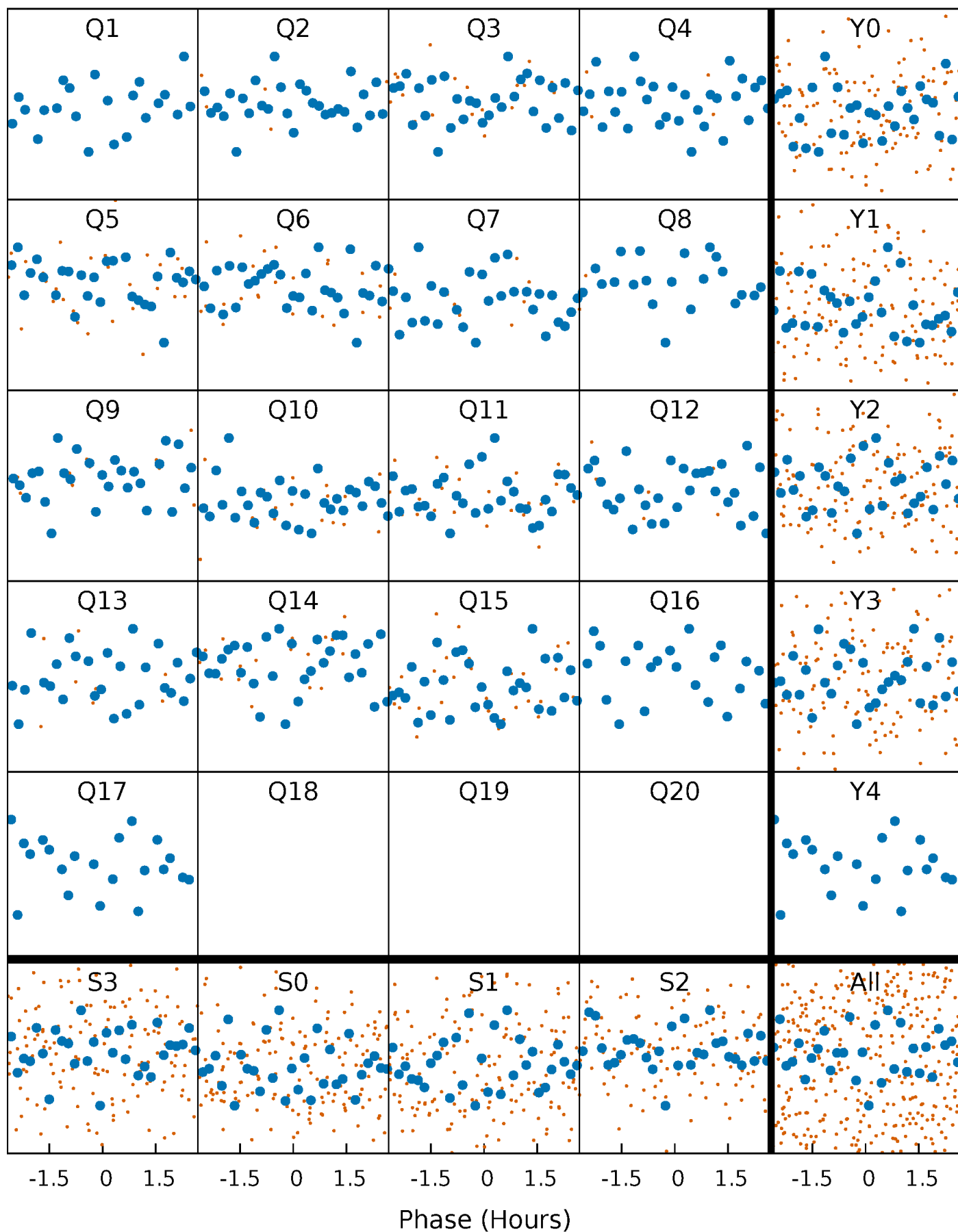
This plot does not exist for this TCE.

# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

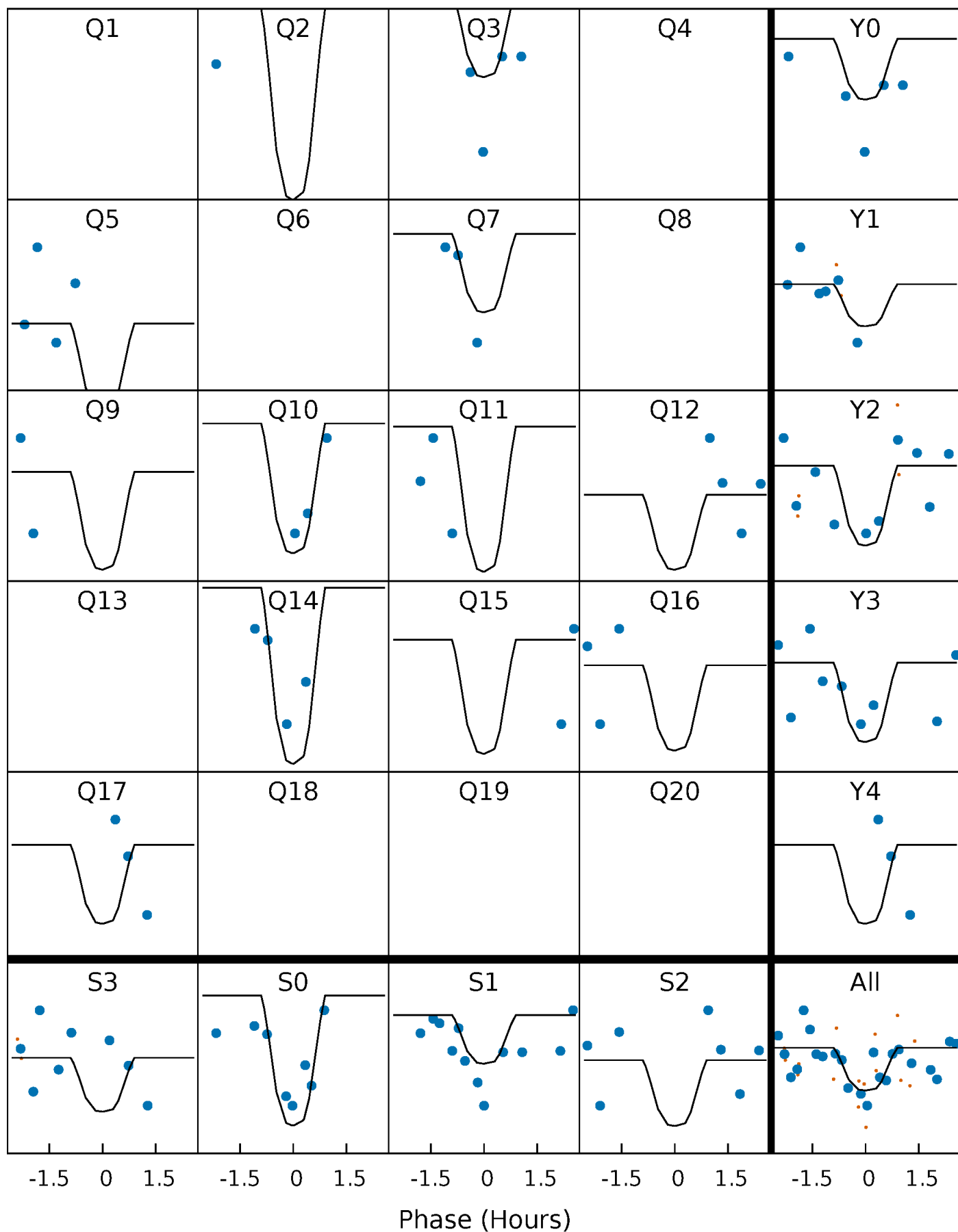
TCE 001571717-07   P= 25.943432 Days    $T_0=134.675594$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 001571717-07   P= 25.943432 Days    $T_0=134.675594$  (BKJD)

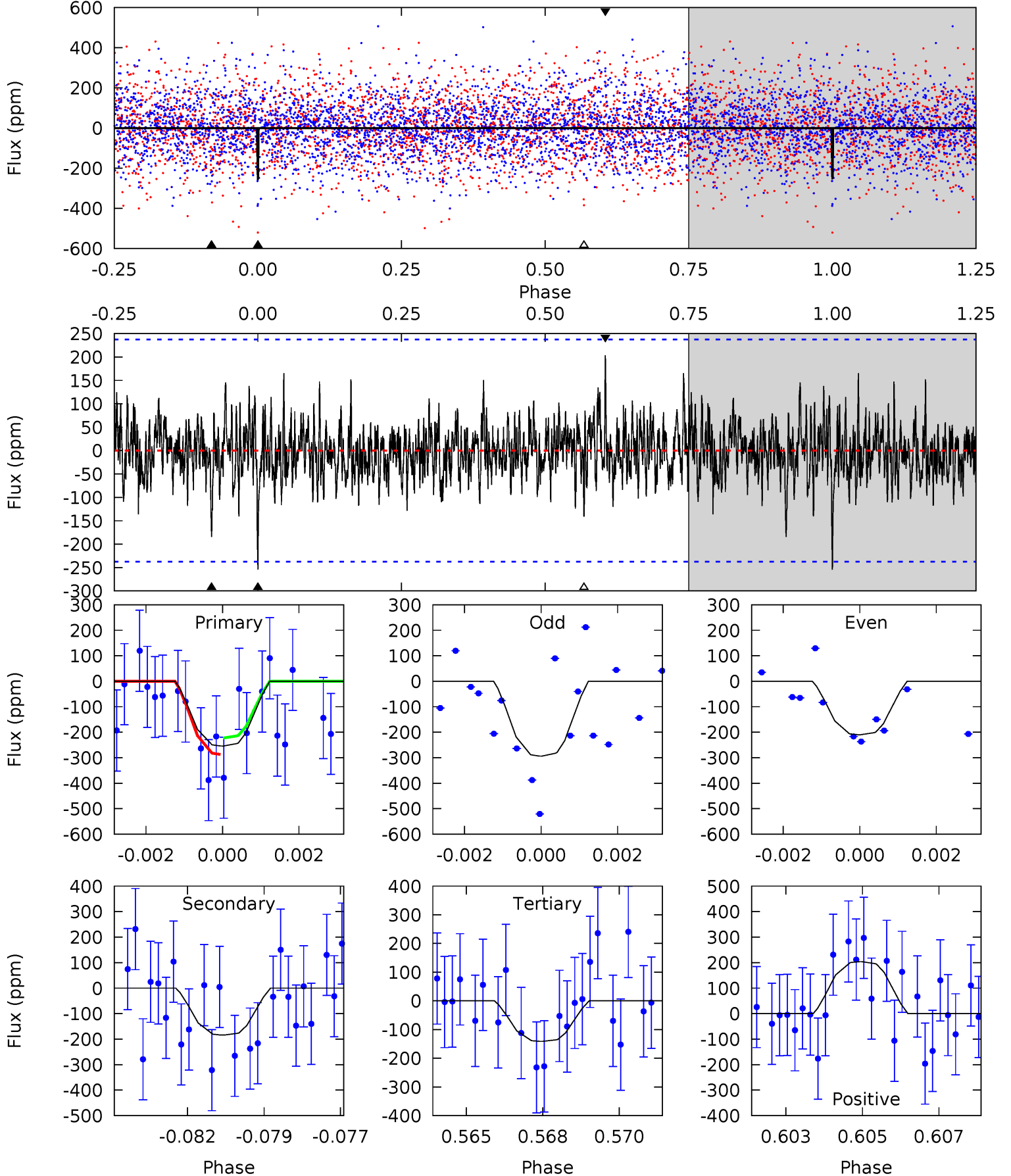


This plot does not exist for this TCE.

# DV Model-Shift Uniqueness Test

001571717-07, P = 25.943432 Days, E = 108.732162 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.67	4.11	3.15	4.55	5.30	3.04	1.08	2.52	1.12	0.96	-0.44	0.94	0.97	0.45	0.72



## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 001571717

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8302^{+232}_{-348}$	$4.034^{+0.192}_{-0.128}$	$-0.240^{+0.250}_{-0.300}$	$2.134^{+0.439}_{-0.536}$	$1.796^{+0.136}_{-0.294}$	$0.260^{+0.282}_{-0.101}$
	+3%/-4%	+5%/-3%	+104%/-125%	+21%/-25%	+8%/-16%	+108%/-39%
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 001571717-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-184 \pm 45$	$5.85^{+5.52}_{-3.81}$	$1624^{+106}_{-108}$	$5690^{+5202}_{-1356}$	$122^{+917}_{-91}$
Alt.	N/A	N/A	N/A	N/A	N/A

$T_{max}$  = 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  $A_{obs} \gg 1.0$

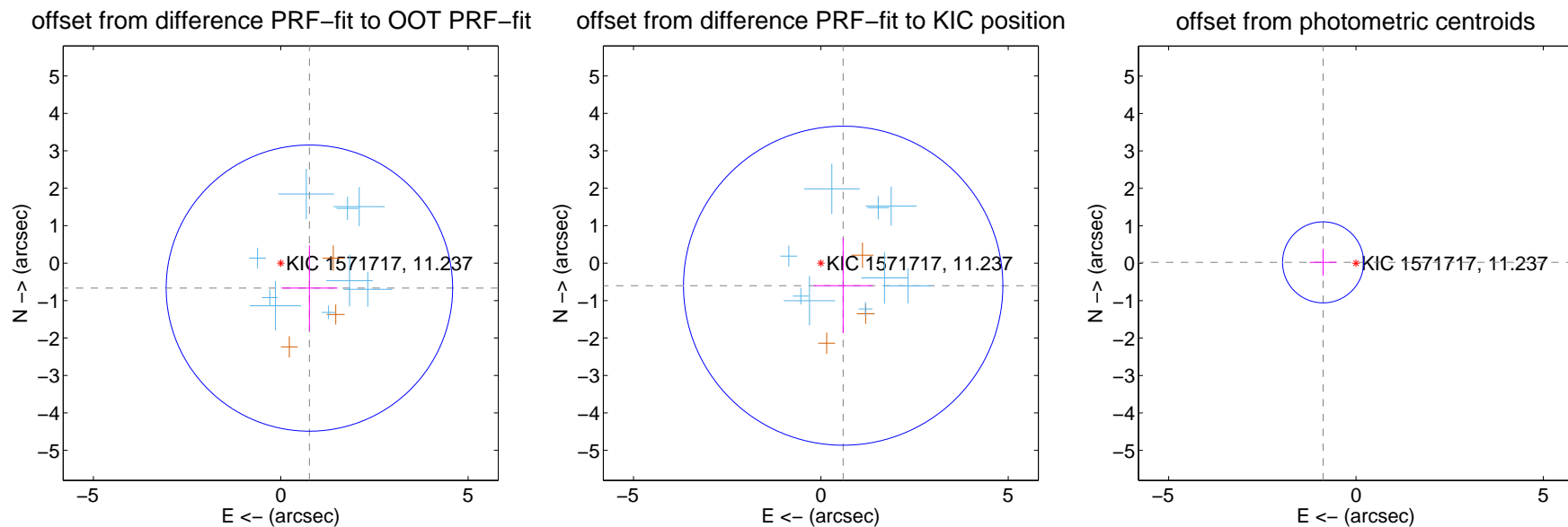
## DV Centroid Data

Supplemental centroid analysis for 001571717-07. **Kepler magnitude: 11.24.** Transit SNR 10.14

There are 9 quarters with good PRF difference image offsets

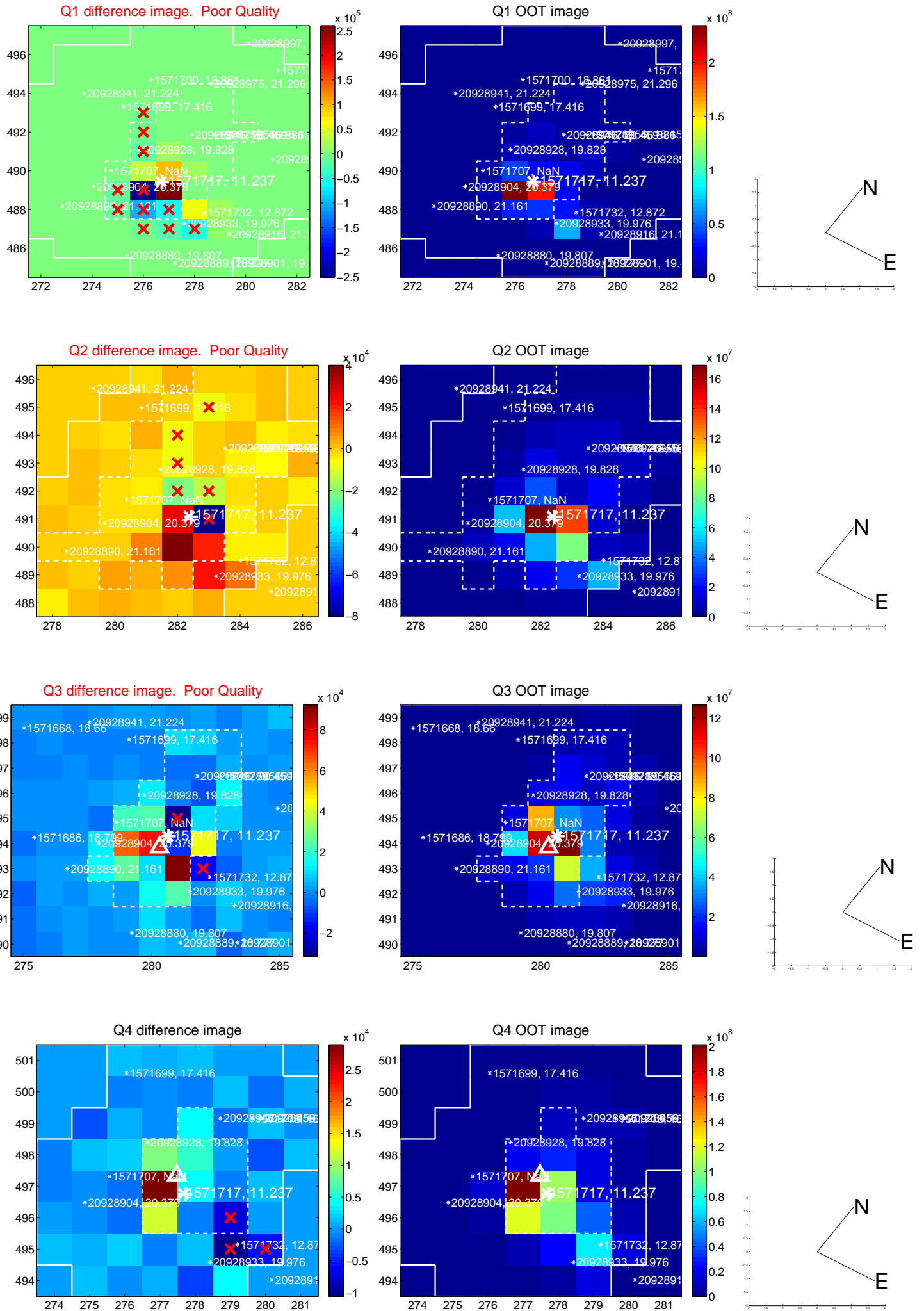
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.014 \pm 1.274$	0.80	$-0.764 \pm 0.749$	$-0.667 \pm 1.141$
PRF-fit source offset from KIC position	$0.847 \pm 1.420$	0.60	$-0.596 \pm 0.785$	$-0.603 \pm 1.268$
photometric centroid source offset	$0.88 \pm 0.36$	2.43	$0.88 \pm 0.36$	$0.02 \pm 0.36$



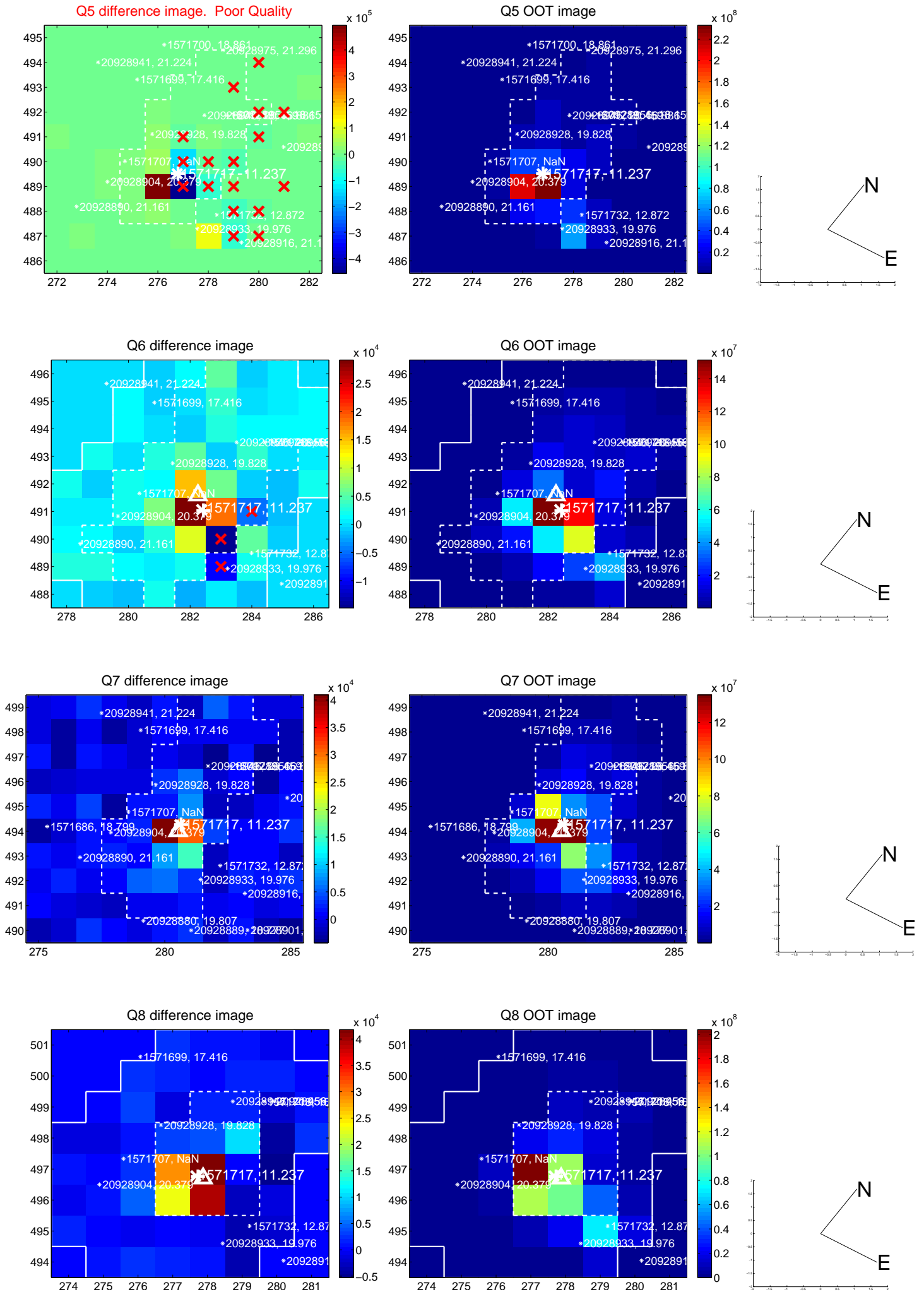
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

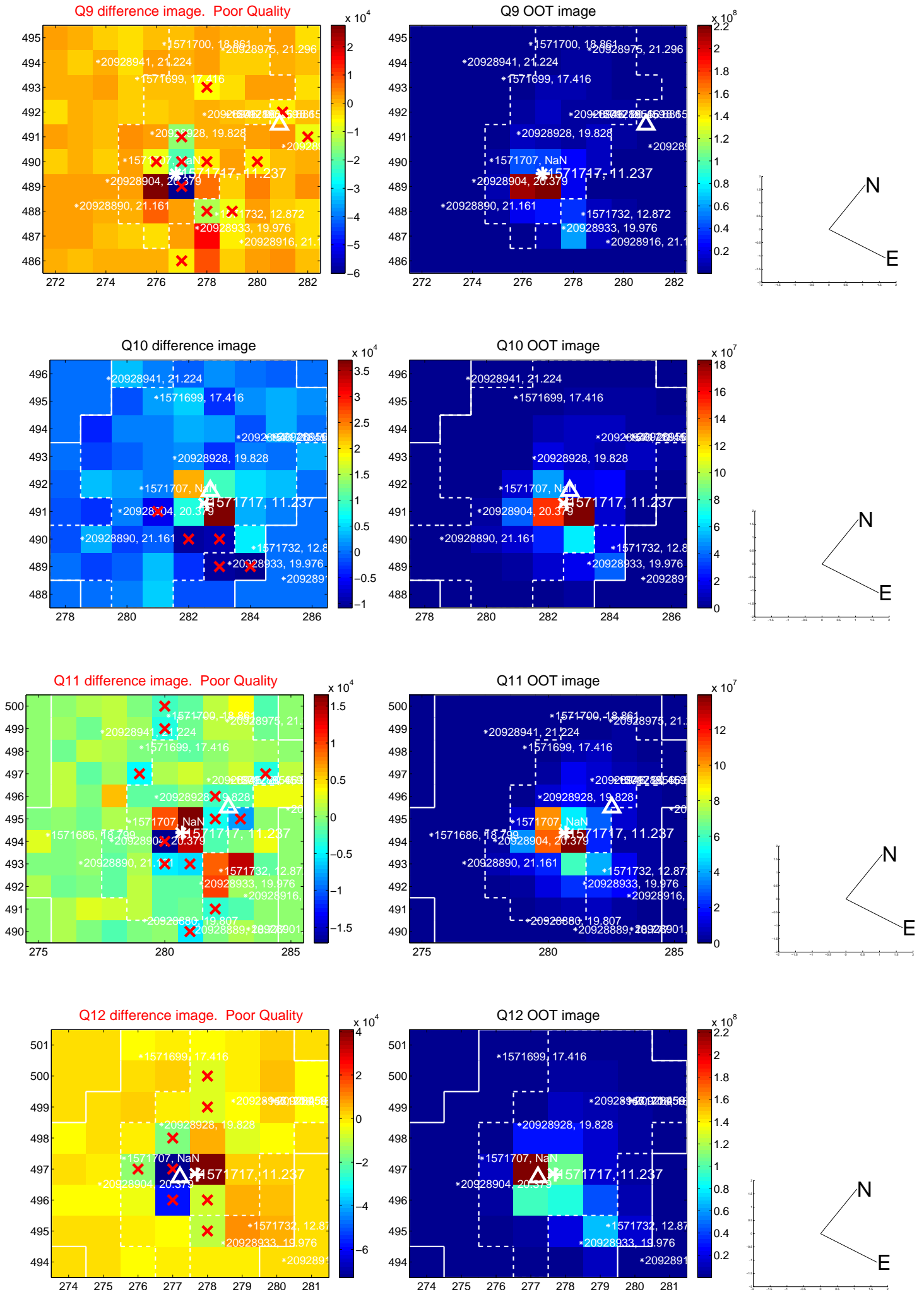




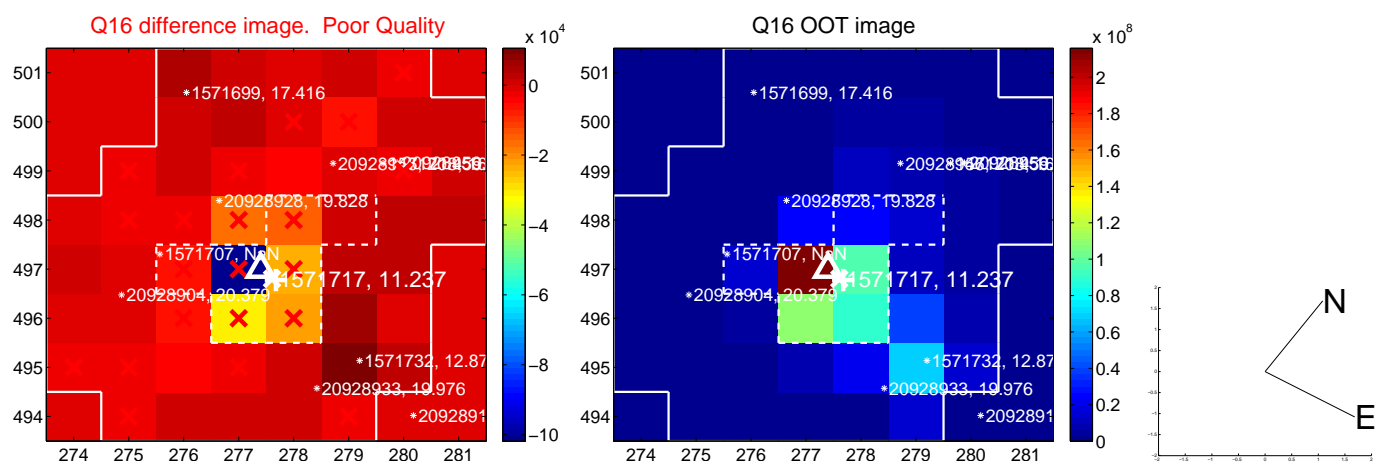
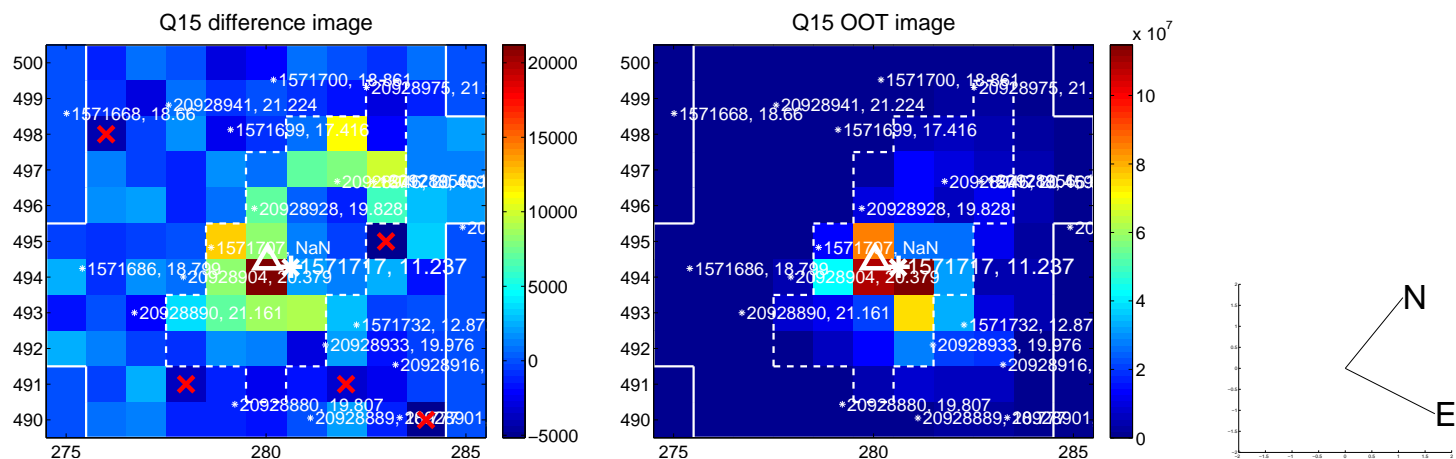
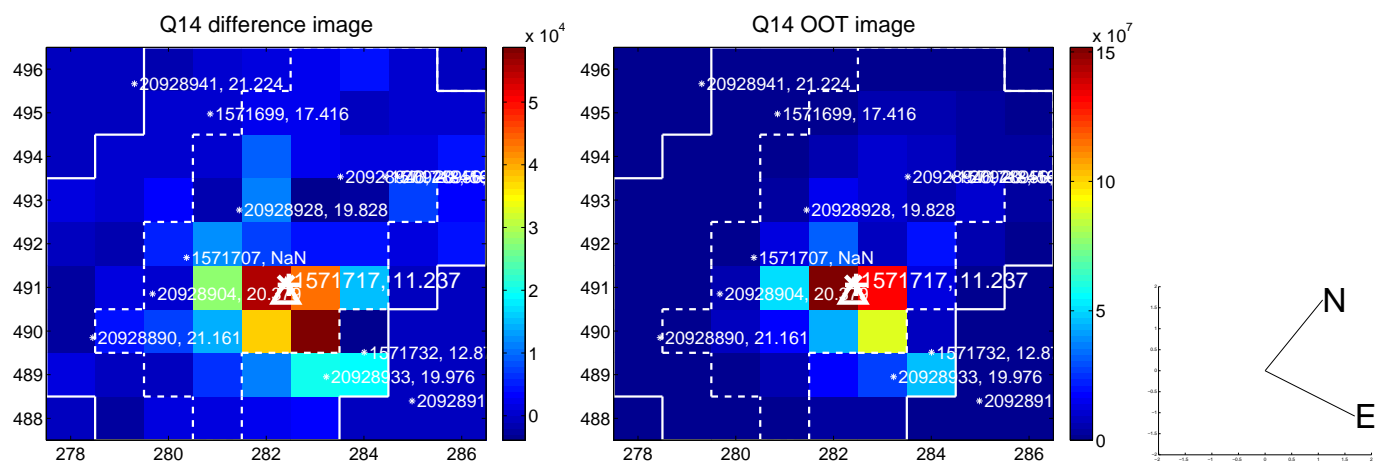
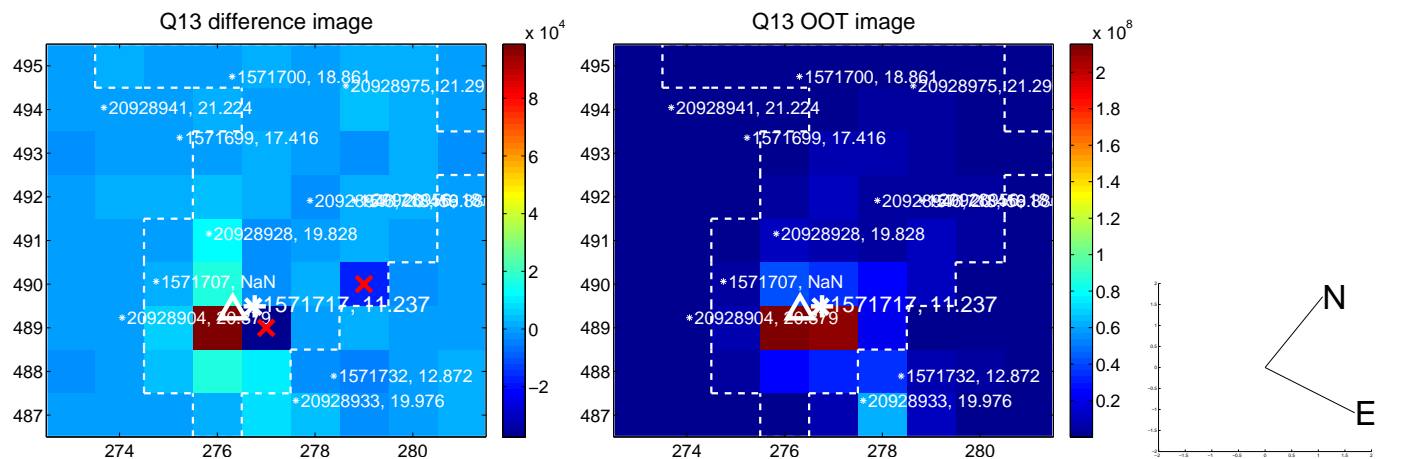
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



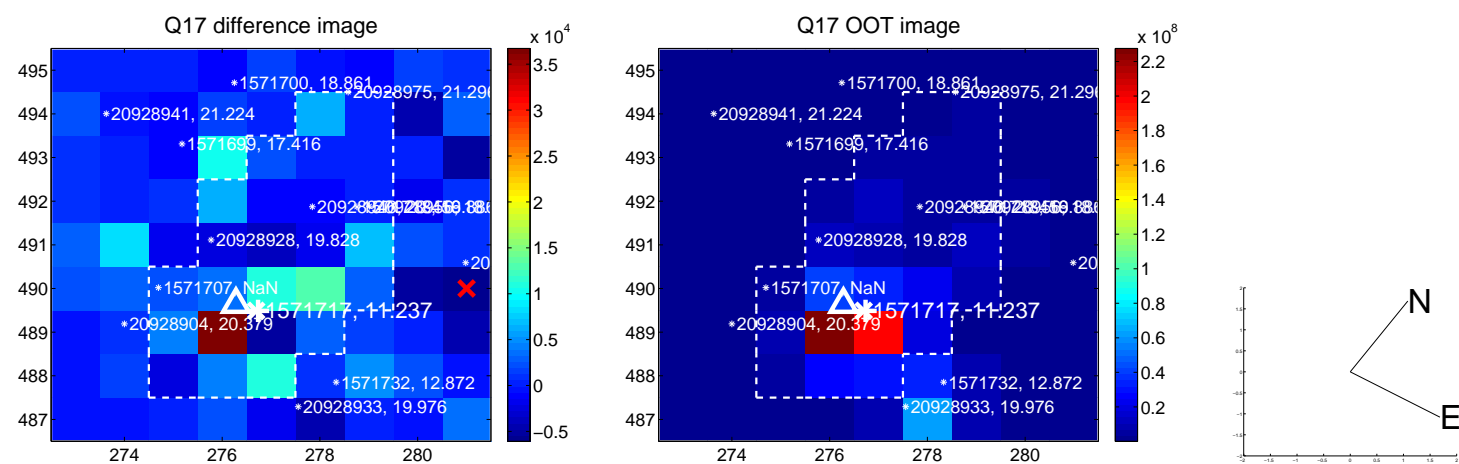
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



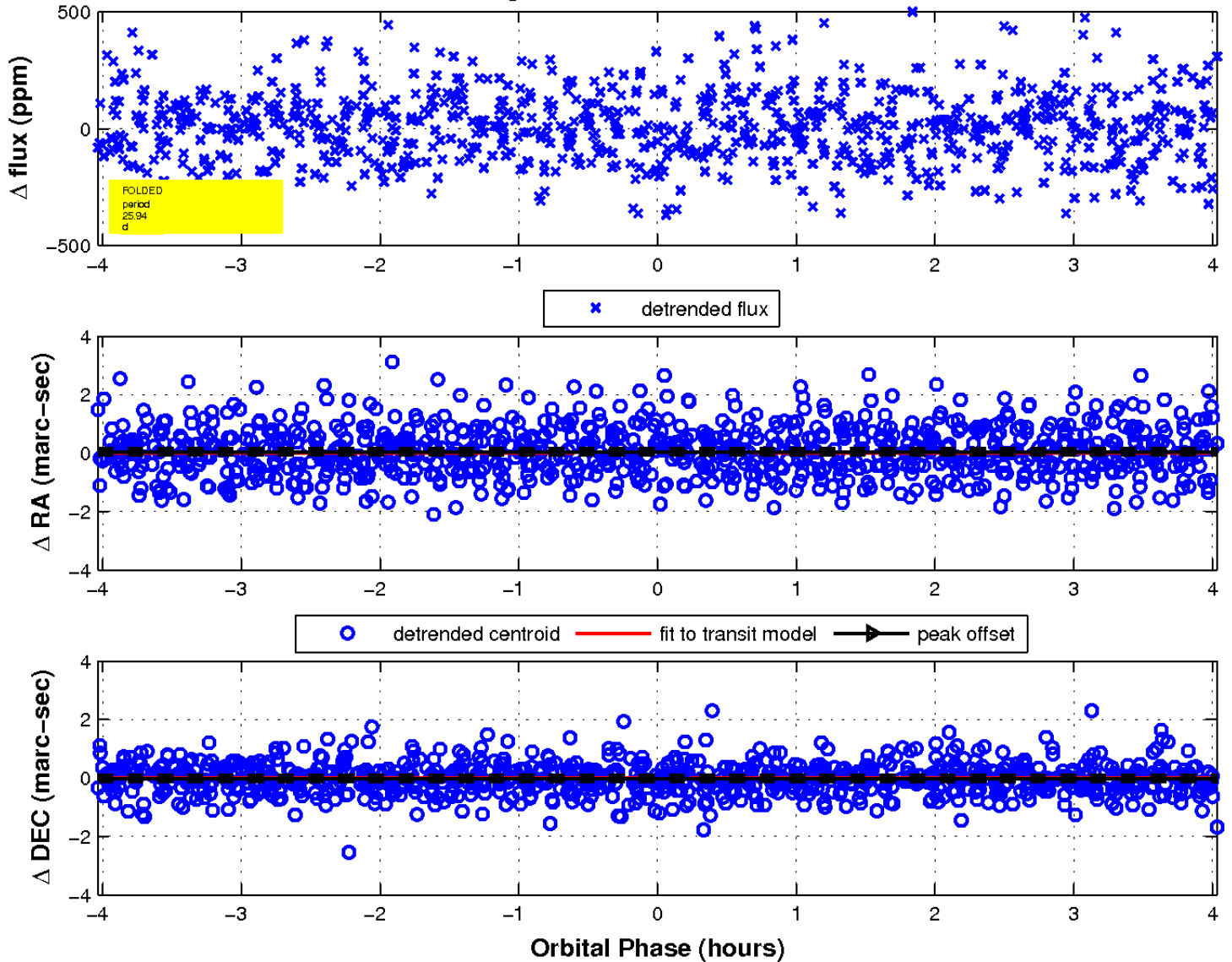
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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UKIRT Image

