

# KIC 006292732

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006292732-01	OBS	6686.01	1.253366	132.634373	38.6	4.141	12.1	13.3	0.94	5869	0.69	1758.25
006292732-02	OBS	No	161.873355	210.170778	257.9	6.253	16.1	5.8	0.94	5869	1.71	2.69
006292732-03	OBS	No	163.333205	205.070649	247.5	2.611	8.8	5.6	0.94	5869	1.75	2.66

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006292732-01	OBS	FP	0.00	0	1	0	1	MOD_SEC_DV—EPHEM_MATCH
006292732-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006292732-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS

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

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

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

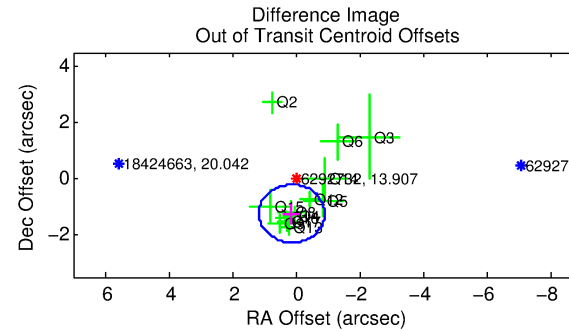
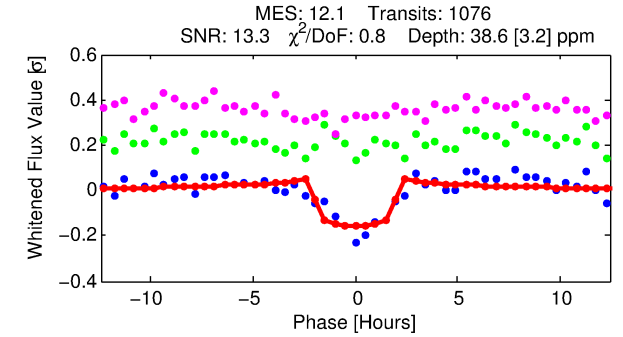
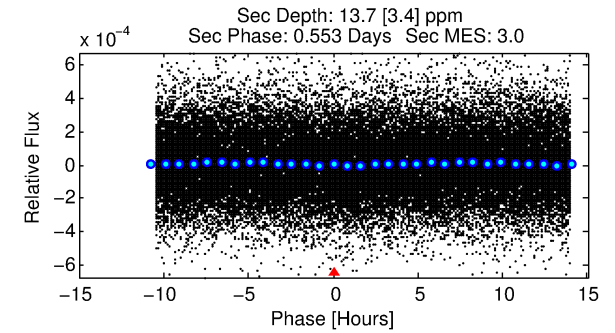
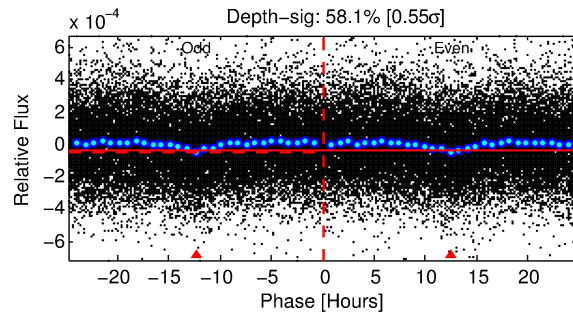
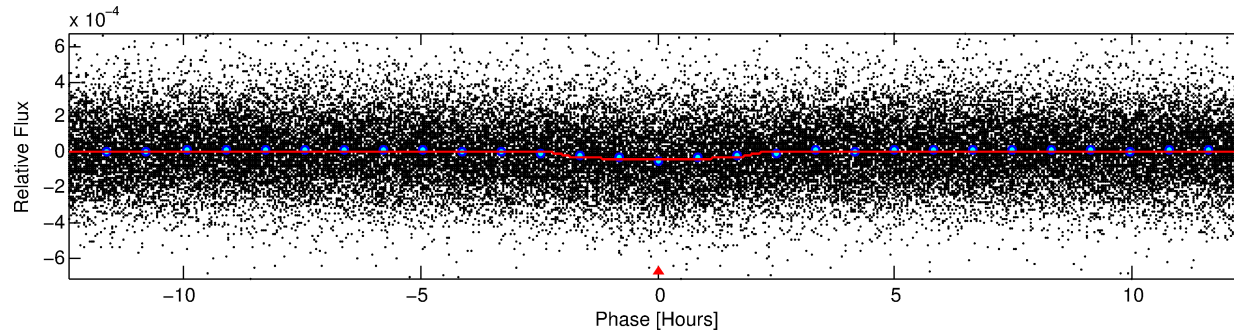
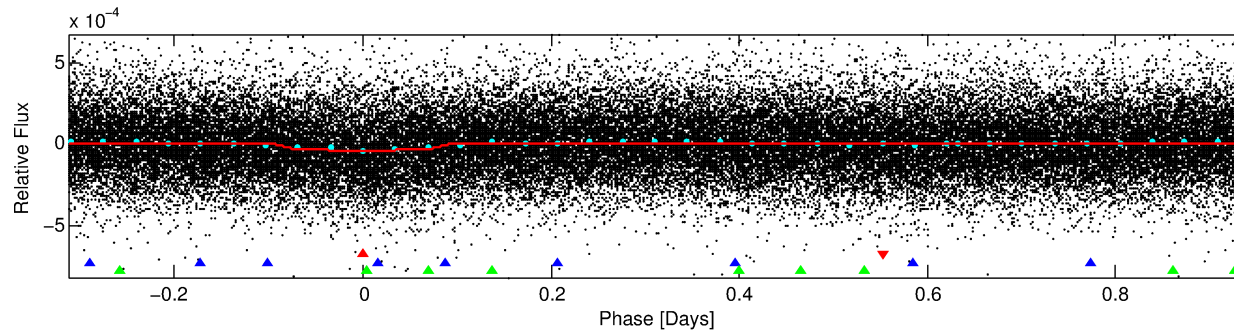
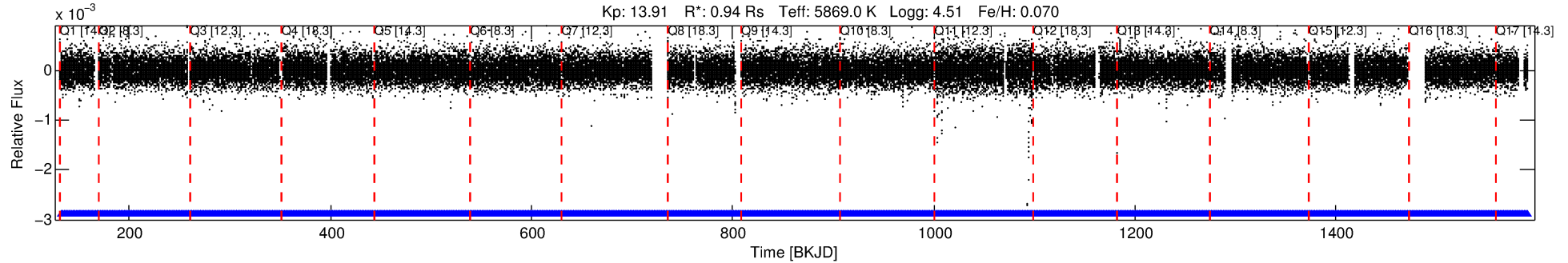
## Ephemeris Match Information For 006292732-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ( $''$ )	$\Delta$ Row	$\Delta$ Col	$m_2$	$m_1$	$D_2/D_1$	Mechanism	Flag	$\sigma_P$	$\sigma_T$
006292732-01	6292732	006292803-01	6292803	1:1	114.2	29	0	14.01	13.91	7576.70	Col-Anomaly	0	3.54	2.32

**Notes:**  $P_1:P_2$  is the period ratio. Dist is the distance in arcseconds.  $\Delta$ Row and  $\Delta$ Col are the number of pixels apart in row and column.  $m_2$  and  $m_1$  are the magnitudes of the parent and child.  $D_2/D_1$  is the parent's transit depth divided by the child's.  $\sigma_P$  and  $\sigma_T$  are the significance of the match in period and epoch. For a match to be considered significant  $\sigma_P < 5.0$  and  $\sigma_T < 5.0$ . Matches which have  $\sigma_P$  and  $\sigma_T$  very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

# DV One-Page Summary

KIC: 6292732 Candidate: 1 of 3 Period: 1.253 d  
KOI: K06686.01 Corr: 0.909



## DV Fit Results:

Period = 1.25337 [0.00001] d  
Epoch = 132.6344 [0.0030] BKJD  
Rp/R\* = 0.0067 [0.0021]  
a/R\* = 1.44 [1.15]  
b = 0.89 [0.38]  
Seff = 1758.25 [317.29]  
Teq = 1651 [74] K  
Rp = 0.69 [0.24] Re  
a = 0.0232 [0.0026] AU  
Ag = 8.61 [6.05] [1.26 $\sigma$ ]  
Teffp = 4373 [748] K [3.62 $\sigma$ ]

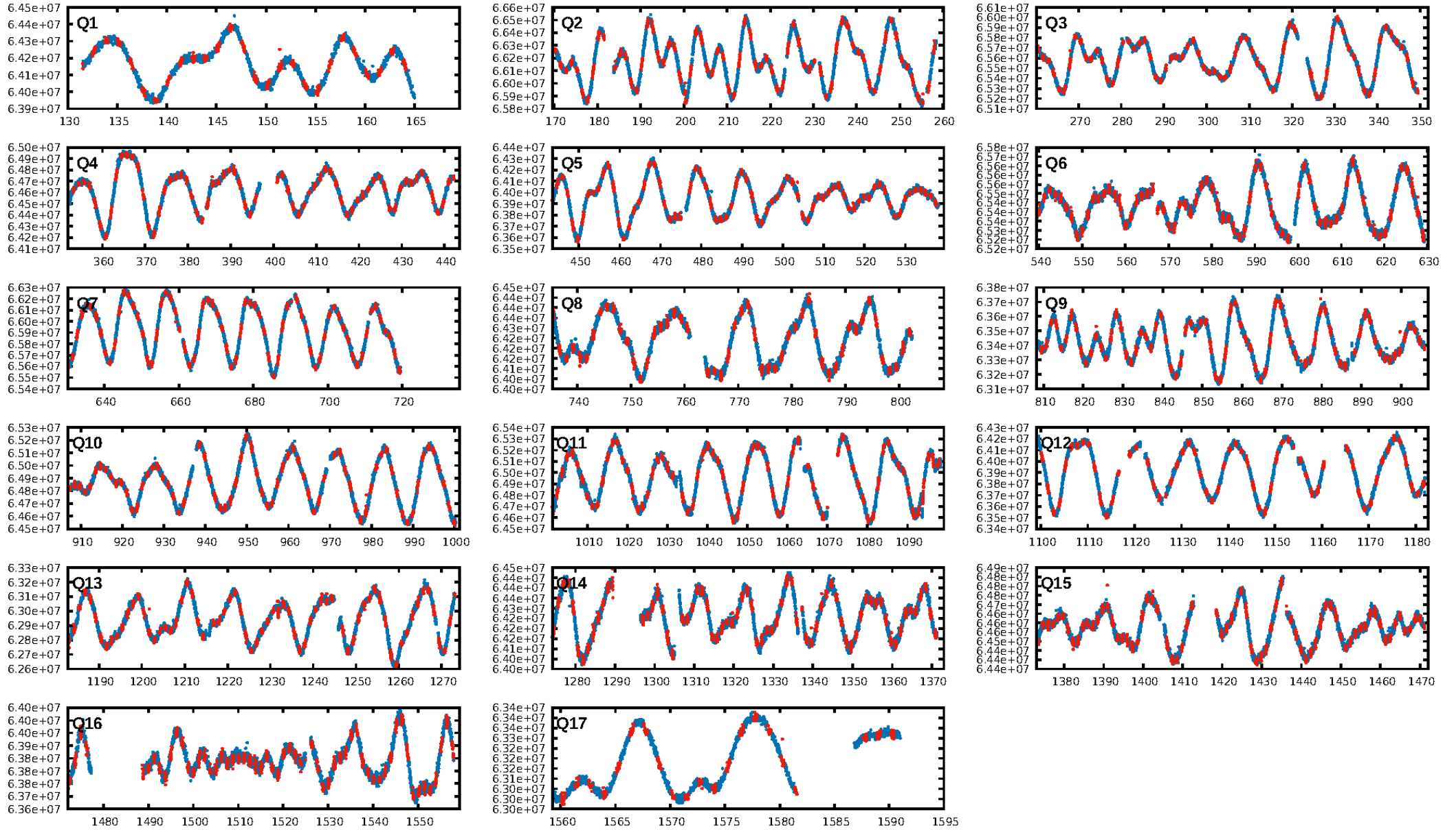
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [513.97 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 3.28e-29  
RollingBand-fgt: 1.00 [1029/1029]  
GhostDiagnostic-chr: 1.871  
Centroid-sig: 0.0%  
Centroid-so: 2.471 arcsec [3.15 $\sigma$ ]  
OotOffset-rm: 1.251 arcsec [3.64 $\sigma$ ]  
KicOffset-rm: 1.226 arcsec [3.00 $\sigma$ ]  
OotOffset-st: 3/2/4/4 [13]  
KicOffset-st: 3/2/4/4 [13]  
DiffImageQuality-fgm: 0.92 [12/13]  
DiffImageOverlap-fno: 1.00 [17/17]

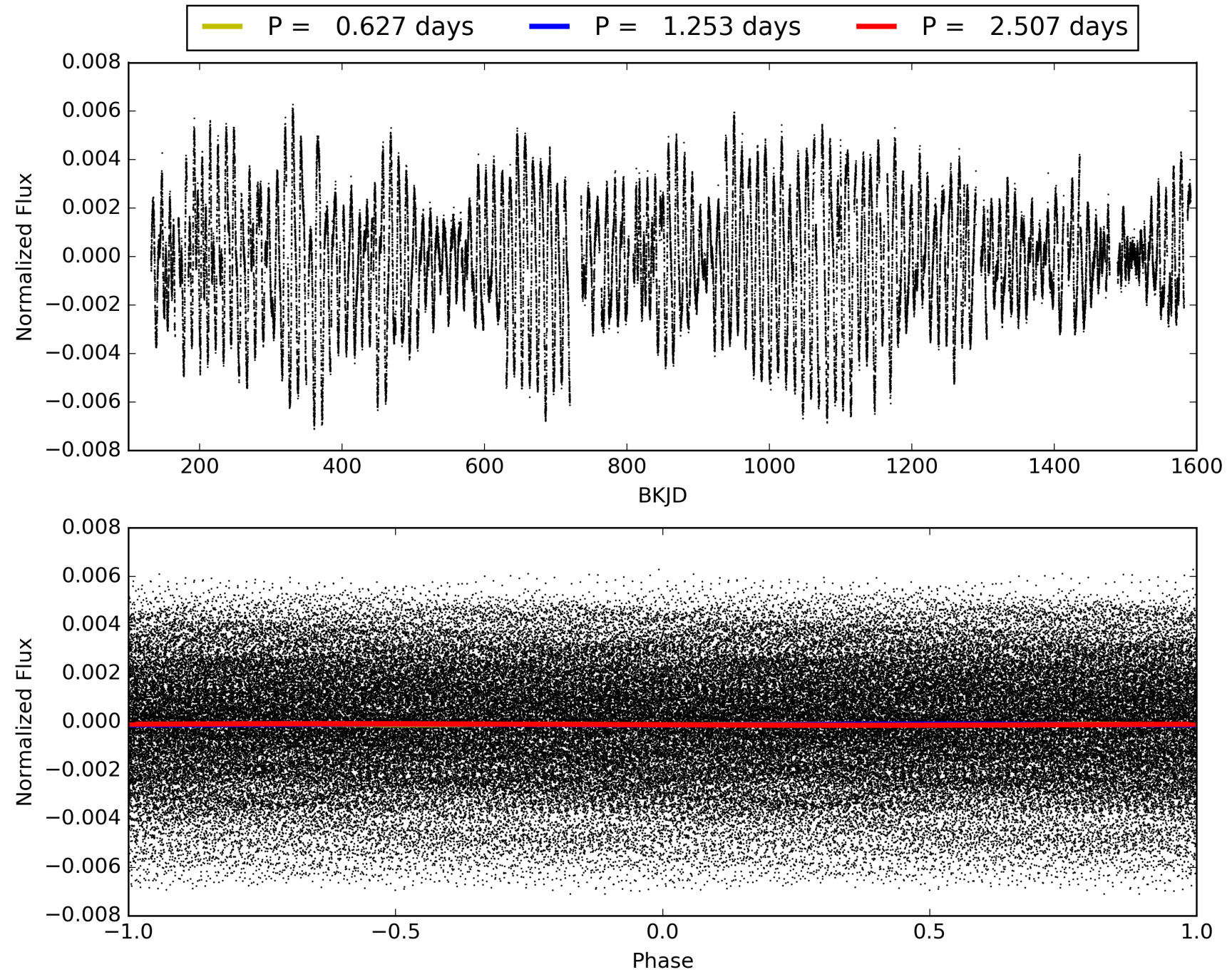
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:08:12 Z

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

# TCE 006292732-01, PDC Light Curves

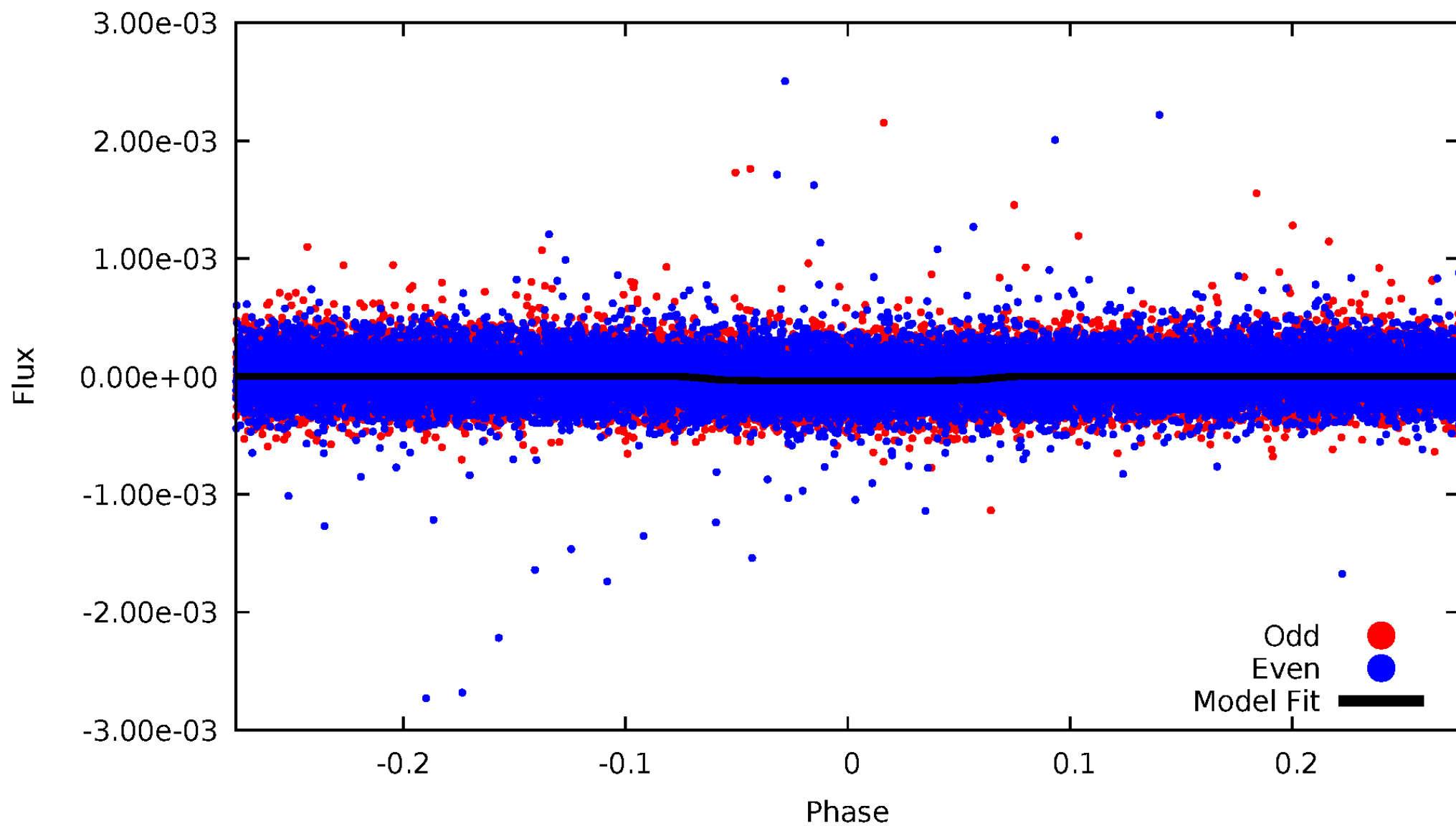


TCE 006292732-01



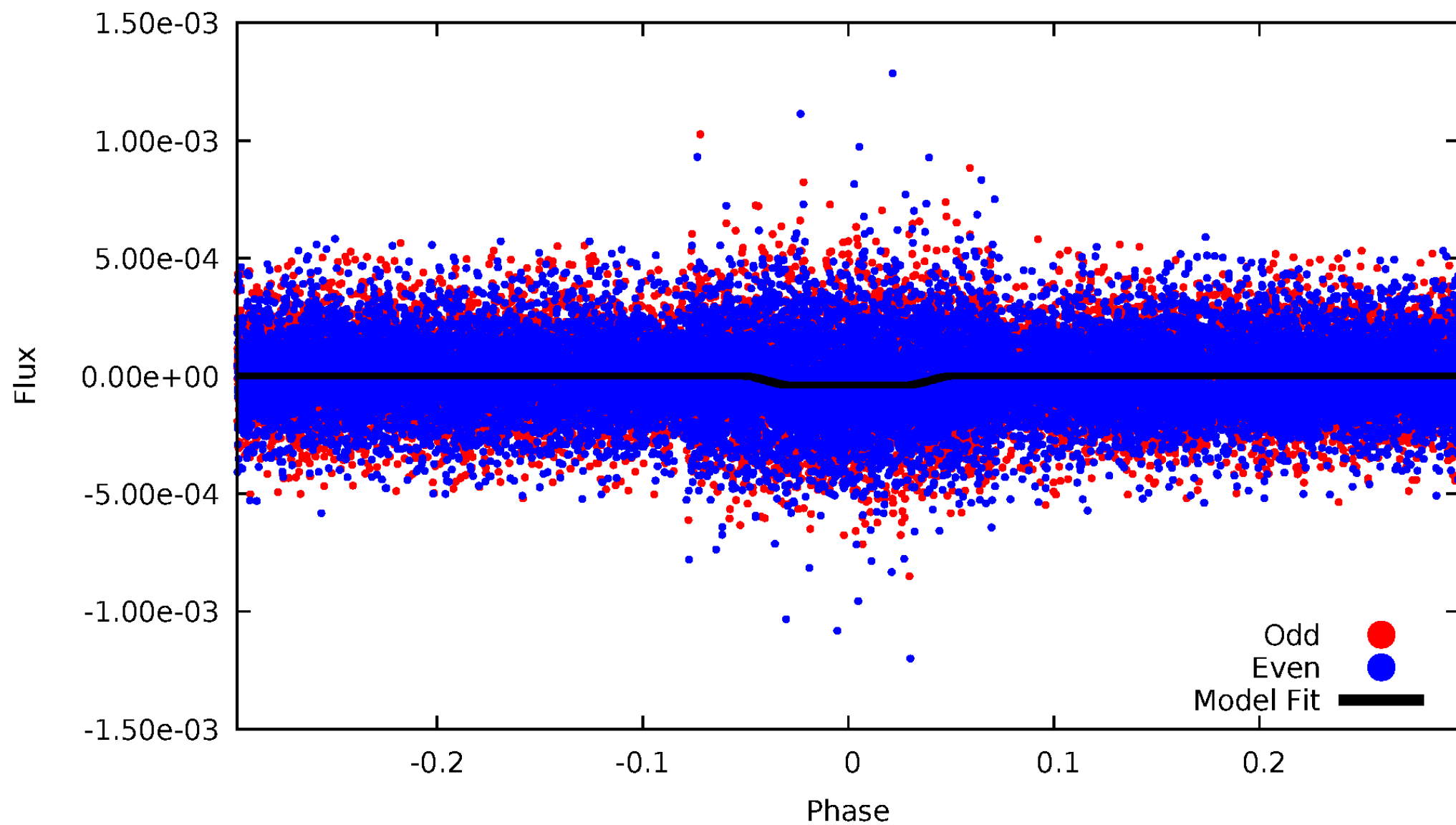
# DV Odd/Even

TCE 006292732-01

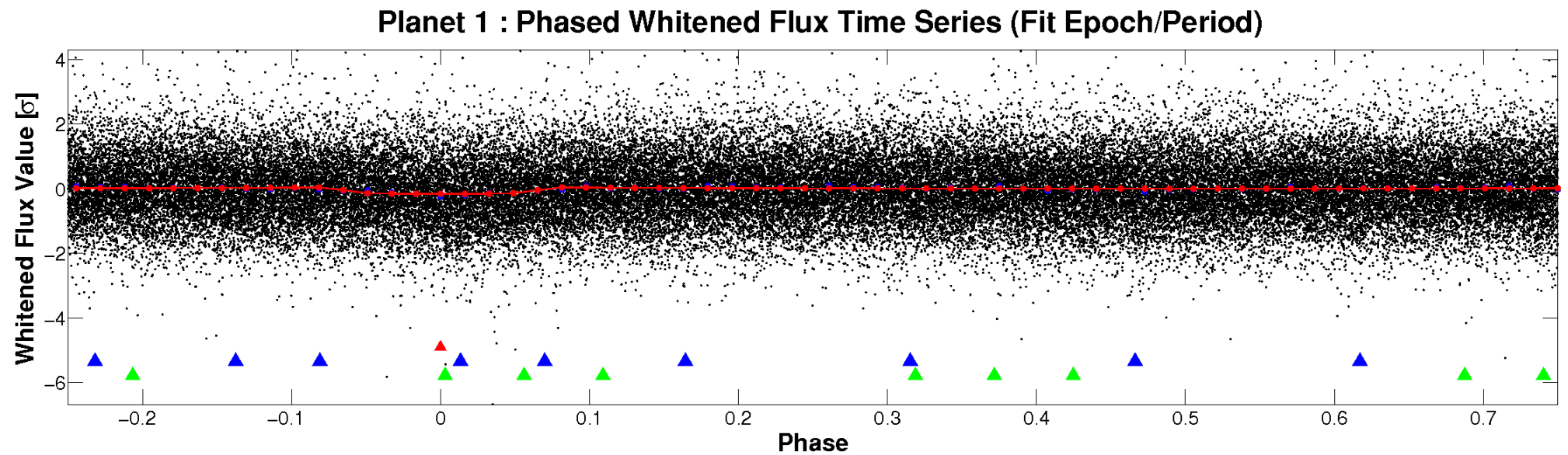
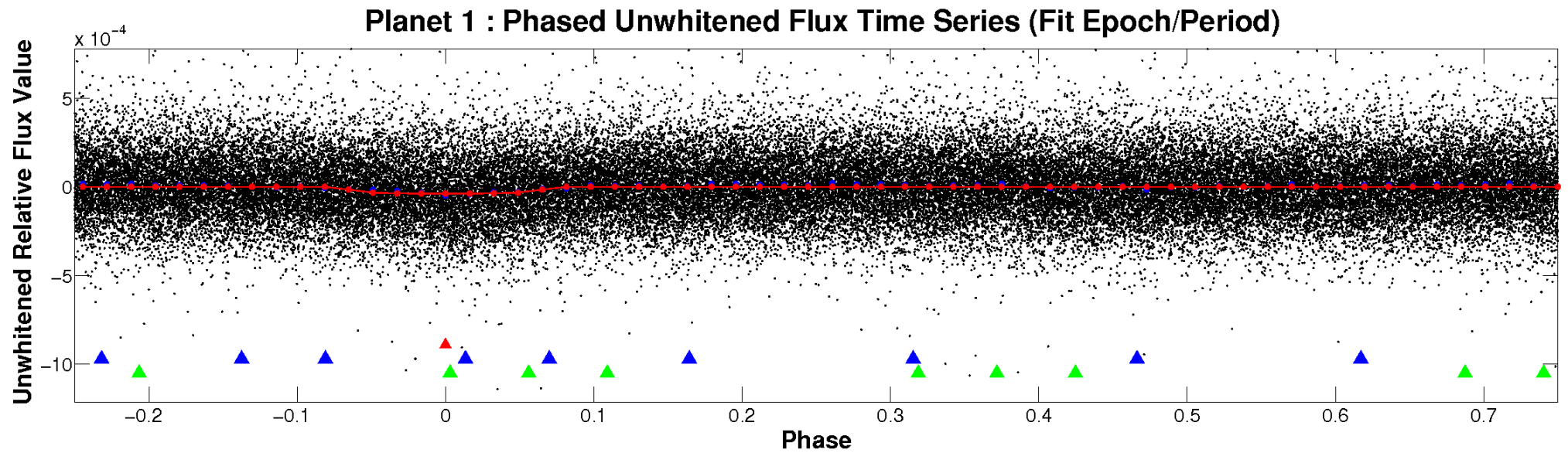


# ALT Odd/Even

TCE 006292732-01

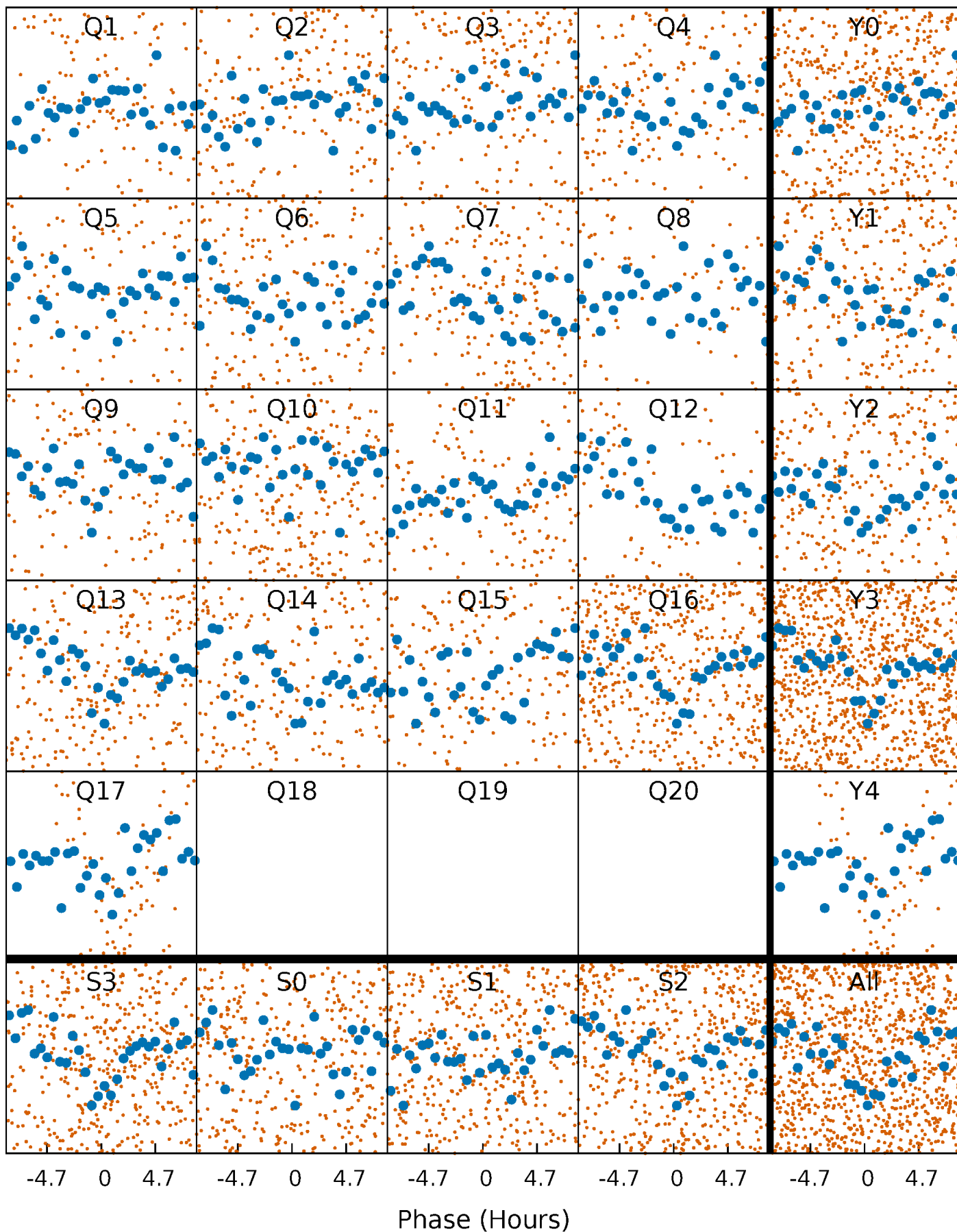


# Non-Whitened Vs. Whitened Light Curve



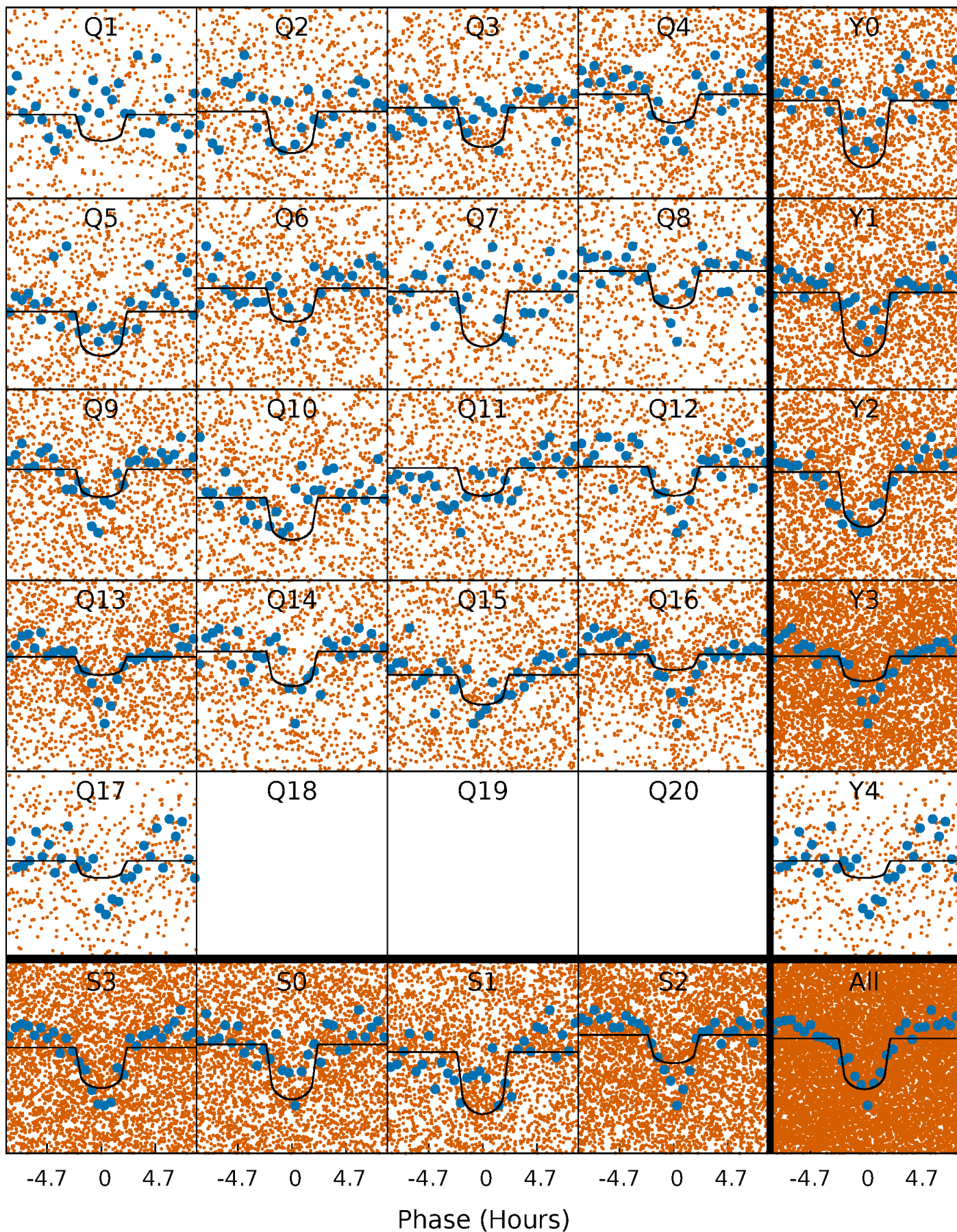
# PDC Quarter-Phased Transit Curves

TCE 006292732-01 P= 1.253366 Days  $T_0=132.634373$  (BKJD)



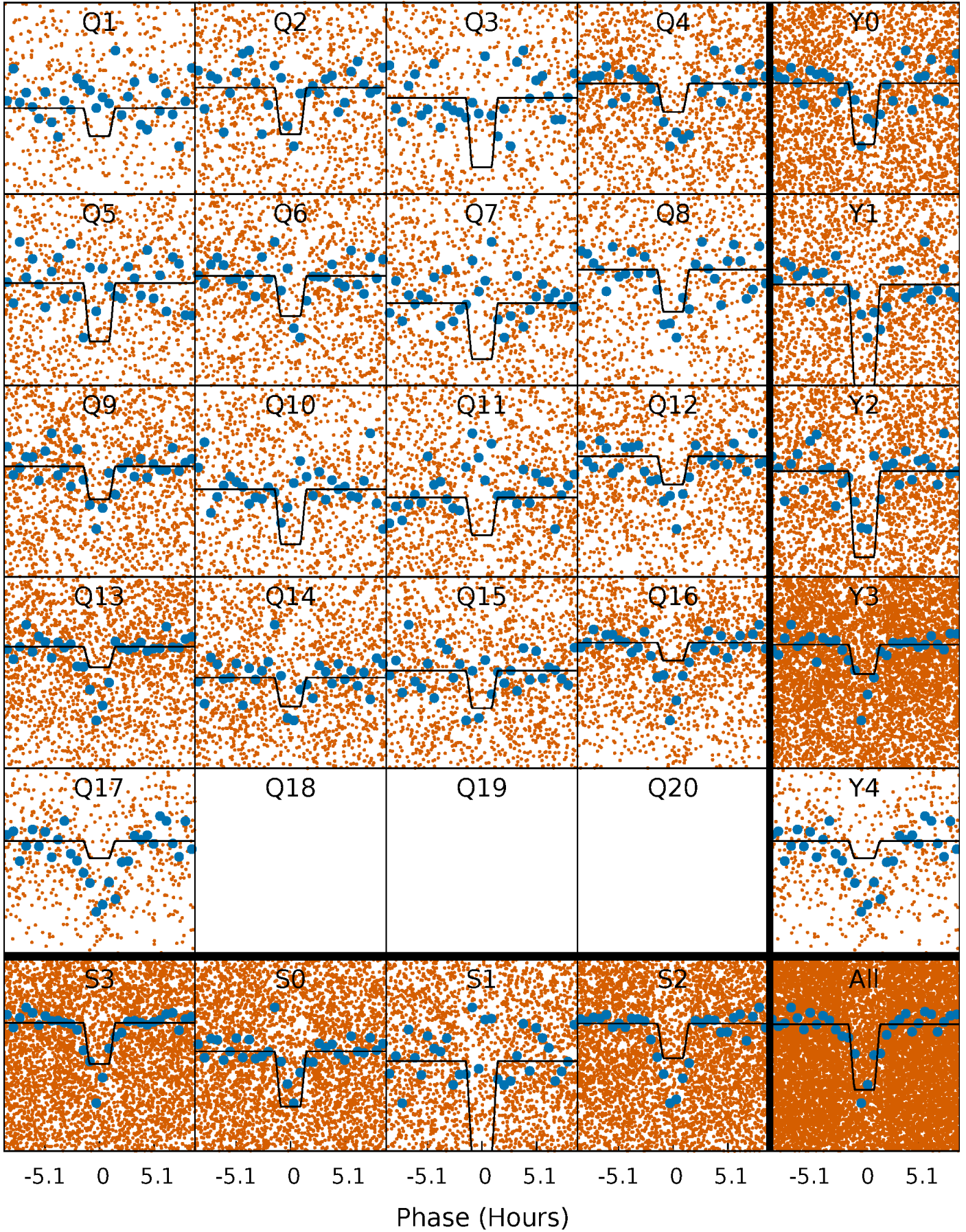
# DV Quarter-Phased Transit Curves

TCE 006292732-01 P= 1.253366 Days  $T_0=132.634373$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

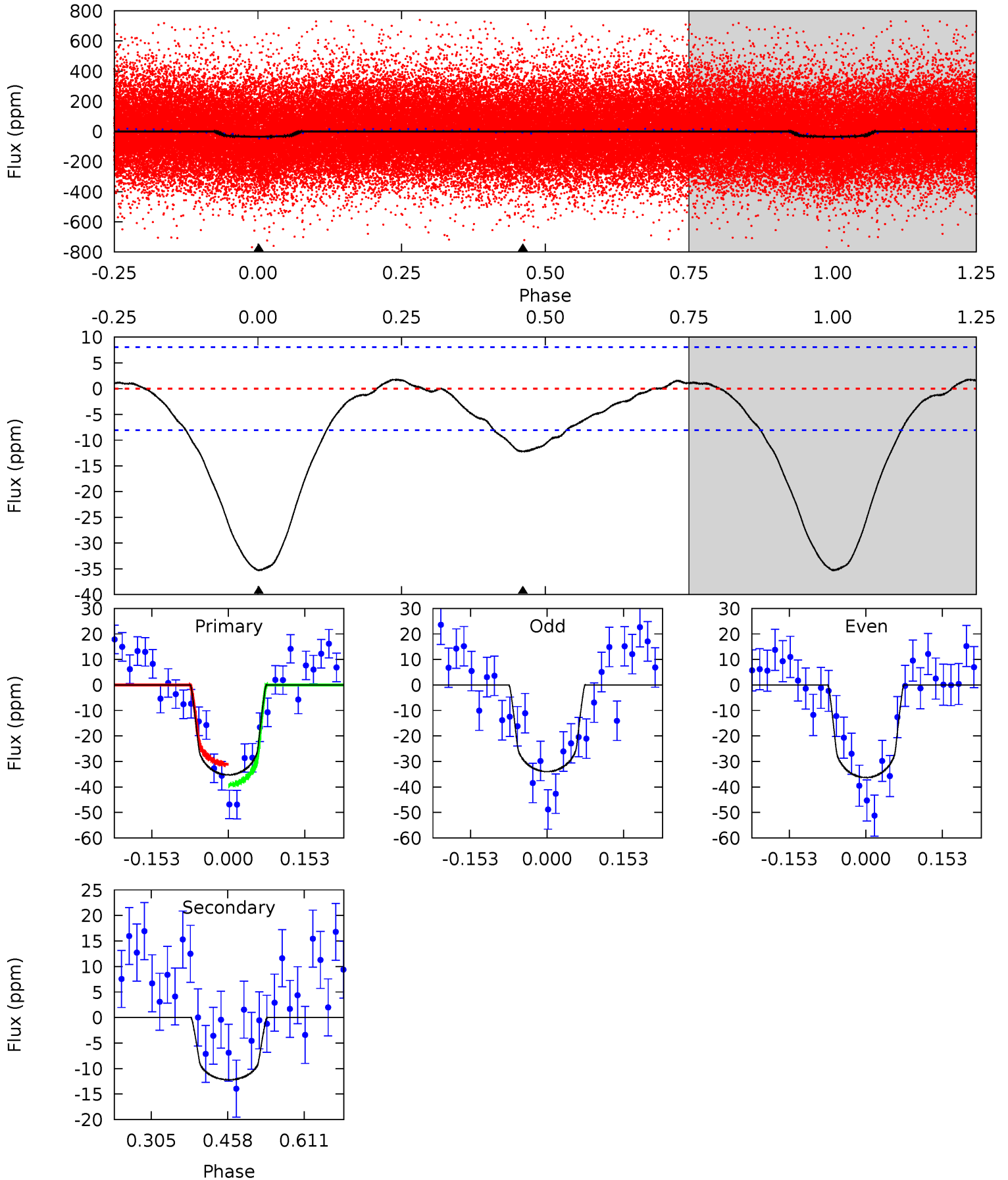
TCE 006292732-01 P= 1.253395 Days  $T_0=132.619479$  (BKJD)



# DV Model-Shift Uniqueness Test

006292732-01, P = 1.253366 Days, E = 131.381007 Days

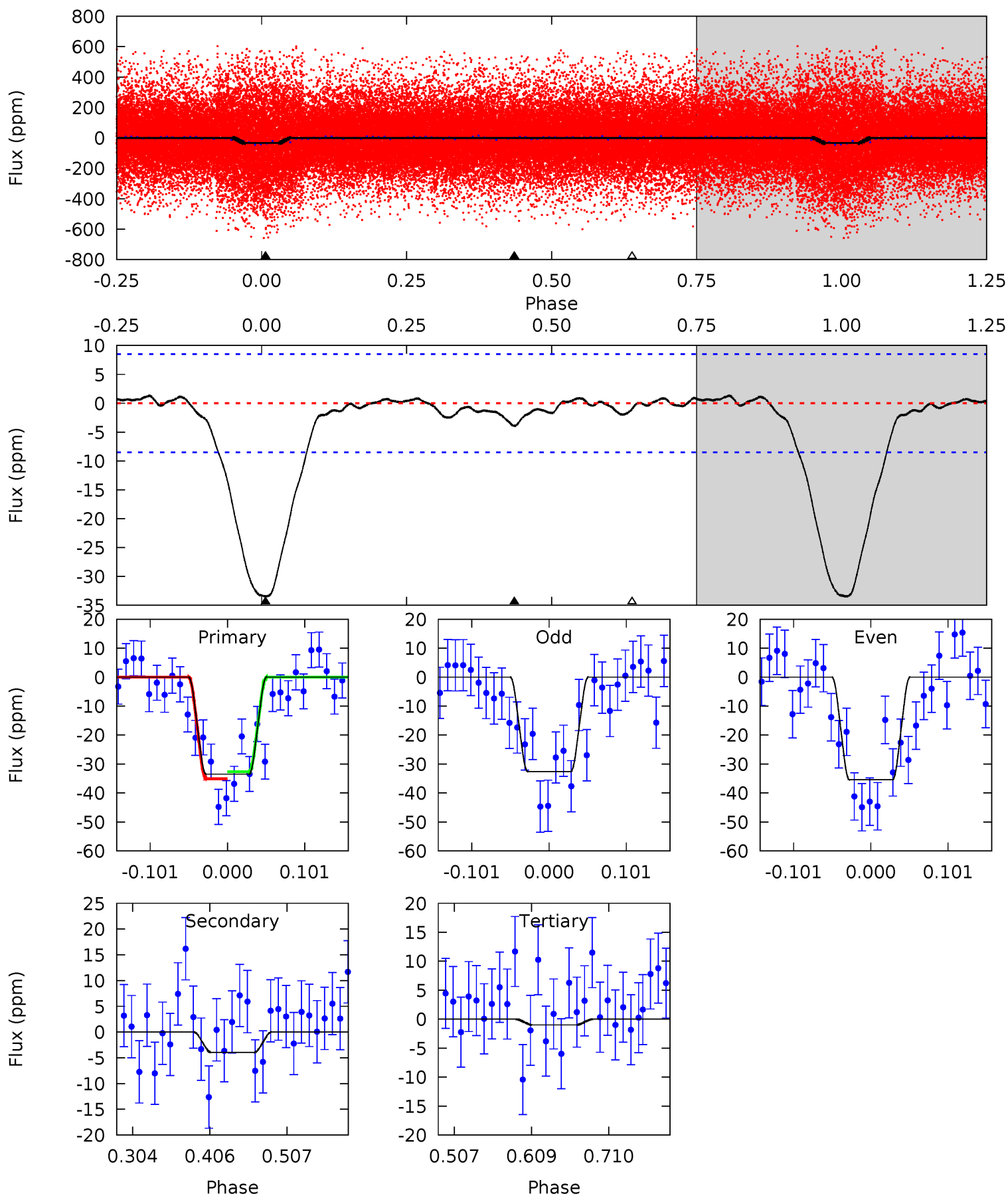
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.6	6.77	0	0	4.48	1.43	0.81	19.6	19.6	6.77	6.77	0.65	1.04	0.05	2.23



# Alt Model-Shift Uniqueness Test

006292732-01, P = 1.253395 Days, E = 131.366084 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
18.0	2.11	0.54	0	4.56	1.64	0.51	17.4	18.0	1.58	2.11	0.77	1.09	0.04	0.67



### Stellar Parameters For KIC 006292732

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5869^{+70}_{-87}$	$4.513^{+0.018}_{-0.096}$	$0.070^{+0.150}_{-0.150}$	$0.942^{+0.121}_{-0.035}$	$1.054^{+0.057}_{-0.063}$	$1.776^{+0.153}_{-0.527}$
	+1%/-1%	+0%/-2%	+214%/-214%	+13%/-4%	+5%/-6%	+9%/-30%
Source	SPE90	SPE90	SPE90	DSEP		

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

### Secondary Eclipse Parameters for KIC 006292732-01 / KOI 6686.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-12 \pm 2$	$0.70^{+0.24}_{-0.24}$	$2331^{+73}_{-52}$	$4428^{+827}_{-497}$	$7.362^{+9.318}_{-3.374}$
Alt.	$-4 \pm 2$	$0.64^{+0.23}_{-0.22}$	$2331^{+70}_{-48}$	$3644^{+702}_{-603}$	$2.666^{+3.906}_{-1.677}$

$T_{max}$  = 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

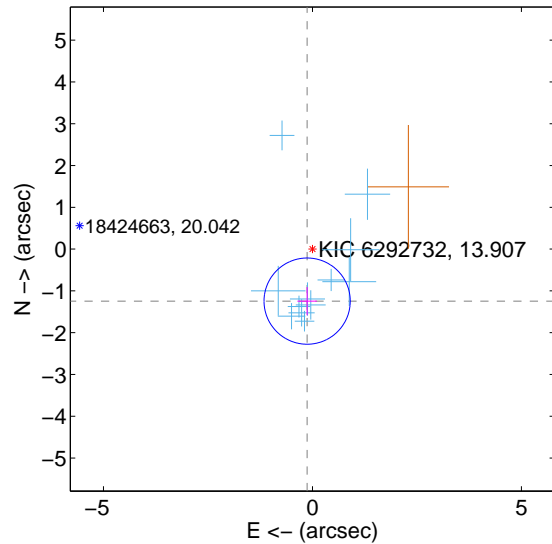
Supplemental centroid analysis for 006292732-01. Kepler magnitude: 13.91. Transit SNR 13.29

There are 12 quarters with good PRF difference image offsets

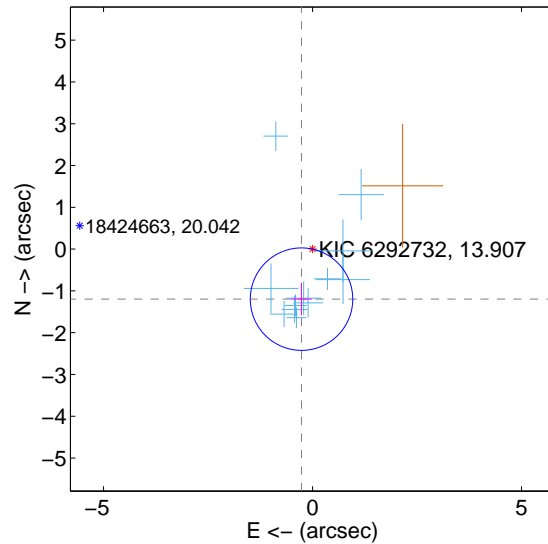
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.251 \pm 0.344$	3.64	$0.127 \pm 0.233$	$-1.245 \pm 0.337$
PRF-fit source offset from KIC position	$1.226 \pm 0.409$	3.00	$0.263 \pm 0.249$	$-1.198 \pm 0.391$
photometric centroid source offset	$2.47 \pm 0.78$	3.15	$-0.86 \pm 0.85$	$-2.32 \pm 0.78$

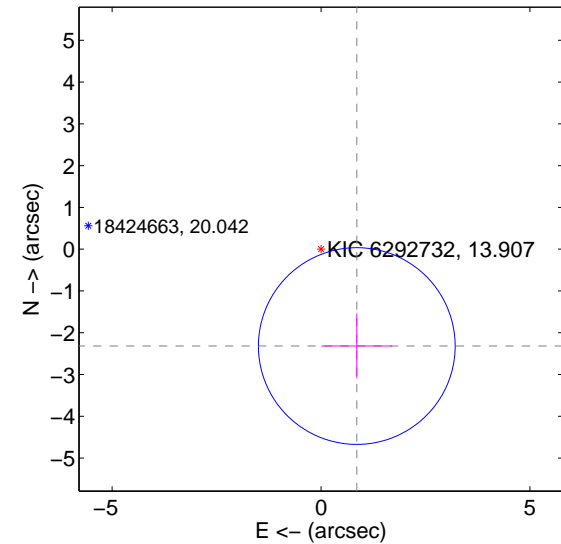
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

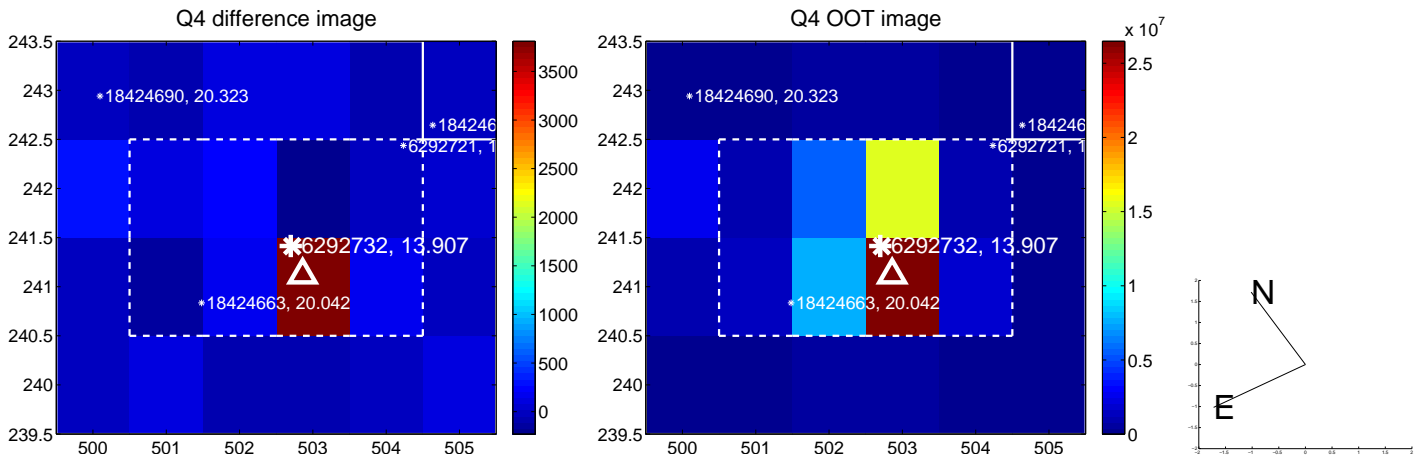
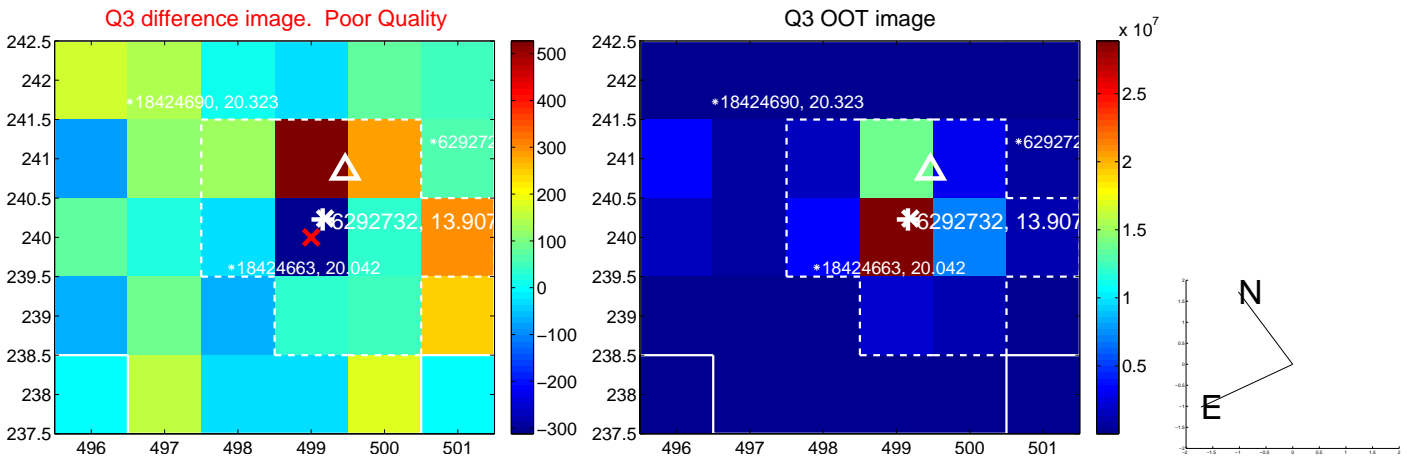
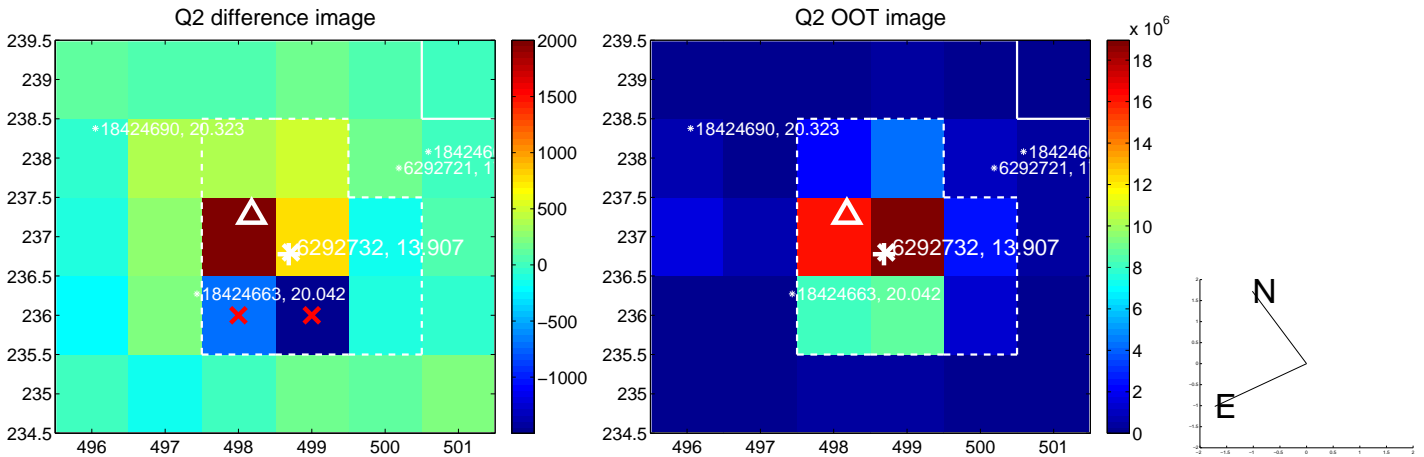
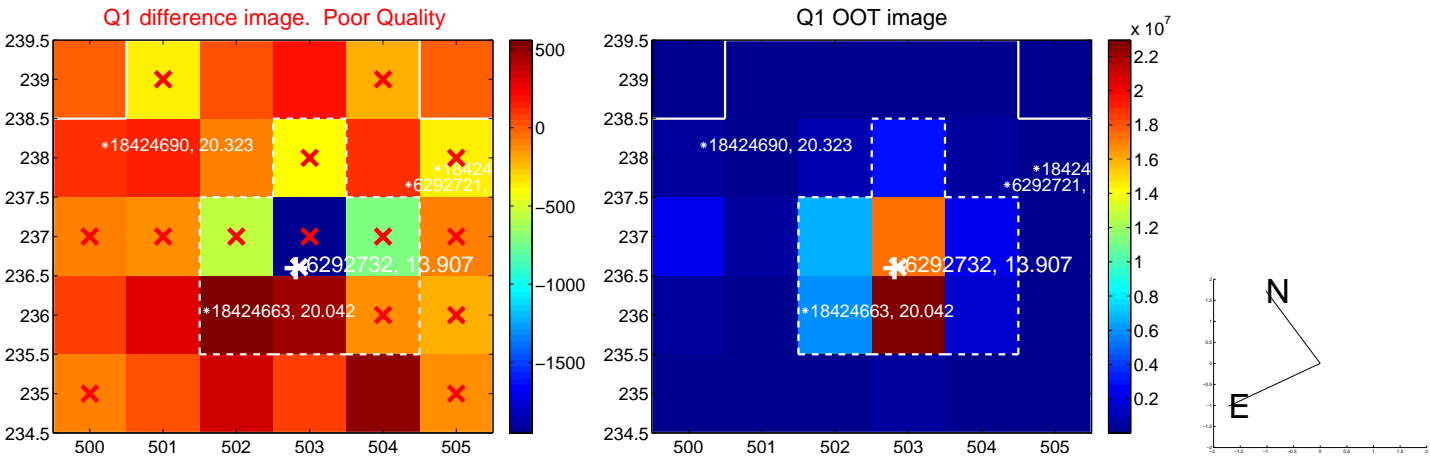


offset from photometric centroids

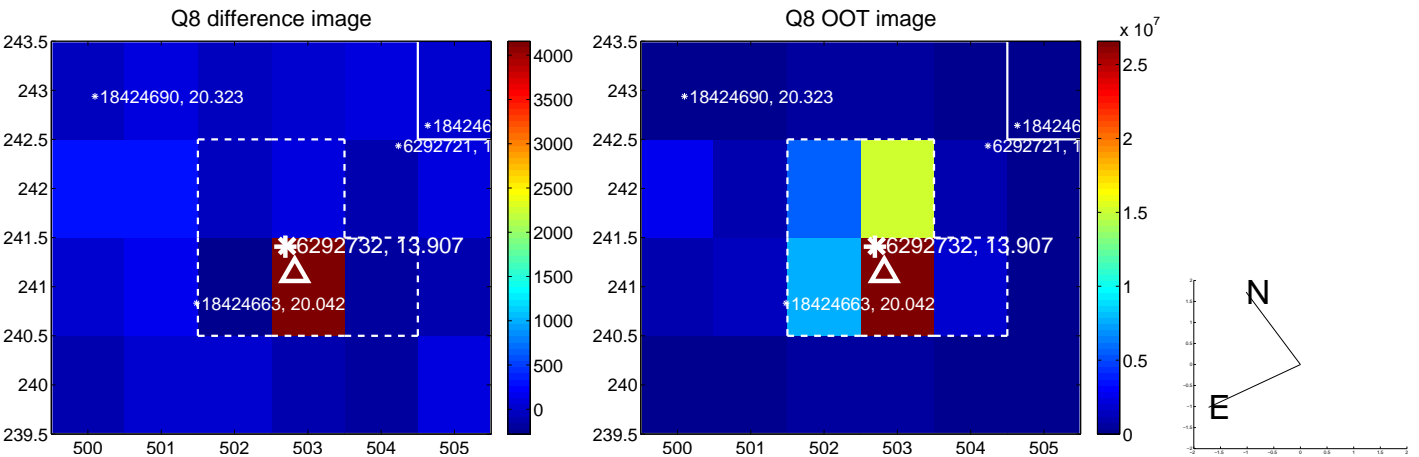
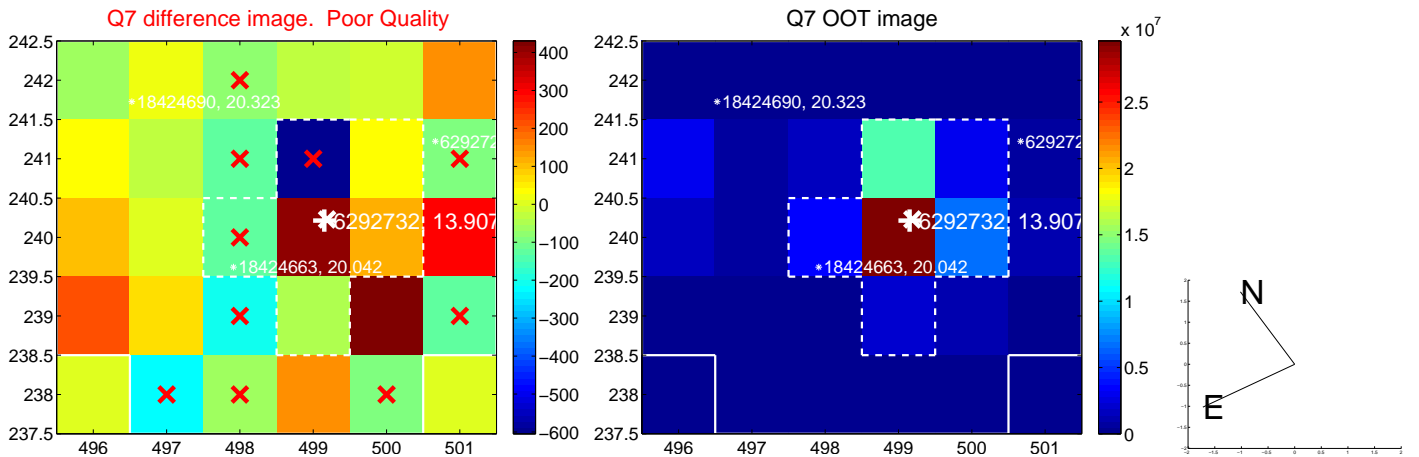
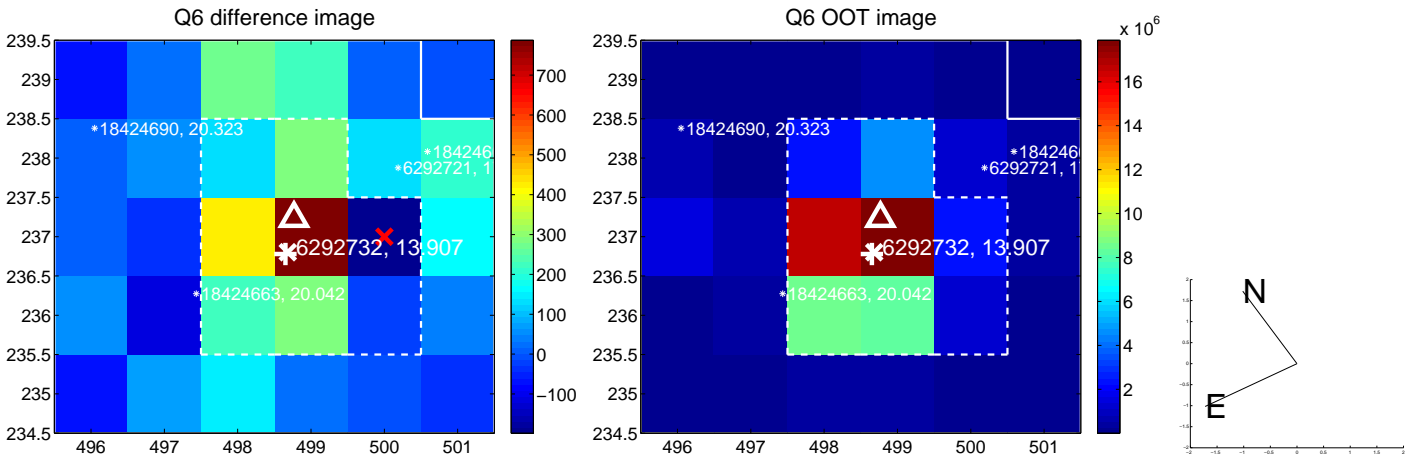
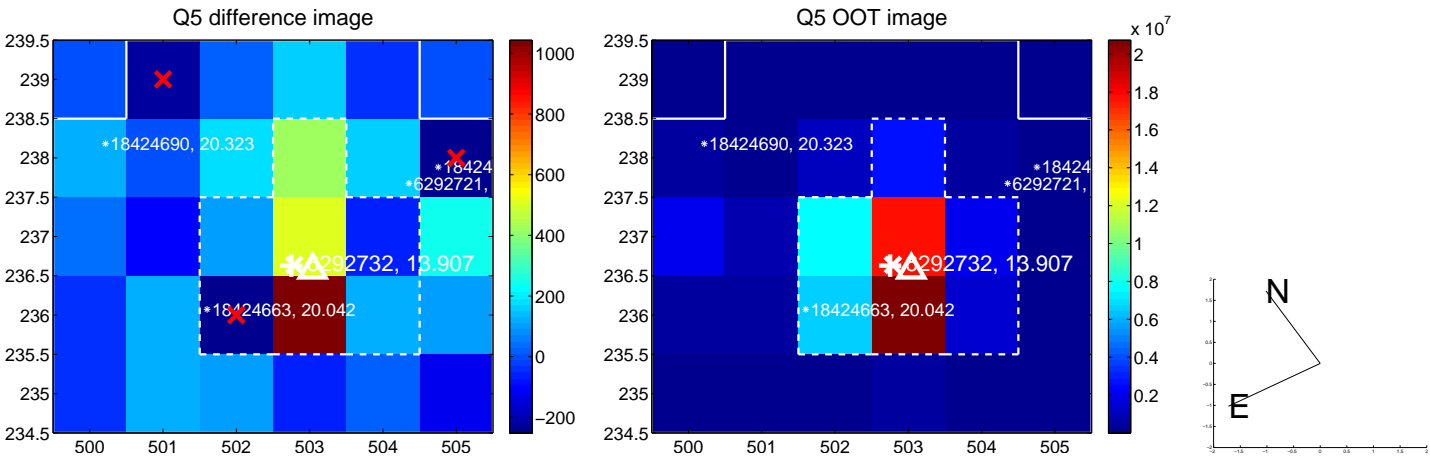


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

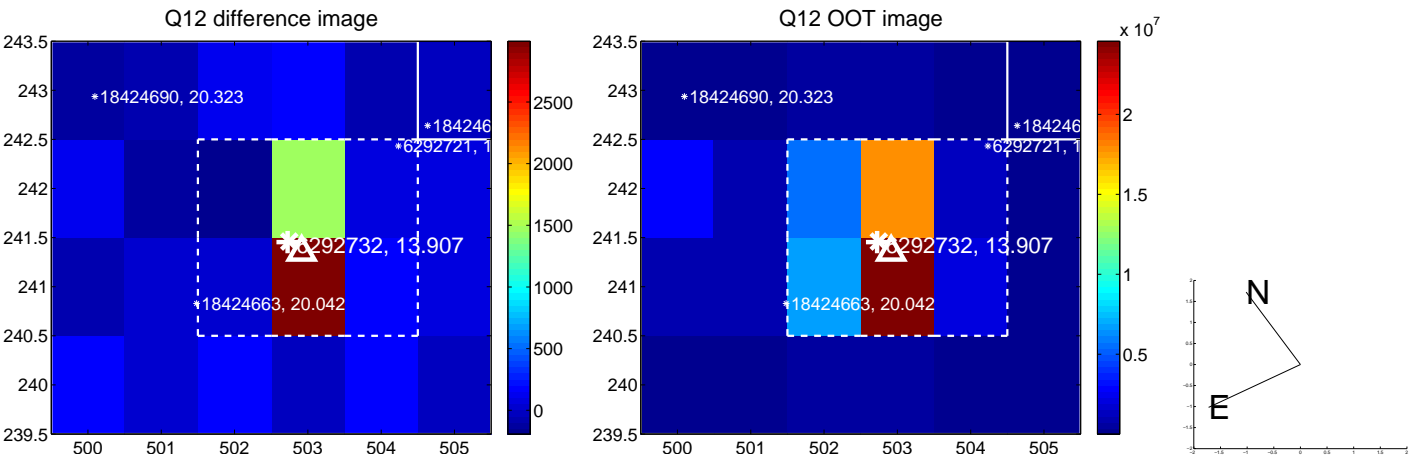
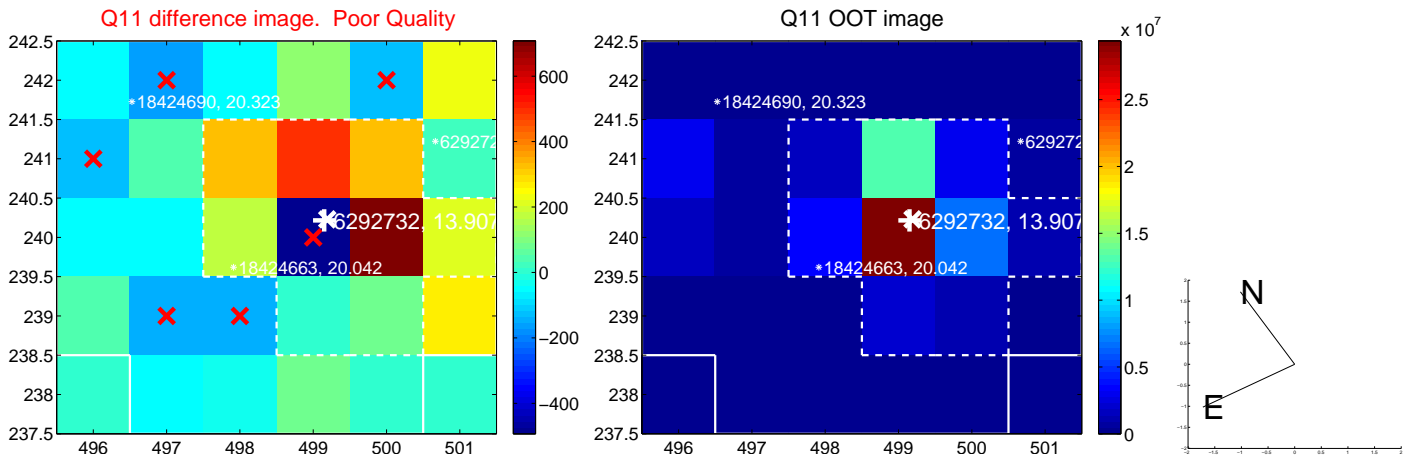
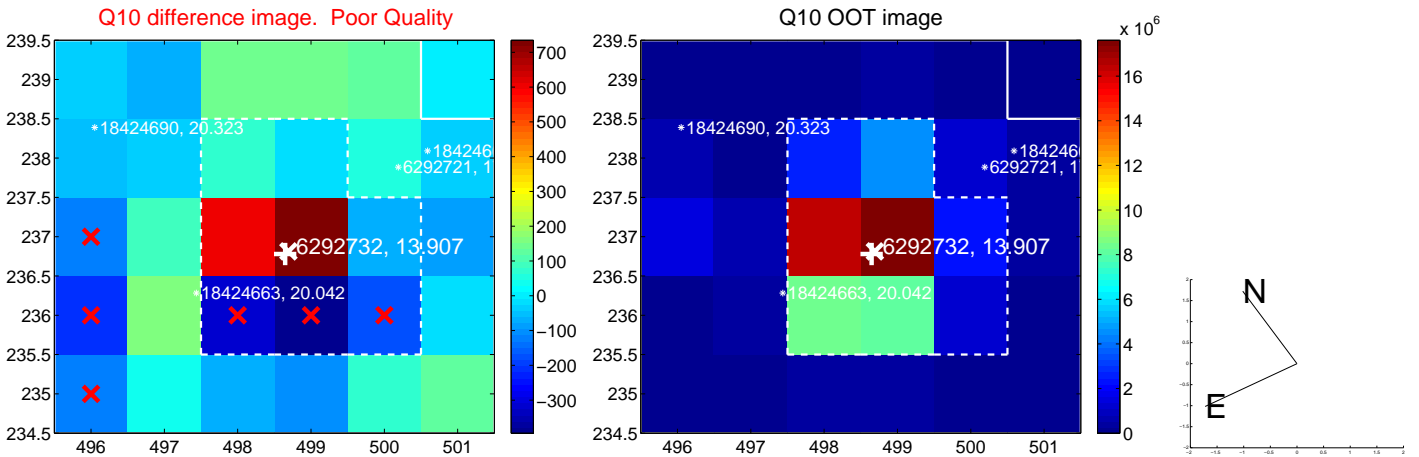
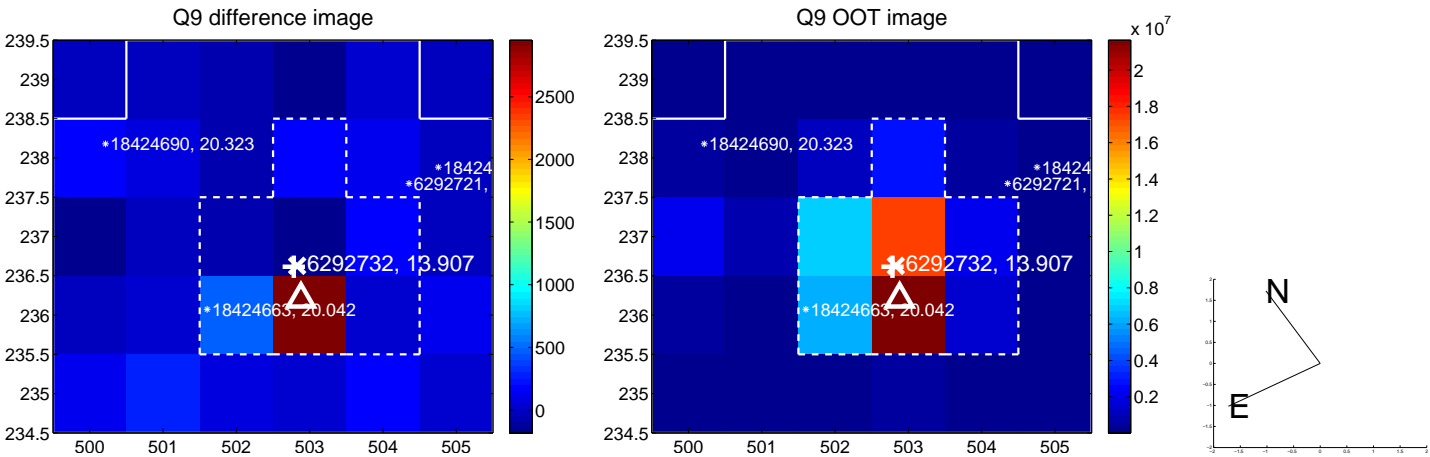
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



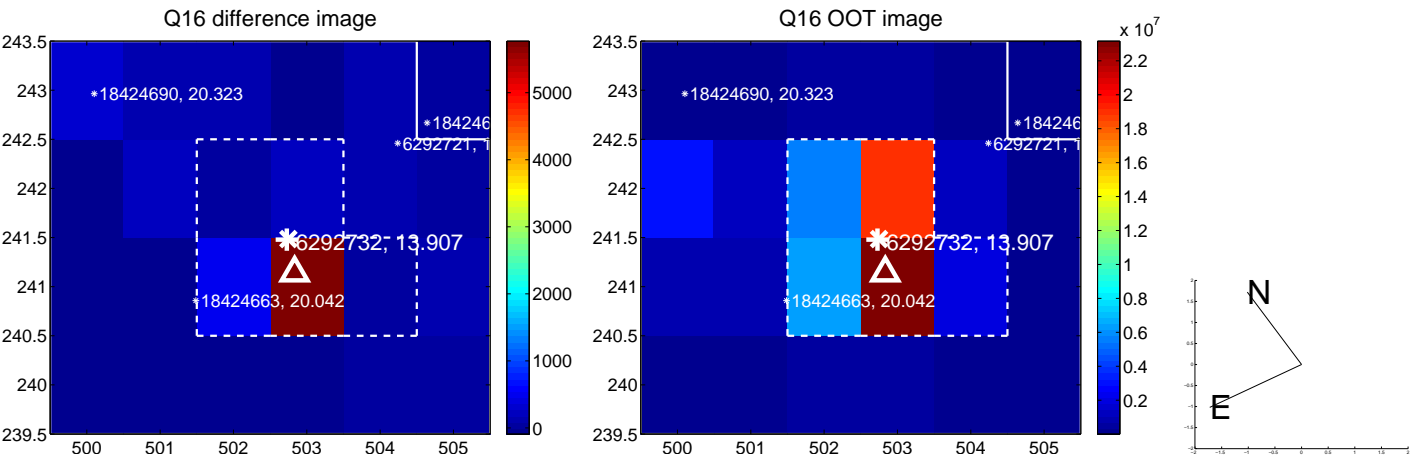
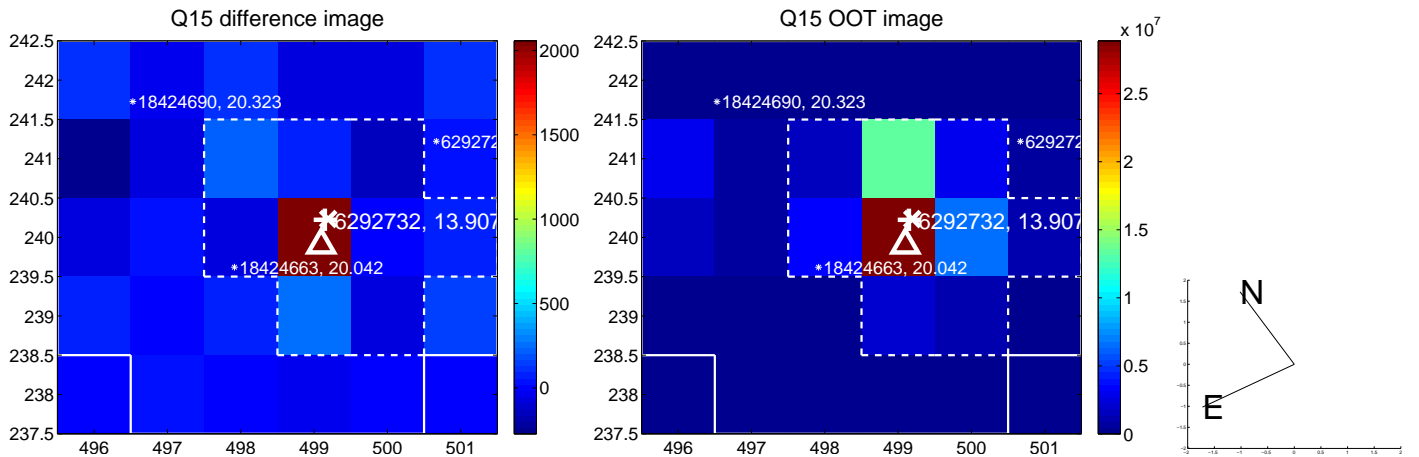
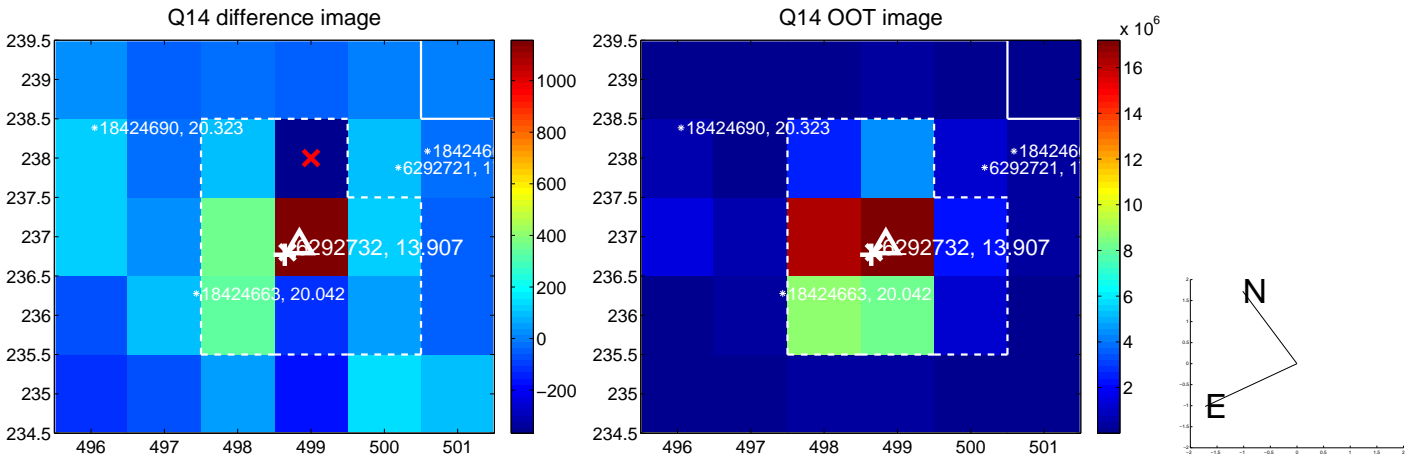
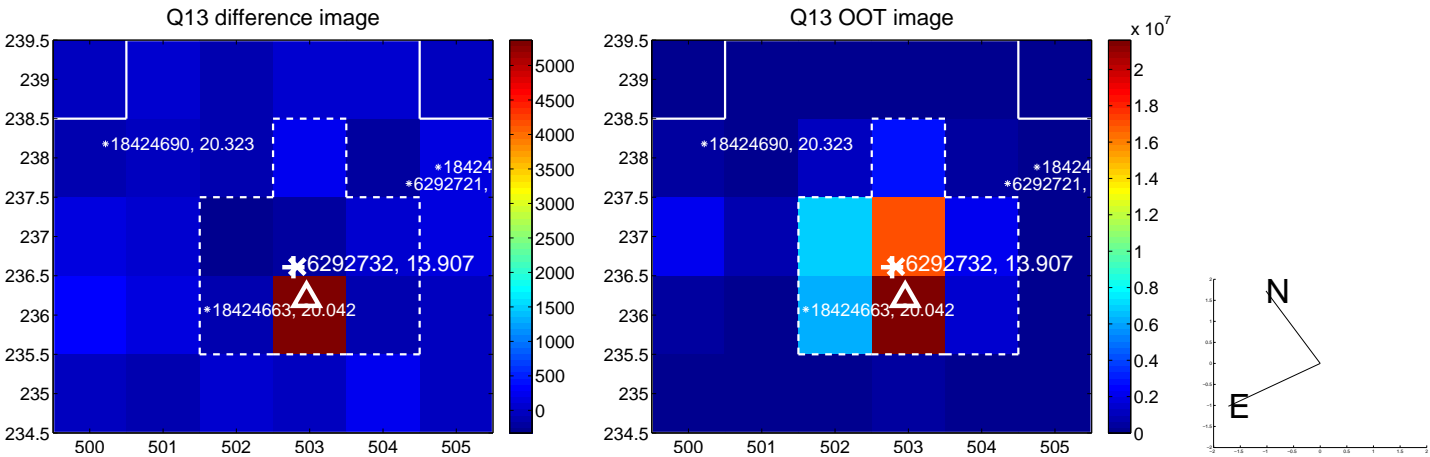
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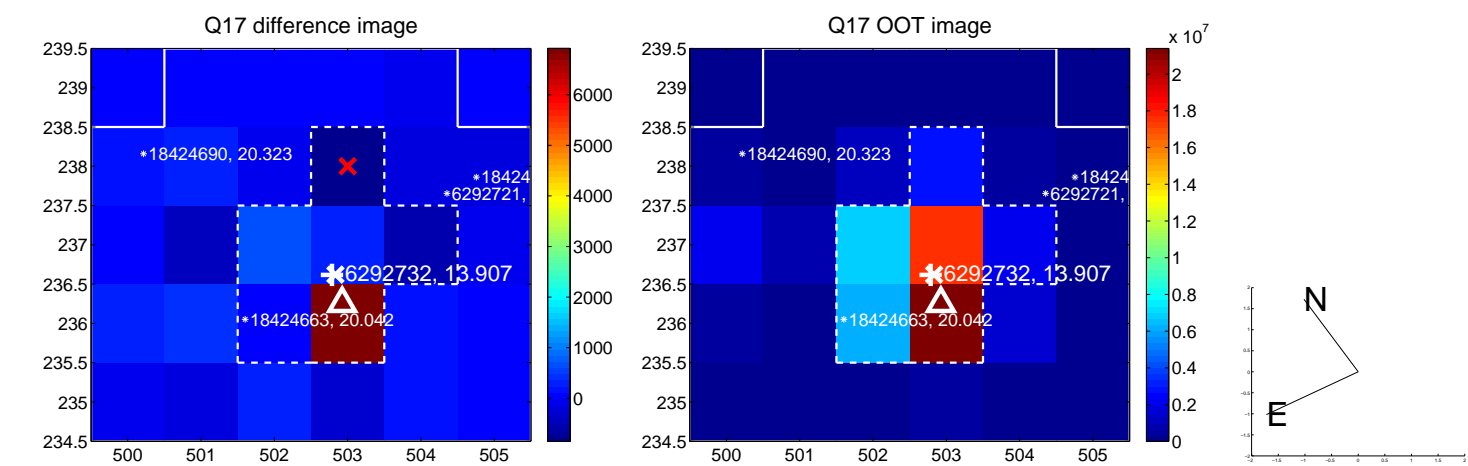
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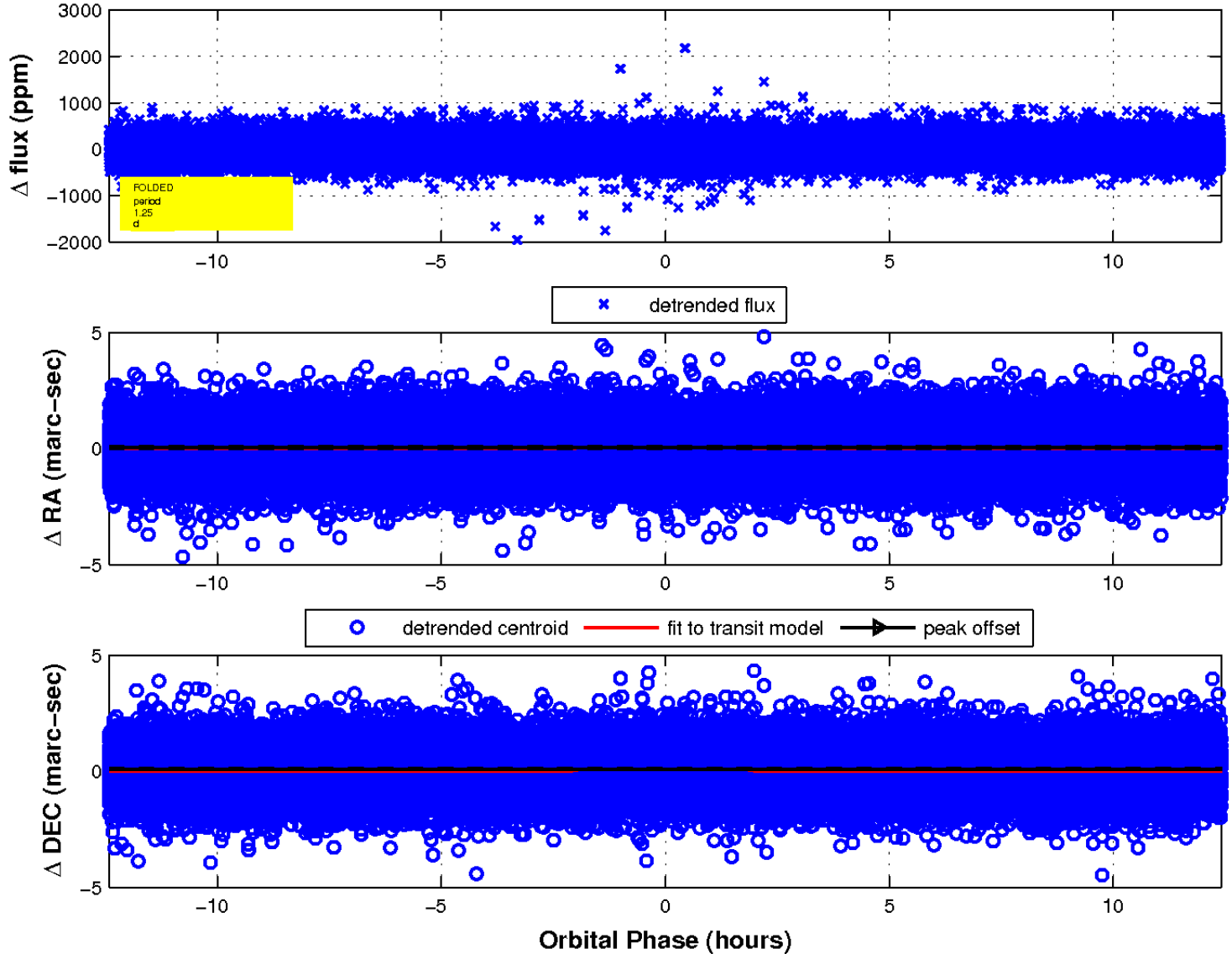
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

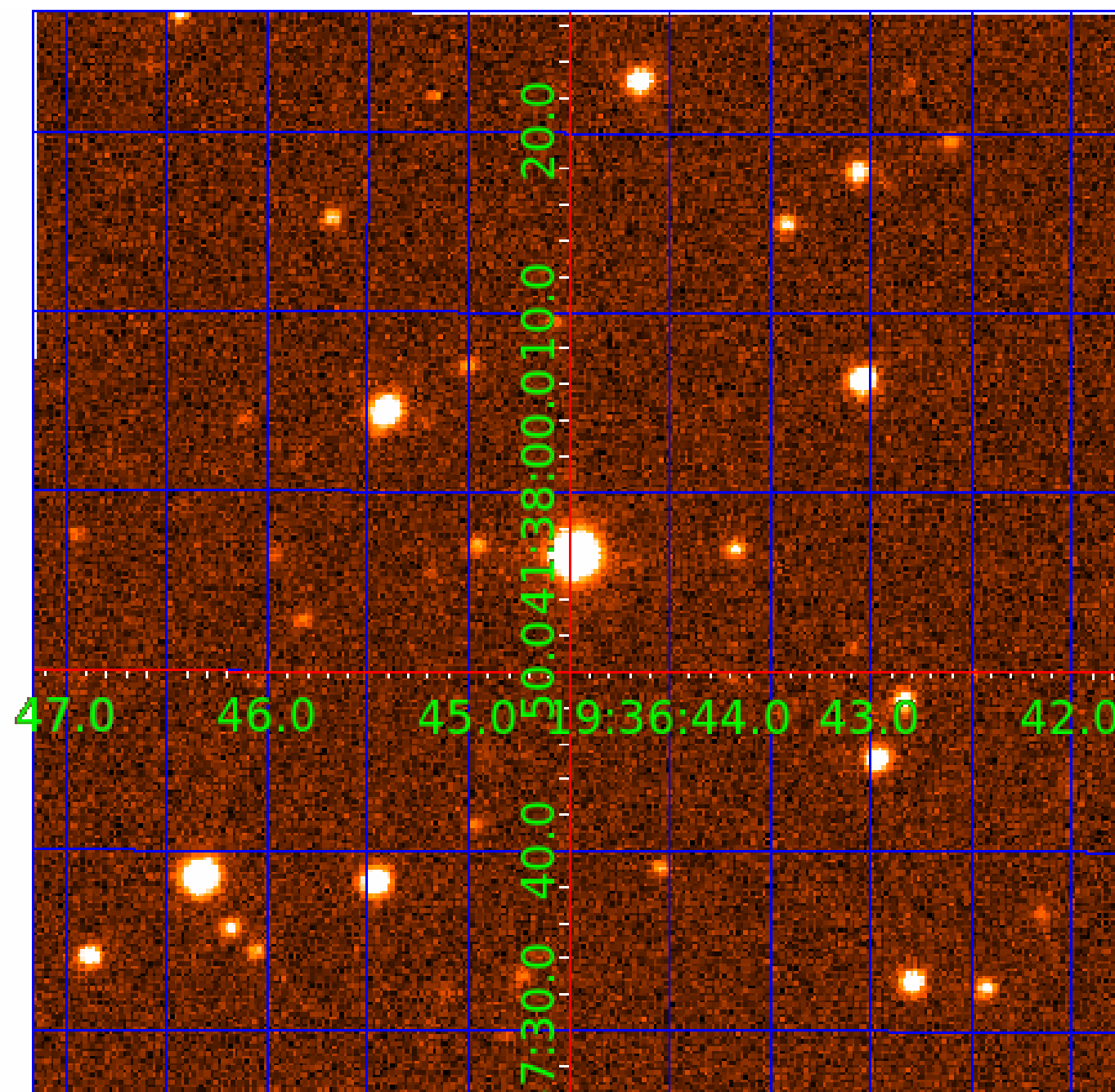


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



# KIC 006292732

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
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## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006292732-01	OBS	FP	0.00	0	1	0	1	MOD_SEC_DV—EPHEM_MATCH
006292732-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006292732-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS

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

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

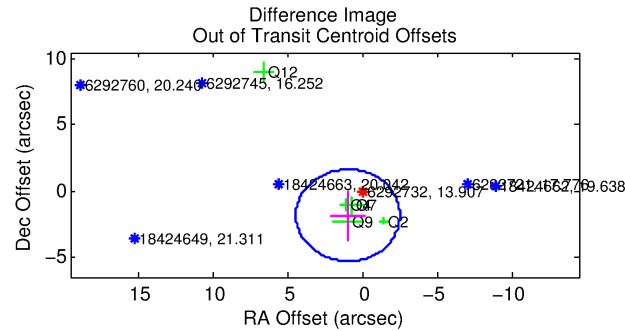
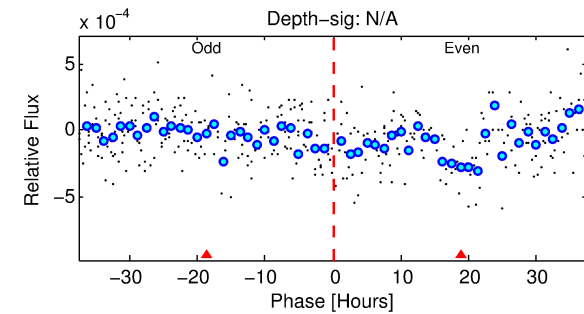
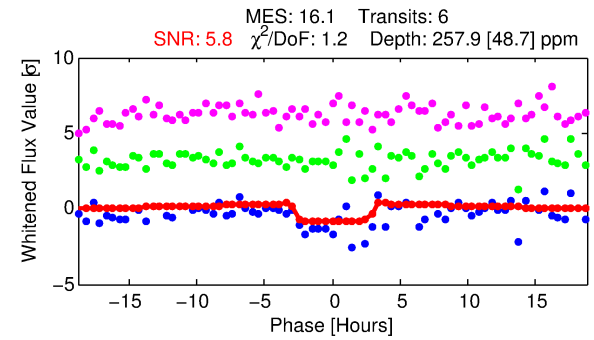
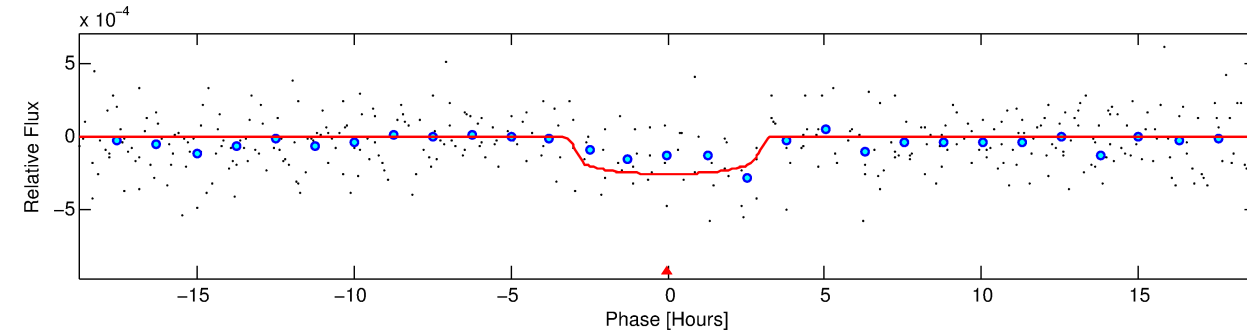
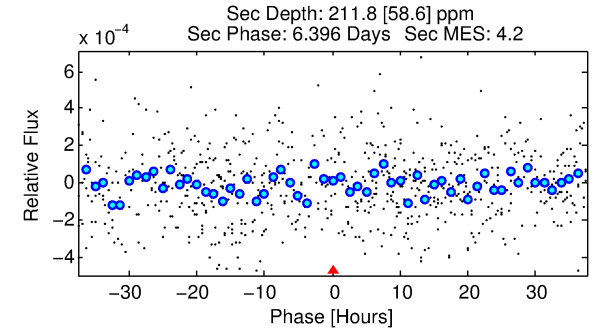
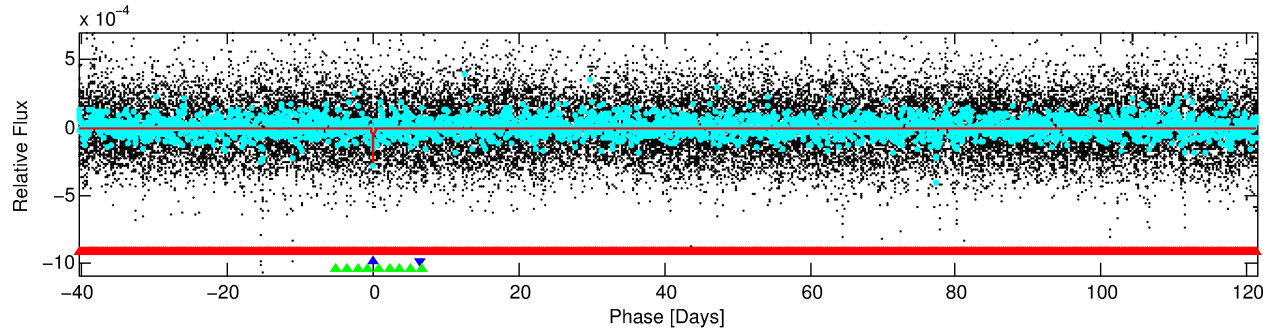
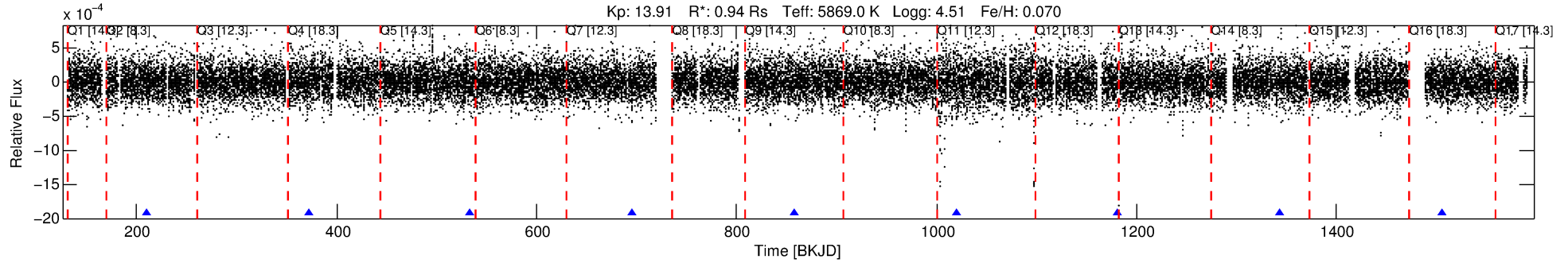
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006292732-02

No Significant Match Found

# DV One-Page Summary

KIC: 6292732 Candidate: 2 of 3 Period: 161.873 d  
KOI: K06686 Corr: No Ephemeris Match



## DV Fit Results:

Period = 161.87336 [0.00469] d  
Epoch = 210.1708 [0.0200] BKJD  
Rp/R\* = 0.0166 [0.0138]  
a/R\* = 115.22 [441.75]  
b = 0.83 [1.42]  
Seff = 2.69 [0.49]  
Teq = 327 [15] K  
Rp = 1.71 [1.44] Re  
a = 0.5918 [0.0669] AU  
Ag = 13983.23 [23690.46] [0.59σ]  
Teffp = 5492 [2316] K [2.23σ]

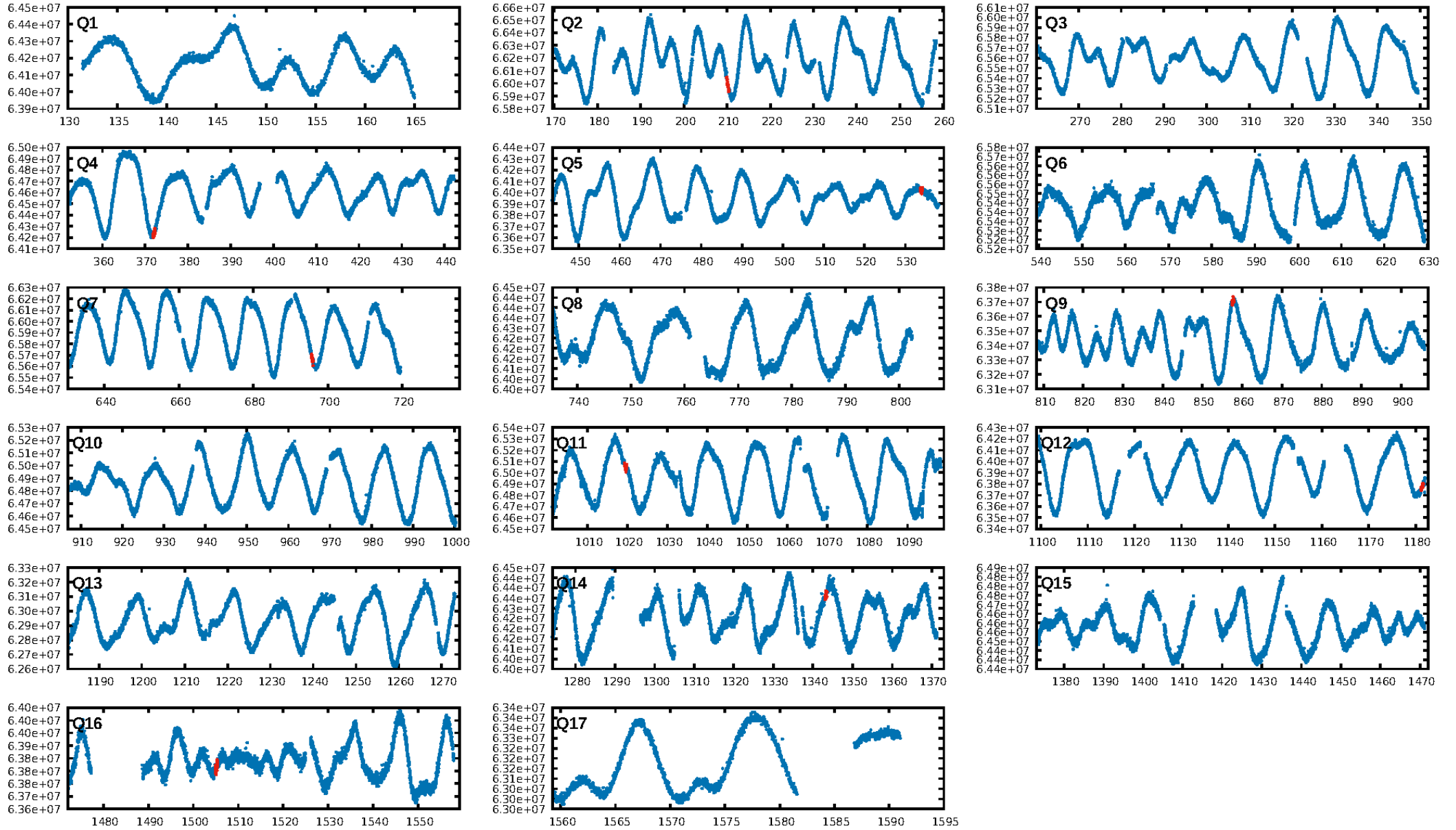
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [513.97σ]  
LongPeriod-sig: 100.0% [5.17σ]  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 99.9%  
Bootstrap-pfa: 3.92e-25  
RollingBand-fgt: 1.00 [6/6]  
GhostDiagnostic-chr: -0.568  
Centroid-sig: 48.2%  
Centroid-so: 0.776 arcsec [0.68σ]  
OotOffset-rm: 2.069 arcsec [1.79σ]  
OotOffset-st: 1/1/2/1 [5]  
KicOffset-rm: 2.112 arcsec [1.93σ]  
KicOffset-st: 1/1/2/1 [5]  
DiffImageQuality-fgm: 0.60 [3/5]  
DiffImageOverlap-fno: 0.00 [0/8]

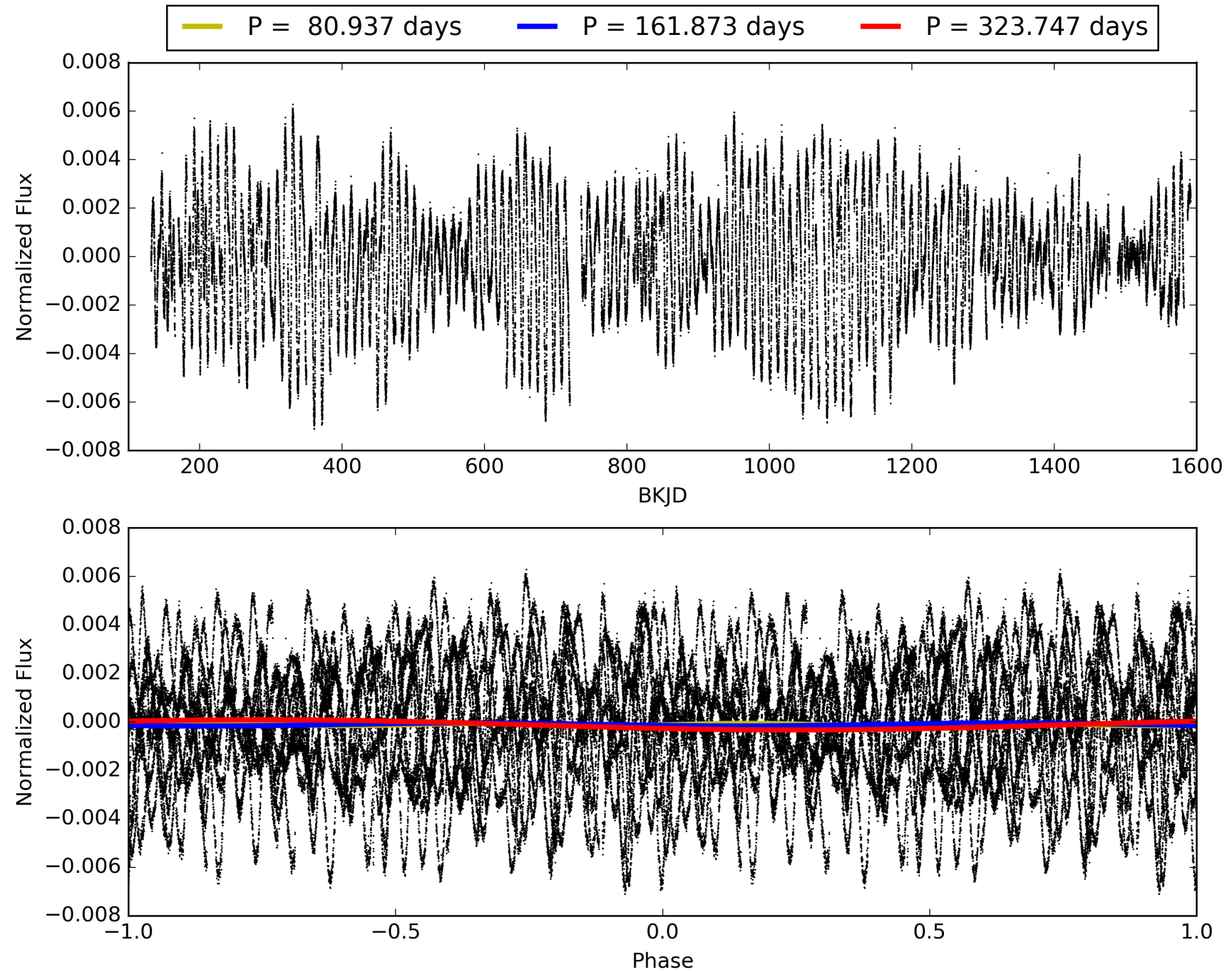
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:08:23 Z

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

# TCE 006292732-02, PDC Light Curves

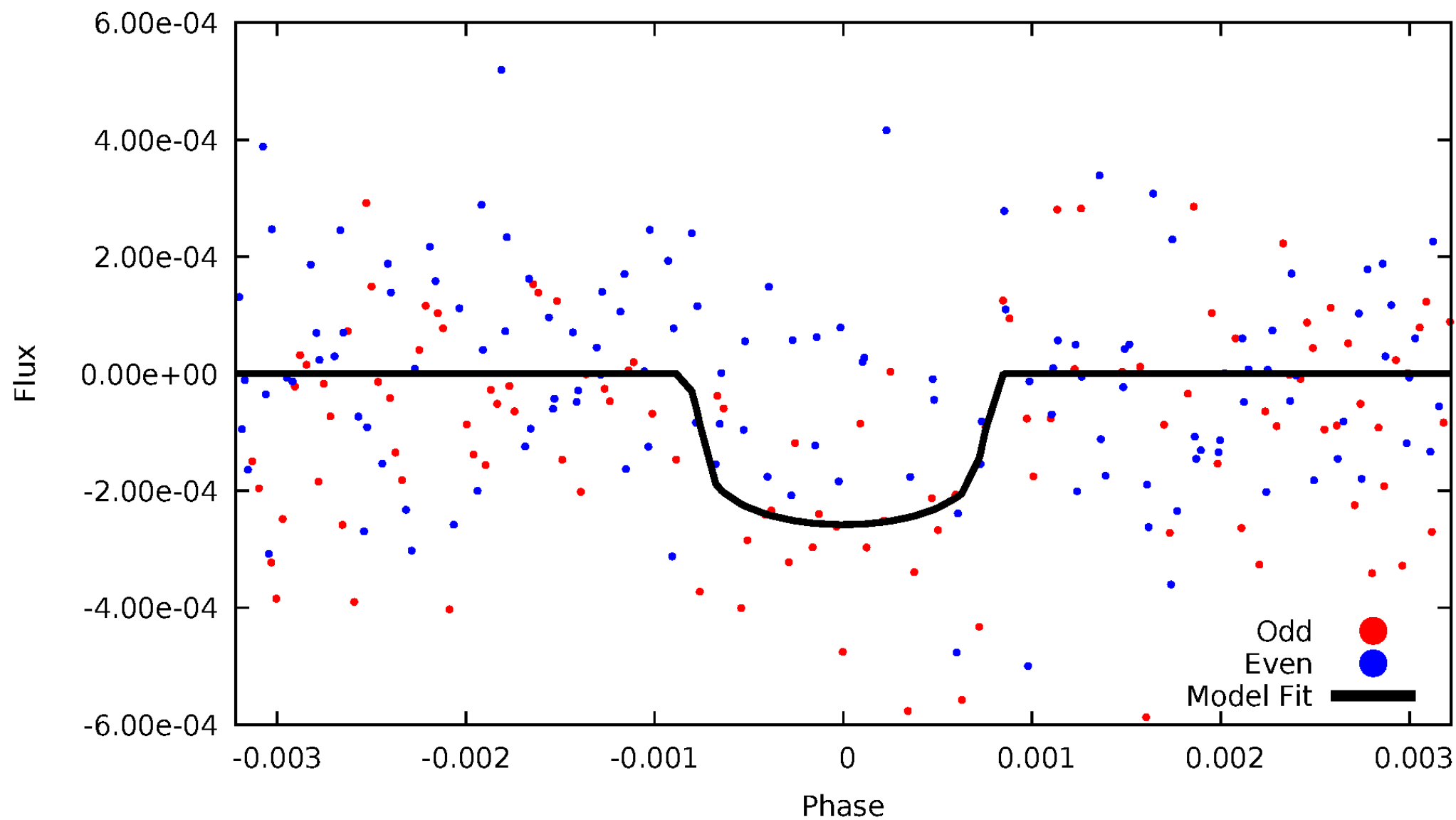


TCE 006292732-02



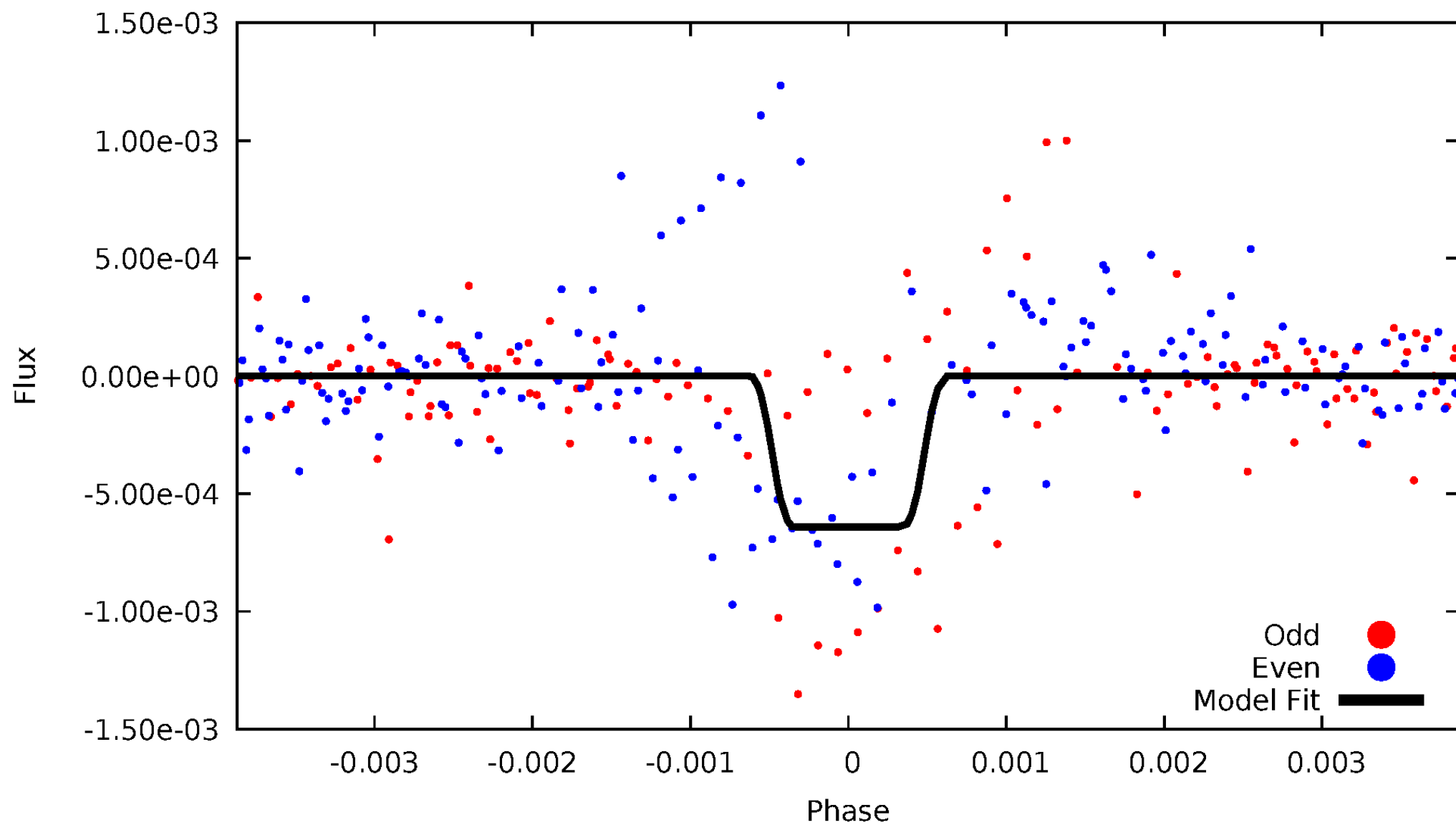
# DV Odd/Even

TCE 006292732-02



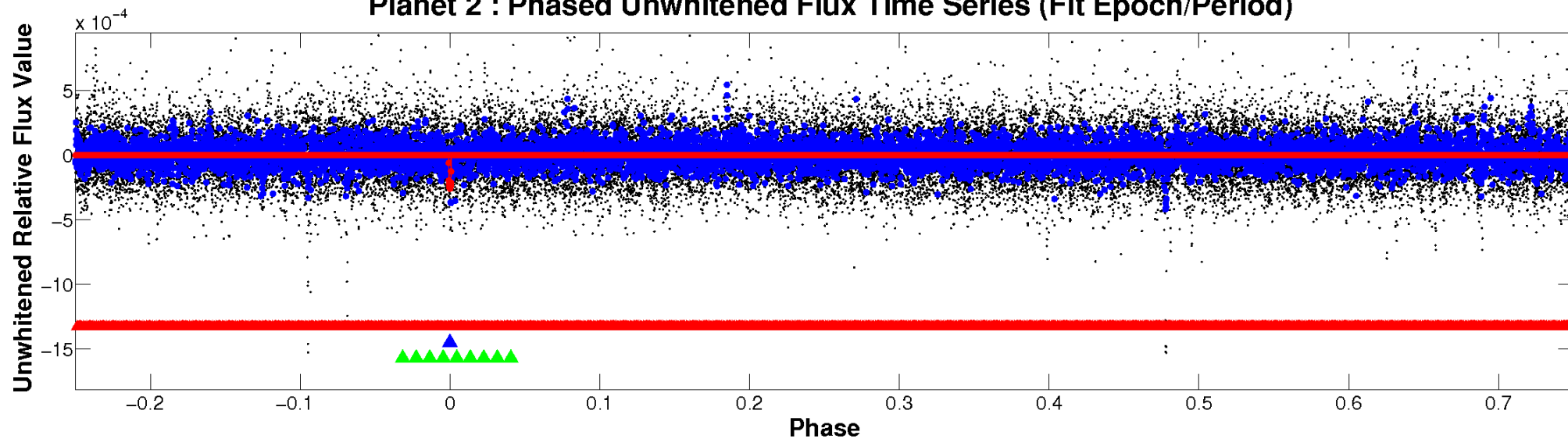
# ALT Odd/Even

TCE 006292732-02

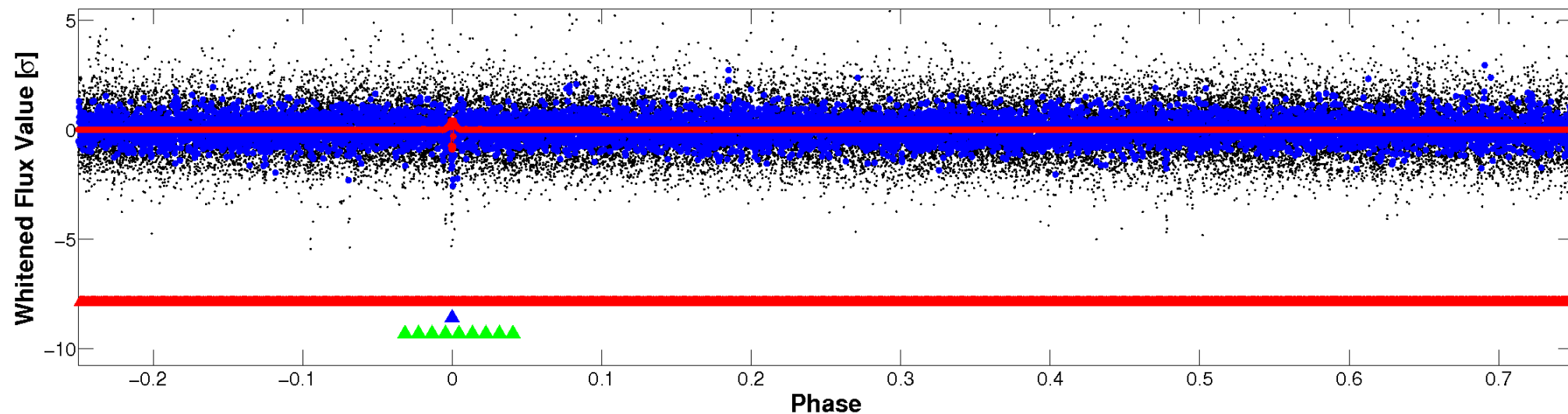


# Non-Whitened Vs. Whitened Light Curve

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

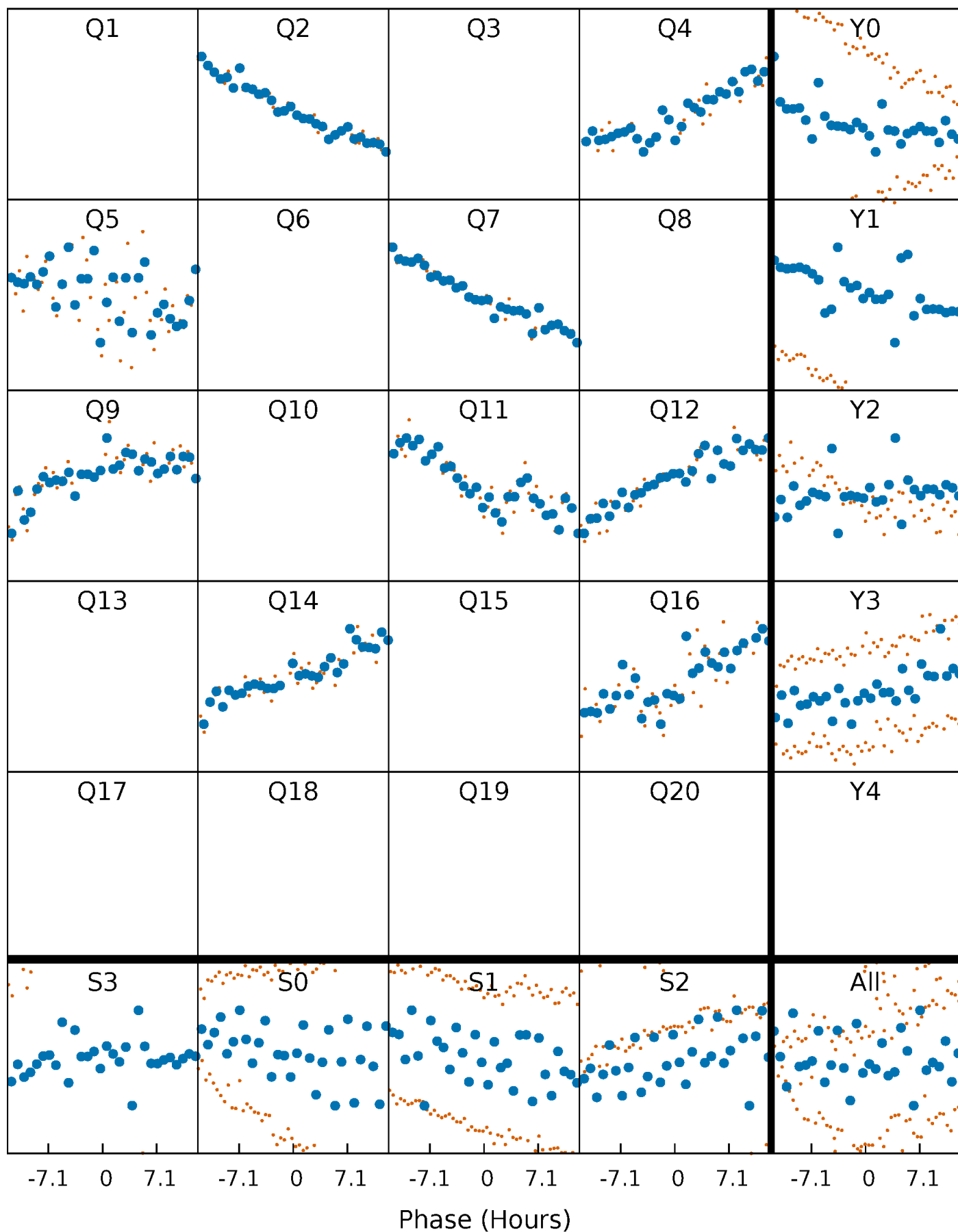


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



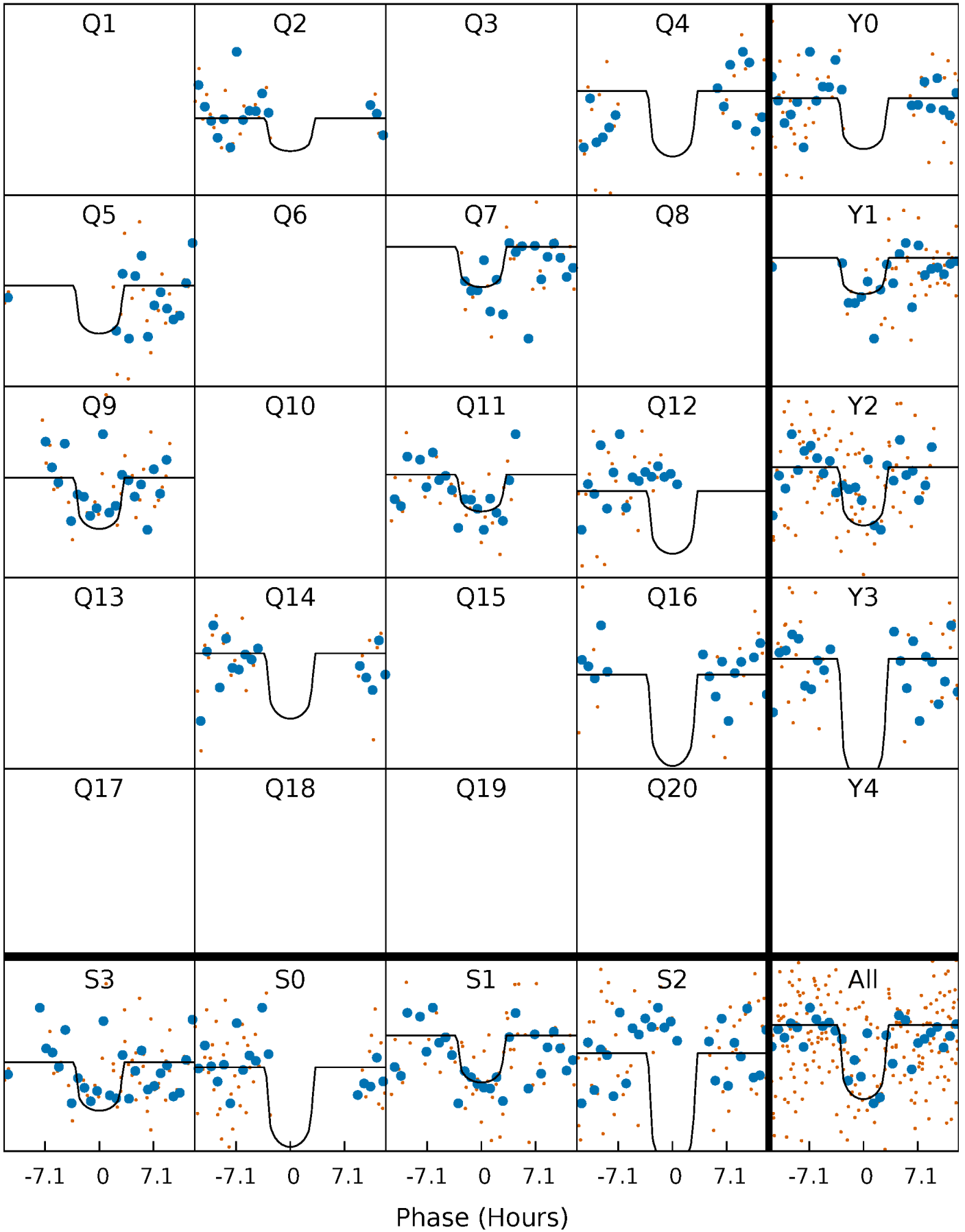
# PDC Quarter-Phased Transit Curves

TCE 006292732-02 P=161.873355 Days  $T_0=210.170778$  (BKJD)



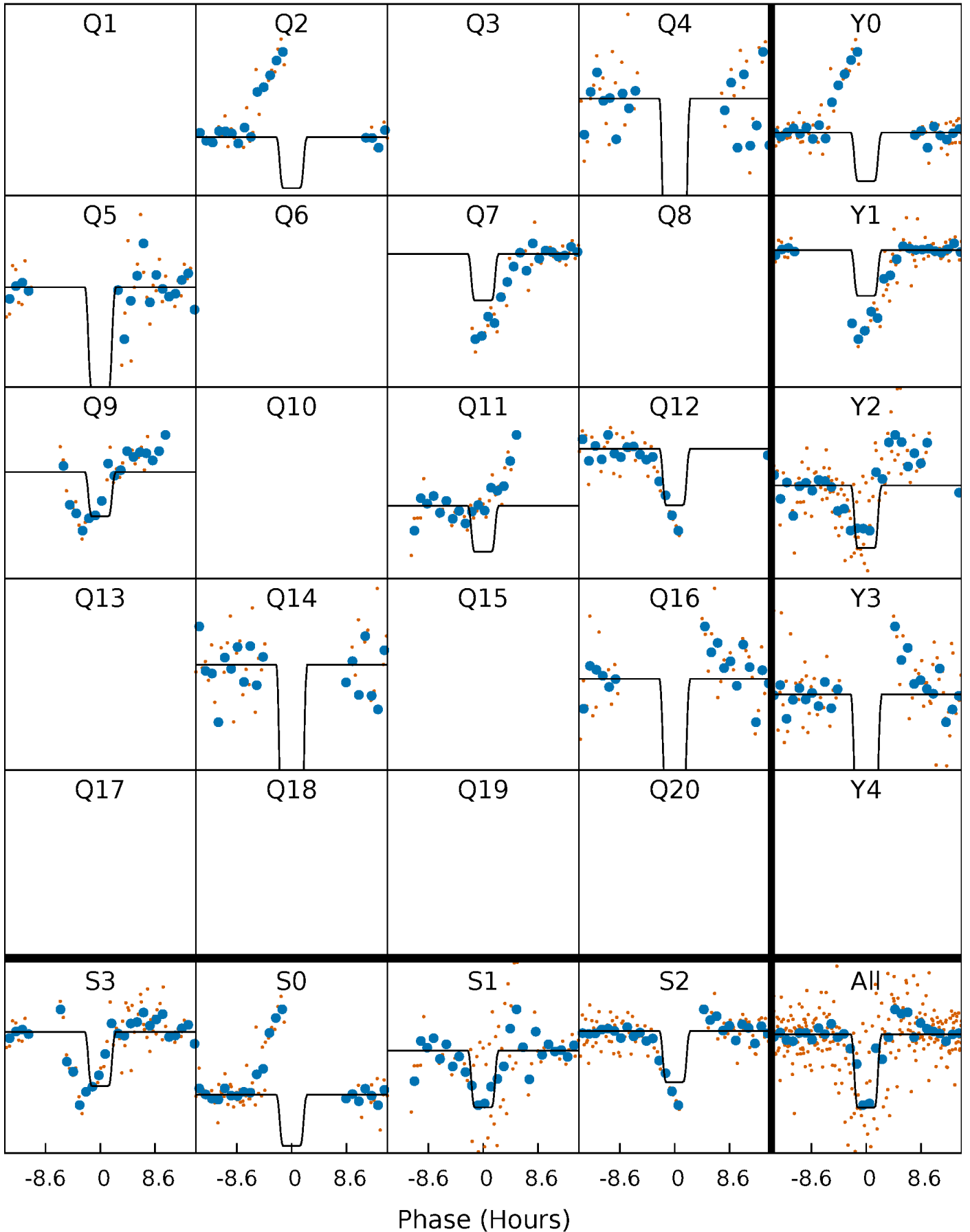
# DV Quarter-Phased Transit Curves

TCE 006292732-02 P=161.873355 Days  $T_0=210.170778$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

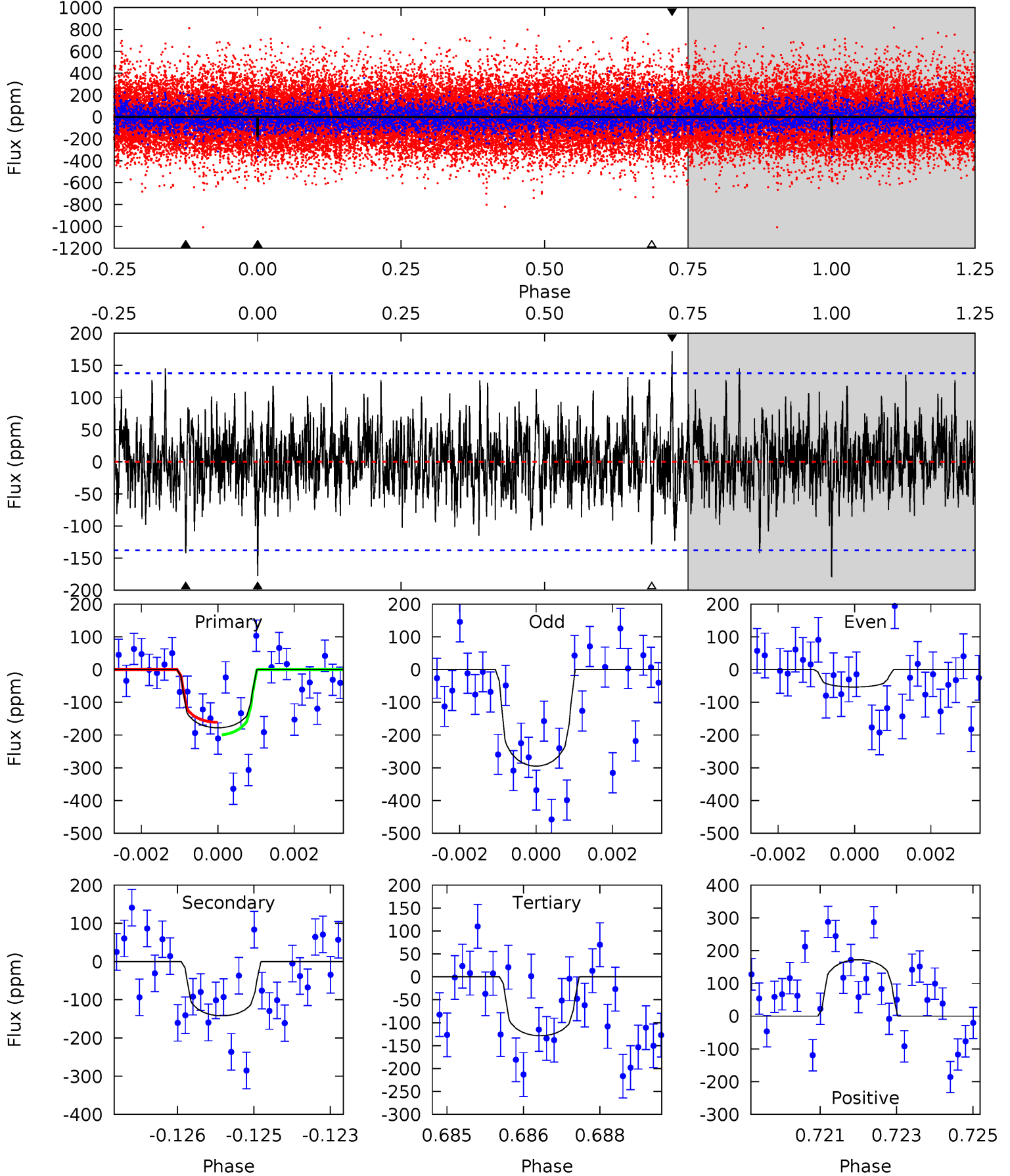
TCE 006292732-02   P=161.881473 Days    $T_0=210.110189$  (BKJD)



# DV Model-Shift Uniqueness Test

006292732-02, P = 161.873355 Days, E = 48.297423 Days

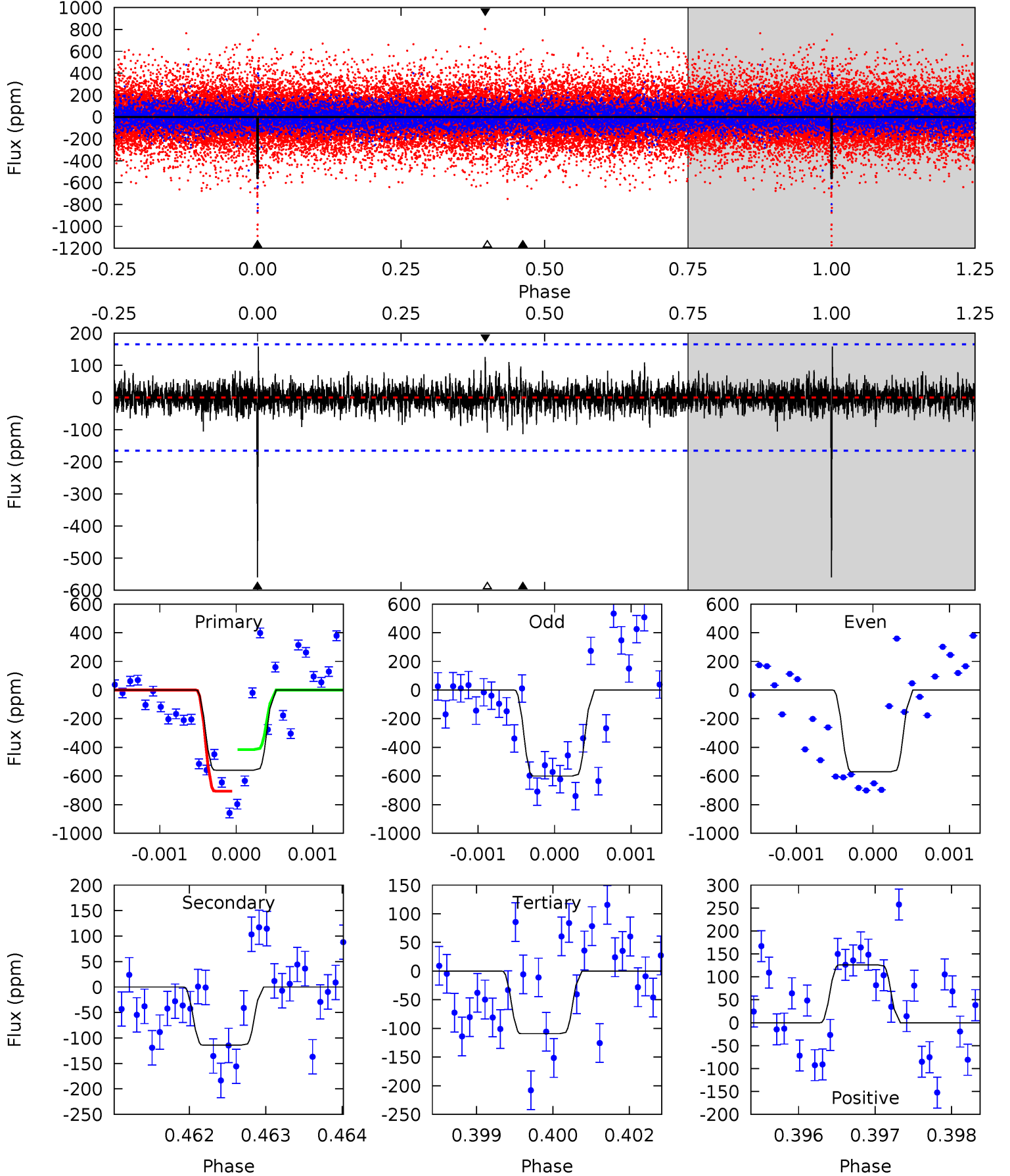
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.92	5.52	5.00	6.70	5.36	3.14	1.55	1.92	0.22	0.53	-1.18	4.67	0.81	0.49	0.75



# Alt Model-Shift Uniqueness Test

006292732-02, P = 161.881473 Days, E = 48.228716 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
18.3	3.73	3.57	4.12	5.42	3.24	0.85	14.7	14.2	0.16	-0.39	0.53	0.51	0.22	0



### Stellar Parameters For KIC 006292732

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$5869^{+70}_{-87}$	$4.513^{+0.018}_{-0.096}$	$0.070^{+0.150}_{-0.150}$	$0.942^{+0.121}_{-0.035}$	$1.054^{+0.057}_{-0.063}$	$1.776^{+0.153}_{-0.527}$
	+1%/-1%	+0%/-2%	+214%/-214%	+13%/-4%	+5%/-6%	+9%/-30%
Source	SPE90	SPE90	SPE90	DSEP		

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

### Secondary Eclipse Parameters for KIC 006292732-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-142 \pm 26$	$1.99^{+1.41}_{-1.13}$	$462^{+14}_{-10}$	$4783^{+2293}_{-876}$	$6912^{+27823}_{-4619}$
Alt.	$-114 \pm 31$	$2.74^{+1.53}_{-1.26}$	$461^{+15}_{-9}$	$4034^{+1188}_{-577}$	$2843^{+7167}_{-1724}$

$T_{max}$  = 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

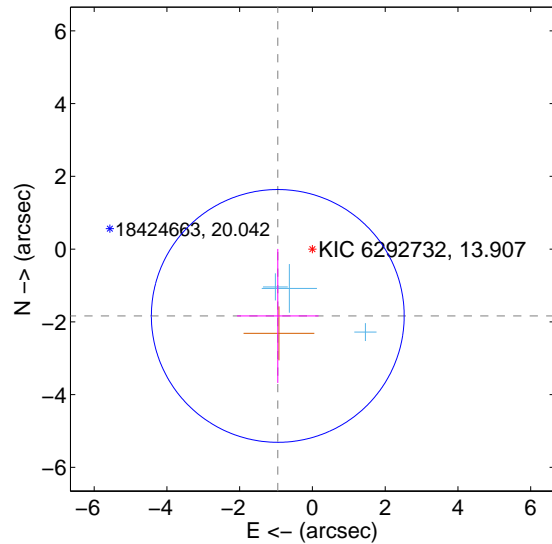
Supplemental centroid analysis for 006292732-02. Kepler magnitude: 13.91. Transit SNR 5.82

There are 3 quarters with good PRF difference image offsets

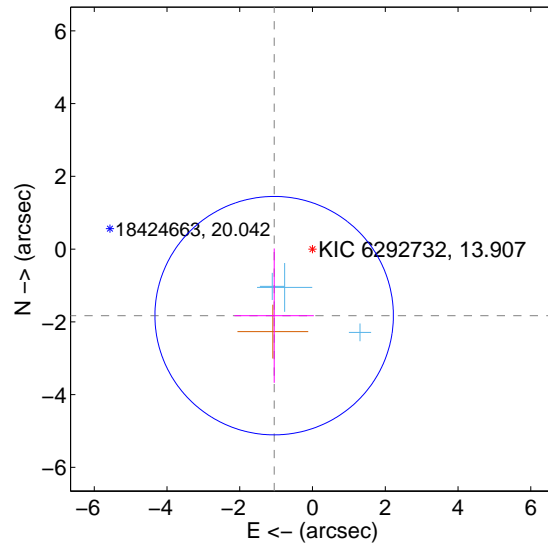
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.069 \pm 1.158$	1.79	$0.953 \pm 1.121$	$-1.837 \pm 1.842$
PRF-fit source offset from KIC position	$2.112 \pm 1.092$	1.93	$1.055 \pm 1.092$	$-1.830 \pm 1.846$
photometric centroid source offset	$0.78 \pm 1.14$	0.68	$0.57 \pm 1.18$	$-0.53 \pm 1.10$

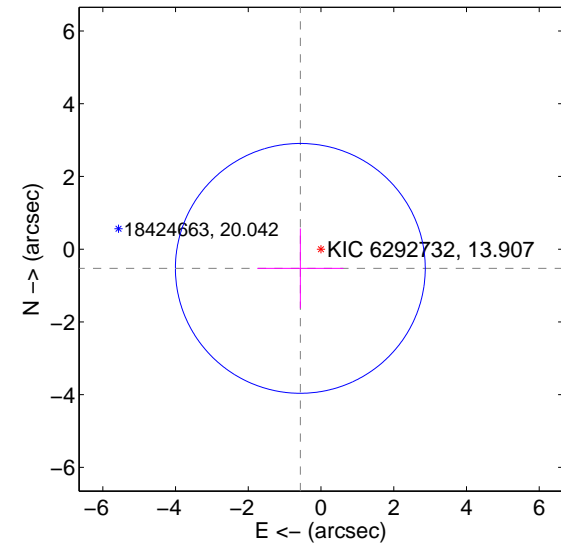
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



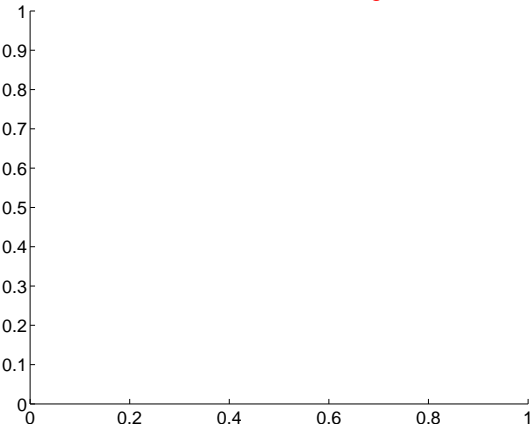
offset from photometric centroids



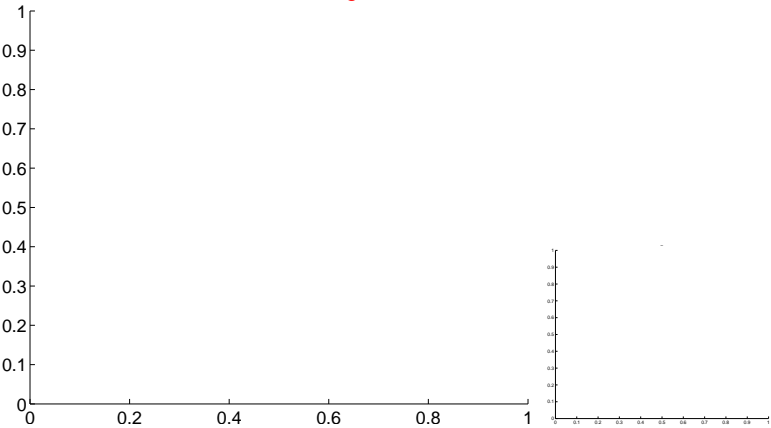
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

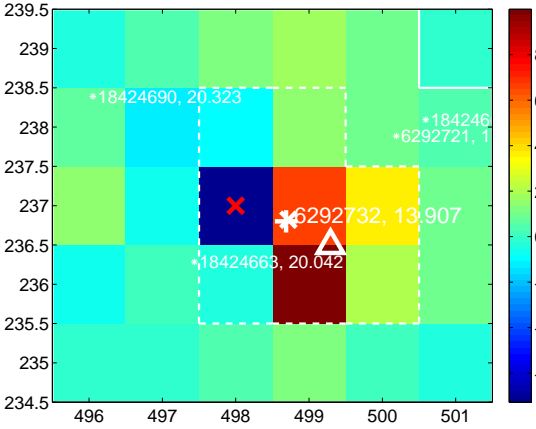
Q1 no difference image



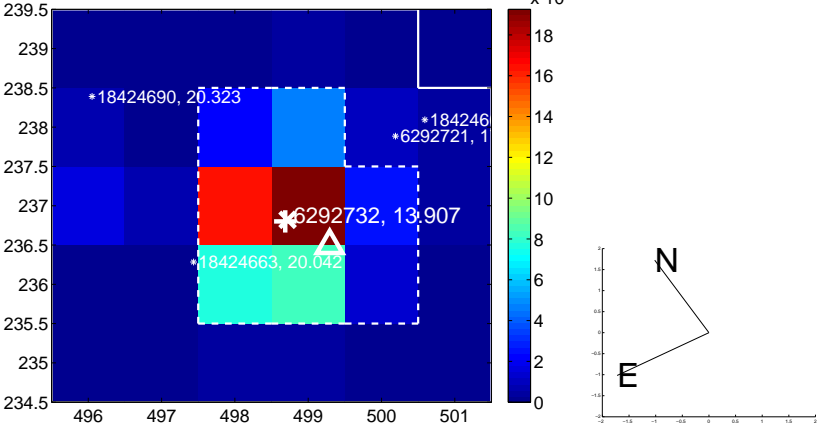
Q1 no OOT image



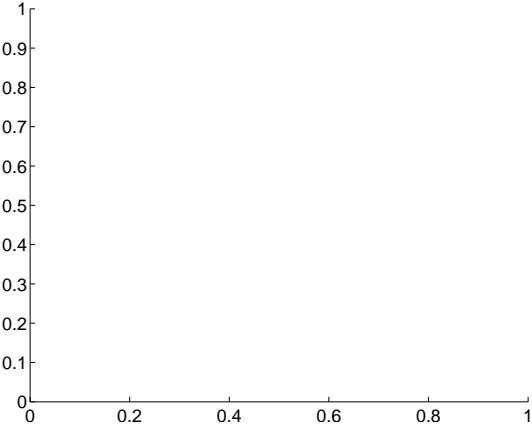
Q2 difference image



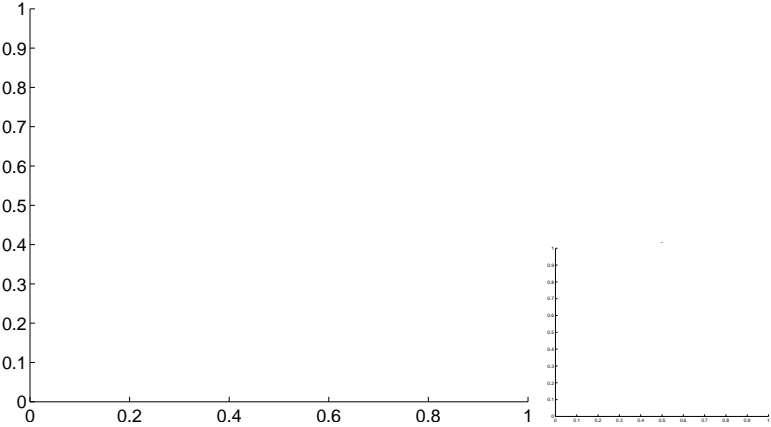
Q2 OOT image



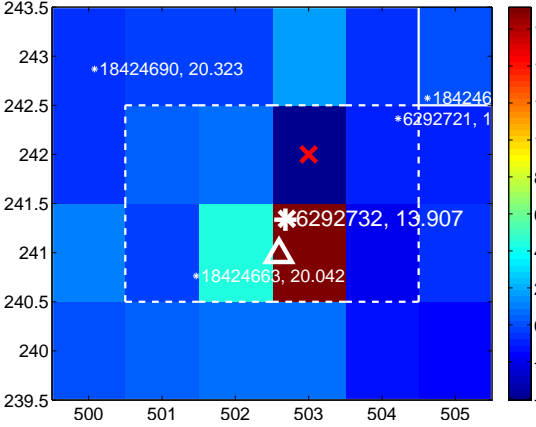
Q3 no difference image



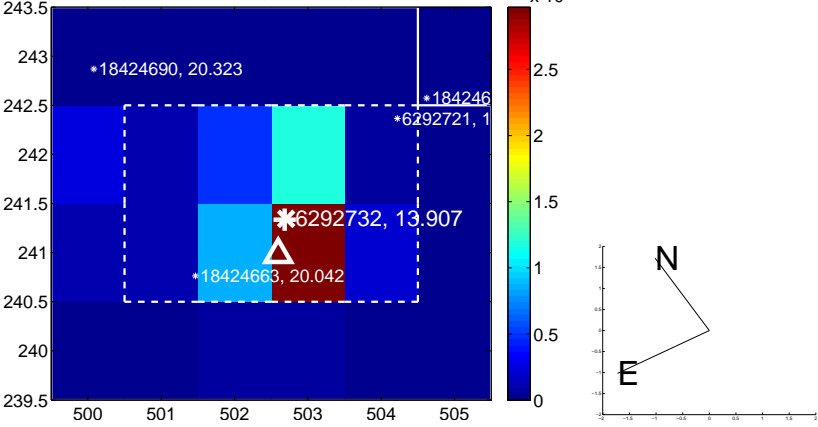
Q3 no OOT image



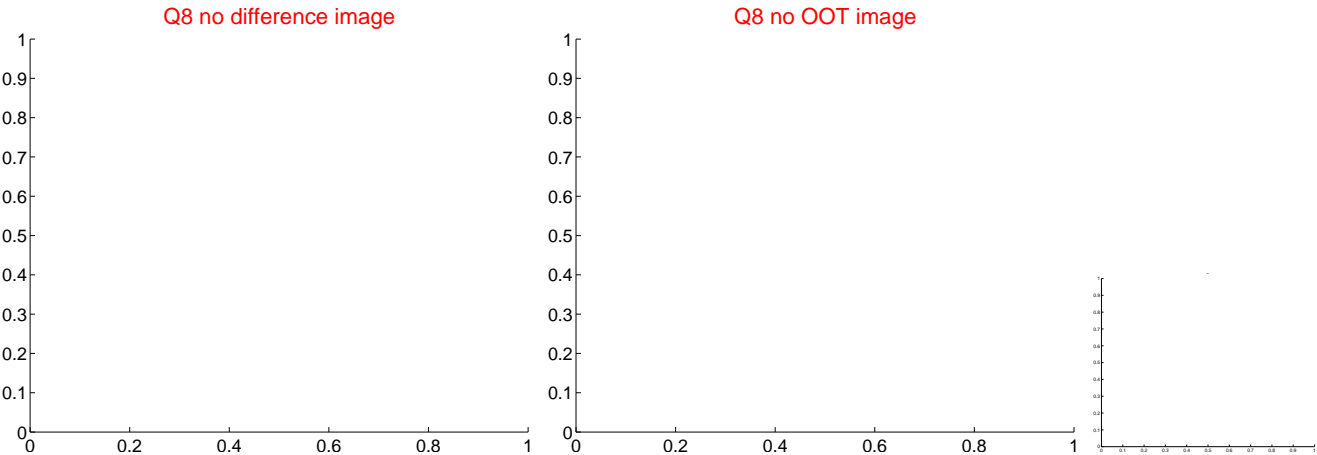
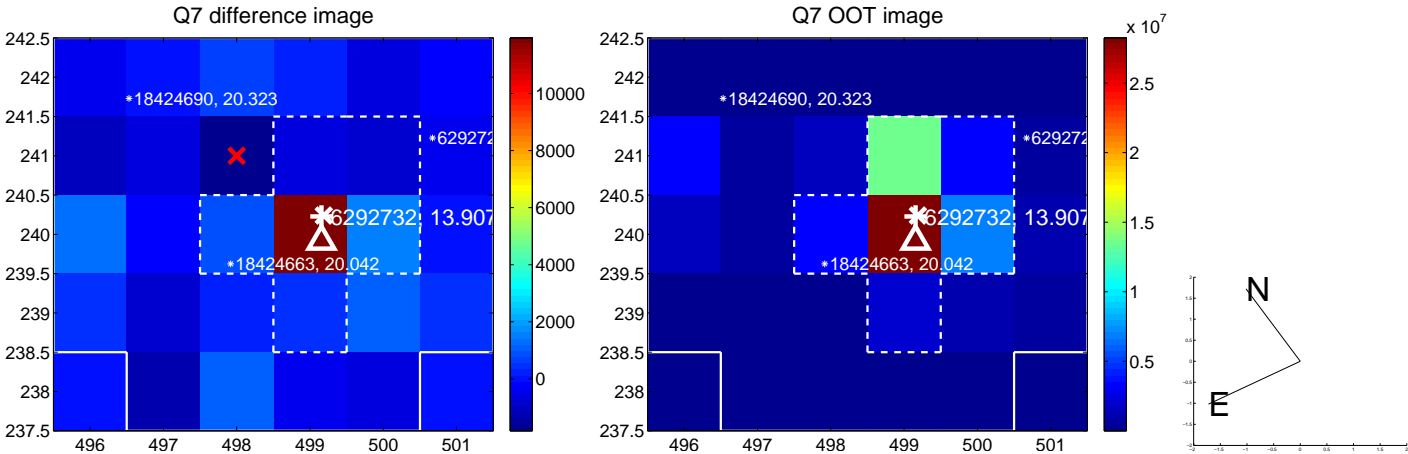
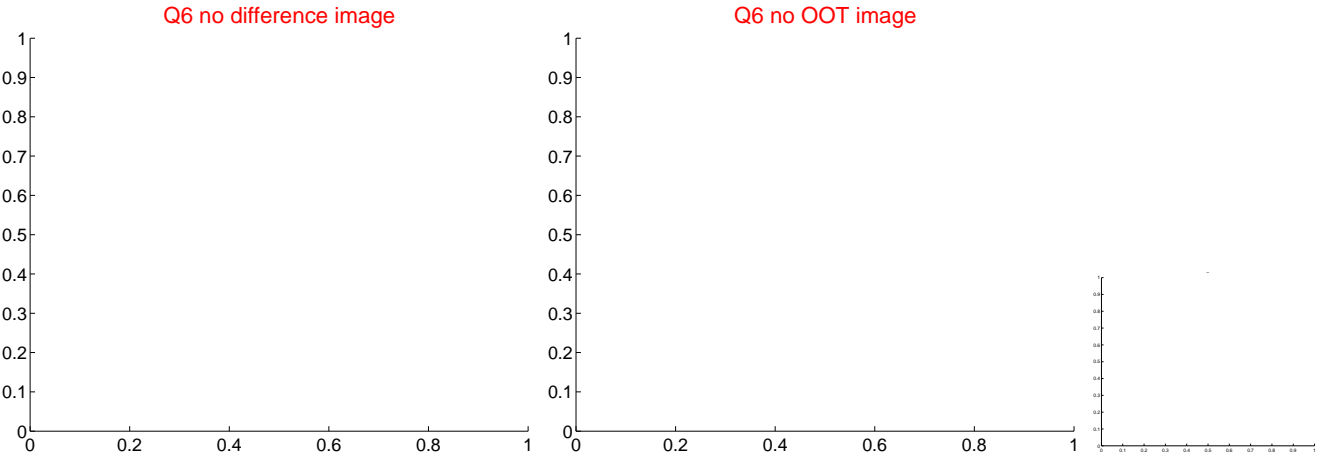
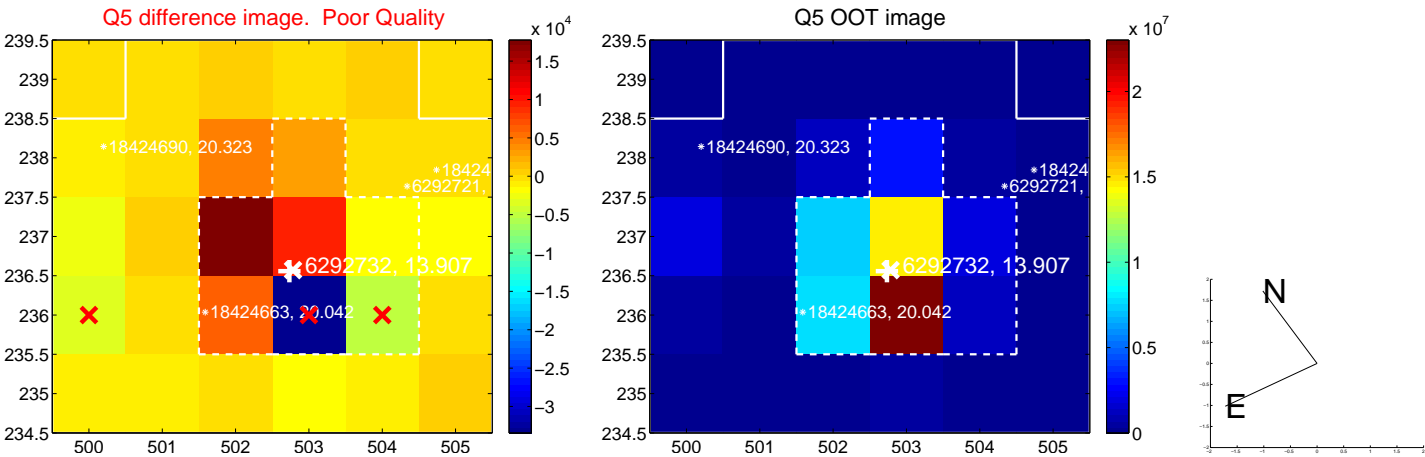
Q4 difference image



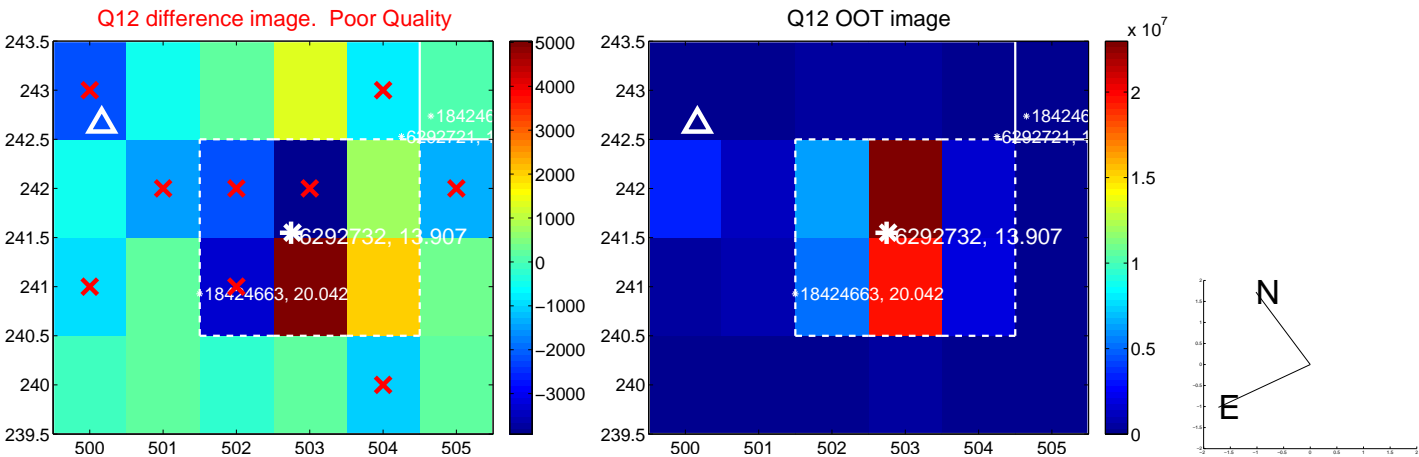
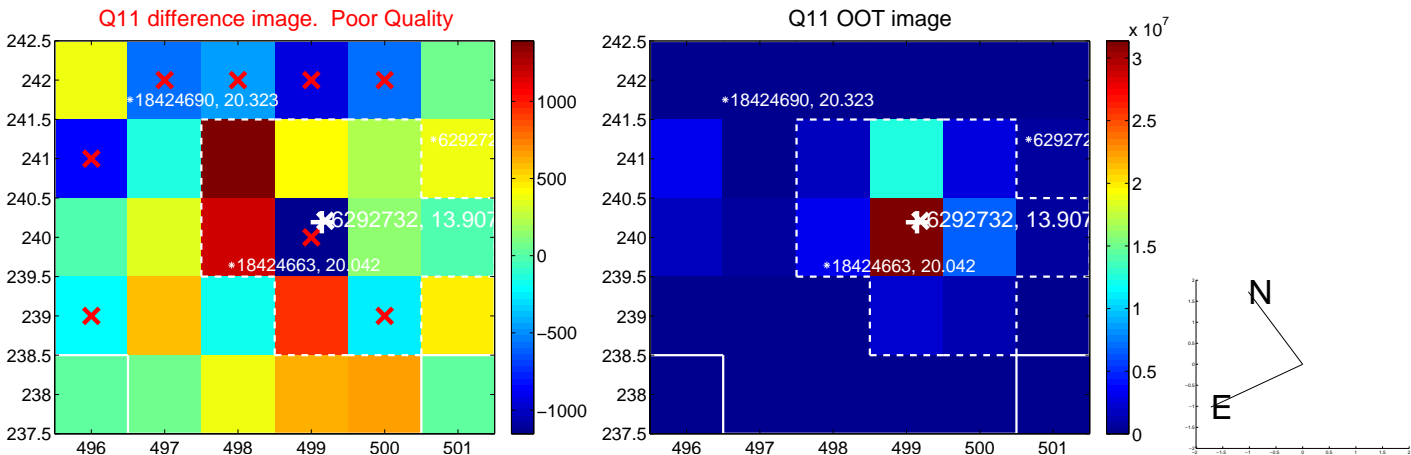
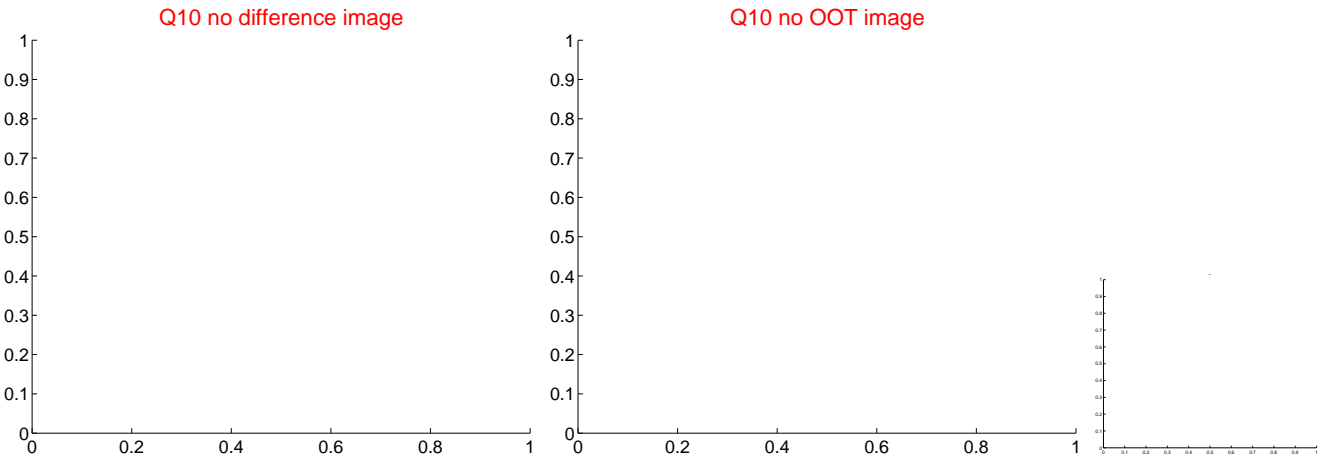
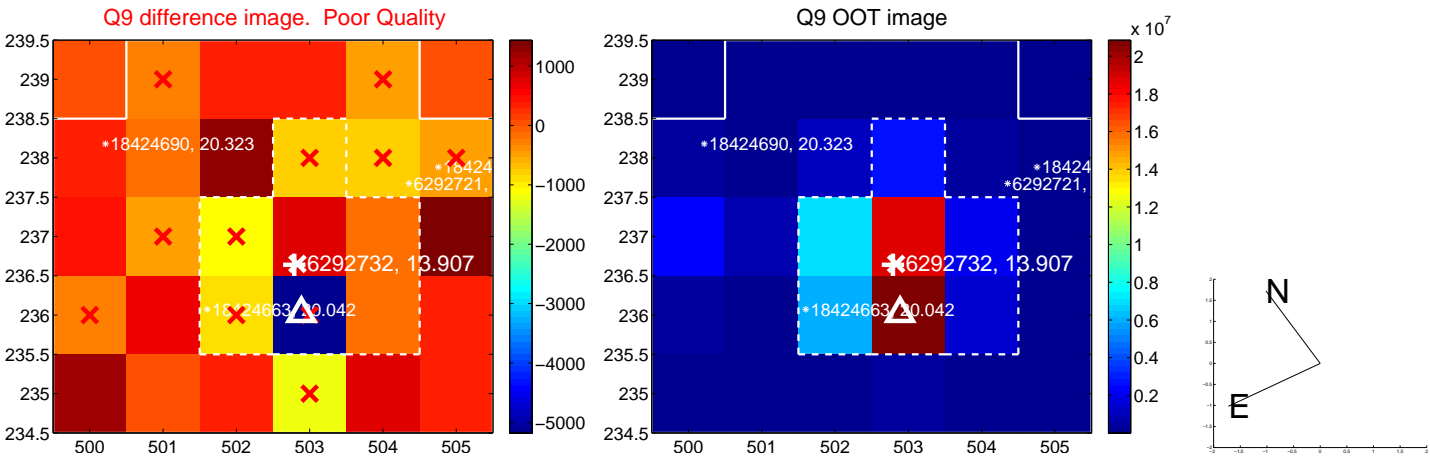
Q4 OOT image



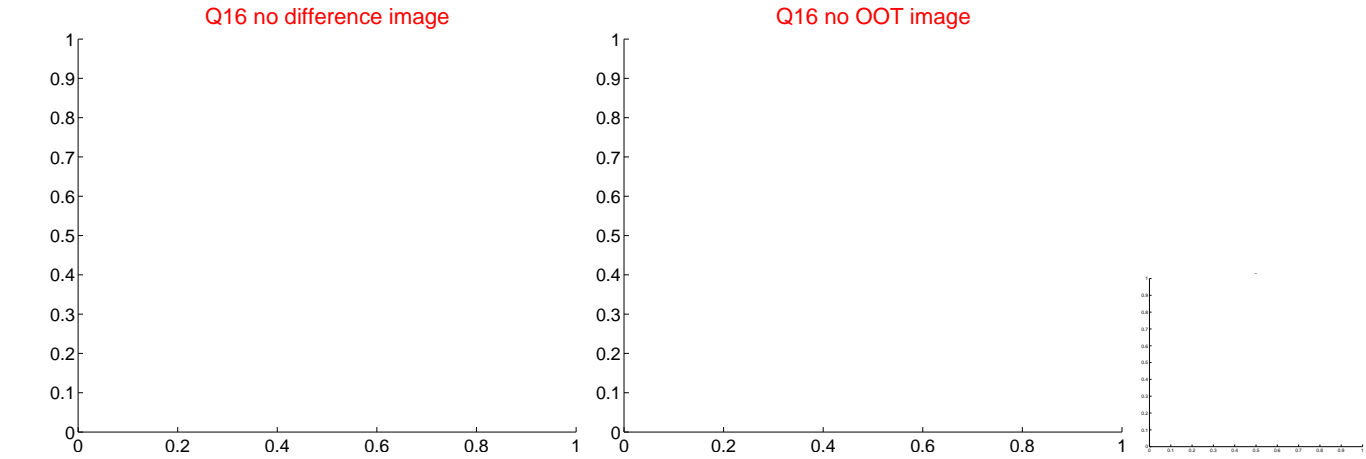
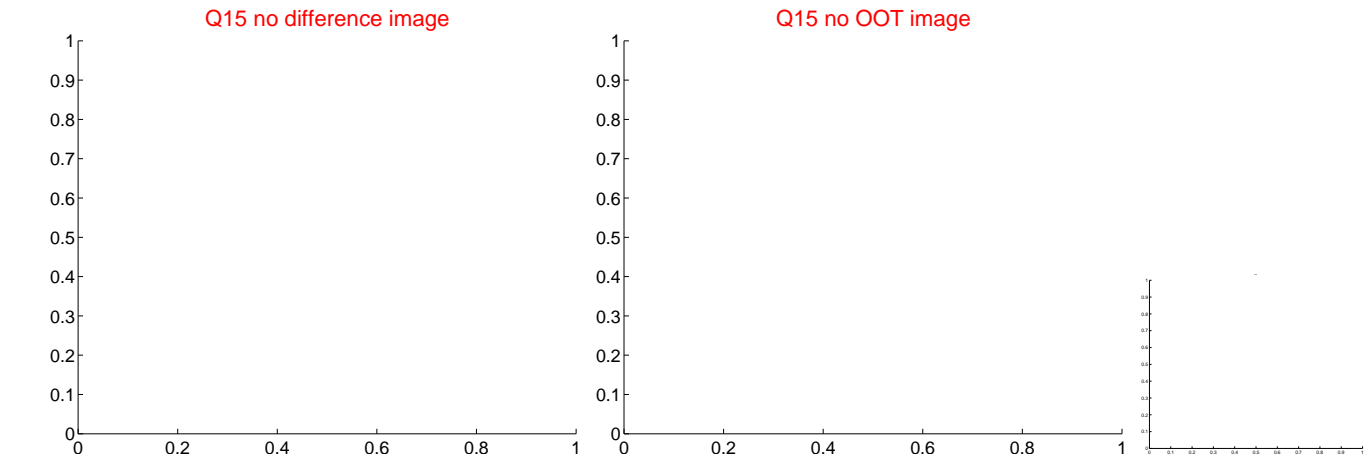
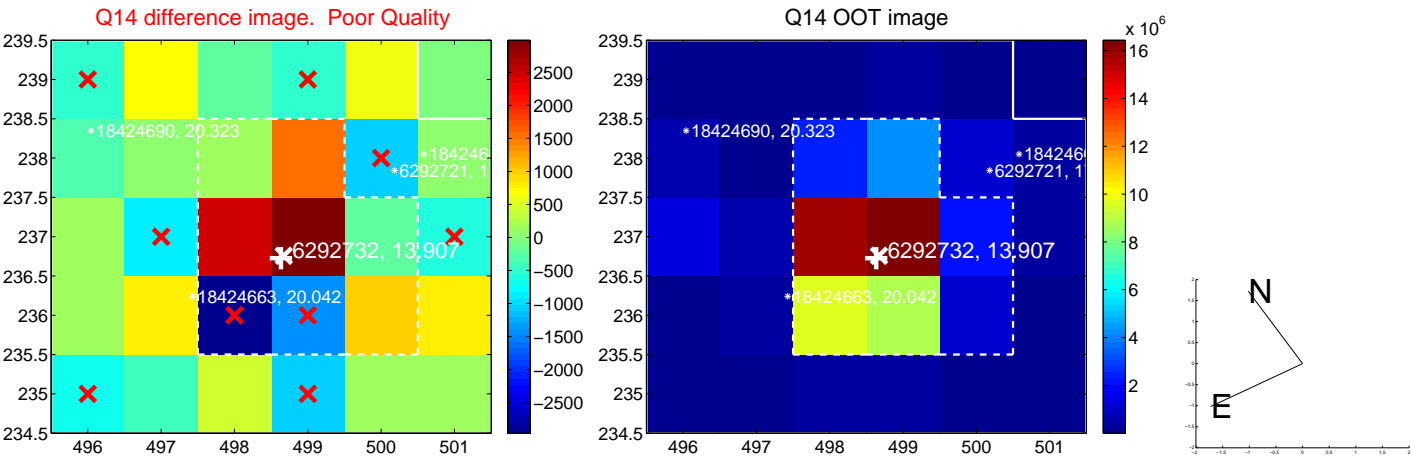
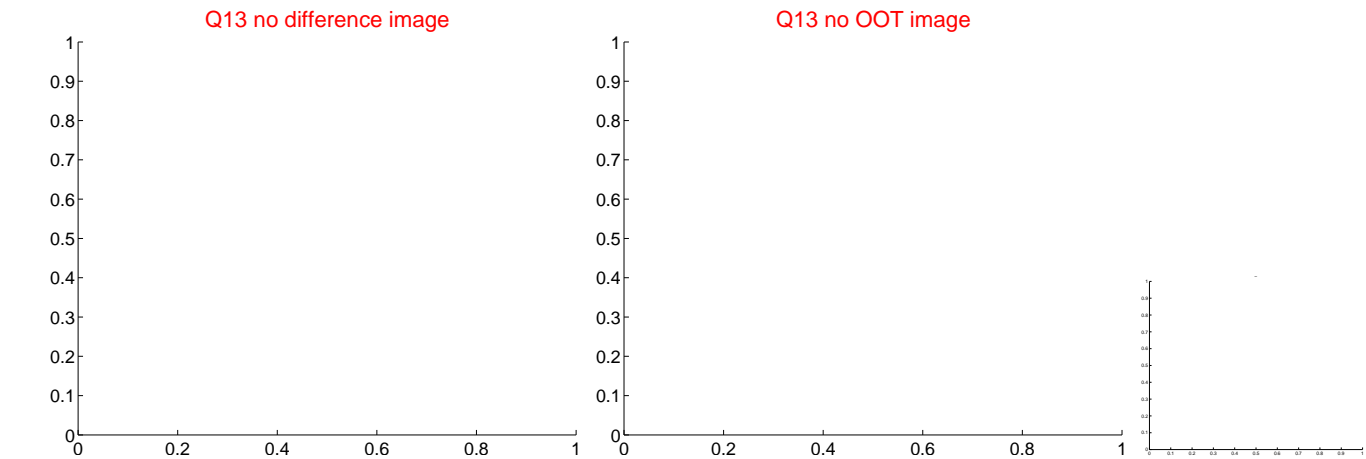
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



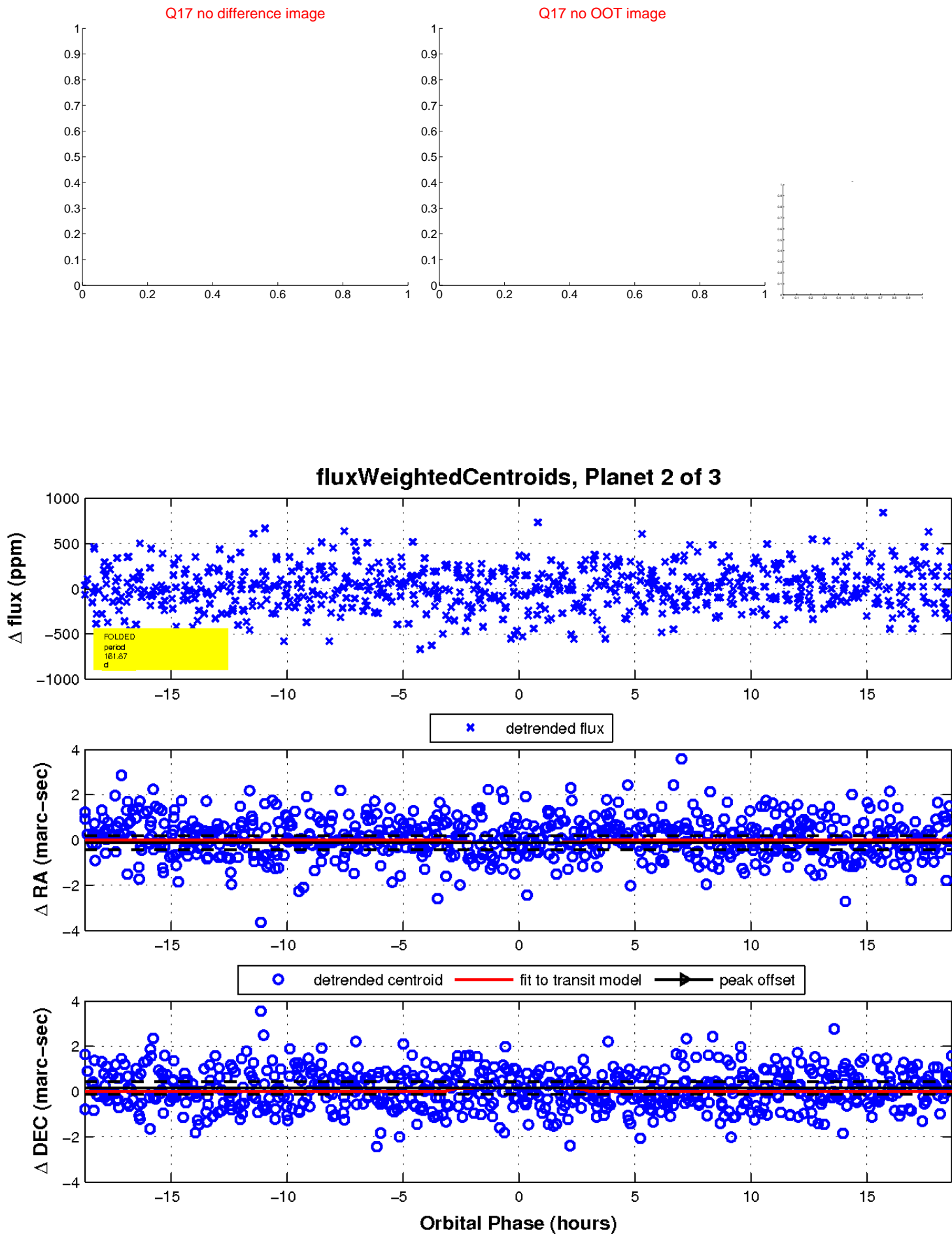
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

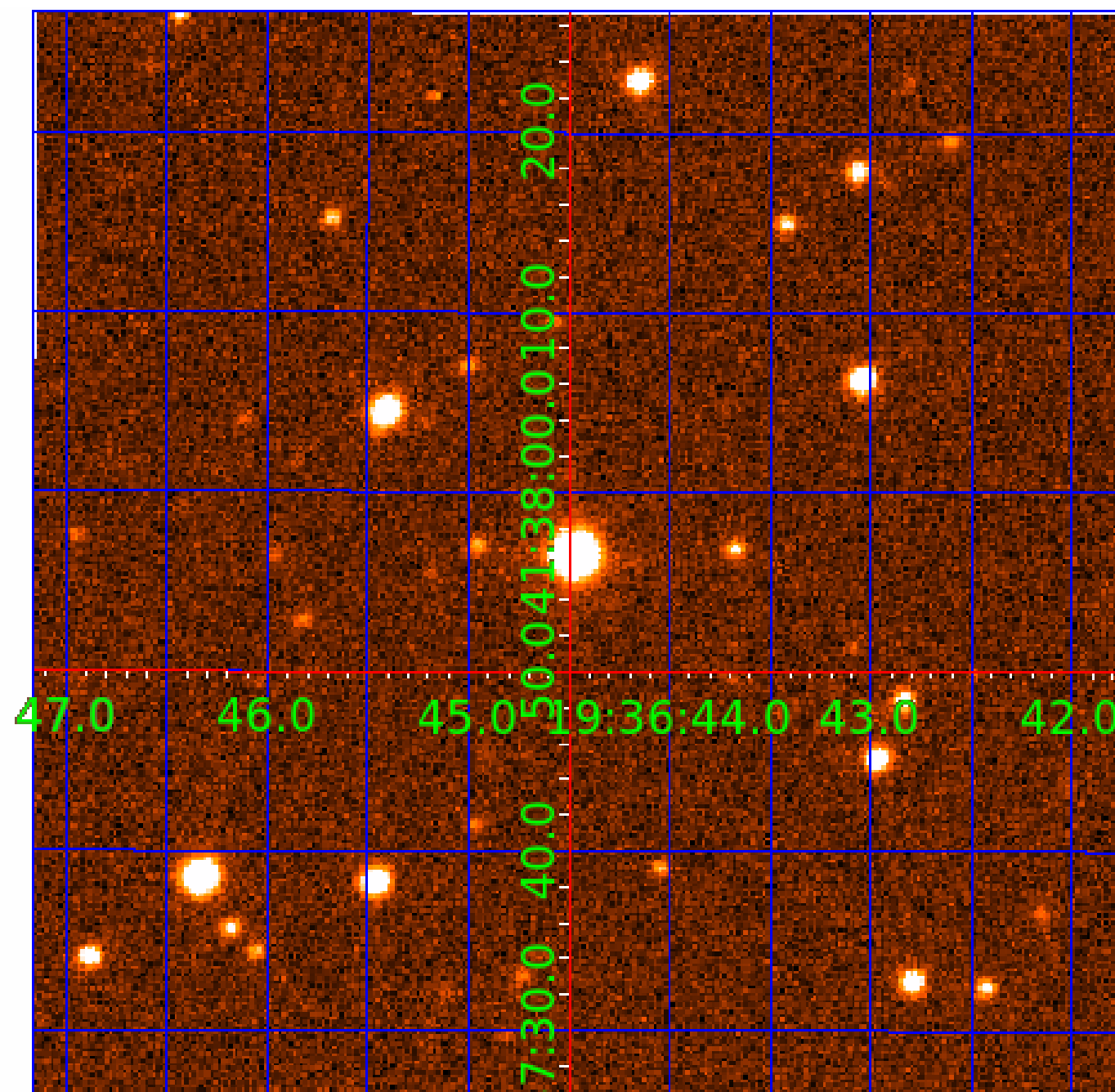


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 006292732

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006292732-01	OBS	6686.01	1.253366	132.634373	38.6	4.141	12.1	13.3	0.94	5869	0.69	1758.25
006292732-02	OBS	No	161.873355	210.170778	257.9	6.253	16.1	5.8	0.94	5869	1.71	2.69
006292732-03	OBS	No	163.333205	205.070649	247.5	2.611	8.8	5.6	0.94	5869	1.75	2.66

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006292732-01	OBS	FP	0.00	0	1	0	1	MOD_SEC_DV—EPHEM_MATCH
006292732-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006292732-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_DIFFS

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

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

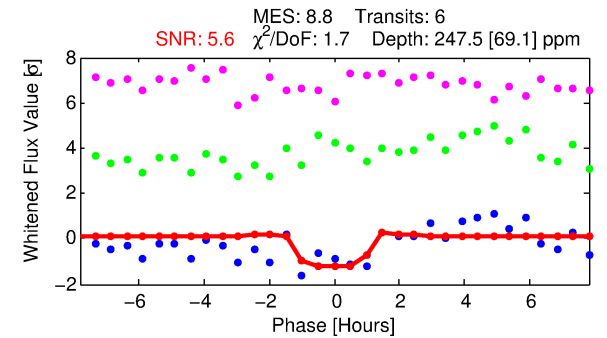
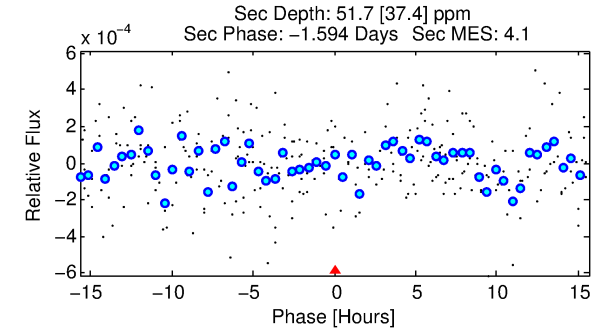
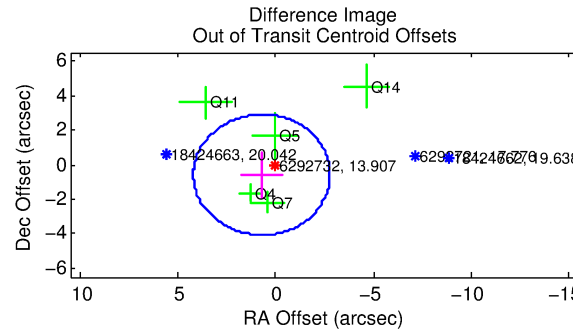
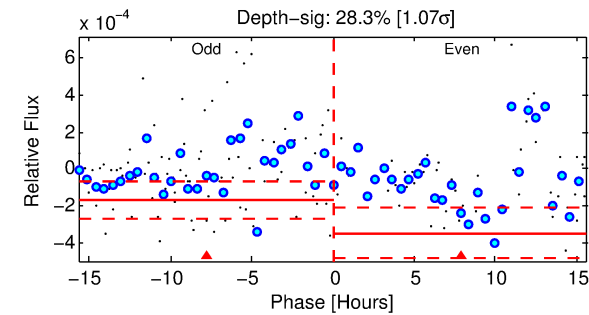
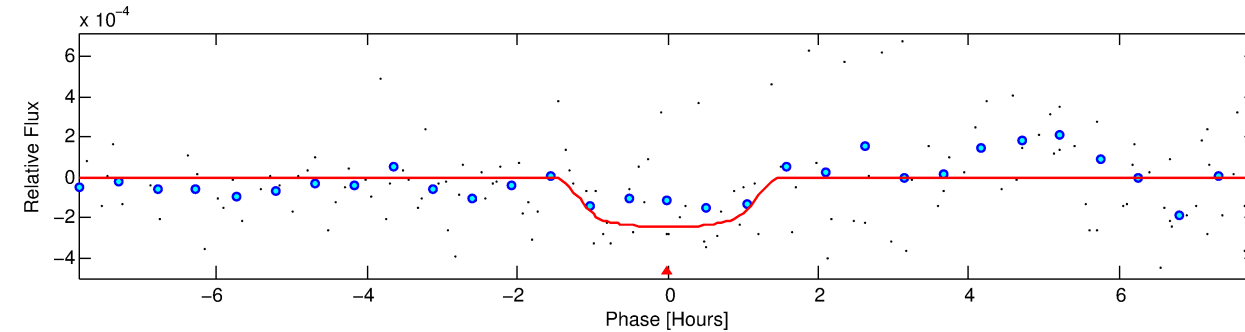
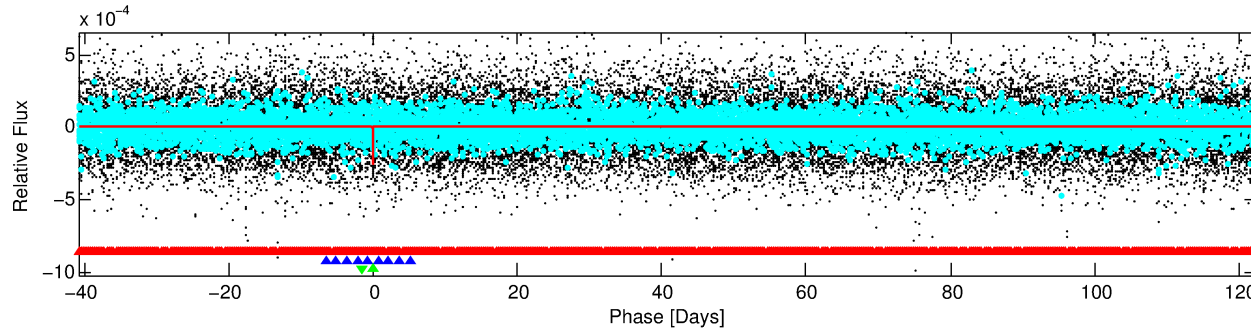
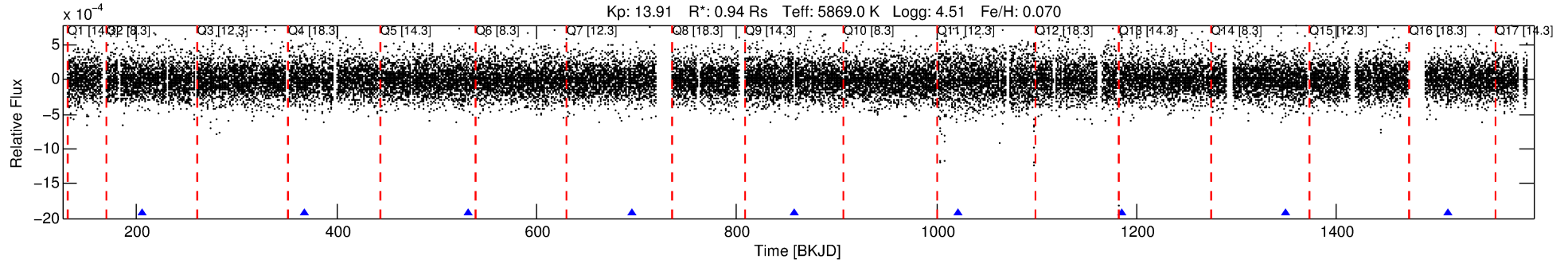
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 006292732-03

No Significant Match Found

# DV One-Page Summary

KIC: 6292732 Candidate: 3 of 3 Period: 163.333 d  
KOI: K06686 Corr: No Ephemeris Match



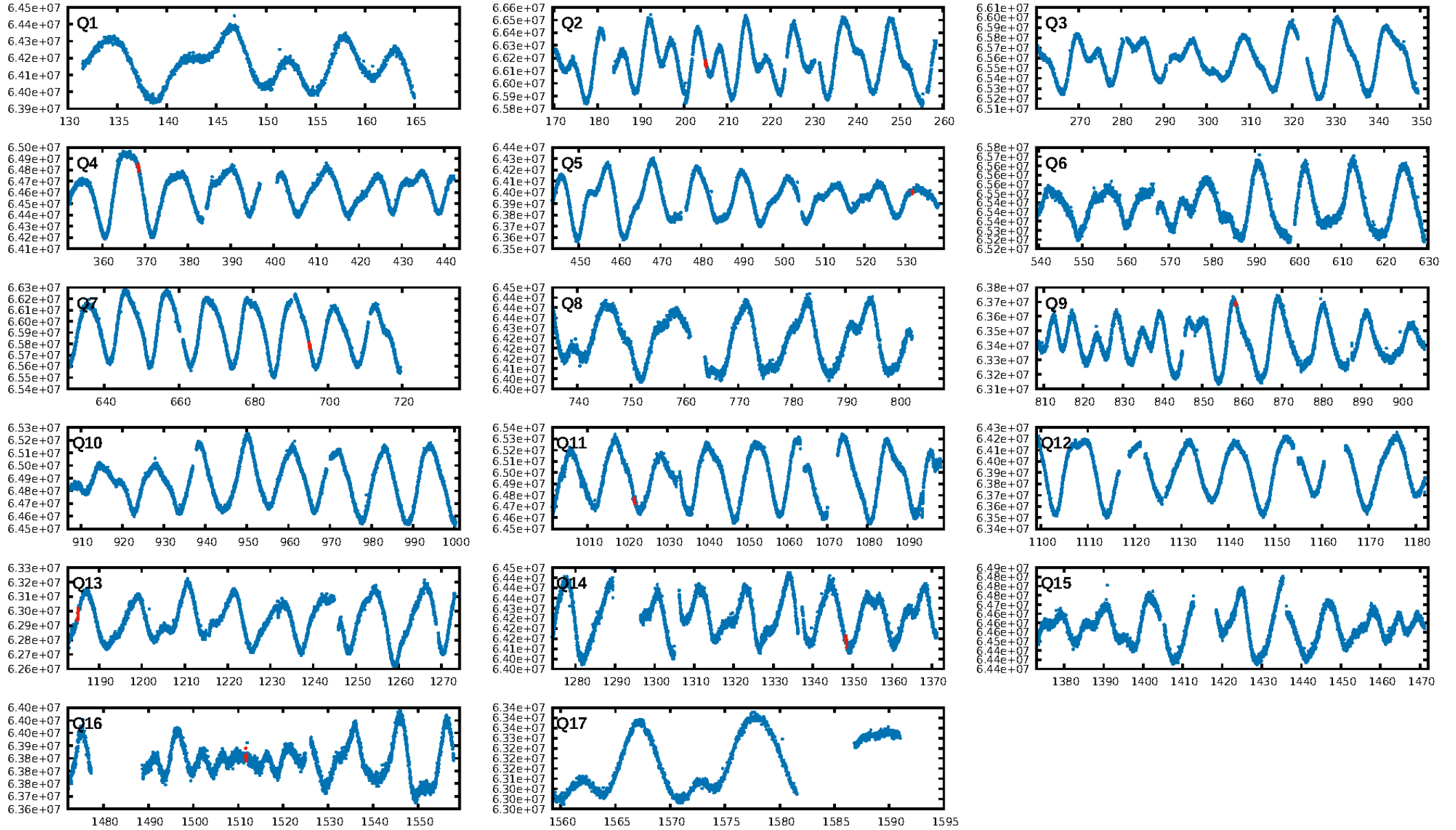
## DV Fit Results:

Period = 163.33320 [0.00317] d  
Epoch = 205.0706 [0.0162] BKJD  
Rp/R\* = 0.0170 [0.0216]  
a/R\* = 232.55 [1384.70]  
b = 0.89 [1.37]  
Seff = 2.66 [0.48]  
Teq = 326 [15] K  
Rp = 1.75 [2.23] Re  
a = 0.5954 [0.0673] AU  
Ag = 3296.06 [8706.92] [0.38 $\sigma$ ]  
Teffp = 3815 [2515] K [1.39 $\sigma$ ]

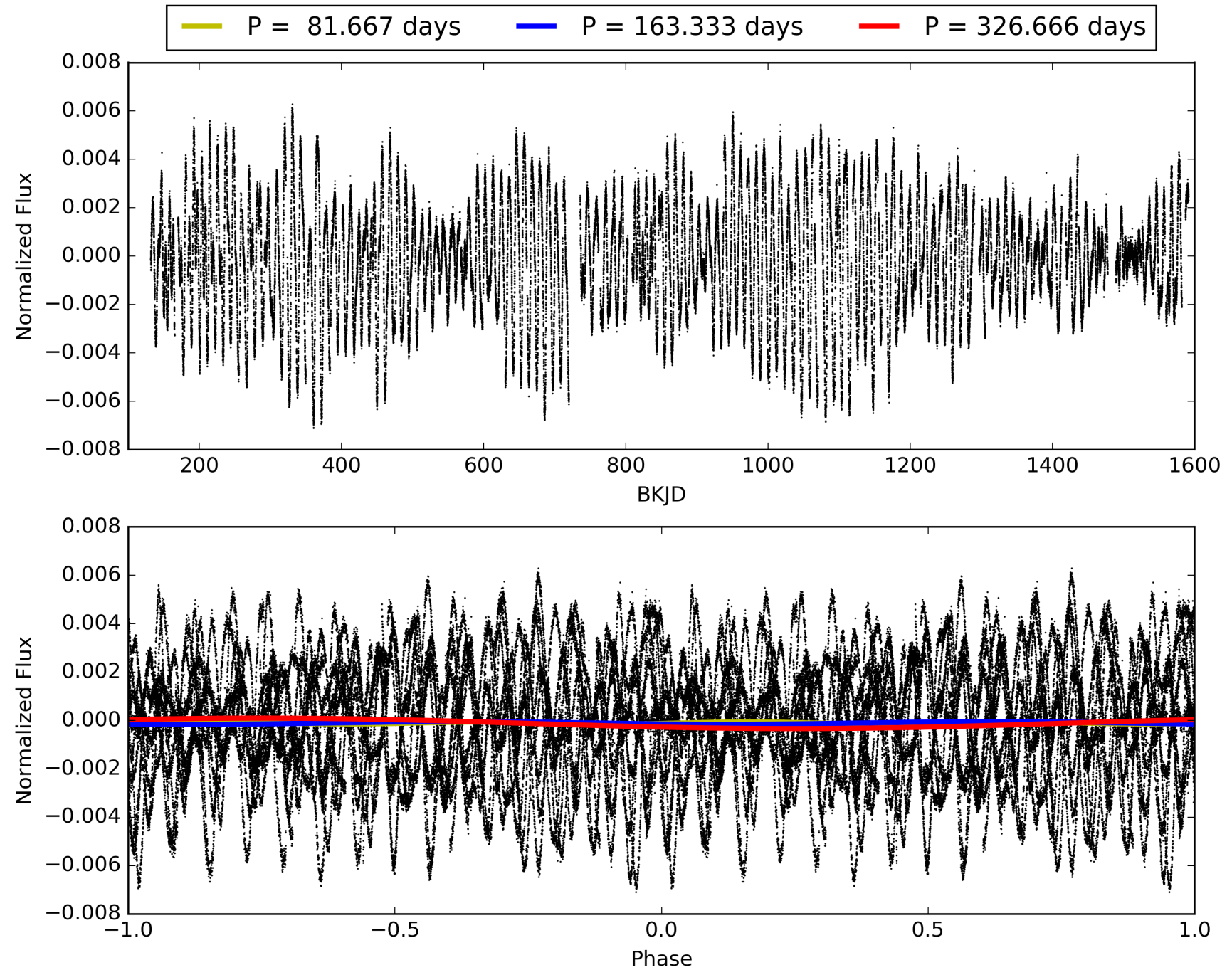
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.17 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 8.2%  
ModelChiSquareGof-sig: 71.3%  
**Bootstrap-pfa: 2.80e-11**  
RollingBand-fgt: 1.00 [6/6]  
**GhostDiagnostic-chr: 0.706**  
Centroid-sig: 63.1%  
Centroid-so: 0.998 arcsec [0.53 $\sigma$ ]  
OotOffset-rm: 0.925 arcsec [0.79 $\sigma$ ]  
OotOffset-st: 1/2/1/1 [5]  
KicOffset-rm: 1.087 arcsec [0.73 $\sigma$ ]  
KicOffset-st: 1/2/1/1 [5]  
DiffImageQuality-fgm: 0.40 [2/5]  
DiffImageOverlap-fno: 0.38 [3/8]

# TCE 006292732-03, PDC Light Curves

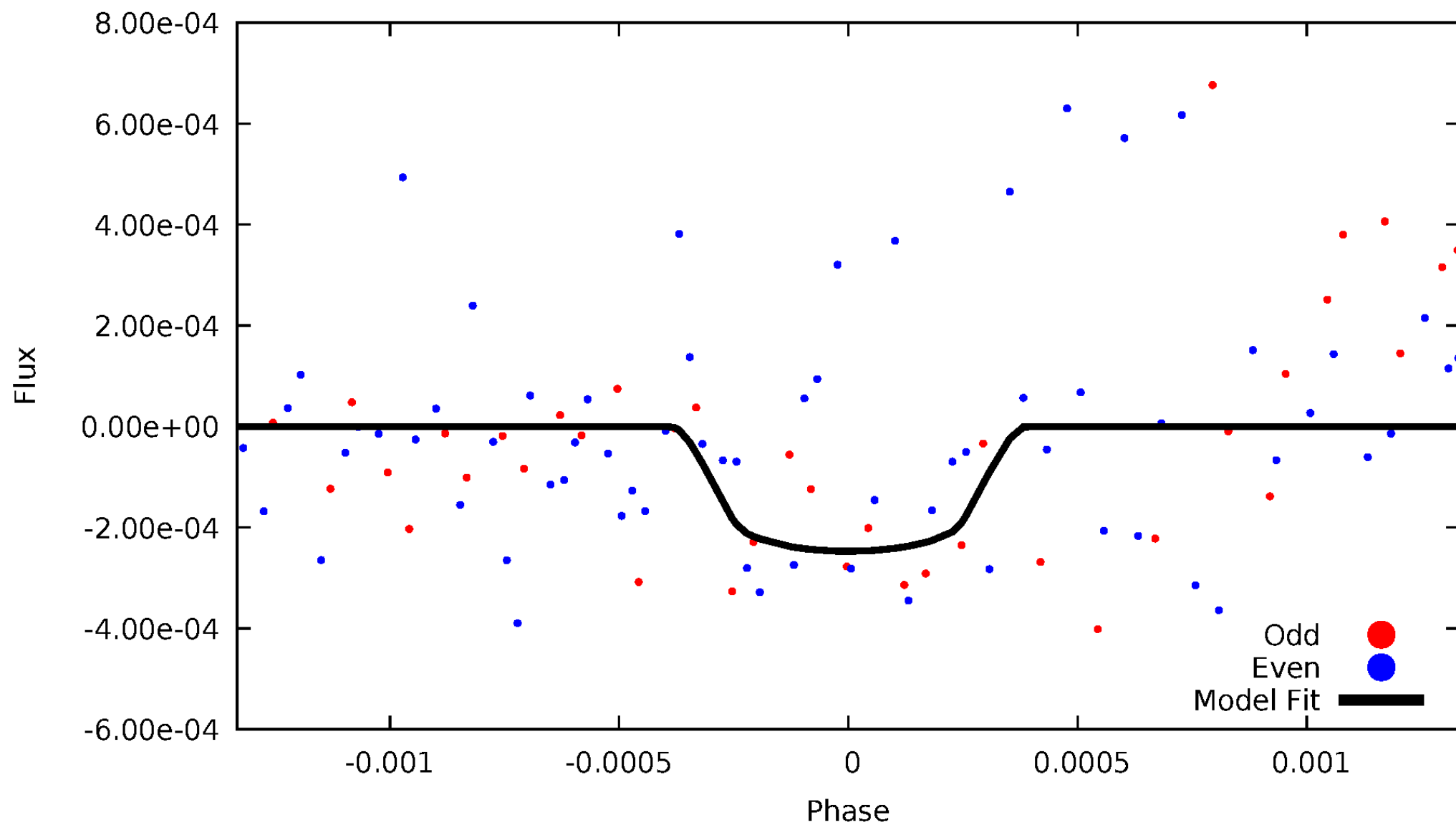


# TCE 006292732-03



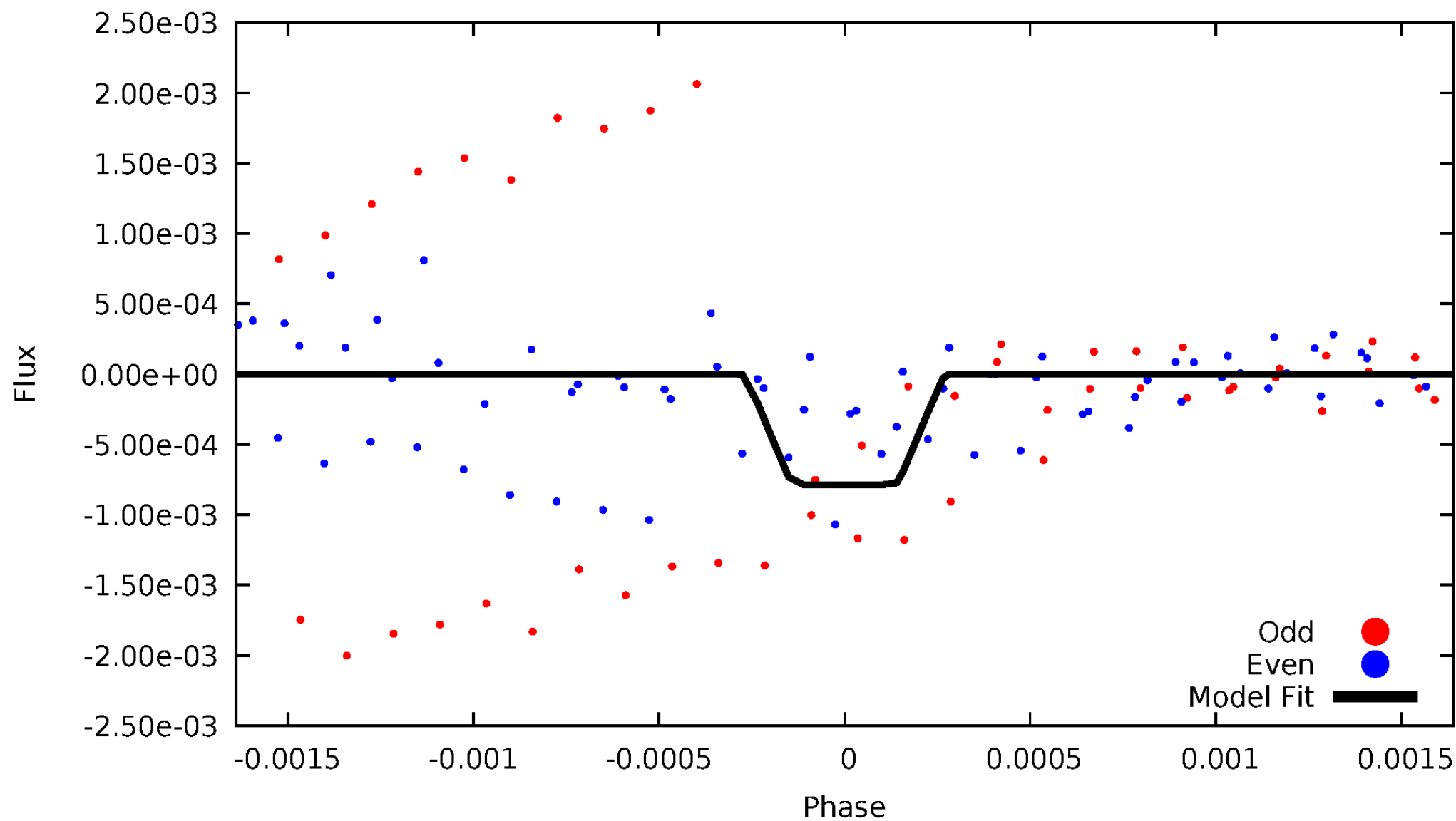
# DV Odd/Even

TCE 006292732-03



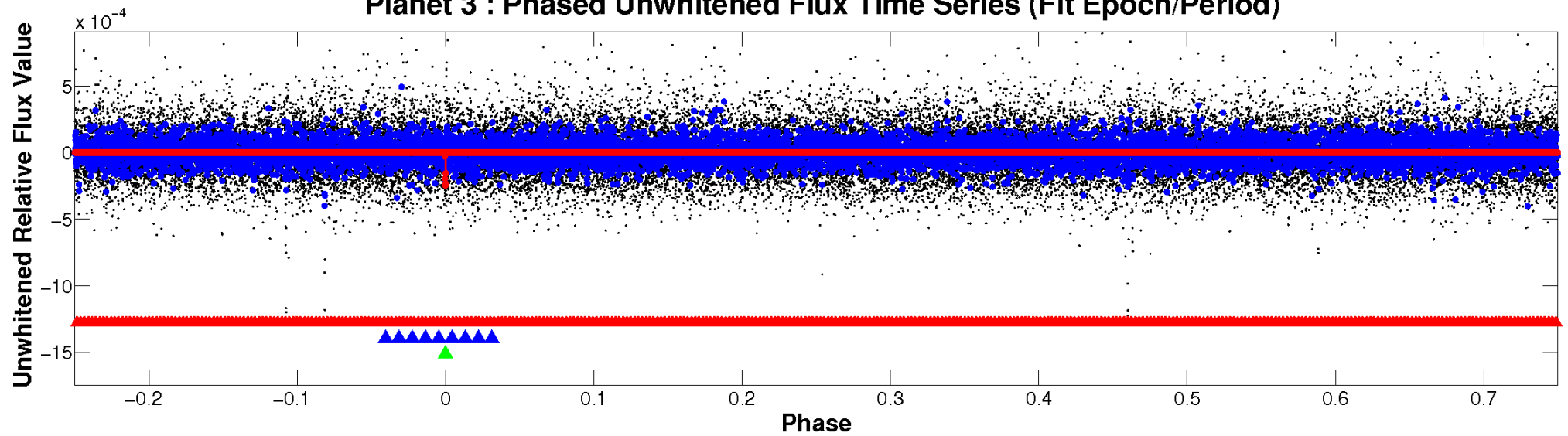
# ALT Odd/Even

TCE 006292732-03

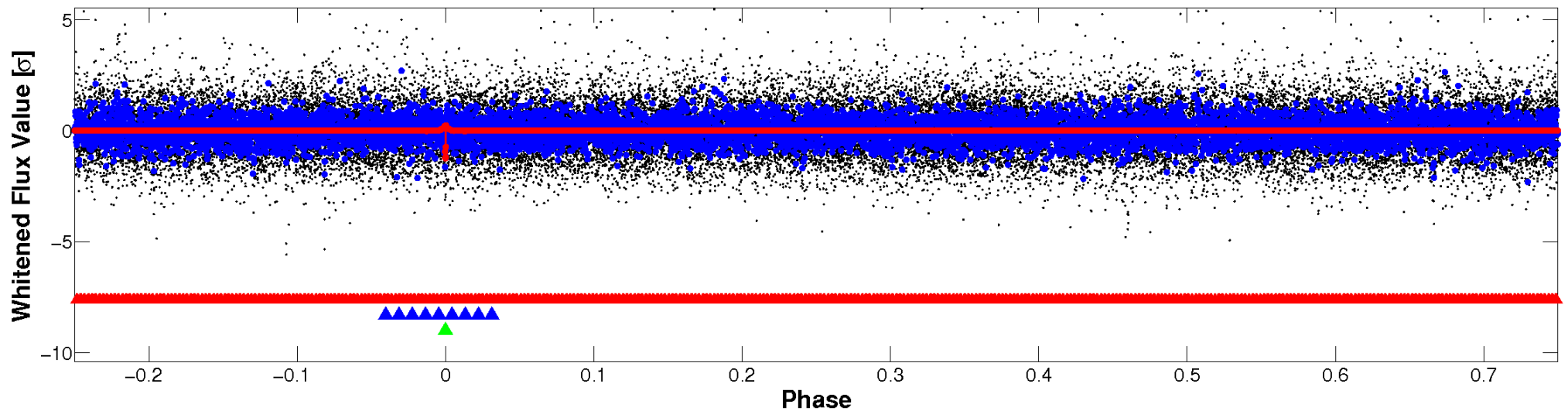


# Non-Whitened Vs. Whitened Light Curve

**Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)**

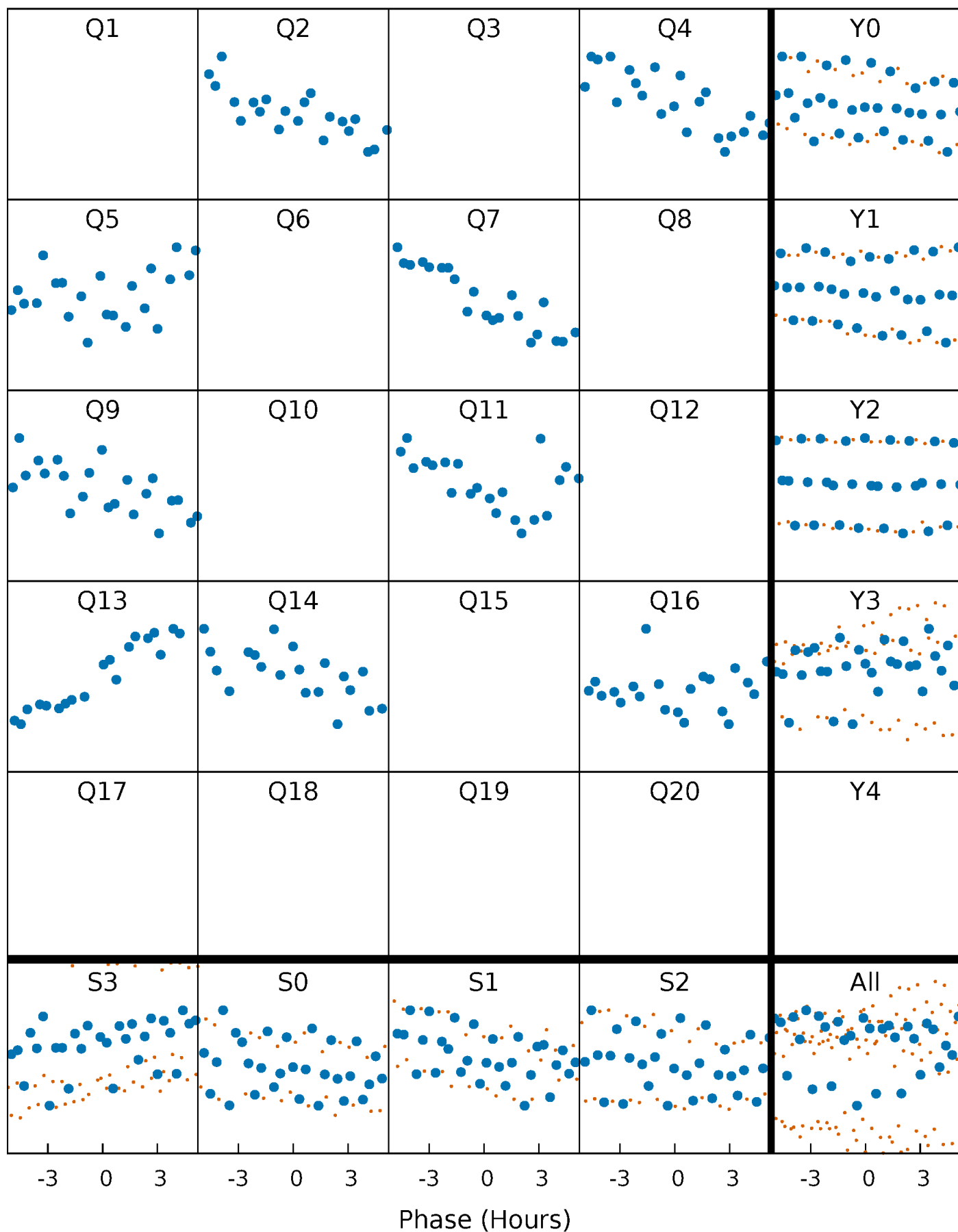


**Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



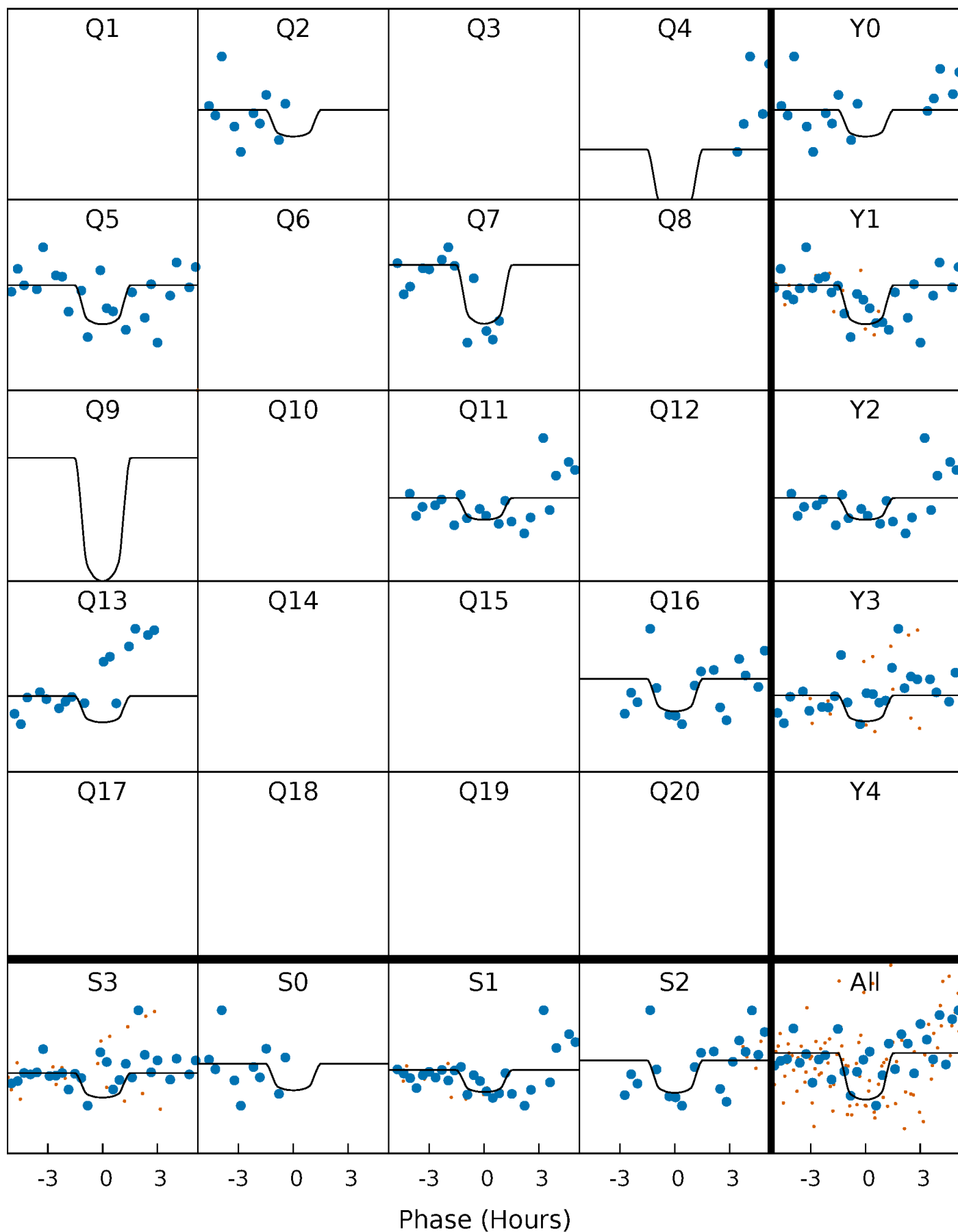
# PDC Quarter-Phased Transit Curves

TCE 006292732-03 P=163.333205 Days  $T_0=205.070649$  (BKJD)



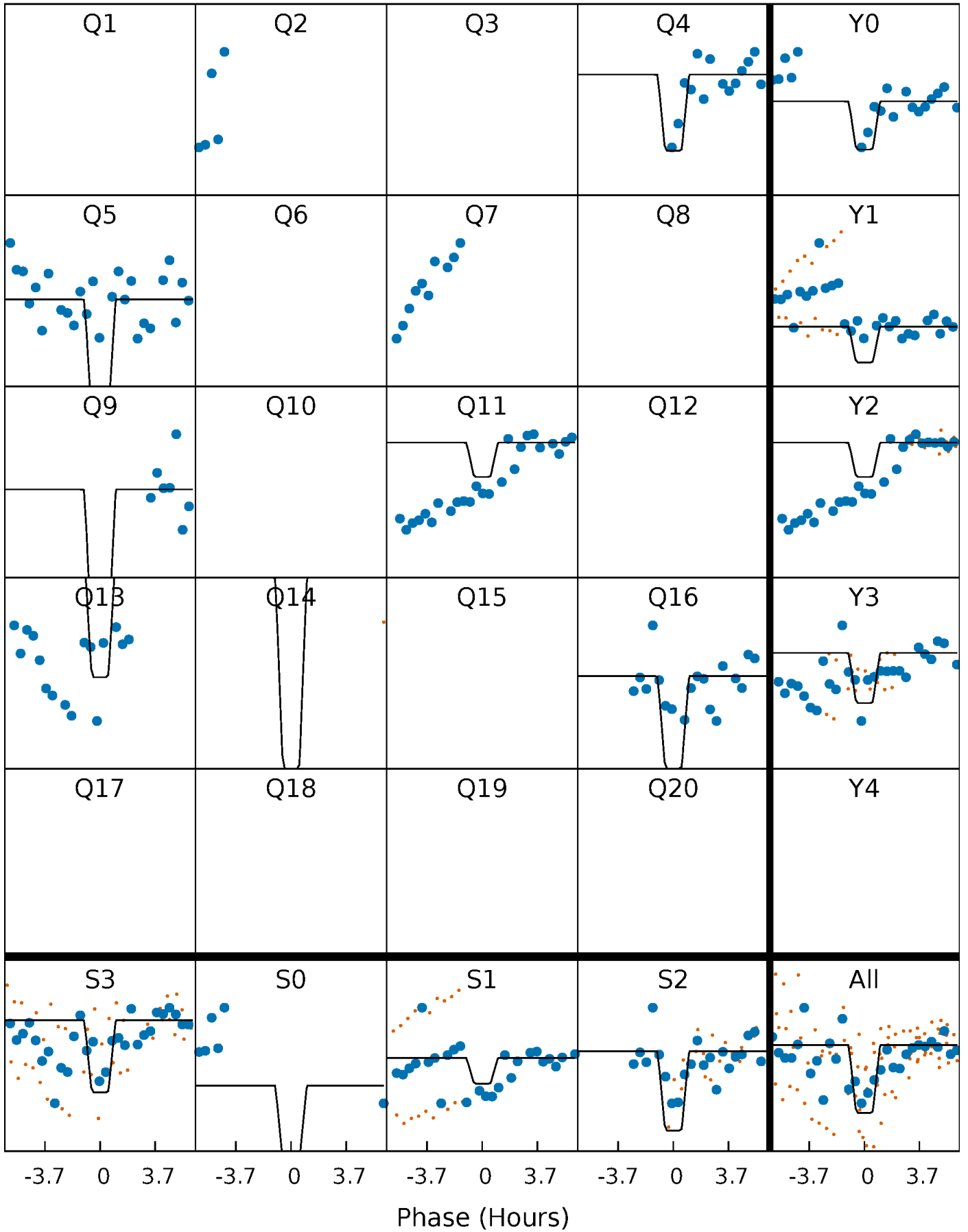
# DV Quarter-Phased Transit Curves

TCE 006292732-03     $P=163.333205$  Days     $T_0=205.070649$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

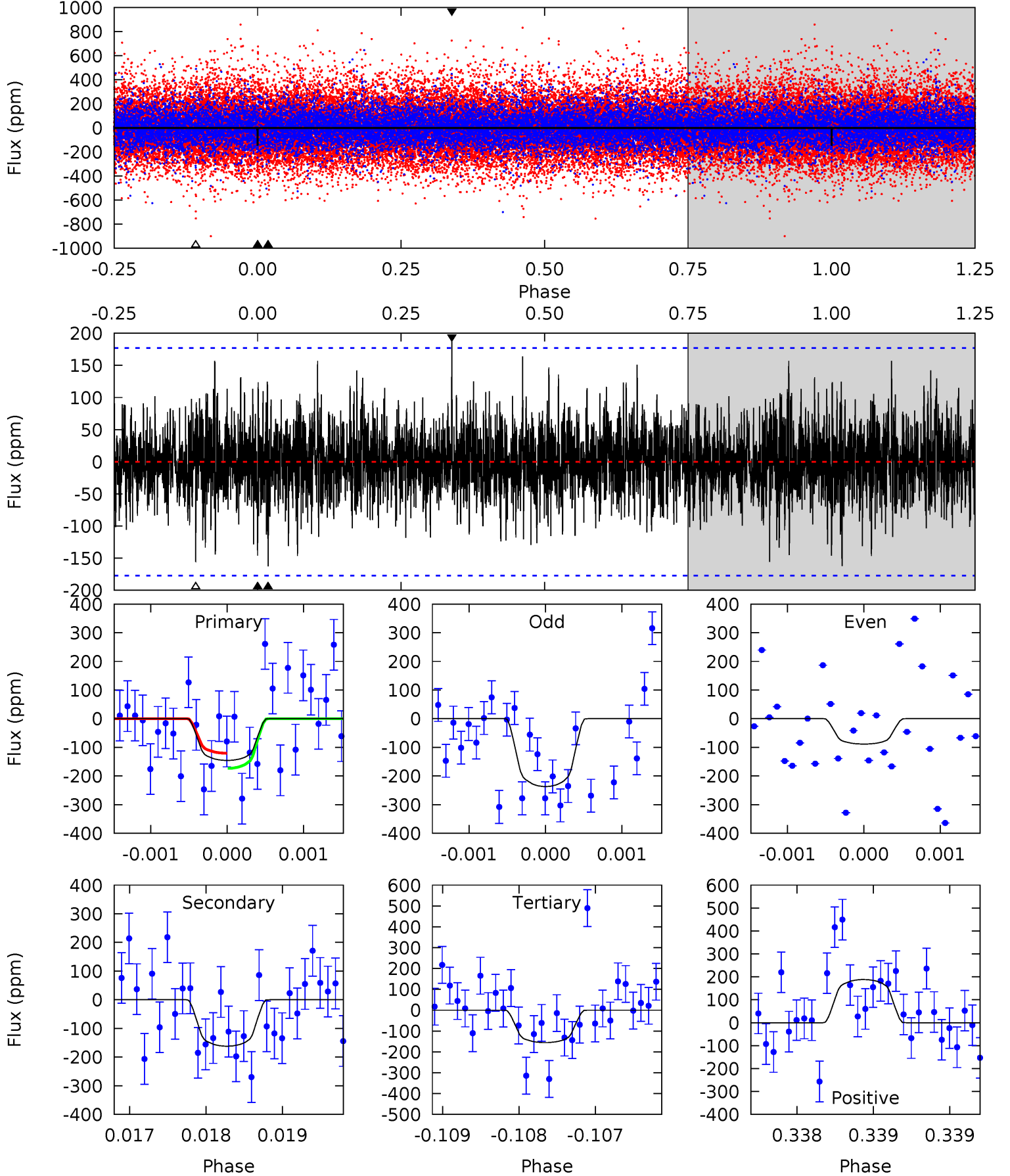
TCE 006292732-03 P=163.311823 Days  $T_0=205.240167$  (BKJD)



# DV Model-Shift Uniqueness Test

006292732-03, P = 163.333205 Days, E = 41.737444 Days

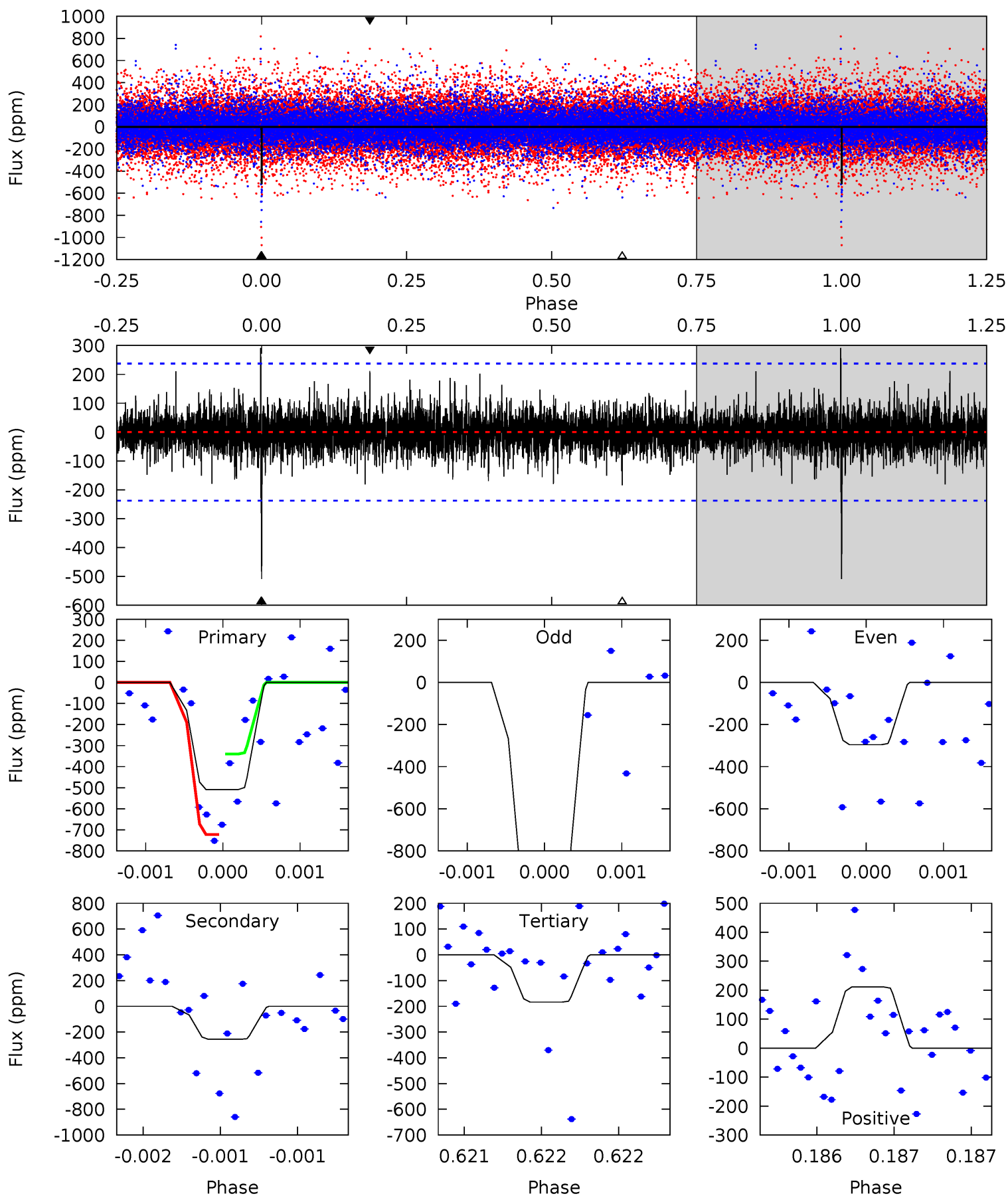
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.53	5.03	4.83	5.85	5.50	3.37	1.29	-0.31	-1.32	0.20	-0.81	2.23	0.69	0.54	0.82



# Alt Model-Shift Uniqueness Test

006292732-03, P = 163.311823 Days, E = 41.928344 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
11.9	6.02	4.31	4.96	5.57	3.48	1.06	7.63	6.98	1.71	1.06	8.78	1.15	0.36	4.46



### Stellar Parameters For KIC 006292732

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$5869^{+70}_{-87}$	$4.513^{+0.018}_{-0.096}$	$0.070^{+0.150}_{-0.150}$	$0.942^{+0.121}_{-0.035}$	$1.054^{+0.057}_{-0.063}$	$1.776^{+0.153}_{-0.527}$
	+1%/-1%	+0%/-2%	+214%/-214%	+13%/-4%	+5%/-6%	+9%/-30%
Source	SPE90	SPE90	SPE90	DSEP		

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

### Secondary Eclipse Parameters for KIC 006292732-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-162 \pm 32$	$2.43^{+2.14}_{-1.55}$	$460^{+14}_{-10}$	$4527^{+2717}_{-926}$	$5336^{+34266}_{-3945}$
Alt.	$-256 \pm 43$	$3.12^{+2.17}_{-1.74}$	$460^{+14}_{-10}$	$4489^{+2029}_{-797}$	$5021^{+21101}_{-3343}$

$T_{max}$  = 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

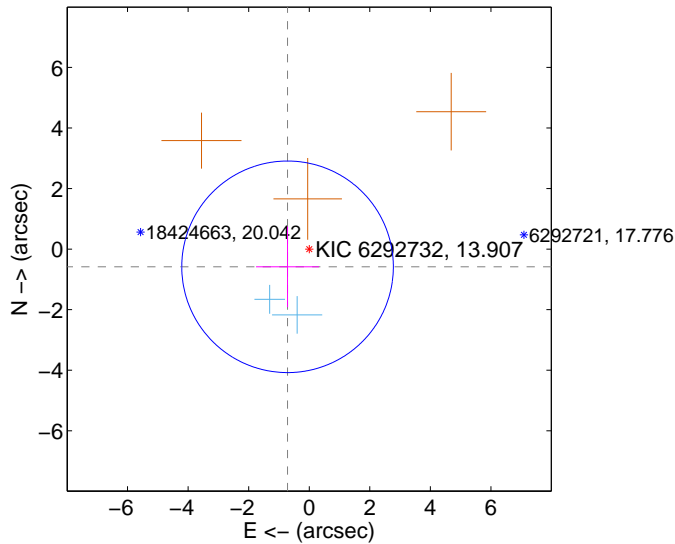
Supplemental centroid analysis for 006292732-03. Kepler magnitude: 13.91. Transit SNR 5.55

There are 2 quarters with good PRF difference image offsets

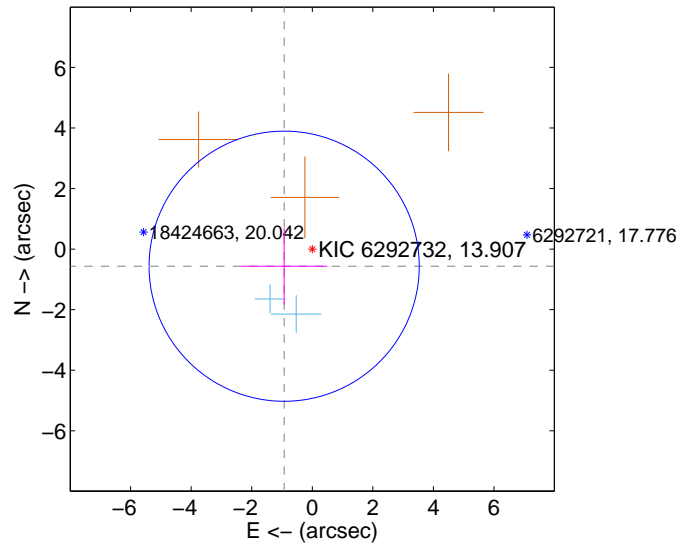
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.925 \pm 1.165$	0.79	$0.716 \pm 1.040$	$-0.585 \pm 1.329$
PRF-fit source offset from KIC position	$1.087 \pm 1.487$	0.73	$0.929 \pm 1.423$	$-0.565 \pm 1.268$
photometric centroid source offset	$1.00 \pm 1.89$	0.53	$-0.98 \pm 1.89$	$0.17 \pm 1.77$

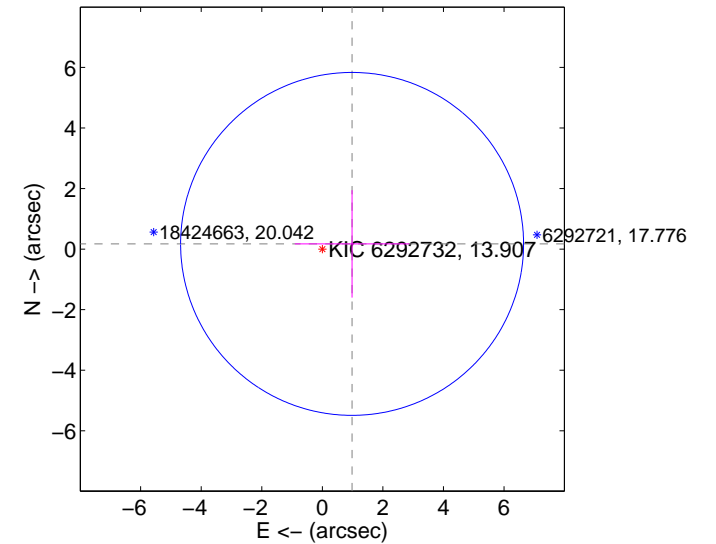
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

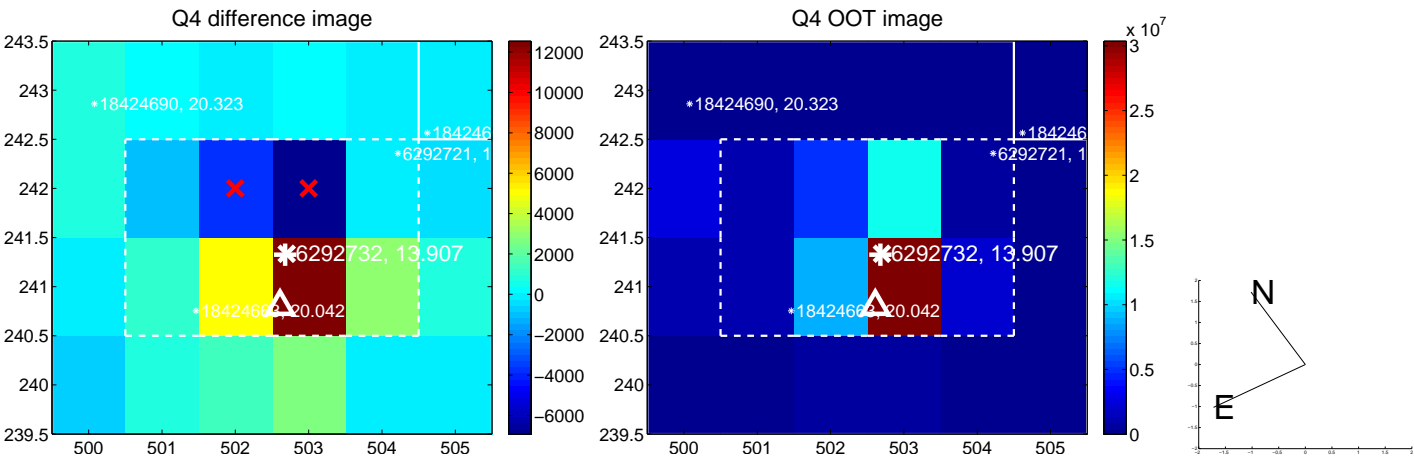
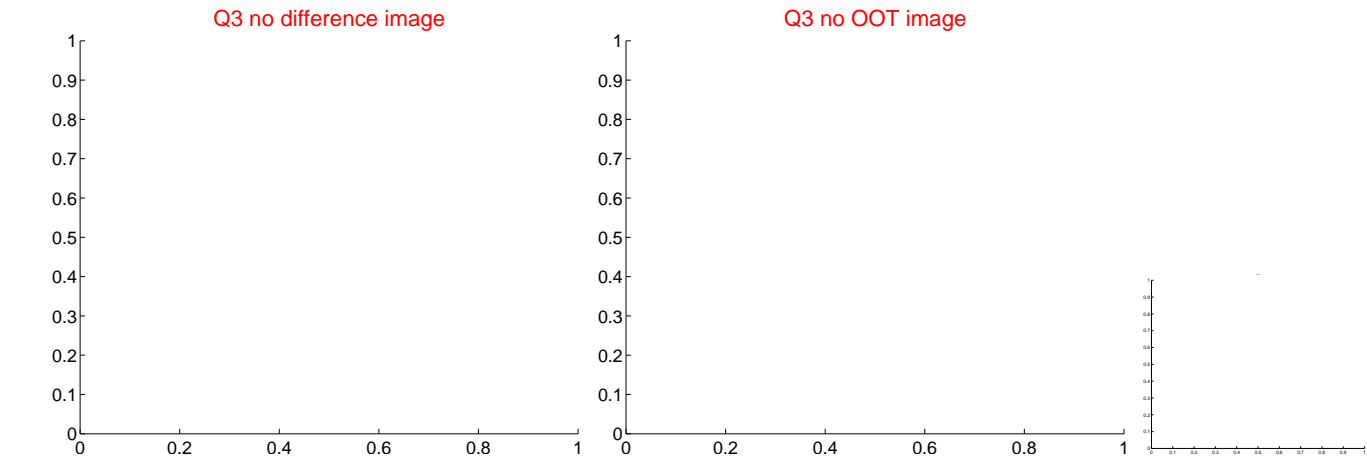
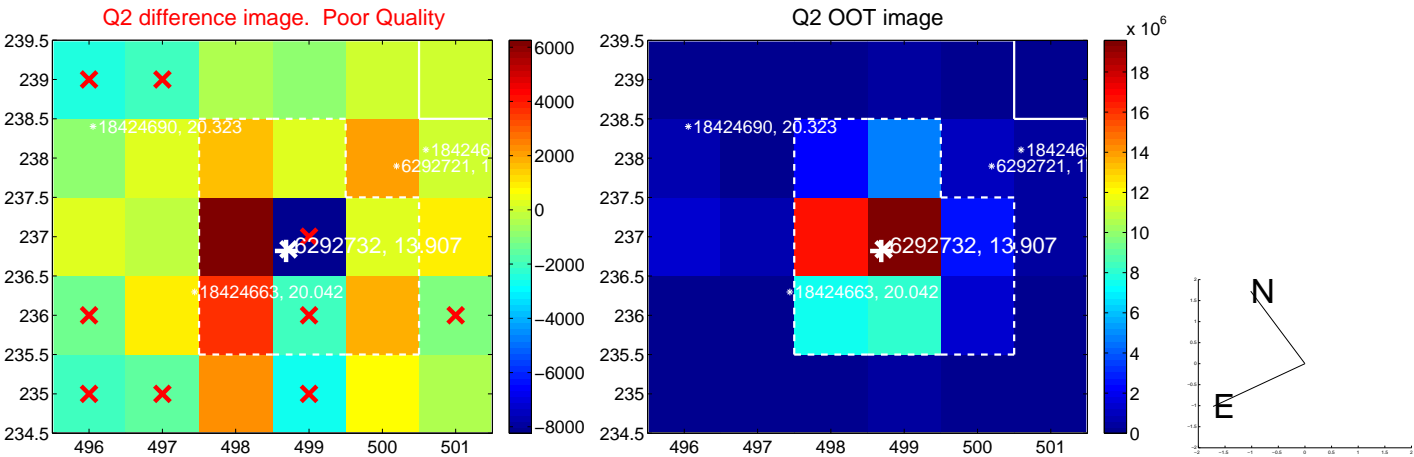
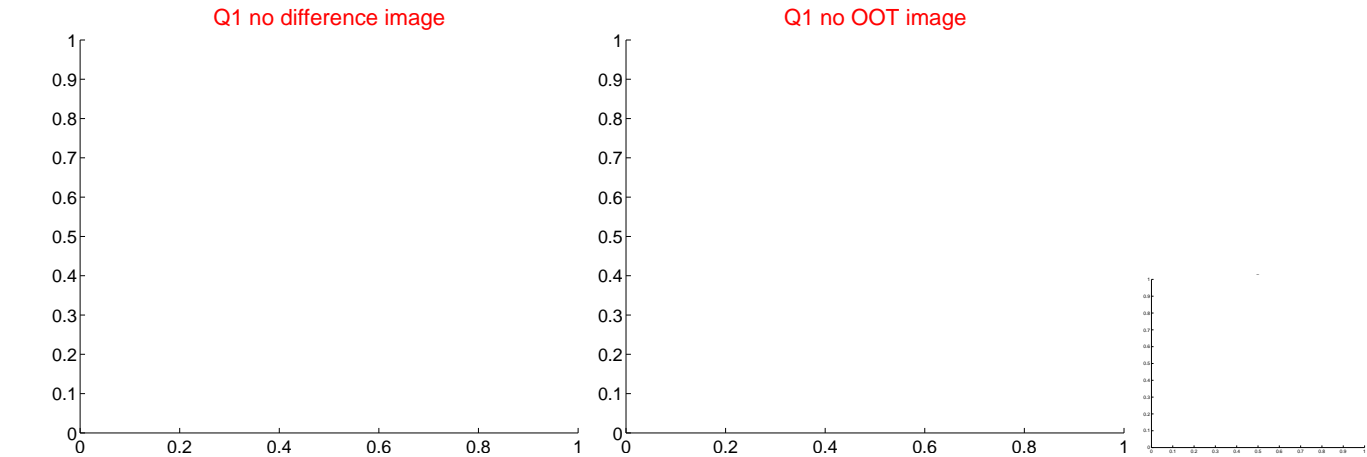


offset from photometric centroids

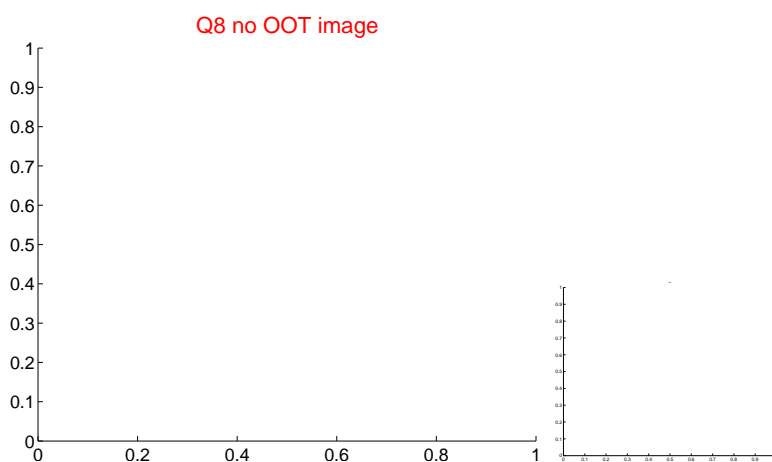
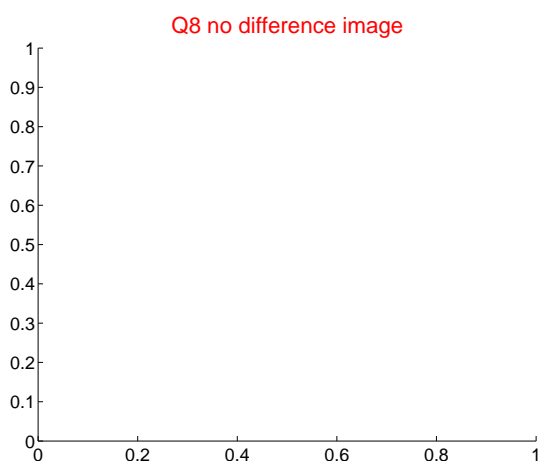
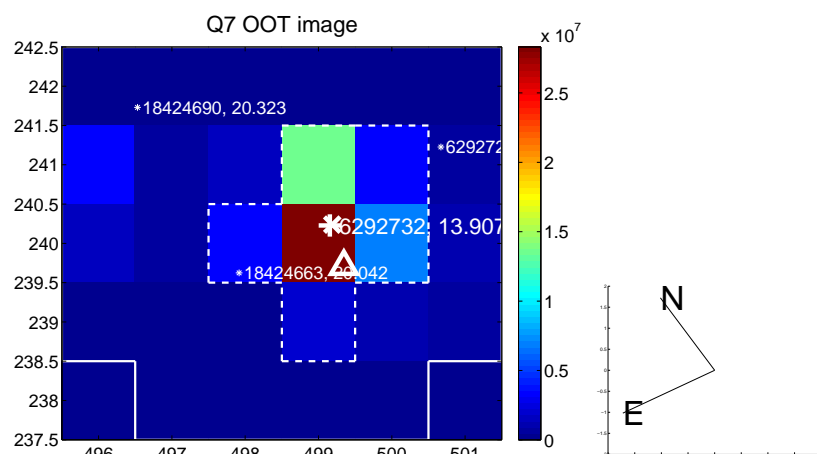
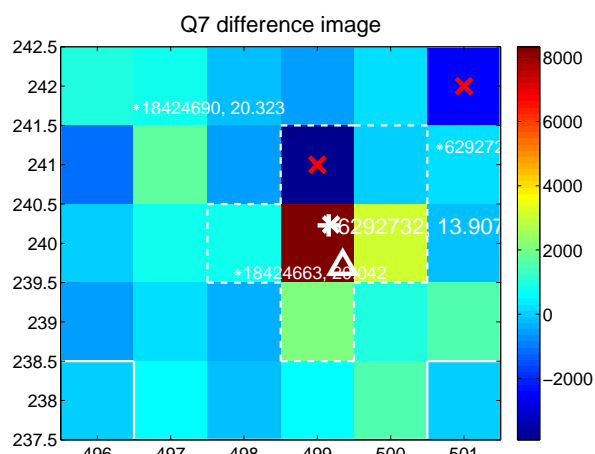
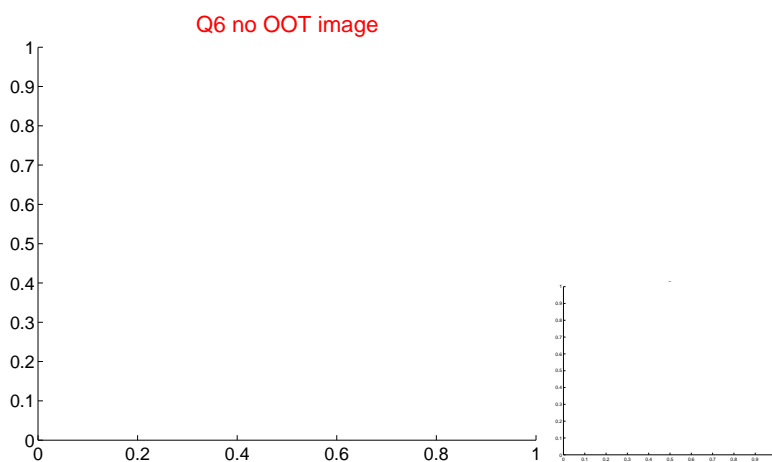
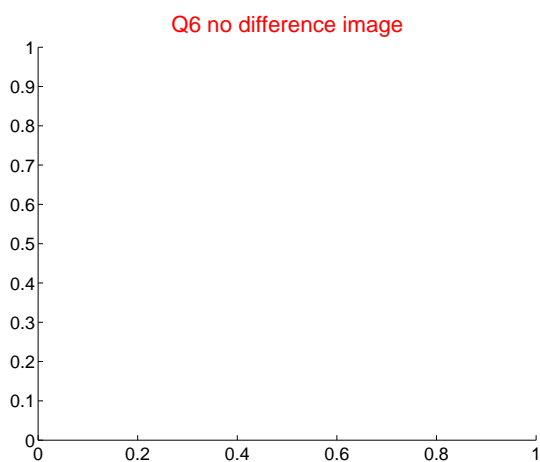
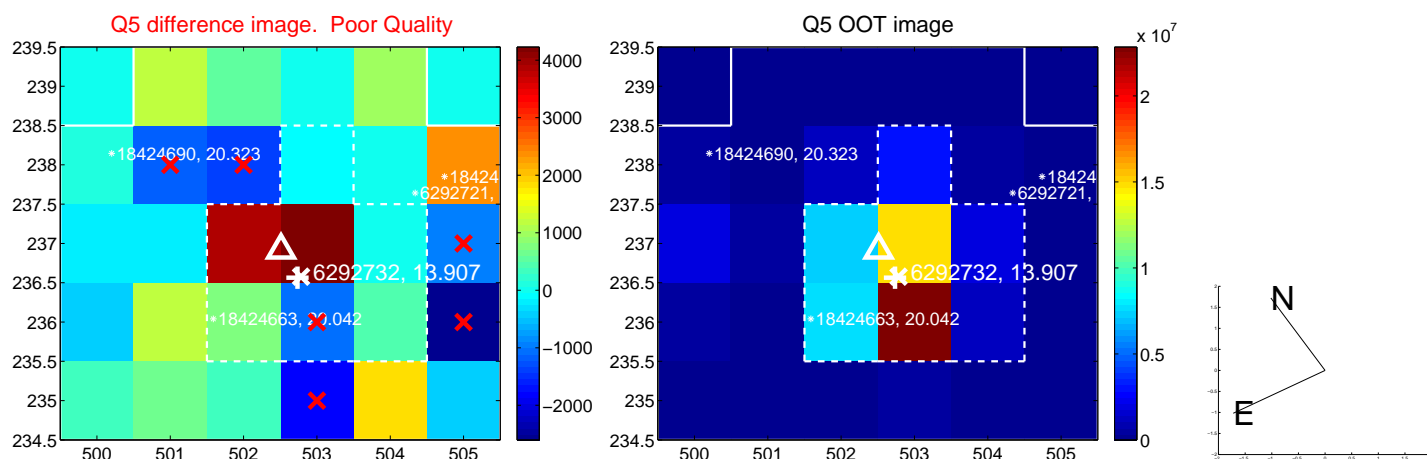


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

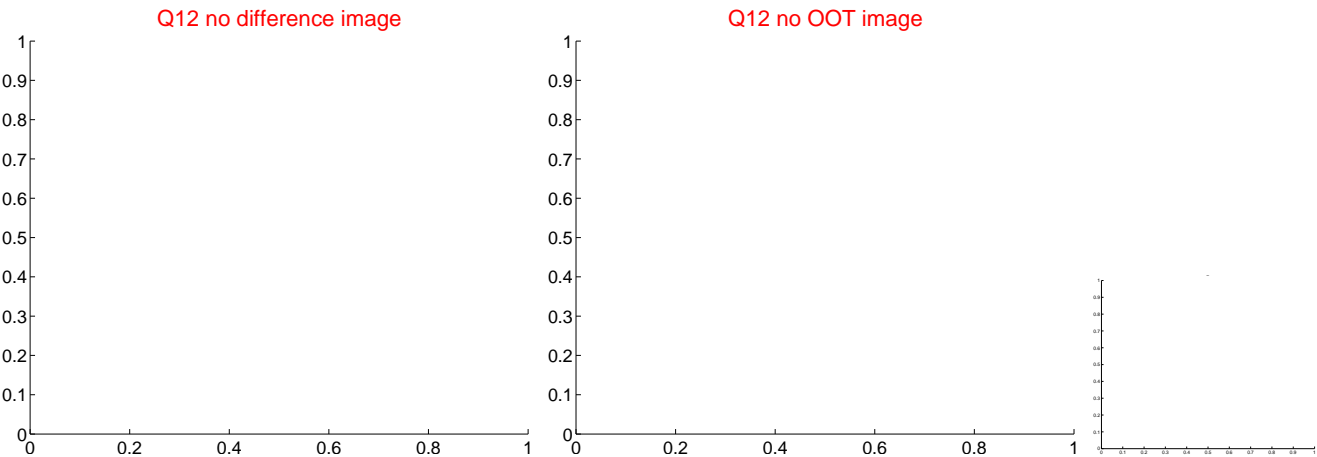
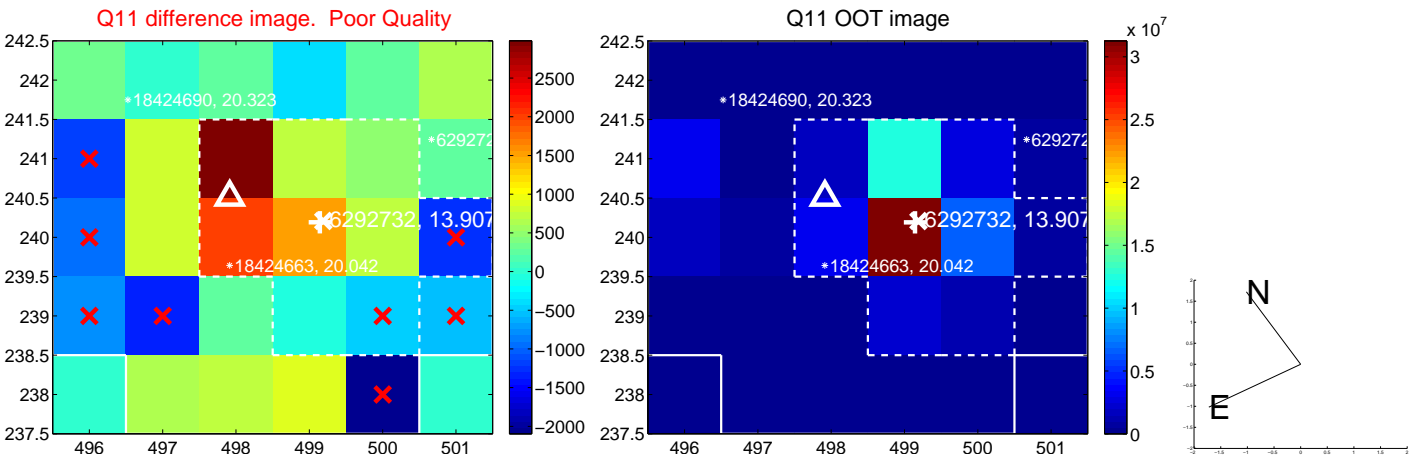
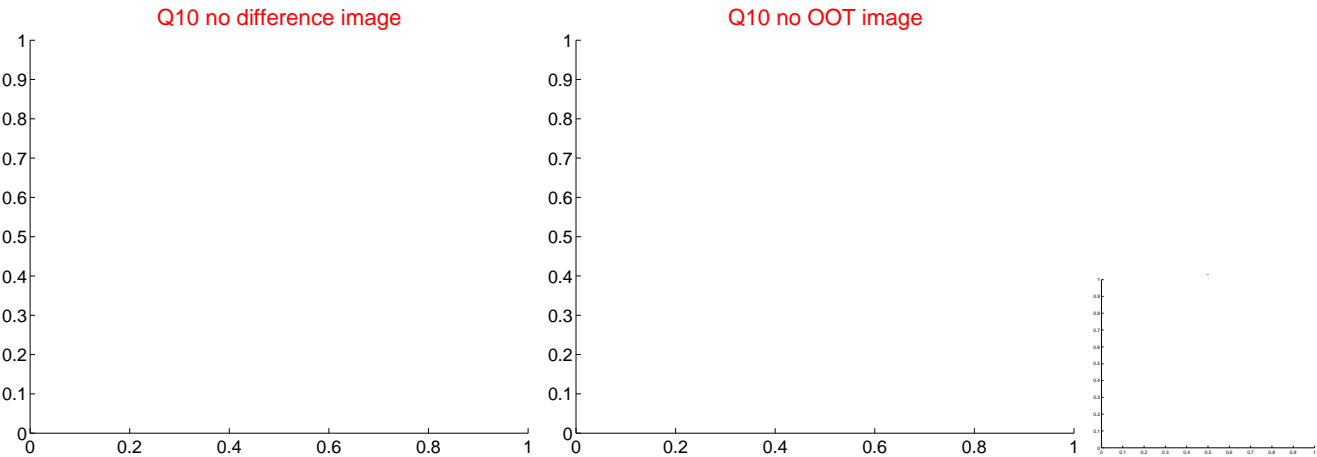
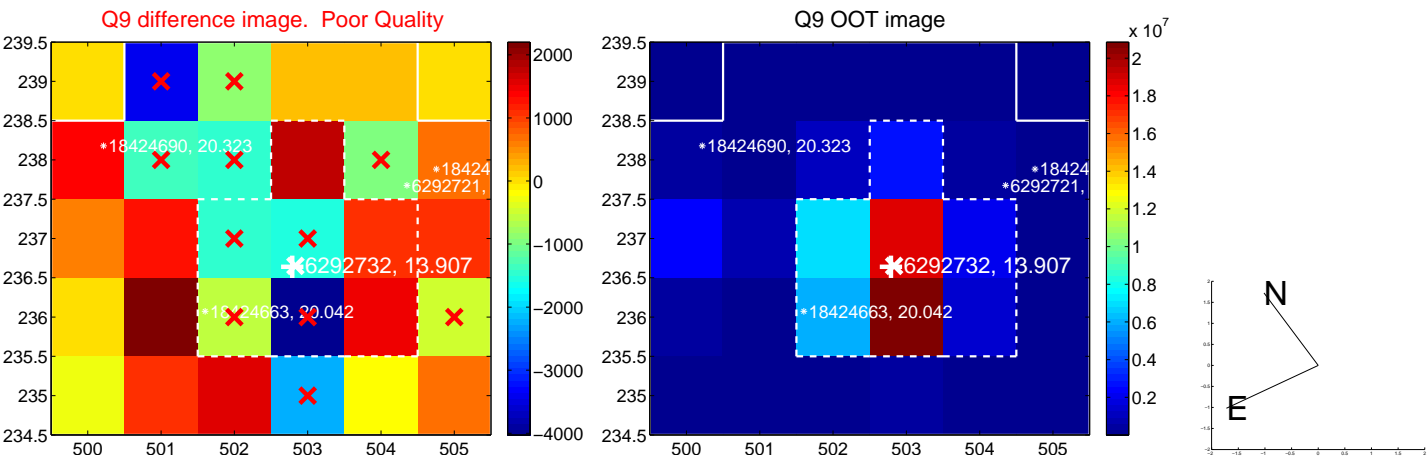
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



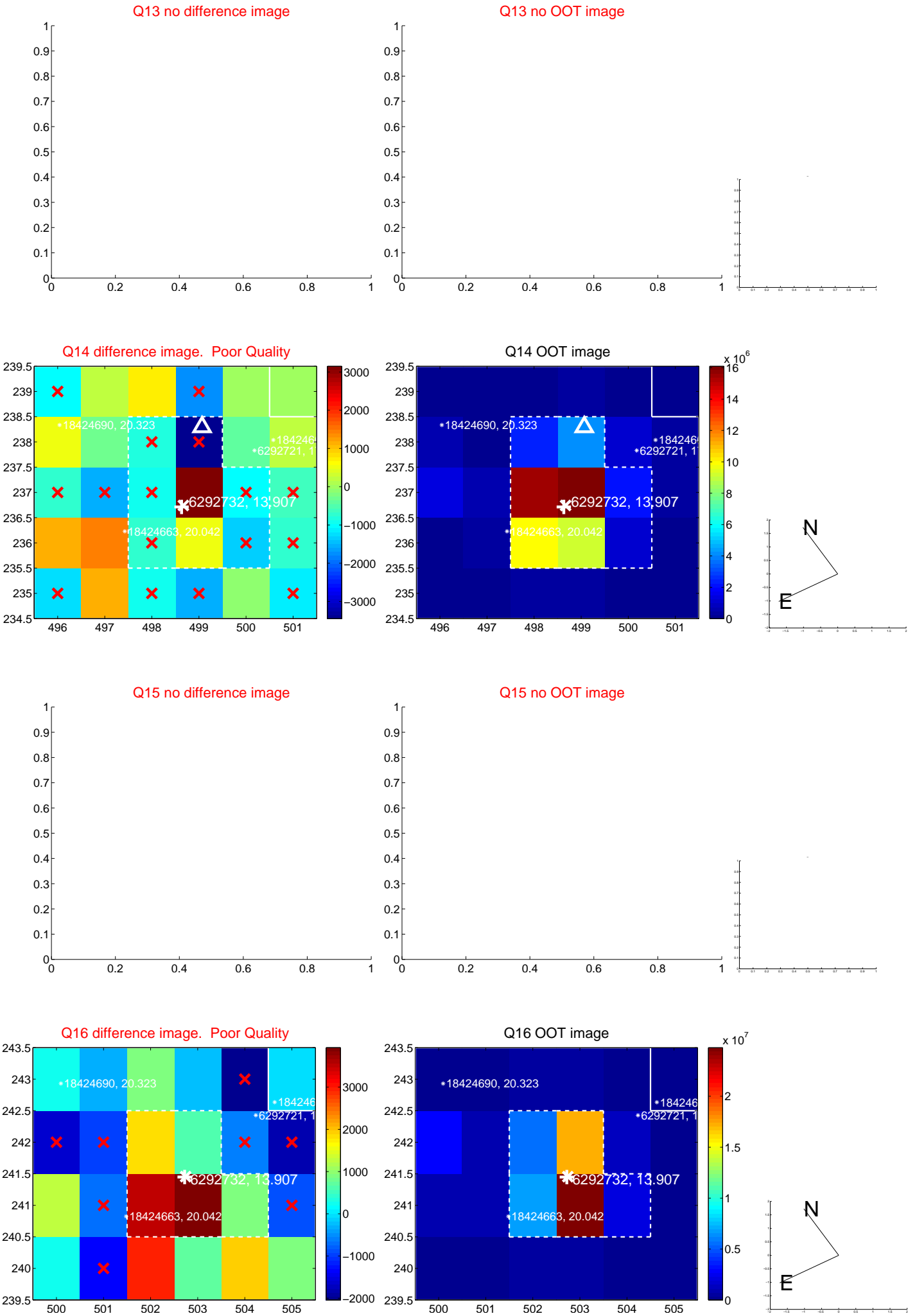
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



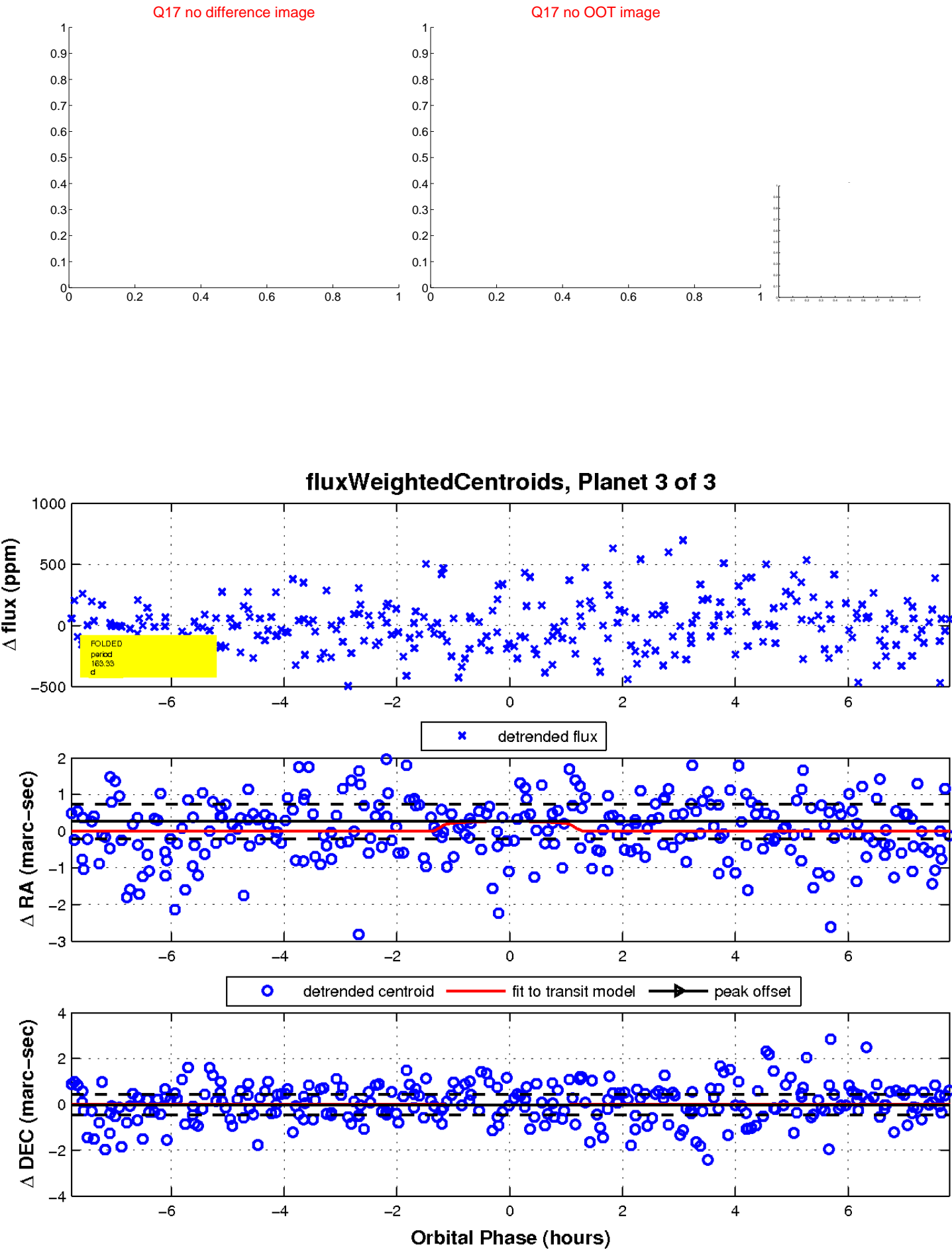
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



UKIRT Image

Declination

