

# KIC 005125196

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005125196-01	OBS	No	357.880157	157.030977	791.8	11.737	11.3	11.9	1.11	6355	3.23	1.68
005125196-02	OBS	No	373.422739	452.718029	809.4	10.982	10.5	10.9	1.11	6355	3.24	1.58
005125196-03	OBS	No	373.425774	141.515412	729.3	12.766	8.7	8.9	1.11	6355	3.36	1.58
005125196-04	OBS	No	357.863315	149.471720	585.3	9.904	8.5	9.2	1.11	6355	2.82	1.68
005125196-06	OBS	No	715.749297	133.930637	585.1	10.173	7.4	7.5	1.11	6355	2.86	0.67

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005125196-01	OBS	FP	0.00	0	1	1	0	HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
005125196-02	OBS	FP	0.00	0	1	1	0	HAS_SEC_TCE—CENT_FEW_DIFFS—HALO_GHOST
005125196-03	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_FEW_DIFFS
005125196-04	OBS	FP	0.00	0	1	1	0	HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
005125196-06	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_FEW_DIFFS—HALO_GHOST

**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 005125196-01

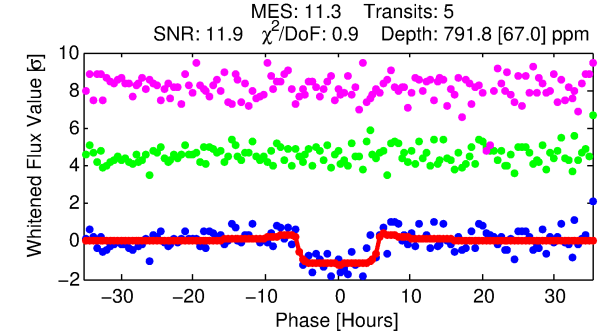
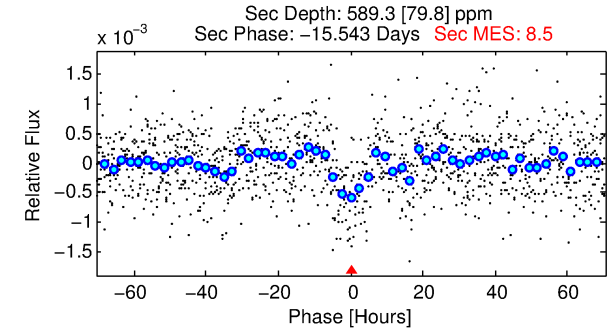
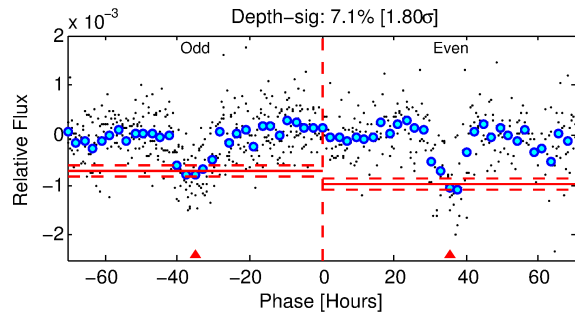
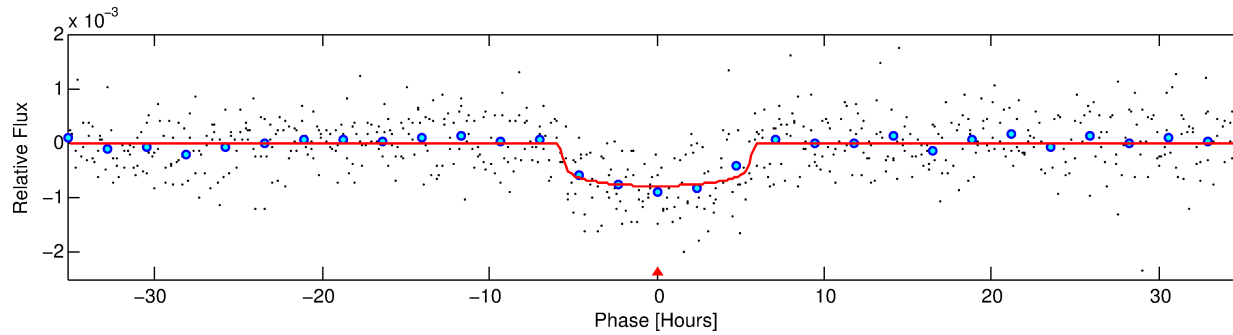
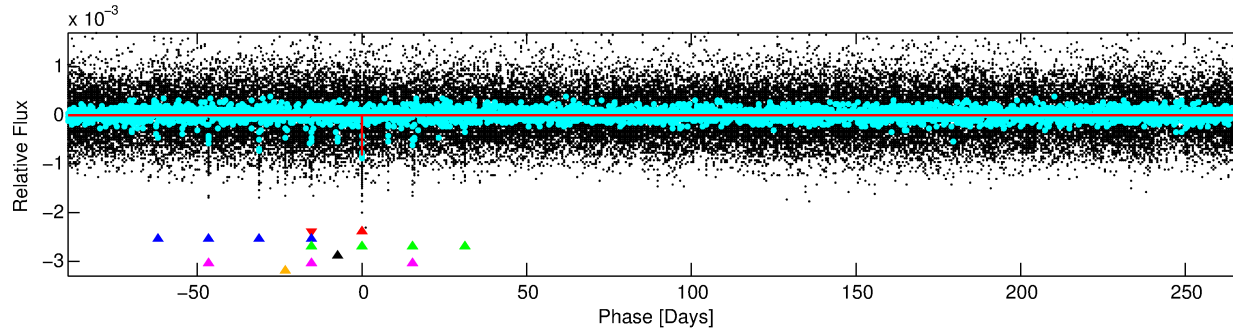
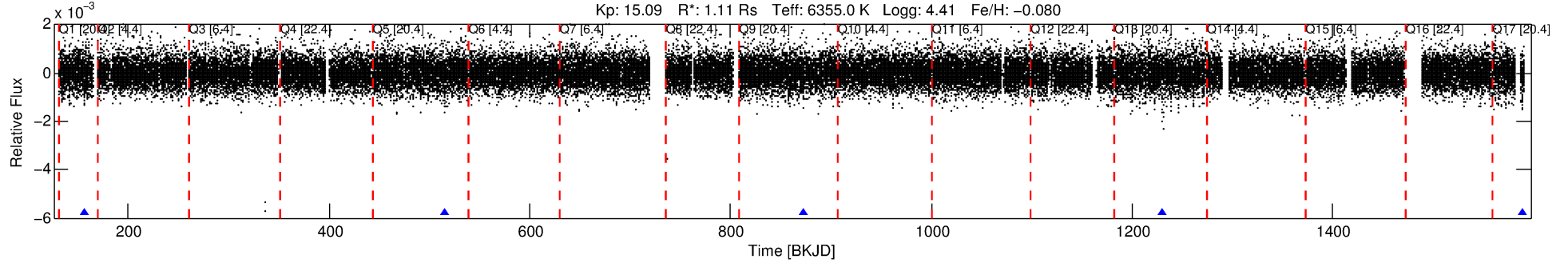
No Significant Match Found

# DV One-Page Summary

KIC: 5125196 Candidate: 1 of 6 Period: 357.880 d

KOI: K04176 Corr: No Ephemeris Match

Kp: 15.09 R\*: 1.11 Rs Teff: 6355.0 K Logg: 4.41 Fe/H: -0.080



## DV Fit Results:

Period = 357.88016 [0.00486] d  
Epoch = 157.0310 [0.0121] BKJD  
Rp/R\* = 0.0267 [0.0081]  
a/R\* = 203.36 [311.15]  
b = 0.54 [2.01]  
Seff = 1.68 [0.64]  
Teq = 290 [28] K  
Rp = 3.23 [1.37] Re  
a = 1.0341 [0.2528] AU  
Ag = 33204.97 [23639.55] [1.40σ]  
Teff = 6057 [967] K [5.96σ]

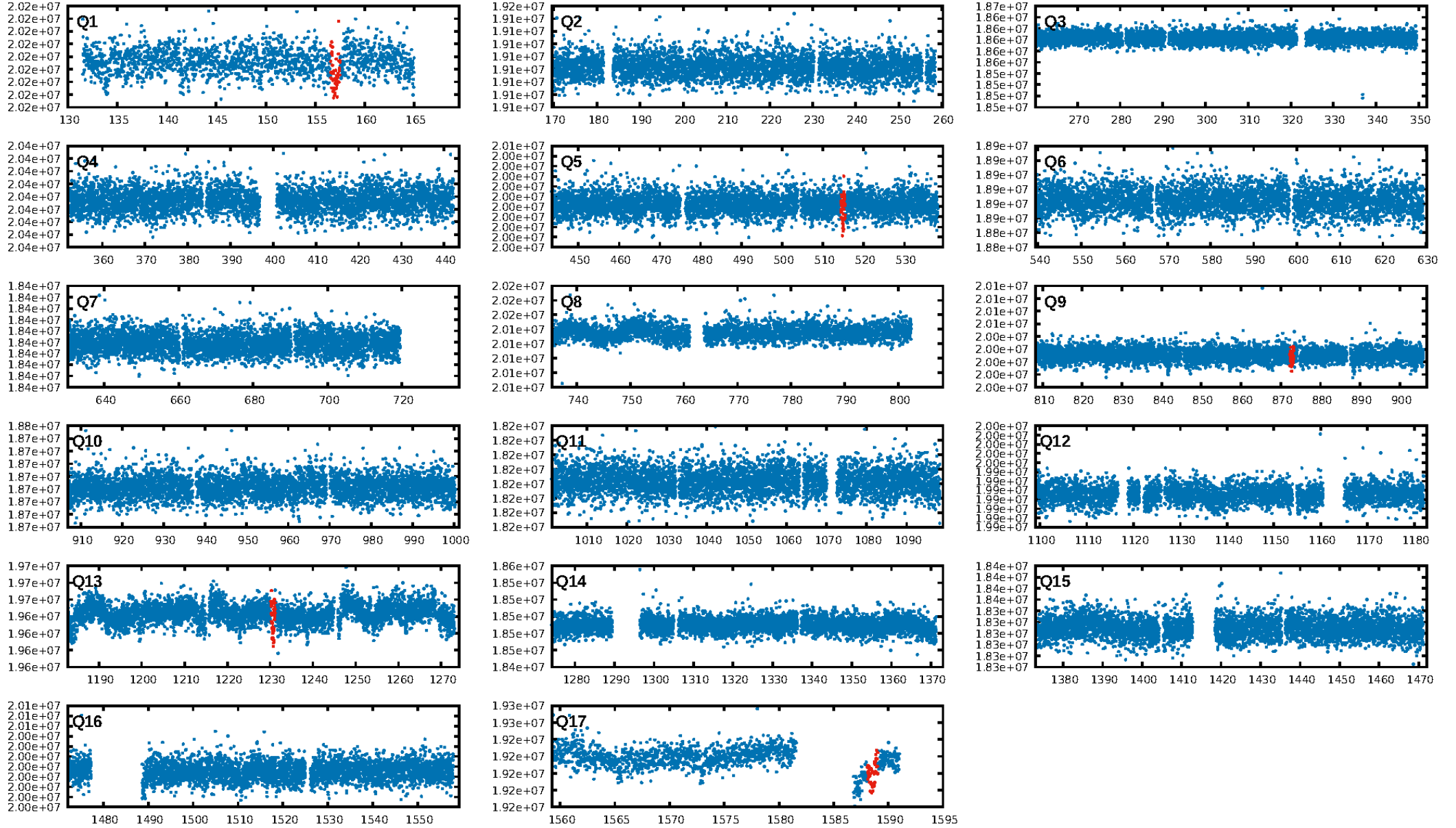
## DV Diagnostic Results:

ShortPeriod-sig: 2.1% [0.03σ]  
LongPeriod-sig: 100.0% [23.21σ]  
ModelChiSquare2-sig: 6.1%  
ModelChiSquareGoF-sig: 98.2%  
Bootstrap-pfa: 1.40e-13  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -0.04223  
Centroid-sig: 0.0%  
Centroid-so: 18.216 arcsec [12.46σ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 0.75 [3/4]

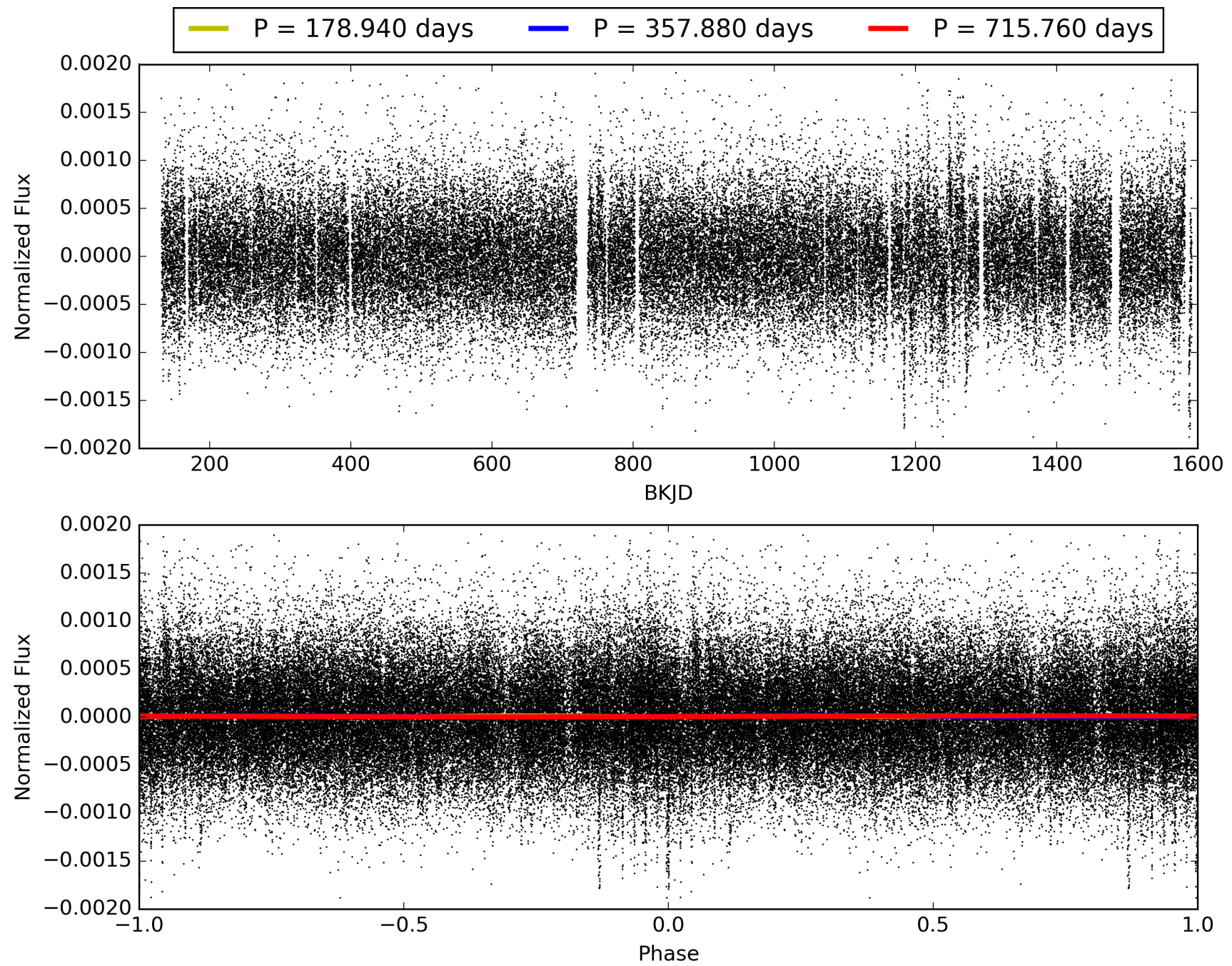
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 09:32:31 Z

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

# TCE 005125196-01, PDC Light Curves



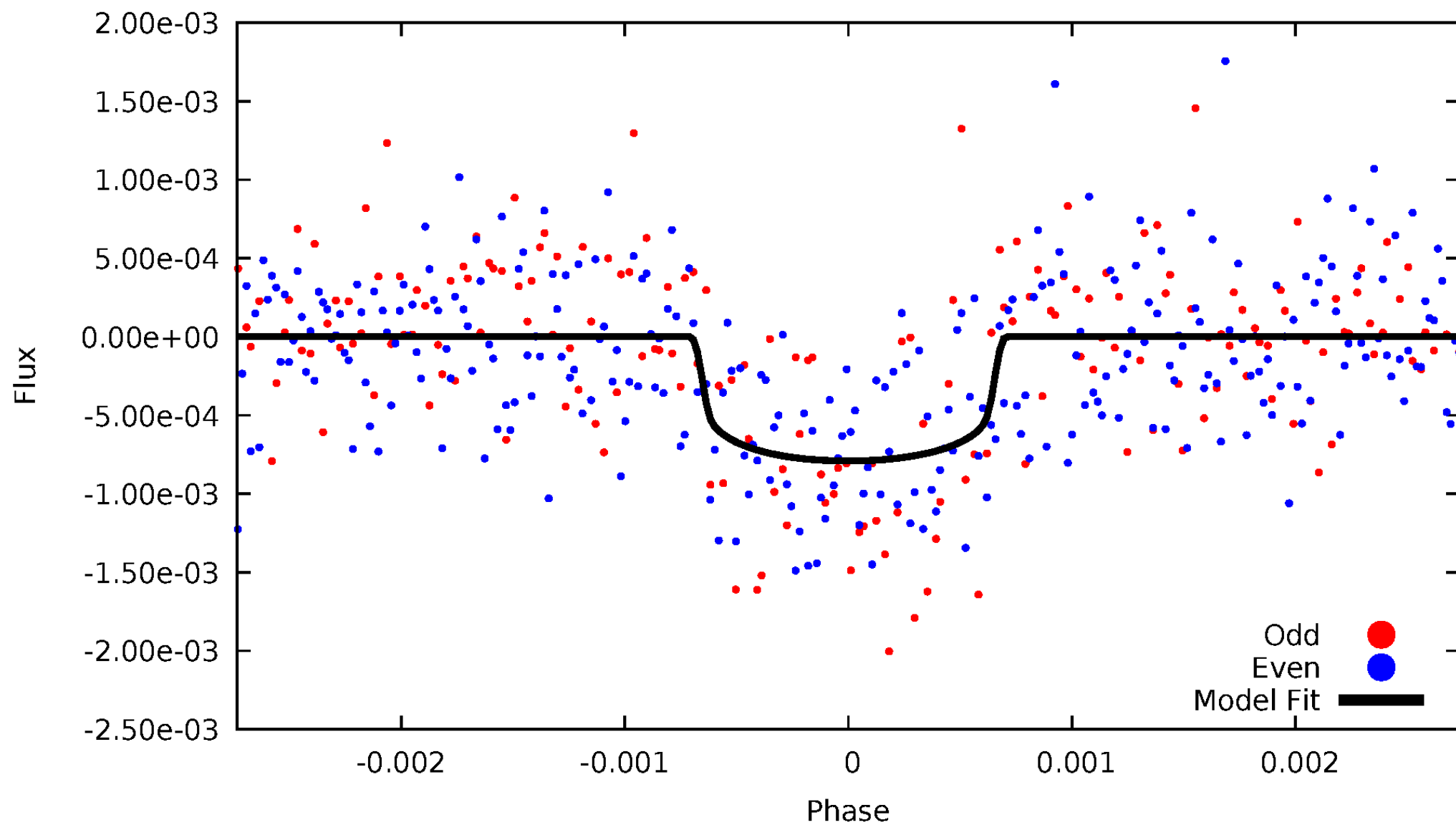
TCE 005125196-01





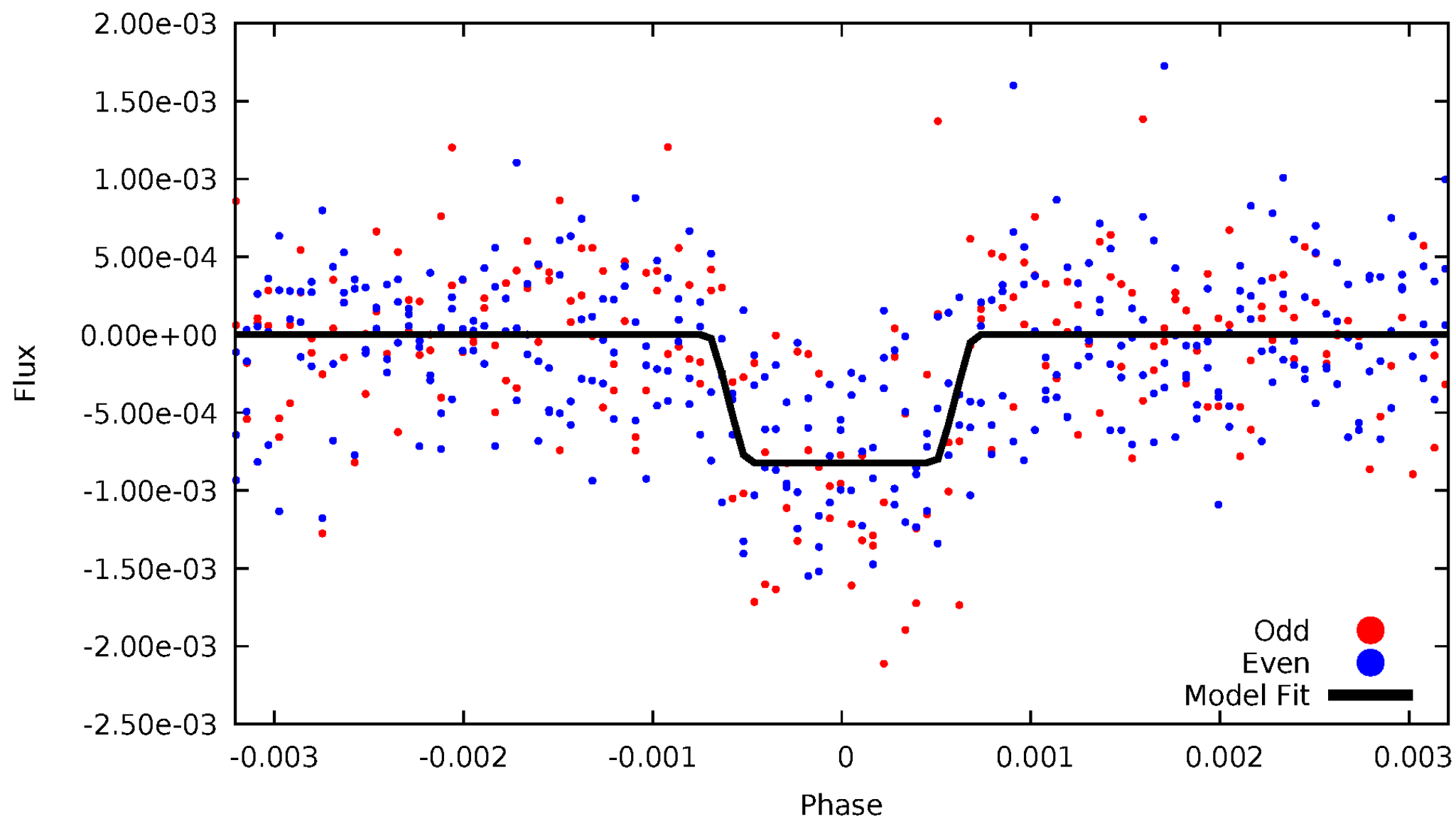
# DV Odd/Even

TCE 005125196-01



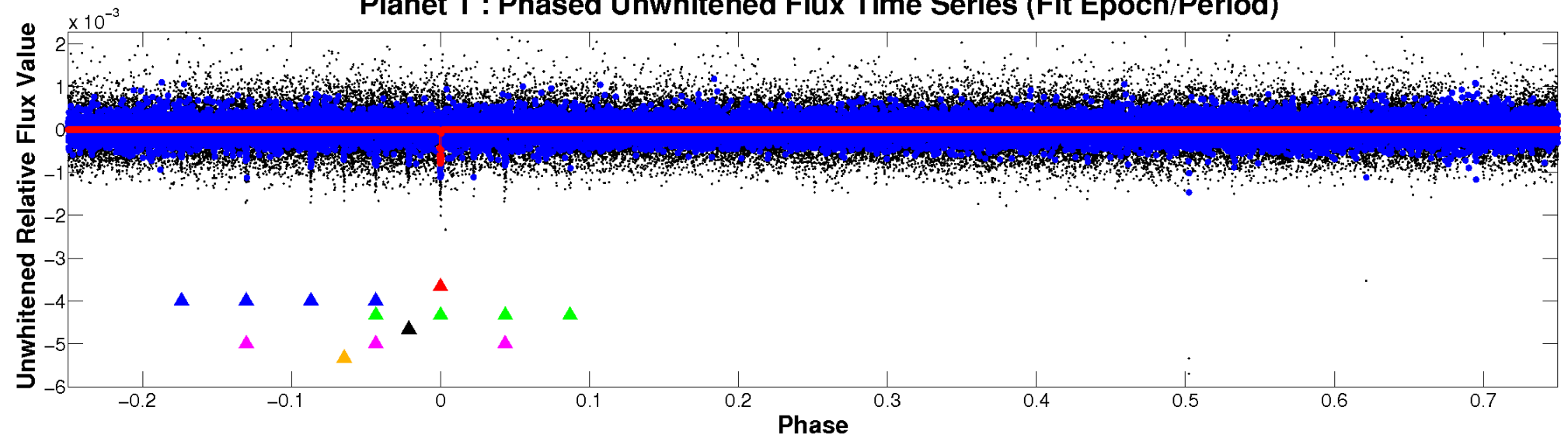
# ALT Odd/Even

TCE 005125196-01

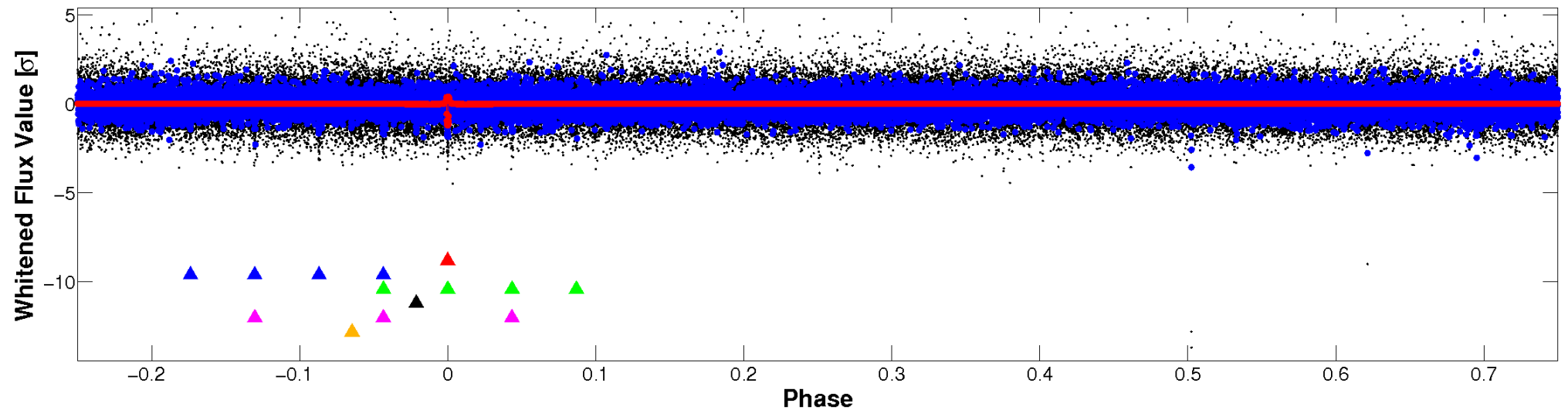


# Non-Whitened Vs. Whitened Light Curve

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

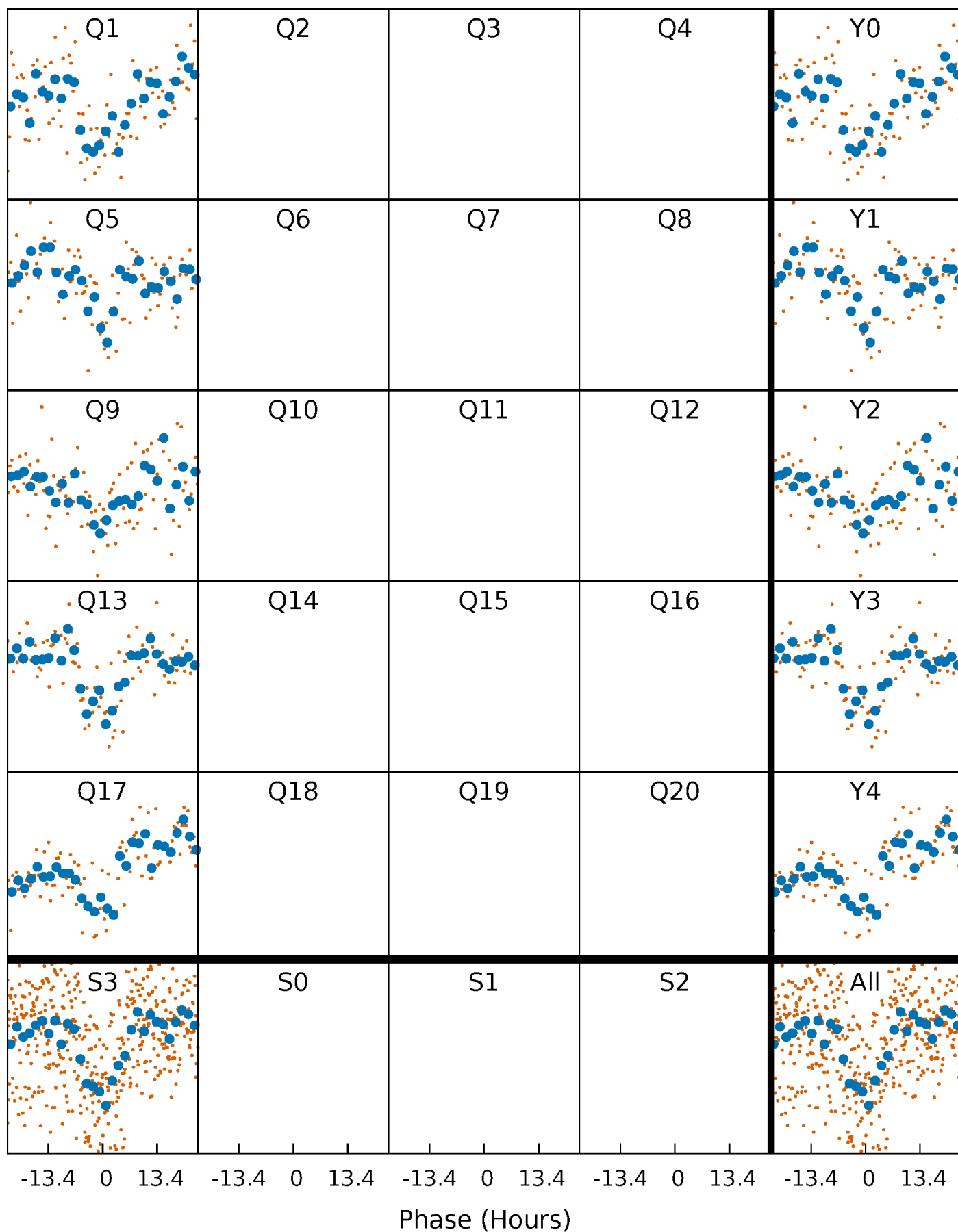


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

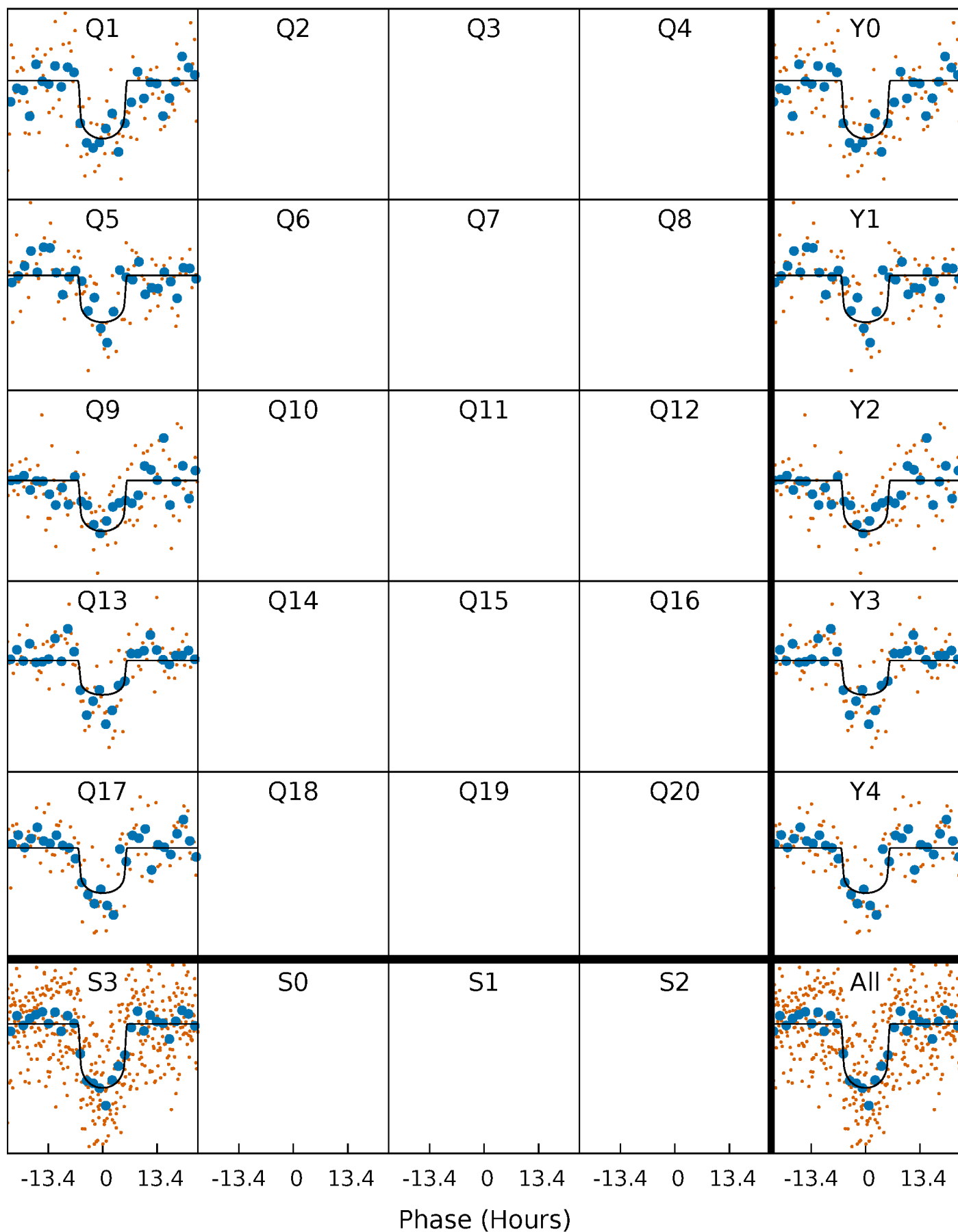
TCE 005125196-01 P=357.880157 Days  $T_0=157.030977$  (BKJD)





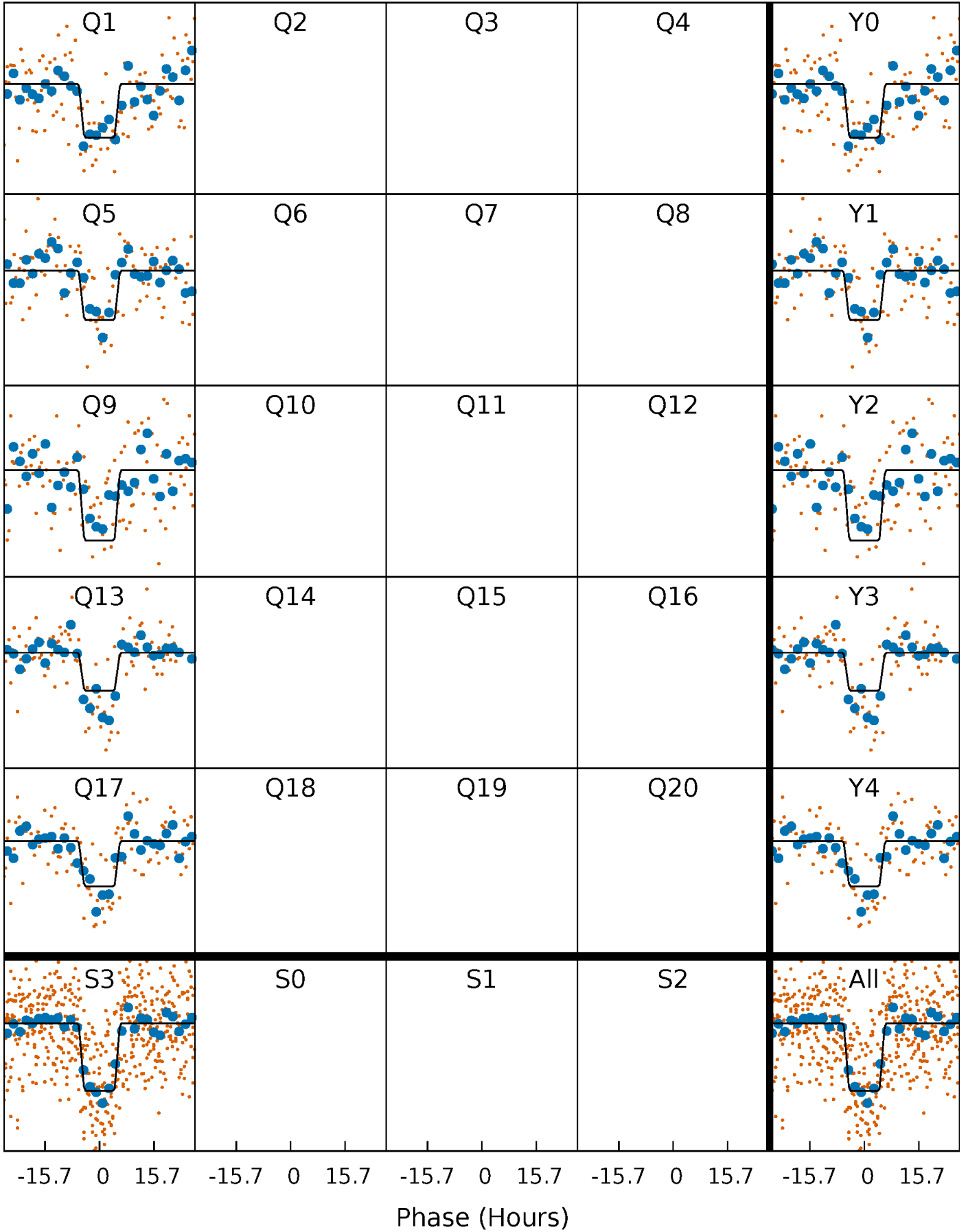
# DV Quarter-Phased Transit Curves

TCE 005125196-01 P=357.880157 Days  $T_0=157.030977$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

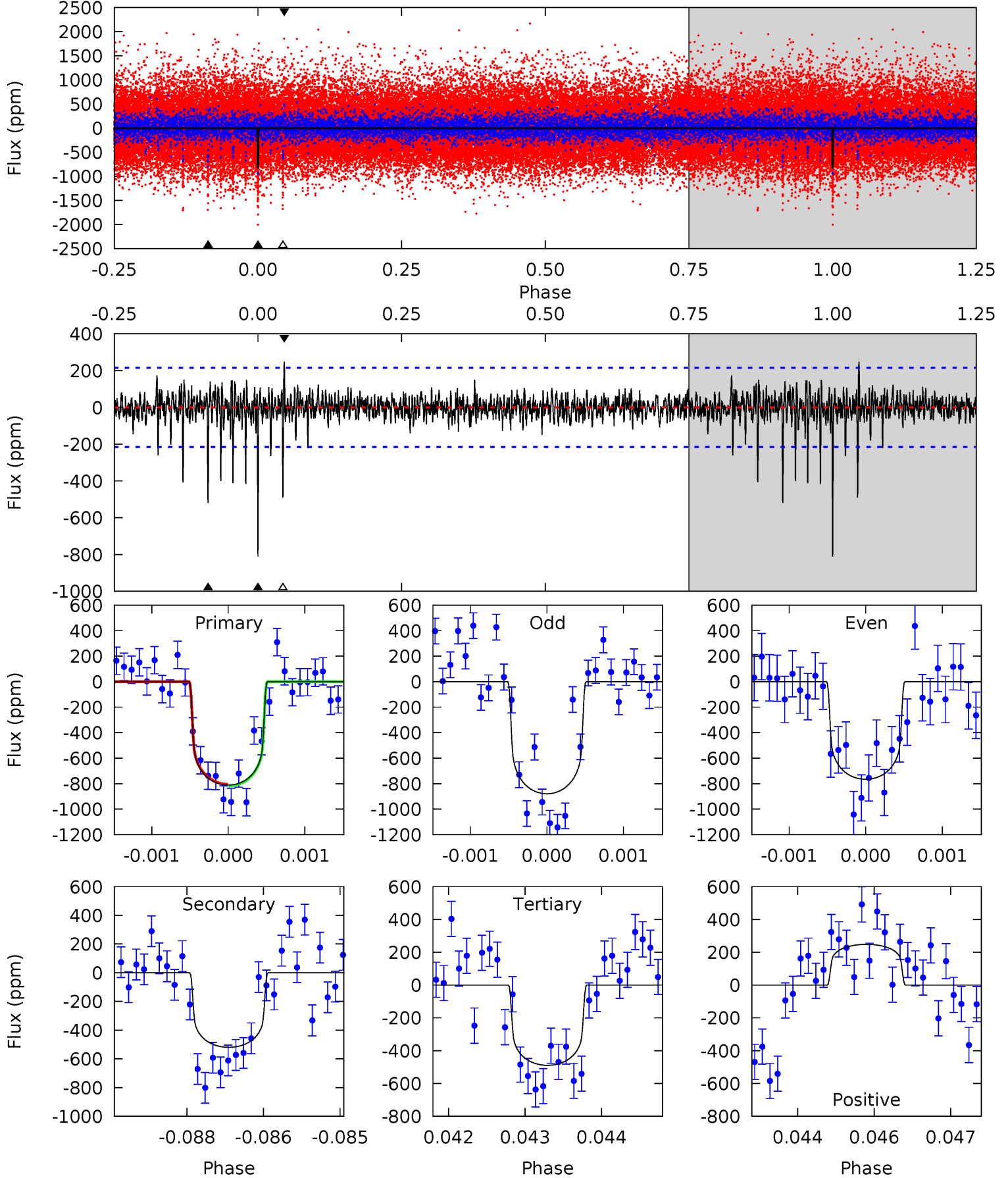
TCE 005125196-01 P=357.873370 Days  $T_0=157.036960$  (BKJD)



# DV Model-Shift Uniqueness Test

005125196-01, P = 357.880157 Days, E = 157.030977 Days

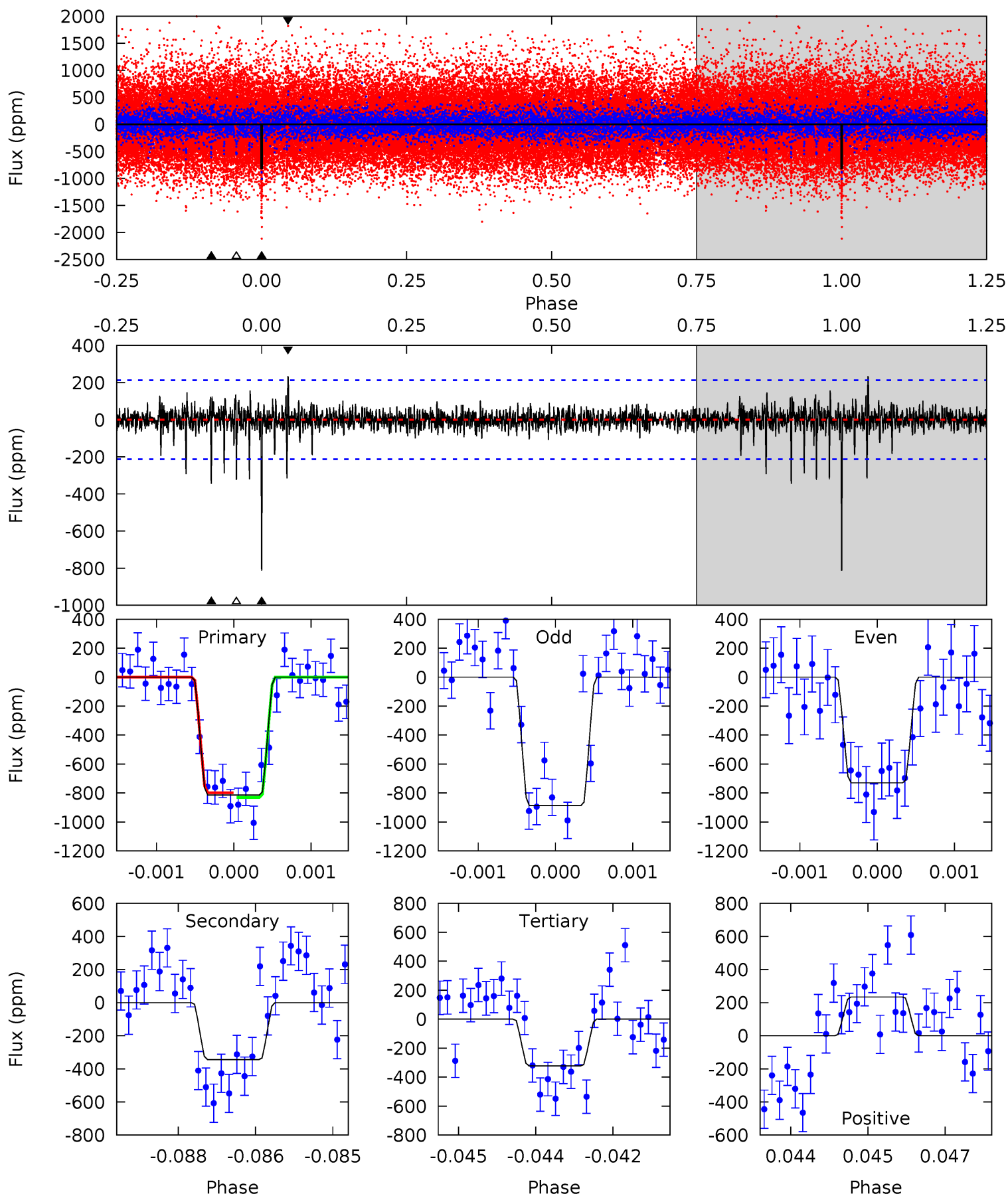
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.3	13.0	12.3	6.21	5.39	3.20	1.48	8.07	14.1	0.76	6.81	1.39	0.98	0.23	0.16



# Alt Model-Shift Uniqueness Test

005125196-01, P = 357.873370 Days, E = 157.036960 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
20.6	8.72	8.19	5.93	5.39	3.20	1.08	12.5	14.7	0.54	2.79	1.97	0.98	0.22	0.41





### Stellar Parameters For KIC 005125196

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6355^{+179}_{-246}$	$4.410^{+0.068}_{-0.189}$	$-0.080^{+0.250}_{-0.300}$	$1.108^{+0.327}_{-0.140}$	$1.151^{+0.157}_{-0.157}$	$1.191^{+0.405}_{-0.586}$
	+3%/-4%	+2%/-4%	+312%/-375%	+30%/-13%	+14%/-14%	+34%/-49%
Source	PHO1	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 005125196-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-519 \pm 40$	$3.40^{+1.09}_{-1.04}$	$412^{+29}_{-22}$	$5839^{+1132}_{-693}$	$26275^{+26099}_{-11261}$
Alt.	$-344 \pm 39$	$3.56^{+1.05}_{-1.02}$	$411^{+29}_{-21}$	$5194^{+824}_{-548}$	$15520^{+15501}_{-6201}$

$T_{max}$  = 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

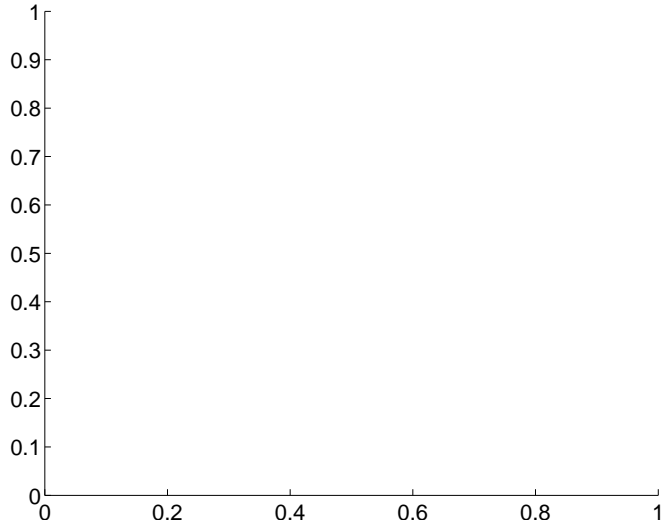
Supplemental centroid analysis for 005125196-01. Kepler magnitude: 15.09. Transit SNR 11.92

There are 0 quarters with good PRF difference image offsets

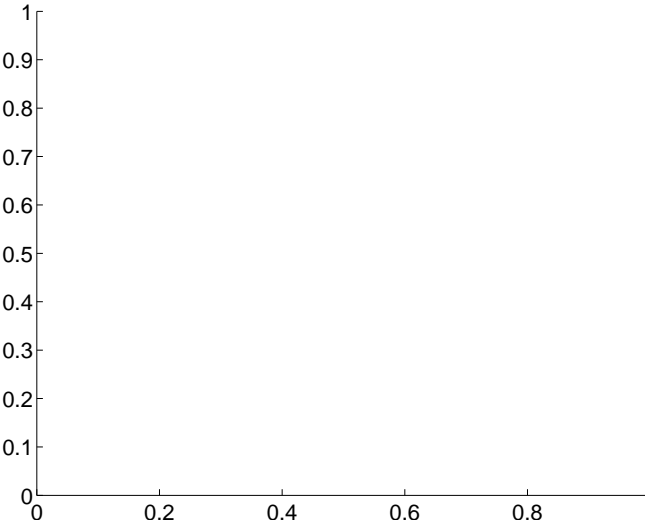
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$18.22 \pm 1.46$	$12.46$	$-10.65 \pm 1.51$	$-14.78 \pm 1.44$

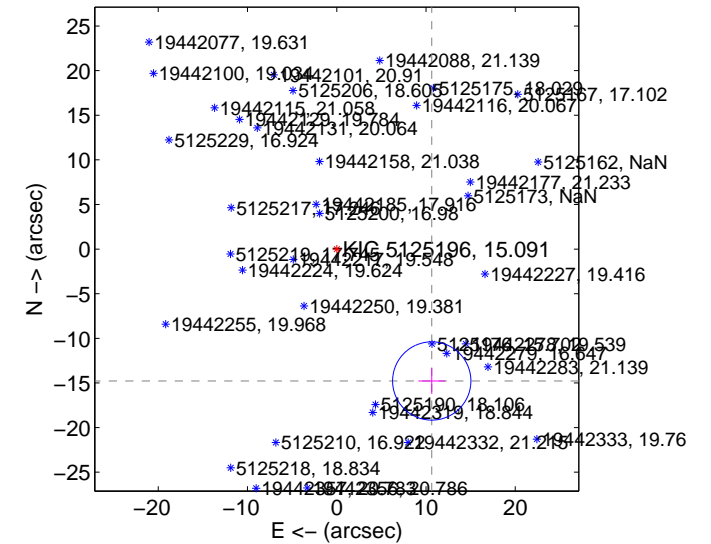
There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC

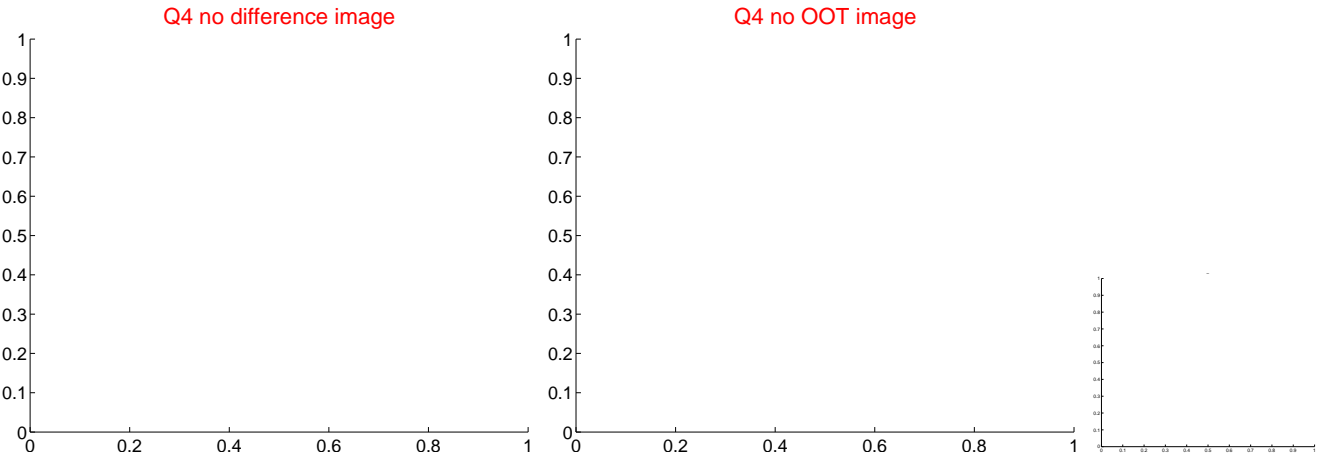
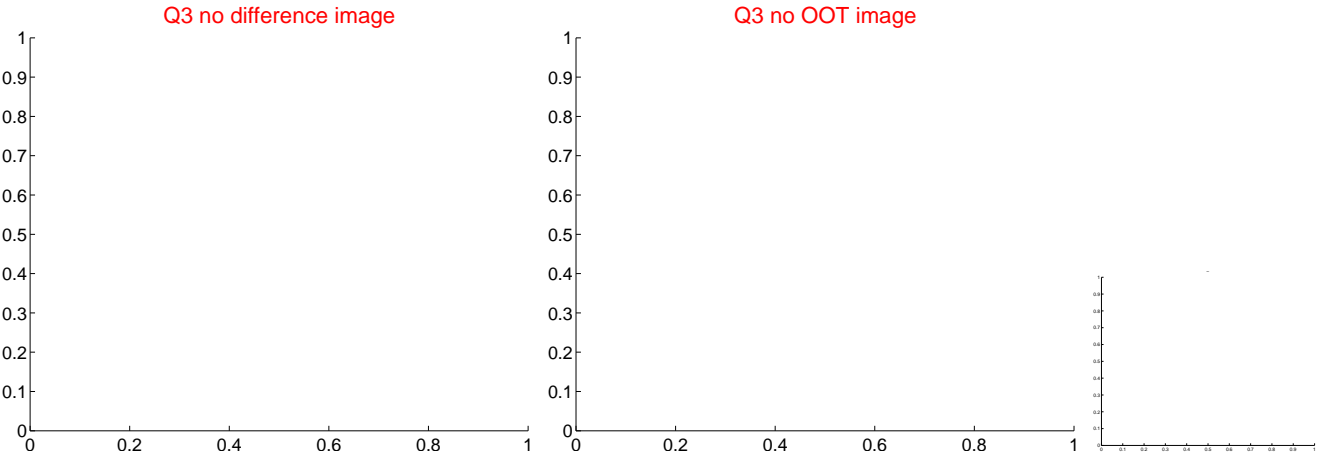
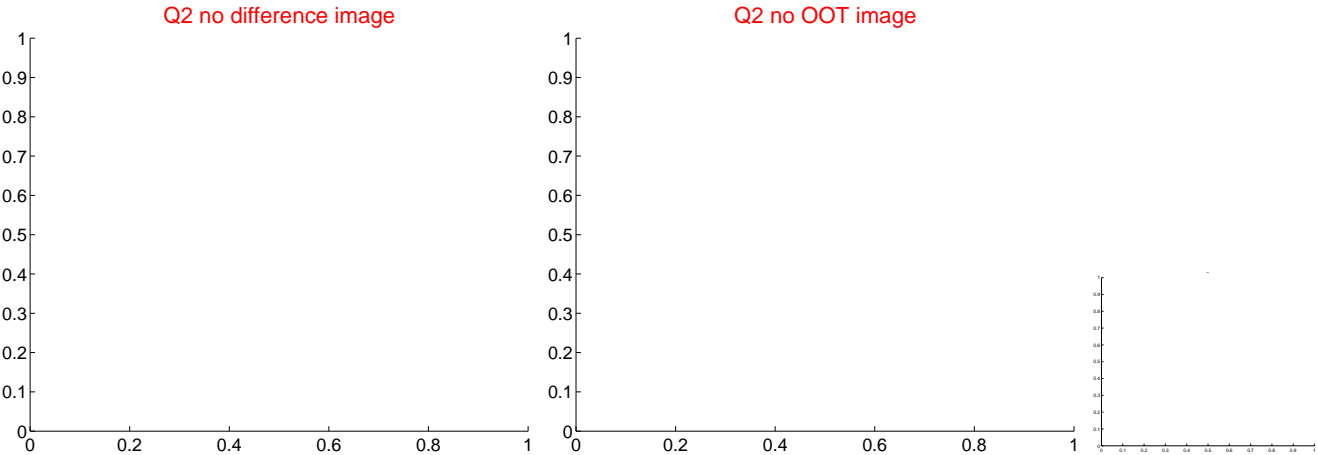
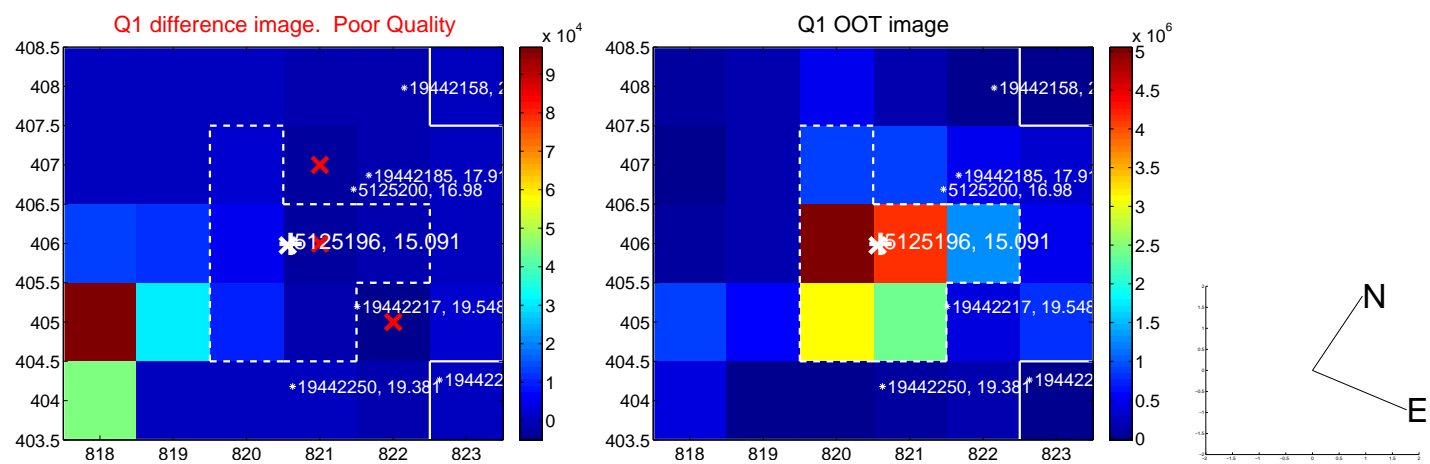


offset from photometric centroids

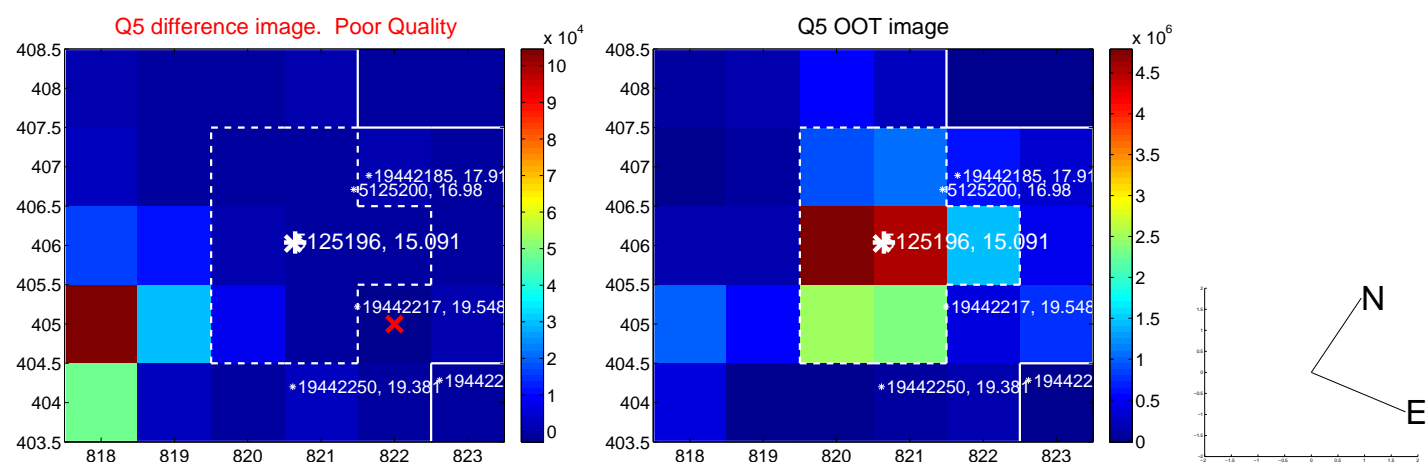


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

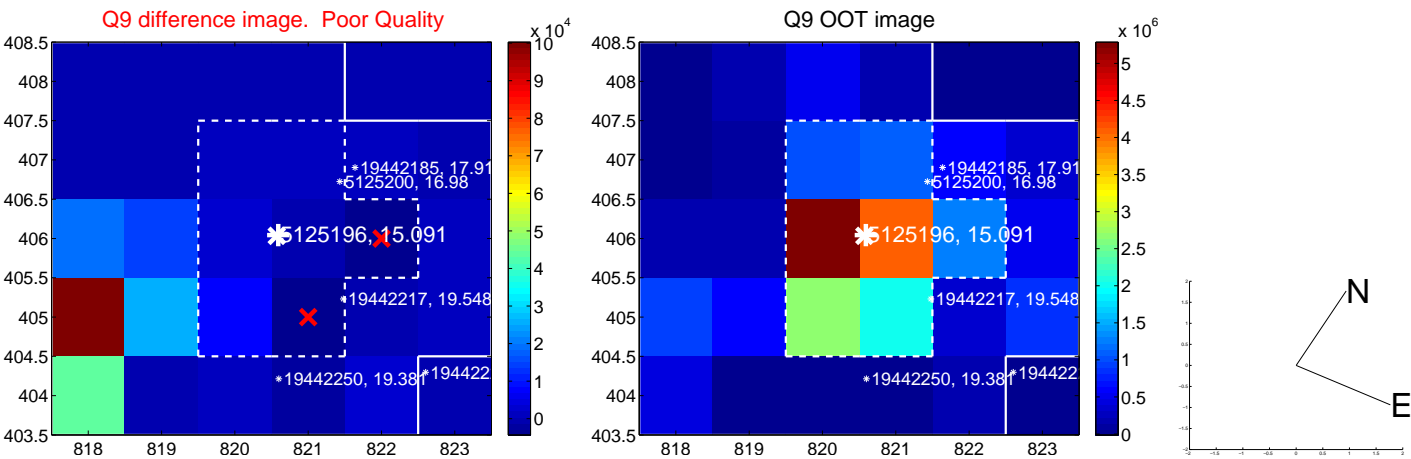


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

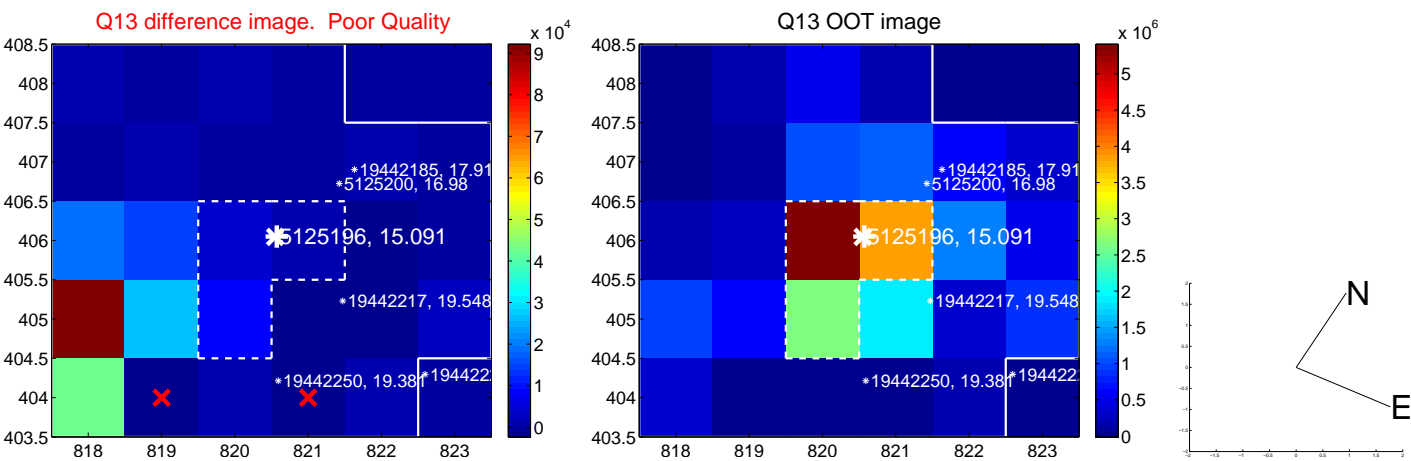




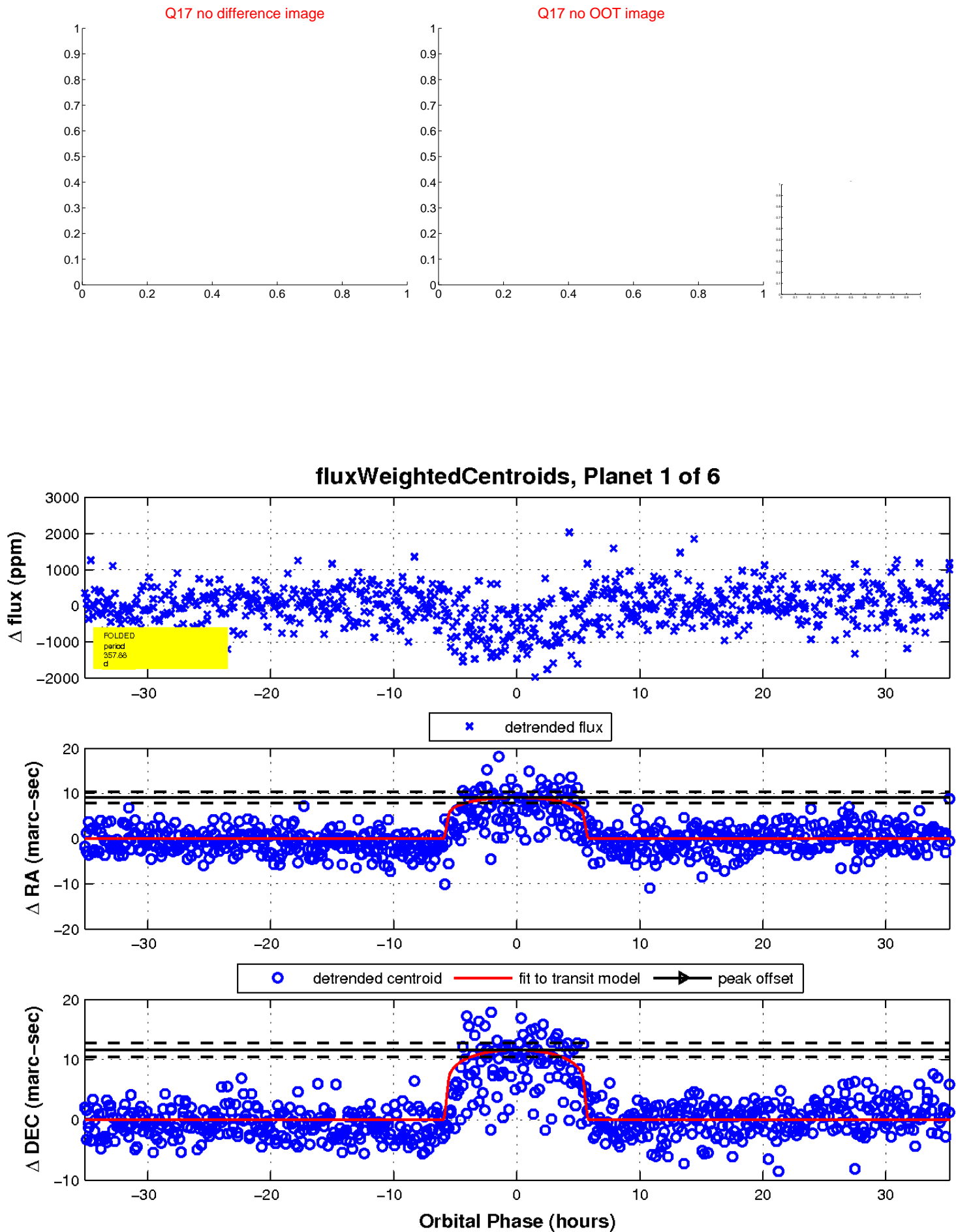
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

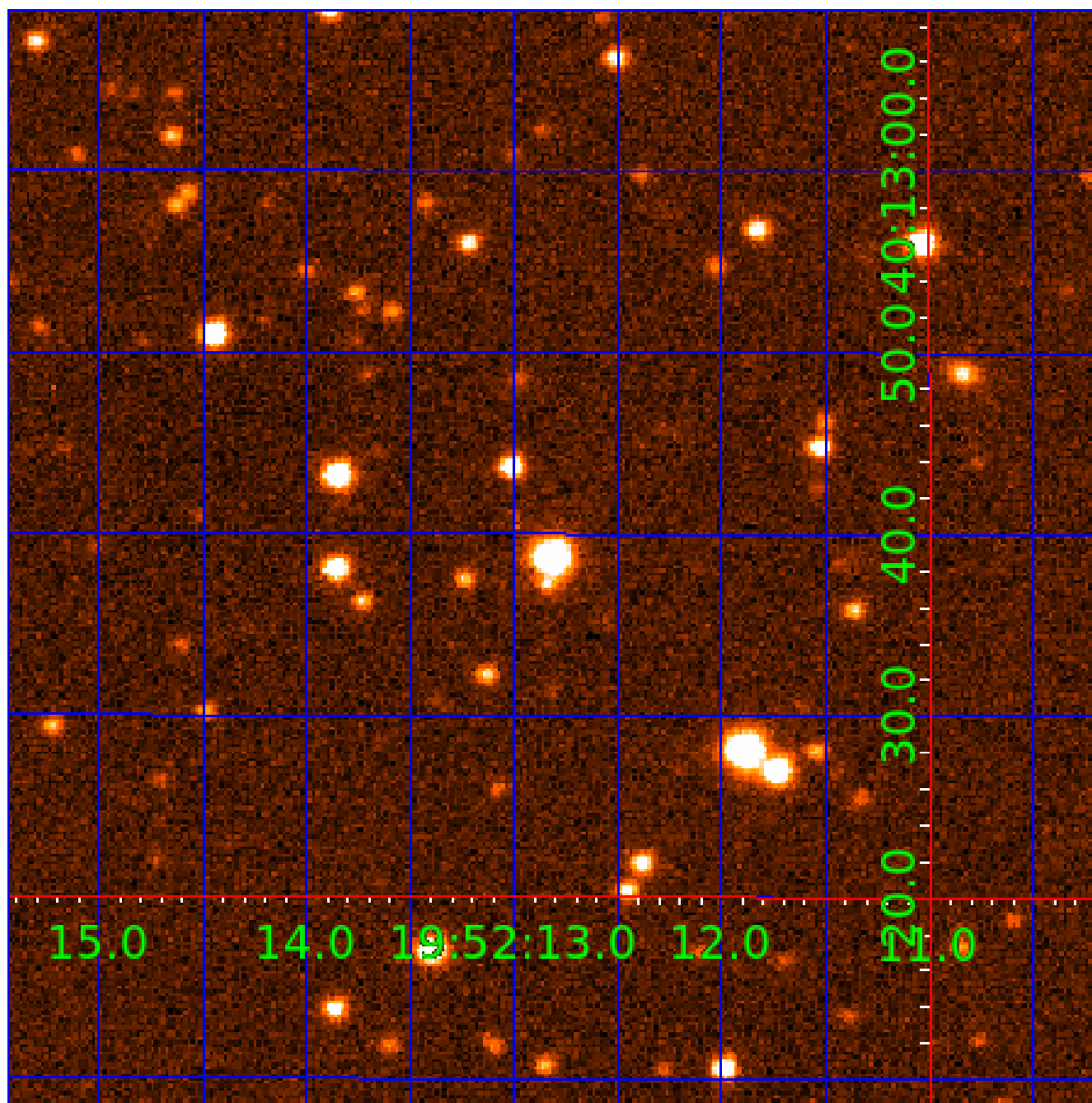


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 005125196

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005125196-01	OBS	No	357.880157	157.030977	791.8	11.737	11.3	11.9	1.11	6355	3.23	1.68
005125196-02	OBS	No	373.422739	452.718029	809.4	10.982	10.5	10.9	1.11	6355	3.24	1.58
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005125196-04	OBS	No	357.863315	149.471720	585.3	9.904	8.5	9.2	1.11	6355	2.82	1.68
005125196-06	OBS	No	715.749297	133.930637	585.1	10.173	7.4	7.5	1.11	6355	2.86	0.67

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005125196-01	OBS	FP	0.00	0	1	1	0	HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
005125196-02	OBS	FP	0.00	0	1	1	0	HAS_SEC_TCE—CENT_FEW_DIFFS—HALO_GHOST
005125196-03	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_FEW_DIFFS
005125196-04	OBS	FP	0.00	0	1	1	0	HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
005125196-06	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_FEW_DIFFS—HALO_GHOST

**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.

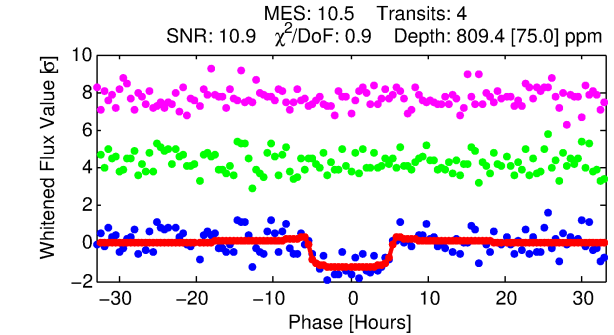
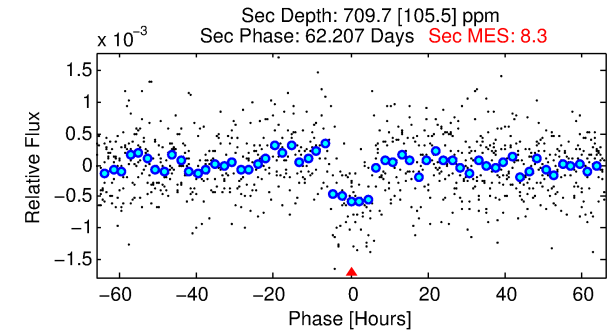
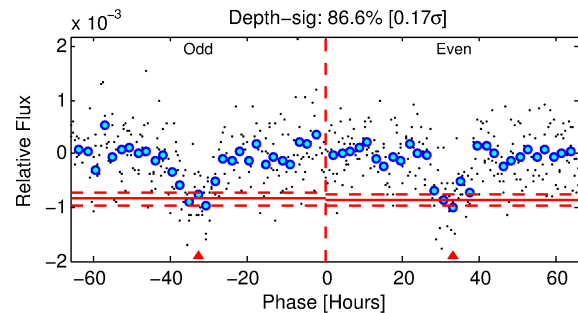
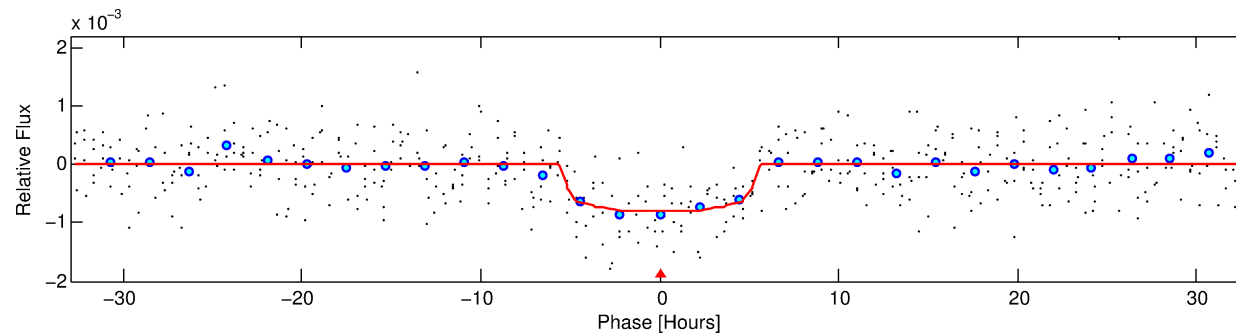
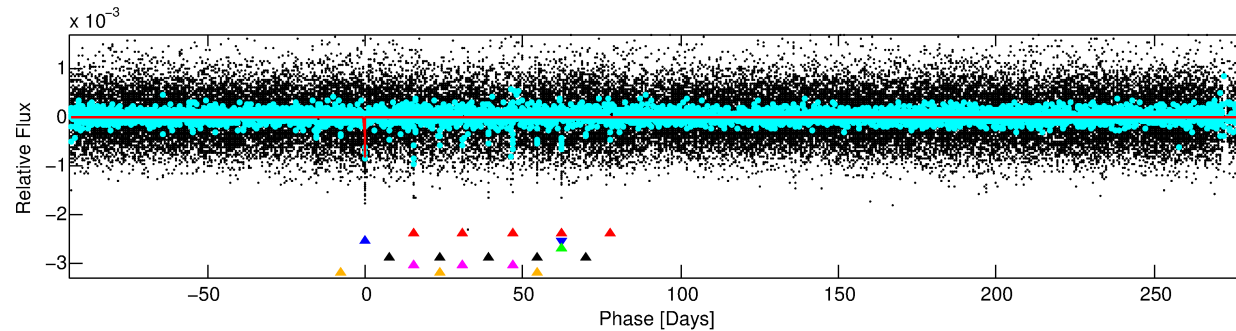
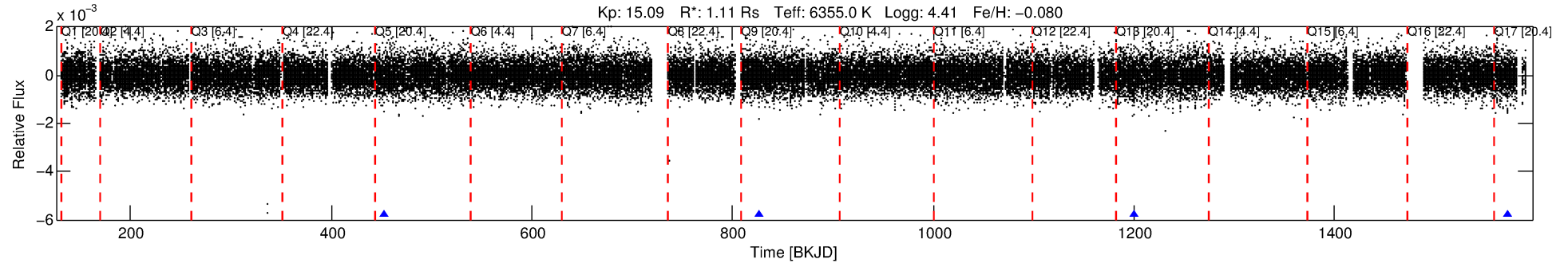
Ephemeris Match Information For 005125196-02

No Significant Match Found

# DV One-Page Summary

KIC: 5125196 Candidate: 2 of 6 Period: 373.423 d  
KOI: K04176 Corr: No Ephemeris Match

Kp: 15.09 R\*: 1.11 Rs Teff: 6355.0 K Logg: 4.41 Fe/H: -0.080



## DV Fit Results:

Period = 373.42274 [0.00627] d  
Epoch = 452.7180 [0.0118] BKJD  
Rp/R\* = 0.0268 [0.0129]  
a/R\* = 235.80 [582.31]  
b = 0.48 [3.96]  
Seff = 1.59 [0.61]  
Teq = 286 [27] K  
Rp = 3.24 [1.83] Re  
a = 1.0638 [0.2600] AU  
Ag = 42069.68 [43449.55] [0.97σ]  
Teff = 6336 [1558] K [3.88σ]

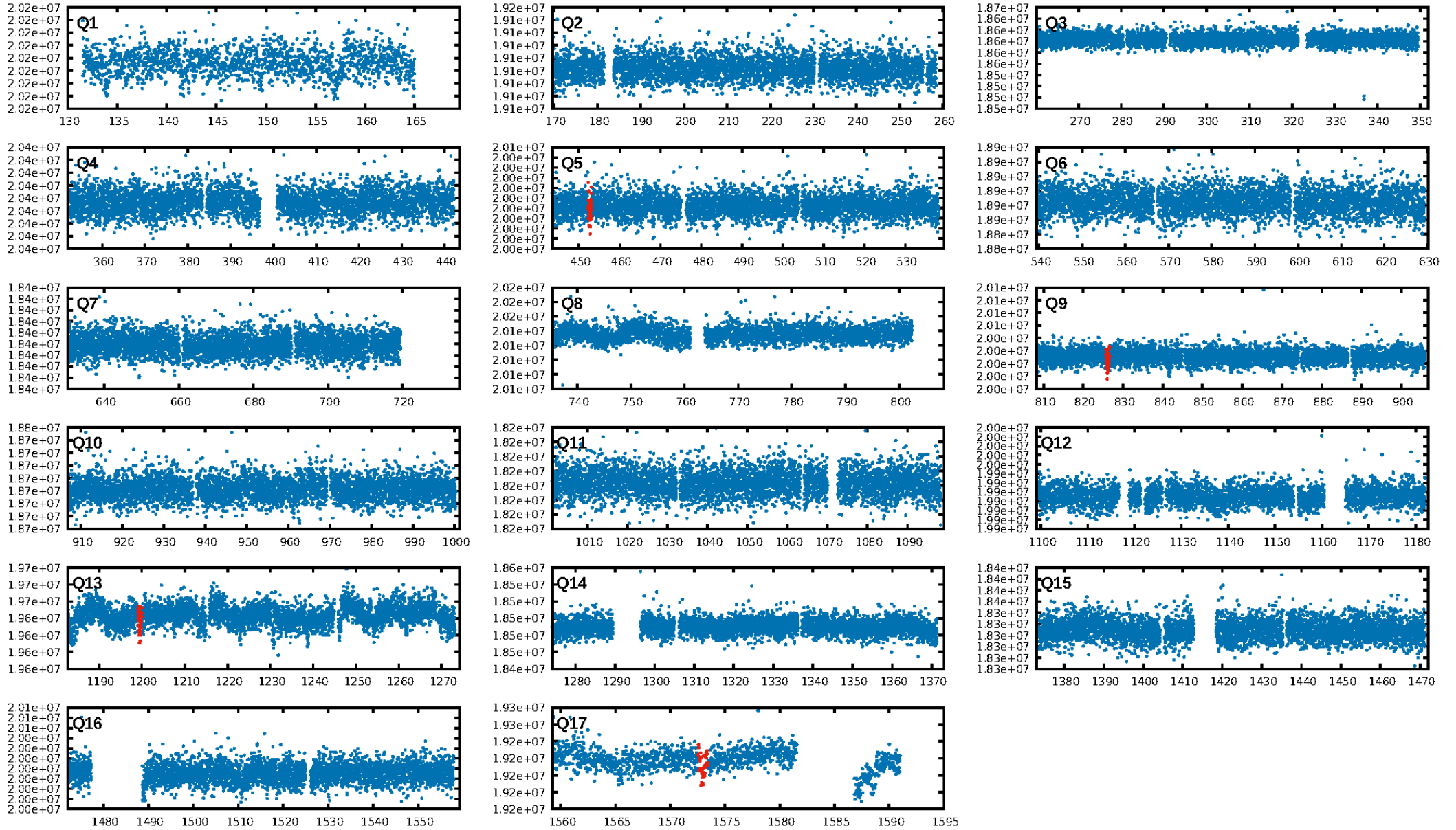
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [23.21σ]  
LongPeriod-sig: 0.3% [0.00σ]  
ModelChiSquare2-sig: 88.8%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 5.56e-12  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -0.2031  
Centroid-sig: 0.0%  
Centroid-so: 22.078 arcsec [12.86σ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [3/3]

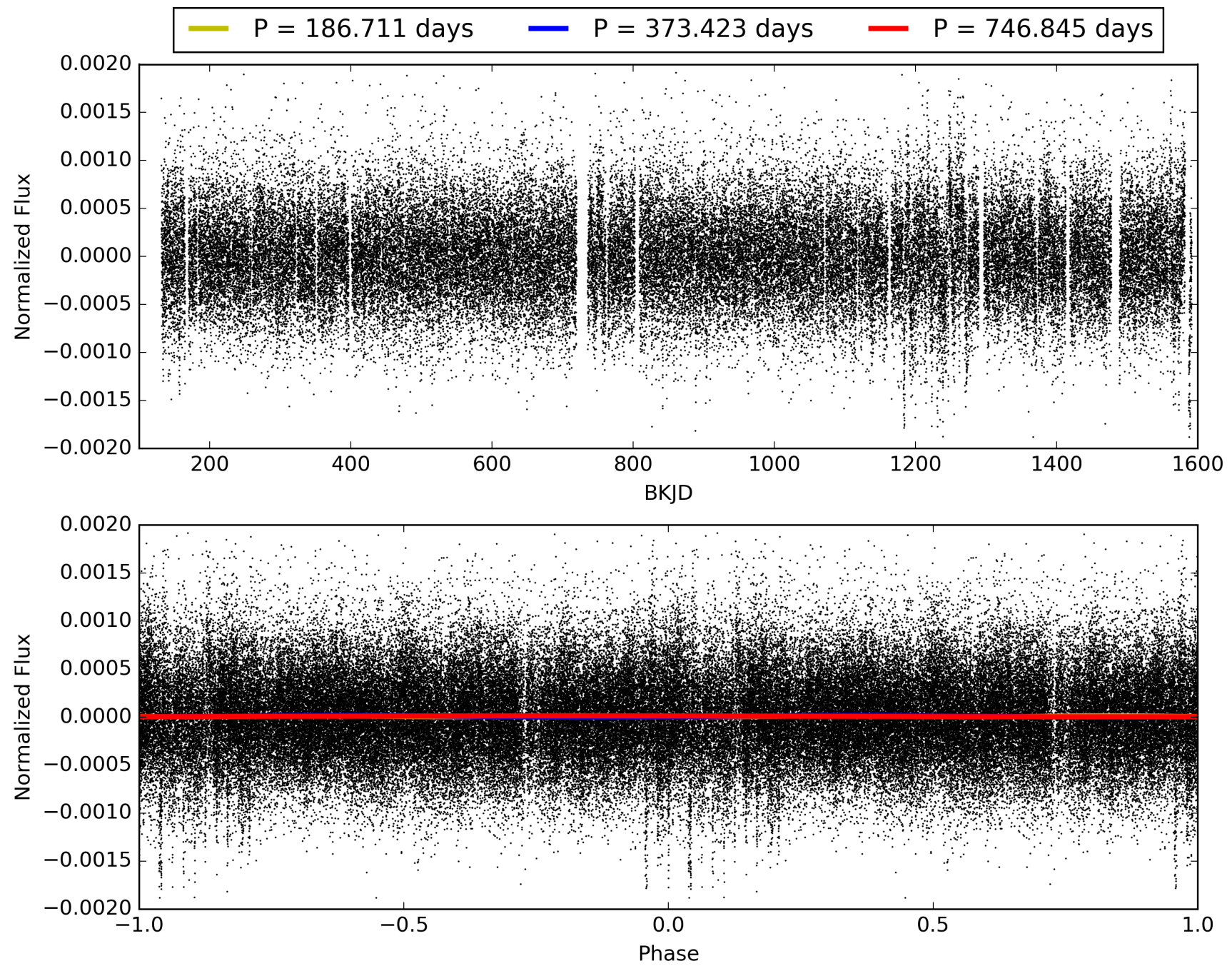
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 09:32:41 Z

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

# TCE 005125196-02, PDC Light Curves

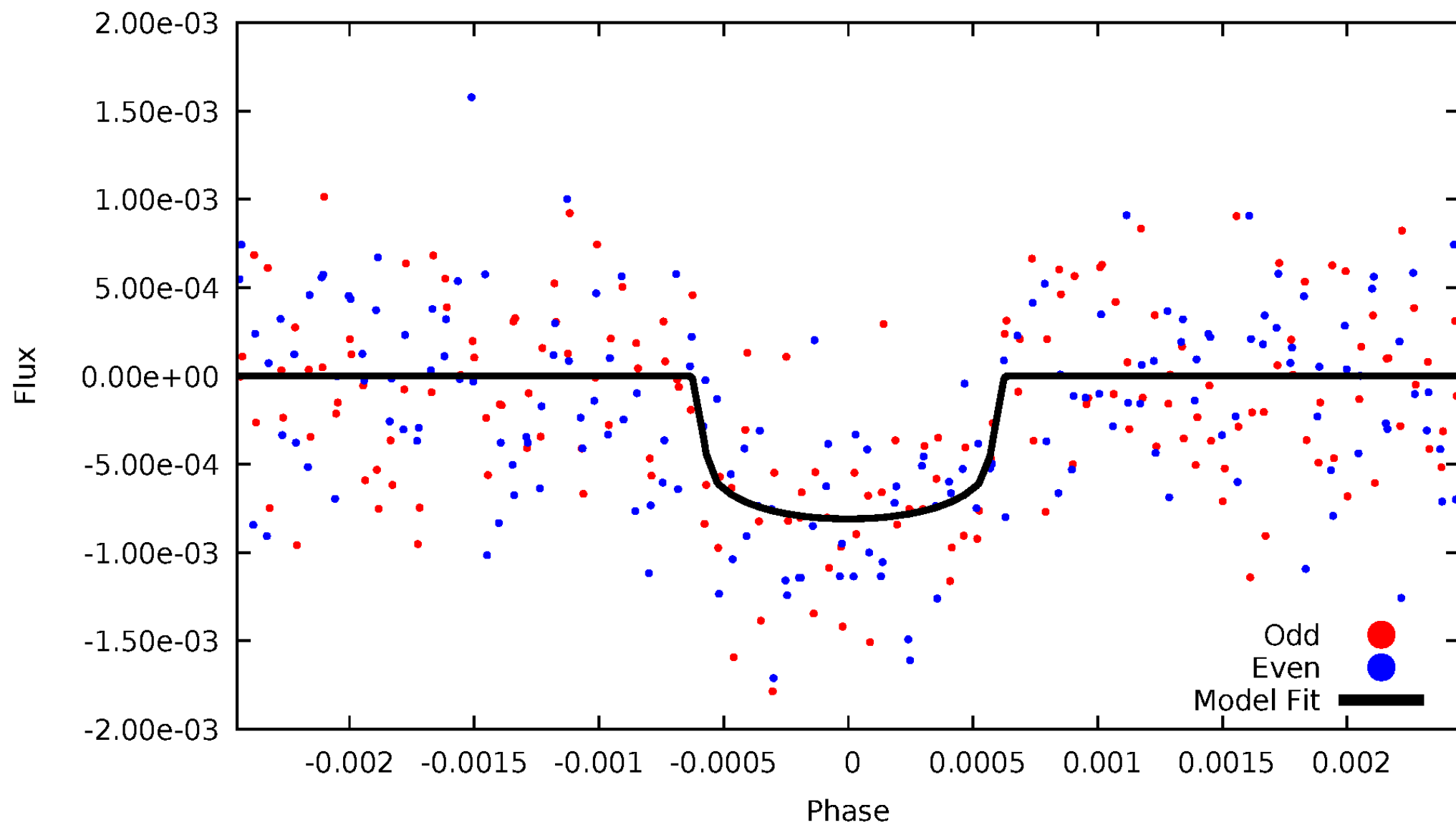


TCE 005125196-02



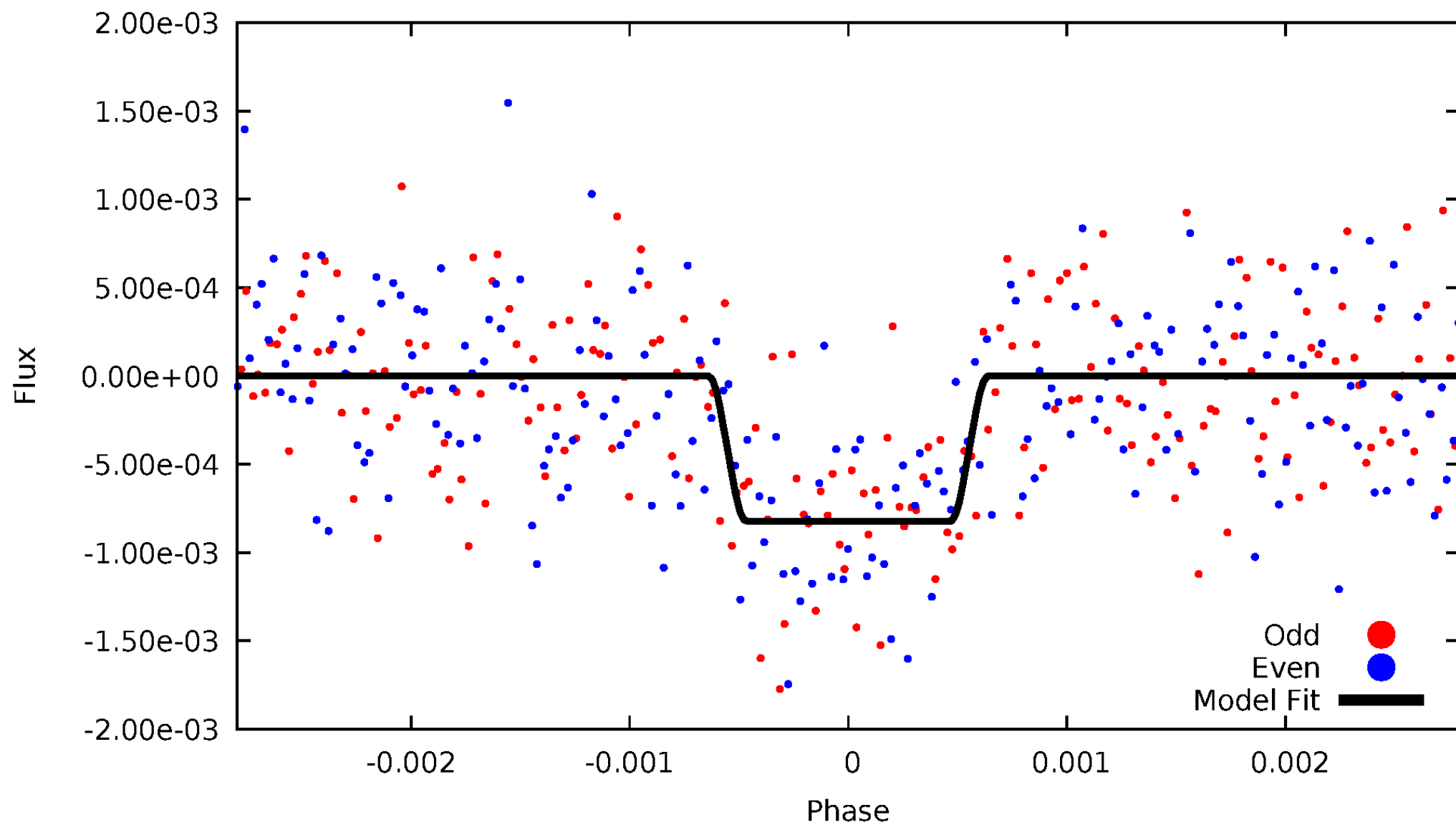
# DV Odd/Even

TCE 005125196-02



# ALT Odd/Even

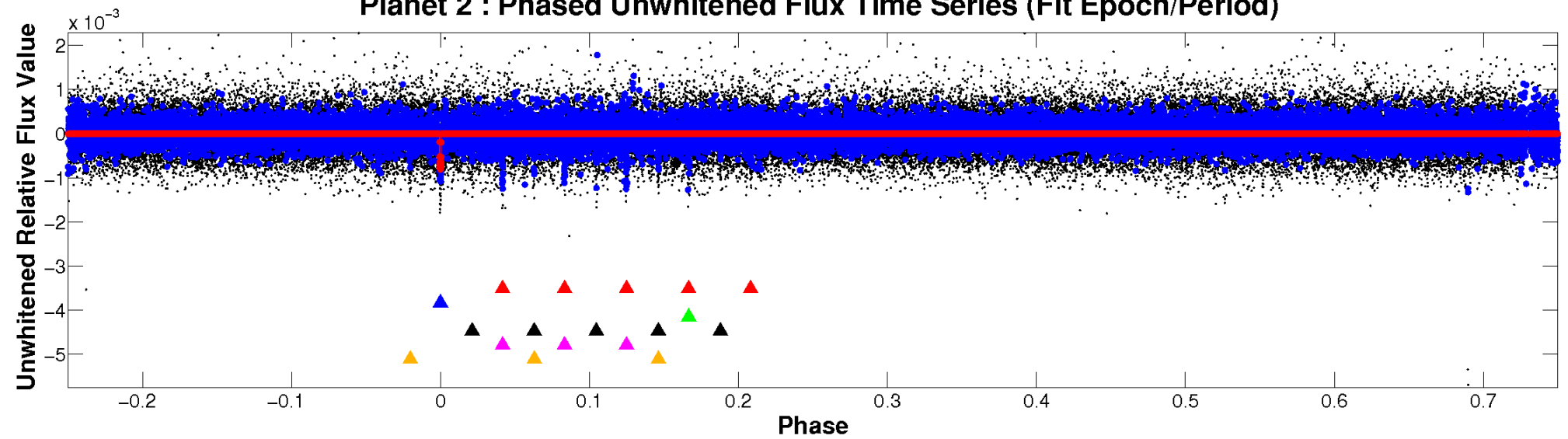
TCE 005125196-02



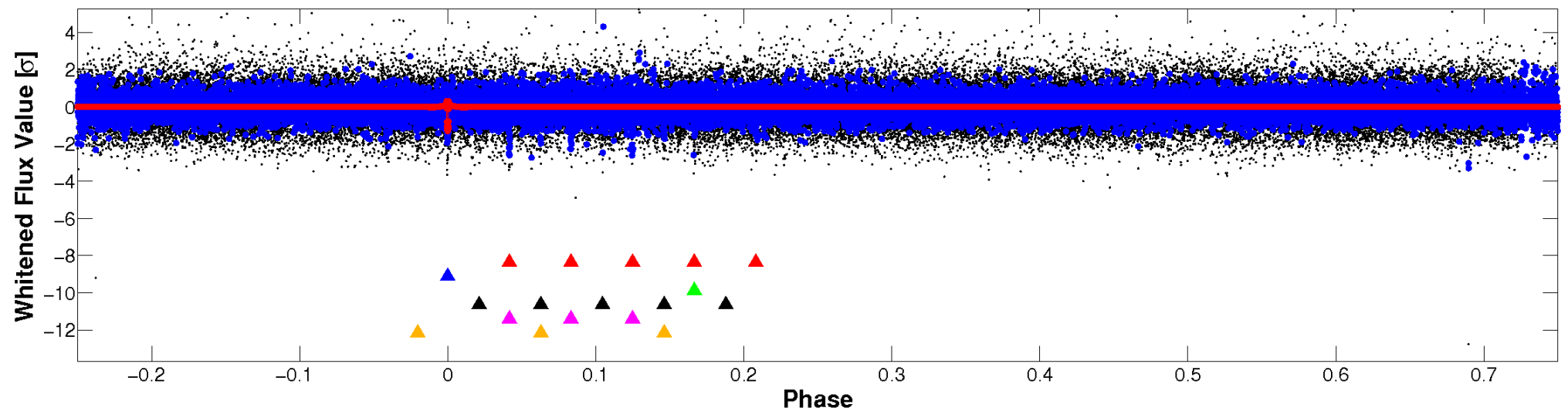


# Non-Whitened Vs. Whitened Light Curve

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



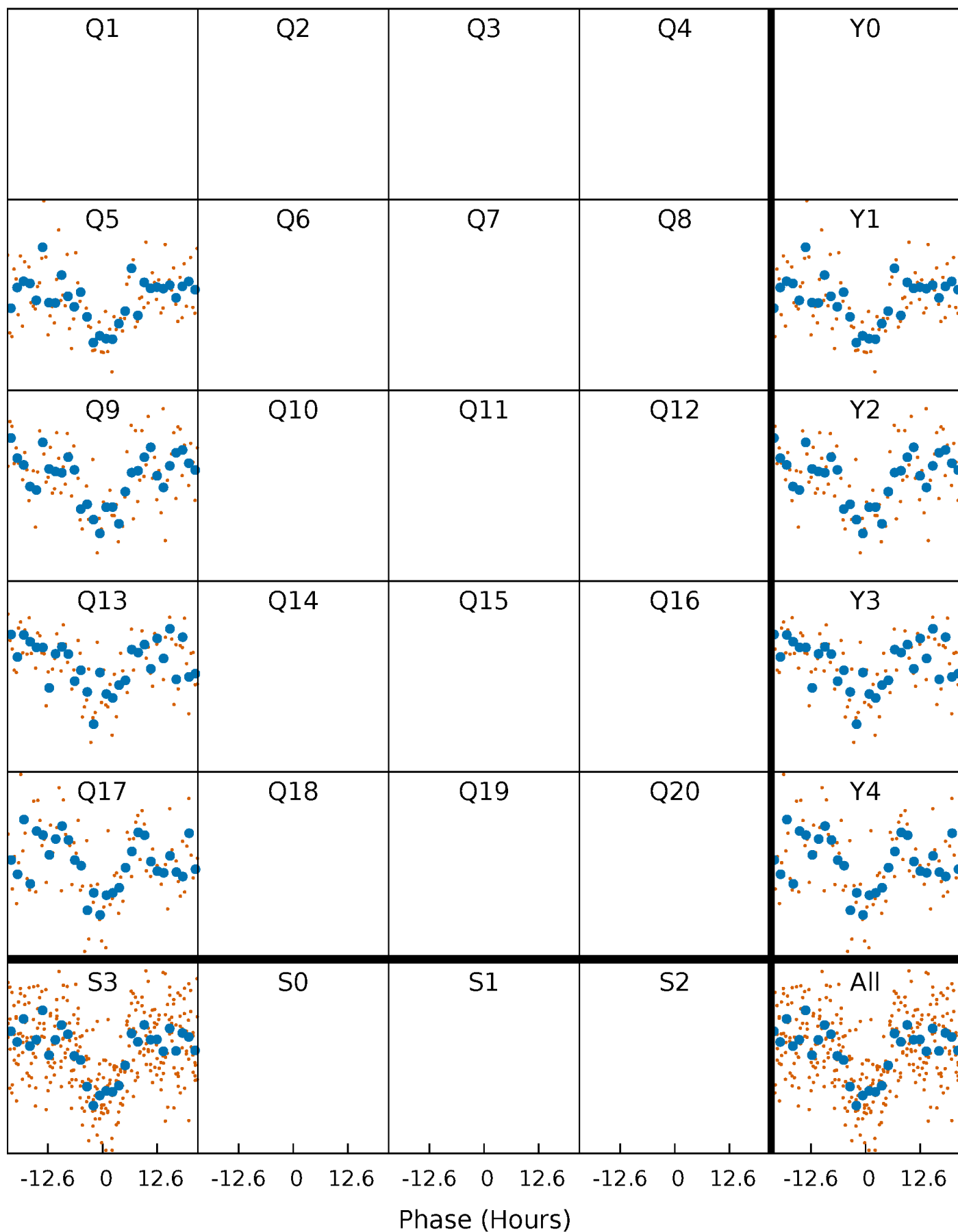
## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)





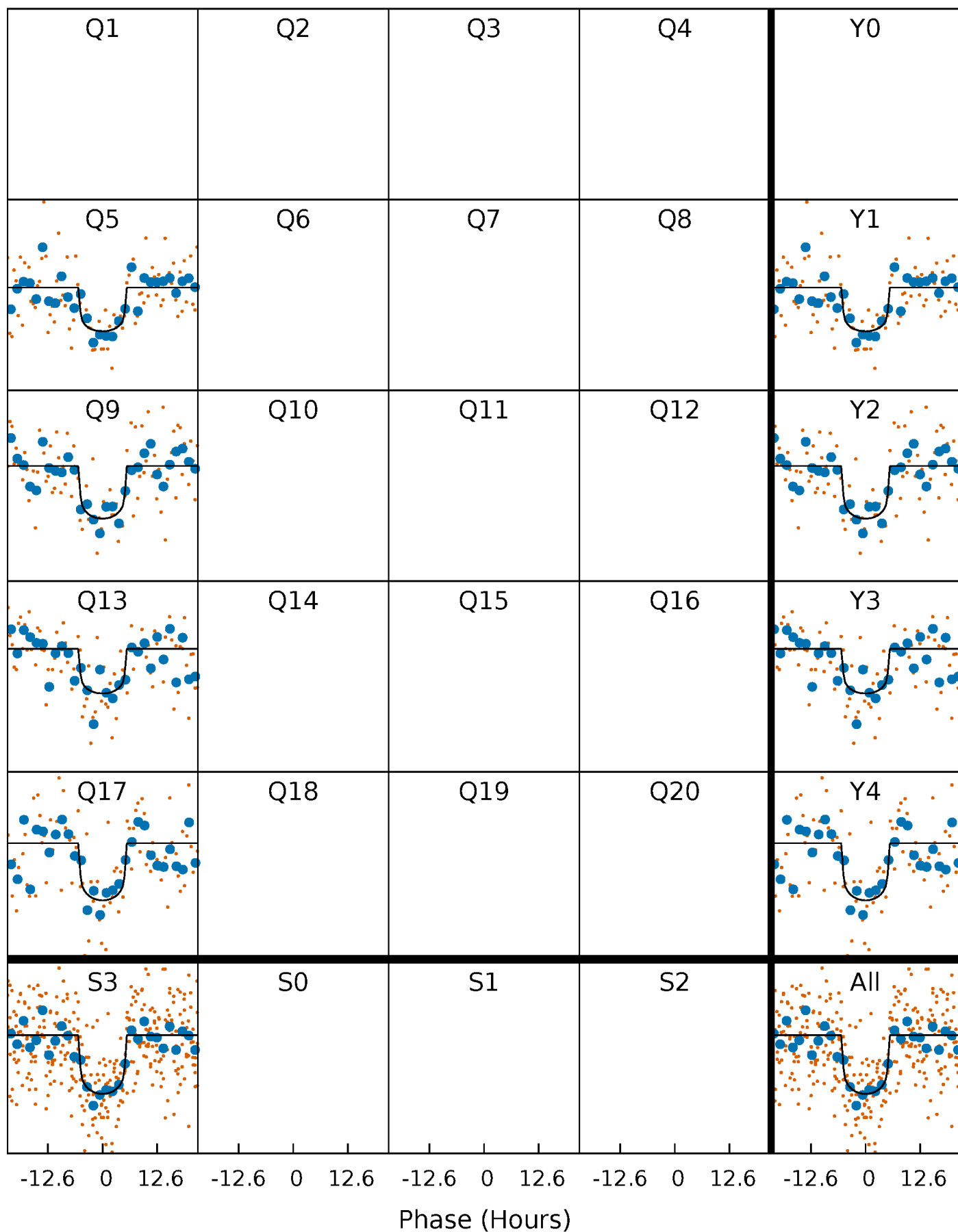
# PDC Quarter-Phased Transit Curves

TCE 005125196-02     $P=373.422738$  Days     $T_0=452.718029$  (BKJD)



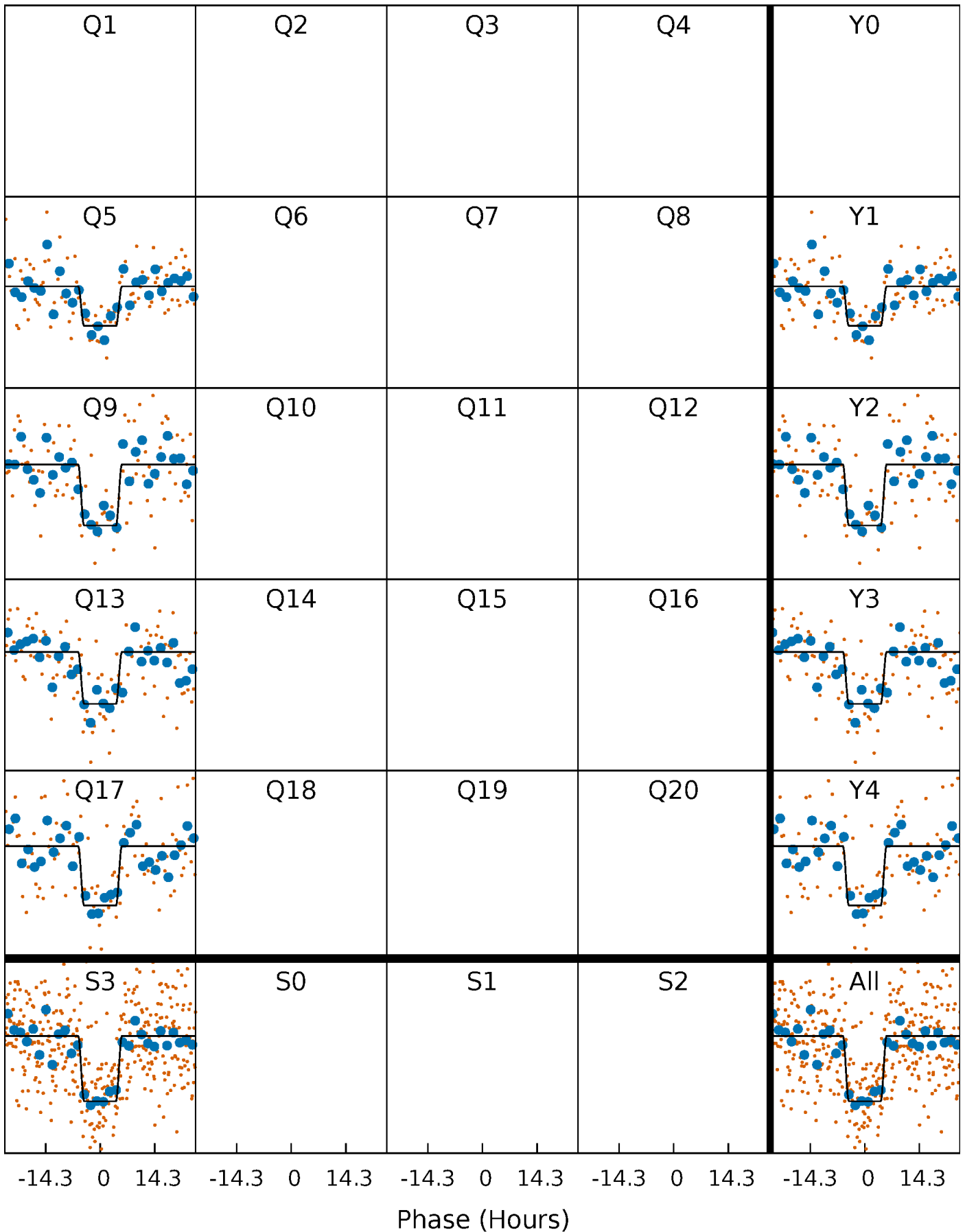
# DV Quarter-Phased Transit Curves

TCE 005125196-02     $P=373.422738$  Days     $T_0=452.718029$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

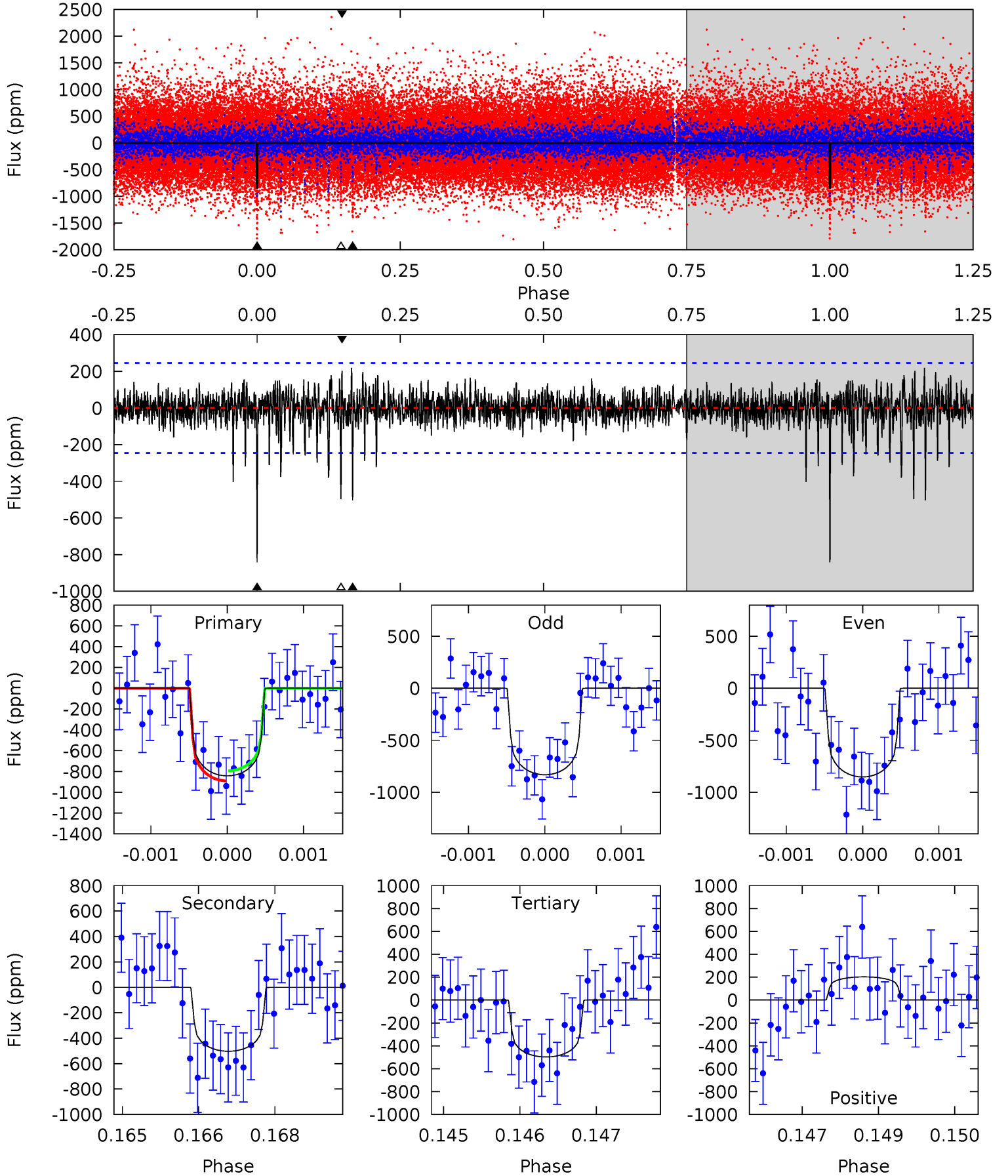
TCE 005125196-02     $P=373.409687$  Days     $T_0=452.734723$  (BKJD)



# DV Model-Shift Uniqueness Test

005125196-02,  $P = 373.422738$  Days,  $E = 79.295291$  Days

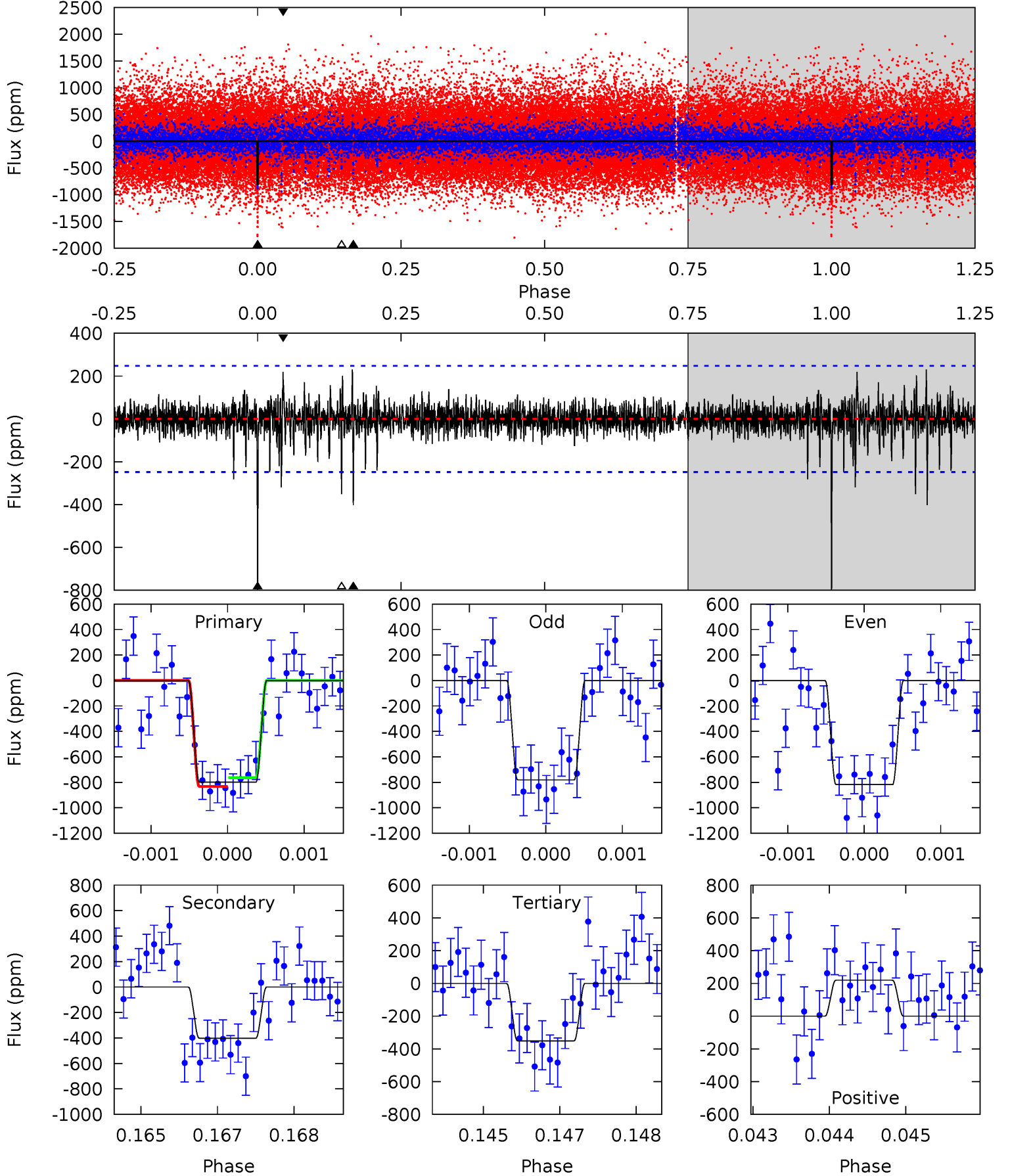
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.6	11.1	11.0	4.46	5.41	3.22	1.40	7.61	14.1	0.12	6.62	0.23	0.99	0.21	1.07



# Alt Model-Shift Uniqueness Test

005125196-02,  $P = 373.409687$  Days,  $E = 79.325036$  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
17.5	8.78	7.67	4.79	5.41	3.23	1.07	9.79	12.7	1.11	3.99	0.39	1.01	0.22	0.75



### Stellar Parameters For KIC 005125196

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6355^{+179}_{-246}$	$4.410^{+0.068}_{-0.189}$	$-0.080^{+0.250}_{-0.300}$	$1.108^{+0.327}_{-0.140}$	$1.151^{+0.157}_{-0.157}$	$1.191^{+0.405}_{-0.586}$
	+3%/-4%	+2%/-4%	+312%/-375%	+30%/-13%	+14%/-14%	+34%/-49%
Source	PHO1	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 005125196-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-503 \pm 45$	$3.40^{+1.62}_{-1.61}$	$407^{+29}_{-22}$	$5773^{+2413}_{-911}$	$25936^{+69293}_{-13736}$
Alt.	$-402 \pm 46$	$3.73^{+1.71}_{-1.56}$	$406^{+27}_{-21}$	$5255^{+1582}_{-771}$	$17276^{+32255}_{-8920}$

$T_{max}$  = 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

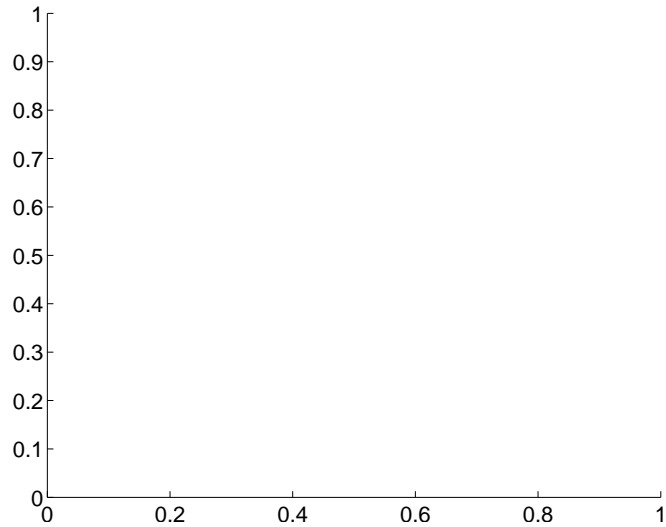
Supplemental centroid analysis for 005125196-02. Kepler magnitude: 15.09. Transit SNR 10.92

There are 0 quarters with good PRF difference image offsets

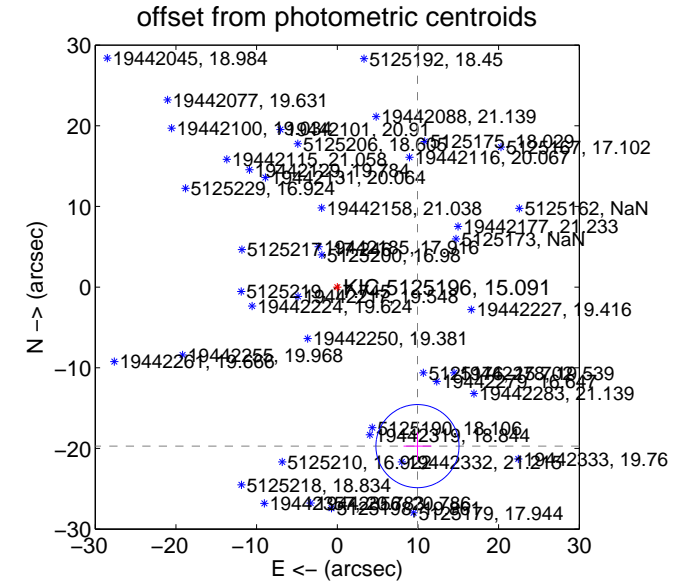
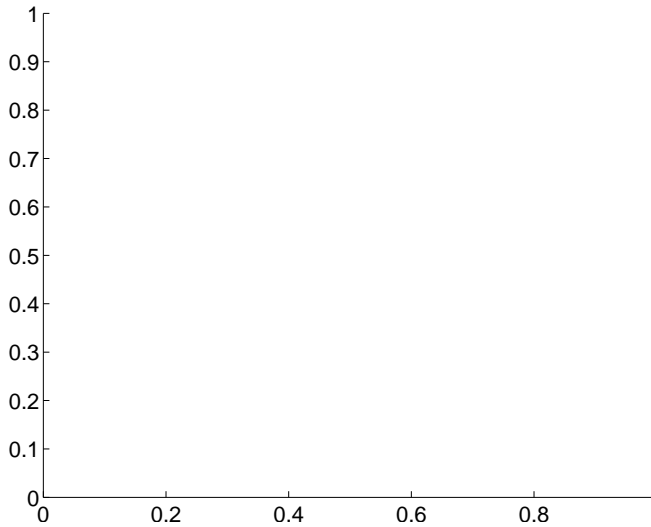
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$22.08 \pm 1.72$	$12.86$	$-9.94 \pm 1.73$	$-19.71 \pm 1.71$

There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC



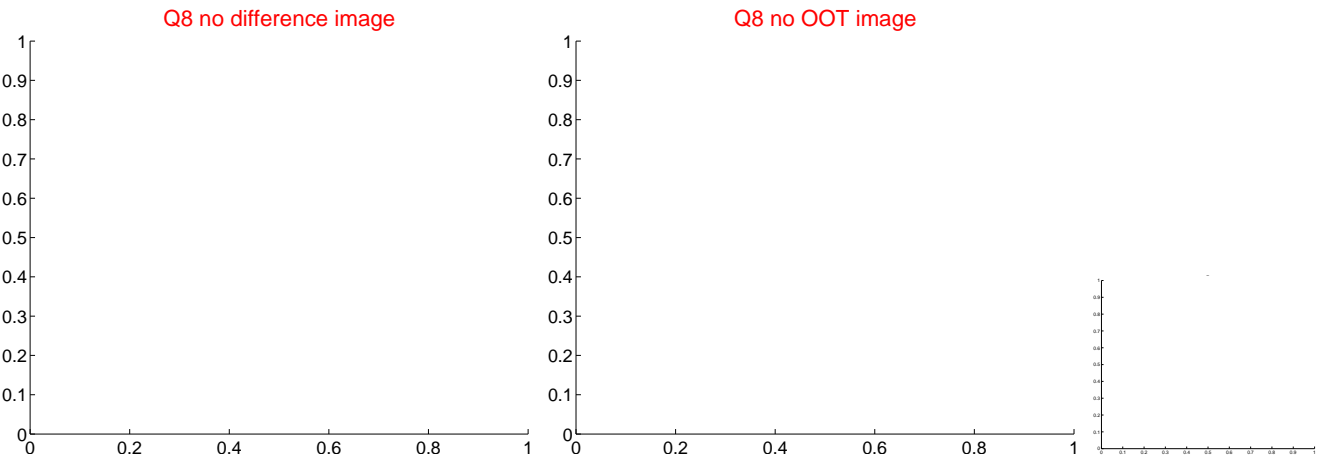
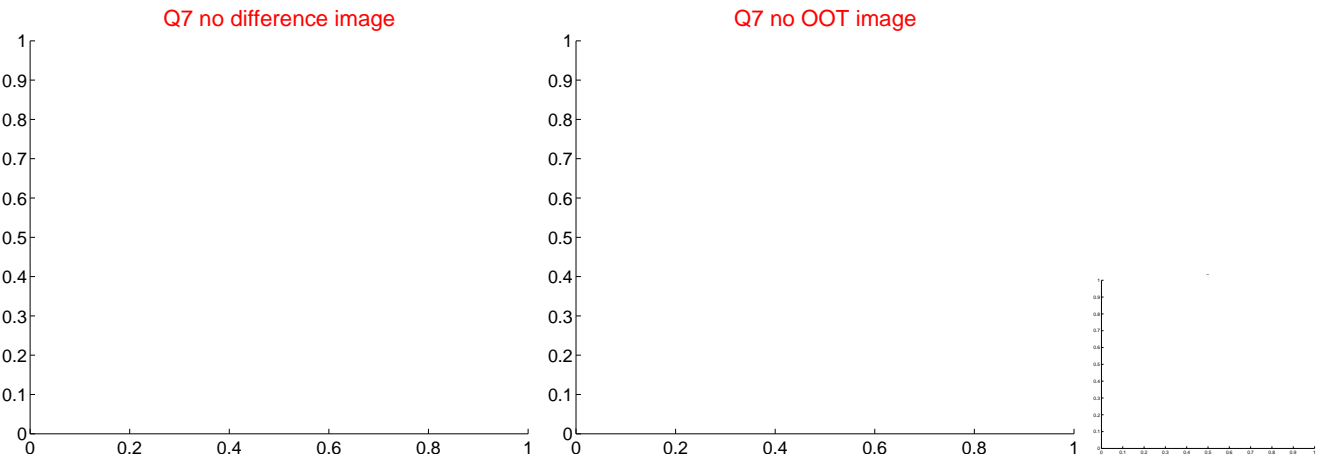
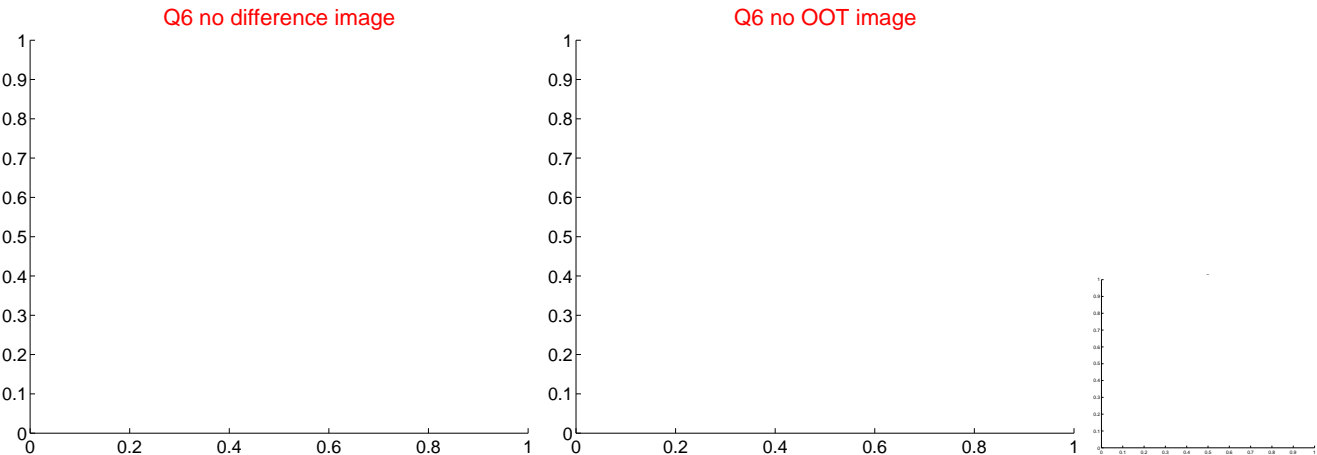
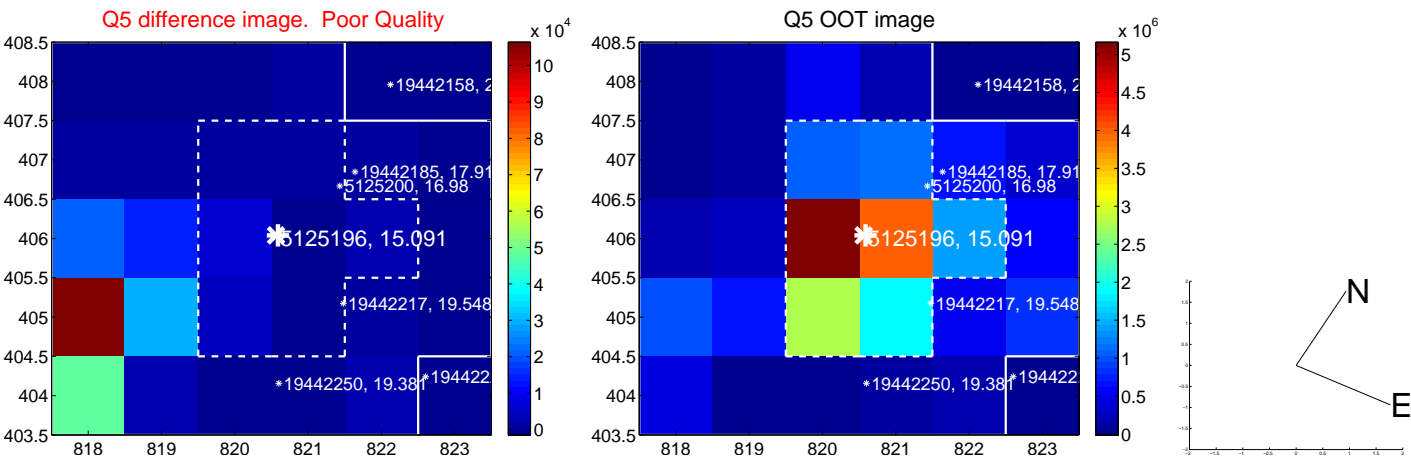
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

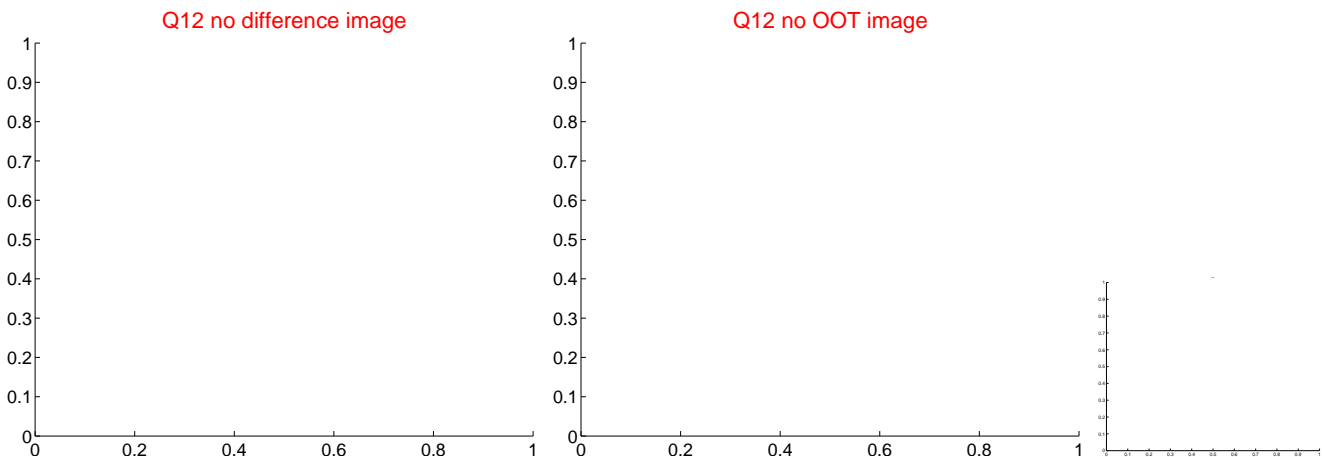
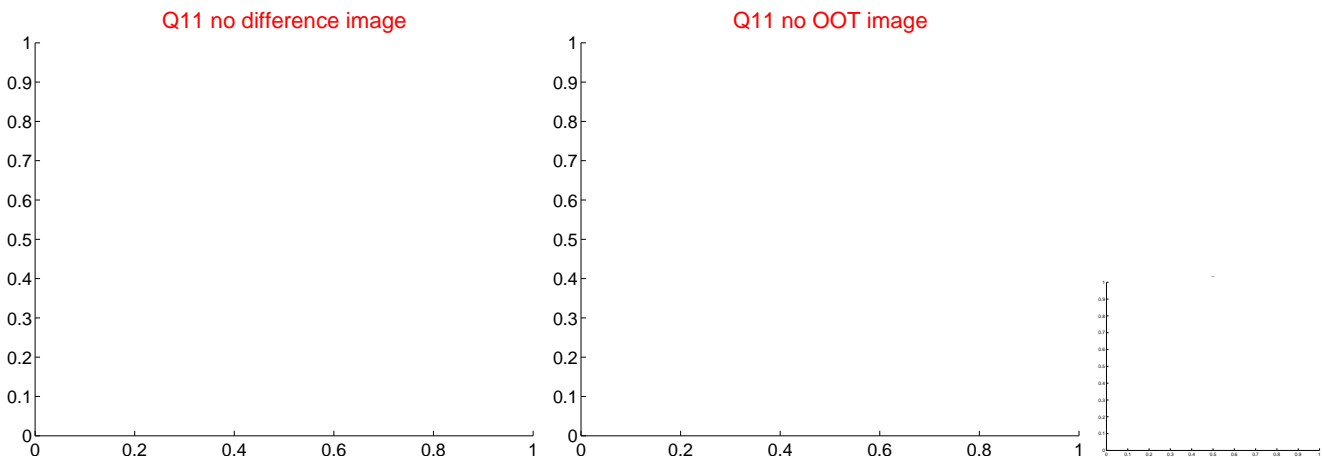
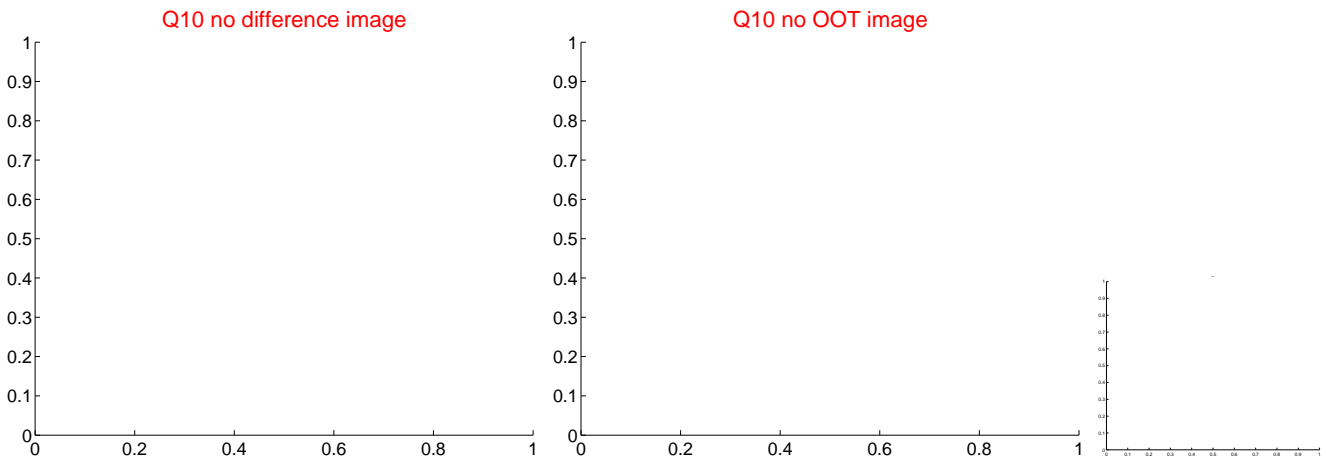
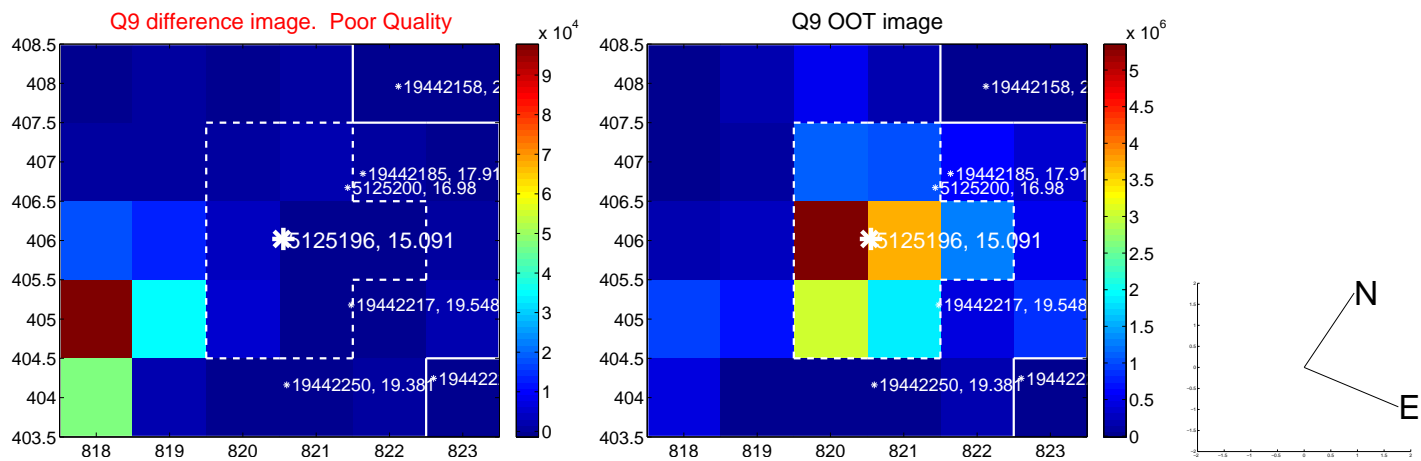




white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



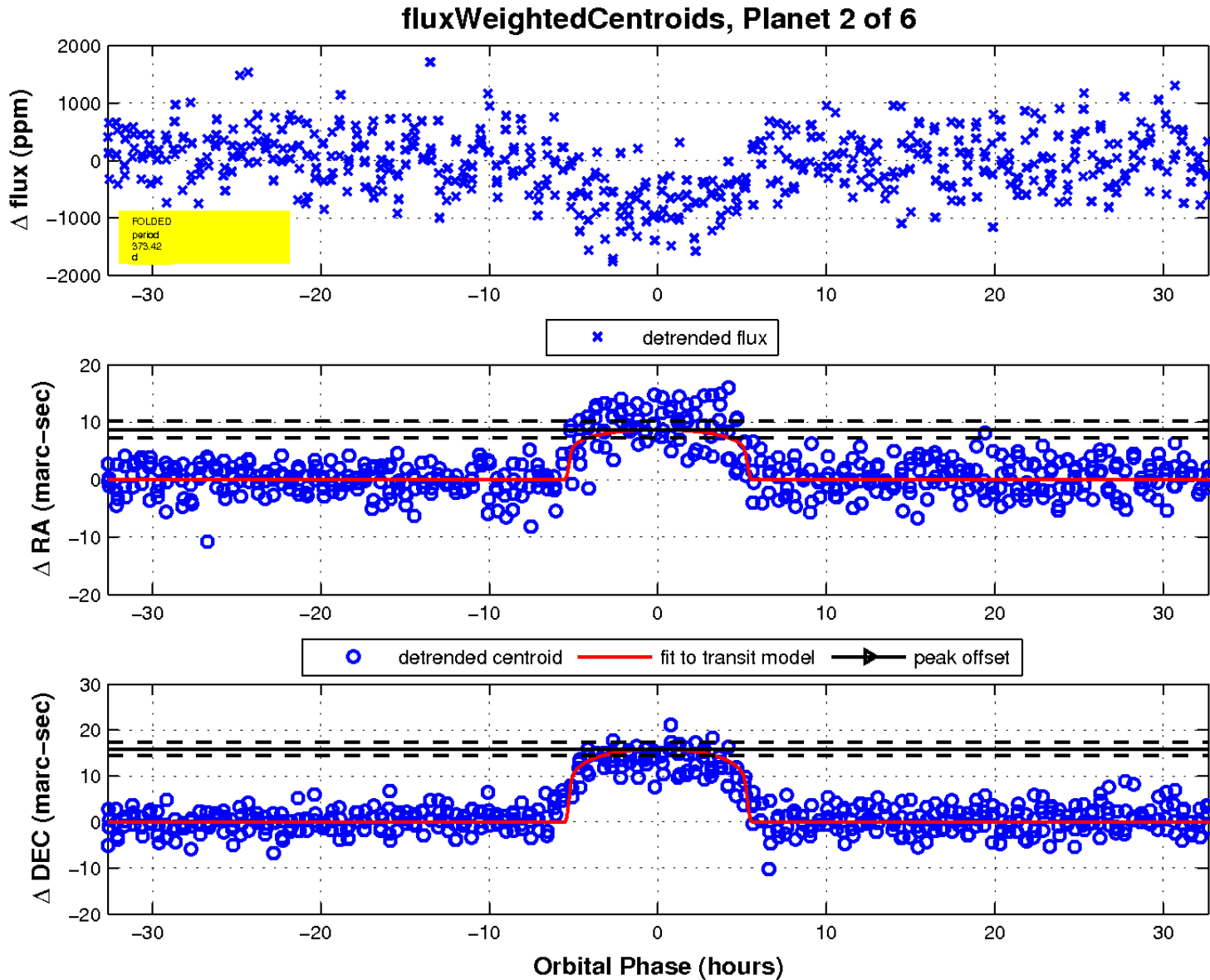
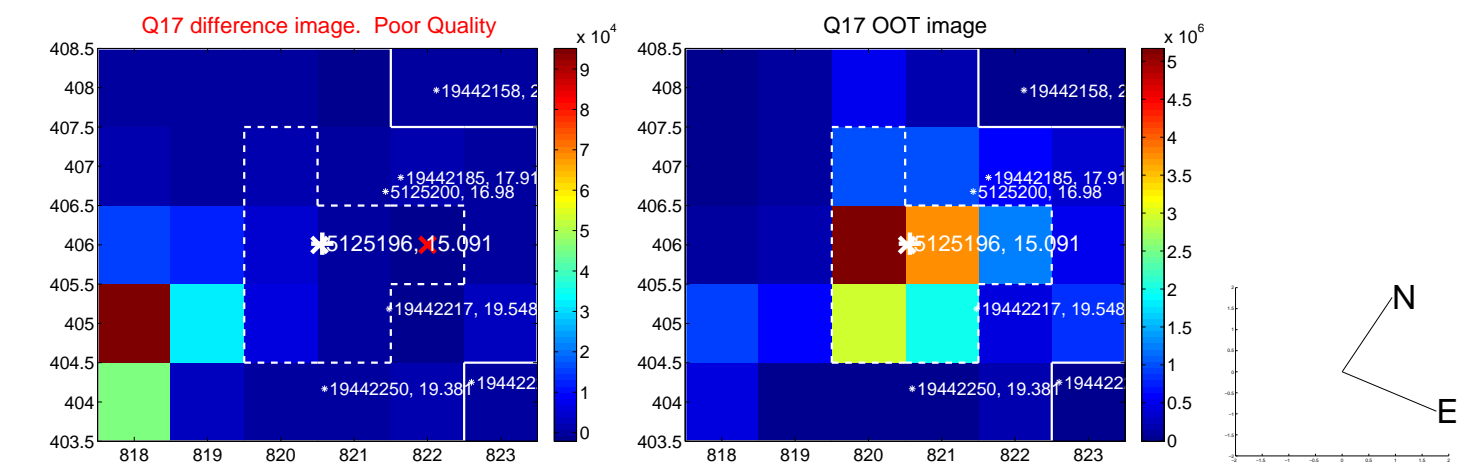
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

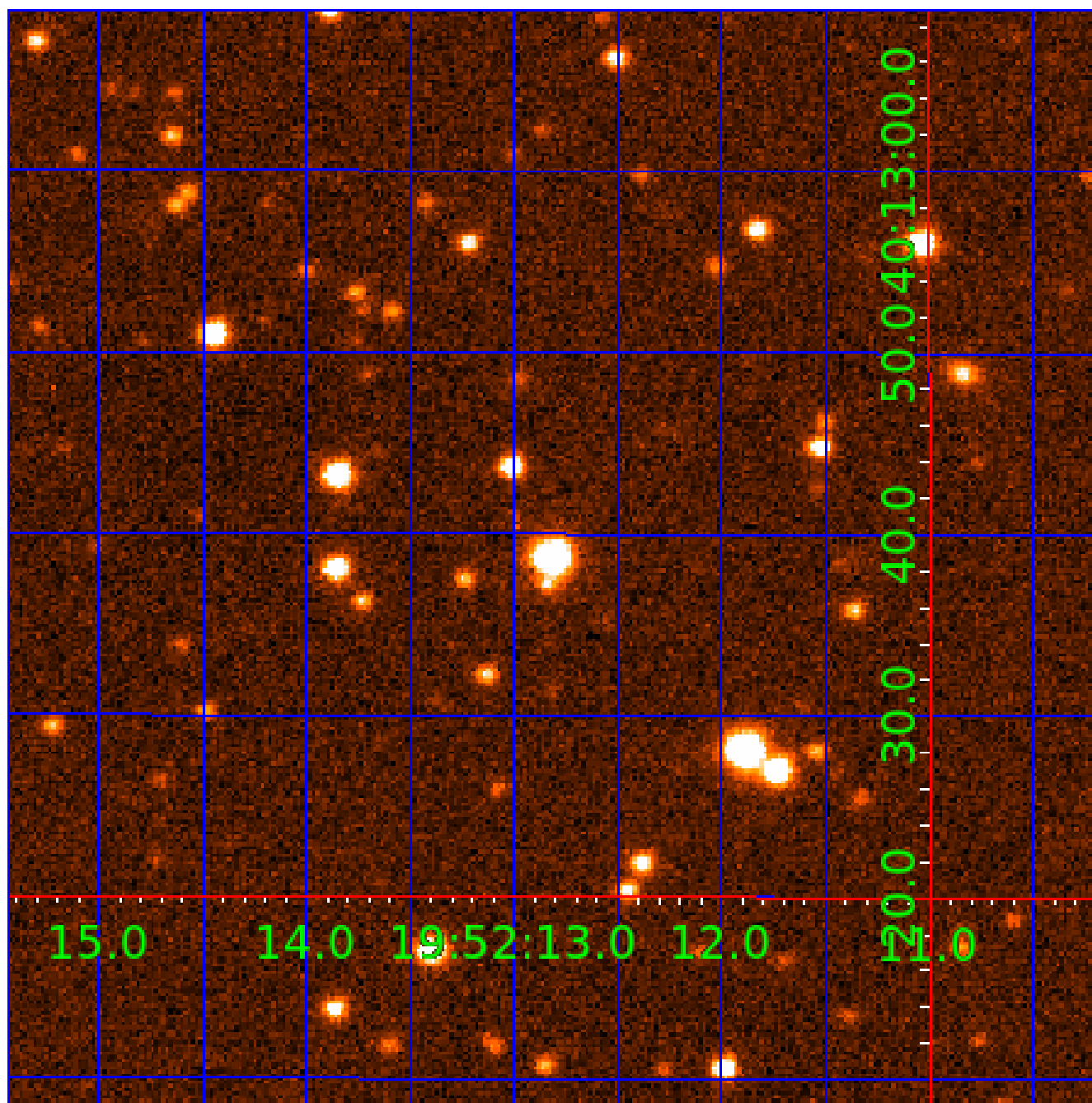


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 005125196

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005125196-01	OBS	No	357.880157	157.030977	791.8	11.737	11.3	11.9	1.11	6355	3.23	1.68
005125196-02	OBS	No	373.422739	452.718029	809.4	10.982	10.5	10.9	1.11	6355	3.24	1.58
005125196-03	OBS	No	373.425774	141.515412	729.3	12.766	8.7	8.9	1.11	6355	3.36	1.58
005125196-04	OBS	No	357.863315	149.471720	585.3	9.904	8.5	9.2	1.11	6355	2.82	1.68
005125196-06	OBS	No	715.749297	133.930637	585.1	10.173	7.4	7.5	1.11	6355	2.86	0.67

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005125196-01	OBS	FP	0.00	0	1	1	0	HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
005125196-02	OBS	FP	0.00	0	1	1	0	HAS_SEC_TCE—CENT_FEW_DIFFS—HALO_GHOST
005125196-03	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_FEW_DIFFS
005125196-04	OBS	FP	0.00	0	1	1	0	HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
005125196-06	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_FEW_DIFFS—HALO_GHOST

**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 005125196-03

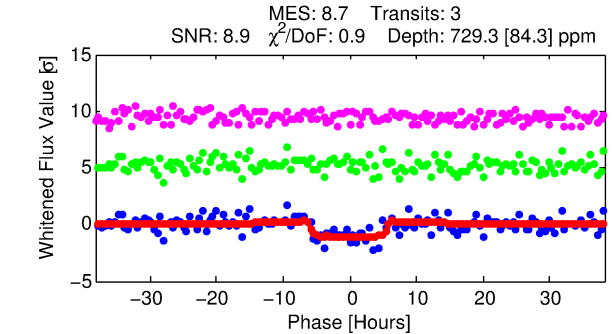
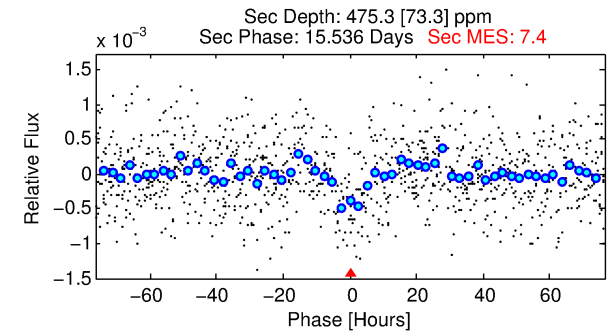
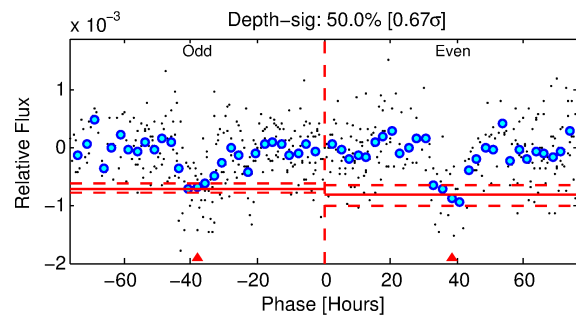
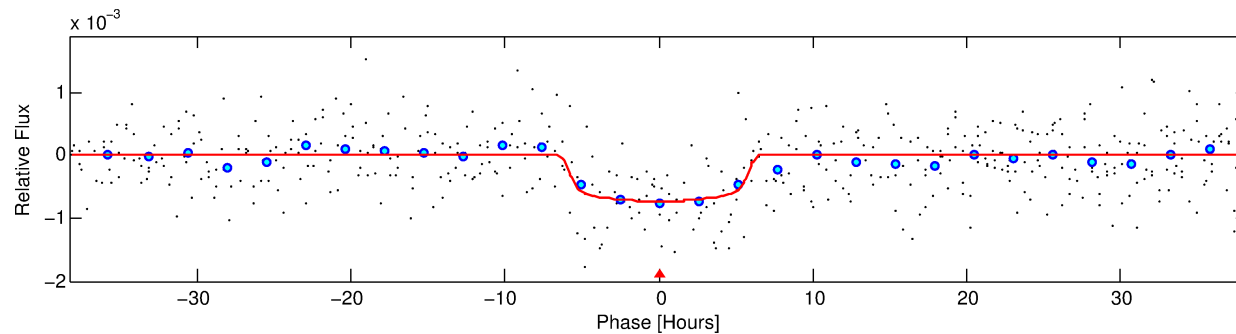
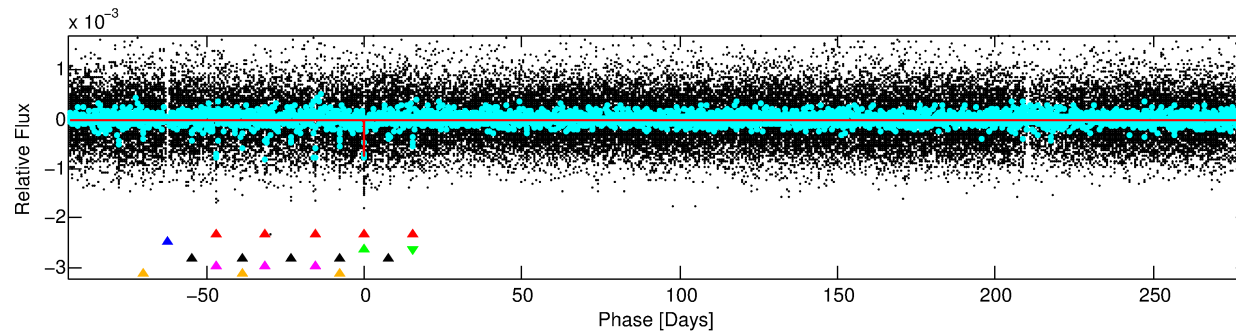
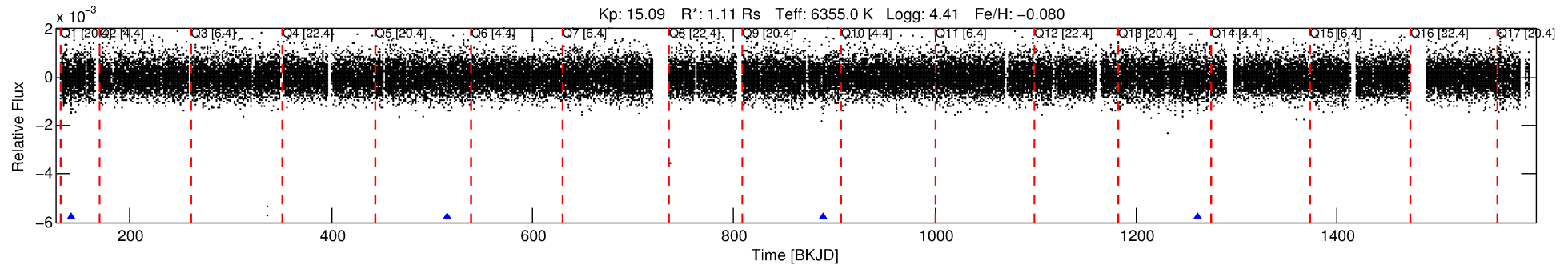
No Significant Match Found

# DV One-Page Summary

KIC: 5125196 Candidate: 3 of 6 Period: 373.426 d

KOI: K04176 Corr: No Ephemeris Match

Kp: 15.09 R\*: 1.11 Rs Teff: 6355.0 K Logg: 4.41 Fe/H: -0.080



## DV Fit Results:

Period = 373.42577 [0.00897] d  
Epoch = 141.5154 [0.0182] BKJD  
Rp/R\* = 0.0278 [0.0039]  
a/R\* = 133.80 [88.61]  
b = 0.84 [0.24]  
Seff = 1.59 [0.61]  
Teq = 286 [27] K  
Rp = 3.36 [1.10] Re  
a = 1.0638 [0.2600] AU  
Ag = 26177.07 [12473.17] [2.10σ]  
Teffp = 5627 [504] K [10.59σ]

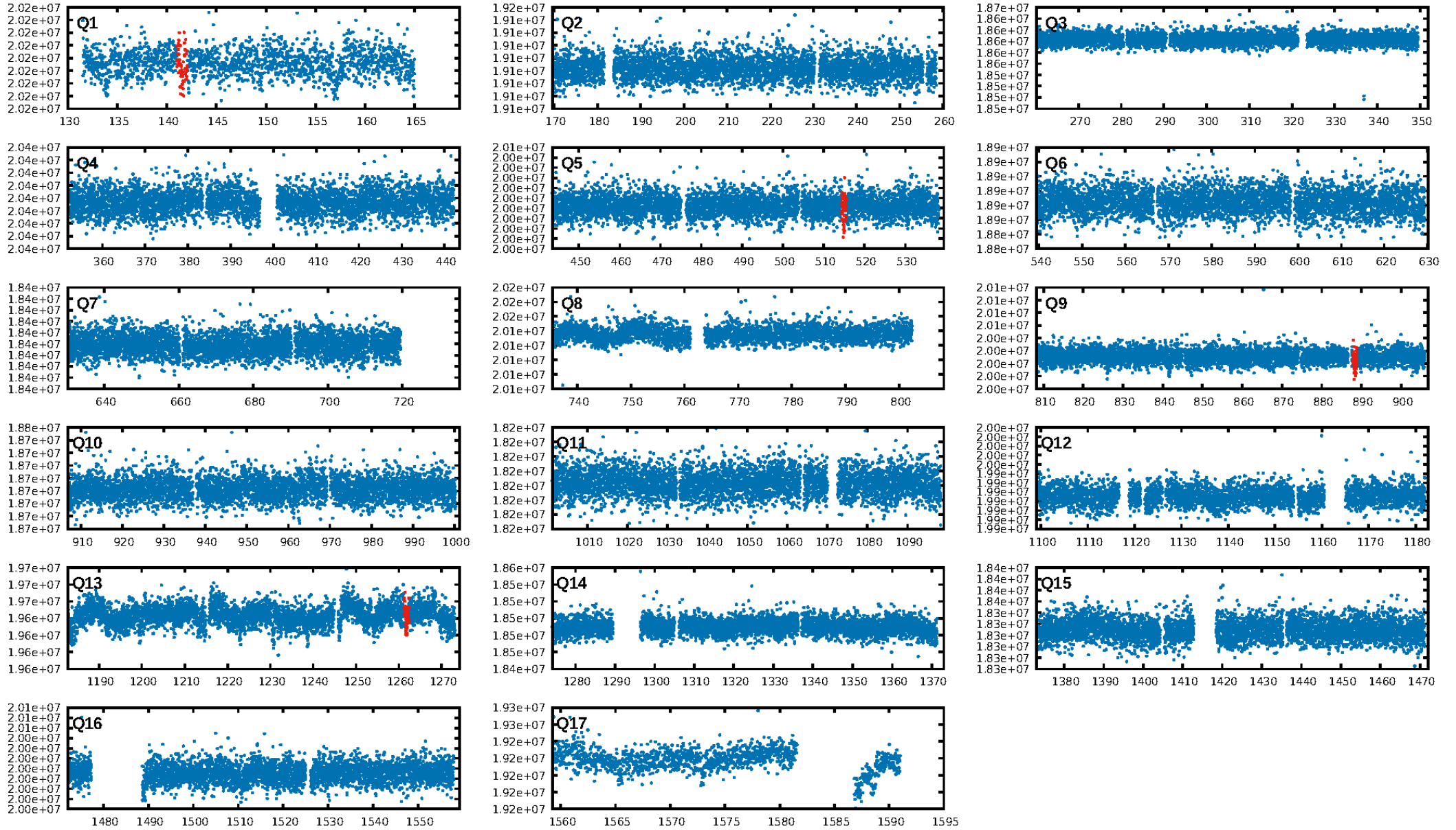
## DV Diagnostic Results:

ShortPeriod-sig: 0.3% [0.00σ]  
LongPeriod-sig: 100.0% [21.15σ]  
ModelChiSquare2-sig: 87.8%  
ModelChiSquareGof-sig: 99.9%  
Bootstrap-pfa: 1.85e-09  
RollingBand-fgt: 1.00 [2/2]  
GhostDiagnostic-chr: -0.5688  
Centroid-sig: 0.0%  
Centroid-so: 16.339 arcsec [9.13σ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 0.67 [2/3]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 09:32:49 Z

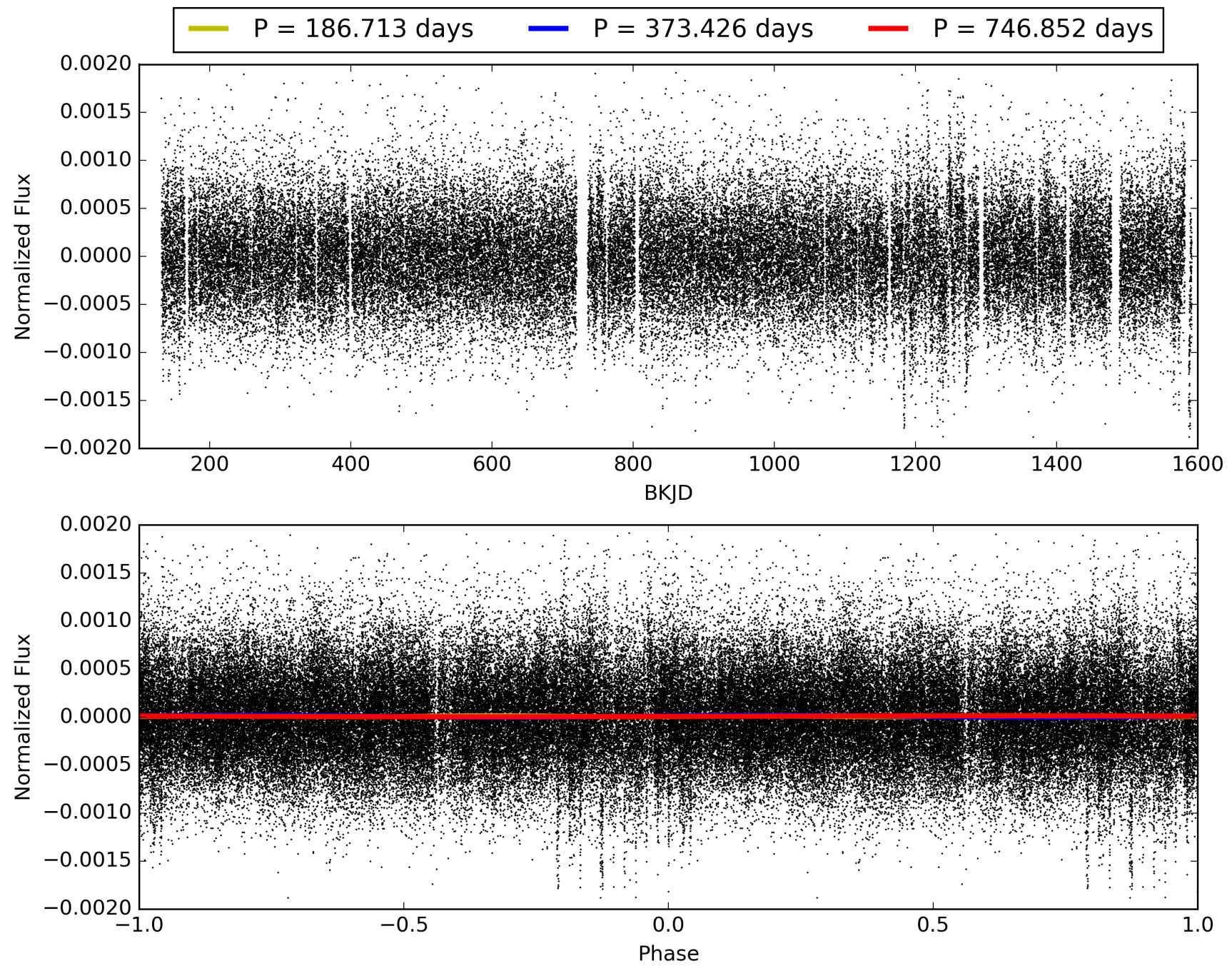
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005125196-03, PDC Light Curves



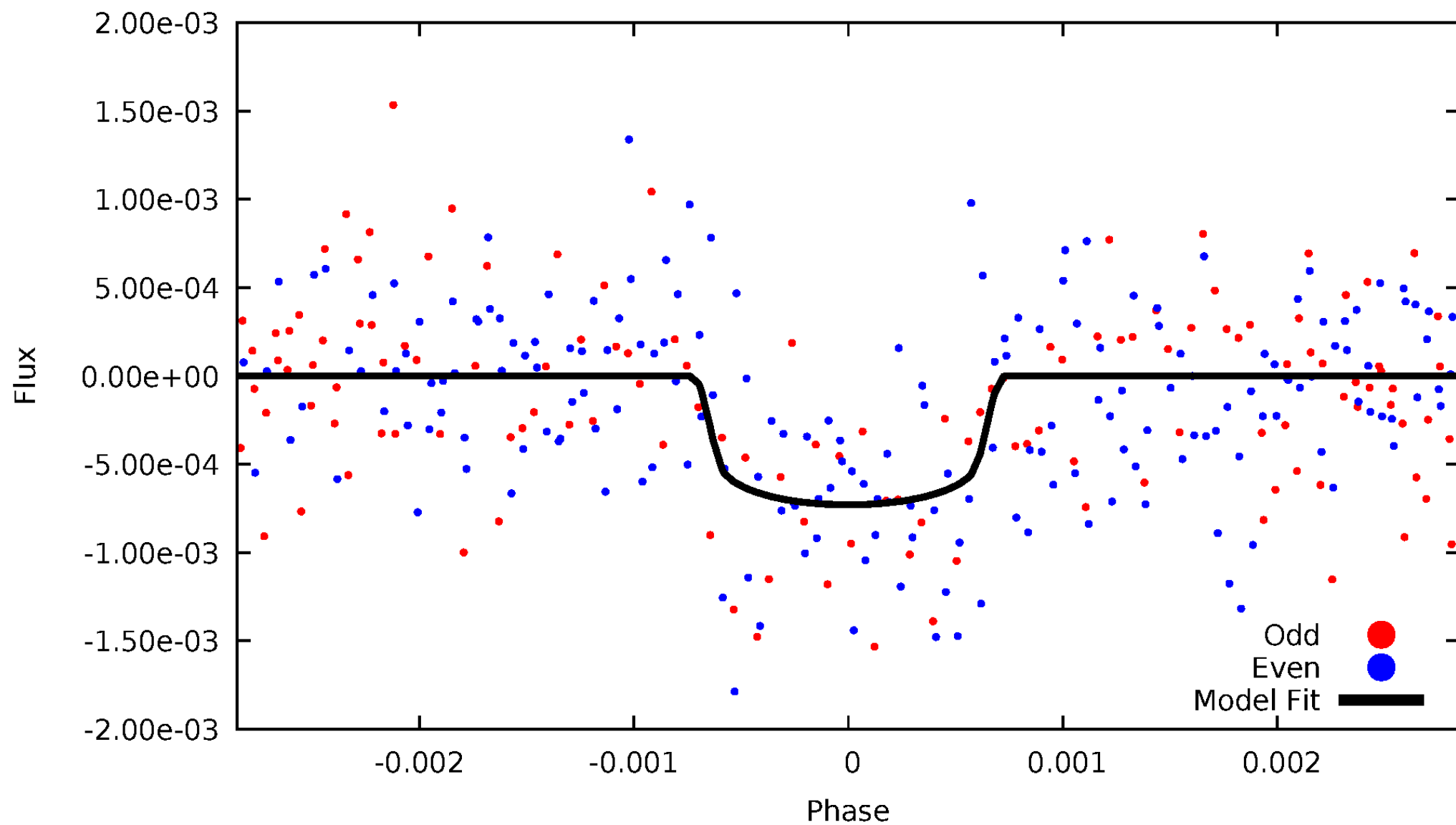


TCE 005125196-03



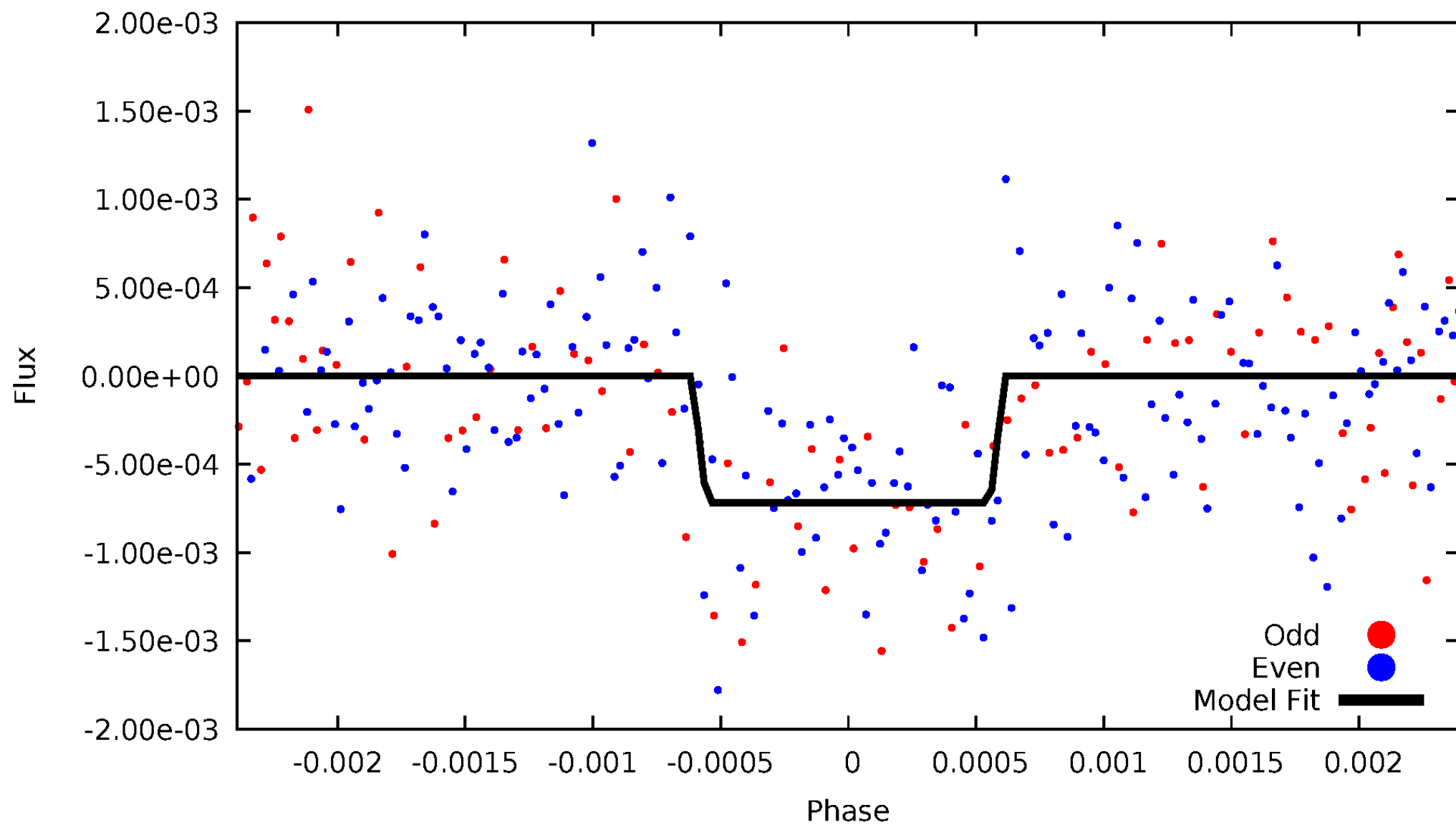
# DV Odd/Even

TCE 005125196-03



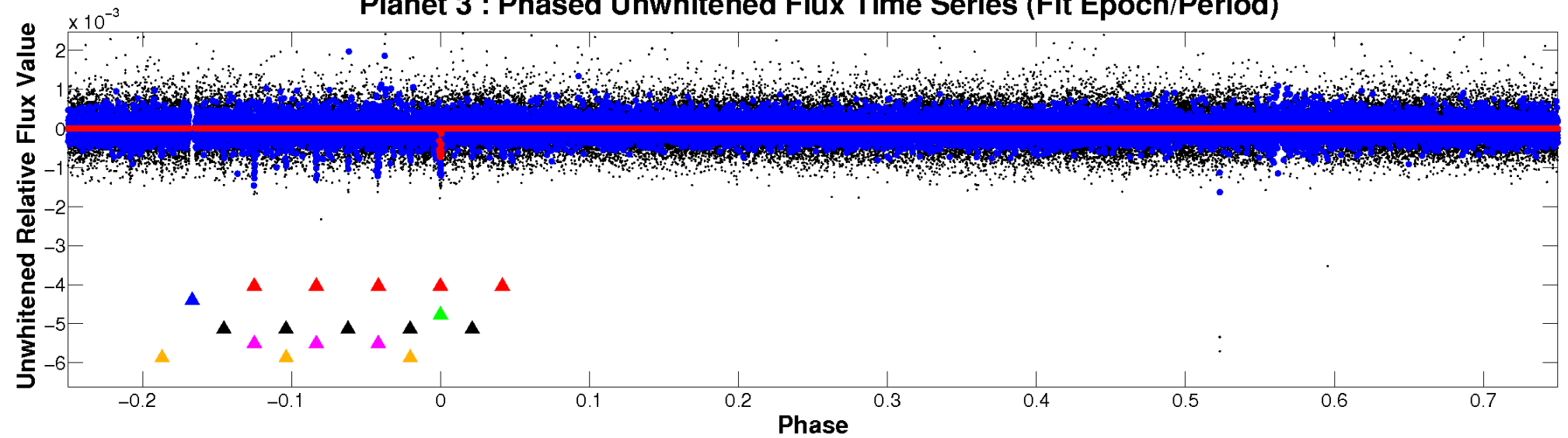
# ALT Odd/Even

TCE 005125196-03

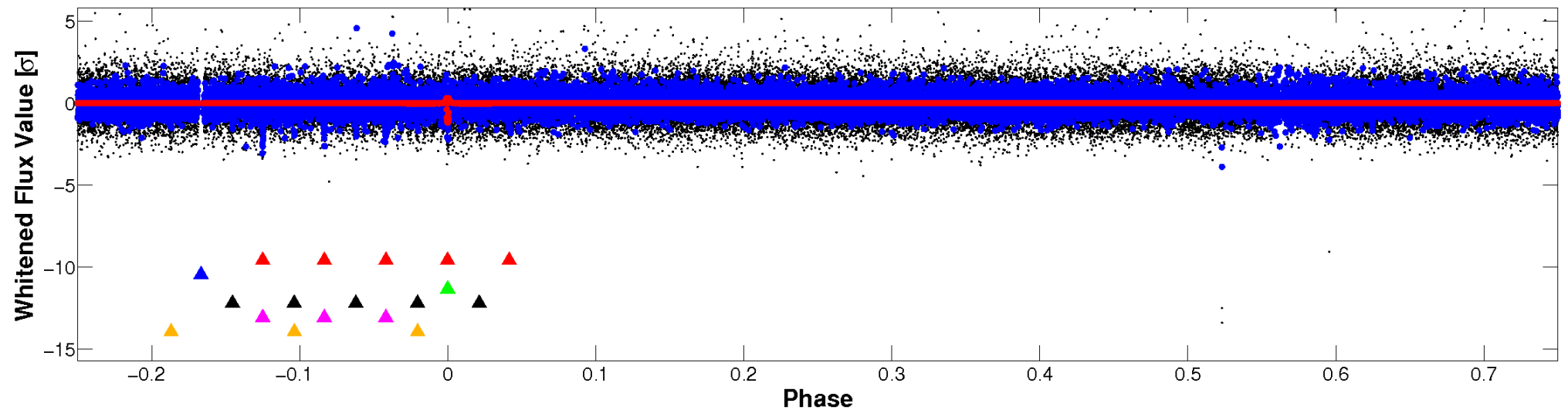


# Non-Whitened Vs. Whitened Light Curve

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

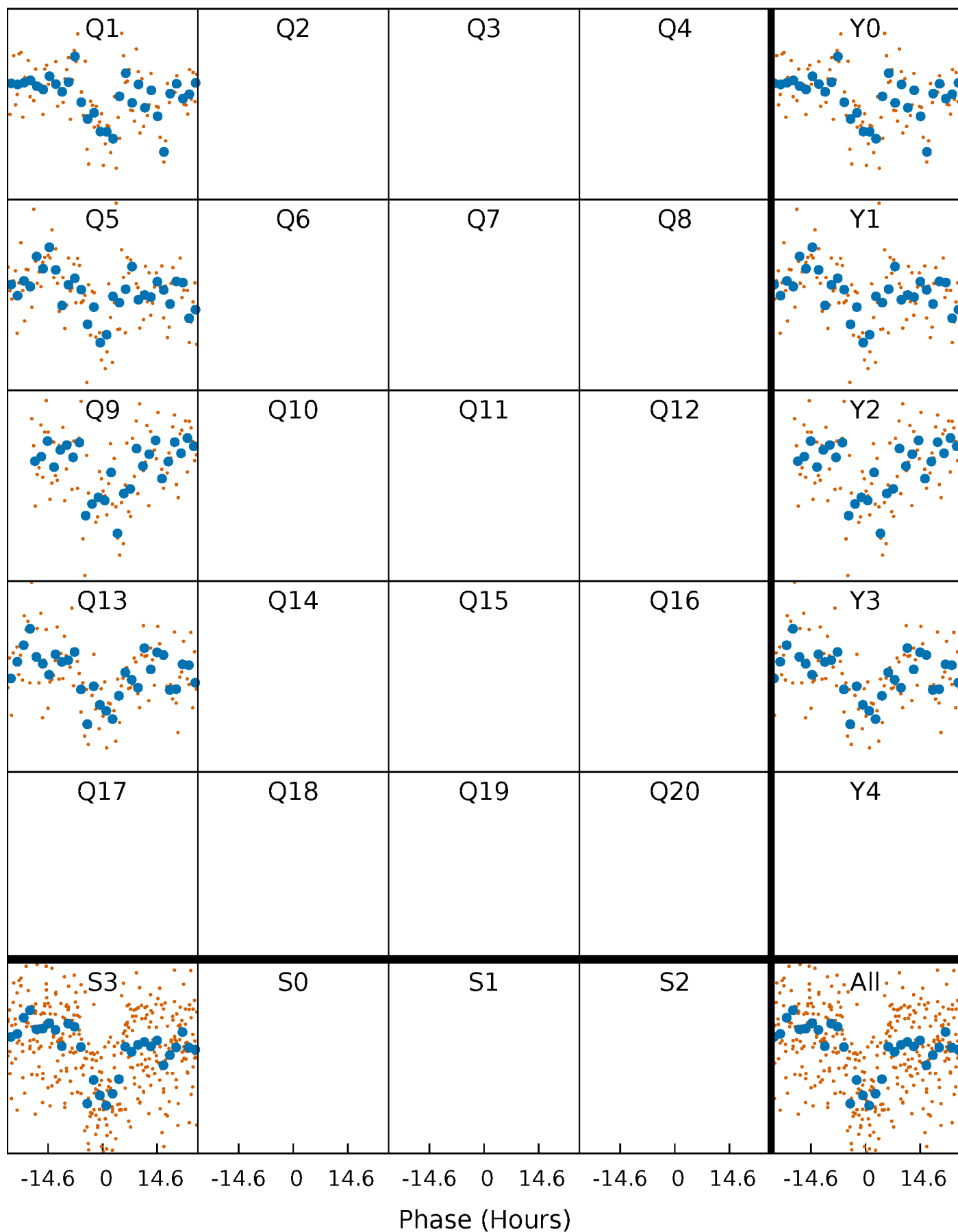


## Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



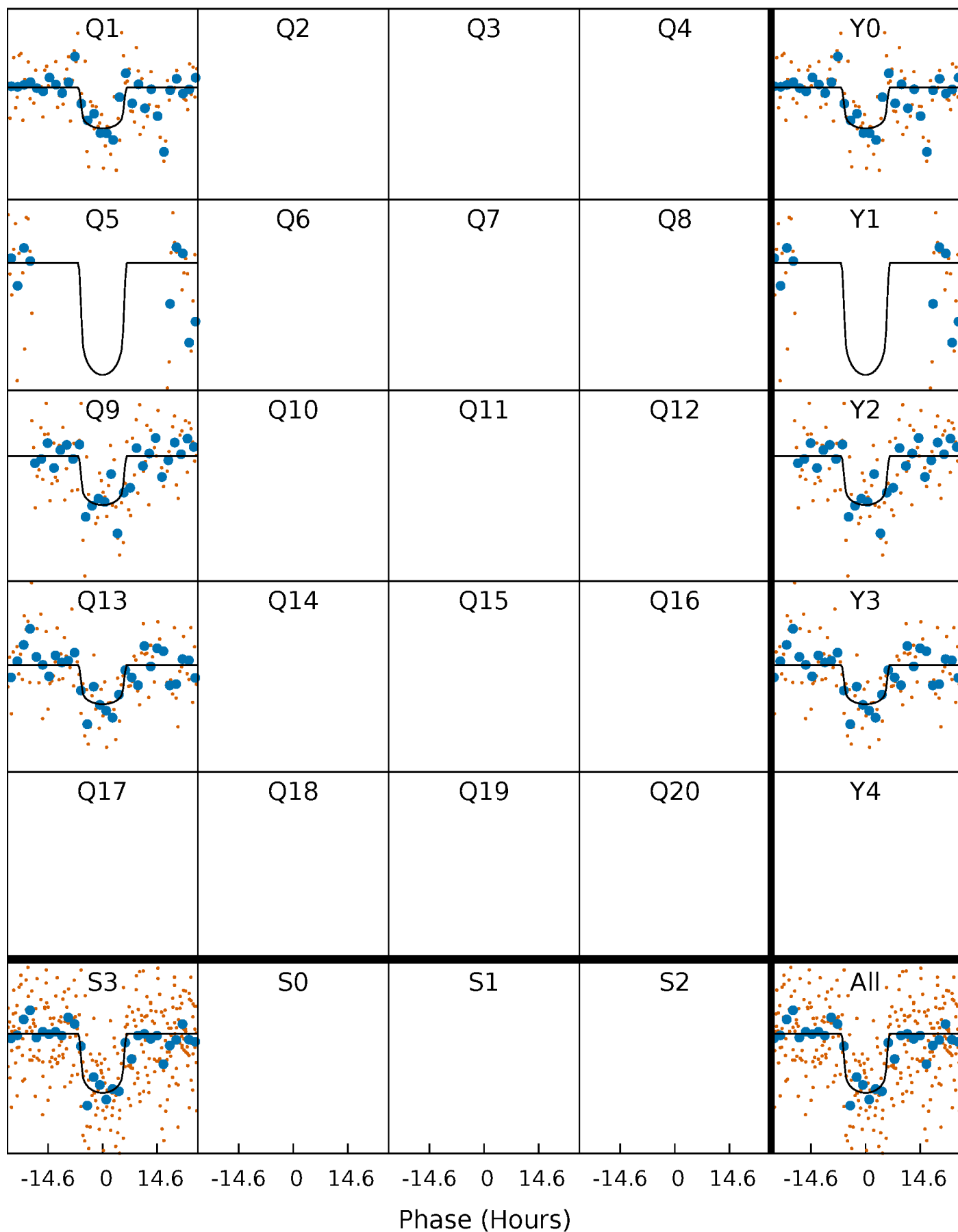
# PDC Quarter-Phased Transit Curves

TCE 005125196-03     $P=373.425774$  Days     $T_0=141.515412$  (BKJD)



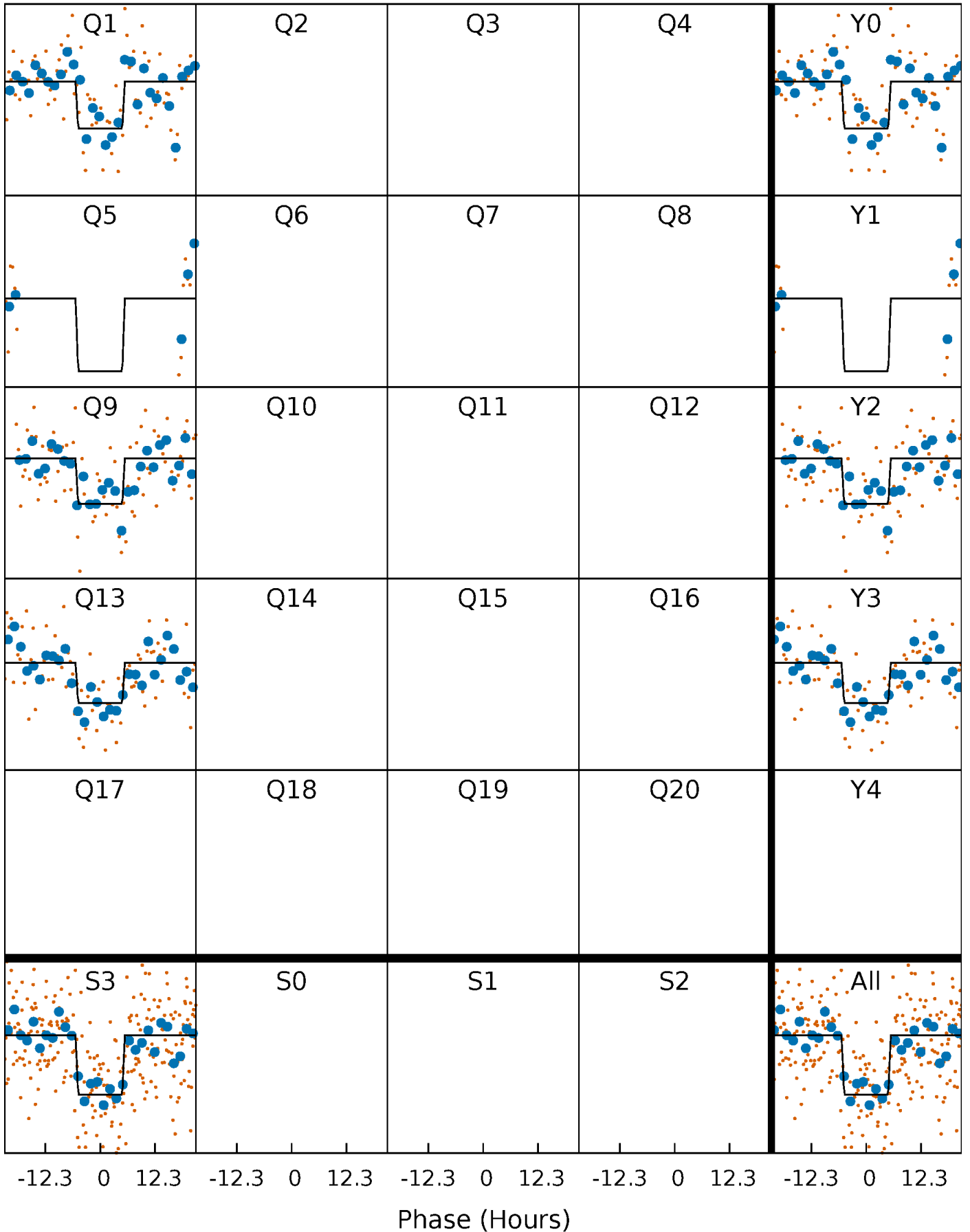
# DV Quarter-Phased Transit Curves

TCE 005125196-03     $P=373.425774$  Days     $T_0=141.515412$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

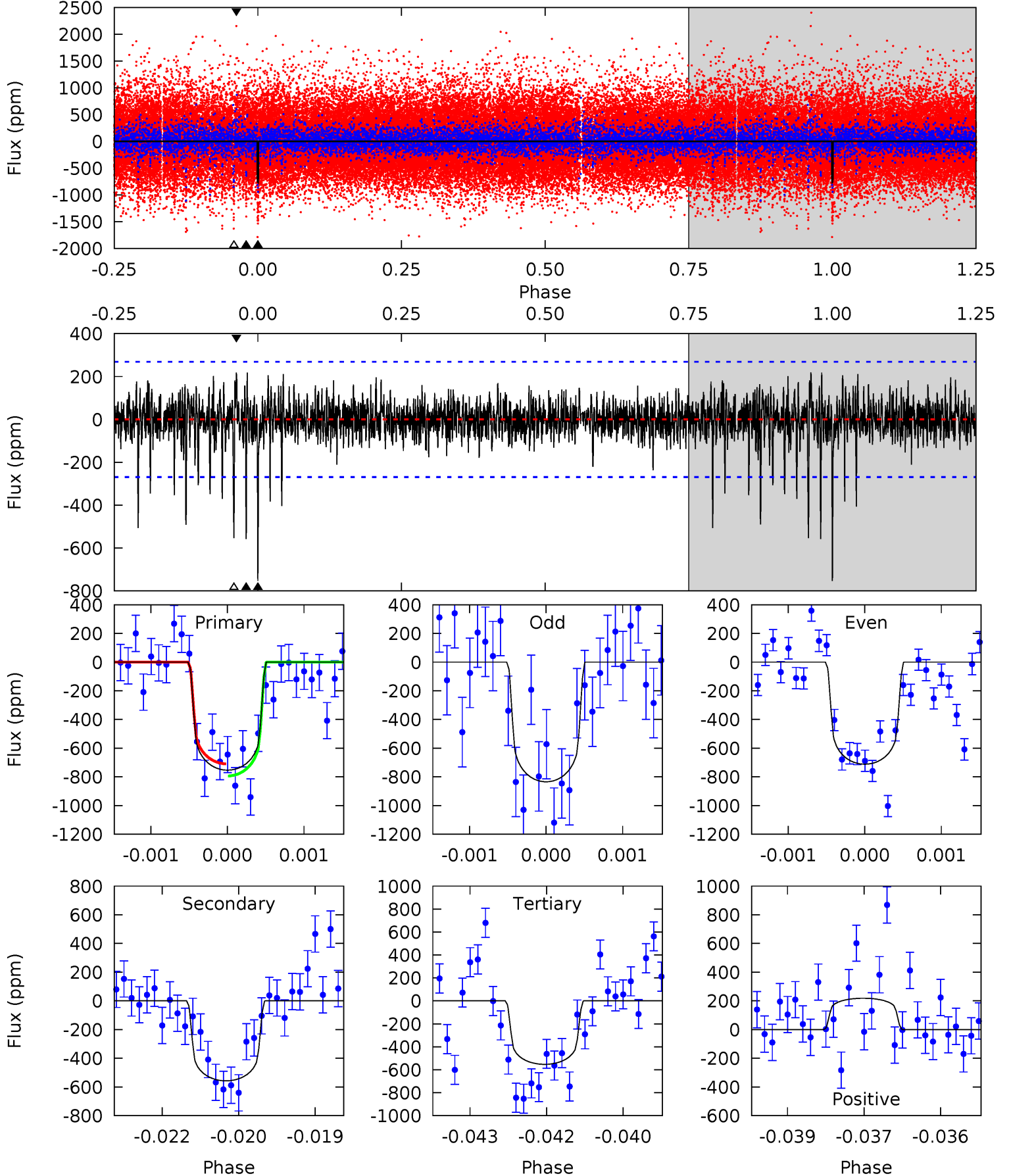
TCE 005125196-03     $P=373.430120$  Days     $T_0=141.499161$  (BKJD)



# DV Model-Shift Uniqueness Test

005125196-03,  $P = 373.425774$  Days,  $E = 141.515412$  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
15.1	11.2	11.1	4.38	5.39	3.19	1.40	4.02	10.7	0.09	6.80	1.16	1.01	0.22	0.84

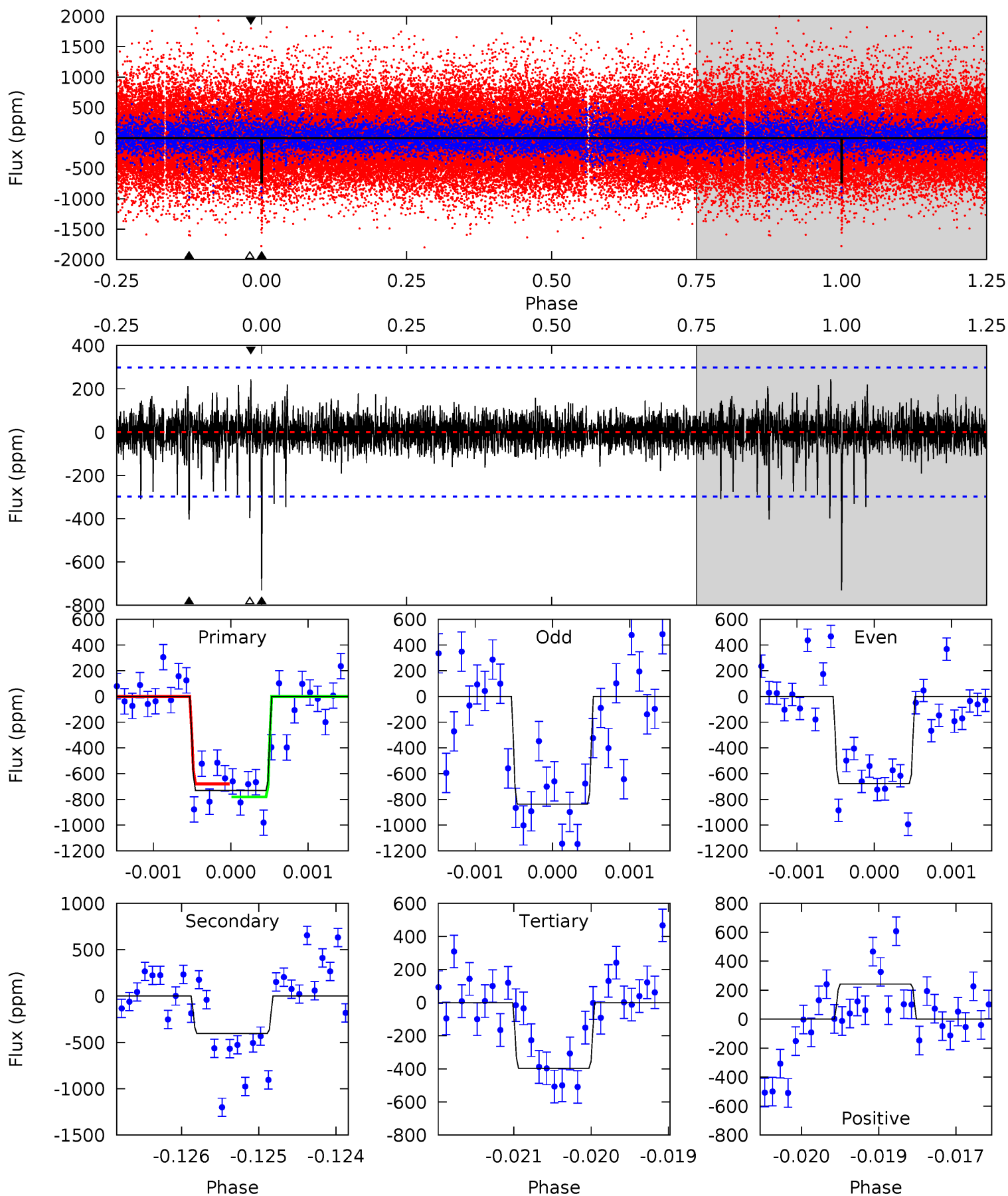




# Alt Model-Shift Uniqueness Test

005125196-03, P = 373.430120 Days, E = 141.499161 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
13.3	7.34	7.20	4.41	5.42	3.25	1.00	6.09	8.88	0.14	2.93	1.38	1.02	0.25	0.93



### Stellar Parameters For KIC 005125196

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6355^{+179}_{-246}$	$4.410^{+0.068}_{-0.189}$	$-0.080^{+0.250}_{-0.300}$	$1.108^{+0.327}_{-0.140}$	$1.151^{+0.157}_{-0.157}$	$1.191^{+0.405}_{-0.586}$
	+3%/-4%	+2%/-4%	+312%/-375%	+30%/-13%	+14%/-14%	+34%/-49%
Source	PHO1	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 005125196-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-557 \pm 50$	$3.47^{+0.69}_{-0.57}$	$407^{+26}_{-21}$	$5847^{+477}_{-407}$	$28165^{+12467}_{-8742}$
Alt.	$-404 \pm 55$	$3.38^{+0.69}_{-0.59}$	$405^{+28}_{-22}$	$5481^{+494}_{-400}$	$21539^{+10435}_{-6643}$

$T_{max}$  = 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

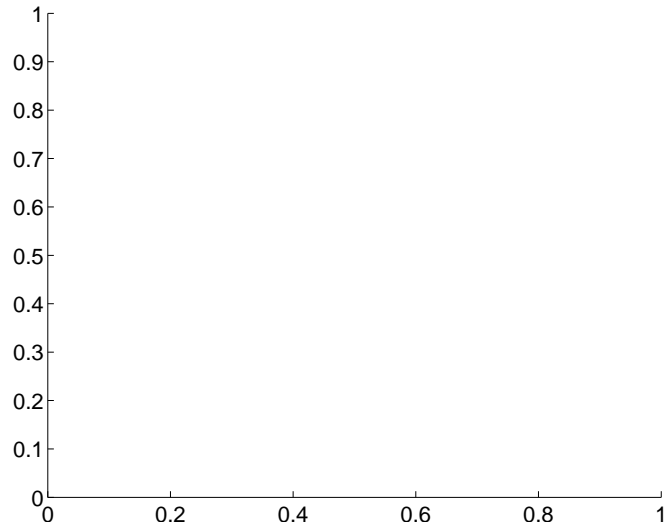
Supplemental centroid analysis for 005125196-03. Kepler magnitude: 15.09. Transit SNR 8.87

There are 0 quarters with good PRF difference image offsets

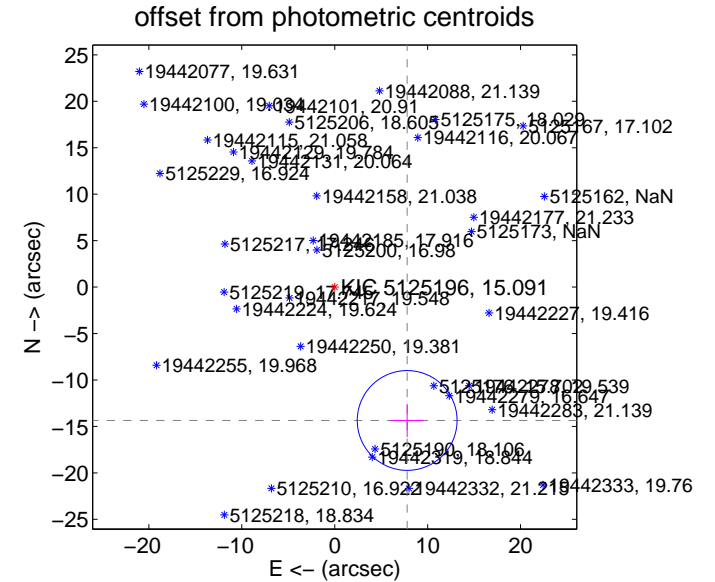
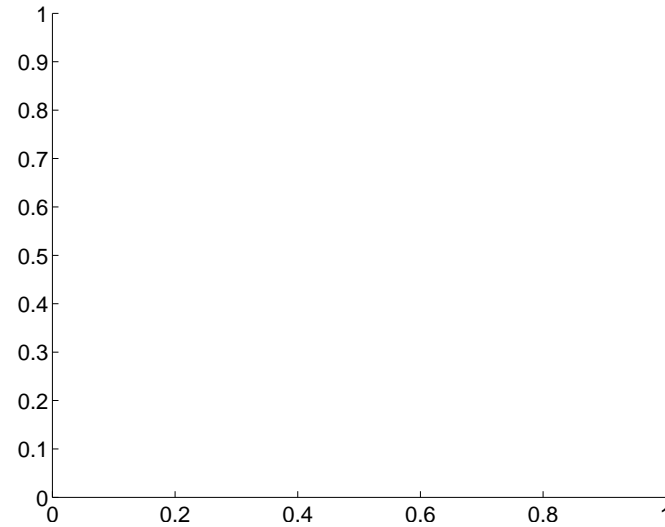
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$16.34 \pm 1.79$	$9.13$	$-7.80 \pm 1.79$	$-14.36 \pm 1.79$

There is no PRF-fit offset from OOT-fit

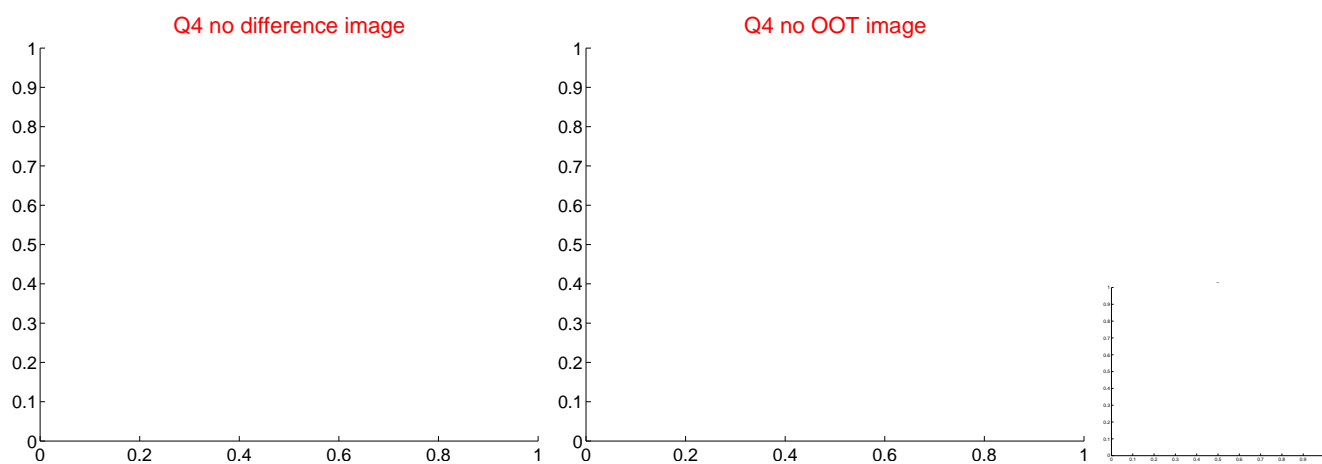
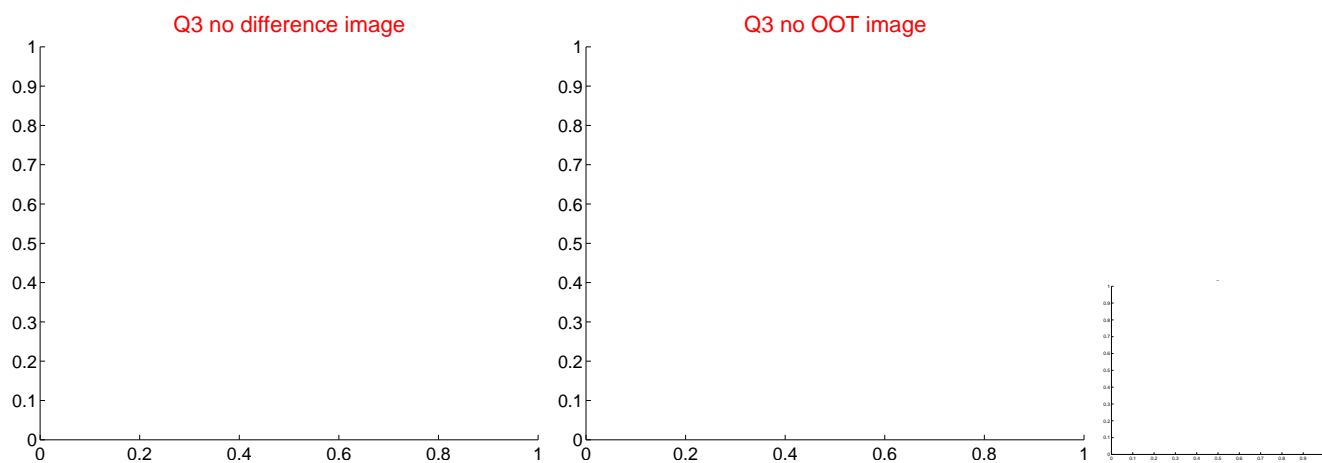
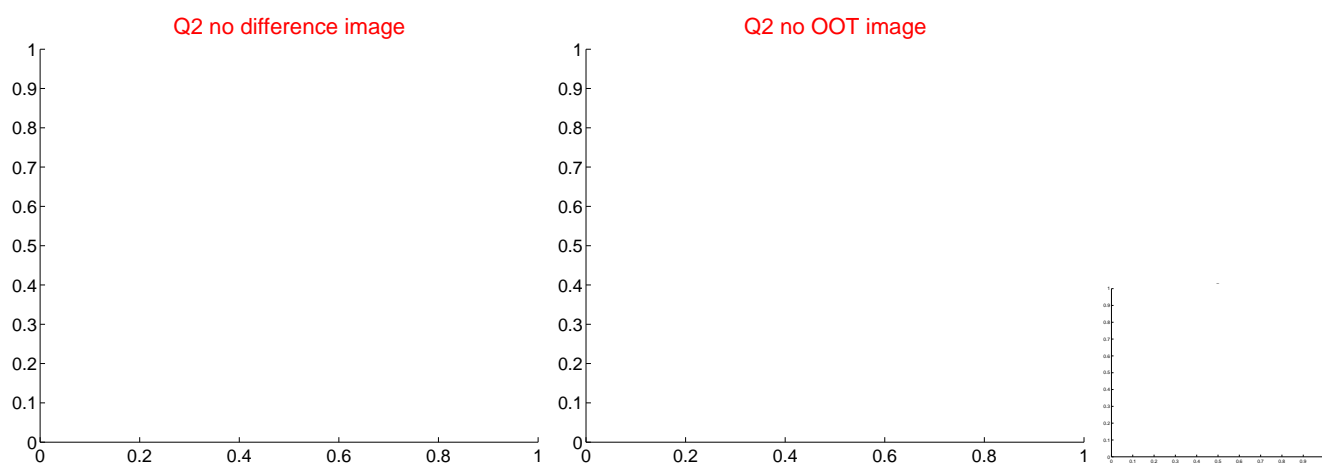
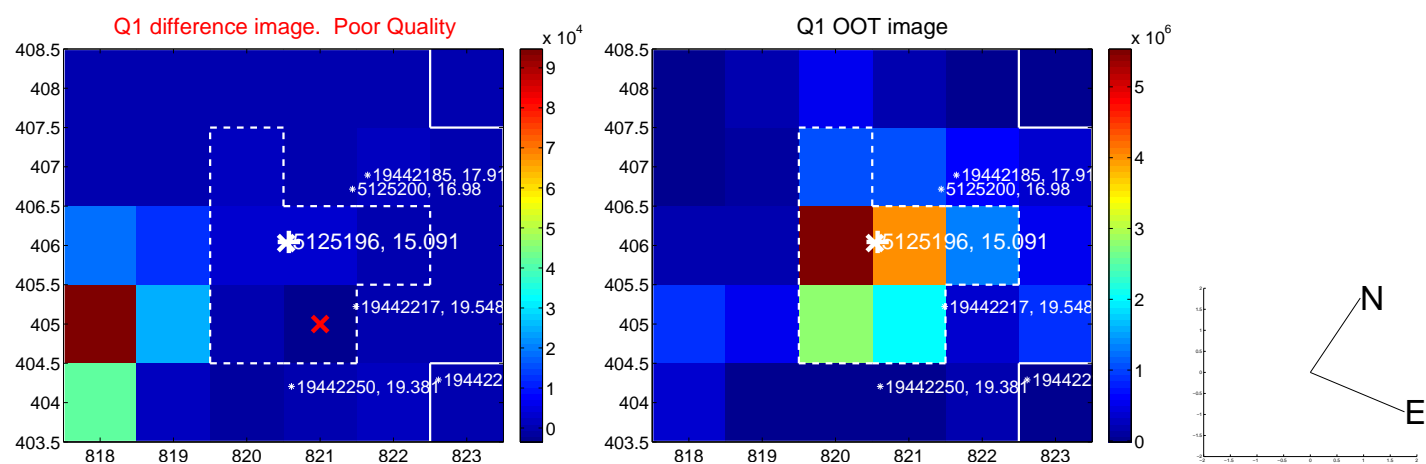


There is no PRF-fit offset from KIC

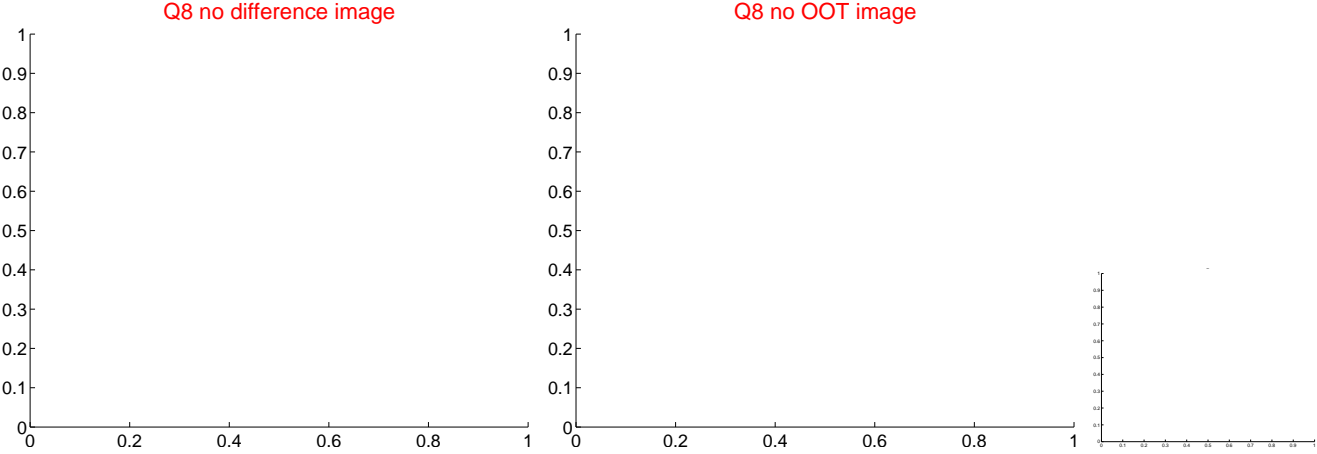
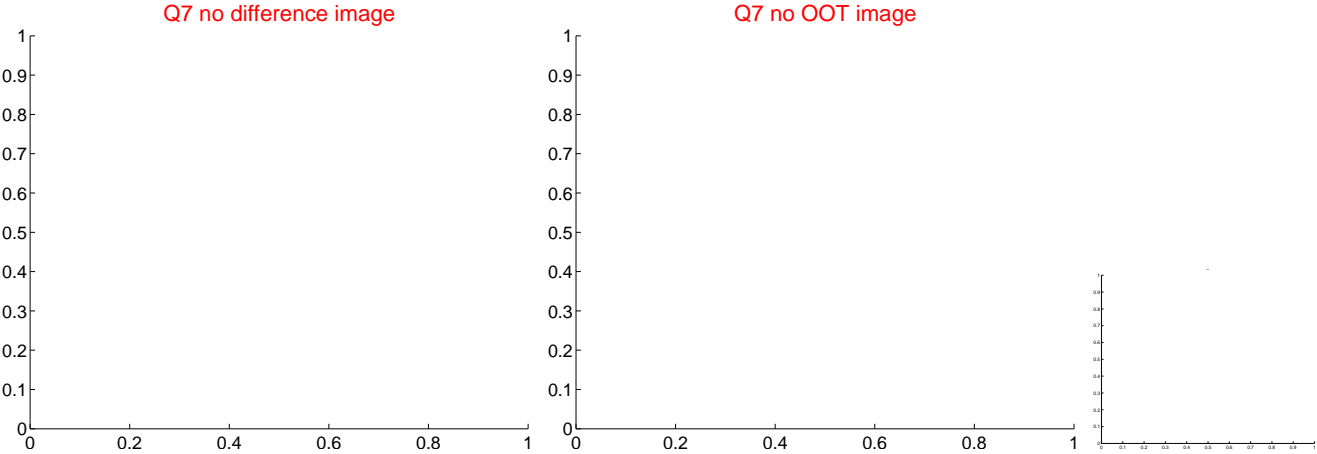
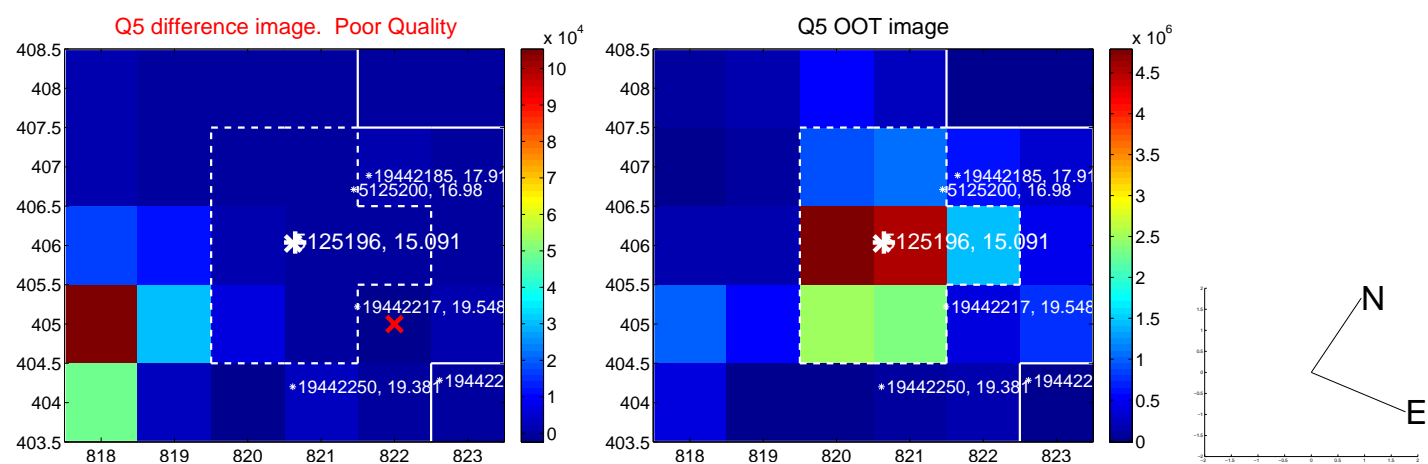


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



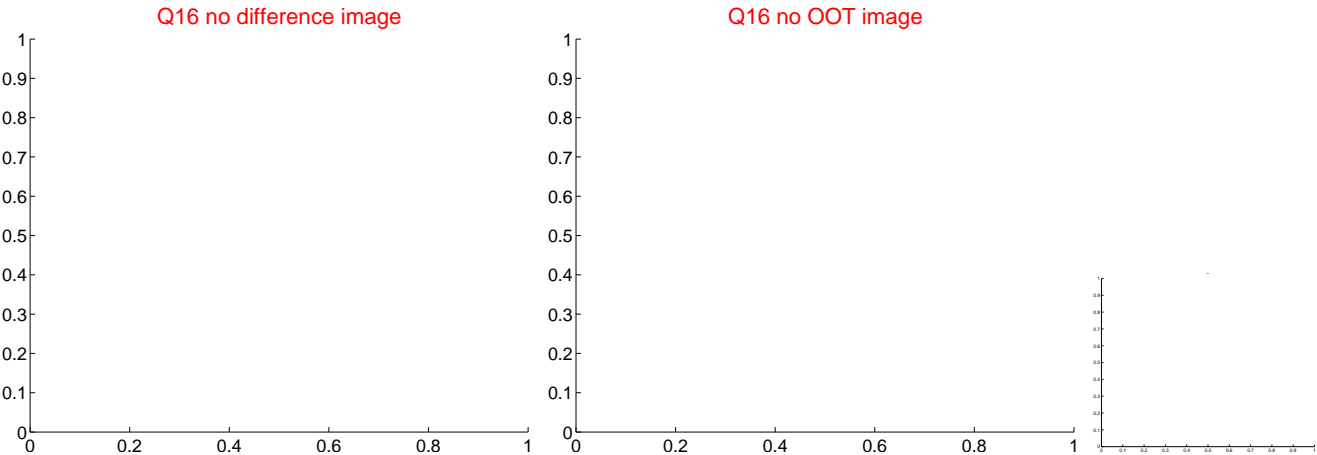
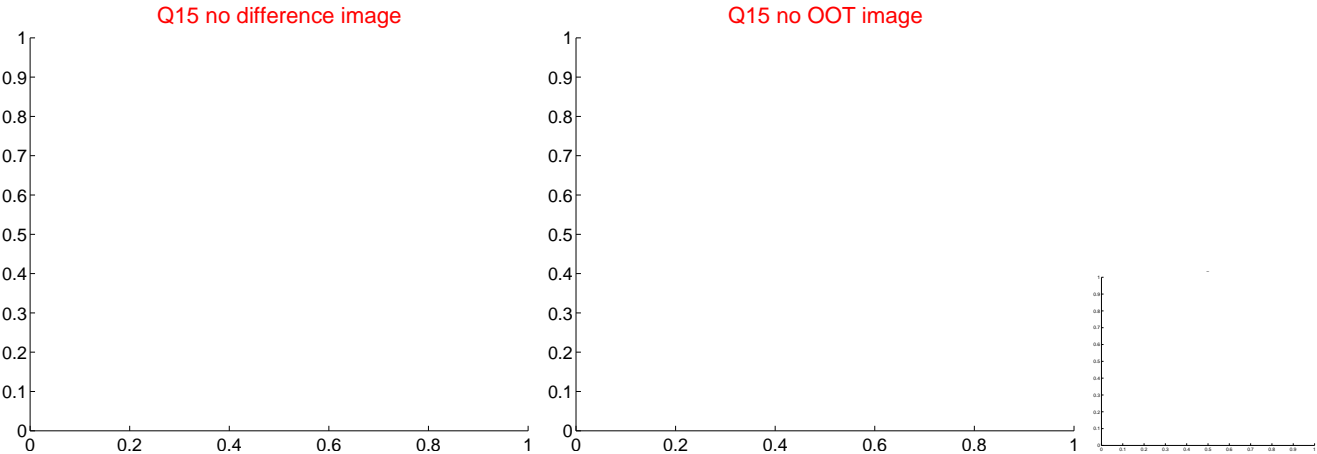
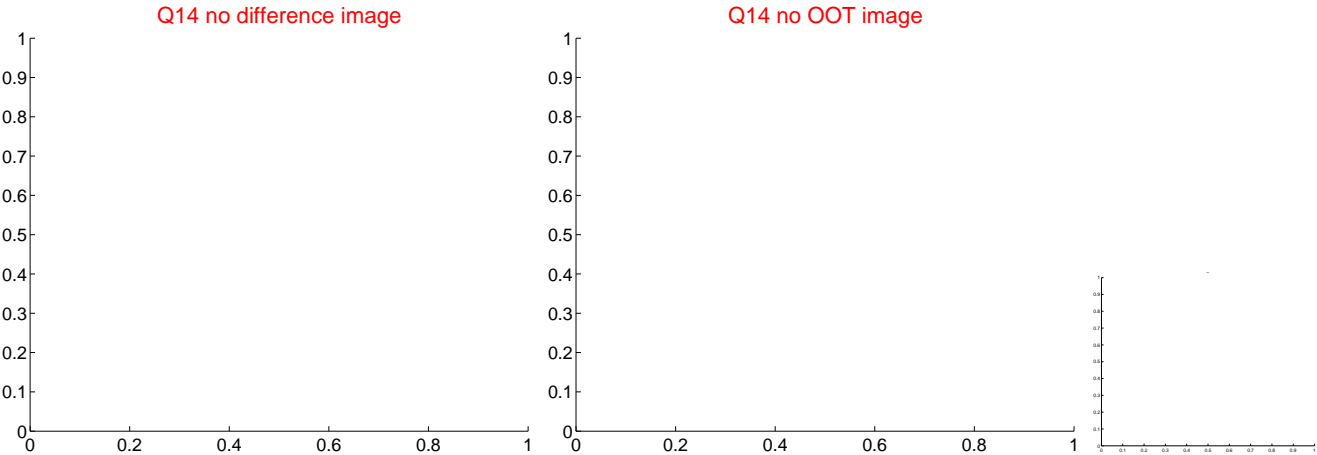
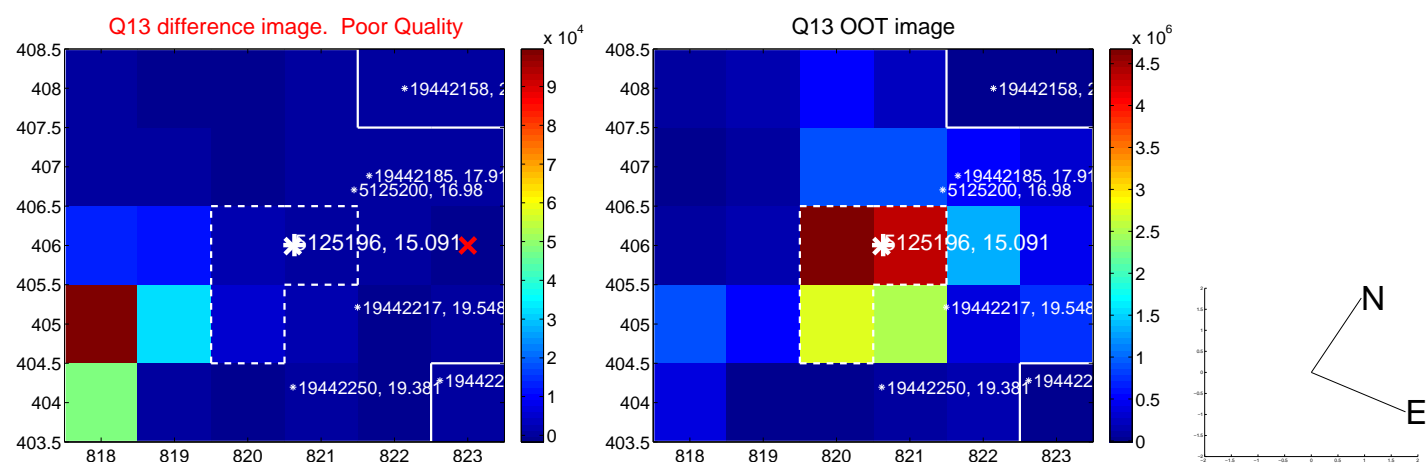
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



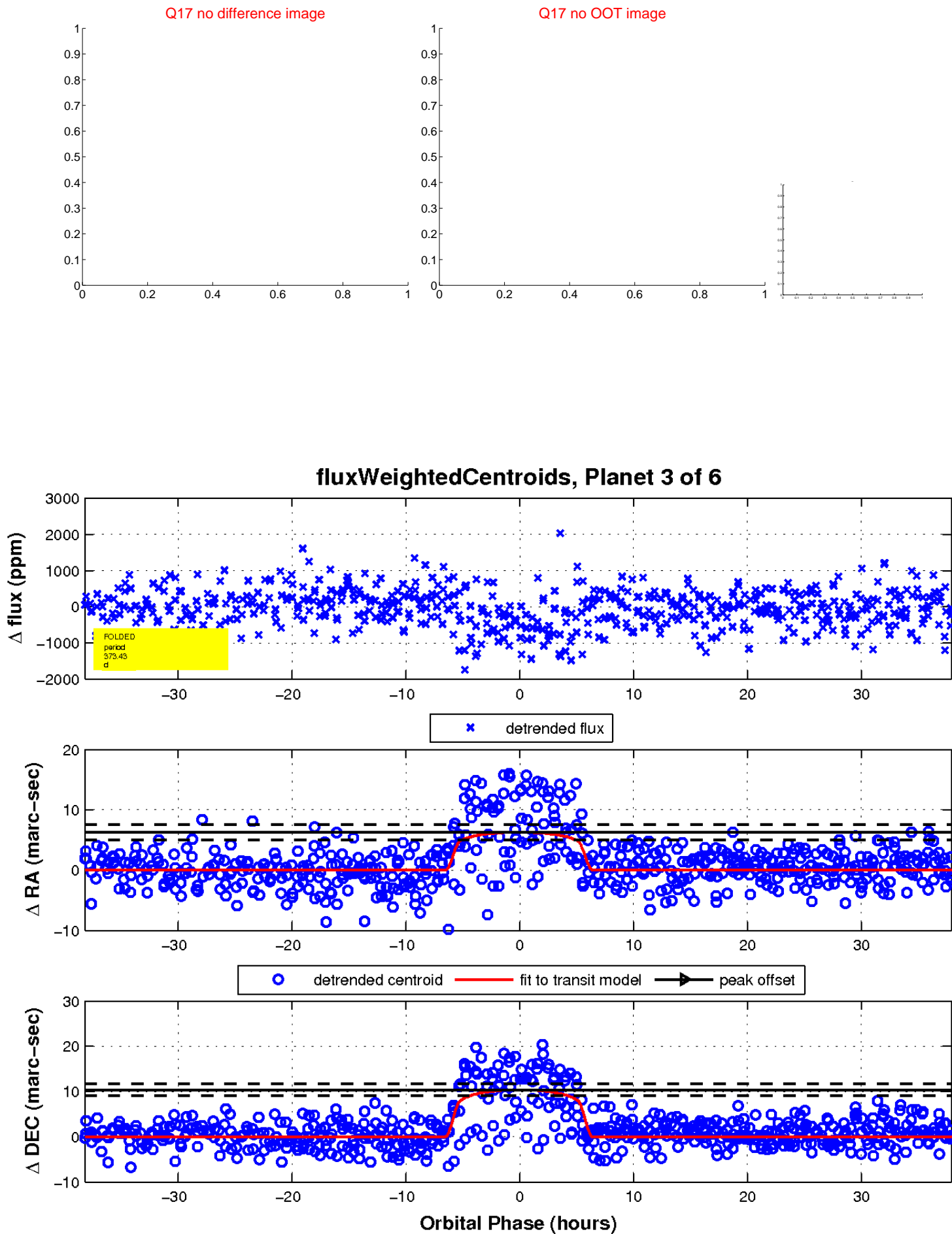
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



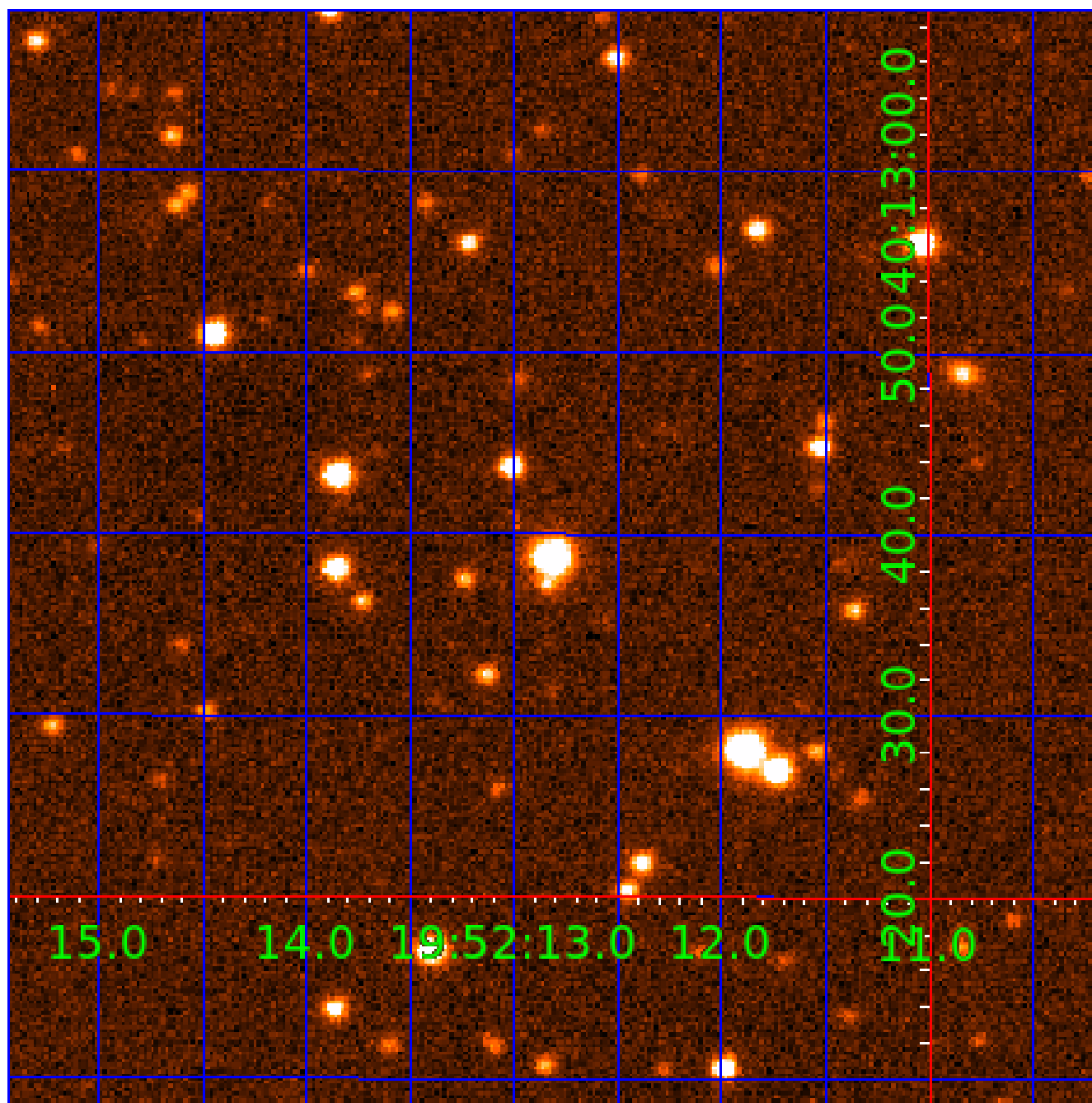
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





UKIRT Image

Declination



# KIC 005125196

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005125196-01	OBS	No	357.880157	157.030977	791.8	11.737	11.3	11.9	1.11	6355	3.23	1.68
005125196-02	OBS	No	373.422739	452.718029	809.4	10.982	10.5	10.9	1.11	6355	3.24	1.58
005125196-03	OBS	No	373.425774	141.515412	729.3	12.766	8.7	8.9	1.11	6355	3.36	1.58
005125196-04	OBS	No	357.863315	149.471720	585.3	9.904	8.5	9.2	1.11	6355	2.82	1.68
005125196-06	OBS	No	715.749297	133.930637	585.1	10.173	7.4	7.5	1.11	6355	2.86	0.67

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005125196-01	OBS	FP	0.00	0	1	1	0	HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
005125196-02	OBS	FP	0.00	0	1	1	0	HAS_SEC_TCE—CENT_FEW_DIFFS—HALO_GHOST
005125196-03	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_FEW_DIFFS
005125196-04	OBS	FP	0.00	0	1	1	0	HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
005125196-06	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_FEW_DIFFS—HALO_GHOST

**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 005125196-04

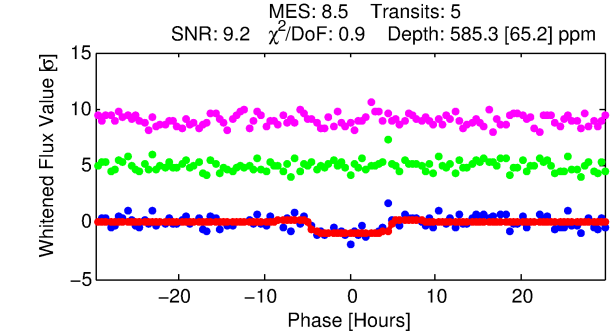
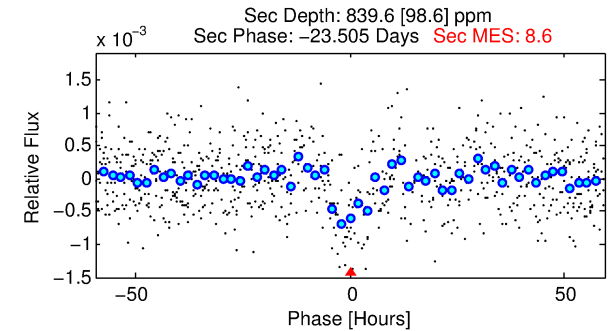
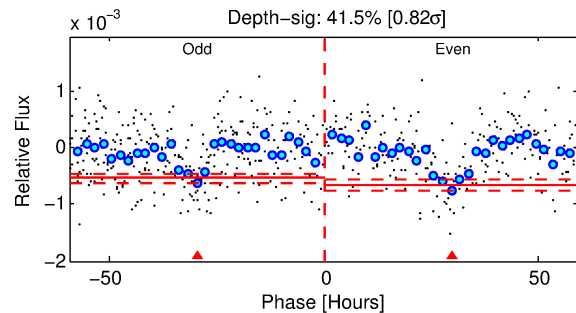
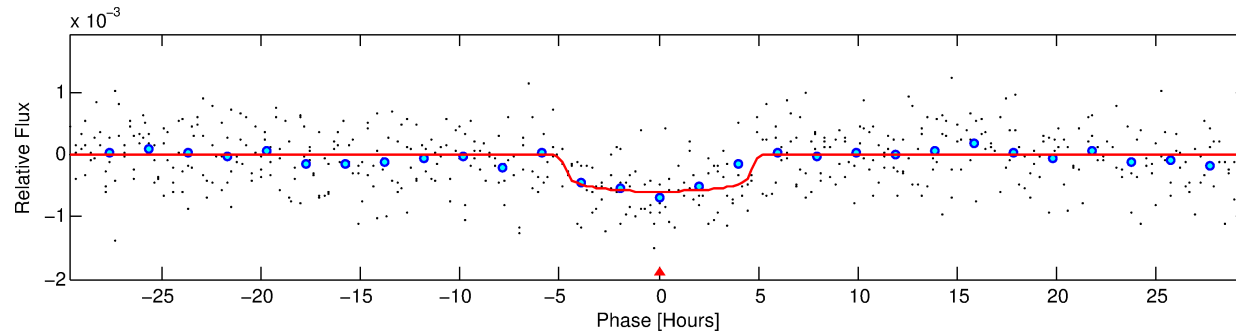
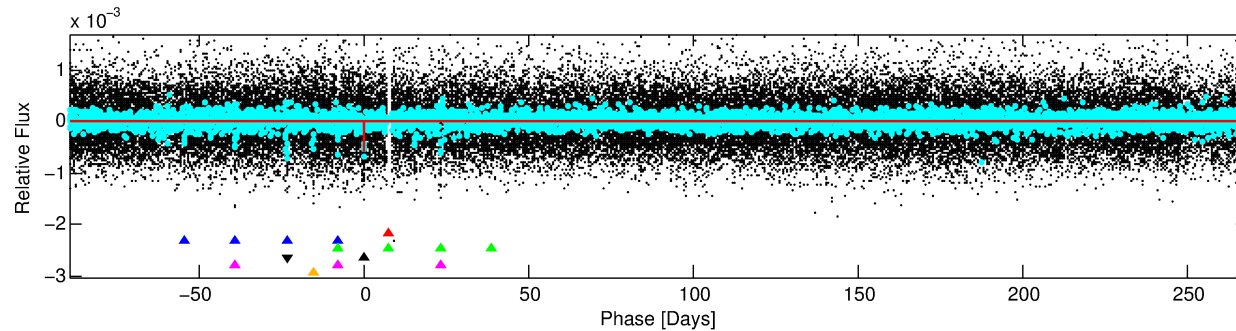
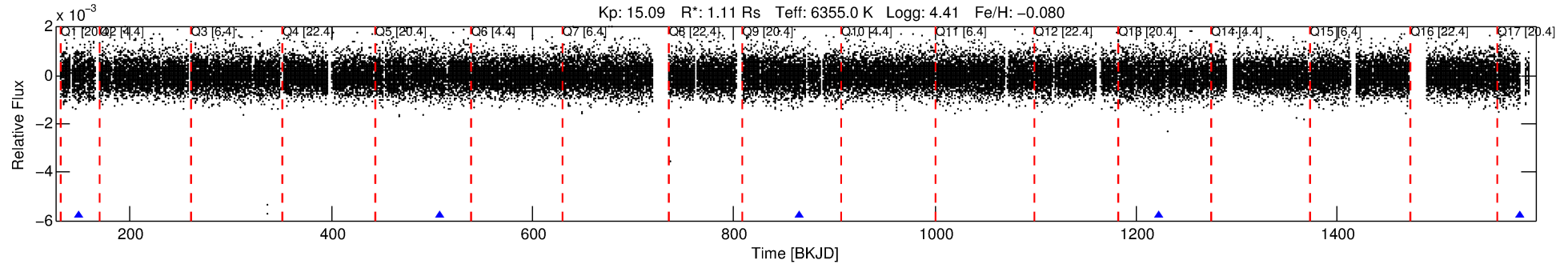
No Significant Match Found

# DV One-Page Summary

KIC: 5125196 Candidate: 4 of 6 Period: 357.863 d

KOI: K04176 Corr: No Ephemeris Match

Kp: 15.09 R\*: 1.11 Rs Teff: 6355.0 K Logg: 4.41 Fe/H: -0.080



## DV Fit Results:

Period = 357.86331 [0.00593] d  
Epoch = 149.4717 [0.0147] BKJD  
Rp/R\* = 0.0234 [0.0120]  
a/R\* = 221.77 [586.40]  
b = 0.63 [2.51]  
Seff = 1.68 [0.64]  
Teq = 290 [28] K  
Rp = 2.82 [1.68] Re  
a = 1.0340 [0.2528] AU  
Ag = 61942.62 [67810.58] [0.91σ]  
Teffp = 7079 [1856] K [3.66σ]

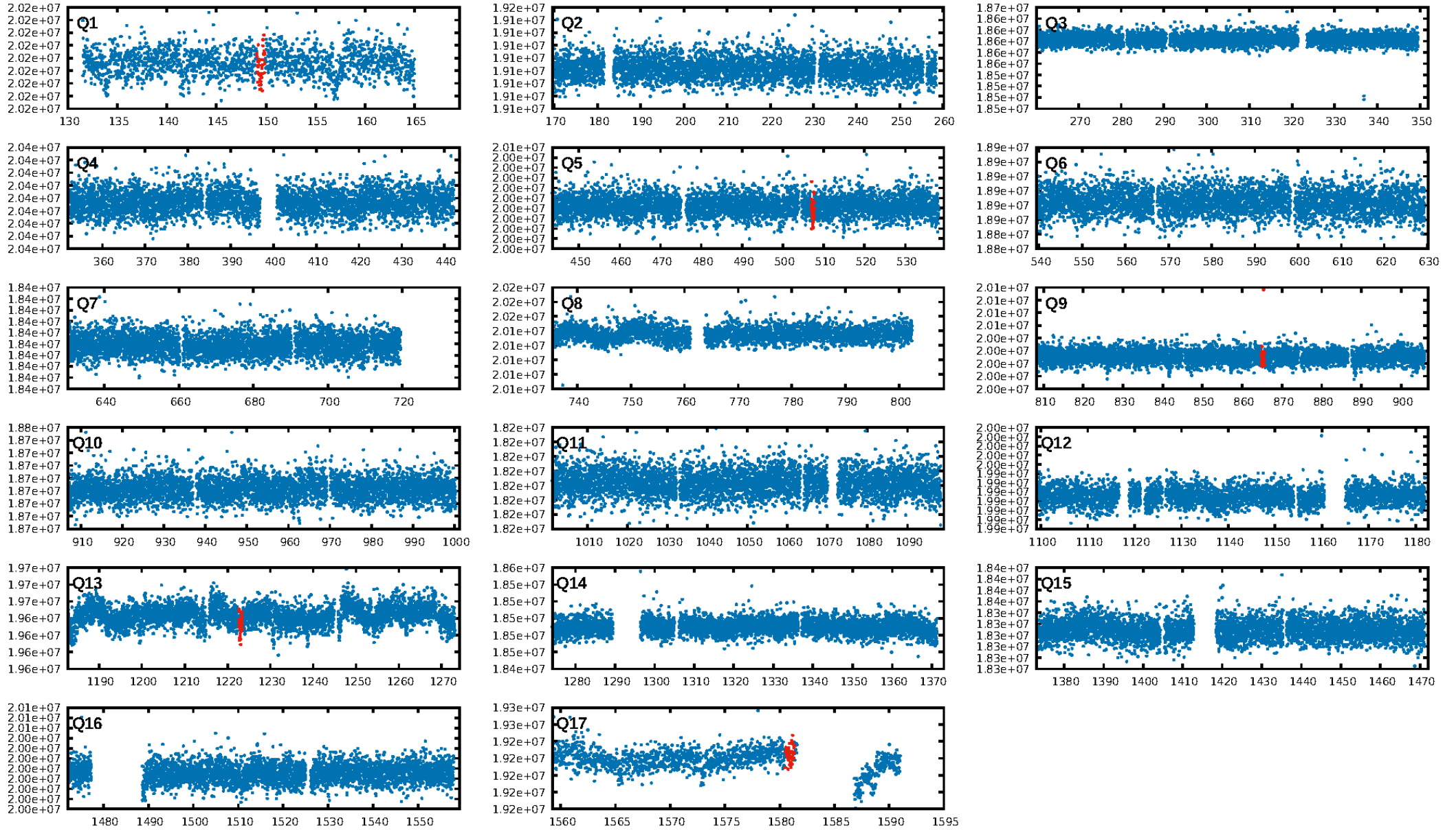
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 2.1% [0.03σ]  
ModelChiSquare2-sig: 72.6%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 2.45e-10  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 0.06364  
Centroid-sig: 0.0%  
Centroid-so: 15.117 arcsec [7.41σ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [4/4]

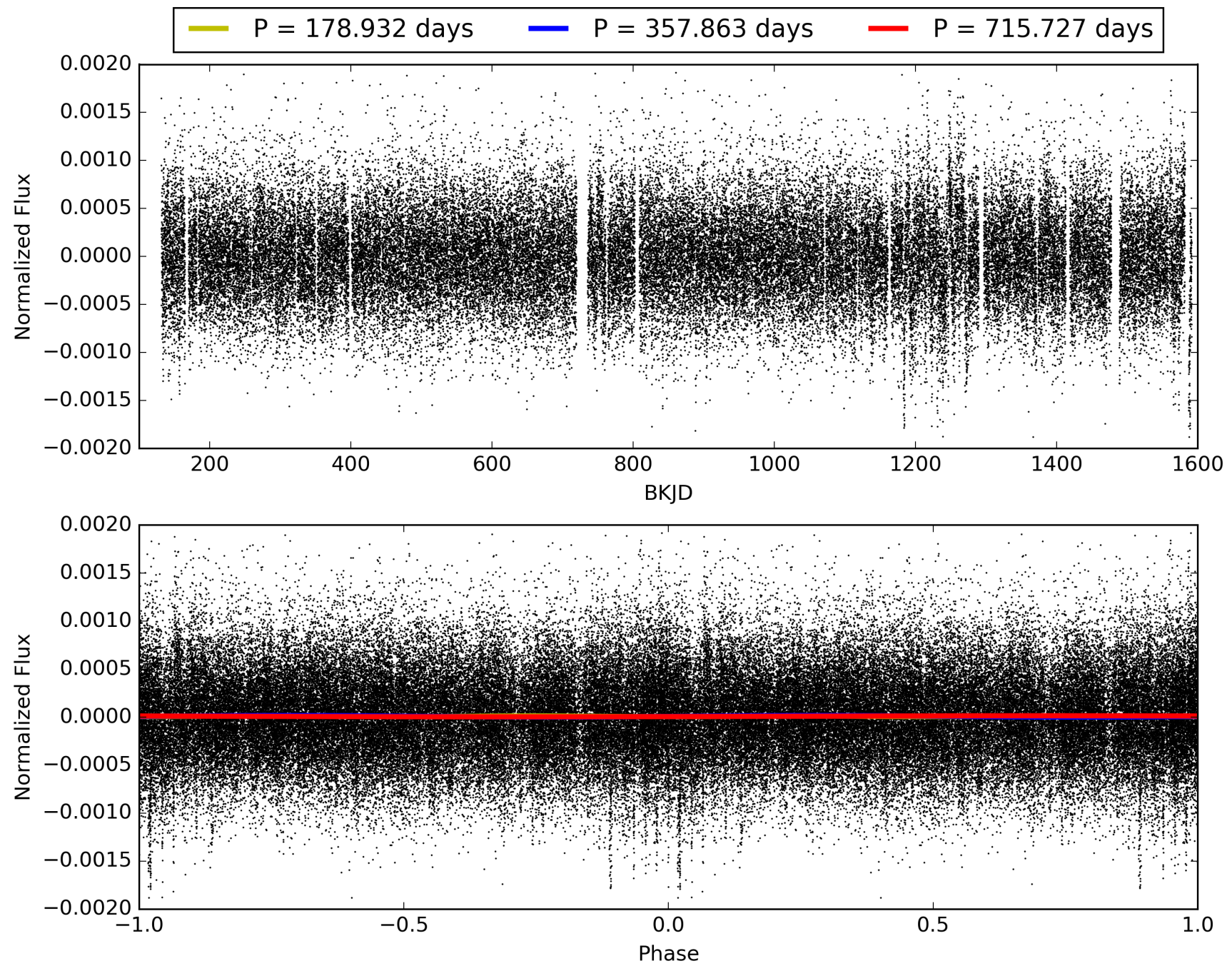
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 09:32:59 Z

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

# TCE 005125196-04, PDC Light Curves

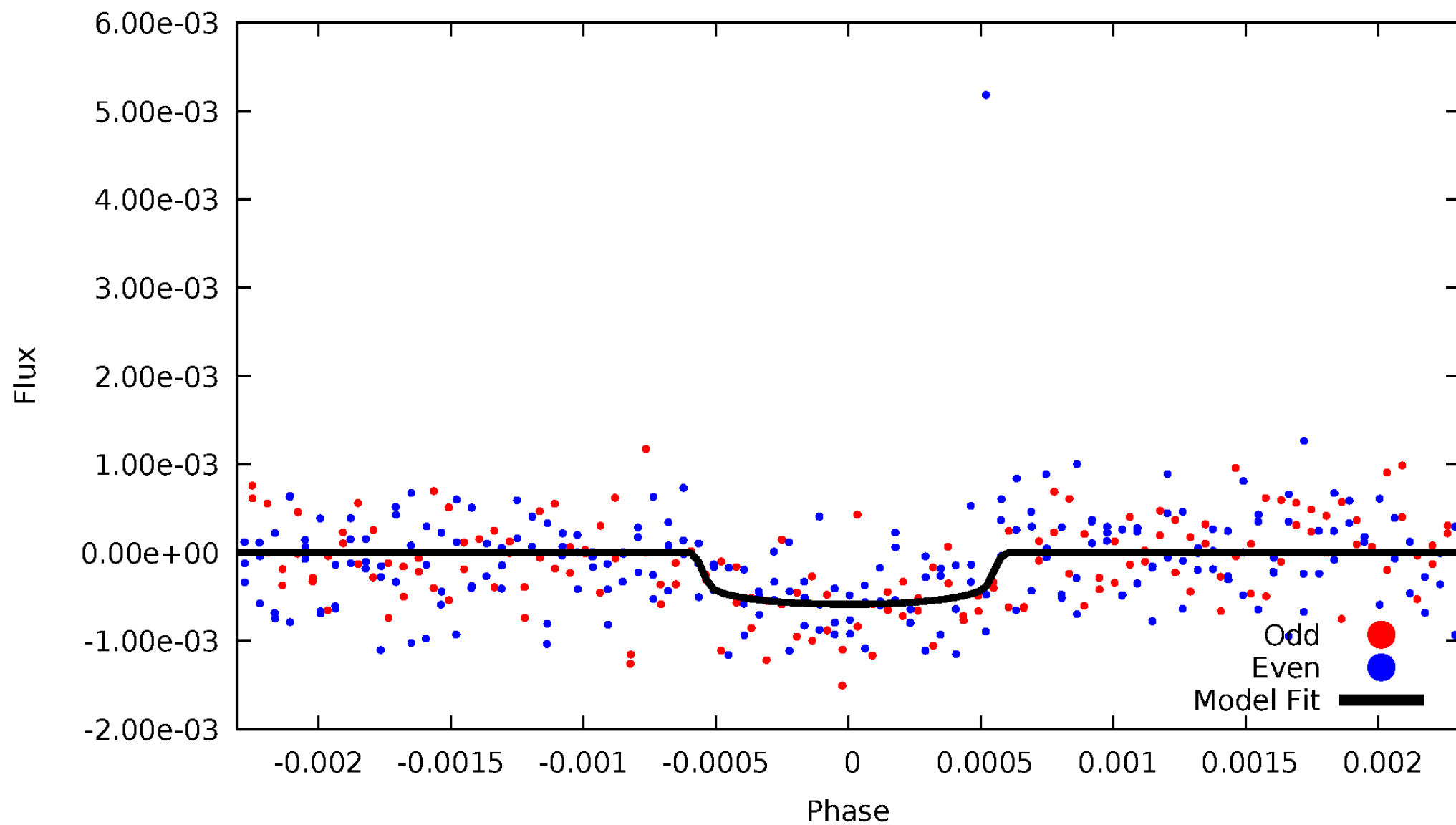


TCE 005125196-04



# DV Odd/Even

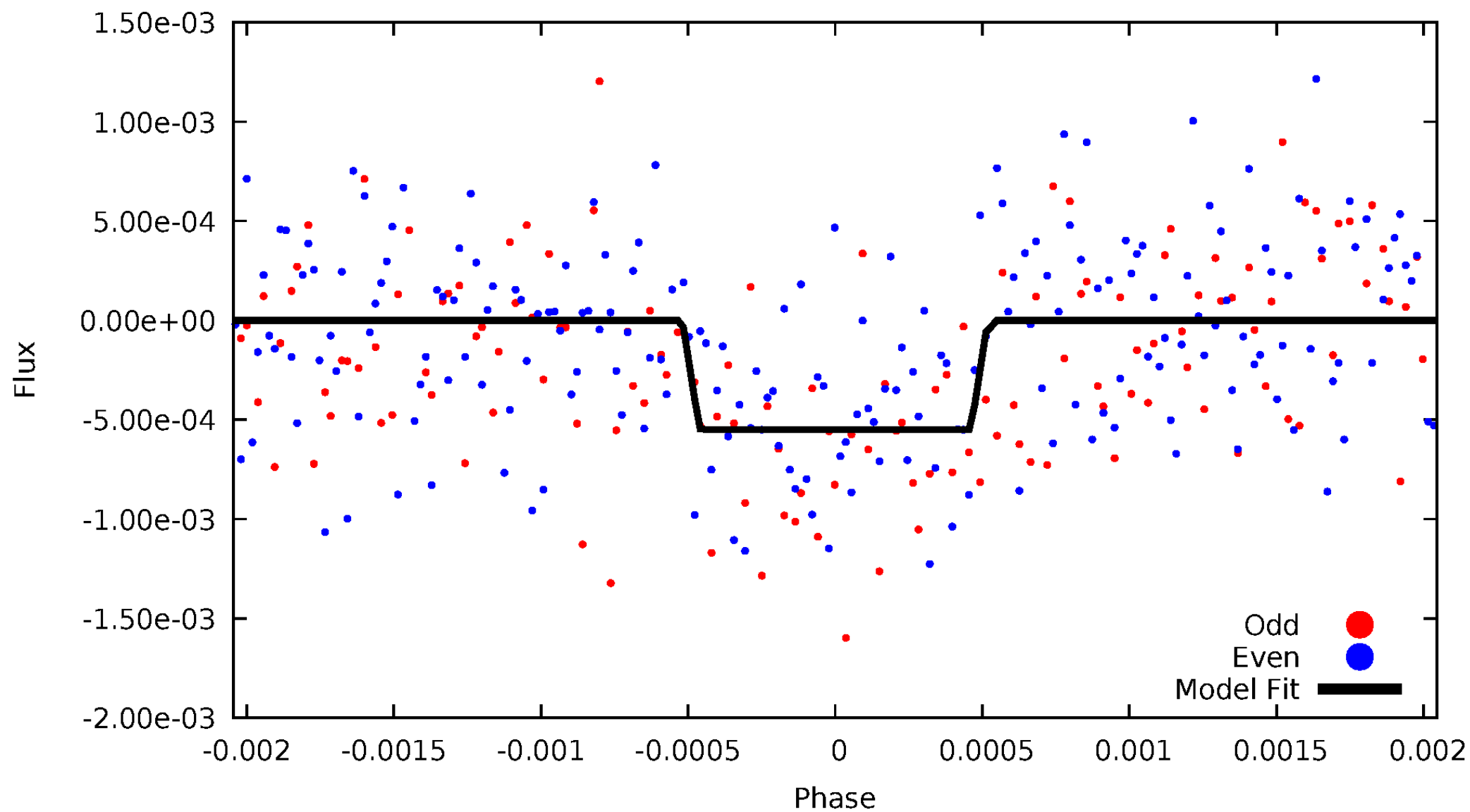
TCE 005125196-04





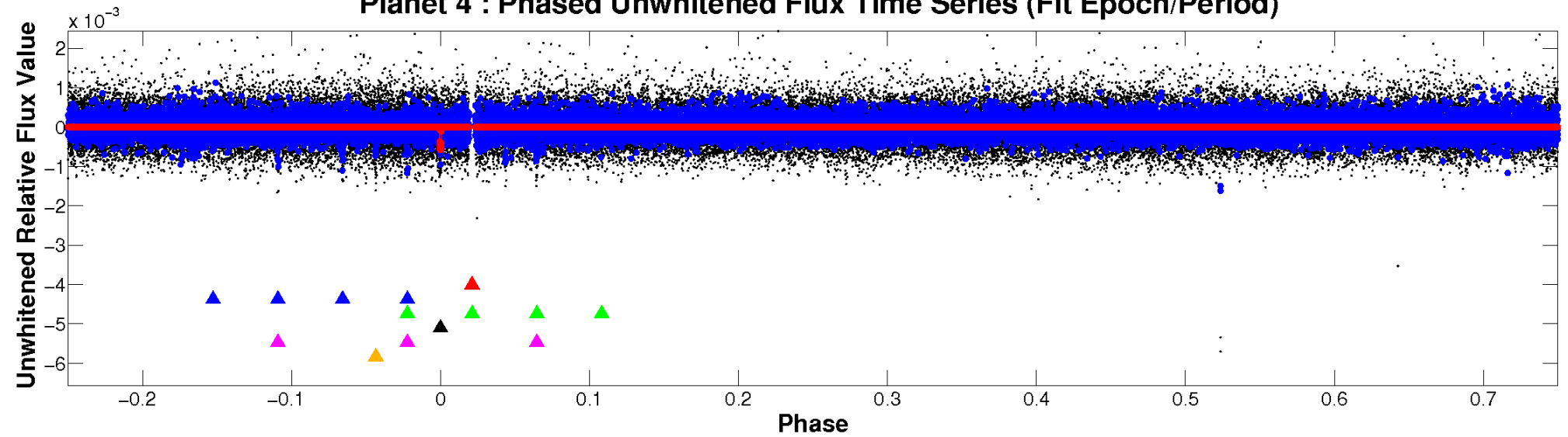
# ALT Odd/Even

TCE 005125196-04

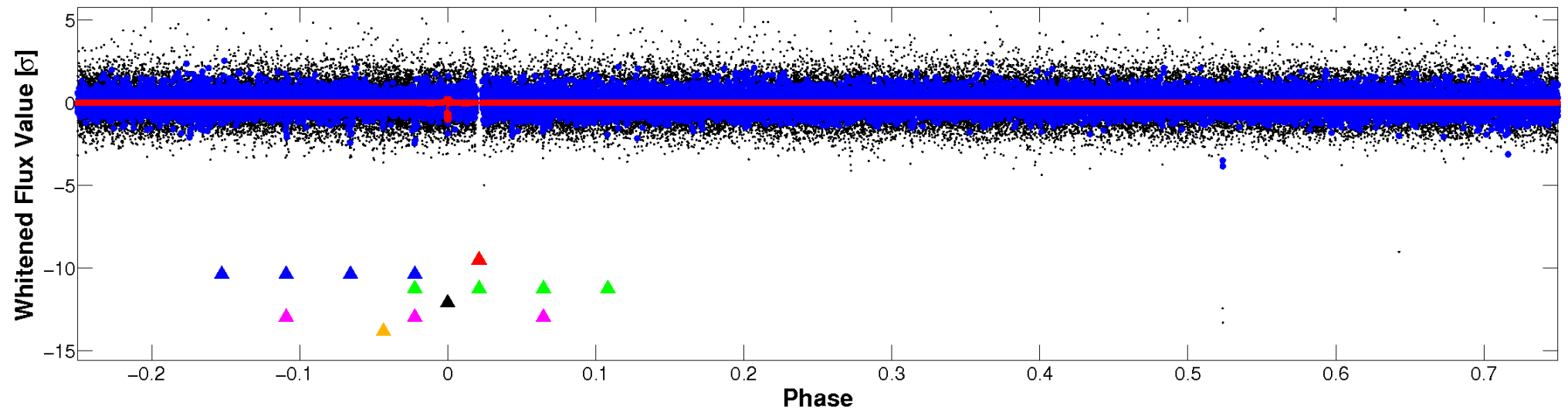


# Non-Whitened Vs. Whitened Light Curve

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



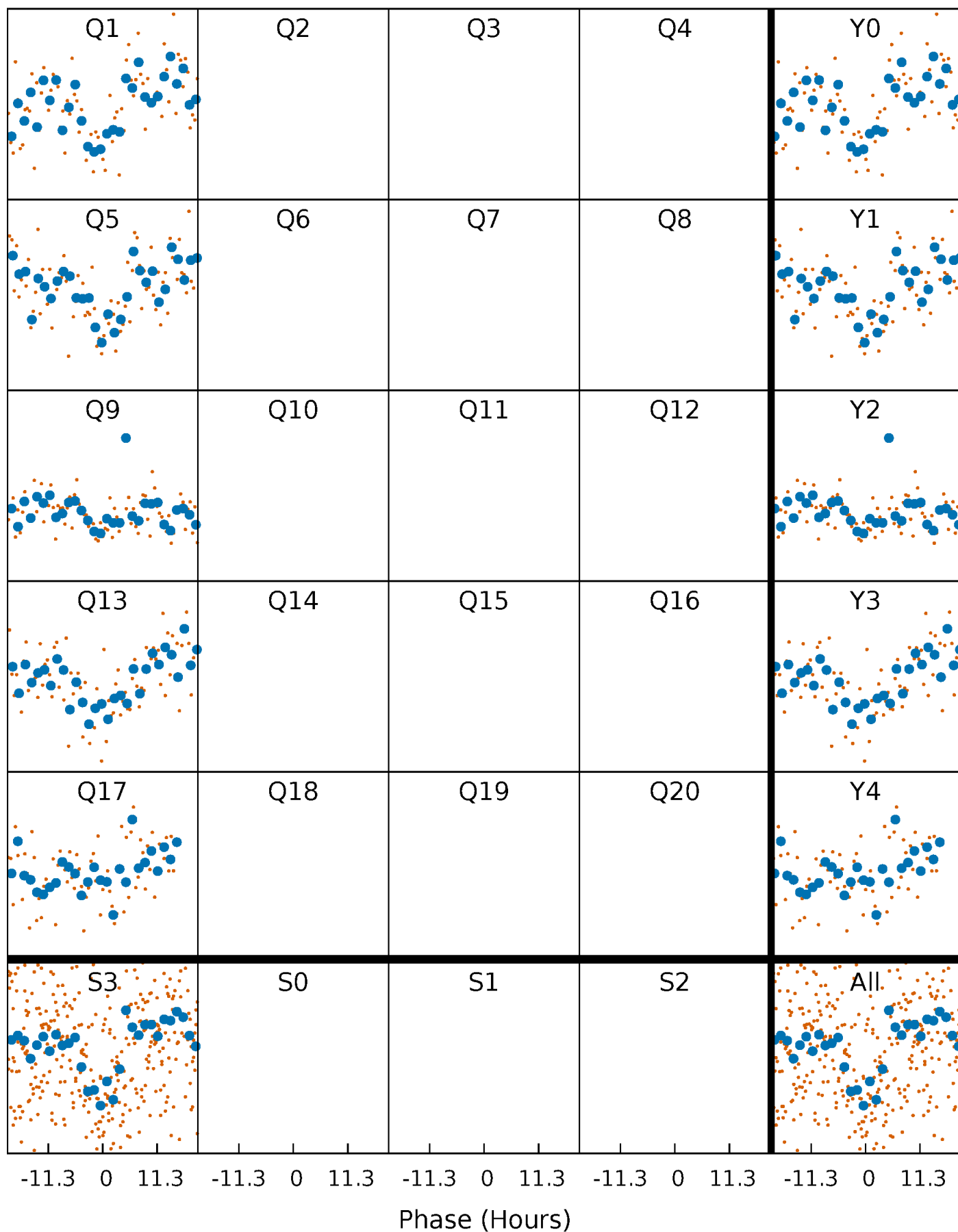
## Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)





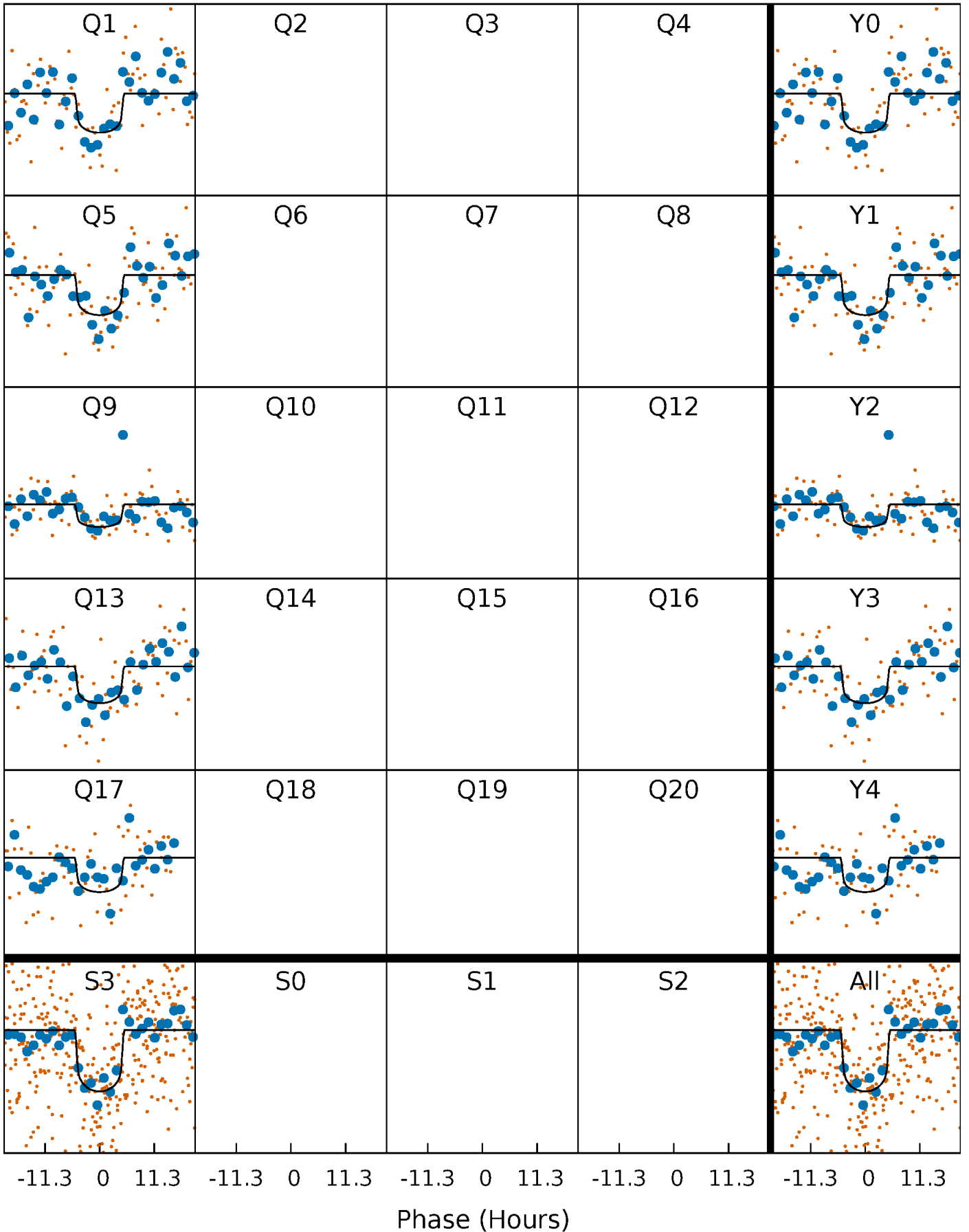
# PDC Quarter-Phased Transit Curves

TCE 005125196-04     $P=357.863315$  Days     $T_0=149.471720$  (BKJD)



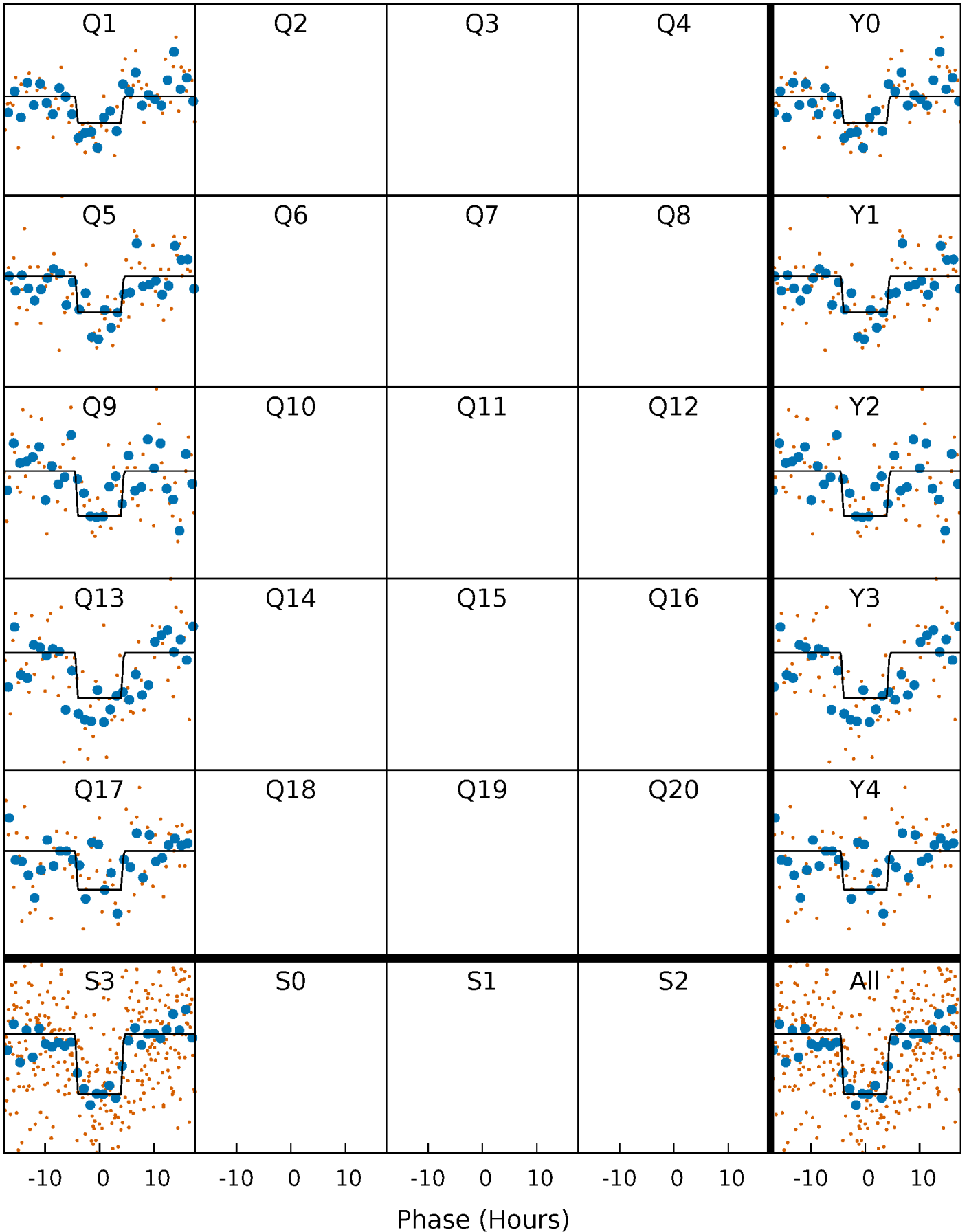
# DV Quarter-Phased Transit Curves

TCE 005125196-04     $P=357.863315$  Days     $T_0=149.471720$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

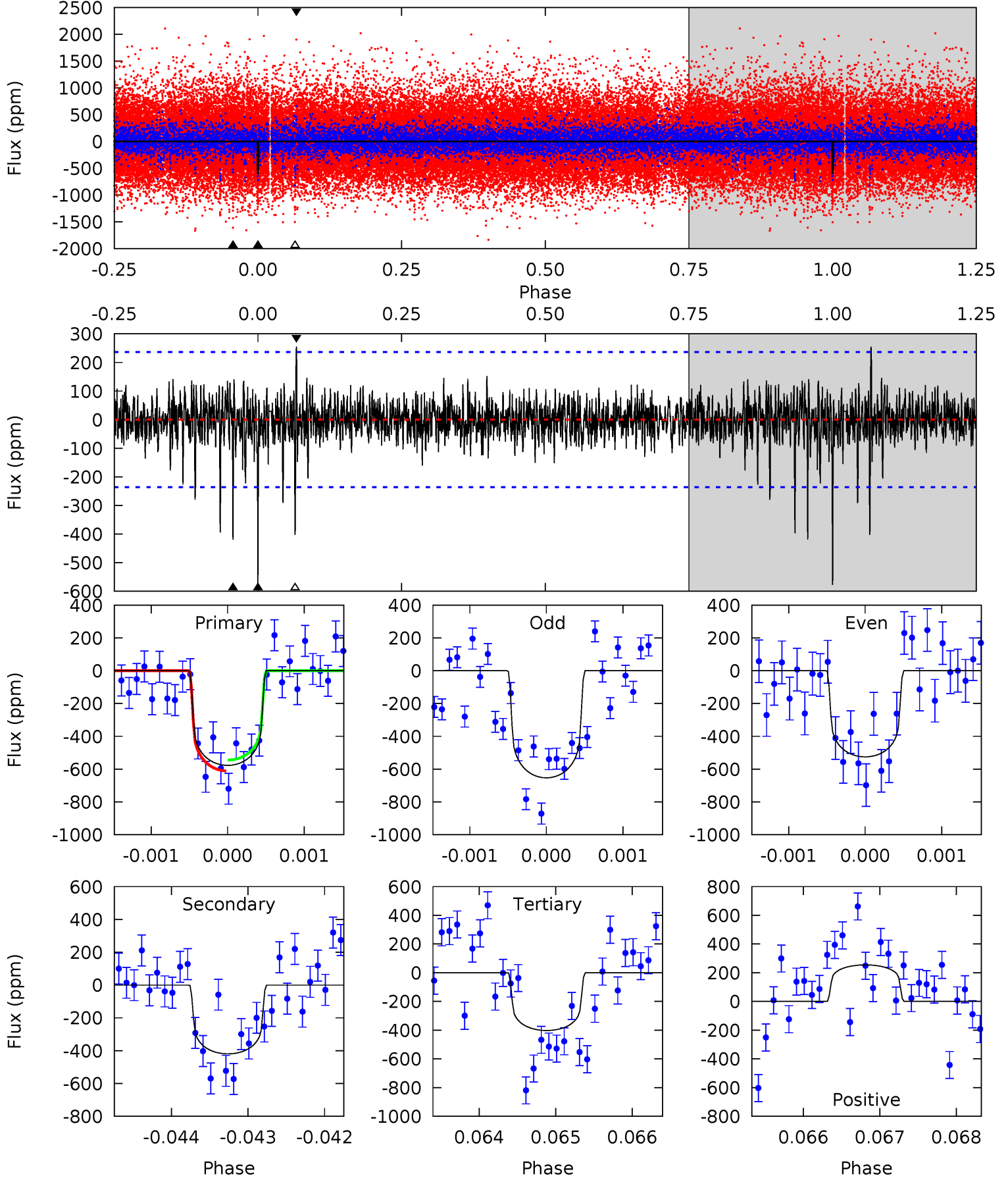
TCE 005125196-04     $P=357.846125$  Days     $T_0=149.501949$  (BKJD)



# DV Model-Shift Uniqueness Test

005125196-04, P = 357.863315 Days, E = 149.471720 Days

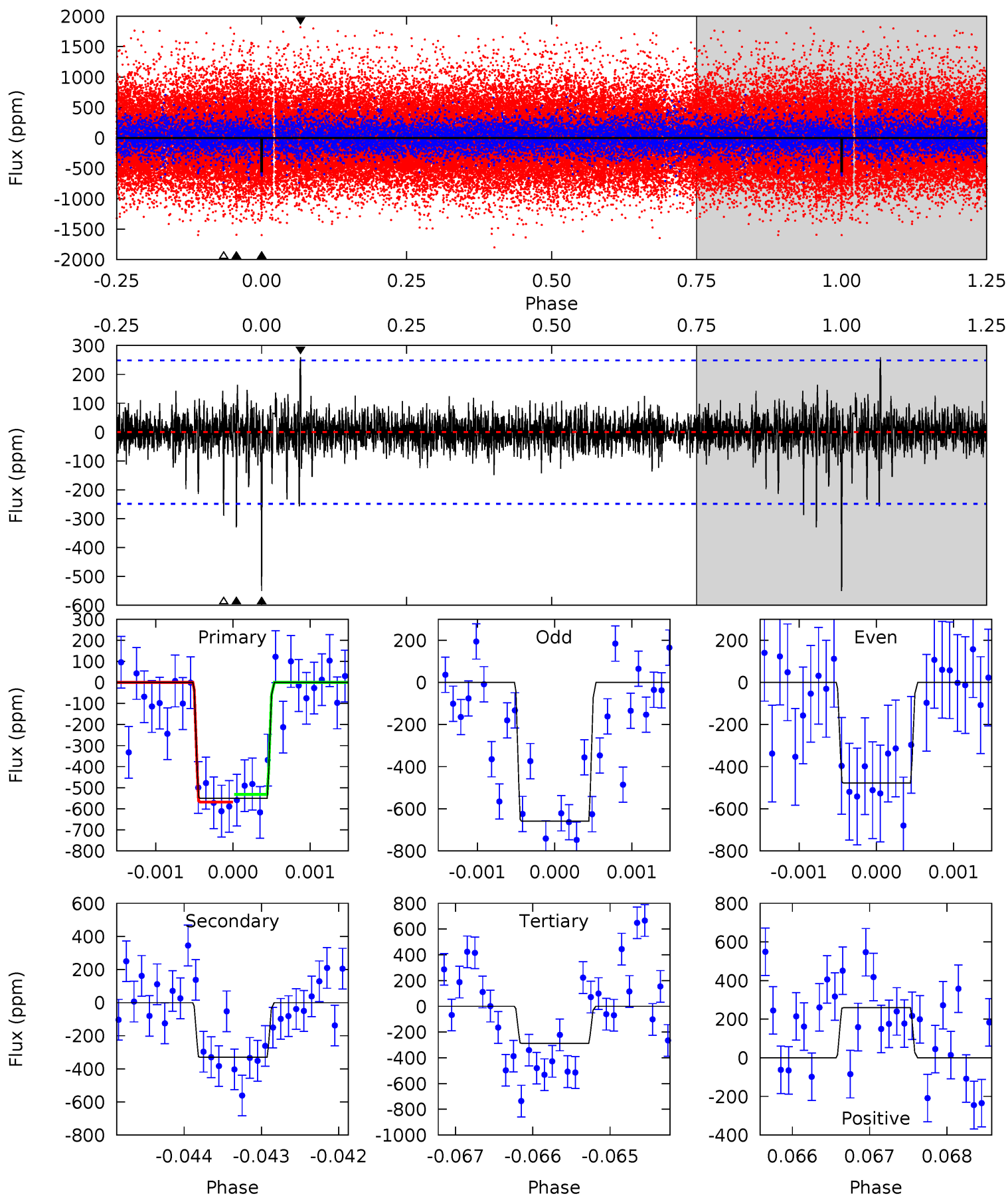
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.2	9.62	9.23	5.84	5.42	3.24	1.23	4.01	7.40	0.39	3.78	1.43	0.82	0.31	0.77



# Alt Model-Shift Uniqueness Test

005125196-04, P = 357.846125 Days, E = 149.501949 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
12.1	7.23	6.29	5.68	5.45	3.28	0.95	5.77	6.38	0.94	1.54	1.95	0.89	0.32	0.40



### Stellar Parameters For KIC 005125196

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6355^{+179}_{-246}$	$4.410^{+0.068}_{-0.189}$	$-0.080^{+0.250}_{-0.300}$	$1.108^{+0.327}_{-0.140}$	$1.151^{+0.157}_{-0.157}$	$1.191^{+0.405}_{-0.586}$
	+3%/-4%	+2%/-4%	+312%/-375%	+30%/-13%	+14%/-14%	+34%/-49%
Source	PHO1	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 005125196-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-420 \pm 44$	$2.88^{+1.51}_{-1.38}$	$412^{+27}_{-24}$	$5919^{+2802}_{-1021}$	$29635^{+77823}_{-17082}$
Alt.	$-330 \pm 46$	$2.90^{+1.75}_{-1.40}$	$412^{+25}_{-20}$	$5587^{+2368}_{-984}$	$22343^{+60060}_{-13495}$

$T_{max}$  = 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

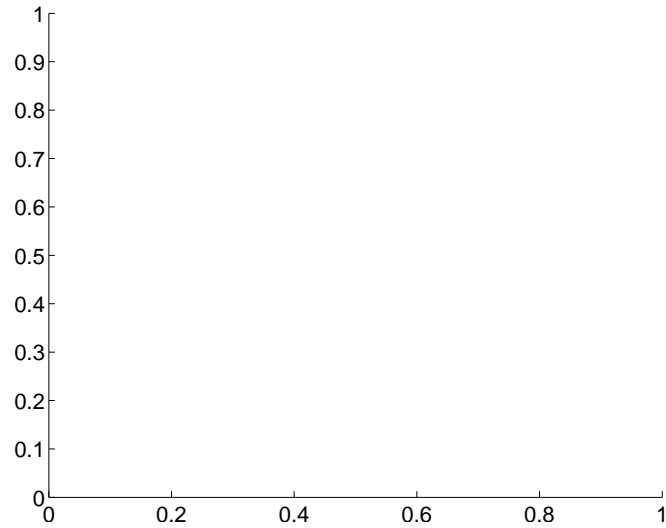
Supplemental centroid analysis for 005125196-04. Kepler magnitude: 15.09. Transit SNR 9.15

There are 0 quarters with good PRF difference image offsets

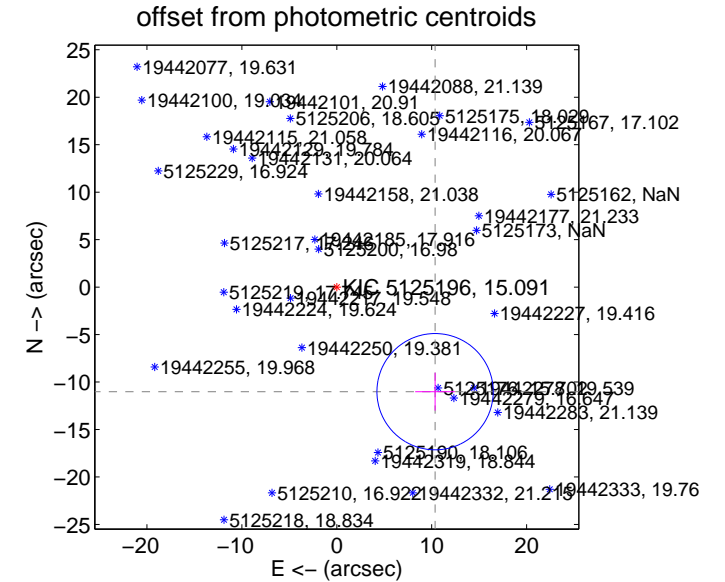
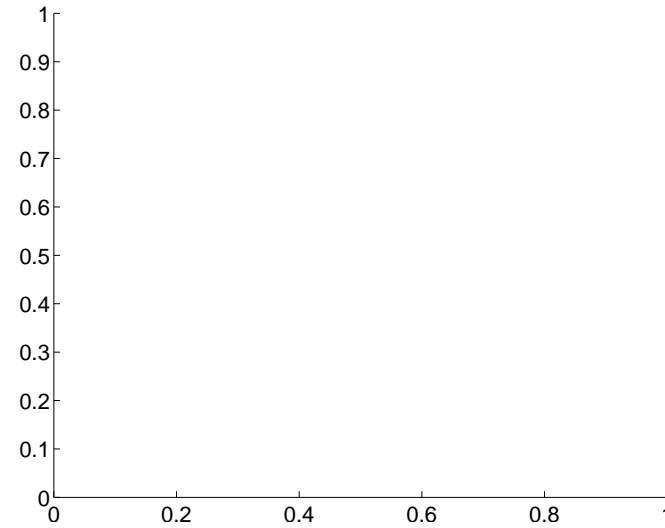
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$15.12 \pm 2.04$	7.41	$-10.35 \pm 2.09$	$-11.02 \pm 2.00$

There is no PRF-fit offset from OOT-fit

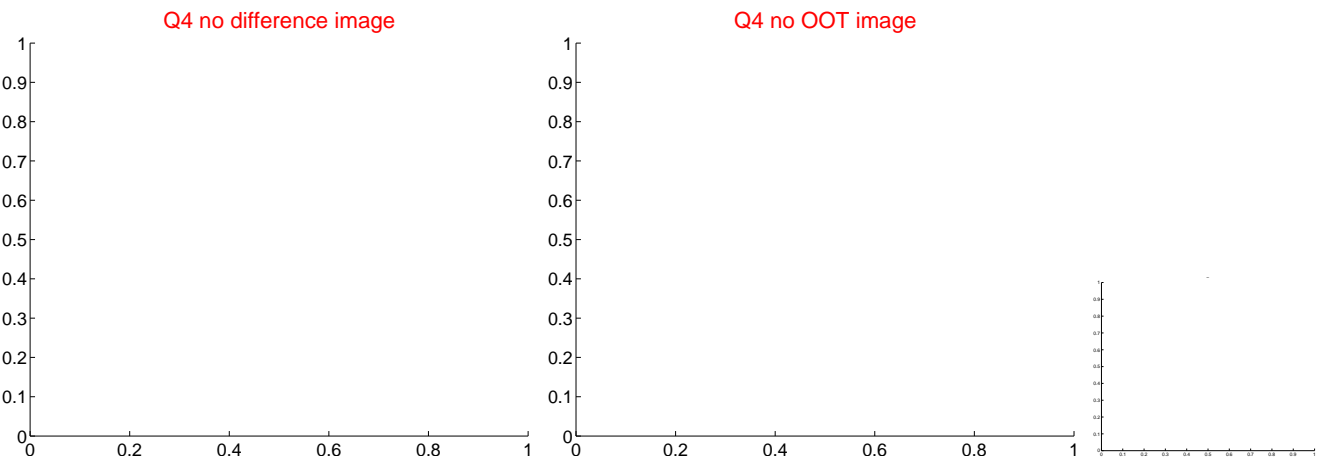
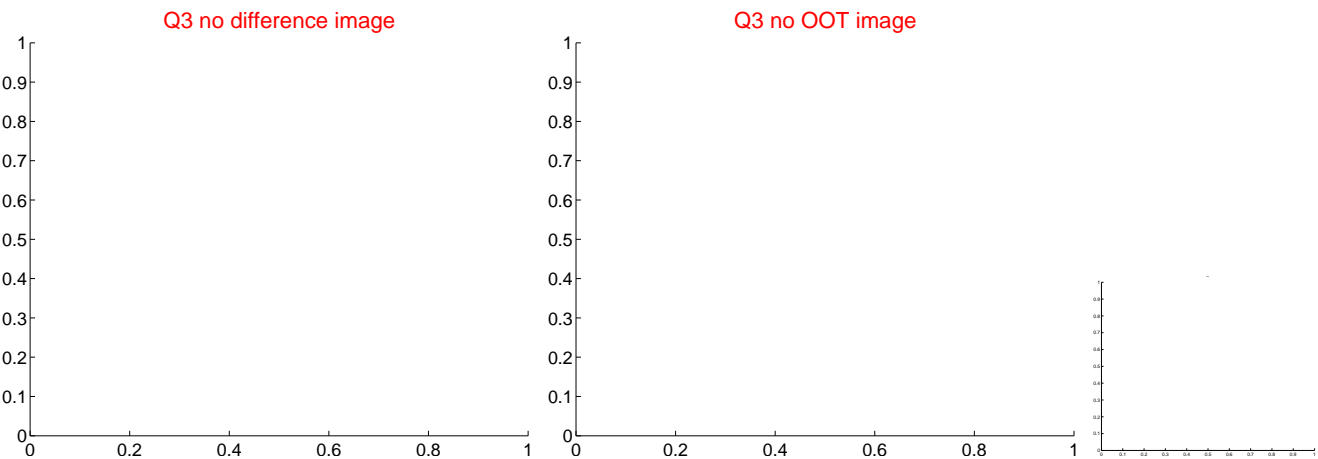
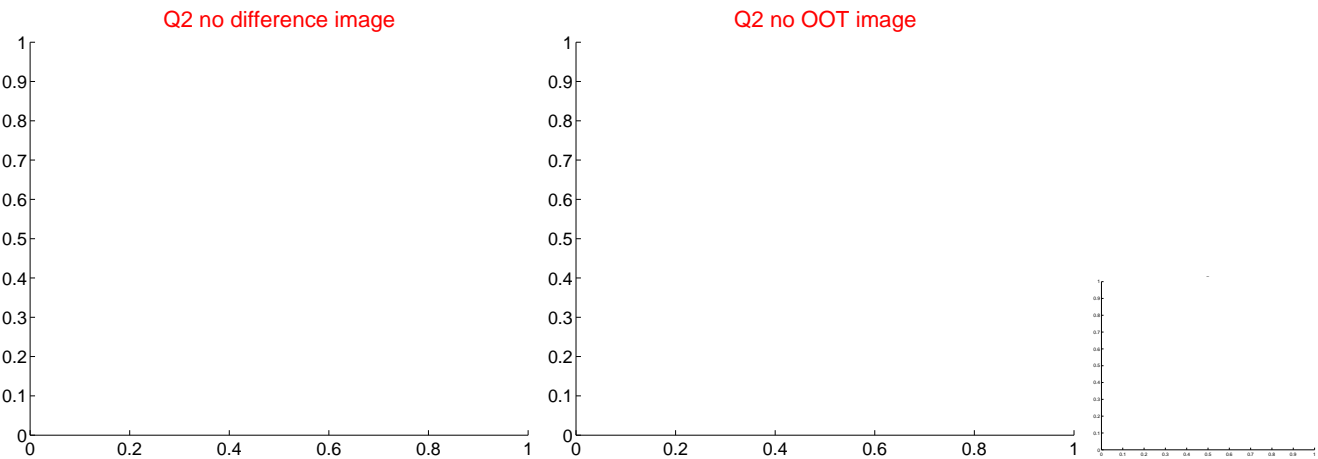
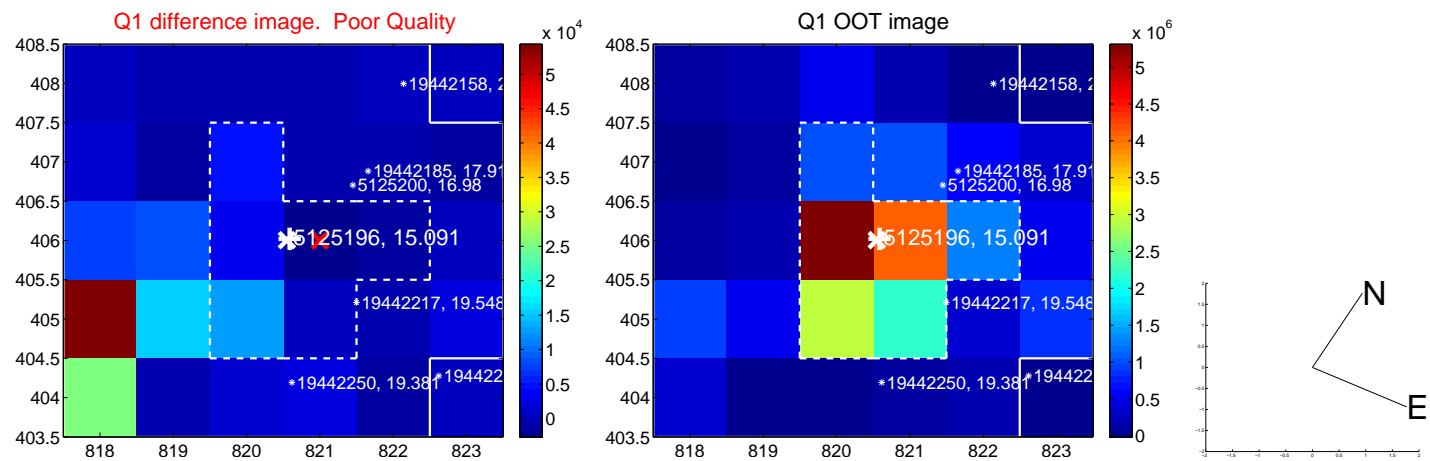


There is no PRF-fit offset from KIC



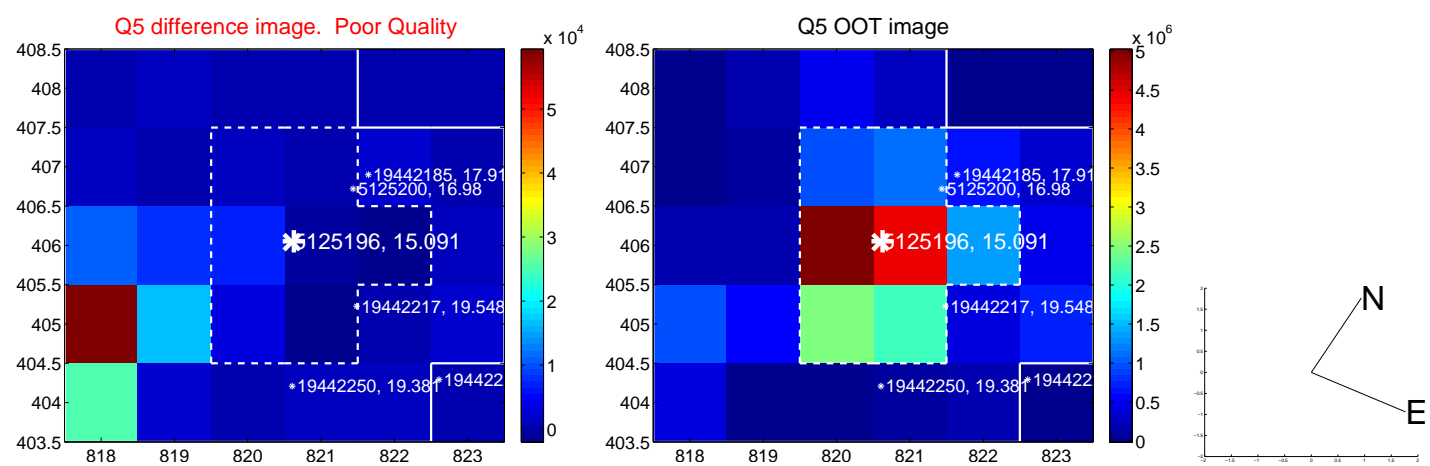
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

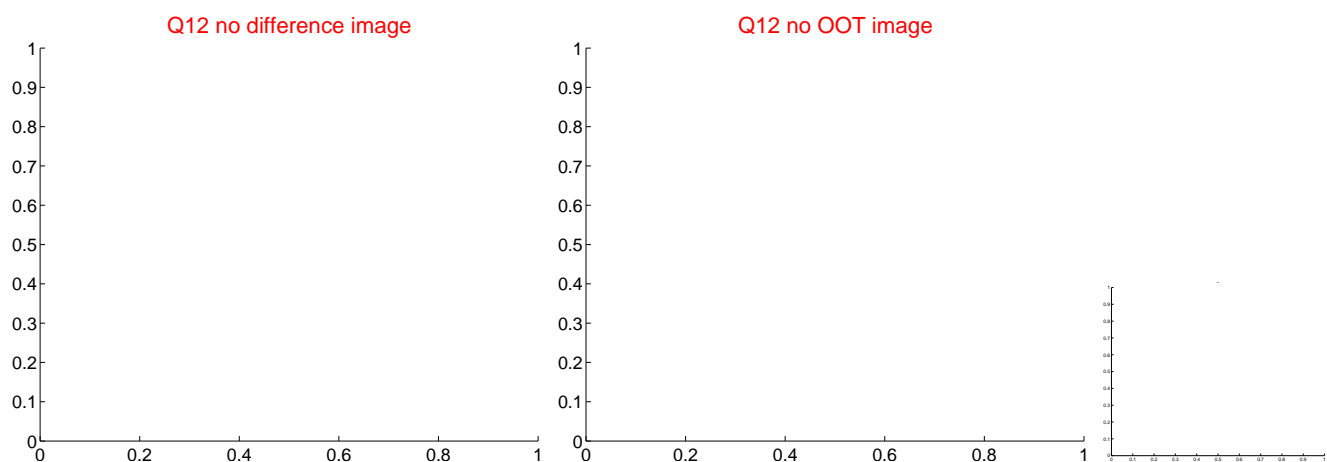
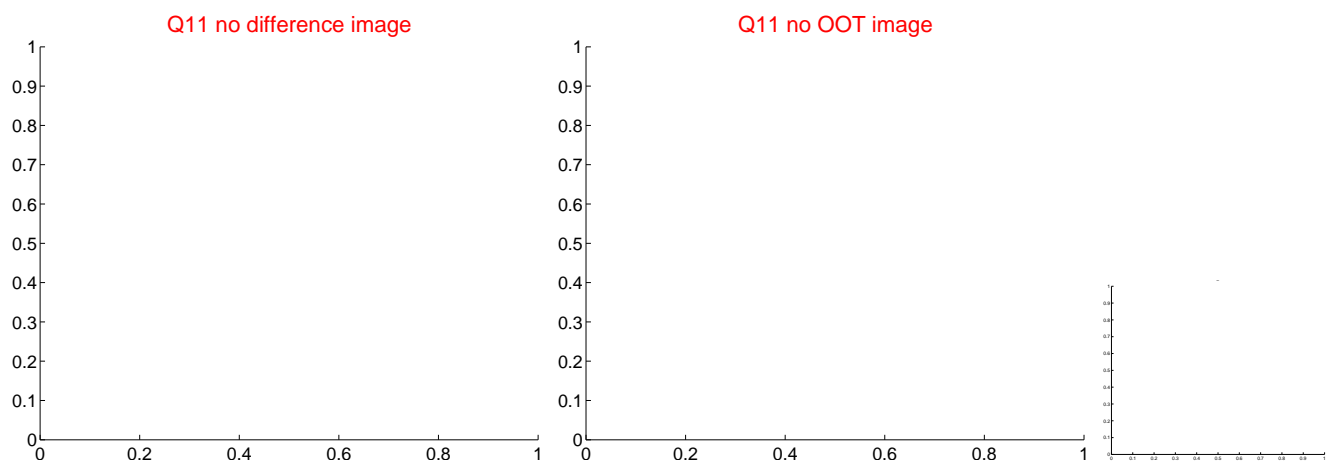
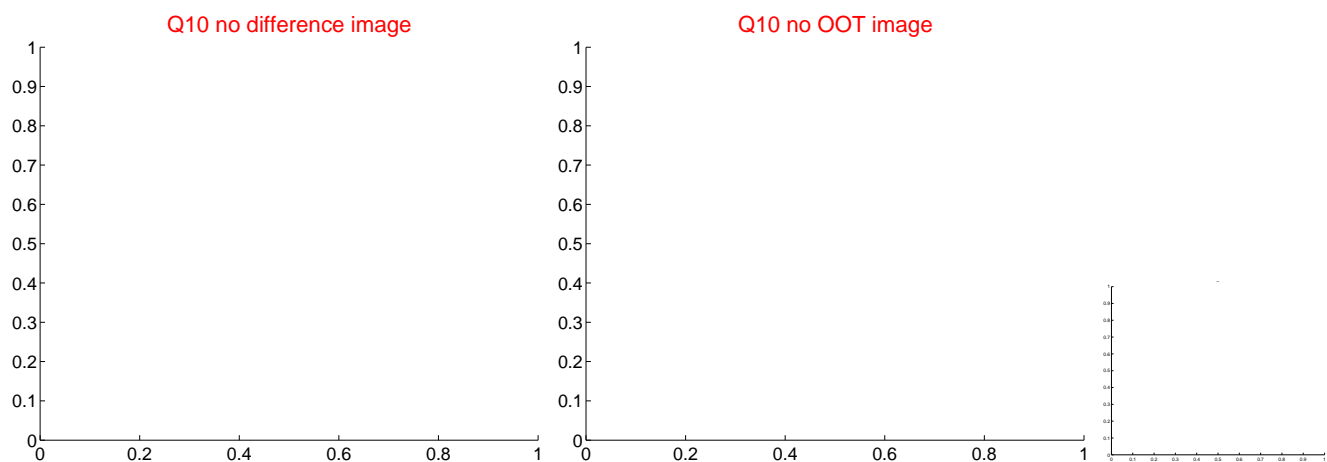
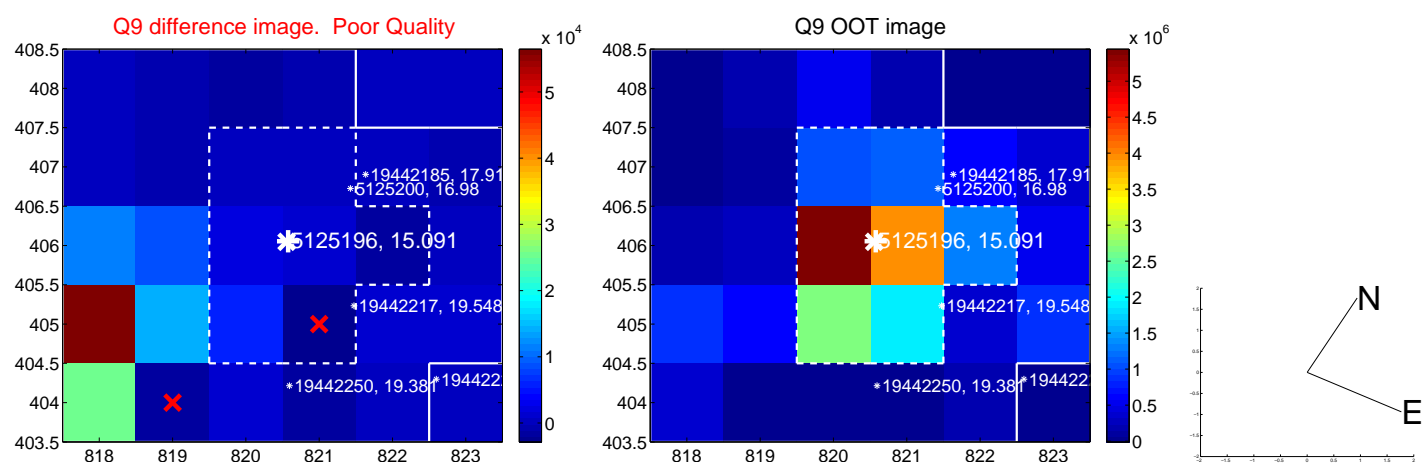




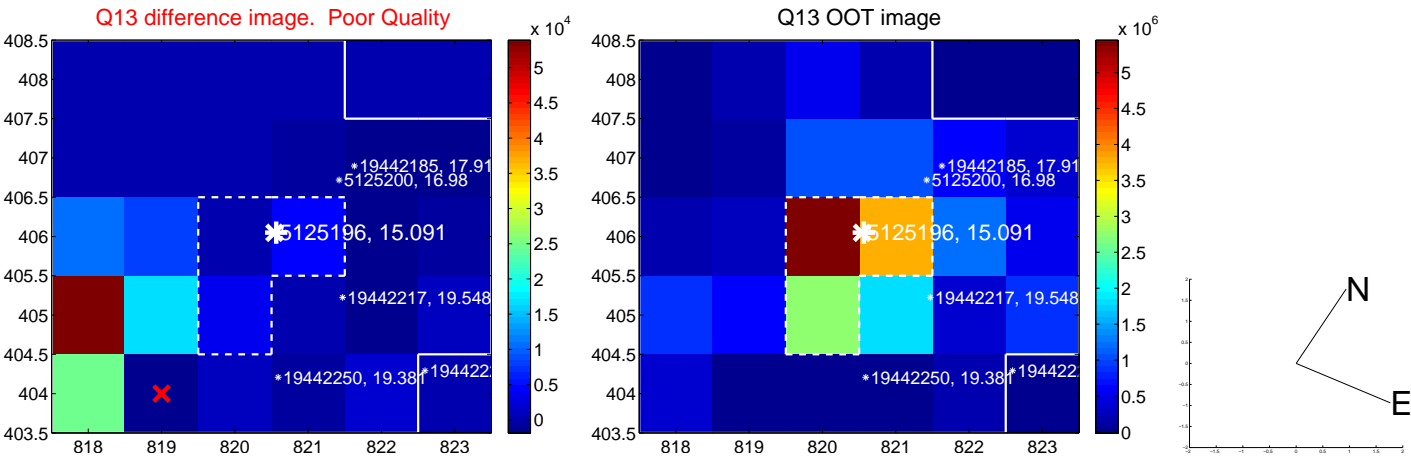
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



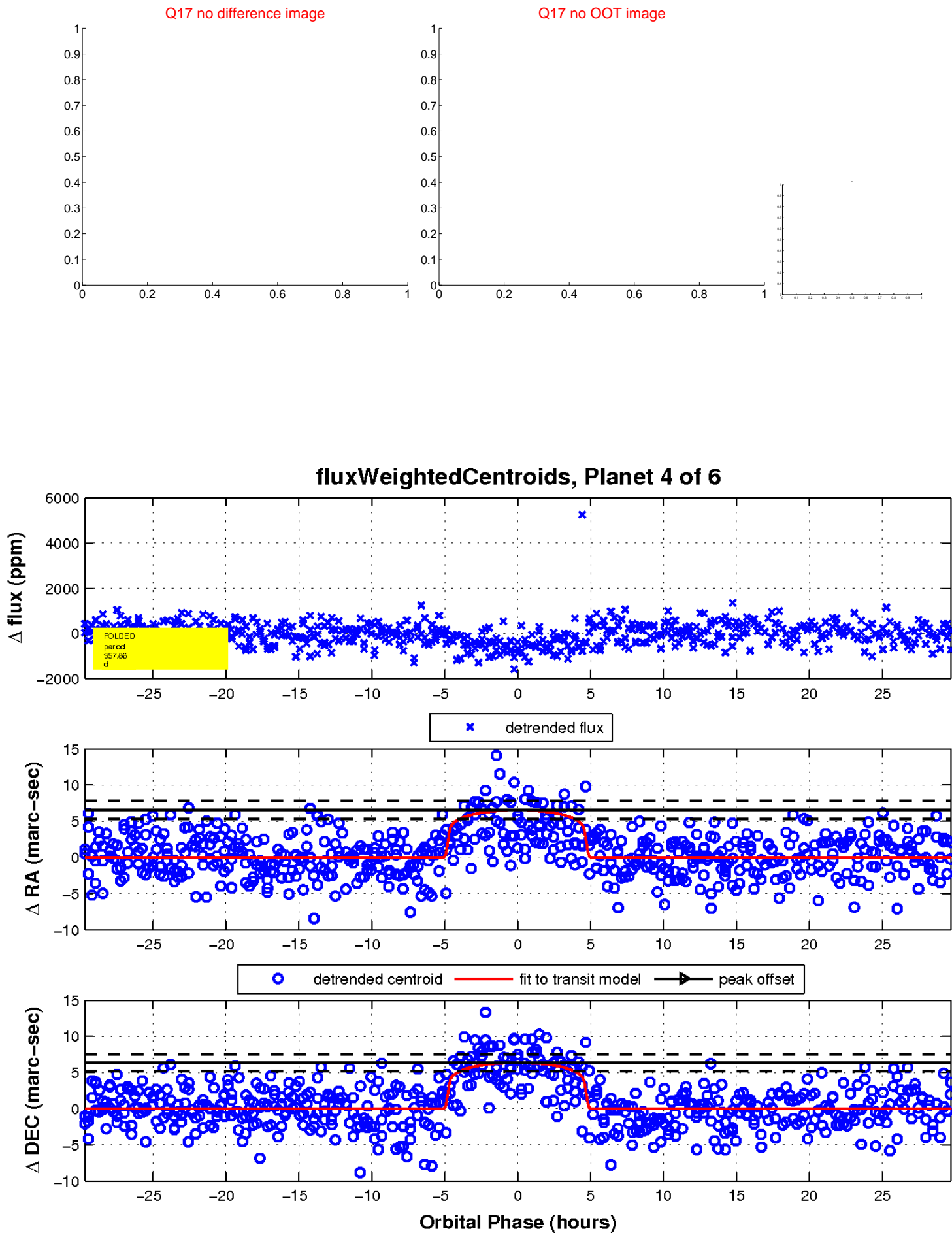
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



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

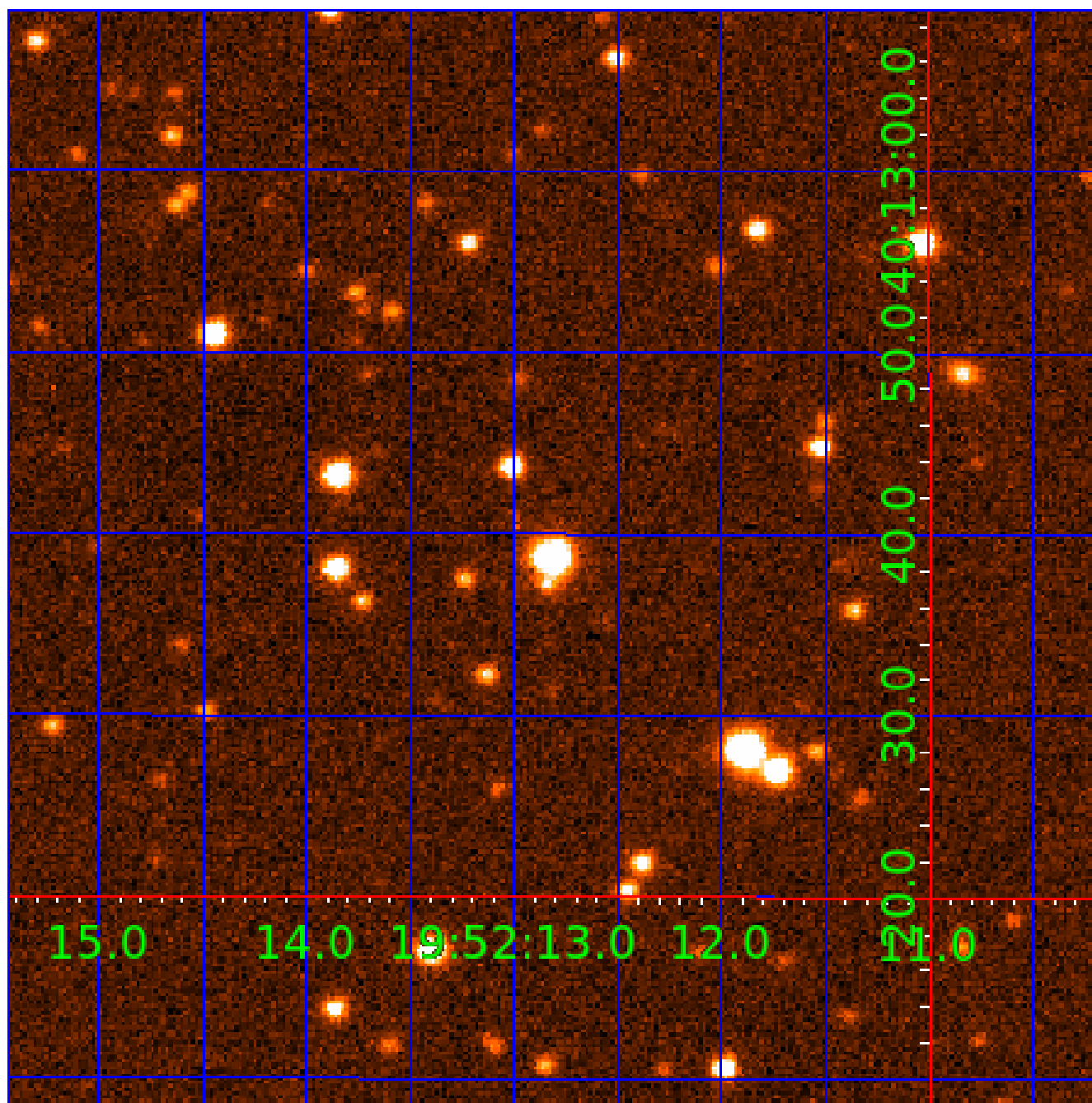


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 005125196

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005125196-01	OBS	No	357.880157	157.030977	791.8	11.737	11.3	11.9	1.11	6355	3.23	1.68
005125196-02	OBS	No	373.422739	452.718029	809.4	10.982	10.5	10.9	1.11	6355	3.24	1.58
005125196-03	OBS	No	373.425774	141.515412	729.3	12.766	8.7	8.9	1.11	6355	3.36	1.58
005125196-04	OBS	No	357.863315	149.471720	585.3	9.904	8.5	9.2	1.11	6355	2.82	1.68
005125196-06	OBS	No	715.749297	133.930637	585.1	10.173	7.4	7.5	1.11	6355	2.86	0.67

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005125196-01	OBS	FP	0.00	0	1	1	0	HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
005125196-02	OBS	FP	0.00	0	1	1	0	HAS_SEC_TCE—CENT_FEW_DIFFS—HALO_GHOST
005125196-03	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_FEW_DIFFS
005125196-04	OBS	FP	0.00	0	1	1	0	HAS_SEC_TCE—CENT_RESOLVED_OFFSET—HALO_GHOST
005125196-06	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_FEW_DIFFS—HALO_GHOST

**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.

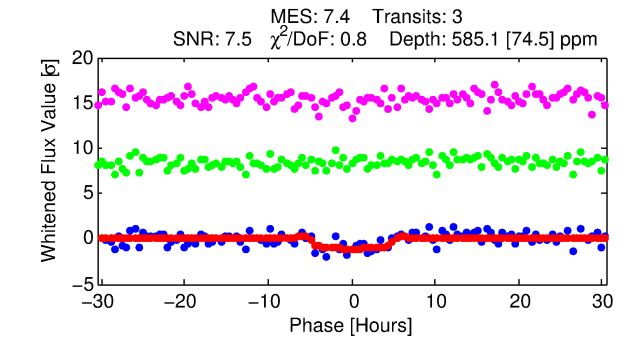
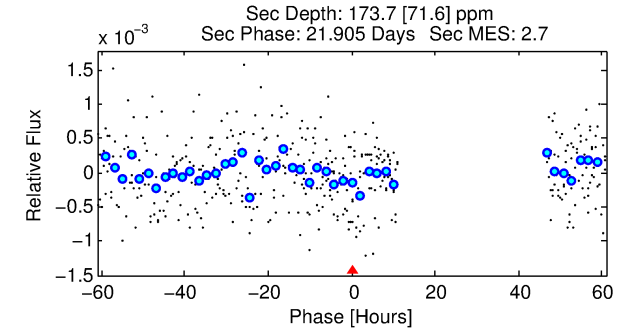
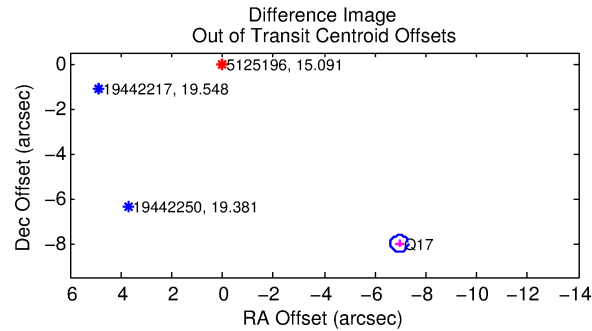
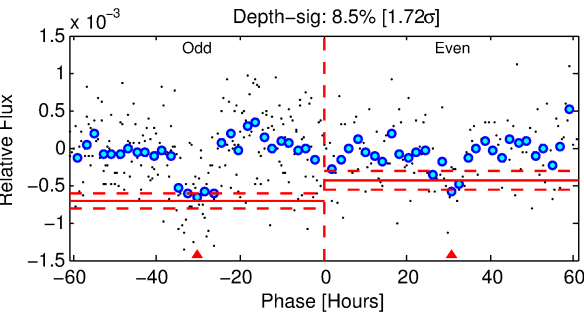
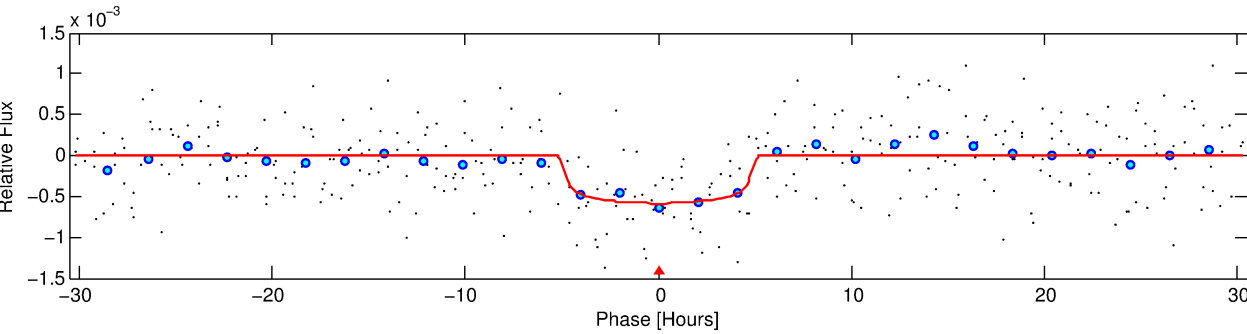
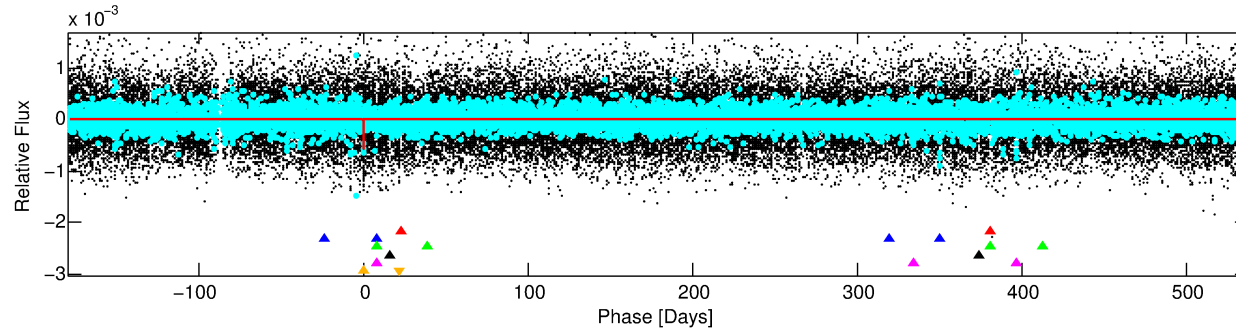
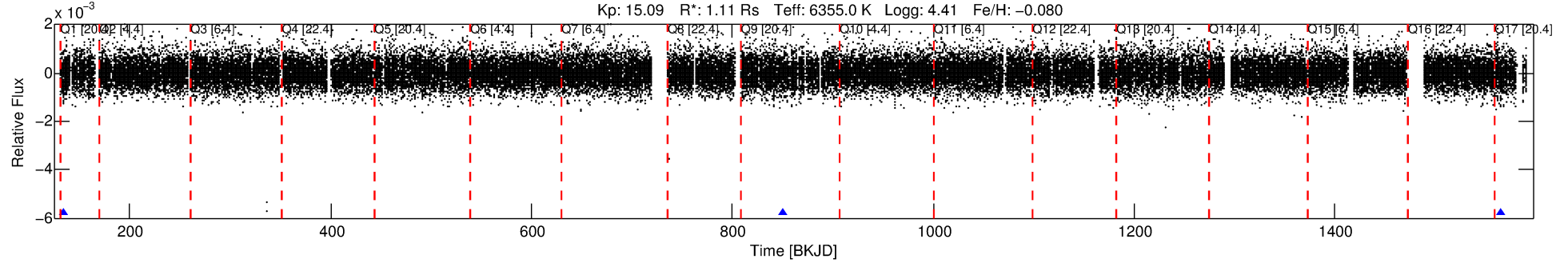
Ephemeris Match Information For 005125196-06

No Significant Match Found

# DV One-Page Summary

KIC: 5125196 Candidate: 6 of 6 Period: 715.749 d  
KOI: K04176 Corr: No Ephemeris Match

Kp: 15.09 R\*: 1.11 Rs Teff: 6355.0 K Logg: 4.41 Fe/H: -0.080



## DV Fit Results:

Period = 715.74930 [0.01328] d  
Epoch = 133.9306 [0.0175] BKJD  
Rp/R\* = 0.0236 [0.0085]  
a/R\* = 407.58 [751.38]  
b = 0.69 [1.41]  
Seff = 0.67 [0.26]  
Teq = 230 [22] K  
Rp = 2.86 [1.33] Re  
a = 1.6415 [0.4012] AU  
Ag = 31530.39 [28287.13] [1.11σ]  
Teffp = 4746 [997] K [4.53σ]

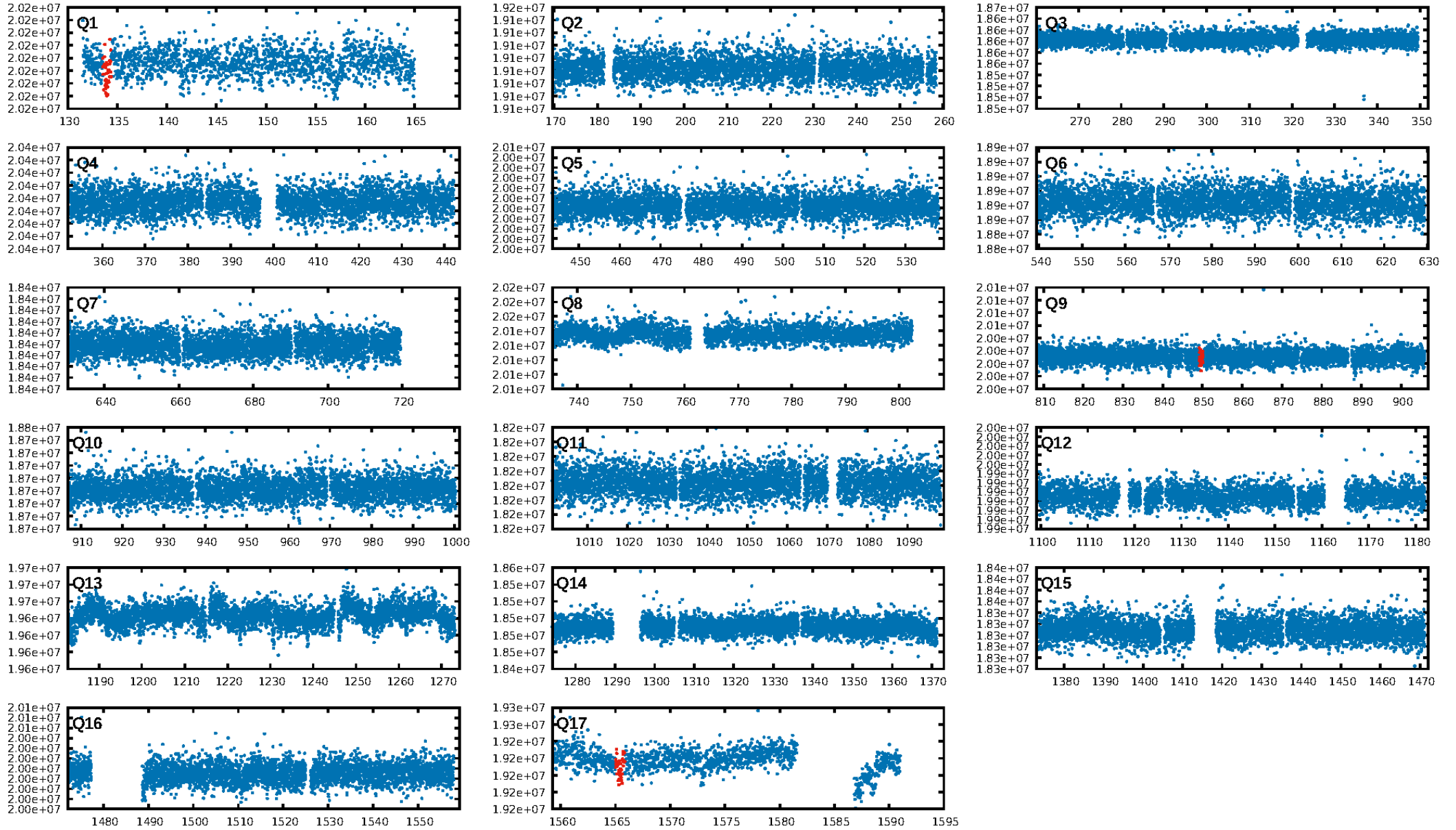
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [494.85σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 22.4%  
ModelChiSquareGof-sig: 99.9%  
**Bootstrap-pfa: 1.87e-07**  
RollingBand-fgt: 1.00 [1/1]  
**GhostDiagnostic-chr: -0.1587**  
Centroid-sig: 0.0%  
Centroid-so: 13.608 arcsec [5.08σ]  
OotOffset-rm: 10.601 arcsec [87.23σ]  
KicOffset-rm: 10.435 arcsec [85.85σ]  
OotOffset-st: 0/0/0/1 [1]  
KicOffset-st: 0/0/0/1 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [3/3]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 09:33:21 Z

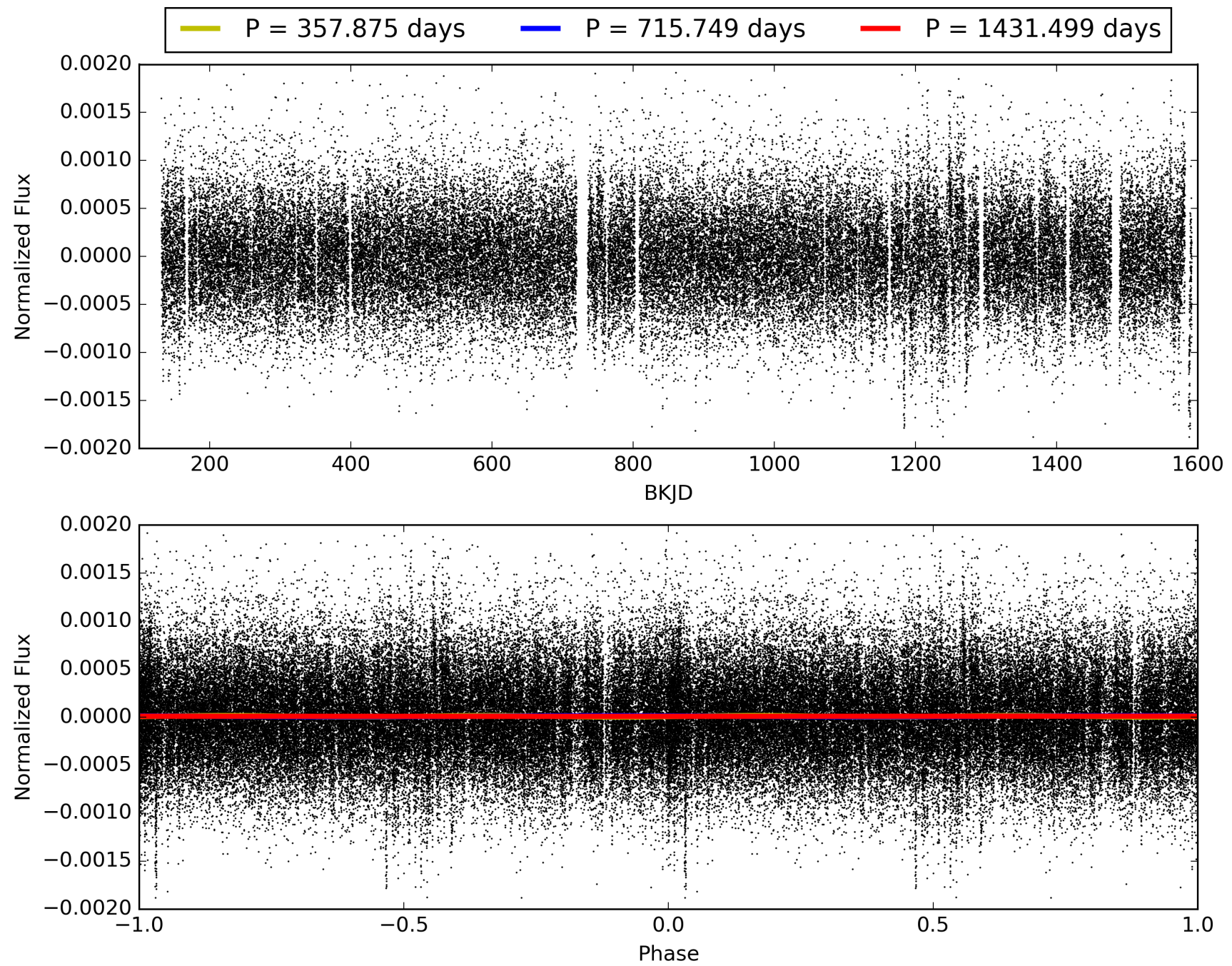
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005125196-06, PDC Light Curves



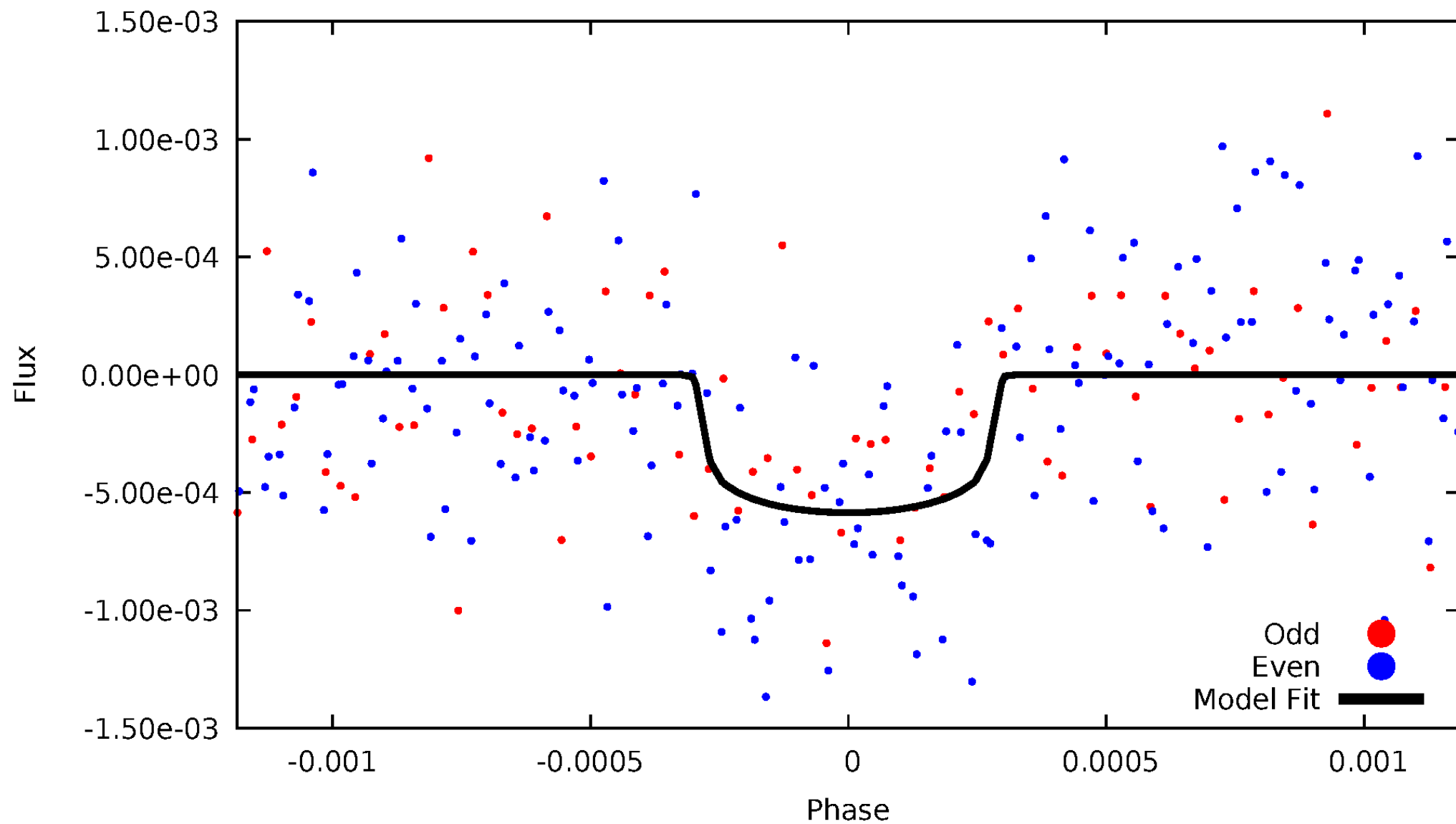


TCE 005125196-06



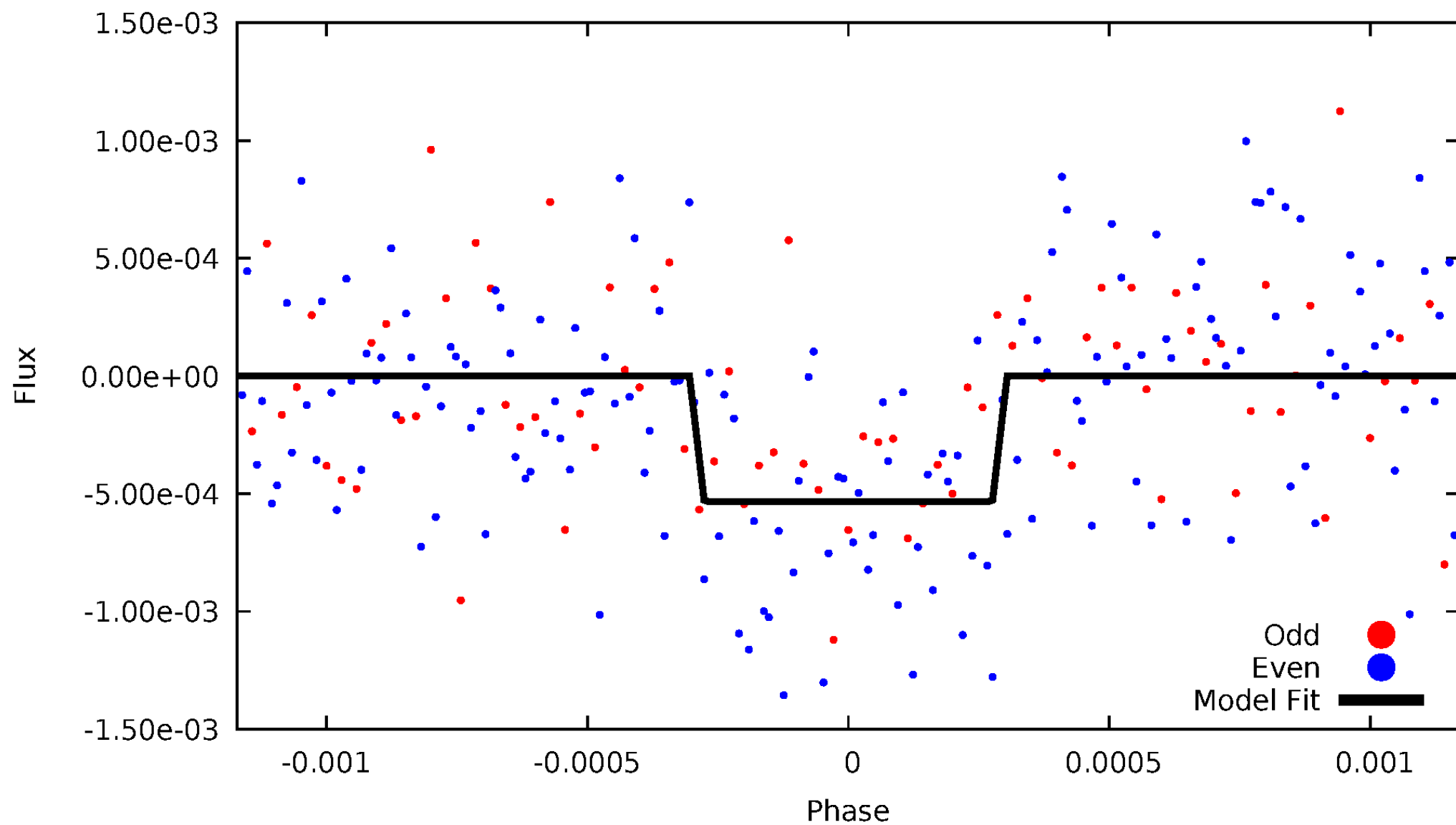
# DV Odd/Even

TCE 005125196-06



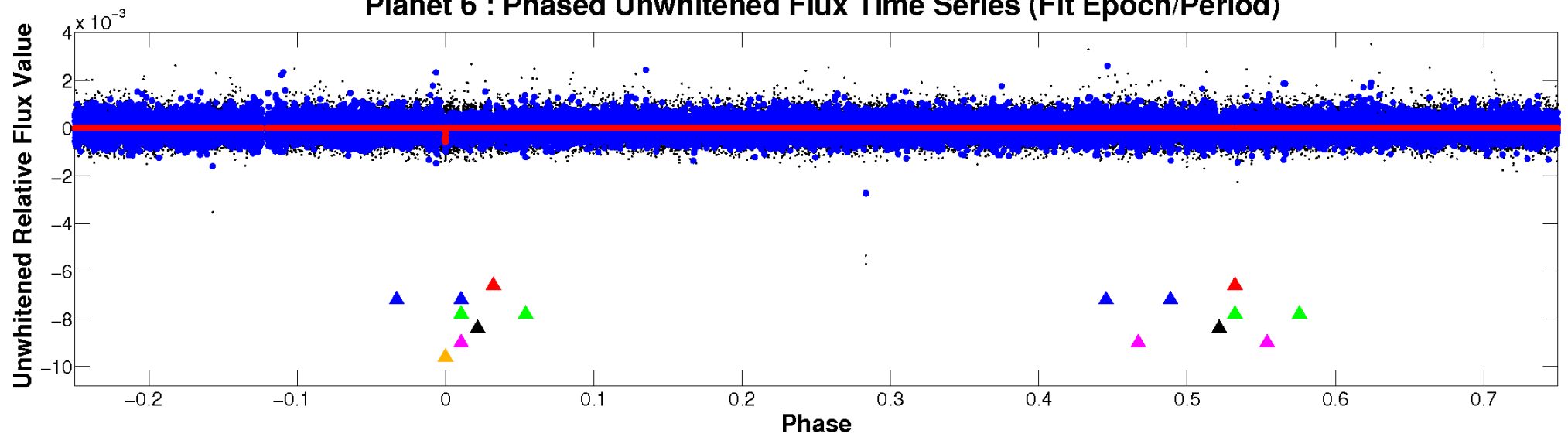
# ALT Odd/Even

TCE 005125196-06

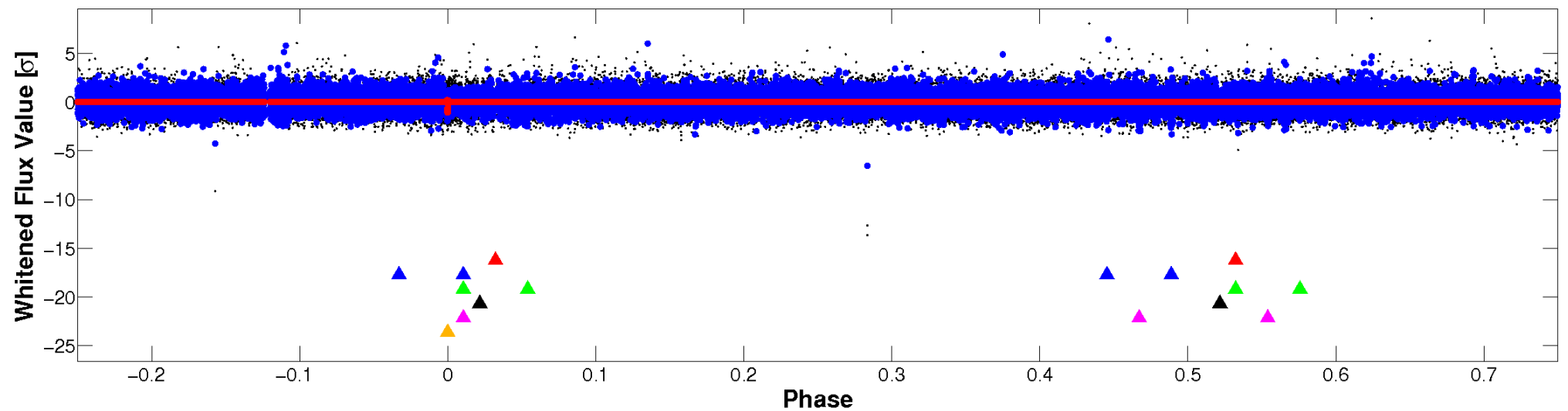


# Non-Whitened Vs. Whitened Light Curve

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

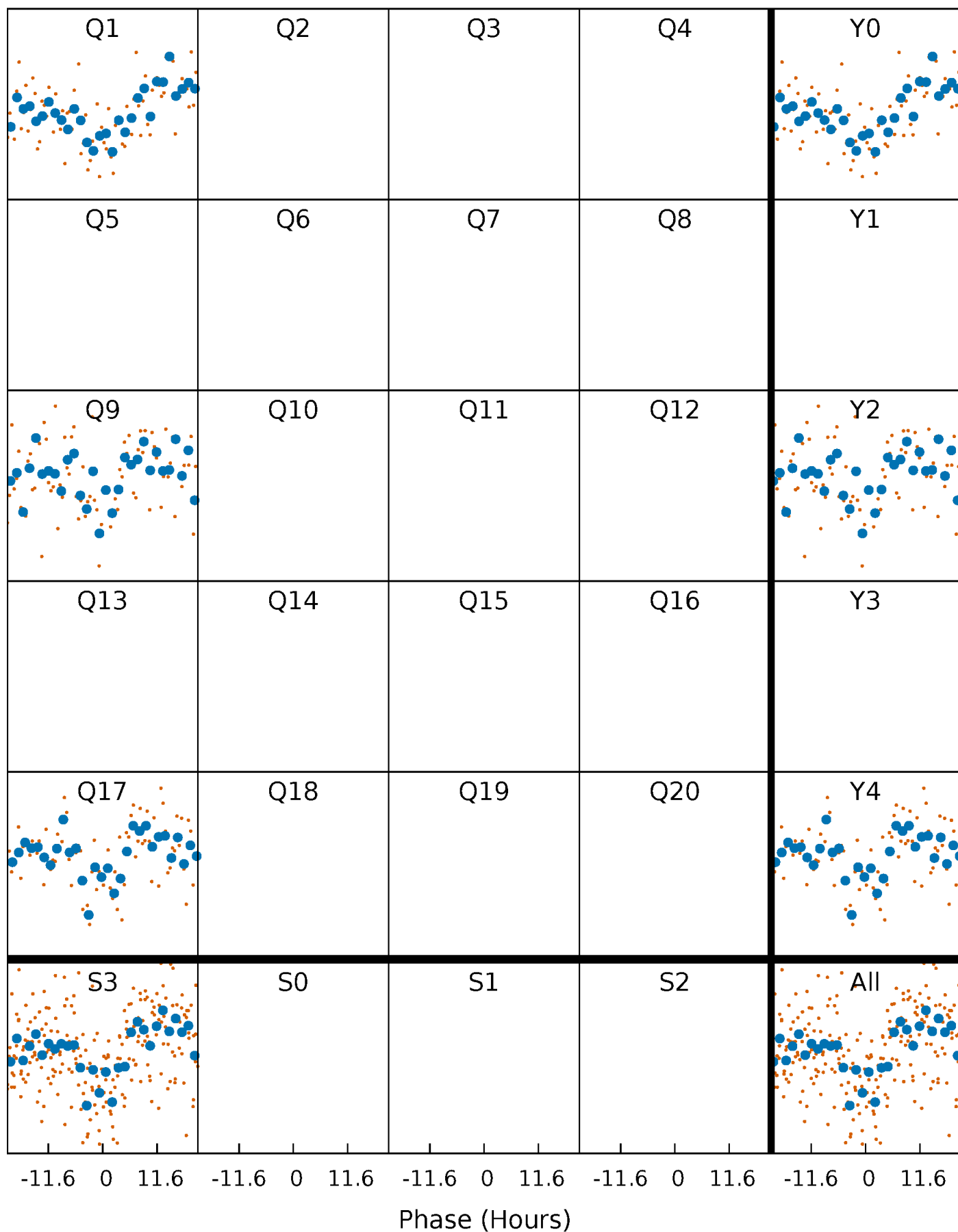


## Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



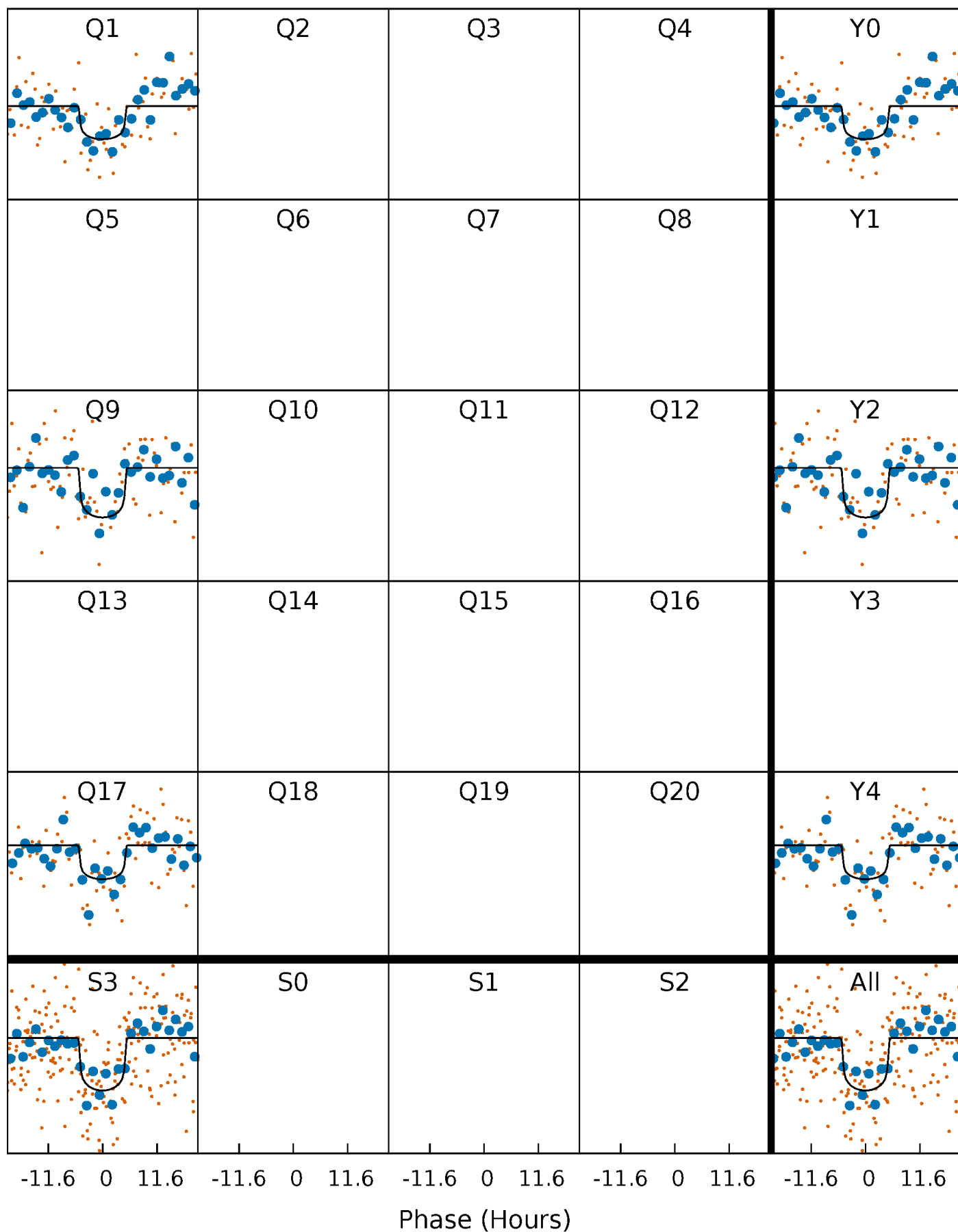
# PDC Quarter-Phased Transit Curves

TCE 005125196-06     $P=715.749297$  Days     $T_0=133.930637$  (BKJD)



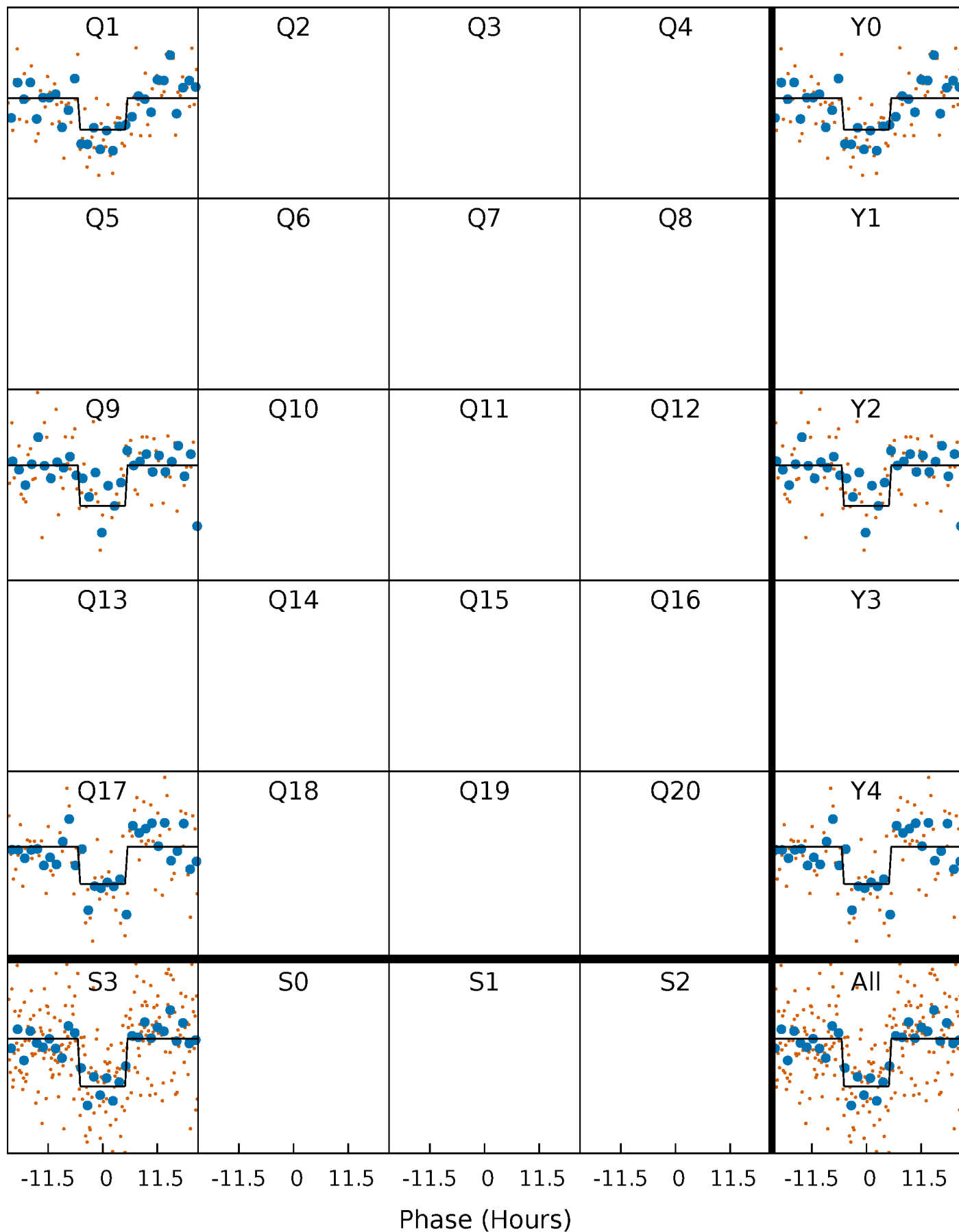
# DV Quarter-Phased Transit Curves

TCE 005125196-06     $P=715.749297$  Days     $T_0=133.930637$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

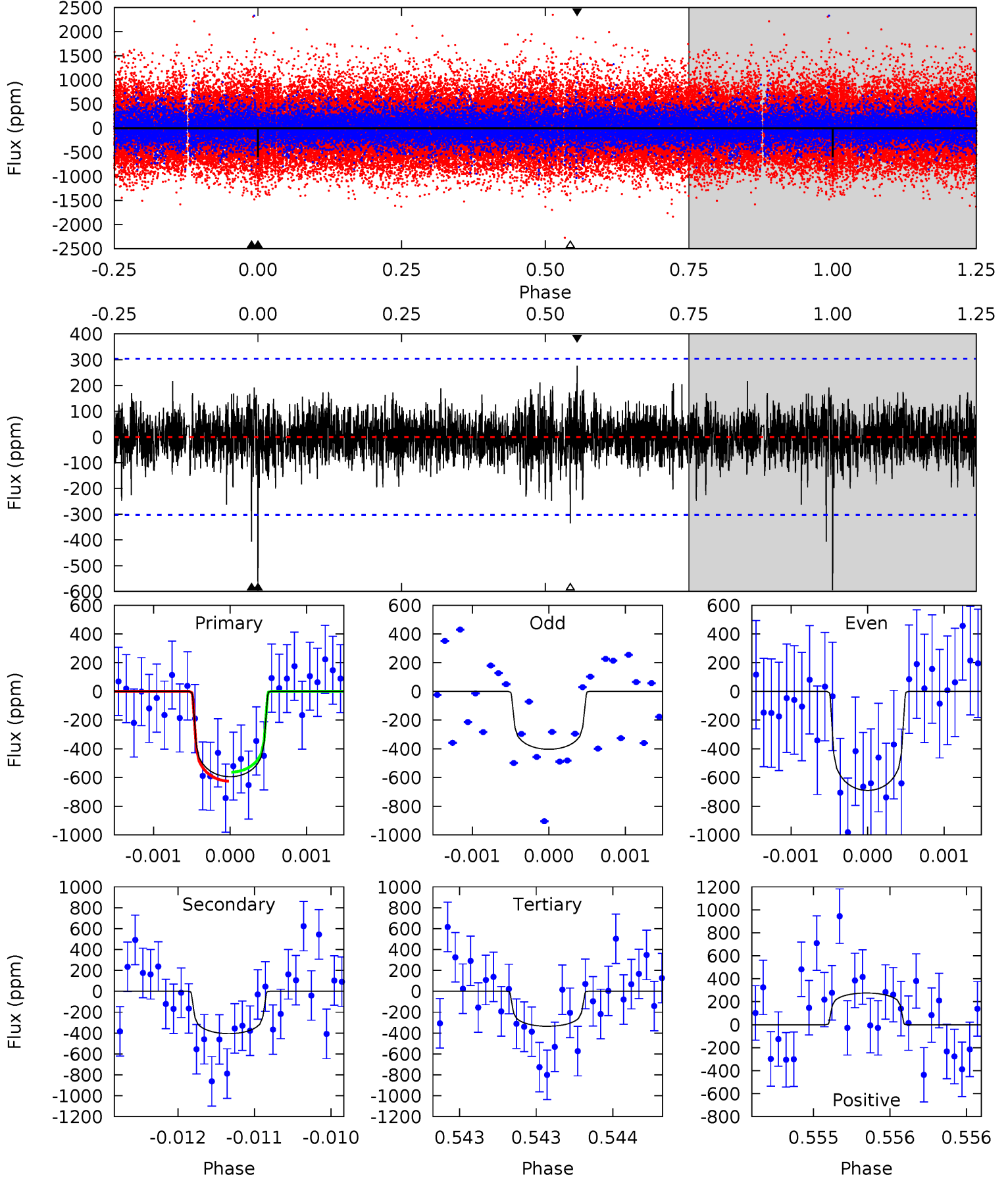
TCE 005125196-06     $P=715.733117$  Days     $T_0=133.937049$  (BKJD)



# DV Model-Shift Uniqueness Test

005125196-06, P = 715.749297 Days, E = 133.930637 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
10.9	7.40	6.12	5.04	5.54	3.43	1.14	4.73	5.82	1.28	2.36	2.50	0.88	0.32	0.57

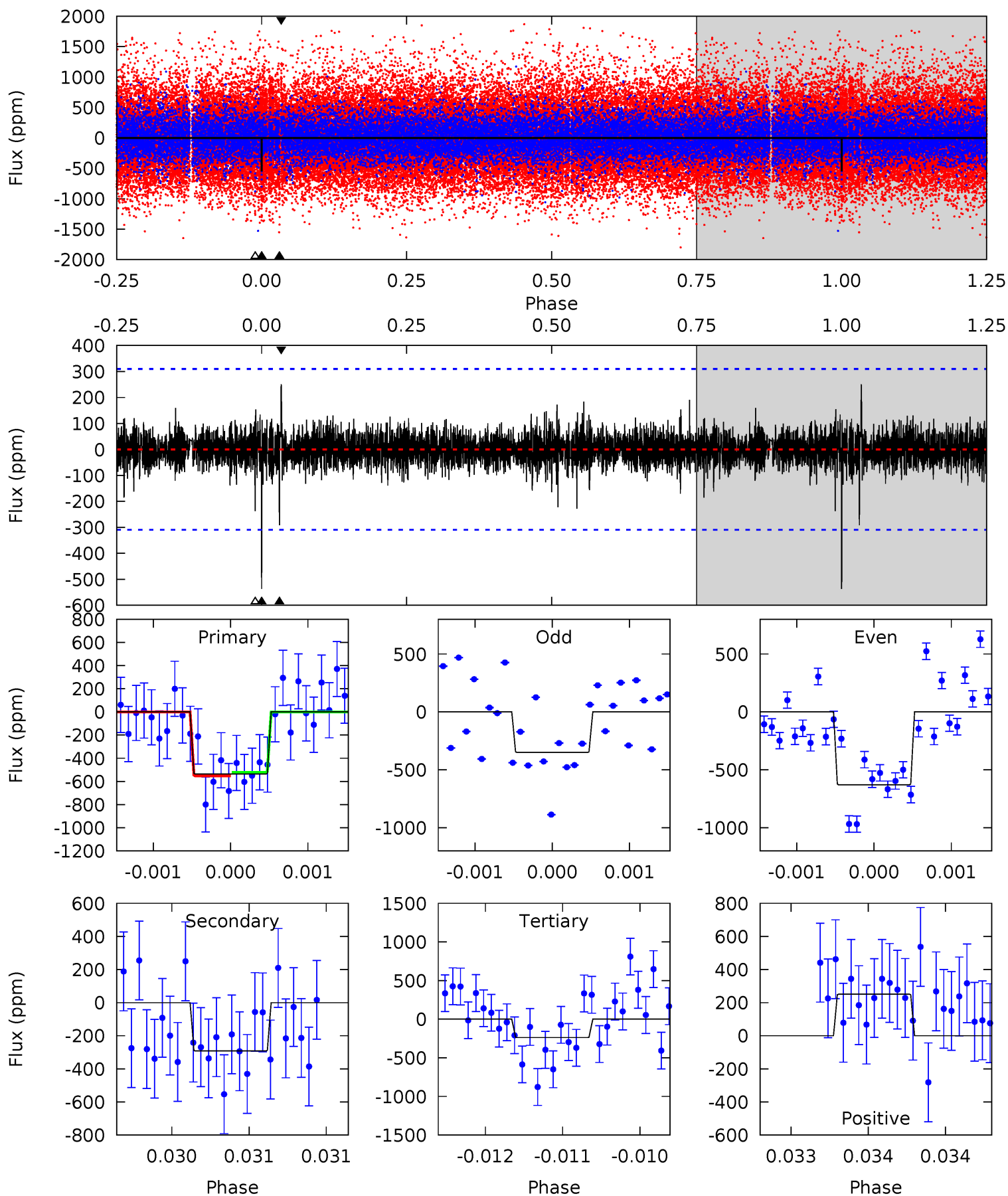




# Alt Model-Shift Uniqueness Test

005125196-06, P = 715.733117 Days, E = 133.937049 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
9.62	5.23	4.25	4.49	5.55	3.44	0.78	5.37	5.13	0.98	0.74	2.37	0.93	0.32	0.27



### Stellar Parameters For KIC 005125196

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6355^{+179}_{-246}$	$4.410^{+0.068}_{-0.189}$	$-0.080^{+0.250}_{-0.300}$	$1.108^{+0.327}_{-0.140}$	$1.151^{+0.157}_{-0.157}$	$1.191^{+0.405}_{-0.586}$
	+3%/-4%	+2%/-4%	+312%/-375%	+30%/-13%	+14%/-14%	+34%/-49%
Source	PHO1	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 005125196-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-405 \pm 55$	$3.03^{+1.17}_{-1.14}$	$328^{+22}_{-18}$	$5829^{+1577}_{-783}$	$63524^{+99865}_{-29409}$
Alt.	$-292 \pm 56$	$2.95^{+1.18}_{-1.13}$	$327^{+23}_{-18}$	$5438^{+1281}_{-700}$	$48895^{+74333}_{-24189}$

$T_{\text{max}}$  = 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

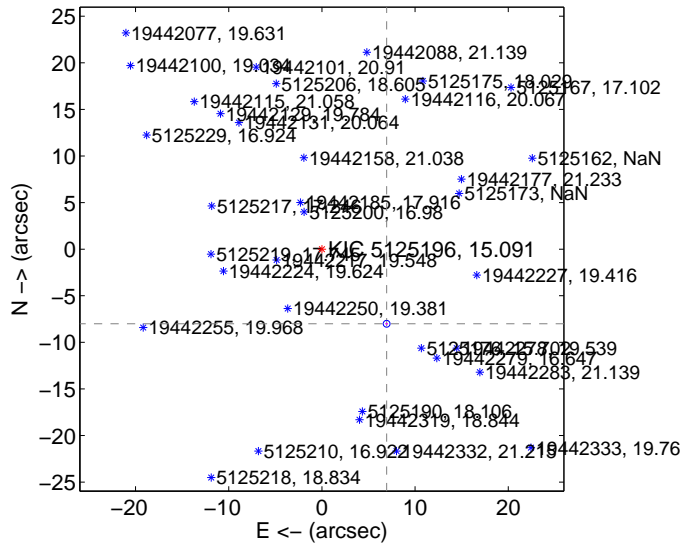
Supplemental centroid analysis for 005125196-06. Kepler magnitude: 15.09. Transit SNR 7.48

There are 1 quarters with good PRF difference image offsets

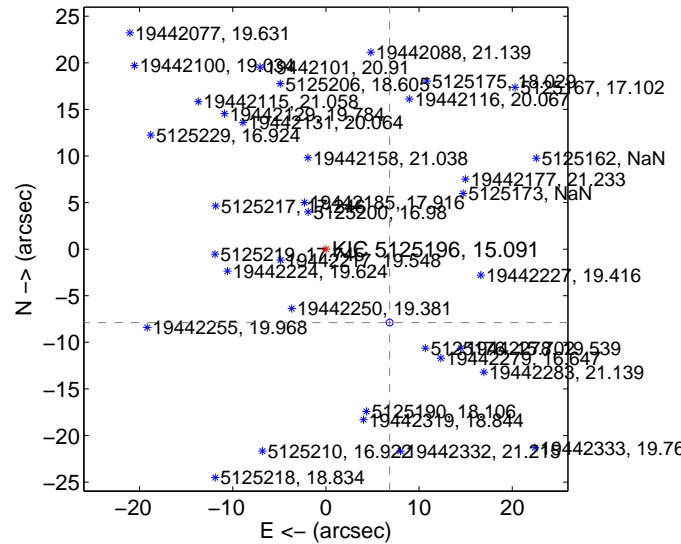
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$10.601 \pm 0.122$	87.23	$-6.947 \pm 0.149$	$-8.008 \pm 0.096$
PRF-fit source offset from KIC position	$10.435 \pm 0.122$	85.85	$-6.842 \pm 0.149$	$-7.879 \pm 0.096$
photometric centroid source offset	$13.61 \pm 2.68$	5.08	$-11.23 \pm 2.79$	$-7.68 \pm 2.40$

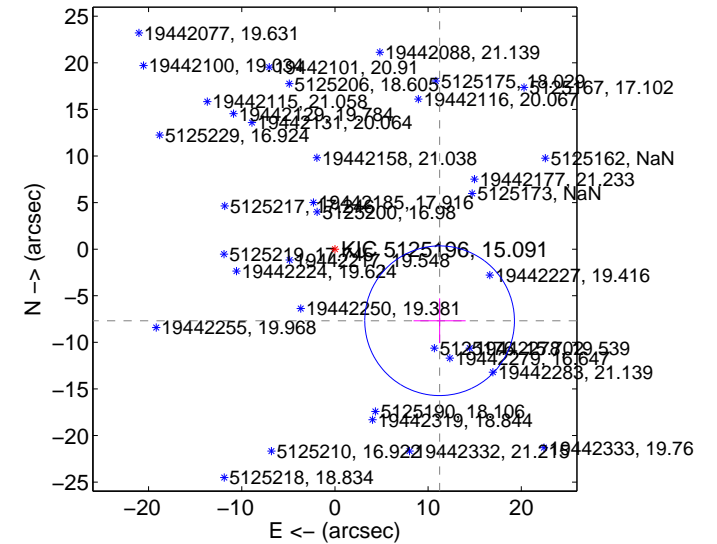
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

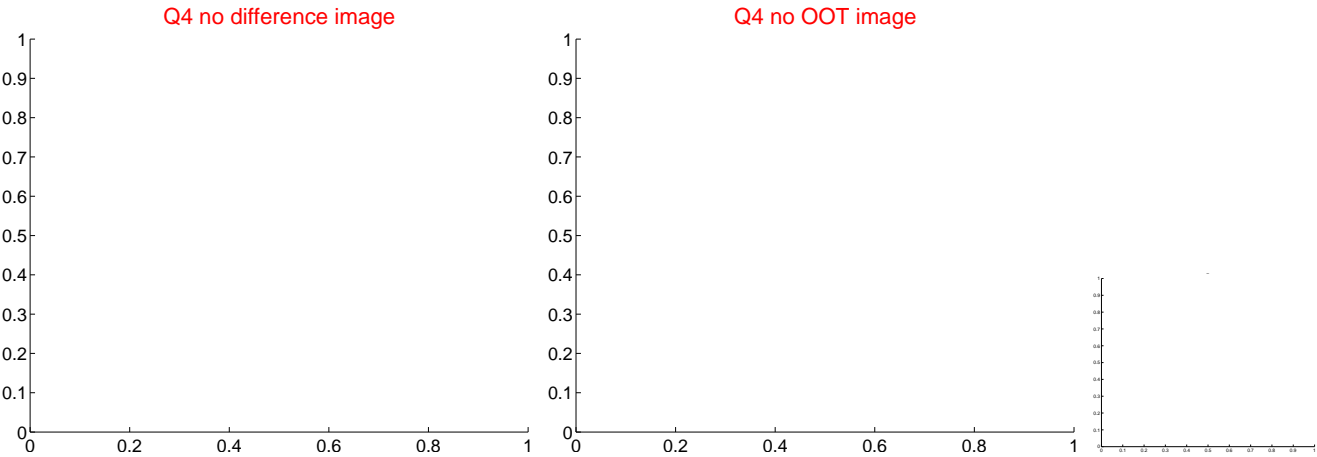
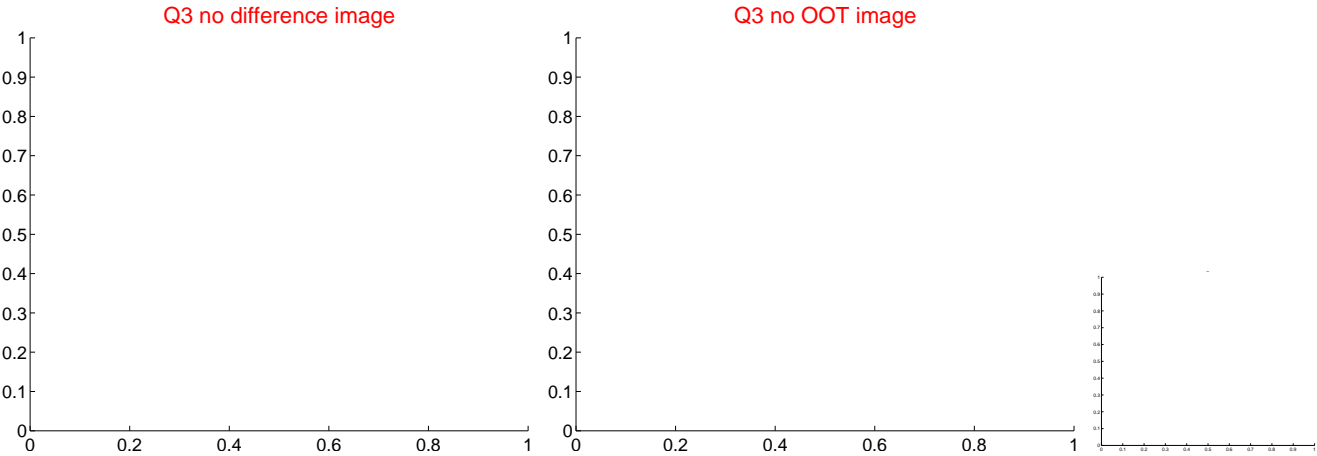
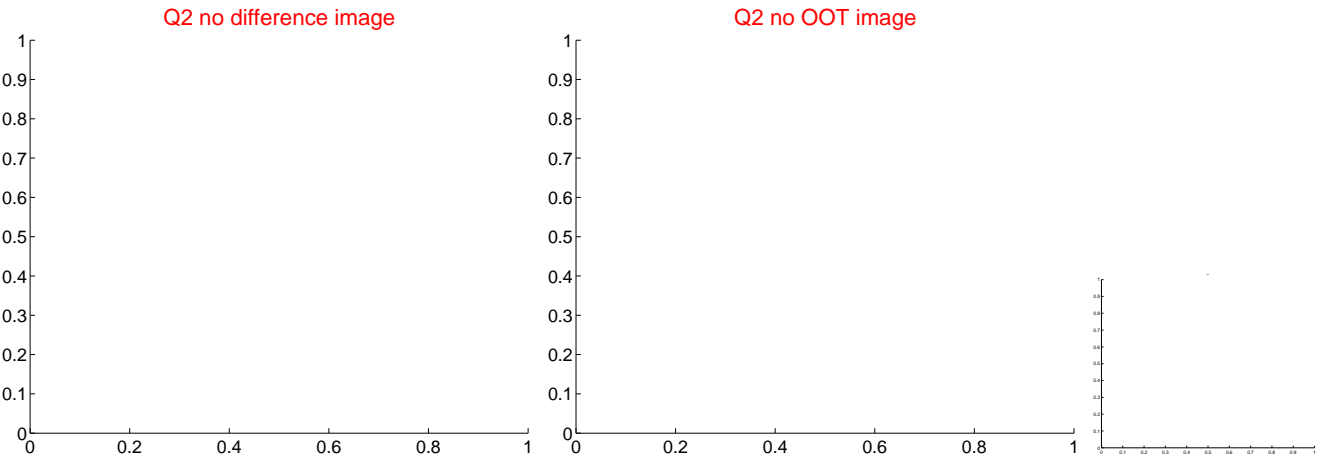
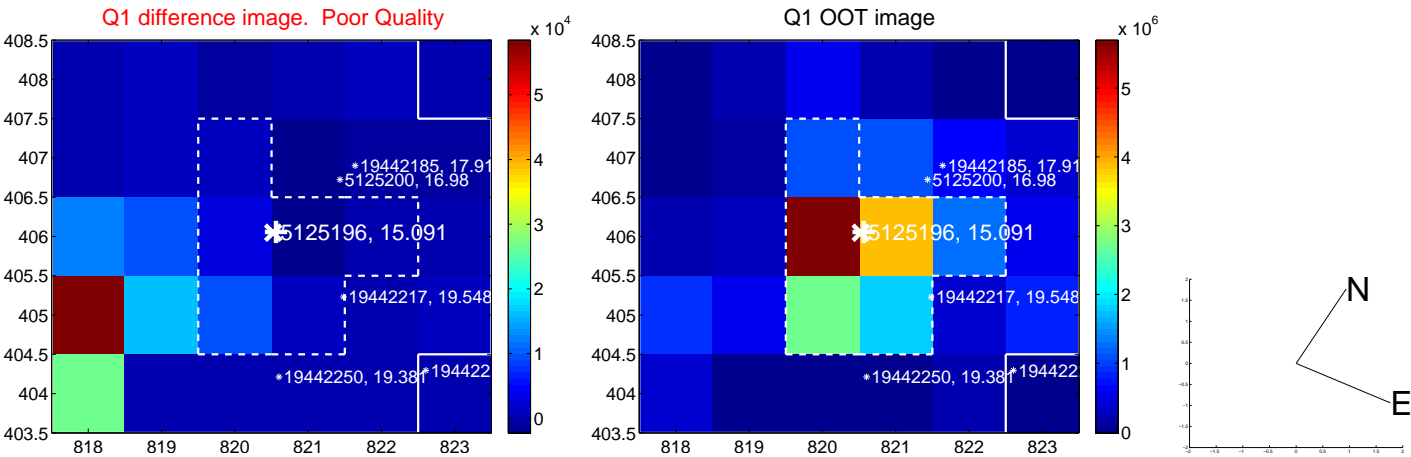


offset from photometric centroids

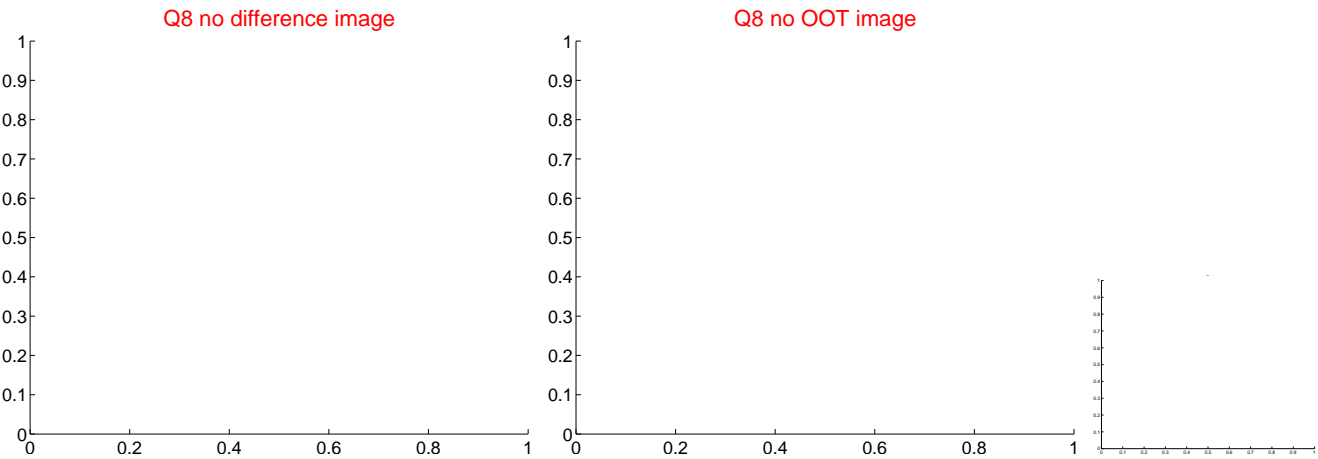
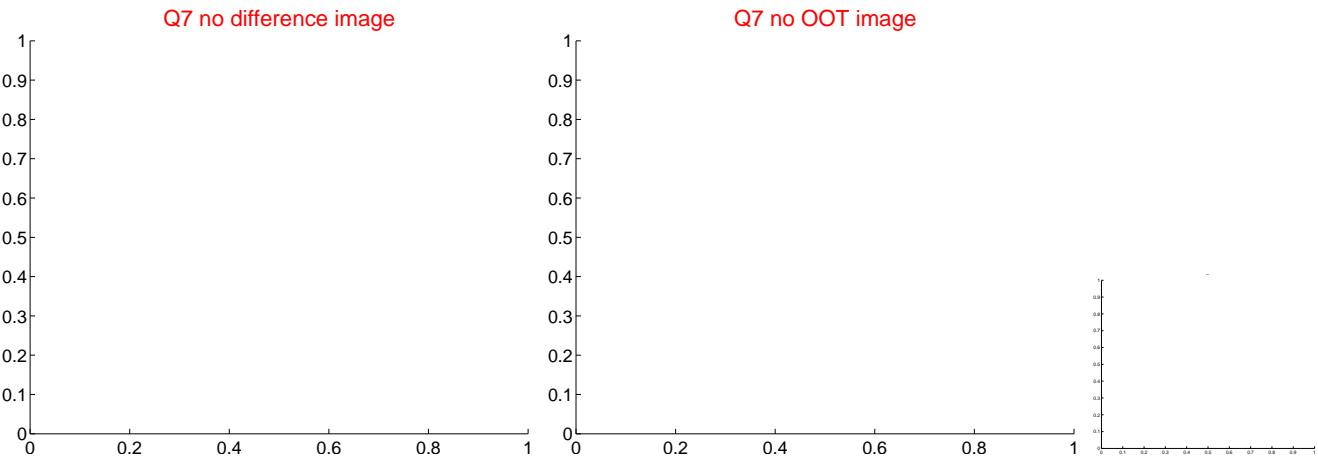
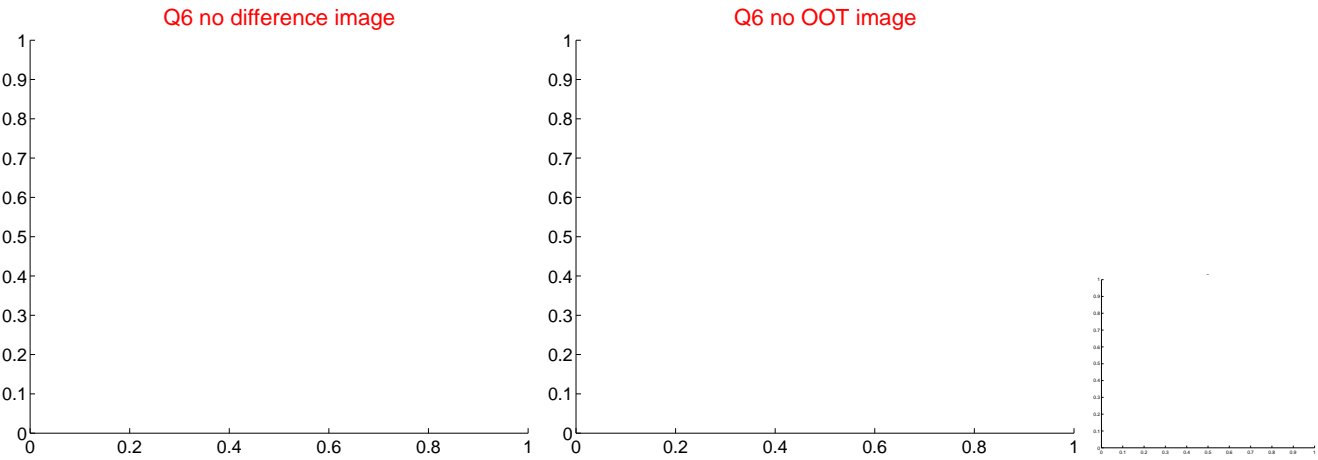
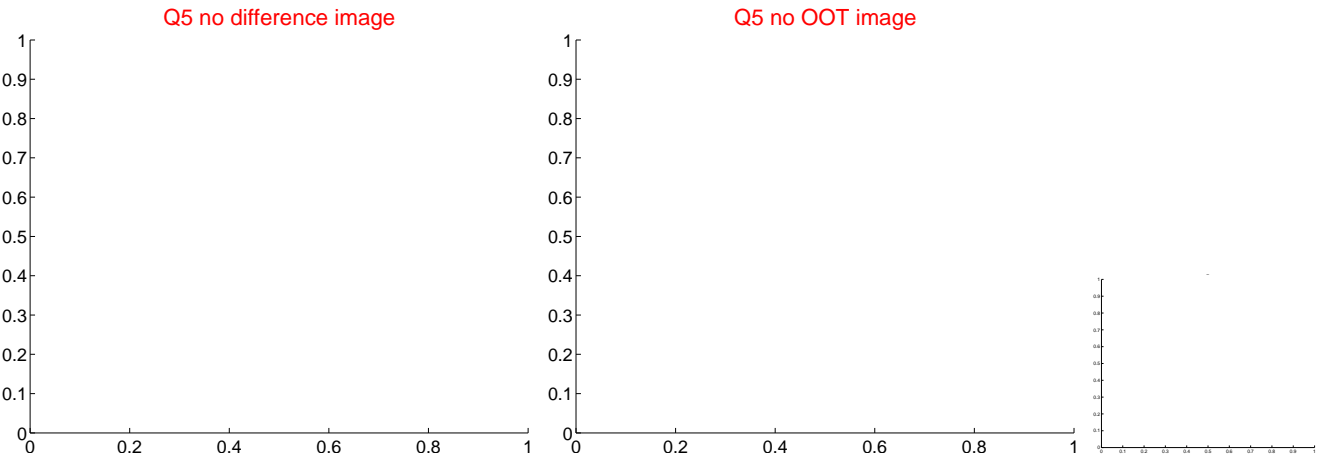


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

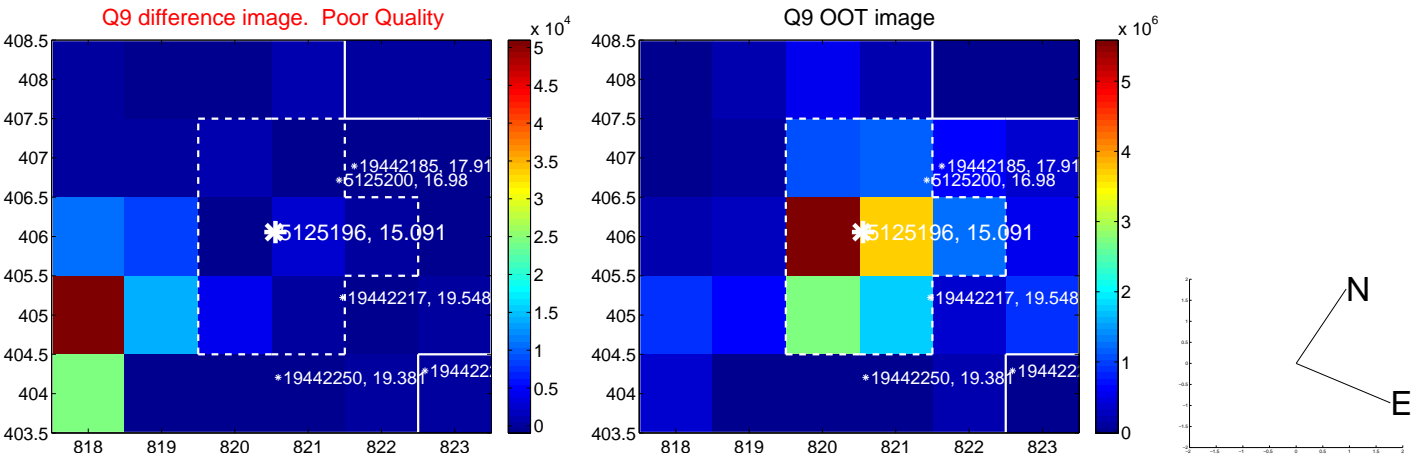
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



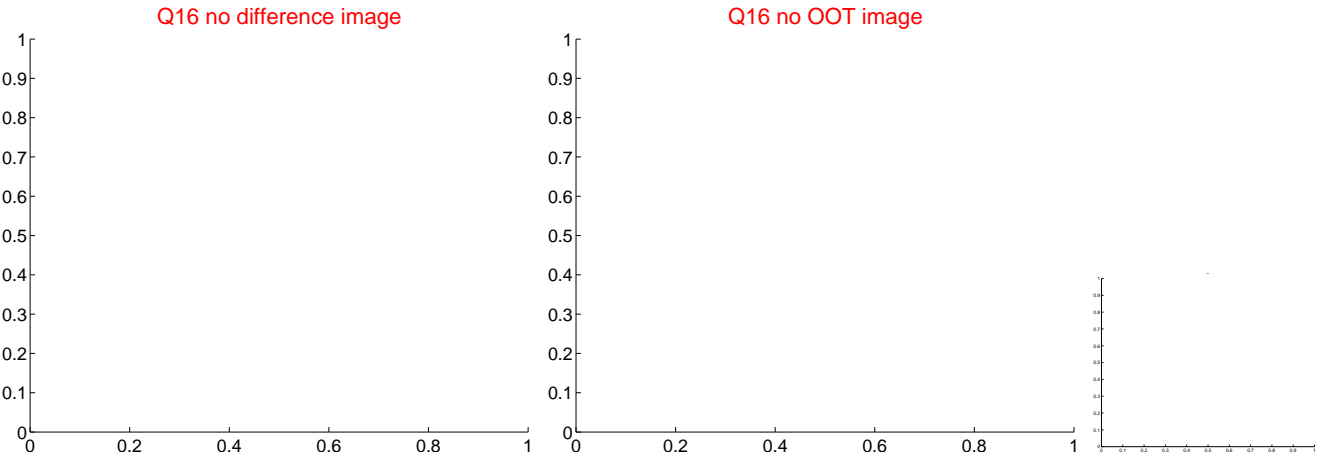
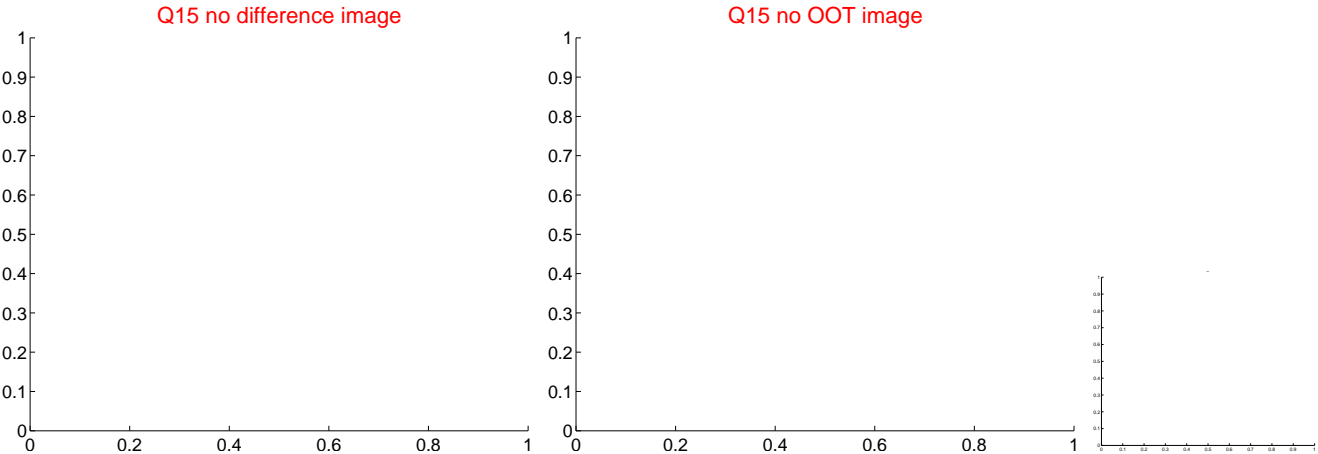
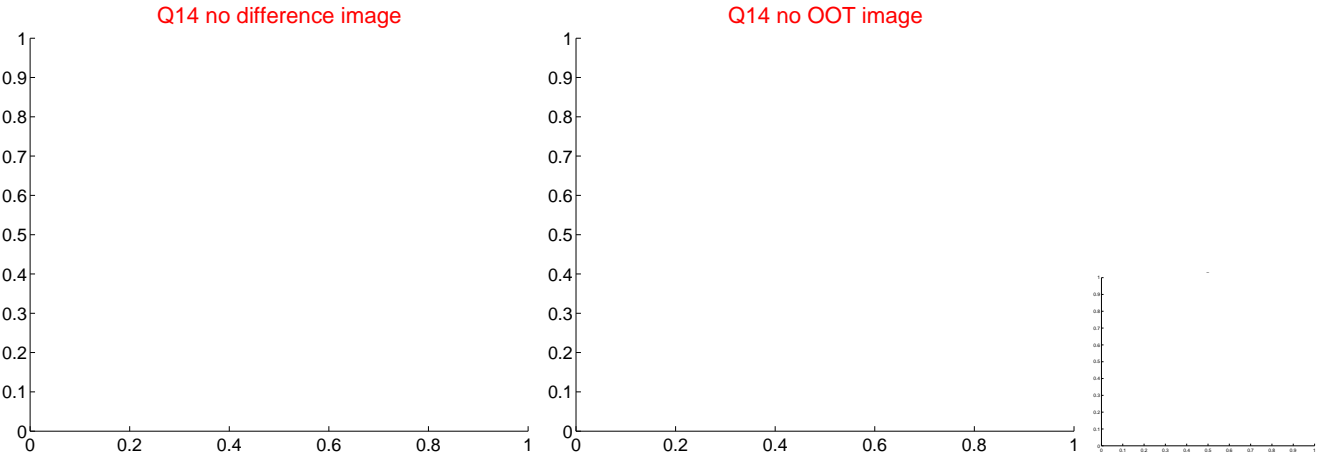
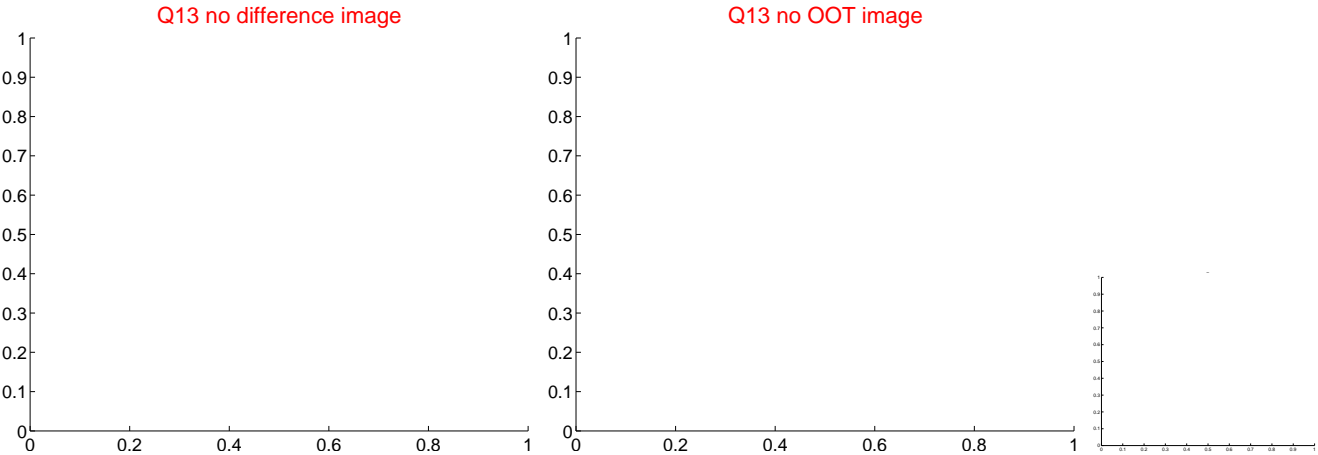
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



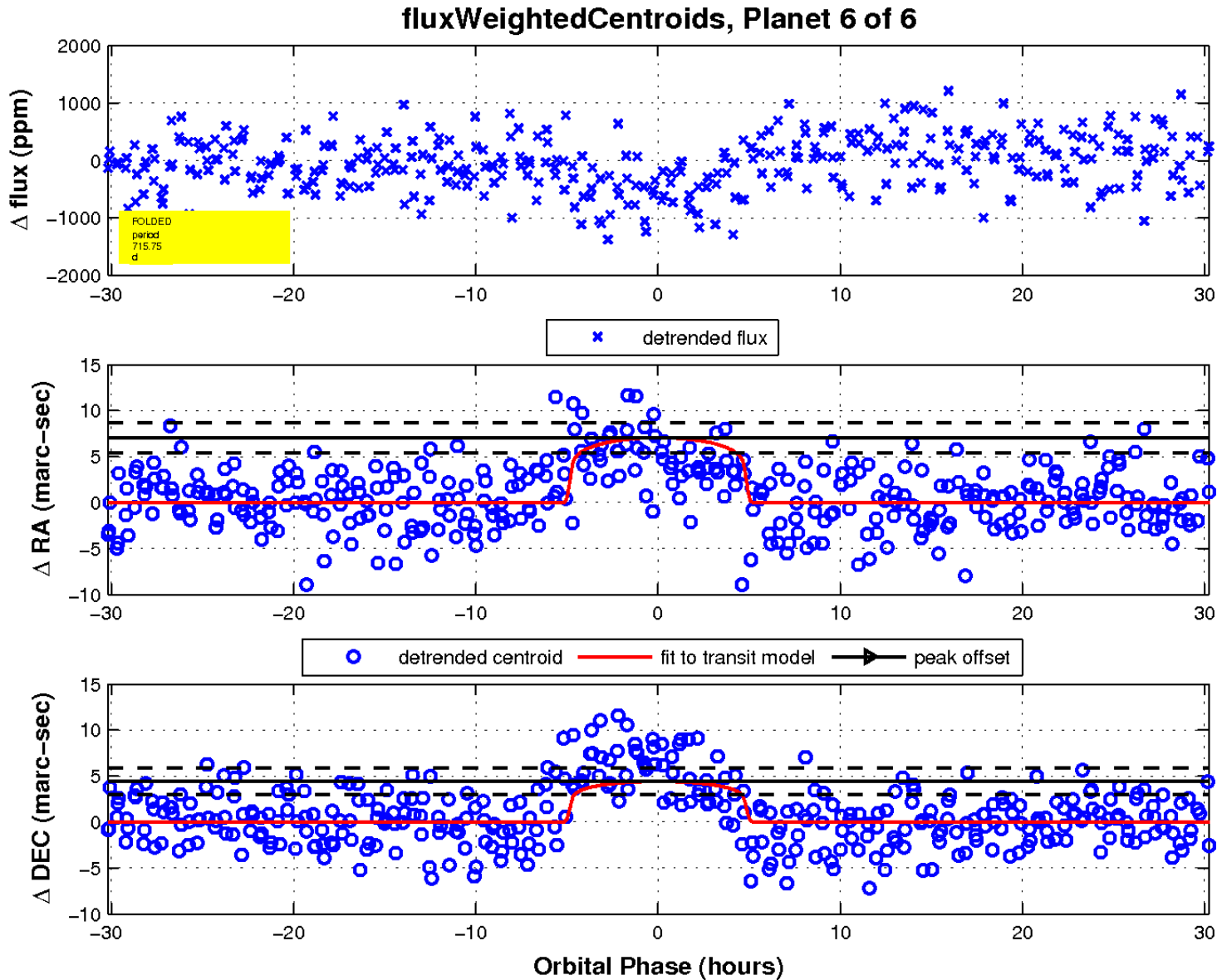
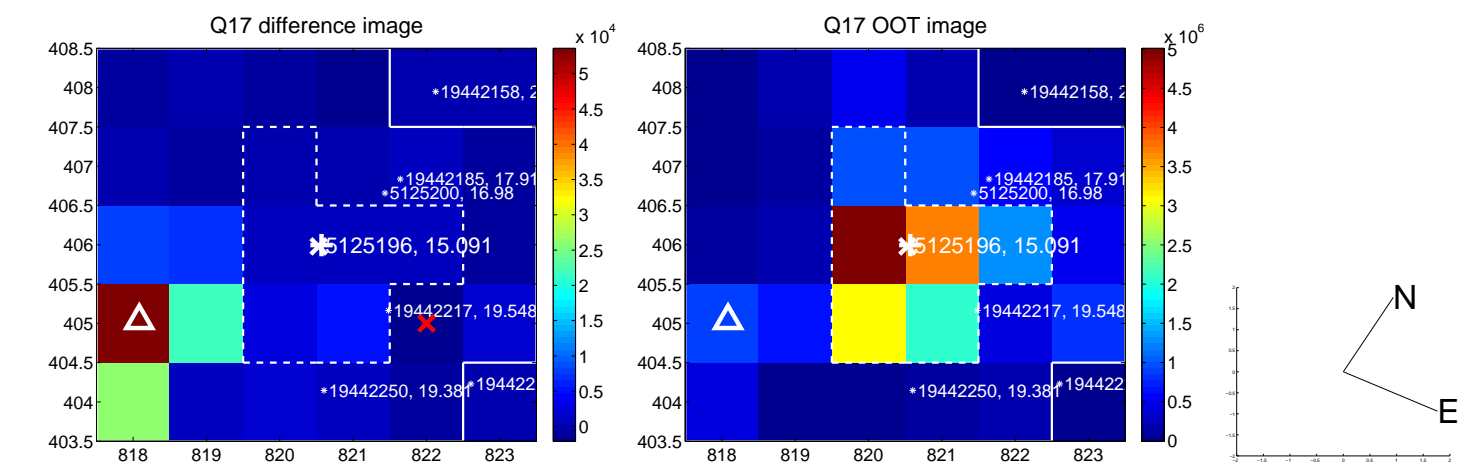
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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





UKIRT Image

Declination

