

# KIC 006279696

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006279696-01	OBS	No	473.704410	157.597839	194.3	12.500	28.2	-1.0	155.19	3266	198.46	1635.01
006279696-02	OBS	No	425.828888	160.613257	3.1	58.076	57.0	0.1	155.19	3266	25.46	1884.59
006279696-03	OBS	No	346.788292	393.819916	329.3	13.551	28.2	9.4	155.19	3266	265.38	2478.05
006279696-04	OBS	No	421.331698	145.748799	1608.6	43.593	17.5	25.0	155.19	3266	1346.59	1911.45
006279696-05	OBS	No	199.937579	196.791751	260.6	12.751	48.9	8.8	155.19	3266	229.26	0.00
006279696-06	OBS	No	465.837759	165.221745	7794.4	1.123	25.6	18.9	155.19	3266	1555.15	1671.92

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006279696-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
006279696-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006279696-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006279696-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006279696-05	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006279696-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—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.

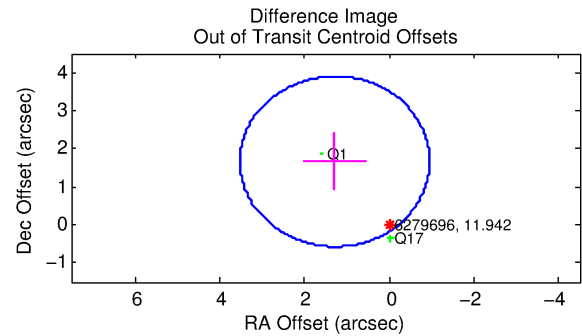
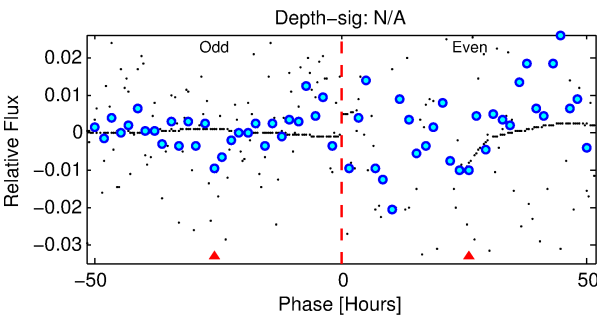
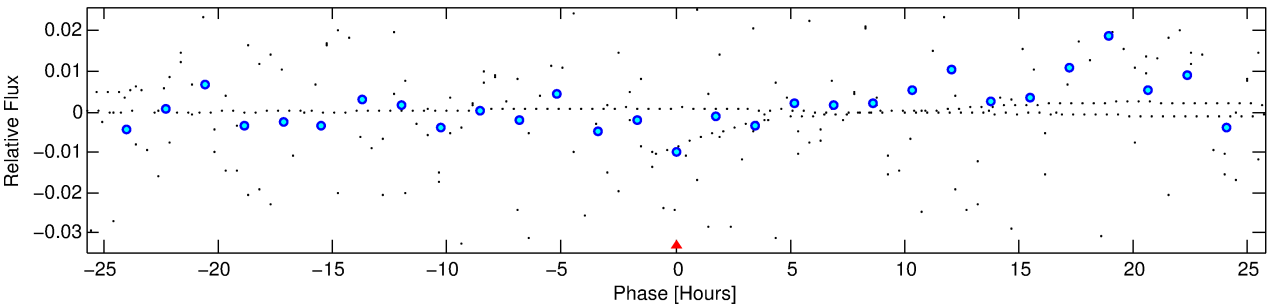
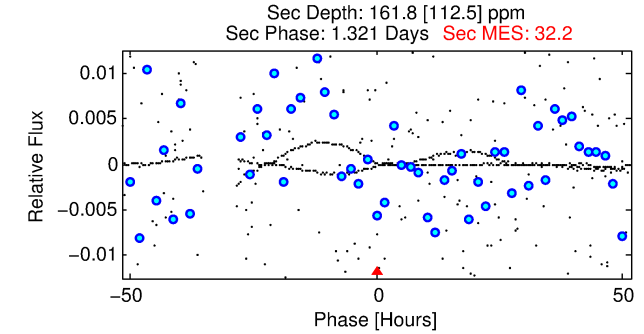
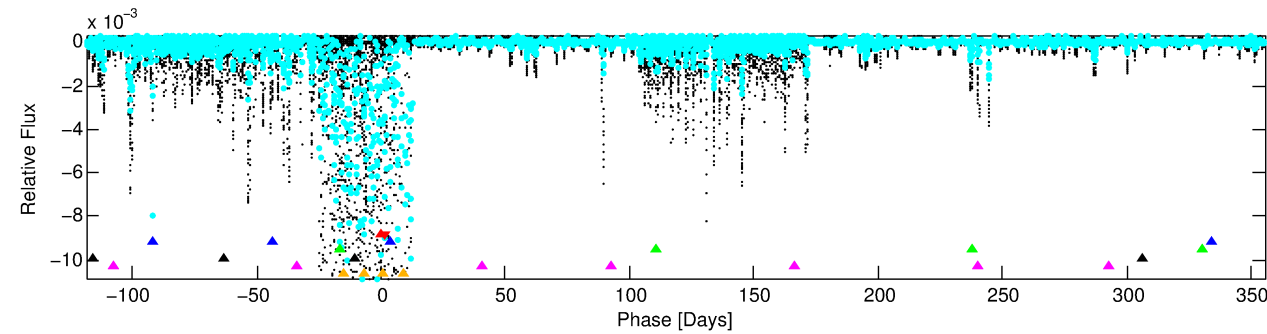
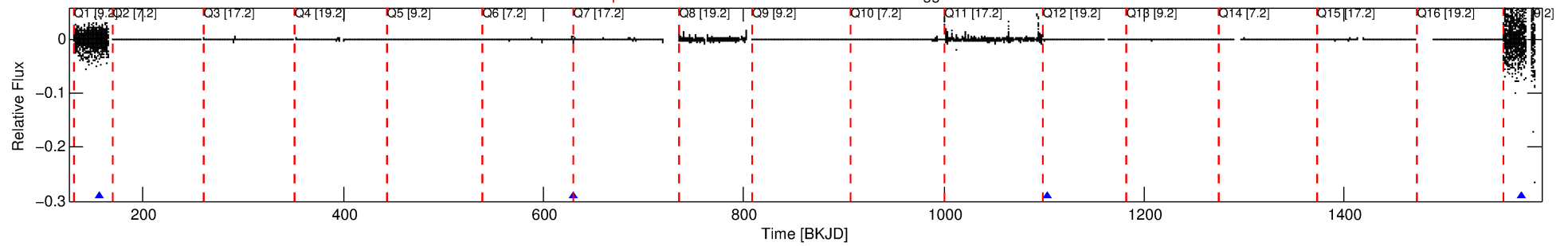
## Ephemeris Match Information For 006279696-01

No Significant Match Found

# DV One-Page Summary

KIC: 6279696 Candidate: 1 of 6 Period: 473.704 d

Kp: 11.94 R\*: 155.19 Rs Teff: 3266.0 K Logg: 0.10 Fe/H: -0.080



## TPS TCE Results:

Period = 473.70441 d  
Epoch = 157.5978 BKJD

DV fit results are unavailable

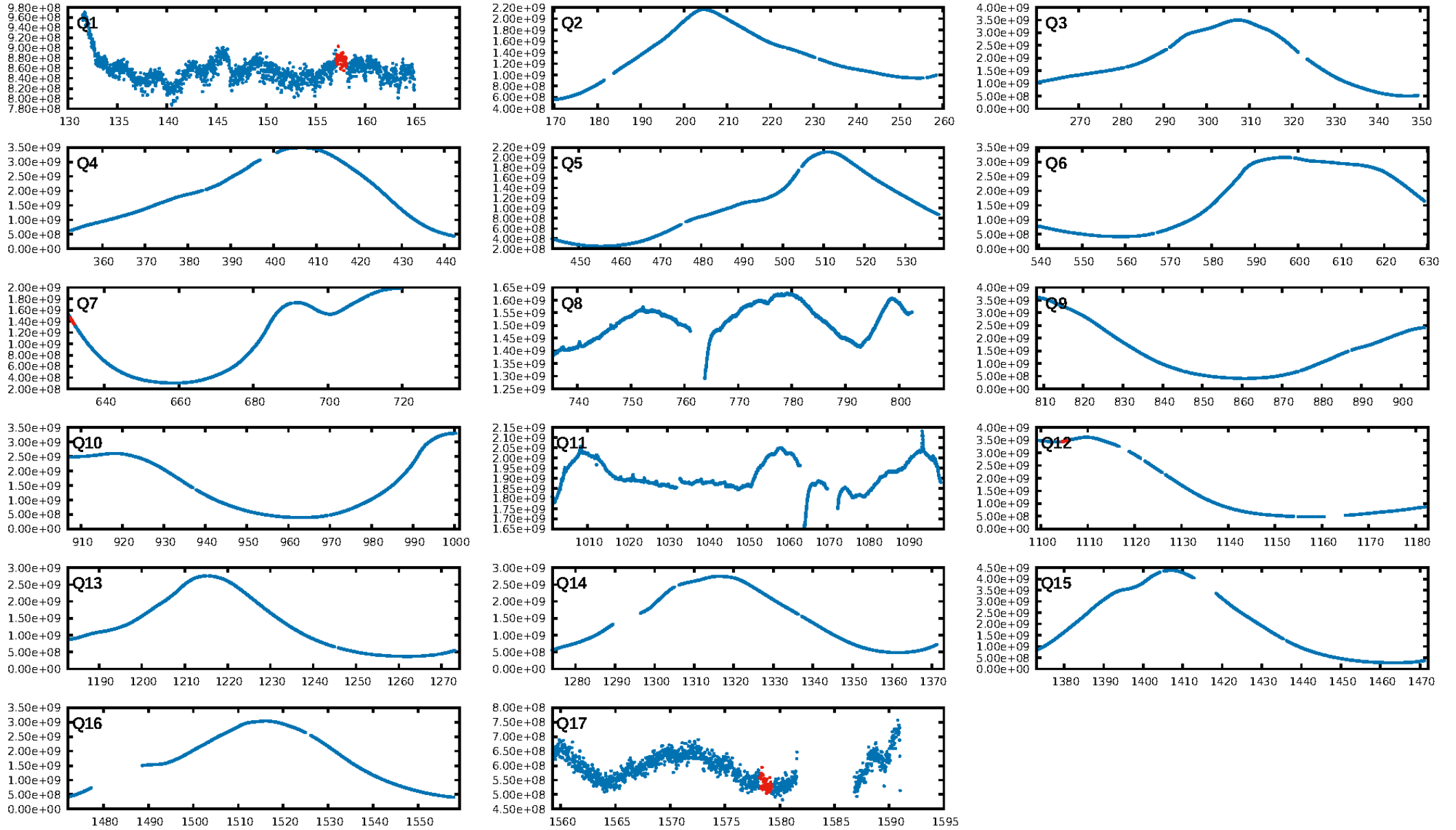
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [15.04 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [2/2]  
GhostDiagnostic-chr: 0.5873  
Centroid-sig: 59.6%  
Centroid-so: 0.570 arcsec [2.23 $\sigma$ ]  
OotOffset-rm: 2.102 arcsec [2.82 $\sigma$ ]  
KicOffset-rm: 2.164 arcsec [1.60 $\sigma$ ]  
OotOffset-st: 0/0/0/2 [2]  
KicOffset-st: 0/0/0/2 [2]  
DiffImageQuality-fgm: 0.50 [1/2]  
DiffImageOverlap-fno: 1.00 [2/2]

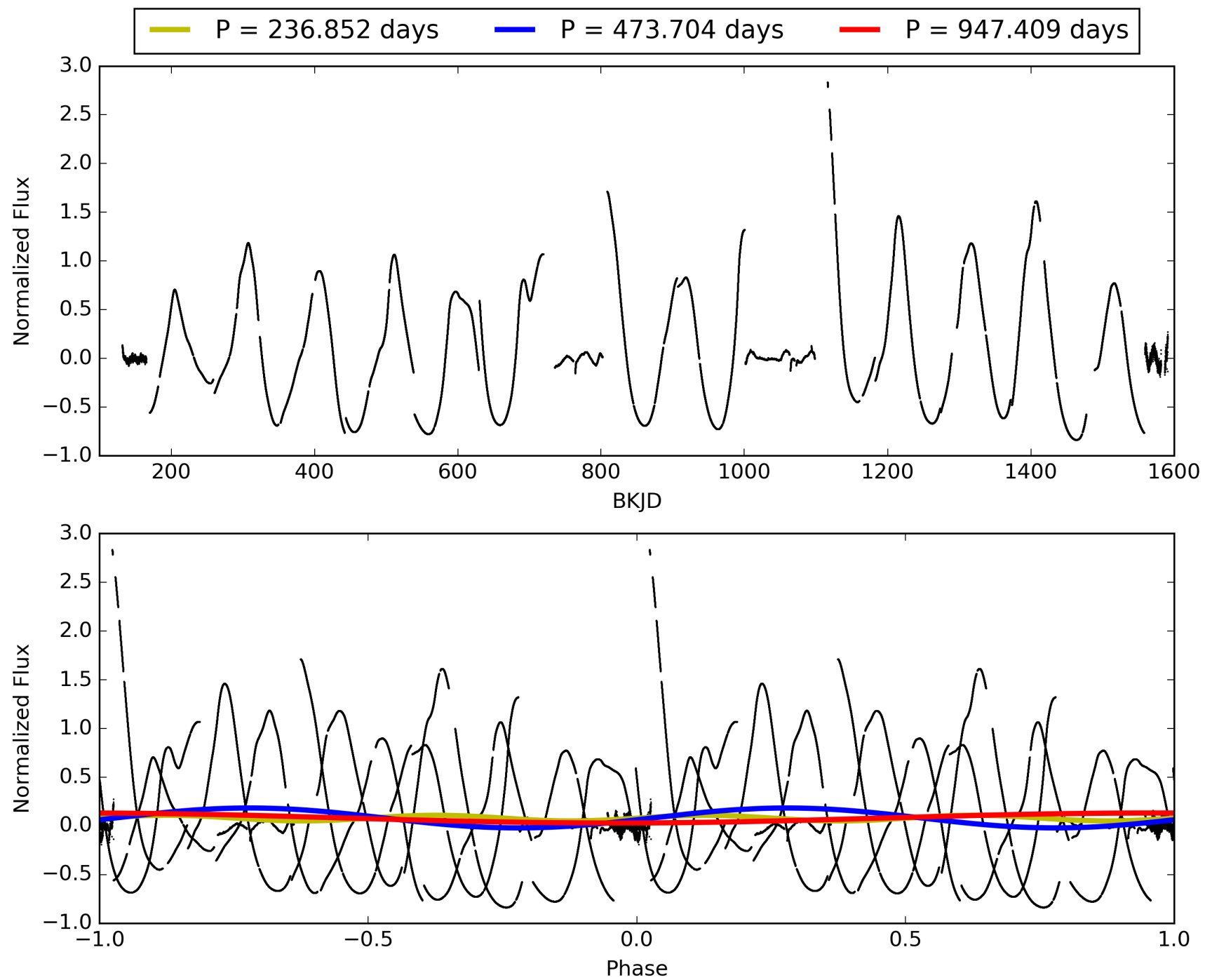
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:58:01 Z

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

# TCE 006279696-01, PDC Light Curves



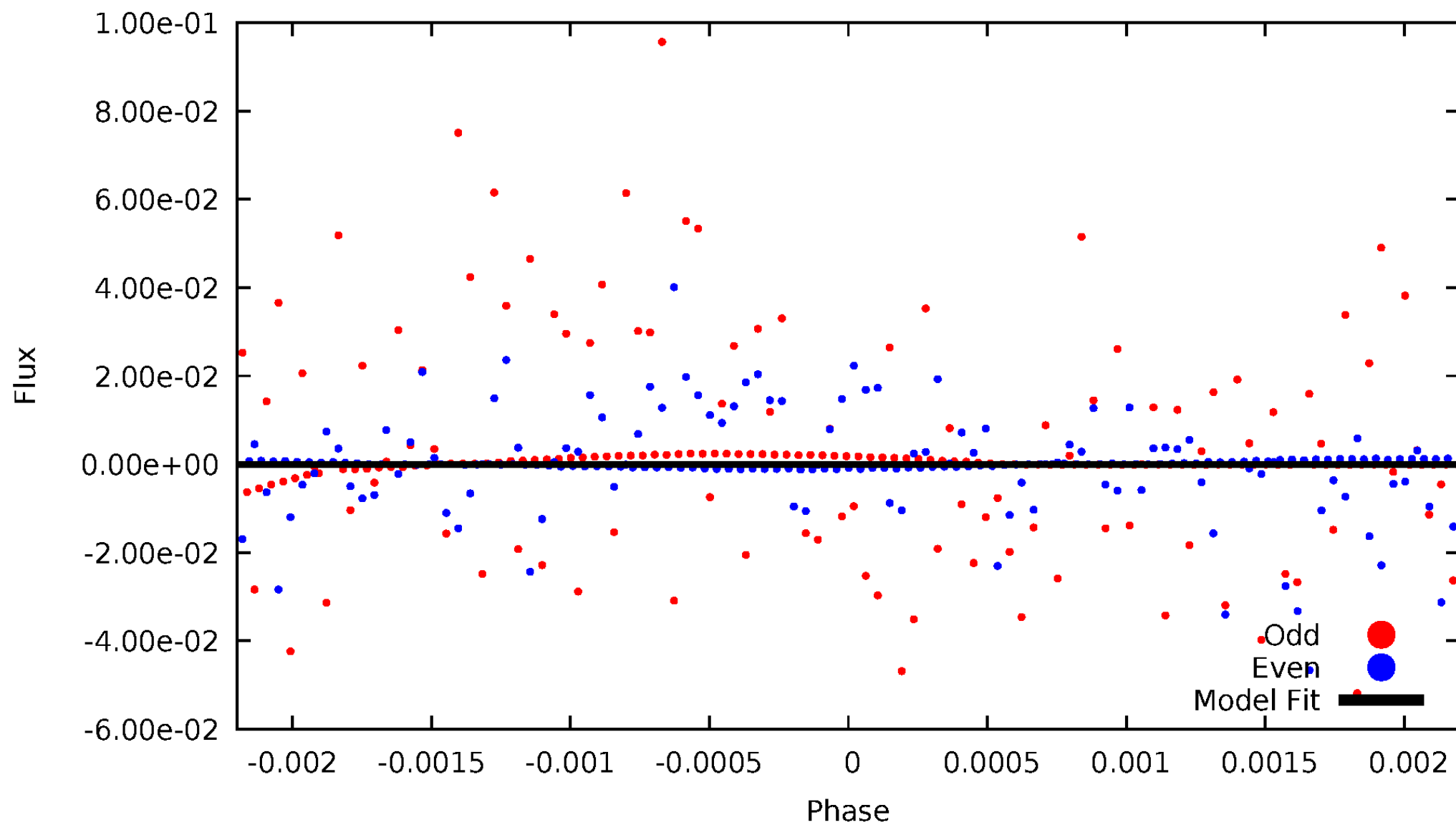
TCE 006279696-01





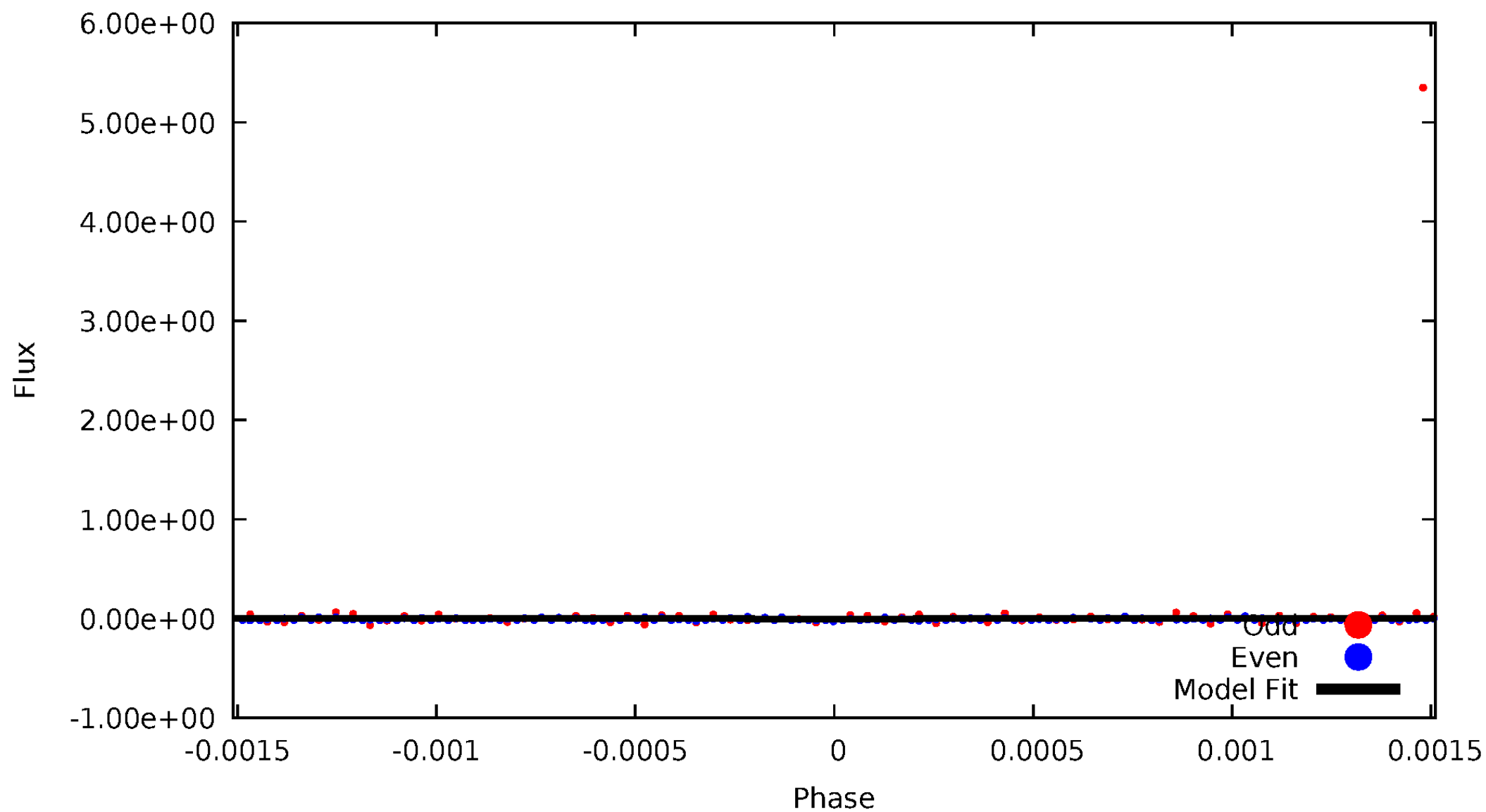
# DV Odd/Even

TCE 006279696-01



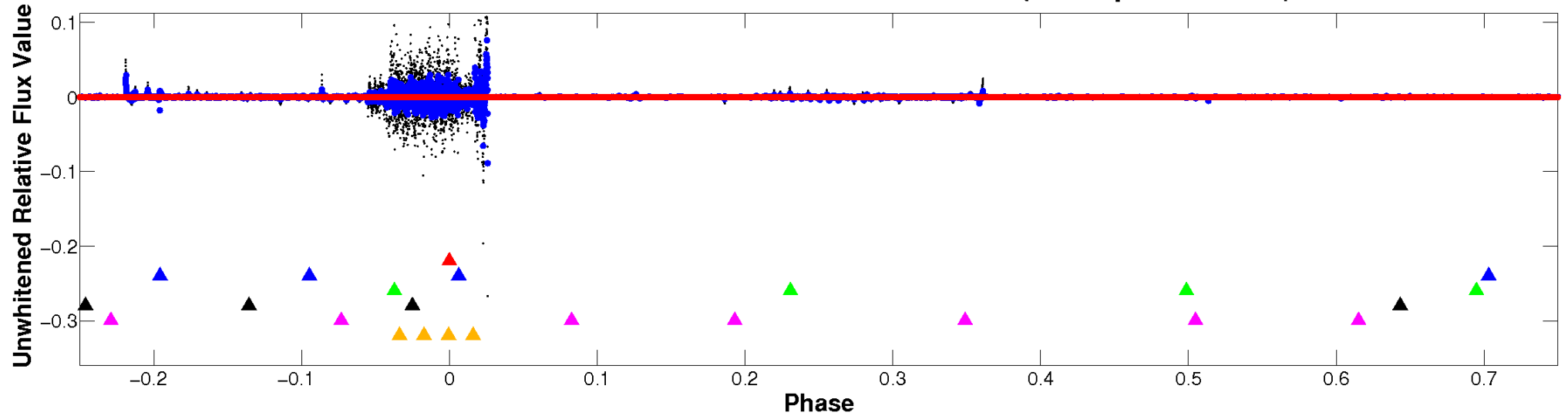
# ALT Odd/Even

TCE 006279696-01



# Non-Whitened Vs. Whitened Light Curve

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

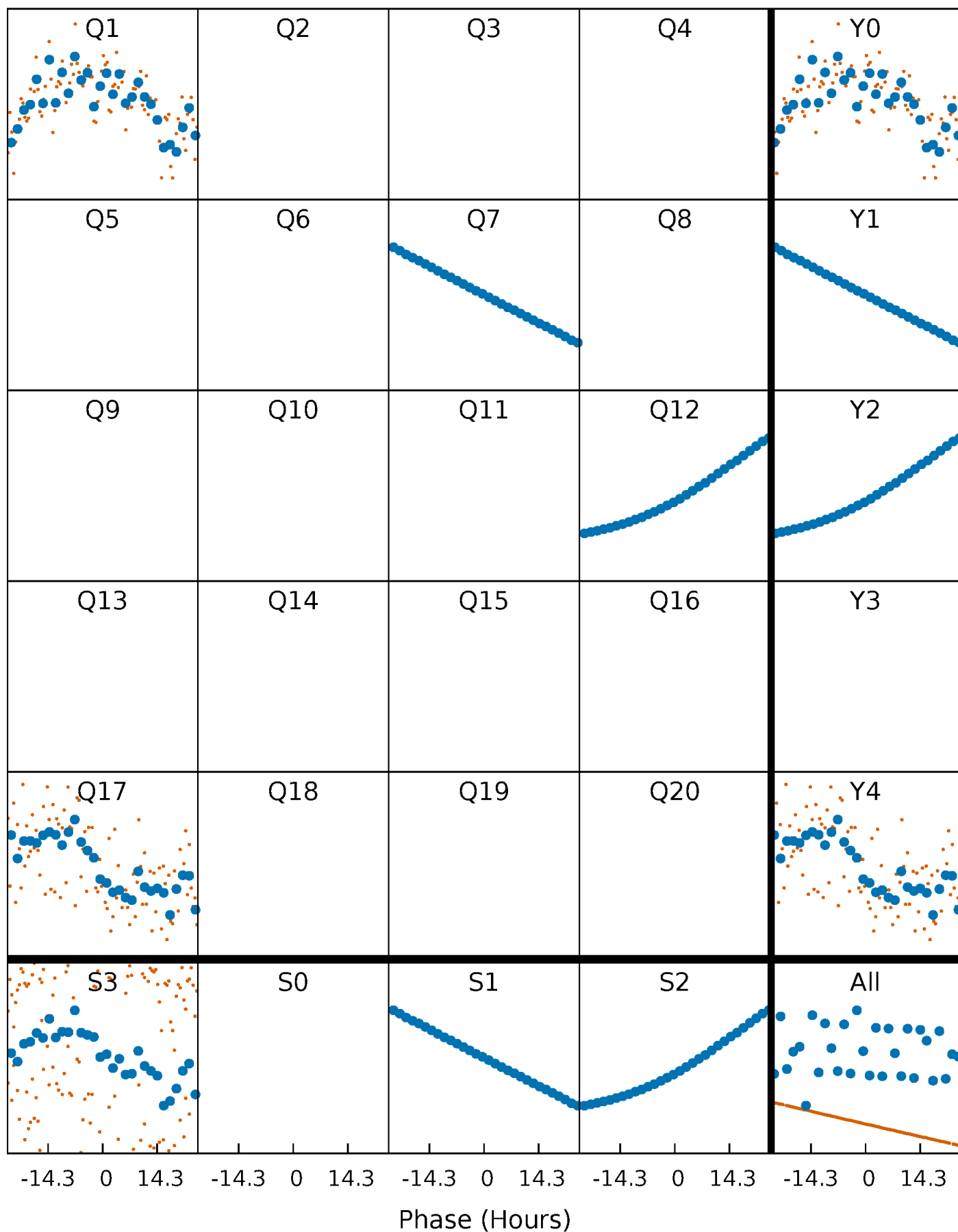


**Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)**



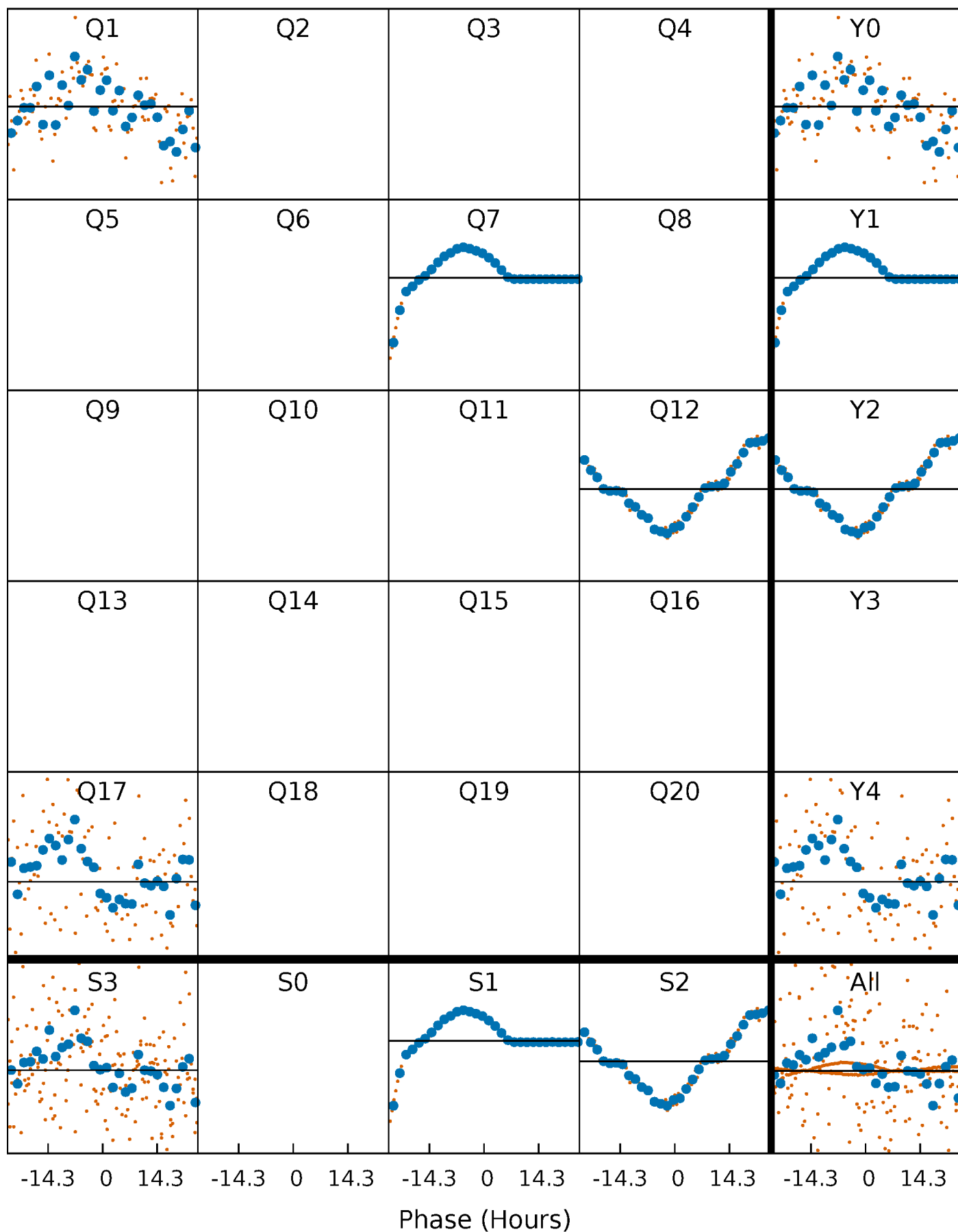
# PDC Quarter-Phased Transit Curves

TCE 006279696-01 P=473.704410 Days  $T_0=157.597839$  (BKJD)



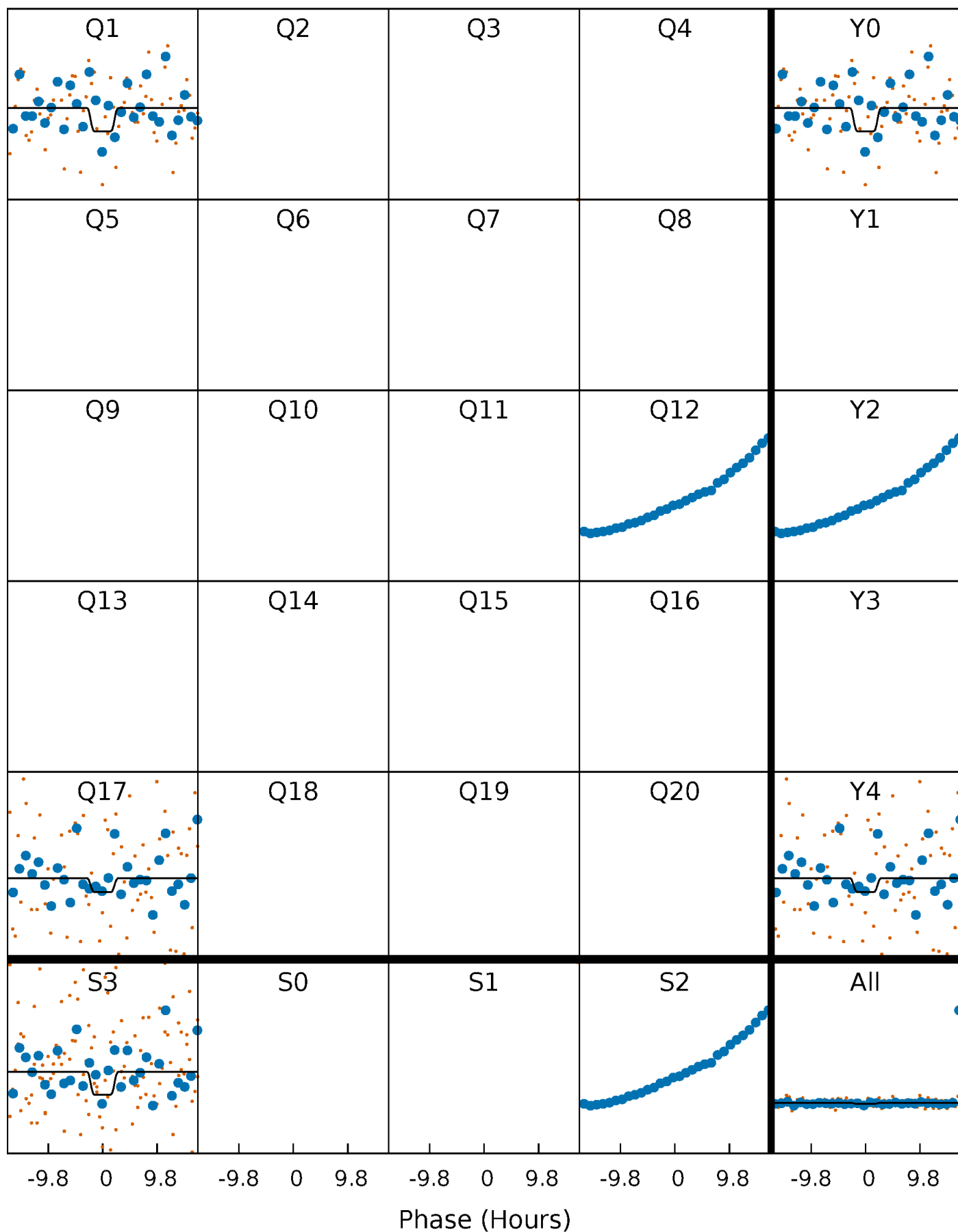
# DV Quarter-Phased Transit Curves

TCE 006279696-01 P=473.704410 Days  $T_0=157.597839$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

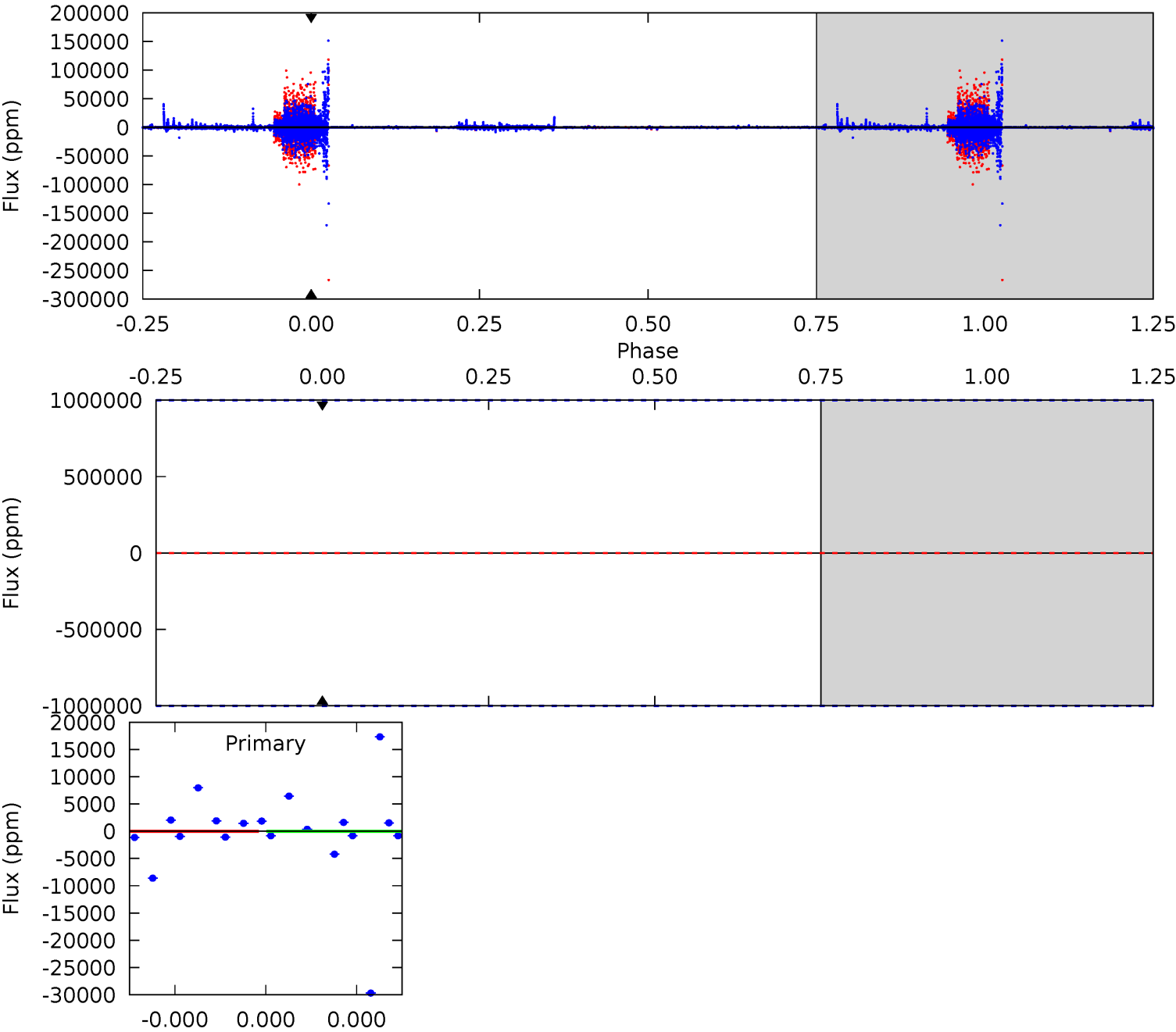
TCE 006279696-01 P=473.704410 Days  $T_0=156.525310$  (BKJD)



# DV Model-Shift Uniqueness Test

006279696-01, P = 473.704410 Days, E = 157.597839 Days

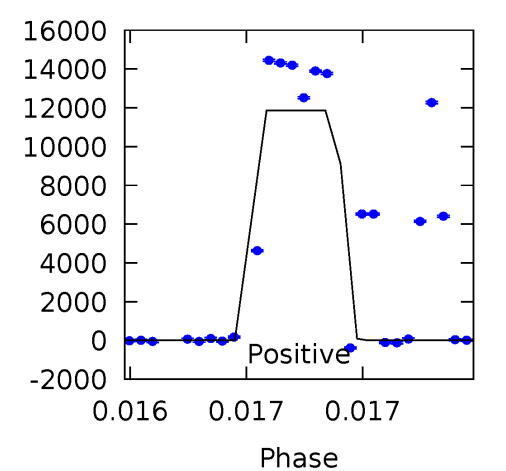
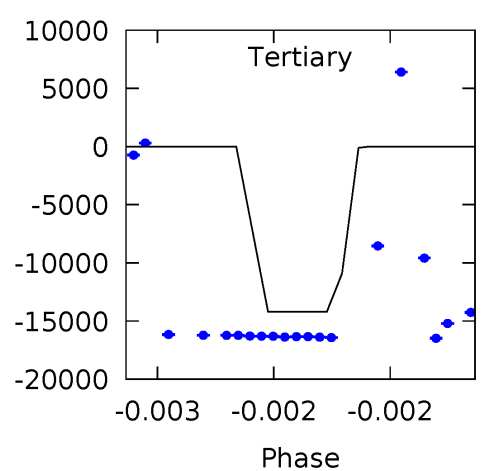
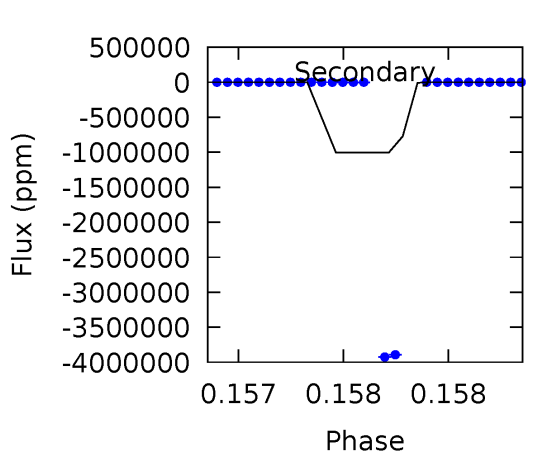
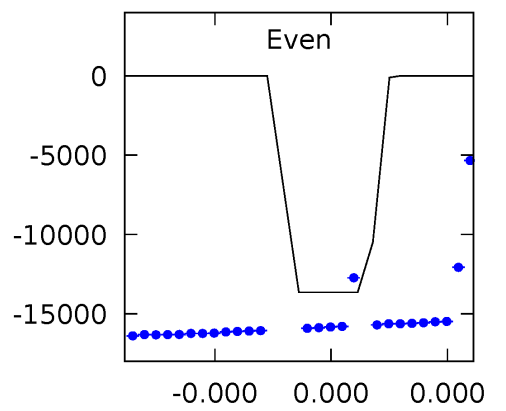
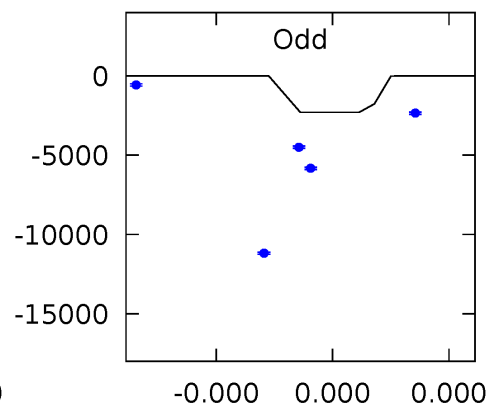
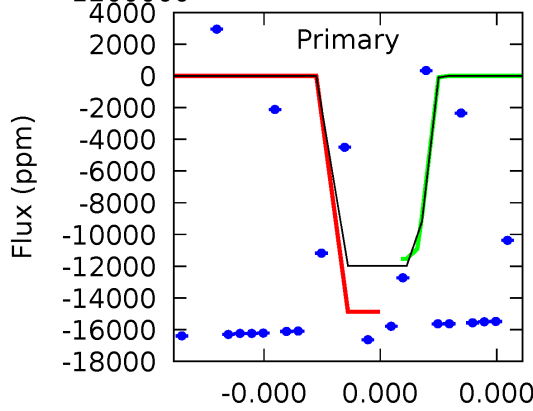
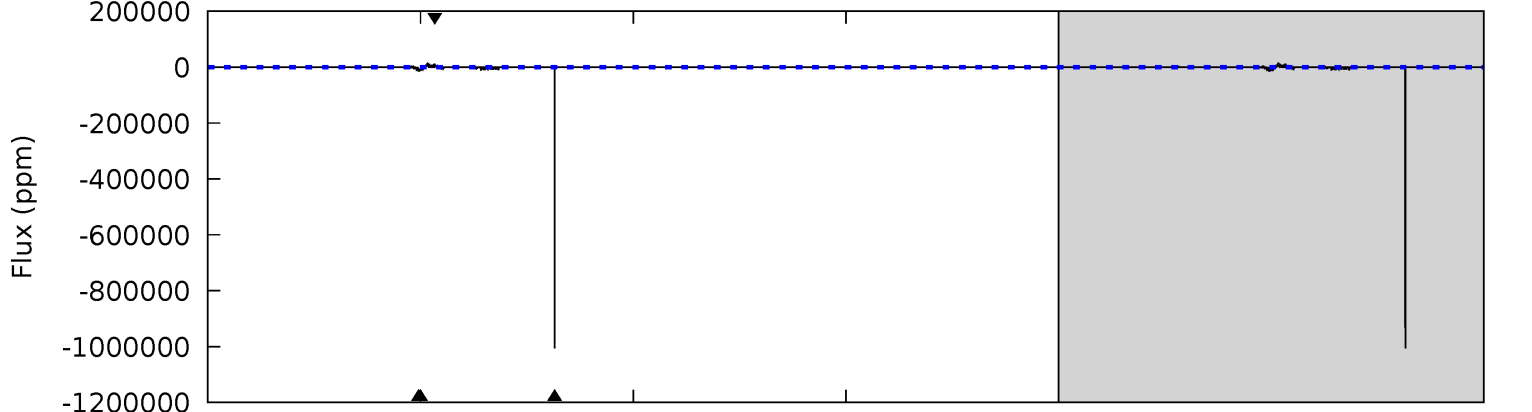
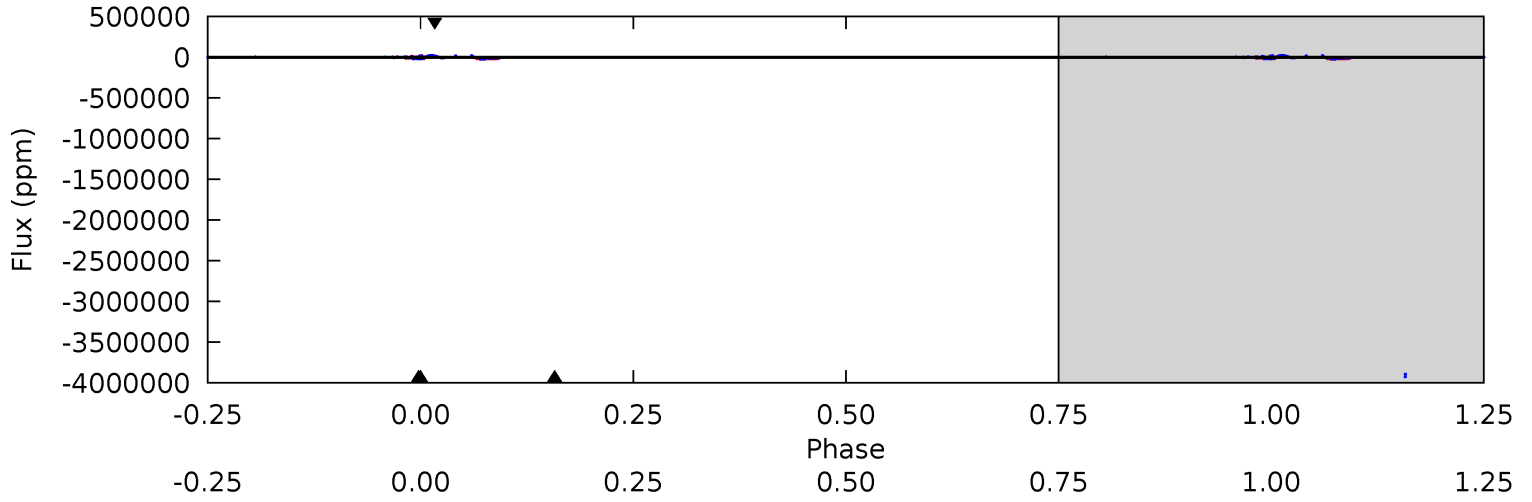
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

006279696-01, P = 473.704410 Days, E = 156.525310 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
27.4	2295	32.5	27.1	5.58	3.49	1.65	-5.10	0.24	2263	2268	0.22	1.73	0.01	0





### Stellar Parameters For KIC 006279696

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$3266^{+117}_{-78}$	$0.095^{+0.208}_{-0.065}$	$-0.080^{+0.250}_{-0.100}$	$155.187^{+9.192}_{-27.576}$	$1.095^{+0.206}_{-0.120}$	$0.000^{+0.000}_{-0.000}$
	+4%/-2%	+219%/-68%	+312%/-125%	+6%/-18%	+19%/-11%	+86%/-14%
Source	KIC0	KIC0	KIC0	DSEP		

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

### Secondary Eclipse Parameters for KIC 006279696-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$0 \pm 1000000$	$1162.81^{+1327.85}_{-812.36}$	$2232^{+106}_{-117}$	$-2433^{+9334}_{-3866}$	$-0.008^{+136.142}_{-91.910}$
Alt.	$-1003243 \pm 437$	$1837.74^{+1461.35}_{-1140.52}$	$2238^{+109}_{-124}$	$-384591^{+253952}_{-2463148}$	$-77090.391^{+52916.687}_{-489629.655}$

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

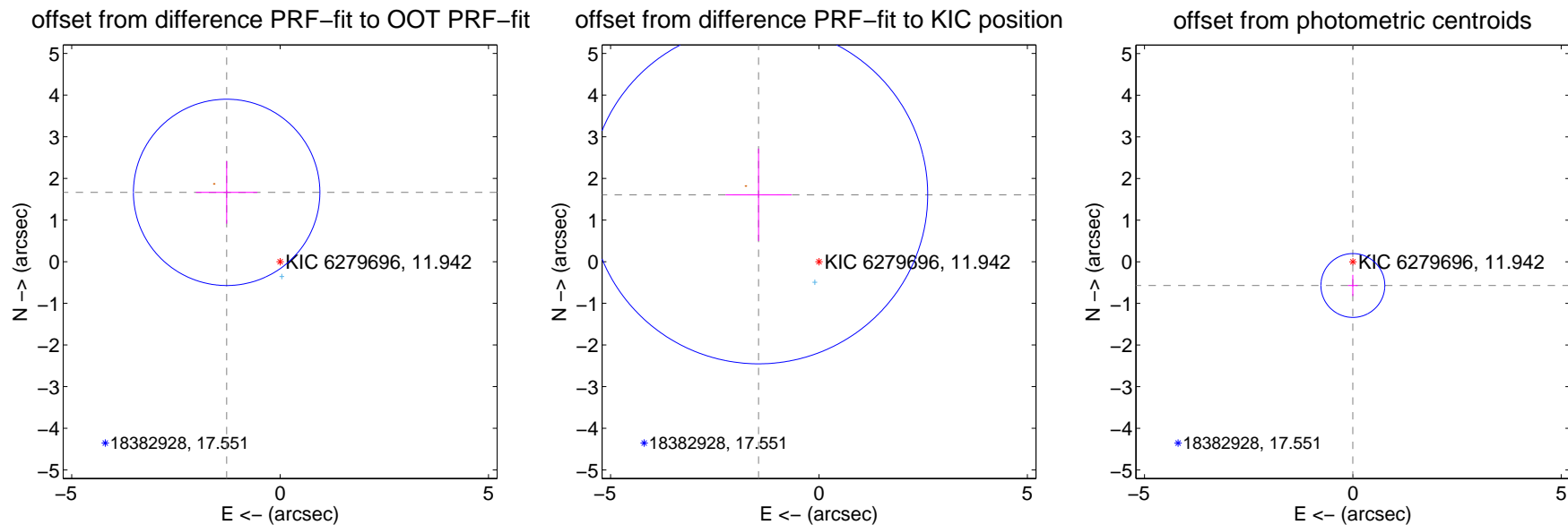
## DV Centroid Data

Supplemental centroid analysis for 006279696-01. **Kepler magnitude: 11.94.** Transit SNR -1.00

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

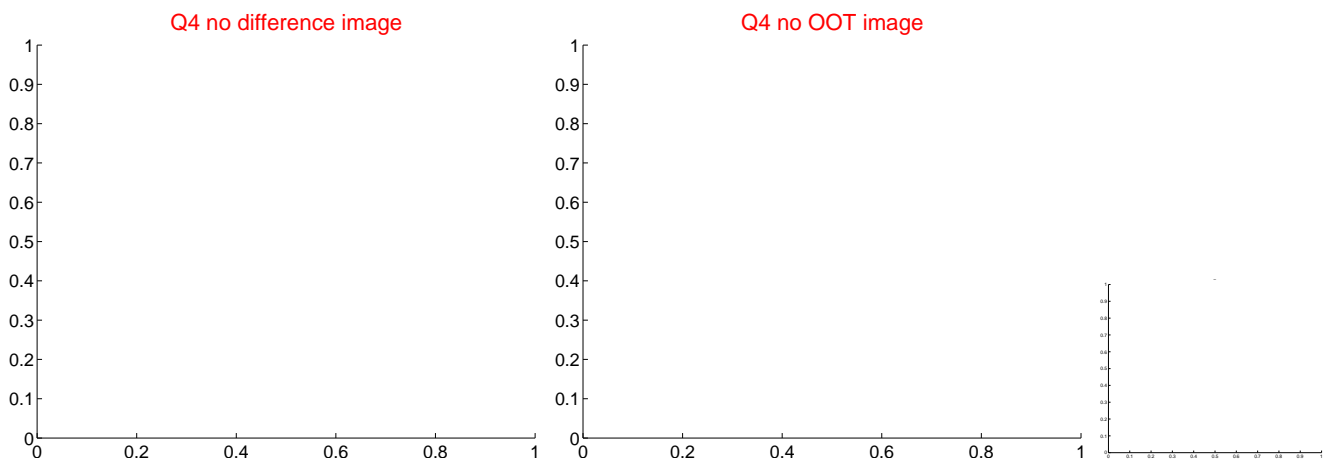
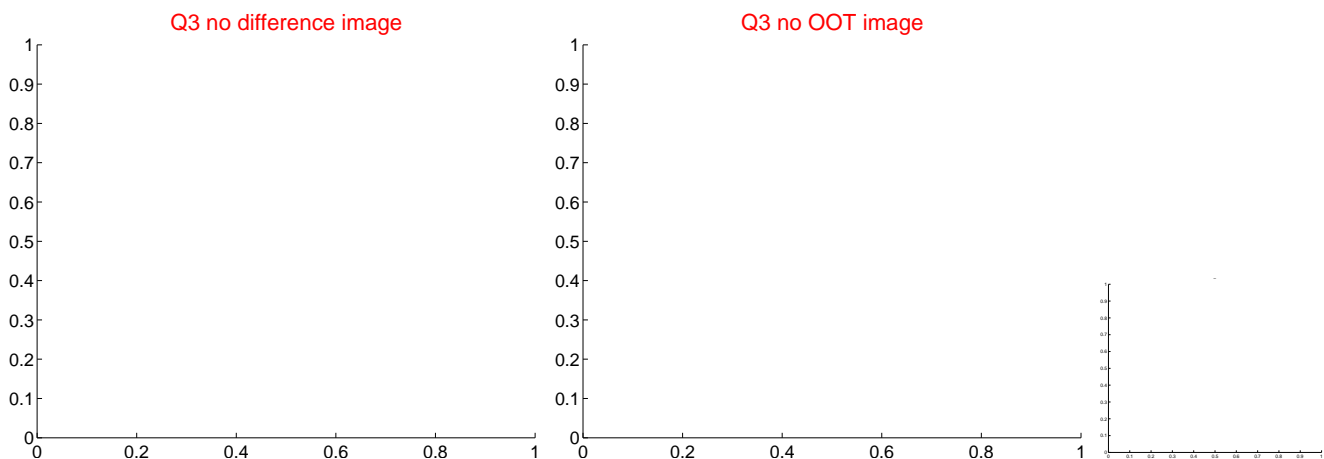
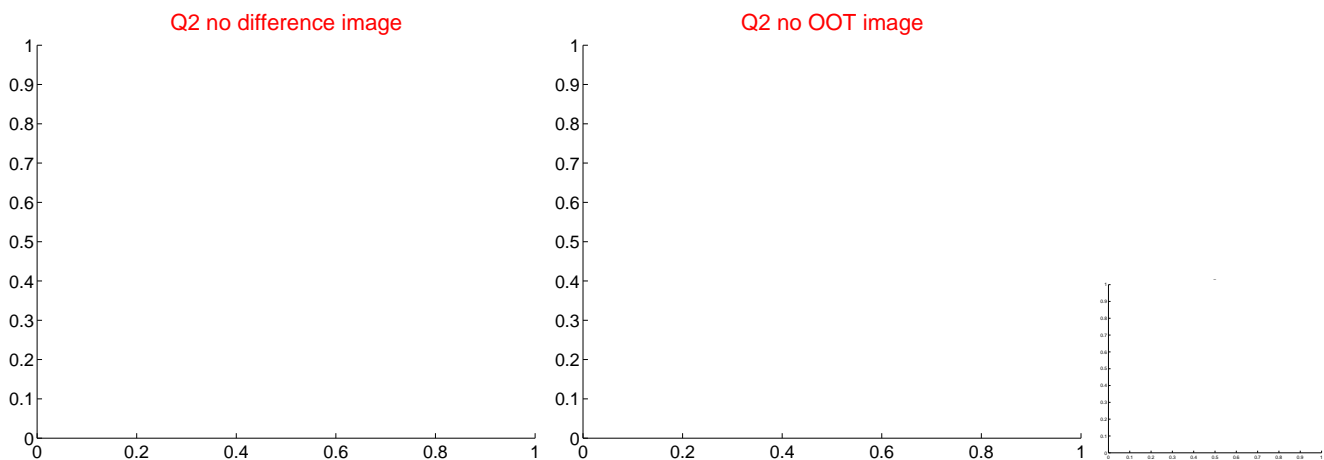
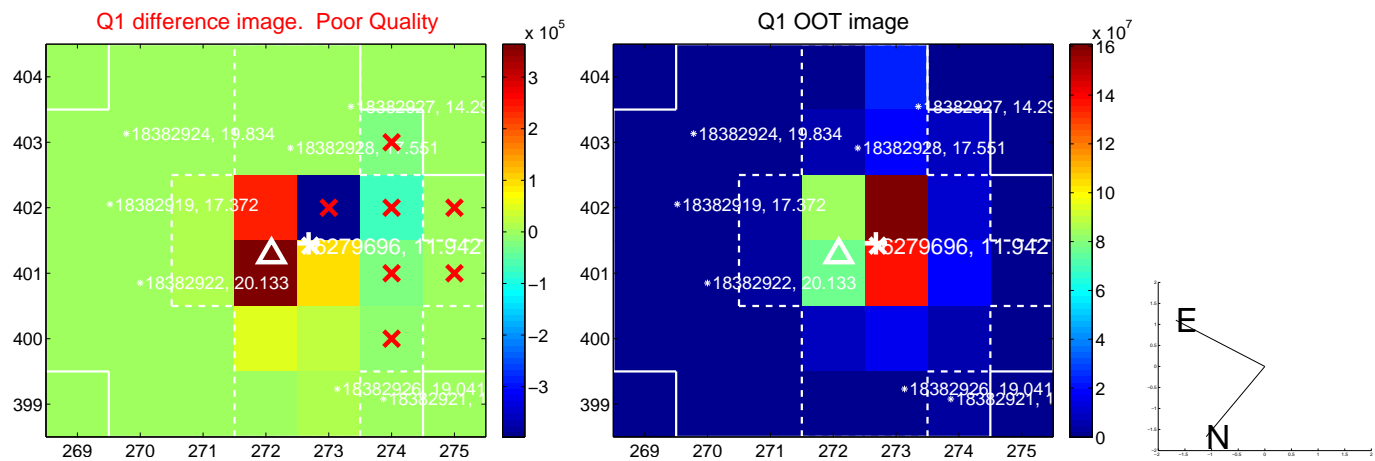
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.102 \pm 0.746$	2.82	$1.283 \pm 0.736$	$1.665 \pm 0.752$
PRF-fit source offset from KIC position	$2.164 \pm 1.353$	1.60	$1.450 \pm 0.794$	$1.606 \pm 1.108$
photometric centroid source offset	$0.57 \pm 0.26$	2.23	$0.00 \pm 0.12$	$-0.57 \pm 0.26$



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.



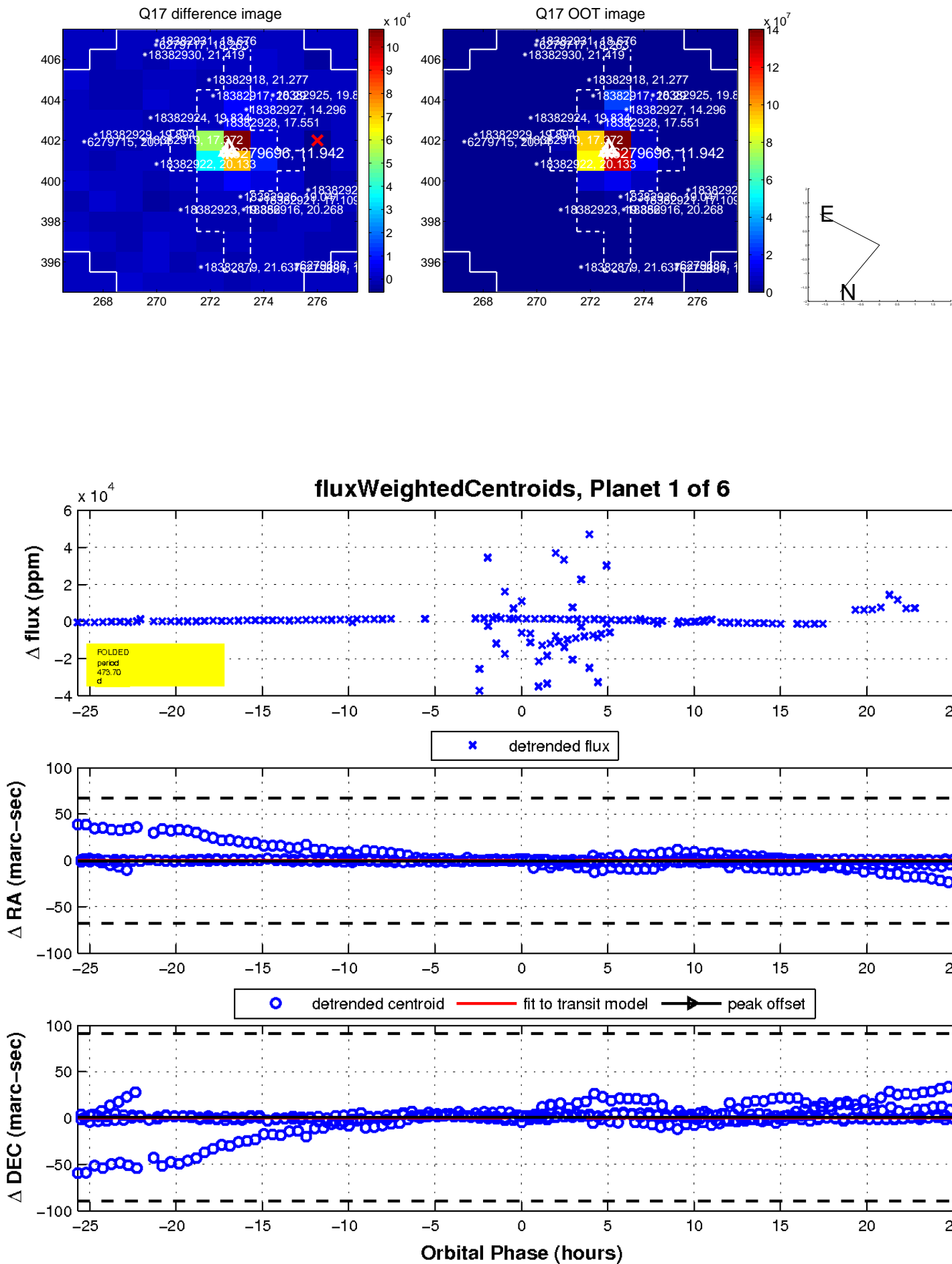
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

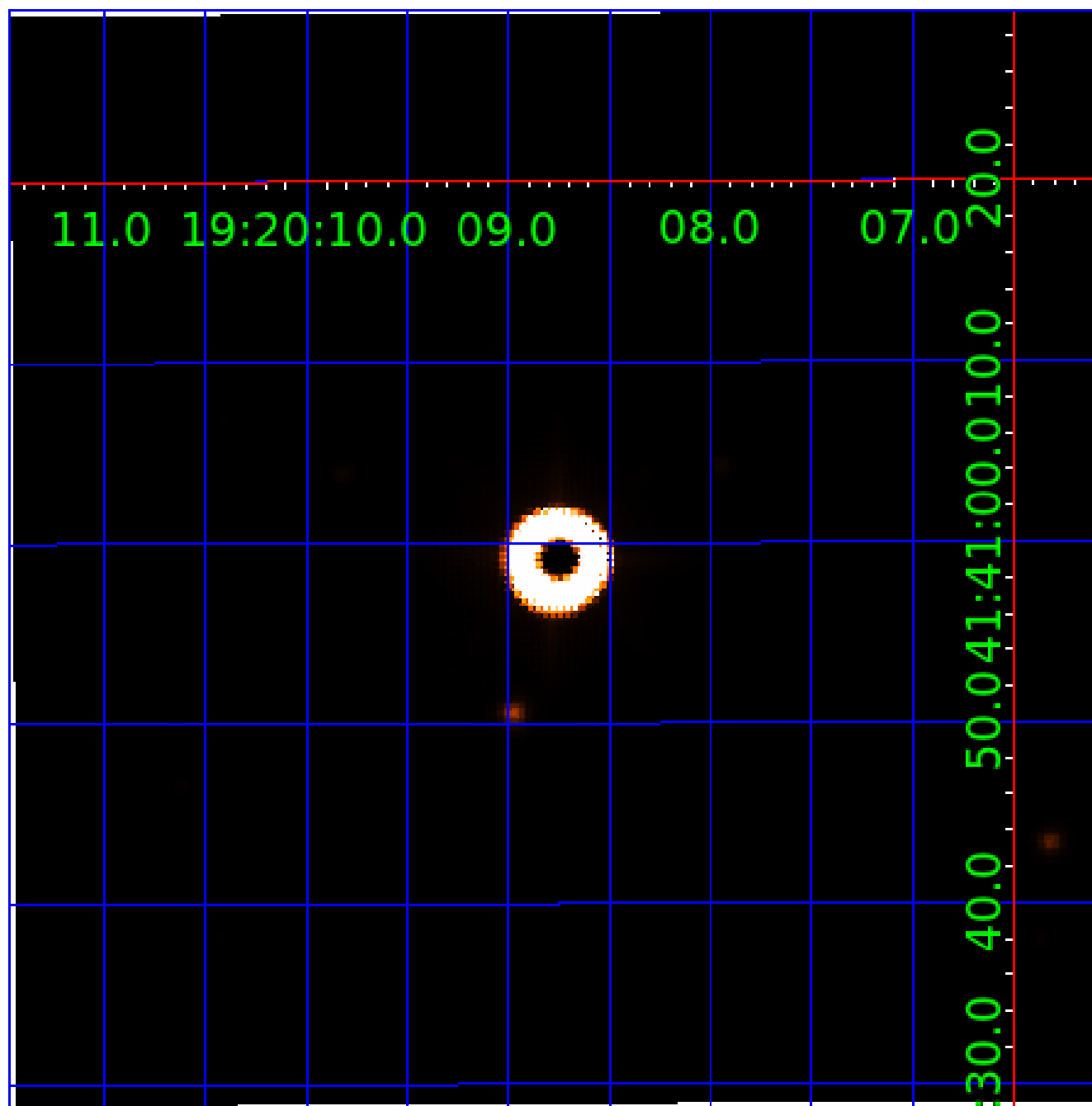


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 006279696

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006279696-01	OBS	No	473.704410	157.597839	194.3	12.500	28.2	-1.0	155.19	3266	198.46	1635.01
006279696-02	OBS	No	425.828888	160.613257	3.1	58.076	57.0	0.1	155.19	3266	25.46	1884.59
006279696-03	OBS	No	346.788292	393.819916	329.3	13.551	28.2	9.4	155.19	3266	265.38	2478.05
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006279696-05	OBS	No	199.937579	196.791751	260.6	12.751	48.9	8.8	155.19	3266	229.26	0.00
006279696-06	OBS	No	465.837759	165.221745	7794.4	1.123	25.6	18.9	155.19	3266	1555.15	1671.92

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006279696-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
006279696-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006279696-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006279696-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006279696-05	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006279696-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—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.

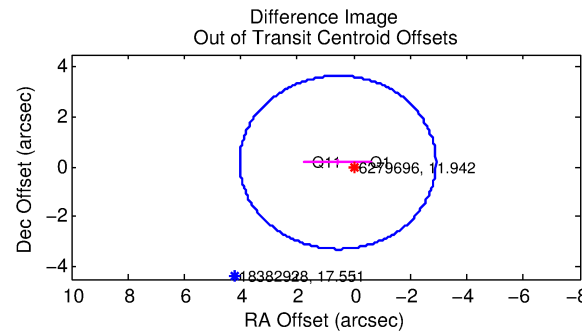
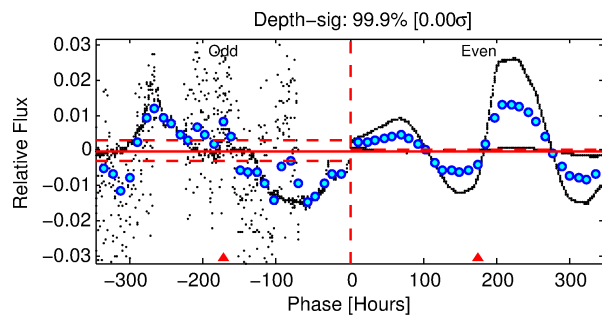
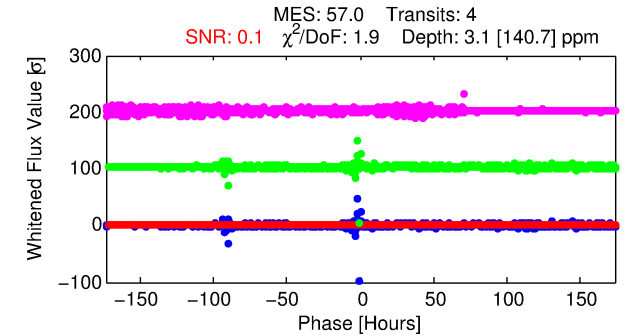
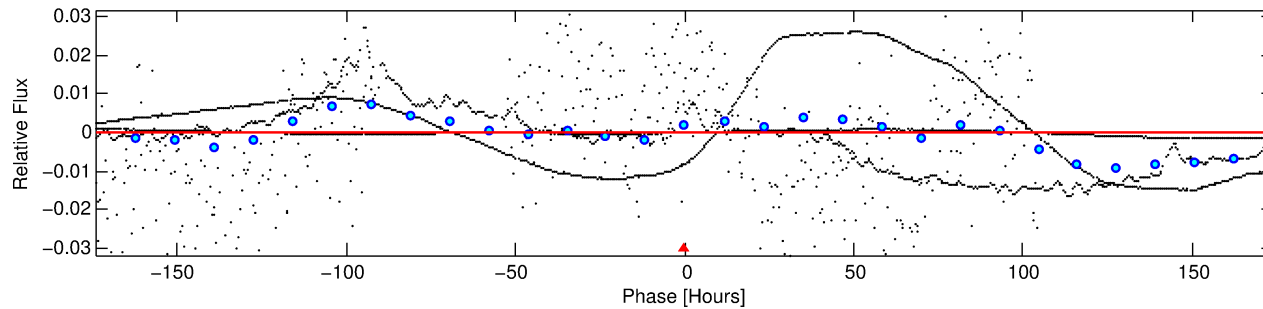
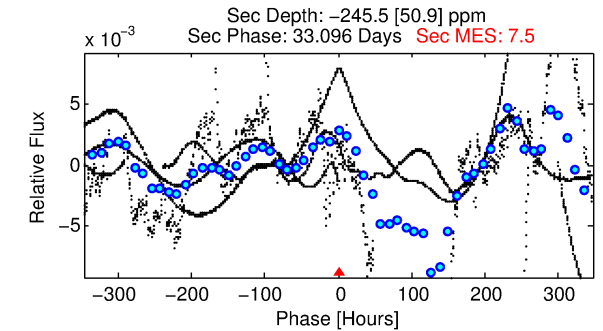
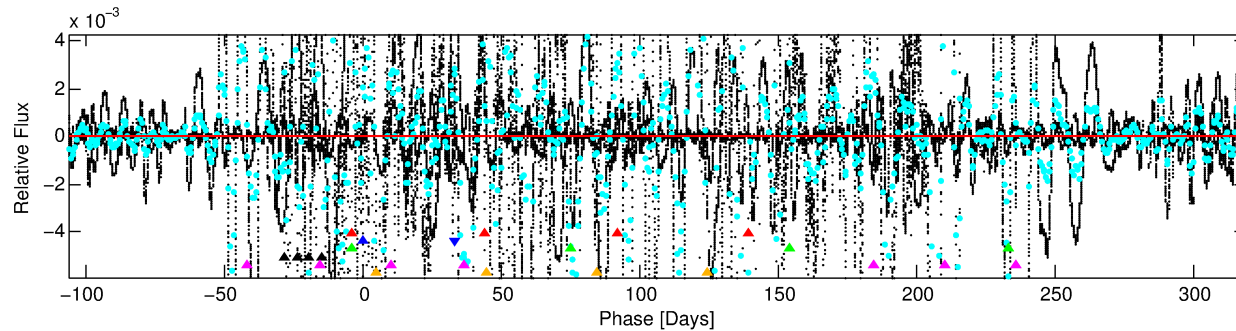
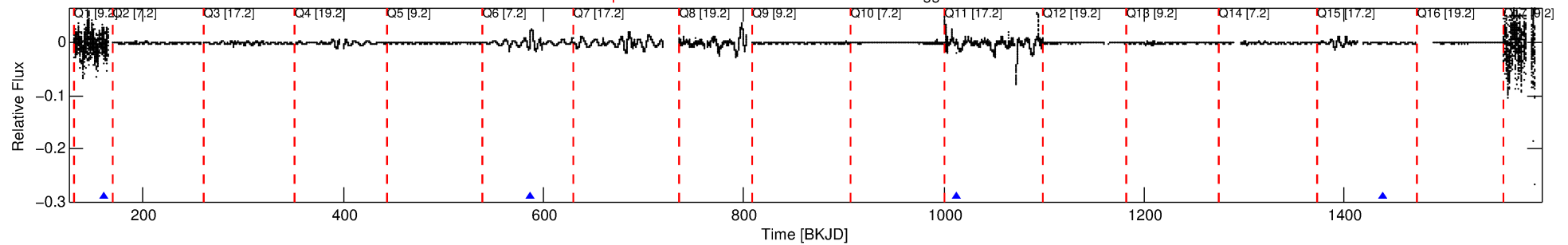
## Ephemeris Match Information For 006279696-02

No Significant Match Found

# DV One-Page Summary

KIC: 6279696 Candidate: 2 of 6 Period: 425.829 d

Kp: 11.94 R\*: 155.19 Rs Teff: 3266.0 K Logg: 0.10 Fe/H: -0.080



## DV Fit Results:

Period = 425.82889 [0.74837] d  
Epoch = 160.6133 [1.7631] BKJD  
Rp/R\* = 0.0015 [0.0344]  
a/R\* = 53.62 [3934.50]  
b = 0.29 [227.15]  
Seff = 1884.59 [696.33]  
Teq = 1680 [155] K  
Rp = 25.46 [582.88] Re  
a = 1.1414 [0.2269] AU  
Ag = N/A  
Teffp = N/A

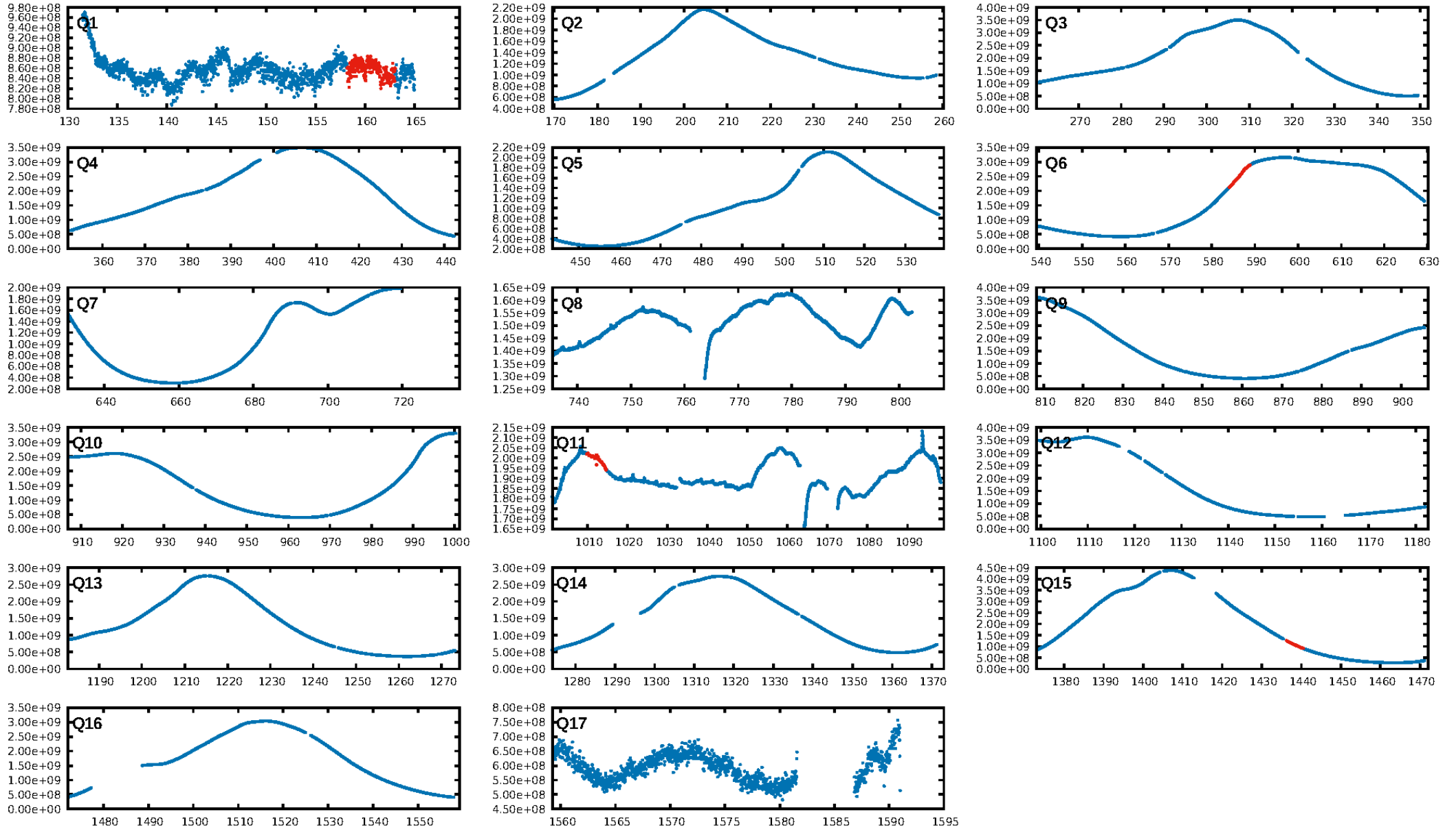
## DV Diagnostic Results:

ShortPeriod-sig: 86.3% [1.49σ]  
LongPeriod-sig: 100.0% [16.53σ]  
ModelChiSquare2-sig: 57.4%  
ModelChiSquareGof-sig: 28.5%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 0.590 arcsec [0.51σ]  
KicOffset-rm: 0.992 arcsec [0.66σ]  
OotOffset-st: 0/1/0/1 [2]  
KicOffset-st: 0/1/0/1 [2]  
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DiffImageOverlap-fno: 1.00 [3/3]

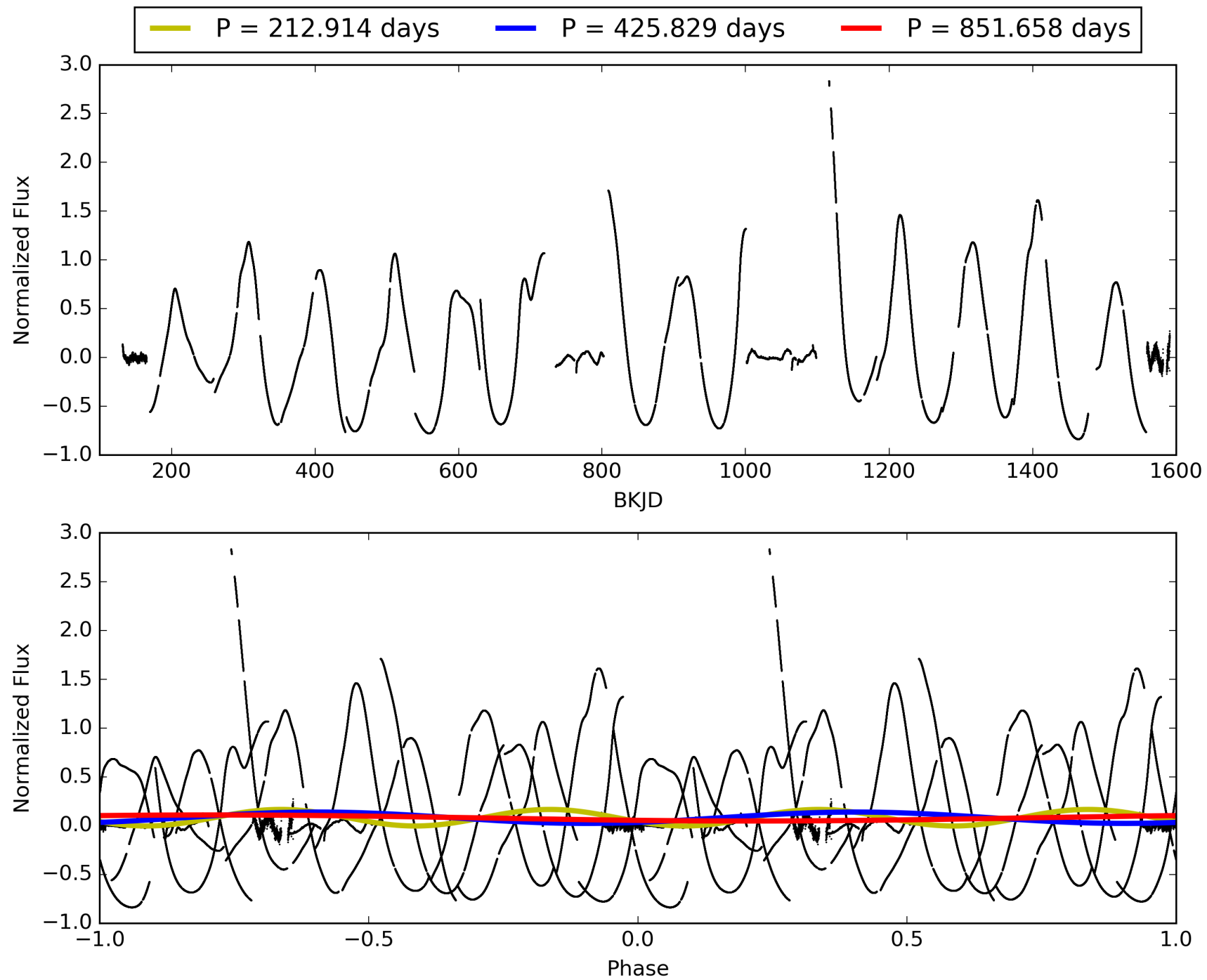
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:58:07 Z

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

# TCE 006279696-02, PDC Light Curves

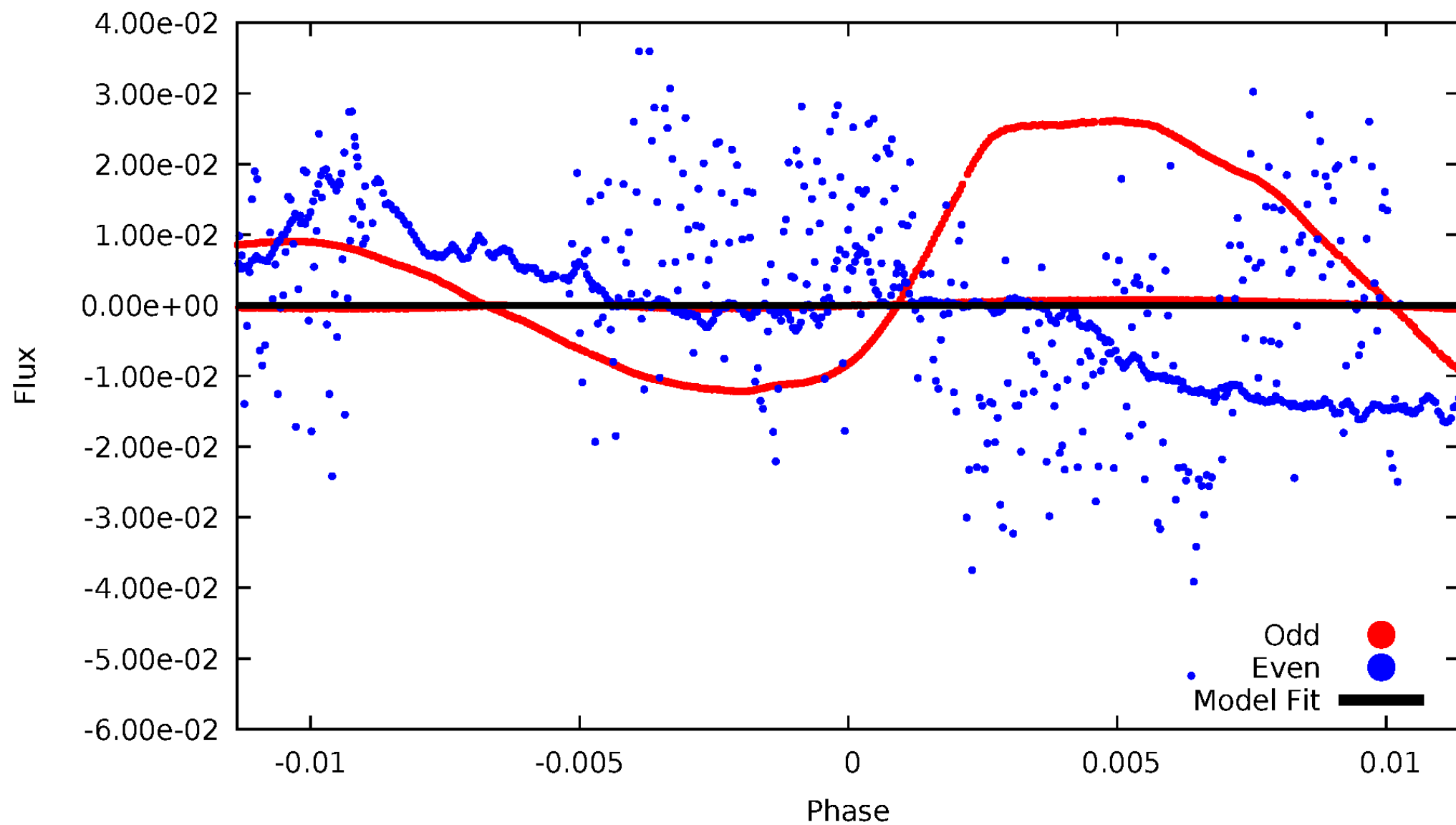


TCE 006279696-02



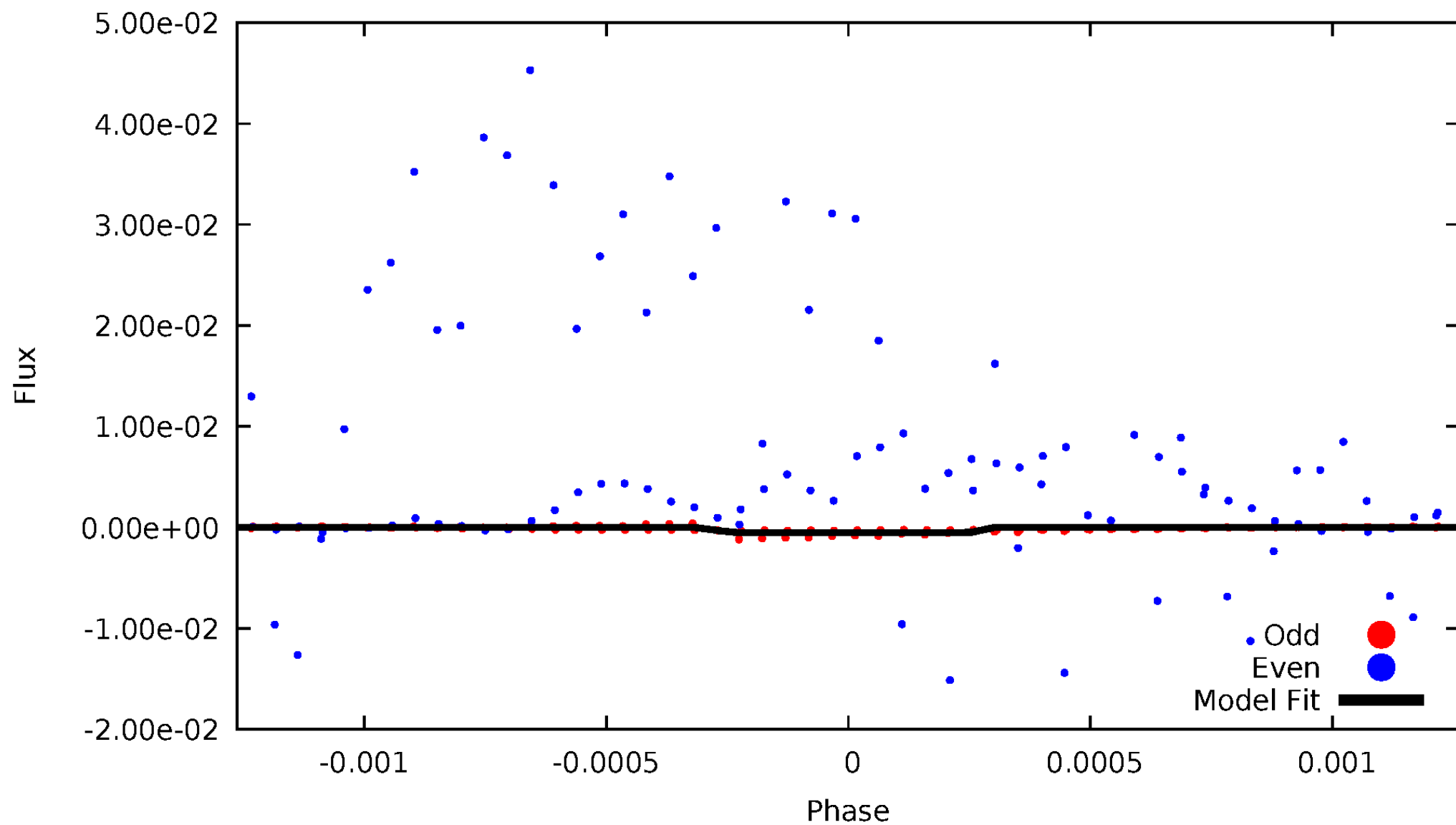
# DV Odd/Even

TCE 006279696-02



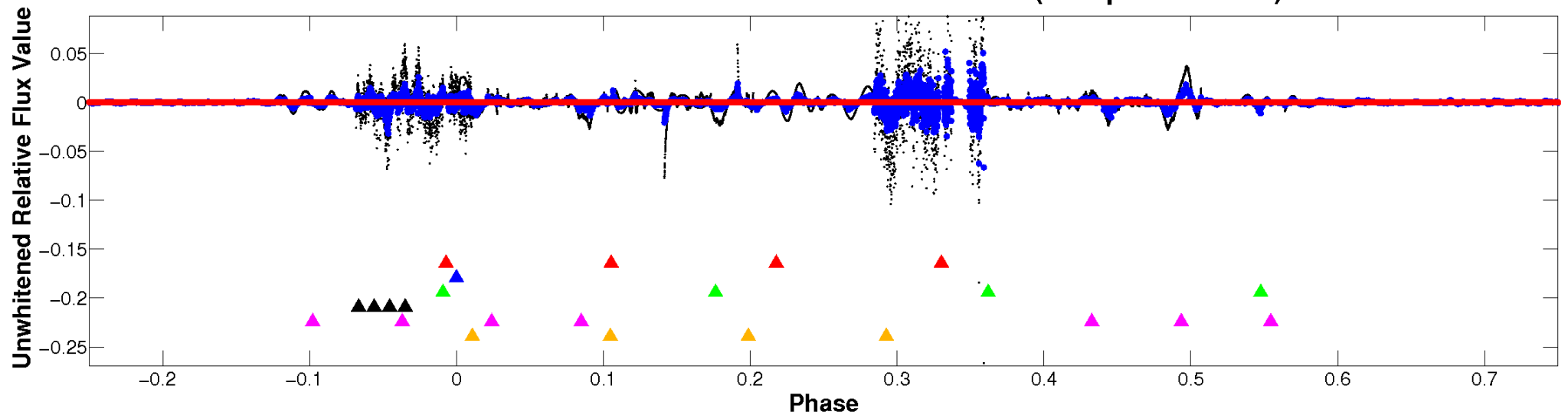
# ALT Odd/Even

TCE 006279696-02

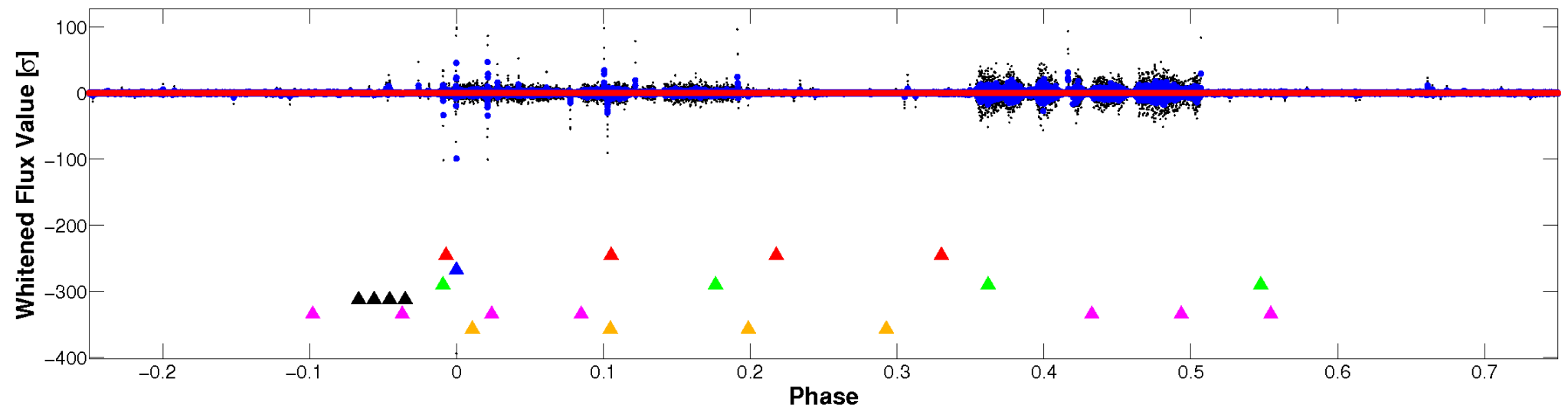


# Non-Whitened Vs. Whitened Light Curve

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

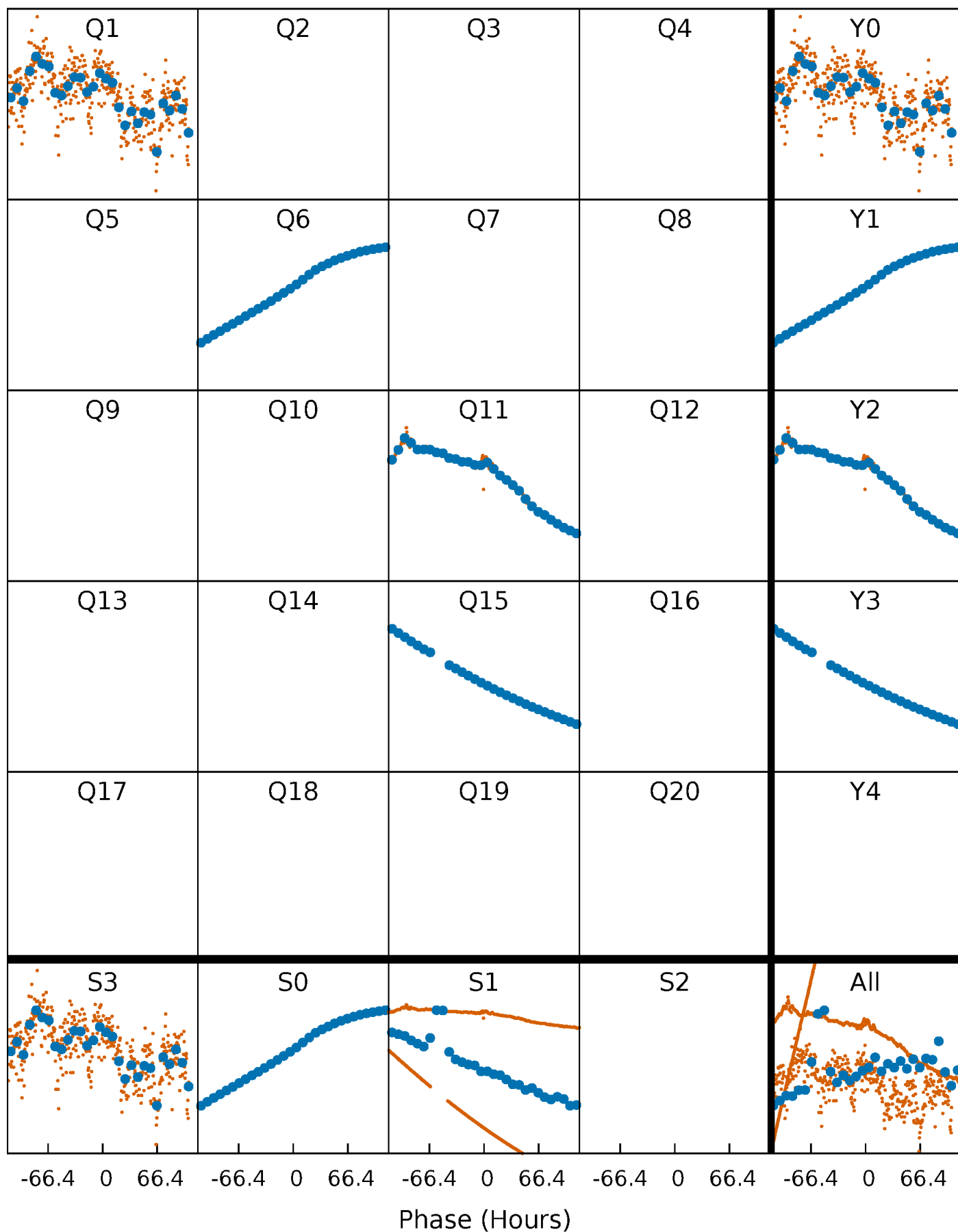


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

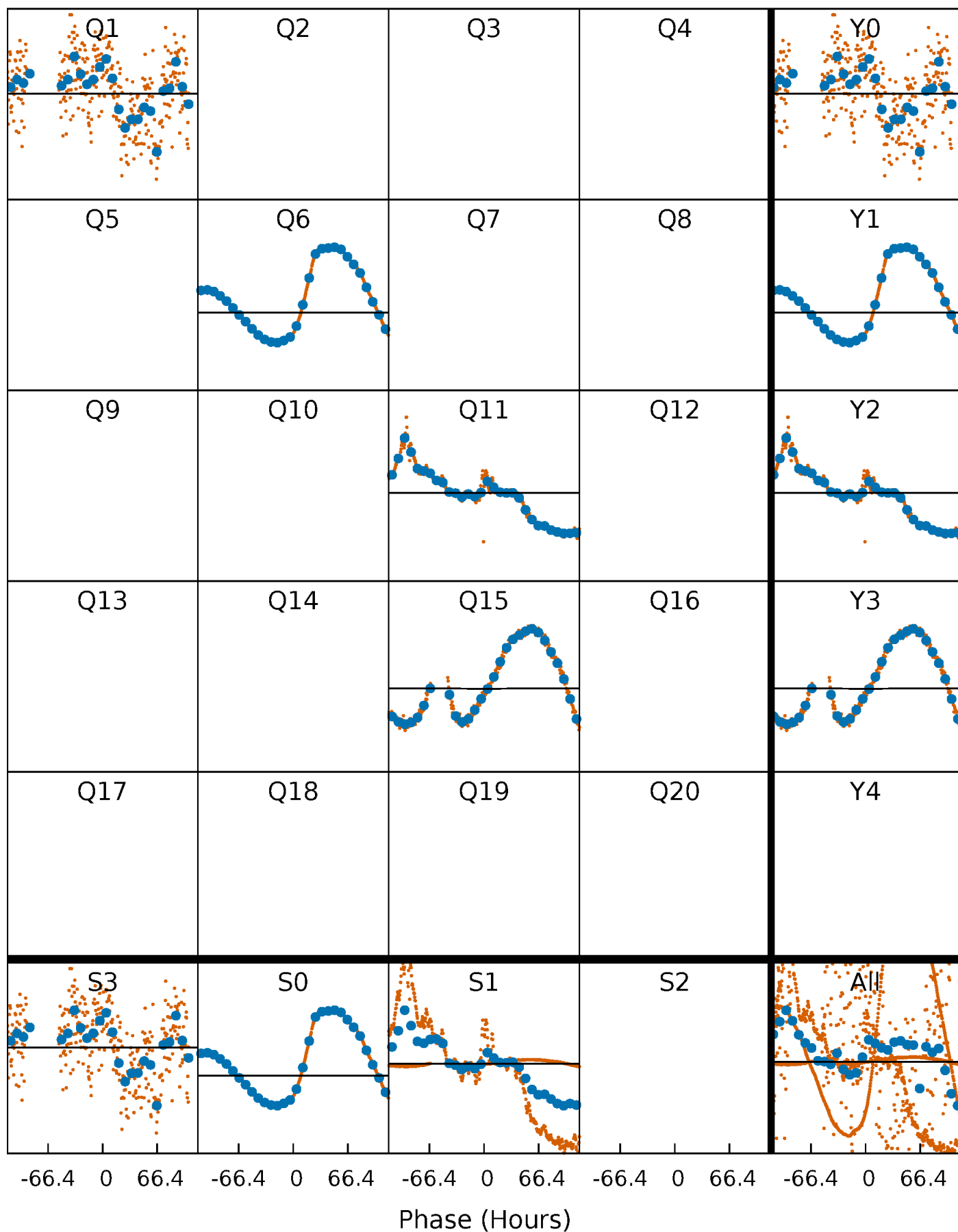
TCE 006279696-02     $P=425.828888$  Days     $T_0=160.613257$  (BKJD)





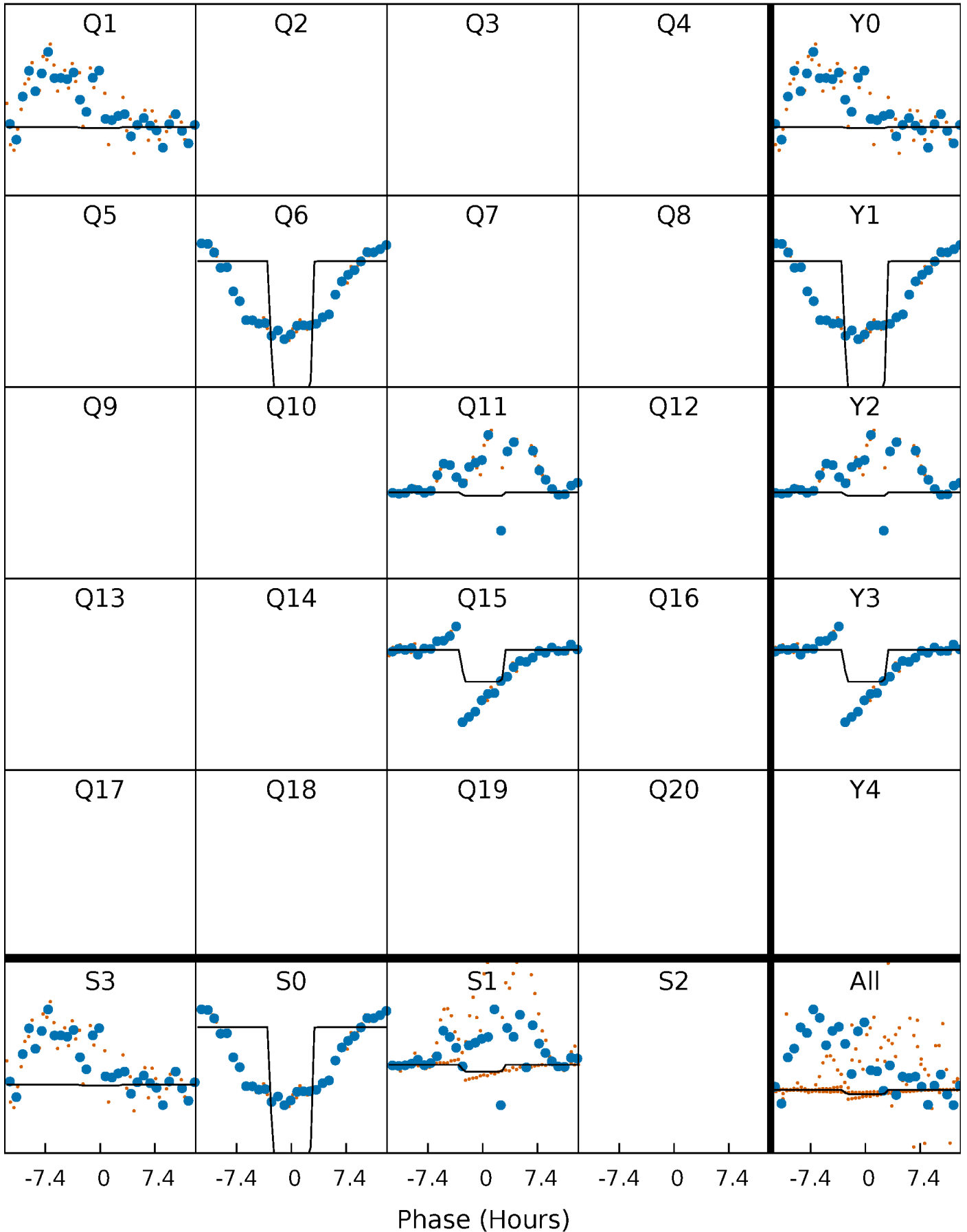
# DV Quarter-Phased Transit Curves

TCE 006279696-02 P=425.828888 Days  $T_0=160.613257$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

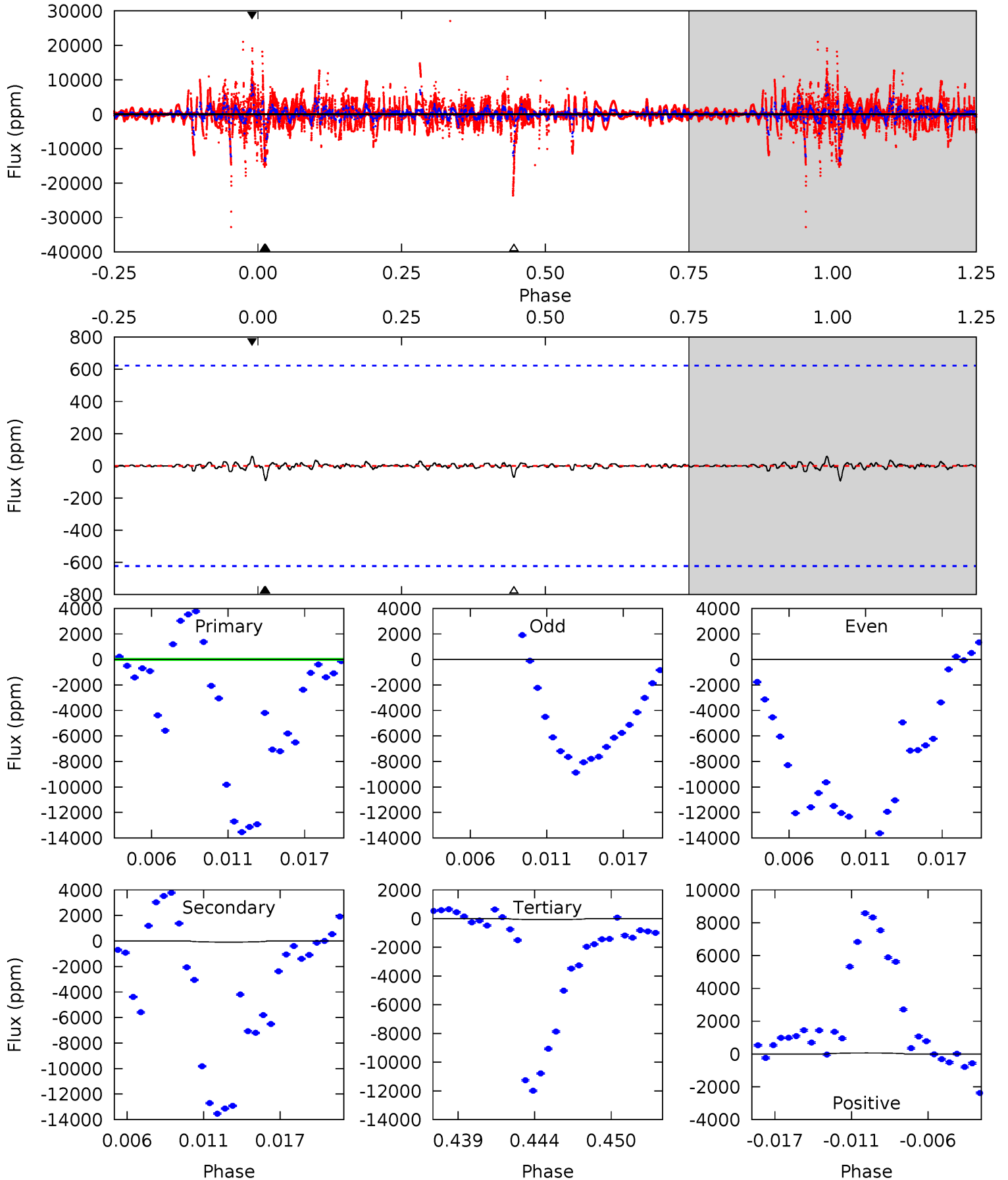
TCE 006279696-02     $P=425.814957$  Days     $T_0=160.523070$  (BKJD)



# DV Model-Shift Uniqueness Test

006279696-02, P = 425.828888 Days, E = 160.613257 Days

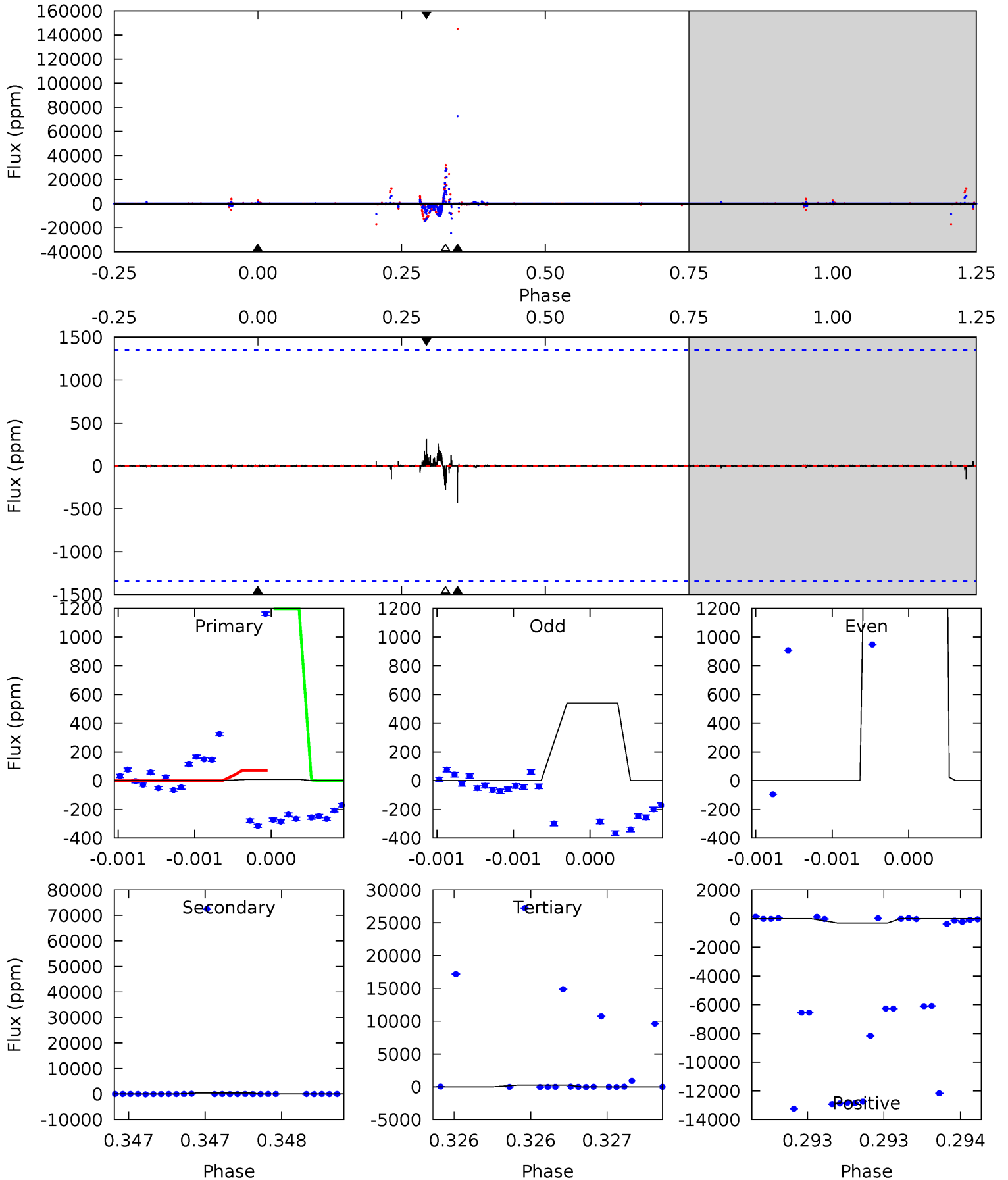
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.57	0.75	0.58	0.49	5.13	2.76	0.09	-0.01	0.08	0.18	0.26	0.53	3.05	0.39	0



# Alt Model-Shift Uniqueness Test

006279696-02, P = 425.814957 Days, E = 160.523070 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
0.04	1.78	1.12	1.24	5.55	3.44	0.06	-1.08	-1.21	0.66	0.54	0.06	3.11	0.41	2.39



### Stellar Parameters For KIC 006279696

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$3266^{+117}_{-78}$	$0.095^{+0.208}_{-0.065}$	$-0.080^{+0.250}_{-0.100}$	$155.187^{+9.192}_{-27.576}$	$1.095^{+0.206}_{-0.120}$	$0.000^{+0.000}_{-0.000}$
	+4%/-2%	+219%/-68%	+312%/-125%	+6%/-18%	+19%/-11%	+86%/-14%
Source	KIC0	KIC0	KIC0	DSEP		

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

### Secondary Eclipse Parameters for KIC 006279696-02 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-91 \pm 121$	$413.90^{+450.54}_{-260.71}$	$2321^{+100}_{-114}$	$-2121^{+5323}_{-447}$	$0.209^{+2.162}_{-0.344}$
Alt.	$-431 \pm 243$	$560.37^{+488.36}_{-364.46}$	$2322^{+106}_{-124}$	$2640^{+1244}_{-4792}$	$0.889^{+7.057}_{-0.699}$

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

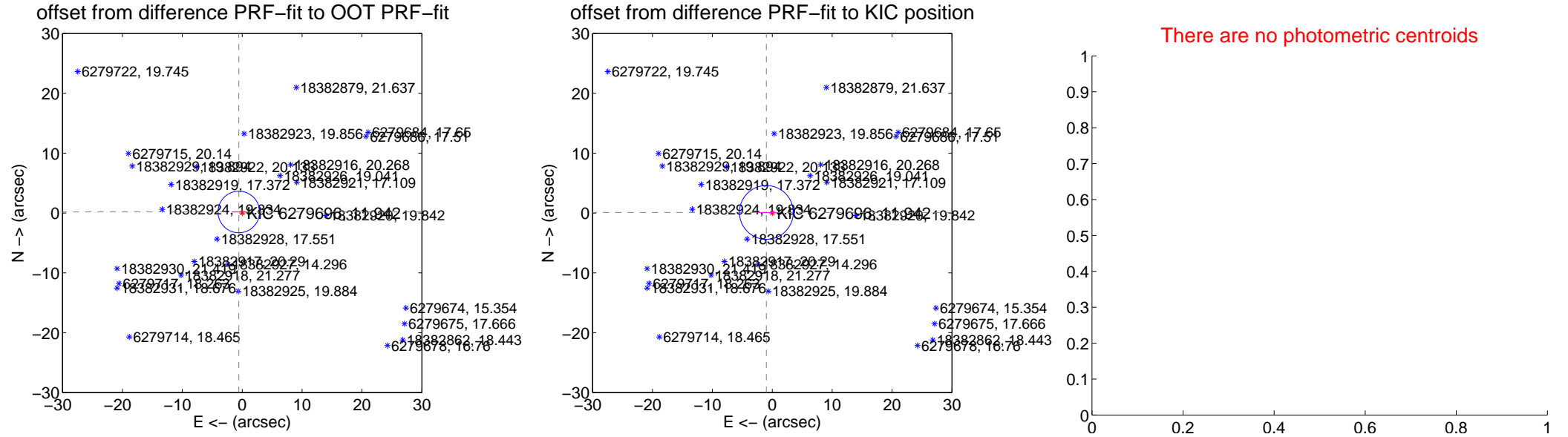
## DV Centroid Data

Supplemental centroid analysis for 006279696-02. **Kepler magnitude: 11.94.** Transit SNR 0.07

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

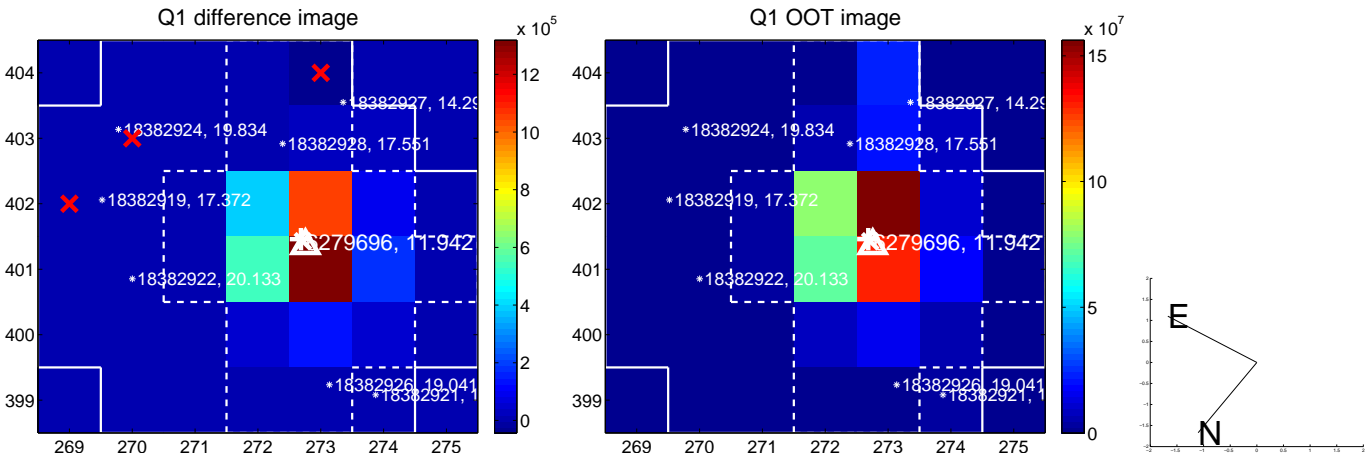
The direct PRF centroid is offset from the target star catalog position by about 0.69 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.590 \pm 1.157$	0.51	$0.565 \pm 1.209$	$0.171 \pm 0.067$
PRF-fit source offset from KIC position	$0.992 \pm 1.498$	0.66	$0.987 \pm 1.505$	$0.098 \pm 0.076$
photometric centroid source offset	—	—	—	—



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.

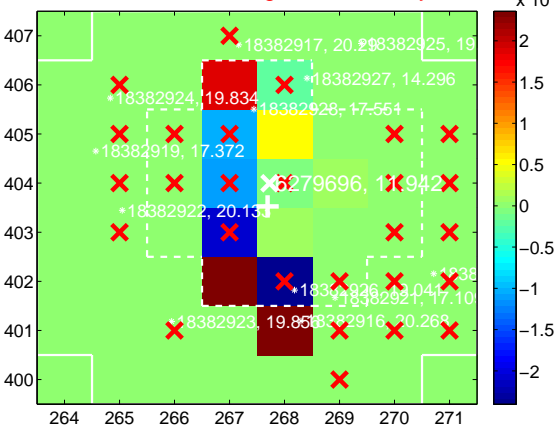
Q5 no difference image



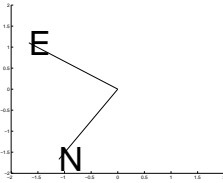
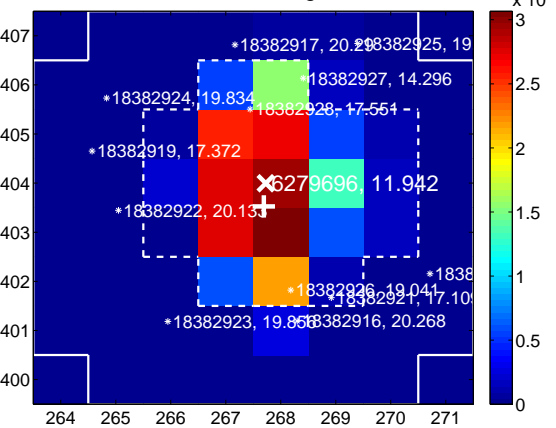
Q5 no OOT image



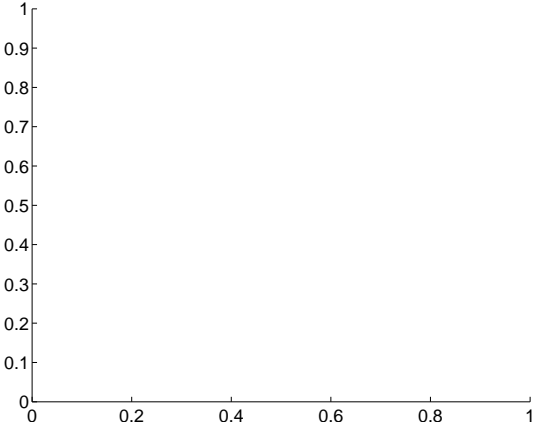
Q6 difference image. Poor Quality



Q6 OOT image



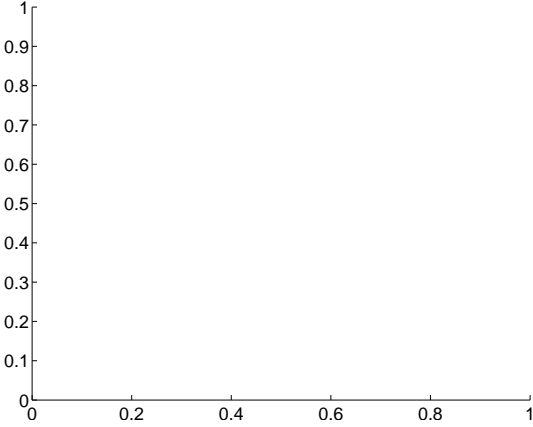
Q7 no difference image



Q7 no OOT image



Q8 no difference image

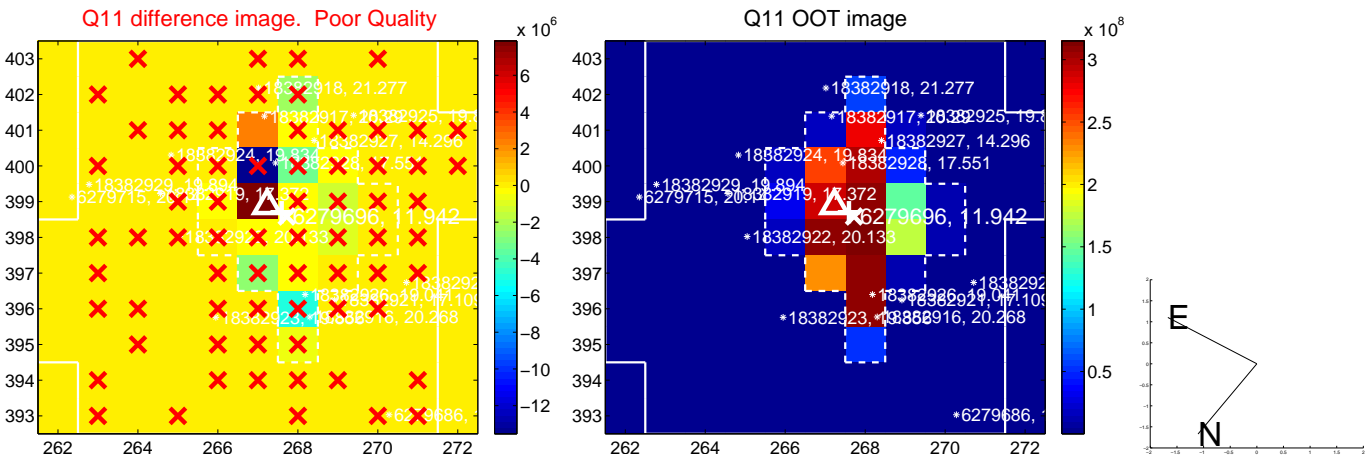


Q8 no OOT image





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



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



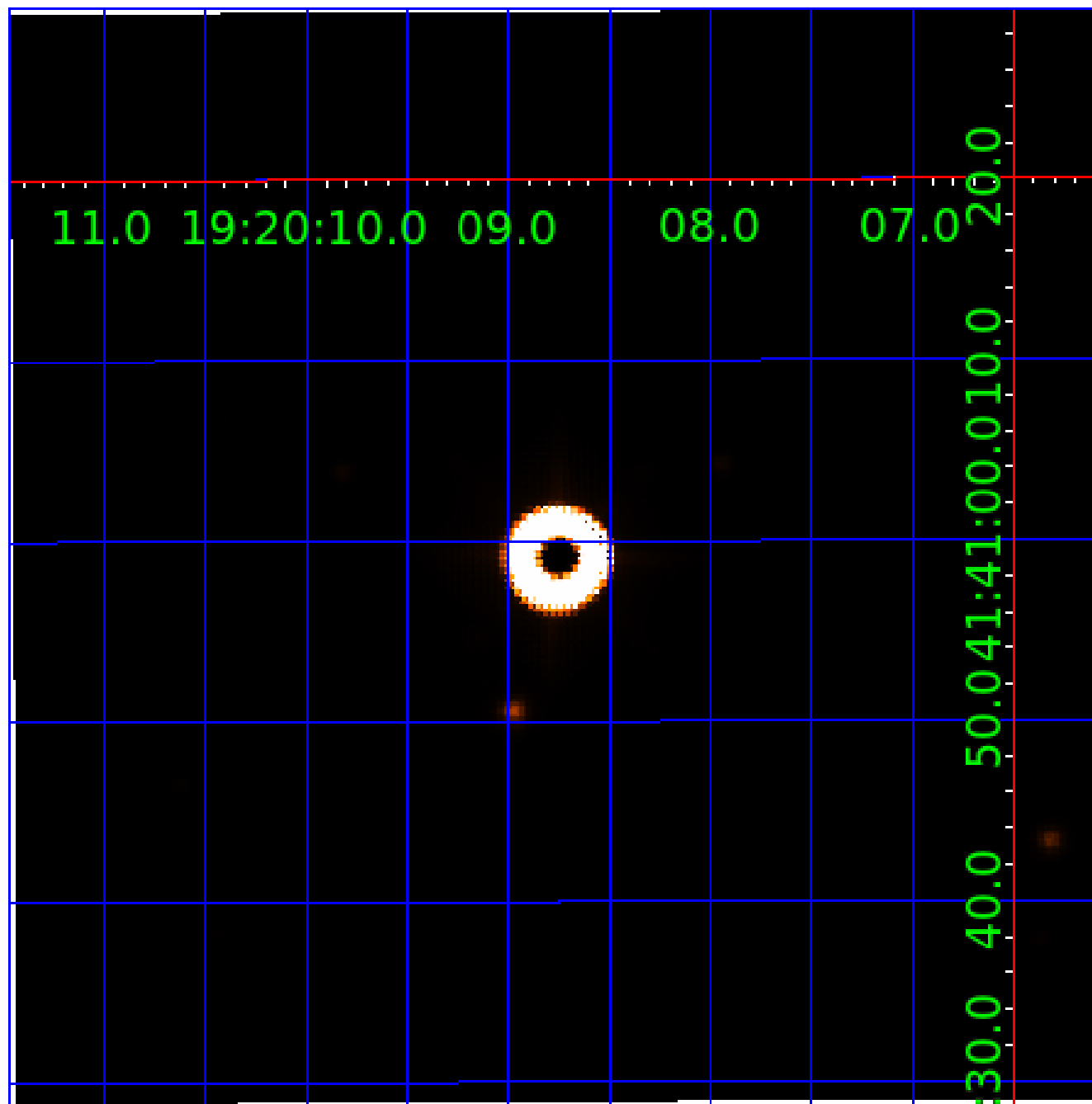
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



# KIC 006279696

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006279696-01	OBS	No	473.704410	157.597839	194.3	12.500	28.2	-1.0	155.19	3266	198.46	1635.01
006279696-02	OBS	No	425.828888	160.613257	3.1	58.076	57.0	0.1	155.19	3266	25.46	1884.59
006279696-03	OBS	No	346.788292	393.819916	329.3	13.551	28.2	9.4	155.19	3266	265.38	2478.05
006279696-04	OBS	No	421.331698	145.748799	1608.6	43.593	17.5	25.0	155.19	3266	1346.59	1911.45
006279696-05	OBS	No	199.937579	196.791751	260.6	12.751	48.9	8.8	155.19	3266	229.26	0.00
006279696-06	OBS	No	465.837759	165.221745	7794.4	1.123	25.6	18.9	155.19	3266	1555.15	1671.92

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006279696-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
006279696-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006279696-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006279696-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006279696-05	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006279696-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—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.

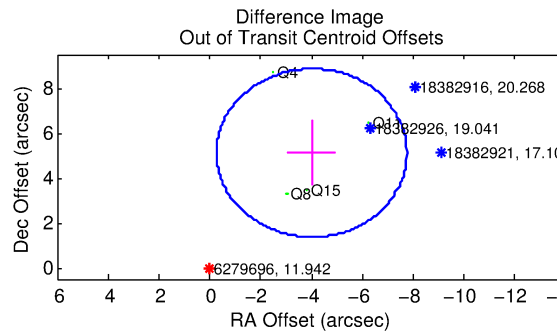
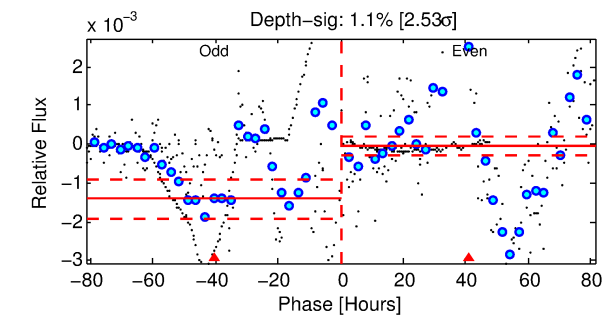
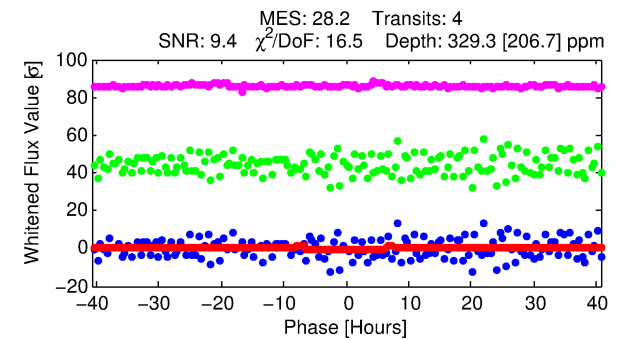
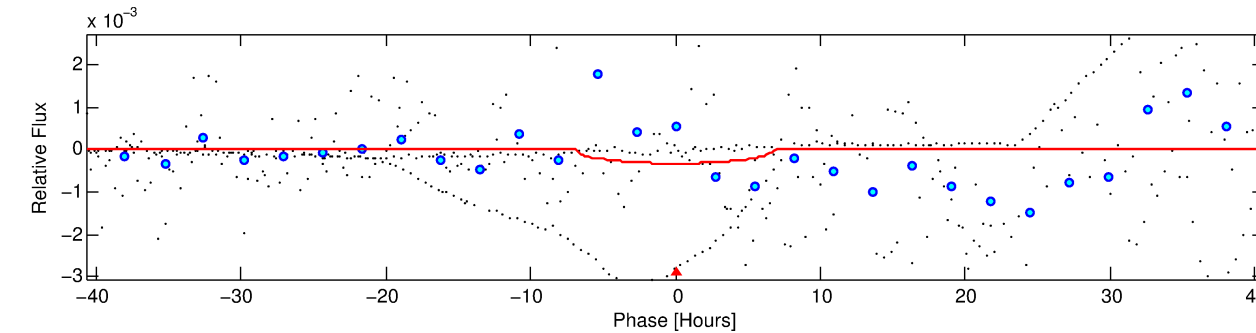
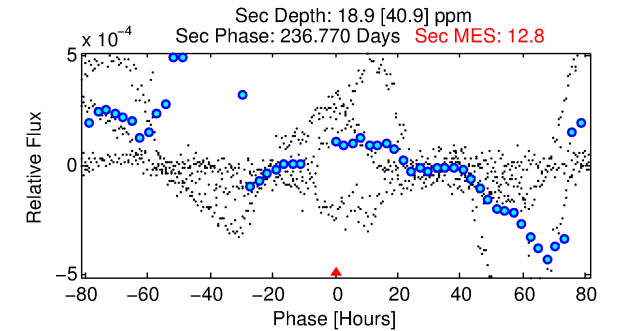
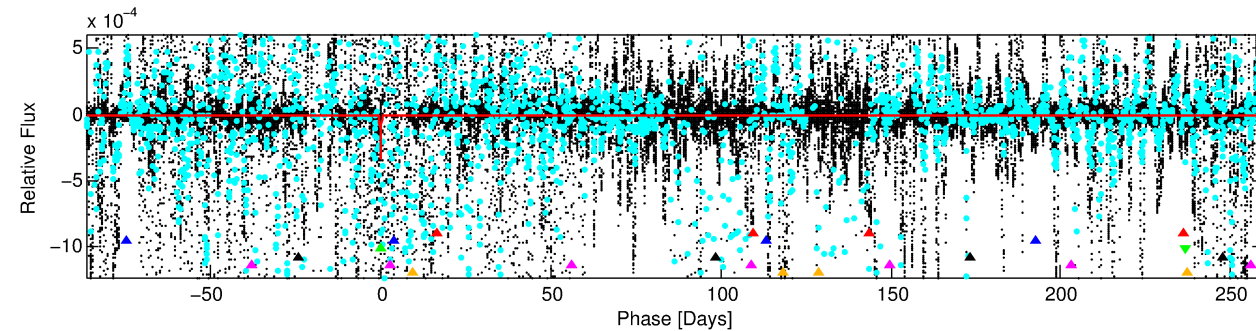
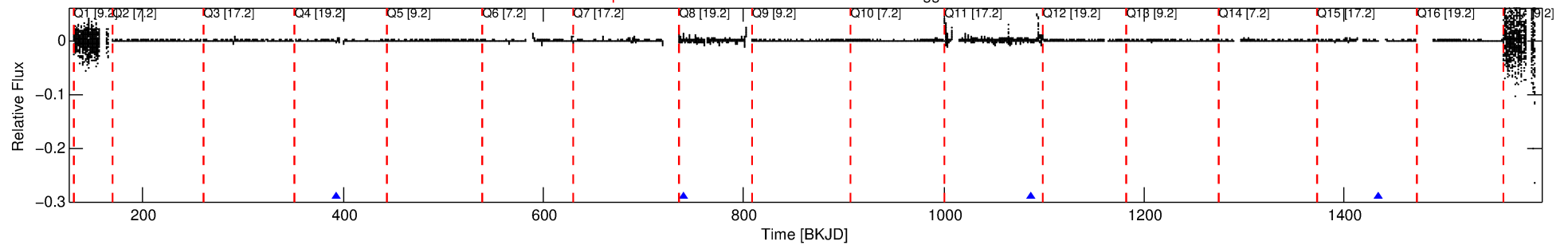
## Ephemeris Match Information For 006279696-03

No Significant Match Found

# DV One-Page Summary

KIC: 6279696 Candidate: 3 of 6 Period: 346.788 d

Kp: 11.94 R\*: 155.19 Rs Teff: 3266.0 K Logg: 0.10 Fe/H: -0.080



## DV Fit Results:

Period = 346.78829 [0.01077] d  
Epoch = 393.8199 [0.0222] BKJD  
Rp/R\* = 0.0157 [0.0126]  
a/R\* = 187.54 [343.80]  
b = 0.33 [4.96]  
Seff = 2478.05 [915.59]  
Teff = 1799 [166] K  
Rp = 265.38 [219.24] Re  
a = 0.9954 [0.1979] AU  
Ag = 0.15 [0.40] [-2.14σ]  
Teffp = 1721 [1162] K [-0.07σ]

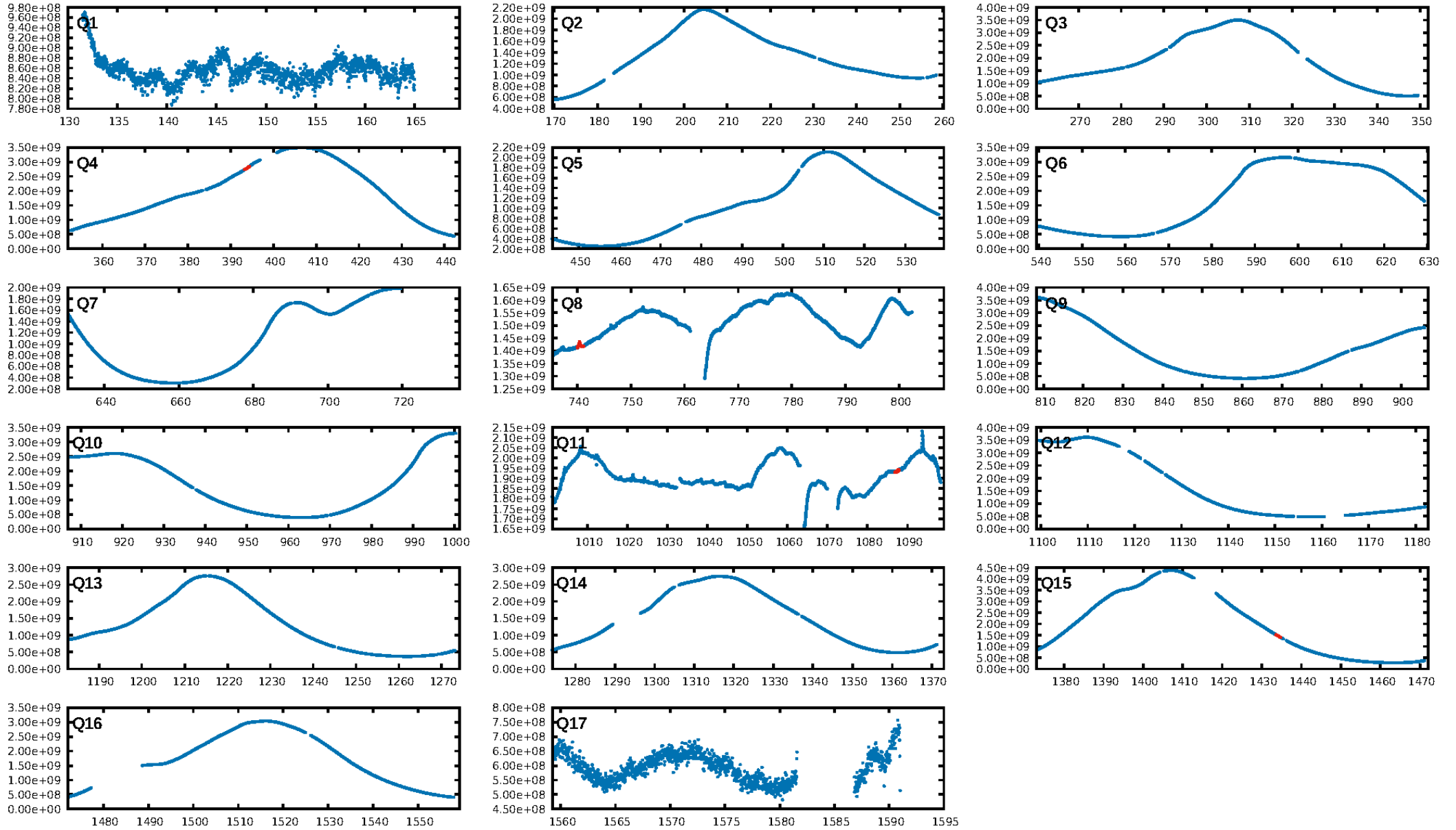
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [189.41σ]  
LongPeriod-sig: 100.0% [39.19σ]  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 0.0%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 3.313  
Centroid-sig: 3.4%  
Centroid-so: 30.318 arcsec [1.30σ]  
OotOffset-rm: 6.495 arcsec [5.20σ]  
KicOffset-rm: 5.329 arcsec [3.70σ]  
OotOffset-st: 0/2/2/0 [4]  
KicOffset-st: 0/2/2/0 [4]  
DiffImageQuality-fgm: 0.25 [1/4]  
DiffImageOverlap-fno: 1.00 [4/4]

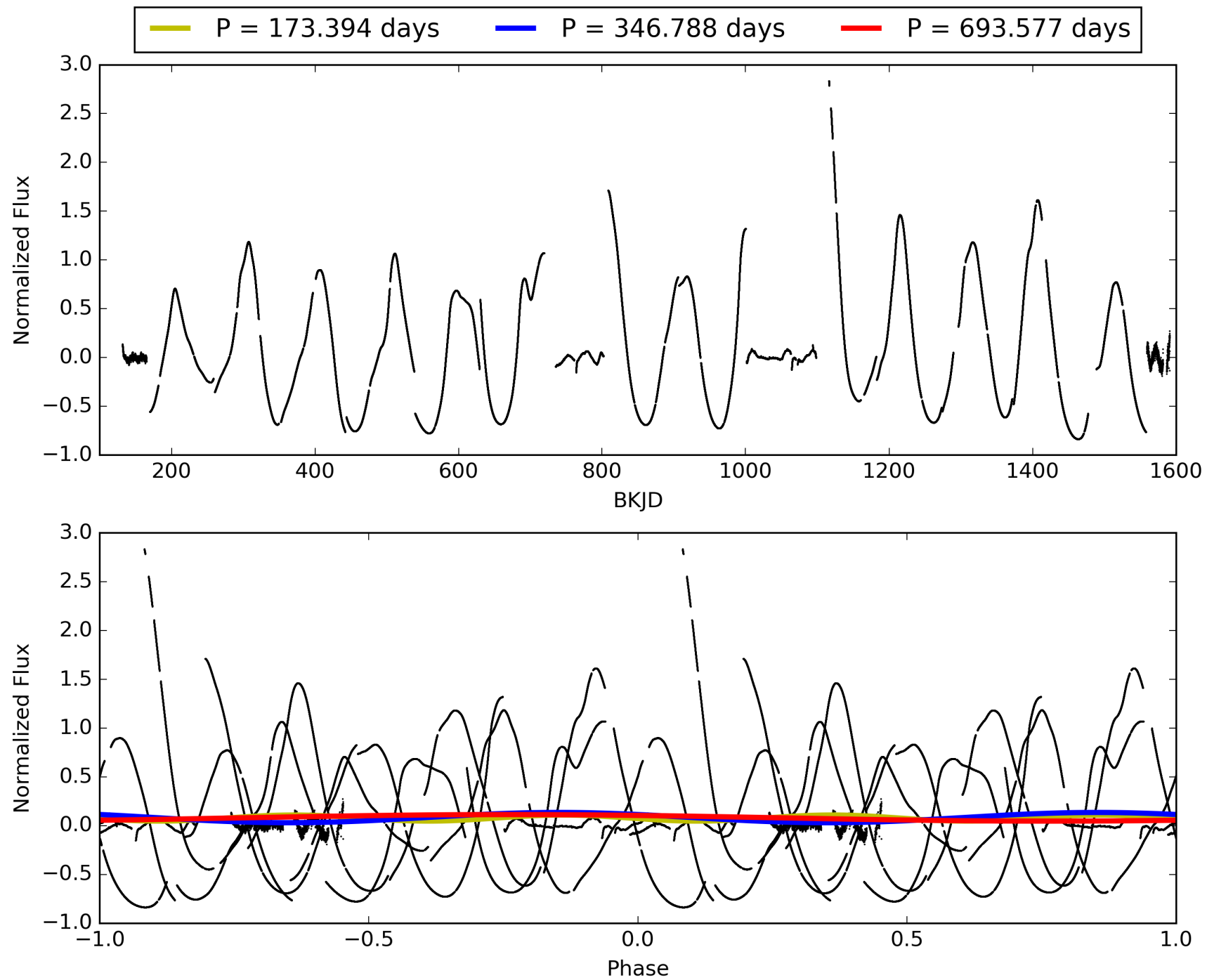
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:58:14 Z

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

# TCE 006279696-03, PDC Light Curves



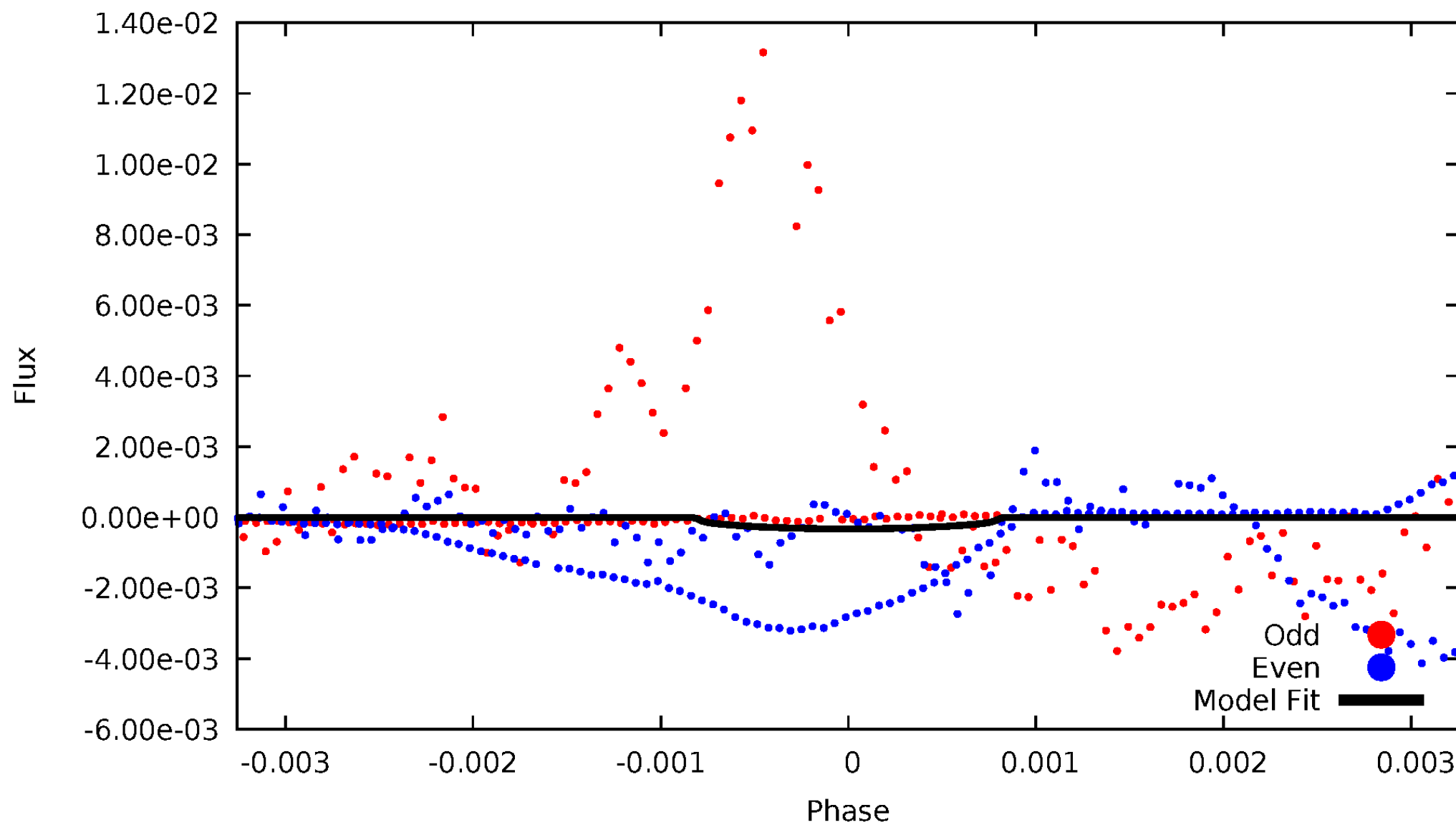
TCE 006279696-03





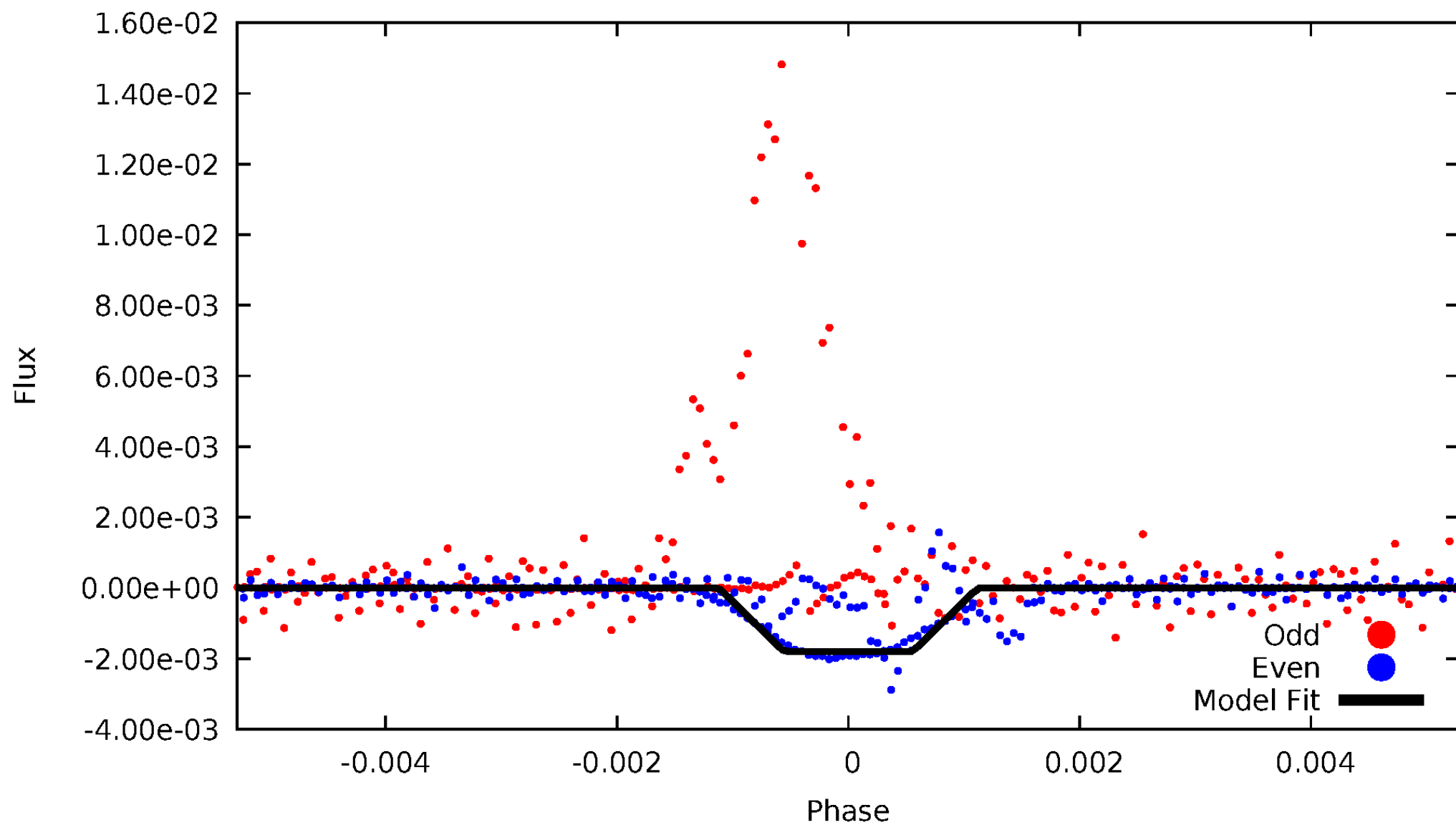
# DV Odd/Even

TCE 006279696-03



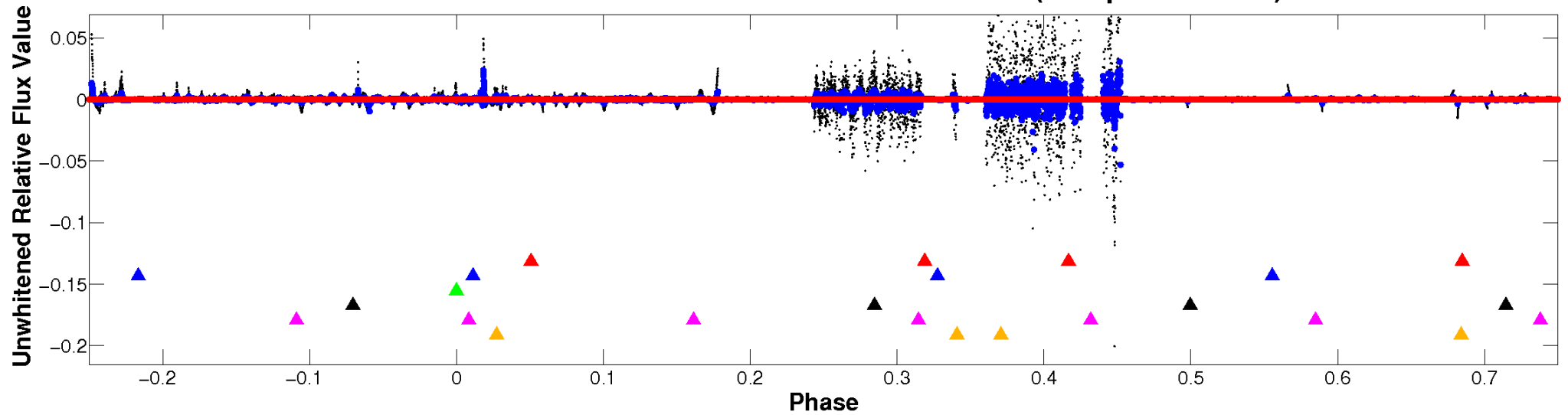
# ALT Odd/Even

TCE 006279696-03

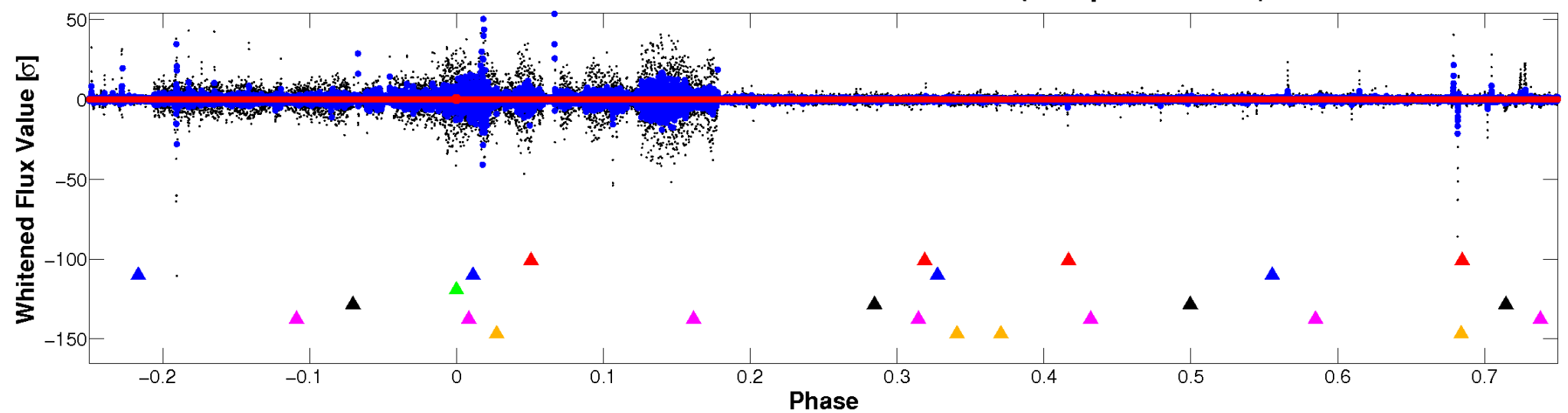


# Non-Whitened Vs. Whitened Light Curve

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

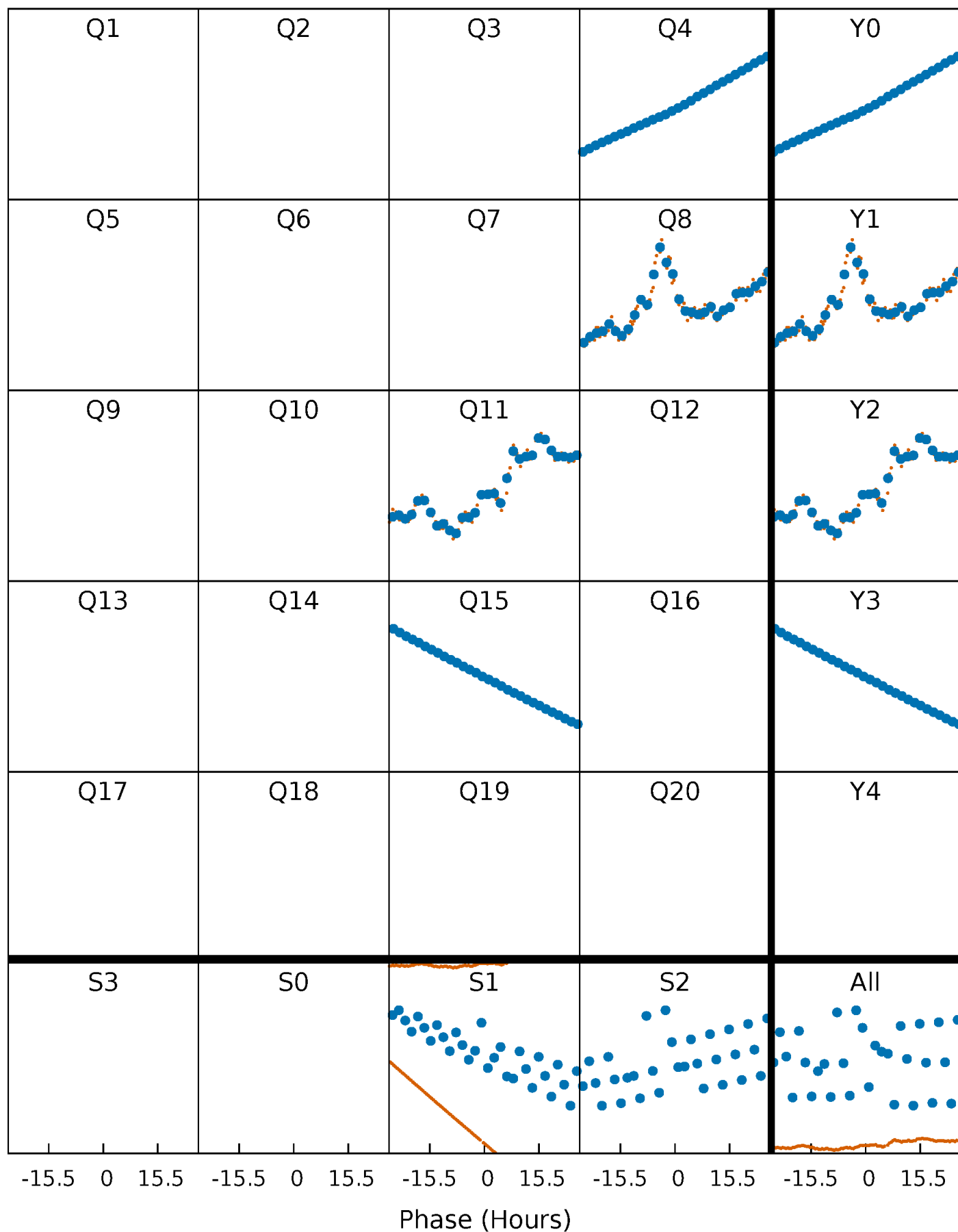


## Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



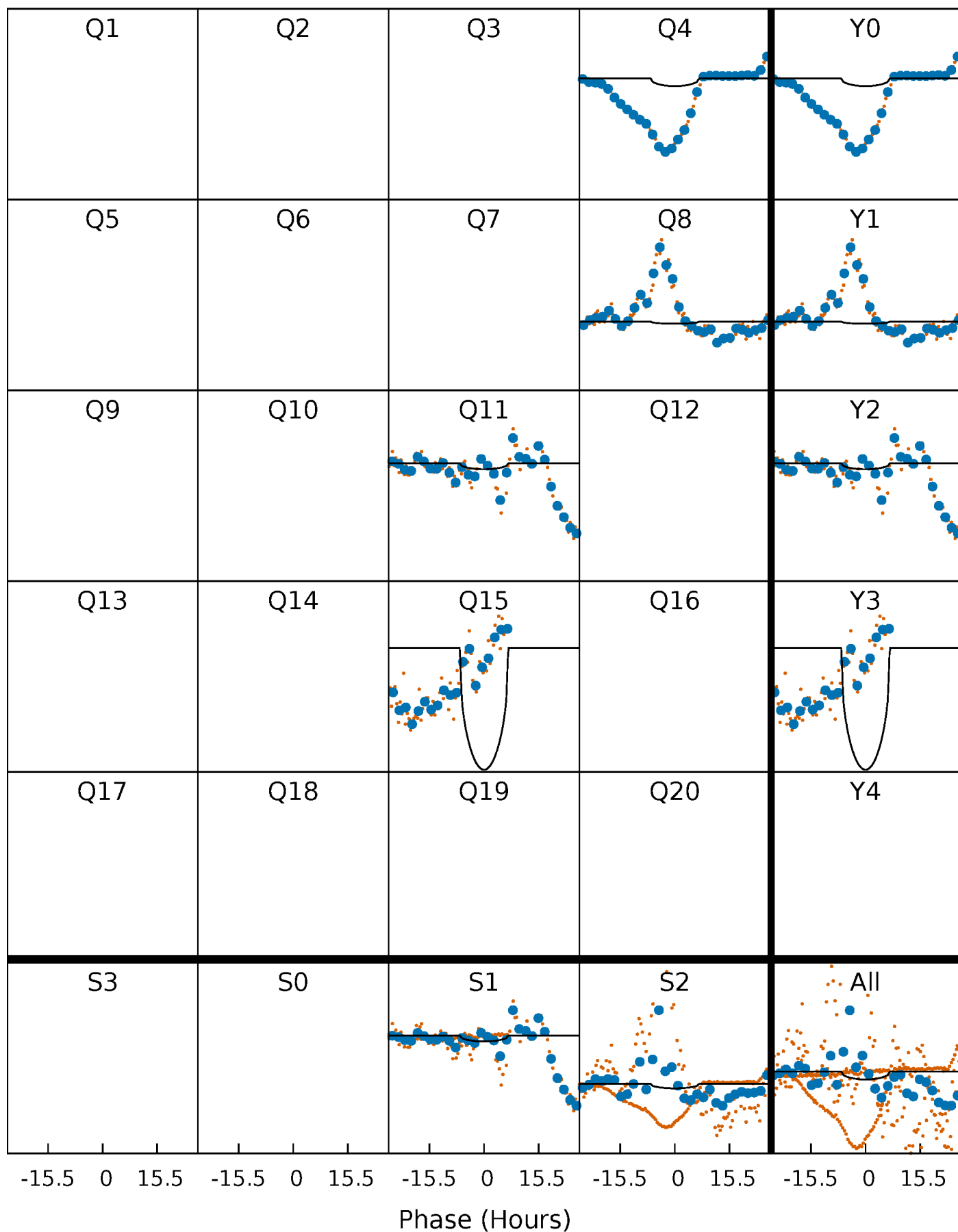
# PDC Quarter-Phased Transit Curves

TCE 006279696-03     $P=346.788292$  Days     $T_0=393.819916$  (BKJD)



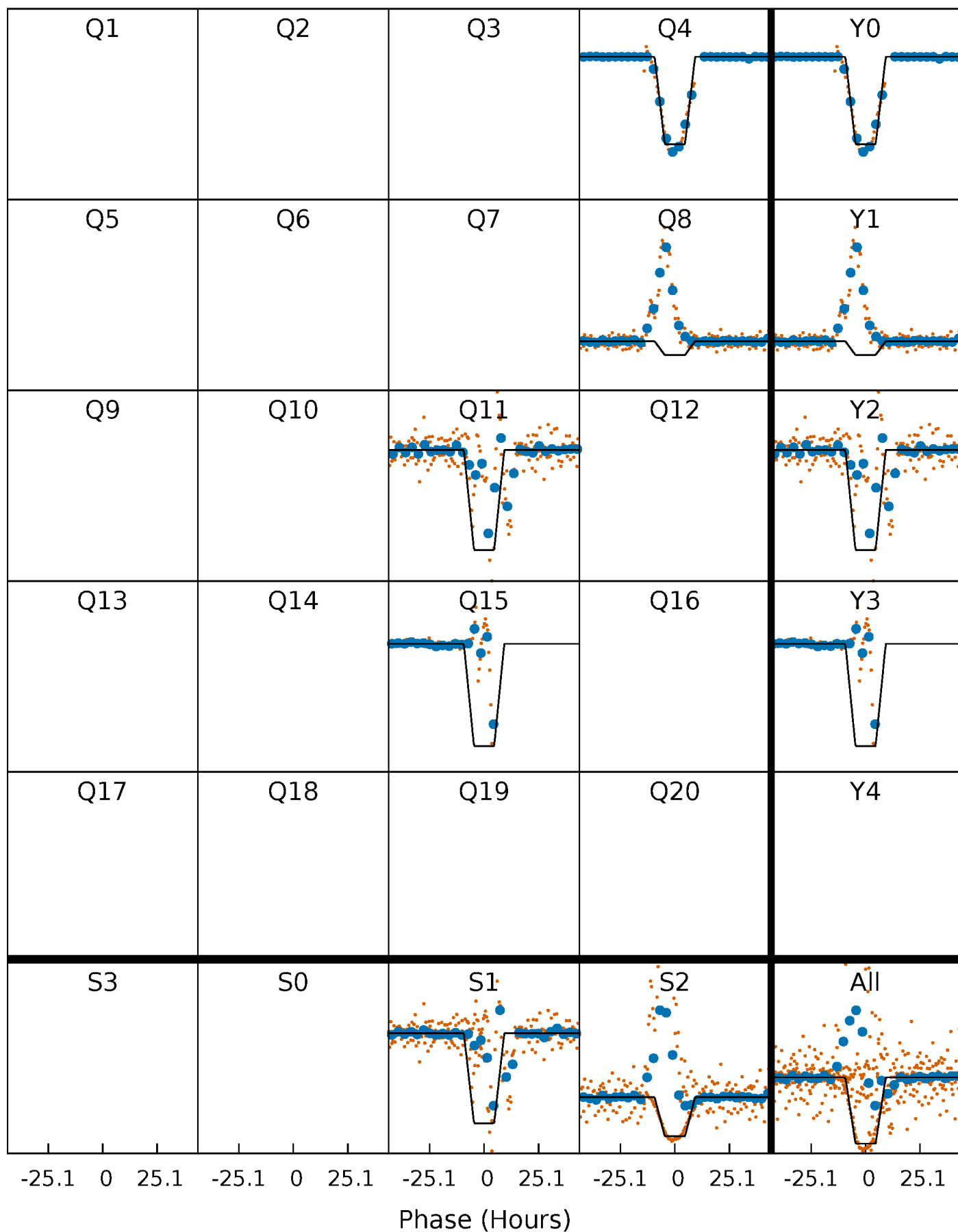
# DV Quarter-Phased Transit Curves

TCE 006279696-03     $P=346.788292$  Days     $T_0=393.819916$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

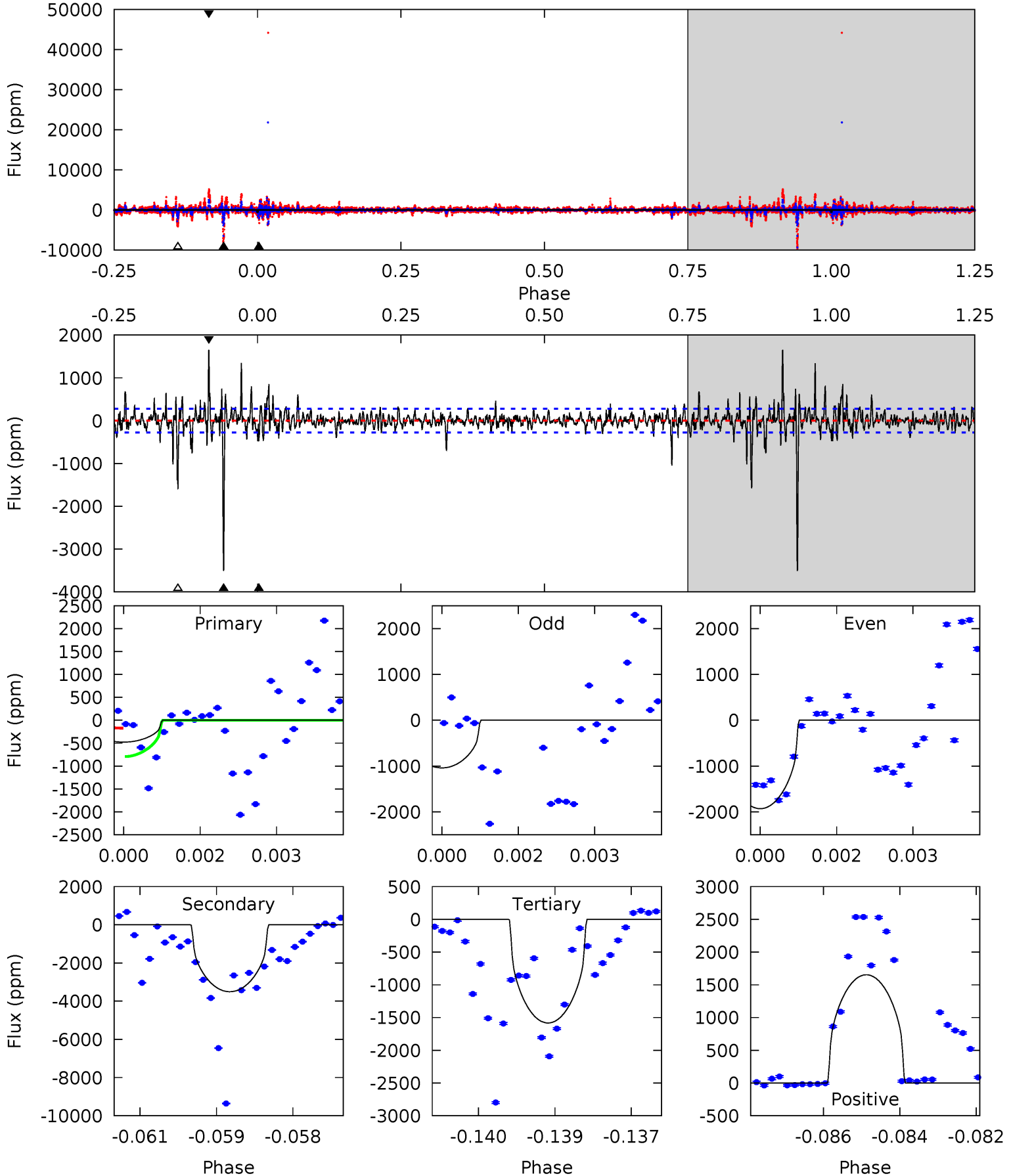
TCE 006279696-03     $P=346.818814$  Days     $T_0=393.831943$  (BKJD)



# DV Model-Shift Uniqueness Test

006279696-03, P = 346.788292 Days, E = 47.031624 Days

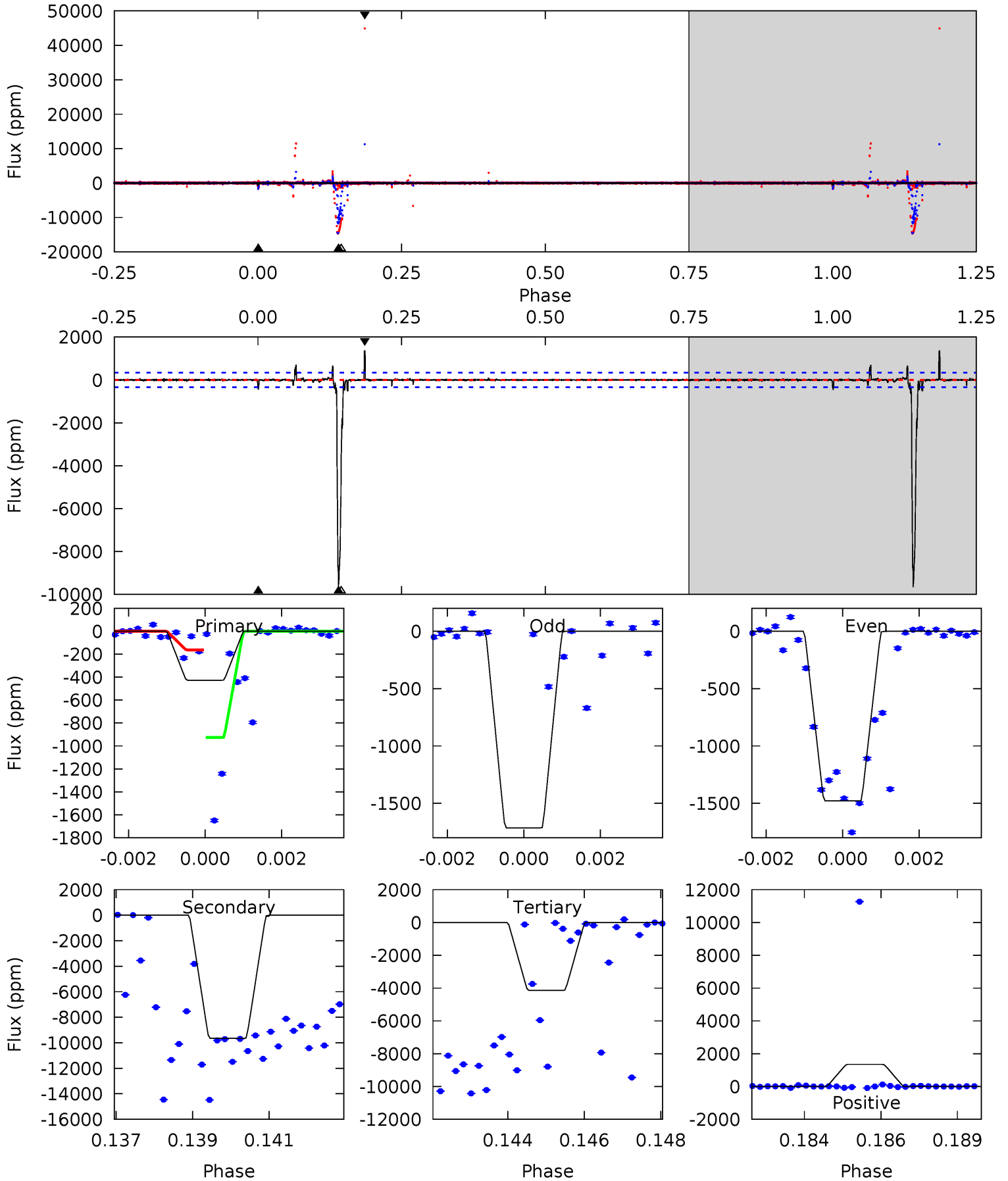
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.25	67.9	30.7	32.0	5.36	3.15	3.34	-21.4	-22.8	37.3	35.9	4.18	-1.24	0.32	6.14



# Alt Model-Shift Uniqueness Test

006279696-03, P = 346.818814 Days, E = 47.013129 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
6.68	150.9	64.7	21.1	5.31	3.06	3.69	-58.0	-14.4	86.2	129.8	0.02	-1.99	0.12	0





### Stellar Parameters For KIC 006279696

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$3266^{+117}_{-78}$	$0.095^{+0.208}_{-0.065}$	$-0.080^{+0.250}_{-0.100}$	$155.187^{+9.192}_{-27.576}$	$1.095^{+0.206}_{-0.120}$	$0.000^{+0.000}_{-0.000}$
	+4%/-2%	+219%/-68%	+312%/-125%	+6%/-18%	+19%/-11%	+86%/-14%
Source	KIC0	KIC0	KIC0	DSEP		

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

### Secondary Eclipse Parameters for KIC 006279696-03 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-3506 \pm 52$	$291.19^{+179.93}_{-169.13}$	$2479^{+114}_{-131}$	$5059^{+2754}_{-948}$	$24^{+103}_{-15}$
Alt.	$-9652 \pm 64$	$697.81^{+210.51}_{-209.76}$	$2483^{+110}_{-134}$	$4352^{+650}_{-425}$	$11^{+11}_{-4}$

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

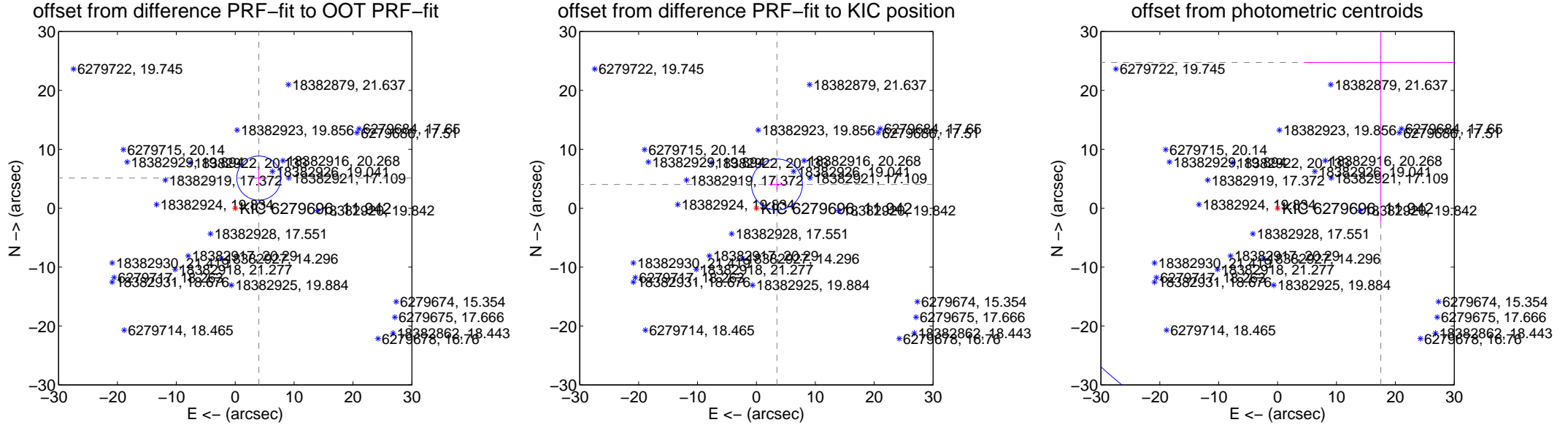
## DV Centroid Data

Supplemental centroid analysis for 006279696-03. **Kepler magnitude: 11.94.** Transit SNR 9.45

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

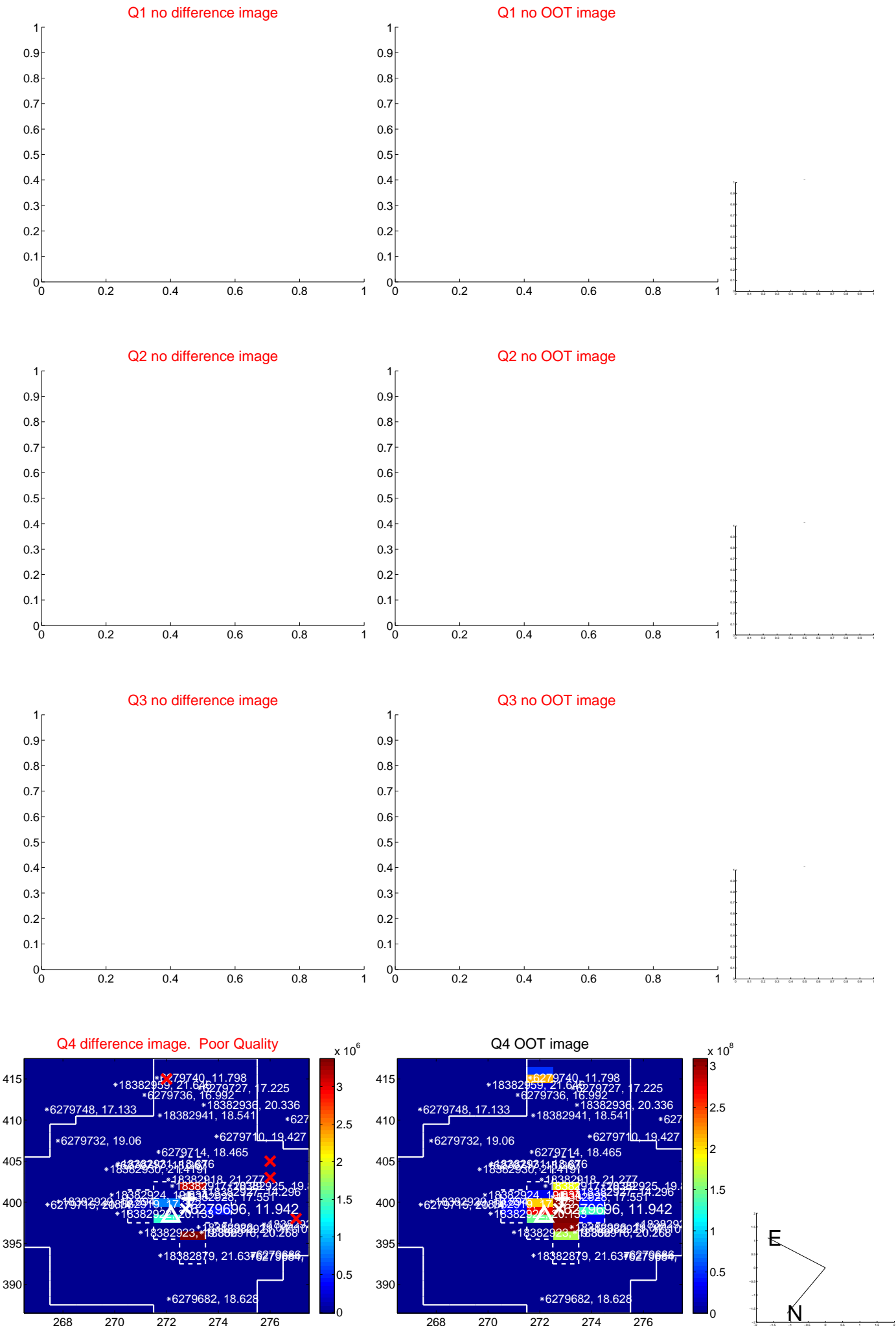
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>6.495 <math>\pm</math> 1.248</b>	<b>5.20</b>	-4.008 $\pm$ 0.897	5.111 $\pm$ 1.422
PRF-fit source offset from KIC position	<b>5.329 <math>\pm</math> 1.442</b>	<b>3.70</b>	-3.487 $\pm$ 1.342	4.030 $\pm$ 0.920
photometric centroid source offset	30.32 $\pm$ 23.40	1.30	-17.52 $\pm$ 13.04	24.74 $\pm$ 27.15



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.

Q5 no difference image



Q5 no OOT image



Q6 no difference image



Q6 no OOT image



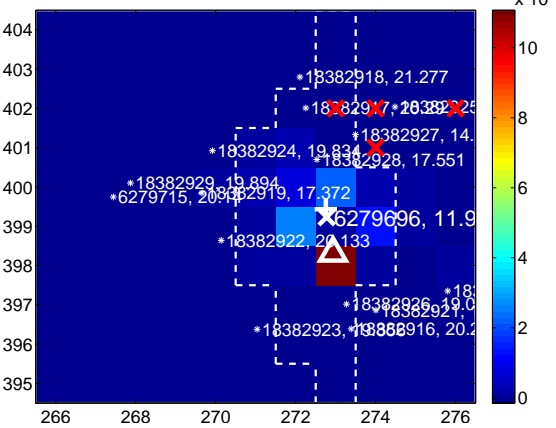
Q7 no difference image



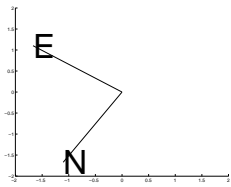
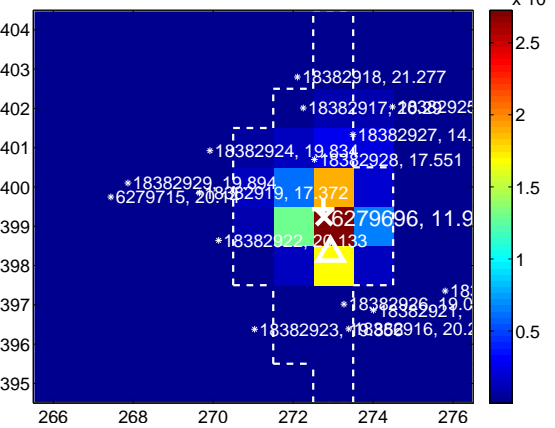
Q7 no OOT image



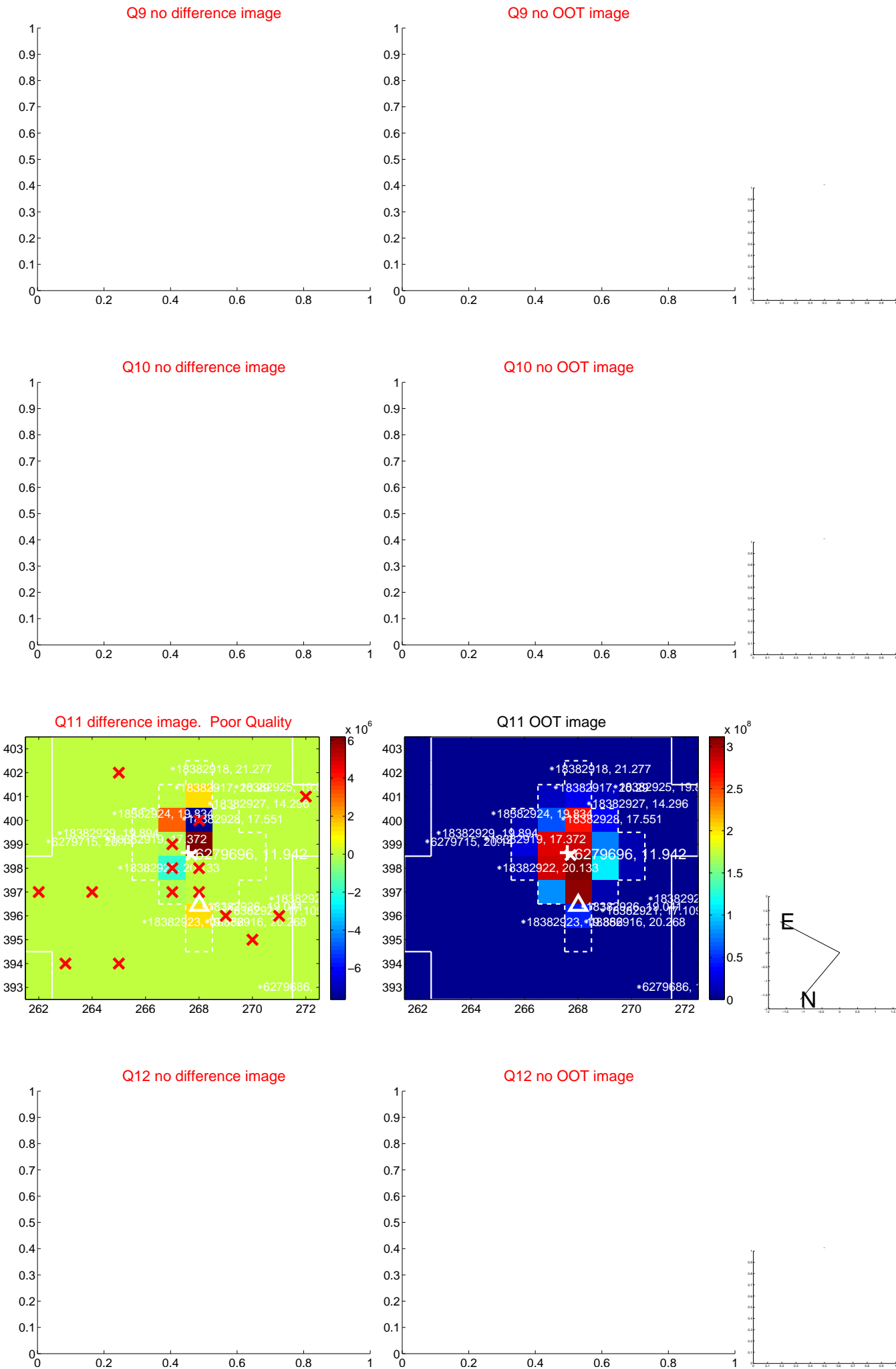
Q8 difference image



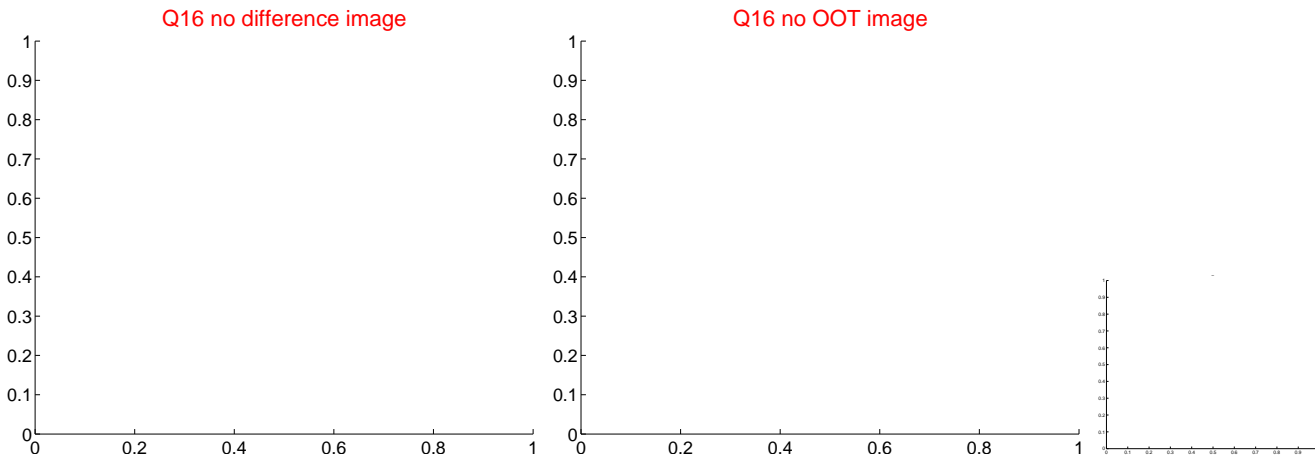
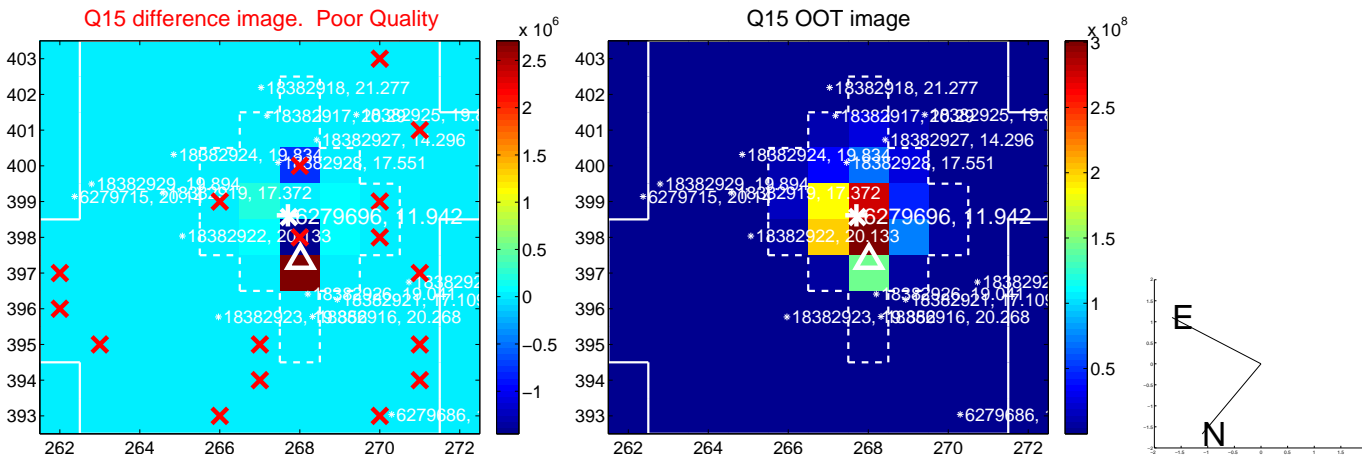
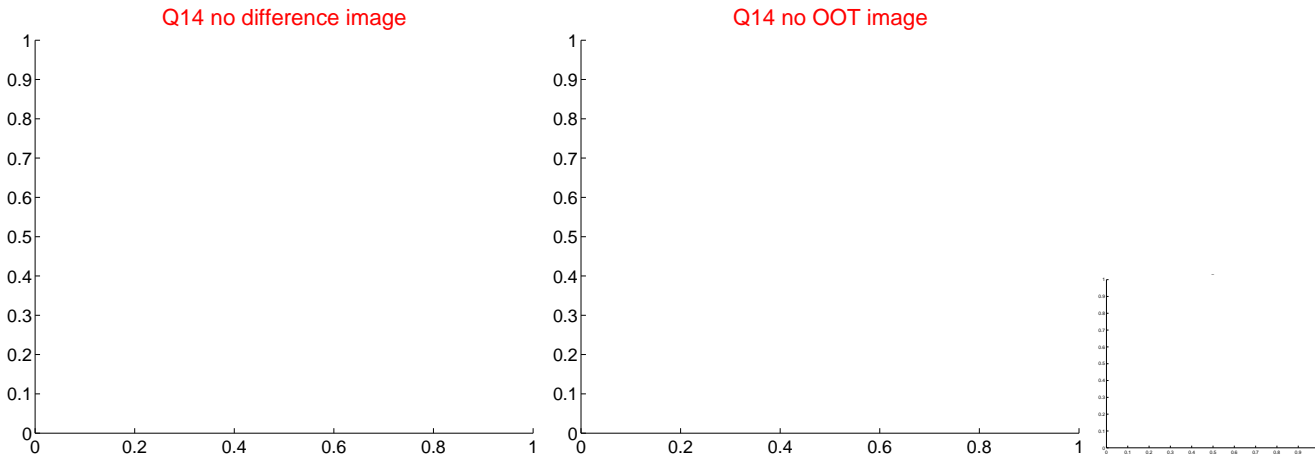
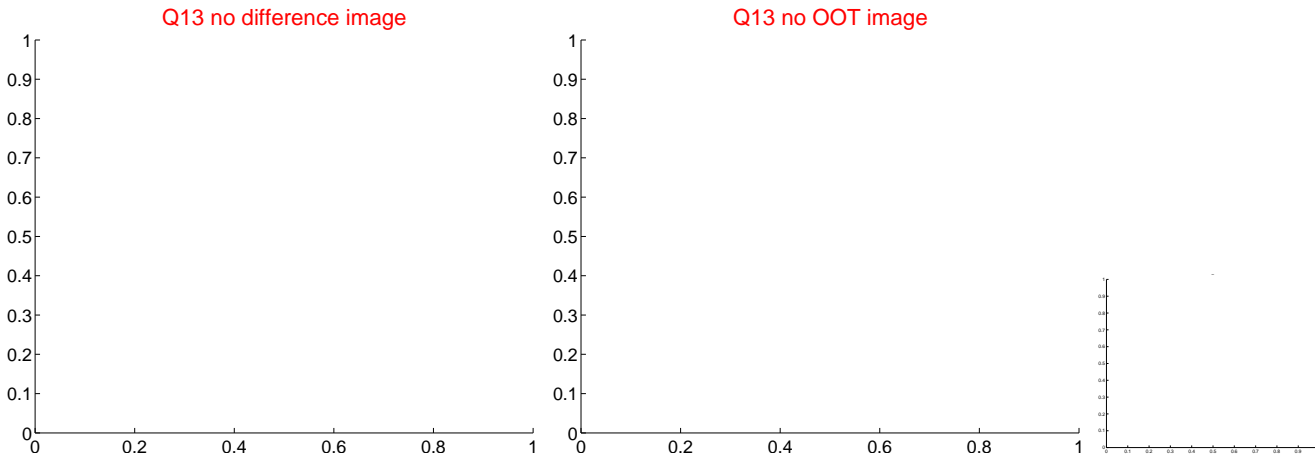
Q8 OOT image



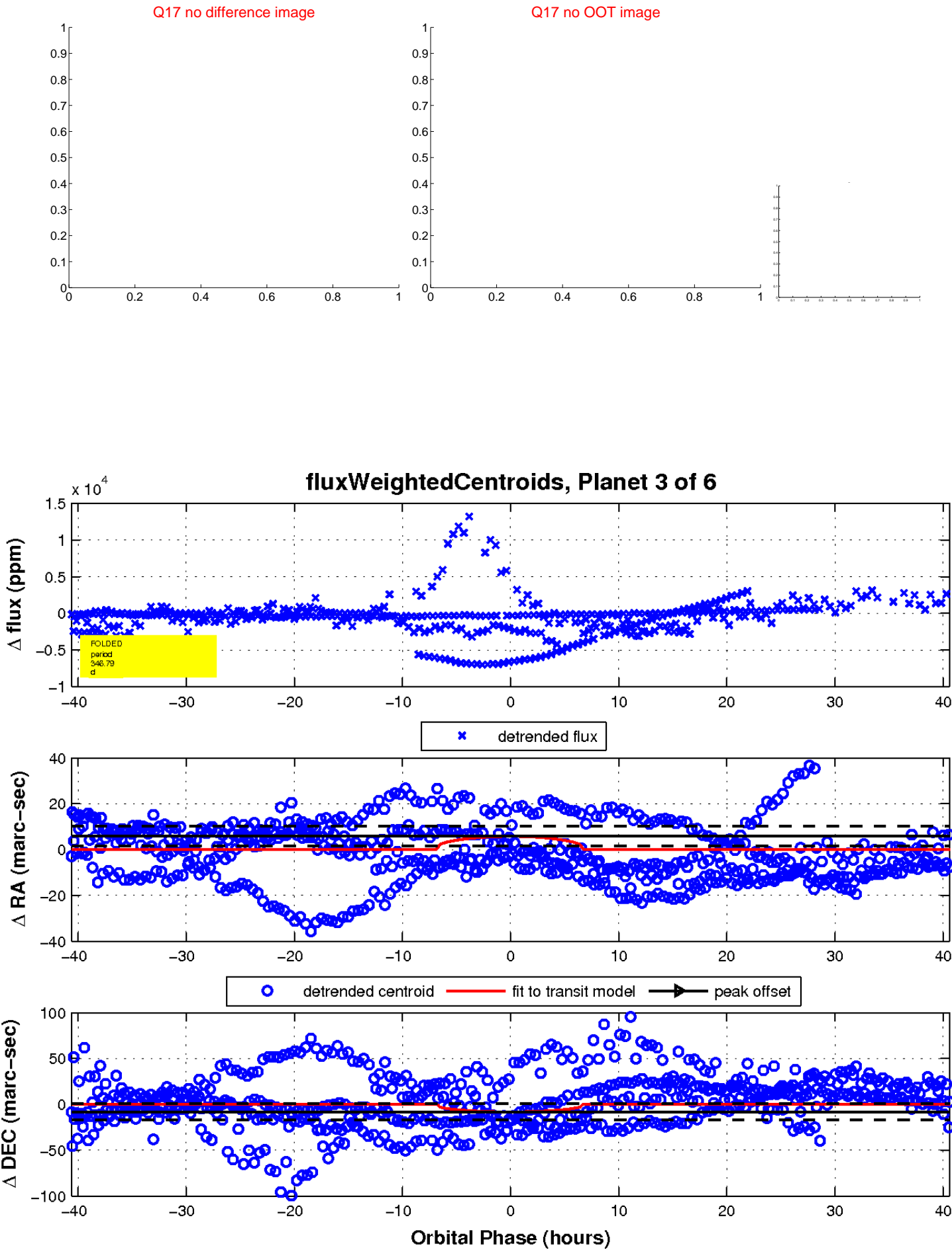
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

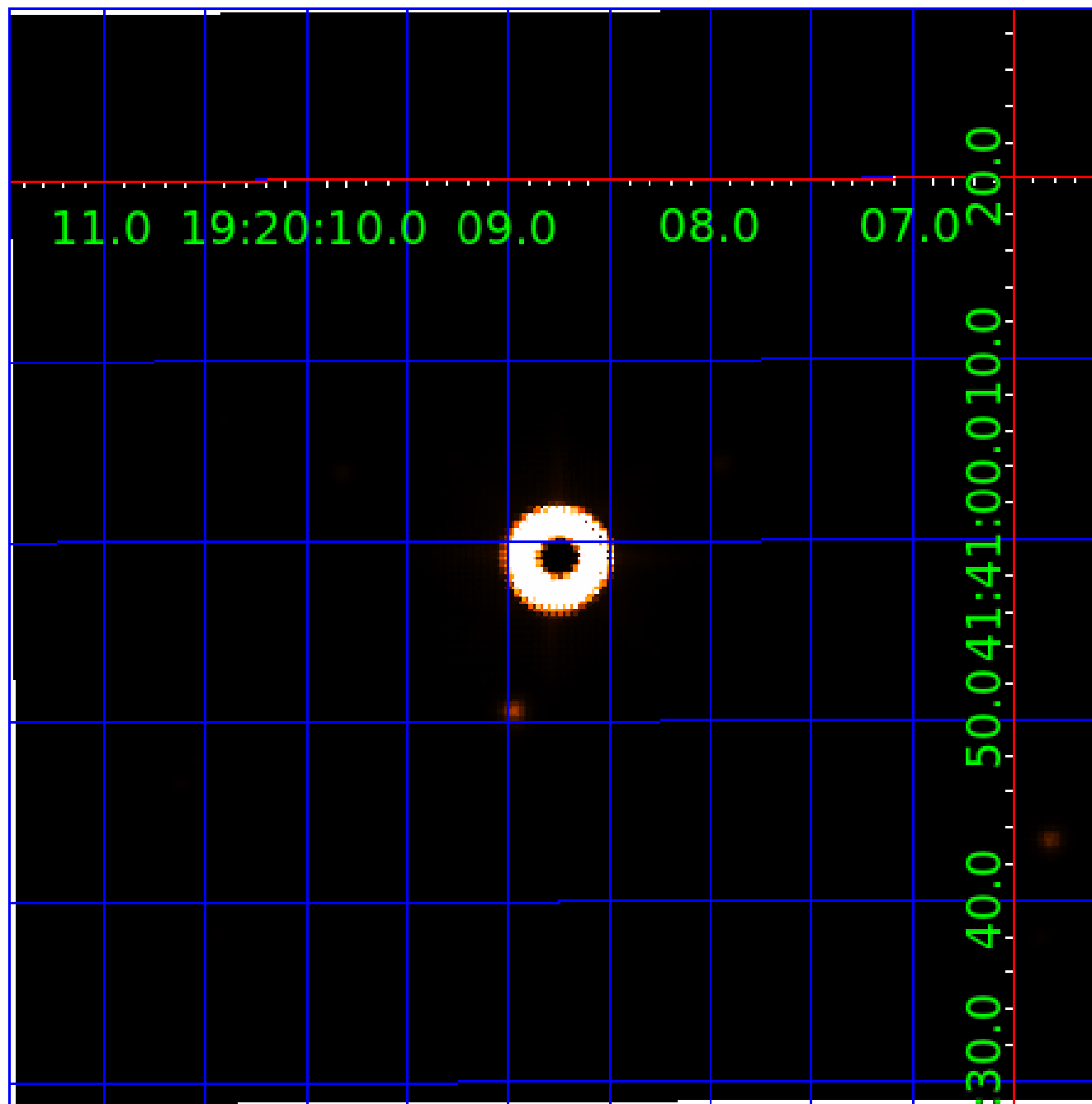


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 006279696

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006279696-01	OBS	No	473.704410	157.597839	194.3	12.500	28.2	-1.0	155.19	3266	198.46	1635.01
006279696-02	OBS	No	425.828888	160.613257	3.1	58.076	57.0	0.1	155.19	3266	25.46	1884.59
006279696-03	OBS	No	346.788292	393.819916	329.3	13.551	28.2	9.4	155.19	3266	265.38	2478.05
006279696-04	OBS	No	421.331698	145.748799	1608.6	43.593	17.5	25.0	155.19	3266	1346.59	1911.45
006279696-05	OBS	No	199.937579	196.791751	260.6	12.751	48.9	8.8	155.19	3266	229.26	0.00
006279696-06	OBS	No	465.837759	165.221745	7794.4	1.123	25.6	18.9	155.19	3266	1555.15	1671.92

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006279696-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
006279696-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006279696-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006279696-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006279696-05	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006279696-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—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.

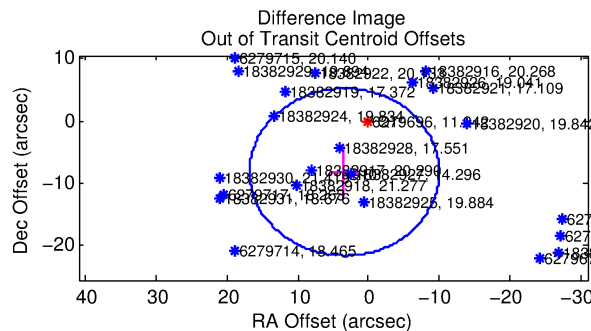
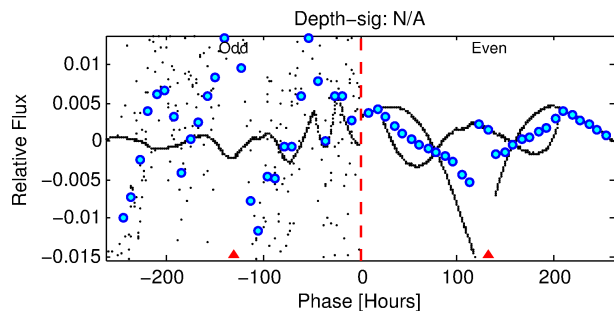
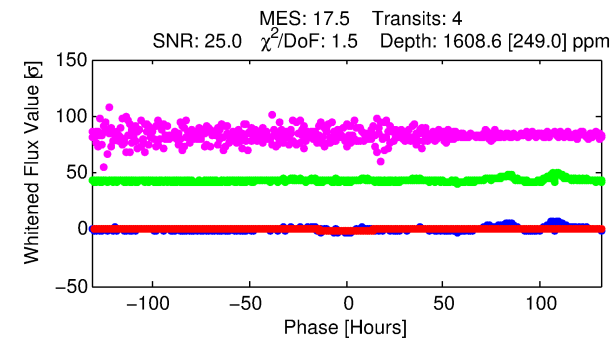
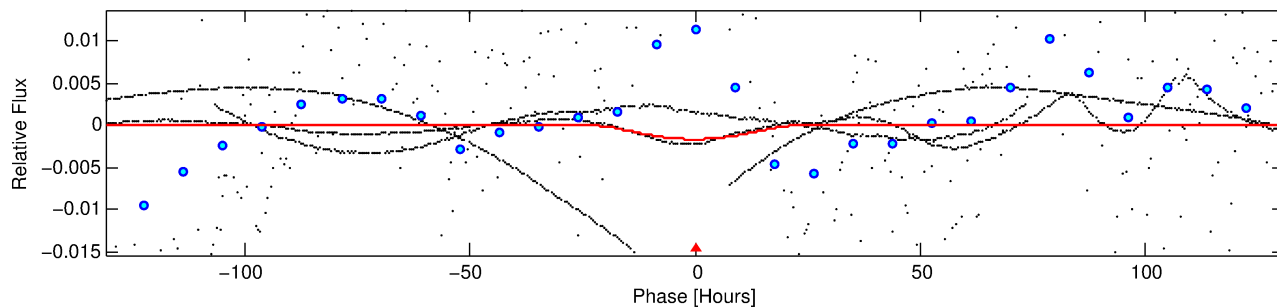
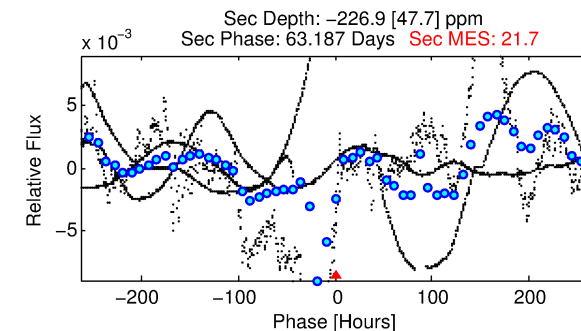
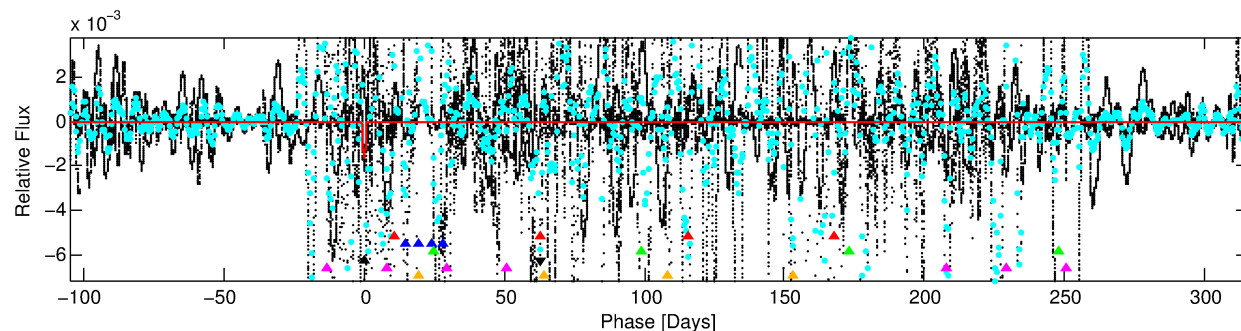
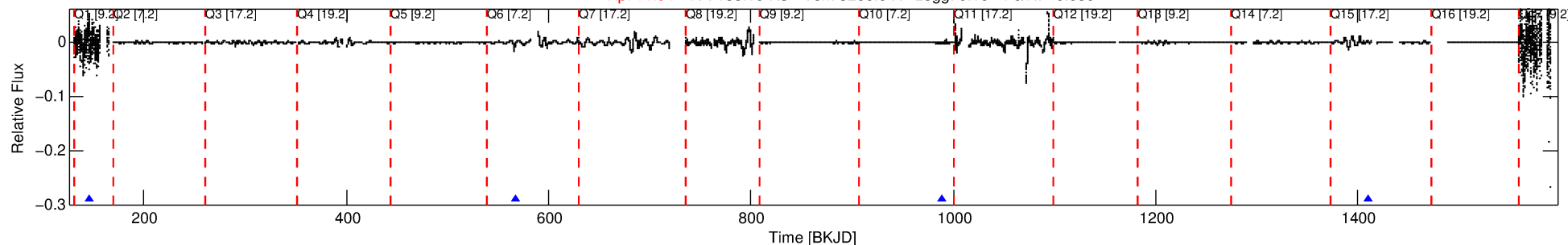
## Ephemeris Match Information For 006279696-04

No Significant Match Found

# DV One-Page Summary

KIC: 6279696 Candidate: 4 of 6 Period: 421.332 d

Kp: 11.94 R\*: 155.19 Rs Teff: 3266.0 K Logg: 0.10 Fe/H: -0.080



## DV Fit Results:

Period = 421.33170 [0.02127] d  
Epoch = 145.7488 [0.0306] BKJD  
Rp/R\* = 0.0795 [0.0477]  
a/R\* = 30.05 [3.01]  
b = 1.00 [0.06]  
Seff = 1911.45 [706.24]  
Teq = 1686 [156] K  
Rp = 1346.59 [842.94] Re  
a = 1.1333 [0.2253] AU  
Ag = N/A  
Teff = N/A

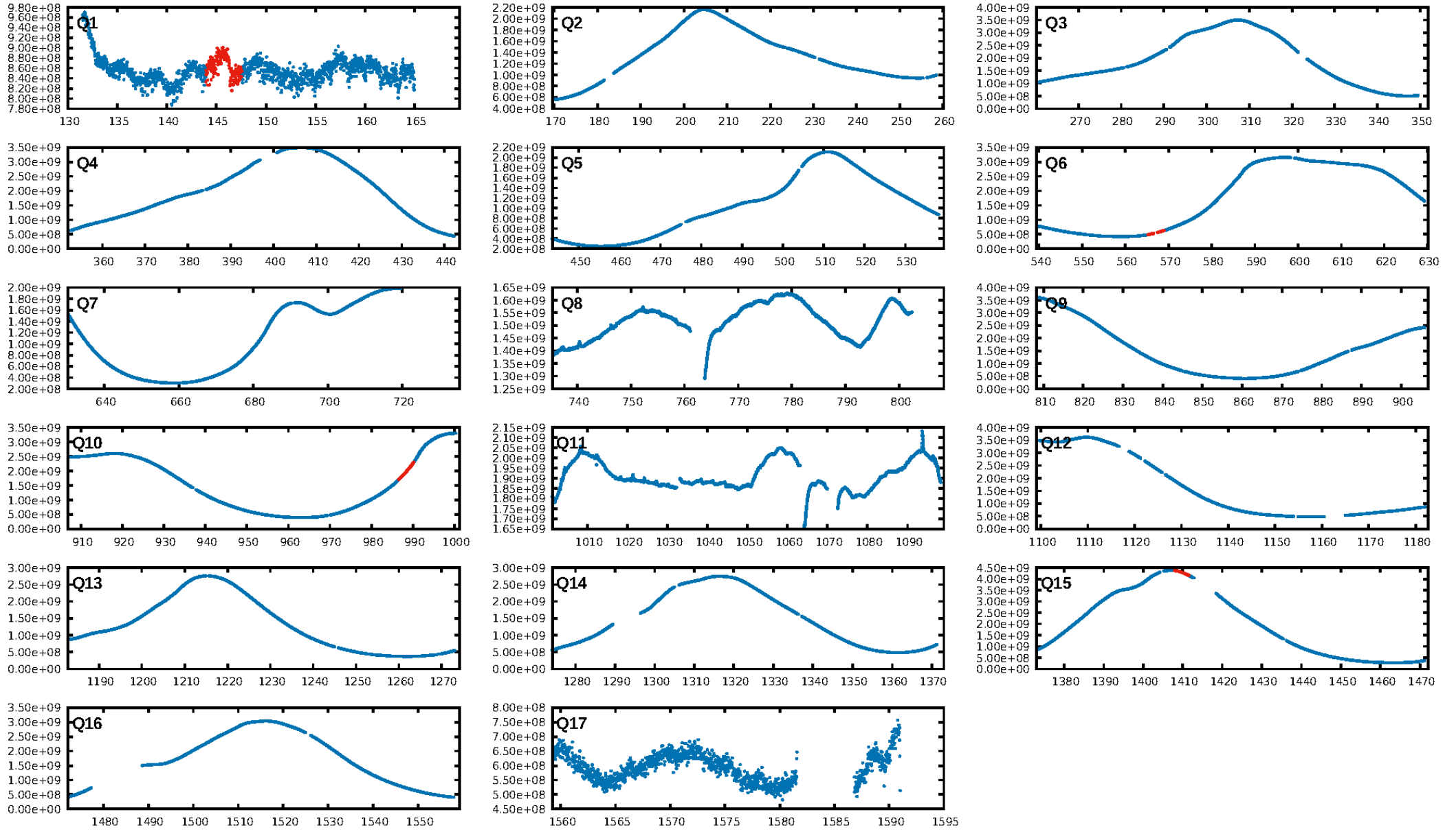
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [39.19σ]  
LongPeriod-sig: 86.3% [1.49σ]  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 81.5%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -0.2902  
Centroid-sig: 4.2%  
Centroid-so: 8.010 arcsec [1.45σ]  
OotOffset-rm: 8.896 arcsec [1.99σ]  
KicOffset-rm: 7.198 arcsec [3.88σ]  
OotOffset-st: 1/0/0/1 [2]  
KicOffset-st: 1/0/0/1 [2]  
DiffImageQuality-fgm: 1.00 [2/2]  
DiffImageOverlap-fno: 1.00 [2/2]

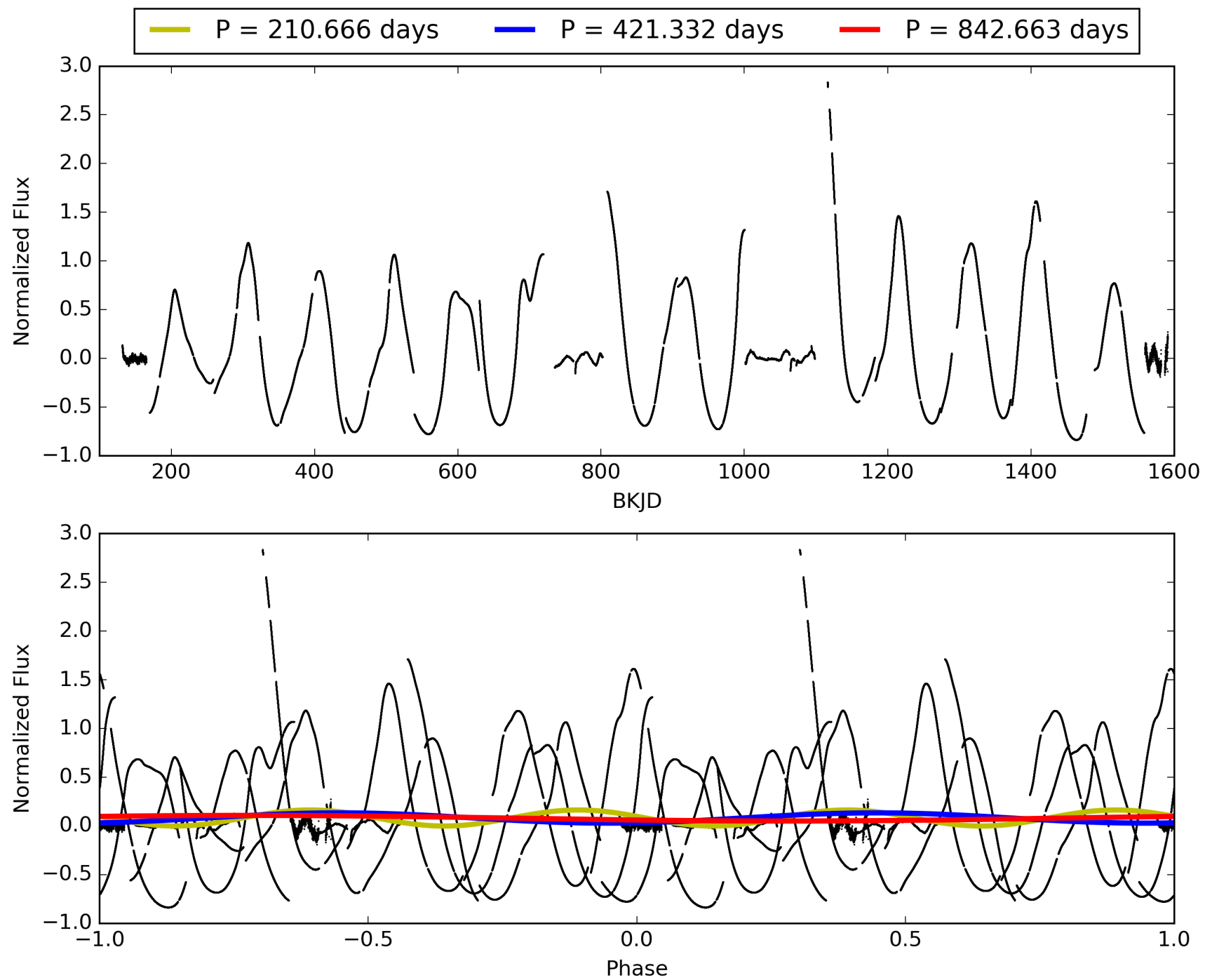
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:58:21 Z

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

# TCE 006279696-04, PDC Light Curves

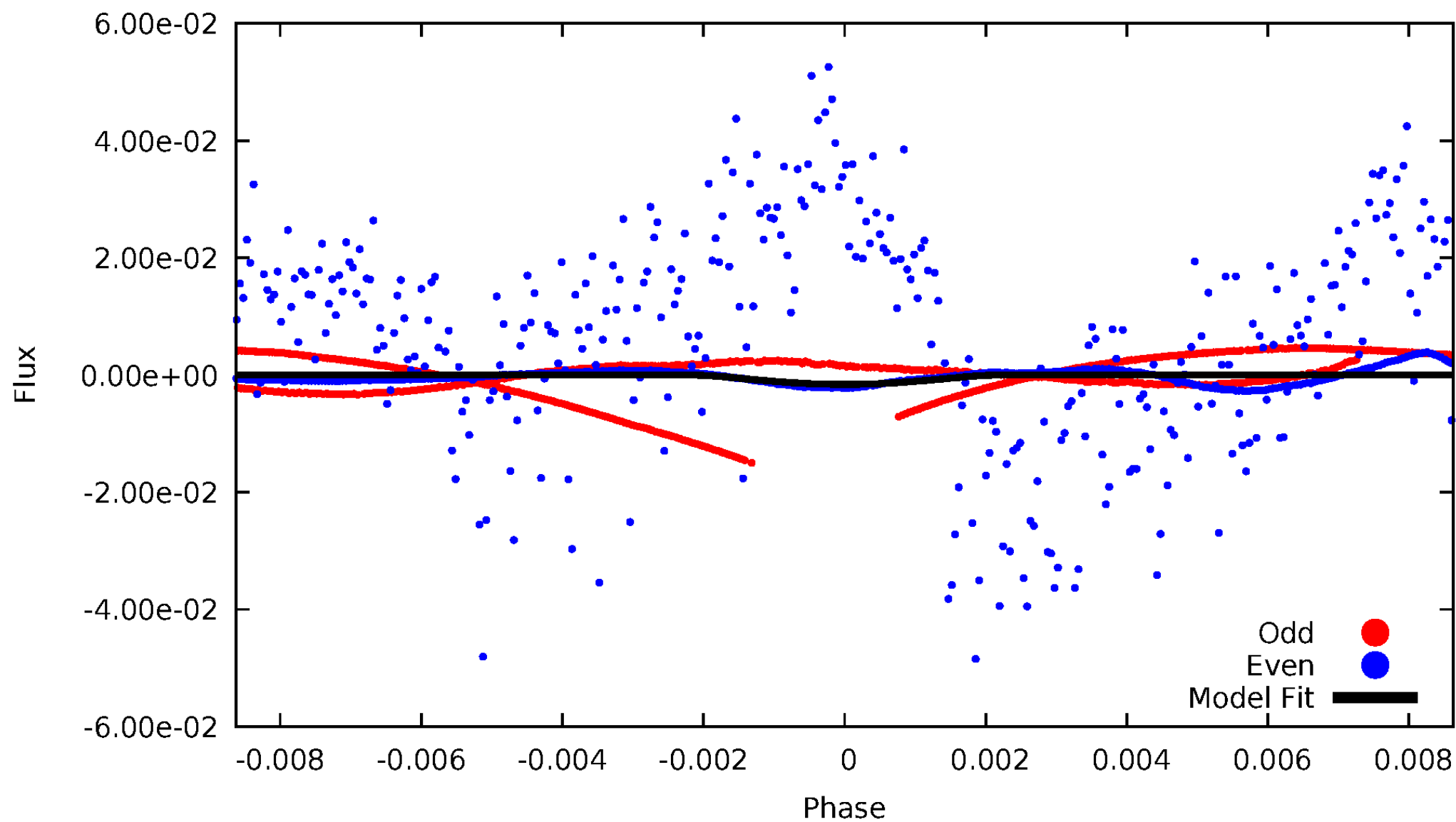


TCE 006279696-04



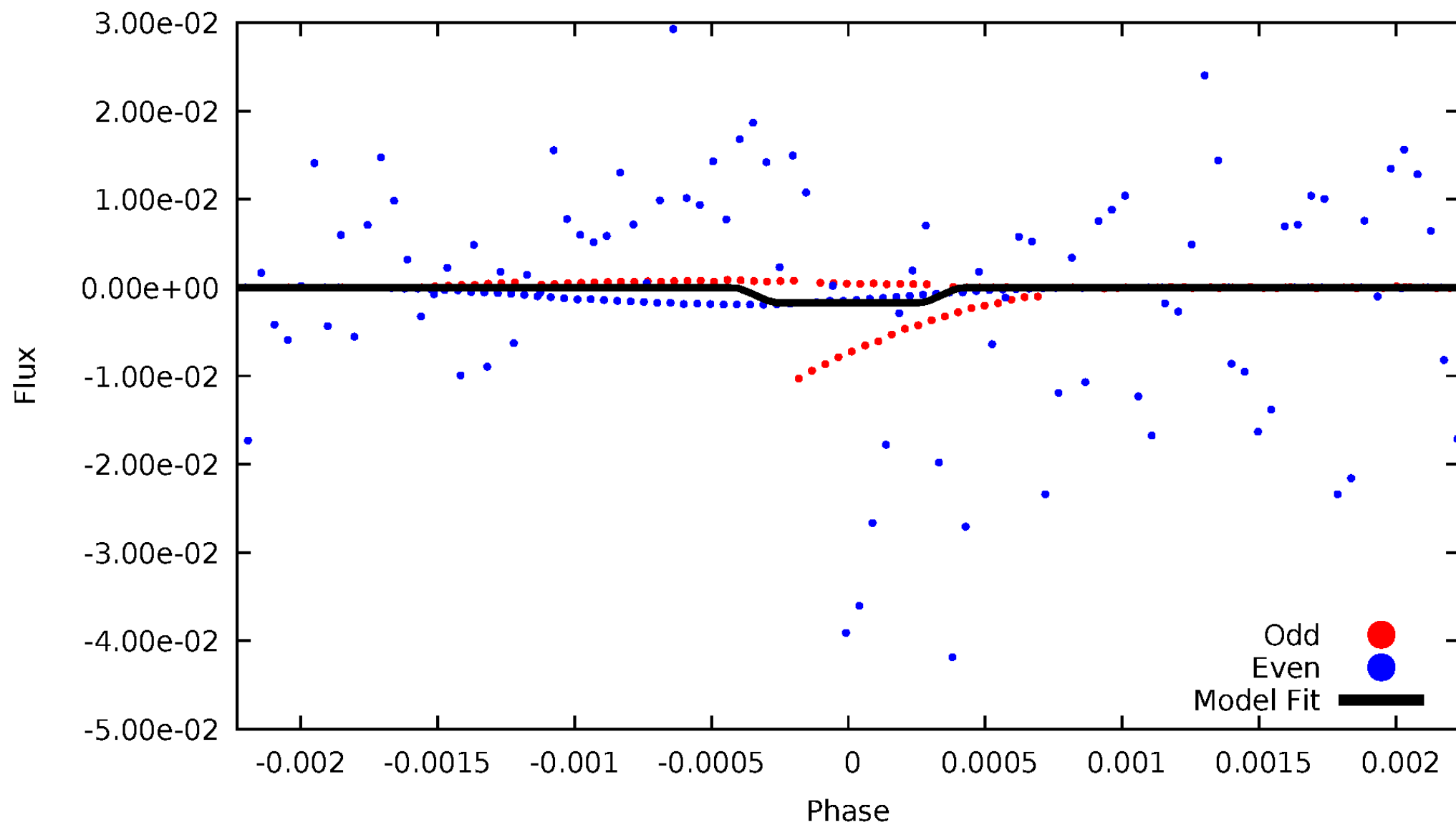
# DV Odd/Even

TCE 006279696-04



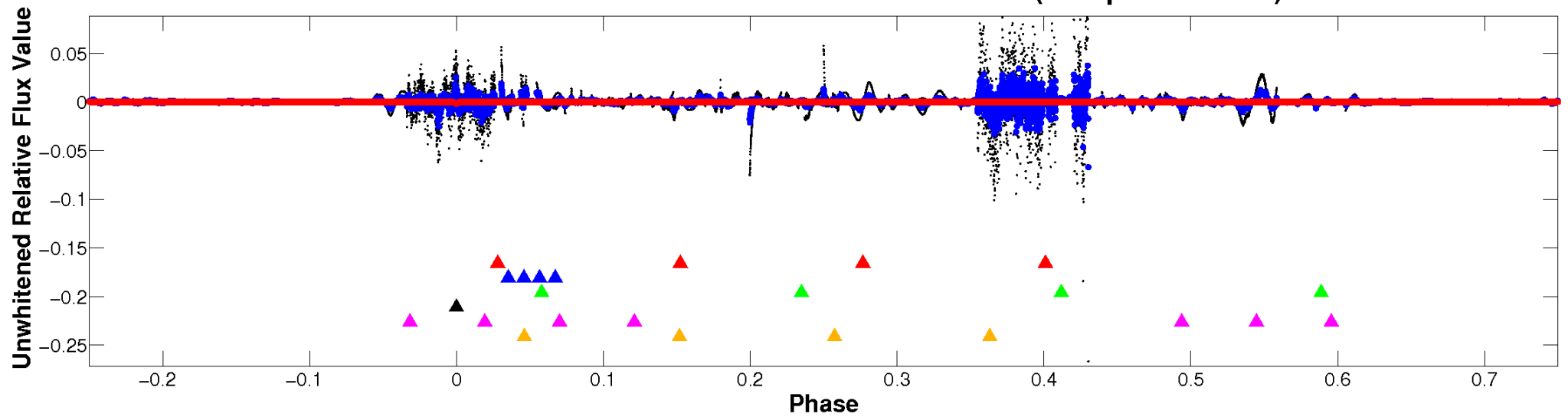
# ALT Odd/Even

TCE 006279696-04

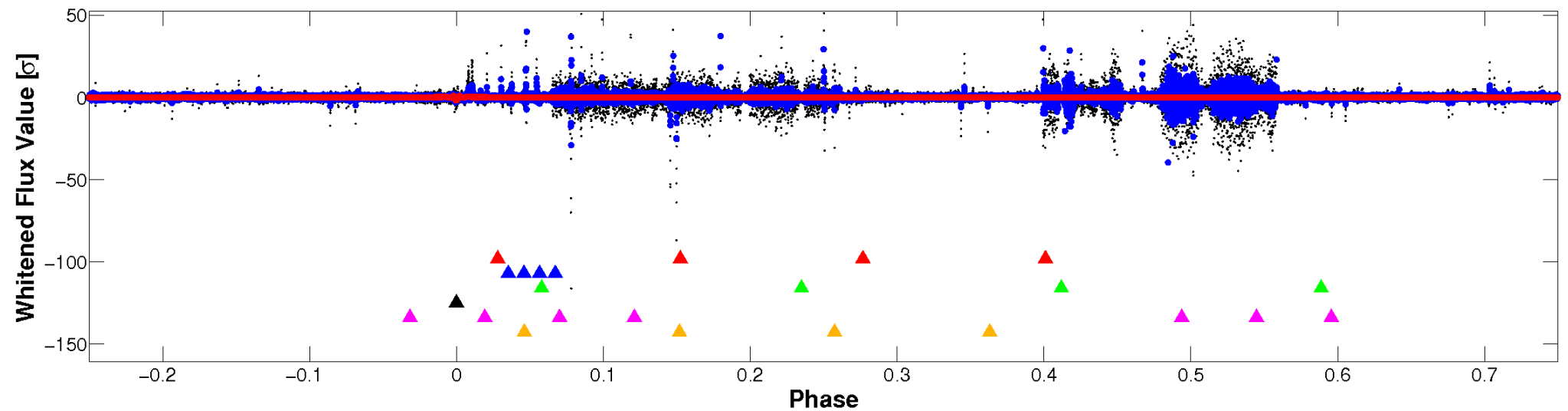


# Non-Whitened Vs. Whitened Light Curve

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

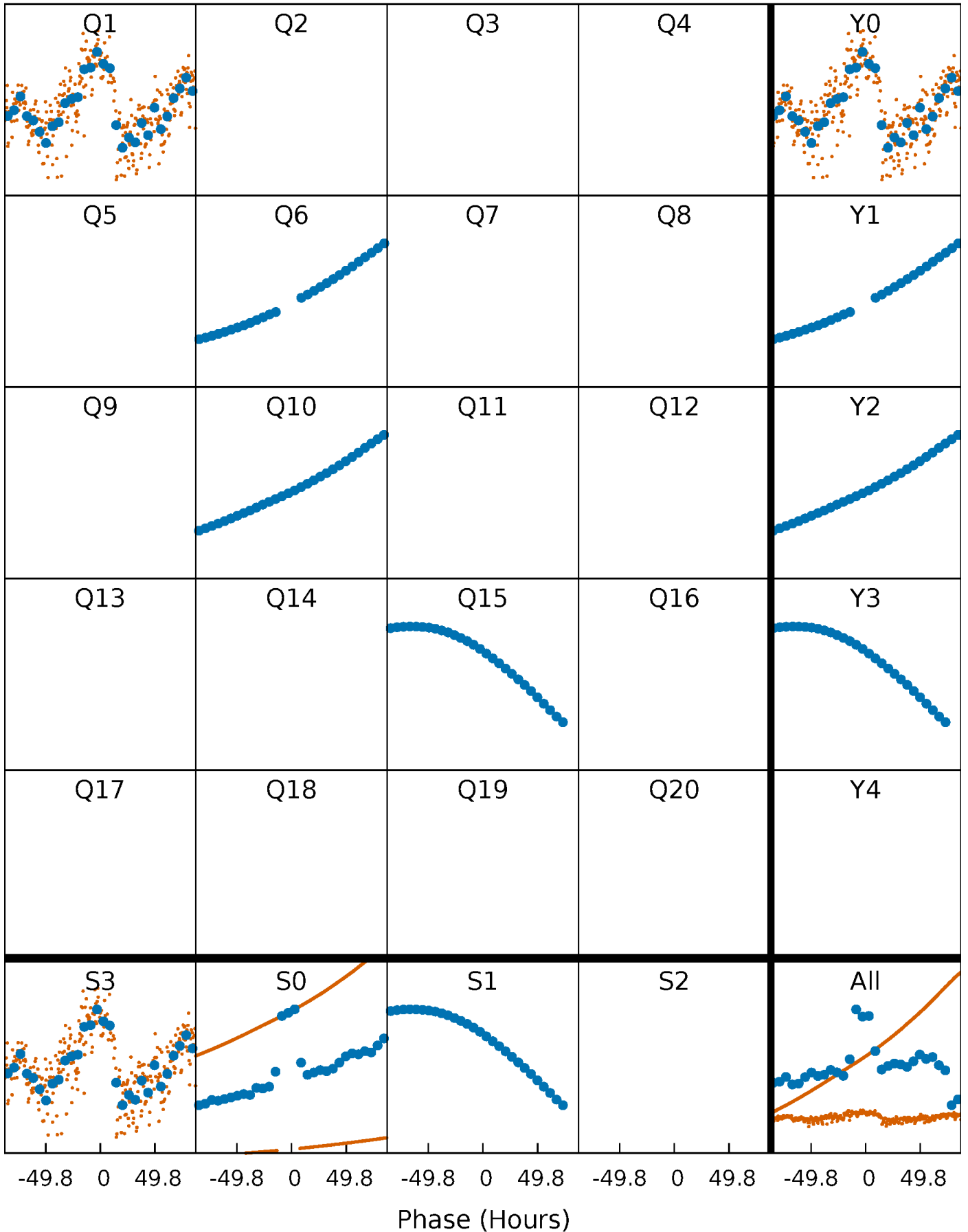


## Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

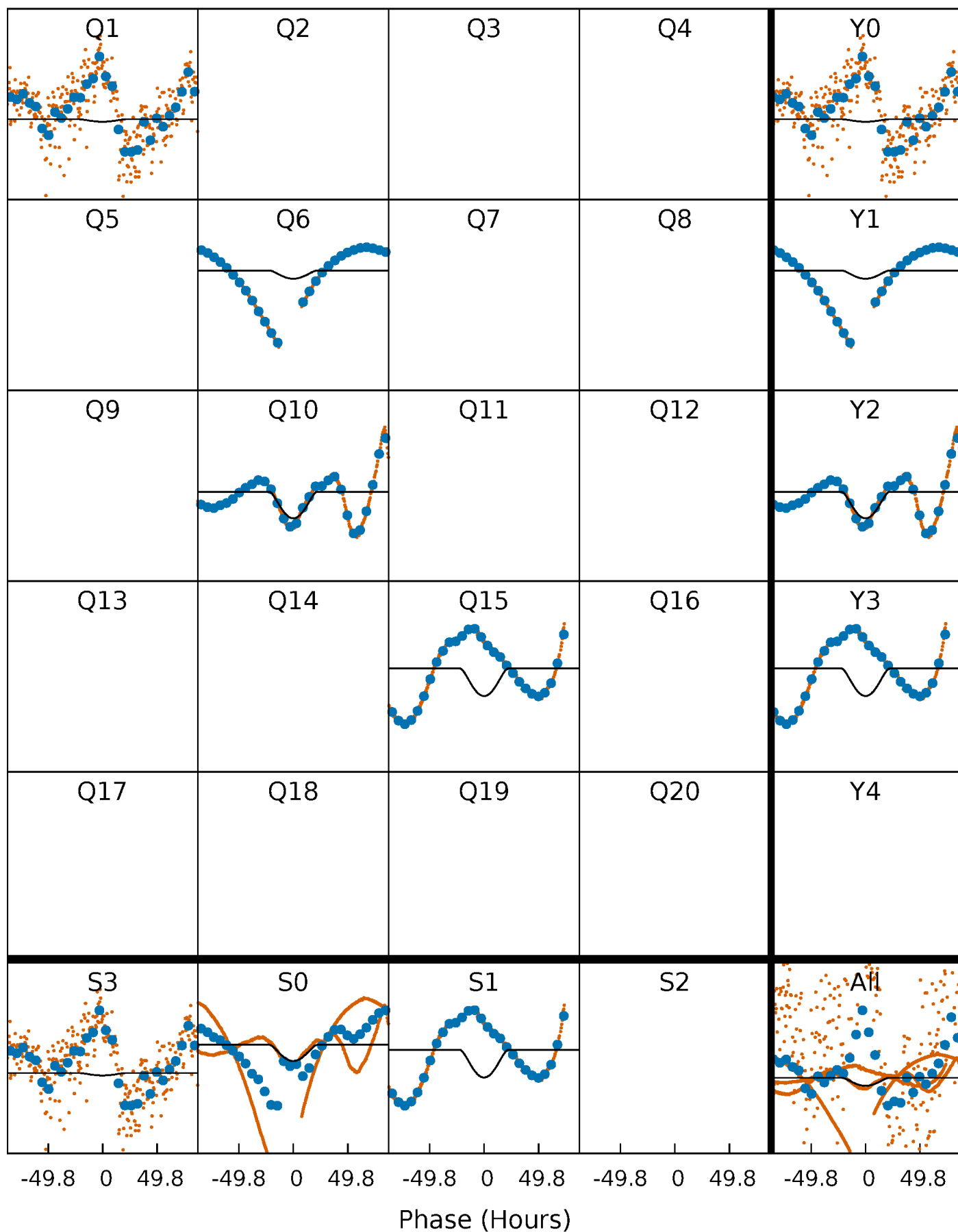
TCE 006279696-04     $P=421.331698$  Days     $T_0=145.748799$  (BKJD)





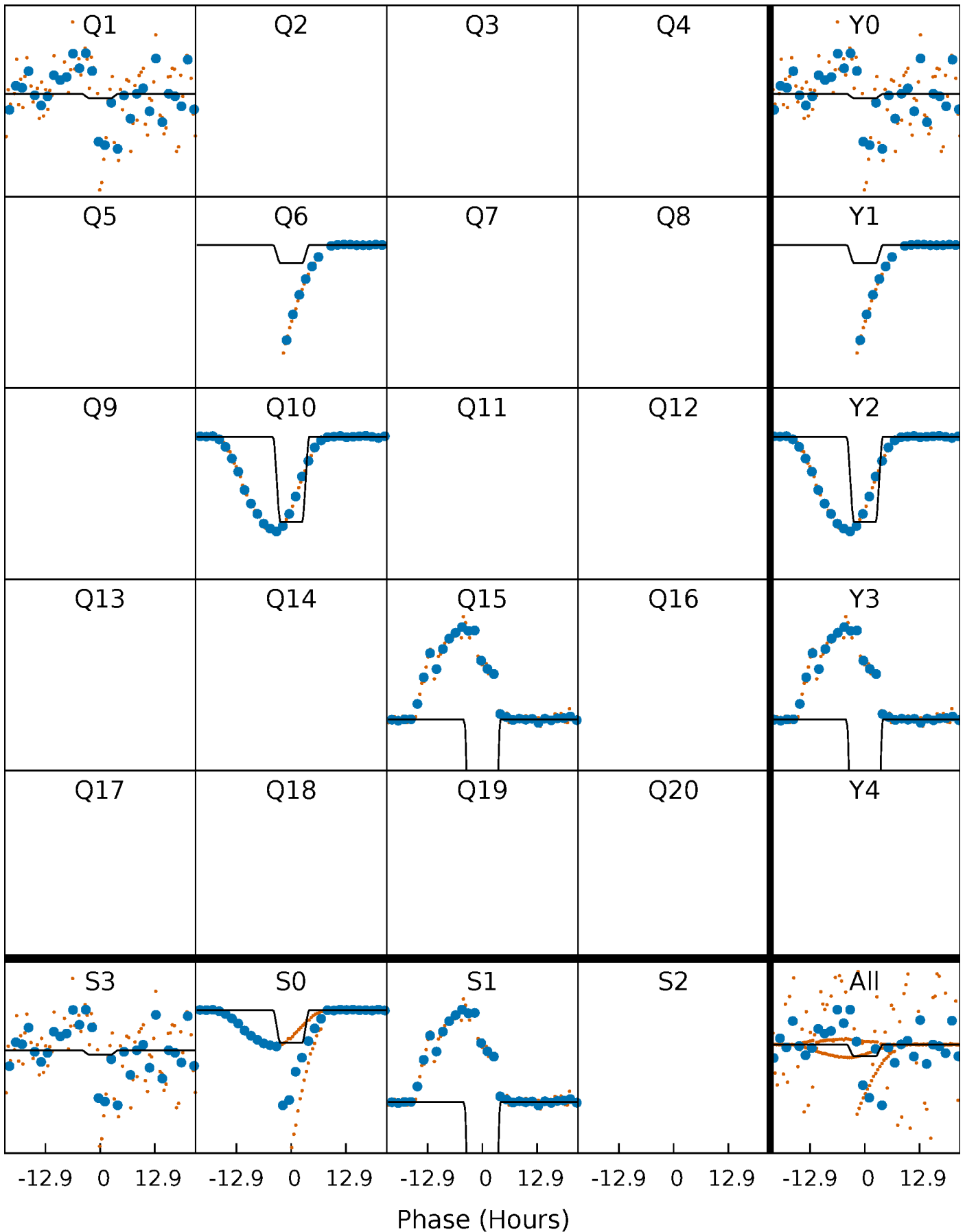
# DV Quarter-Phased Transit Curves

TCE 006279696-04 P=421.331698 Days  $T_0=145.748799$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

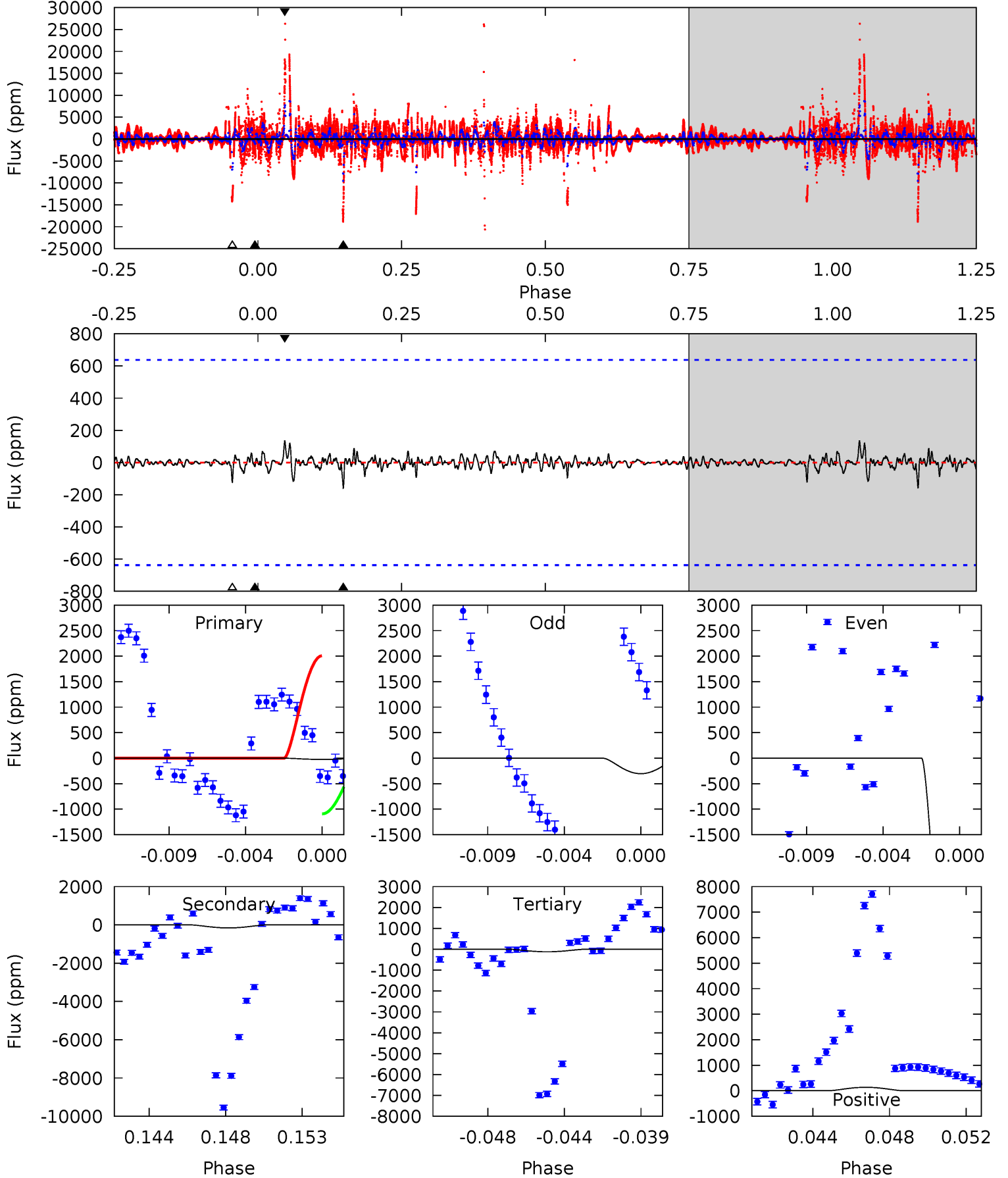
TCE 006279696-04 P=421.108427 Days  $T_0=146.371948$  (BKJD)



# DV Model-Shift Uniqueness Test

006279696-04, P = 421.331698 Days, E = 145.748799 Days

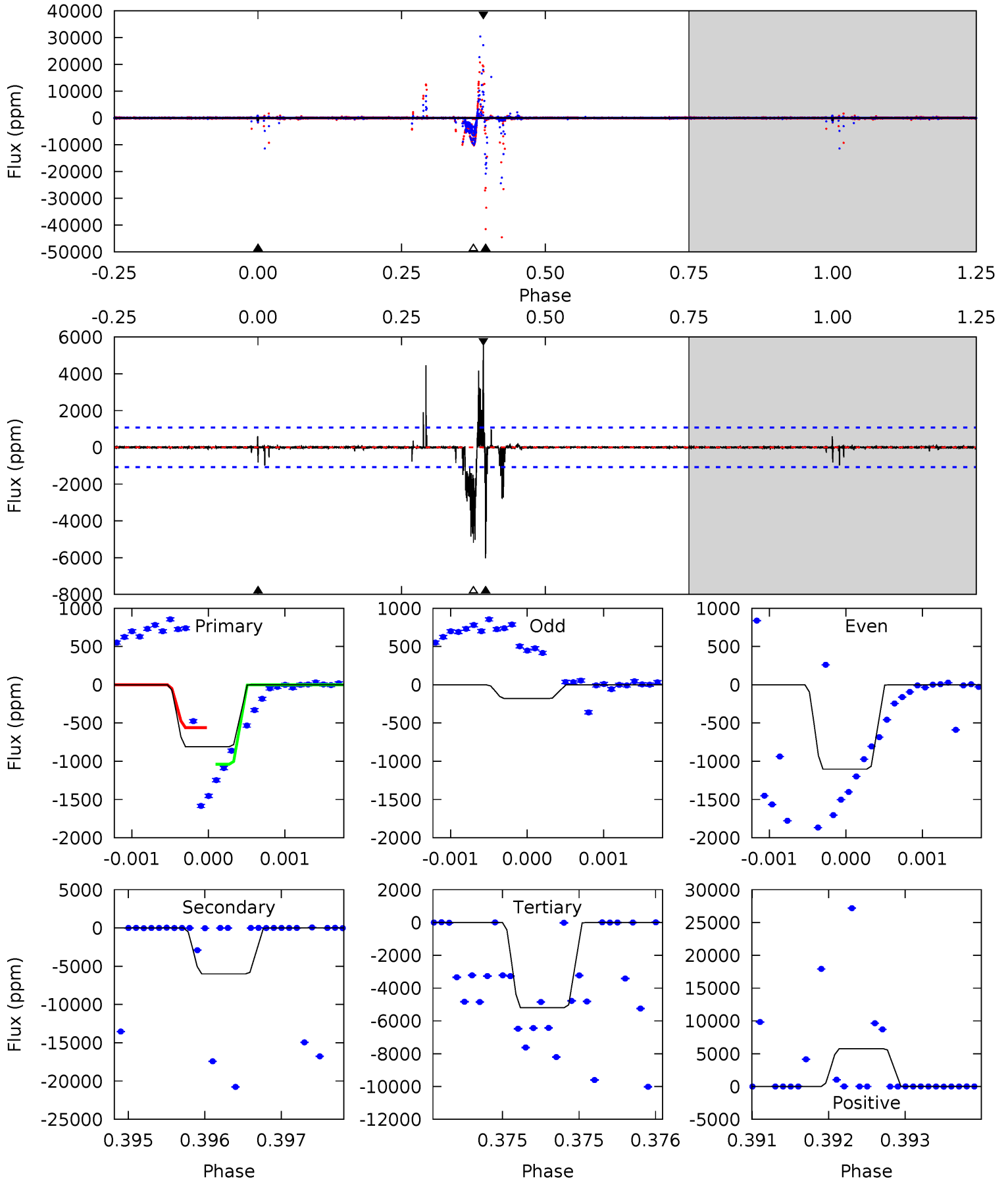
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.20	1.28	0.99	1.10	5.18	2.85	0.20	-0.79	-0.90	0.29	0.18	14.4	52.4	0.46	3.60



# Alt Model-Shift Uniqueness Test

006279696-04, P = 421.108427 Days, E = 146.371948 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
4.13	30.6	26.5	29.4	5.49	3.34	1.78	-22.4	-25.3	4.11	1.20	0.06	0.88	0.49	0



### Stellar Parameters For KIC 006279696

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$3266^{+117}_{-78}$	$0.095^{+0.208}_{-0.065}$	$-0.080^{+0.250}_{-0.100}$	$155.187^{+9.192}_{-27.576}$	$1.095^{+0.206}_{-0.120}$	$0.000^{+0.000}_{-0.000}$
	+4%/-2%	+219%/-68%	+312%/-125%	+6%/-18%	+19%/-11%	+86%/-14%
Source	KIC0	KIC0	KIC0	DSEP		

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

### Secondary Eclipse Parameters for KIC 006279696-04 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-158 \pm 123$	$1333.51^{+829.65}_{-669.33}$	$2333^{+111}_{-118}$	$-2371^{+498}_{-107}$	$0.053^{+0.220}_{-0.045}$
Alt.	$-6001 \pm 196$	$868.23^{+636.51}_{-563.95}$	$2324^{+104}_{-132}$	$3661^{+1905}_{-639}$	$5.893^{+40.763}_{-4.034}$

$T_{max}$  = 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

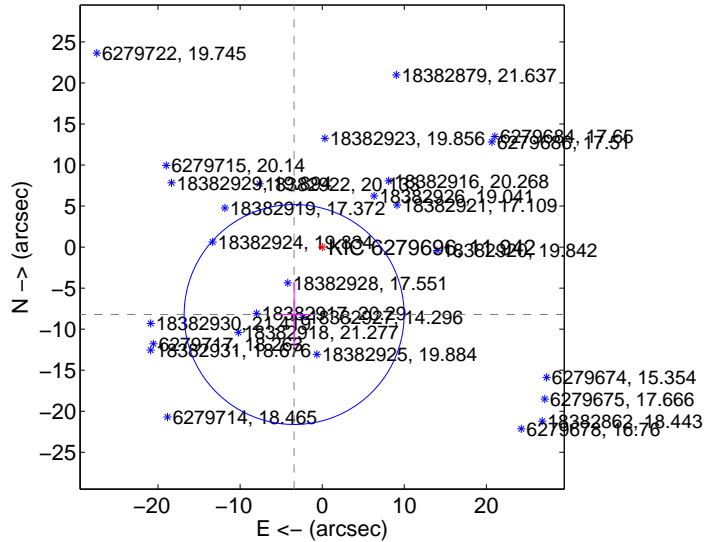
Supplemental centroid analysis for 006279696-04. **Kepler magnitude: 11.94.** Transit SNR 24.98

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

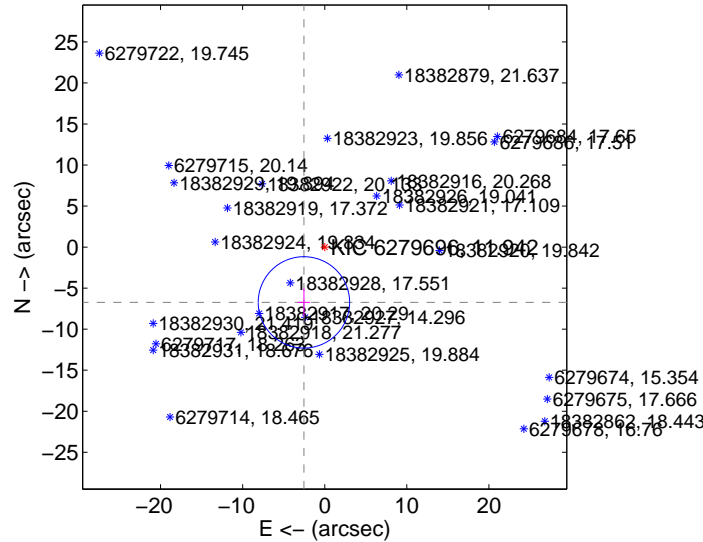
The direct PRF centroid is offset from the target star catalog position by about 1.79 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$8.896 \pm 4.466$	1.99	$3.419 \pm 1.947$	$-8.213 \pm 4.027$
PRF-fit source offset from KIC position	<b><math>7.198 \pm 1.856</math></b>	<b>3.88</b>	$2.536 \pm 0.751$	$-6.736 \pm 1.701$
photometric centroid source offset	$8.01 \pm 5.52$	1.45	$0.81 \pm 1.59$	$-7.97 \pm 5.55$

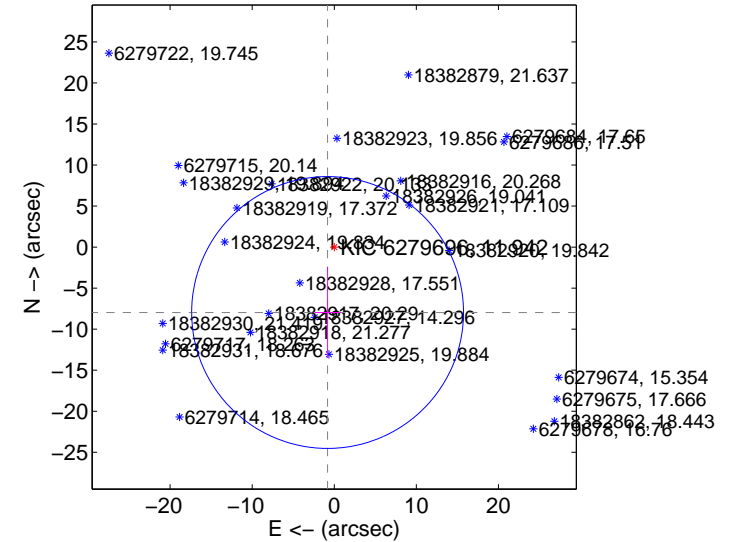
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

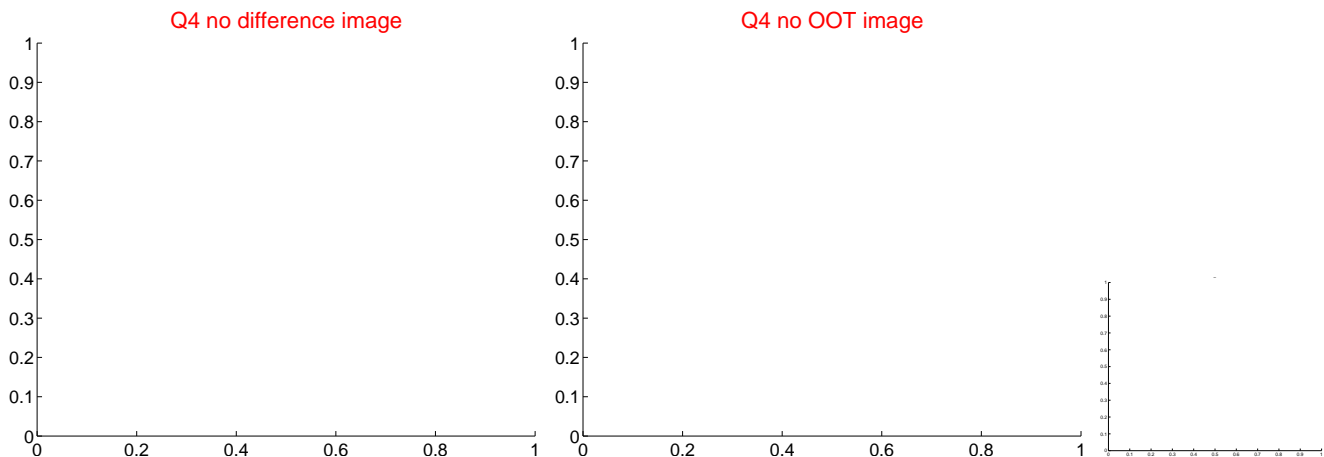
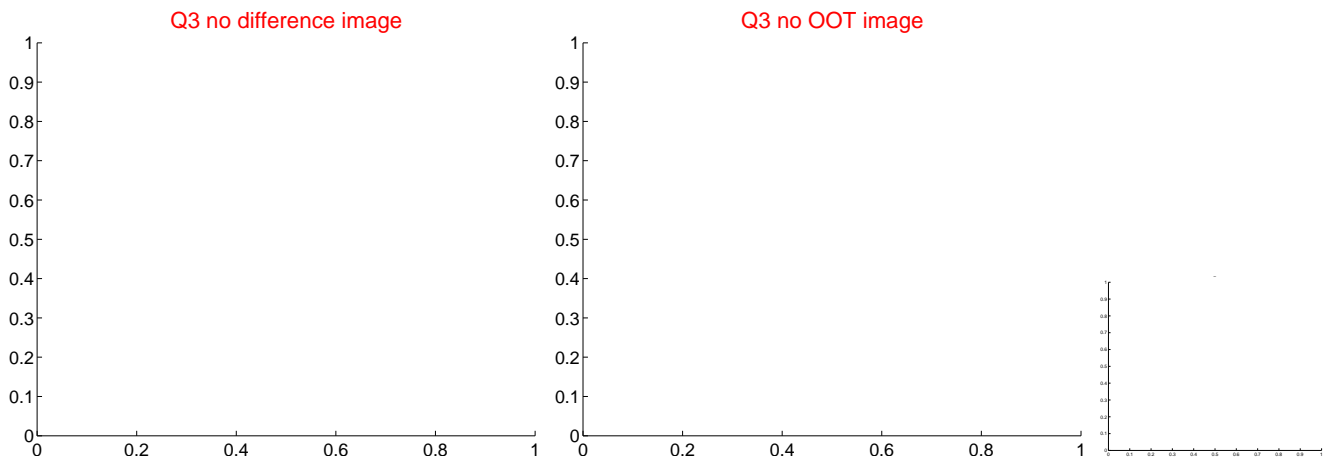
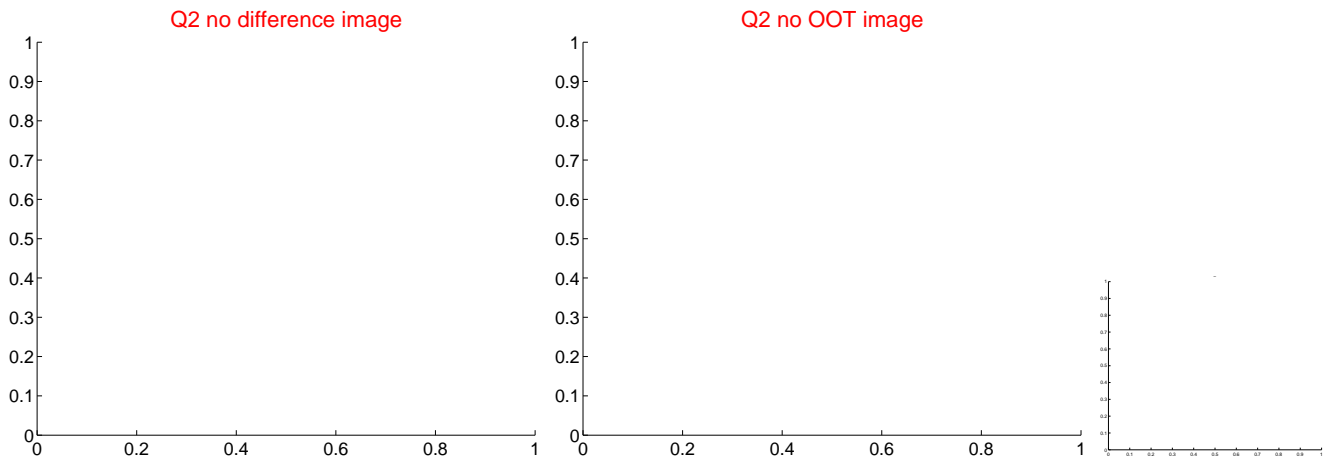
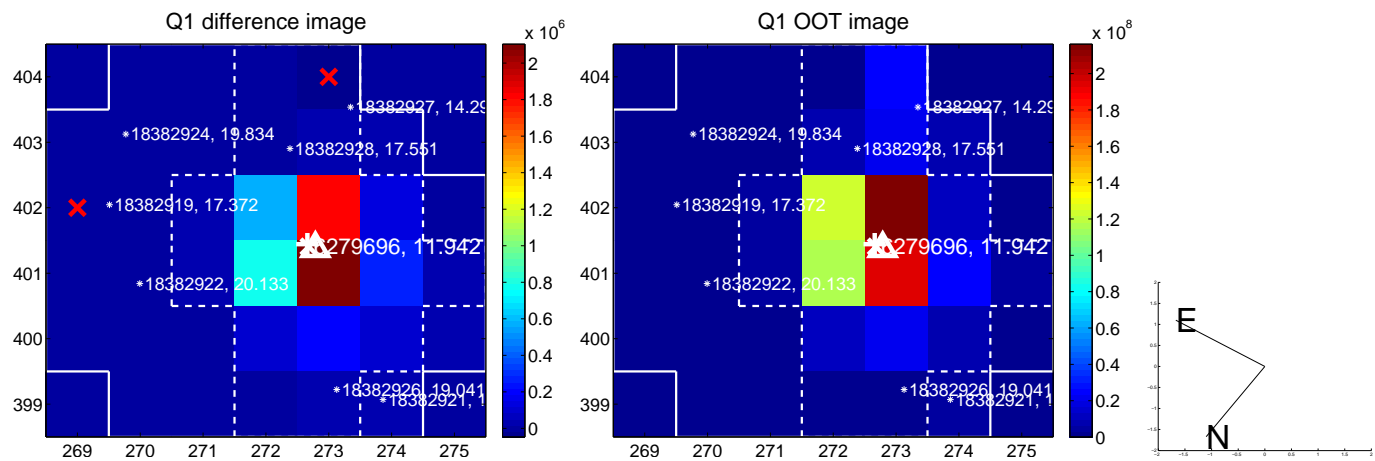


offset from photometric centroids



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.



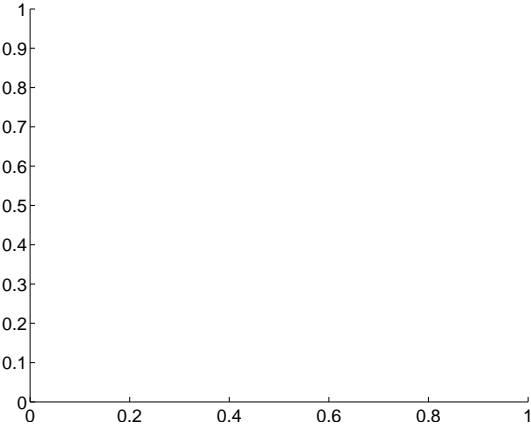
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



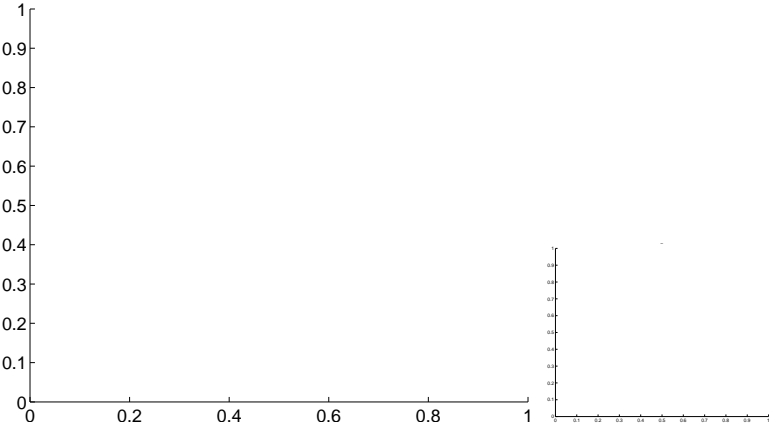


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

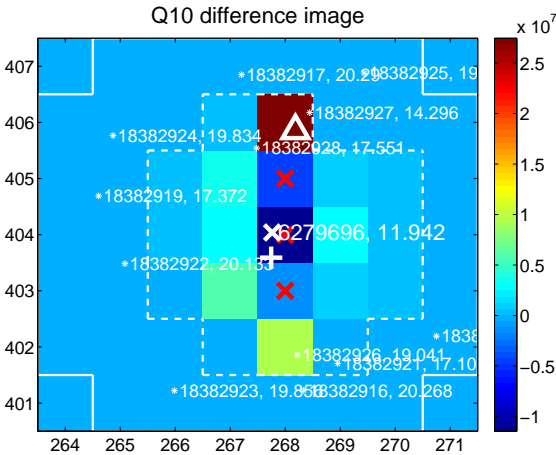
Q9 no difference image



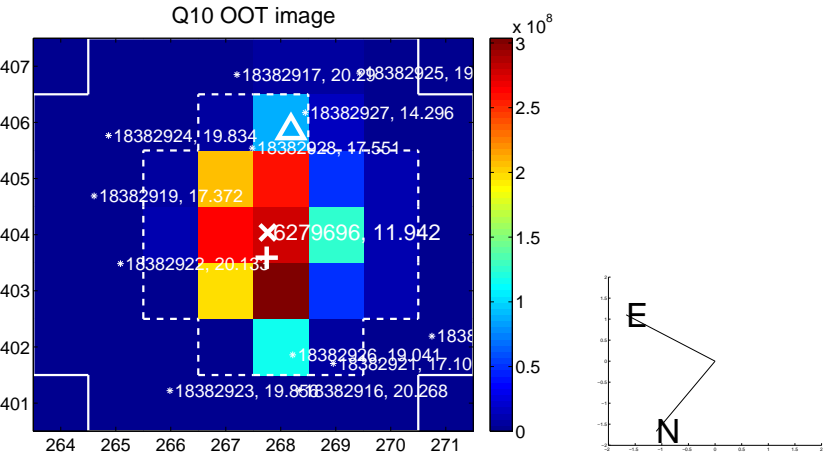
Q9 no OOT image



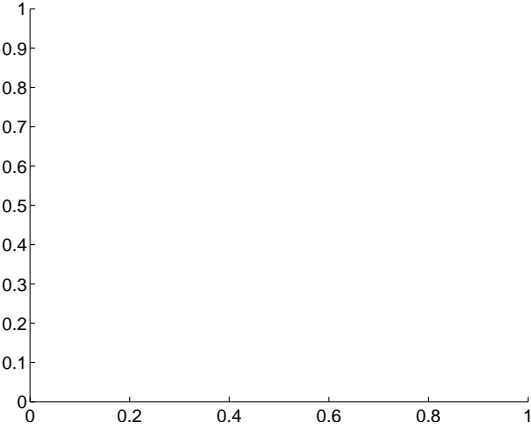
Q10 difference image



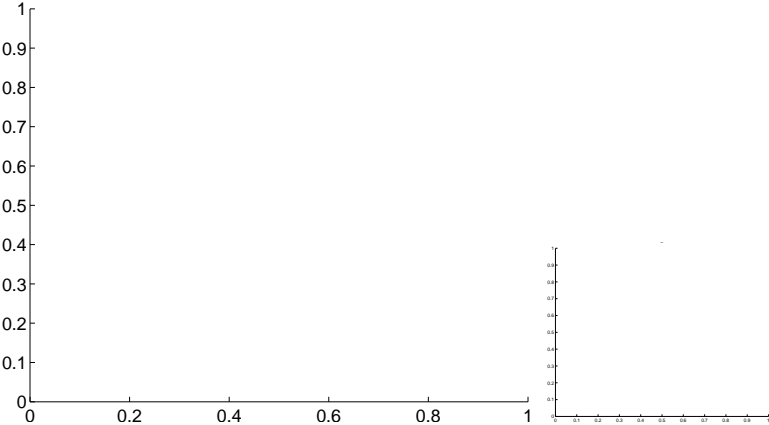
Q10 OOT image



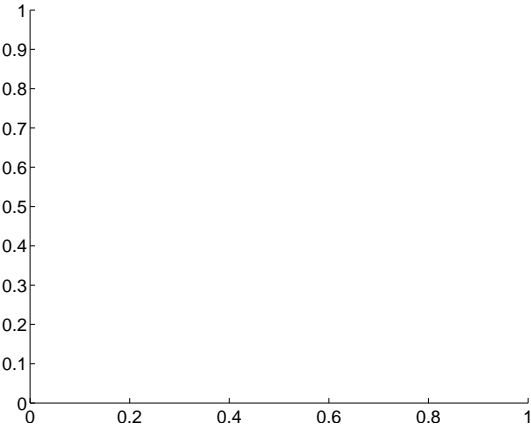
Q11 no difference image



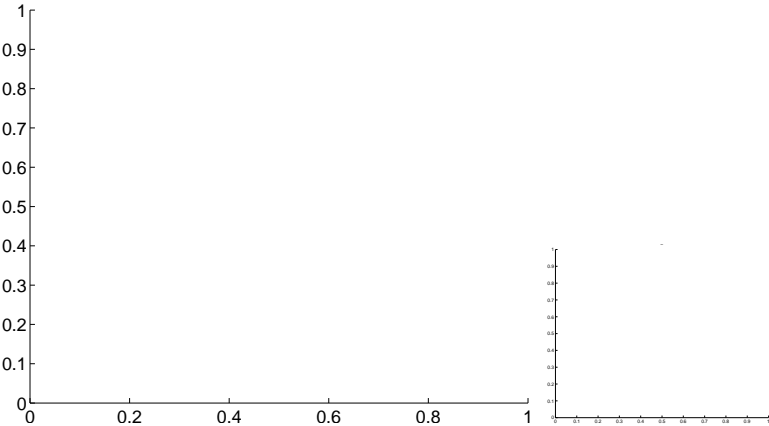
Q11 no OOT image



Q12 no difference image



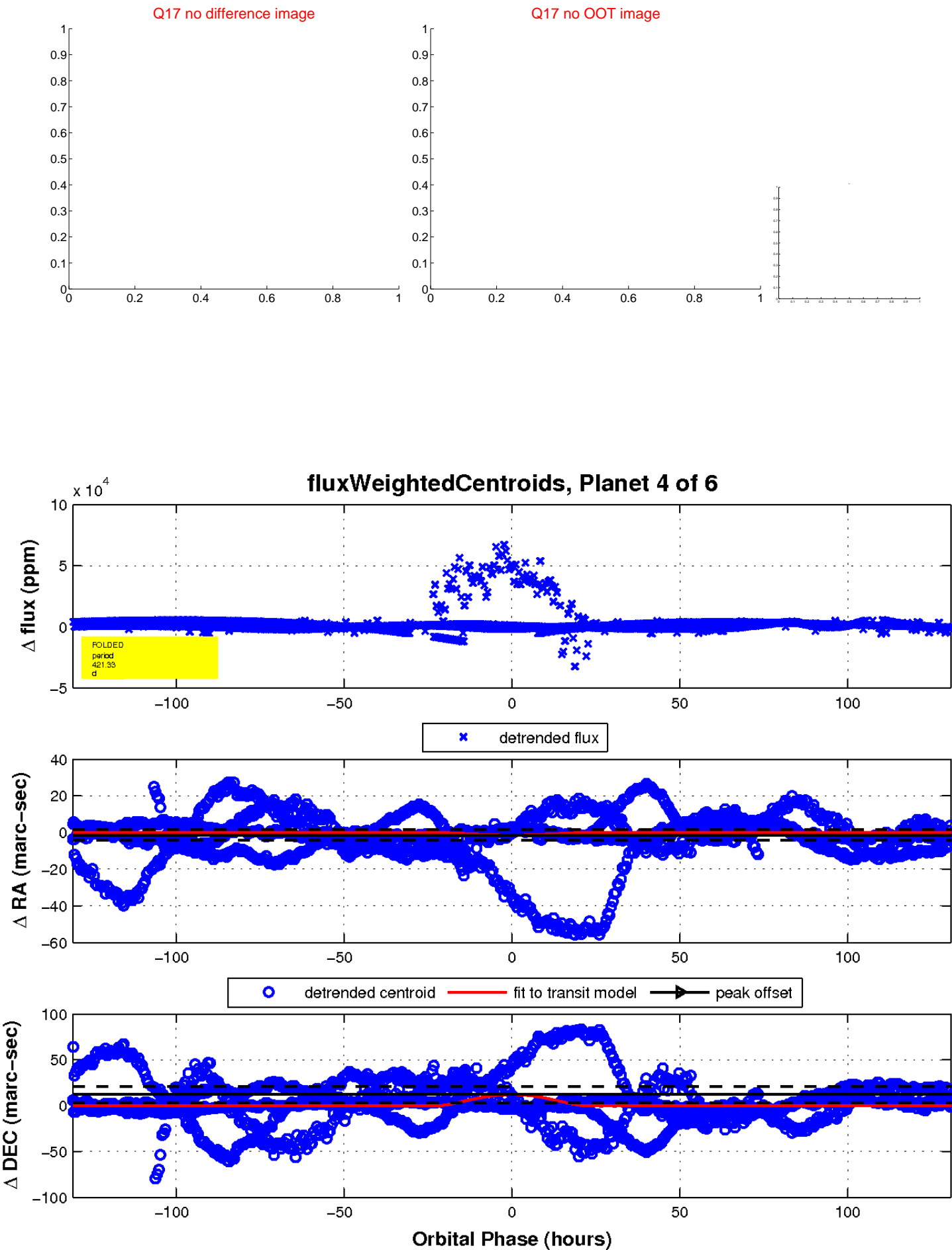
Q12 no OOT image



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

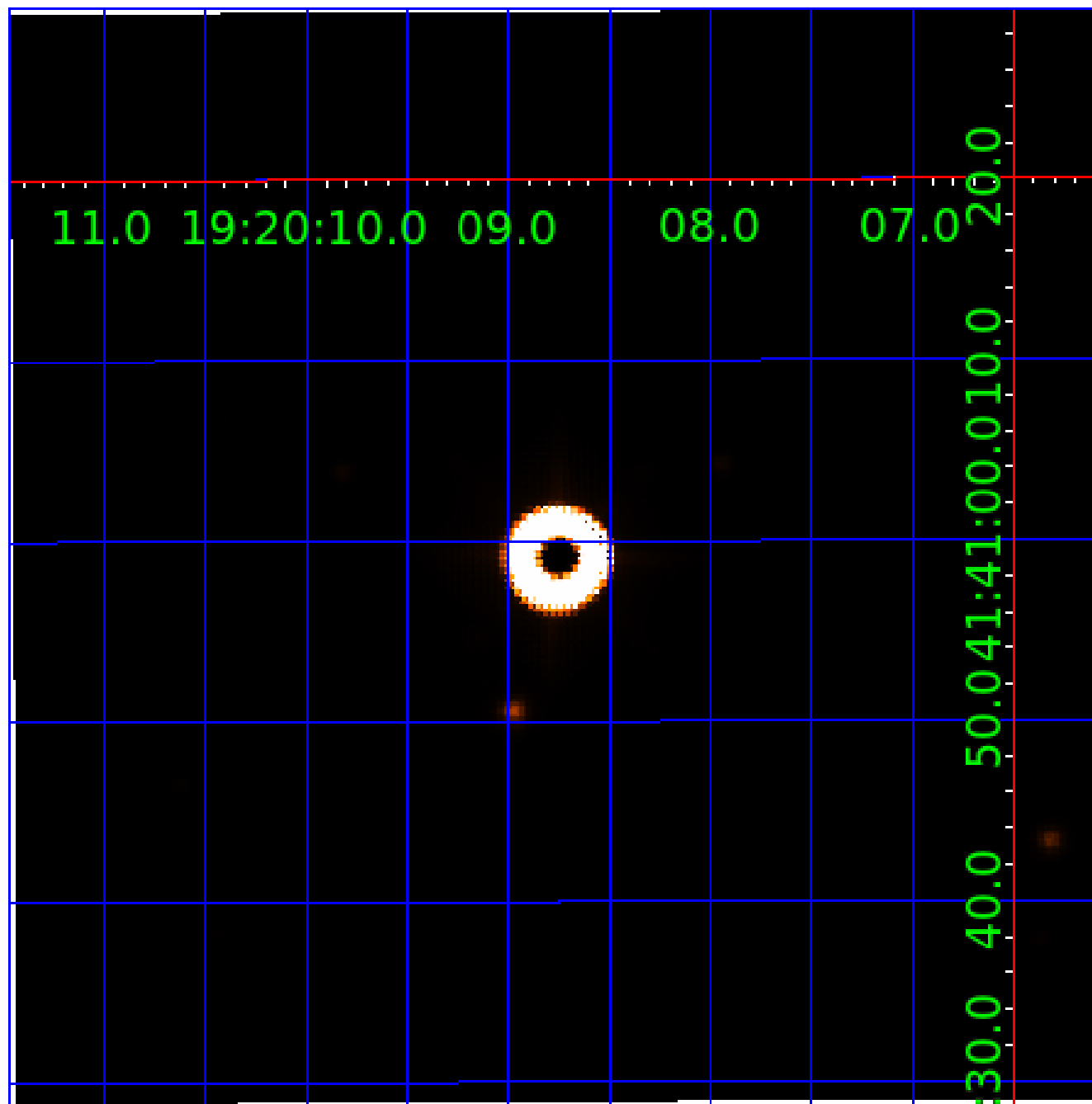


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 006279696

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006279696-01	OBS	No	473.704410	157.597839	194.3	12.500	28.2	-1.0	155.19	3266	198.46	1635.01
006279696-02	OBS	No	425.828888	160.613257	3.1	58.076	57.0	0.1	155.19	3266	25.46	1884.59
006279696-03	OBS	No	346.788292	393.819916	329.3	13.551	28.2	9.4	155.19	3266	265.38	2478.05
006279696-04	OBS	No	421.331698	145.748799	1608.6	43.593	17.5	25.0	155.19	3266	1346.59	1911.45
006279696-05	OBS	No	199.937579	196.791751	260.6	12.751	48.9	8.8	155.19	3266	229.26	0.00
006279696-06	OBS	No	465.837759	165.221745	7794.4	1.123	25.6	18.9	155.19	3266	1555.15	1671.92

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006279696-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
006279696-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006279696-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006279696-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006279696-05	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006279696-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—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.

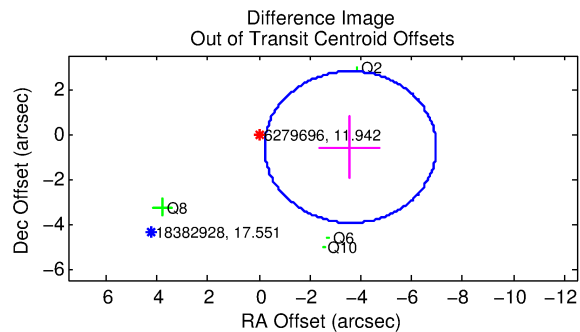
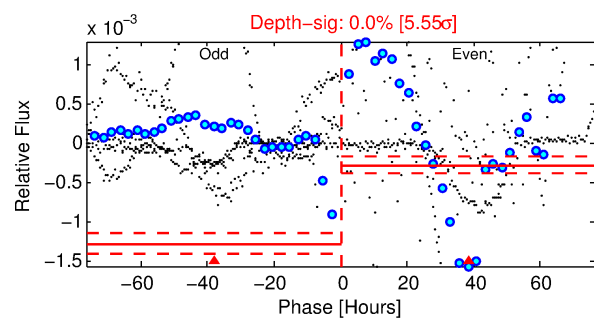
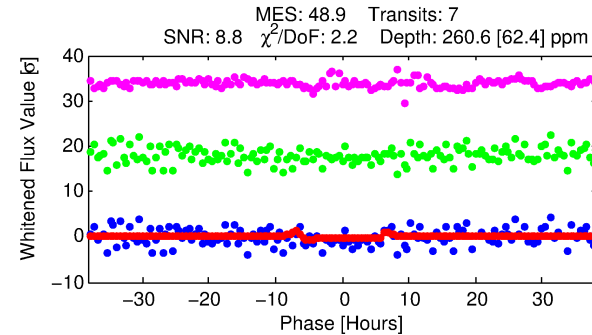
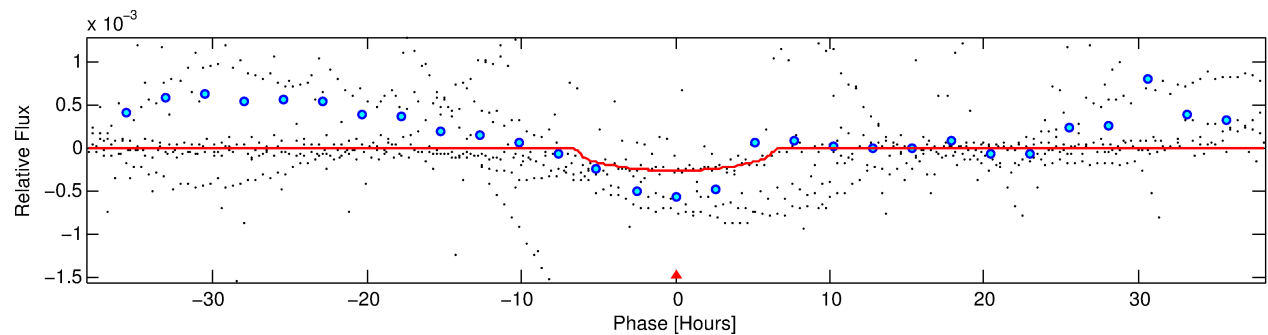
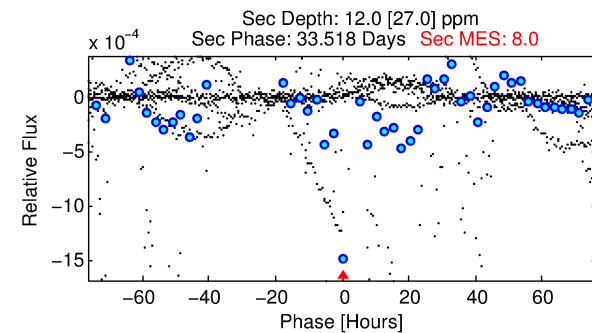
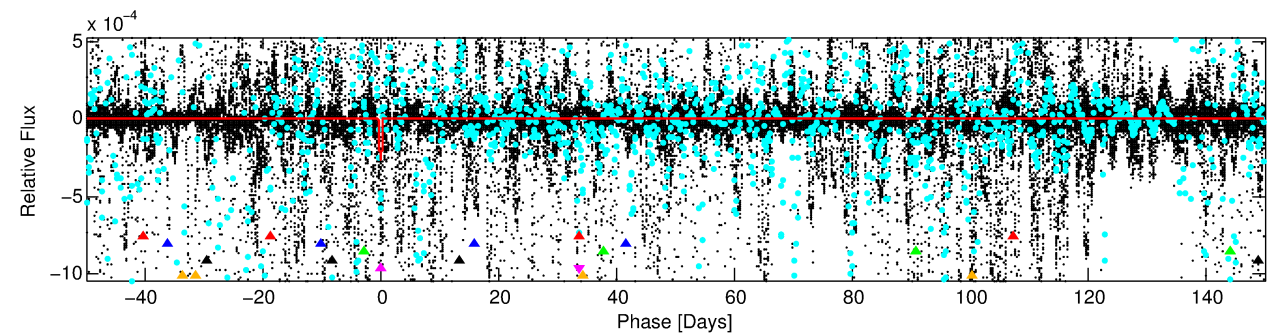
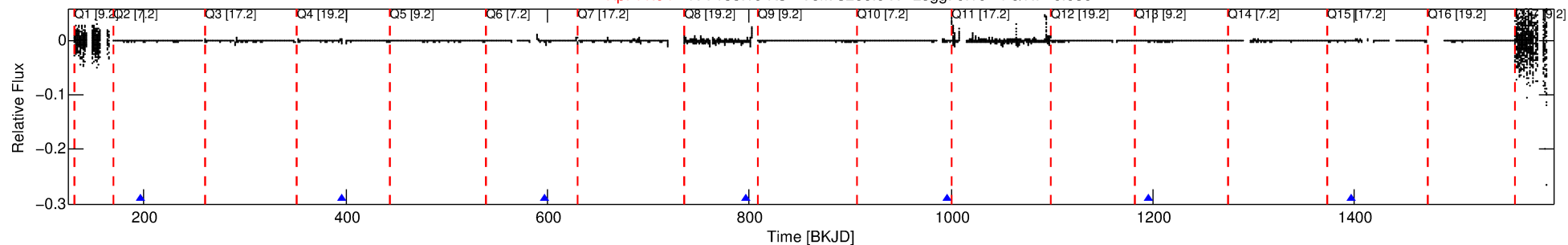
Ephemeris Match Information For 006279696-05

No Significant Match Found

# DV One-Page Summary

KIC: 6279696 Candidate: 5 of 6 Period: 199.938 d

Kp: 11.94 R\*: 155.19 Rs Teff: 3266.0 K Logg: 0.10 Fe/H: -0.080



## DV Fit Results:

Period = 199.93758 [0.00265] d  
Epoch = 196.7918 [0.0097] BKJD  
Rp/R\* = 0.0135 [0.0045]  
a/R\* = 121.41 [89.70]  
b = 0.00 [377.36]  
Seff = N/A  
Teq = N/A  
Rp = 229.26 [86.79] Re  
a = N/A  
Ag = N/A  
Teffp = N/A

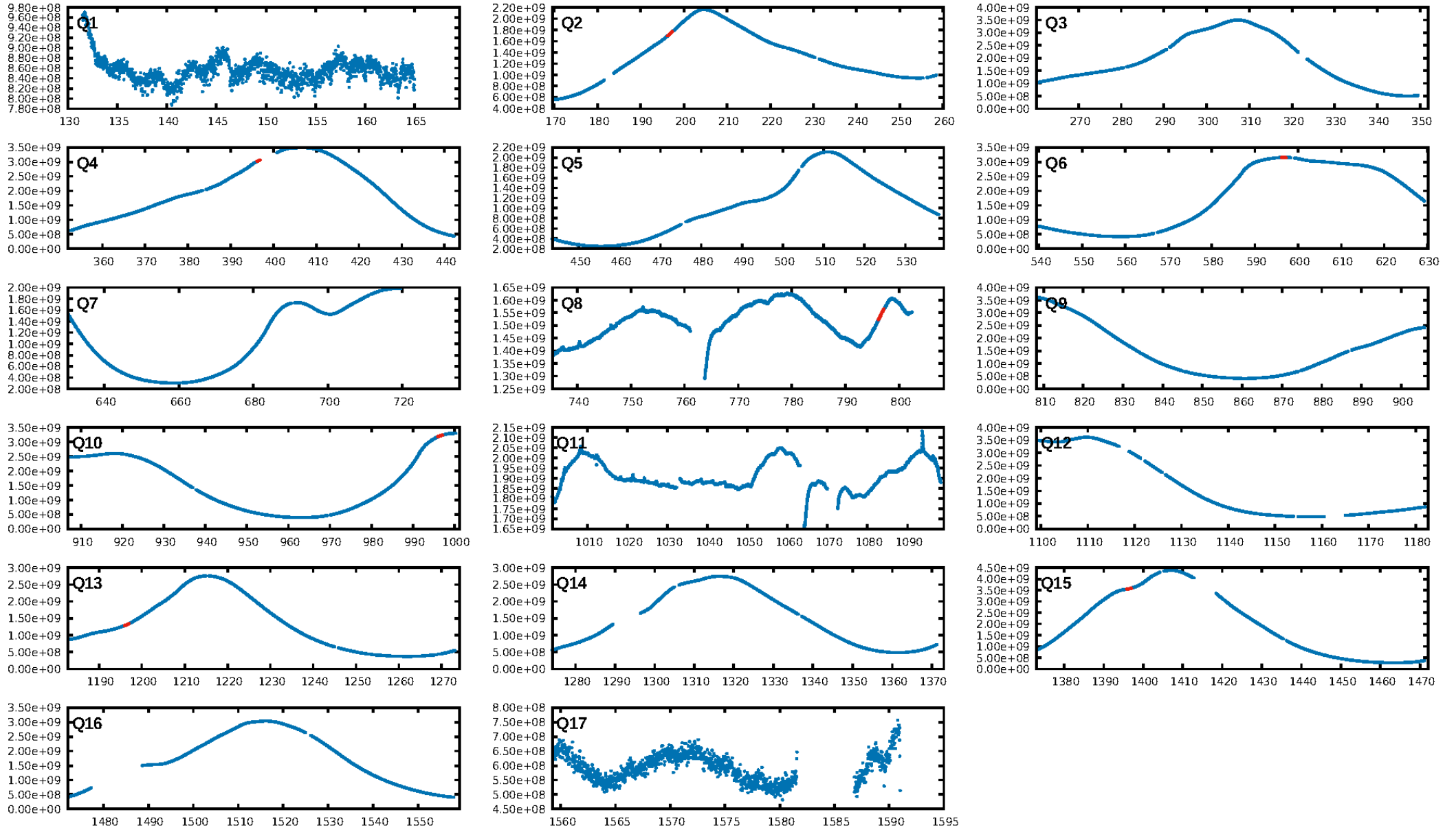
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [189.41σ]  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 0.3%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [7/7]  
GhostDiagnostic-chr: 9.22  
Centroid-sig: 18.2%  
Centroid-so: 18.466 arcsec [1.05σ]  
OotOffset-rm: 3.645 arcsec [3.24σ]  
KicOffset-rm: 4.639 arcsec [4.00σ]  
OotOffset-st: 3/0/1/0 [4]  
KicOffset-st: 3/0/1/0 [4]  
DiffImageQuality-fgm: 0.00 [0/4]  
DiffImageOverlap-fno: 1.00 [4/4]

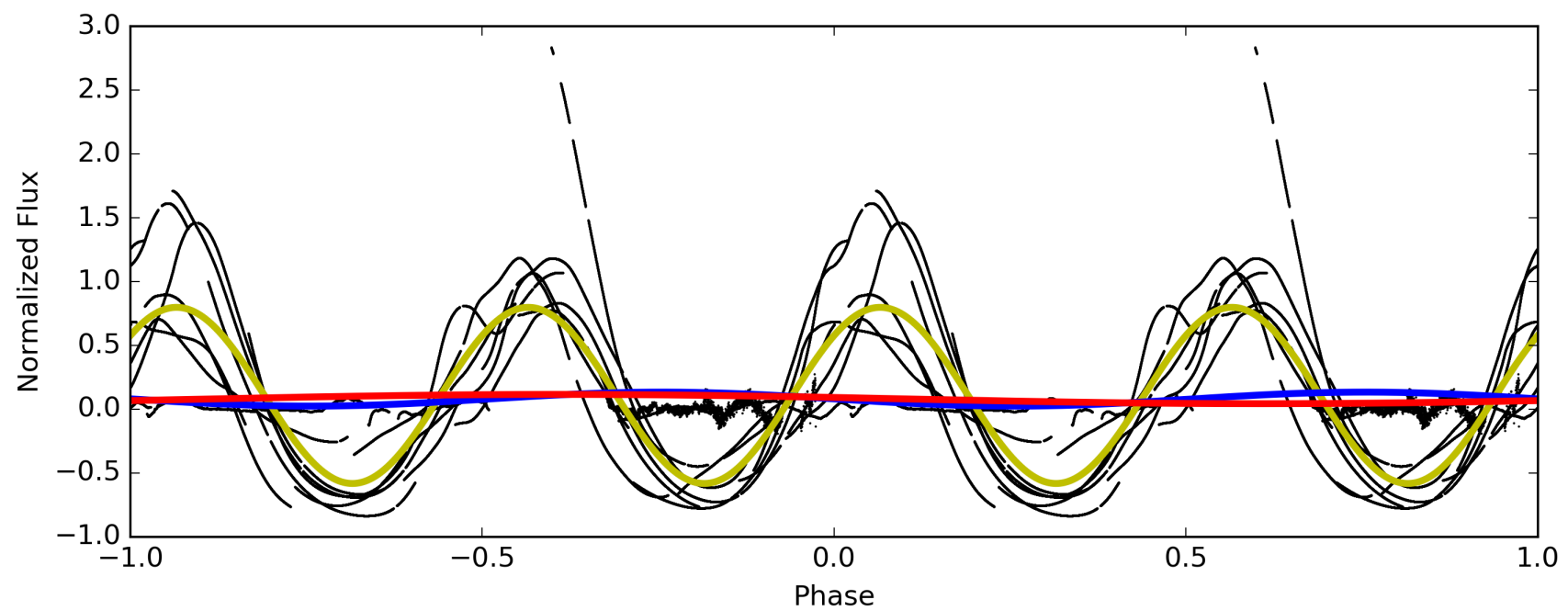
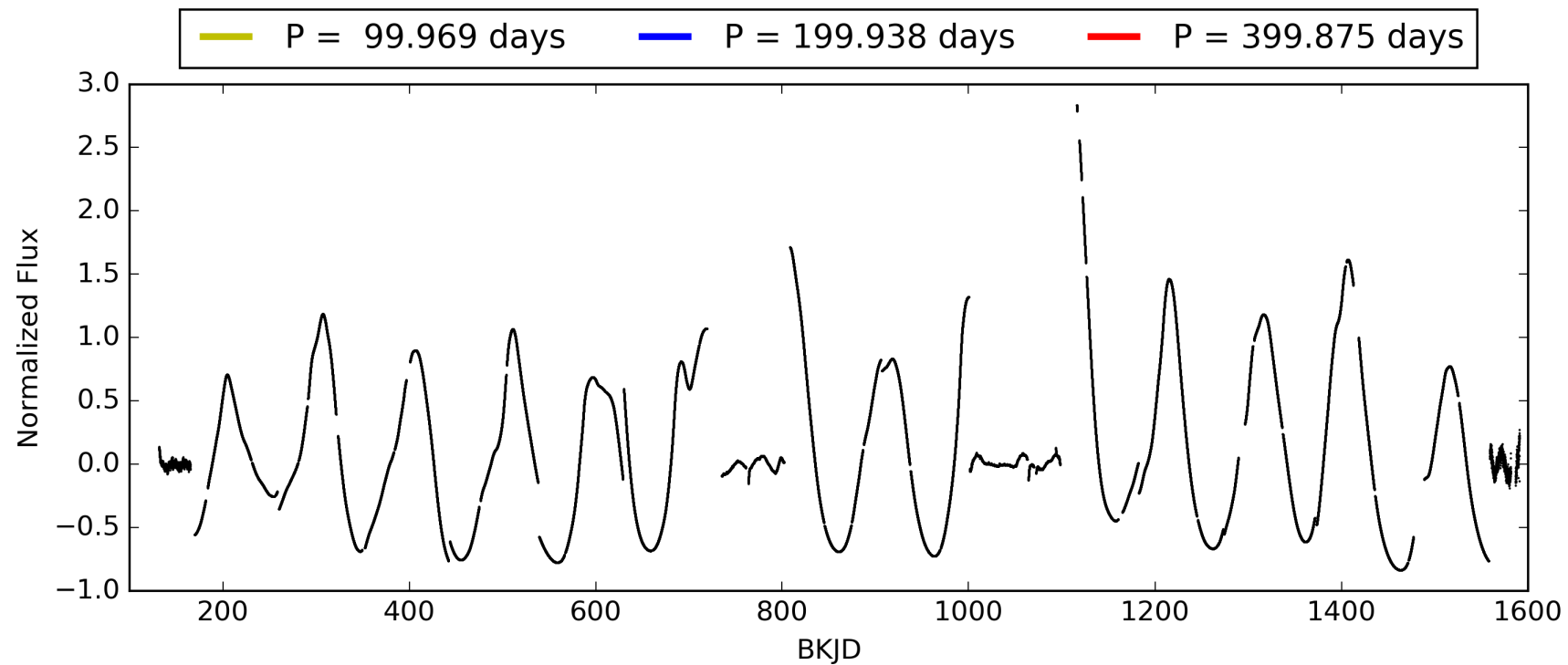
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:58:27 Z

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

# TCE 006279696-05, PDC Light Curves



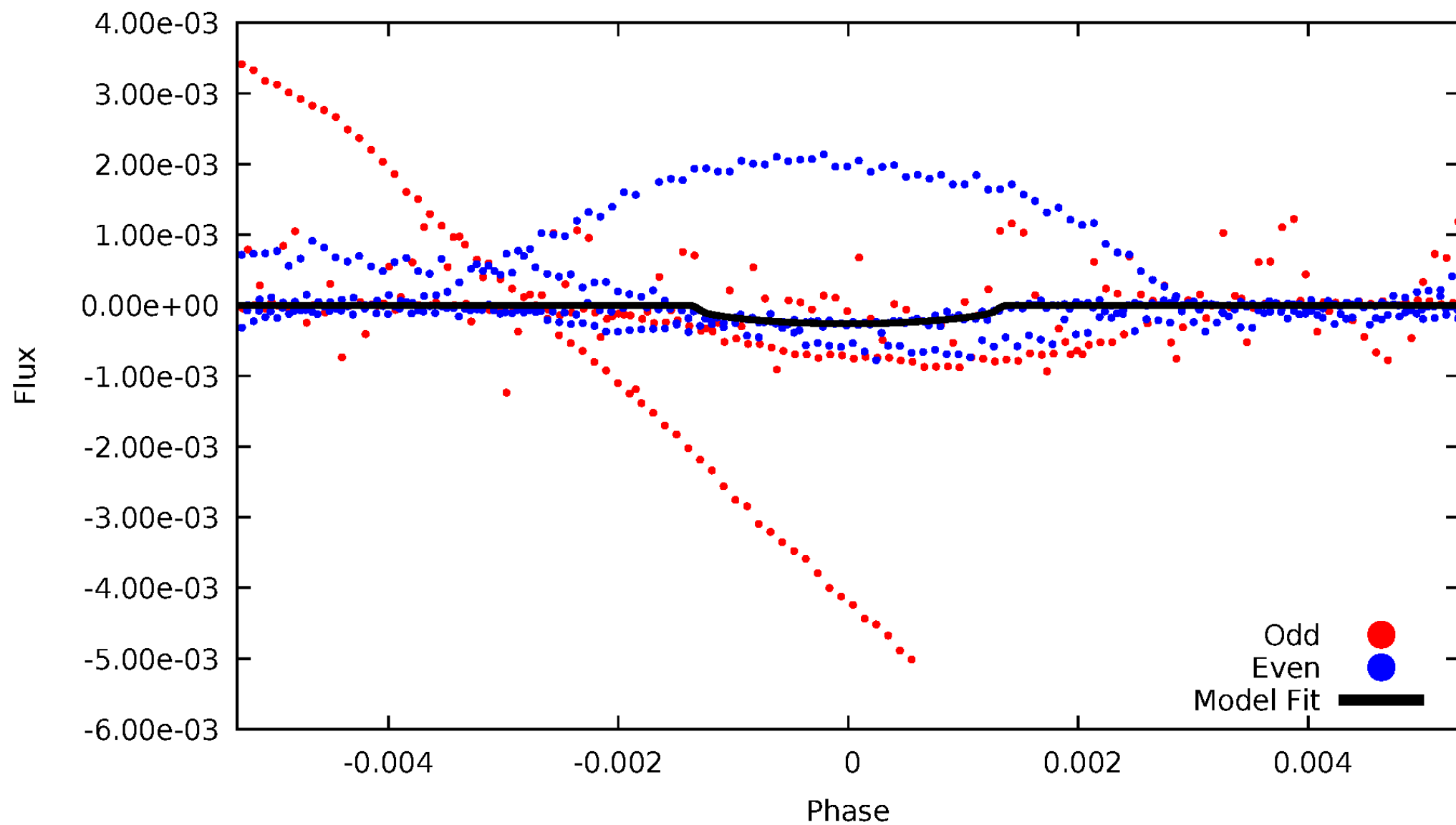
TCE 006279696-05





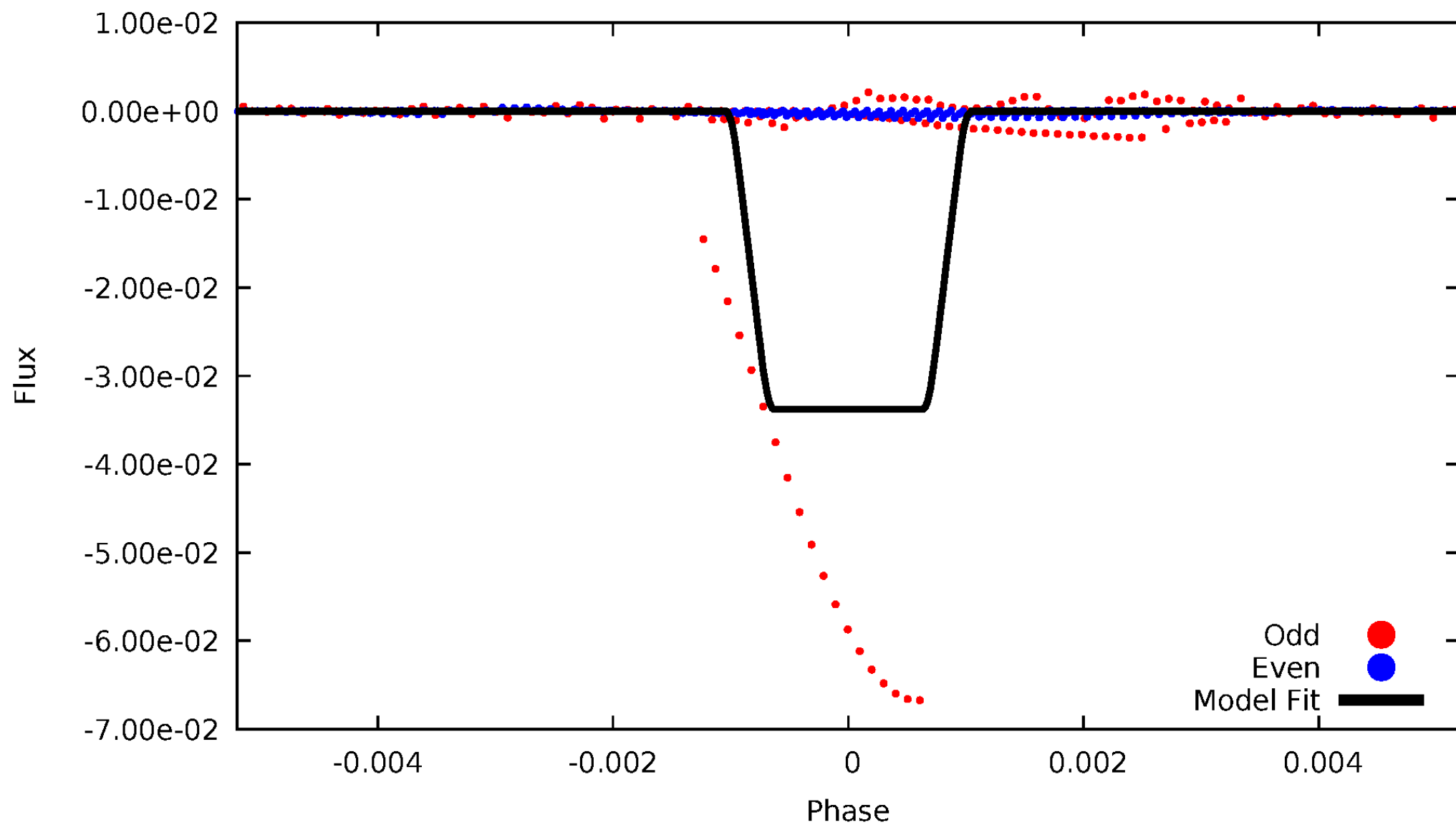
# DV Odd/Even

TCE 006279696-05



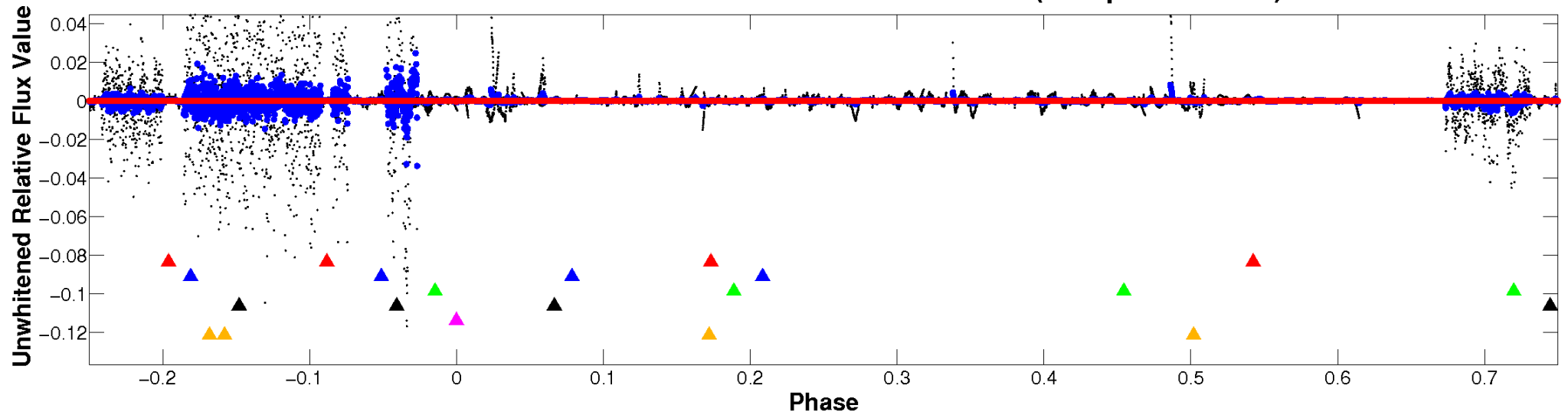
# ALT Odd/Even

TCE 006279696-05

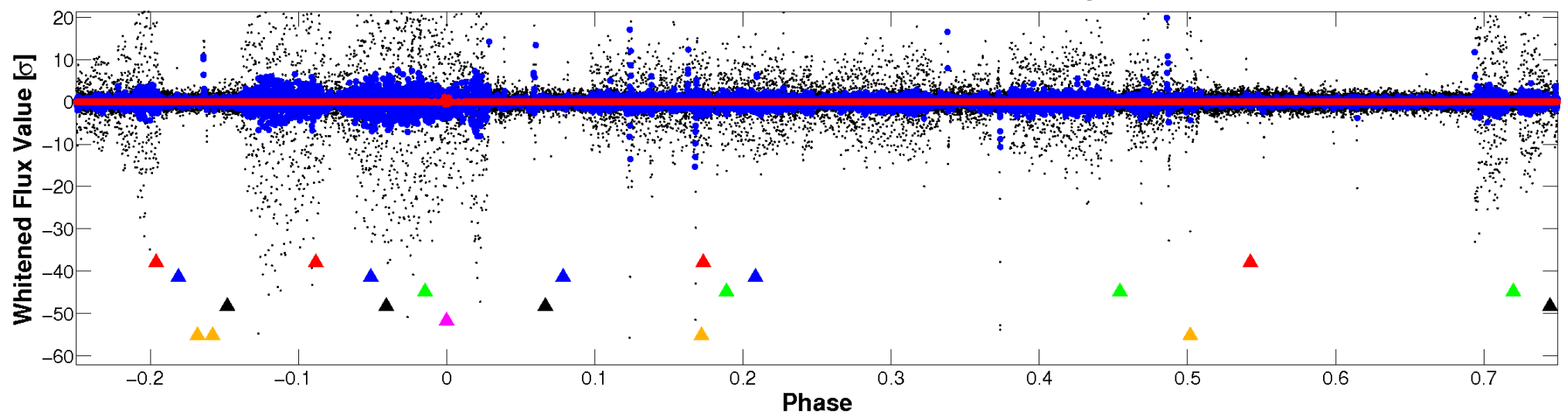


# Non-Whitened Vs. Whitened Light Curve

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

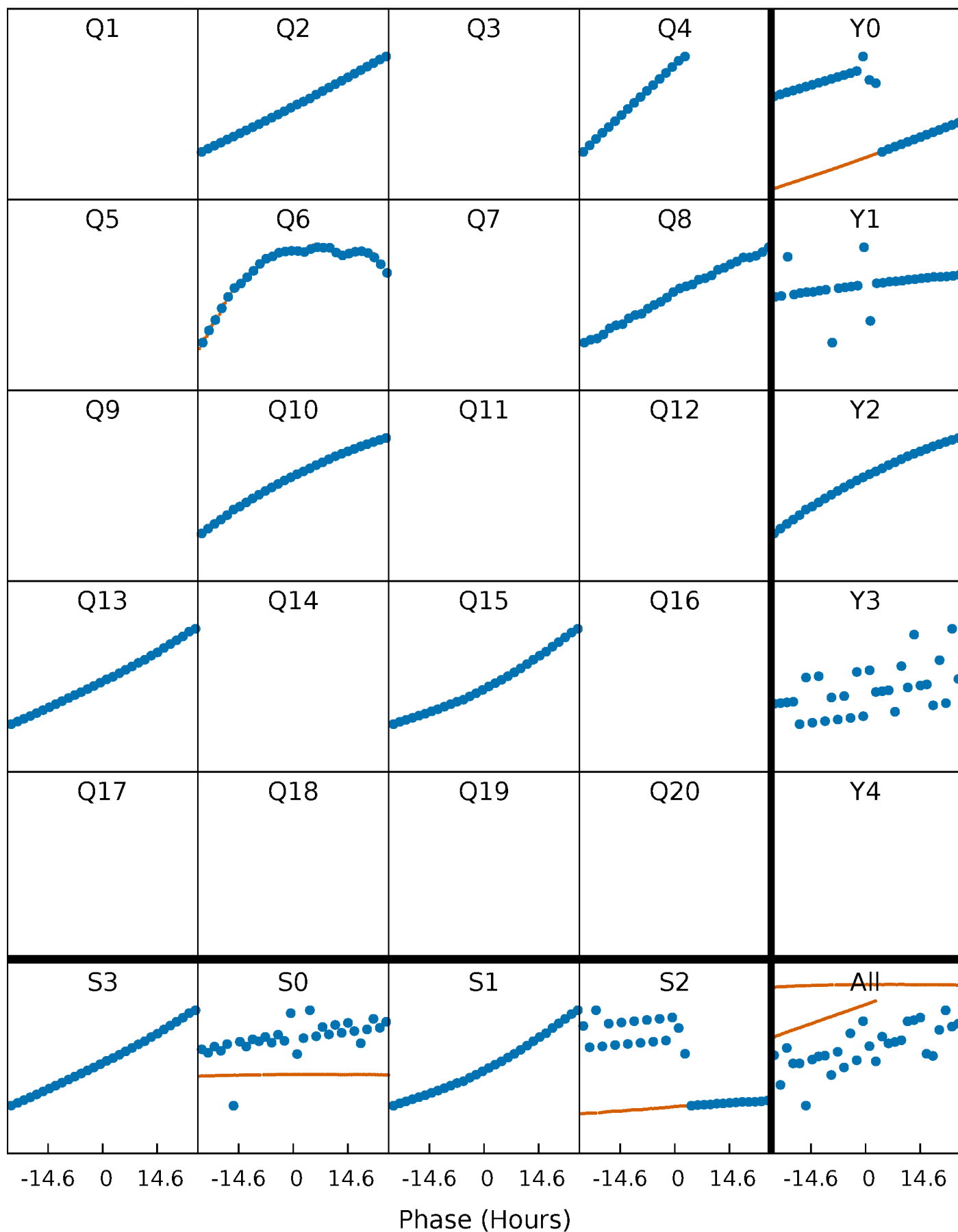


## Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



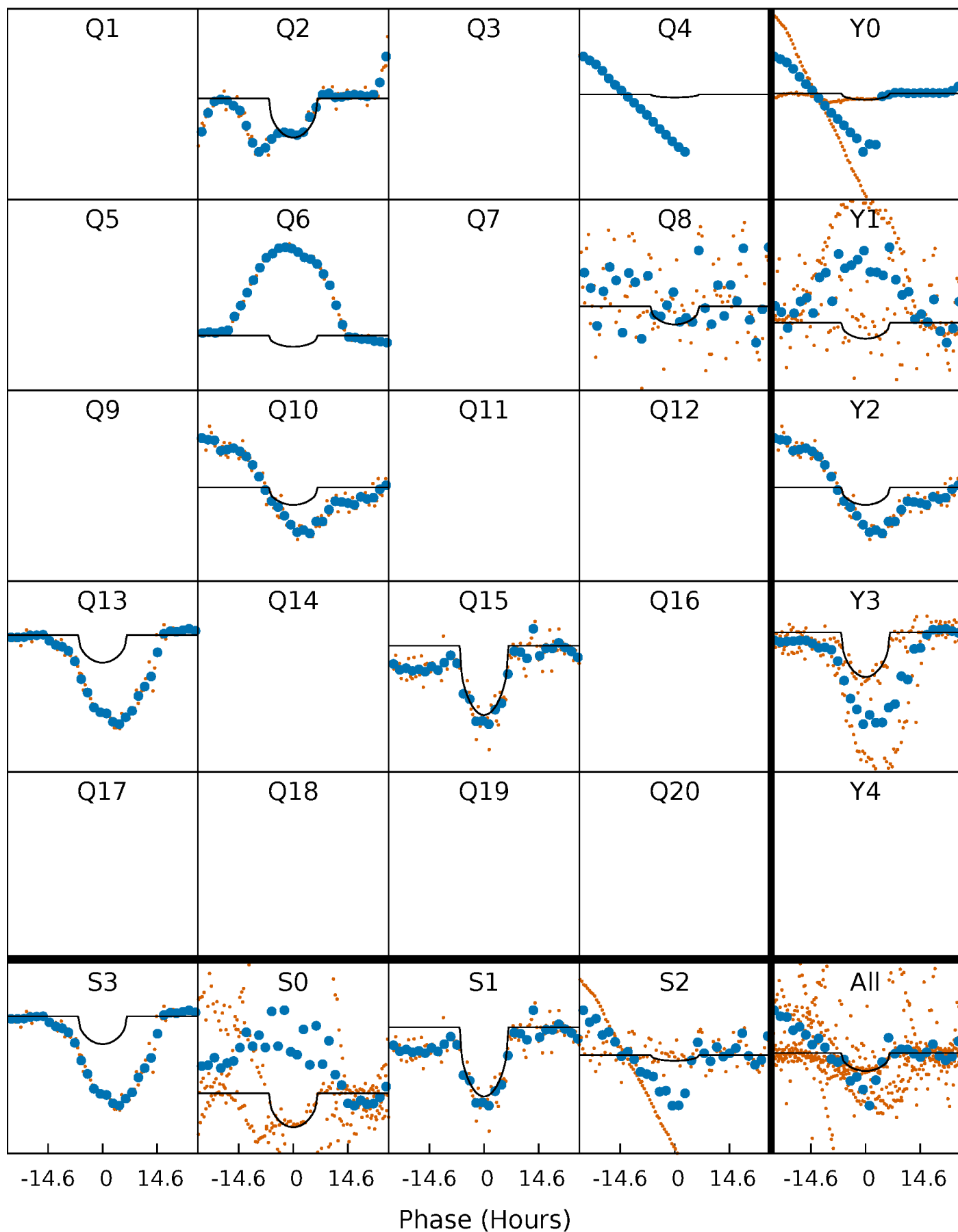
# PDC Quarter-Phased Transit Curves

TCE 006279696-05     $P=199.937579$  Days     $T_0=196.791751$  (BKJD)



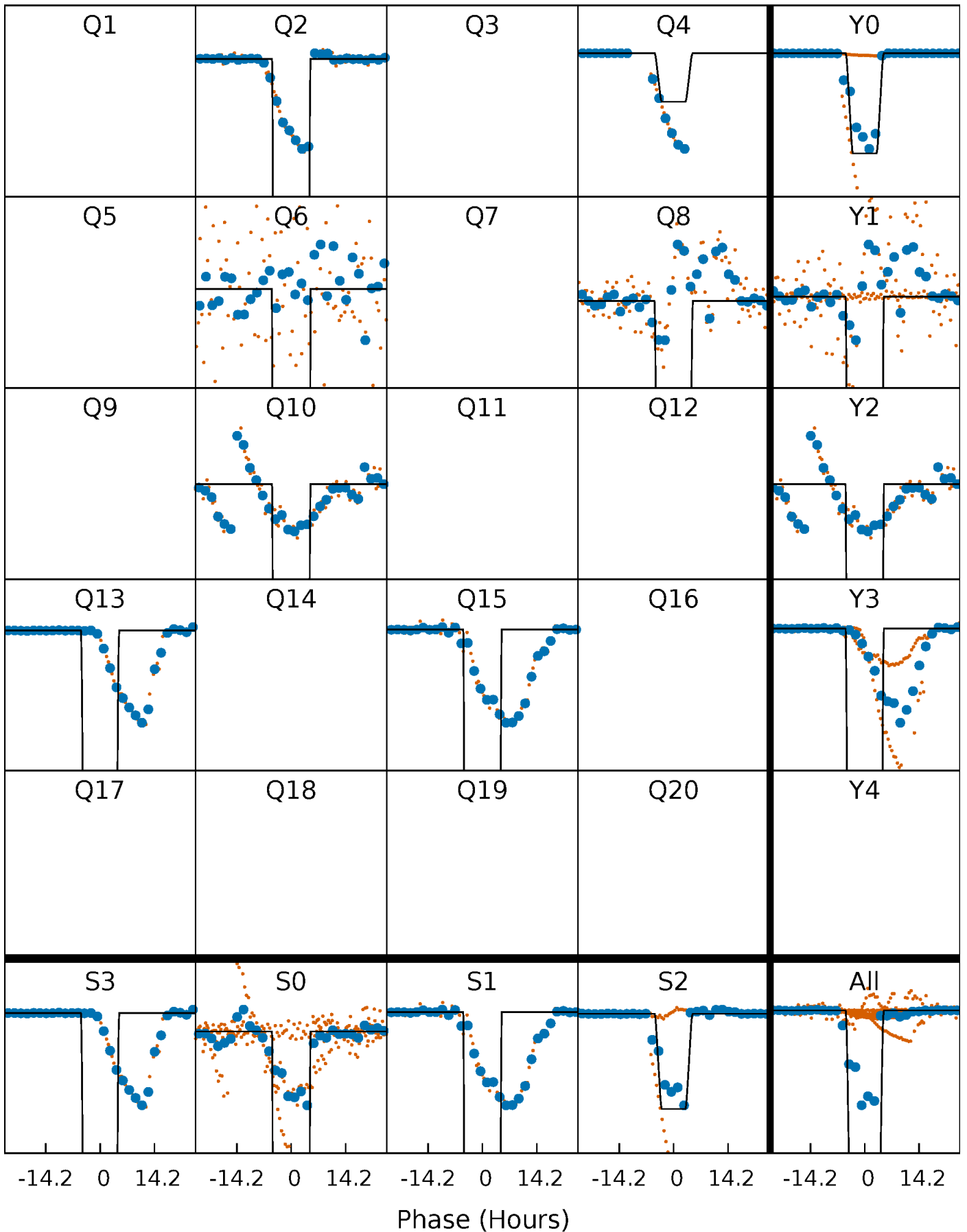
# DV Quarter-Phased Transit Curves

TCE 006279696-05 P=199.937579 Days  $T_0=196.791751$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

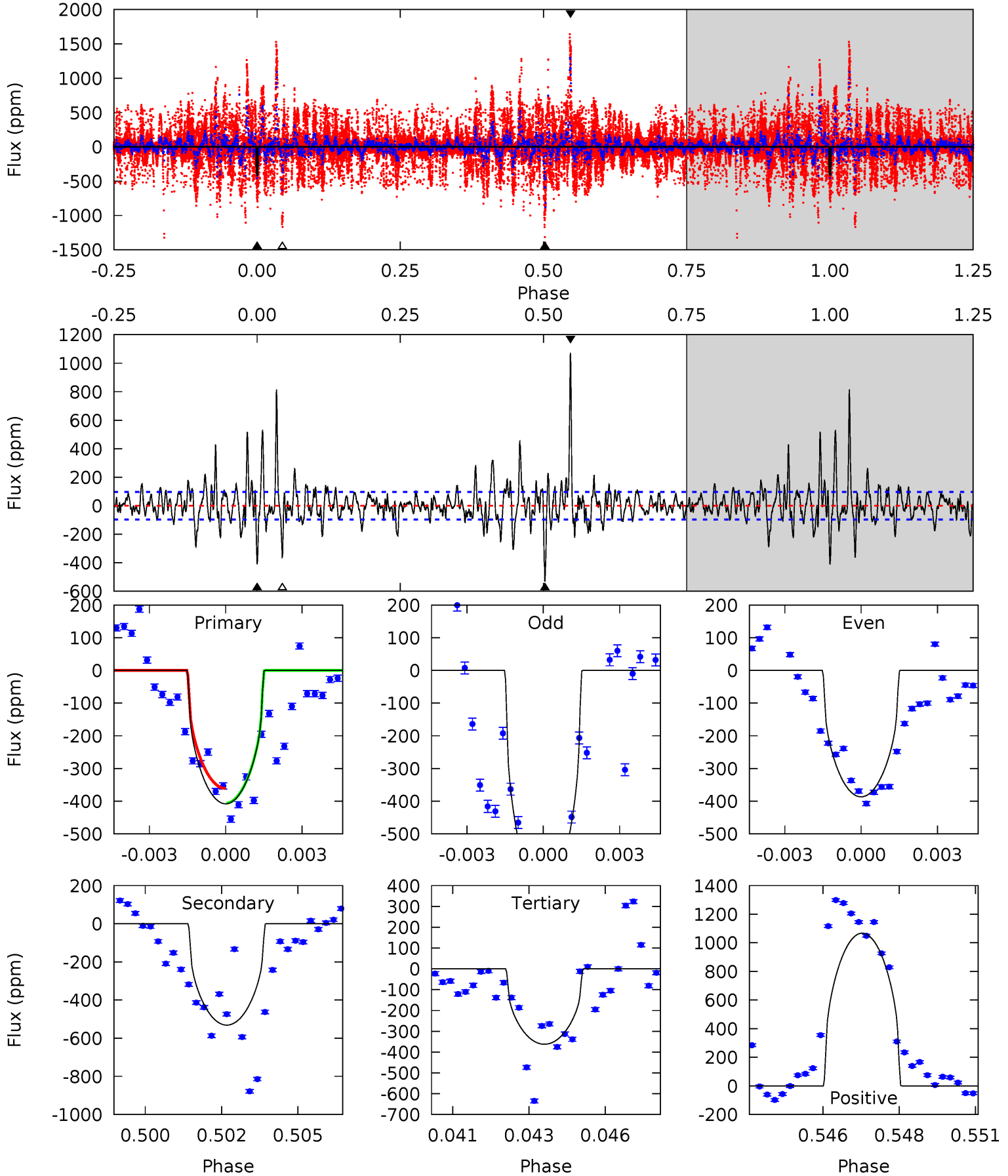
TCE 006279696-05     $P=199.935573$  Days     $T_0=196.782388$  (BKJD)



# DV Model-Shift Uniqueness Test

006279696-05, P = 199.937579 Days, E = 196.791751 Days

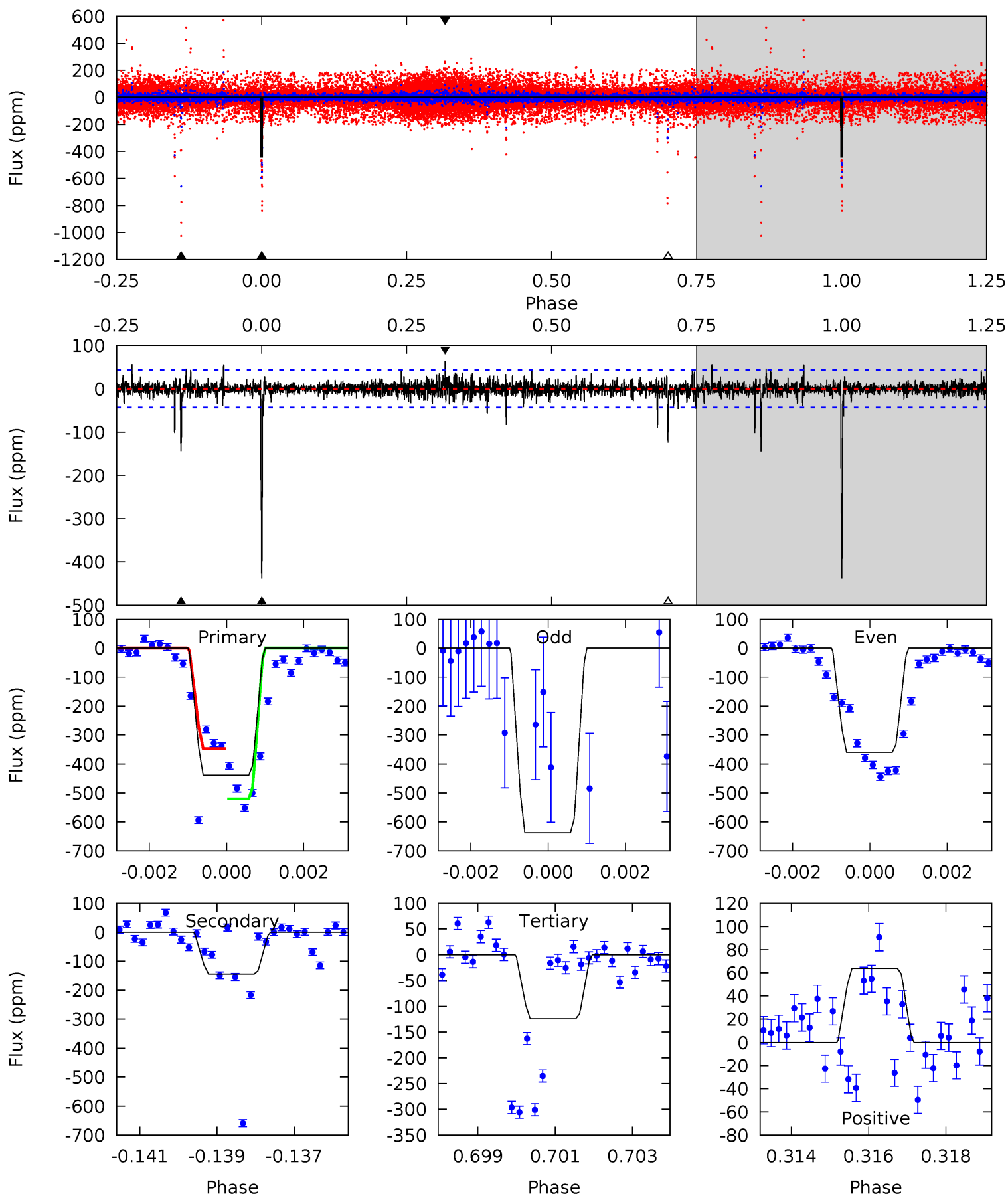
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.1	28.8	19.6	57.8	5.27	3.00	5.77	2.47	-35.7	9.15	-29.0	3.95	1.98	0.67	1.21



# Alt Model-Shift Uniqueness Test

006279696-05, P = 199.935573 Days, E = 196.782388 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
53.7	17.6	15.2	7.81	5.32	3.08	1.37	38.5	45.9	2.44	9.83	1.41	18.5	0.13	0





### Stellar Parameters For KIC 006279696

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$3266^{+117}_{-78}$	$0.095^{+0.208}_{-0.065}$	$-0.080^{+0.250}_{-0.100}$	$155.187^{+9.192}_{-27.576}$	$1.095^{+0.206}_{-0.120}$	$0.000^{+0.000}_{-0.000}$
	+4%/-2%	+219%/-68%	+312%/-125%	+6%/-18%	+19%/-11%	+86%/-14%
Source	KIC0	KIC0	KIC0	DSEP		

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

### Secondary Eclipse Parameters for KIC 006279696-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	-531±18	$218.37^{+75.27}_{-76.66}$	$2975^{+134}_{-146}$	$3849^{+690}_{-426}$	$2.999^{+4.053}_{-1.356}$
Alt.	-144±8	$3088.56^{+192.31}_{-361.80}$	$2976^{+142}_{-157}$	$-2762^{+88}_{-101}$	$0.004^{+0.001}_{-0.001}$

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

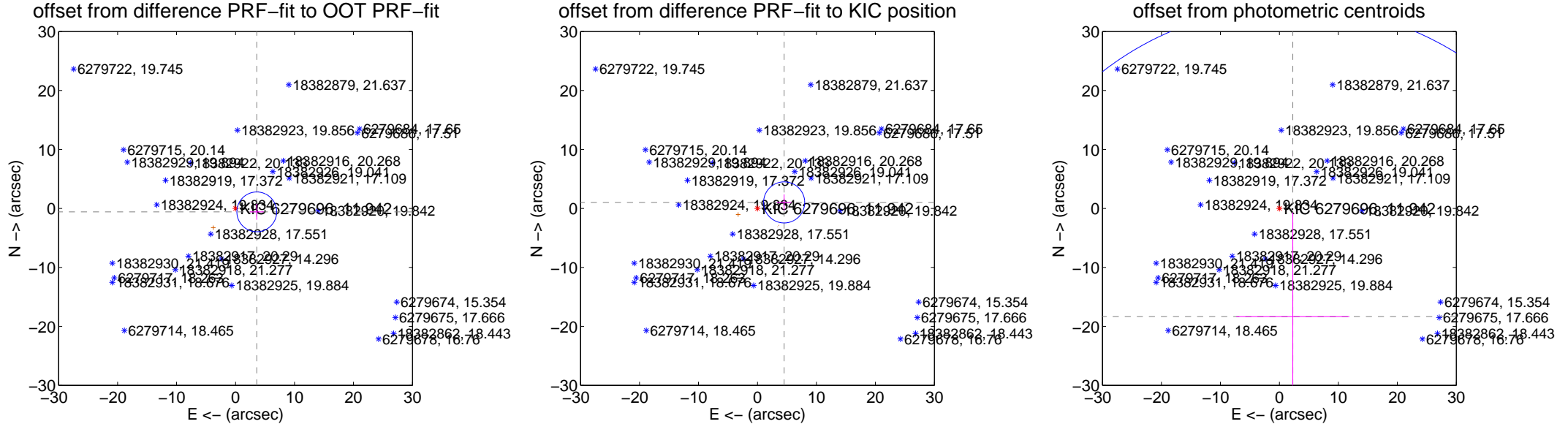
## DV Centroid Data

Supplemental centroid analysis for 006279696-05. **Kepler magnitude: 11.94.** Transit SNR 8.83

There are 0 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 2.13 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

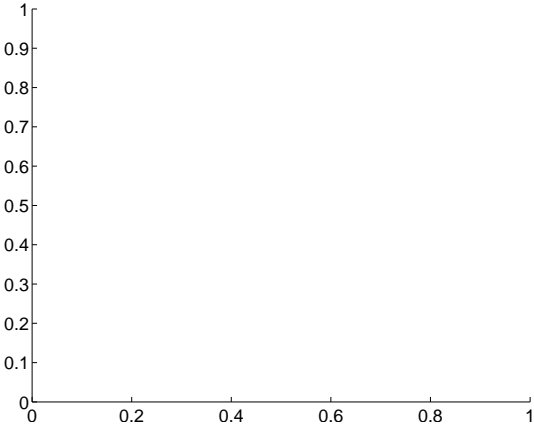
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>3.645 \pm 1.125</math></b>	<b>3.24</b>	$-3.598 \pm 1.173$	$-0.583 \pm 1.340$
PRF-fit source offset from KIC position	<b><math>4.639 \pm 1.161</math></b>	<b>4.00</b>	$-4.526 \pm 1.218$	$1.019 \pm 1.354$
photometric centroid source offset	$18.47 \pm 17.53$	1.05	$-2.28 \pm 9.59$	$-18.32 \pm 17.62$



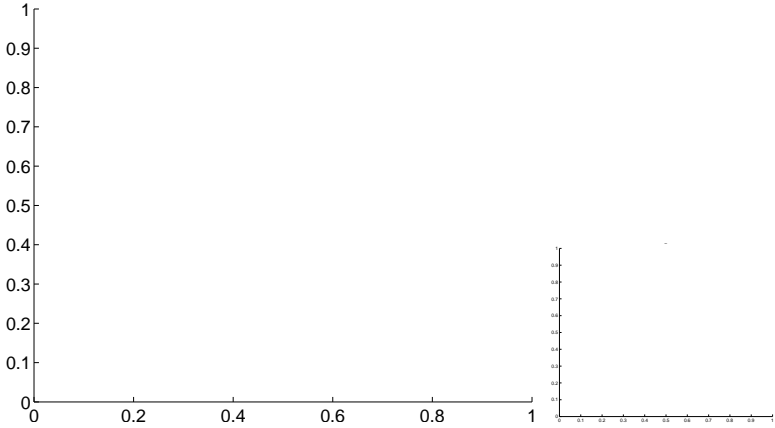
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

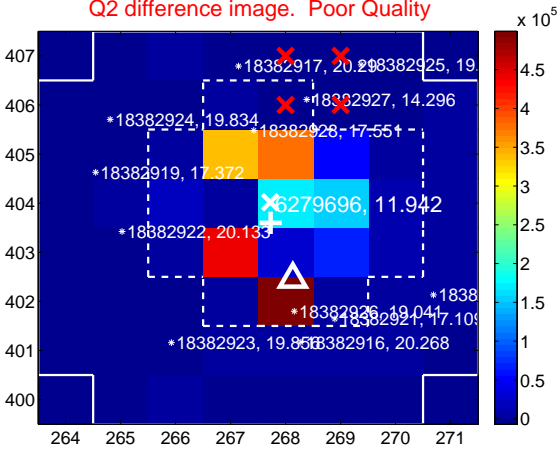
Q1 no difference image



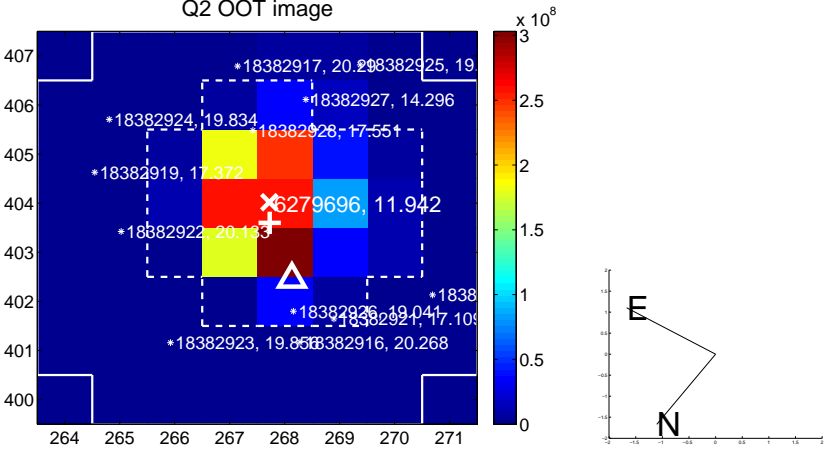
Q1 no OOT image



Q2 difference image. Poor Quality



Q2 OOT image



Q3 no difference image



Q3 no OOT image



Q4 no difference image



Q4 no OOT image



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

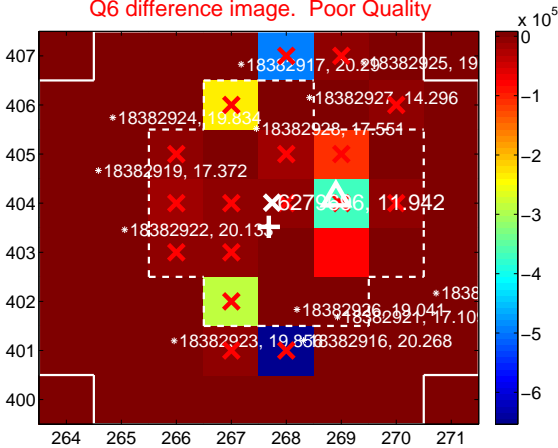
Q5 no difference image



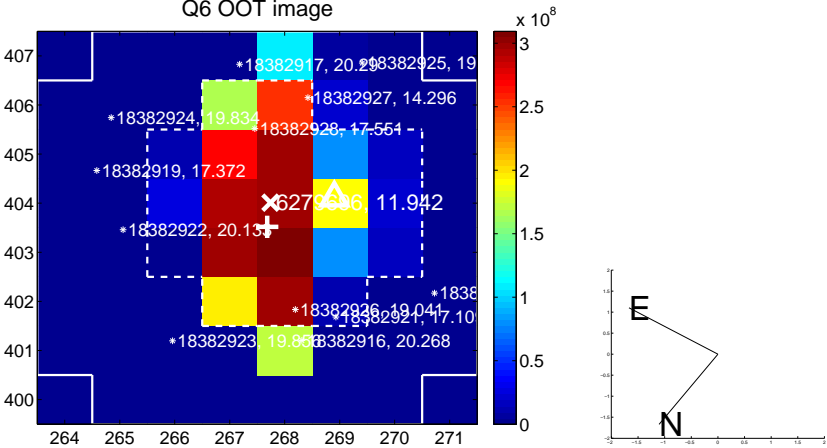
Q5 no OOT image



Q6 difference image. Poor Quality



Q6 OOT image



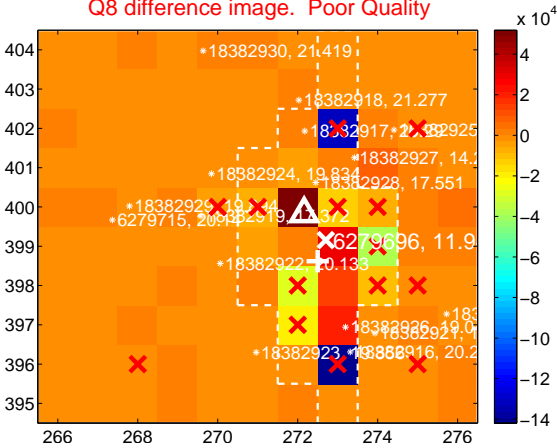
Q7 no difference image



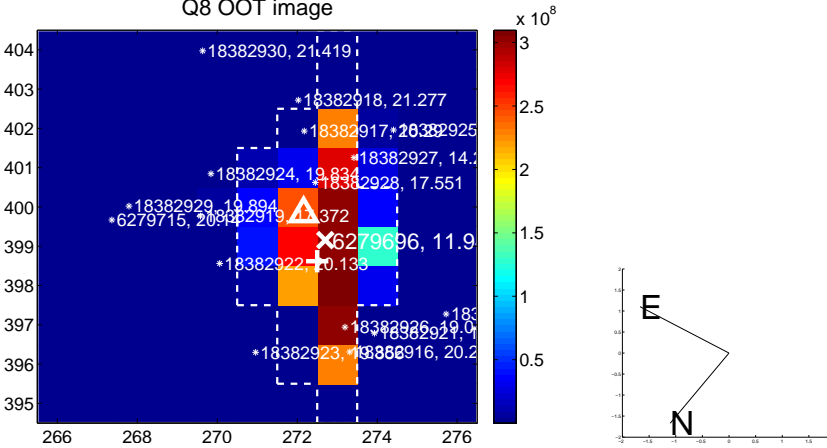
Q7 no OOT image



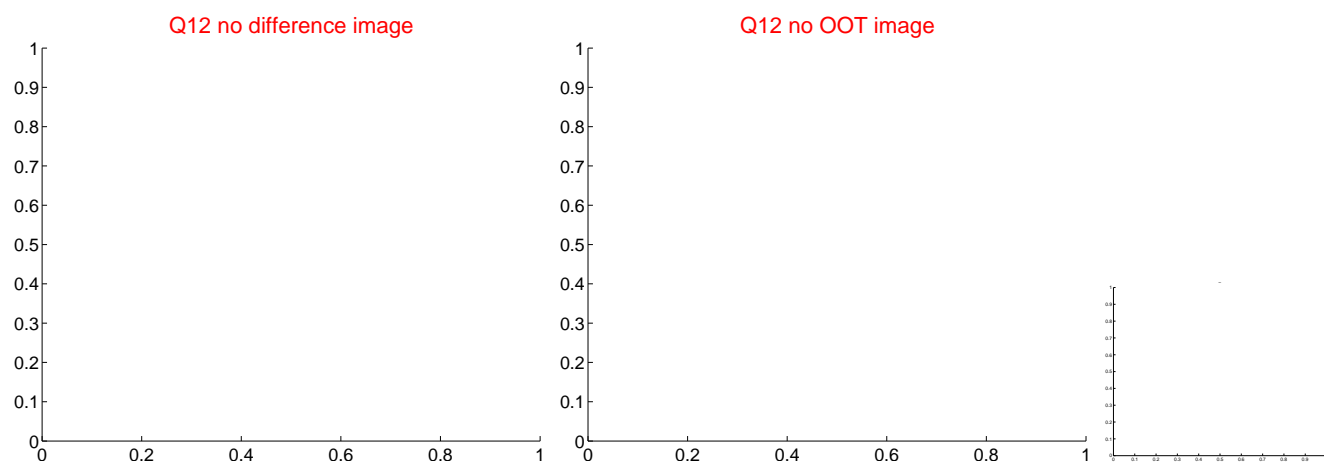
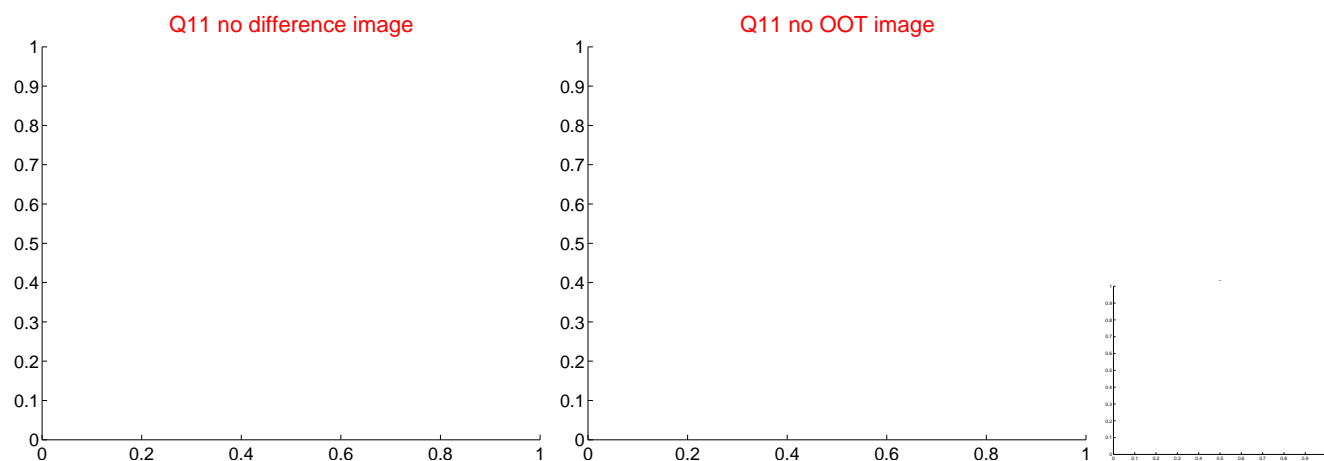
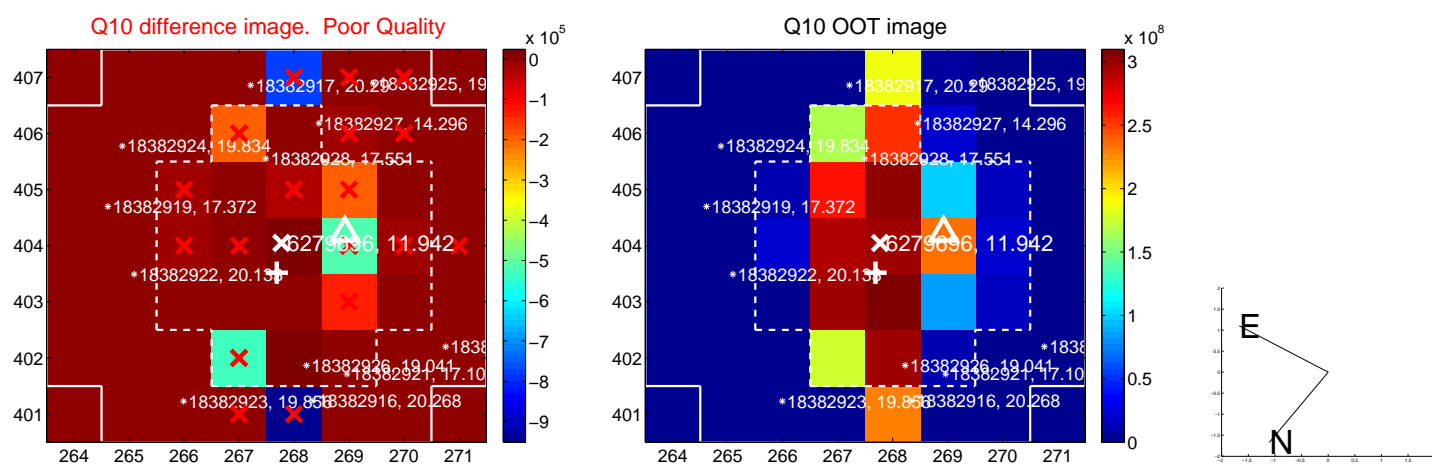
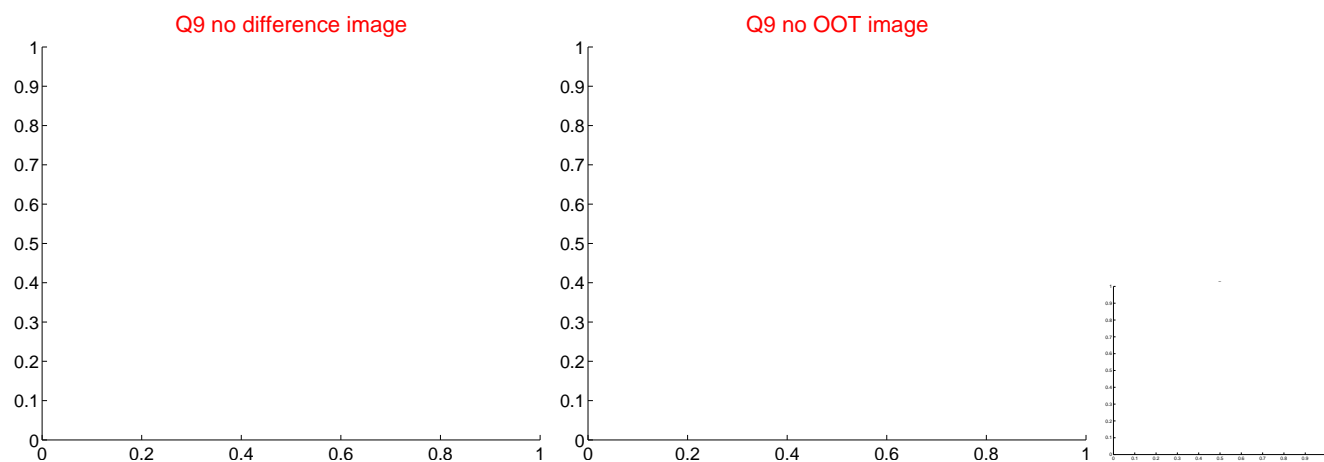
Q8 difference image. Poor Quality



Q8 OOT image



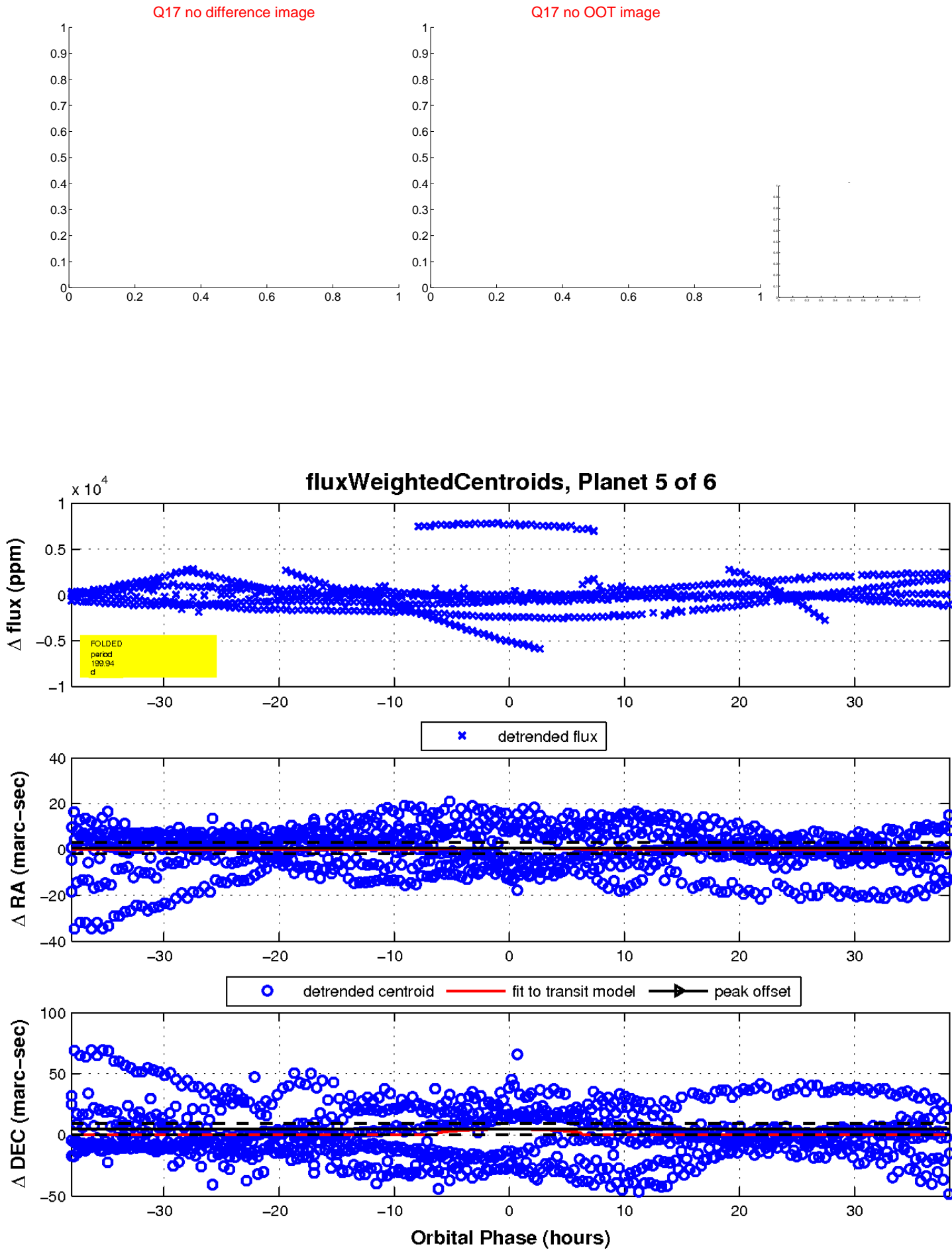
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



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

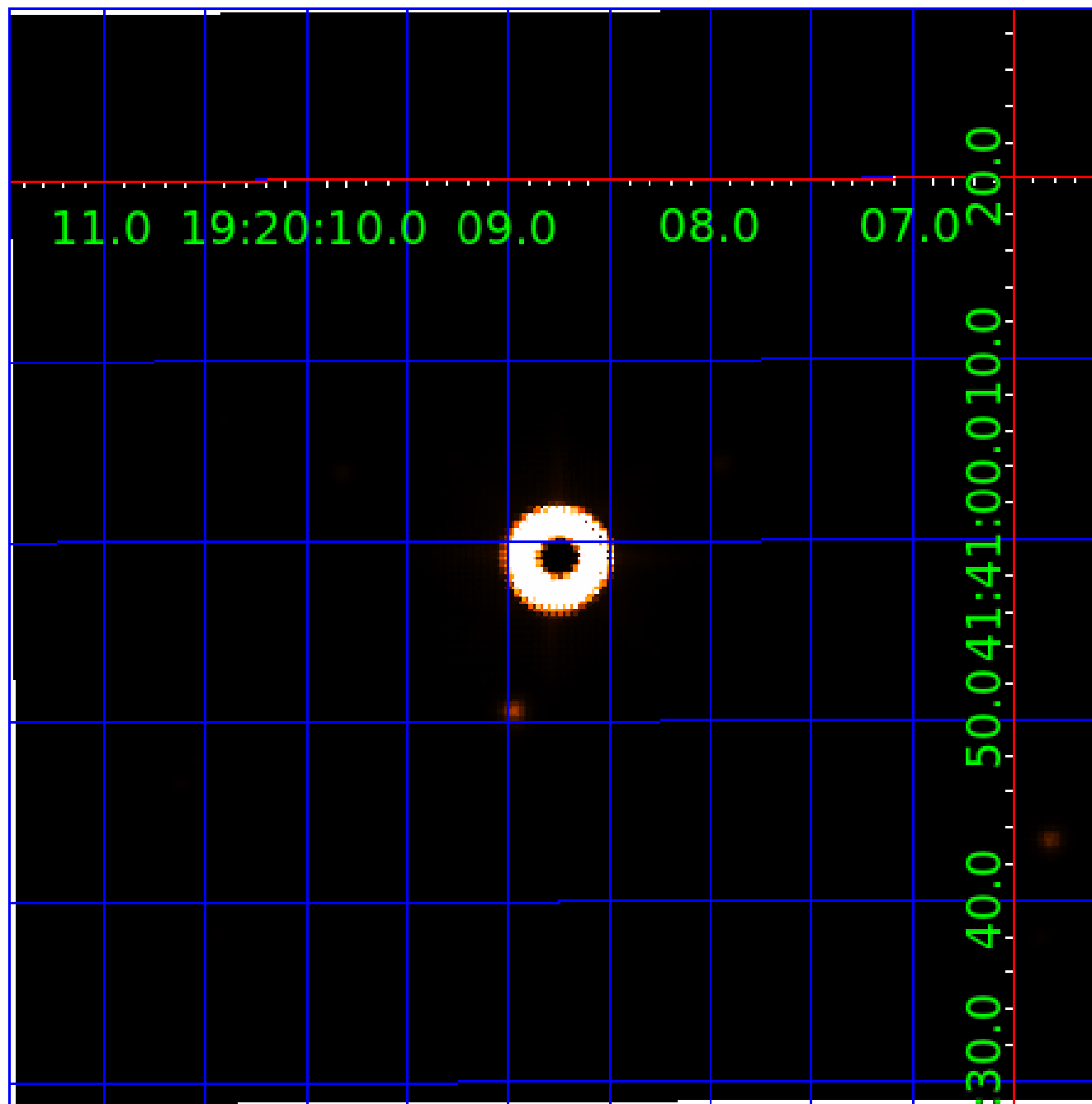


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 006279696

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006279696-01	OBS	No	473.704410	157.597839	194.3	12.500	28.2	-1.0	155.19	3266	198.46	1635.01
006279696-02	OBS	No	425.828888	160.613257	3.1	58.076	57.0	0.1	155.19	3266	25.46	1884.59
006279696-03	OBS	No	346.788292	393.819916	329.3	13.551	28.2	9.4	155.19	3266	265.38	2478.05
006279696-04	OBS	No	421.331698	145.748799	1608.6	43.593	17.5	25.0	155.19	3266	1346.59	1911.45
006279696-05	OBS	No	199.937579	196.791751	260.6	12.751	48.9	8.8	155.19	3266	229.26	0.00
006279696-06	OBS	No	465.837759	165.221745	7794.4	1.123	25.6	18.9	155.19	3266	1555.15	1671.92

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006279696-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
006279696-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006279696-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006279696-04	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006279696-05	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006279696-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—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.

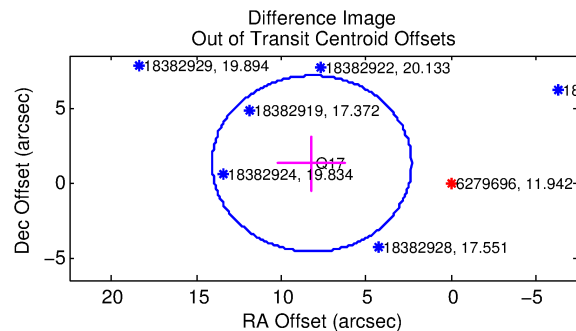
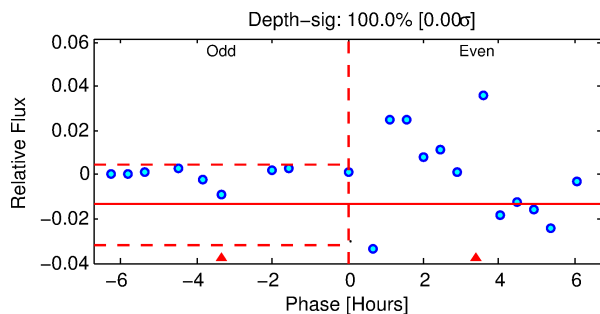
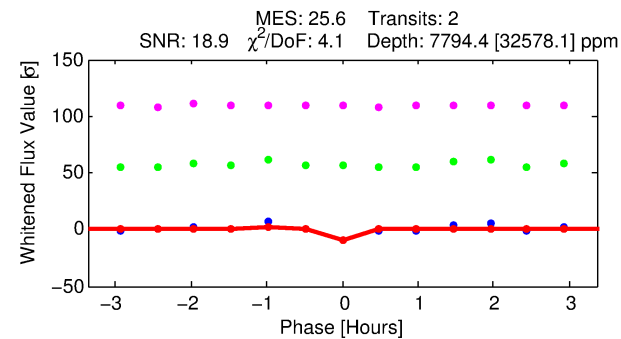
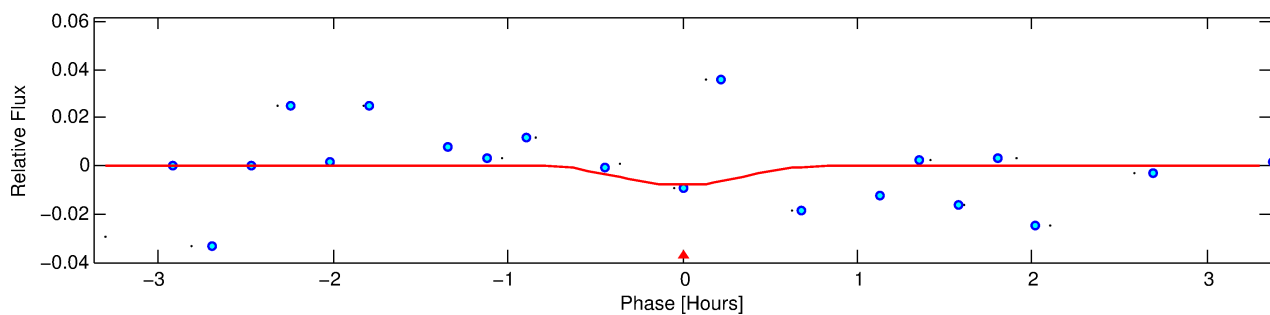
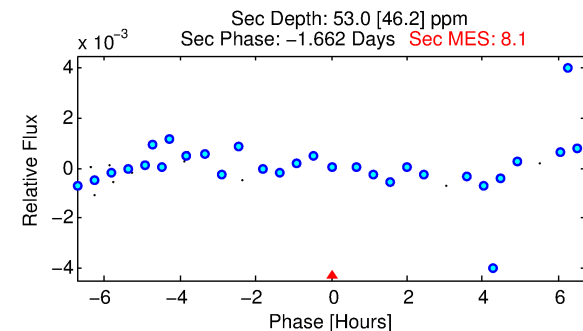
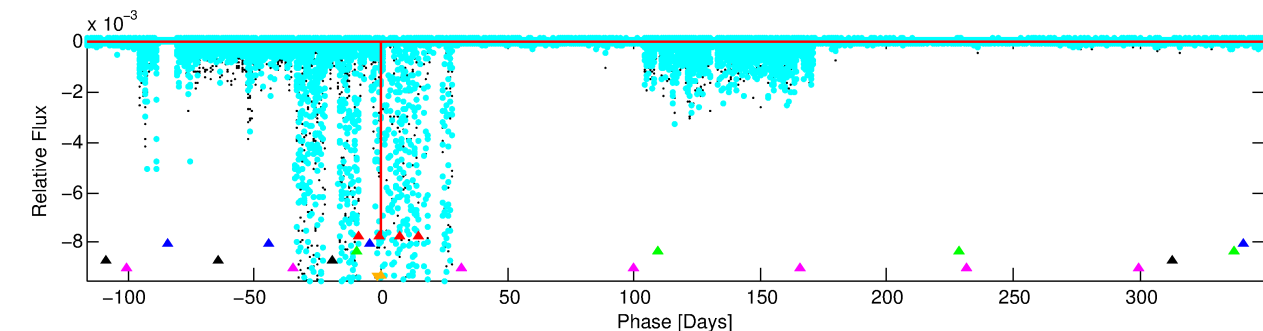
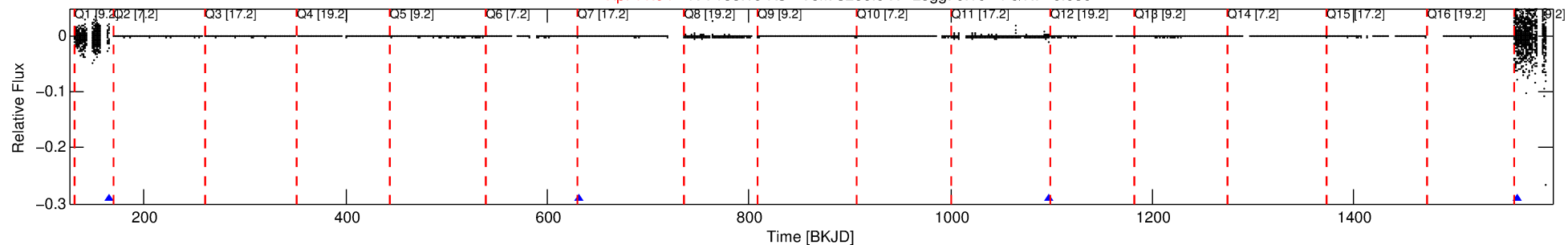
Ephemeris Match Information For 006279696-06

No Significant Match Found

# DV One-Page Summary

KIC: 6279696 Candidate: 6 of 6 Period: 465.838 d

Kp: 11.94 R\*: 155.19 Rs Teff: 3266.0 K Logg: 0.10 Fe/H: -0.080



## DV Fit Results:

Period = 465.83776 [0.19832] d  
Epoch = 165.2217 [0.4245] BKJD  
Rp/R\* = 0.0918 [27.0938]  
a/R\* = 2504.08 [1666817.24]  
b = 0.75 [415.17]  
Seff = 1671.92 [617.74]  
Teq = 1631 [151] K  
Rp = 1555.15 [458818.95] Re  
a = 1.2118 [0.2409] AU  
Ag = 0.02 [10.46] [-0.09sigma]  
Teffp = 920 [135680] K [-0.01sigma]

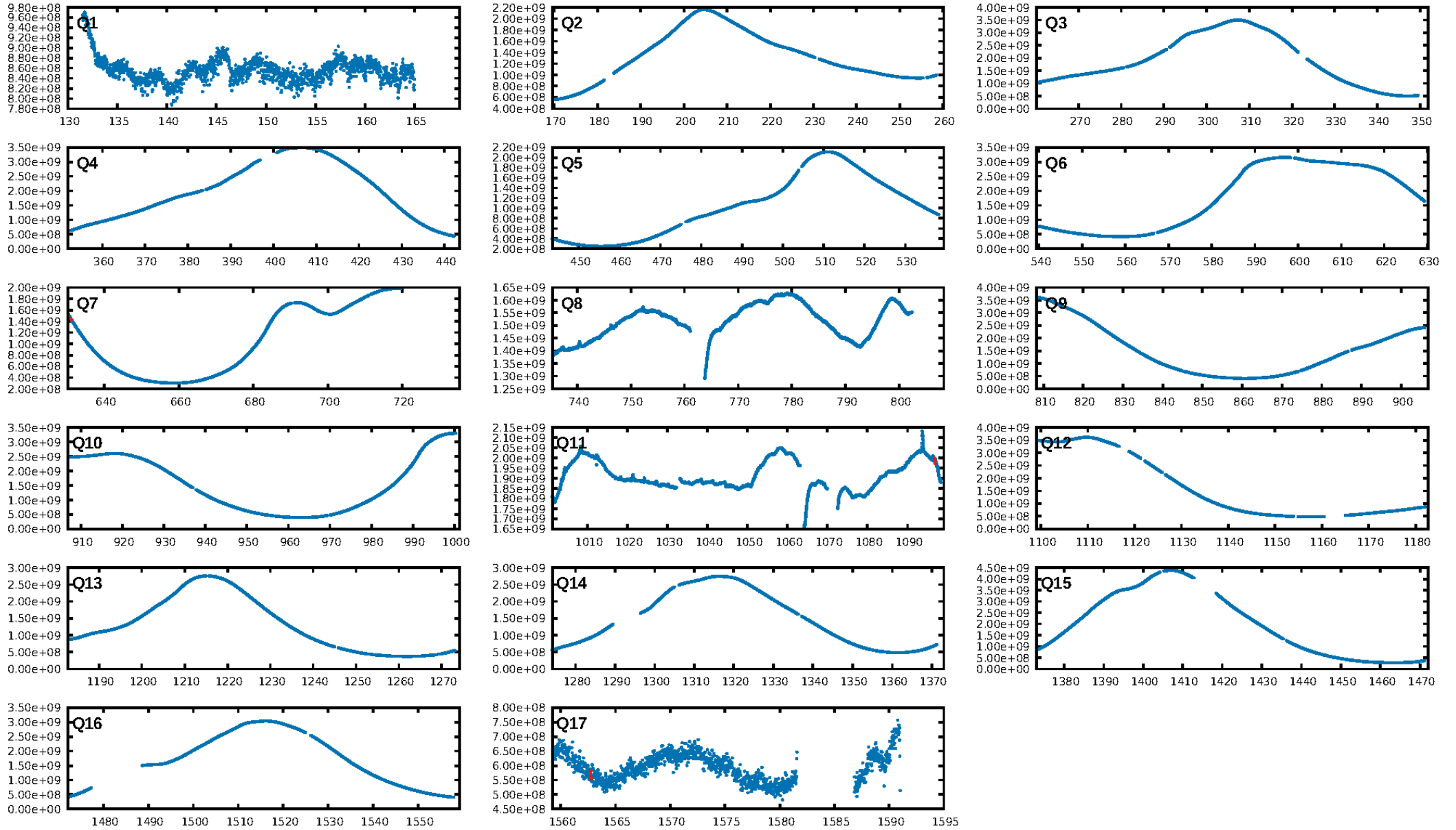
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [16.53sigma]  
LongPeriod-sig: 100.0% [15.04sigma]  
ModelChiSquare2-sig: 65.3%  
ModelChiSquareGof-sig: 91.5%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1/1]  
GhostDiagnostic-chr: 3.332  
Centroid-sig: 12.8%  
Centroid-so: 0.666 arcsec [1.47sigma]  
OotOffset-rm: 8.287 arcsec [4.23sigma]  
KicOffset-rm: 8.429 arcsec [4.30sigma]  
OotOffset-st: 0/0/0/1 [1]  
KicOffset-st: 0/0/0/1 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [1/1]

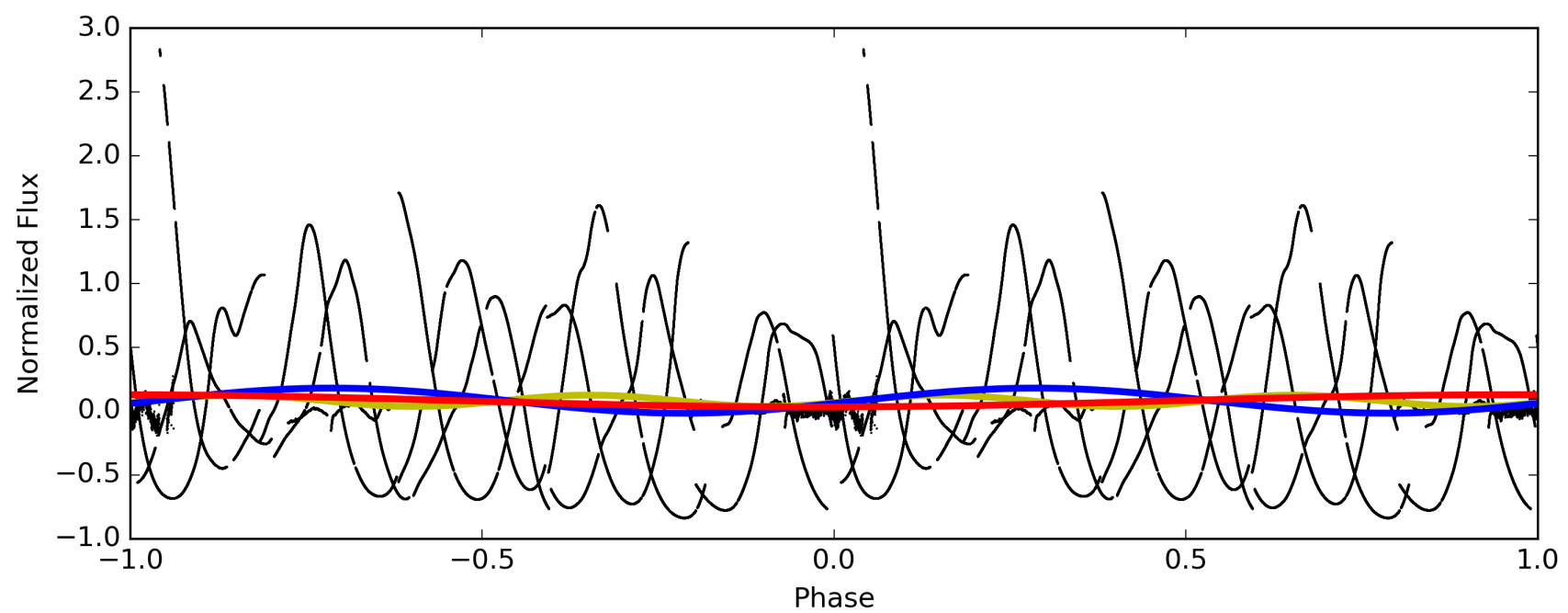
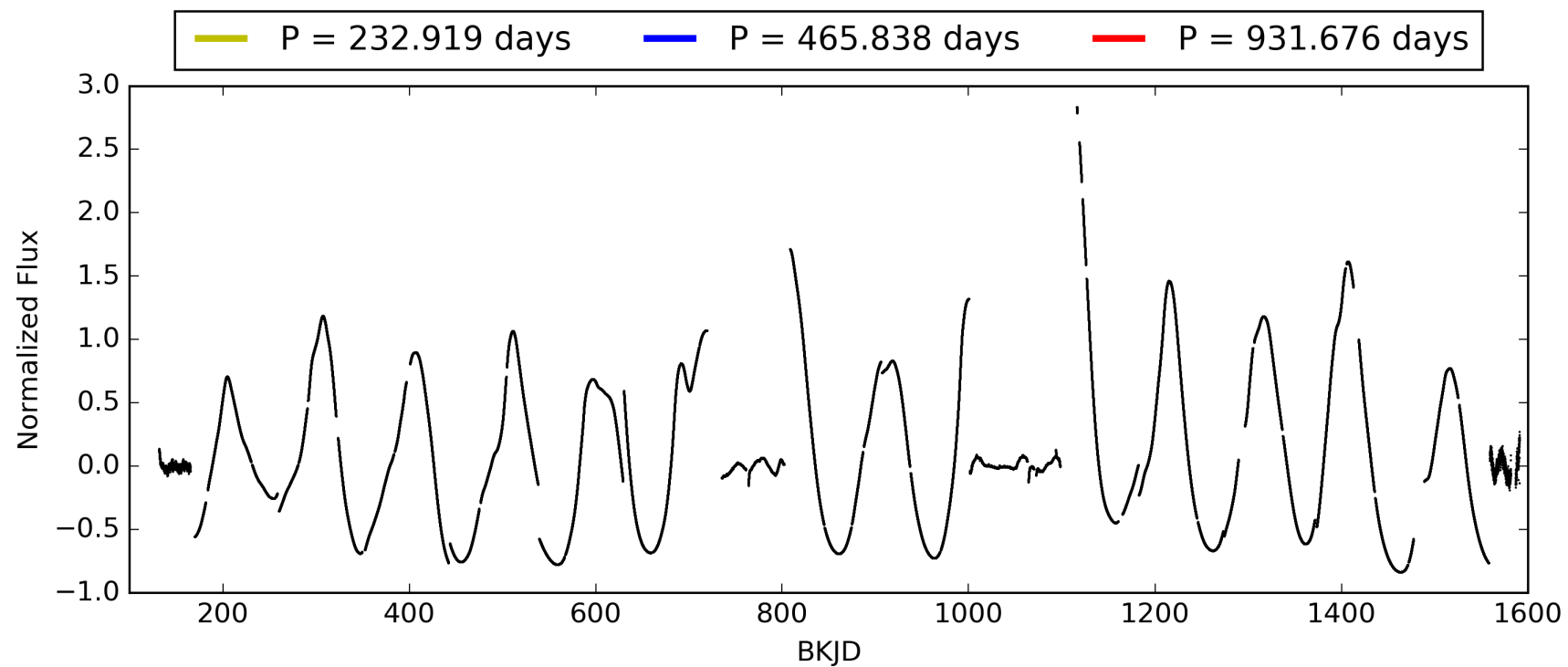
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:59:10 Z

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

# TCE 006279696-06, PDC Light Curves

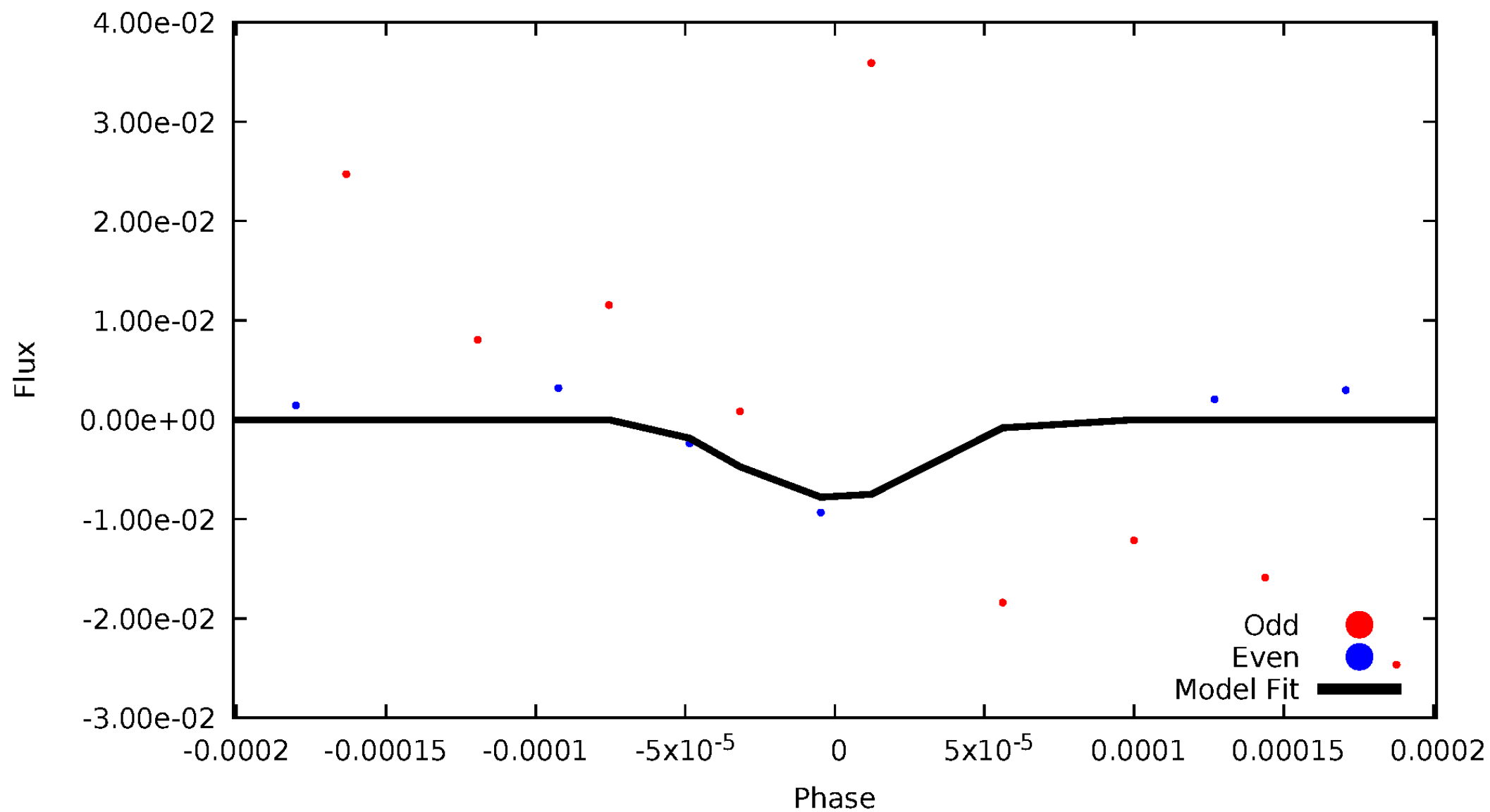


TCE 006279696-06



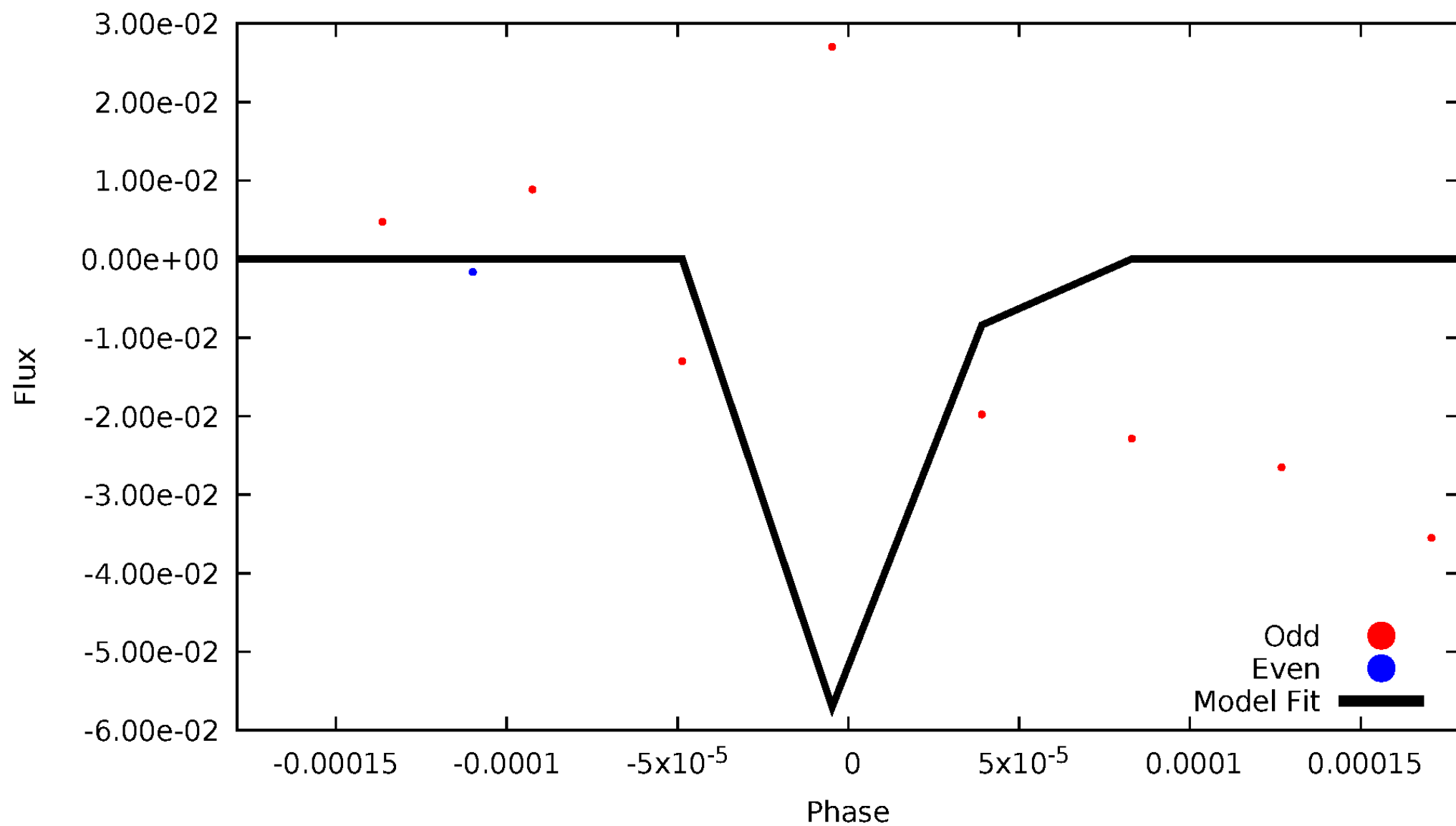
# DV Odd/Even

TCE 006279696-06



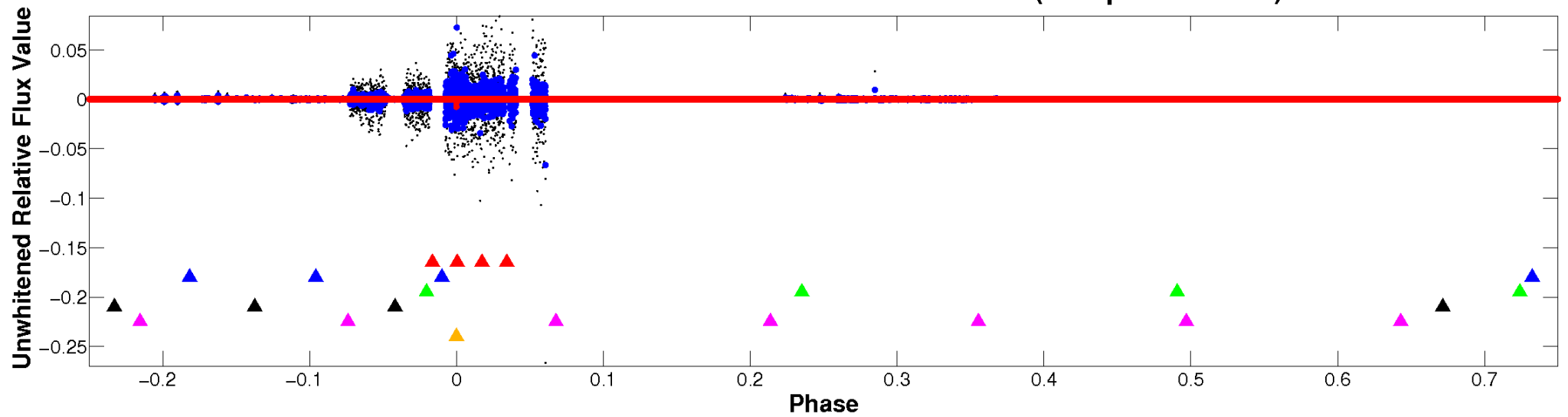
# ALT Odd/Even

TCE 006279696-06

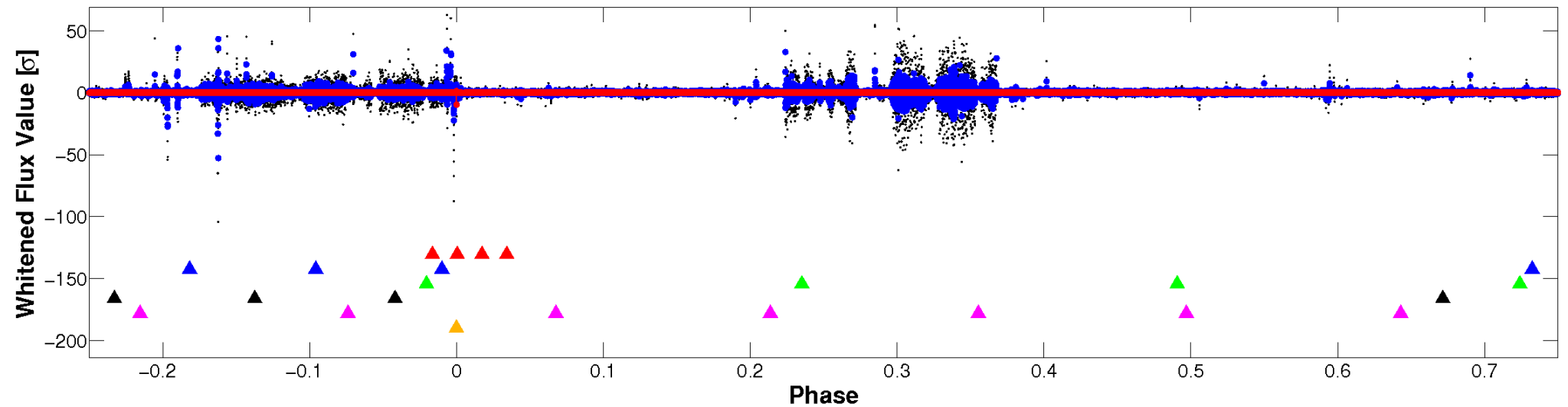


# Non-Whitened Vs. Whitened Light Curve

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

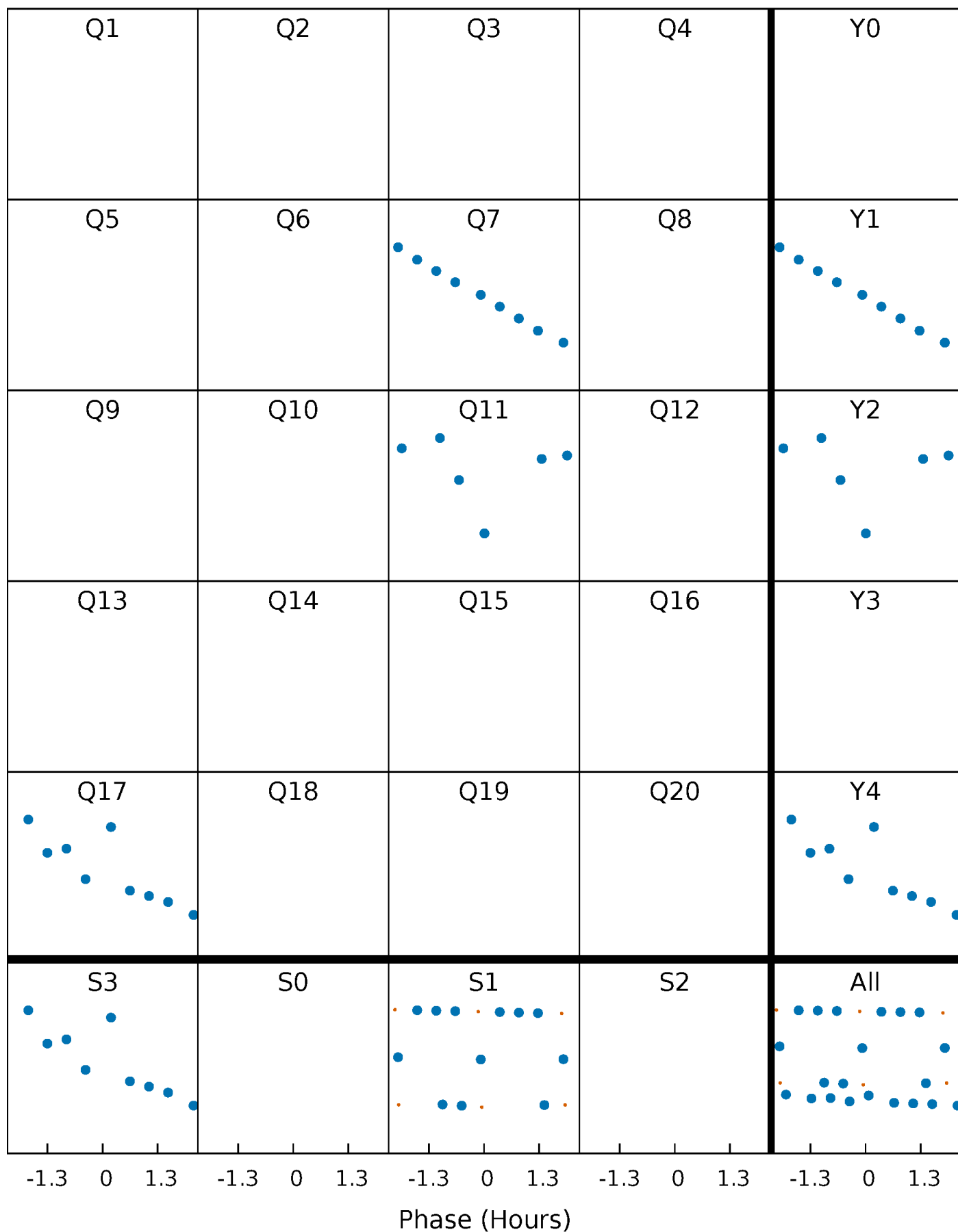


## Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

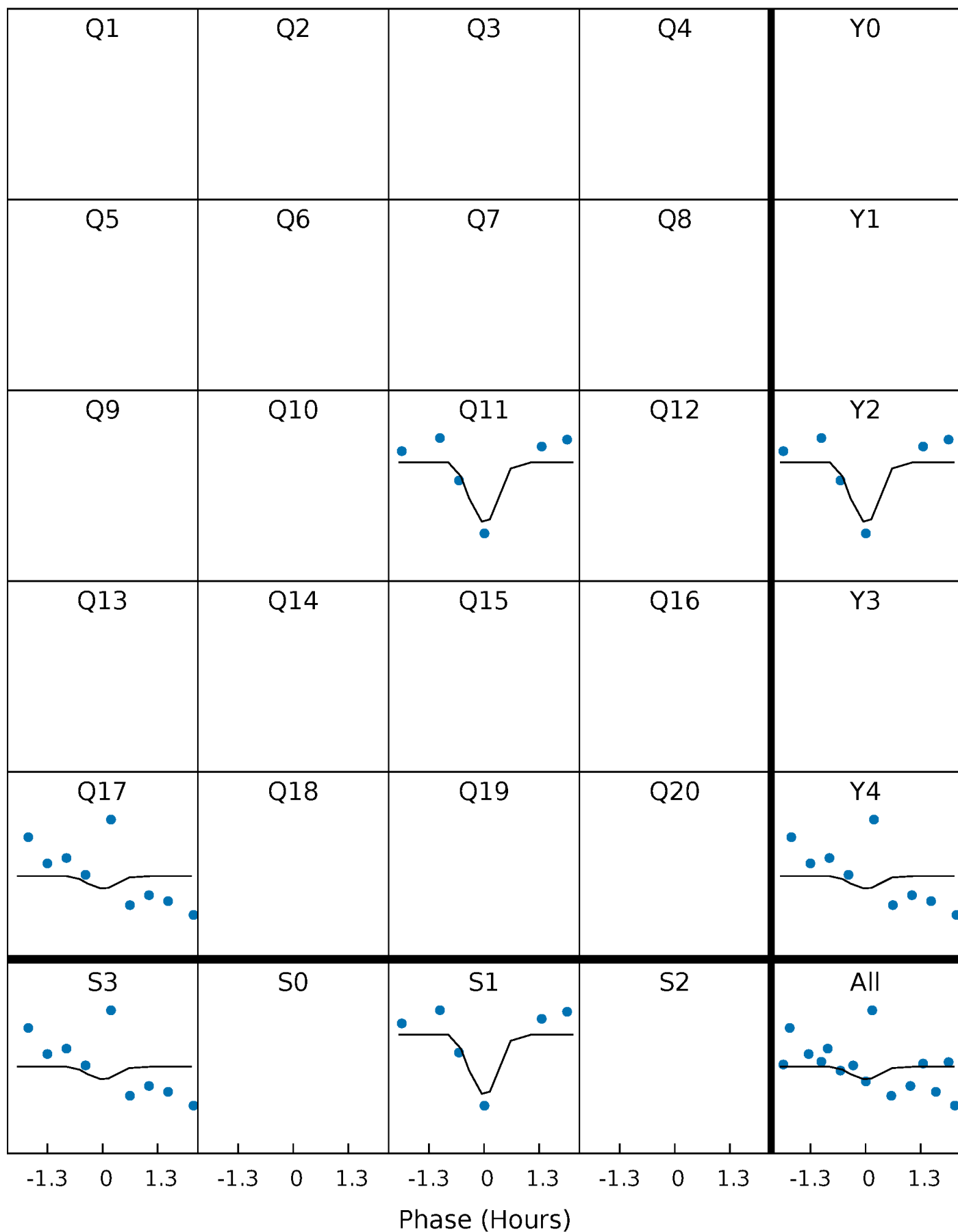
TCE 006279696-06     $P=465.837759$  Days     $T_0=165.221745$  (BKJD)





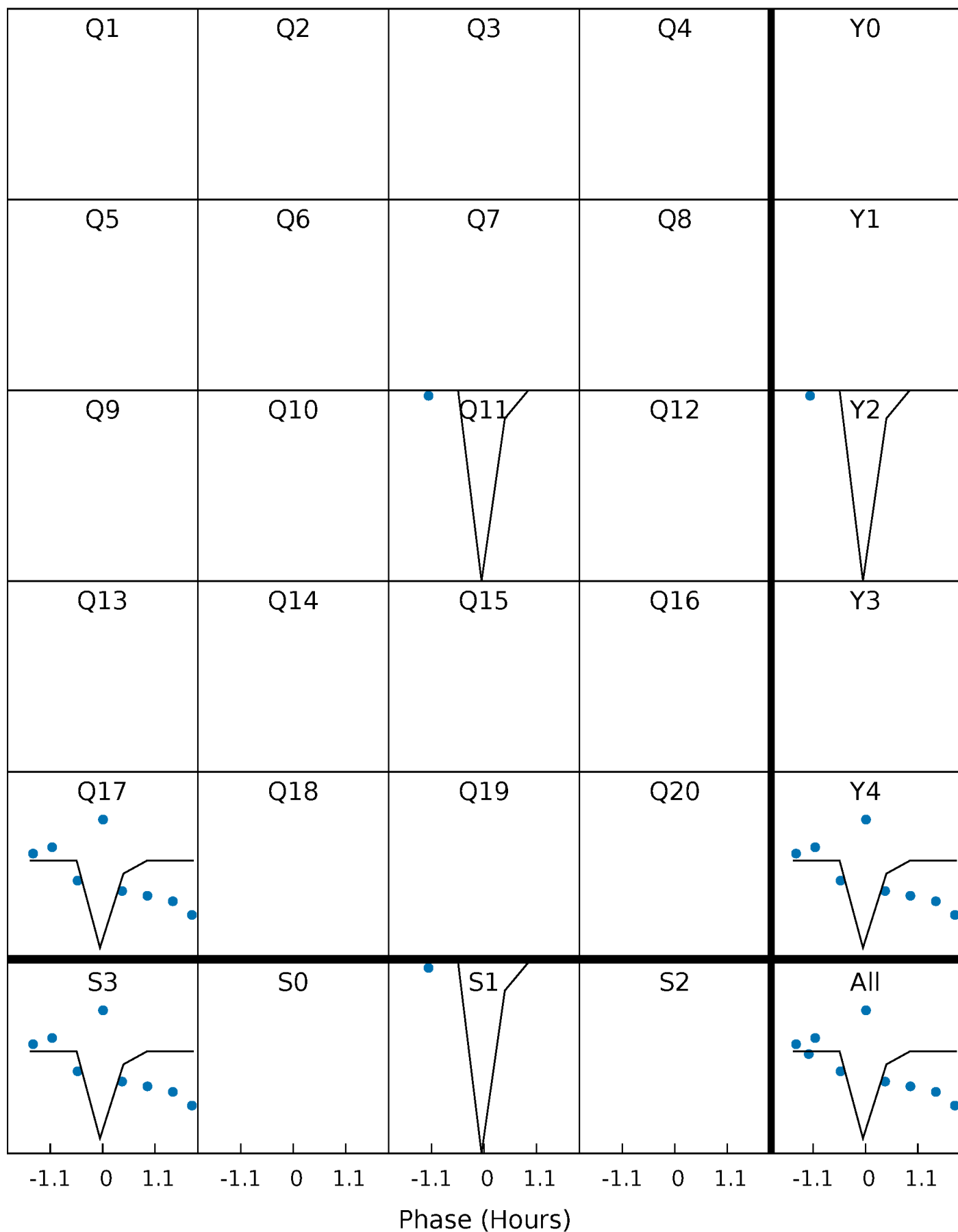
# DV Quarter-Phased Transit Curves

TCE 006279696-06 P=465.837759 Days  $T_0=165.221745$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

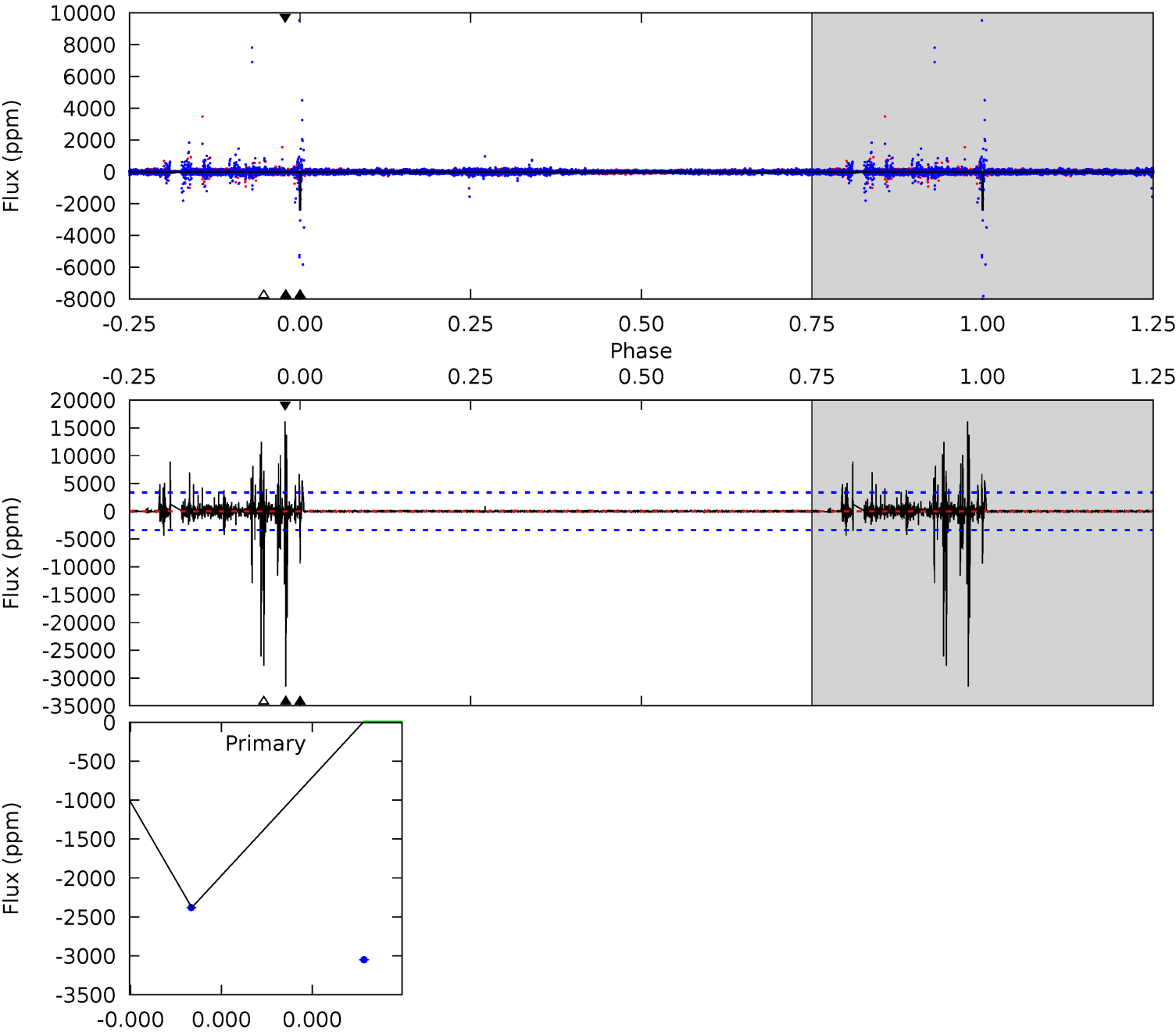
TCE 006279696-06 P=465.817056 Days  $T_0=165.291754$  (BKJD)



DV Model-Shift Uniqueness Test

006279696-06, P = 465.837759 Days, E = 165.221745 Days

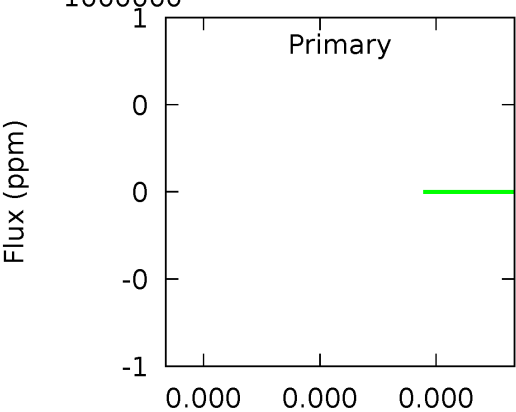
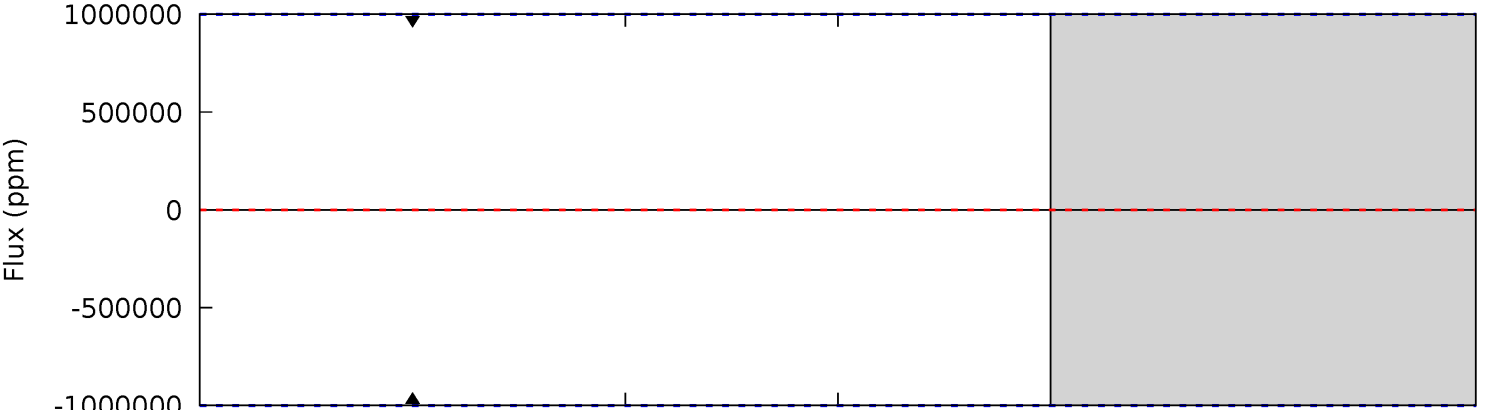
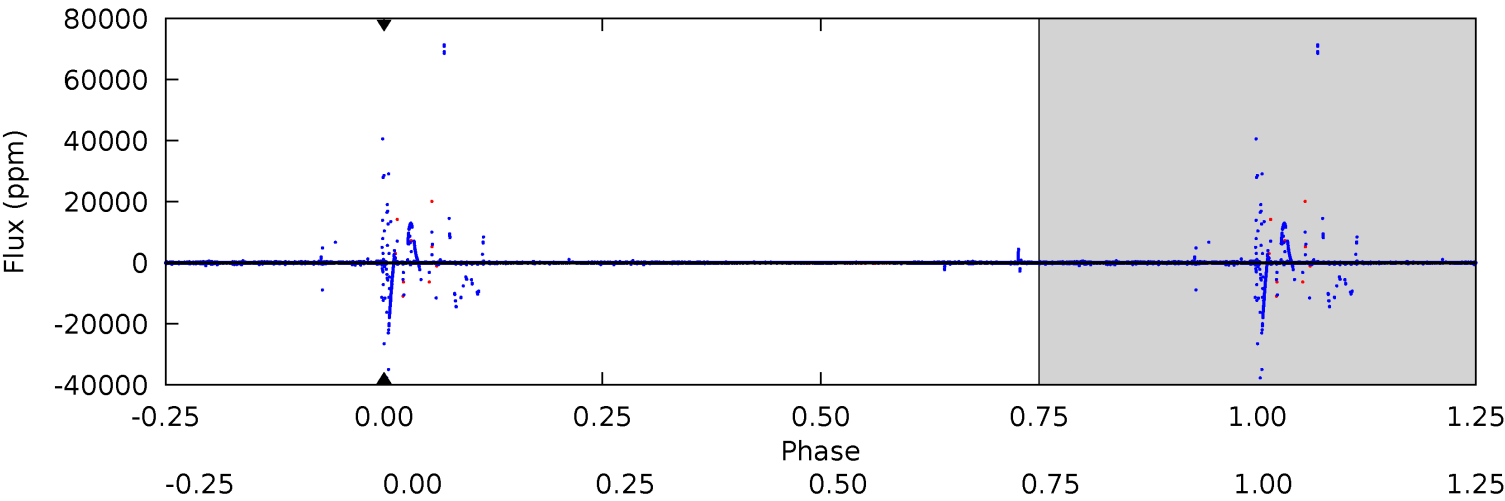
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.0	53.8	47.3	27.6	5.78	3.79	1.01	-31.3	-11.6	6.44	26.2	0	1.00	0.34	0



# Alt Model-Shift Uniqueness Test

006279696-06, P = 465.817056 Days, E = 165.291754 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
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



### Stellar Parameters For KIC 006279696

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$3266^{+117}_{-78}$	$0.095^{+0.208}_{-0.065}$	$-0.080^{+0.250}_{-0.100}$	$155.187^{+9.192}_{-27.576}$	$1.095^{+0.206}_{-0.120}$	$0.000^{+0.000}_{-0.000}$
	+4%/-2%	+219%/-68%	+312%/-125%	+6%/-18%	+19%/-11%	+86%/-14%
Source	KIC0	KIC0	KIC0	DSEP		

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

### Secondary Eclipse Parameters for KIC 006279696-06 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-0 \pm 587$	$313780.21^{+291780.44}_{-231281.37}$	$2249^{+104}_{-113}$	$-2406^{+67}_{-75}$	$-0.000^{+0.000}_{-0.000}$
Alt.	$-0 \pm 1000000$	$294395.75^{+322942.50}_{-217902.43}$	$2247^{+105}_{-125}$	$-2401^{+84}_{-83}$	$-0.000^{+0.002}_{-0.001}$

$T_{\text{max}}$  = 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

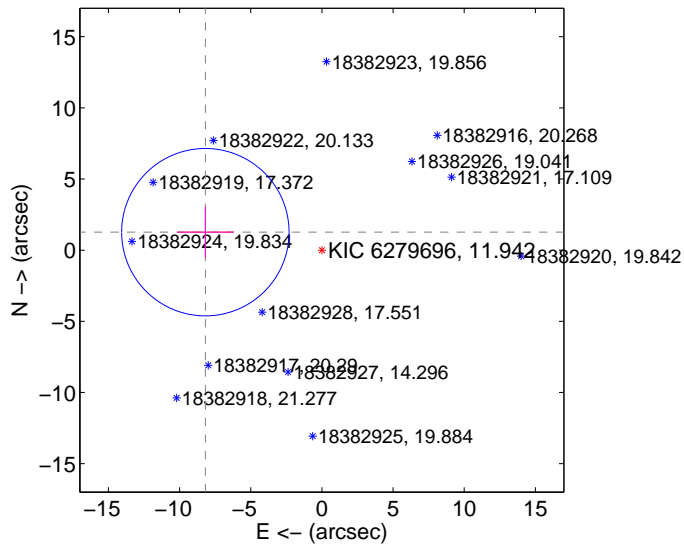
Supplemental centroid analysis for 006279696-06. **Kepler magnitude: 11.94.** Transit SNR 18.86

**There are 0 quarters with good PRF difference image offsets**

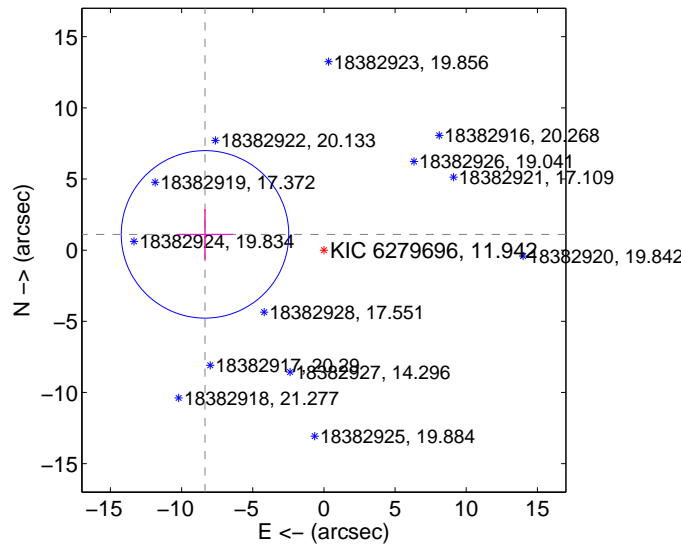
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>8.287 \pm 1.961</math></b>	<b>4.23</b>	$8.190 \pm 1.965$	$1.264 \pm 1.773$
PRF-fit source offset from KIC position	<b><math>8.429 \pm 1.962</math></b>	<b>4.30</b>	$8.356 \pm 1.965$	$1.110 \pm 1.773$
photometric centroid source offset	$0.67 \pm 0.45$	1.47	$-0.04 \pm 0.21$	$0.66 \pm 0.46$

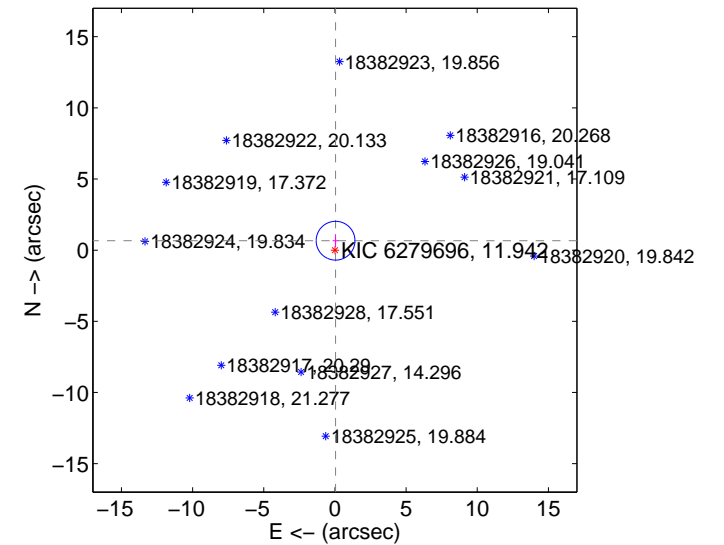
offset from difference PRF-fit to OOT PRF-fit



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.





UKIRT Image

Declination

