

# KIC 005284647

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005284647-01	OBS	No	374.410418	258.493505	35.9	12.228	8.7	5.8	2.01	9982	1.35	19.74
005284647-02	OBS	No	389.601733	224.367031	64.0	26.860	9.8	7.7	2.01	9982	1.76	18.72
005284647-03	OBS	No	4.507918	132.875720	2.1	33.972	7.5	5.5	2.01	9982	0.31	7153.24

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005284647-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_TER_ALT—CENT_SATURATED
005284647-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—INCONSISTENT_TRANS—CENT_SATURATED
005284647-03	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED

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

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

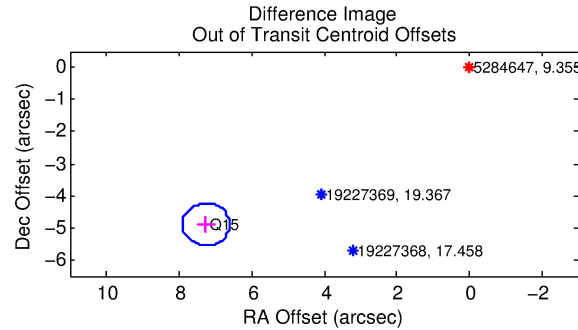
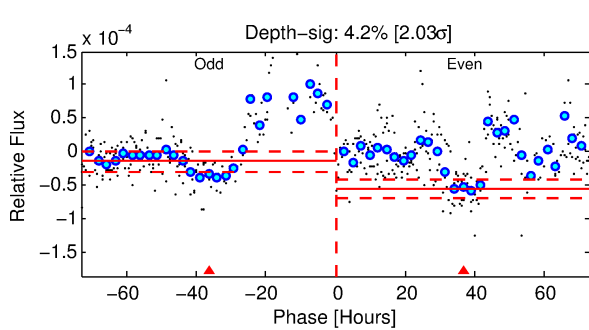
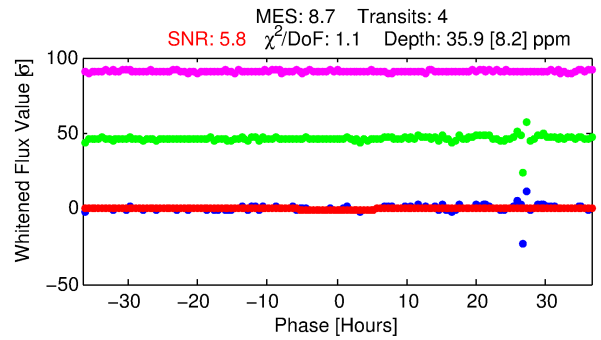
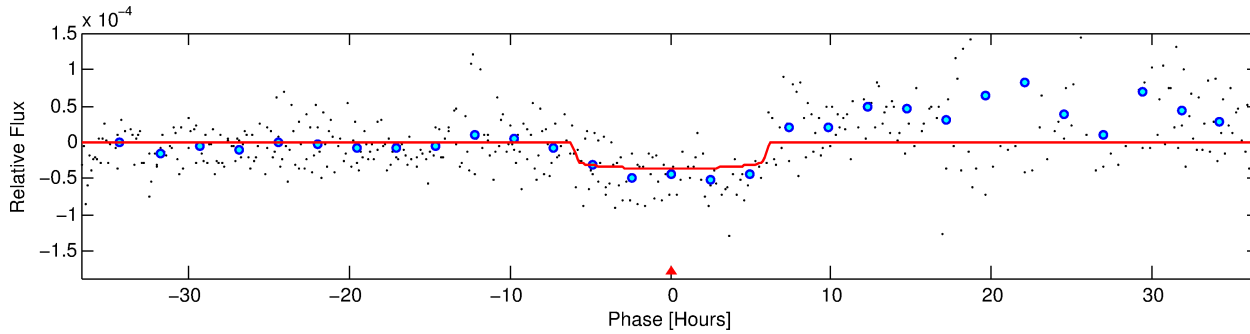
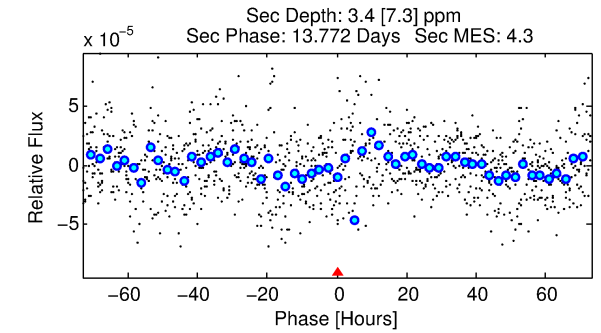
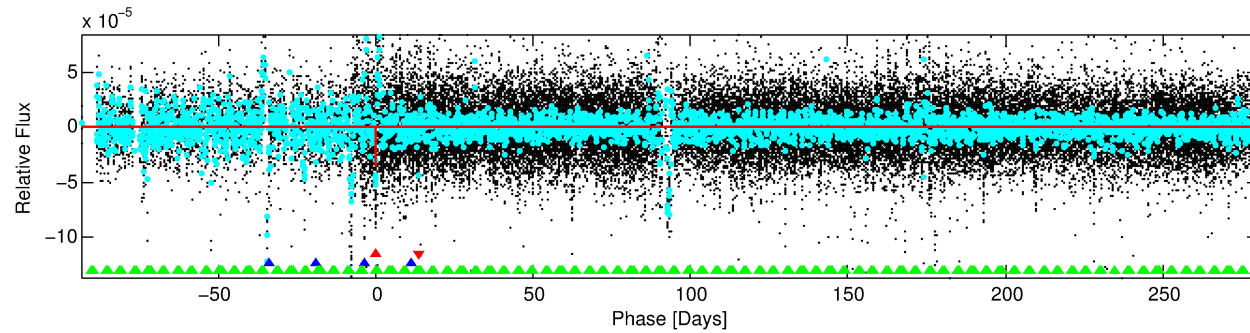
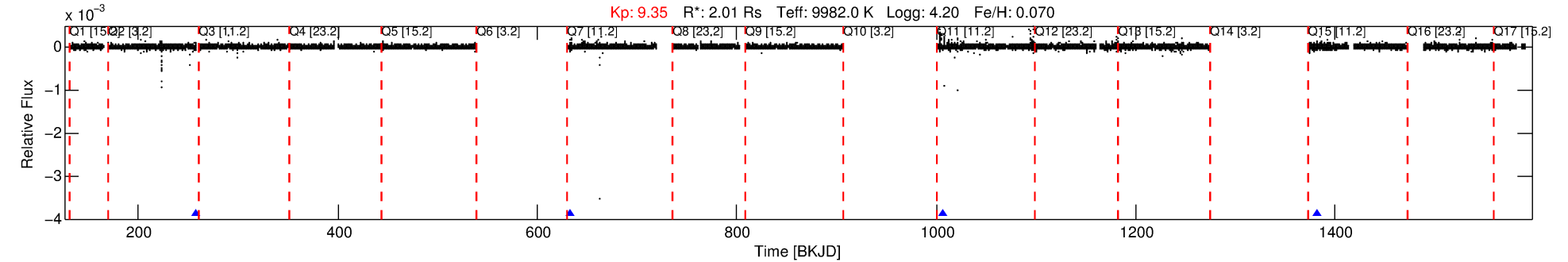
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005284647-01

No Significant Match Found

# DV One-Page Summary

KIC: 5284647 Candidate: 1 of 3 Period: 374.410 d



## DV Fit Results:

Period = 374.41042 [0.00922] d  
Epoch = 258.4935 [0.0188] BKJD  
Rp/R\* = 0.0062 [0.0015]  
a/R\* = 124.71 [190.40]  
b = 0.85 [0.49]  
Seff = 19.74 [10.62]  
Teq = 537 [72] K  
Rp = 1.35 [0.70] Re  
a = 1.3520 [0.4959] AU  
Ag = 1852.37 [4220.21] [0.44σ]  
Teffp = 5452 [3035] K [1.62σ]

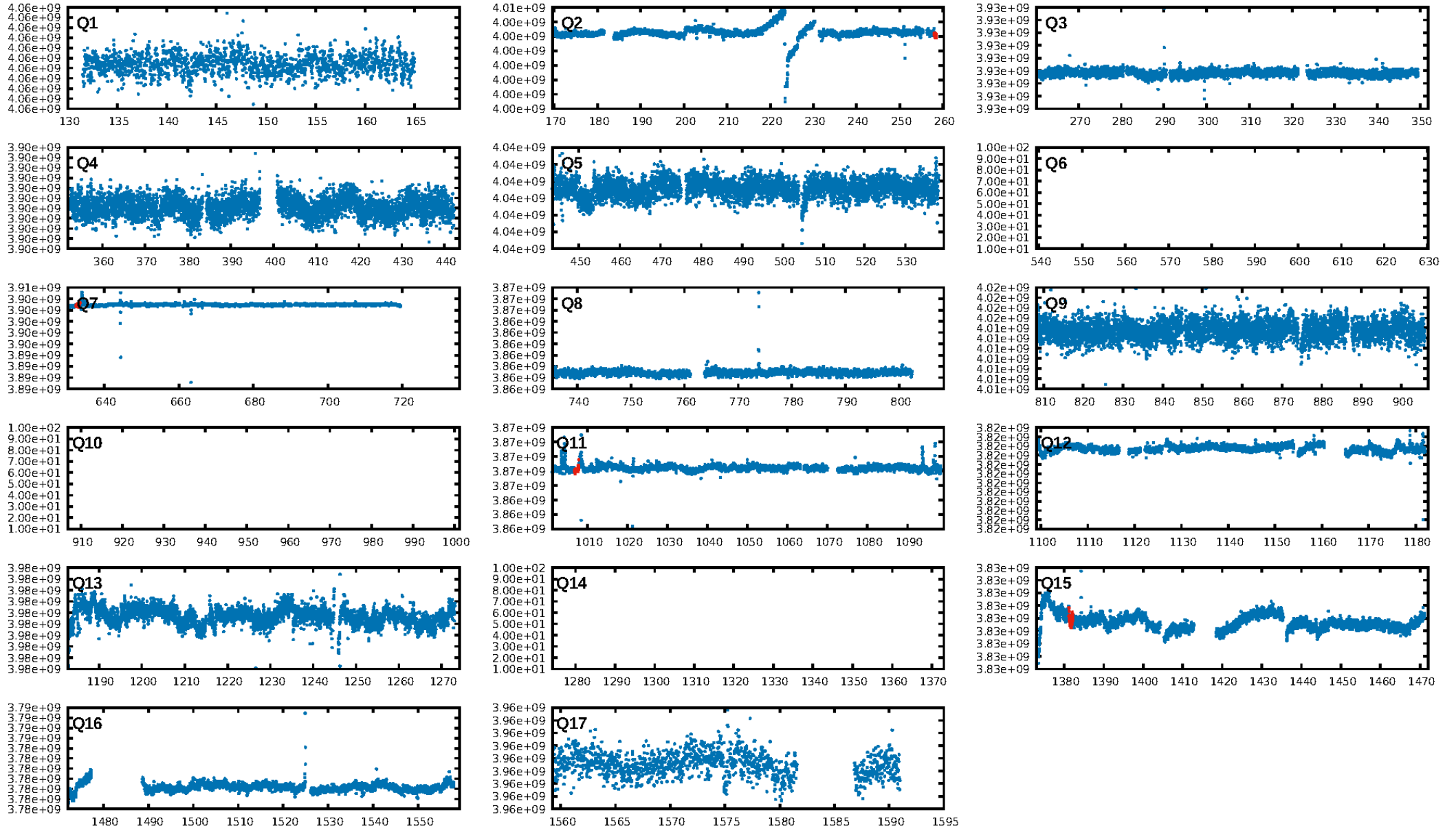
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [245.88σ]  
LongPeriod-sig: 100.0% [12.35σ]  
ModelChiSquare2-sig: 1.3%  
ModelChiSquareGof-sig: 99.9%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: 27.295 arcsec [4.33σ]  
OotOffset-rm: 8.749 arcsec [40.03σ]  
KicOffset-rm: 7.770 arcsec [35.63σ]  
OotOffset-st: 0/1/0/0 [1]  
KicOffset-st: 0/1/0/0 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 0.00 [0/2]

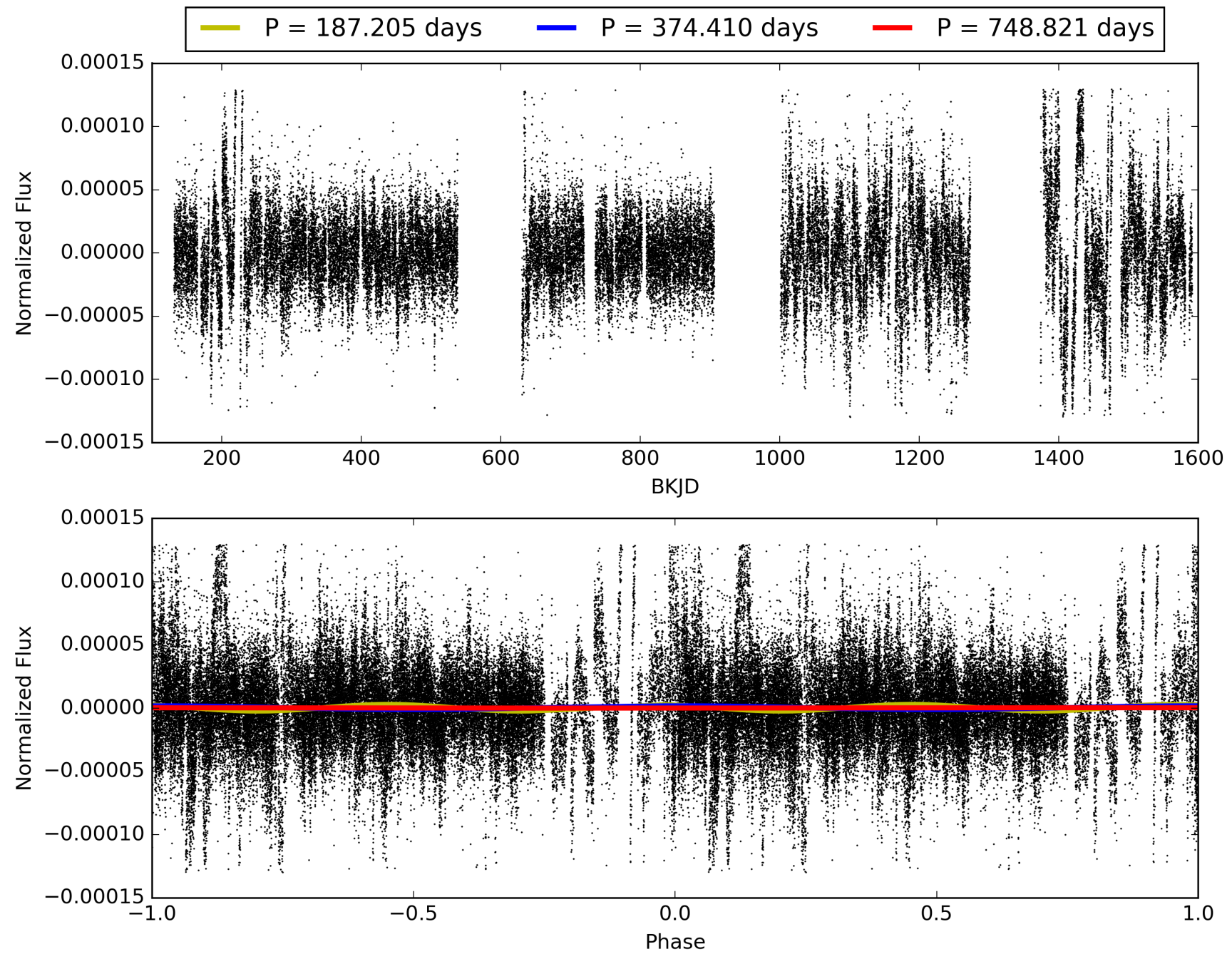
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 11:47:17 Z

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

# TCE 005284647-01, PDC Light Curves

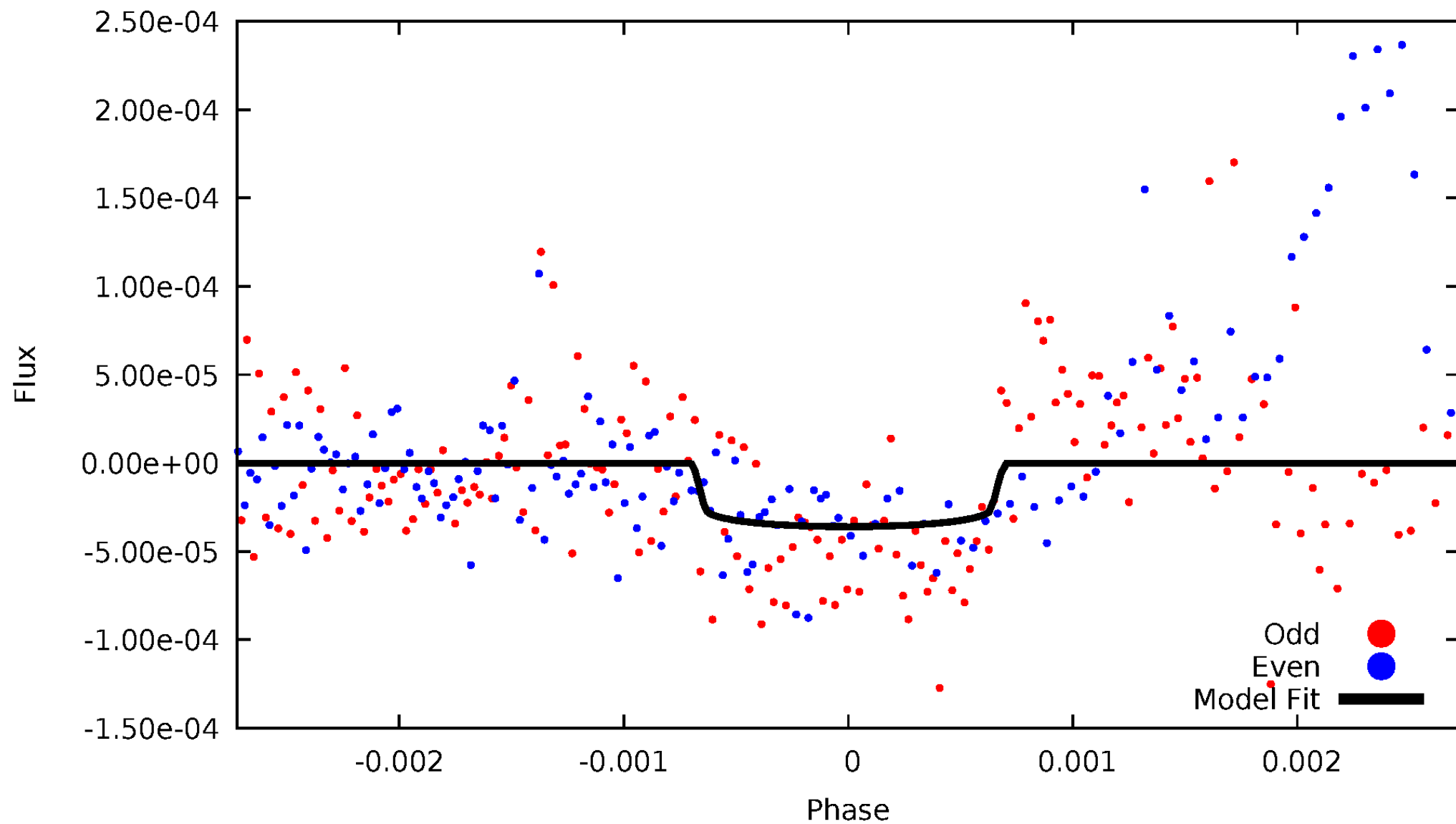


TCE 005284647-01



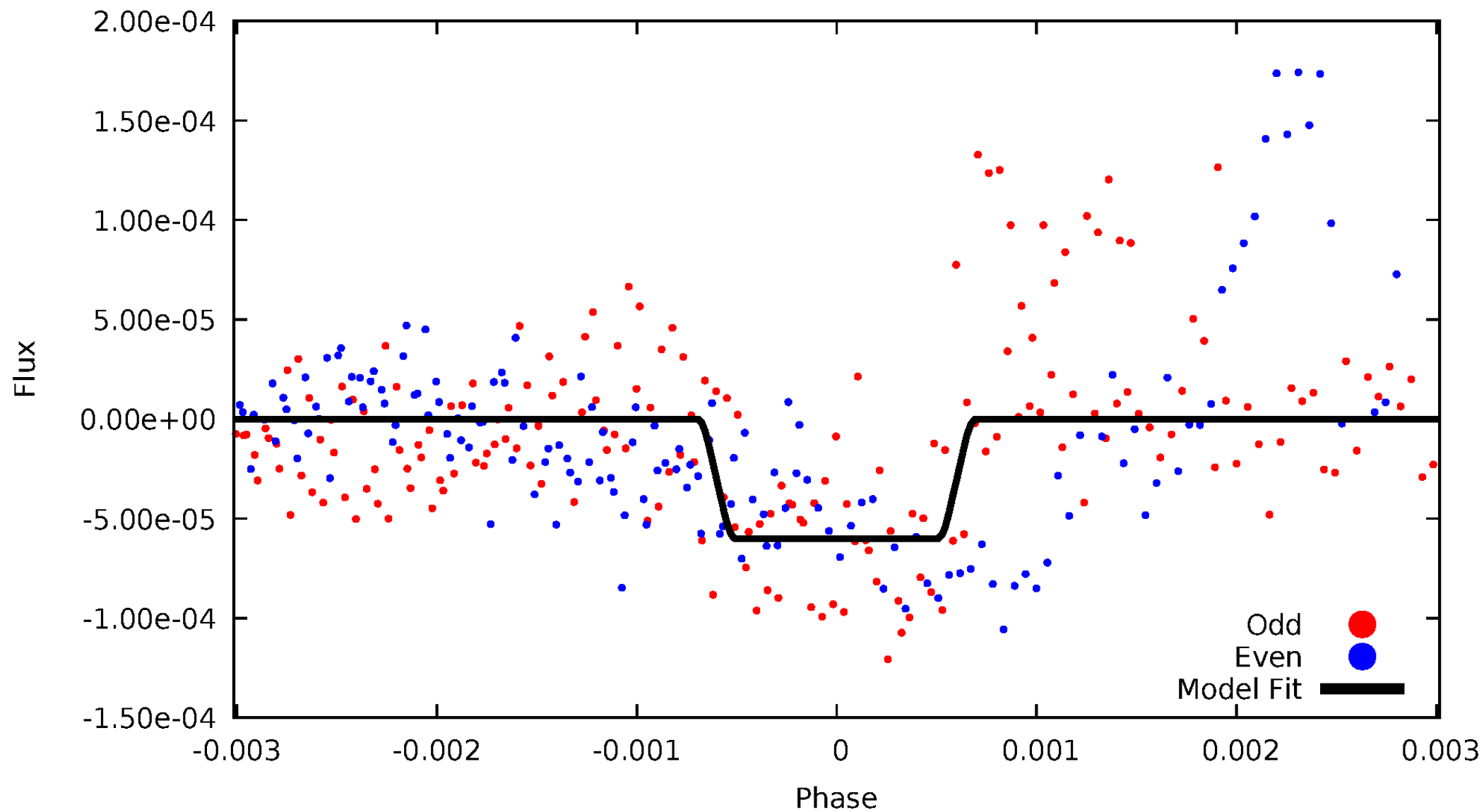
# DV Odd/Even

TCE 005284647-01



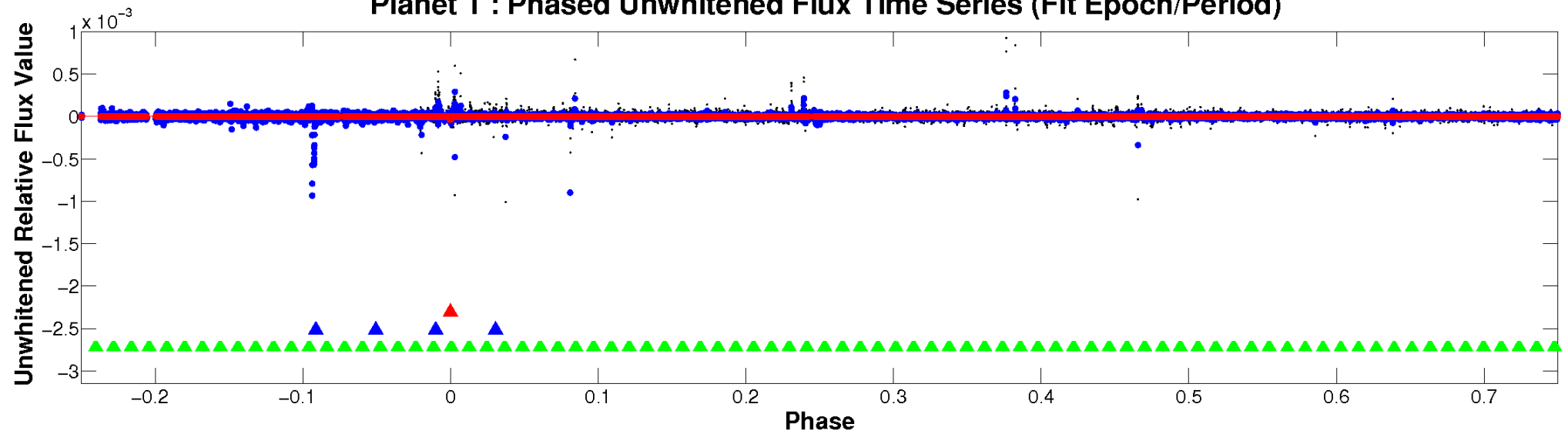
# ALT Odd/Even

TCE 005284647-01

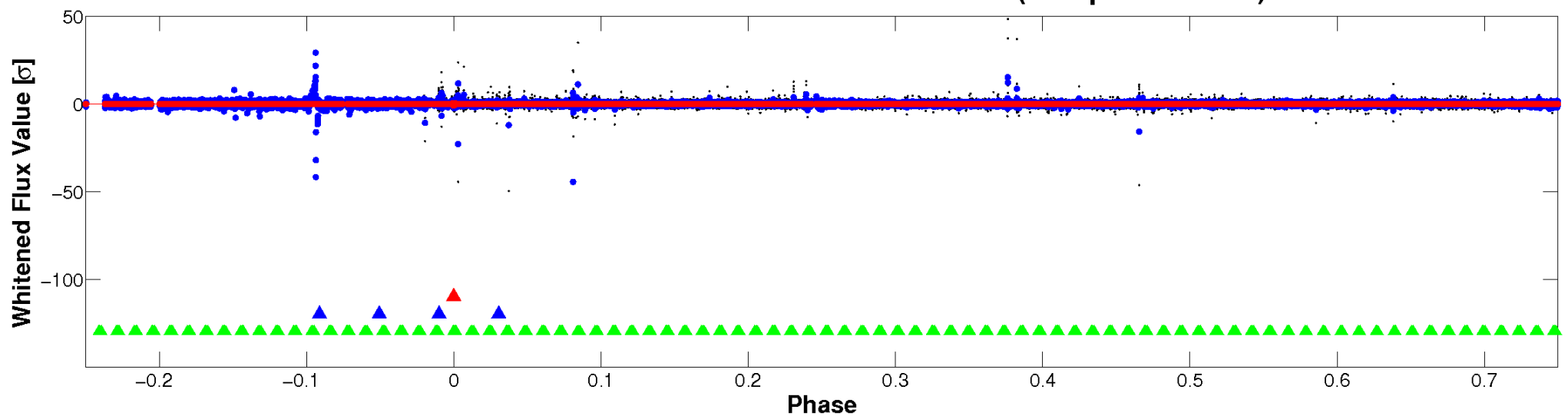


# Non-Whitened Vs. Whitened Light Curve

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

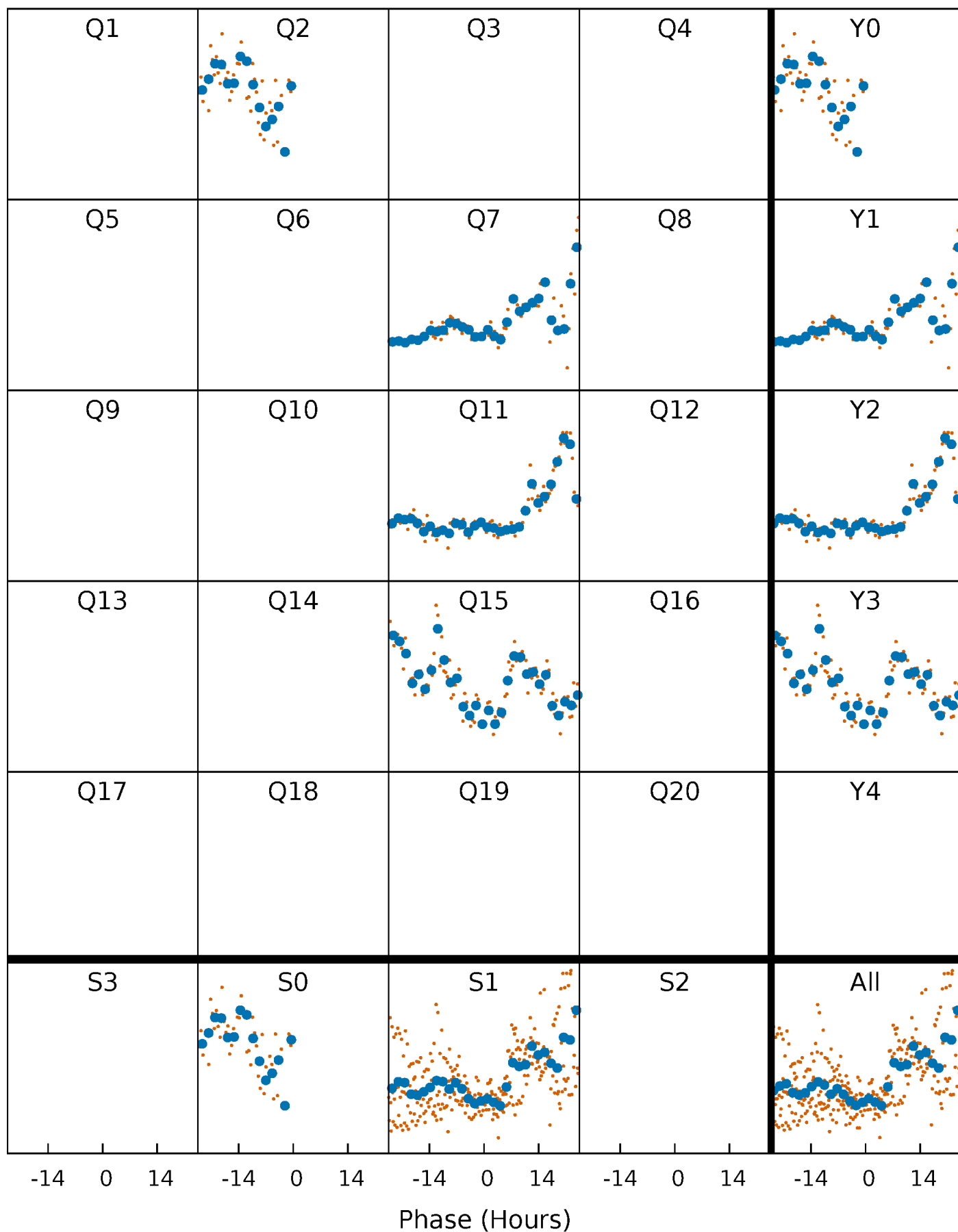


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

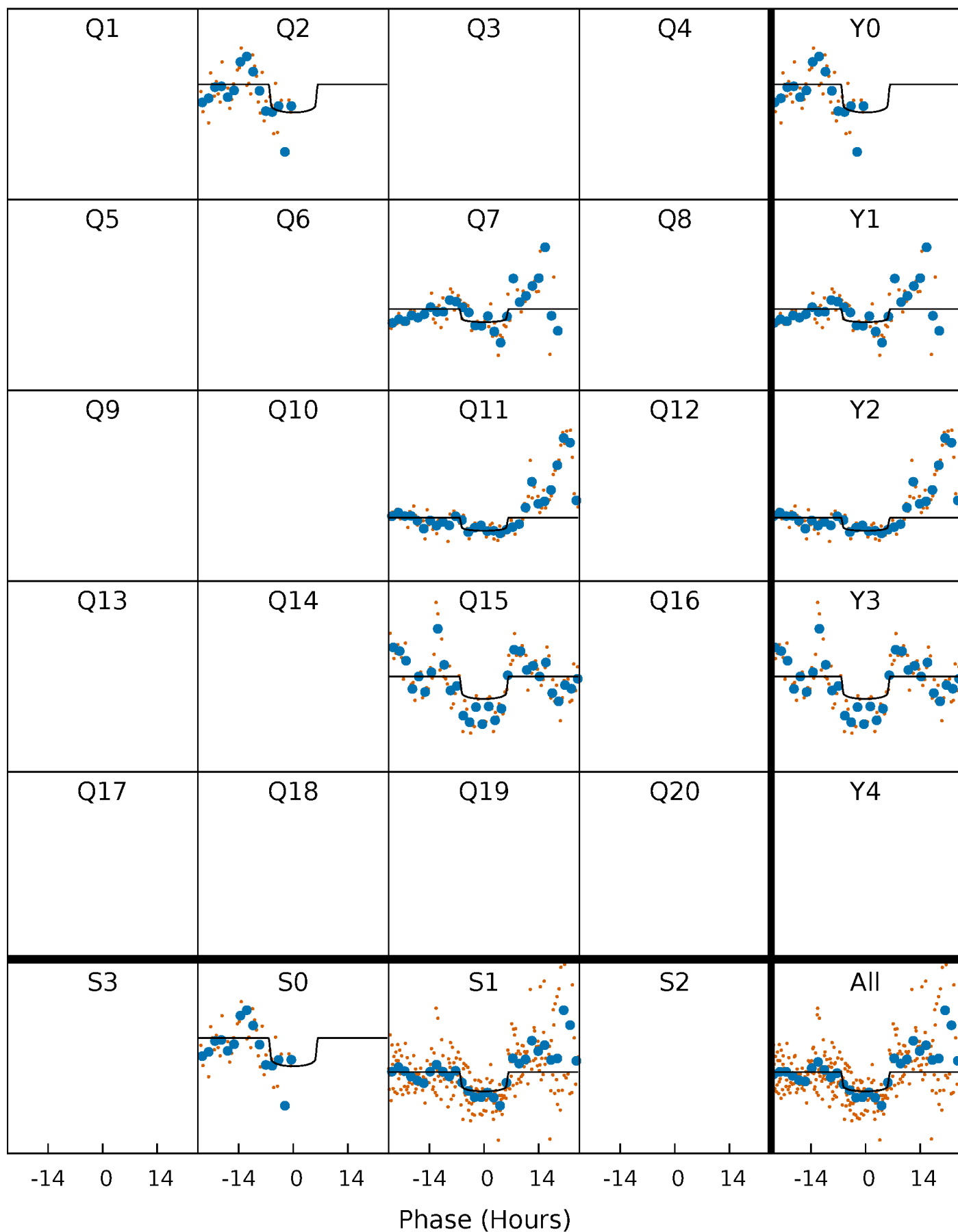
TCE 005284647-01   P=374.410418 Days    $T_0=258.493504$  (BKJD)





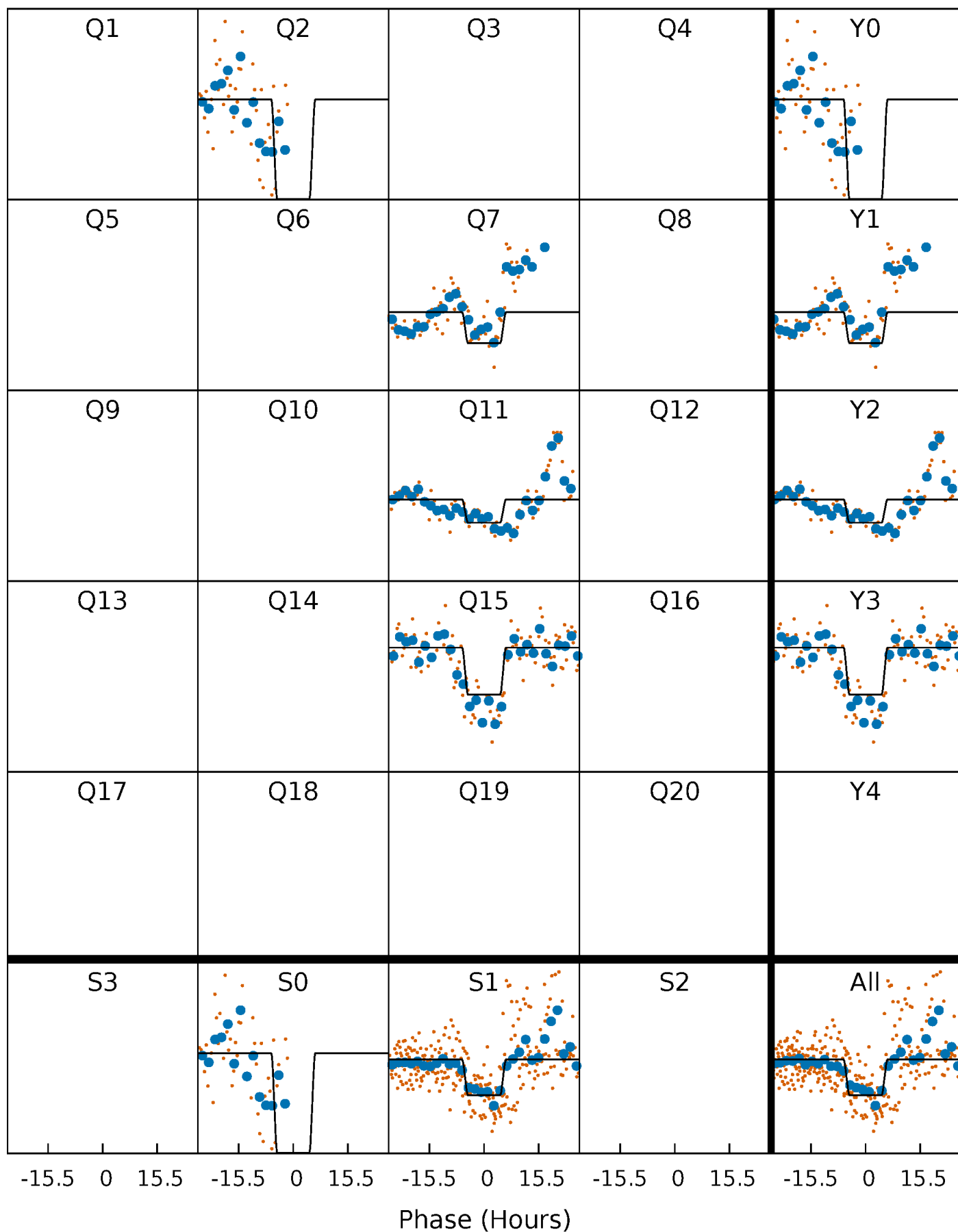
# DV Quarter-Phased Transit Curves

TCE 005284647-01 P=374.410418 Days  $T_0=258.493504$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

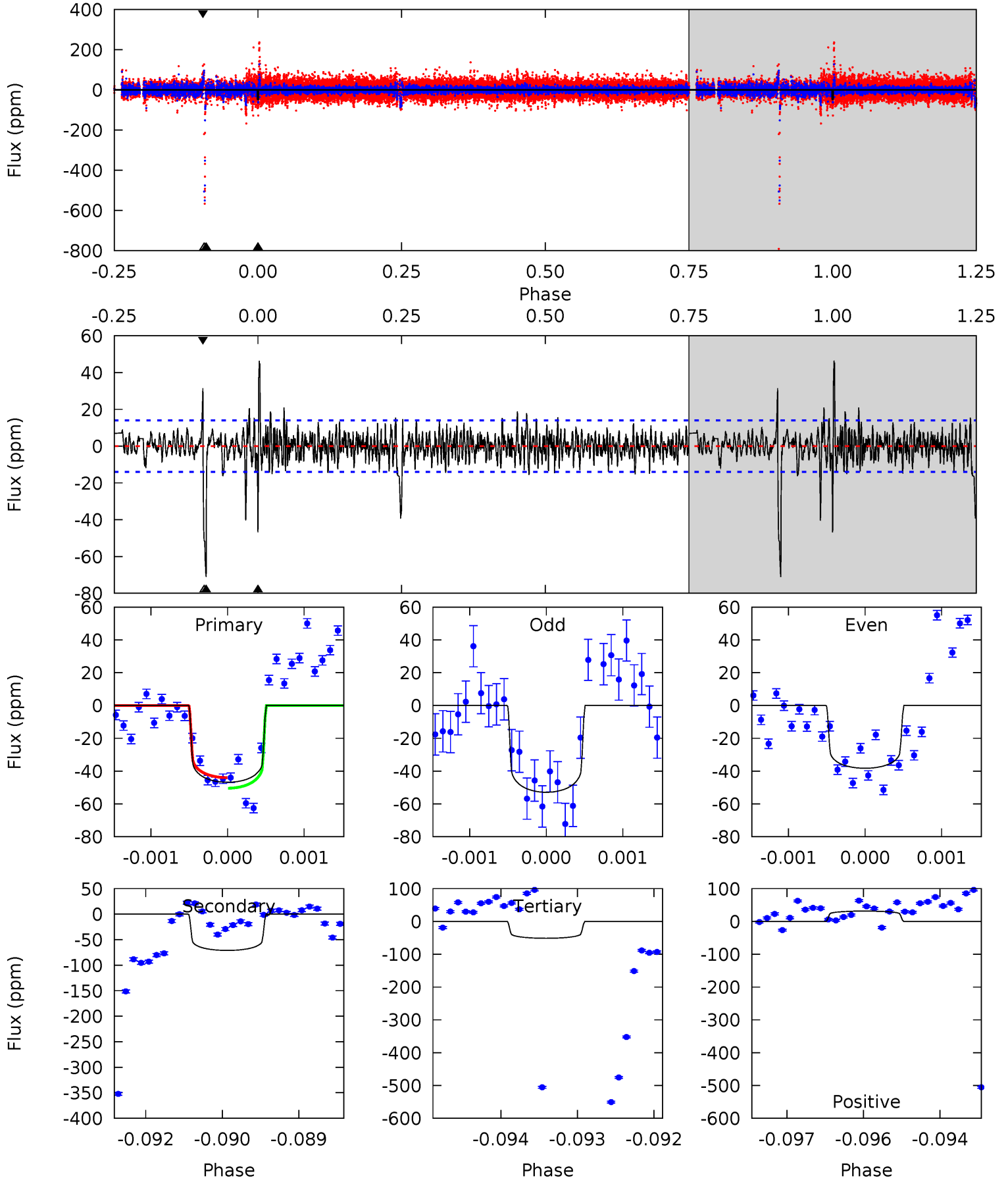
TCE 005284647-01 P=374.397309 Days  $T_0=258.537874$  (BKJD)



# DV Model-Shift Uniqueness Test

005284647-01,  $P = 374.410418$  Days,  $E = 258.493504$  Days

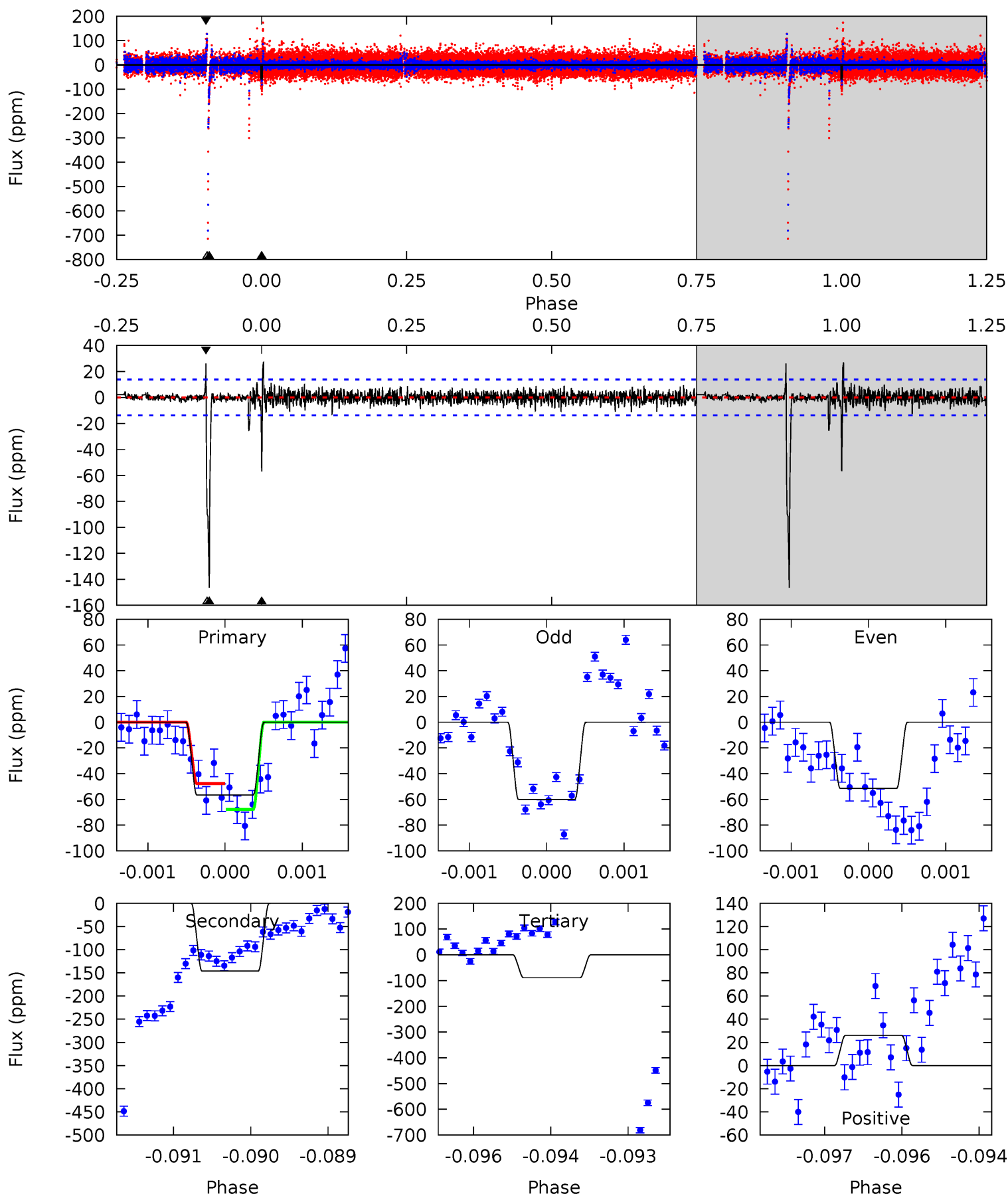
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.0	27.4	19.8	12.1	5.39	3.20	2.42	-1.72	5.90	7.63	15.2	2.78	1.06	0.39	1.23



# Alt Model-Shift Uniqueness Test

005284647-01, P = 374.397309 Days, E = 258.537874 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
22.2	57.3	35.0	10.2	5.39	3.20	1.59	-12.9	12.0	22.3	47.1	1.70	1.11	0.16	3.87



### Stellar Parameters For KIC 005284647

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$9982^{+284}_{-426}$	$4.201^{+0.144}_{-0.267}$	$0.070^{+0.150}_{-0.550}$	$2.014^{+0.919}_{-0.495}$	$2.351^{+0.449}_{-0.549}$	$0.406^{+0.361}_{-0.247}$
	+3%/-4%	+3%/-6%	+214%/-786%	+46%/-25%	+19%/-23%	+89%/-61%
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 005284647-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-71 \pm 3$	$1.41^{+0.46}_{-0.37}$	$765^{+77}_{-64}$	$12542^{+3696}_{-1959}$	$35006^{+26839}_{-14294}$
Alt.	$-146 \pm 3$	$1.73^{+0.55}_{-0.40}$	$759^{+79}_{-56}$	$14432^{+3440}_{-2184}$	$47032^{+30414}_{-18492}$

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

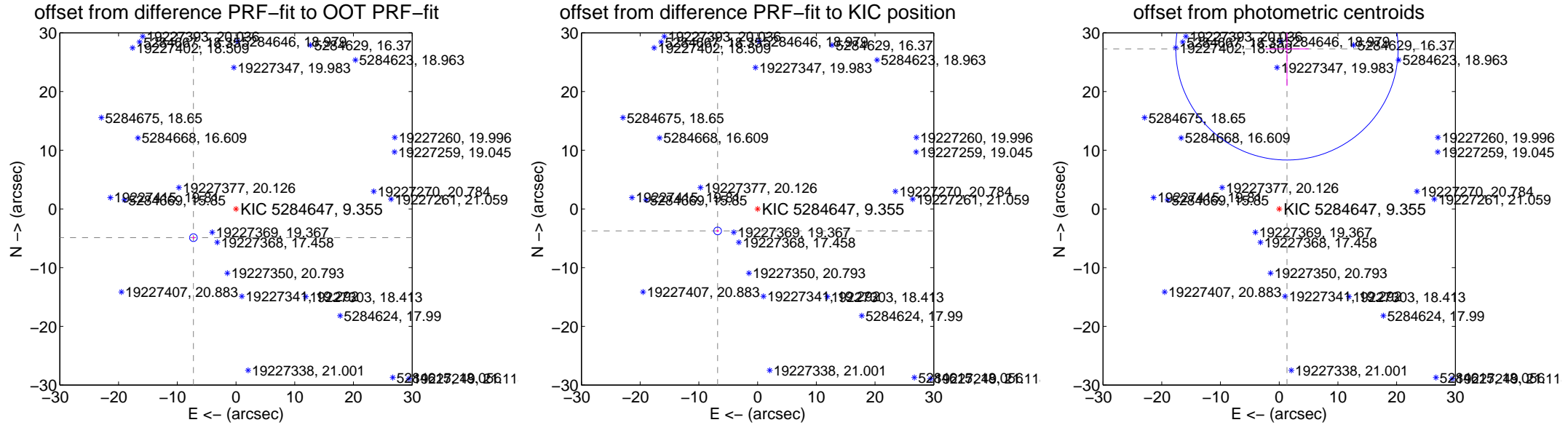
# DV Centroid Data

Supplemental centroid analysis for 005284647-01. **Kepler magnitude: 9.36.** Transit SNR 5.81

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

The direct PRF centroid is offset from the target star catalog position by about 1.23 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>8.749 <math>\pm</math> 0.219</b>	<b>40.03</b>	7.251 $\pm$ 0.217	-4.895 $\pm$ 0.222
PRF-fit source offset from KIC position	<b>7.770 <math>\pm</math> 0.218</b>	<b>35.63</b>	6.808 $\pm$ 0.217	-3.745 $\pm$ 0.222
photometric centroid source offset	<b>27.29 <math>\pm</math> 6.31</b>	<b>4.33</b>	-1.32 $\pm$ 3.71	27.26 $\pm$ 6.31



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

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



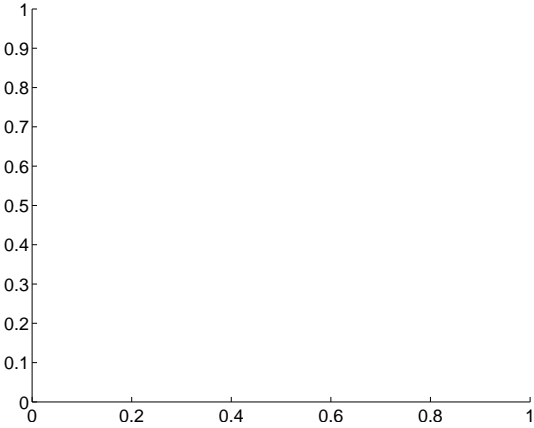
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



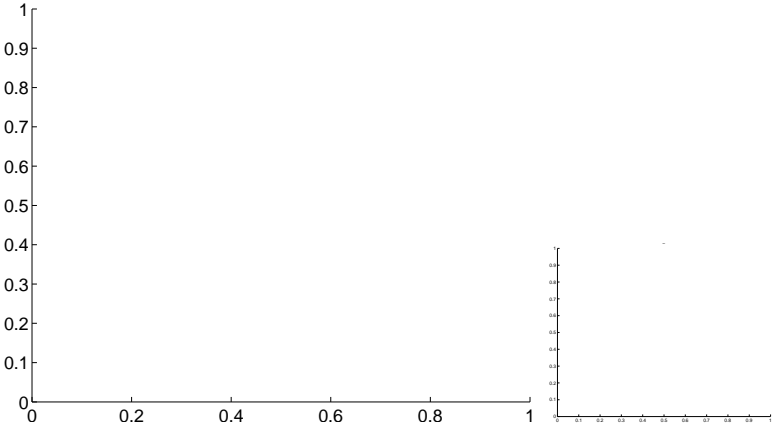


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

Q9 no difference image



Q9 no OOT image



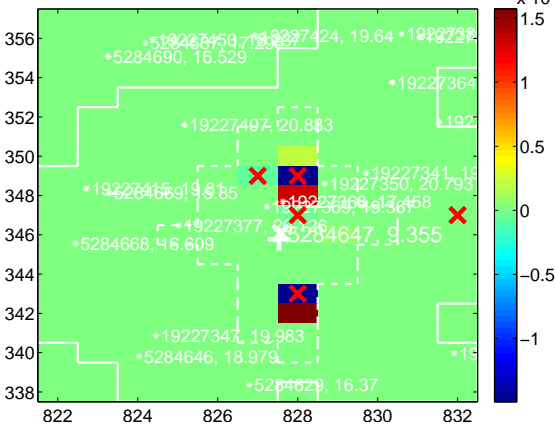
Q10 no difference image



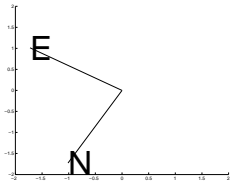
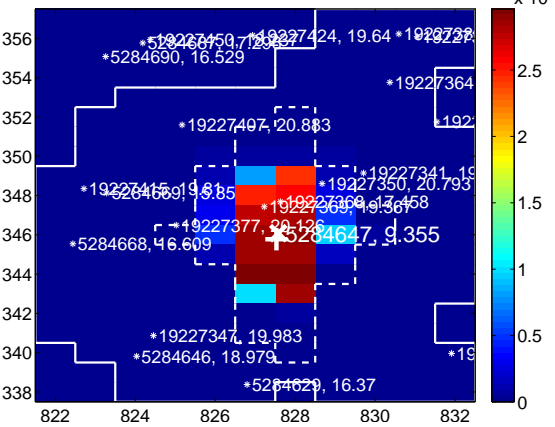
Q10 no OOT image



Q11 difference image. Poor Quality



Q11 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.

Q13 no difference image



Q13 no OOT image



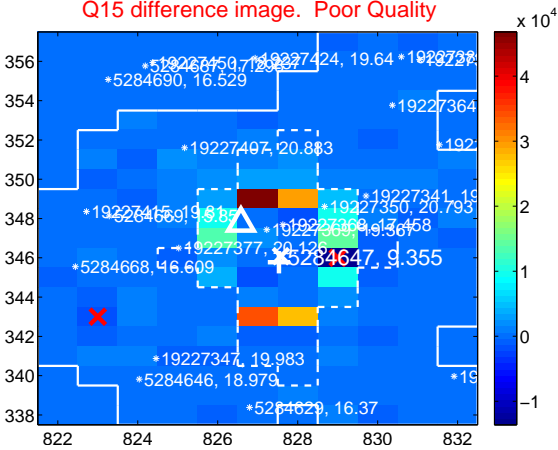
Q14 no difference image



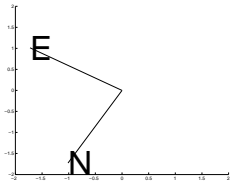
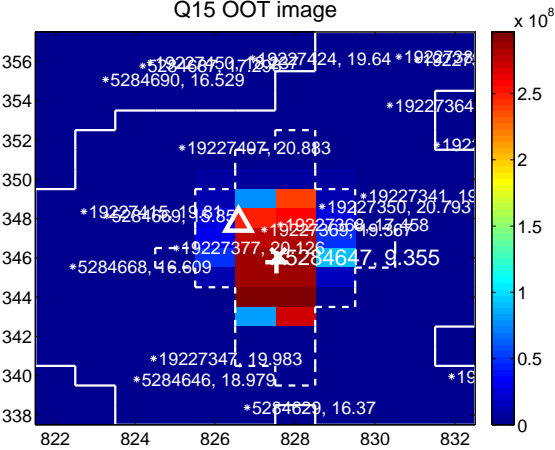
Q14 no OOT image



Q15 difference image. Poor Quality



Q15 OOT image



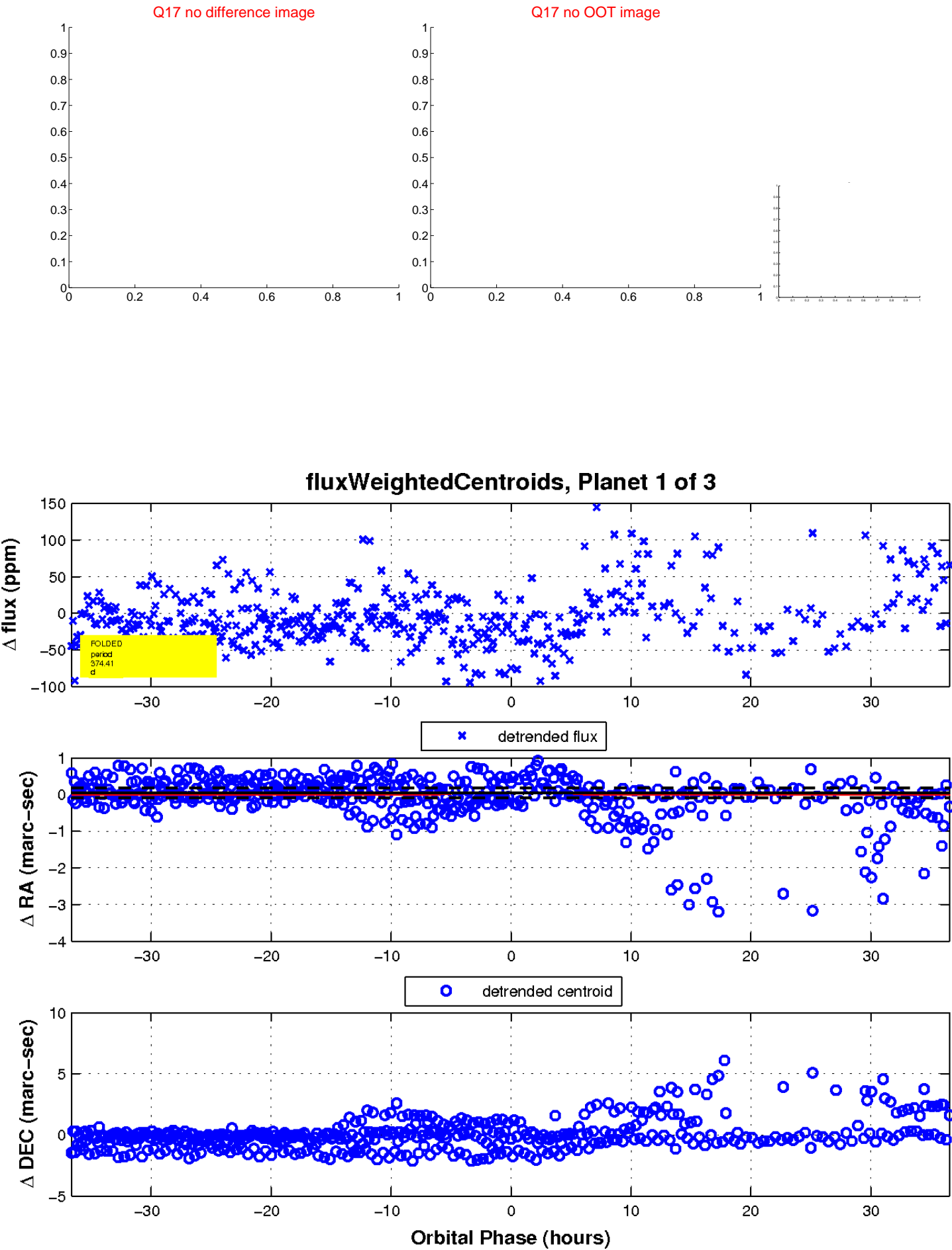
Q16 no difference image



Q16 no OOT image

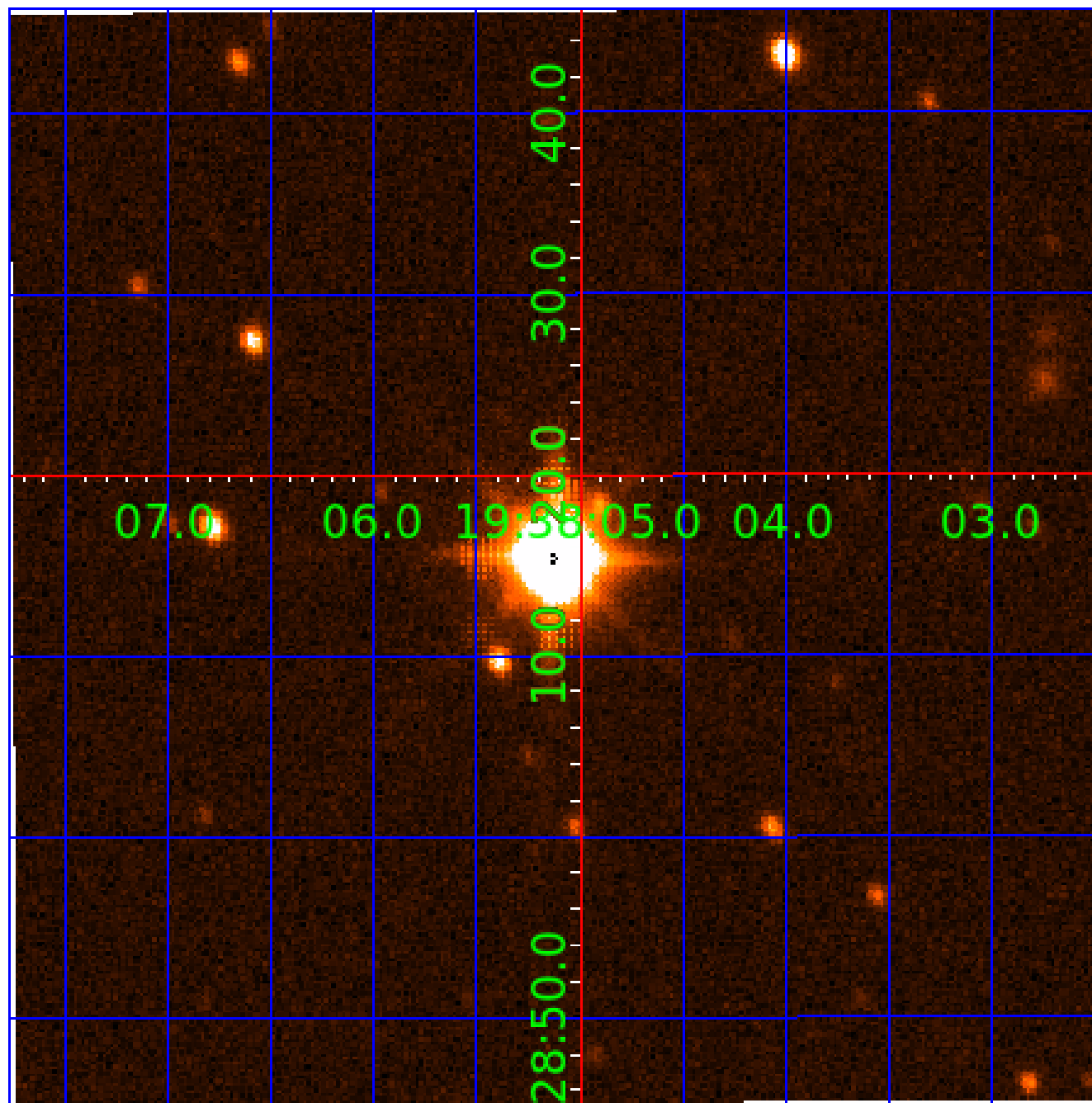


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 005284647

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005284647-01	OBS	No	374.410418	258.493505	35.9	12.228	8.7	5.8	2.01	9982	1.35	19.74
005284647-02	OBS	No	389.601733	224.367031	64.0	26.860	9.8	7.7	2.01	9982	1.76	18.72
005284647-03	OBS	No	4.507918	132.875720	2.1	33.972	7.5	5.5	2.01	9982	0.31	7153.24

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005284647-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_TER_ALT—CENT_SATURATED
005284647-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—INCONSISTENT_TRANS—CENT_SATURATED
005284647-03	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED

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

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

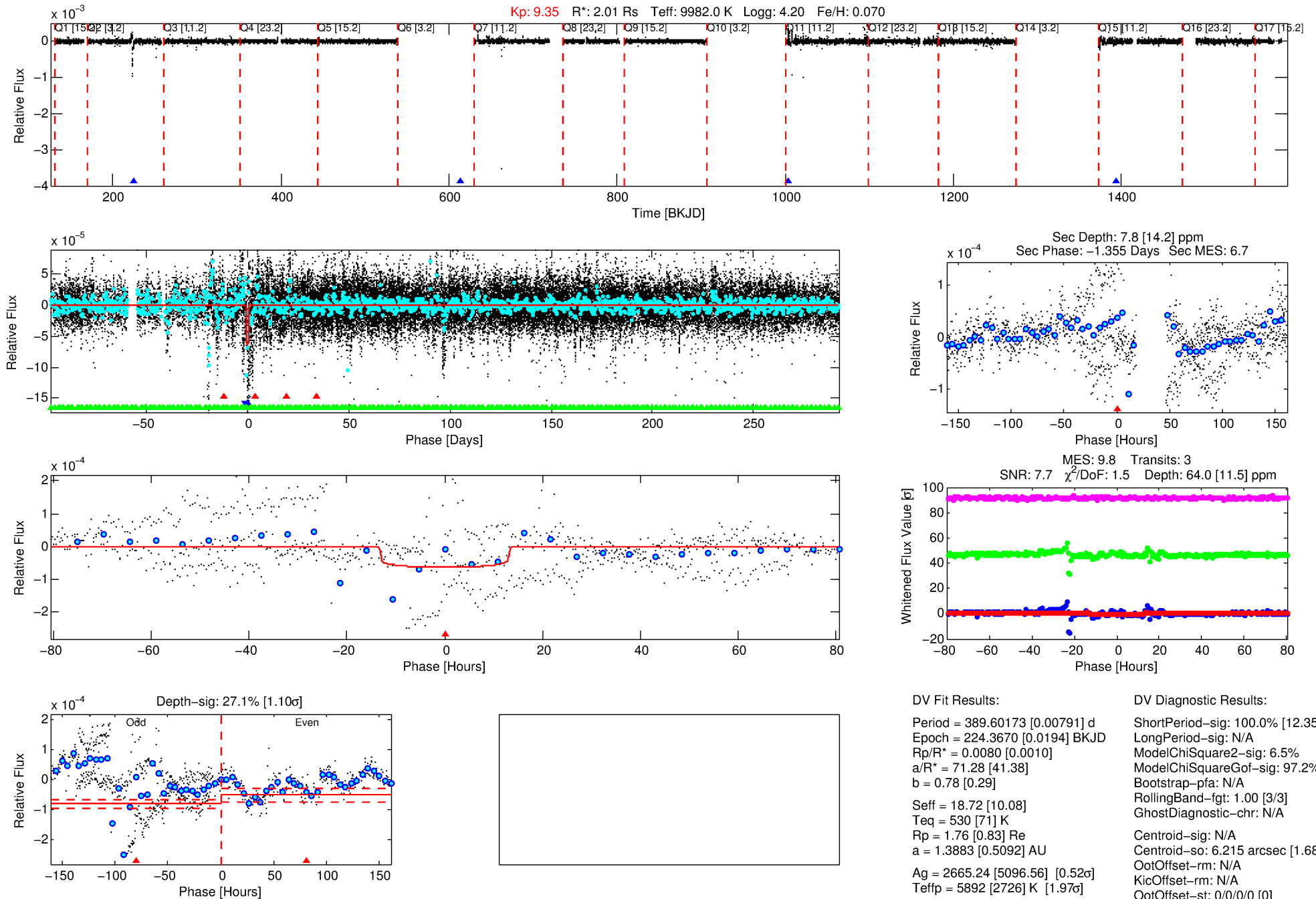
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005284647-02

No Significant Match Found

# DV One-Page Summary

KIC: 5284647 Candidate: 2 of 3 Period: 389.602 d



## DV Fit Results:

Period = 389.60173 [0.00791] d  
Epoch = 224.3670 [0.0194] BKJD  
Rp/R\* = 0.0080 [0.0010]  
a/R\* = 71.28 [41.38]  
b = 0.78 [0.29]  
Seff = 18.72 [10.08]  
Teq = 530 [71] K  
Rp = 1.76 [0.83] Re  
a = 1.3883 [0.5092] AU  
Ag = 2665.24 [5096.56] [0.52σ]  
Teffp = 5892 [2726] K [1.97σ]

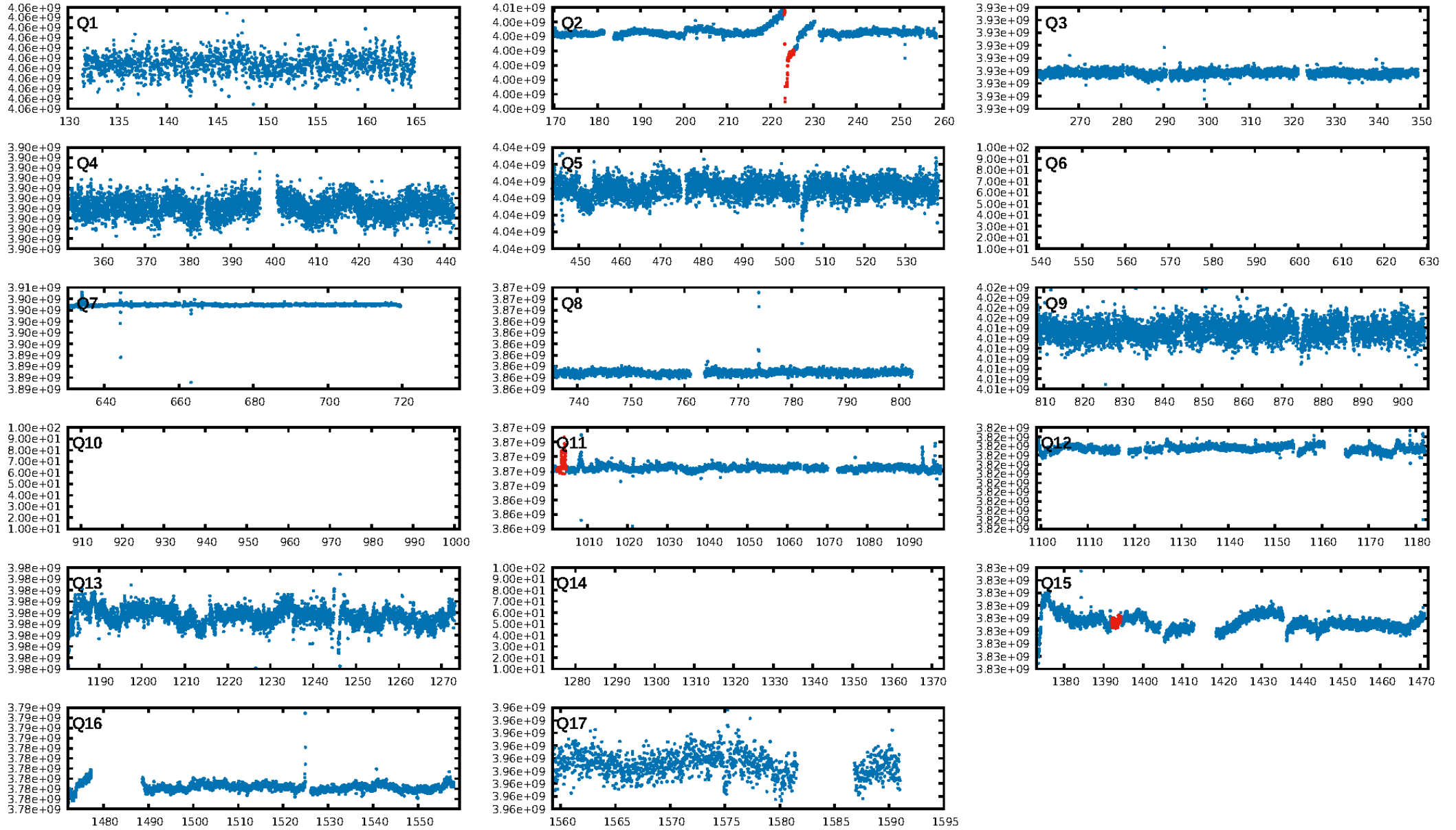
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [12.35σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 6.5%  
ModelChiSquareGof-sig: 97.2%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: 6.215 arcsec [1.68σ]  
OotOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-rm: N/A  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: N/A

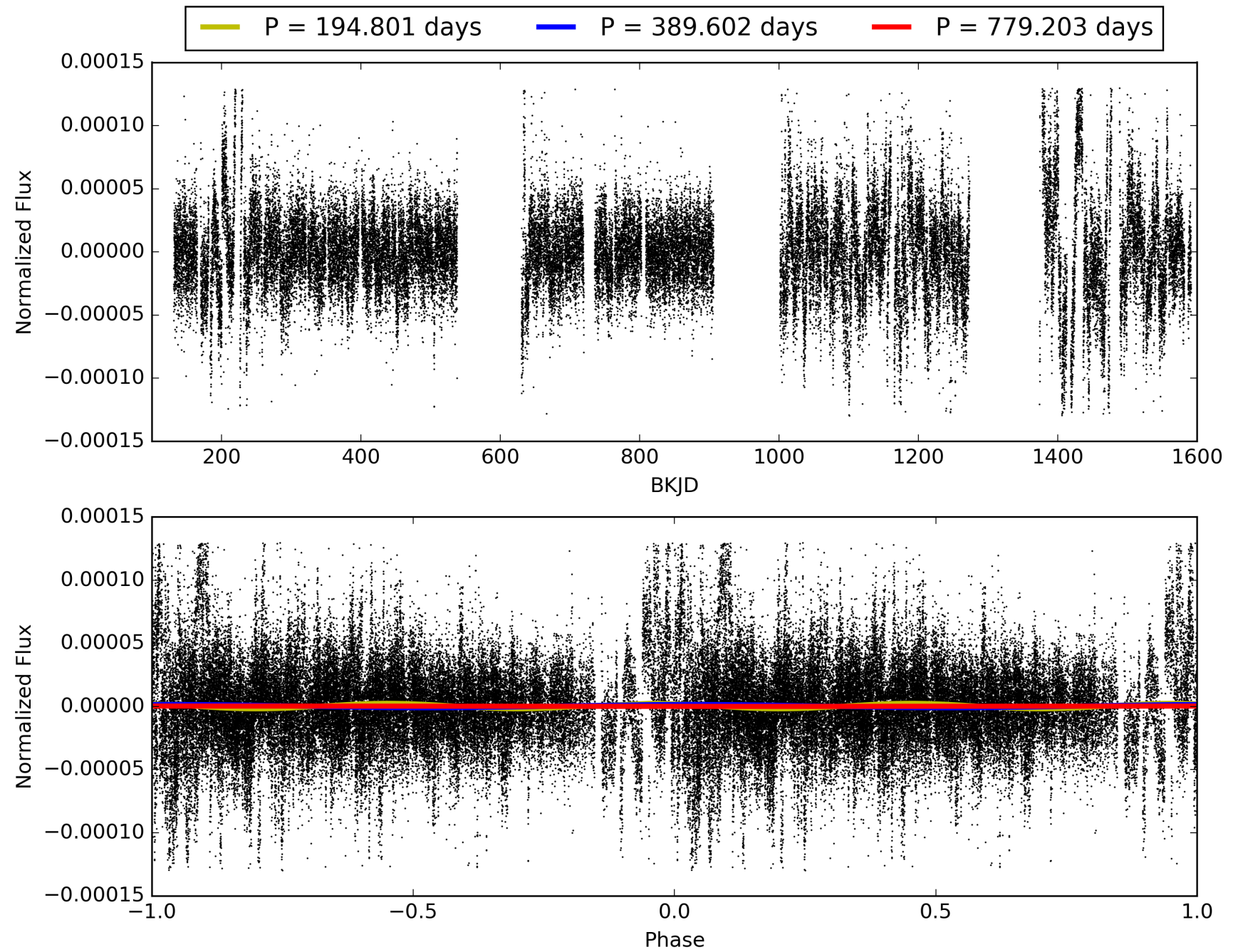
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 11:47:23 Z

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

# TCE 005284647-02, PDC Light Curves



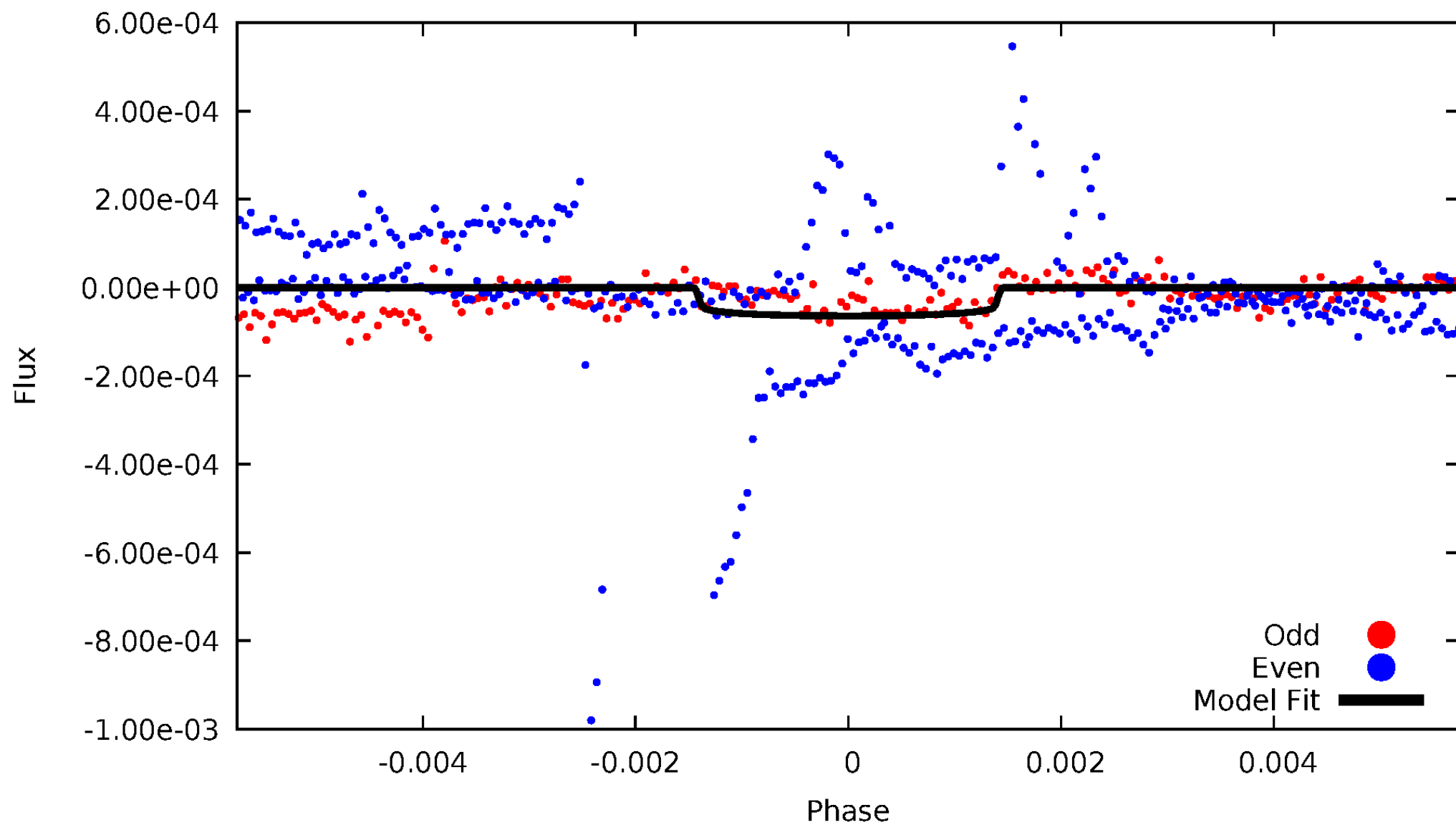
TCE 005284647-02





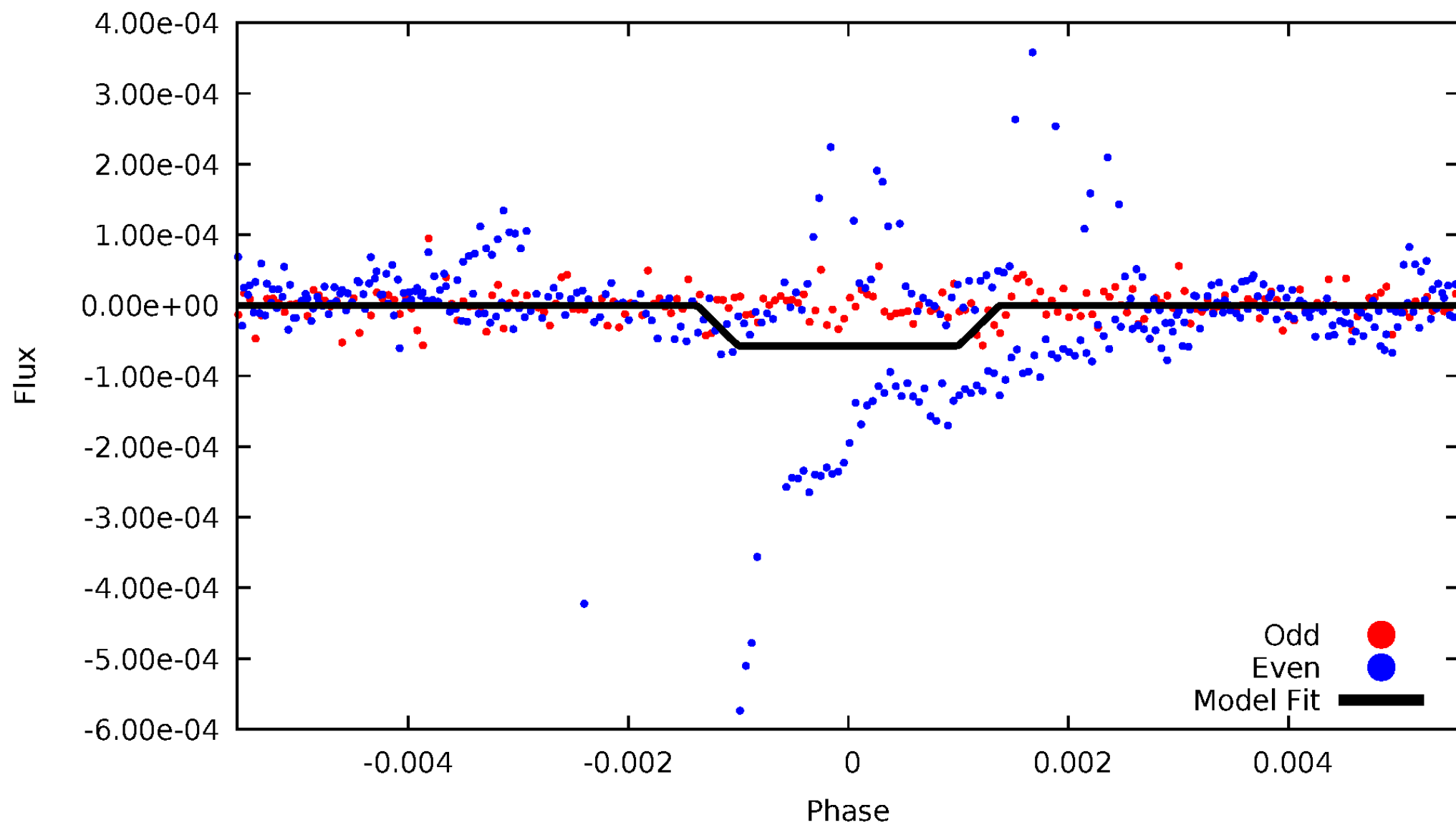
# DV Odd/Even

TCE 005284647-02



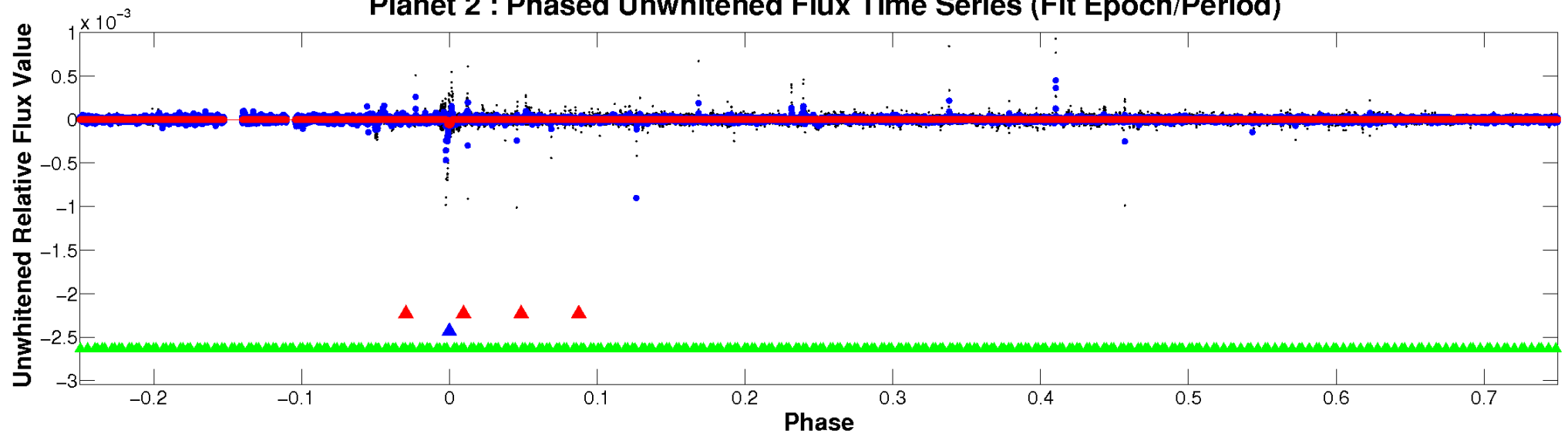
# ALT Odd/Even

TCE 005284647-02

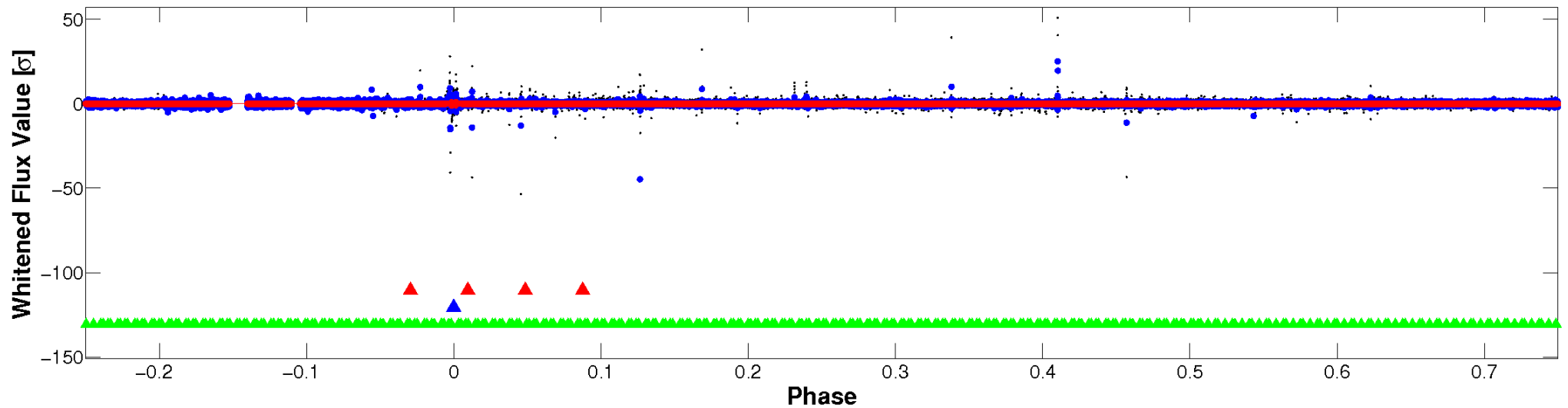


# Non-Whitened Vs. Whitened Light Curve

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

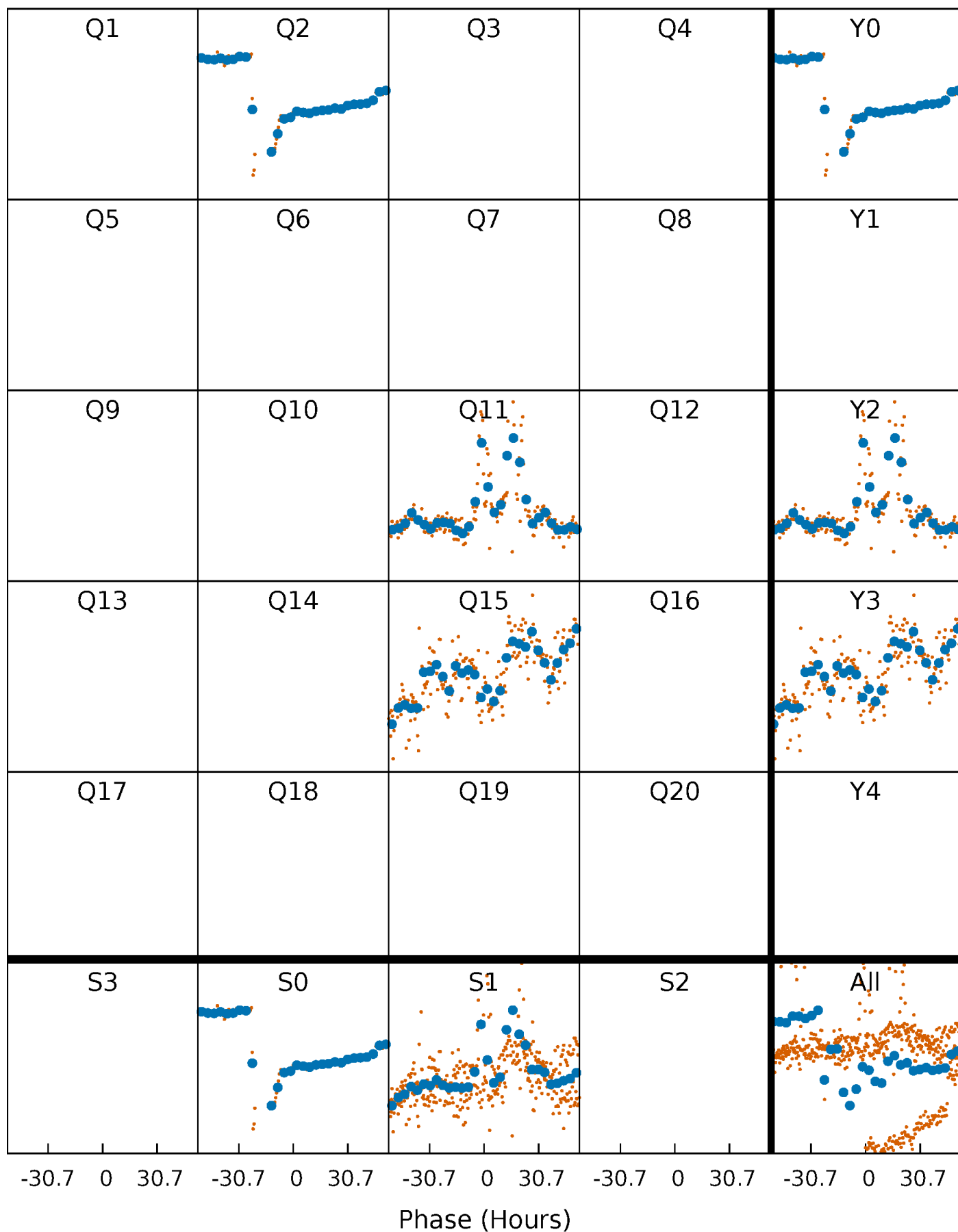


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



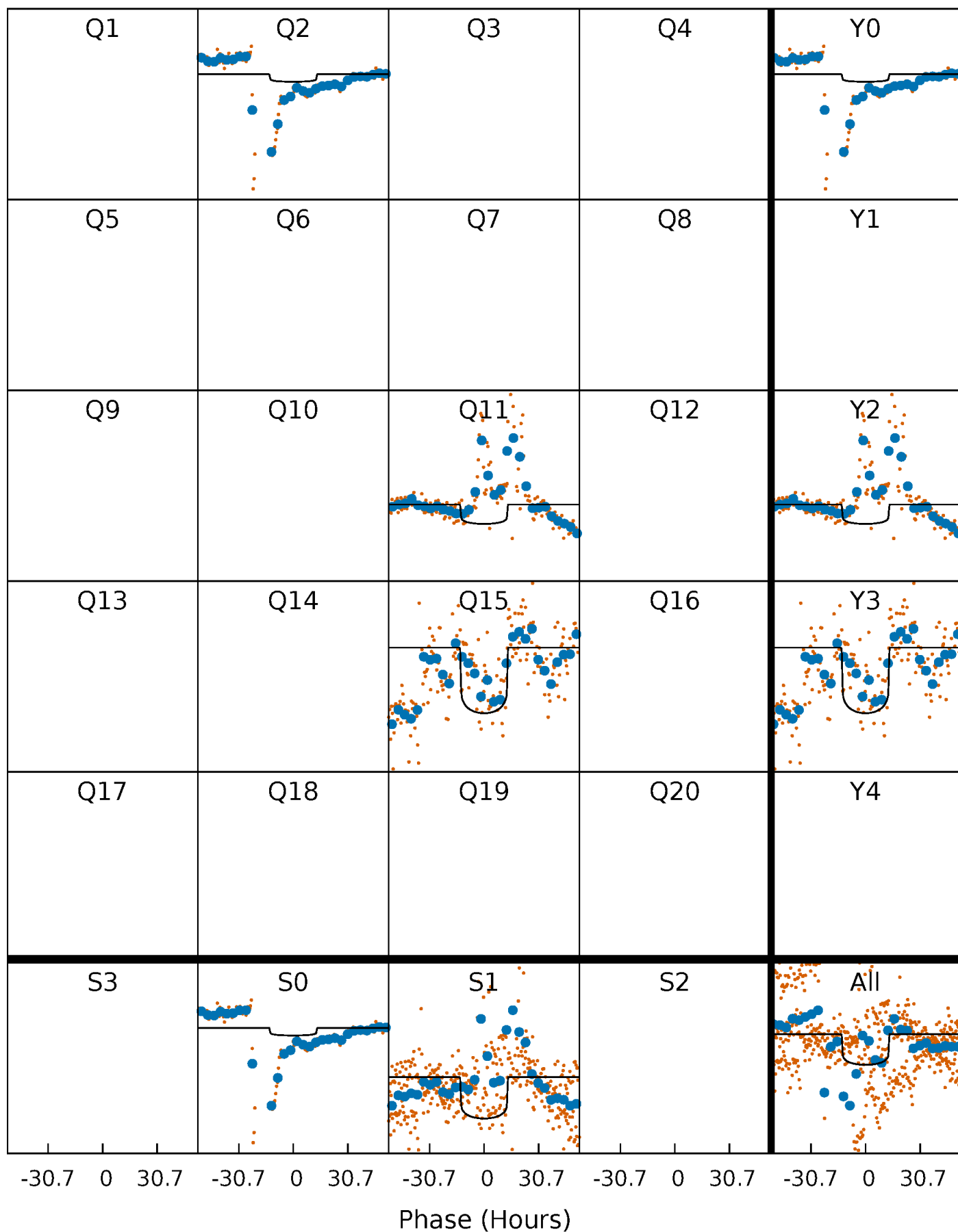
# PDC Quarter-Phased Transit Curves

TCE 005284647-02 P=389.601733 Days  $T_0=224.367031$  (BKJD)



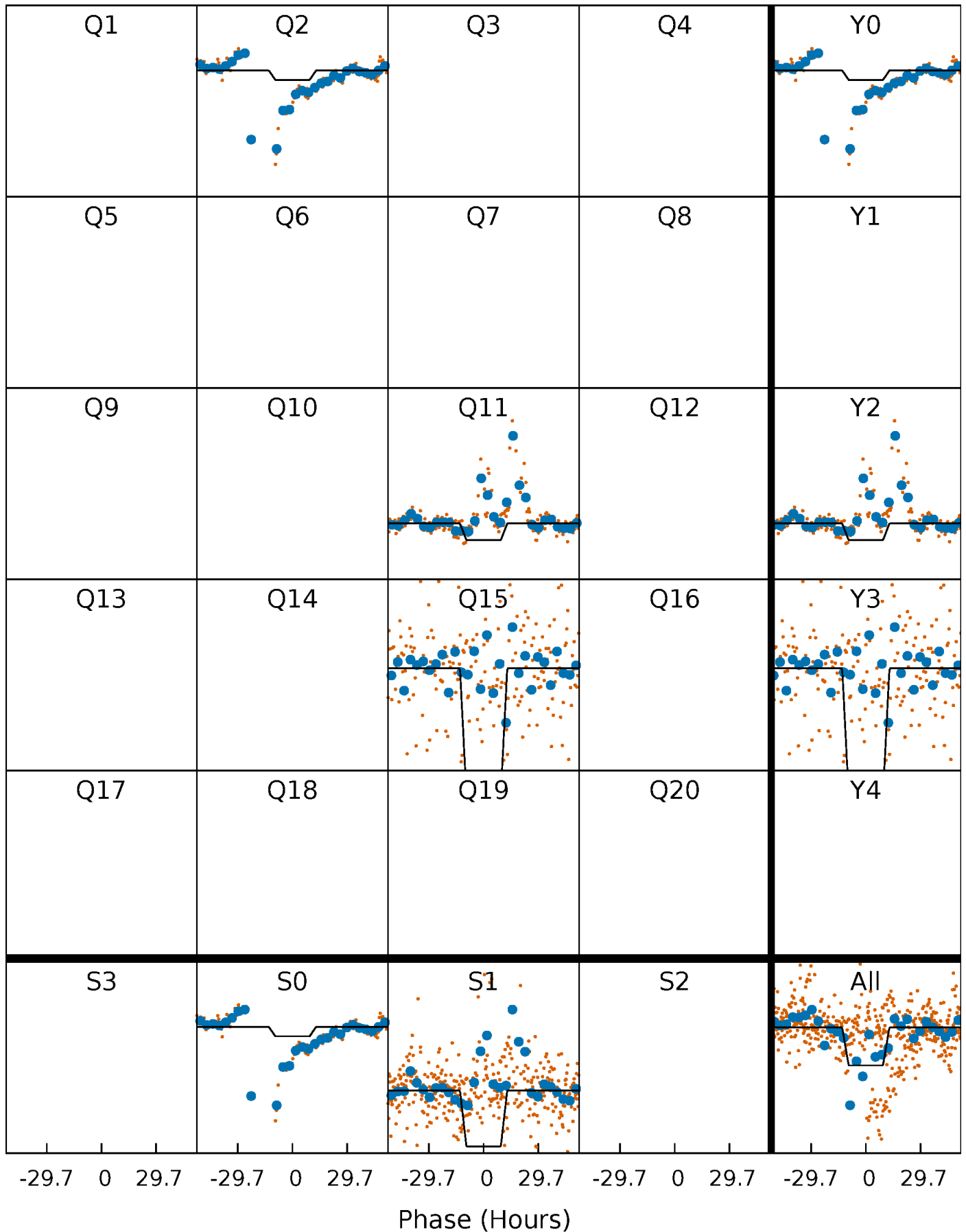
# DV Quarter-Phased Transit Curves

TCE 005284647-02 P=389.601733 Days  $T_0=224.367031$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

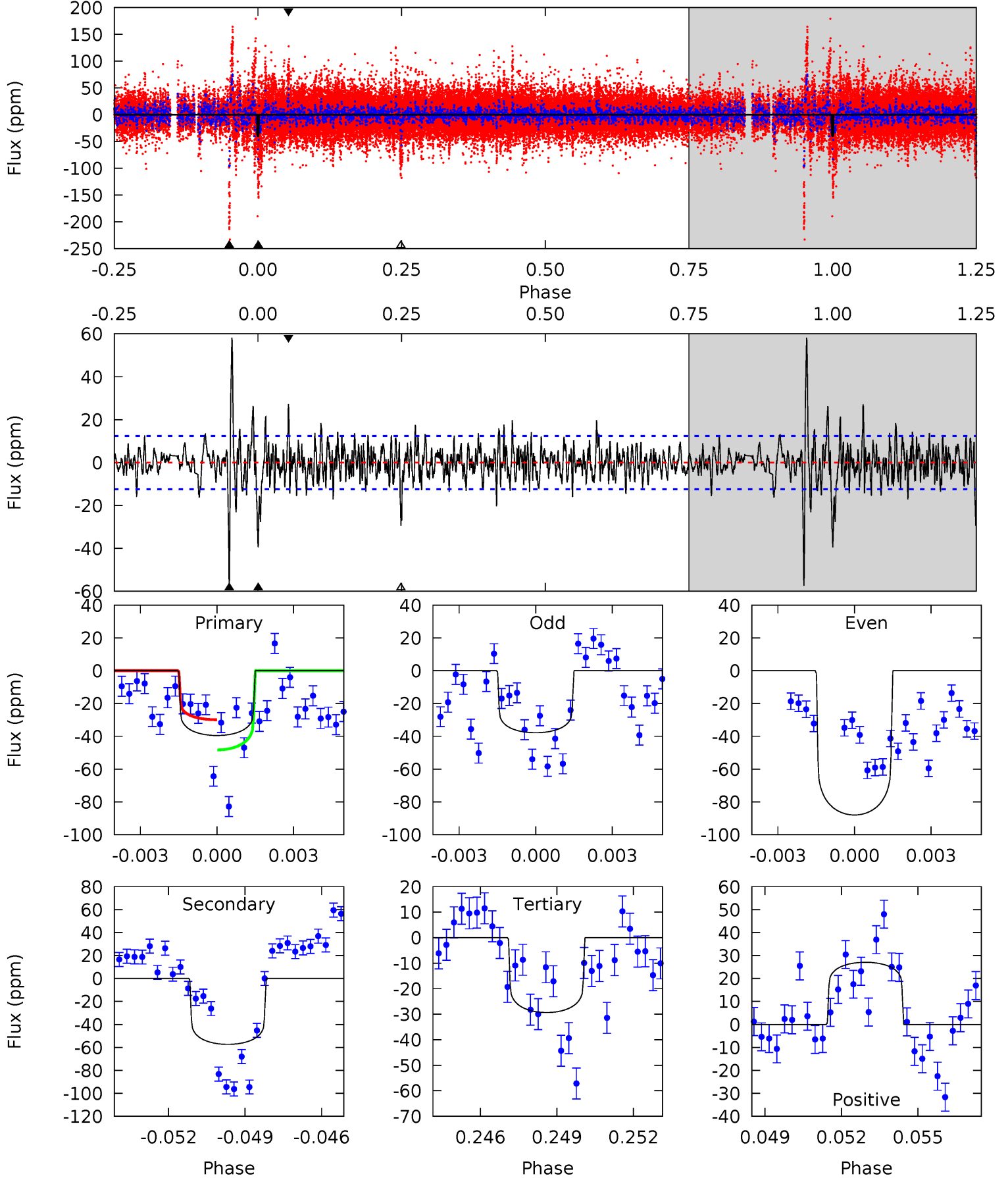
TCE 005284647-02 P=389.599877 Days  $T_0=224.339631$  (BKJD)



# DV Model-Shift Uniqueness Test

005284647-02, P = 389.601733 Days, E = 224.367031 Days

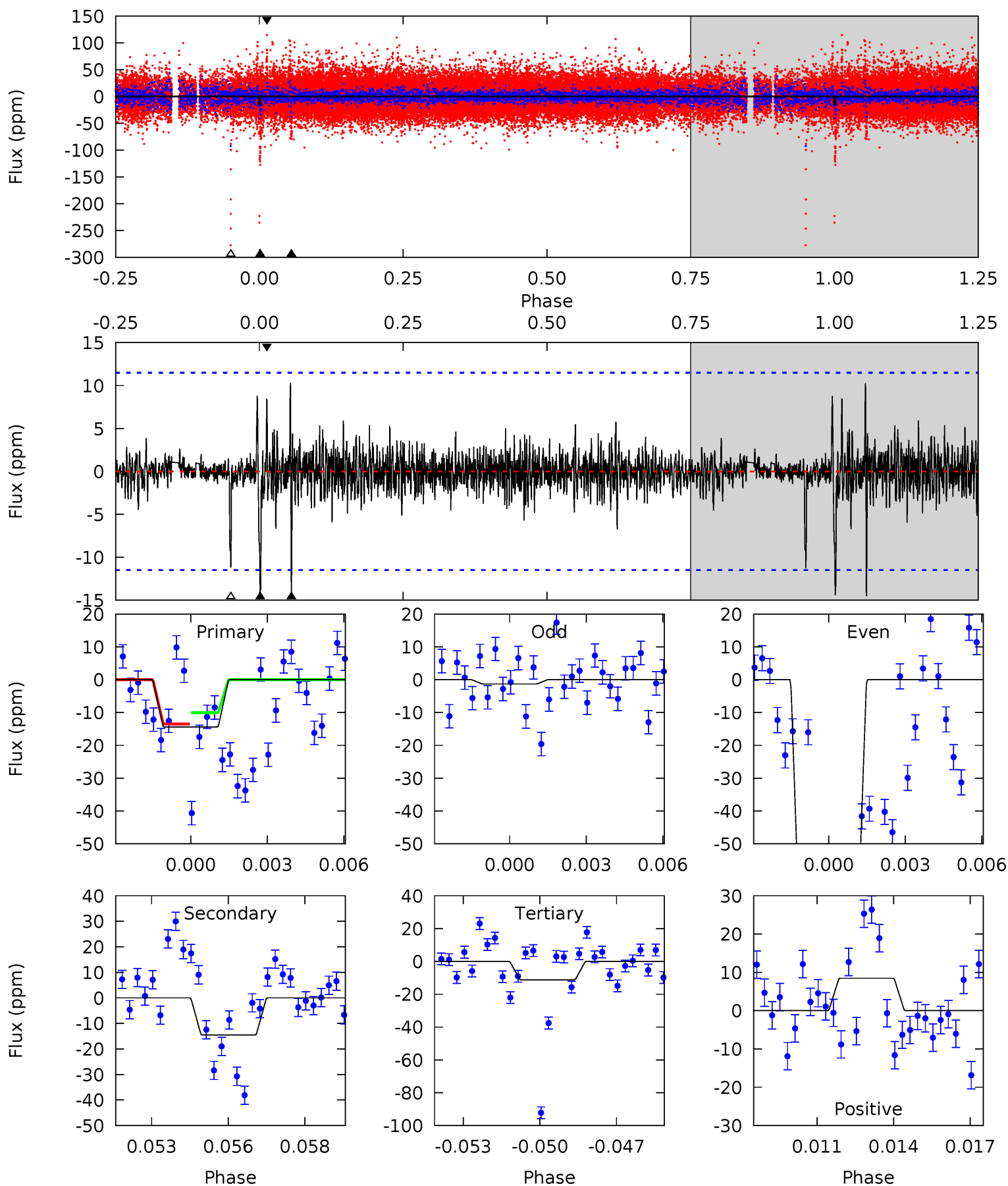
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.8	24.3	12.4	11.5	5.26	2.98	2.90	4.31	5.29	11.9	12.9	11.7	1.87	0.50	3.94



# Alt Model-Shift Uniqueness Test

005284647-02,  $P = 389.599877$  Days,  $E = 224.339631$  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
6.61	6.65	5.15	3.88	5.27	2.99	0.78	1.45	2.72	1.50	2.77	22.5	45.8	0.41	0.79





### Stellar Parameters For KIC 005284647

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$9982^{+284}_{-426}$	$4.201^{+0.144}_{-0.267}$	$0.070^{+0.150}_{-0.550}$	$2.014^{+0.919}_{-0.495}$	$2.351^{+0.449}_{-0.549}$	$0.406^{+0.361}_{-0.247}$
	+3%/-4%	+3%/-6%	+214%/-786%	+46%/-25%	+19%/-23%	+89%/-61%
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 005284647-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-57 \pm 2$	$1.78^{+0.49}_{-0.32}$	$750^{+74}_{-54}$	$9523^{+1101}_{-781}$	$18266^{+9303}_{-6332}$
Alt.	$-15 \pm 2$	$1.75^{+0.46}_{-0.37}$	$754^{+81}_{-59}$	$6461^{+617}_{-481}$	$4938^{+2789}_{-1967}$

$T_{max}$  = 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

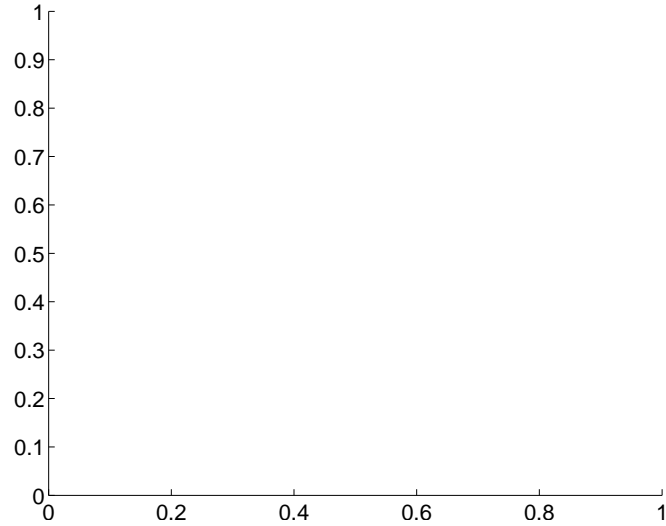
Supplemental centroid analysis for 005284647-02. **Kepler magnitude: 9.36.** Transit SNR 7.66

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

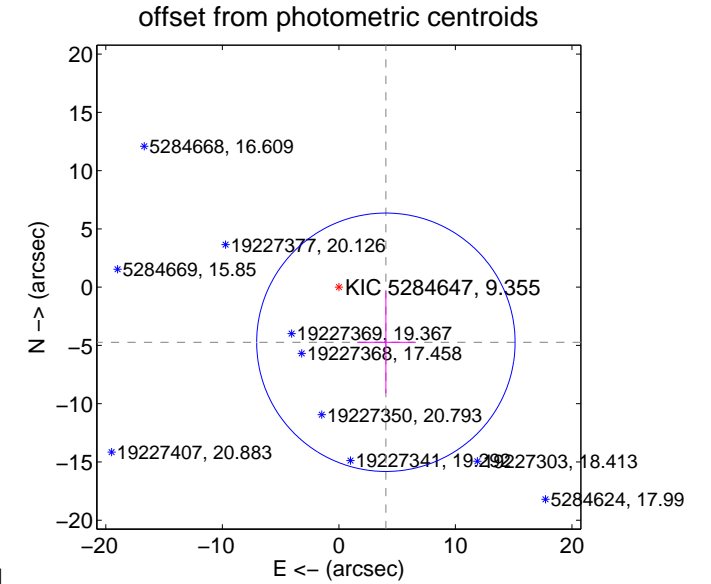
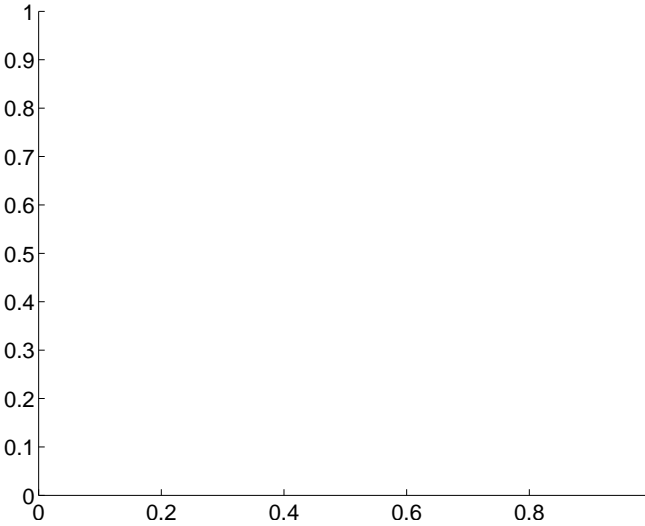
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	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	$6.21 \pm 3.70$	1.68	$-4.03 \pm 2.47$	$-4.73 \pm 4.38$

**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.



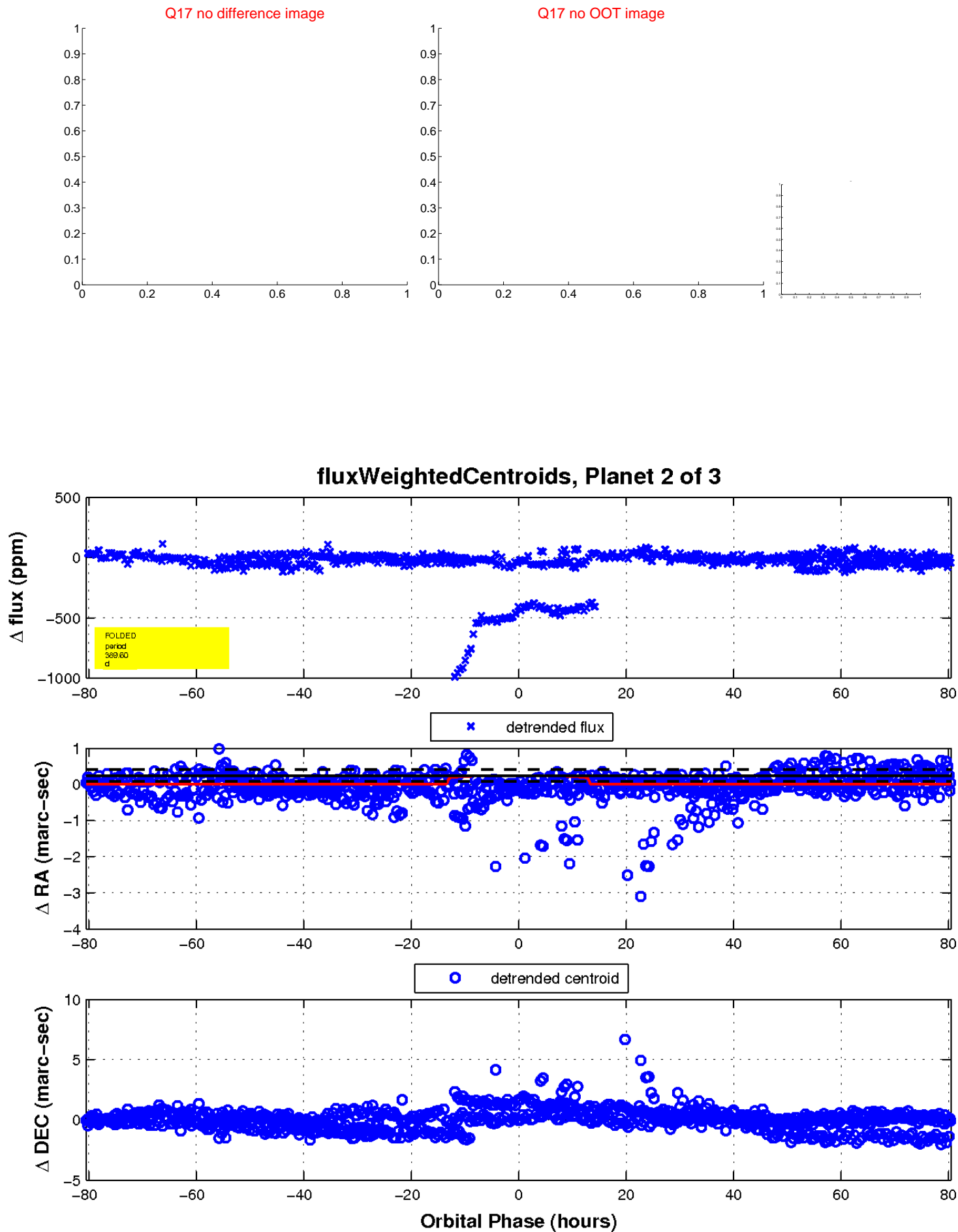
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

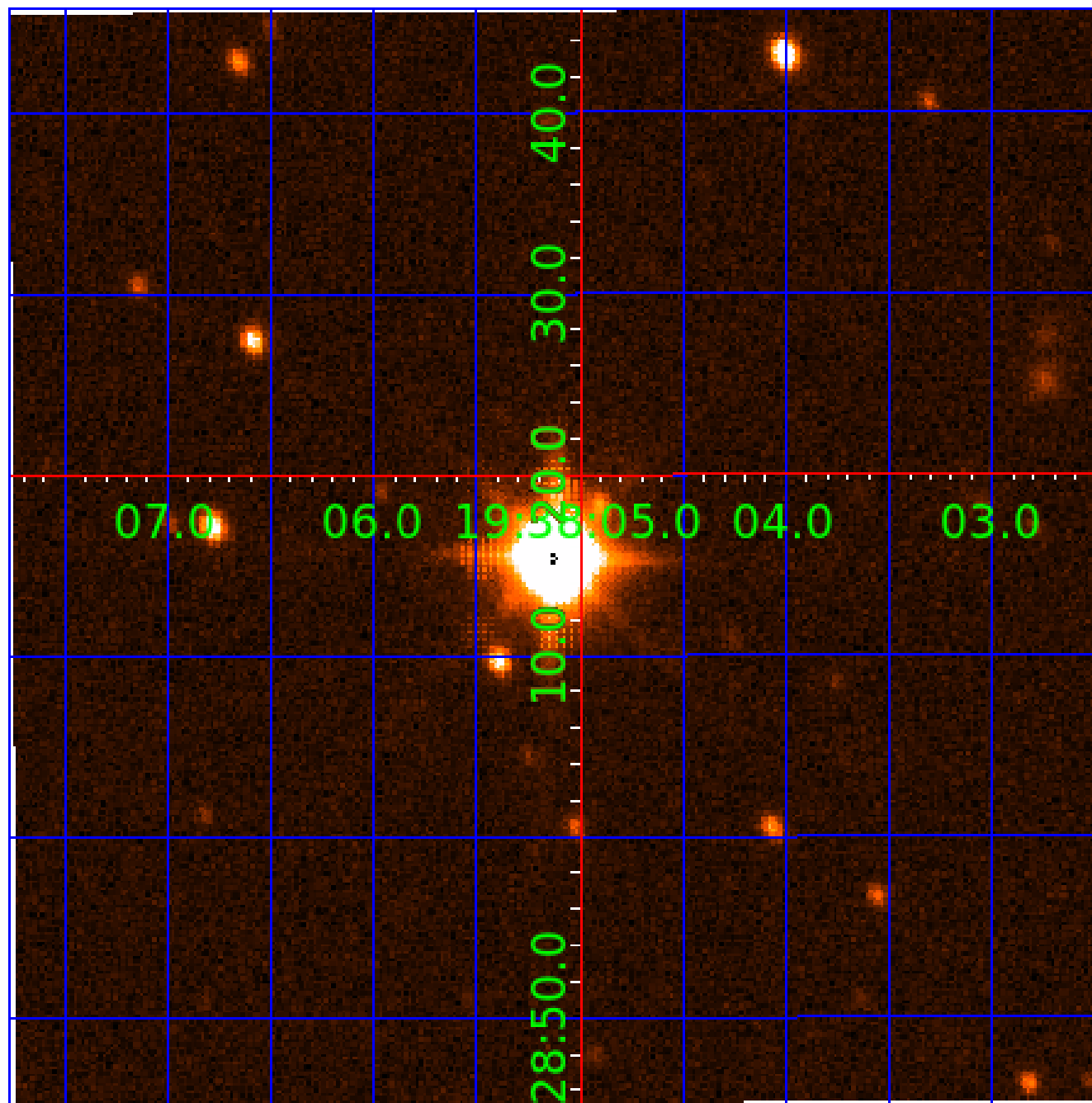


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 005284647

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005284647-01	OBS	No	374.410418	258.493505	35.9	12.228	8.7	5.8	2.01	9982	1.35	19.74
005284647-02	OBS	No	389.601733	224.367031	64.0	26.860	9.8	7.7	2.01	9982	1.76	18.72
005284647-03	OBS	No	4.507918	132.875720	2.1	33.972	7.5	5.5	2.01	9982	0.31	7153.24

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005284647-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_DV—MOD_TER_ALT—CENT_SATURATED
005284647-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—INCONSISTENT_TRANS—CENT_SATURATED
005284647-03	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED

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

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

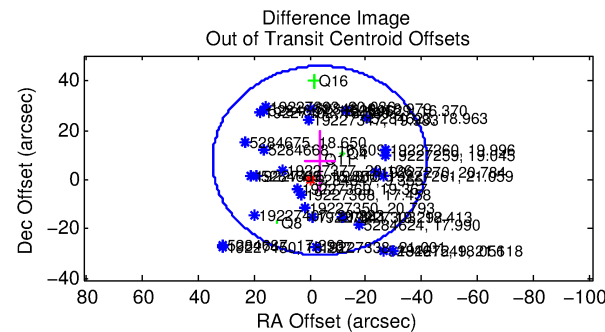
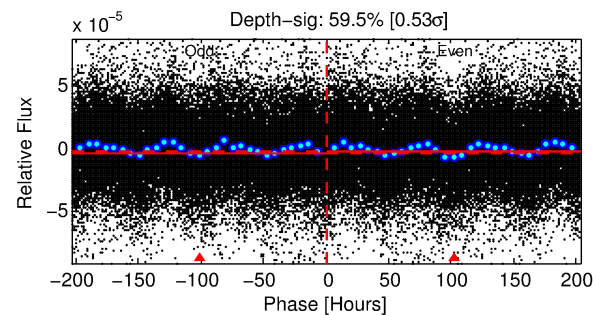
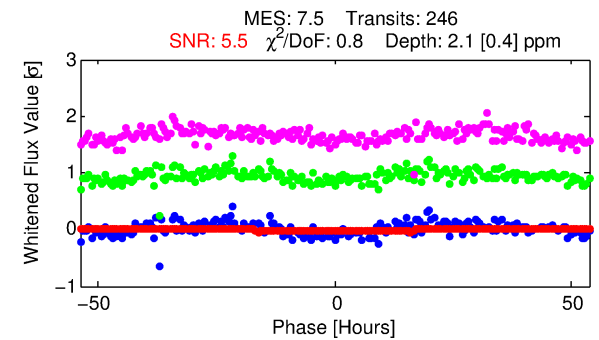
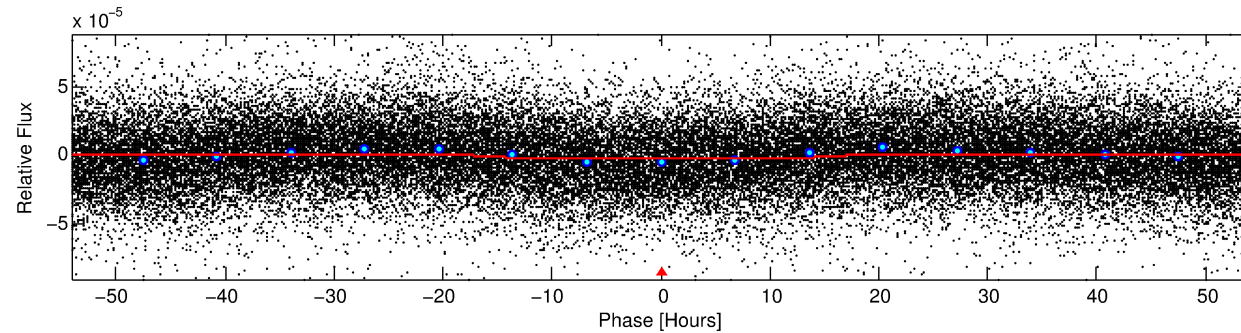
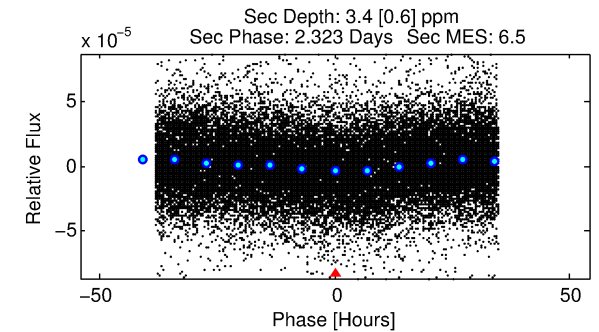
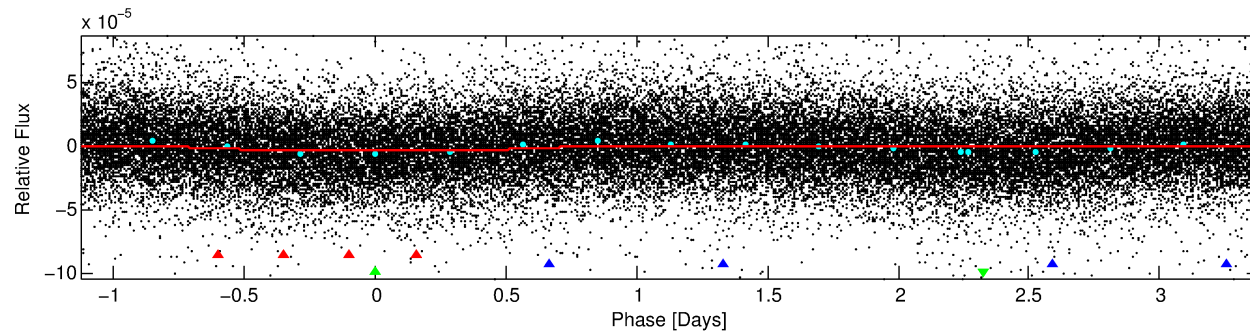
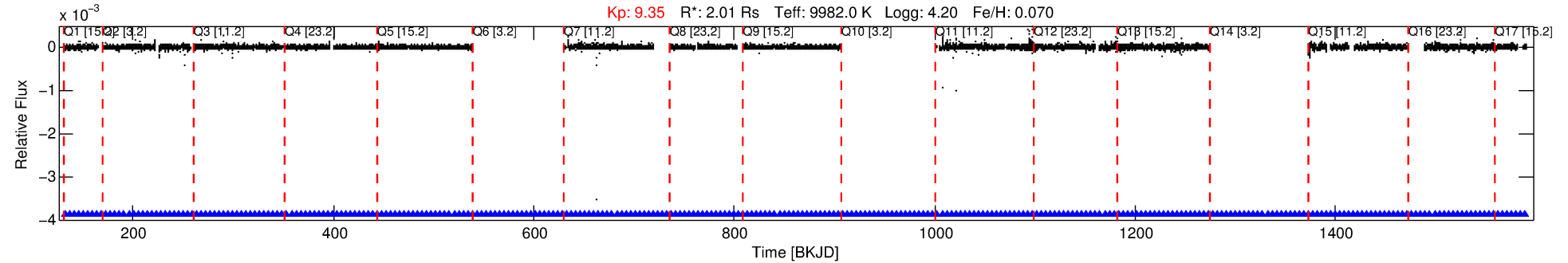
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005284647-03

No Significant Match Found

# DV One-Page Summary

KIC: 5284647 Candidate: 3 of 3 Period: 4.508 d



## DV Fit Results:

Period = 4.50792 [0.00014] d  
Epoch = 132.8757 [0.0199] BKJD  
Rp/R\* = 0.0014 [0.0006]  
a/R\* = 1.15 [0.85]  
b = 0.50 [4.43]  
Seff = 7153.24 [3849.92]  
Teq = 2345 [316] K  
Rp = 0.31 [0.19] Re  
a = 0.0710 [0.0260] AU  
Ag = 99.97 [96.88] [1.02σ]  
Teffp = 11465 [2411] K [3.75σ]

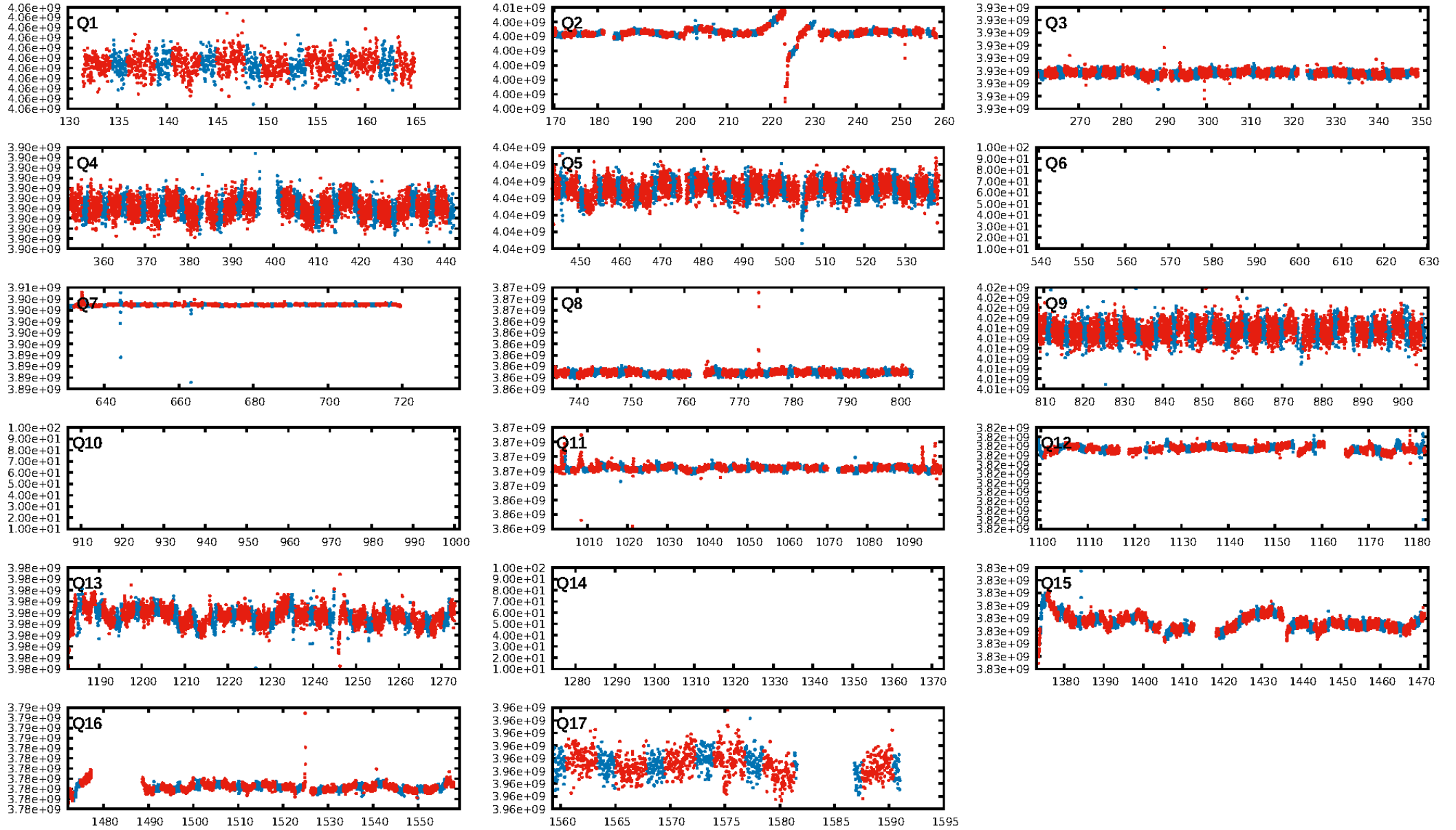
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [245.88σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [232/232]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 8.669 arcsec [0.68σ]  
KicOffset-rm: 10.020 arcsec [0.93σ]  
OotOffset-st: 0/1/3/0 [4]  
KicOffset-st: 0/1/3/0 [4]  
DiffImageQuality-fgm: 0.00 [0/4]  
DiffImageOverlap-fno: 1.00 [14/14]

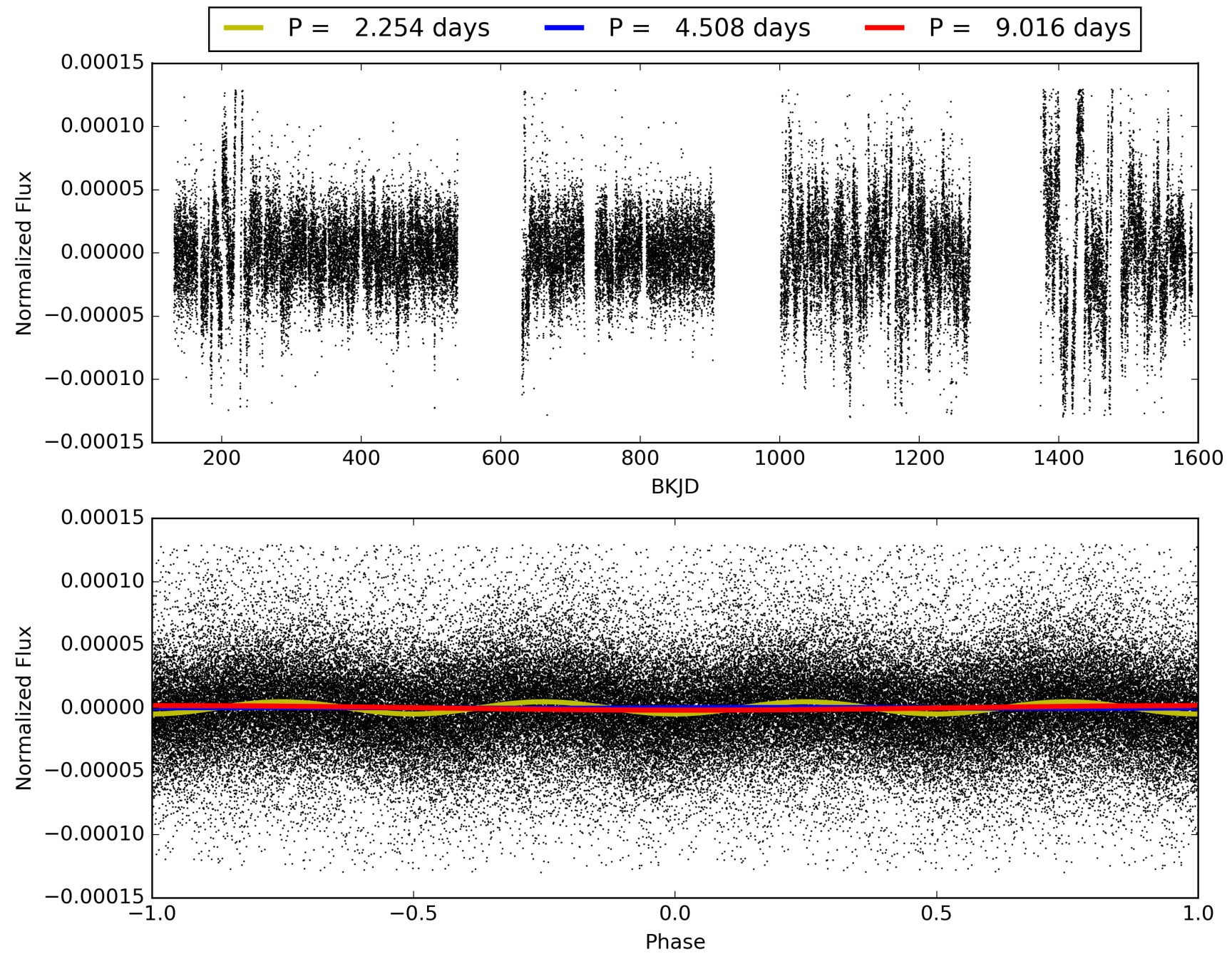
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 11:47:33 Z

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

# TCE 005284647-03, PDC Light Curves

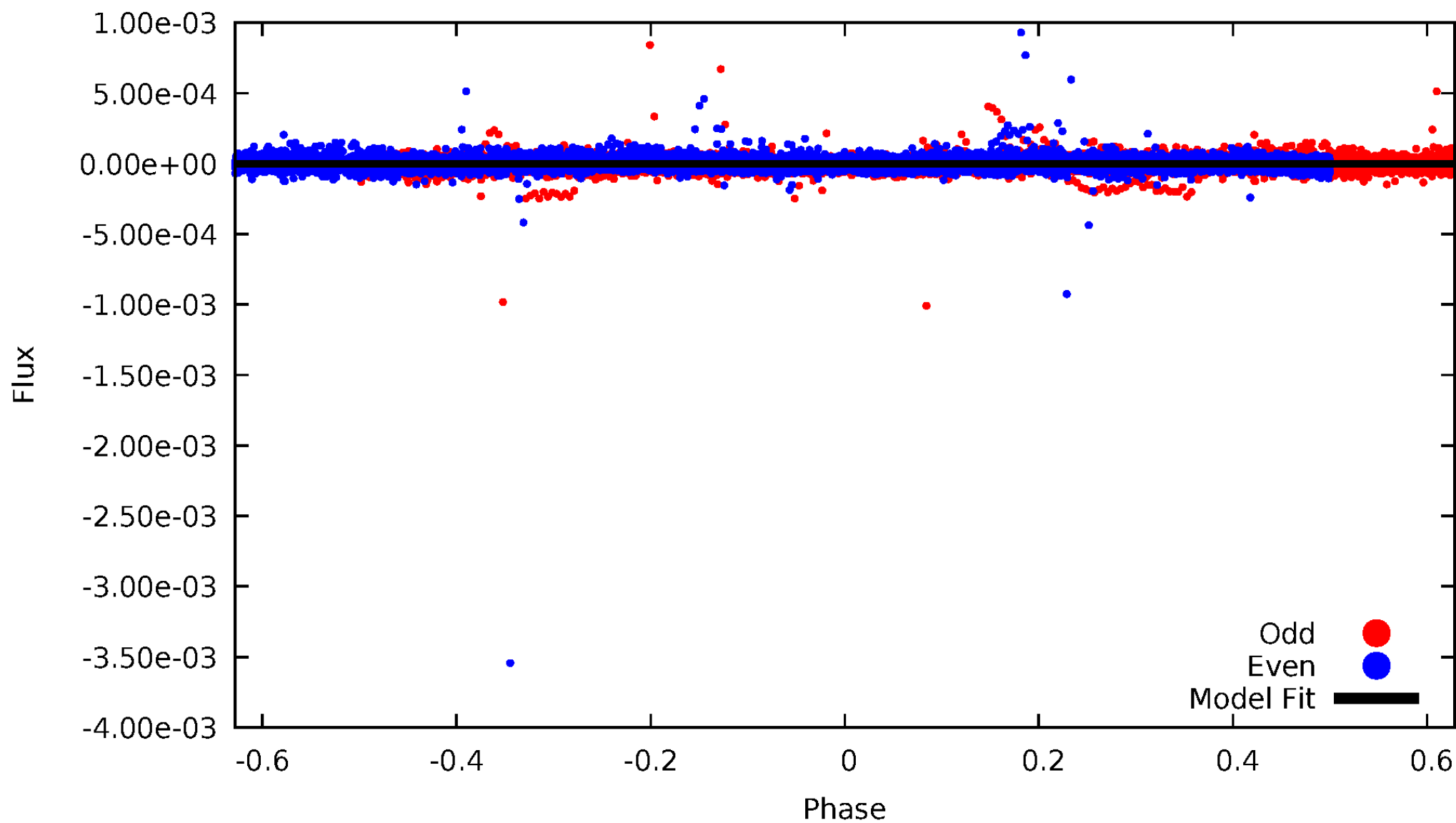


# TCE 005284647-03



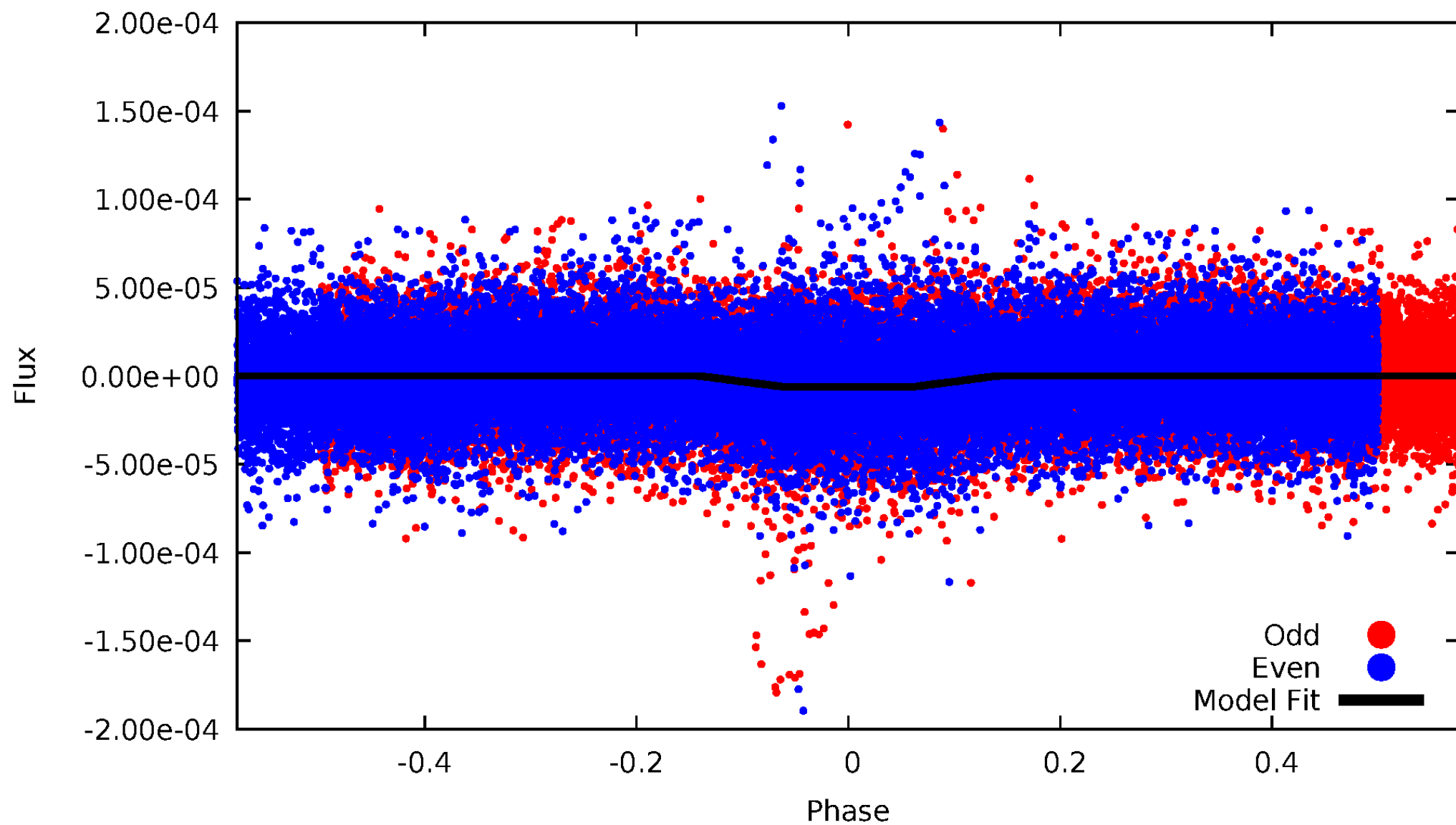
# DV Odd/Even

TCE 005284647-03



# ALT Odd/Even

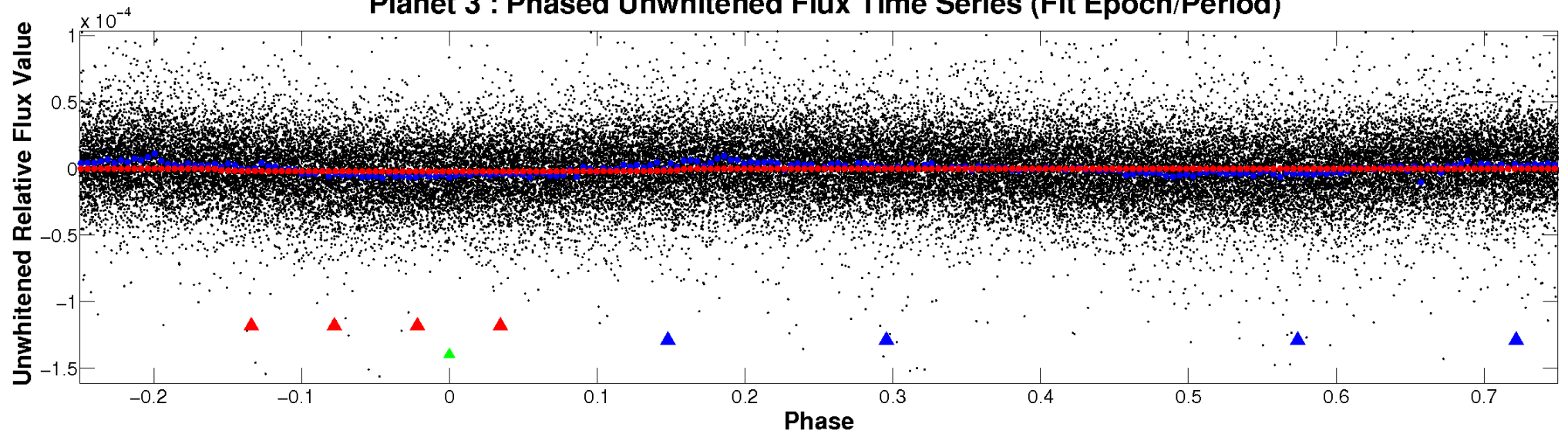
TCE 005284647-03



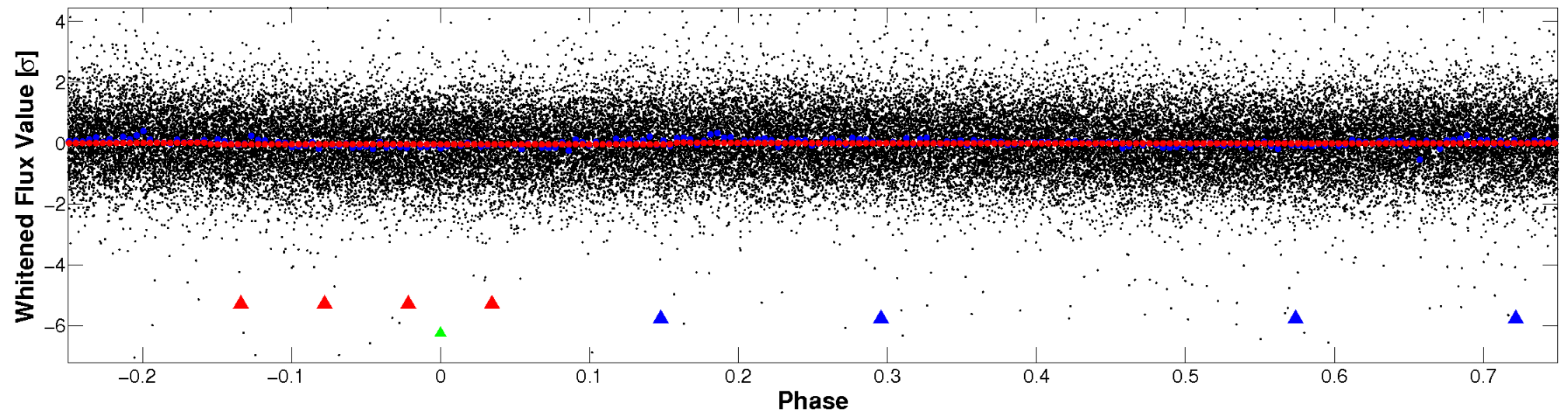


# Non-Whitened Vs. Whitened Light Curve

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

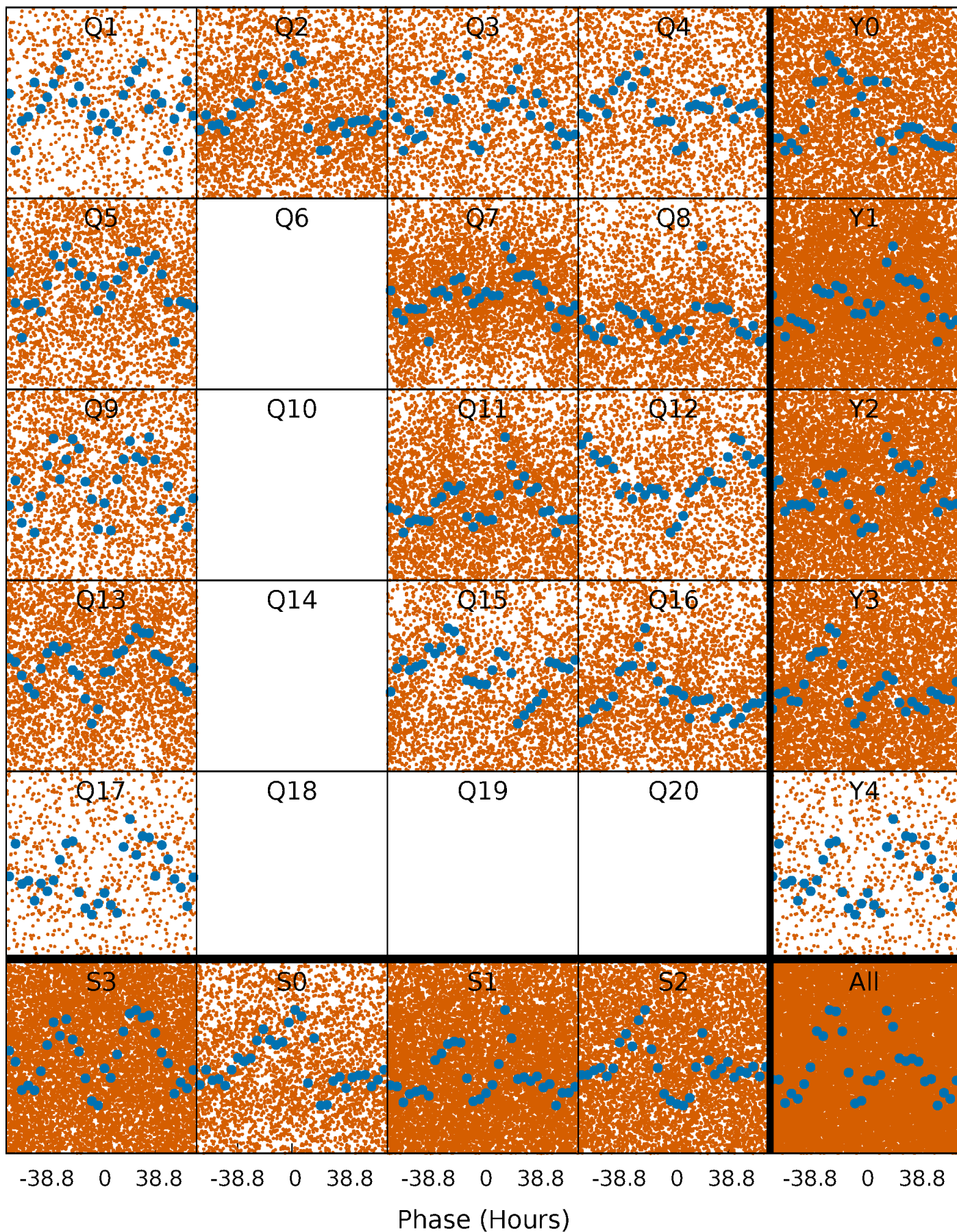


**Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

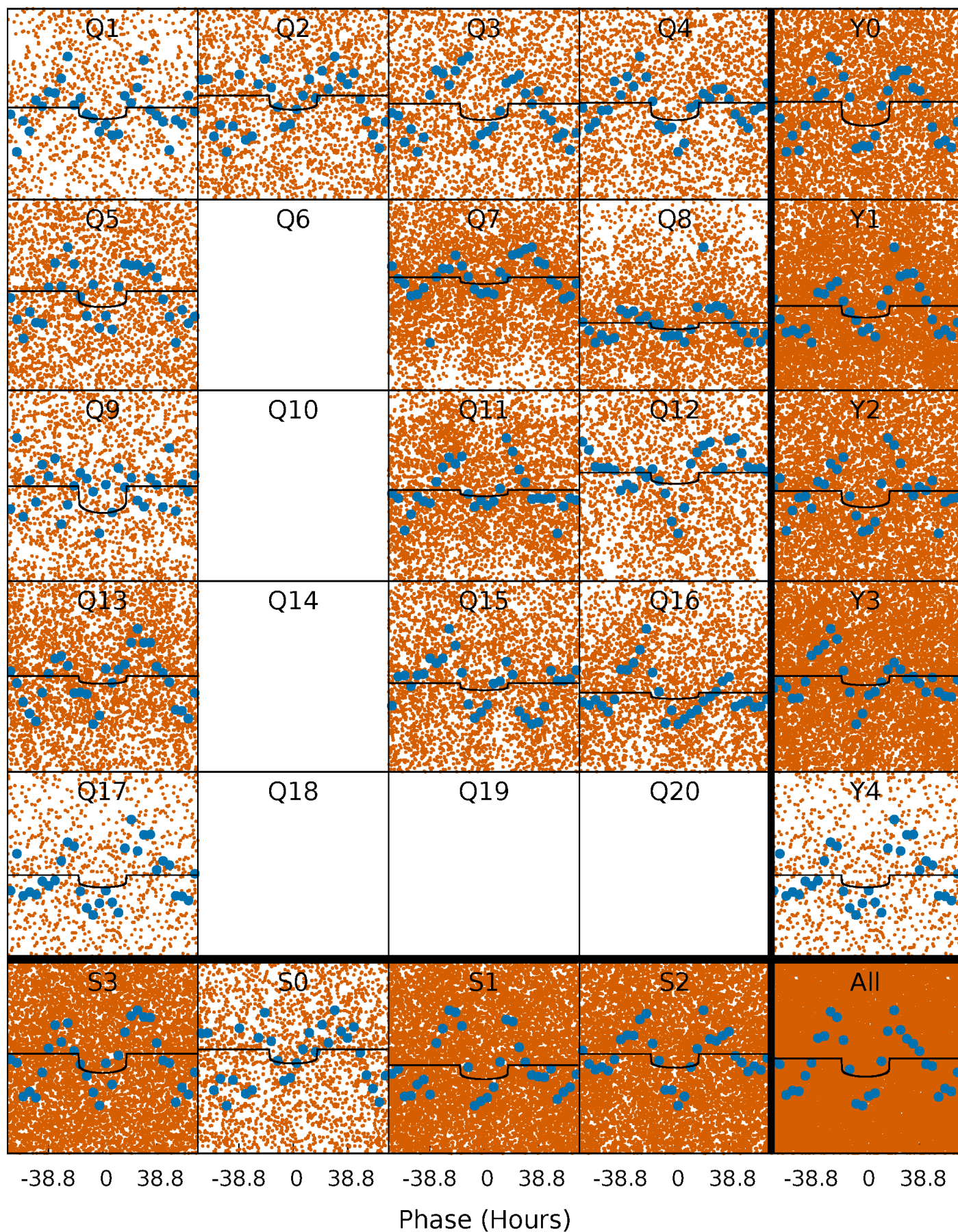
TCE 005284647-03   P= 4.507918 Days    $T_0=132.875720$  (BKJD)





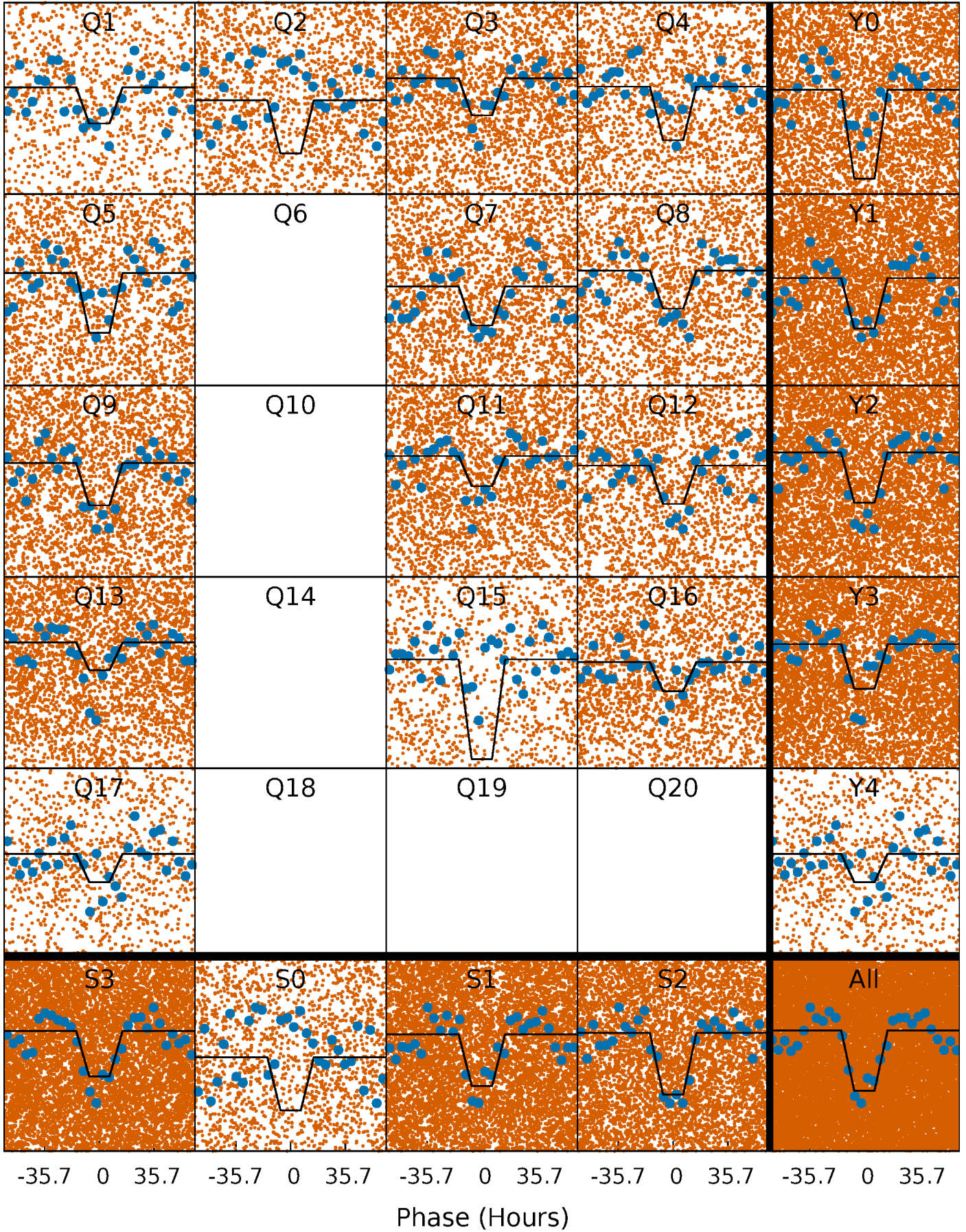
# DV Quarter-Phased Transit Curves

TCE 005284647-03 P= 4.507918 Days  $T_0=132.875720$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 005284647-03 P= 4.507080 Days  $T_0=133.000432$  (BKJD)

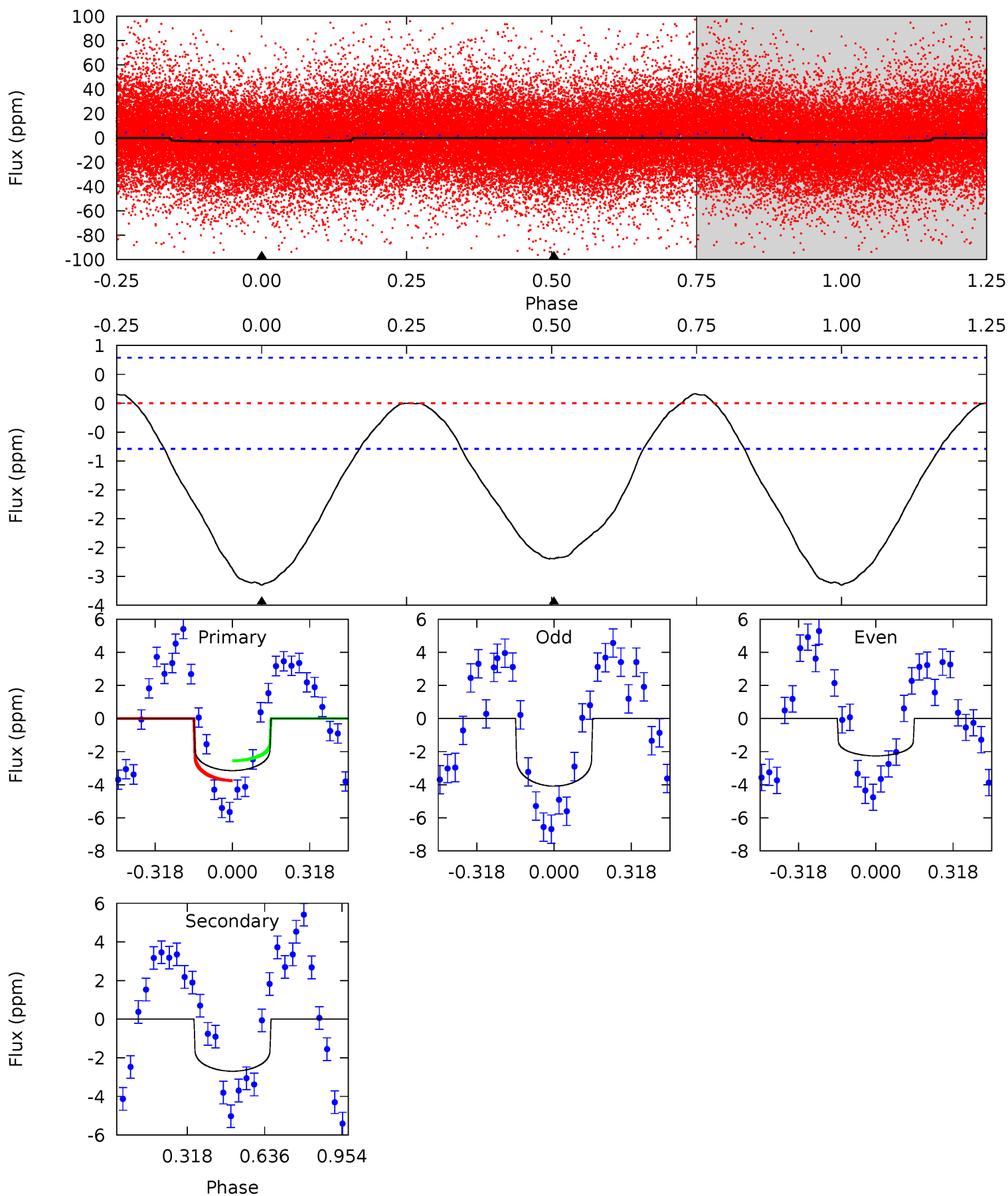




# DV Model-Shift Uniqueness Test

005284647-03, P = 4.507918 Days, E = 128.367802 Days

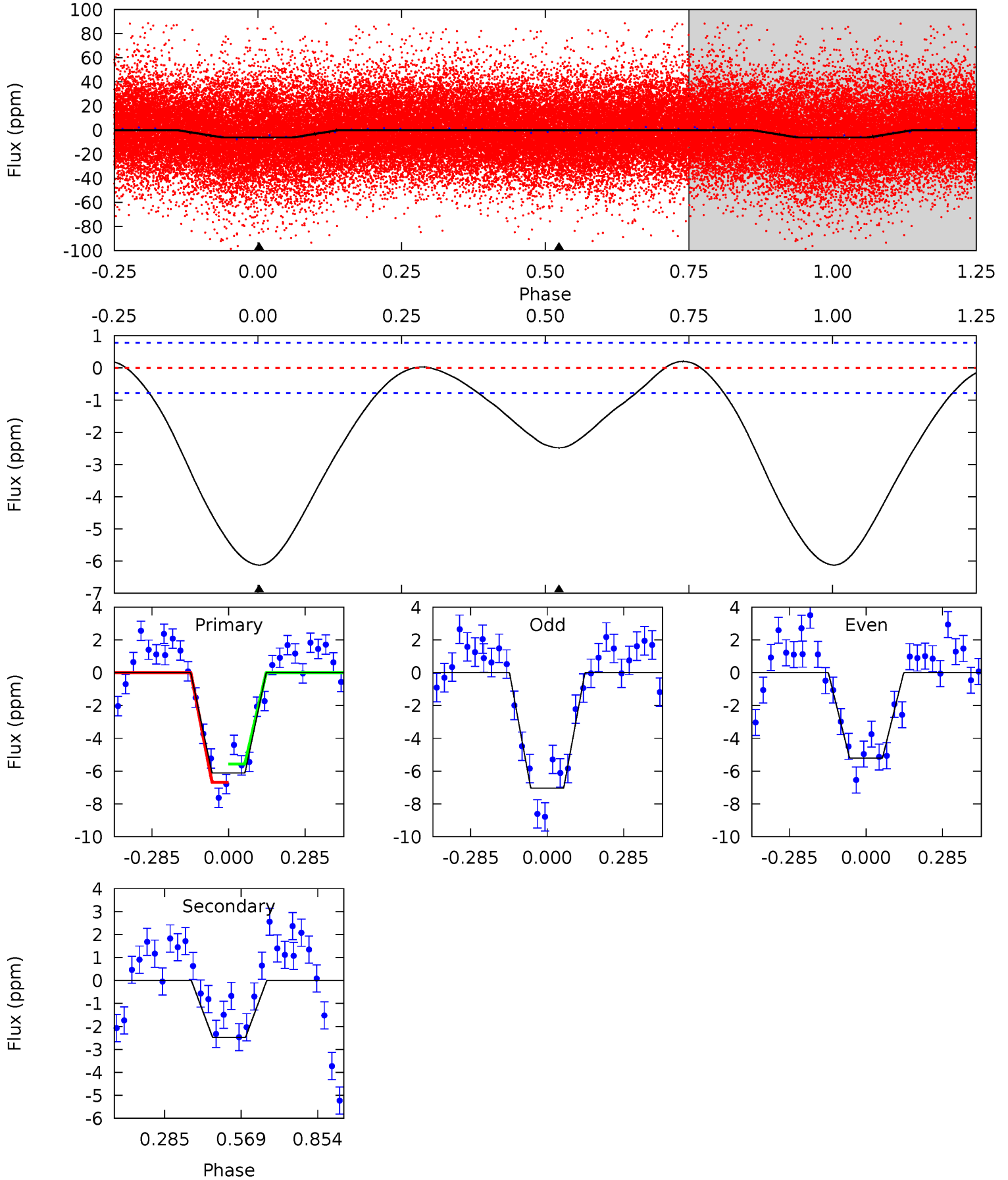
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.2	14.7	0	0	4.32	1.00	0.43	17.2	17.2	14.7	14.7	4.94	0.70	0.05	3.29



# Alt Model-Shift Uniqueness Test

005284647-03, P = 4.507080 Days, E = 128.493352 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
34.0	13.8	0	0	4.34	1.07	0.84	34.0	34.0	13.8	13.8	5.14	0.72	0.03	2.87



### Stellar Parameters For KIC 005284647

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$9982^{+284}_{-426}$	$4.201^{+0.144}_{-0.267}$	$0.070^{+0.150}_{-0.550}$	$2.014^{+0.919}_{-0.495}$	$2.351^{+0.449}_{-0.549}$	$0.406^{+0.361}_{-0.247}$
	+3%/-4%	+3%/-6%	+214%/-786%	+46%/-25%	+19%/-23%	+89%/-61%
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 005284647-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-3 \pm 0$	$0.32^{+0.15}_{-0.14}$	$3319^{+337}_{-293}$	$11045^{+7284}_{-2325}$	$72^{+152}_{-39}$
Alt.	$-2 \pm 0$	$0.56^{+0.20}_{-0.14}$	$3327^{+336}_{-245}$	$7385^{+1285}_{-896}$	$21^{+17}_{-9}$

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

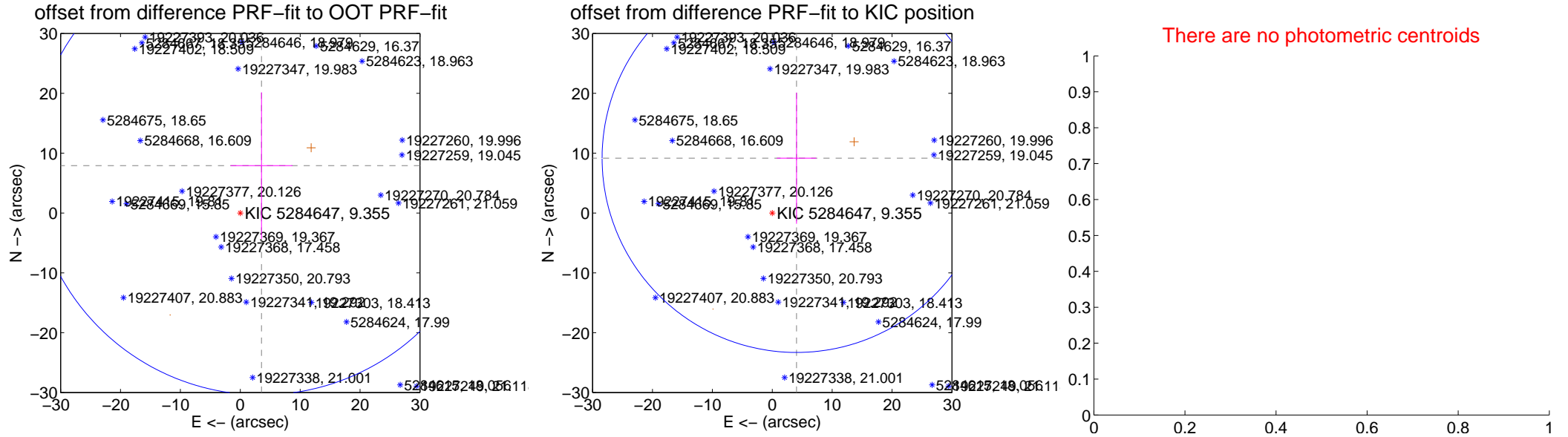
## DV Centroid Data

Supplemental centroid analysis for 005284647-03. **Kepler magnitude: 9.36.** Transit SNR 5.49

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

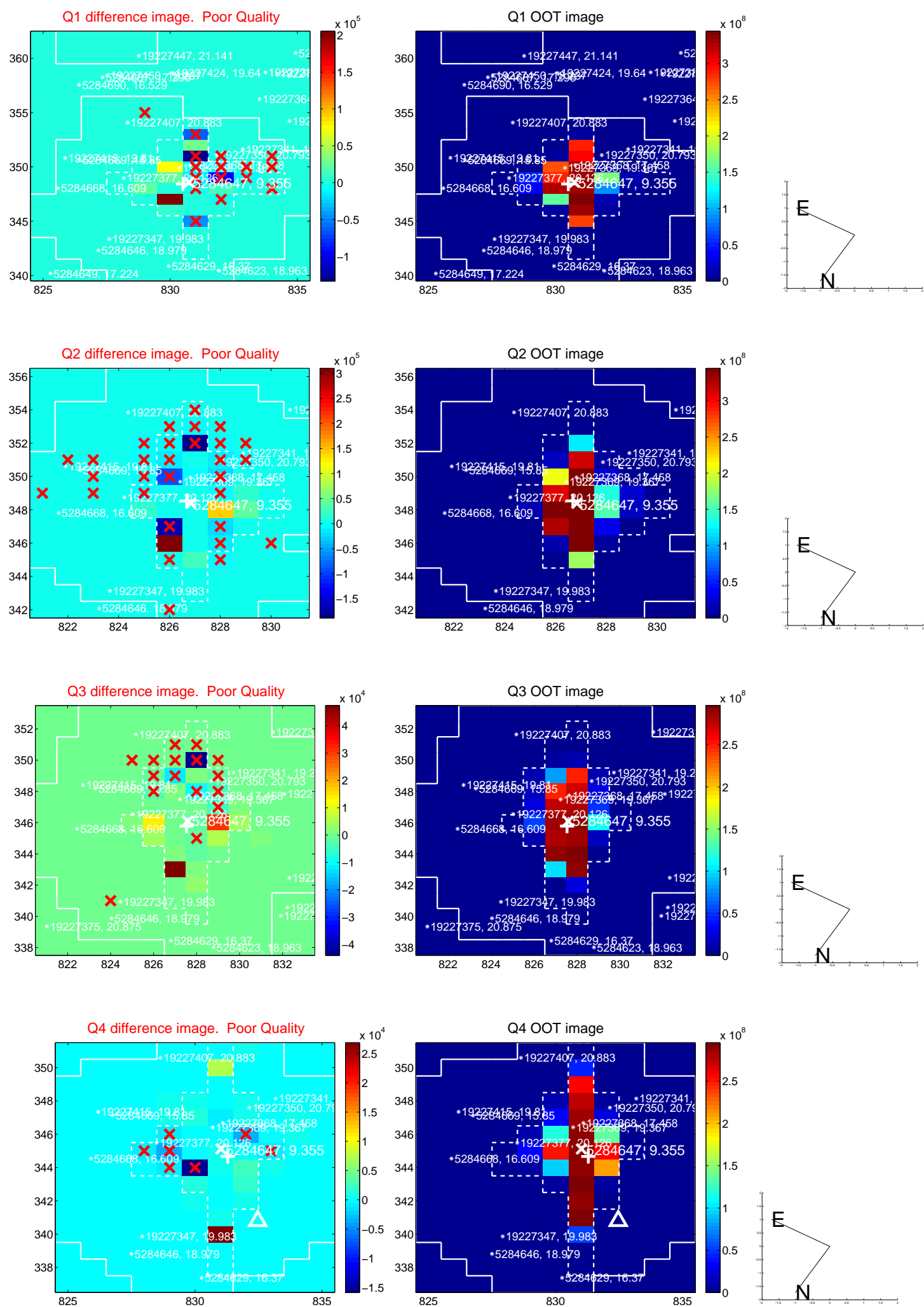
The direct PRF centroid is offset from the target star catalog position by about 1.92 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$8.669 \pm 12.766$	0.68	$-3.543 \pm 5.174$	$7.912 \pm 12.252$
PRF-fit source offset from KIC position	$10.020 \pm 10.821$	0.93	$-4.052 \pm 3.291$	$9.165 \pm 10.963$
photometric centroid source offset	—	—	—	—

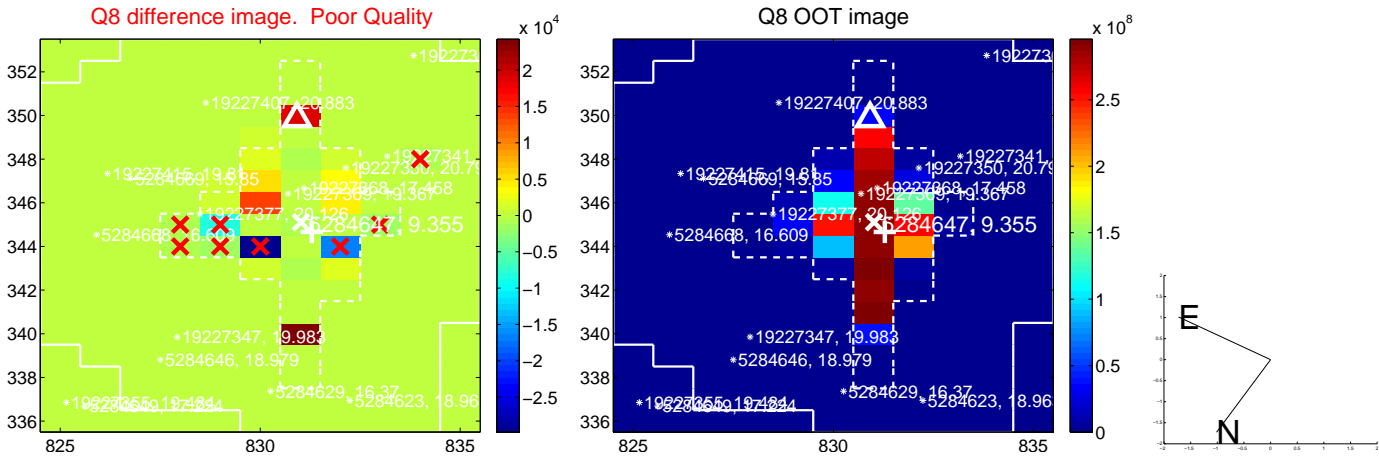
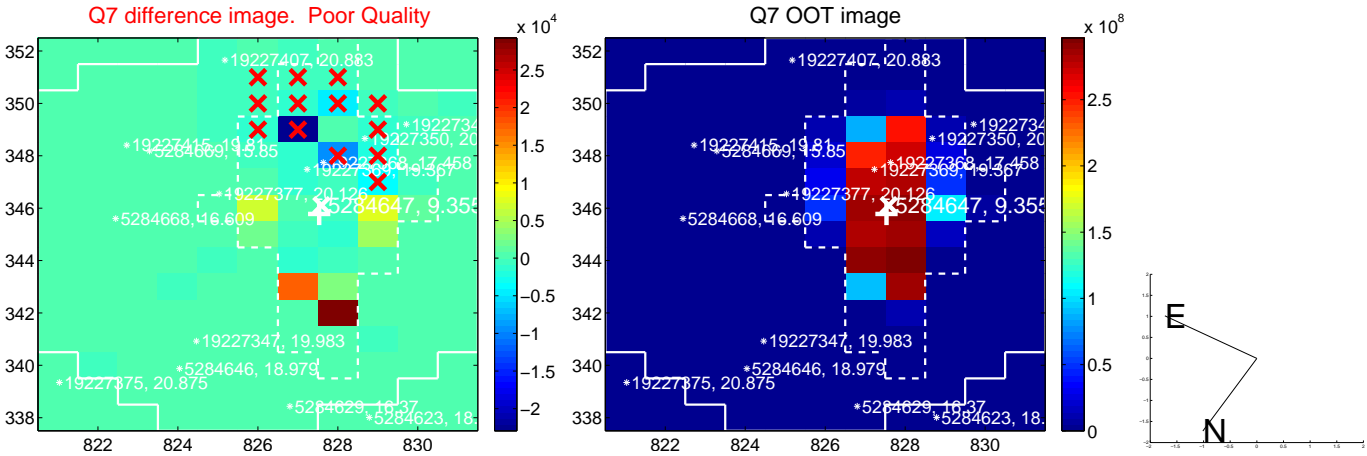
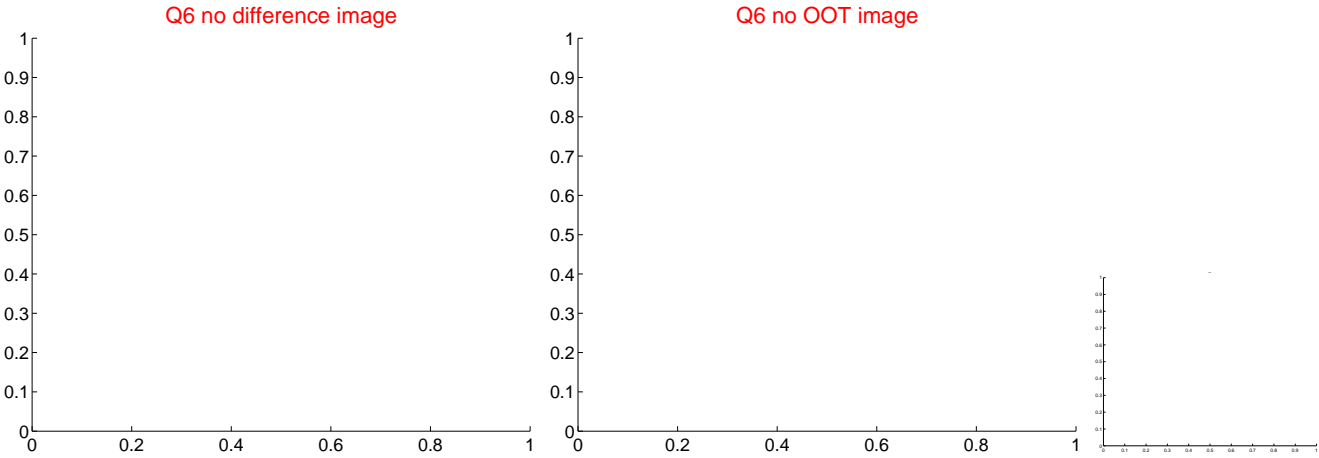
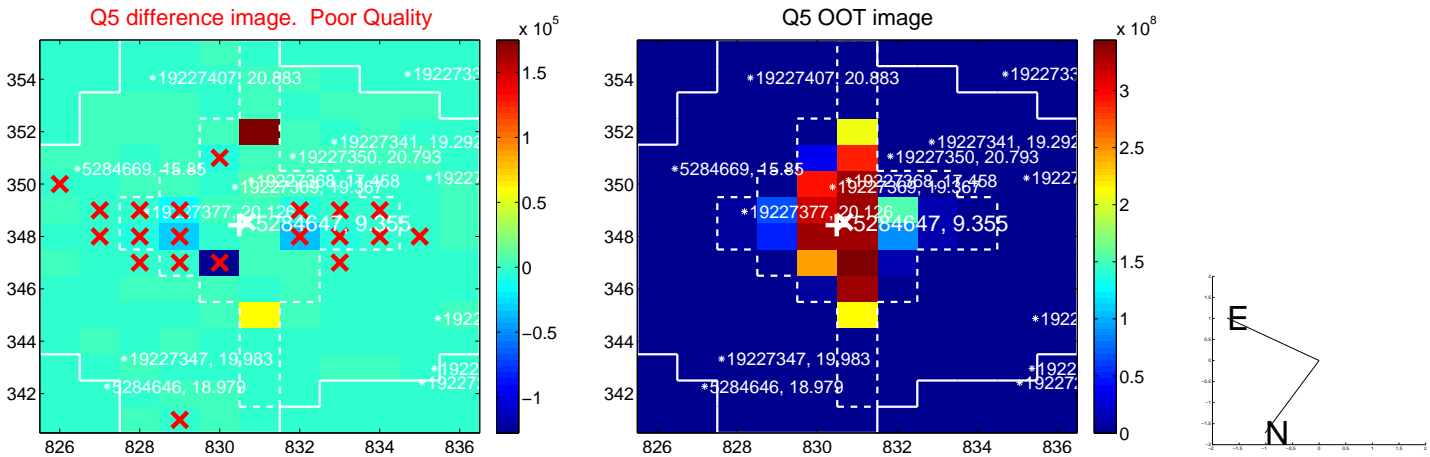


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

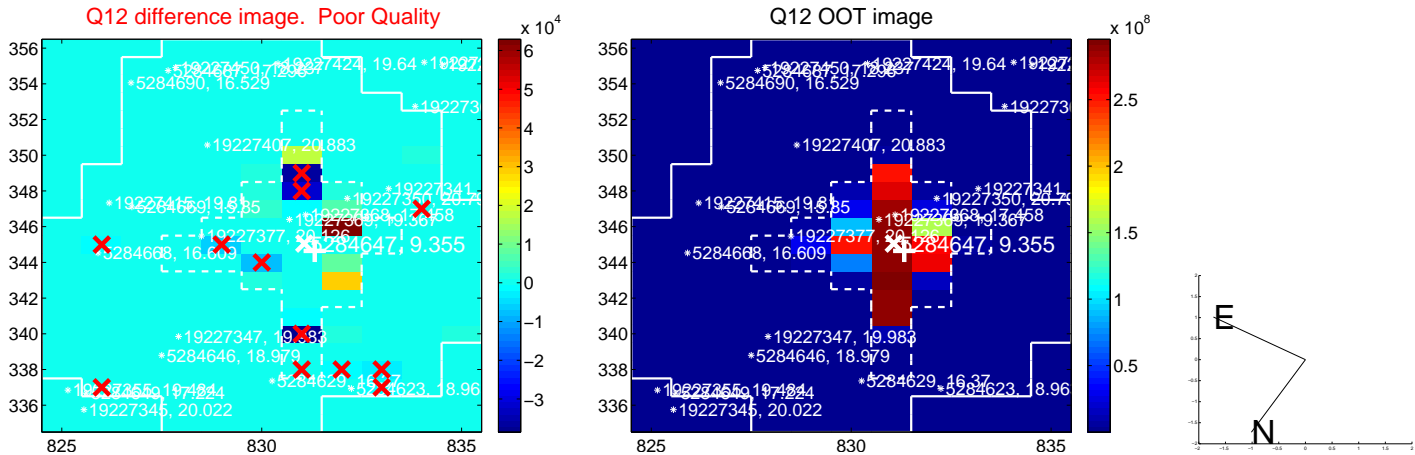
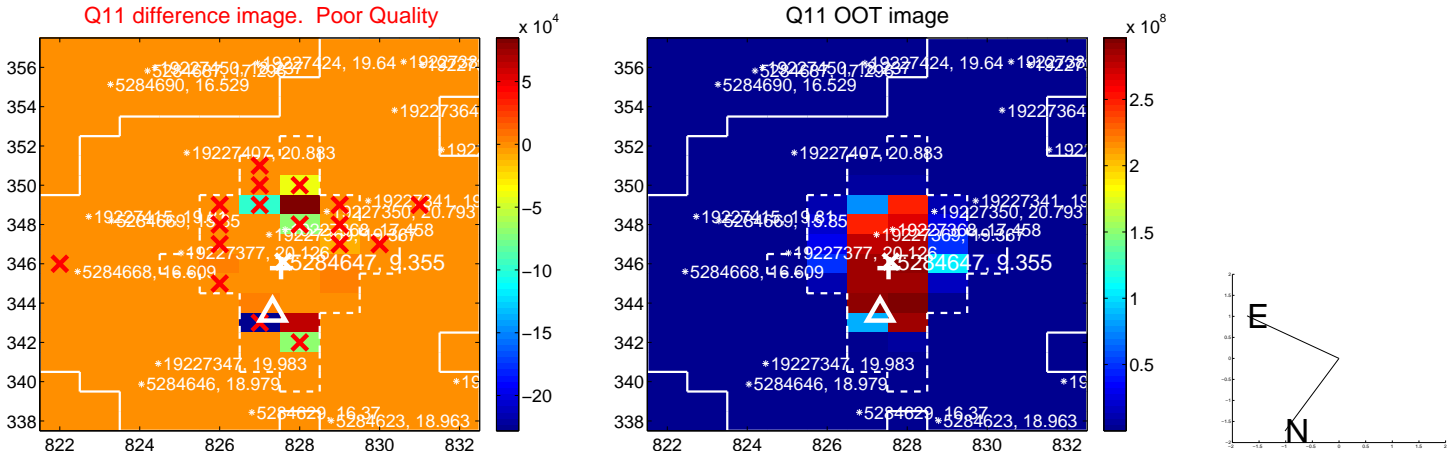
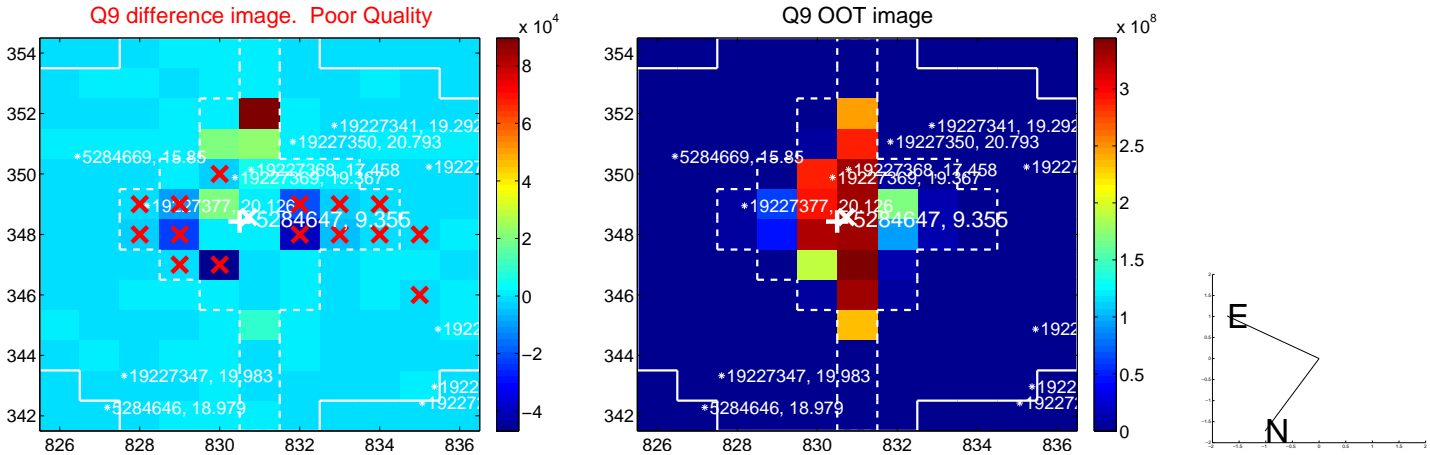


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

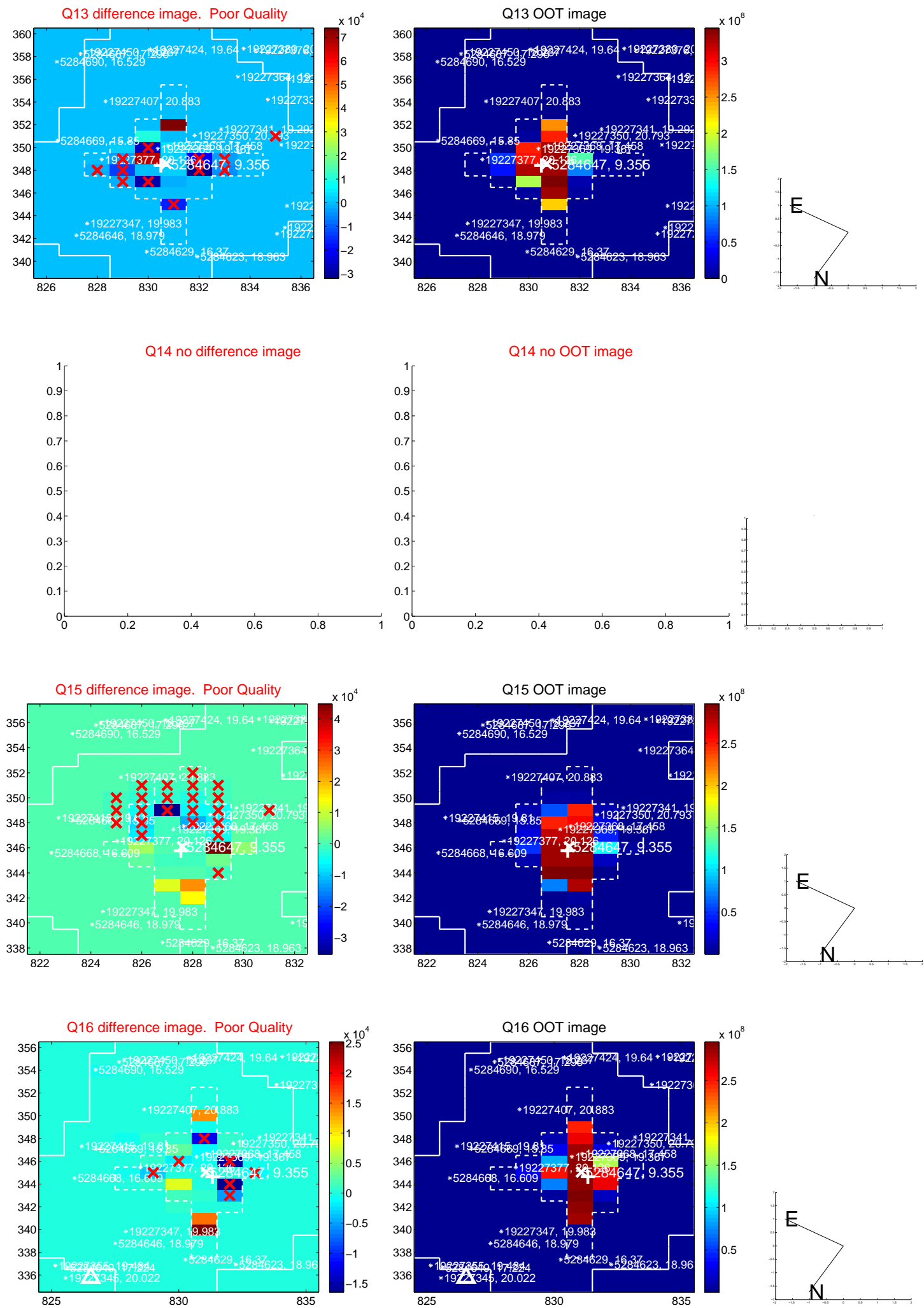




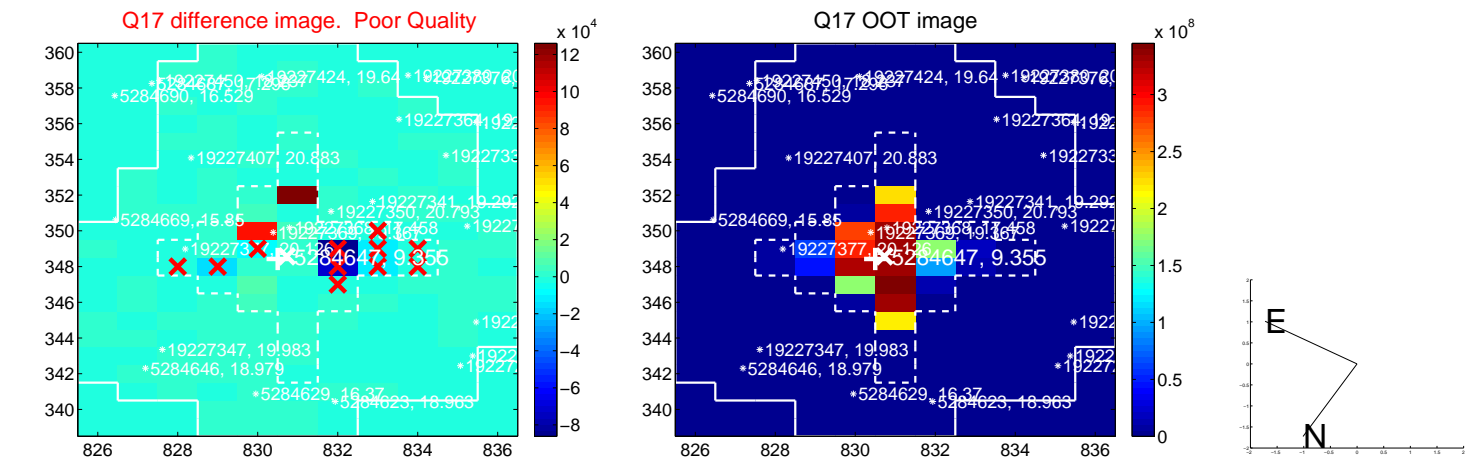
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

