

# KIC 005429223

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005429223-01	OBS	No	492.038731	134.812961	82.3	3.525	9.0	8.5	153.68	3280	134.15	1488.66

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005429223-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED

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

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

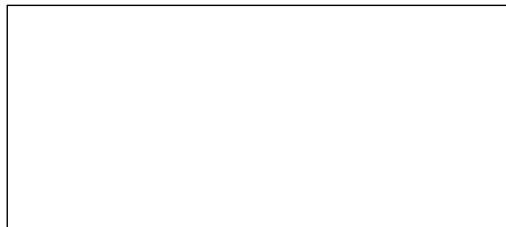
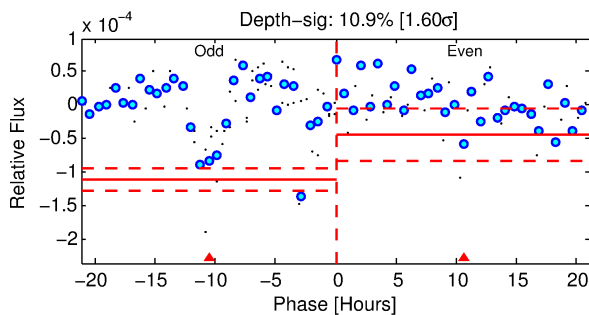
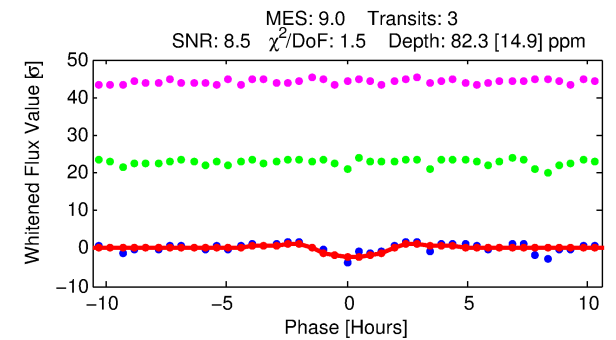
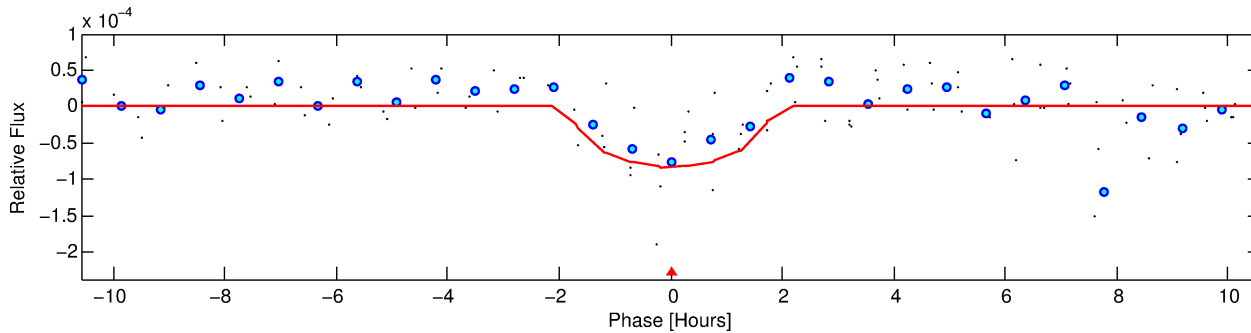
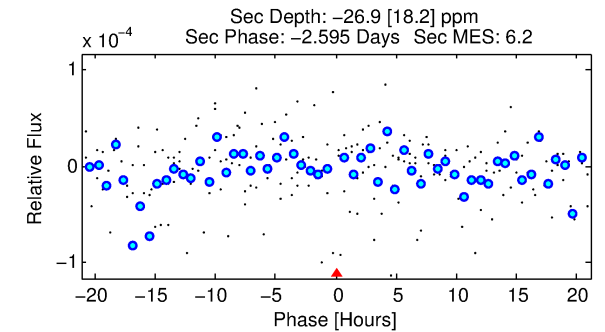
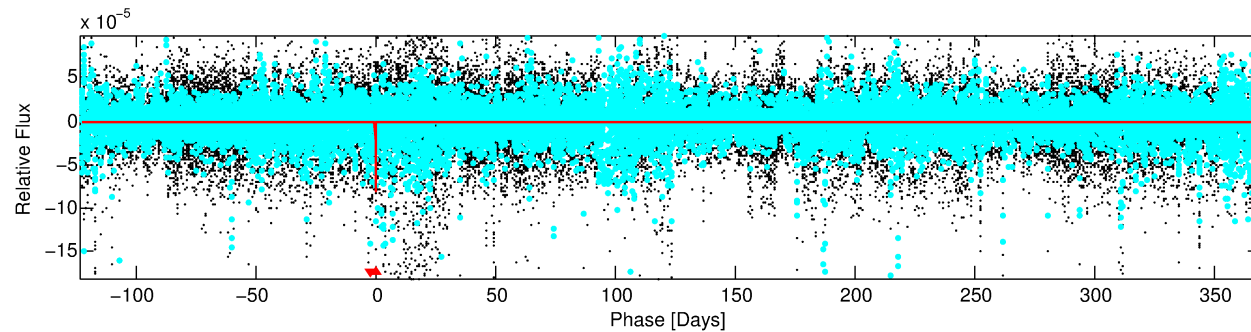
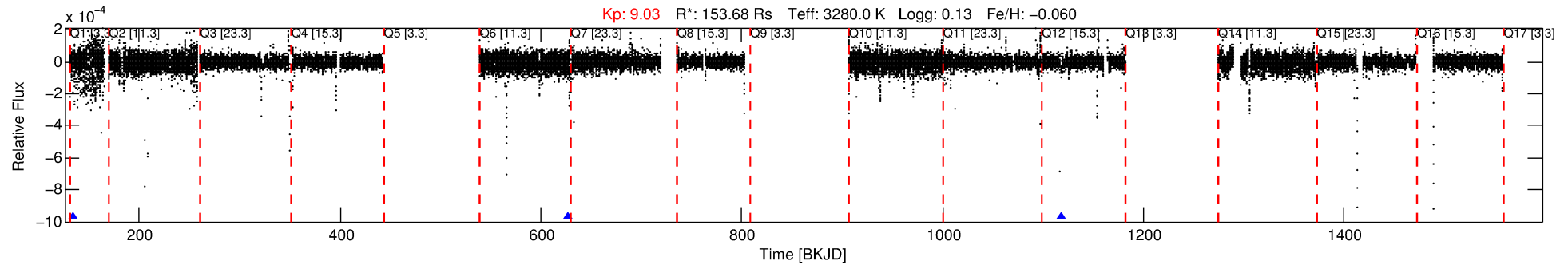
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005429223-01

No Significant Match Found

# DV One-Page Summary

KIC: 5429223 Candidate: 1 of 1 Period: 492.039 d



## DV Fit Results:

Period = 492.03873 [0.00817] d  
Epoch = 134.8130 [0.0102] BKJD  
Rp/R\* = 0.0080 [0.0089]  
a/R\* = 979.84 [2212.68]  
b = 0.41 [4.79]  
Seff = 1488.66 [538.59]  
Teq = 1584 [143] K  
Rp = 134.15 [150.63] Re  
a = 1.2826 [0.2560] AU  
Ag = N/A  
Teffp = N/A

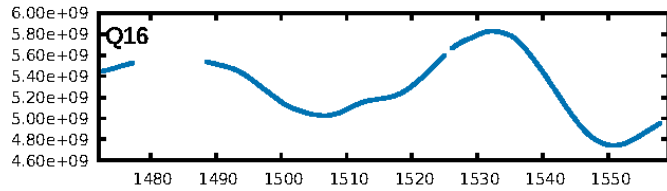
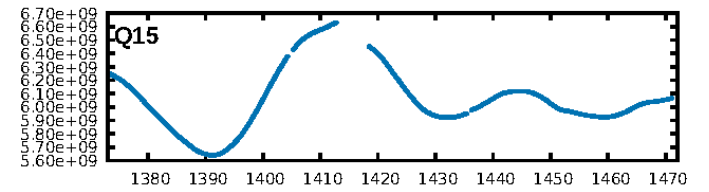
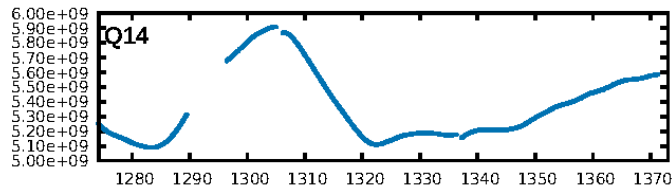
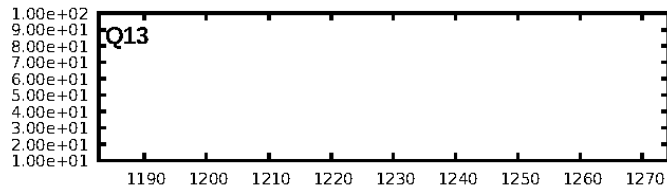
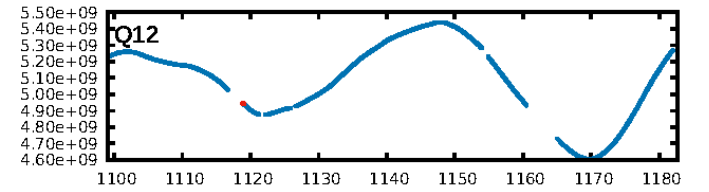
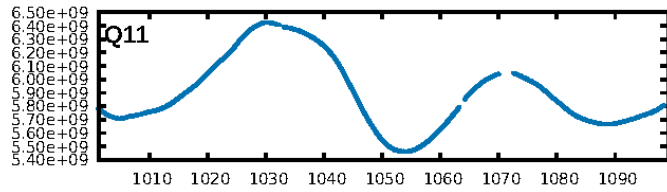
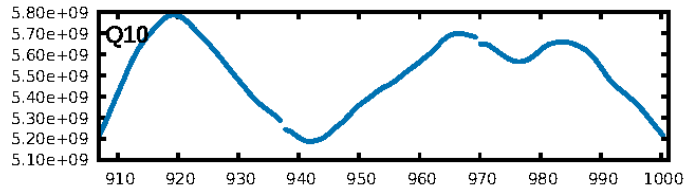
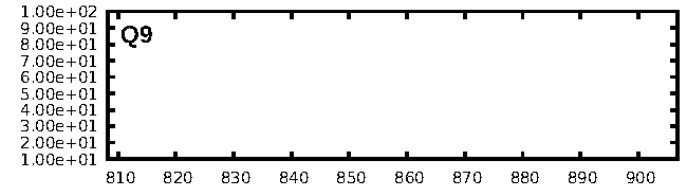
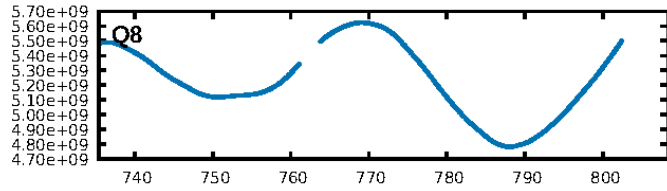
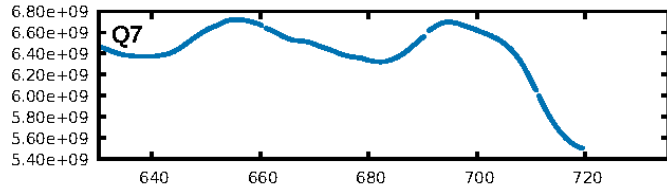
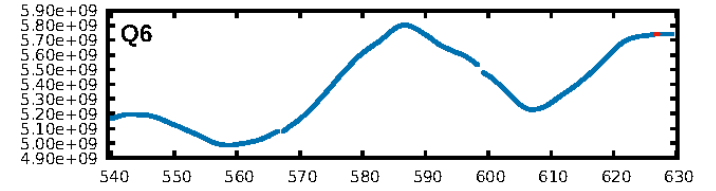
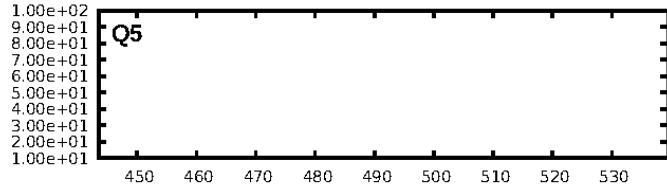
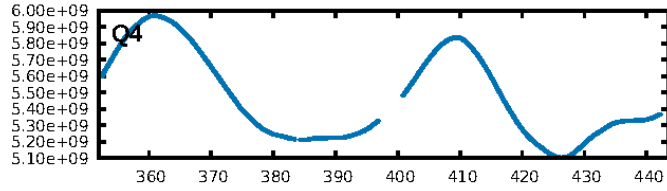
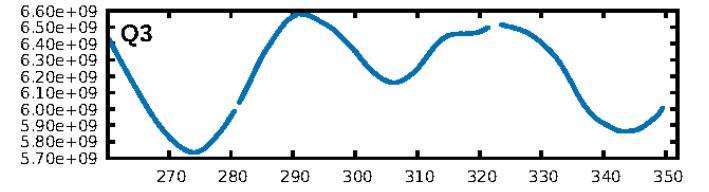
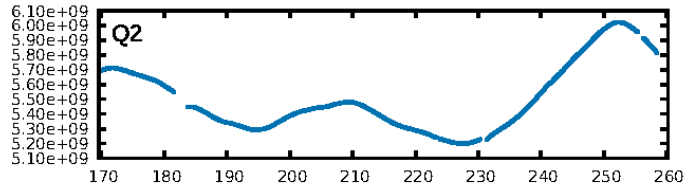
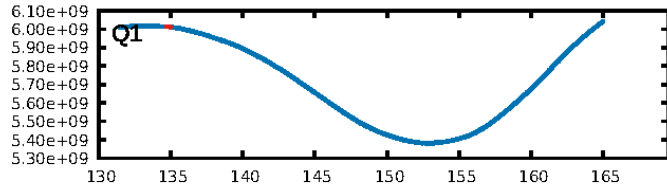
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 4.7%  
ModelChiSquareGof-sig: 29.9%  
Bootstrap-pfa: 4.05e-04  
RollingBand-fgt: 1.00 [2/2]  
GhostDiagnostic-chr: N/A  
Centroid-sig: 6.3%  
Centroid-so: 15.089 arcsec [1.30σ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [2/2]

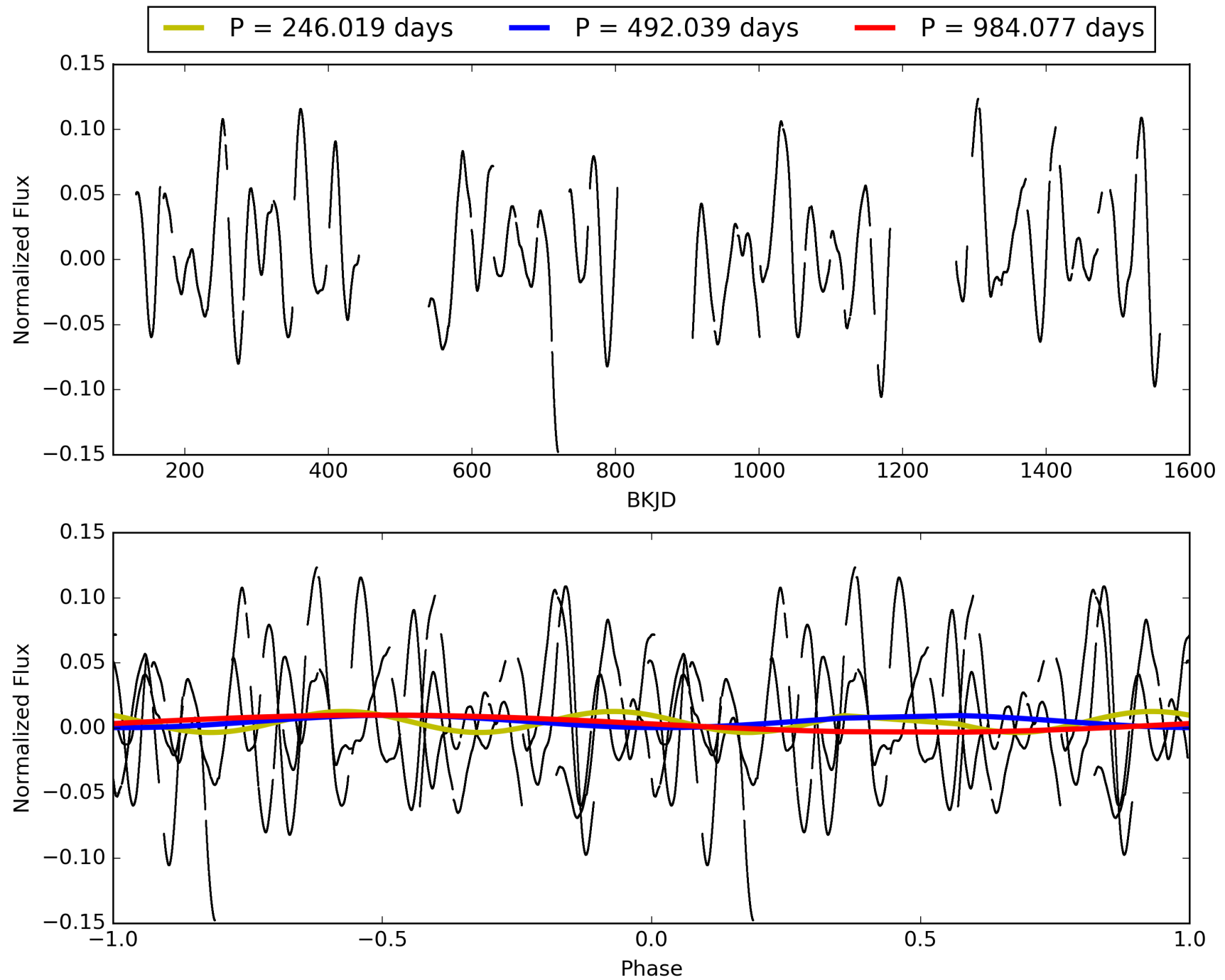
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 08:36:59 Z

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

# TCE 005429223-01, PDC Light Curves

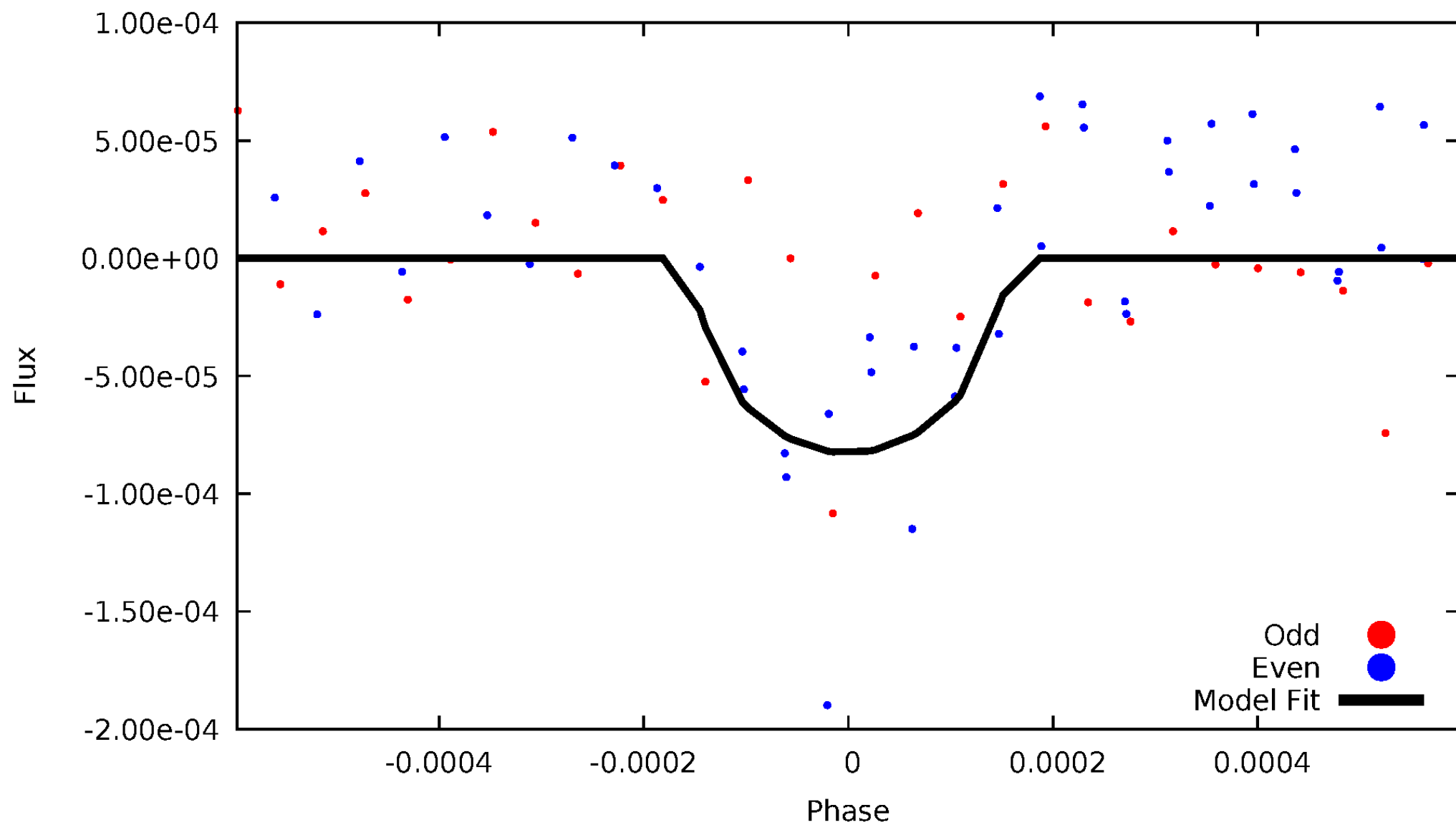


TCE 005429223-01



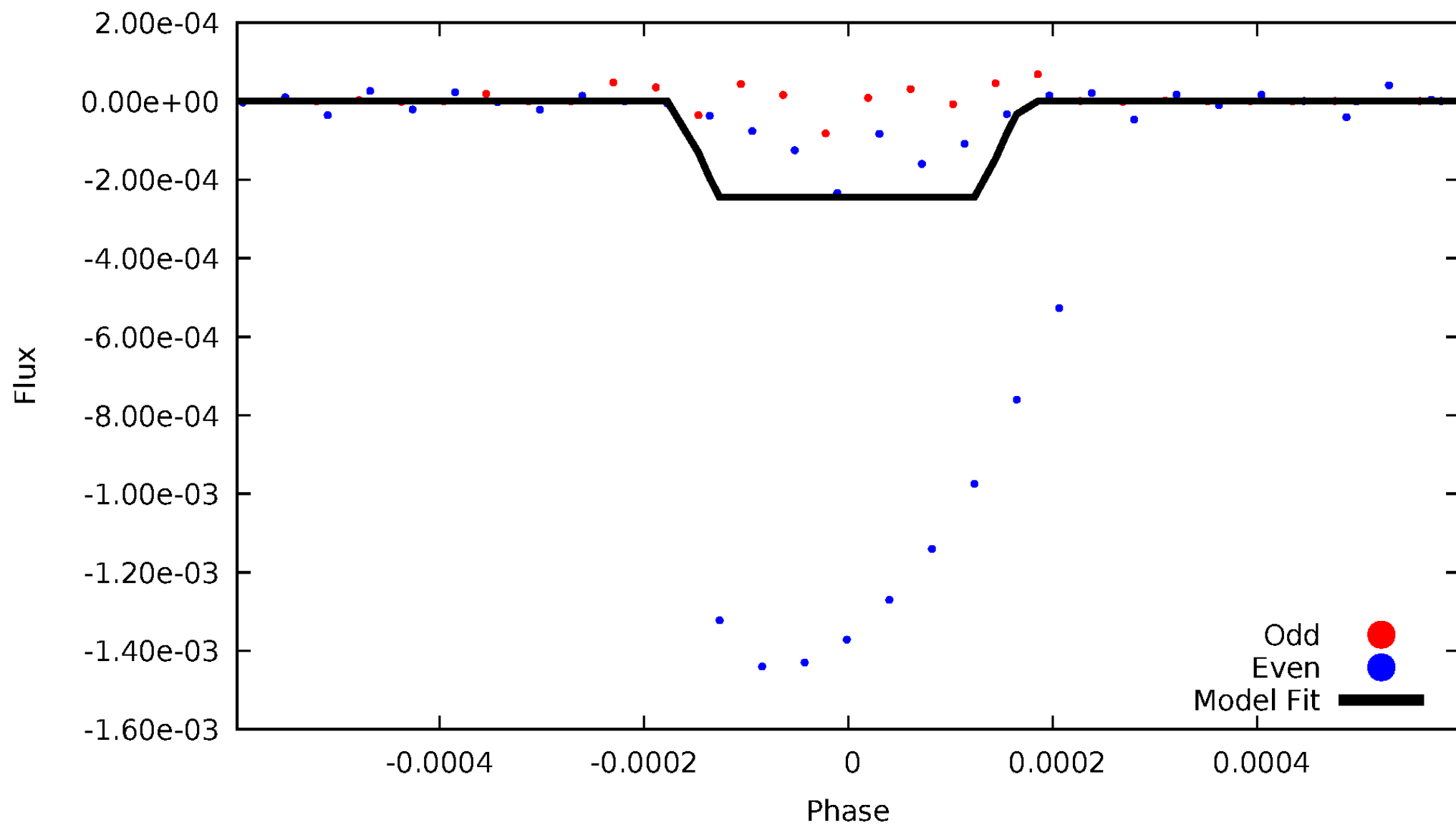
# DV Odd/Even

TCE 005429223-01



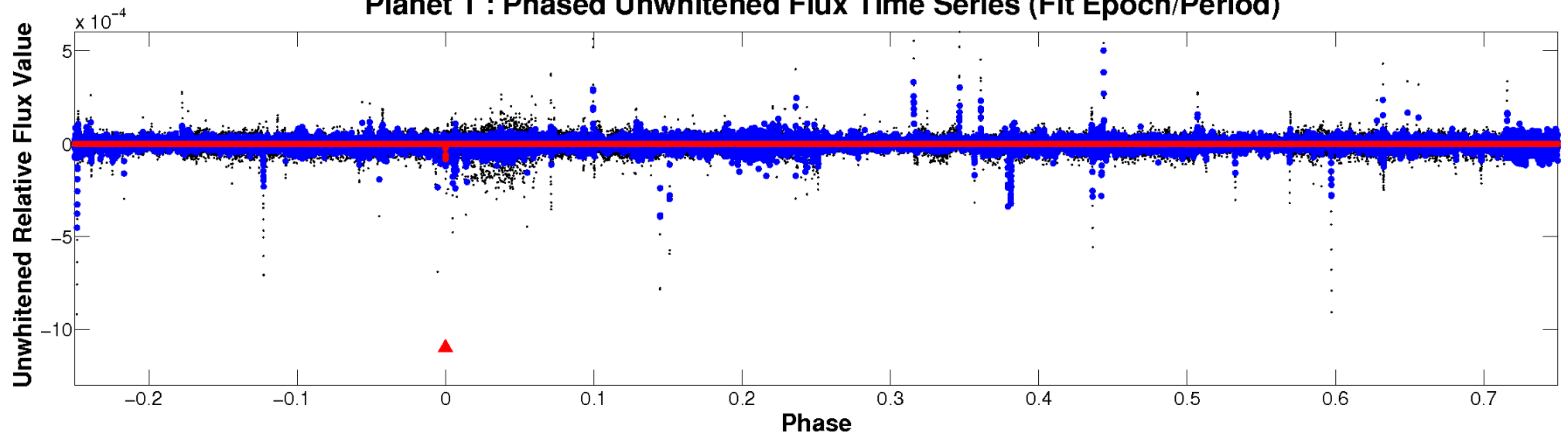
# ALT Odd/Even

TCE 005429223-01

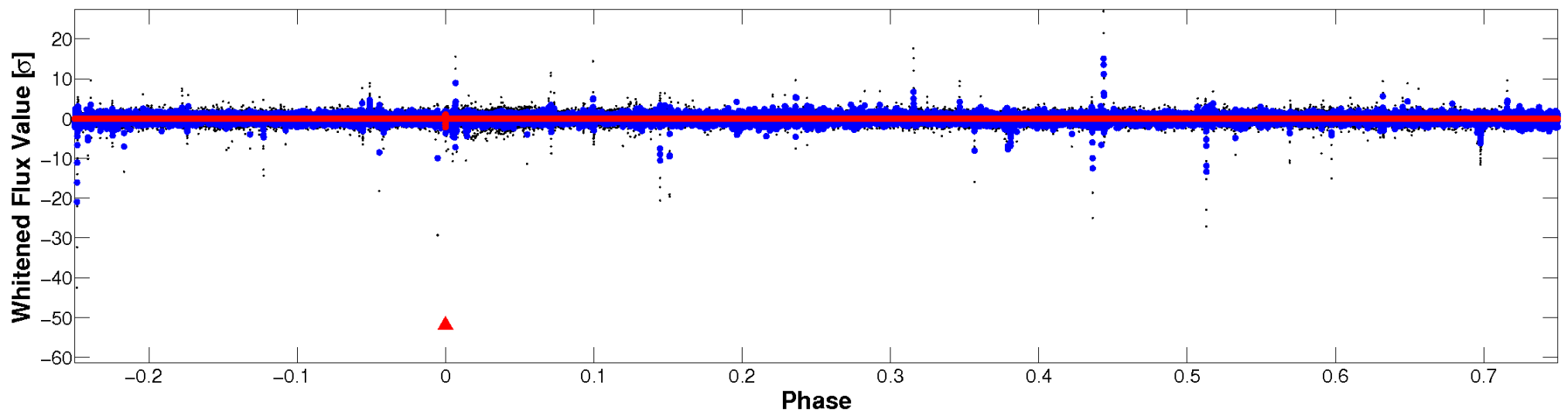


# Non-Whitened Vs. Whitened Light Curve

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

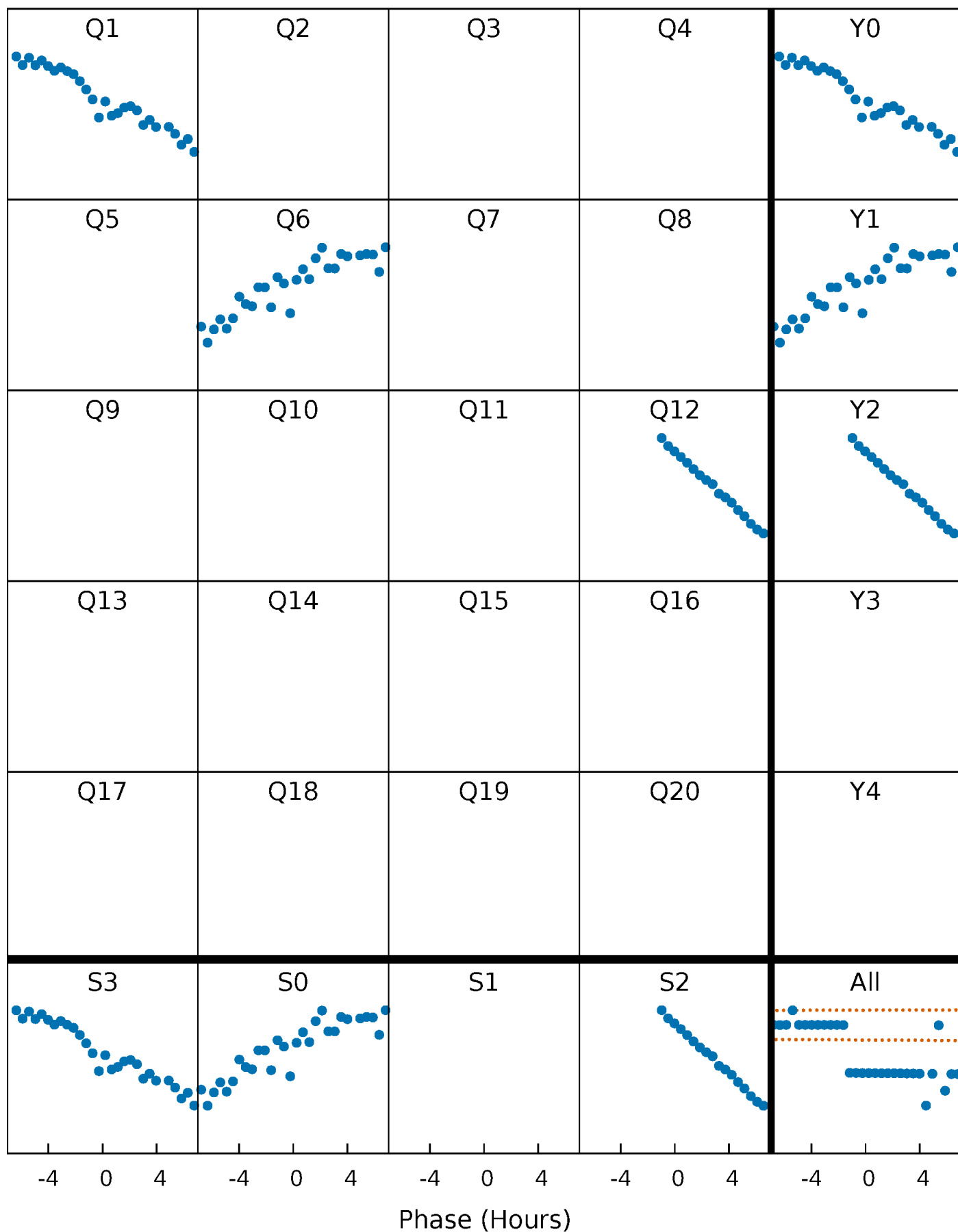


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

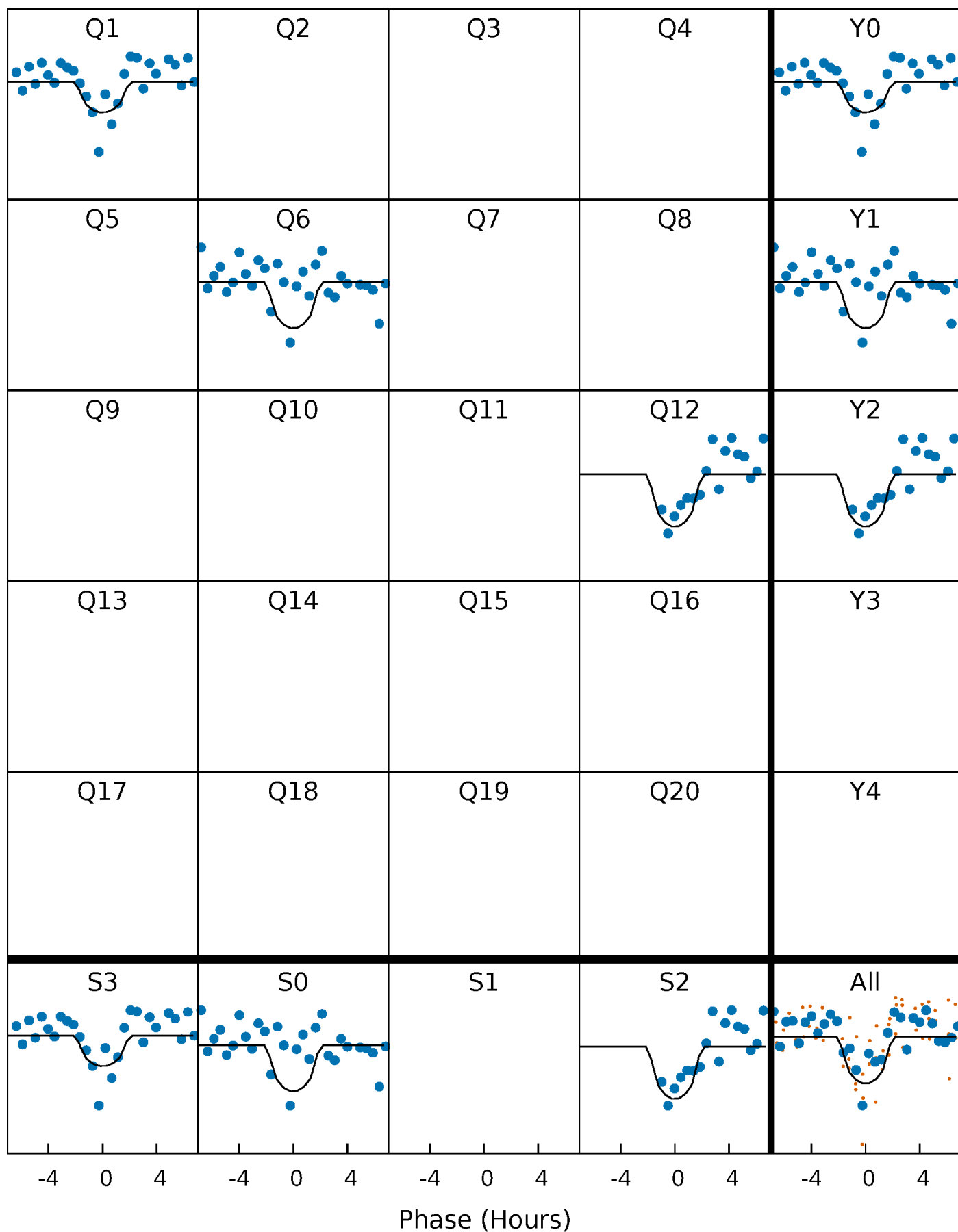
TCE 005429223-01 P=492.038731 Days  $T_0=134.812961$  (BKJD)





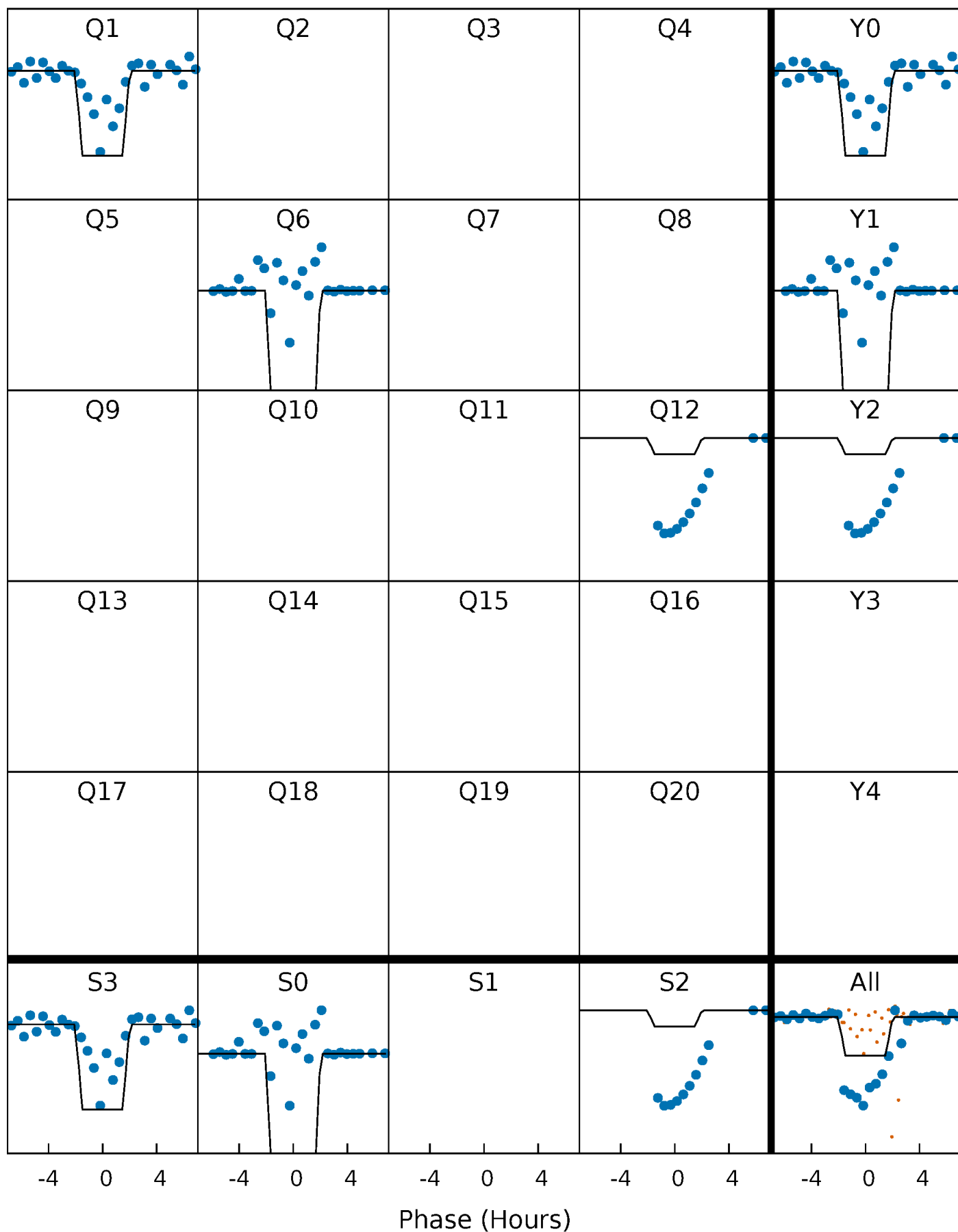
# DV Quarter-Phased Transit Curves

TCE 005429223-01 P=492.038731 Days  $T_0=134.812961$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

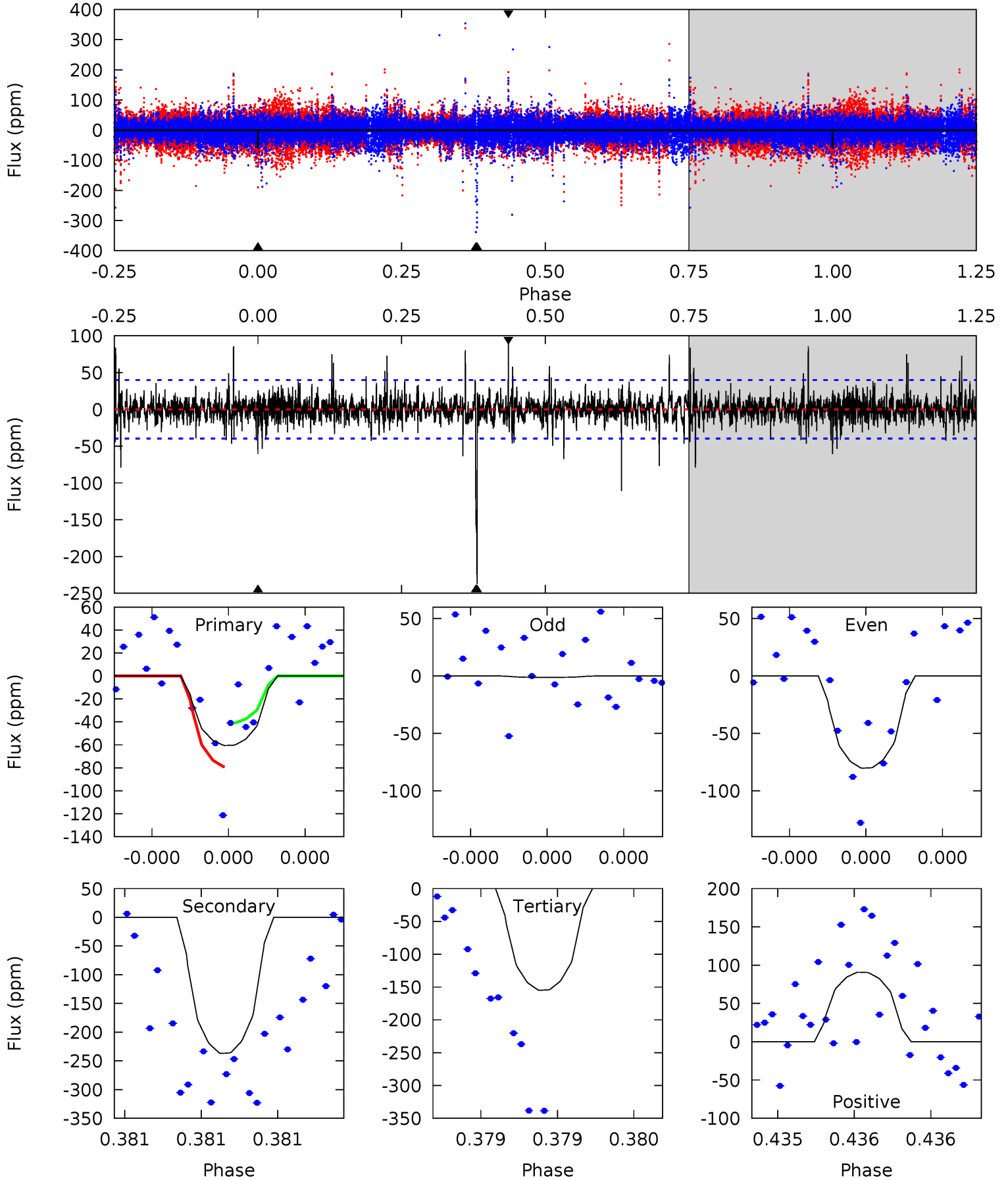
TCE 005429223-01 P=492.046936 Days  $T_0=134.808278$  (BKJD)



# DV Model-Shift Uniqueness Test

005429223-01, P = 492.038731 Days, E = 134.812961 Days

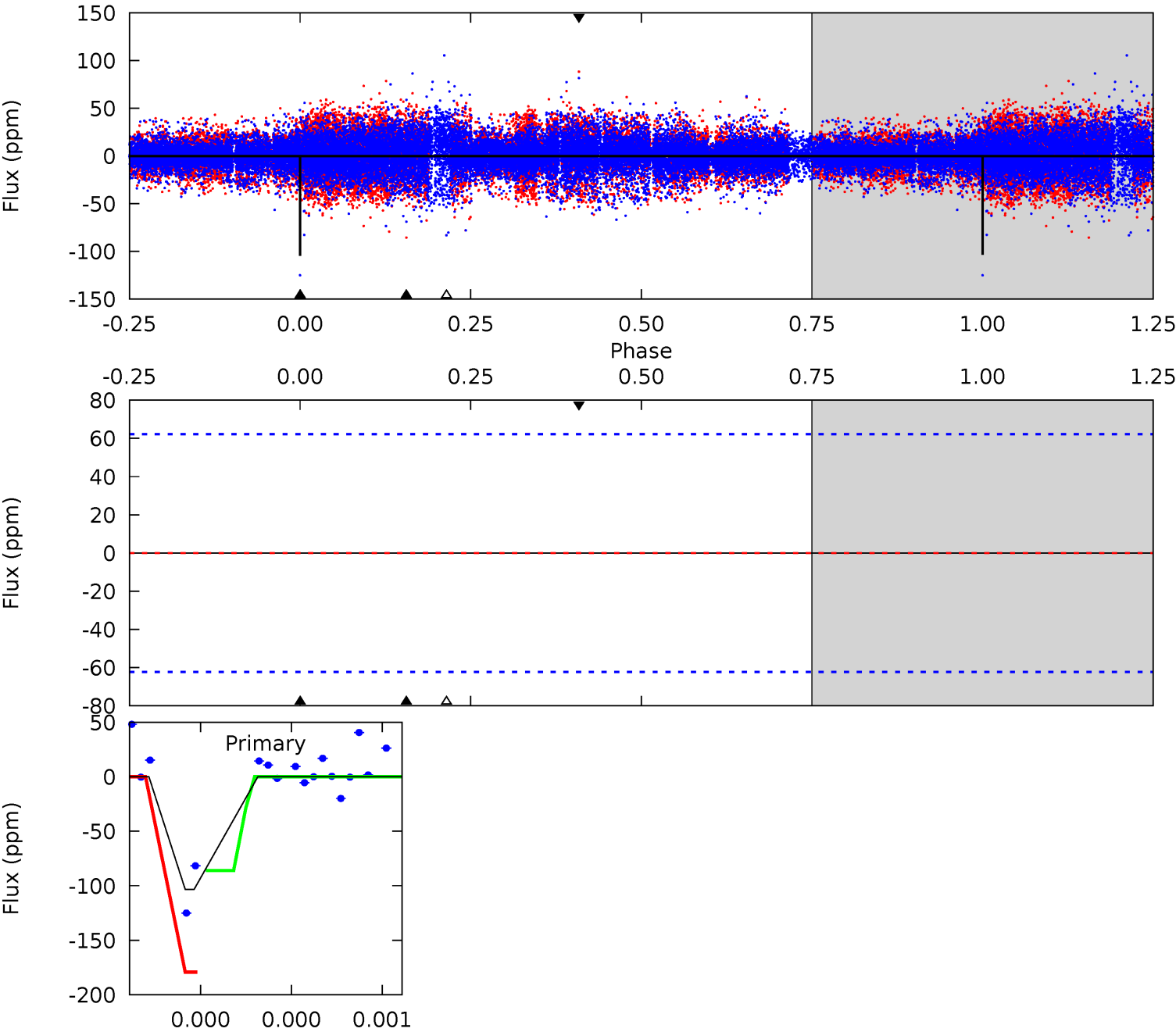
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.64	33.8	22.1	13.0	5.67	3.62	1.71	-13.5	-4.32	11.7	20.9	4.65	0.94	0.28	2.74



Alt Model-Shift Uniqueness Test

005429223-01, P = 492.046936 Days, E = 134.808278 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	5.66	3.61	0	0	0	0	0	35.2	3.84	0	0



### Stellar Parameters For KIC 005429223

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$3280^{+117}_{-78}$	$0.130^{+0.200}_{-0.050}$	$-0.060^{+0.250}_{-0.150}$	$153.676^{+9.192}_{-29.414}$	$1.160^{+0.189}_{-0.155}$	$0.000^{+0.000}_{-0.000}$
	+4%/-2%	+154%/-38%	+417%/-250%	+6%/-19%	+16%/-13%	+96%/-15%
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 005429223-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-237 \pm 7$	$166.18^{+128.04}_{-105.29}$	$2180^{+94}_{-119}$	$3704^{+1835}_{-642}$	$8.056^{+51.887}_{-5.659}$
Alt.	$-0 \pm 11$	$265.20^{+135.89}_{-134.11}$	$2188^{+91}_{-129}$	$-2375^{+256}_{-184}$	$-0.003^{+0.183}_{-0.208}$

$T_{max}$  = 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

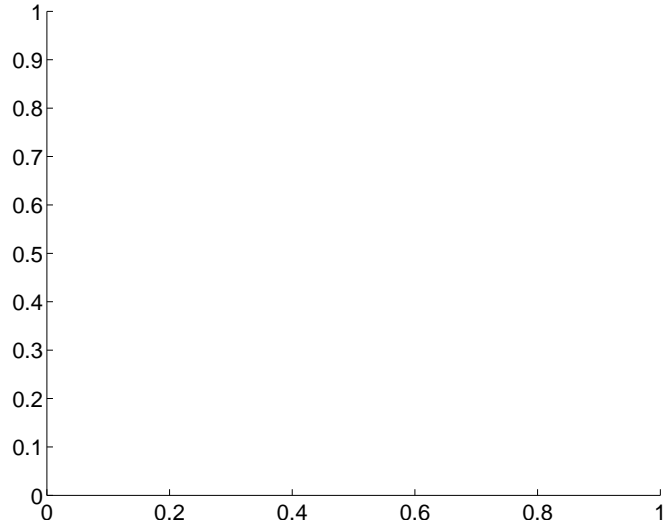
Supplemental centroid analysis for 005429223-01. **Kepler magnitude: 9.04.** Transit SNR 8.49

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

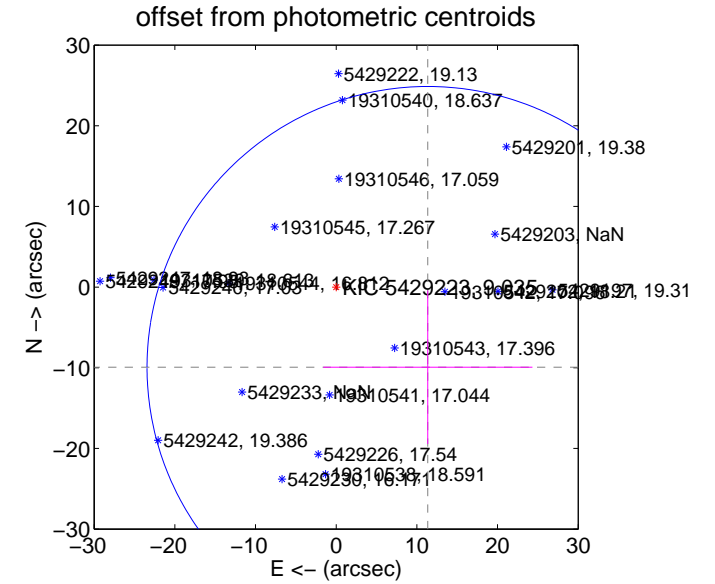
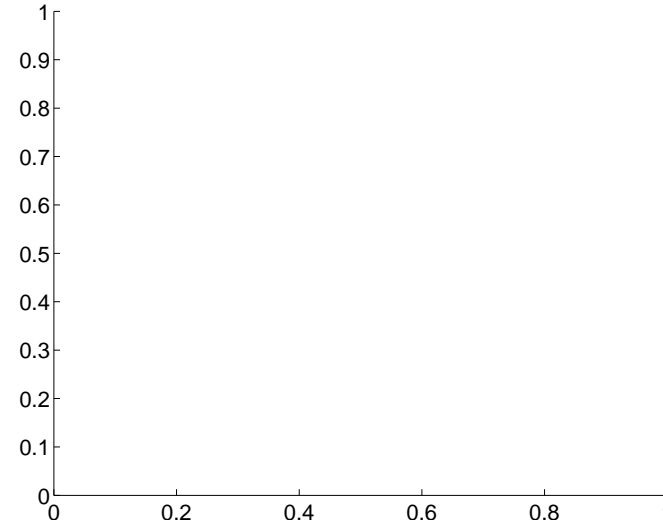
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$15.09 \pm 11.60$	1.30	$-11.36 \pm 12.97$	$-9.94 \pm 9.52$

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.

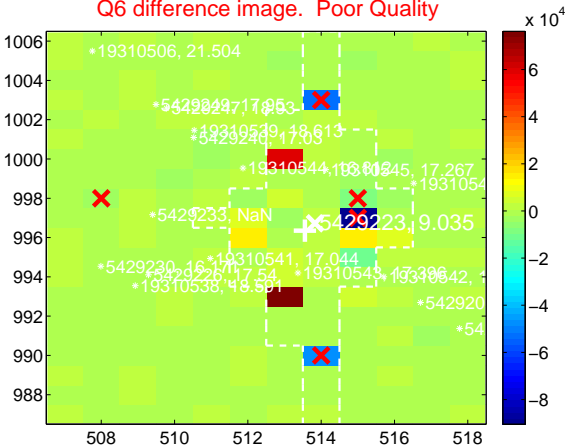
Q5 no difference image



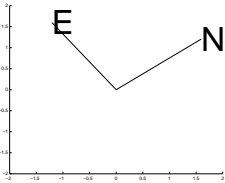
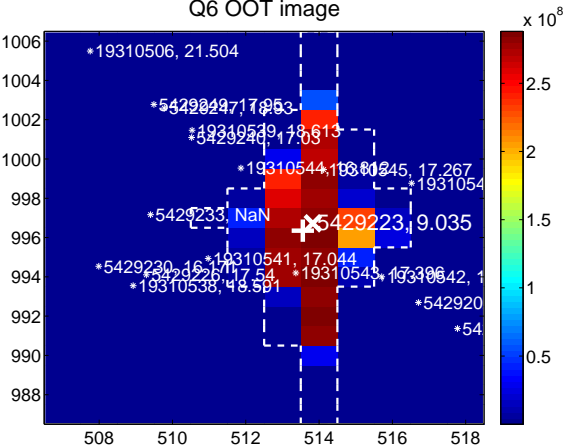
Q5 no OOT image



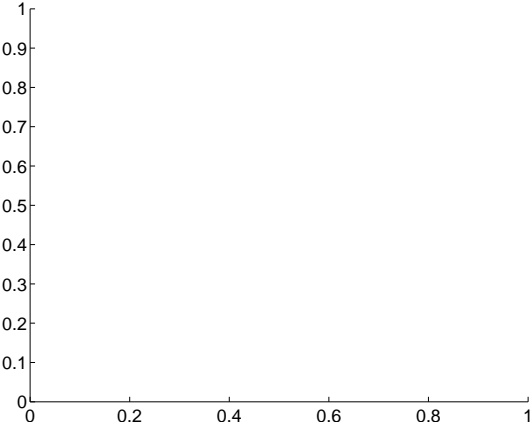
Q6 difference image. Poor Quality



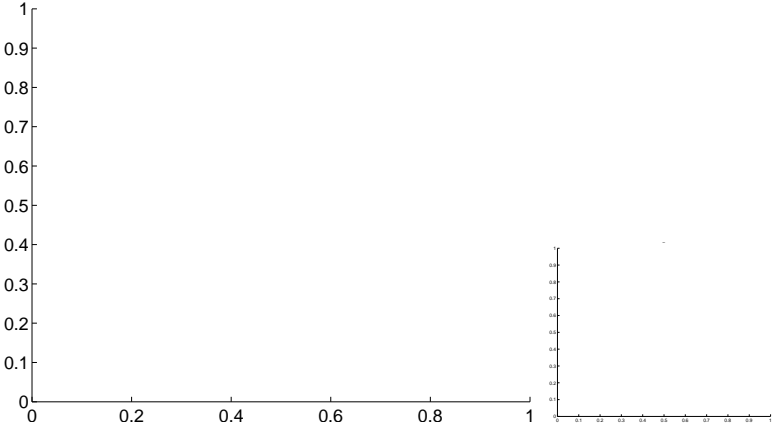
Q6 OOT image



Q7 no difference image



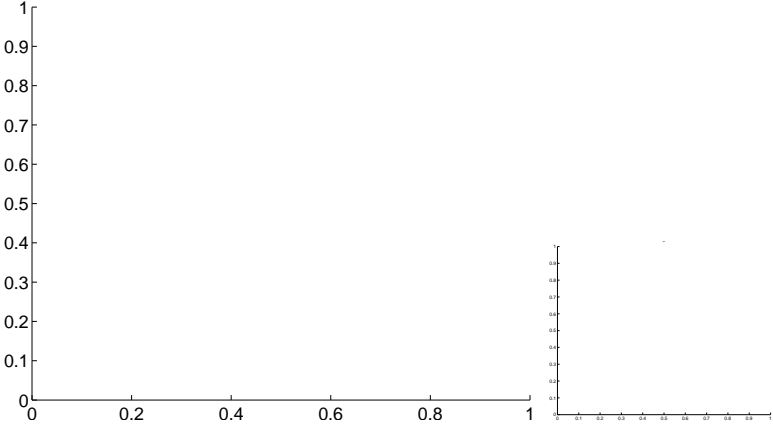
Q7 no OOT image



Q8 no difference image



Q8 no OOT image





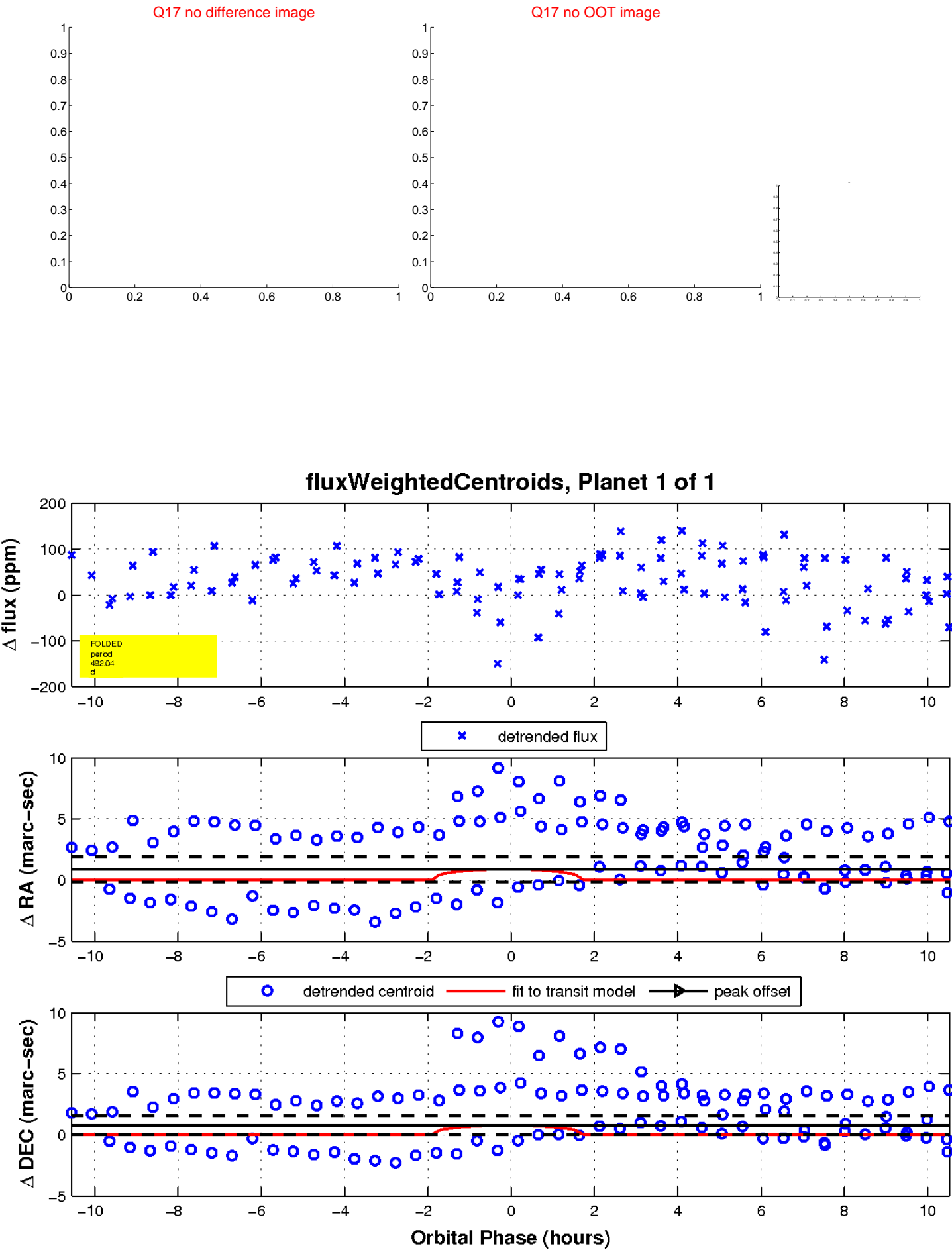
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



UKIRT Image

Declination

