

# KIC 003526901

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003526901-01	OBS	No	281.103498	323.529555	1282.0	17.379	24.6	8.5	0.73	4991	3.03	0.49

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003526901-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—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.

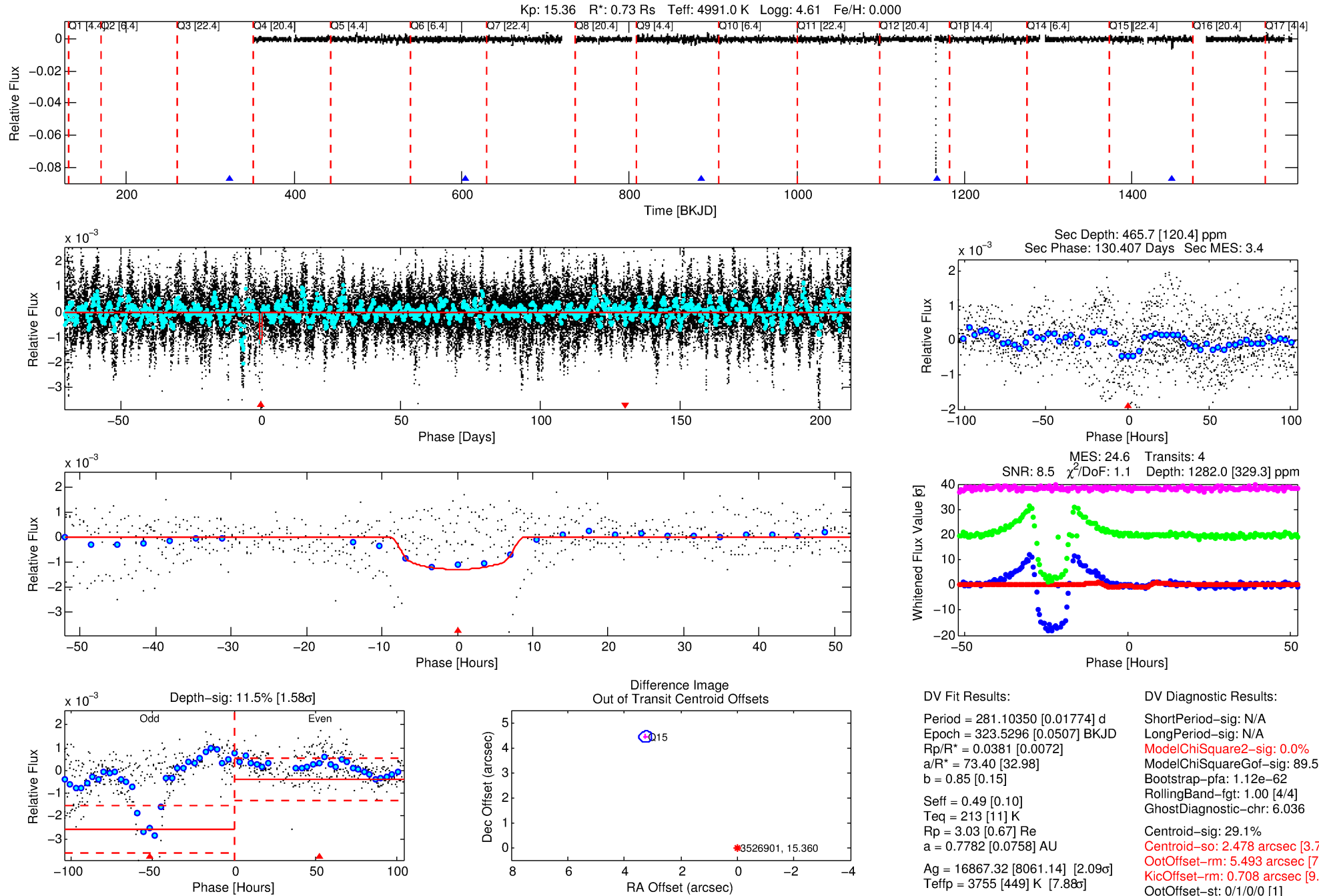
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003526901-01

No Significant Match Found

# DV One-Page Summary

KIC: 3526901 Candidate: 1 of 1 Period: 281.103 d



## DV Fit Results:

Period = 281.10350 [0.01774] d  
Epoch = 323.5296 [0.0507] BKJD  
Rp/R\* = 0.0381 [0.0072]  
a/R\* = 73.40 [32.98]  
b = 0.85 [0.15]  
Seff = 0.49 [0.10]  
Teq = 213 [11] K  
Rp = 3.03 [0.67] Re  
a = 0.7782 [0.0758] AU  
Ag = 16867.32 [8061.14] [2.09 $\sigma$ ]  
Teffp = 3755 [449] K [7.88 $\sigma$ ]

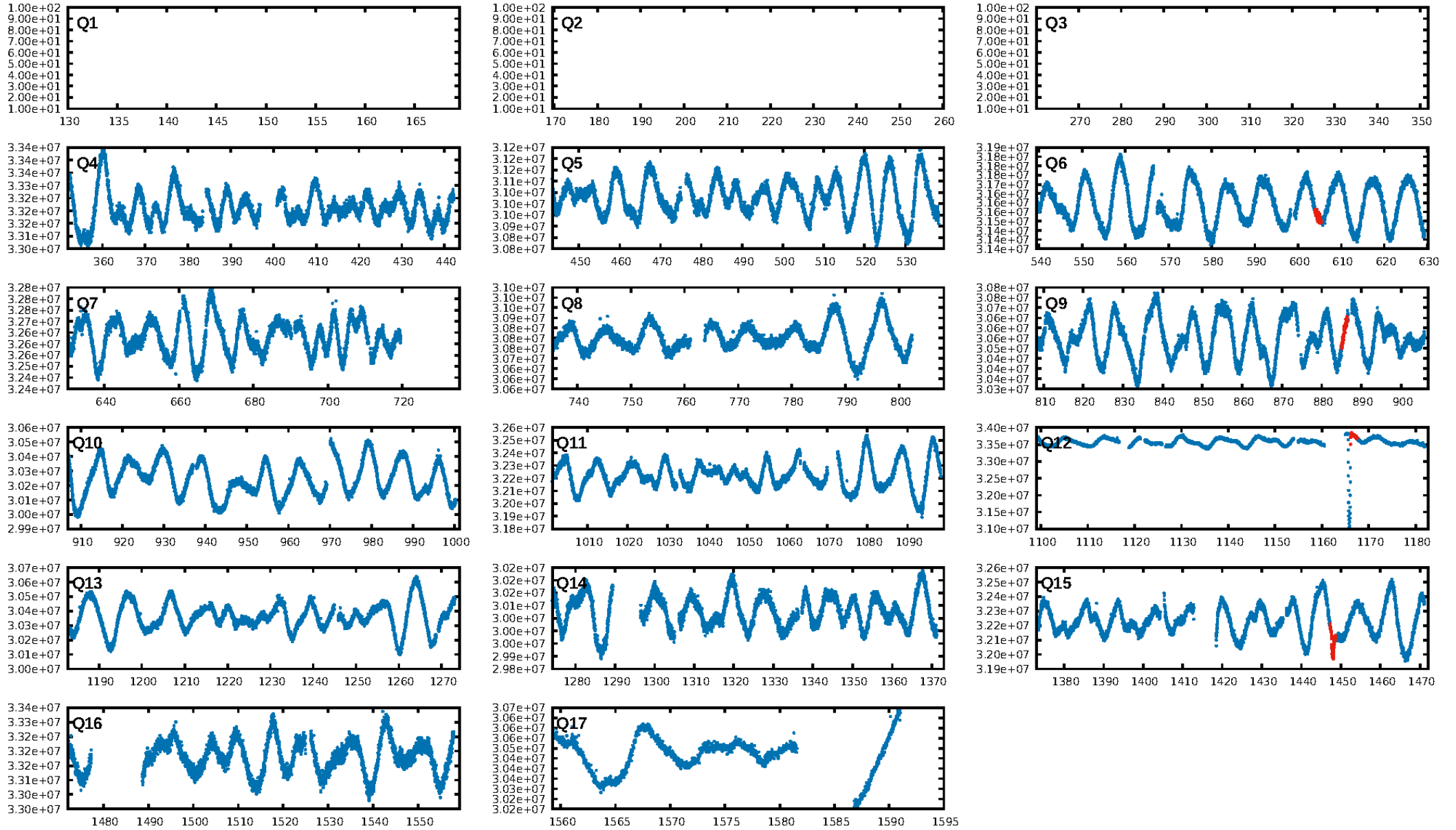
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 89.5%  
Bootstrap-pfa: 1.12e-62  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 6.036  
Centroid-sig: 29.1%  
Centroid-so: 2.478 arcsec [3.71 $\sigma$ ]  
OotOffset-rm: 5.493 arcsec [73.82 $\sigma$ ]  
KicOffset-rm: 0.708 arcsec [9.51 $\sigma$ ]  
OotOffset-st: 0/1/0/0 [1]  
KicOffset-st: 0/1/0/0 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [2/2]

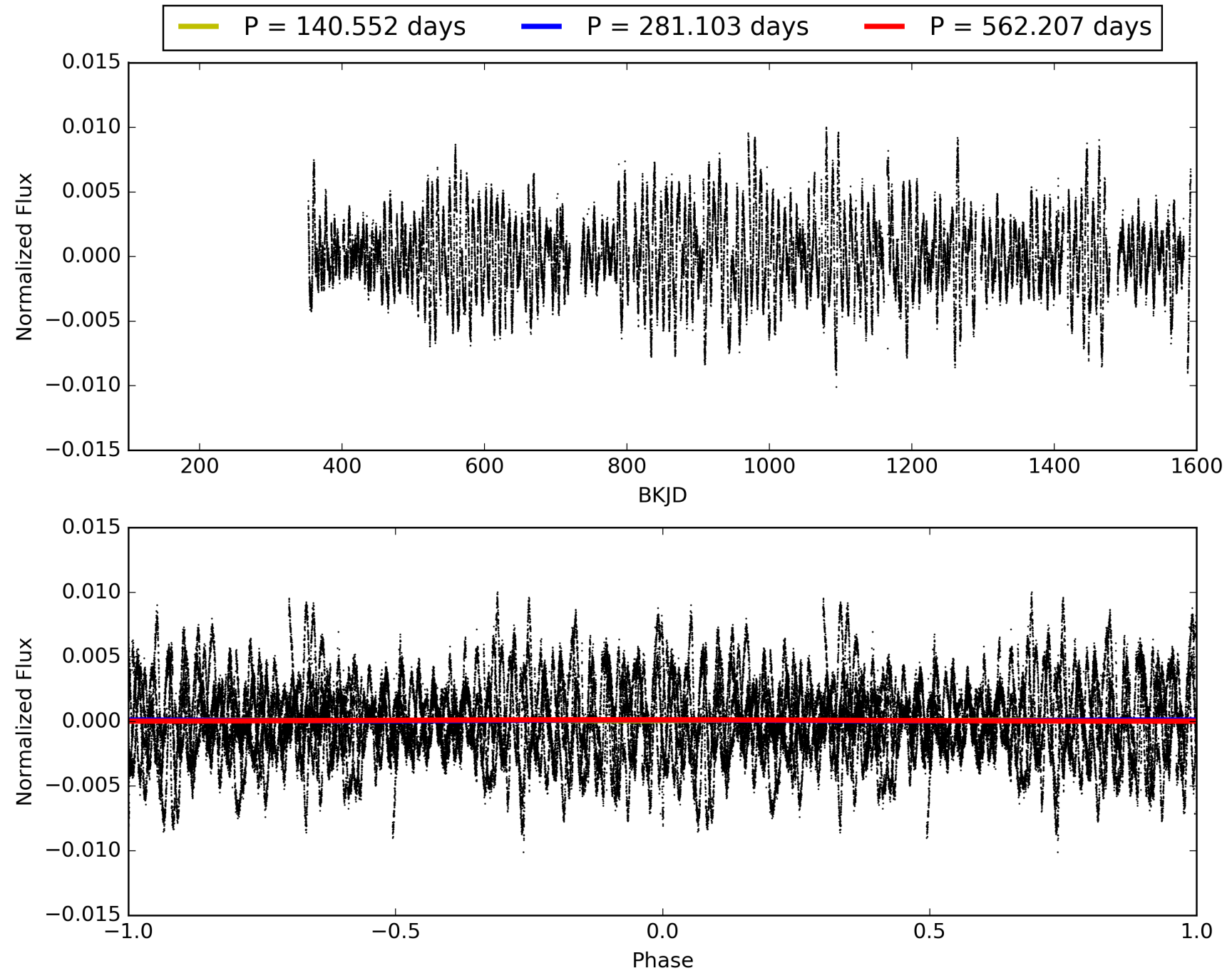
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:10:10 Z

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

# TCE 003526901-01, PDC Light Curves

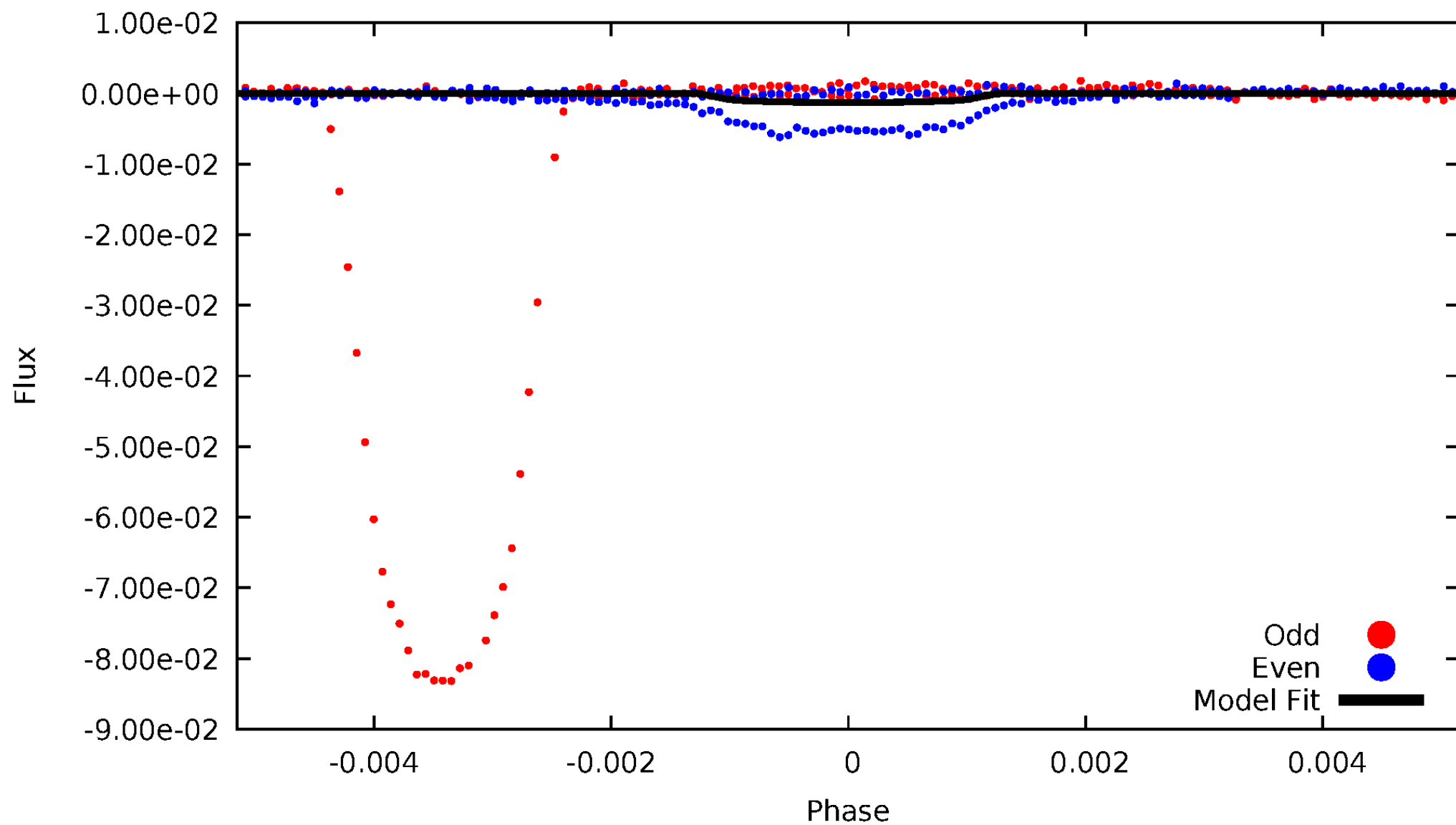


# TCE 003526901-01



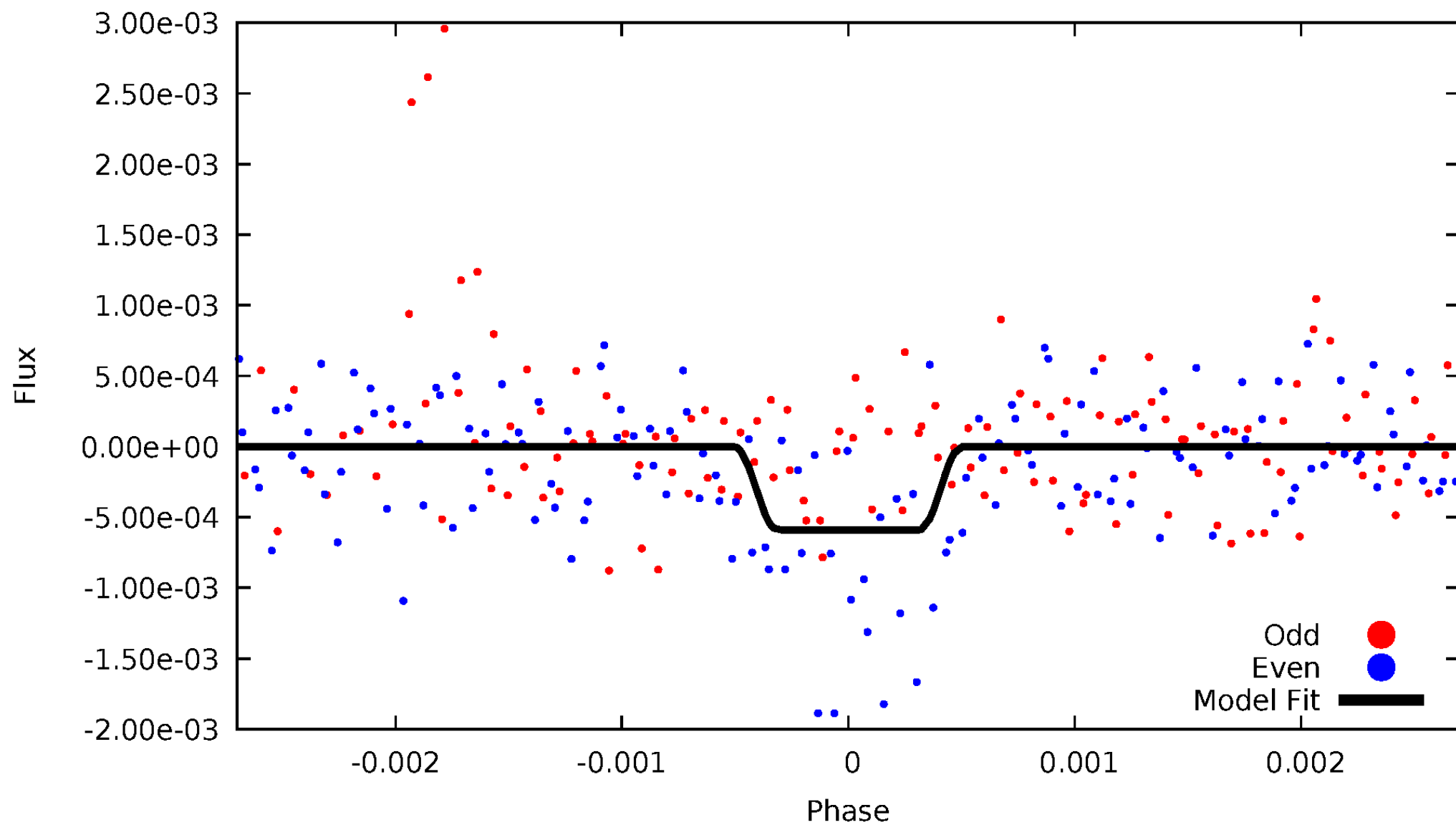
DV Odd/Even

TCE 003526901-01



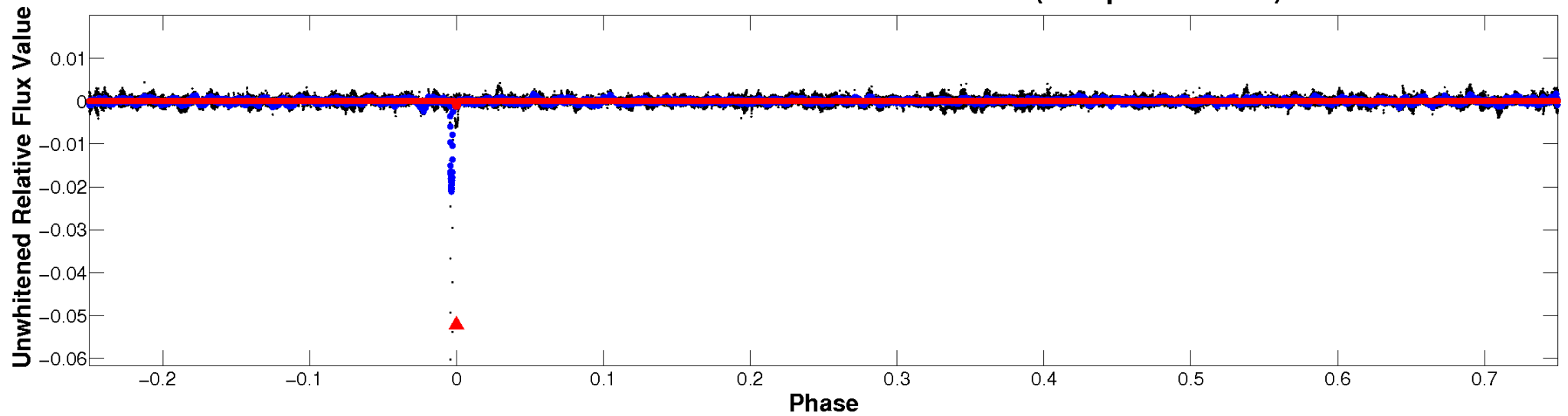
# ALT Odd/Even

TCE 003526901-01

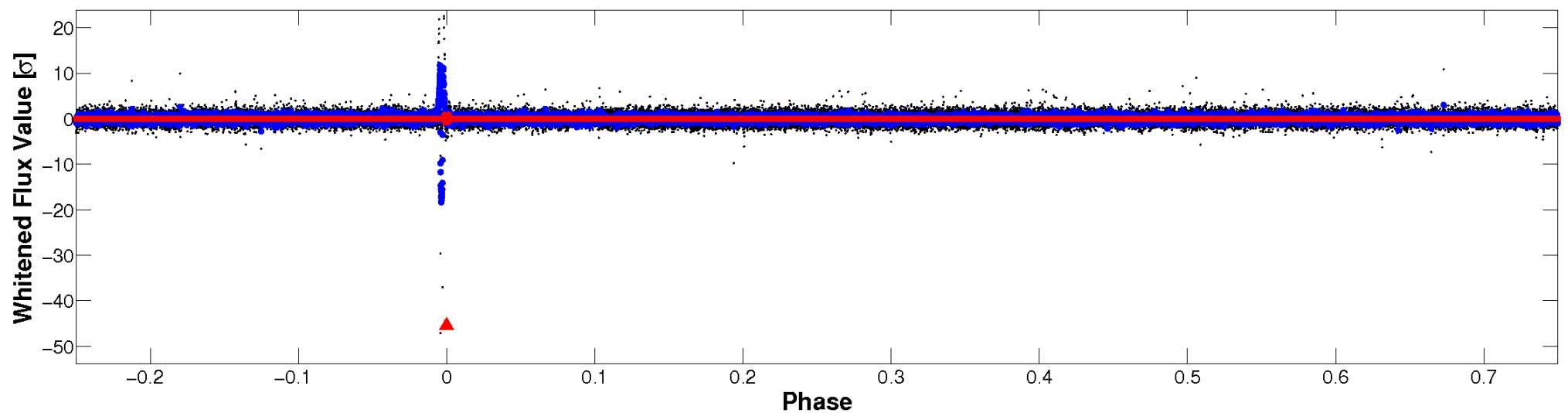


# Non-Whitened Vs. Whitened Light Curve

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

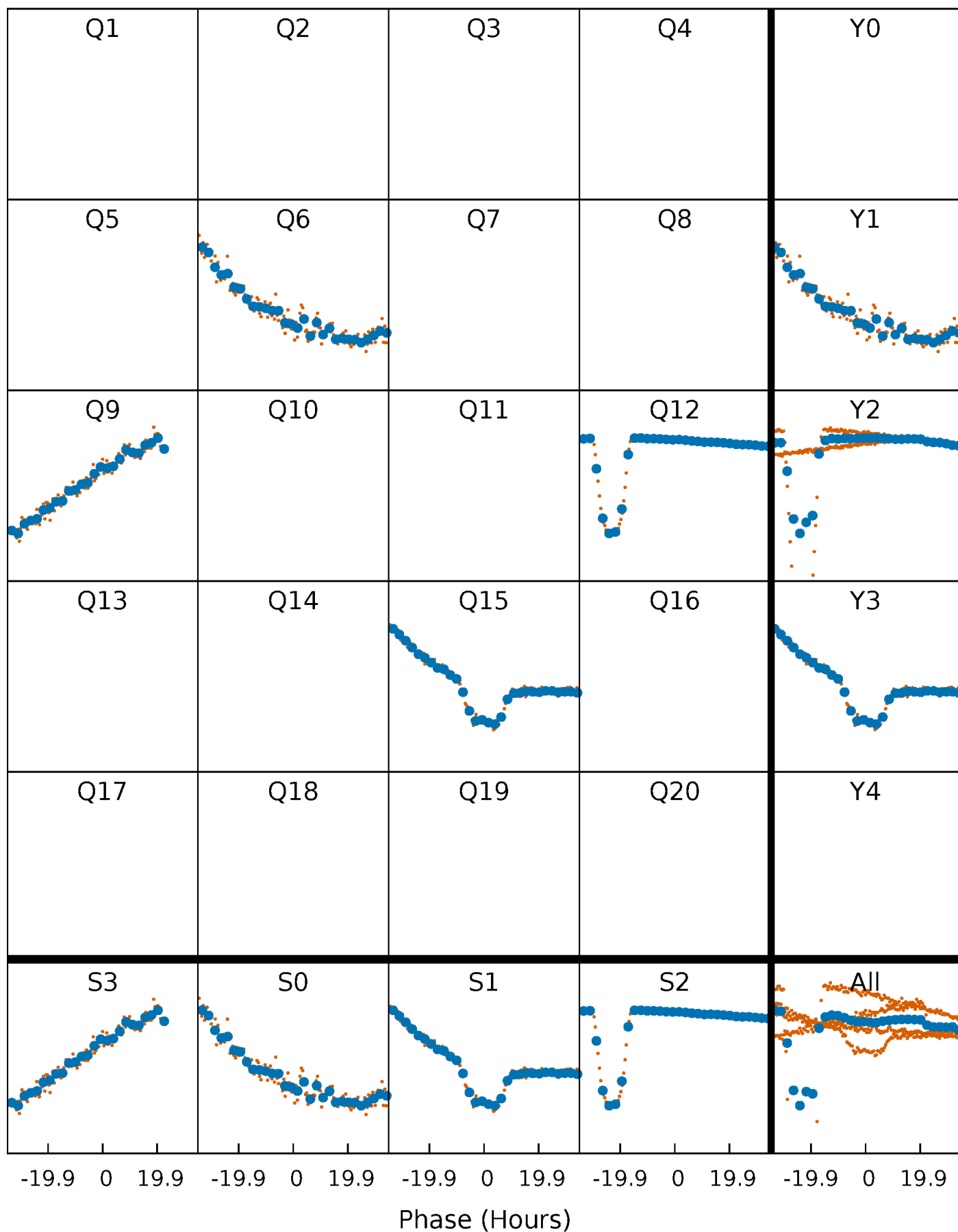


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

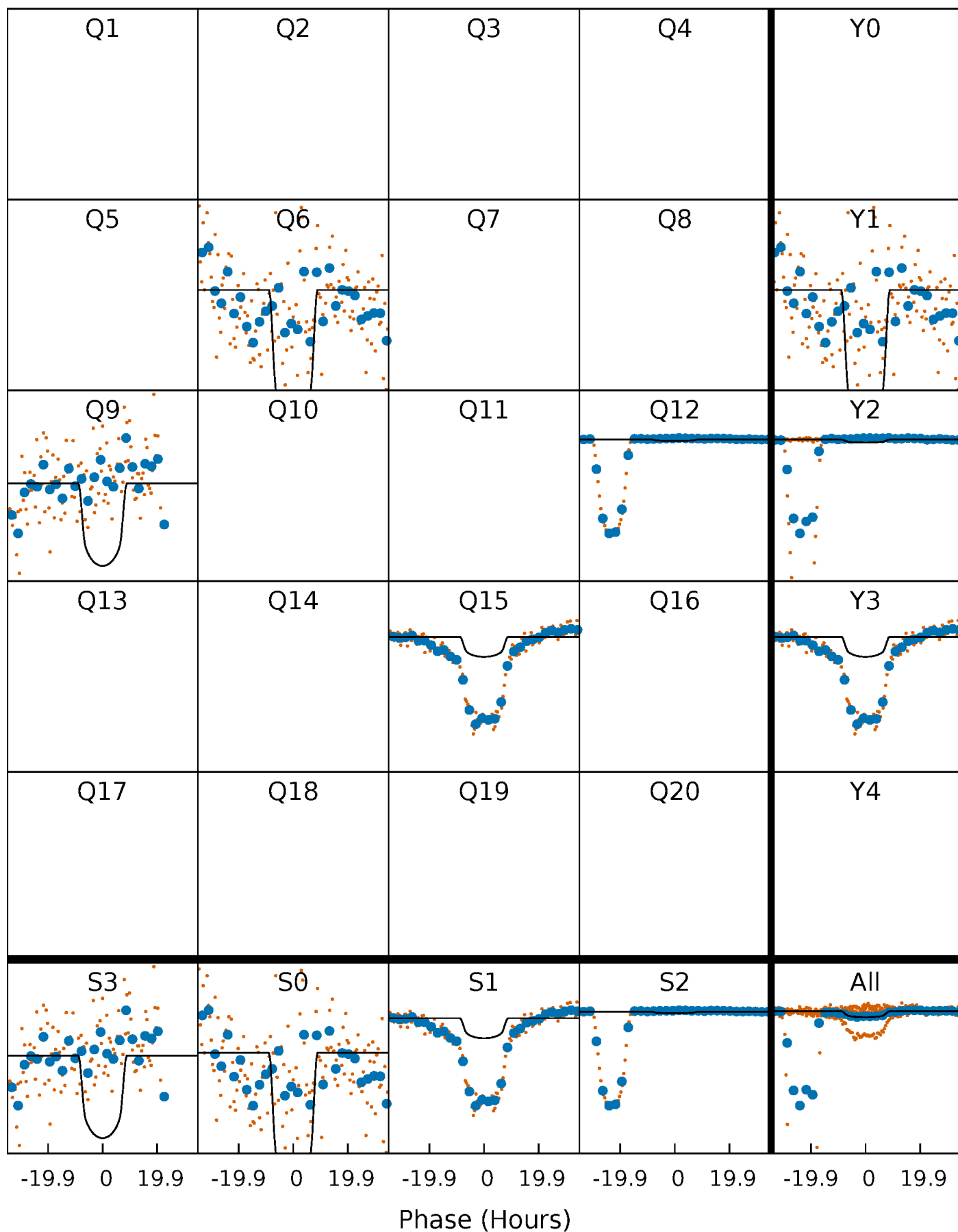
TCE 003526901-01     $P=281.103498$  Days     $T_0=323.529556$  (BKJD)





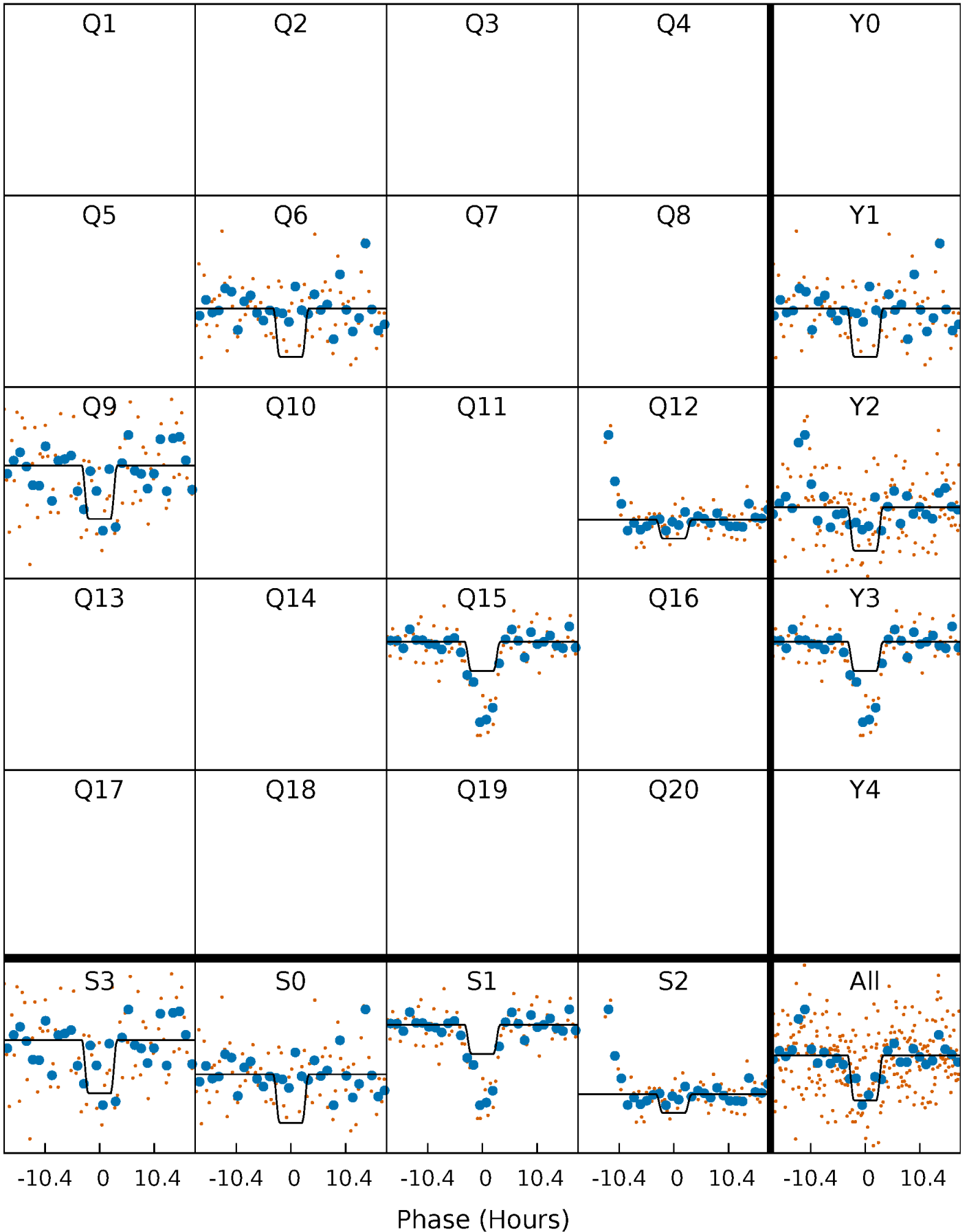
# DV Quarter-Phased Transit Curves

TCE 003526901-01 P=281.103498 Days  $T_0=323.529556$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

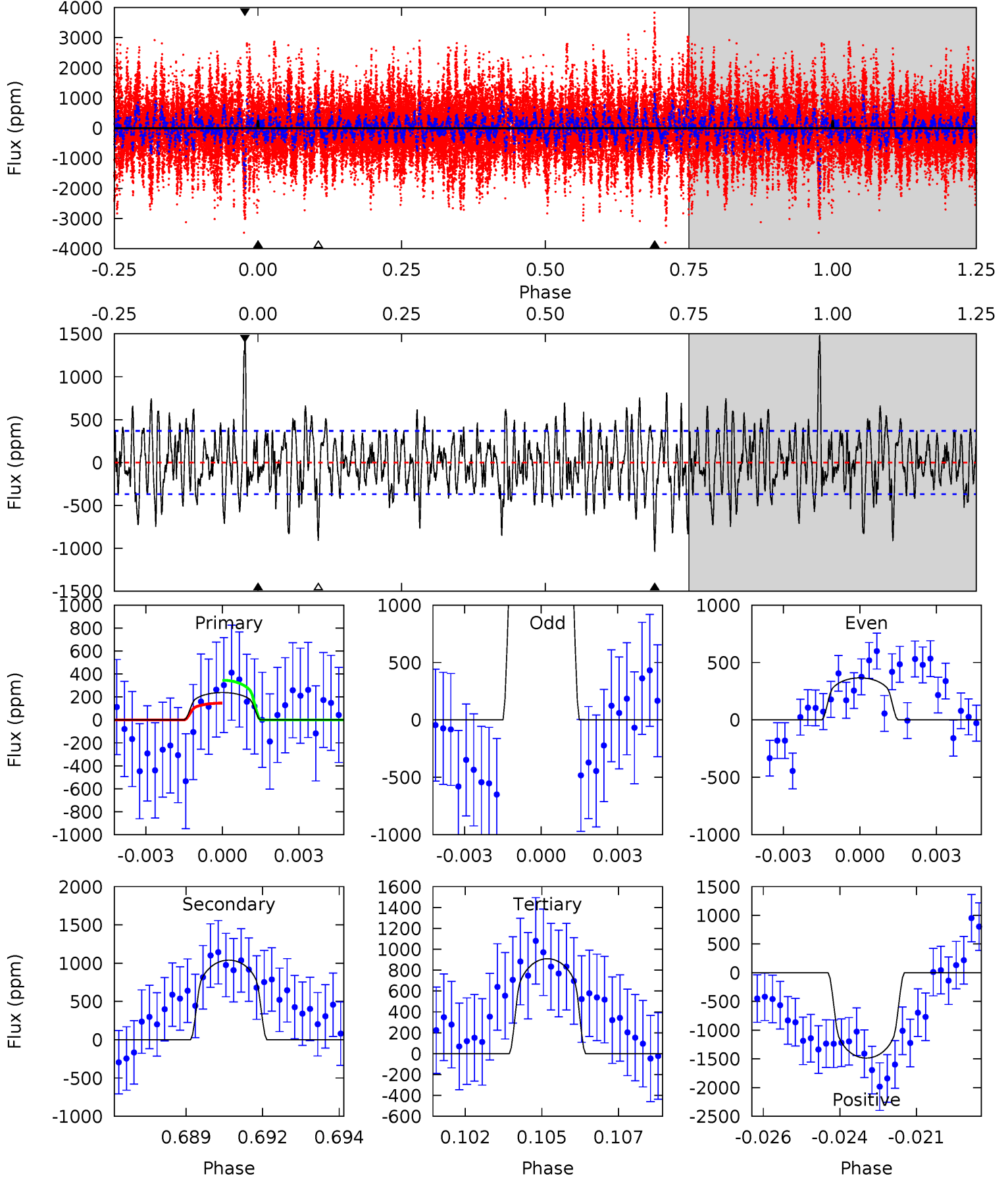
TCE 003526901-01     $P=281.315632$  Days     $T_0=322.862724$  (BKJD)



# DV Model-Shift Uniqueness Test

003526901-01, P = 281.103498 Days, E = 323.529556 Days

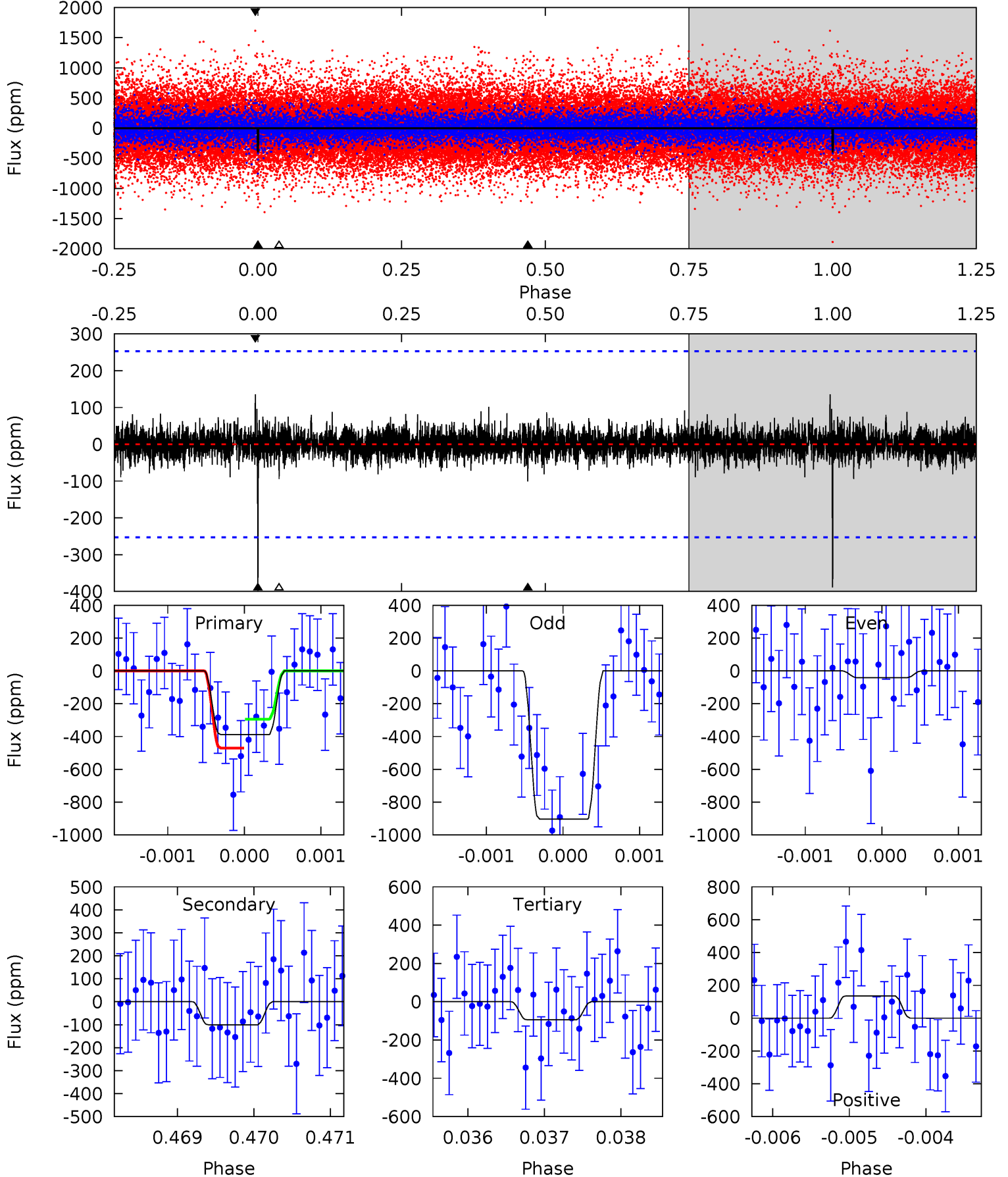
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.41	14.9	13.0	21.3	5.28	3.01	4.22	-9.61	-17.9	1.86	-6.39	12.5	13.6	0.59	1.42



# Alt Model-Shift Uniqueness Test

003526901-01, P = 281.315632 Days, E = 322.862724 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
8.39	2.17	2.04	2.93	5.46	3.30	0.51	6.35	5.46	0.14	-0.76	9.42	2.37	0.26	1.91



### Stellar Parameters For KIC 003526901

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$4991^{+176}_{-176}$	$4.613^{+0.025}_{-0.075}$	$0.000^{+0.250}_{-0.300}$	$0.729^{+0.086}_{-0.050}$	$0.821^{+0.055}_{-0.087}$	$2.984^{+0.422}_{-0.793}$
	+4%/-4%	+1%/-2%	+inf%/-inf%	+12%/-7%	+7%/-11%	+14%/-27%
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 003526901-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-1040 \pm 70$	$3.13^{+0.65}_{-0.63}$	$301^{+14}_{-13}$	$4648^{+487}_{-341}$	$35506^{+20217}_{-11032}$
Alt.	$-101 \pm 46$	$1.98^{+0.66}_{-0.58}$	$302^{+13}_{-13}$	$3533^{+551}_{-395}$	$7808^{+9698}_{-4338}$

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

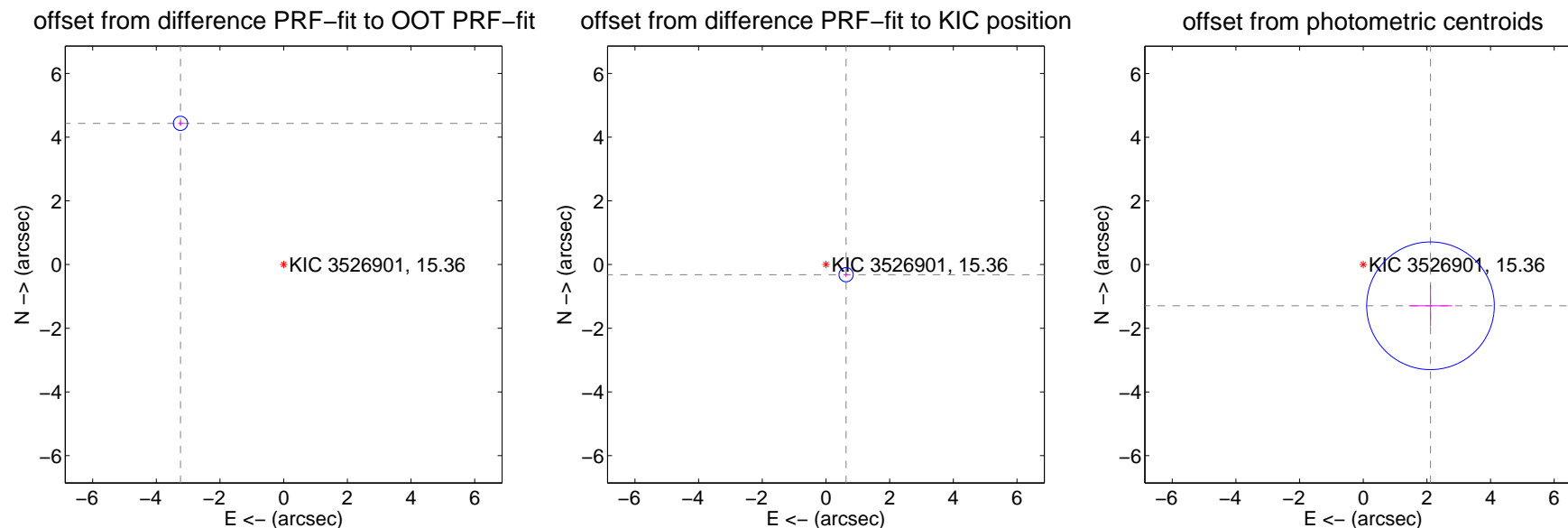
## DV Centroid Data

Supplemental centroid analysis for 003526901-01. Kepler magnitude: 15.36. Transit SNR 8.46

There are 1 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 6.13 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	$5.493 \pm 0.074$	73.82	$3.242 \pm 0.074$	$4.434 \pm 0.074$
PRF-fit source offset from KIC position	$0.708 \pm 0.074$	9.51	$-0.632 \pm 0.074$	$-0.318 \pm 0.074$
photometric centroid source offset	$2.48 \pm 0.67$	3.71	$-2.11 \pm 0.68$	$-1.29 \pm 0.65$

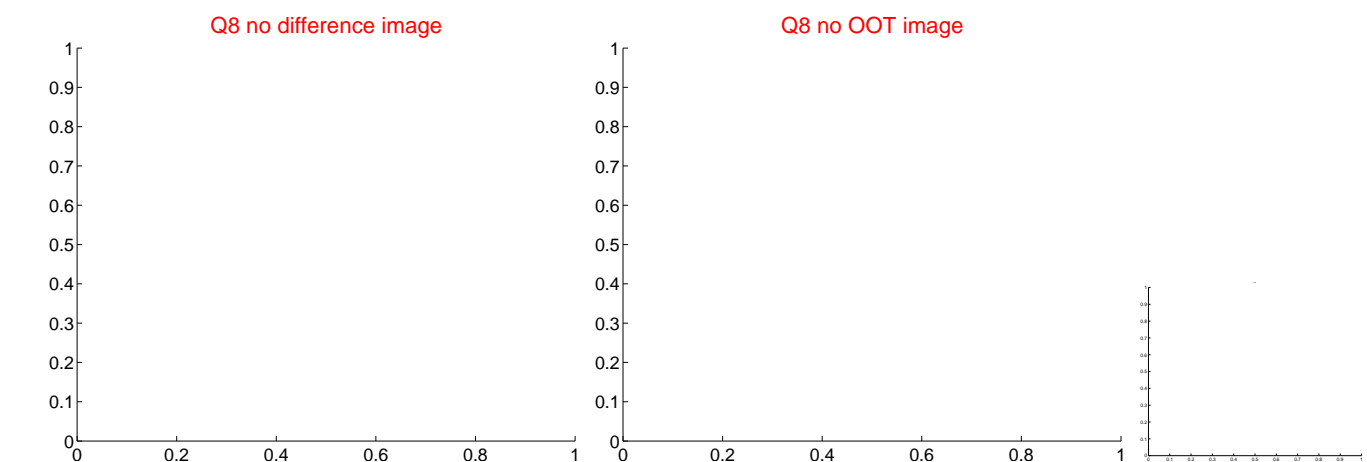
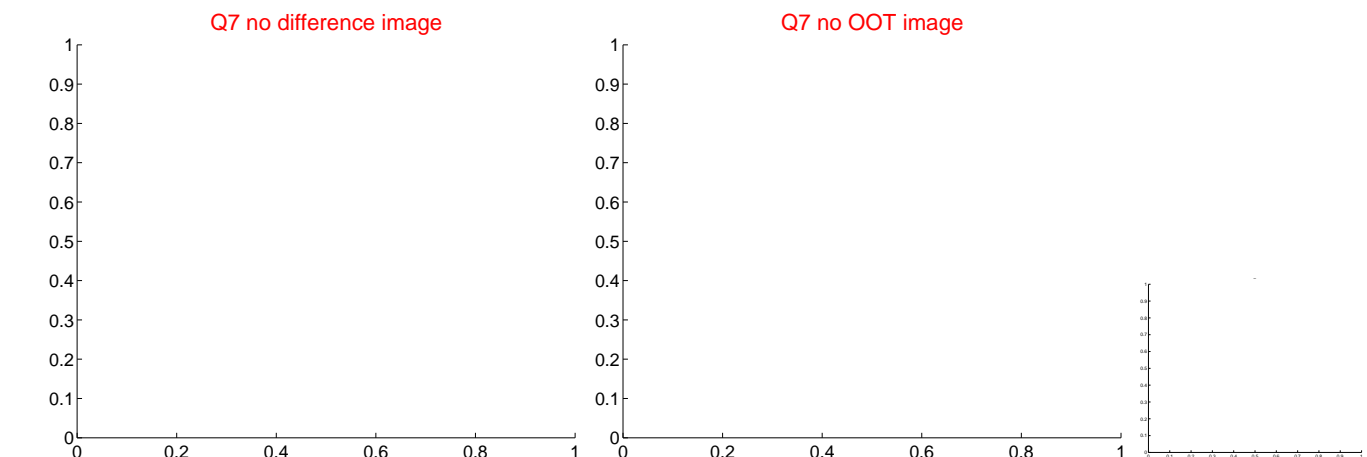
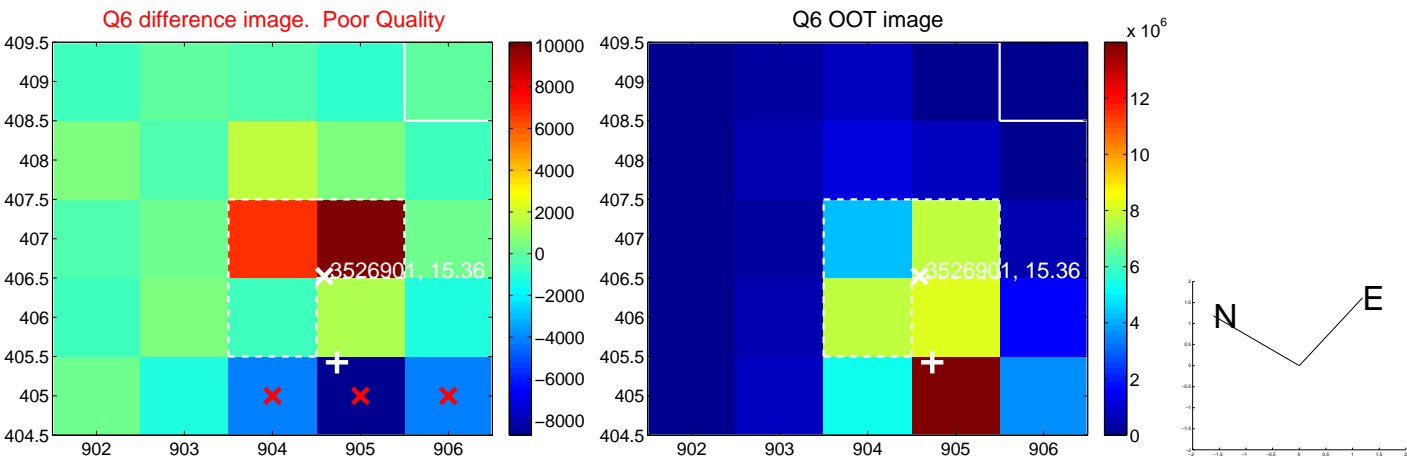
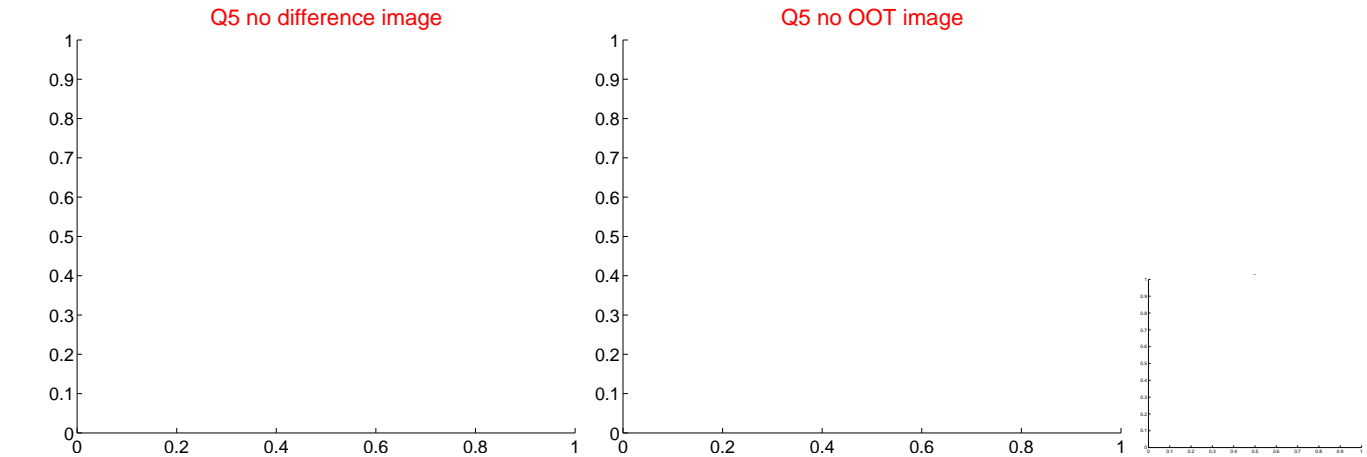


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

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



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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.

Q13 no difference image



Q13 no OOT image



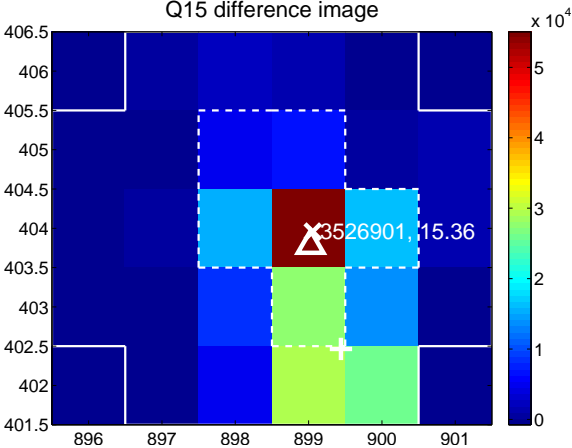
Q14 no difference image



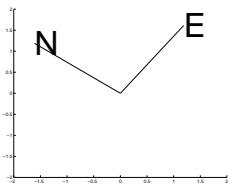
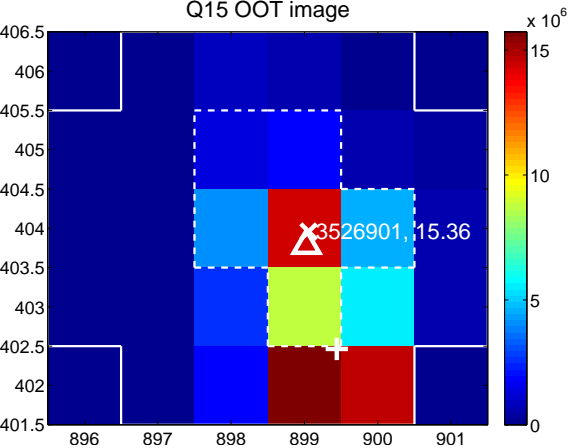
Q14 no OOT image



Q15 difference image



Q15 OOT image



Q16 no difference image



Q16 no OOT image



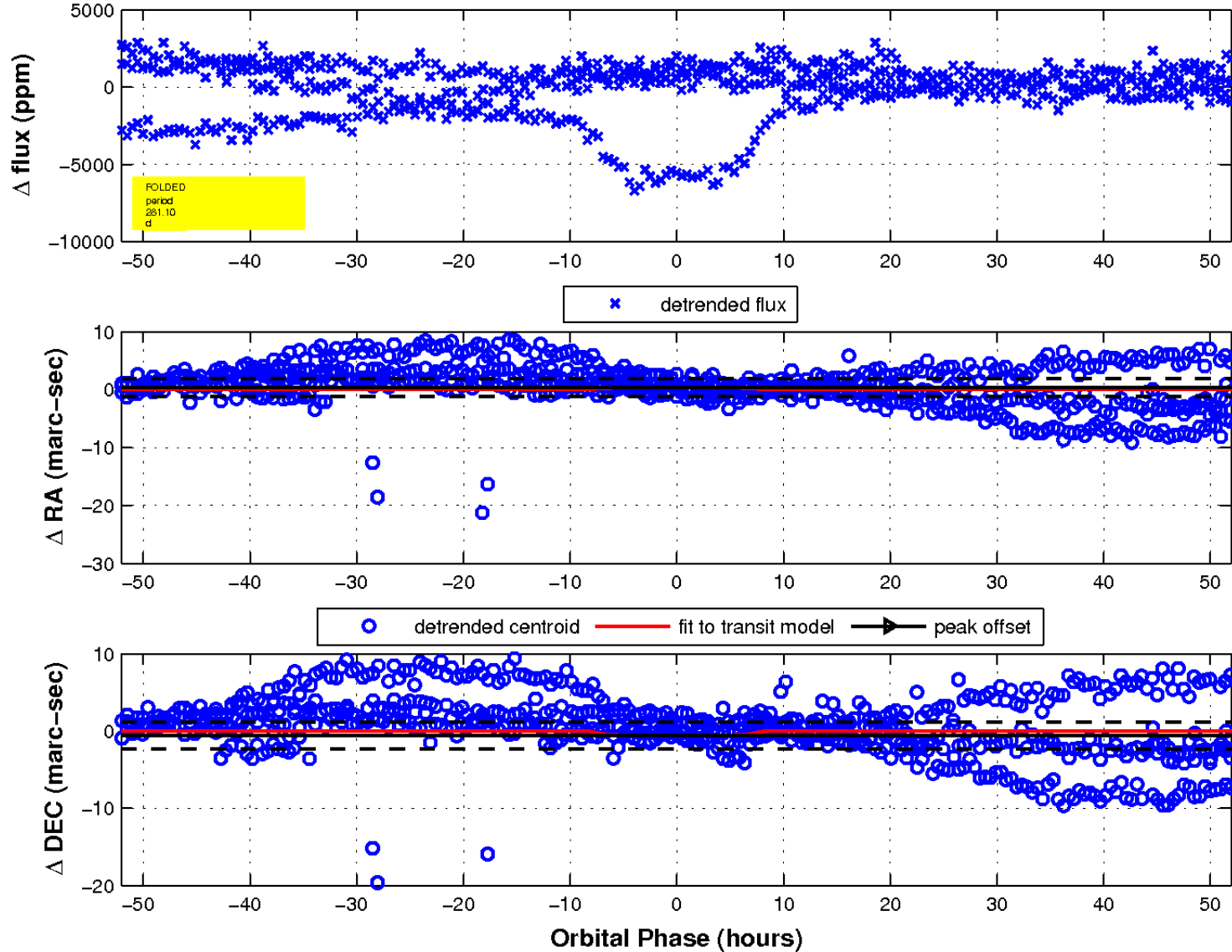
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

Q17 no difference image

Q17 no OOT image



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

