

# KIC 006290789

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006290789-01	OBS	No	280.511030	162.482224	817.3	6.098	9.7	6.2	0.65	4232	2.14	0.23

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006290789-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_TER_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.

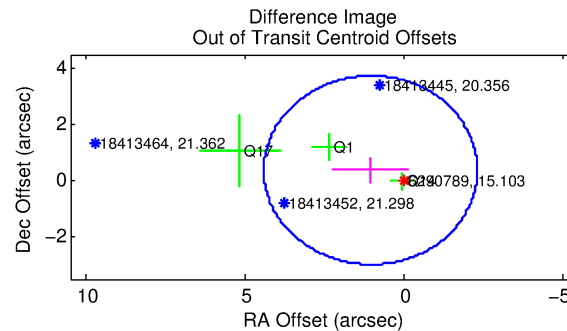
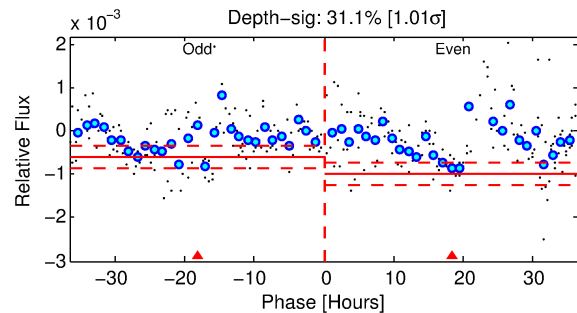
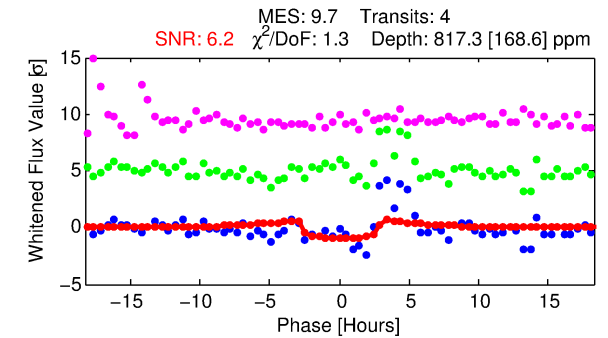
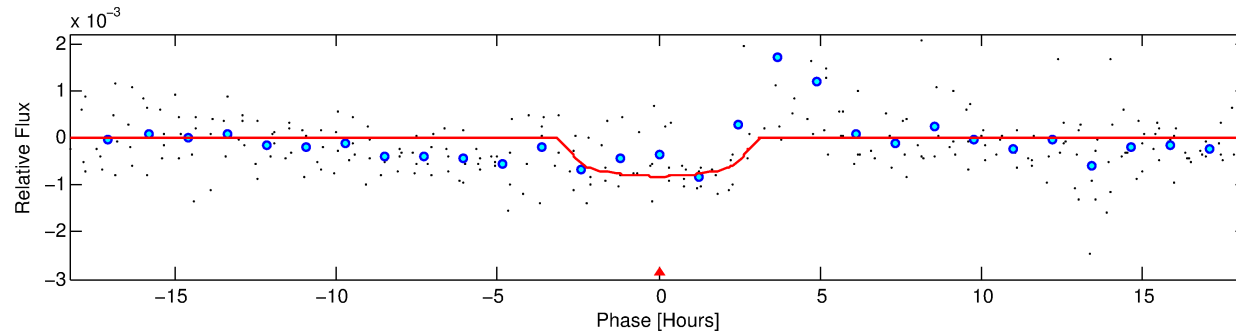
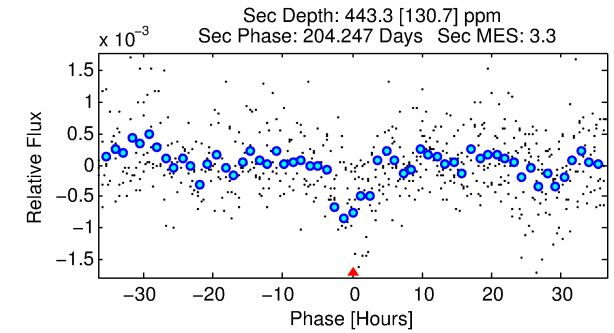
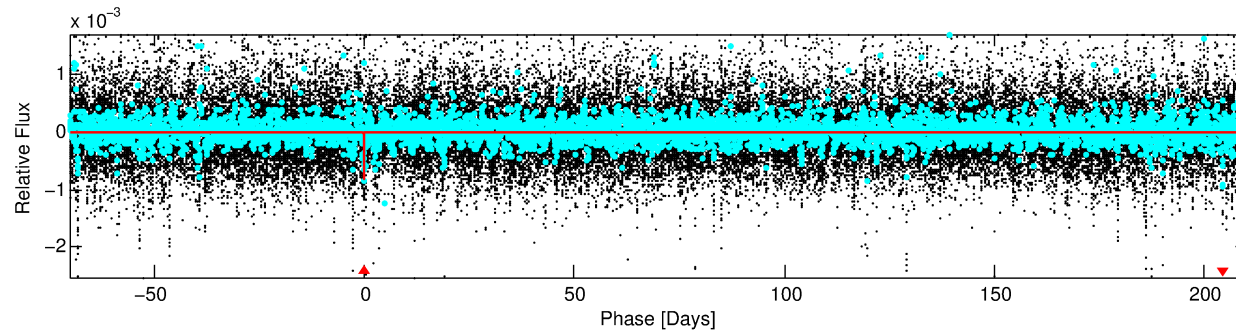
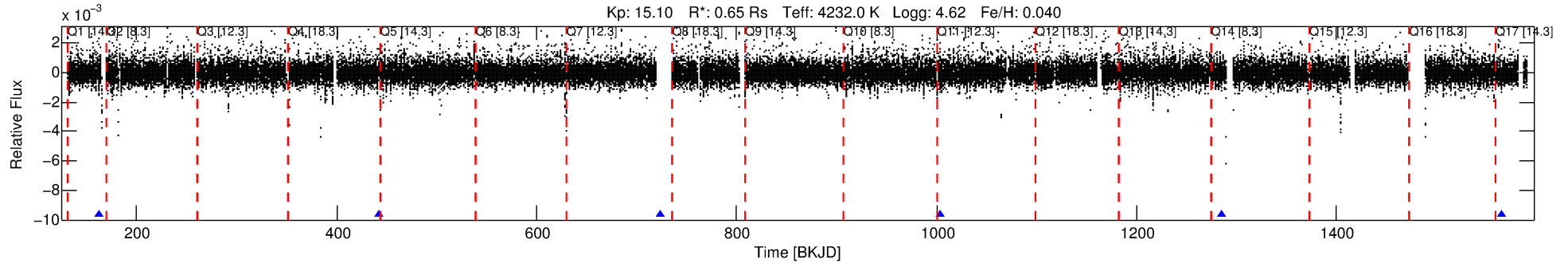
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006290789-01

No Significant Match Found

# DV One-Page Summary

KIC: 6290789 Candidate: 1 of 1 Period: 280.511 d



## DV Fit Results:

Period = 280.51103 [0.00419] d  
Epoch = 162.4822 [0.0148] BKJD  
Rp/R\* = 0.0301 [0.0188]  
a/R\* = 215.14 [456.60]  
b = 0.83 [0.81]  
Seff = 0.23 [0.04]  
Teff = 177 [7] K  
Rp = 2.14 [1.35] Re  
a = 0.7240 [0.0496] AU  
Ag = 27974.27 [35988.92] [0.78σ]  
Teffp = 3540 [1141] K [2.95σ]

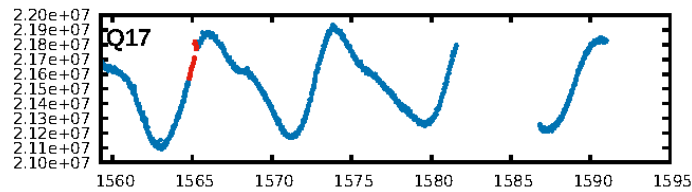
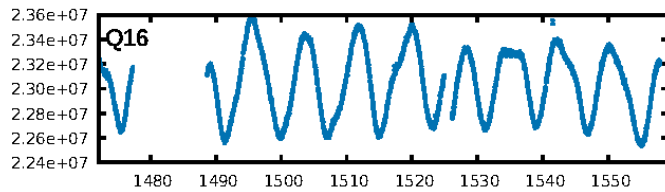
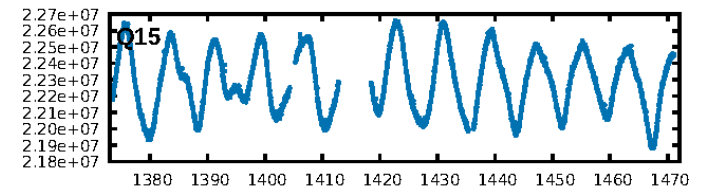
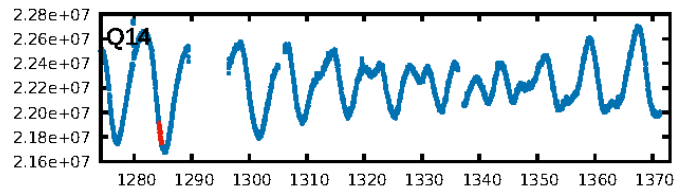
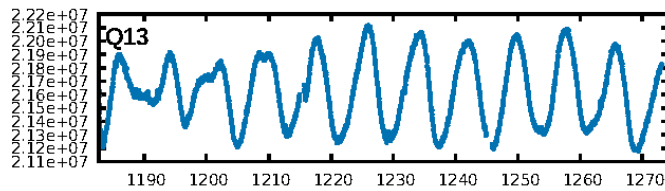
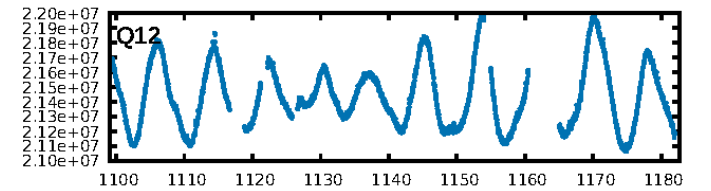
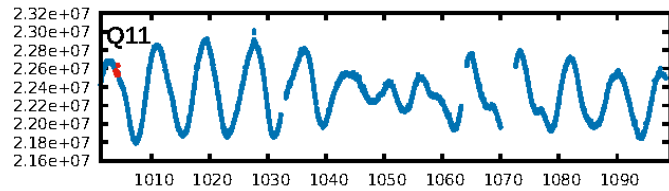
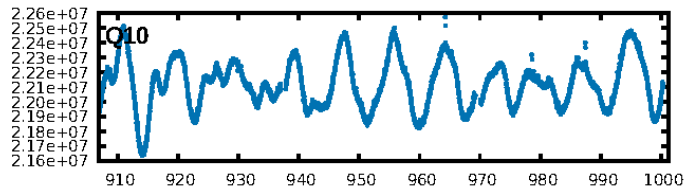
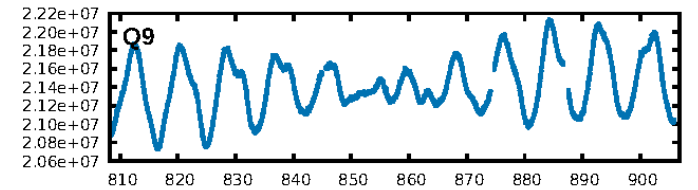
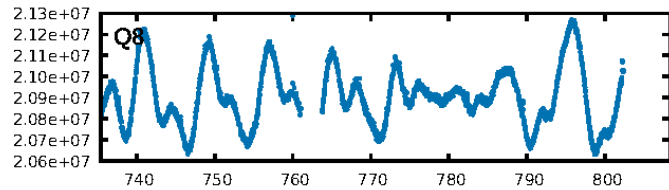
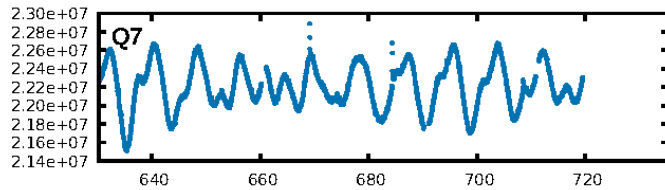
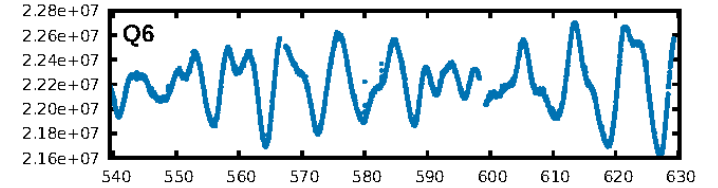
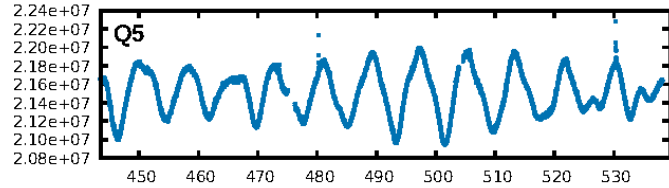
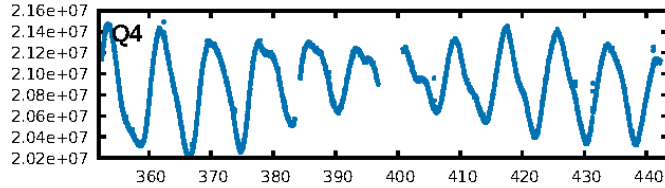
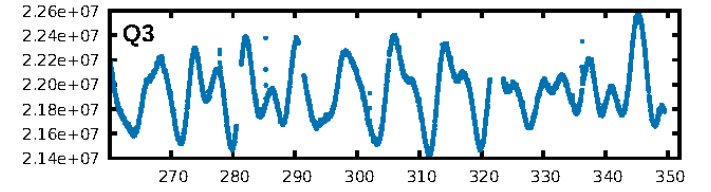
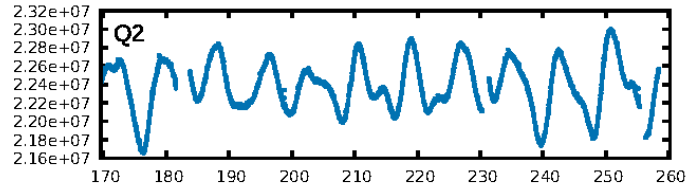
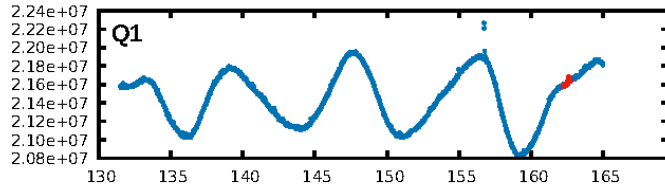
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 60.7%  
ModelChiSquareGof-sig: 77.7%  
**Bootstrap-pfa: 1.34e-10**  
RollingBand-fgt: 1.00 [2/2]  
GhostDiagnostic-chr: -9.571  
Centroid-sig: 99.0%  
Centroid-so: 0.212 arcsec [0.20σ]  
OotOffset-rm: 1.117 arcsec [1.00σ]  
OotOffset-st: 1/0/0/2 [3]  
KicOffset-rm: 1.078 arcsec [0.75σ]  
KicOffset-st: 1/0/0/2 [3]  
DiffImageQuality-fgm: 0.67 [2/3]  
DiffImageOverlap-fno: 1.00 [3/3]

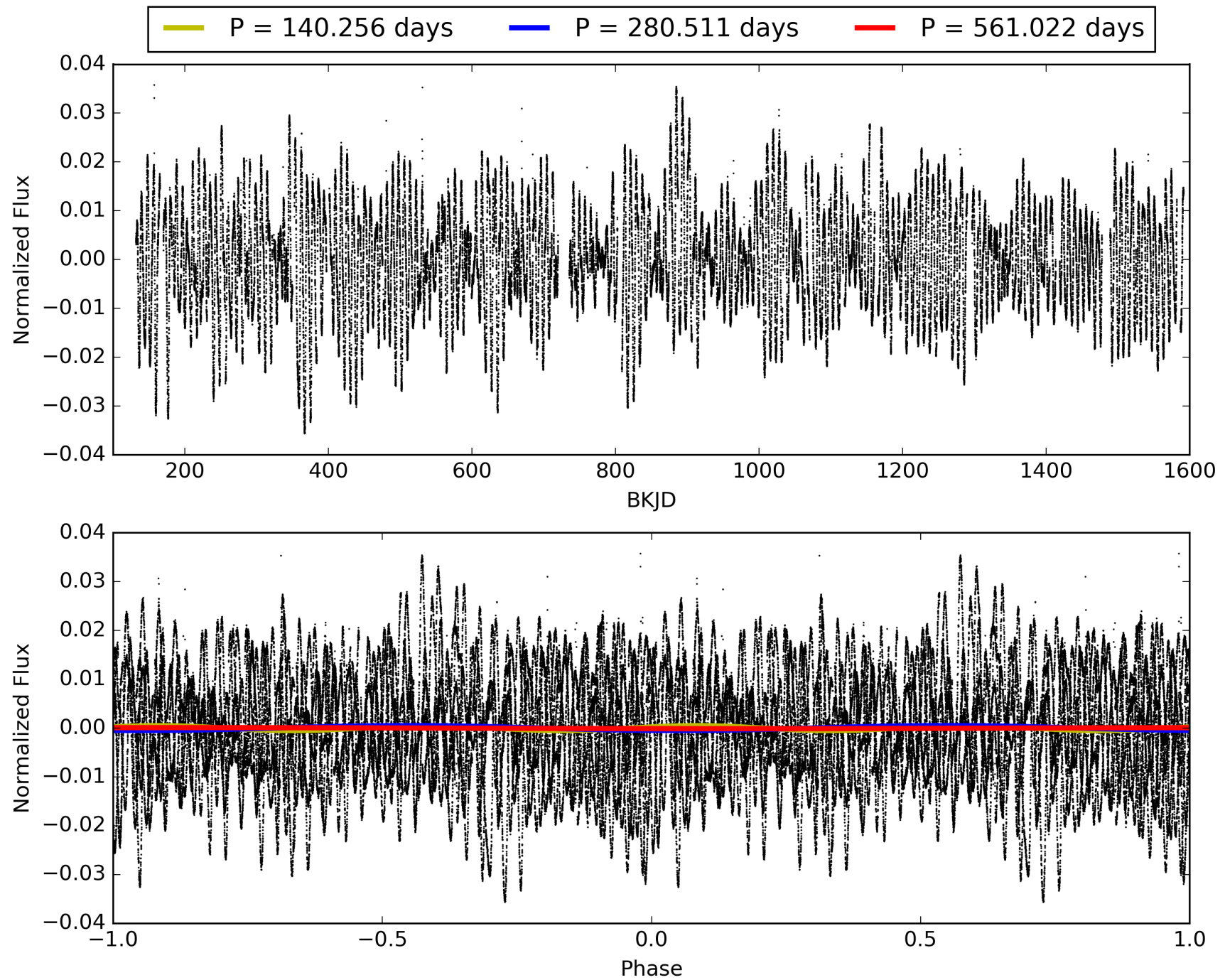
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:08:42 Z

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

# TCE 006290789-01, PDC Light Curves

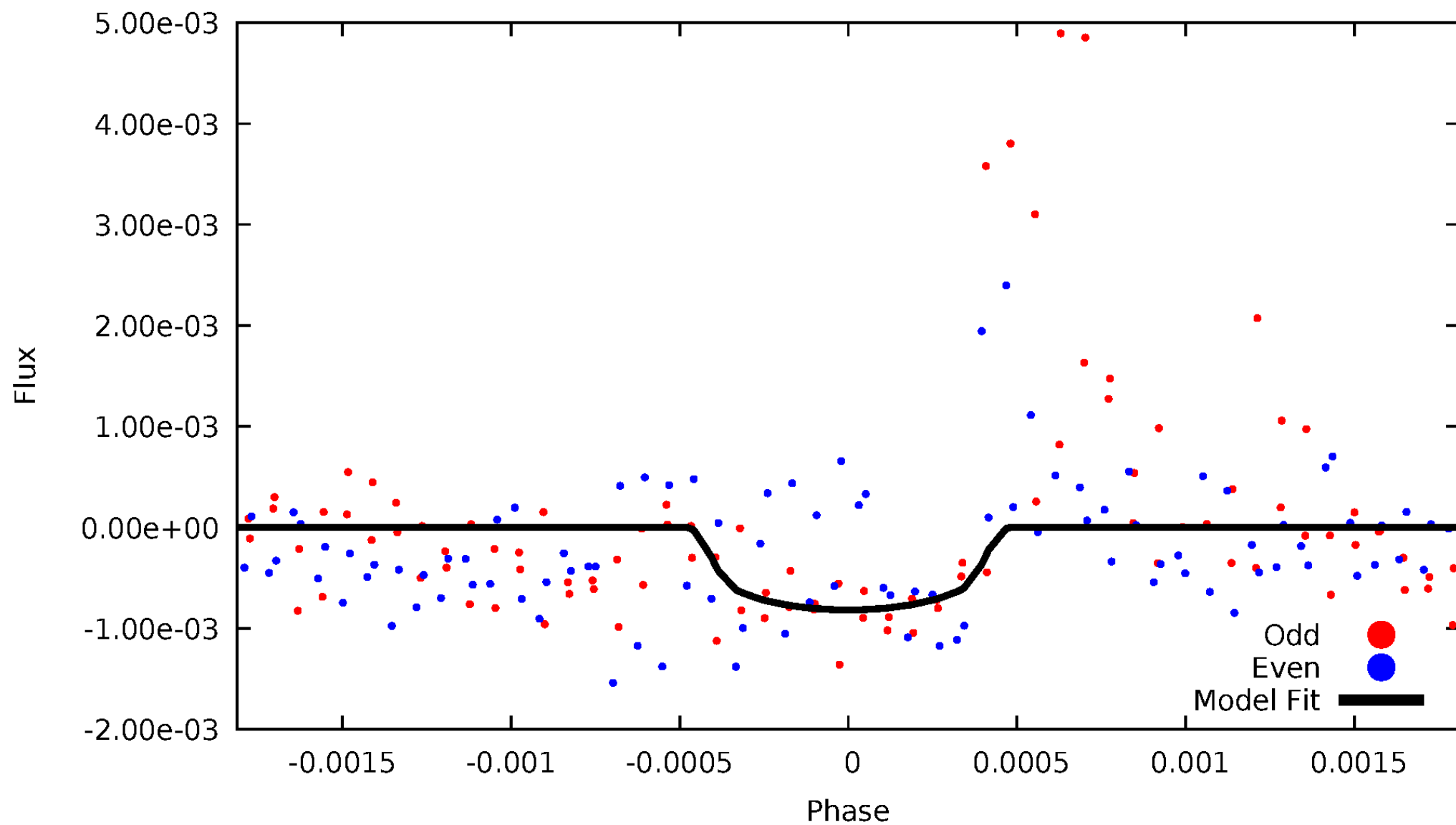


TCE 006290789-01



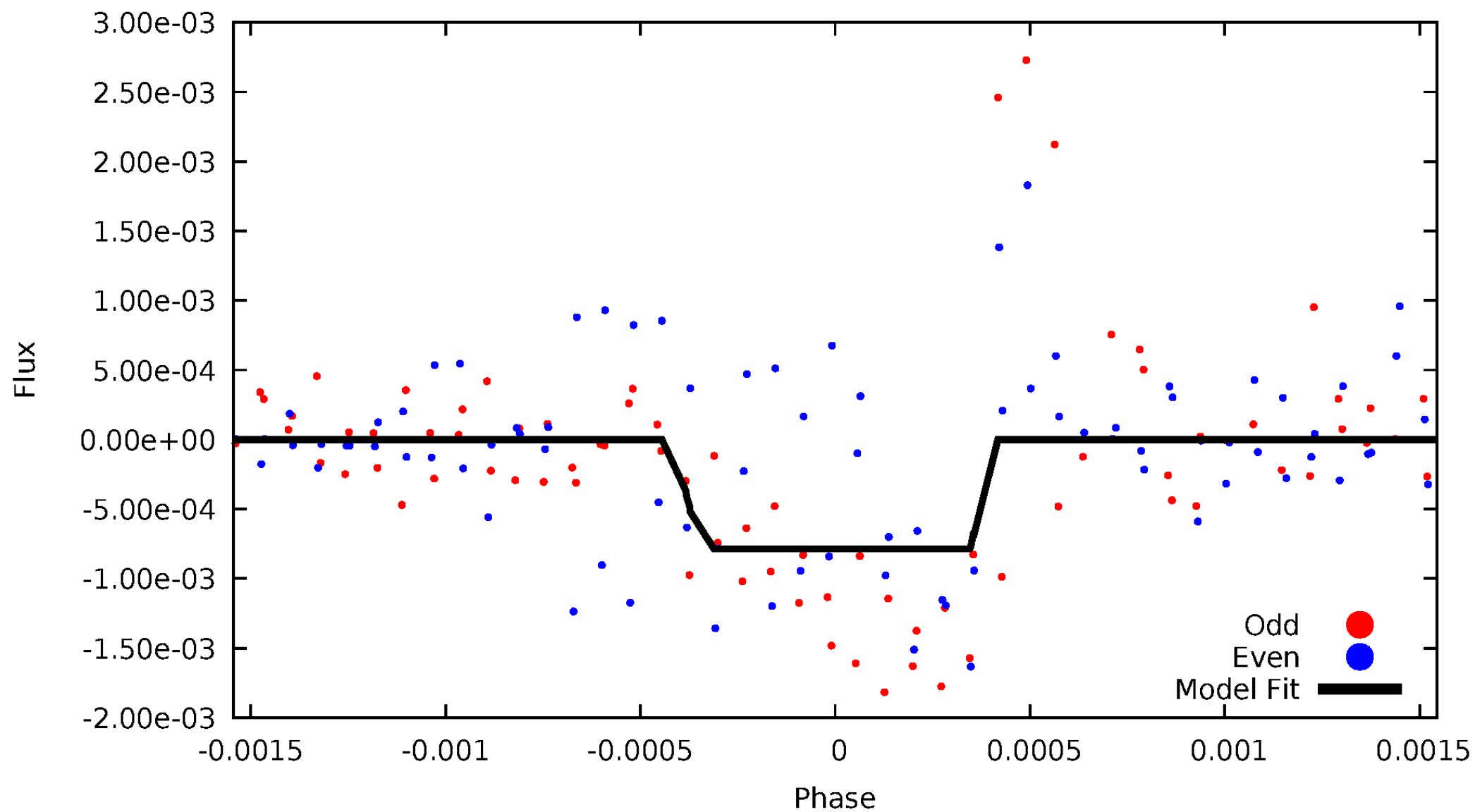
# DV Odd/Even

TCE 006290789-01



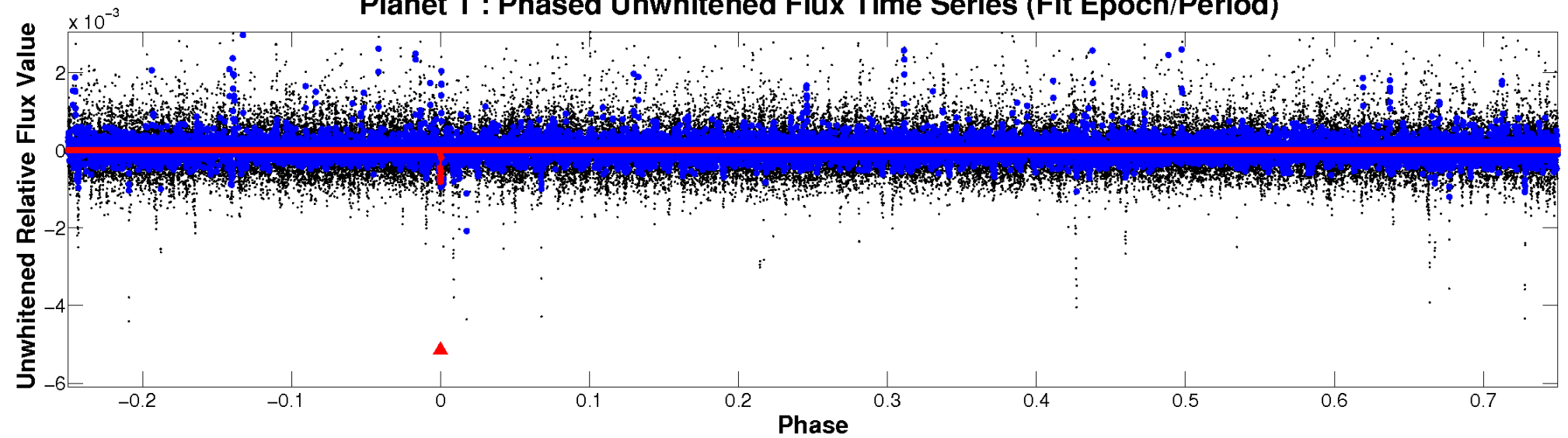
# ALT Odd/Even

TCE 006290789-01

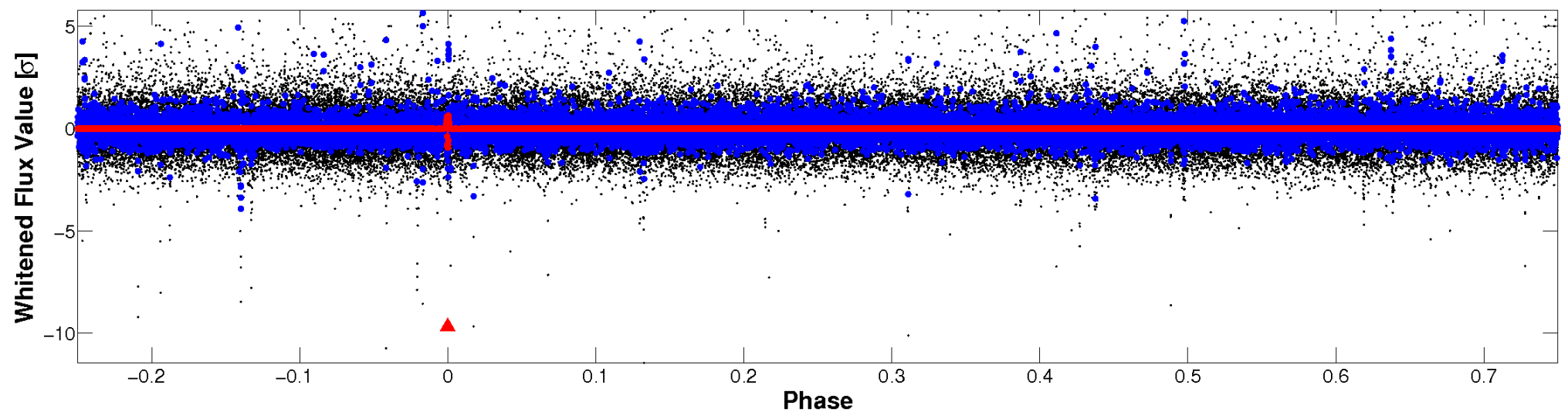


# Non-Whitened Vs. Whitened Light Curve

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

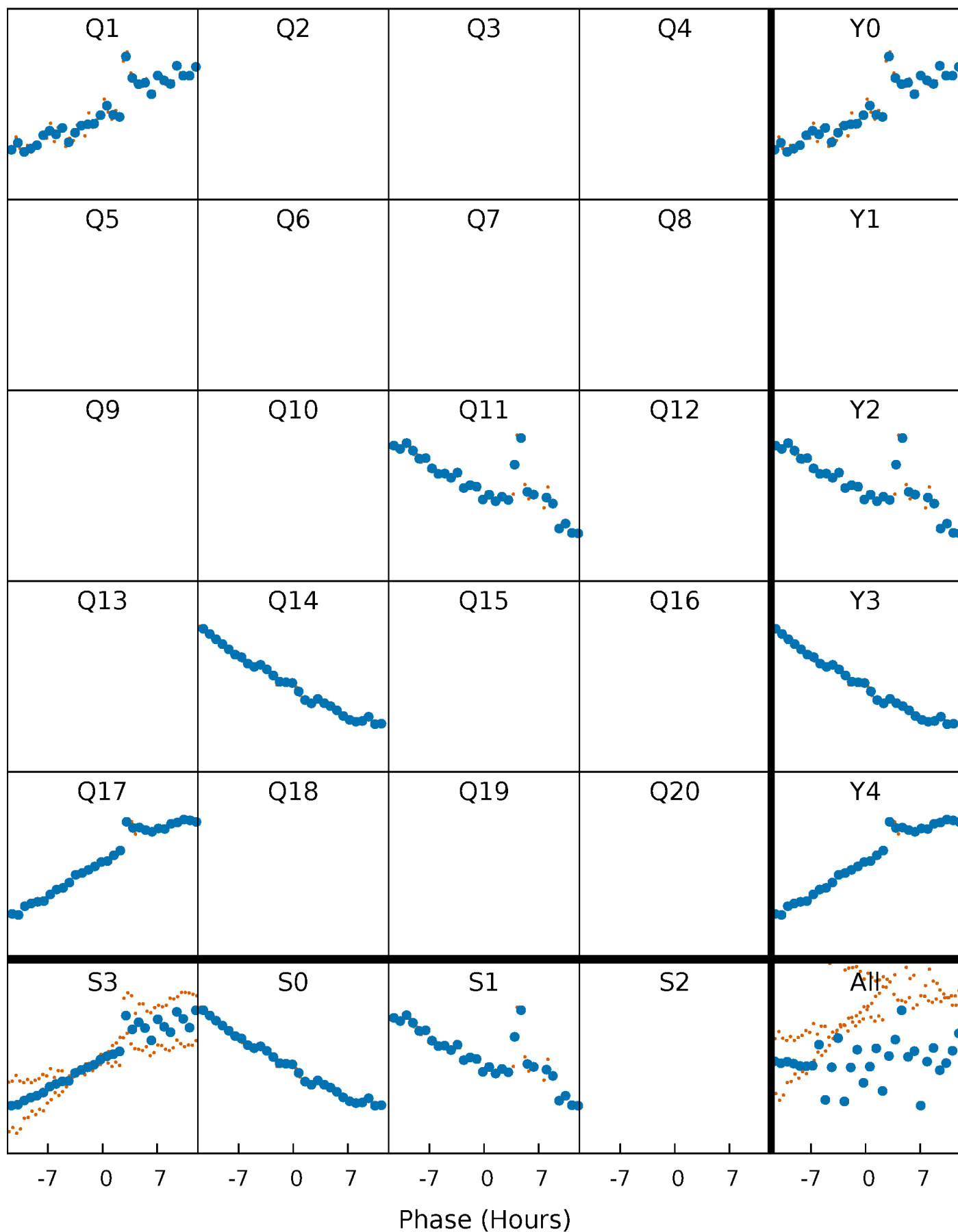


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



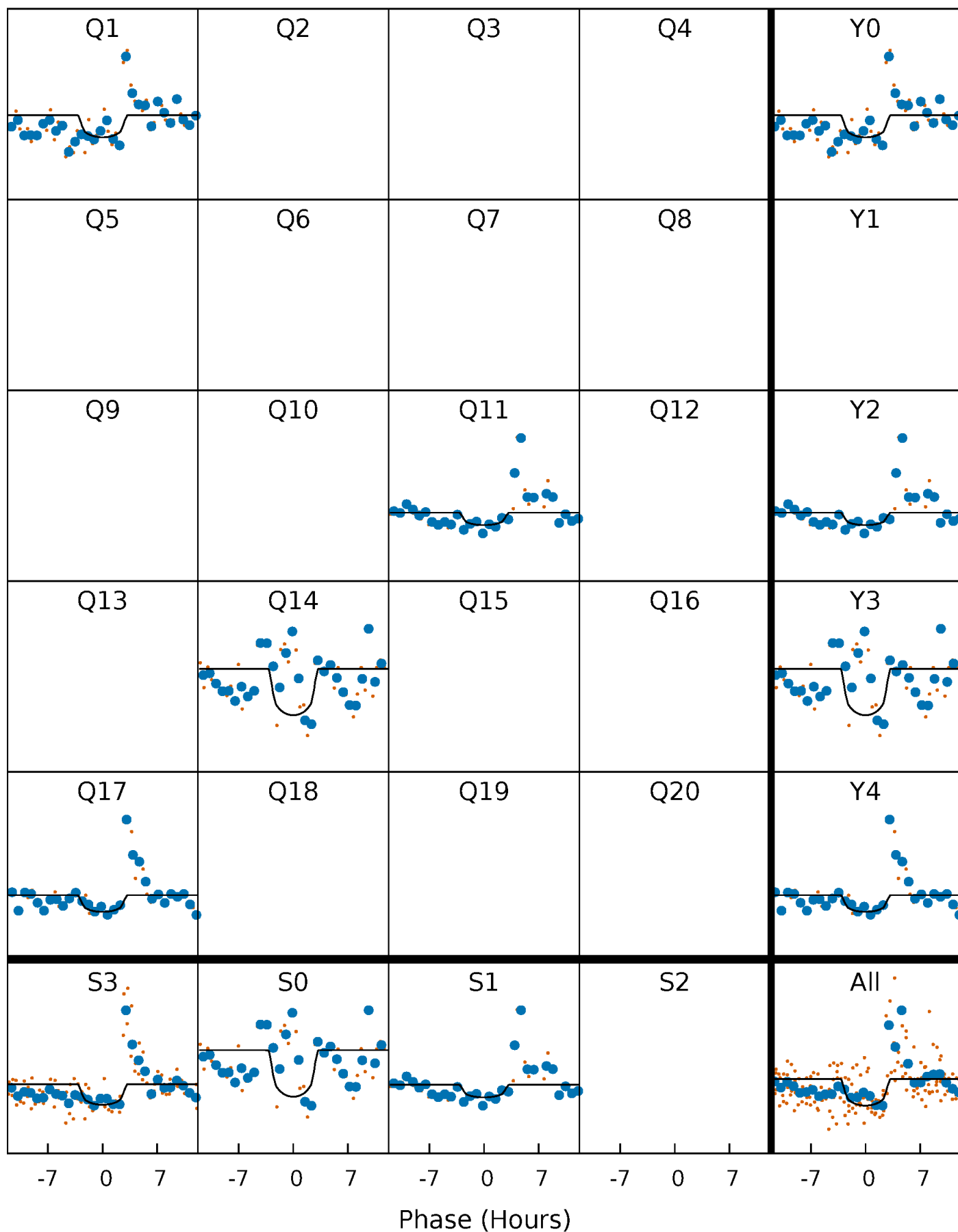
# PDC Quarter-Phased Transit Curves

TCE 006290789-01 P=280.511030 Days  $T_0=162.482224$  (BKJD)



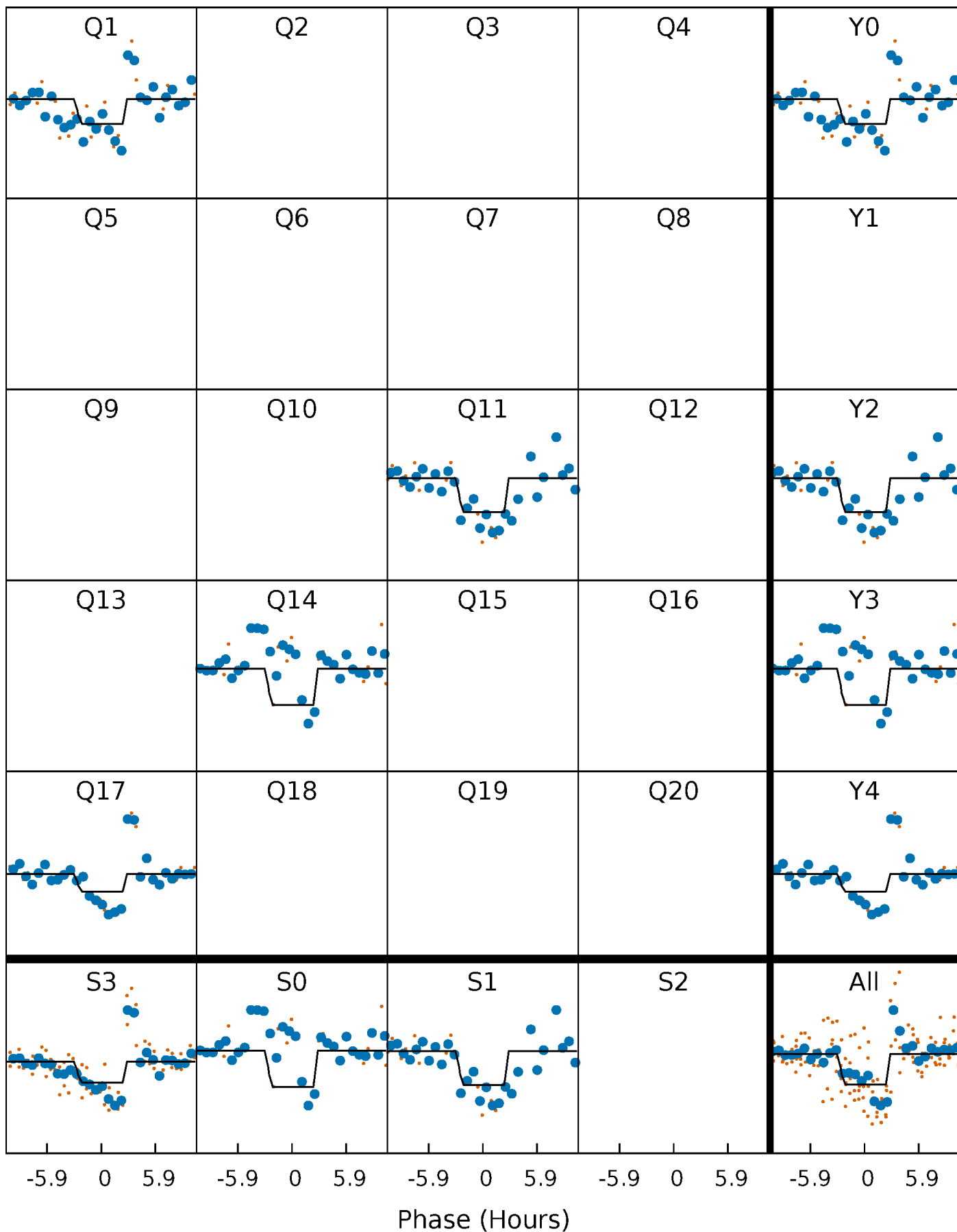
# DV Quarter-Phased Transit Curves

TCE 006290789-01 P=280.511030 Days  $T_0=162.482224$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

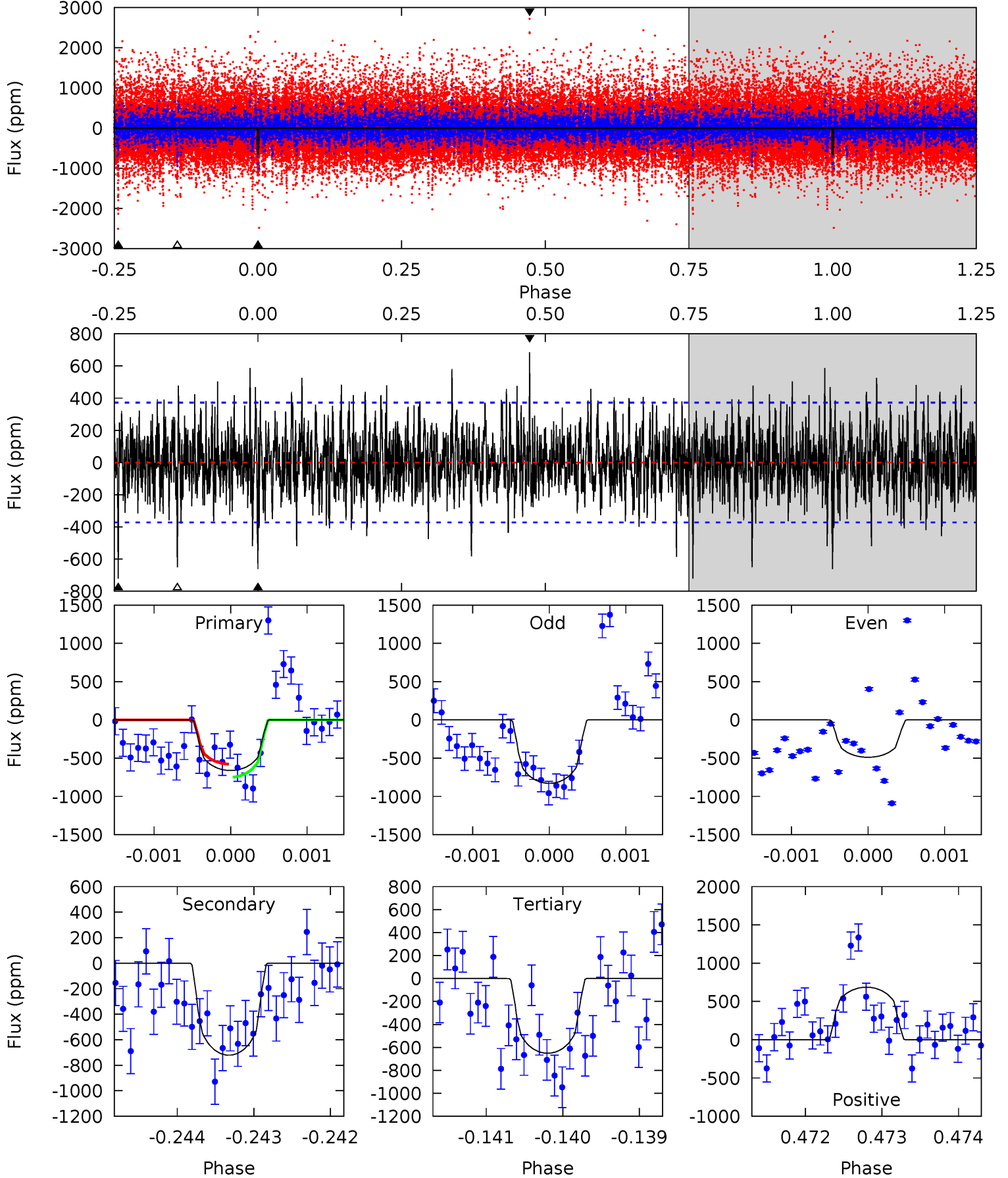
TCE 006290789-01 P=280.511912 Days  $T_0=162.475007$  (BKJD)



# DV Model-Shift Uniqueness Test

006290789-01, P = 280.511030 Days, E = 162.482224 Days

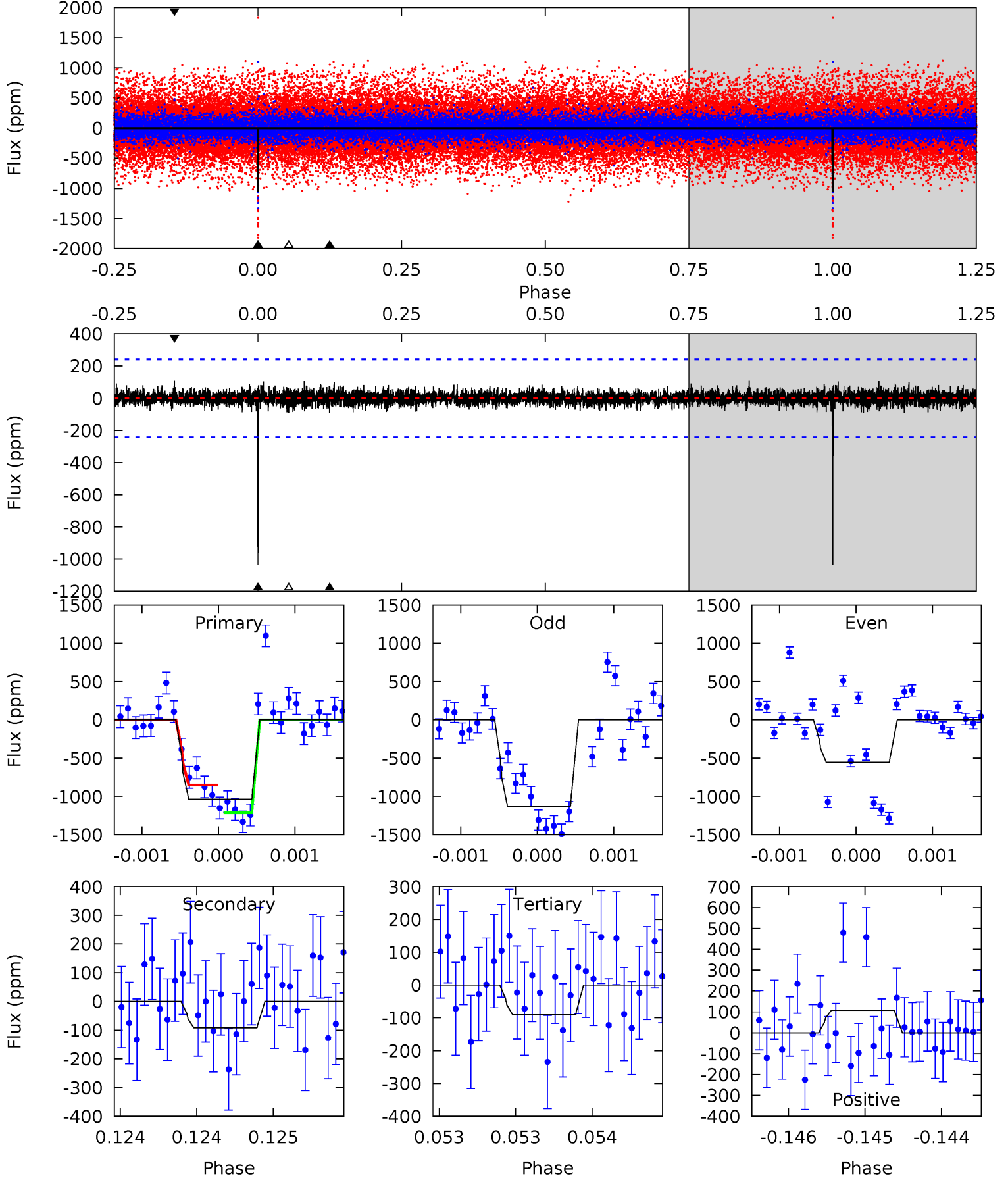
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.69	10.6	9.54	10.1	5.46	3.30	2.22	0.16	-0.36	1.03	0.51	2.39	0.94	0.49	1.24



# Alt Model-Shift Uniqueness Test

006290789-01, P = 280.511912 Days, E = 162.475007 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
23.5	2.08	2.04	2.43	5.49	3.35	0.53	21.4	21.0	0.04	-0.35	6.85	0.86	0.09	0



### Stellar Parameters For KIC 006290789

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$4232^{+128}_{-128}$	$4.619^{+0.049}_{-0.018}$	$0.040^{+0.250}_{-0.300}$	$0.651^{+0.036}_{-0.056}$	$0.644^{+0.056}_{-0.056}$	$3.283^{+0.705}_{-0.282}$
	+3%/-3%	+1%/-0%	+625%/-750%	+6%/-9%	+9%/-9%	+21%/-9%
Source	PHO1	KIC0	KIC0	DSEP		

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

### Secondary Eclipse Parameters for KIC 006290789-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-721 \pm 68$	$2.18^{+1.39}_{-1.17}$	$246^{+8}_{-8}$	$4020^{+1498}_{-630}$	$43767^{+160490}_{-27332}$
Alt.	$-92 \pm 44$	$2.02^{+1.38}_{-1.09}$	$245^{+9}_{-8}$	$2951^{+814}_{-461}$	$5960^{+26847}_{-4282}$

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

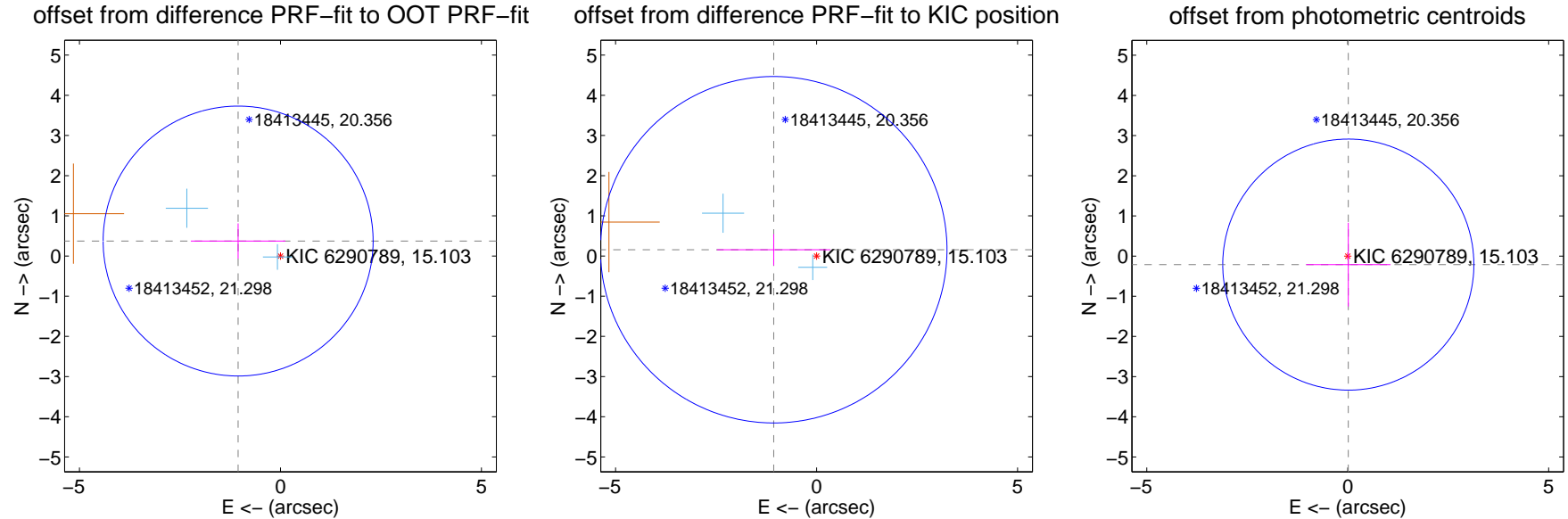
## DV Centroid Data

Supplemental centroid analysis for 006290789-01. Kepler magnitude: 15.10. Transit SNR 6.19

There are 2 quarters with good PRF difference image offsets

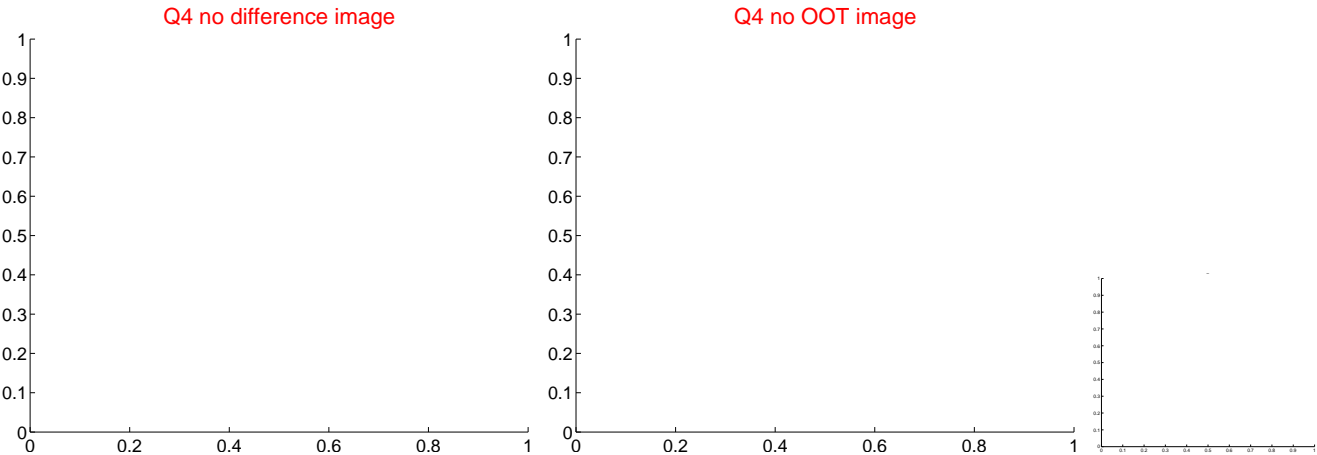
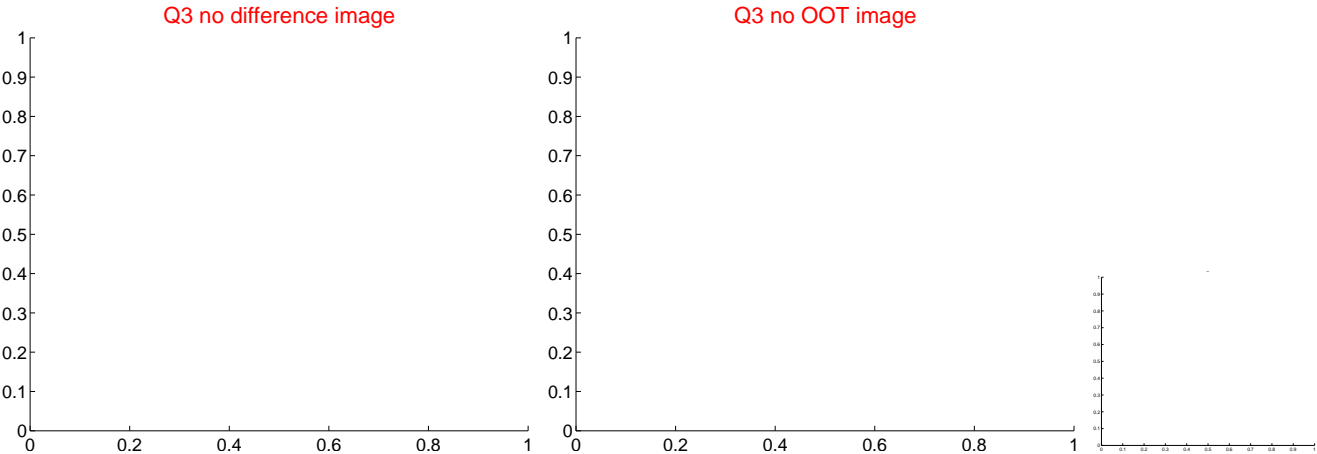
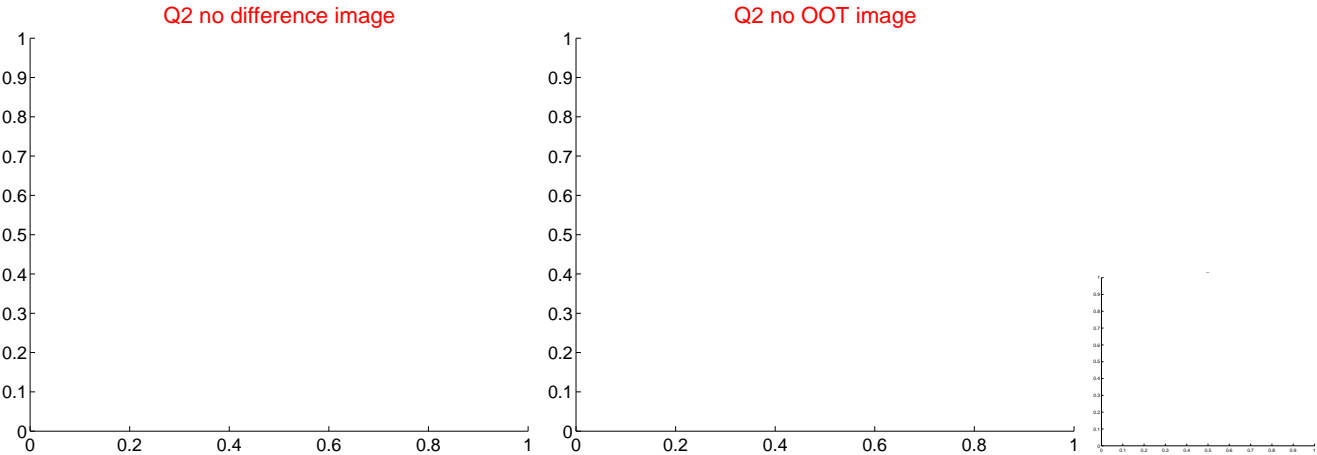
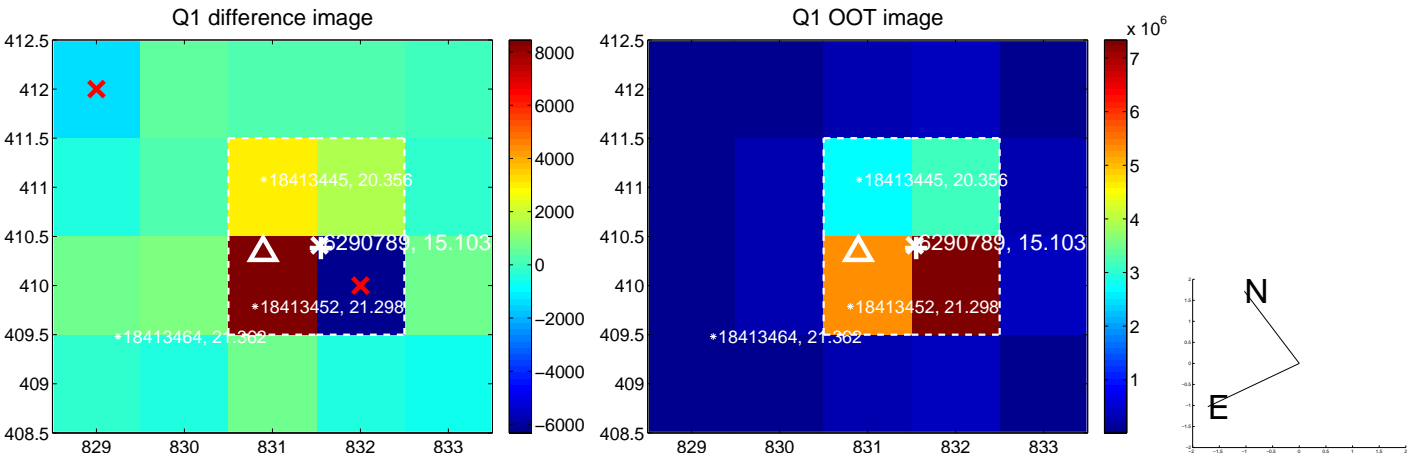
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.117 \pm 1.120$	1.00	$1.053 \pm 1.177$	$0.373 \pm 0.440$
PRF-fit source offset from KIC position	$1.078 \pm 1.437$	0.75	$1.066 \pm 1.411$	$0.156 \pm 0.390$
photometric centroid source offset	$0.21 \pm 1.04$	0.20	$-0.01 \pm 1.05$	$-0.21 \pm 1.04$



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.



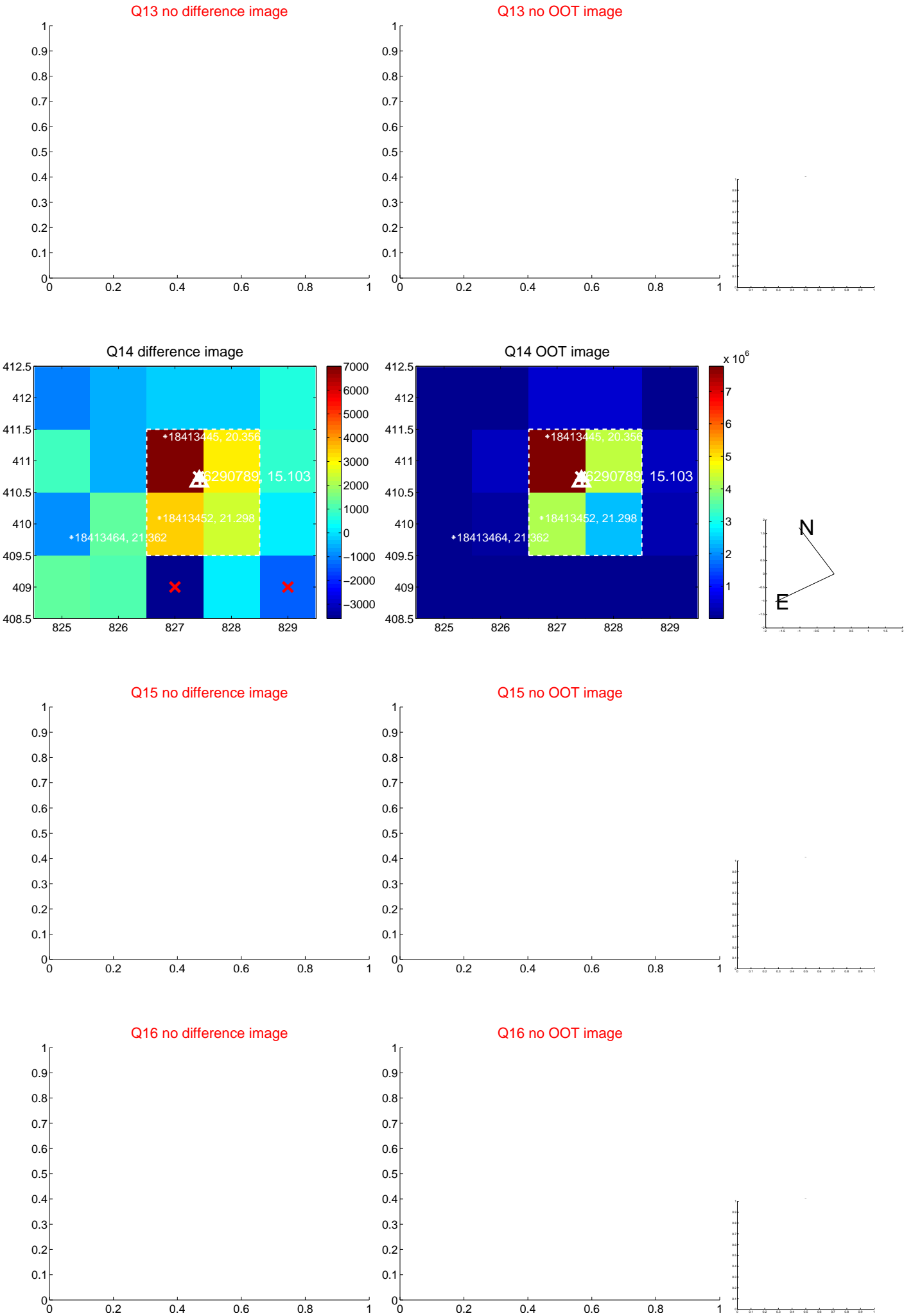
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



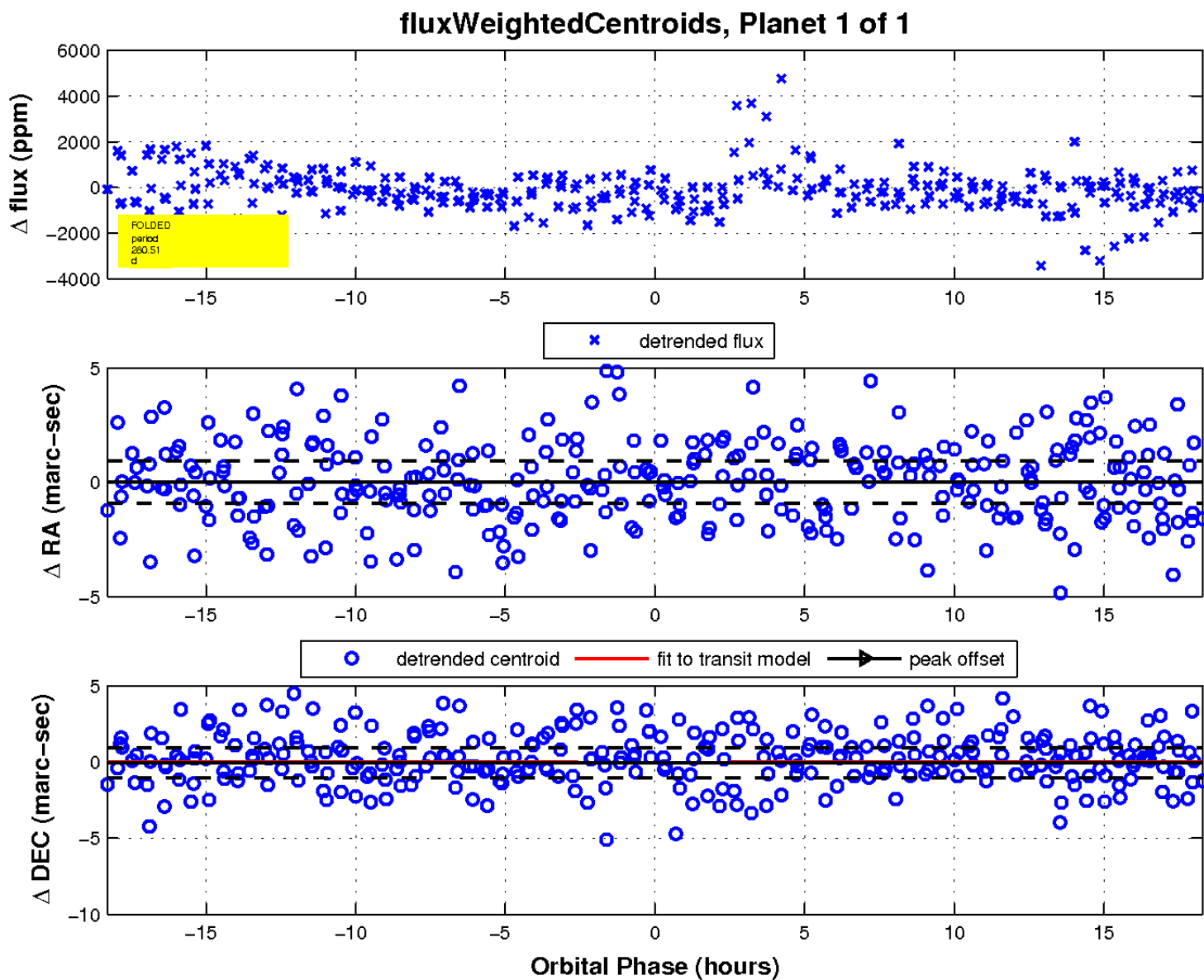
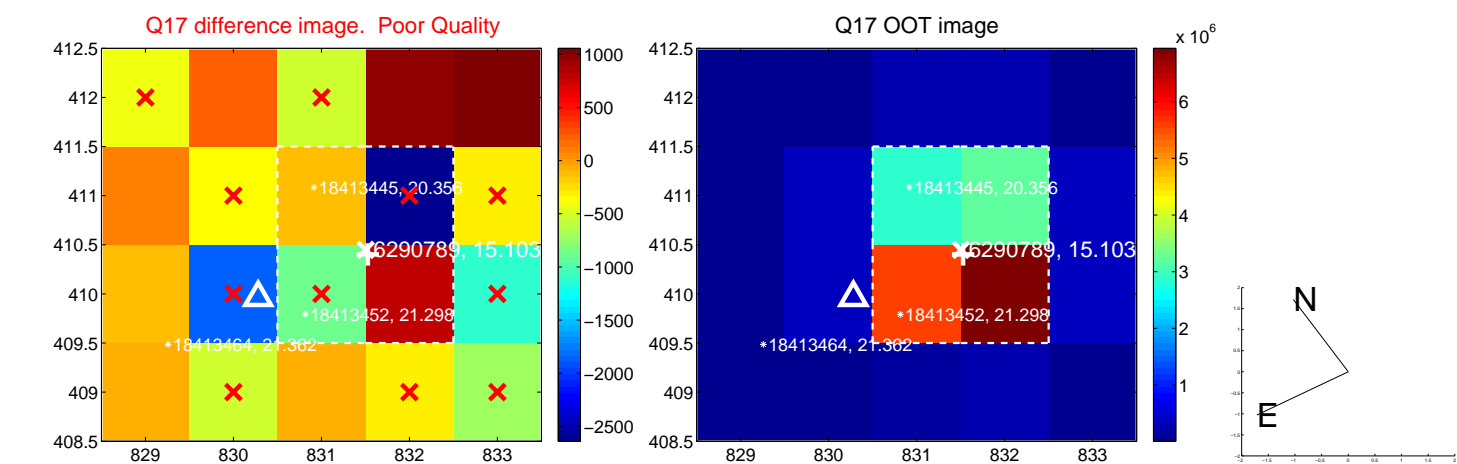
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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination

