

# KIC 006230649

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006230649-01	OBS	8119.01	443.639349	523.406347	289.1	6.844	11.2	10.1	1.43	6743	2.84	2.85

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006230649-01	OBS	FP	0.00	1	0	1	0	INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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

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

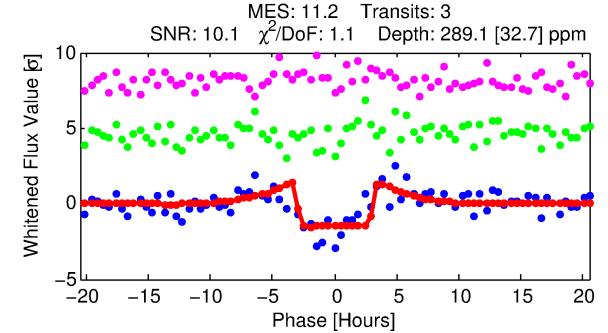
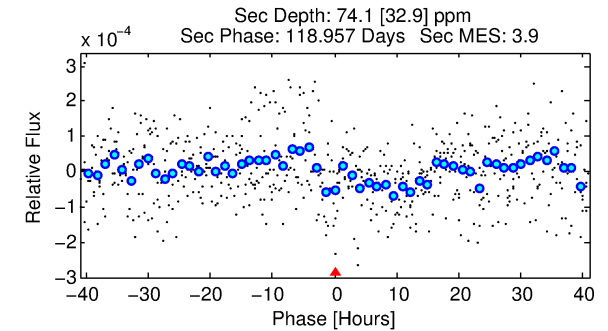
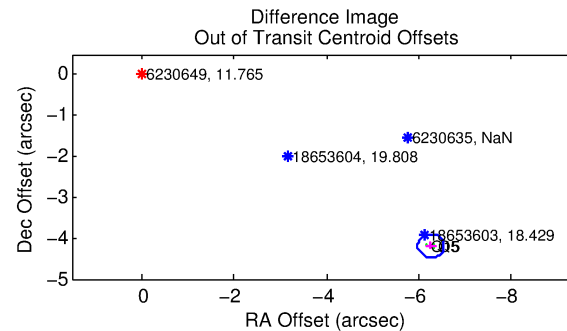
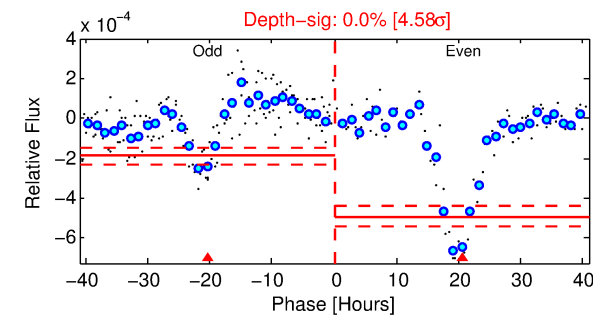
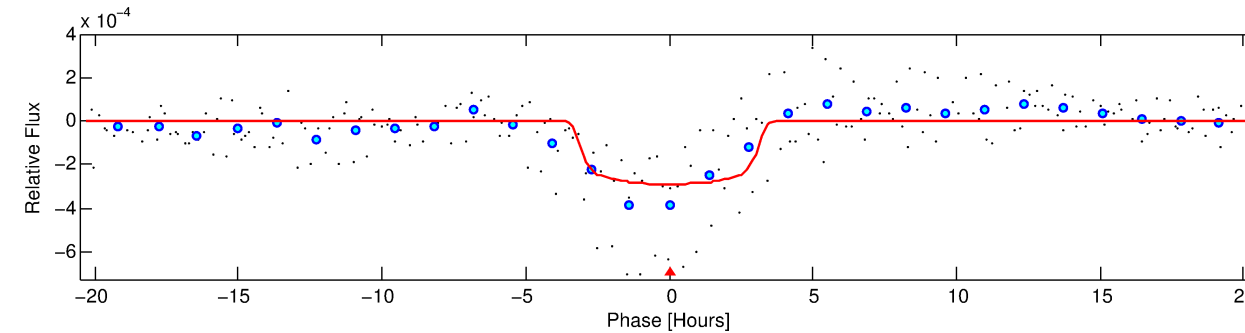
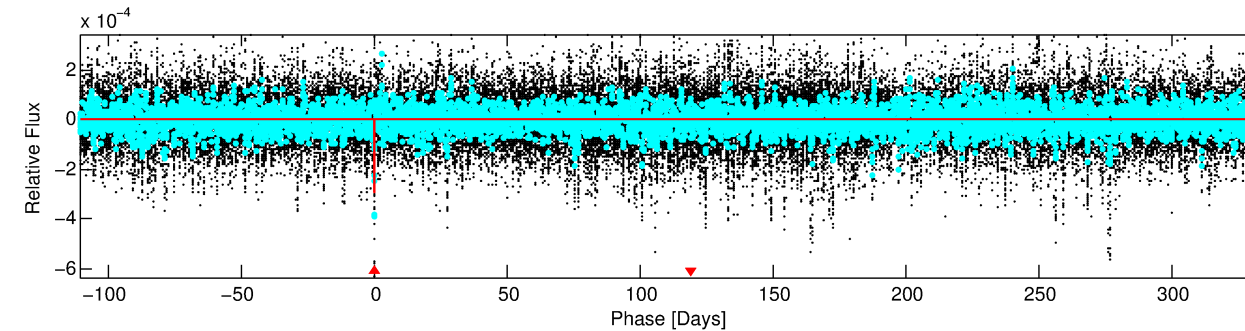
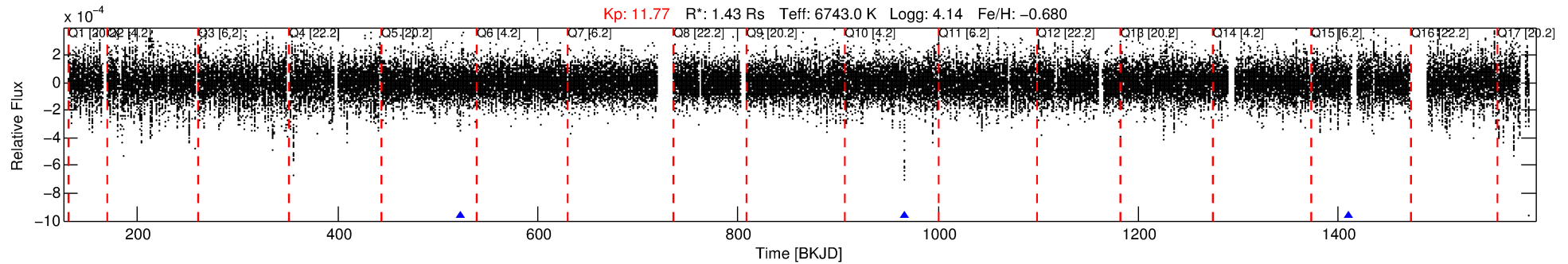
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006230649-01

No Significant Match Found

# DV One-Page Summary

KIC: 6230649 Candidate: 1 of 1 Period: 443.639 d



## DV Fit Results:

Period = 443.63935 [0.00462] d  
Epoch = 523.4063 [0.0060] BKJD  
Rp/R\* = 0.0182 [0.0018]  
a/R\* = 233.89 [98.46]  
b = 0.90 [0.09]  
Seff = 2.85 [1.04]  
Teq = 331 [30] K  
Rp = 2.84 [0.69] Re  
a = 1.1549 [0.2453] AU  
Ag = 6742.88 [3988.56] [1.69σ]  
Teffp = 4643 [584] K [7.37σ]

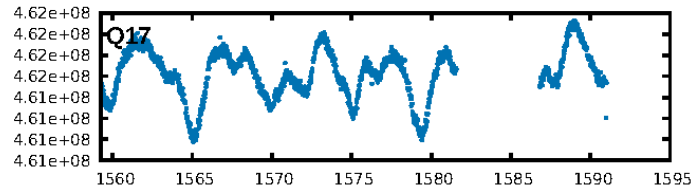
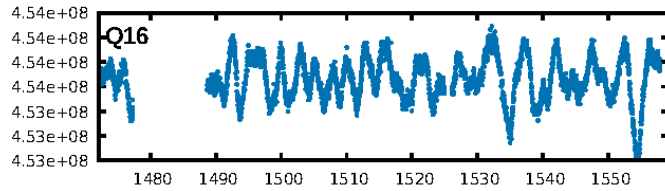
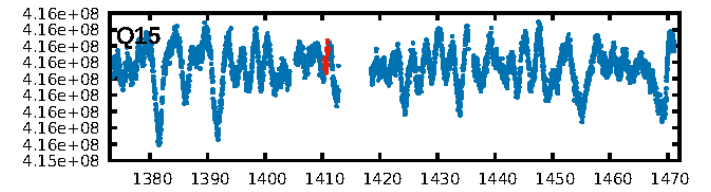
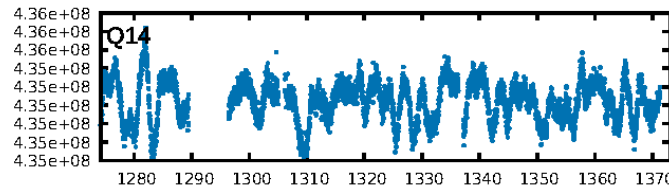
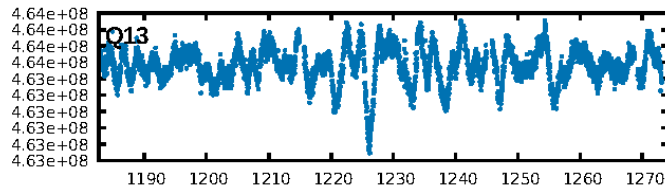
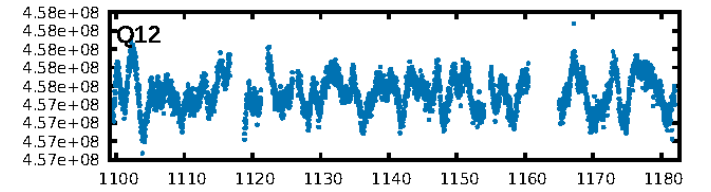
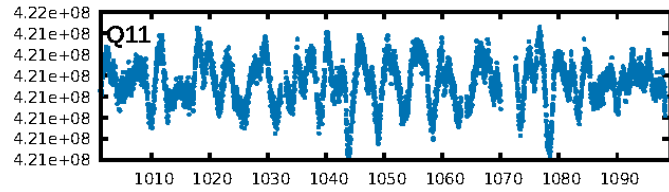
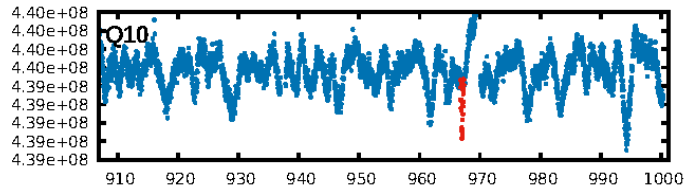
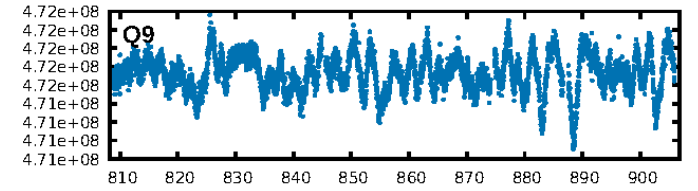
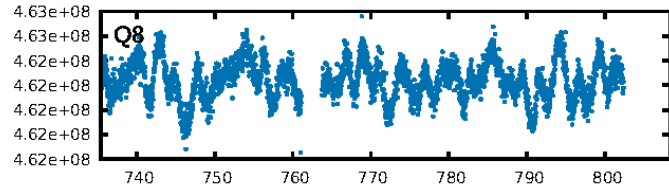
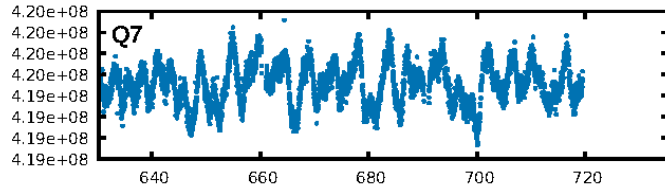
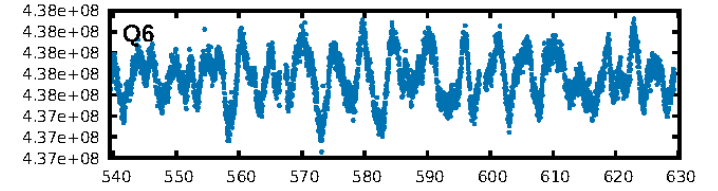
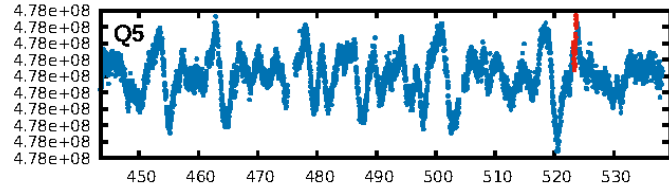
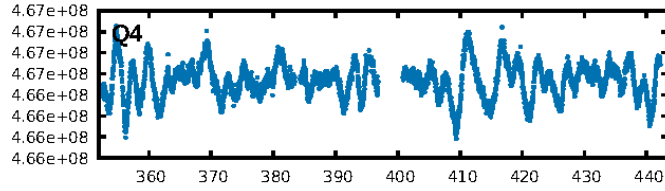
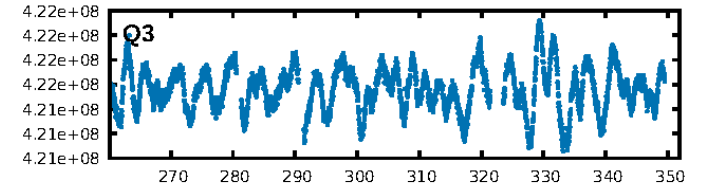
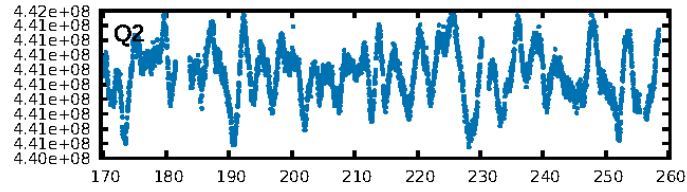
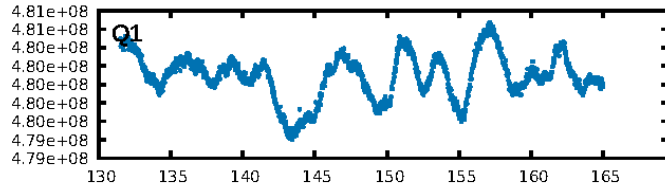
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 10.5%  
Bootstrap-pfa: 1.95e-25  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 0.239  
Centroid-sig: 0.0%  
Centroid-so: 13.356 arcsec [16.16σ]  
OotOffset-rm: 7.534 arcsec [78.97σ]  
KicOffset-rm: 7.362 arcsec [66.08σ]  
OotOffset-st: 0/1/0/1 [2]  
KicOffset-st: 0/1/0/1 [2]  
DiffImageQuality-fgm: 0.50 [1/2]  
DiffImageOverlap-fno: 1.00 [2/2]

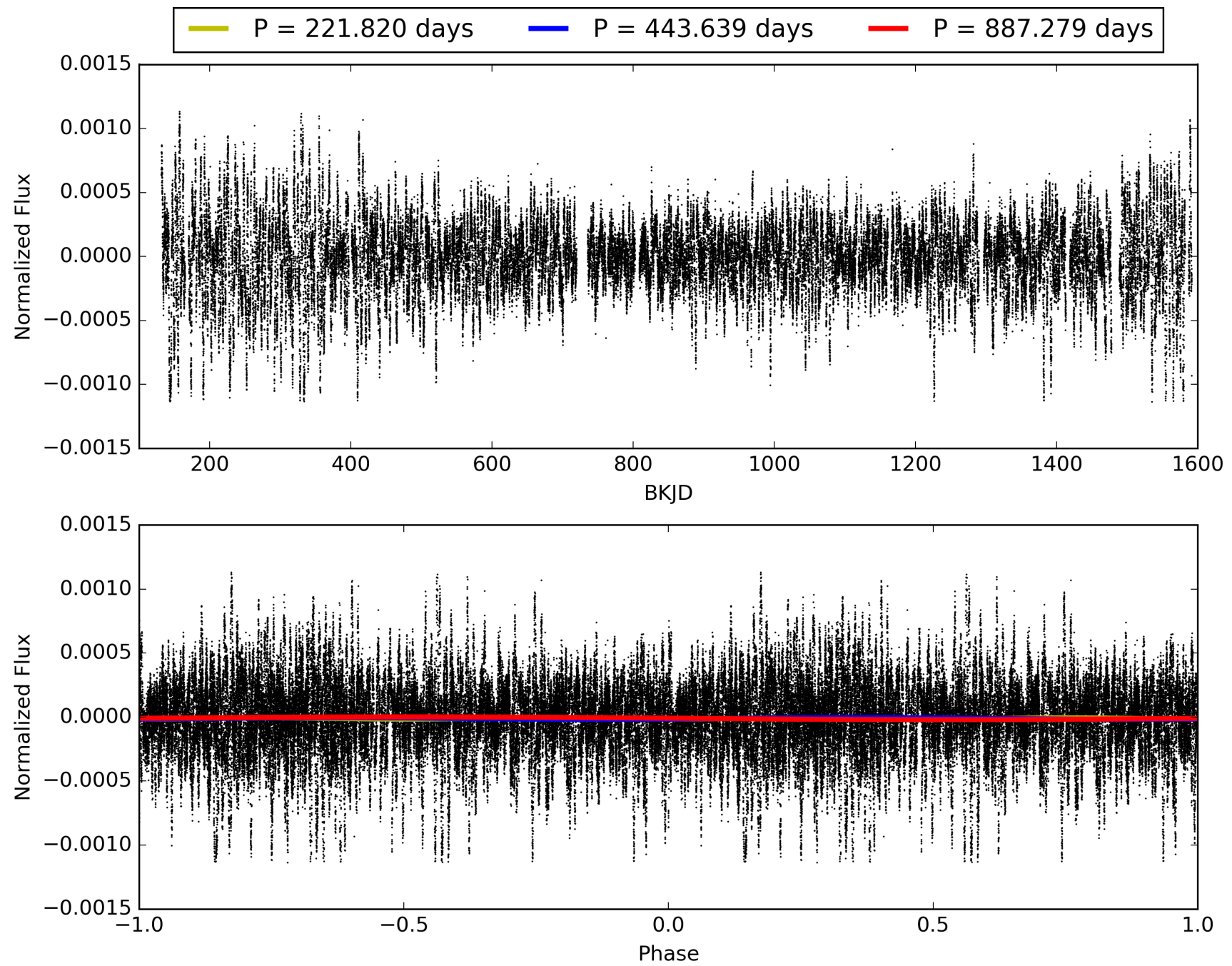
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:53:27 Z

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

# TCE 006230649-01, PDC Light Curves

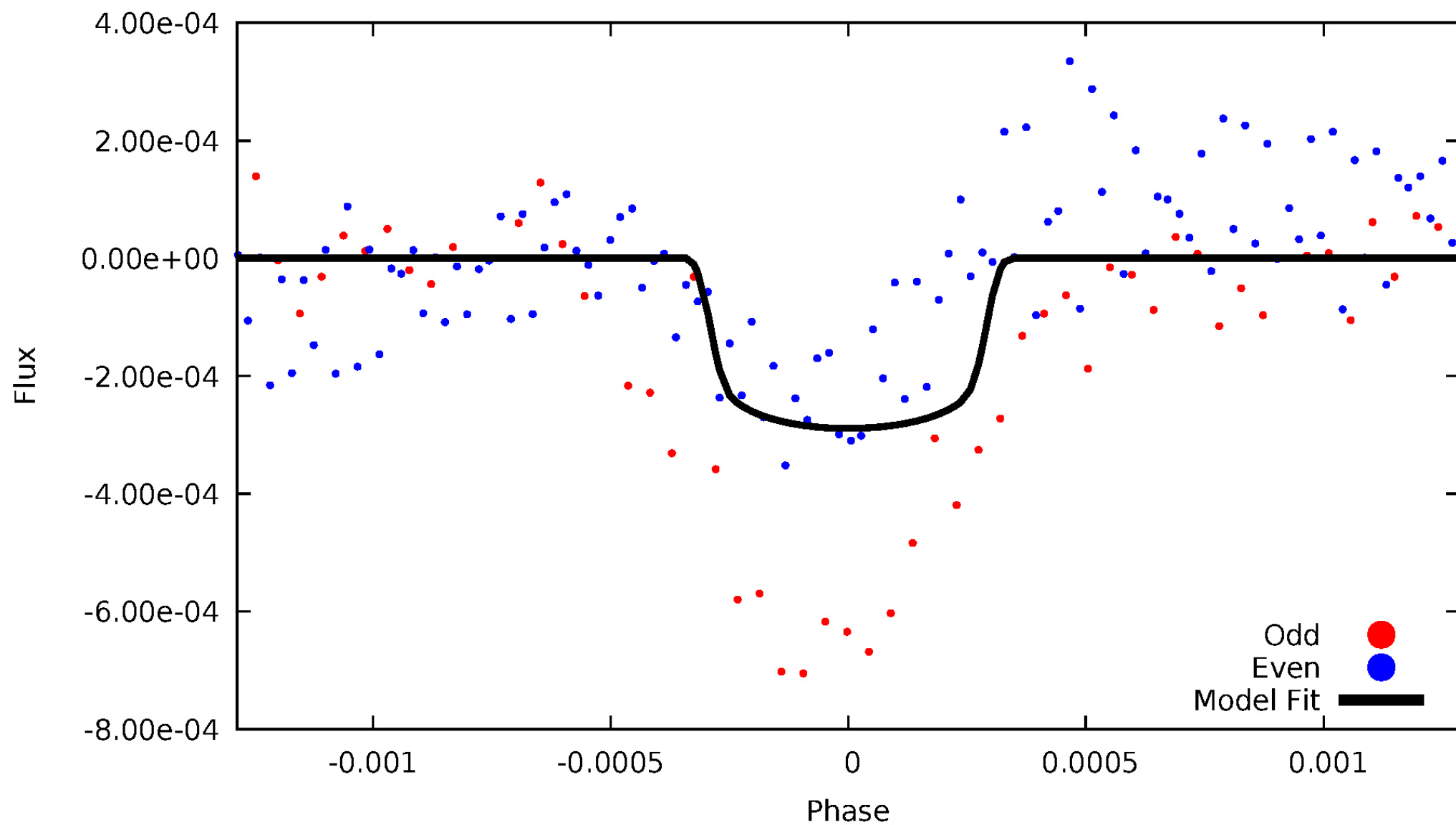


TCE 006230649-01



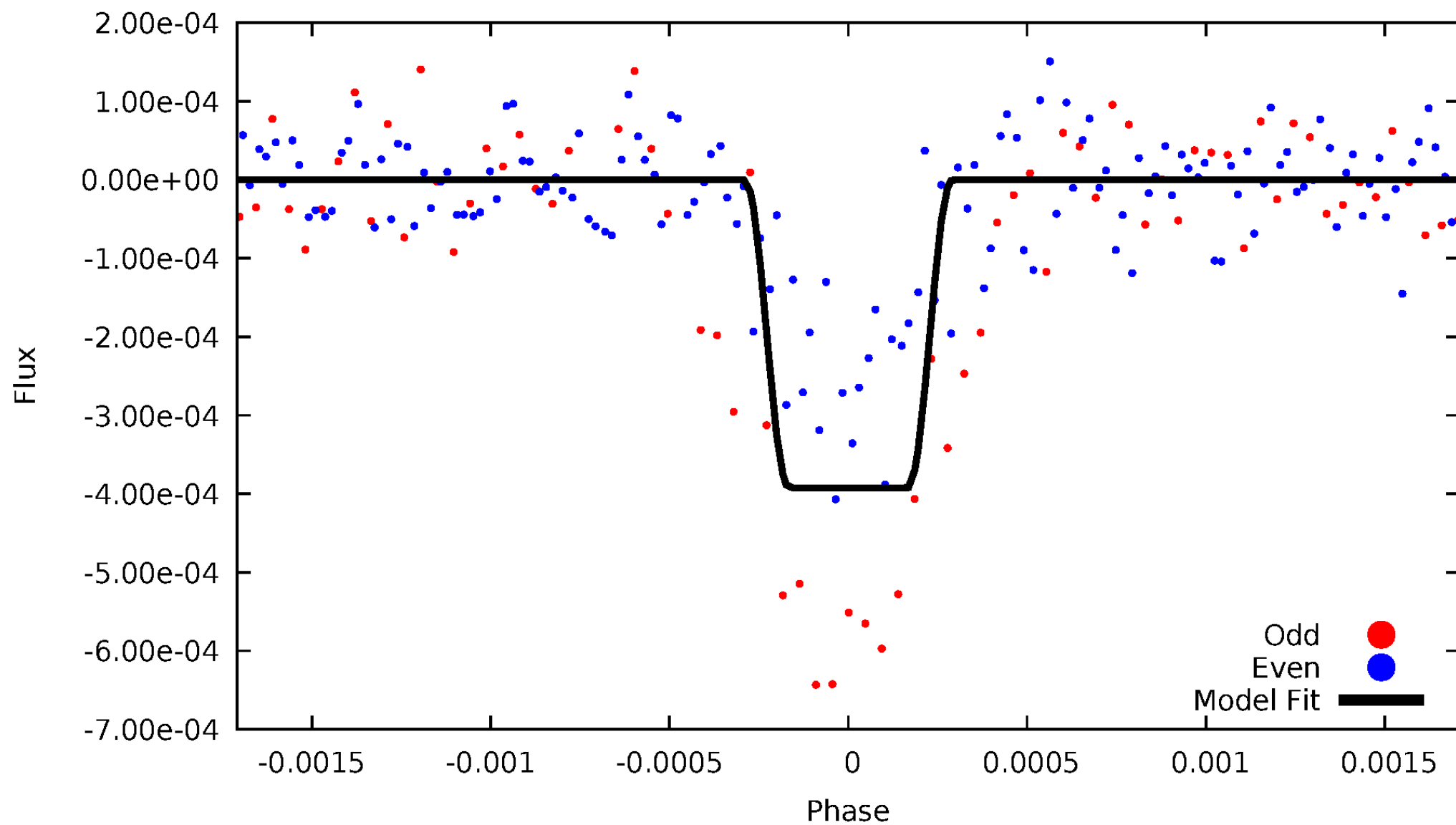
# DV Odd/Even

TCE 006230649-01

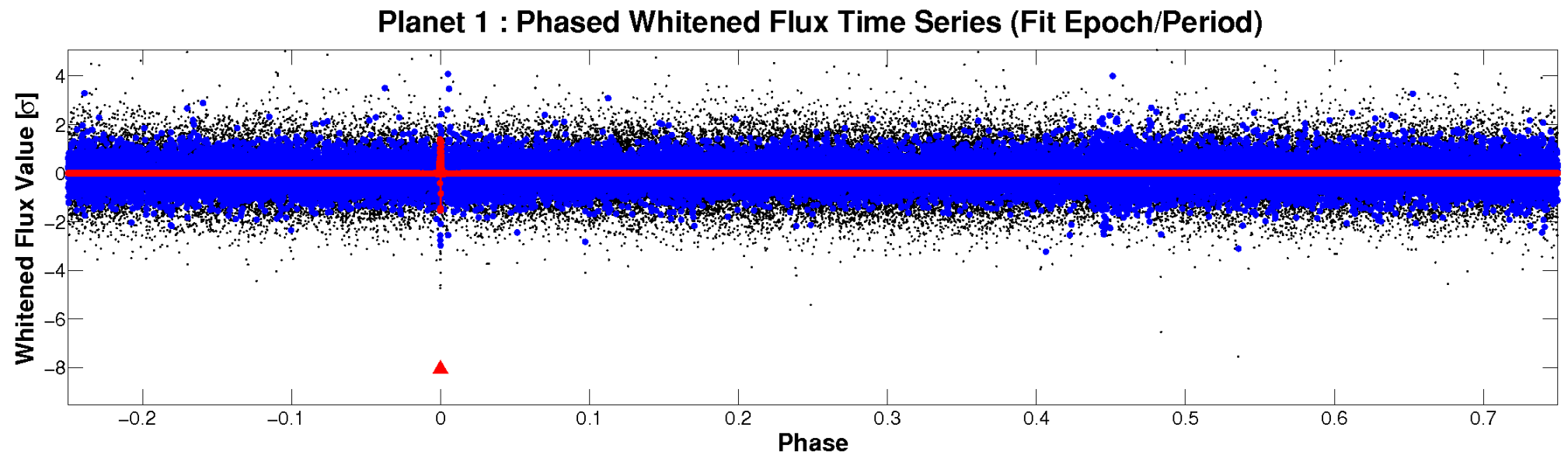
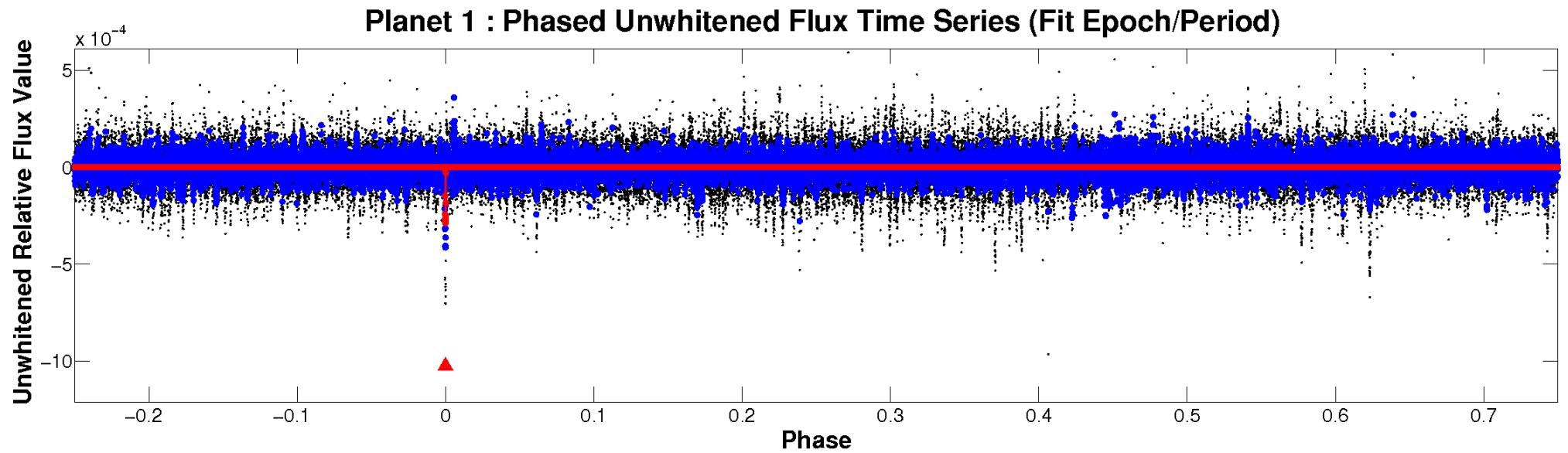


# ALT Odd/Even

TCE 006230649-01

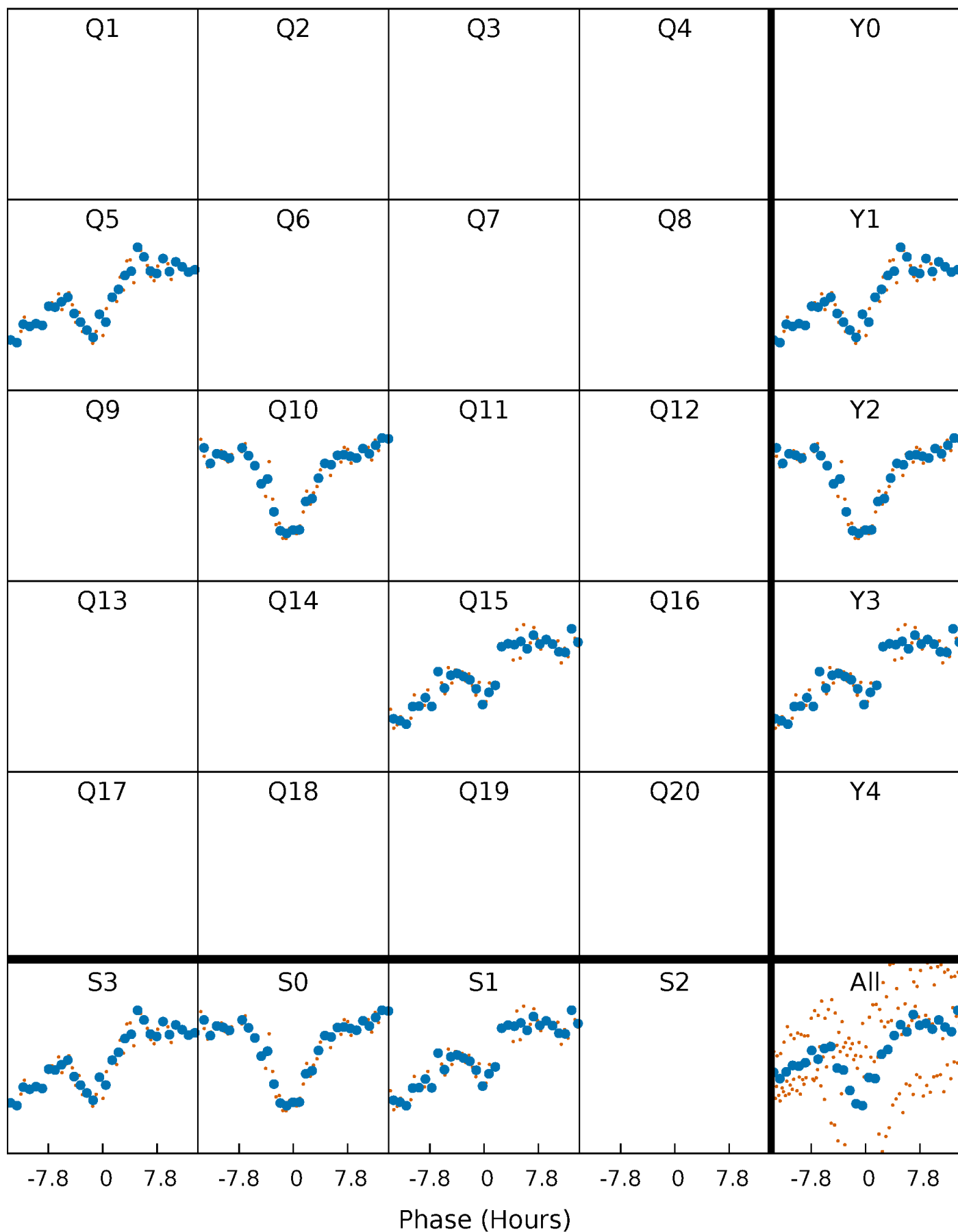


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

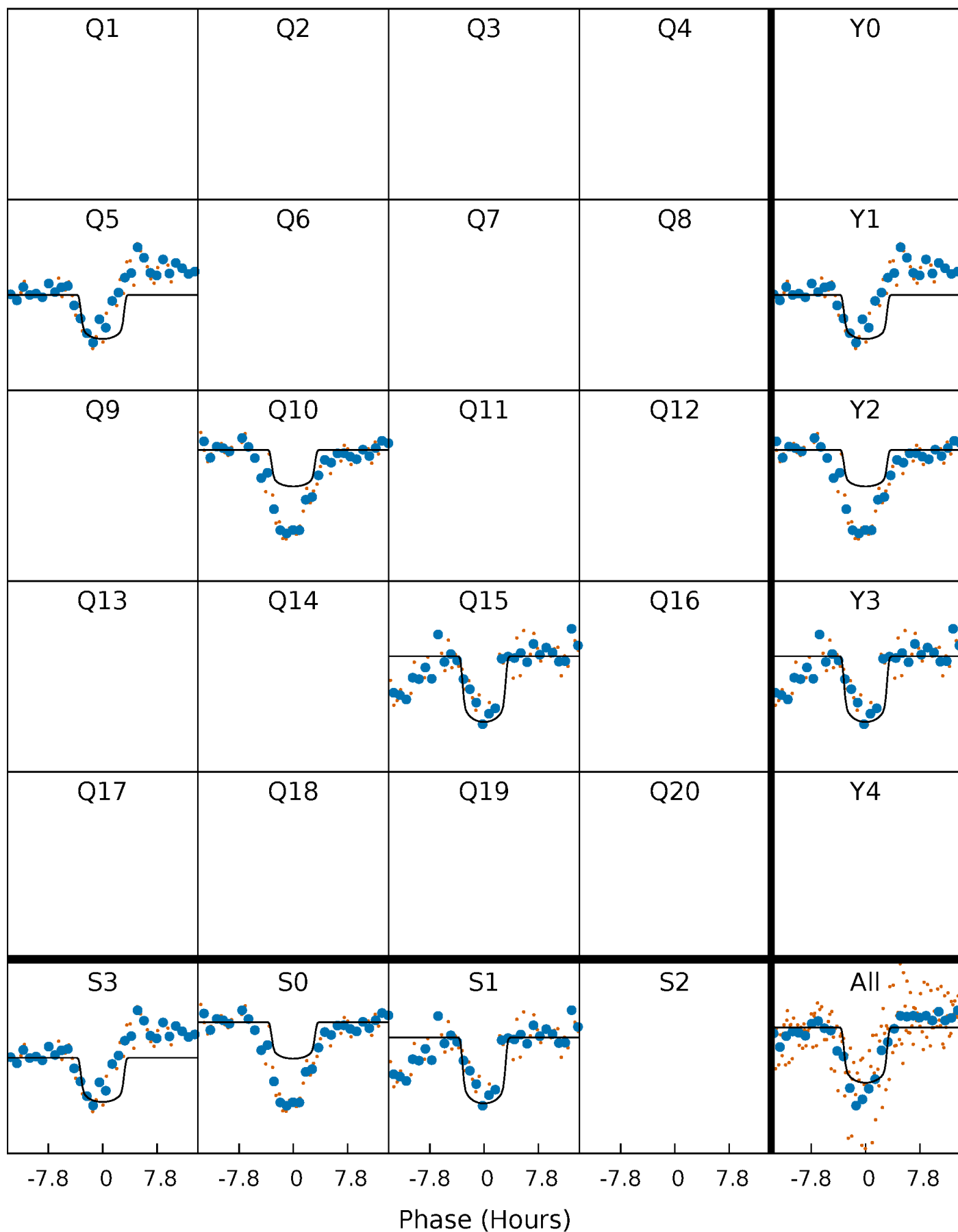
TCE 006230649-01 P=443.639349 Days  $T_0=523.406347$  (BKJD)





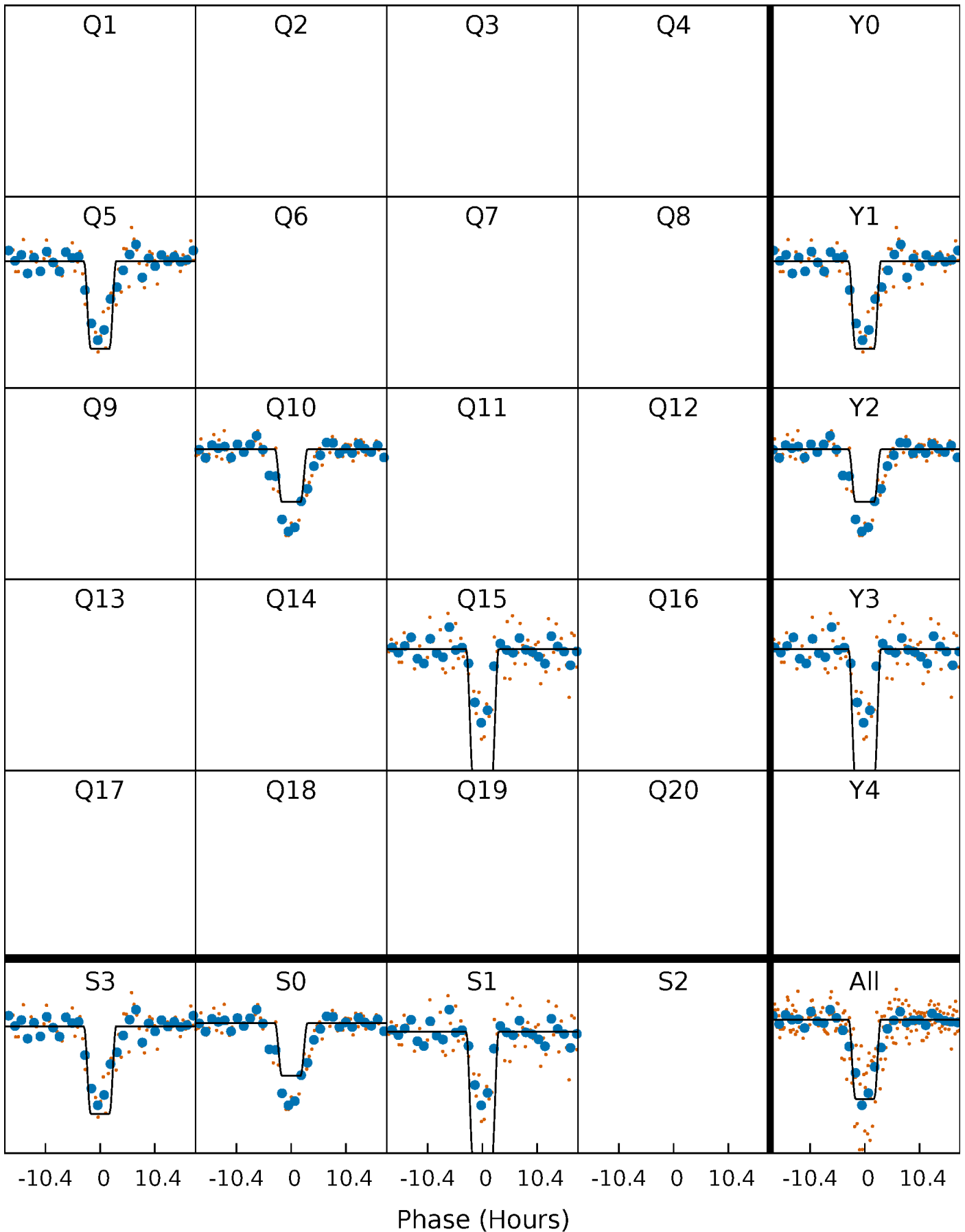
# DV Quarter-Phased Transit Curves

TCE 006230649-01 P=443.639349 Days  $T_0=523.406347$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

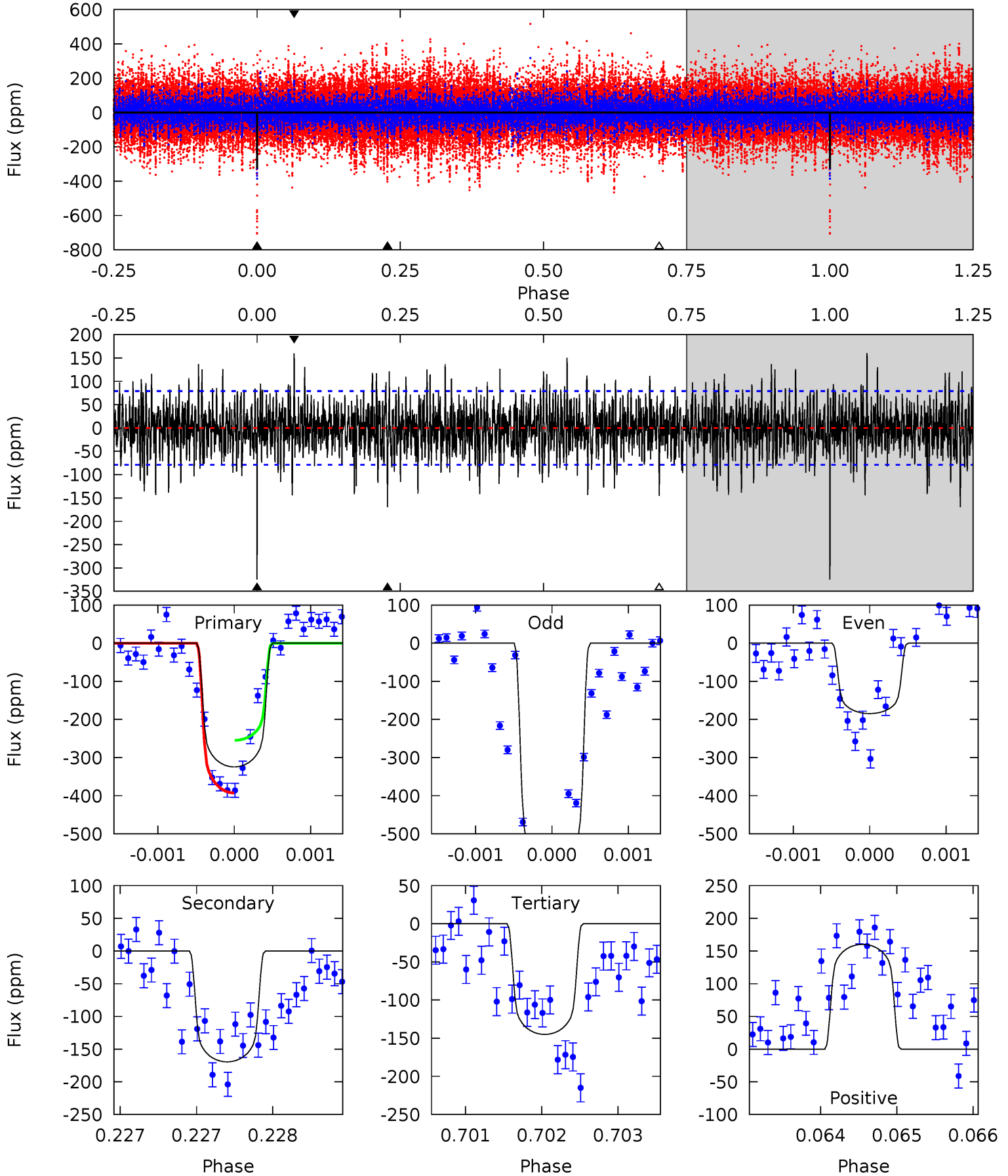
TCE 006230649-01 P=443.660266 Days  $T_0=523.363192$  (BKJD)



# DV Model-Shift Uniqueness Test

006230649-01, P = 443.639349 Days, E = 79.766998 Days

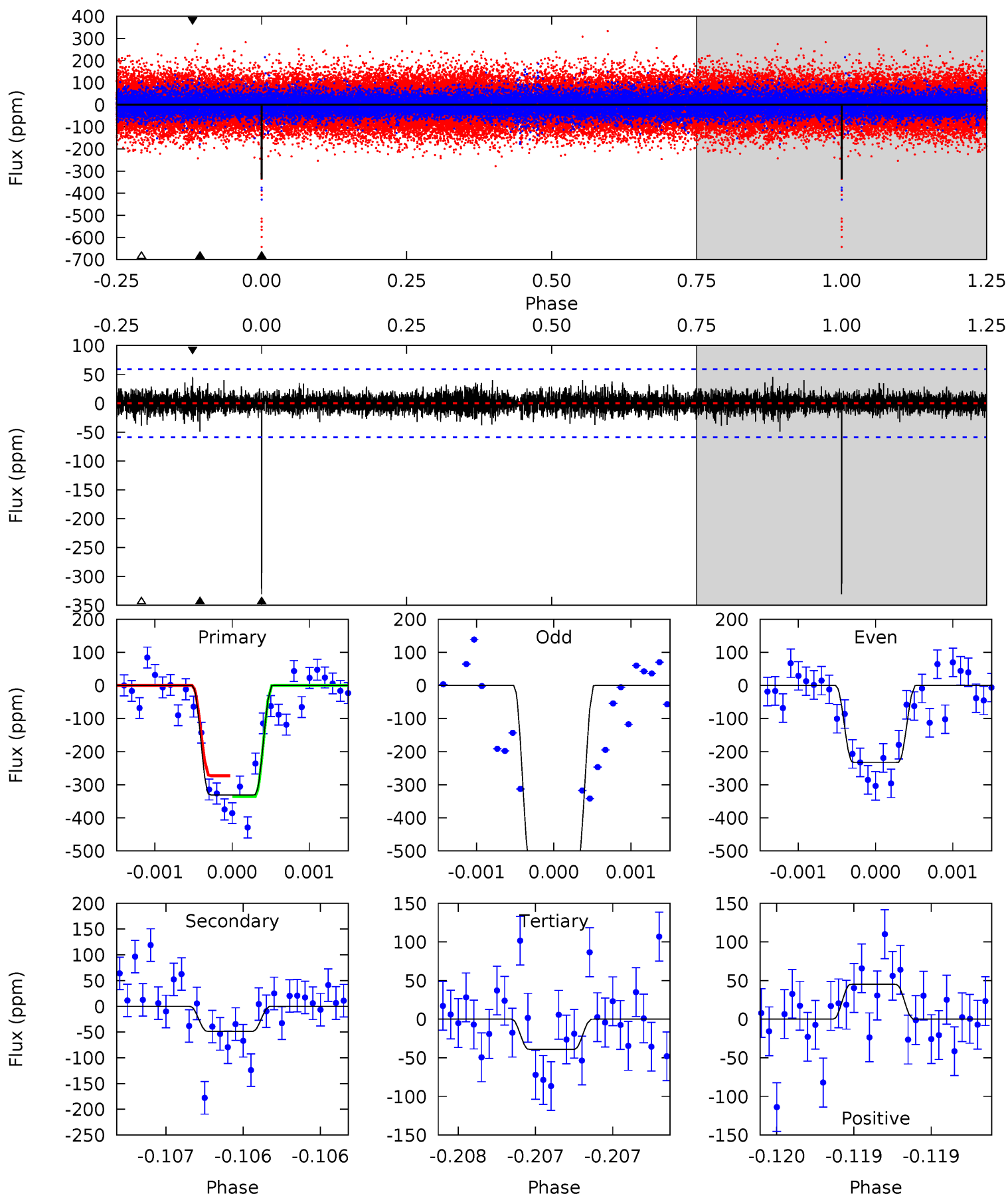
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.7	11.8	10.1	11.2	5.52	3.39	2.91	12.5	11.5	1.71	0.65	13.8	1.67	0.33	4.82



# Alt Model-Shift Uniqueness Test

006230649-01,  $P = 443.660266$  Days,  $E = 79.702926$  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
31.1	4.57	3.68	4.24	5.55	3.45	0.96	27.4	26.8	0.90	0.34	14.9	1.16	0.12	2.86



### Stellar Parameters For KIC 006230649

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6743^{+183}_{-224}$	$4.144^{+0.198}_{-0.132}$	$-0.680^{+0.300}_{-0.300}$	$1.433^{+0.290}_{-0.319}$	$1.043^{+0.149}_{-0.108}$	$0.499^{+0.571}_{-0.185}$
	+3%/-3%	+5%/-3%	+44%/-44%	+20%/-22%	+14%/-10%	+114%/-37%
Source	PHO1	FLK73	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 006230649-01 / KOI 8119.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-169 \pm 14$	$2.83^{+0.43}_{-0.46}$	$459^{+31}_{-33}$	$5679^{+345}_{-325}$	$15588^{+6787}_{-3839}$
Alt.	$-49 \pm 11$	$3.09^{+0.46}_{-0.43}$	$461^{+26}_{-31}$	$4220^{+233}_{-246}$	$3733^{+1608}_{-1105}$

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

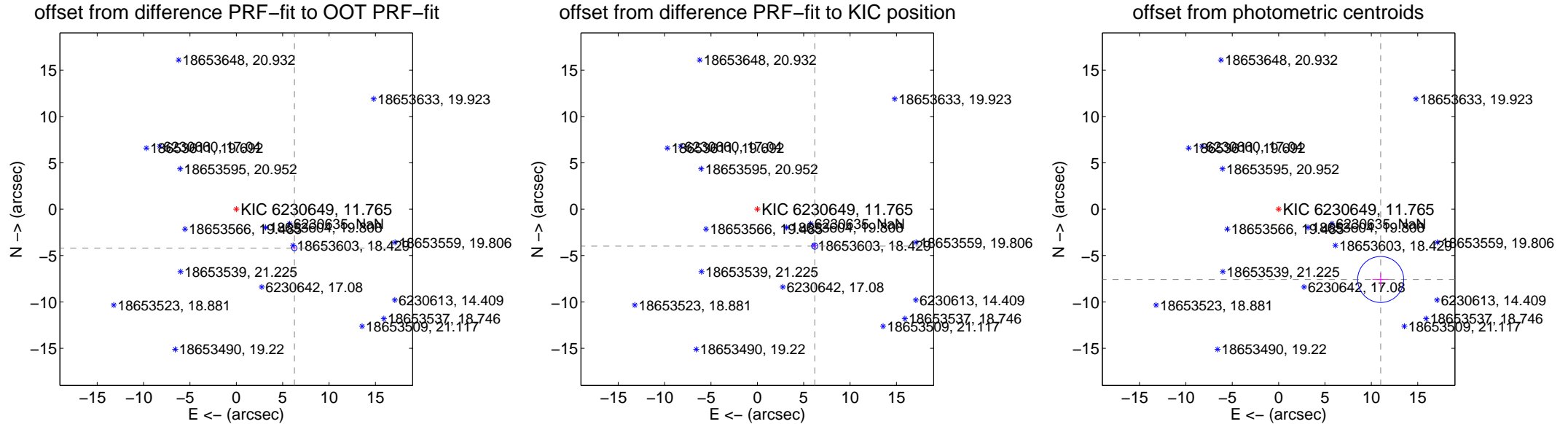
## DV Centroid Data

Supplemental centroid analysis for 006230649-01. **Kepler magnitude: 11.77.** Transit SNR 10.13

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

The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>7.534 \pm 0.095</math></b>	<b>78.97</b>	$-6.261 \pm 0.106$	$-4.191 \pm 0.067$
PRF-fit source offset from KIC position	<b><math>7.362 \pm 0.111</math></b>	<b>66.08</b>	$-6.193 \pm 0.122$	$-3.981 \pm 0.081$
photometric centroid source offset	<b><math>13.36 \pm 0.83</math></b>	<b>16.16</b>	$-11.00 \pm 0.89$	$-7.58 \pm 0.67$

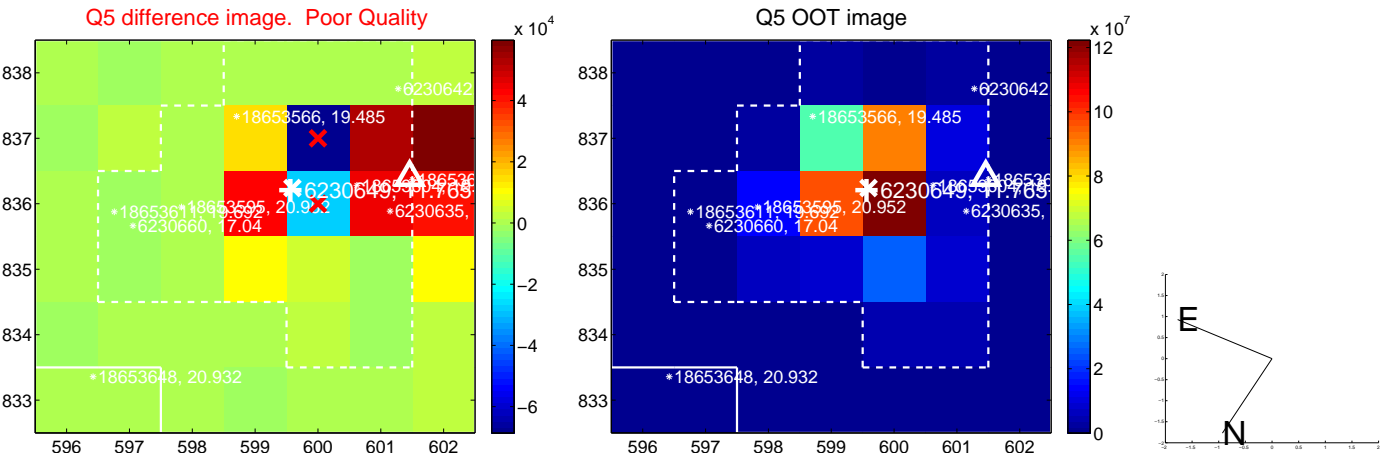


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

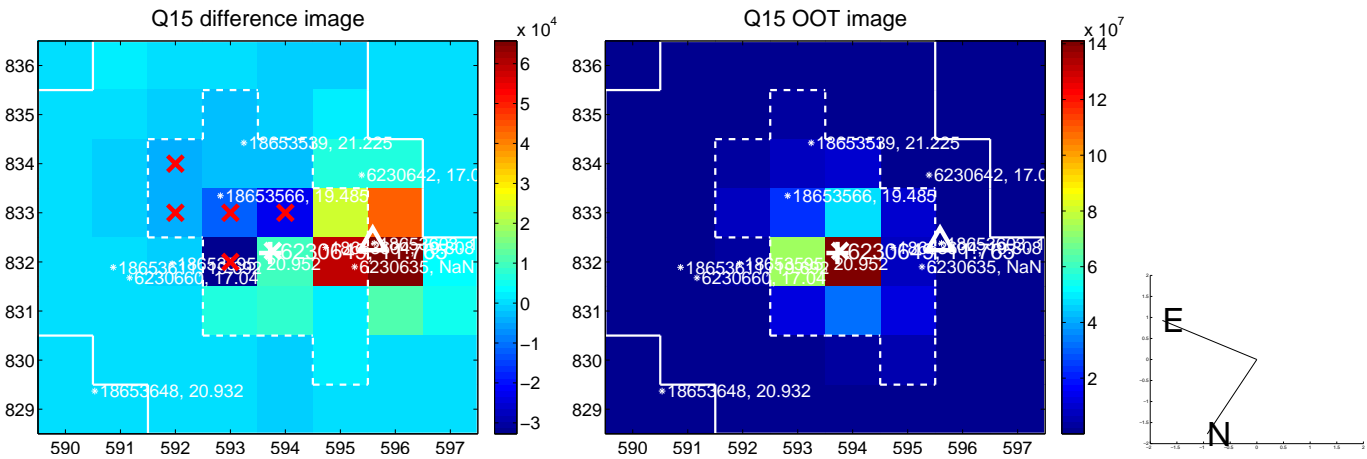




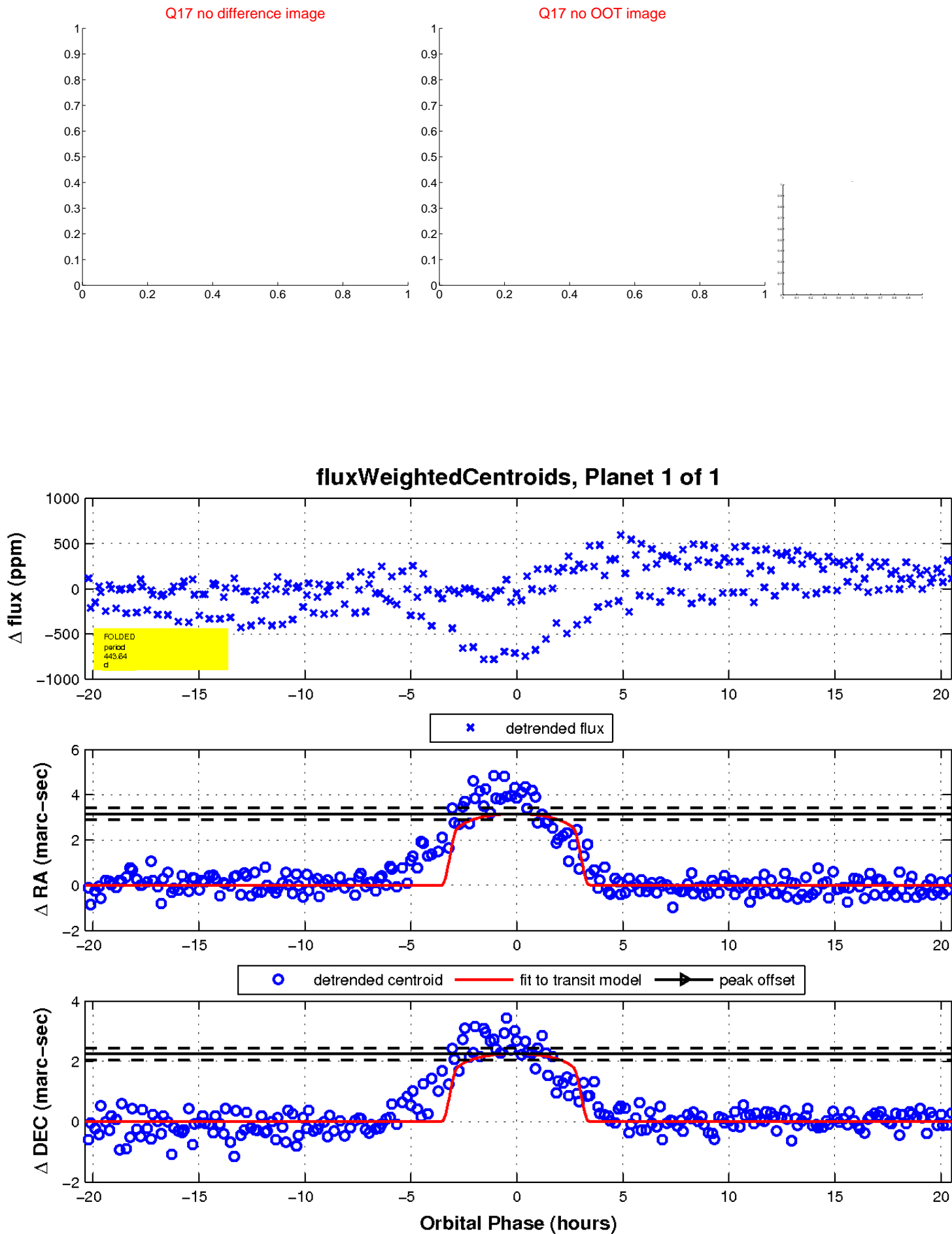
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image

Declination

