

# KIC 011030711

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011030711-01	OBS	1429.01	205.912450	252.743214	2402.8	10.464	45.6	44.2	0.97	5644	5.08	1.86

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011030711-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

**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.

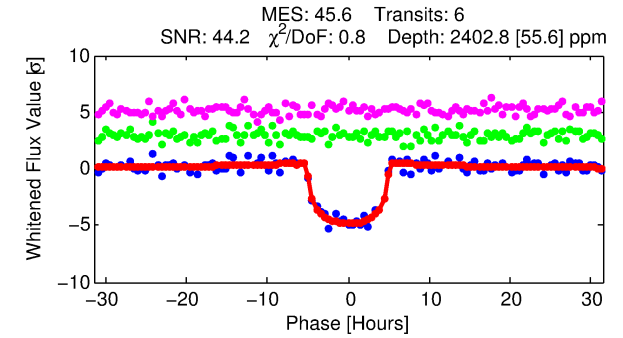
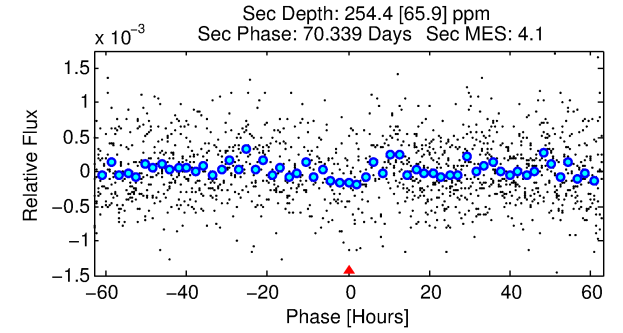
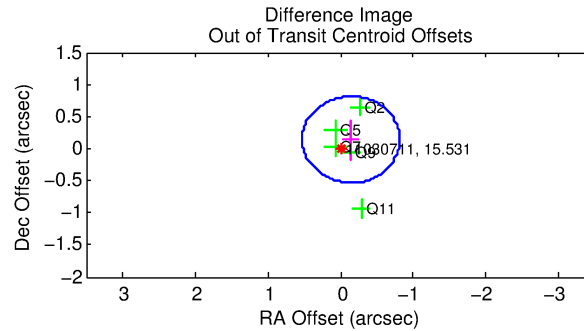
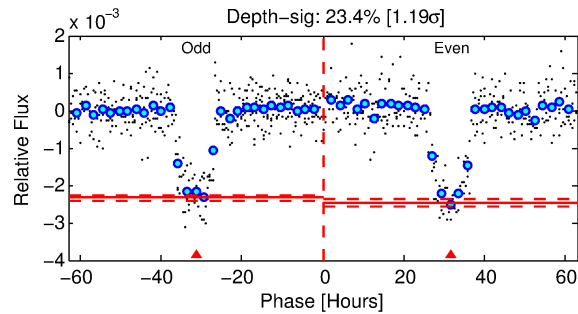
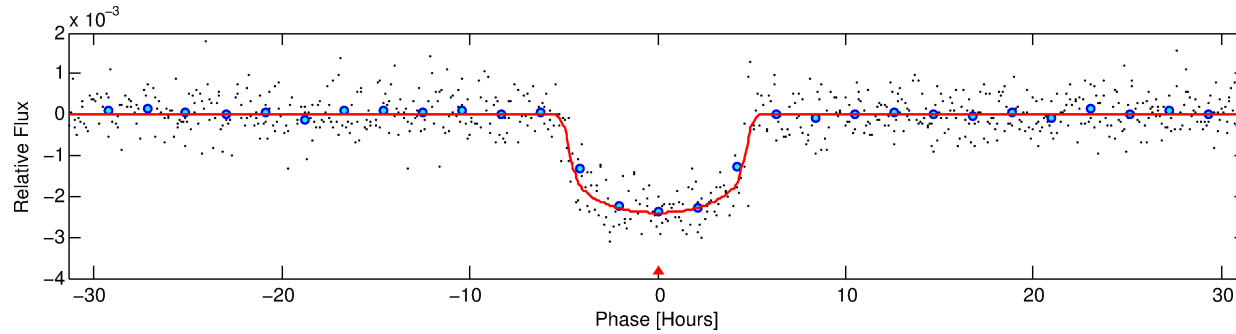
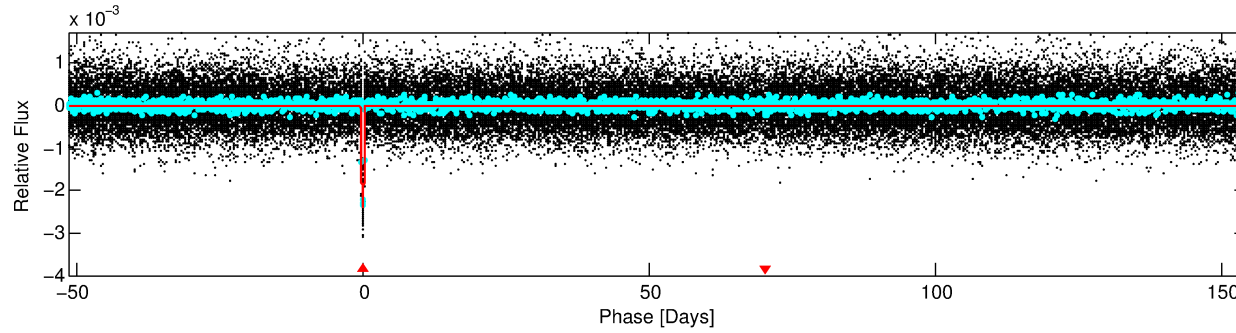
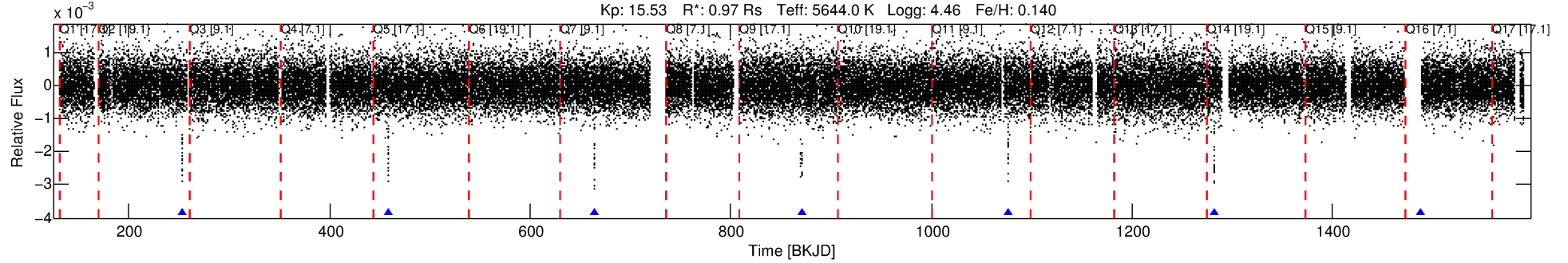
## Ephemeris Match Information For 011030711-01

No Significant Match Found

# DV One-Page Summary

KIC: 11030711 Candidate: 1 of 1 Period: 205.912 d  
KOI: K01429.01 Corr: 0.993

Kp: 15.53 R\*: 0.97 Rs Teff: 5644.0 K Logg: 4.46 Fe/H: 0.140



## DV Fit Results:

Period = 205.91245 [0.00129] d  
Epoch = 252.7432 [0.0038] BKJD  
Rp/R\* = 0.0481 [0.0023]  
a/R\* = 116.14 [22.16]  
b = 0.71 [0.14]  
Seff = 1.86 [0.38]  
Teq = 298 [15] K  
Rp = 5.08 [0.79] Re  
a = 0.6782 [0.0876] AU  
Ag = 2491.15 [843.42] [2.95σ]  
Teffp = 3251 [230] K [12.81σ]

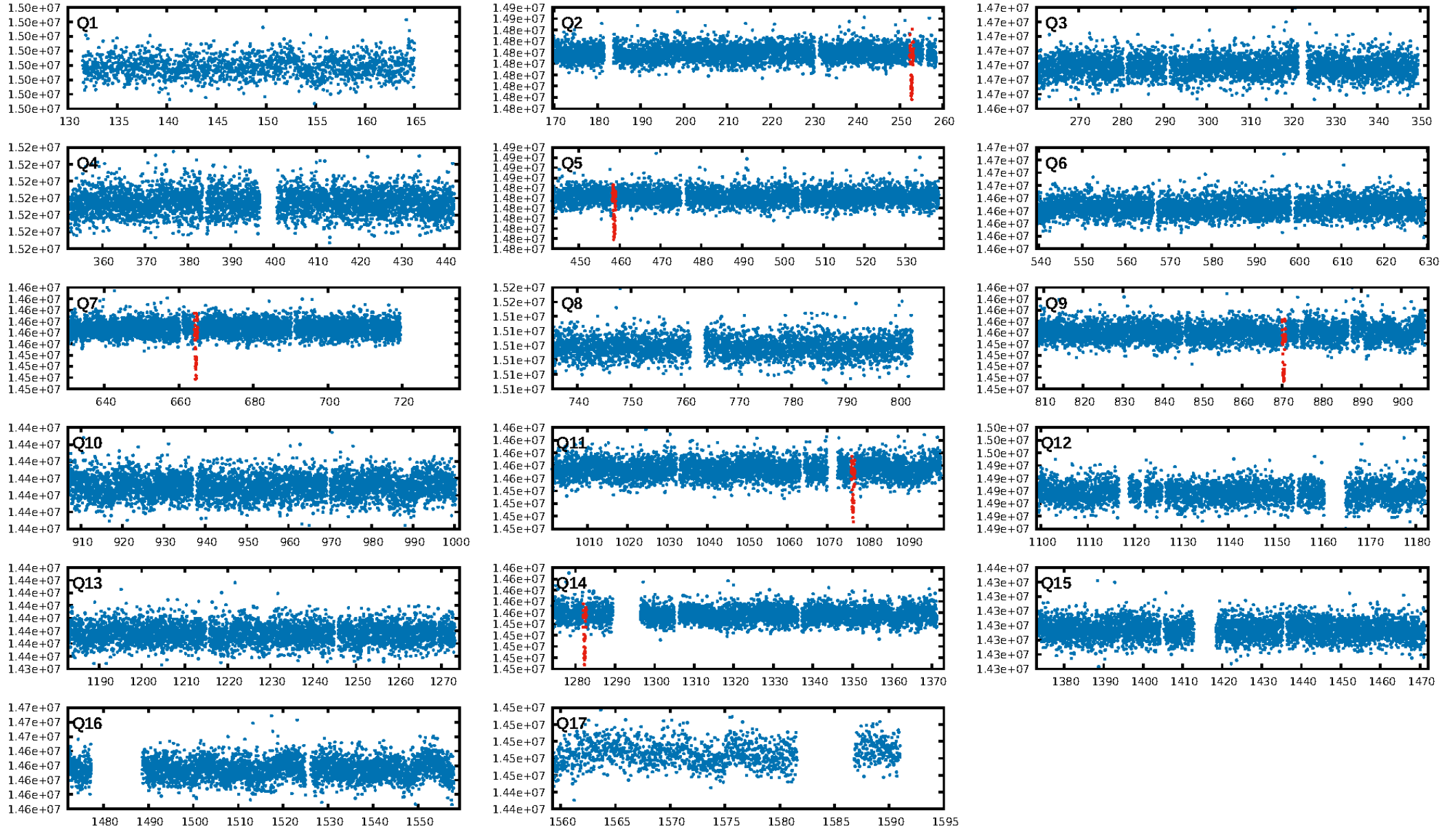
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 37.9%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 8.17e-296  
RollingBand-fgt: 1.00 [6/6]  
GhostDiagnostic-chr: 3.445  
Centroid-sig: 35.5%  
Centroid-so: 0.219 arcsec [0.74σ]  
OotOffset-rm: 0.199 arcsec [0.89σ]  
OotOffset-st: 1/2/0/2 [5]  
KicOffset-rm: 0.344 arcsec [2.04σ]  
KicOffset-st: 1/2/0/2 [5]  
DiffImageQuality-fgm: 1.00 [5/5]  
DiffImageOverlap-fno: 1.00 [5/5]

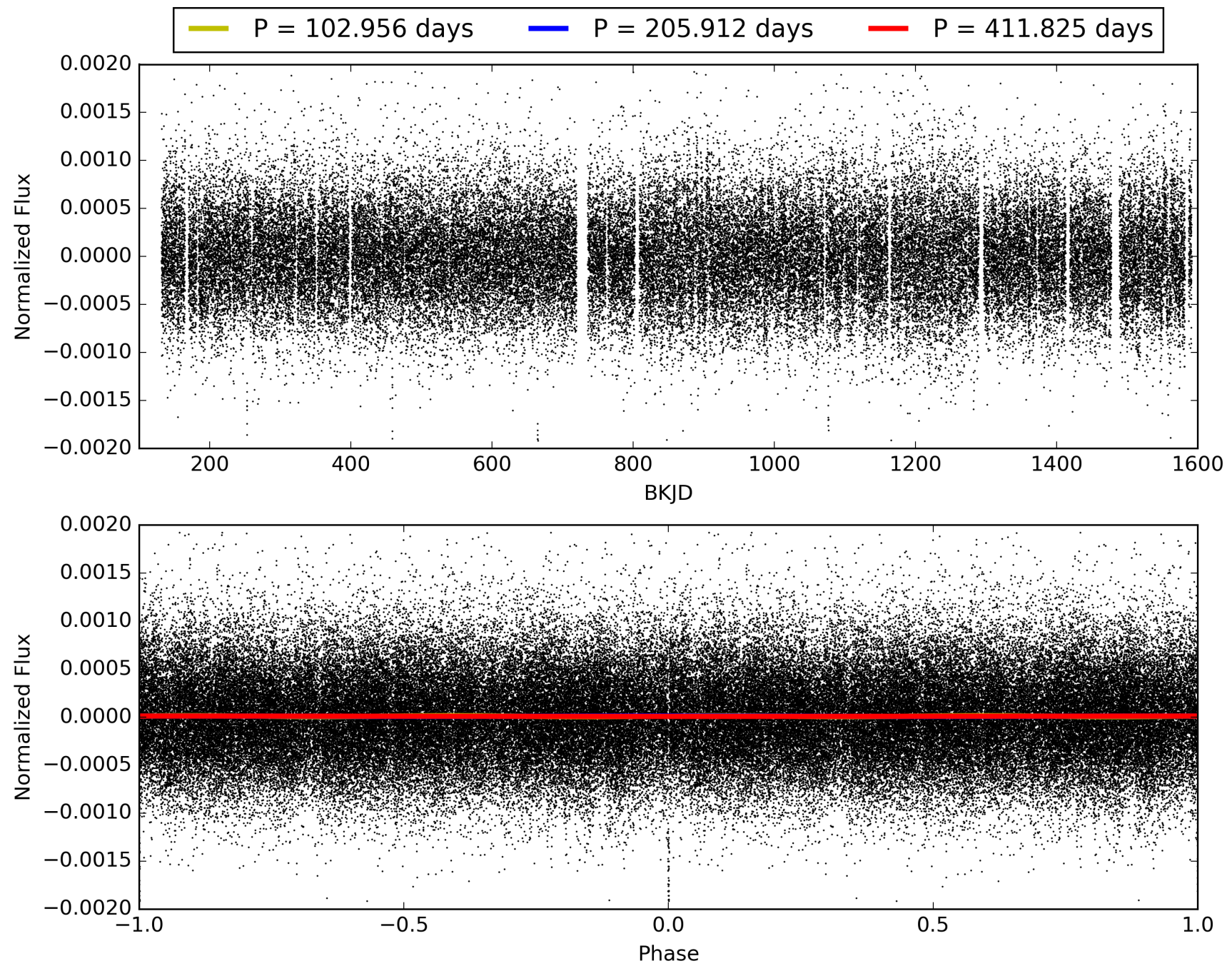
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:49:55 Z

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

# TCE 011030711-01, PDC Light Curves

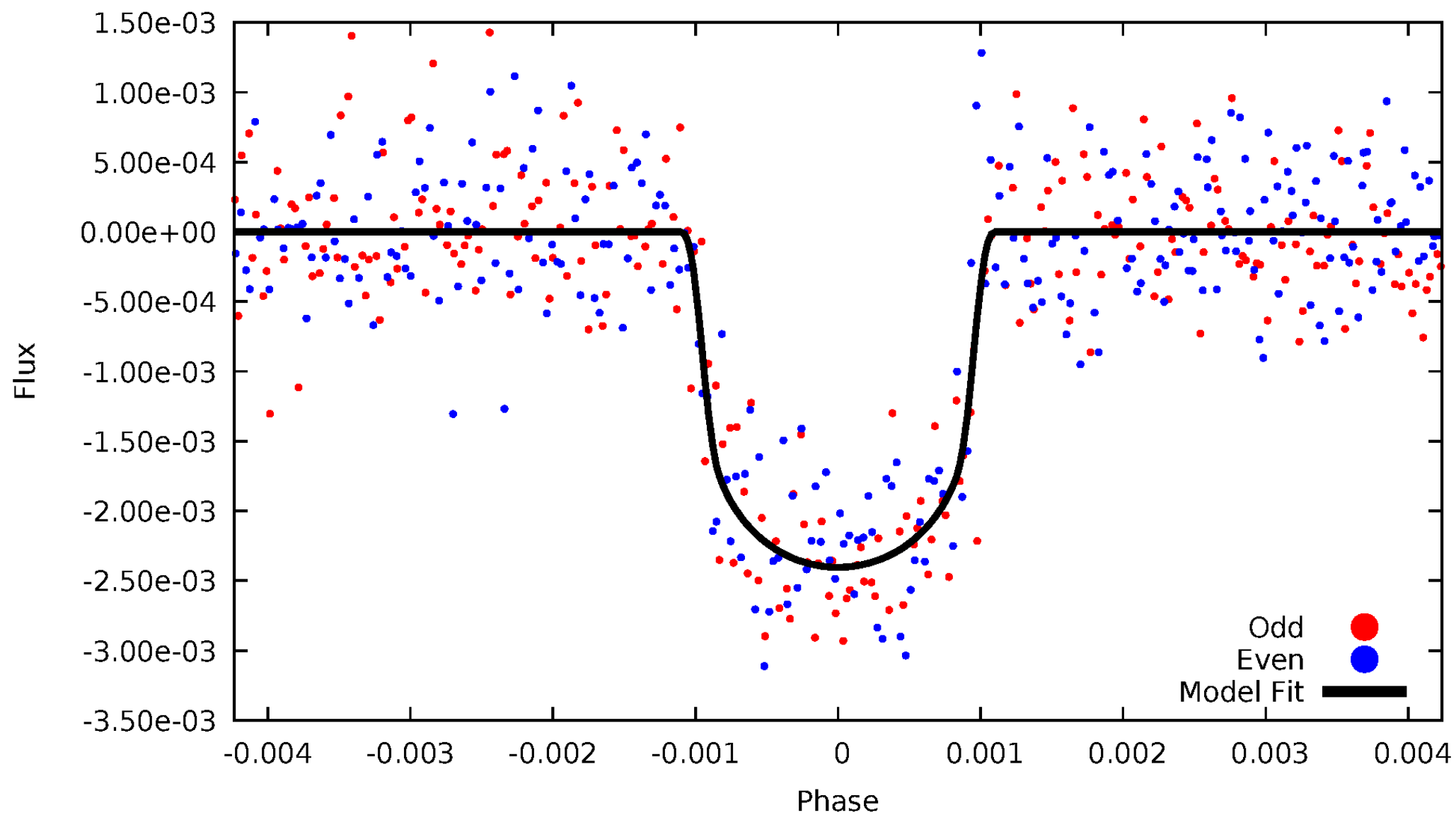


# TCE 011030711-01



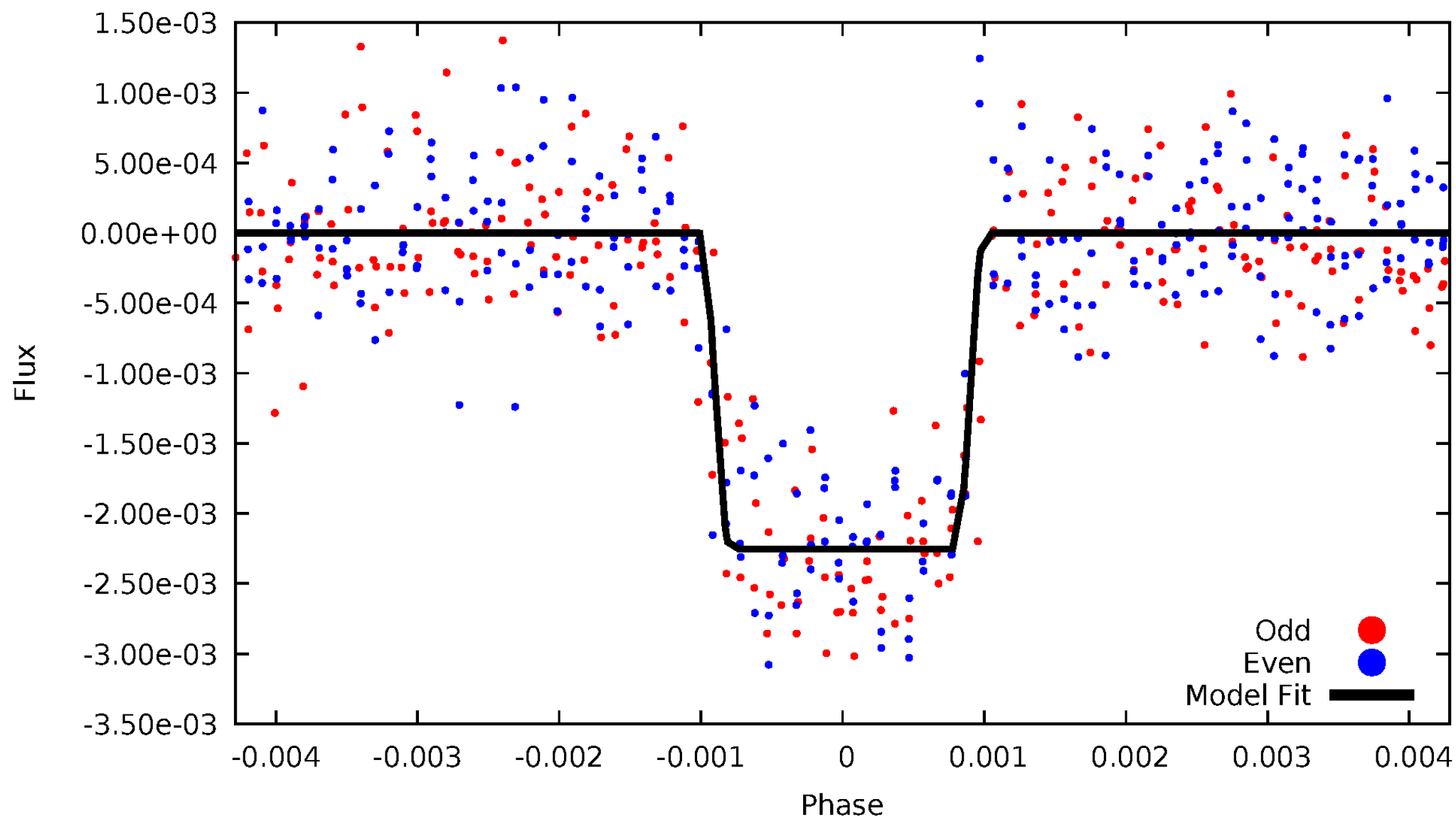
# DV Odd/Even

TCE 011030711-01



# ALT Odd/Even

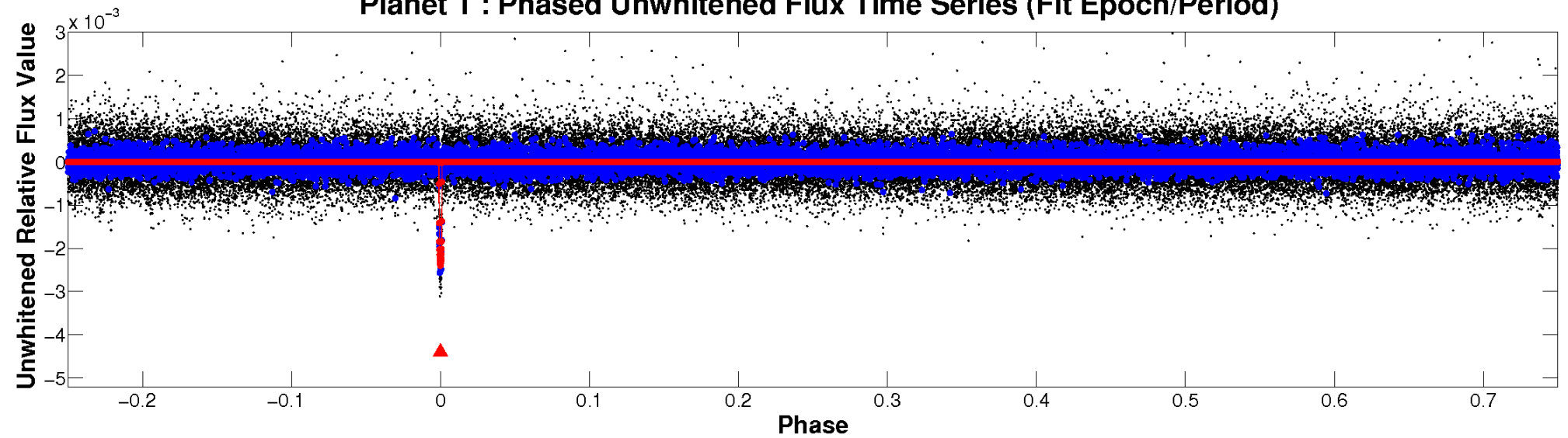
TCE 011030711-01



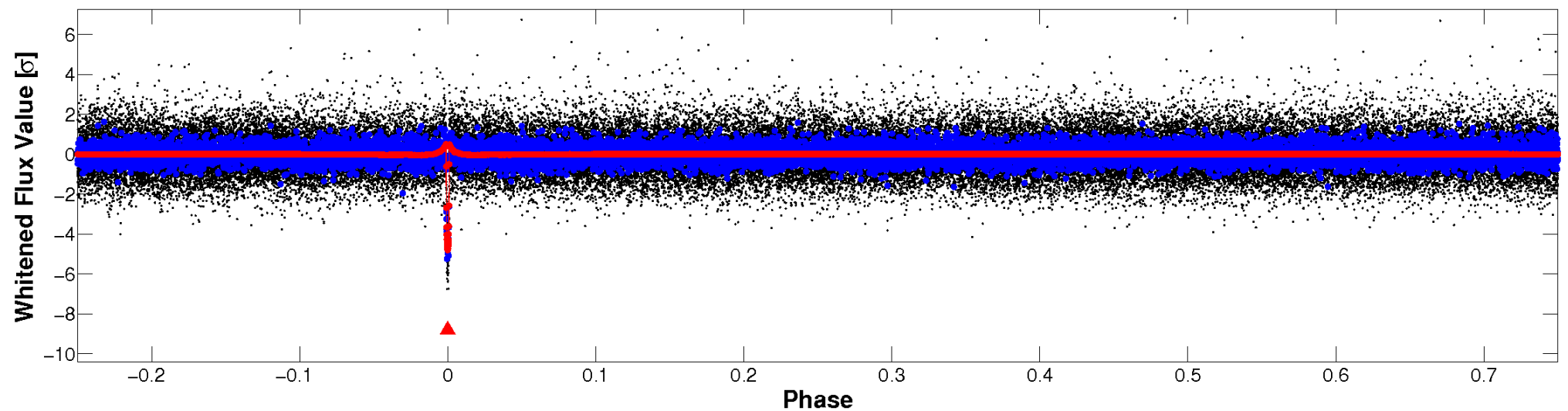


# Non-Whitened Vs. Whitened Light Curve

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

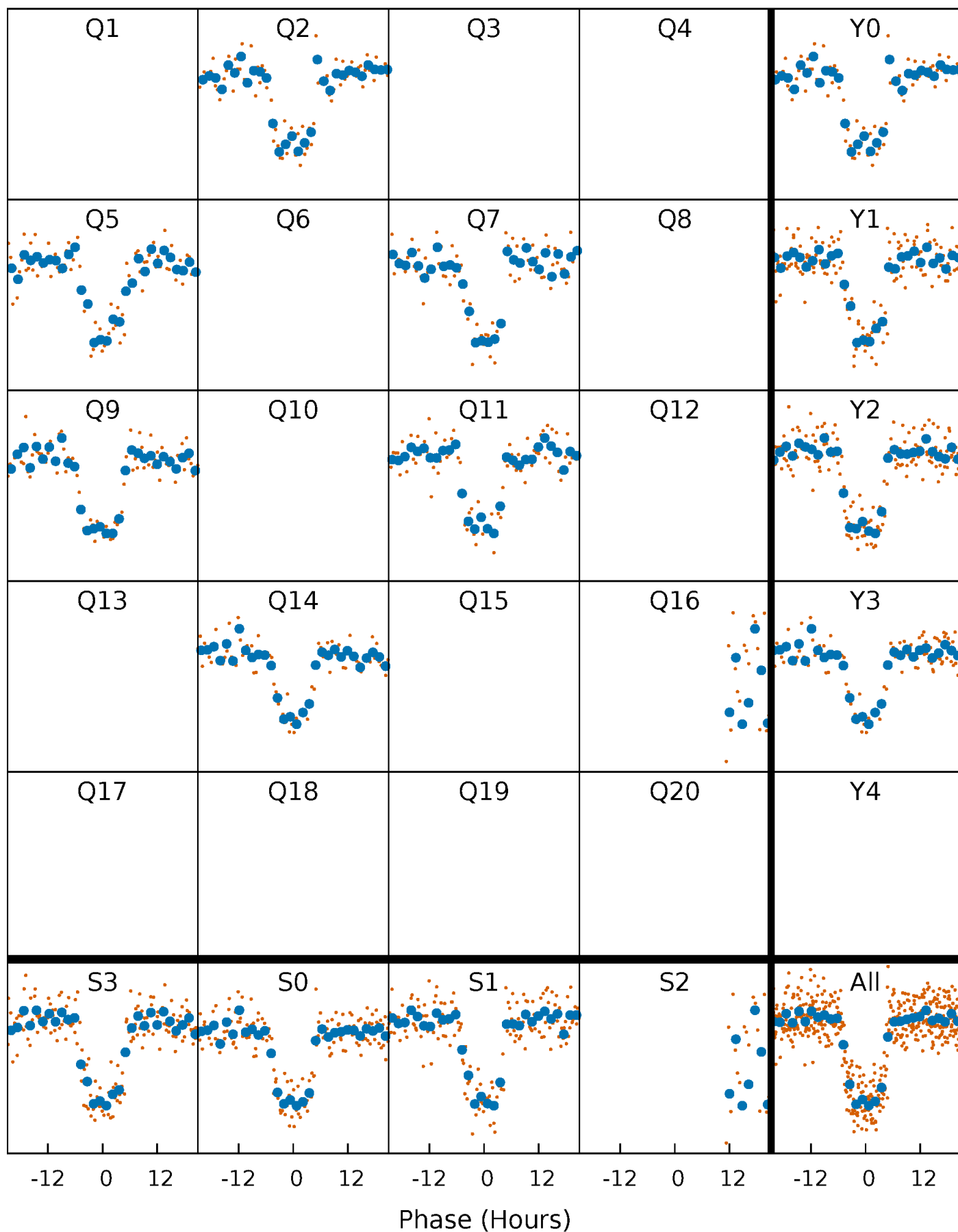


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

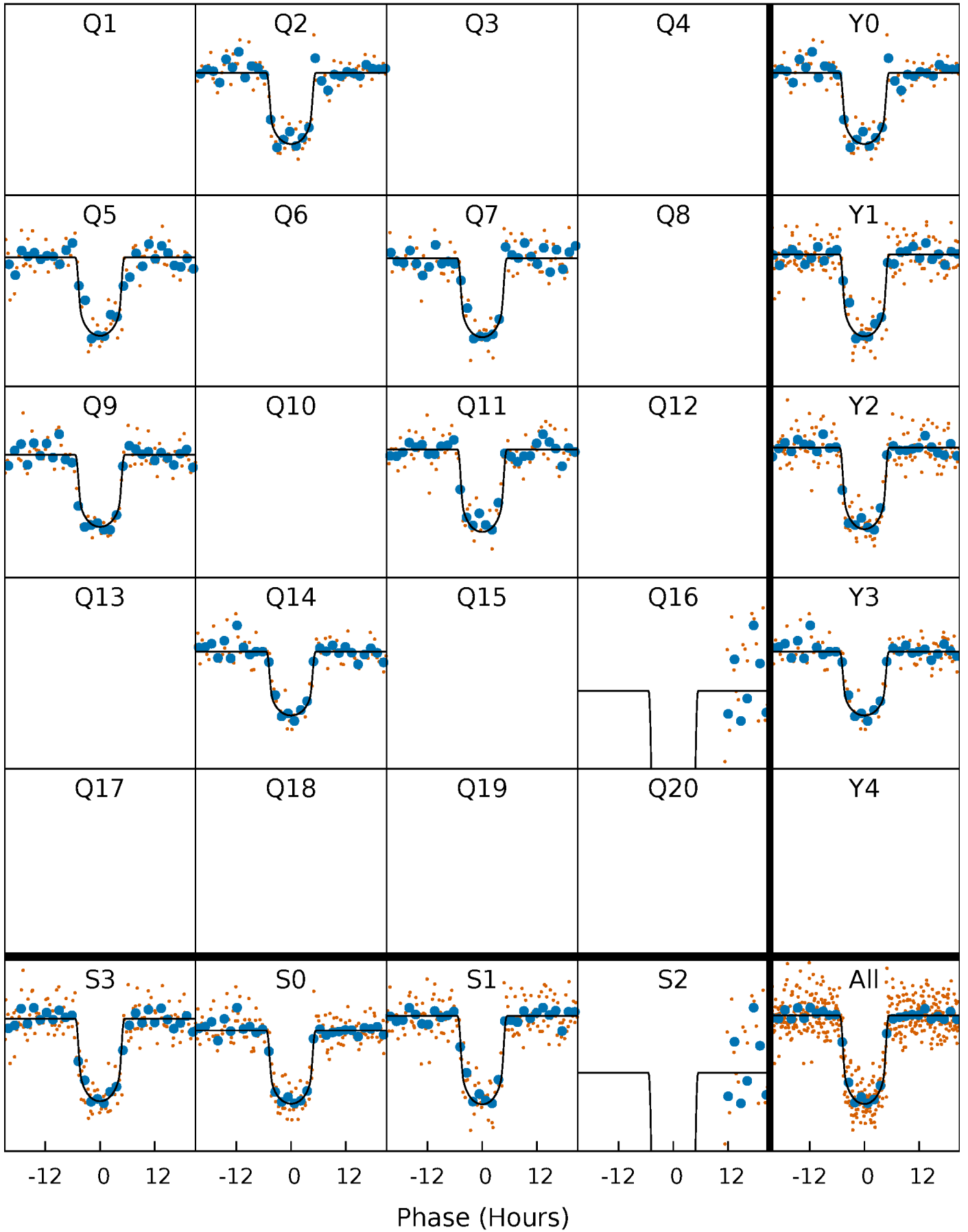
TCE 011030711-01 P=205.912450 Days  $T_0=252.743214$  (BKJD)





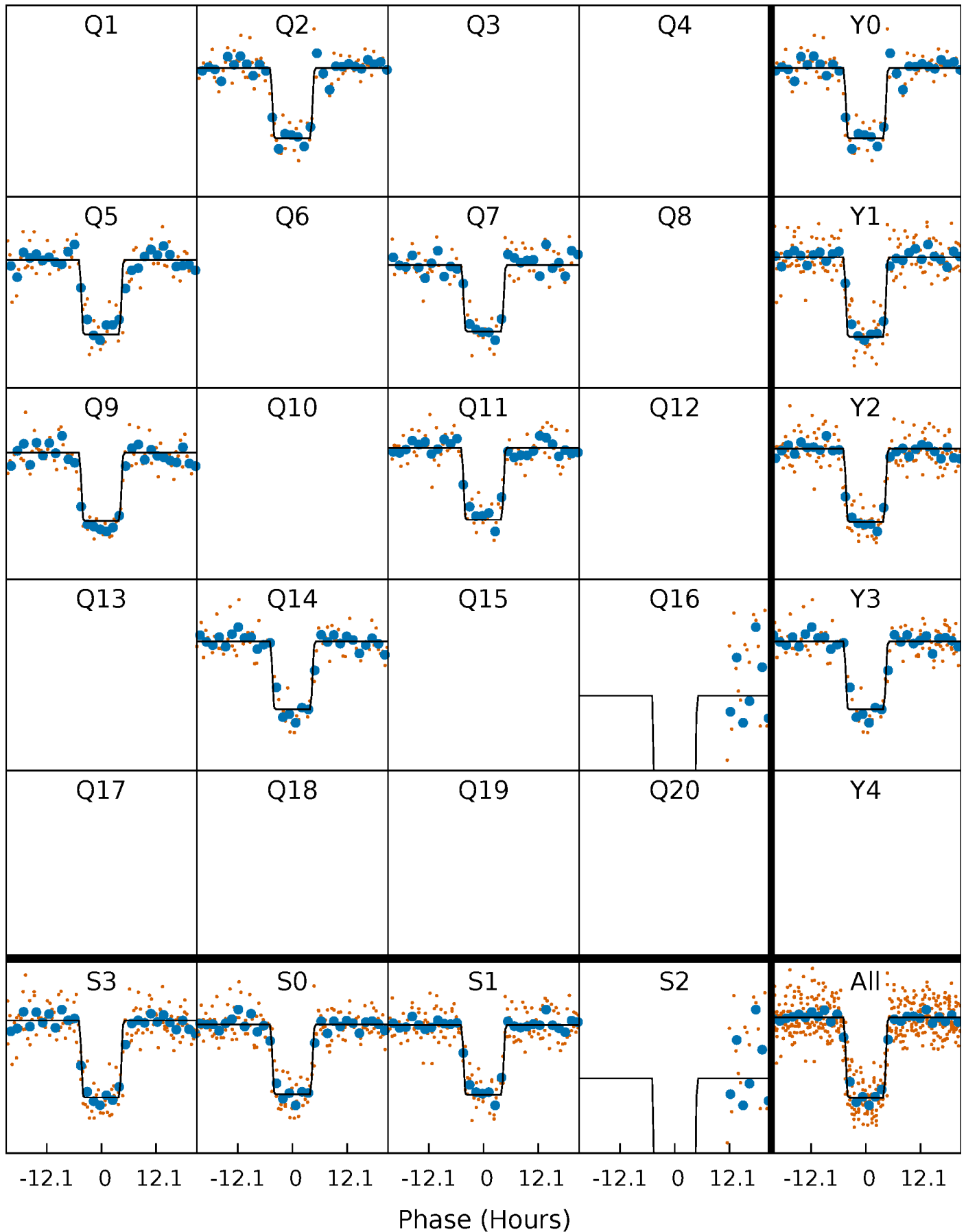
# DV Quarter-Phased Transit Curves

TCE 011030711-01 P=205.912450 Days  $T_0=252.743214$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

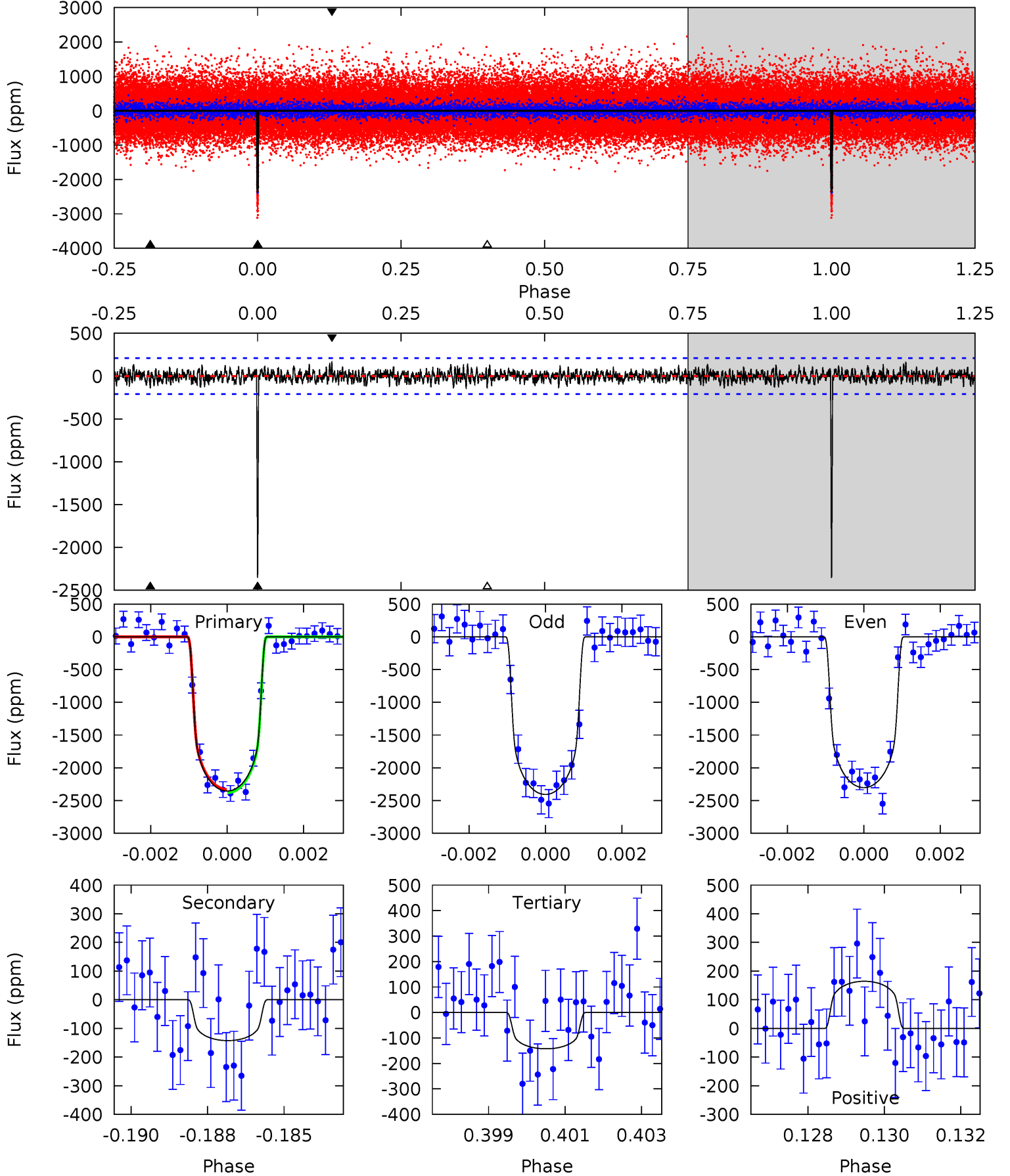
TCE 011030711-01 P=205.908984 Days  $T_0=252.751018$  (BKJD)



# DV Model-Shift Uniqueness Test

011030711-01, P = 205.912450 Days, E = 46.830764 Days

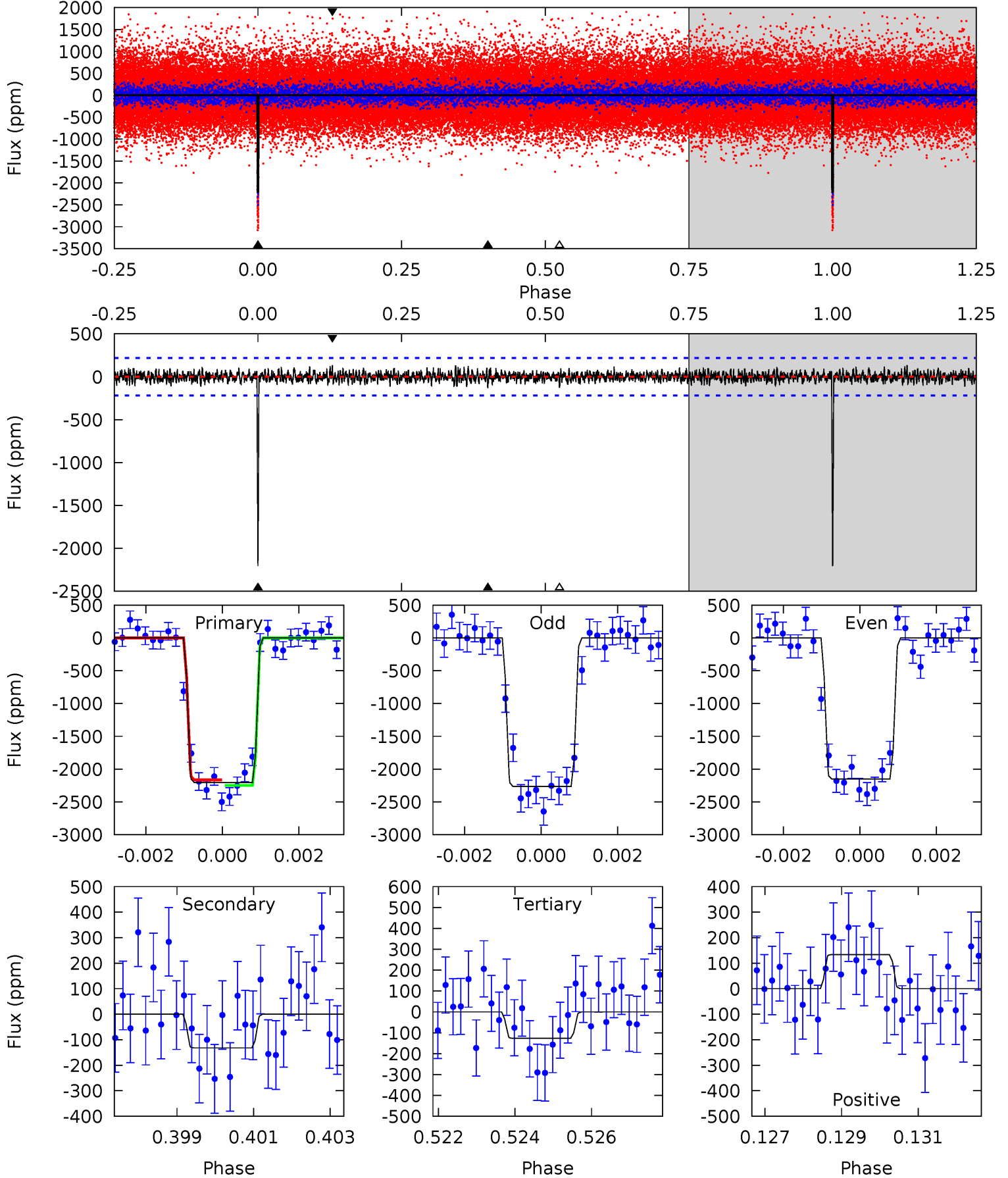
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
59.6	3.61	3.61	4.16	5.32	3.07	1.17	56.0	55.4	0.00	-0.56	1.33	1.01	0.07	0.64



# Alt Model-Shift Uniqueness Test

011030711-01, P = 205.908984 Days, E = 46.842034 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
53.9	3.23	3.09	3.26	5.33	3.09	0.94	50.8	50.6	0.14	-0.03	1.39	1.01	0.06	1.02



### Stellar Parameters For KIC 011030711

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5644^{+76}_{-84}$	$4.457^{+0.051}_{-0.110}$	$0.140^{+0.150}_{-0.150}$	$0.969^{+0.142}_{-0.066}$	$0.981^{+0.056}_{-0.056}$	$1.518^{+0.287}_{-0.505}$
	+1%/-1%	+1%/-2%	+107%/-107%	+15%/-7%	+6%/-6%	+19%/-33%
Source	SPE90	SPE90	SPE90	DSEP		

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

### Secondary Eclipse Parameters for KIC 011030711-01 / KOI 1429.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-143 \pm 40$	$5.13^{+0.46}_{-0.33}$	$417^{+15}_{-11}$	$3342^{+142}_{-179}$	$1336^{+459}_{-427}$
Alt.	$-132 \pm 41$	$5.09^{+0.42}_{-0.37}$	$419^{+15}_{-12}$	$3319^{+155}_{-188}$	$1269^{+488}_{-414}$

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

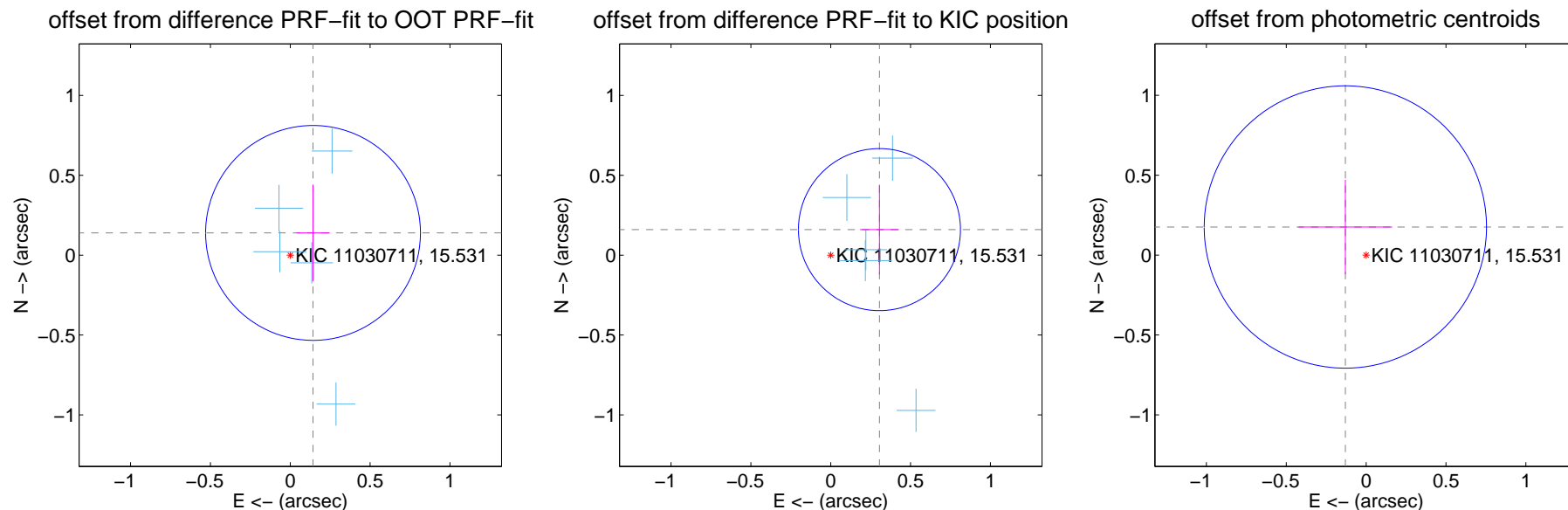
## DV Centroid Data

Supplemental centroid analysis for 011030711-01. Kepler magnitude: 15.53. Transit SNR 44.22

There are 5 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

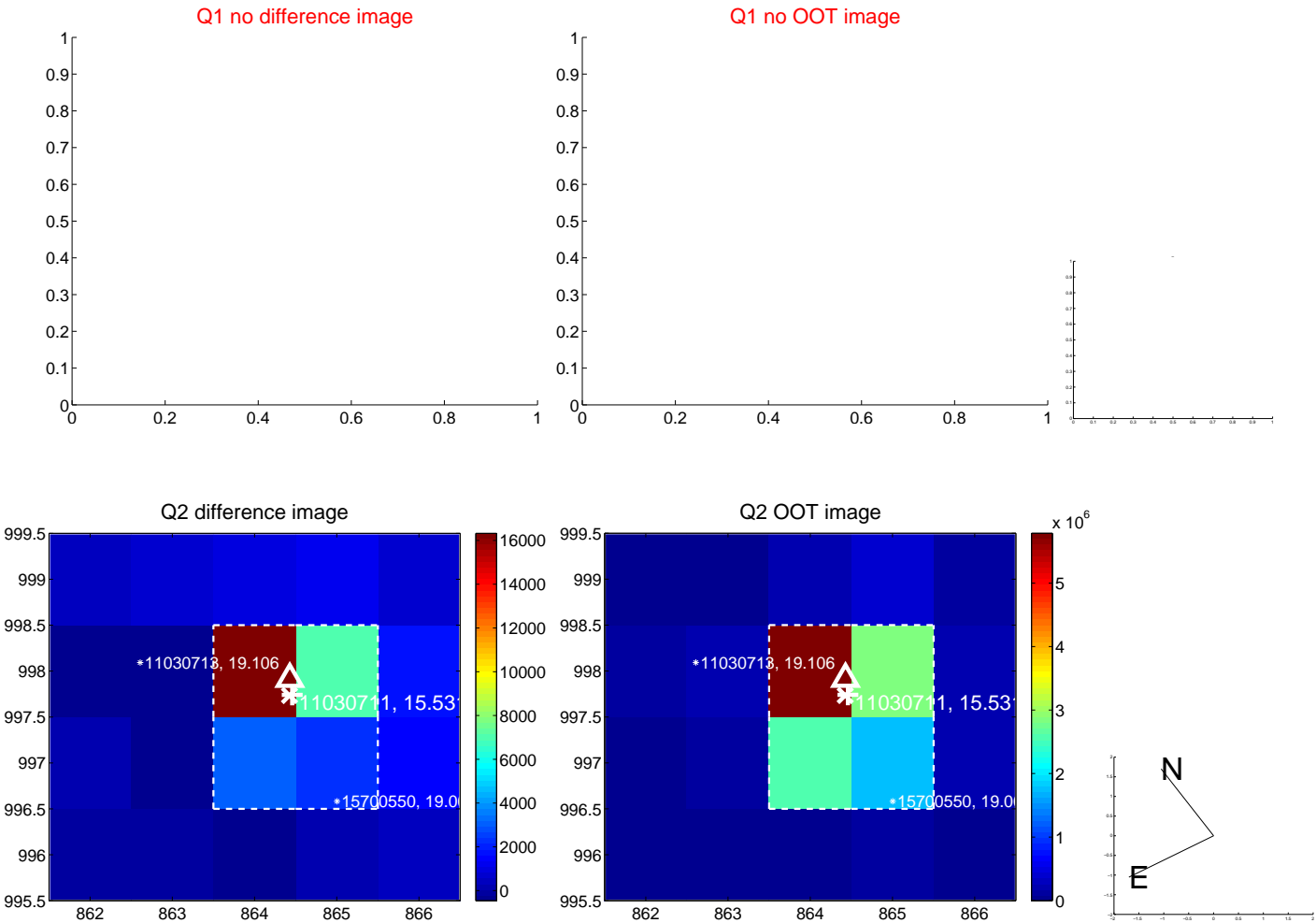
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.199 \pm 0.224$	0.89	$-0.143 \pm 0.104$	$0.139 \pm 0.303$
PRF-fit source offset from KIC position	$0.344 \pm 0.169$	2.04	$-0.305 \pm 0.121$	$0.160 \pm 0.281$
photometric centroid source offset	$0.22 \pm 0.29$	0.74	$0.13 \pm 0.29$	$0.18 \pm 0.30$



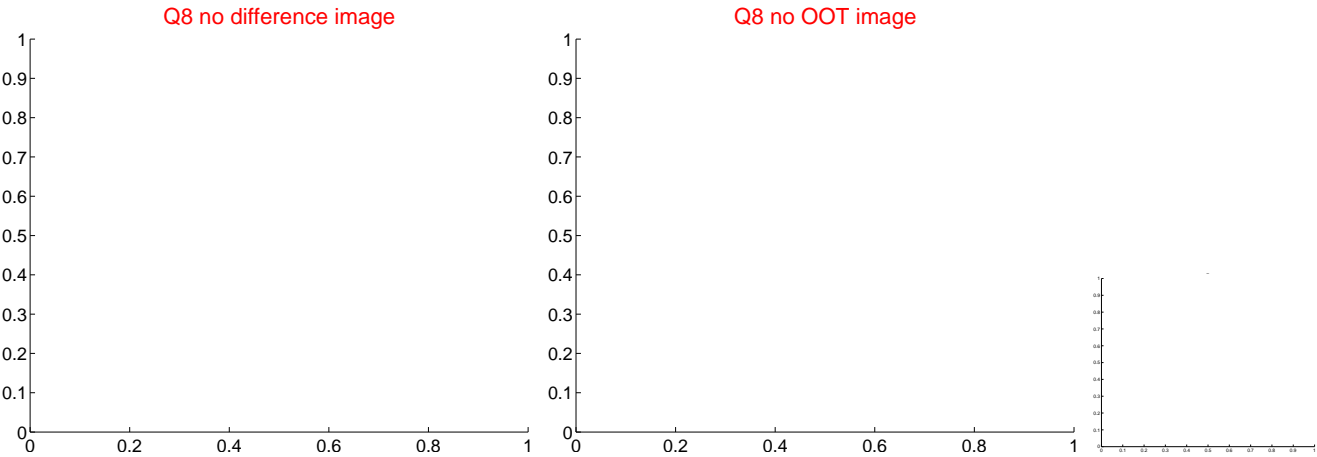
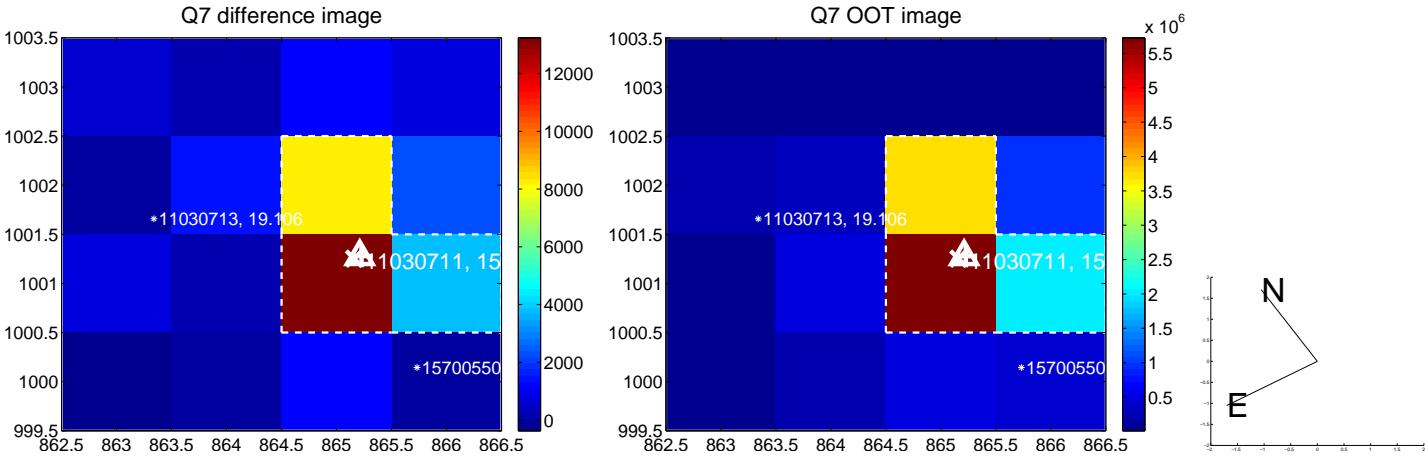
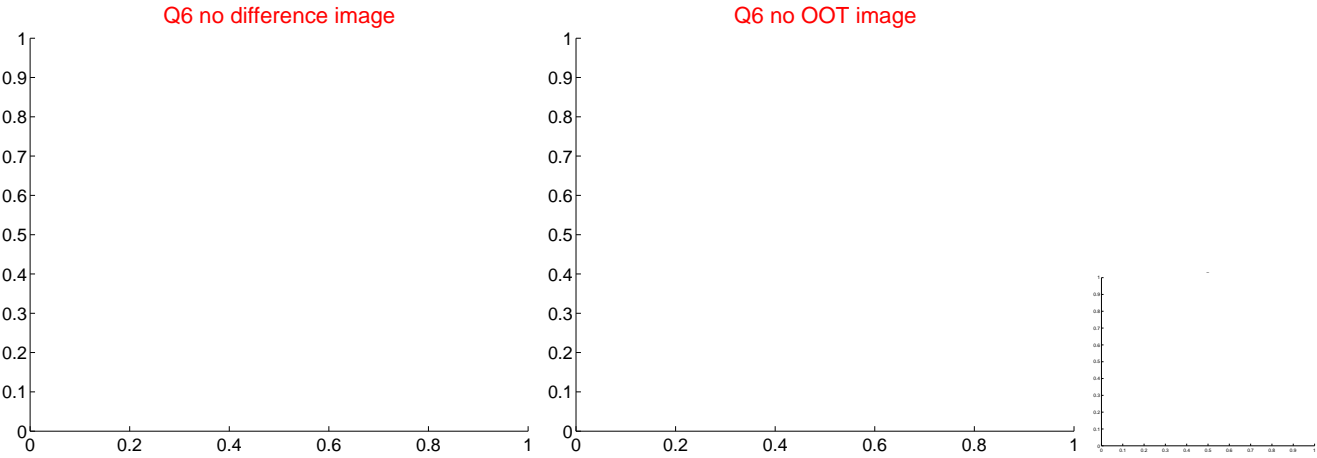
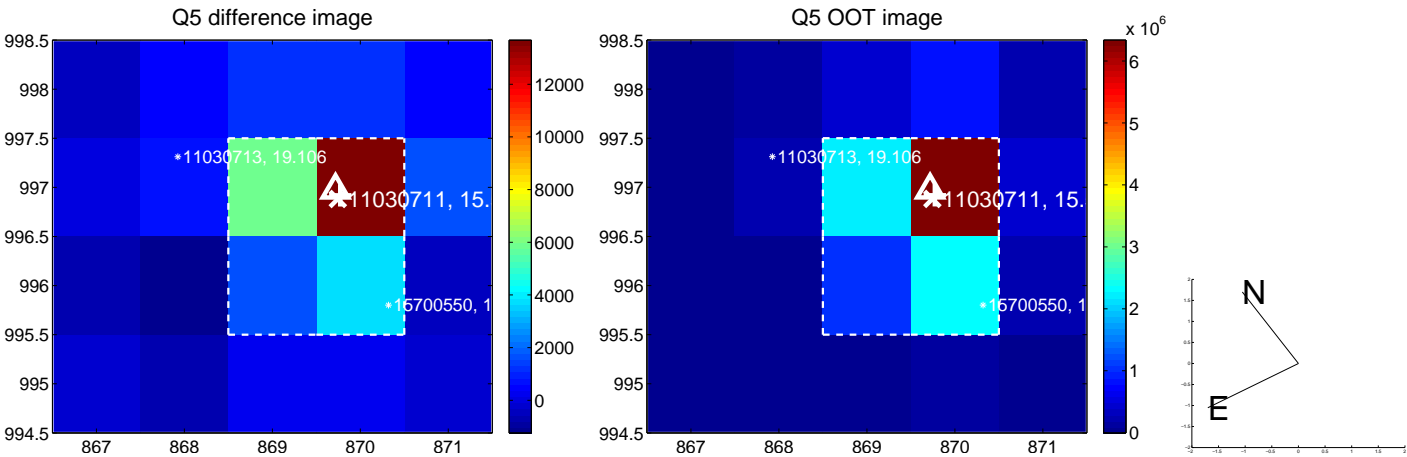
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



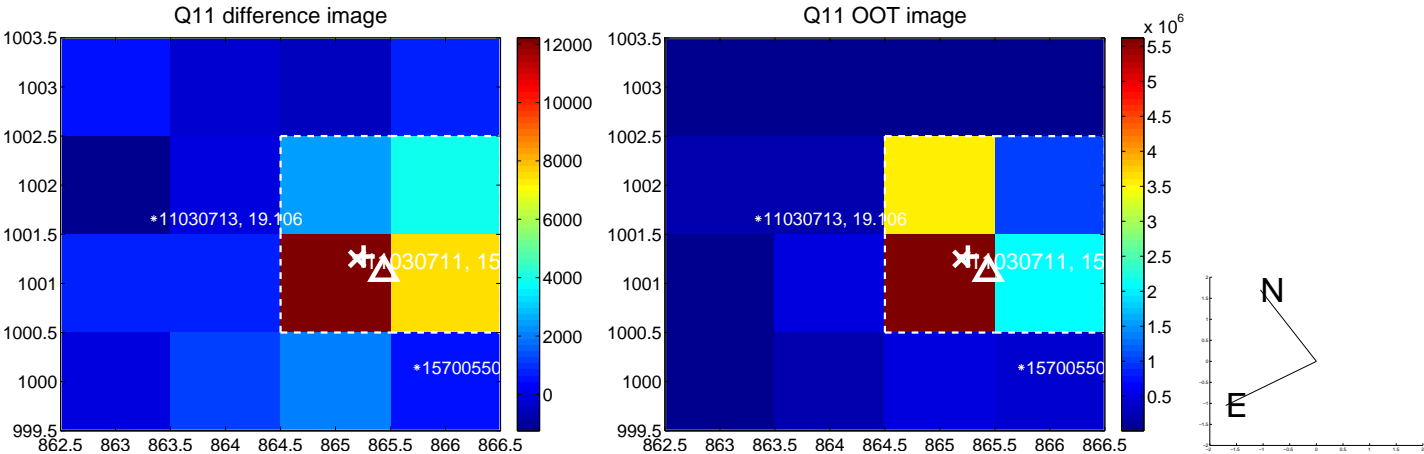
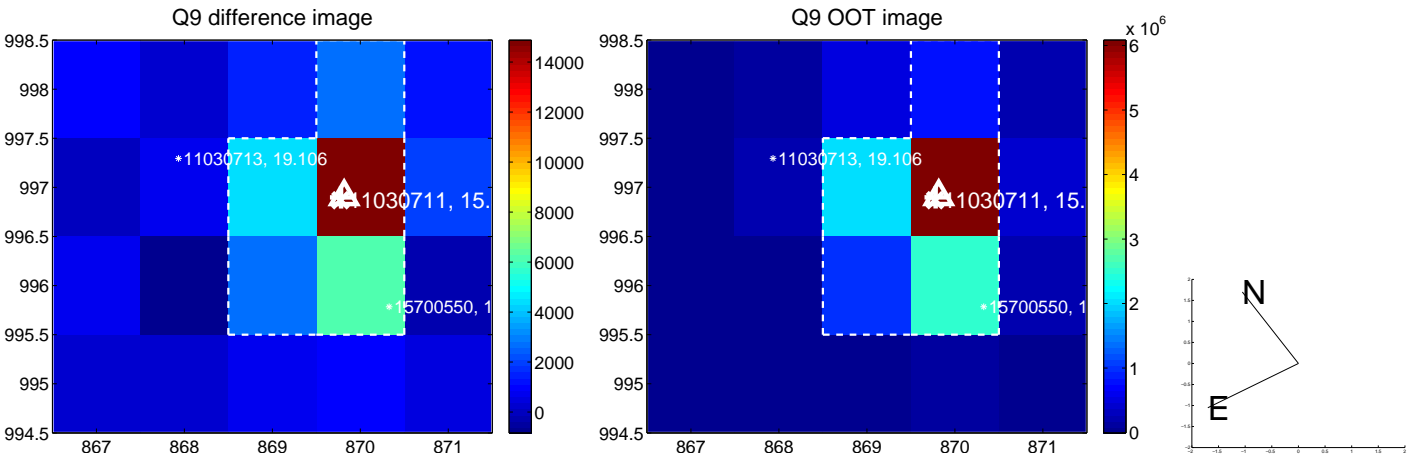
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



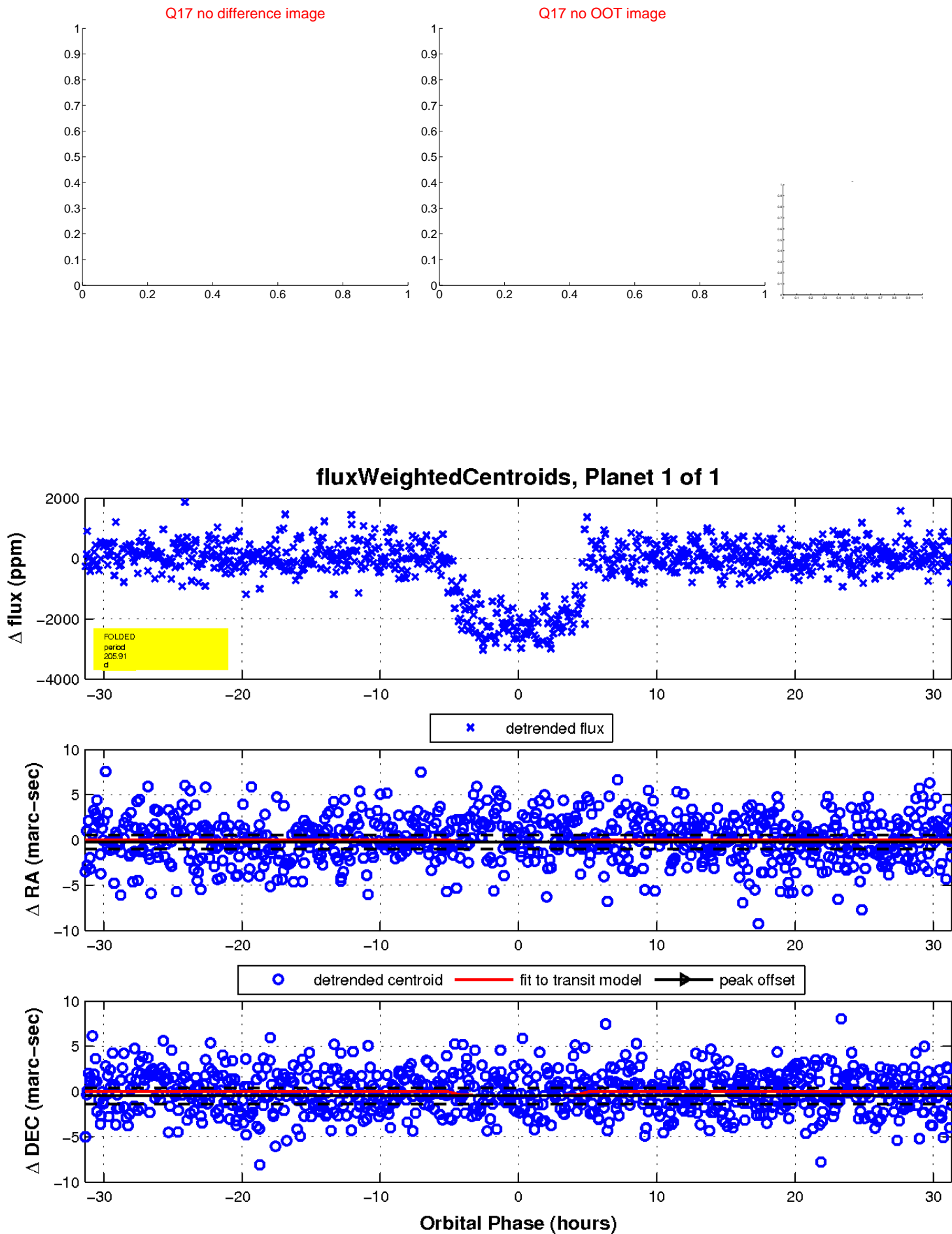
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

