

# KIC 011611030

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011611030-01	OBS	No	603.616220	193.227564	179.9	5.798	7.9	8.0	1.34	6332	1.96	1.32

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011611030-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—MOD_NONUNIQ_ALT—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.

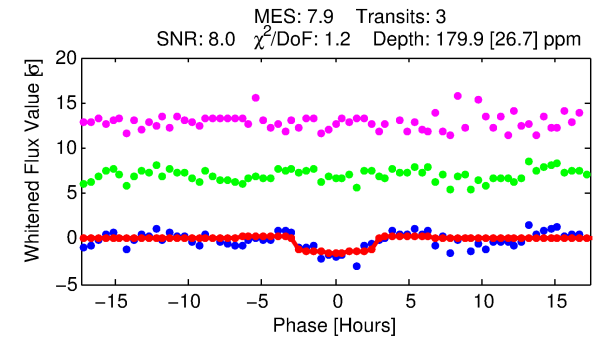
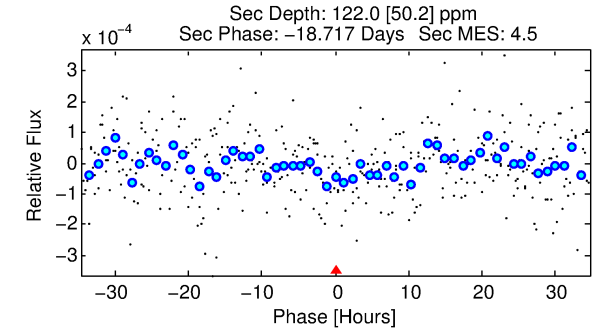
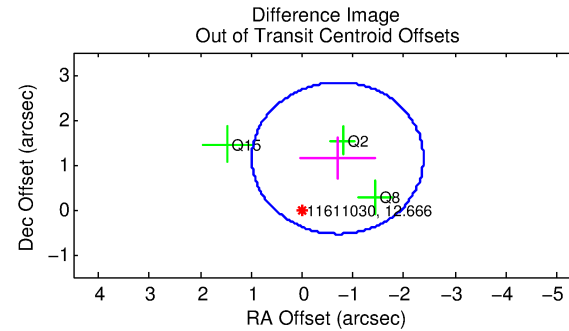
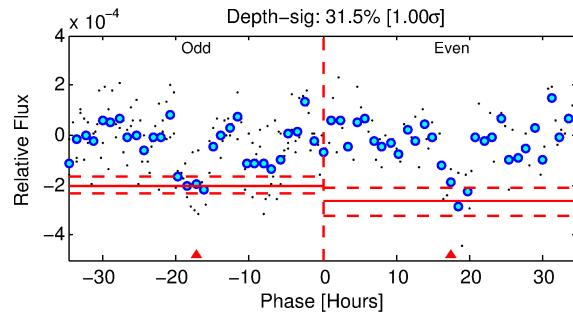
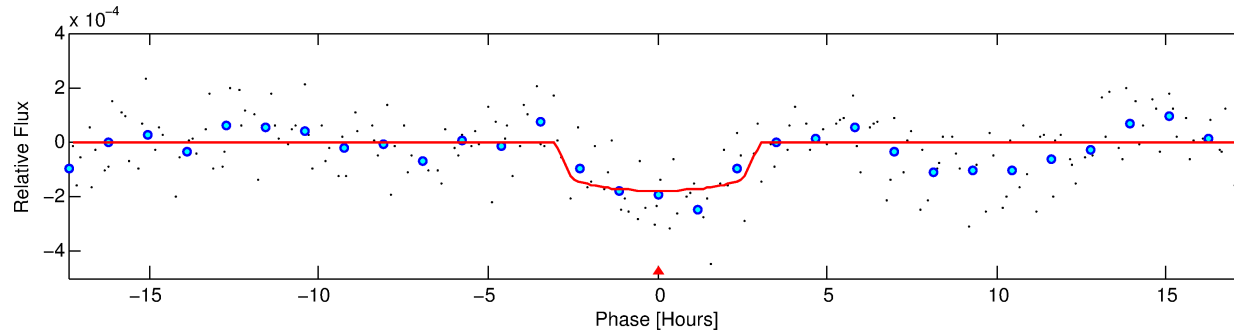
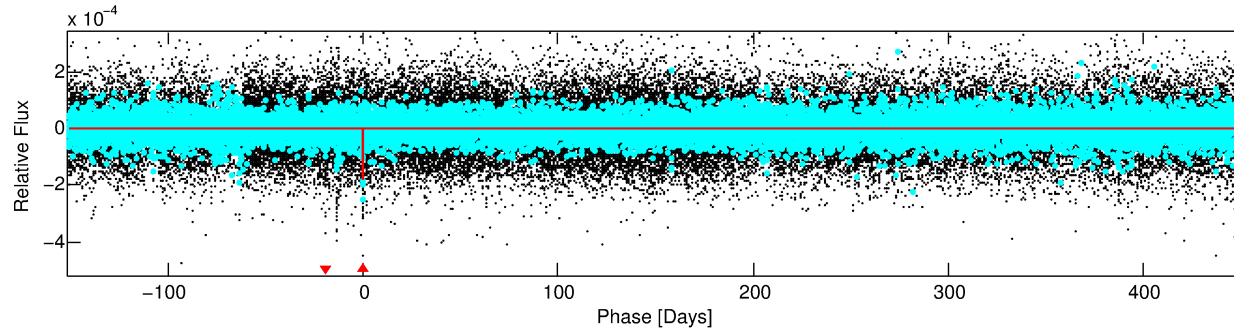
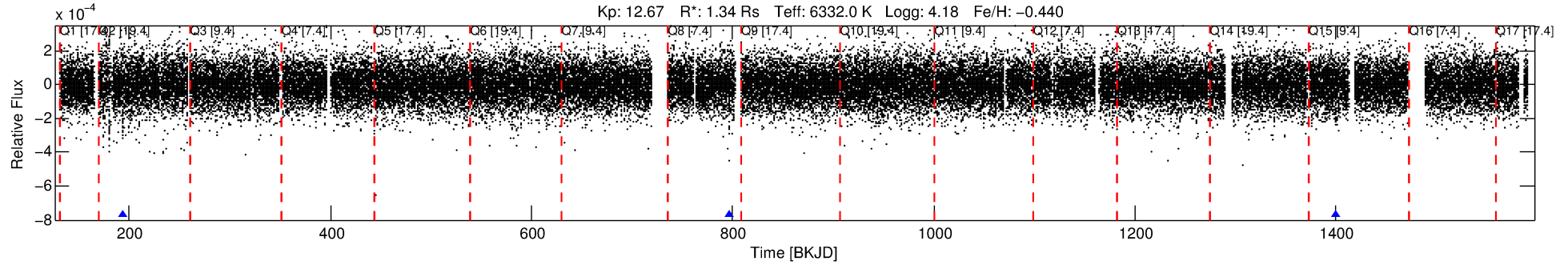
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011611030-01

No Significant Match Found

# DV One-Page Summary

KIC: 11611030 Candidate: 1 of 1 Period: 603.616 d



## DV Fit Results:

Period = 603.61622 [0.00842] d  
Epoch = 193.2276 [0.0121] BKJD  
Rp/R\* = 0.0134 [0.0113]  
a/R\* = 529.76 [2437.48]  
b = 0.76 [2.53]  
Seff = 1.32 [0.42]  
Teq = 273 [22] K  
Rp = 1.96 [1.70] Re  
a = 1.3969 [0.2732] AU  
Ag = 34224.41 [60485.90] [0.57 $\sigma$ ]  
Teffp = 5749 [2500] K [2.19 $\sigma$ ]

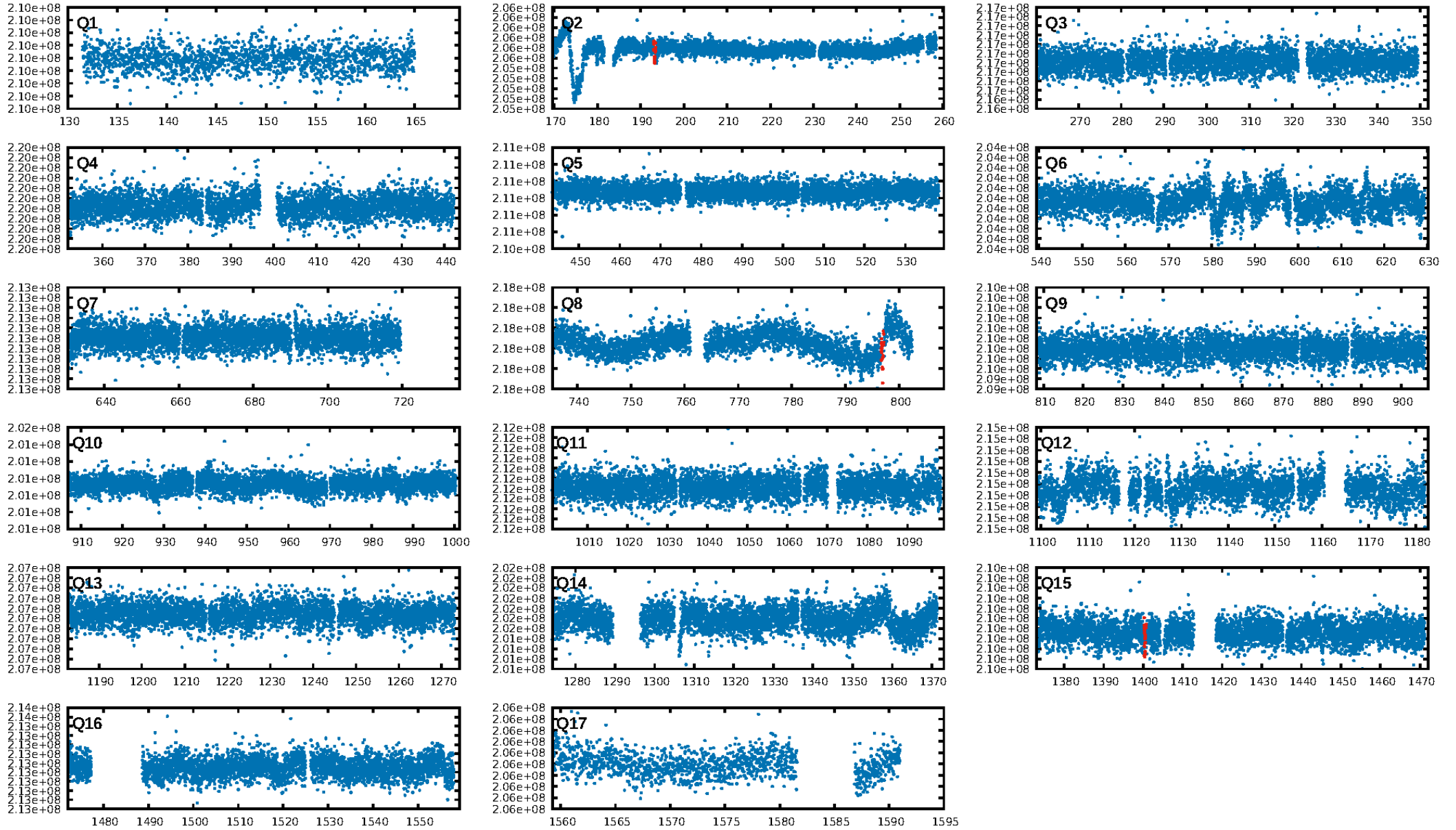
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 3.9%  
ModelChiSquareGof-sig: 70.9%  
**Bootstrap-pfa: 4.26e-10**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -10.27  
Centroid-sig: 99.3%  
Centroid-so: 0.123 arcsec [0.08 $\sigma$ ]  
OotOffset-rm: 1.340 arcsec [2.38 $\sigma$ ]  
OotOffset-st: 1/1/1/0 [3]  
KicOffset-rm: 1.486 arcsec [2.66 $\sigma$ ]  
KicOffset-st: 1/1/1/0 [3]  
DiffImageQuality-fgm: 1.00 [3/3]  
DiffImageOverlap-fno: 1.00 [3/3]

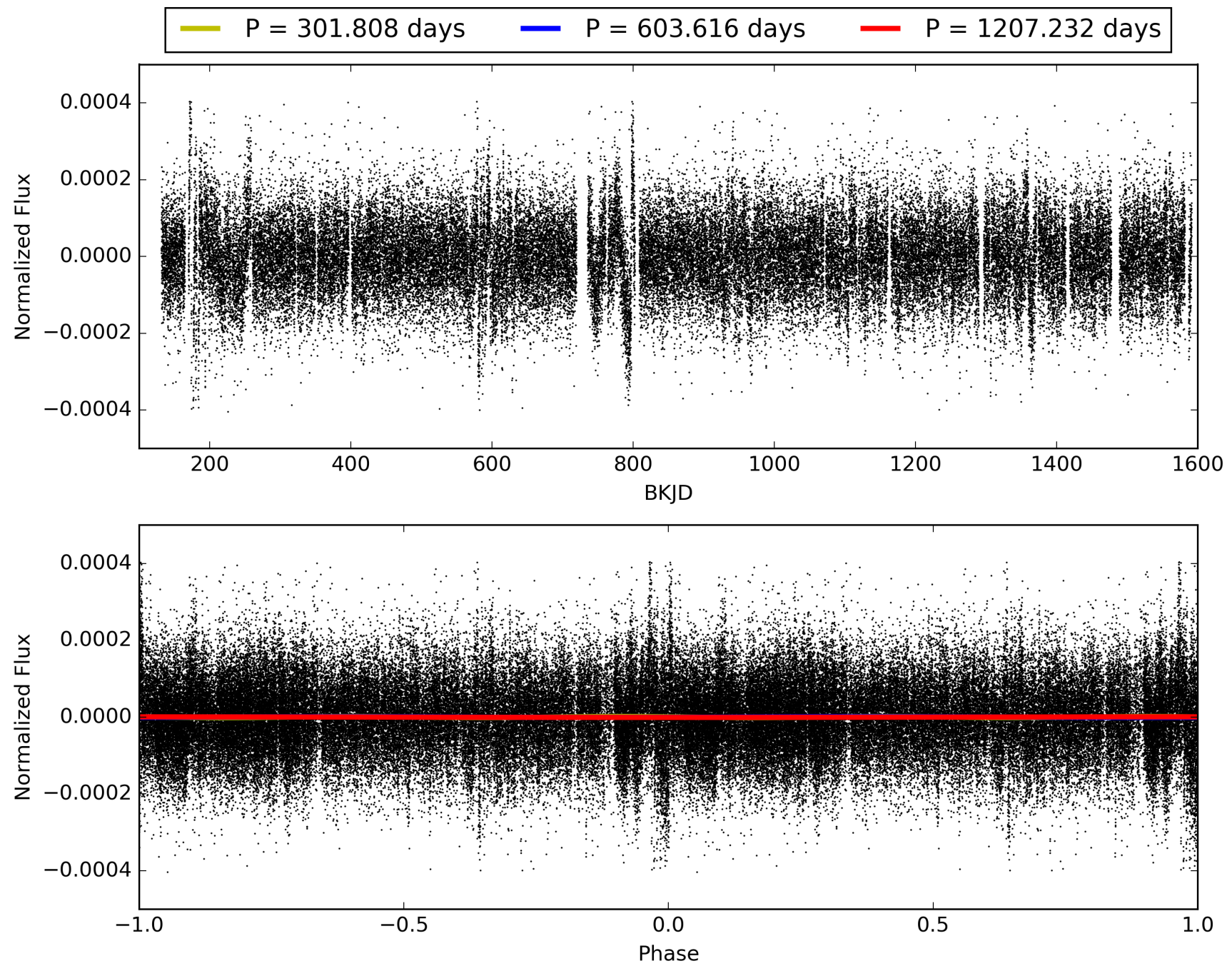
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:02:08 Z

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

# TCE 011611030-01, PDC Light Curves

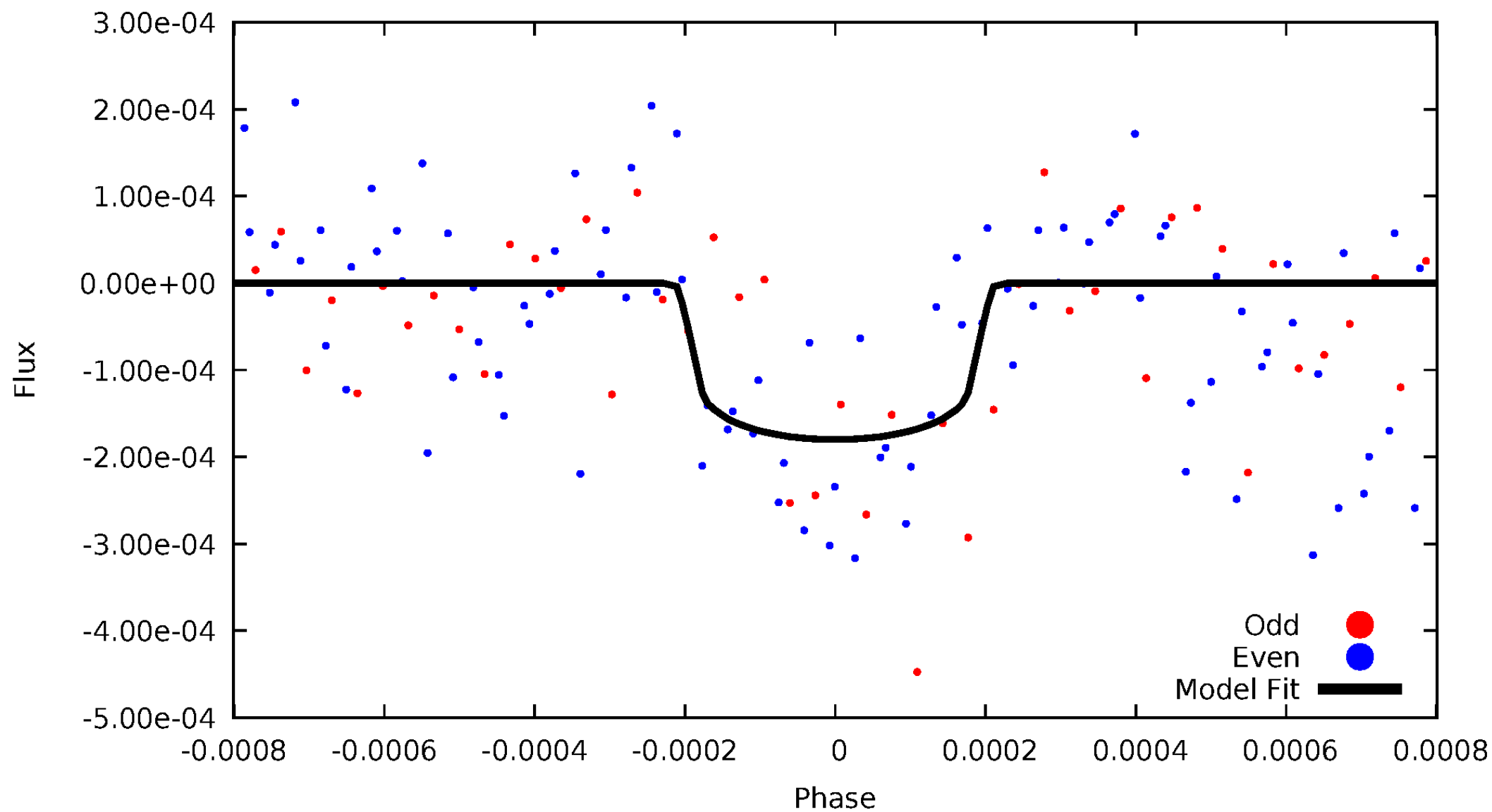


TCE 011611030-01



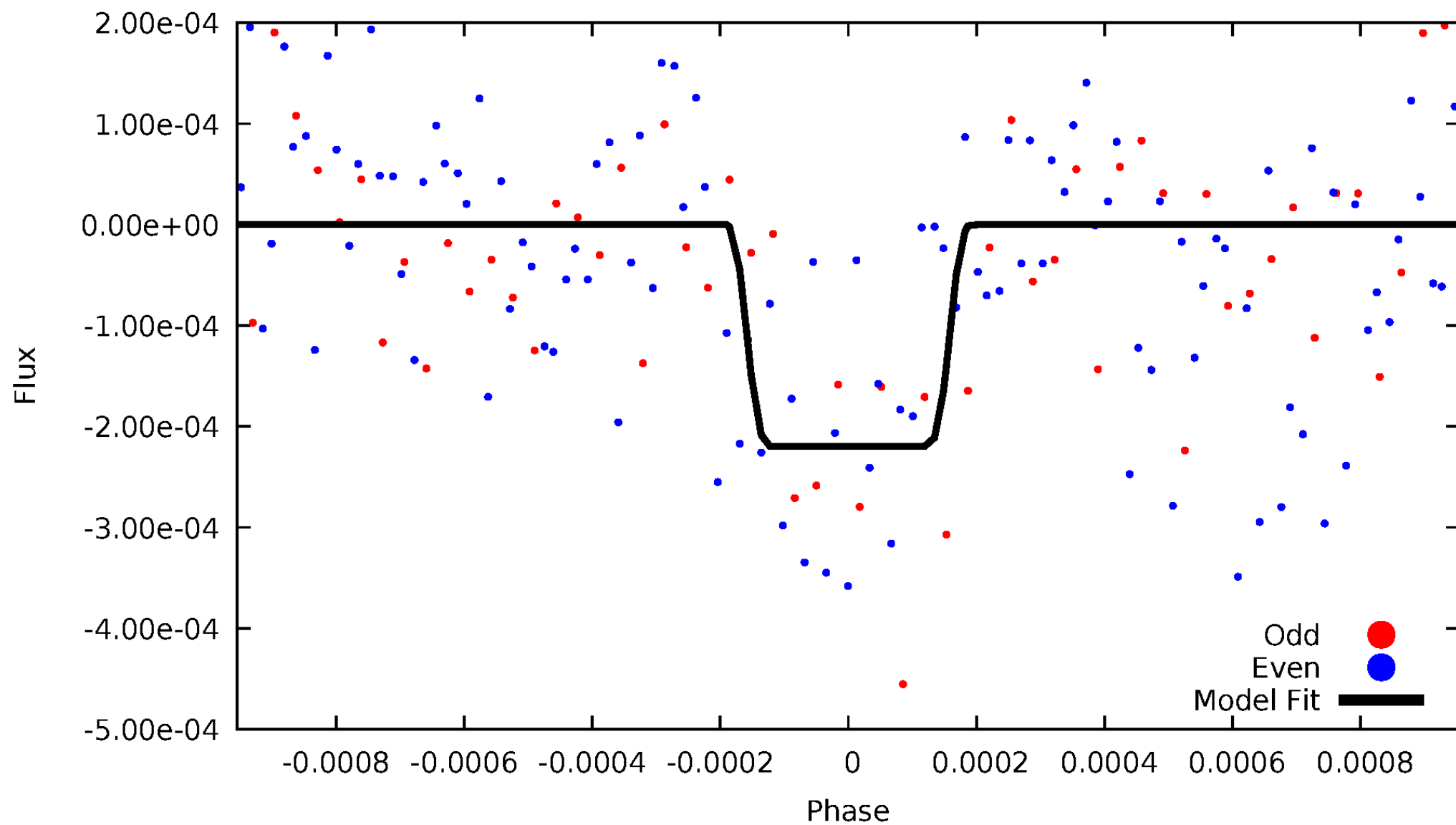
# DV Odd/Even

TCE 011611030-01



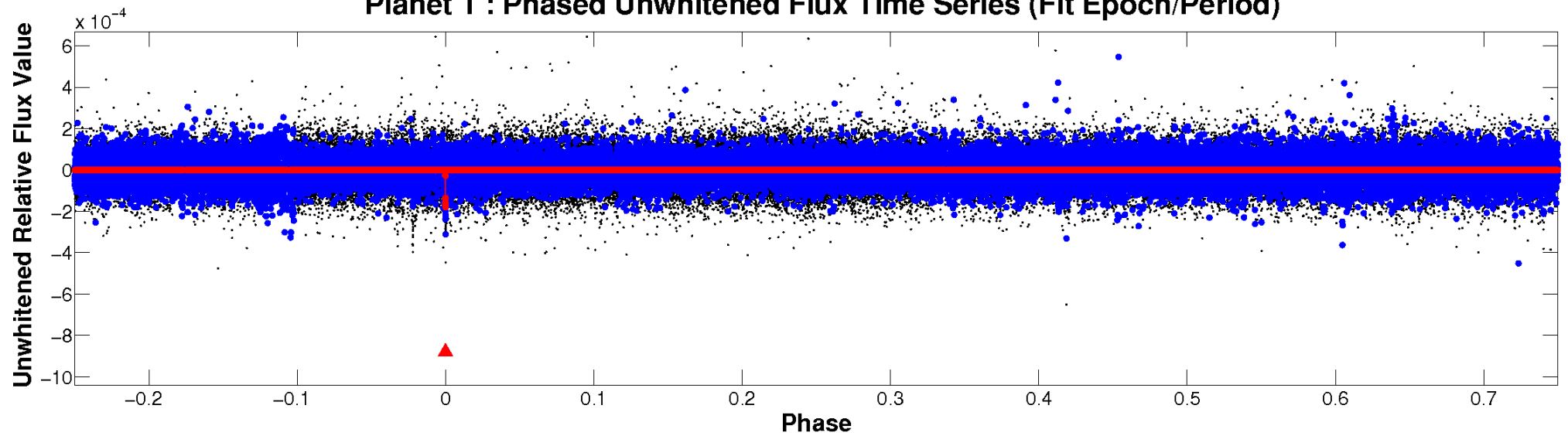
# ALT Odd/Even

TCE 011611030-01

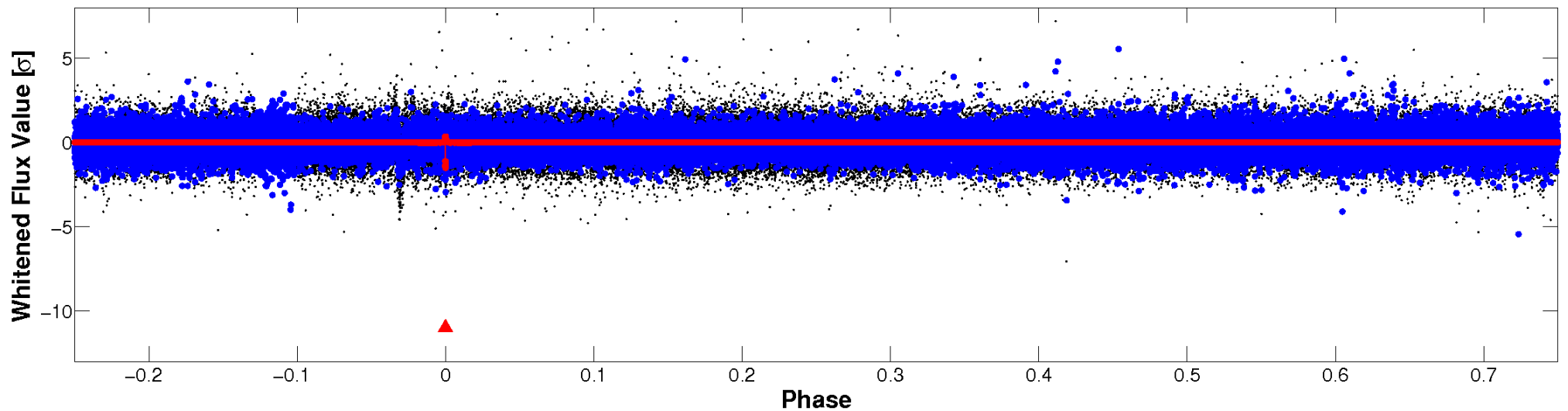


# Non-Whitened Vs. Whitened Light Curve

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



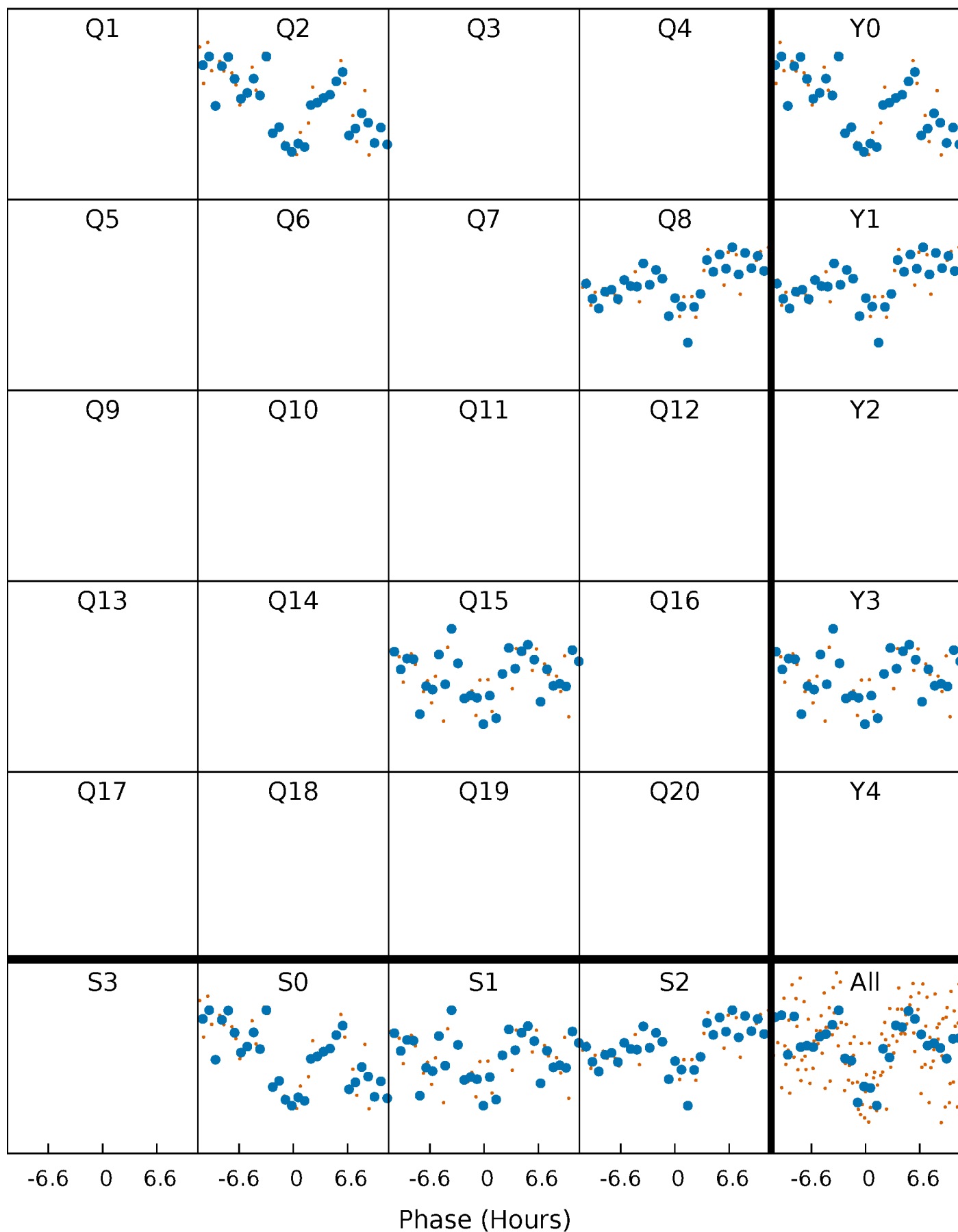
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

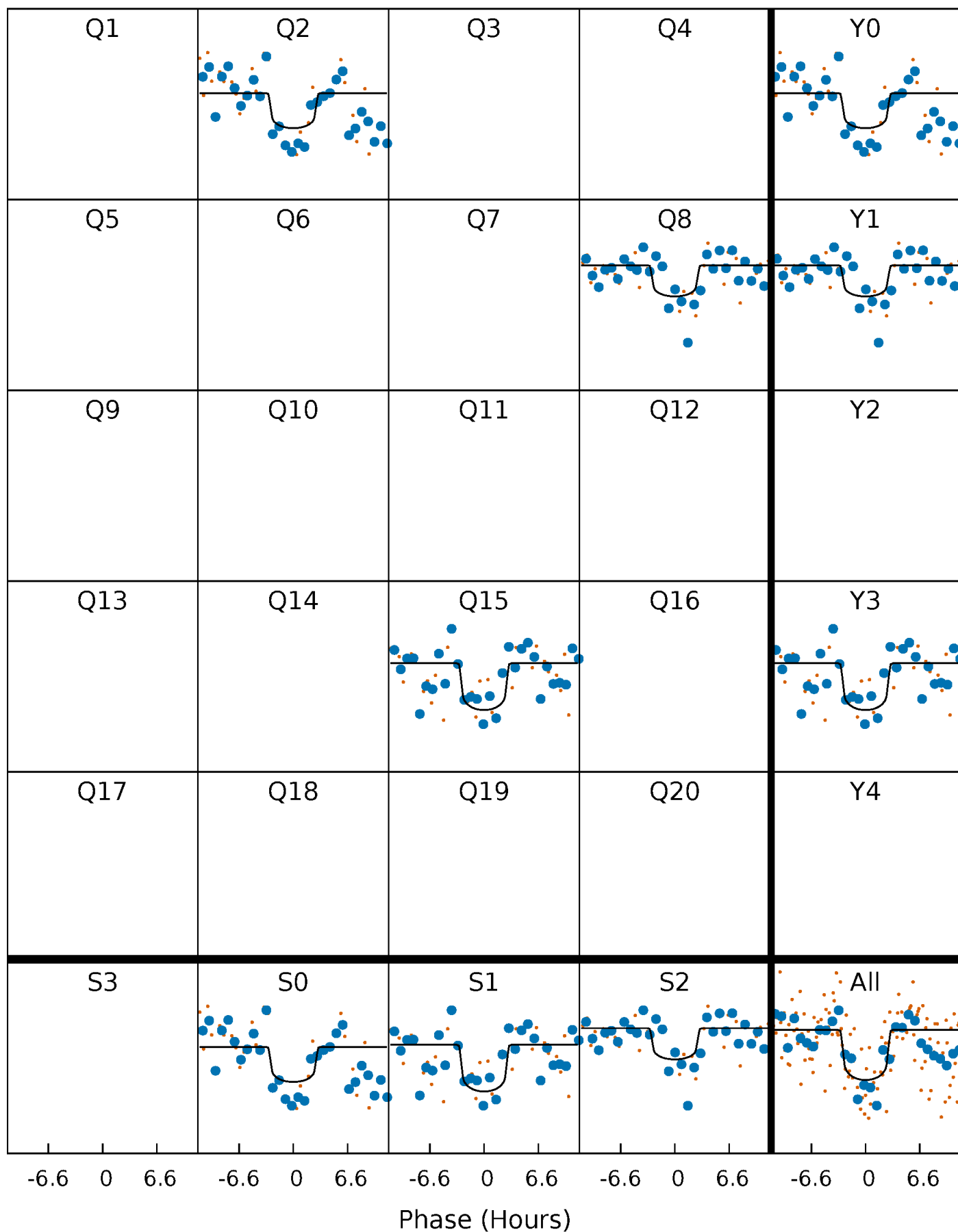
TCE 011611030-01 P=603.616220 Days  $T_0=193.227564$  (BKJD)





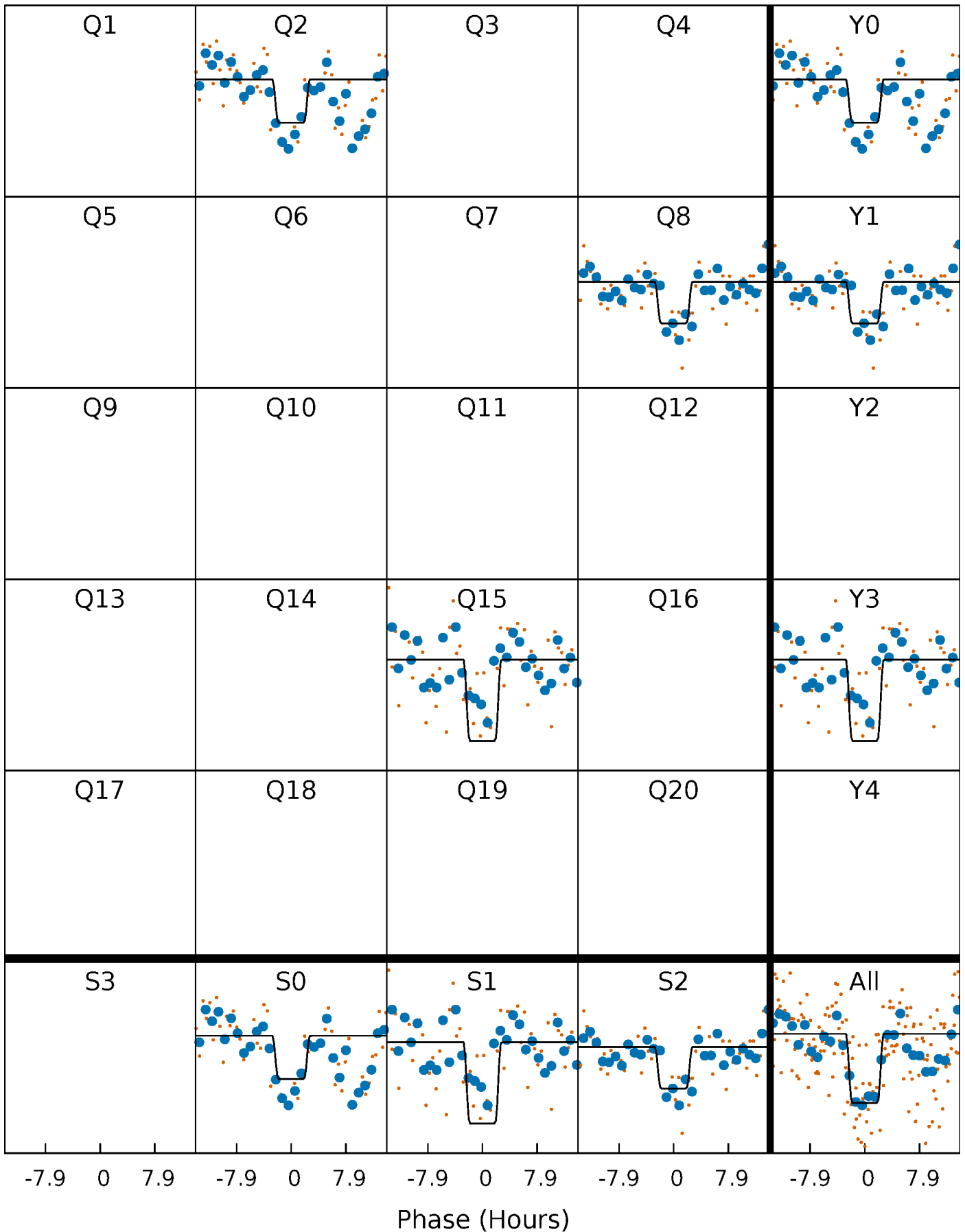
# DV Quarter-Phased Transit Curves

TCE 011611030-01 P=603.616220 Days  $T_0=193.227564$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

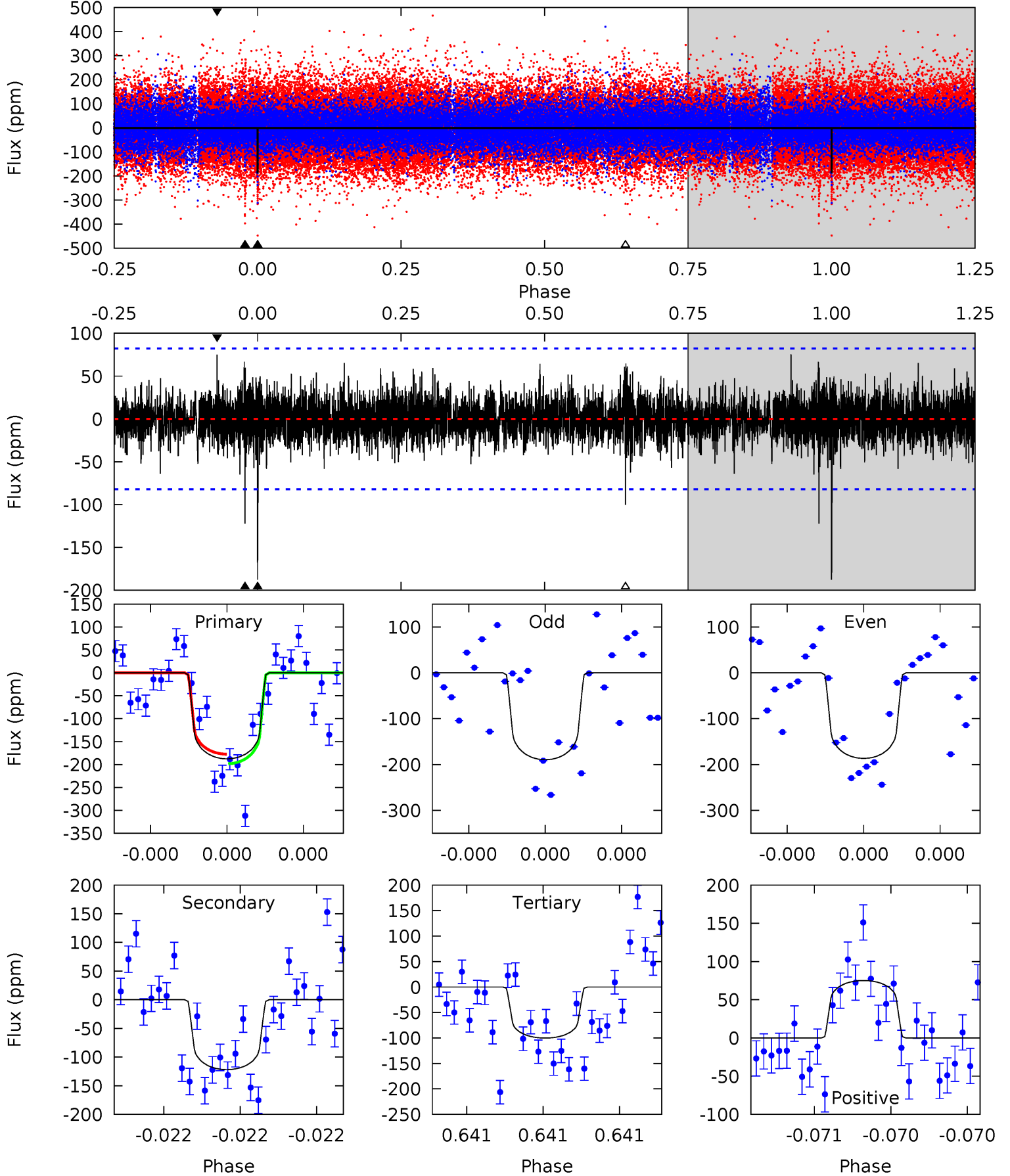
TCE 011611030-01 P=603.614174 Days  $T_0=193.243904$  (BKJD)



# DV Model-Shift Uniqueness Test

011611030-01, P = 603.616220 Days, E = 193.227564 Days

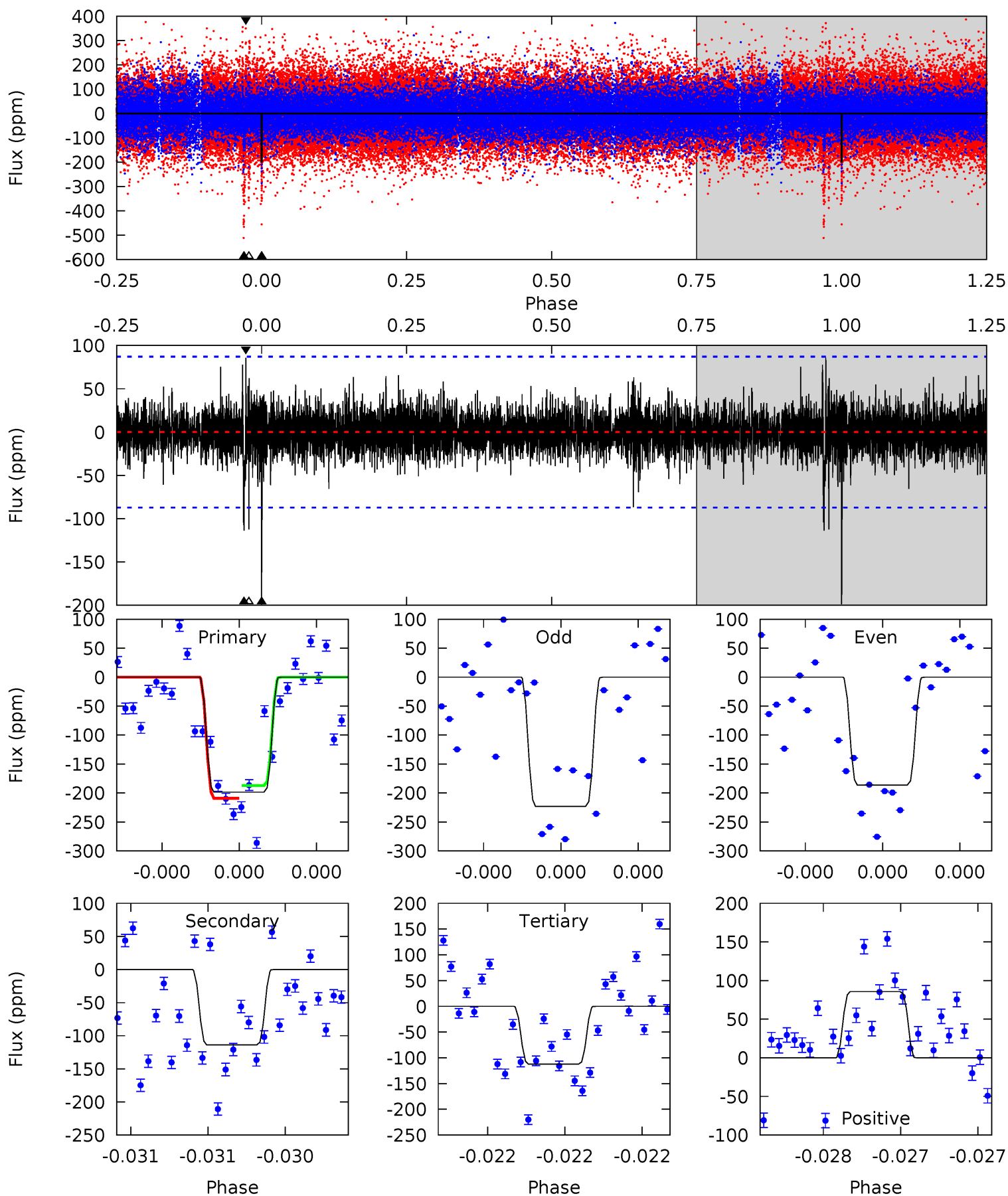
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	8.32	6.84	5.13	5.61	3.53	1.19	5.97	7.67	1.48	3.19	0.09	0.99	0.29	0.71



# Alt Model-Shift Uniqueness Test

011611030-01, P = 603.614174 Days, E = 193.243904 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
12.8	7.35	7.26	5.53	5.62	3.56	1.14	5.56	7.28	0.09	1.82	1.11	0.89	0.30	0.71



### Stellar Parameters For KIC 011611030

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6332^{+82}_{-76}$	$4.184^{+0.188}_{-0.101}$	$-0.440^{+0.150}_{-0.150}$	$1.338^{+0.216}_{-0.265}$	$0.998^{+0.076}_{-0.062}$	$0.587^{+0.489}_{-0.195}$
	+1%/-1%	+4%/-2%	+34%/-34%	+16%/-20%	+8%/-6%	+83%/-33%
Source	SPE68	SPE68	SPE68	DSEP		

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

### Secondary Eclipse Parameters for KIC 011611030-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-122 \pm 15$	$2.13^{+1.53}_{-1.32}$	$380^{+18}_{-21}$	$5449^{+3822}_{-1063}$	$28277^{+166260}_{-18543}$
Alt.	$-114 \pm 15$	$2.35^{+1.55}_{-1.34}$	$381^{+19}_{-21}$	$5174^{+2777}_{-919}$	$22372^{+96747}_{-14589}$

$T_{max}$  = 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

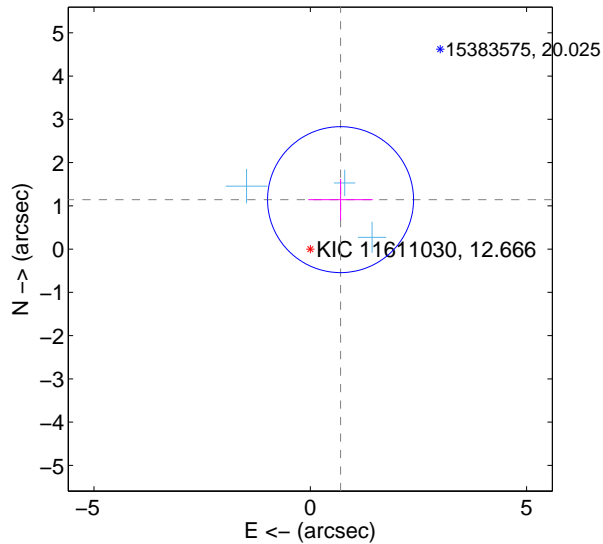
Supplemental centroid analysis for 011611030-01. Kepler magnitude: 12.67. Transit SNR 8.03

There are 3 quarters with good PRF difference image offsets

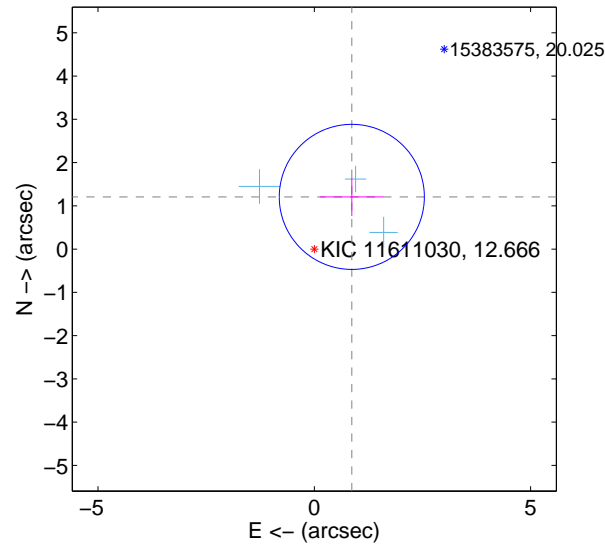
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.340 \pm 0.562$	2.38	$-0.699 \pm 0.746$	$1.143 \pm 0.476$
PRF-fit source offset from KIC position	$1.486 \pm 0.559$	2.66	$-0.867 \pm 0.733$	$1.207 \pm 0.443$
photometric centroid source offset	$0.12 \pm 1.51$	0.08	$-0.06 \pm 1.34$	$-0.11 \pm 1.55$

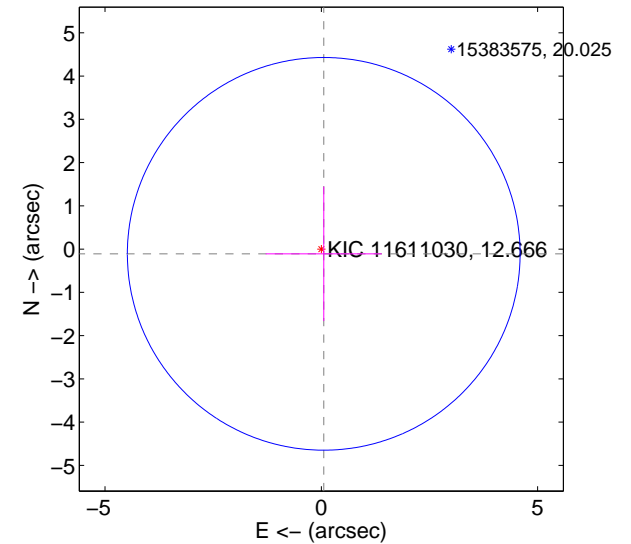
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

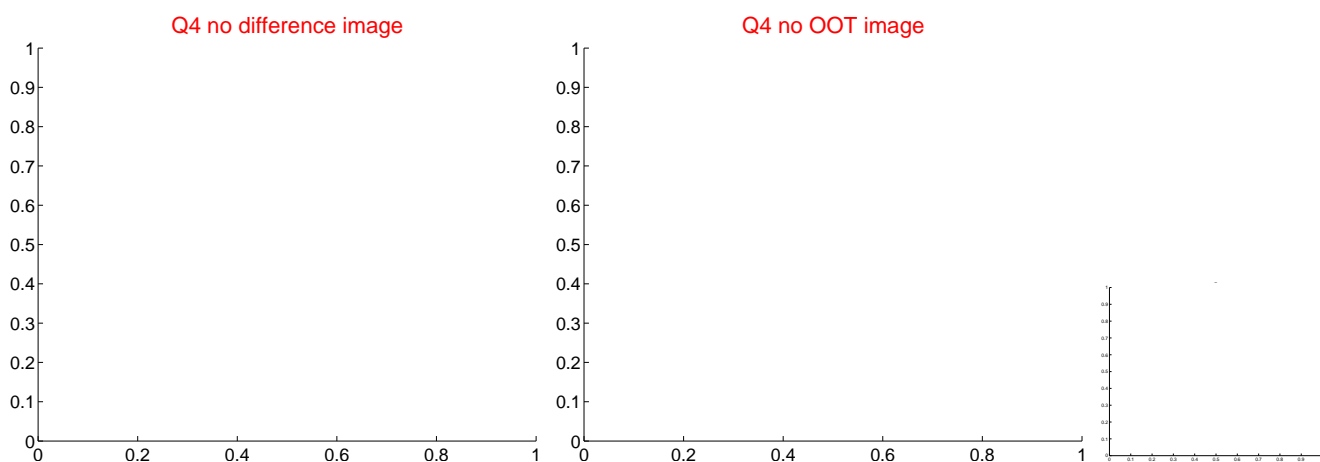
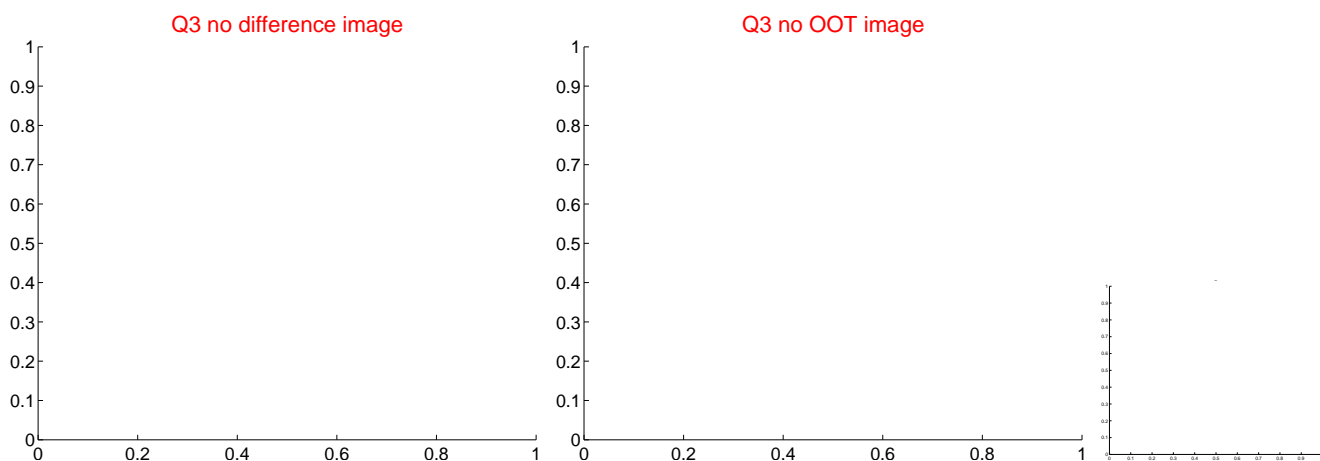
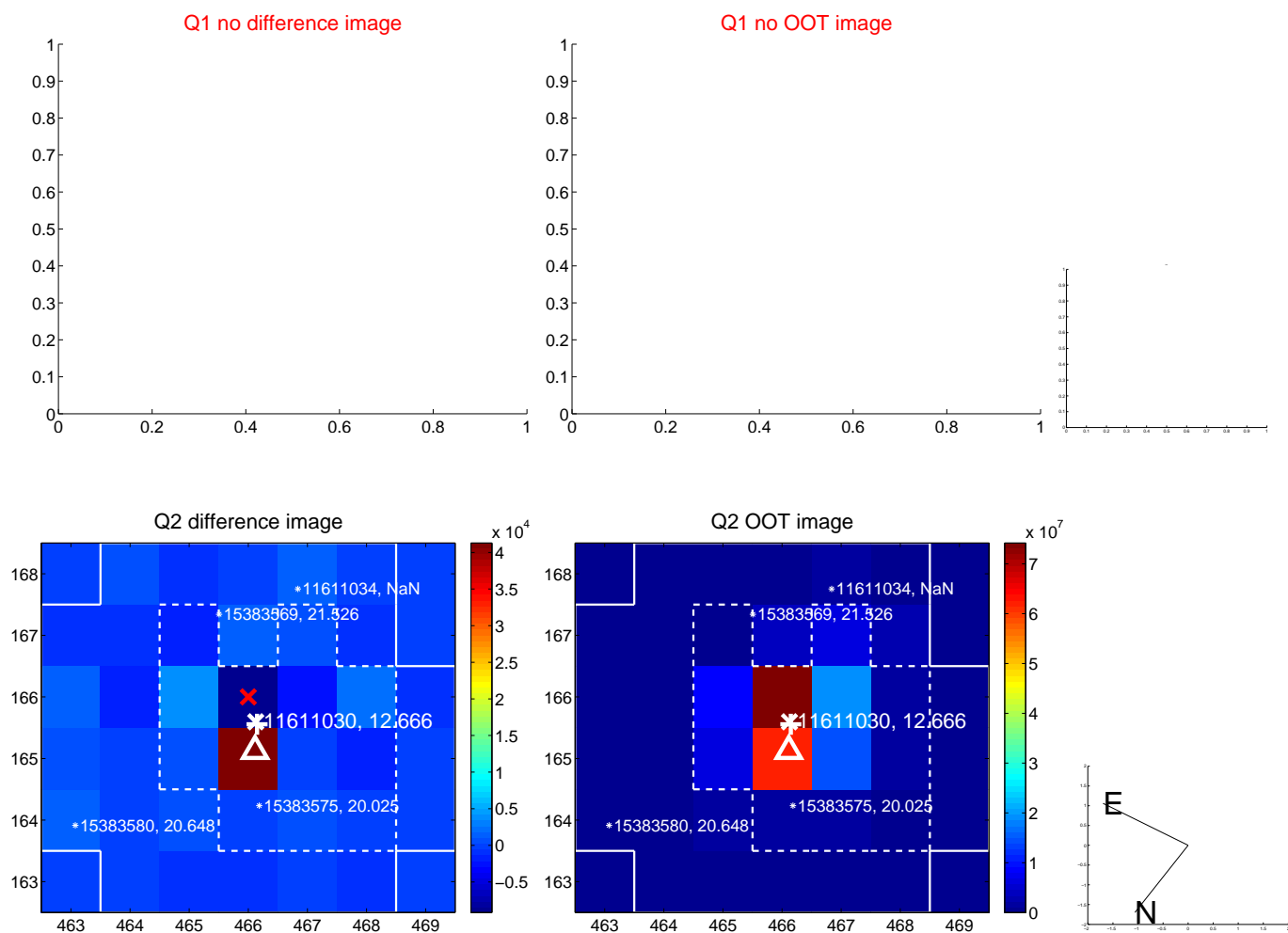


offset from photometric centroids



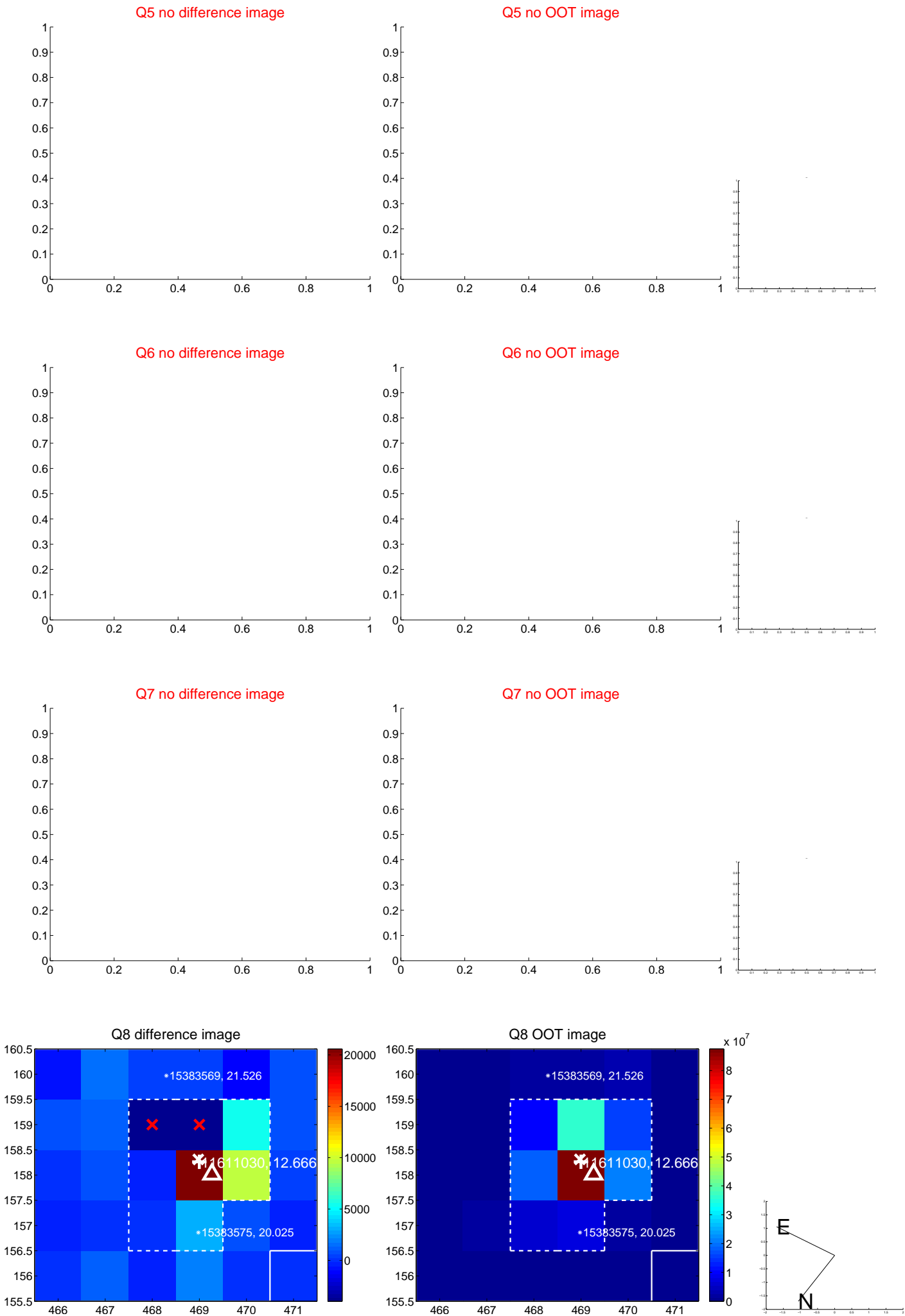
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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





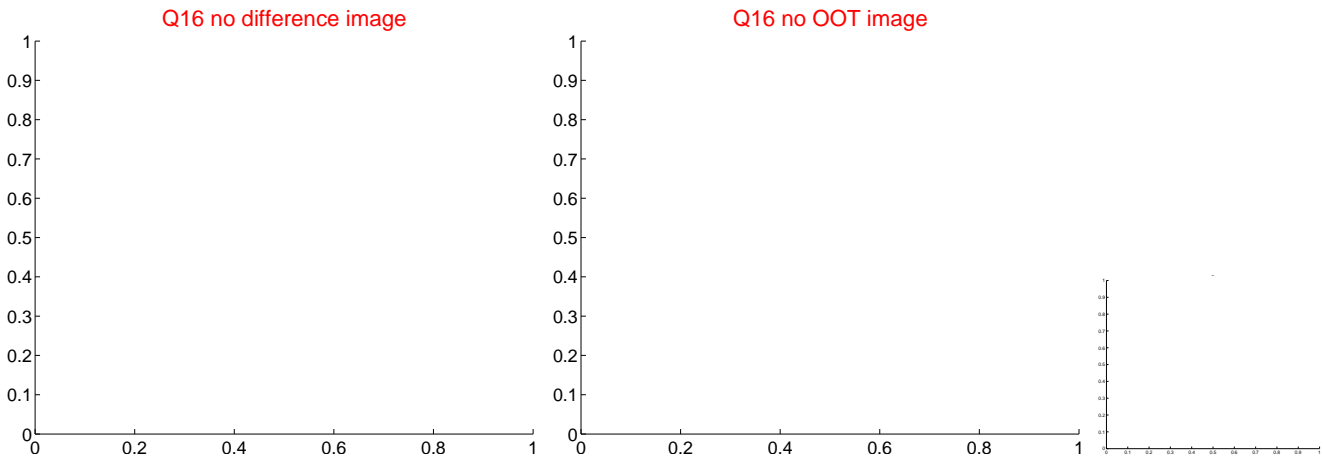
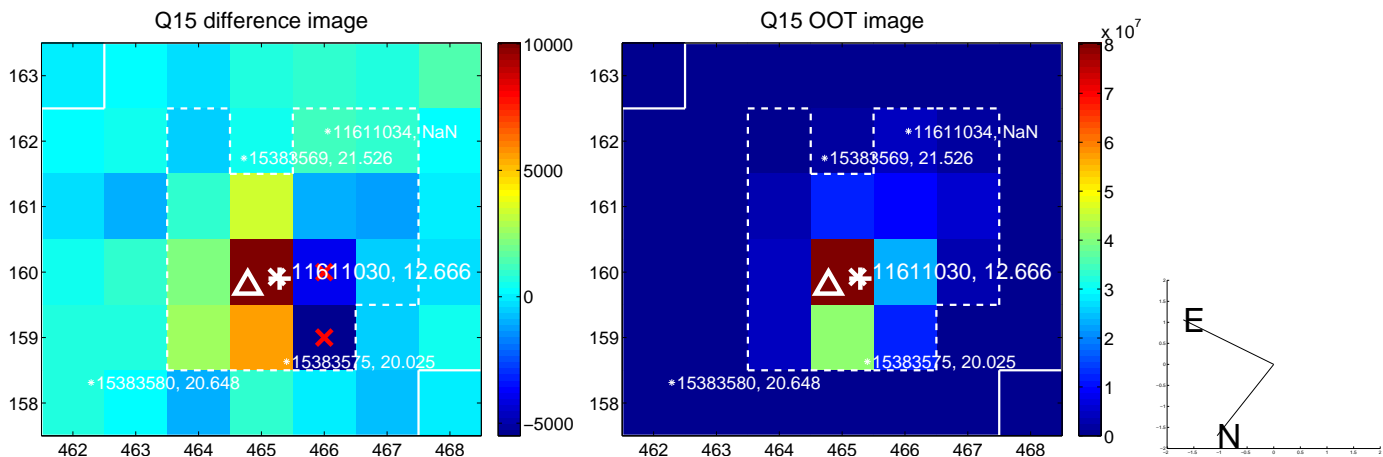
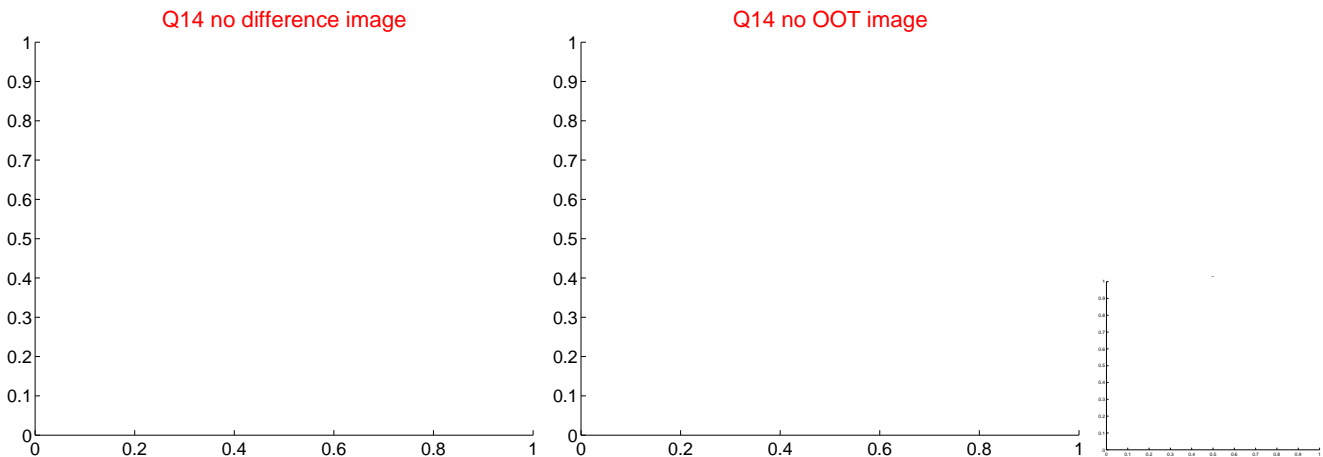
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



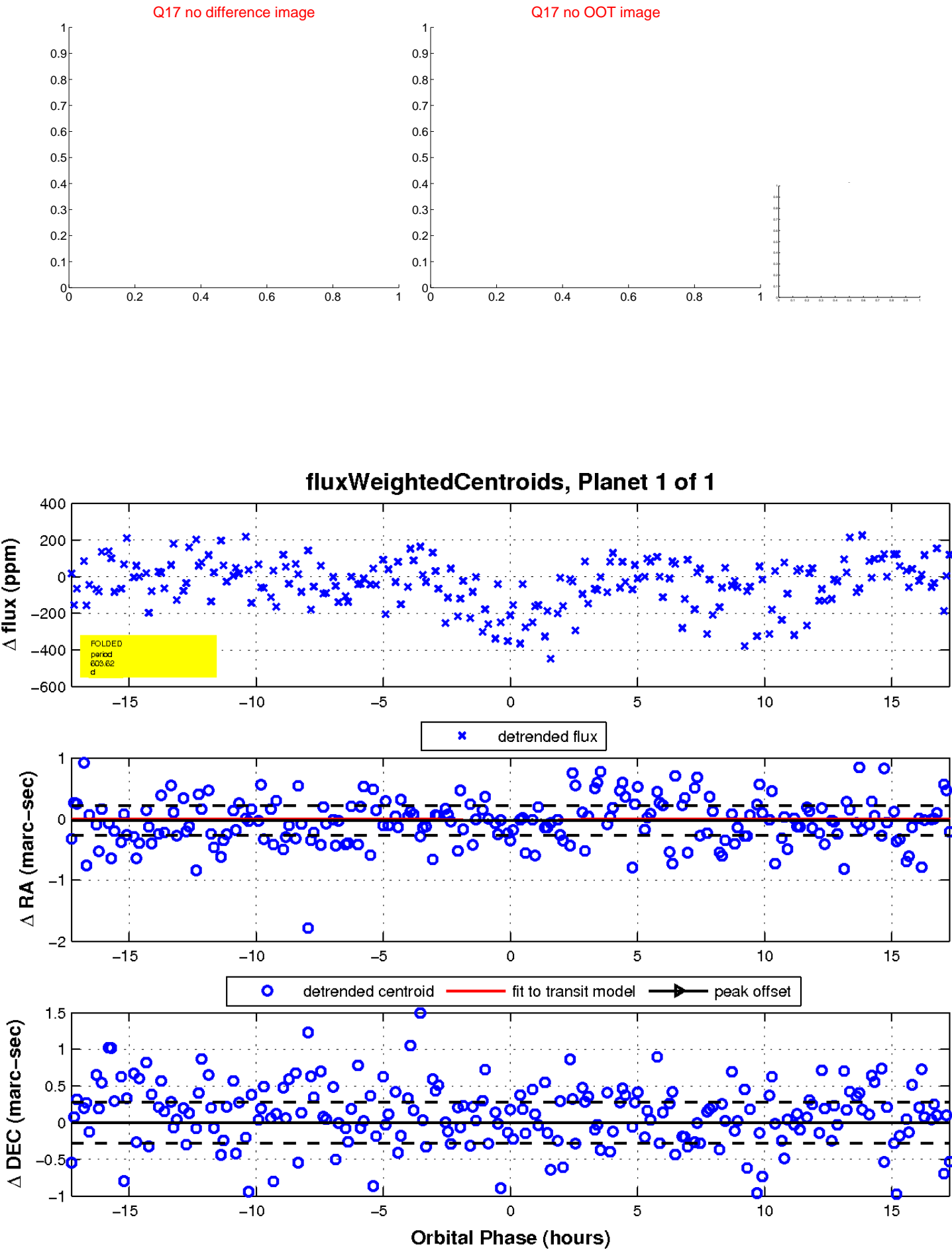
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



This astronomical image shows a field of stars against a dark, noisy background. A blue grid is overlaid on the image. Green text labels provide coordinates: '9:28:10.0' and '08.0' are at the top left; '06.0' is at the top right; '40:40.0' and '50:049:41:00:010.0' are on the right side, oriented vertically. A bright, large star is located near the center of the grid.

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