

# KIC 008885008

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008885008-01	OBS	No	375.522699	137.866279	800.7	6.665	7.2	4.6	0.97	5957	3.04	0.97

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008885008-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—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.

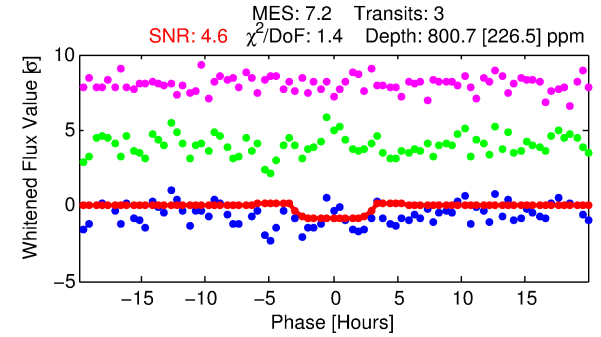
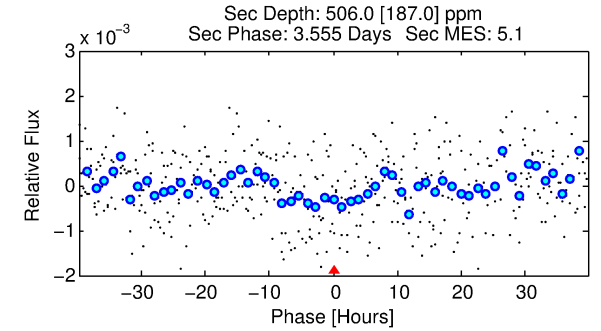
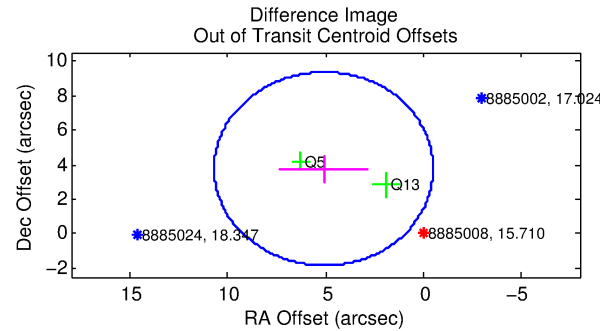
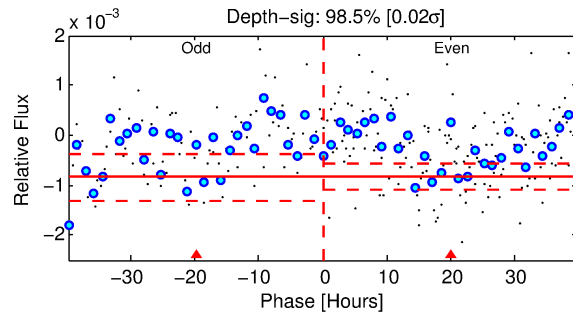
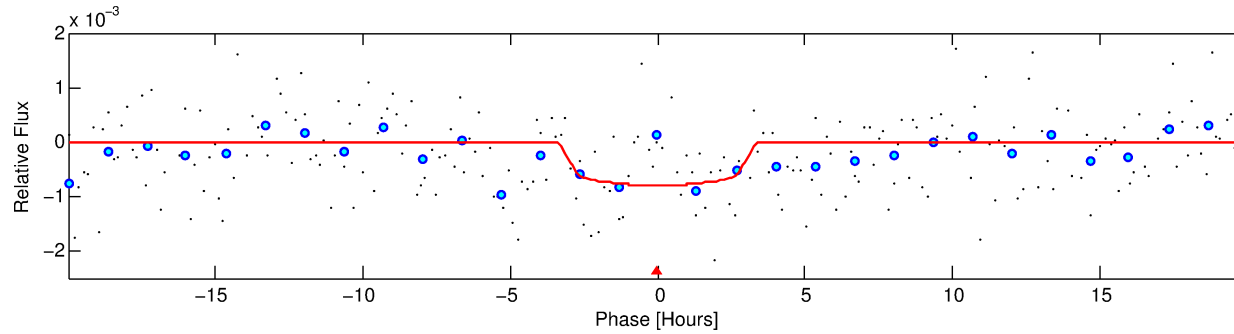
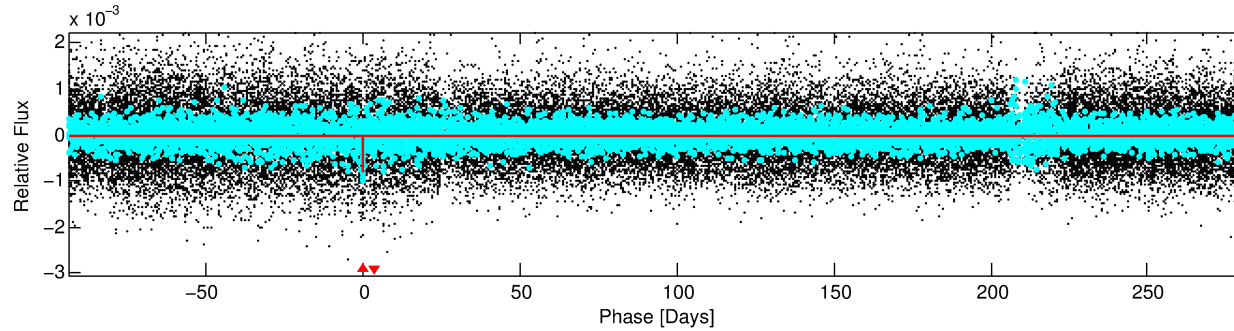
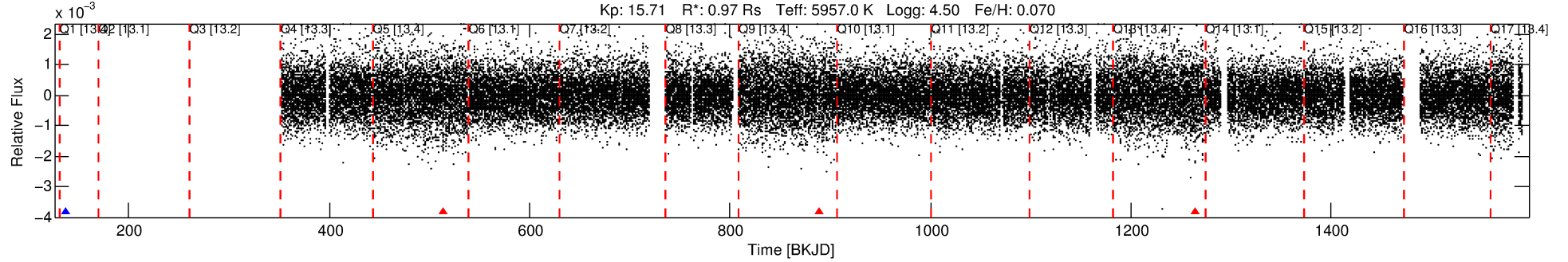
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008885008-01

No Significant Match Found

# DV One-Page Summary

KIC: 8885008 Candidate: 1 of 1 Period: 375.523 d



## DV Fit Results:

Period = 375.52270 [0.01822] d  
Epoch = 137.8663 [0.0388] BKJD  
Rp/R\* = 0.0287 [0.0211]  
a/R\* = 279.40 [918.48]  
b = 0.80 [1.52]  
Seff = 0.97 [0.42]  
Teq = 253 [27] K  
Rp = 3.04 [2.44] Re  
a = 1.0462 [0.2859] AU  
Ag = 32883.55 [51450.31] [0.64σ]  
Teffp = 5271 [2003] K [2.51σ]

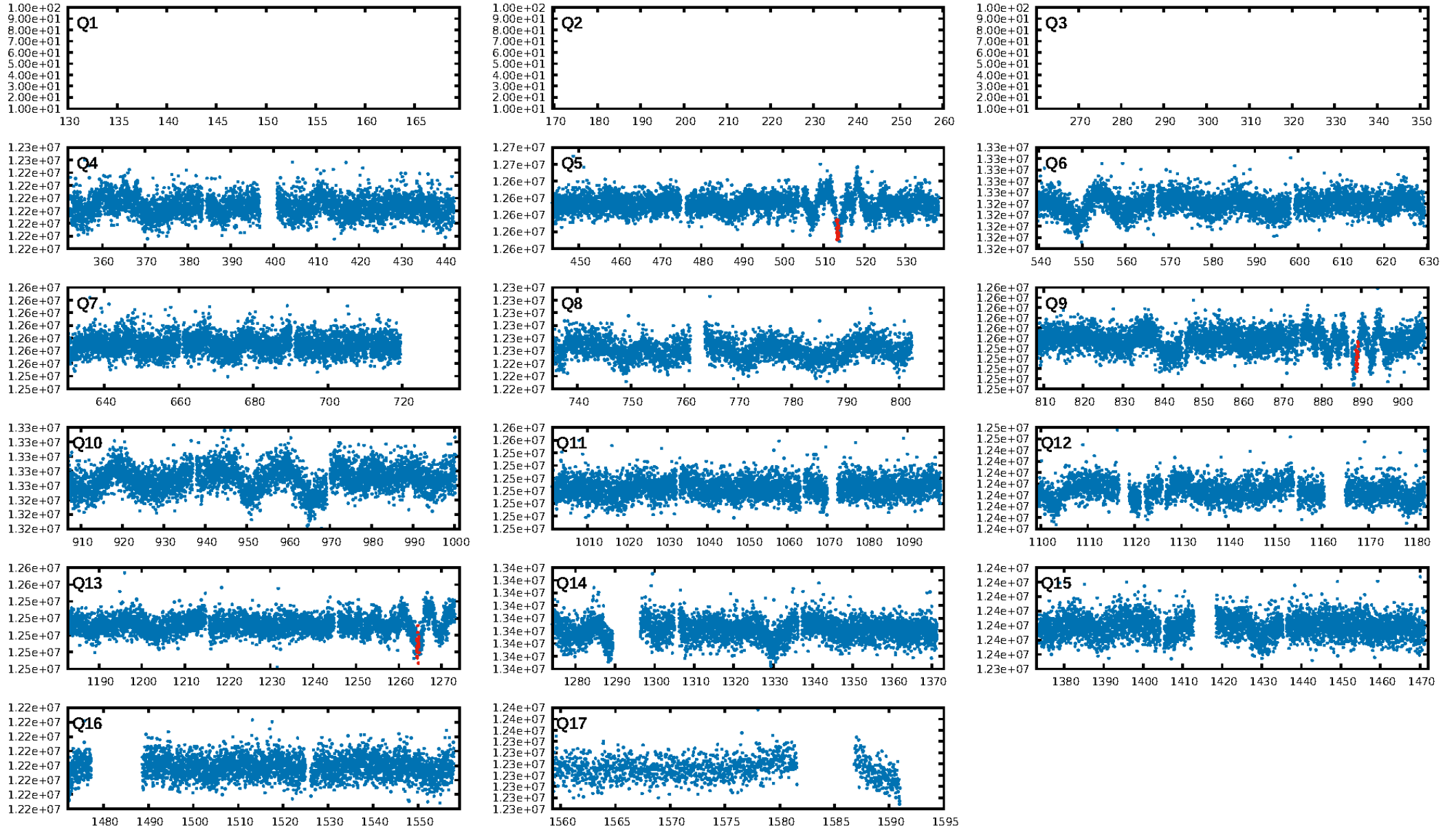
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 65.8%  
ModelChiSquareGof-sig: 88.2%  
Bootstrap-pfa: 3.70e-09  
RollingBand-fgt: 0.00 [0/3]  
GhostDiagnostic-chr: 0.126  
Centroid-sig: 27.9%  
Centroid-so: 3.906 arcsec [1.11σ]  
OotOffset-rm: 6.331 arcsec [3.39σ]  
KicOffset-rm: 6.272 arcsec [3.36σ]  
OotOffset-st: 0/0/0/2 [2]  
KicOffset-st: 0/0/0/2 [2]  
DiffImageQuality-fgm: 0.00 [0/2]  
DiffImageOverlap-fno: 1.00 [3/3]

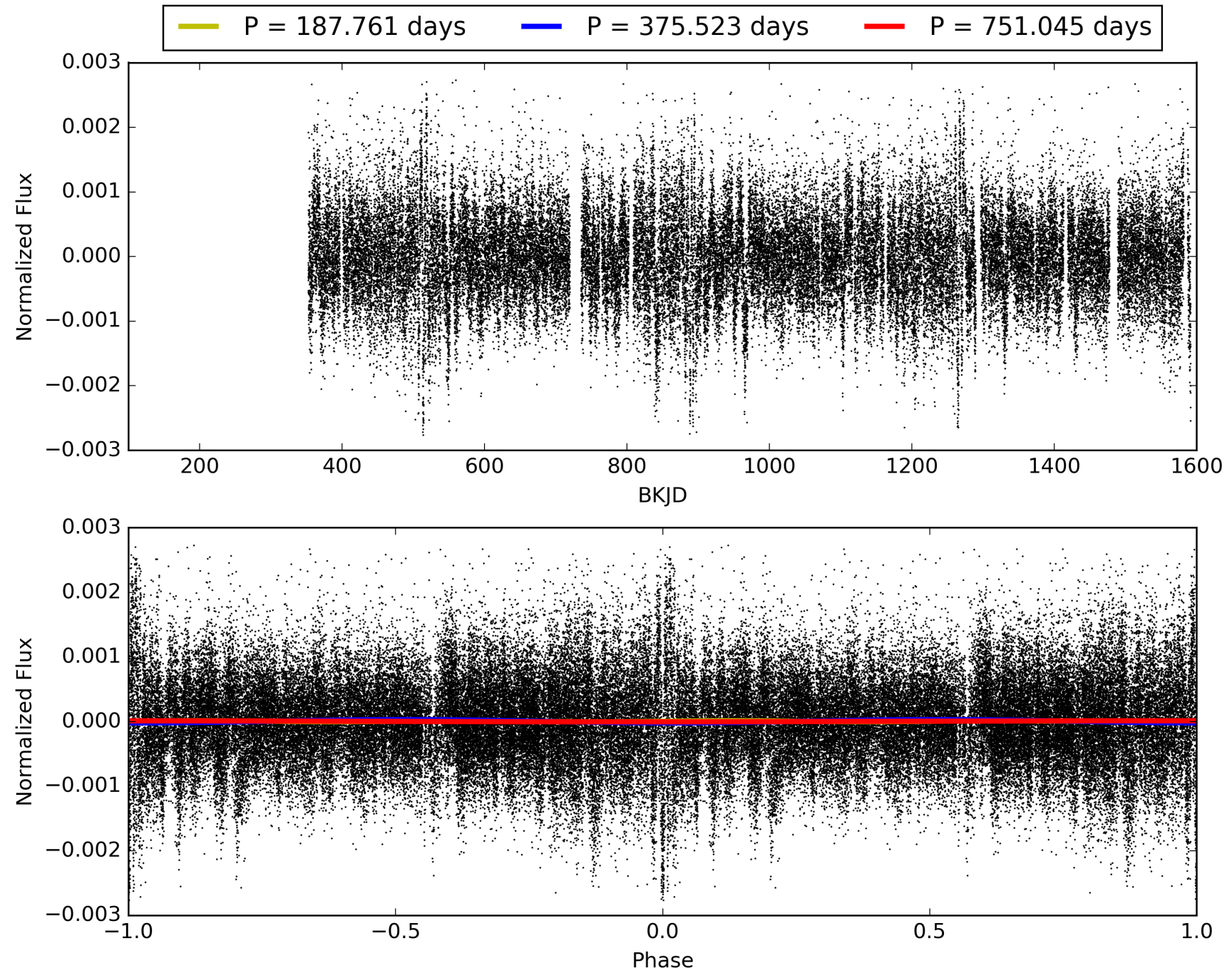
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:49:41 Z

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

# TCE 008885008-01, PDC Light Curves

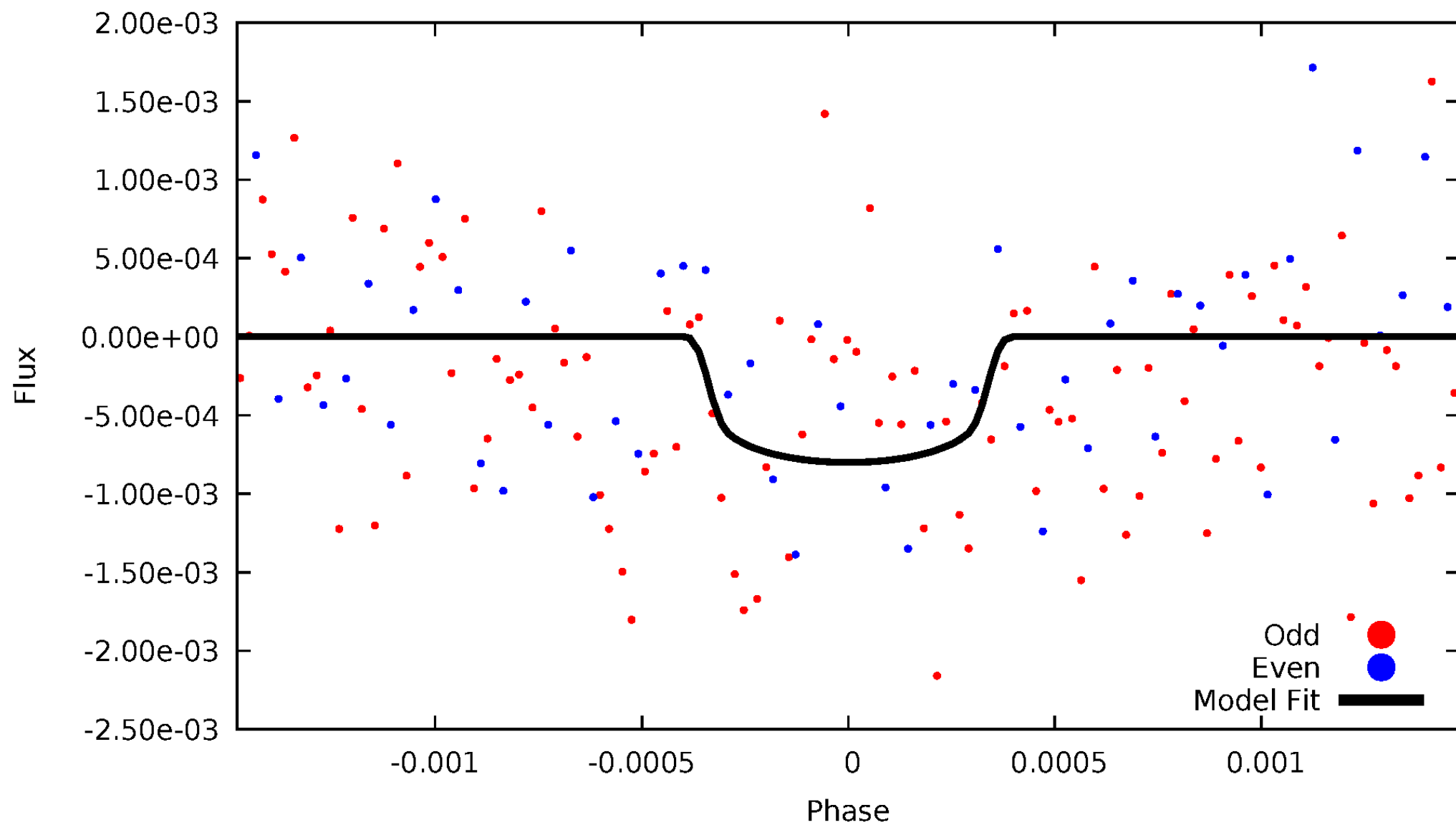


TCE 008885008-01



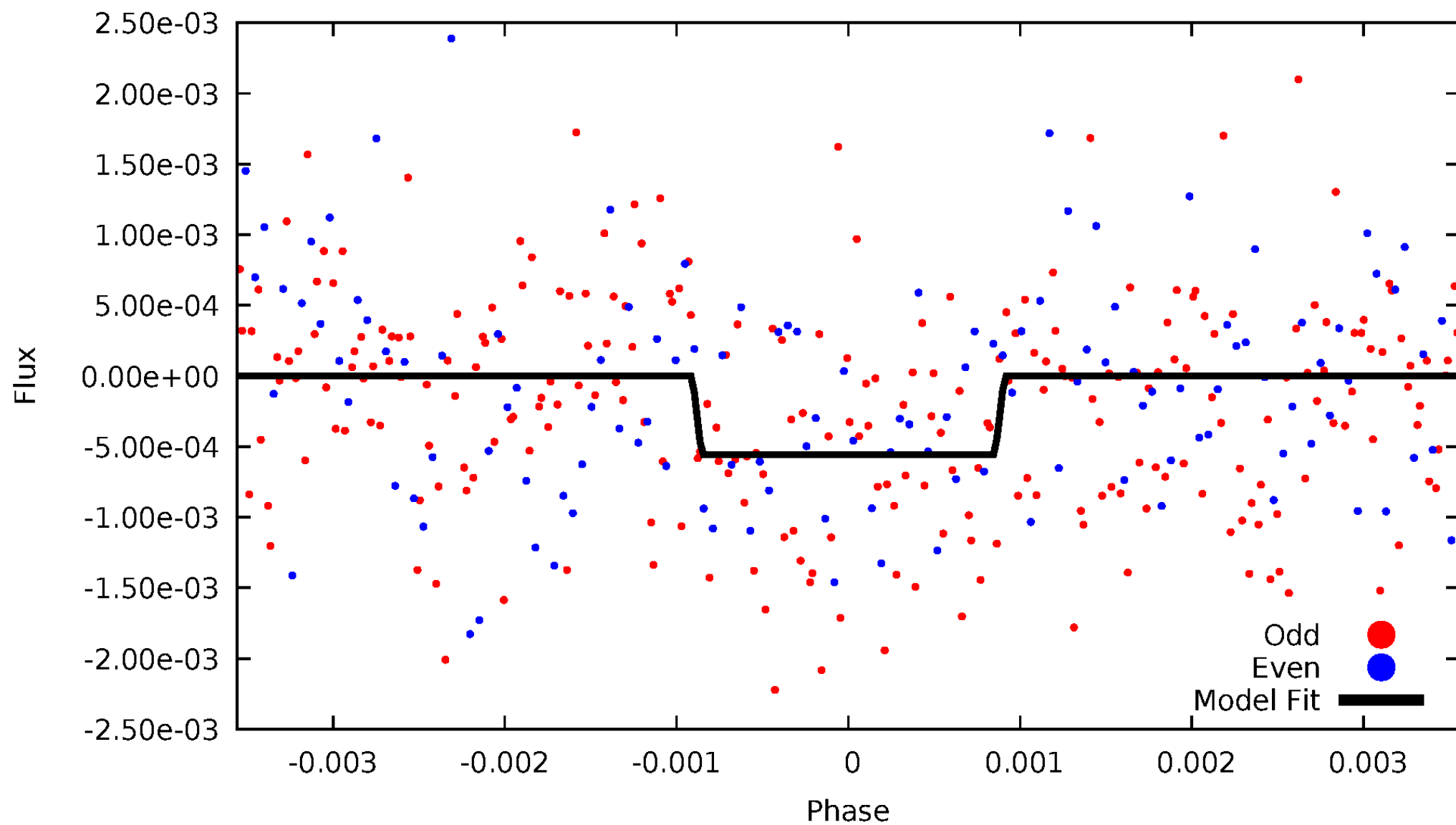
# DV Odd/Even

TCE 008885008-01



# ALT Odd/Even

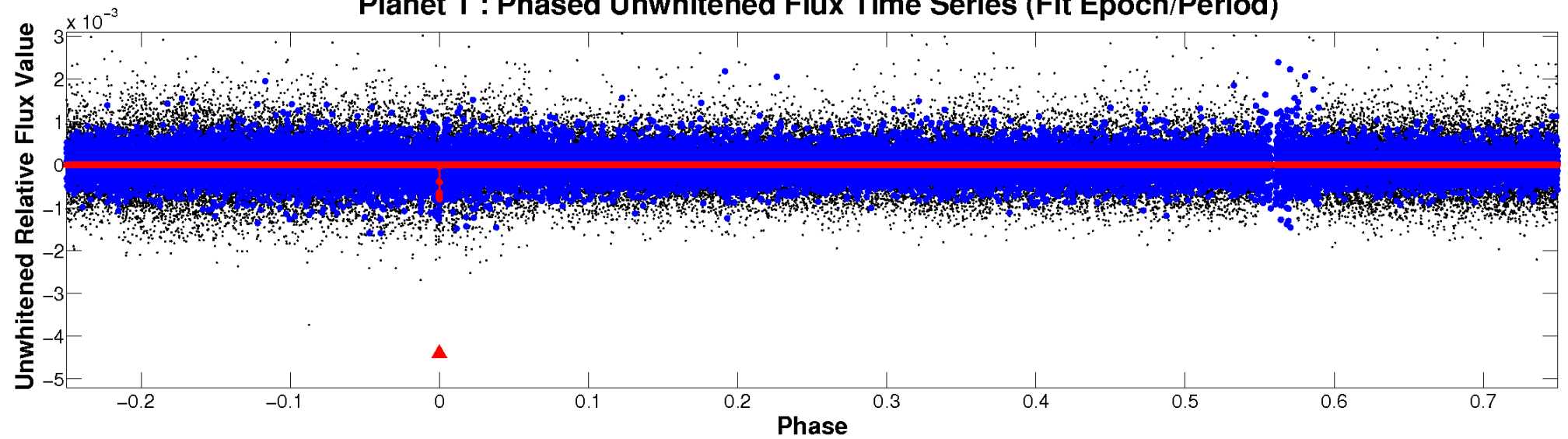
TCE 008885008-01



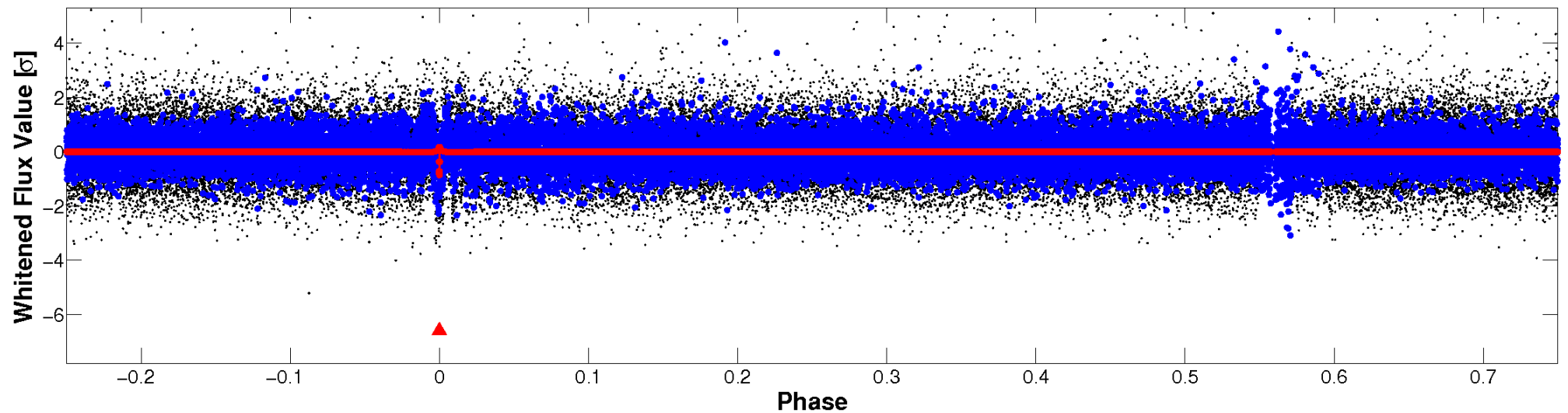


# Non-Whitened Vs. Whitened Light Curve

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

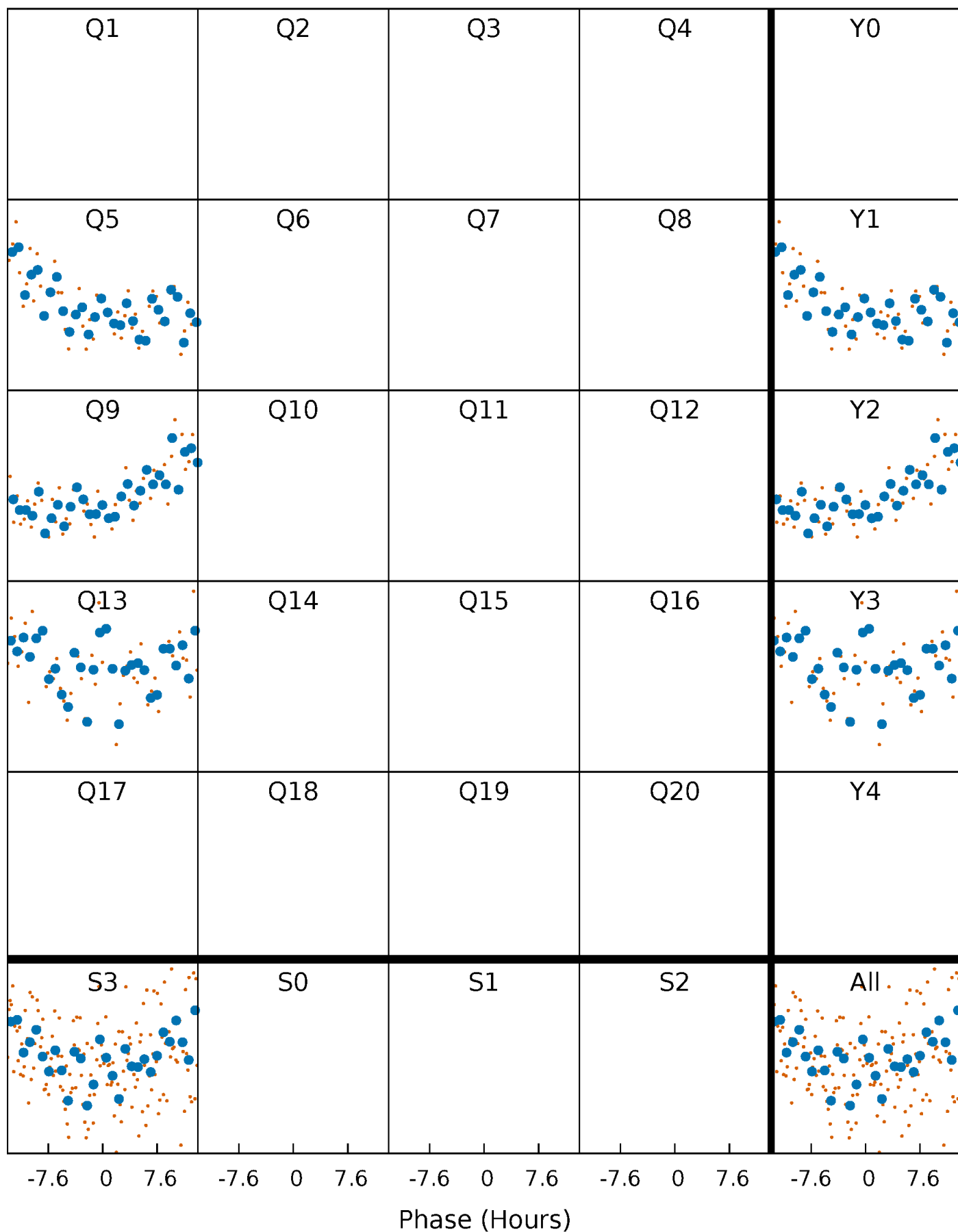


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

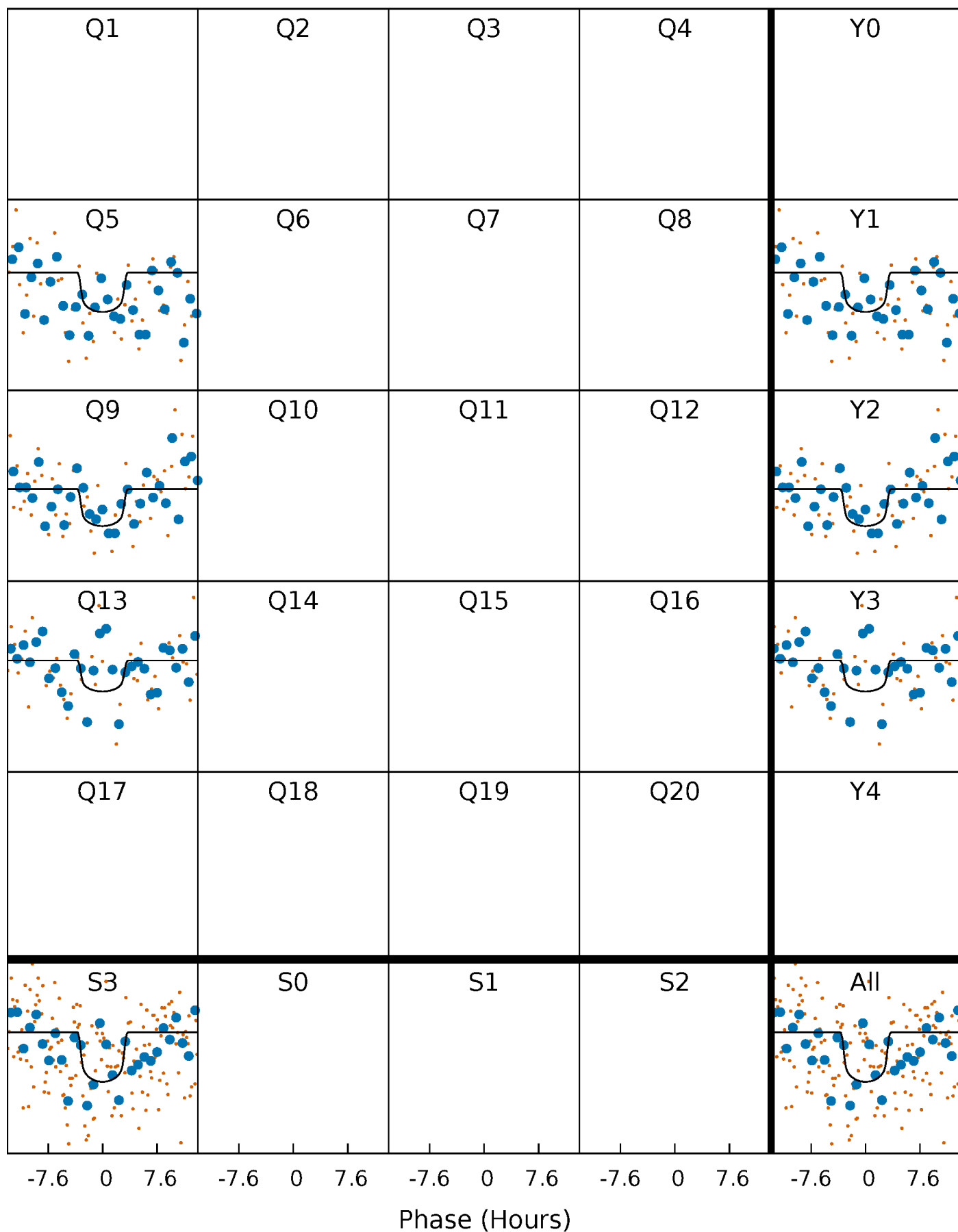
TCE 008885008-01 P=375.522699 Days  $T_0=137.866279$  (BKJD)





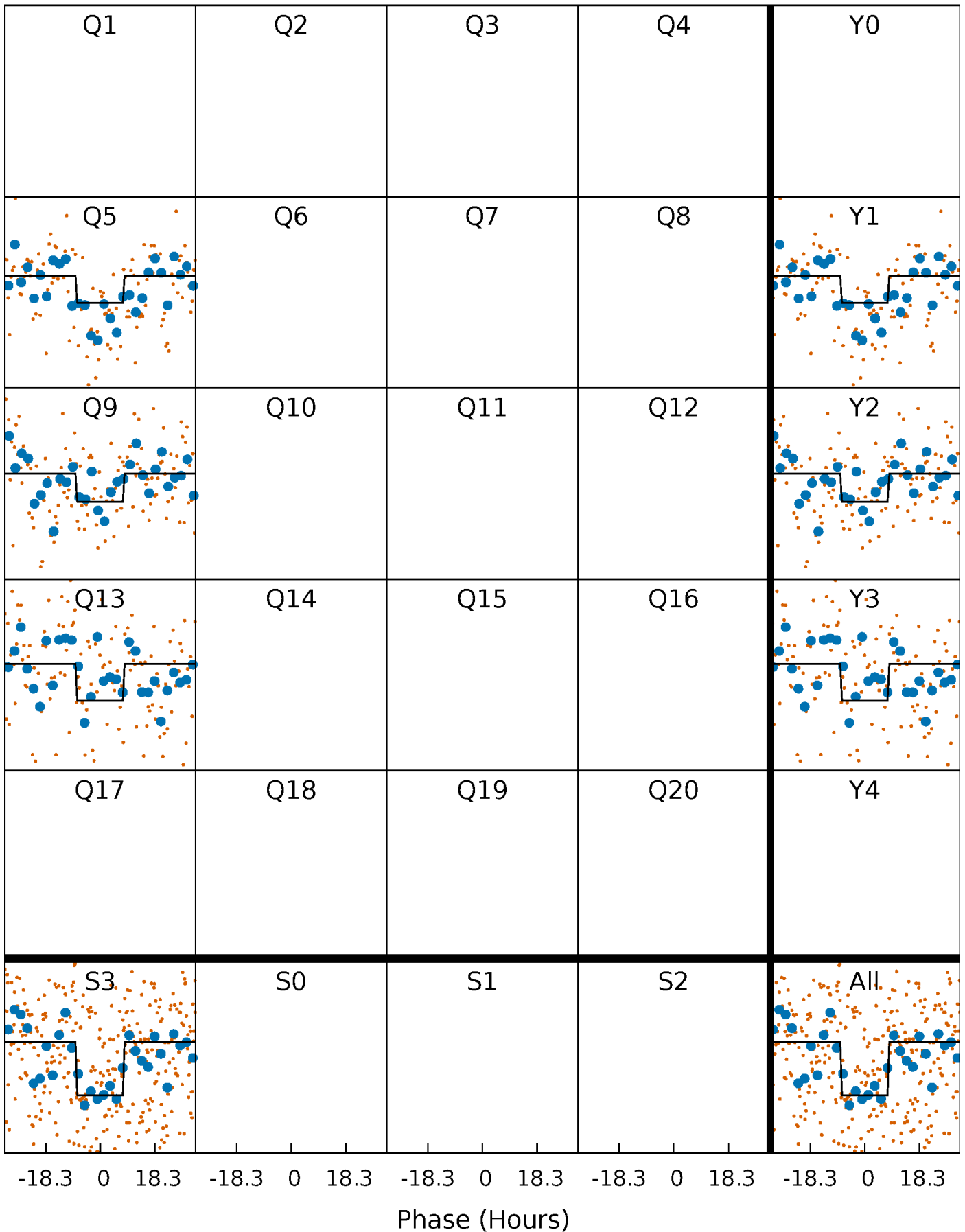
# DV Quarter-Phased Transit Curves

TCE 008885008-01 P=375.522699 Days  $T_0=137.866279$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

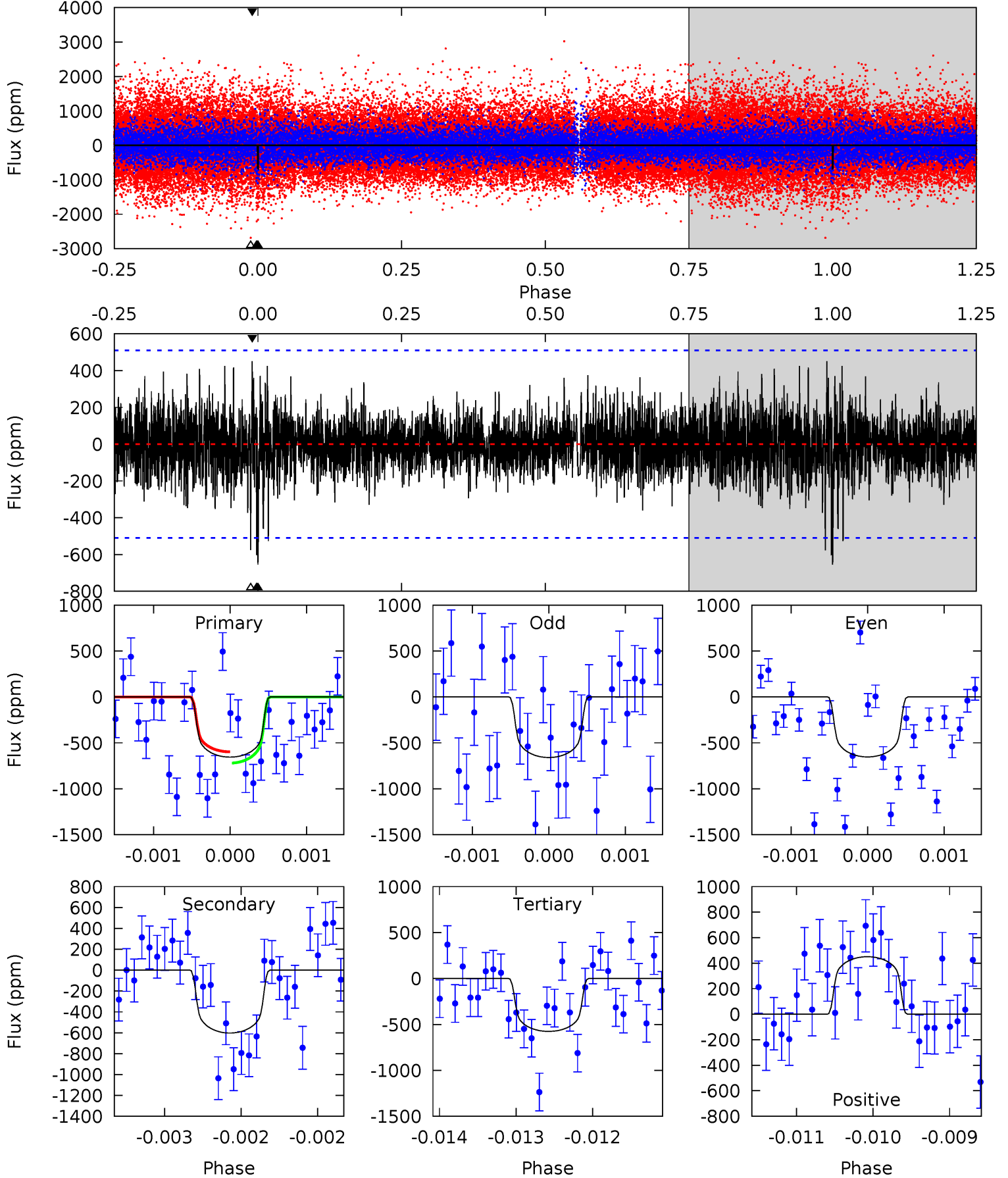
TCE 008885008-01 P=375.541588 Days  $T_0=137.810769$  (BKJD)



# DV Model-Shift Uniqueness Test

008885008-01,  $P = 375.522699$  Days,  $E = 137.866279$  Days

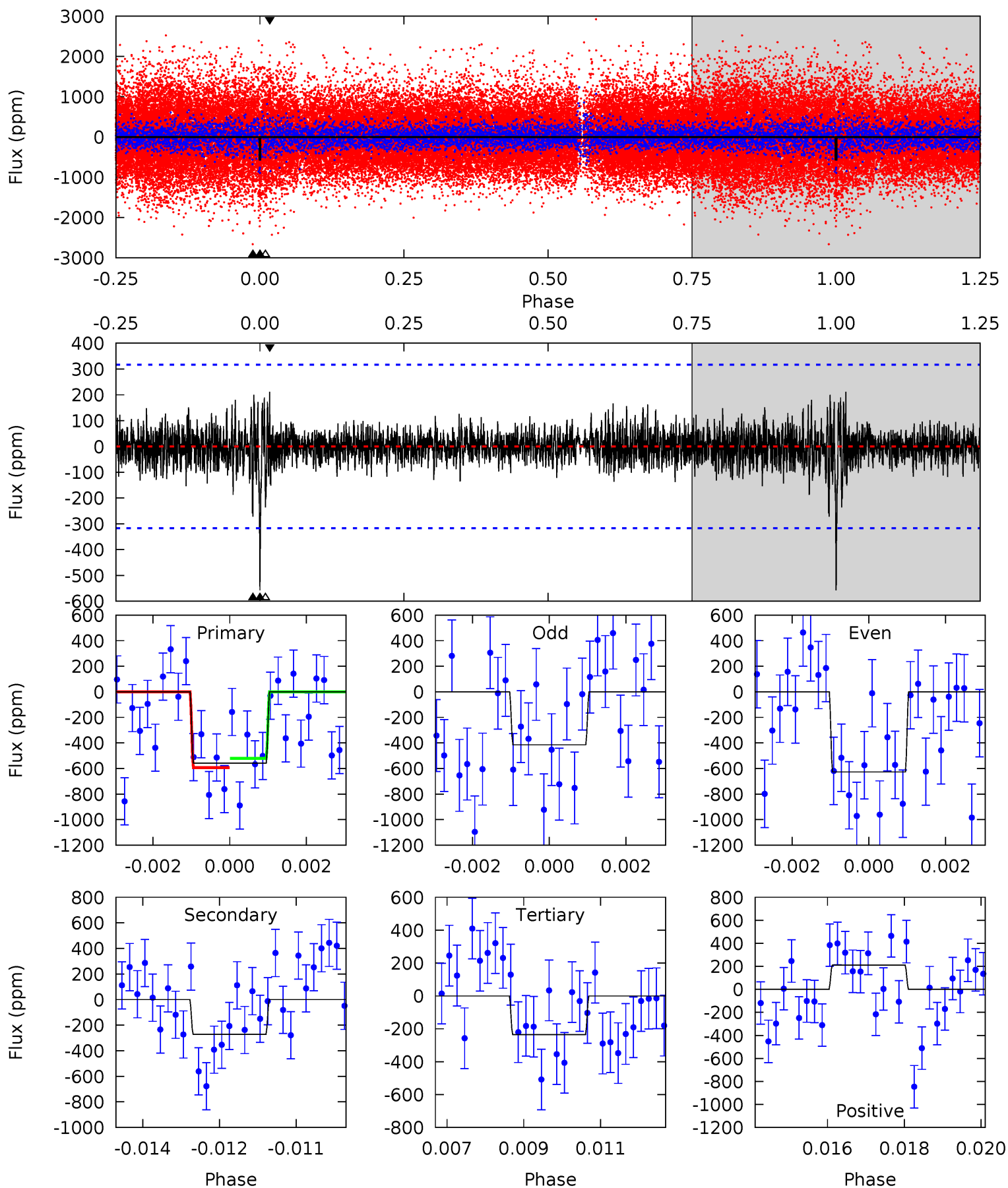
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.06	6.50	6.21	4.86	5.50	3.37	1.19	0.86	2.21	0.29	1.64	0.03	0.99	0.41	0.66



# Alt Model-Shift Uniqueness Test

008885008-01, P = 375.541588 Days, E = 137.810769 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
9.42	4.59	3.98	3.56	5.35	3.13	0.80	5.44	5.86	0.61	1.03	1.69	1.34	0.27	0.61



### Stellar Parameters For KIC 008885008

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5957^{+184}_{-226}$	$4.498^{+0.039}_{-0.221}$	$0.070^{+0.250}_{-0.300}$	$0.971^{+0.312}_{-0.083}$	$1.083^{+0.127}_{-0.140}$	$1.665^{+0.363}_{-0.953}$
	+3%/-4%	+1%/-5%	+357%/-429%	+32%/-9%	+12%/-13%	+22%/-57%
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 008885008-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-603 \pm 93$	$3.38^{+2.40}_{-2.02}$	$360^{+28}_{-17}$	$5424^{+3383}_{-1127}$	$31840^{+156401}_{-20985}$
Alt.	$-272 \pm 59$	$2.97^{+2.19}_{-1.86}$	$362^{+24}_{-18}$	$4781^{+3327}_{-911}$	$18204^{+123242}_{-12431}$

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

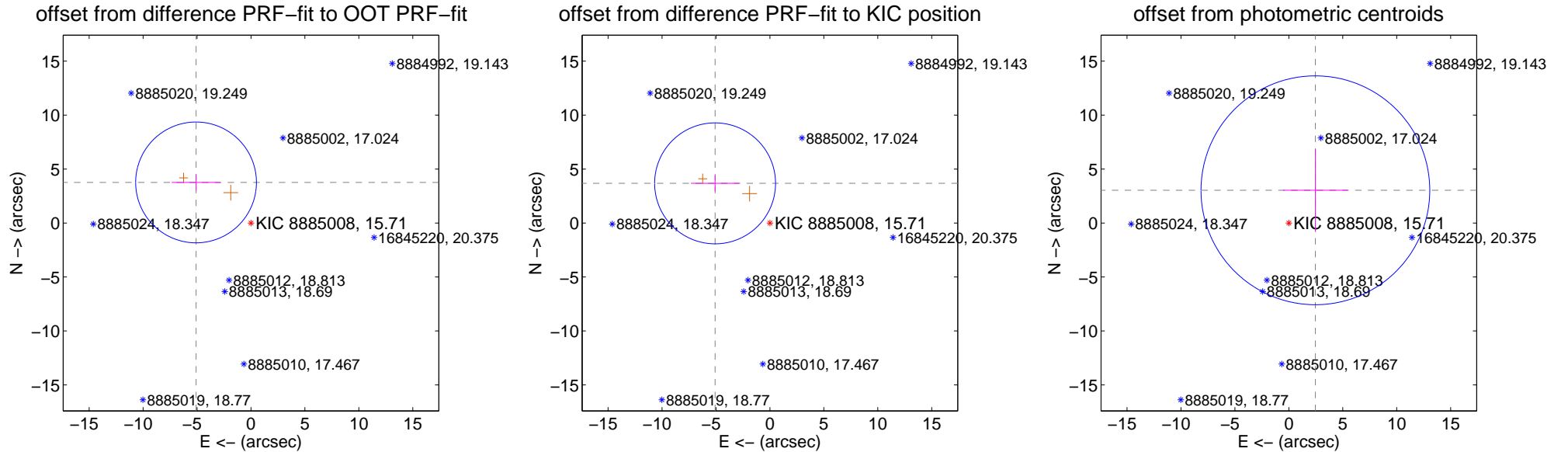
## DV Centroid Data

Supplemental centroid analysis for 008885008-01. Kepler magnitude: 15.71. Transit SNR 4.59

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	6.331 $\pm$ 1.866	3.39	5.092 $\pm$ 2.255	3.761 $\pm$ 0.739
PRF-fit source offset from KIC position	6.272 $\pm$ 1.868	3.36	5.083 $\pm$ 2.242	3.676 $\pm$ 0.745
photometric centroid source offset	3.91 $\pm$ 3.53	1.11	-2.46 $\pm$ 3.00	3.03 $\pm$ 3.84



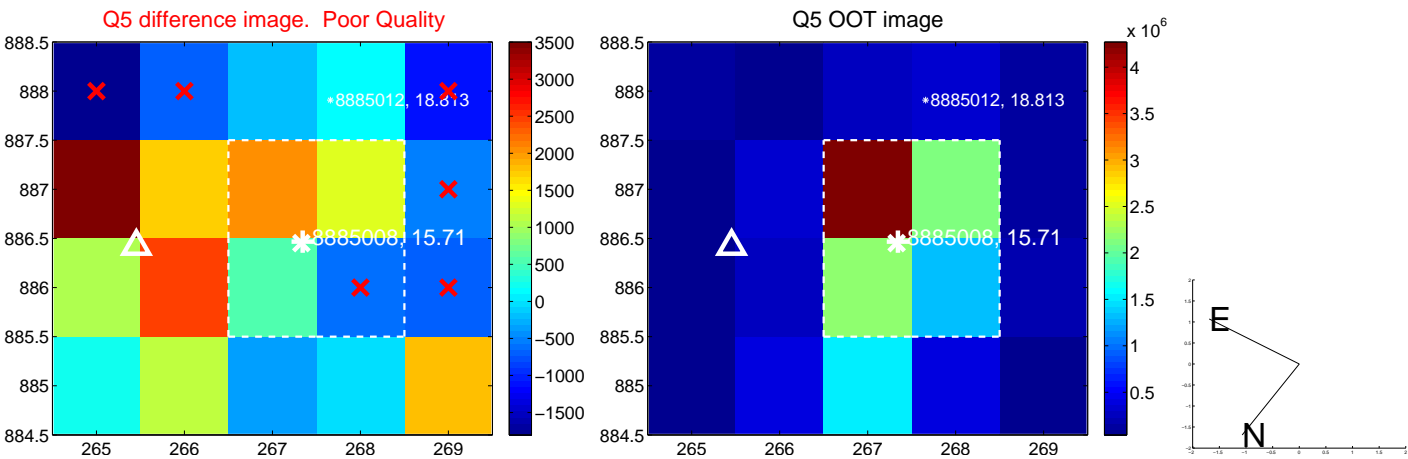
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

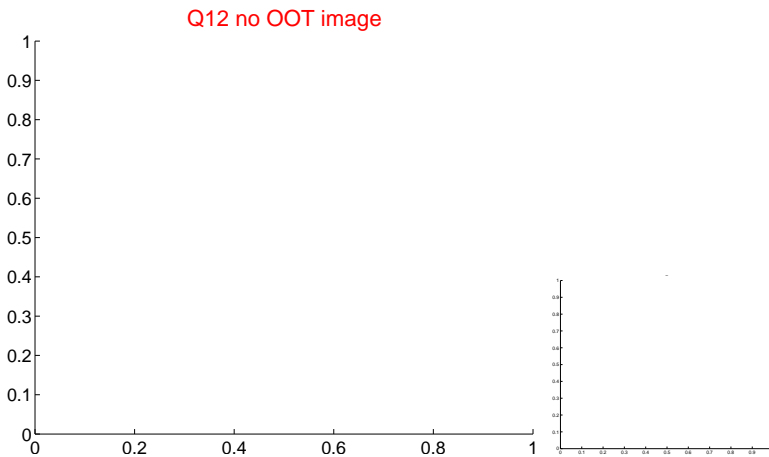
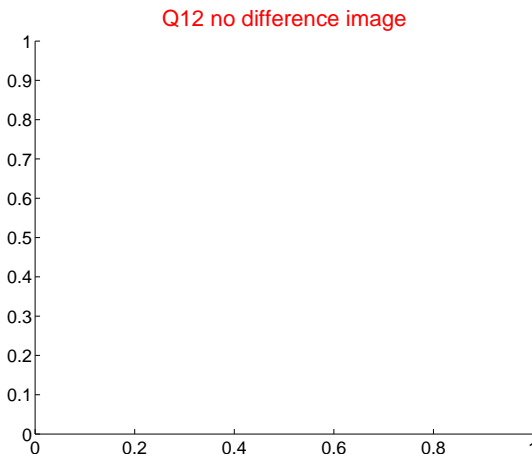
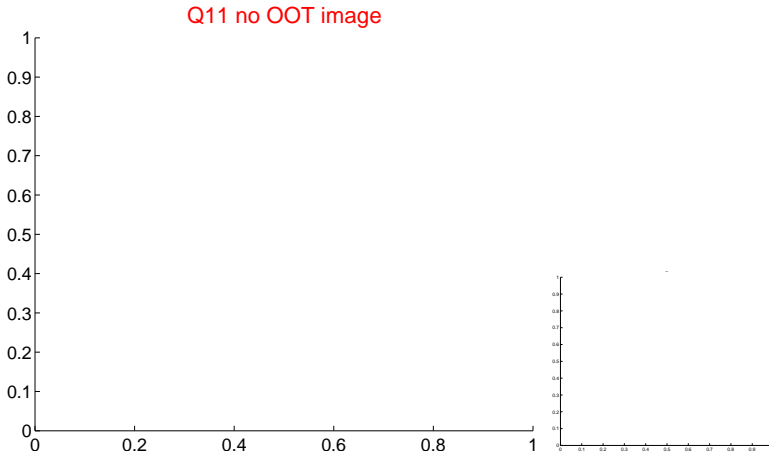
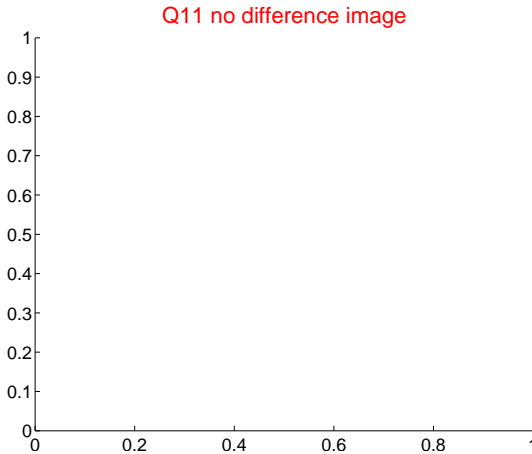
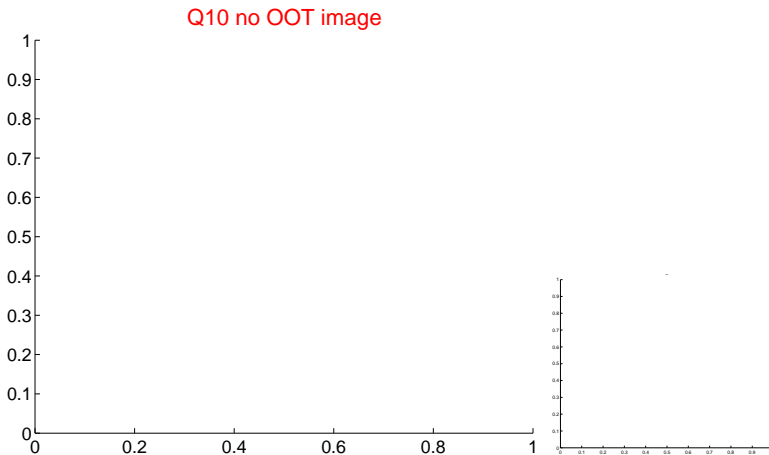
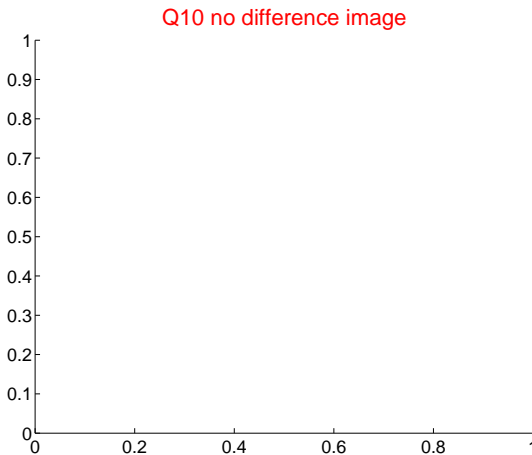
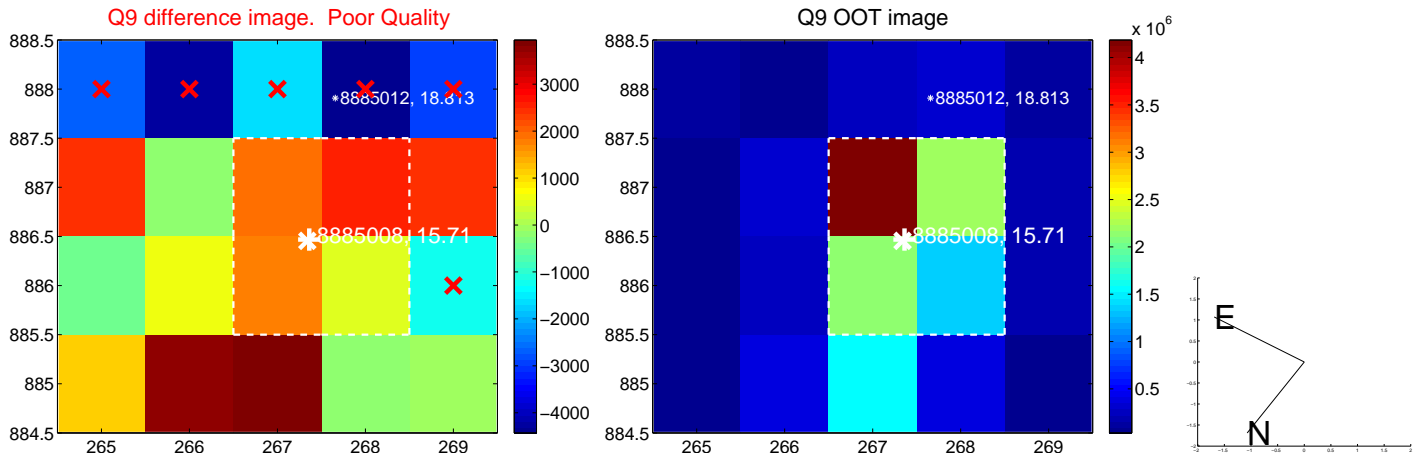




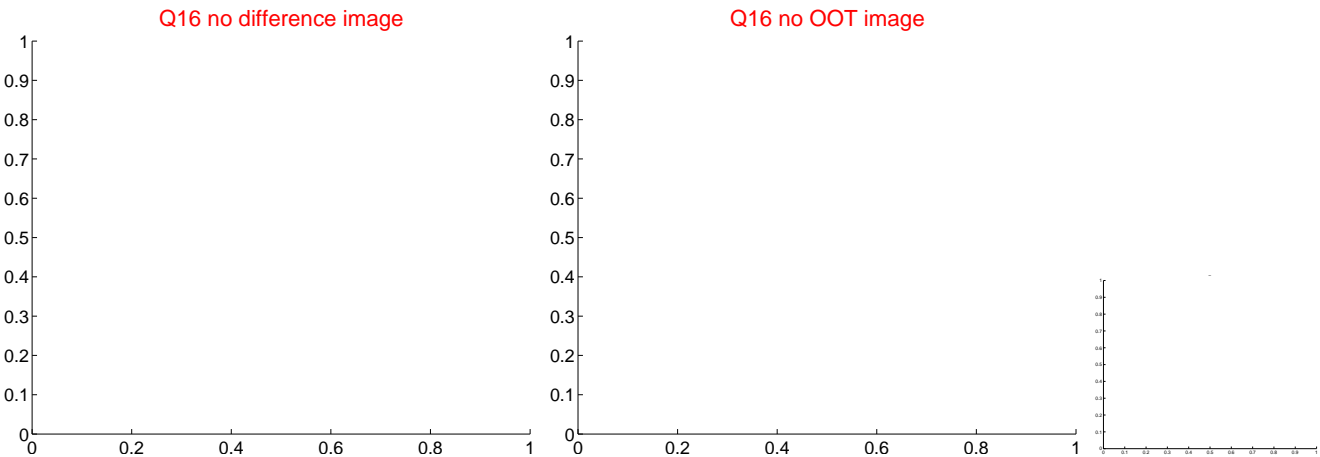
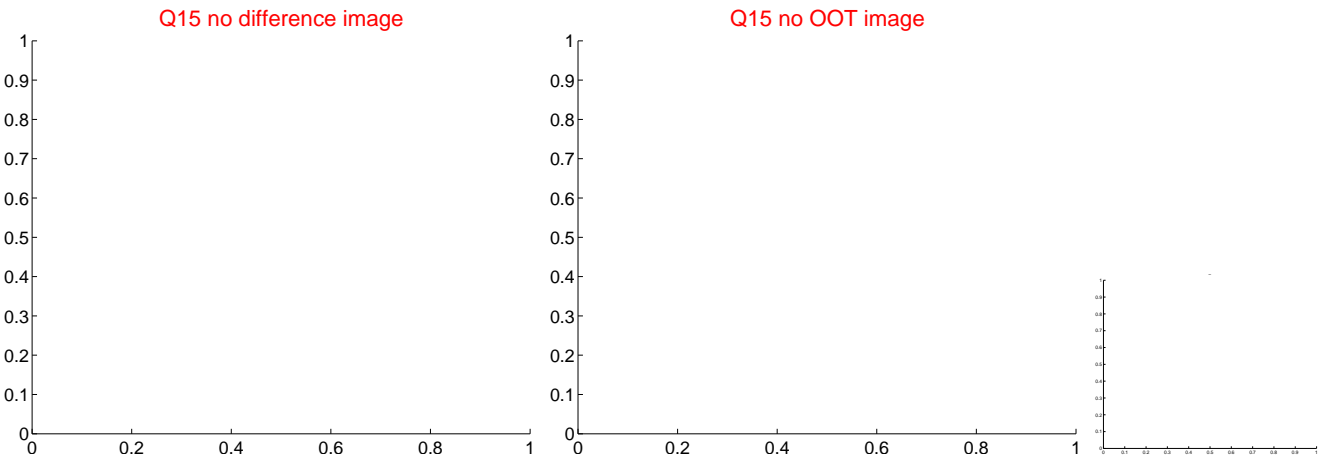
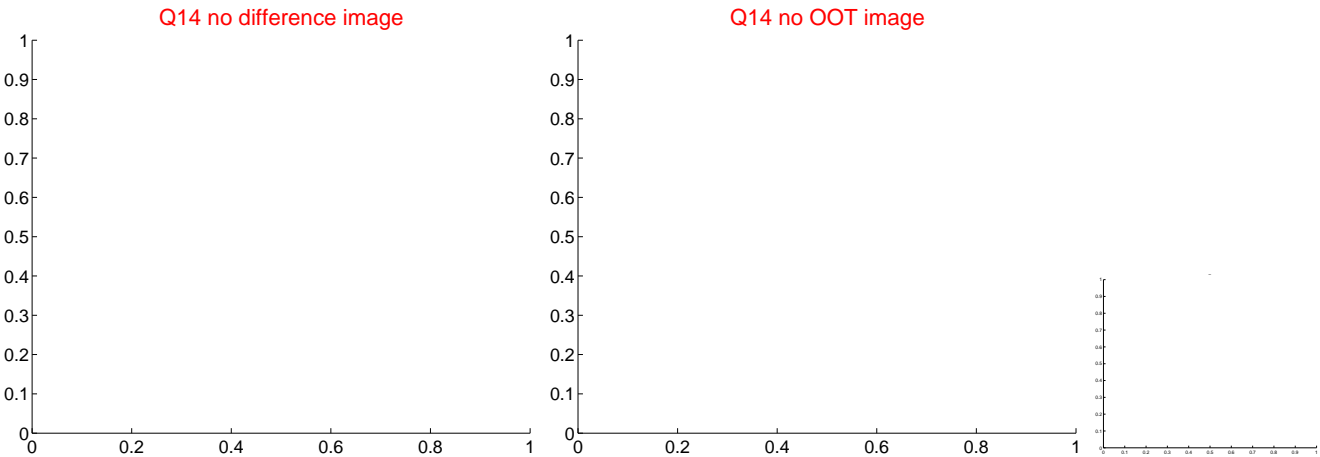
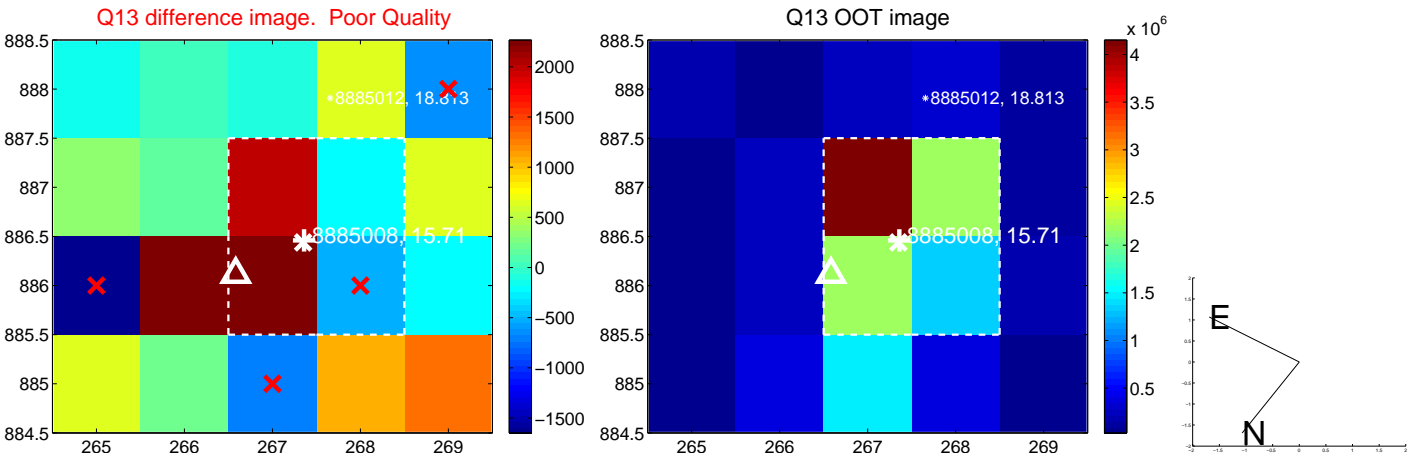
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



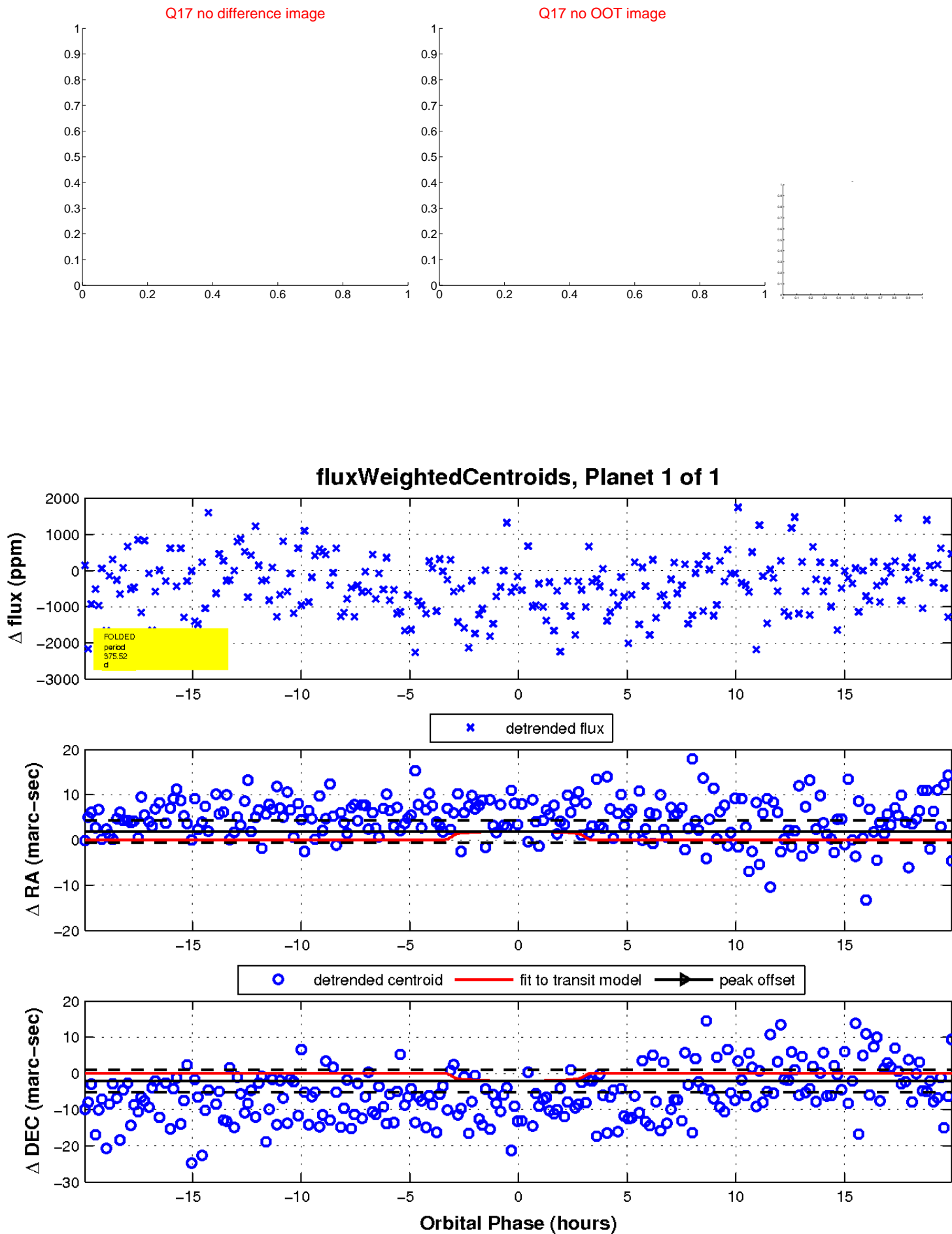
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



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



UKIRT Image

Declination

