

# KIC 006200737

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006200737-01	OBS	No	362.431515	164.194308	531.4	21.398	7.5	7.0	1.05	5657	2.50	1.07

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006200737-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE--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.

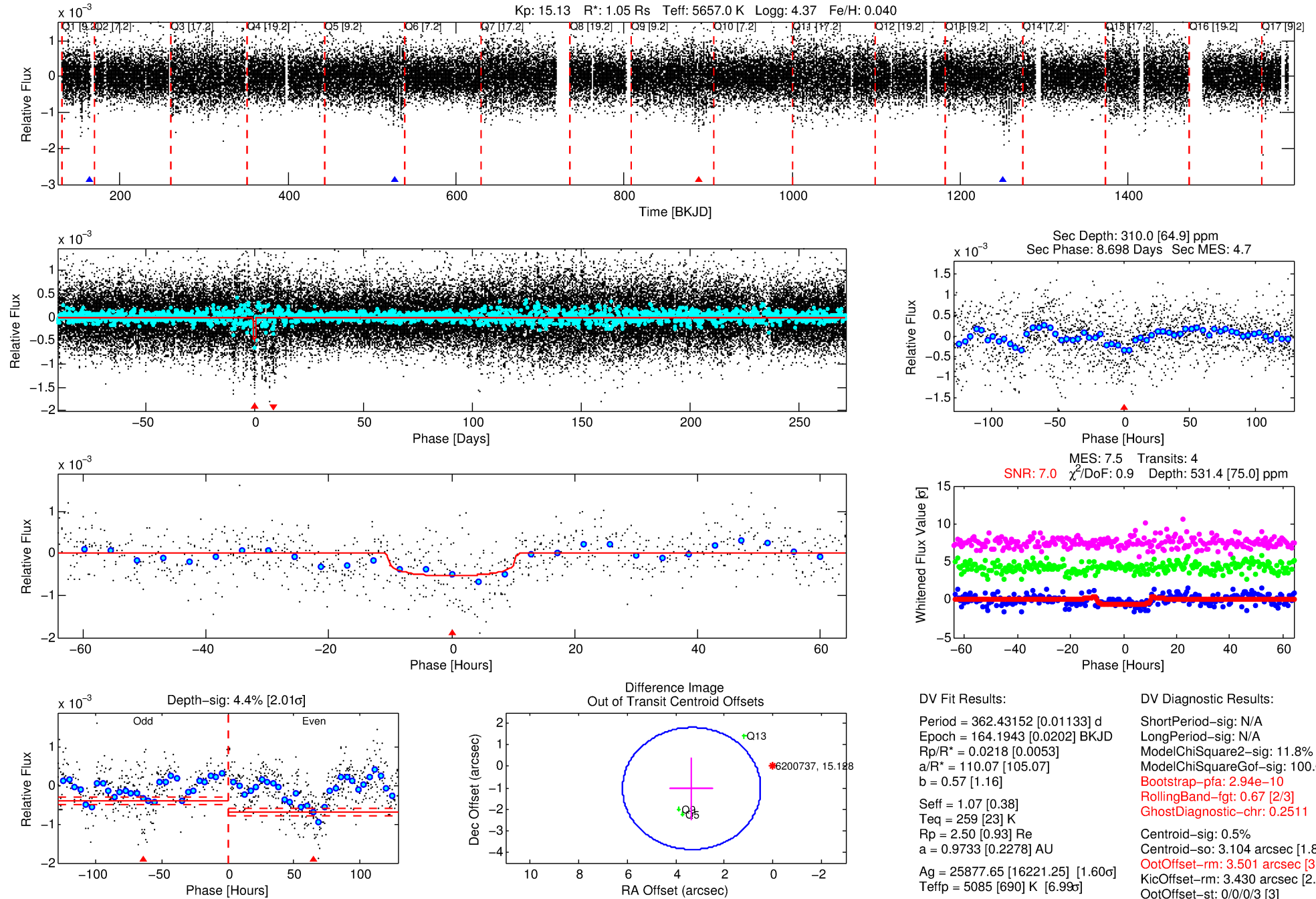
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006200737-01

No Significant Match Found

# DV One-Page Summary

KIC: 6200737 Candidate: 1 of 1 Period: 362.432 d



## DV Fit Results:

Period = 362.43152 [0.01133] d  
Epoch = 164.1943 [0.0202] BKJD  
Rp/R\* = 0.0218 [0.0053]  
a/R\* = 110.07 [105.07]  
b = 0.57 [1.16]  
Seff = 1.07 [0.38]  
Teq = 259 [23] K  
Rp = 2.50 [0.93] Re  
a = 0.9733 [0.2278] AU  
Ag = 25877.65 [16221.25] [1.60 $\sigma$ ]  
Teffp = 5085 [690] K [6.99 $\sigma$ ]

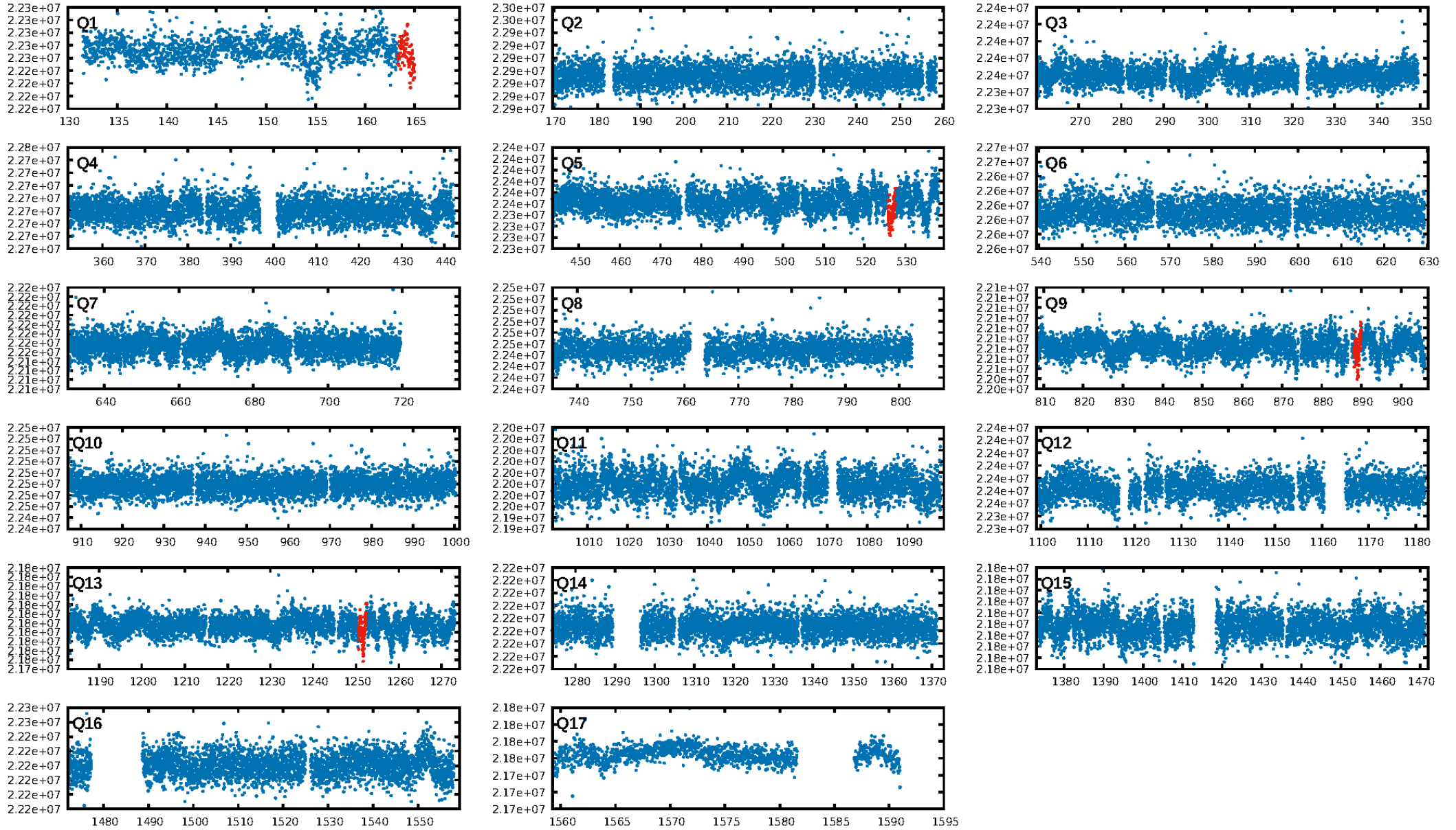
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 11.8%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 2.94e-10  
RollingBand-fgt: 0.67 [2/3]  
GhostDiagnostic-chr: 0.2511  
Centroid-sig: 0.5%  
Centroid-so: 3.104 arcsec [1.89 $\sigma$ ]  
OotOffset-rm: 3.501 arcsec [3.70 $\sigma$ ]  
KicOffset-rm: 3.430 arcsec [2.97 $\sigma$ ]  
OotOffset-st: 0/0/0/3 [3]  
KicOffset-st: 0/0/0/3 [3]  
DiffImageQuality-fgm: 0.67 [2/3]  
DiffImageOverlap-fno: 1.00 [3/3]

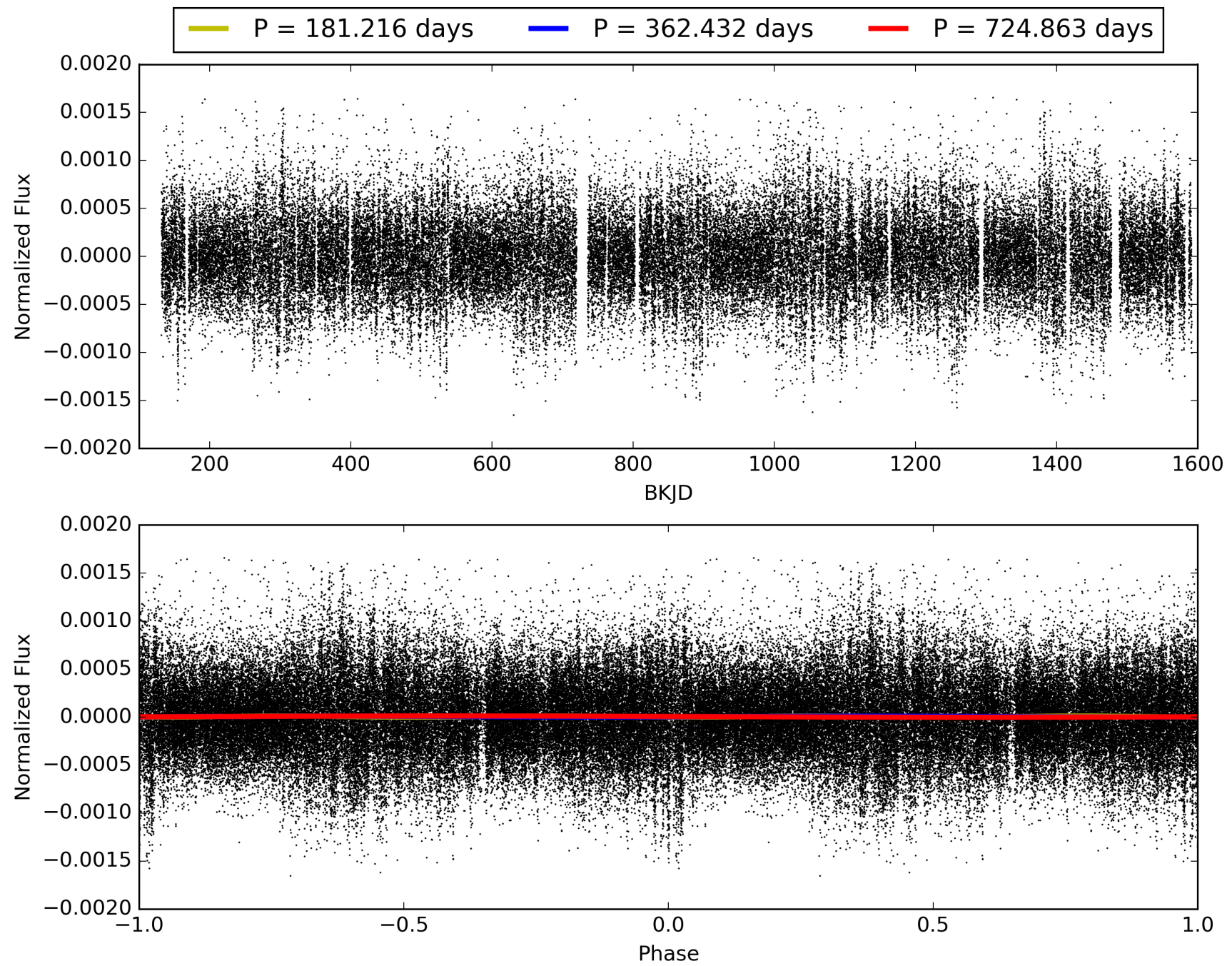
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 17:24:44 Z

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

# TCE 006200737-01, PDC Light Curves

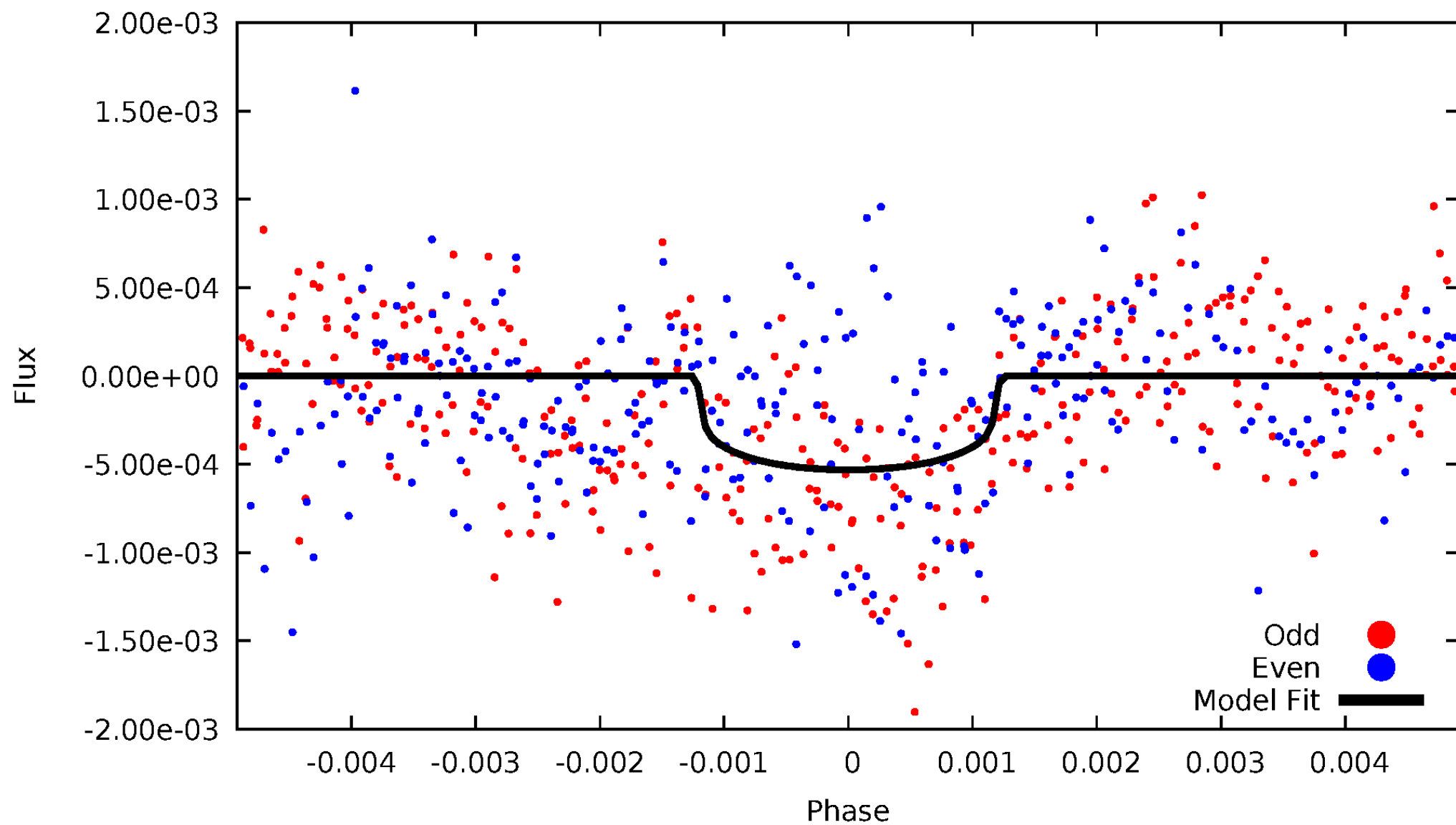


TCE 006200737-01



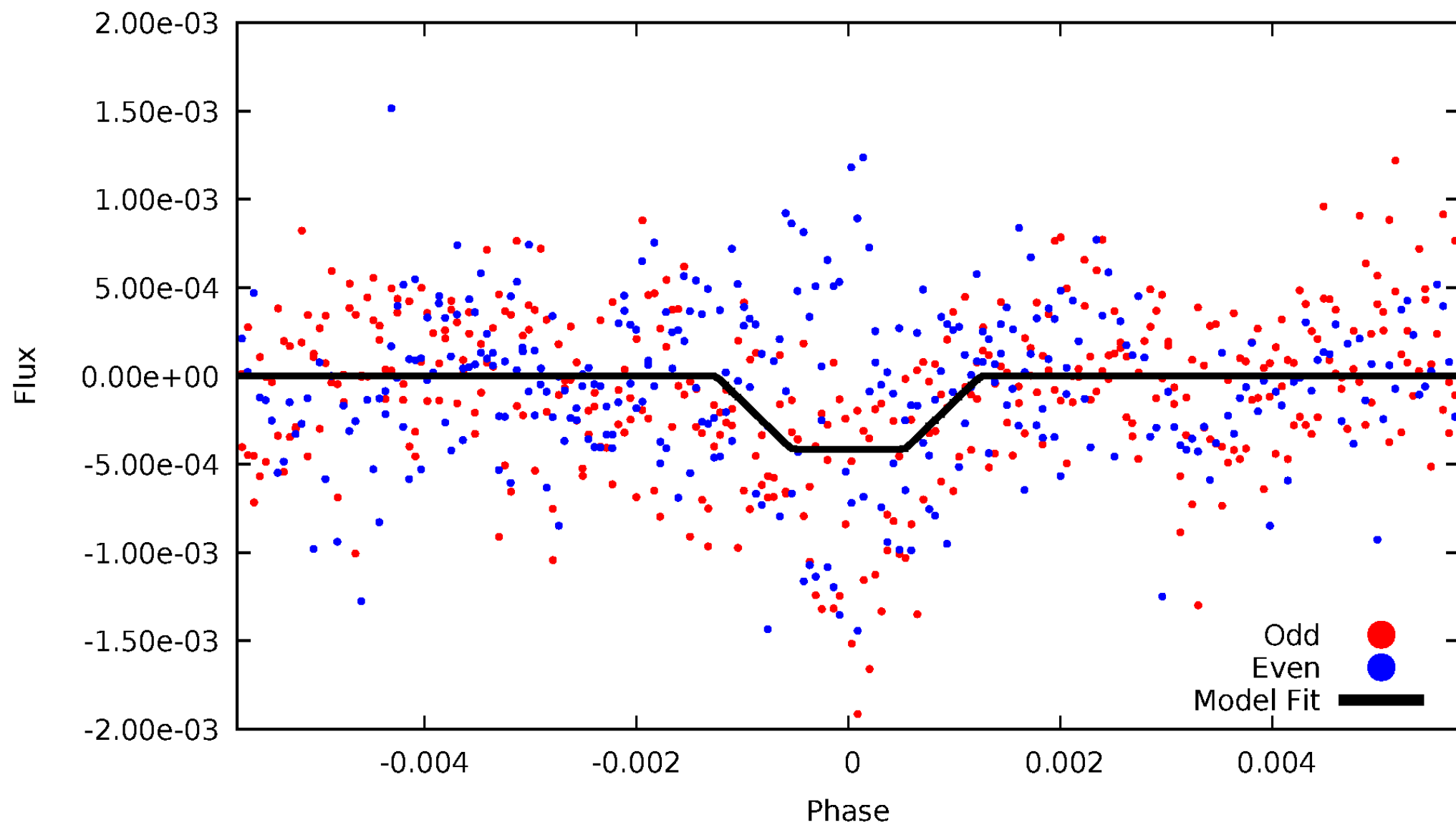
# DV Odd/Even

TCE 006200737-01



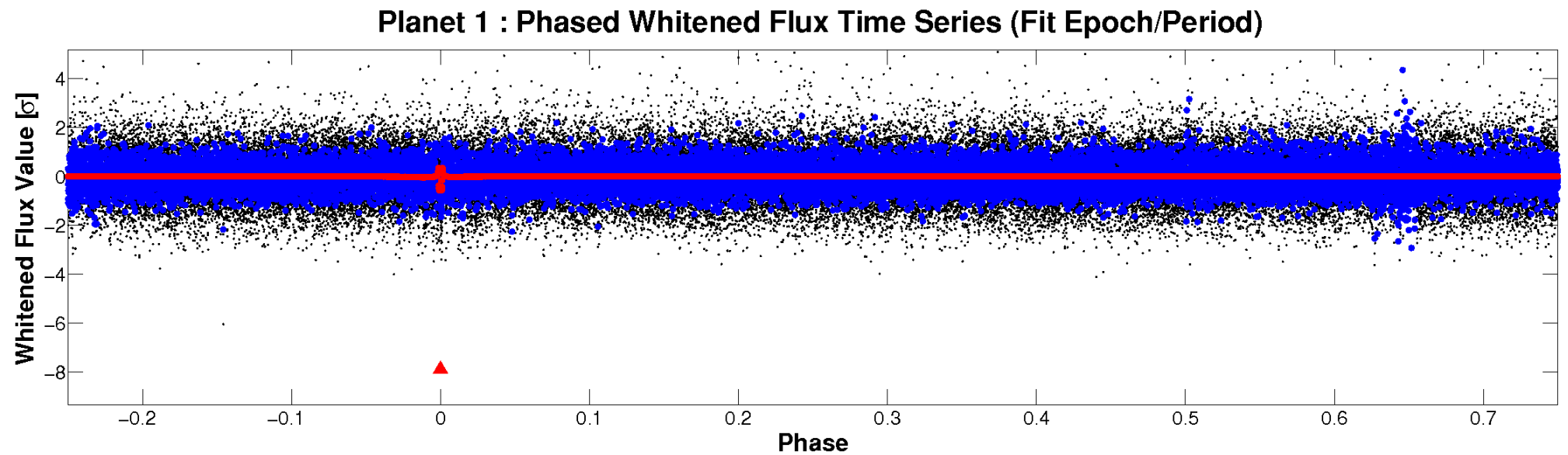
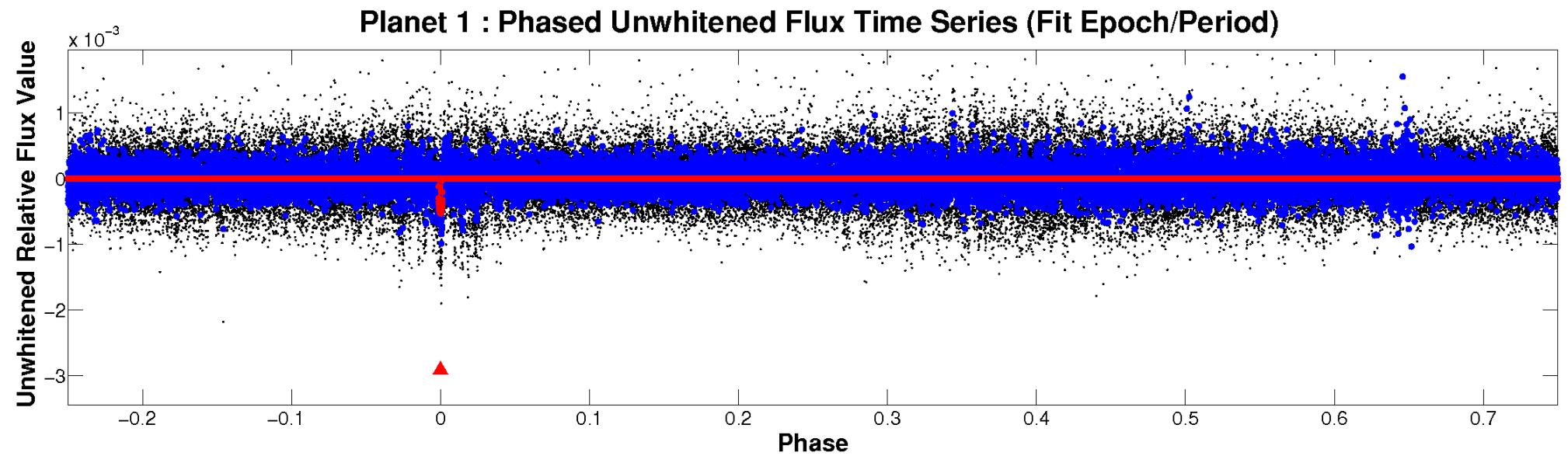
# ALT Odd/Even

TCE 006200737-01





# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

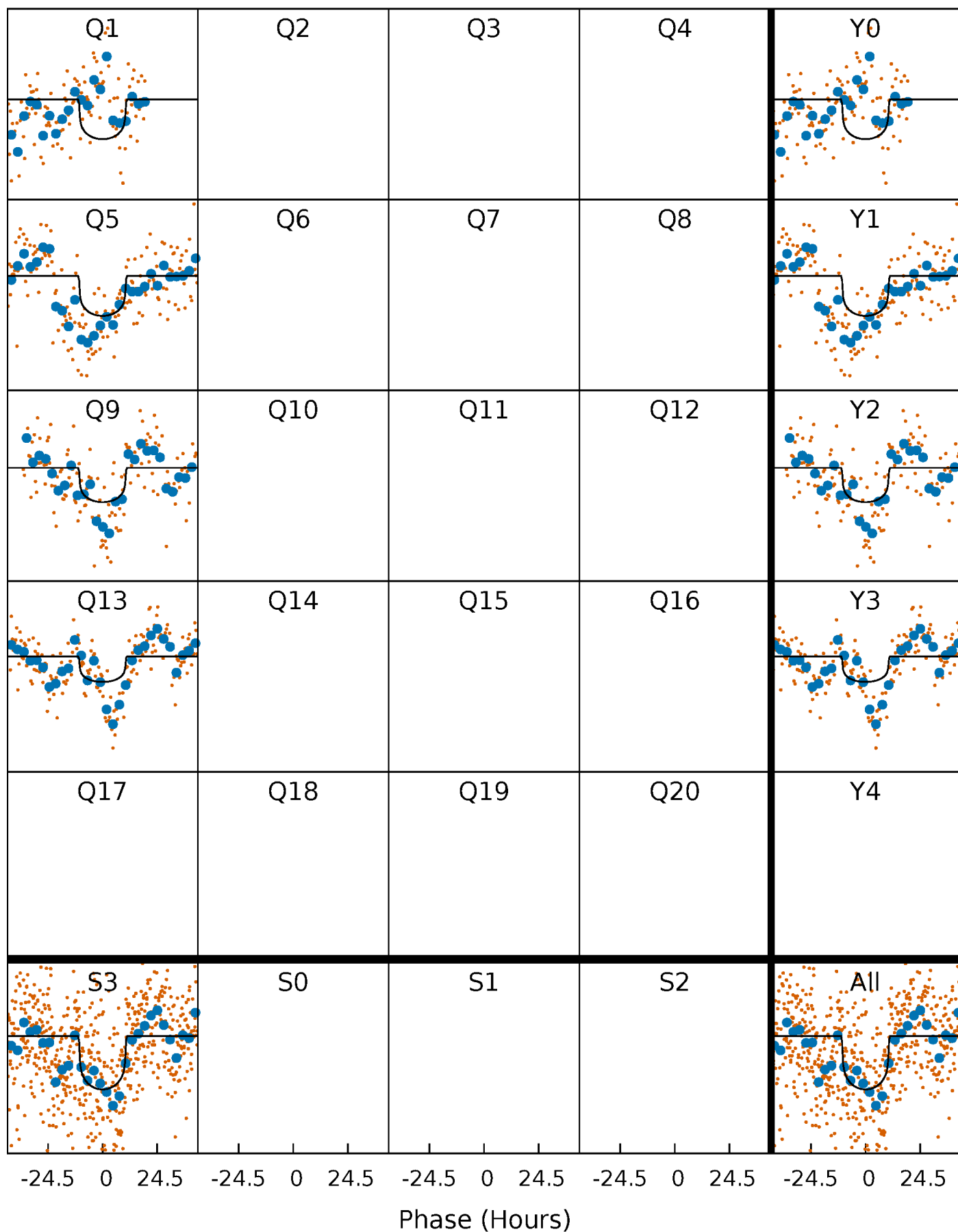
TCE 006200737-01 P=362.431515 Days  $T_0=164.194308$  (BKJD)





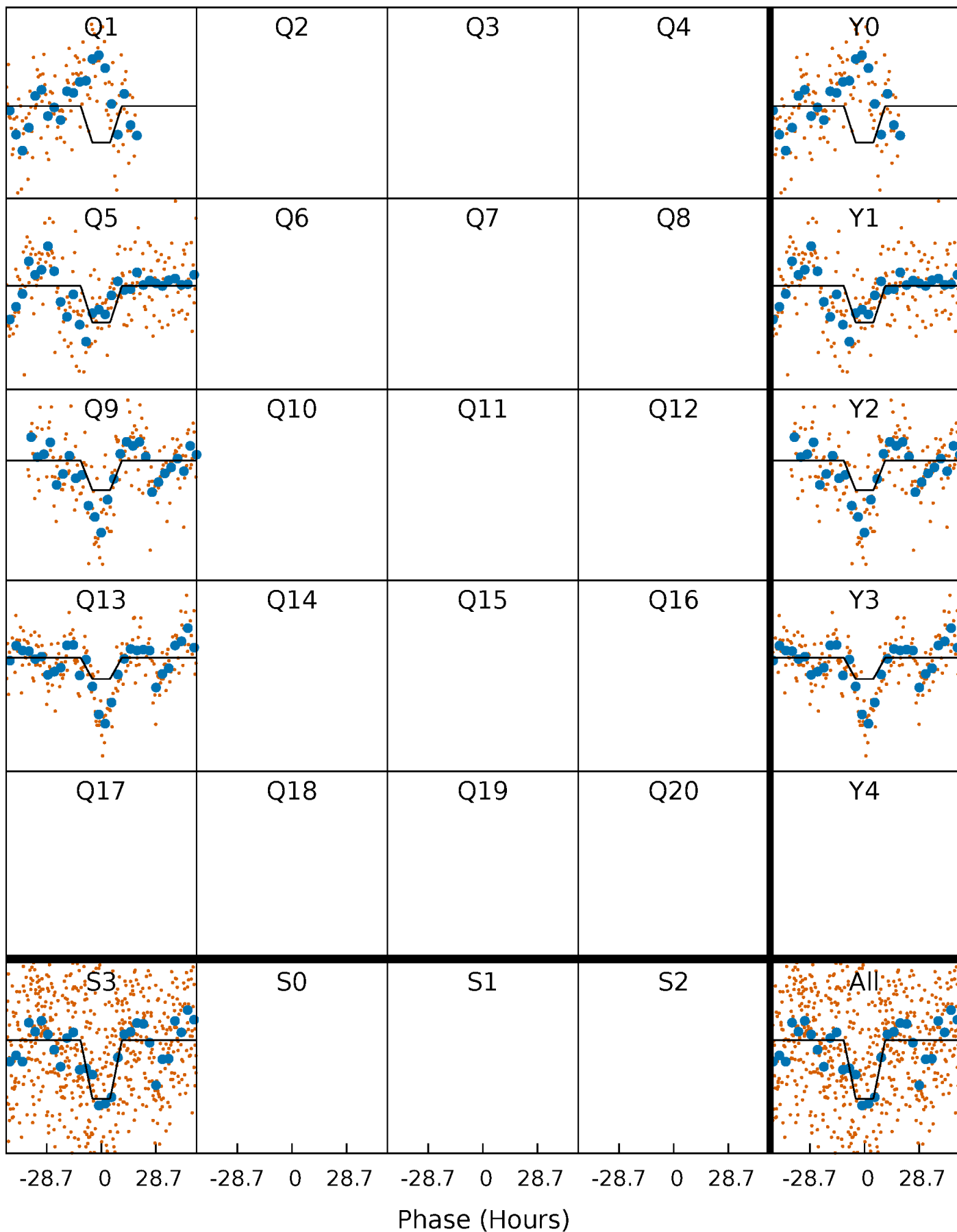
# DV Quarter-Phased Transit Curves

TCE 006200737-01 P=362.431515 Days  $T_0=164.194308$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

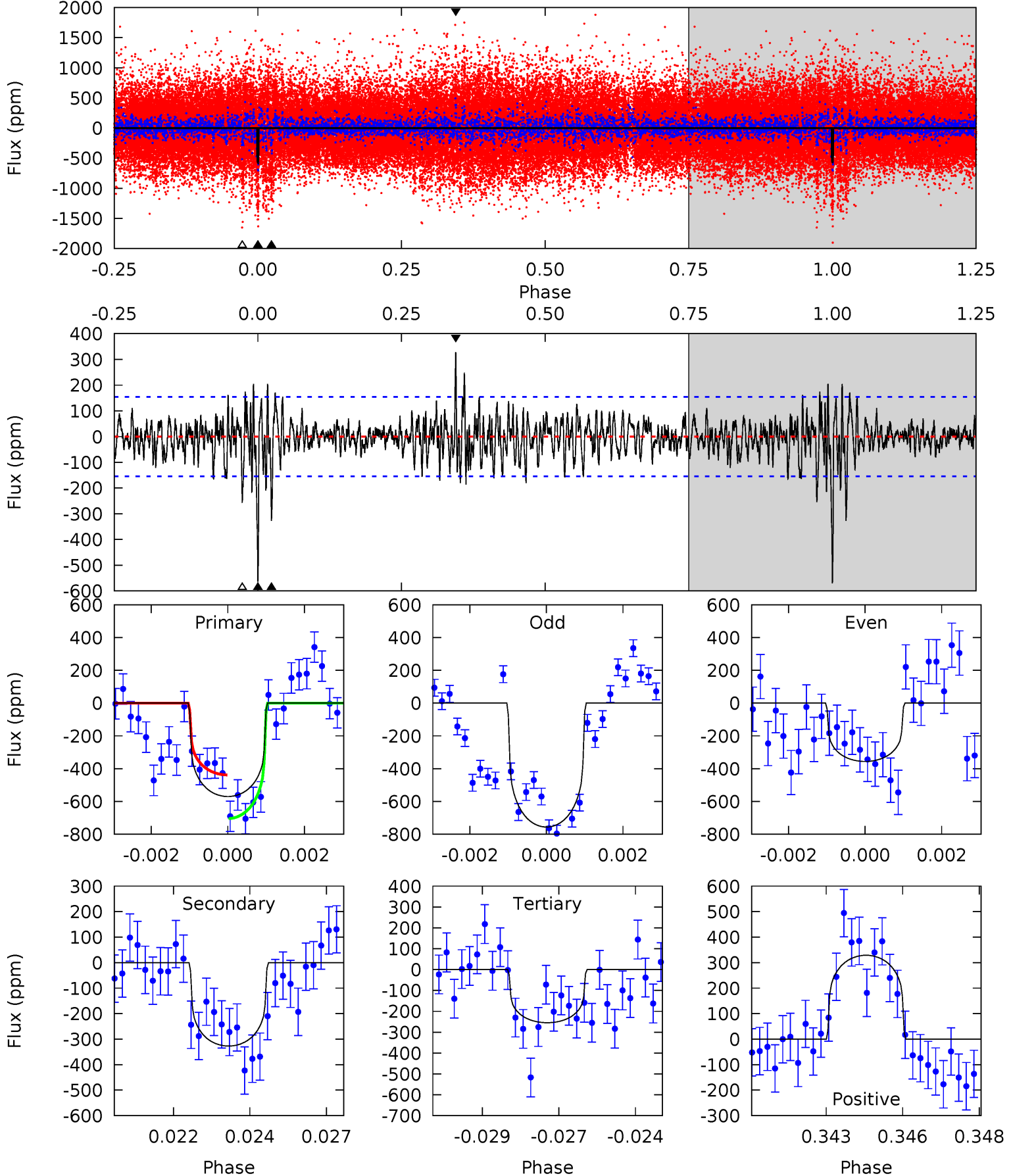
TCE 006200737-01 P=362.470921 Days  $T_0=164.238186$  (BKJD)



# DV Model-Shift Uniqueness Test

006200737-01, P = 362.431515 Days, E = 164.194308 Days

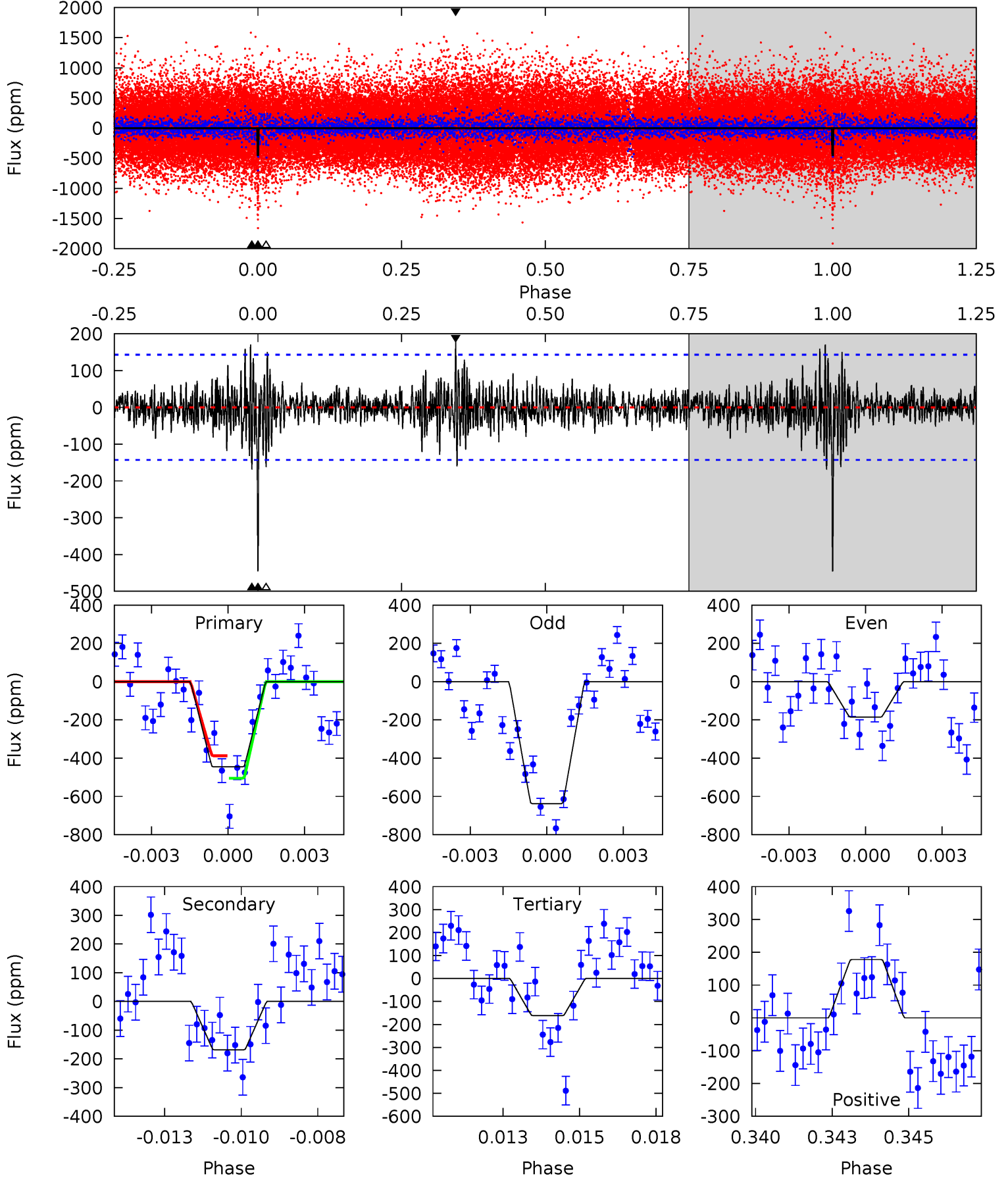
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.6	11.2	8.74	11.3	5.29	3.03	2.09	10.8	8.28	2.48	-0.06	6.91	0.77	0.37	4.57



# Alt Model-Shift Uniqueness Test

006200737-01, P = 362.470921 Days, E = 164.238186 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
16.5	6.22	5.96	6.56	5.28	3.02	1.31	10.5	9.90	0.25	-0.34	8.42	0.78	0.28	2.16



### Stellar Parameters For KIC 006200737

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5657^{+154}_{-171}$	$4.366^{+0.132}_{-0.182}$	$0.040^{+0.250}_{-0.300}$	$1.051^{+0.296}_{-0.182}$	$0.934^{+0.120}_{-0.090}$	$1.134^{+0.775}_{-0.530}$
	+3%/-3%	+3%/-4%	+625%/-750%	+28%/-17%	+13%/-10%	+68%/-47%
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 006200737-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-327 \pm 29$	$2.53^{+0.78}_{-0.66}$	$363^{+26}_{-21}$	$5149^{+704}_{-461}$	$26403^{+22424}_{-11175}$
Alt.	$-168 \pm 27$	$2.33^{+0.77}_{-0.64}$	$366^{+25}_{-24}$	$4684^{+662}_{-430}$	$16481^{+14379}_{-7542}$

$T_{max}$  = 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

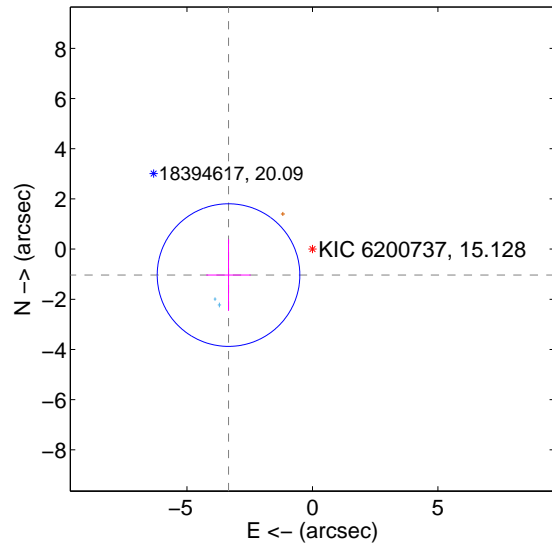
Supplemental centroid analysis for 006200737-01. Kepler magnitude: 15.13. Transit SNR 7.03

There are 2 quarters with good PRF difference image offsets

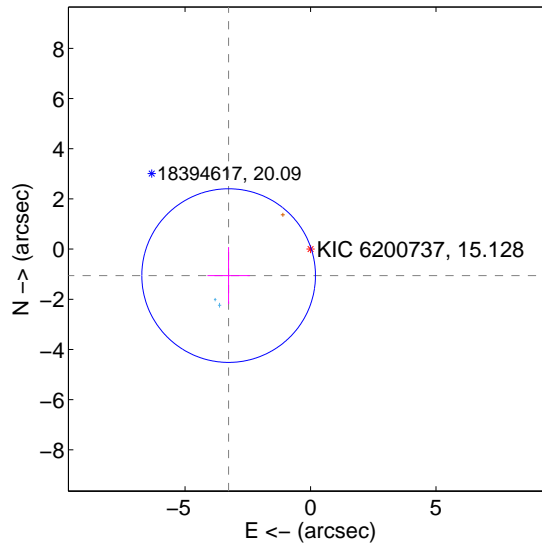
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.501 \pm 0.947$	$3.70$	$3.344 \pm 0.888$	$-1.036 \pm 1.425$
PRF-fit source offset from KIC position	$3.430 \pm 1.153$	$2.97$	$3.263 \pm 0.847$	$-1.056 \pm 1.137$
photometric centroid source offset	$3.10 \pm 1.64$	$1.89$	$2.16 \pm 1.66$	$2.22 \pm 1.63$

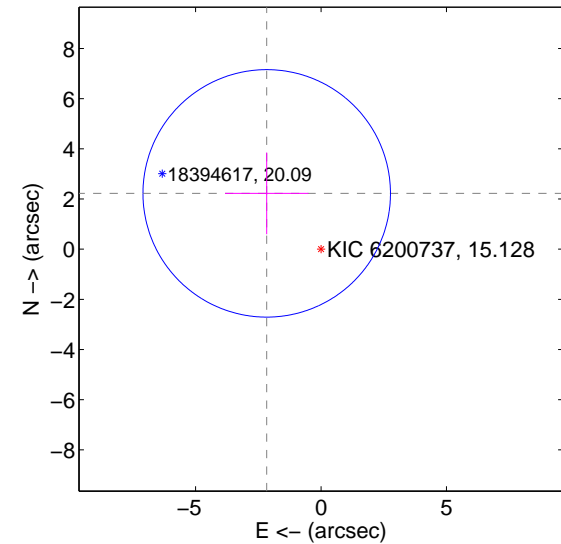
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



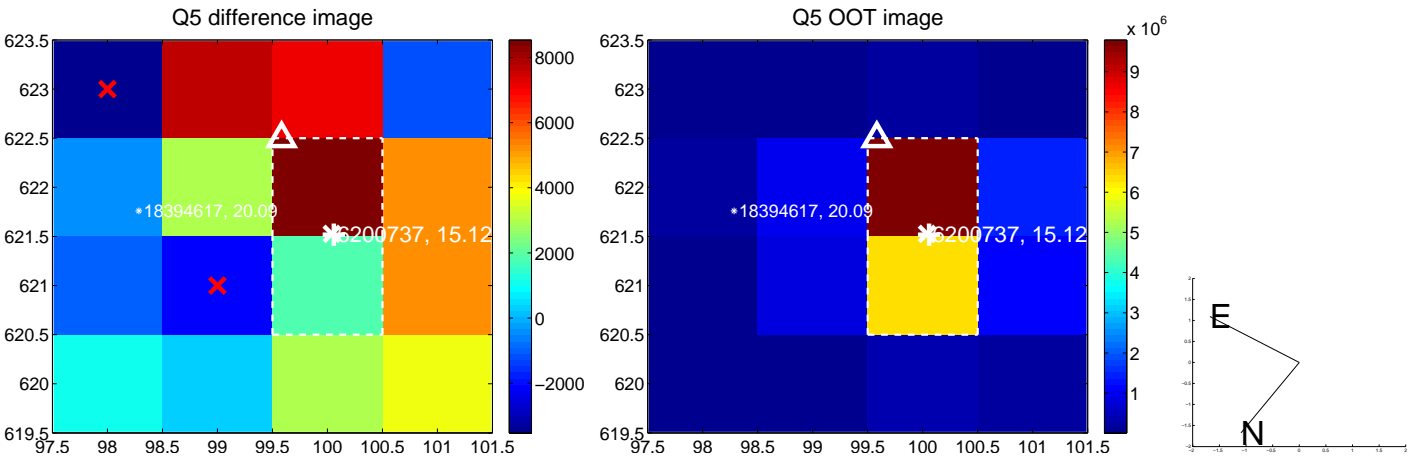
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



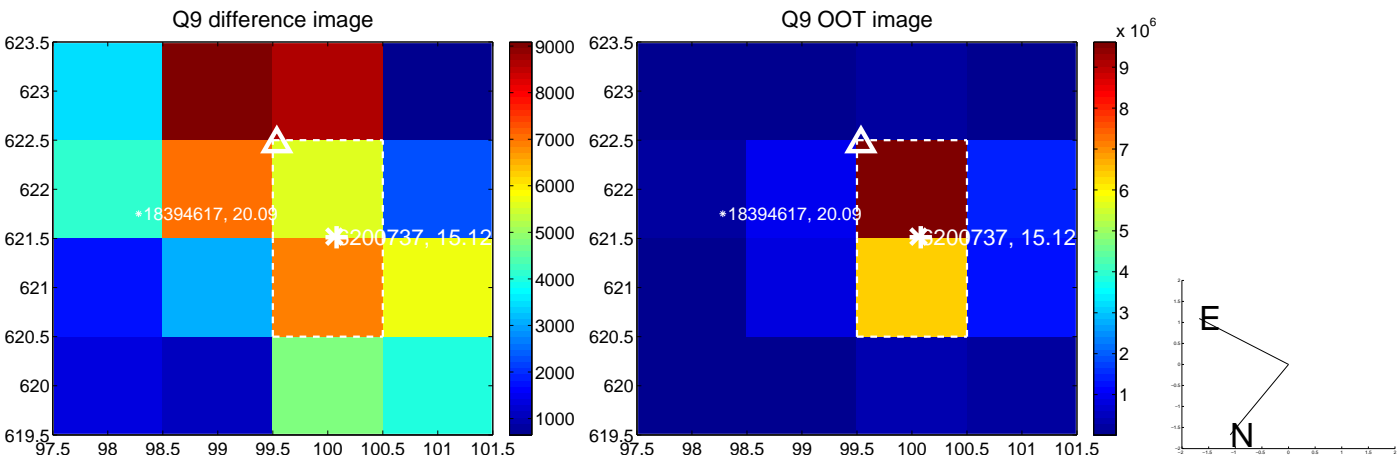
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



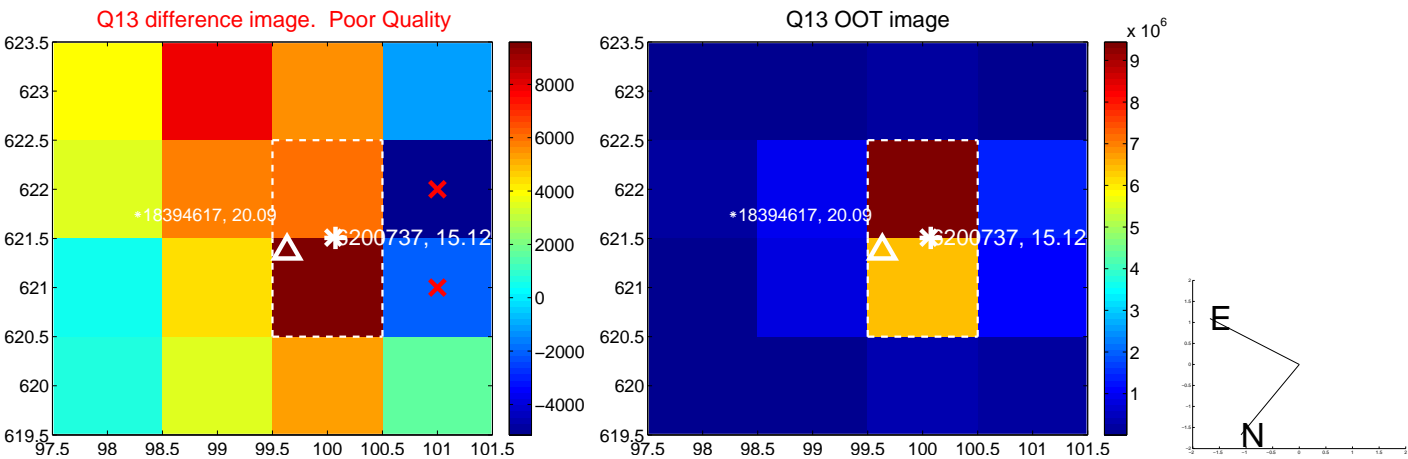
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



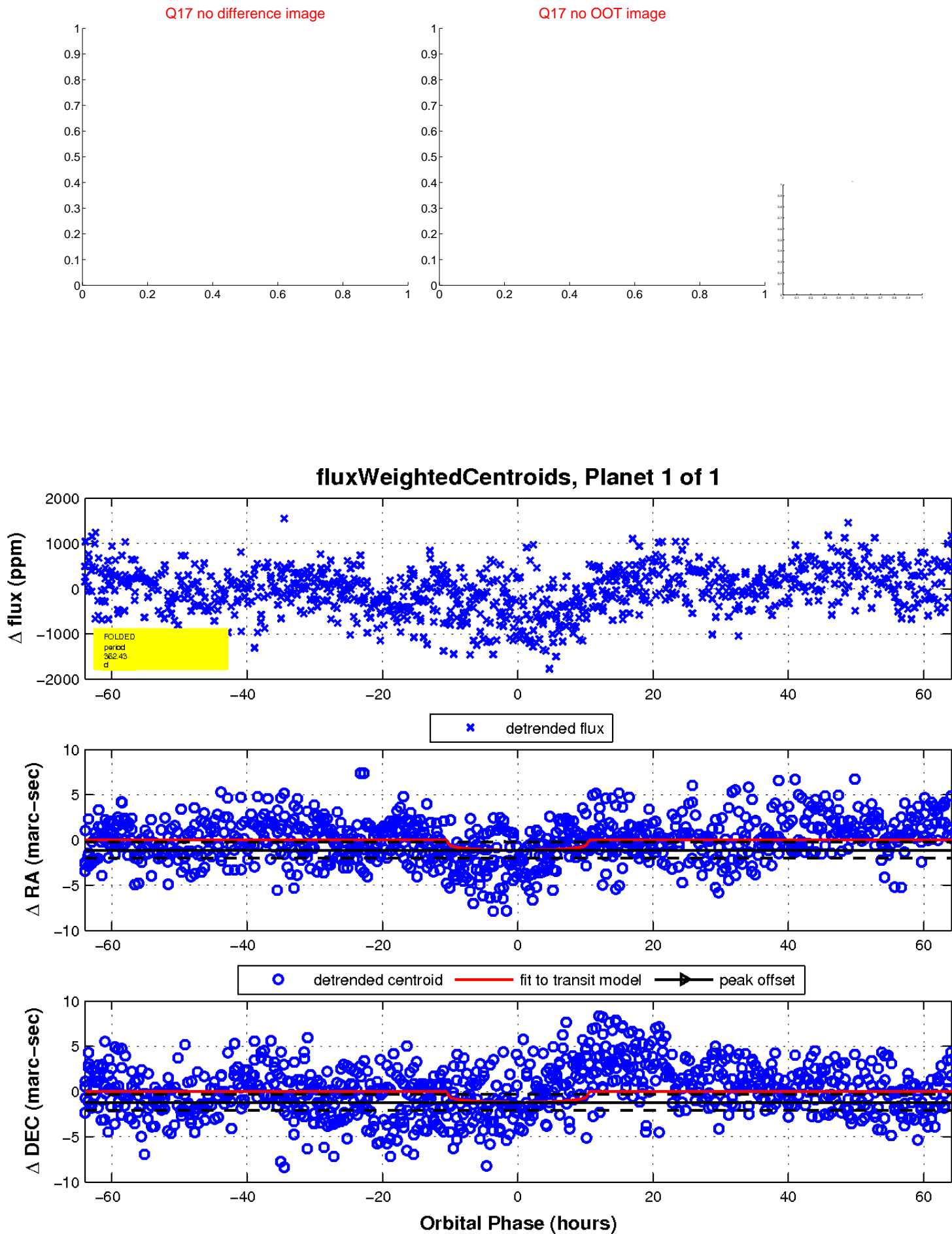
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

