

# KIC 007960136

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007960136-01	OBS	No	137.681670	188.923389	867.1	3.724	9.2	5.9	14.63	4785	45.52	232.00

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007960136-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS

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

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

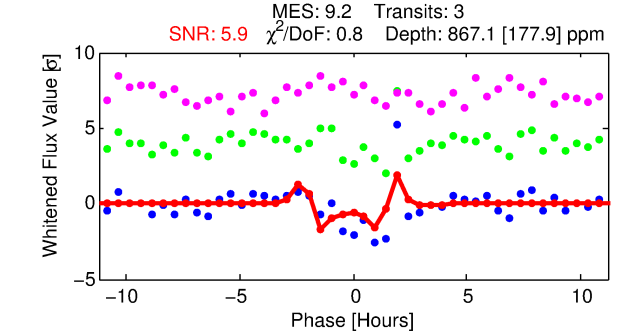
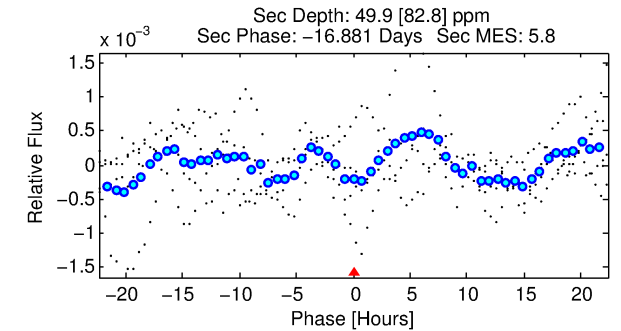
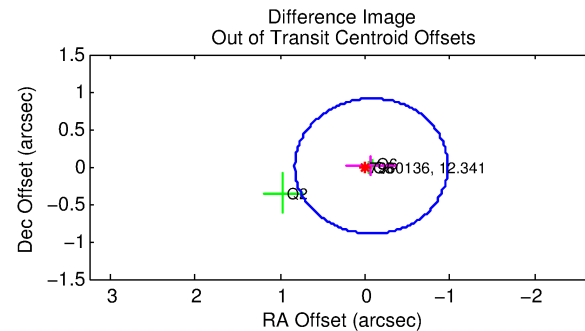
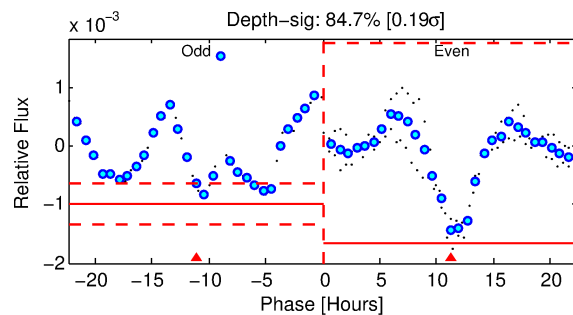
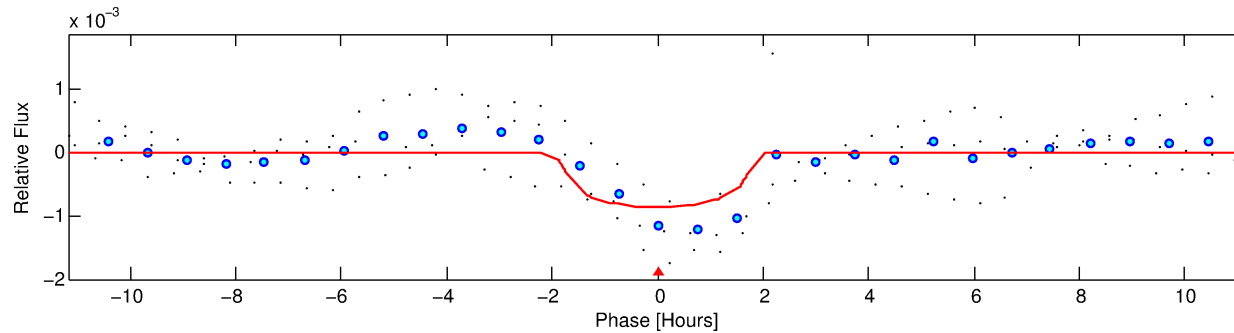
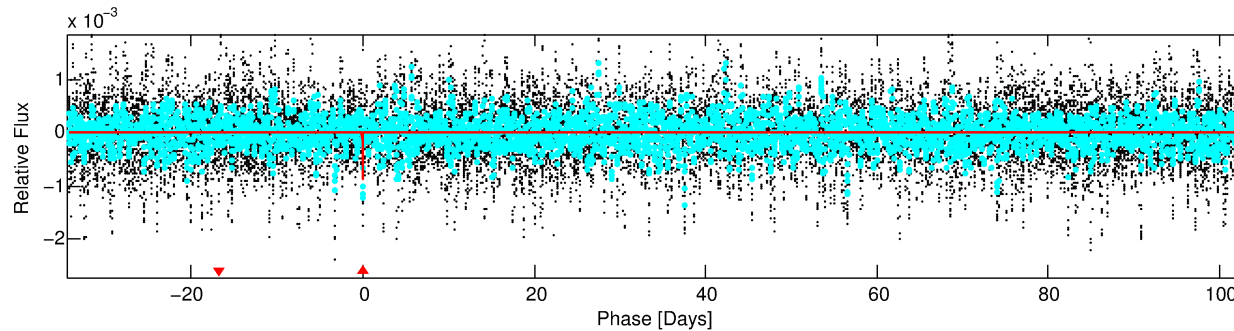
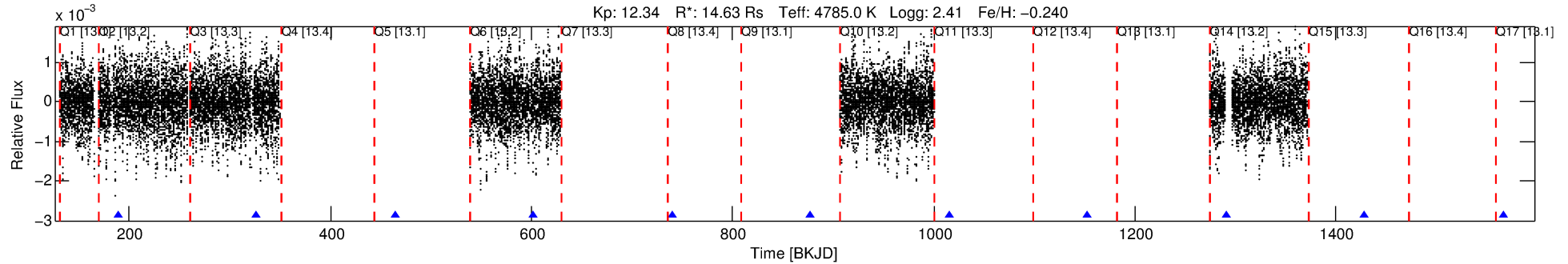
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007960136-01

No Significant Match Found

# DV One-Page Summary

KIC: 7960136 Candidate: 1 of 1 Period: 137.682 d



## DV Fit Results:

Period = 137.68167 [0.00137] d  
Epoch = 188.9234 [0.0029] BKJD  
Rp/R\* = 0.0285 [0.0219]  
a/R\* = 219.71 [607.29]  
b = 0.67 [2.29]  
Seff = 232.00 [34.80]  
Teq = 995 [37] K  
**Rp = 45.52 [35.92] Re**  
a = 0.6585 [0.0826] AU  
Ag = 5.75 [13.01] [0.36 $\sigma$ ]  
Teffp = 2382 [1347] K [1.03 $\sigma$ ]

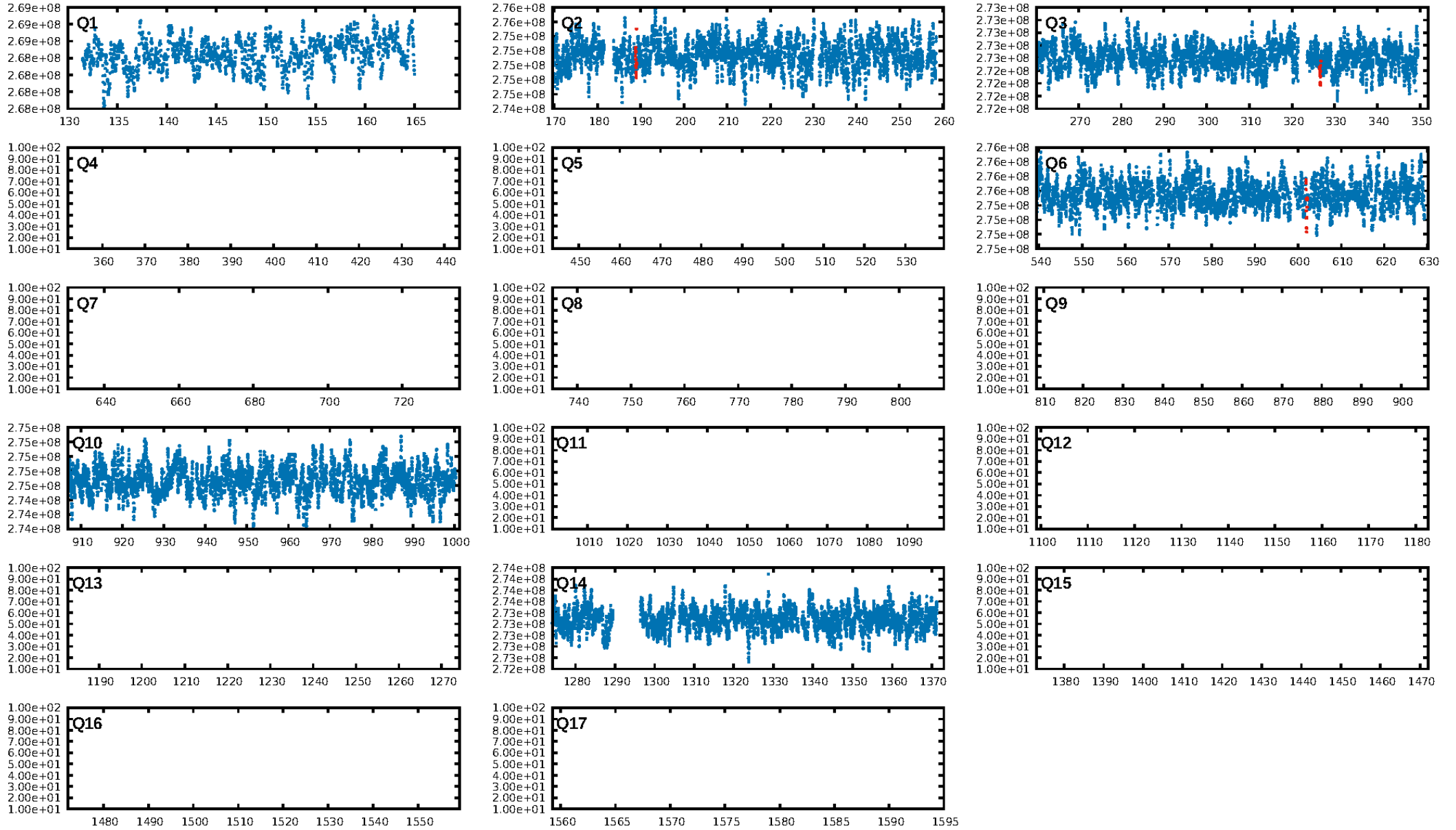
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 80.0%  
ModelChiSquareGof-sig: 81.8%  
Bootstrap-pfa: 2.10e-15  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 1.482  
Centroid-sig: 17.0%  
Centroid-so: 0.396 arcsec [1.20 $\sigma$ ]  
OotOffset-rm: 0.078 arcsec [0.26 $\sigma$ ]  
OotOffset-st: 2/1/0/0 [3]  
KicOffset-rm: 0.117 arcsec [0.33 $\sigma$ ]  
KicOffset-st: 2/1/0/0 [3]  
DiffImageQuality-fgm: 1.00 [3/3]  
DiffImageOverlap-fno: 1.00 [3/3]

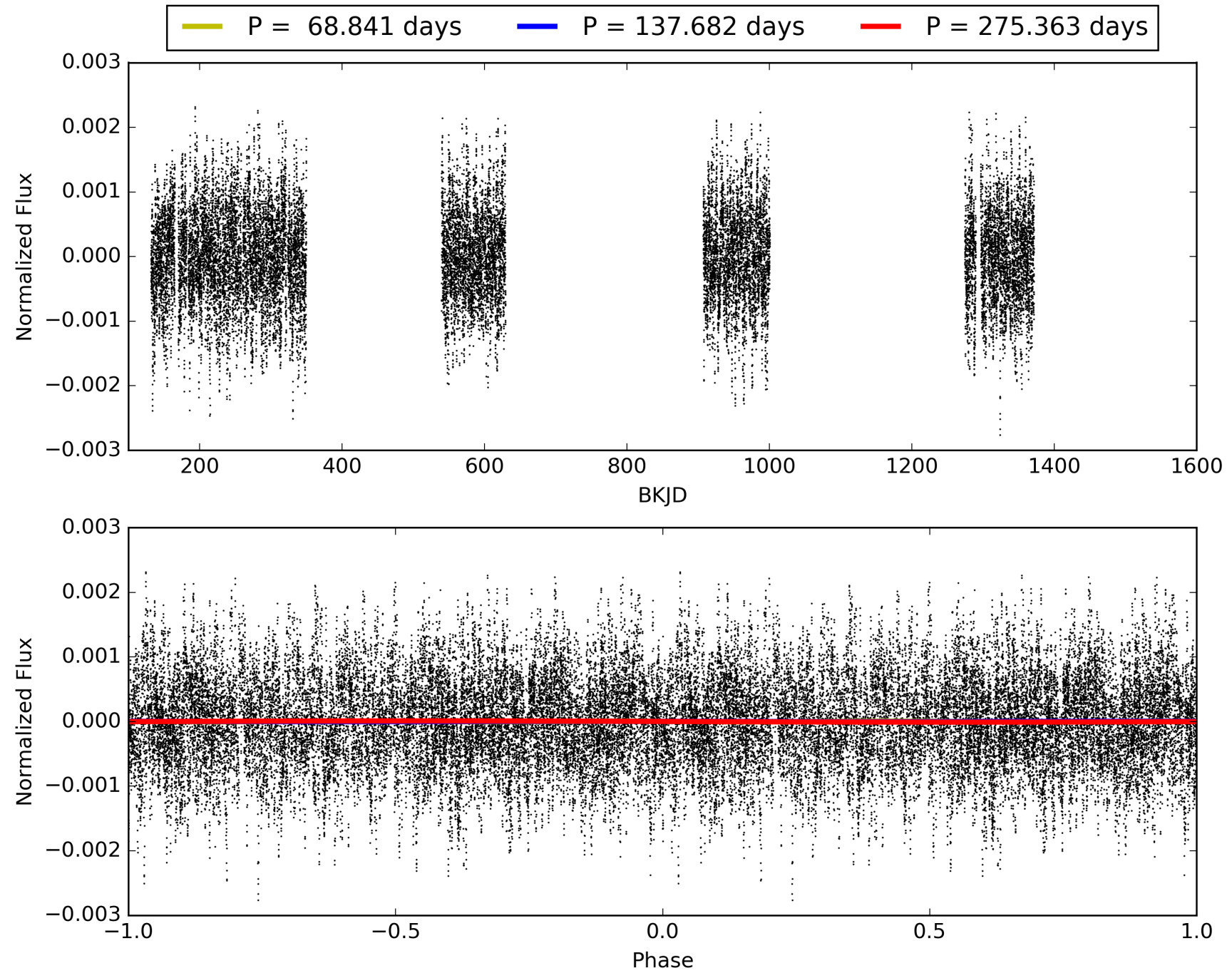
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:39:00 Z

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

# TCE 007960136-01, PDC Light Curves

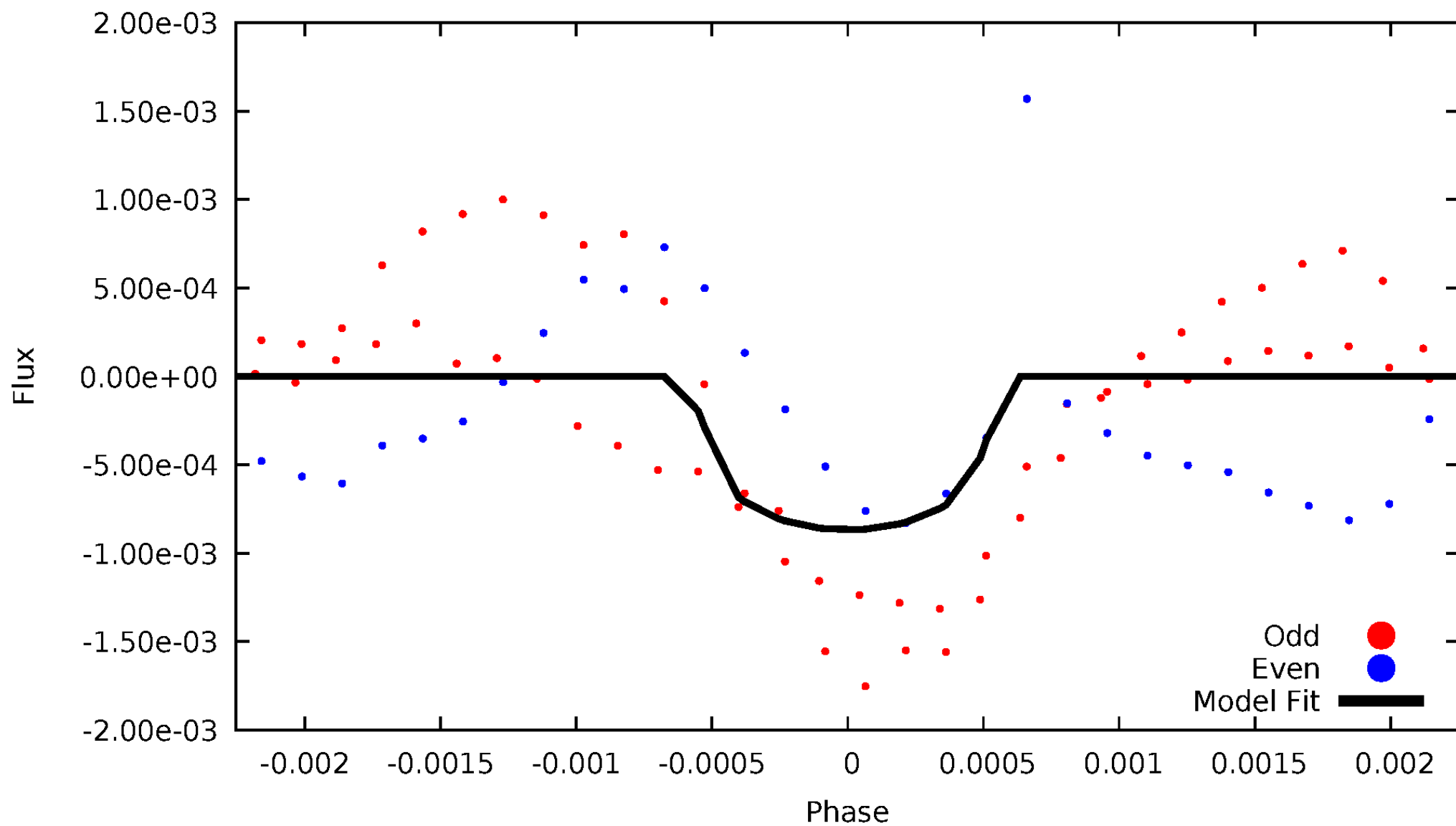


TCE 007960136-01



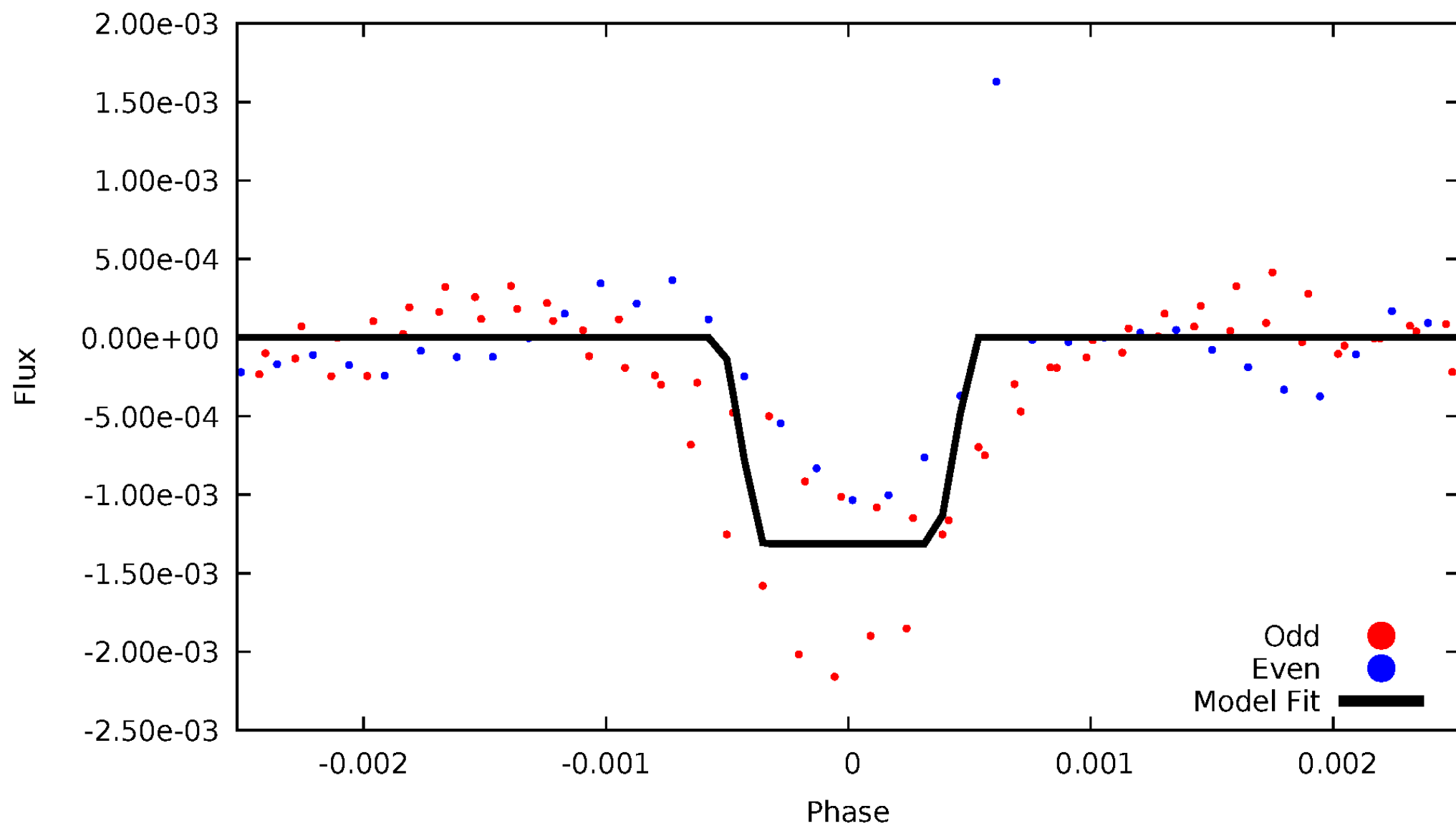
# DV Odd/Even

TCE 007960136-01

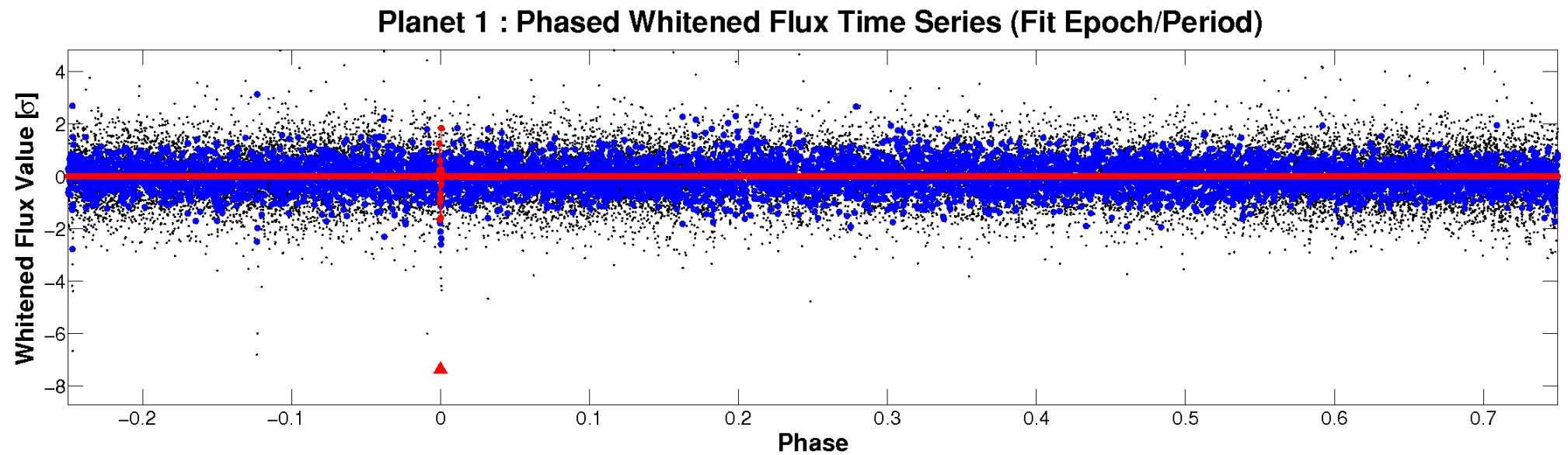
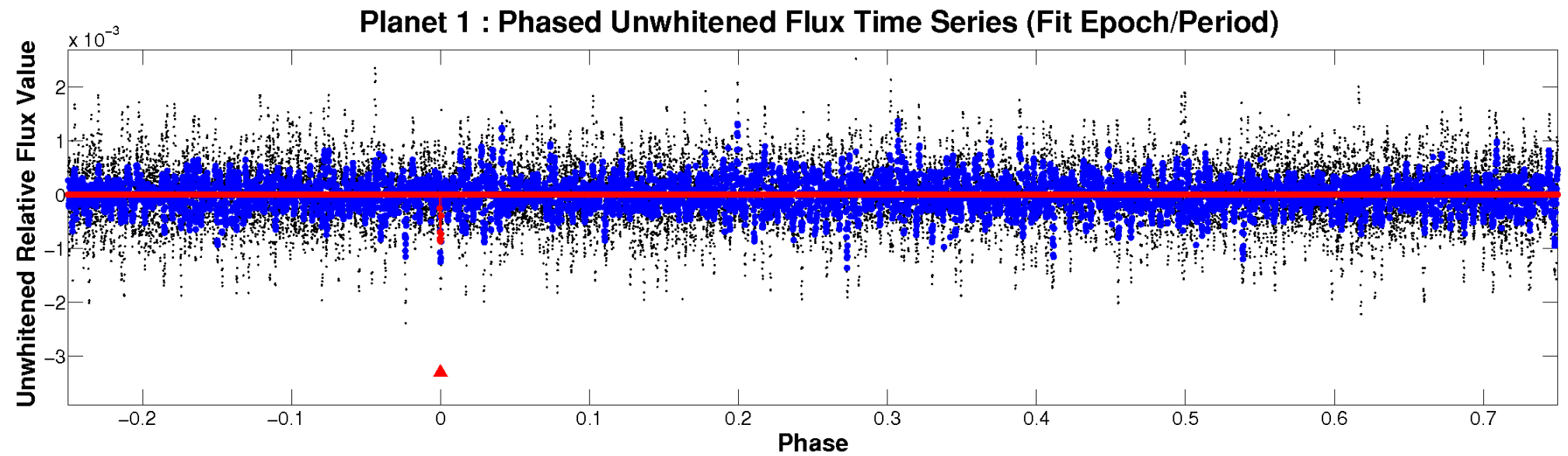


# ALT Odd/Even

TCE 007960136-01

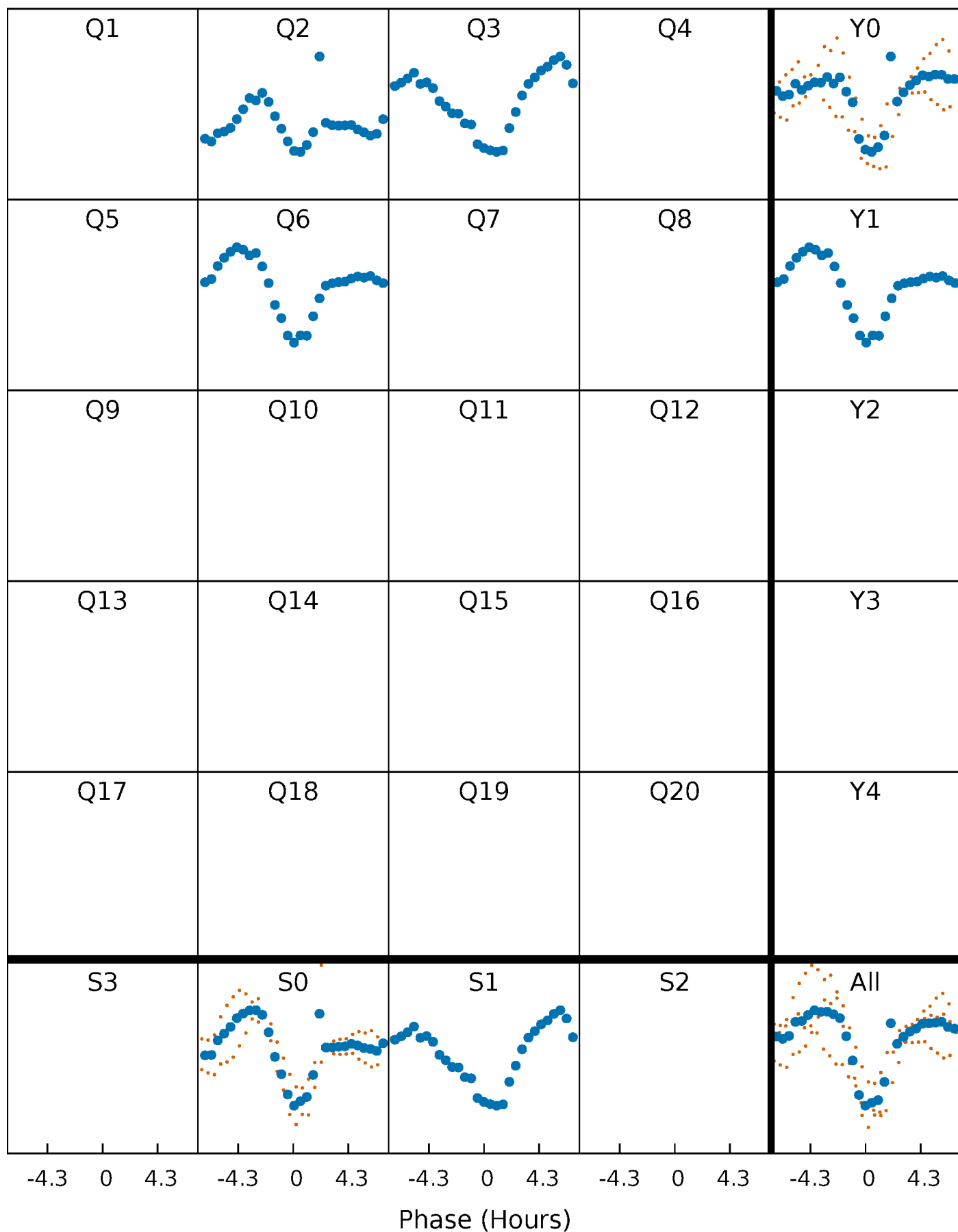


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

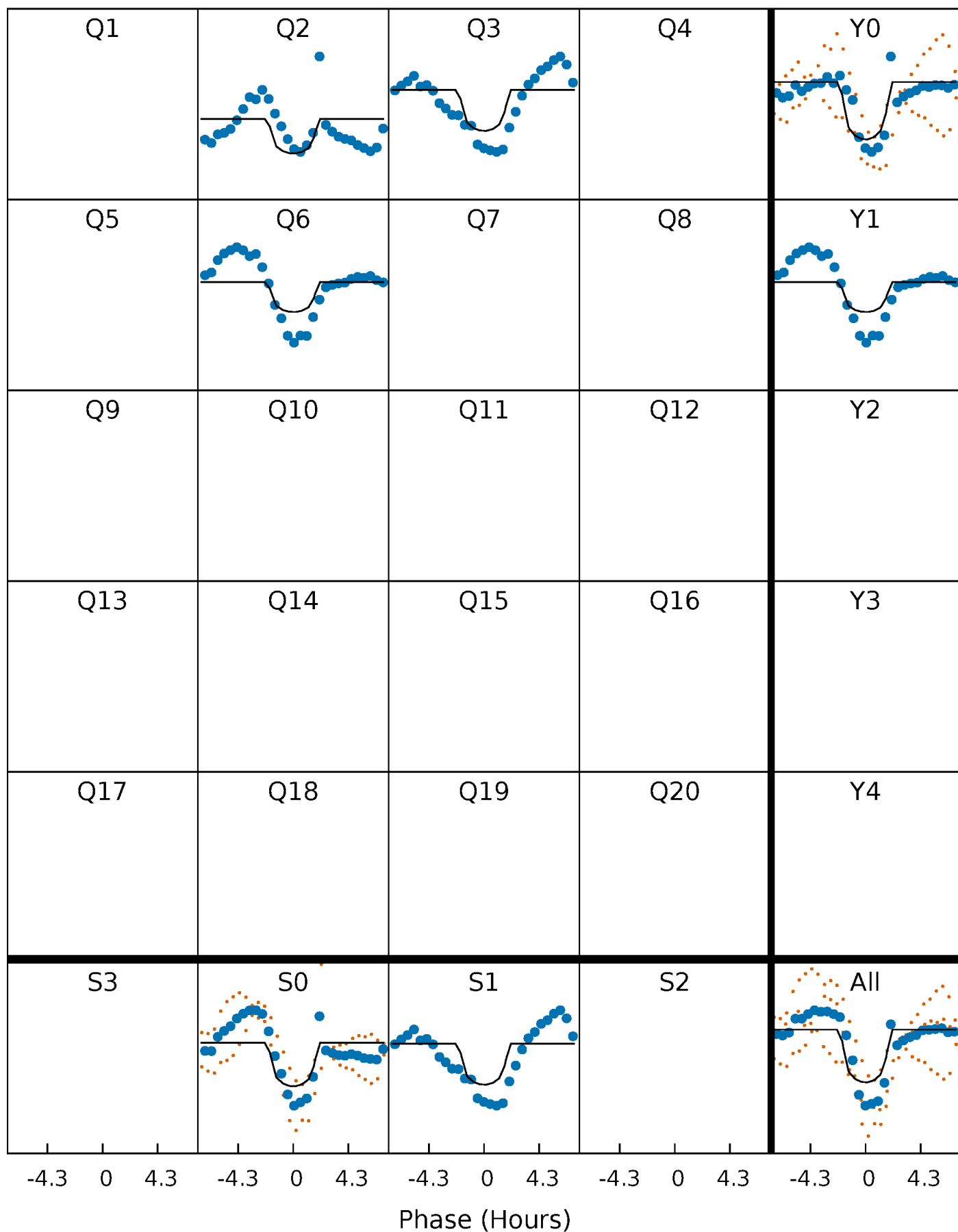
TCE 007960136-01 P=137.681670 Days  $T_0=188.923389$  (BKJD)





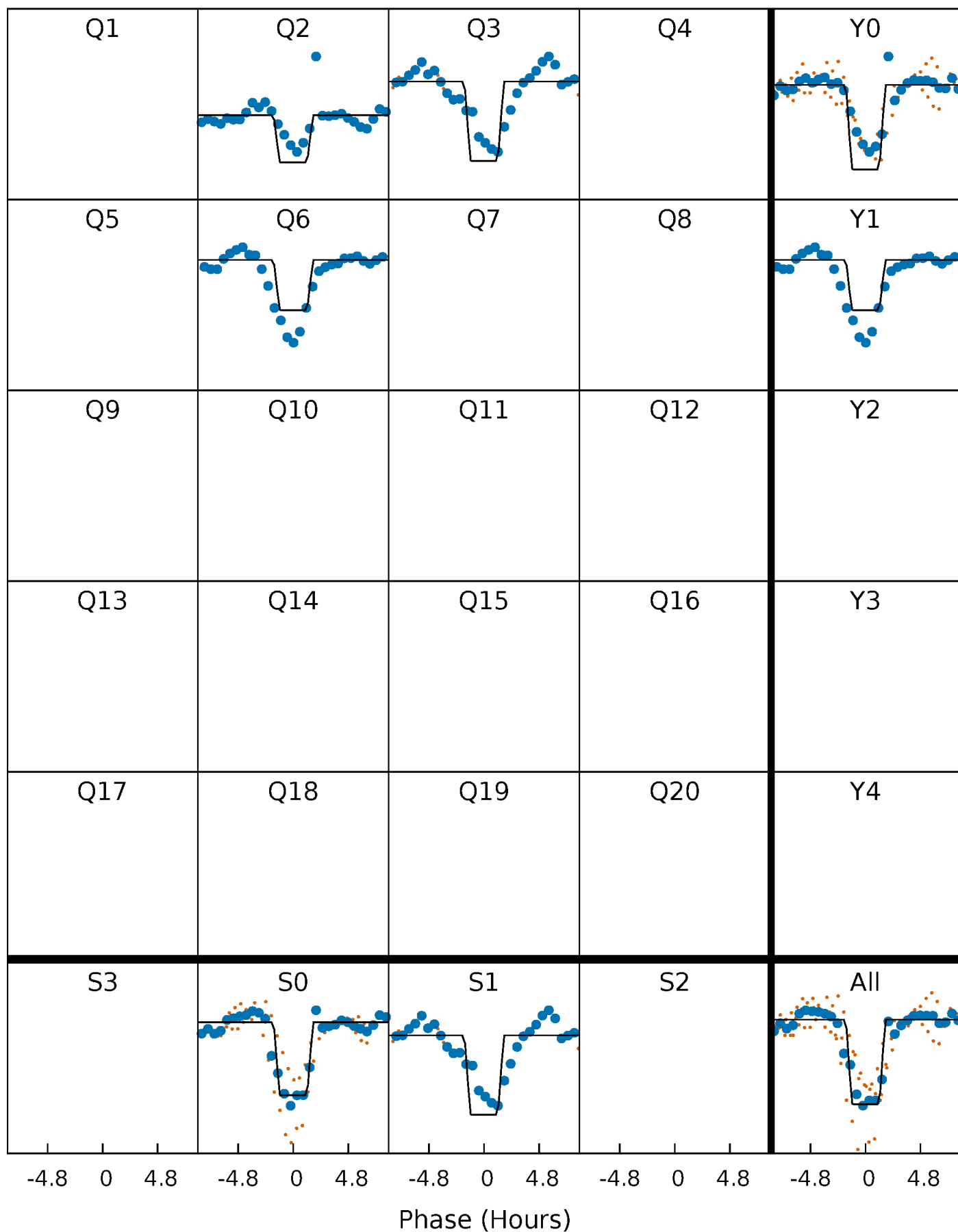
# DV Quarter-Phased Transit Curves

TCE 007960136-01 P=137.681670 Days  $T_0=188.923389$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

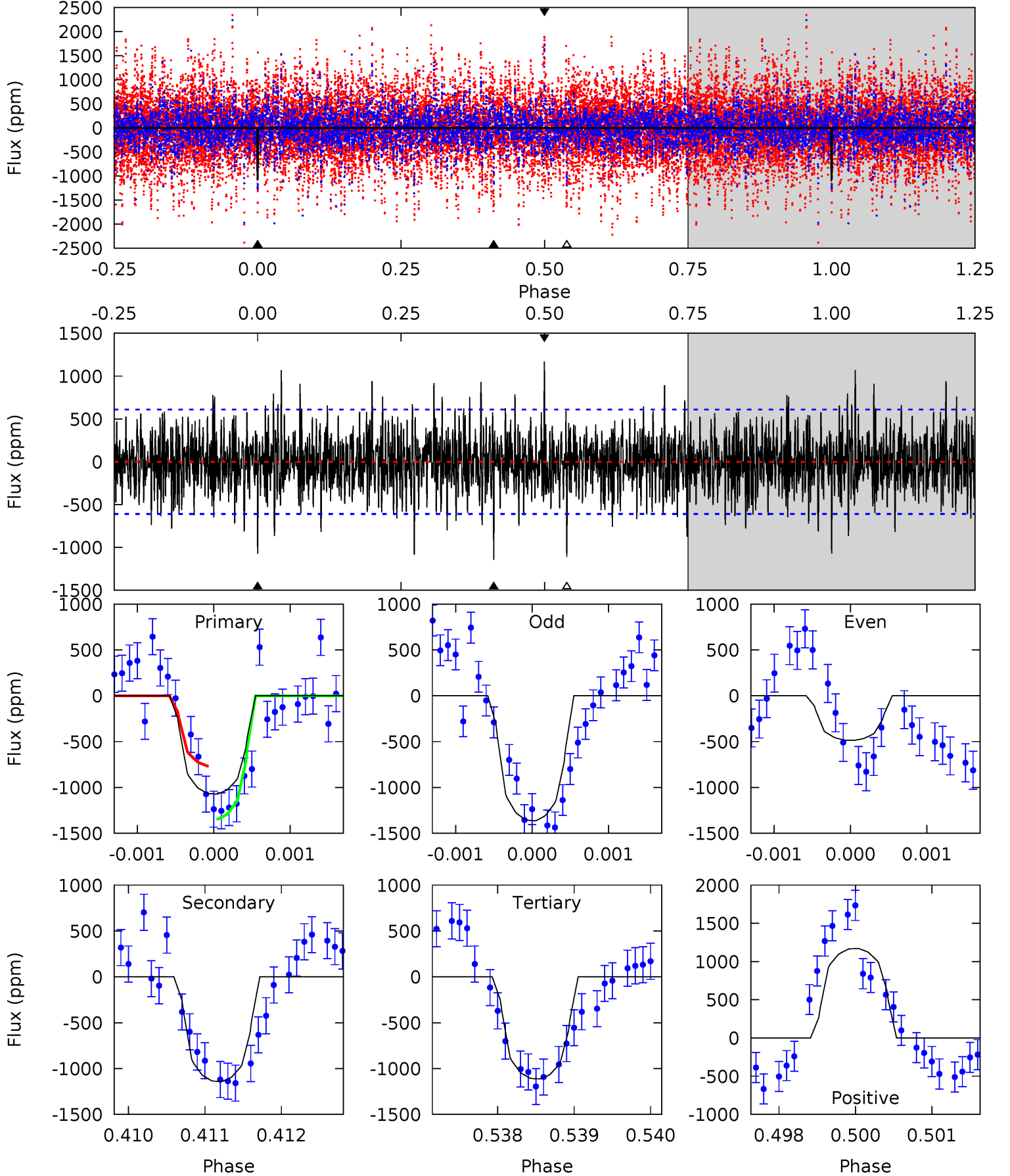
TCE 007960136-01 P=137.685001 Days  $T_0=188.930169$  (BKJD)



# DV Model-Shift Uniqueness Test

007960136-01,  $P = 137.681670$  Days,  $E = 51.241719$  Days

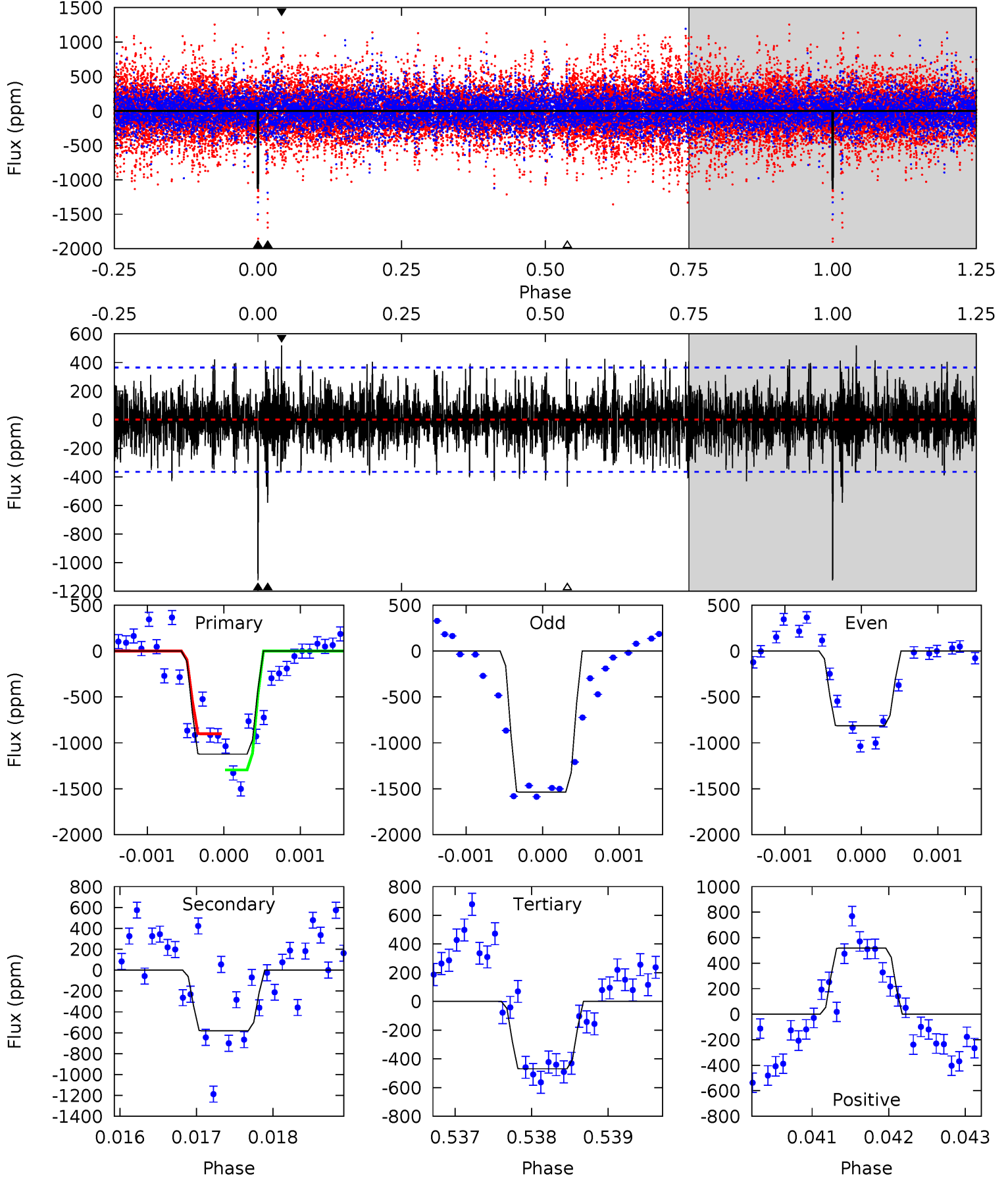
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.54	10.2	9.90	10.4	5.42	3.25	2.40	-0.36	-0.88	0.26	-0.26	3.74	0.86	0.51	2.58



# Alt Model-Shift Uniqueness Test

007960136-01, P = 137.685001 Days, E = 51.245168 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
16.8	8.66	7.00	7.73	5.44	3.28	1.95	9.76	9.03	1.66	0.93	5.23	1.22	0.32	2.93



### Stellar Parameters For KIC 007960136

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$4785^{+42}_{-85}$	$2.410^{+0.031}_{-0.031}$	$-0.240^{+0.100}_{-0.200}$	$14.634^{+2.705}_{-2.705}$	$2.009^{+1.052}_{-0.701}$	$0.001^{+0.000}_{-0.000}$
	+1%/-2%	+1%/-1%	+42%/-83%	+18%/-18%	+52%/-35%	+29%/-8%
Source	SPE74	AST9	SPE74	DSEP		

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

### Secondary Eclipse Parameters for KIC 007960136-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-1142 \pm 112$	$50.26^{+34.74}_{-28.54}$	$1392^{+41}_{-42}$	$4912^{+2530}_{-866}$	$108^{+446}_{-68}$
Alt.	$-580 \pm 67$	$58.68^{+37.76}_{-31.14}$	$1390^{+38}_{-40}$	$4072^{+1439}_{-616}$	$41^{+135}_{-25}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature

$T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{\text{obs}}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{\text{obs}} \gg T_{\text{max}}$  AND  $A_{\text{obs}} \gg 1.0$

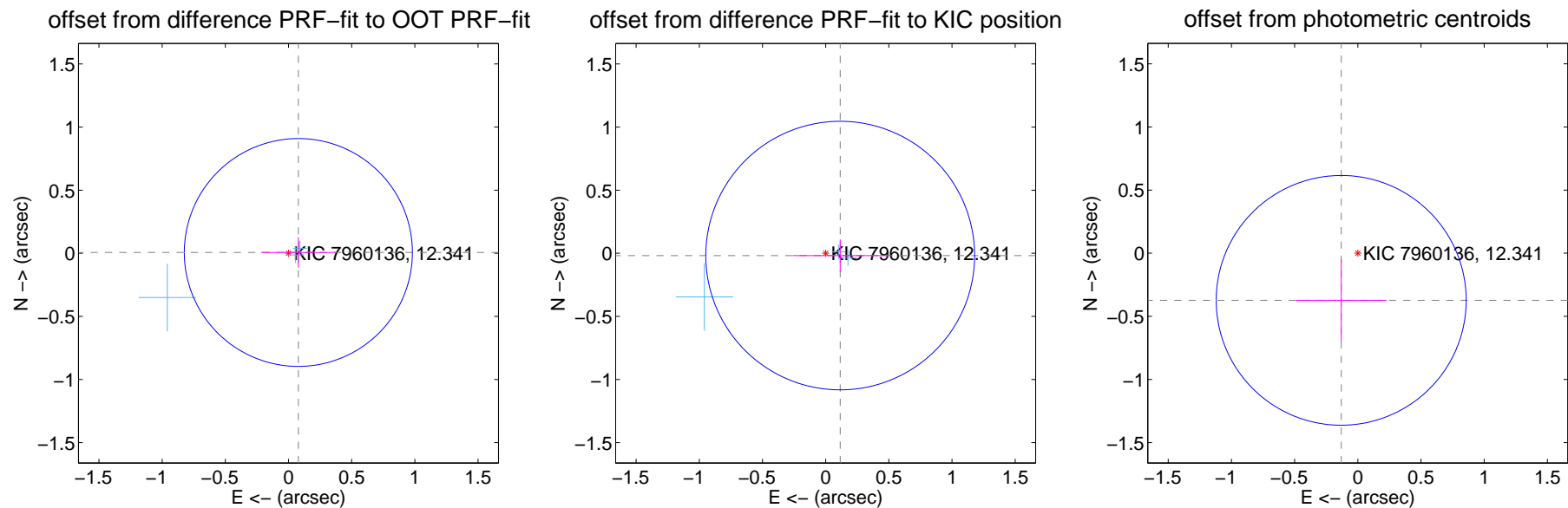
## DV Centroid Data

Supplemental centroid analysis for 007960136-01. Kepler magnitude: 12.34. Transit SNR 5.88

There are 3 quarters with good PRF difference image offsets

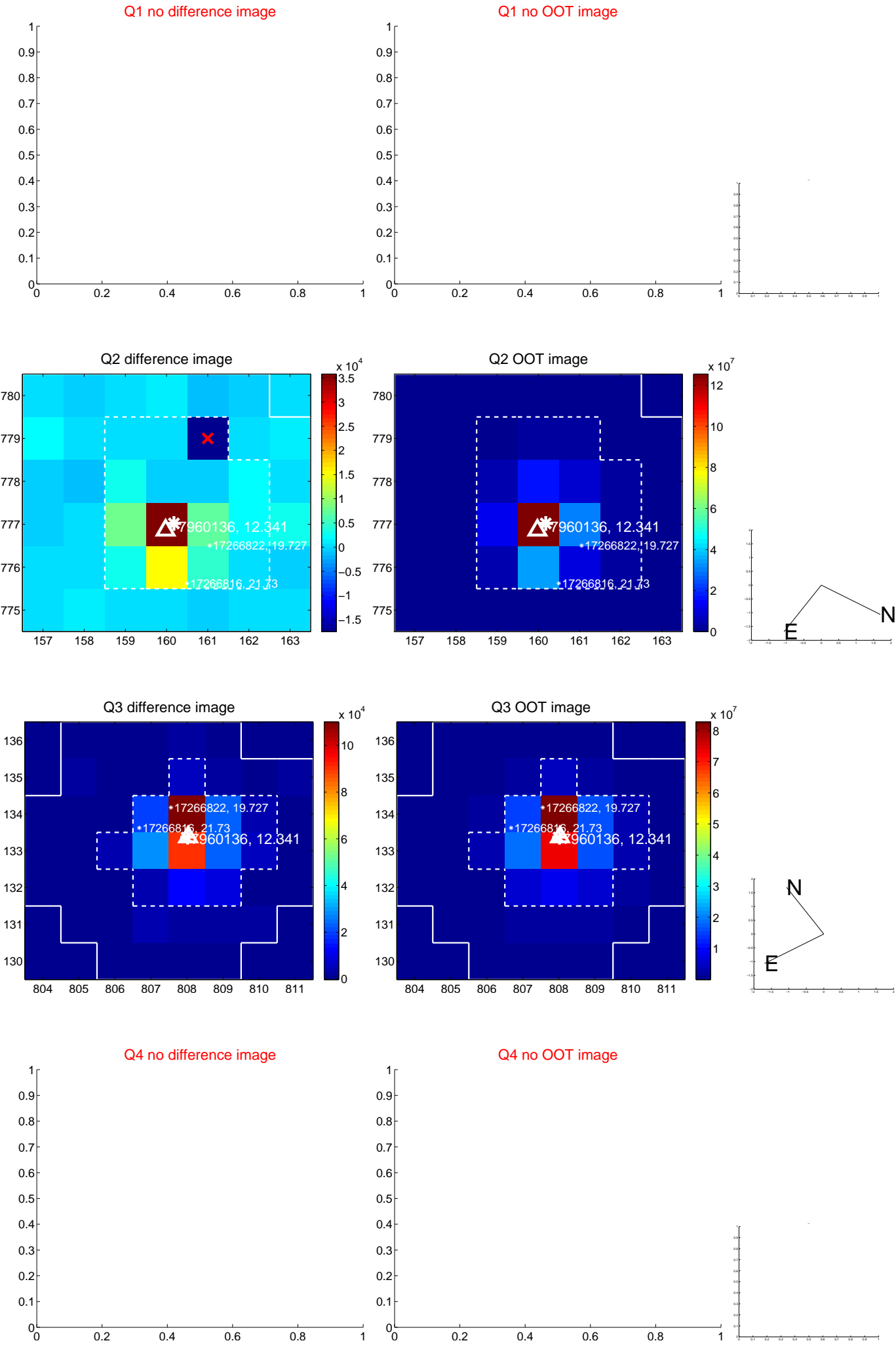
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.078 \pm 0.301$	0.26	$-0.078 \pm 0.294$	$0.006 \pm 0.120$
PRF-fit source offset from KIC position	$0.117 \pm 0.355$	0.33	$-0.115 \pm 0.376$	$-0.018 \pm 0.128$
photometric centroid source offset	$0.40 \pm 0.33$	1.20	$0.13 \pm 0.36$	$-0.37 \pm 0.33$

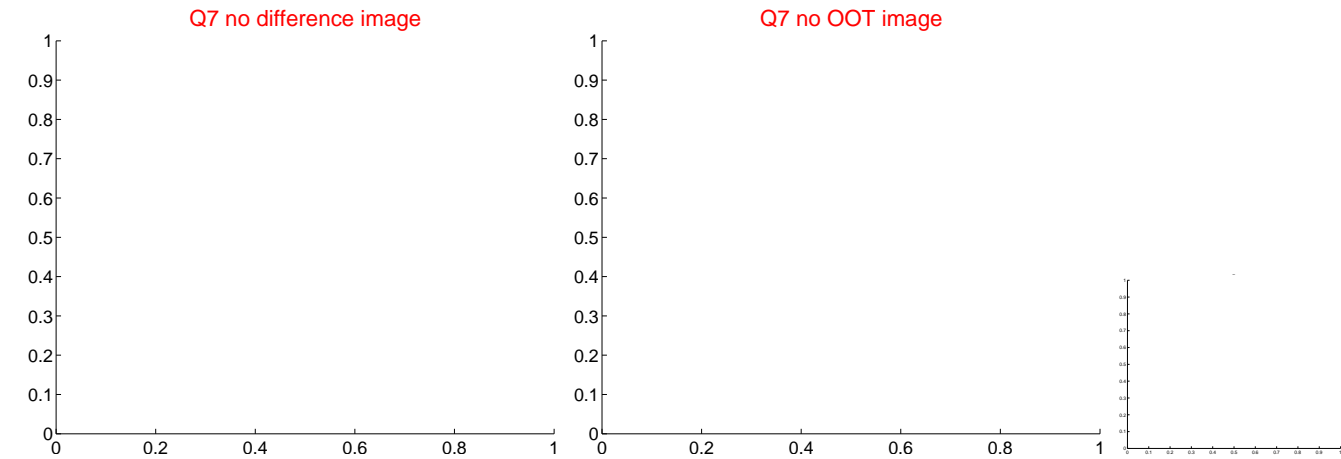
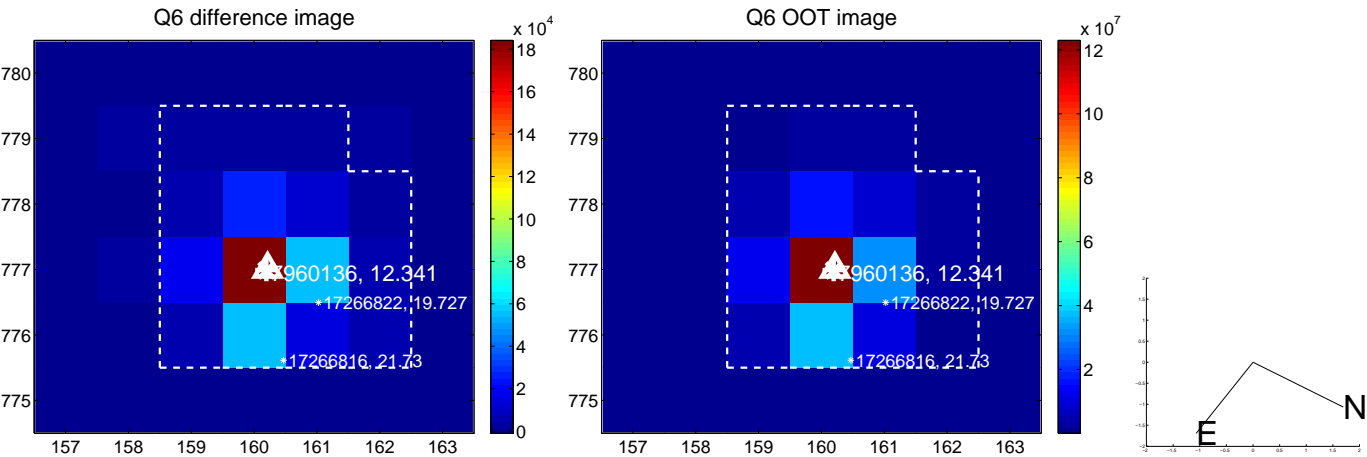


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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





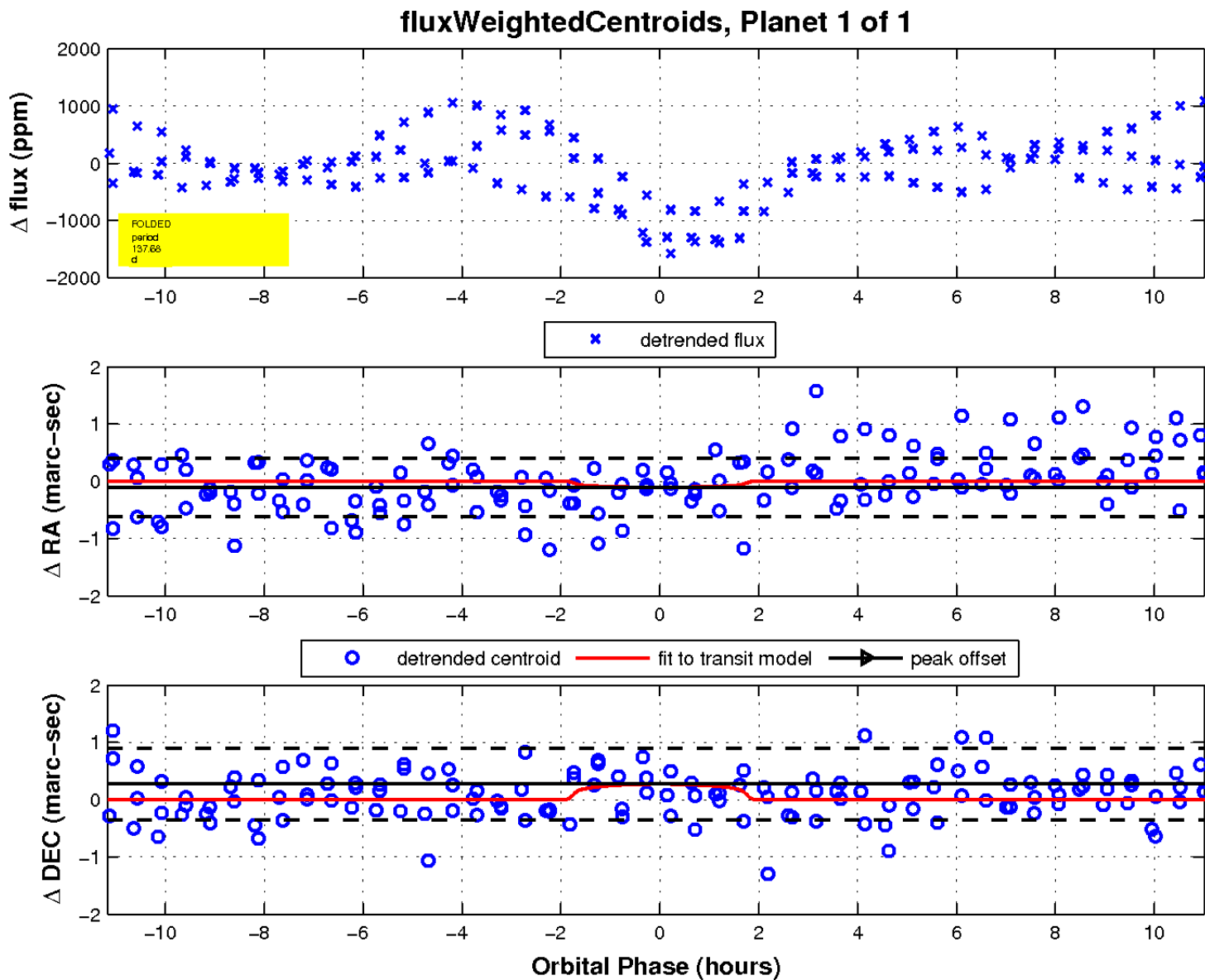
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

