

# KIC 008952695

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008952695-01	OBS	No	375.308840	137.919433	920.9	117.319	9.4	20.8	0.71	5247	3.82	0.39

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008952695-01	OBS	FP	0.00	1	0	0	1	<del>INDIV_TRANS_SKYE</del> — <del>ALL_TRANS_CHASES</del> — <del>INCONSISTENT_TRANS</del> — <del>CENT_FEW_DIFFS</del> — <del>EPHEM_MATCH</del>

**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.

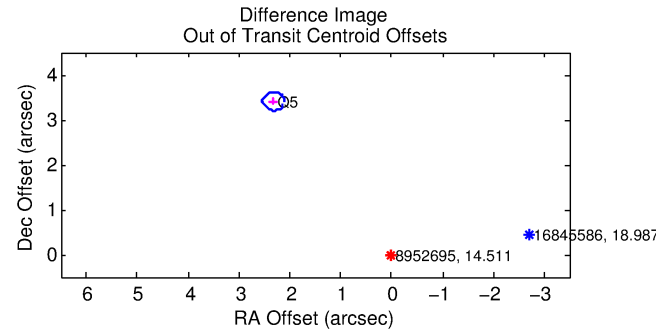
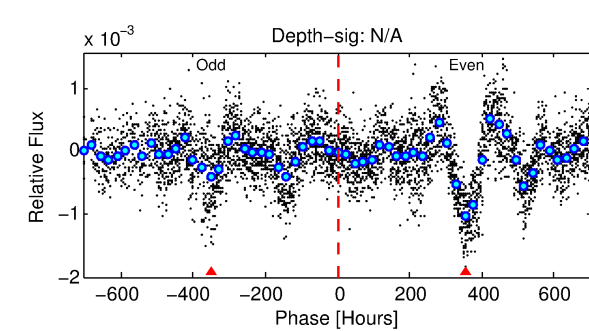
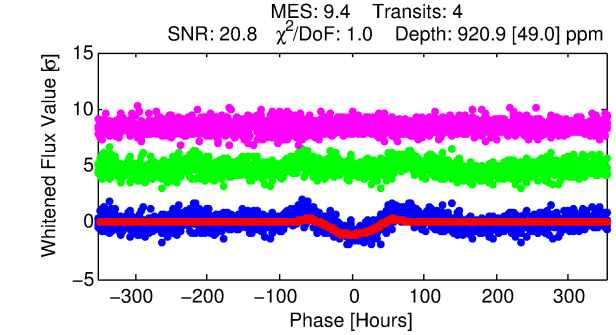
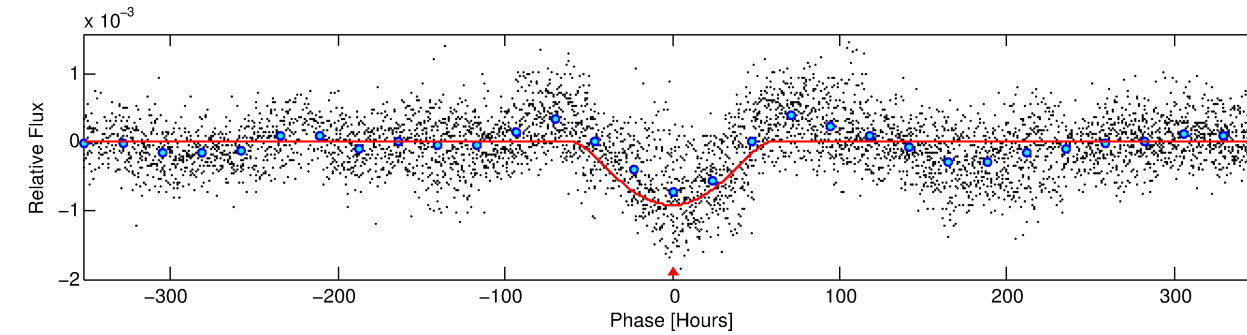
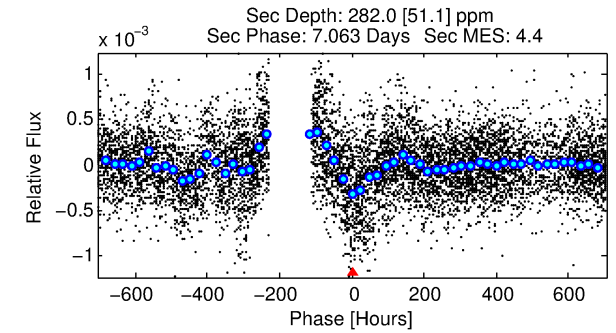
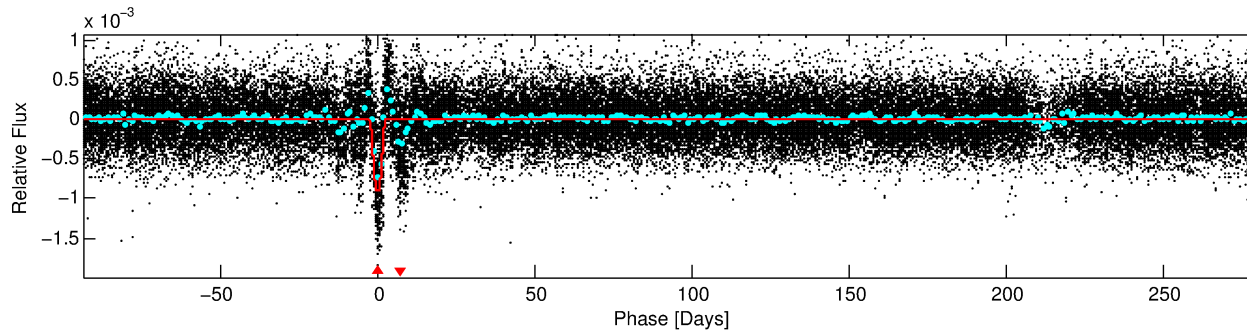
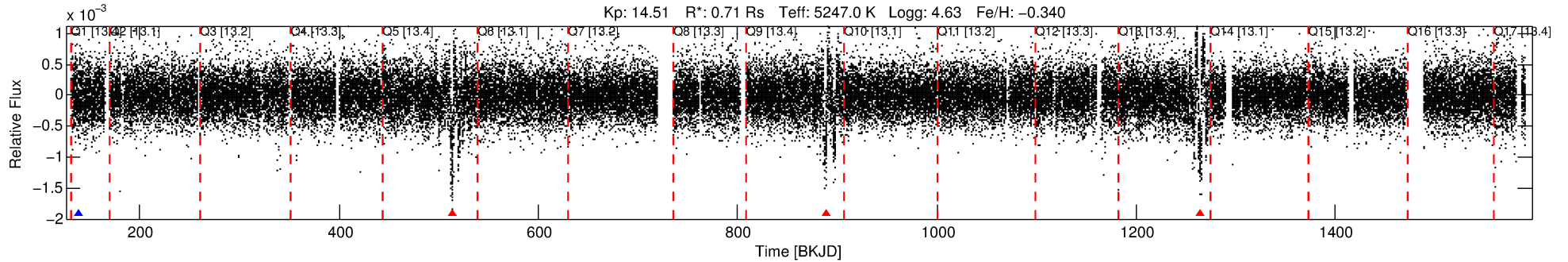
## Ephemeris Match Information For 008952695-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ( $''$ )	$\Delta$ Row	$\Delta$ Col	$m_2$	$m_1$	$D_2/D_1$	Mechanism	Flag	$\sigma_P$	$\sigma_T$
008952695-01	8952695	008884690-01	8884690	1:1	712.4	-179	-4	14.41	14.51	0.95	Col-Anomaly	1	0.15	1.28

**Notes:**  $P_1:P_2$  is the period ratio. Dist is the distance in arcseconds.  $\Delta$ Row and  $\Delta$ Col are the number of pixels apart in row and column.  $m_2$  and  $m_1$  are the magnitudes of the parent and child.  $D_2/D_1$  is the parent's transit depth divided by the child's.  $\sigma_P$  and  $\sigma_T$  are the significance of the match in period and epoch. For a match to be considered significant  $\sigma_P < 5.0$  and  $\sigma_T < 5.0$ . Matches which have  $\sigma_P$  and  $\sigma_T$  very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

# DV One-Page Summary

KIC: 8952695 Candidate: 1 of 1 Period: 375.309 d



## DV Fit Results:

Period = 375.30884 [0.05646] d  
Epoch = 137.9194 [0.1086] BKJD  
Rp/R\* = 0.0495 [0.0344]  
a/R\* = 8.53 [1.61]  
b = 0.99 [0.06]  
Seff = 0.39 [0.08]  
Teq = 201 [10] K  
Rp = 3.82 [2.72] Re  
a = 0.9390 [0.1118] AU  
Ag = 9364.37 [13238.66] [0.71σ]  
Teffp = 3057 [1077] K [2.65σ]

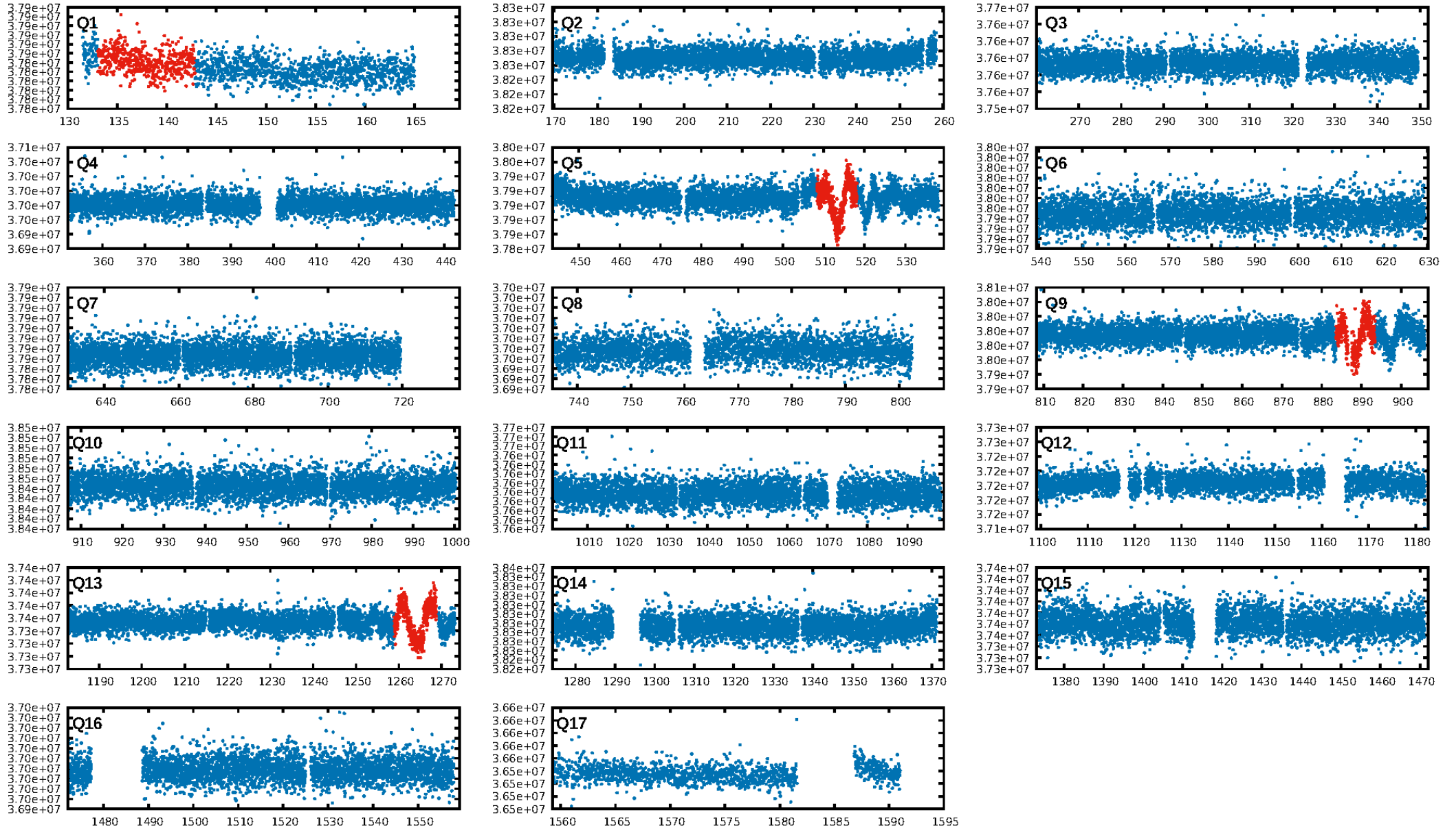
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 2.28e-19  
RollingBand-fgt: 0.00 [0/3]  
GhostDiagnostic-chr: -5.424  
Centroid-sig: 9.3%  
Centroid-so: 1.117 arcsec [2.89σ]  
OotOffset-rm: 4.128 arcsec [59.11σ]  
KicOffset-rm: 4.213 arcsec [60.36σ]  
OotOffset-st: 0/0/0/1 [1]  
KicOffset-st: 0/0/0/1 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [1/1]

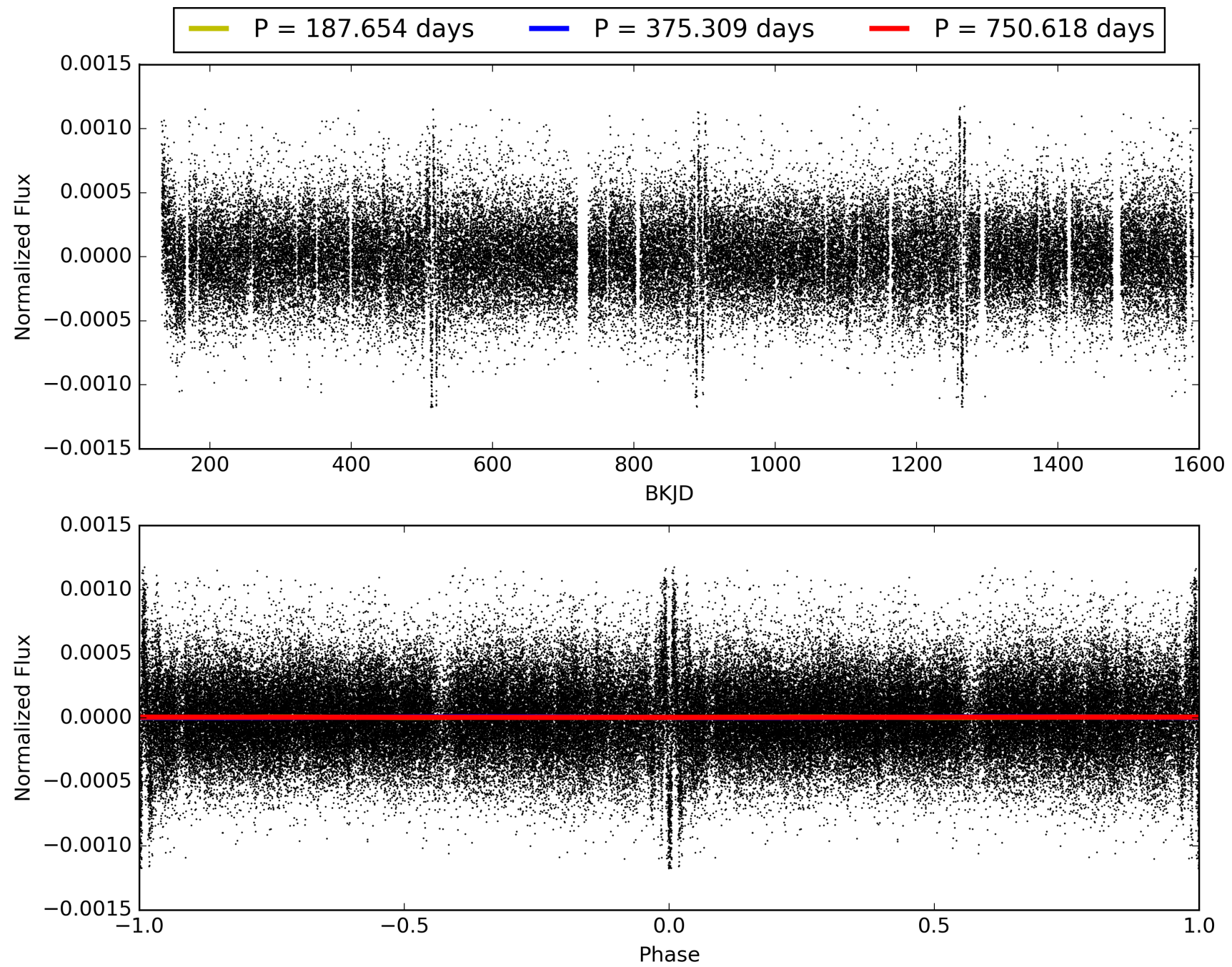
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:54:16 Z

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

# TCE 008952695-01, PDC Light Curves

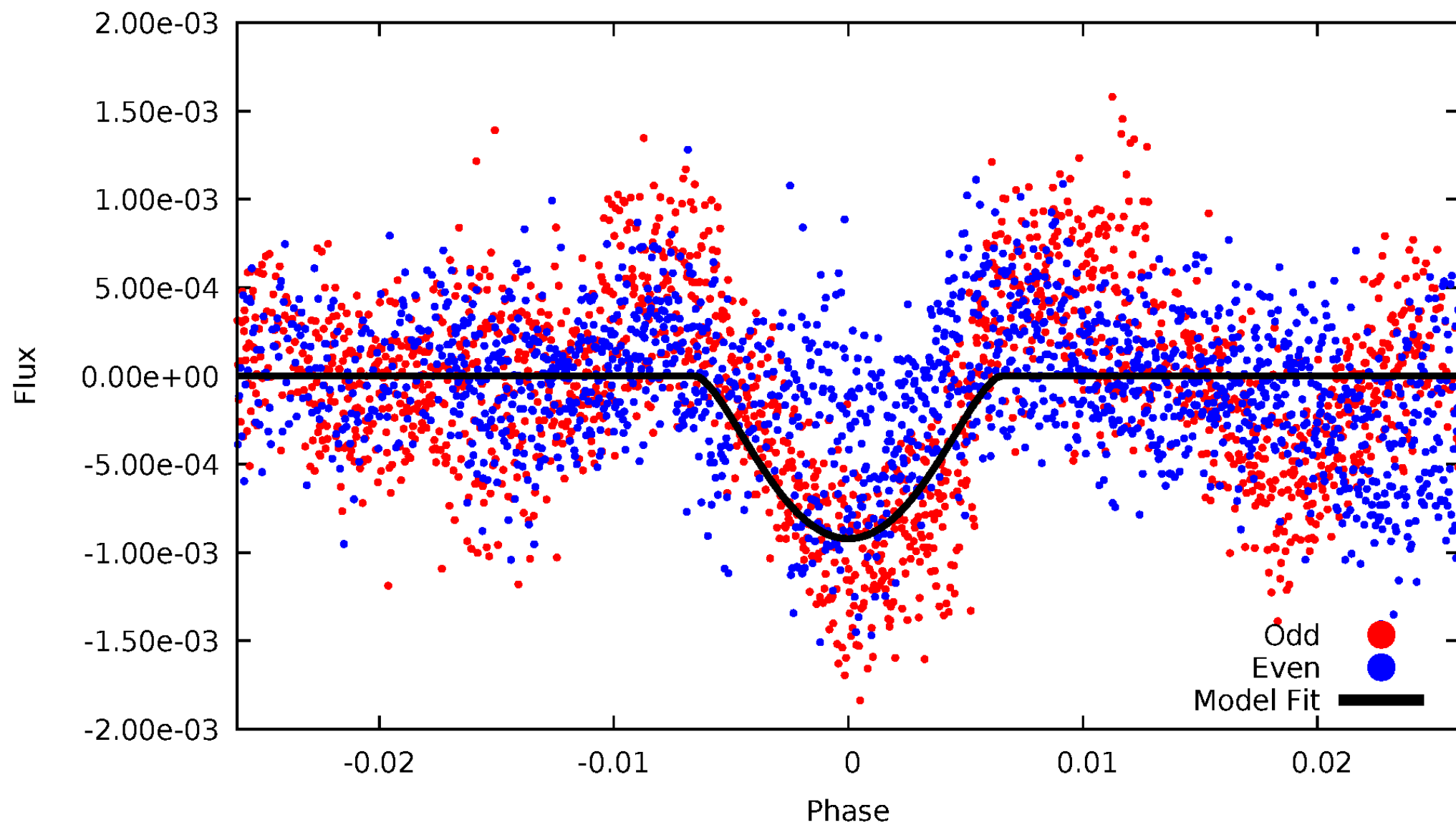


TCE 008952695-01



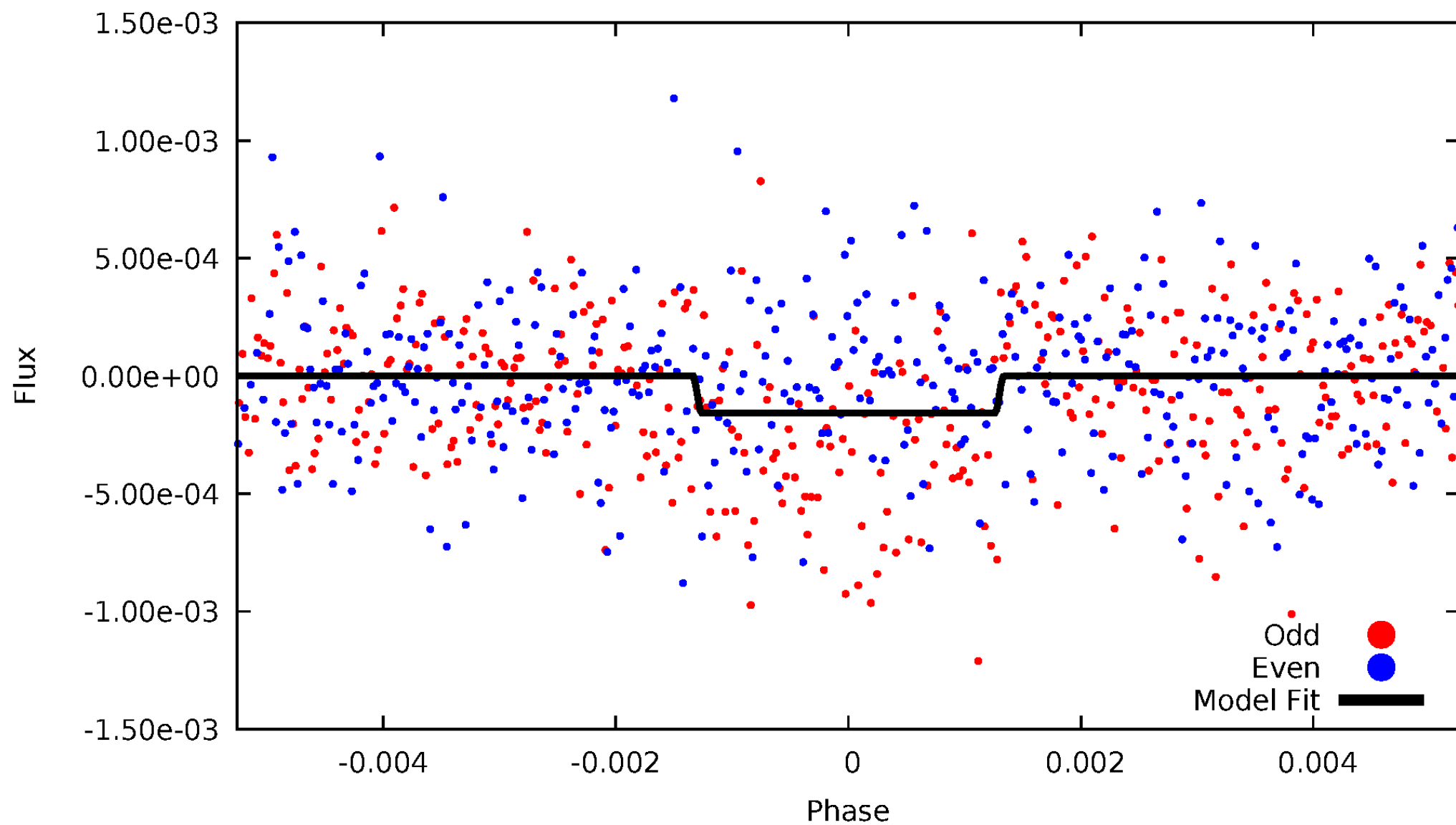
# DV Odd/Even

TCE 008952695-01



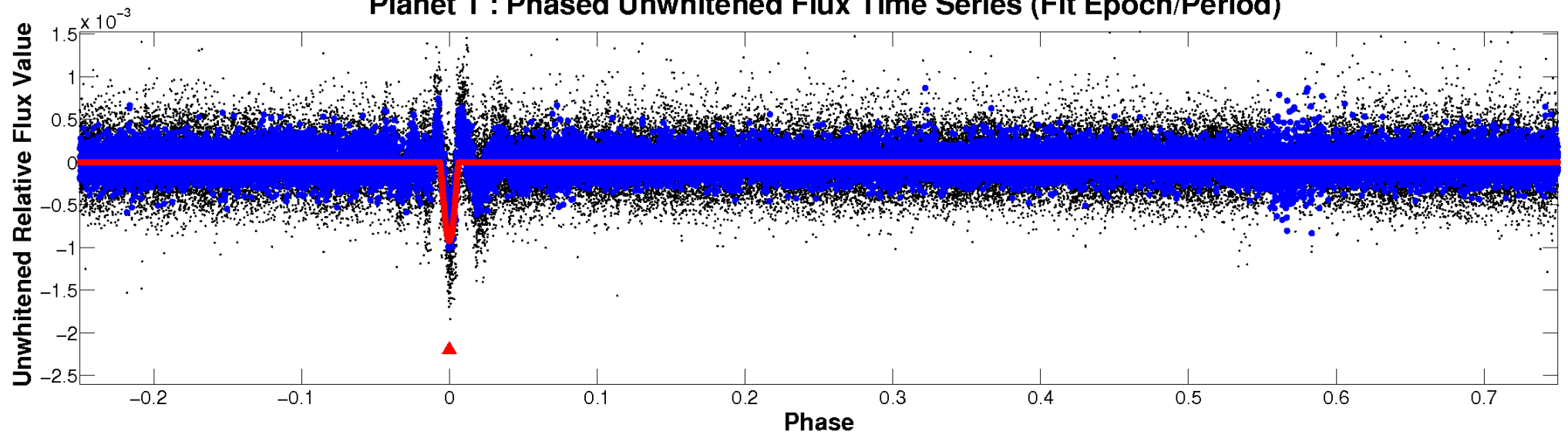
# ALT Odd/Even

TCE 008952695-01

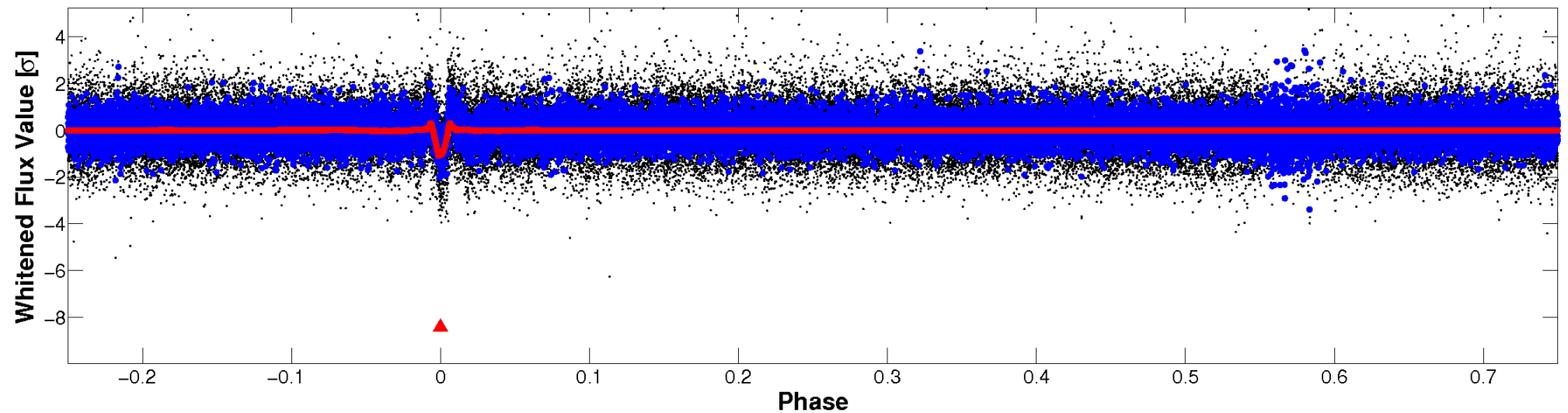


# Non-Whitened Vs. Whitened Light Curve

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



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



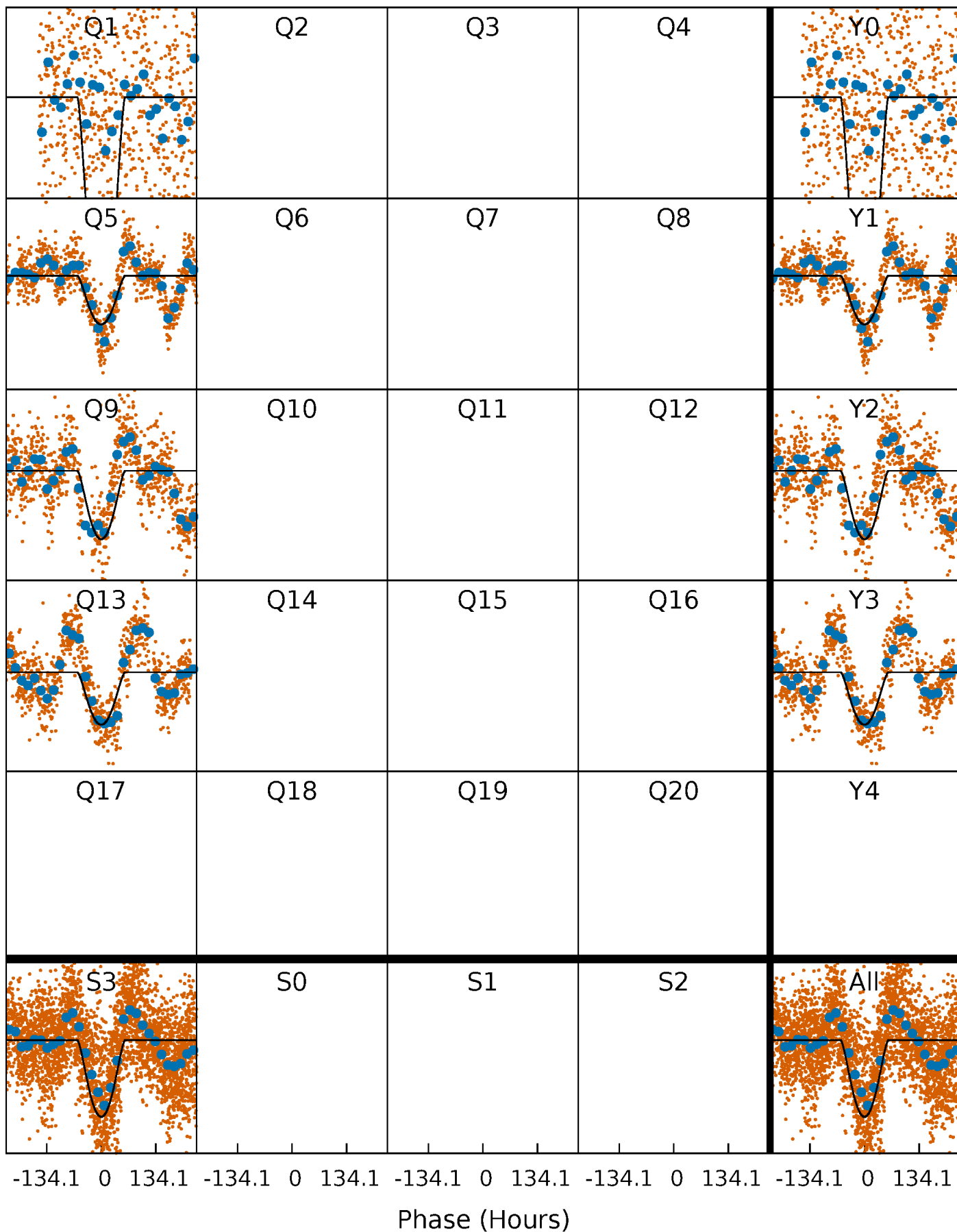
# PDC Quarter-Phased Transit Curves

TCE 008952695-01 P=375.308840 Days  $T_0=137.919433$  (BKJD)



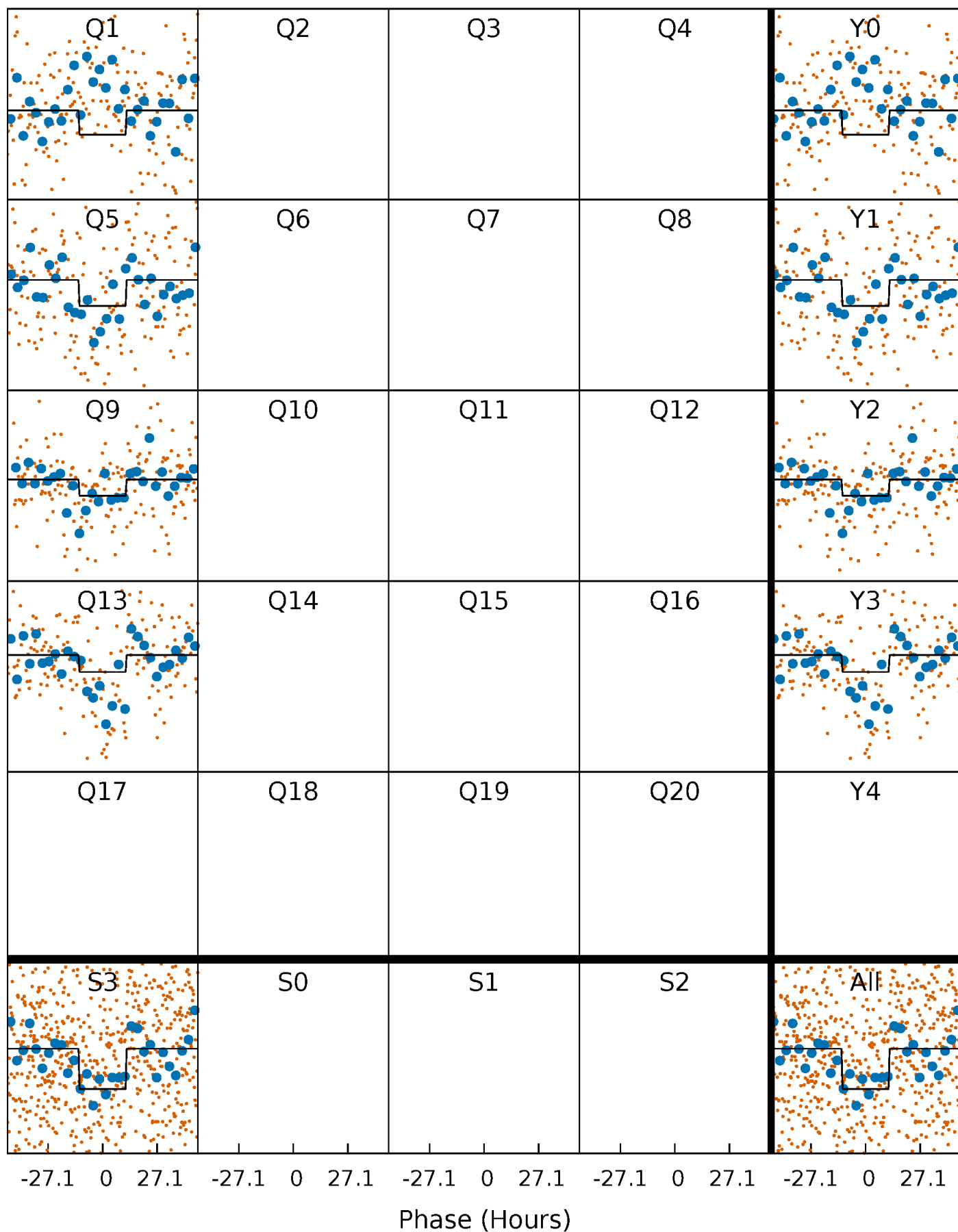
# DV Quarter-Phased Transit Curves

TCE 008952695-01     $P=375.308840$  Days     $T_0=137.919433$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

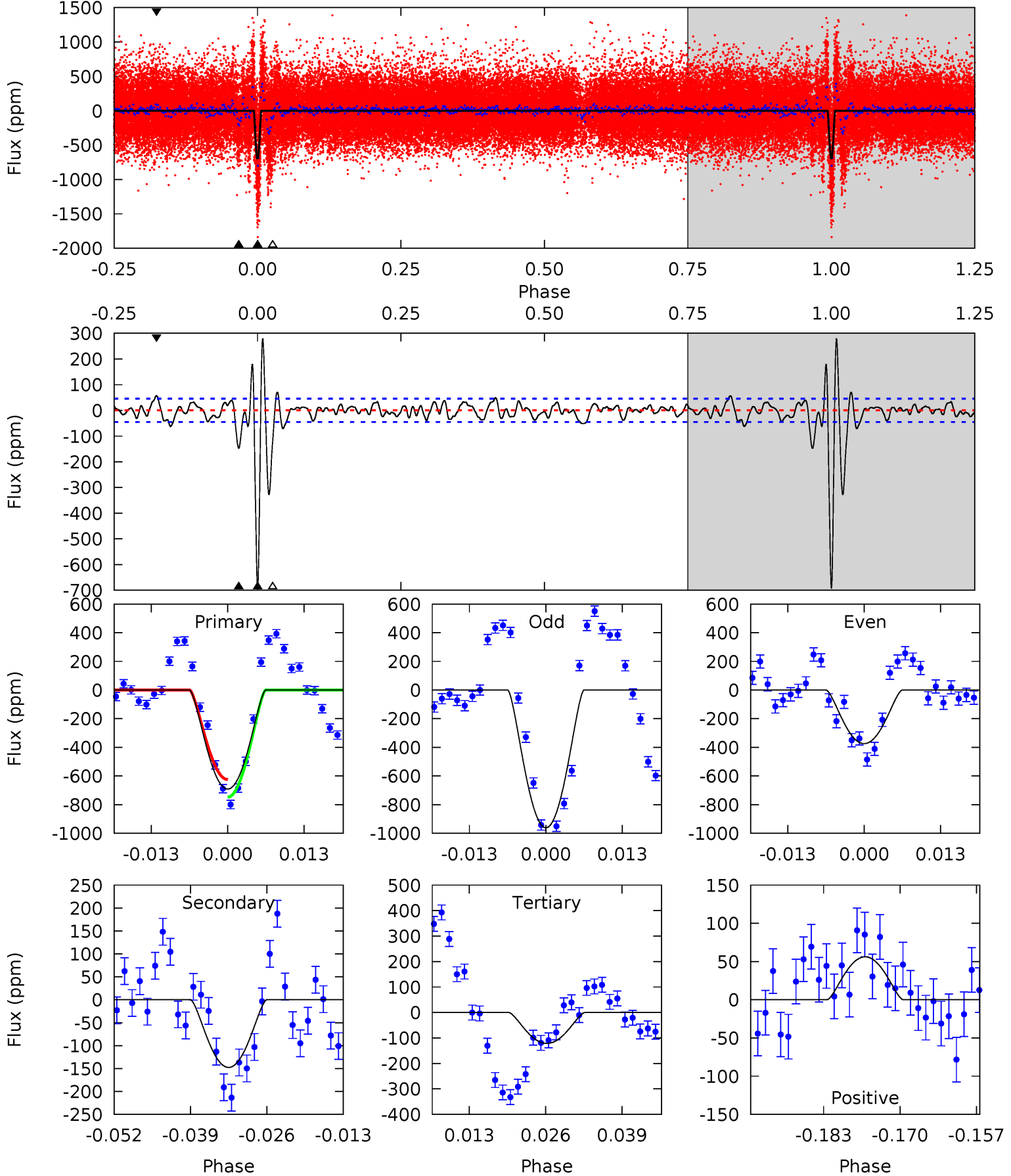
TCE 008952695-01 P=375.943448 Days  $T_0=137.552126$  (BKJD)



# DV Model-Shift Uniqueness Test

008952695-01, P = 375.308840 Days, E = 137.919433 Days

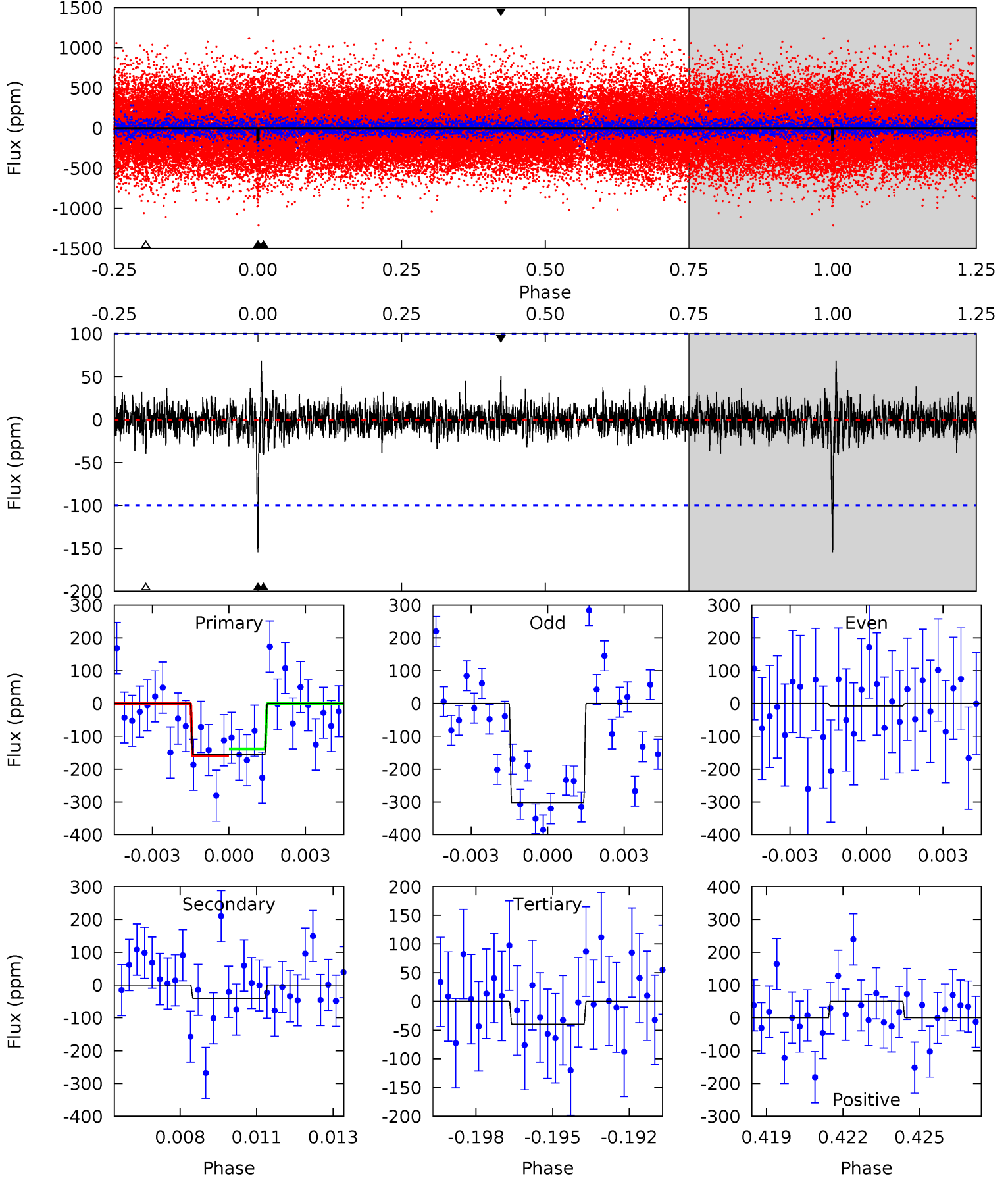
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
76.0	16.2	13.3	6.17	4.97	2.48	3.98	62.7	69.8	2.90	10.1	32.7	0.84	0.29	6.69



# Alt Model-Shift Uniqueness Test

008952695-01,  $P = 375.943448$  Days,  $E = 137.552126$  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
8.17	2.16	2.10	2.65	5.27	3.00	0.60	6.06	5.51	0.05	-0.49	7.76	0.77	0.31	0.54



### Stellar Parameters For KIC 008952695

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5247^{+158}_{-142}$	$4.632^{+0.030}_{-0.090}$	$-0.340^{+0.350}_{-0.300}$	$0.708^{+0.103}_{-0.052}$	$0.790^{+0.070}_{-0.085}$	$3.133^{+0.490}_{-0.901}$
	+3%/-3%	+1%/-2%	+103%/-88%	+15%/-7%	+9%/-11%	+16%/-29%
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 008952695-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-148 \pm 9$	$4.00^{+2.66}_{-2.50}$	$284^{+12}_{-10}$	$3174^{+1181}_{-429}$	$4475^{+26932}_{-2874}$
Alt.	$-41 \pm 19$	$2.39^{+2.30}_{-1.69}$	$284^{+12}_{-10}$	$3022^{+1455}_{-550}$	$3280^{+31935}_{-2608}$

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

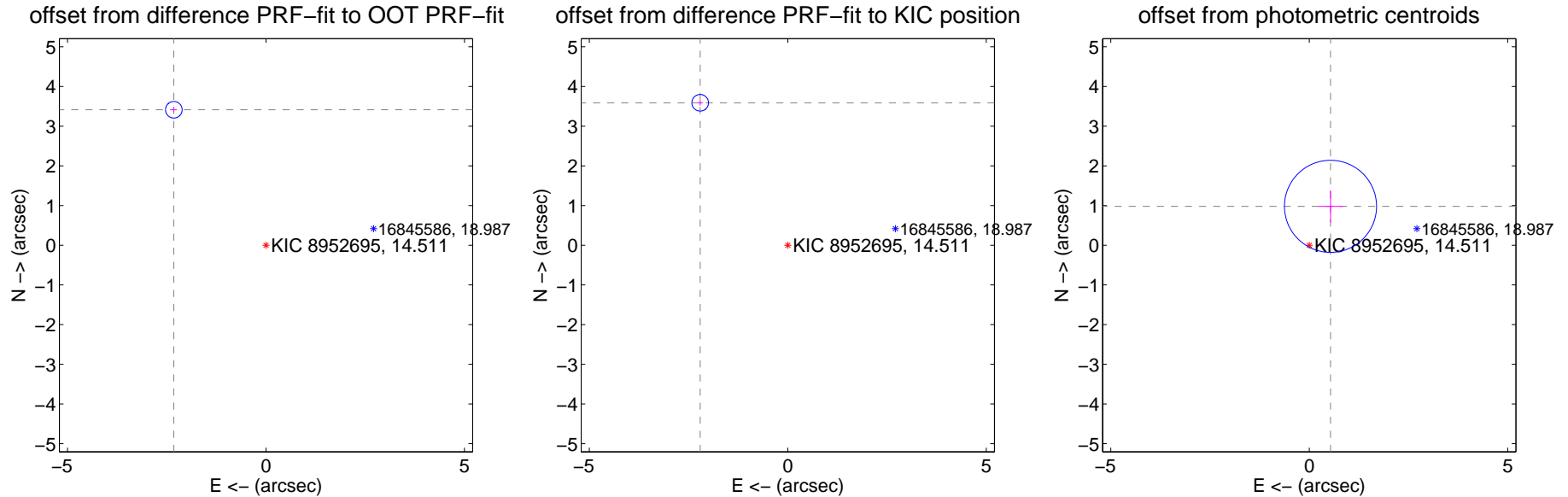
## DV Centroid Data

Supplemental centroid analysis for 008952695-01. Kepler magnitude: 14.51. Transit SNR 20.83

There are 0 quarters with good PRF difference image offsets

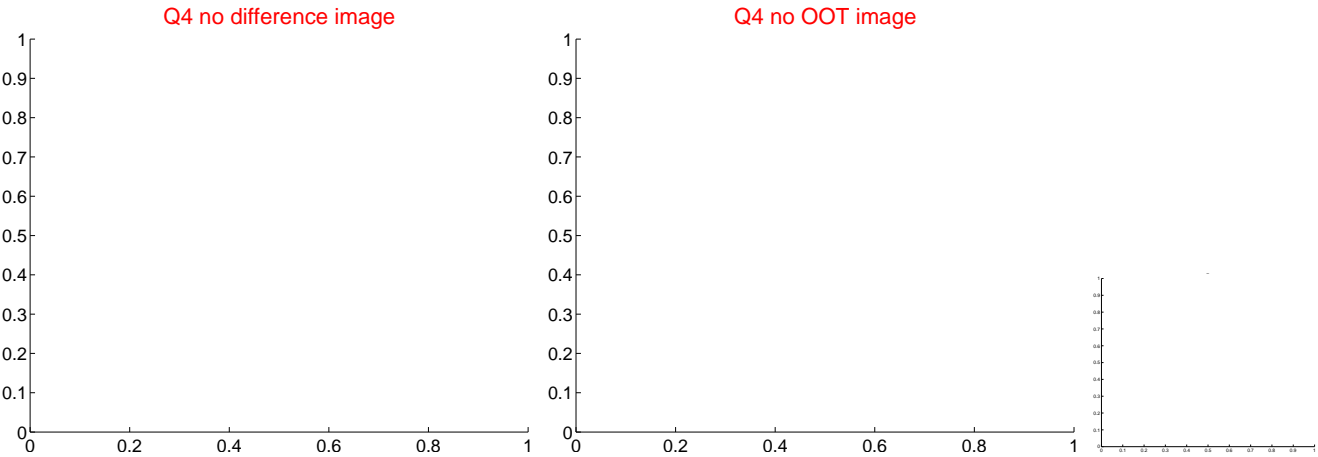
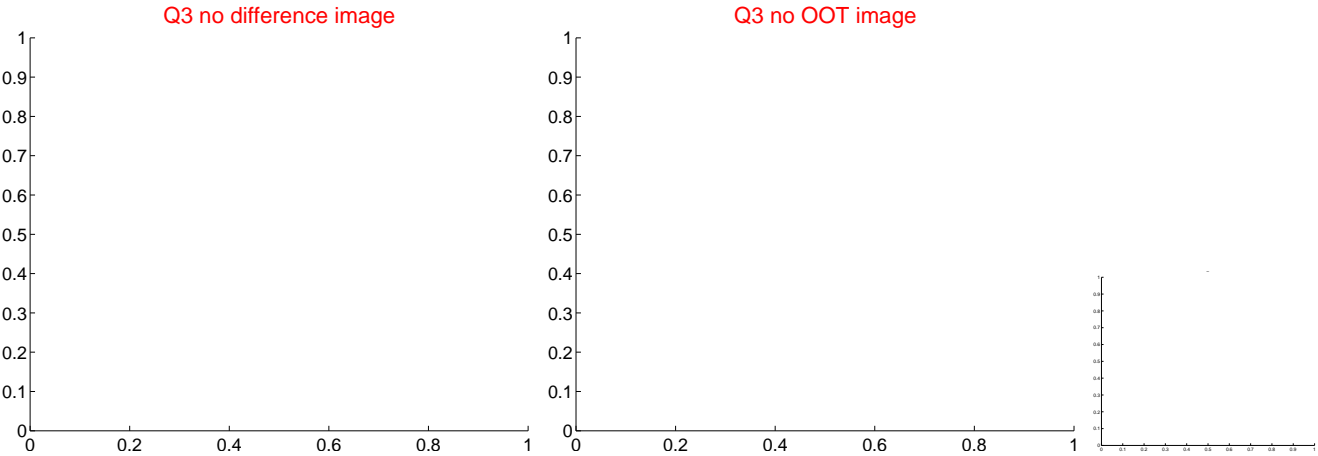
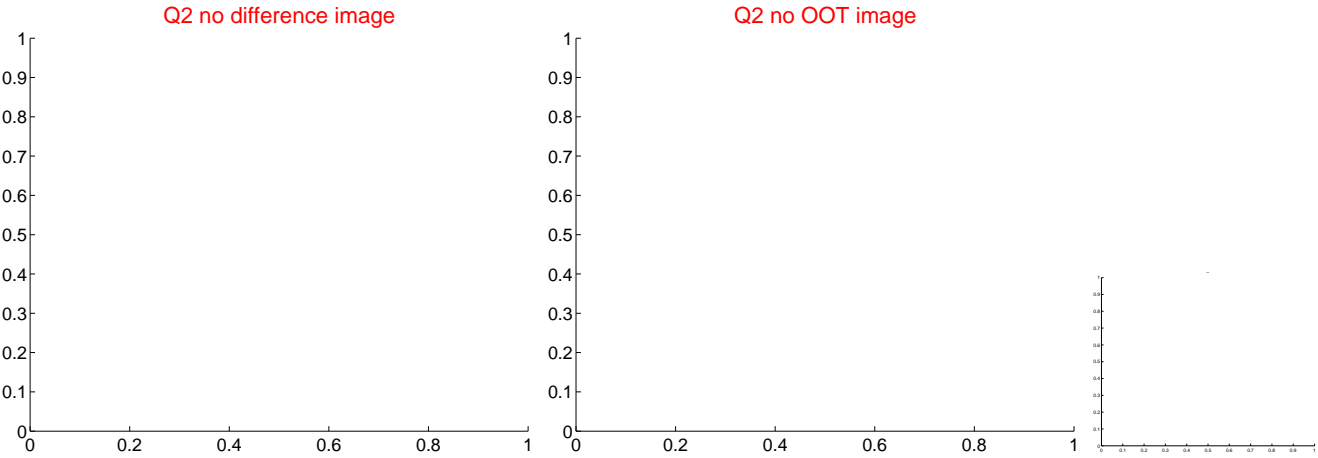
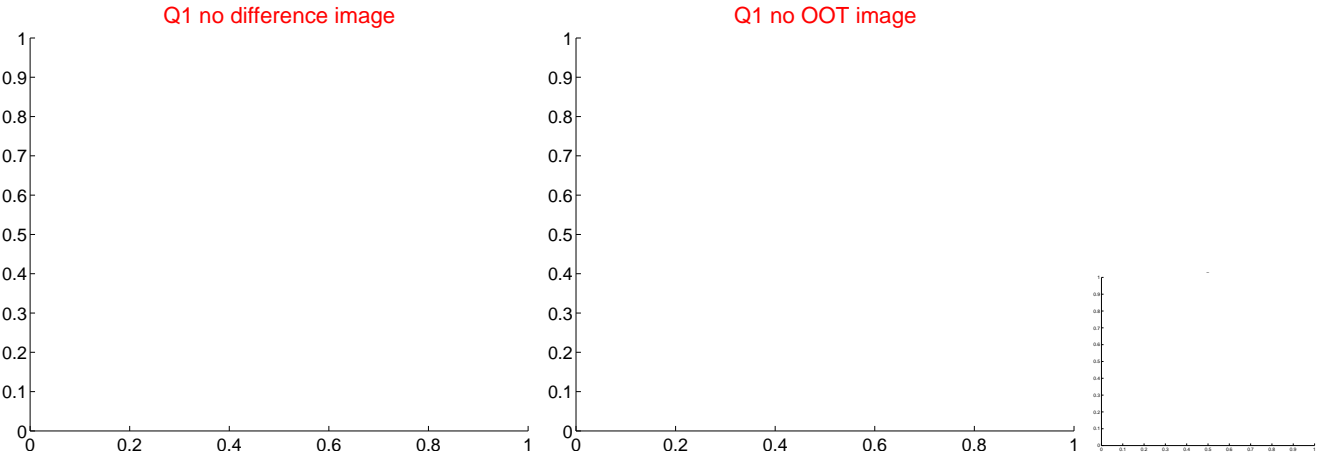
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$4.128 \pm 0.070$	59.11	$2.321 \pm 0.070$	$3.413 \pm 0.070$
PRF-fit source offset from KIC position	$4.213 \pm 0.070$	60.36	$2.207 \pm 0.070$	$3.589 \pm 0.070$
photometric centroid source offset	$1.12 \pm 0.39$	2.89	$-0.54 \pm 0.31$	$0.98 \pm 0.41$

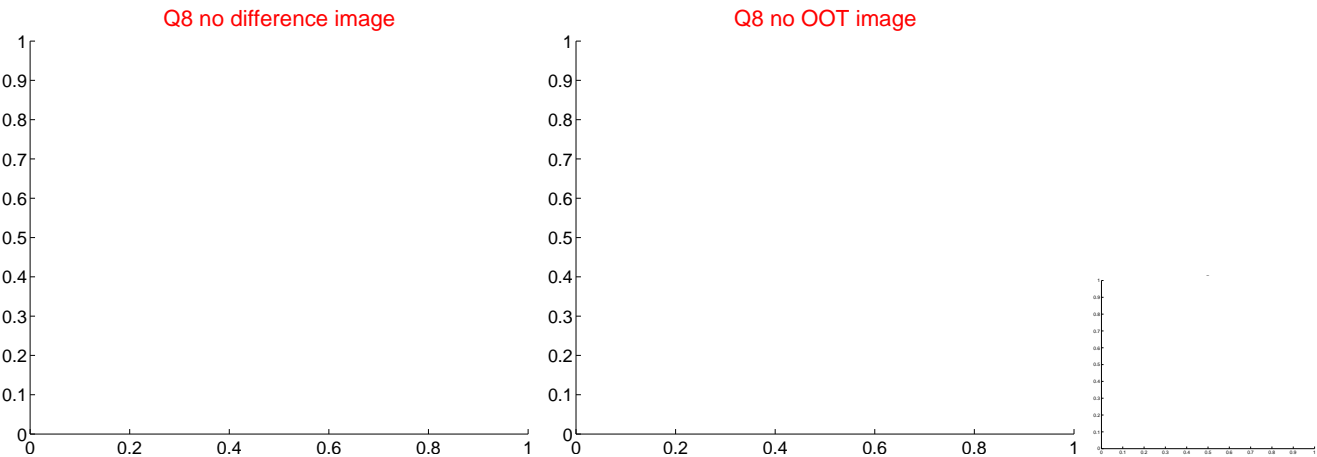
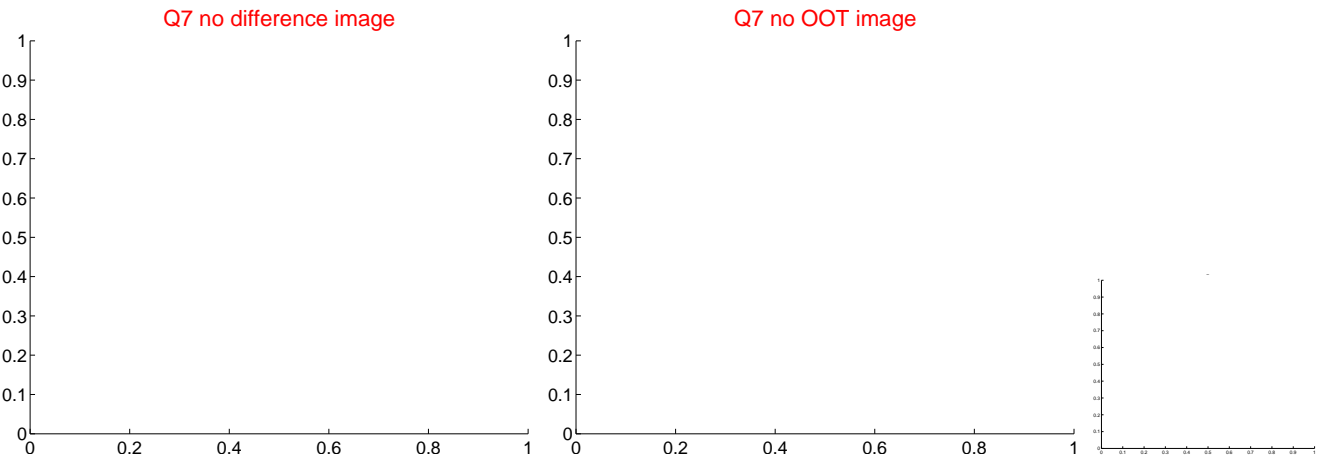
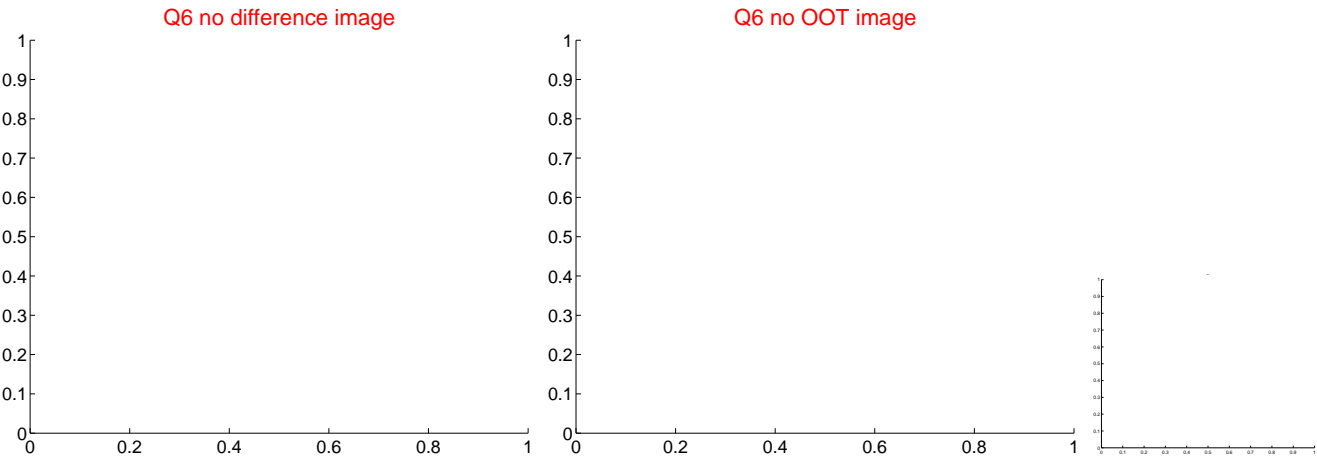
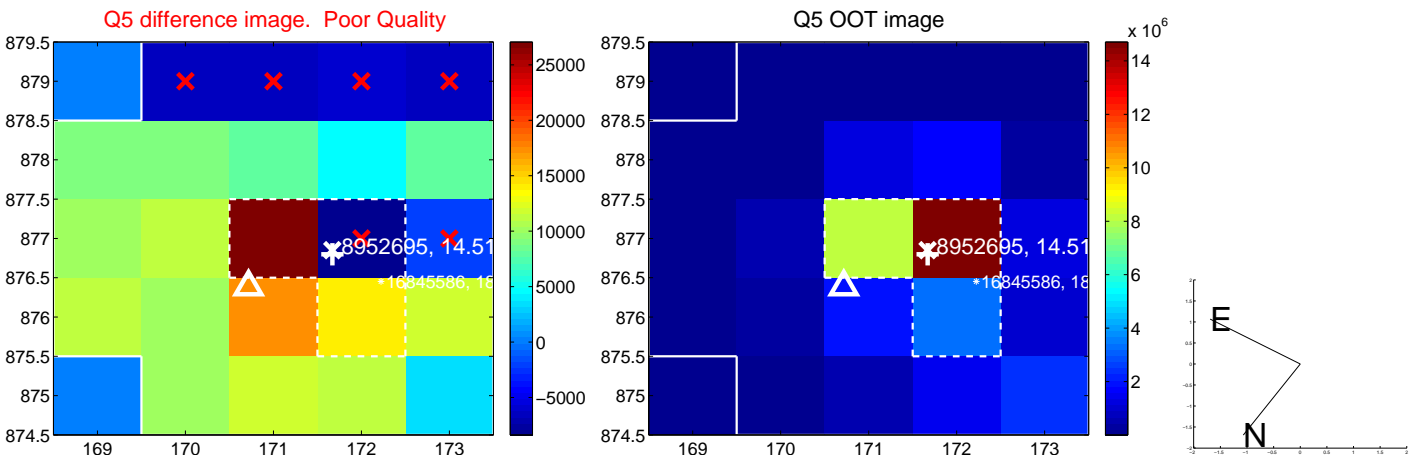


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



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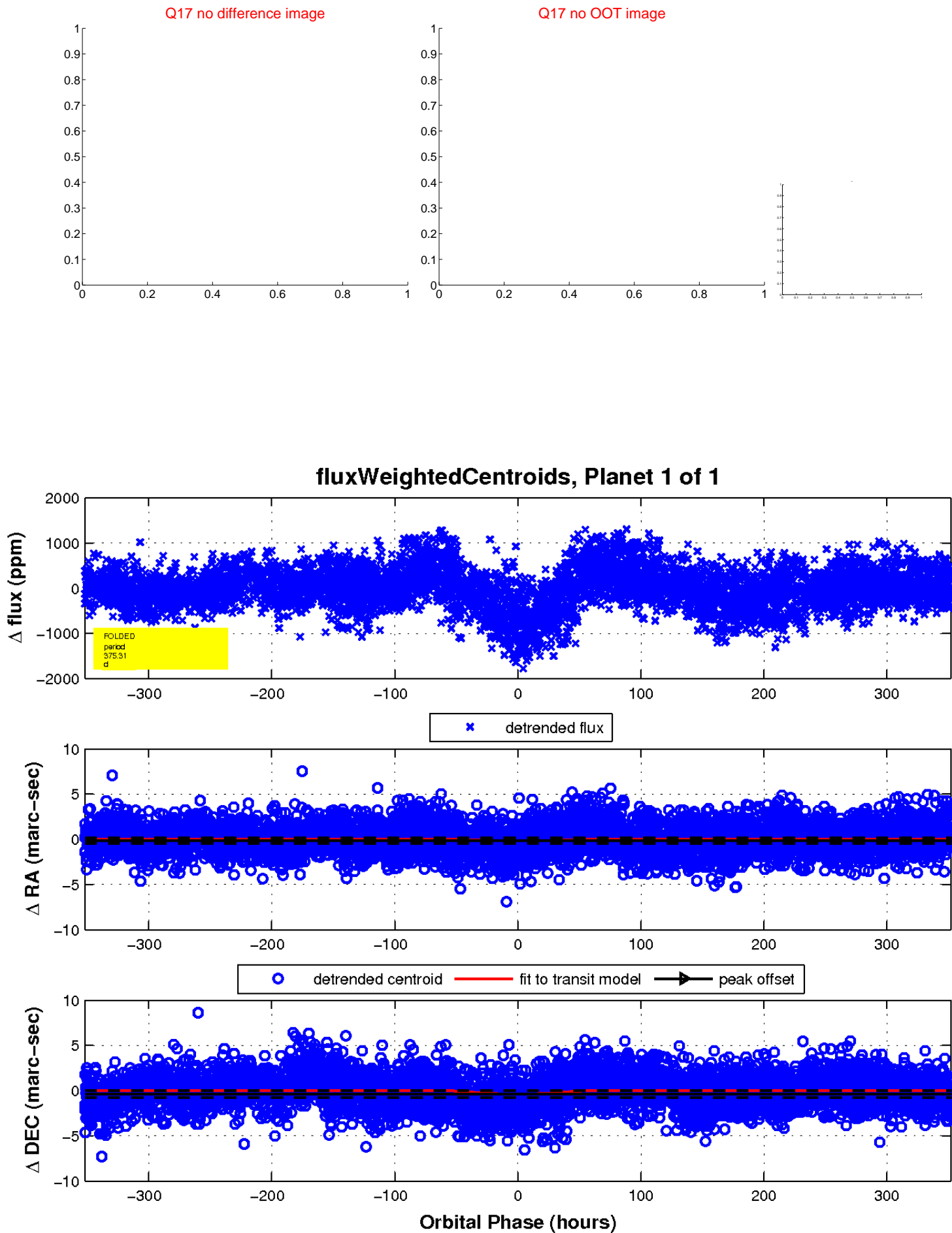
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UKIRT Image

Declination

