

# KIC 007661065

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007661065-01	OBS	2307.01	4.150266	134.941243	512.5	1.120	21.6	26.7	0.86	5290	2.37	218.91

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007661065-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

**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.

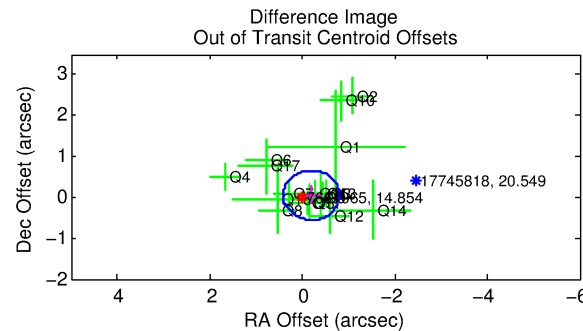
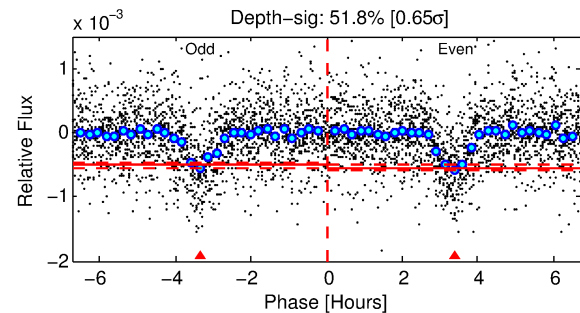
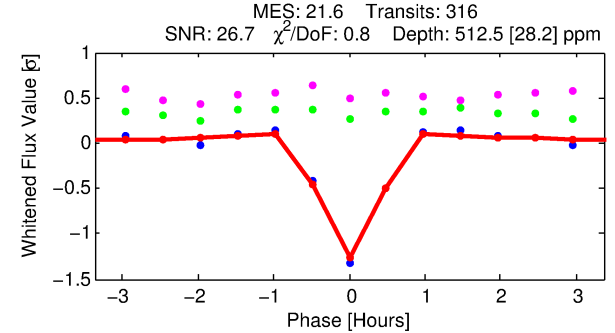
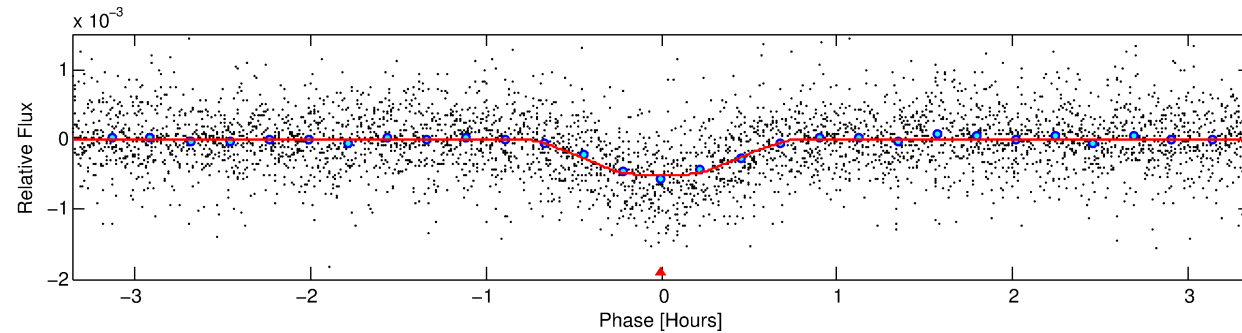
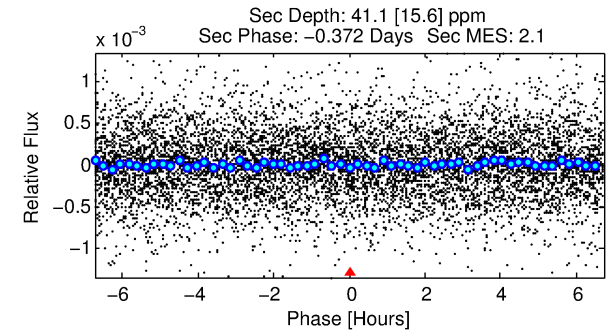
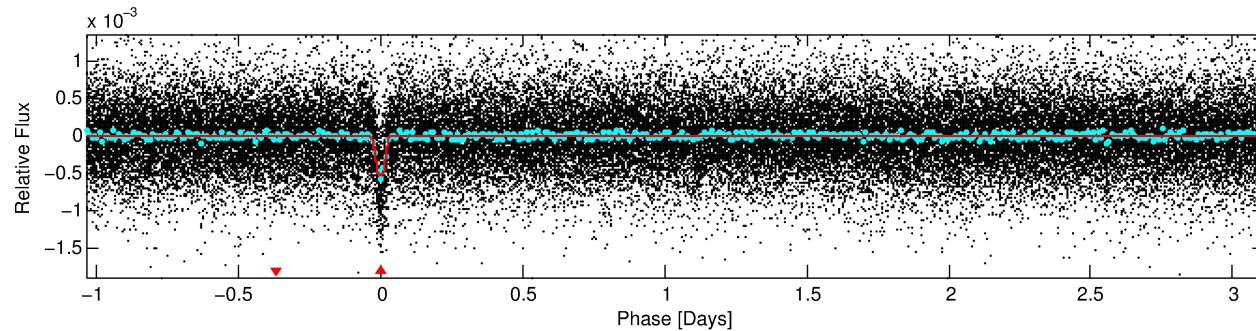
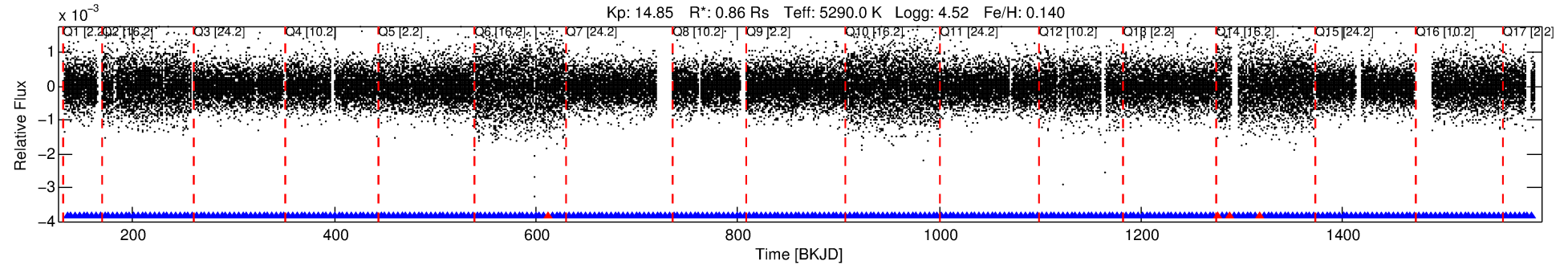
## Ephemeris Match Information For 007661065-01

No Significant Match Found

# DV One-Page Summary

KIC: 7661065 Candidate: 1 of 1 Period: 4.150 d

KOI: K02307.01 Corr: 0.912



## DV Fit Results:

Period = 4.15027 [0.00001] d  
Epoch = 134.9412 [0.0008] BKJD  
Rp/R\* = 0.0253 [0.0074]  
a/R\* = 13.92 [16.30]  
b = 0.90 [0.26]  
Seff = 218.91 [30.48]  
Teq = 981 [34] K  
Rp = 2.37 [0.72] Re  
a = 0.0486 [0.0038] AU  
Ag = 9.47 [6.69] [1.27σ]  
Teffp = 2661 [464] K [3.61σ]

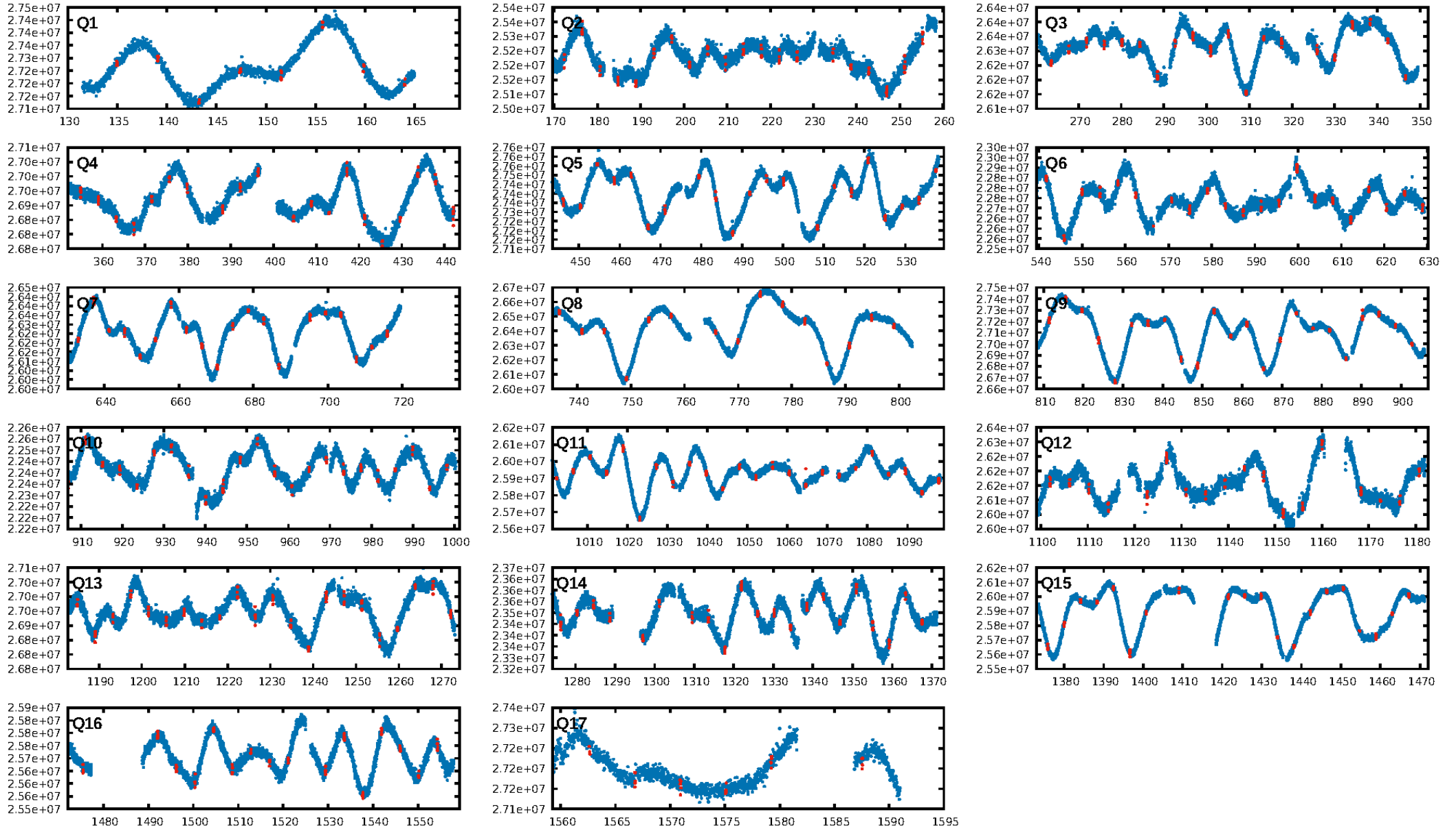
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 4.45e-99  
RollingBand-fgt: 0.99 [298/302]  
GhostDiagnostic-chr: 3.866  
Centroid-sig: 22.0%  
Centroid-so: 0.445 arcsec [0.84σ]  
OotOffset-rm: 0.195 arcsec [0.96σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-rm: 0.238 arcsec [1.11σ]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.88 [15/17]  
DiffImageOverlap-fno: 1.00 [17/17]

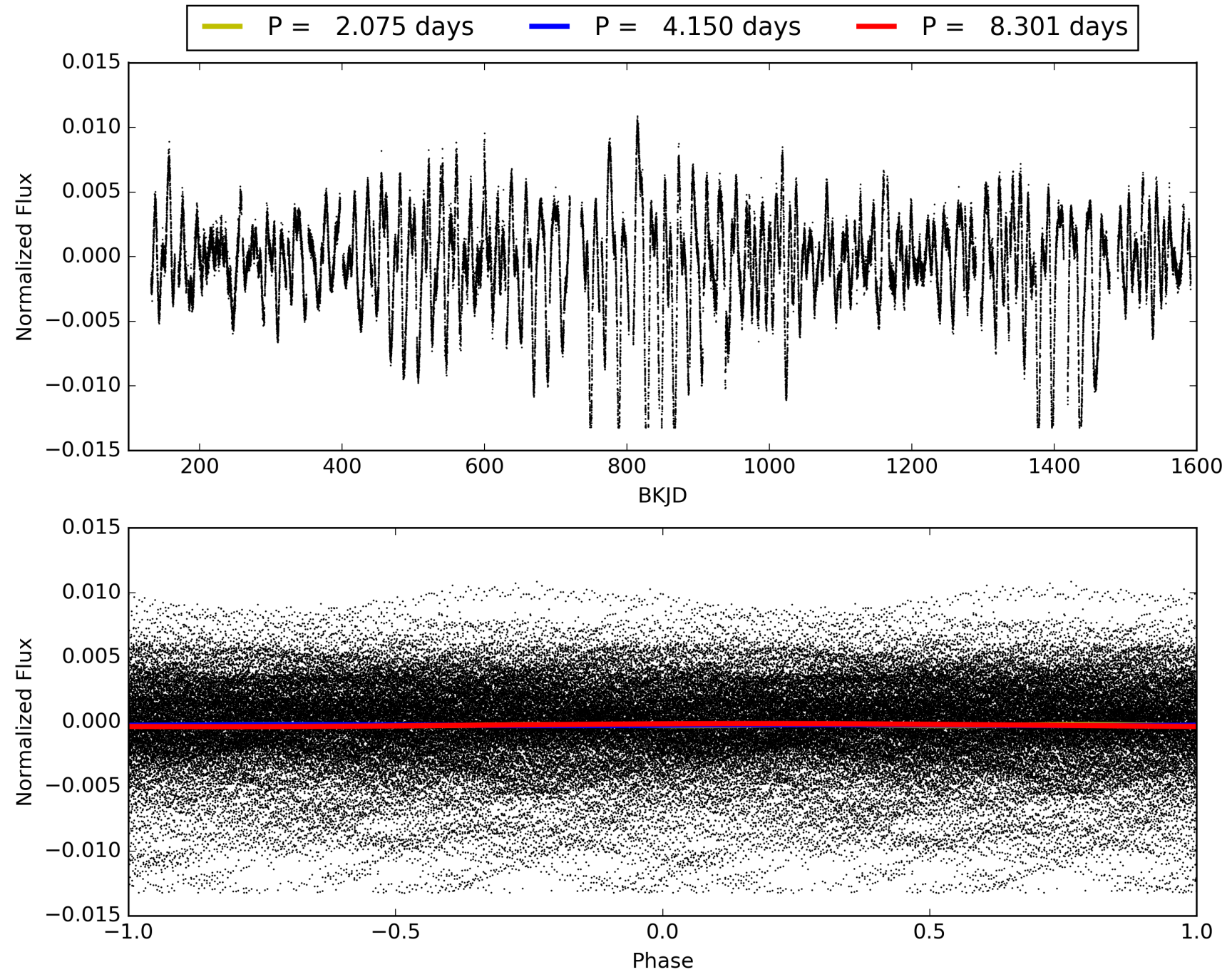
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:00:57 Z

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

# TCE 007661065-01, PDC Light Curves

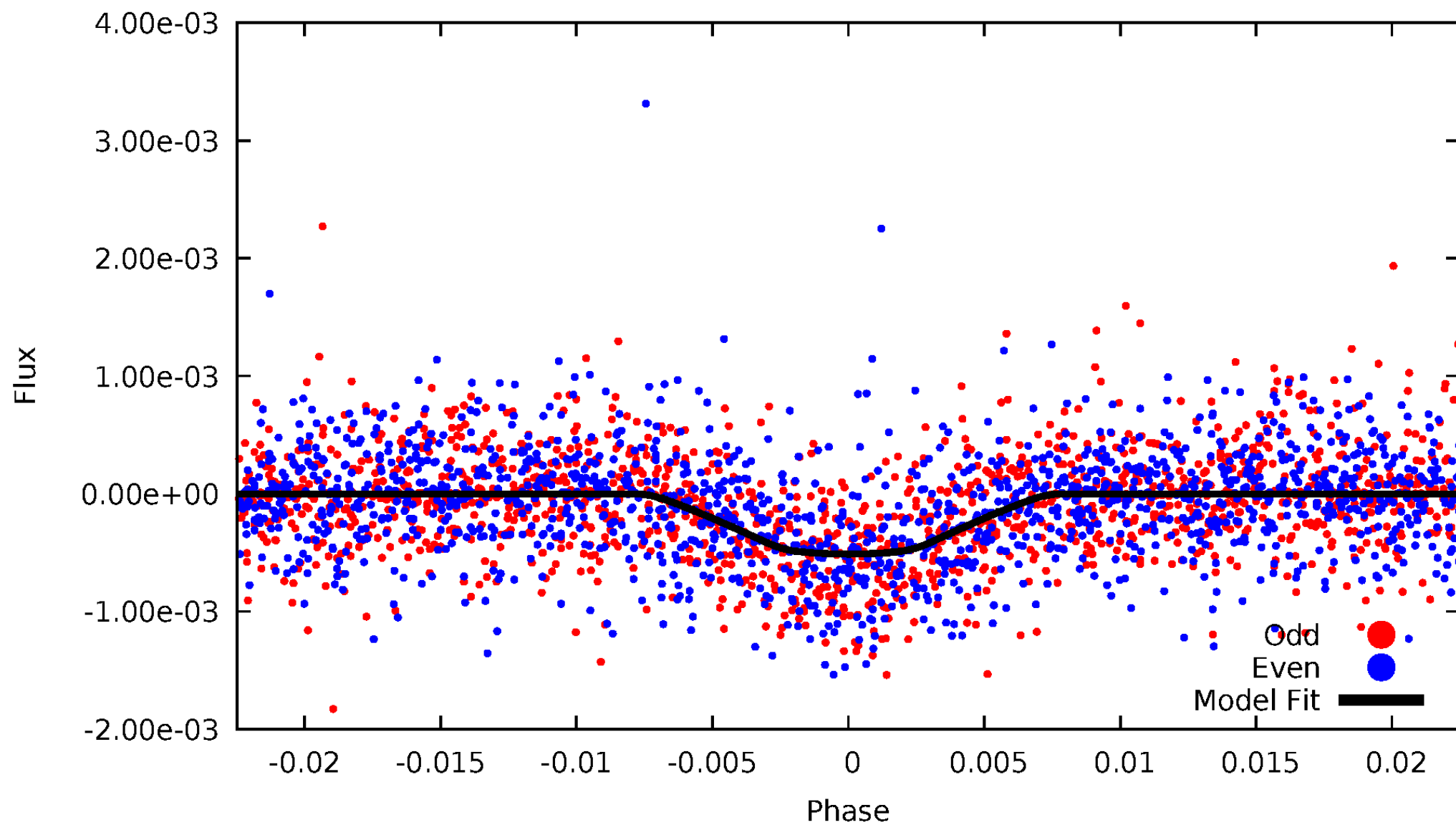


TCE 007661065-01



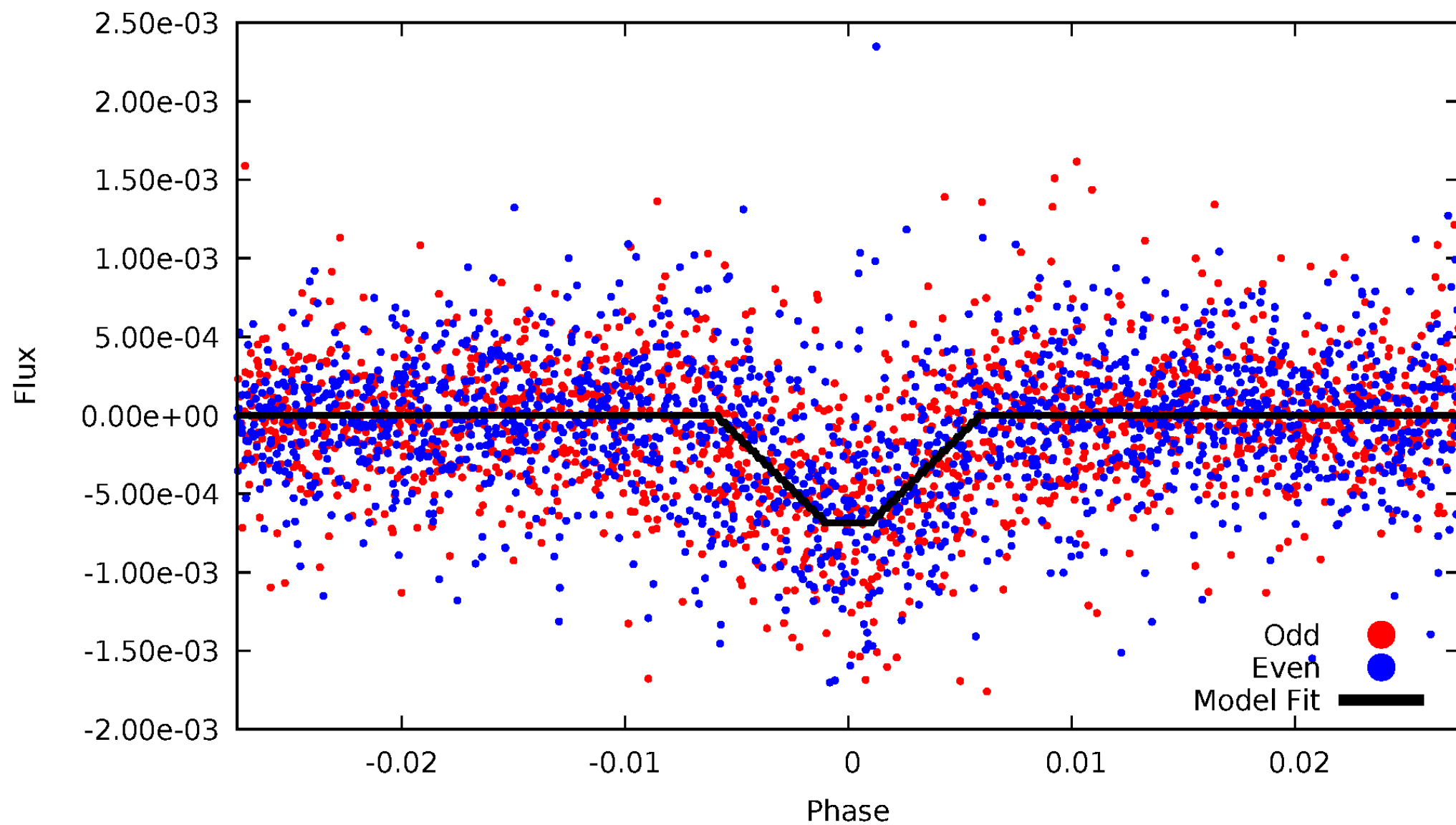
# DV Odd/Even

TCE 007661065-01



# ALT Odd/Even

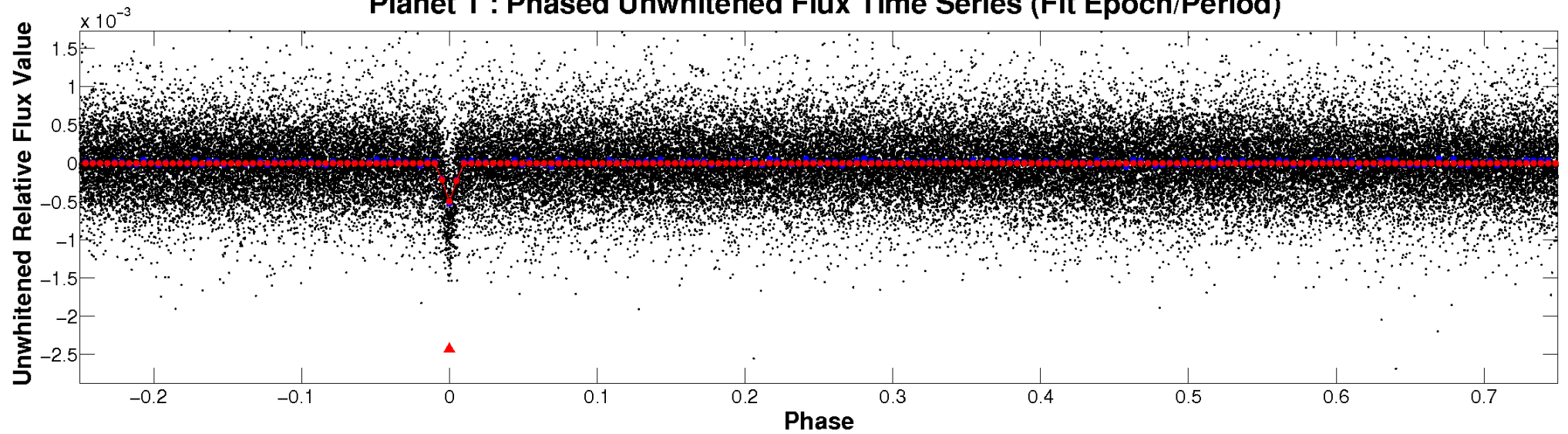
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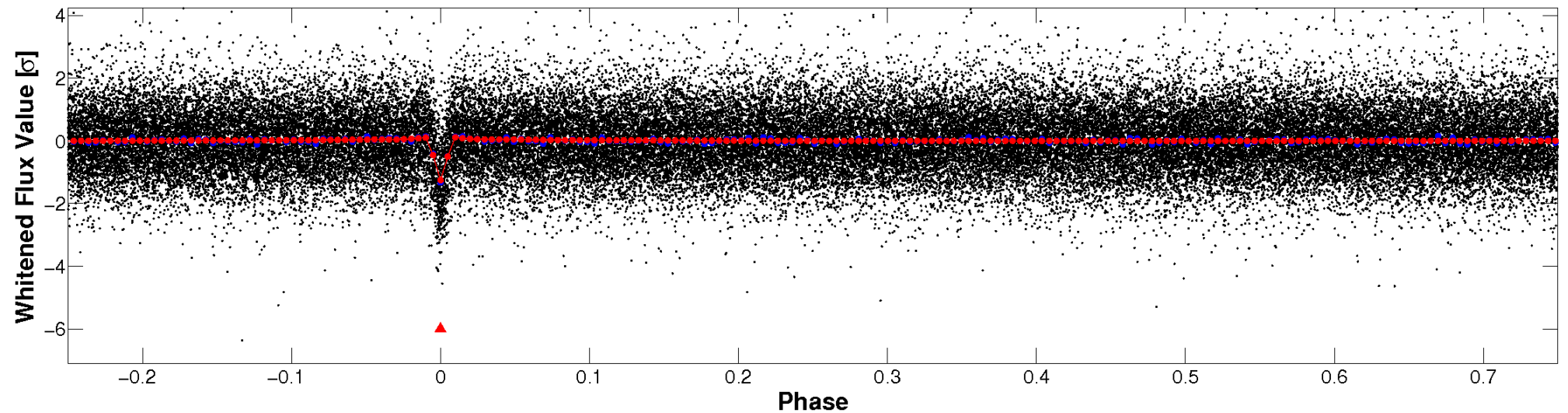


# Non-Whitened Vs. Whitened Light Curve

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

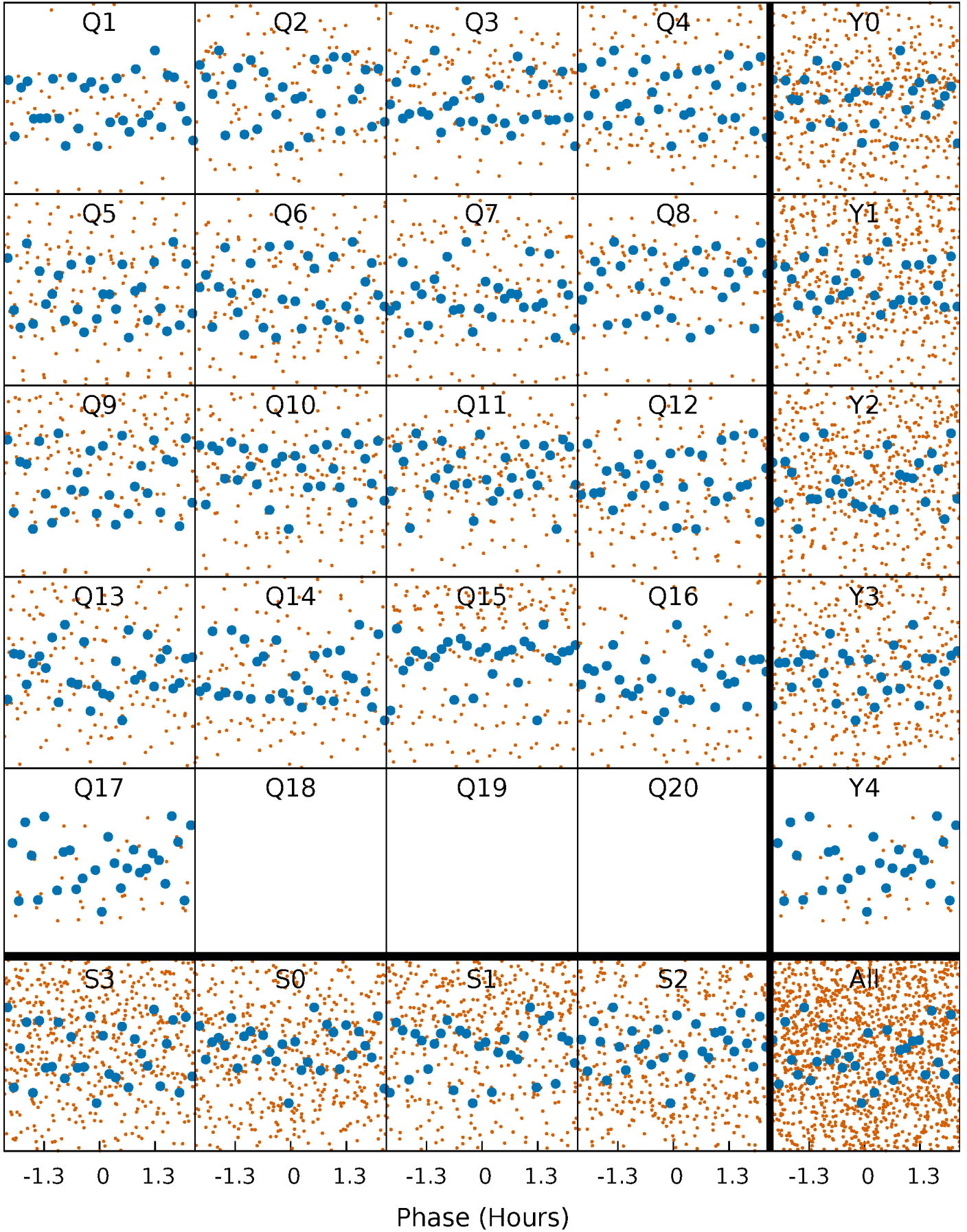


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

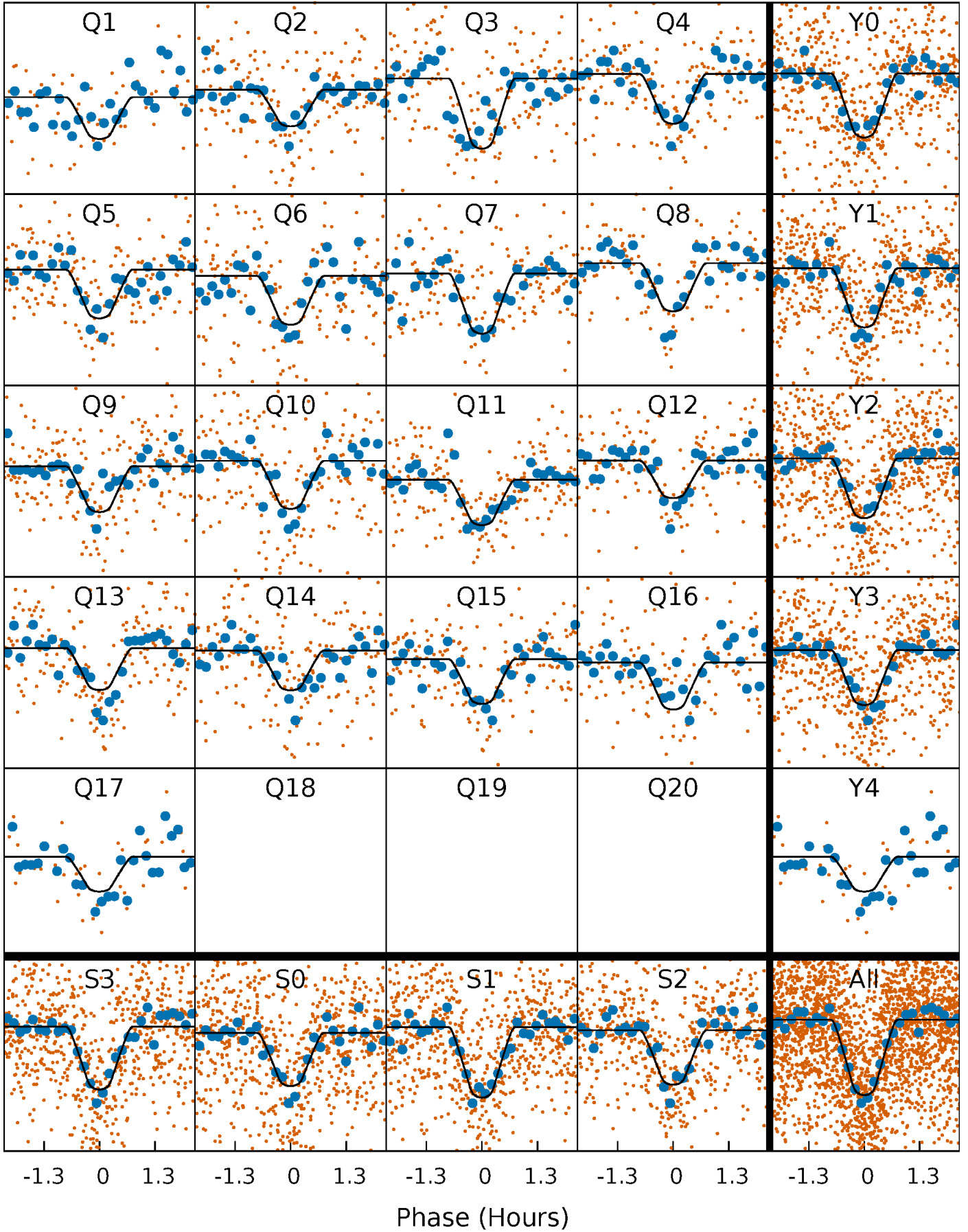
TCE 007661065-01   P= 4.150266 Days    $T_0=134.941243$  (BKJD)





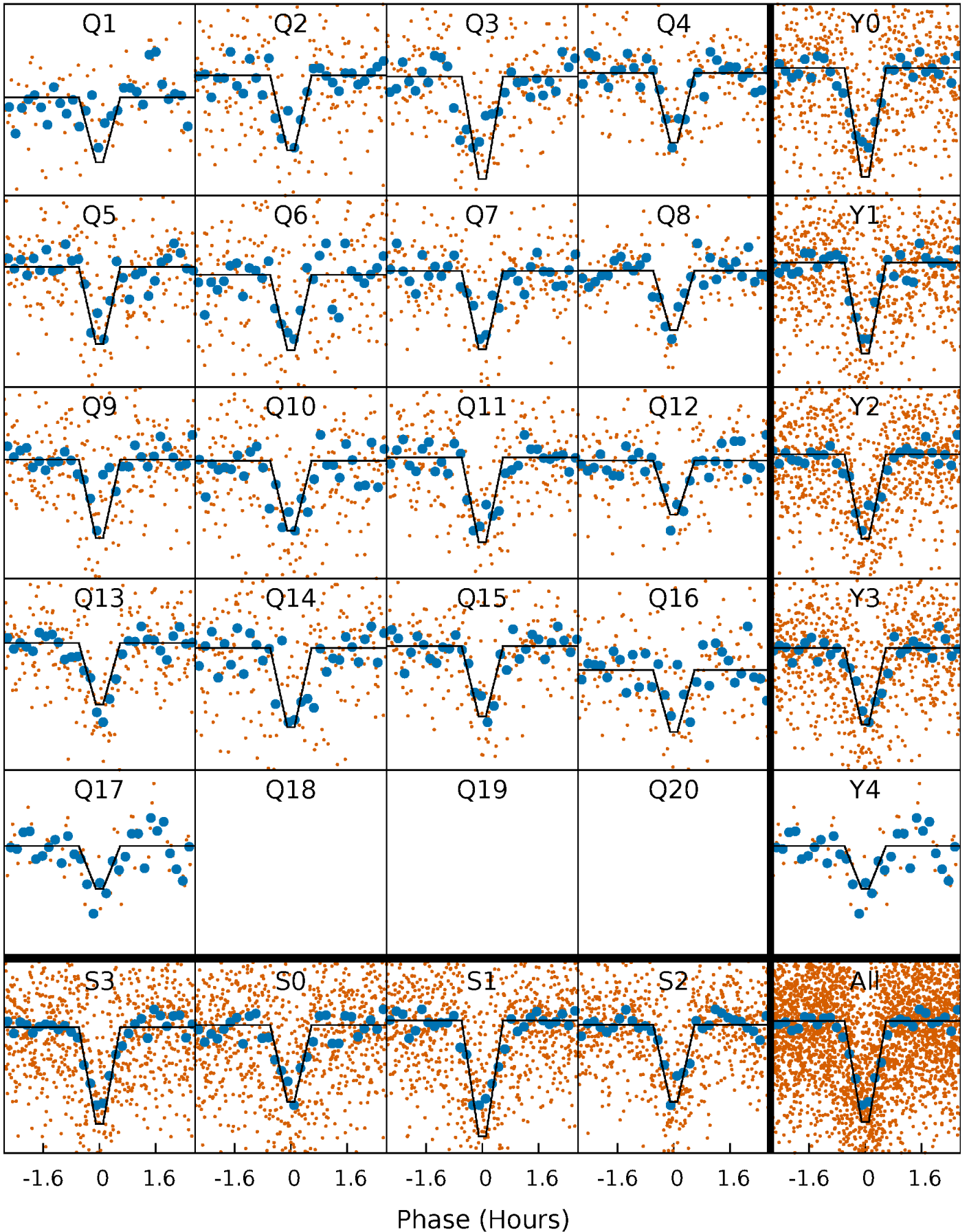
# DV Quarter-Phased Transit Curves

TCE 007661065-01 P= 4.150266 Days  $T_0=134.941243$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

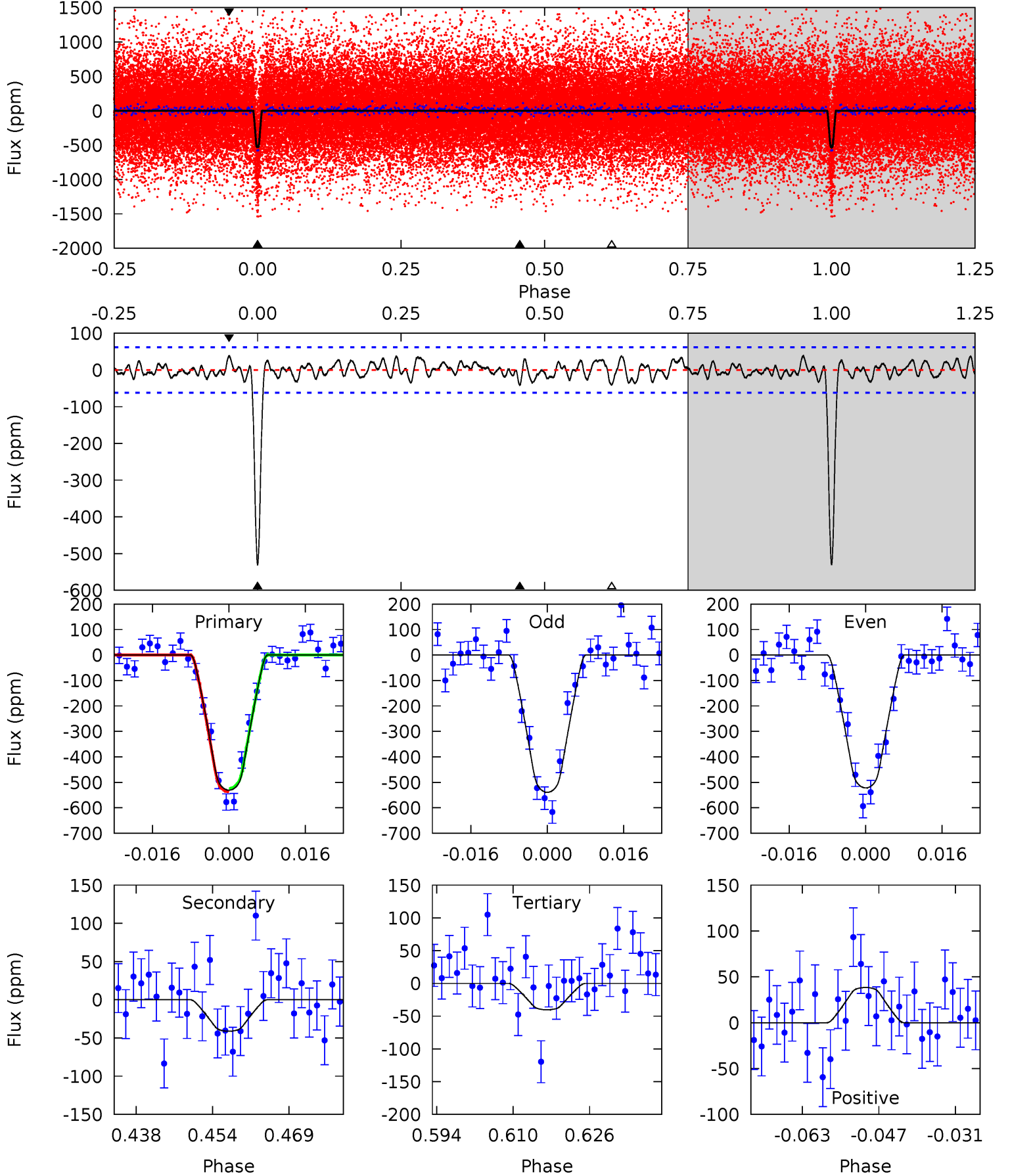
TCE 007661065-01 P= 4.150273 Days  $T_0=134.939826$  (BKJD)



# DV Model-Shift Uniqueness Test

007661065-01, P = 4.150266 Days, E = 130.790977 Days

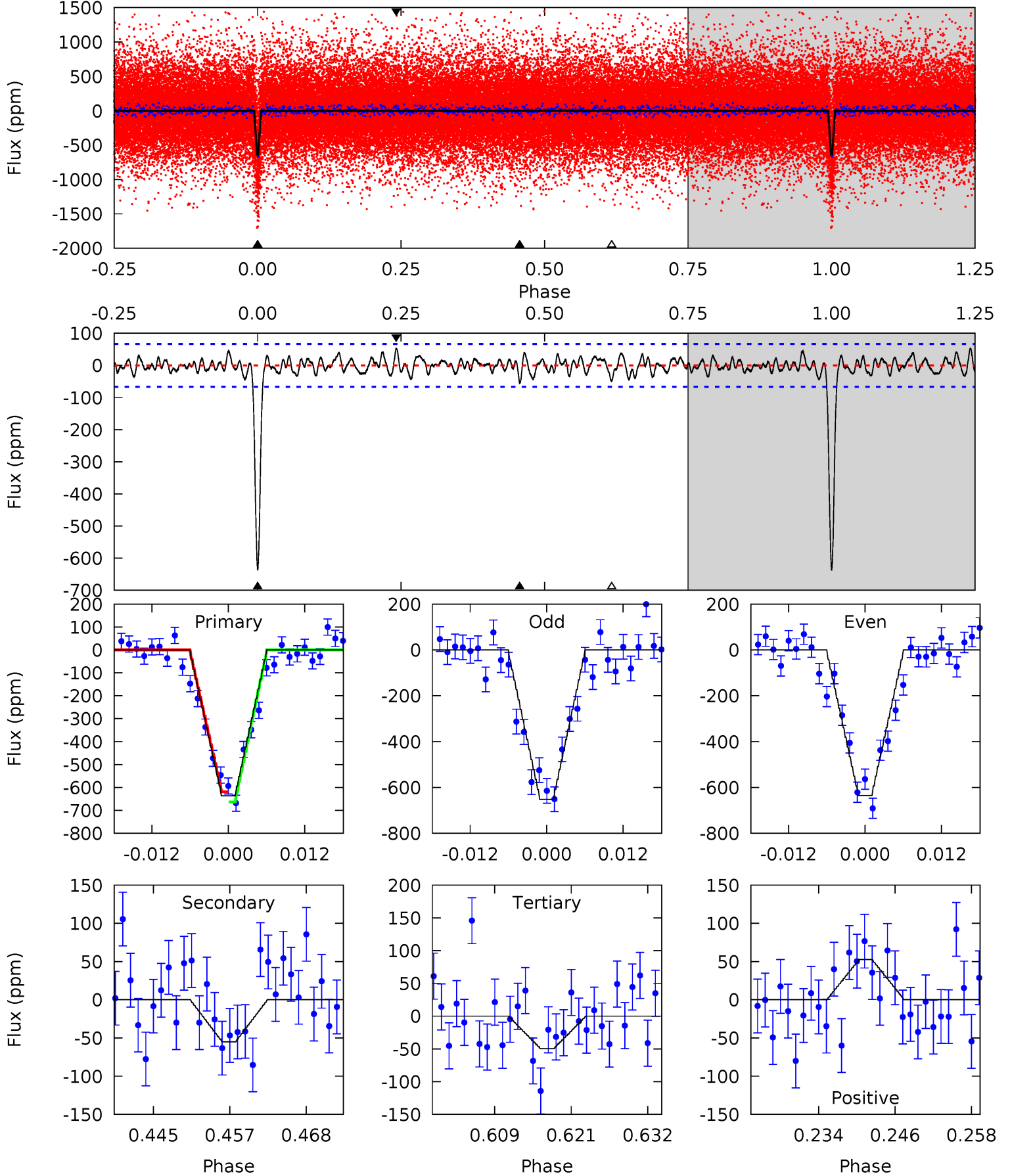
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
42.3	3.28	3.22	3.06	4.94	2.42	1.31	39.1	39.3	0.07	0.22	0.69	1.00	0.07	0.52



# Alt Model-Shift Uniqueness Test

007661065-01, P = 4.150273 Days, E = 130.789553 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
47.8	4.14	3.73	3.94	5.00	2.52	1.33	44.1	43.9	0.41	0.20	0.63	0.99	0.08	1.65



### Stellar Parameters For KIC 007661065

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5290^{+84}_{-73}$	$4.519^{+0.039}_{-0.072}$	$0.140^{+0.150}_{-0.150}$	$0.858^{+0.072}_{-0.046}$	$0.887^{+0.046}_{-0.046}$	$1.977^{+0.333}_{-0.441}$
	+2%/-1%	+1%/-2%	+107%/-107%	+8%/-5%	+5%/-5%	+17%/-22%
Source	SPE90	SPE90	SPE90	DSEP		

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

### Secondary Eclipse Parameters for KIC 007661065-01 / KOI 2307.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-41 \pm 13$	$2.42^{+0.66}_{-0.68}$	$1378^{+35}_{-33}$	$3199^{+364}_{-287}$	$8.937^{+9.361}_{-4.139}$
Alt.	$-55 \pm 13$	$2.52^{+0.70}_{-0.72}$	$1377^{+38}_{-29}$	$3301^{+372}_{-260}$	$11^{+11}_{-5}$

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



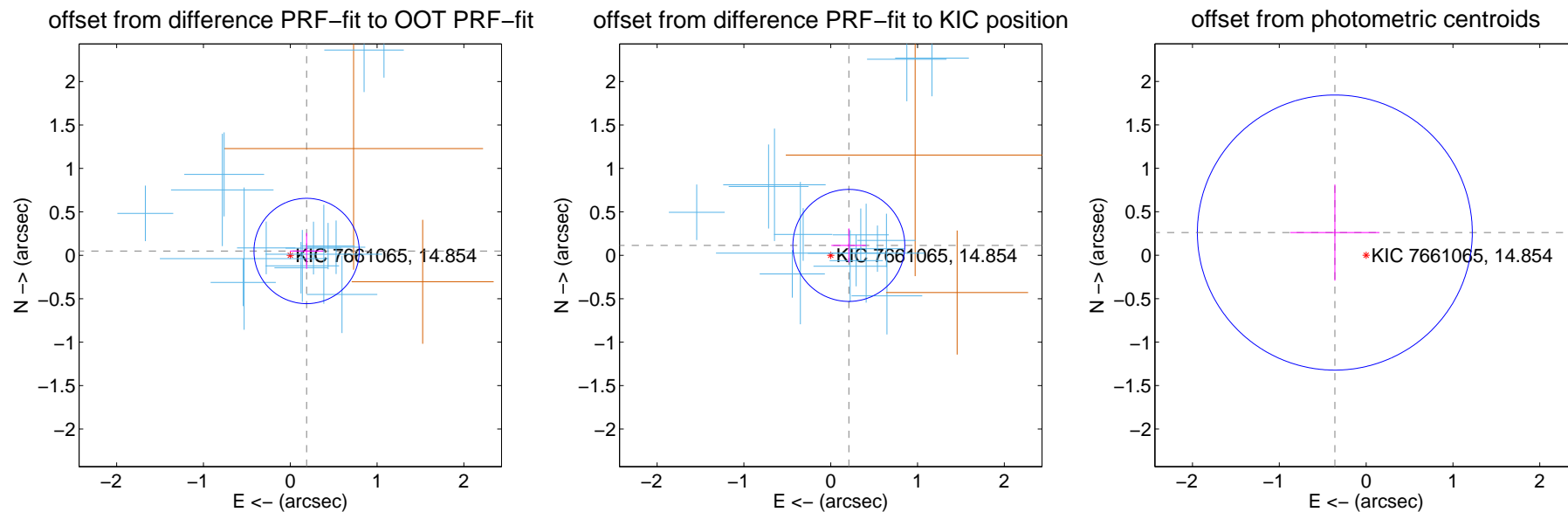
## DV Centroid Data

Supplemental centroid analysis for 007661065-01. Kepler magnitude: 14.85. Transit SNR 26.73

There are 15 quarters with good PRF difference image offsets

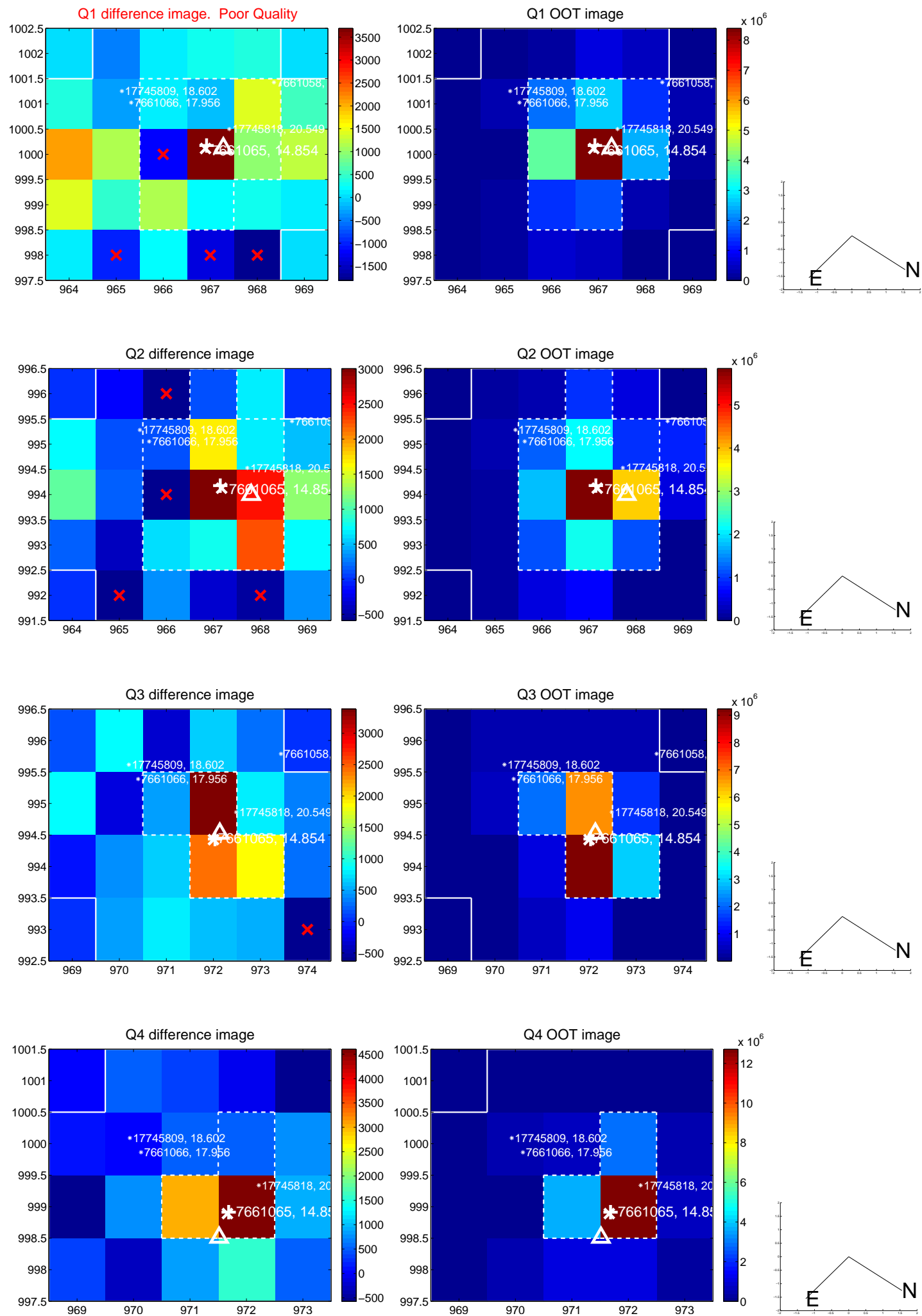
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.195 \pm 0.202$	0.96	$-0.188 \pm 0.192$	$0.049 \pm 0.206$
PRF-fit source offset from KIC position	$0.238 \pm 0.215$	1.11	$-0.209 \pm 0.201$	$0.114 \pm 0.196$
photometric centroid source offset	$0.44 \pm 0.53$	0.84	$0.36 \pm 0.51$	$0.26 \pm 0.55$

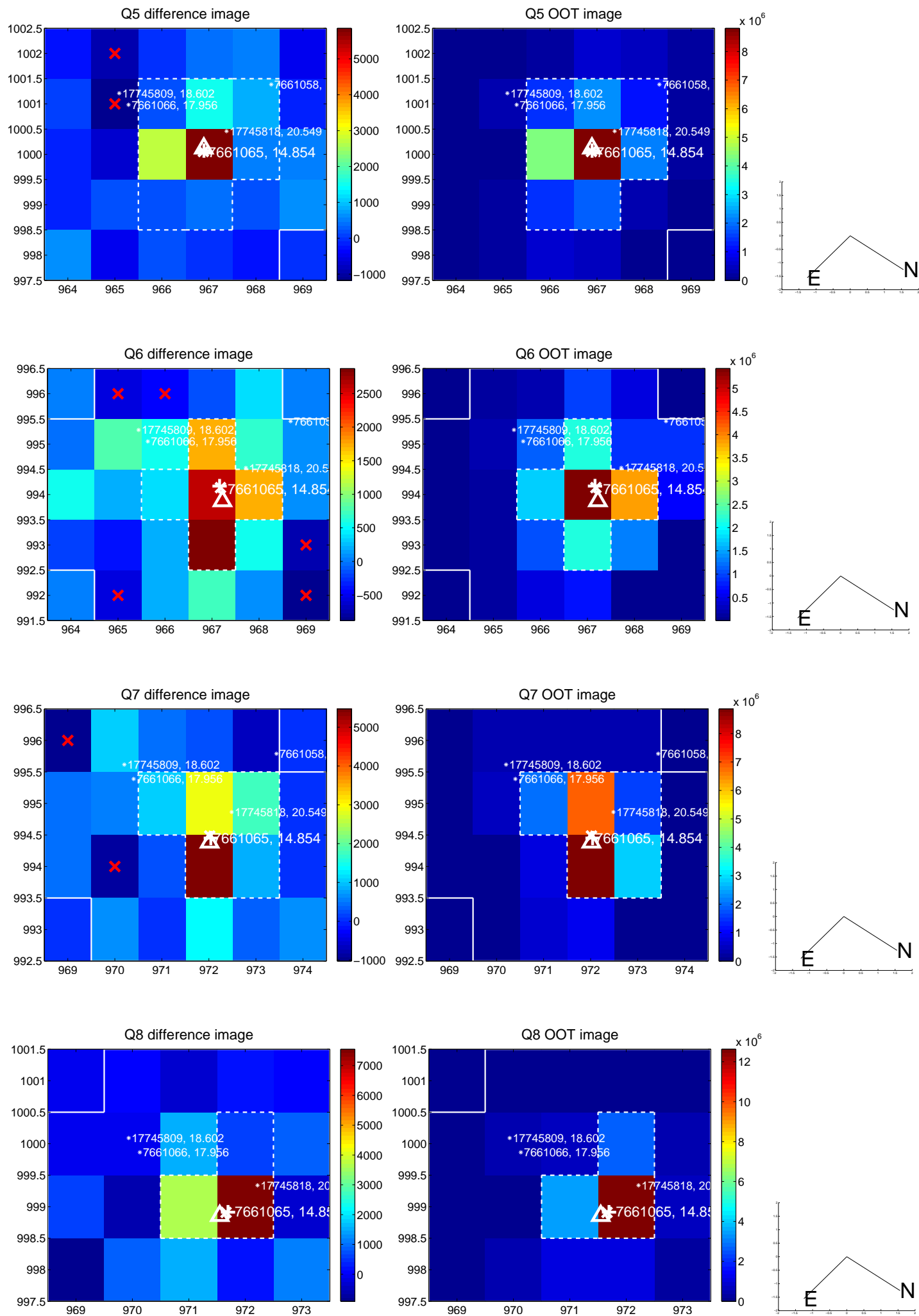


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

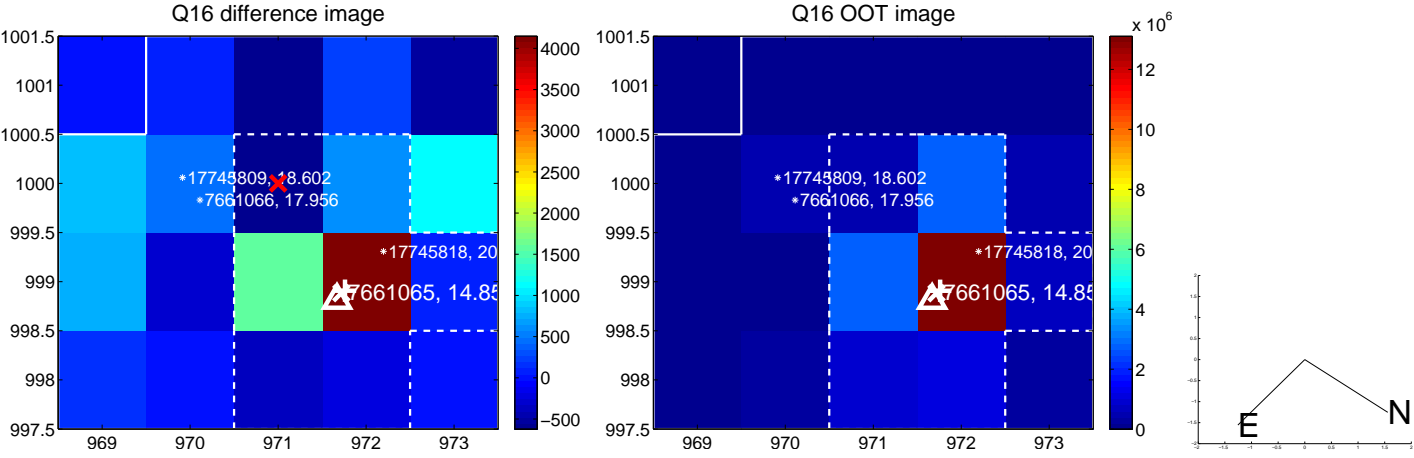
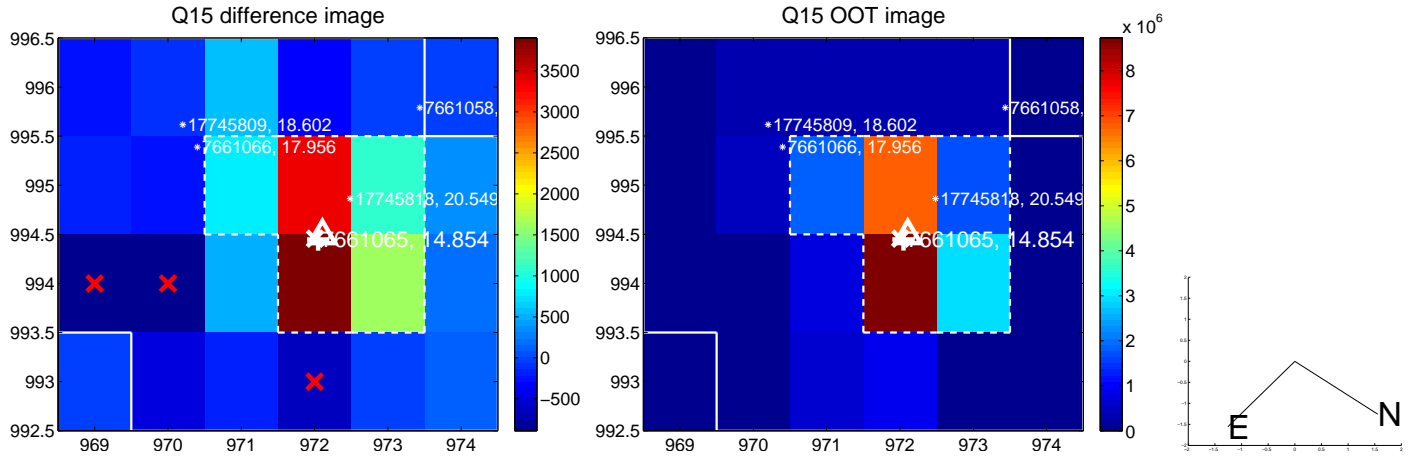
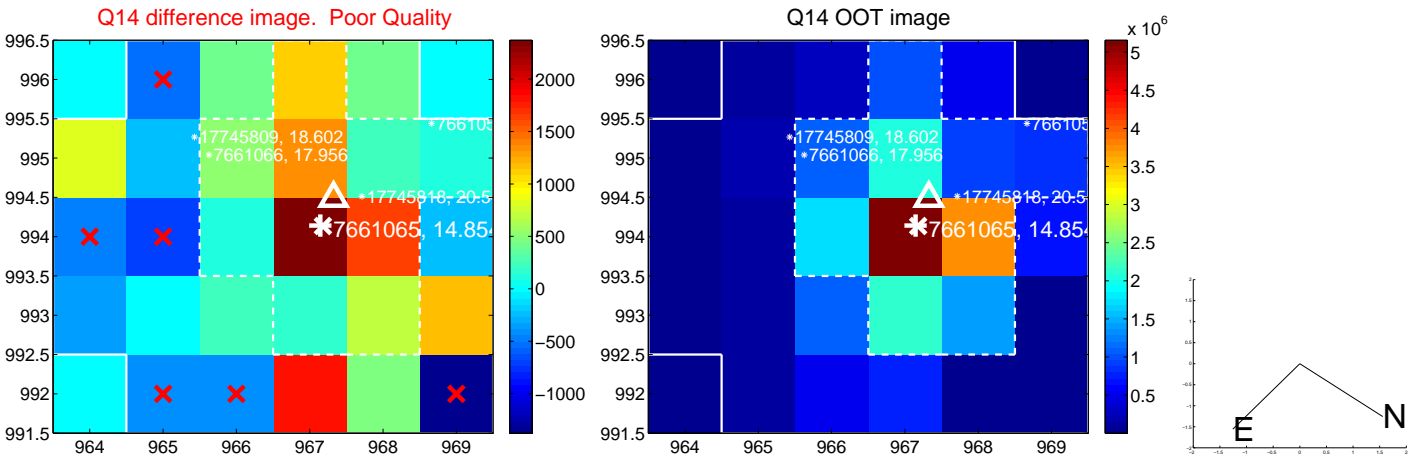
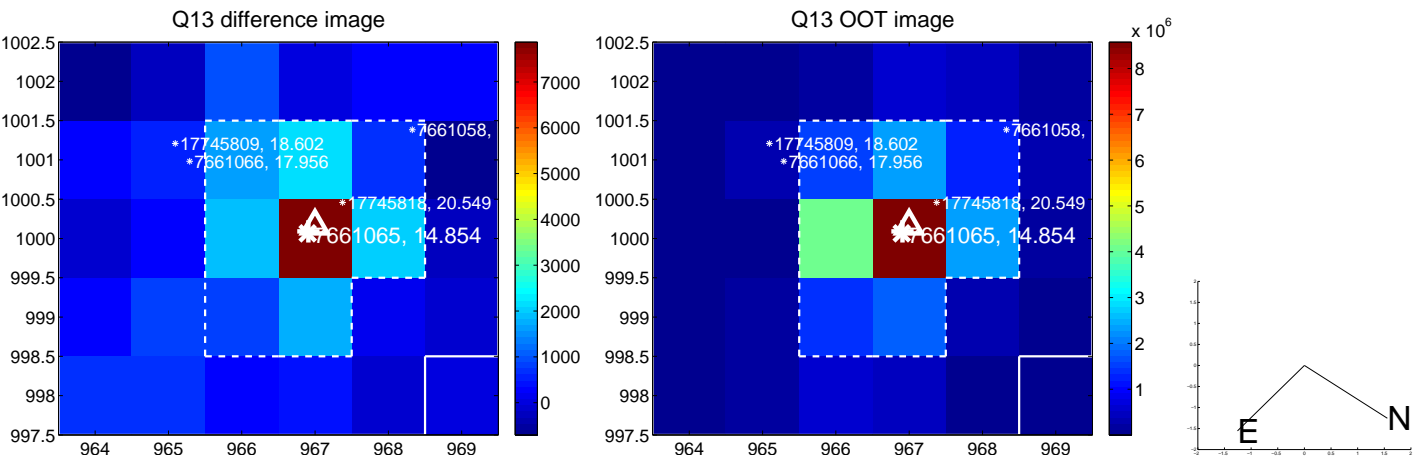


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



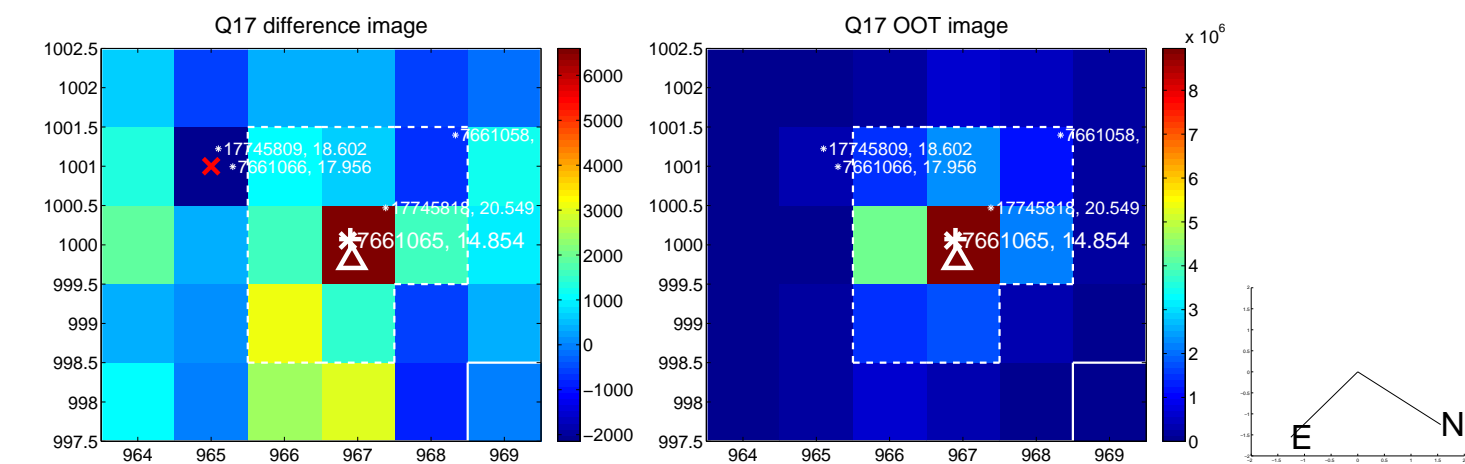


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

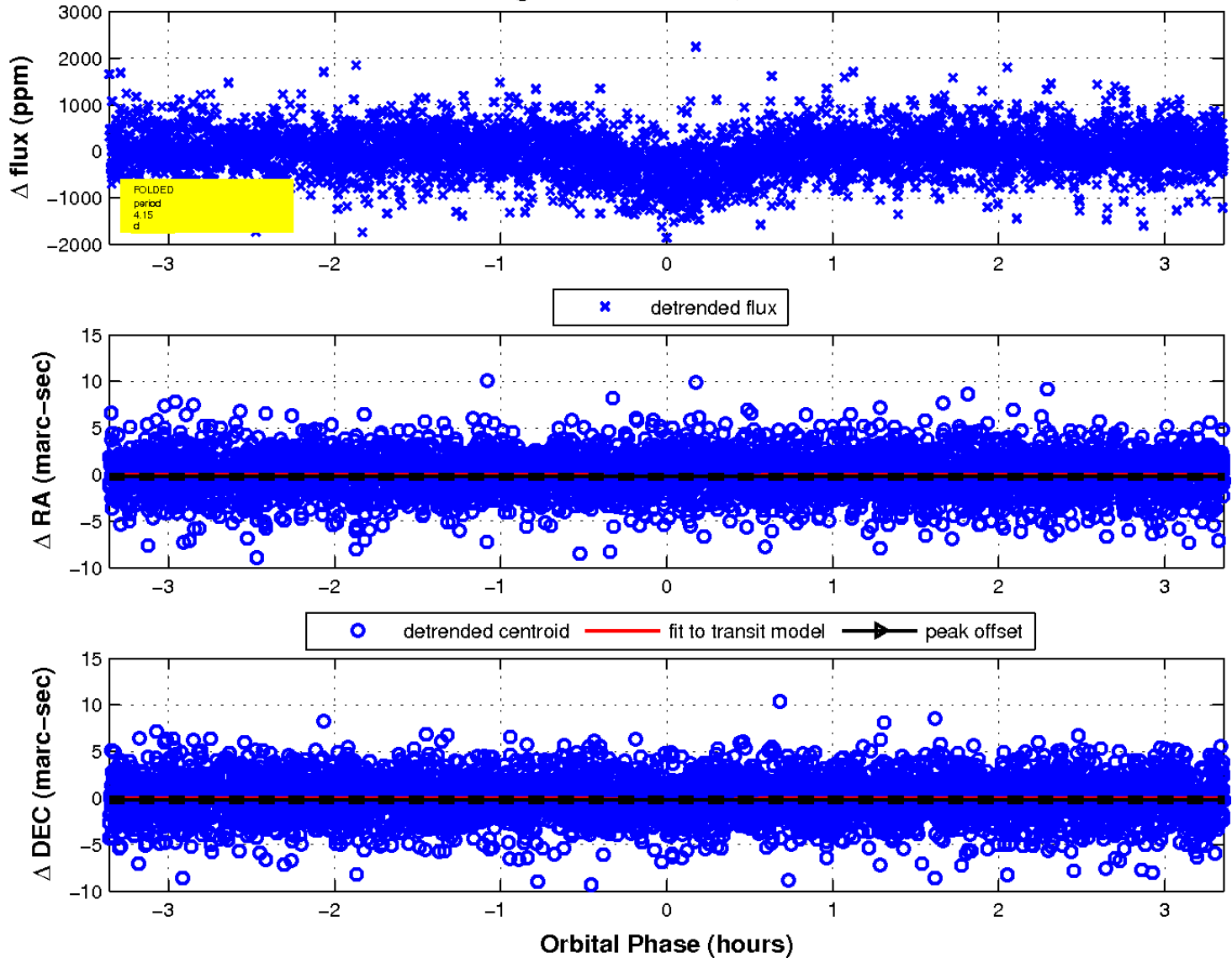




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



# UKIRT Image

Declination

