

# KIC 007030947

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007030947-01	OBS	No	0.873878	131.683046	54.9	2.277	8.4	8.4	11.18	5064	10.06	0.00

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007030947-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

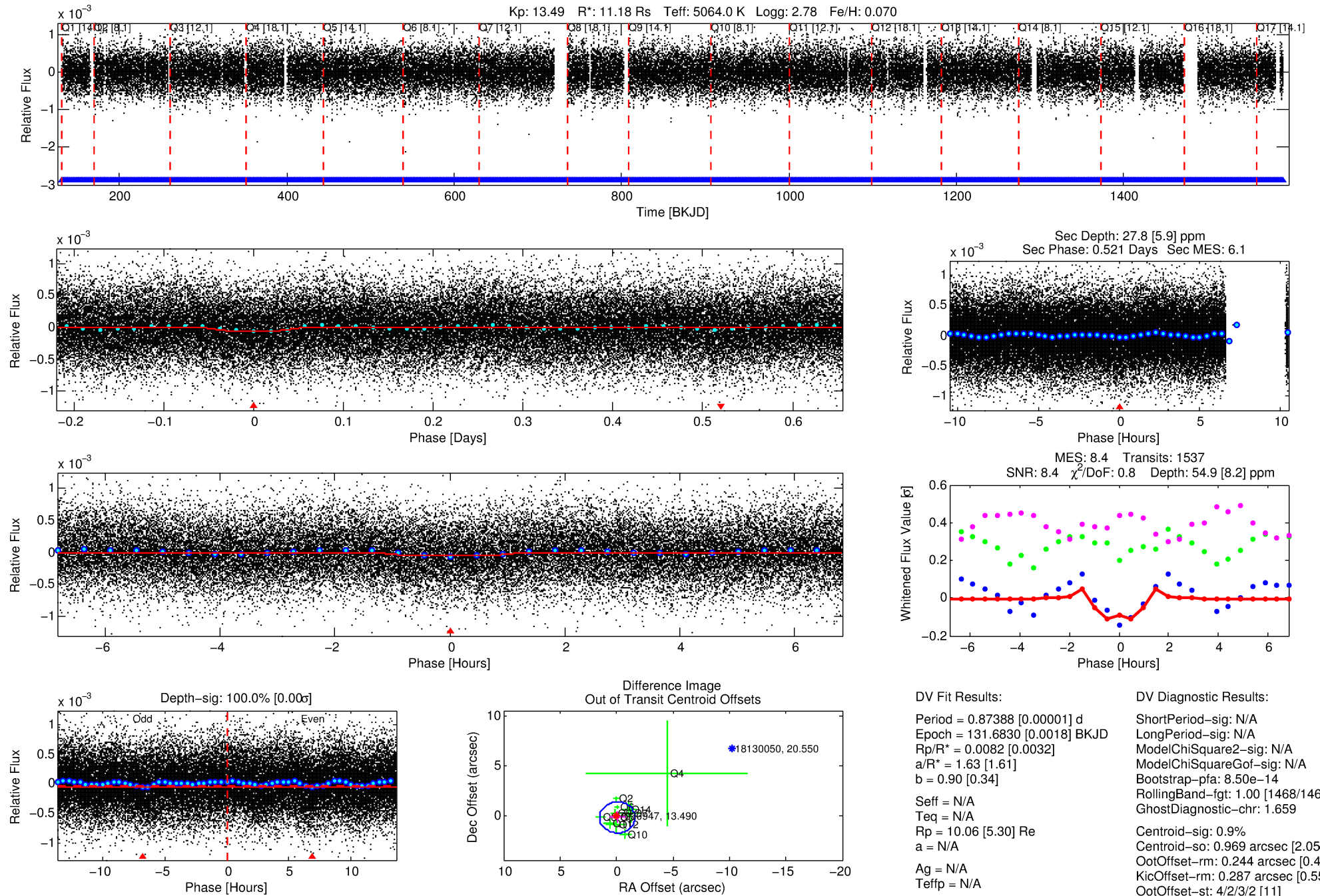
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007030947-01

No Significant Match Found

# DV One-Page Summary

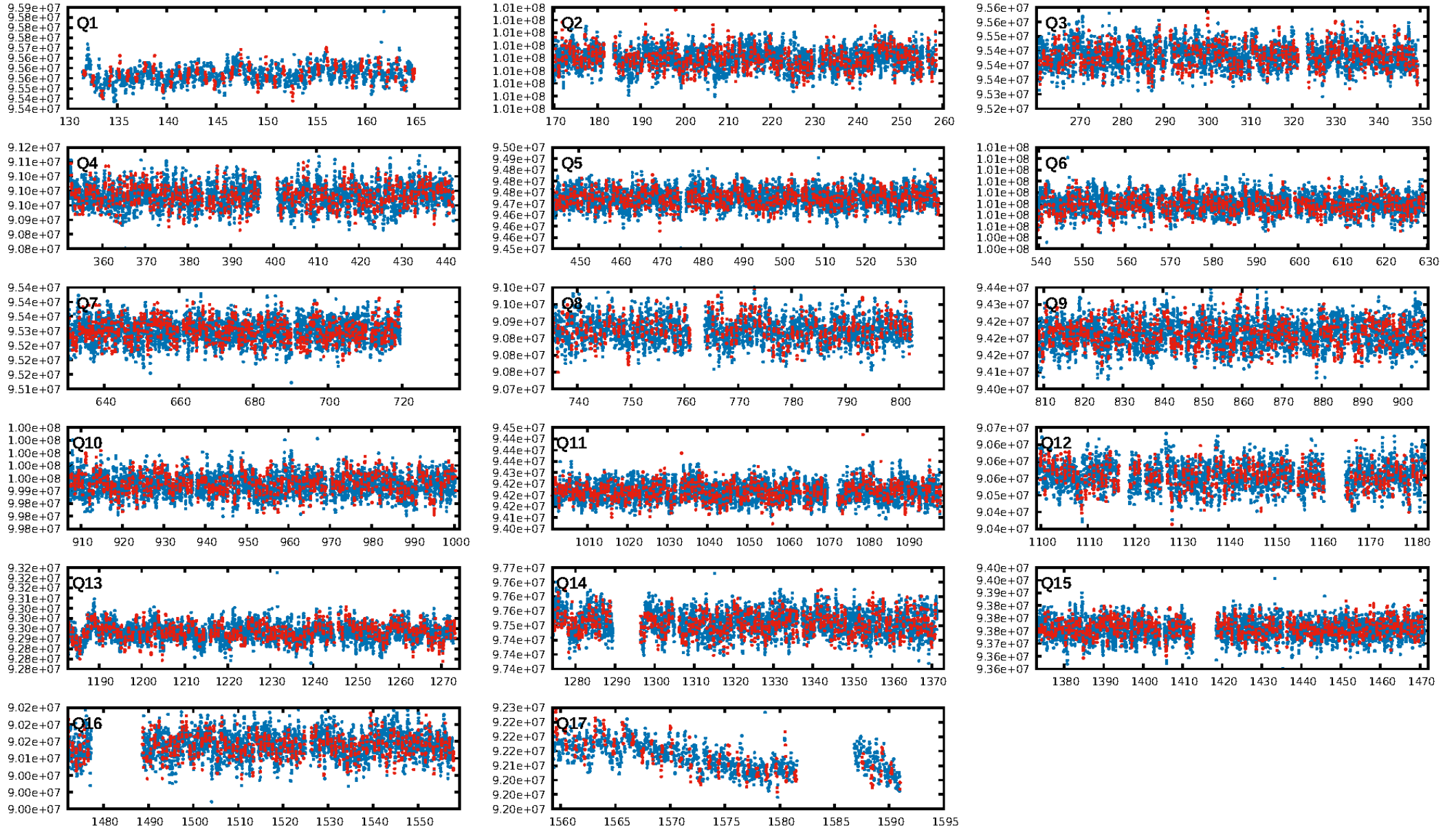
KIC: 7030947 Candidate: 1 of 1 Period: 0.874 d



Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:25:11 Z

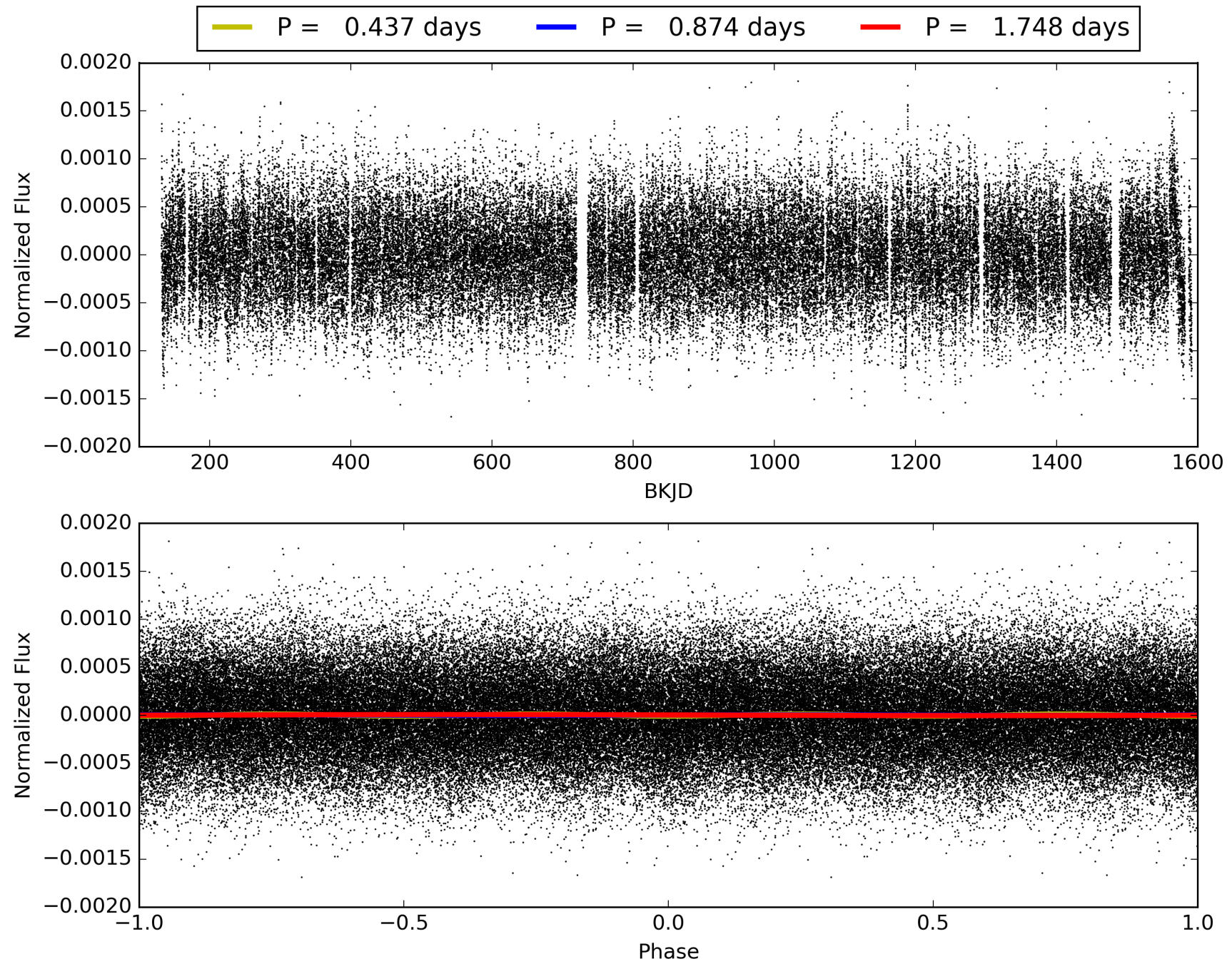
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 007030947-01, PDC Light Curves



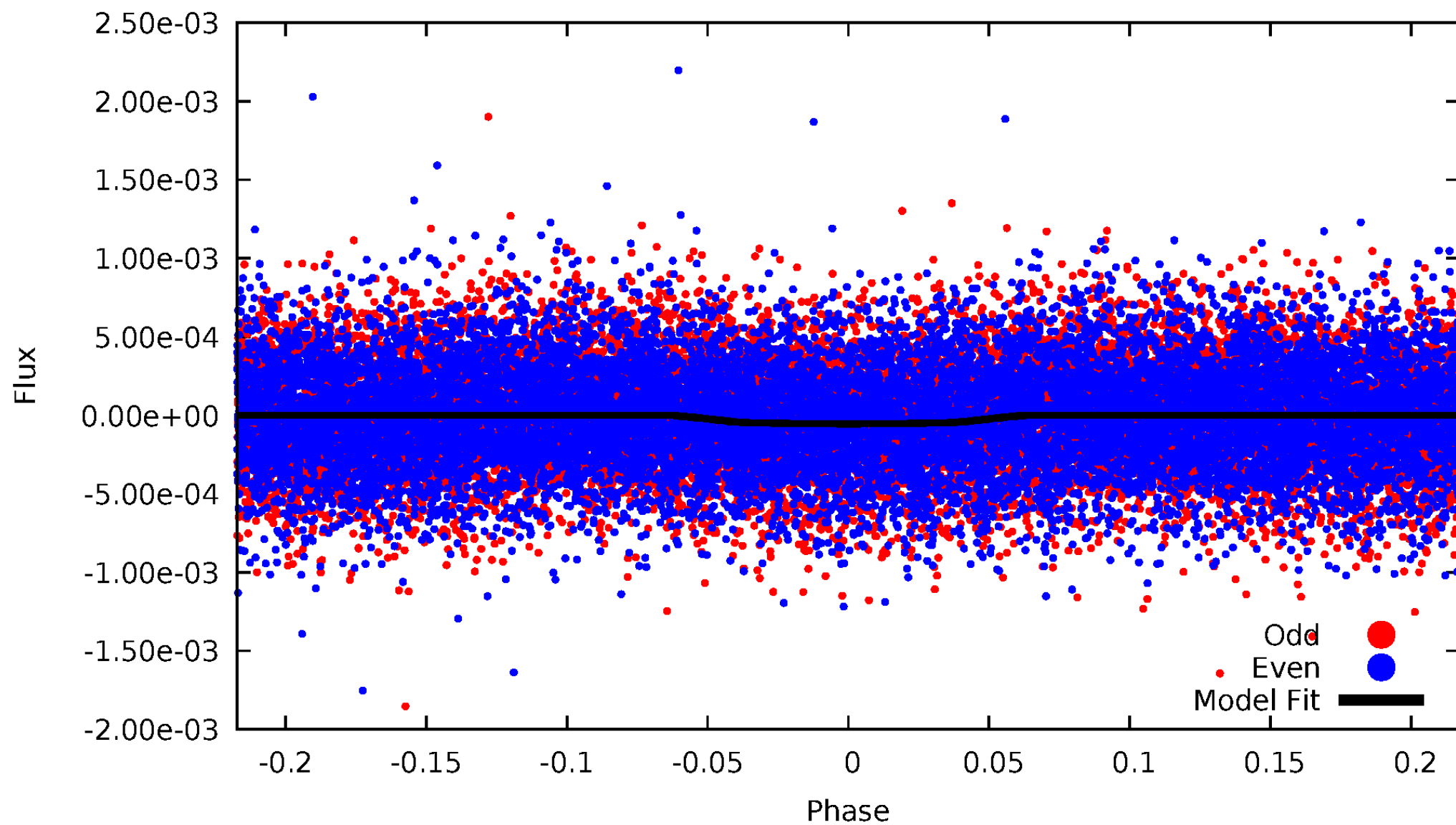


TCE 007030947-01



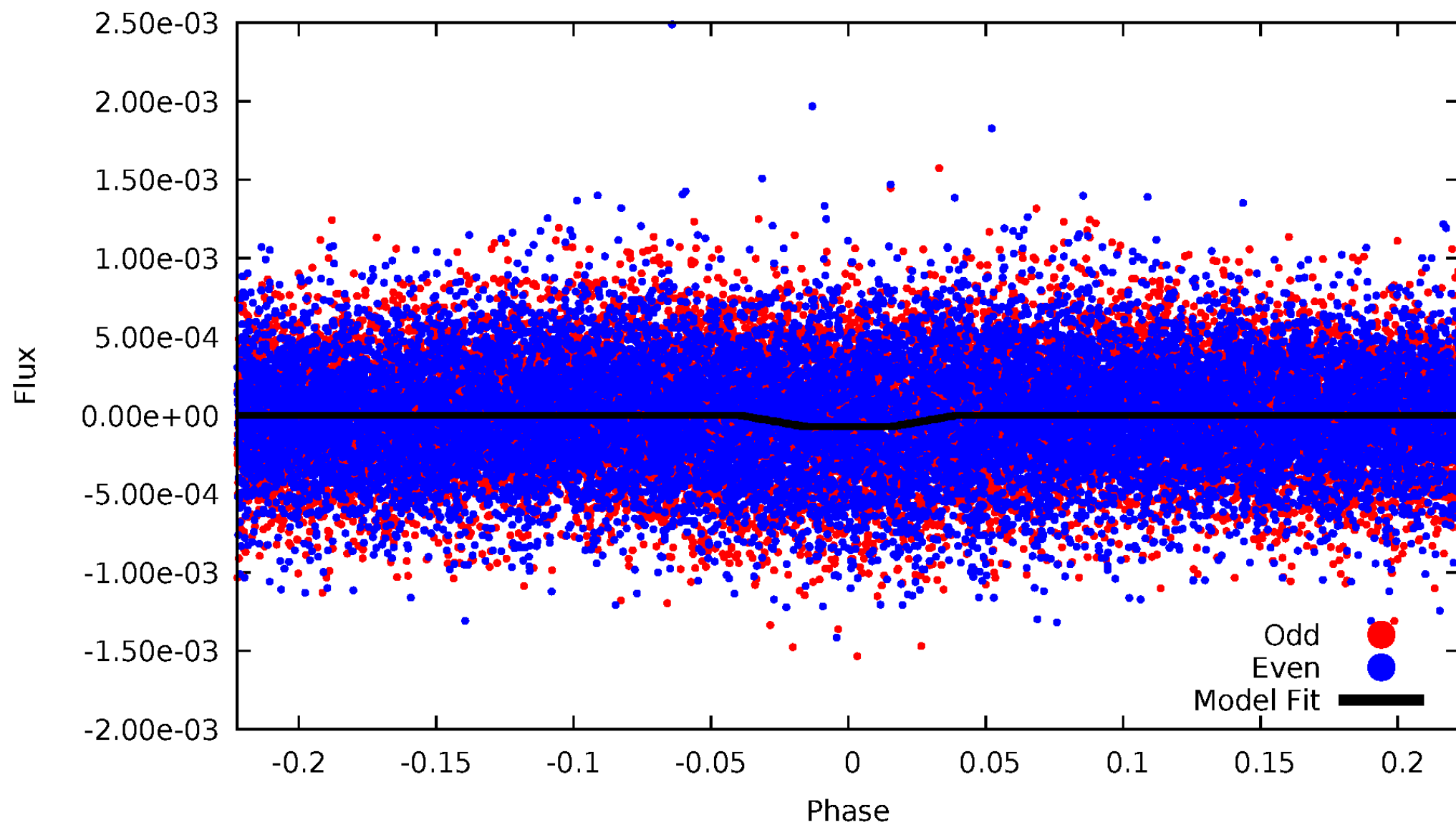
# DV Odd/Even

TCE 007030947-01



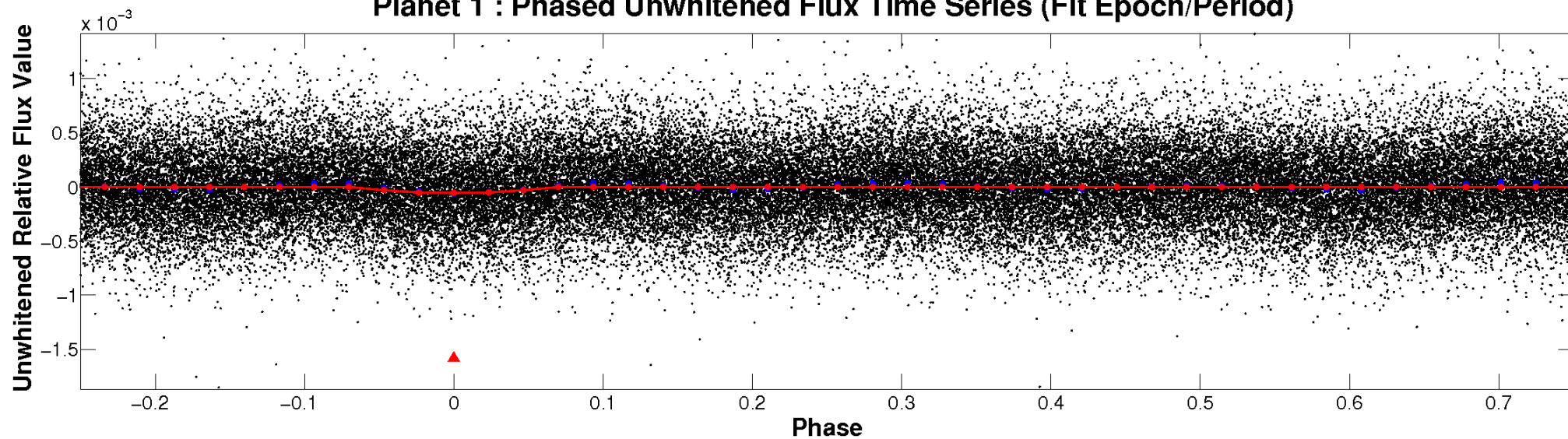
# ALT Odd/Even

TCE 007030947-01

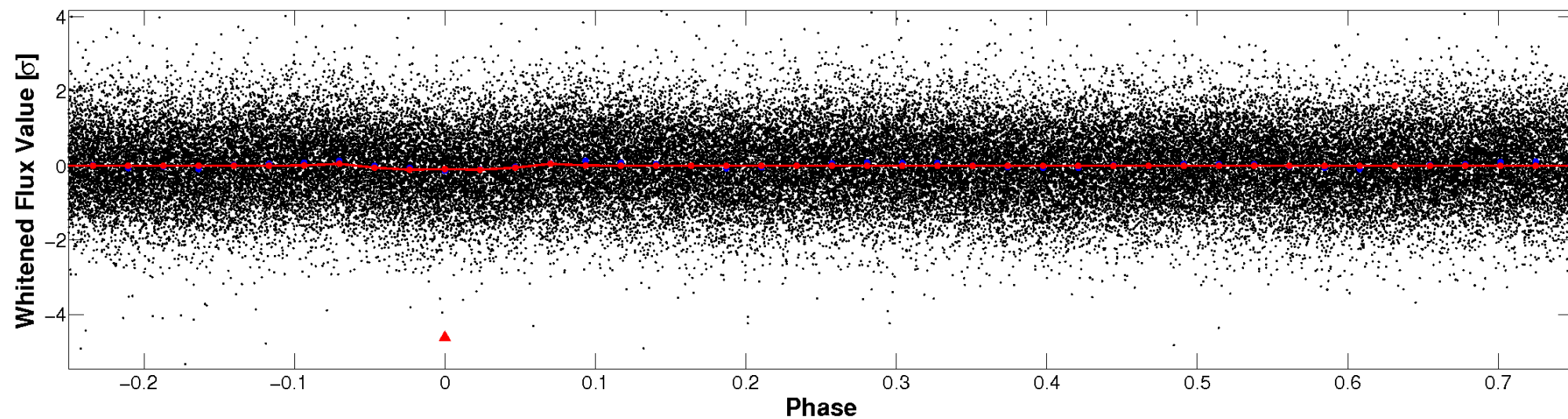


# Non-Whitened Vs. Whitened Light Curve

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



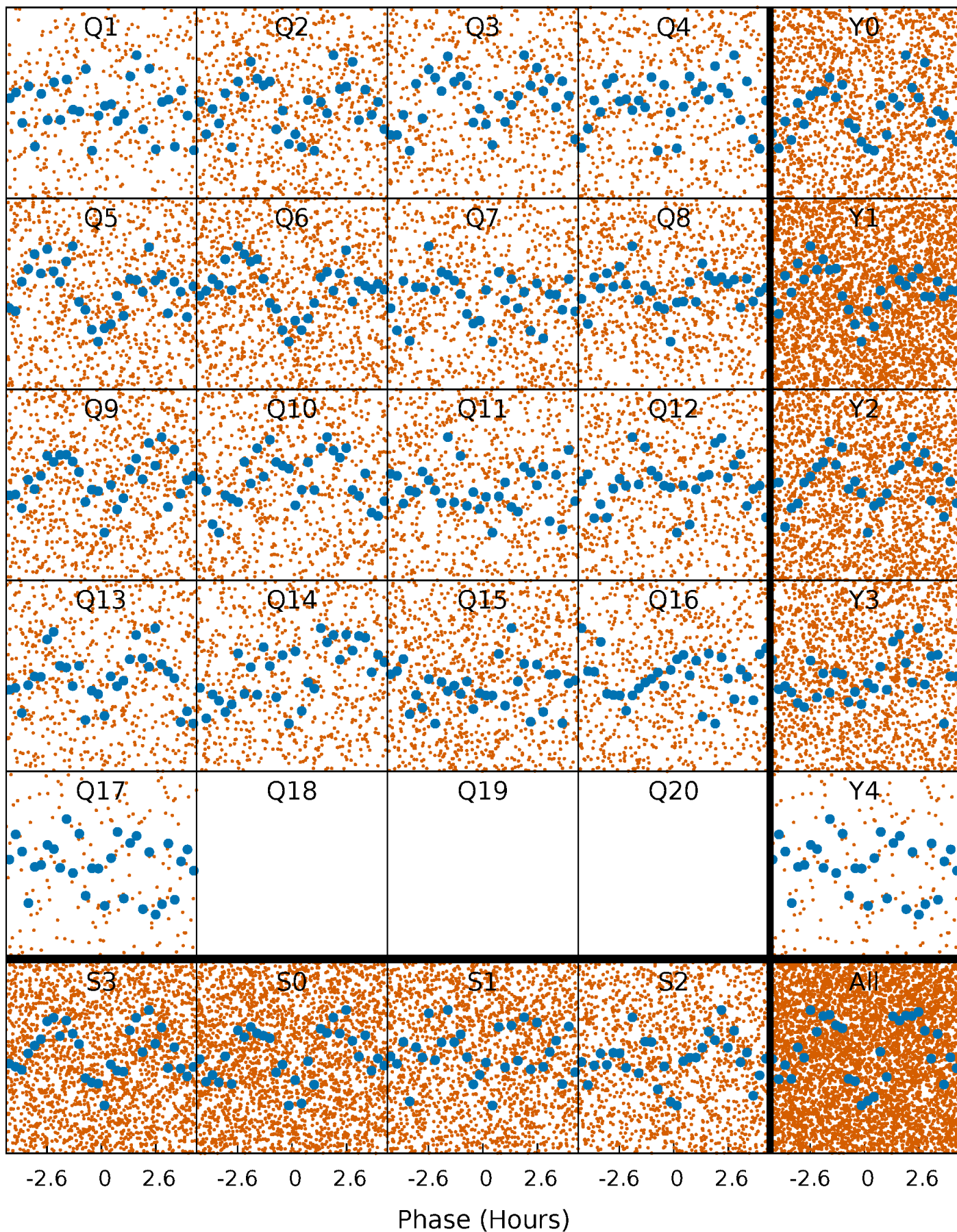
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

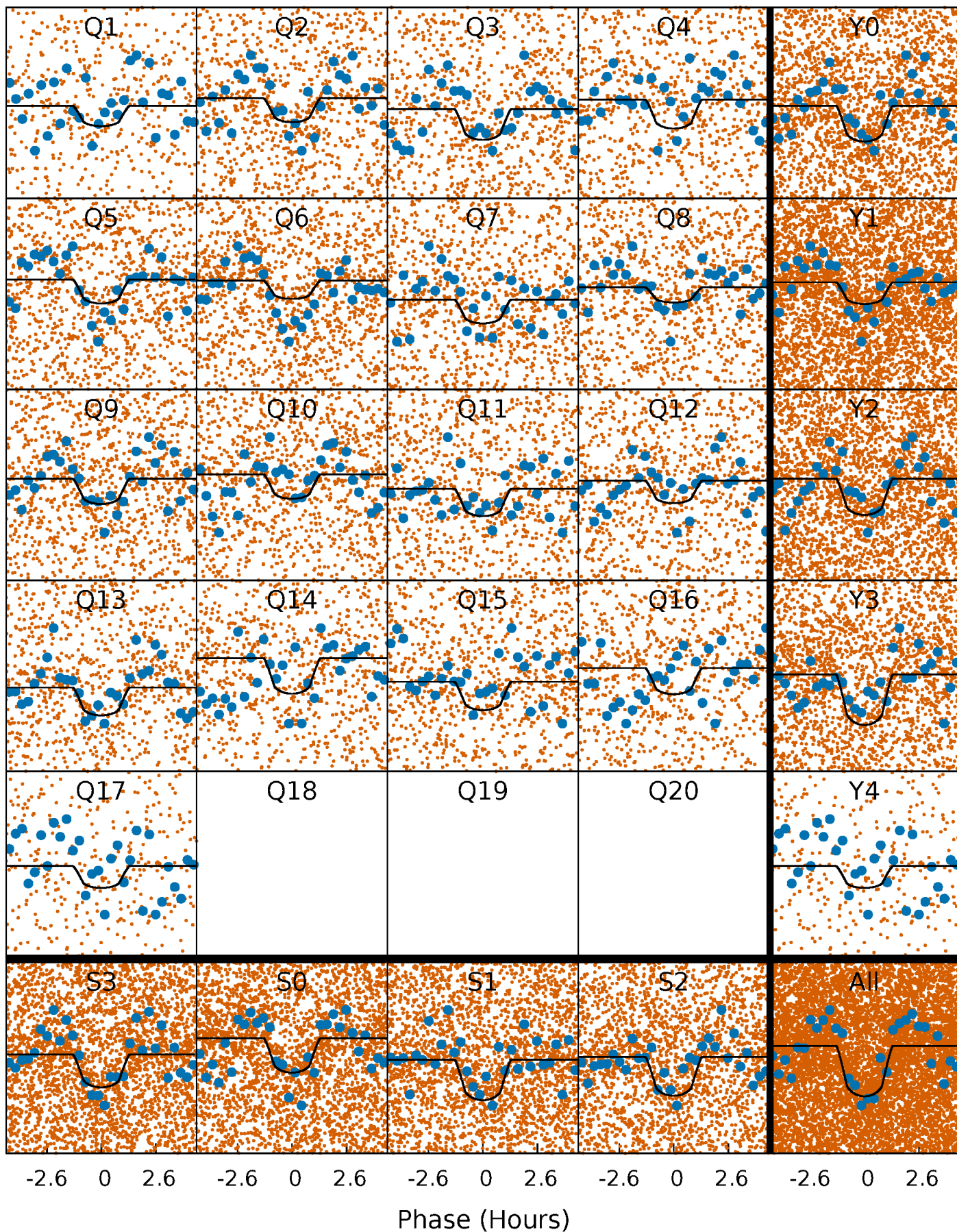
TCE 007030947-01 P= 0.873878 Days  $T_0=131.683046$  (BKJD)





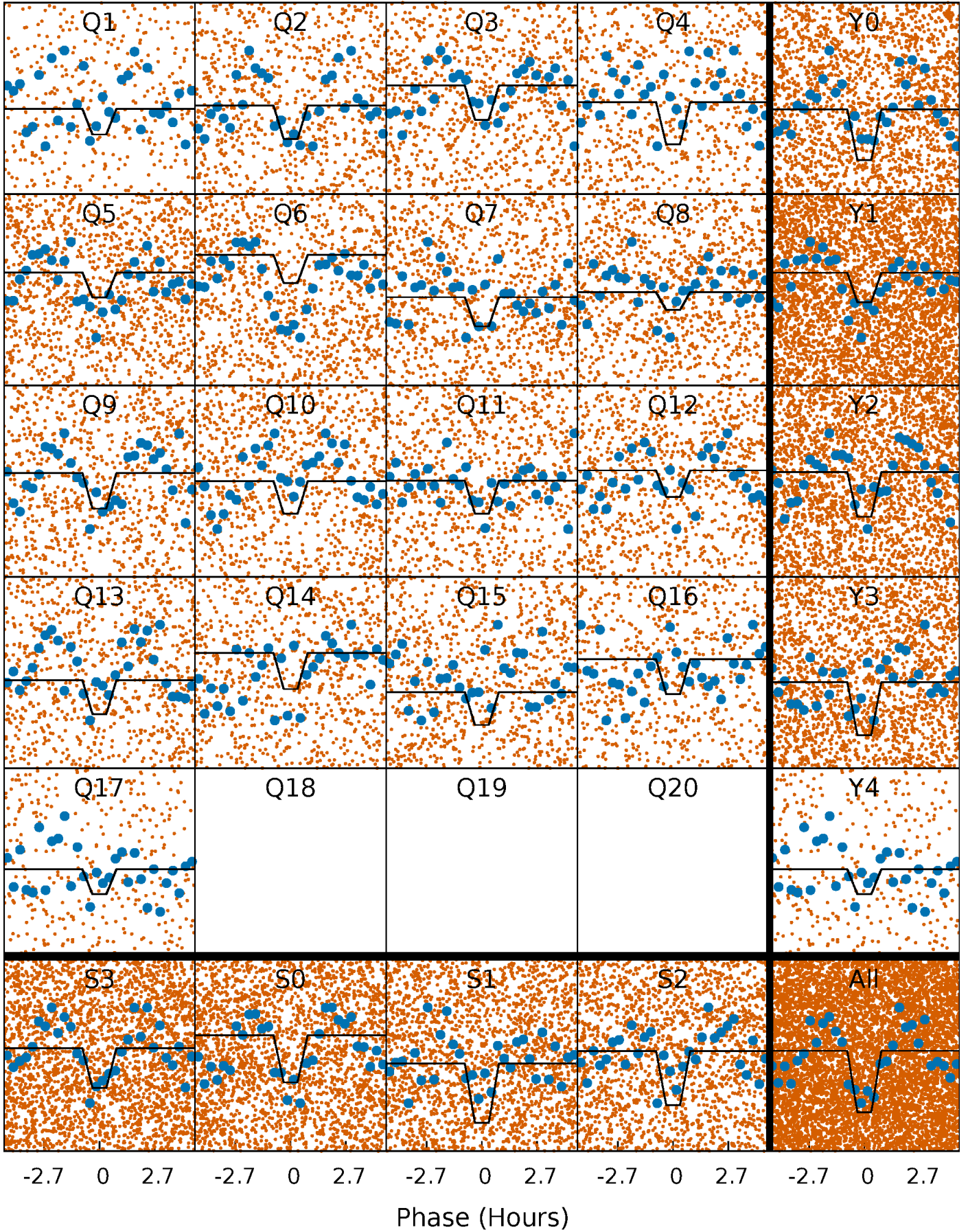
# DV Quarter-Phased Transit Curves

TCE 007030947-01 P= 0.873878 Days  $T_0=131.683046$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 007030947-01 P= 0.873881 Days  $T_0=131.683528$  (BKJD)

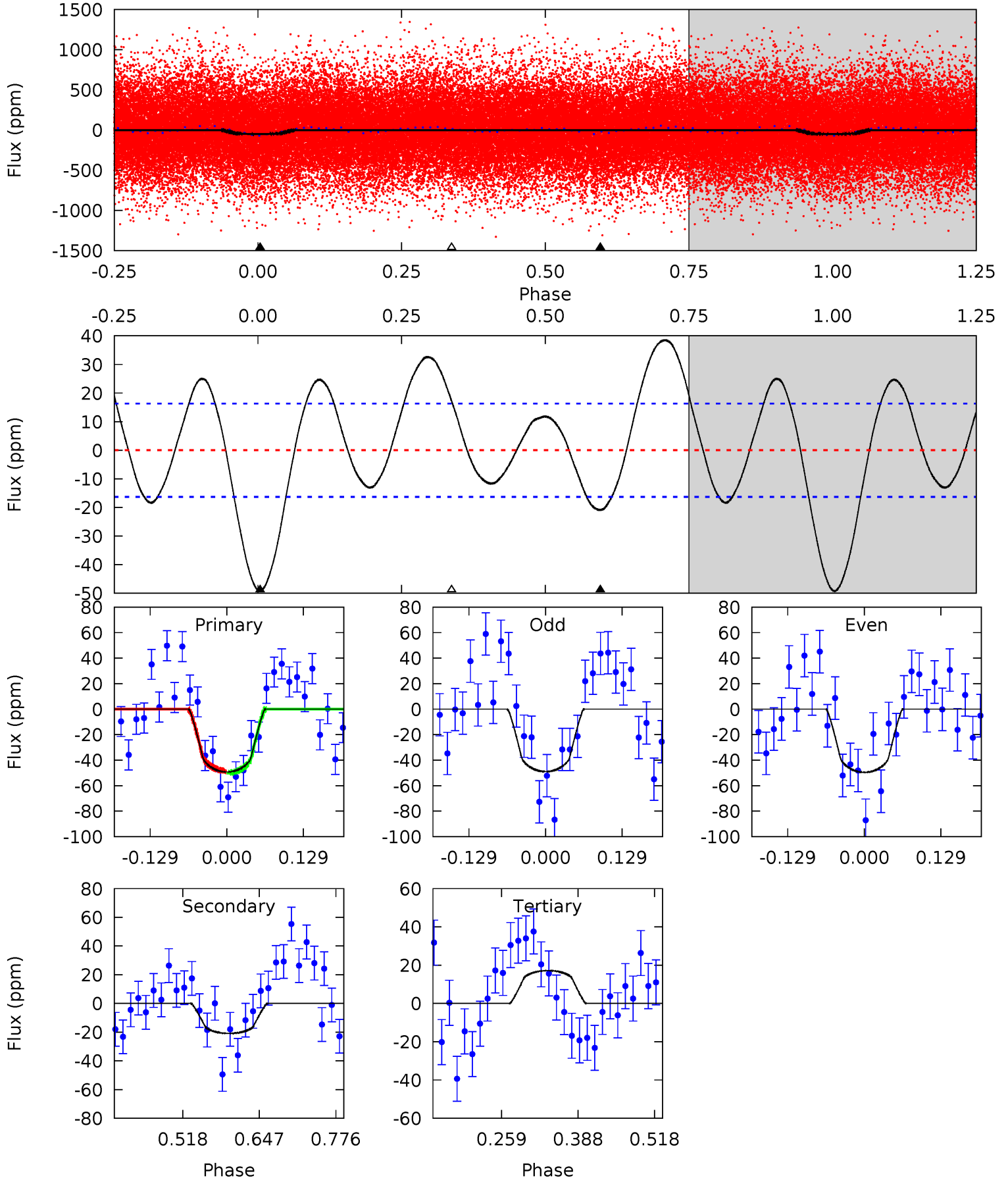




# DV Model-Shift Uniqueness Test

007030947-01, P = 0.873878 Days, E = 130.809168 Days

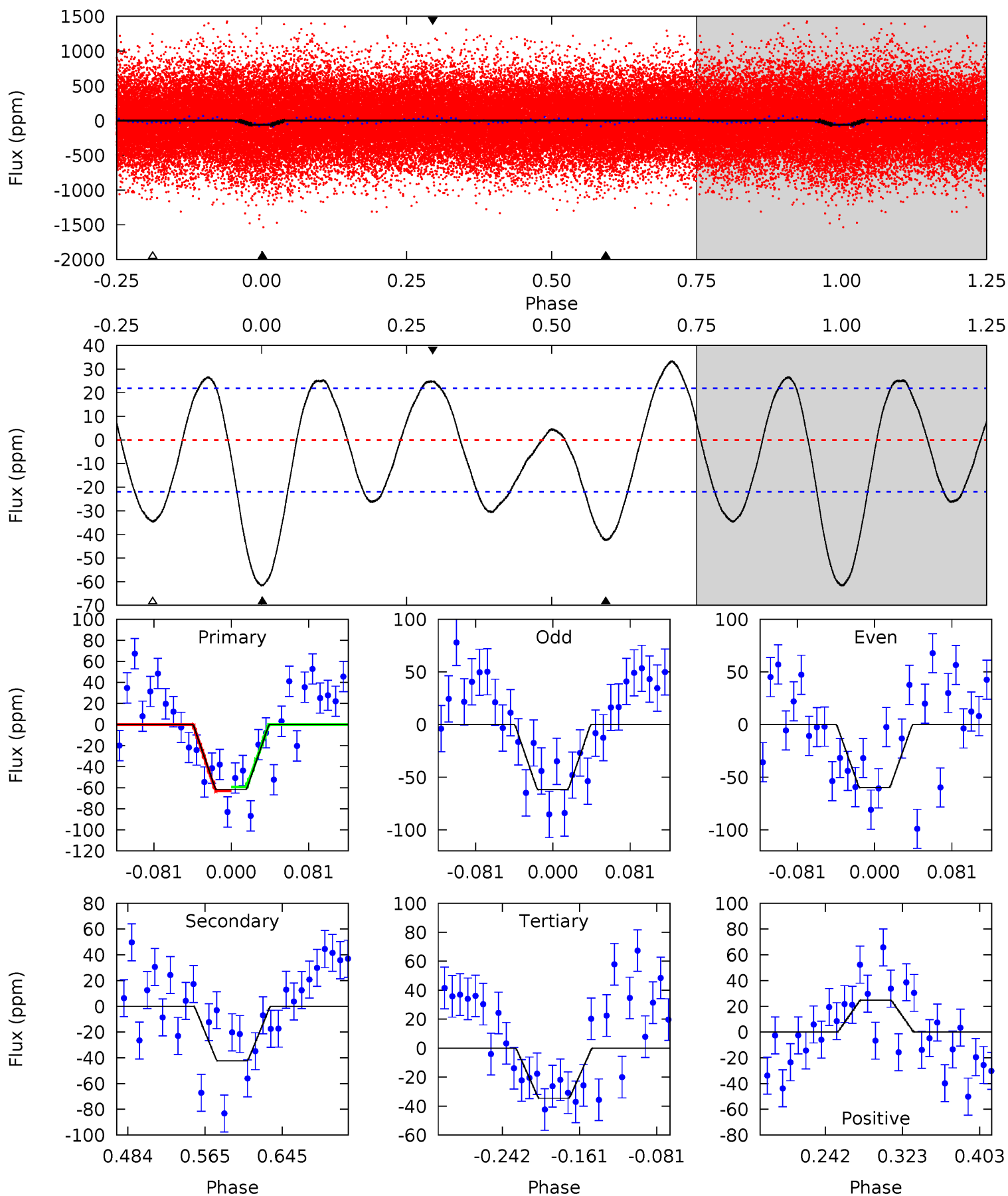
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.6	5.77	-4.74	0	4.51	1.52	4.23	18.3	13.6	10.5	5.77	0.08	1.12	0.44	0.21



# Alt Model-Shift Uniqueness Test

007030947-01, P = 0.873881 Days, E = 130.809647 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
13.0	8.92	7.27	5.23	4.61	1.75	4.30	5.71	7.75	1.64	3.69	0.21	1.01	0.35	0.39





### Stellar Parameters For KIC 007030947

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5064^{+63}_{-202}$	$2.779^{+0.033}_{-0.027}$	$0.070^{+0.150}_{-0.500}$	$11.178^{+0.447}_{-4.024}$	$2.740^{+0.079}_{-1.589}$	$0.003^{+0.002}_{-0.000}$
	+1%/-4%	+1%/-1%	+214%/-714%	+4%/-36%	+3%/-58%	+57%/-8%
Source	PHO1	AST9	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 007030947-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-21 \pm 4$	$10.17^{+3.63}_{-3.89}$	$6588^{+127}_{-272}$	$-4979^{+662}_{-250}$	$0.069^{+0.113}_{-0.034}$
Alt.	$-42 \pm 5$	$10.14^{+4.23}_{-3.62}$	$6578^{+131}_{-266}$	$-4607^{+8082}_{-433}$	$0.140^{+0.189}_{-0.070}$

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

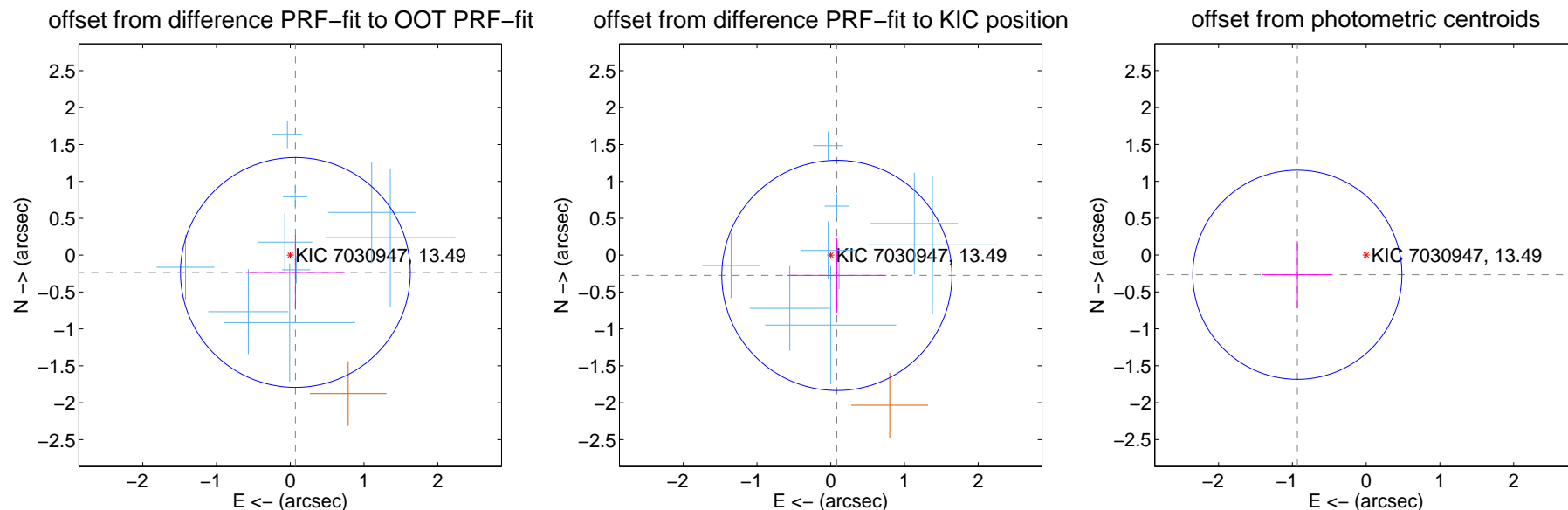
## DV Centroid Data

Supplemental centroid analysis for 007030947-01. Kepler magnitude: 13.49. Transit SNR 8.44

There are 9 quarters with good PRF difference image offsets

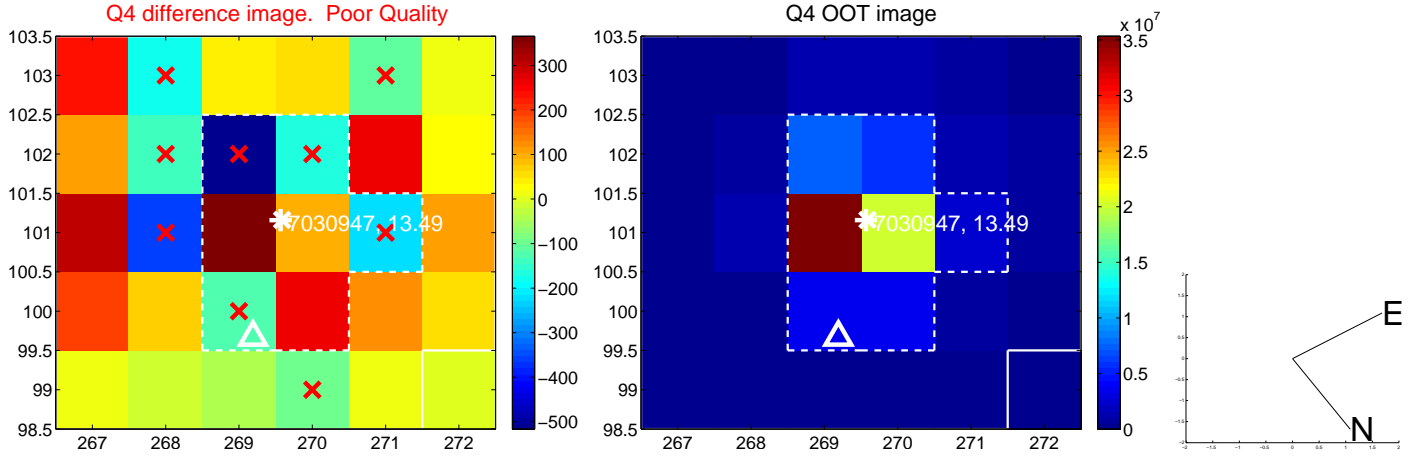
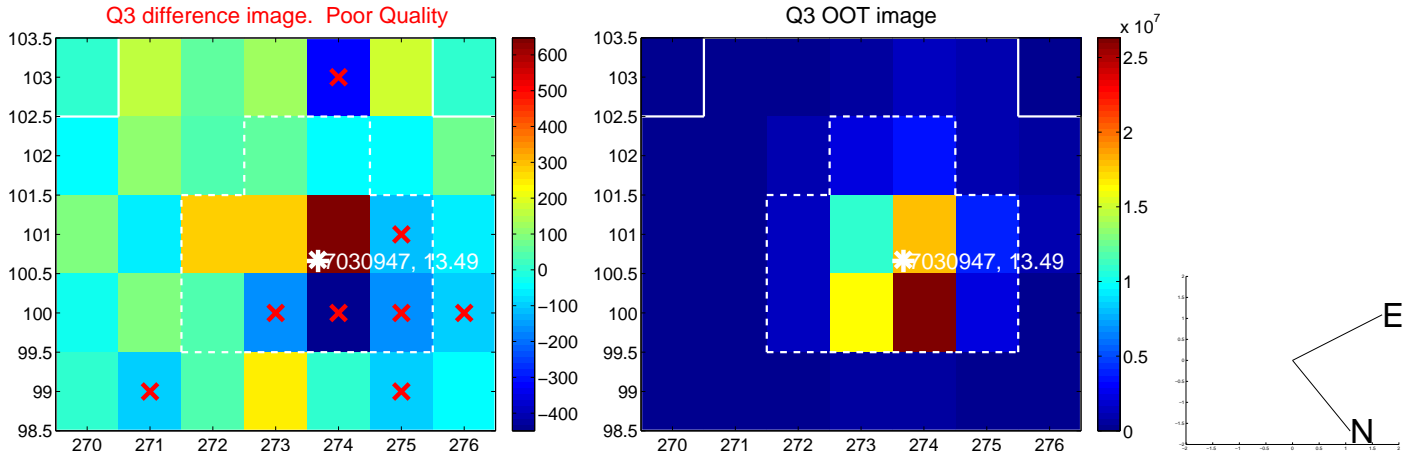
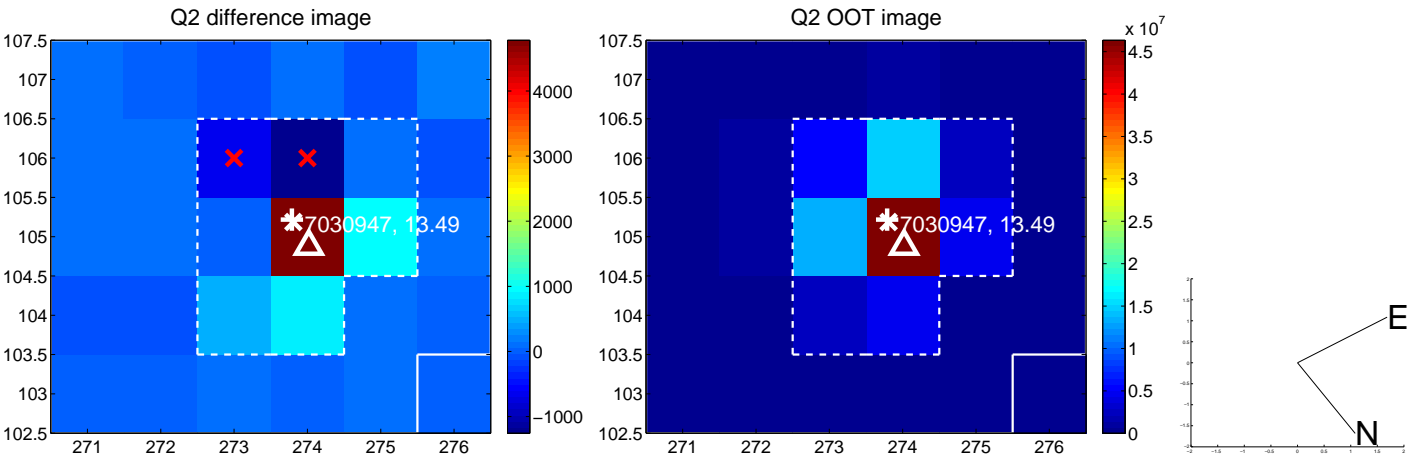
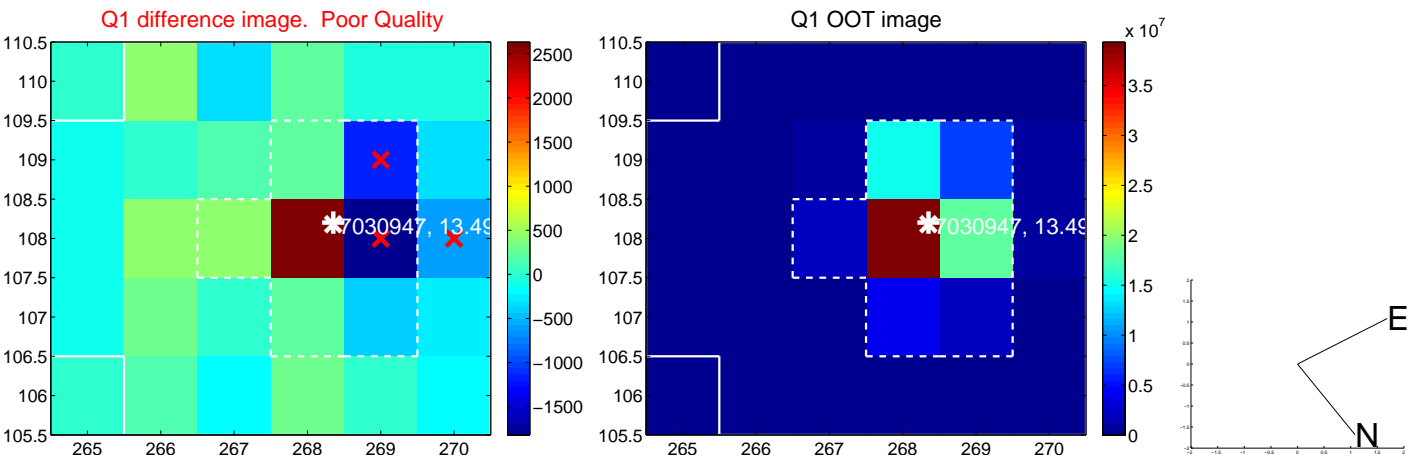
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.244 \pm 0.519$	0.47	$-0.069 \pm 0.671$	$-0.234 \pm 0.504$
PRF-fit source offset from KIC position	$0.287 \pm 0.520$	0.55	$-0.083 \pm 0.671$	$-0.274 \pm 0.504$
photometric centroid source offset	$0.97 \pm 0.47$	2.05	$0.93 \pm 0.47$	$-0.27 \pm 0.45$



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.

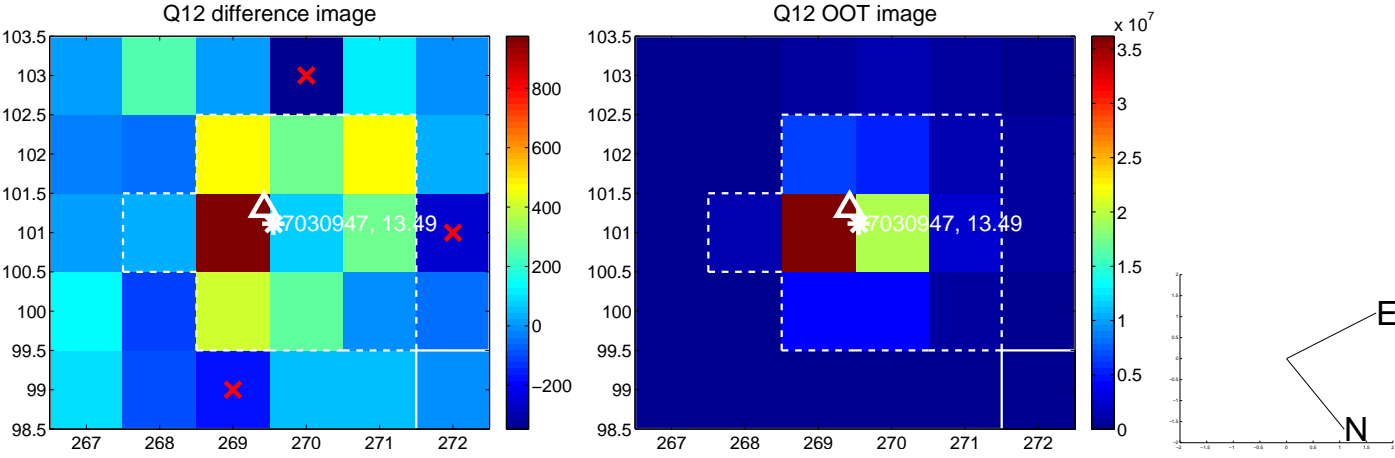
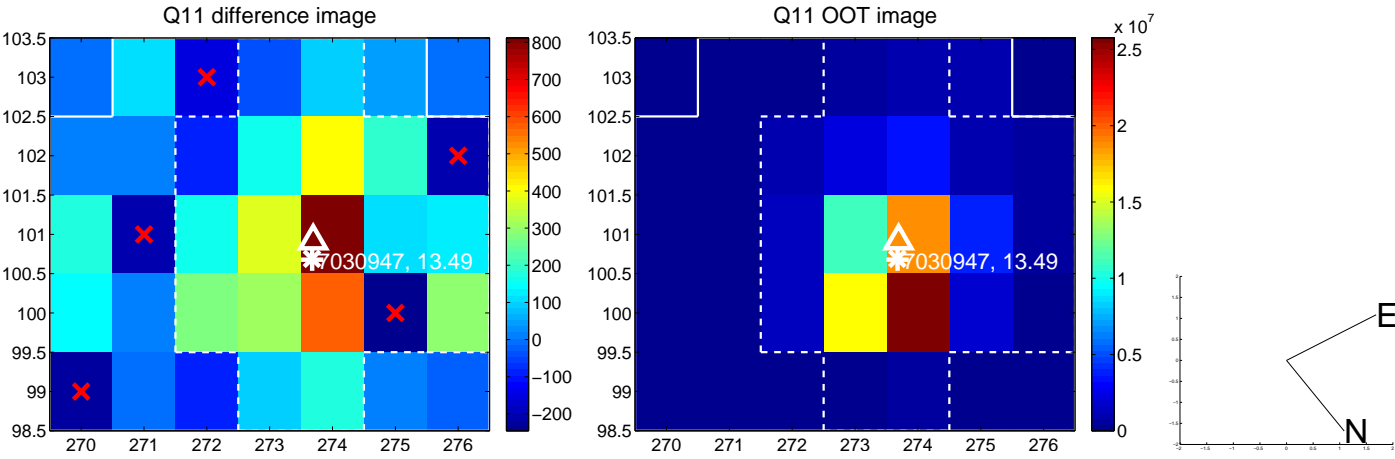
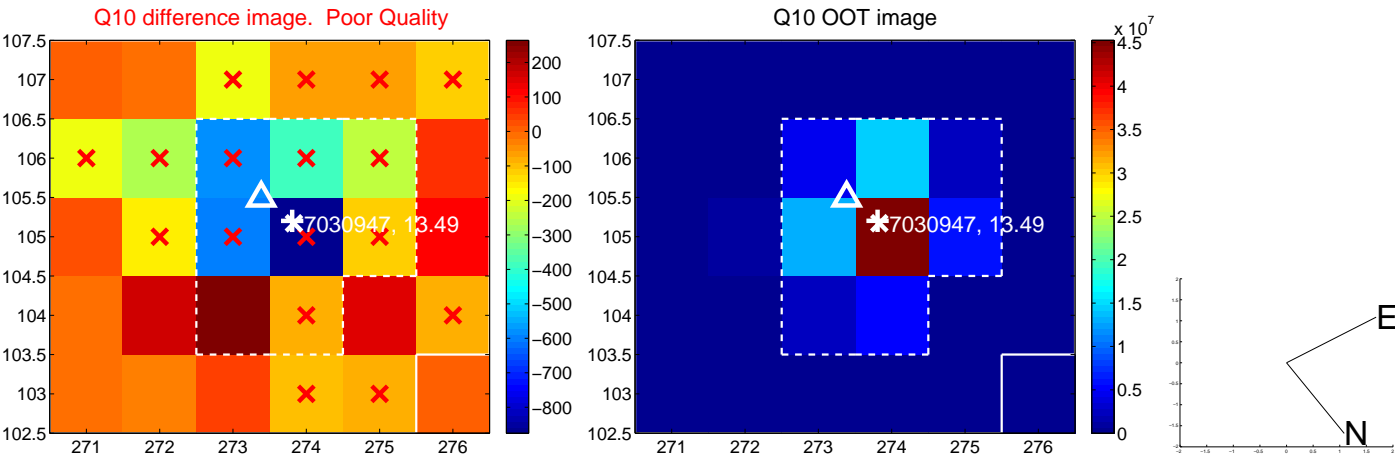
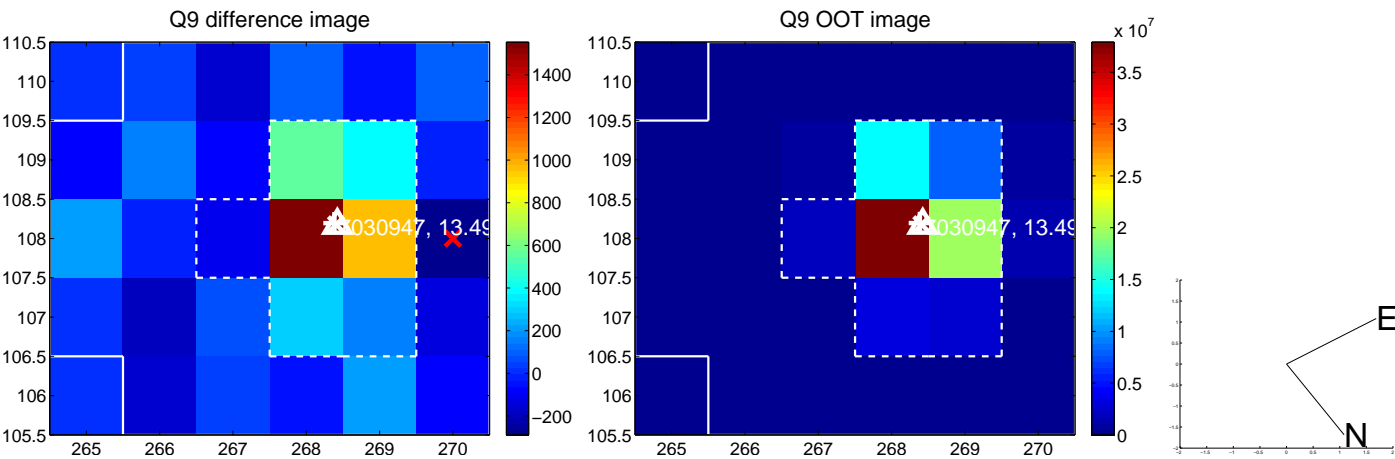
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



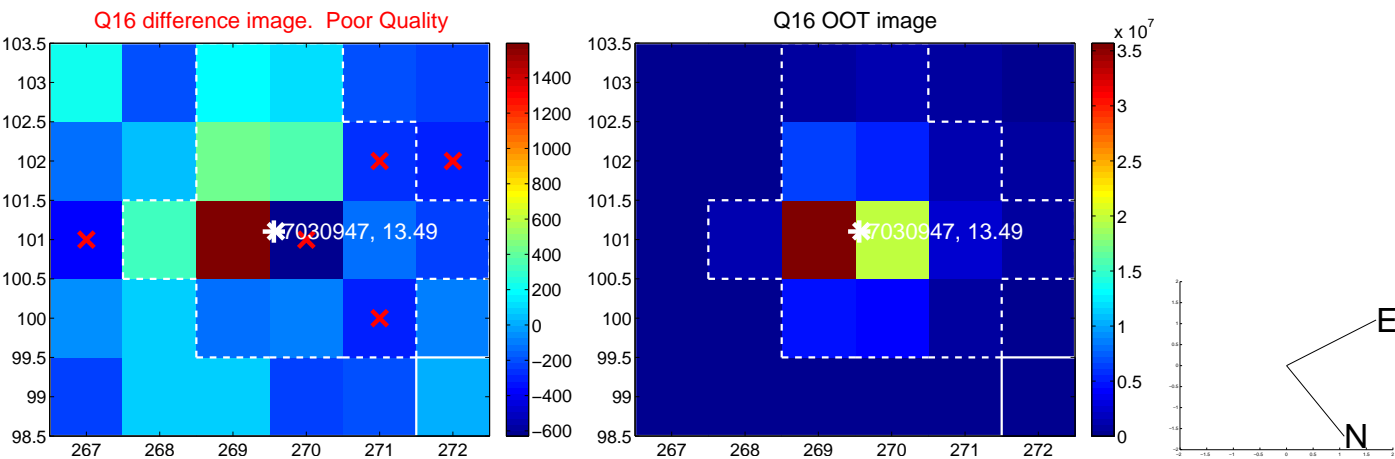
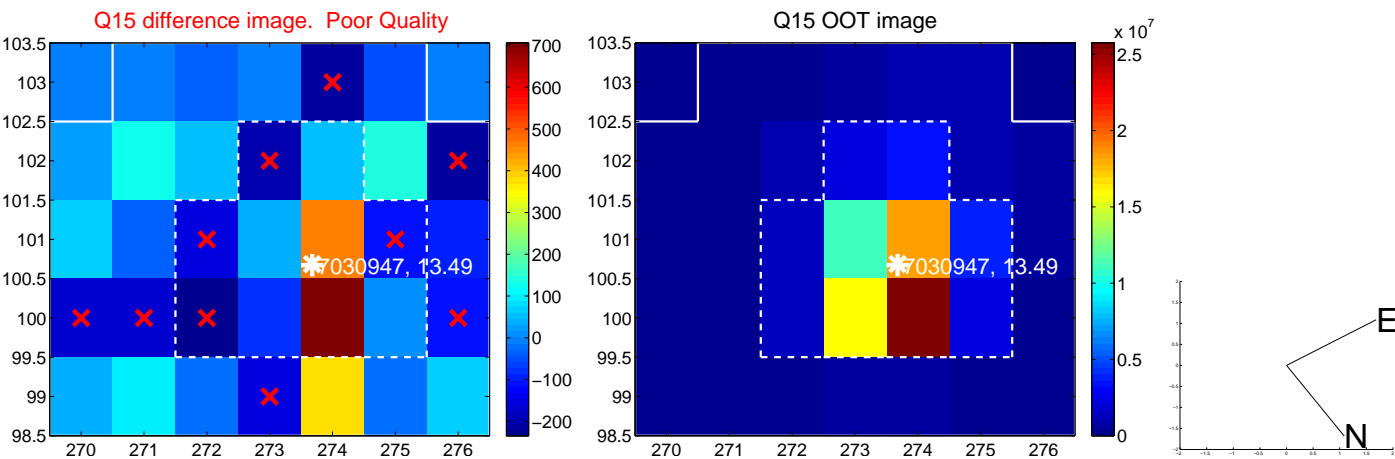
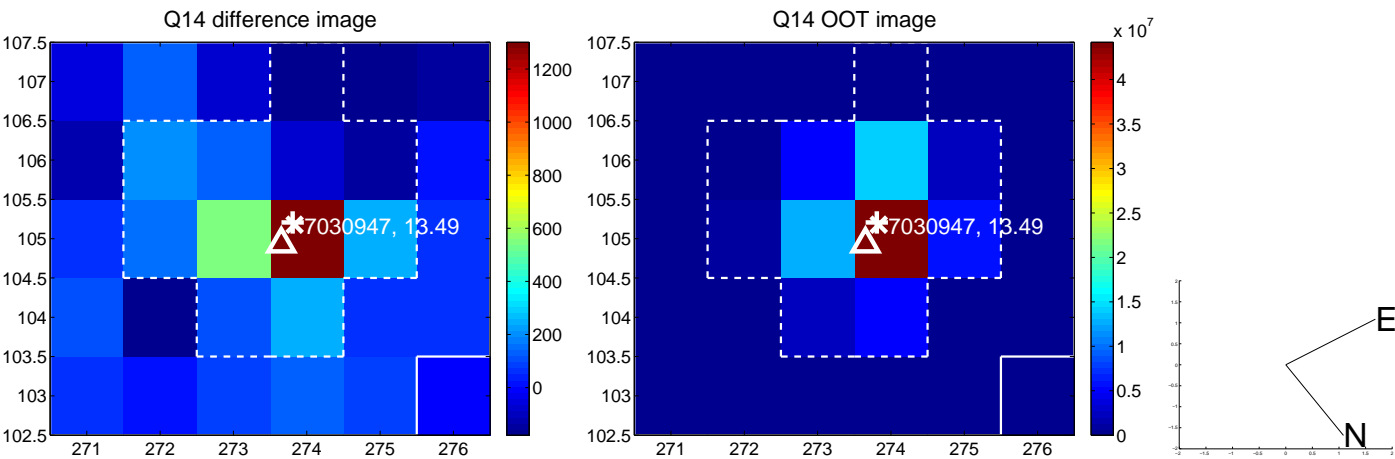
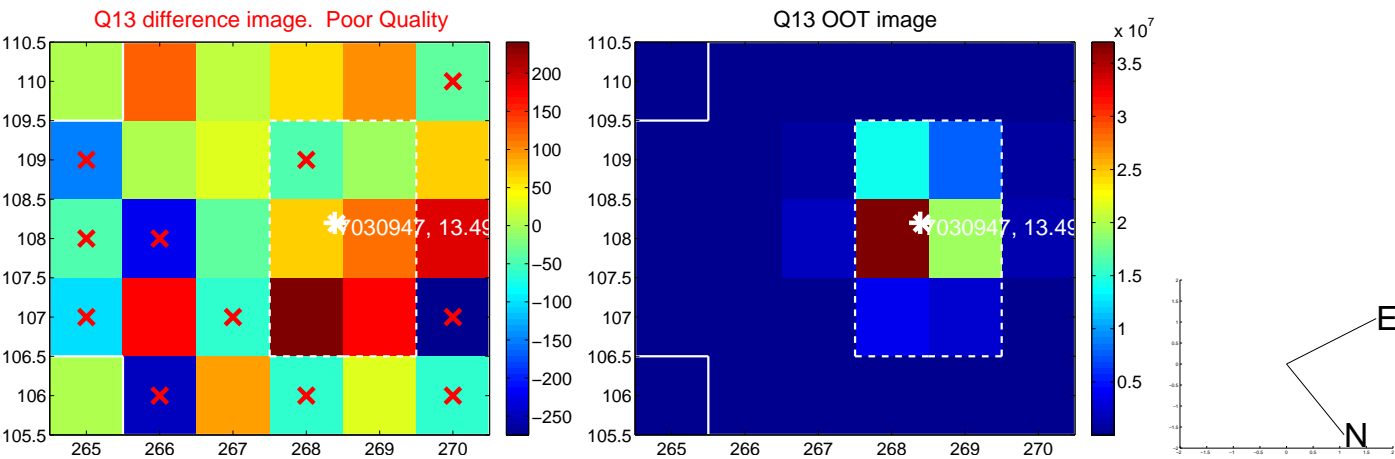




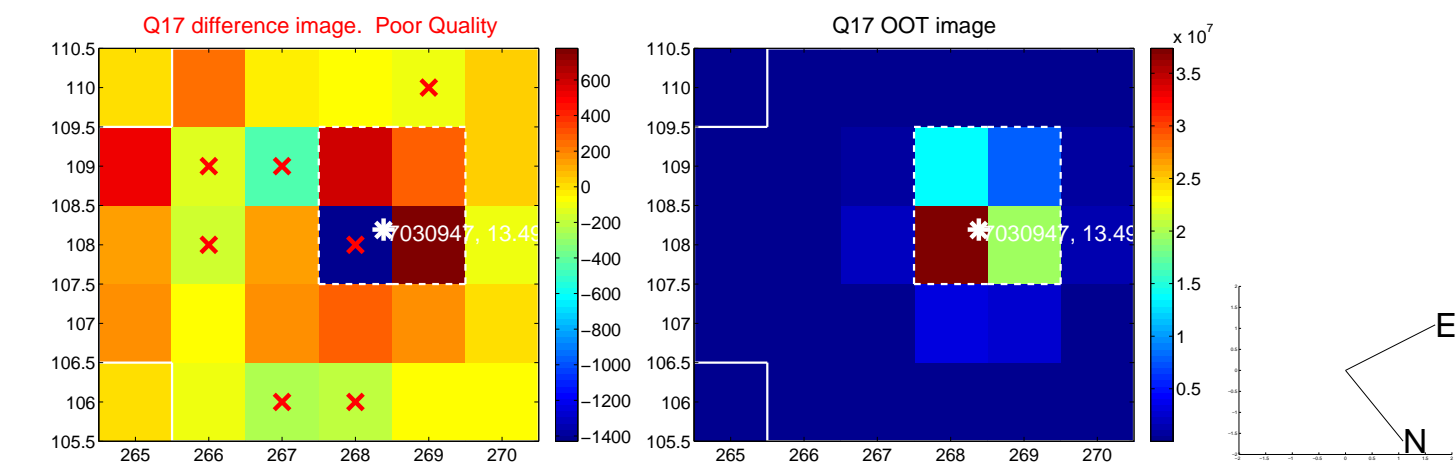
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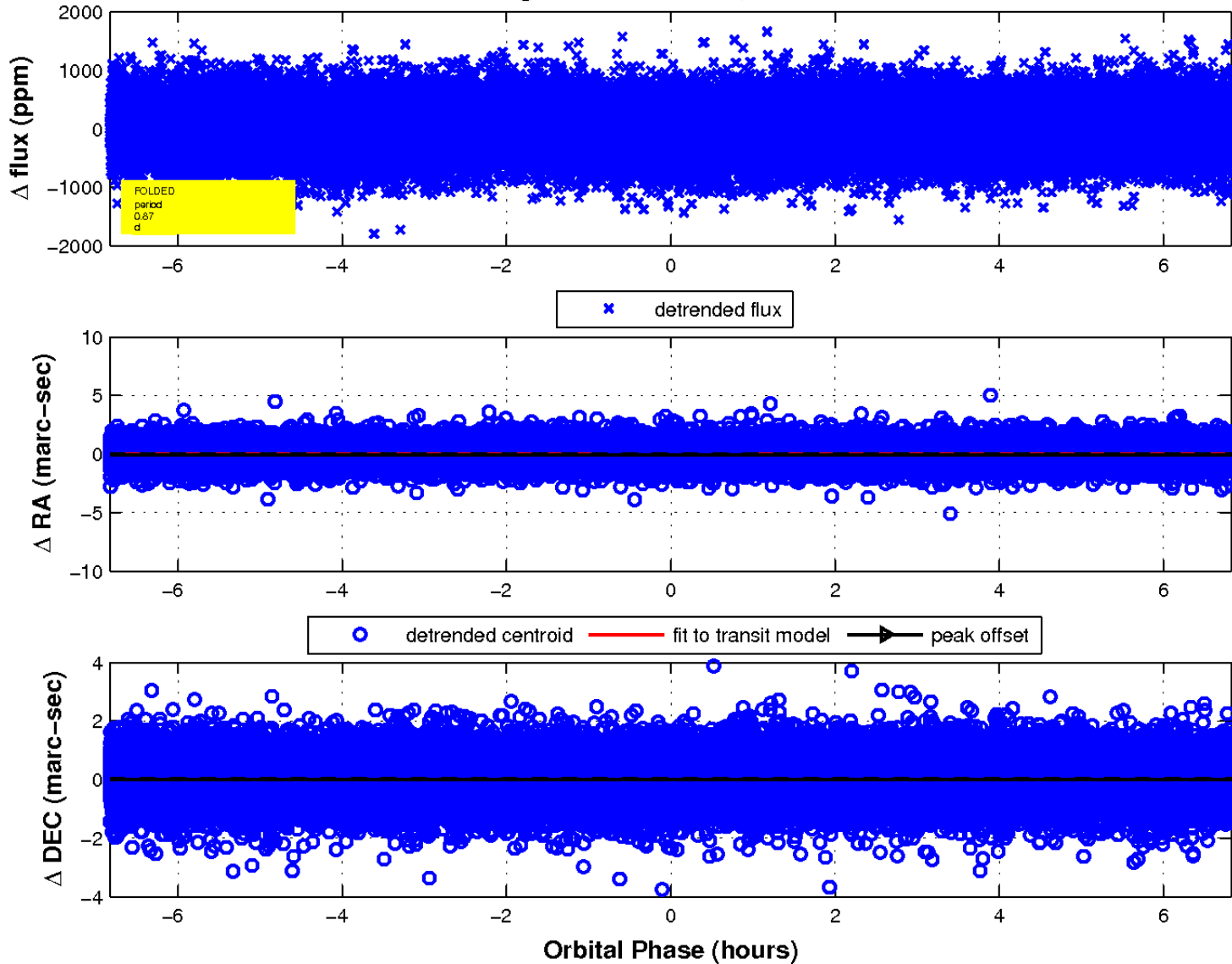
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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

