

# KIC 003749833

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003749833-01	OBS	No	1.550667	131.876455	26.7	11.812	9.6	7.9	1.64	7390	0.87	7964.65

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003749833-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—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.

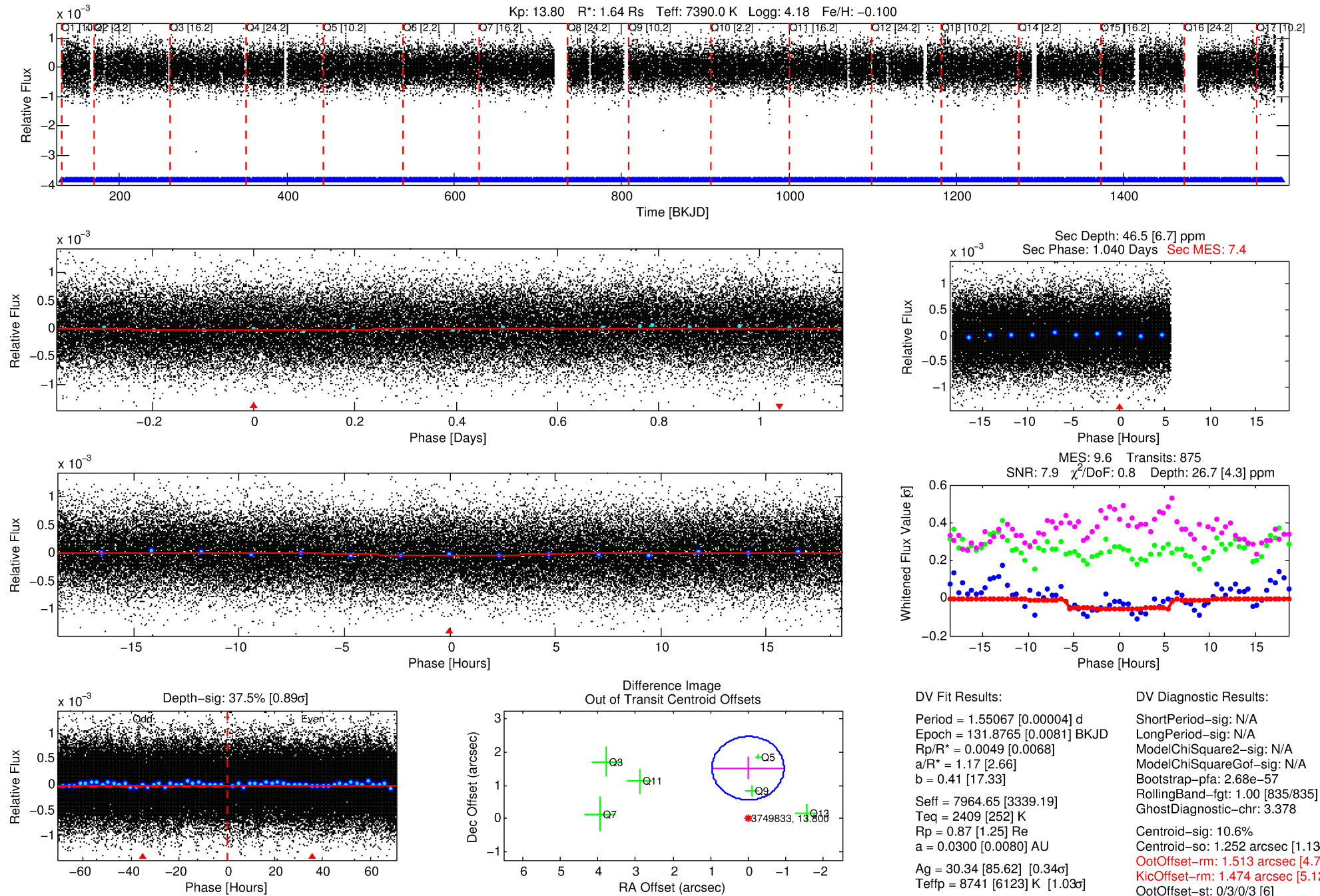
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003749833-01

No Significant Match Found

# DV One-Page Summary

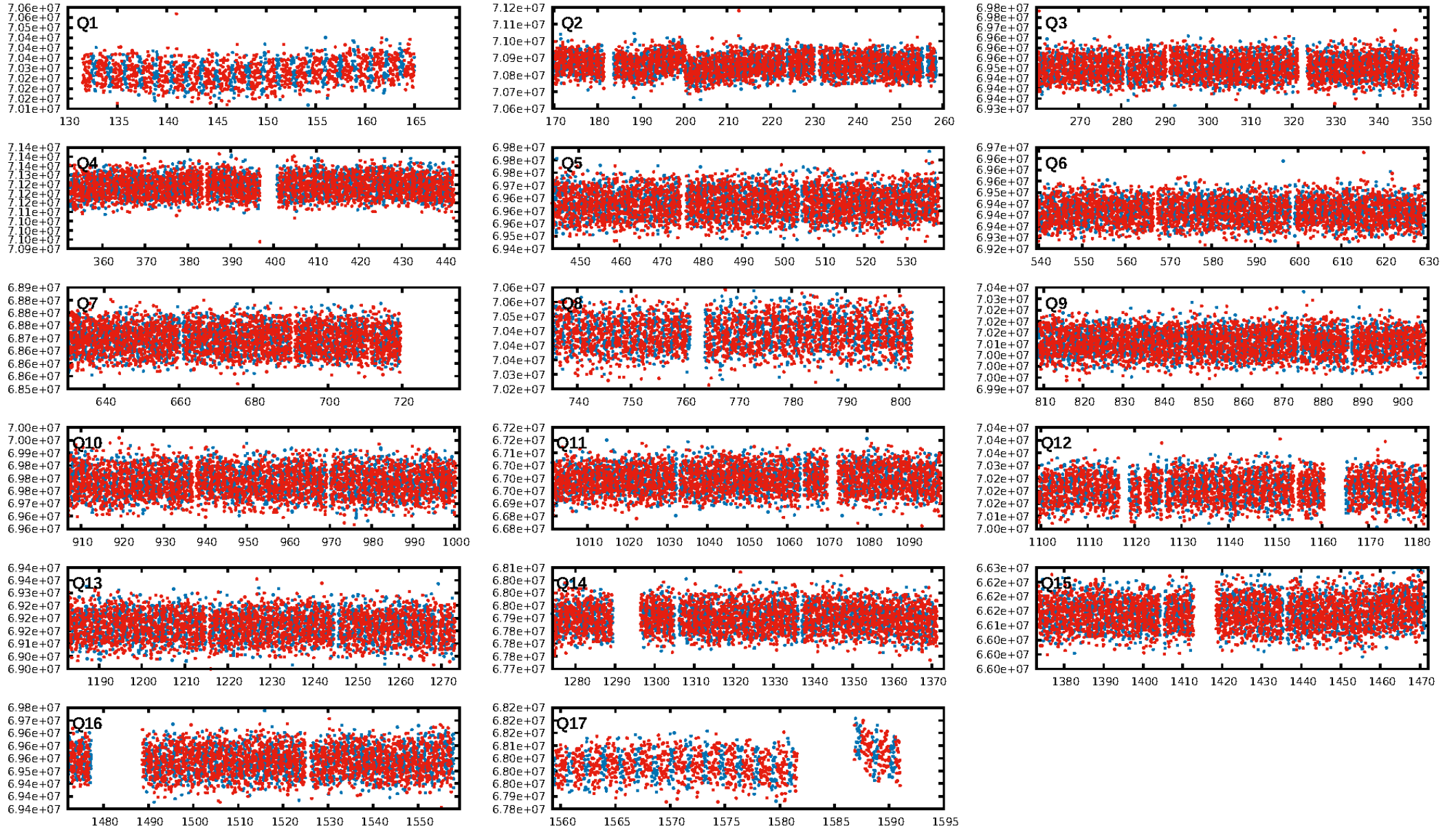
KIC: 3749833 Candidate: 1 of 1 Period: 1.551 d



Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 23:51:40 Z

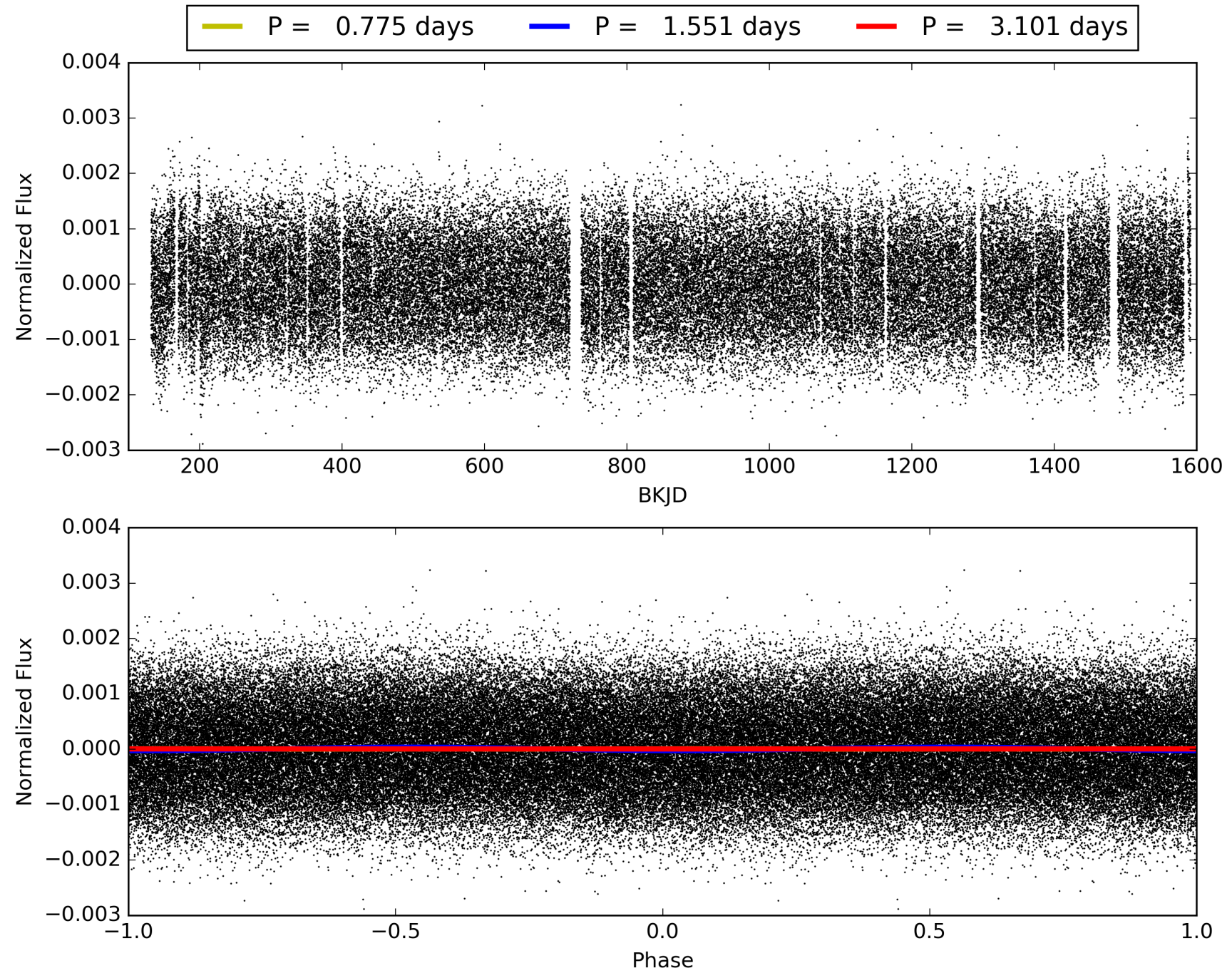
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 003749833-01, PDC Light Curves



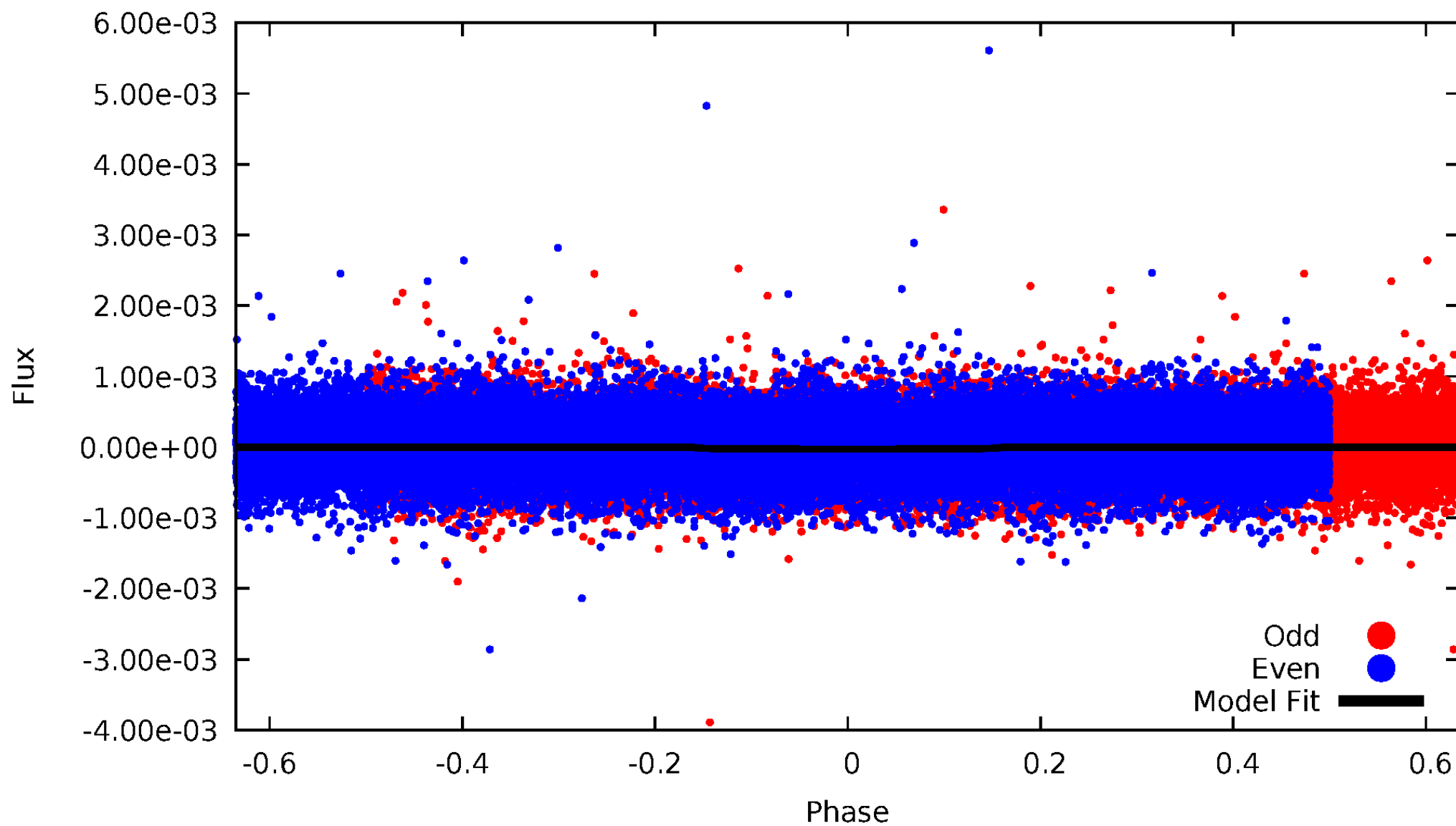


TCE 003749833-01



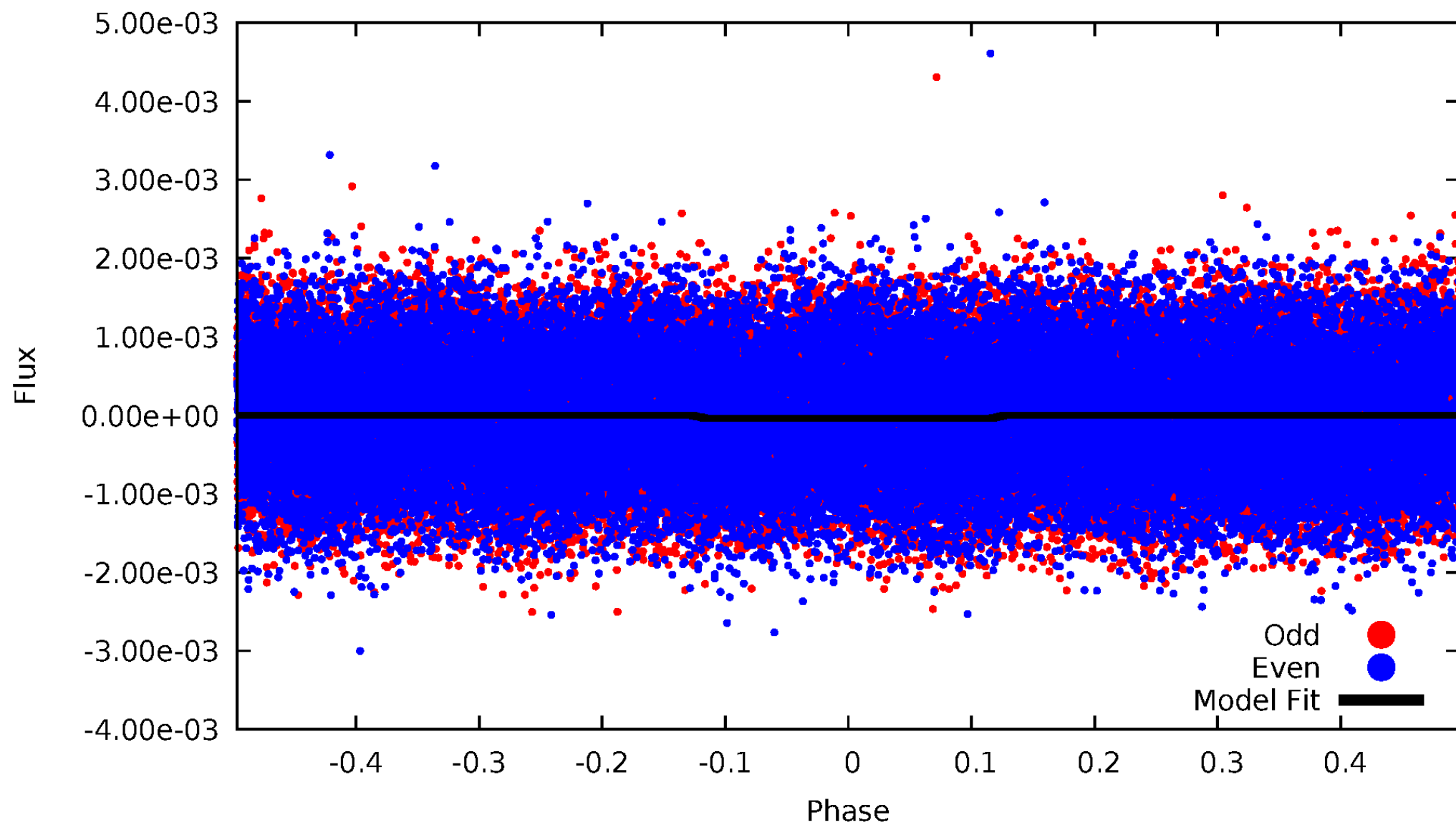
# DV Odd/Even

TCE 003749833-01



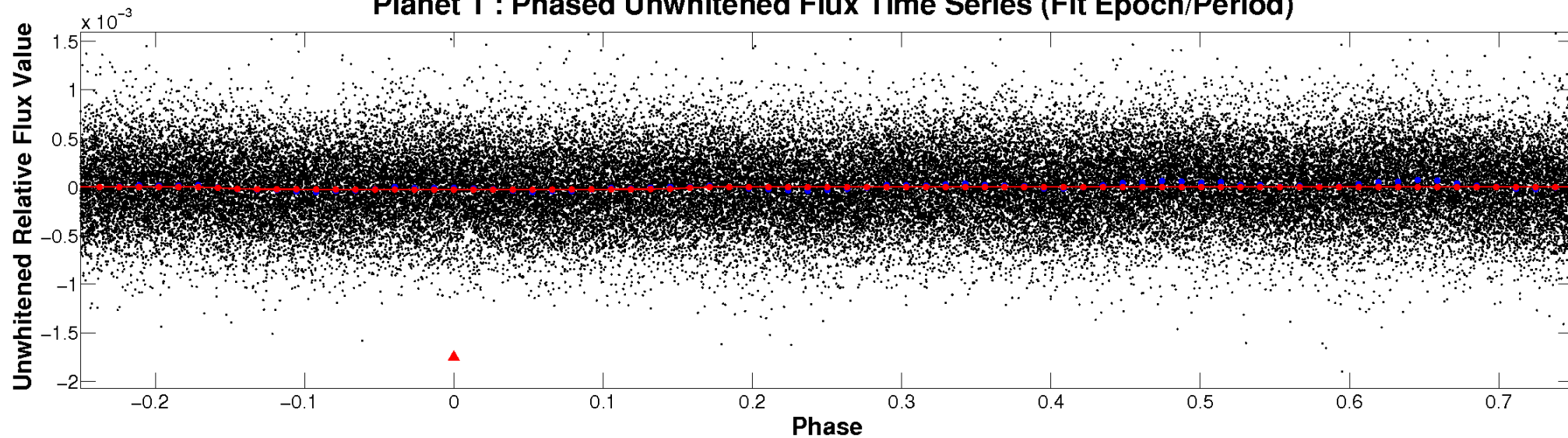
# ALT Odd/Even

TCE 003749833-01

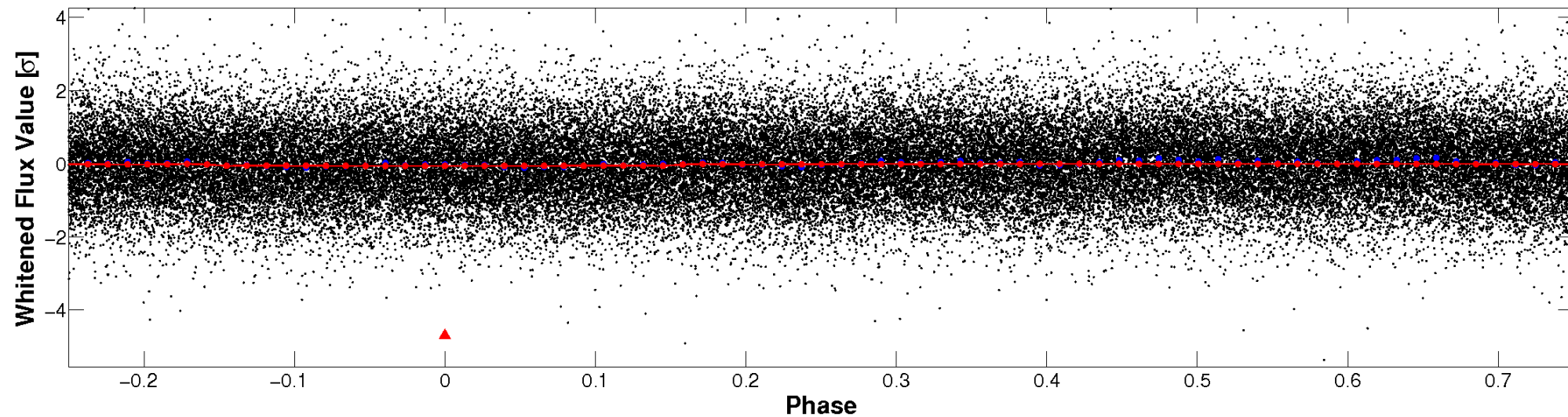


# Non-Whitened Vs. Whitened Light Curve

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



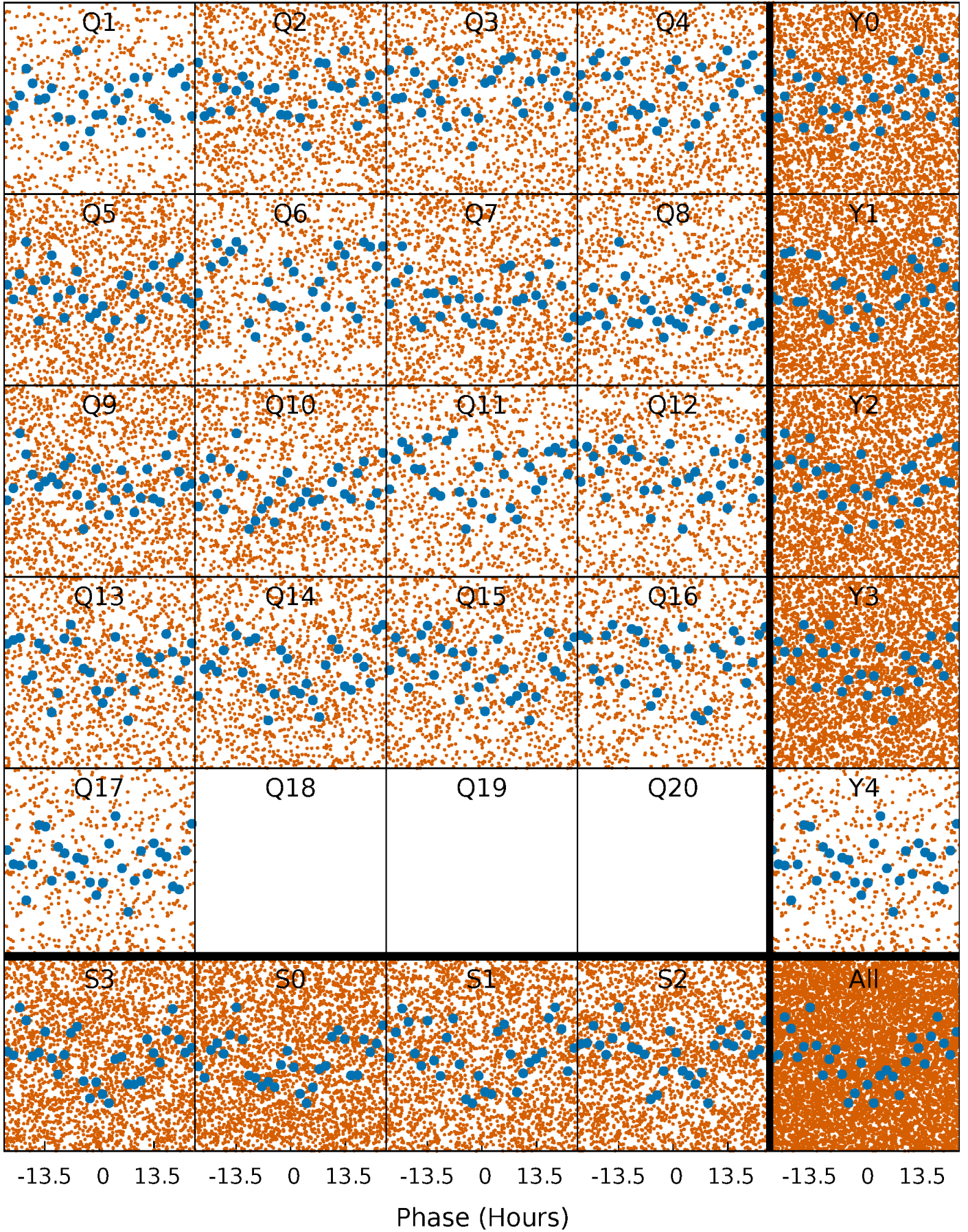
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

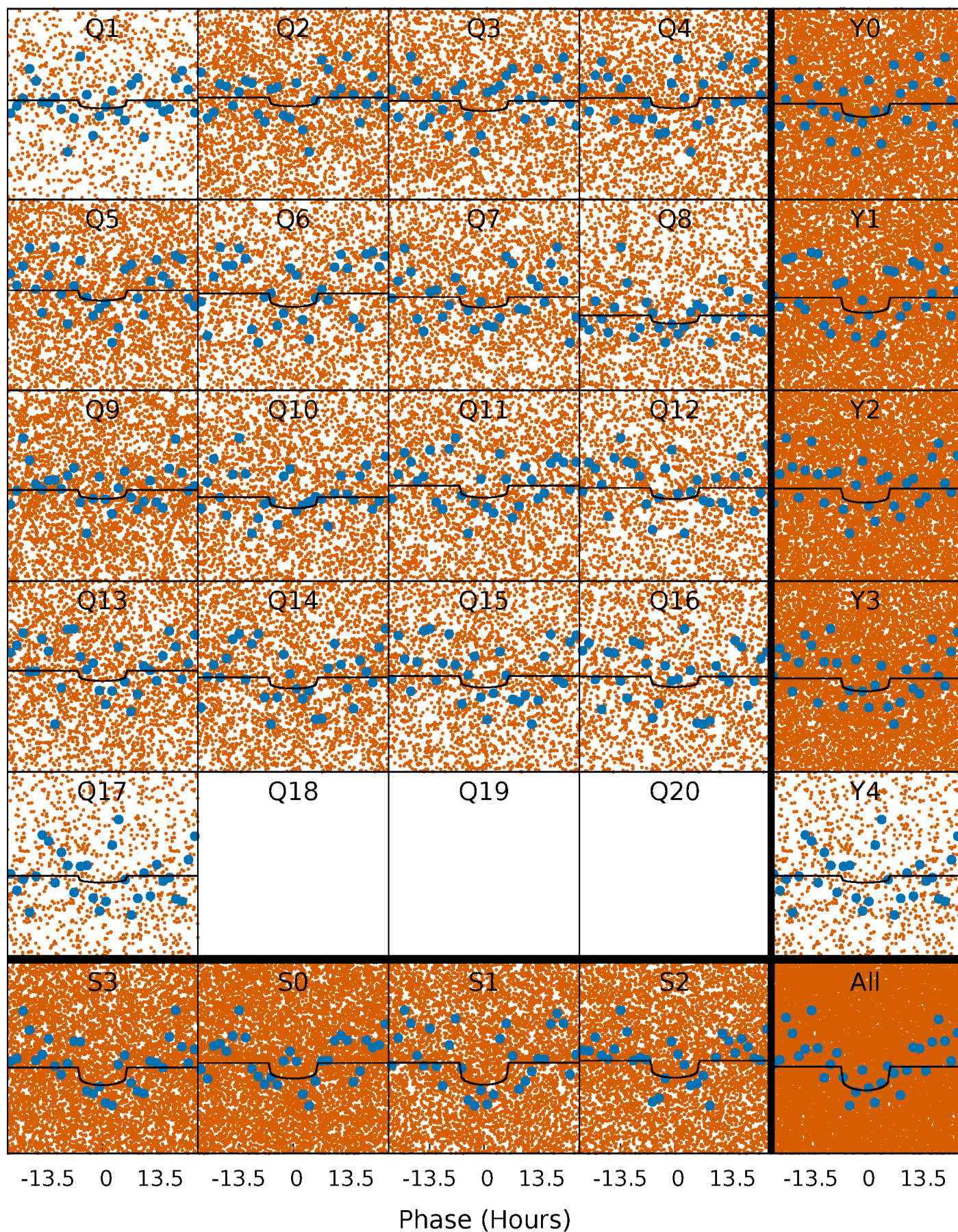
TCE 003749833-01 P= 1.550667 Days  $T_0=131.876455$  (BKJD)





# DV Quarter-Phased Transit Curves

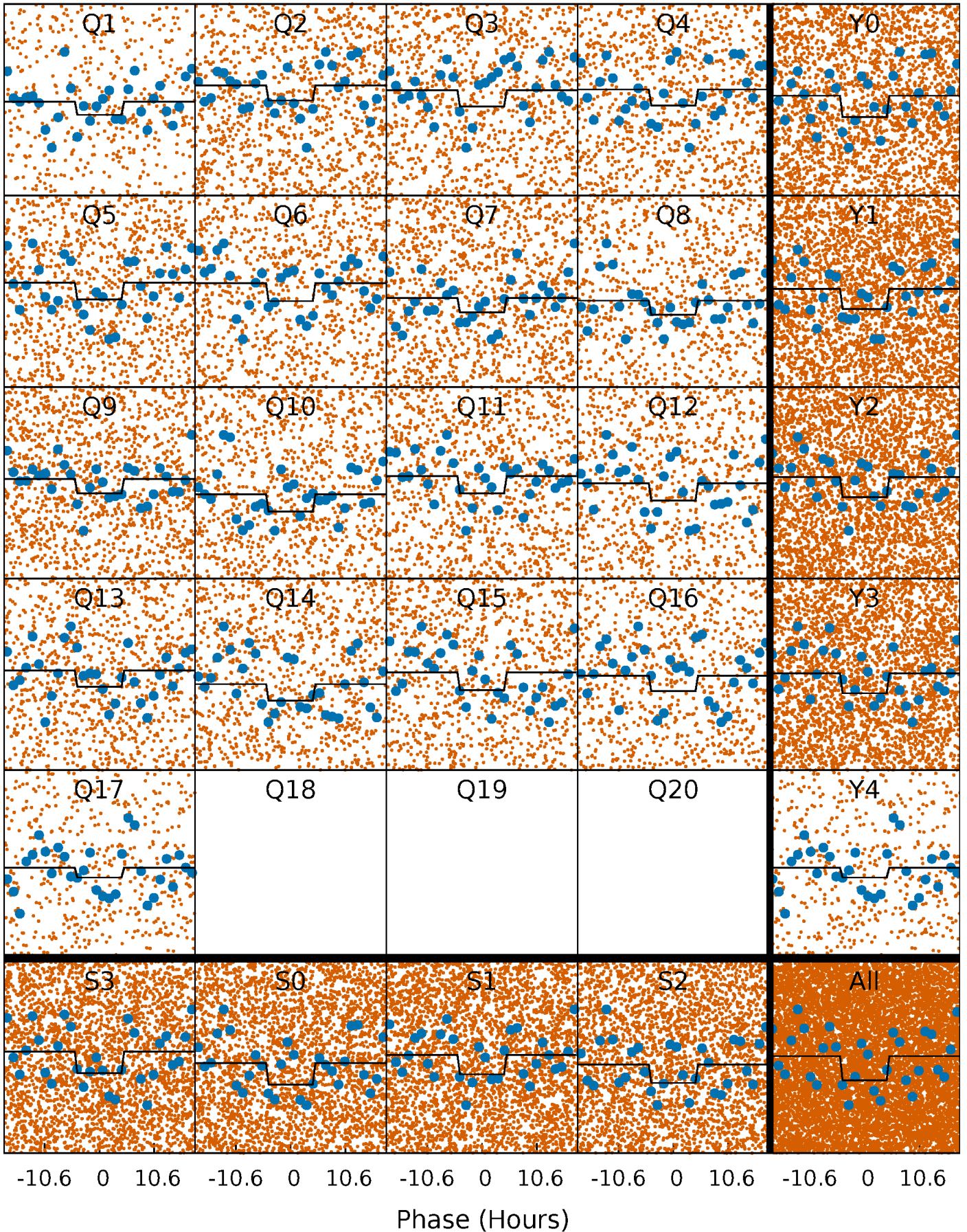
TCE 003749833-01 P= 1.550667 Days  $T_0=131.876455$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

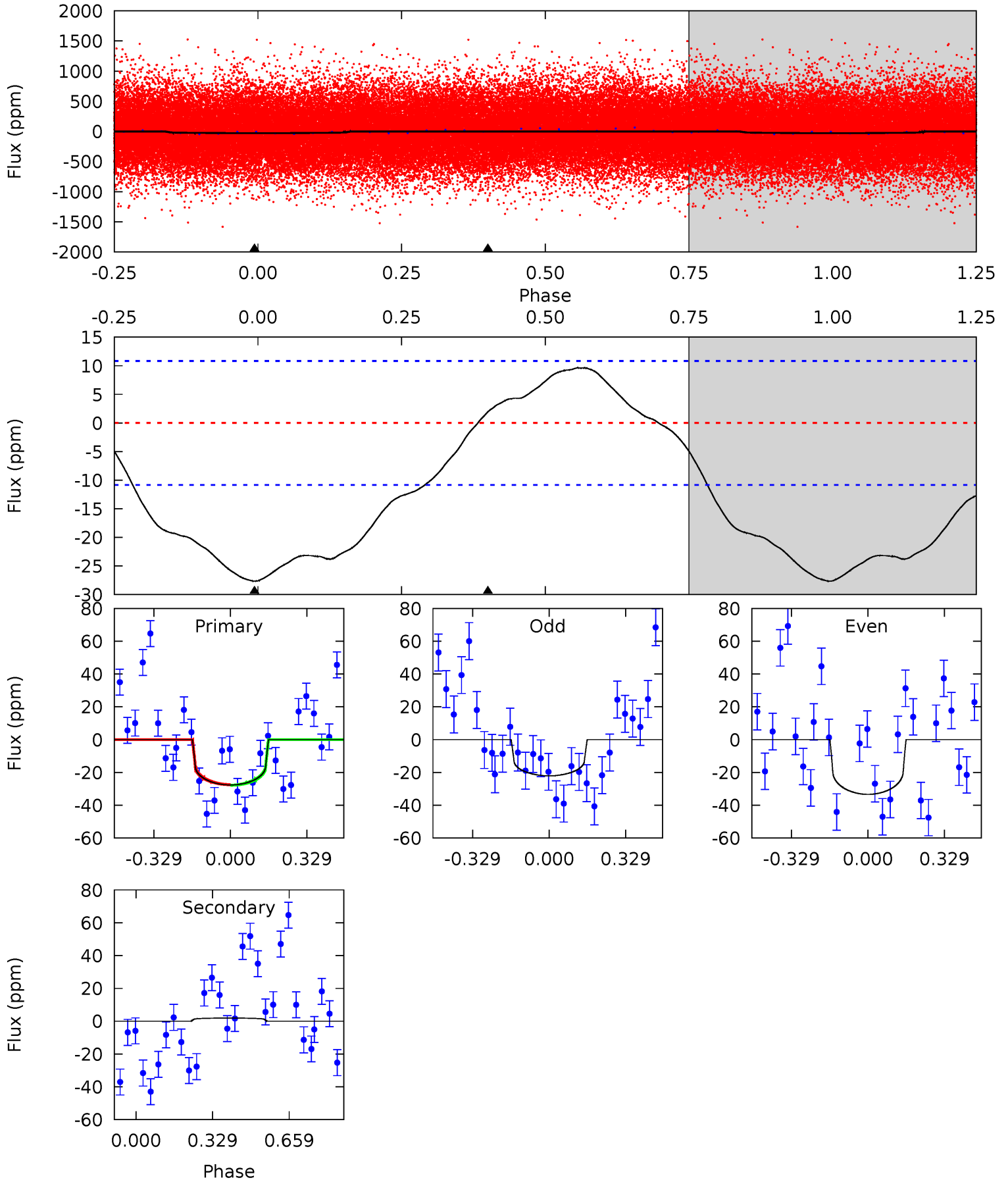
TCE 003749833-01 P= 1.550501 Days  $T_0=131.933048$  (BKJD)



# DV Model-Shift Uniqueness Test

003749833-01, P = 1.550667 Days, E = 130.325788 Days

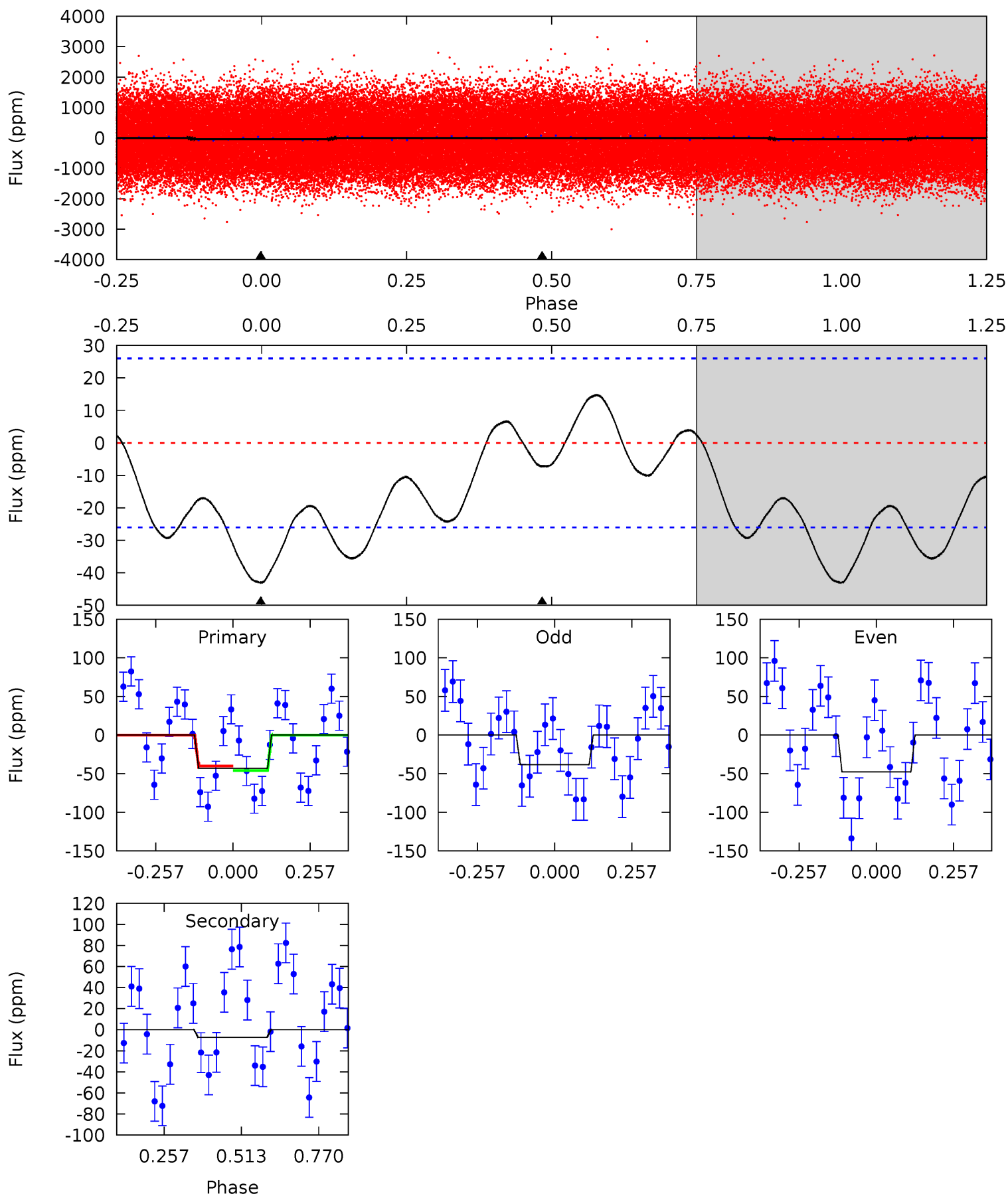
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	-0.77	0	0	4.31	0.98	0.78	11.0	11.0	-0.77	-0.77	2.26	0.86	0.26	0.07



# Alt Model-Shift Uniqueness Test

003749833-01, P = 1.550501 Days, E = 130.382547 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
7.21	1.21	0	0	4.36	1.13	1.11	7.21	7.21	1.21	1.21	0.80	0.89	0.25	0.49





### Stellar Parameters For KIC 003749833

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7390^{+205}_{-334}$	$4.185^{+0.108}_{-0.201}$	$-0.100^{+0.200}_{-0.350}$	$1.639^{+0.538}_{-0.290}$	$1.498^{+0.210}_{-0.234}$	$0.479^{+0.254}_{-0.250}$
	+3%/-5%	+3%/-5%	+200%/-350%	+33%/-18%	+14%/-16%	+53%/-52%
Source	KIC0	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 003749833-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$2\pm3$	$1.26^{+1.10}_{-0.83}$	$3402^{+262}_{-233}$	$-3839^{+835}_{-1567}$	$-0.464^{+0.589}_{-3.710}$
Alt.	$-7\pm6$	$1.46^{+1.22}_{-0.91}$	$3386^{+272}_{-211}$	$4106^{+2621}_{-7109}$	$1.414^{+9.222}_{-1.265}$

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

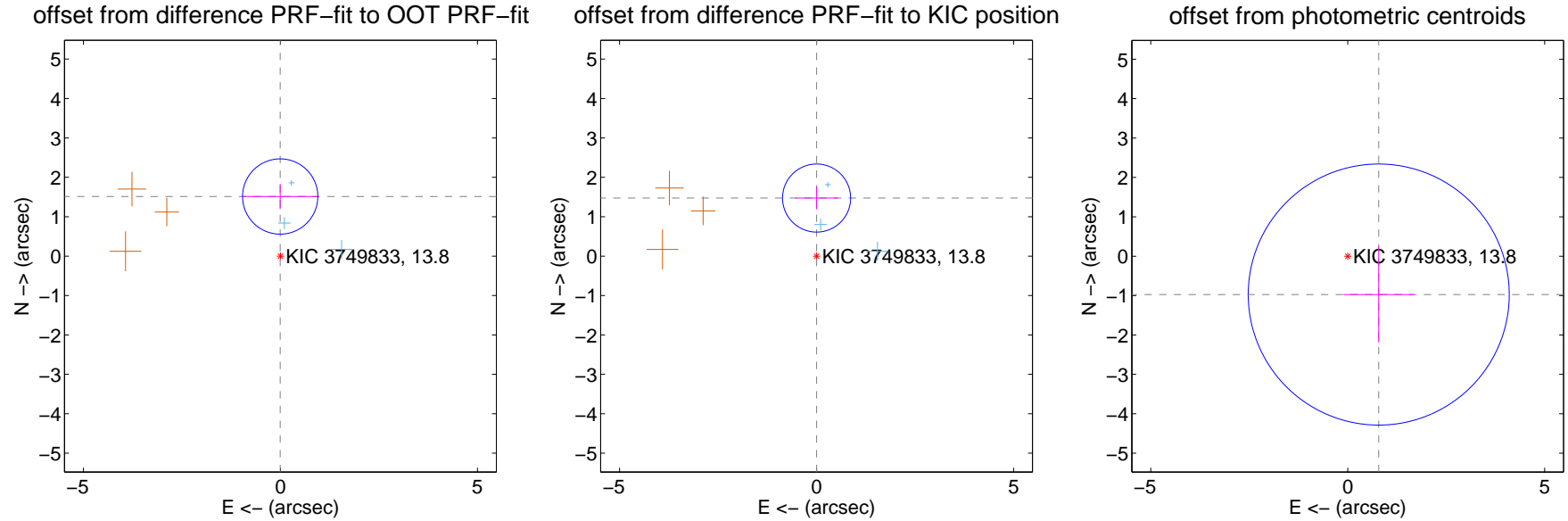
## DV Centroid Data

Supplemental centroid analysis for 003749833-01. Kepler magnitude: 13.80. Transit SNR 7.86

There are 3 quarters with good PRF difference image offsets

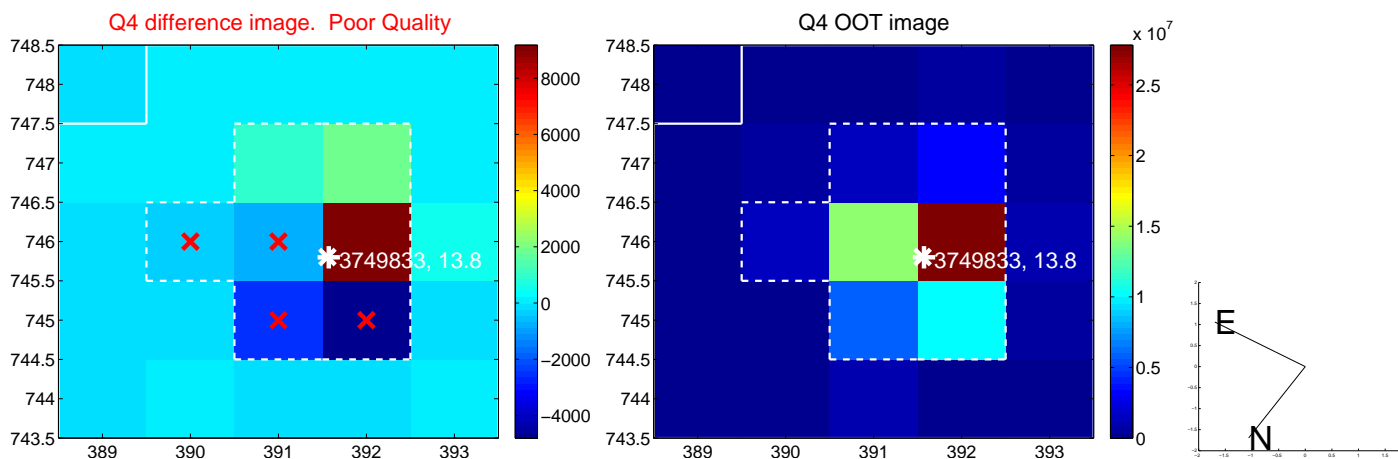
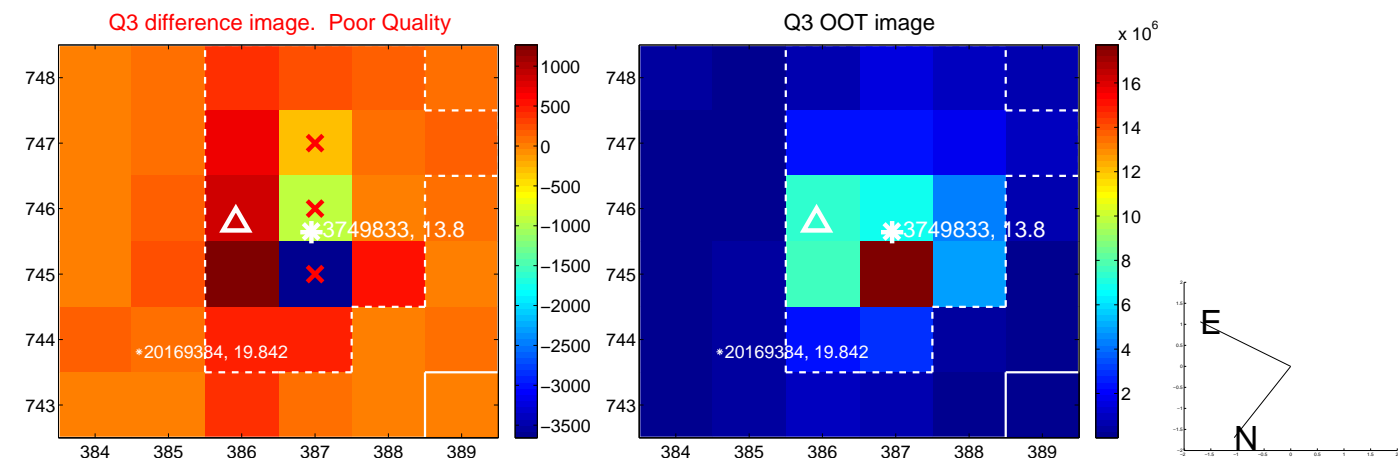
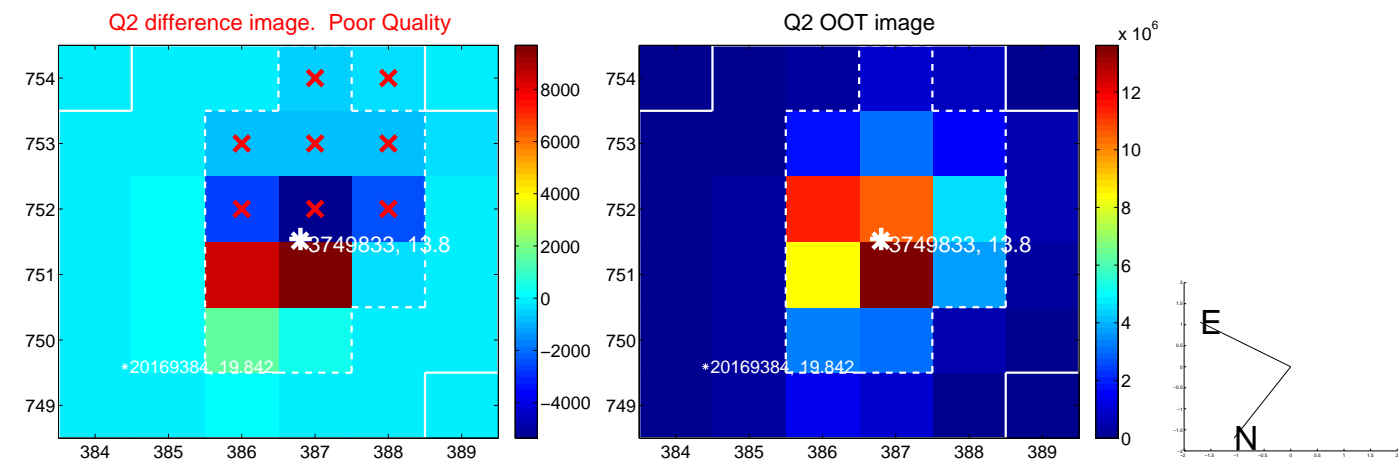
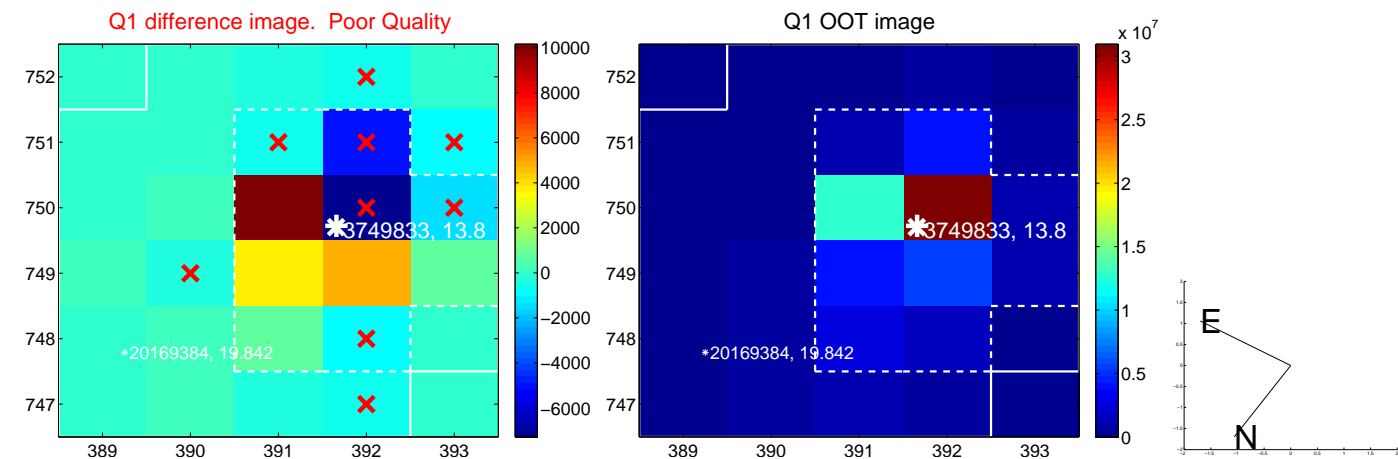
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.513 \pm 0.318$	4.75	$0.007 \pm 0.963$	$1.513 \pm 0.318$
PRF-fit source offset from KIC position	$1.474 \pm 0.288$	5.12	$-0.000 \pm 0.538$	$1.474 \pm 0.288$
photometric centroid source offset	$1.25 \pm 1.10$	1.13	$-0.79 \pm 0.90$	$-0.97 \pm 1.22$

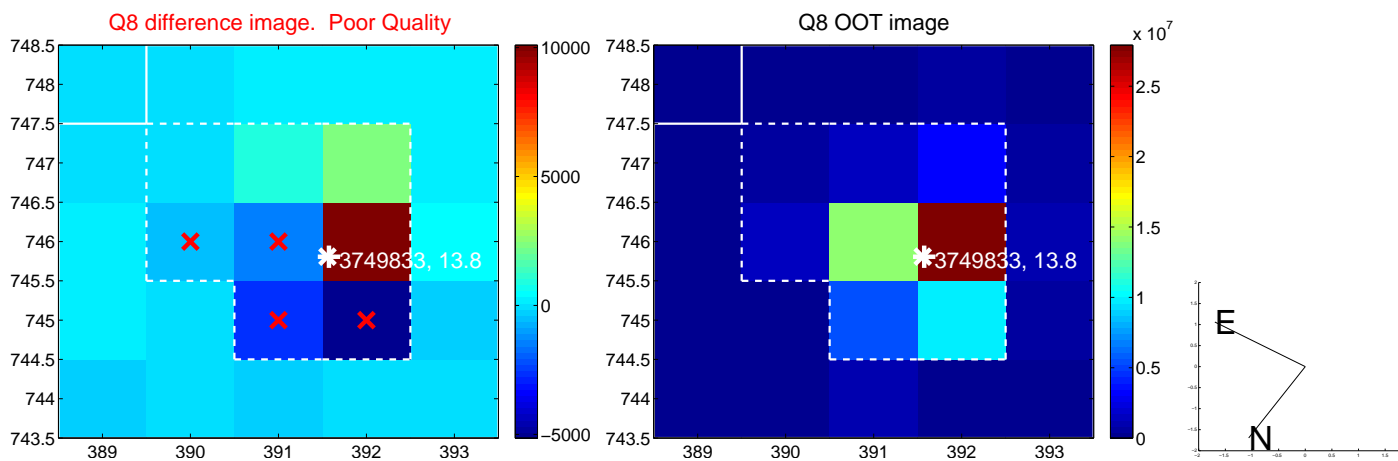
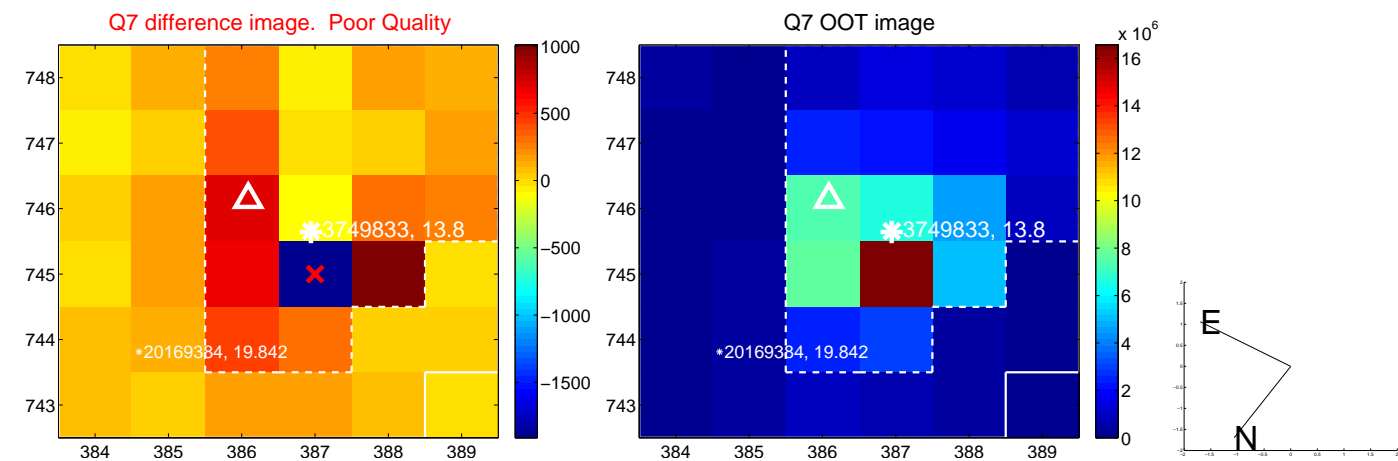
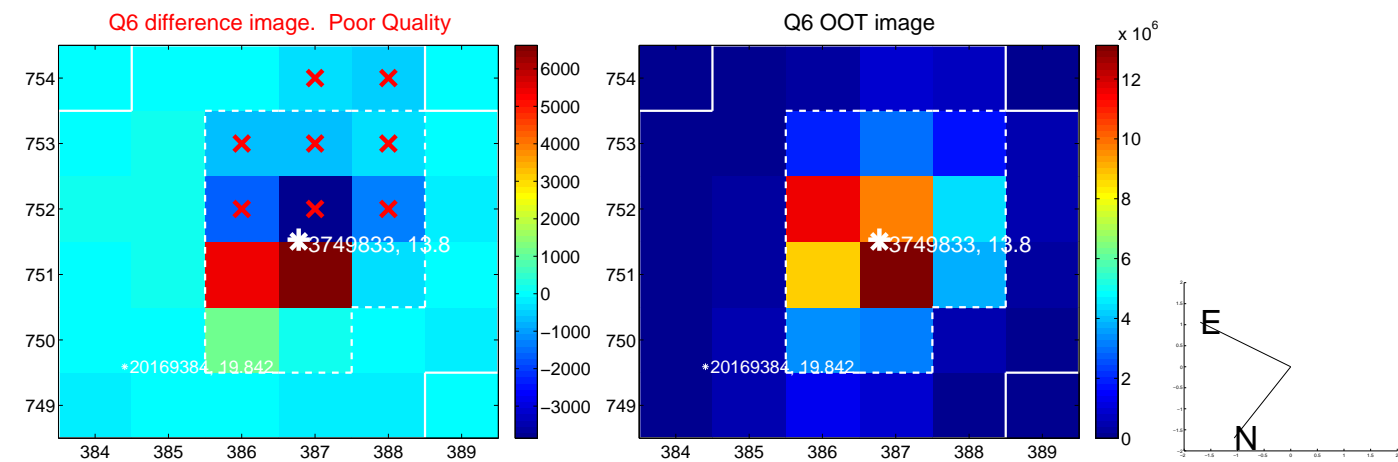
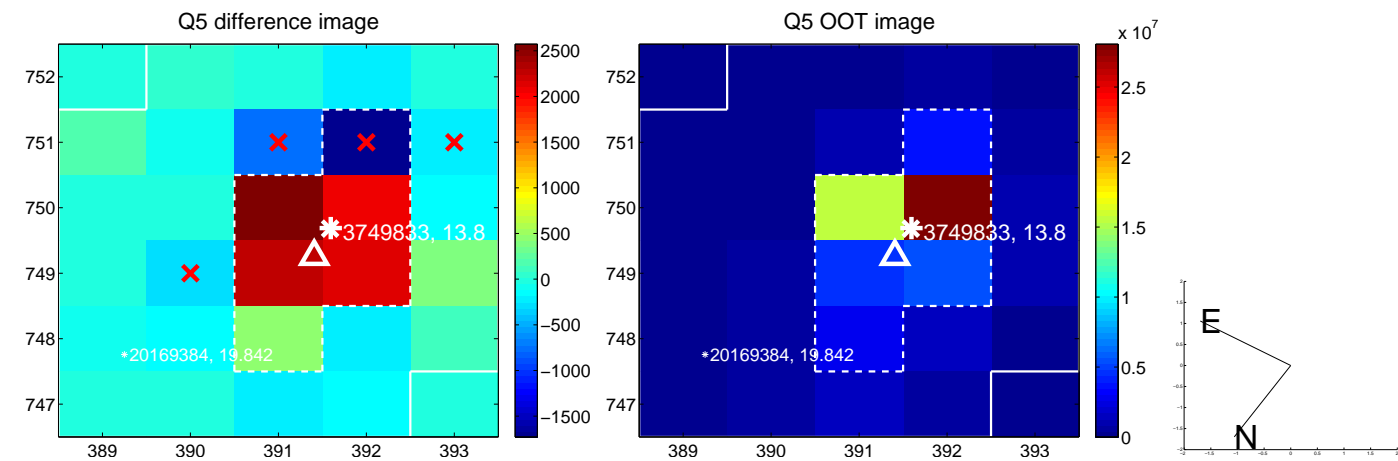


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

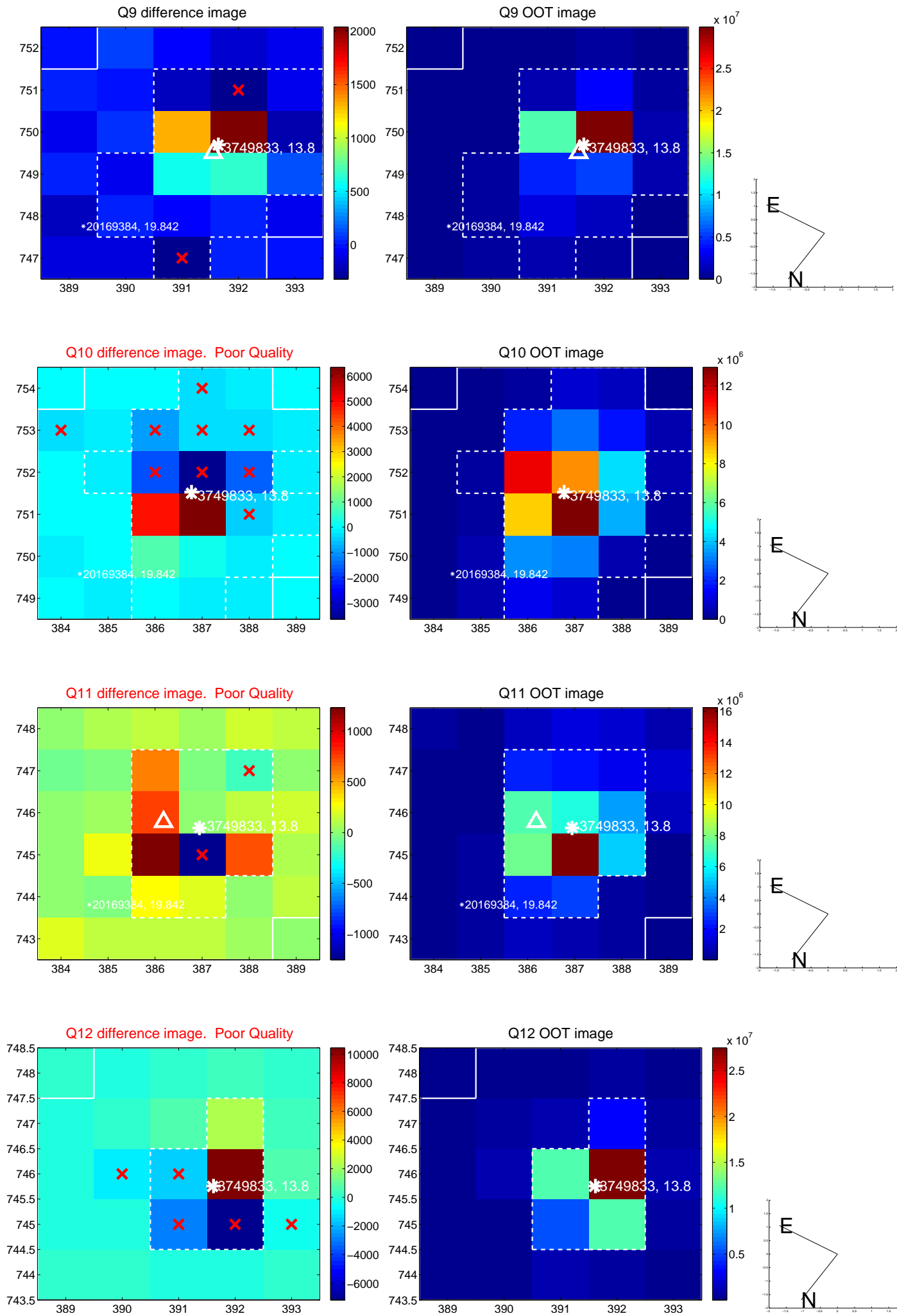


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

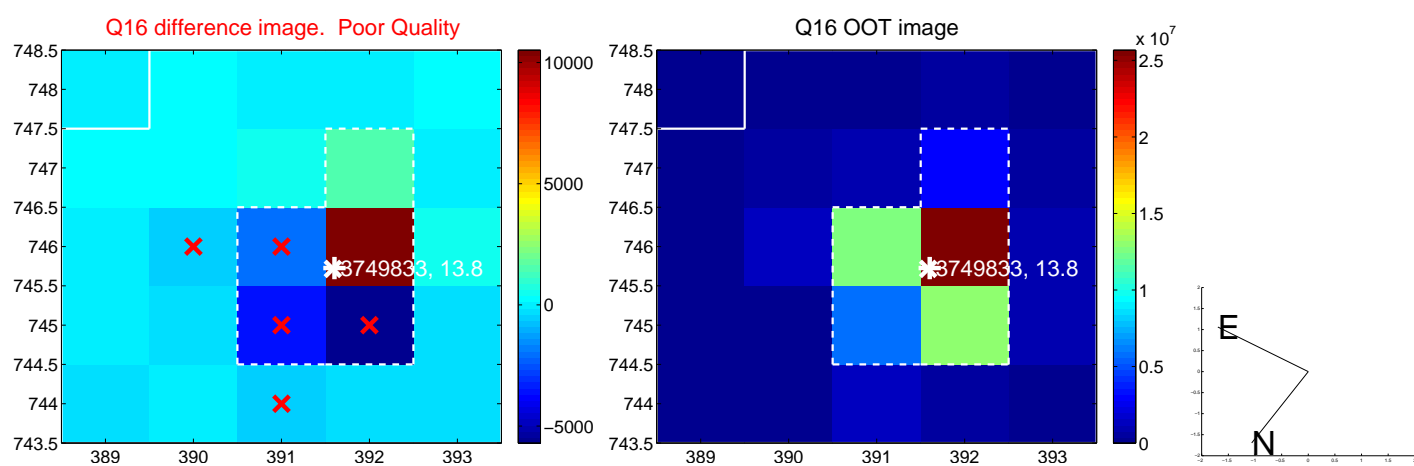
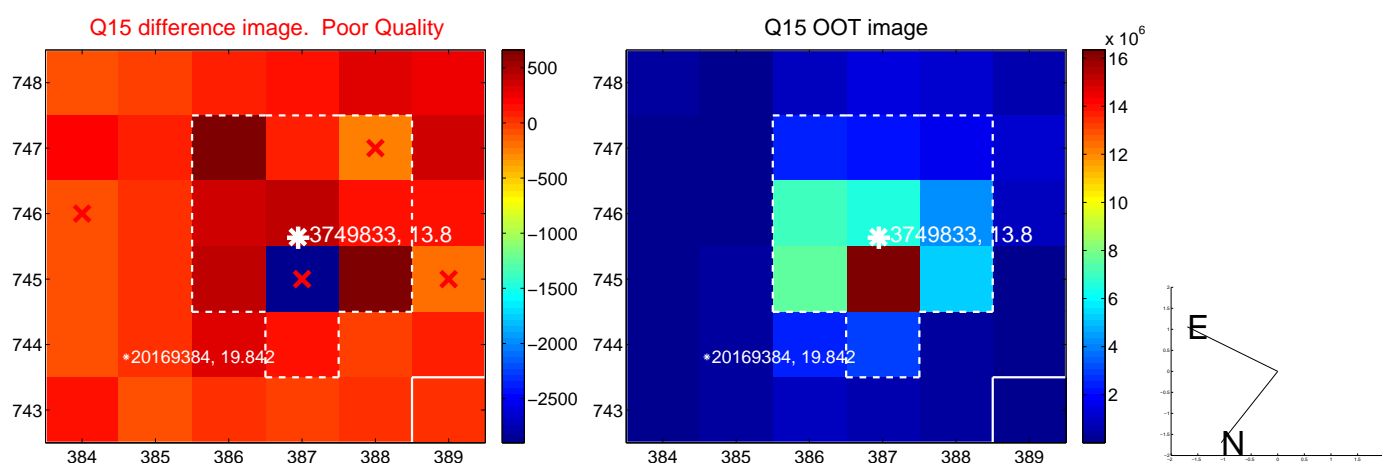
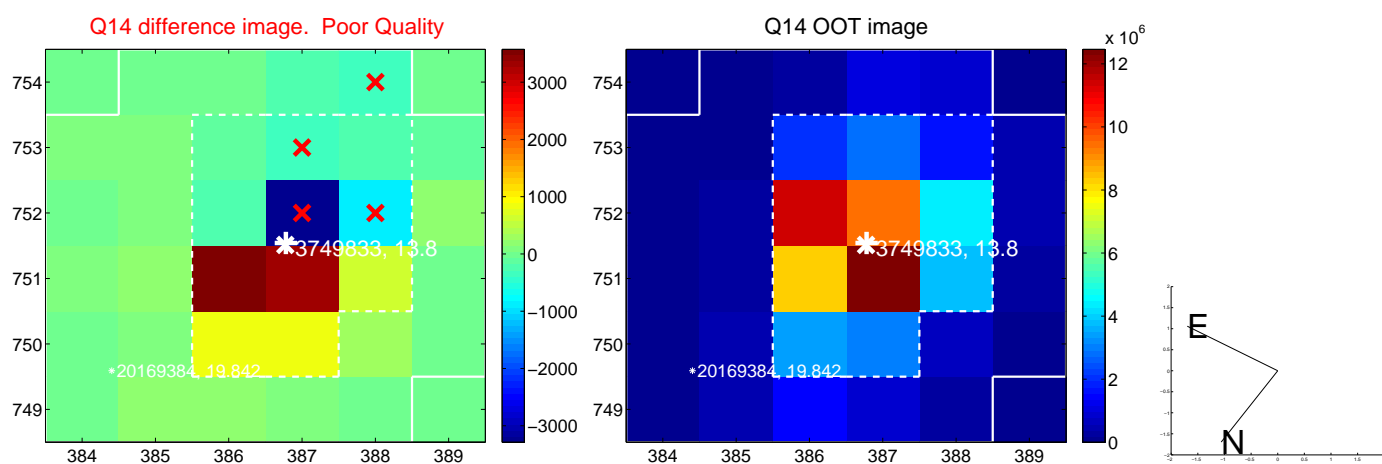
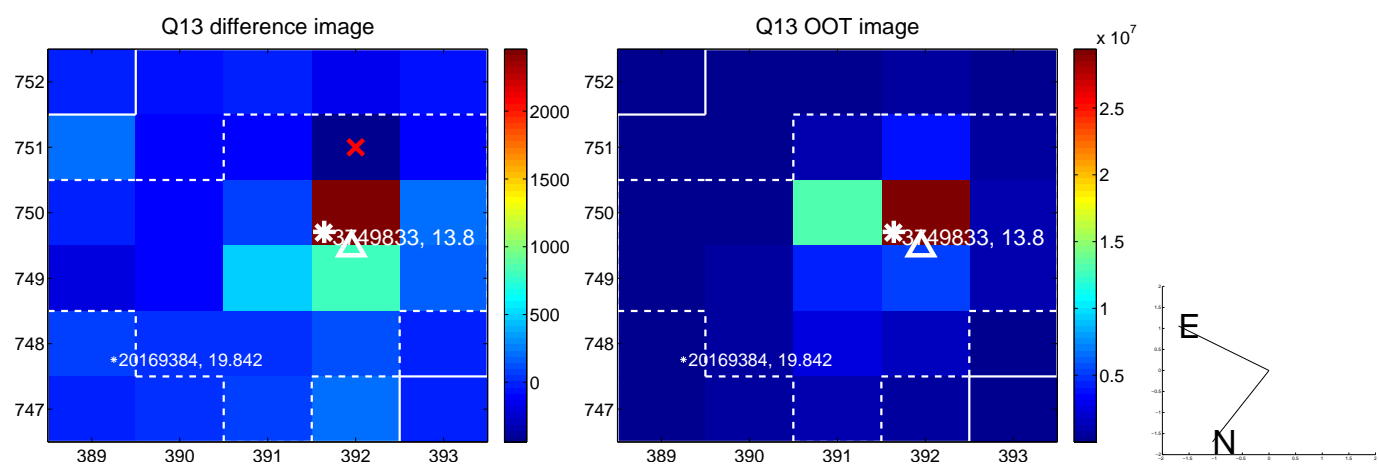




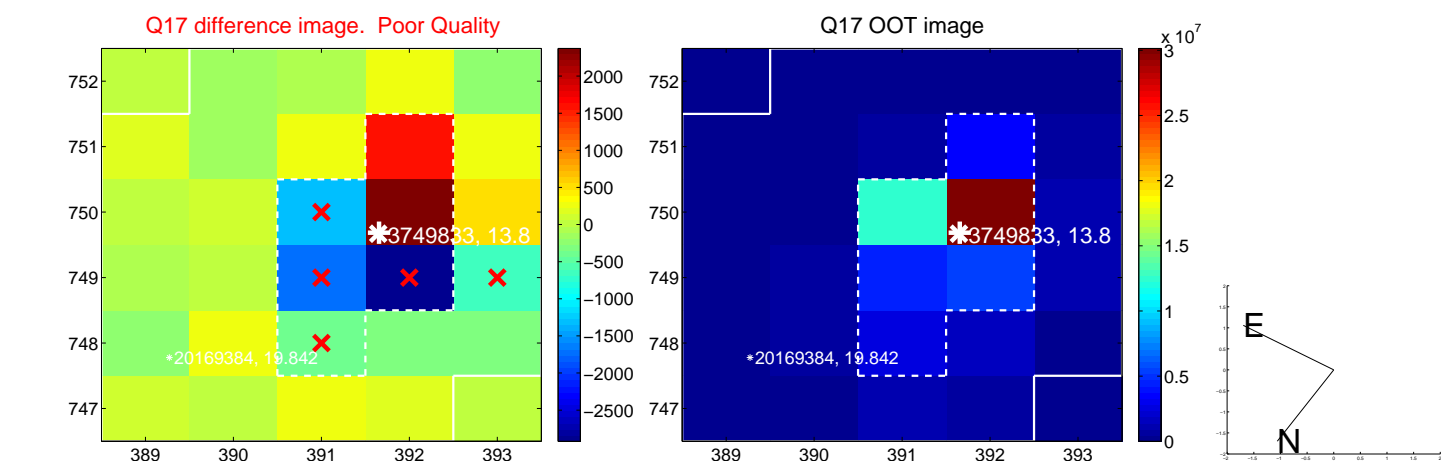
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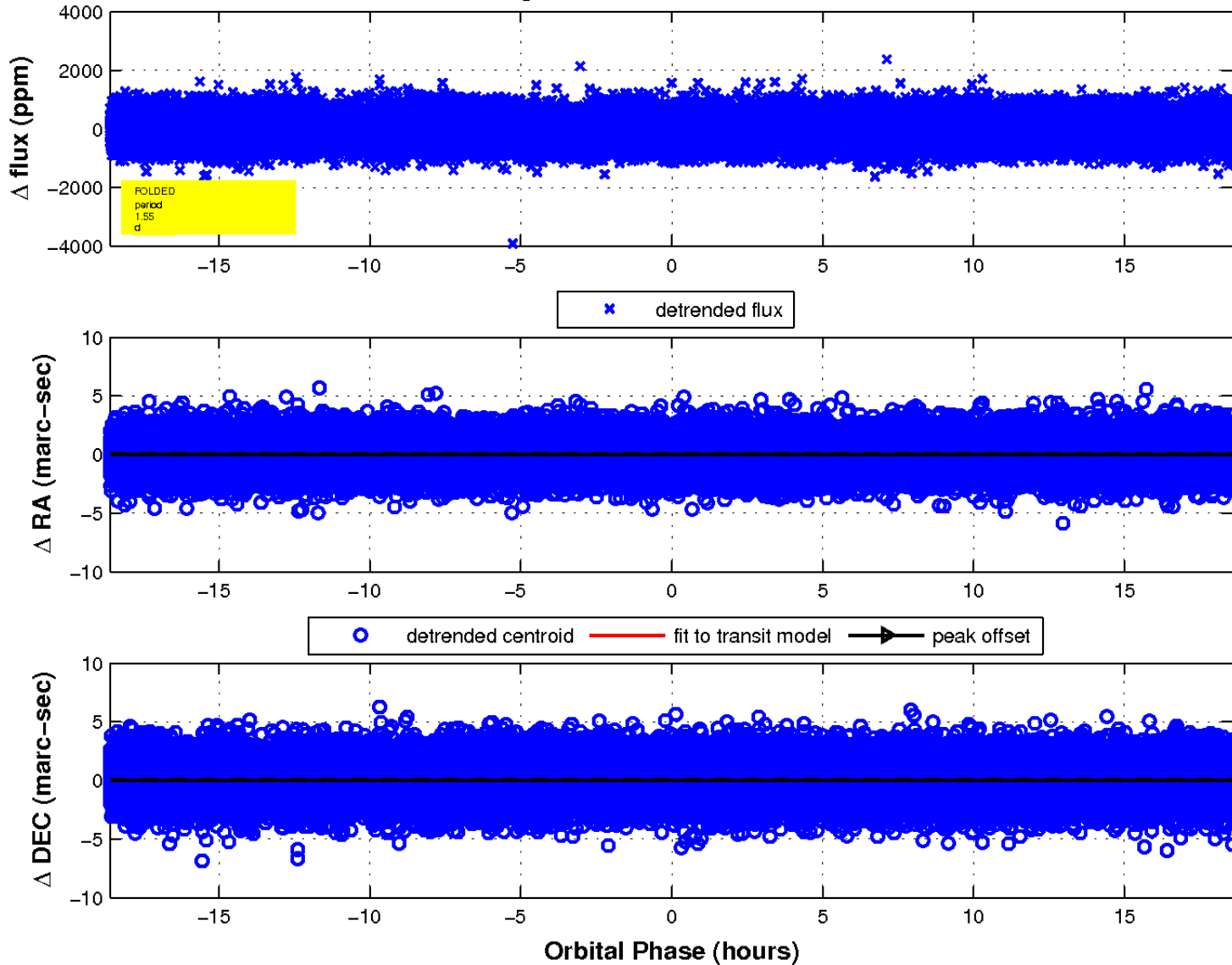
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

