

# KIC 004036313

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004036313-01	OBS	No	1.582019	132.435307	43.1	15.076	8.3	10.9	0.33	3455	0.22	41.42

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004036313-01	OBS	FP	0.00	1	0	0	0	LPP_DV—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.

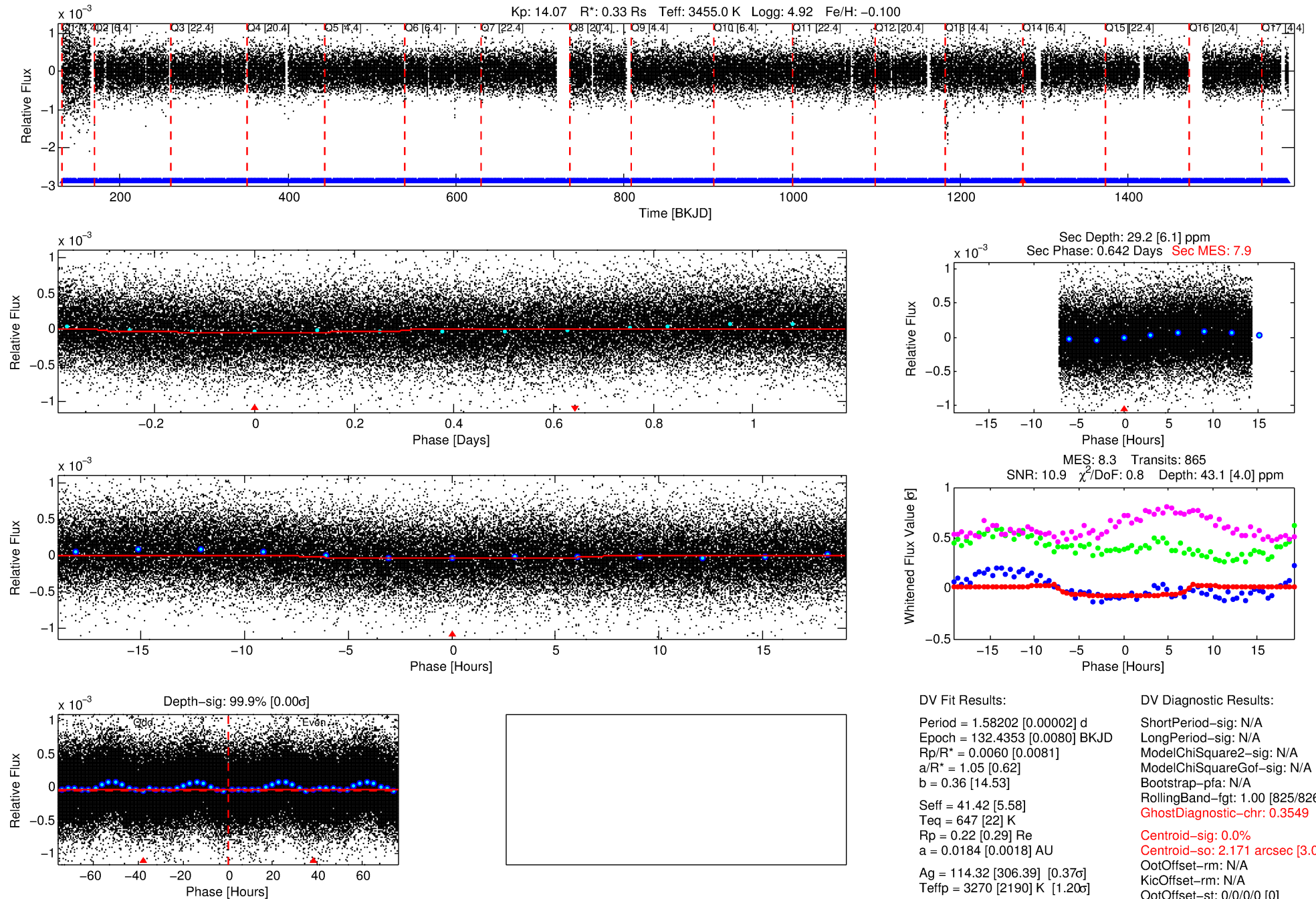
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004036313-01

No Significant Match Found

# DV One-Page Summary

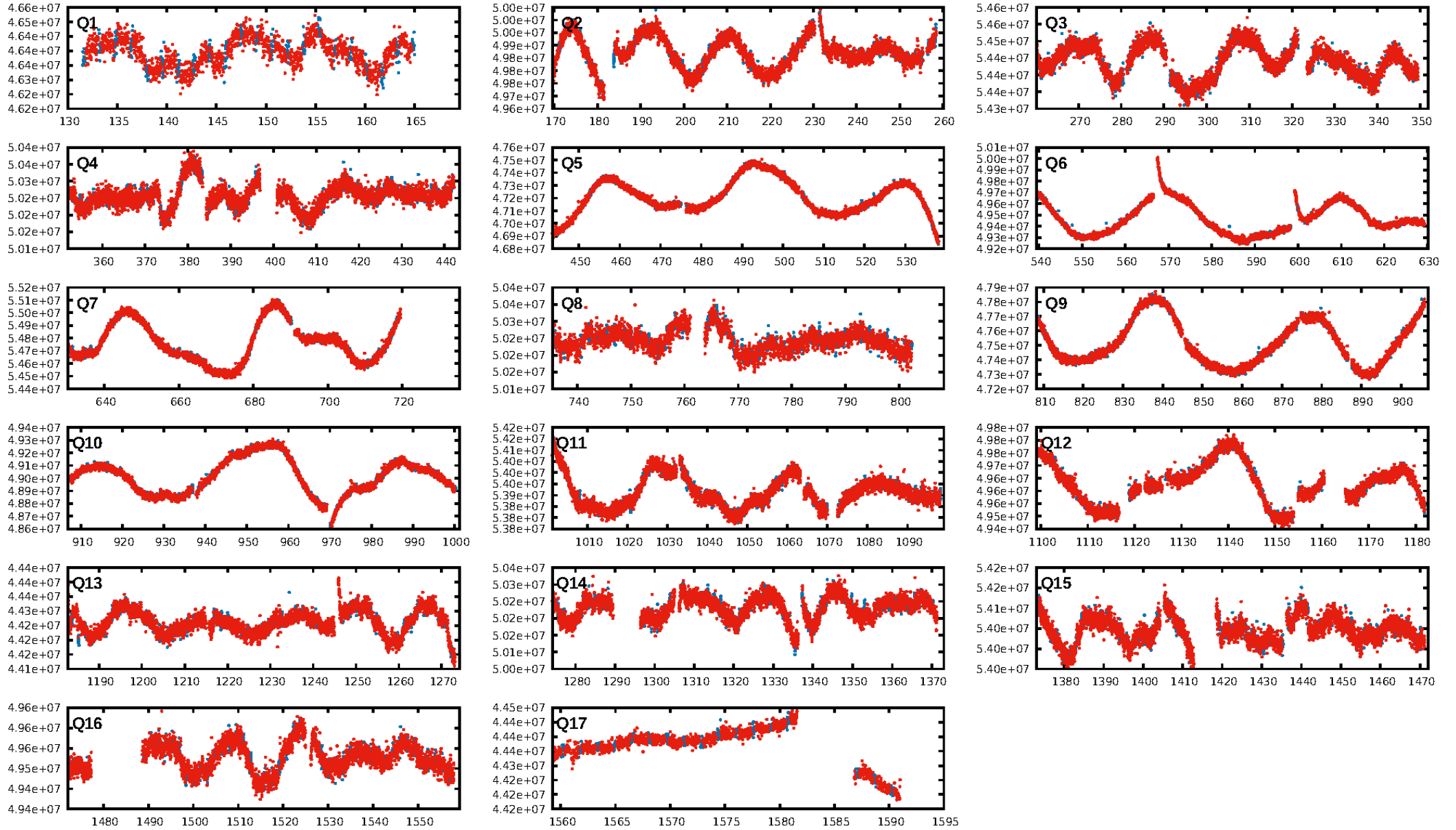
KIC: 4036313 Candidate: 1 of 1 Period: 1.582 d



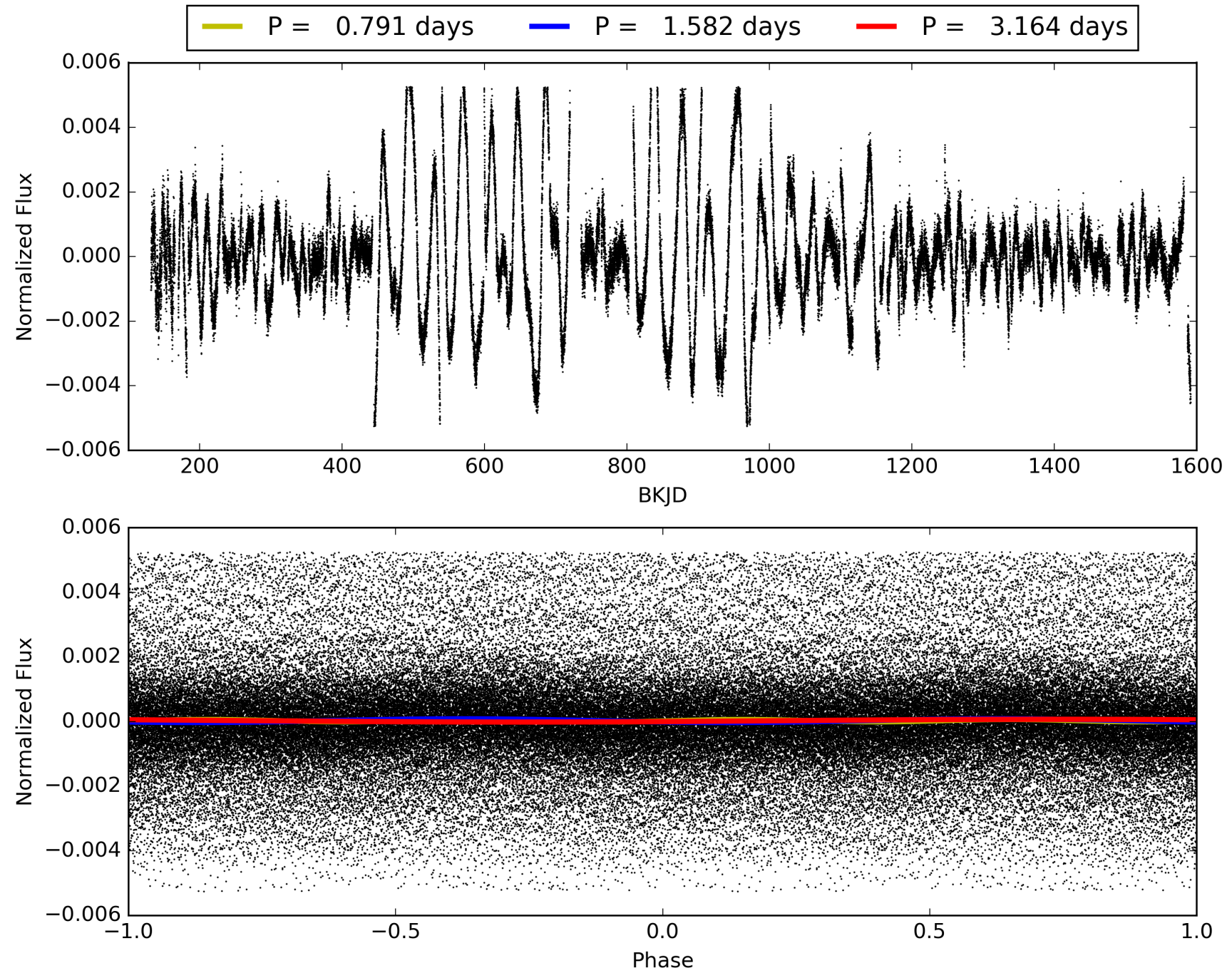
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:35:48 Z

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

# TCE 004036313-01, PDC Light Curves

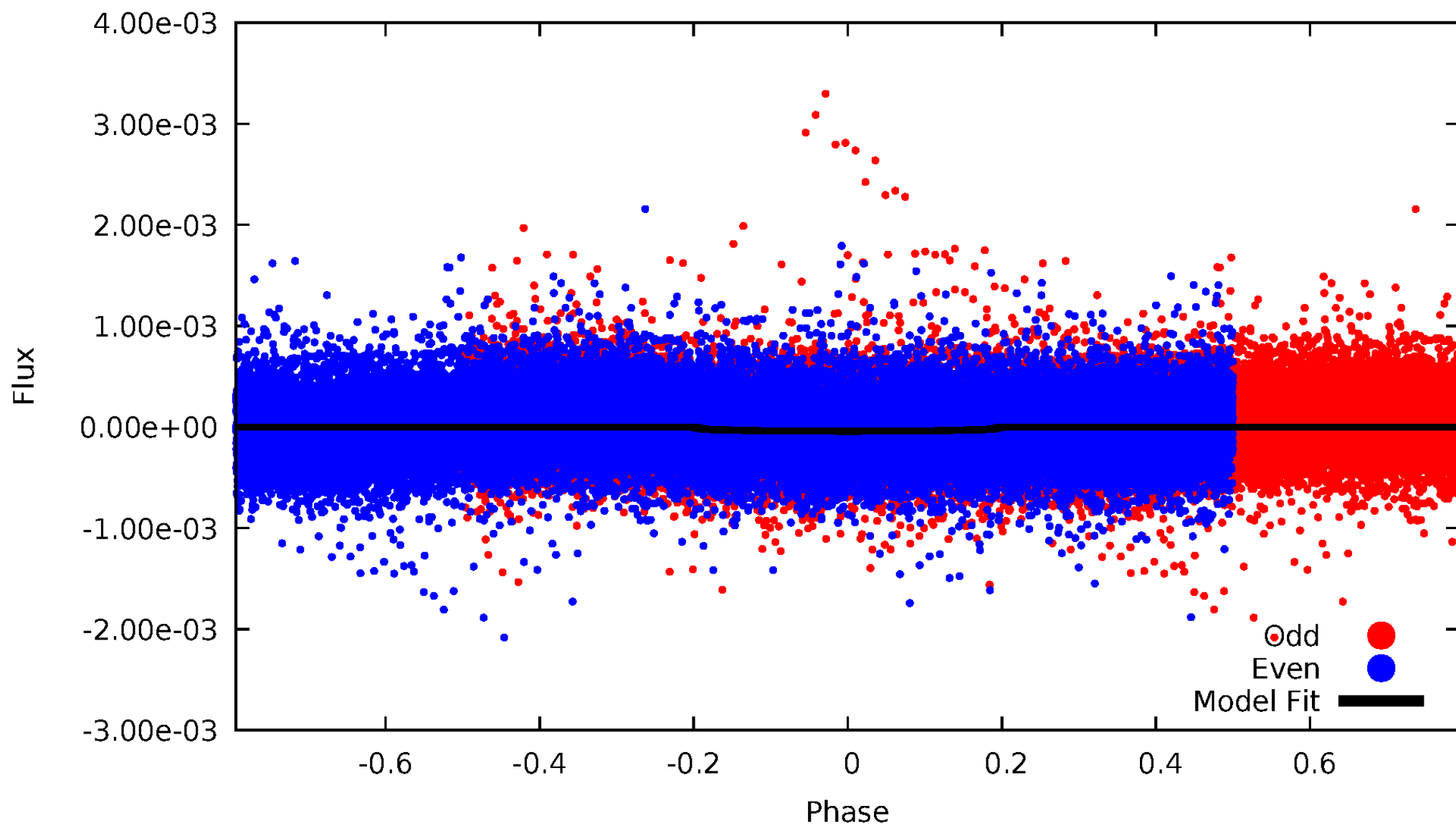


# TCE 004036313-01



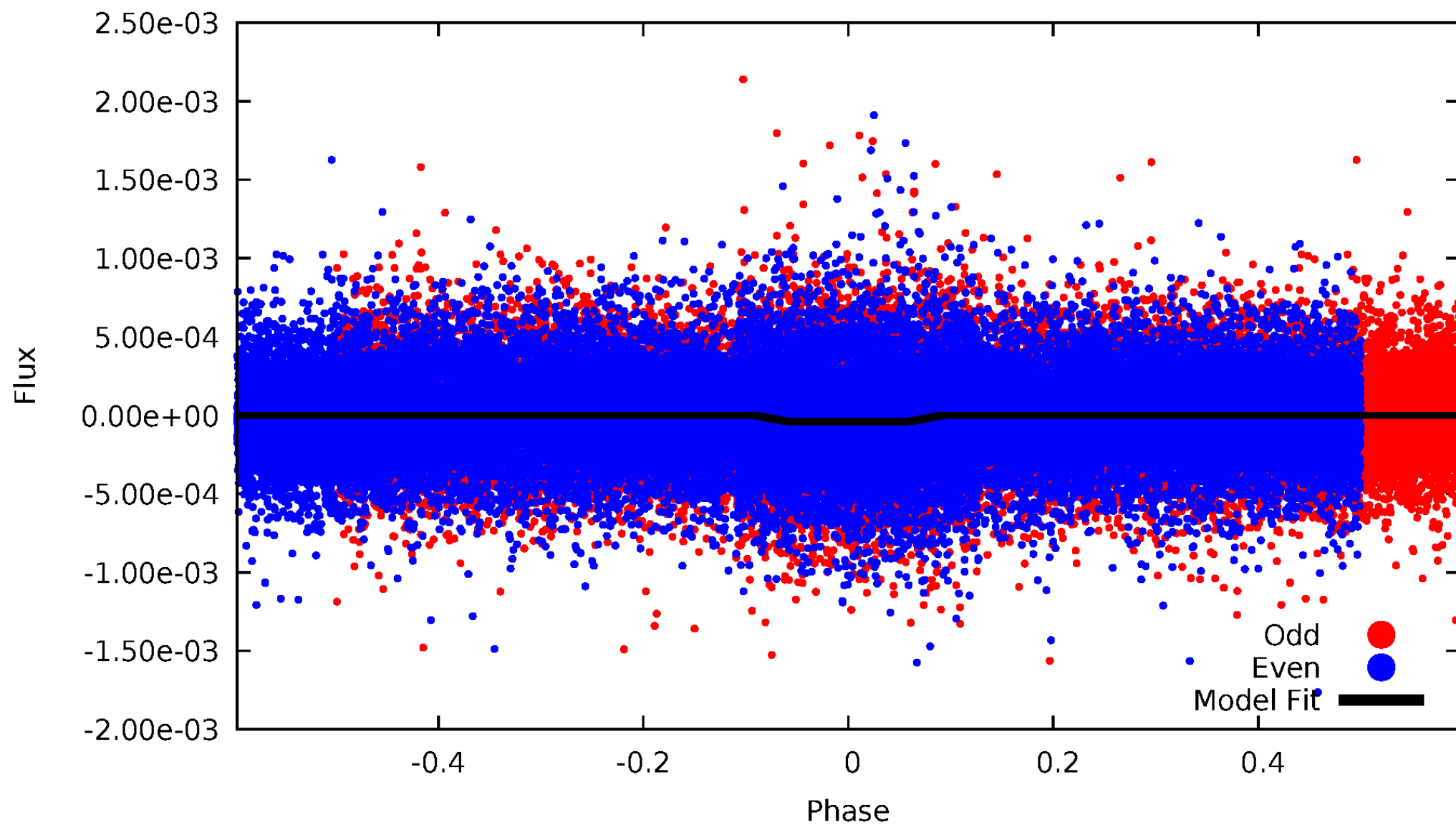
# DV Odd/Even

TCE 004036313-01



# ALT Odd/Even

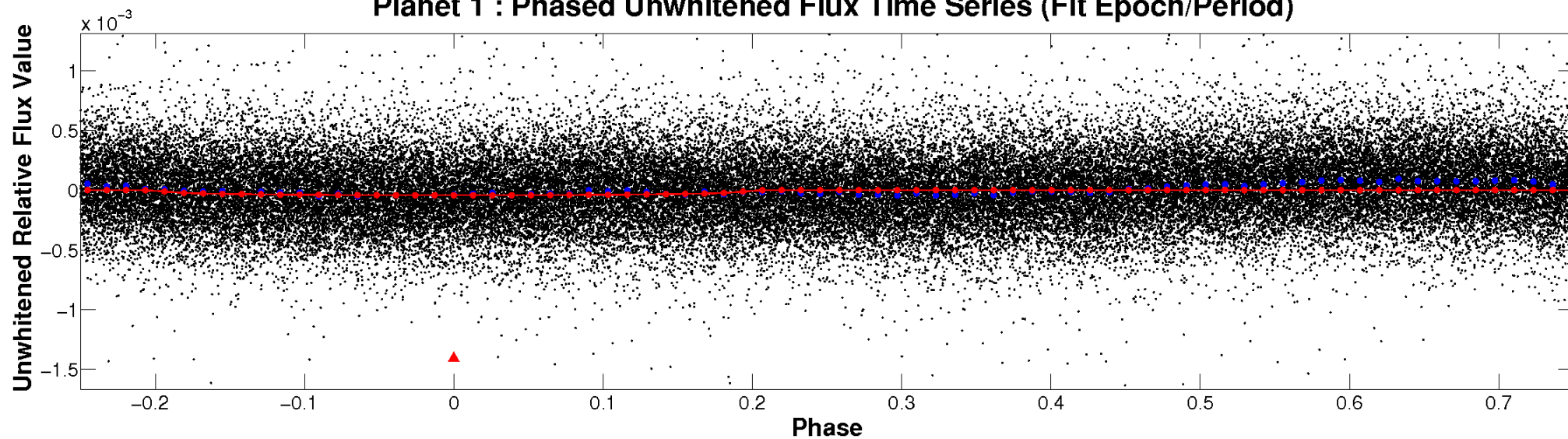
TCE 004036313-01



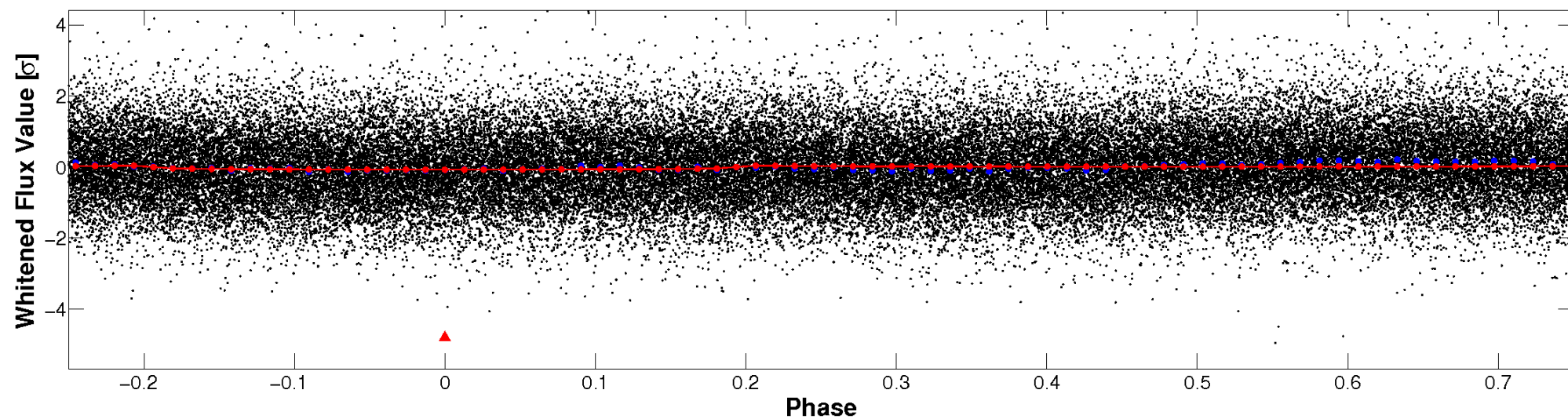


# Non-Whitened Vs. Whitened Light Curve

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

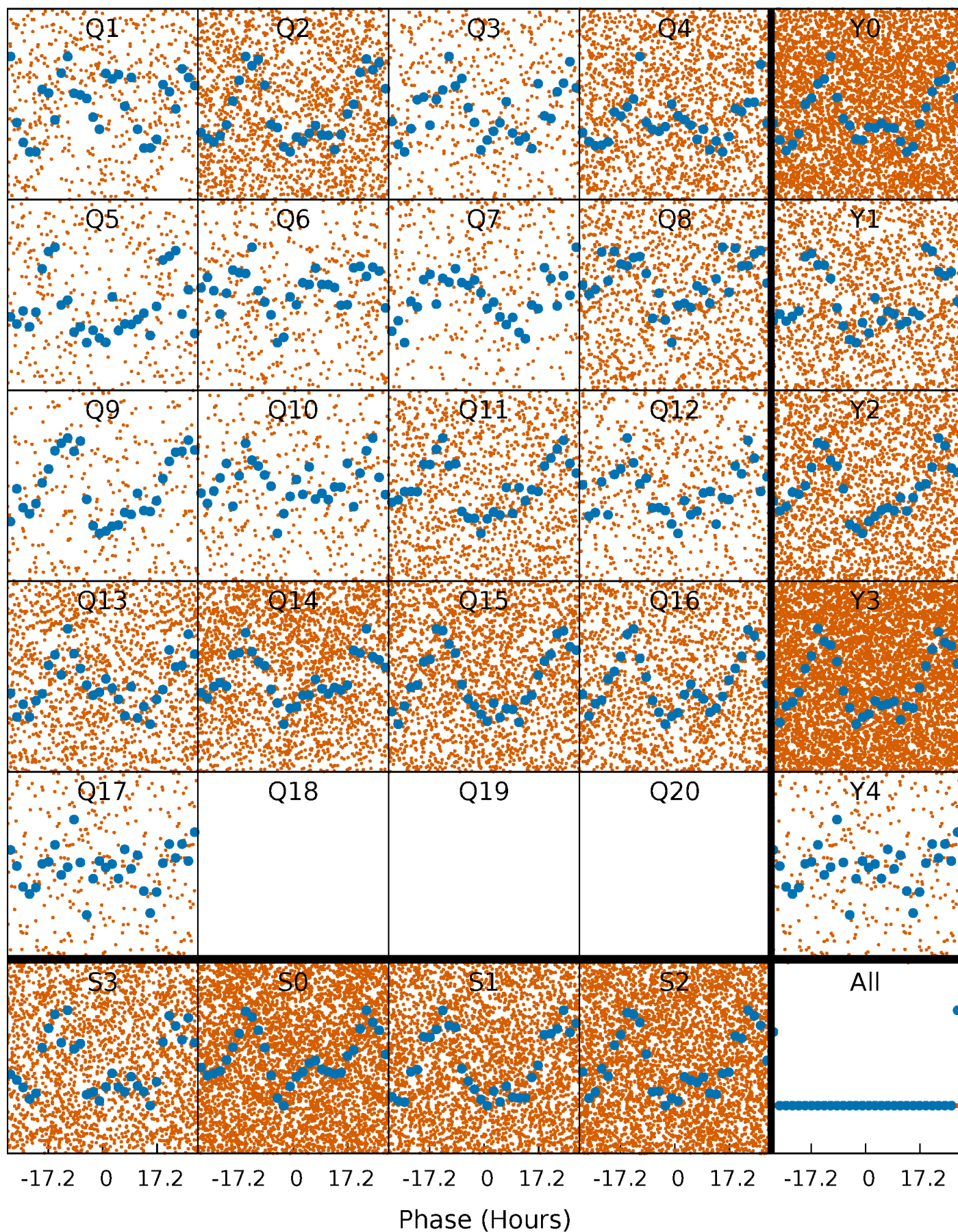


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

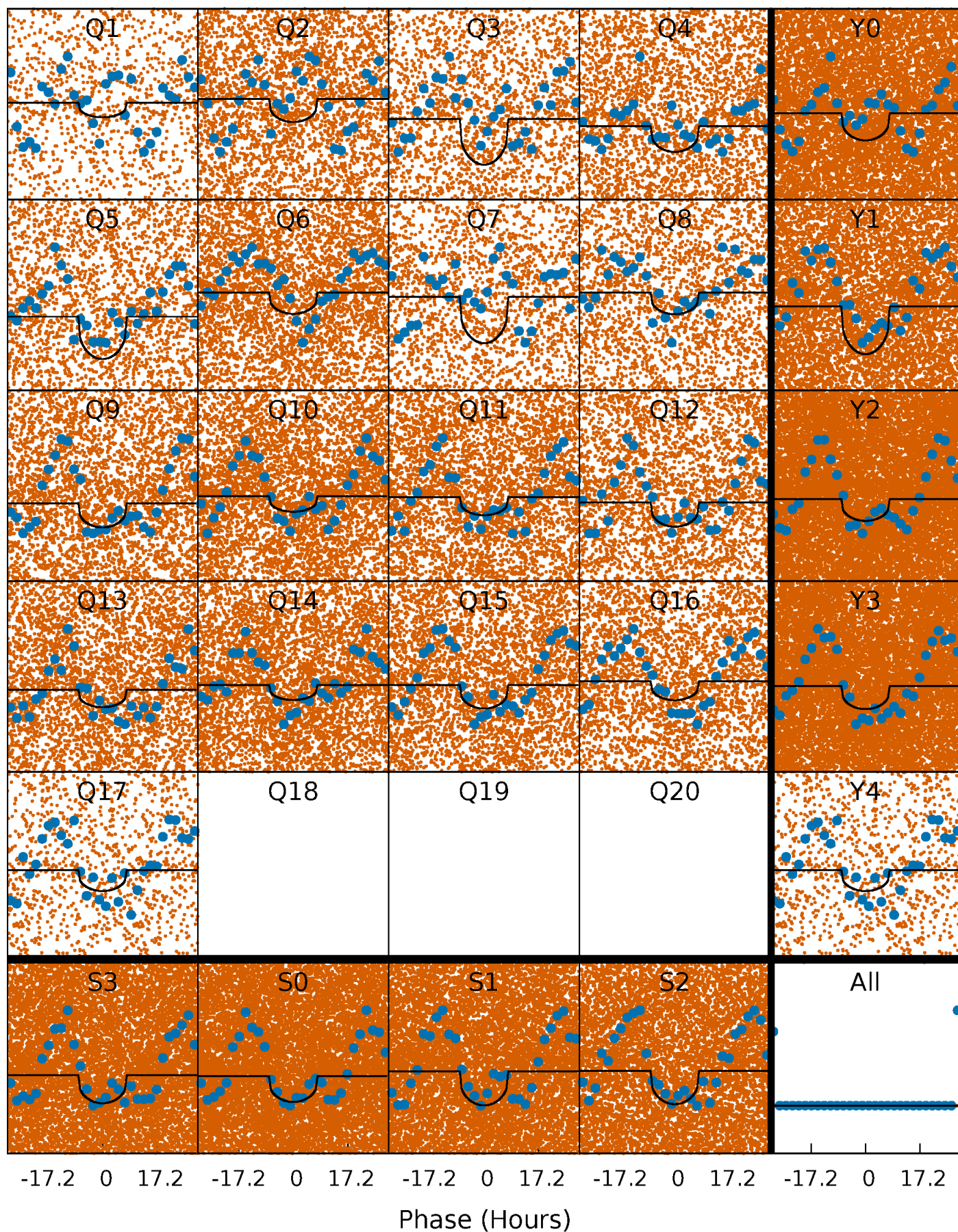
TCE 004036313-01 P= 1.582019 Days  $T_0=132.435307$  (BKJD)





# DV Quarter-Phased Transit Curves

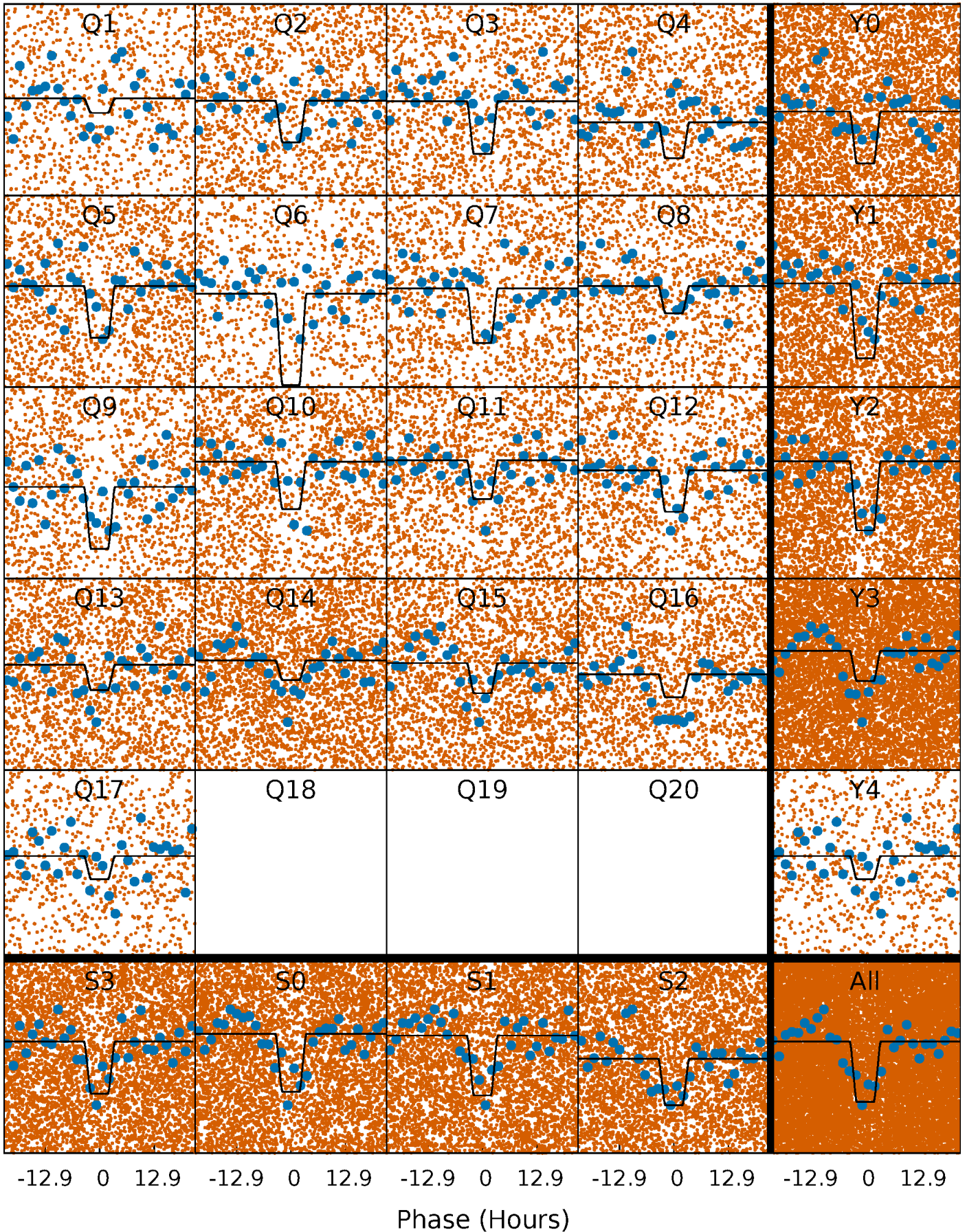
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# Alt. Detrend Quarter-Phased Transit Curves

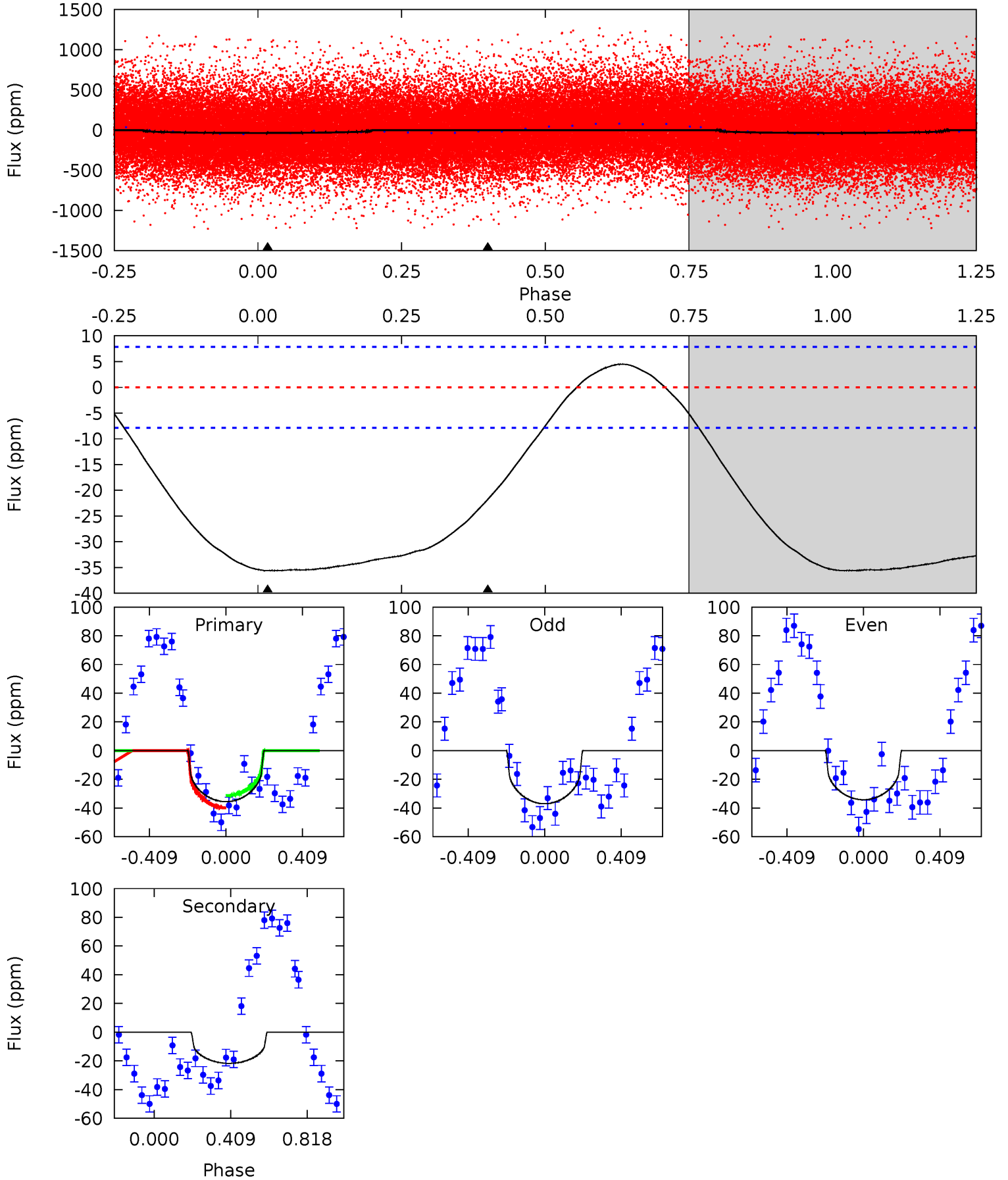
TCE 004036313-01 P= 1.581933 Days  $T_0=132.416561$  (BKJD)



# DV Model-Shift Uniqueness Test

004036313-01, P = 1.582019 Days, E = 130.853288 Days

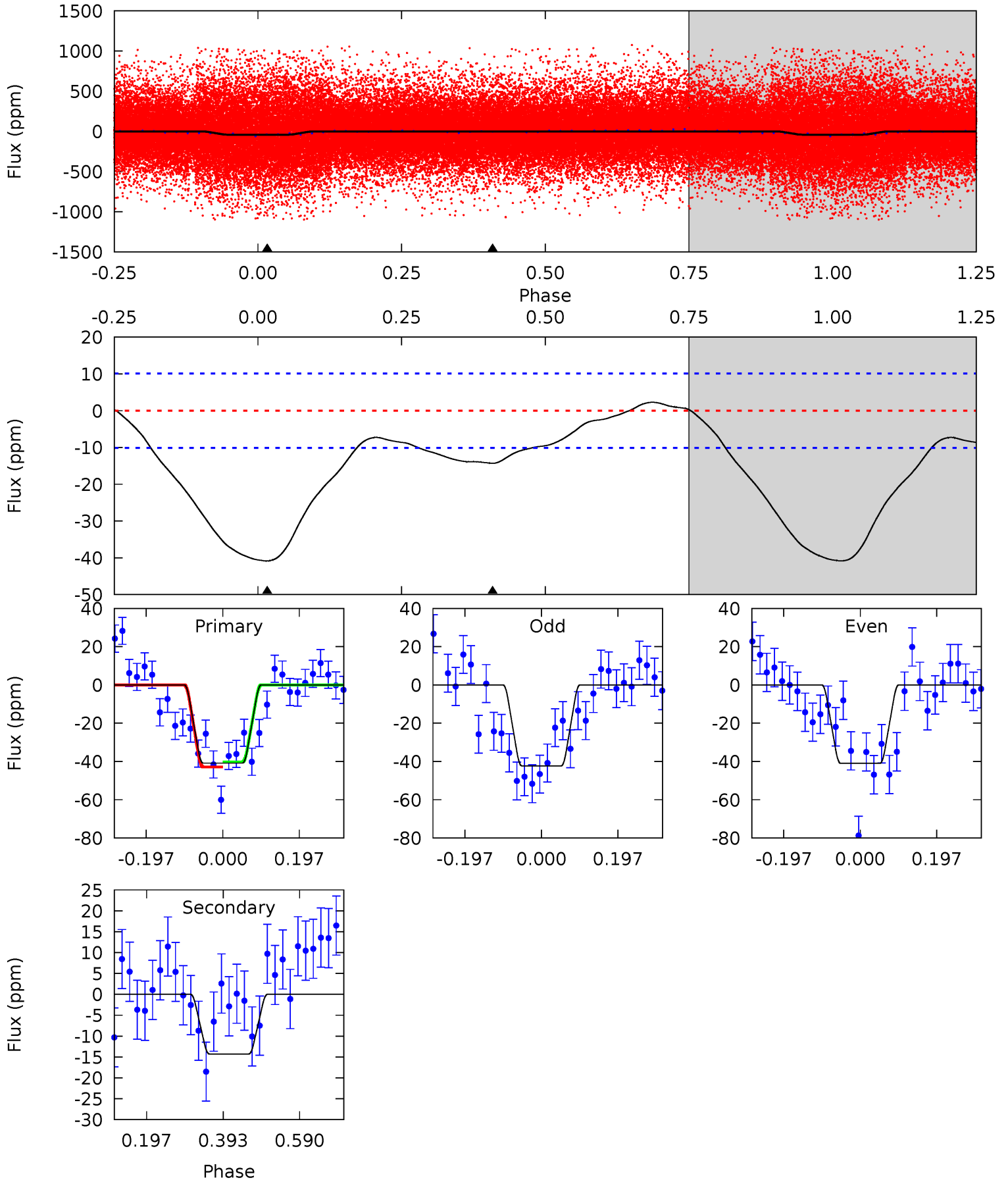
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.3	11.8	0	0	4.26	0.83	1.66	19.3	19.3	11.8	11.8	0.77	0.98	0.11	2.41



# Alt Model-Shift Uniqueness Test

004036313-01, P = 1.581933 Days, E = 130.834628 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
17.9	6.25	0	0	4.42	1.29	1.47	17.9	17.9	6.25	6.25	0.29	0.84	0.05	0.57





### Stellar Parameters For KIC 004036313

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$3455^{+51}_{-51}$	$4.919^{+0.054}_{-0.036}$	$-0.100^{+0.100}_{-0.100}$	$0.332^{+0.037}_{-0.044}$	$0.334^{+0.048}_{-0.048}$	$12.830^{+3.860}_{-2.064}$
	+1%/-1%	+1%/-1%	+100%/-100%	+11%/-13%	+14%/-14%	+30%/-16%
Source	PHO2	PHO2	PHO2	DSEP		

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

### Secondary Eclipse Parameters for KIC 004036313-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-22 \pm 2$	$0.30^{+0.26}_{-0.19}$	$901^{+22}_{-22}$	$2912^{+1121}_{-446}$	$46^{+312}_{-33}$
Alt.	$-14 \pm 2$	$0.32^{+0.25}_{-0.20}$	$902^{+22}_{-22}$	$2722^{+893}_{-379}$	$27^{+172}_{-19}$

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

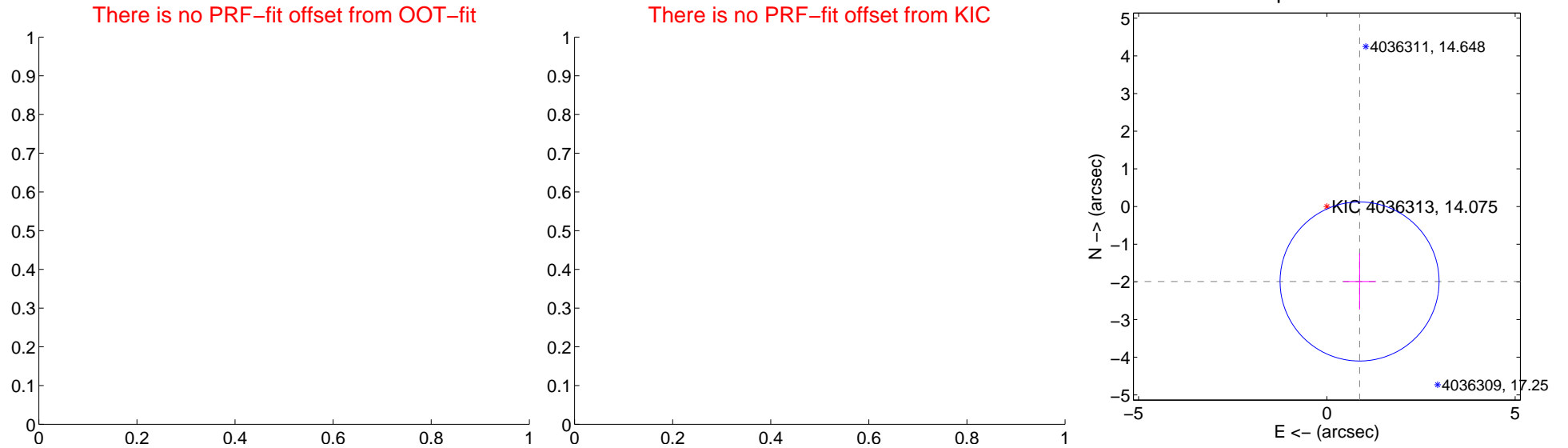
## DV Centroid Data

Supplemental centroid analysis for 004036313-01. Kepler magnitude: 14.07. Transit SNR 10.94

There are 0 quarters with good PRF difference image offsets

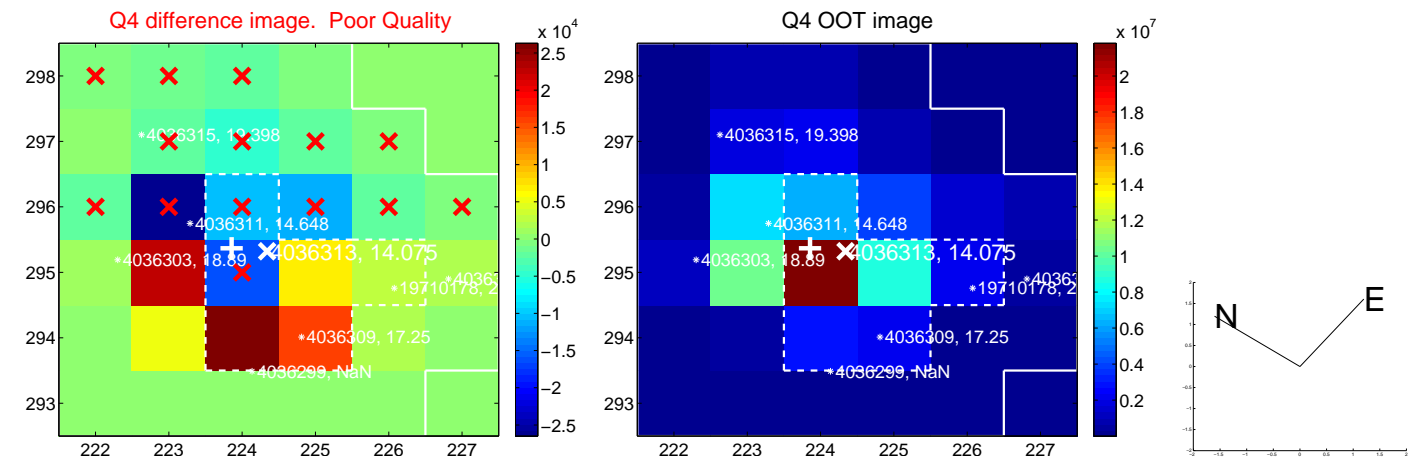
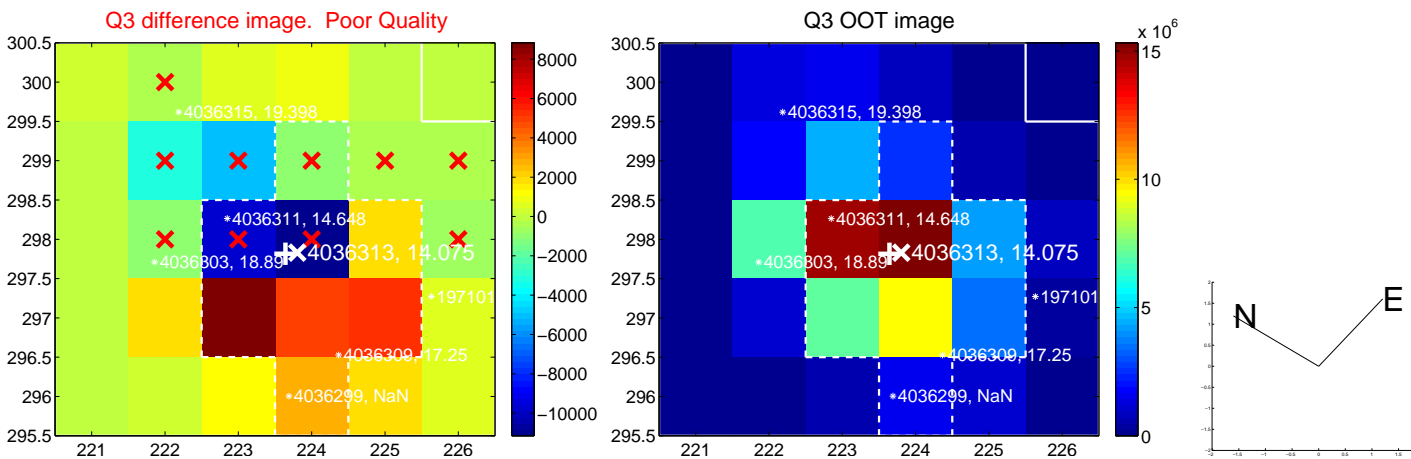
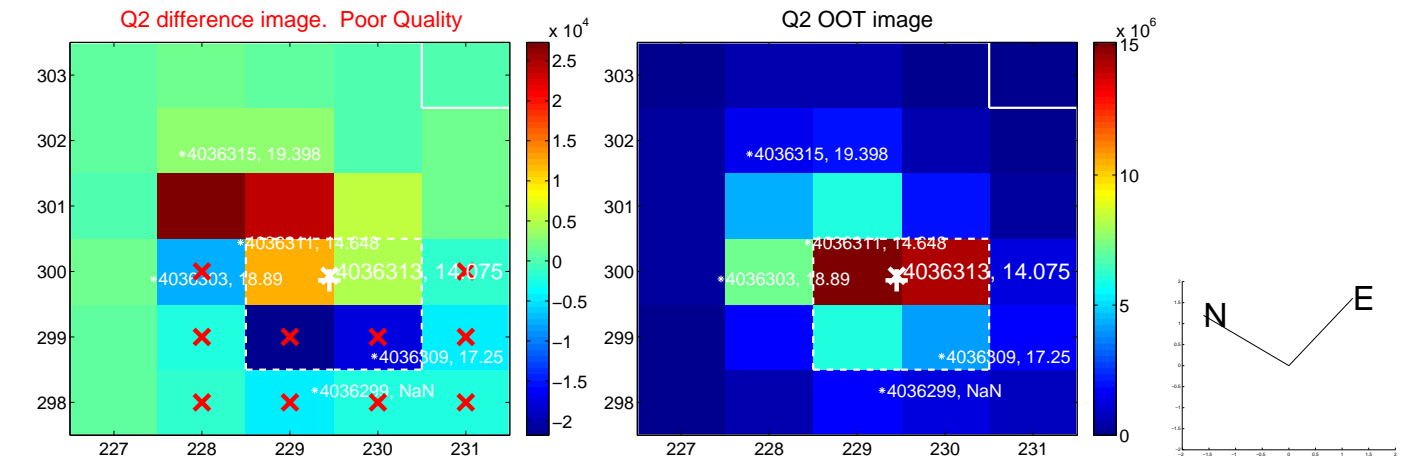
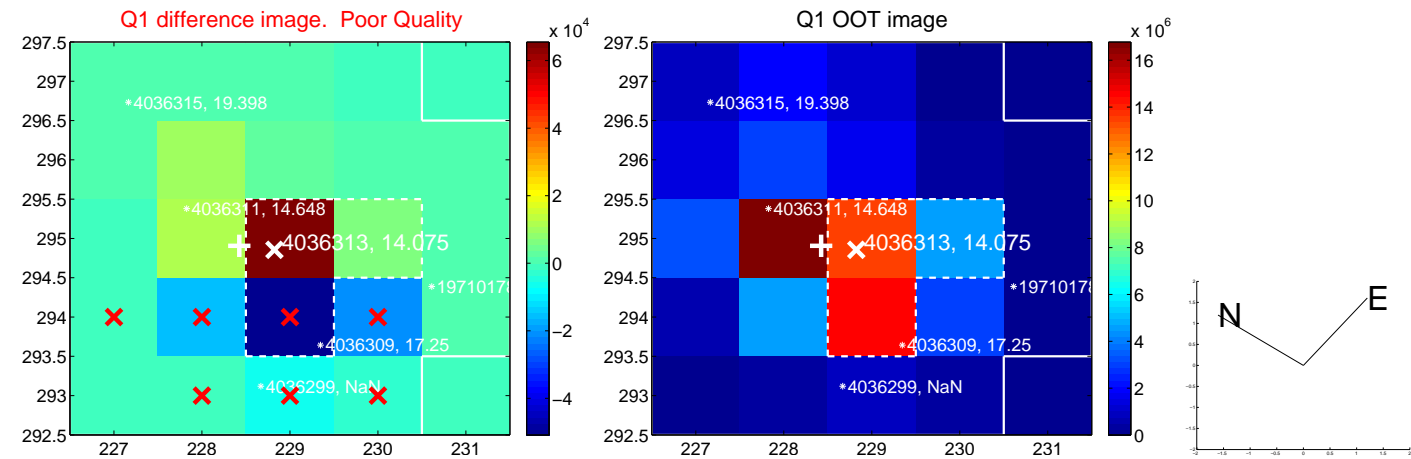
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$2.17 \pm 0.70$	$3.08$	$-0.87 \pm 0.43$	$-1.99 \pm 0.74$

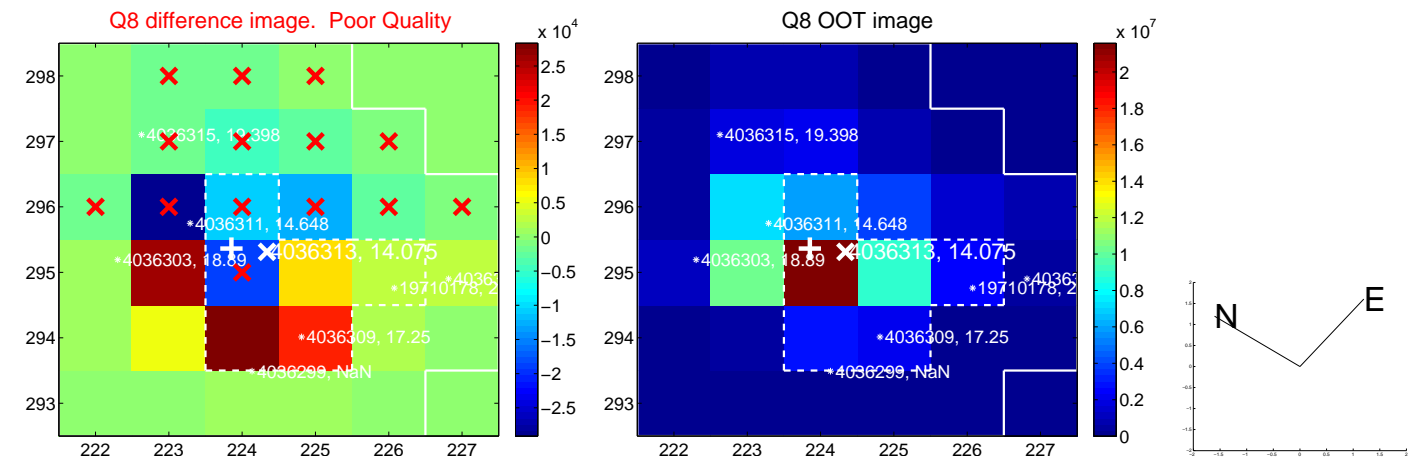
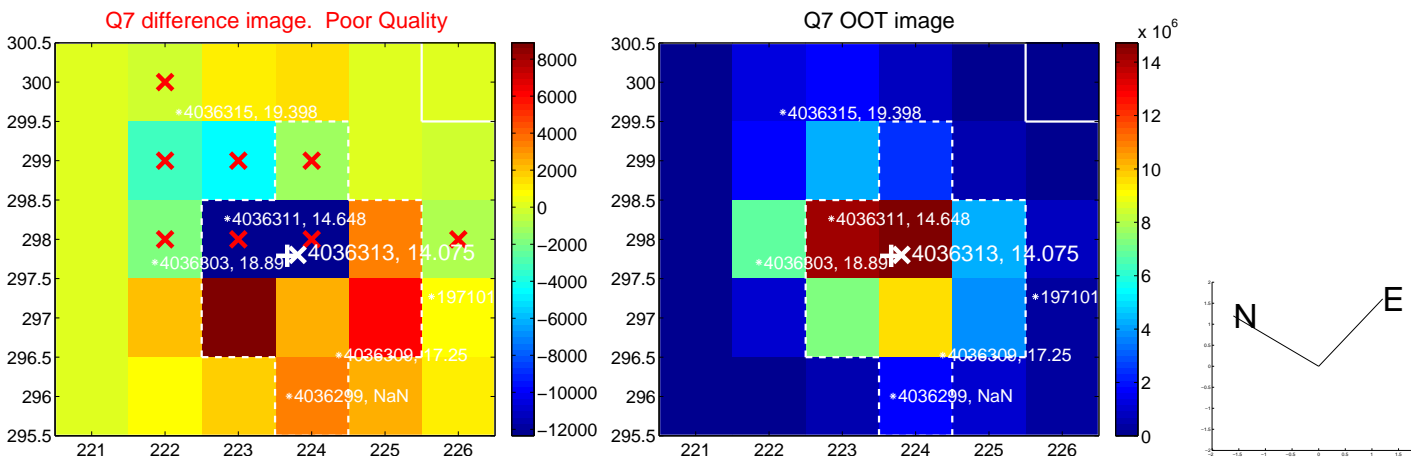
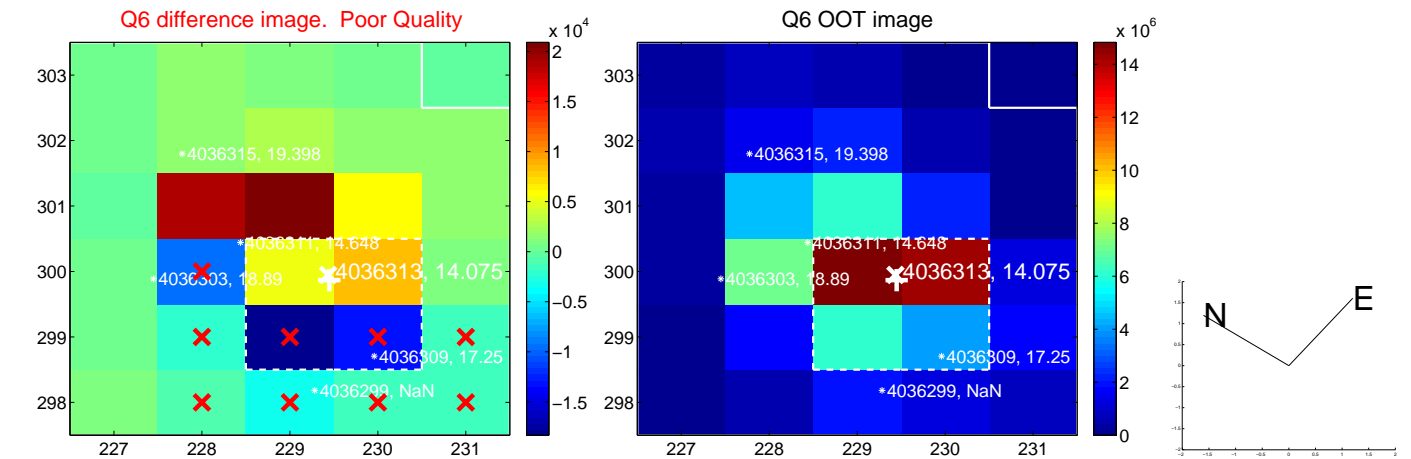
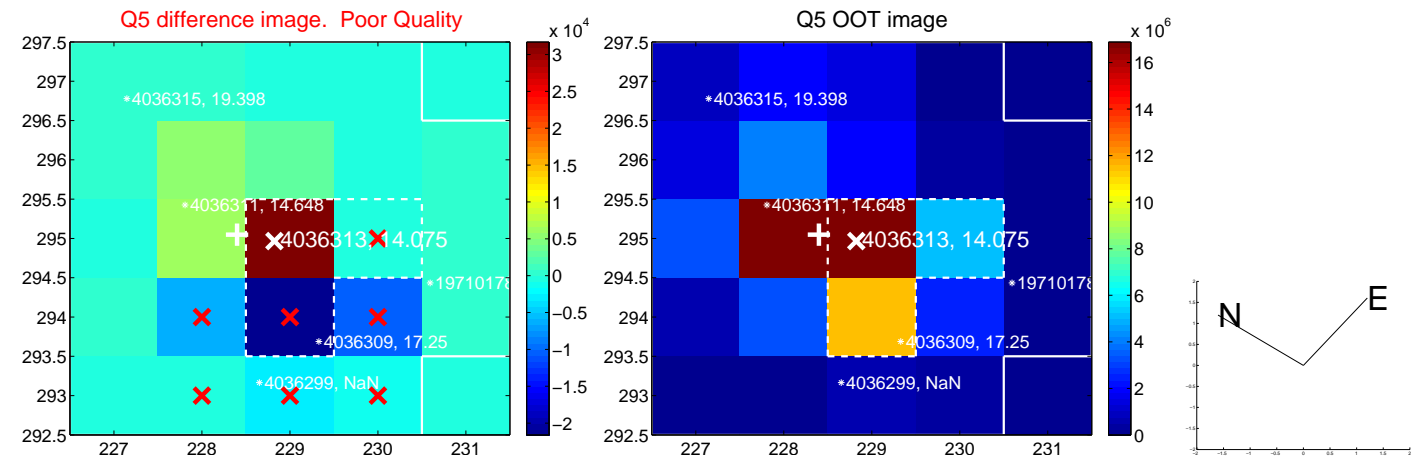


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

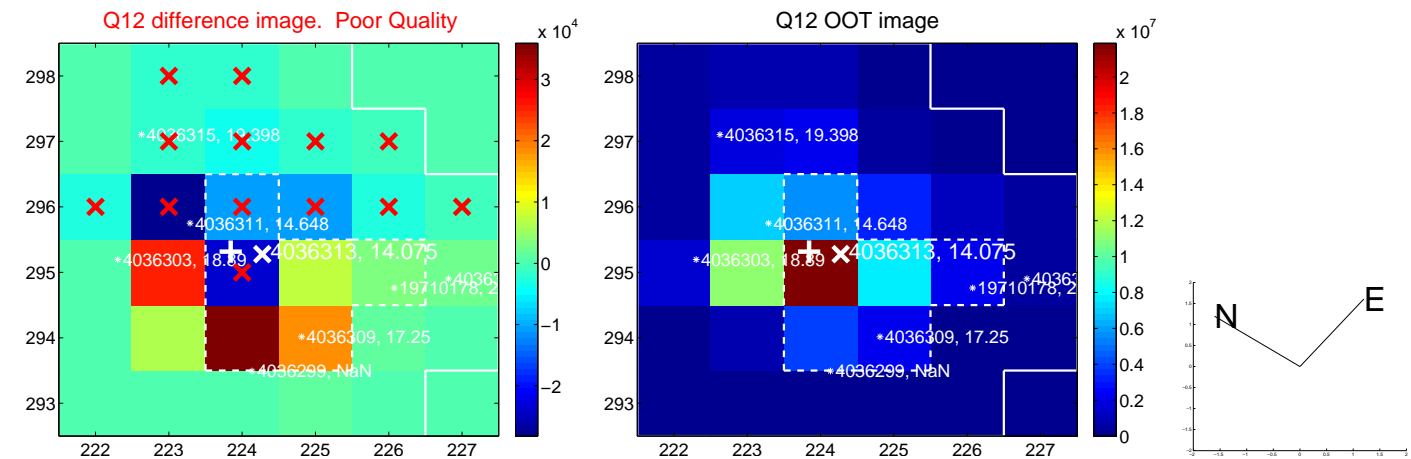
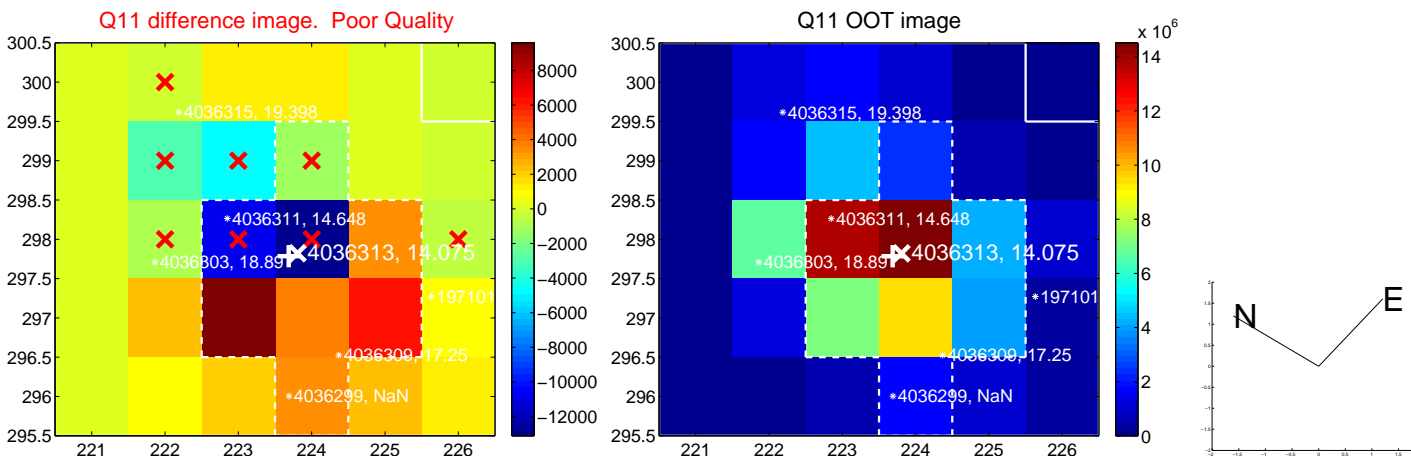
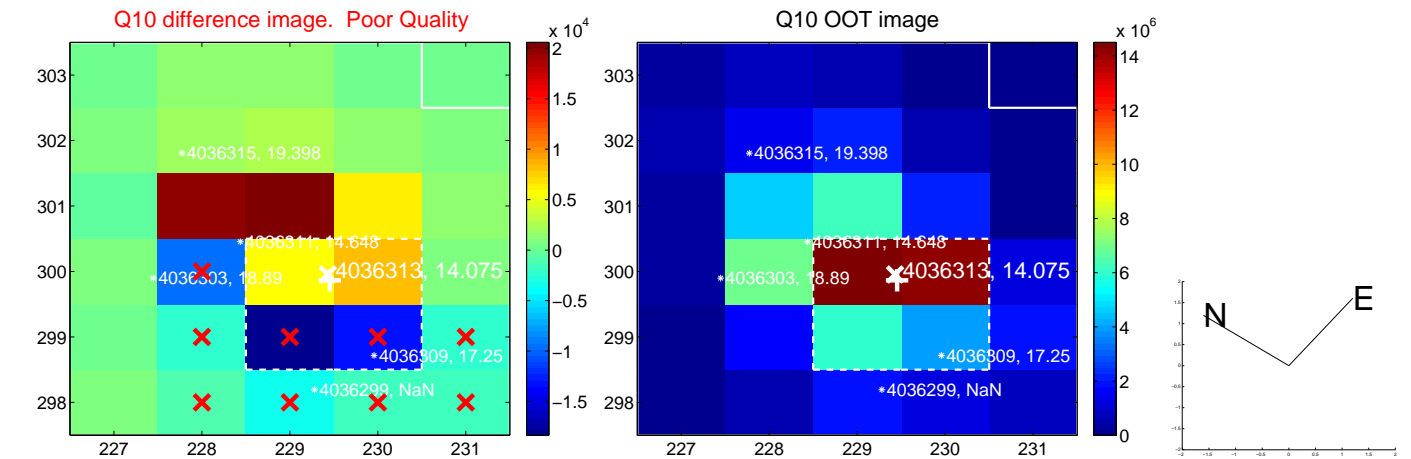
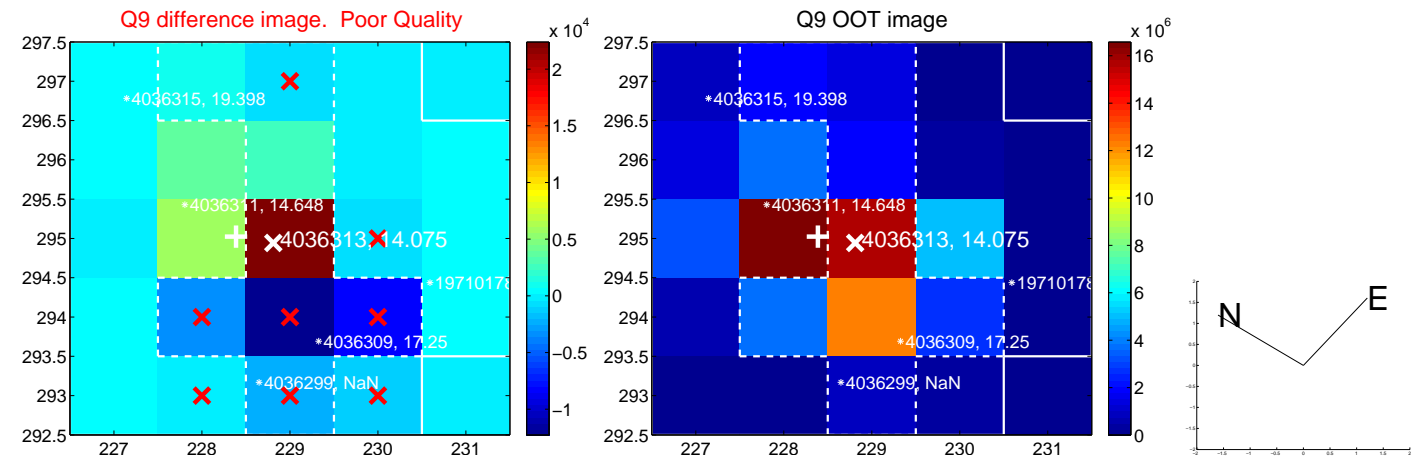


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

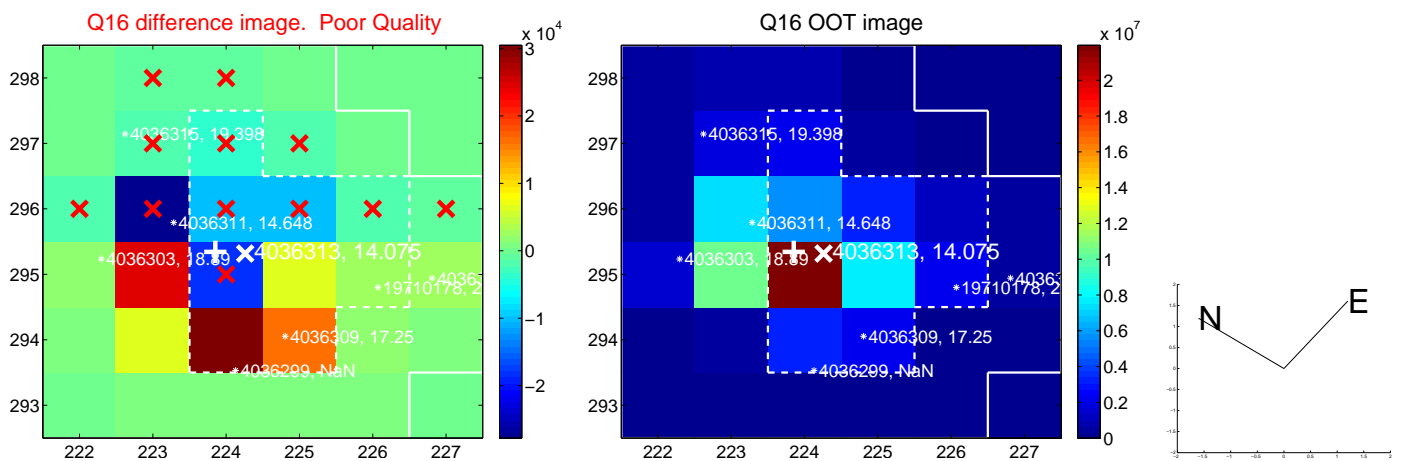
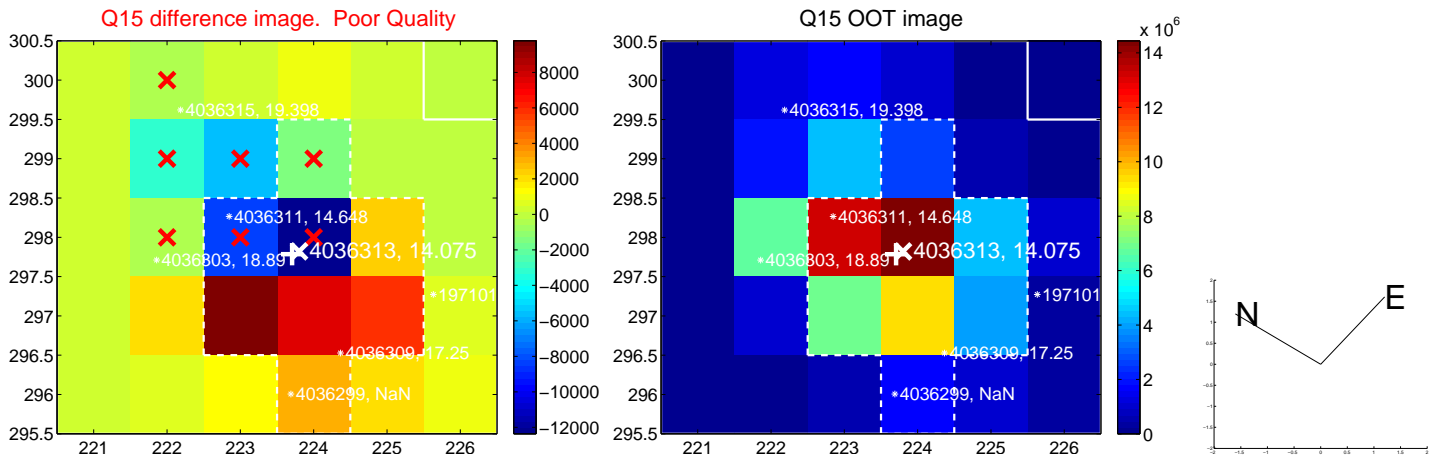
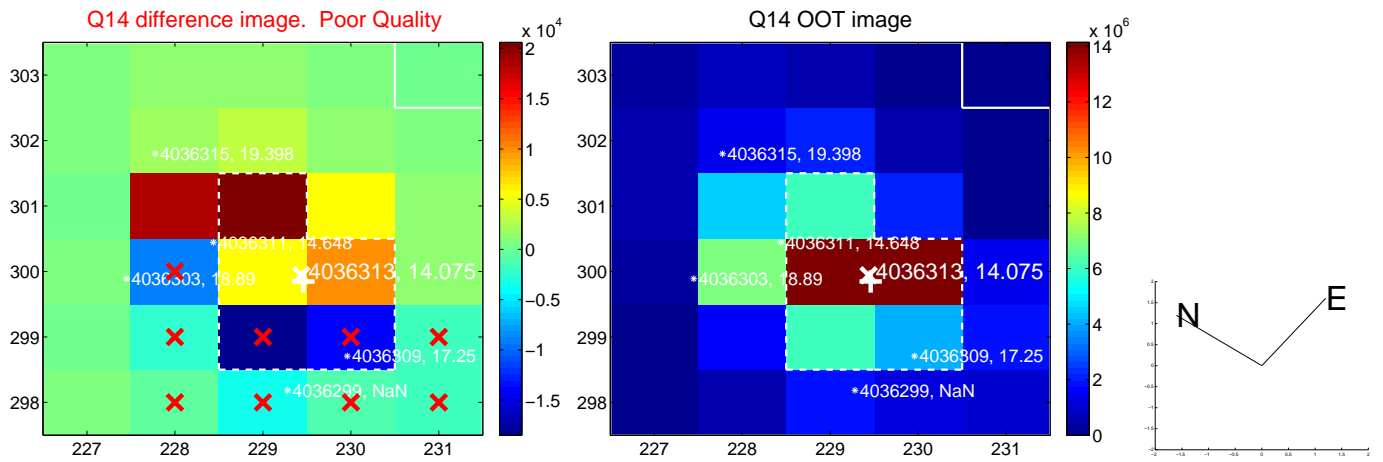
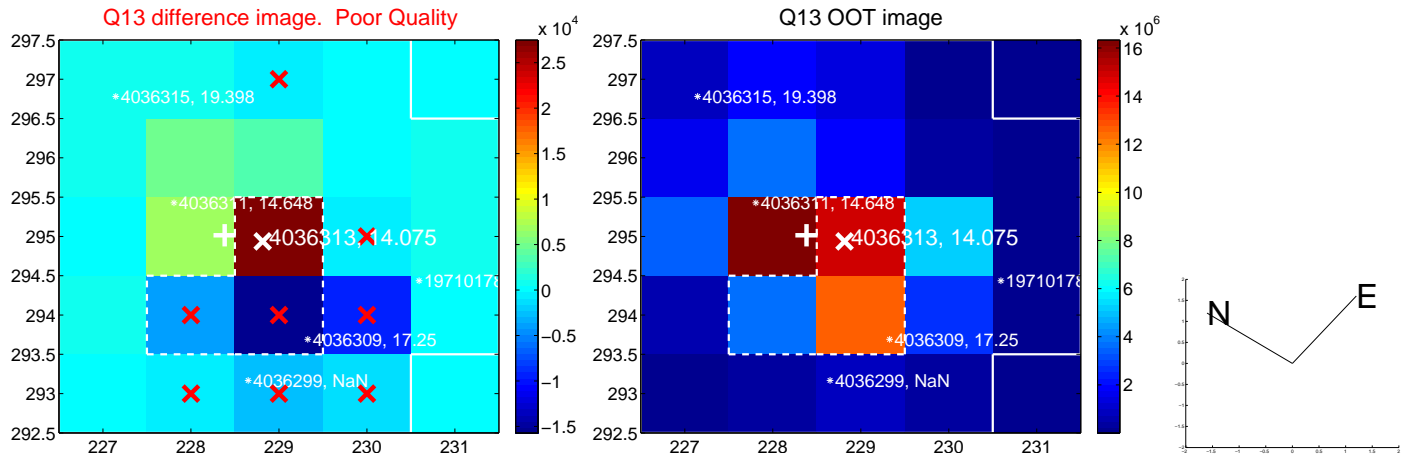




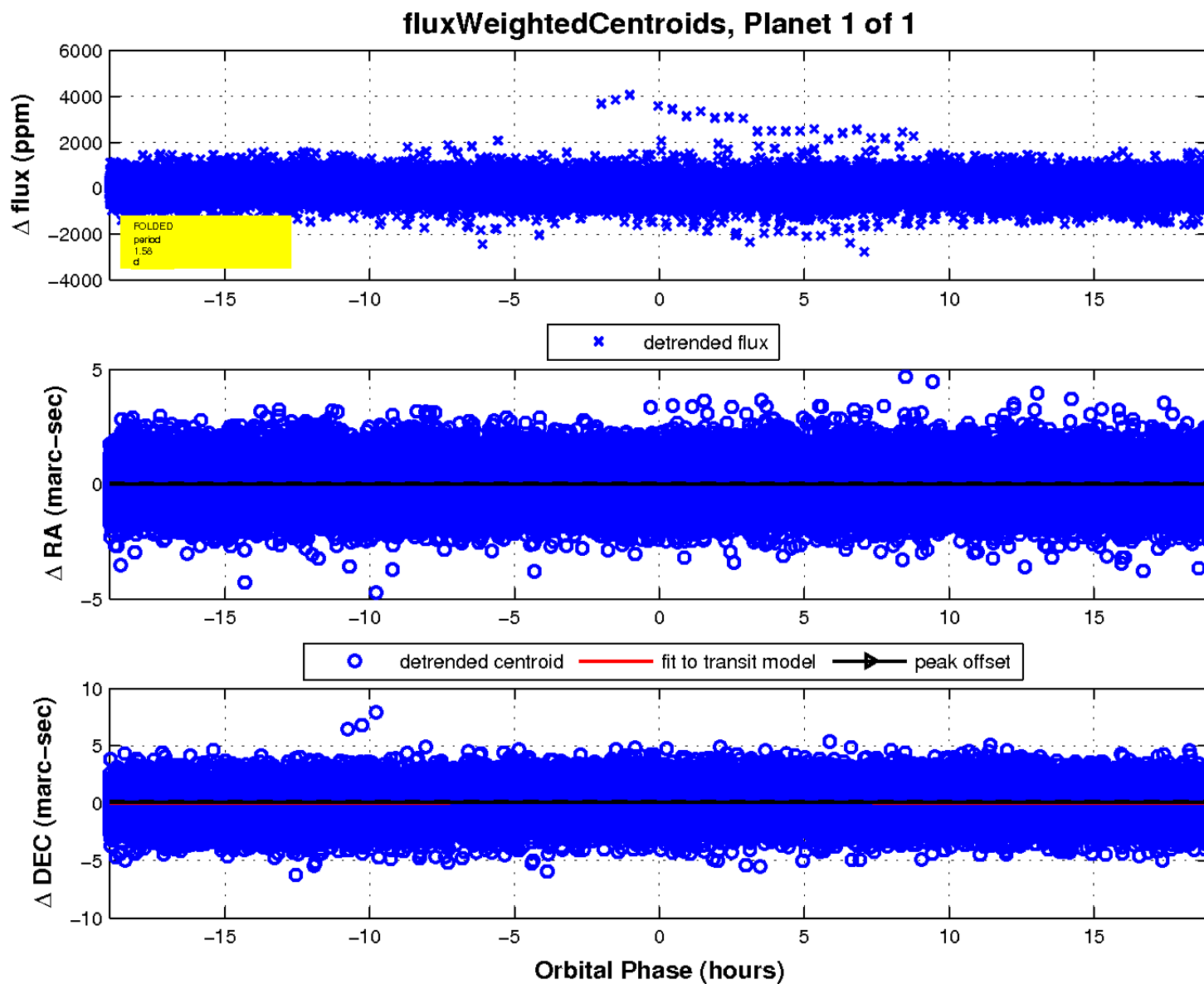
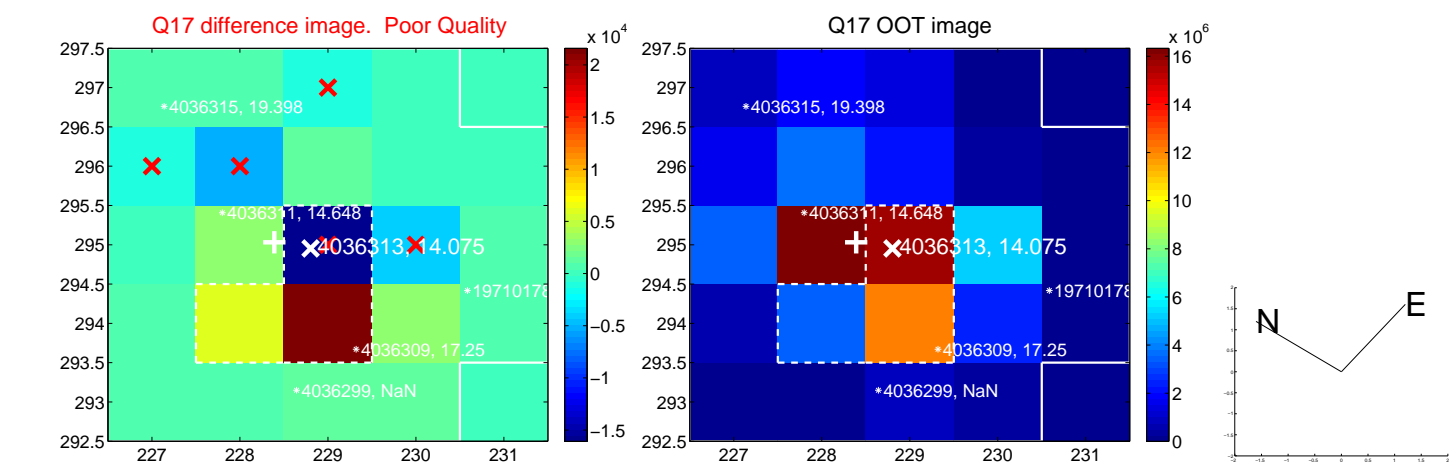
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UKIRT Image

Declination

