

# KIC 007115366

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007115366-01	OBS	No	0.566753	131.865110	36.0	3.590	11.2	7.4	0.80	5613	0.49	3409.79

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007115366-01	OBS	FP	0.00	1	0	0	1	LPP_DV—MOD_NONUNIQ_ALT—EPHEM_MATCH

**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.

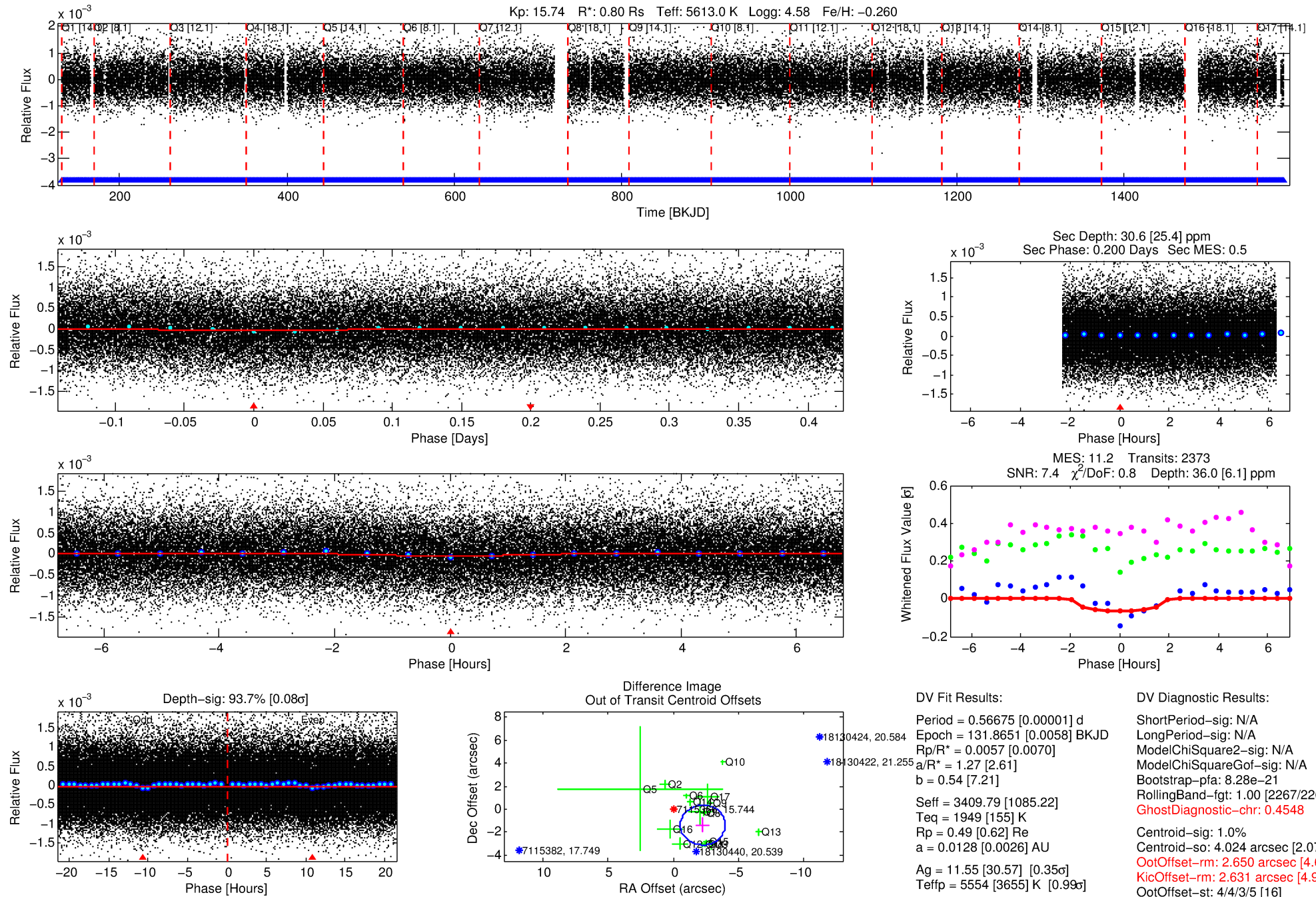
## Ephemeris Match Information For 007115366-01

TCE (1)	KIC	Parent (2)	Parent KIC	P <sub>1</sub> :P <sub>2</sub>	Dist ( $''$ )	$\Delta$ Row	$\Delta$ Col	m <sub>2</sub>	m <sub>1</sub>	D <sub>2</sub> /D <sub>1</sub>	Mechanism	Flag	$\sigma_P$	$\sigma_T$
007115366-01	7115366	RR-Lyr-pri	7198959	1:1	1064.6	-1	-268	7.86	15.74	17314.00	Direct-PRF	0	1.08	21.92

**Notes:** P<sub>1</sub>:P<sub>2</sub> 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<sub>2</sub> and m<sub>1</sub> are the magnitudes of the parent and child. D<sub>2</sub>/D<sub>1</sub> 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

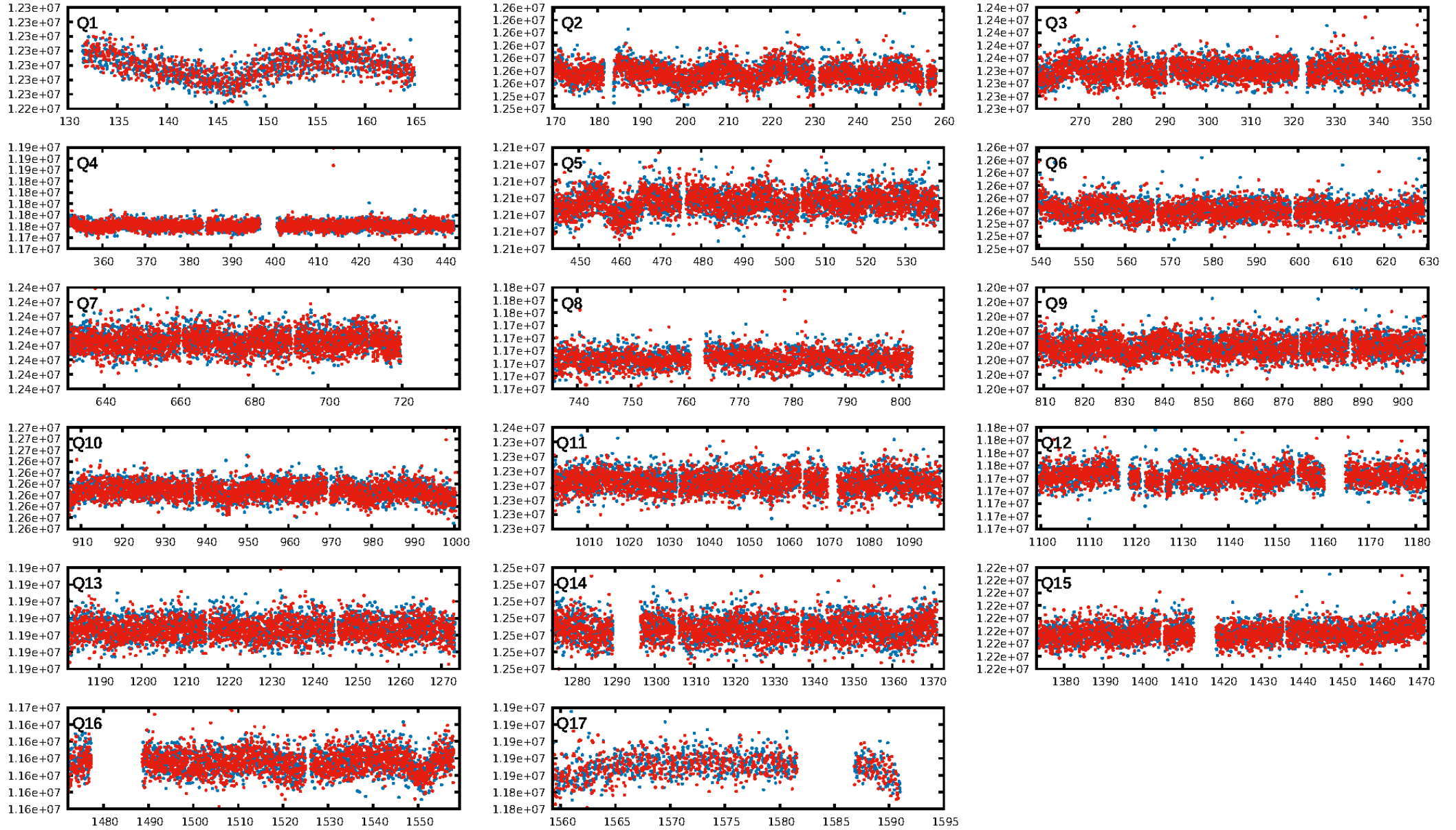
KIC: 7115366 Candidate: 1 of 1 Period: 0.567 d



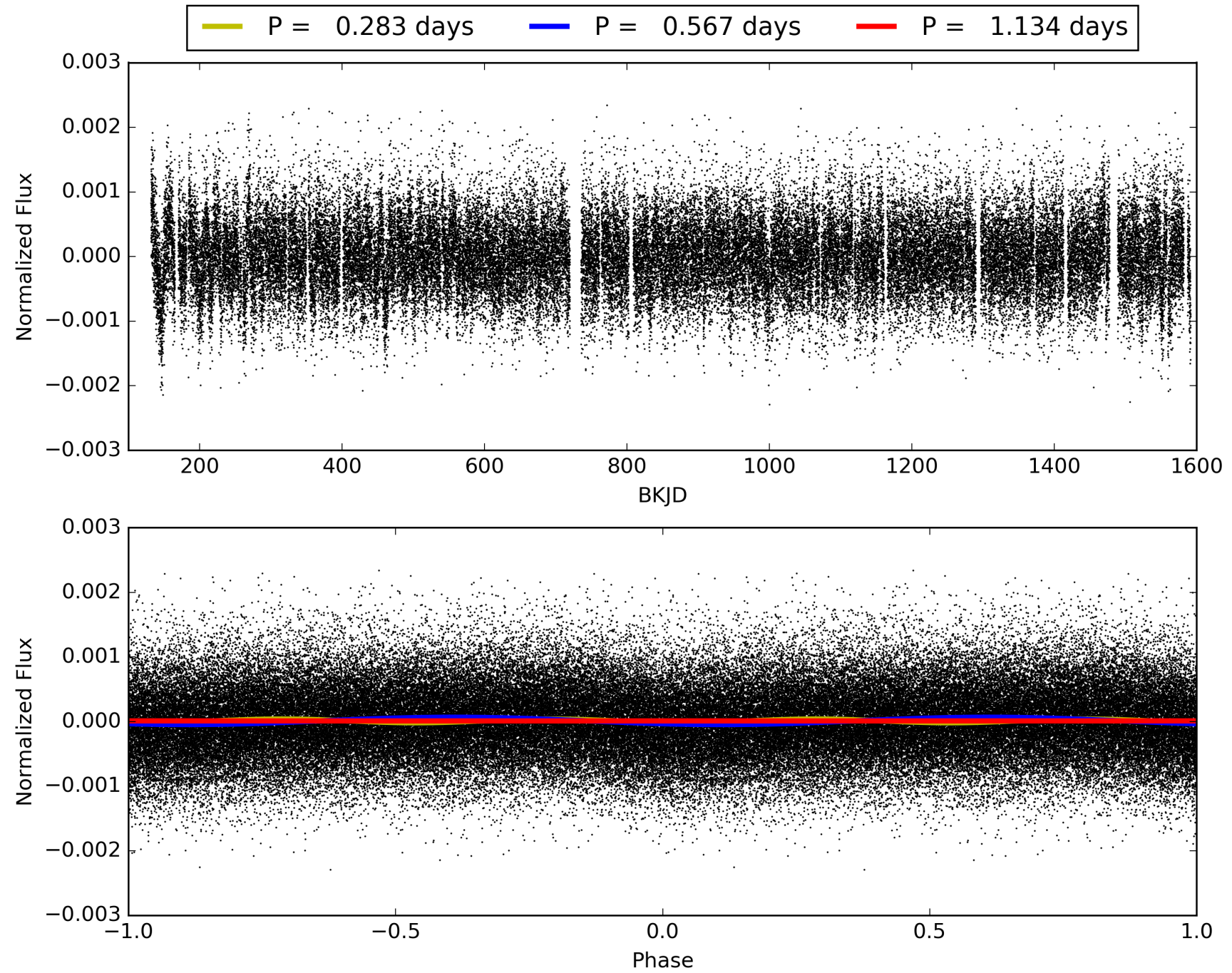
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:48:32 Z

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

# TCE 007115366-01, PDC Light Curves



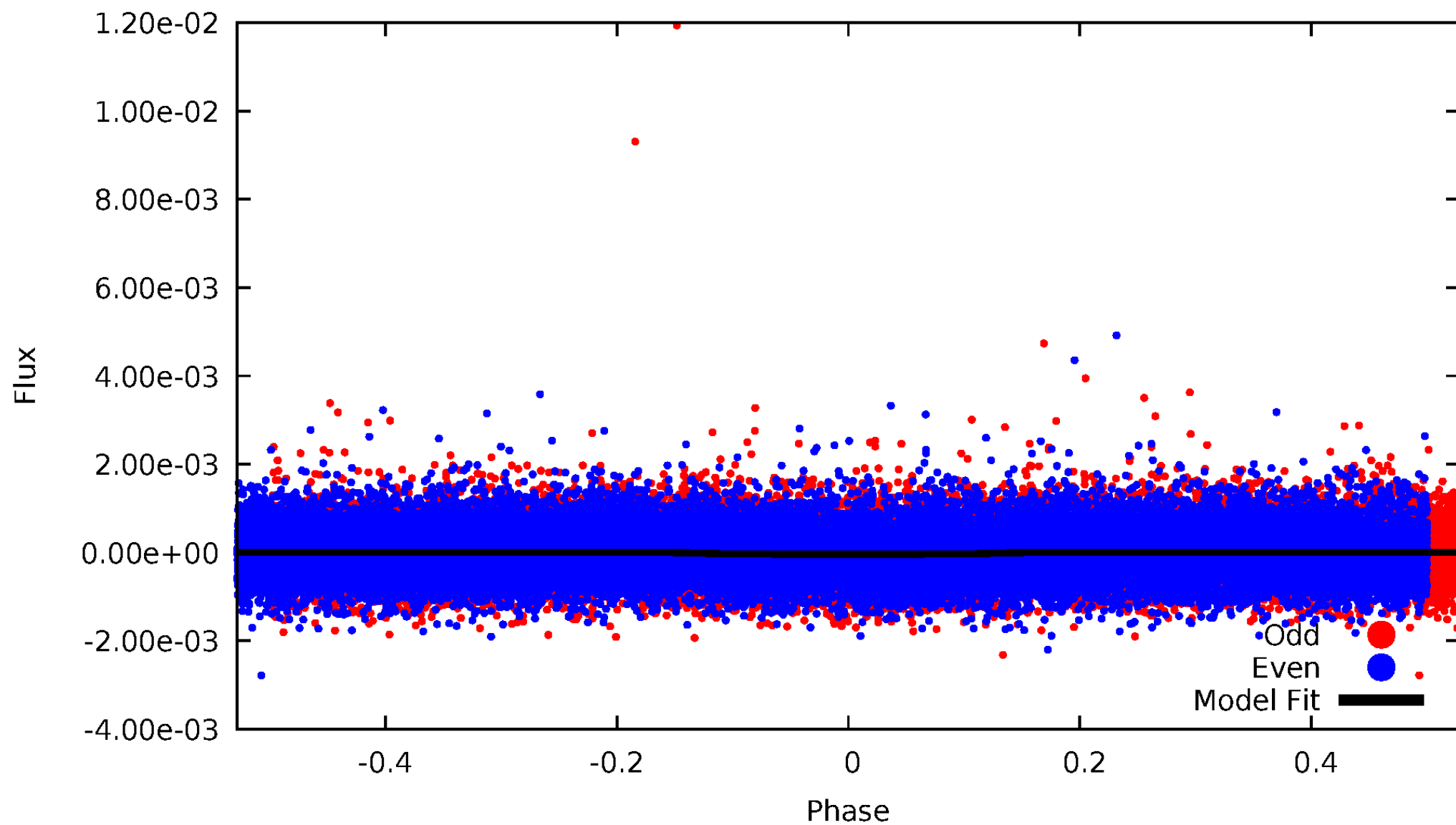
TCE 007115366-01





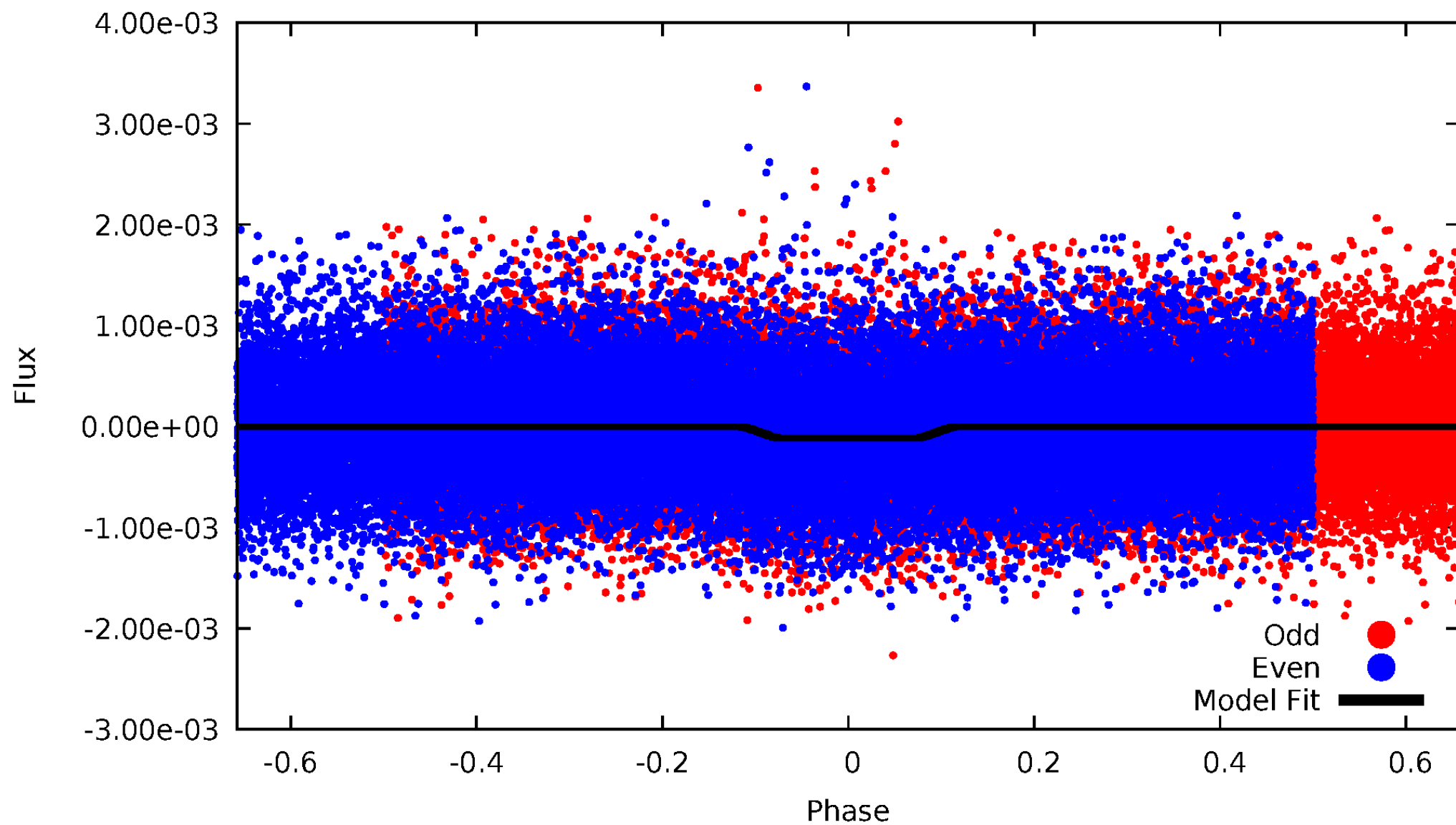
# DV Odd/Even

TCE 007115366-01



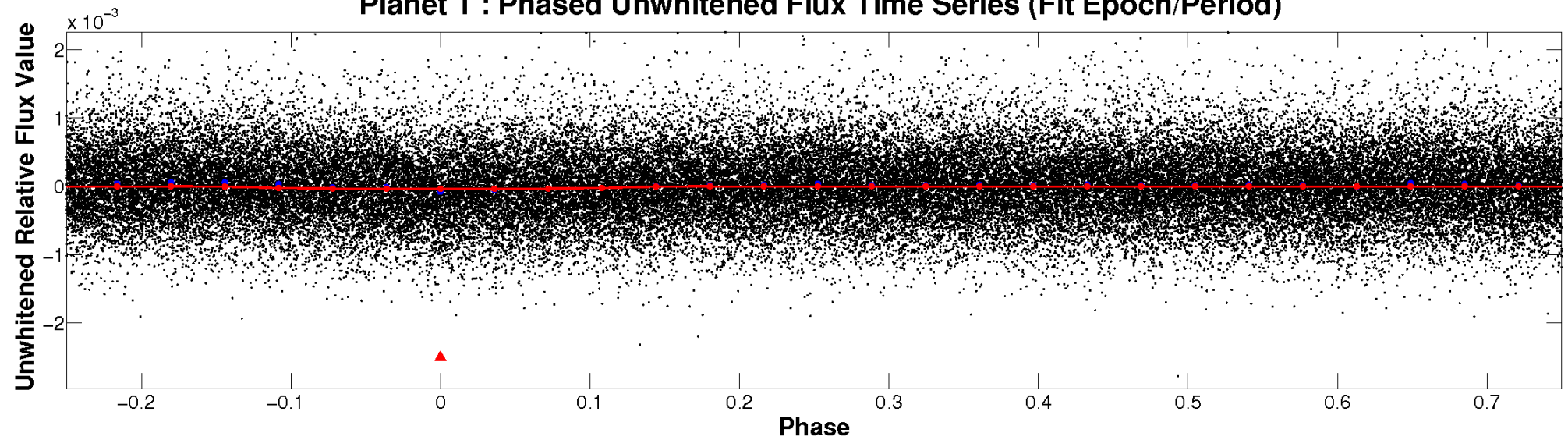
# ALT Odd/Even

TCE 007115366-01

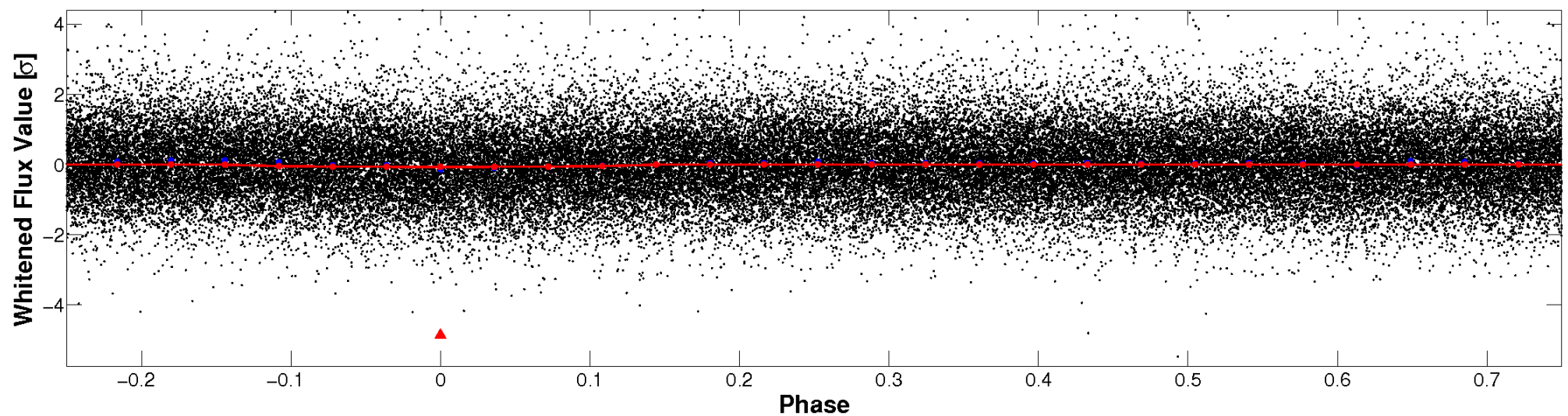


# Non-Whitened Vs. Whitened Light Curve

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

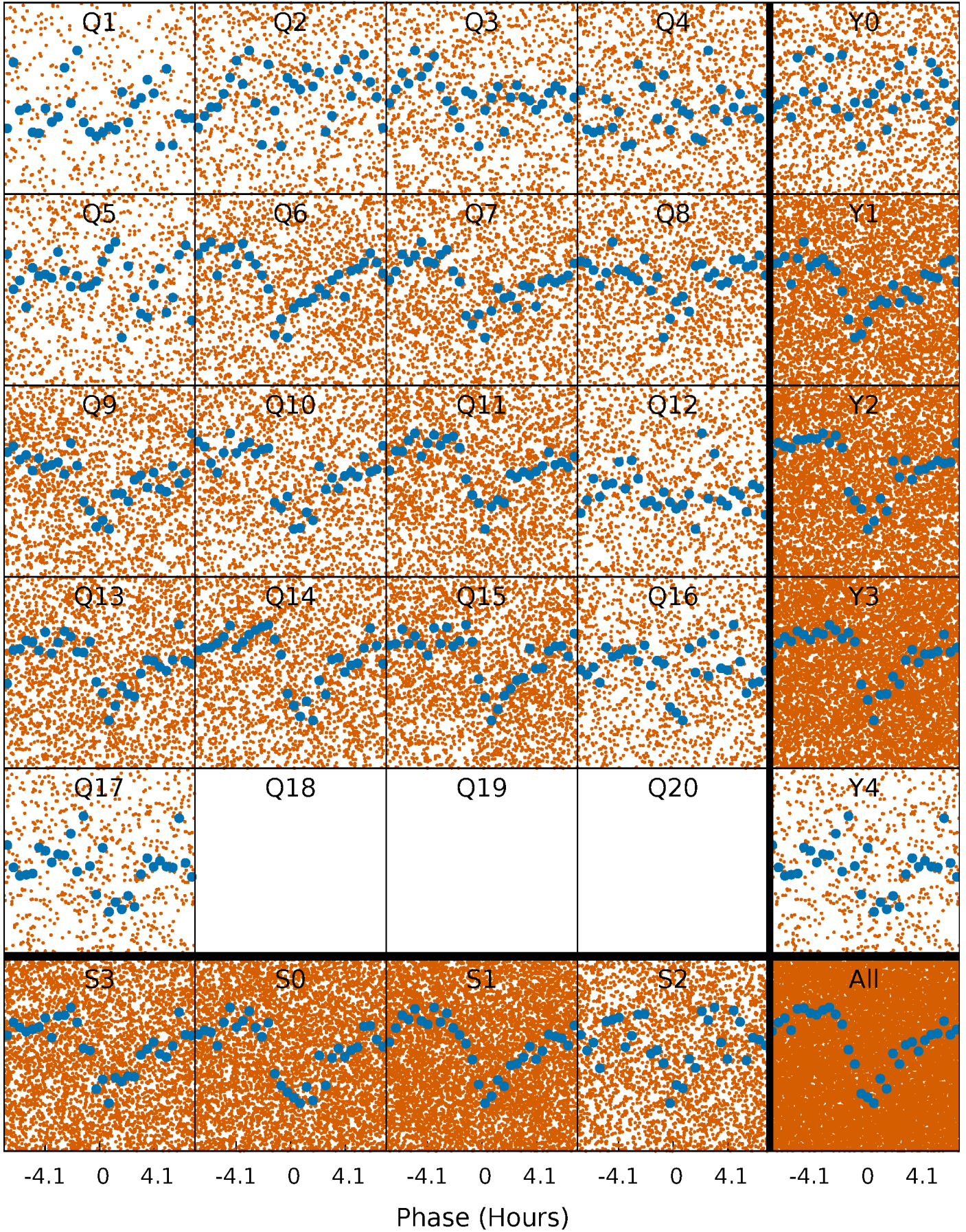


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

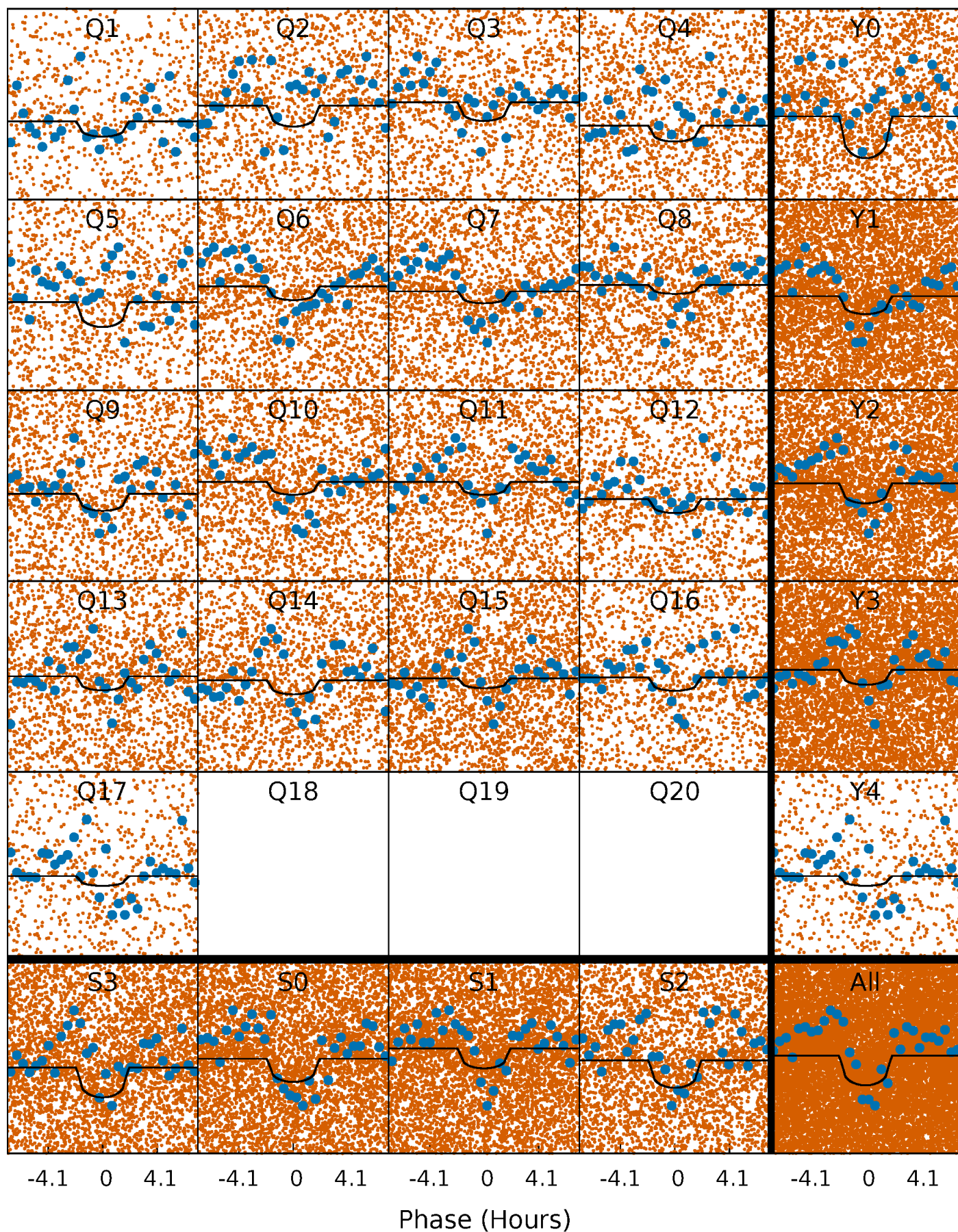
TCE 007115366-01 P= 0.566753 Days  $T_0=131.865110$  (BKJD)





# DV Quarter-Phased Transit Curves

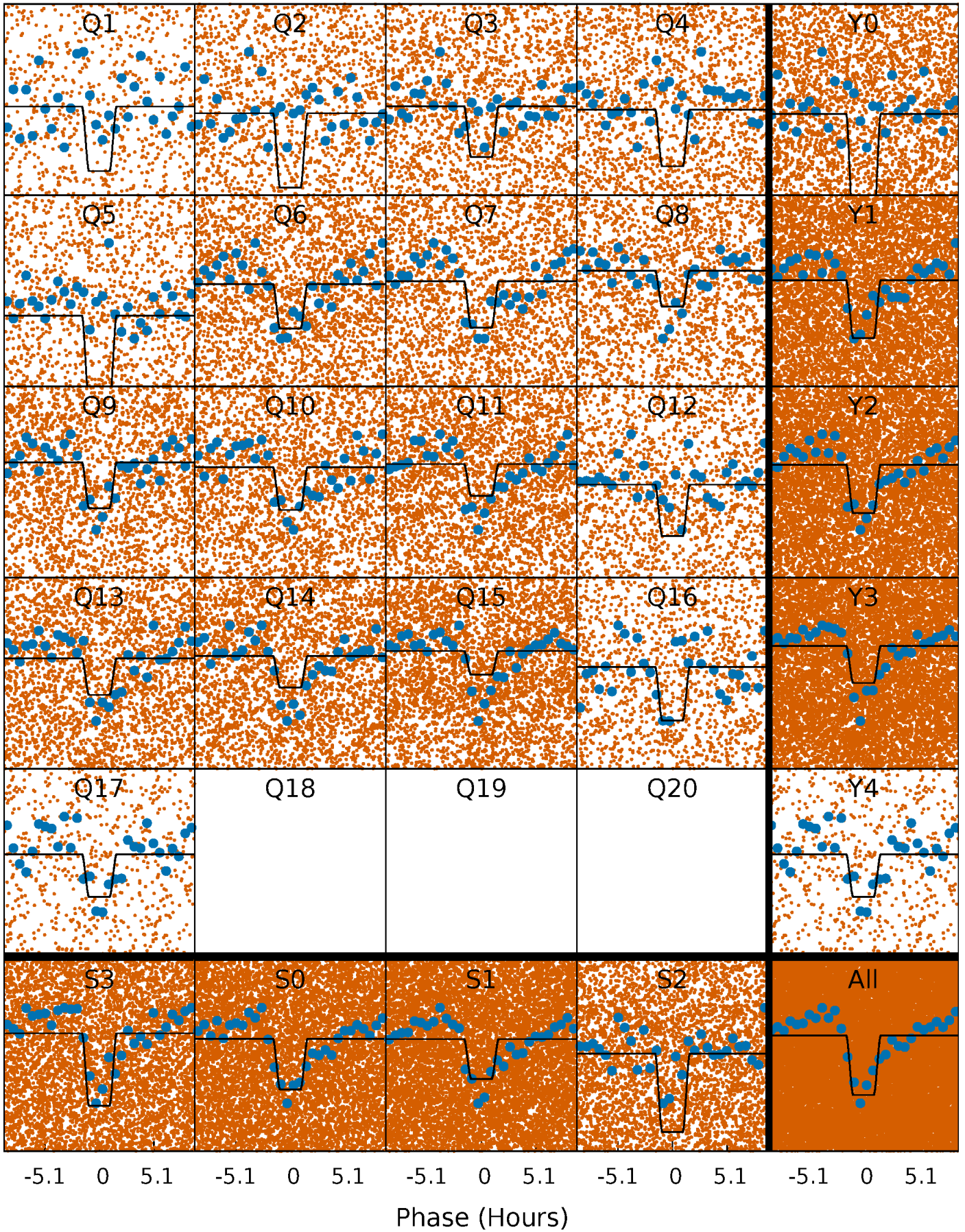
TCE 007115366-01 P= 0.566753 Days  $T_0=131.865110$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

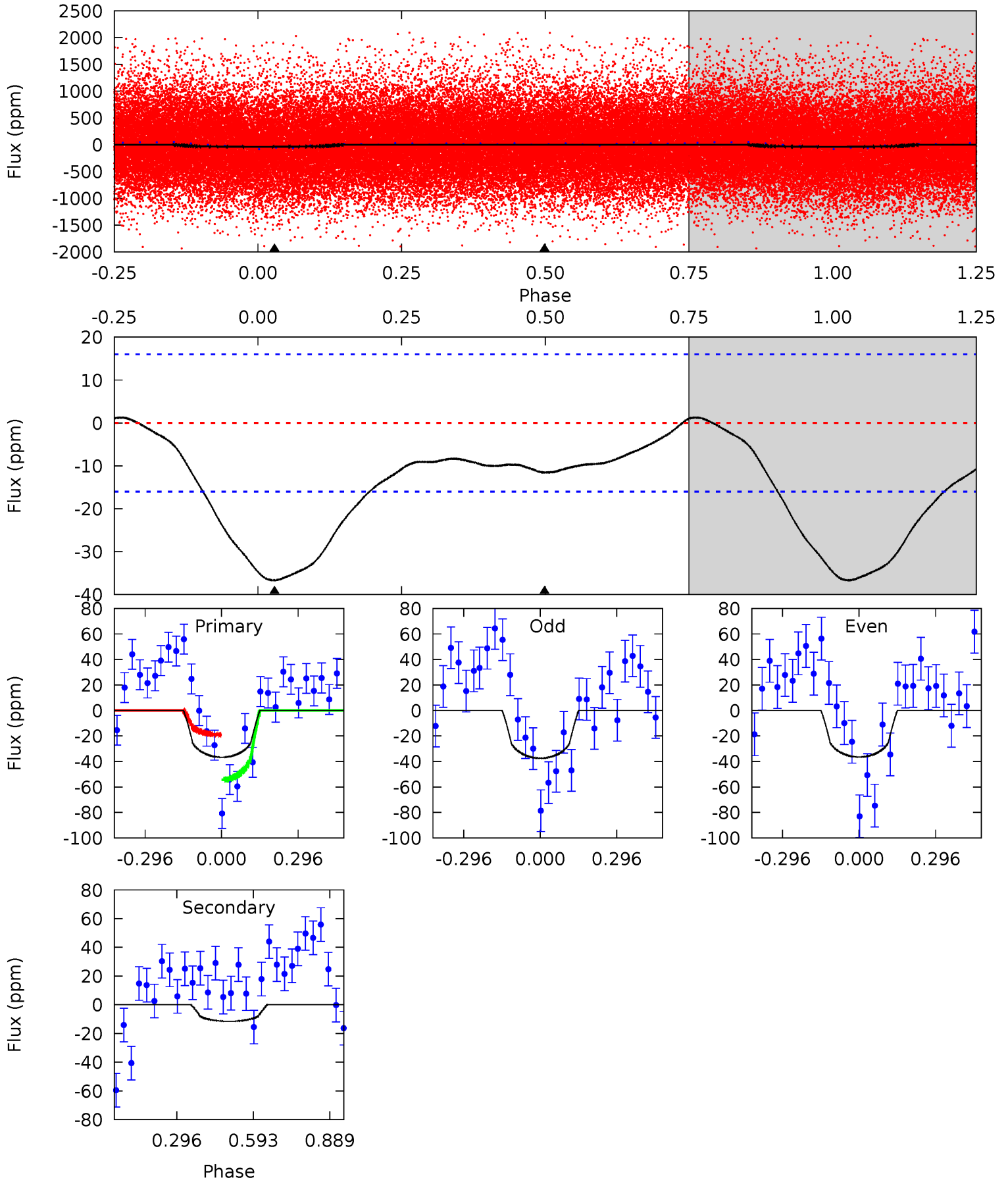
TCE 007115366-01 P= 0.566782 Days  $T_0=131.844039$  (BKJD)



# DV Model-Shift Uniqueness Test

007115366-01, P = 0.566753 Days, E = 131.298357 Days

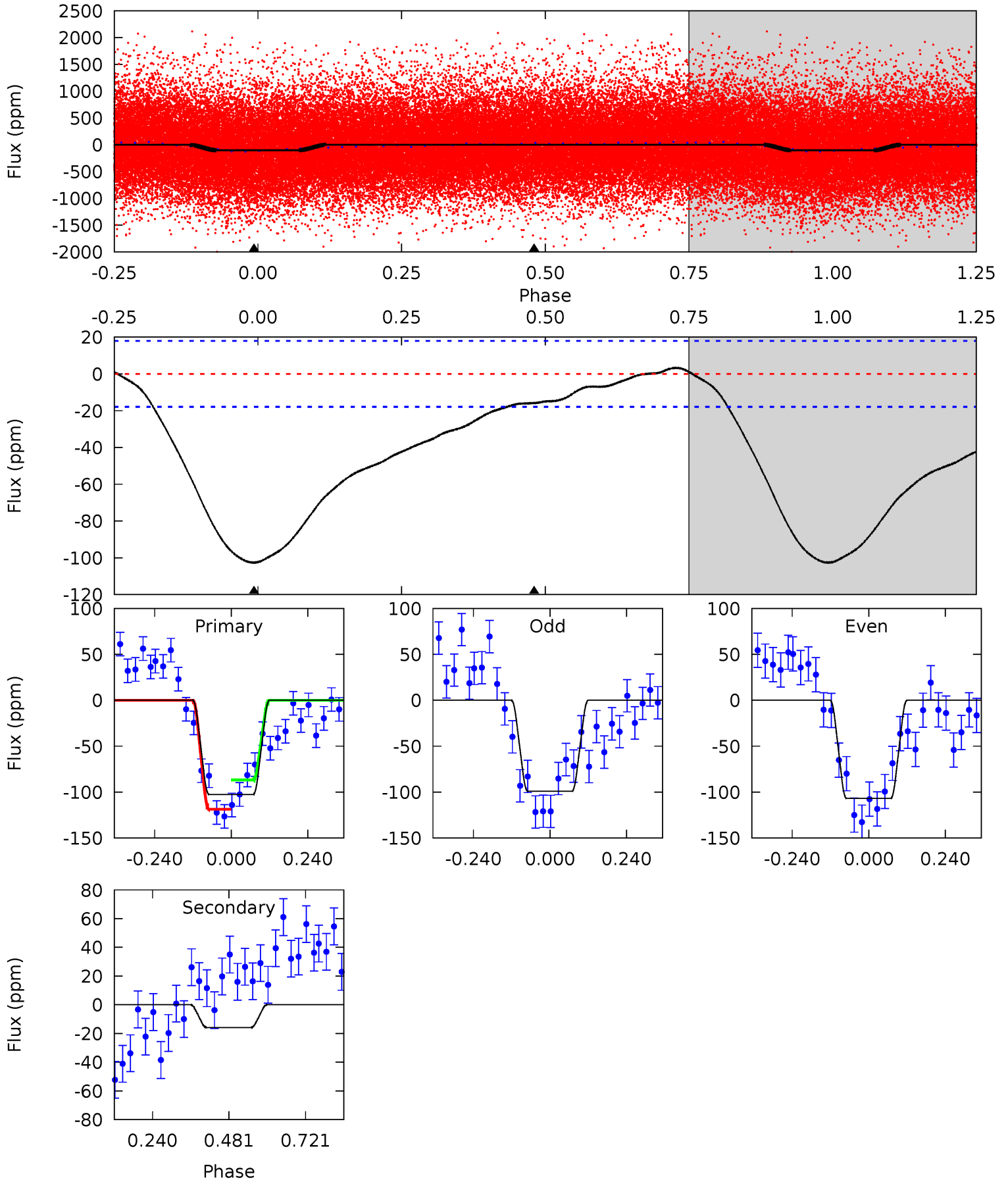
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.94	3.13	0	0	4.33	1.04	1.13	9.94	9.94	3.13	3.13	0.12	0.88	0.03	4.76



# Alt Model-Shift Uniqueness Test

007115366-01, P = 0.566782 Days, E = 131.277257 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
25.1	3.88	0	0	4.38	1.17	5.45	25.1	25.1	3.88	3.88	0.96	1.02	0.03	3.90





### Stellar Parameters For KIC 007115366

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5613^{+169}_{-152}$	$4.581^{+0.040}_{-0.160}$	$-0.260^{+0.300}_{-0.300}$	$0.795^{+0.194}_{-0.065}$	$0.888^{+0.088}_{-0.097}$	$2.492^{+0.410}_{-1.139}$
	+3%/-3%	+1%/-3%	+115%/-115%	+24%/-8%	+10%/-11%	+16%/-46%
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 007115366-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-12 \pm 4$	$0.69^{+0.61}_{-0.45}$	$2775^{+156}_{-112}$	$3942^{+2389}_{-1029}$	$2.183^{+15.871}_{-1.640}$
Alt.	$-16 \pm 4$	$1.02^{+0.66}_{-0.56}$	$2776^{+156}_{-103}$	$3570^{+1274}_{-822}$	$1.344^{+4.756}_{-0.876}$

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

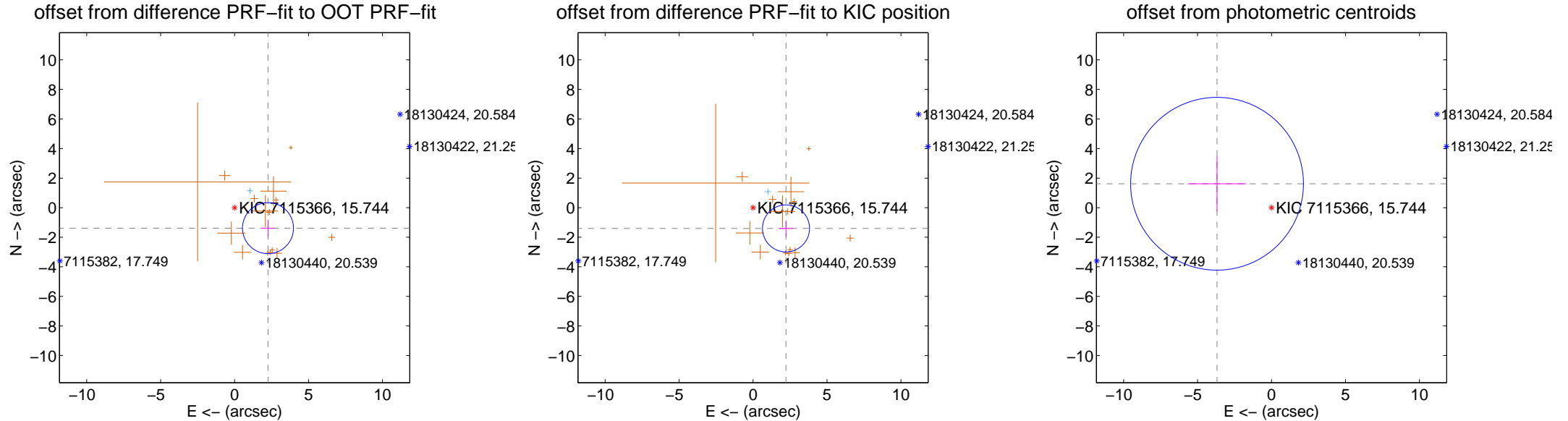
## DV Centroid Data

Supplemental centroid analysis for 007115366-01. Kepler magnitude: 15.74. Transit SNR 7.44

There are 1 quarters with good PRF difference image offsets

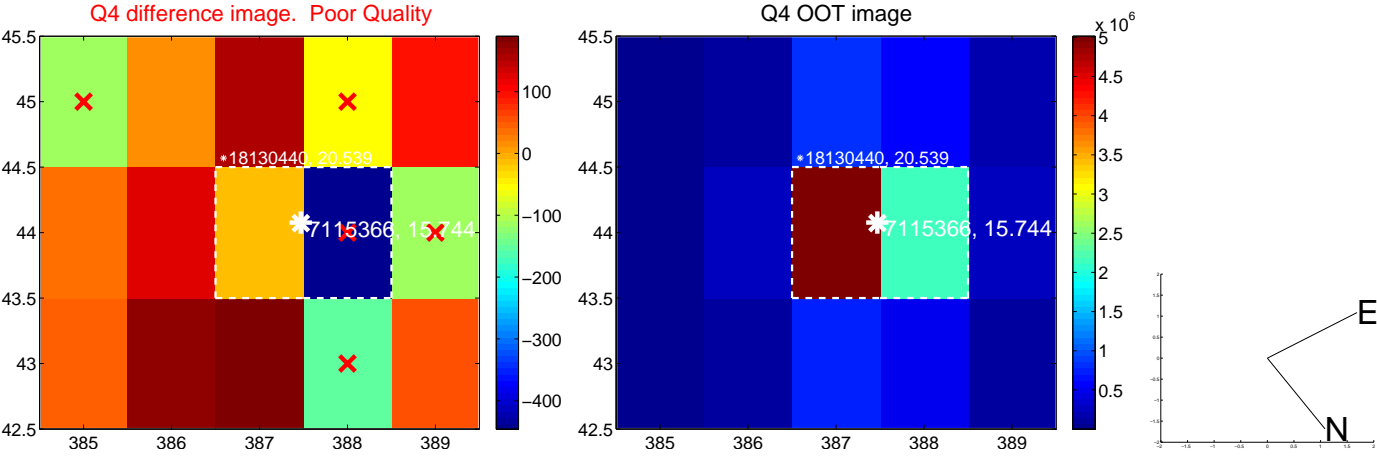
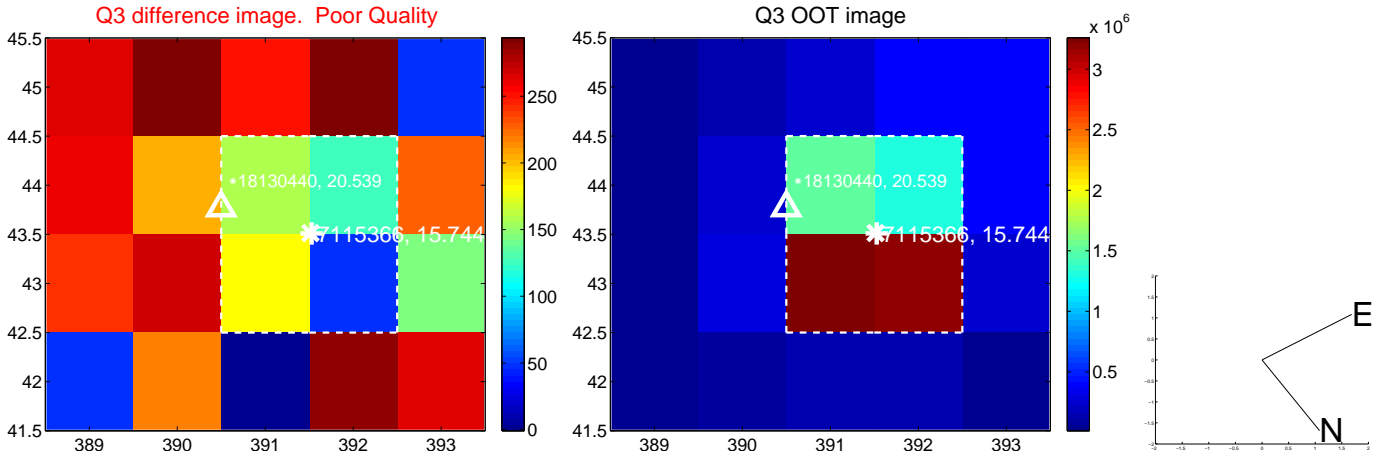
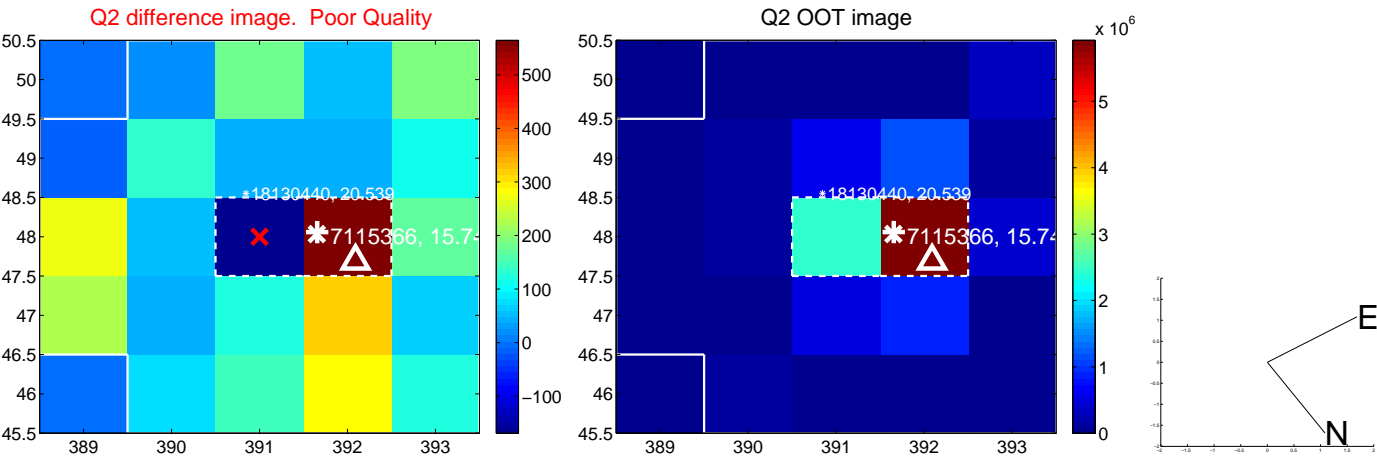
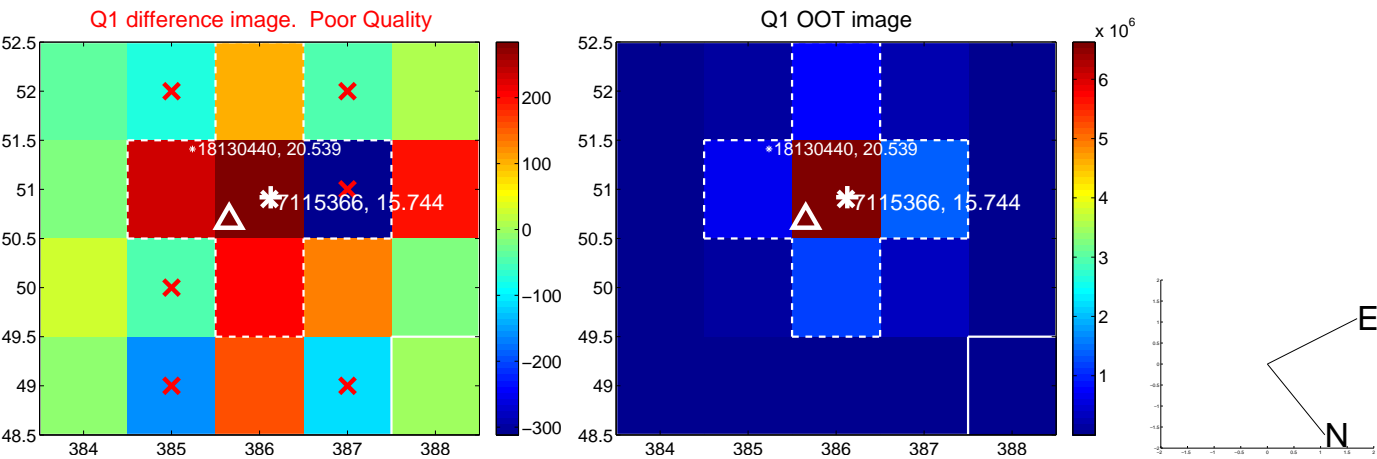
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.650 \pm 0.575$	4.61	$-2.259 \pm 0.488$	$-1.384 \pm 0.576$
PRF-fit source offset from KIC position	$2.631 \pm 0.530$	4.96	$-2.227 \pm 0.477$	$-1.401 \pm 0.542$
photometric centroid source offset	$4.02 \pm 1.95$	2.07	$3.68 \pm 1.96$	$1.62 \pm 1.87$



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.

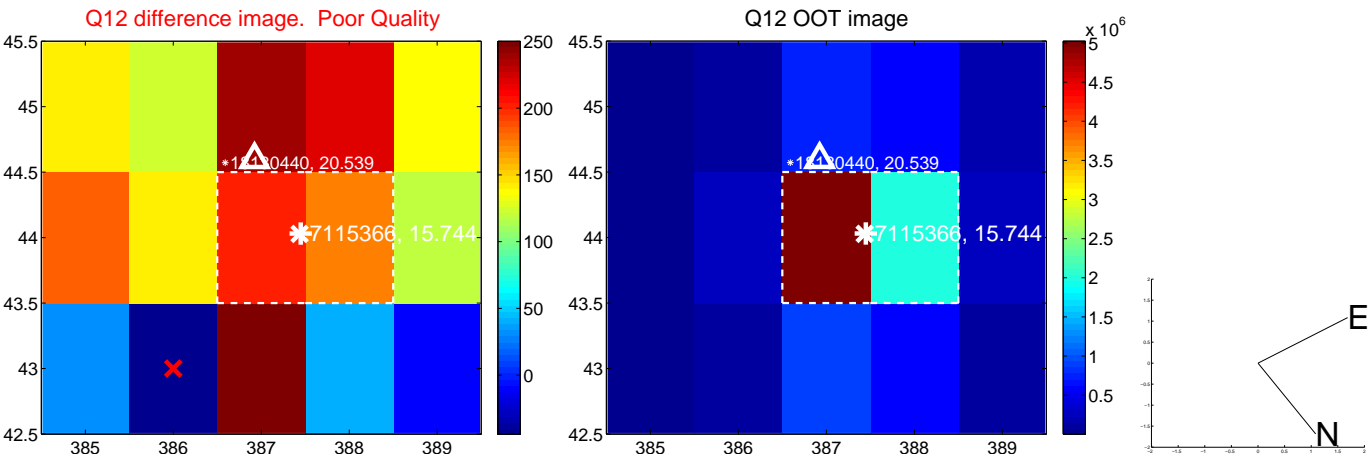
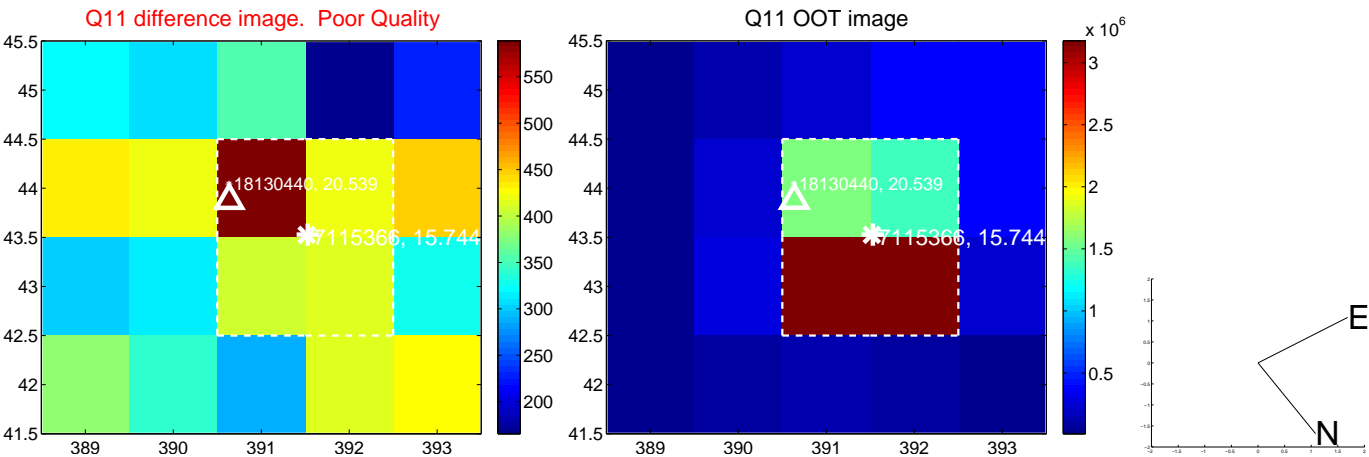
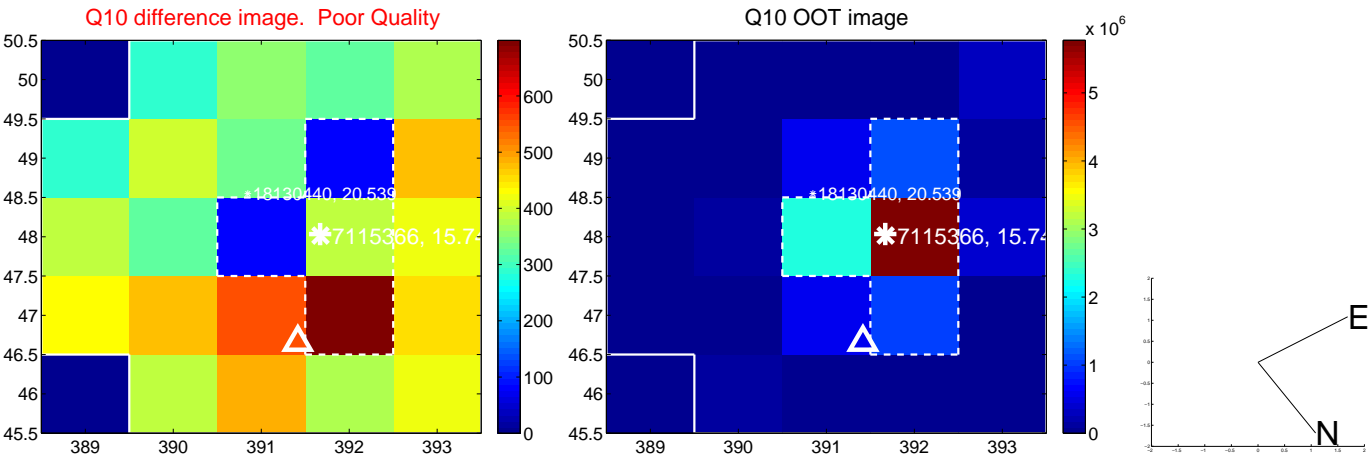
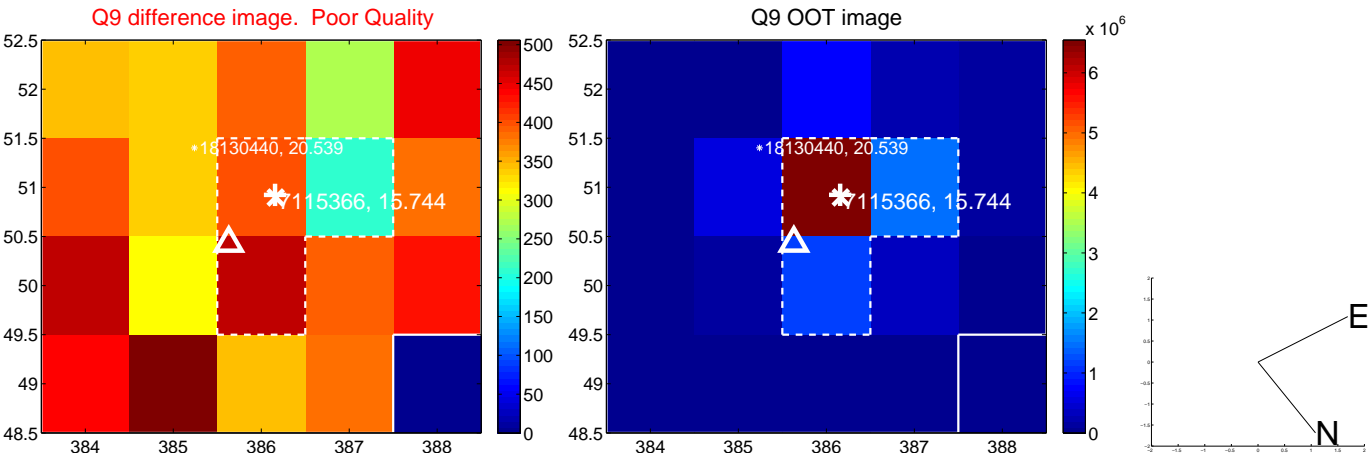
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



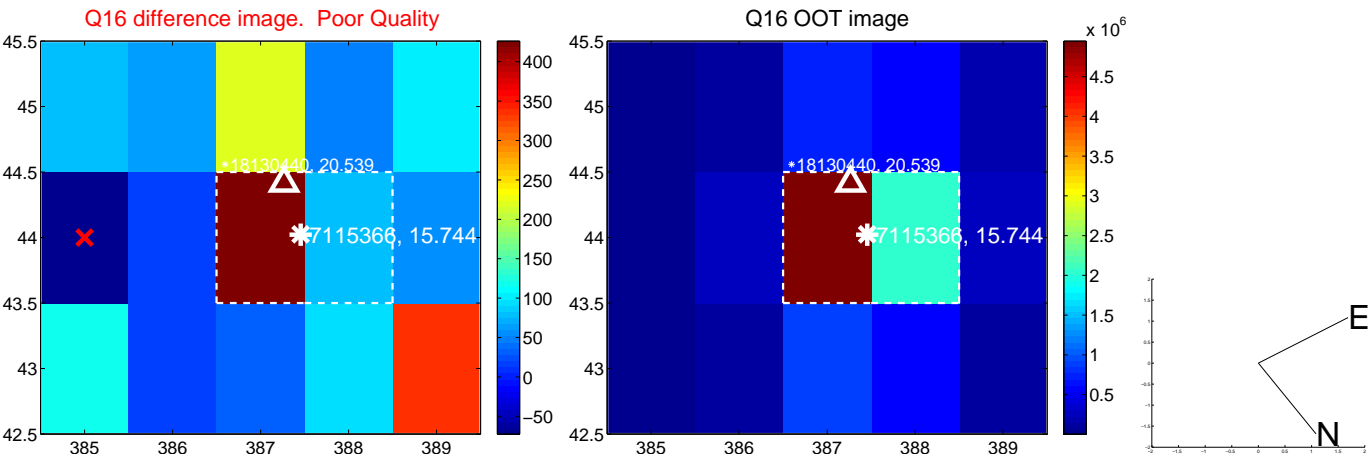
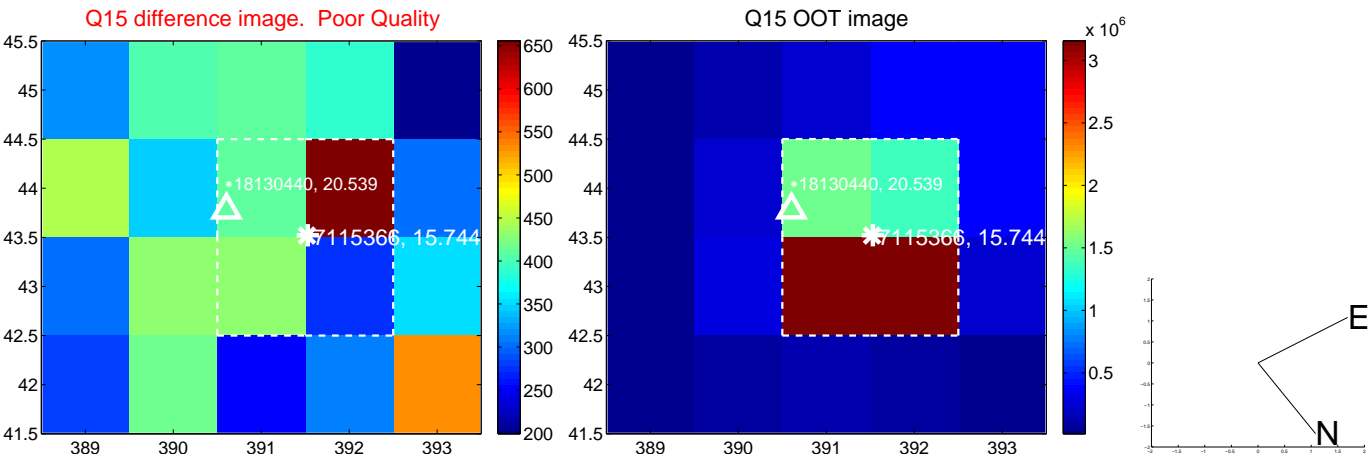
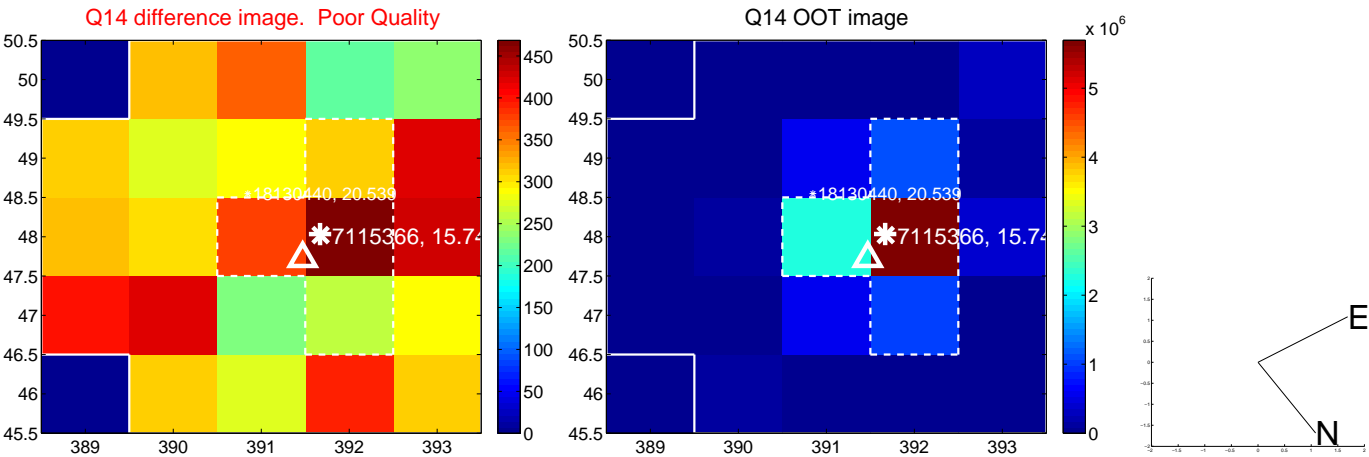
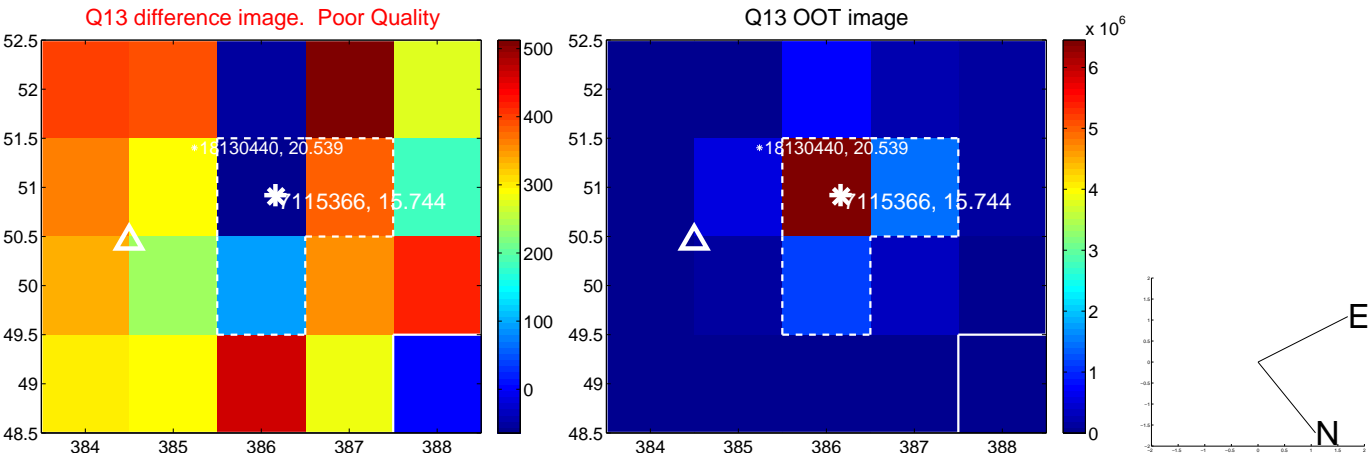




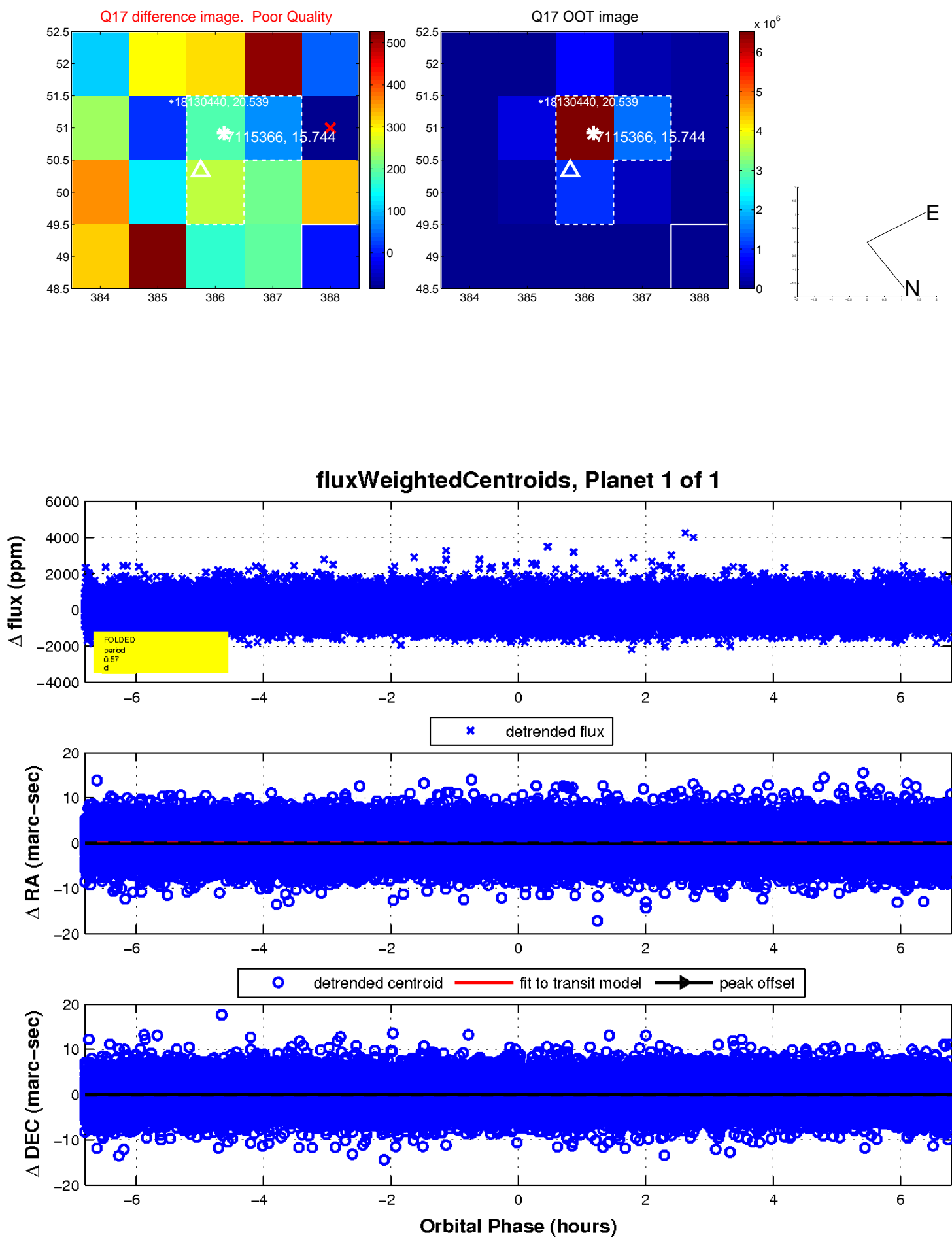
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UKIRT Image

Declination

