

# KIC 009899809

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009899809-01	OBS	No	374.057865	305.181460	356.3	12.978	7.7	6.9	1.39	6454	2.85	2.58

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009899809-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—ALL_TRANS_CHASES—INCONSISTENT_TRANS—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.

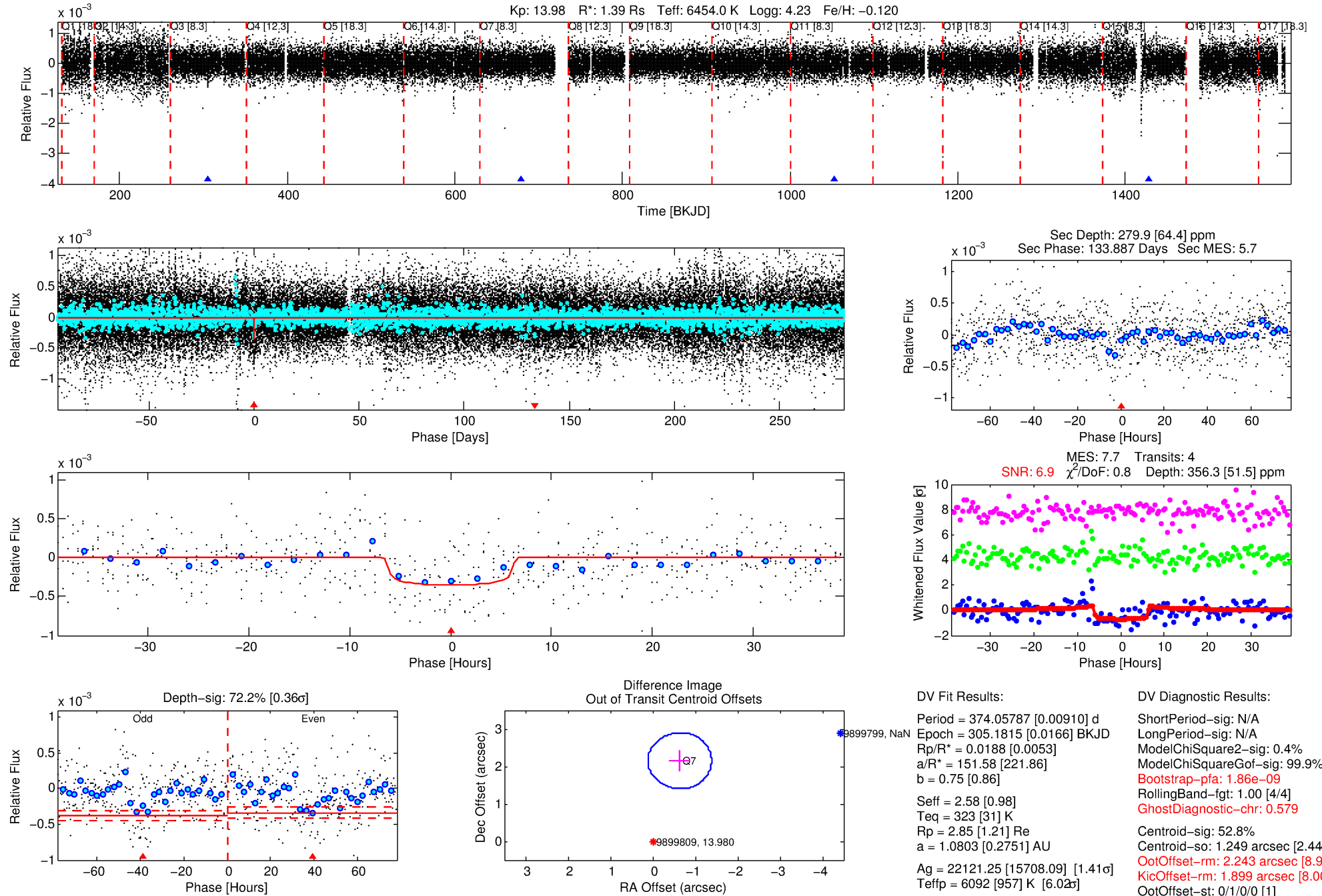
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 009899809-01

No Significant Match Found

# DV One-Page Summary

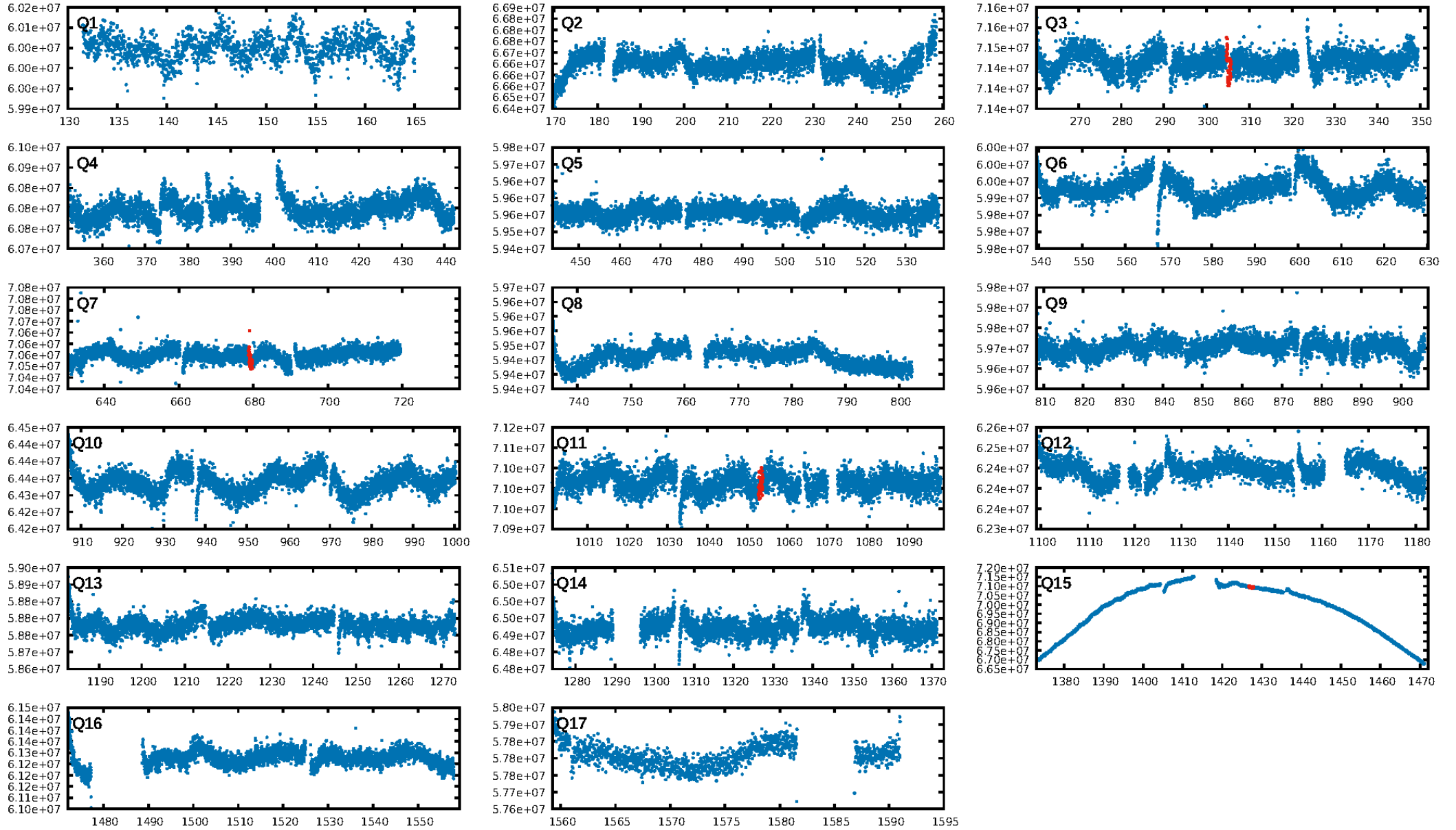
KIC: 9899809 Candidate: 1 of 1 Period: 374.058 d



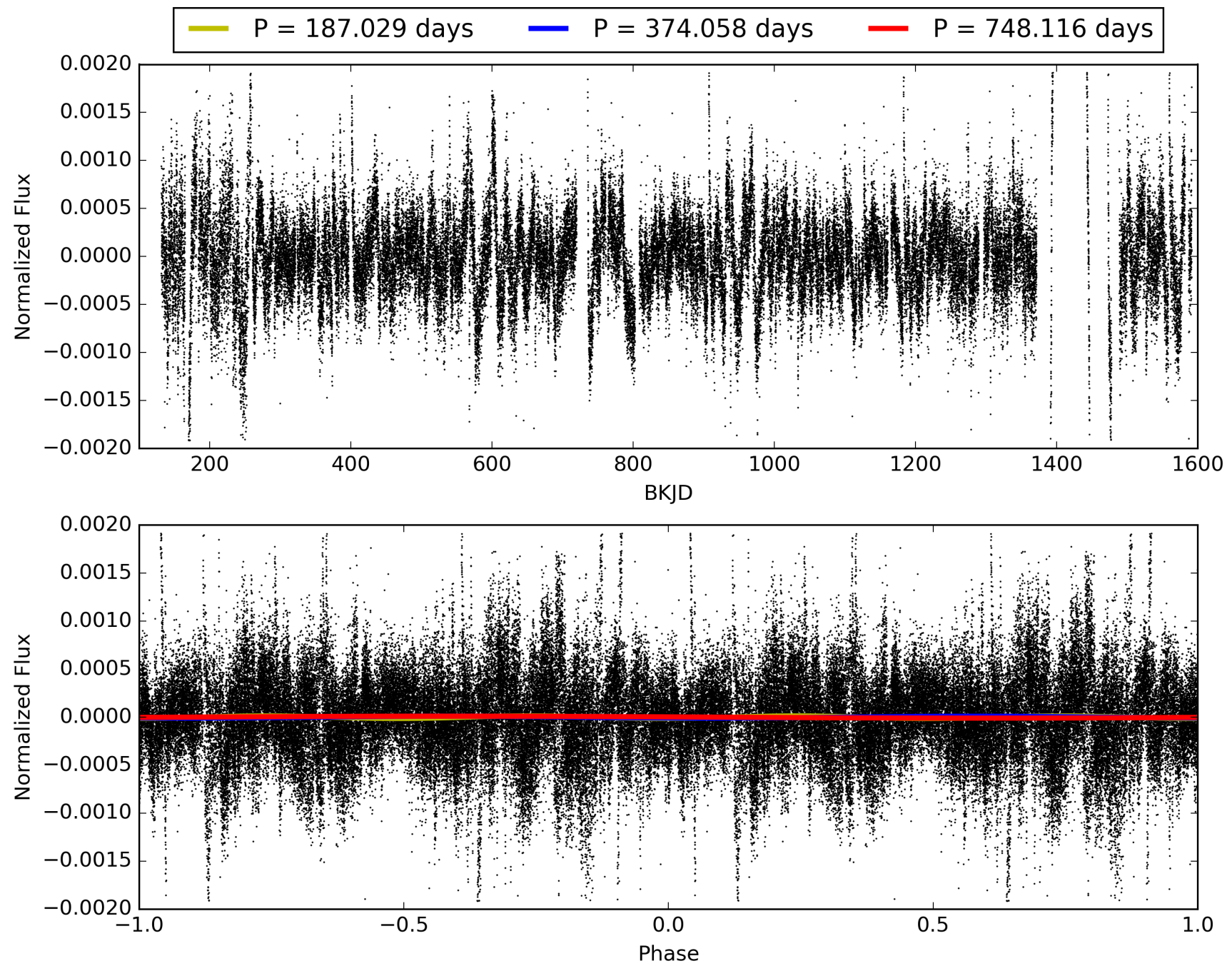
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:27:30 Z

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

# TCE 009899809-01, PDC Light Curves

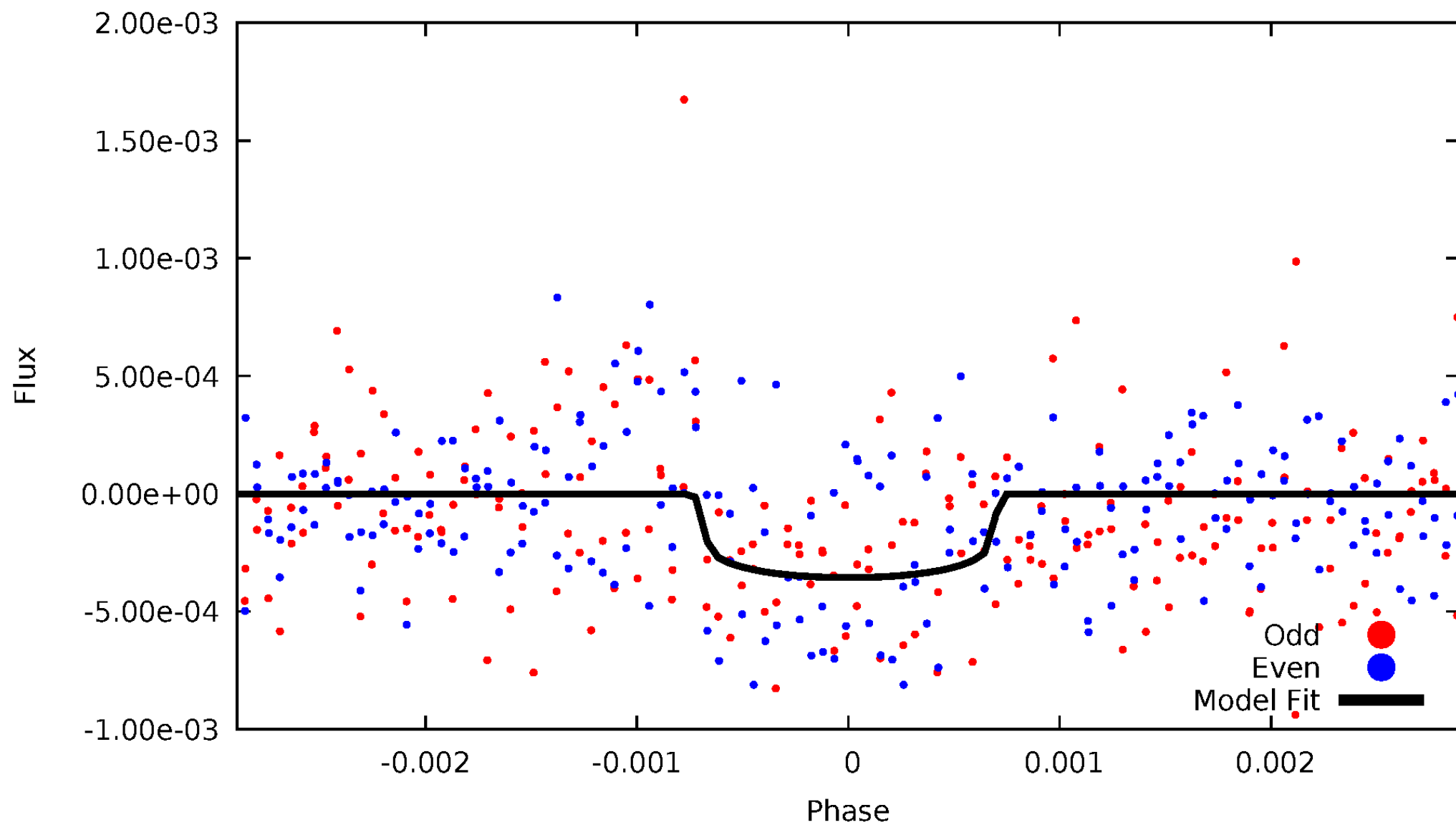


TCE 009899809-01



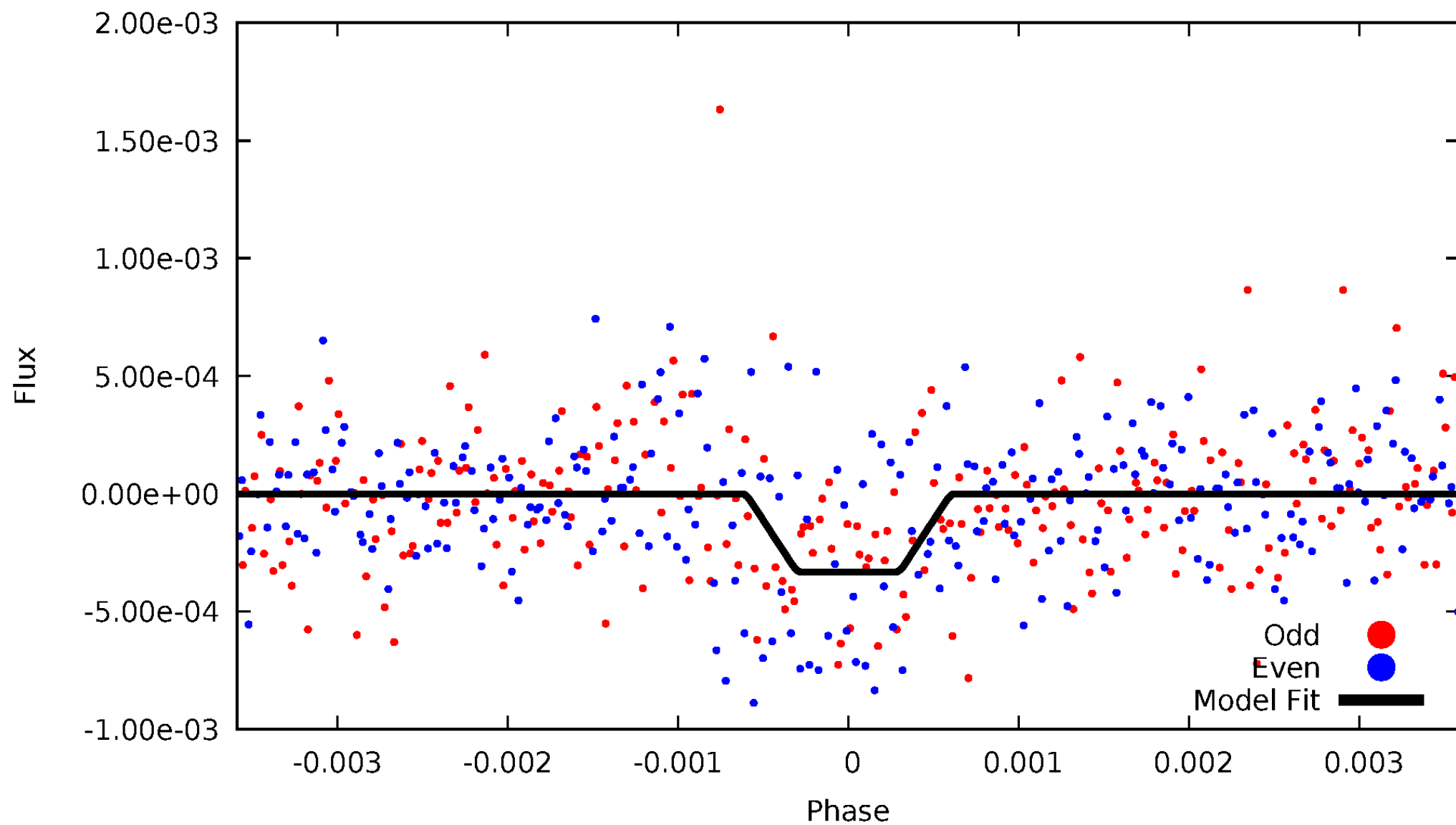
# DV Odd/Even

TCE 009899809-01

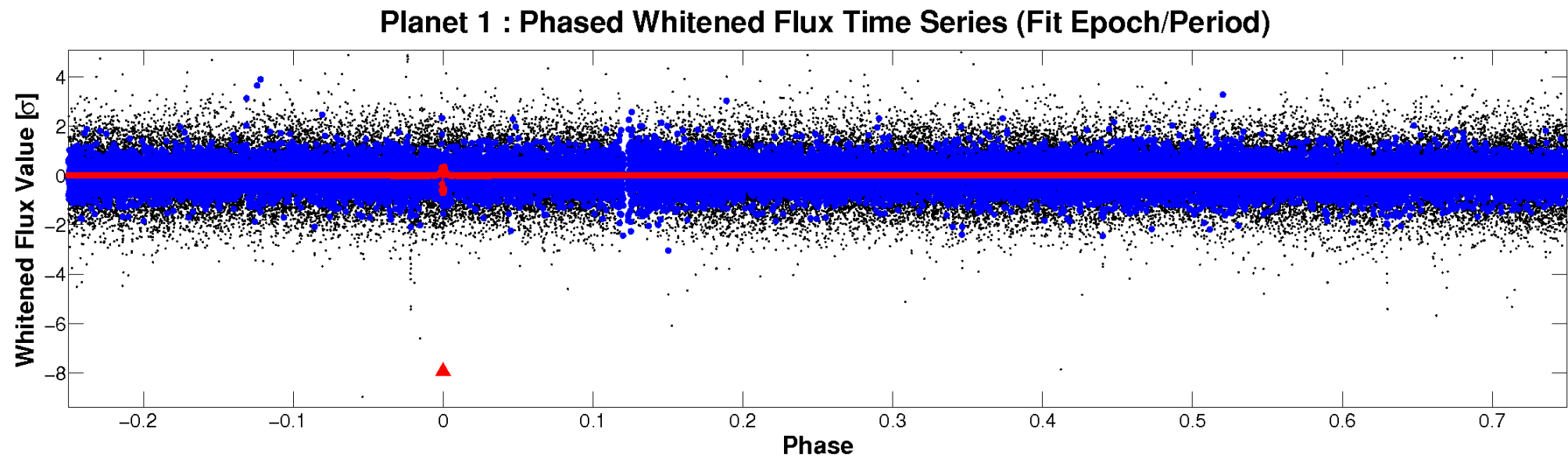
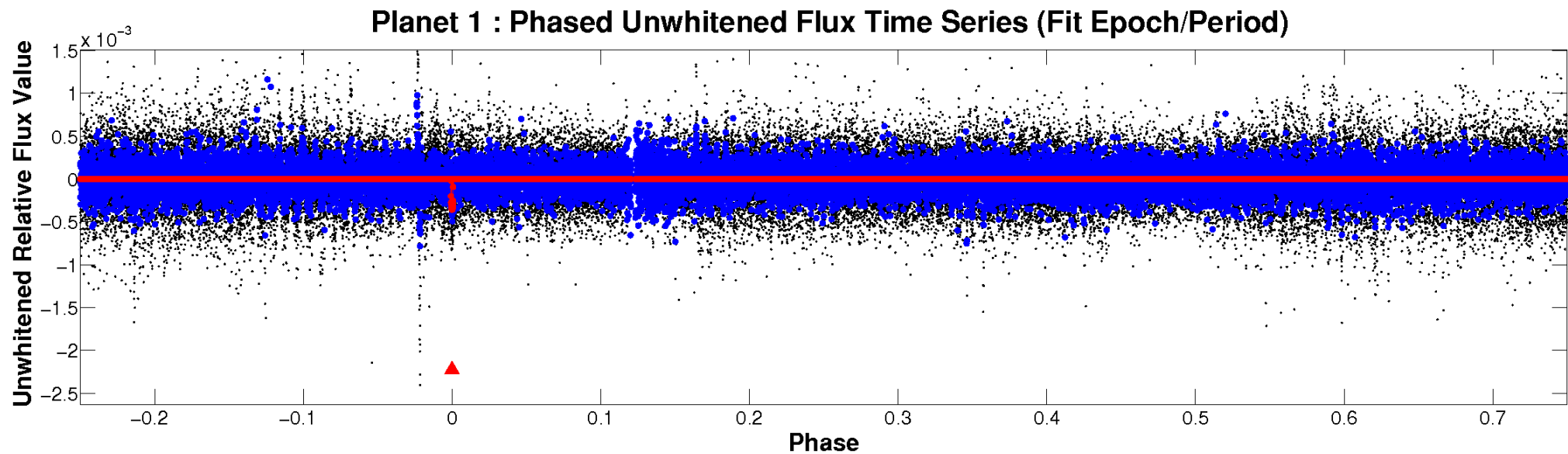


# ALT Odd/Even

TCE 009899809-01



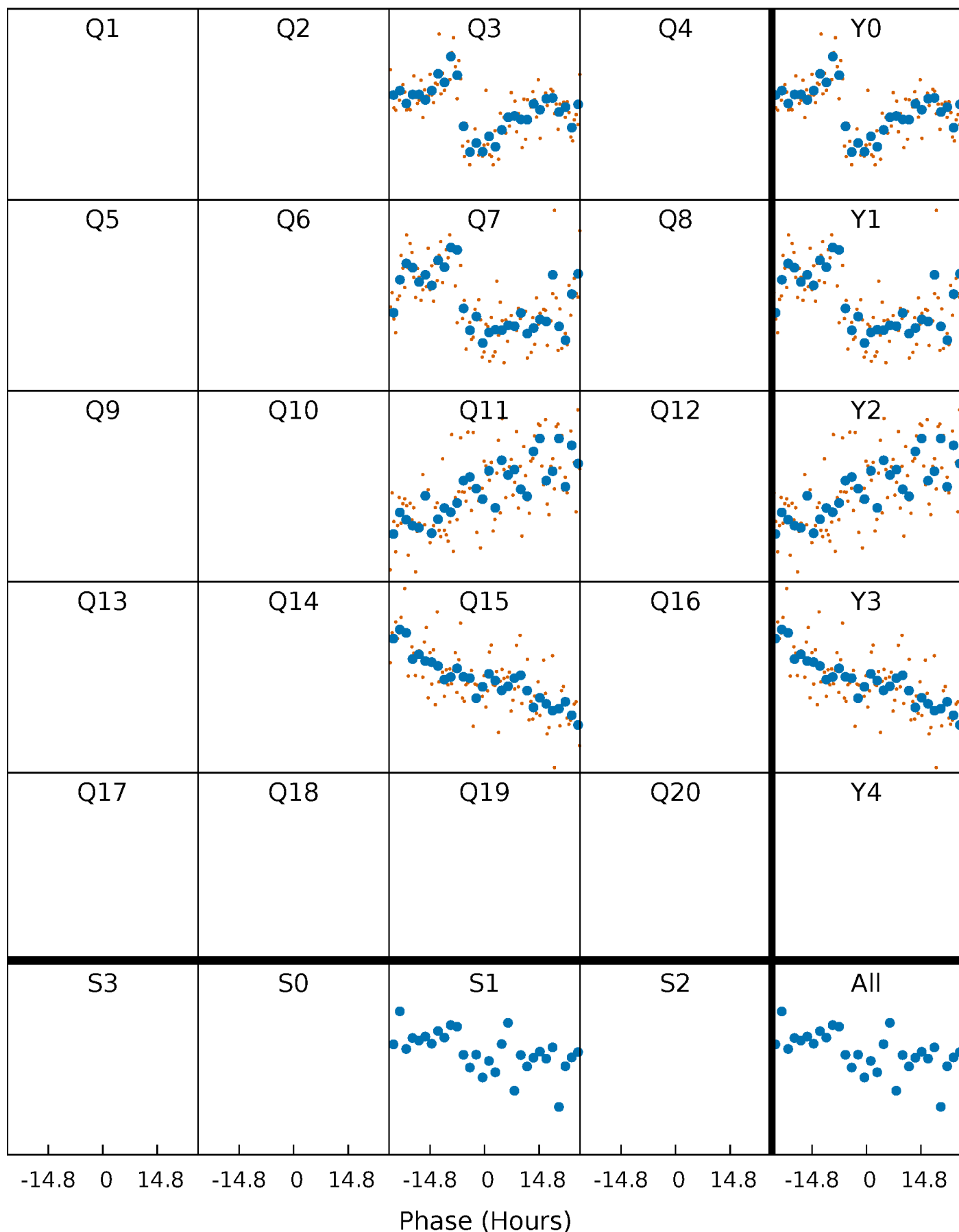
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

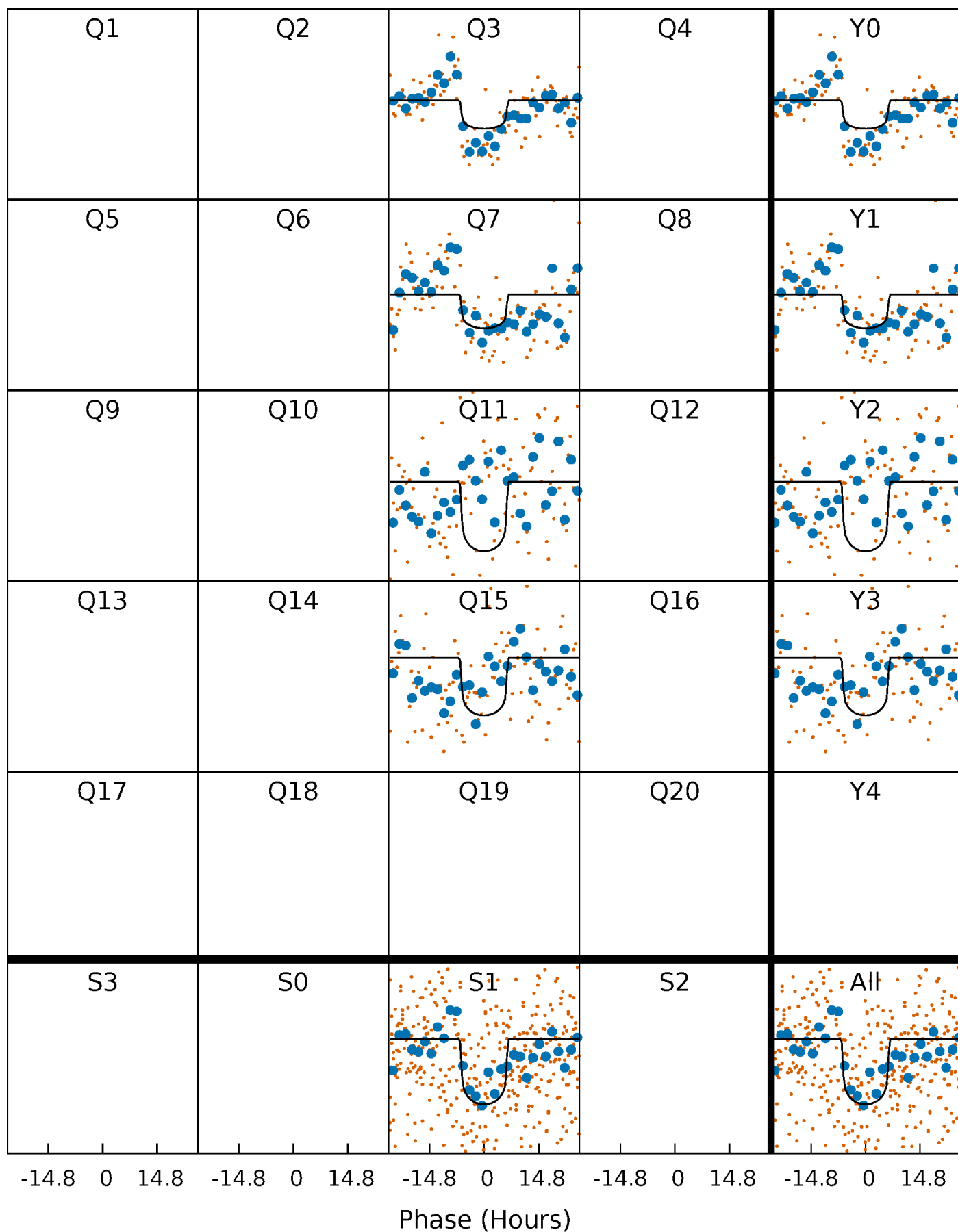
TCE 009899809-01 P=374.057865 Days  $T_0=305.181460$  (BKJD)





# DV Quarter-Phased Transit Curves

TCE 009899809-01 P=374.057865 Days  $T_0=305.181460$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

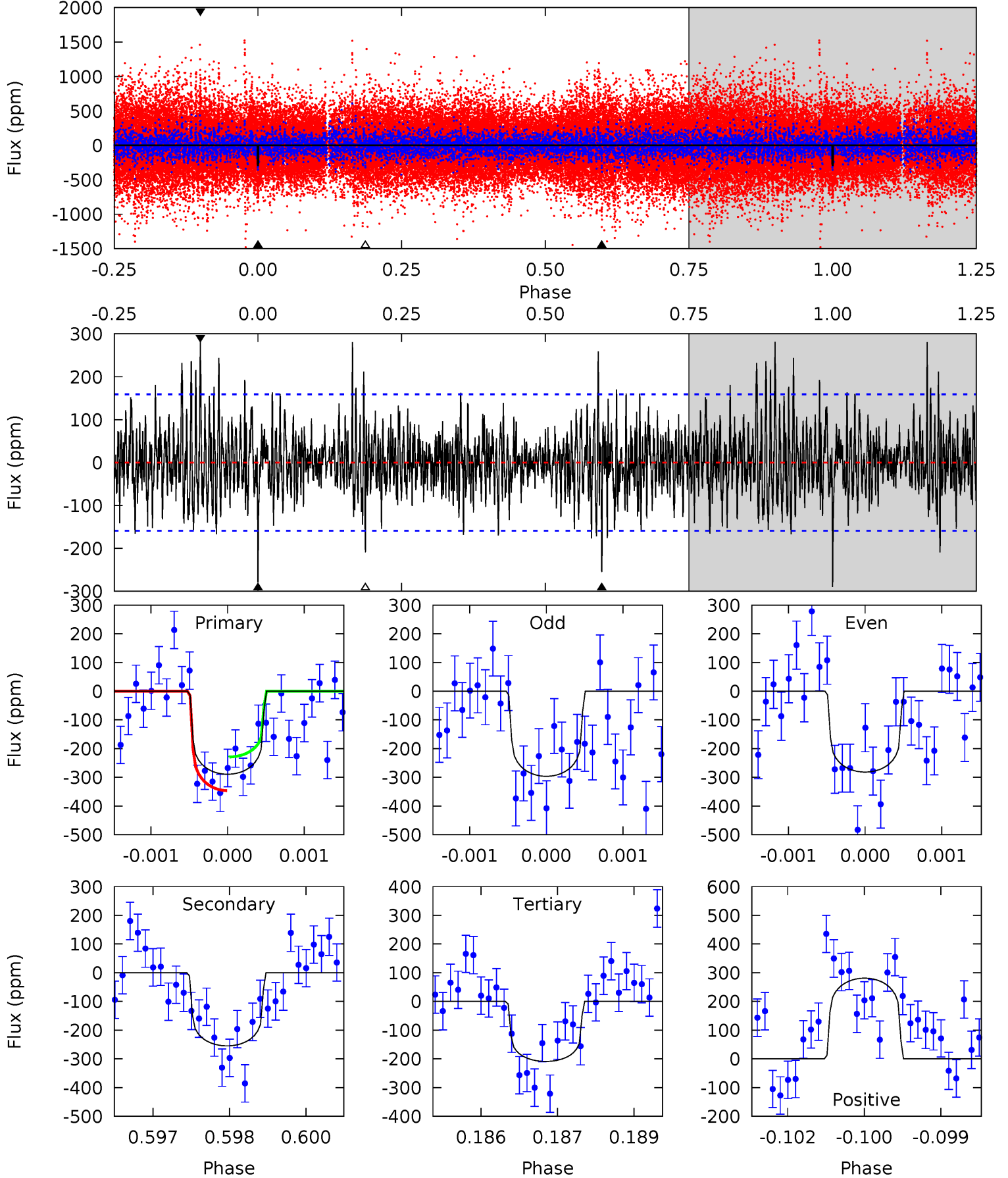
TCE 009899809-01 P=374.009071 Days  $T_0=305.221784$  (BKJD)



# DV Model-Shift Uniqueness Test

009899809-01, P = 374.057865 Days, E = 305.181460 Days

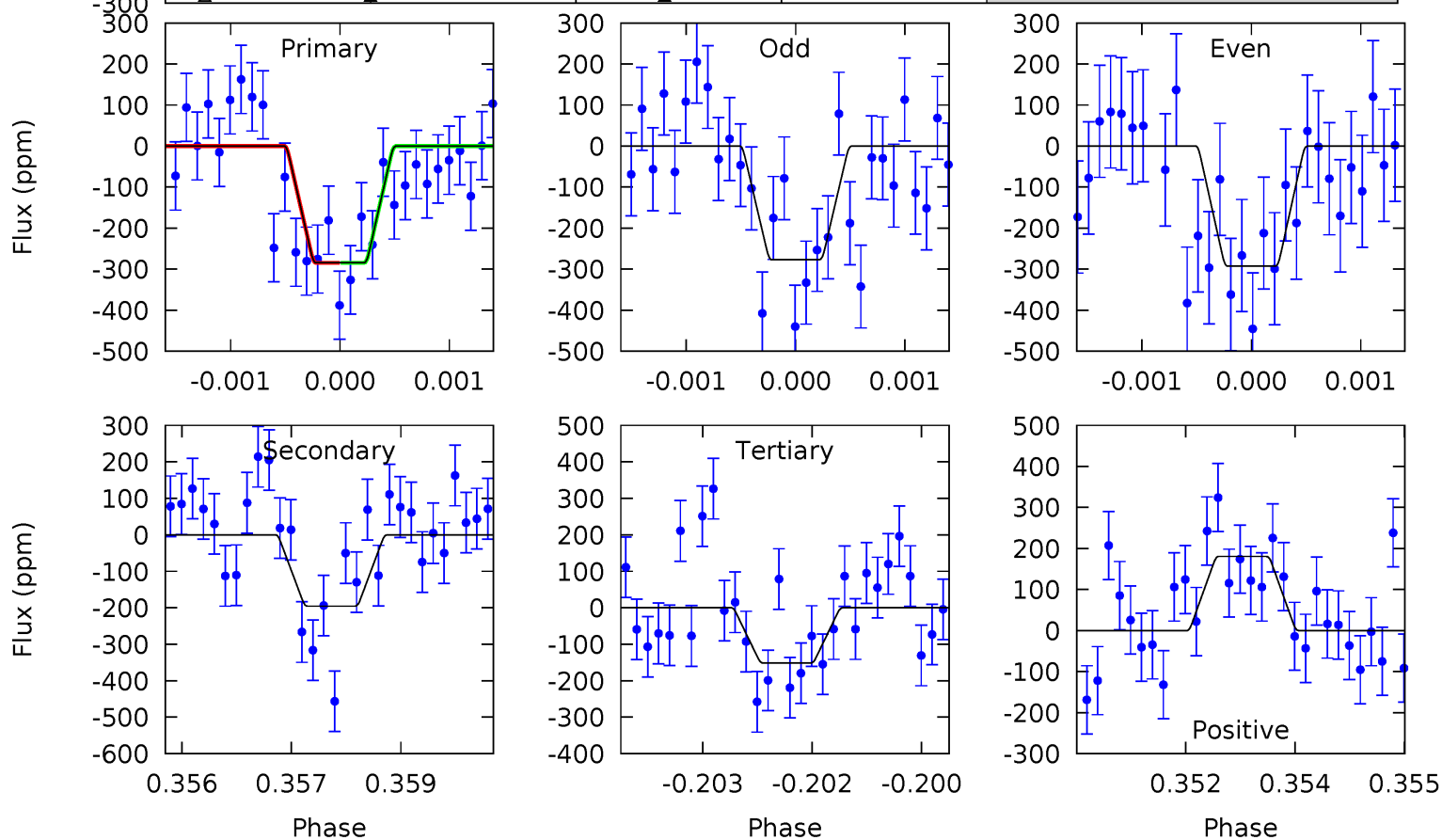
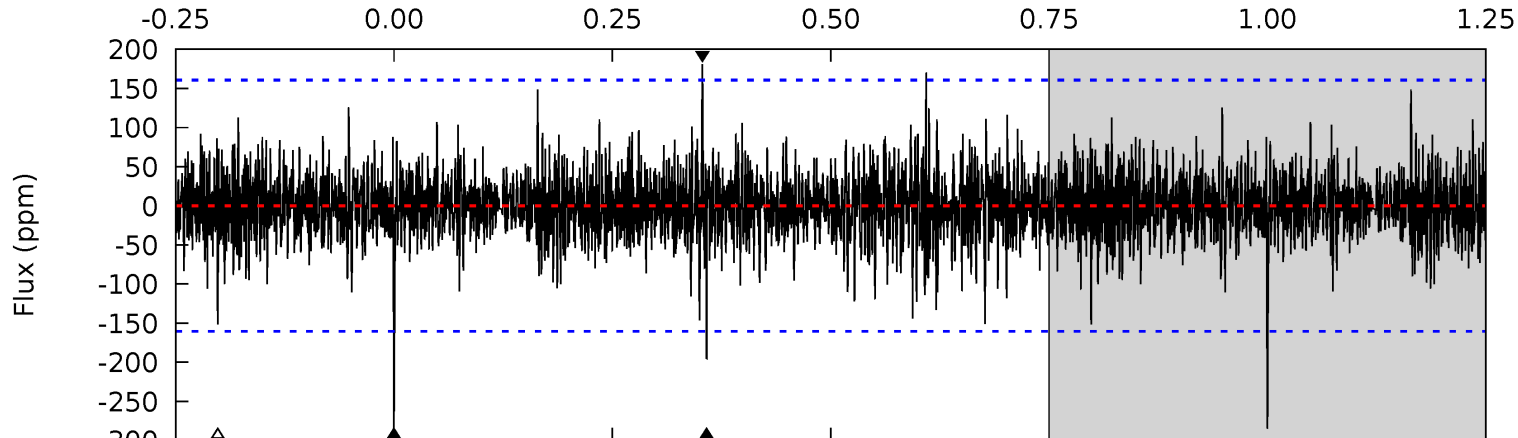
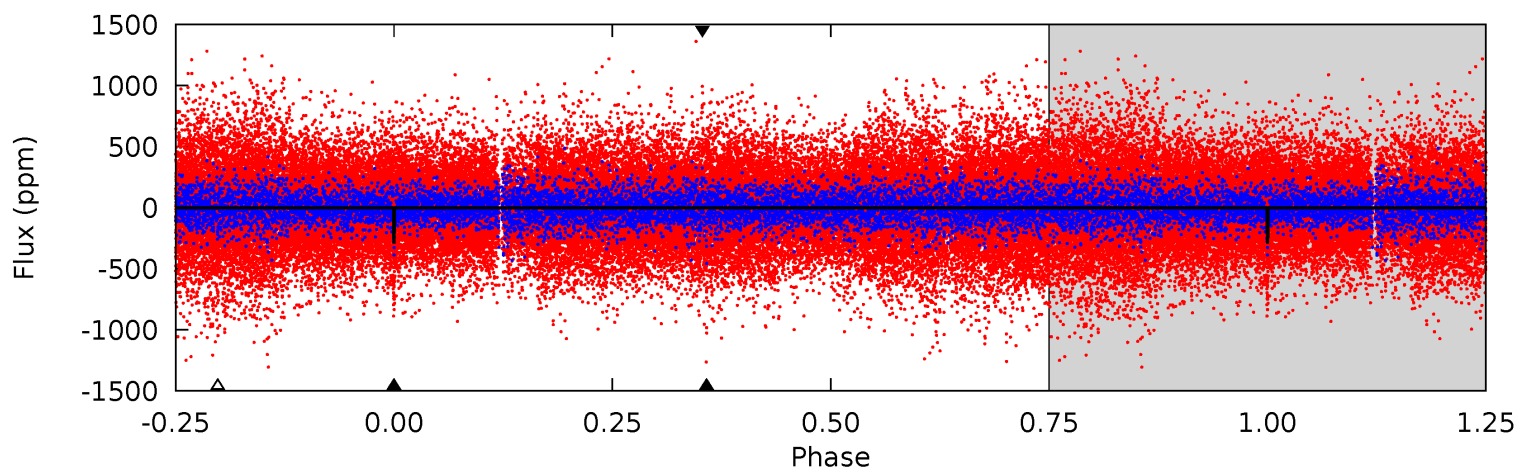
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.80	8.62	7.07	9.52	5.38	3.18	2.11	2.72	0.28	1.55	-0.89	0.25	0.97	0.49	1.99



# Alt Model-Shift Uniqueness Test

009899809-01, P = 374.009071 Days, E = 305.221784 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
9.60	6.59	5.10	6.09	5.41	3.23	1.26	4.49	3.50	1.49	0.50	0.26	1.01	0.39	0.00



### Stellar Parameters For KIC 009899809

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6454^{+155}_{-214}$	$4.231^{+0.153}_{-0.187}$	$-0.120^{+0.250}_{-0.300}$	$1.391^{+0.439}_{-0.293}$	$1.201^{+0.192}_{-0.174}$	$0.628^{+0.490}_{-0.320}$
	+2%/-3%	+4%/-4%	+208%/-250%	+32%/-21%	+16%/-14%	+78%/-51%
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 009899809-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-255 \pm 30$	$2.89^{+1.02}_{-0.88}$	$452^{+32}_{-27}$	$5895^{+1097}_{-669}$	$19685^{+18635}_{-9015}$
Alt.	$-196 \pm 30$	$2.78^{+0.96}_{-0.85}$	$451^{+33}_{-28}$	$5668^{+954}_{-687}$	$16345^{+16026}_{-7614}$

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

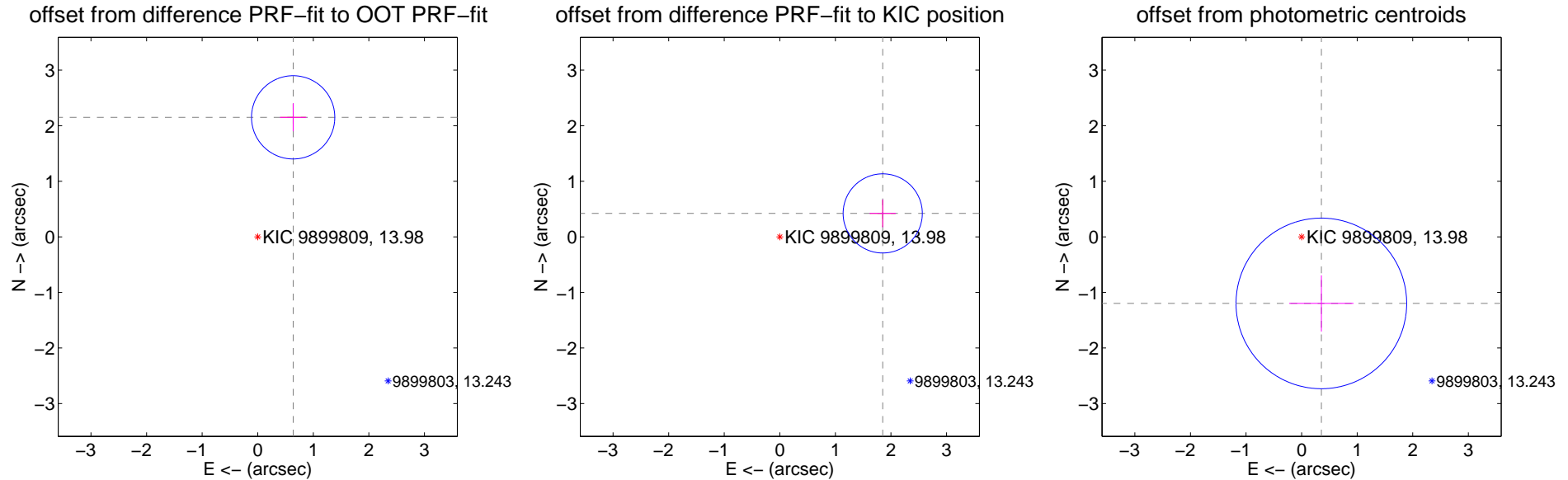
## DV Centroid Data

Supplemental centroid analysis for 009899809-01. Kepler magnitude: 13.98. Transit SNR 6.88

There are 0 quarters with good PRF difference image offsets

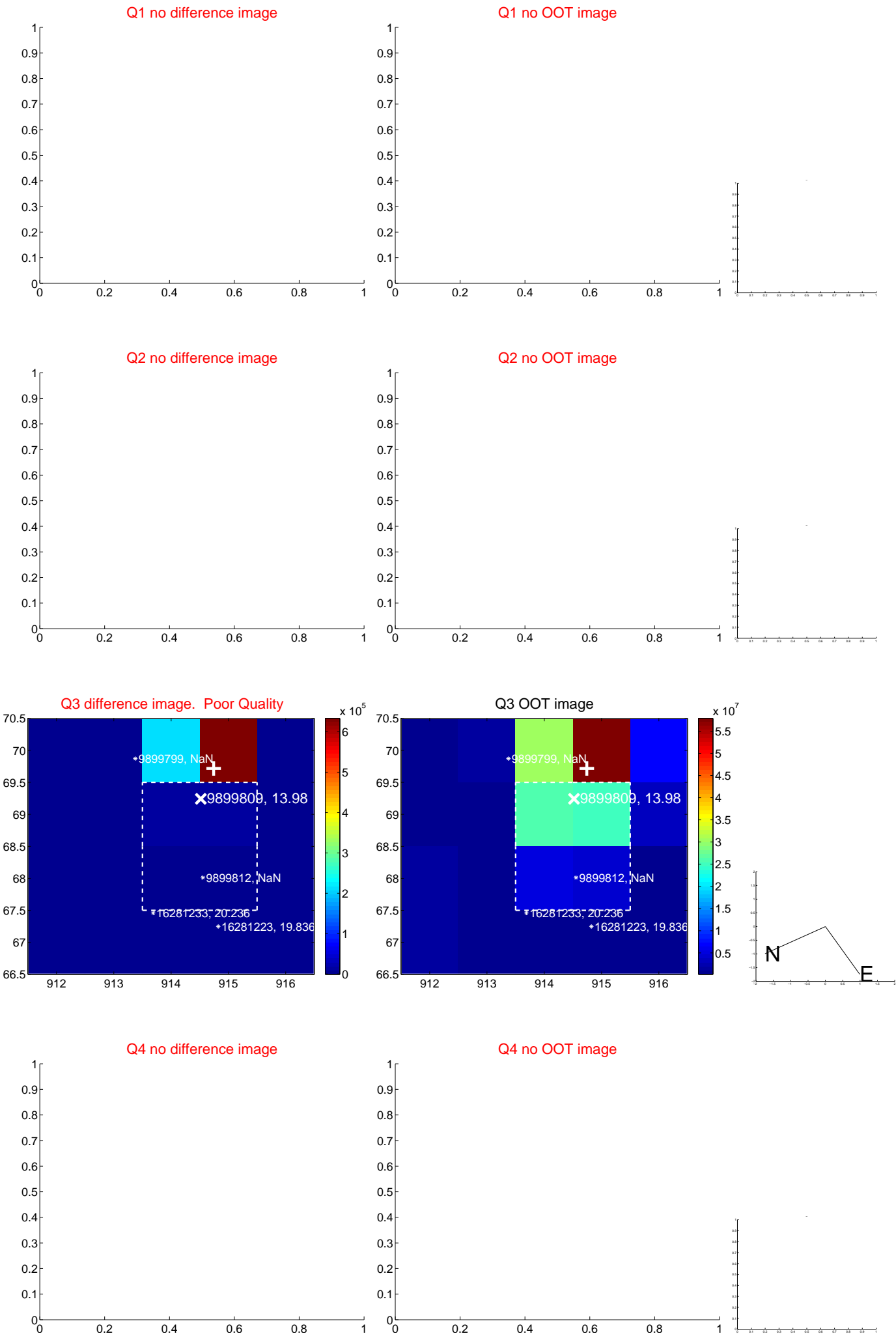
The OOT PRF centroid is offset from the target star catalog position by about 2.11 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.243 \pm 0.250$	8.98	$-0.637 \pm 0.237$	$2.150 \pm 0.251$
PRF-fit source offset from KIC position	$1.899 \pm 0.237$	8.00	$-1.851 \pm 0.237$	$0.422 \pm 0.251$
photometric centroid source offset	$1.25 \pm 0.51$	2.44	$-0.36 \pm 0.58$	$-1.20 \pm 0.51$



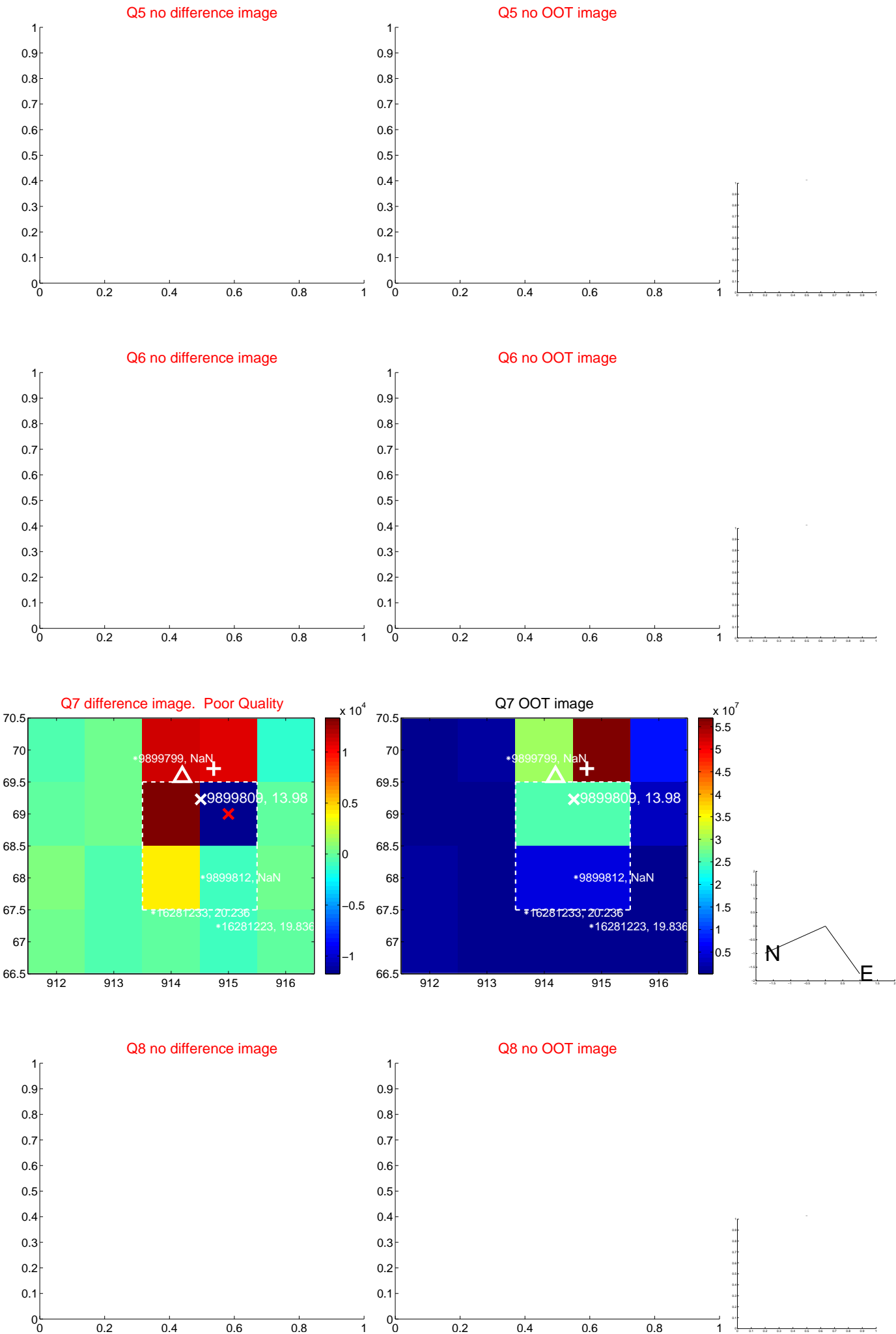
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

Q9 no difference image



Q9 no OOT image



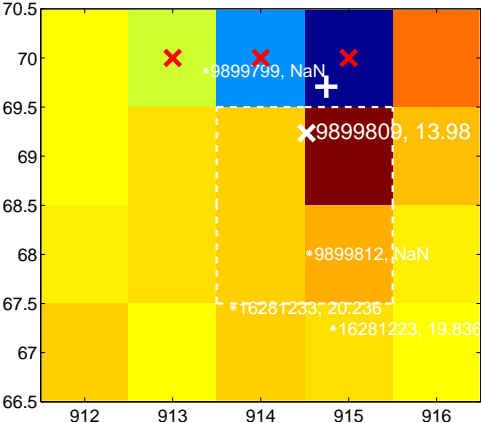
Q10 no difference image



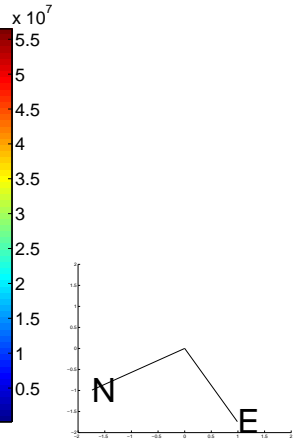
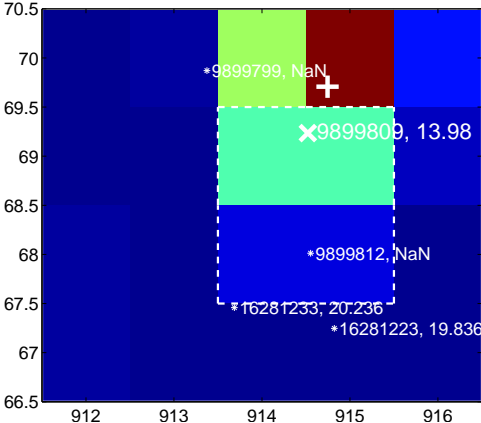
Q10 no OOT image



Q11 difference image. Poor Quality



Q11 OOT image



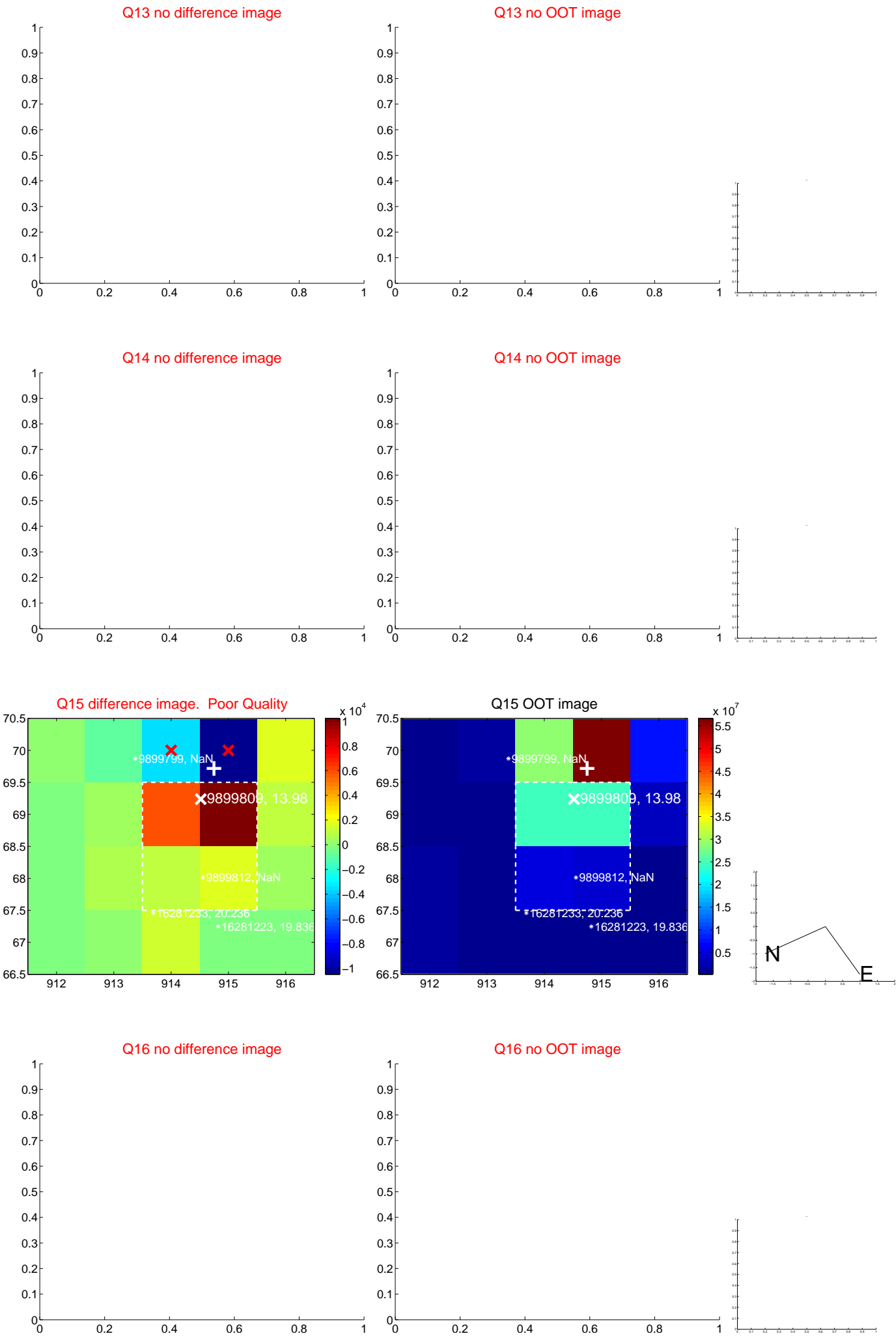
Q12 no difference image



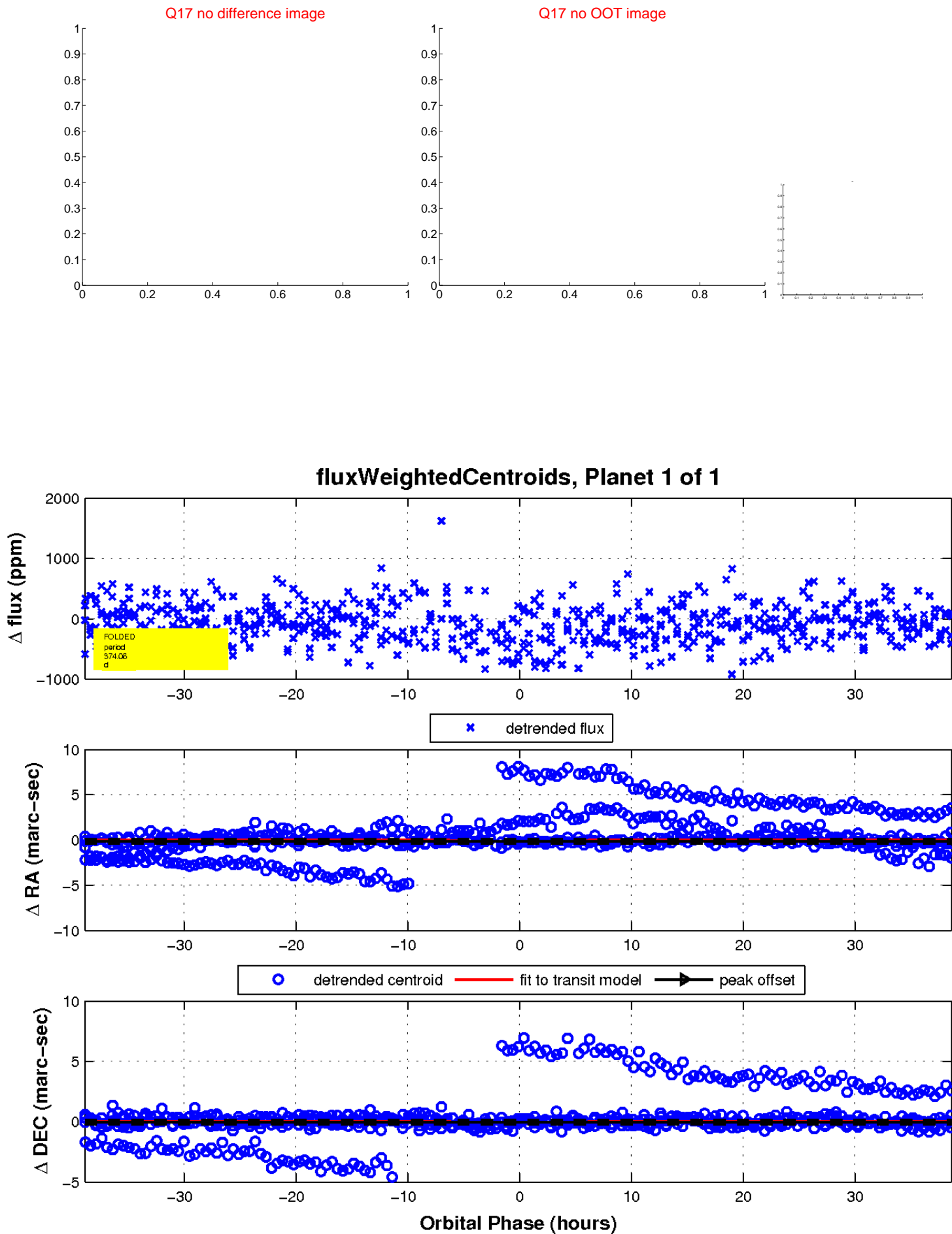
Q12 no OOT image



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.



UKIRT Image

