

# KIC 007955898

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007955898-01	OBS	No	2.251323	131.926161	120.7	18.982	9.9	8.9	2.49	8216	2.76	14752.06

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007955898-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—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.

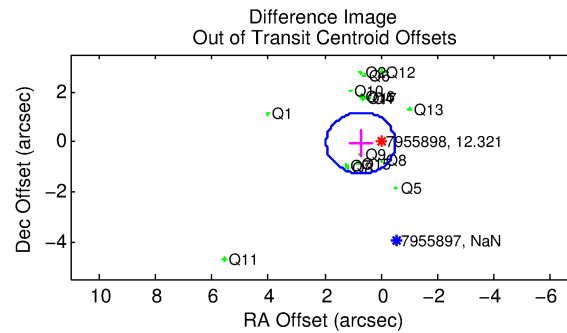
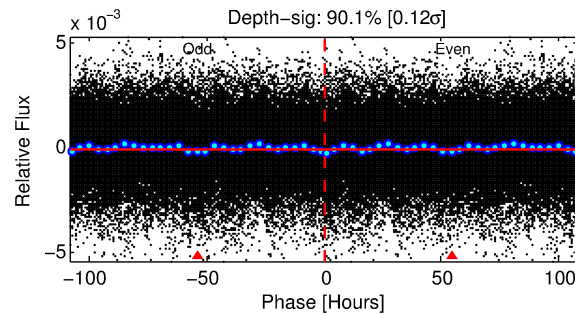
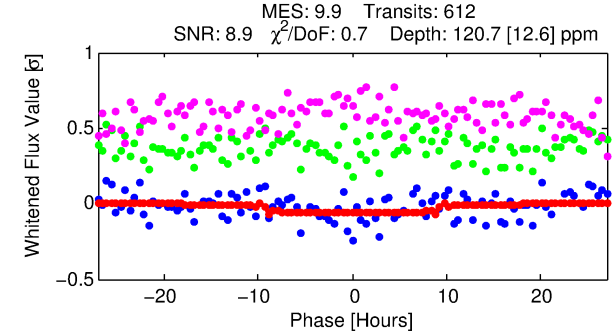
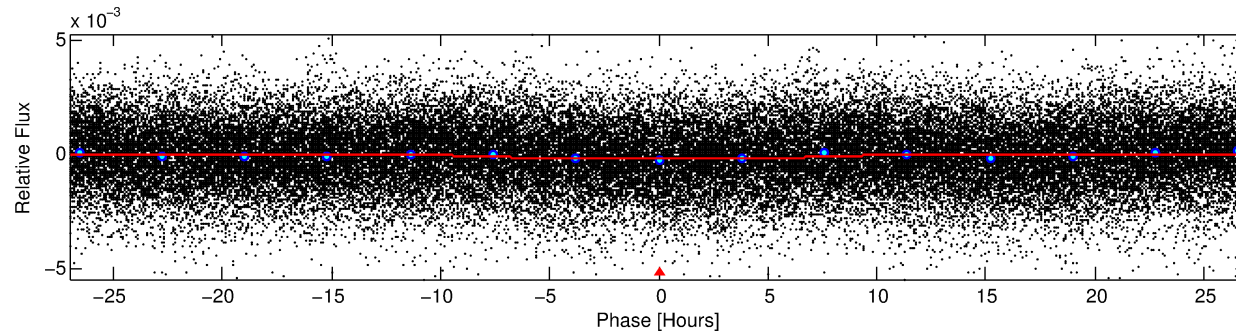
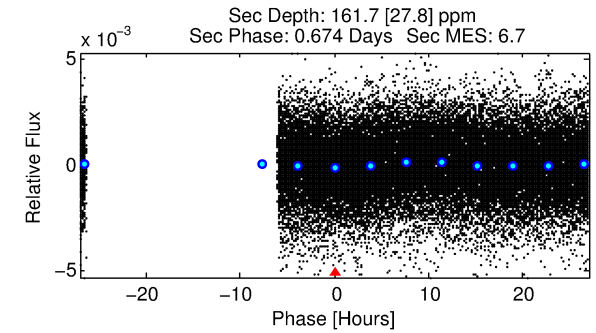
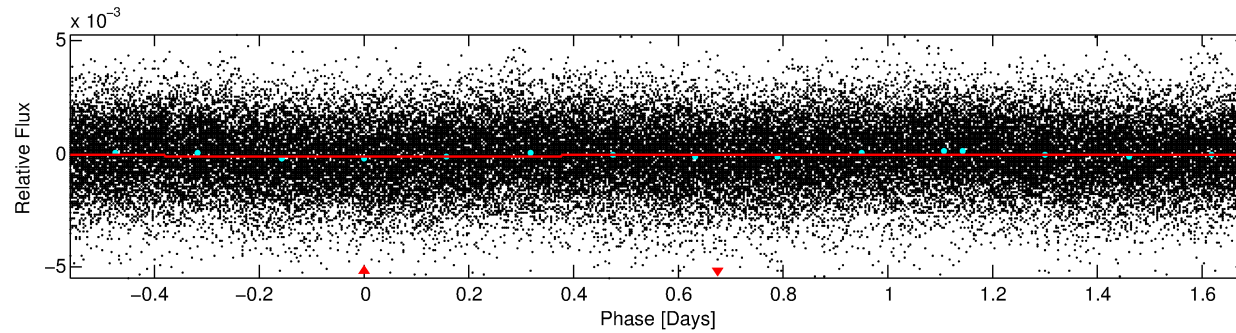
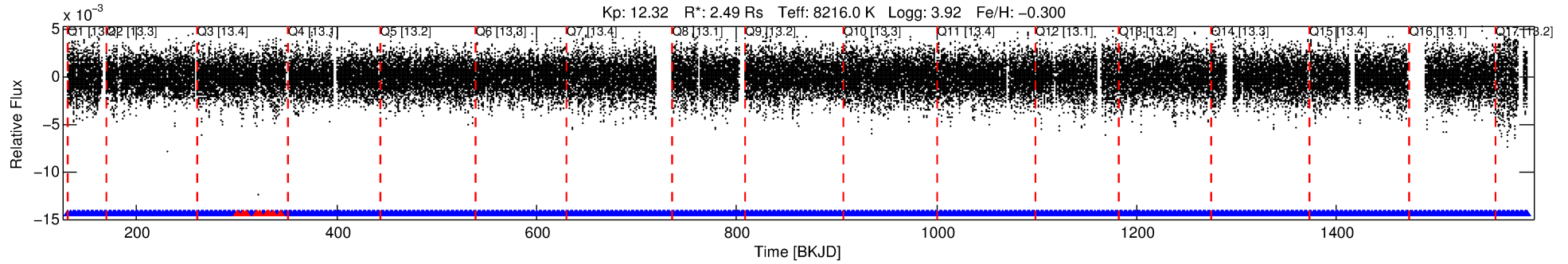
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007955898-01

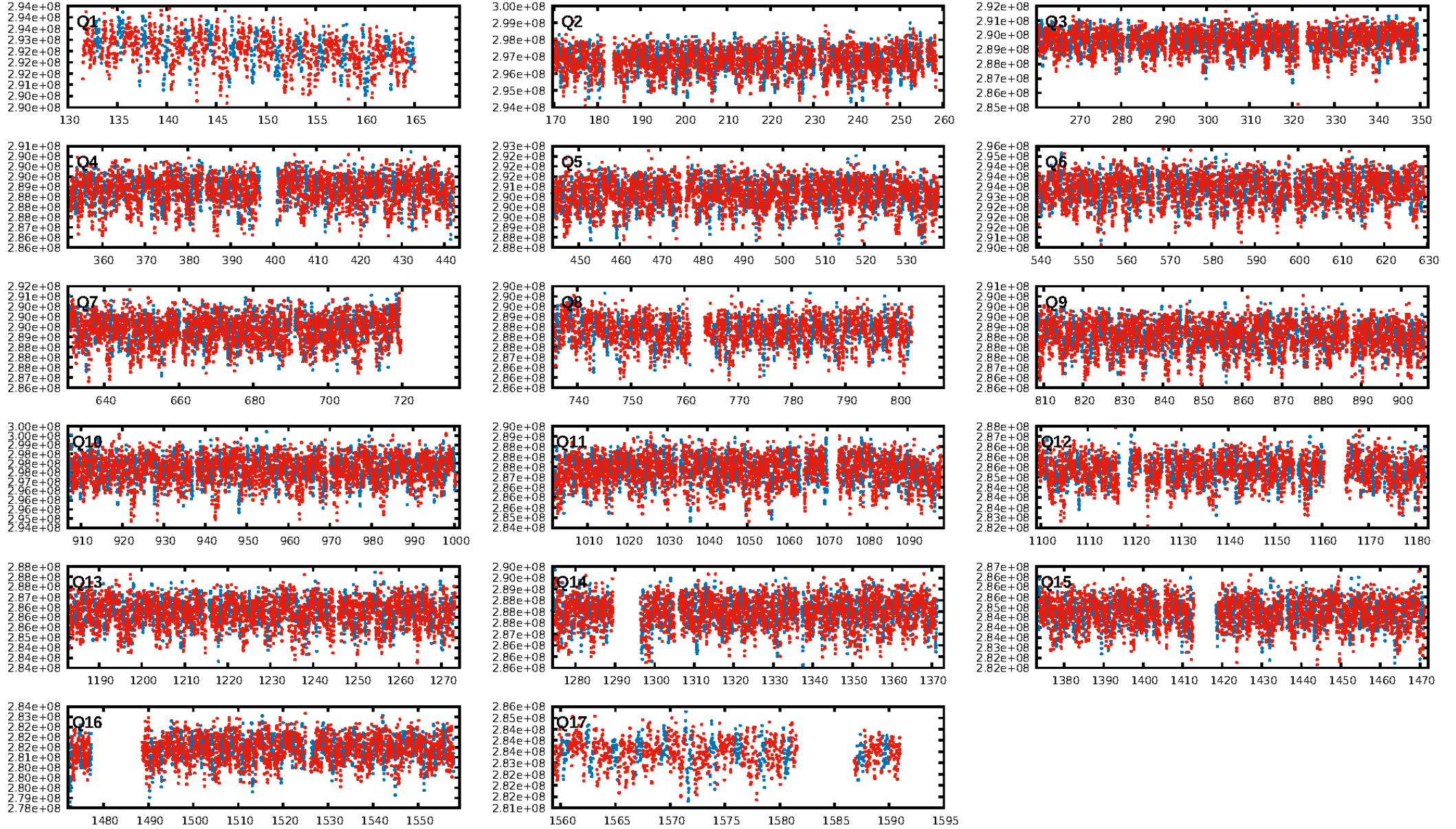
No Significant Match Found

# DV One-Page Summary

KIC: 7955898 Candidate: 1 of 1 Period: 2.251 d

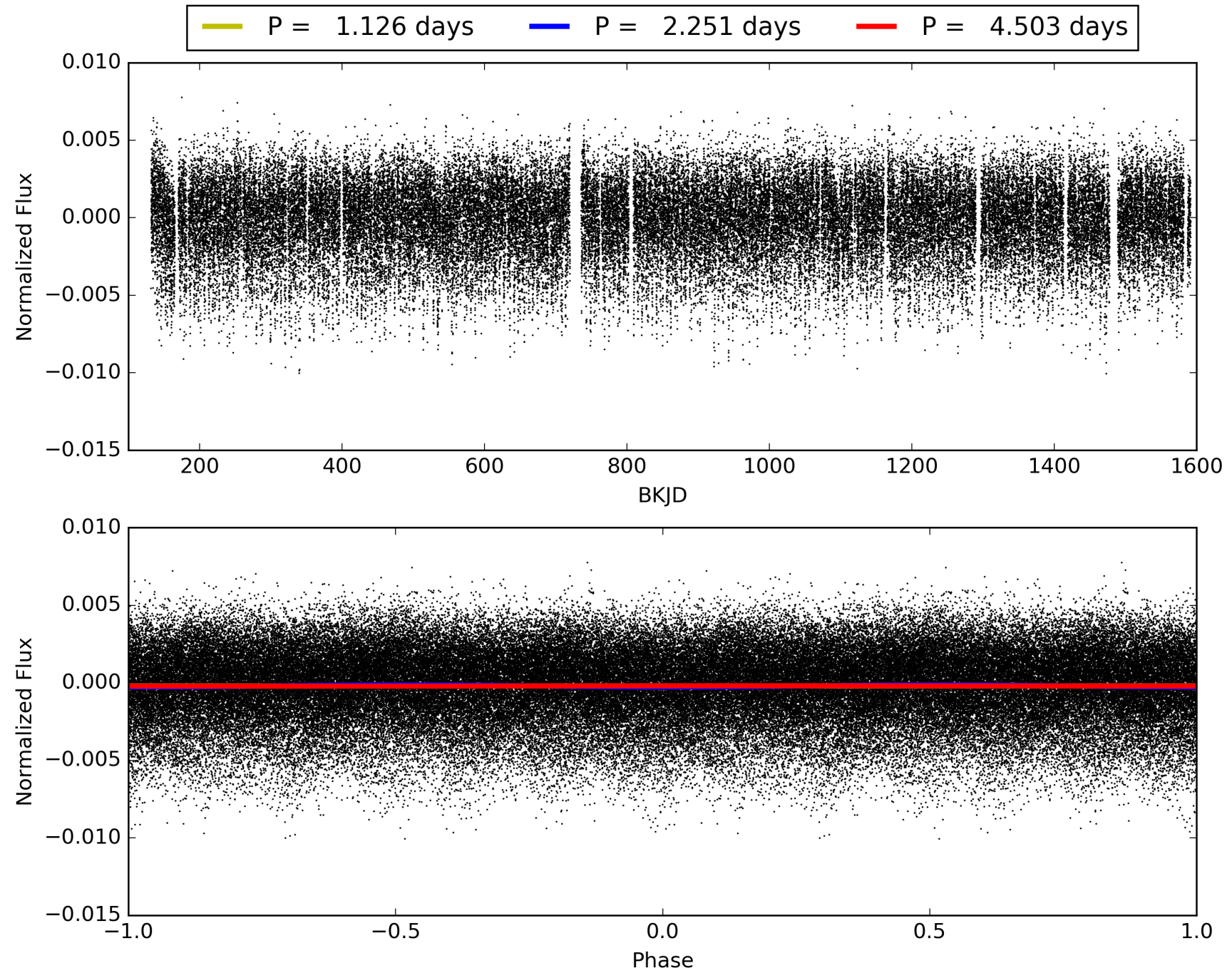


# TCE 007955898-01, PDC Light Curves



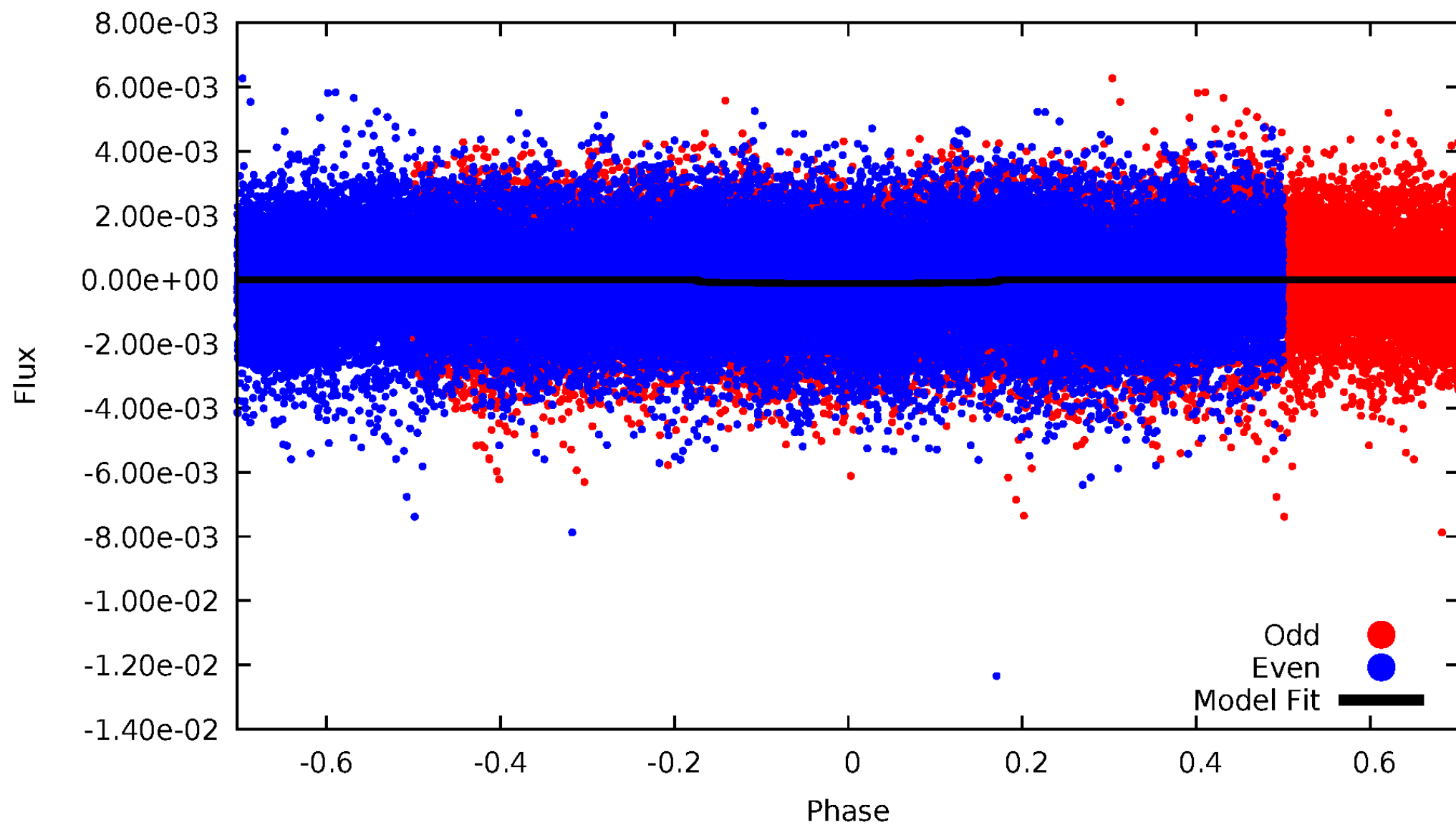


TCE 007955898-01



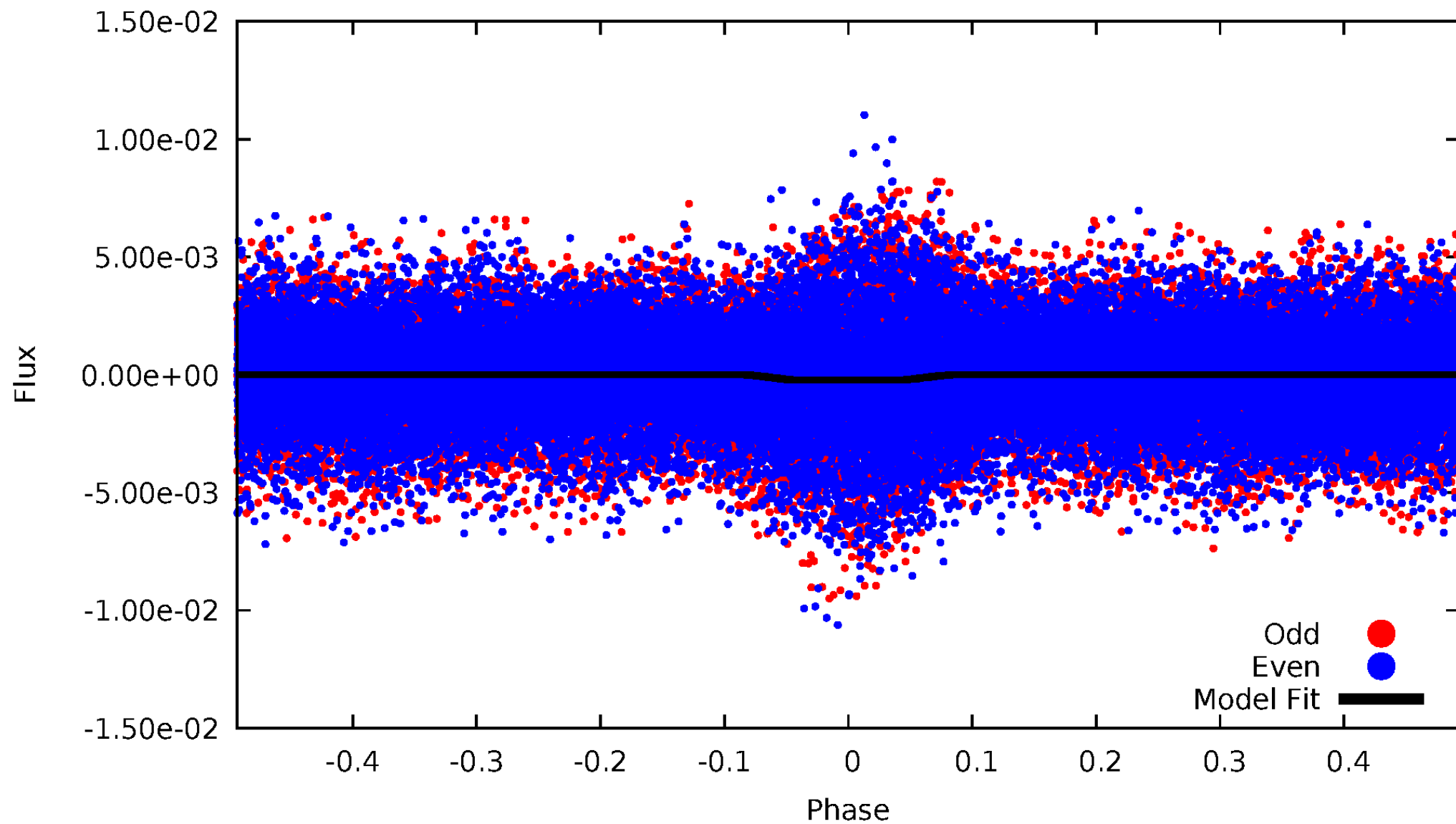
# DV Odd/Even

TCE 007955898-01



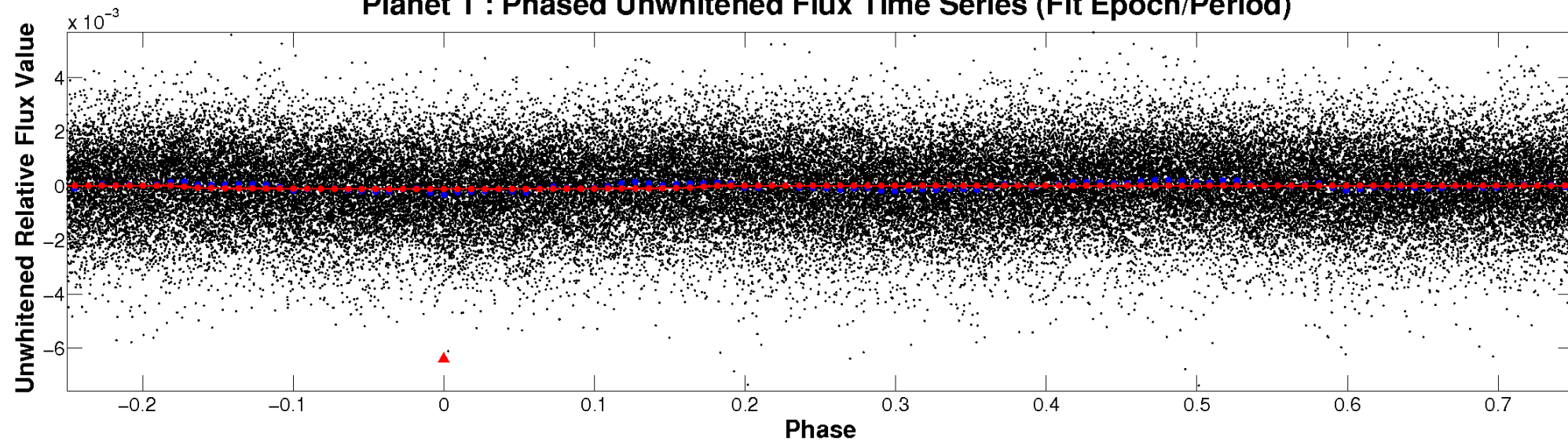
# ALT Odd/Even

TCE 007955898-01

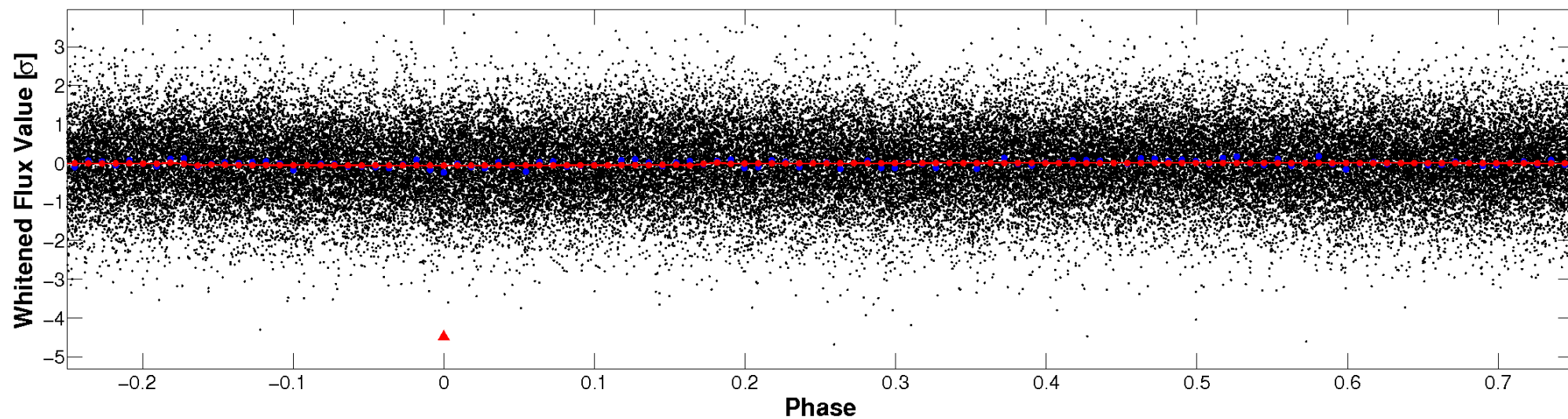


# Non-Whitened Vs. Whitened Light Curve

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



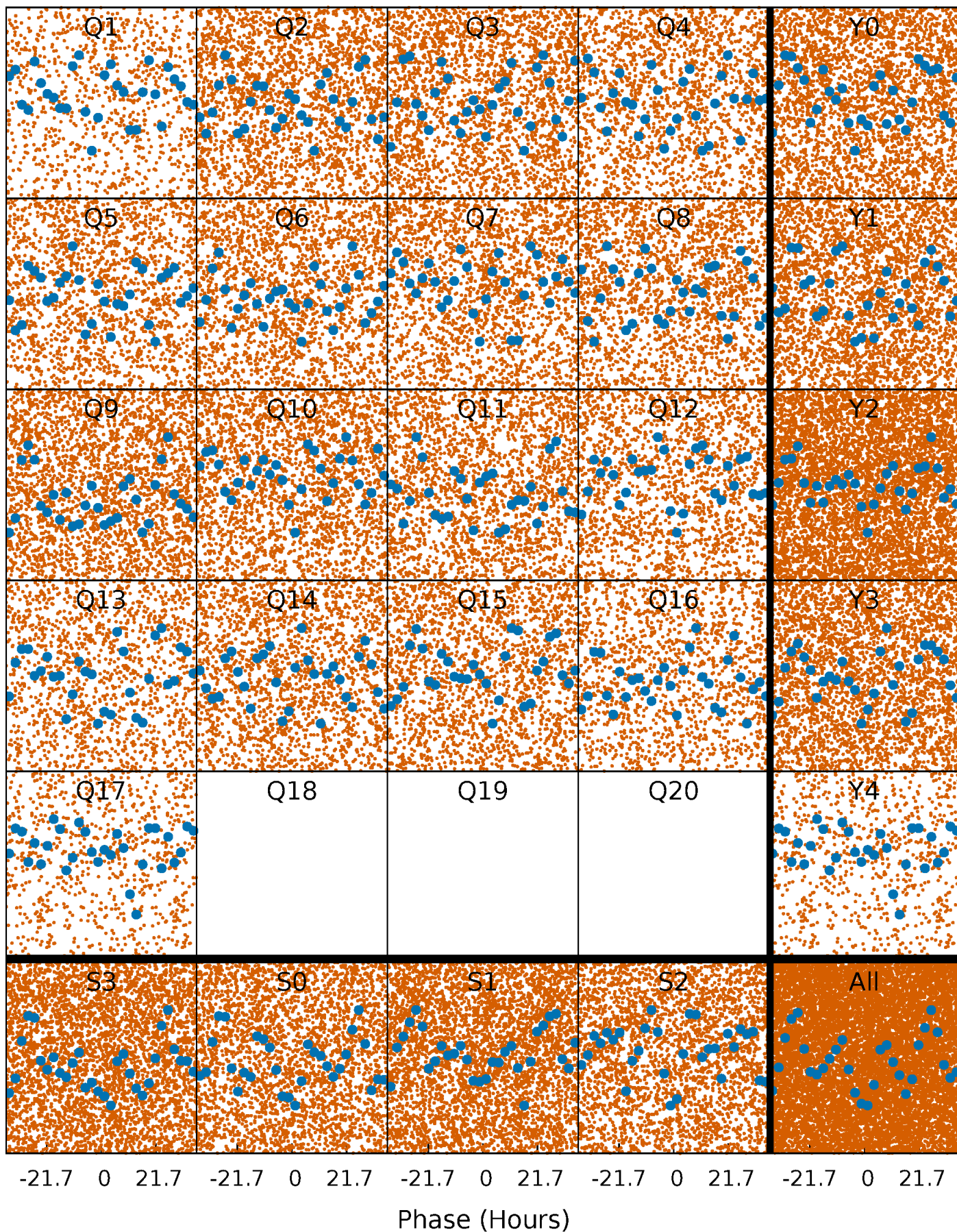
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

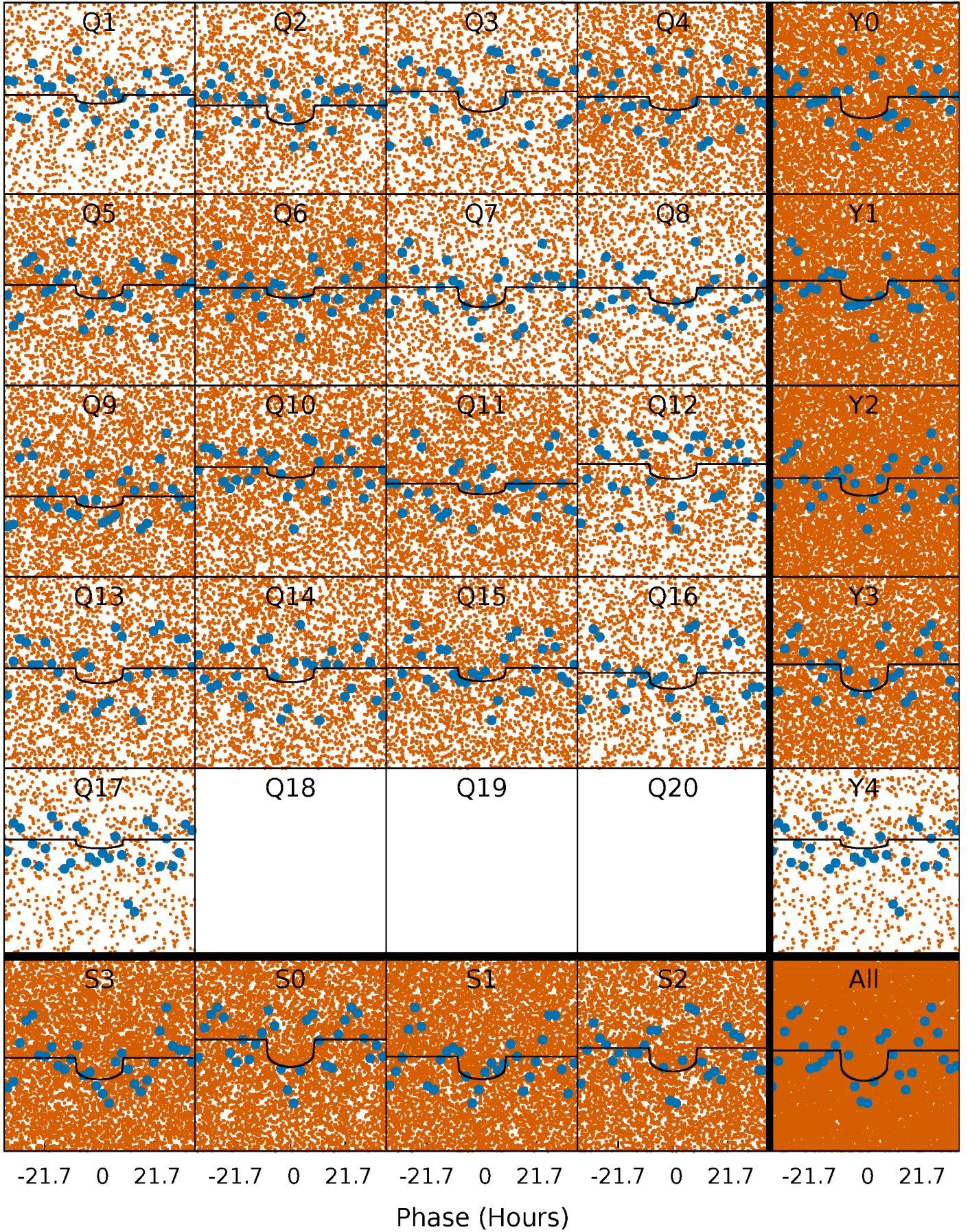
TCE 007955898-01 P= 2.251323 Days  $T_0=131.926161$  (BKJD)





# DV Quarter-Phased Transit Curves

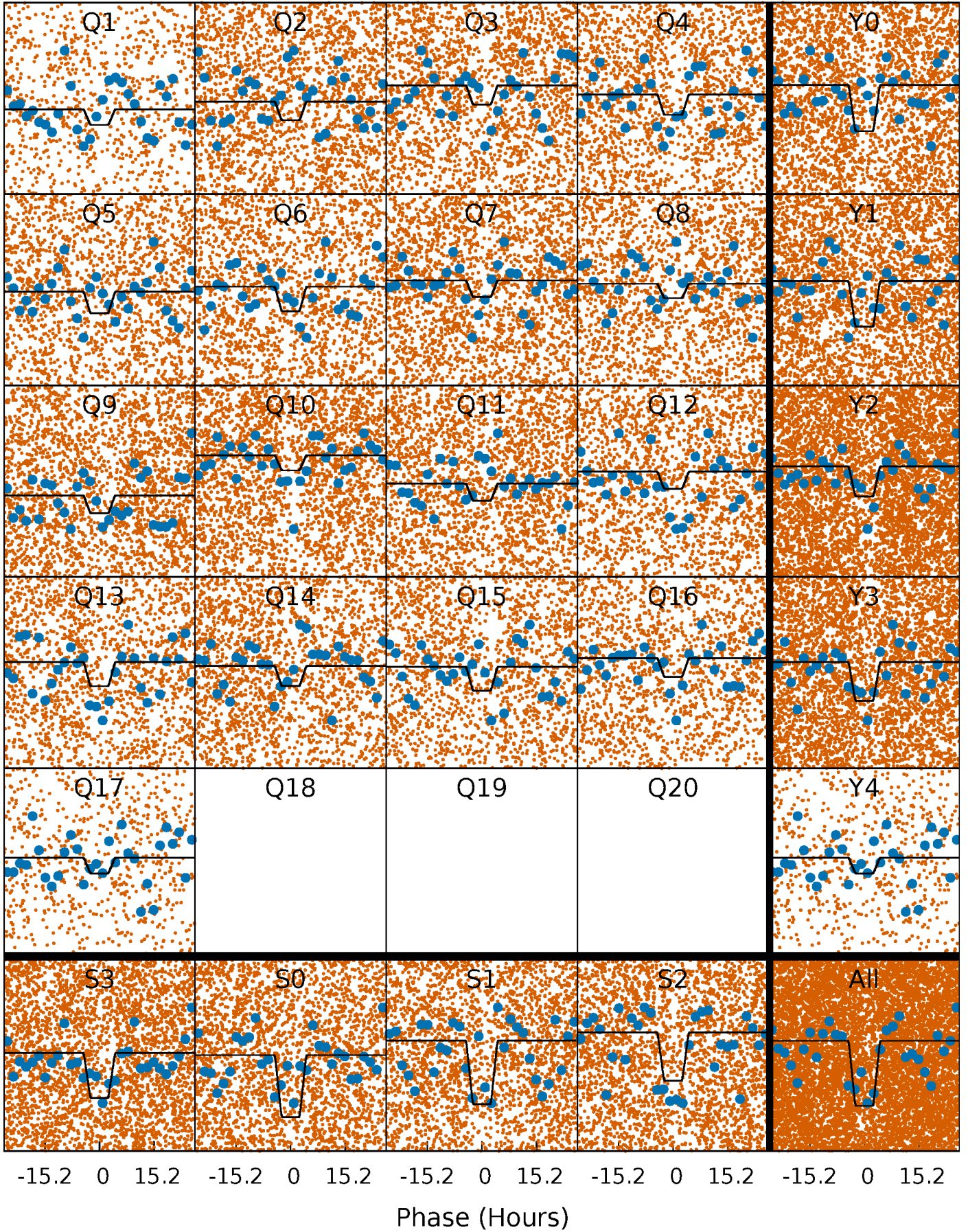
TCE 007955898-01 P= 2.251323 Days  $T_0=131.926161$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

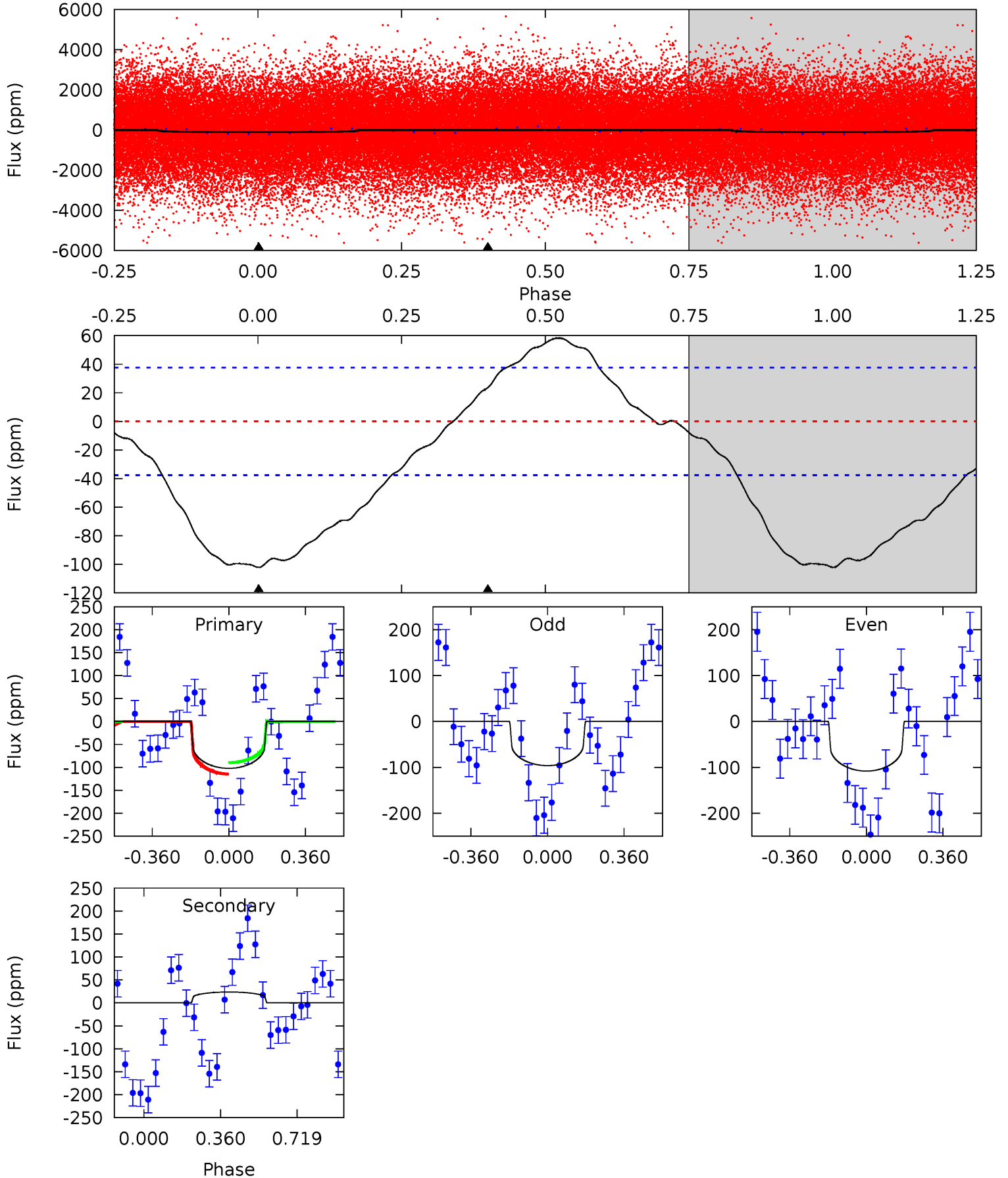
TCE 007955898-01 P= 2.251368 Days  $T_0=131.907093$  (BKJD)



# DV Model-Shift Uniqueness Test

007955898-01, P = 2.251323 Days, E = 129.674838 Days

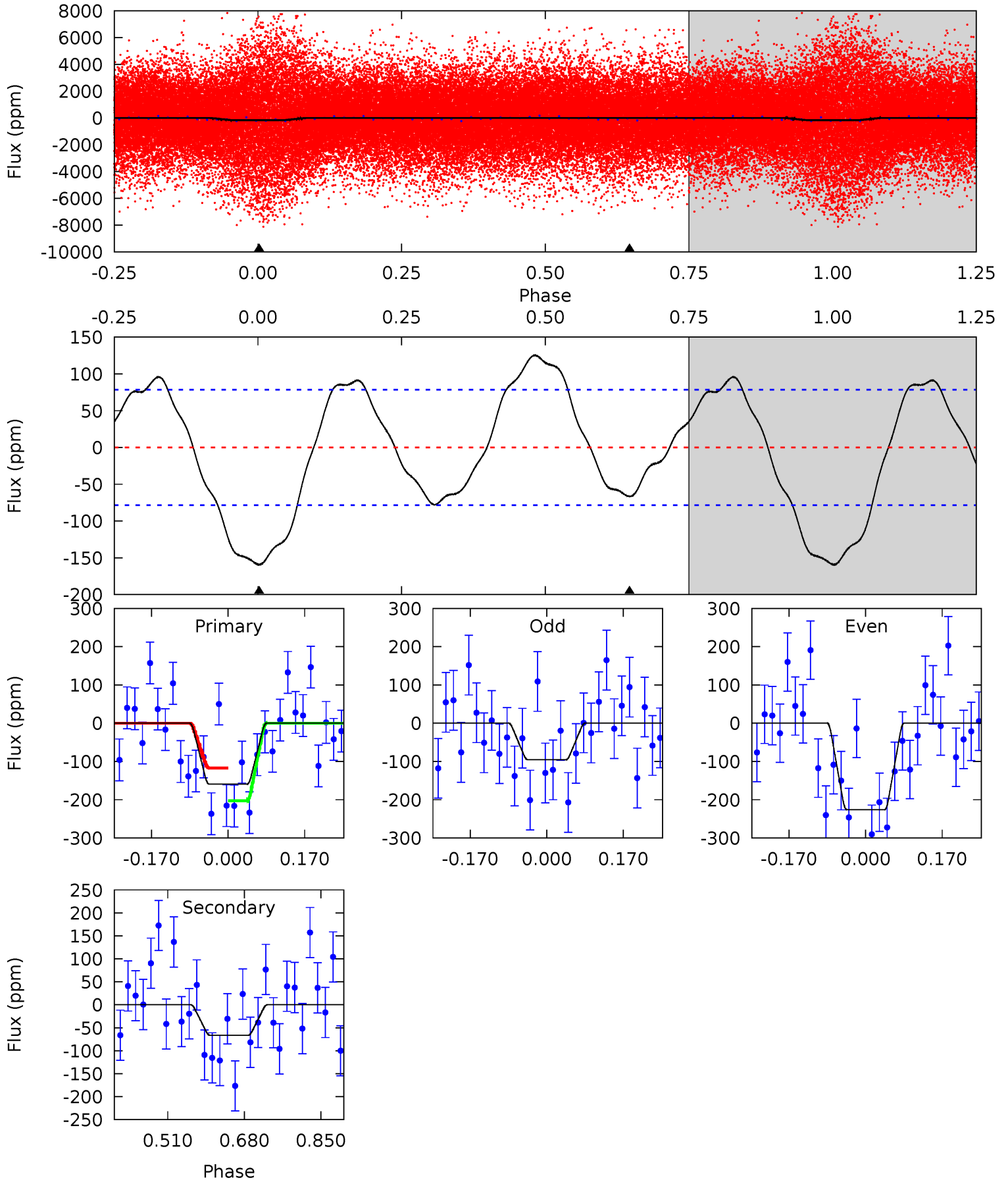
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	-2.70	0	0	4.29	0.92	0.57	11.7	11.7	-2.70	-2.70	0.66	1.22	0.36	1.37



# Alt Model-Shift Uniqueness Test

007955898-01, P = 2.251368 Days, E = 129.655725 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
9.04	3.78	0	0	4.45	1.37	3.59	9.04	9.04	3.78	3.78	3.68	1.01	0.44	2.38





### Stellar Parameters For KIC 007955898

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$8216^{+74}_{-82}$	$3.917^{+0.182}_{-0.065}$	$-0.300^{+0.100}_{-0.150}$	$2.488^{+0.208}_{-0.625}$	$1.865^{+0.013}_{-0.232}$	$0.171^{+0.172}_{-0.035}$
	+1%/-1%	+5%/-2%	+33%/-50%	+8%/-25%	+1%/-12%	+101%/-21%
Source	SPE68	SPE68	SPE68	DSEP		

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

### Secondary Eclipse Parameters for KIC 007955898-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$24 \pm 9$	$2.57^{+0.87}_{-0.83}$	$3906^{+116}_{-230}$	$-5664^{+747}_{-1285}$	$-3.137^{+1.647}_{-4.488}$
Alt.	$-67 \pm 18$	$3.82^{+1.02}_{-0.87}$	$3911^{+113}_{-223}$	$5769^{+919}_{-634}$	$4.129^{+3.023}_{-1.695}$

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

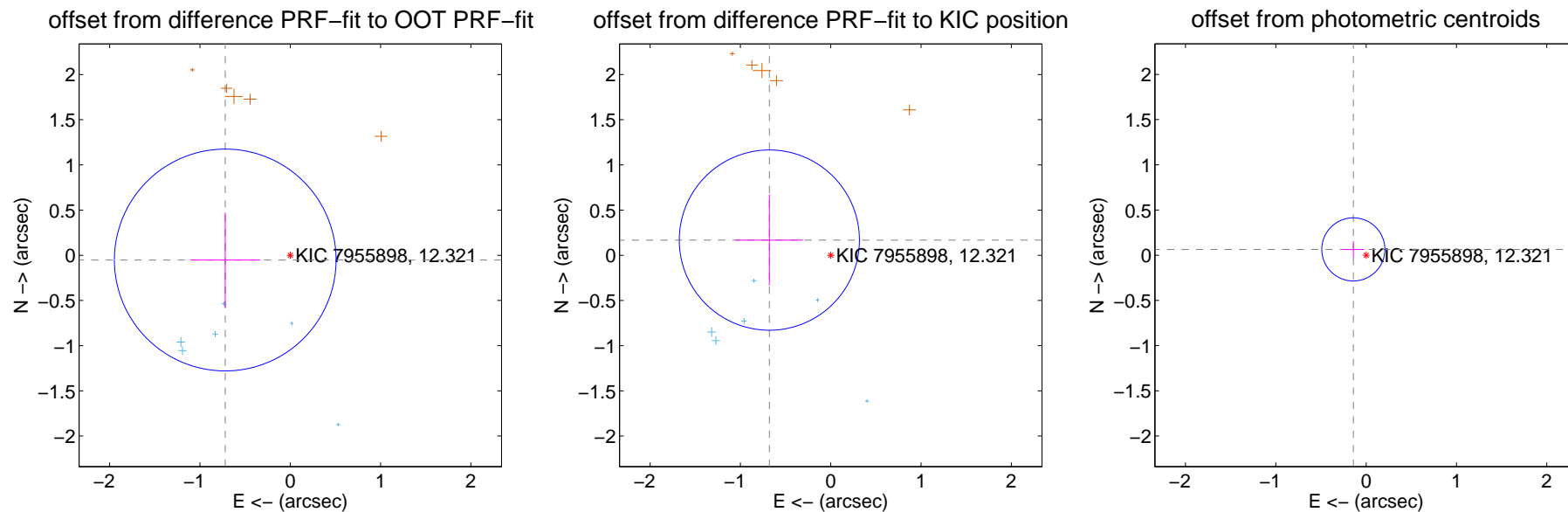
## DV Centroid Data

Supplemental centroid analysis for 007955898-01. Kepler magnitude: 12.32. Transit SNR 8.95

There are 6 quarters with good PRF difference image offsets

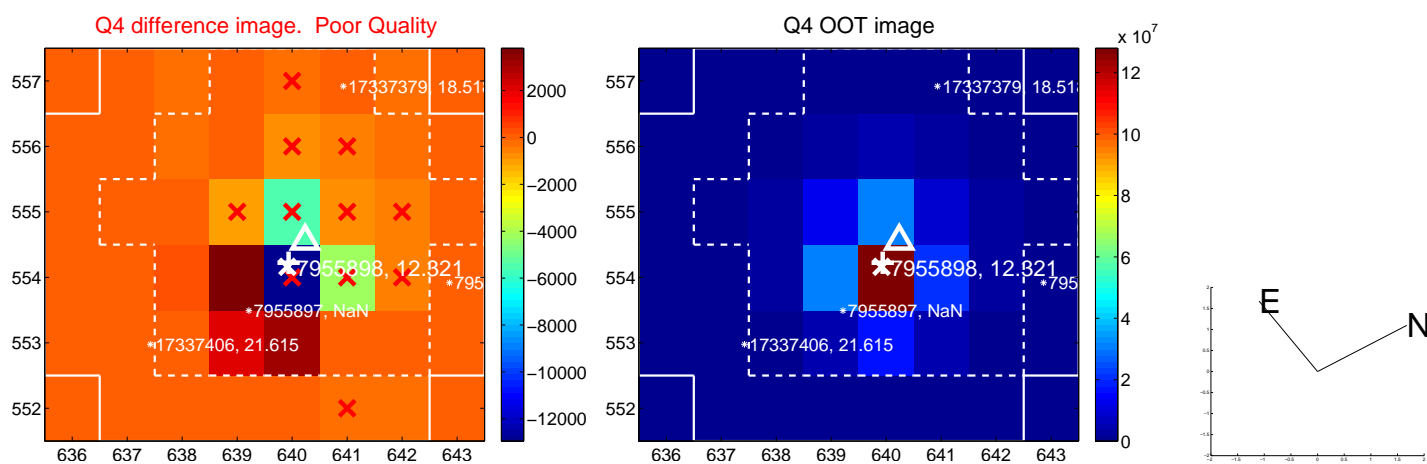
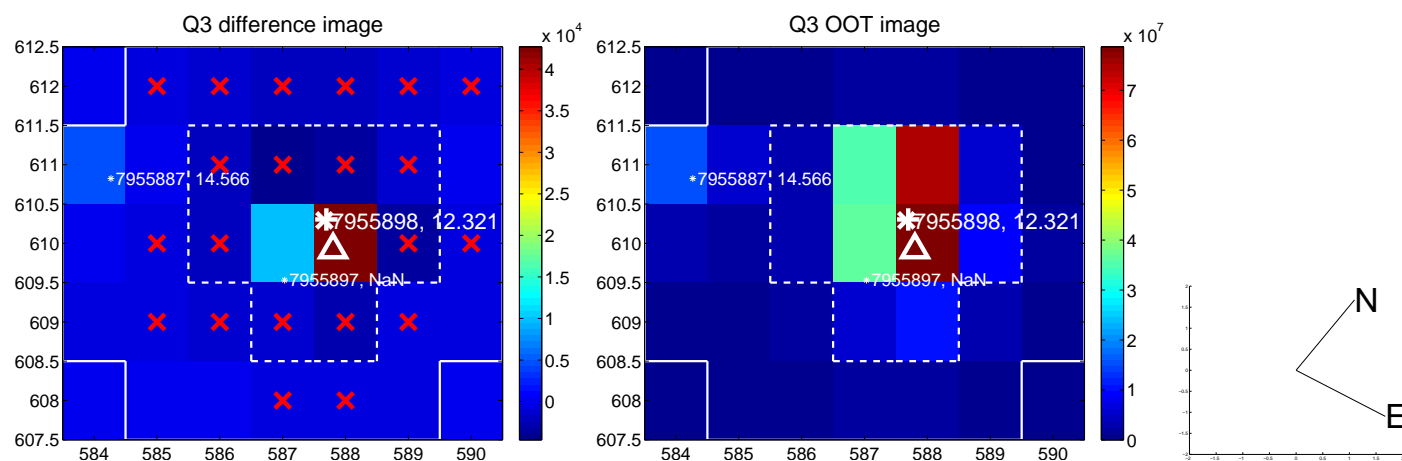
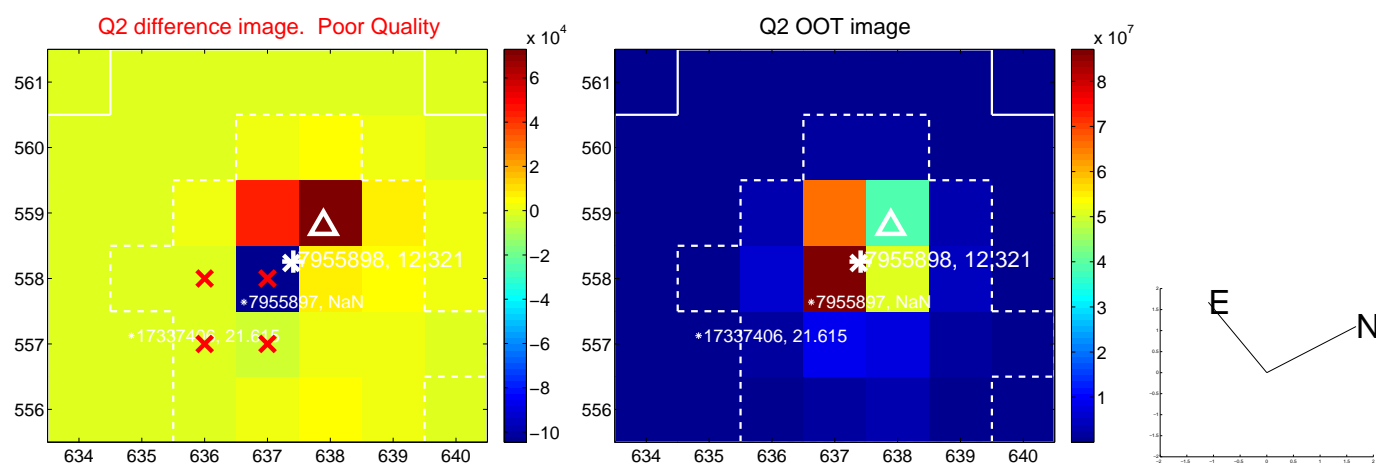
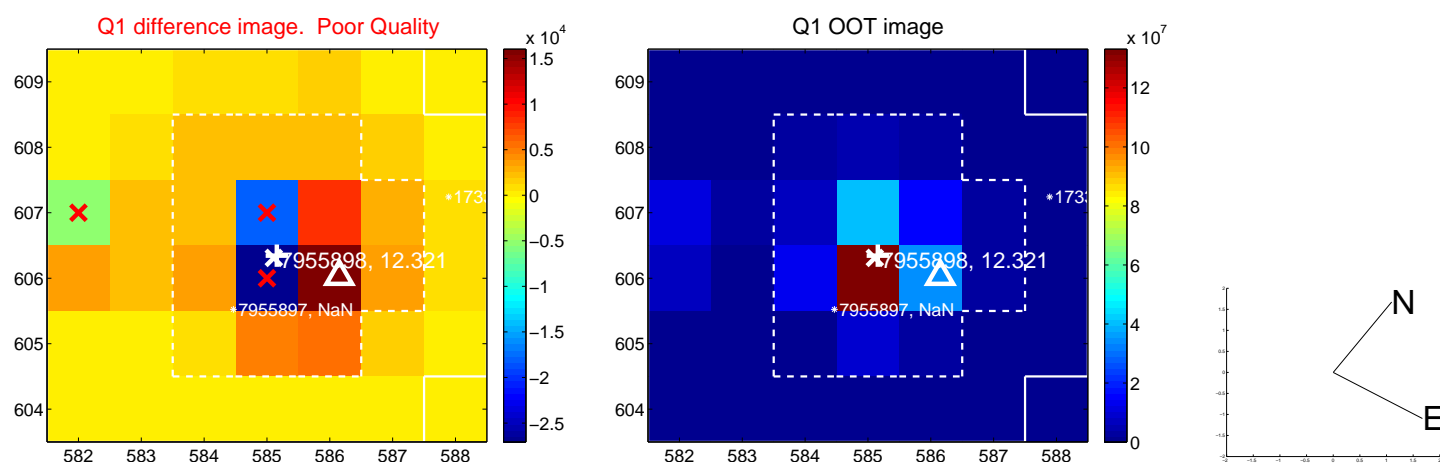
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.722 \pm 0.409$	1.76	$0.720 \pm 0.389$	$-0.052 \pm 0.525$
PRF-fit source offset from KIC position	$0.700 \pm 0.332$	2.11	$0.680 \pm 0.374$	$0.168 \pm 0.503$
photometric centroid source offset	$0.16 \pm 0.12$	1.34	$0.14 \pm 0.12$	$0.06 \pm 0.09$

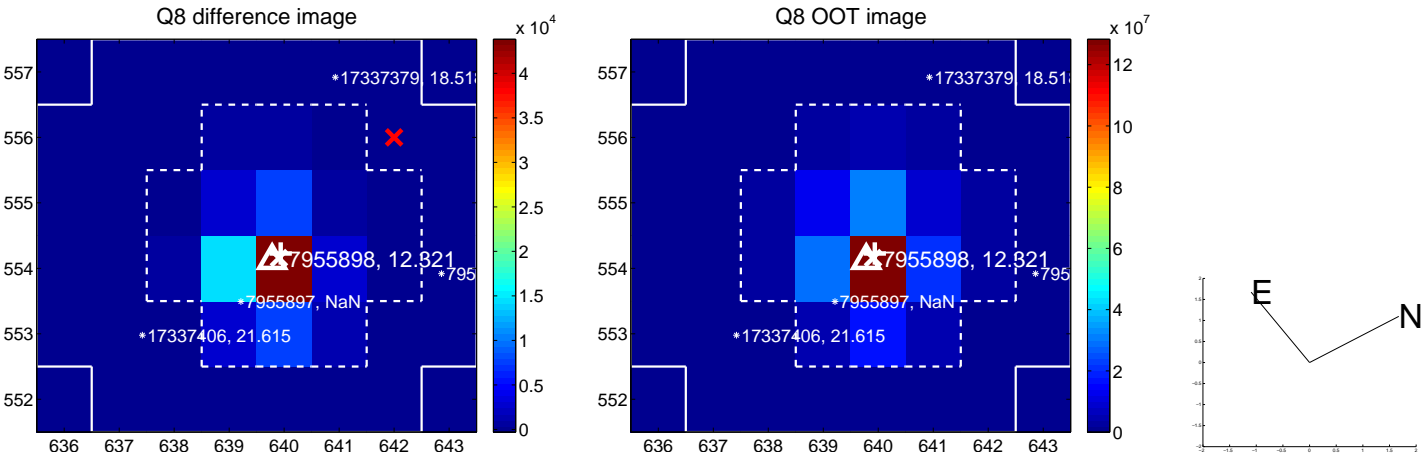
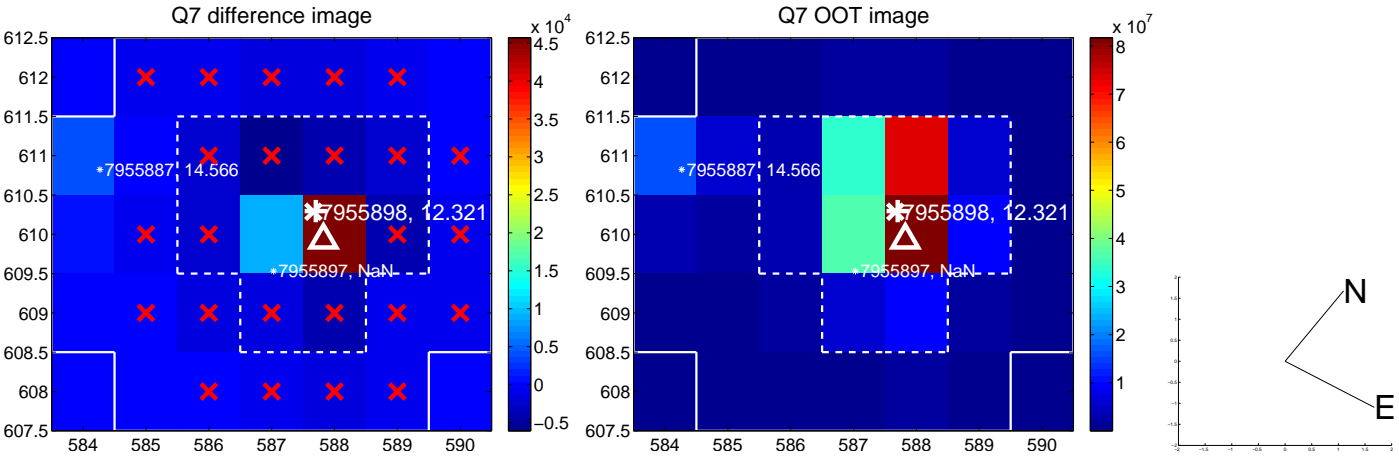
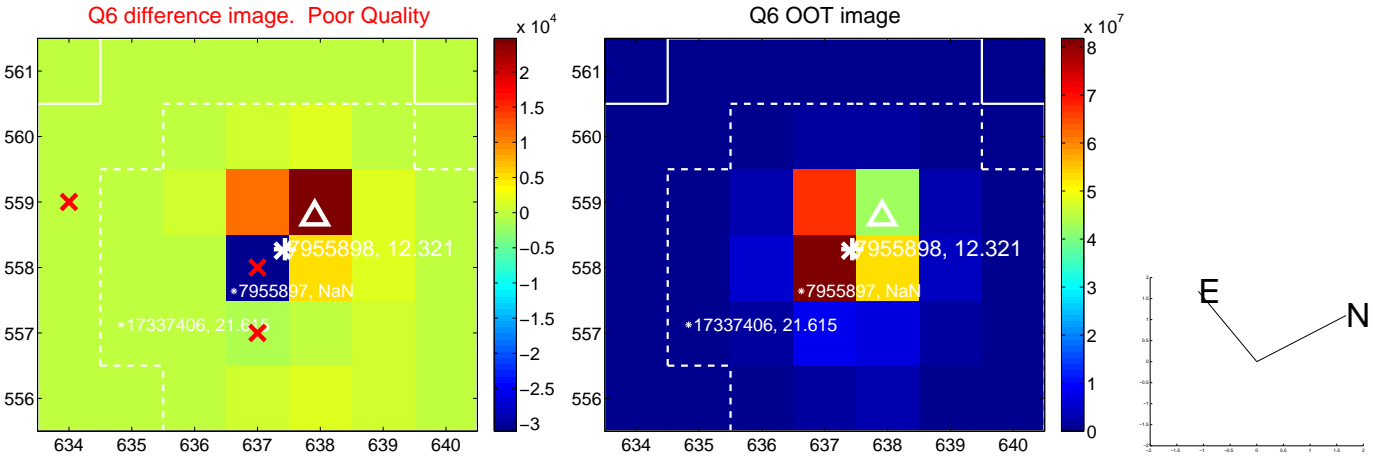
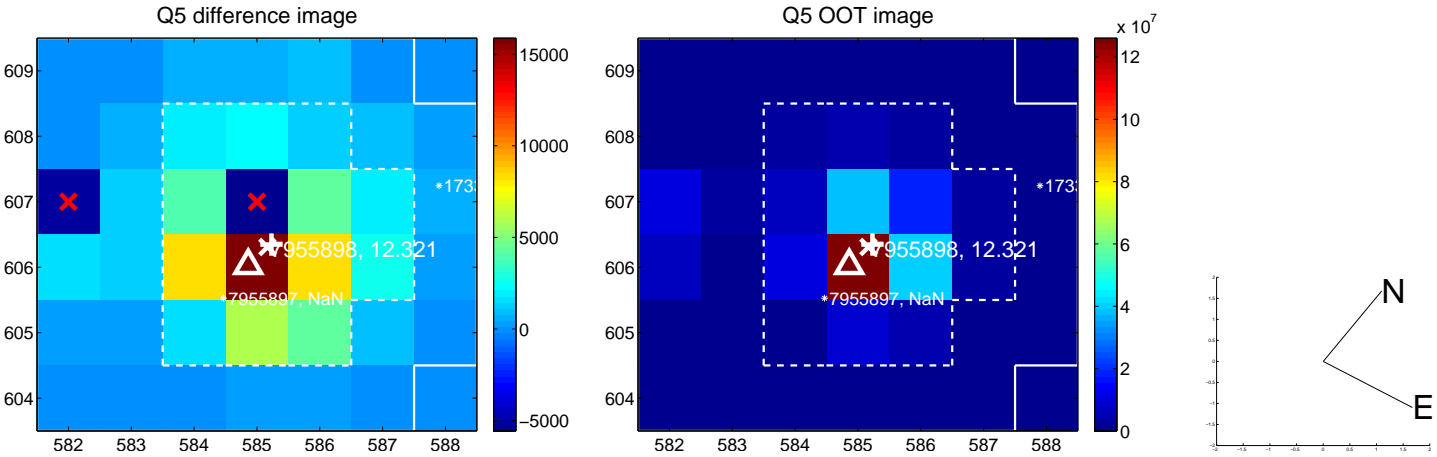


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

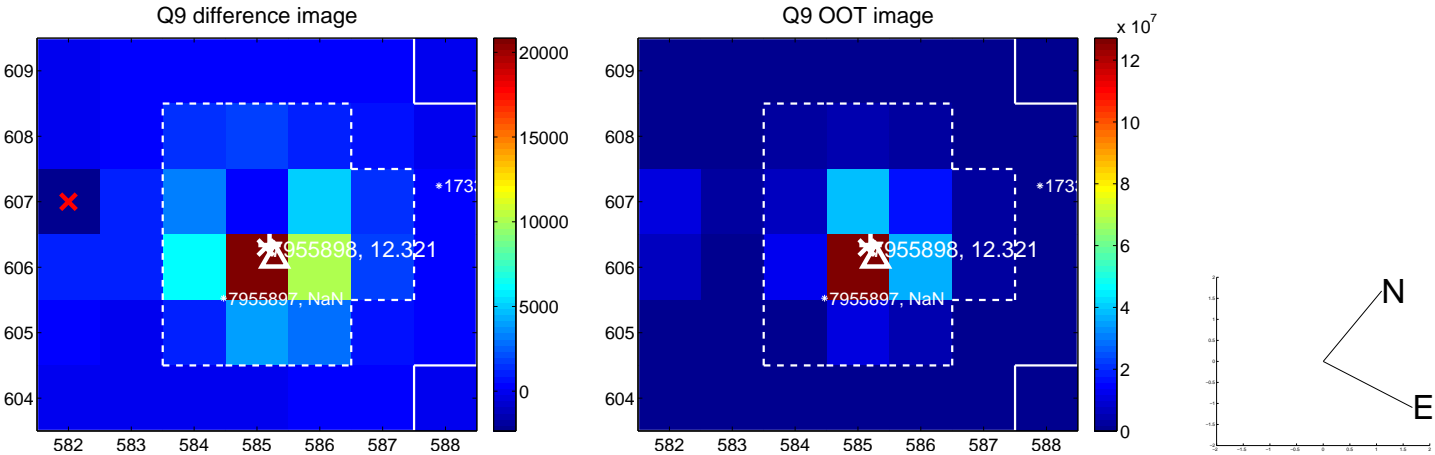


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

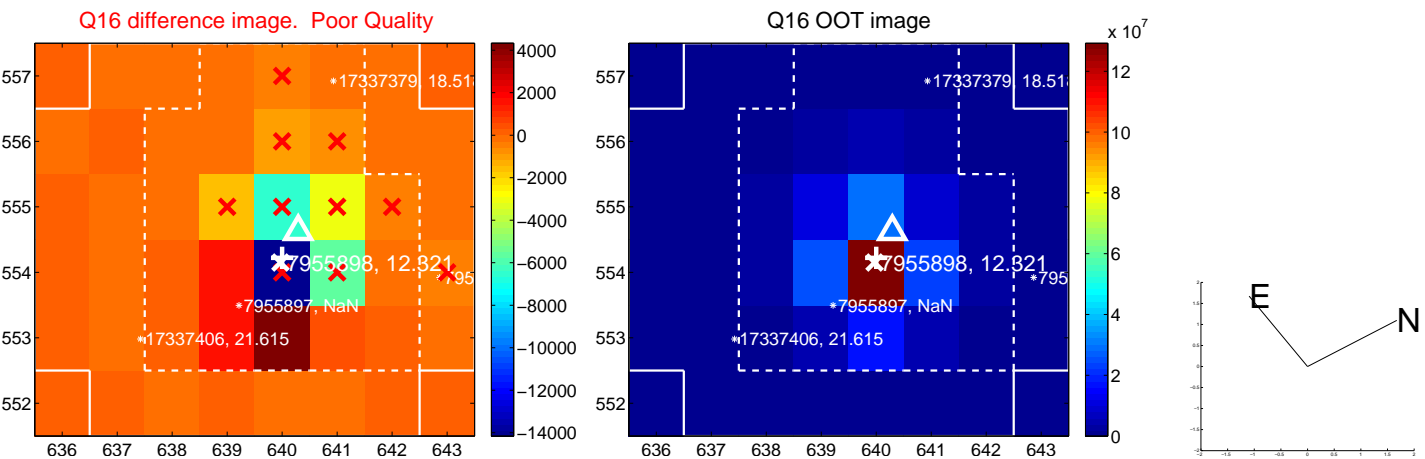
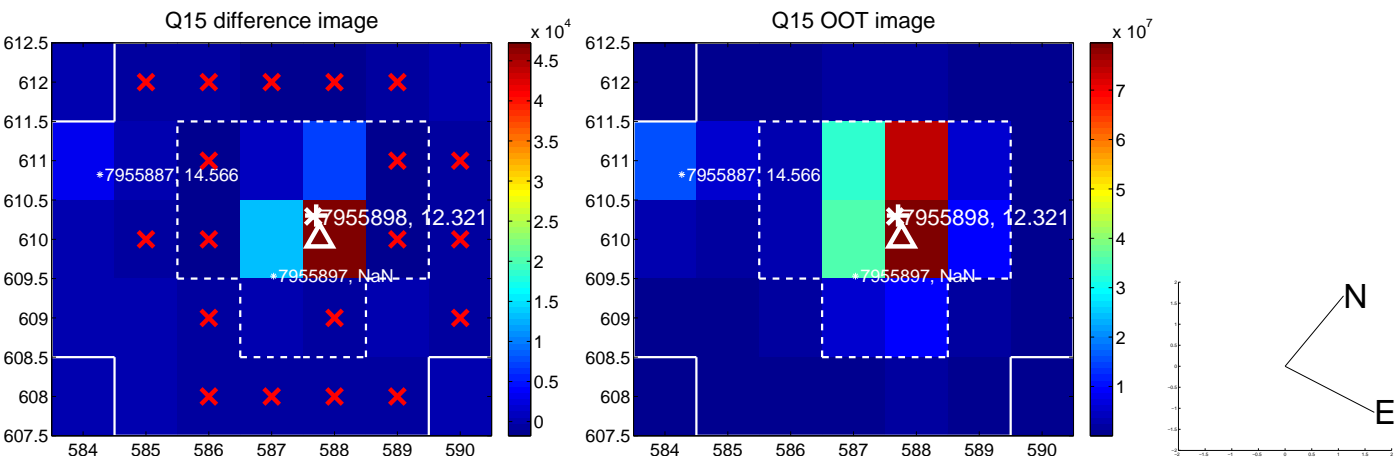
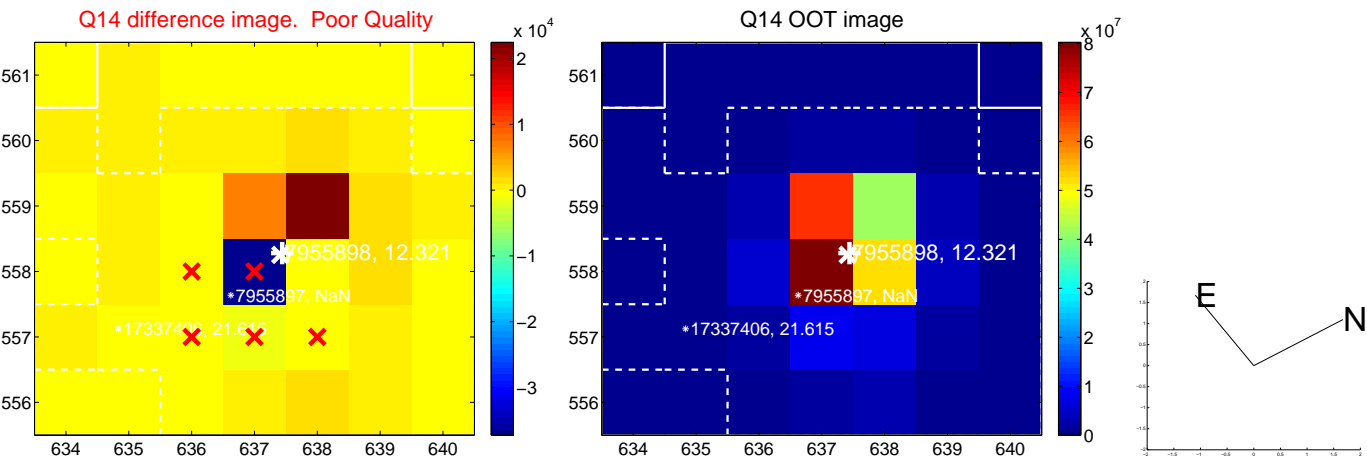
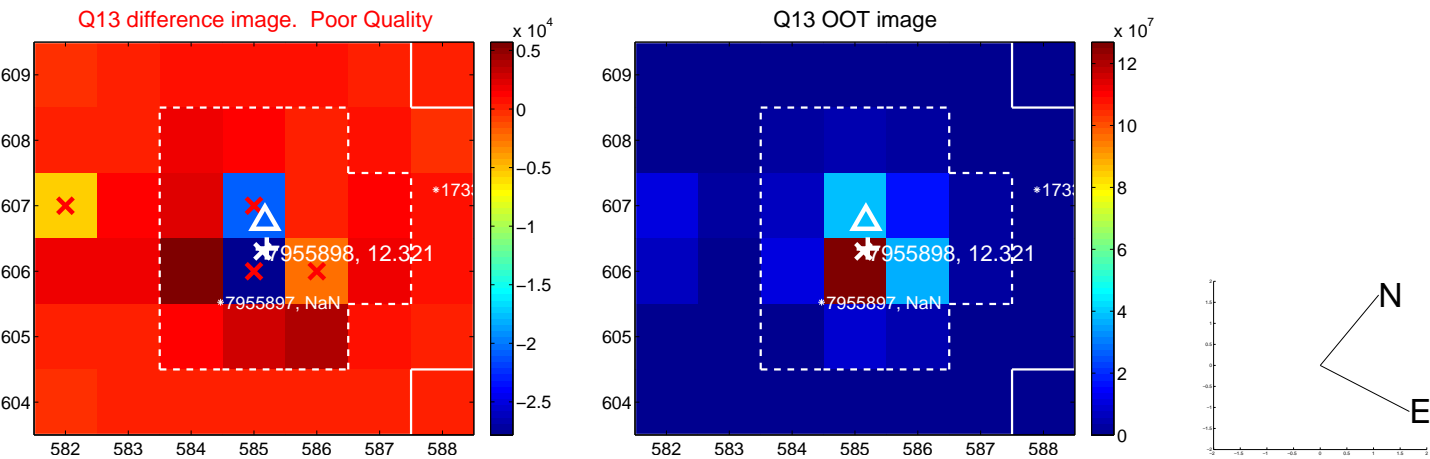




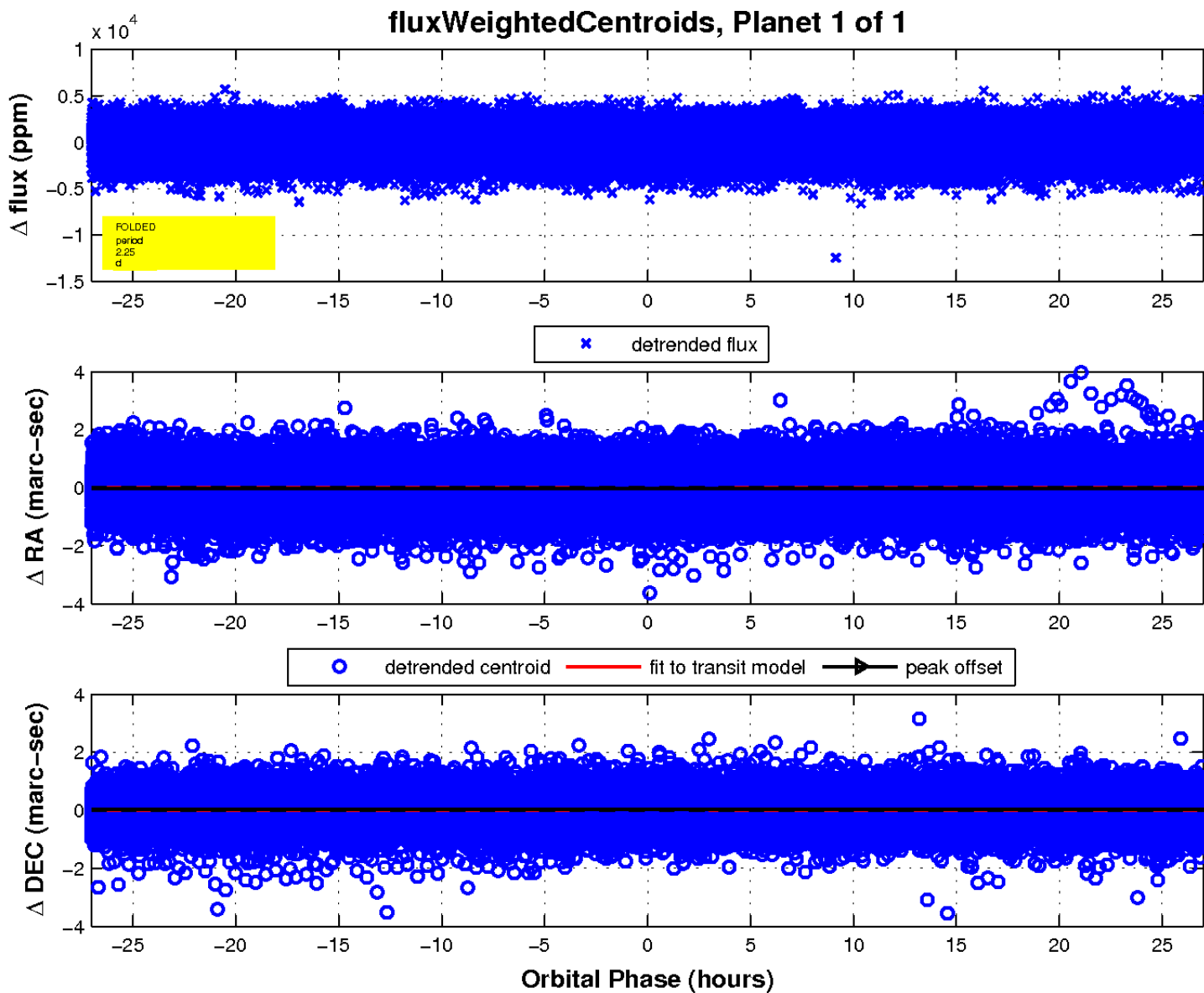
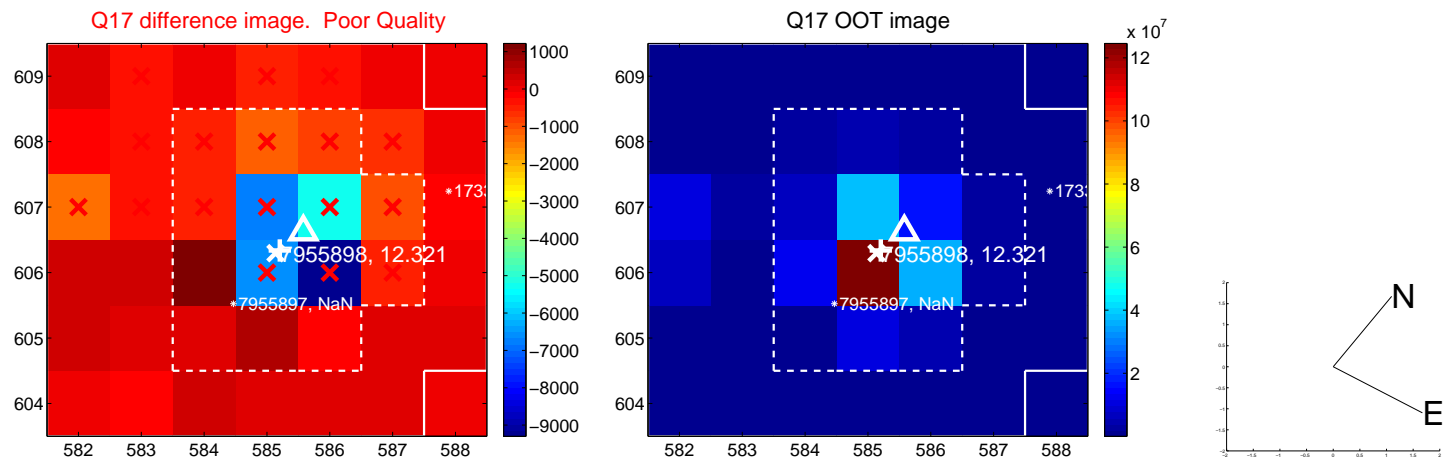
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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



UKIRT Image

Declination

