

# KIC 007821689

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007821689-01	OBS	No	19.063365	147.161419	450.8	38.121	18.1	26.0	0.96	5574	3.55	45.66

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007821689-01	OBS	FP	0.00	1	0	0	0	LPP_DV

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

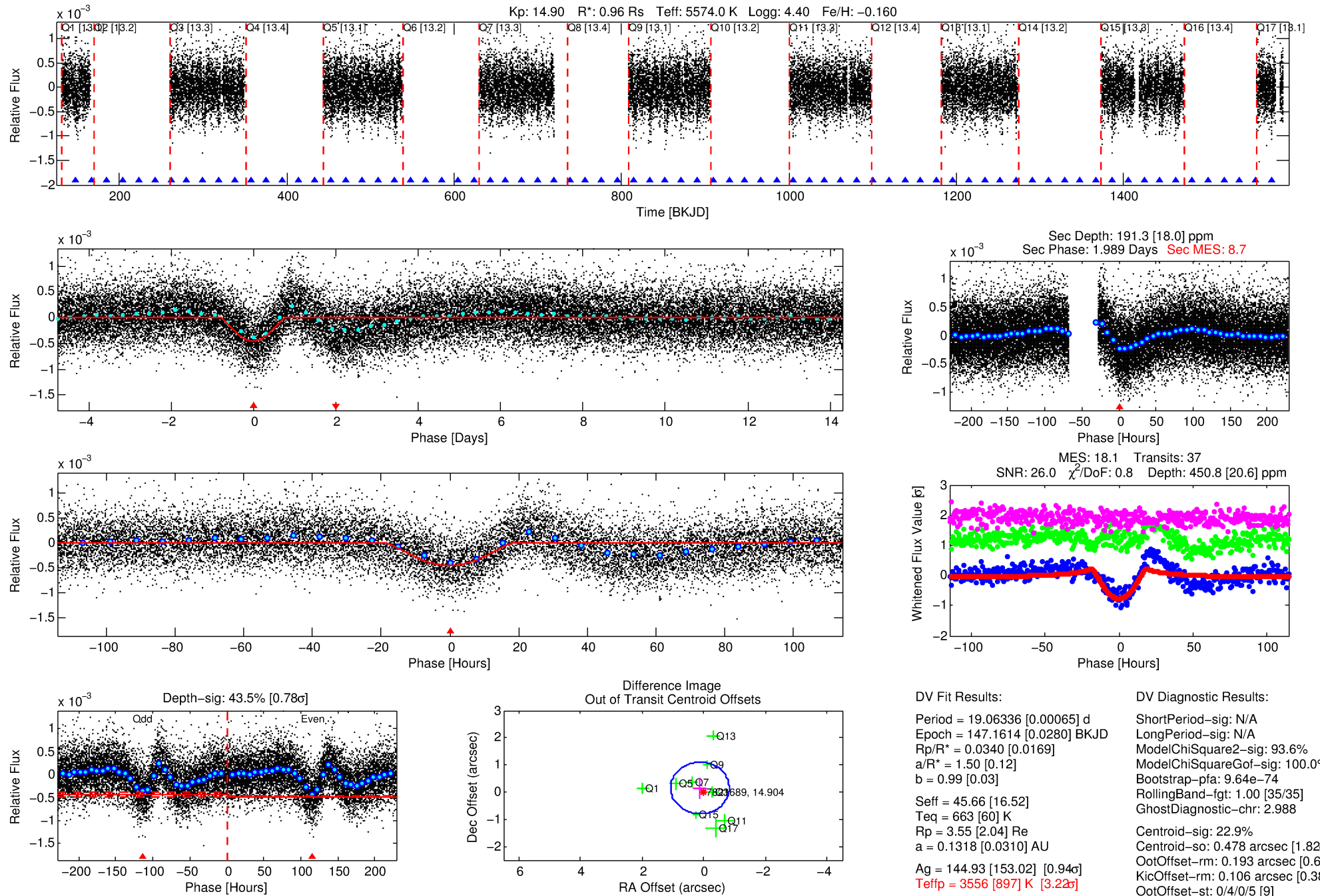
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007821689-01

No Significant Match Found

# DV One-Page Summary

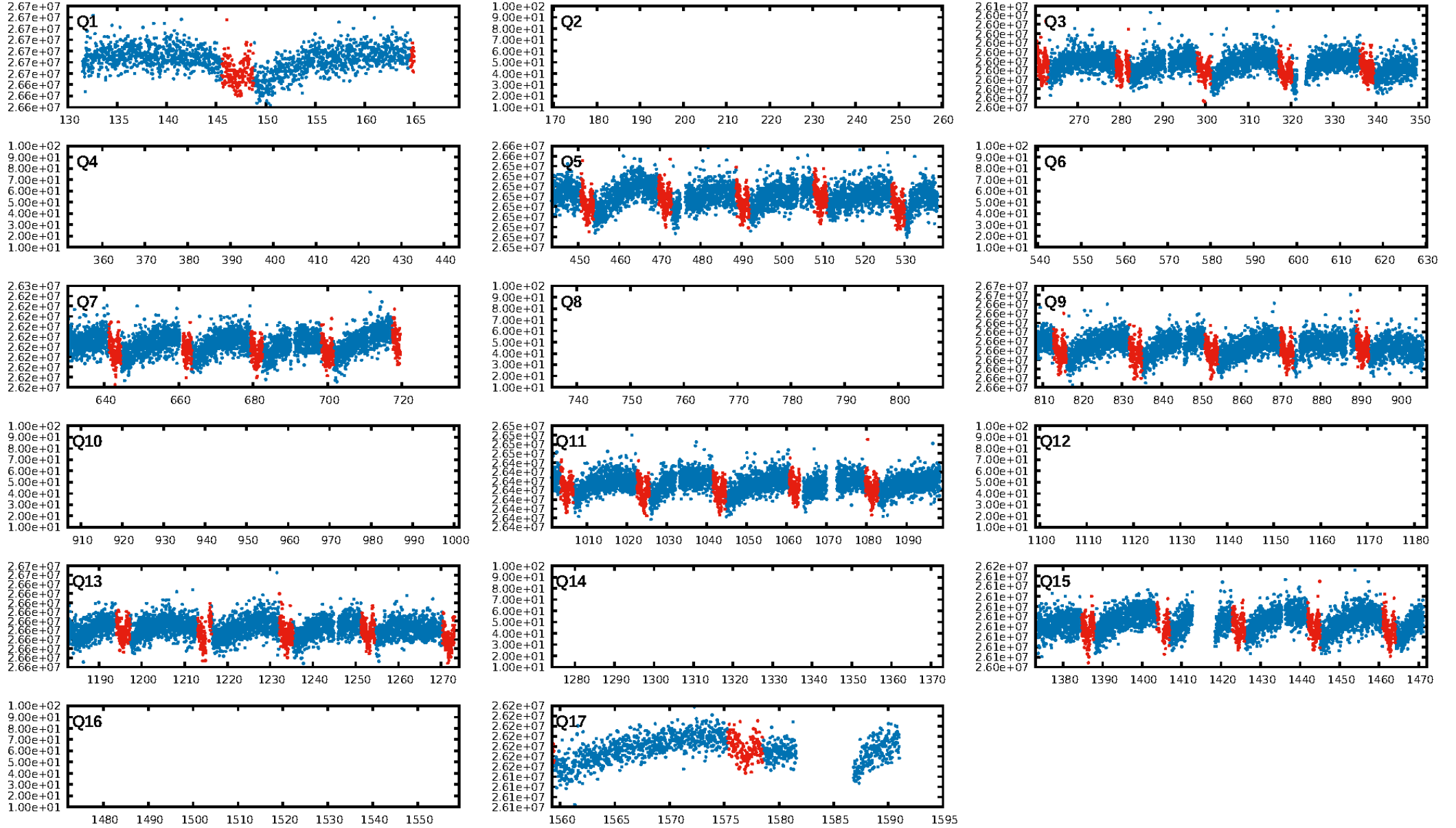
KIC: 7821689 Candidate: 1 of 1 Period: 19.063 d



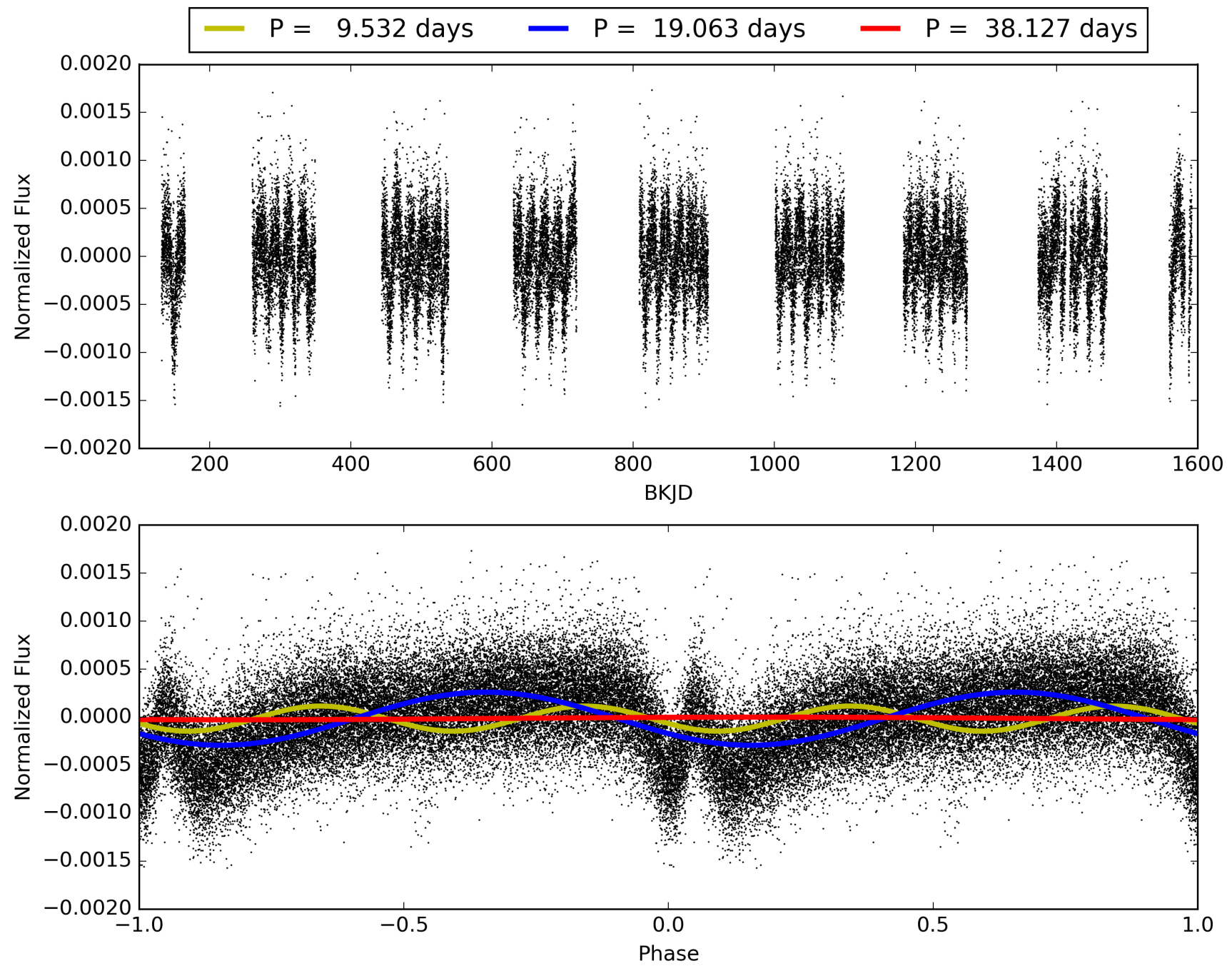
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:00:56 Z

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

# TCE 007821689-01, PDC Light Curves

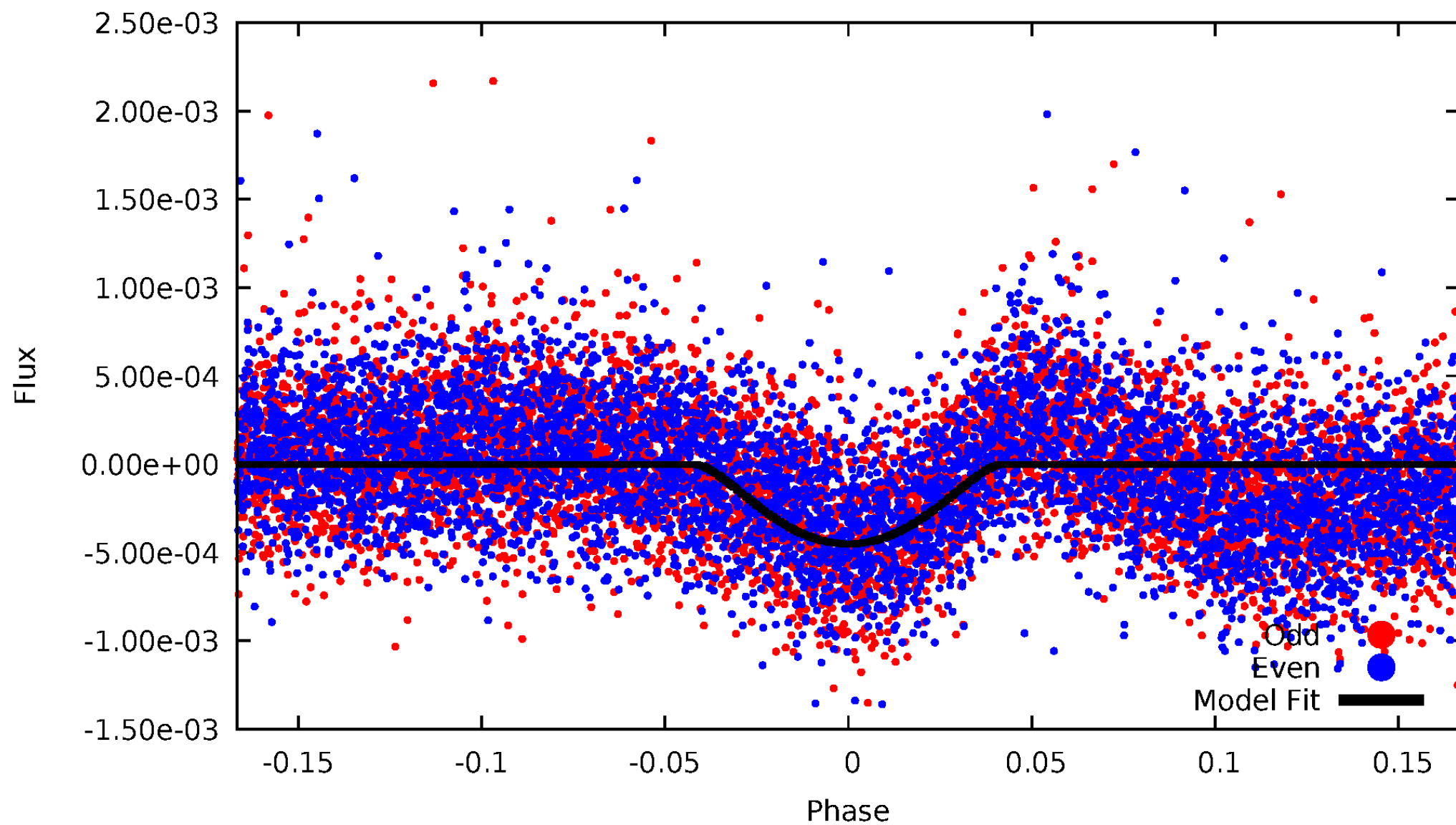


# TCE 007821689-01



# DV Odd/Even

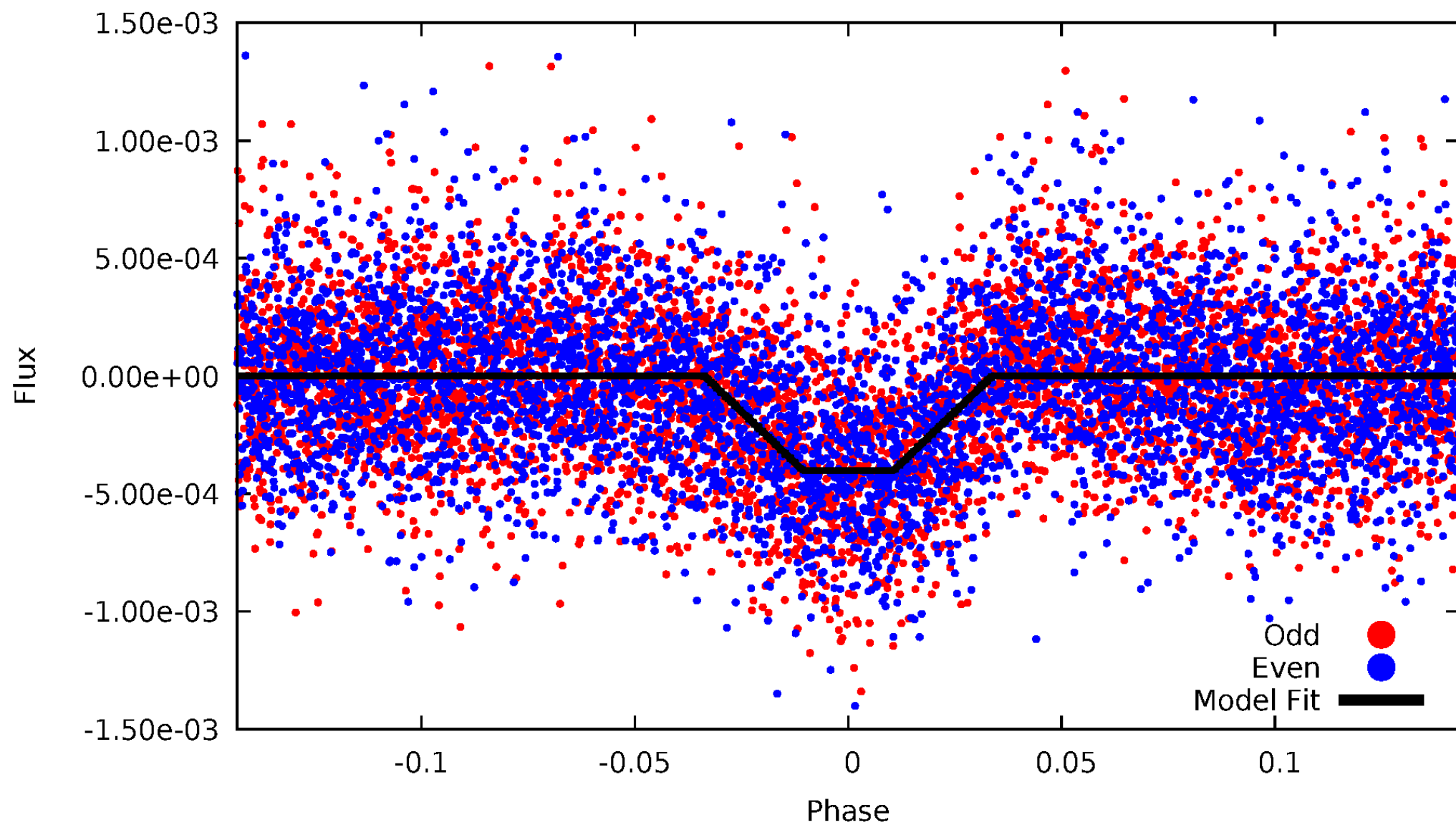
TCE 007821689-01





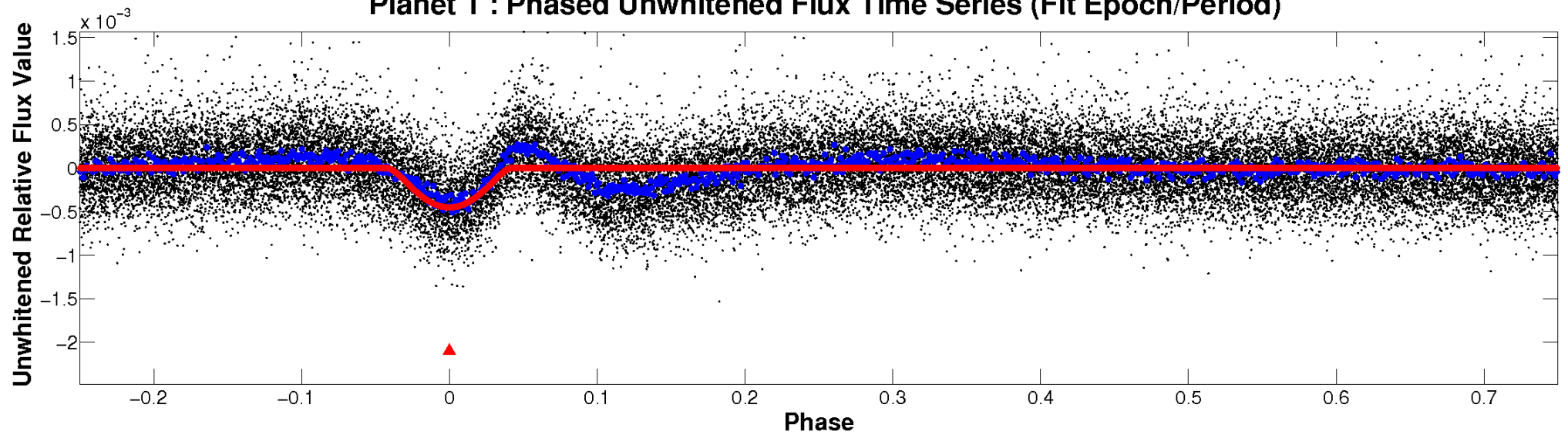
# ALT Odd/Even

TCE 007821689-01

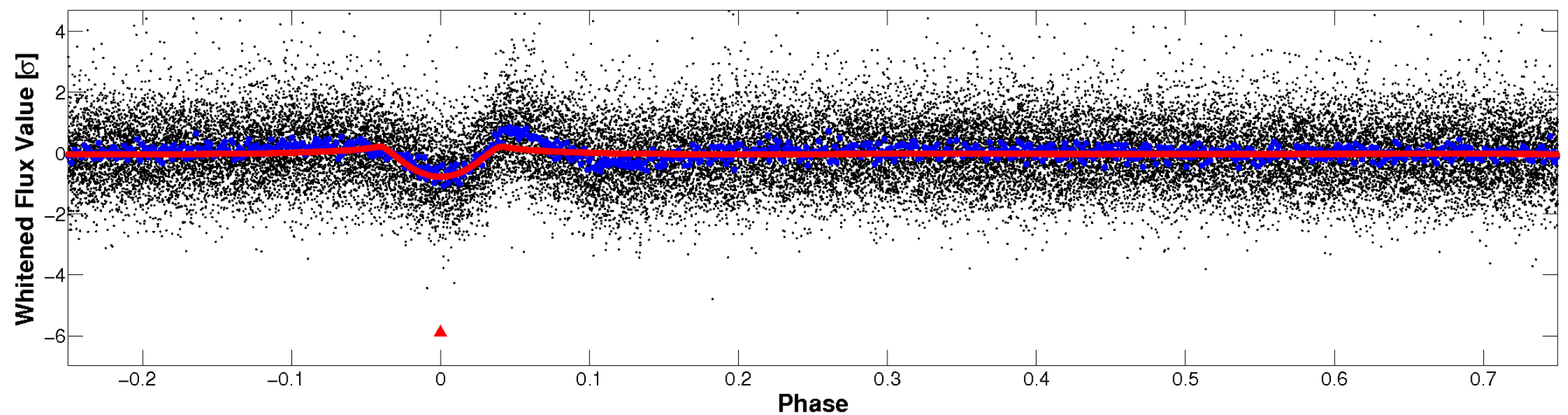


# Non-Whitened Vs. Whitened Light Curve

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

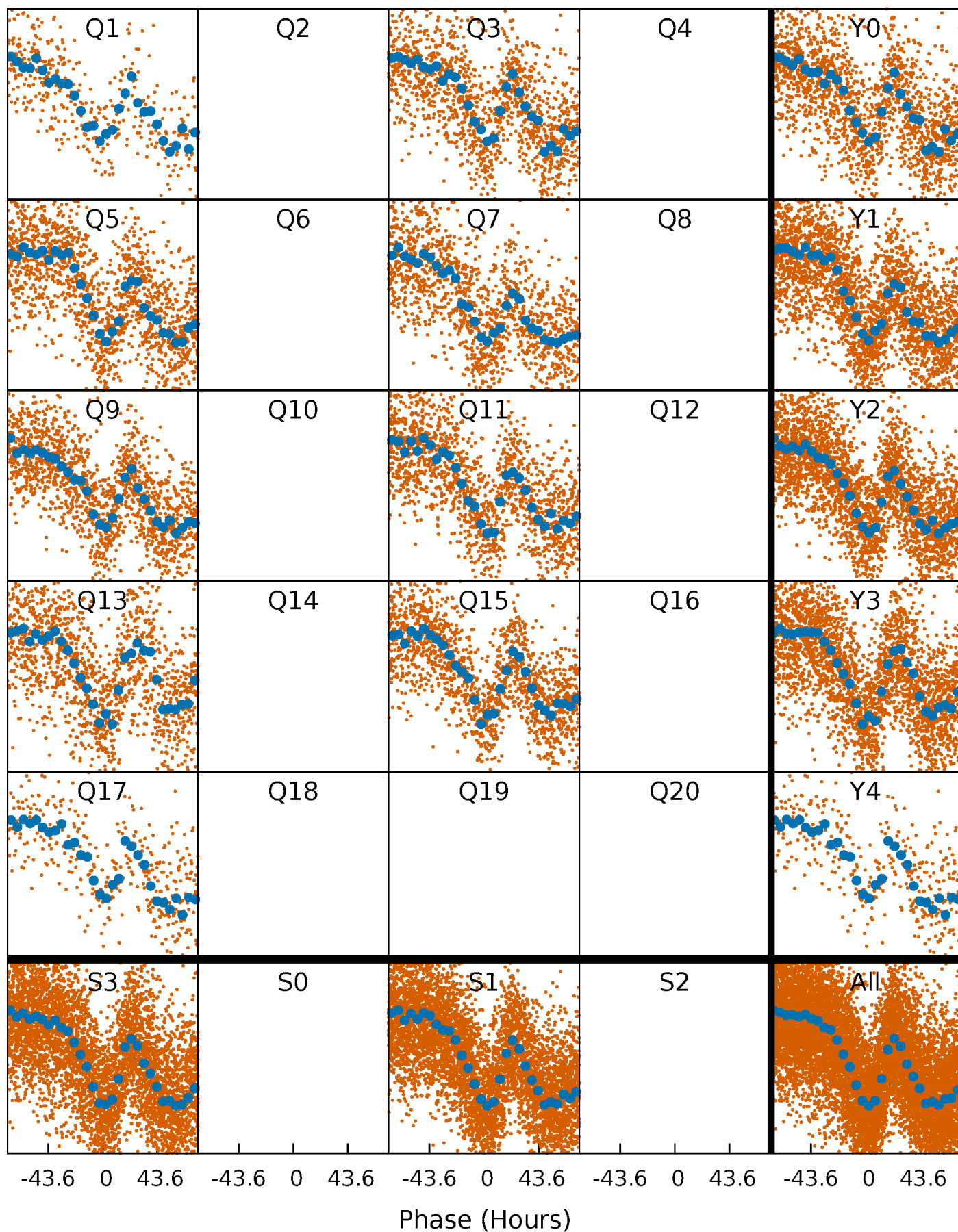


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

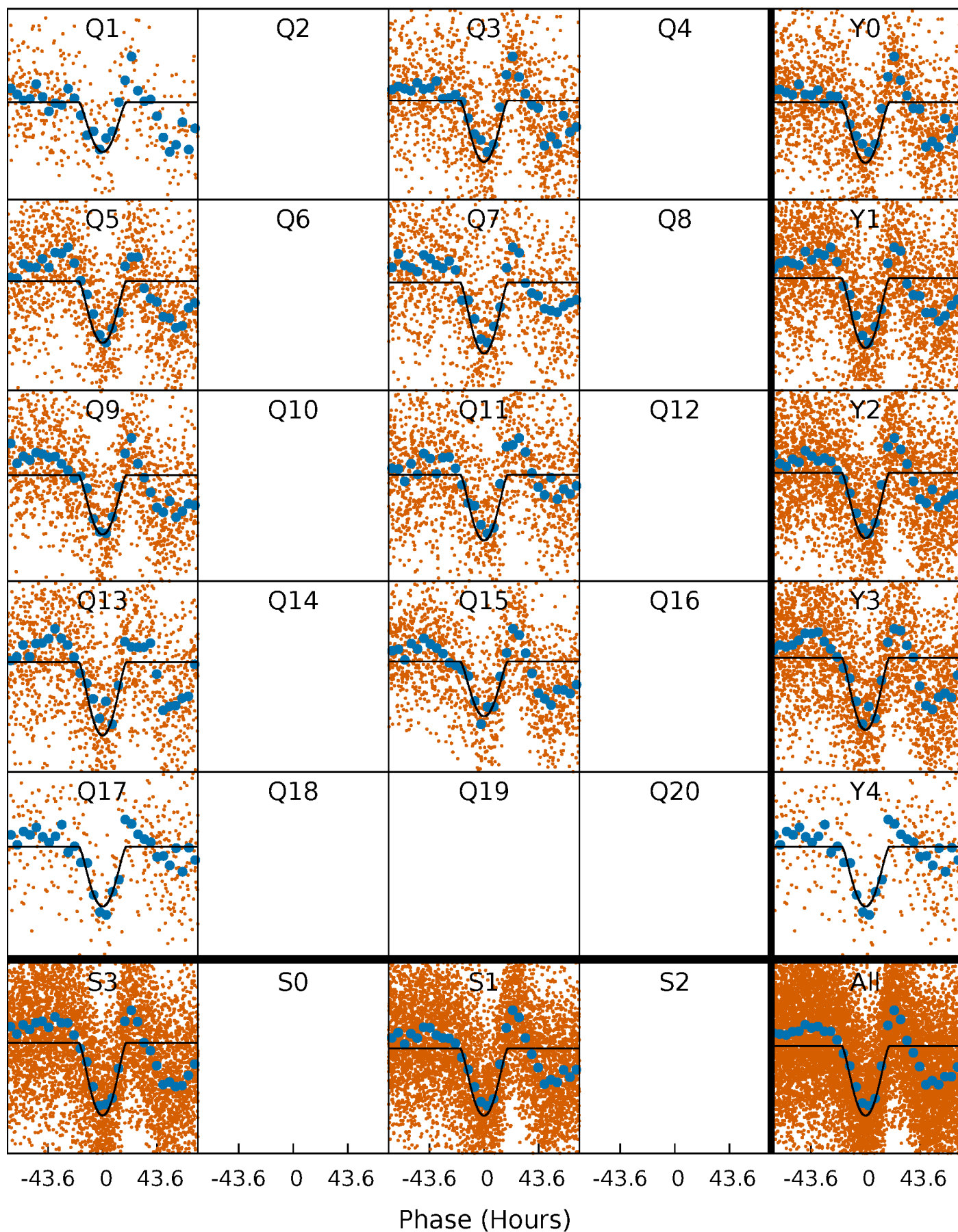
TCE 007821689-01 P= 19.063365 Days  $T_0=147.161419$  (BKJD)





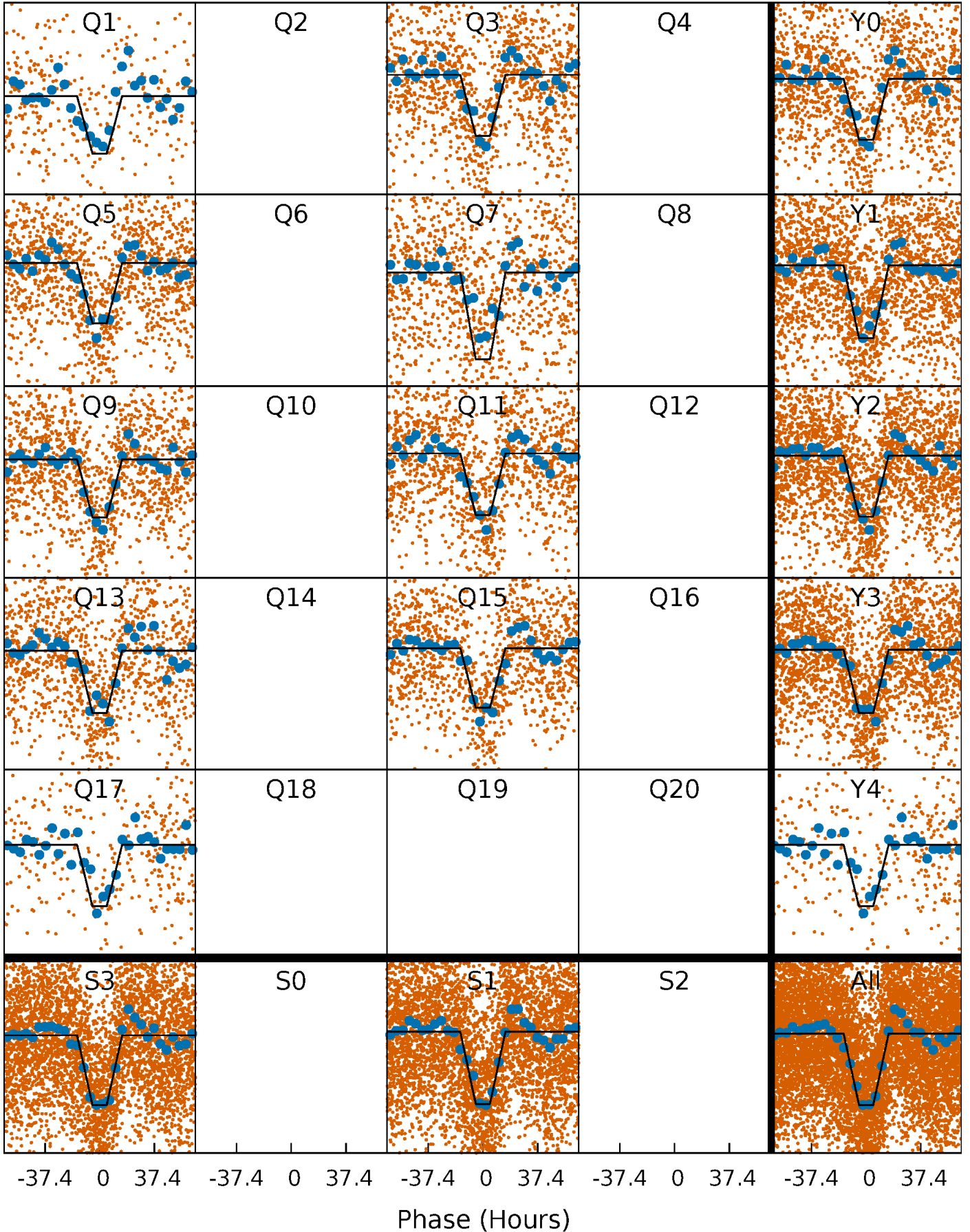
# DV Quarter-Phased Transit Curves

TCE 007821689-01 P= 19.063365 Days  $T_0=147.161419$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

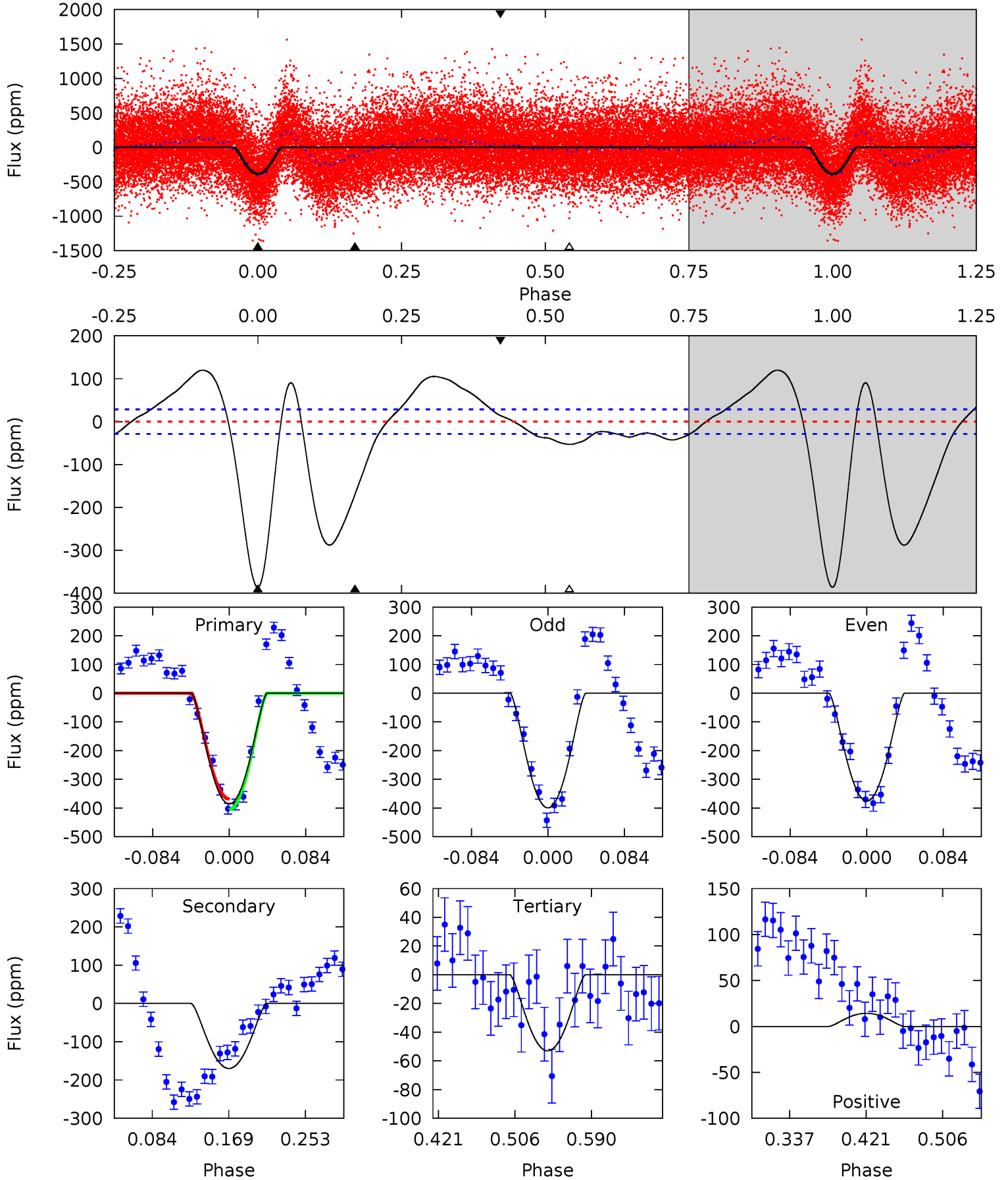
TCE 007821689-01 P= 19.061593 Days  $T_0=147.320831$  (BKJD)



# DV Model-Shift Uniqueness Test

007821689-01, P = 19.063365 Days, E = 128.098054 Days

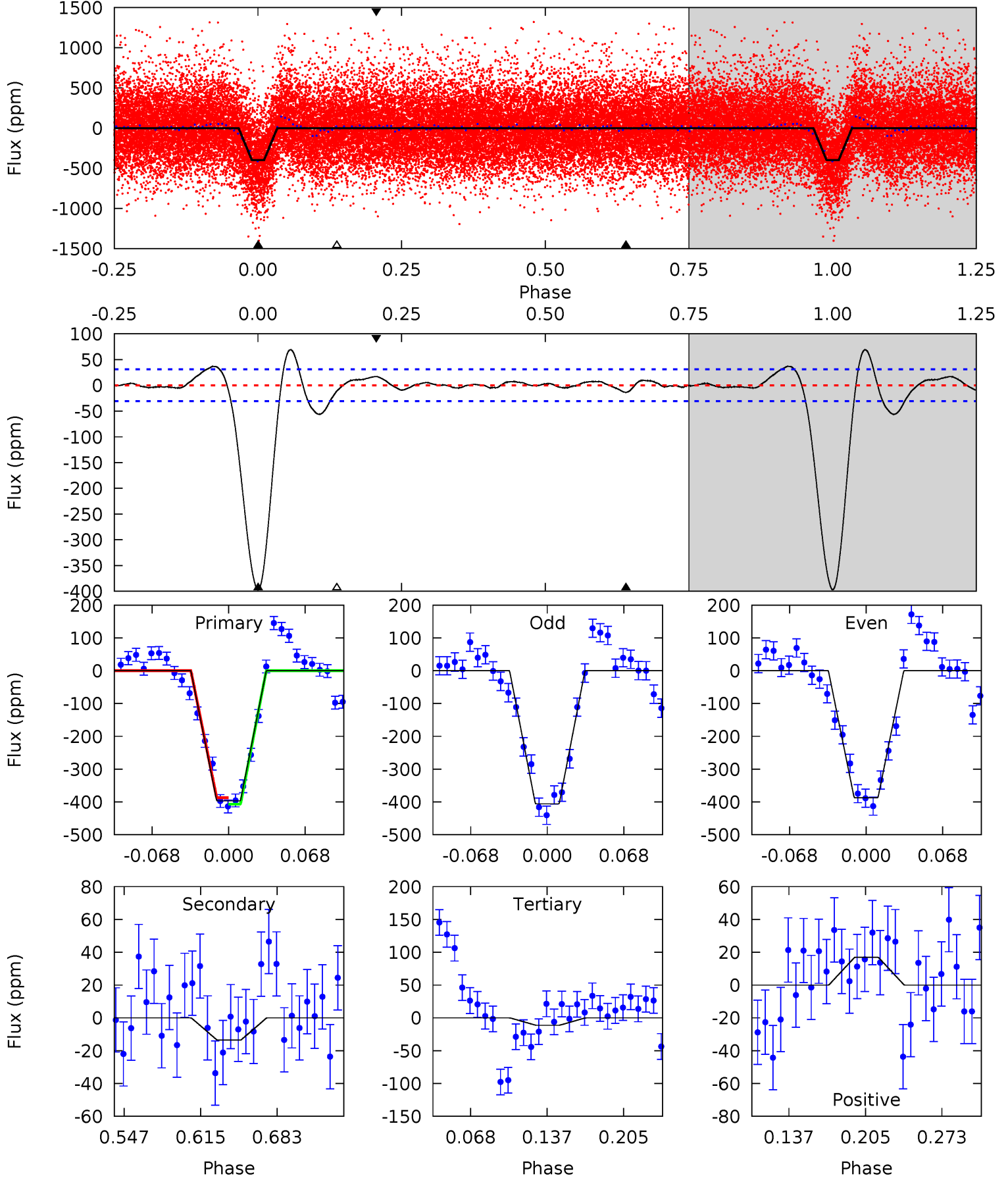
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
62.1	27.3	8.53	2.30	4.60	1.73	8.78	53.6	59.8	18.8	25.0	1.96	0.95	0.24	2.84



# Alt Model-Shift Uniqueness Test

007821689-01, P = 19.061593 Days, E = 128.259238 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
59.6	2.04	1.69	2.54	4.64	1.82	2.20	57.9	57.1	0.35	-0.50	1.42	0.92	0.15	1.48



### Stellar Parameters For KIC 007821689

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5574^{+182}_{-182}$	$4.400^{+0.149}_{-0.182}$	$-0.160^{+0.300}_{-0.300}$	$0.958^{+0.272}_{-0.167}$	$0.841^{+0.122}_{-0.071}$	$1.349^{+0.942}_{-0.644}$
	+3%/-3%	+3%/-4%	+188%/-188%	+28%/-17%	+15%/-8%	+70%/-48%
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 007821689-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-170 \pm 6$	$3.53^{+1.86}_{-1.58}$	$928^{+67}_{-57}$	$3820^{+979}_{-461}$	$131^{+288}_{-76}$
Alt.	$-14 \pm 7$	$2.34^{+1.72}_{-1.42}$	$932^{+69}_{-58}$	$2930^{+1028}_{-477}$	$22^{+135}_{-16}$

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



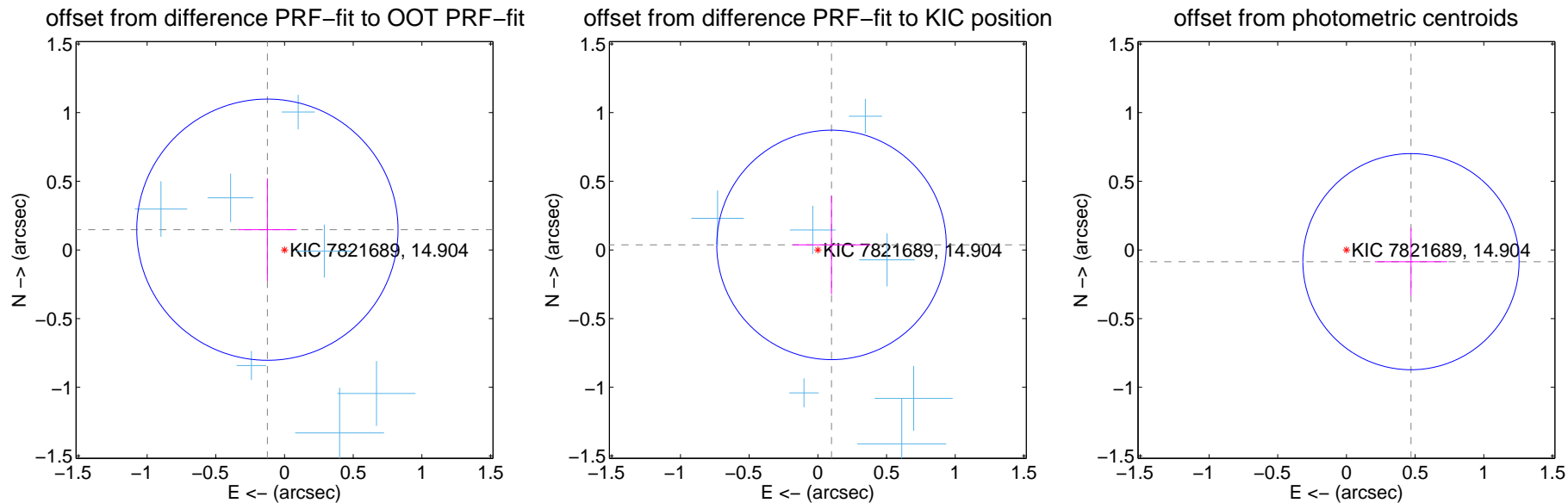
## DV Centroid Data

Supplemental centroid analysis for 007821689-01. Kepler magnitude: 14.90. Transit SNR 26.03

There are 9 quarters with good PRF difference image offsets

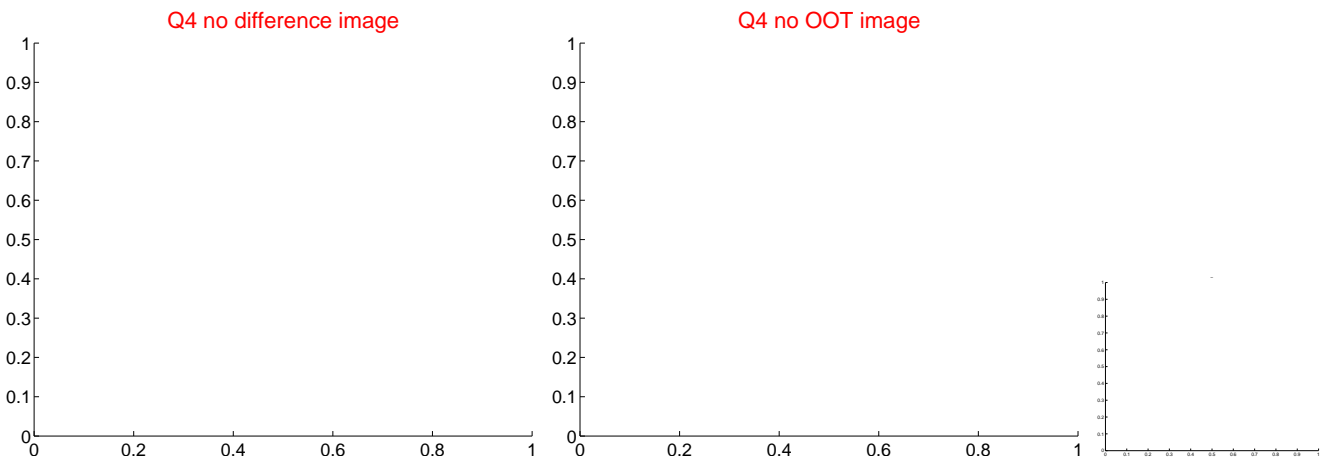
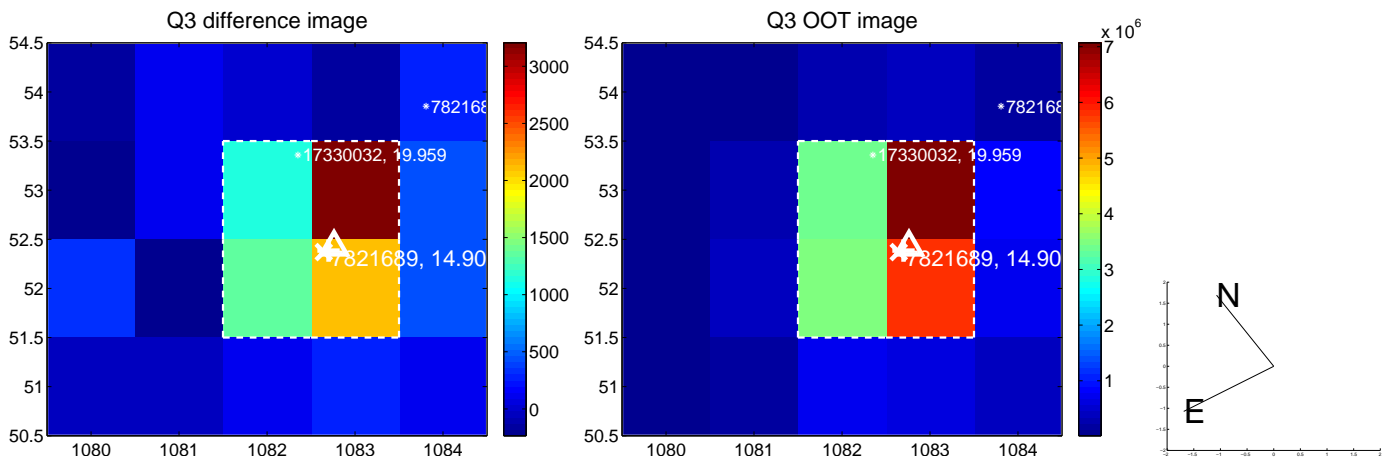
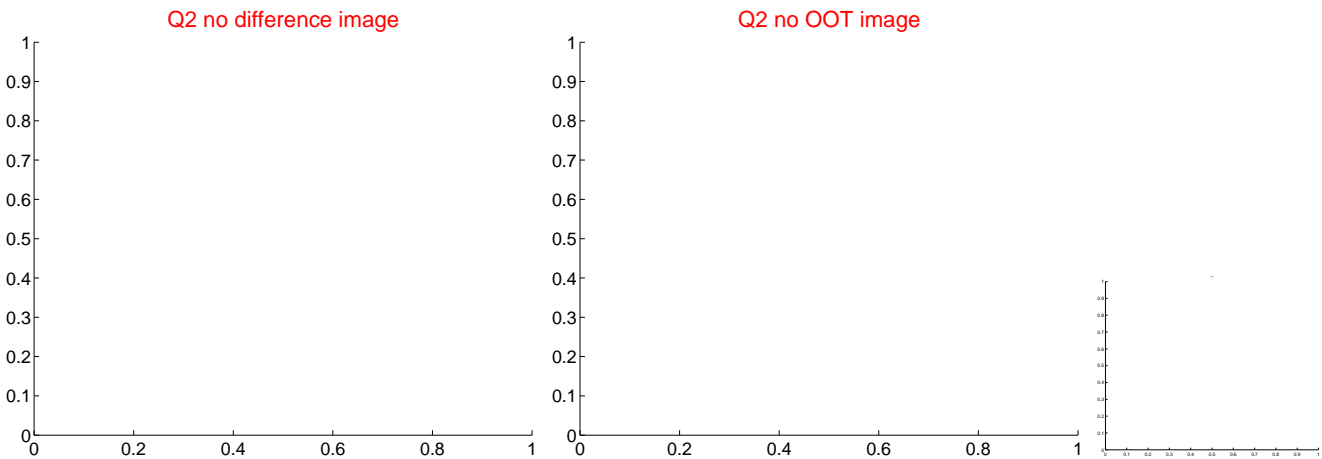
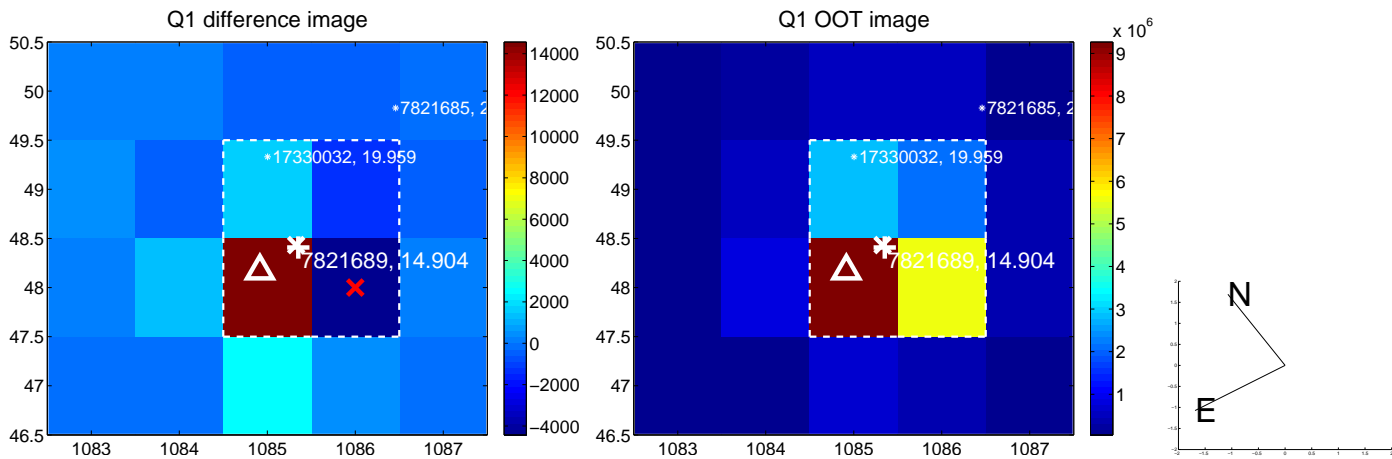
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.193 \pm 0.317$	0.61	$0.125 \pm 0.214$	$0.147 \pm 0.374$
PRF-fit source offset from KIC position	$0.106 \pm 0.279$	0.38	$-0.100 \pm 0.283$	$0.037 \pm 0.359$
photometric centroid source offset	$0.48 \pm 0.26$	1.82	$-0.47 \pm 0.26$	$-0.09 \pm 0.24$

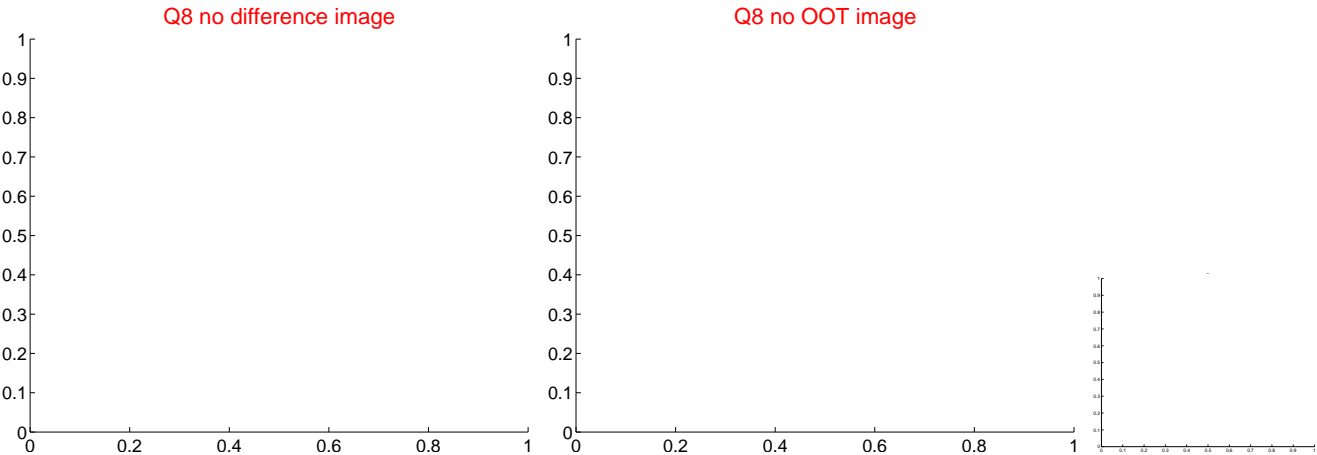
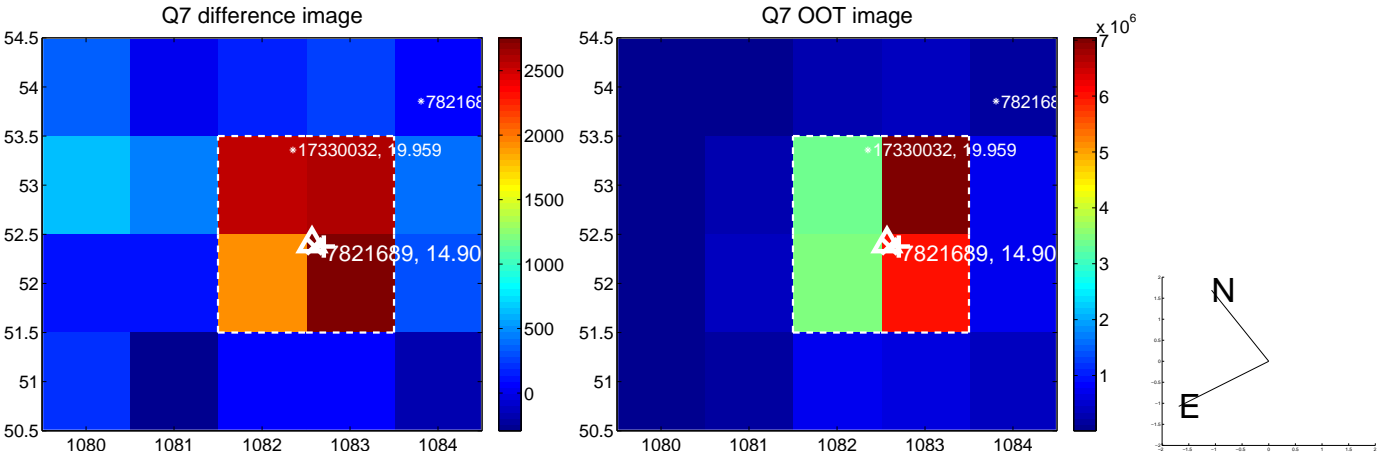
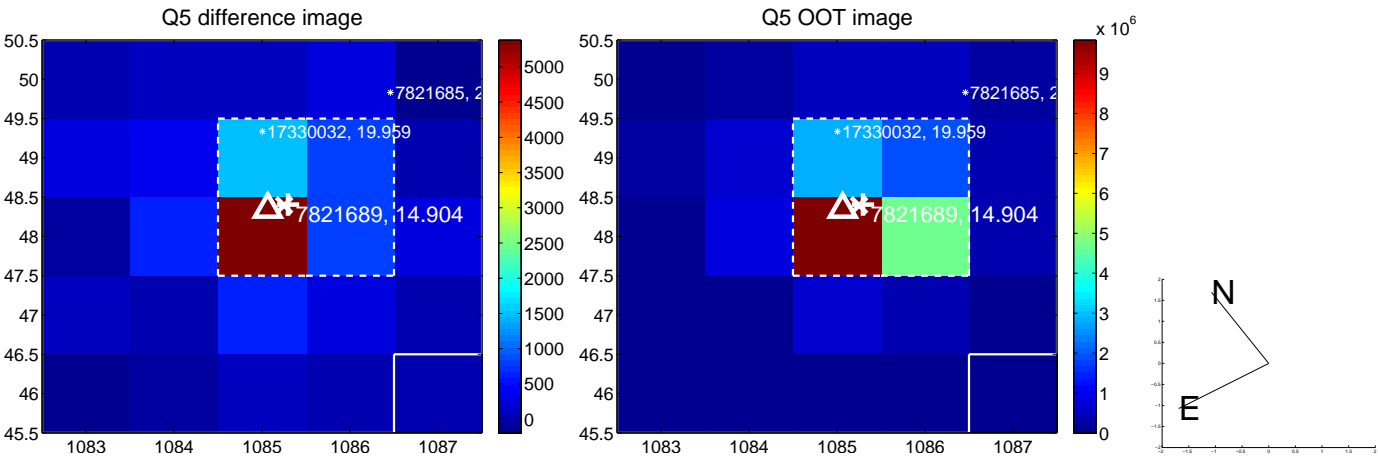


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

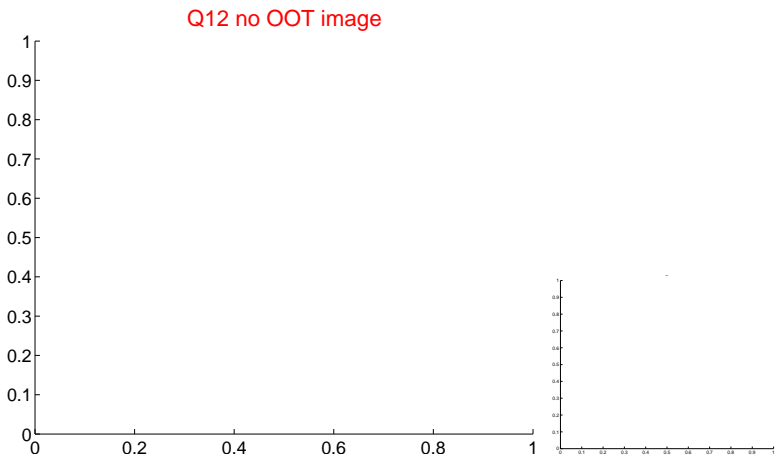
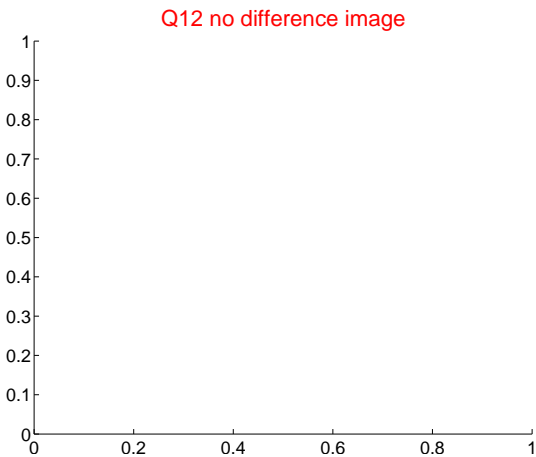
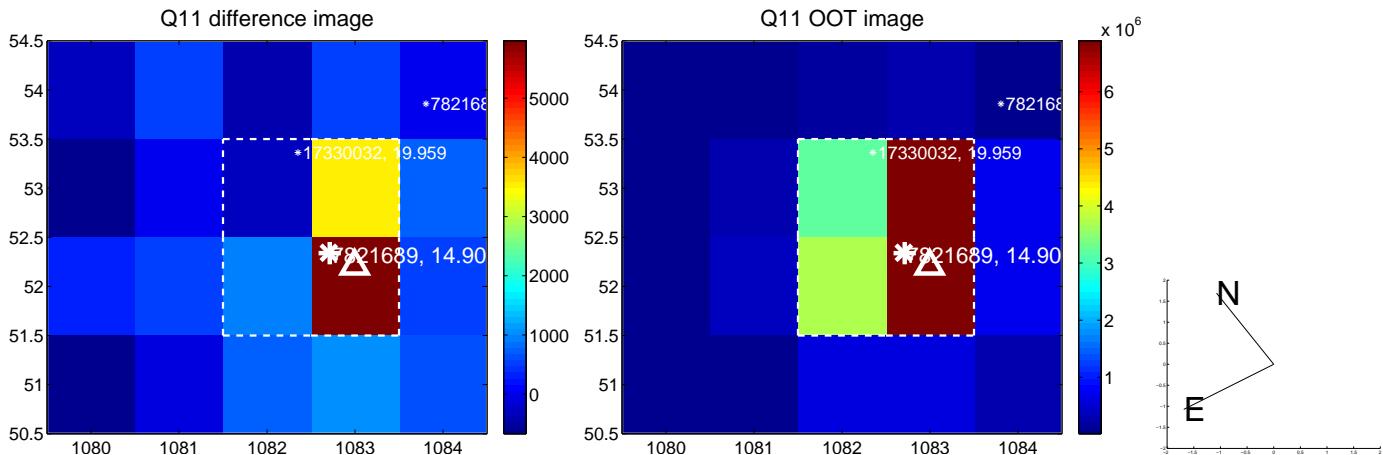
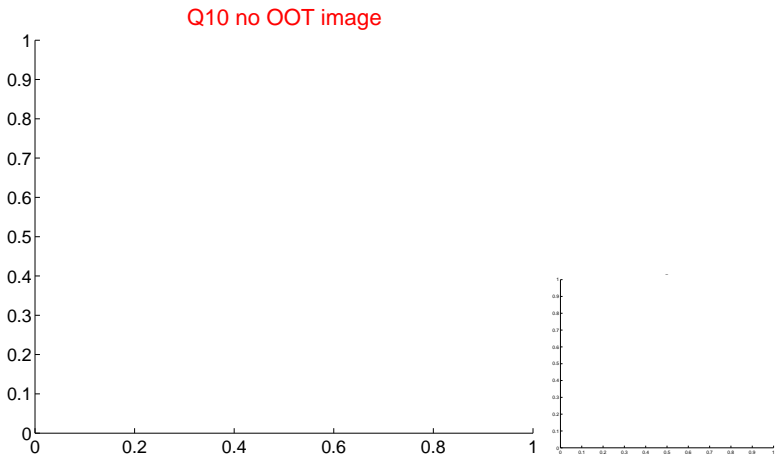
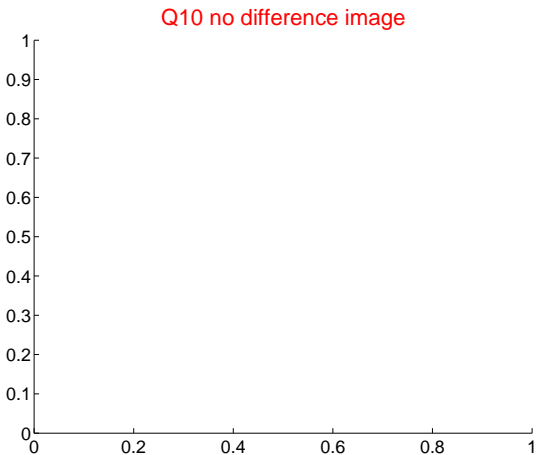
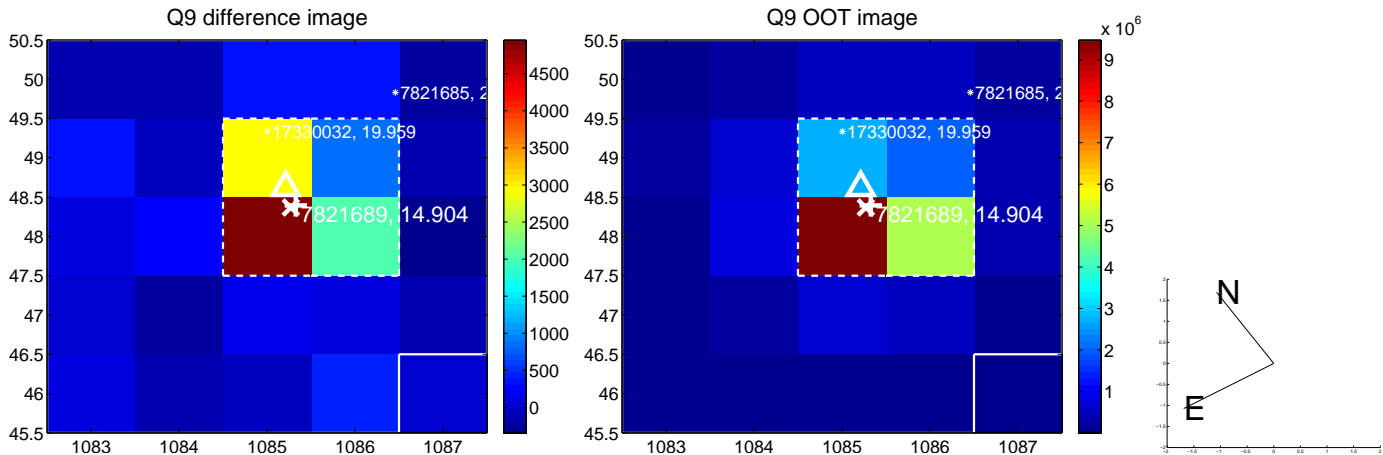
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



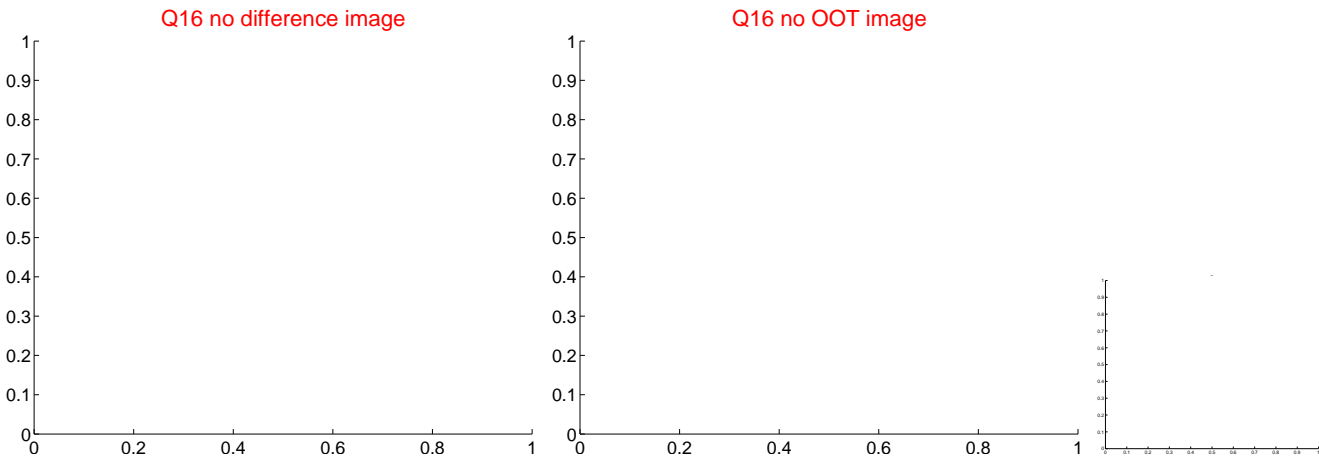
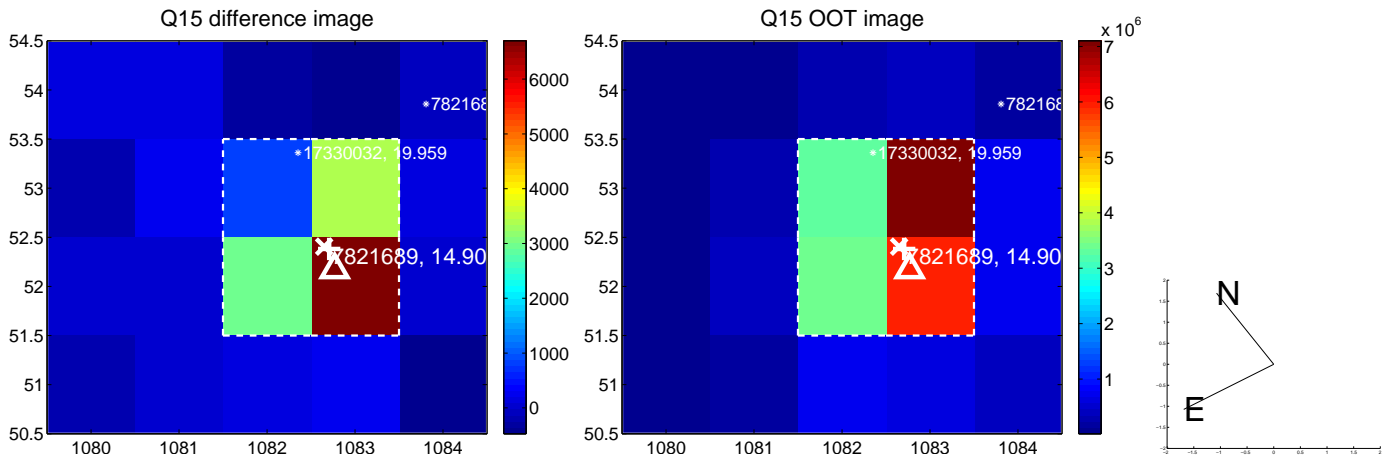
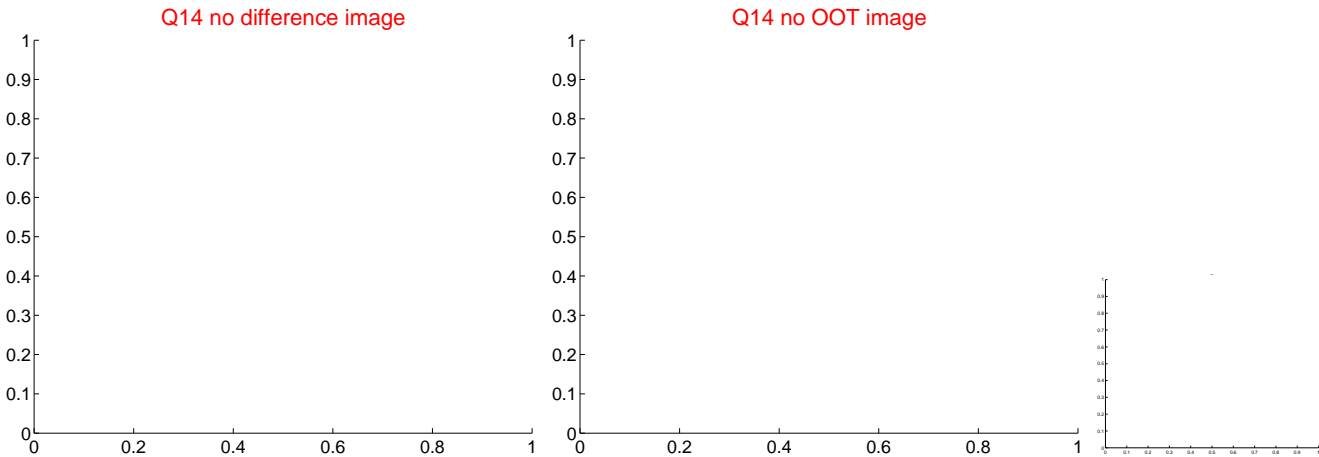
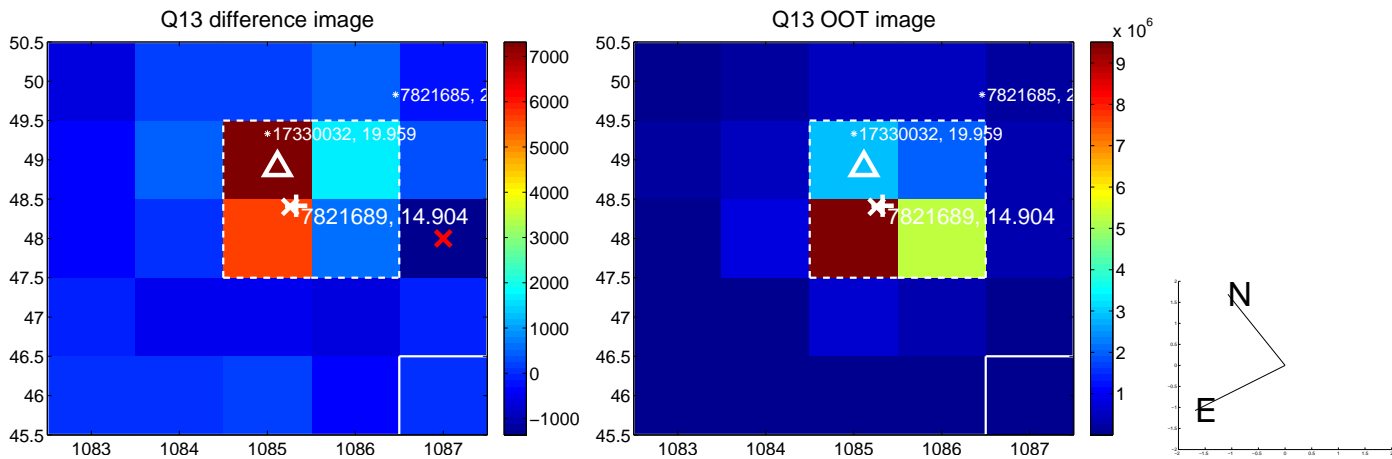
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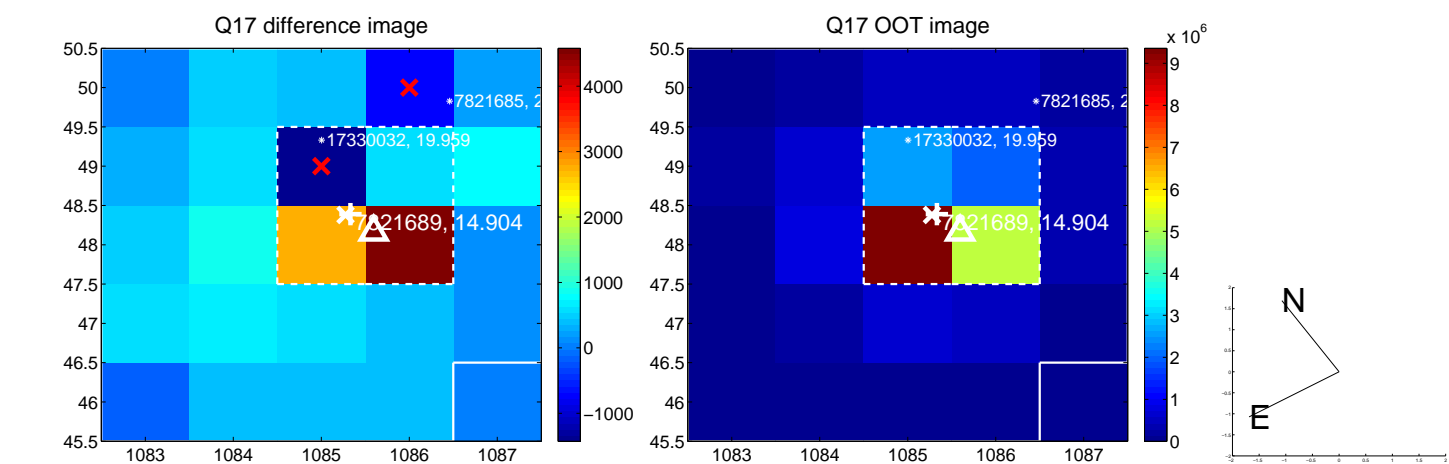


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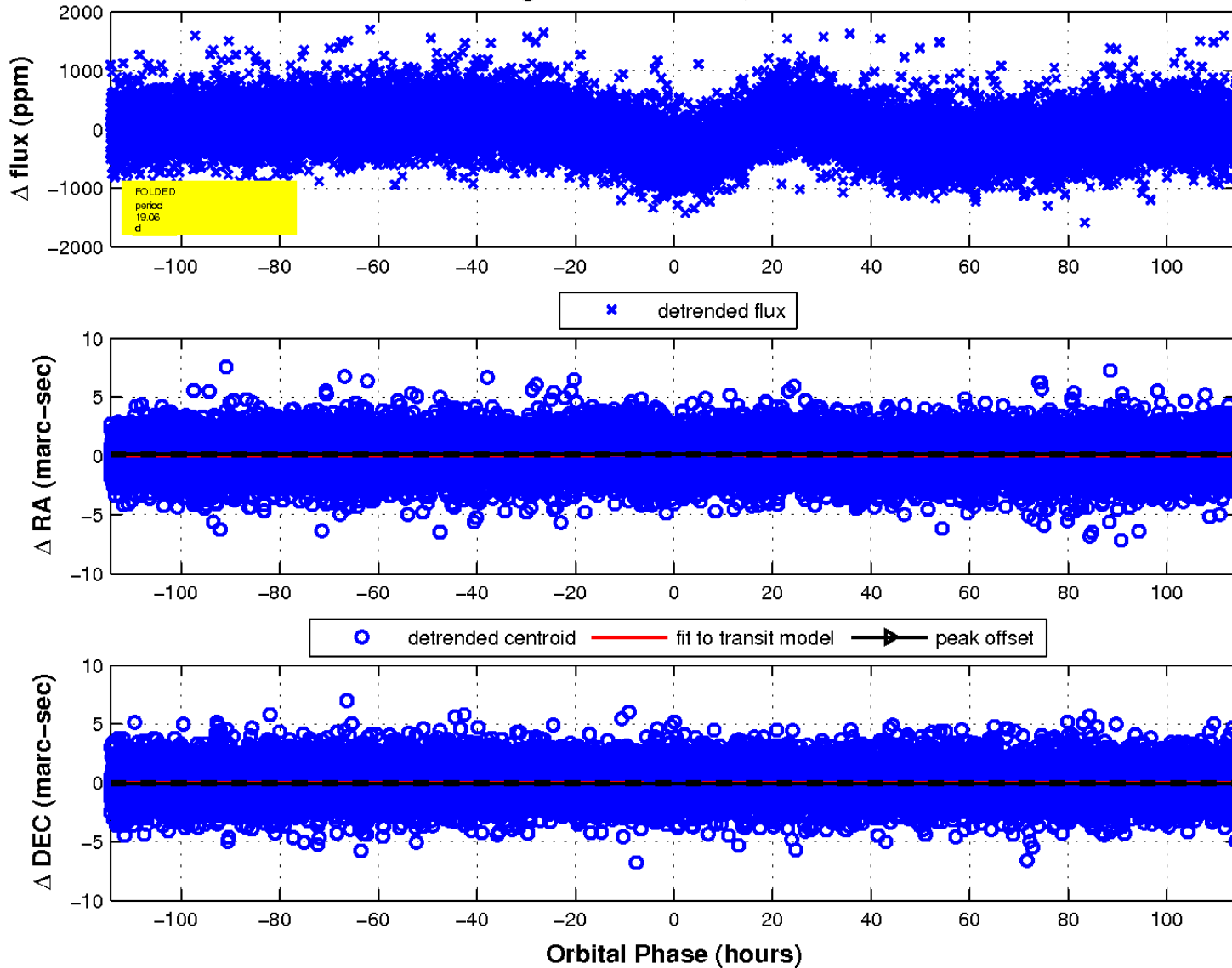




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

