

# KIC 008885259

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008885259-01	OBS	No	375.744599	138.484985	3965.3	17.621	8.3	8.6	1.18	6318	7.46	1.64

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008885259-01	OBS	FP	0.00	1	0	0	0	<del>INDIV_TRANS_SKYE</del> <del>LPP_DV</del> <del>LPP_ALT</del> <del>ALL_TRANS_CHASES</del> <del>MOD_NONUNIQ_ALT</del> <del>CENT_FEW_DIFFS</del>

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

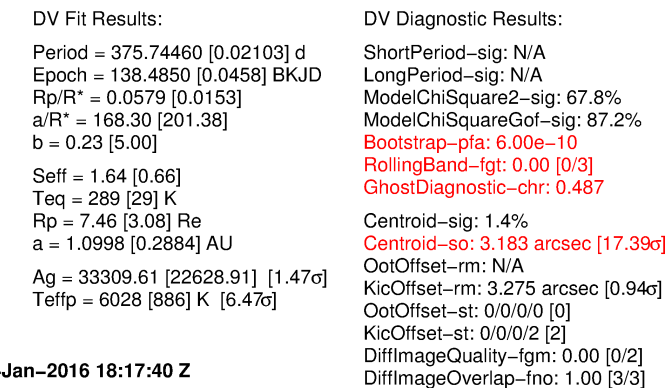
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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 008885259-01

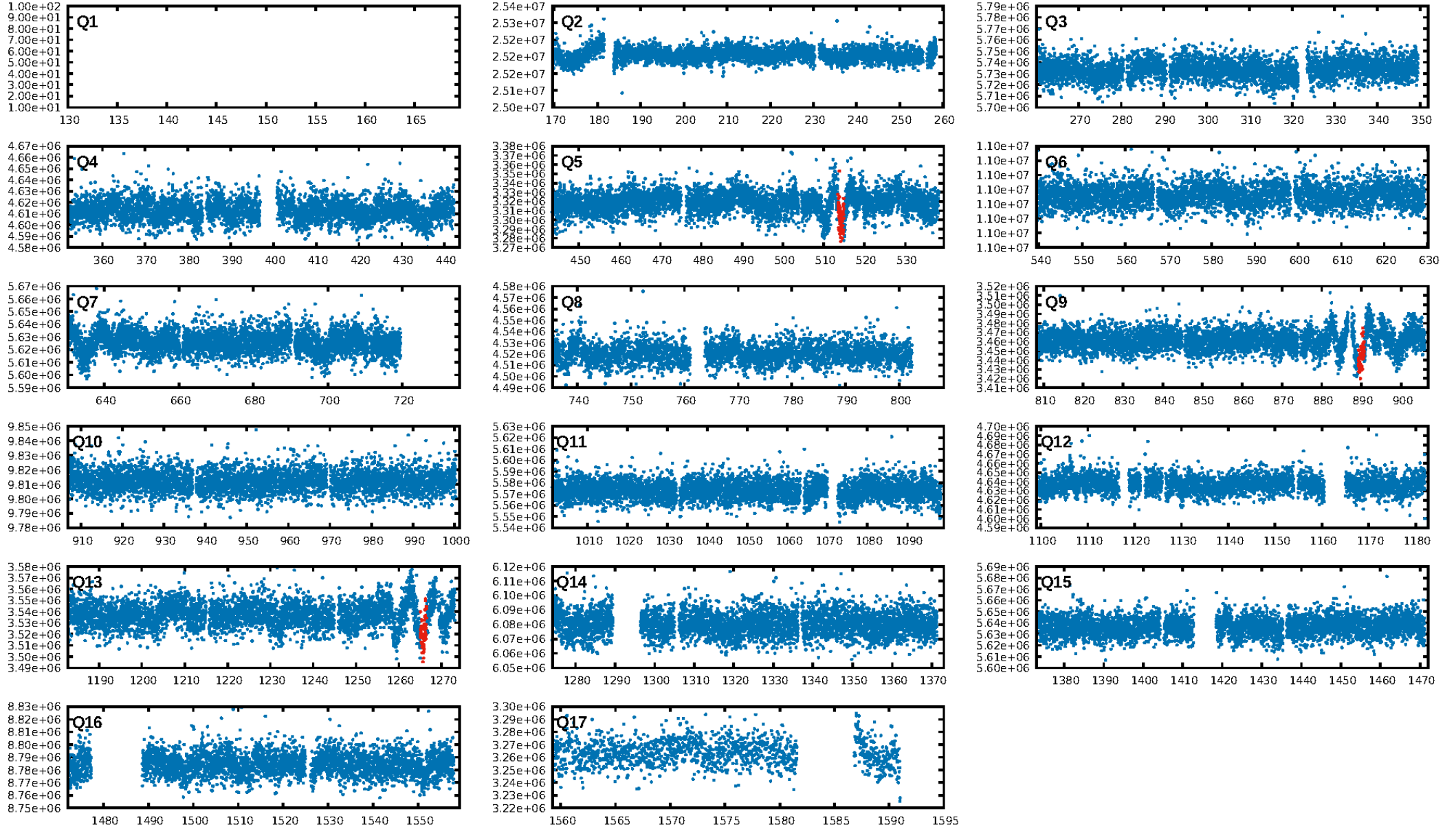
No Significant Match Found

KIC: 8885259    Candidate: 1 of 1    Period: 375.745 d

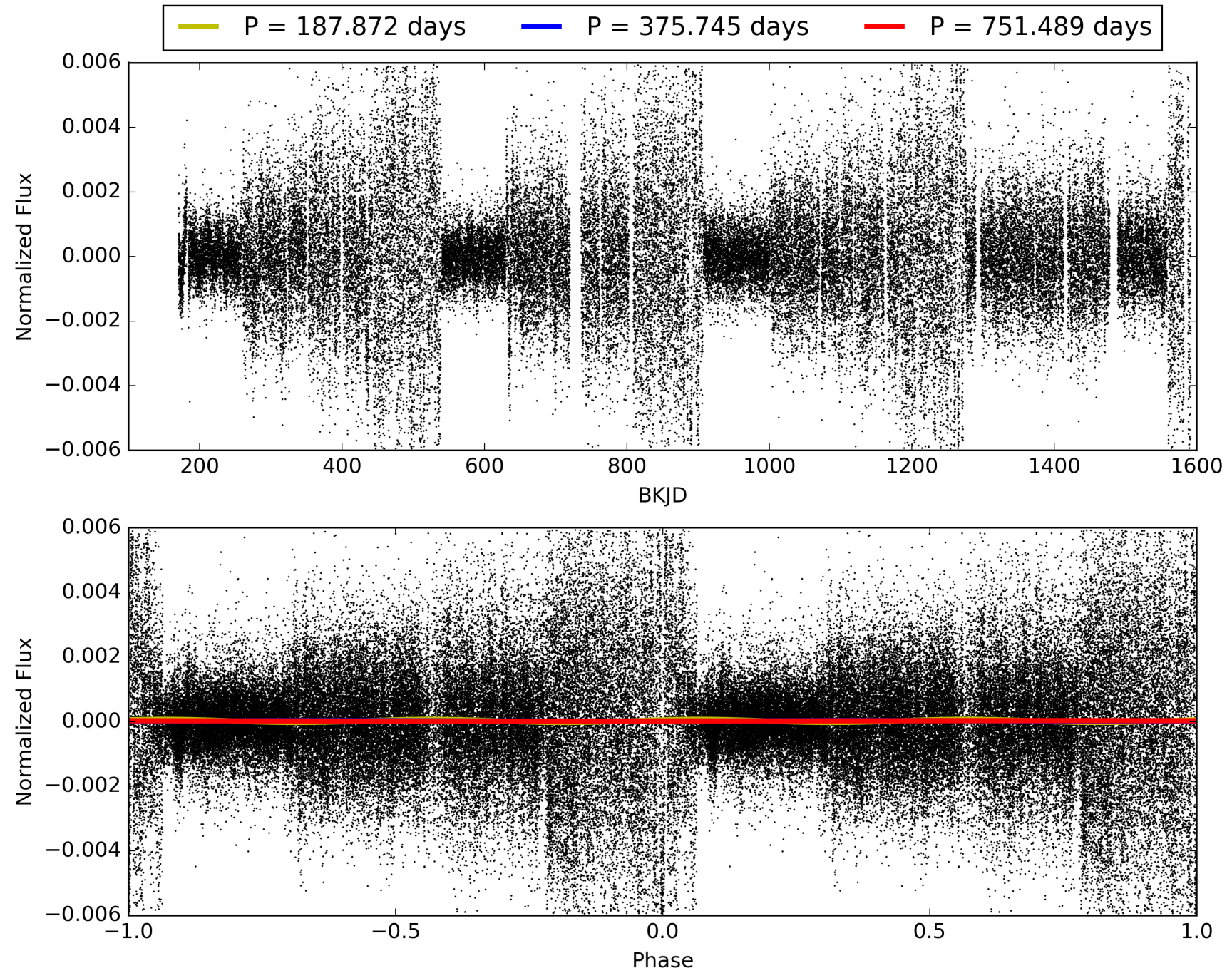


**This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center**

# TCE 008885259-01, PDC Light Curves

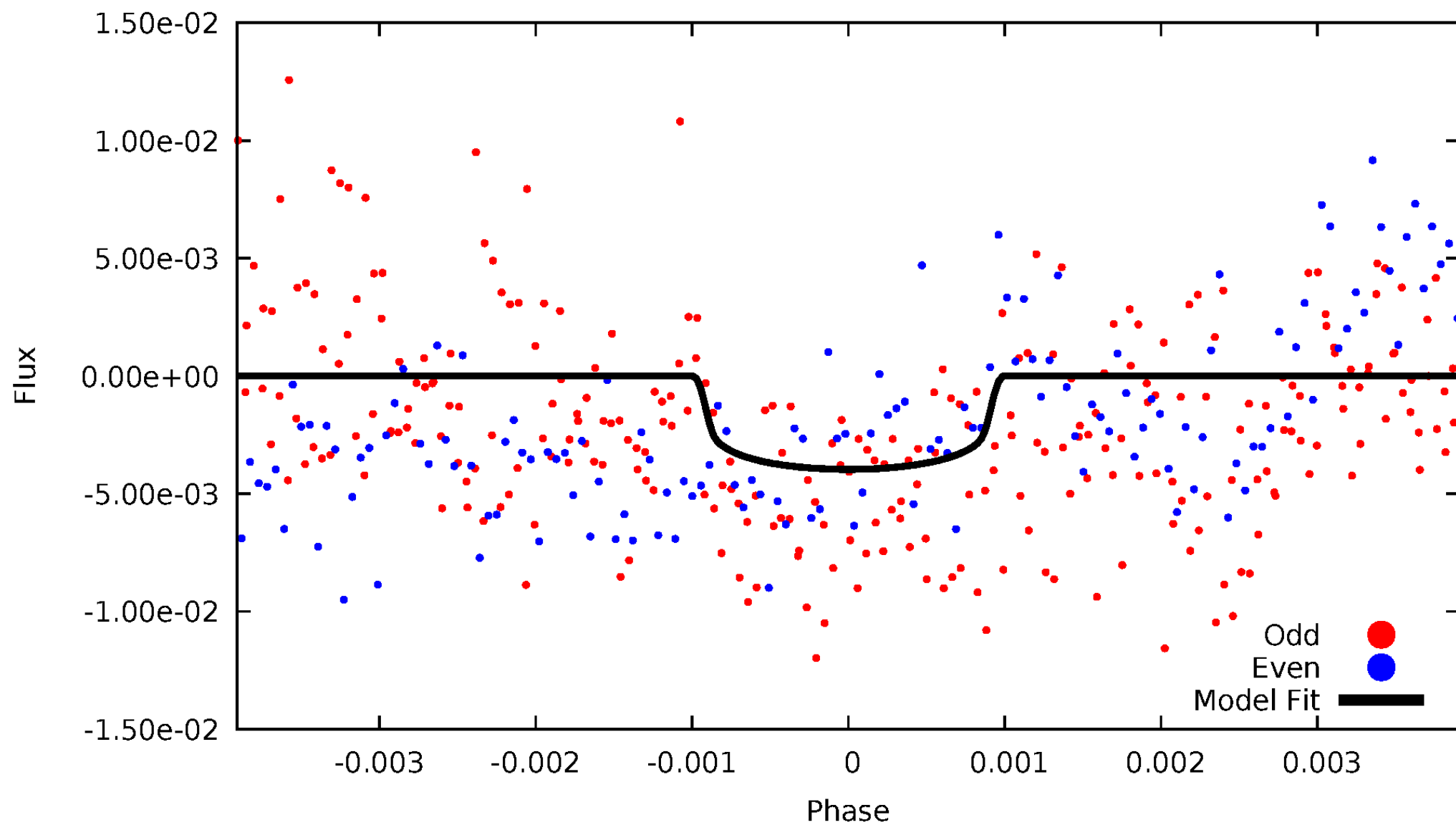


TCE 008885259-01



# DV Odd/Even

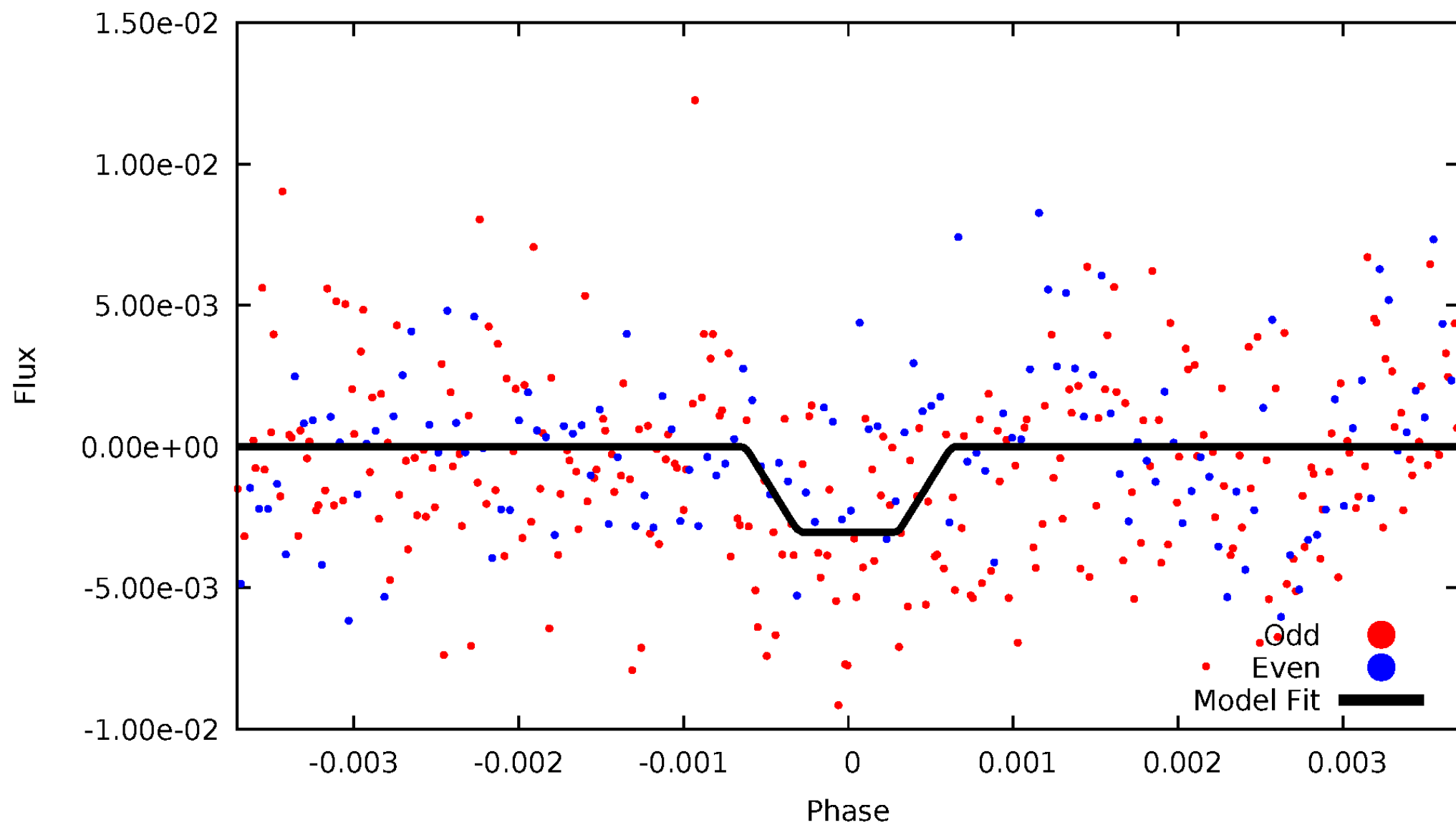
TCE 008885259-01





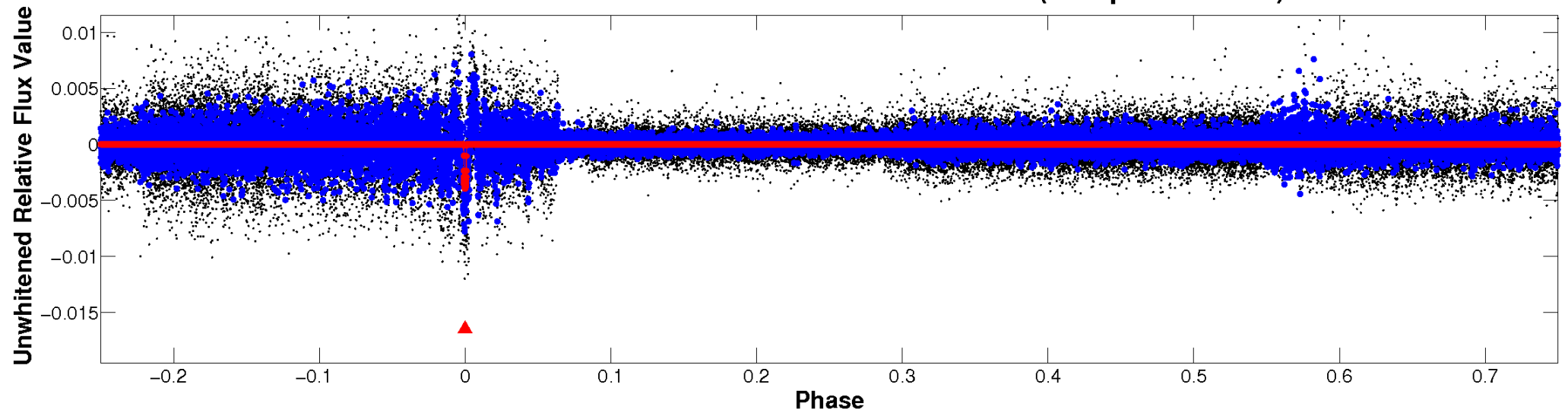
# ALT Odd/Even

TCE 008885259-01

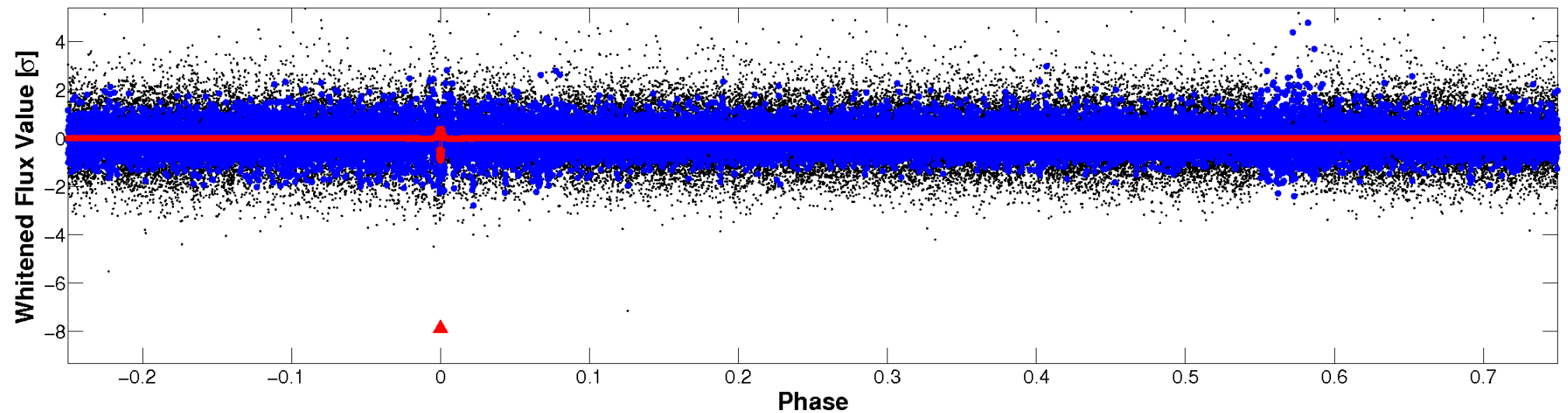


# Non-Whitened Vs. Whitened Light Curve

**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 008885259-01 P=375.744599 Days  $T_0=138.484985$  (BKJD)





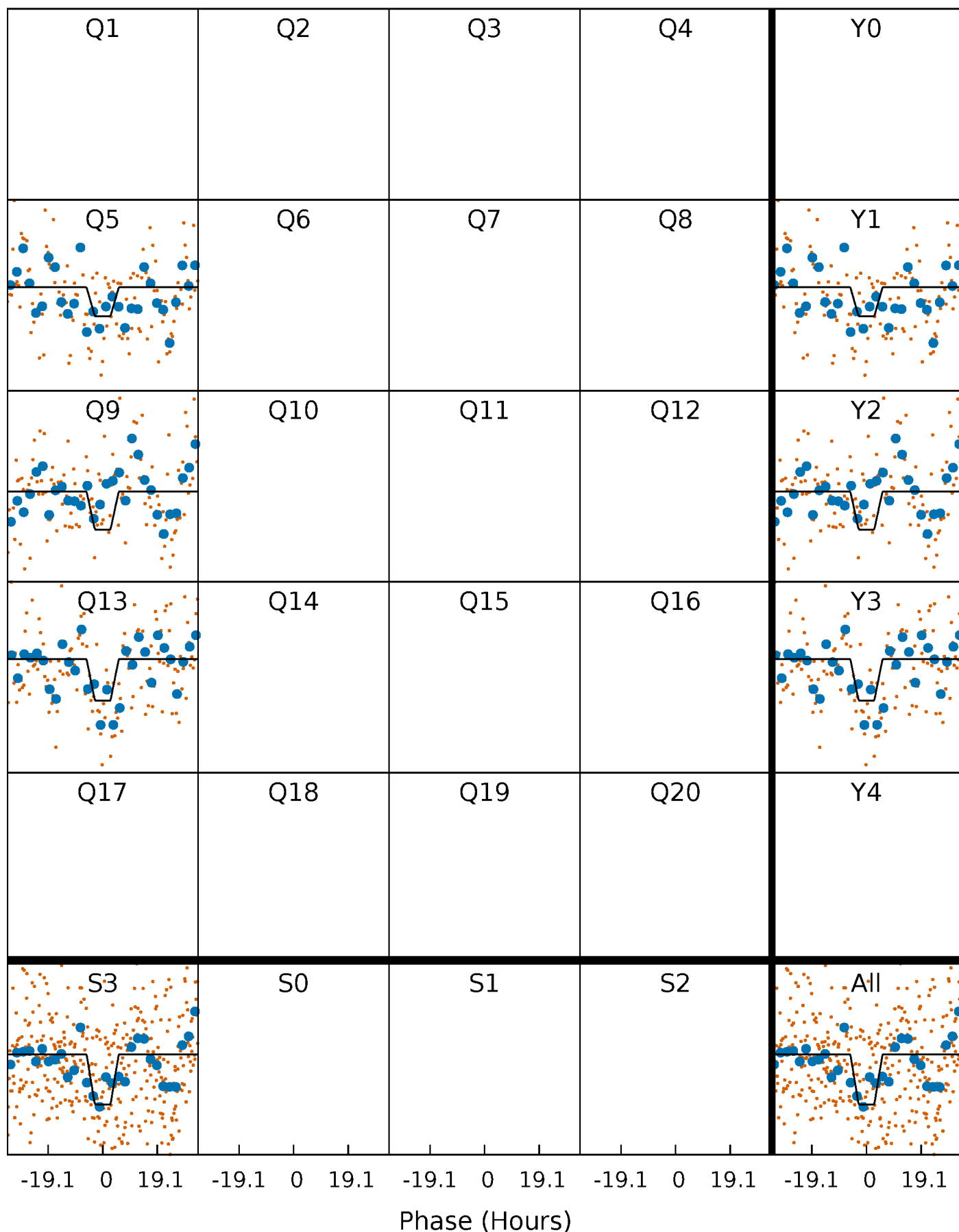
# DV Quarter-Phased Transit Curves

TCE 008885259-01   P=375.744599 Days    $T_0=138.484985$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

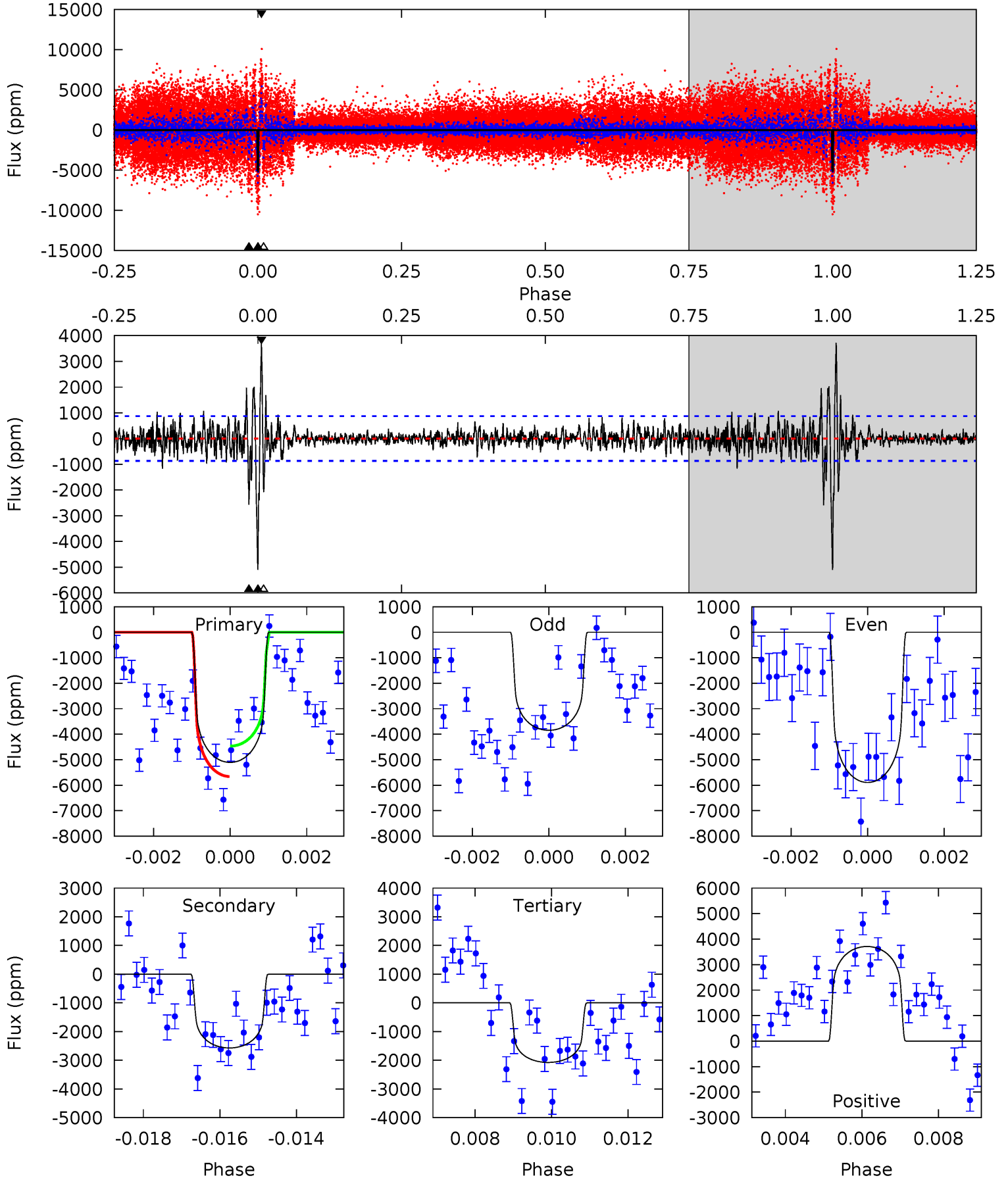
TCE 008885259-01 P=375.725490 Days  $T_0=138.449354$  (BKJD)



# DV Model-Shift Uniqueness Test

008885259-01, P = 375.744599 Days, E = 138.484985 Days

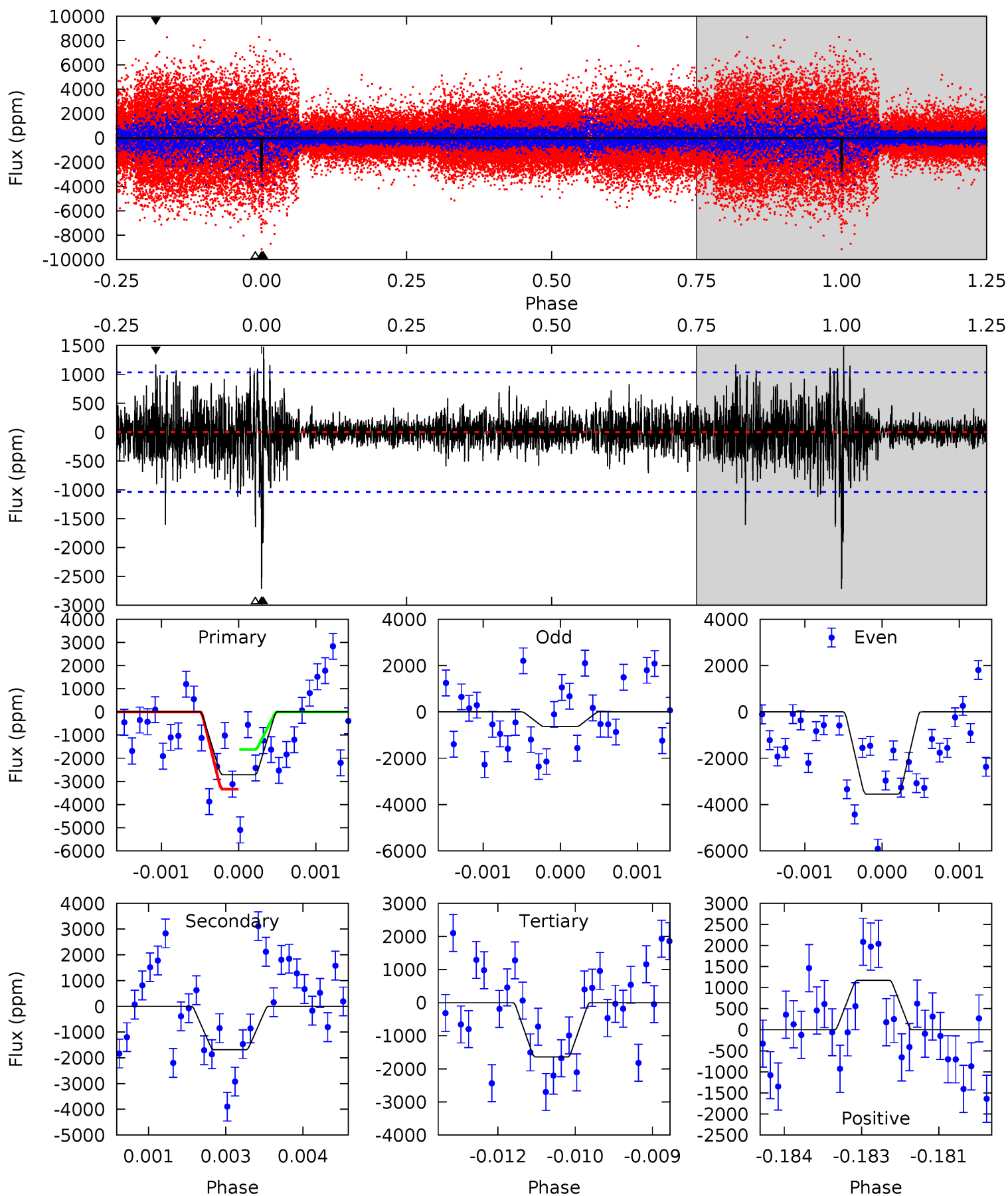
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.3	15.8	12.7	22.7	5.33	3.09	2.12	18.6	8.55	3.03	-6.98	6.16	0.98	0.42	3.48



# Alt Model-Shift Uniqueness Test

008885259-01, P = 375.725490 Days, E = 138.449354 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
14.2	8.81	8.58	6.12	5.40	3.21	1.30	5.61	8.07	0.22	2.68	7.46	0.84	0.35	4.20



### Stellar Parameters For KIC 008885259

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6318^{+177}_{-243}$	$4.394^{+0.050}_{-0.200}$	$0.210^{+0.150}_{-0.350}$	$1.179^{+0.376}_{-0.125}$	$1.256^{+0.151}_{-0.168}$	$1.080^{+0.300}_{-0.565}$
	+3%/-4%	+1%/-5%	+71%/-167%	+32%/-11%	+12%/-13%	+28%/-52%
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 008885259-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-2571 \pm 163$	$7.80^{+2.36}_{-2.06}$	$411^{+28}_{-22}$	$5857^{+1015}_{-599}$	$27571^{+23300}_{-11121}$
Alt.	$-1684 \pm 191$	$7.26^{+2.37}_{-2.04}$	$411^{+30}_{-21}$	$5511^{+968}_{-596}$	$21248^{+19756}_{-9333}$

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

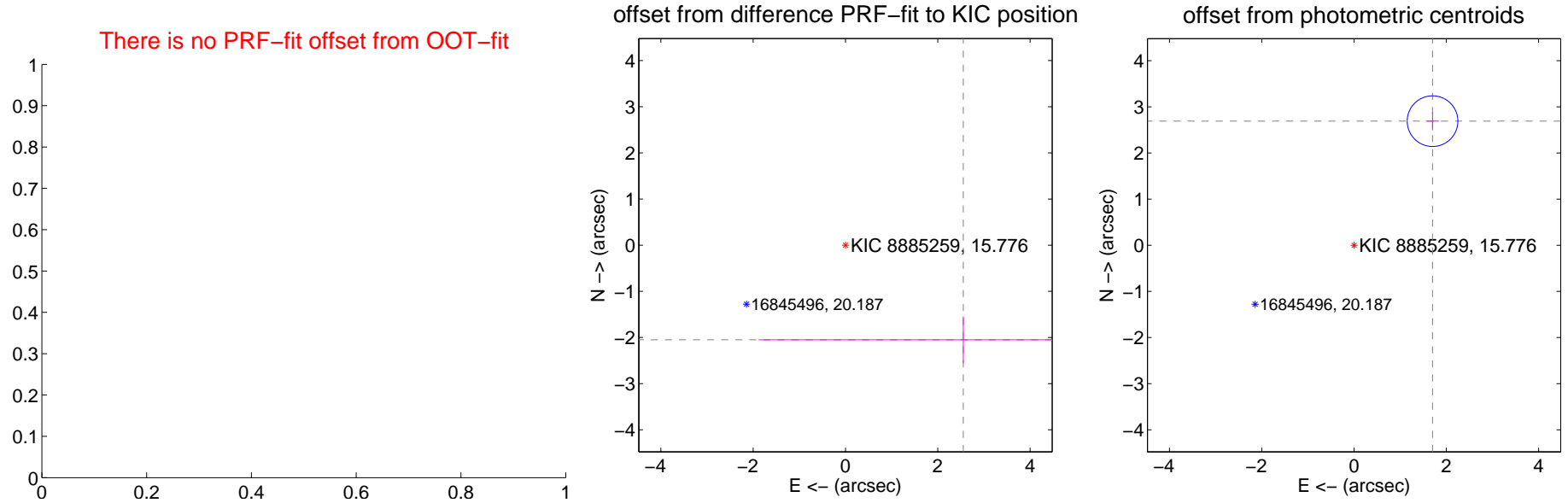
## DV Centroid Data

Supplemental centroid analysis for 008885259-01. Kepler magnitude: 15.78. Transit SNR 8.62

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	$3.275 \pm 3.473$	0.94	$-2.554 \pm 4.435$	$-2.050 \pm 0.504$
photometric centroid source offset	$3.18 \pm 0.18$	17.39	$-1.70 \pm 0.14$	$2.69 \pm 0.20$



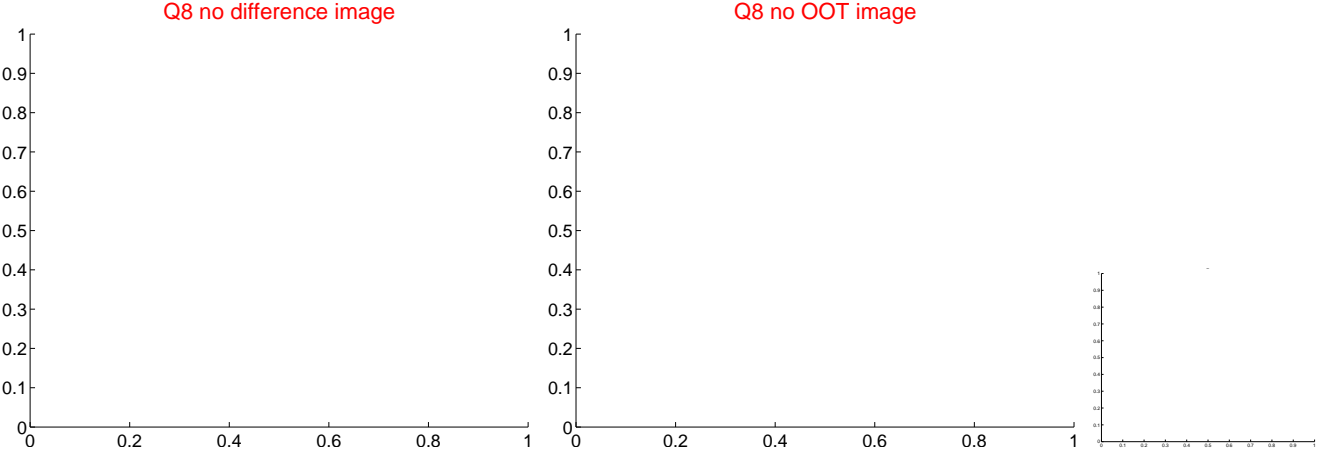
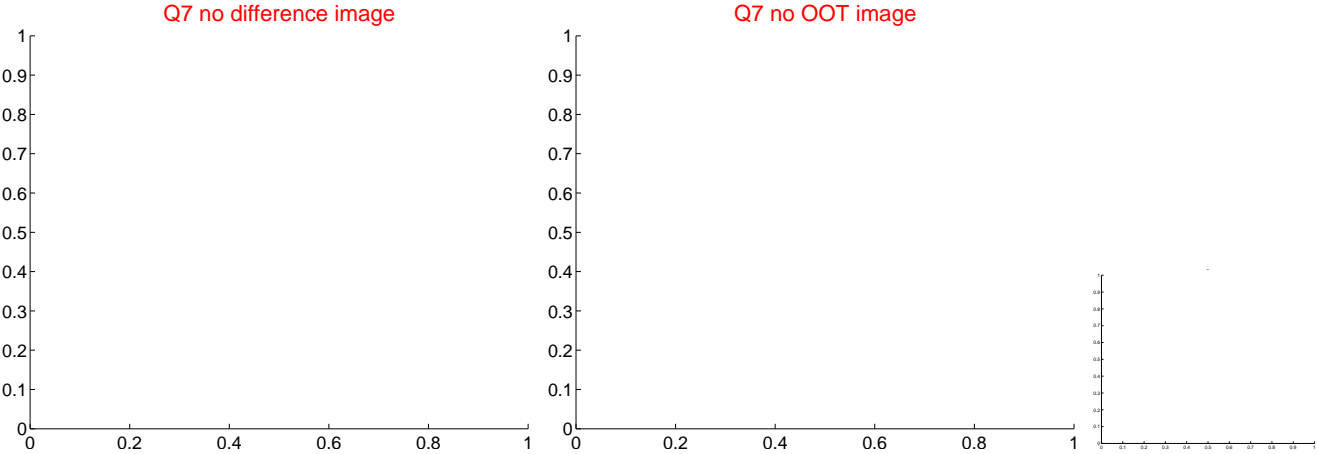
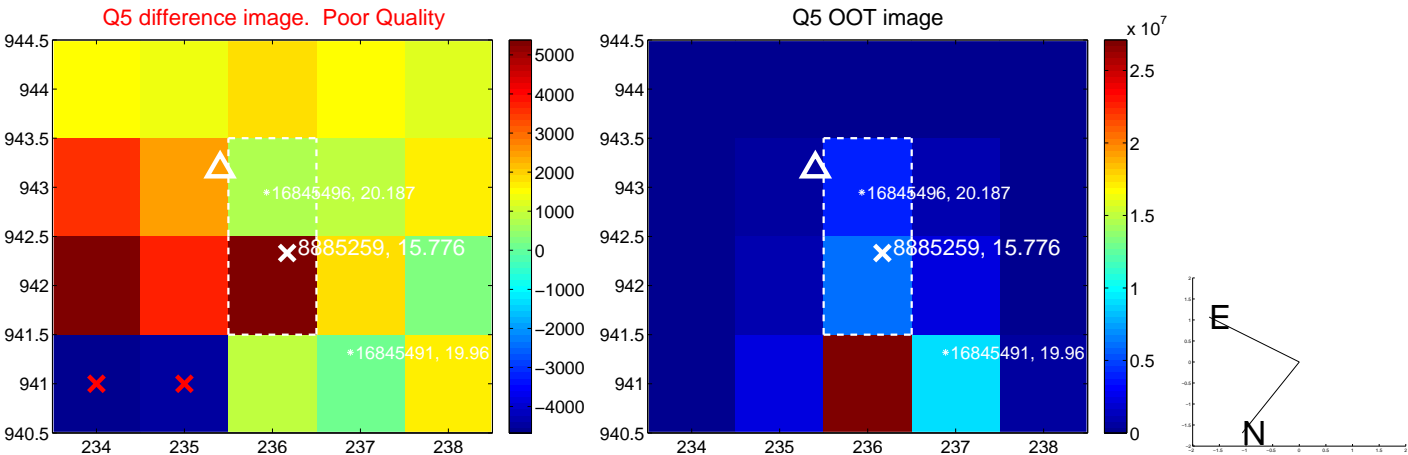
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



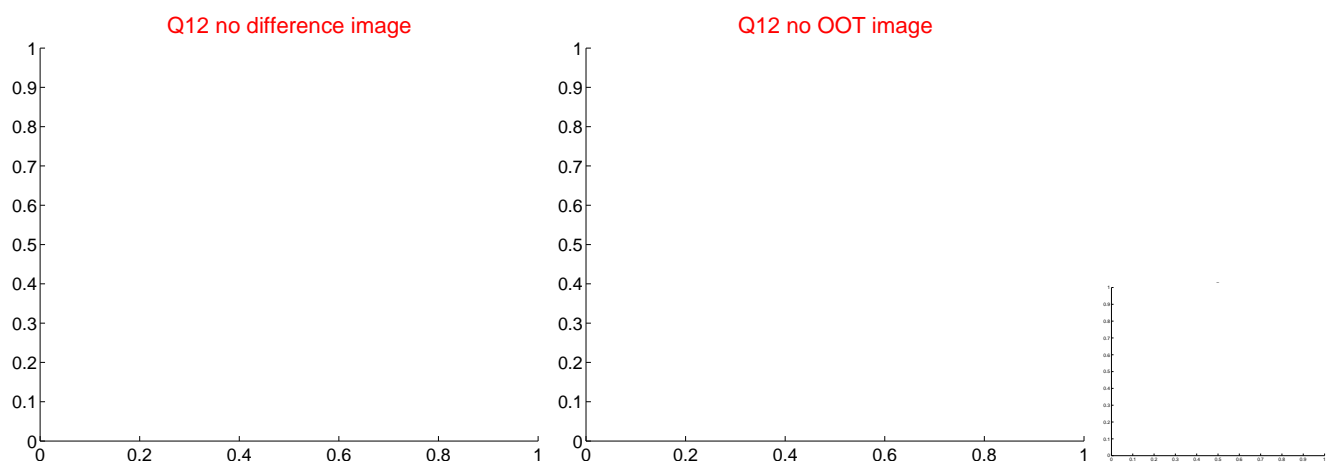
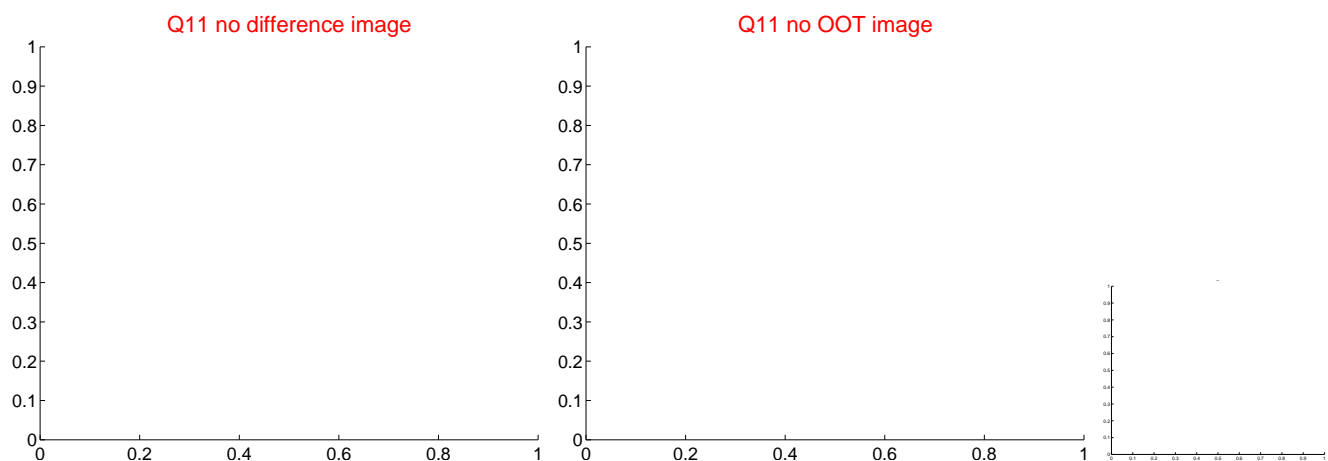
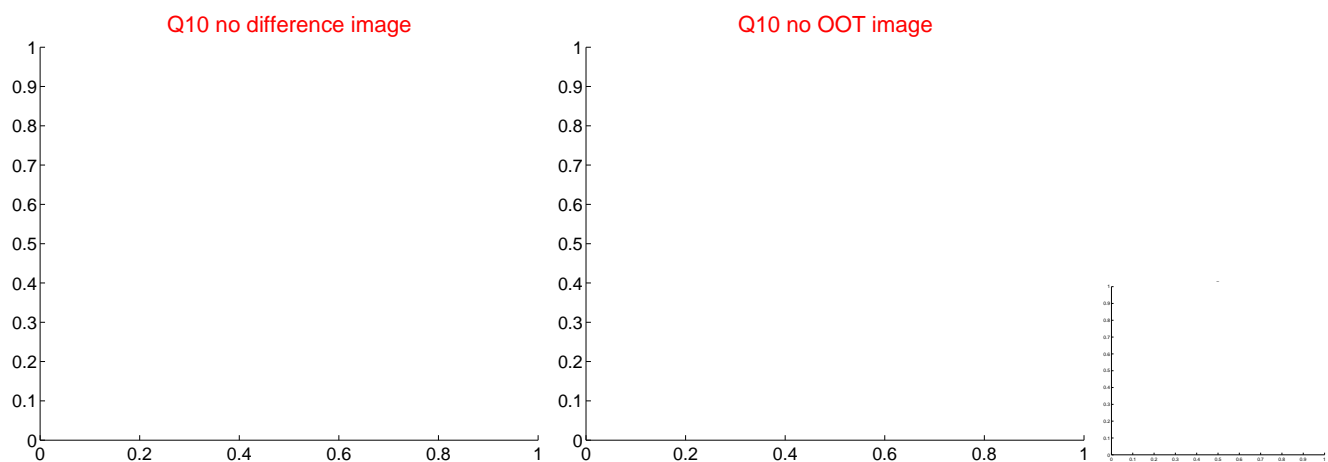
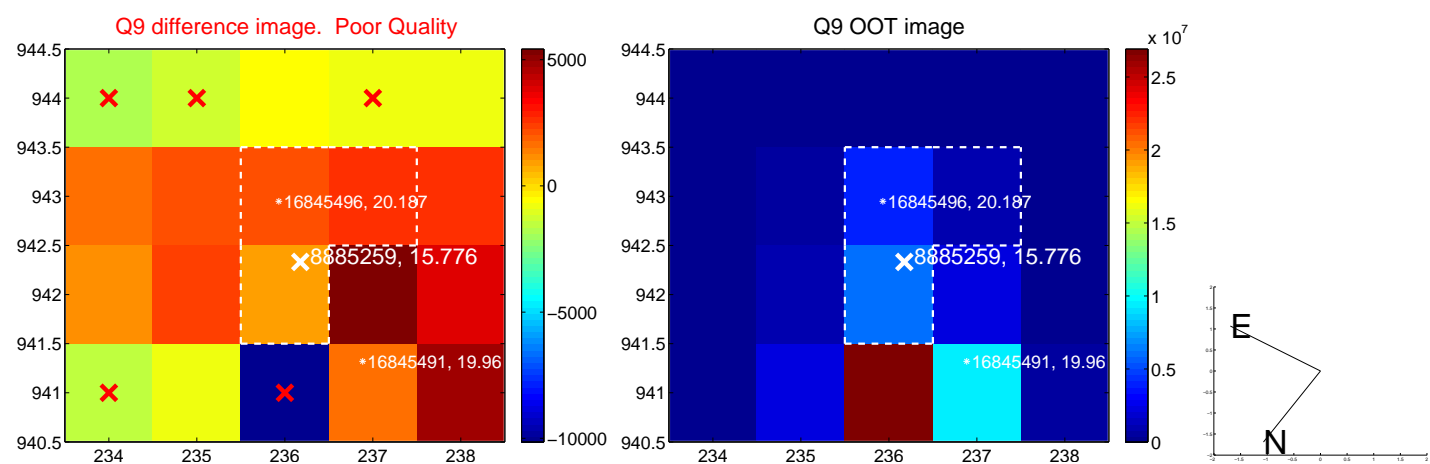
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



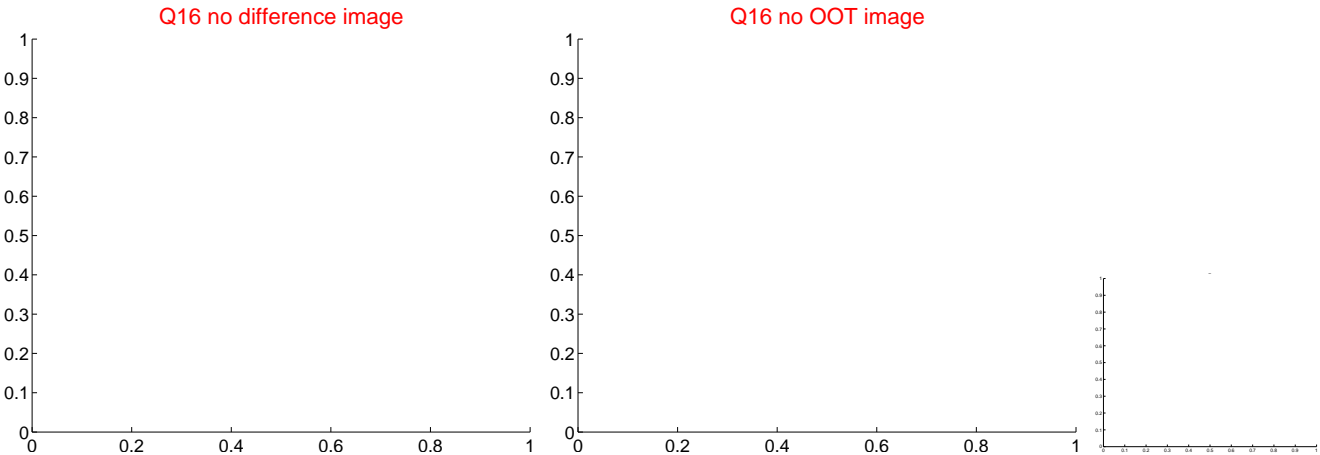
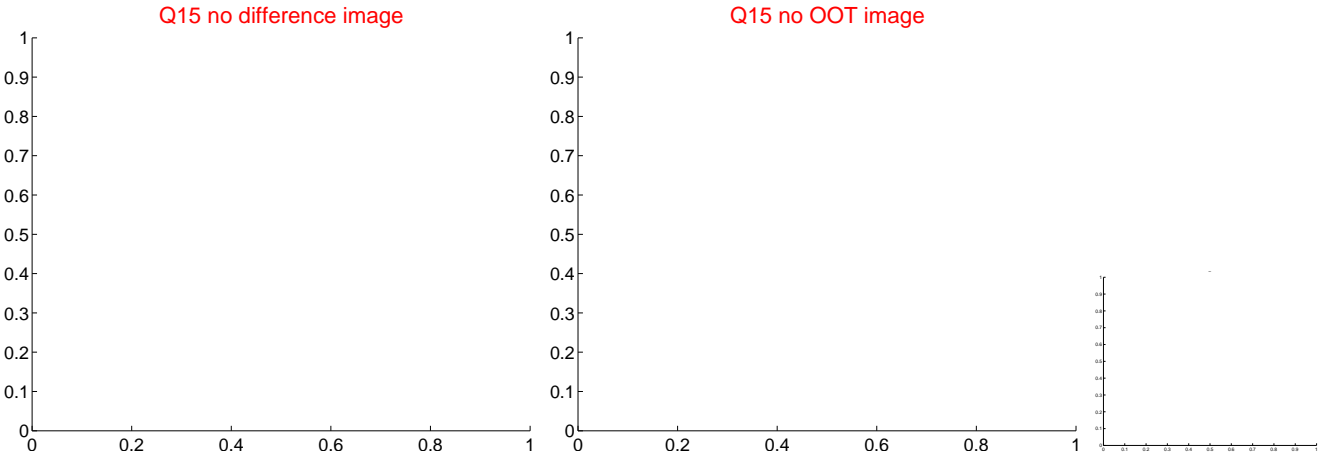
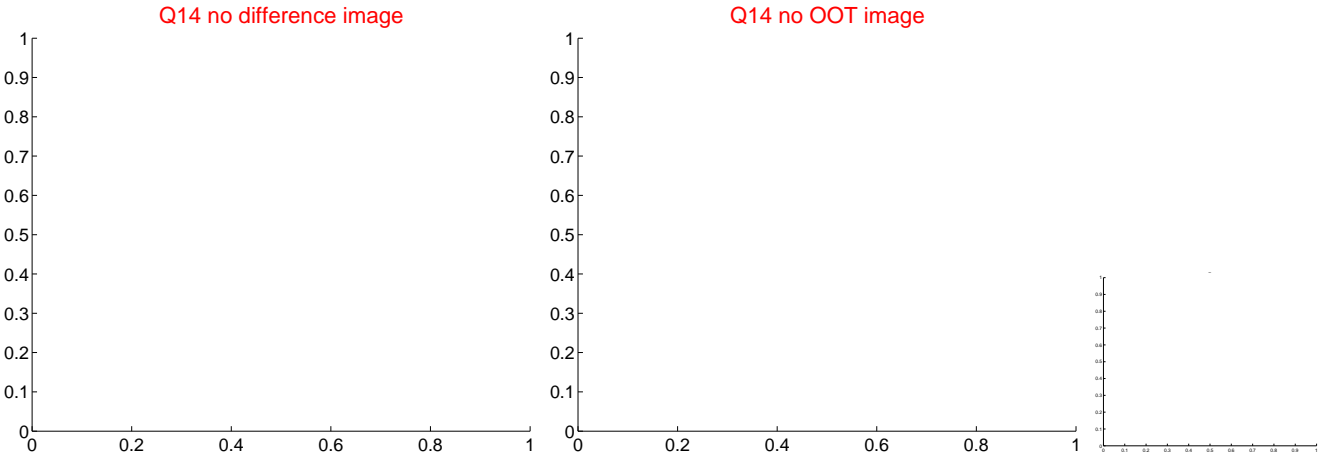
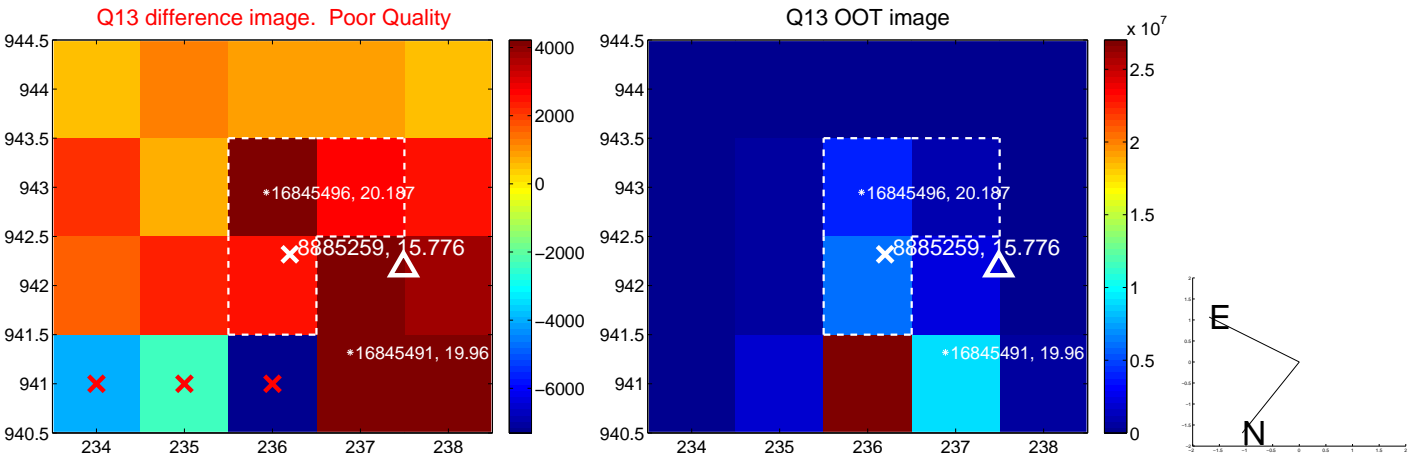
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



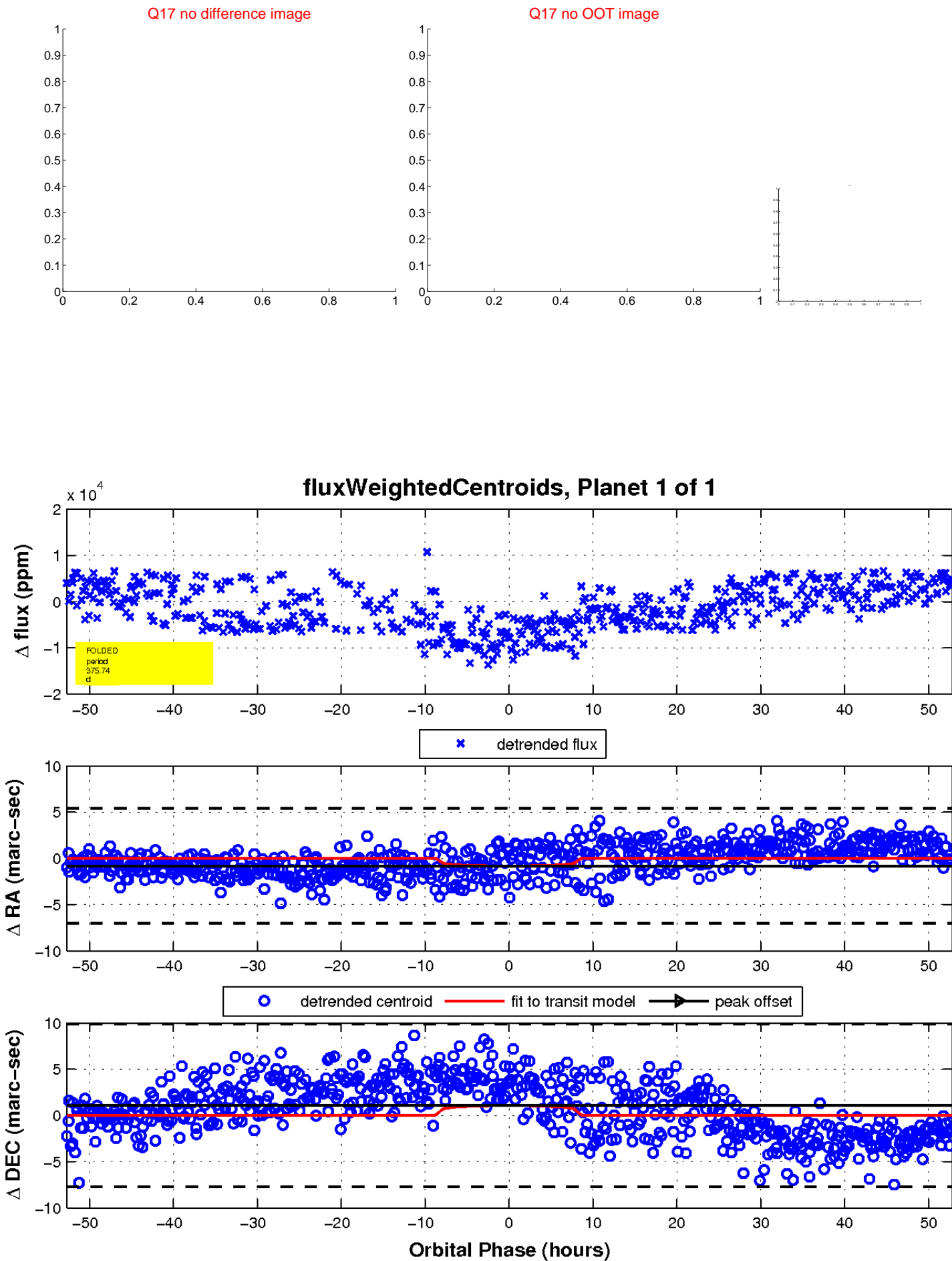
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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UKIRT Image

