

# KIC 008289125

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008289125-01	OBS	No	512.522741	375.598660	267.9	15.081	7.2	3.0	0.61	4231	1.21	0.10

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008289125-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

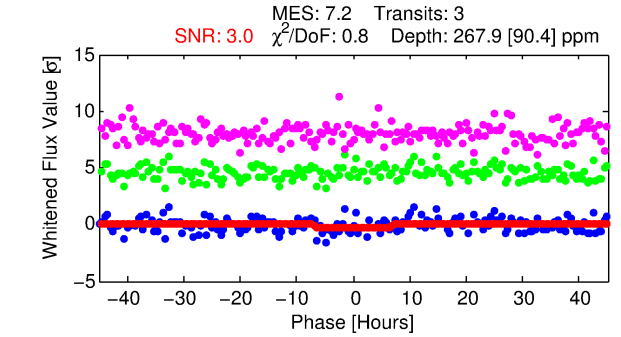
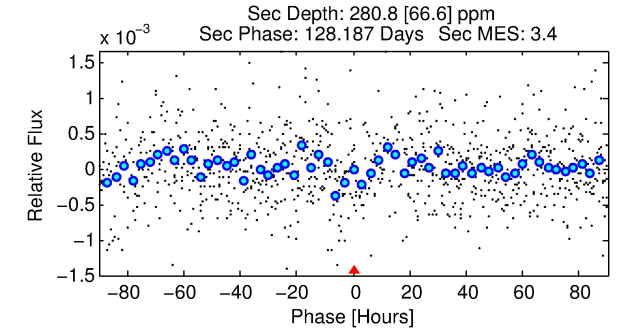
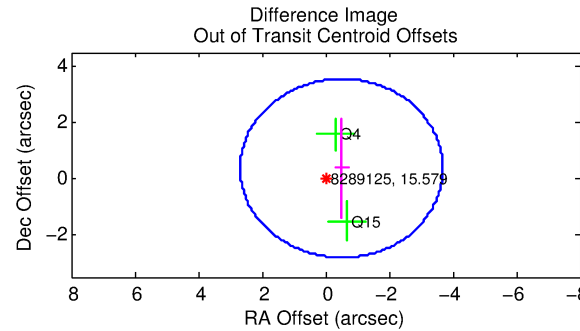
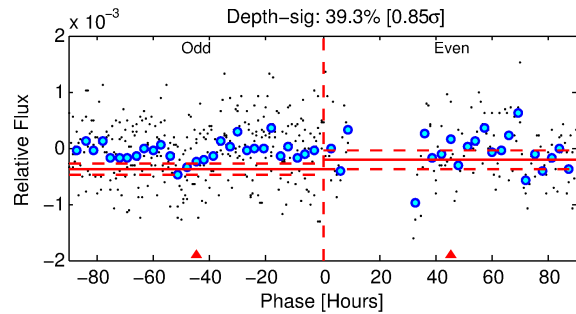
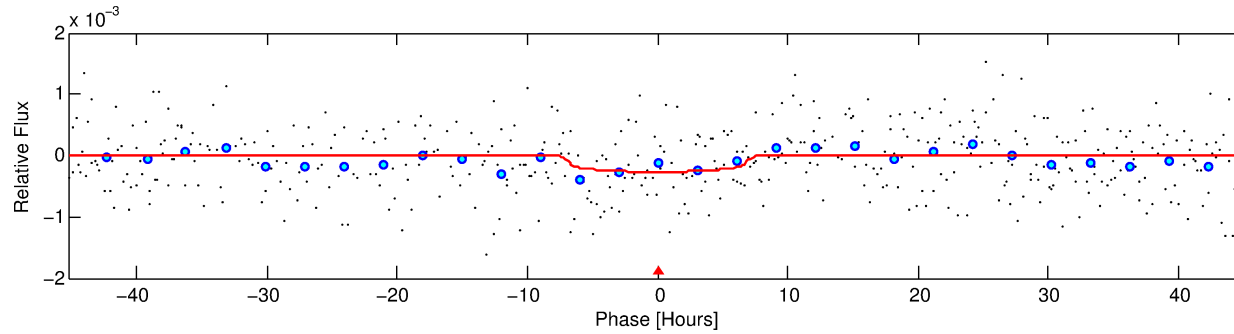
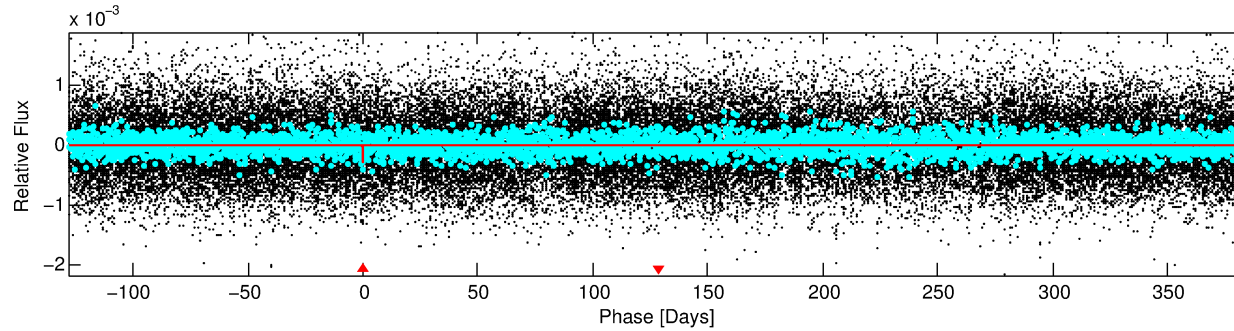
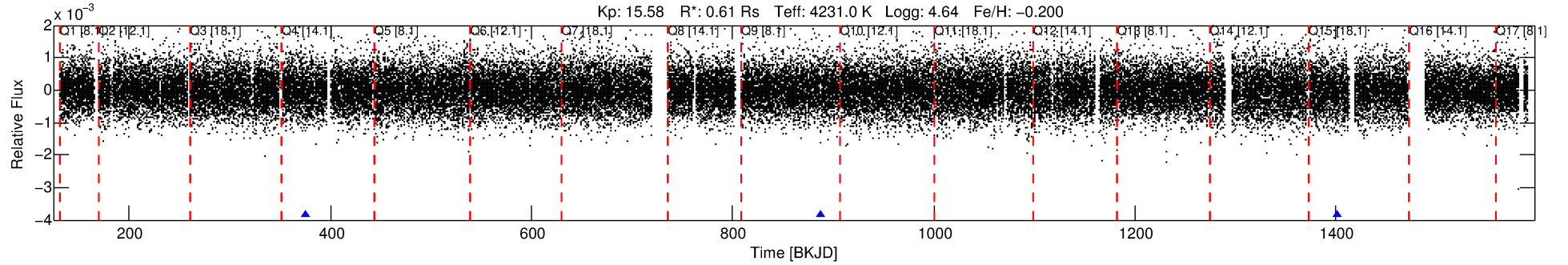
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008289125-01

No Significant Match Found

# DV One-Page Summary

KIC: 8289125 Candidate: 1 of 1 Period: 512.523 d



## DV Fit Results:

Period = 512.52274 [0.04711] d  
Epoch = 375.5987 [0.0619] BKJD  
Rp/R\* = 0.0180 [0.0093]  
a/R\* = 129.24 [245.15]  
b = 0.89 [0.46]  
Seff = 0.10 [0.02]  
Teq = 142 [6] K  
Rp = 1.21 [0.63] Re  
a = 1.0583 [0.0799] AU  
Ag = 118542.66 [125424.17] [0.95 $\sigma$ ]  
Teffp = 4079 [1081] K [3.64 $\sigma$ ]

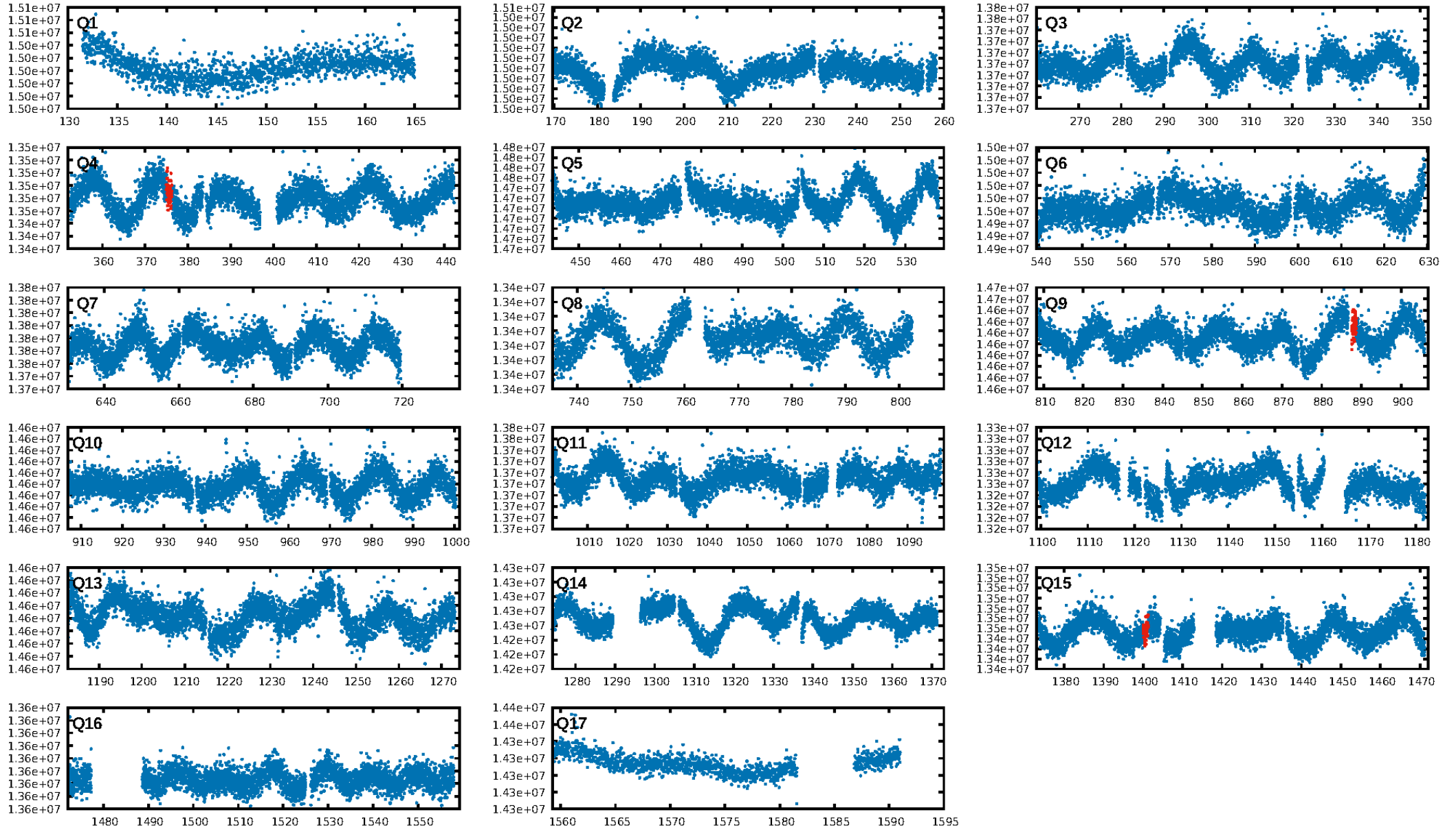
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 22.3%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.24e-07  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -2.415  
Centroid-sig: 65.3%  
Centroid-so: 1.169 arcsec [0.43 $\sigma$ ]  
OotOffset-rm: 0.624 arcsec [0.59 $\sigma$ ]  
OotOffset-st: 0/1/1/0 [2]  
KicOffset-rm: 0.697 arcsec [0.63 $\sigma$ ]  
KicOffset-st: 0/1/1/0 [2]  
DiffImageQuality-fgm: 0.50 [1/2]  
DiffImageOverlap-fno: 1.00 [2/2]

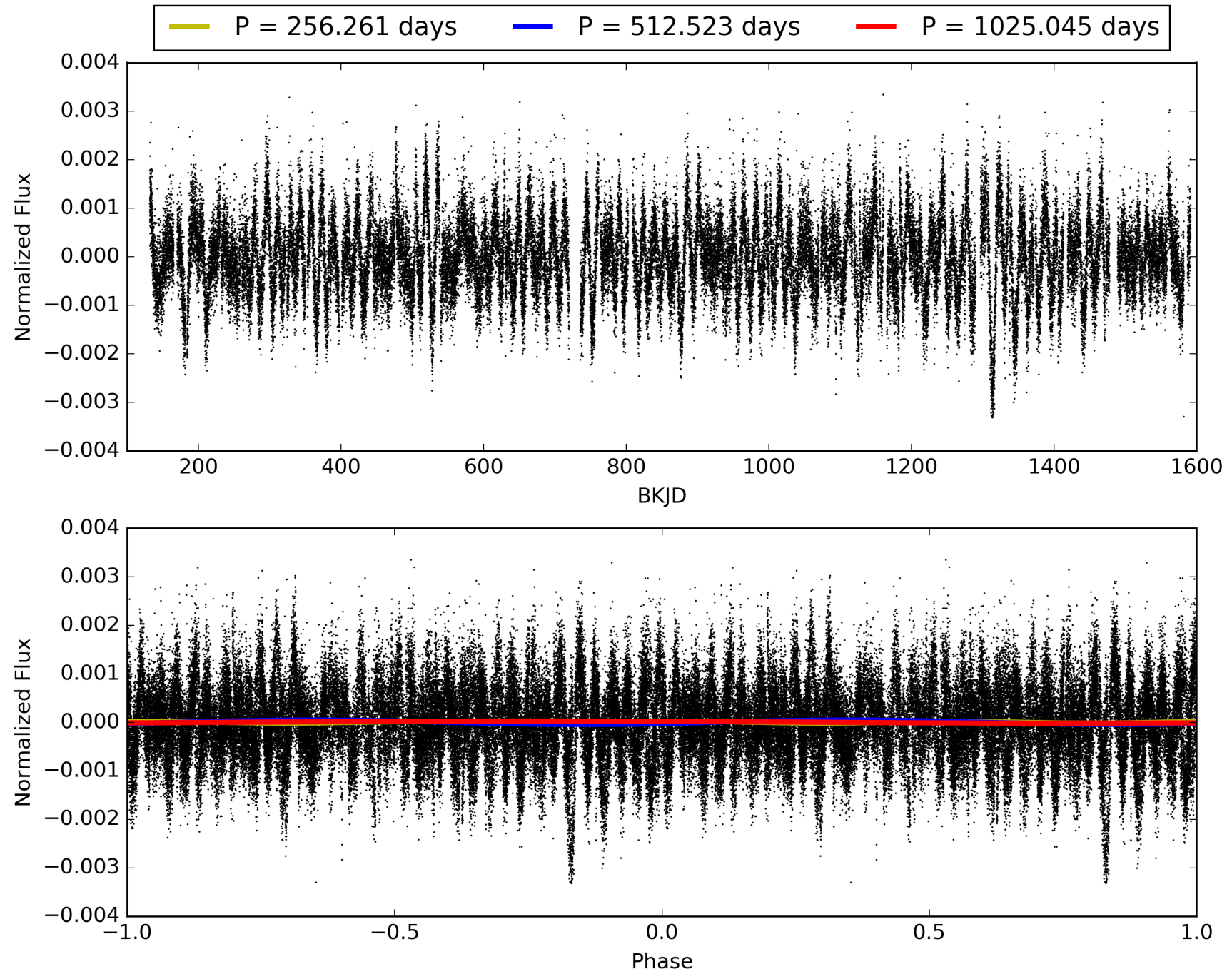
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:12:05 Z

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

# TCE 008289125-01, PDC Light Curves

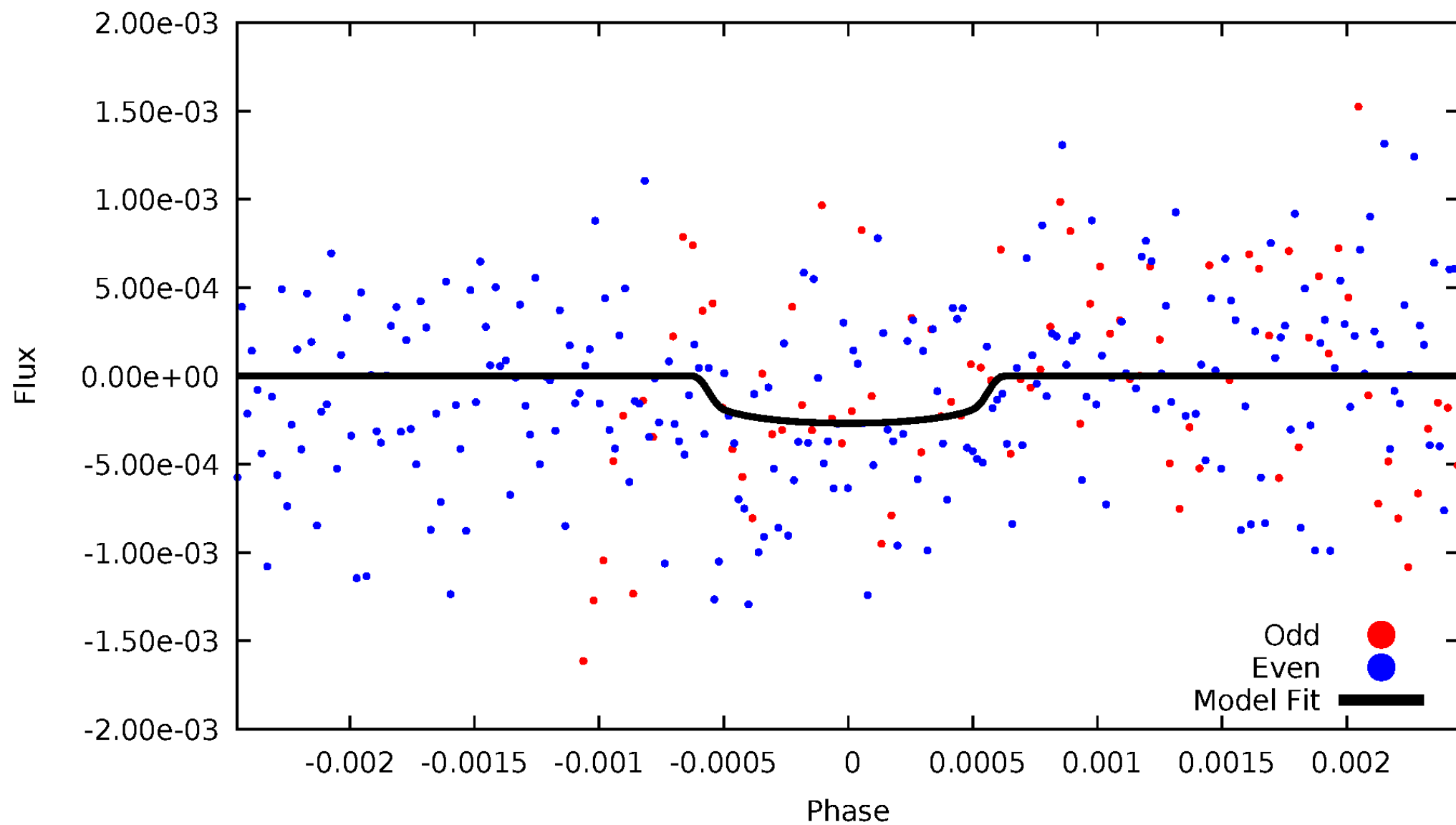


TCE 008289125-01



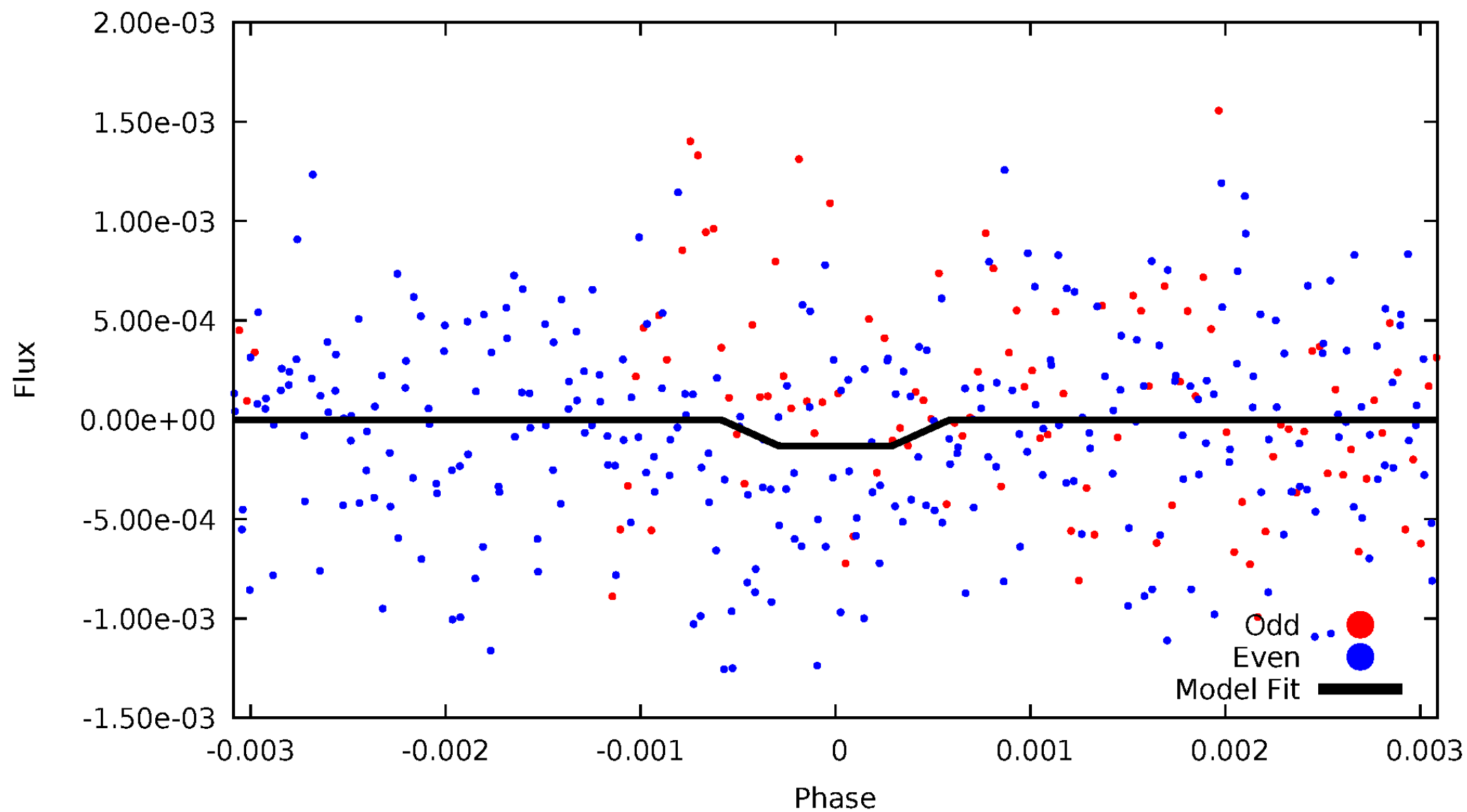
# DV Odd/Even

TCE 008289125-01

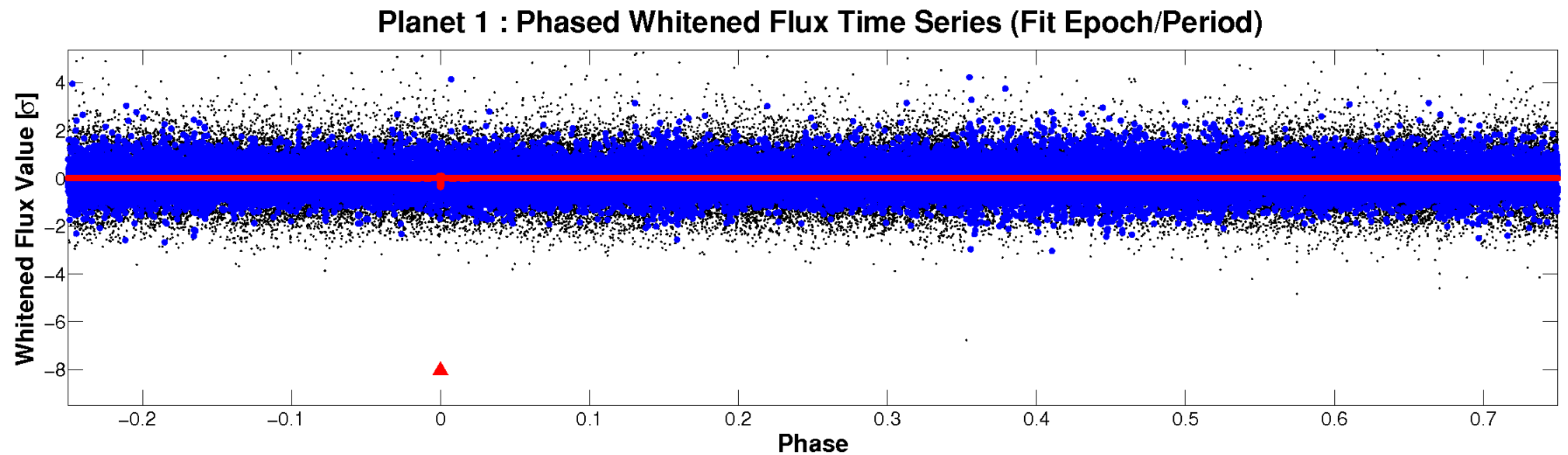
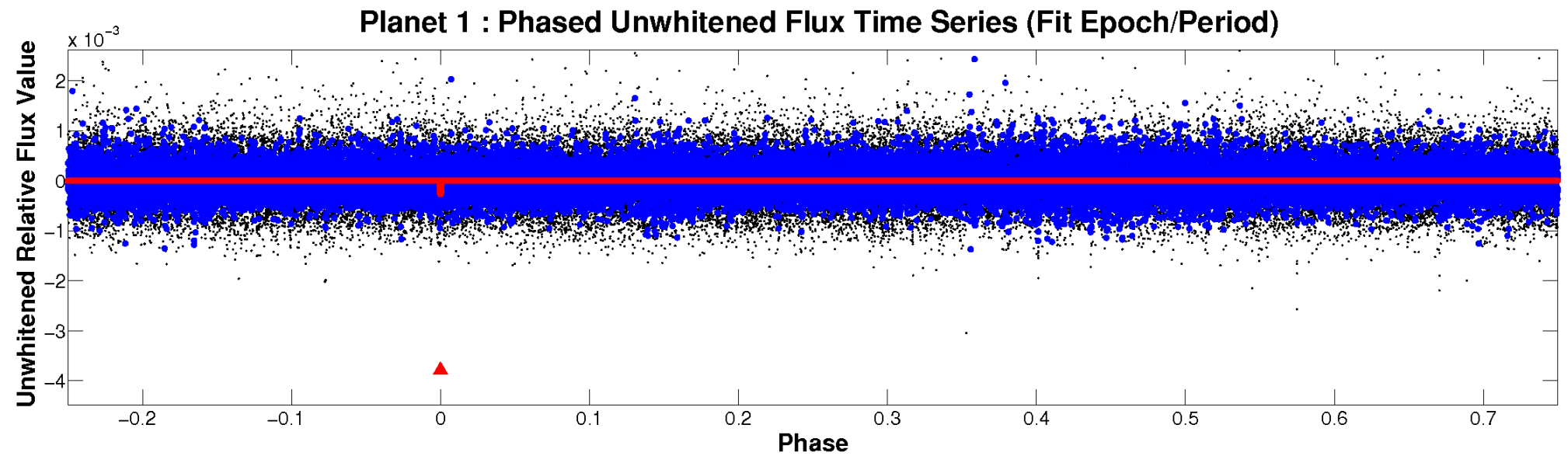


# ALT Odd/Even

TCE 008289125-01



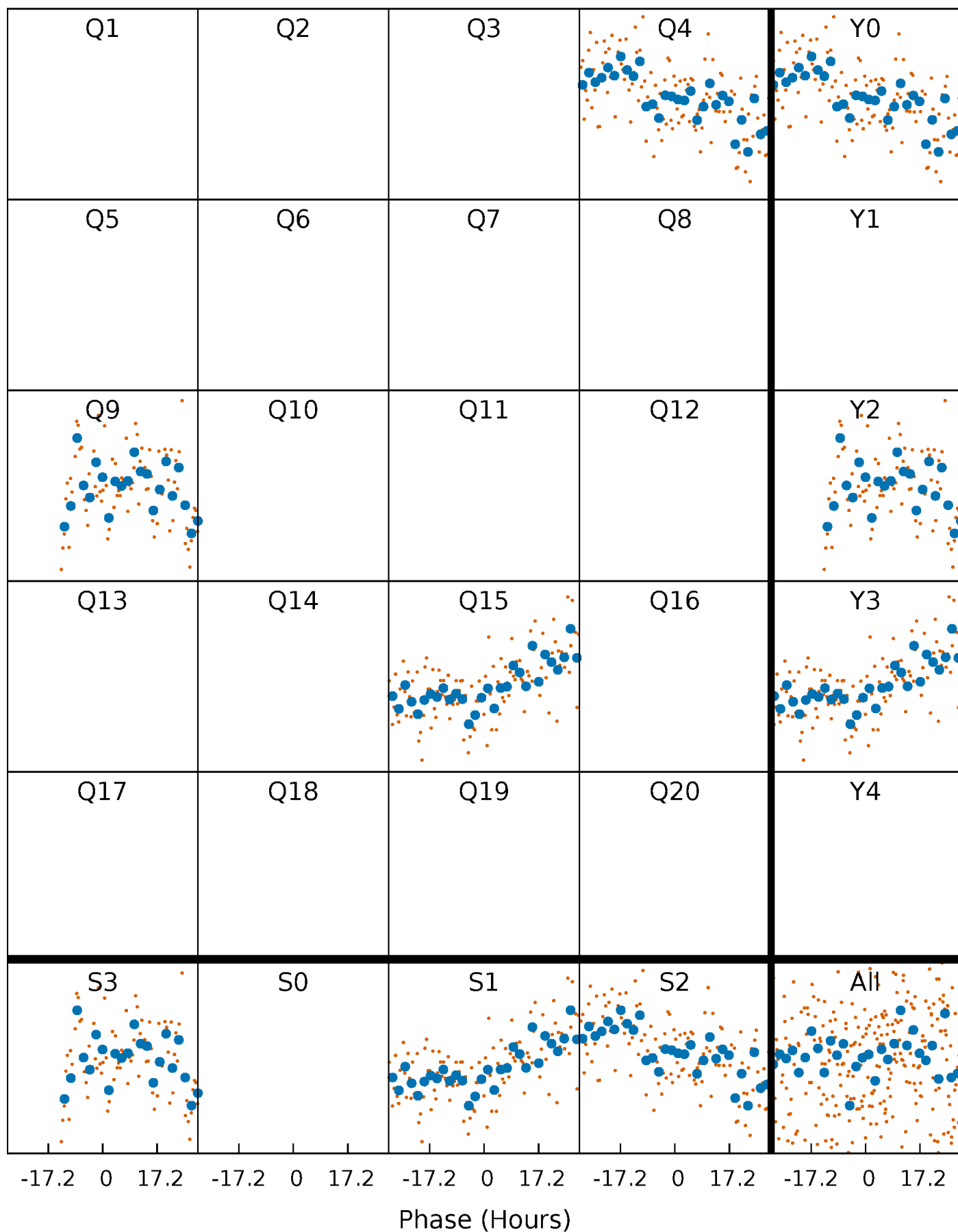
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

TCE 008289125-01 P=512.522741 Days  $T_0=375.598660$  (BKJD)





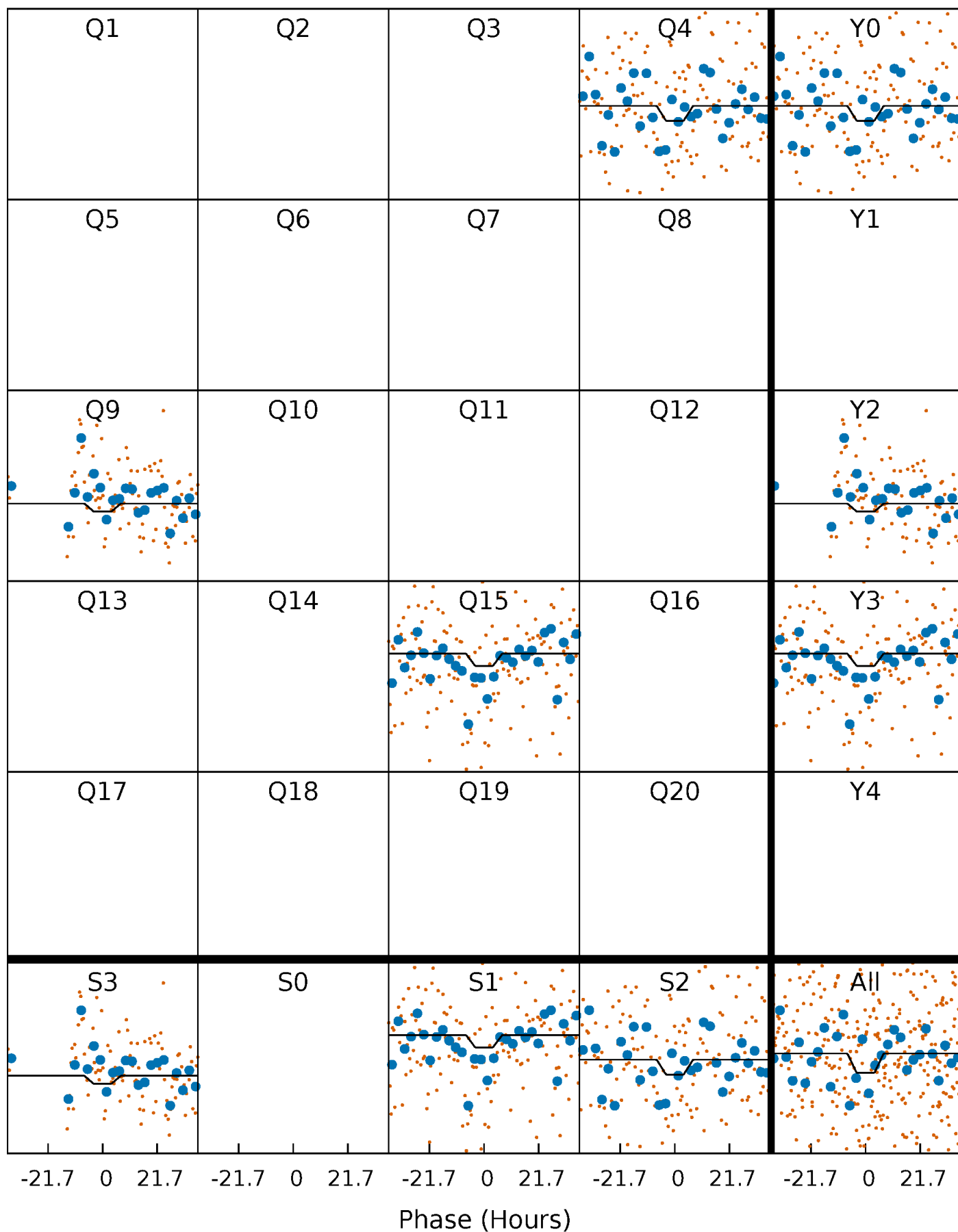
# DV Quarter-Phased Transit Curves

TCE 008289125-01 P=512.522741 Days  $T_0=375.598660$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

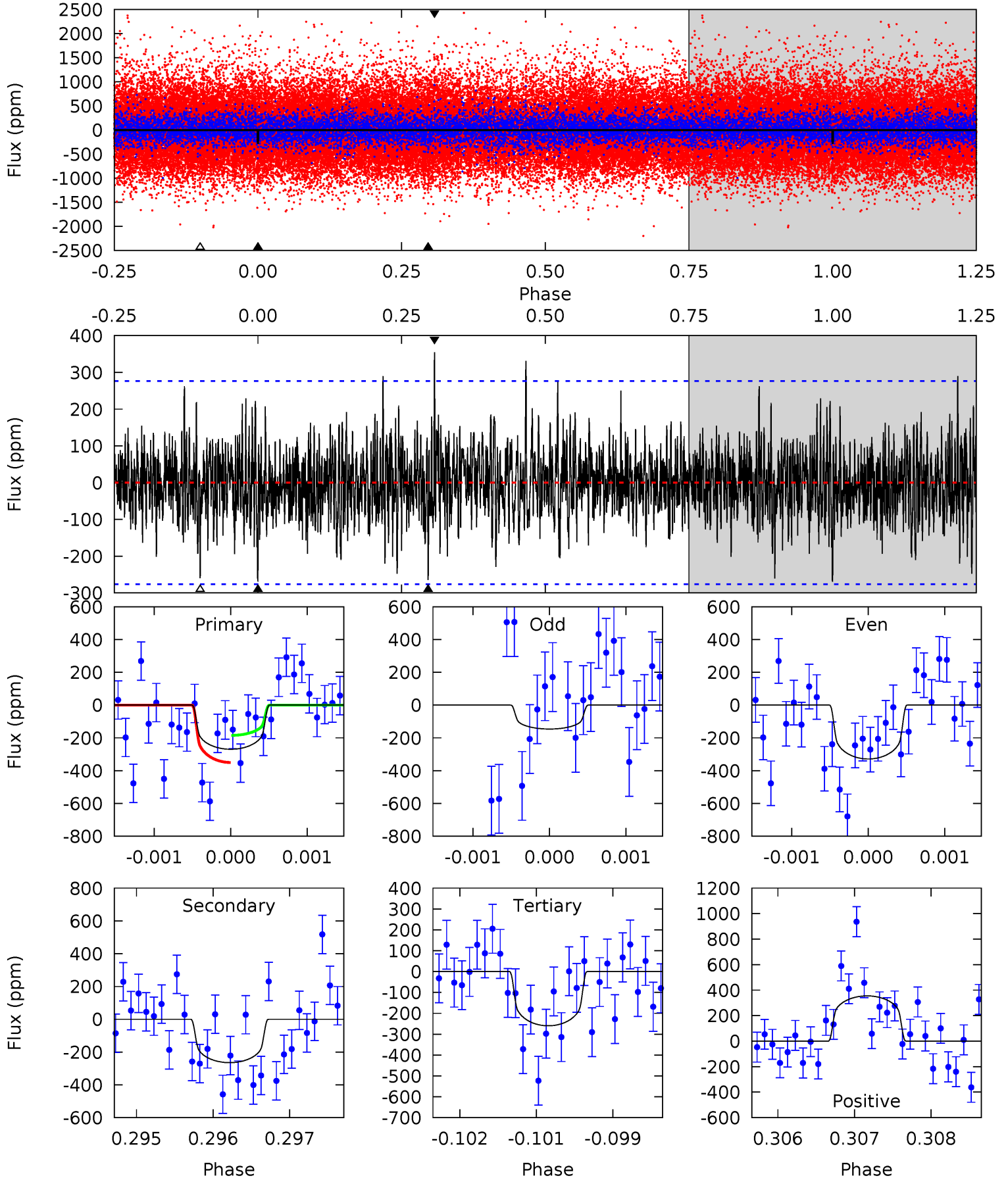
TCE 008289125-01 P=512.569041 Days  $T_0=375.593756$  (BKJD)



# DV Model-Shift Uniqueness Test

008289125-01, P = 512.522741 Days, E = 375.598660 Days

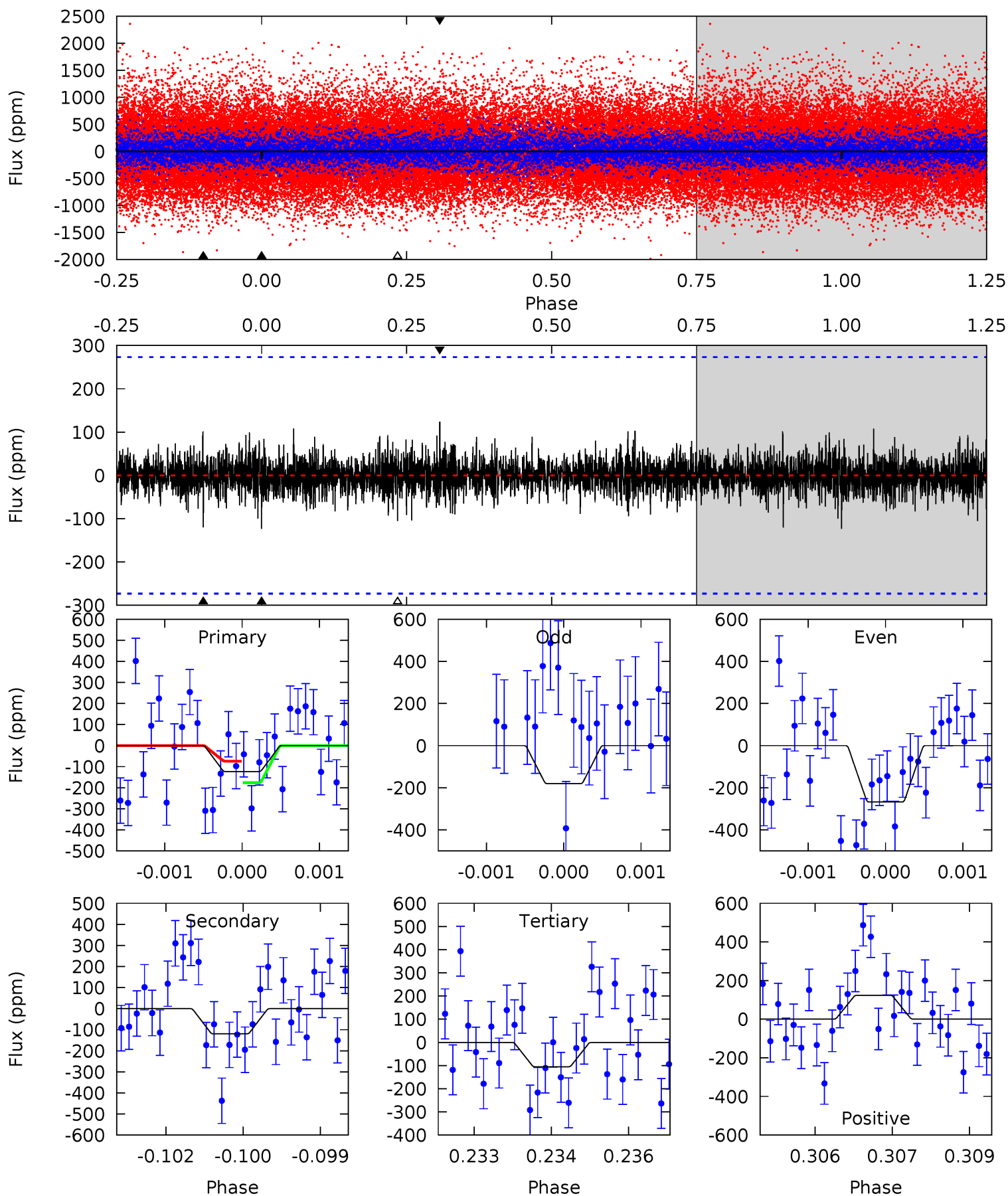
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.28	5.18	5.09	6.94	5.41	3.23	1.48	0.19	-1.66	0.09	-1.76	1.67	1.57	0.57	1.62



# Alt Model-Shift Uniqueness Test

008289125-01, P = 512.569041 Days, E = 375.593756 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
2.45	2.38	2.09	2.45	5.42	3.24	0.58	0.36	-0.00	0.29	-0.08	0.80	0.78	0.50	1.02



### Stellar Parameters For KIC 008289125

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$4231^{+127}_{-127}$	$4.641^{+0.052}_{-0.024}$	$-0.200^{+0.300}_{-0.300}$	$0.614^{+0.039}_{-0.059}$	$0.601^{+0.061}_{-0.055}$	$3.665^{+0.925}_{-0.390}$
	+3%/-3%	+1%/-1%	+150%/-150%	+6%/-10%	+10%/-9%	+25%/-11%
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 008289125-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-265 \pm 51$	$1.22^{+0.66}_{-0.60}$	$197^{+7}_{-7}$	$4045^{+1192}_{-578}$	$111043^{+305496}_{-65639}$
Alt.	$-120 \pm 50$	$0.86^{+0.60}_{-0.50}$	$197^{+7}_{-7}$	$3925^{+1604}_{-680}$	$92472^{+443559}_{-63596}$

$T_{\text{max}}$  = 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

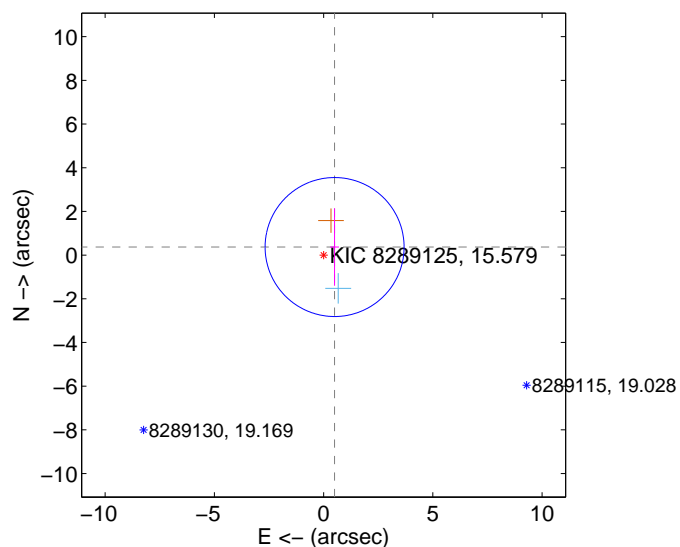
Supplemental centroid analysis for 008289125-01. Kepler magnitude: 15.58. Transit SNR 2.95

There are 1 quarters with good PRF difference image offsets

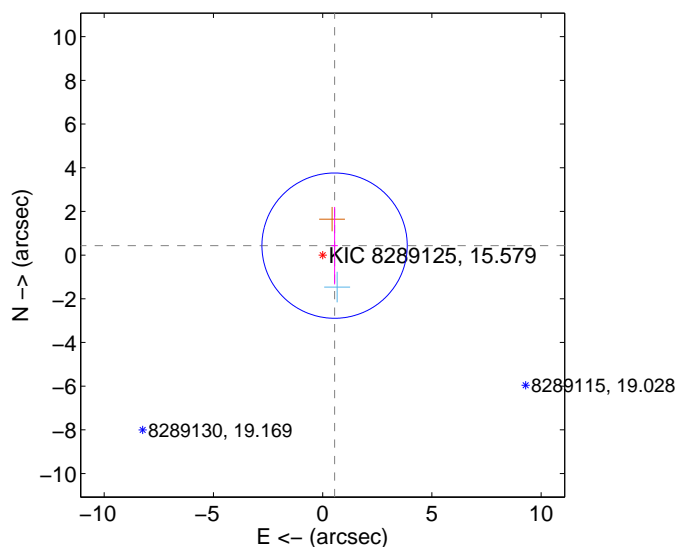
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.624 \pm 1.060$	0.59	$-0.503 \pm 0.204$	$0.369 \pm 1.771$
PRF-fit source offset from KIC position	$0.697 \pm 1.109$	0.63	$-0.546 \pm 0.151$	$0.433 \pm 1.774$
photometric centroid source offset	$1.17 \pm 2.69$	0.43	$-0.17 \pm 3.13$	$-1.16 \pm 2.68$

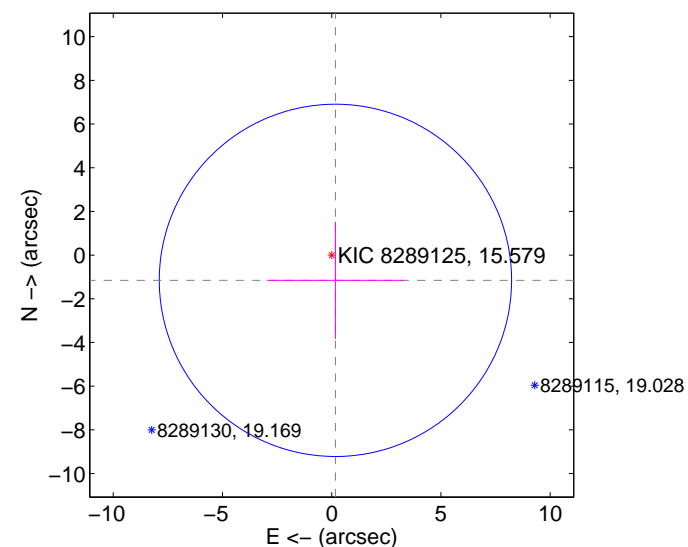
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

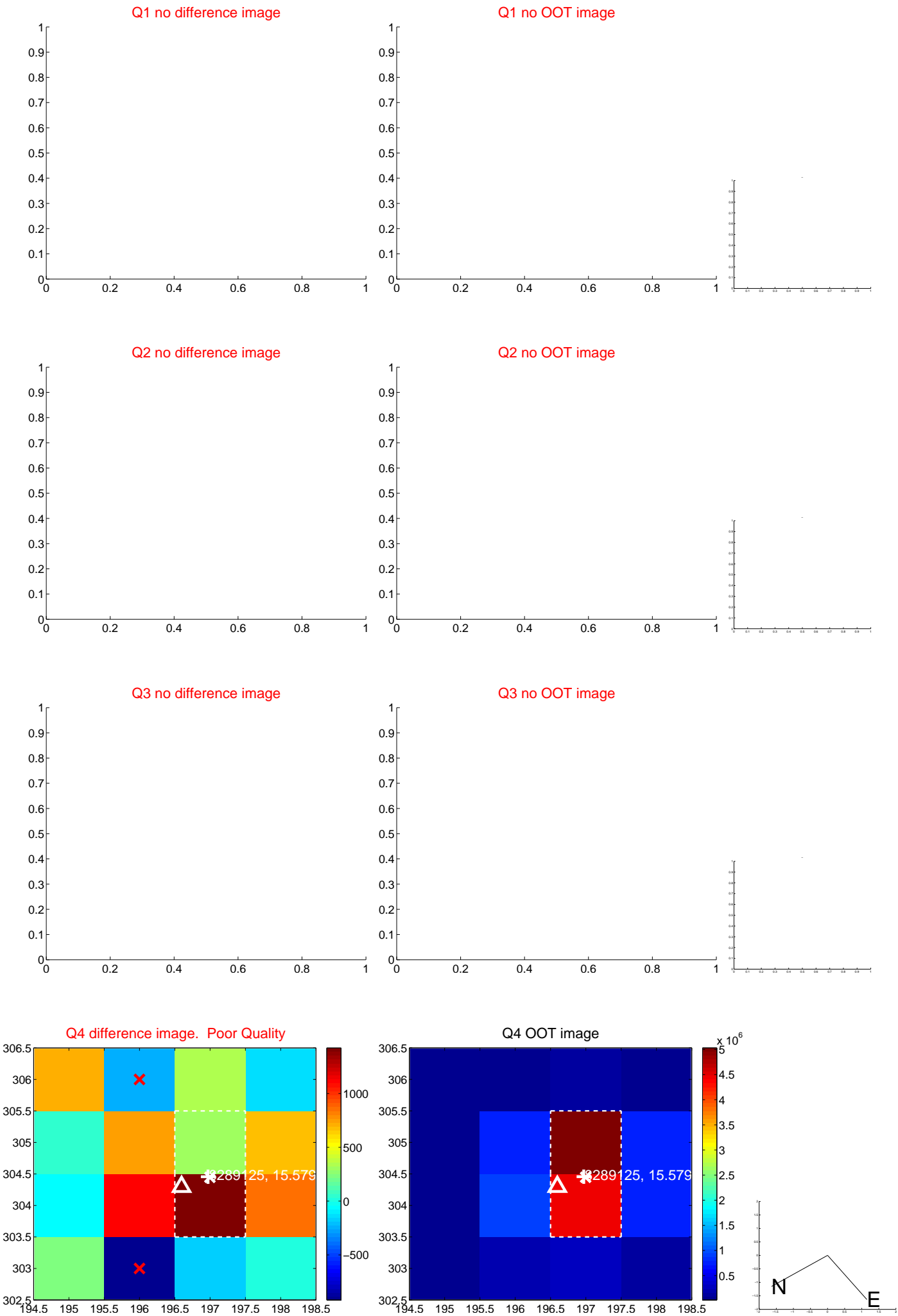


offset from photometric centroids



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.





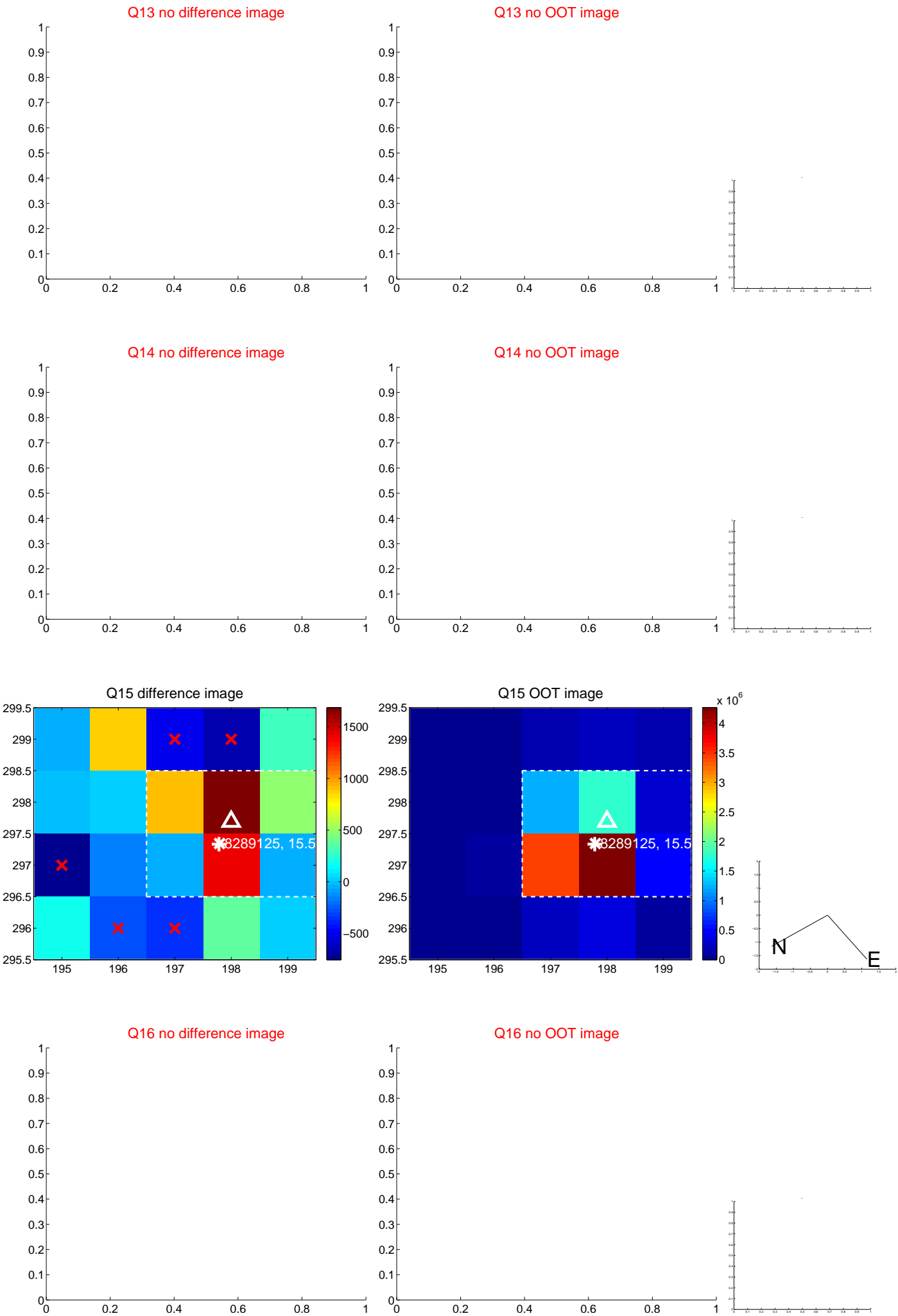
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



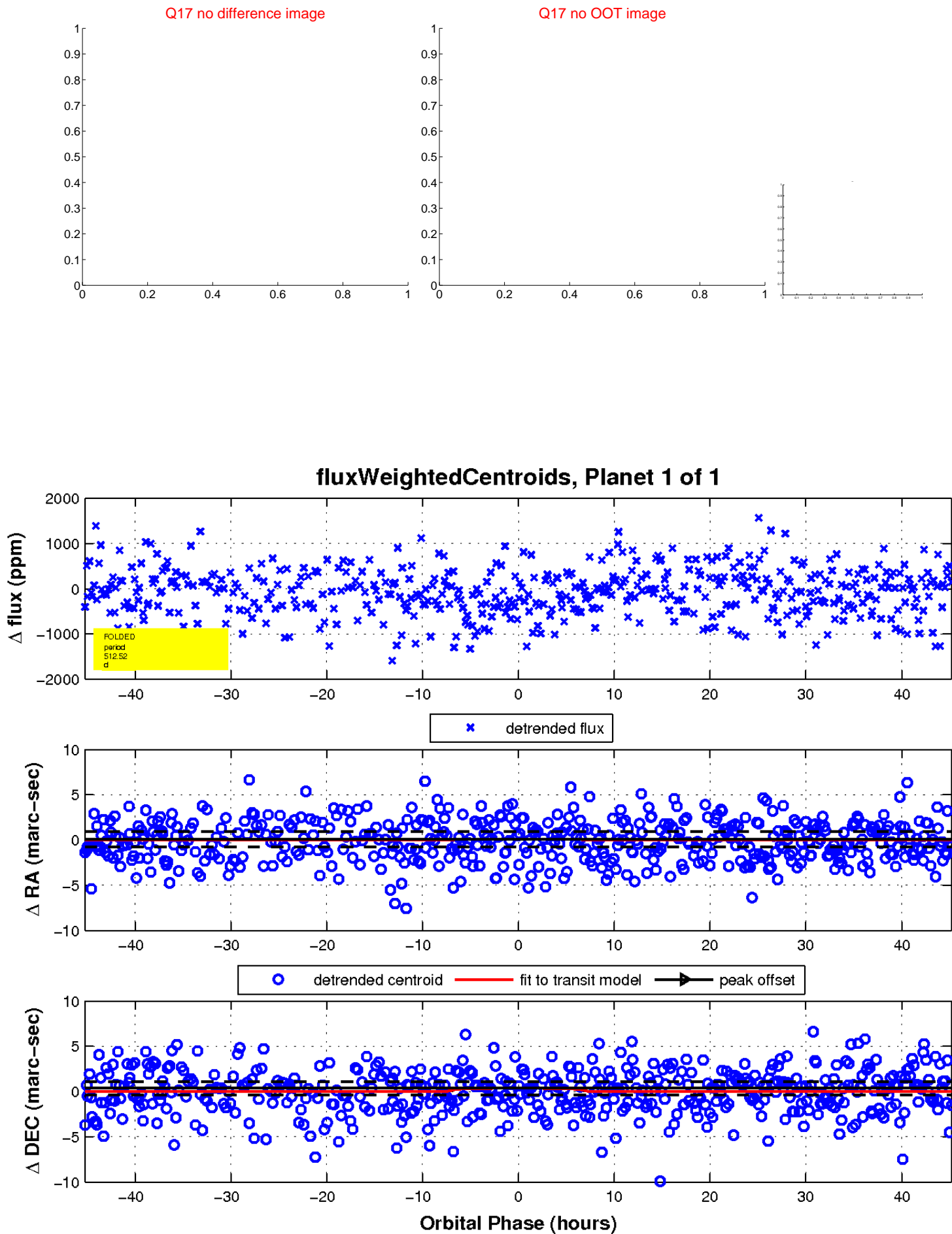
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white ×: 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.



UKIRT Image

Declination

