

# KIC 004827662

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004827662-01	OBS	No	2.714091	133.026767	28.8	26.616	9.7	4.6	1.16	6395	0.66	1294.37

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004827662-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV

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

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

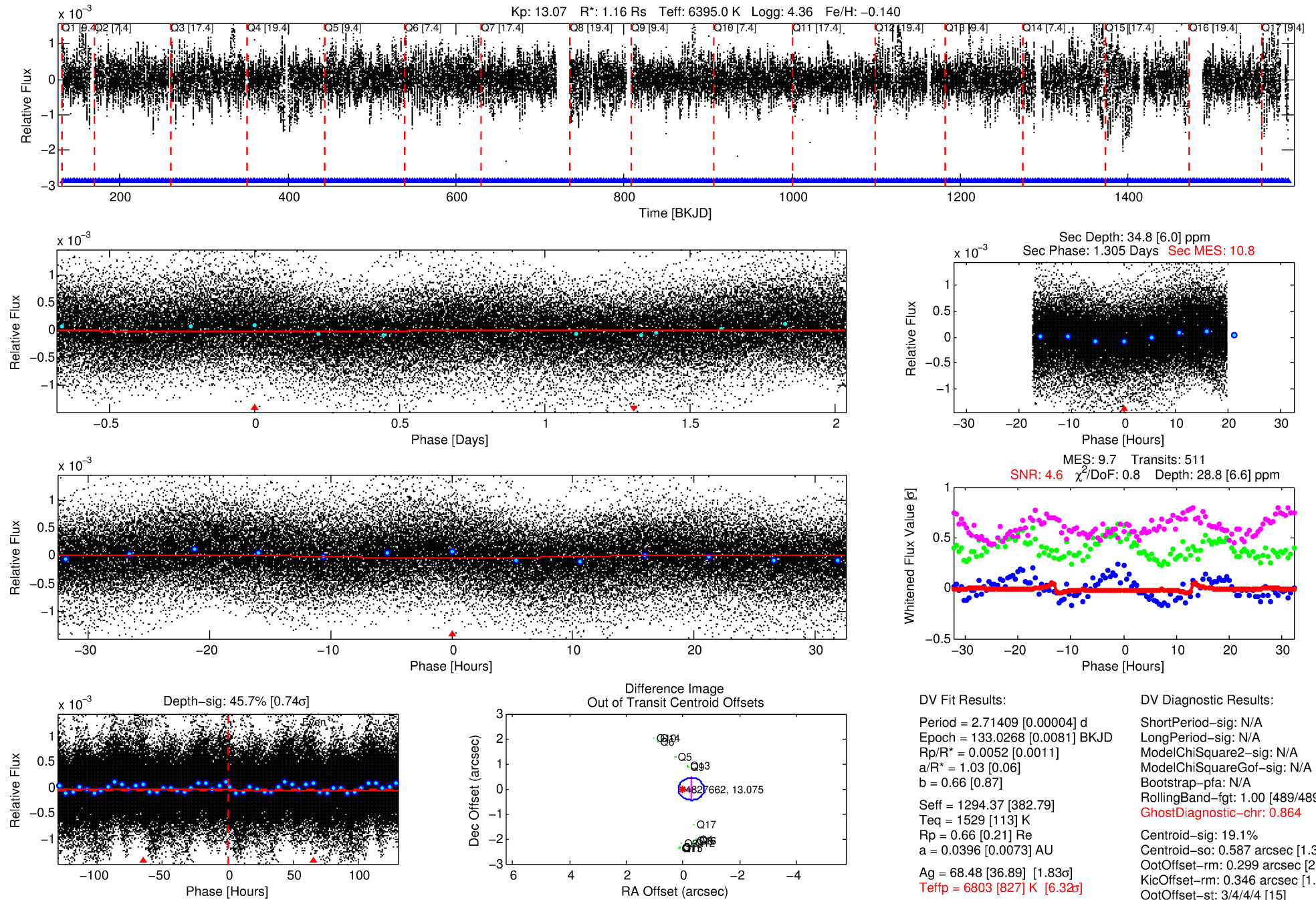
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004827662-01

No Significant Match Found

# DV One-Page Summary

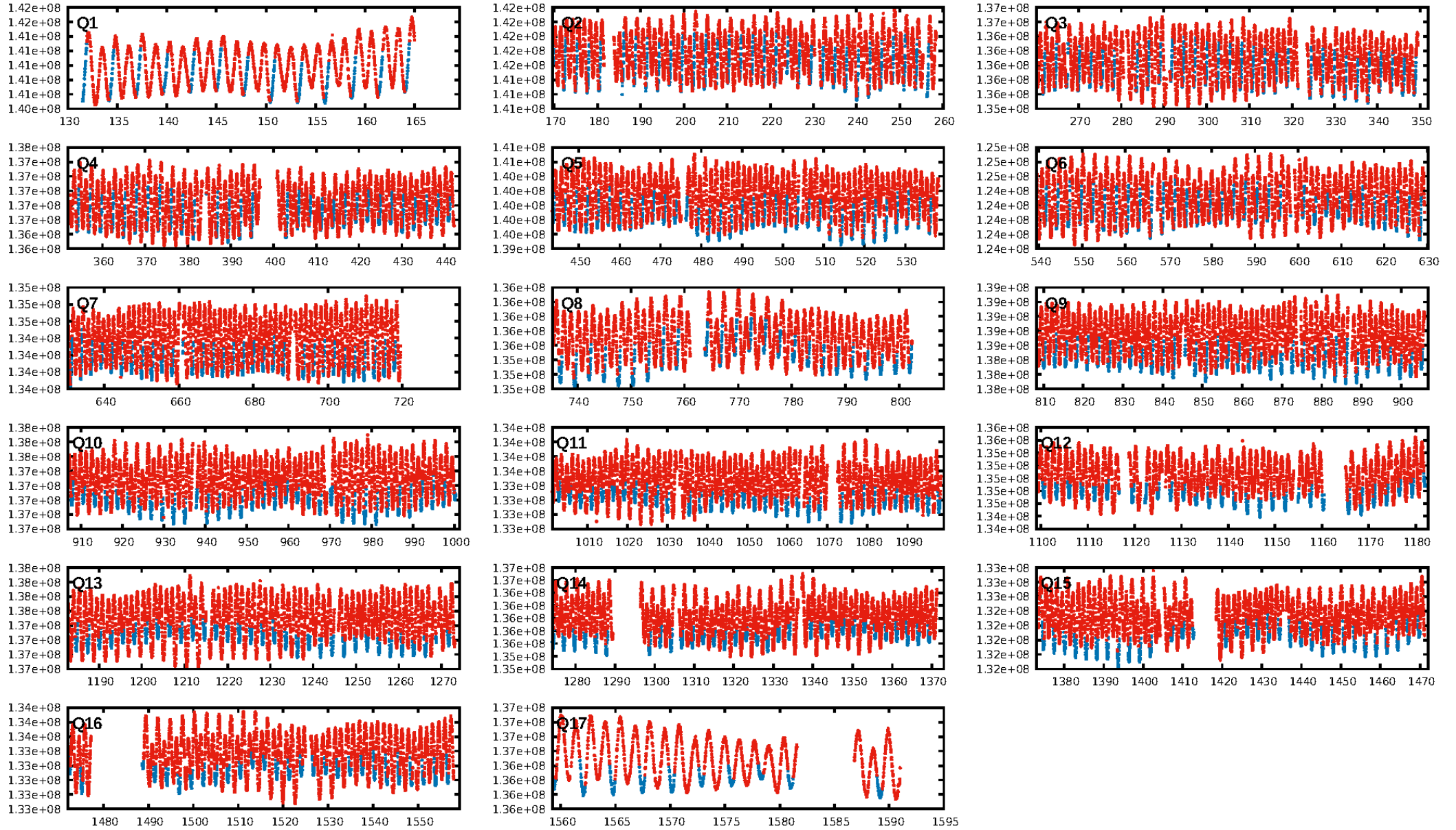
KIC: 4827662 Candidate: 1 of 1 Period: 2.714 d



Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:33:34 Z

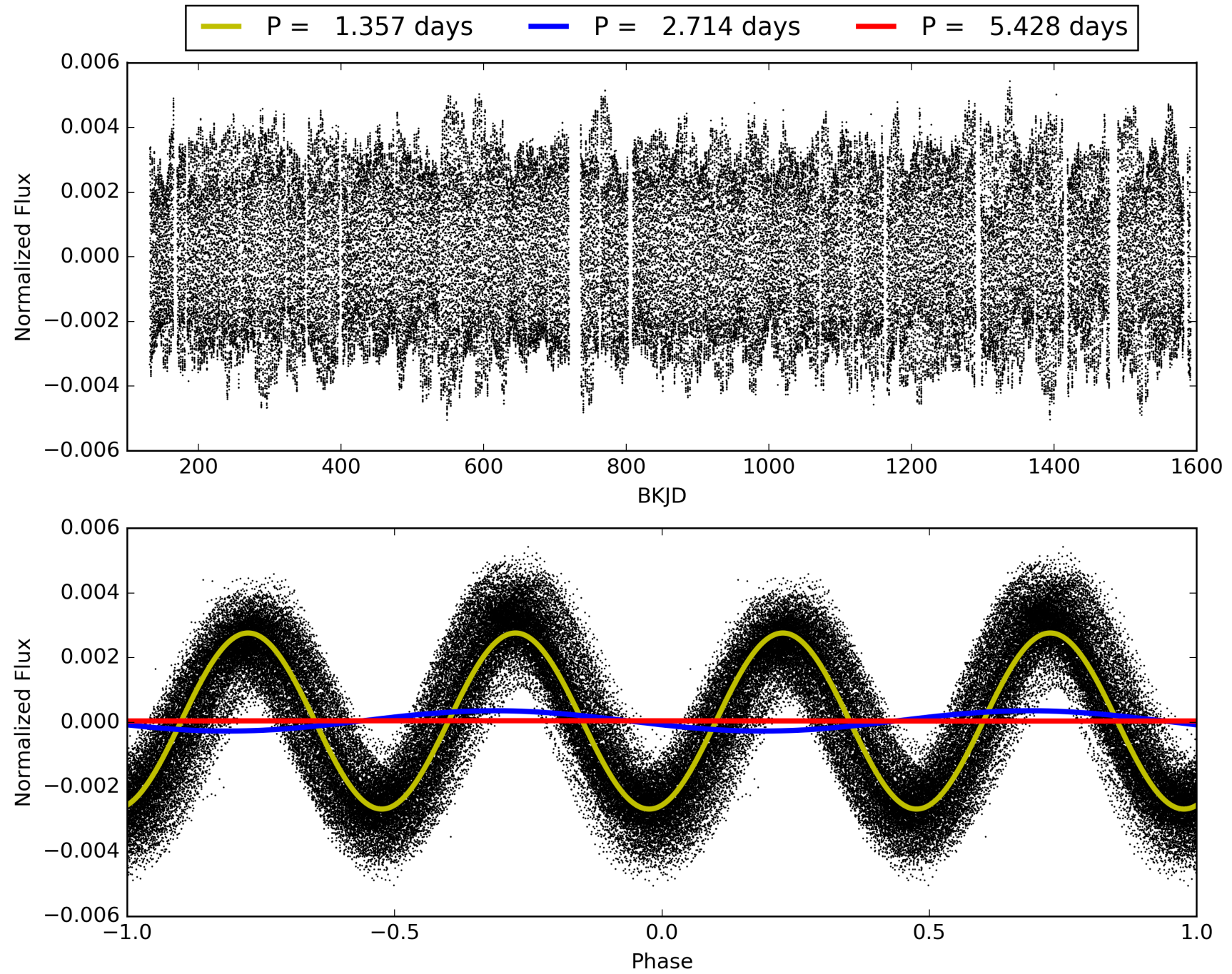
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 004827662-01, PDC Light Curves



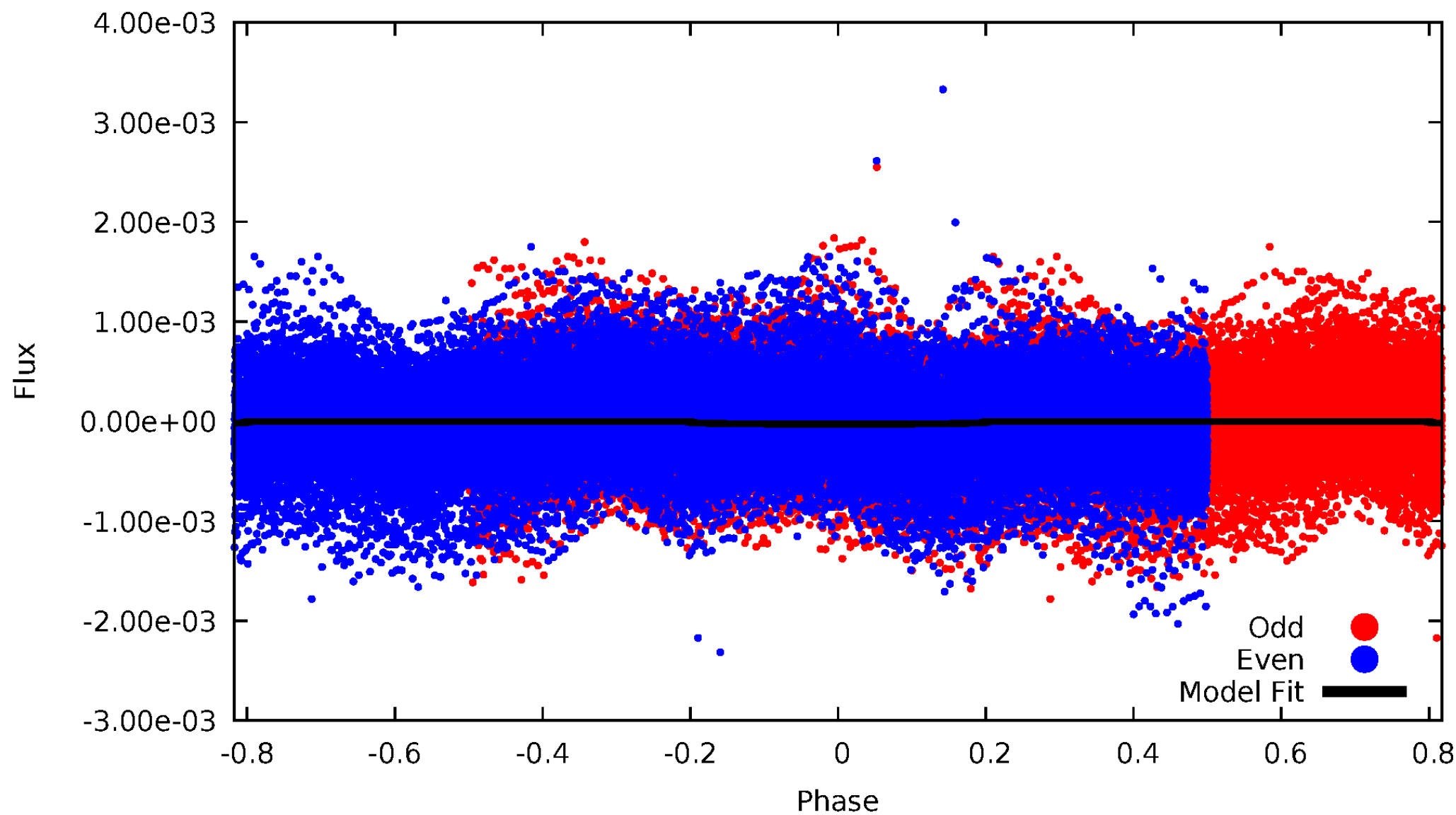


TCE 004827662-01



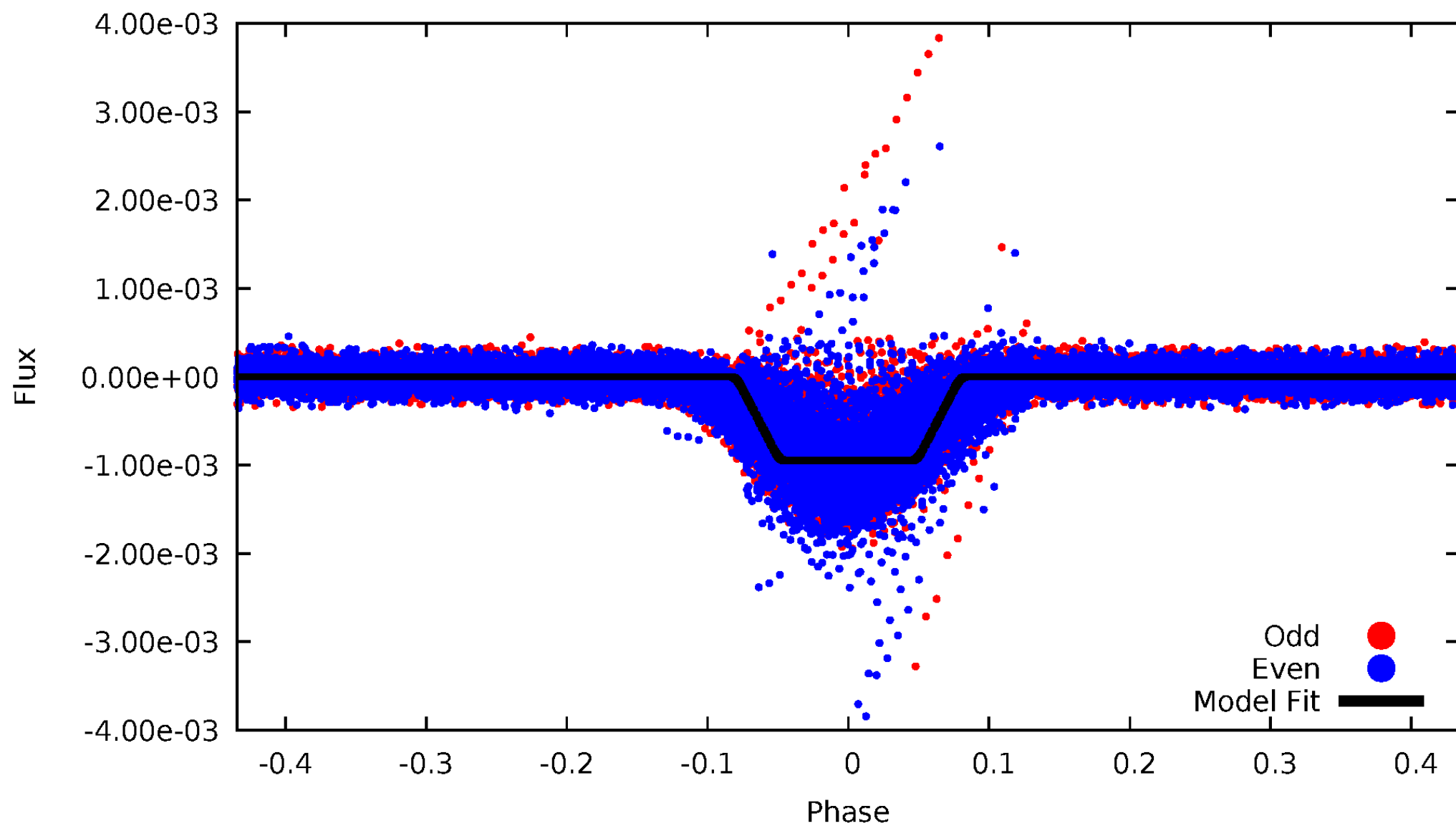
# DV Odd/Even

TCE 004827662-01

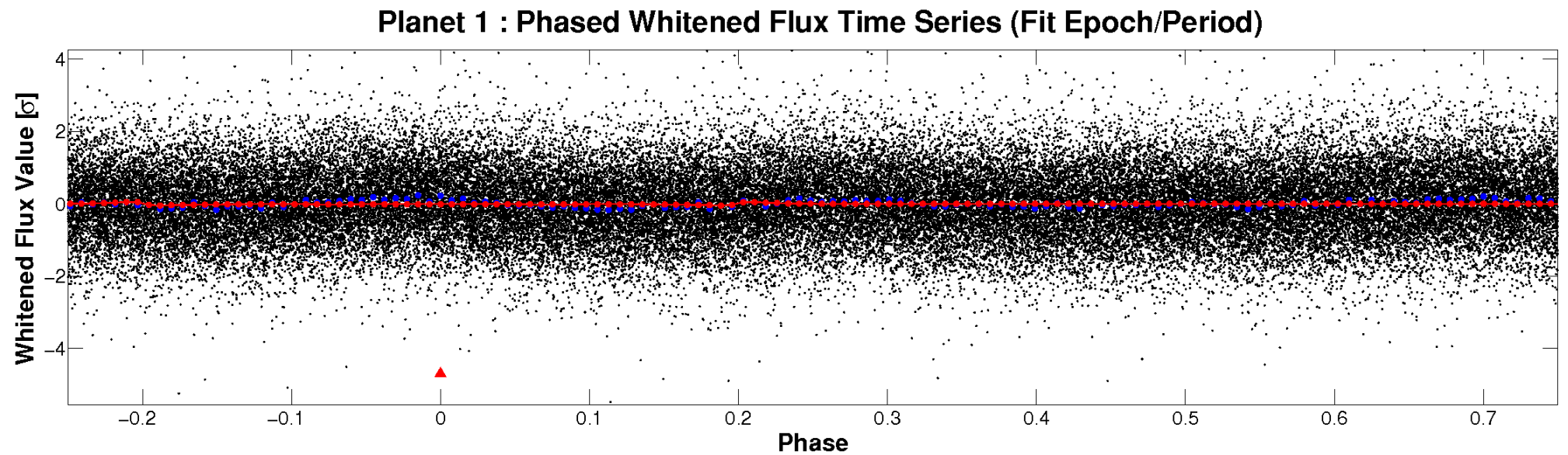
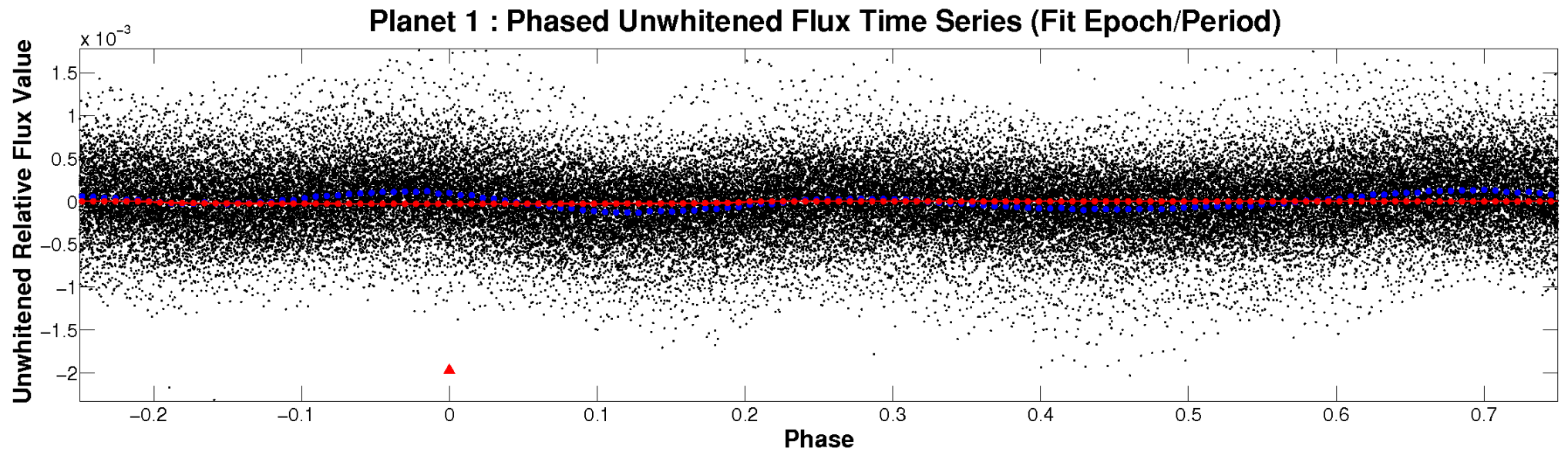


# ALT Odd/Even

TCE 004827662-01

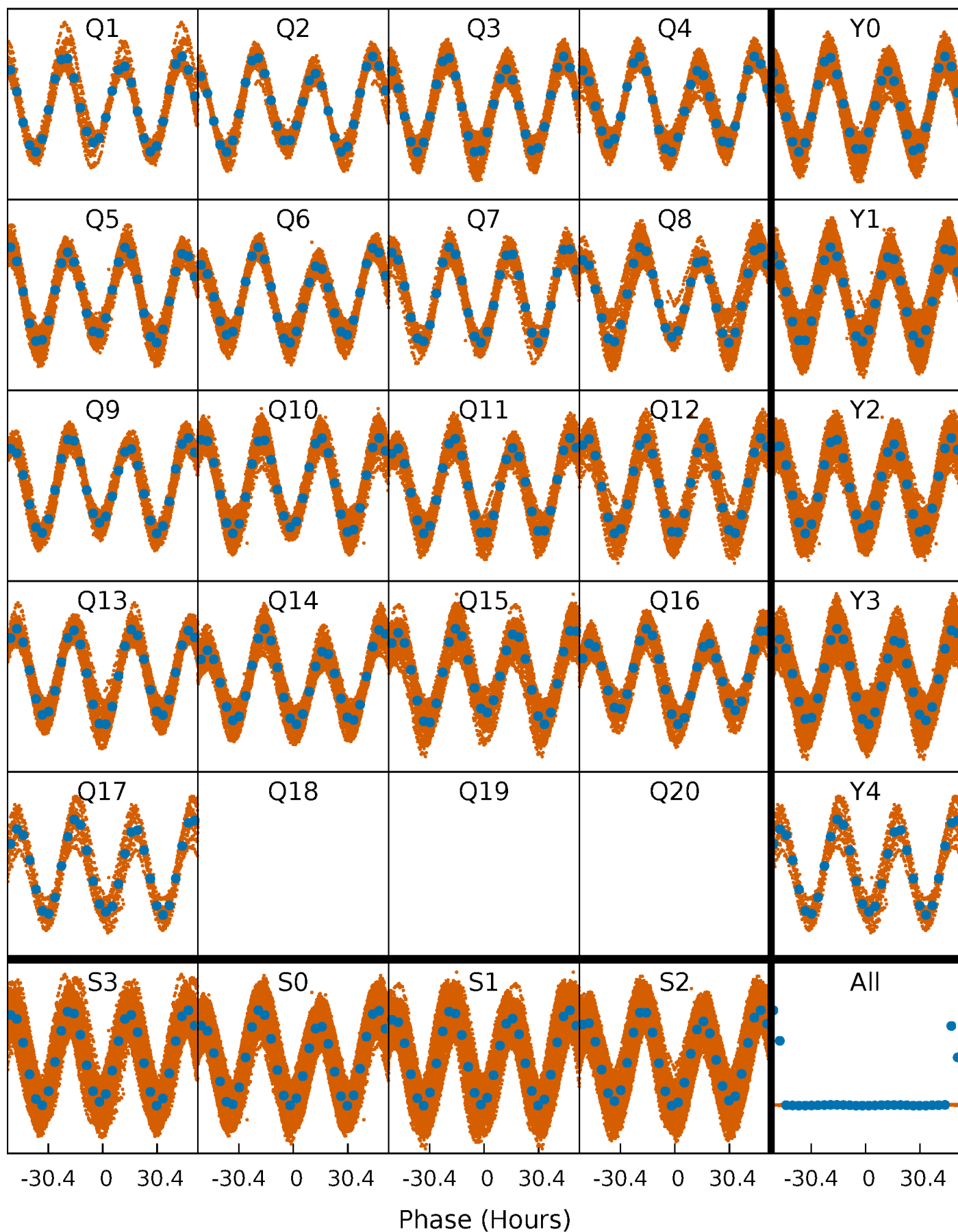


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

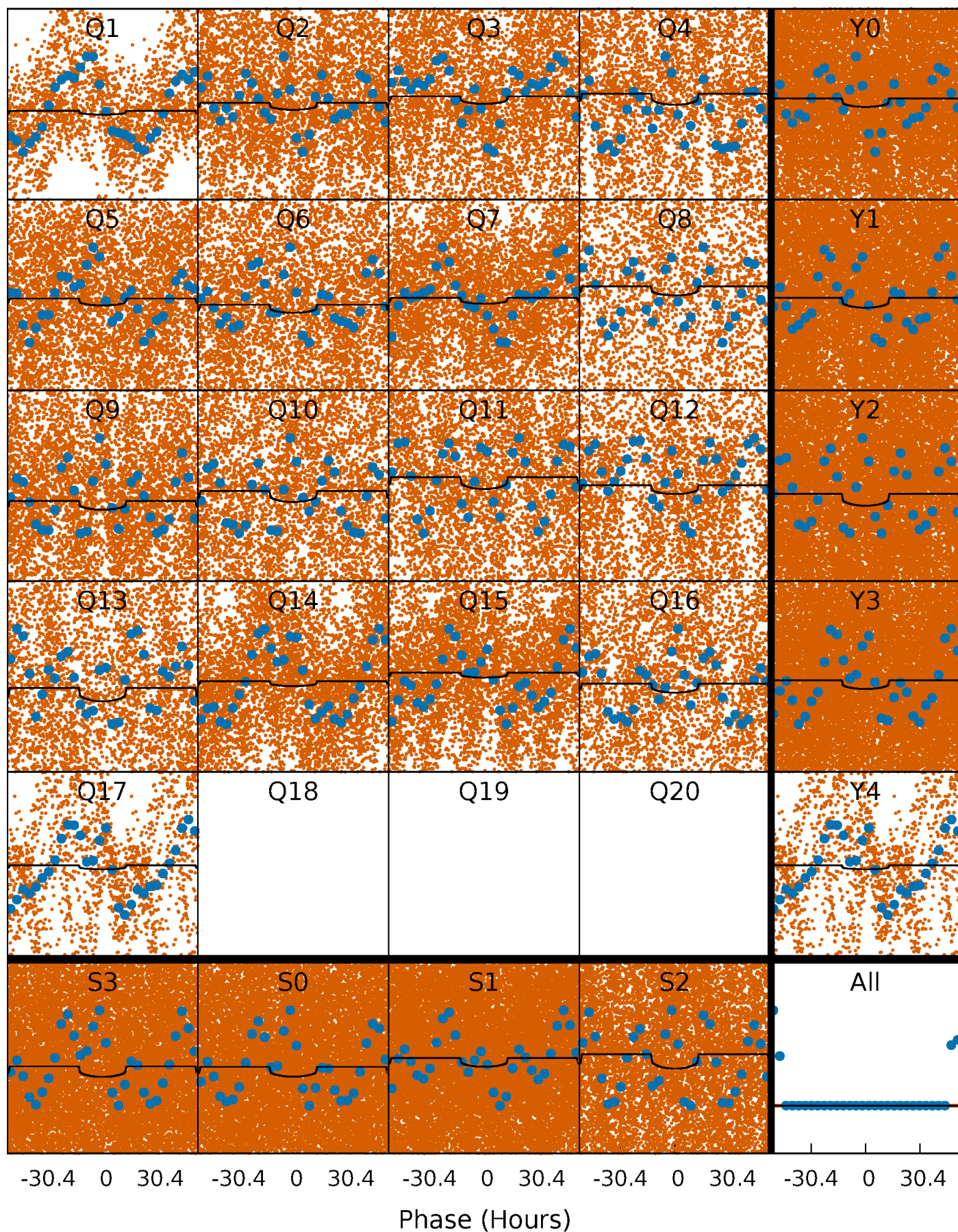
TCE 004827662-01   P= 2.714091 Days    $T_0=133.026767$  (BKJD)





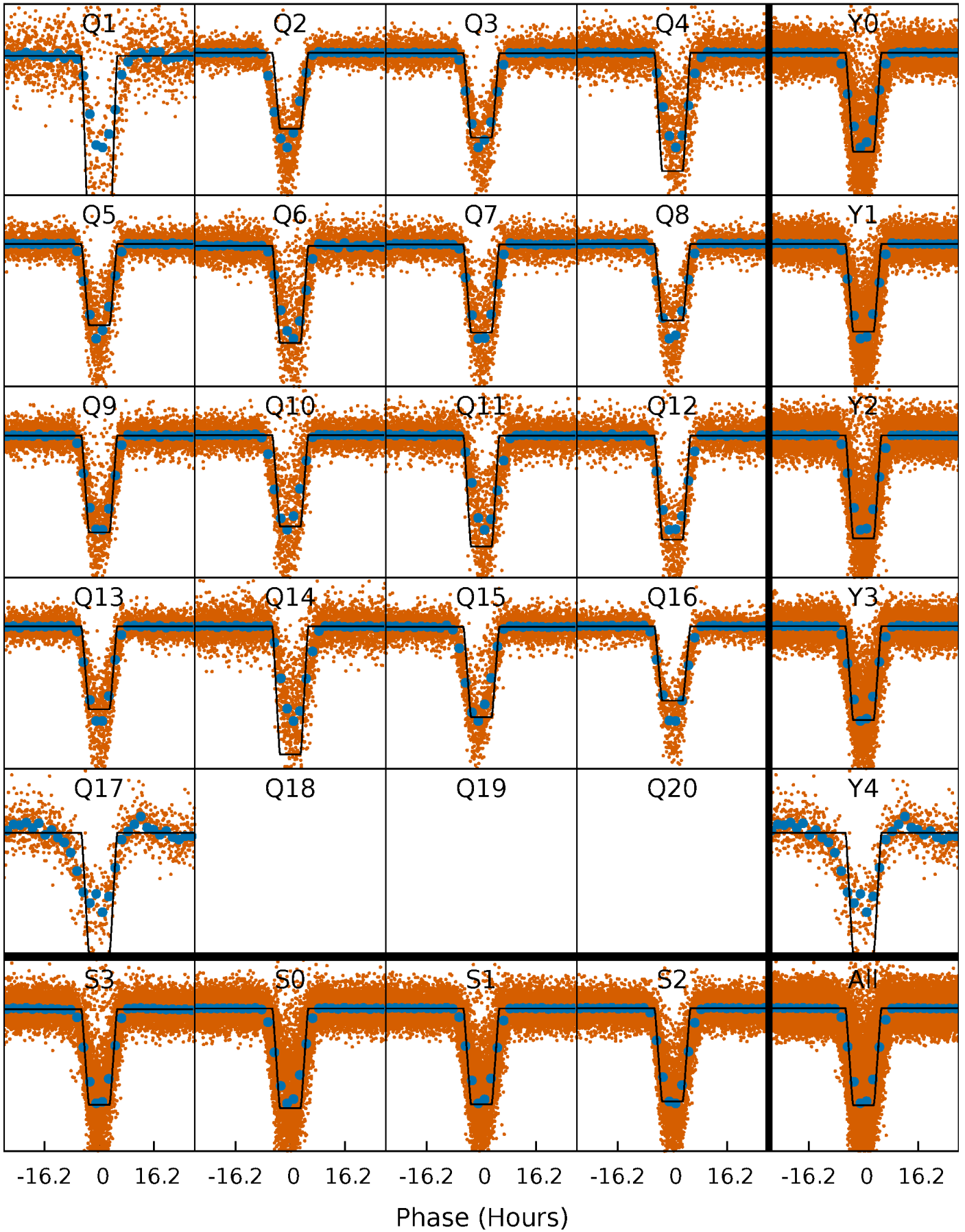
# DV Quarter-Phased Transit Curves

TCE 004827662-01 P= 2.714091 Days  $T_0=133.026767$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

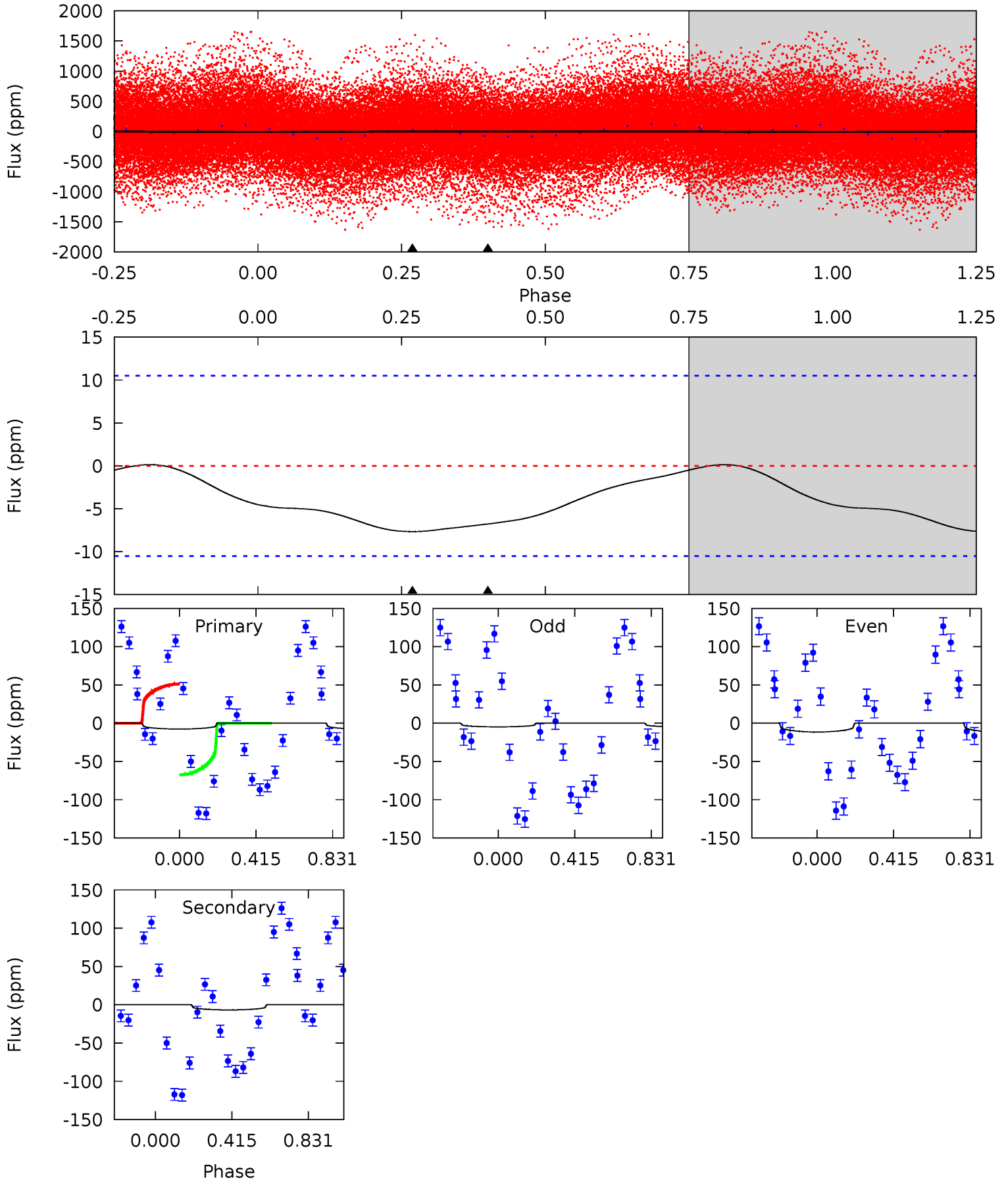
TCE 004827662-01 P= 2.714588 Days  $T_0=133.051023$  (BKJD)



# DV Model-Shift Uniqueness Test

004827662-01, P = 2.714091 Days, E = 130.312676 Days

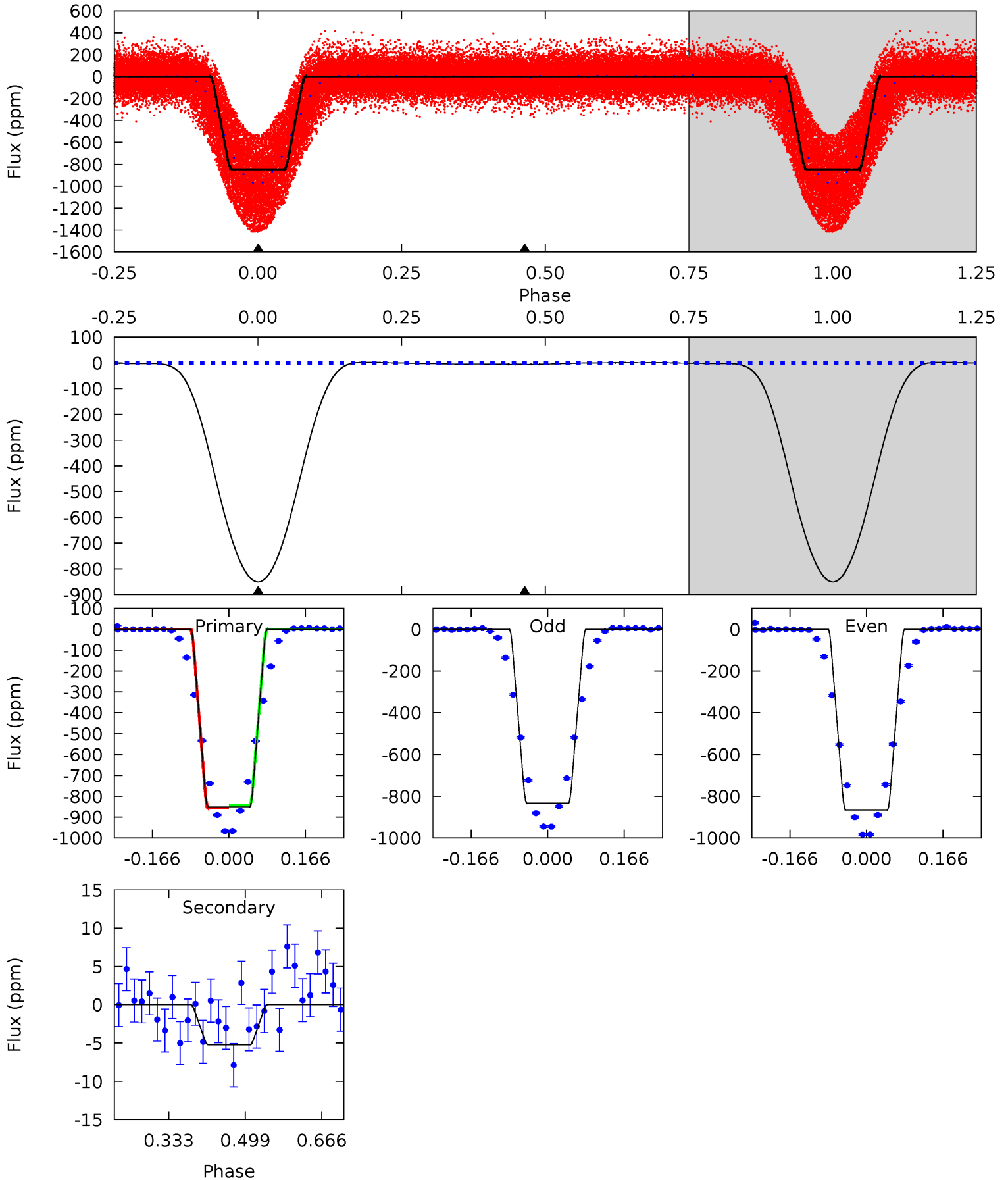
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.10	2.74	0	0	4.26	0.81	0.14	3.10	3.10	2.74	2.74	1.35	0.26	0.02	3.34



# Alt Model-Shift Uniqueness Test

004827662-01, P = 2.714588 Days, E = 130.336435 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
869.2	5.36	0	0	4.46	1.38	1.72	869.2	869.2	5.36	5.36	17.0	1.00	0.00	6.04



### Stellar Parameters For KIC 004827662

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6395^{+144}_{-208}$	$4.357^{+0.077}_{-0.143}$	$-0.140^{+0.250}_{-0.300}$	$1.164^{+0.261}_{-0.140}$	$1.122^{+0.139}_{-0.139}$	$1.002^{+0.352}_{-0.430}$
	+2%/-3%	+2%/-3%	+179%/-214%	+22%/-12%	+12%/-12%	+35%/-43%
Source	PHO1	FLK73	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 004827662-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-7 \pm 2$	$0.67^{+0.18}_{-0.14}$	$2155^{+116}_{-99}$	$4632^{+613}_{-548}$	$13^{+10}_{-7}$
Alt.	$-5 \pm 1$	$3.98^{+0.48}_{-0.35}$	$2158^{+118}_{-99}$	$-1965^{+4046}_{-313}$	$0.273^{+0.076}_{-0.067}$

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



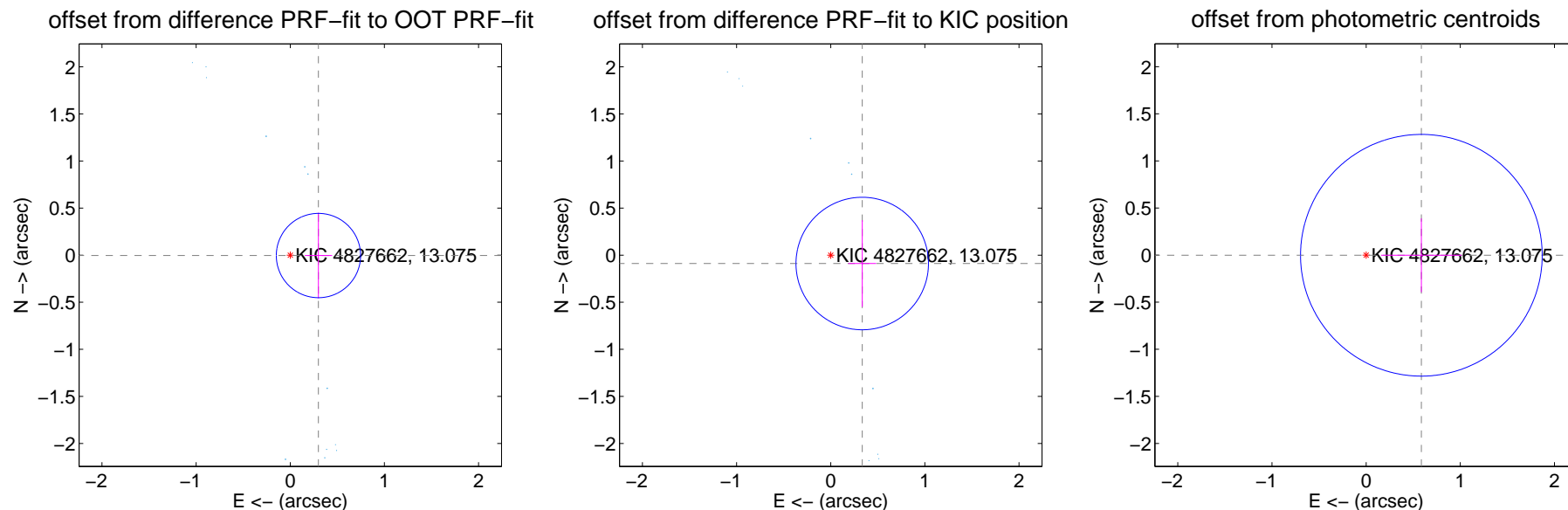
## DV Centroid Data

Supplemental centroid analysis for 004827662-01. Kepler magnitude: 13.07. Transit SNR 4.56

There are 15 quarters with good PRF difference image offsets

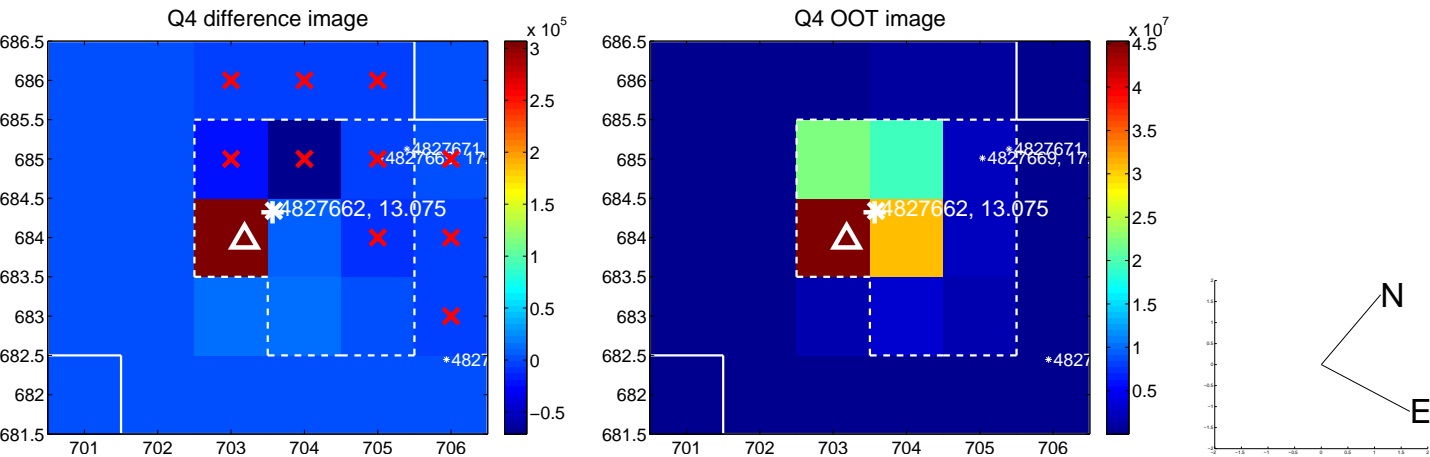
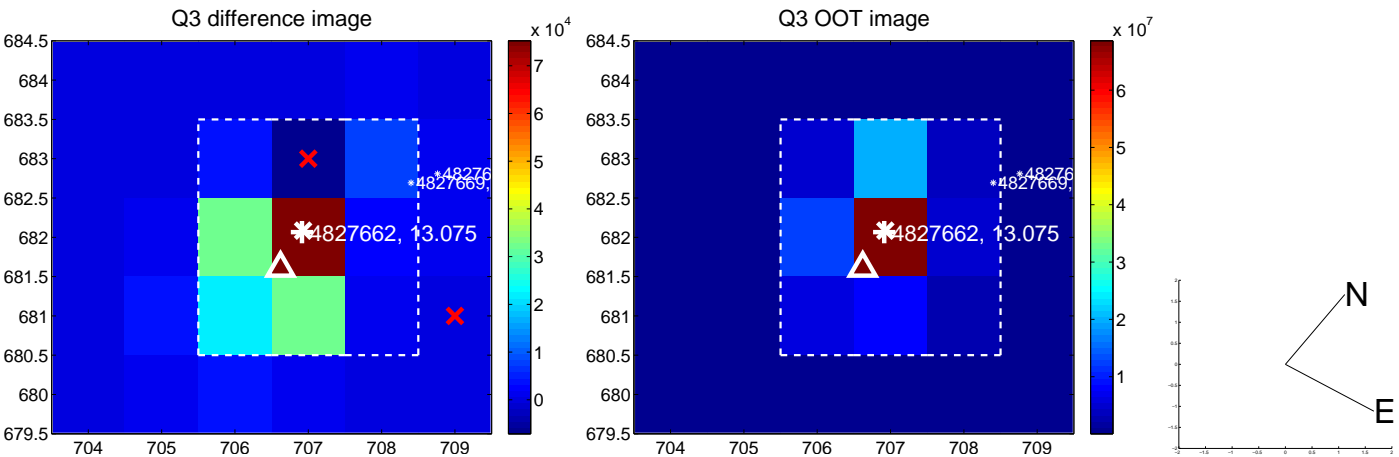
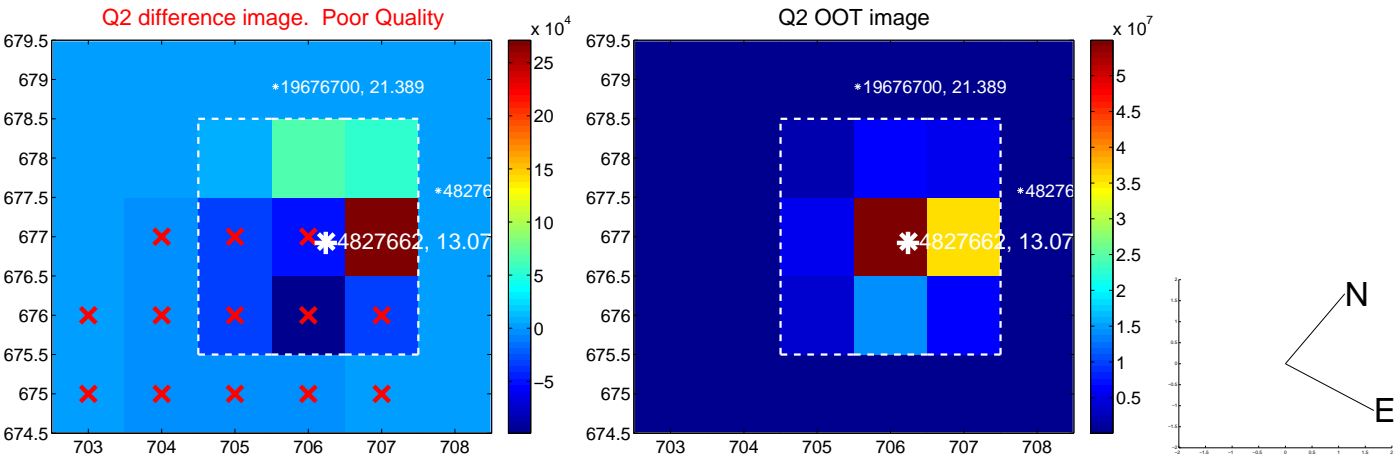
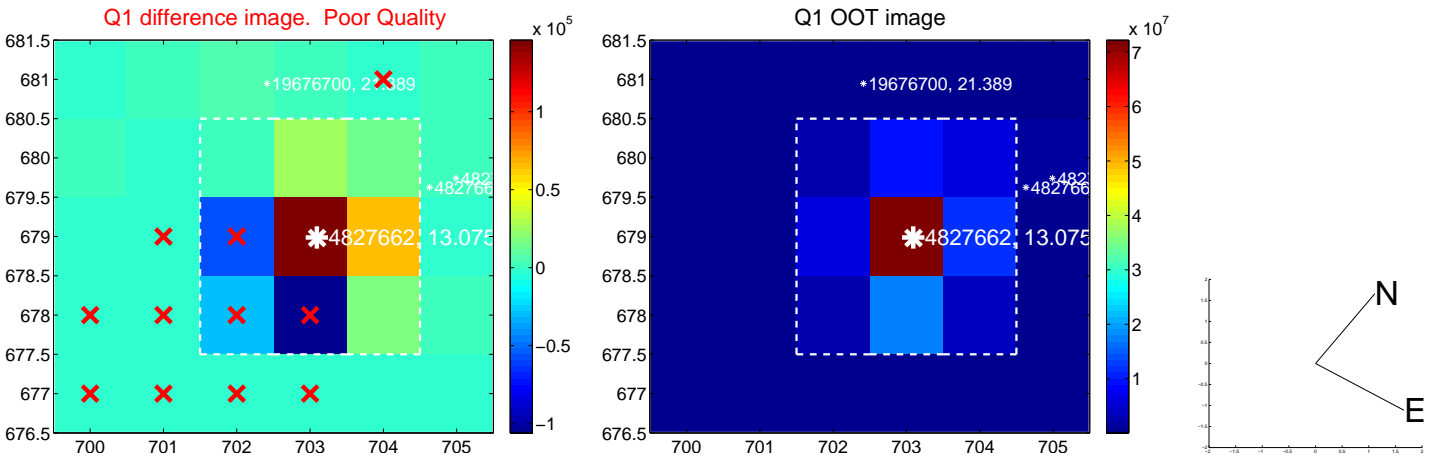
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.299 \pm 0.149$	2.01	$-0.299 \pm 0.145$	$-0.004 \pm 0.456$
PRF-fit source offset from KIC position	$0.346 \pm 0.235$	1.48	$-0.335 \pm 0.148$	$-0.089 \pm 0.460$
photometric centroid source offset	$0.59 \pm 0.43$	1.37	$-0.59 \pm 0.43$	$-0.00 \pm 0.39$

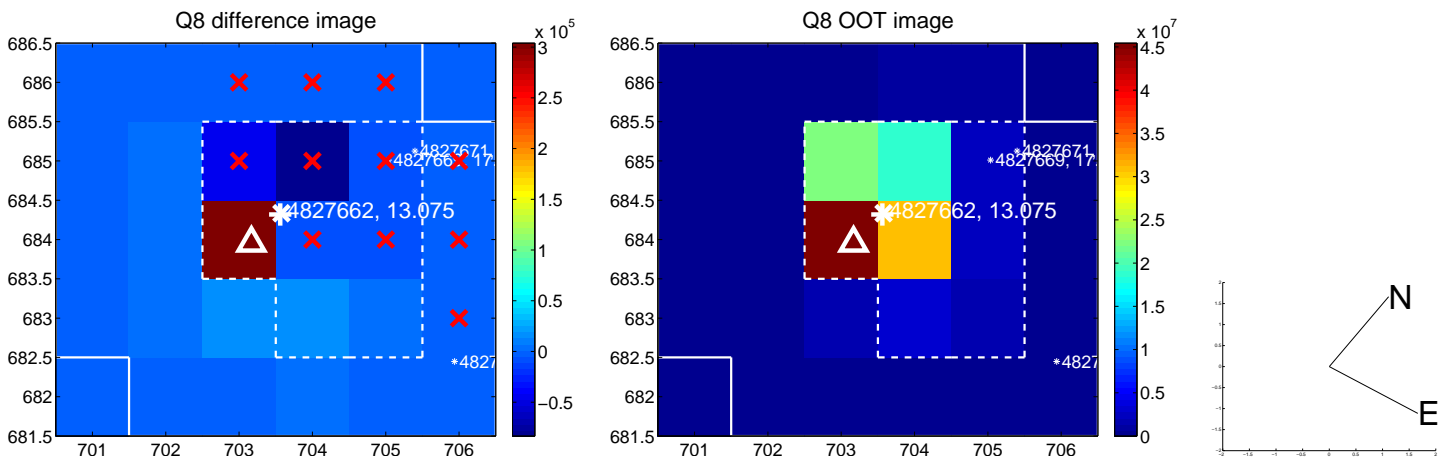
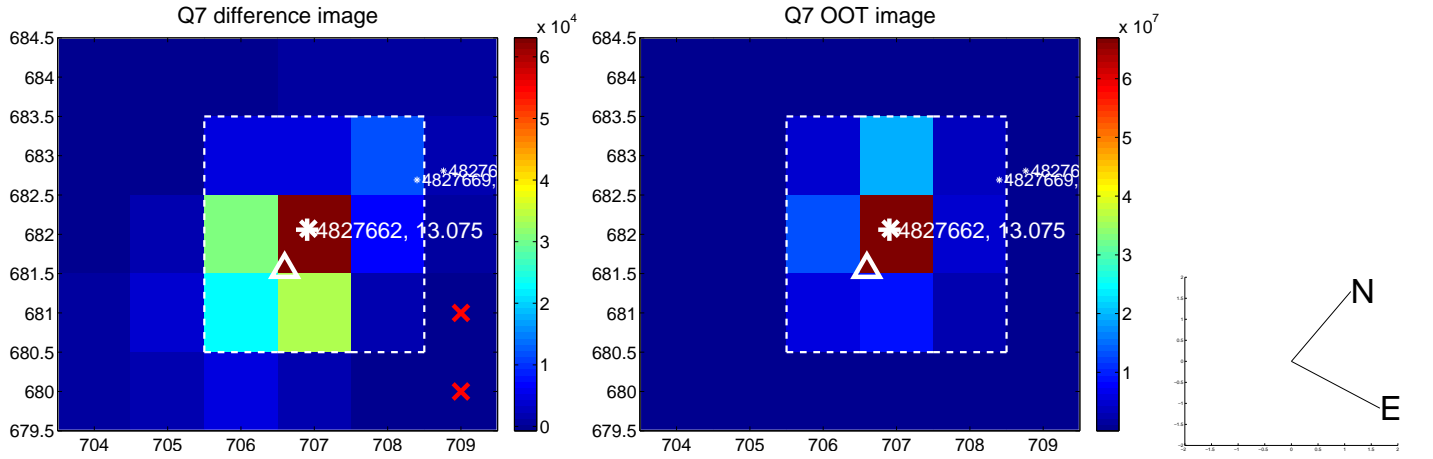
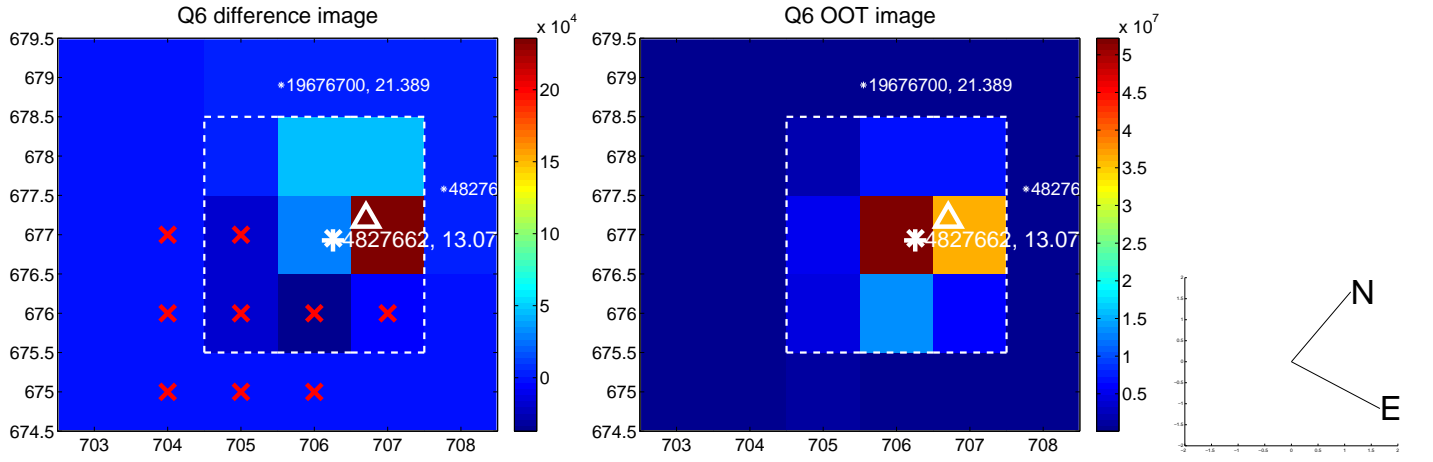
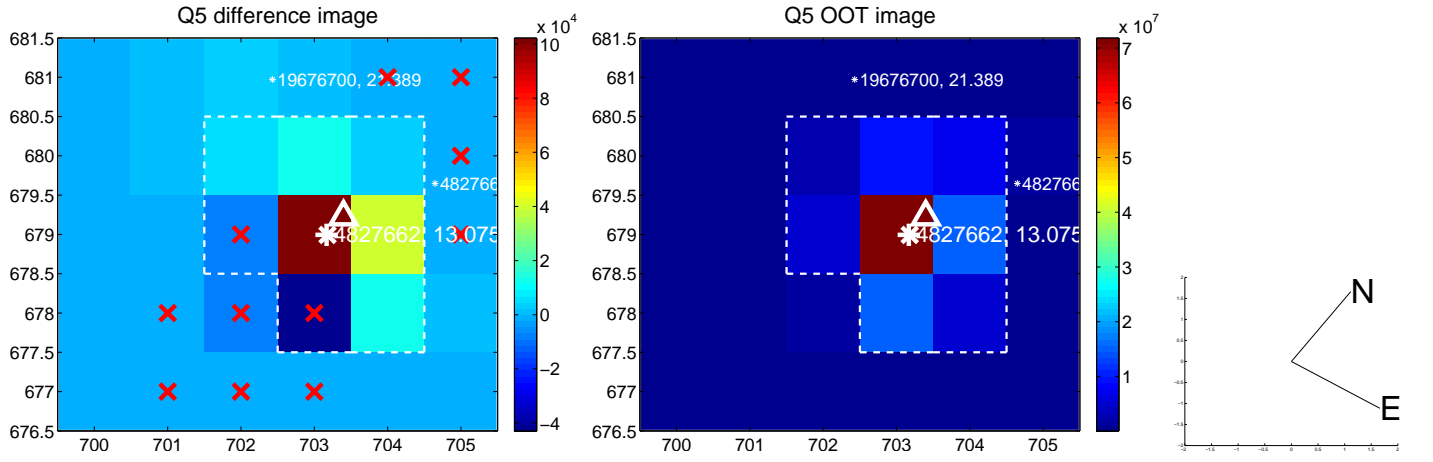


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

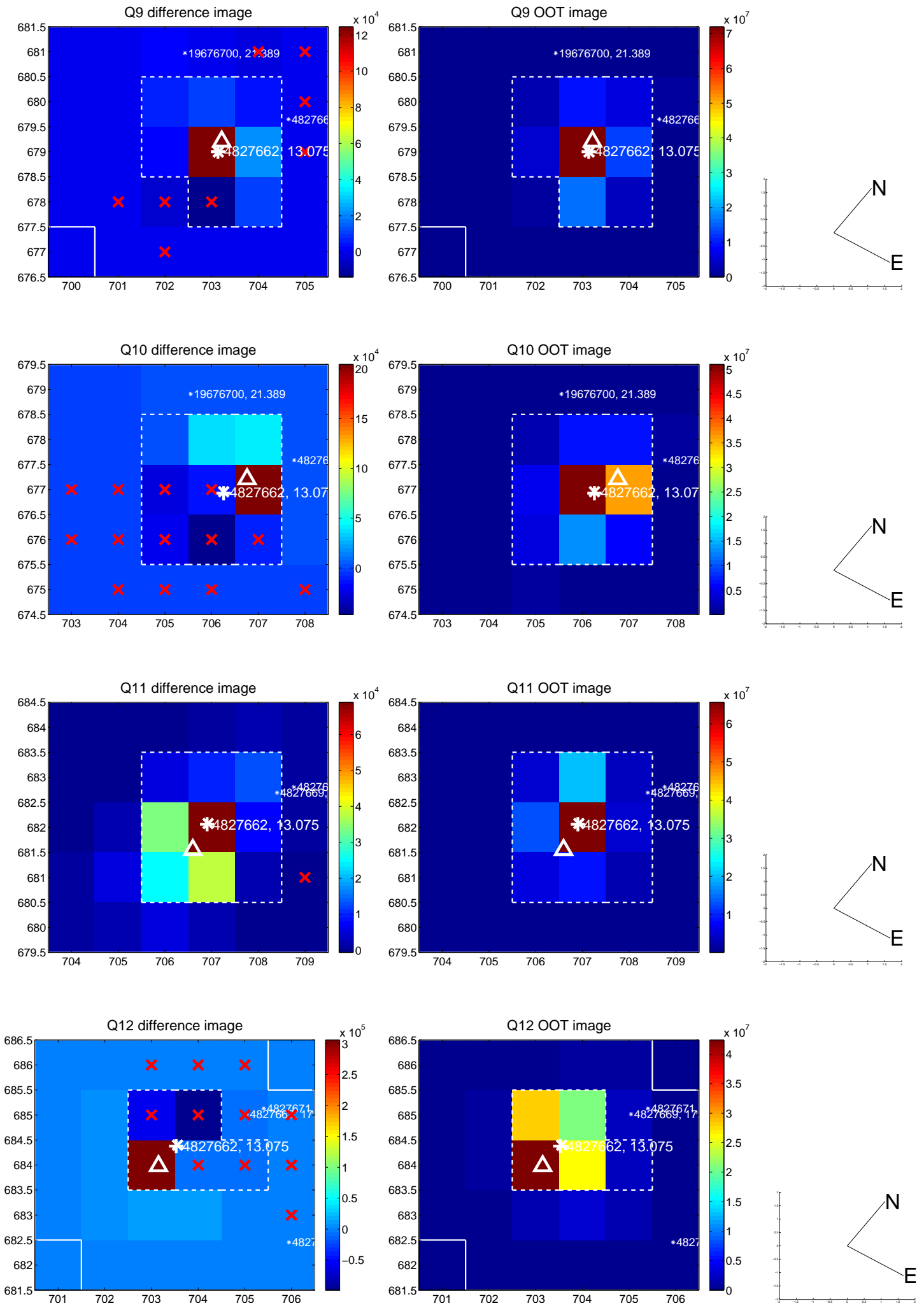
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



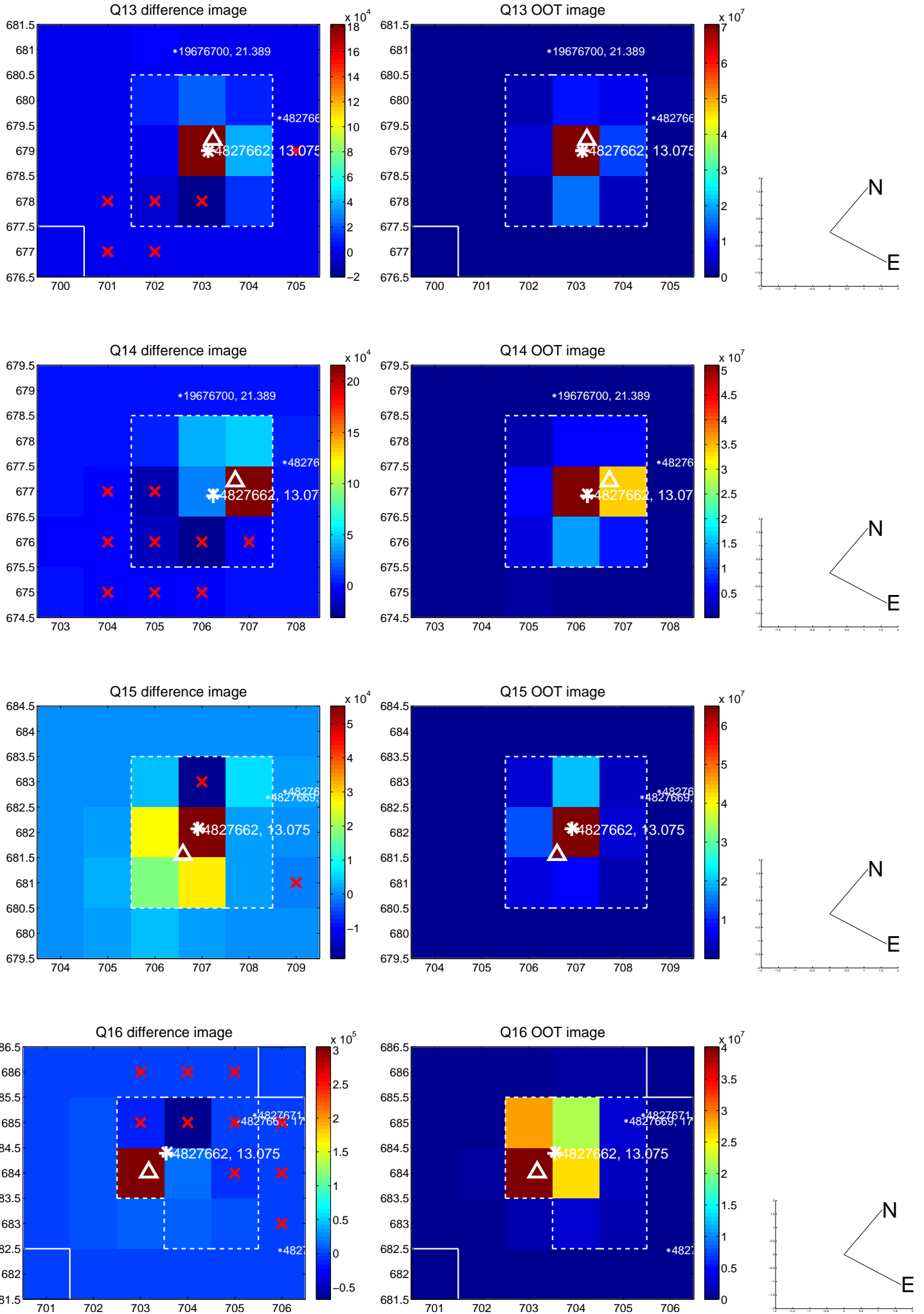
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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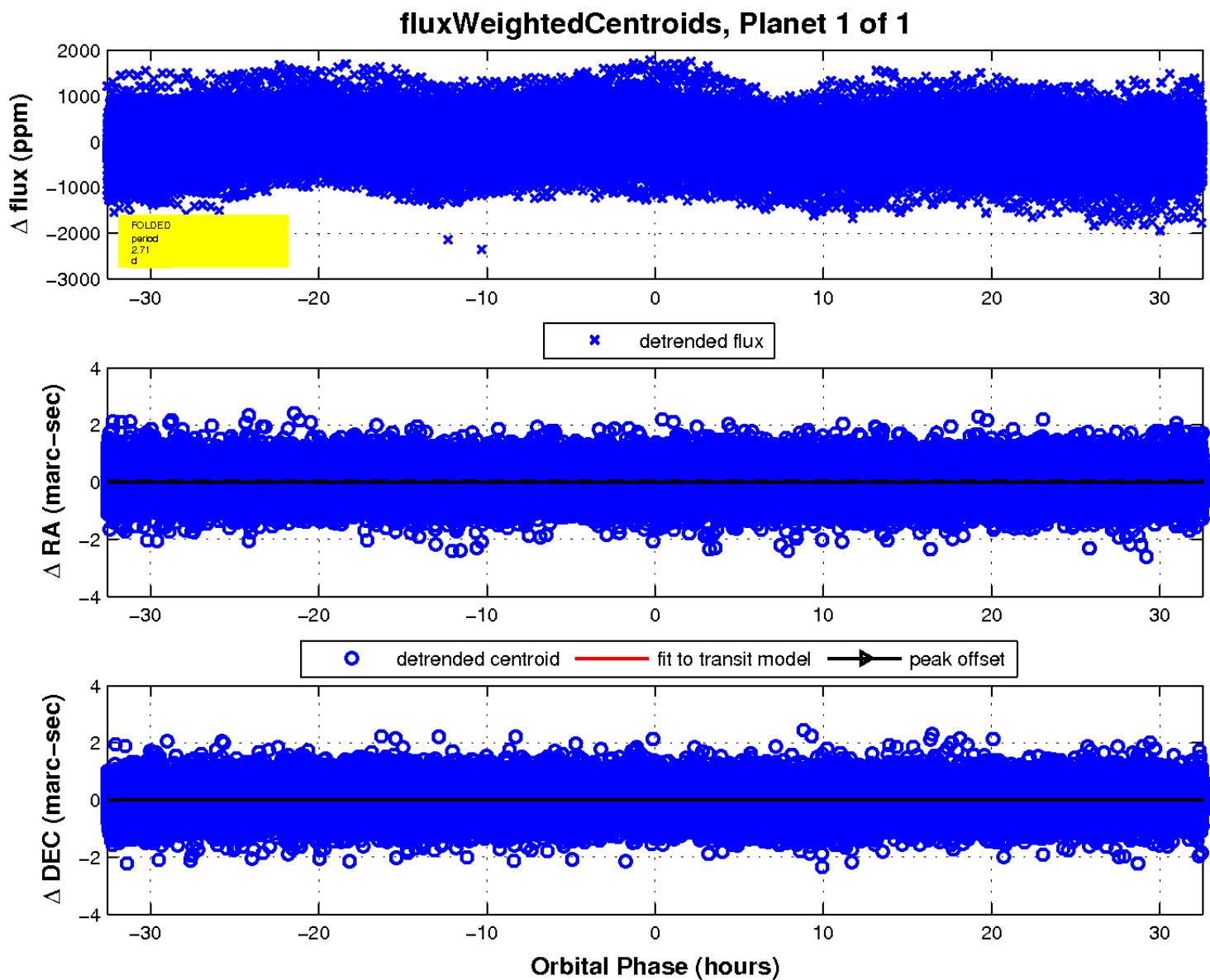
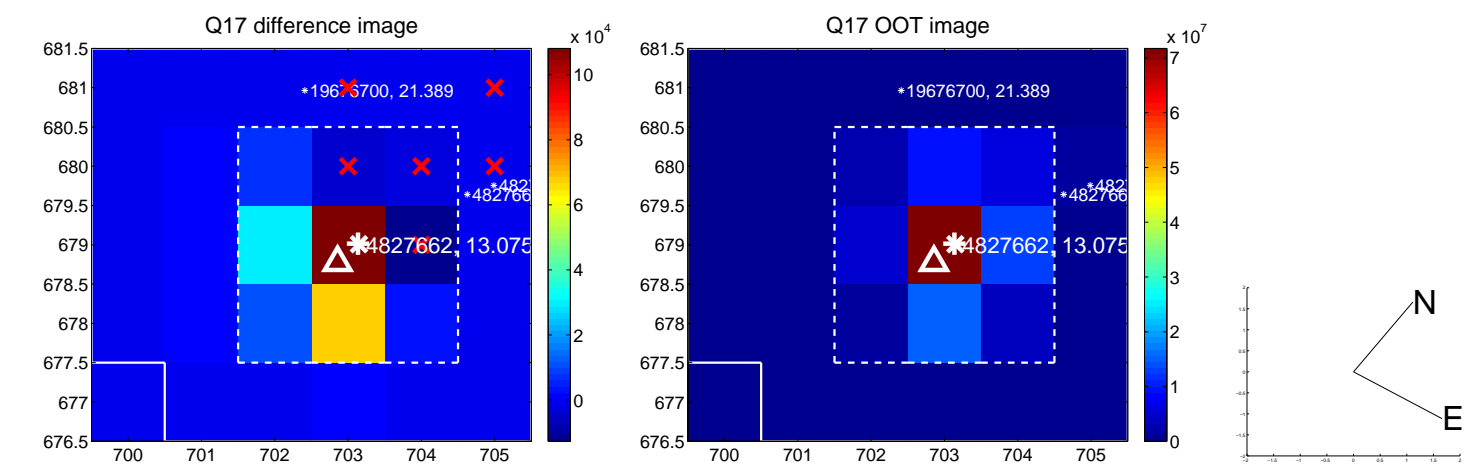


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

