

# KIC 008026887

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008026887-01	OBS	No	3.845870	133.752617	29.1	24.134	11.0	9.5	1.22	5988	0.65	730.71

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008026887-01	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.

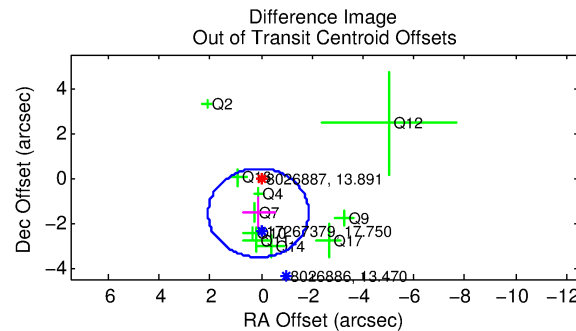
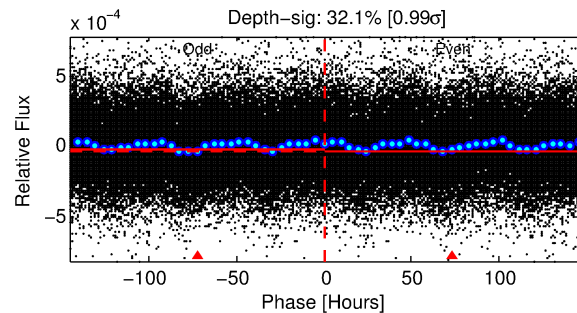
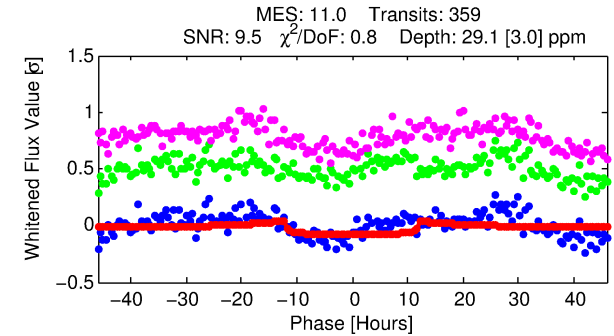
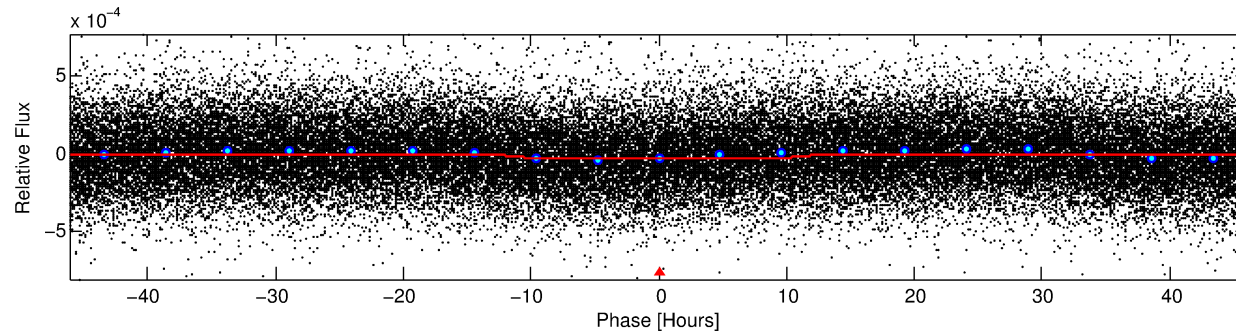
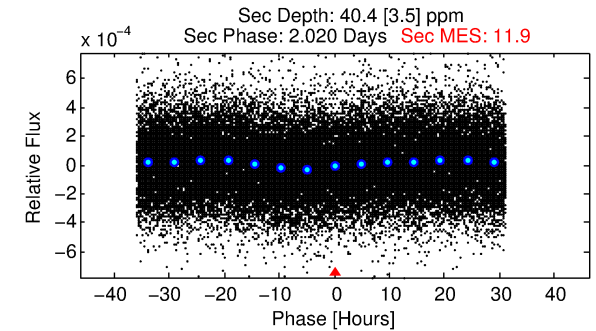
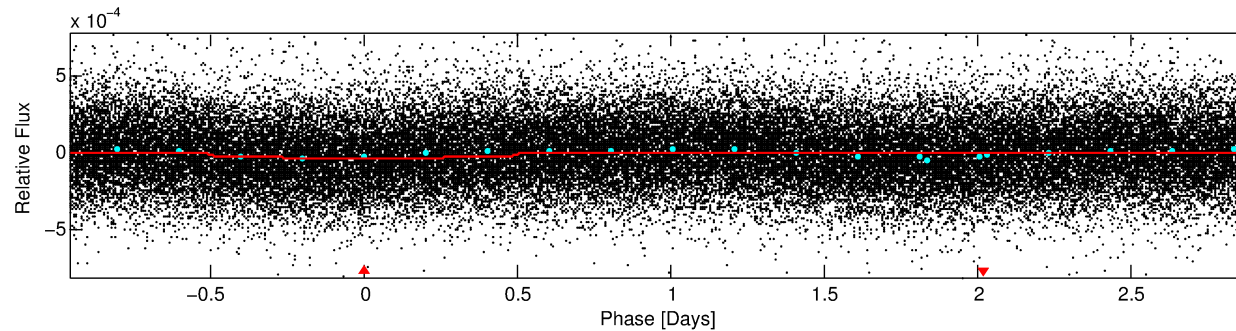
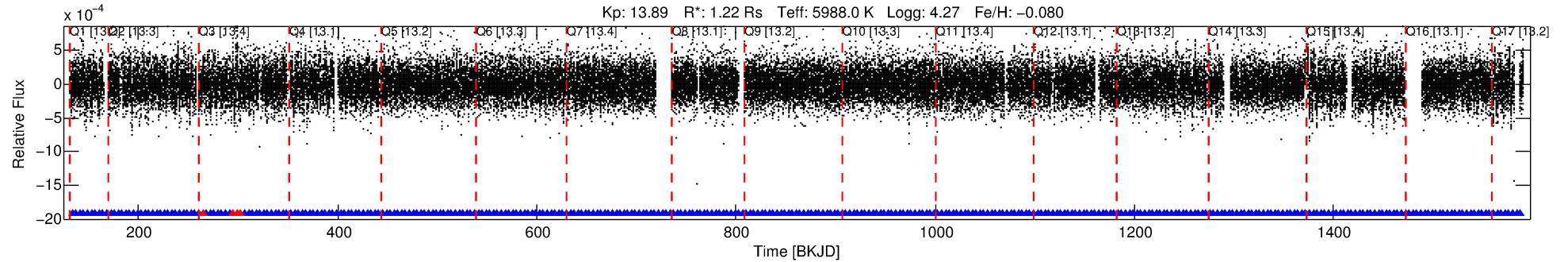
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008026887-01

No Significant Match Found

# DV One-Page Summary

KIC: 8026887 Candidate: 1 of 1 Period: 3.846 d



## DV Fit Results:

Period = 3.84587 [0.00008] d  
Epoch = 133.7526 [0.0137] BKJD  
Rp/R\* = 0.0049 [0.0045]  
a/R\* = 1.37 [2.84]  
b = 0.01 [570.50]  
Seff = 730.71 [176.54]  
Teq = 1326 [80] K  
Rp = 0.65 [0.61] Re  
a = 0.0482 [0.0071] AU  
Ag = 121.75 [227.22] [0.53σ]  
Teff = 6809 [3153] K [1.74σ]

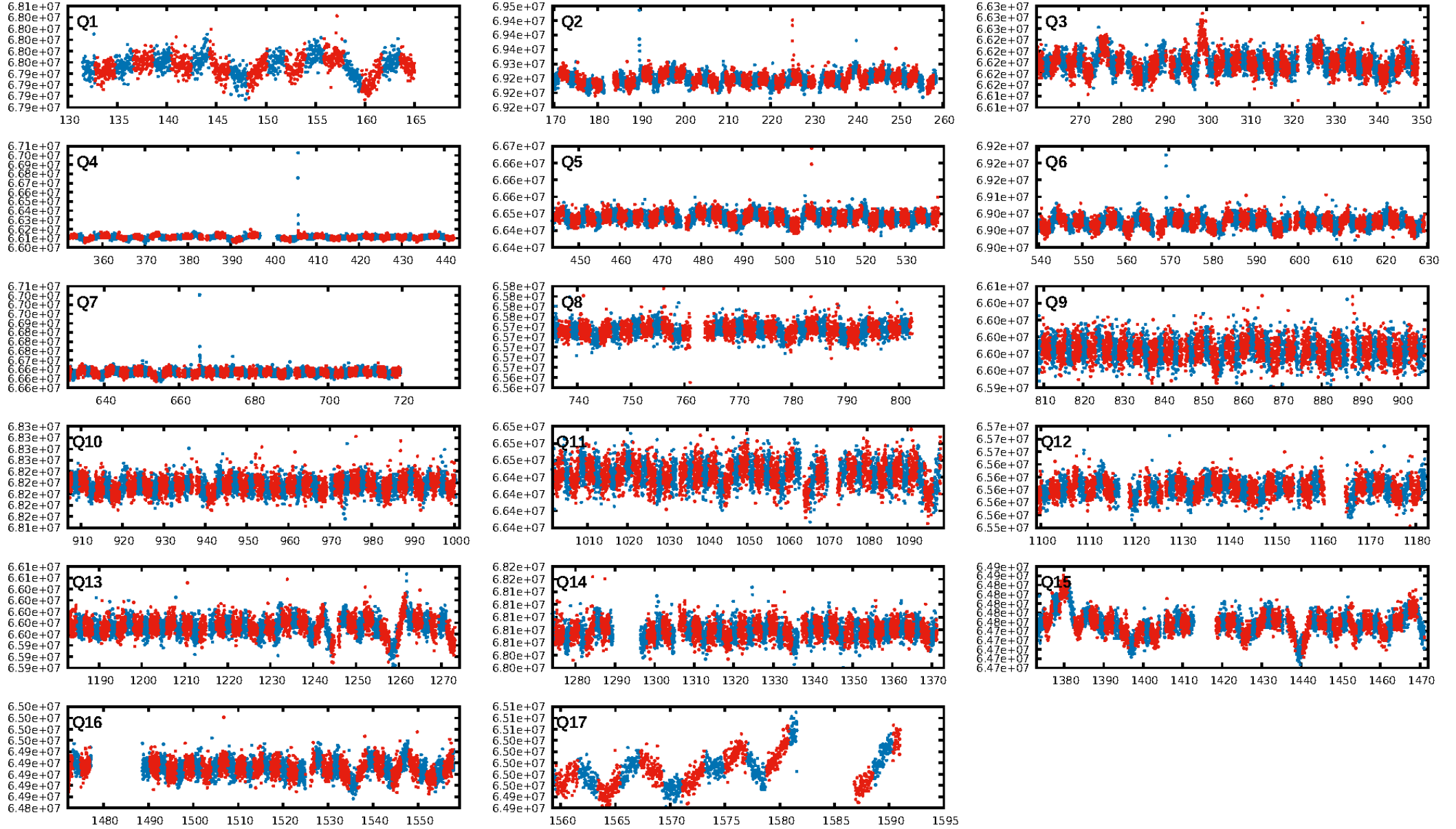
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 4.43e-42  
RollingBand-fgt: 0.99 [338/342]  
GhostDiagnostic-chr: 2.734  
Centroid-sig: 28.3%  
Centroid-so: 1.362 arcsec [1.51σ]  
OotOffset-rm: 1.562 arcsec [2.38σ]  
KicOffset-rm: 1.801 arcsec [2.57σ]  
OotOffset-st: 3/2/3/2 [10]  
KicOffset-st: 3/2/3/2 [10]  
DiffImageQuality-fgm: 0.60 [6/10]  
DiffImageOverlap-fno: 1.00 [17/17]

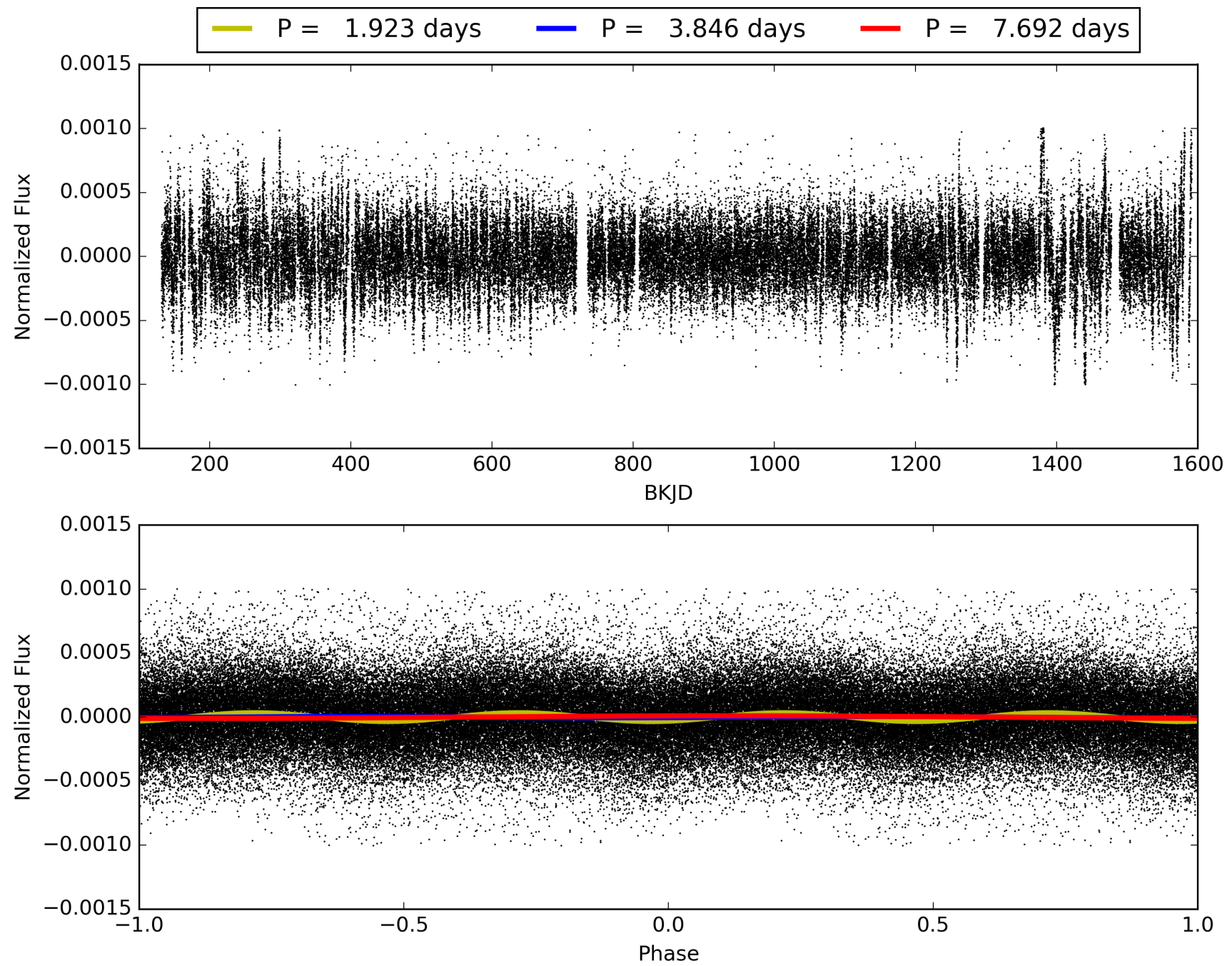
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:18:28 Z

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

# TCE 008026887-01, PDC Light Curves

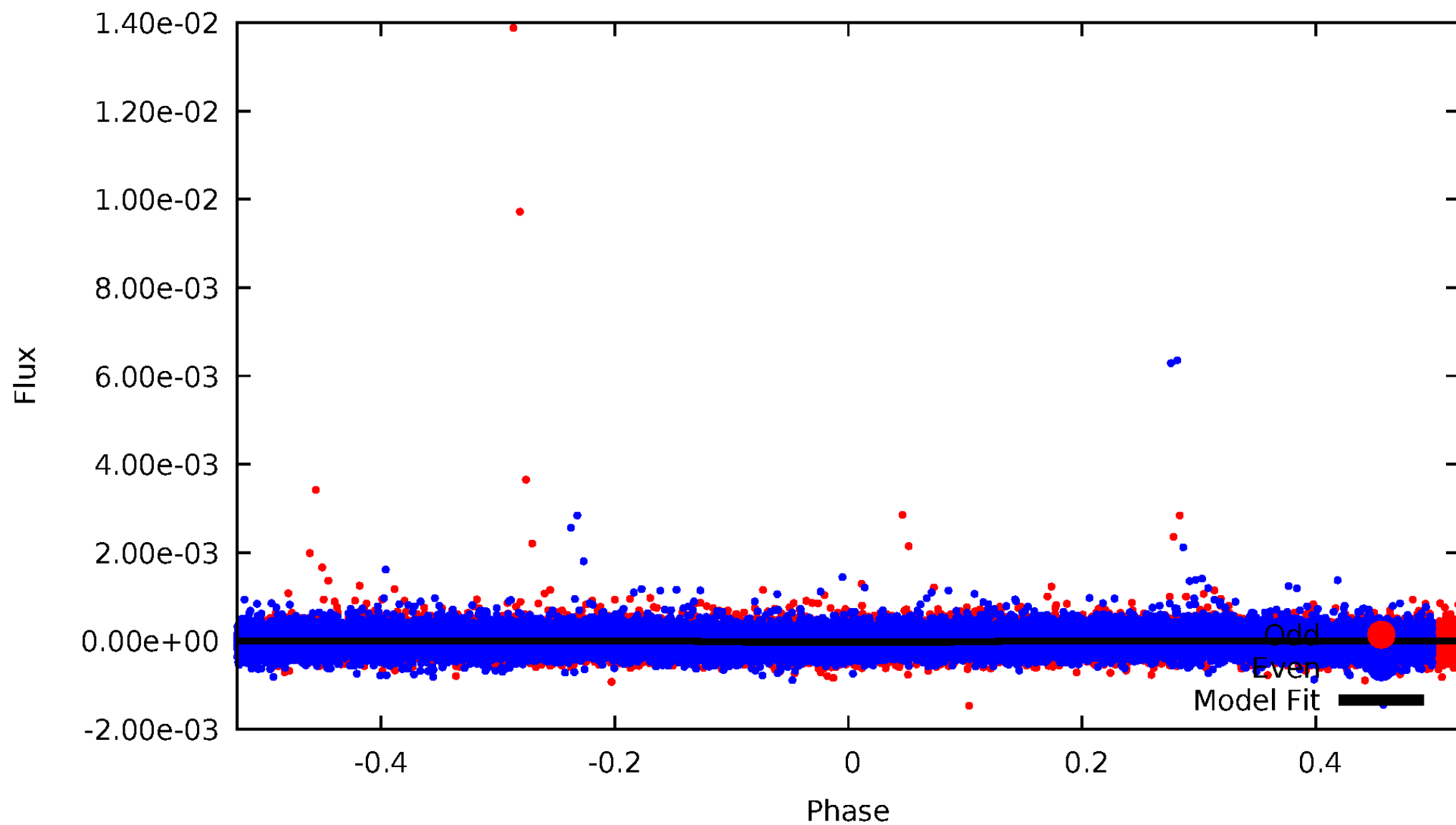


TCE 008026887-01



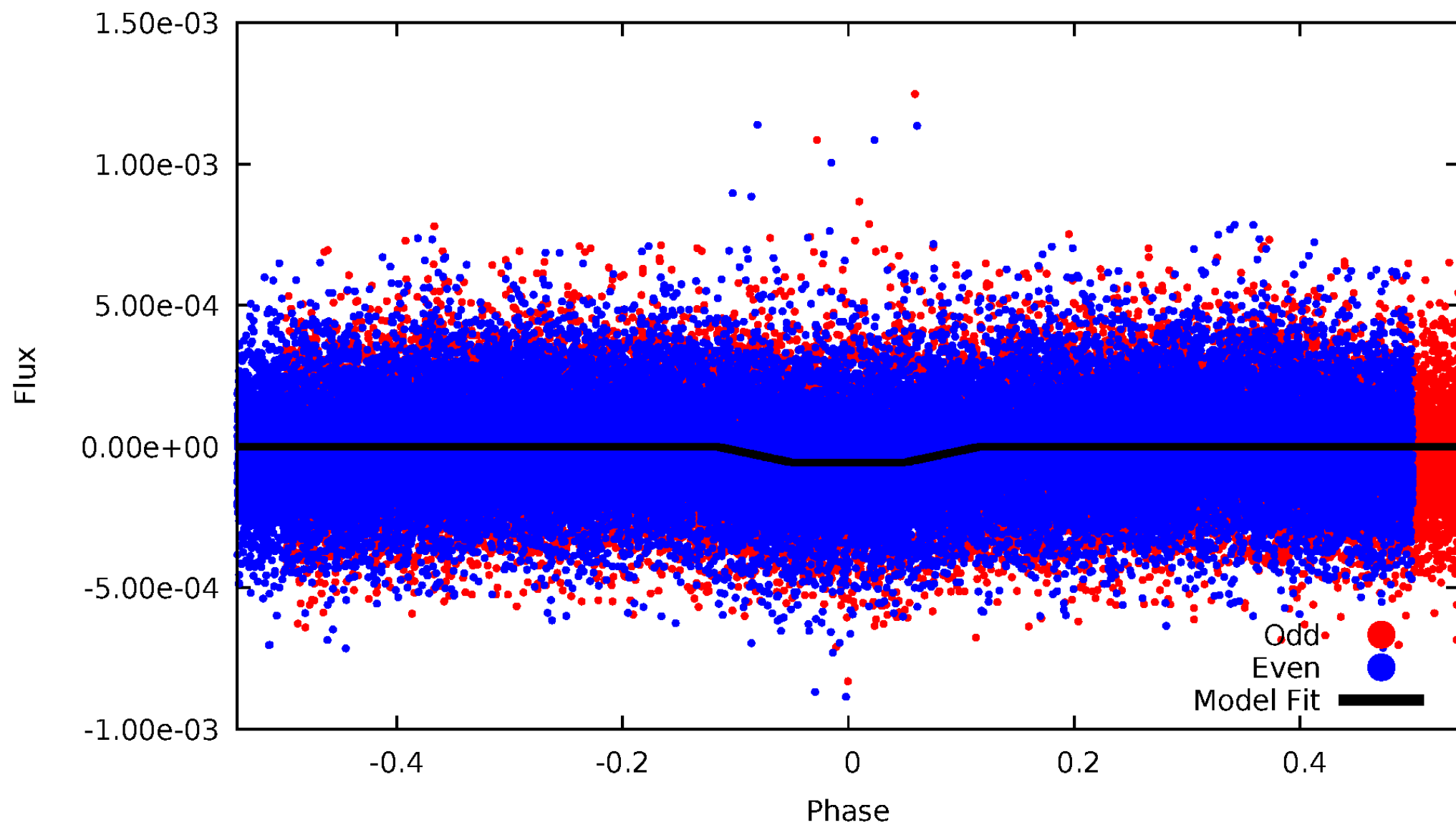
# DV Odd/Even

TCE 008026887-01



# ALT Odd/Even

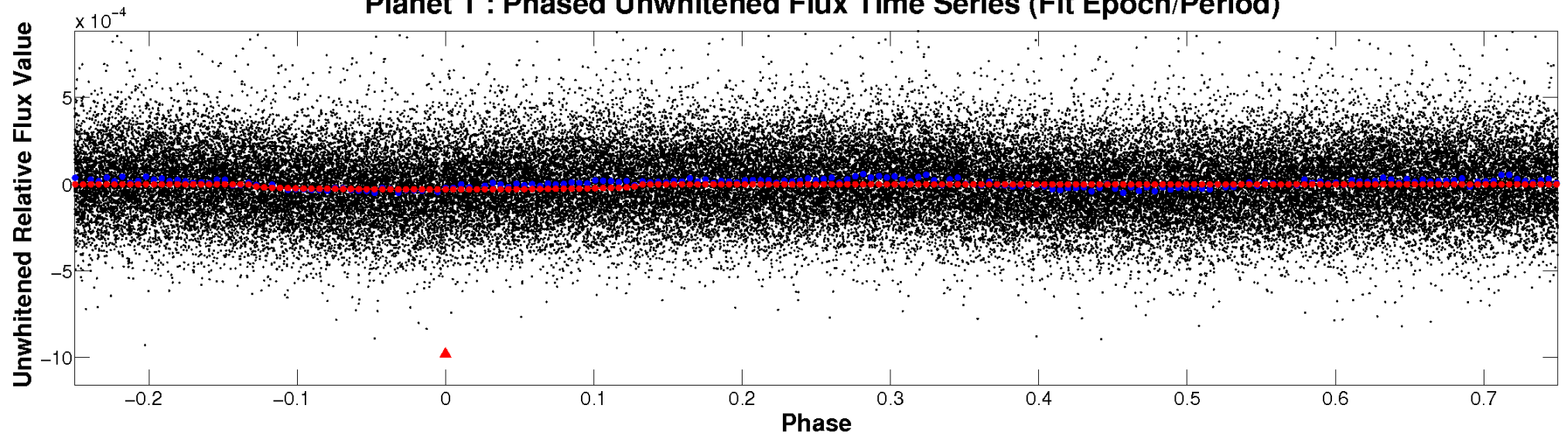
TCE 008026887-01



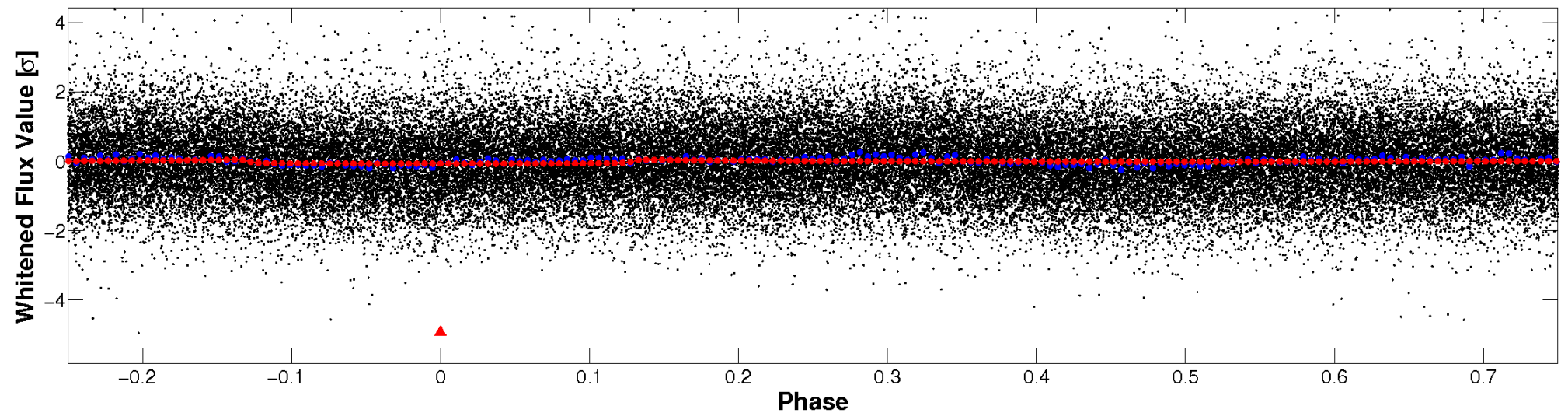


# Non-Whitened Vs. Whitened Light Curve

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

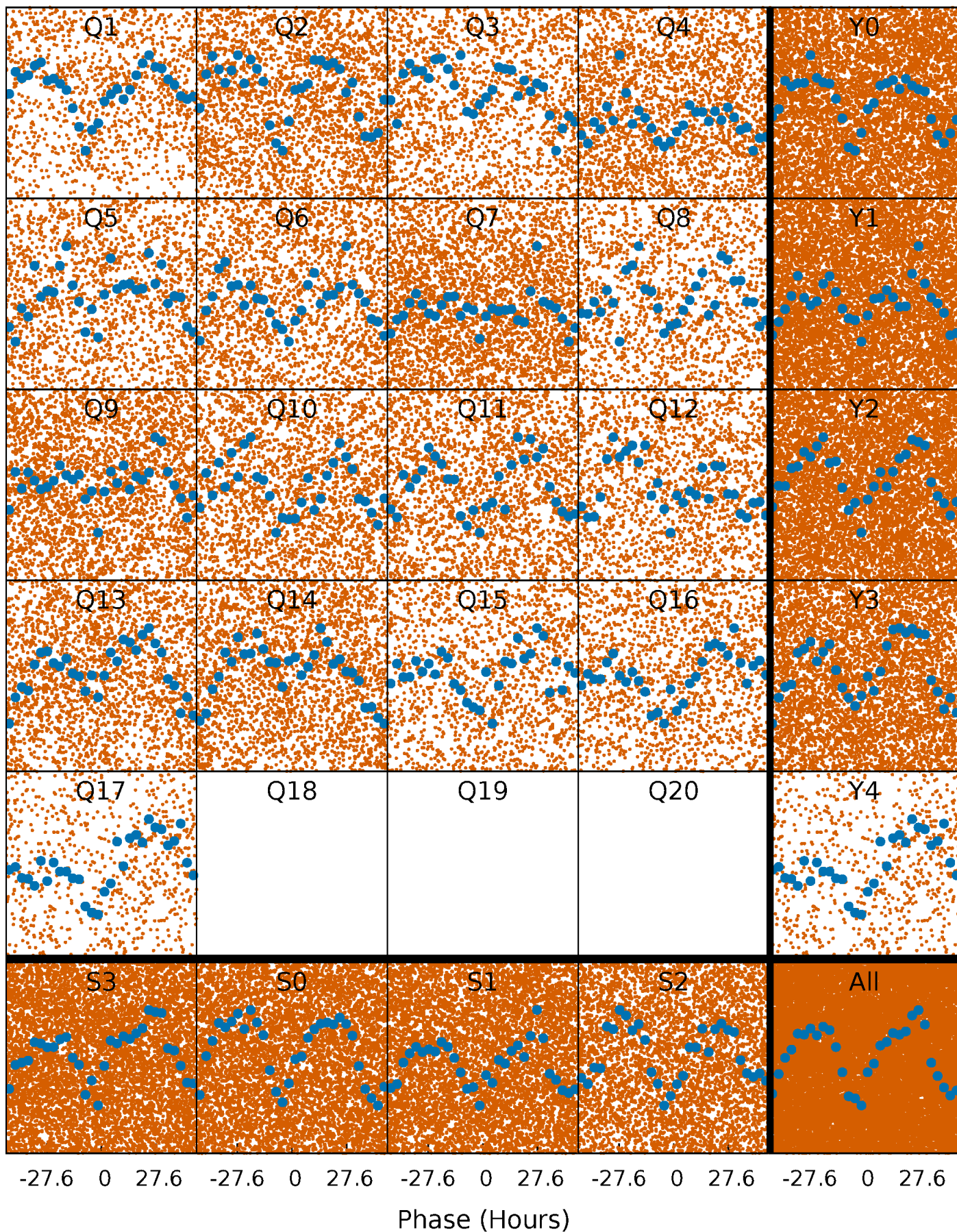


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

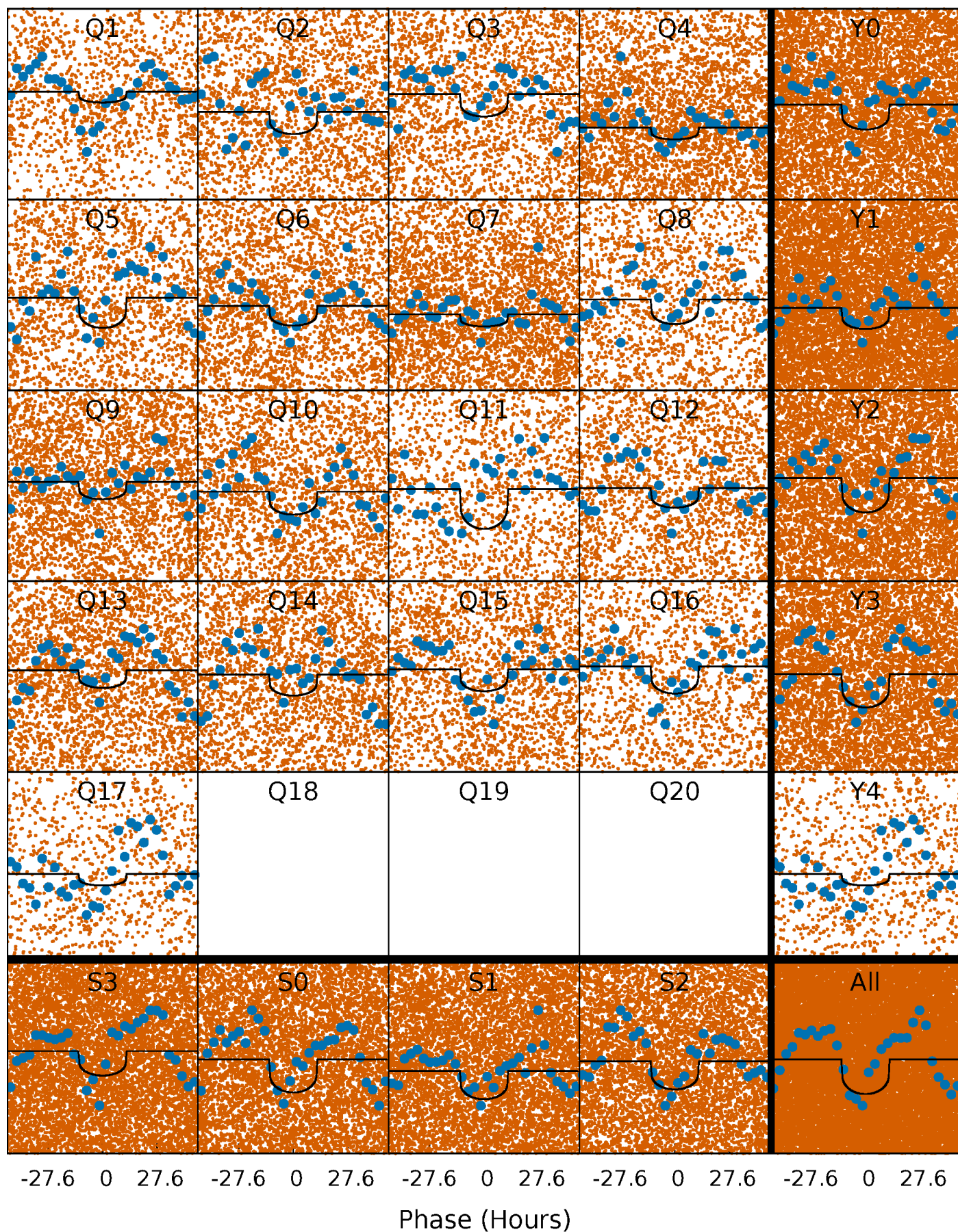
TCE 008026887-01 P= 3.845870 Days  $T_0=133.752617$  (BKJD)





# DV Quarter-Phased Transit Curves

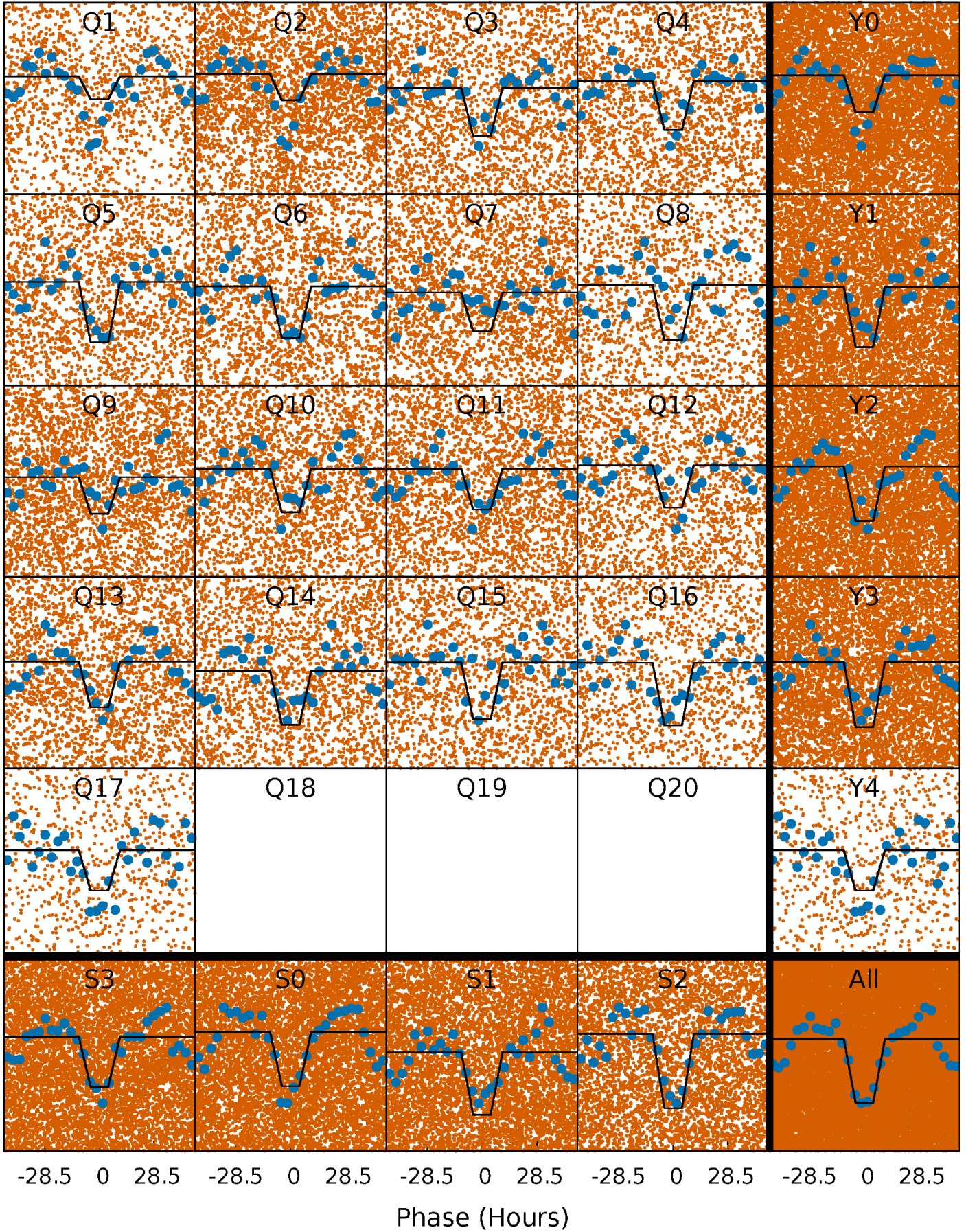
TCE 008026887-01   P= 3.845870 Days    $T_0=133.752617$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

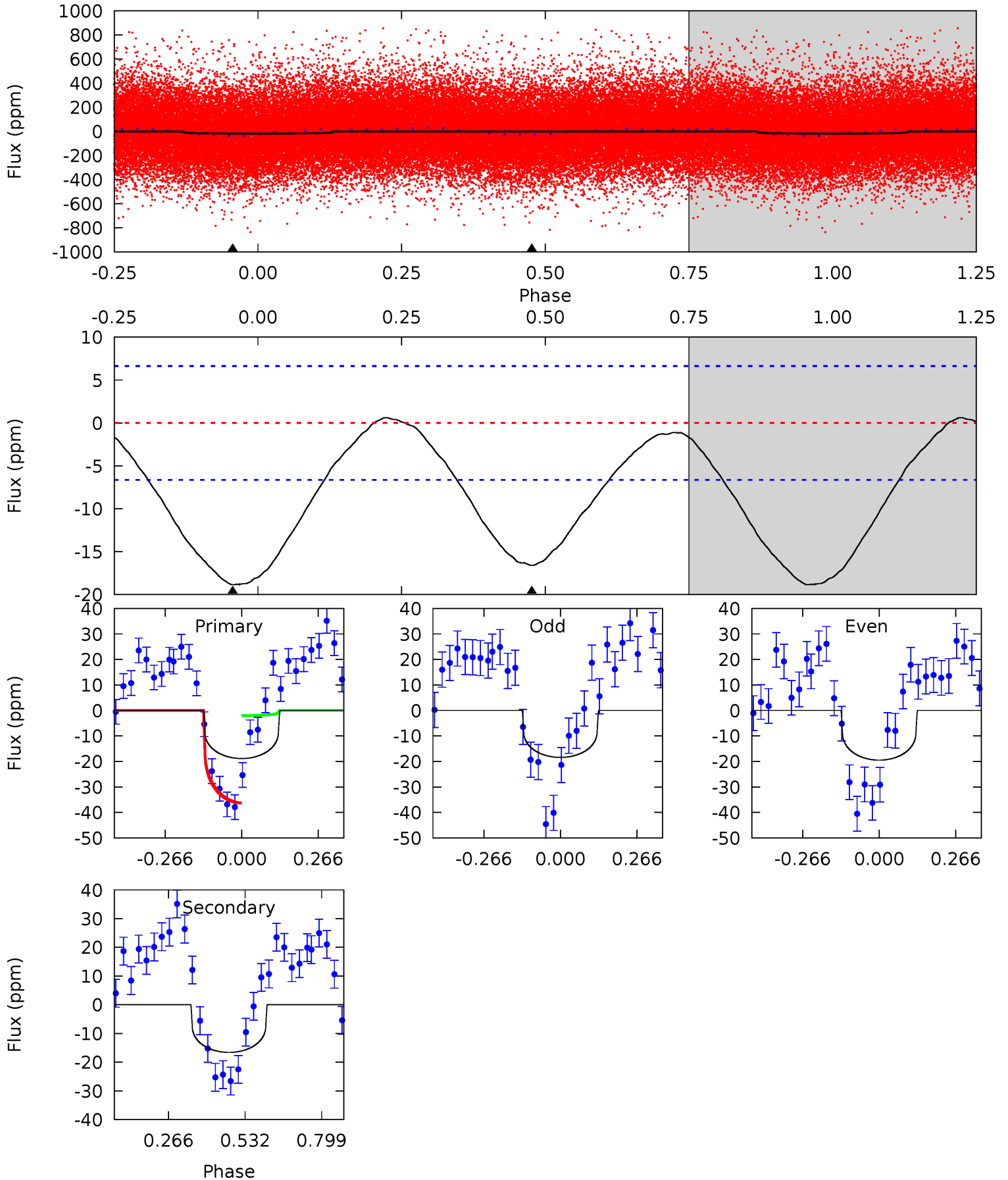
TCE 008026887-01   P= 3.845834 Days    $T_0=133.582568$  (BKJD)



# DV Model-Shift Uniqueness Test

008026887-01, P = 3.845870 Days, E = 129.906747 Days

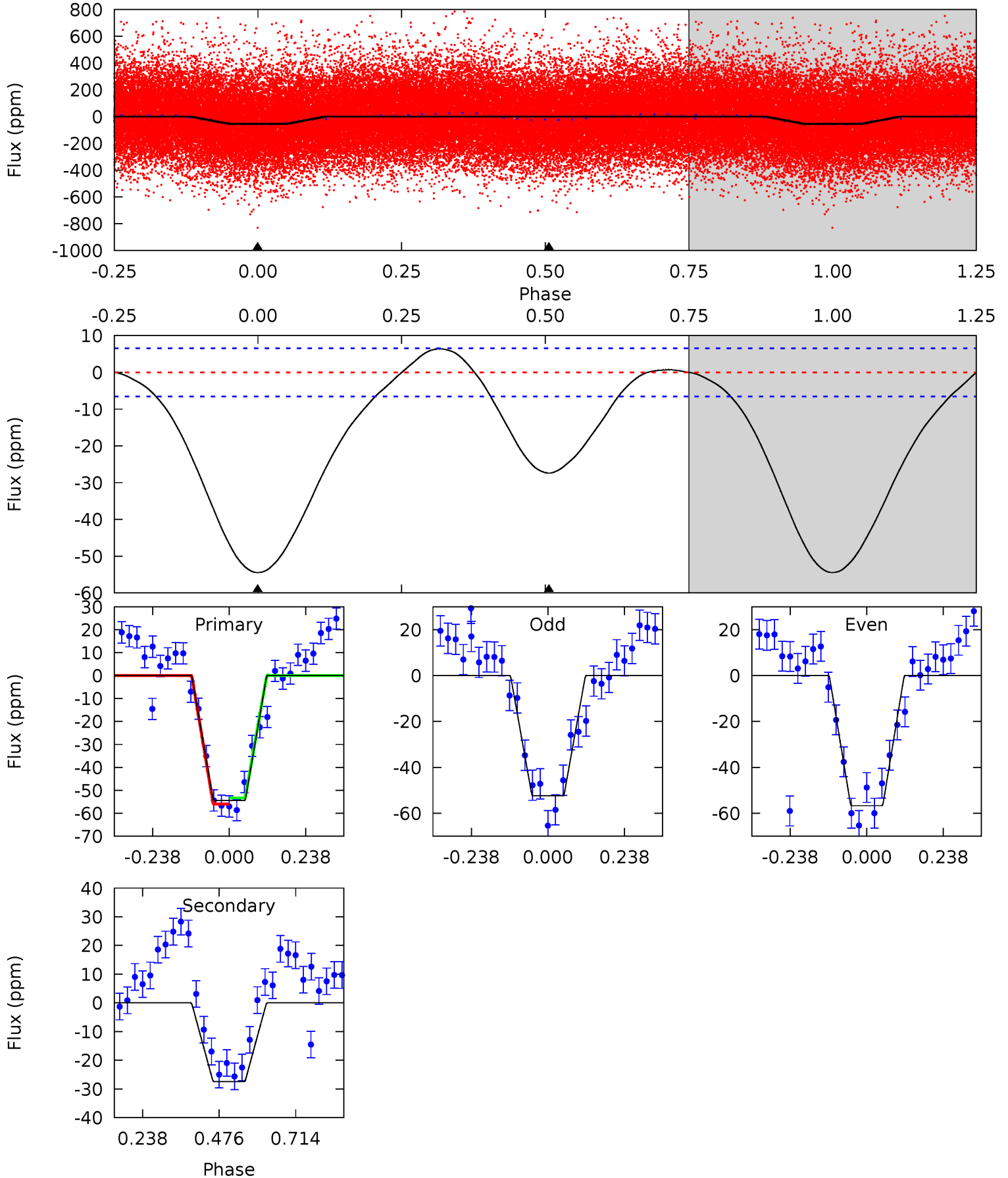
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	10.9	0	0	4.35	1.11	0.49	12.4	12.4	10.9	10.9	0.35	1.22	0.03	11.2



# Alt Model-Shift Uniqueness Test

008026887-01, P = 3.845834 Days, E = 129.736734 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
36.4	18.4	0	0	4.38	1.18	1.18	36.4	36.4	18.4	18.4	1.46	0.98	0.11	0.91





### Stellar Parameters For KIC 008026887

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5988^{+71}_{-80}$	$4.274^{+0.138}_{-0.113}$	$-0.080^{+0.150}_{-0.150}$	$1.215^{+0.188}_{-0.188}$	$1.013^{+0.078}_{-0.064}$	$0.795^{+0.497}_{-0.259}$
	+1%/-1%	+3%/-3%	+188%/-188%	+15%/-15%	+8%/-6%	+62%/-33%
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 008026887-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-17 \pm 2$	$0.74^{+0.56}_{-0.45}$	$1854^{+78}_{-85}$	$5131^{+3222}_{-1014}$	$37^{+211}_{-24}$
Alt.	$-27 \pm 1$	$1.01^{+0.59}_{-0.49}$	$1851^{+86}_{-78}$	$5025^{+1986}_{-850}$	$35^{+99}_{-21}$

$T_{\text{max}}$  = 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

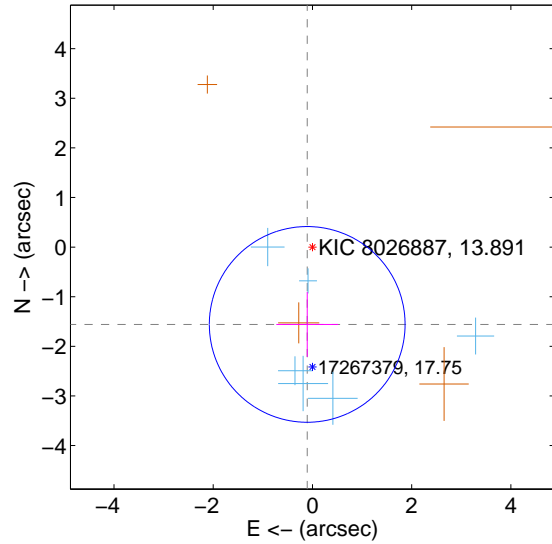
Supplemental centroid analysis for 008026887-01. Kepler magnitude: 13.89. Transit SNR 9.54

There are 6 quarters with good PRF difference image offsets

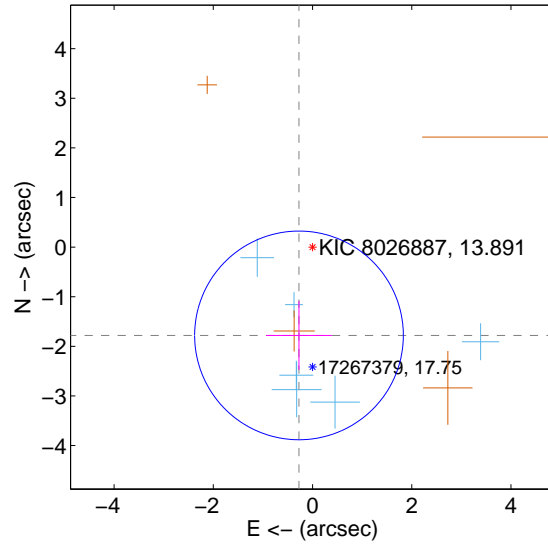
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.562 \pm 0.658$	2.38	$0.106 \pm 0.623$	$-1.559 \pm 0.655$
PRF-fit source offset from KIC position	$1.801 \pm 0.701$	2.57	$0.273 \pm 0.661$	$-1.781 \pm 0.694$
photometric centroid source offset	$1.36 \pm 0.90$	1.51	$0.17 \pm 0.71$	$-1.35 \pm 0.90$

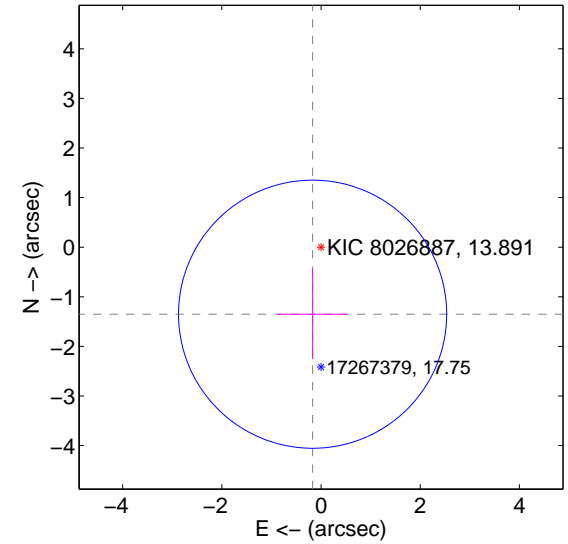
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

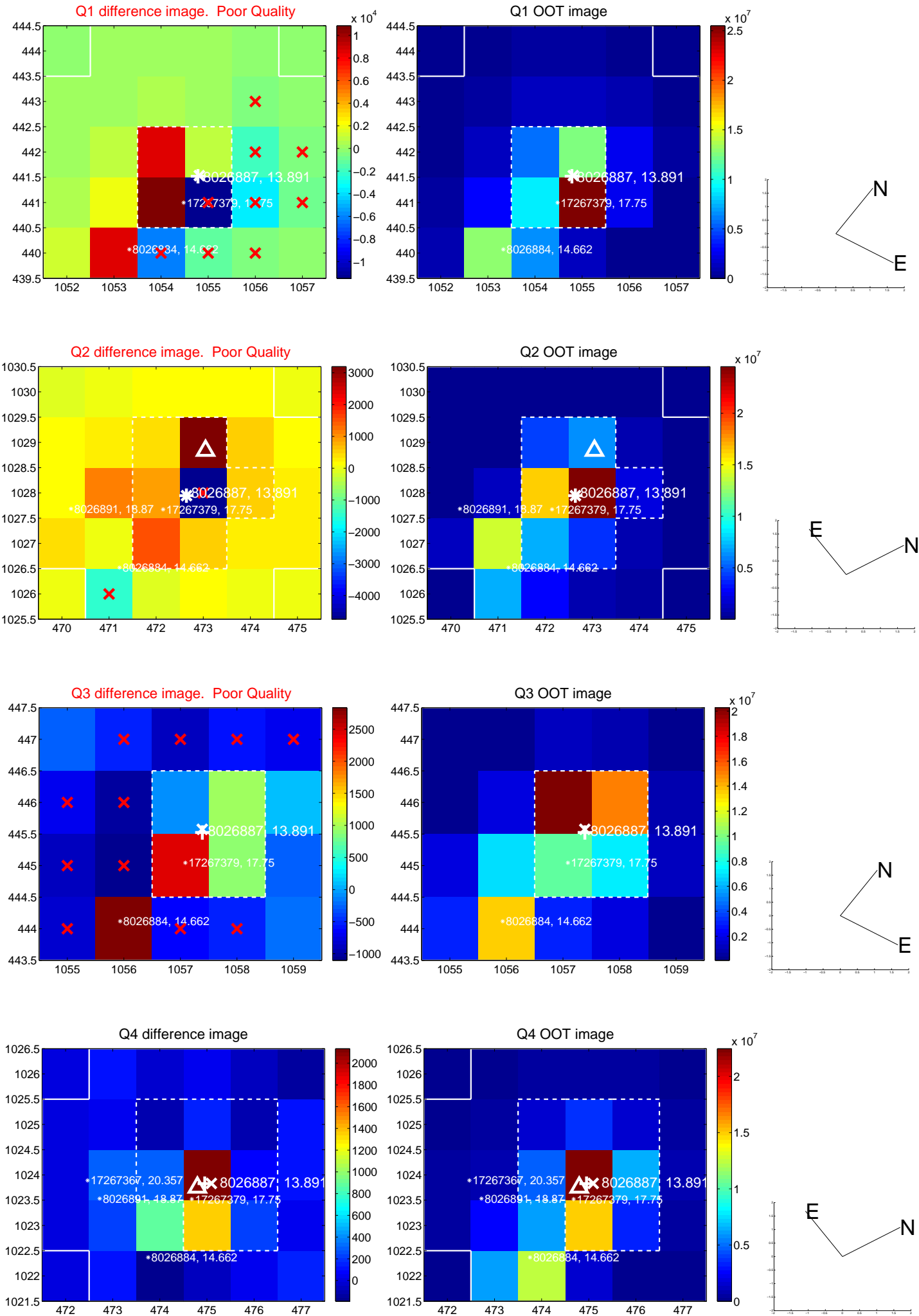


offset from photometric centroids

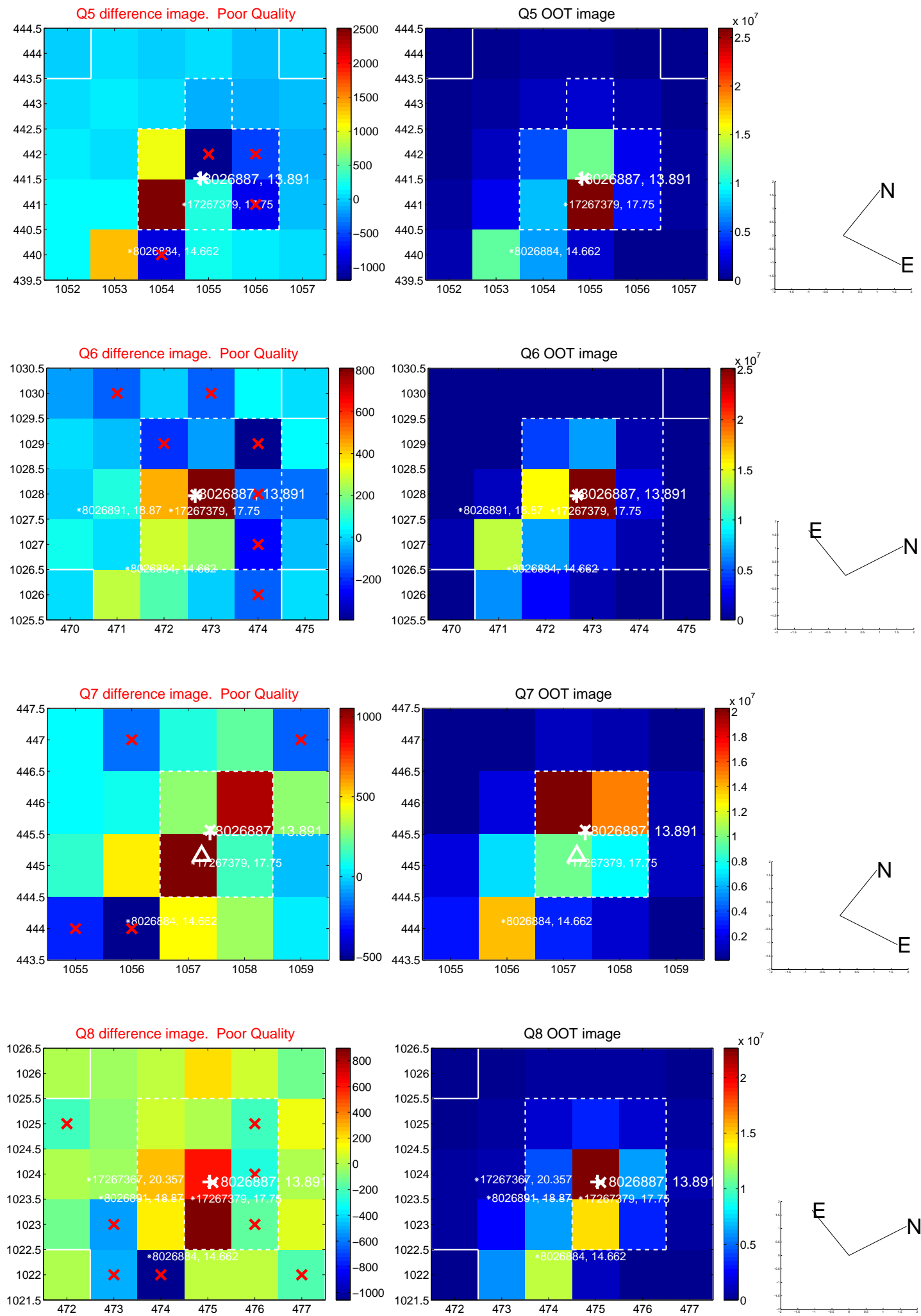


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

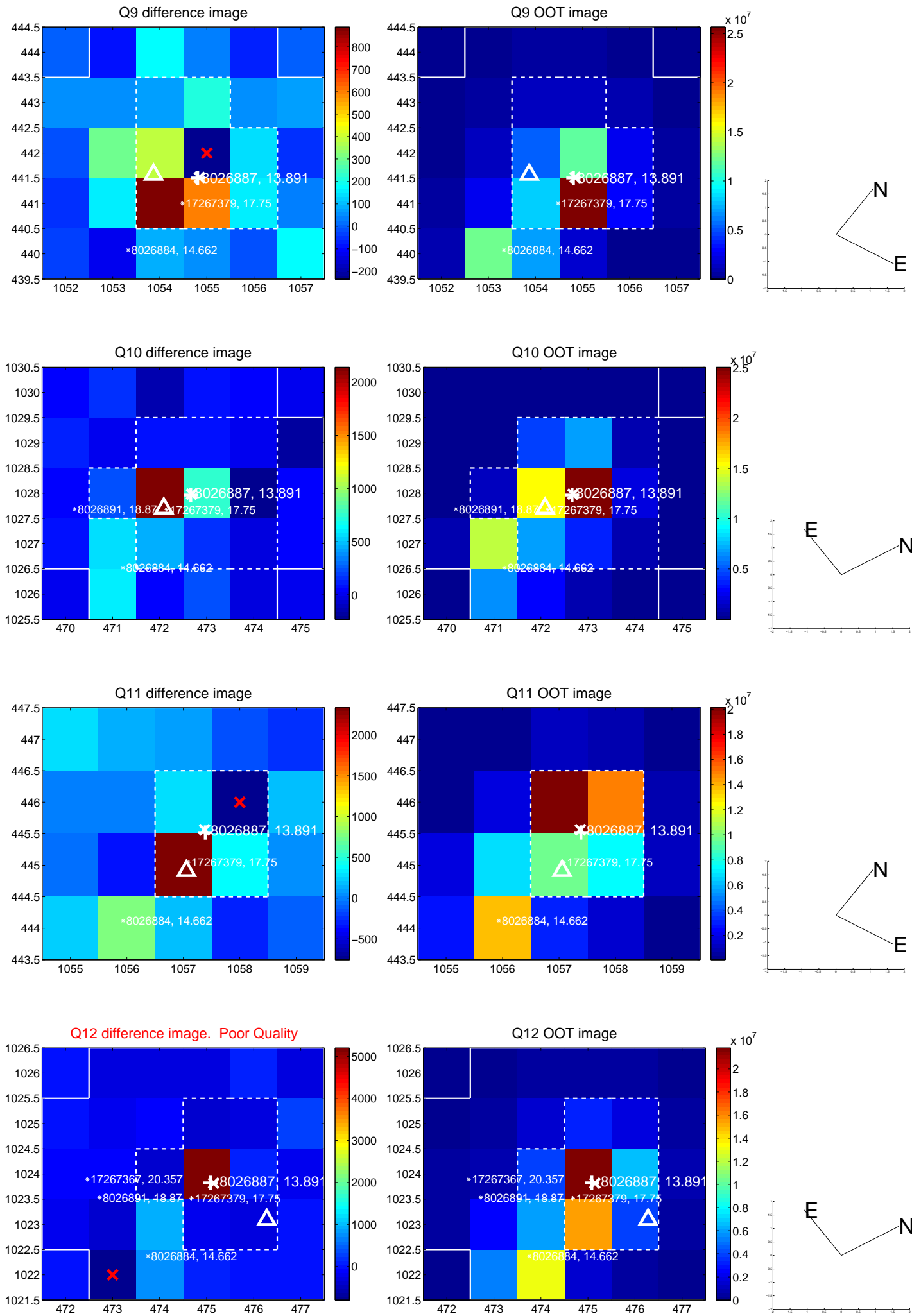


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

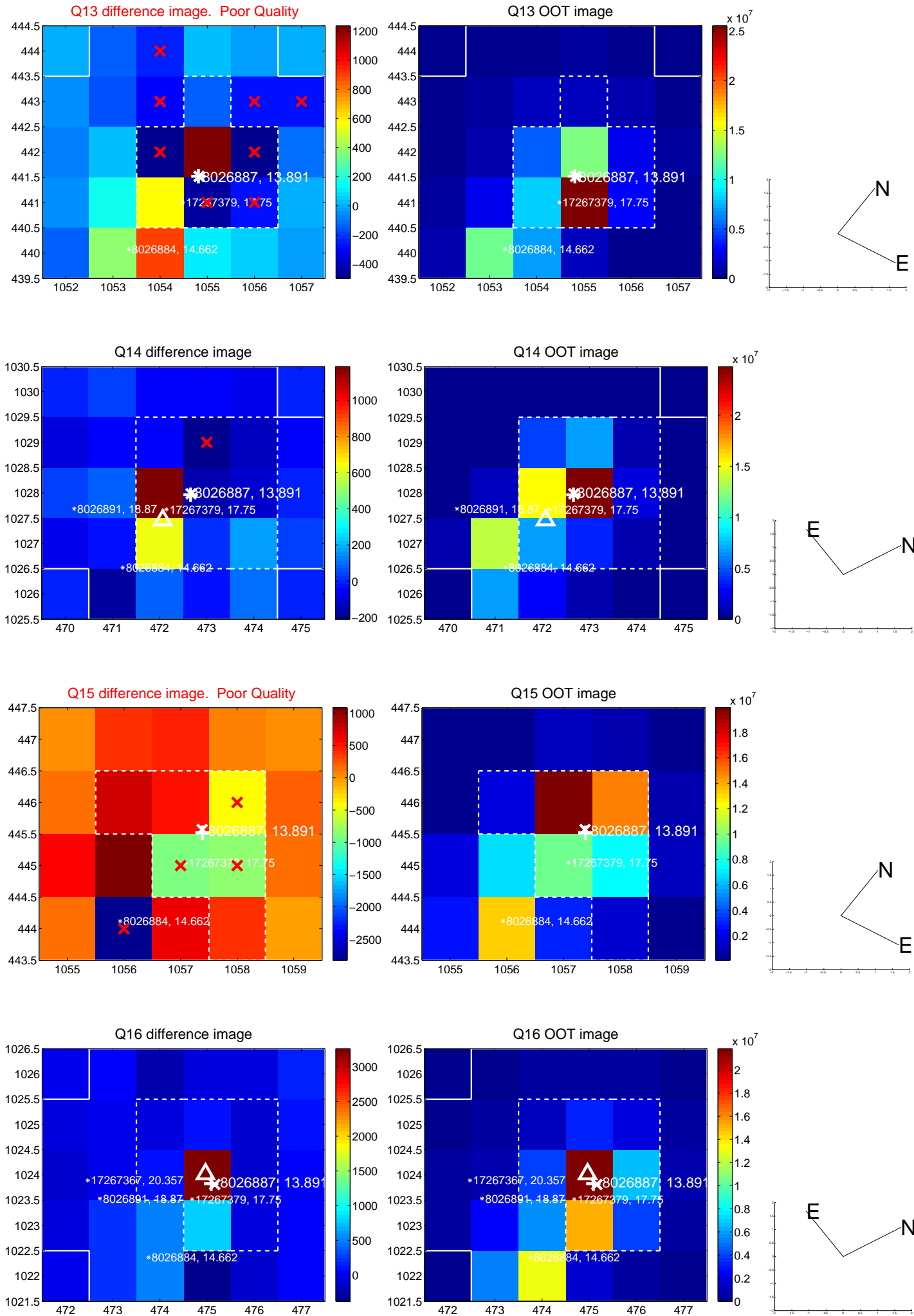




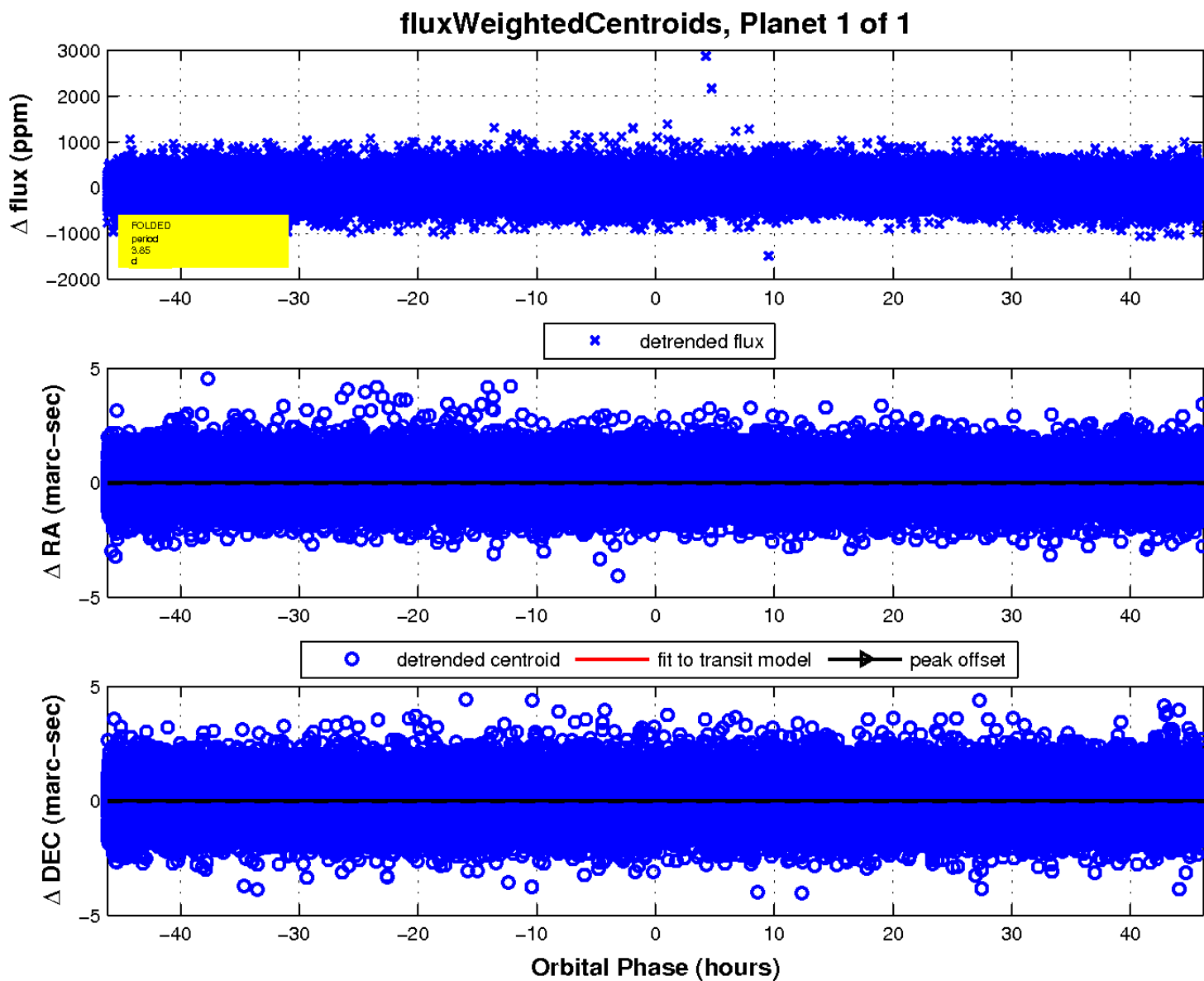
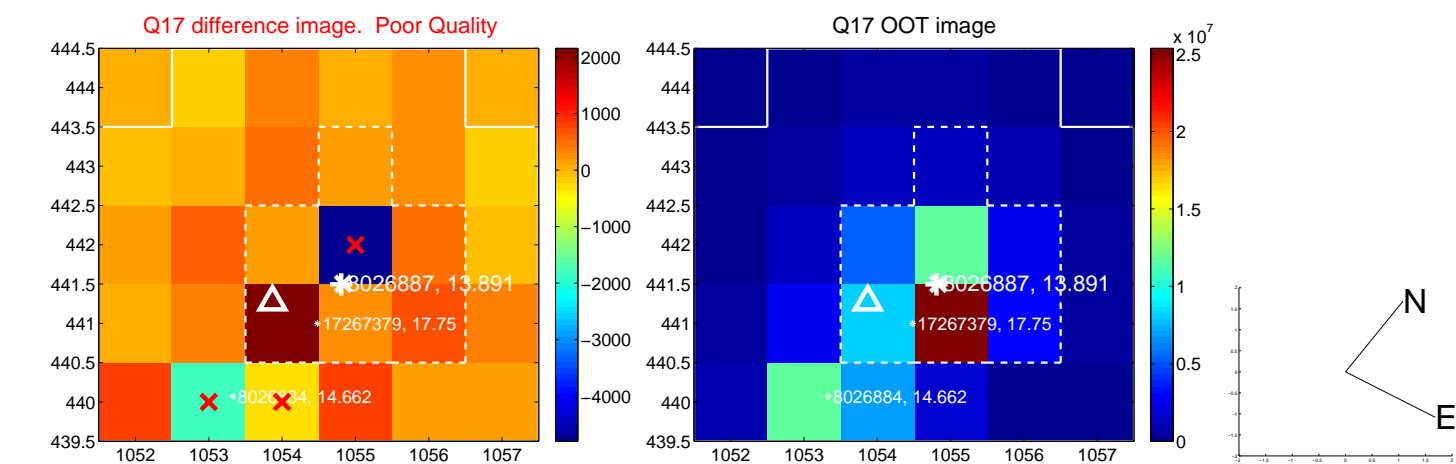
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white  $\times$ : 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

