

# KIC 004483781

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004483781-01	OBS	No	0.883380	131.995048	38.1	3.241	8.7	9.0	1.46	6877	1.10	11367.47

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004483781-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT

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

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

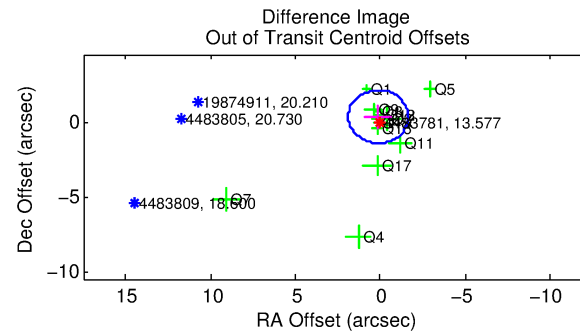
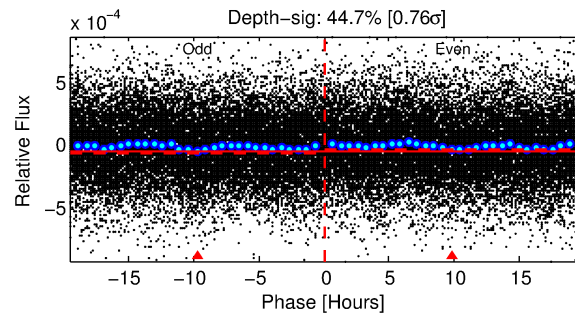
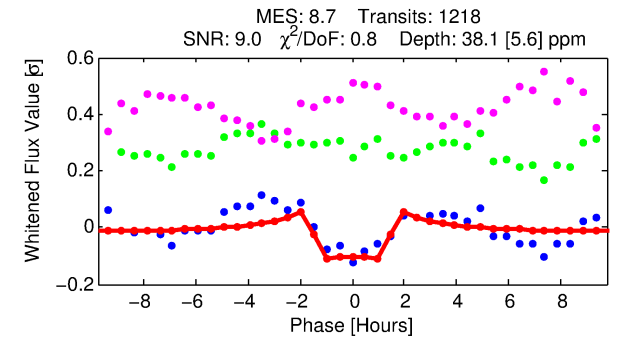
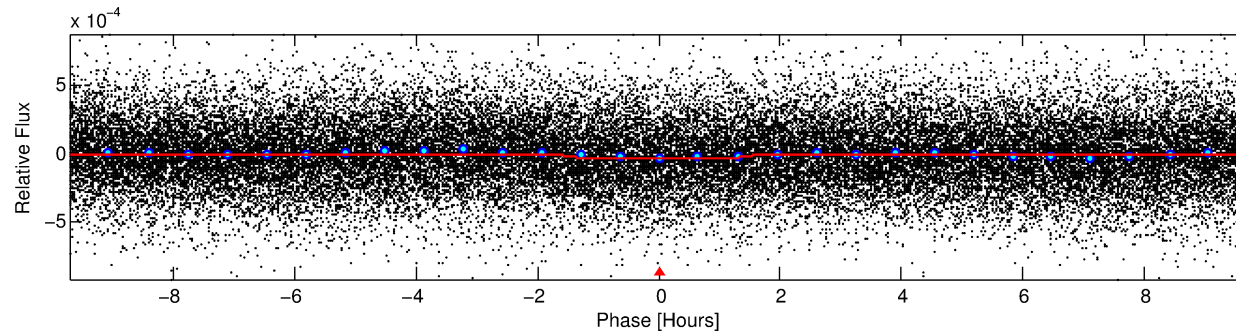
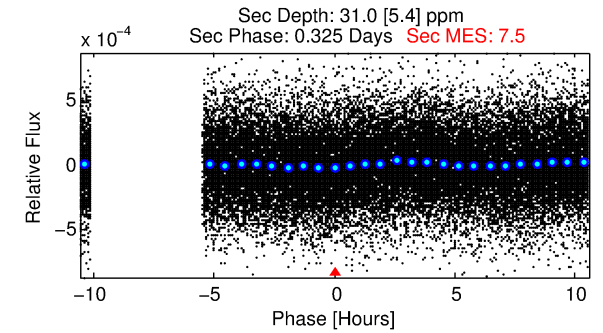
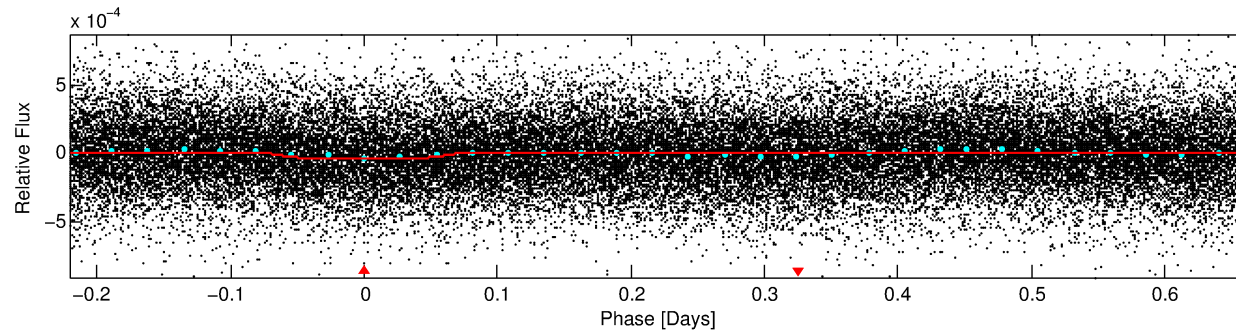
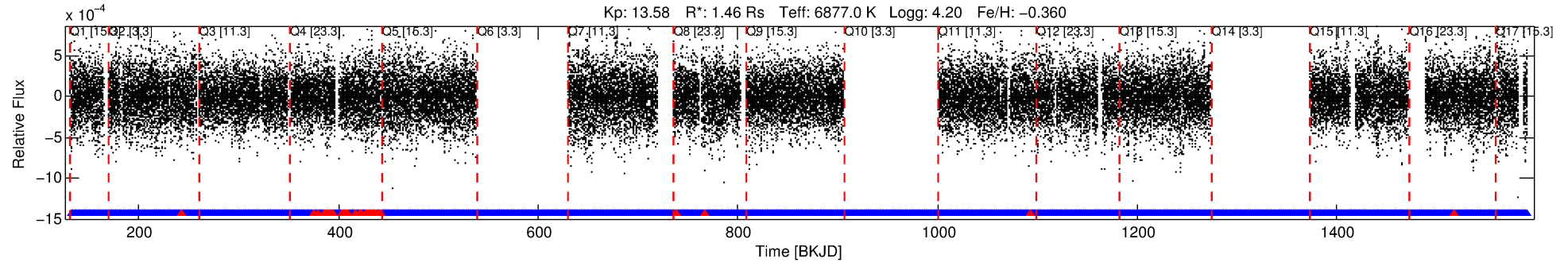
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004483781-01

No Significant Match Found

# DV One-Page Summary

KIC: 4483781 Candidate: 1 of 1 Period: 0.883 d



## DV Fit Results:

Period = 0.88338 [0.00001] d  
Epoch = 131.9950 [0.0026] BKJD  
Rp/R\* = 0.0069 [0.0016]  
a/R\* = 1.20 [0.49]  
b = 0.95 [0.15]  
Seff = 11367.47 [4431.76]  
Teq = 2633 [257] K  
Rp = 1.10 [0.42] Re  
a = 0.0194 [0.0048] AU  
Ag = 5.27 [3.21] [1.33σ]  
Teffp = 6168 [808] K [4.17σ]

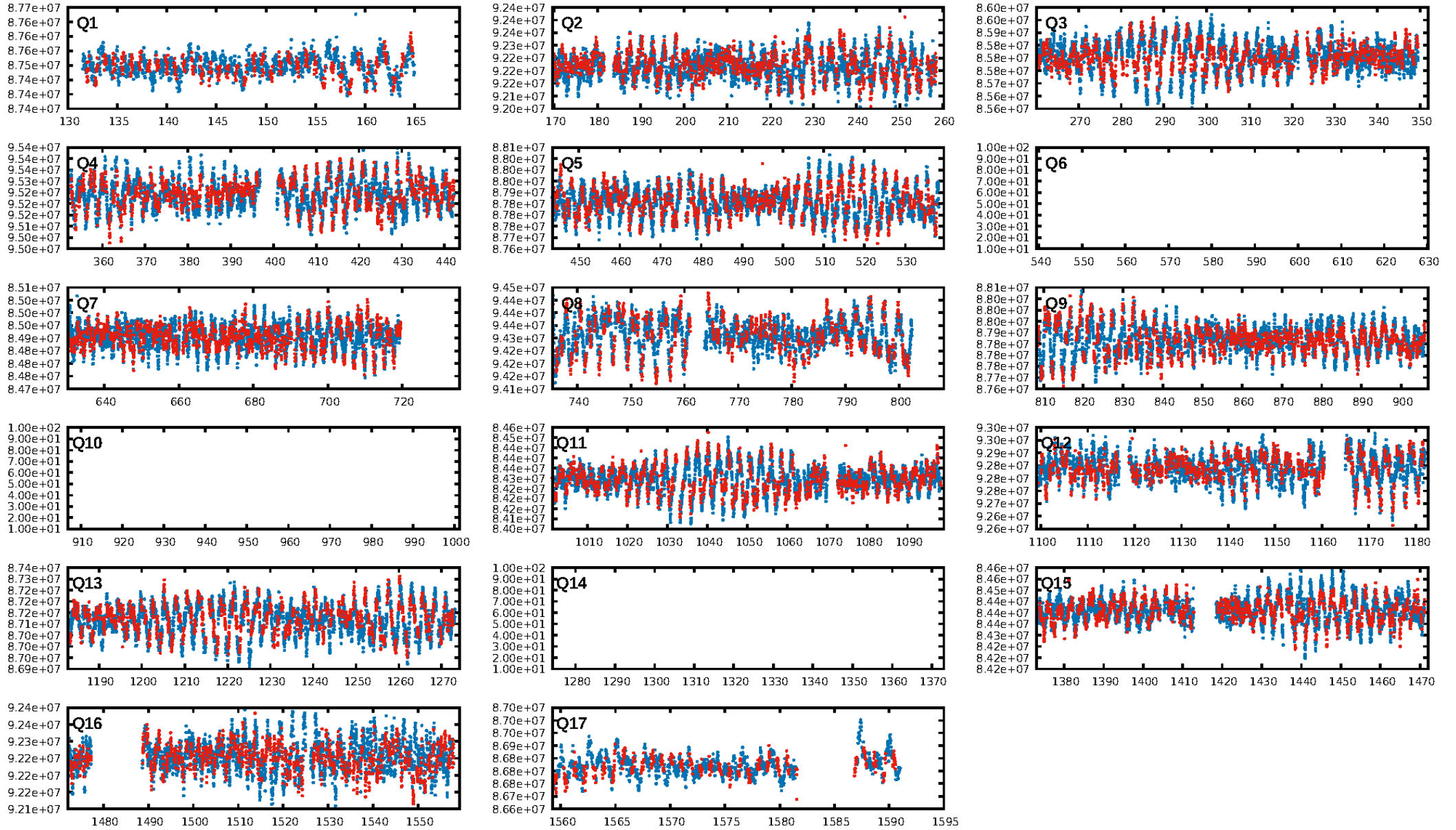
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 8.67e-13  
RollingBand-fgt: 0.97 [1113/1149]  
GhostDiagnostic-chr: 1.981  
Centroid-sig: 40.2%  
Centroid-so: 0.651 arcsec [0.88σ]  
OotOffset-rm: 0.358 arcsec [0.61σ]  
KicOffset-rm: 0.432 arcsec [0.70σ]  
OotOffset-st: 0/4/4/5 [13]  
KicOffset-st: 0/4/4/5 [13]  
DiffImageQuality-fgm: 0.62 [8/13]  
DiffImageOverlap-fno: 1.00 [14/14]

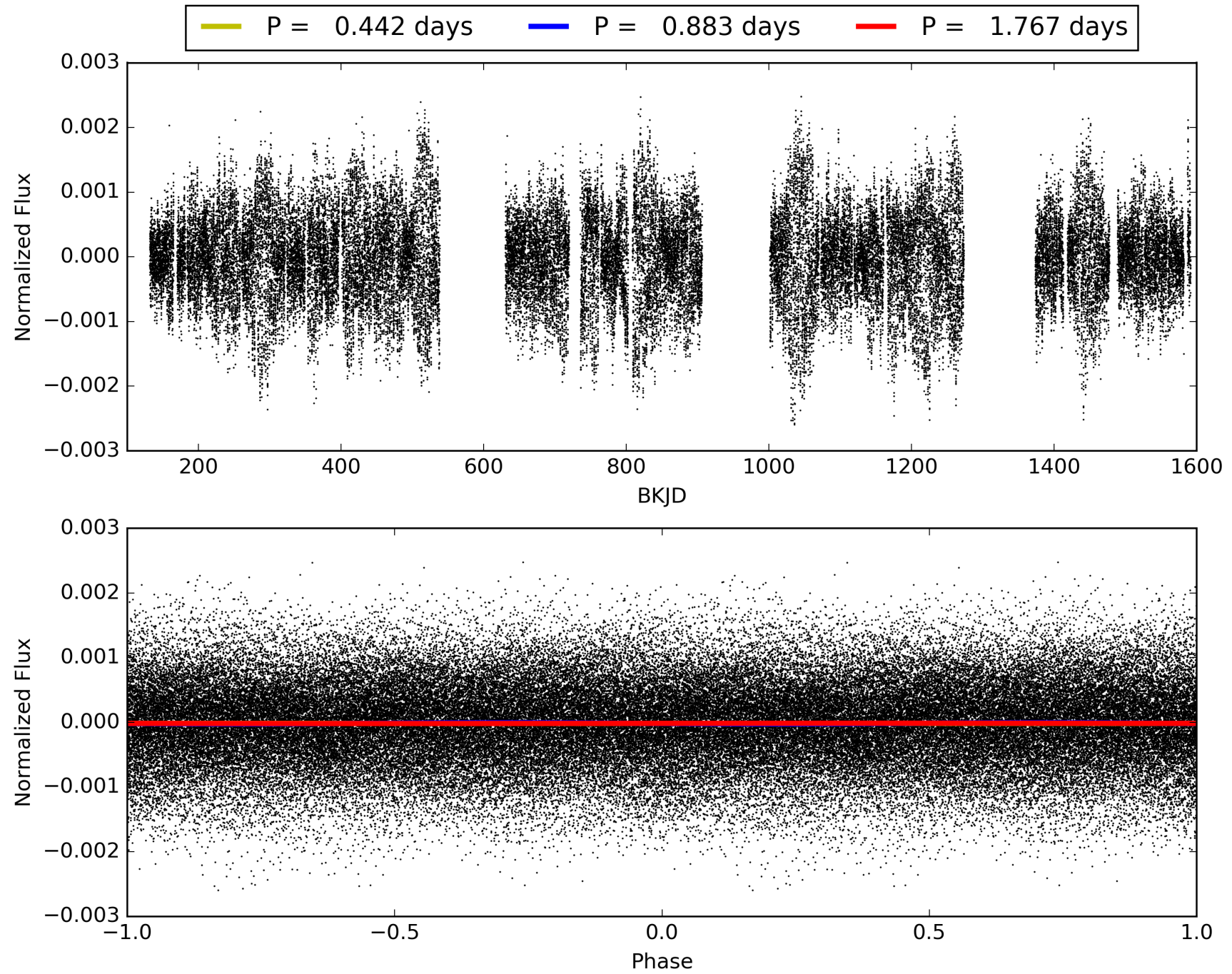
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:10:30 Z

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

# TCE 004483781-01, PDC Light Curves



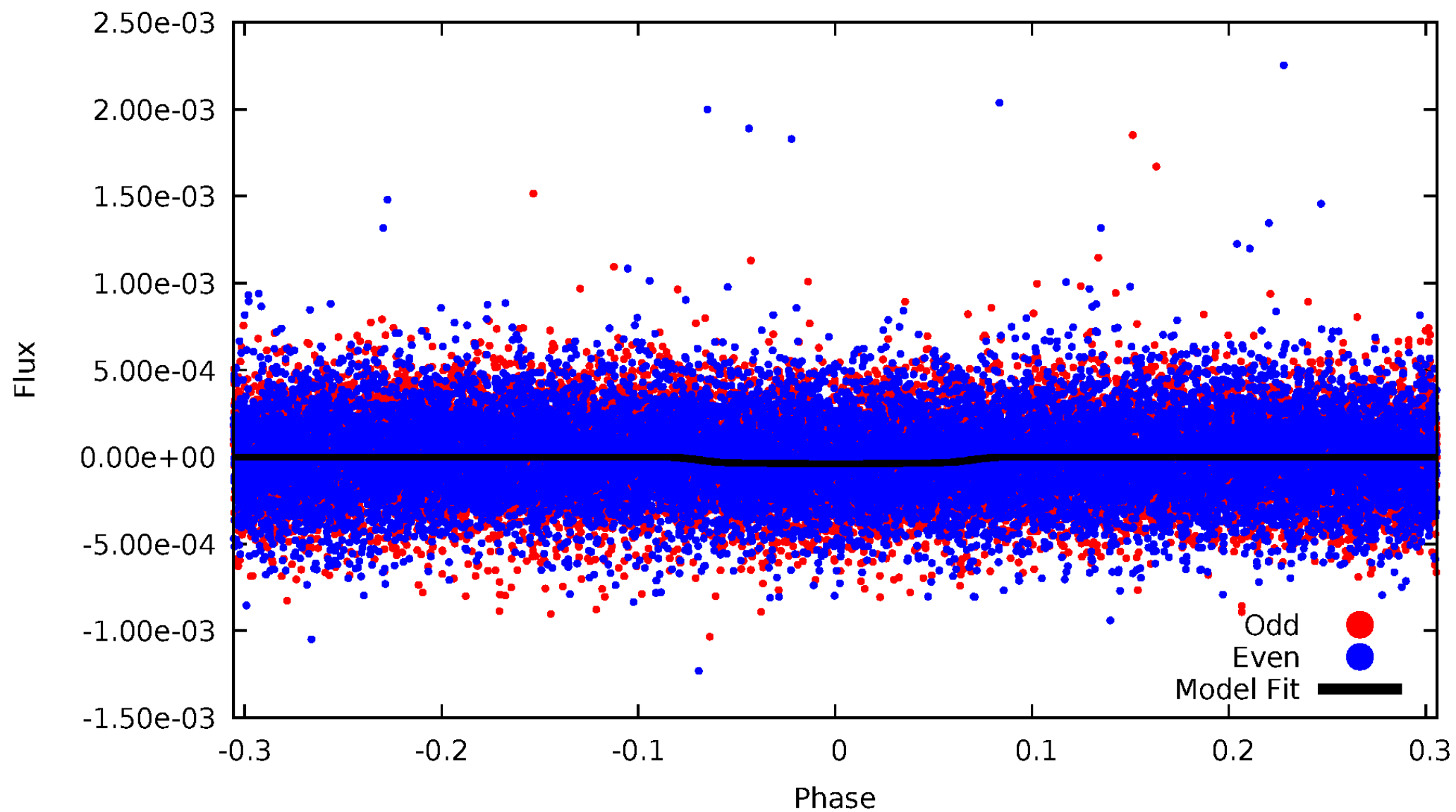
TCE 004483781-01





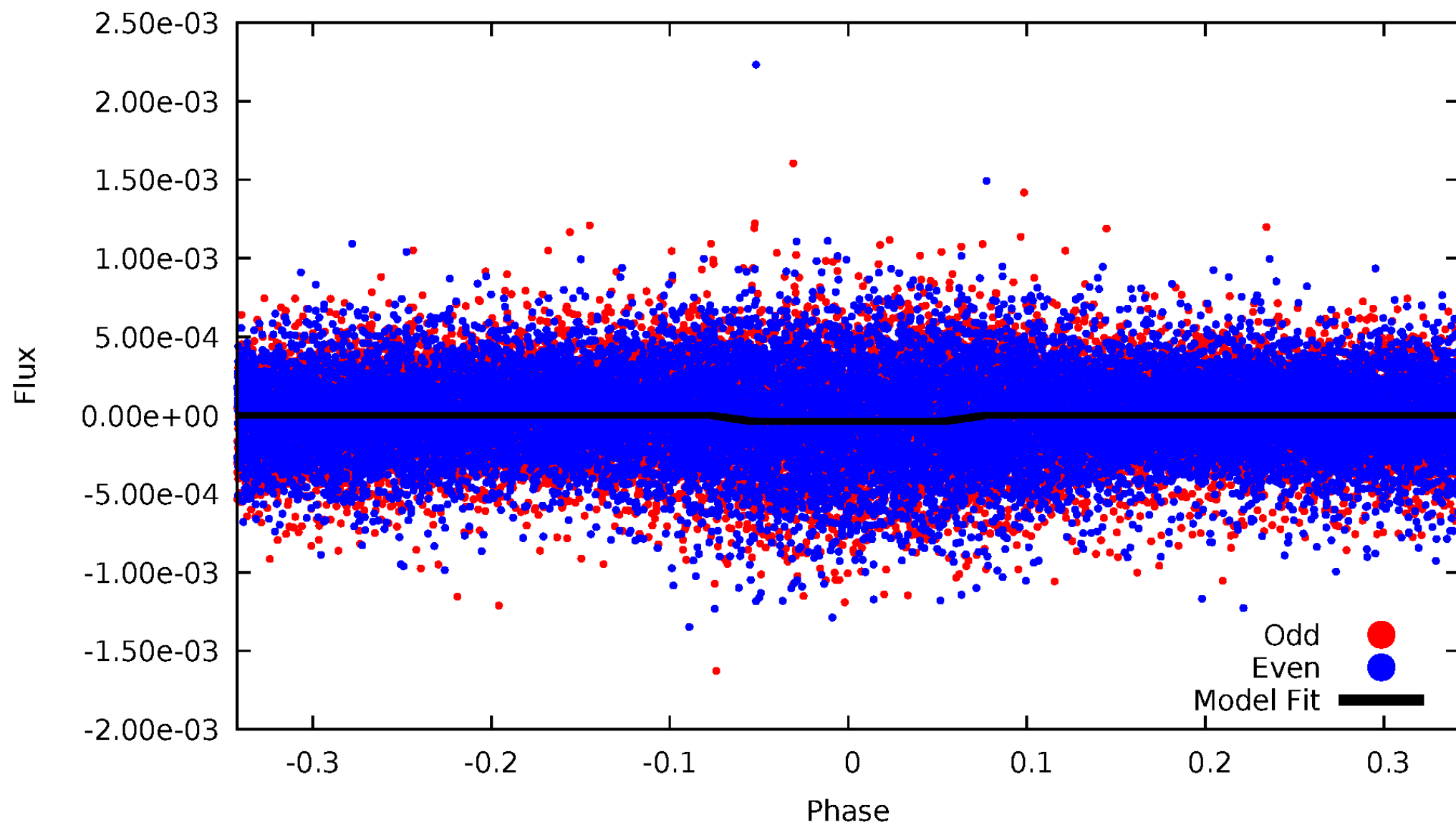
# DV Odd/Even

TCE 004483781-01

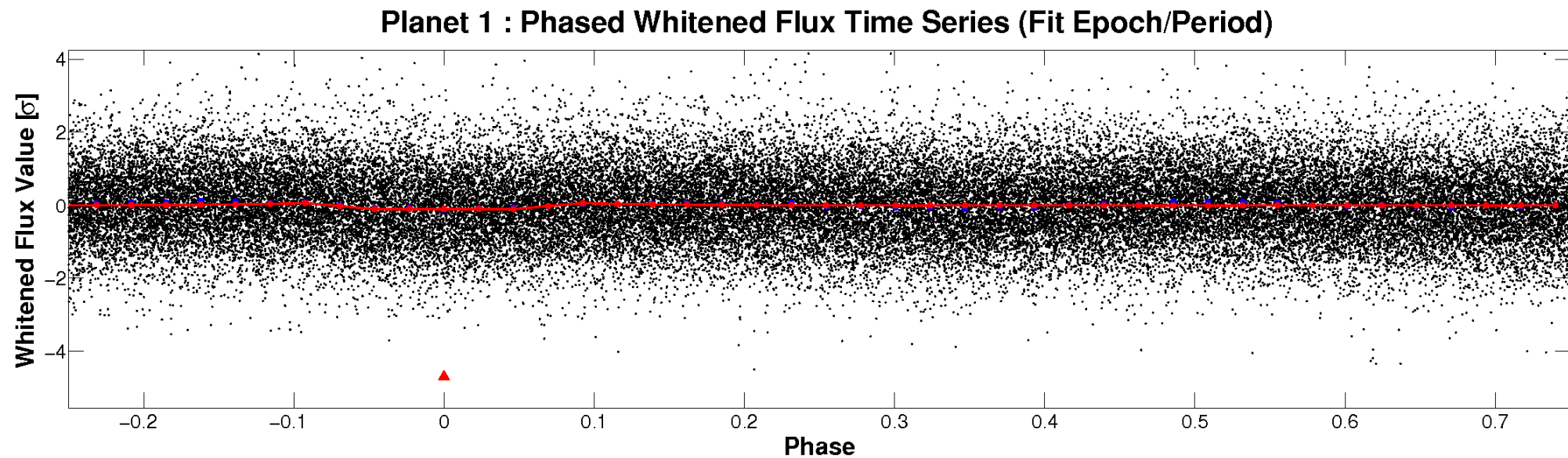
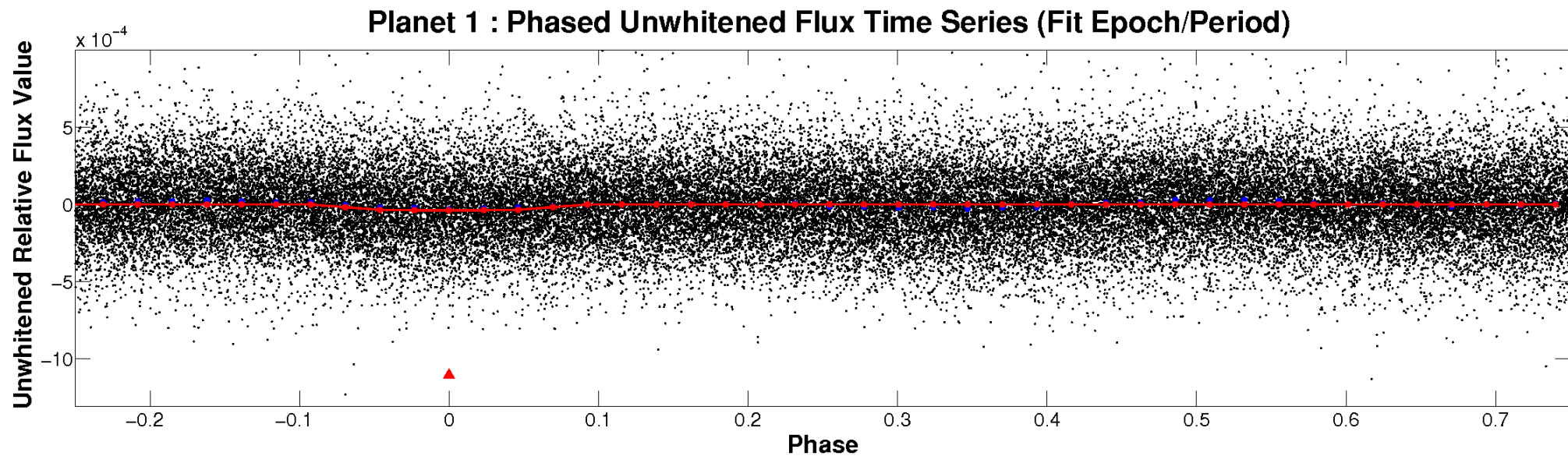


# ALT Odd/Even

TCE 004483781-01

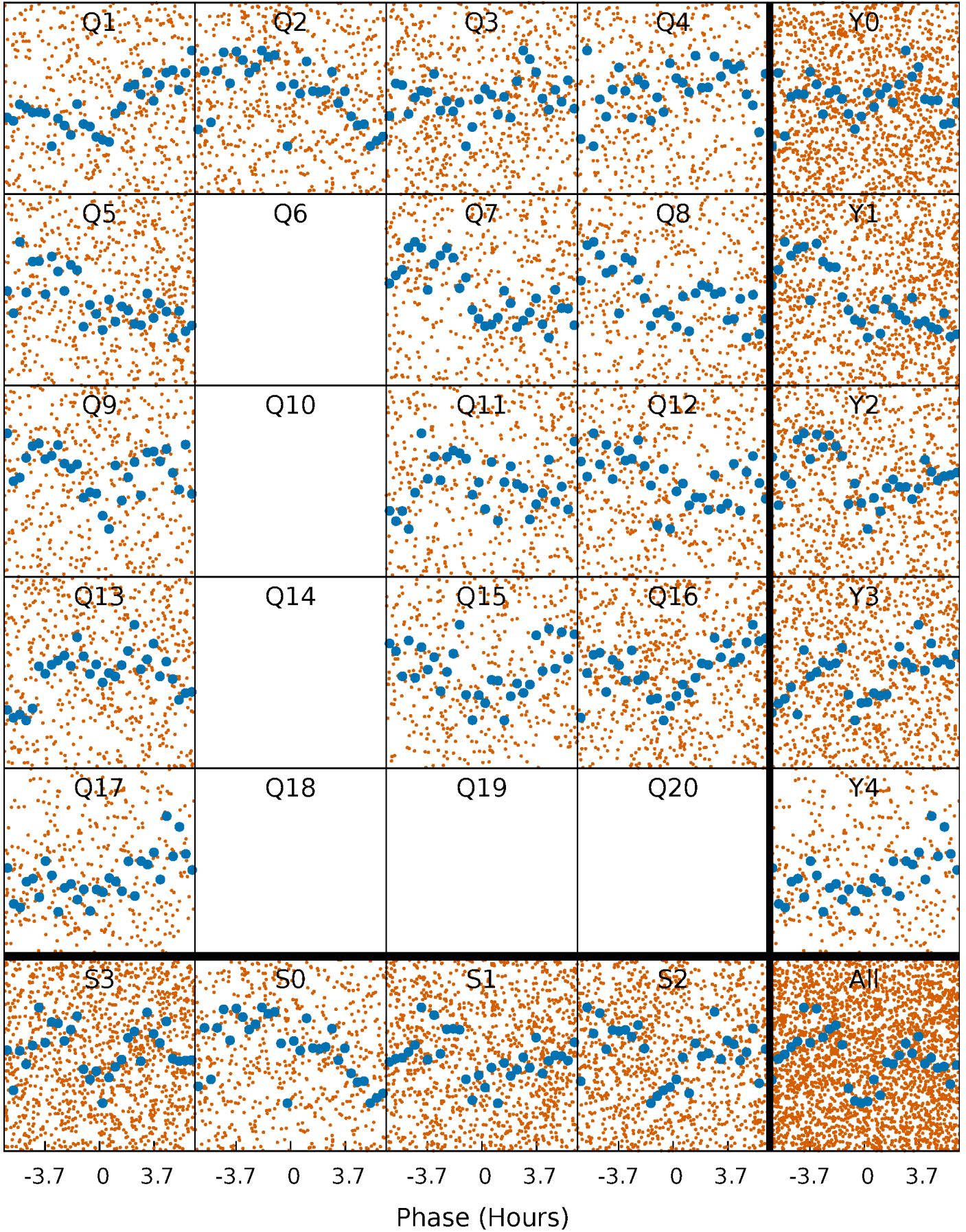


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

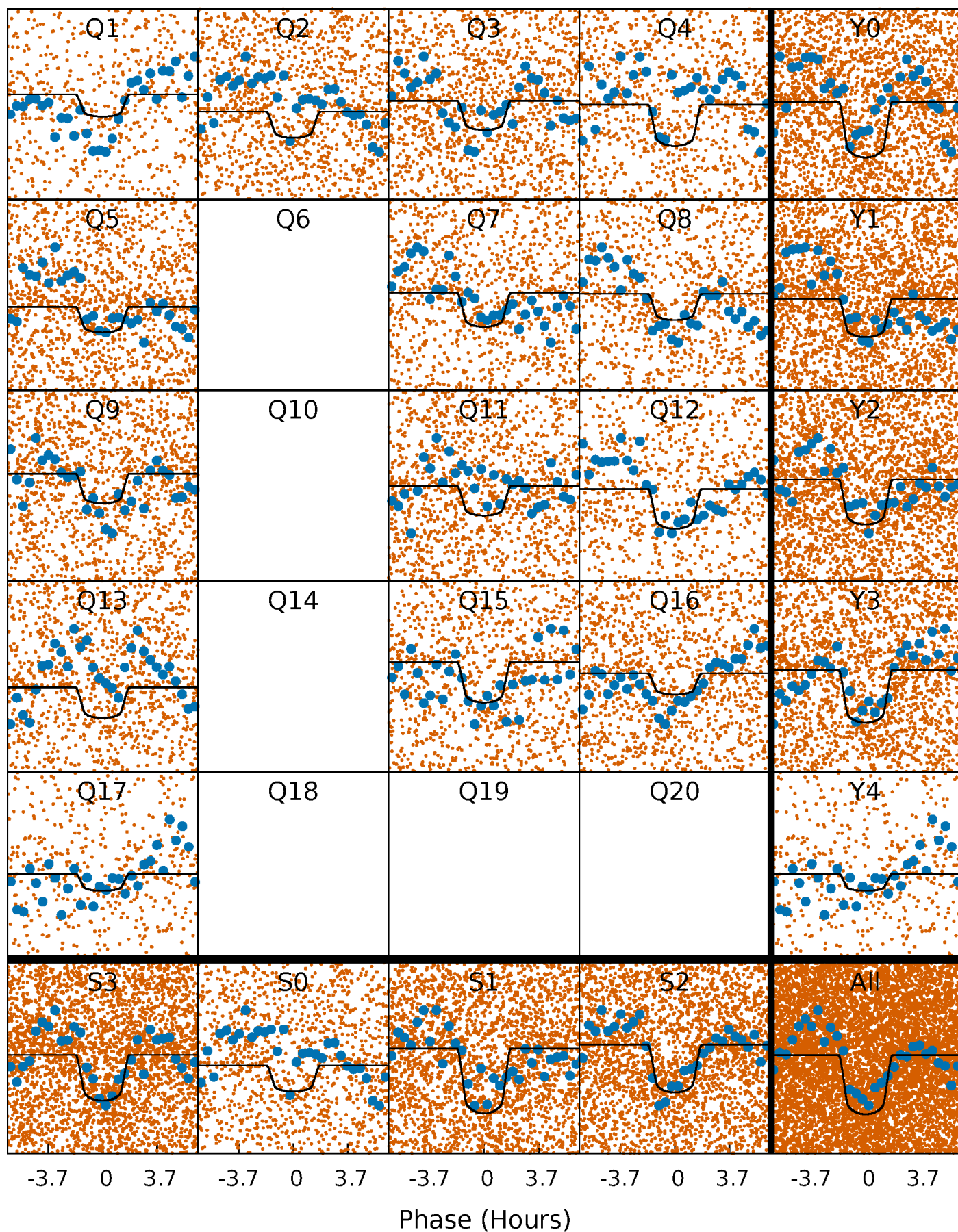
TCE 004483781-01   P= 0.883380 Days    $T_0=131.995048$  (BKJD)





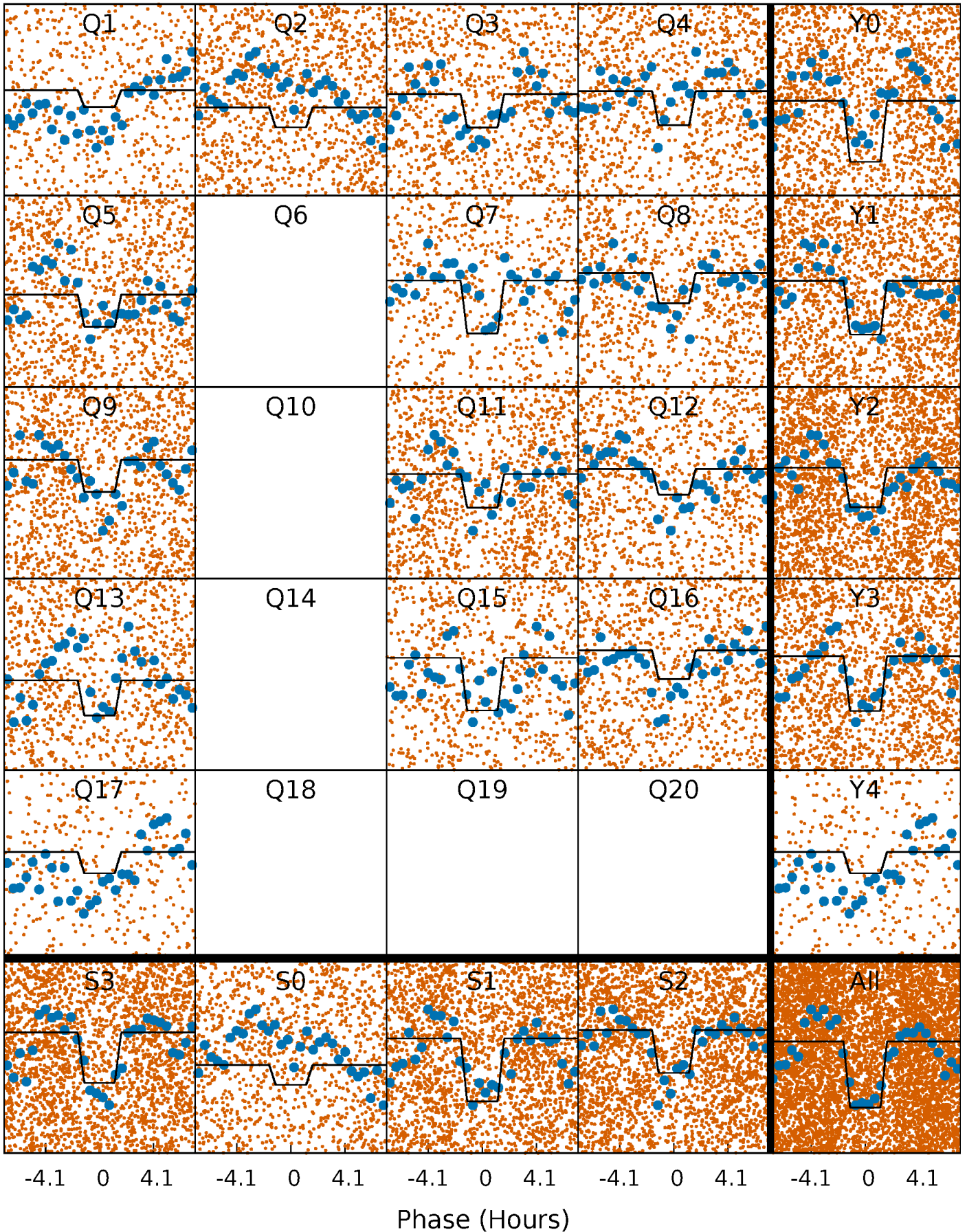
# DV Quarter-Phased Transit Curves

TCE 004483781-01 P= 0.883380 Days  $T_0=131.995048$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

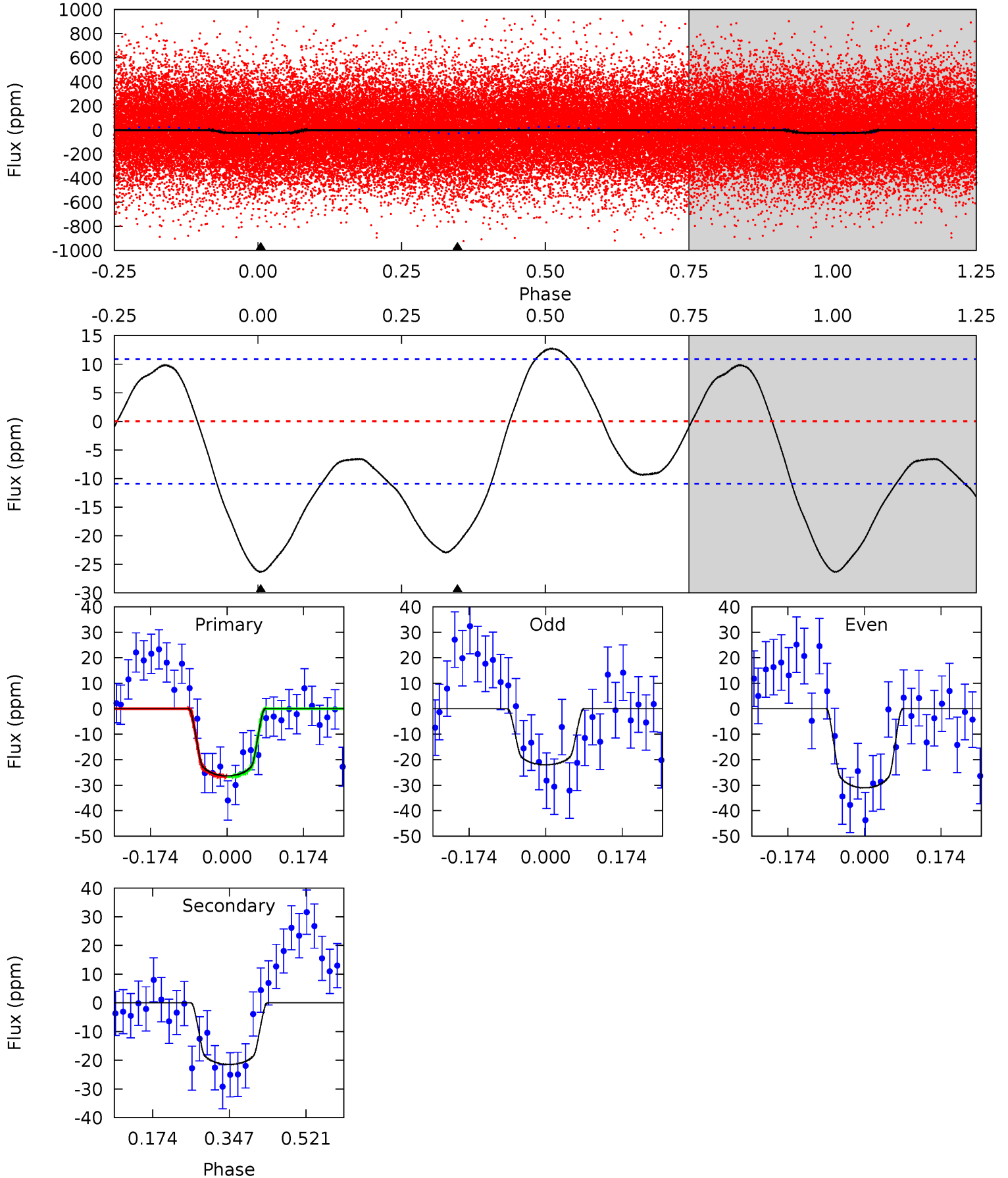
TCE 004483781-01 P= 0.883399 Days  $T_0=131.980692$  (BKJD)



# DV Model-Shift Uniqueness Test

004483781-01, P = 0.883380 Days, E = 131.111668 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
10.7	8.76	0	0	4.45	1.36	2.98	10.7	10.7	8.76	8.76	1.85	0.95	0.33	0.00

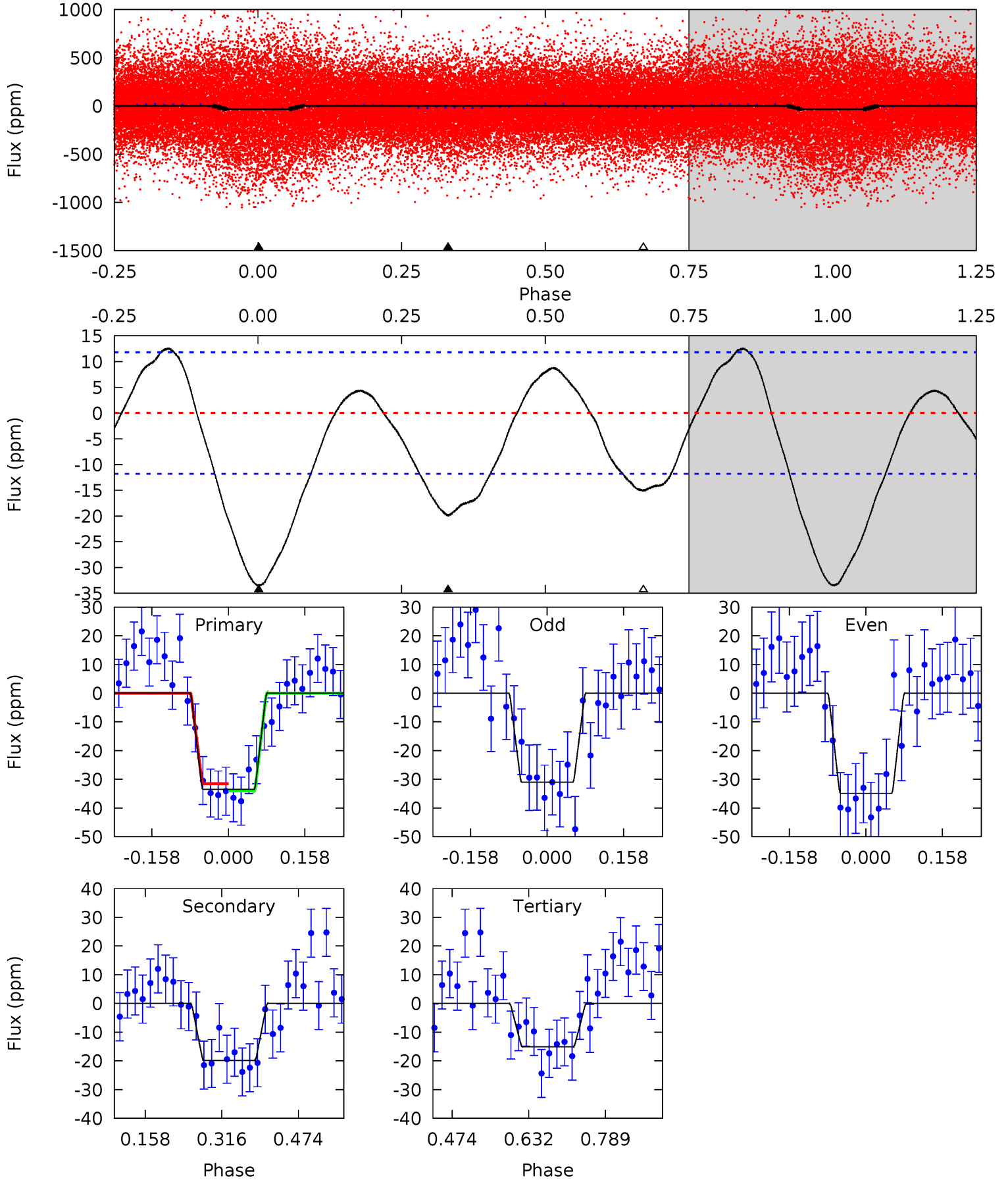




# Alt Model-Shift Uniqueness Test

004483781-01, P = 0.883399 Days, E = 131.097293 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
12.7	7.52	5.70	0	4.47	1.41	3.44	6.97	12.7	1.83	7.52	0.73	2.11	0.27	0.49





### Stellar Parameters For KIC 004483781

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6877^{+216}_{-288}$	$4.204^{+0.153}_{-0.187}$	$-0.360^{+0.250}_{-0.300}$	$1.459^{+0.446}_{-0.335}$	$1.249^{+0.178}_{-0.198}$	$0.567^{+0.433}_{-0.283}$
	+3%/-4%	+4%/-4%	+69%/-83%	+31%/-23%	+14%/-16%	+76%/-50%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 004483781-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-21 \pm 2$	$1.12^{+0.32}_{-0.29}$	$3689^{+307}_{-250}$	$5441^{+864}_{-567}$	$3.440^{+2.867}_{-1.379}$
Alt.	$-20 \pm 3$	$0.98^{+0.31}_{-0.27}$	$3692^{+263}_{-260}$	$5724^{+1051}_{-676}$	$4.243^{+4.174}_{-1.741}$

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

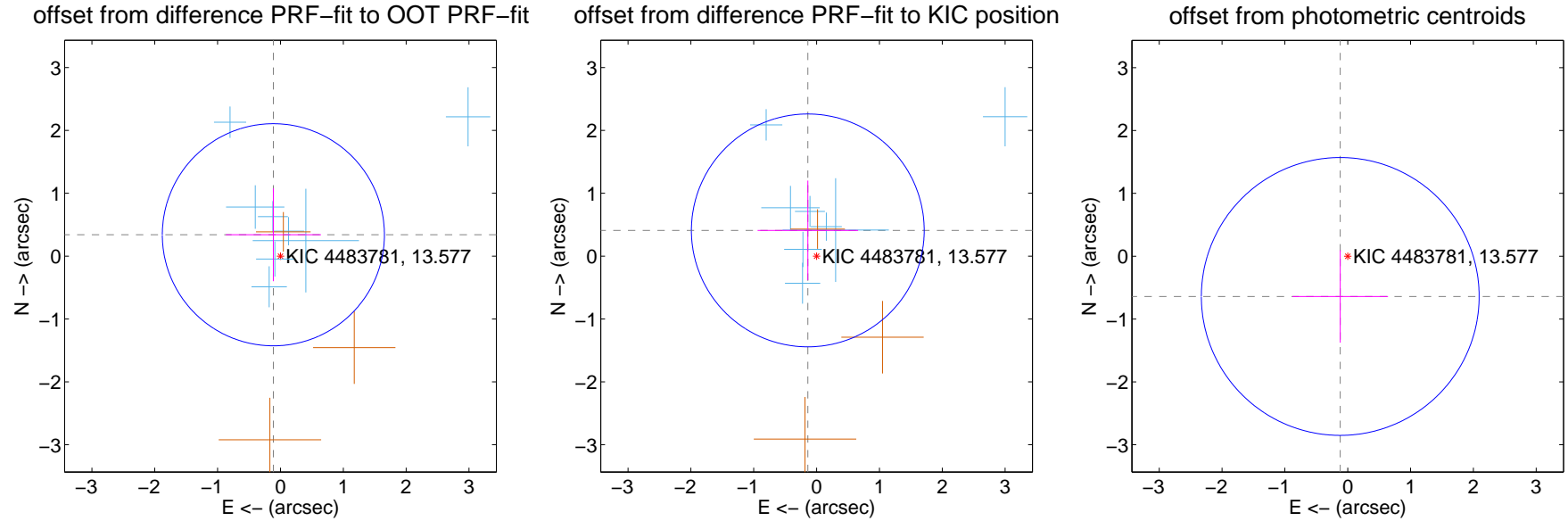
## DV Centroid Data

Supplemental centroid analysis for 004483781-01. Kepler magnitude: 13.58. Transit SNR 9.04

There are 8 quarters with good PRF difference image offsets

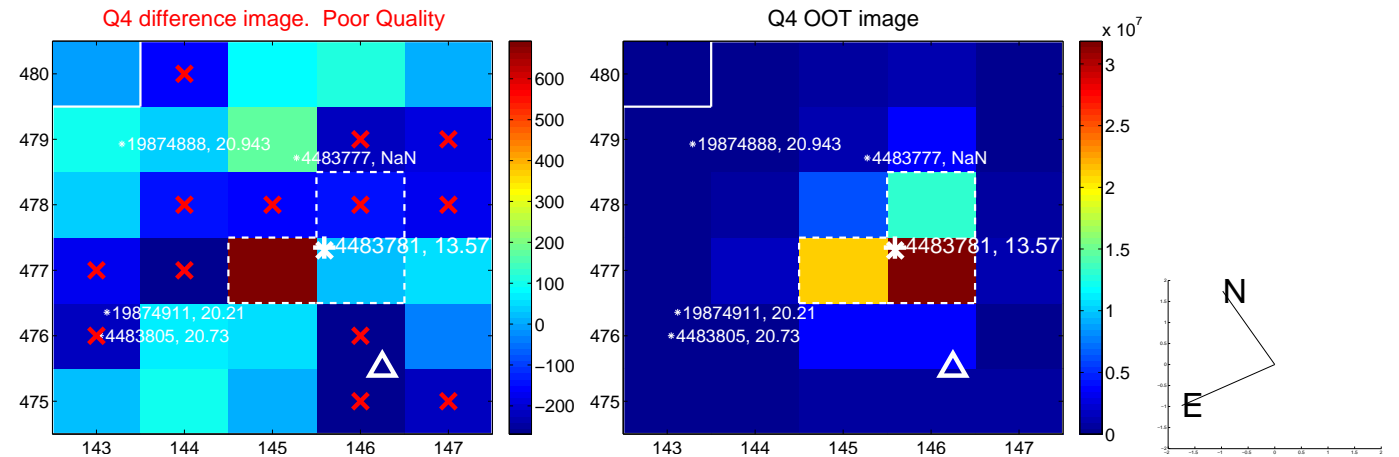
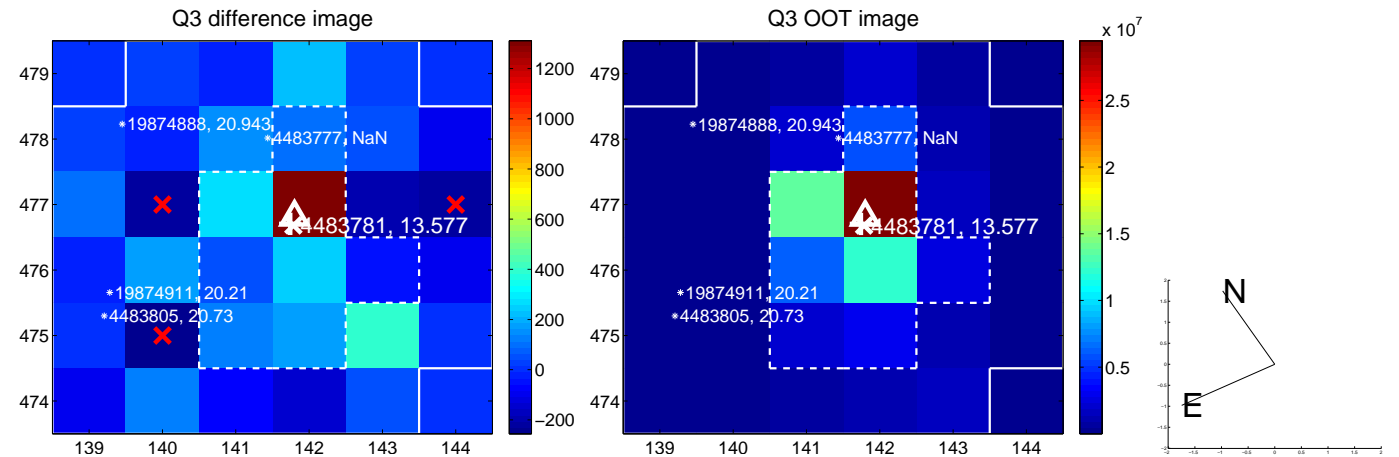
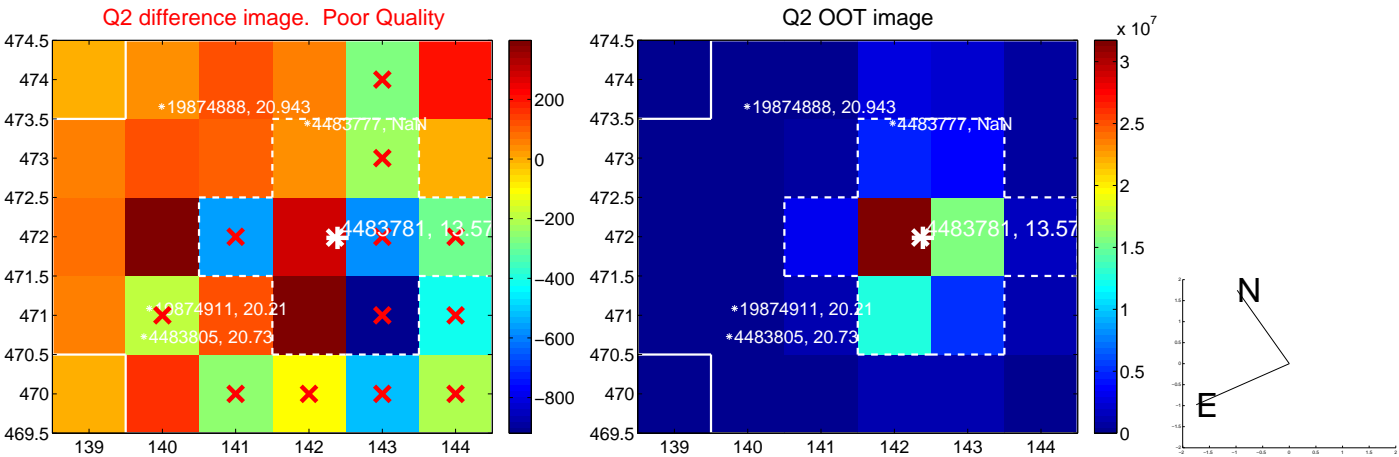
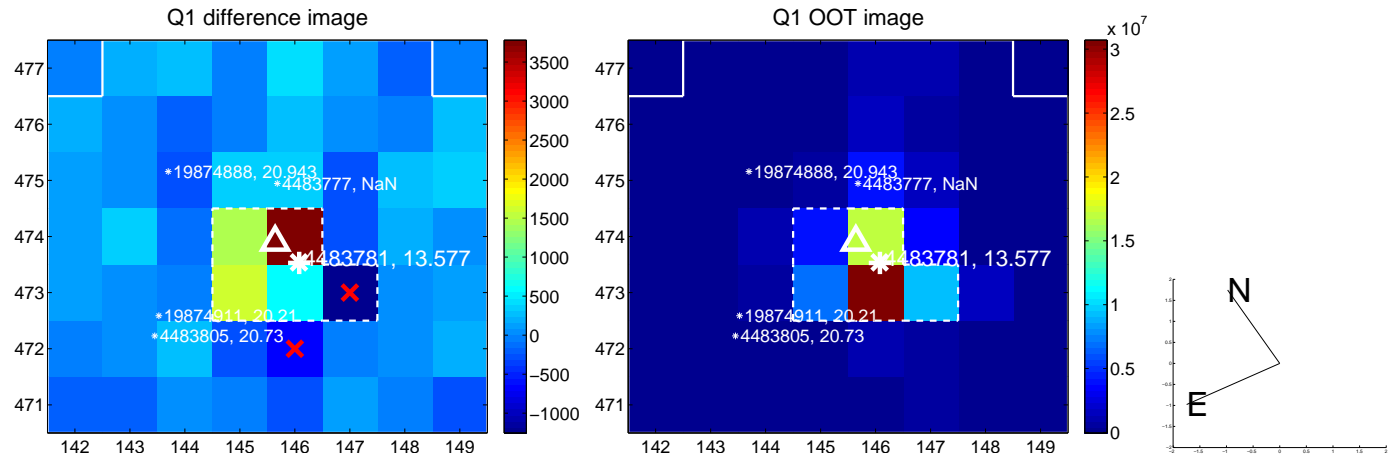
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.358 \pm 0.589$	0.61	$0.113 \pm 0.756$	$0.340 \pm 0.738$
PRF-fit source offset from KIC position	$0.432 \pm 0.617$	0.70	$0.140 \pm 0.800$	$0.409 \pm 0.793$
photometric centroid source offset	$0.65 \pm 0.74$	0.88	$0.12 \pm 0.76$	$-0.64 \pm 0.74$

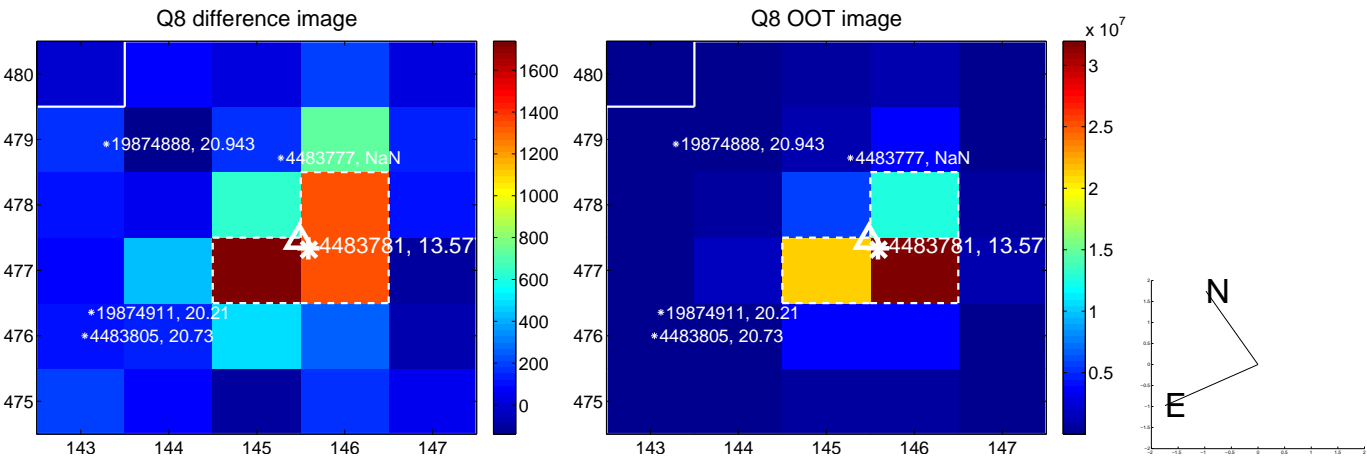
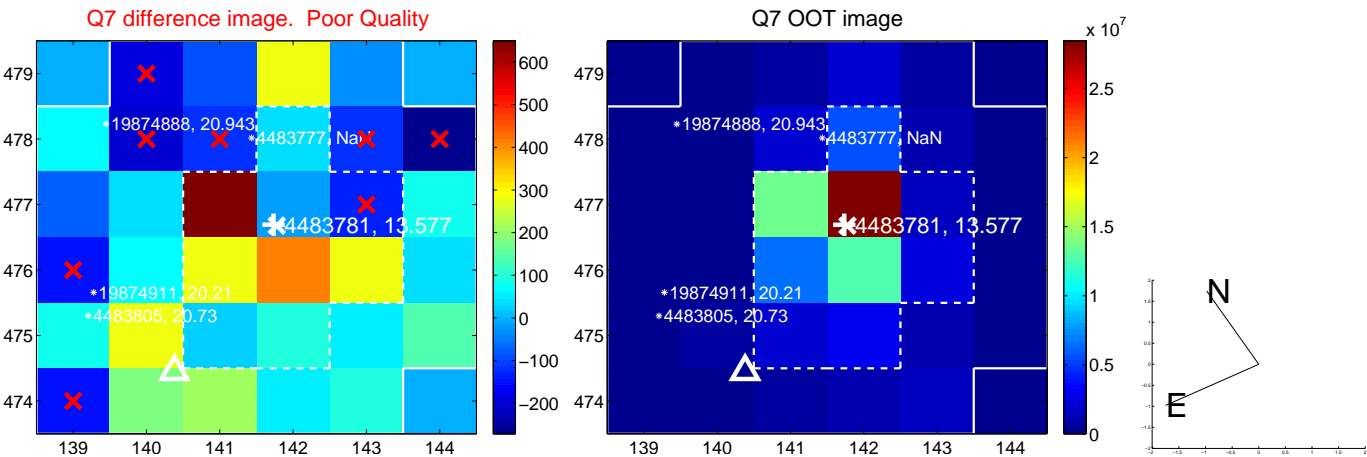
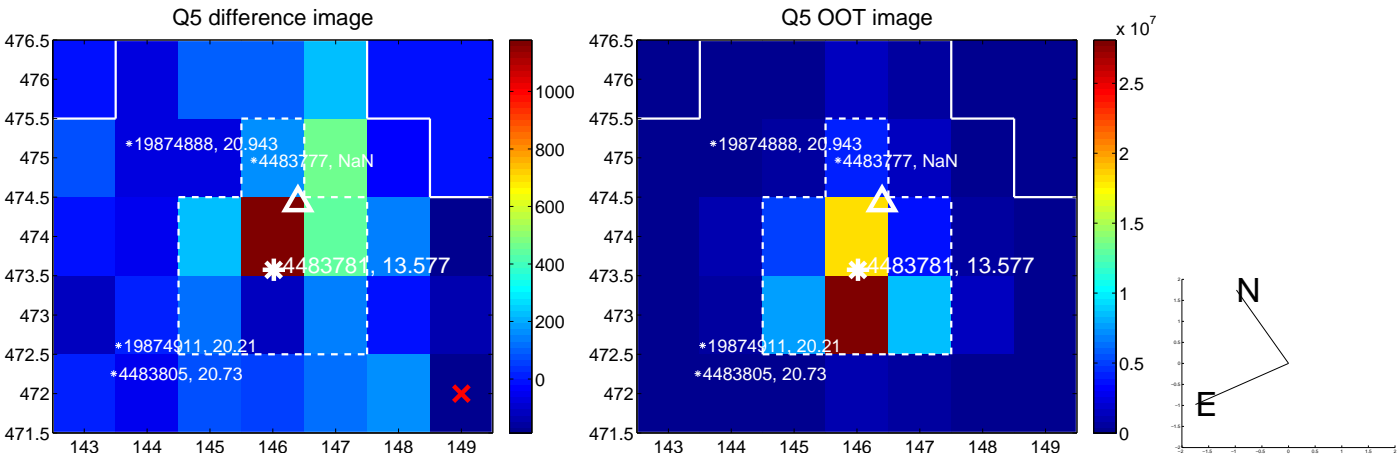


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs  $> 15,000$  are from the UKIRT catalog.

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

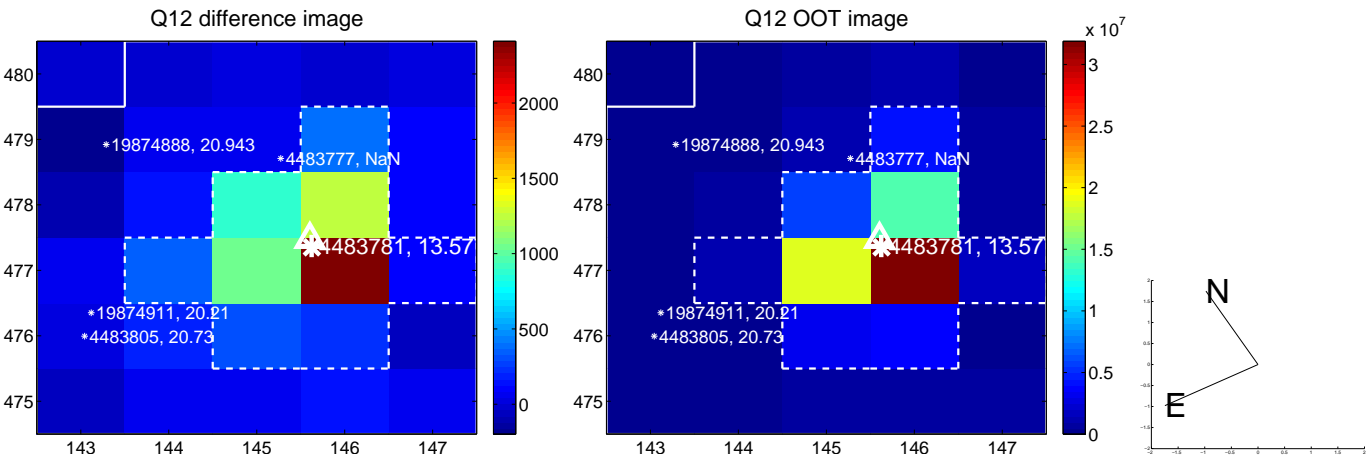
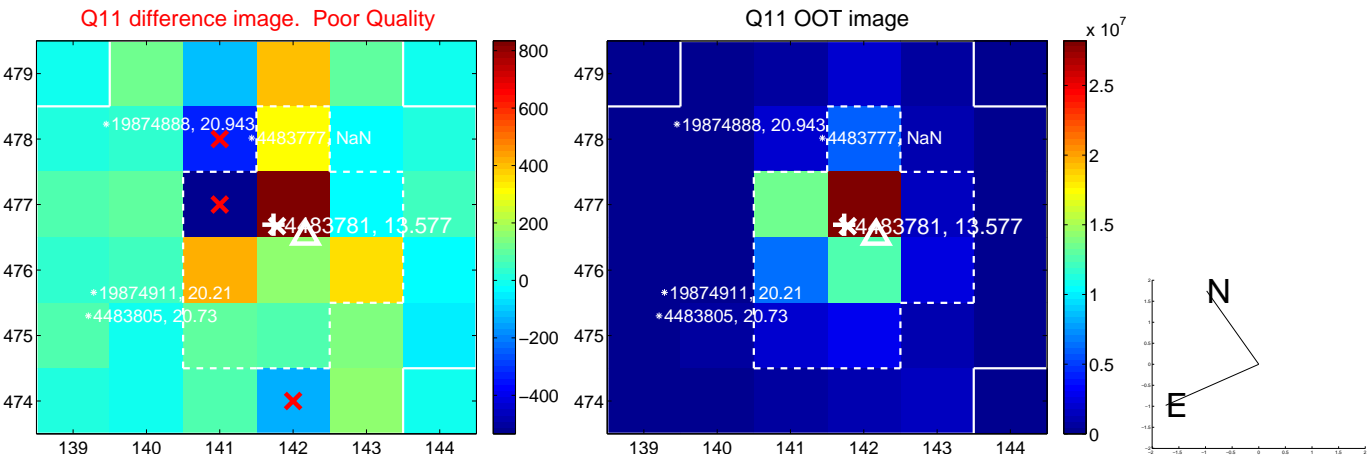
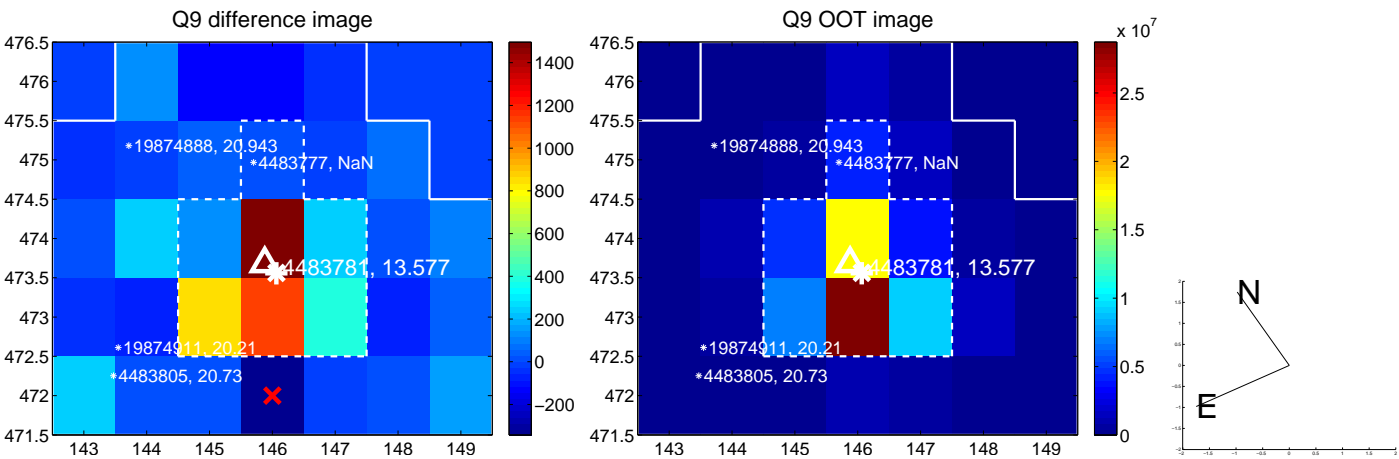


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

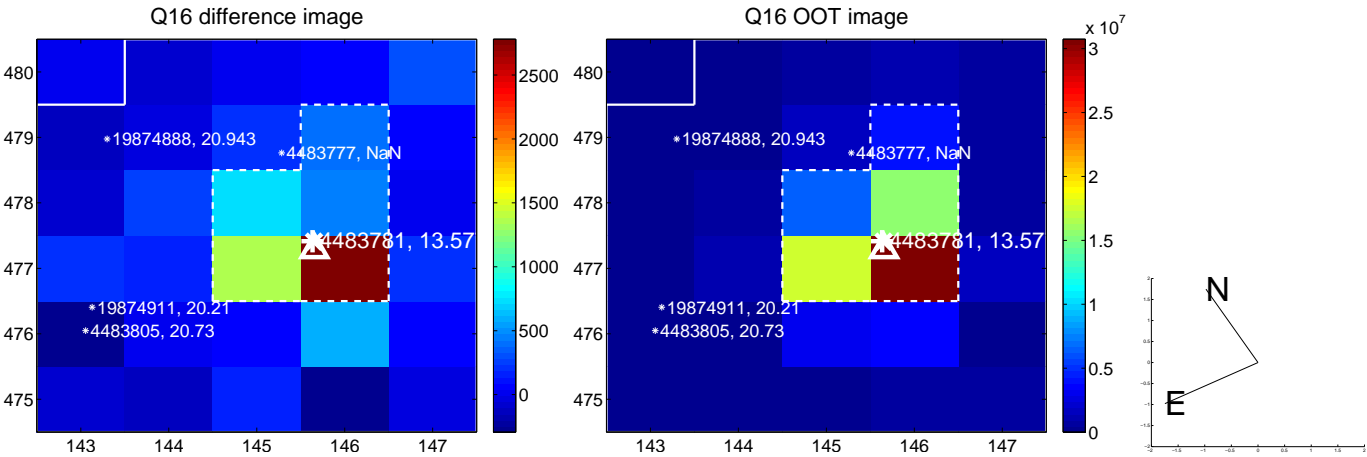
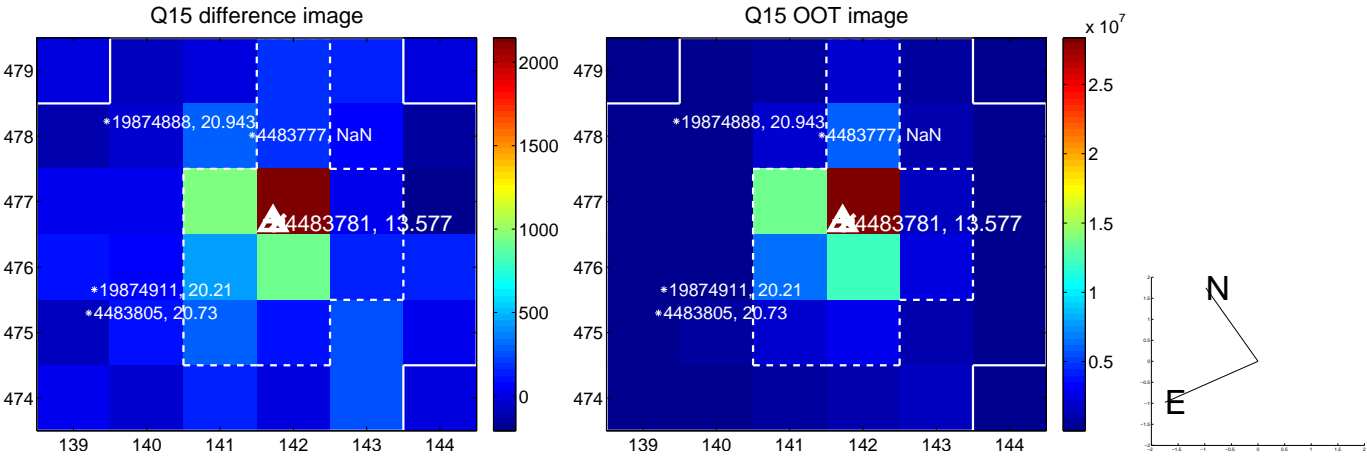
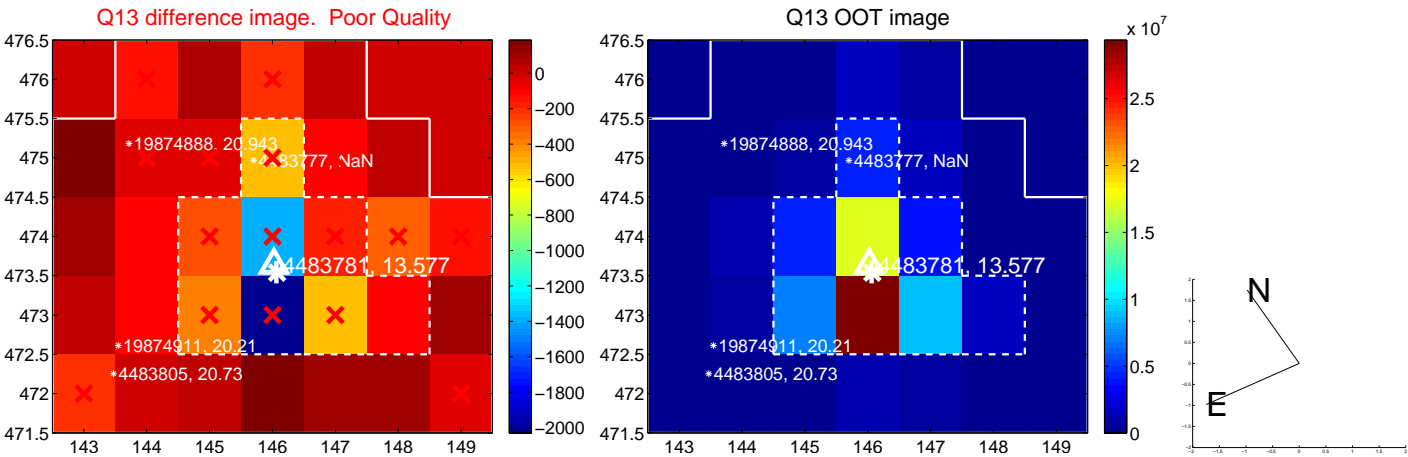




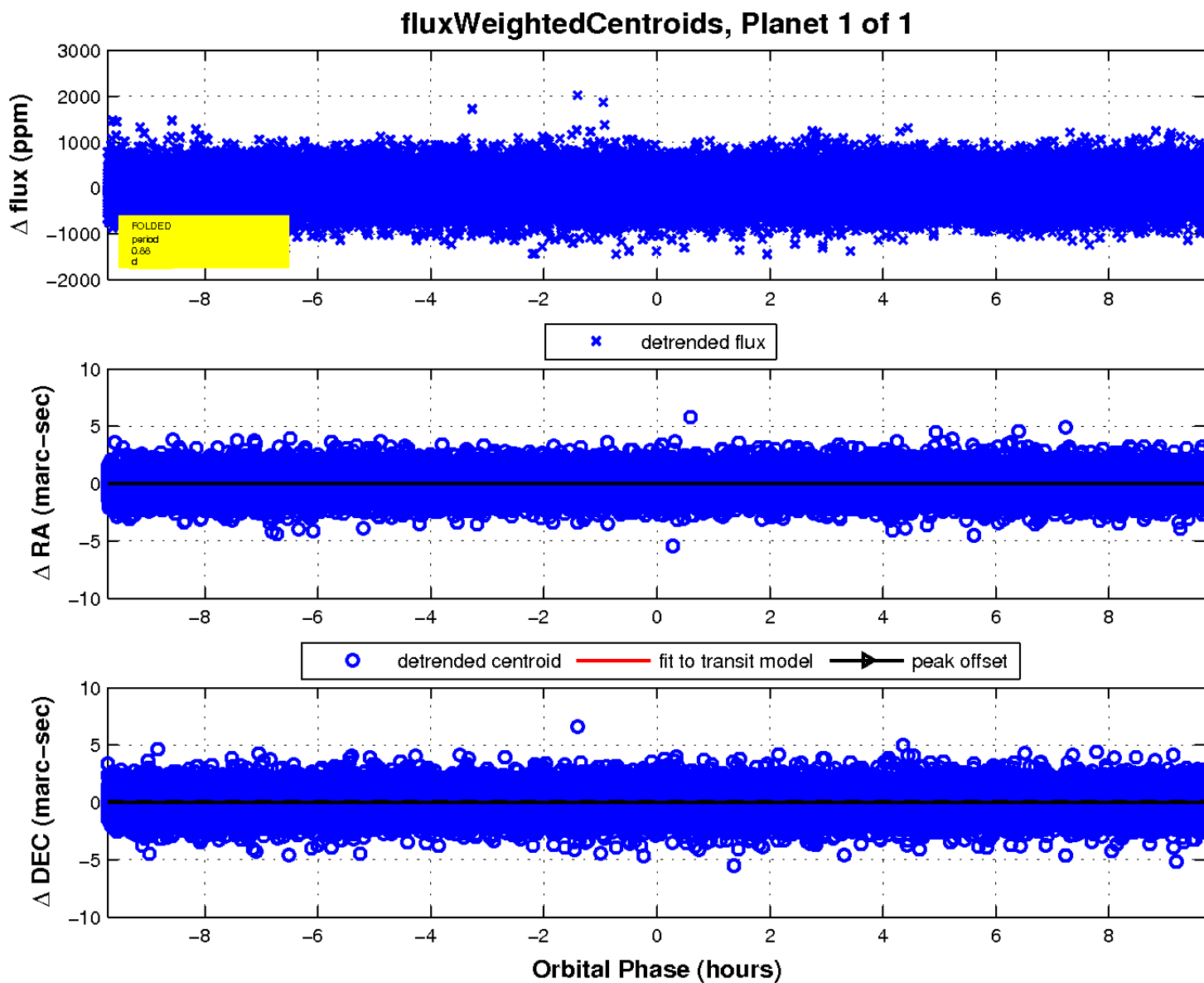
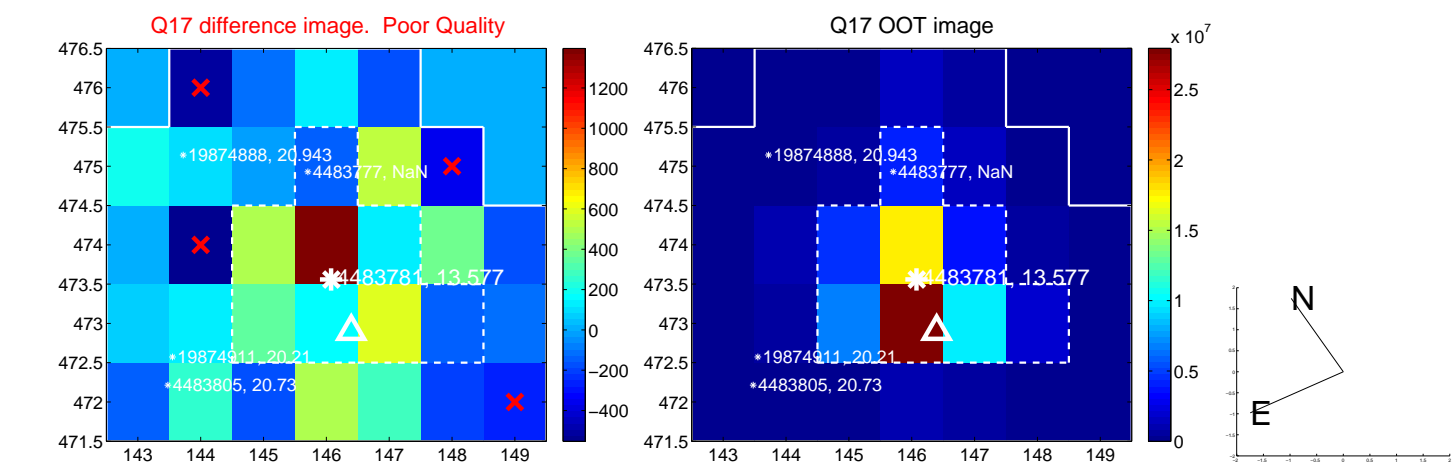
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

