

# KIC 007430034

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007430034-01	OBS	1848.01	49.622188	137.099119	500.4	7.106	38.5	39.7	1.18	5938	3.21	21.03

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007430034-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

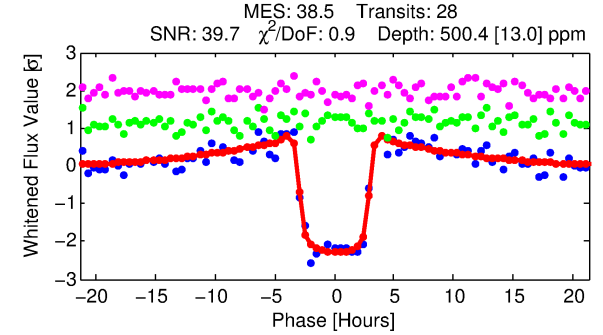
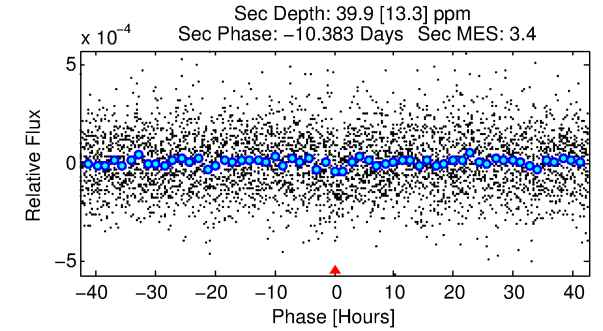
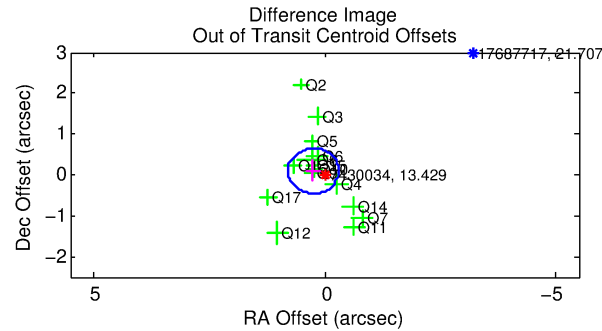
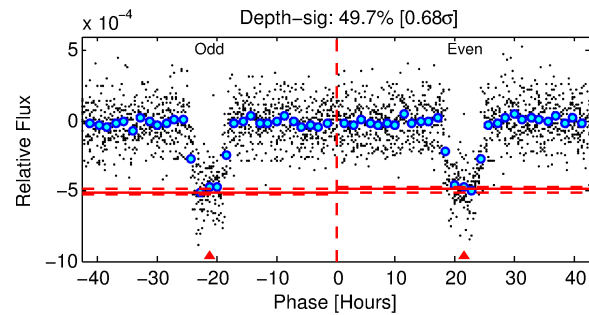
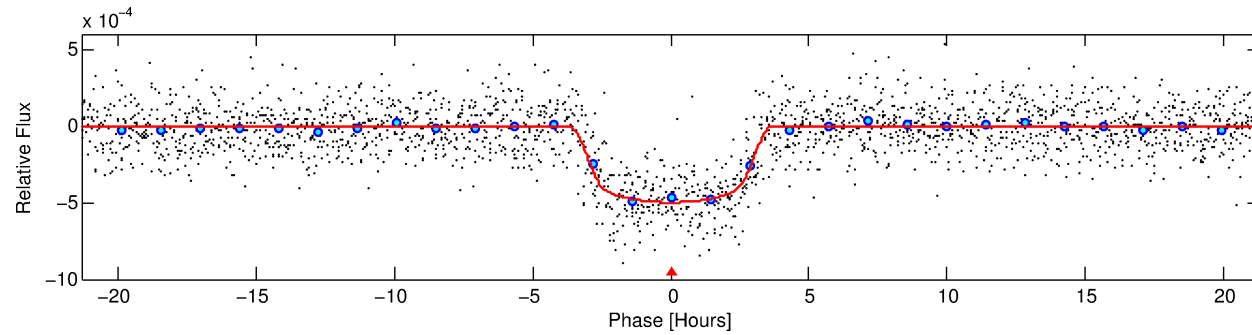
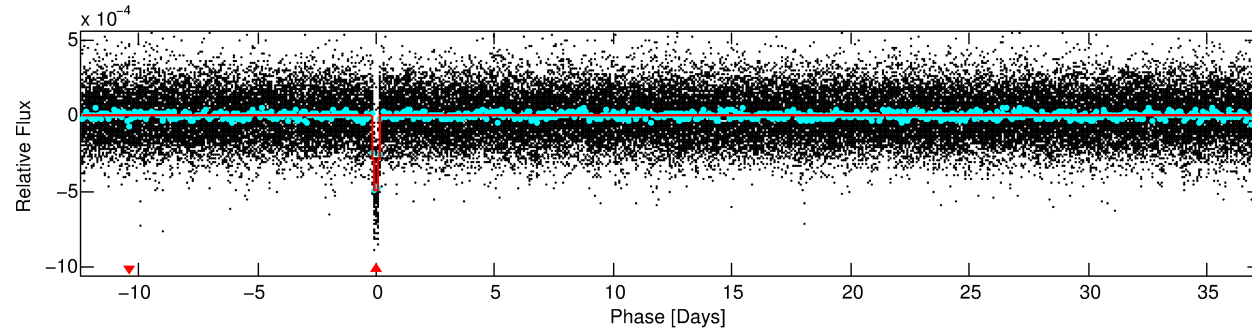
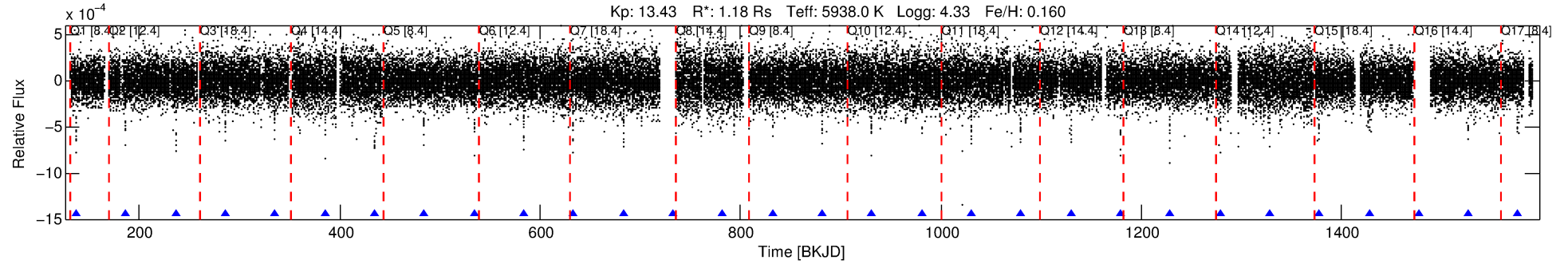
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007430034-01

No Significant Match Found

# DV One-Page Summary

KIC: 7430034 Candidate: 1 of 1 Period: 49.622 d  
KOI: K01848.01 Corr: 0.999



## DV Fit Results:

Period = 49.62219 [0.00017] d  
Epoch = 137.0991 [0.0027] BKJD  
Rp/R\* = 0.0249 [0.0006]  
a/R\* = 23.93 [2.22]  
b = 0.92 [0.02]  
Seff = 21.03 [4.54]  
Teq = 546 [29] K  
Rp = 3.22 [0.53] Re  
a = 0.2725 [0.0383] AU  
Ag = 157.63 [62.44] [2.51 $\sigma$ ]  
Teffp = 2991 [255] K [9.52 $\sigma$ ]

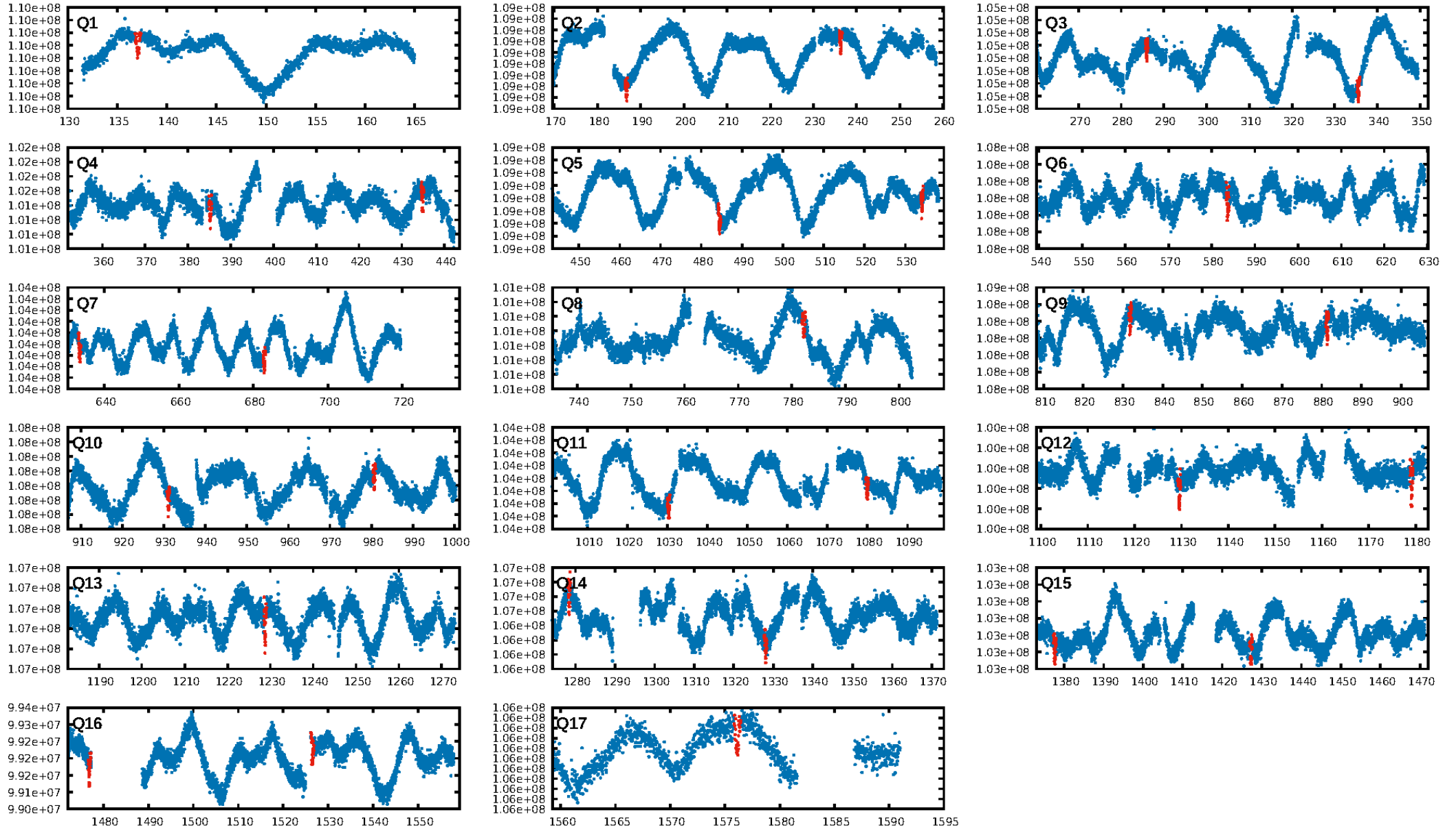
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 99.4%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.63e-291  
RollingBand-fgt: 1.00 [26/26]  
GhostDiagnostic-chr: 3.277  
Centroid-sig: 0.0%  
Centroid-so: 0.679 arcsec [3.23 $\sigma$ ]  
OotOffset-rm: 0.262 arcsec [1.43 $\sigma$ ]  
KicOffset-rm: 0.232 arcsec [1.24 $\sigma$ ]  
OotOffset-st: 4/4/3/4 [15]  
KicOffset-st: 4/4/3/4 [15]  
DiffImageQuality-fgm: 1.00 [15/15]  
DiffImageOverlap-fno: 1.00 [15/15]

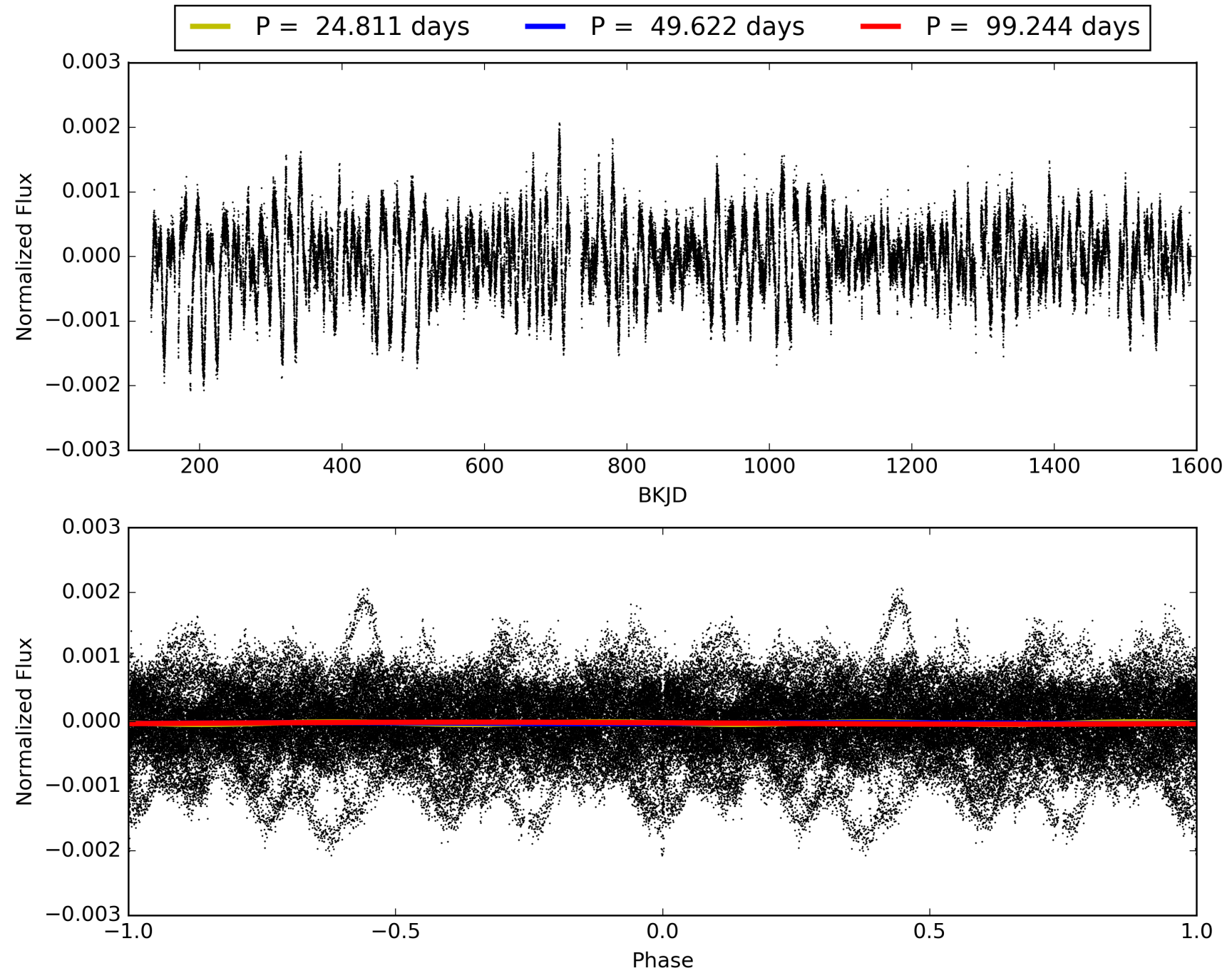
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:03:39 Z

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

# TCE 007430034-01, PDC Light Curves

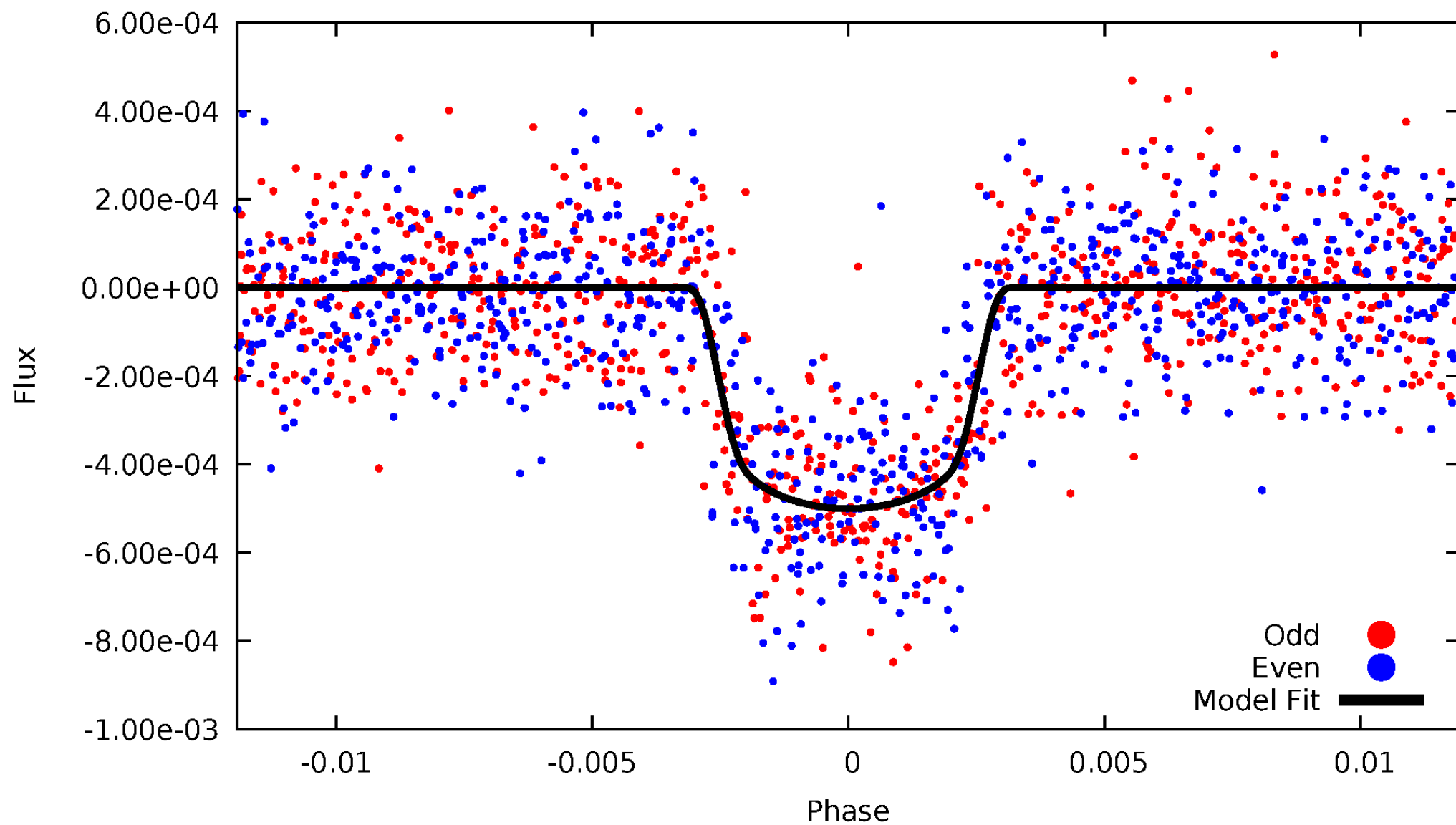


TCE 007430034-01



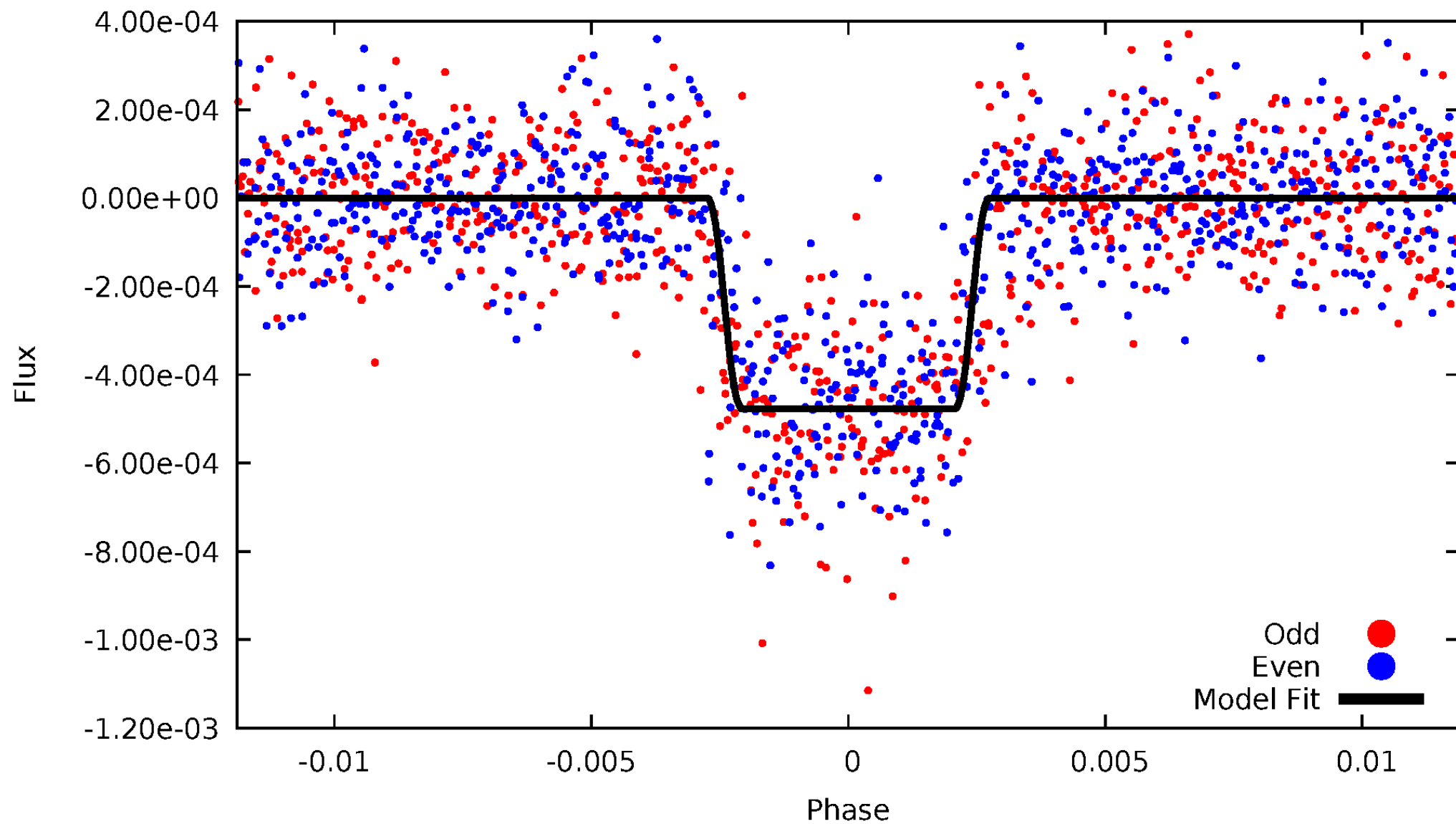
# DV Odd/Even

TCE 007430034-01



# ALT Odd/Even

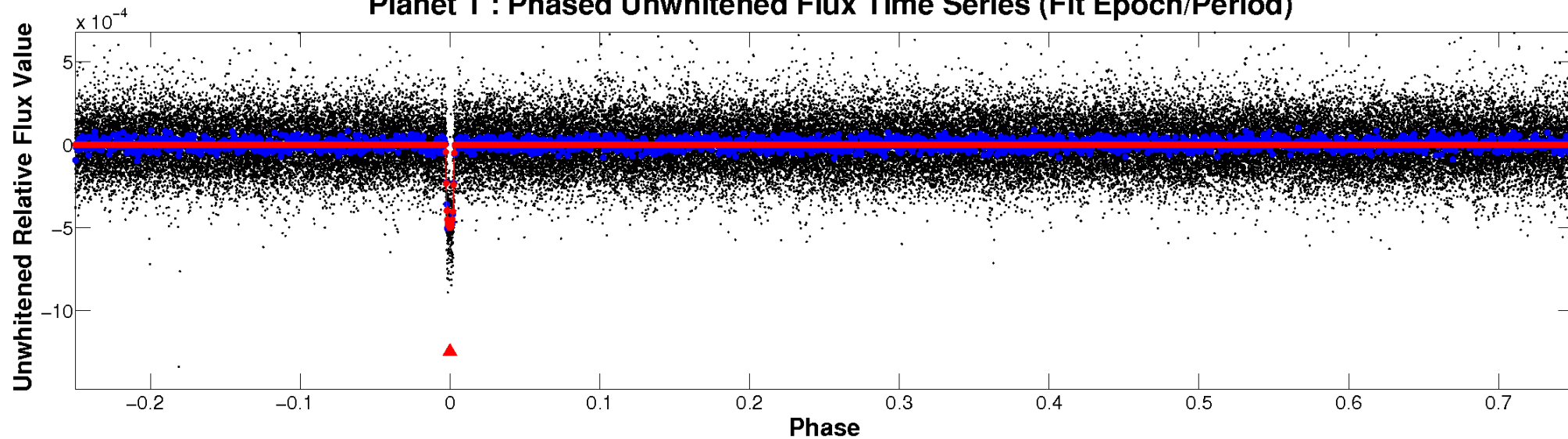
TCE 007430034-01



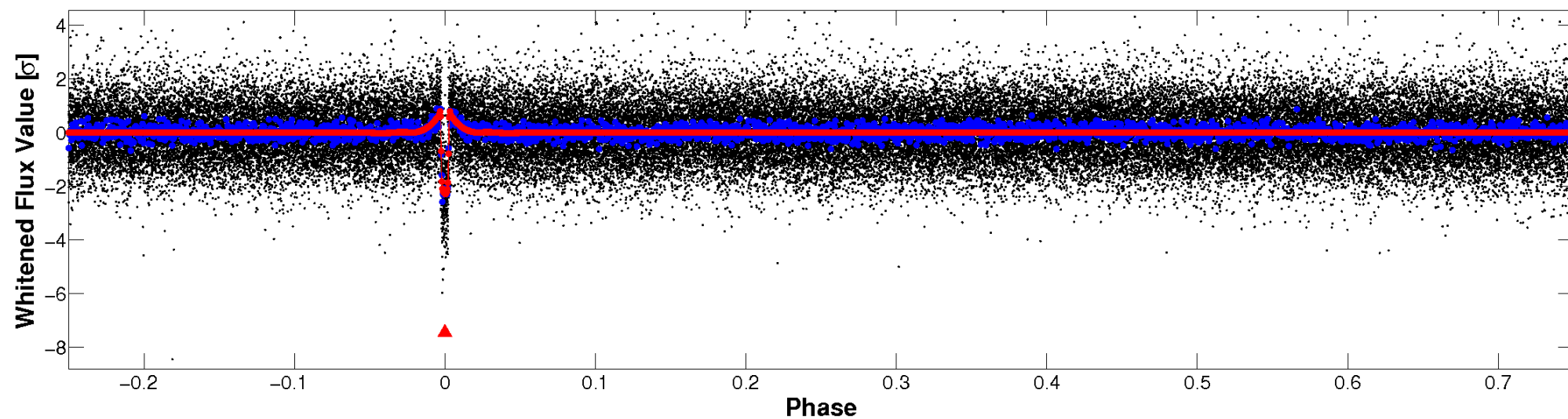


# Non-Whitened Vs. Whitened Light Curve

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

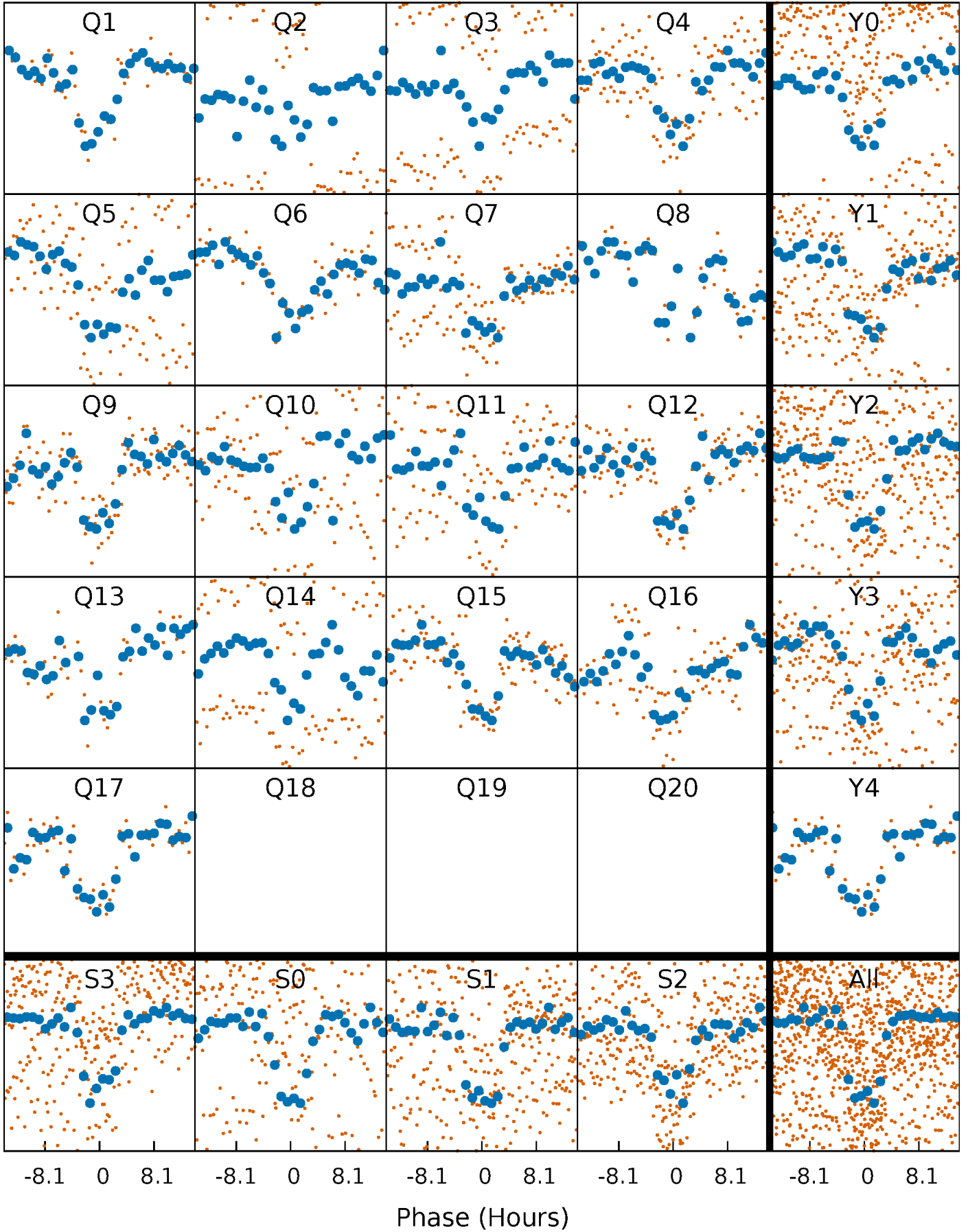


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

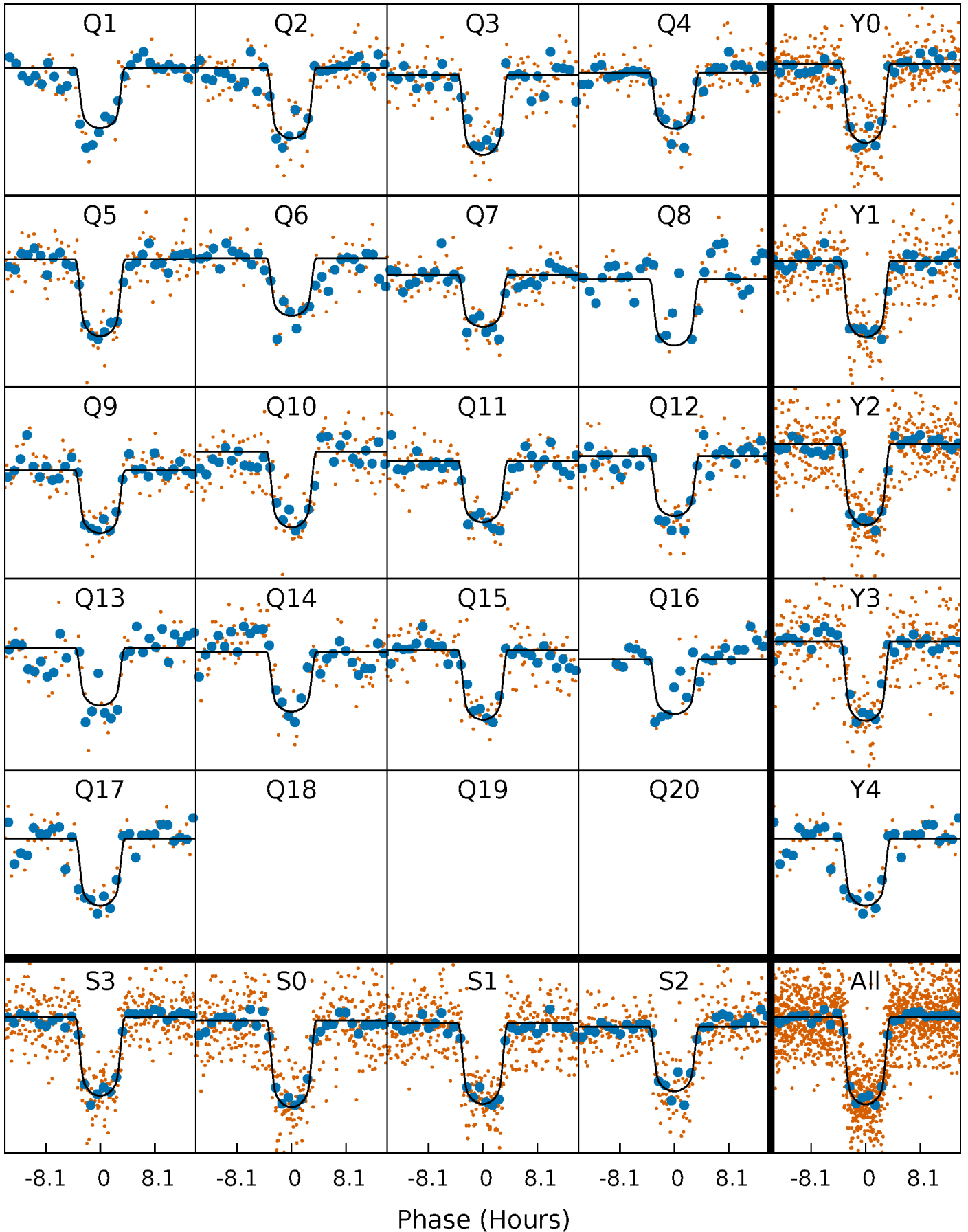
TCE 007430034-01 P= 49.622188 Days  $T_0=137.099119$  (BKJD)





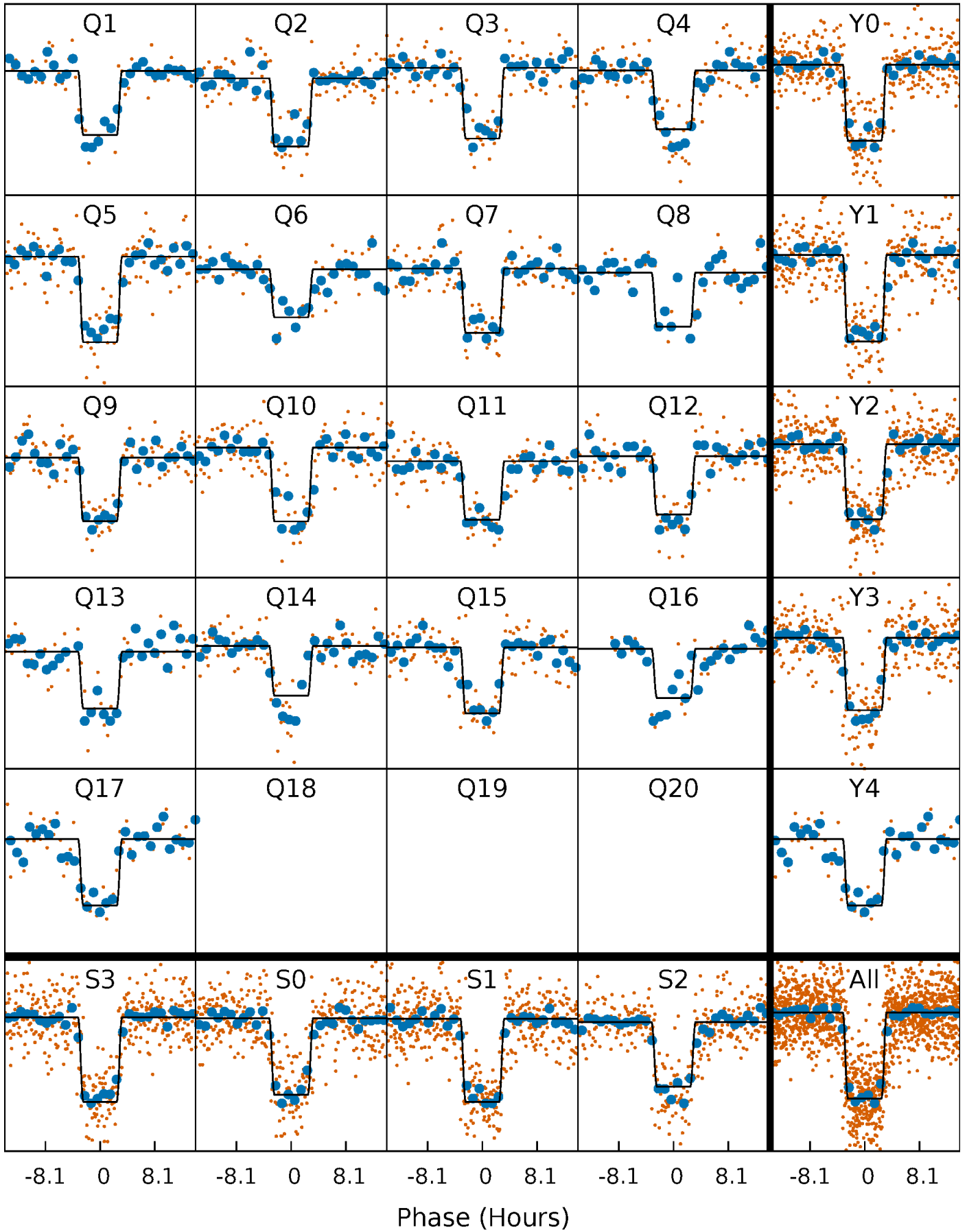
# DV Quarter-Phased Transit Curves

TCE 007430034-01 P= 49.622188 Days  $T_0=137.099119$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

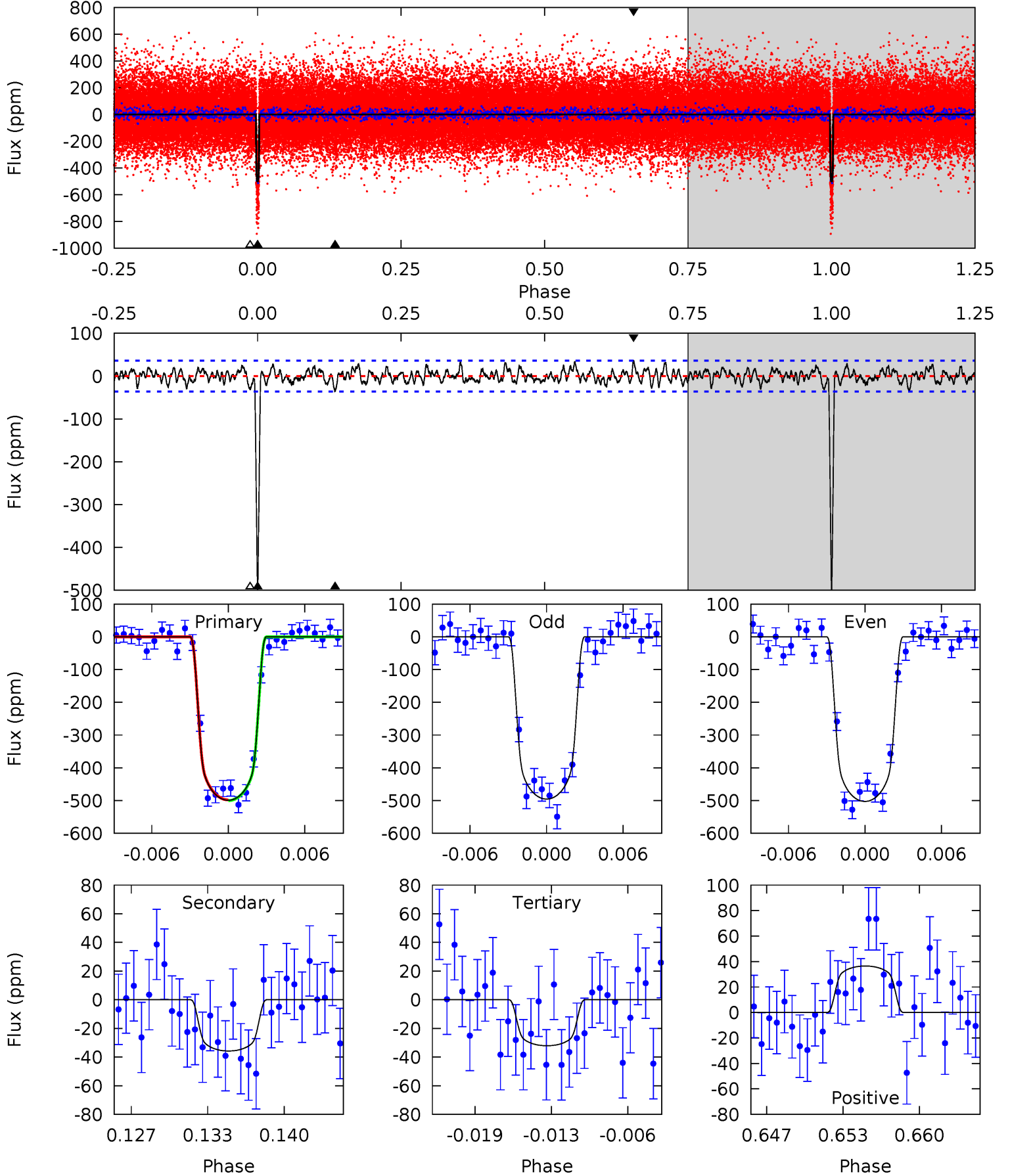
TCE 007430034-01 P= 49.622279 Days  $T_0=137.099588$  (BKJD)



# DV Model-Shift Uniqueness Test

007430034-01, P = 49.622188 Days, E = 87.476931 Days

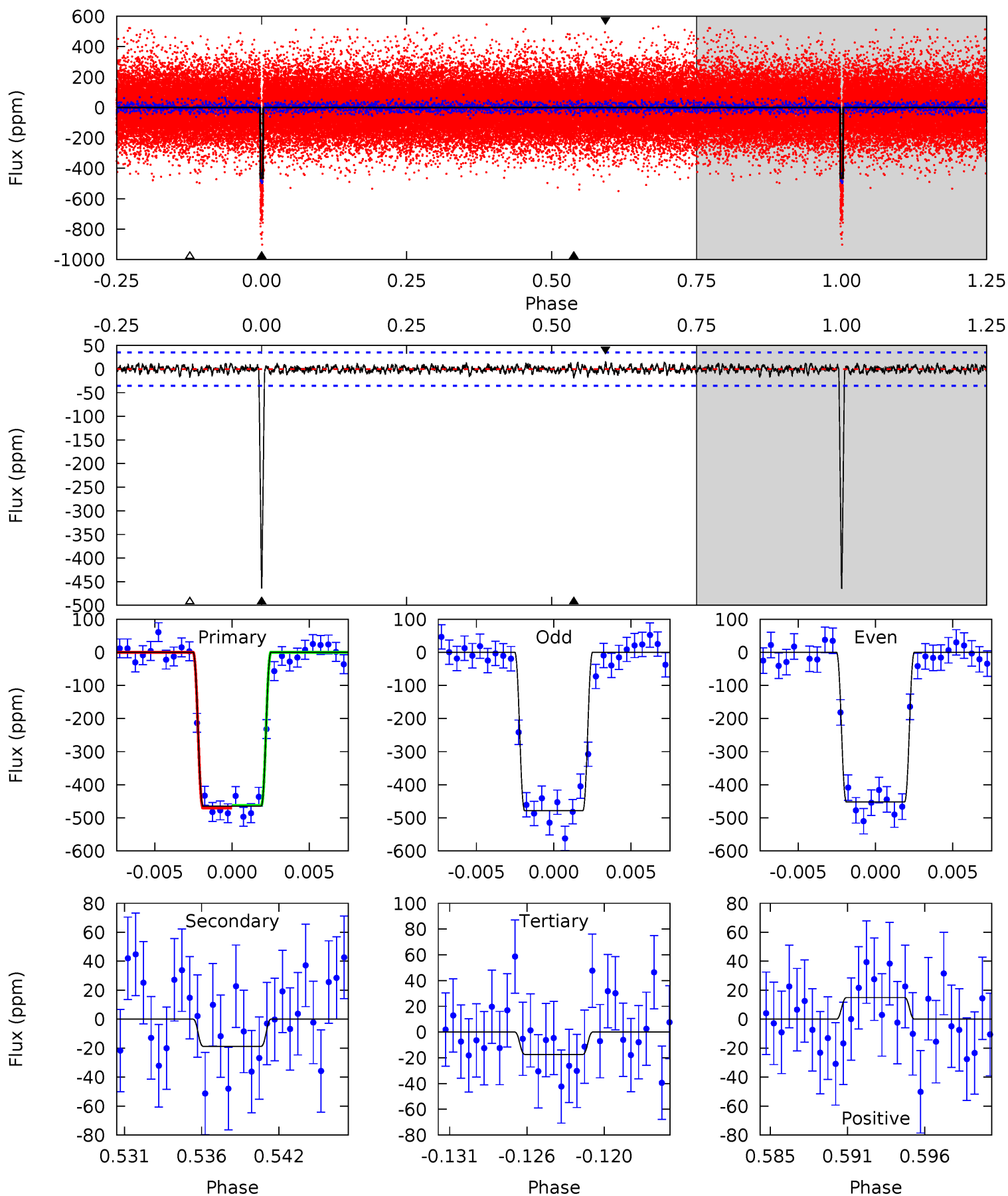
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
70.6	5.06	4.54	5.16	5.11	2.73	1.67	66.1	65.4	0.52	-0.10	0.51	0.98	0.07	0.16



# Alt Model-Shift Uniqueness Test

007430034-01, P = 49.622279 Days, E = 87.477309 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
68.0	2.73	2.53	2.18	5.14	2.78	0.75	65.4	65.8	0.20	0.55	1.92	1.00	0.03	0.56



### Stellar Parameters For KIC 007430034

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5938^{+71}_{-83}$	$4.331^{+0.095}_{-0.116}$	$0.160^{+0.150}_{-0.150}$	$1.184^{+0.193}_{-0.123}$	$1.097^{+0.073}_{-0.066}$	$0.930^{+0.376}_{-0.315}$
	+1%/-1%	+2%/-3%	+94%/-94%	+16%/-10%	+7%/-6%	+40%/-34%
Source	SPE90	SPE90	SPE90	DSEP		

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

### Secondary Eclipse Parameters for KIC 007430034-01 / KOI 1848.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-36 \pm 7$	$3.21^{+0.31}_{-0.21}$	$763^{+29}_{-29}$	$3426^{+107}_{-128}$	$142^{+37}_{-34}$
Alt.	$-19 \pm 7$	$2.82^{+0.25}_{-0.21}$	$762^{+28}_{-26}$	$3233^{+155}_{-209}$	$95^{+41}_{-37}$

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

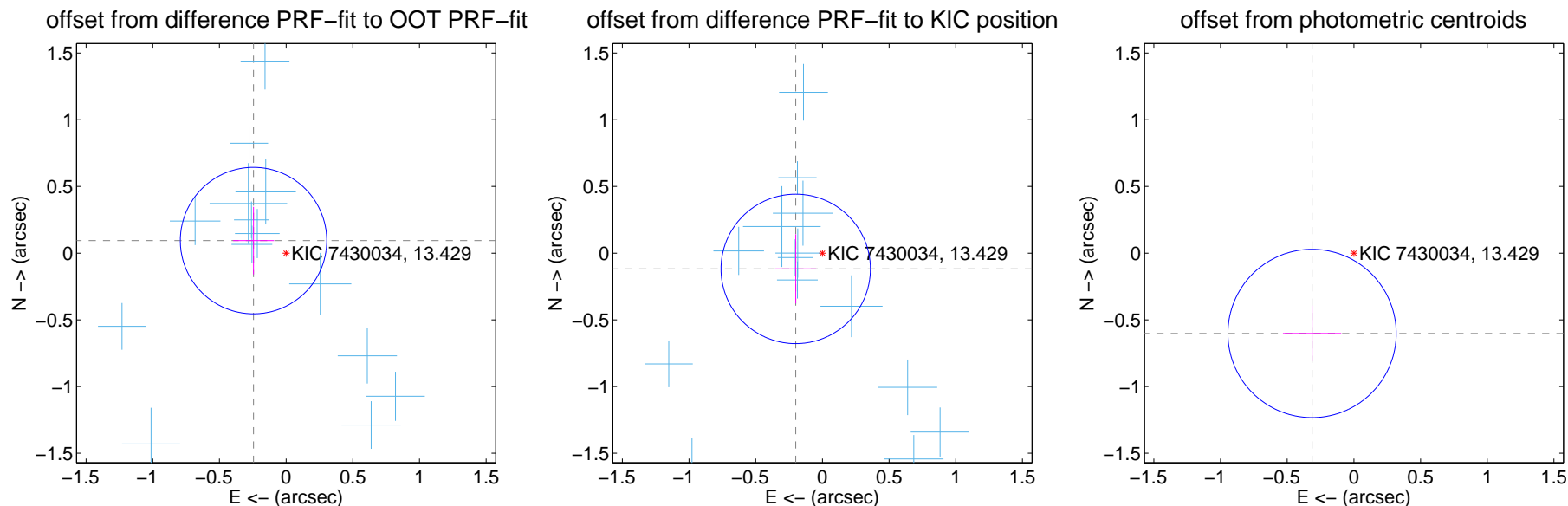
## DV Centroid Data

Supplemental centroid analysis for 007430034-01. Kepler magnitude: 13.43. Transit SNR 39.70

There are 15 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

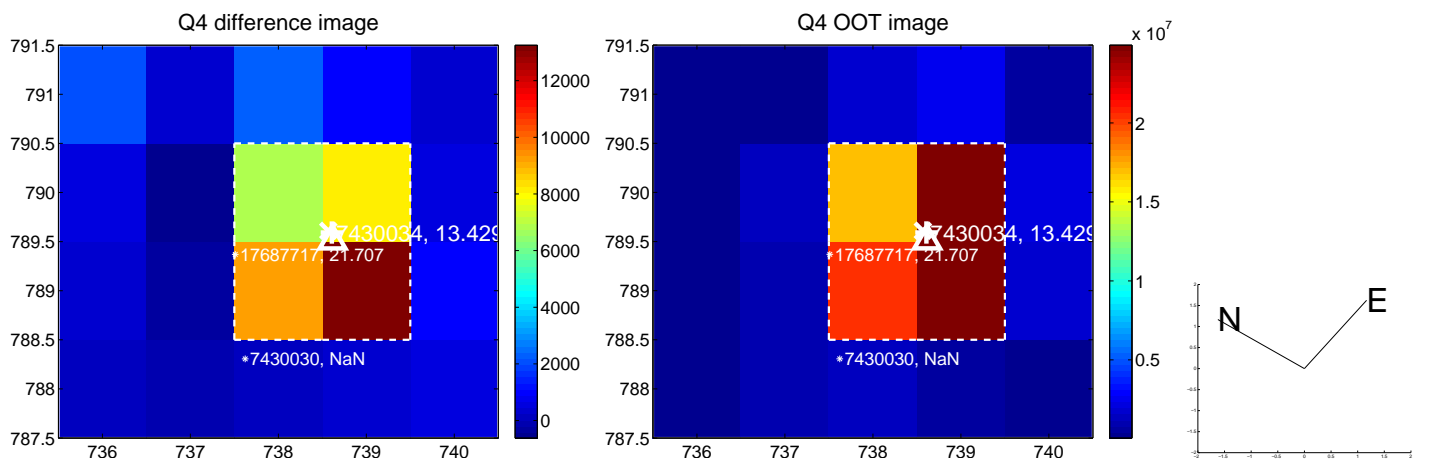
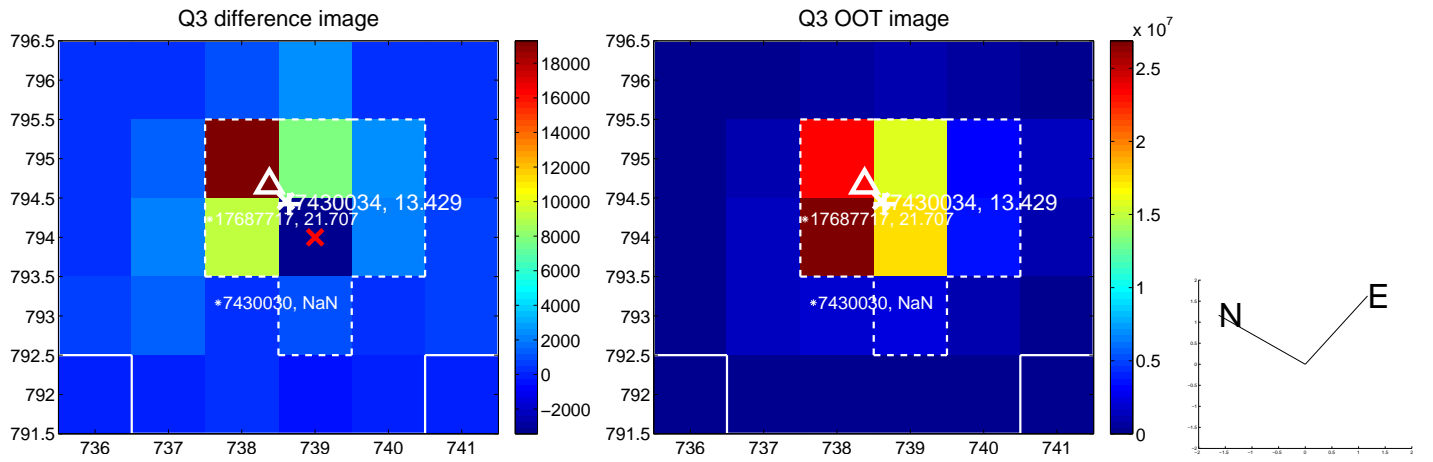
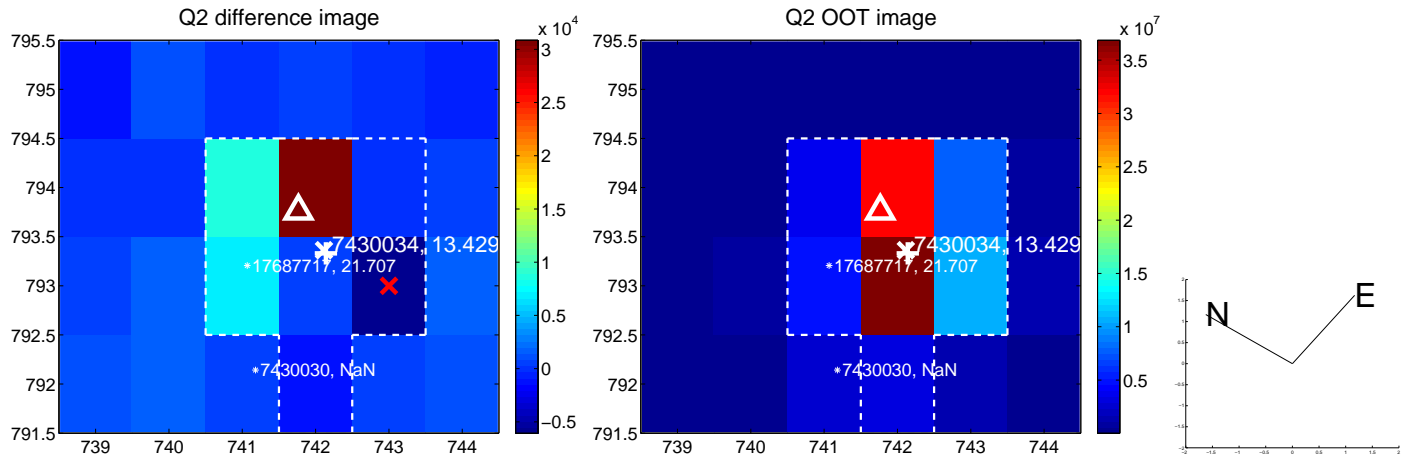
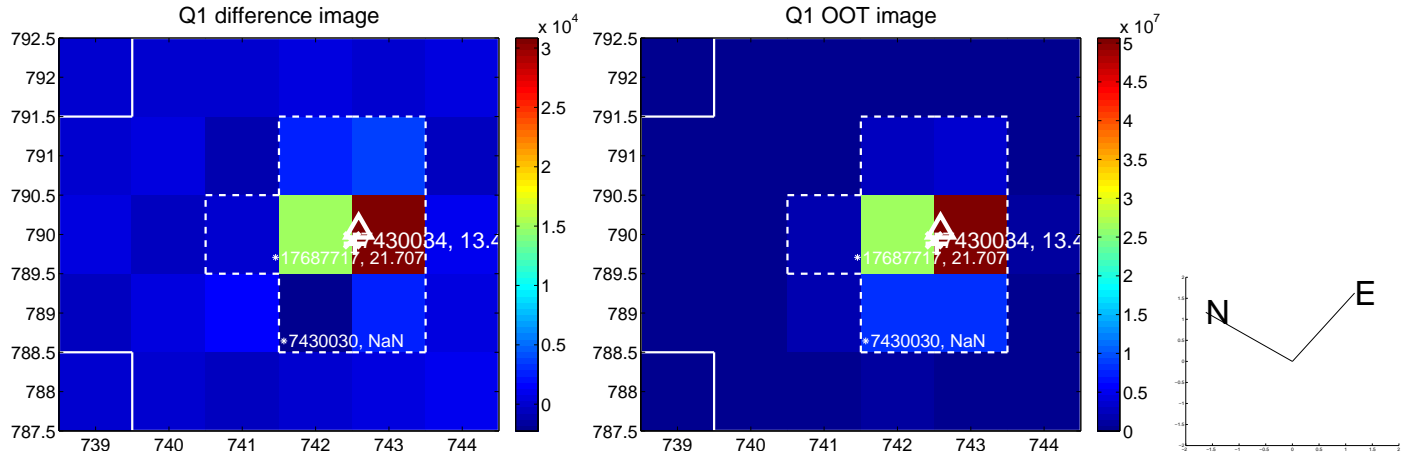
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.262 \pm 0.183$	1.43	$0.244 \pm 0.153$	$0.094 \pm 0.253$
PRF-fit source offset from KIC position	$0.232 \pm 0.187$	1.24	$0.200 \pm 0.153$	$-0.118 \pm 0.260$
photometric centroid source offset	$0.68 \pm 0.21$	3.23	$0.31 \pm 0.22$	$-0.60 \pm 0.21$



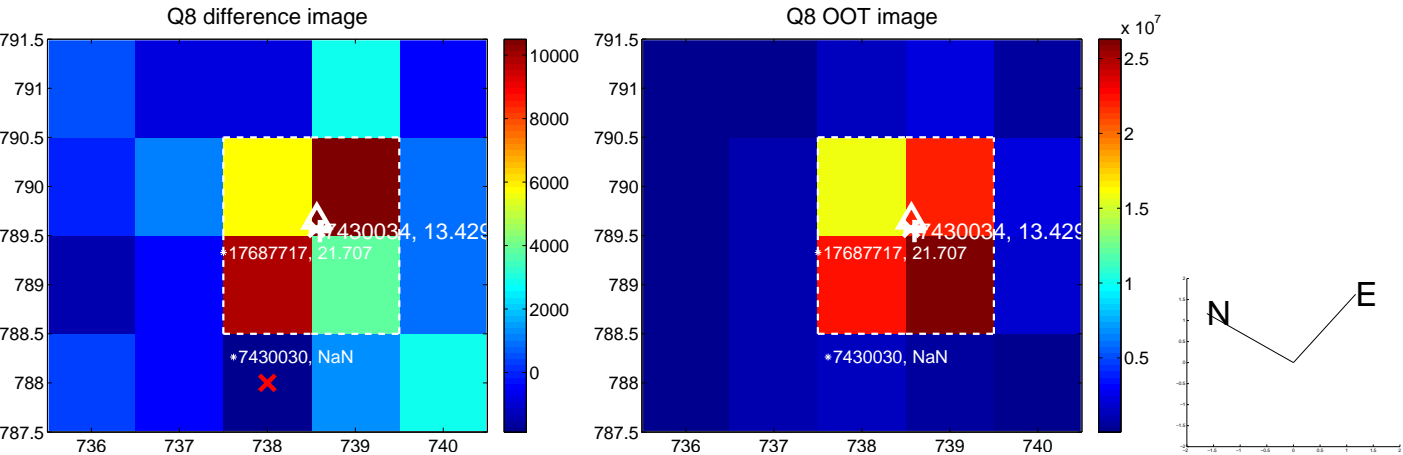
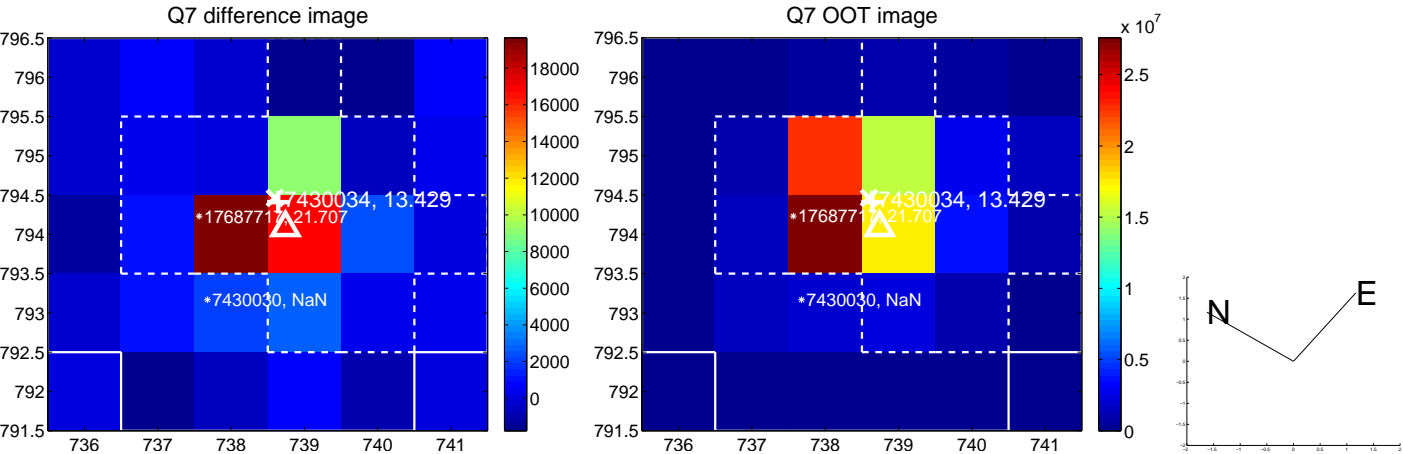
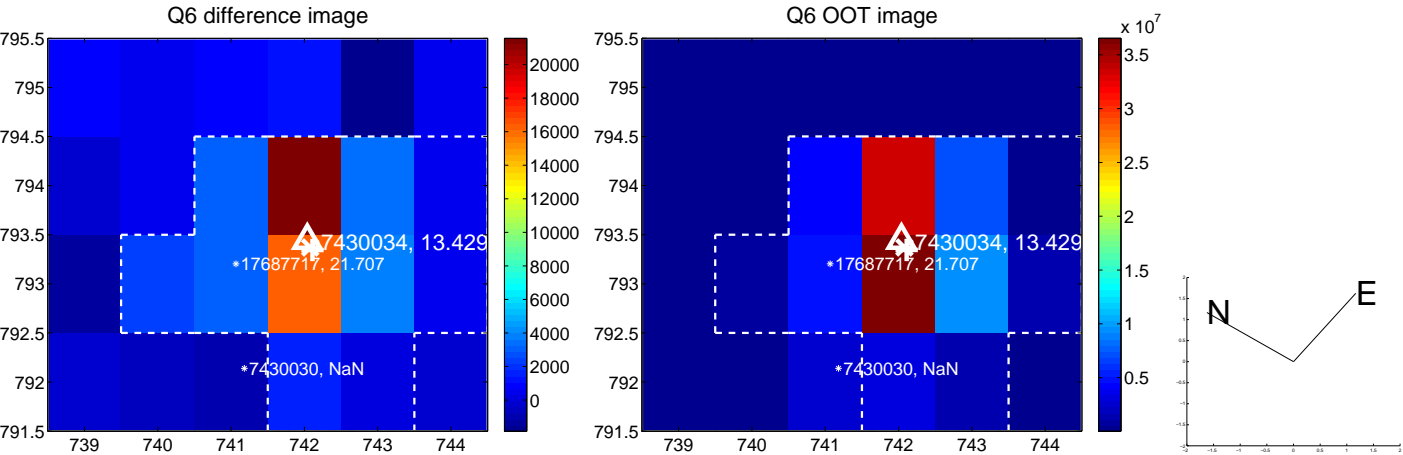
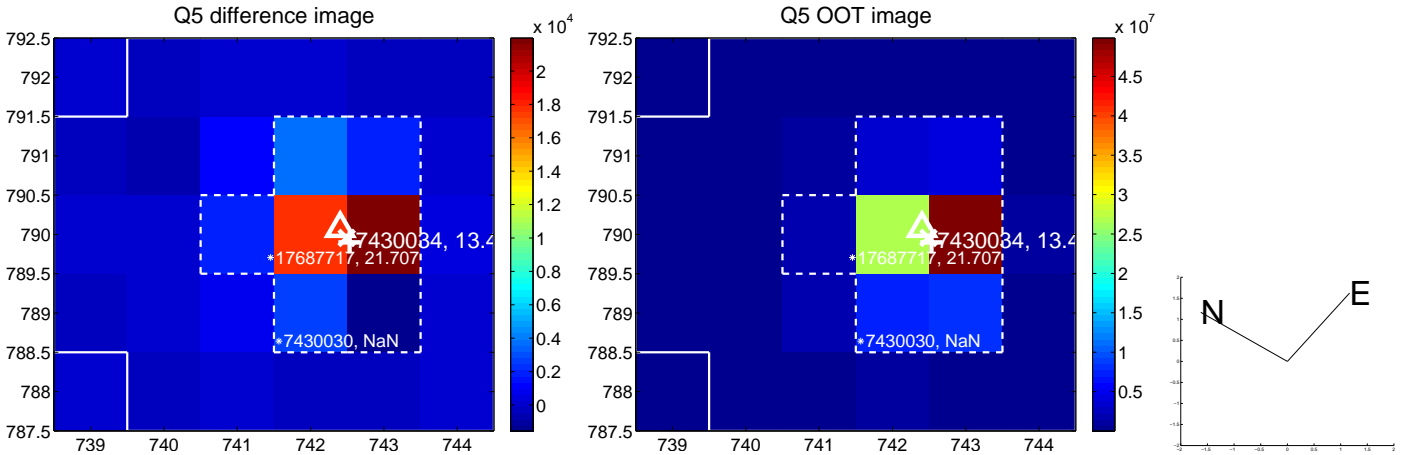
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



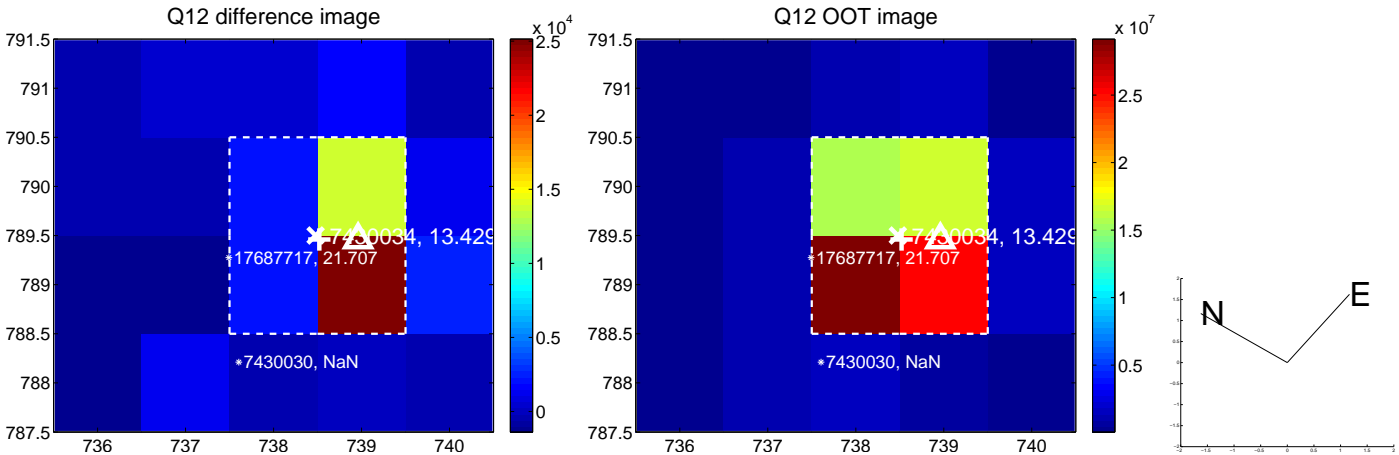
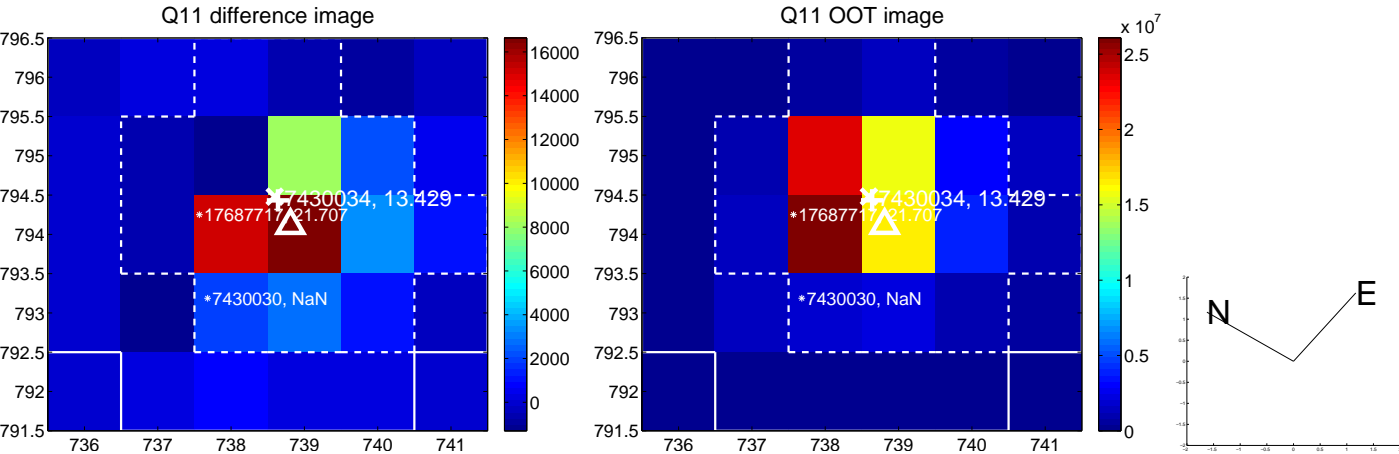
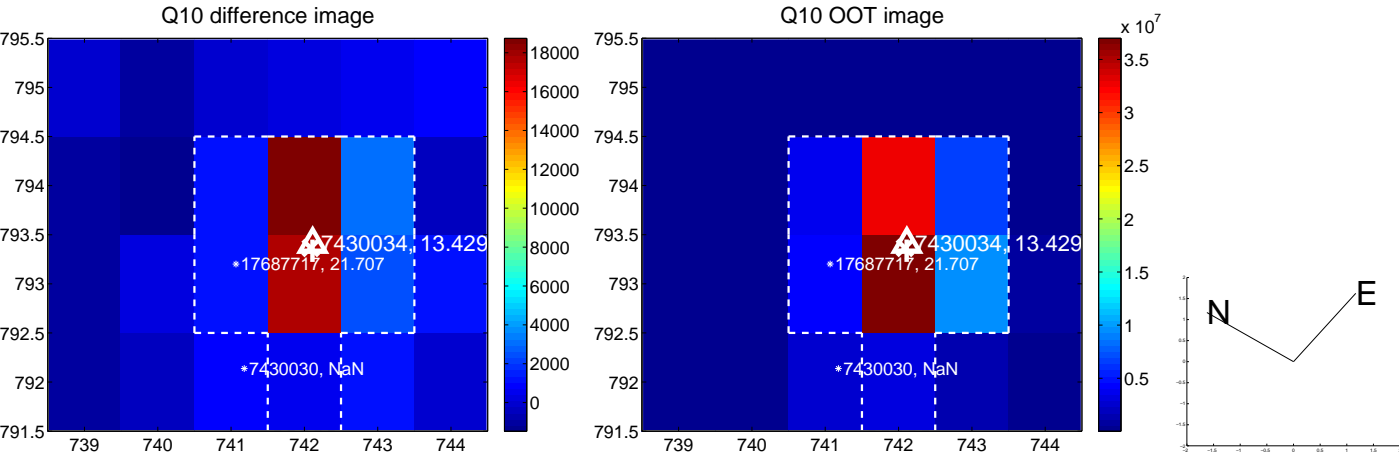
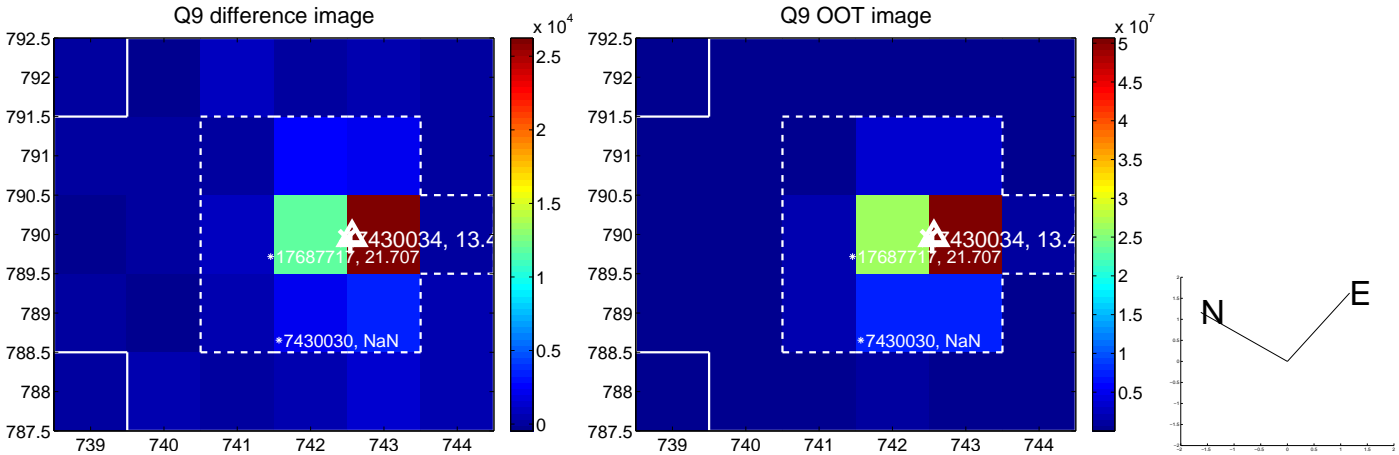
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

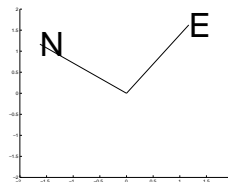
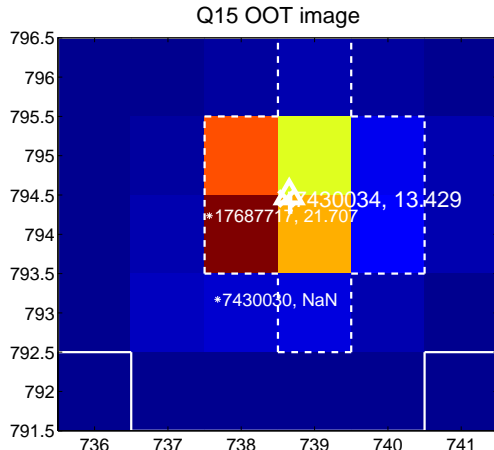
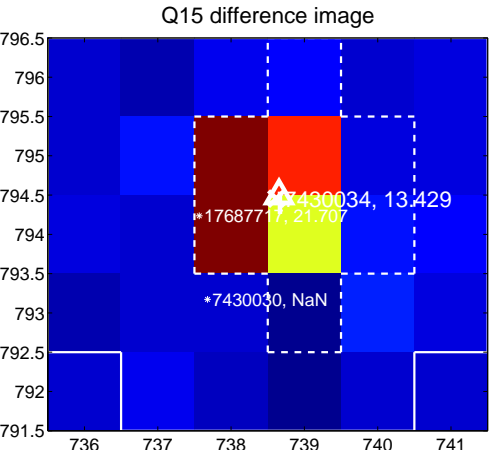
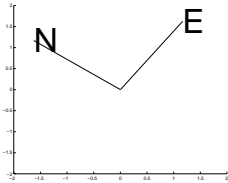
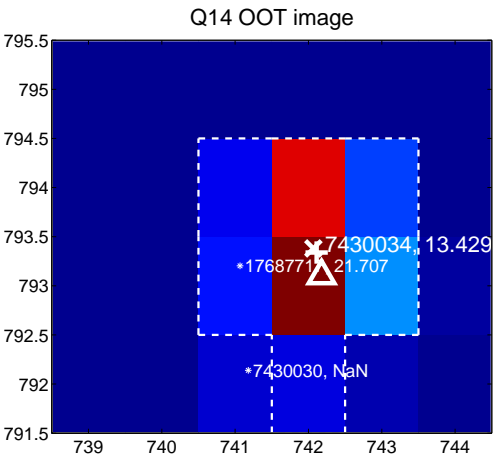
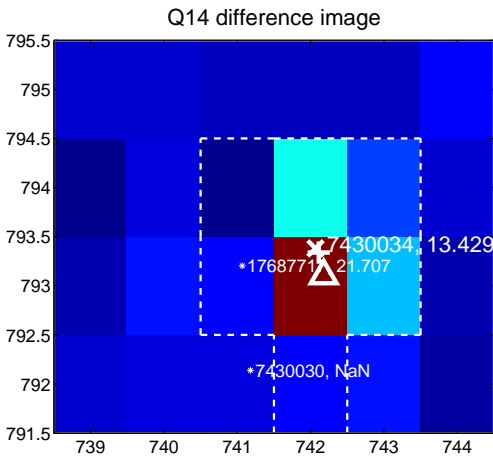


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

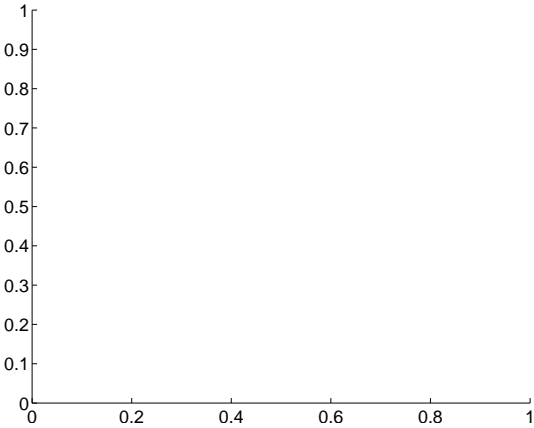
Q13 no difference image



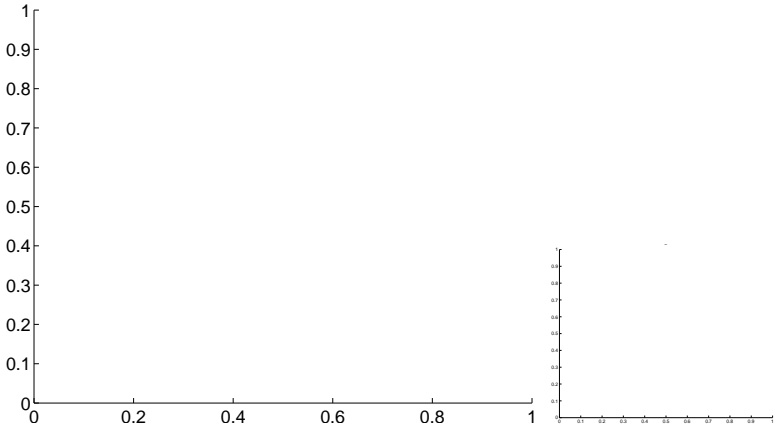
Q13 no OOT image



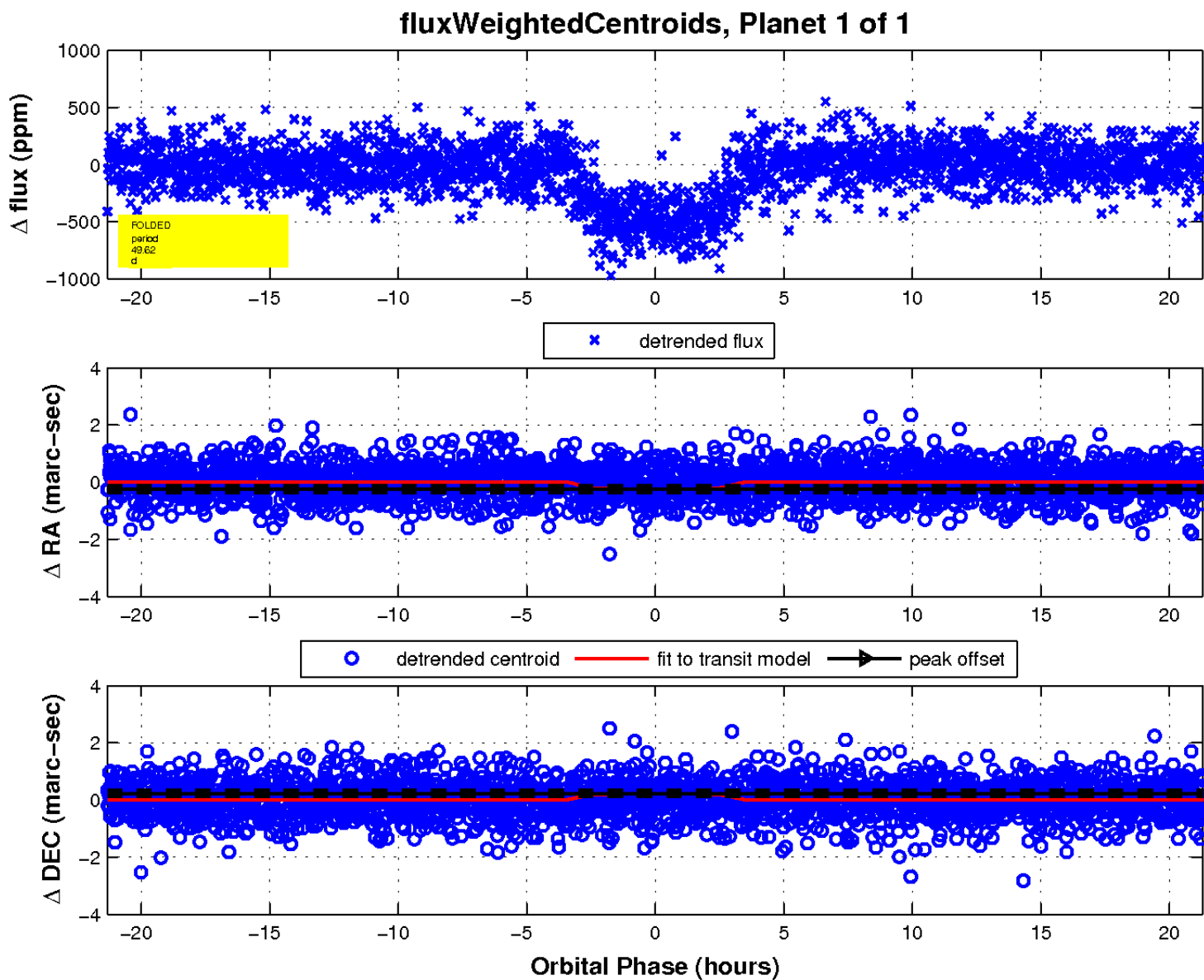
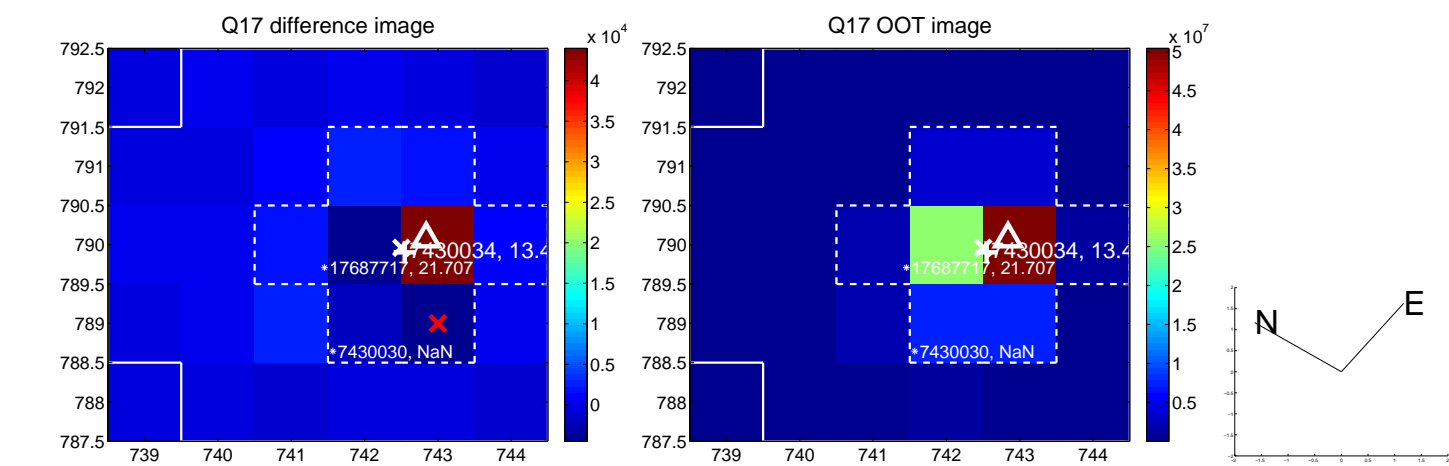
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

