

# KIC 005819801

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005819801-01	OBS	4686.01	11.830058	138.325611	38.2	6.905	9.1	9.6	2.43	5747	1.63	454.15

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005819801-01	OBS	PC	0.51	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.

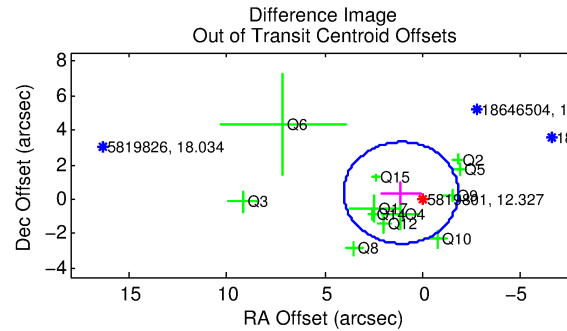
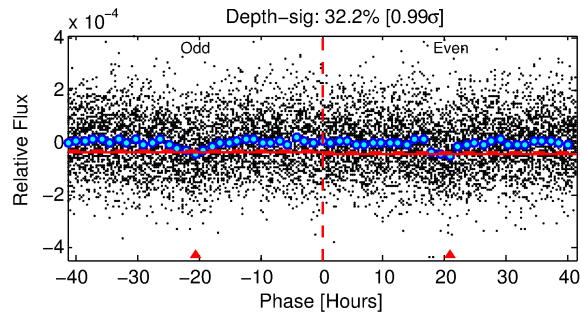
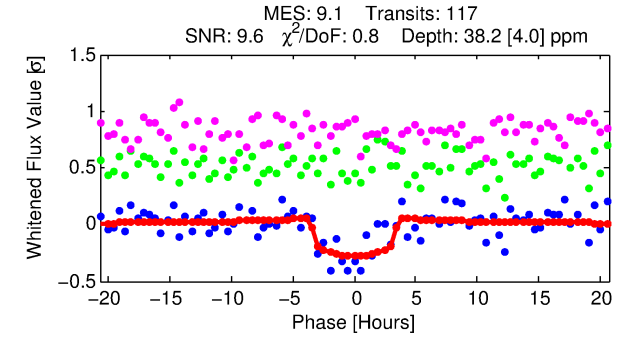
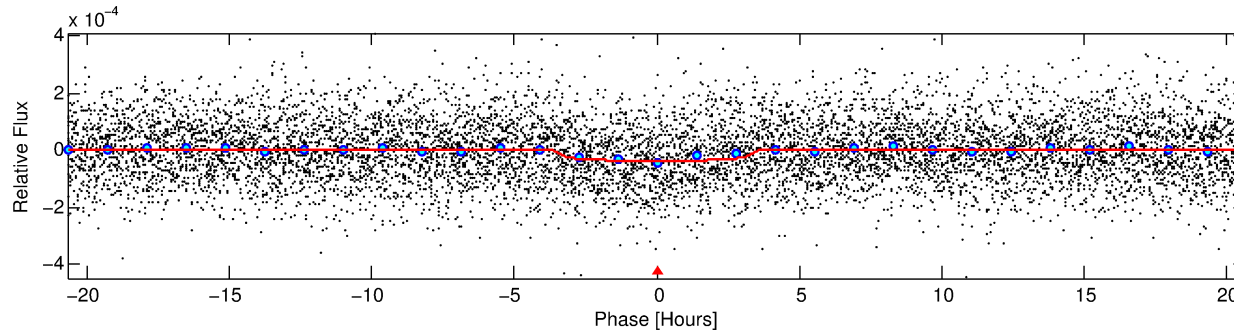
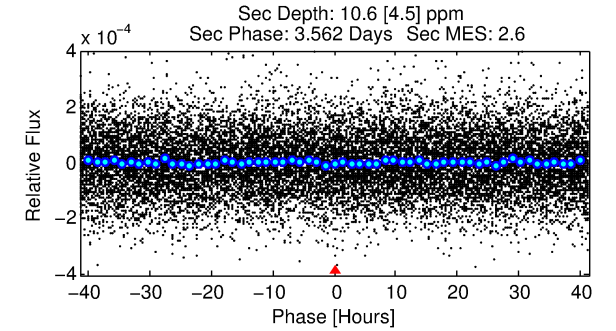
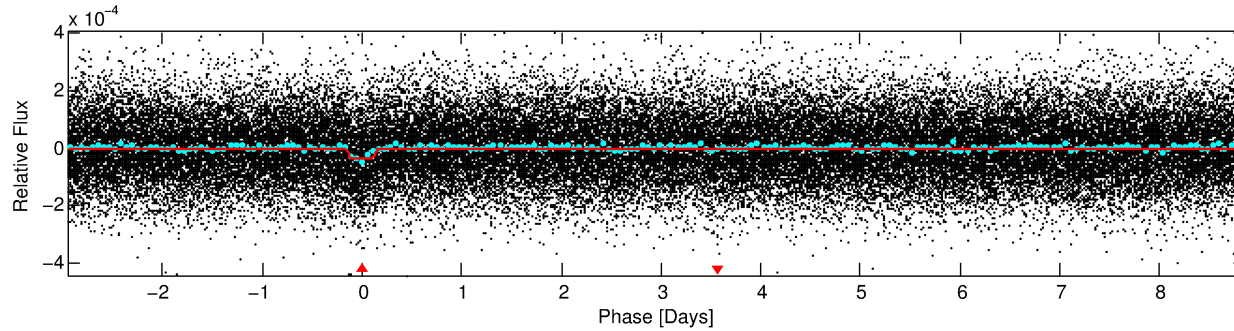
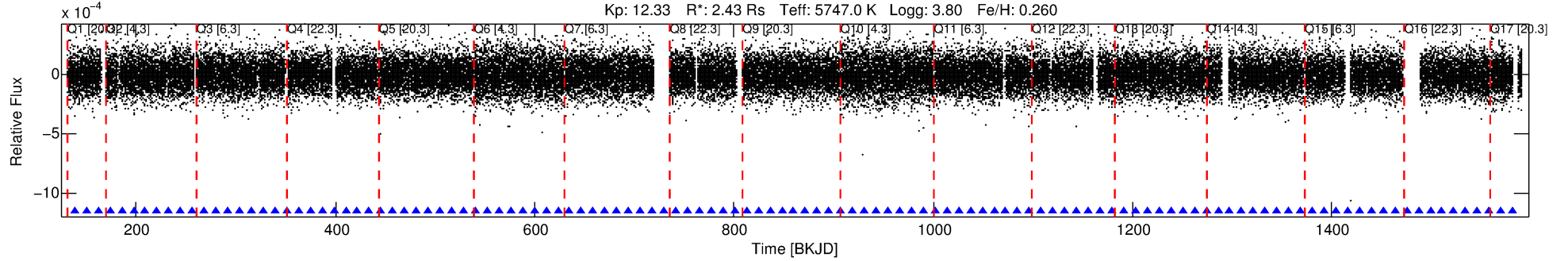
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005819801-01

No Significant Match Found

# DV One-Page Summary

KIC: 5819801 Candidate: 1 of 1 Period: 11.830 d  
KOI: K04686.01 Corr: 0.782



## DV Fit Results:

Period = 11.83006 [0.00016] d  
Epoch = 138.3256 [0.0107] BKJD  
Rp/R\* = 0.0061 [0.0027]  
a/R\* = 8.88 [16.58]  
b = 0.75 [1.14]  
Seff = 454.15 [257.12]  
Teq = 1177 [167] K  
Rp = 1.63 [0.93] Re  
a = 0.1128 [0.0399] AU  
Ag = 28.03 [31.33] [0.86σ]  
Teffp = 4188 [1012] K [2.93σ]

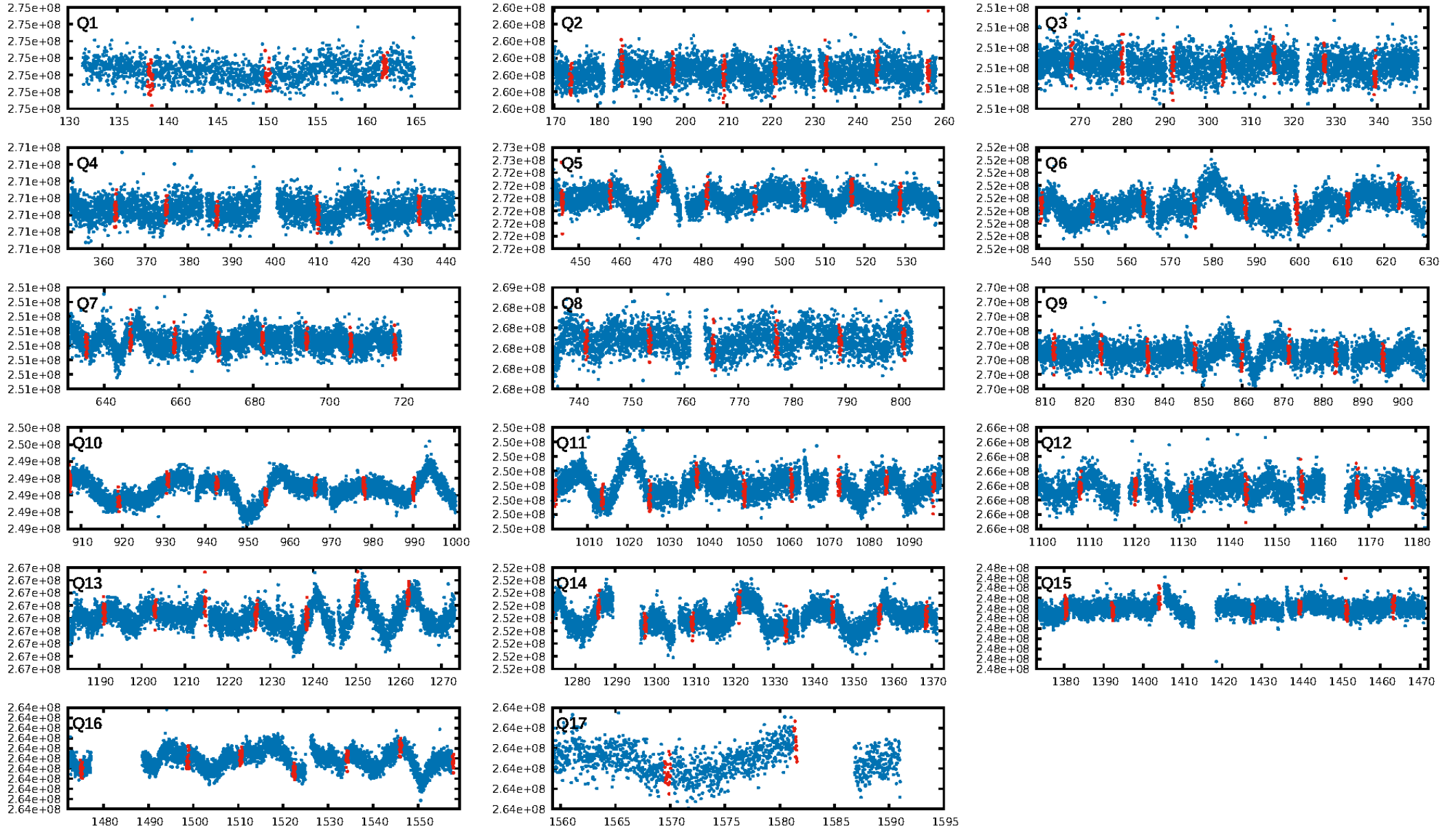
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 99.7%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 2.21e-19  
RollingBand-fgt: 1.00 [112/112]  
GhostDiagnostic-chr: 4.853  
Centroid-sig: 29.4%  
Centroid-so: 0.987 arcsec [0.99σ]  
OotOffset-rm: 1.162 arcsec [1.18σ]  
OotOffset-st: 4/2/3/3 [12]  
KicOffset-rm: 1.286 arcsec [1.41σ]  
KicOffset-st: 4/2/3/3 [12]  
DiffImageQuality-fgm: 0.42 [5/12]  
DiffImageOverlap-fno: 1.00 [17/17]

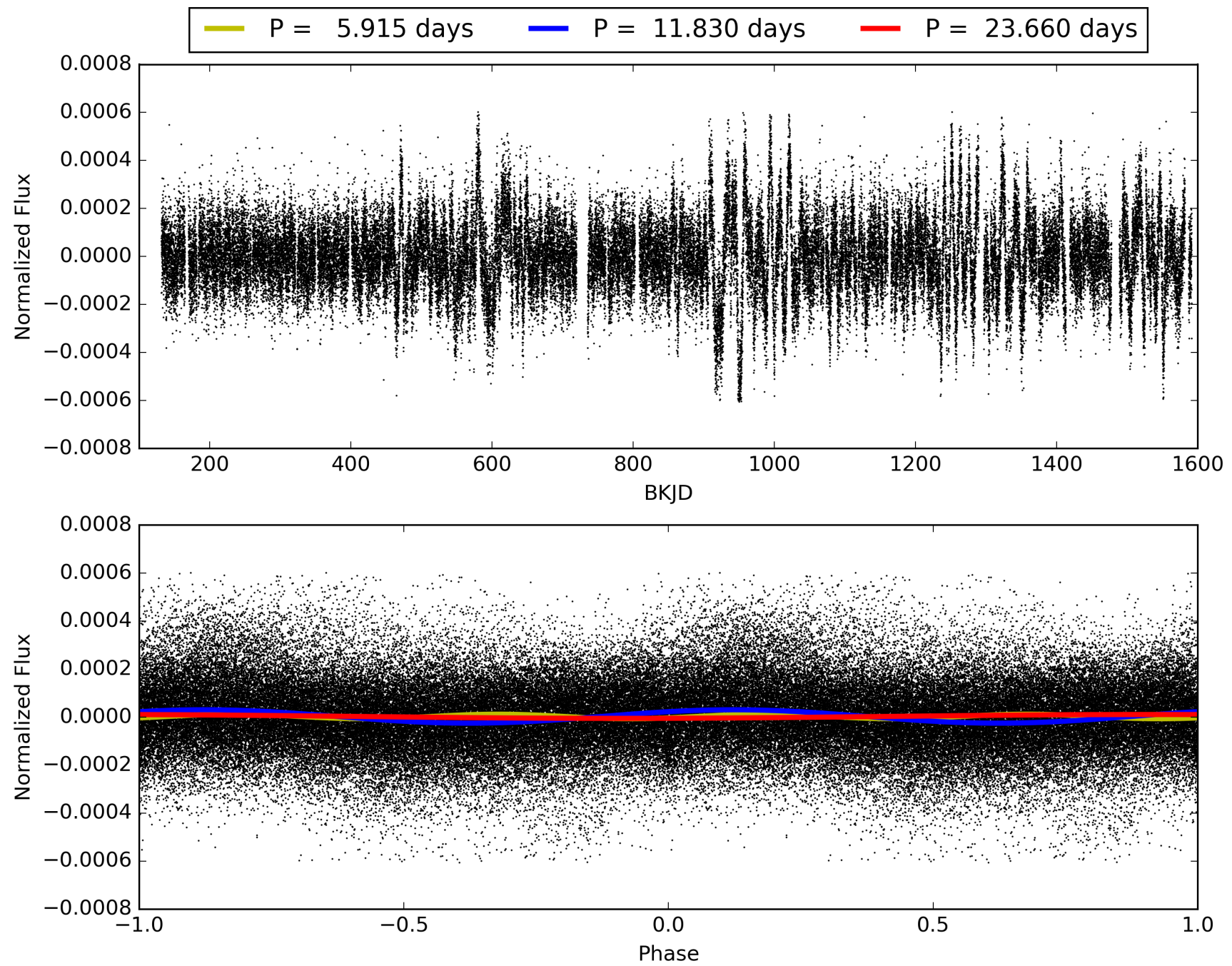
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:14:45 Z

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

# TCE 005819801-01, PDC Light Curves

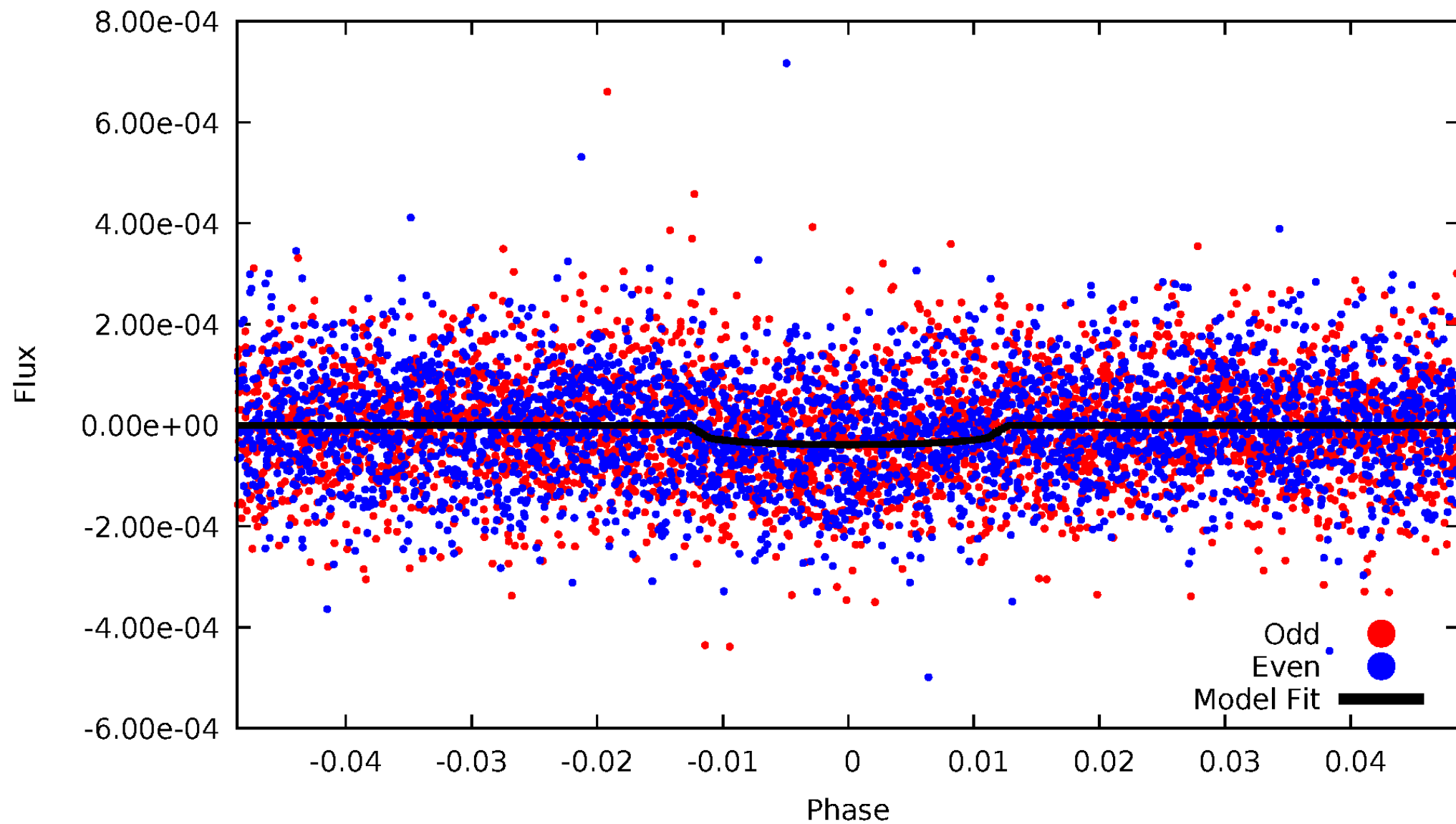


TCE 005819801-01



# DV Odd/Even

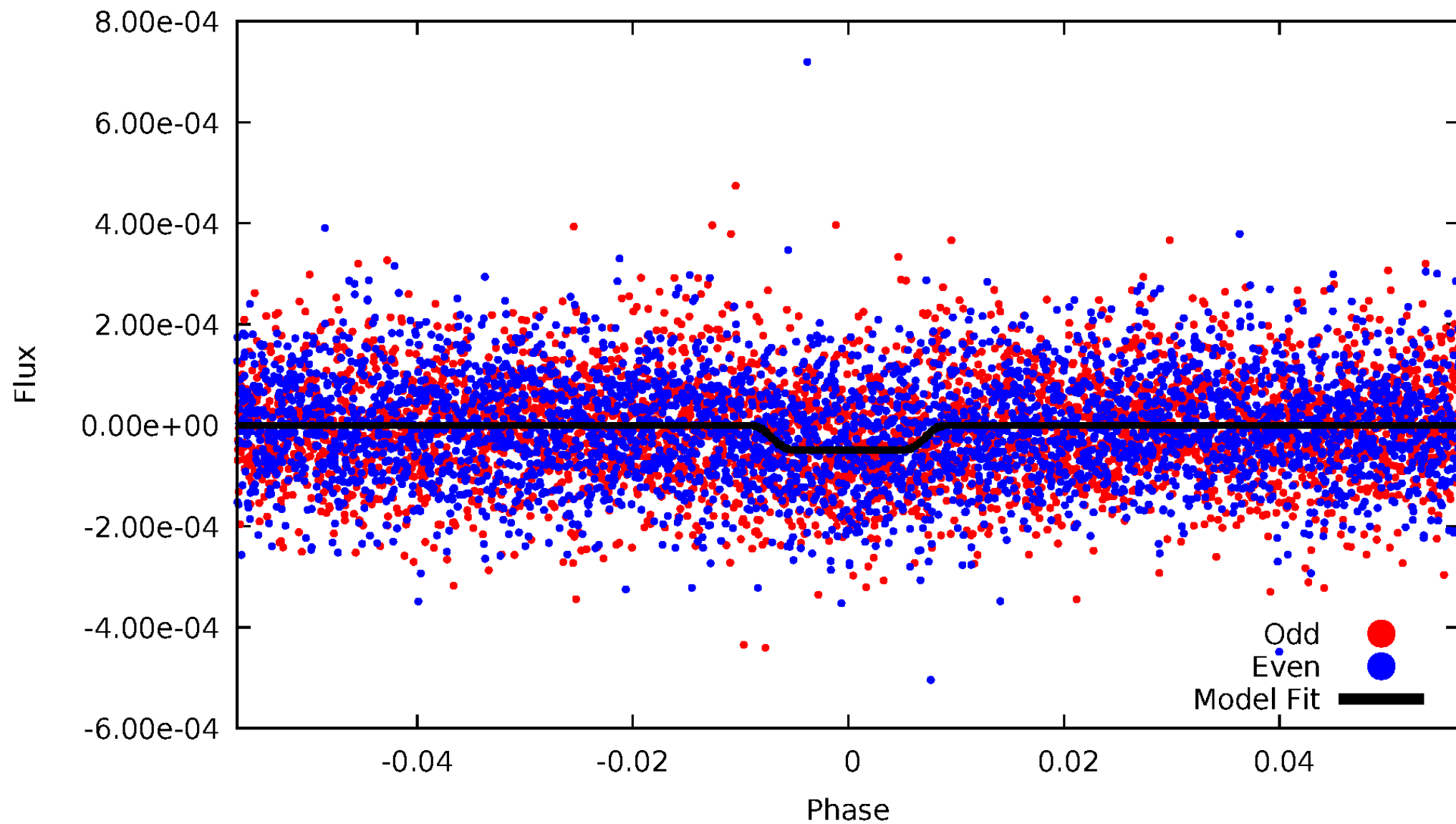
TCE 005819801-01



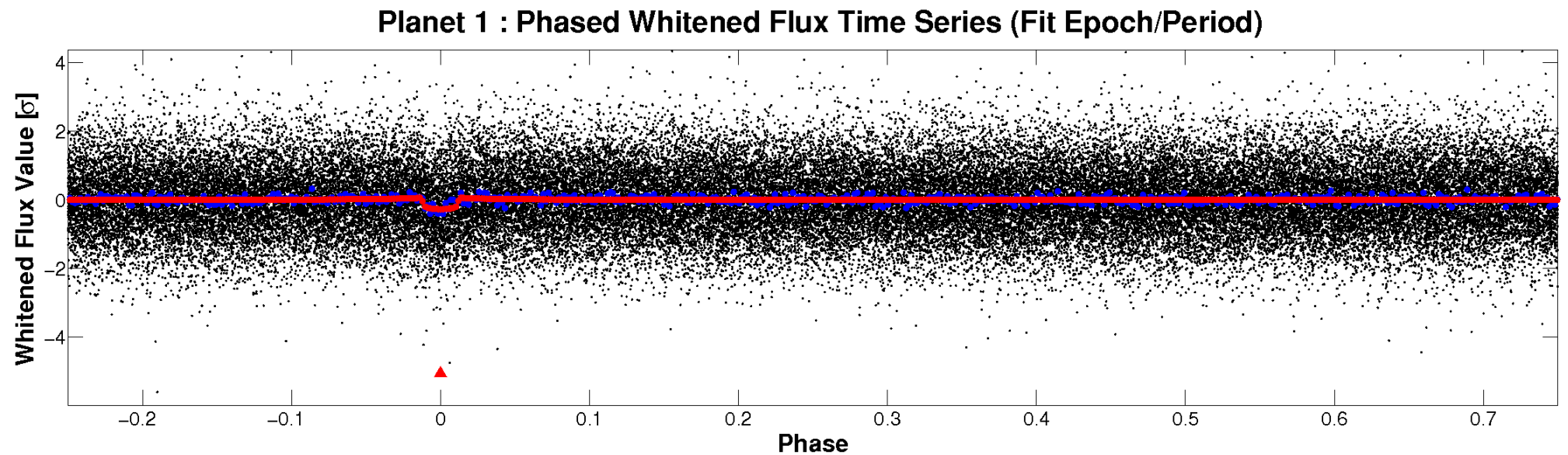
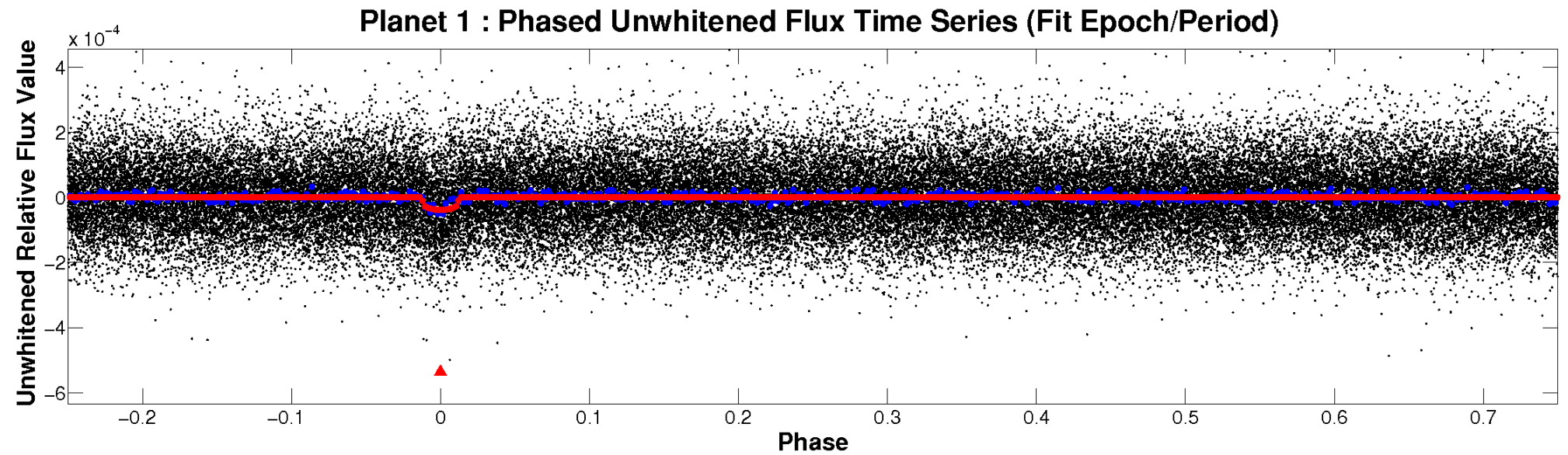


# ALT Odd/Even

TCE 005819801-01

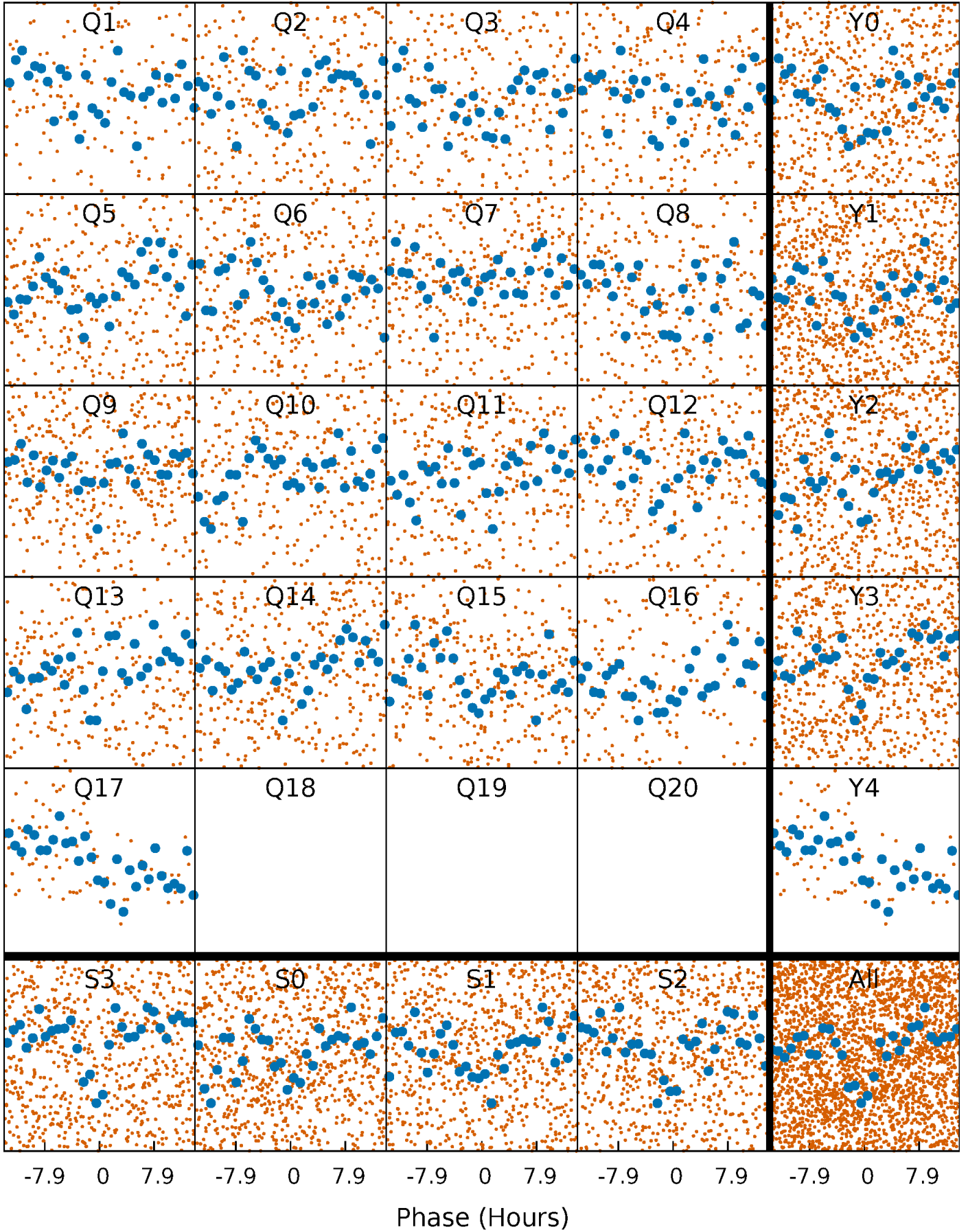


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

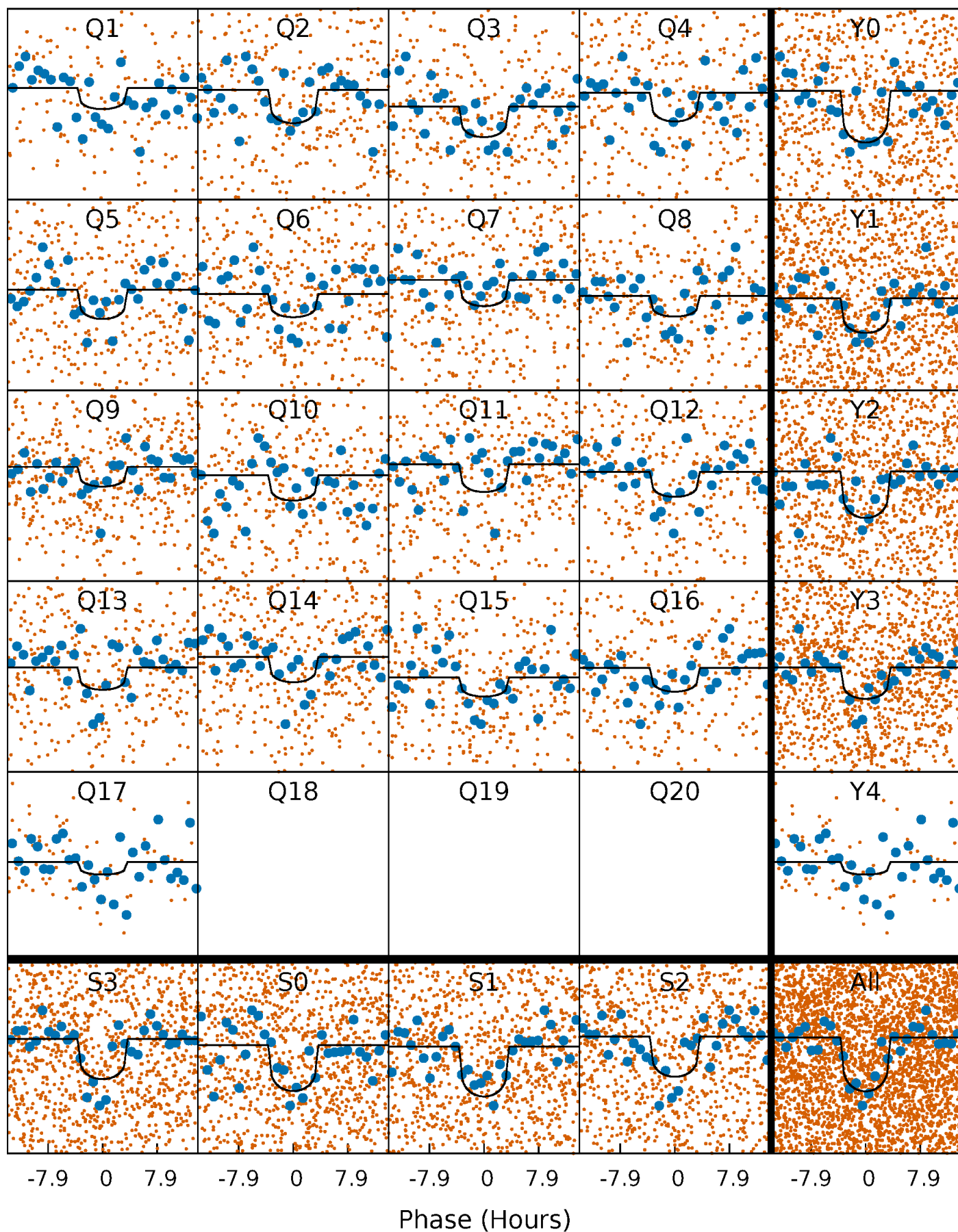
TCE 005819801-01 P= 11.830058 Days  $T_0=138.325611$  (BKJD)





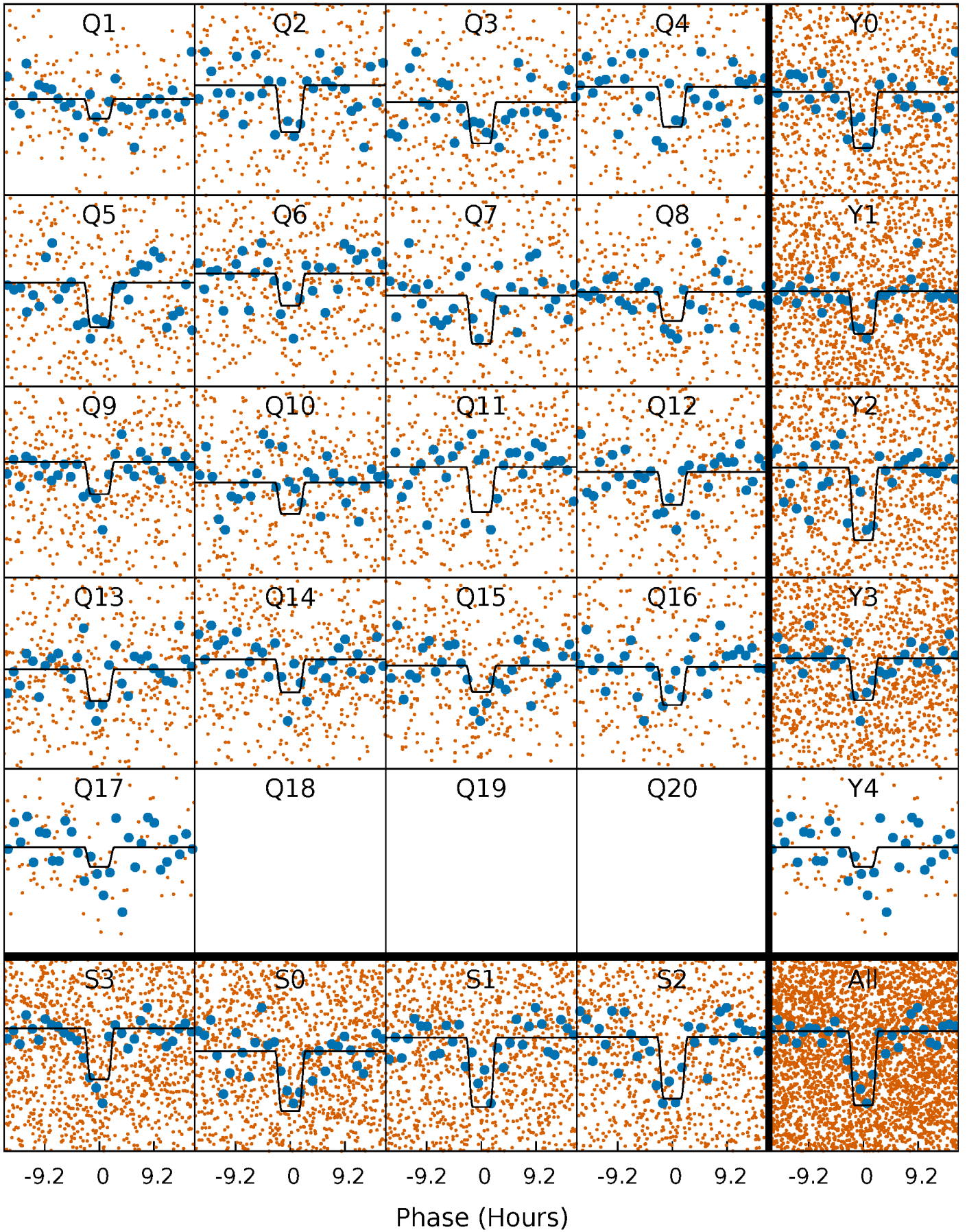
# DV Quarter-Phased Transit Curves

TCE 005819801-01 P= 11.830058 Days  $T_0=138.325611$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

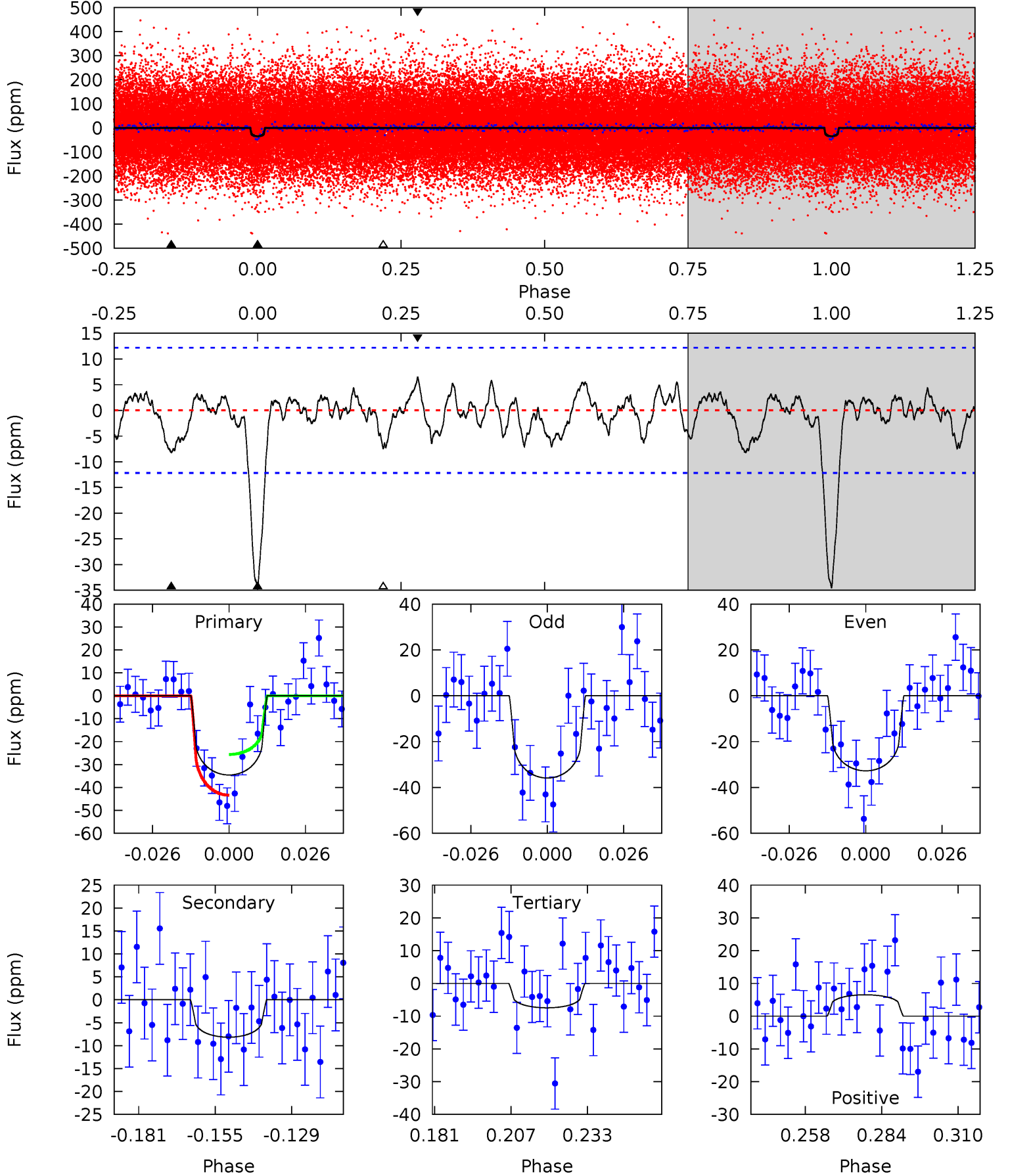
TCE 005819801-01 P= 11.829961 Days  $T_0=138.313253$  (BKJD)



# DV Model-Shift Uniqueness Test

005819801-01, P = 11.830058 Days, E = 126.495553 Days

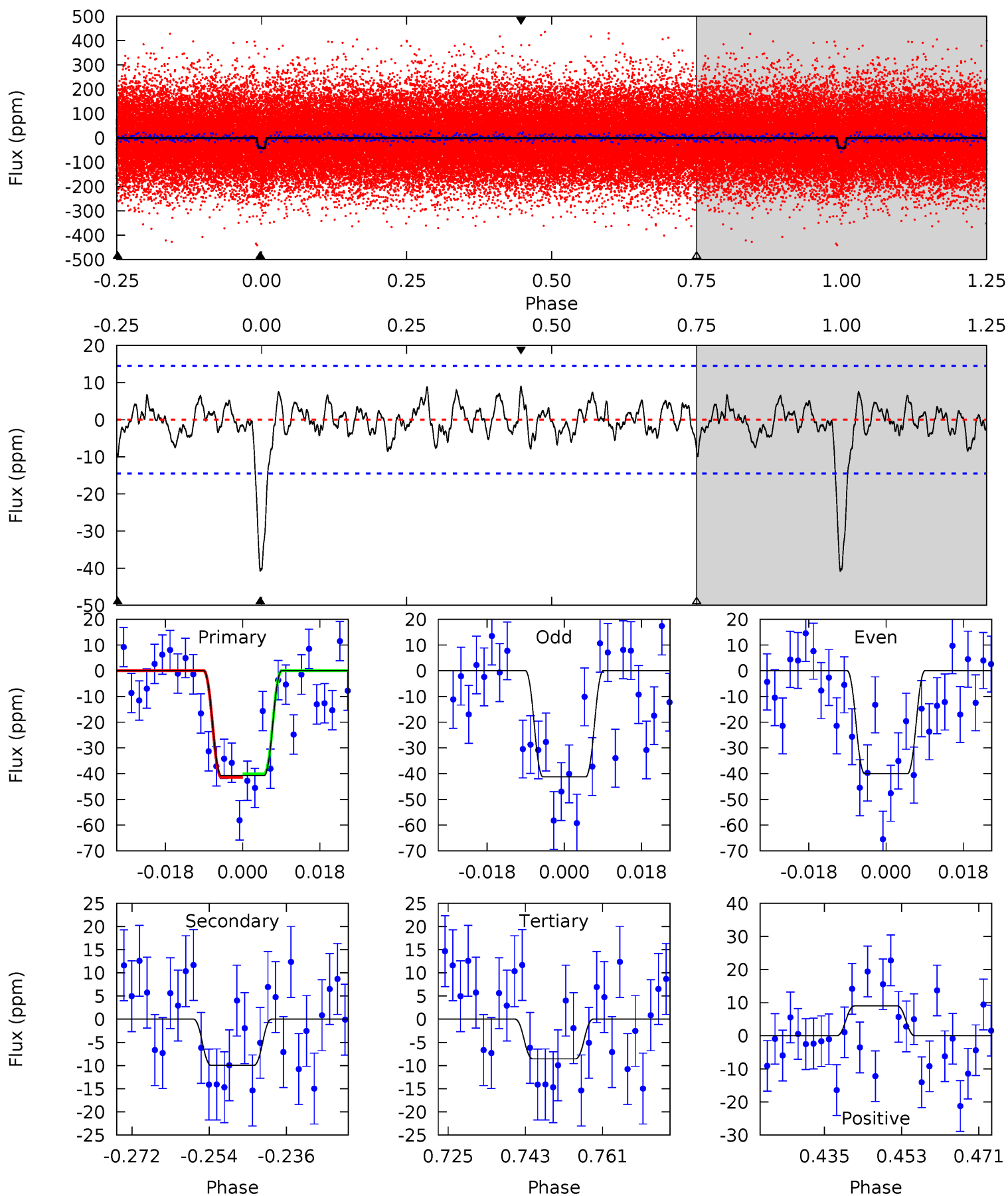
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	3.24	2.96	2.58	4.84	2.23	1.13	10.8	11.1	0.28	0.66	0.62	1.03	0.16	3.53



# Alt Model-Shift Uniqueness Test

005819801-01, P = 11.829961 Days, E = 126.483292 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
13.8	3.38	2.91	3.05	4.91	2.36	1.14	10.9	10.8	0.47	0.32	0.21	0.95	0.18	0.23



### Stellar Parameters For KIC 005819801

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5747^{+77}_{-77}$	$3.802^{+0.330}_{-0.110}$	$0.260^{+0.150}_{-0.150}$	$2.431^{+0.485}_{-0.901}$	$1.365^{+0.088}_{-0.264}$	$0.134^{+0.343}_{-0.047}$
	+1%/-1%	+9%/-3%	+58%/-58%	+20%/-37%	+6%/-19%	+256%/-35%
Source	SPE90	FLK73	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 005819801-01 / KOI 4686.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-8 \pm 3$	$1.49^{+0.77}_{-0.66}$	$1620^{+93}_{-148}$	$4161^{+1106}_{-587}$	$25^{+56}_{-15}$
Alt.	$-10 \pm 3$	$1.72^{+0.82}_{-0.72}$	$1628^{+91}_{-160}$	$4109^{+892}_{-543}$	$22^{+45}_{-13}$

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



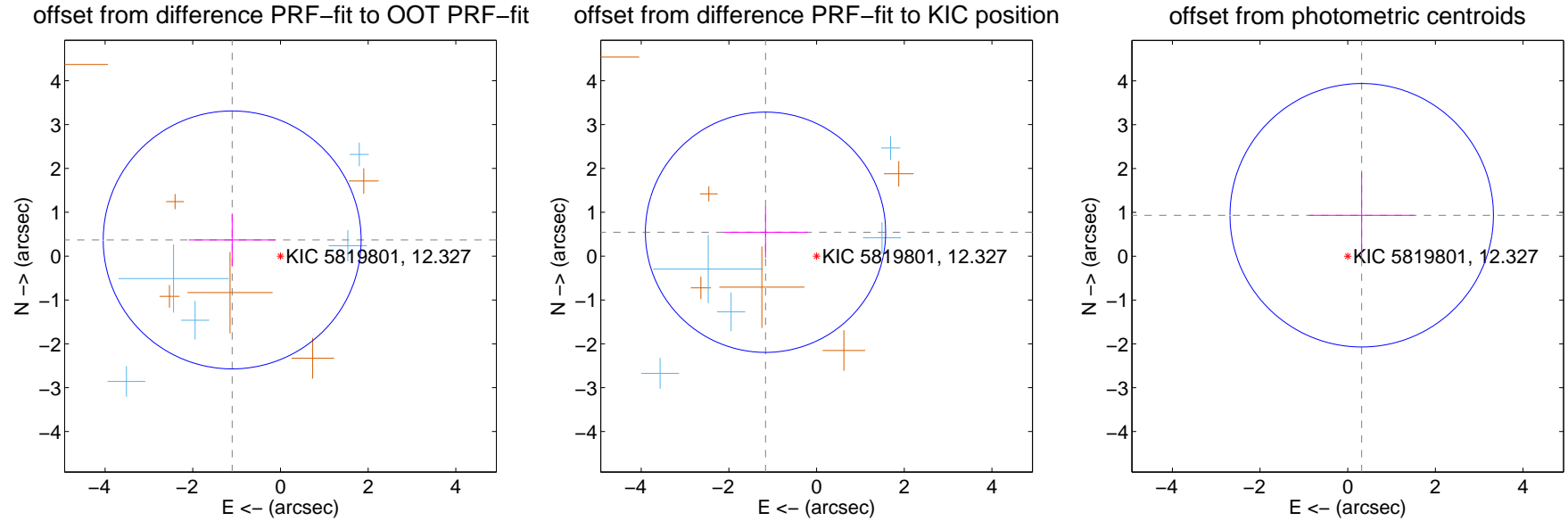
## DV Centroid Data

Supplemental centroid analysis for 005819801-01. Kepler magnitude: 12.33. Transit SNR 9.62

There are 5 quarters with good PRF difference image offsets

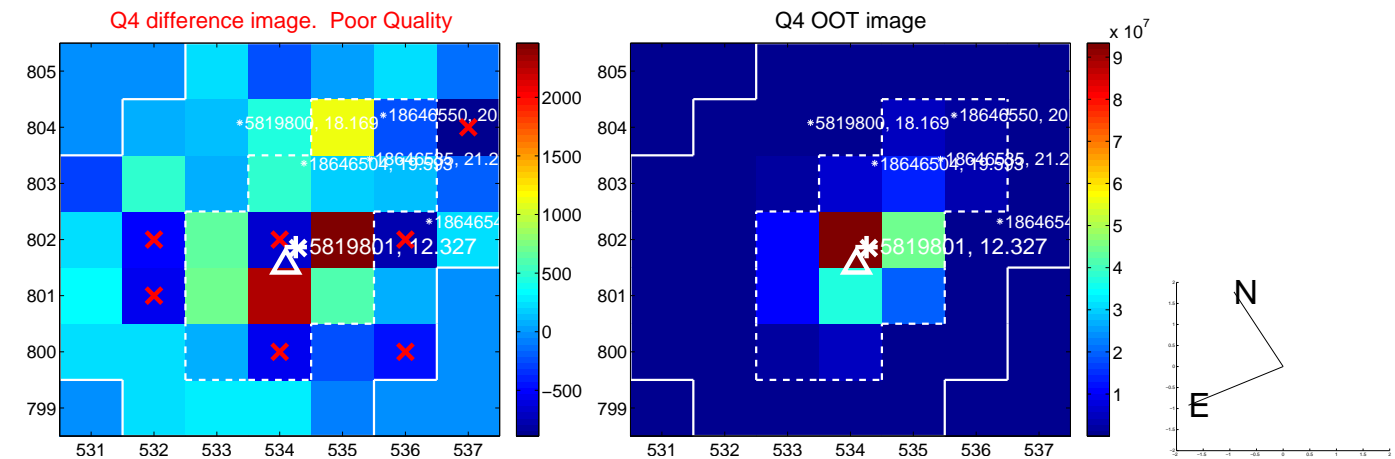
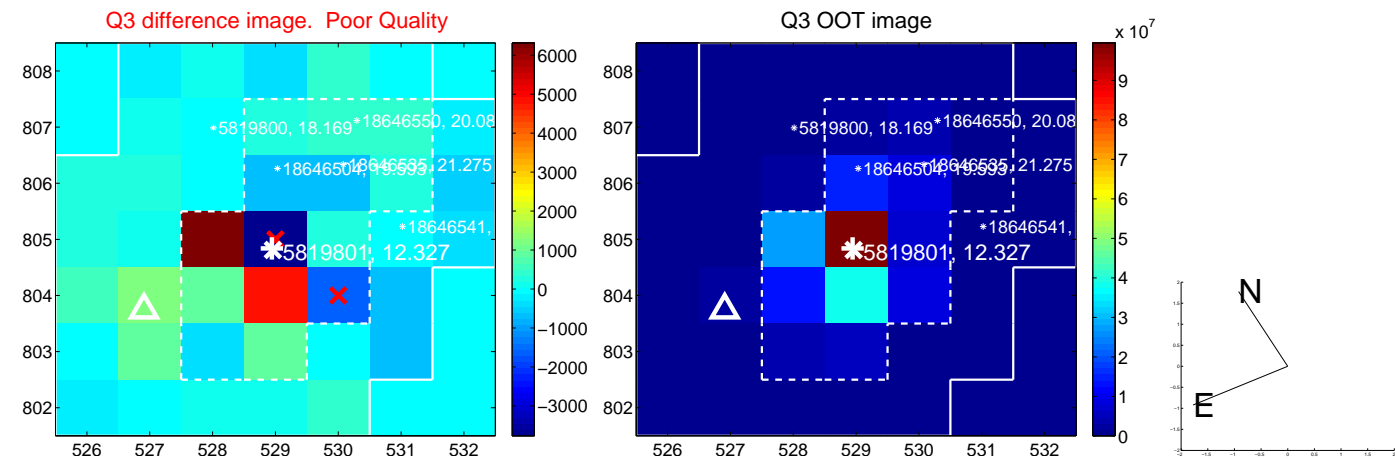
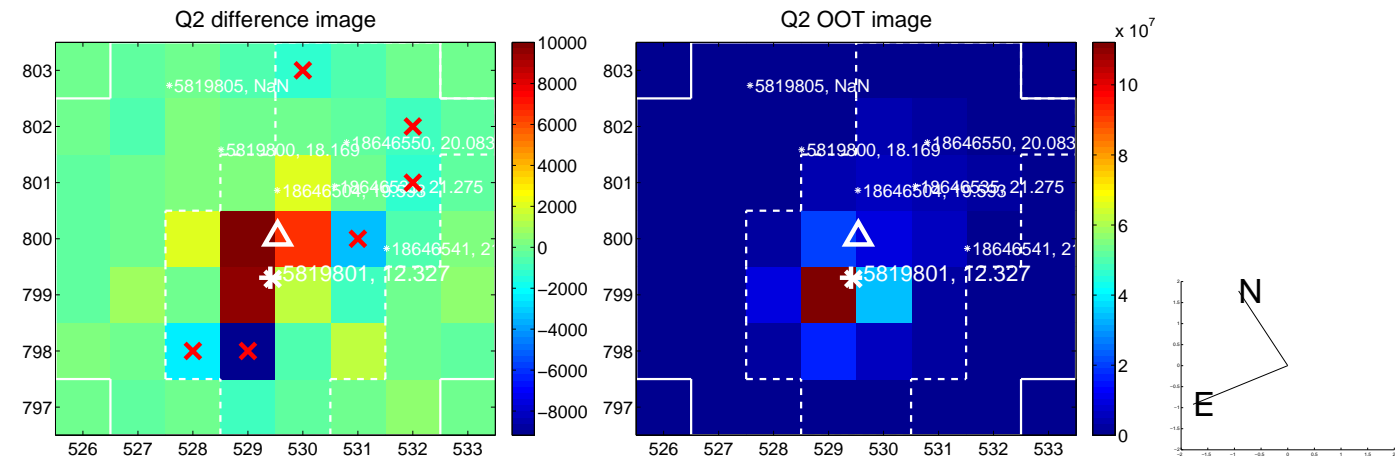
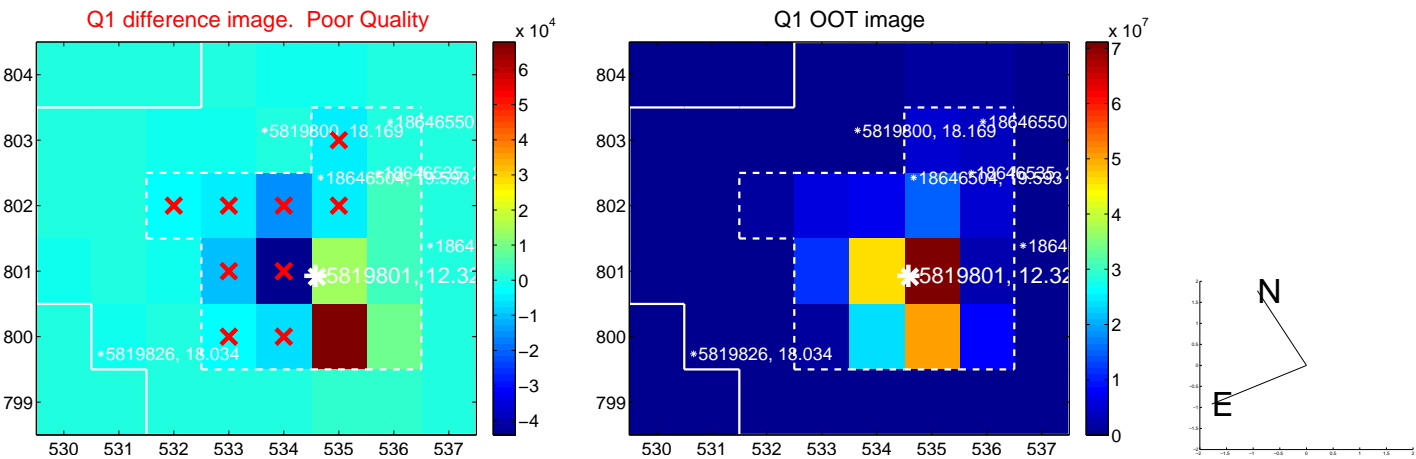
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.162 \pm 0.980$	1.18	$1.101 \pm 0.990$	$0.370 \pm 0.602$
PRF-fit source offset from KIC position	$1.286 \pm 0.913$	1.41	$1.165 \pm 0.960$	$0.545 \pm 0.580$
photometric centroid source offset	$0.99 \pm 1.00$	0.99	$-0.32 \pm 1.20$	$0.93 \pm 0.98$

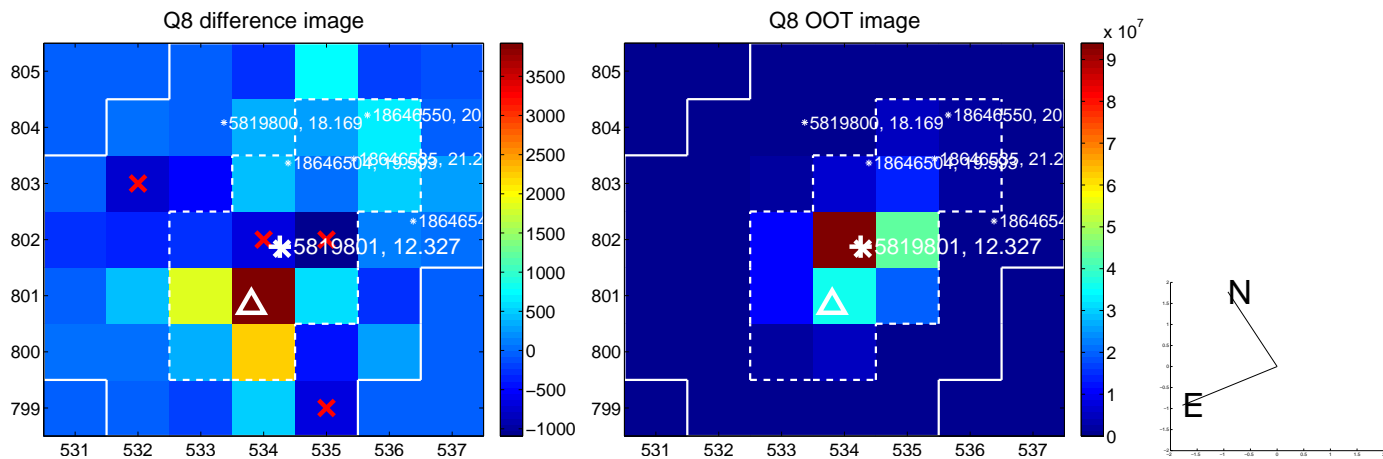
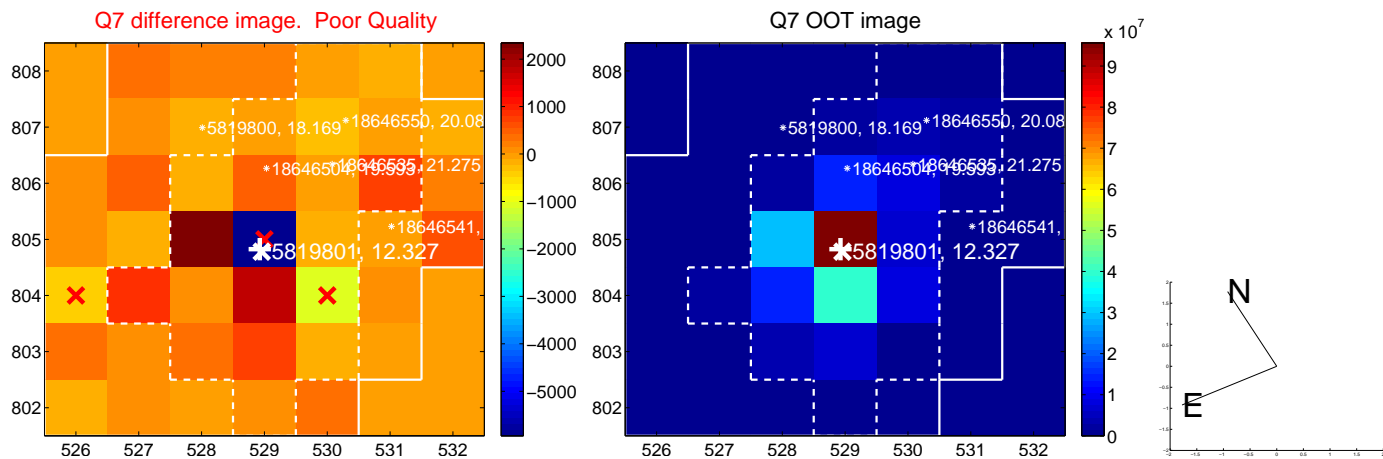
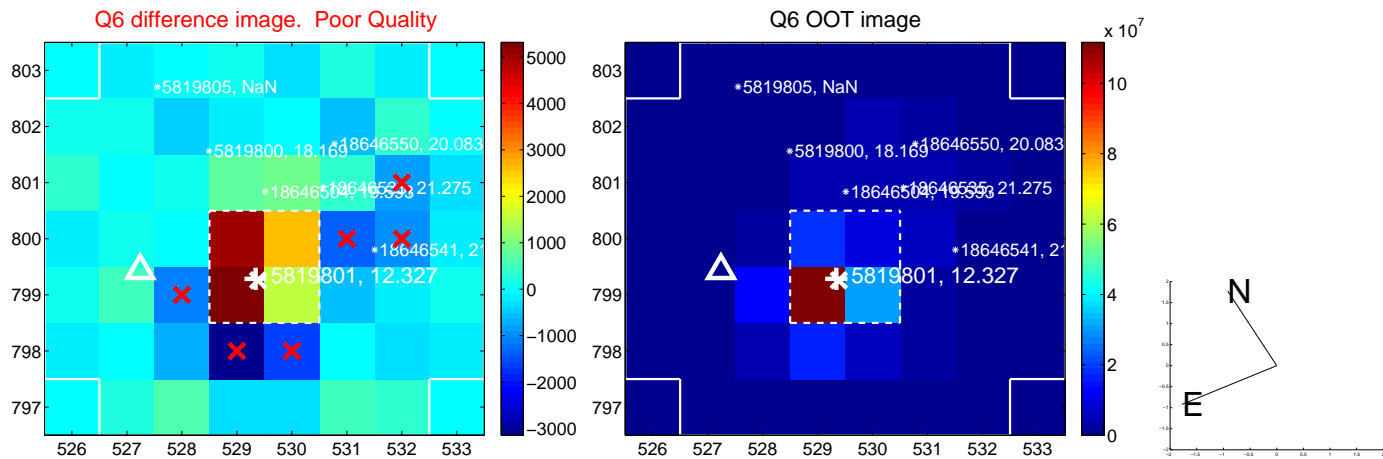
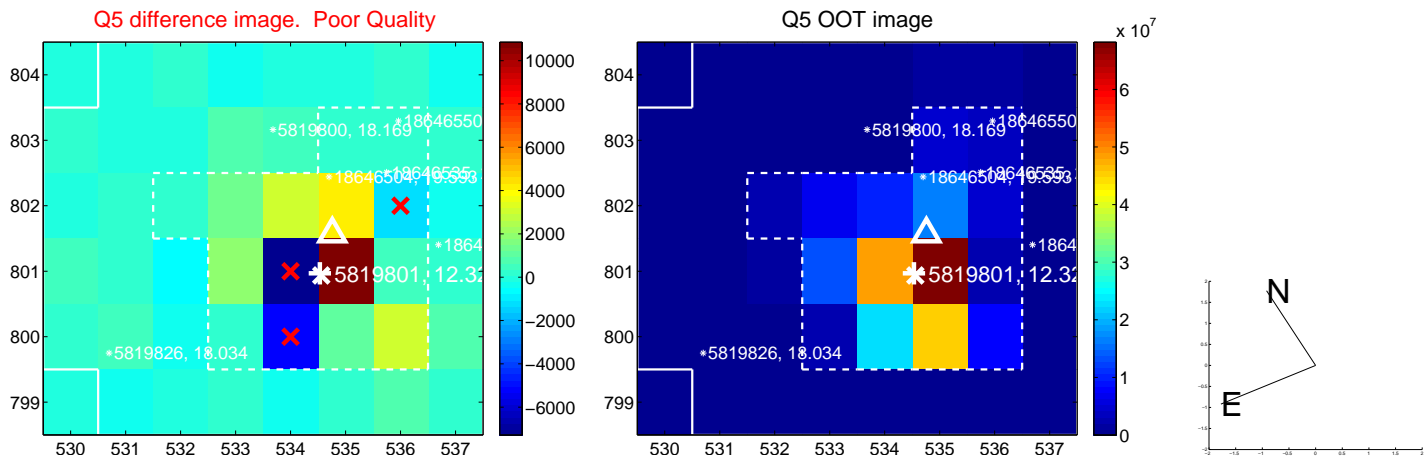


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

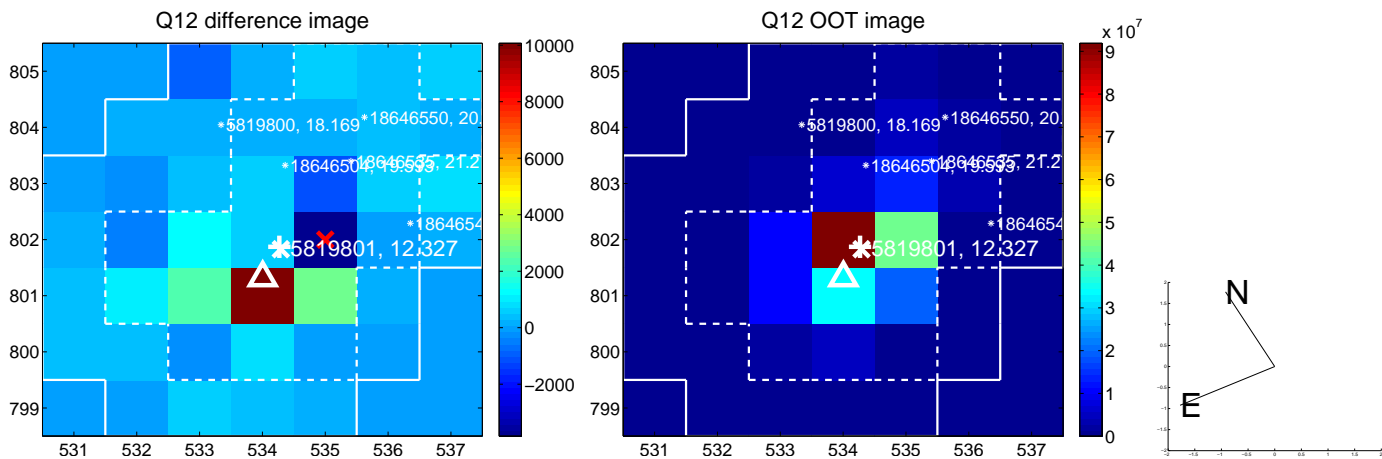
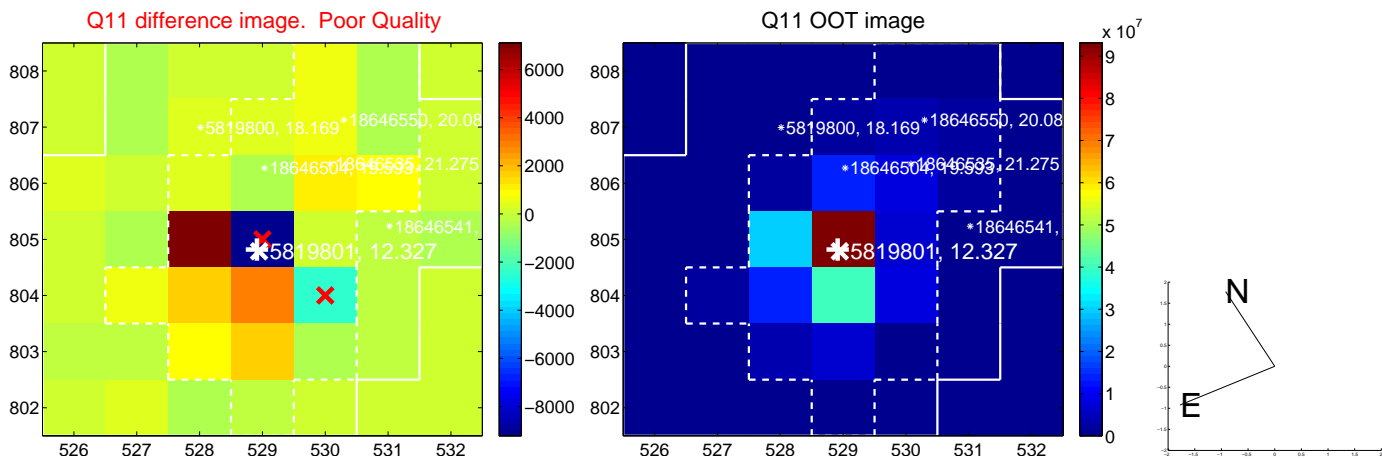
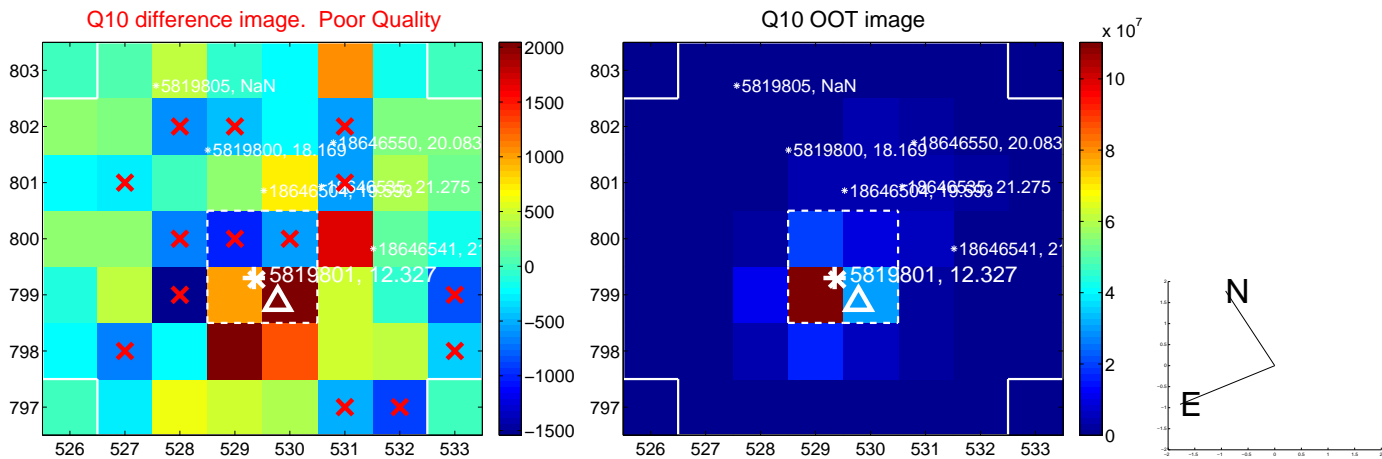
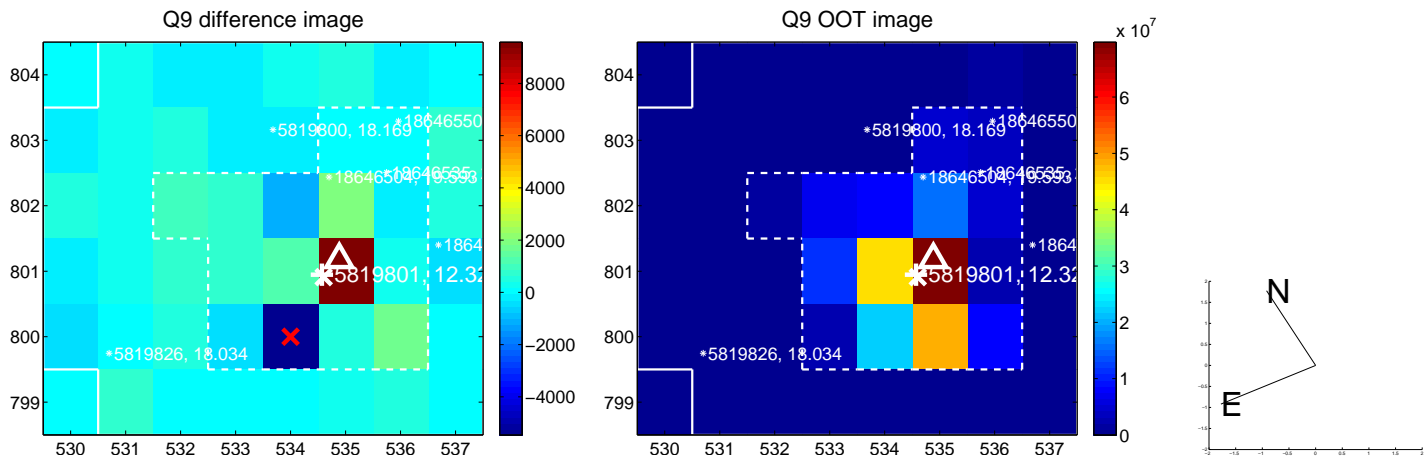
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



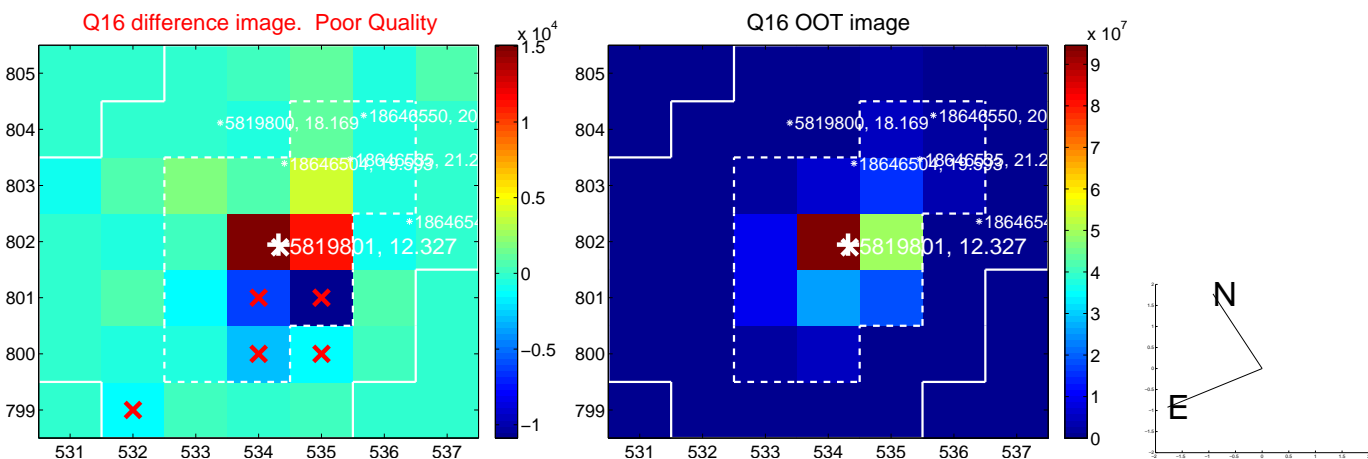
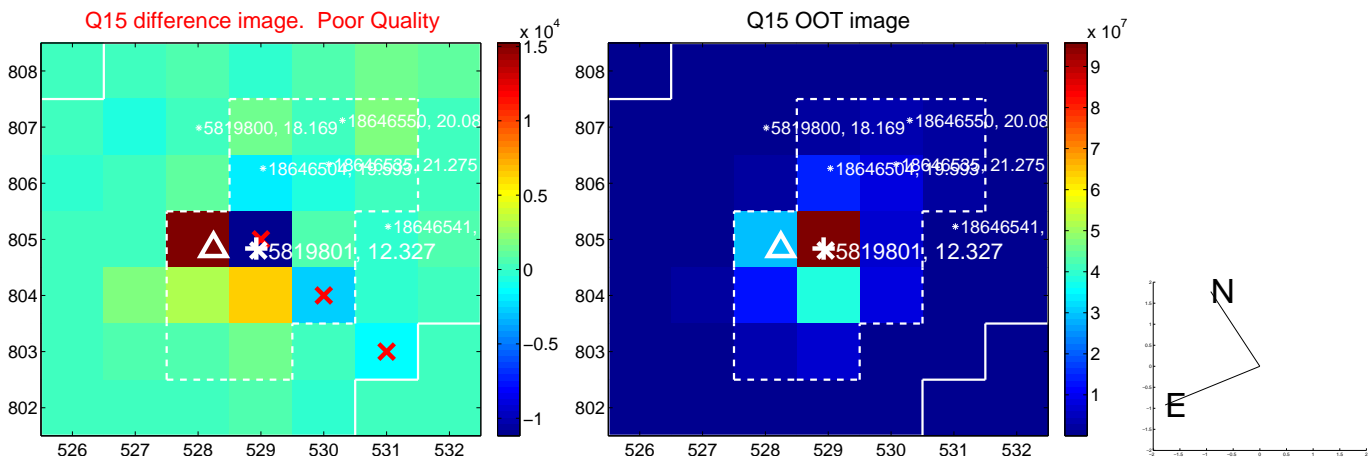
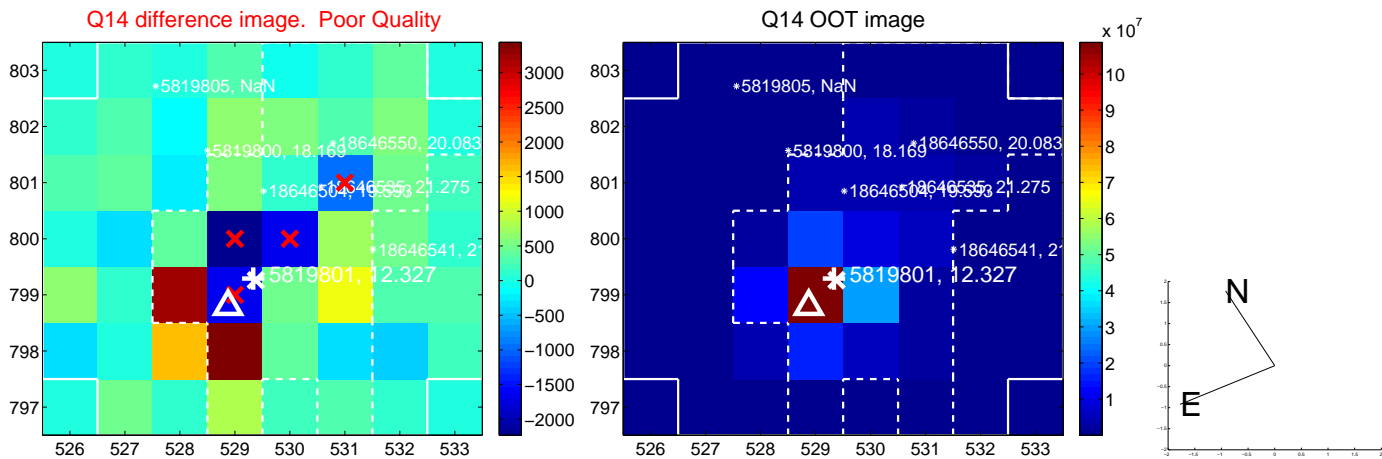
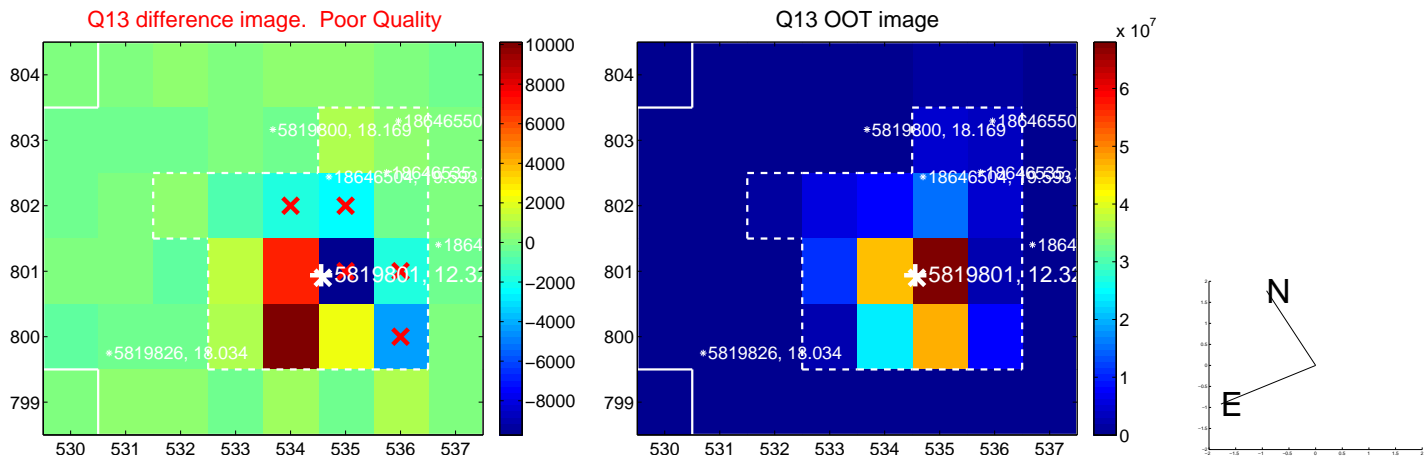
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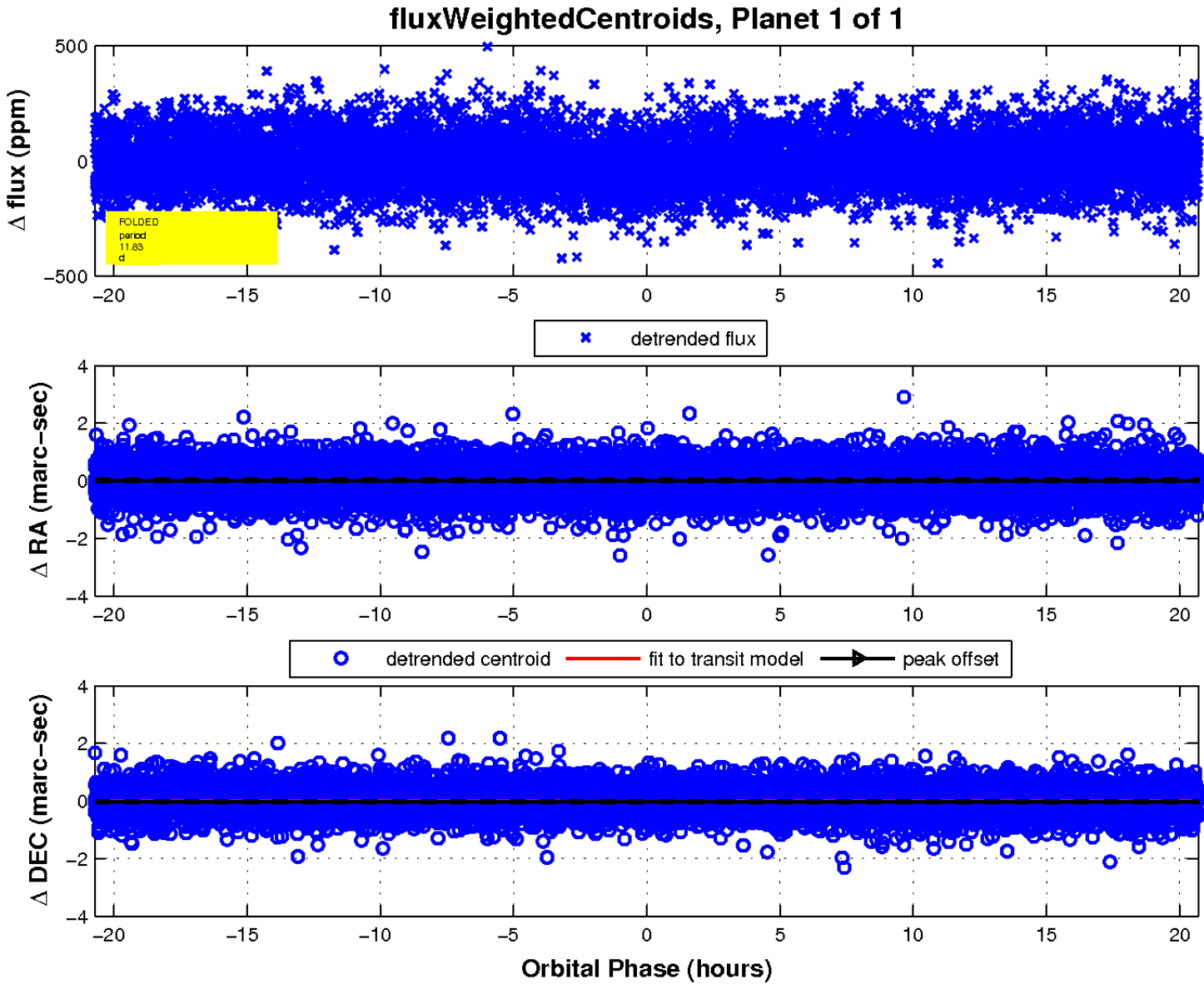
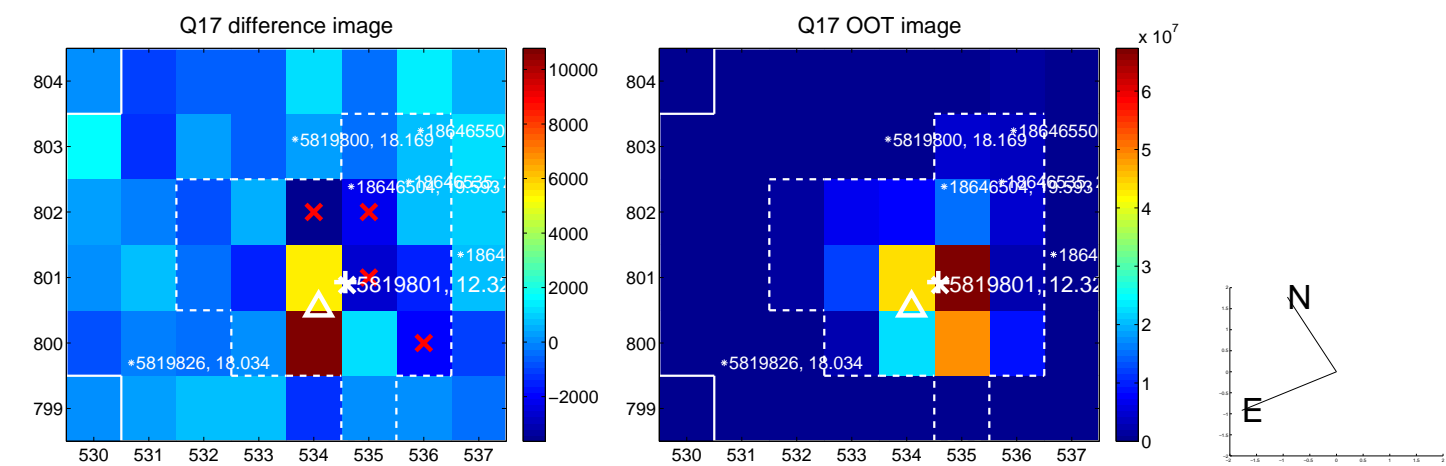


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

