

# KIC 005881108

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005881108-01	OBS	No	3.132689	131.891597	221.9	26.760	13.9	21.5	2.17	7710	5.37	6231.54

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005881108-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT

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

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

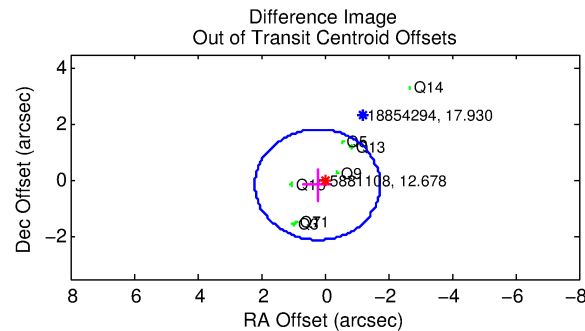
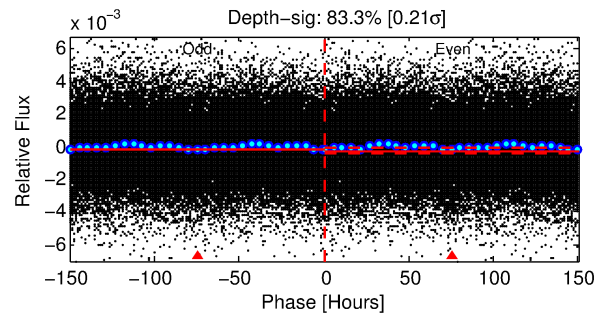
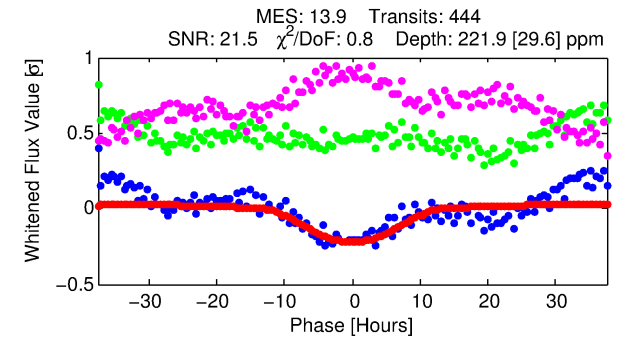
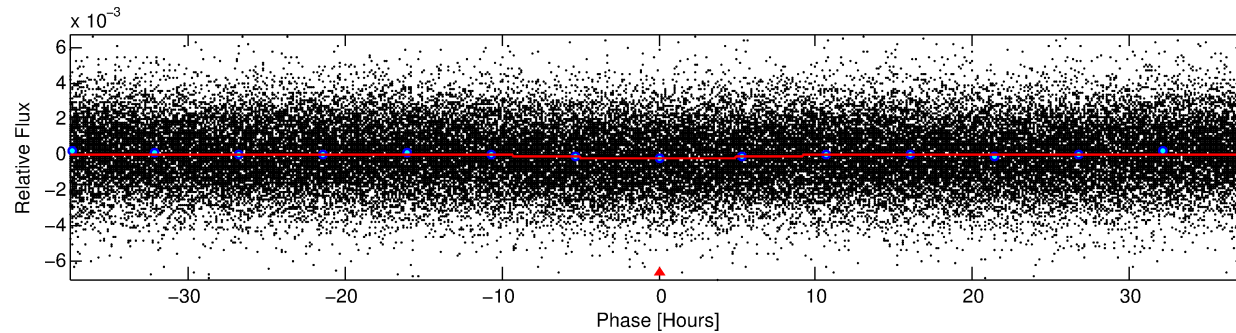
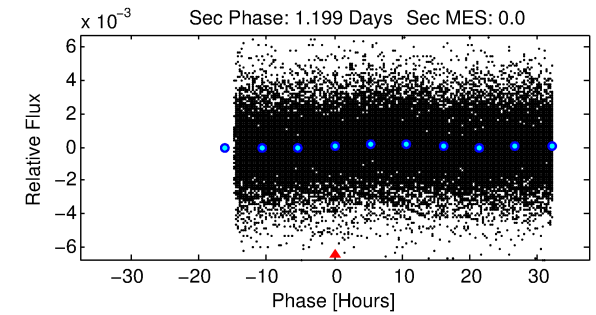
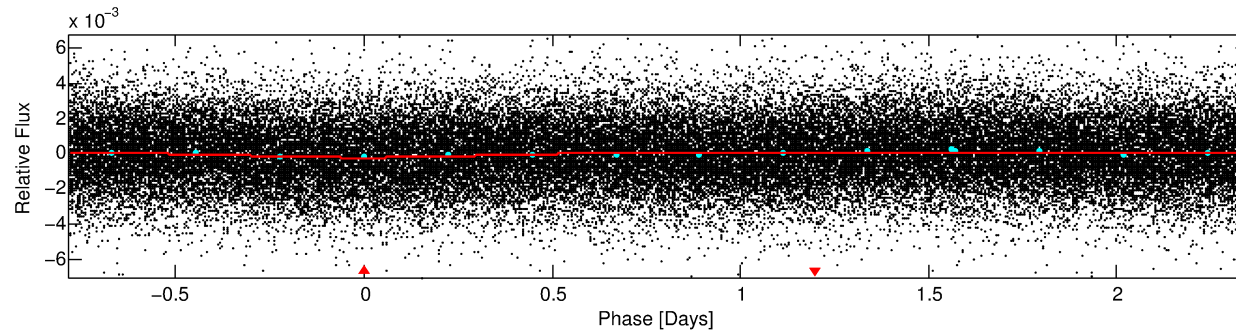
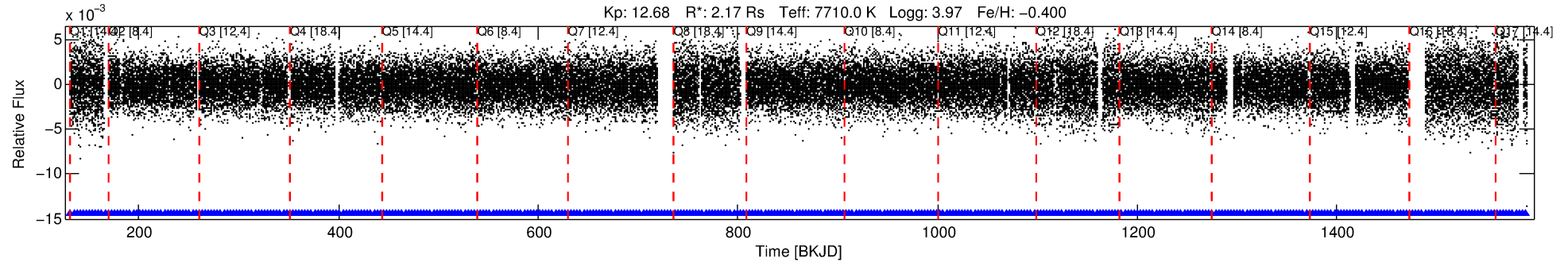
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005881108-01

No Significant Match Found

# DV One-Page Summary

KIC: 5881108 Candidate: 1 of 1 Period: 3.133 d



## DV Fit Results:

Period = 3.13269 [0.00011] d  
Epoch = 131.8916 [0.0288] BKJD  
Rp/R\* = 0.0226 [0.0199]  
a/R\* = 1.03 [0.01]  
b = 0.99 [0.03]  
Seff = 6231.54 [2212.37]  
Teq = 2266 [201] K  
Rp = 5.36 [4.90] Re  
a = 0.0490 [0.0111] AU  
Ag = N/A  
Teffp = N/A

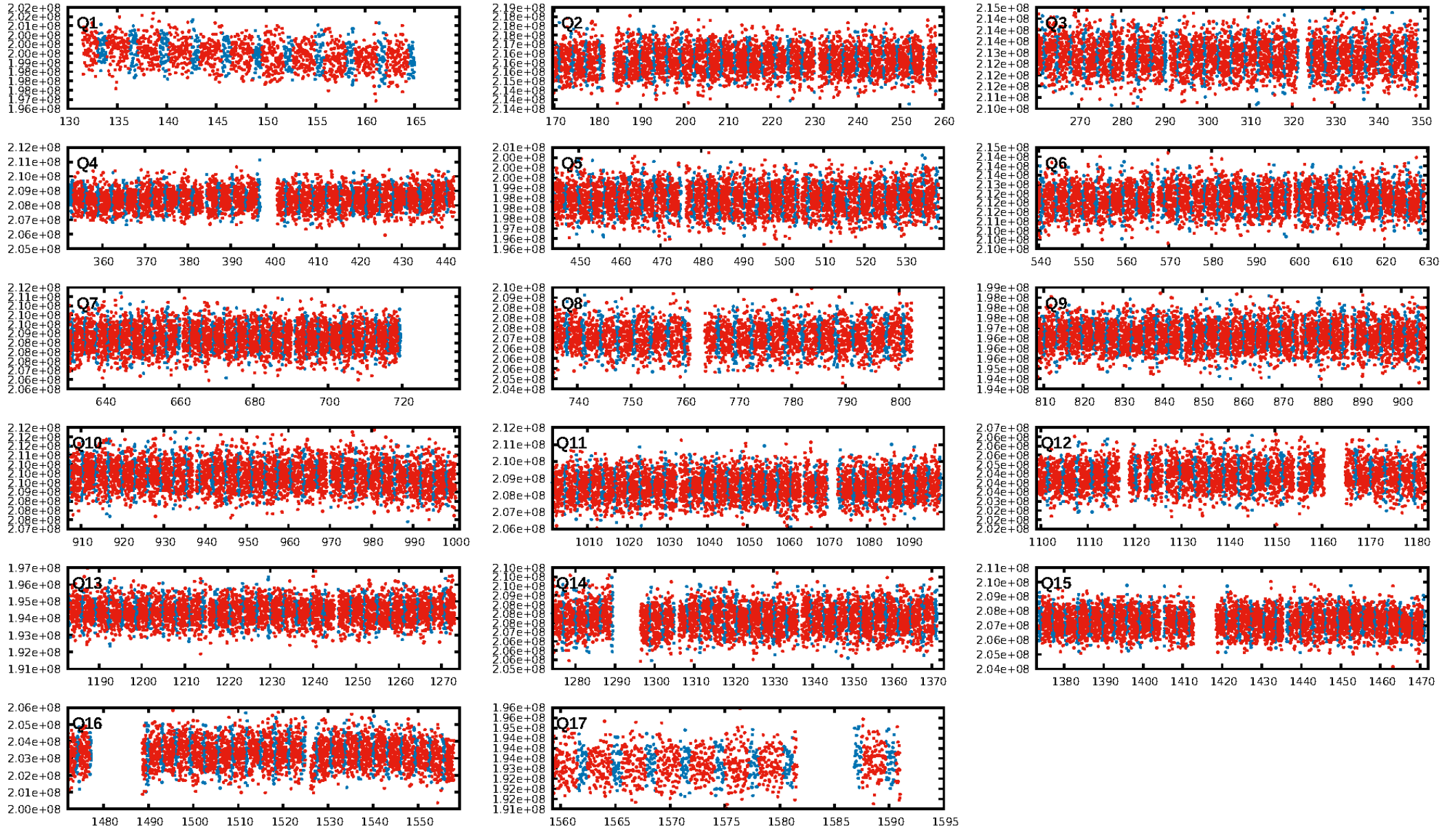
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [425/425]  
GhostDiagnostic-chr: 1.69  
Centroid-sig: 4.7%  
Centroid-so: 0.252 arcsec [3.96σ]  
OotOffset-rm: 0.263 arcsec [0.40σ]  
KicOffset-rm: 0.371 arcsec [0.51σ]  
OotOffset-st: 1/4/0/3 [8]  
KicOffset-st: 1/4/0/3 [8]  
DiffImageQuality-fgm: 1.00 [8/8]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:48:59 Z

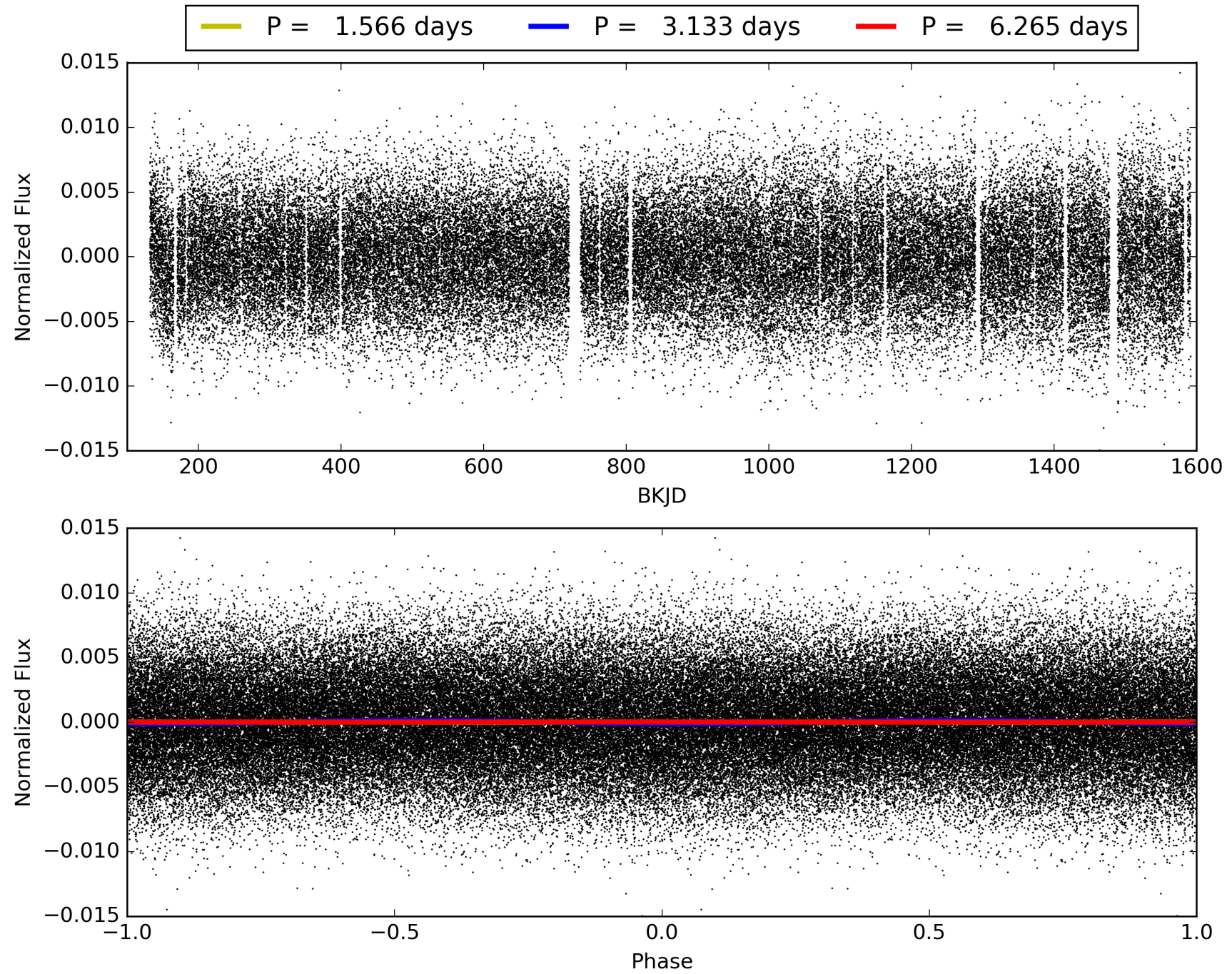
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005881108-01, PDC Light Curves



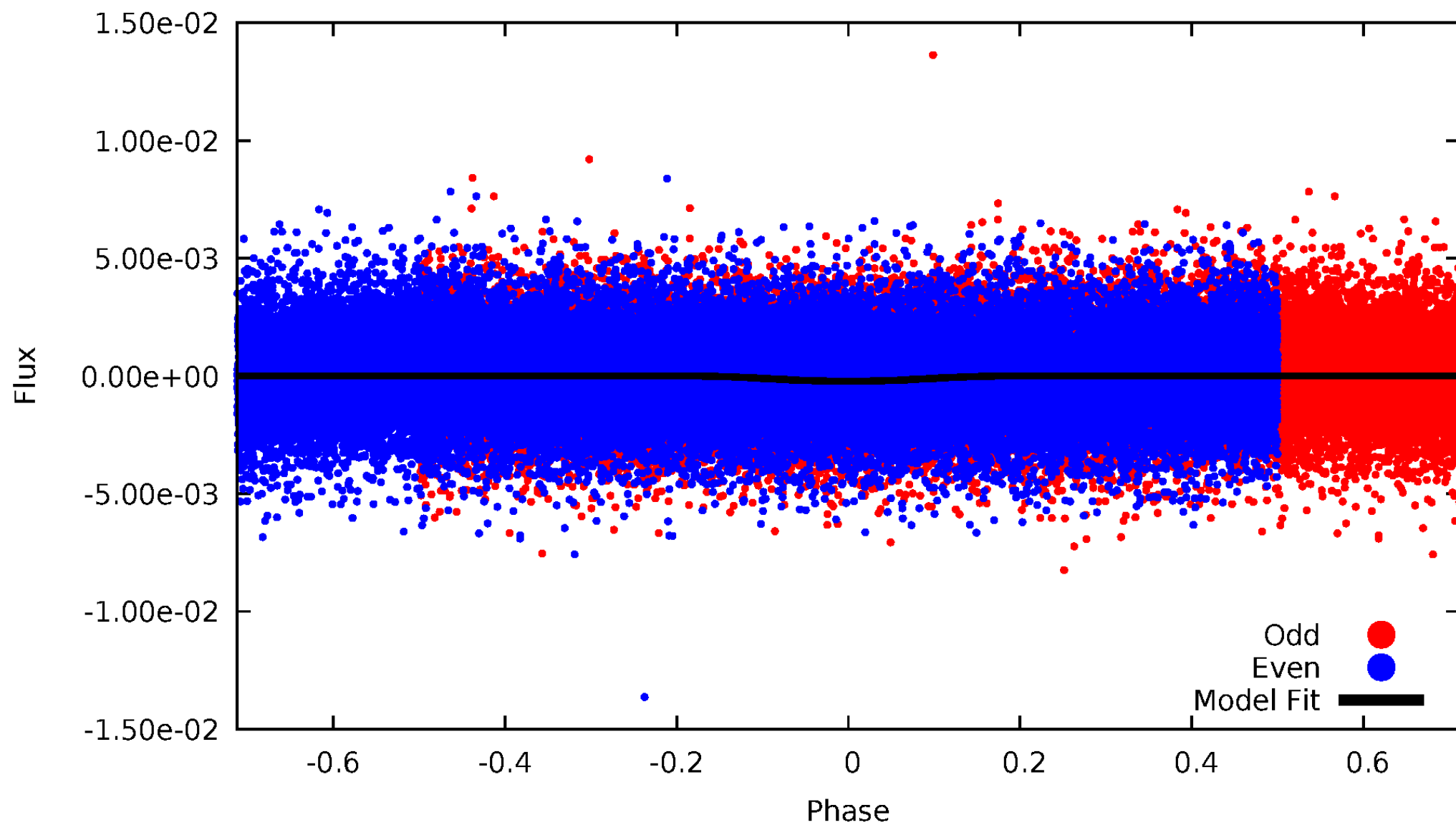


TCE 005881108-01



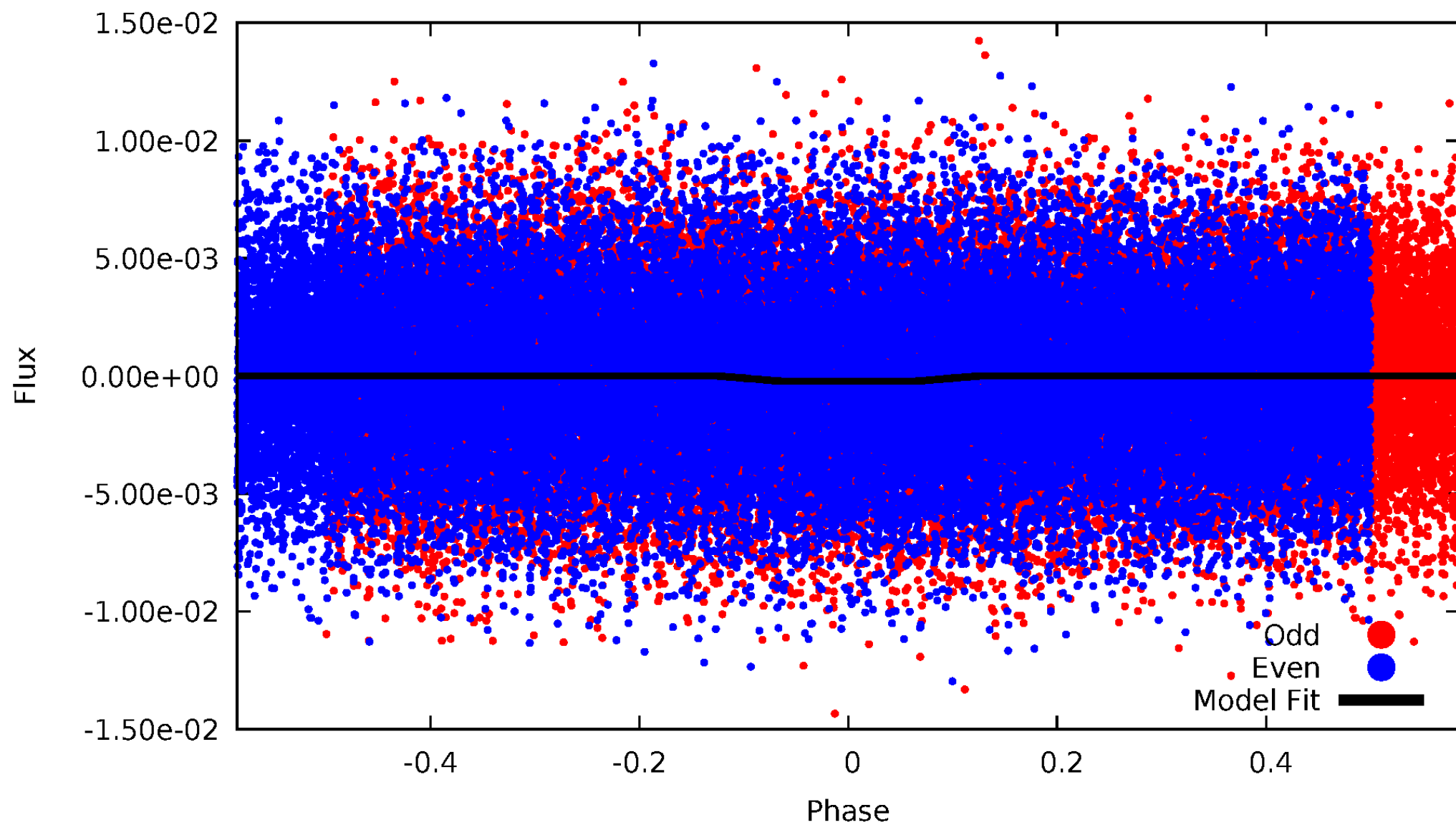
DV Odd/Even

TCE 005881108-01



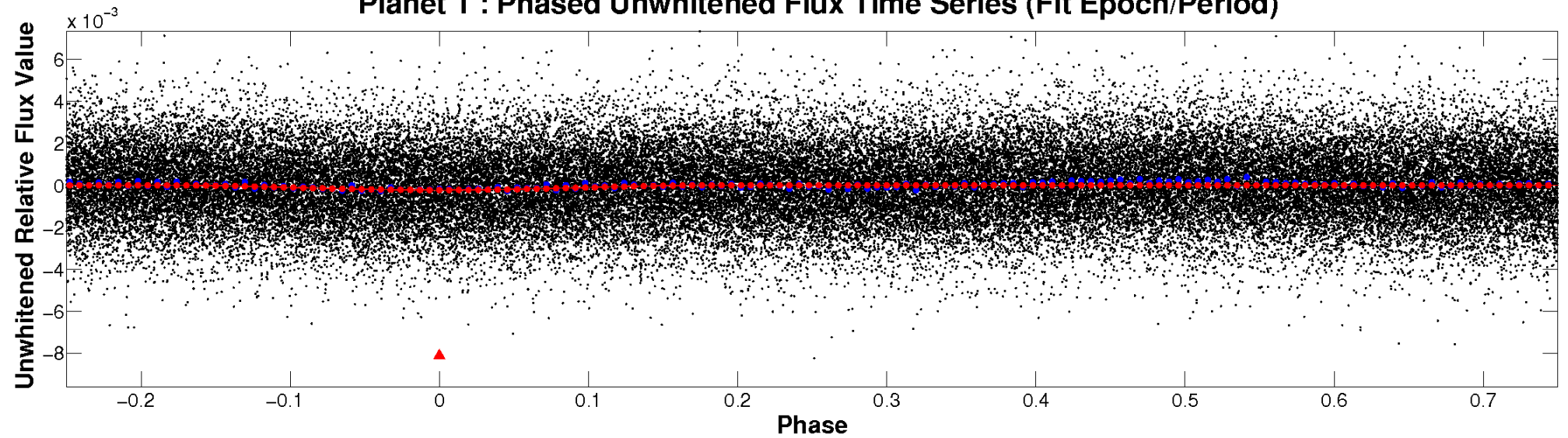
# ALT Odd/Even

TCE 005881108-01

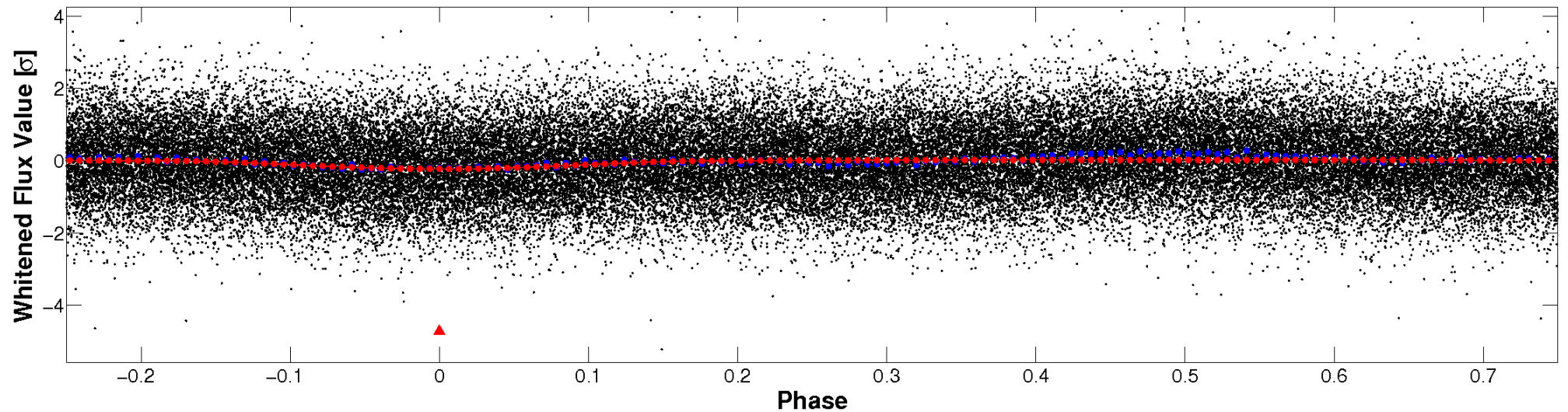


# Non-Whitened Vs. Whitened Light Curve

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



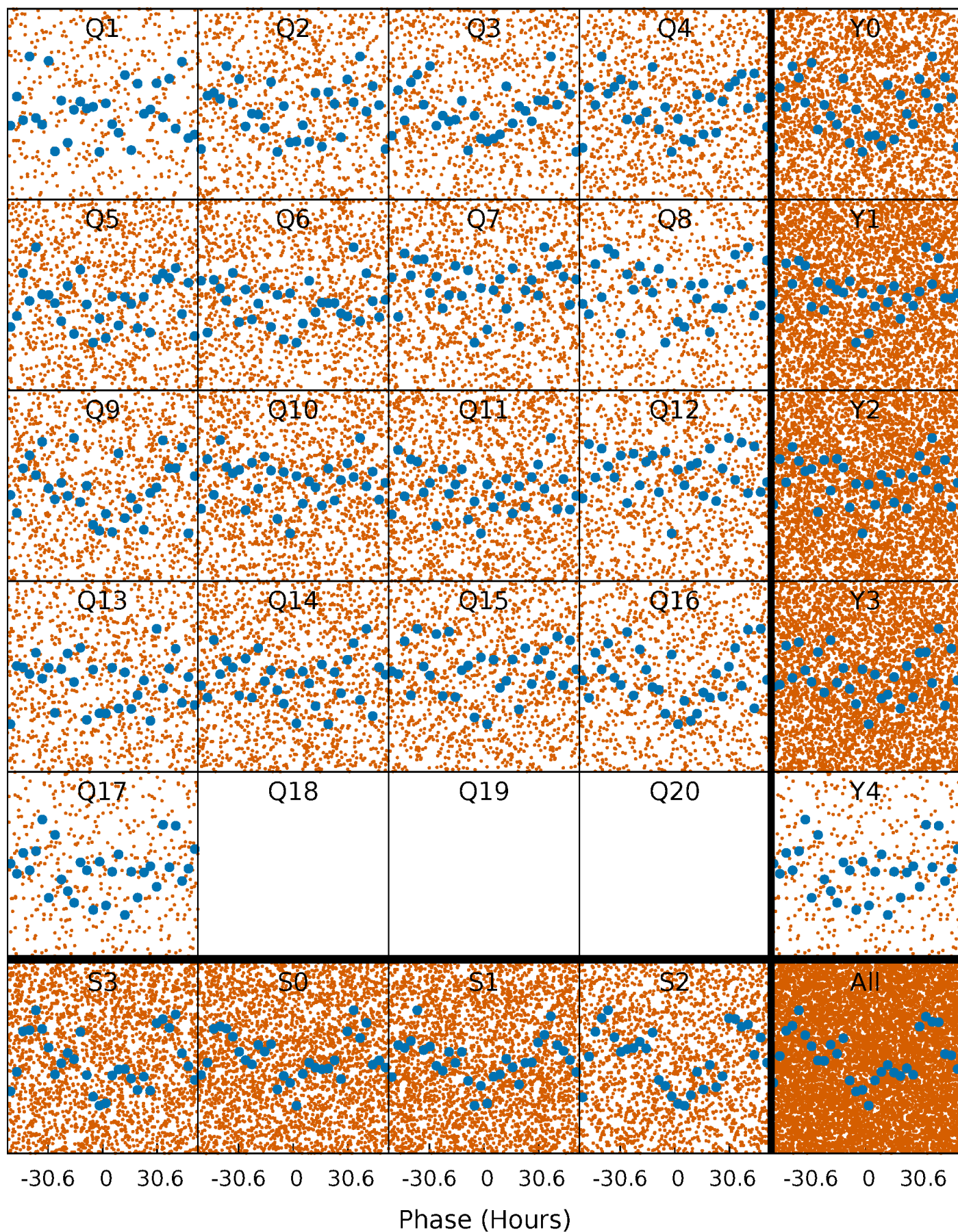
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

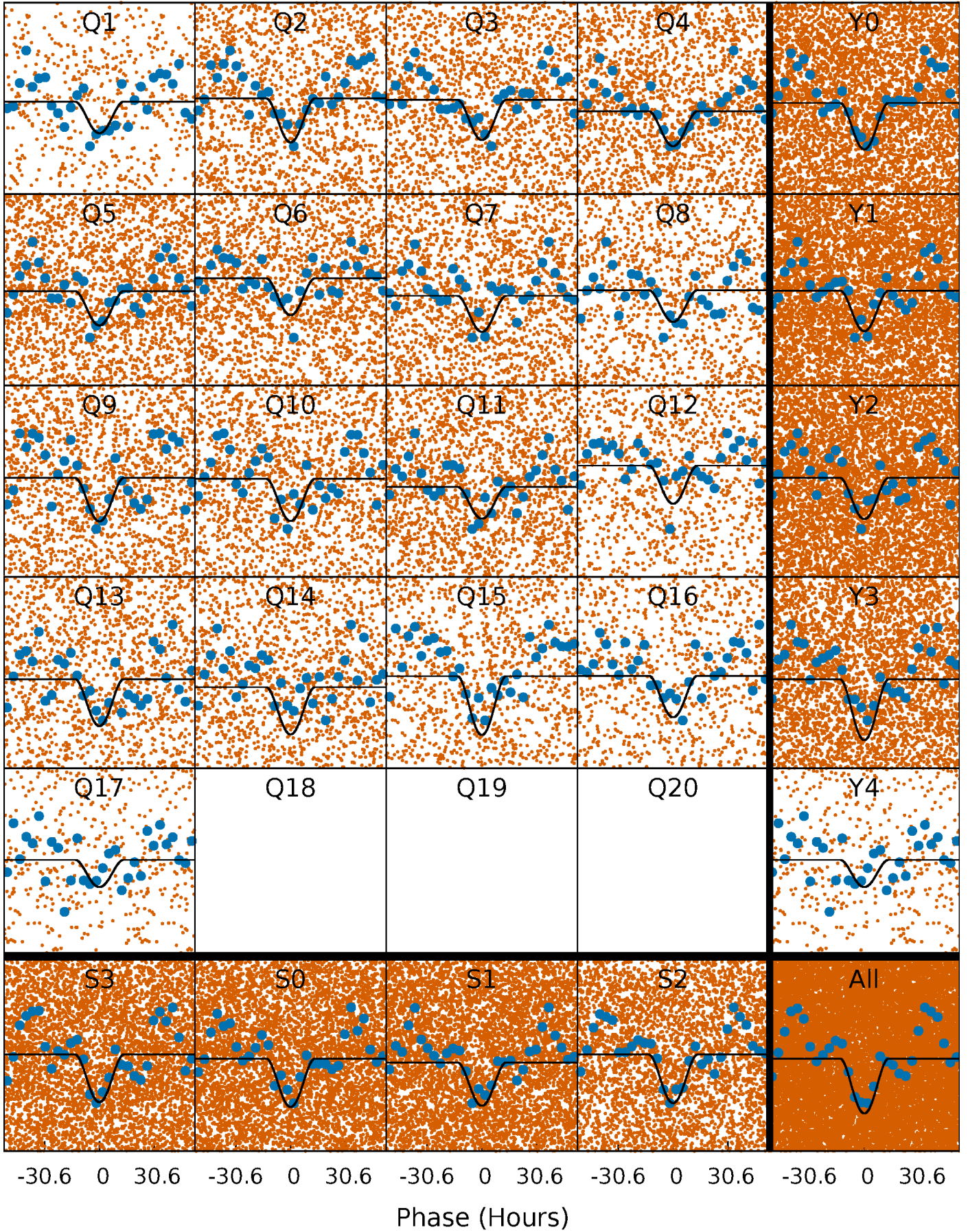
TCE 005881108-01 P= 3.132689 Days  $T_0=131.891597$  (BKJD)





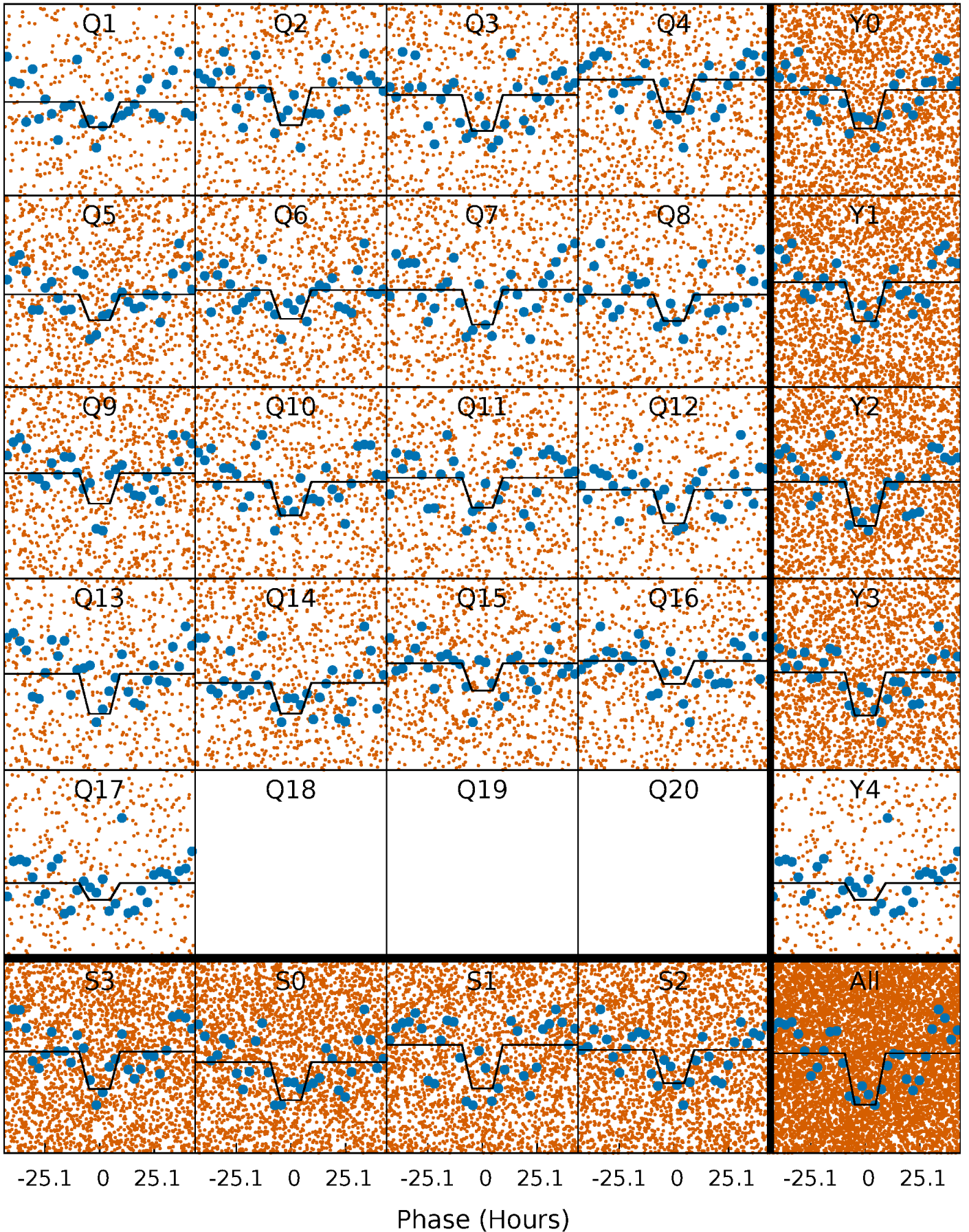
# DV Quarter-Phased Transit Curves

TCE 005881108-01 P= 3.132689 Days  $T_0=131.891597$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 005881108-01 P= 3.132495 Days  $T_0=131.897684$  (BKJD)

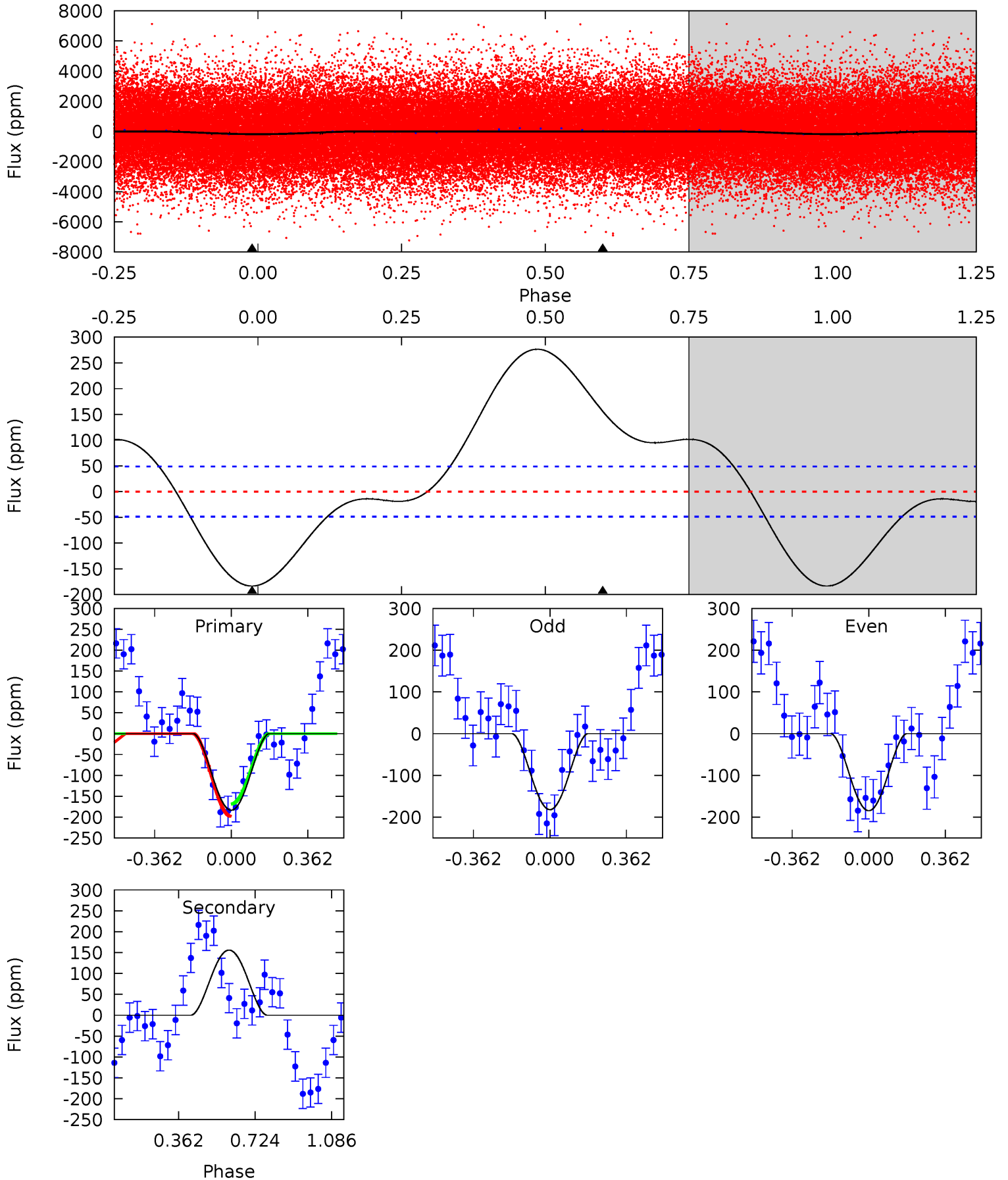




# DV Model-Shift Uniqueness Test

005881108-01, P = 3.132689 Days, E = 128.758908 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
16.1	-13.7	0	0	4.29	0.91	2.26	16.1	16.1	-13.7	-13.7	0.11	0.61	0.60	1.30

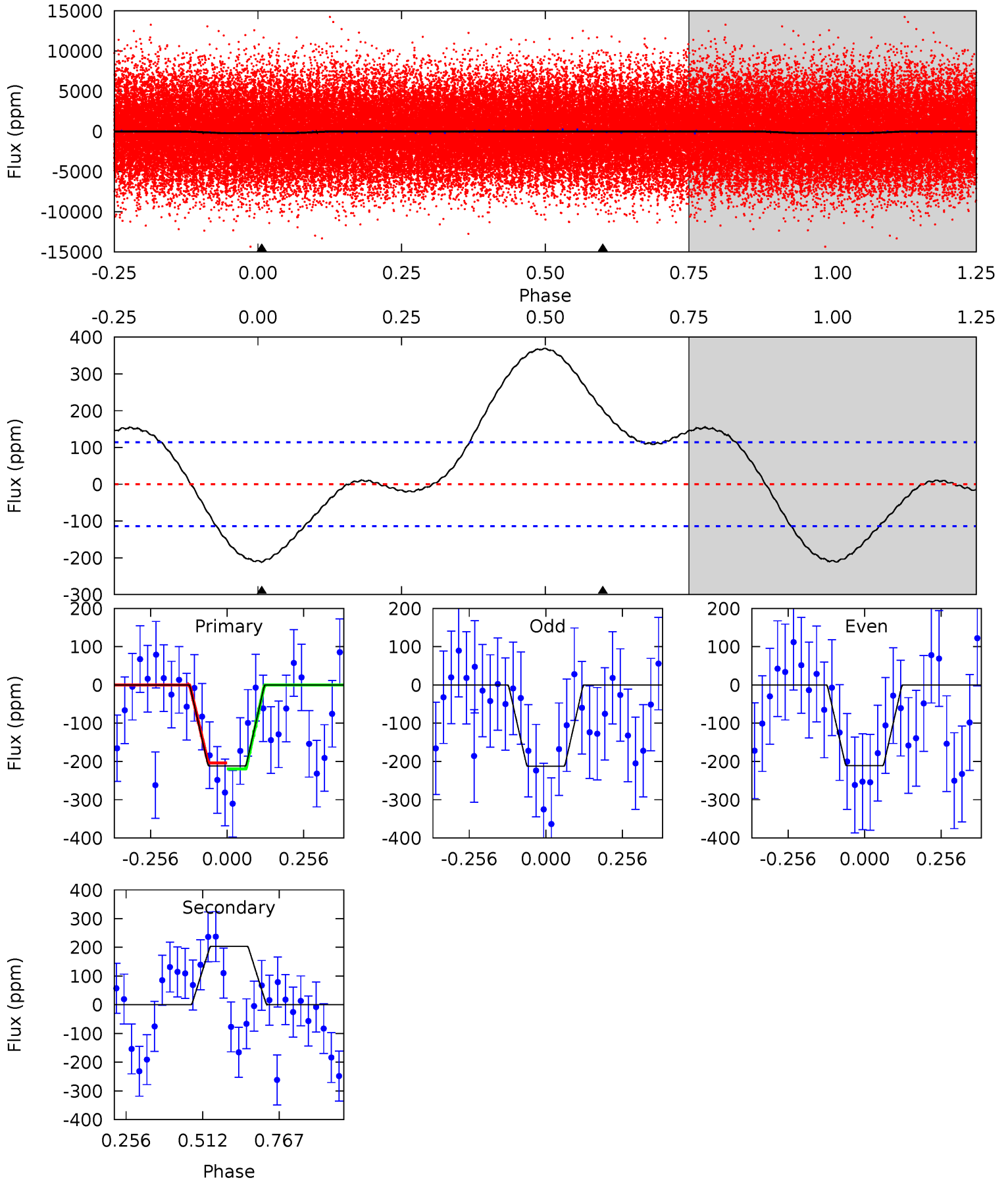




# Alt Model-Shift Uniqueness Test

005881108-01, P = 3.132495 Days, E = 128.765189 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
8.09	-7.79	0	0	4.36	1.14	1.10	8.09	8.09	-7.79	-7.79	0.04	0.93	0.64	0.29



### Stellar Parameters For KIC 005881108

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7710^{+69}_{-84}$	$3.967^{+0.203}_{-0.087}$	$-0.400^{+0.150}_{-0.150}$	$2.173^{+0.330}_{-0.536}$	$1.597^{+0.135}_{-0.186}$	$0.219^{+0.253}_{-0.062}$
	+1%/-1%	+5%/-2%	+37%/-37%	+15%/-25%	+8%/-12%	+115%/-28%
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 005881108-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$156 \pm 11$	$5.98^{+4.04}_{-3.61}$	$3130^{+137}_{-192}$	$-5371^{+975}_{-3338}$	$-5.792^{+3.763}_{-31.409}$
Alt.	$204 \pm 26$	$4.39^{+4.28}_{-2.85}$	$3146^{+129}_{-196}$	$-6567^{+1691}_{-6619}$	$-13.822^{+10.338}_{-100.997}$

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

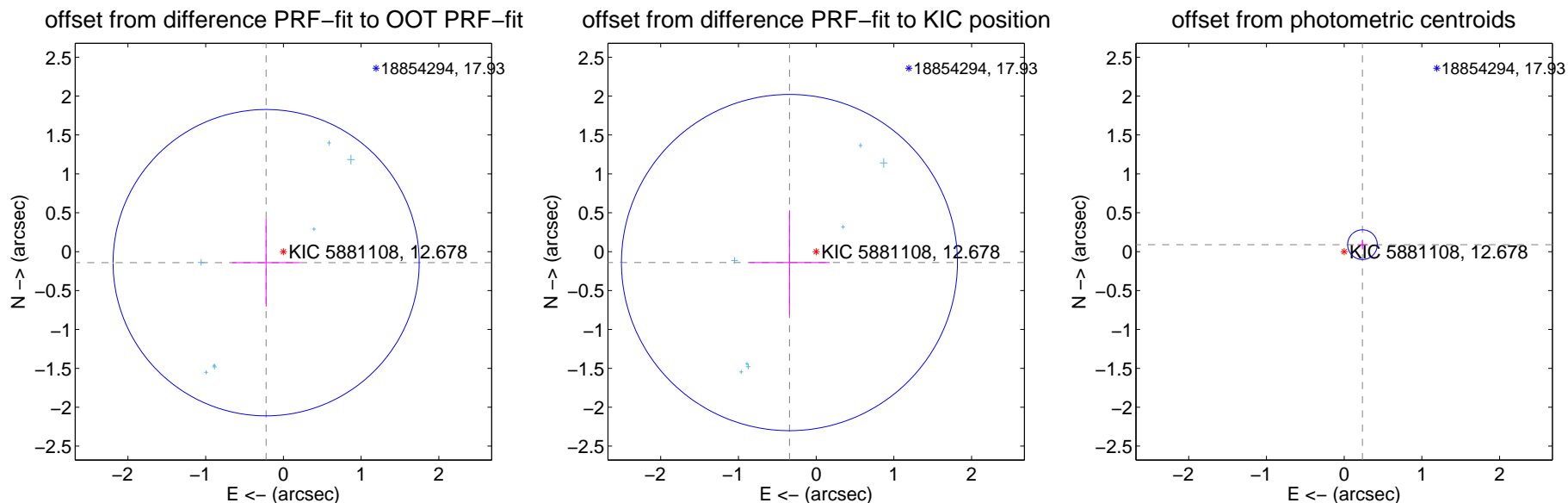
## DV Centroid Data

Supplemental centroid analysis for 005881108-01. Kepler magnitude: 12.68. Transit SNR 21.55

There are 8 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

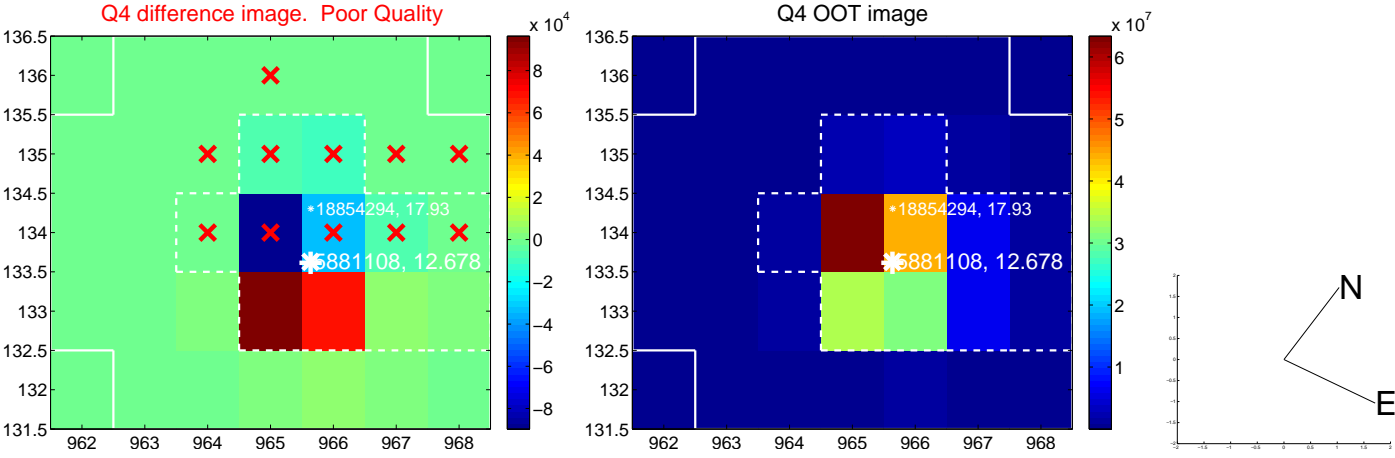
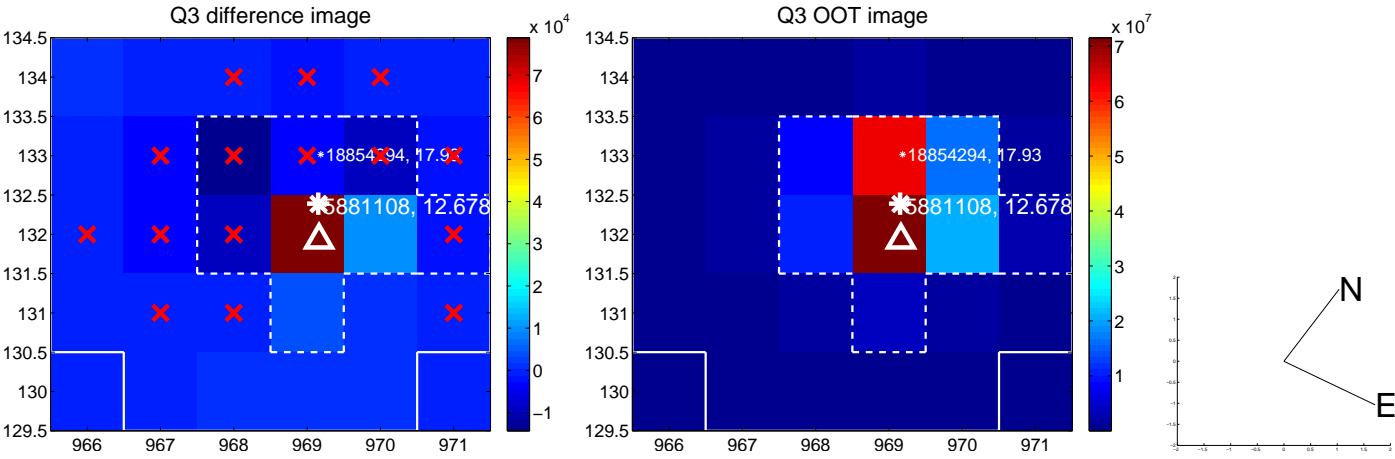
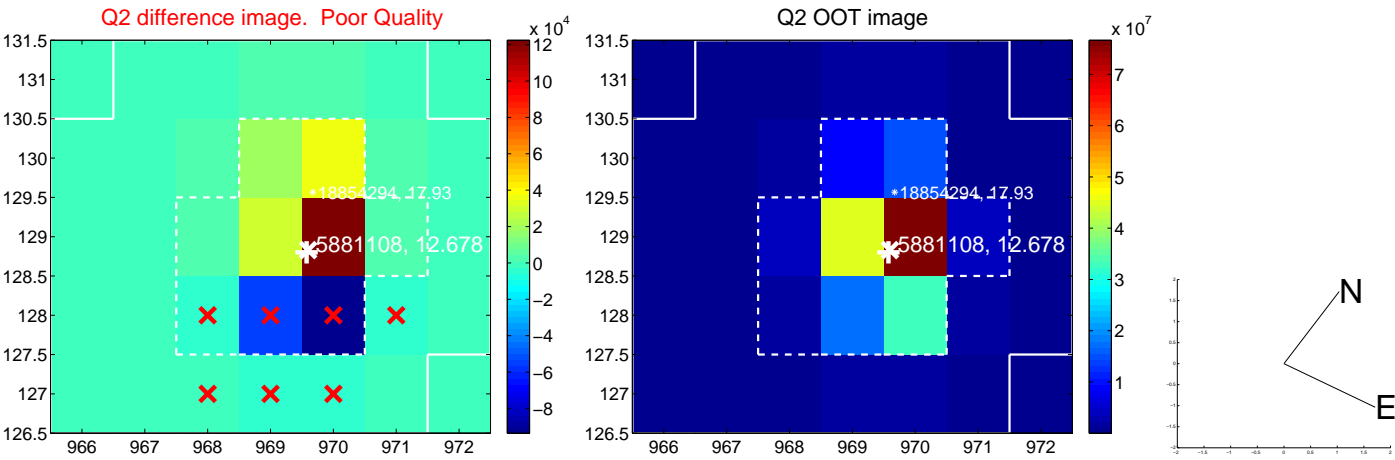
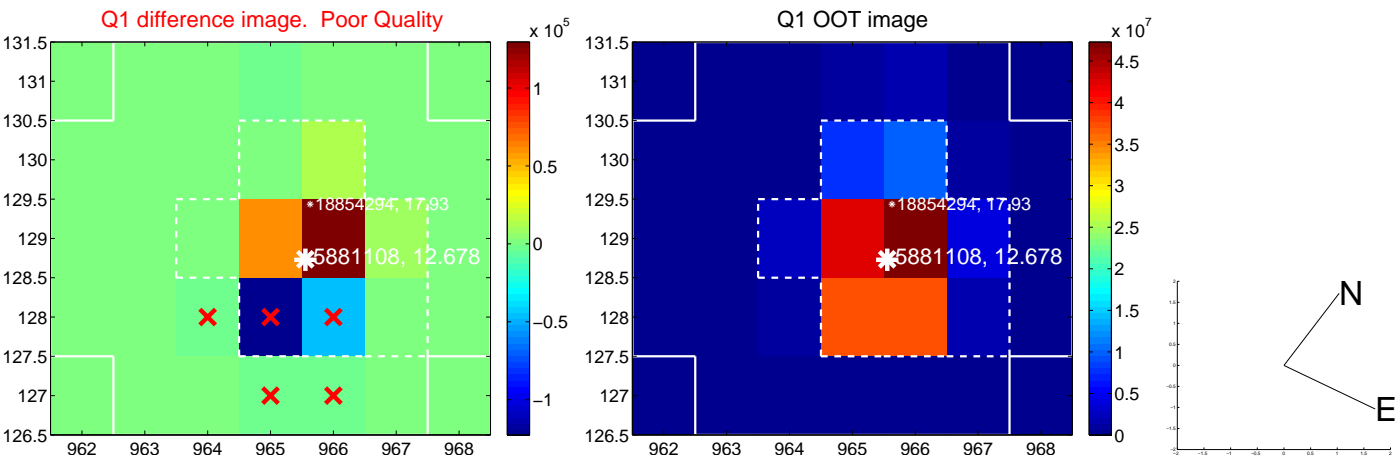
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.263 \pm 0.656$	0.40	$0.222 \pm 0.435$	$-0.142 \pm 0.565$
PRF-fit source offset from KIC position	$0.371 \pm 0.720$	0.51	$0.343 \pm 0.517$	$-0.140 \pm 0.671$
photometric centroid source offset	$0.25 \pm 0.06$	<b>3.96</b>	$-0.24 \pm 0.06$	$0.09 \pm 0.06$



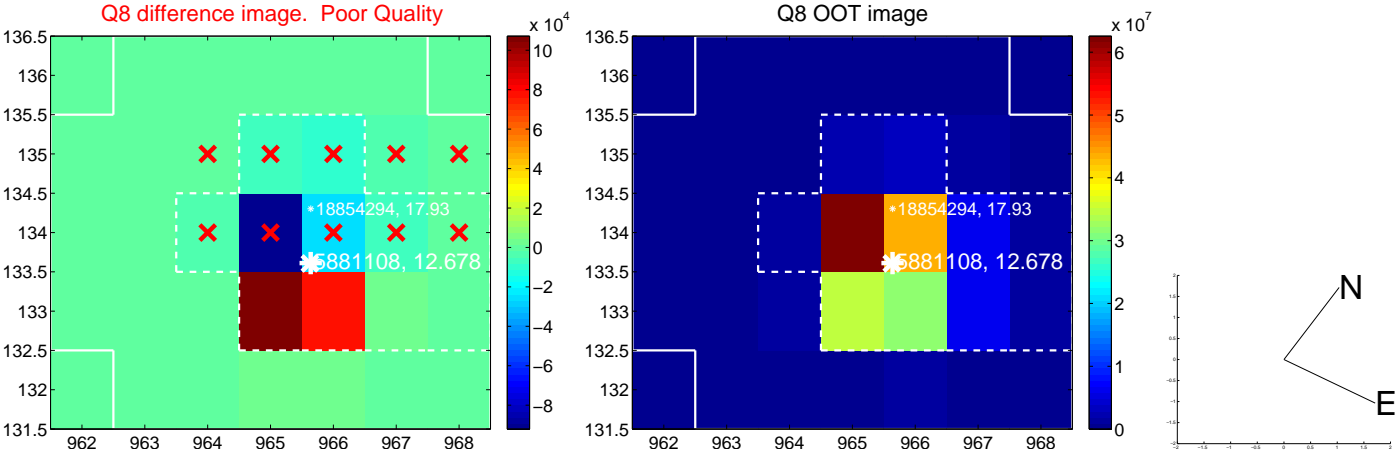
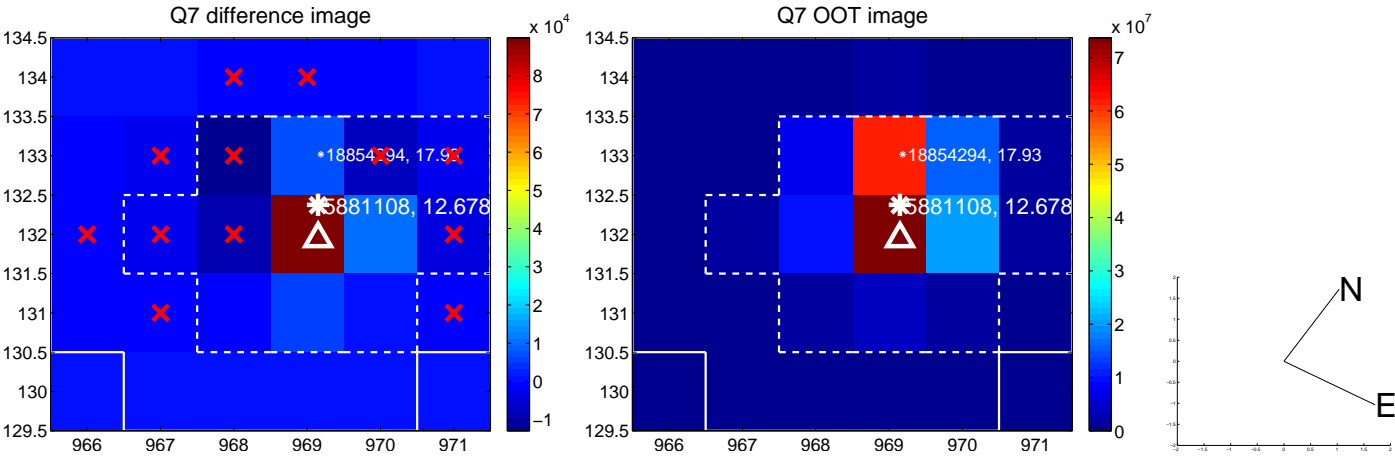
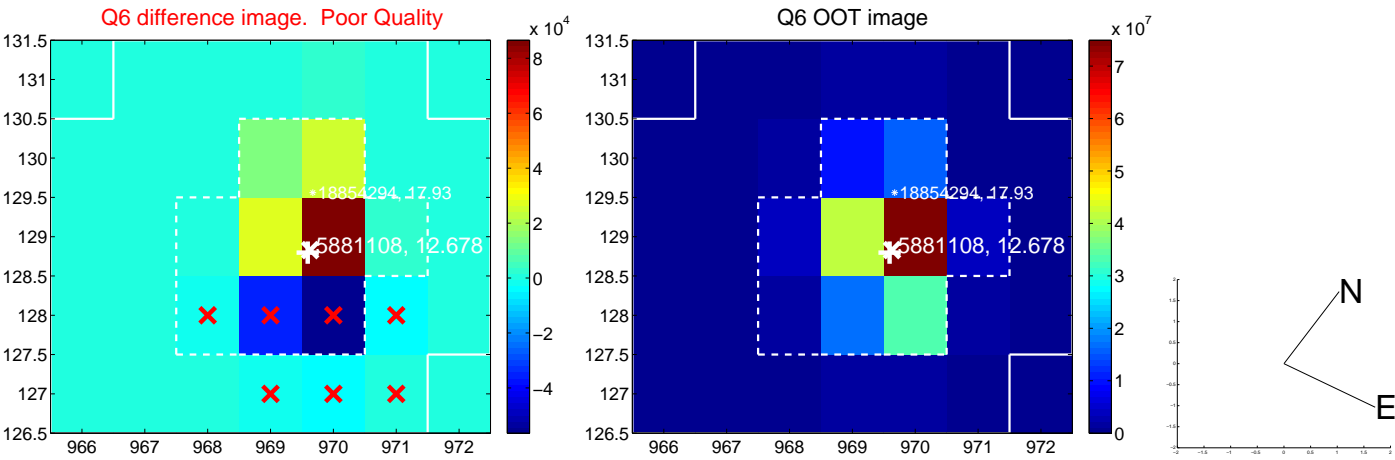
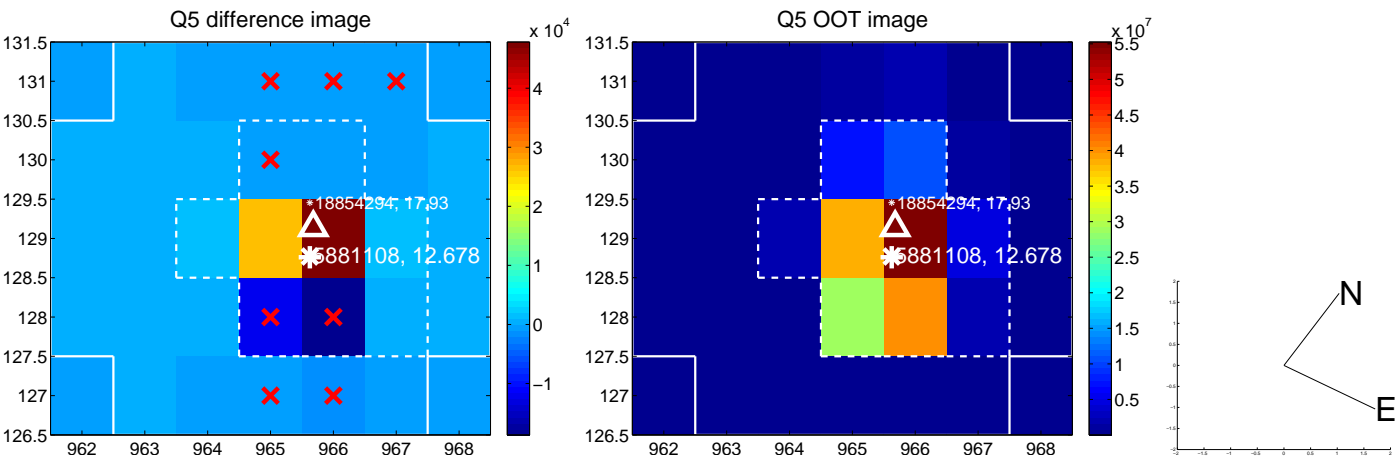
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



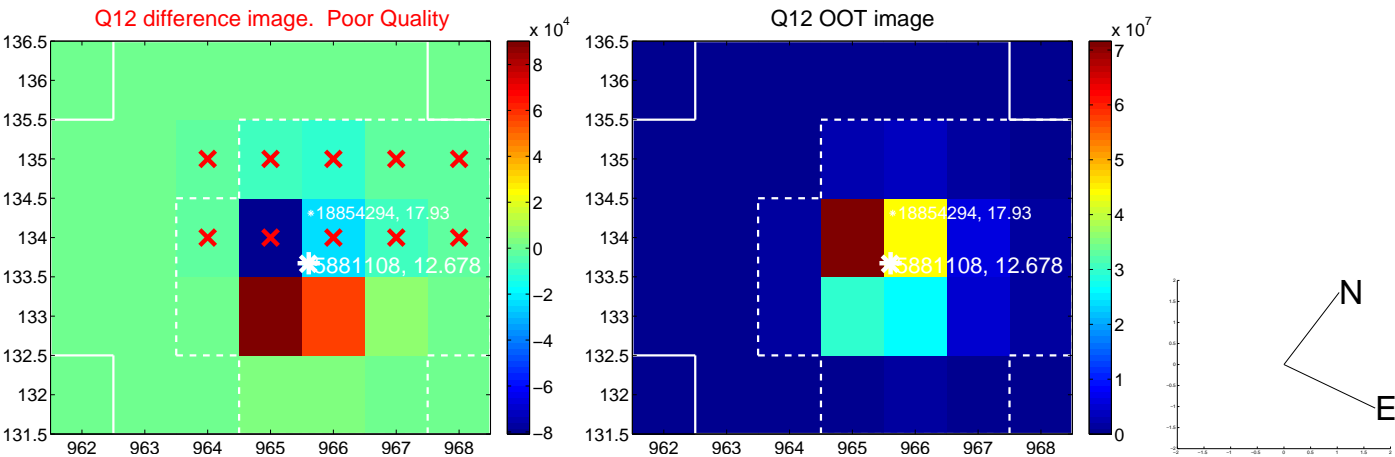
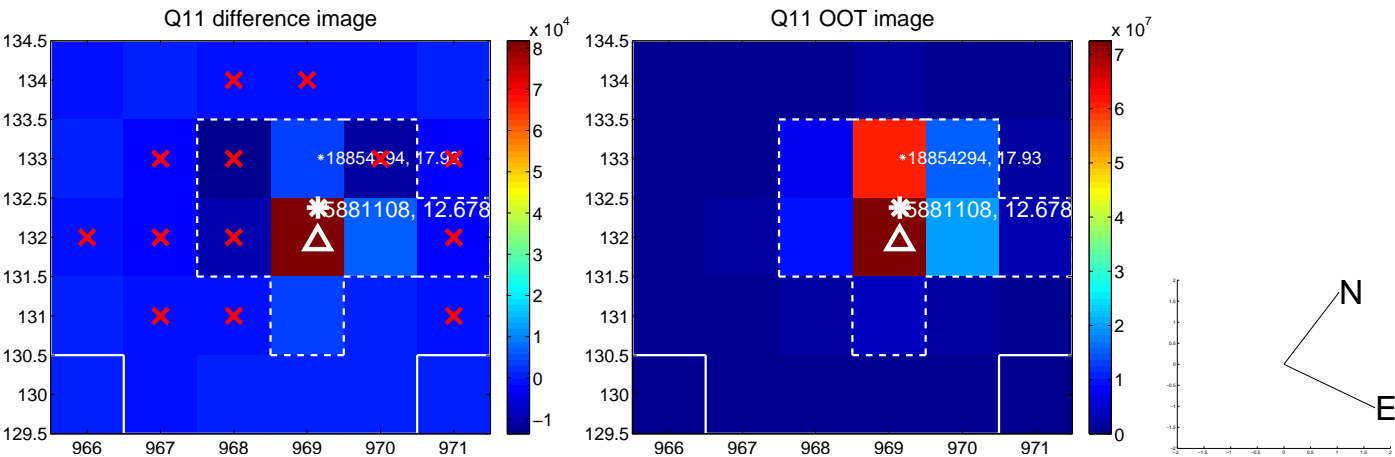
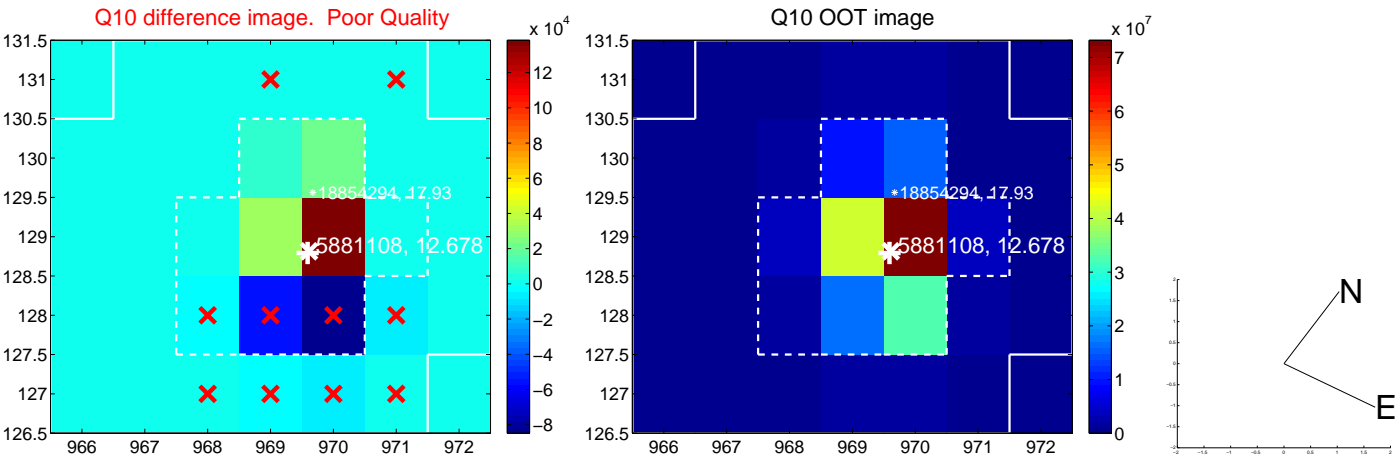
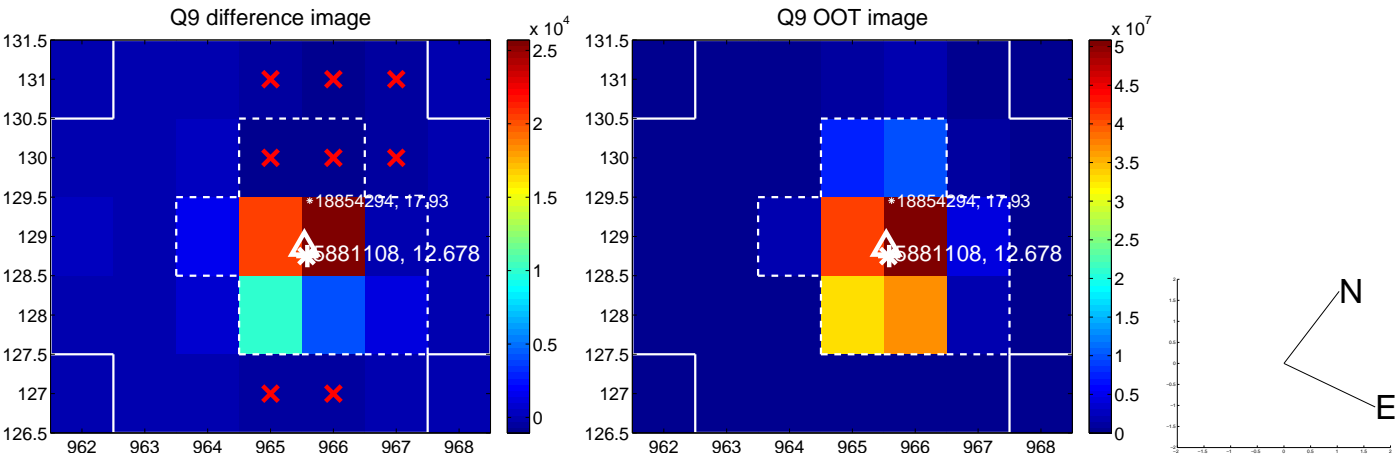
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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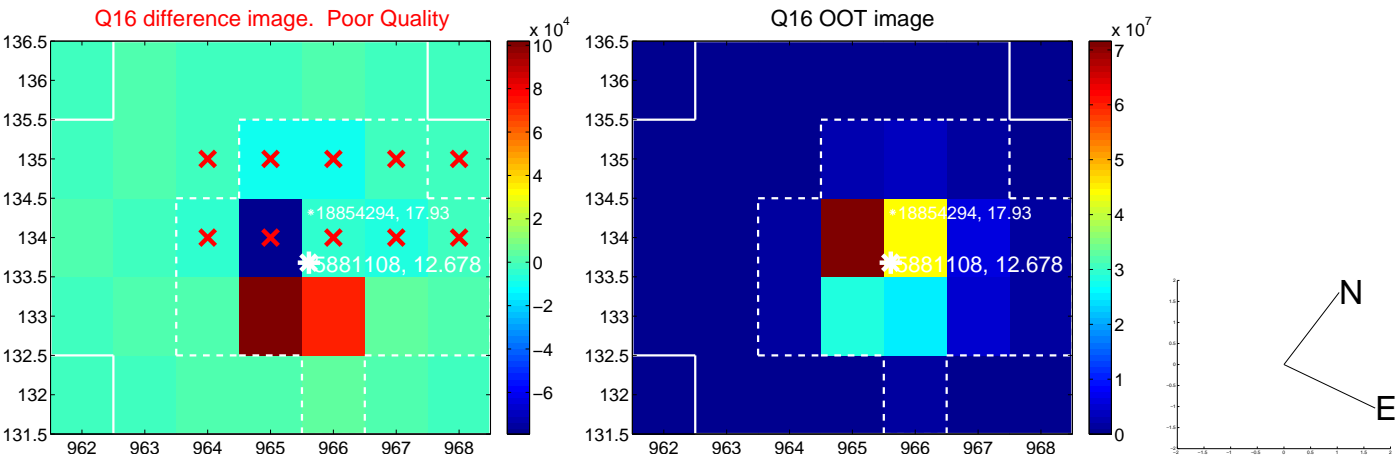
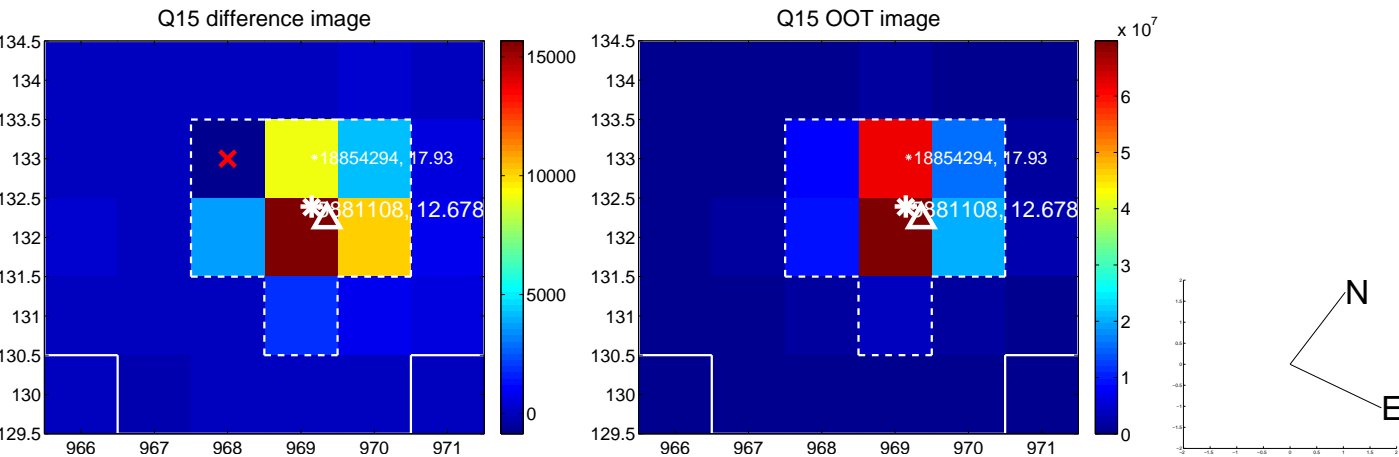
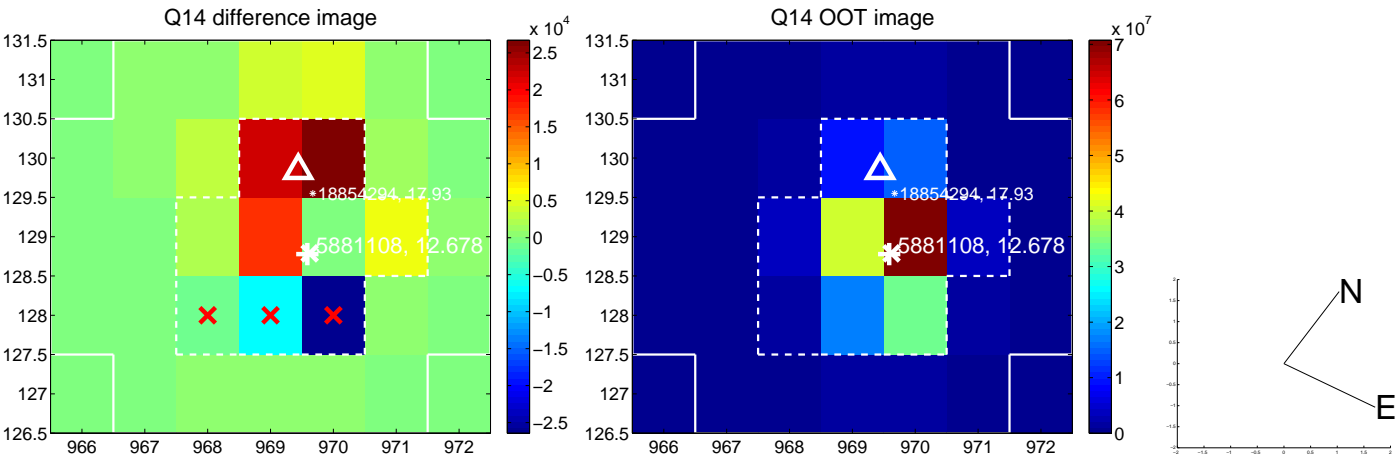
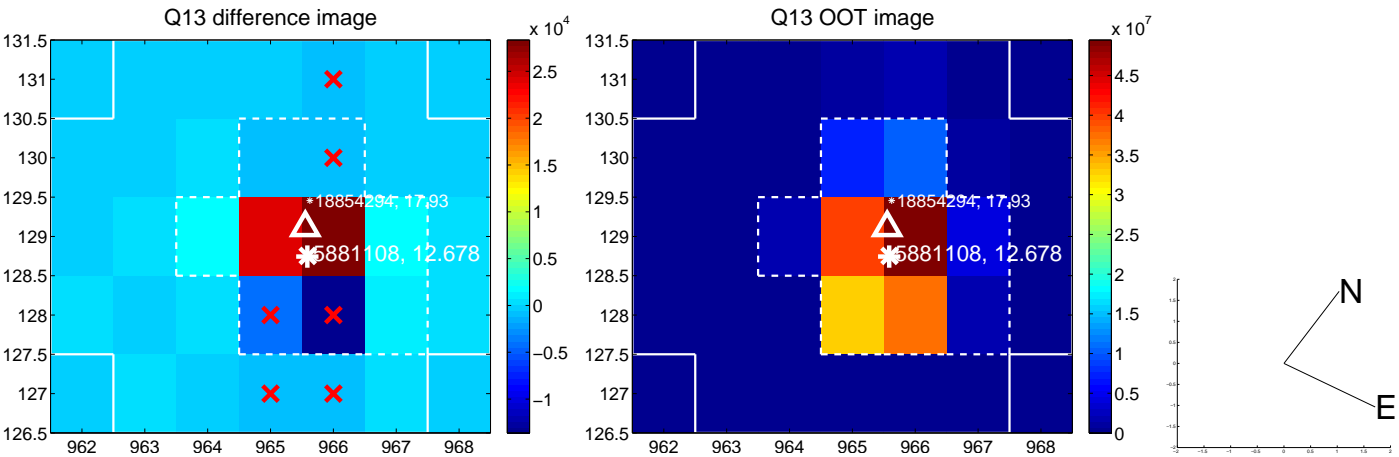


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

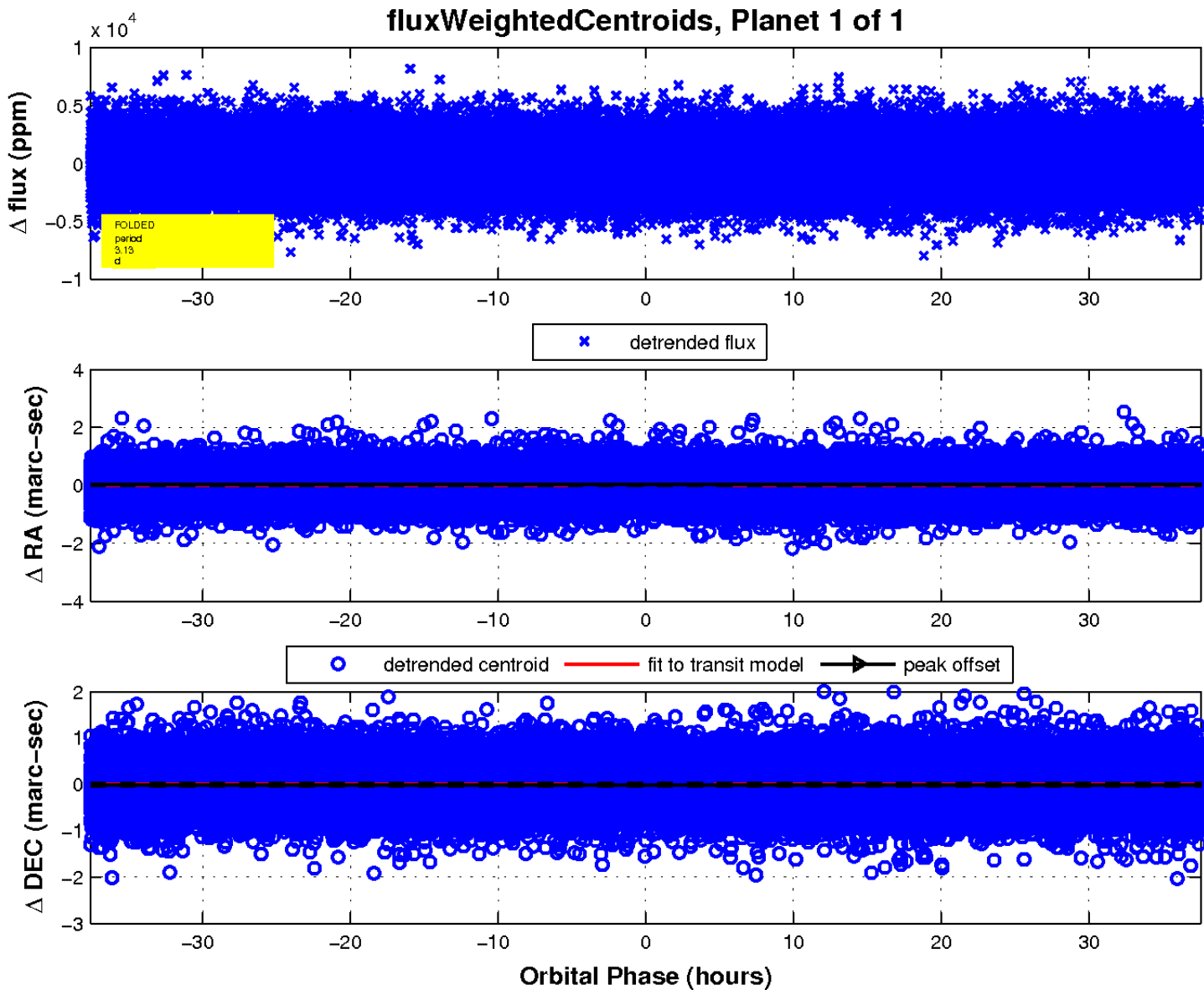
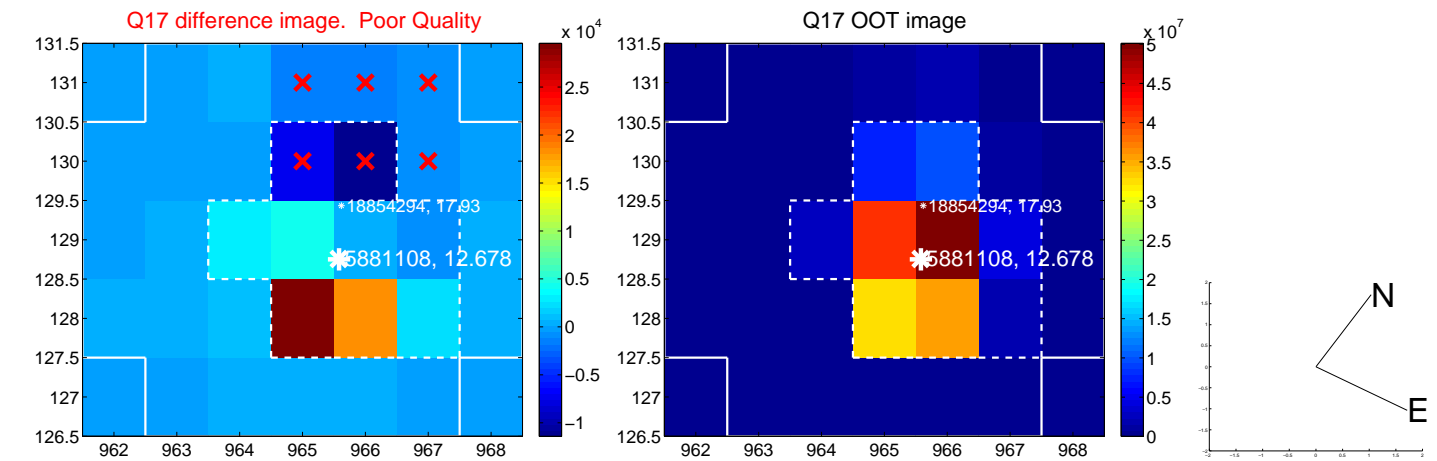




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UKIRT Image

Declination

