

# KIC 006199731

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R <sub>★</sub> (R <sub>☉</sub> )	T <sub>★</sub> (K)	R <sub>p</sub> (R <sub>⊕</sub> )	S <sub>p</sub> (S <sub>⊕</sub> )
006199731-01	OBS	No	0.708339	132.043174	84.7	2.128	9.2	9.7	3.48	8040	3.73	120939.16

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006199731-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_SATURATED

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

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

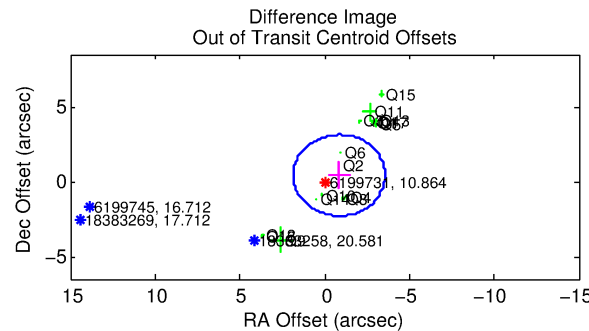
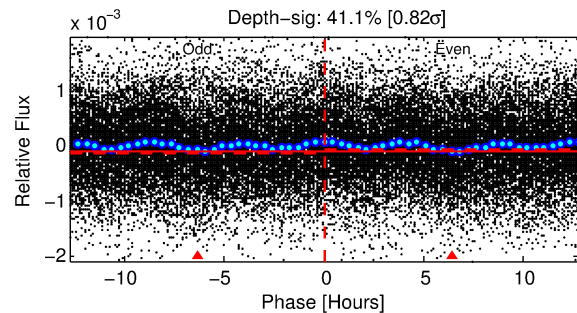
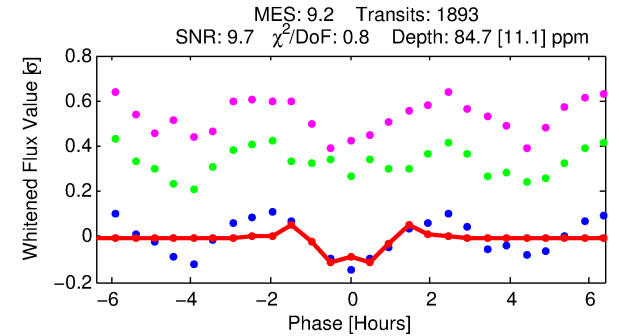
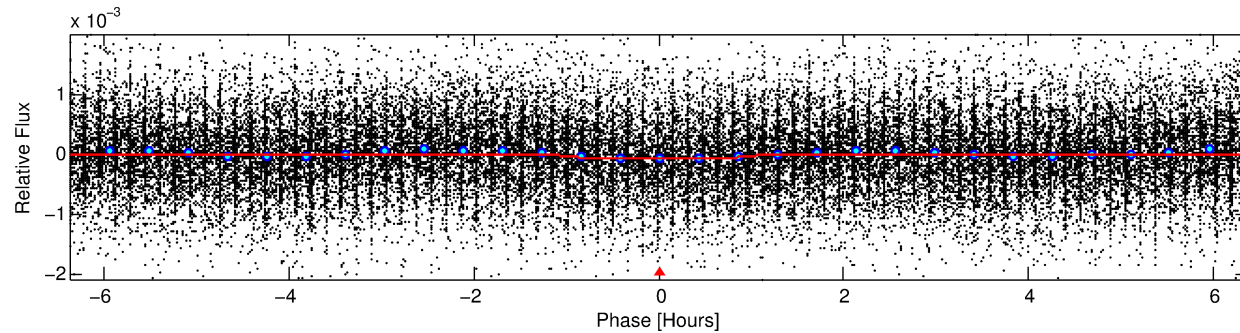
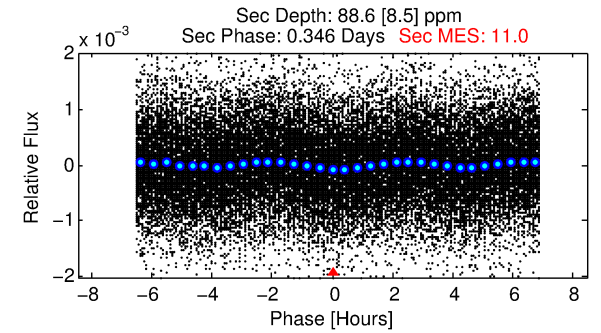
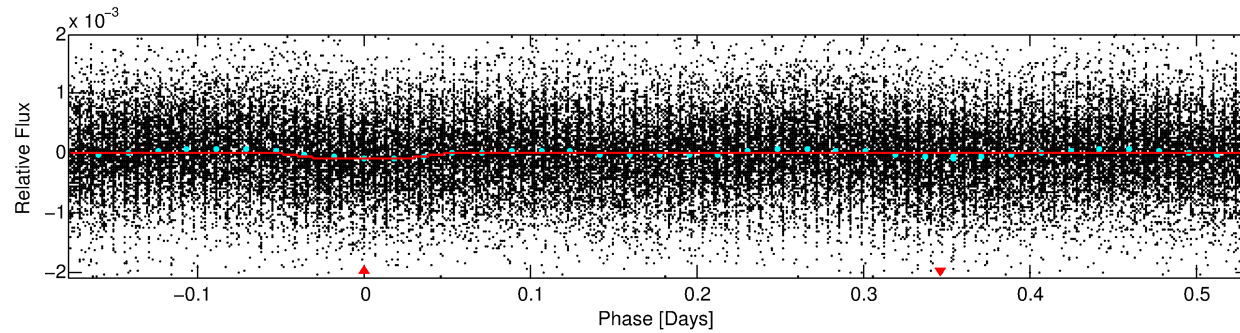
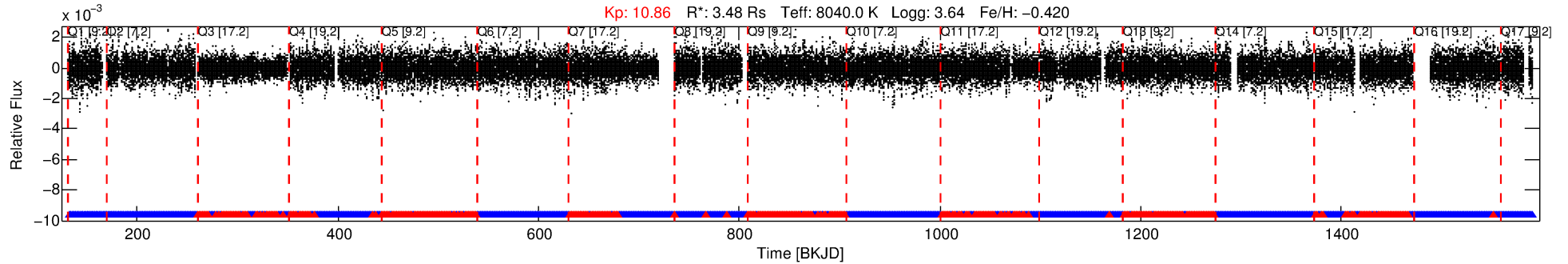
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006199731-01

No Significant Match Found

# DV One-Page Summary

KIC: 6199731 Candidate: 1 of 1 Period: 0.708 d



## DV Fit Results:

Period = 0.70834 [0.00001] d  
Epoch = 132.0432 [0.0014] BKJD  
Rp/R\* = 0.0098 [0.0030]  
a/R\* = 1.50 [1.52]  
b = 0.90 [0.39]  
Seff = 120939.16 [111838.61]  
Teq = 4755 [1099] K  
Rp = 3.73 [2.26] Re  
a = 0.0194 [0.0106] AU  
Ag = 1.31 [1.44] [0.21σ]  
Teffp = 7864 [1240] K [1.88σ]

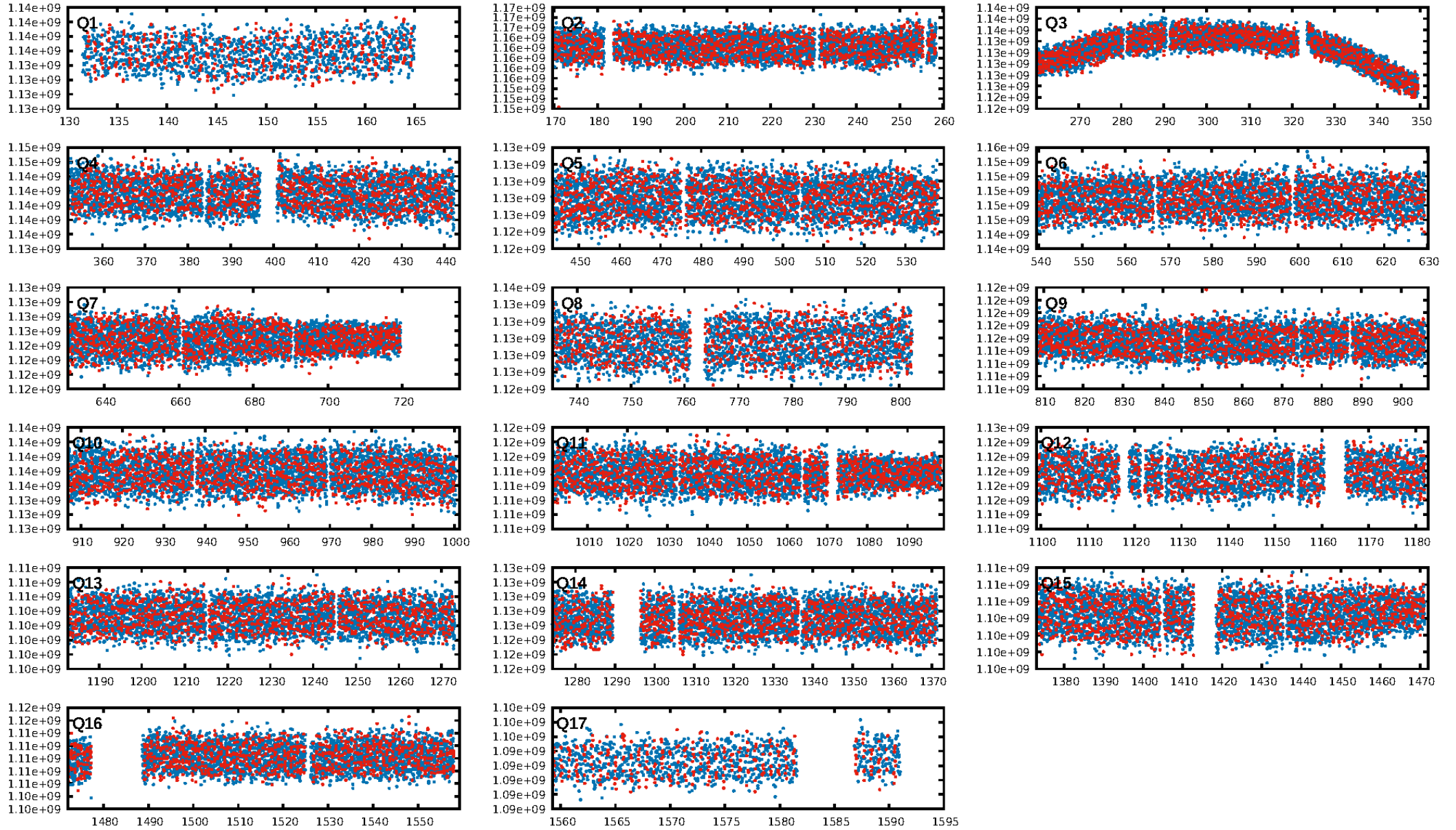
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 9.27e-16  
RollingBand-fgt: 0.68 [1237/1808]  
GhostDiagnostic-chr: 0.7771  
Centroid-sig: 0.0%  
Centroid-so: 0.731 arcsec [3.82σ]  
OotOffset-rm: 0.947 arcsec [1.05σ]  
KicOffset-rm: 0.776 arcsec [0.83σ]  
OotOffset-st: 4/3/4/5 [16]  
KicOffset-st: 4/3/4/5 [16]  
DiffImageQuality-fgm: 0.44 [7/16]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:28:51 Z

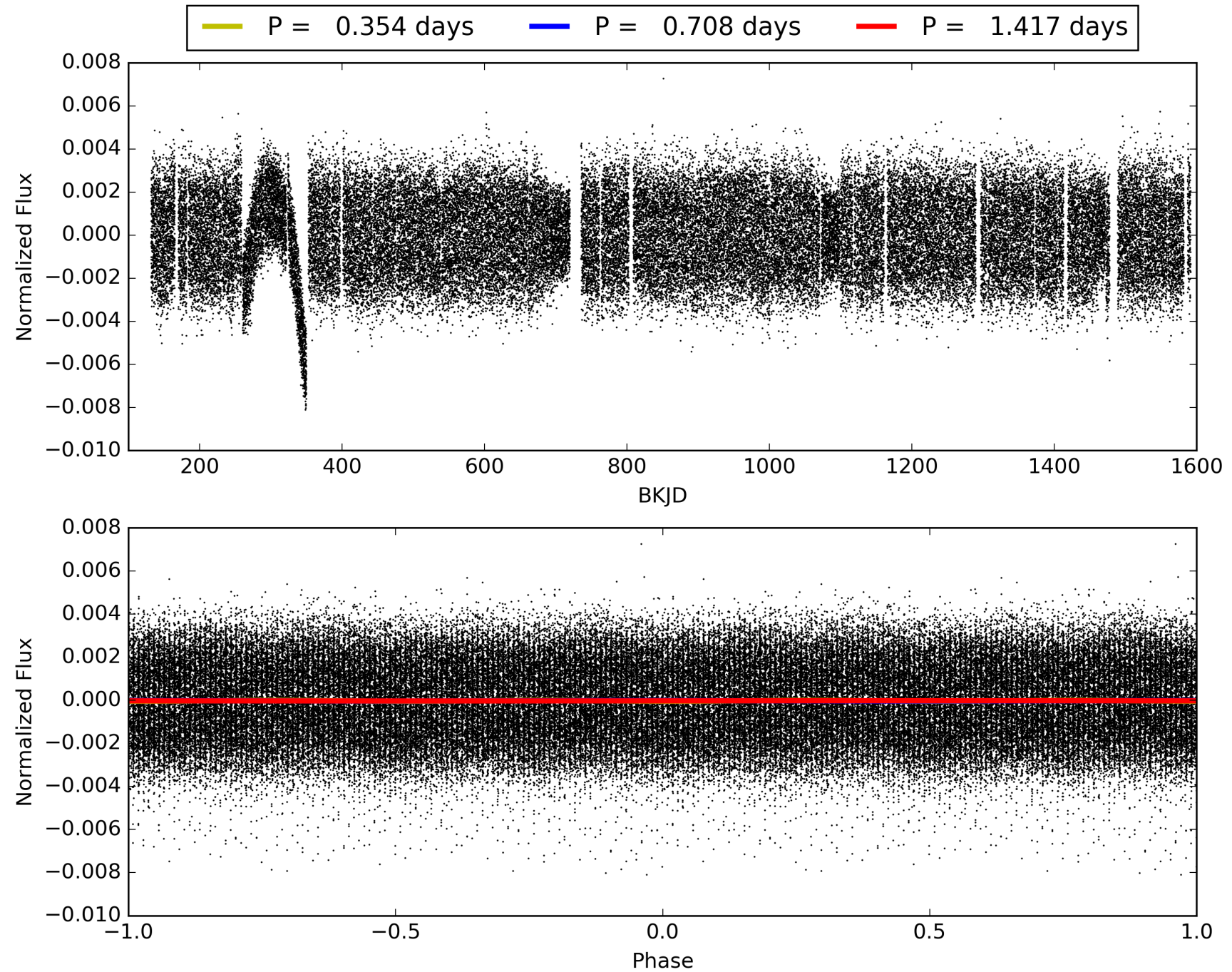
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 006199731-01, PDC Light Curves



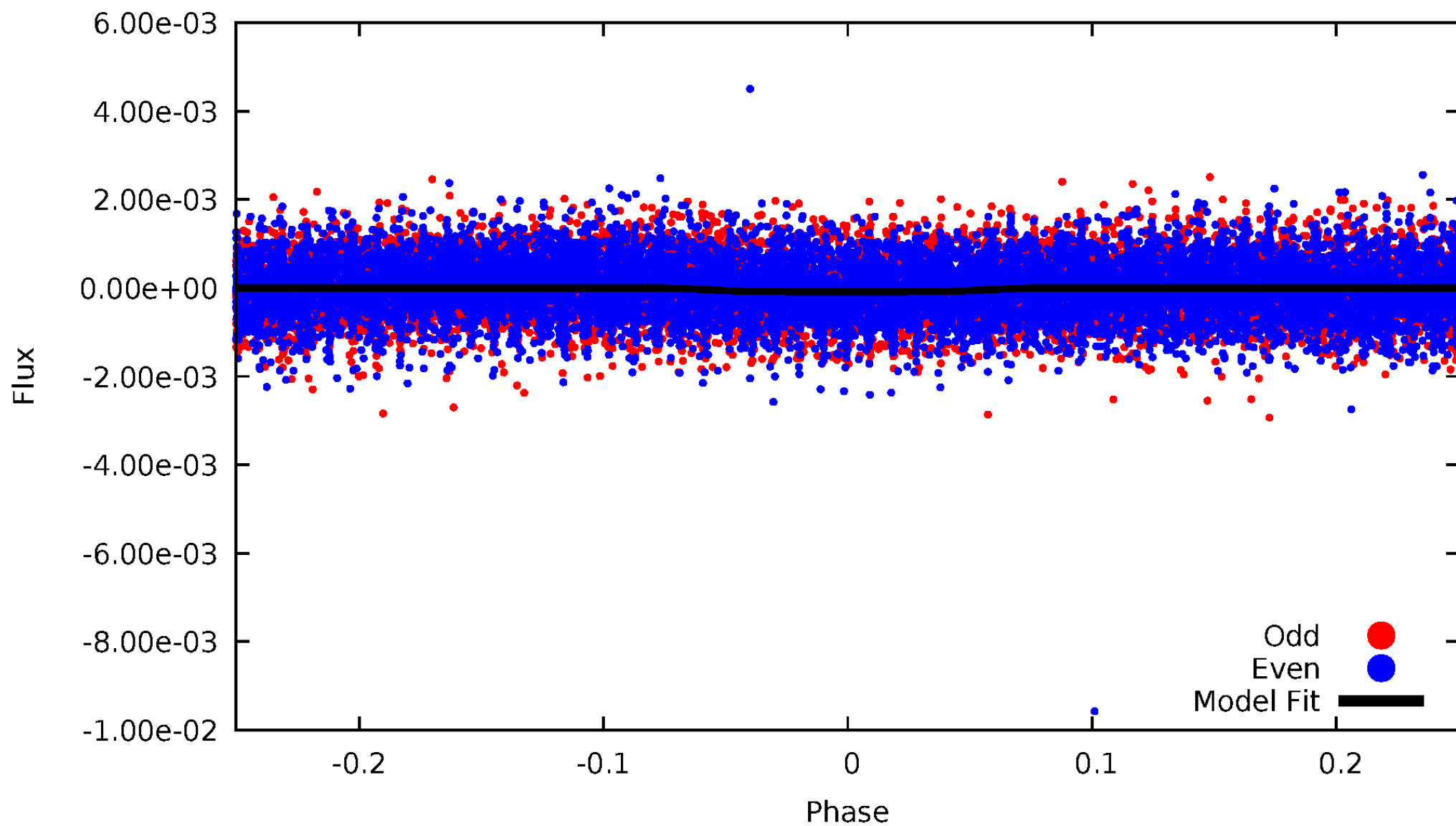


# TCE 006199731-01



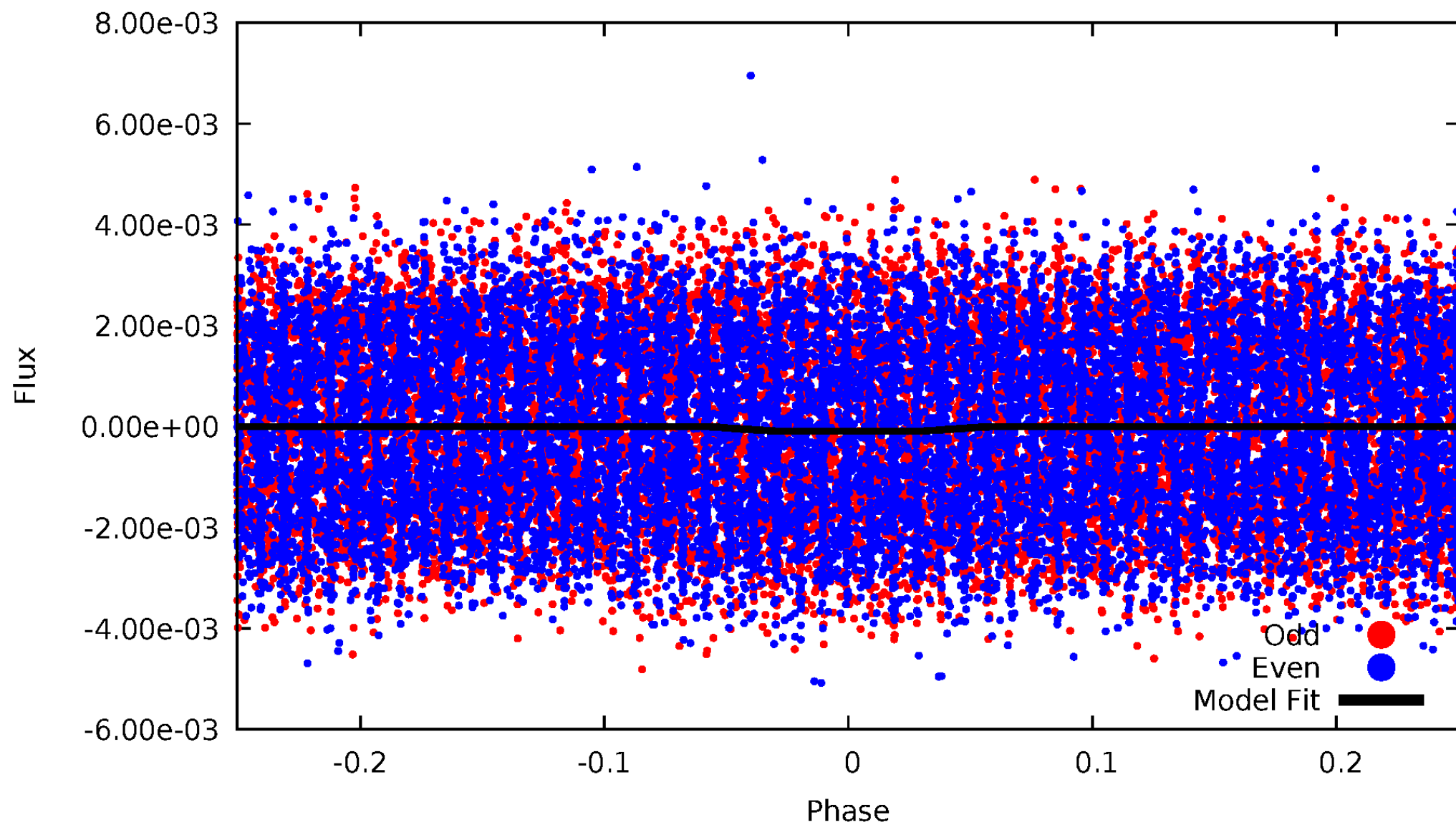
# DV Odd/Even

TCE 006199731-01

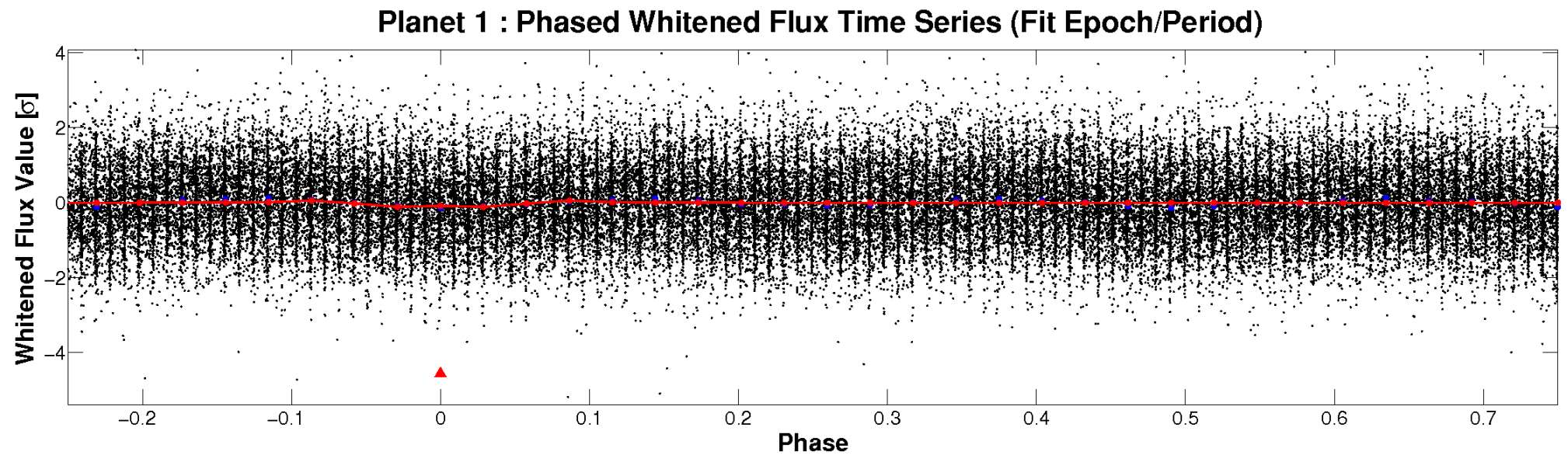
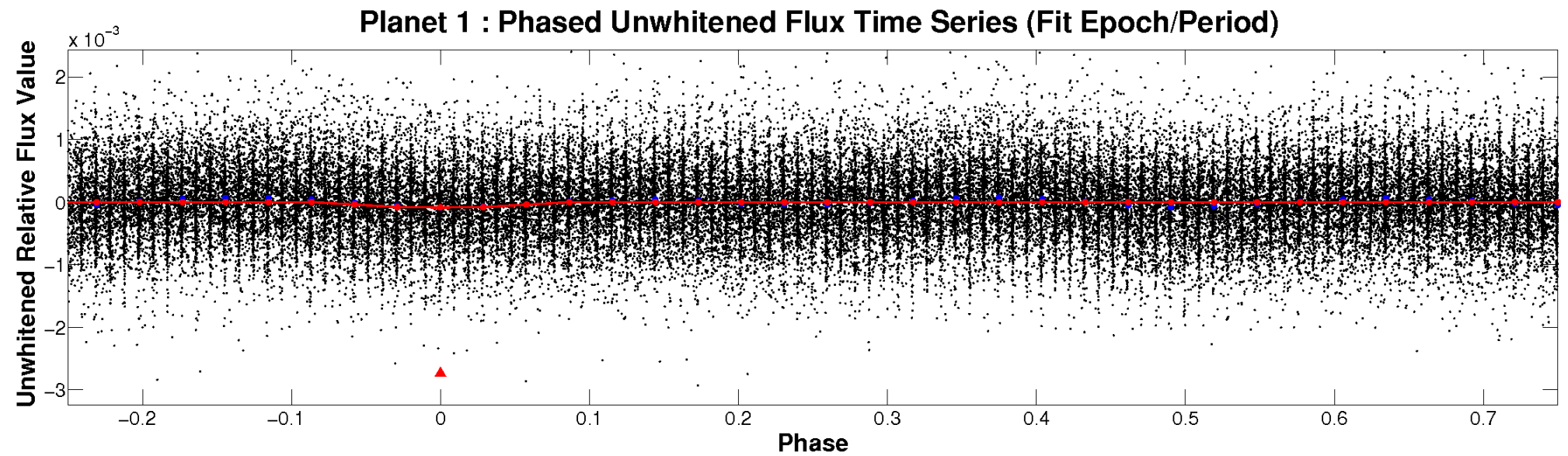


# ALT Odd/Even

TCE 006199731-01



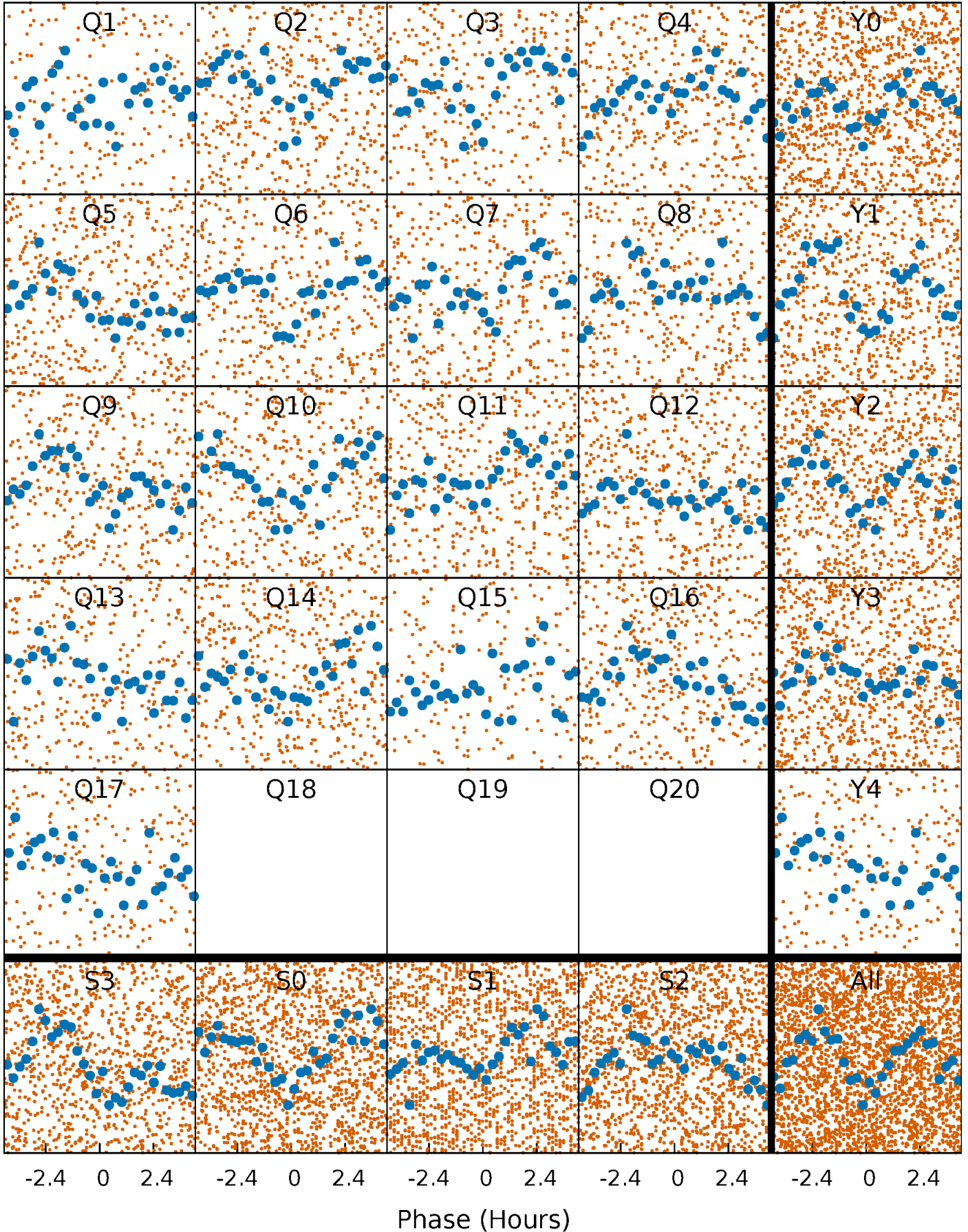
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

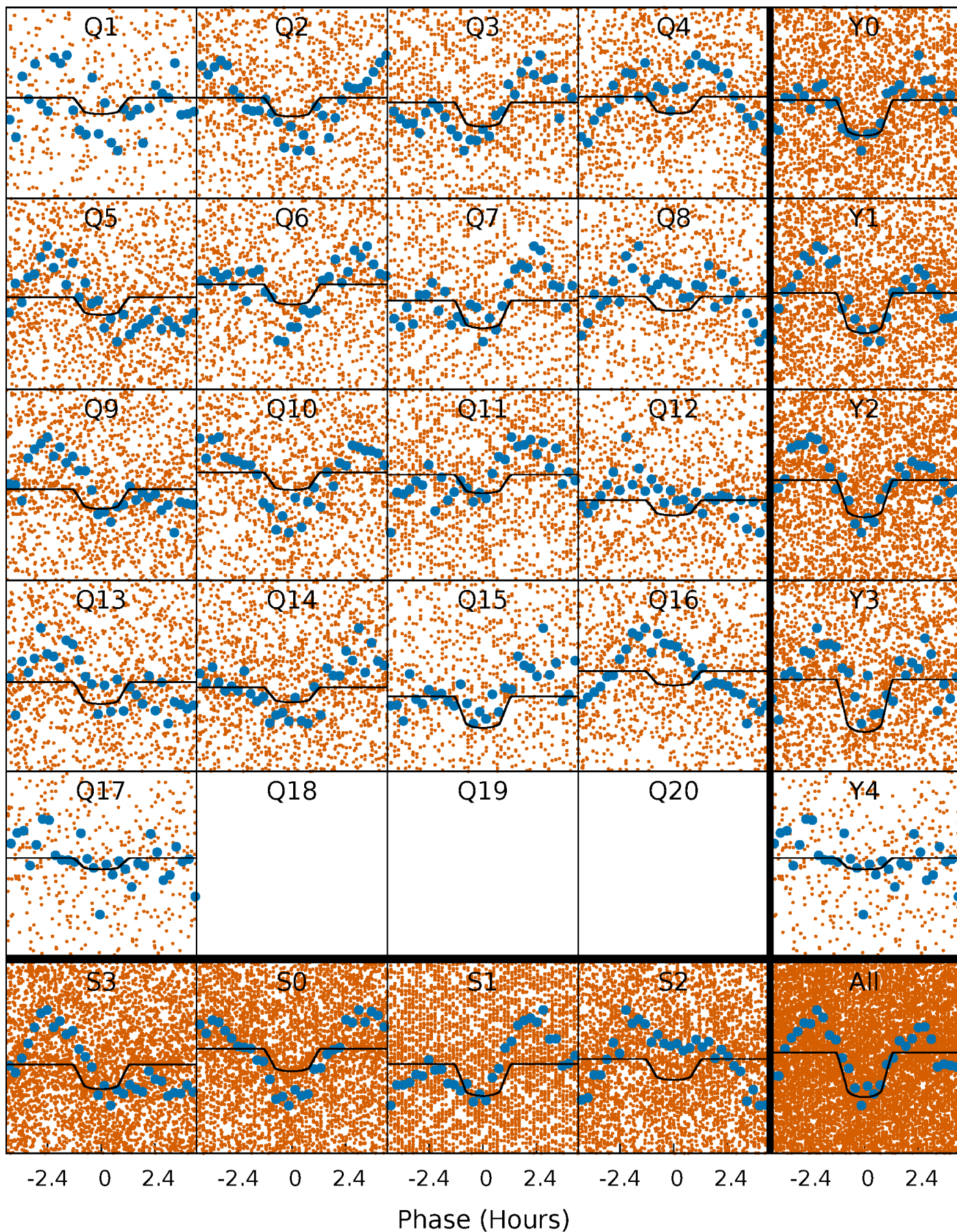
TCE 006199731-01   P= 0.708339 Days    $T_0=132.043174$  (BKJD)





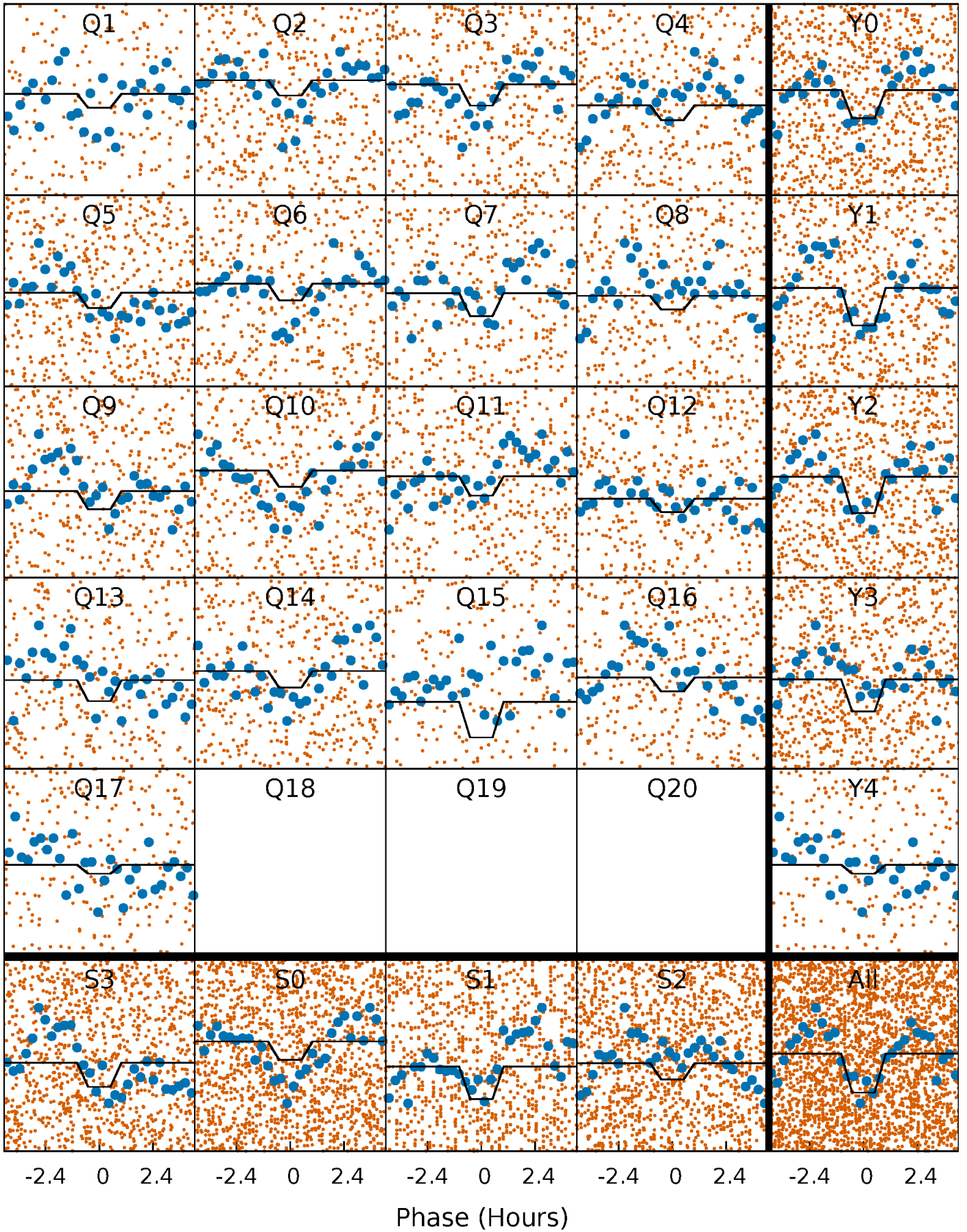
# DV Quarter-Phased Transit Curves

TCE 006199731-01 P= 0.708339 Days  $T_0=132.043174$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

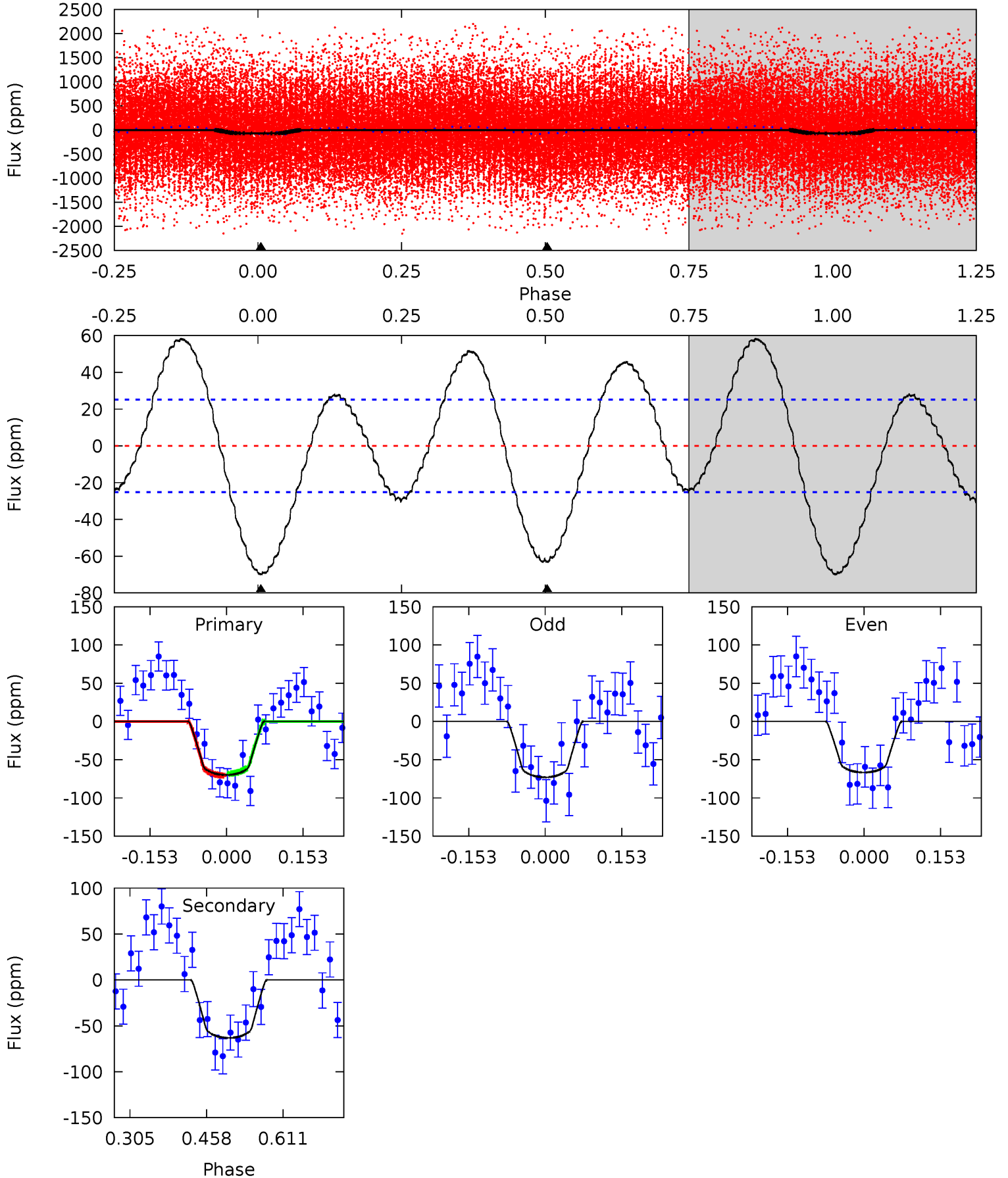
TCE 006199731-01 P= 0.708339 Days  $T_0=132.043174$  (BKJD)



# DV Model-Shift Uniqueness Test

006199731-01, P = 0.708339 Days, E = 131.334835 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	11.2	0	0	4.48	1.43	4.21	12.4	12.4	11.2	11.2	0.56	0.96	0.45	0.22

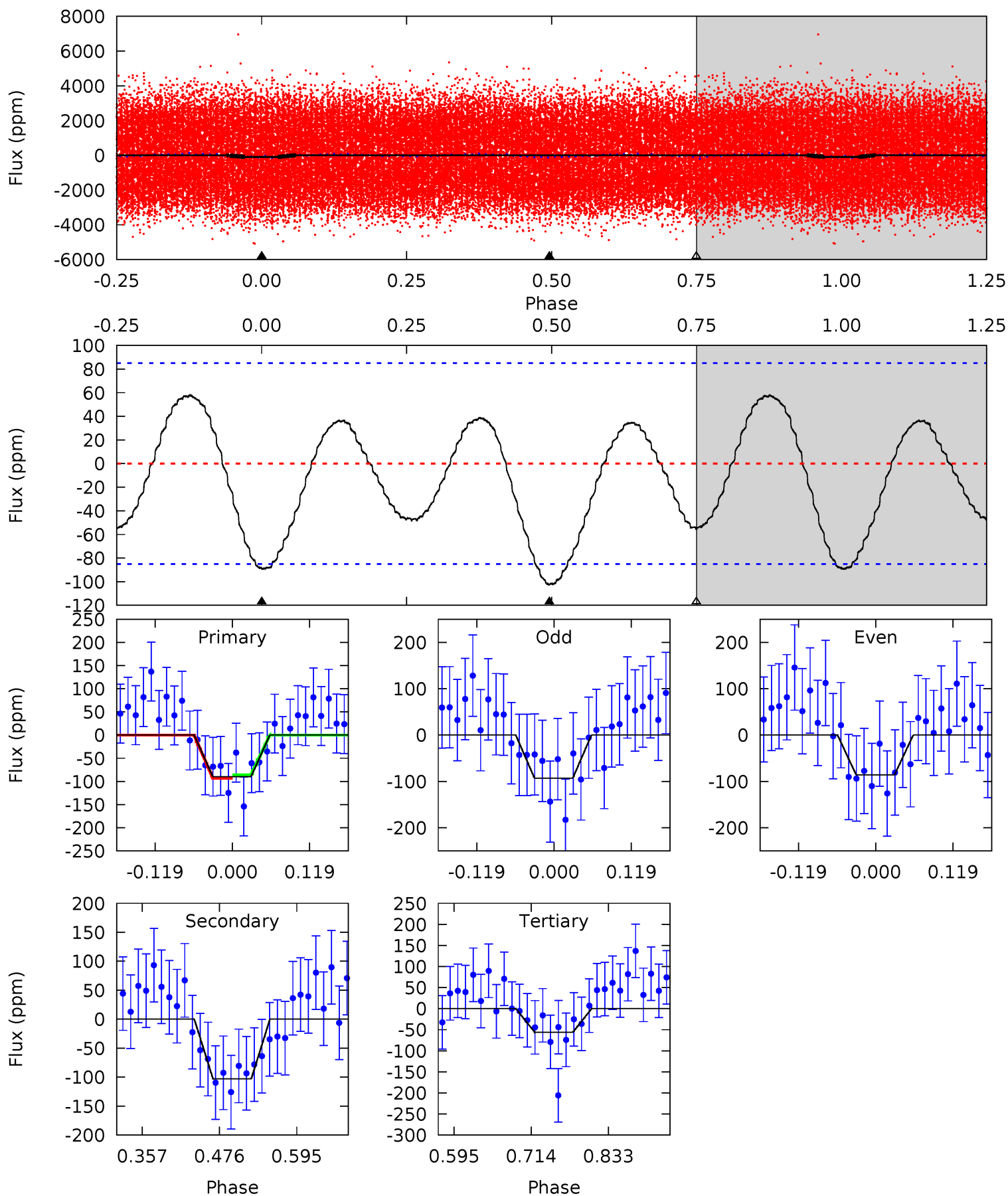




# Alt Model-Shift Uniqueness Test

006199731-01, P = 0.708339 Days, E = 131.334835 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
4.77	5.48	2.98	0	4.53	1.56	1.82	1.79	4.77	2.51	5.48	0.19	0.80	0.36	0.20





### Stellar Parameters For KIC 006199731

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8040^{+251}_{-306}$	$3.640^{+0.549}_{-0.092}$	$-0.420^{+0.200}_{-0.300}$	$3.479^{+0.607}_{-1.821}$	$1.928^{+0.056}_{-0.473}$	$0.064^{+0.399}_{-0.019}$
	+3%/-4%	+15%/-3%	+48%/-71%	+17%/-52%	+3%/-25%	+619%/-30%
Source	KIC0	KIC0	KIC0	DSEP		

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

### Secondary Eclipse Parameters for KIC 006199731-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-63 \pm 6$	$3.33^{+1.27}_{-1.28}$	$6397^{+503}_{-902}$	$6381^{+1918}_{-1181}$	$1.148^{+1.841}_{-0.557}$
Alt.	$-103 \pm 19$	$3.24^{+1.32}_{-1.24}$	$6390^{+525}_{-866}$	$7639^{+2843}_{-1360}$	$1.922^{+3.158}_{-0.950}$

$T_{max}$  = Theoretical Maximum Planetary Temperature

$T_{obs}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{obs}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{obs} \gg T_{max}$  AND  $A_{obs} \gg 1.0$

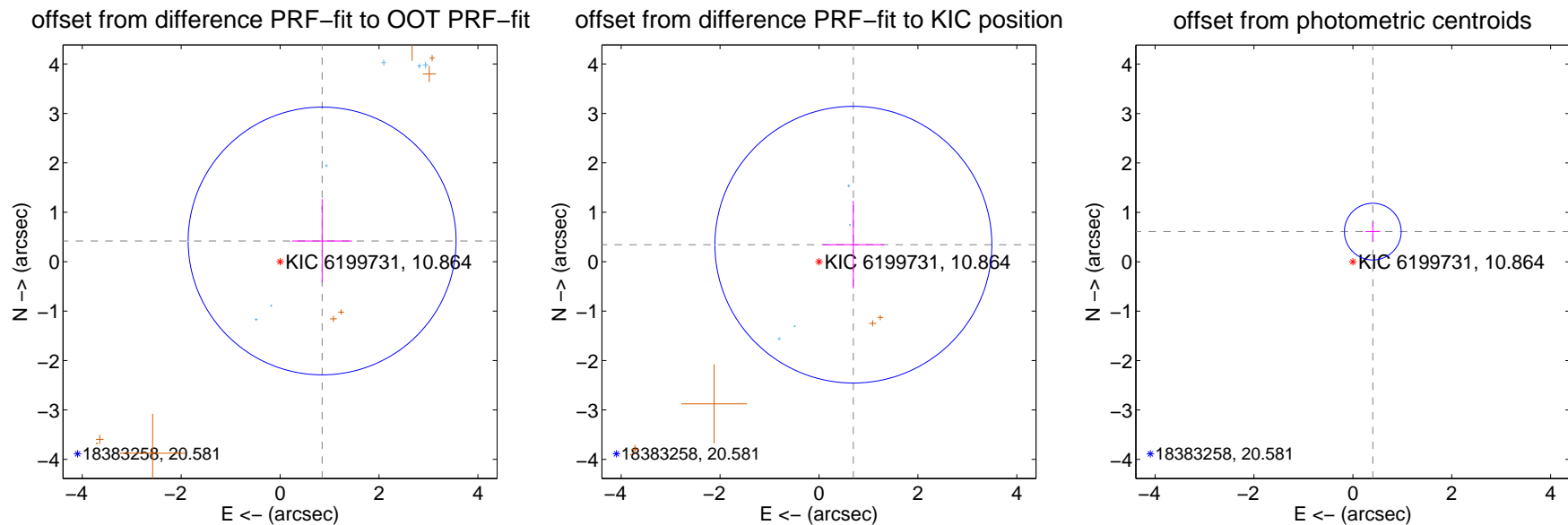
## DV Centroid Data

Supplemental centroid analysis for 006199731-01. **Kepler magnitude: 10.86.** Transit SNR 9.68

There are 7 quarters with good PRF difference image offsets

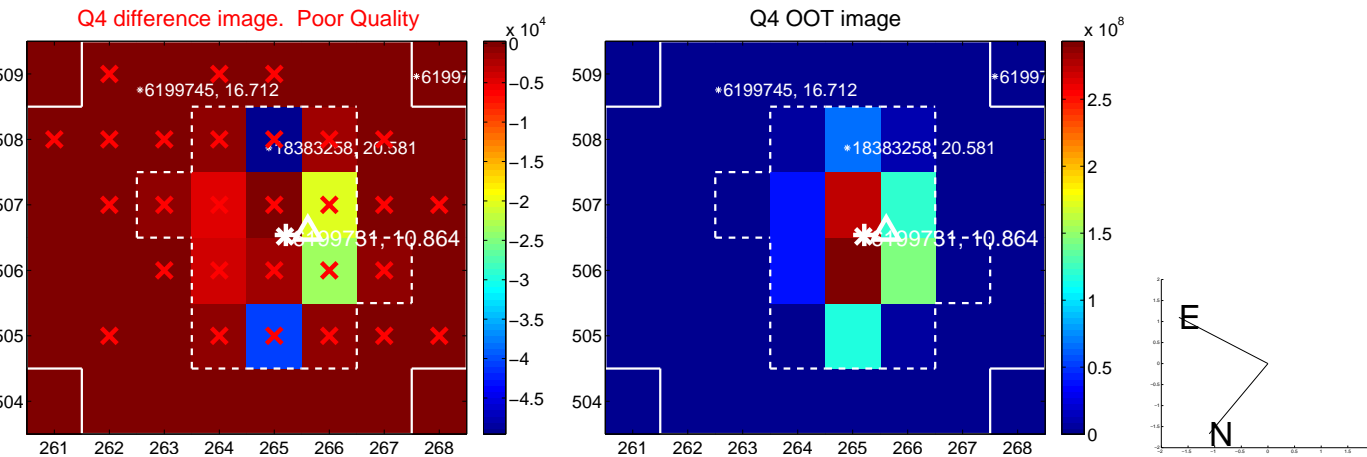
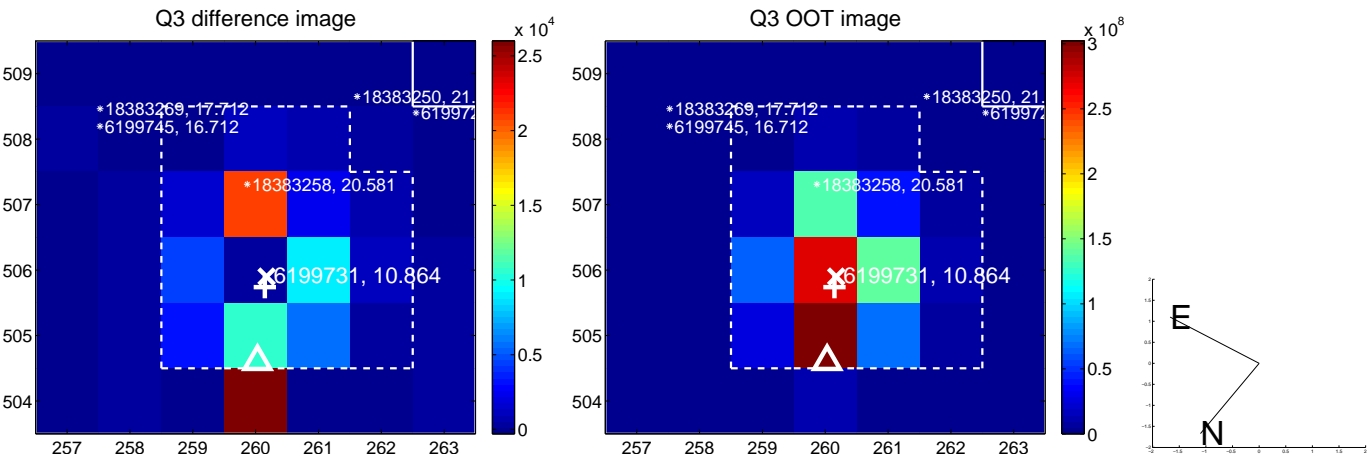
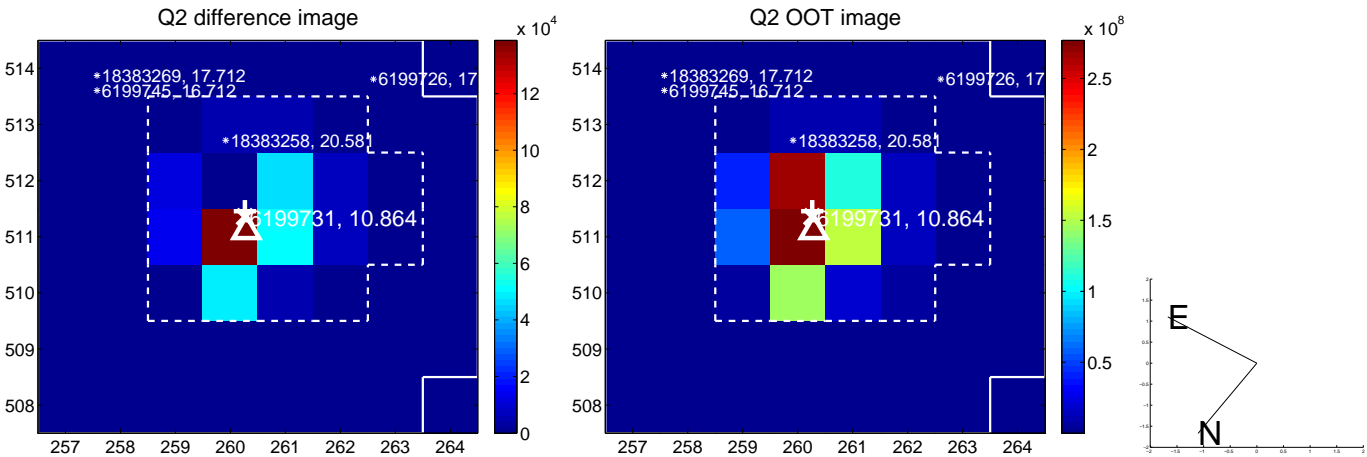
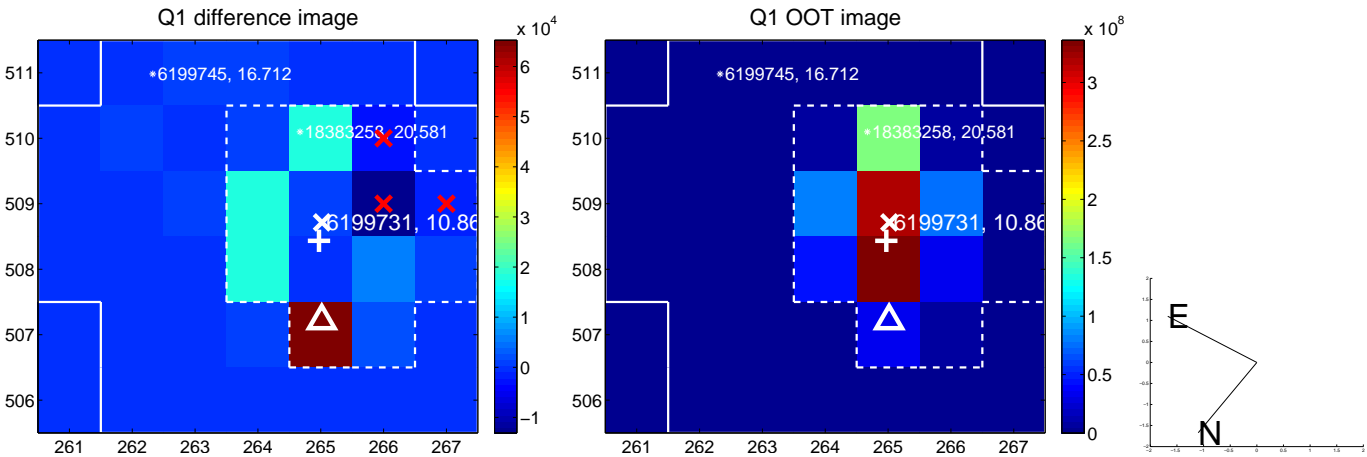
The direct PRF centroid is offset from the target star catalog position by about 1.06 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.947 \pm 0.903$	1.05	$-0.850 \pm 0.607$	$0.419 \pm 0.847$
PRF-fit source offset from KIC position	$0.776 \pm 0.933$	0.83	$-0.695 \pm 0.620$	$0.344 \pm 0.886$
photometric centroid source offset	<b><math>0.73 \pm 0.19</math></b>	<b>3.82</b>	$-0.40 \pm 0.15$	$0.61 \pm 0.21$

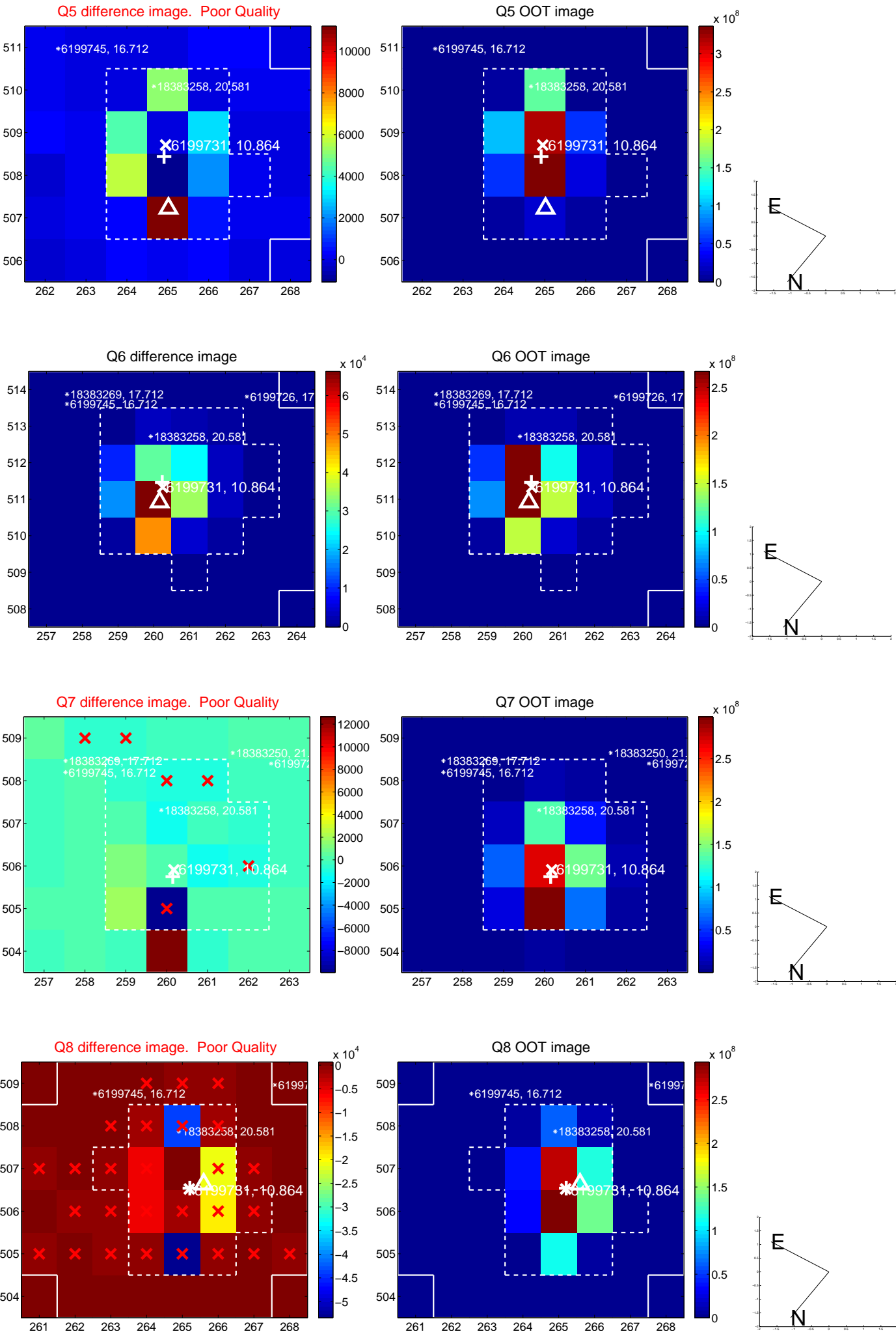


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

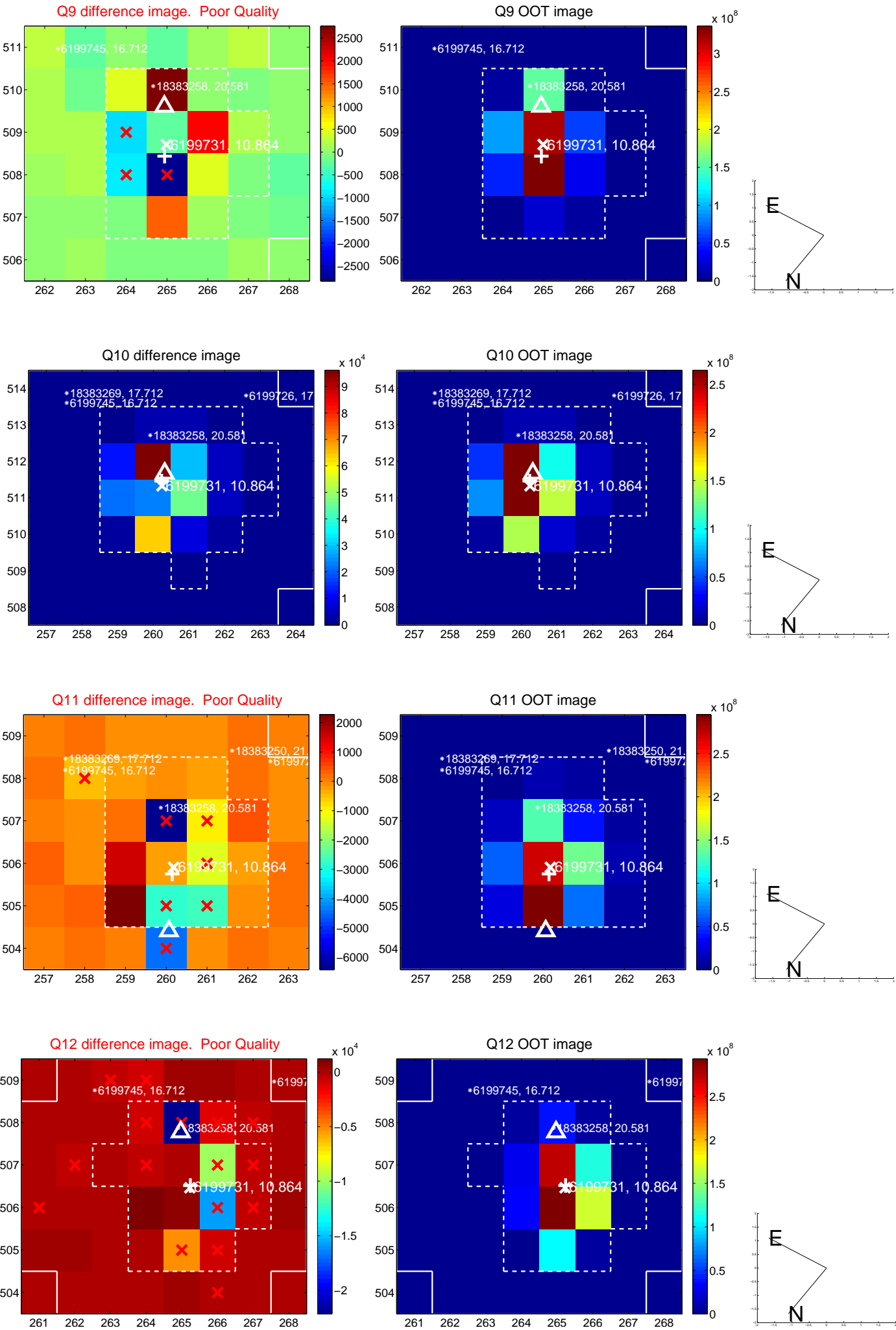


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

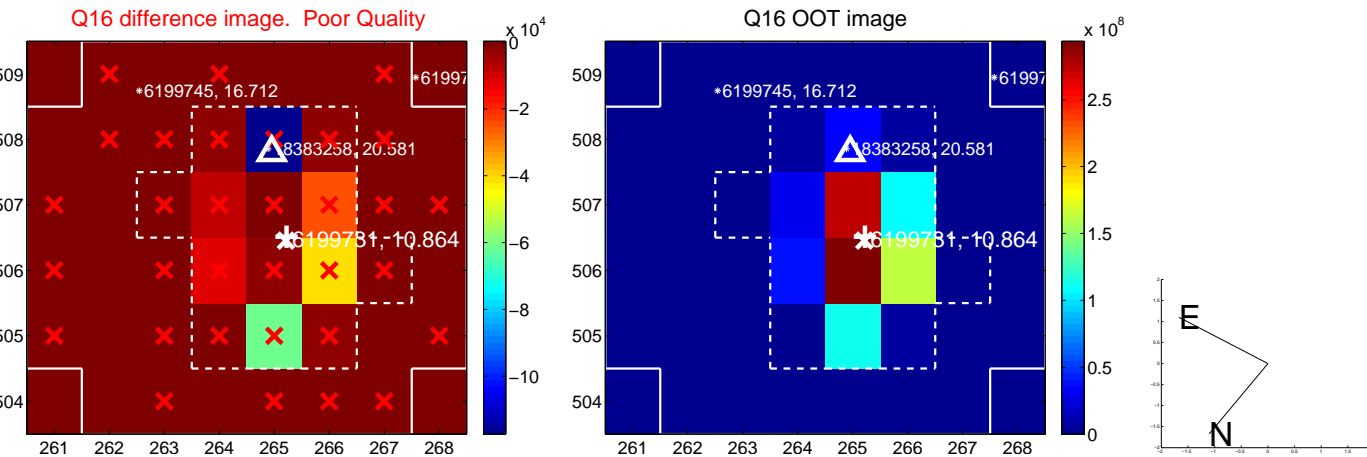
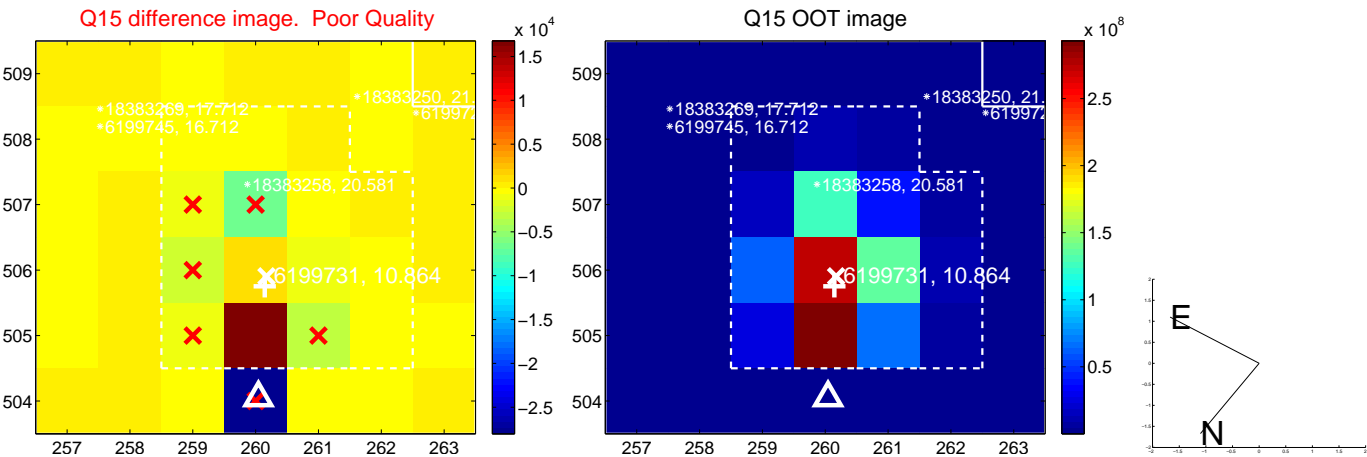
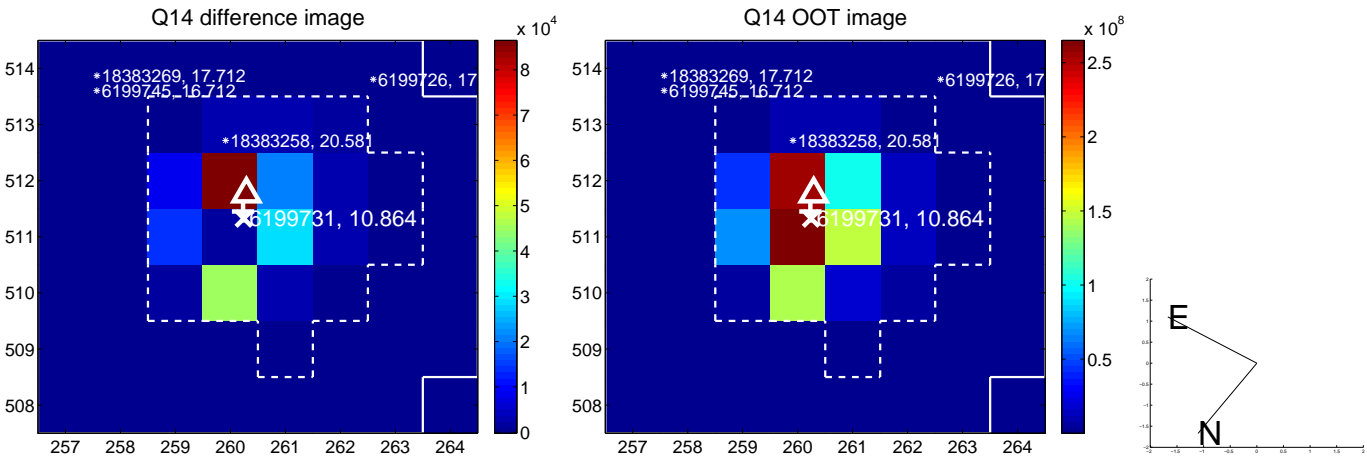
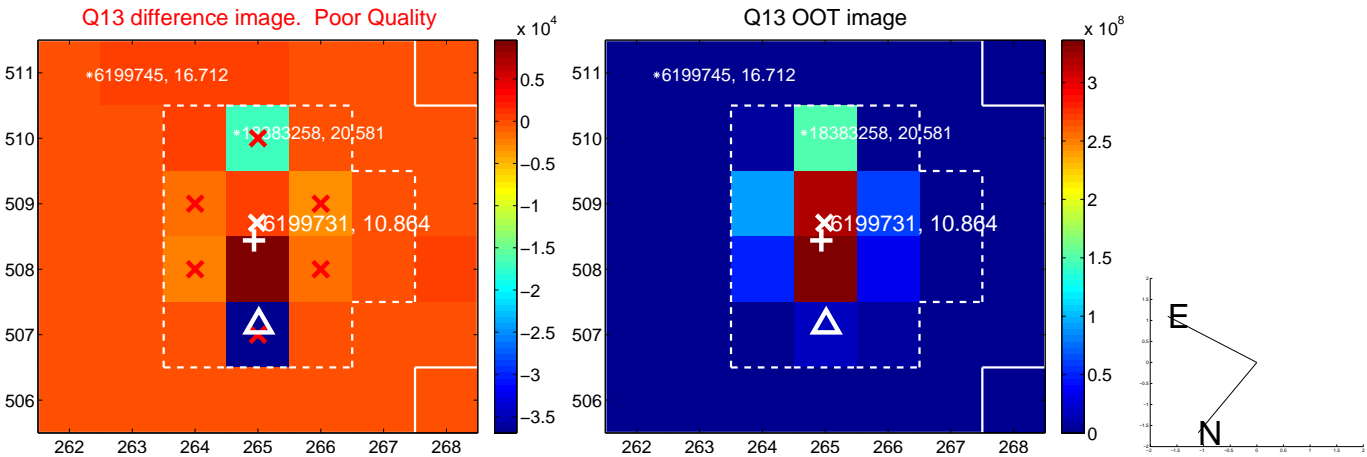




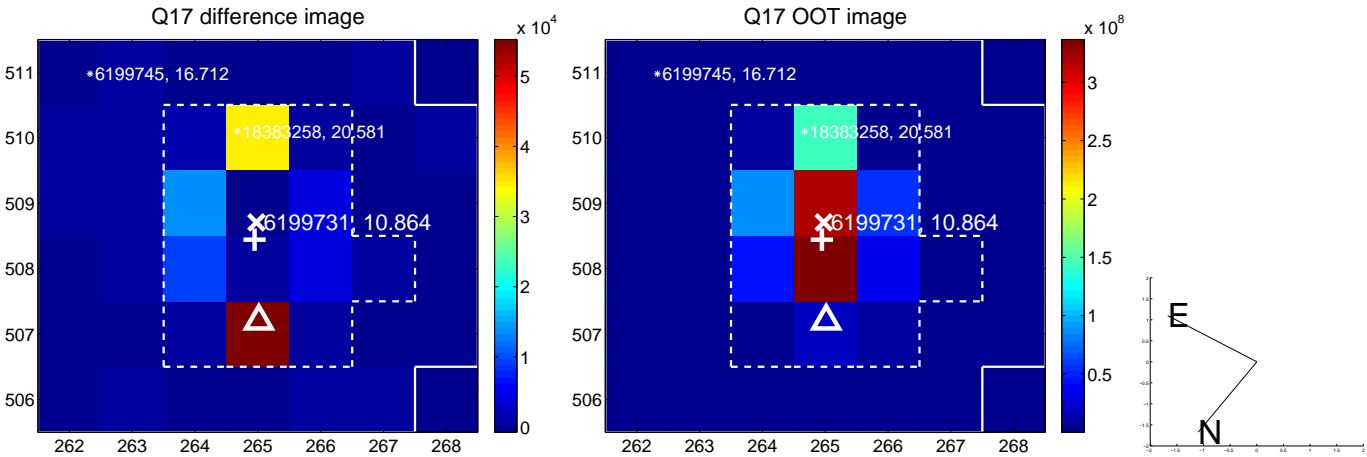
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



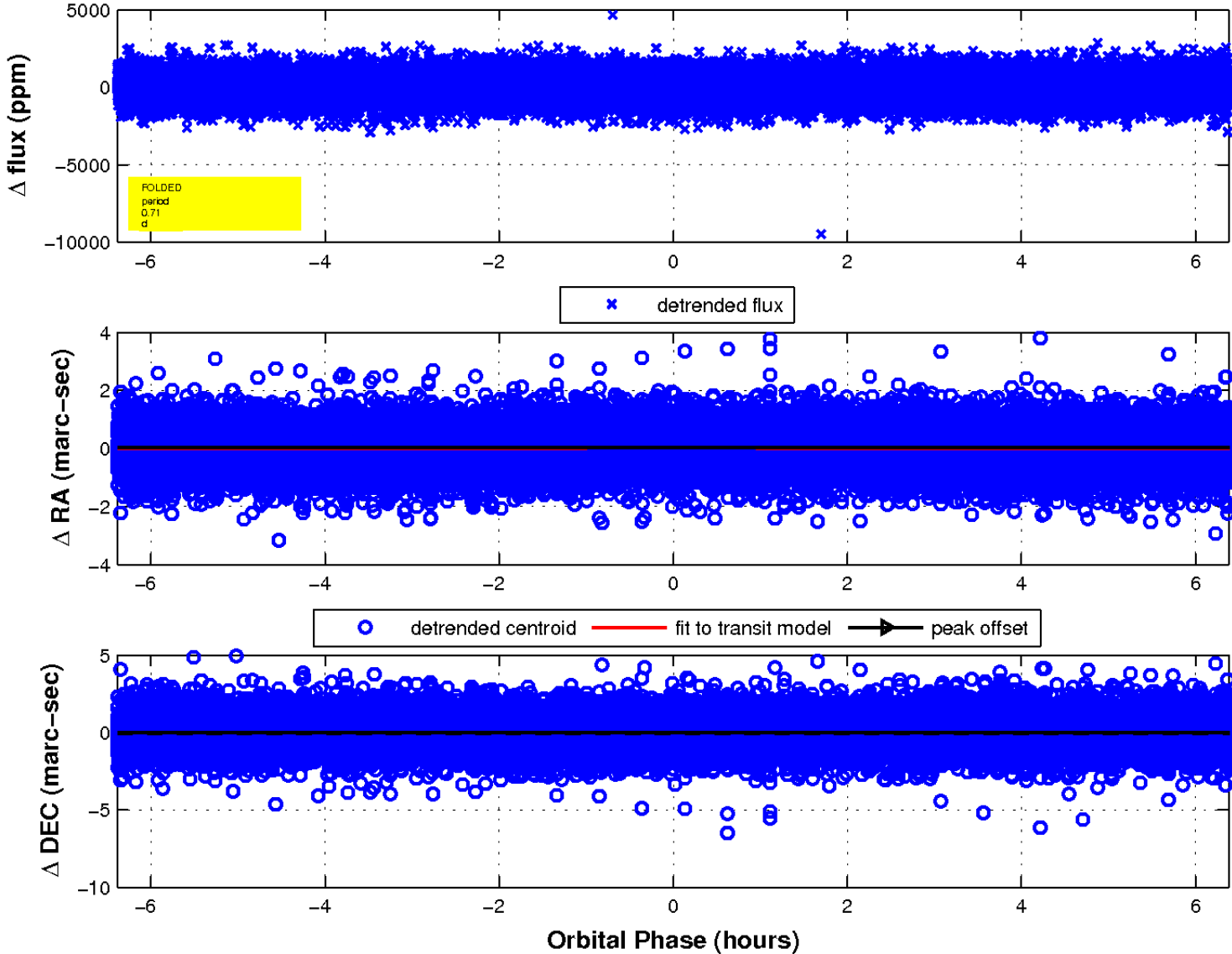
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

