

# KIC 011722906

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011722906-01	OBS	No	1.690771	131.913650	22.8	15.657	9.9	9.5	1.48	6572	0.71	4056.36

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011722906-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—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.

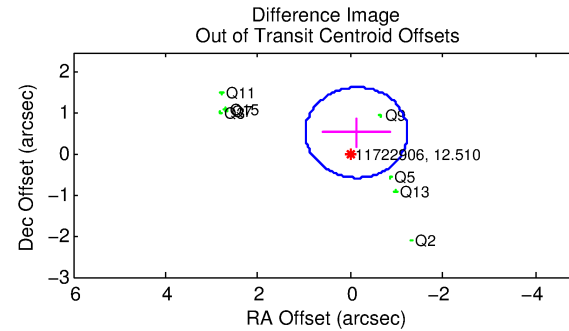
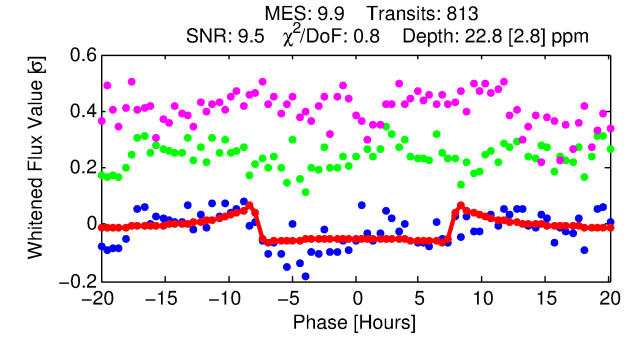
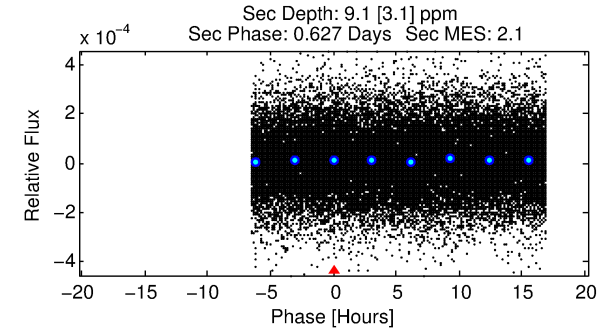
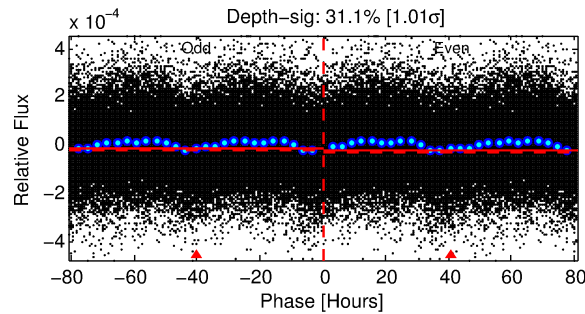
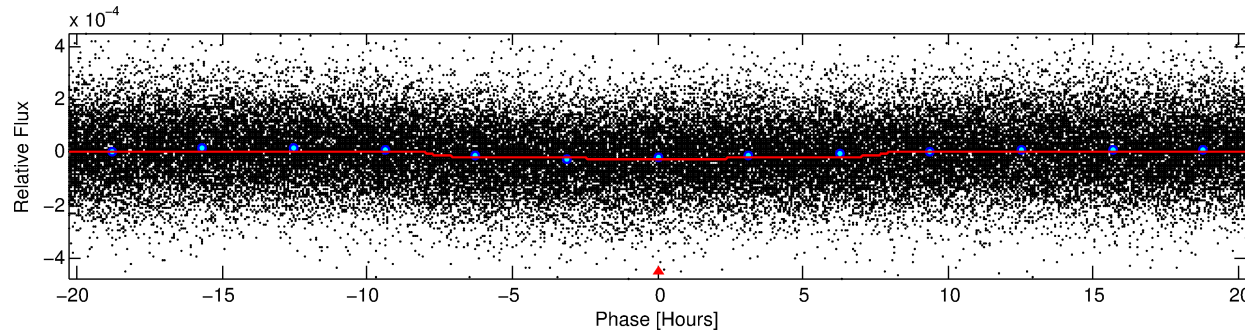
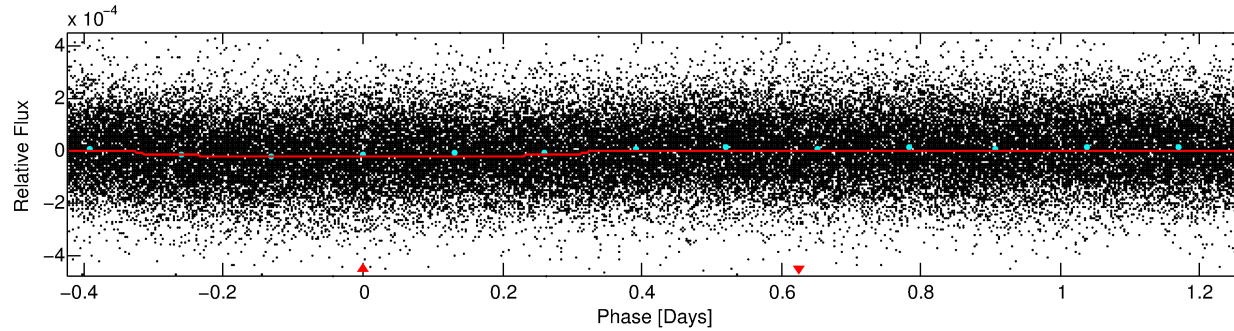
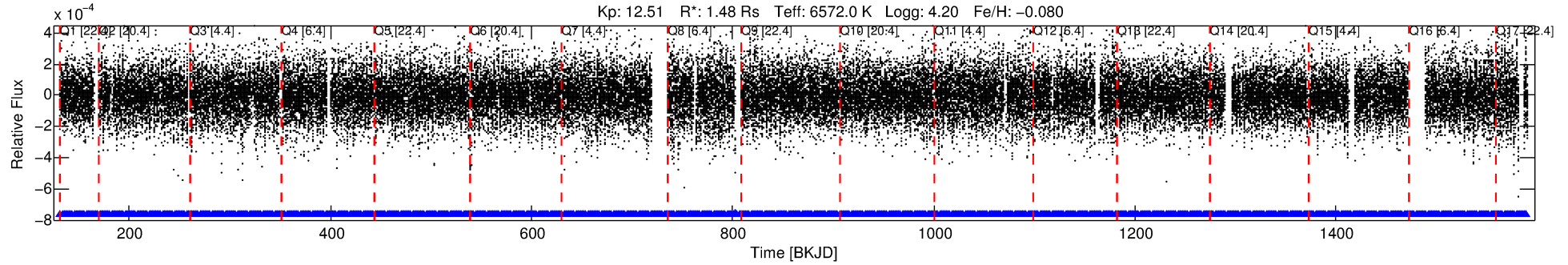
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011722906-01

No Significant Match Found

# DV One-Page Summary

KIC: 11722906 Candidate: 1 of 1 Period: 1.691 d



## DV Fit Results:

Period = 1.69077 [0.00002] d  
Epoch = 131.9137 [0.0046] BKJD  
Rp/R\* = 0.0044 [0.0020]  
a/R\* = 1.07 [0.35]  
b = 0.12 [20.83]  
Seff = 4056.36 [871.75]  
Teq = 2035 [109] K  
Rp = 0.71 [0.35] Re  
a = 0.0301 [0.0043] AU  
Ag = 8.98 [9.06] [0.88 $\sigma$ ]  
Teffp = 5446 [1346] K [2.53 $\sigma$ ]

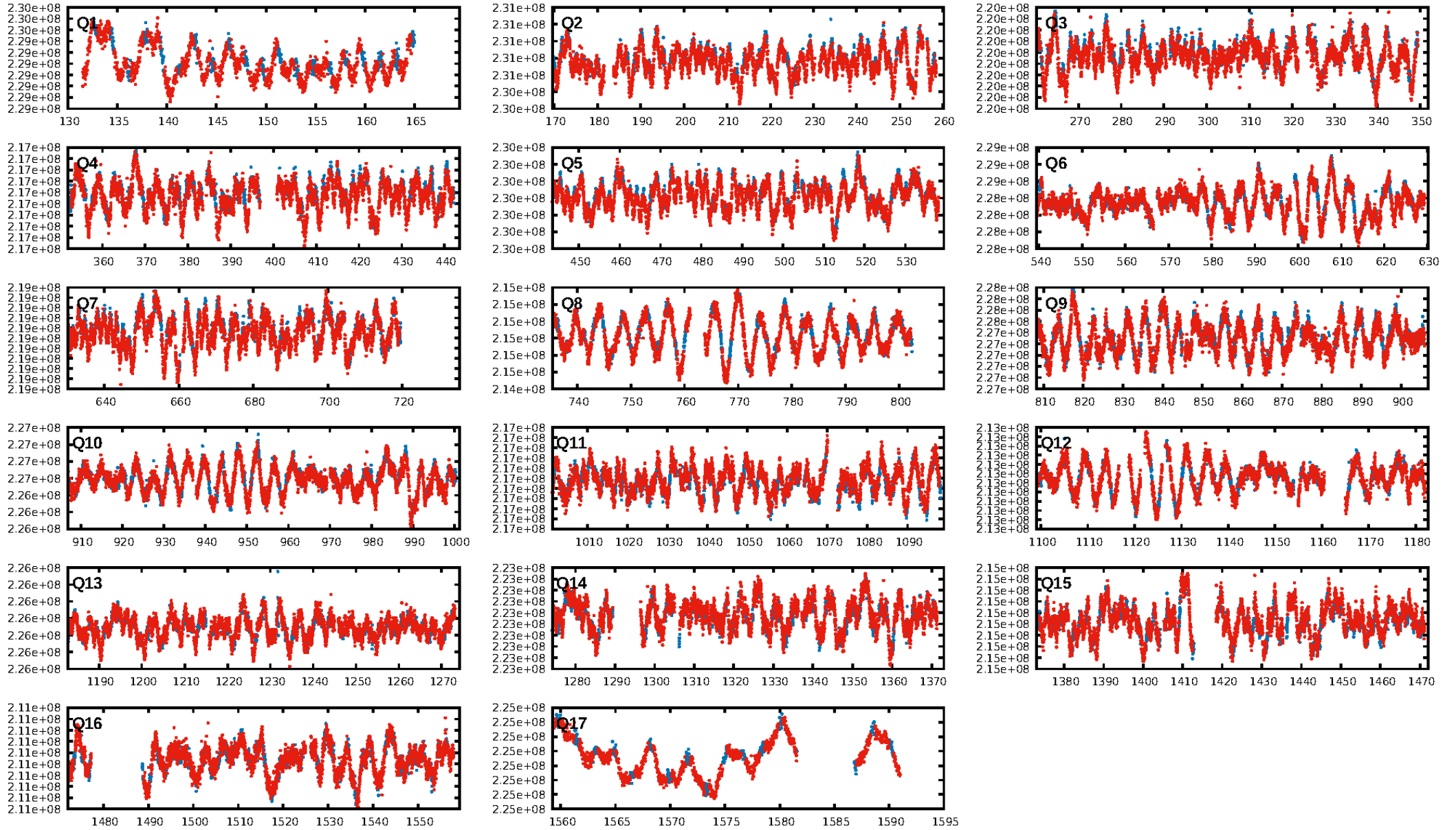
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [776/776]  
**GhostDiagnostic-chr: 0.7476**  
Centroid-sig: 0.0%  
**Centroid-so: 1.605 arcsec [3.19 $\sigma$ ]**  
OotOffset-rm: 0.549 arcsec [1.49 $\sigma$ ]  
KicOffset-rm: 0.541 arcsec [1.10 $\sigma$ ]  
OotOffset-st: 1/4/0/3 [8]  
KicOffset-st: 1/4/0/3 [8]  
DiffImageQuality-fgm: 0.75 [6/8]  
DiffImageOverlap-fno: 1.00 [17/17]

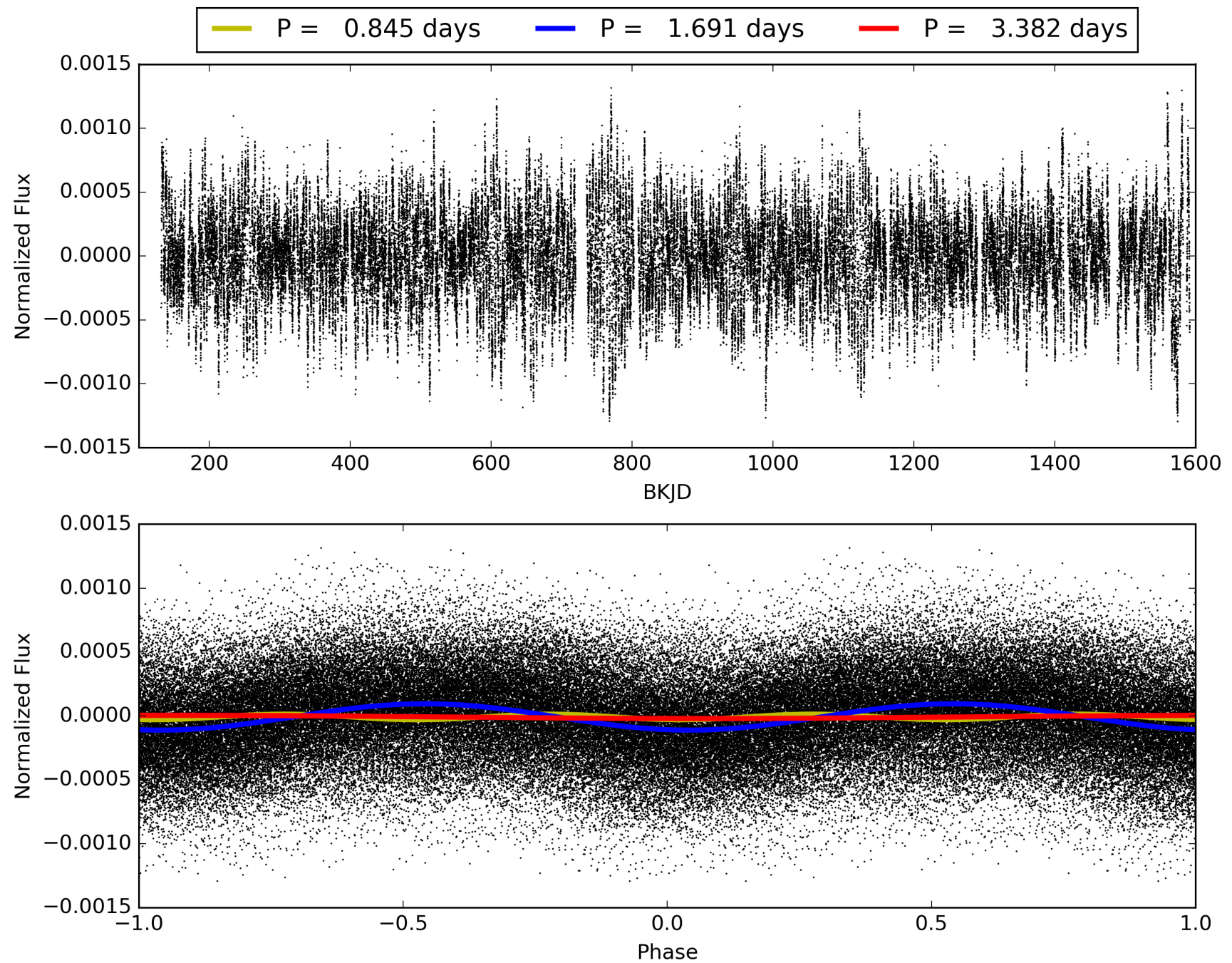
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:31:38 Z

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

# TCE 011722906-01, PDC Light Curves



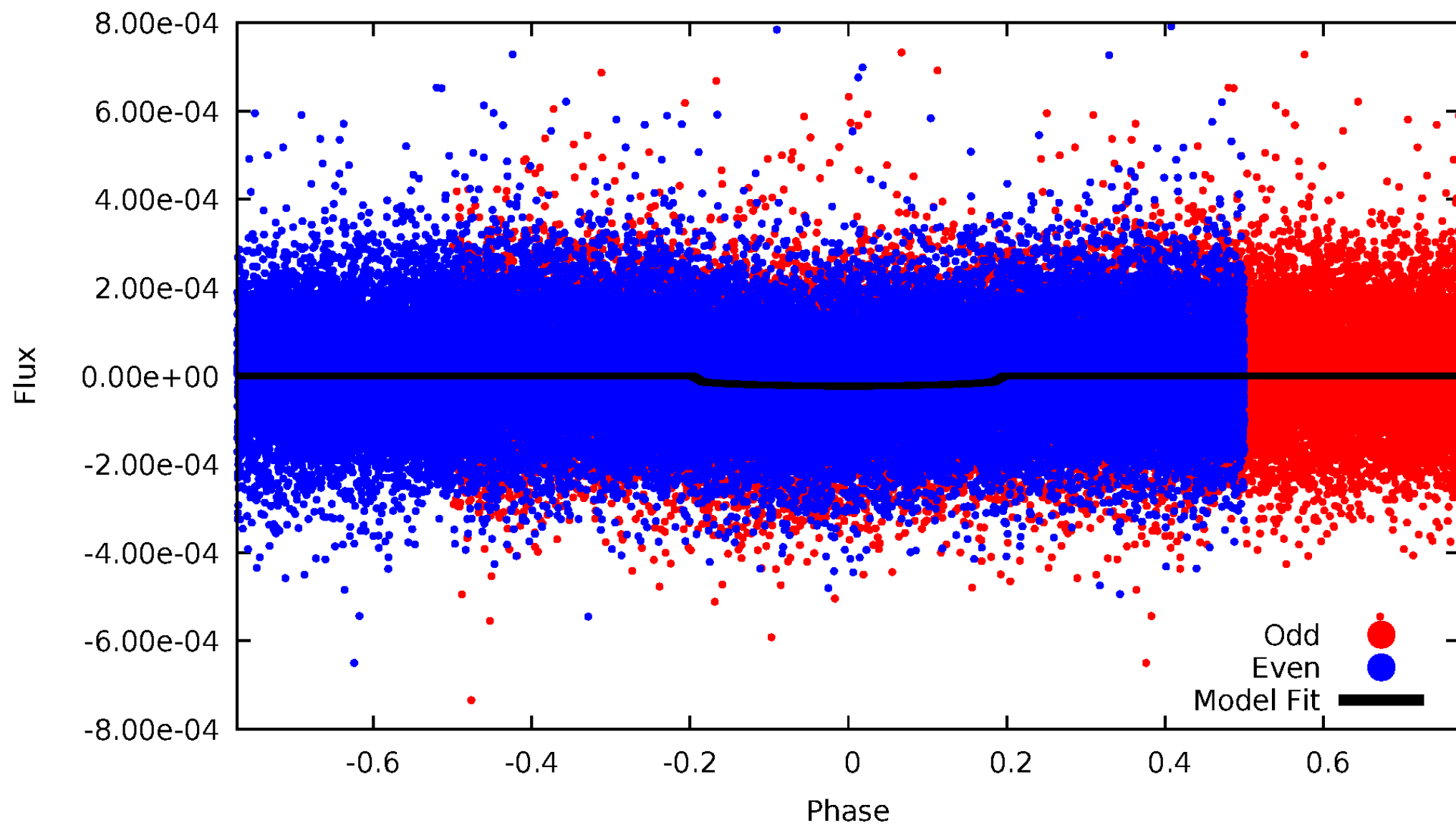
# TCE 011722906-01





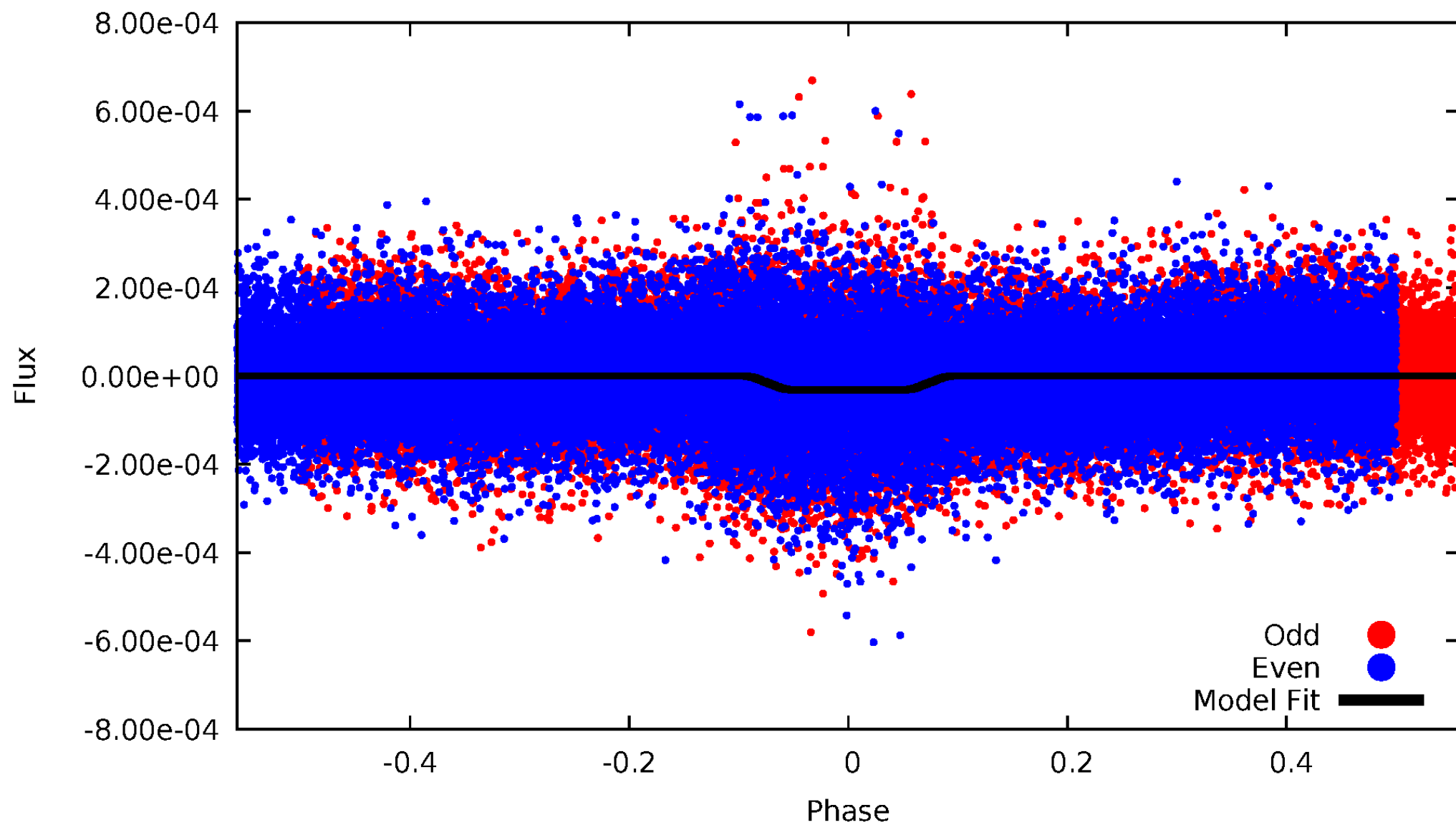
# DV Odd/Even

TCE 011722906-01

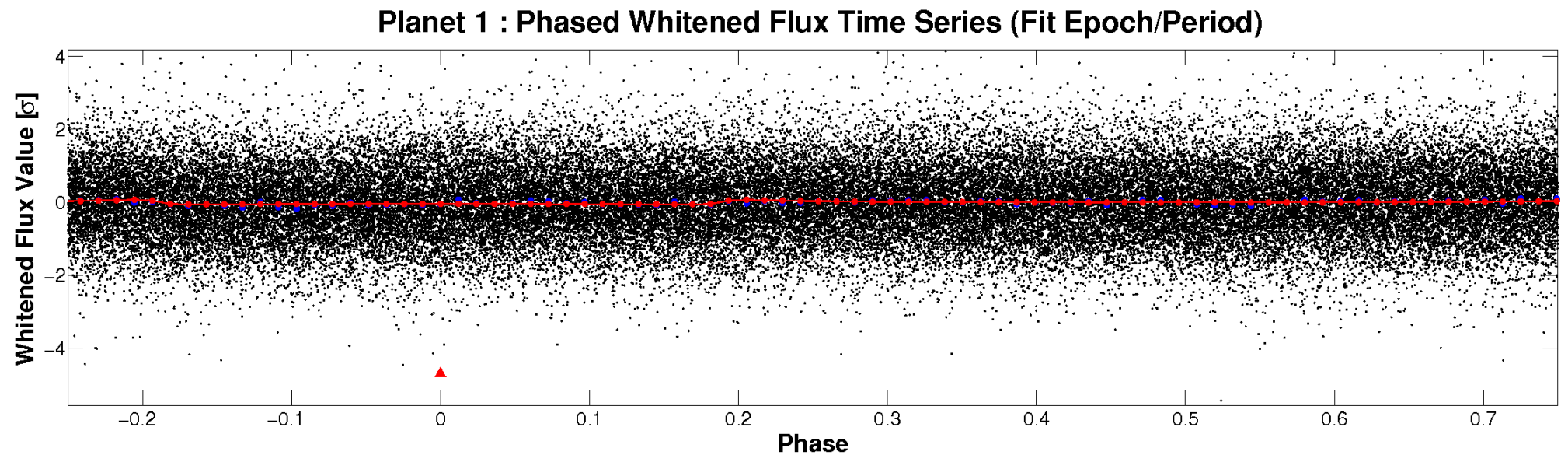
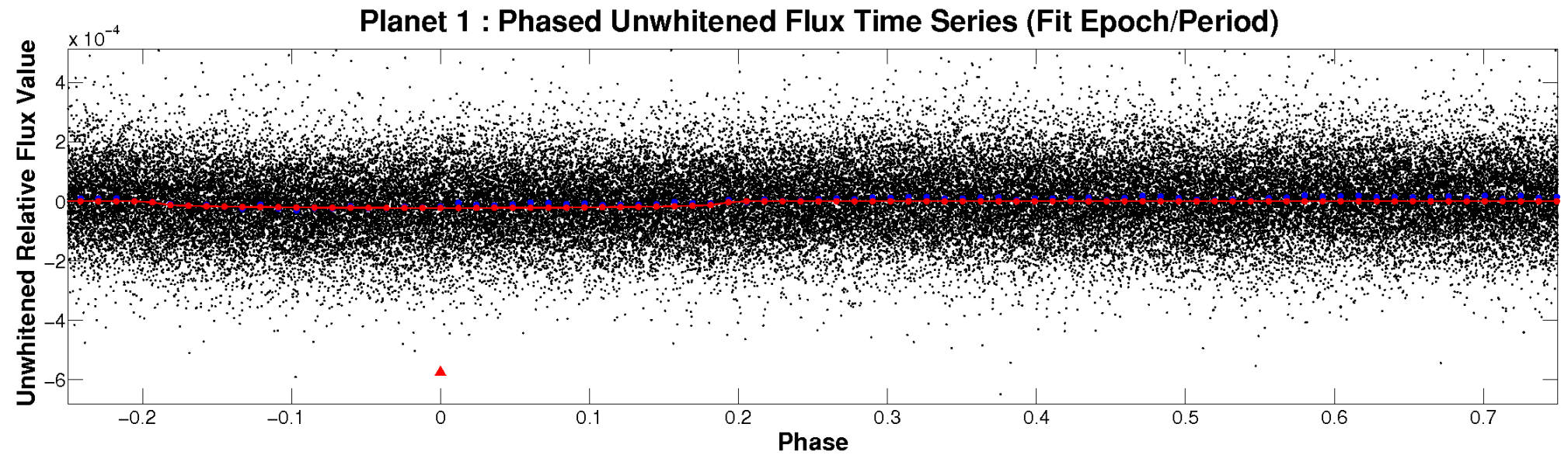


# ALT Odd/Even

TCE 011722906-01

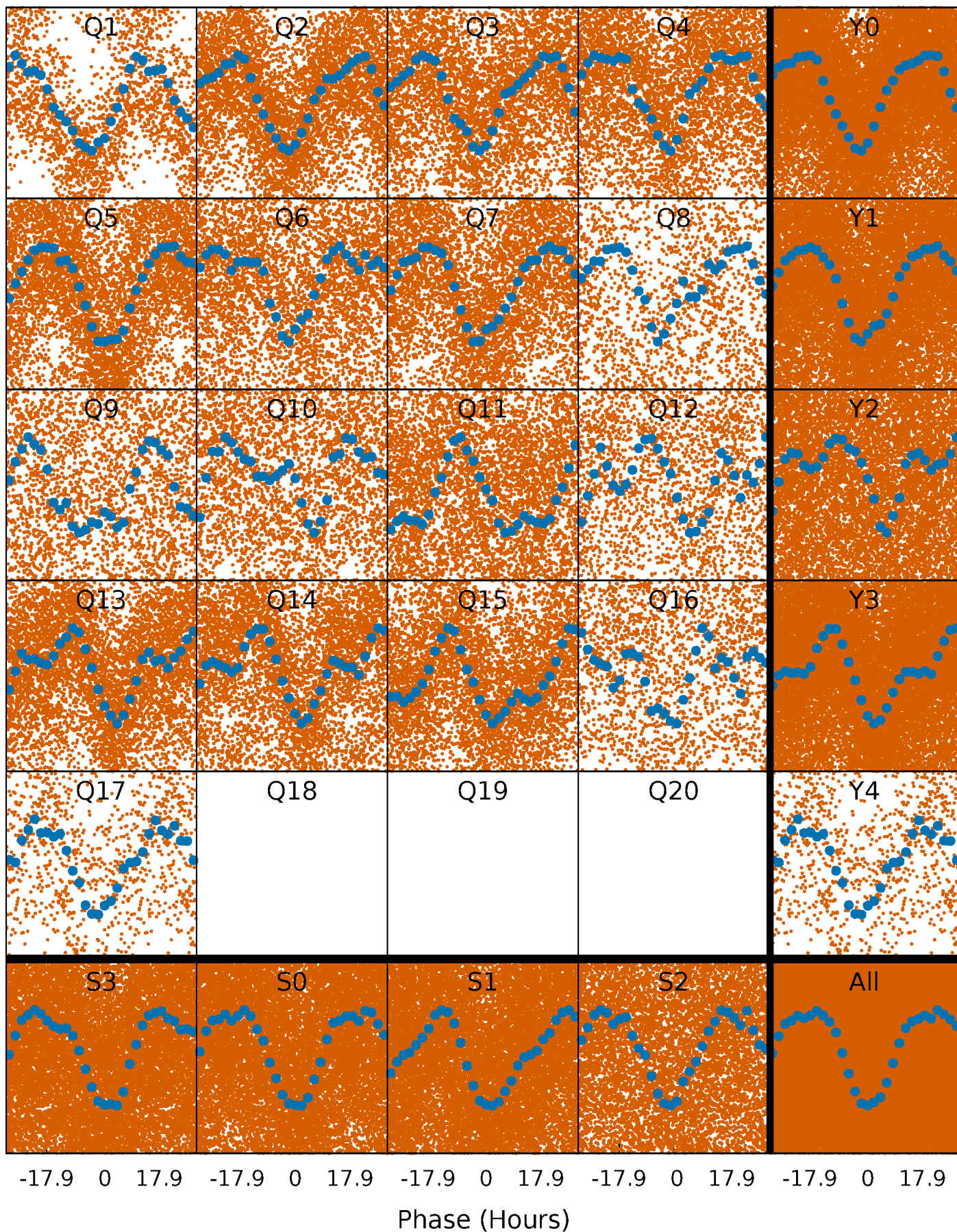


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

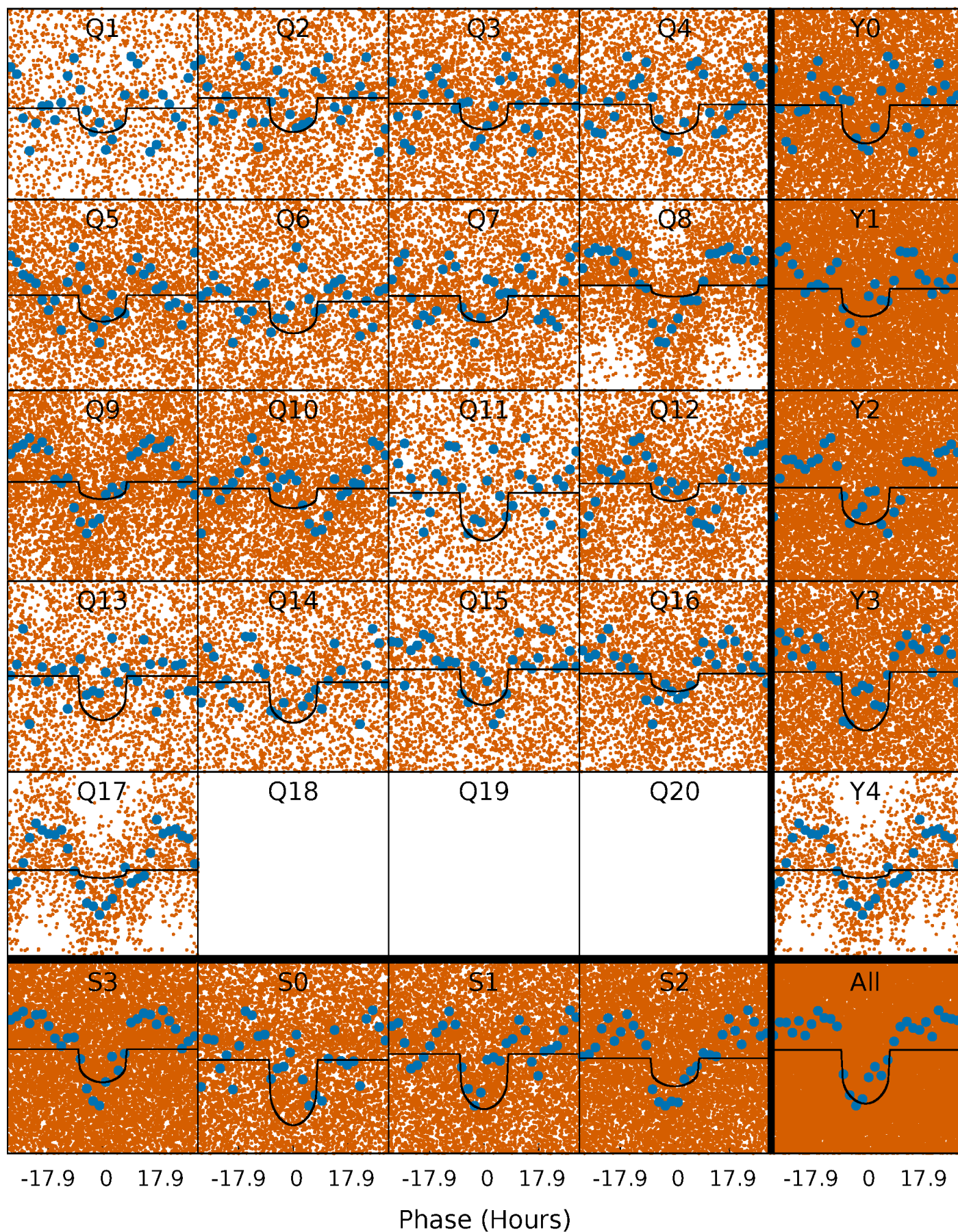
TCE 011722906-01 P= 1.690771 Days  $T_0=131.913650$  (BKJD)





# DV Quarter-Phased Transit Curves

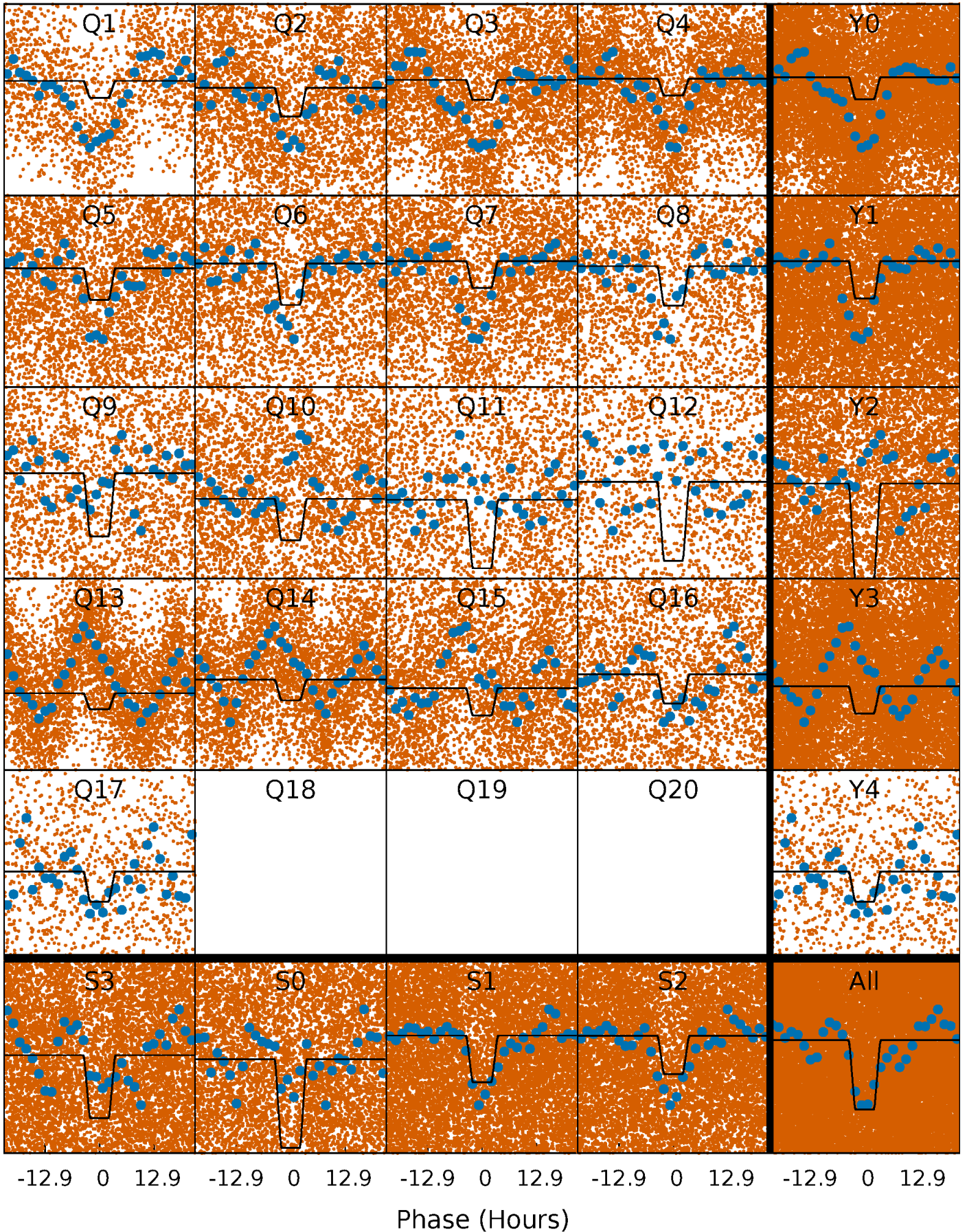
TCE 011722906-01 P= 1.690771 Days  $T_0=131.913650$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

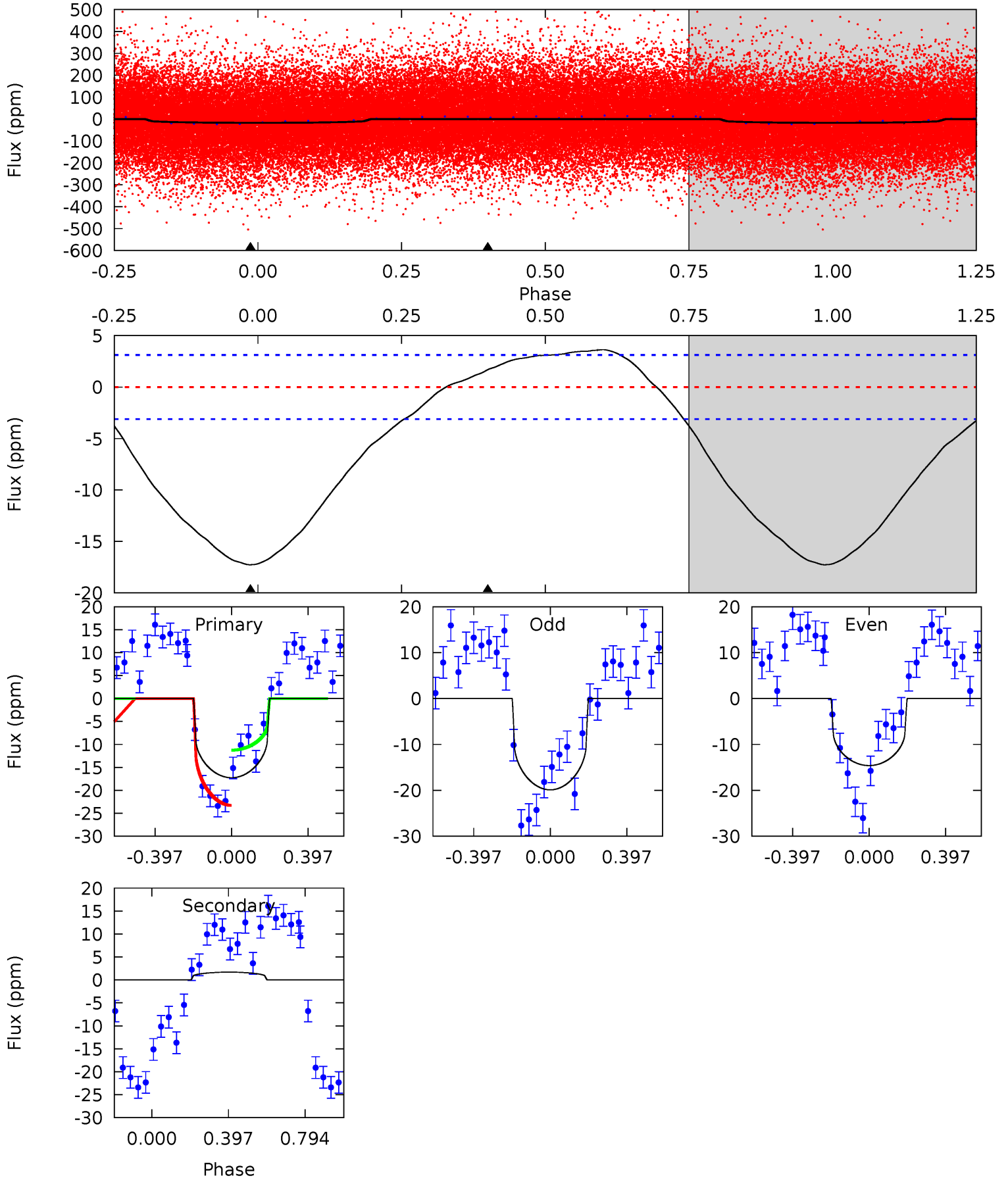
TCE 011722906-01 P= 1.690519 Days  $T_0=131.899678$  (BKJD)



# DV Model-Shift Uniqueness Test

011722906-01, P = 1.690771 Days, E = 130.222879 Days

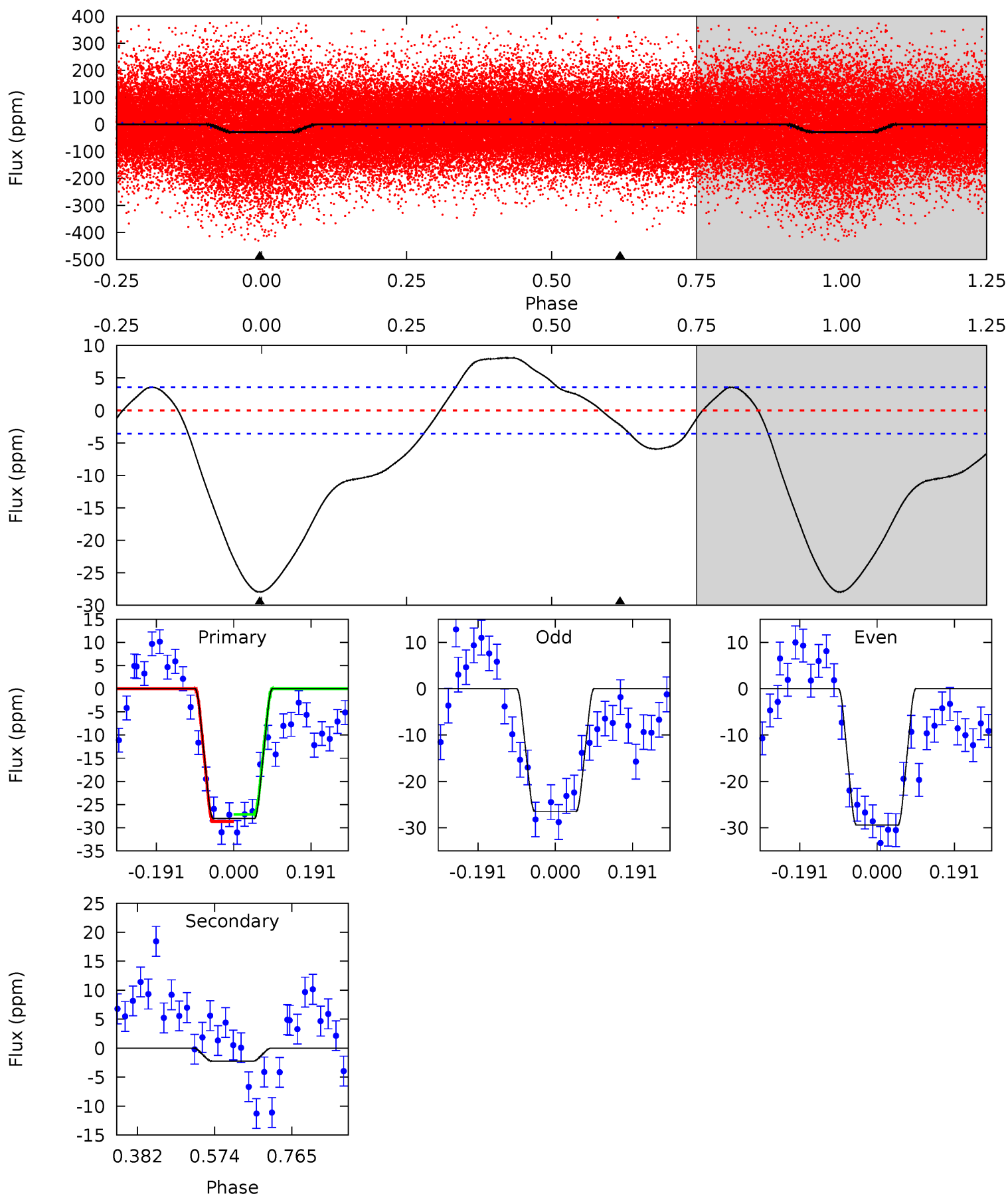
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.6	-2.32	0	0	4.27	0.85	2.42	23.6	23.6	-2.32	-2.32	3.62	1.23	0.17	8.23



# Alt Model-Shift Uniqueness Test

011722906-01, P = 1.690519 Days, E = 130.209159 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
34.6	2.77	0	0	4.43	1.31	8.25	34.6	34.6	2.77	2.77	1.83	0.98	0.22	0.94





### Stellar Parameters For KIC 011722906

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6572^{+72}_{-85}$	$4.200^{+0.115}_{-0.115}$	$-0.080^{+0.150}_{-0.150}$	$1.482^{+0.247}_{-0.223}$	$1.274^{+0.096}_{-0.107}$	$0.551^{+0.278}_{-0.184}$
	+1%/-1%	+3%/-3%	+188%/-188%	+17%/-15%	+8%/-8%	+50%/-33%
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 011722906-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$2\pm 1$	$0.71^{+0.34}_{-0.32}$	$2838^{+118}_{-109}$	$-4002^{+467}_{-968}$	$-1.553^{+0.956}_{-4.170}$
Alt.	$-2\pm 1$	$0.92^{+0.34}_{-0.31}$	$2848^{+127}_{-122}$	$3595^{+732}_{-592}$	$1.318^{+1.979}_{-0.721}$

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

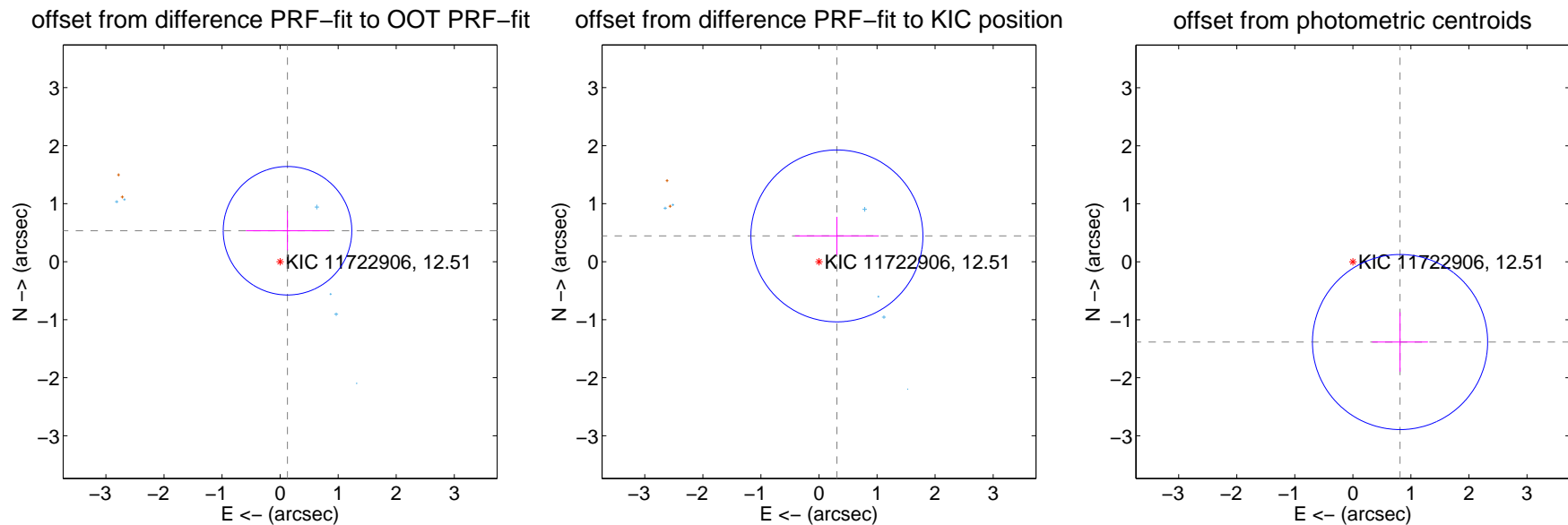
## DV Centroid Data

Supplemental centroid analysis for 011722906-01. Kepler magnitude: 12.51. Transit SNR 9.48

There are 6 quarters with good PRF difference image offsets

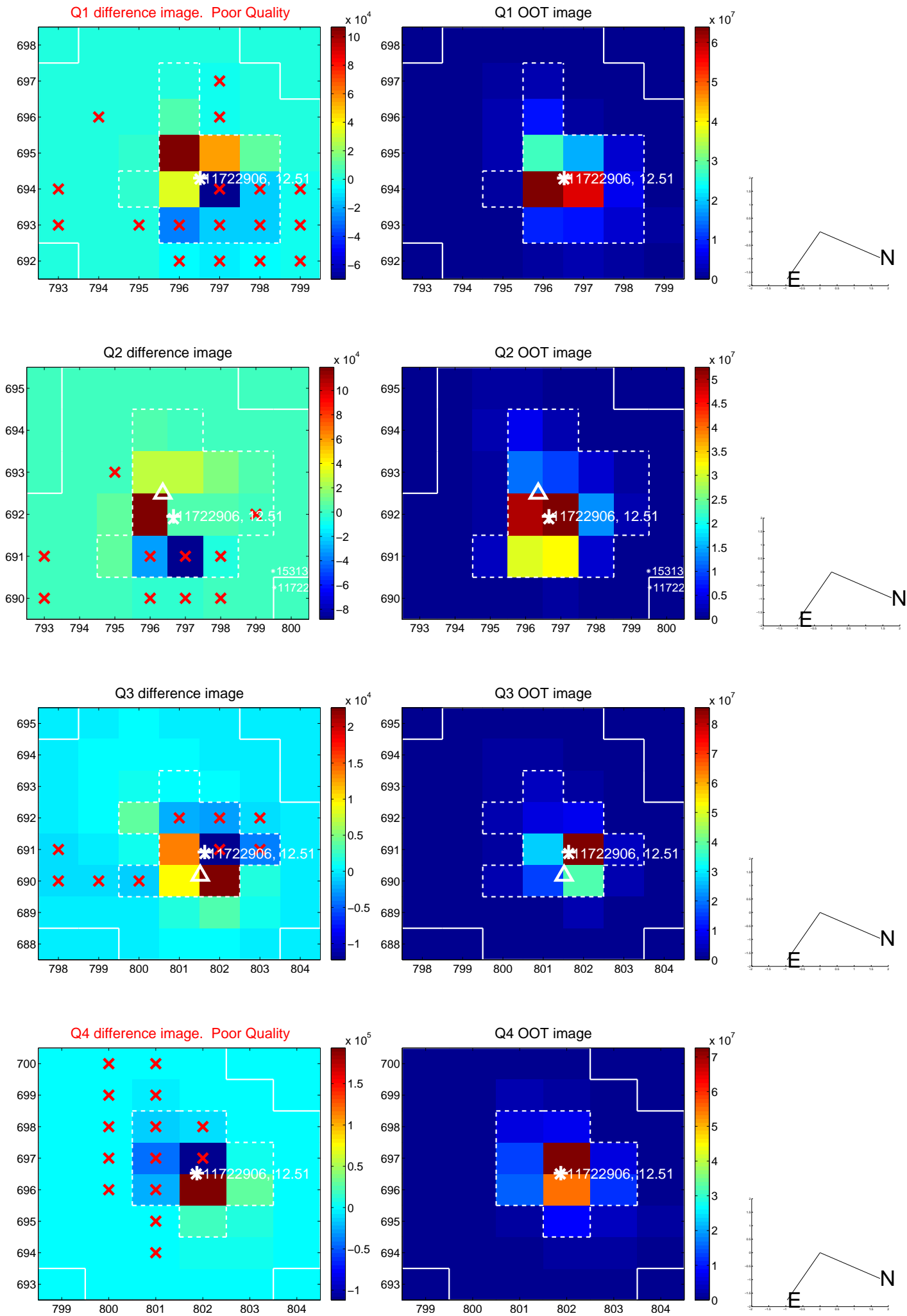
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.549 \pm 0.369$	1.49	$-0.127 \pm 0.717$	$0.534 \pm 0.339$
PRF-fit source offset from KIC position	$0.541 \pm 0.494$	1.10	$-0.309 \pm 0.724$	$0.444 \pm 0.330$
photometric centroid source offset	$1.61 \pm 0.50$	3.19	$-0.81 \pm 0.48$	$-1.38 \pm 0.51$

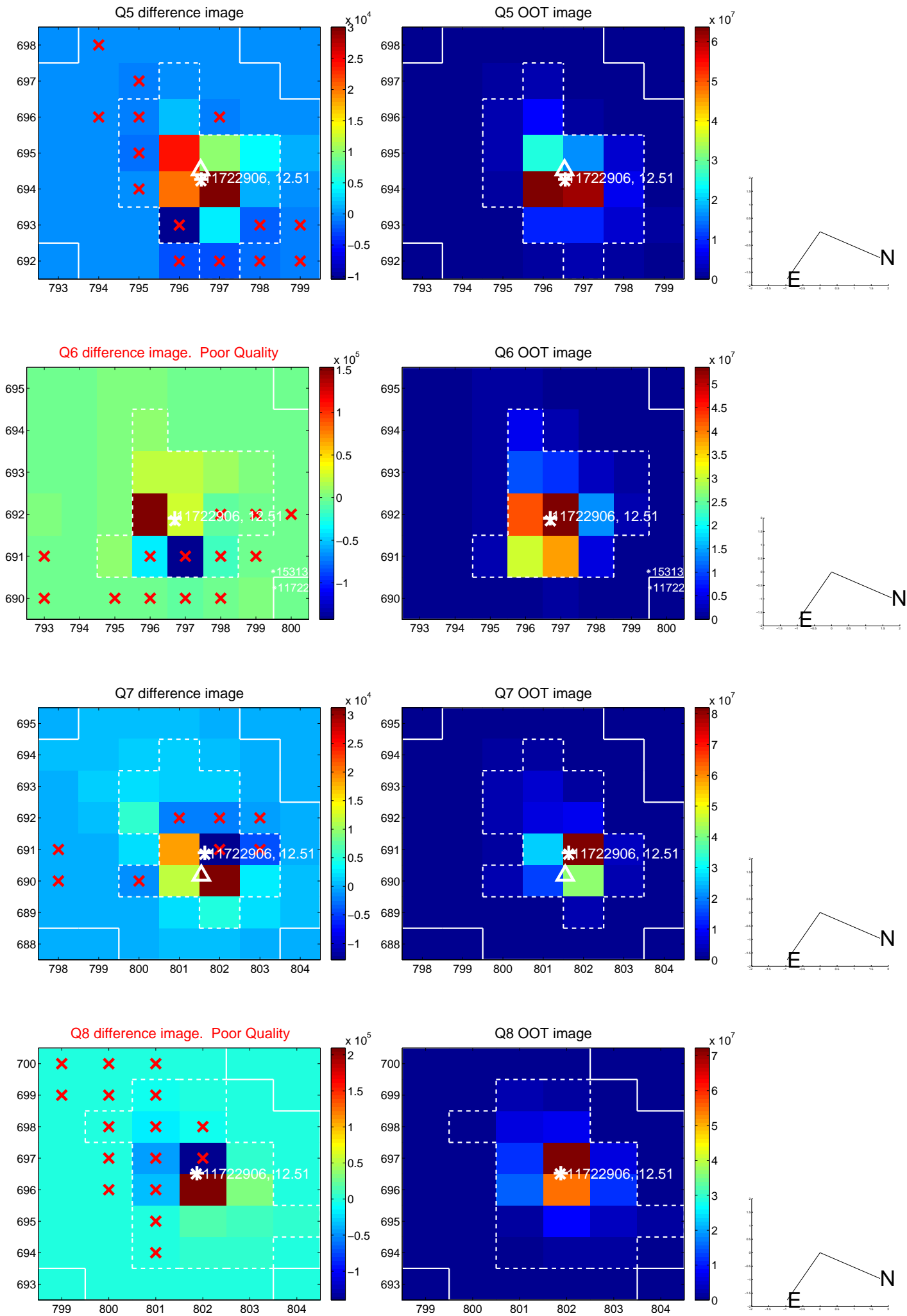


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

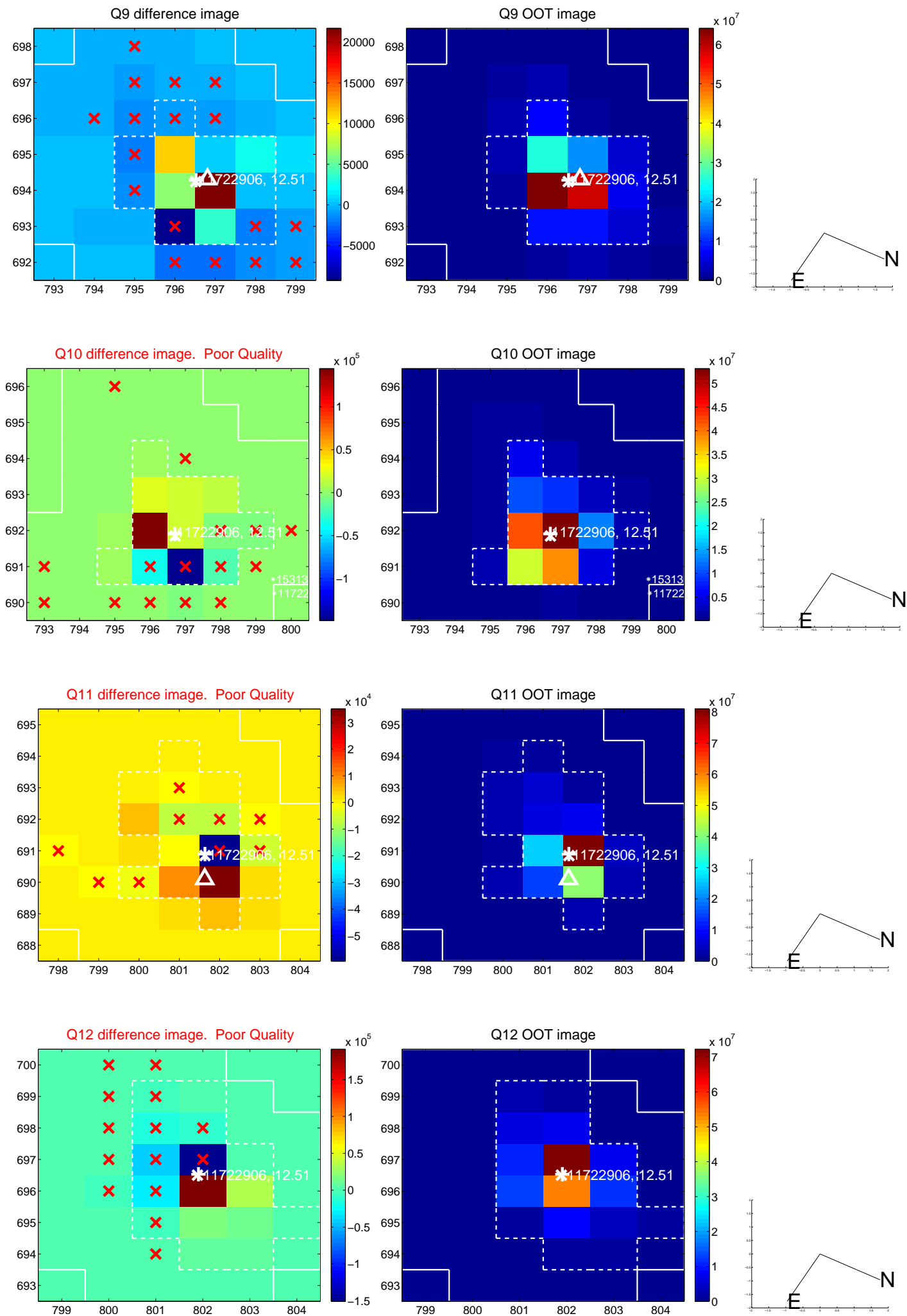


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

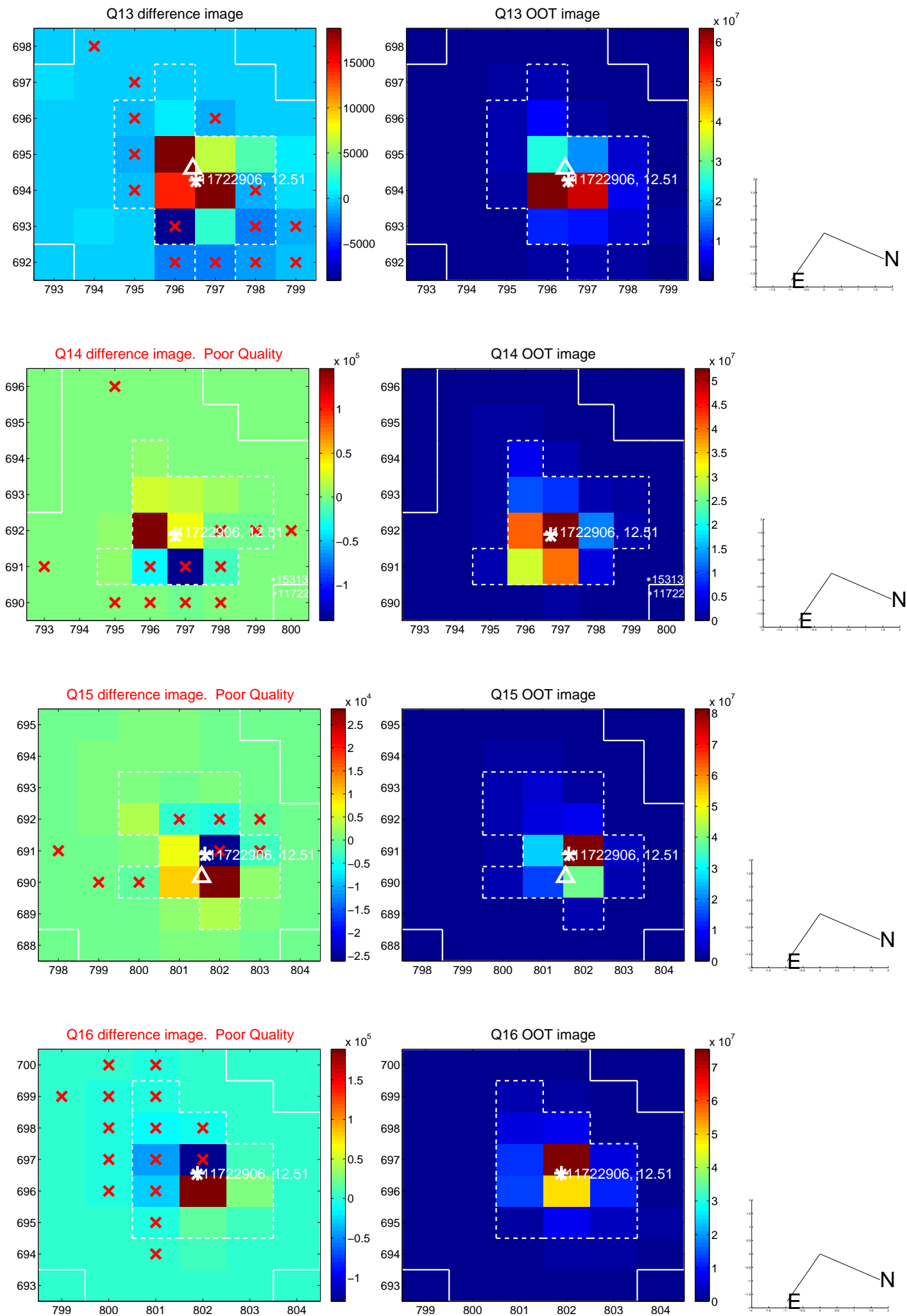




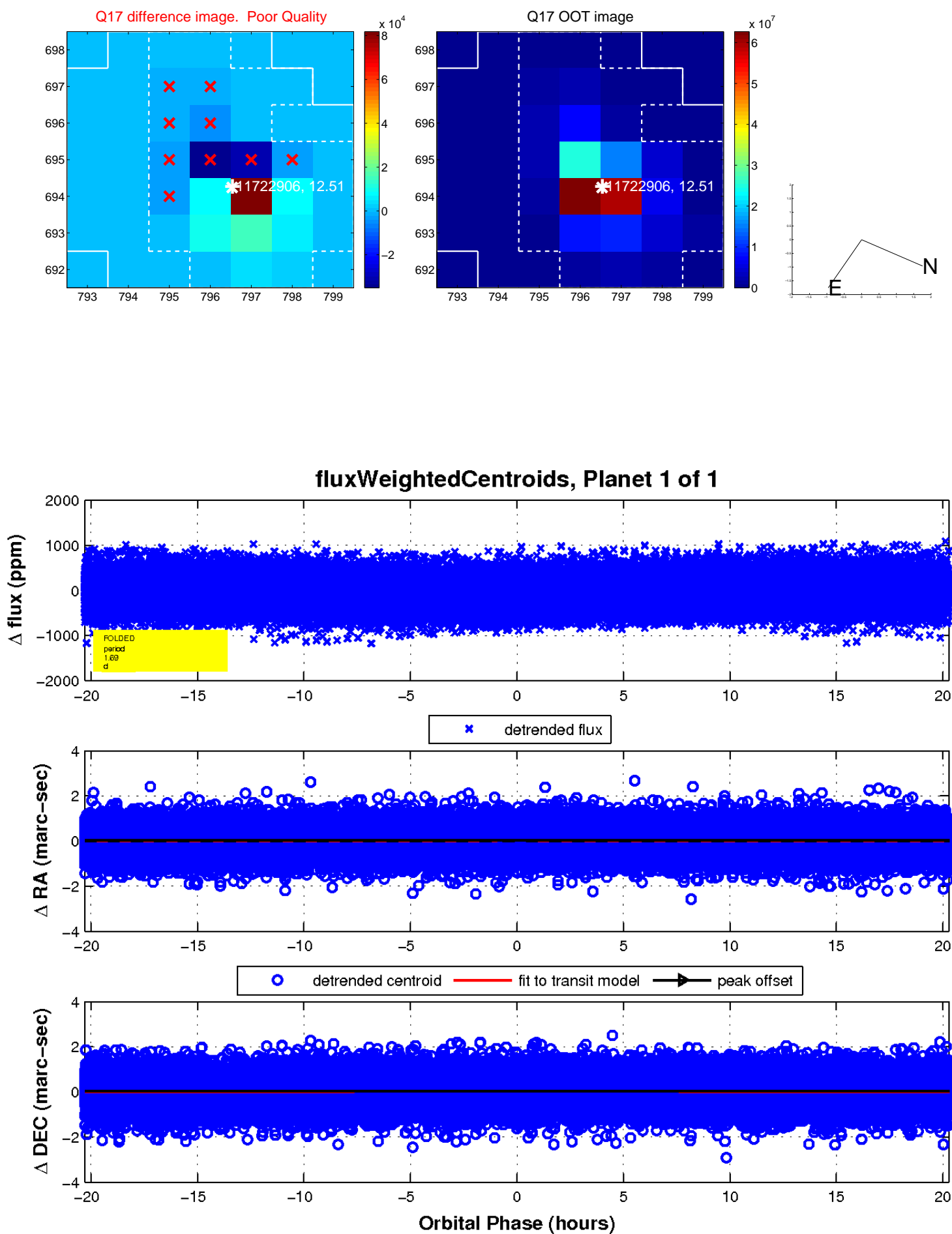
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

