

# KIC 005022900

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005022900-01	OBS	6492.01	1.056751	131.747584	56.3	8.612	7.6	7.7	0.89	5584	0.68	1685.29

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005022900-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET

**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 005022900-01

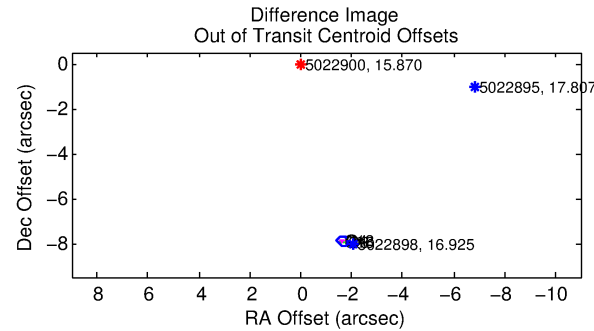
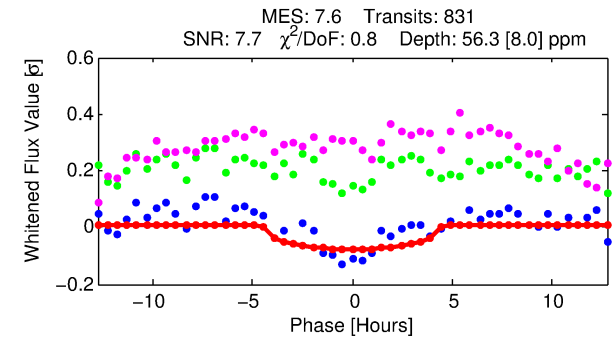
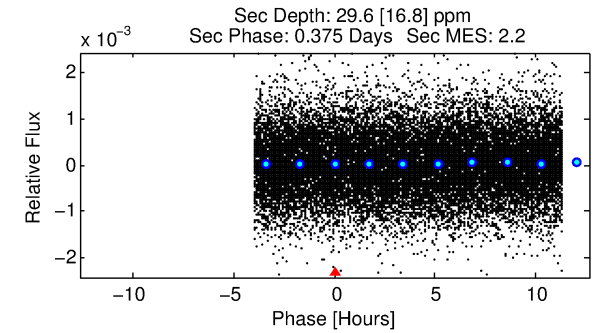
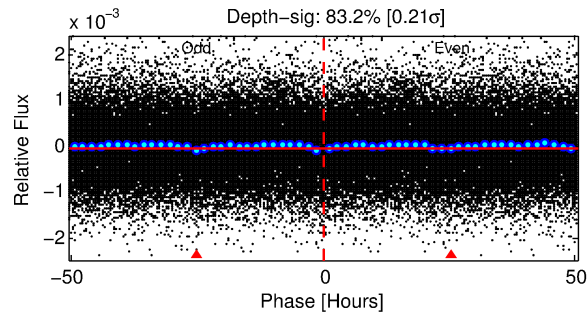
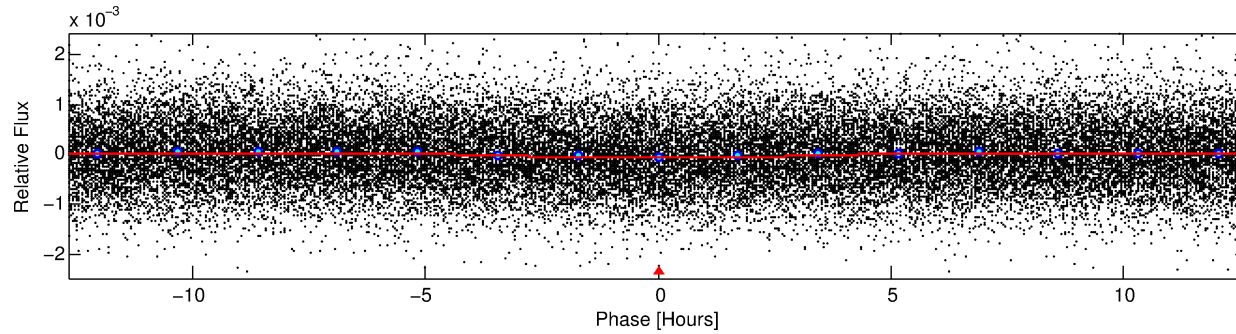
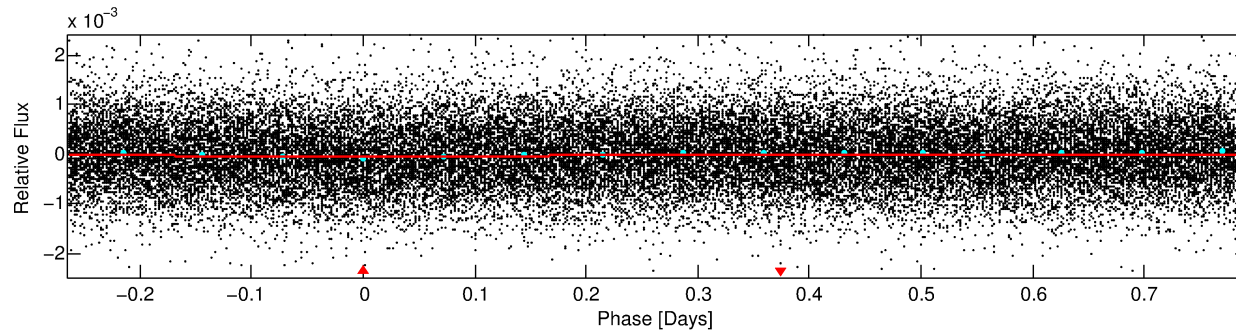
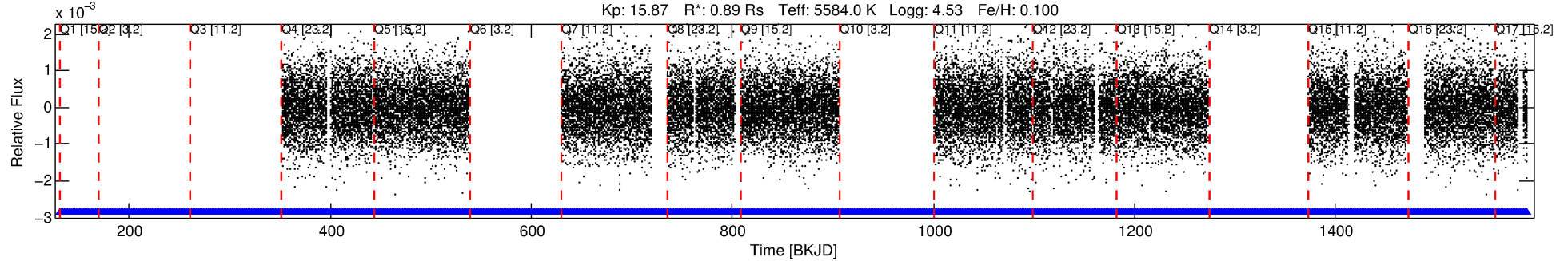
No Significant Match Found

# DV One-Page Summary

KIC: 5022900 Candidate: 1 of 1 Period: 1.057 d

KOI: K06492.01 Corr: 0.905

Kp: 15.87 R\*: 0.89 Rs Teff: 5584.0 K Logg: 4.53 Fe/H: 0.100



## DV Fit Results:

Period = 1.05675 [0.00002] d  
Epoch = 131.7476 [0.0111] BKJD  
Rp/R\* = 0.0070 [0.0089]  
a/R\* = 1.11 [1.08]  
b = 0.53 [7.10]  
Seff = 1685.29 [604.91]  
Teff = 1634 [147] K  
Rp = 0.68 [0.88] Re  
a = 0.0201 [0.0046] AU  
Ag = 14.30 [37.41] [0.36σ]  
Teffp = 4912 [3190] K [1.03σ]

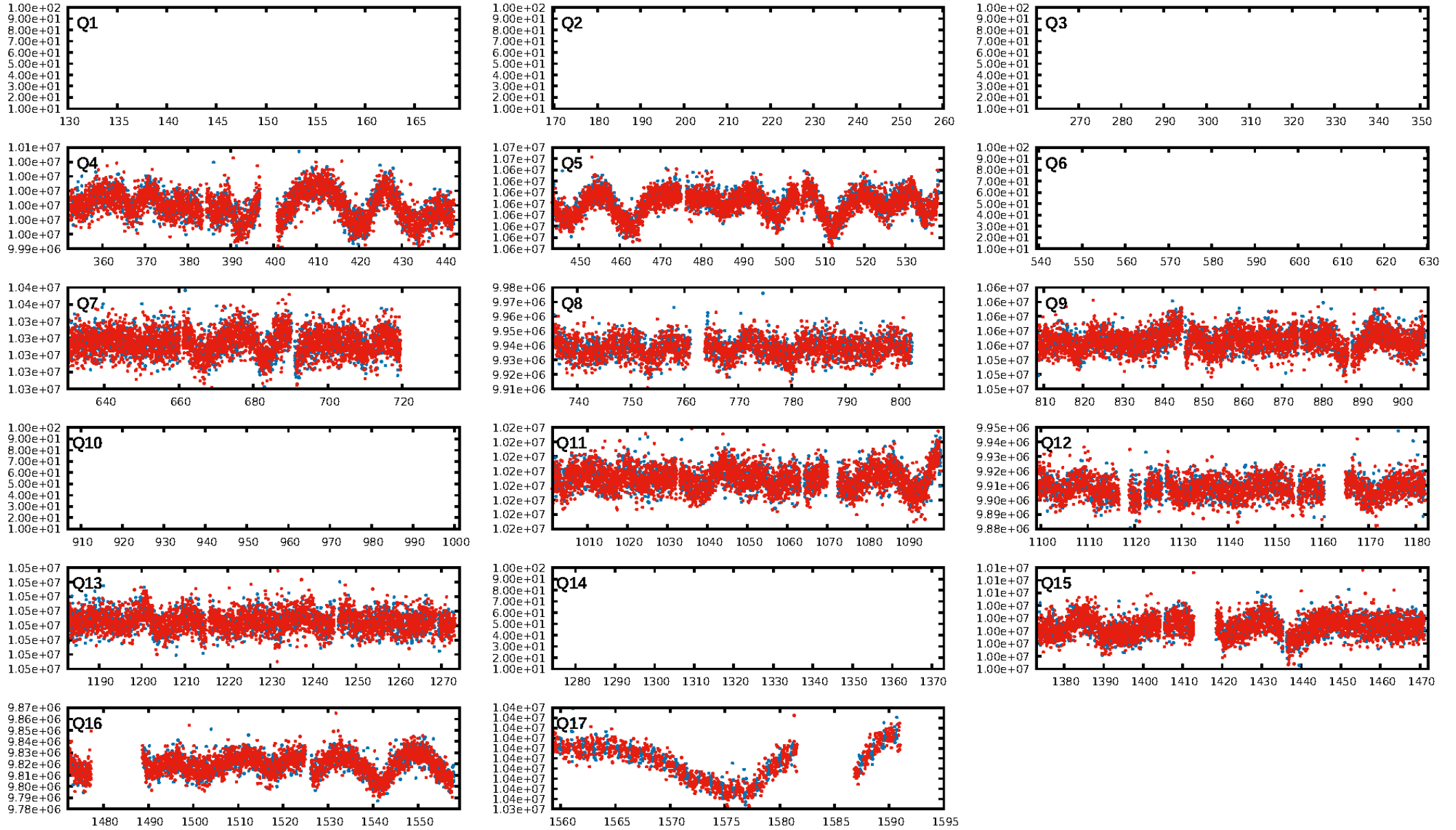
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [804/804]  
**GhostDiagnostic-chr: 0.4577**  
Centroid-sig: 0.5%  
Centroid-so: 4.592 arcsec [2.95σ]  
**OotOffset-rm: 8.082 arcsec [111.84σ]**  
**KicOffset-rm: 8.376 arcsec [122.40σ]**  
OotOffset-st: 0/0/4/0 [4]  
KicOffset-st: 0/0/4/0 [4]  
DiffImageQuality-fgm: 1.00 [4/4]  
DiffImageOverlap-fno: 1.00 [11/11]

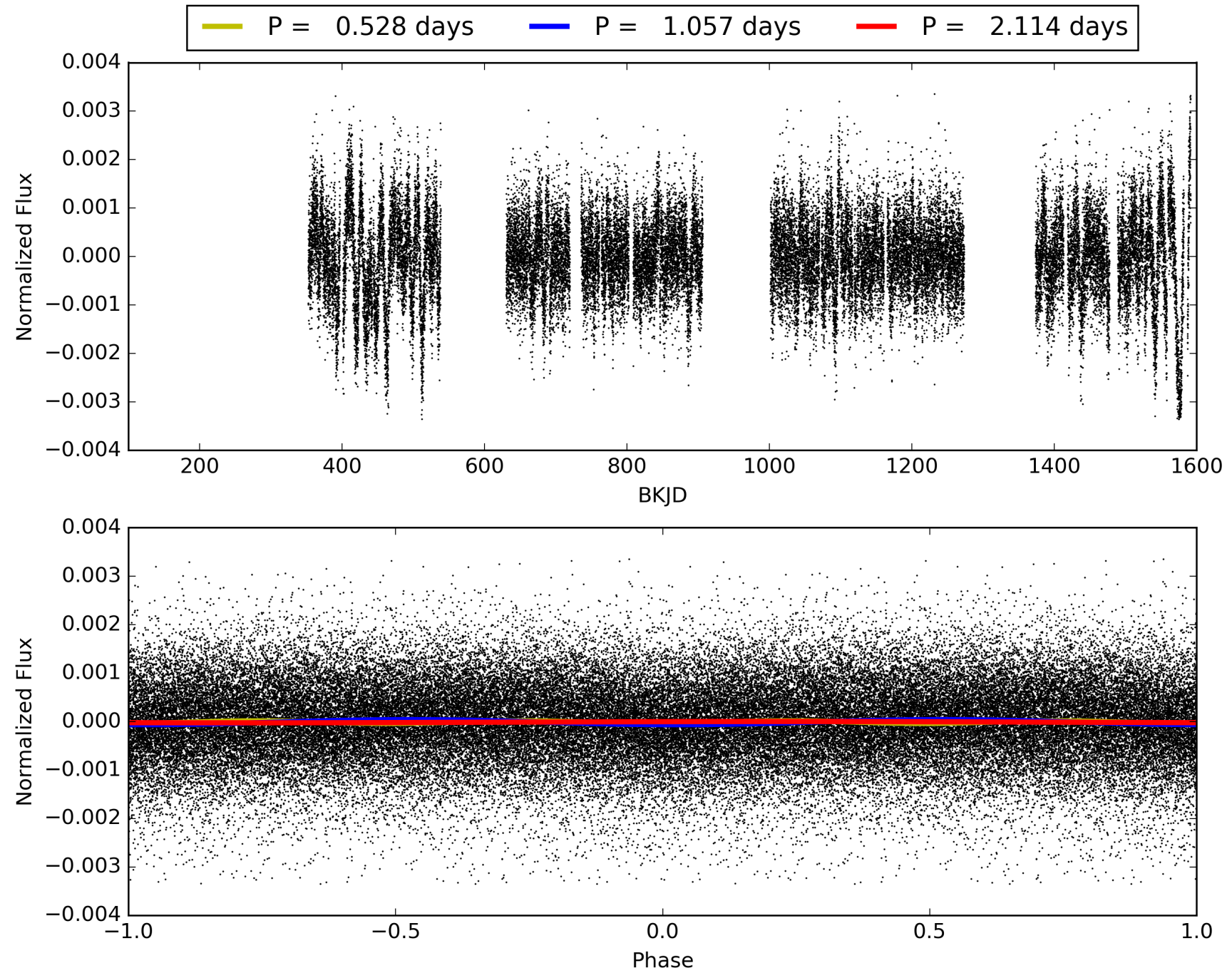
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 00:23:00 Z

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

# TCE 005022900-01, PDC Light Curves

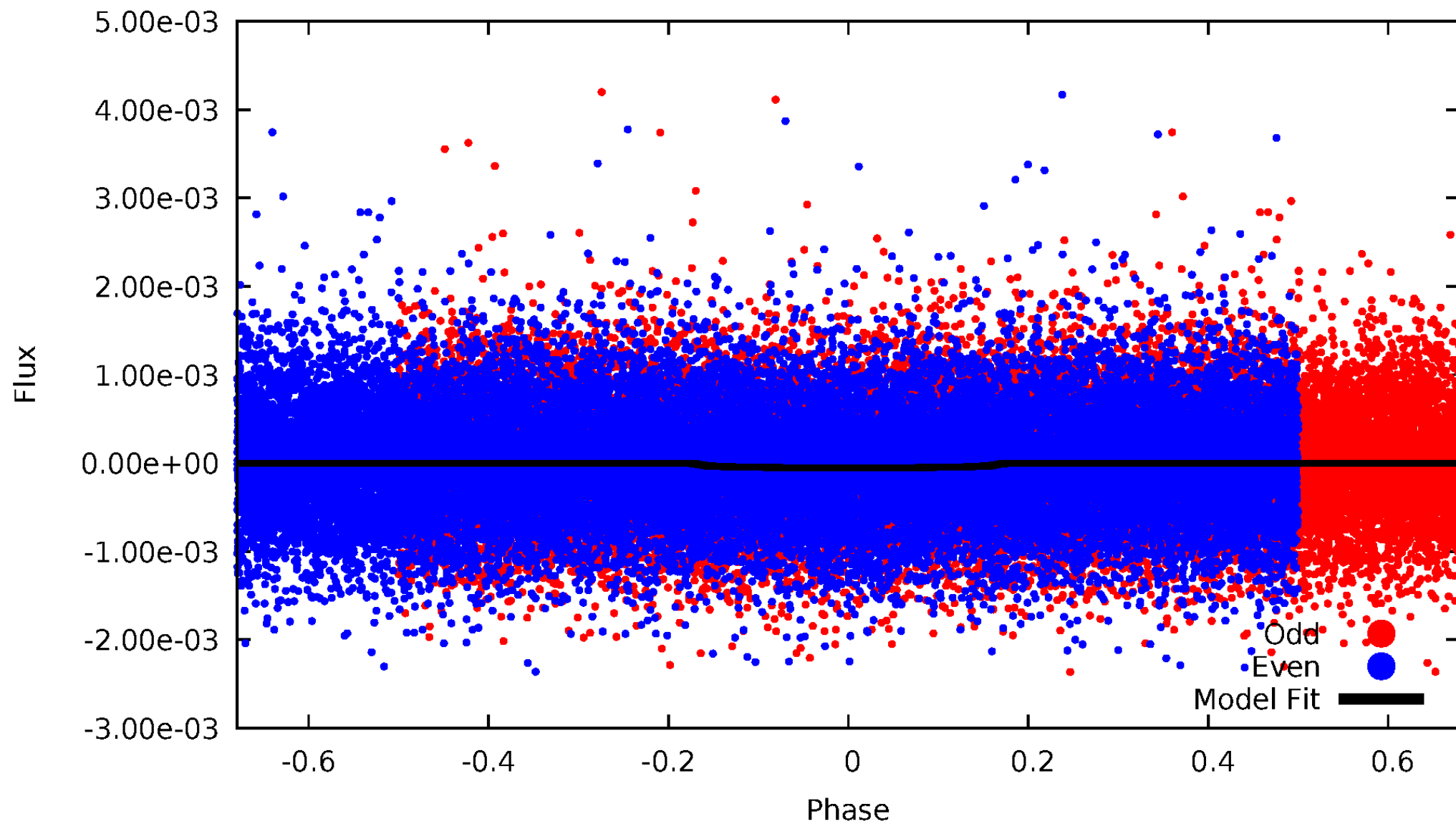


TCE 005022900-01



# DV Odd/Even

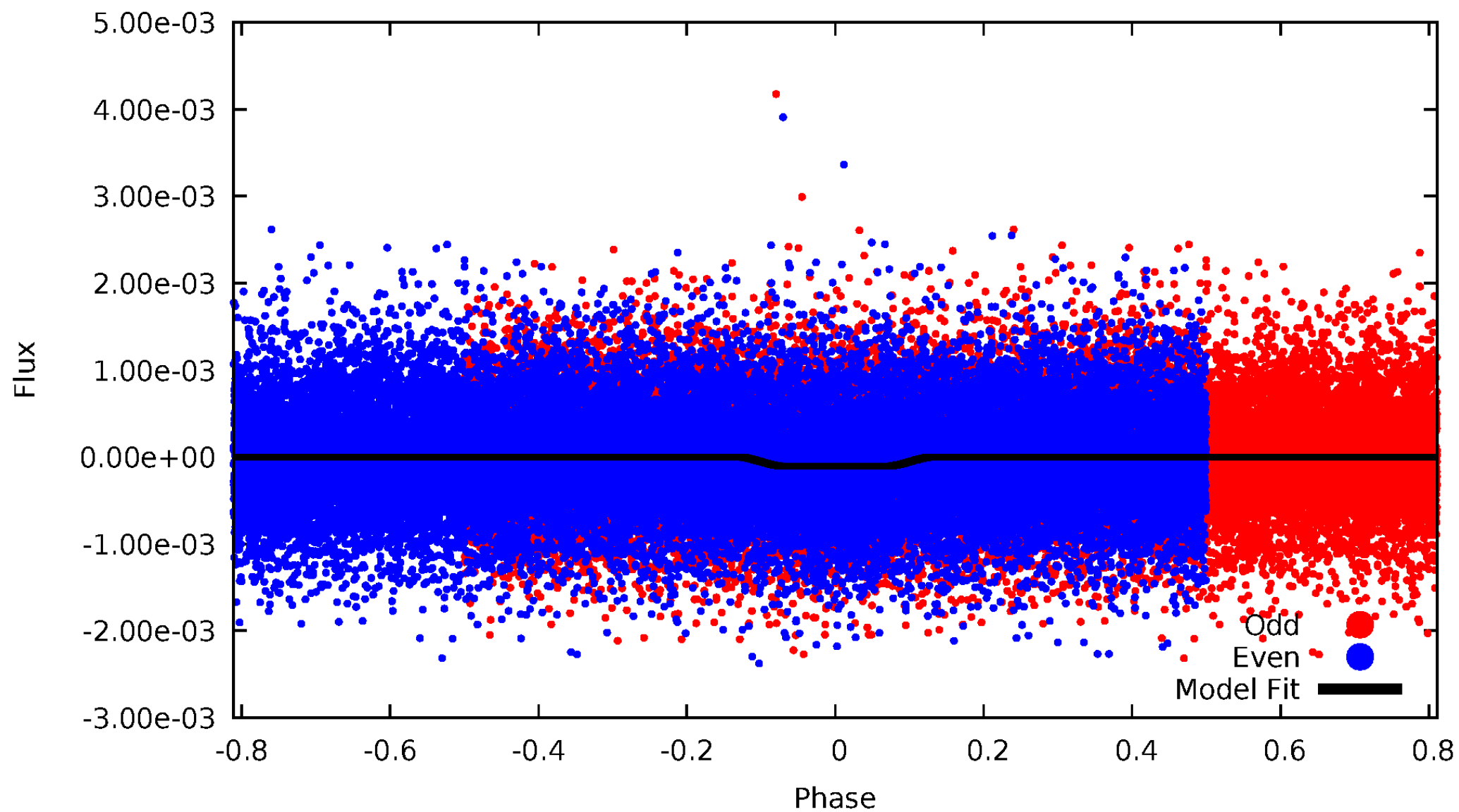
TCE 005022900-01



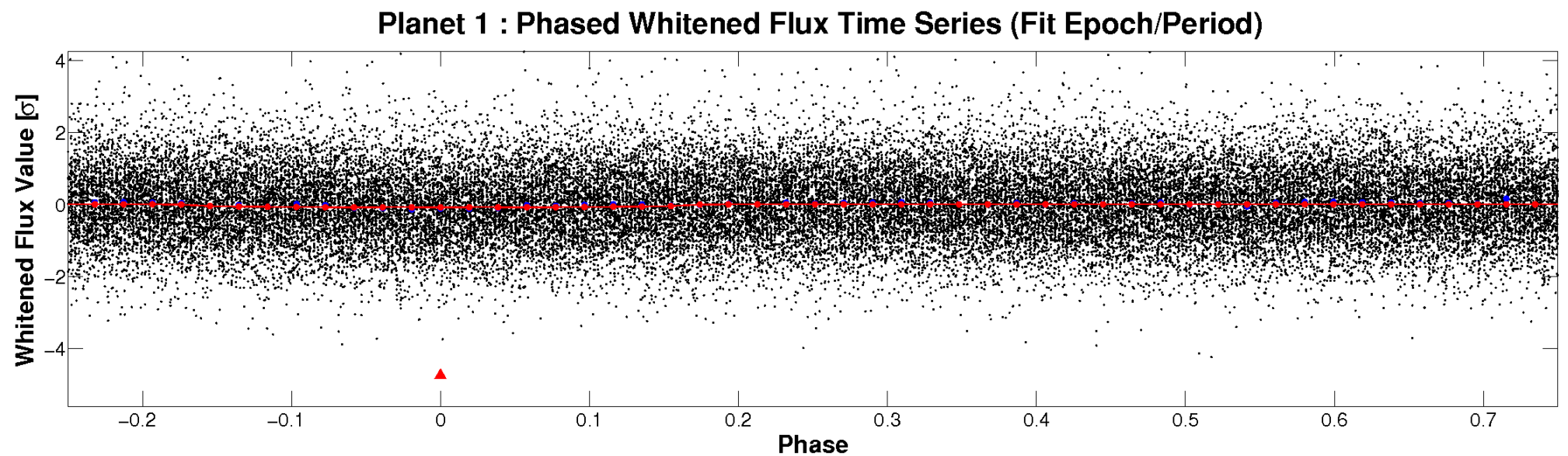
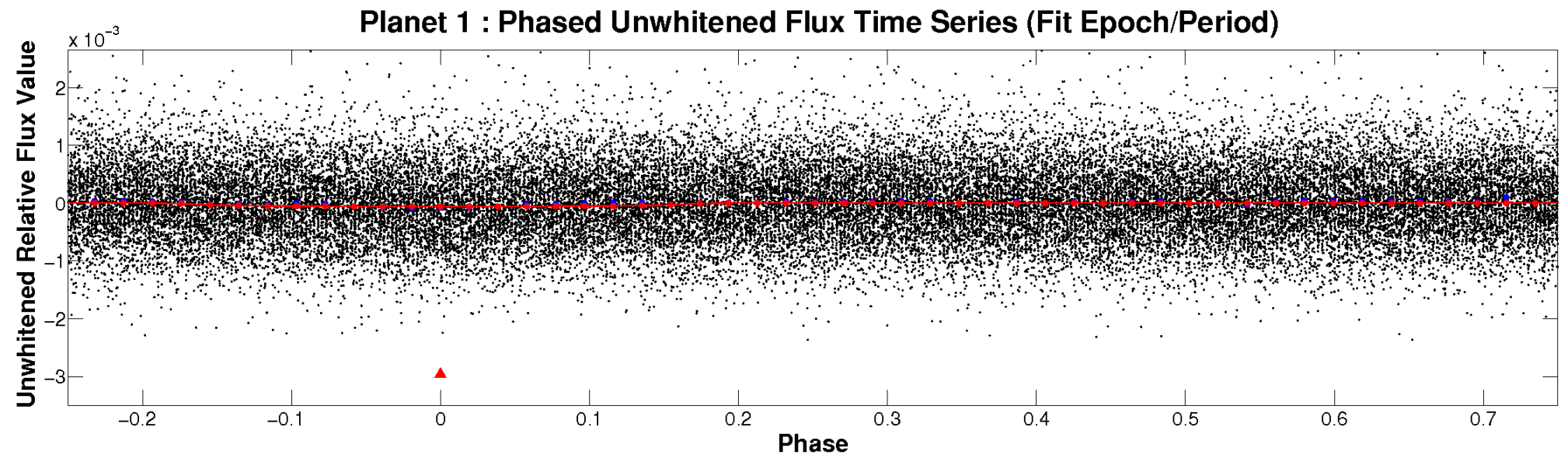


# ALT Odd/Even

TCE 005022900-01

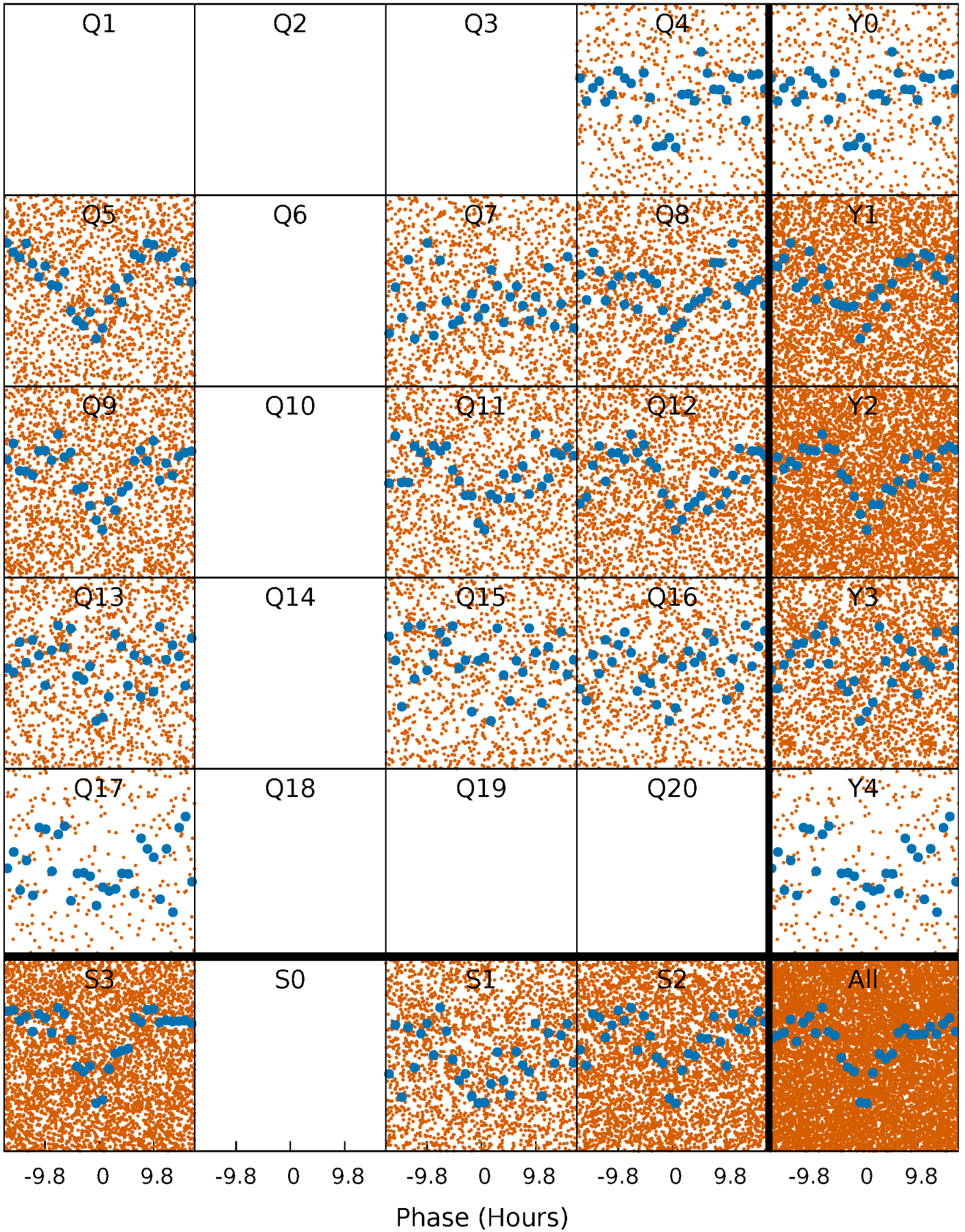


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

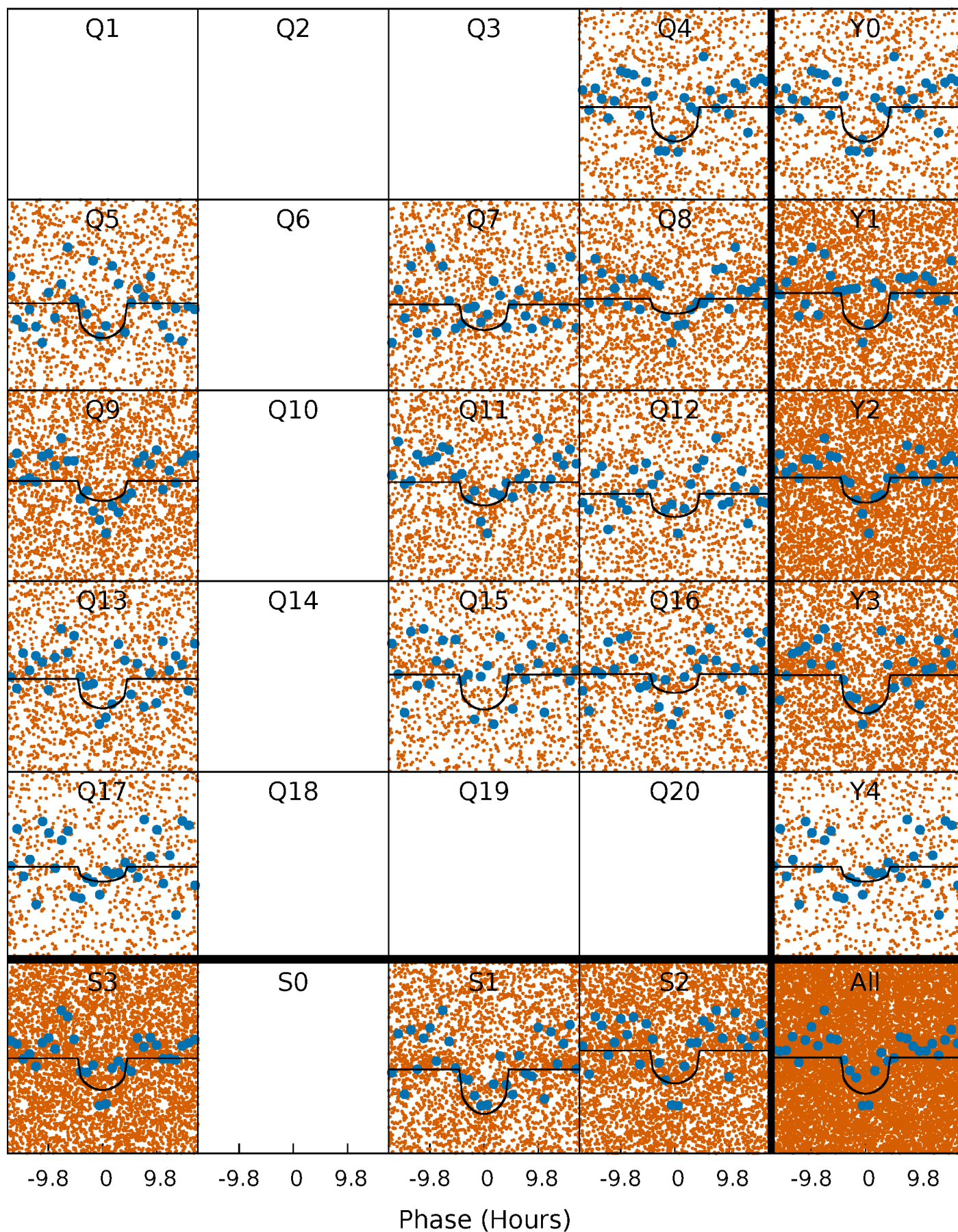
TCE 005022900-01   P= 1.056751 Days    $T_0=131.747584$  (BKJD)





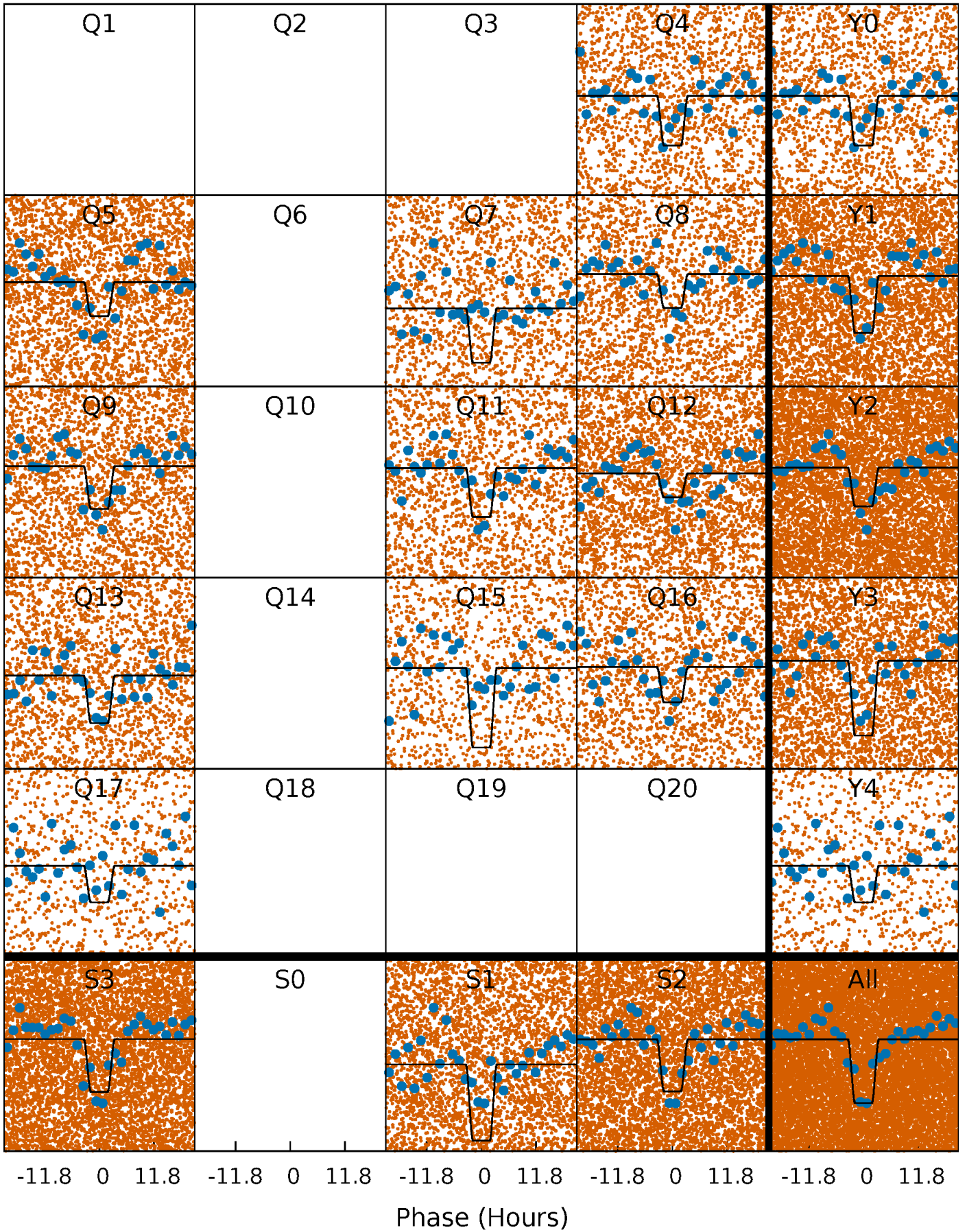
# DV Quarter-Phased Transit Curves

TCE 005022900-01 P= 1.056751 Days  $T_0=131.747584$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

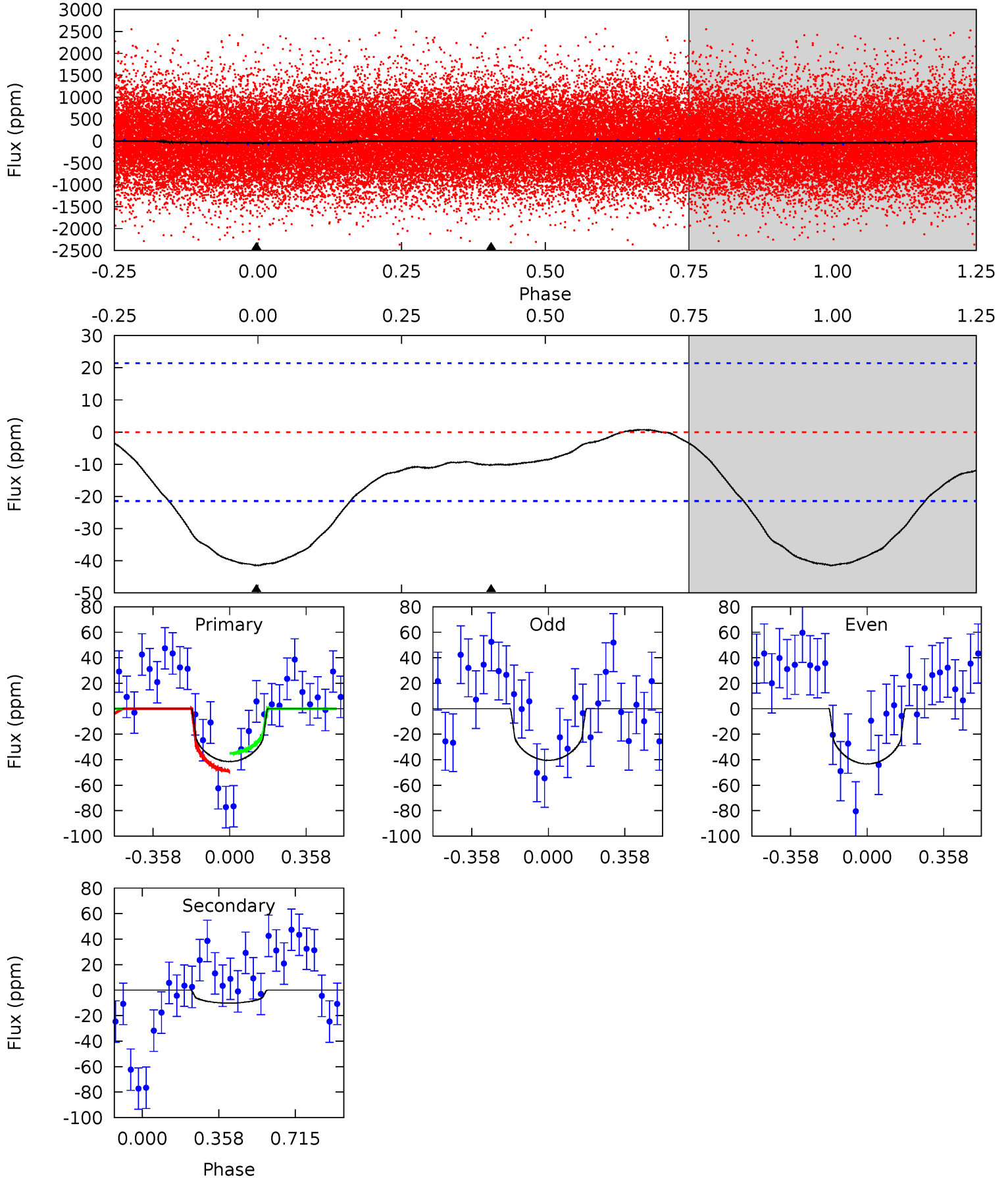
TCE 005022900-01 P= 1.056752 Days  $T_0=131.746272$  (BKJD)



# DV Model-Shift Uniqueness Test

005022900-01, P = 1.056751 Days, E = 131.747584 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
8.30	2.04	0	0	4.29	0.92	0.26	8.30	8.30	2.04	2.04	0.28	1.07	0.02	1.36

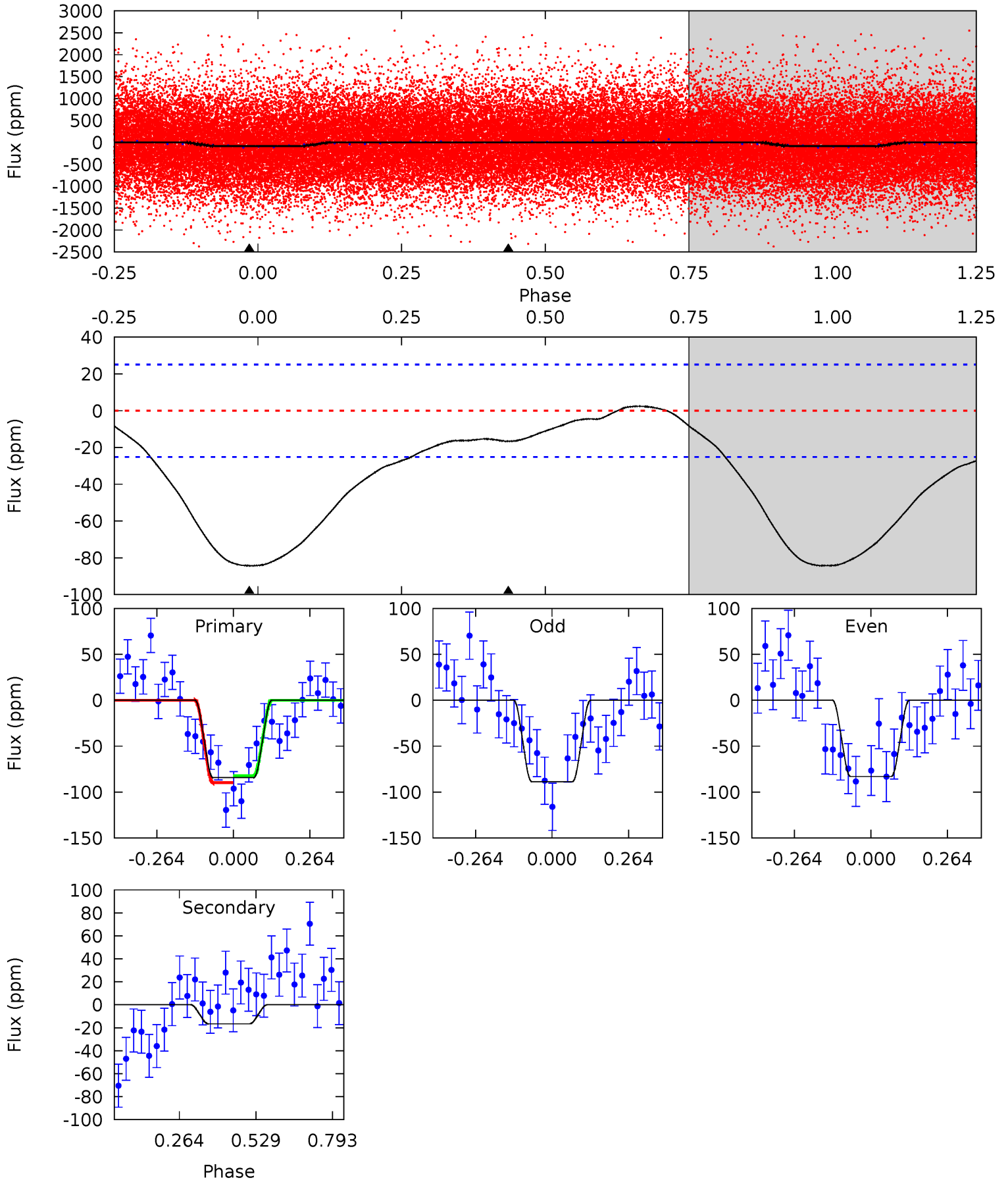




# Alt Model-Shift Uniqueness Test

005022900-01, P = 1.056752 Days, E = 131.746272 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
14.6	2.89	0	0	4.36	1.12	0.91	14.6	14.6	2.89	2.89	0.49	0.98	0.03	0.65





### Stellar Parameters For KIC 005022900

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5584^{+166}_{-183}$	$4.532^{+0.046}_{-0.184}$	$0.100^{+0.250}_{-0.300}$	$0.885^{+0.237}_{-0.079}$	$0.974^{+0.094}_{-0.105}$	$1.976^{+0.451}_{-0.949}$
	+3%/-3%	+1%/-4%	+250%/-300%	+27%/-9%	+10%/-11%	+23%/-48%
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 005022900-01 / KOI 6492.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-10 \pm 5$	$0.95^{+0.82}_{-0.62}$	$2326^{+161}_{-106}$	$3517^{+1859}_{-857}$	$2.181^{+16.310}_{-1.618}$
Alt.	$-17 \pm 6$	$1.18^{+0.86}_{-0.72}$	$2327^{+156}_{-106}$	$3627^{+1707}_{-738}$	$2.592^{+15.579}_{-1.786}$

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

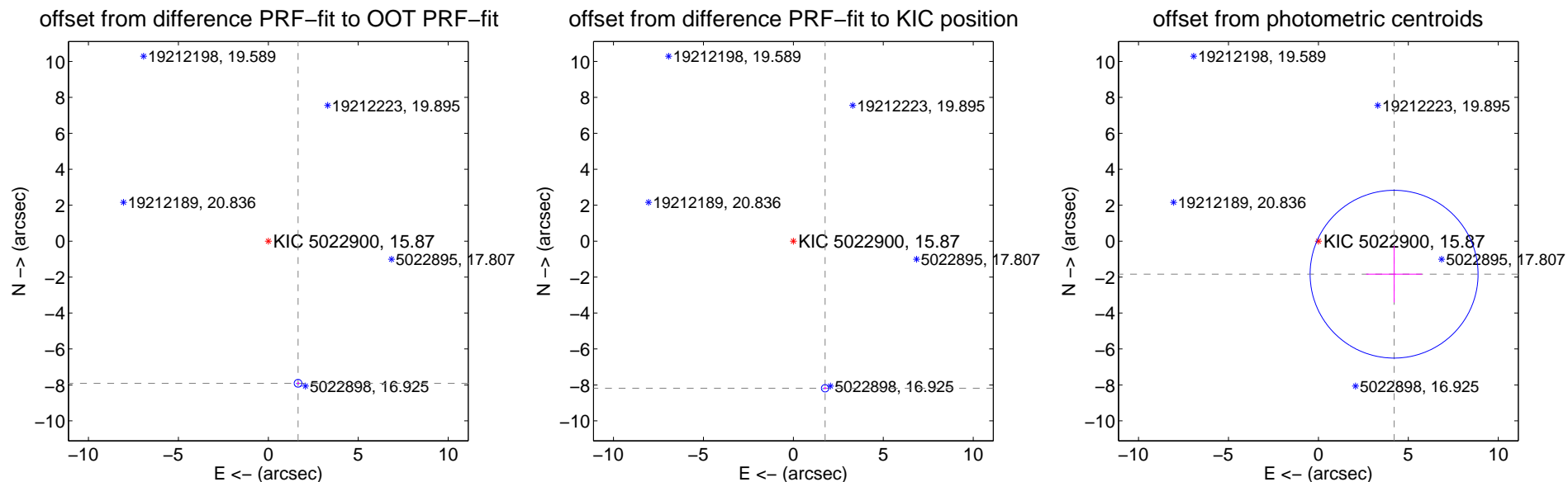
## DV Centroid Data

Supplemental centroid analysis for 005022900-01. Kepler magnitude: 15.87. Transit SNR 7.73

There are 4 quarters with good PRF difference image offsets

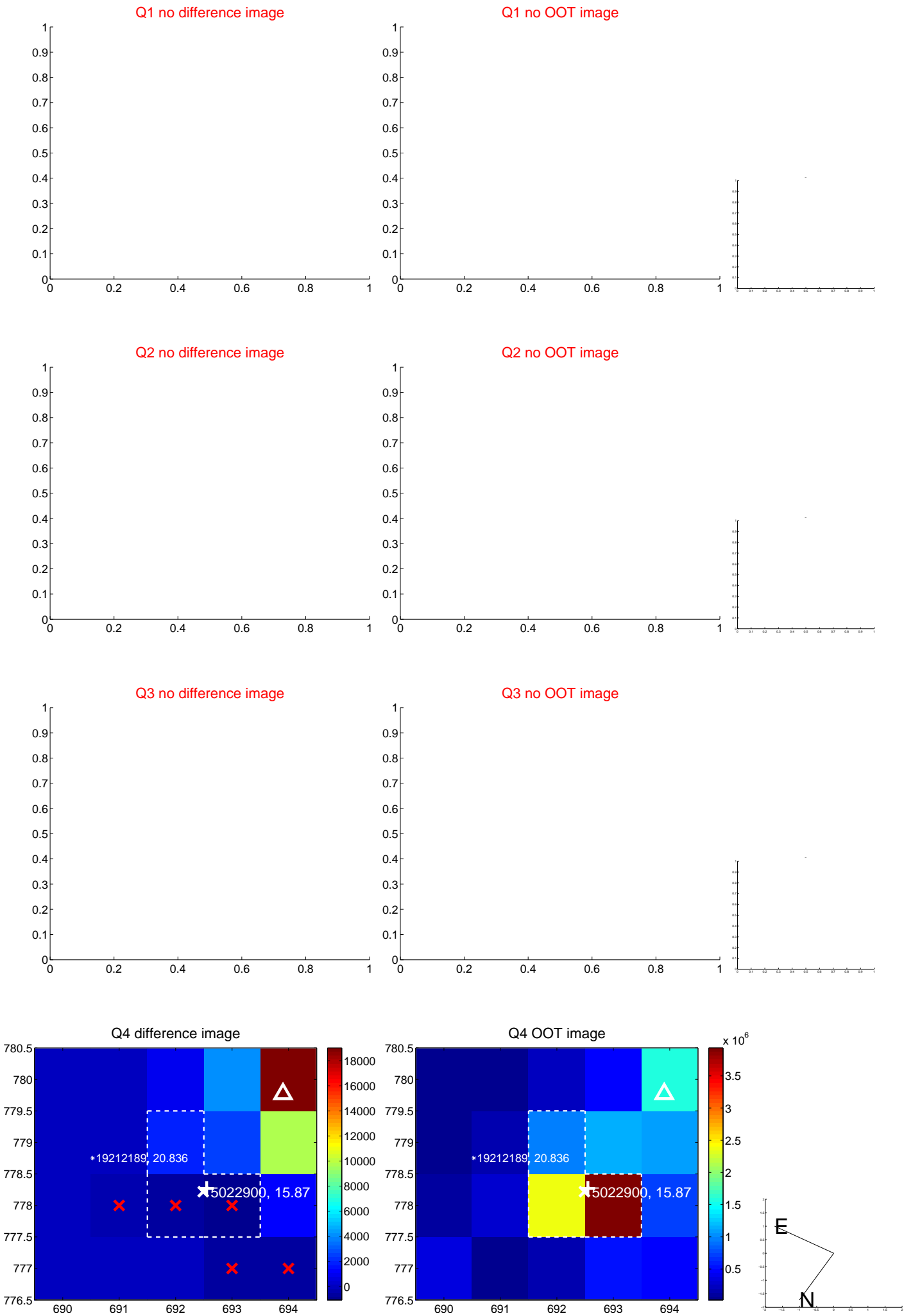
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$8.082 \pm 0.072$	111.84	$-1.654 \pm 0.073$	$-7.911 \pm 0.072$
PRF-fit source offset from KIC position	$8.376 \pm 0.068$	122.40	$-1.764 \pm 0.077$	$-8.188 \pm 0.068$
photometric centroid source offset	$4.59 \pm 1.56$	2.95	$-4.21 \pm 1.55$	$-1.84 \pm 1.57$

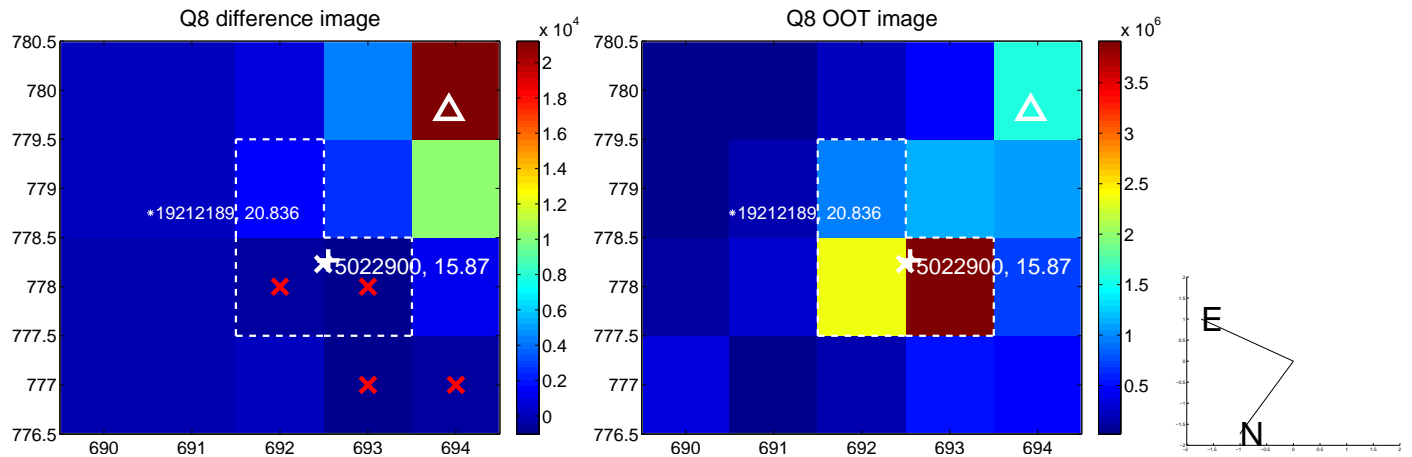
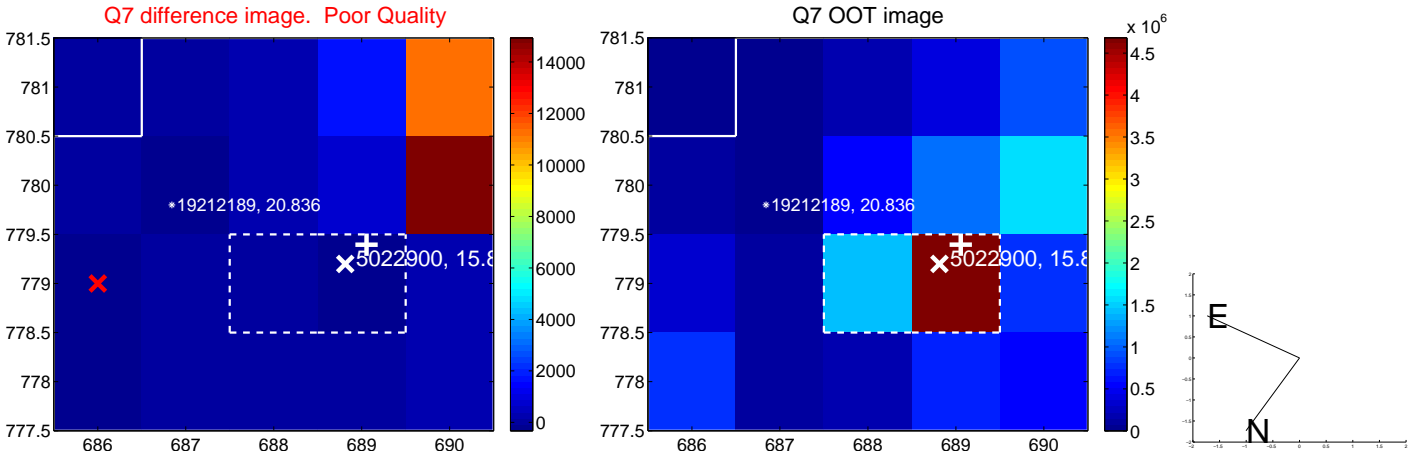
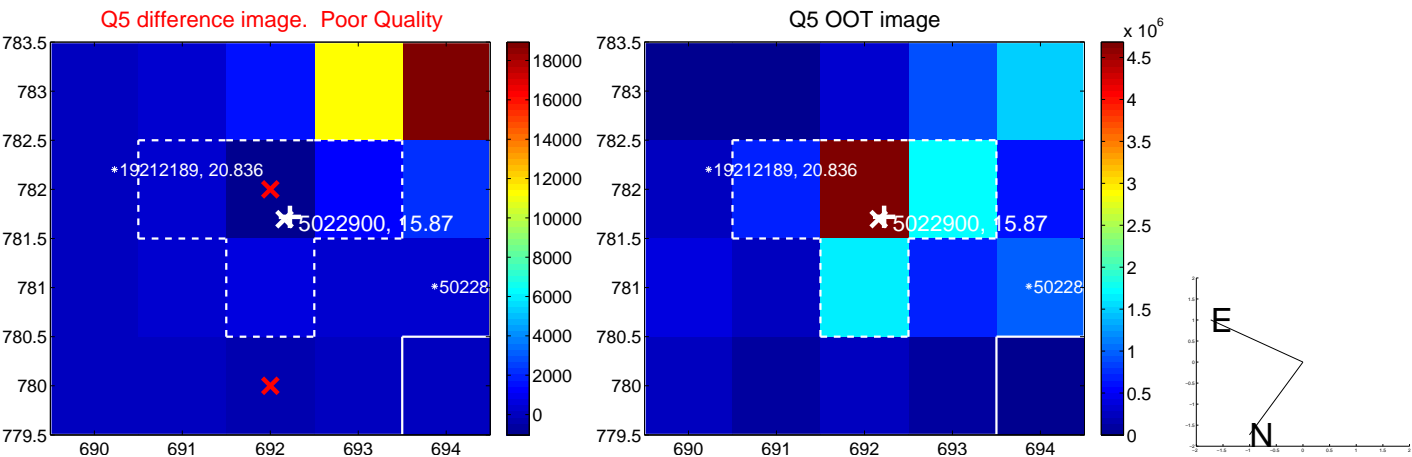


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000 are from the UKIRT catalog.

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

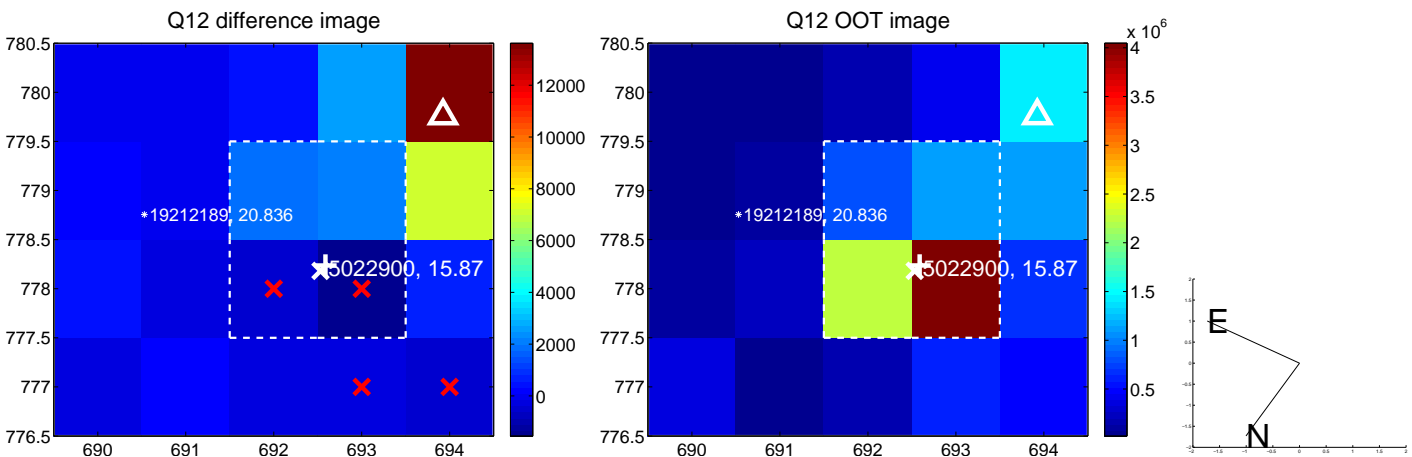
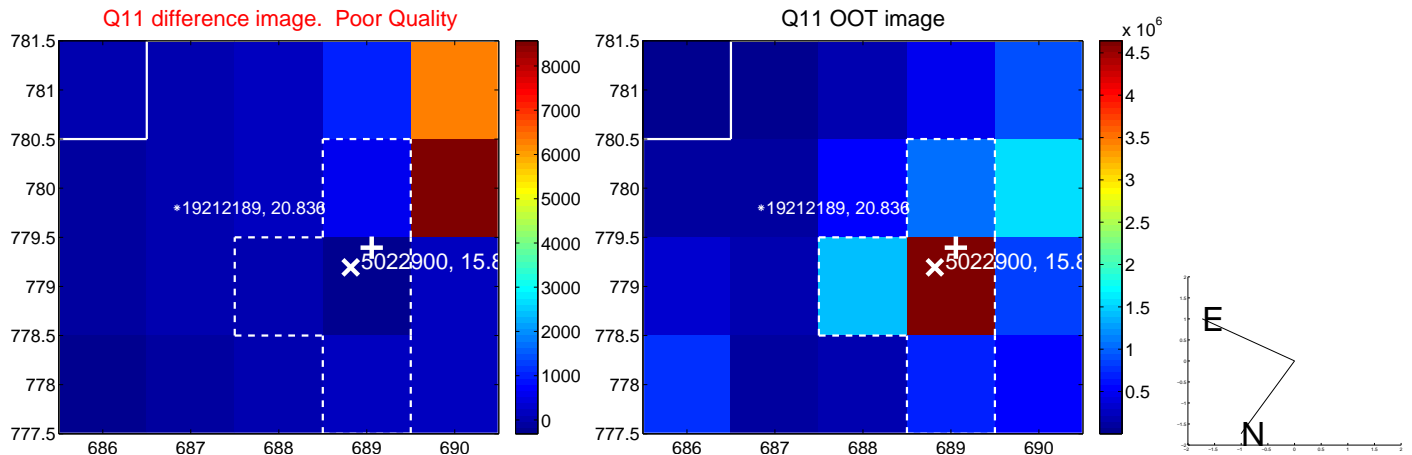
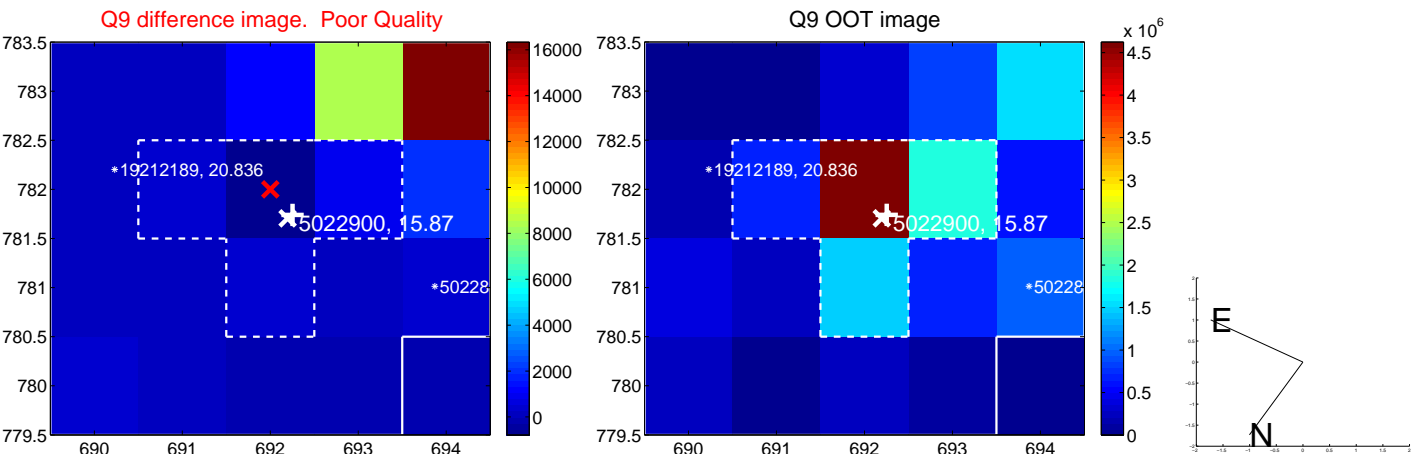


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

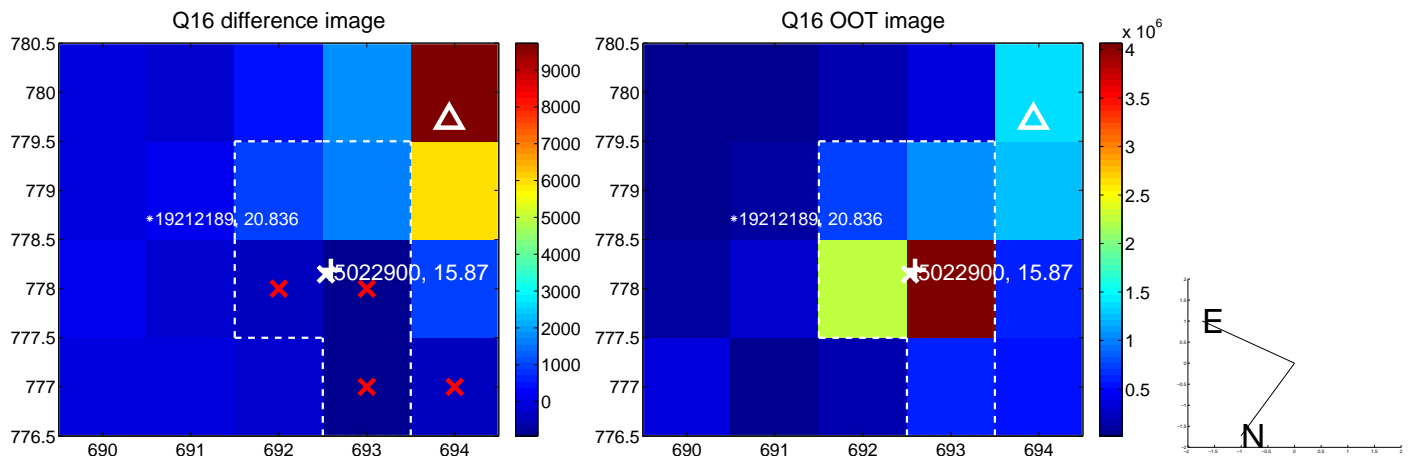
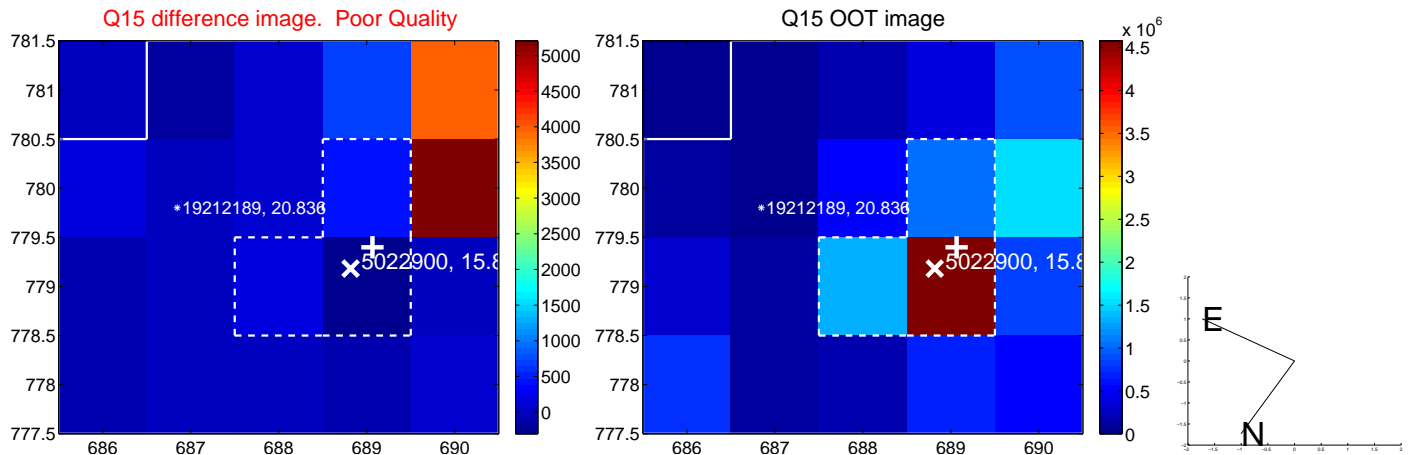
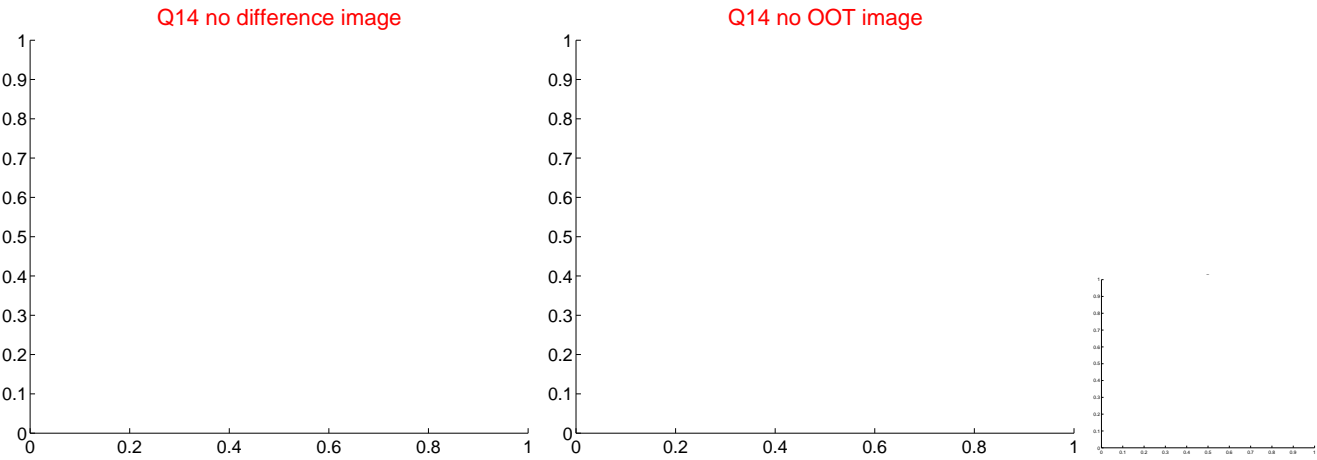
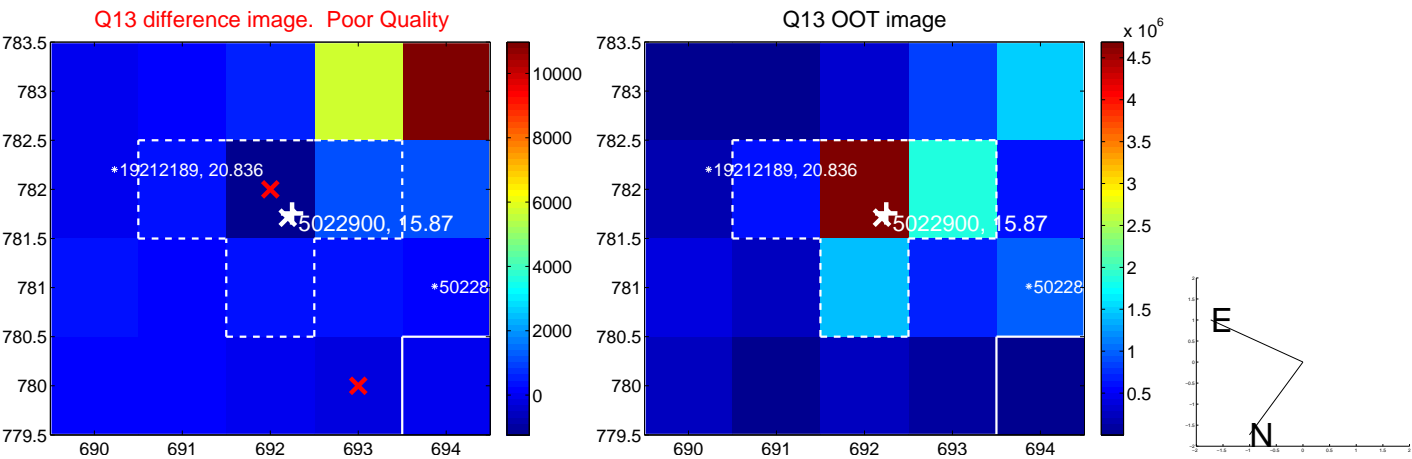




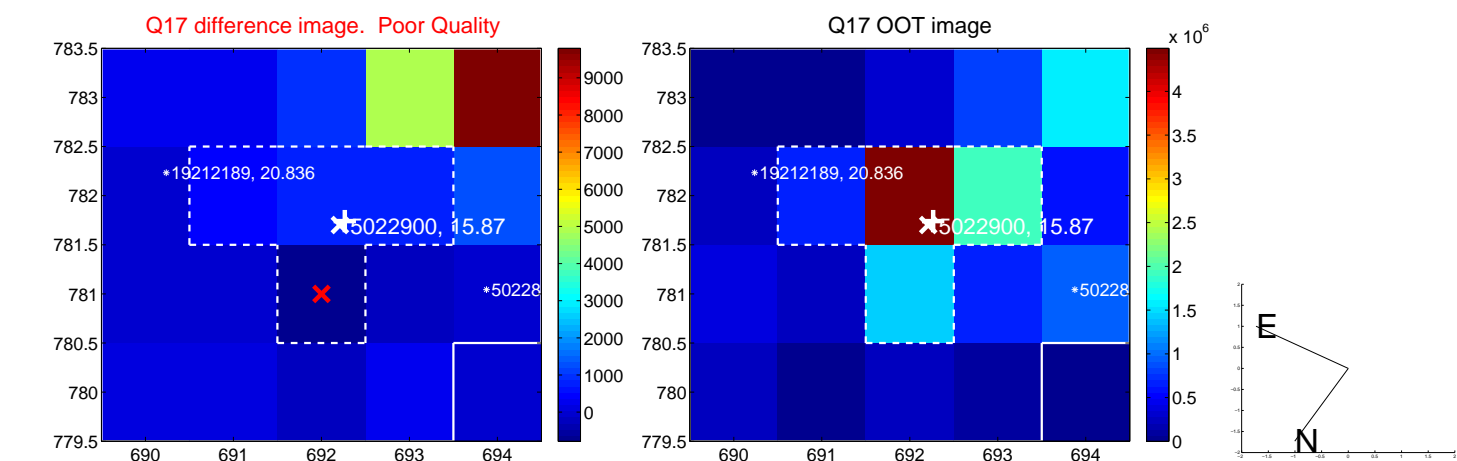
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



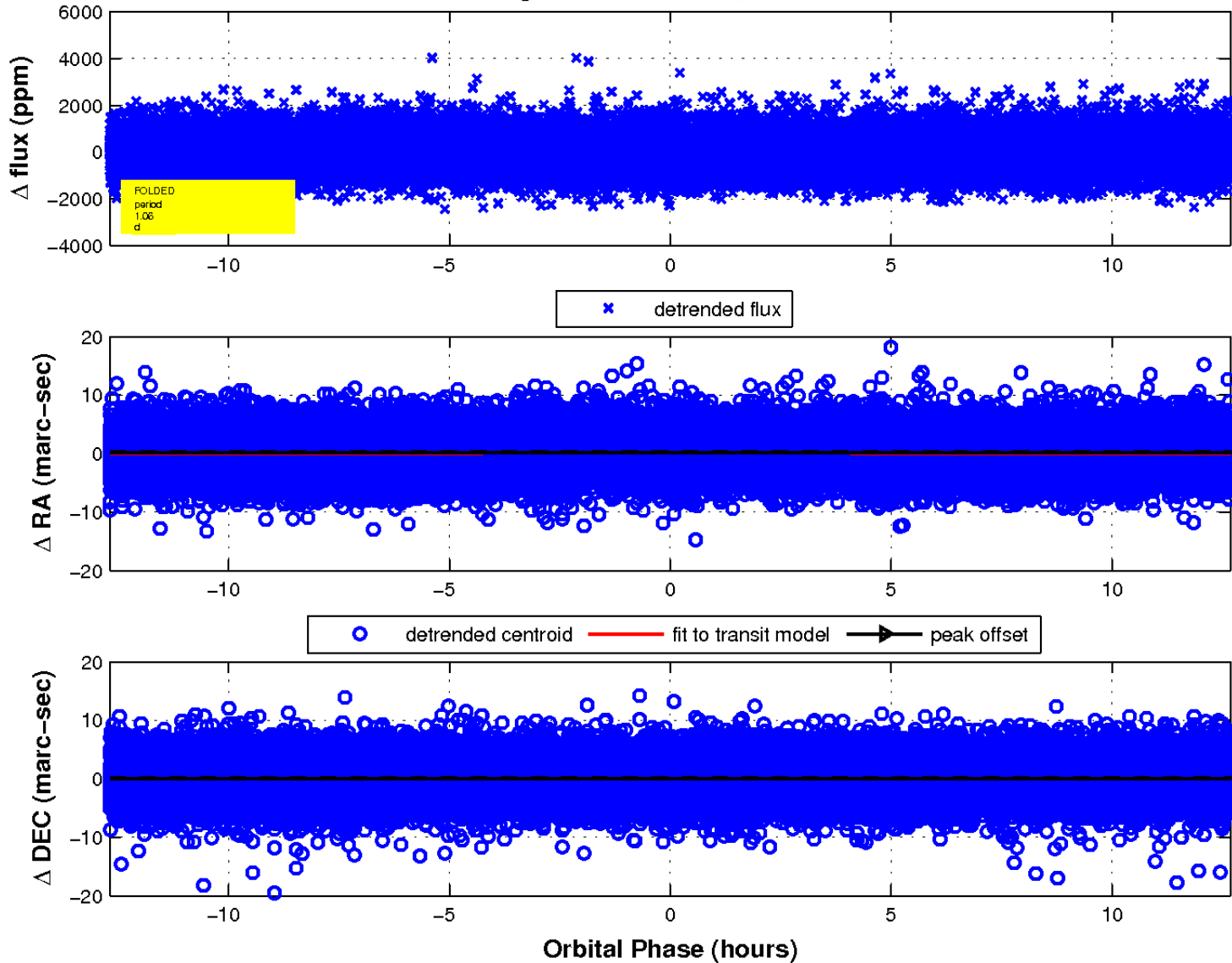
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

