

# KIC 006425891

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006425891-01	OBS	No	0.950378	131.618868	144.1	3.731	8.1	6.9	0.62	5121	0.89	909.16

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006425891-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—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.

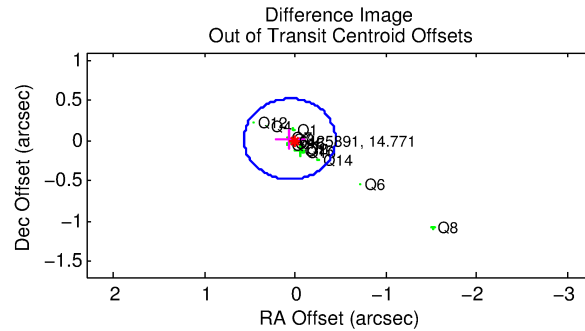
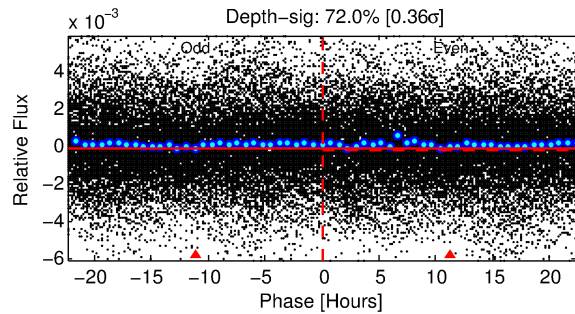
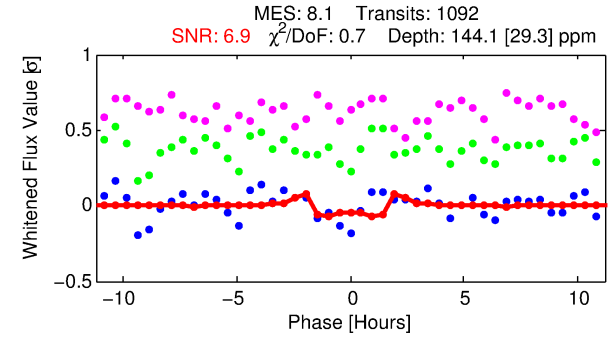
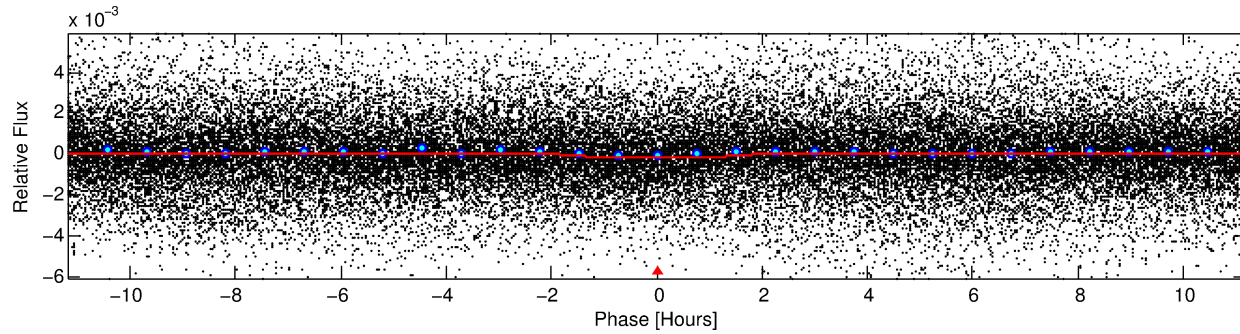
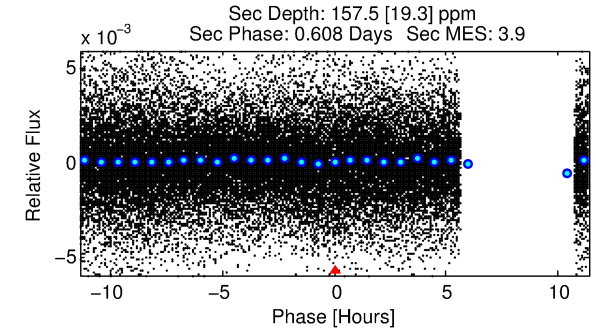
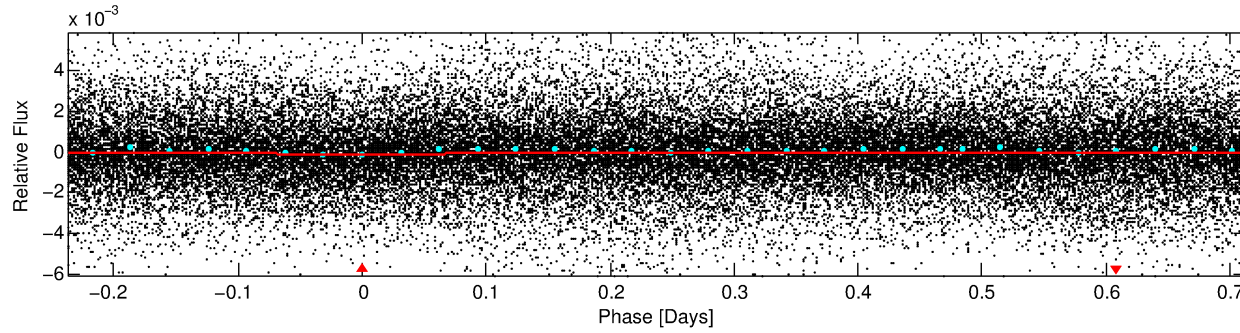
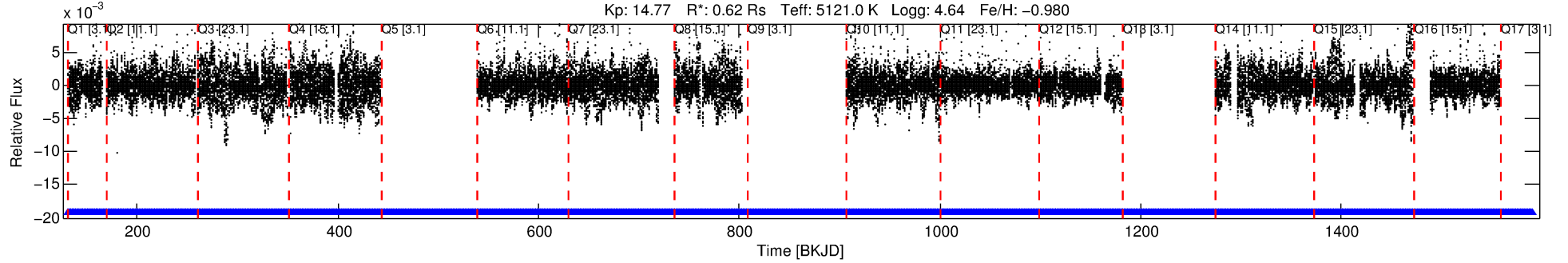
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006425891-01

No Significant Match Found

# DV One-Page Summary

KIC: 6425891 Candidate: 1 of 1 Period: 0.950 d



## DV Fit Results:

Period = 0.95038 [0.00001] d  
Epoch = 131.6189 [0.0022] BKJD  
Rp/R\* = 0.0132 [0.0035]  
a/R\* = 1.30 [0.55]  
b = 0.90 [0.22]  
Seff = 909.16 [157.12]  
Teq = 1400 [60] K  
Rp = 0.89 [0.24] Re  
a = 0.0161 [0.0012] AU  
Ag = 28.43 [15.70] [1.75σ]  
Teffp = 4999 [695] K [5.16σ]

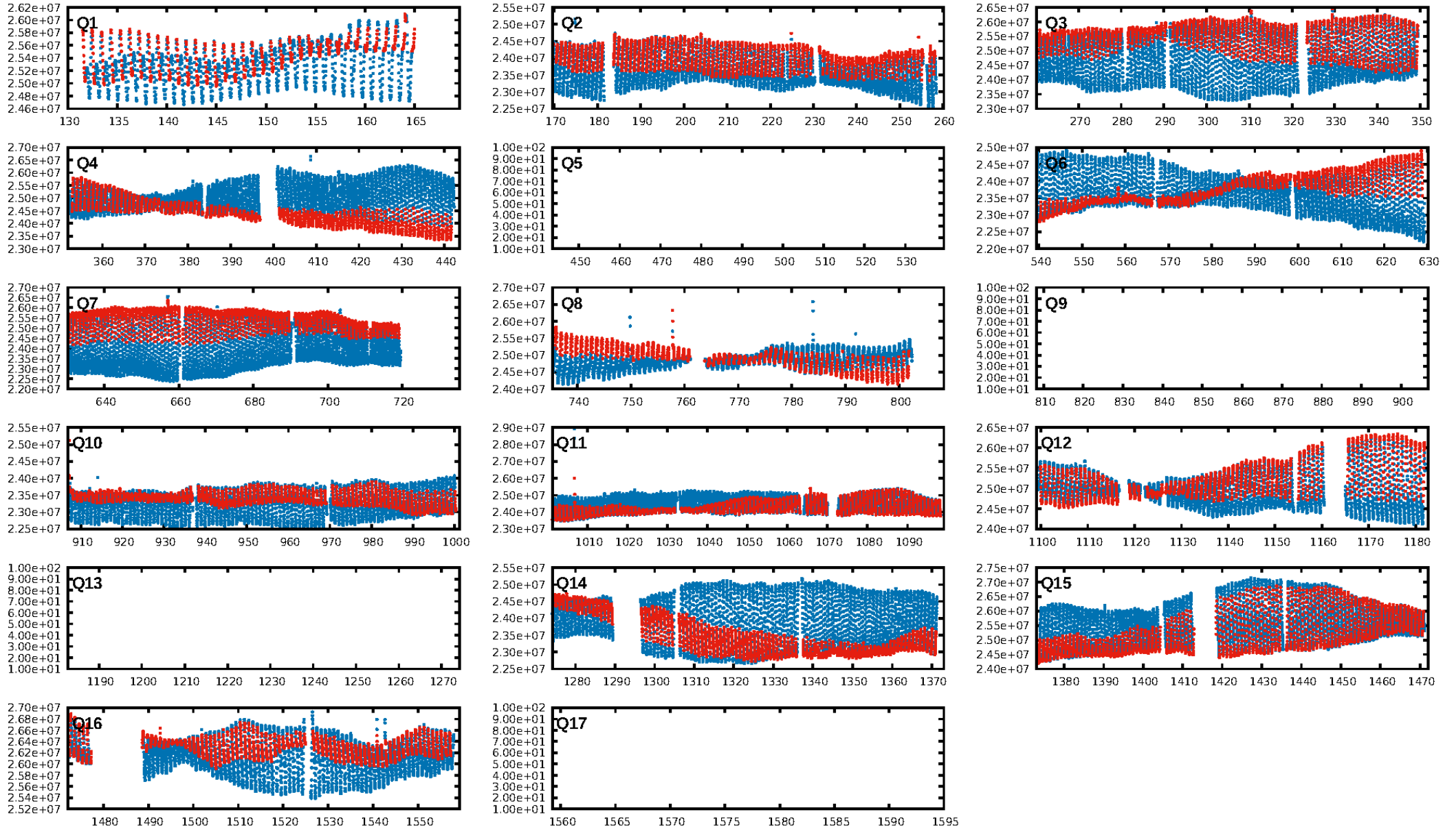
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.88e-15  
RollingBand-fgt: 1.00 [1056/1056]  
GhostDiagnostic-chr: 1.347  
Centroid-sig: 0.0%  
Centroid-so: 1.826 arcsec [3.09σ]  
OotOffset-rm: 0.063 arcsec [0.37σ]  
KicOffset-rm: 0.285 arcsec [2.92σ]  
OotOffset-st: 4/4/4/1 [13]  
KicOffset-st: 4/4/4/1 [13]  
DiffImageQuality-fgm: 0.46 [6/13]  
DiffImageOverlap-fno: 1.00 [13/13]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 13:45:07 Z

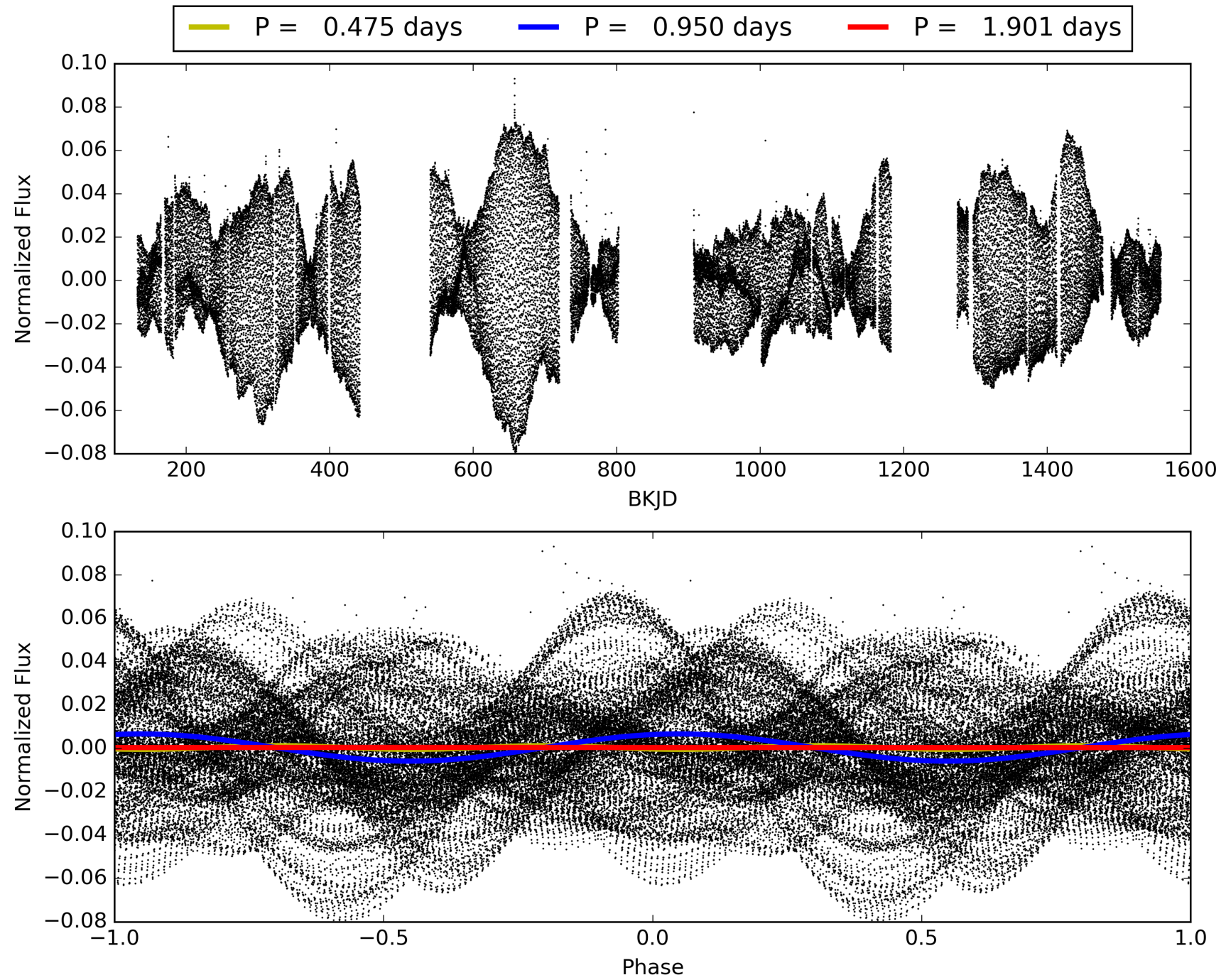
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 006425891-01, PDC Light Curves



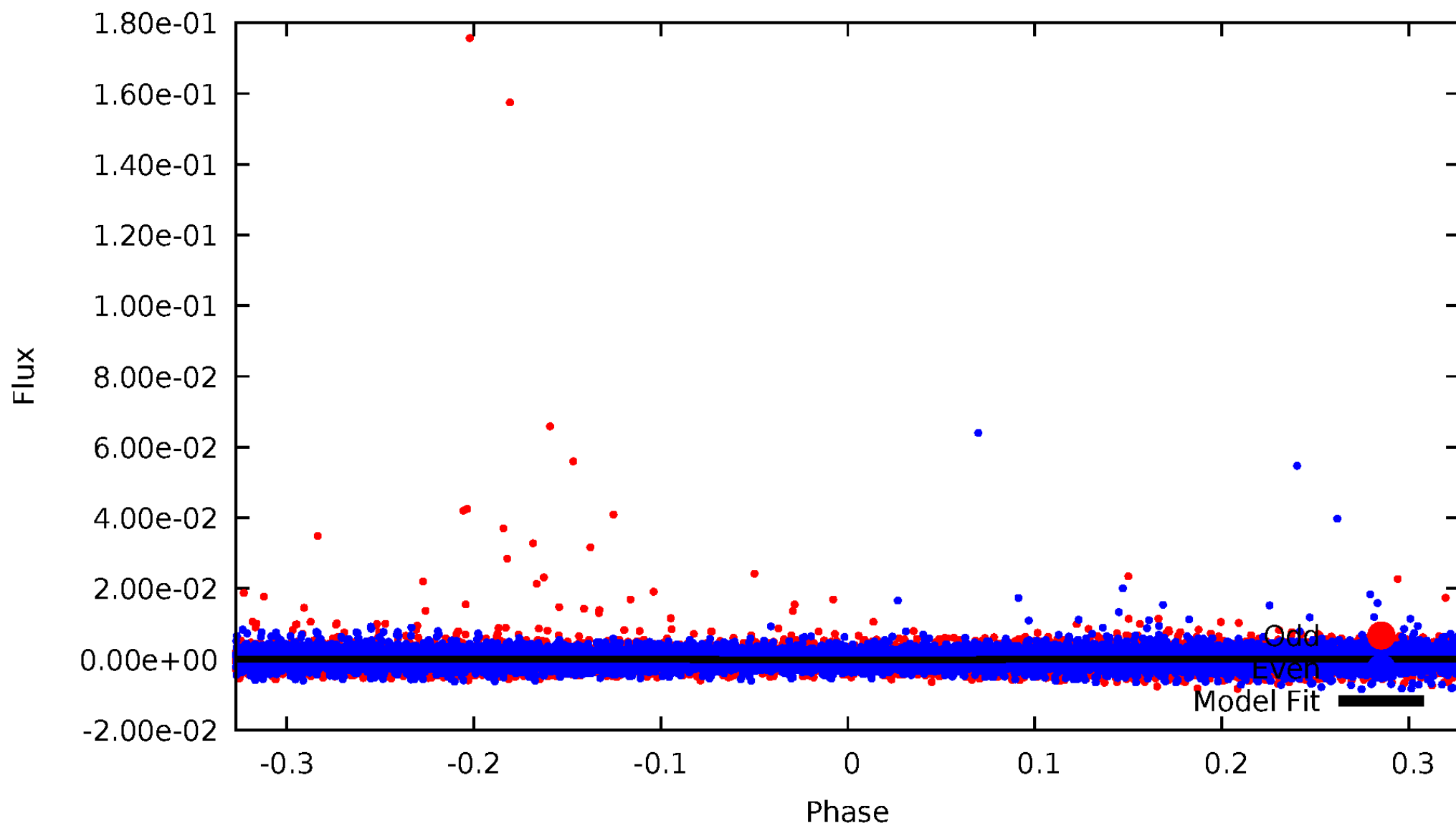


TCE 006425891-01



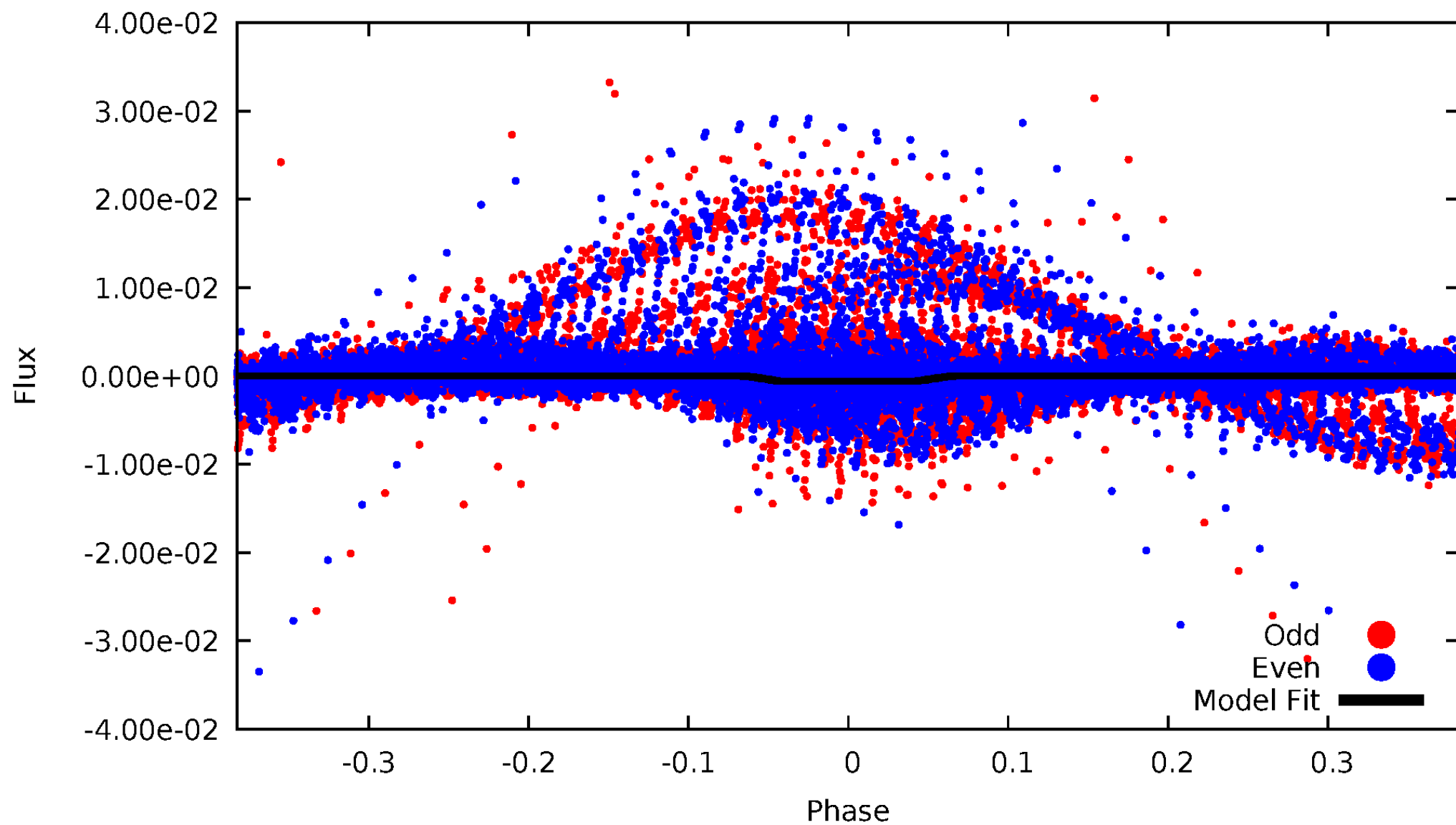
# DV Odd/Even

TCE 006425891-01

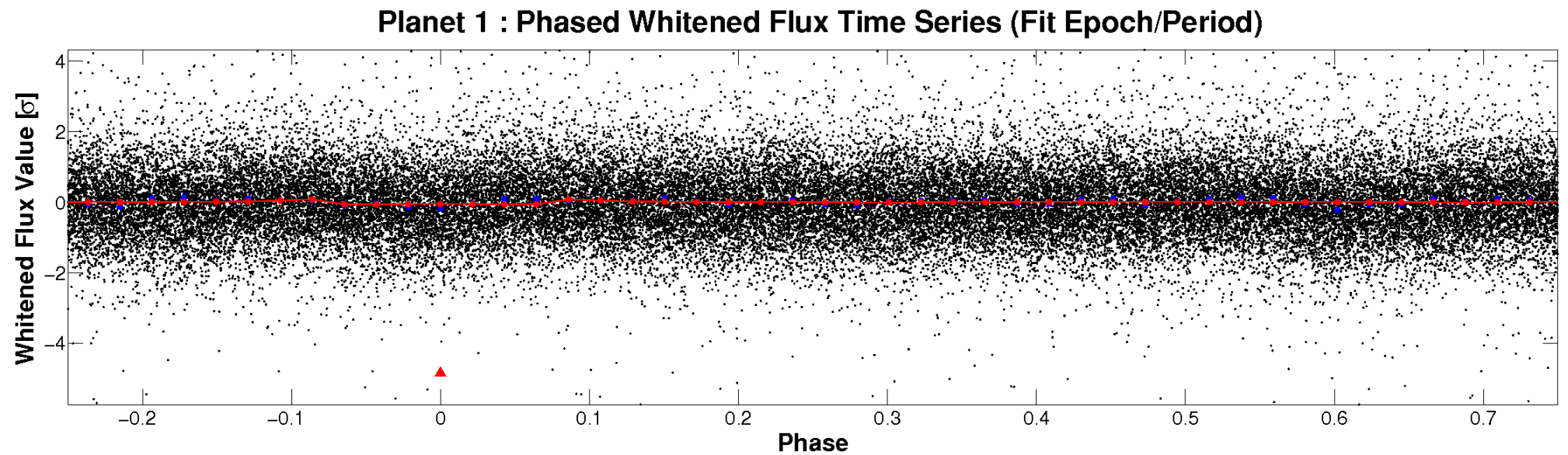
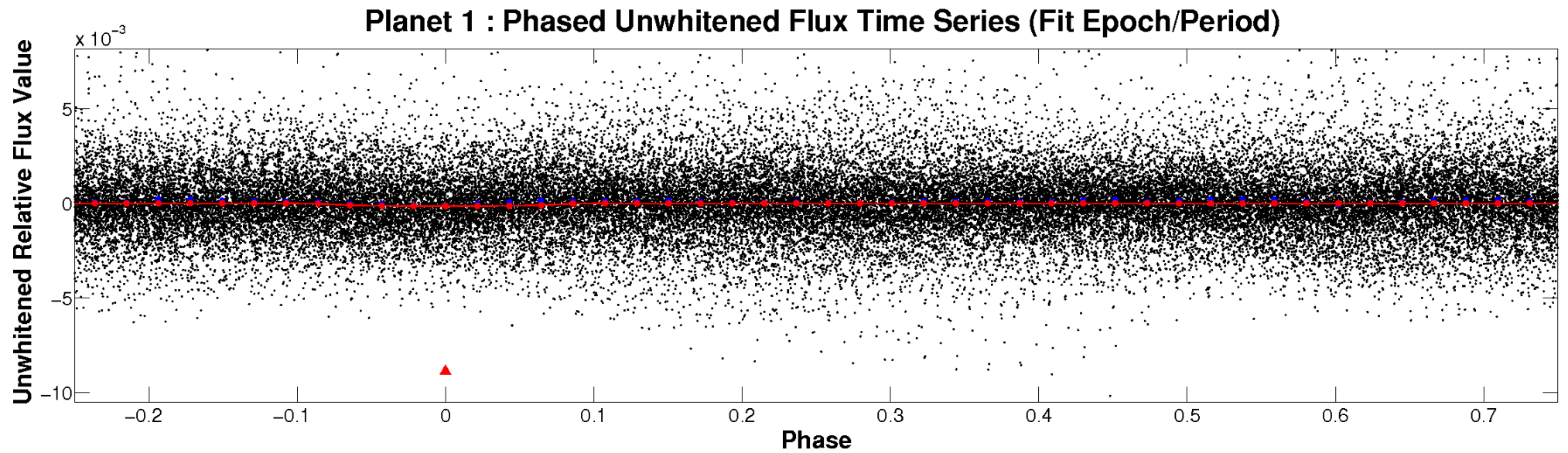


# ALT Odd/Even

TCE 006425891-01



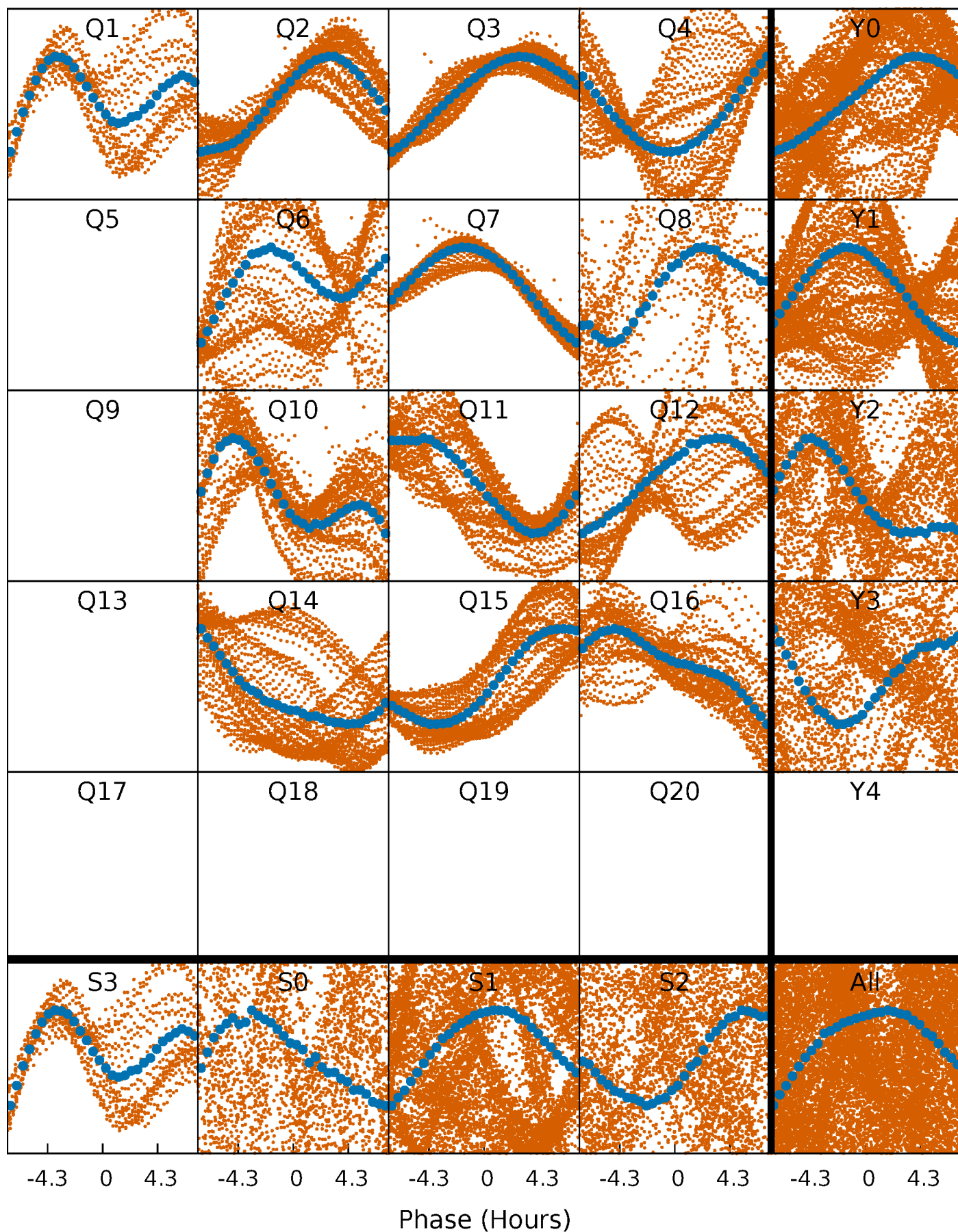
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

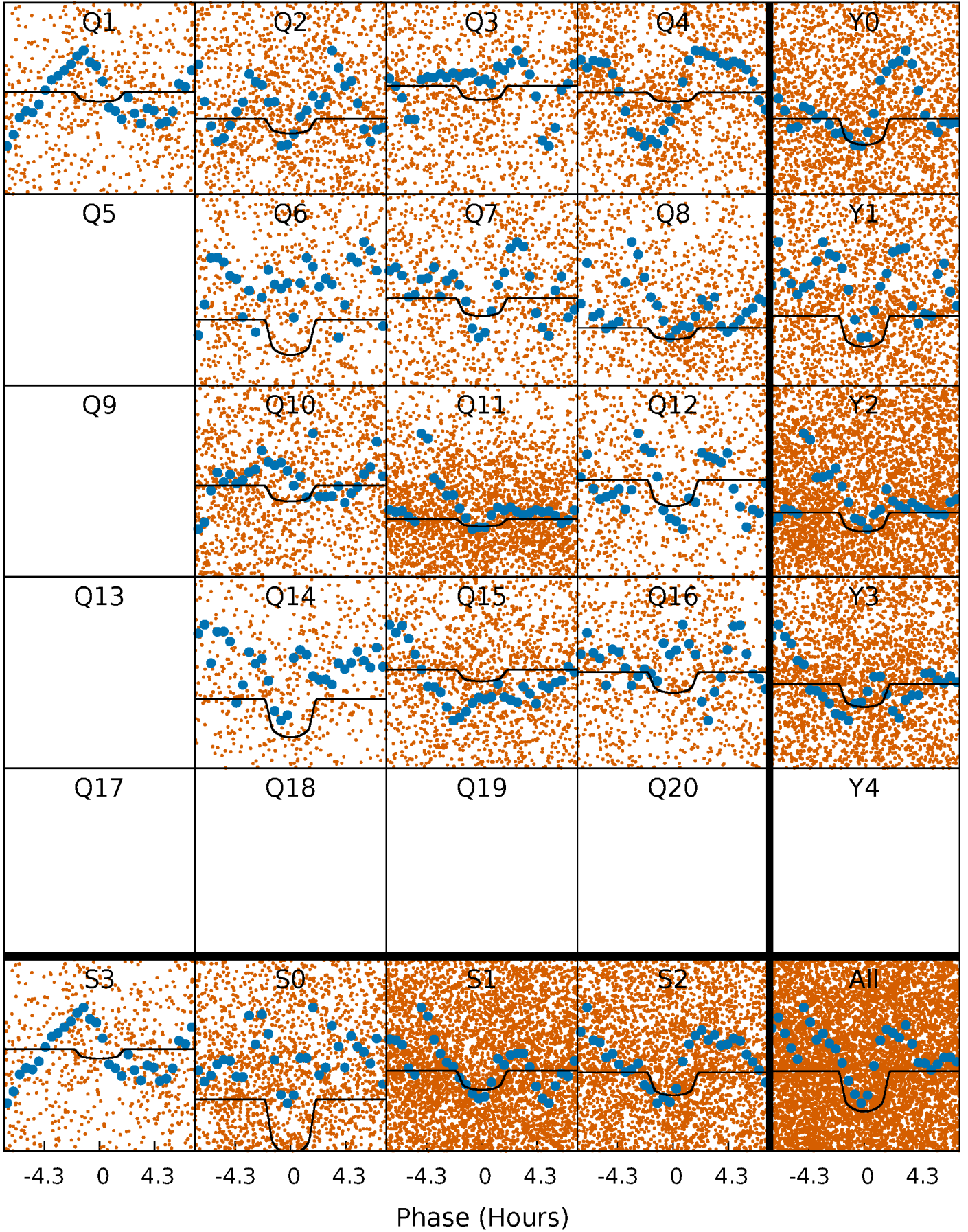
TCE 006425891-01 P= 0.950378 Days  $T_0=131.618868$  (BKJD)





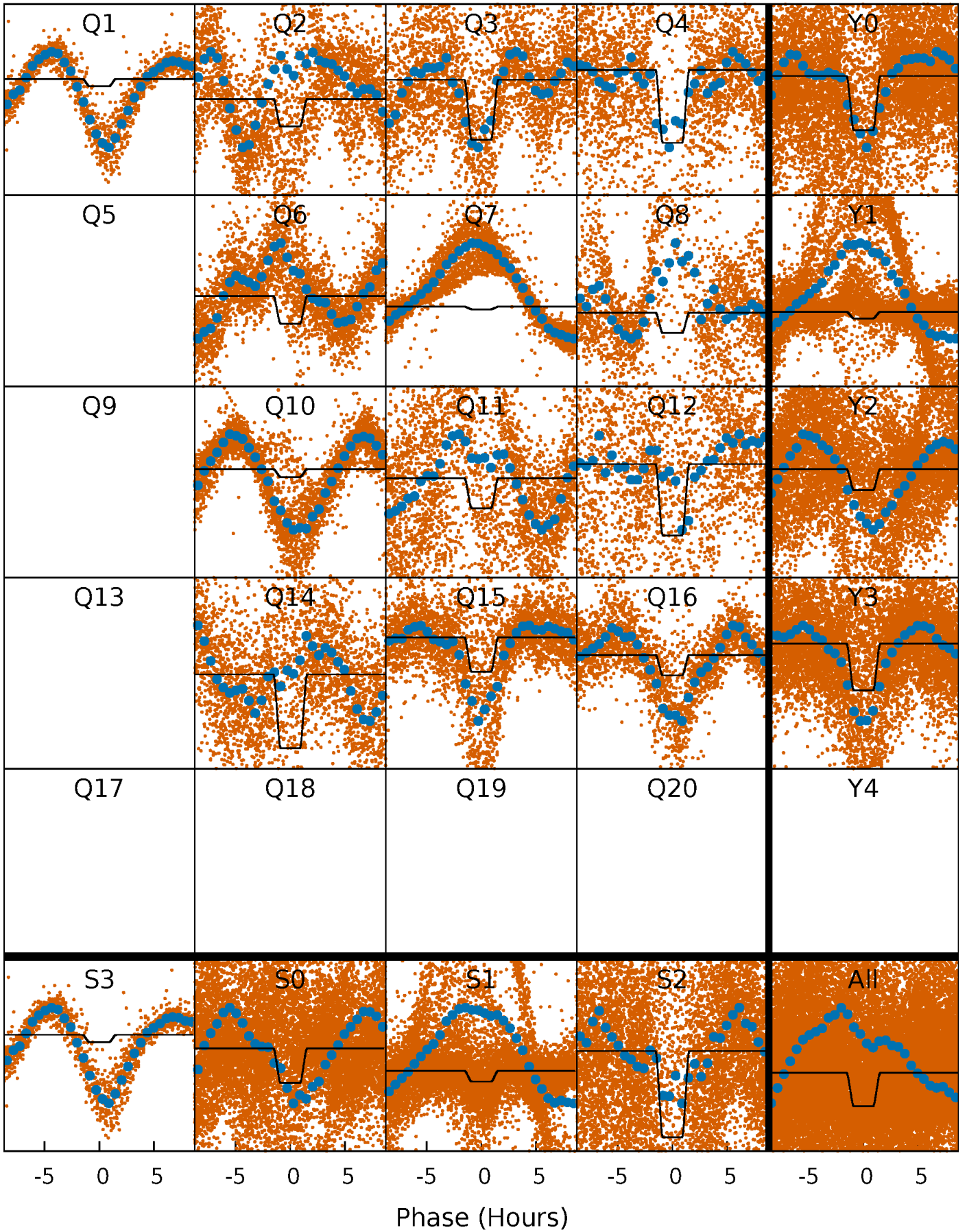
# DV Quarter-Phased Transit Curves

TCE 006425891-01 P= 0.950378 Days  $T_0=131.618868$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

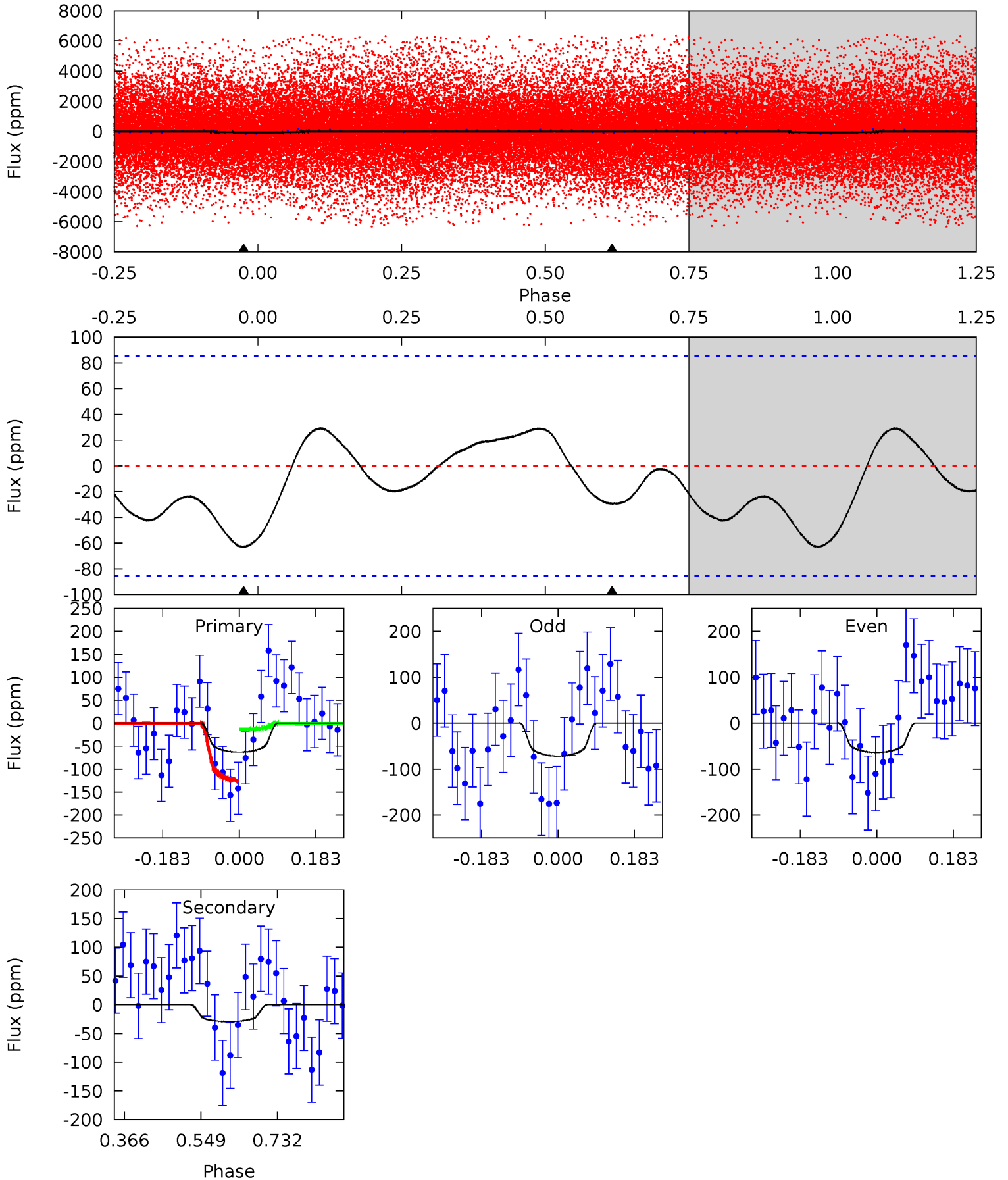
TCE 006425891-01 P= 0.950349 Days  $T_0=131.619256$  (BKJD)



# DV Model-Shift Uniqueness Test

006425891-01, P = 0.950378 Days, E = 130.668490 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
3.27	1.53	0	0	4.44	1.33	0.74	3.27	3.27	1.53	1.53	0.21	0.47	0.32	3.16

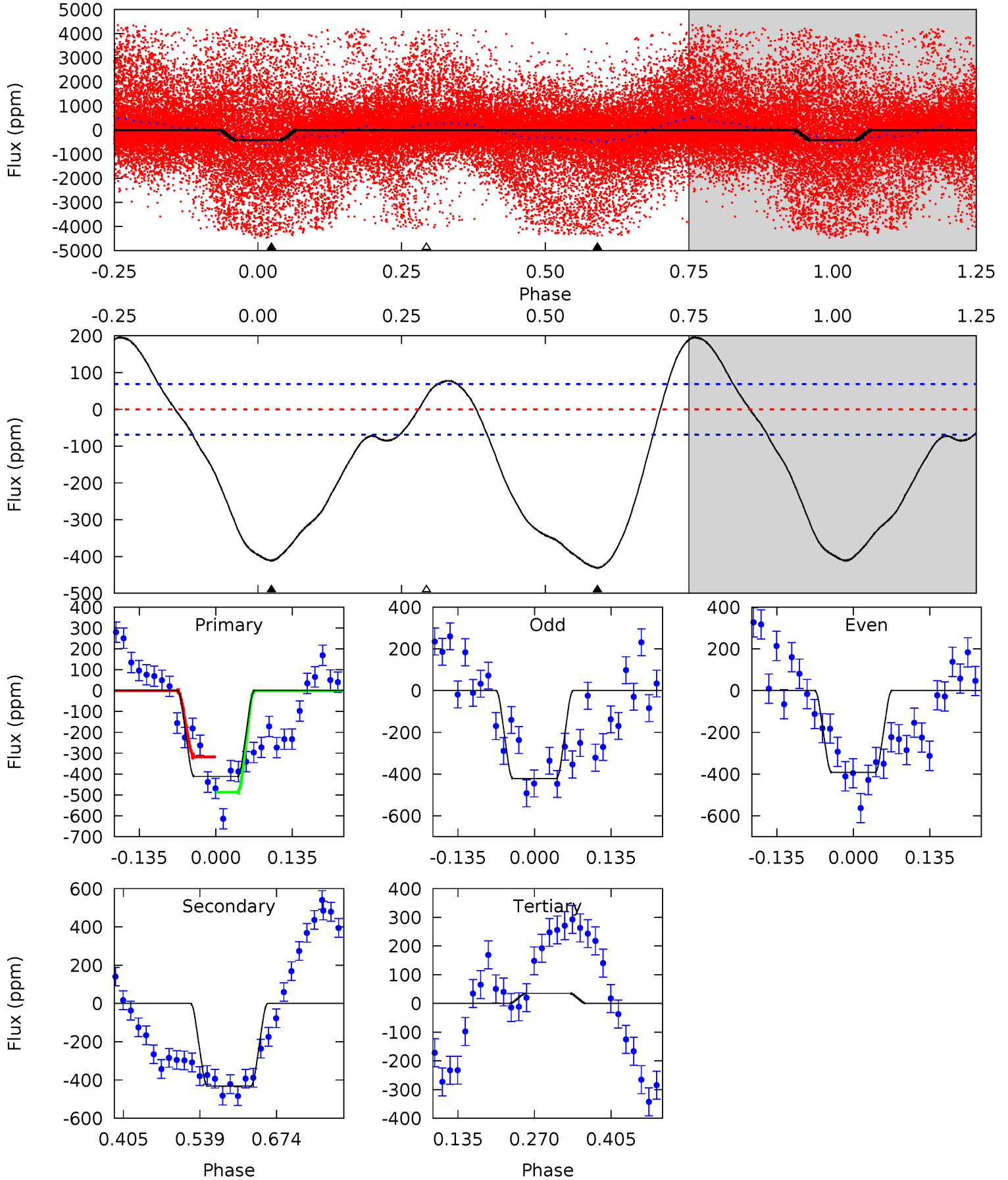




# Alt Model-Shift Uniqueness Test

006425891-01, P = 0.950349 Days, E = 130.668907 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
26.9	28.2	-2.30	0	4.50	1.50	7.39	29.2	26.9	30.5	28.2	0.98	-2.97	0.31	0





### Stellar Parameters For KIC 006425891

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5121^{+168}_{-153}$	$4.644^{+0.065}_{-0.040}$	$-0.980^{+0.300}_{-0.300}$	$0.617^{+0.048}_{-0.048}$	$0.611^{+0.057}_{-0.022}$	$3.663^{+0.901}_{-0.556}$
	+3%/-3%	+1%/-1%	+31%/-31%	+8%/-8%	+9%/-4%	+25%/-15%
Source	PHO1	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 006425891-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-29 \pm 19$	$0.86^{+0.25}_{-0.22}$	$1952^{+70}_{-70}$	$3638^{+645}_{-679}$	$5.495^{+7.699}_{-3.876}$
Alt.	$-431 \pm 15$	$1.66^{+0.24}_{-0.25}$	$1946^{+86}_{-73}$	$4751^{+359}_{-270}$	$23^{+9}_{-6}$

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

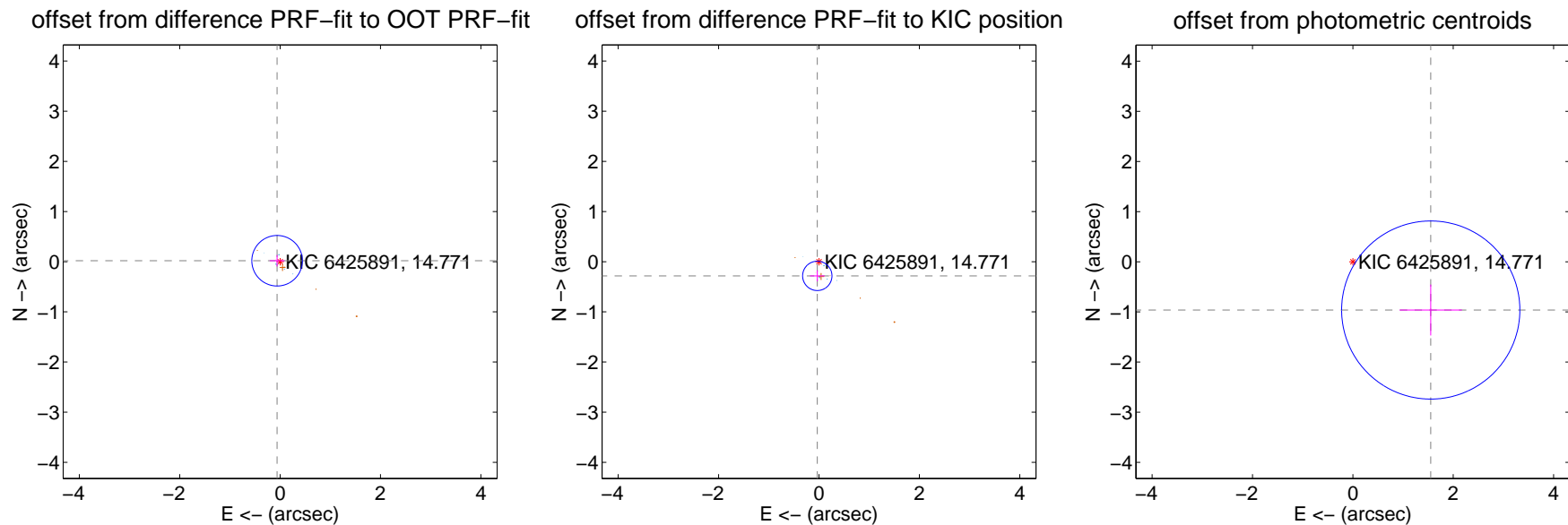
## DV Centroid Data

Supplemental centroid analysis for 006425891-01. Kepler magnitude: 14.77. Transit SNR 6.87

There are 6 quarters with good PRF difference image offsets

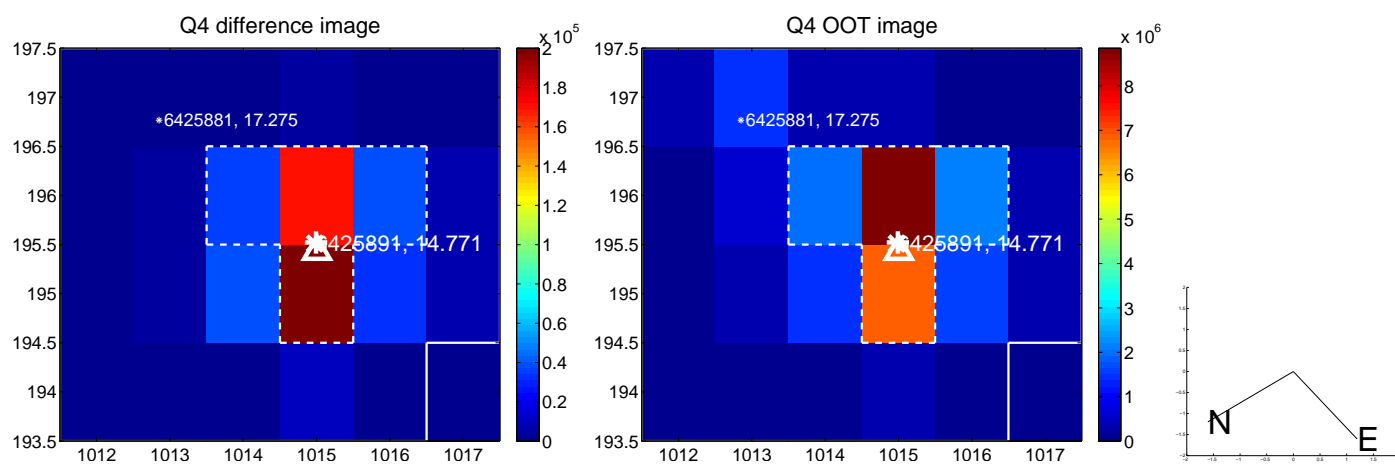
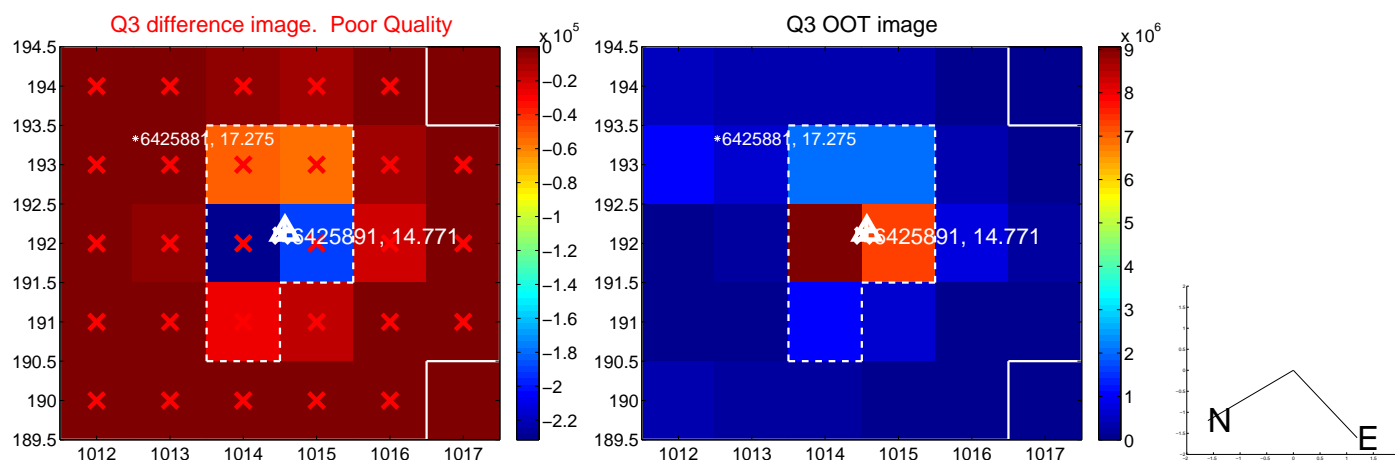
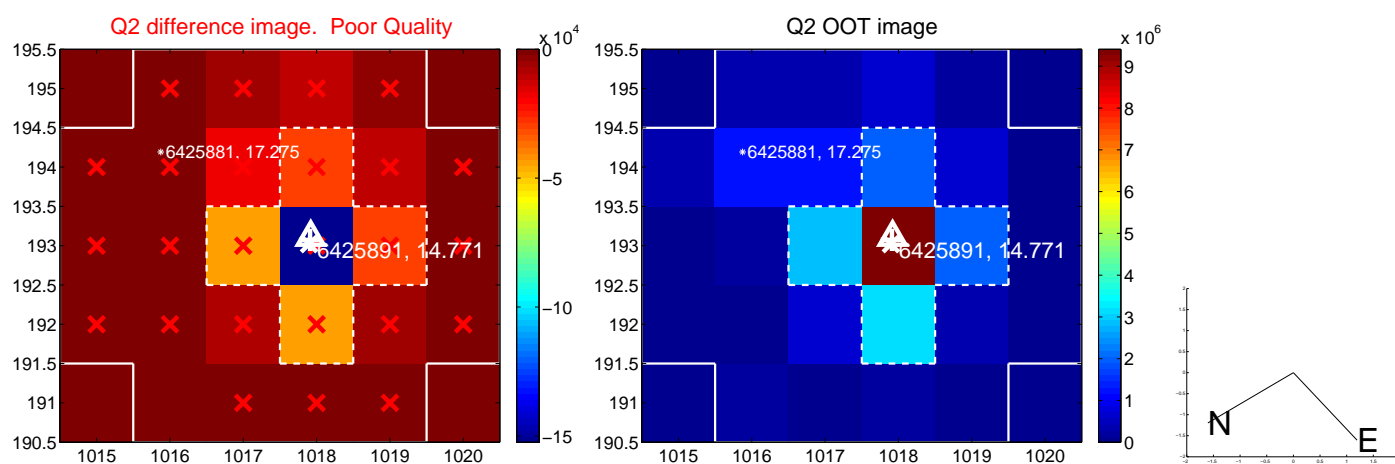
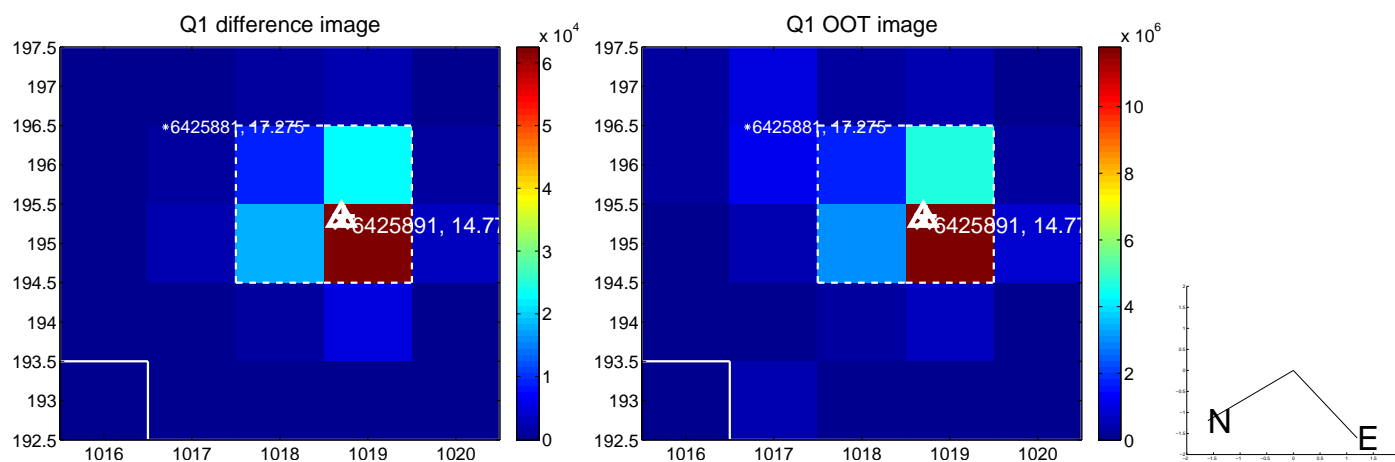
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.063 \pm 0.168$	0.37	$0.060 \pm 0.148$	$0.019 \pm 0.114$
PRF-fit source offset from KIC position	$0.285 \pm 0.097$	2.92	$0.034 \pm 0.145$	$-0.283 \pm 0.109$
photometric centroid source offset	$1.83 \pm 0.59$	3.09	$-1.55 \pm 0.62$	$-0.96 \pm 0.51$

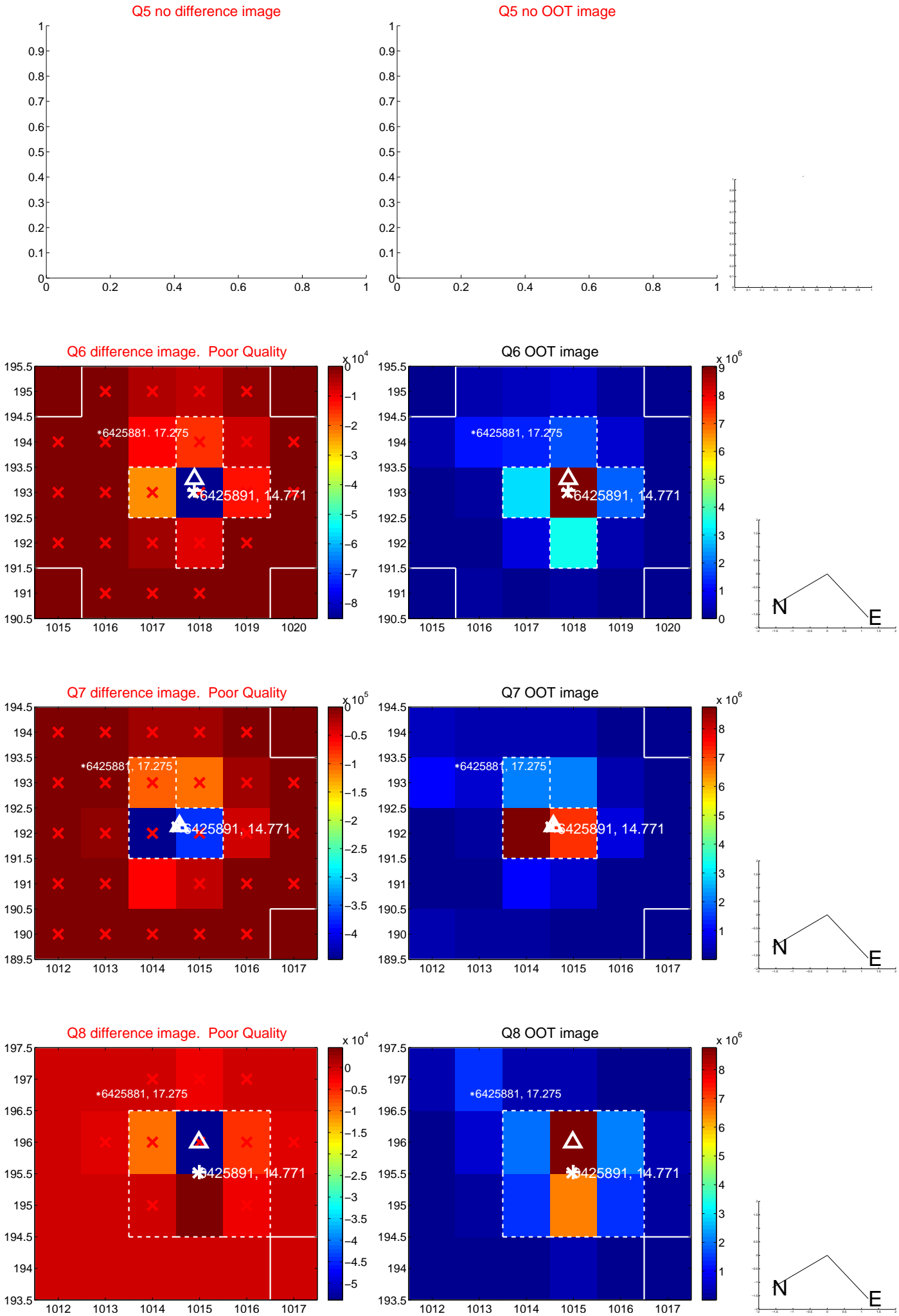


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

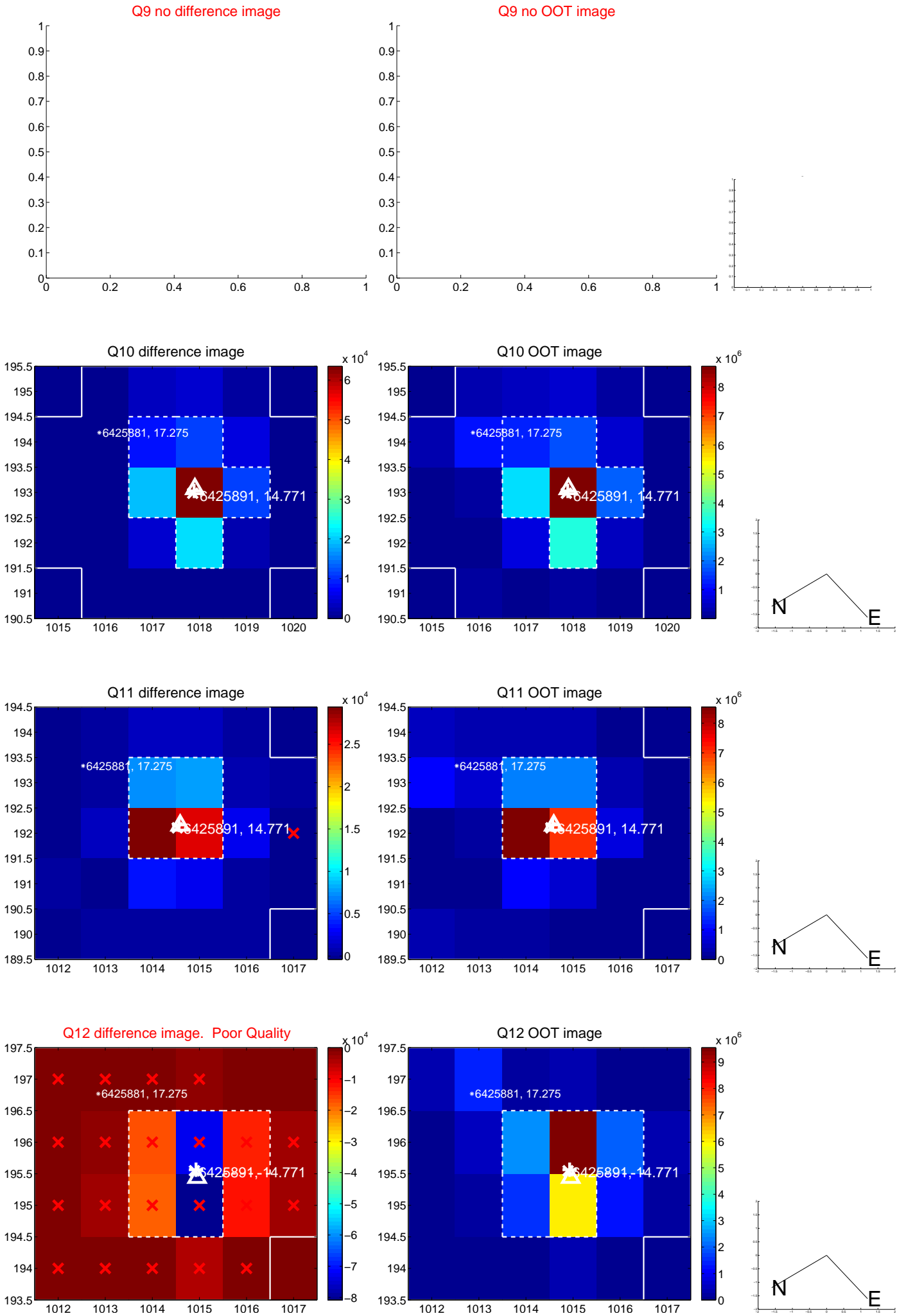


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

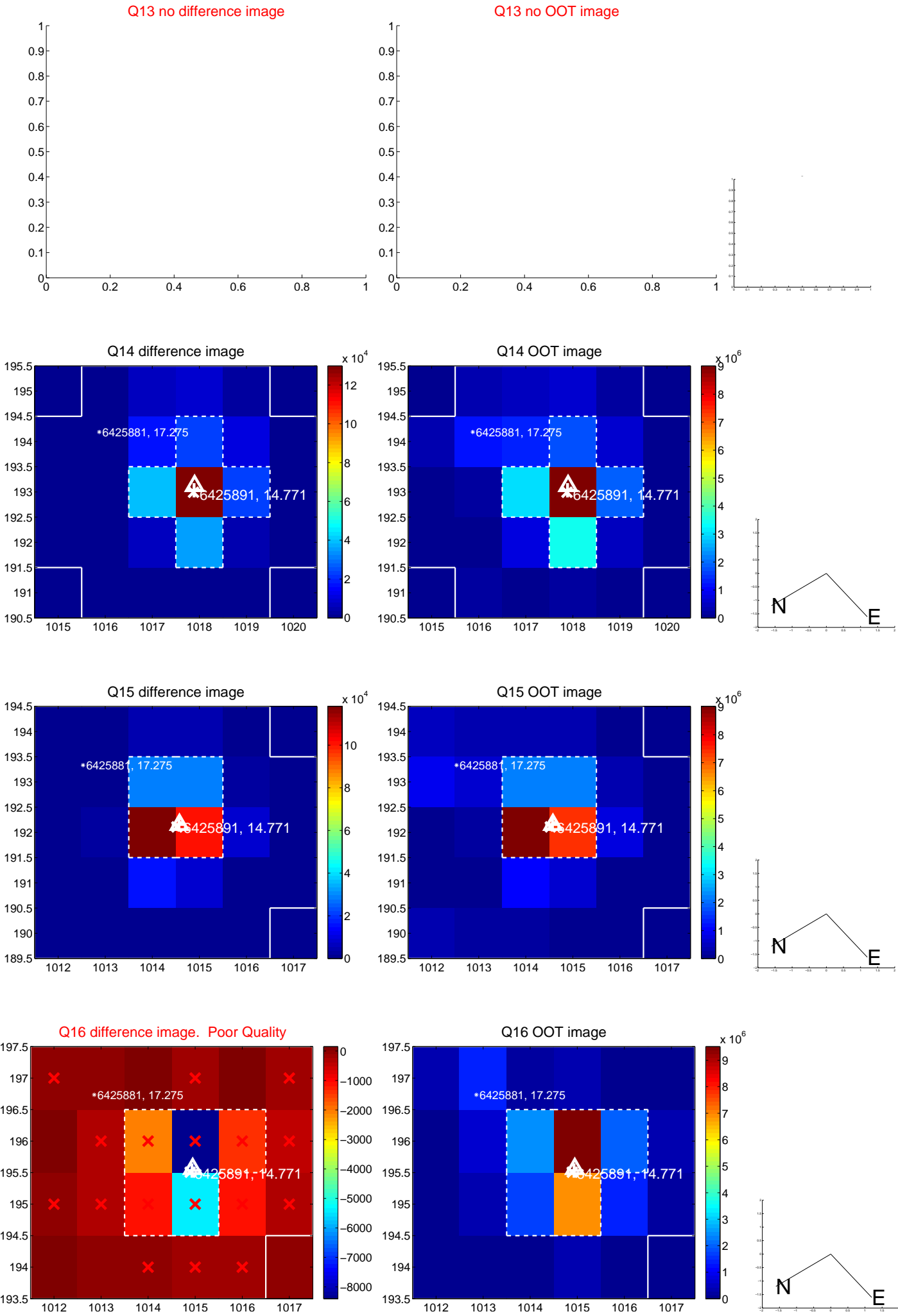




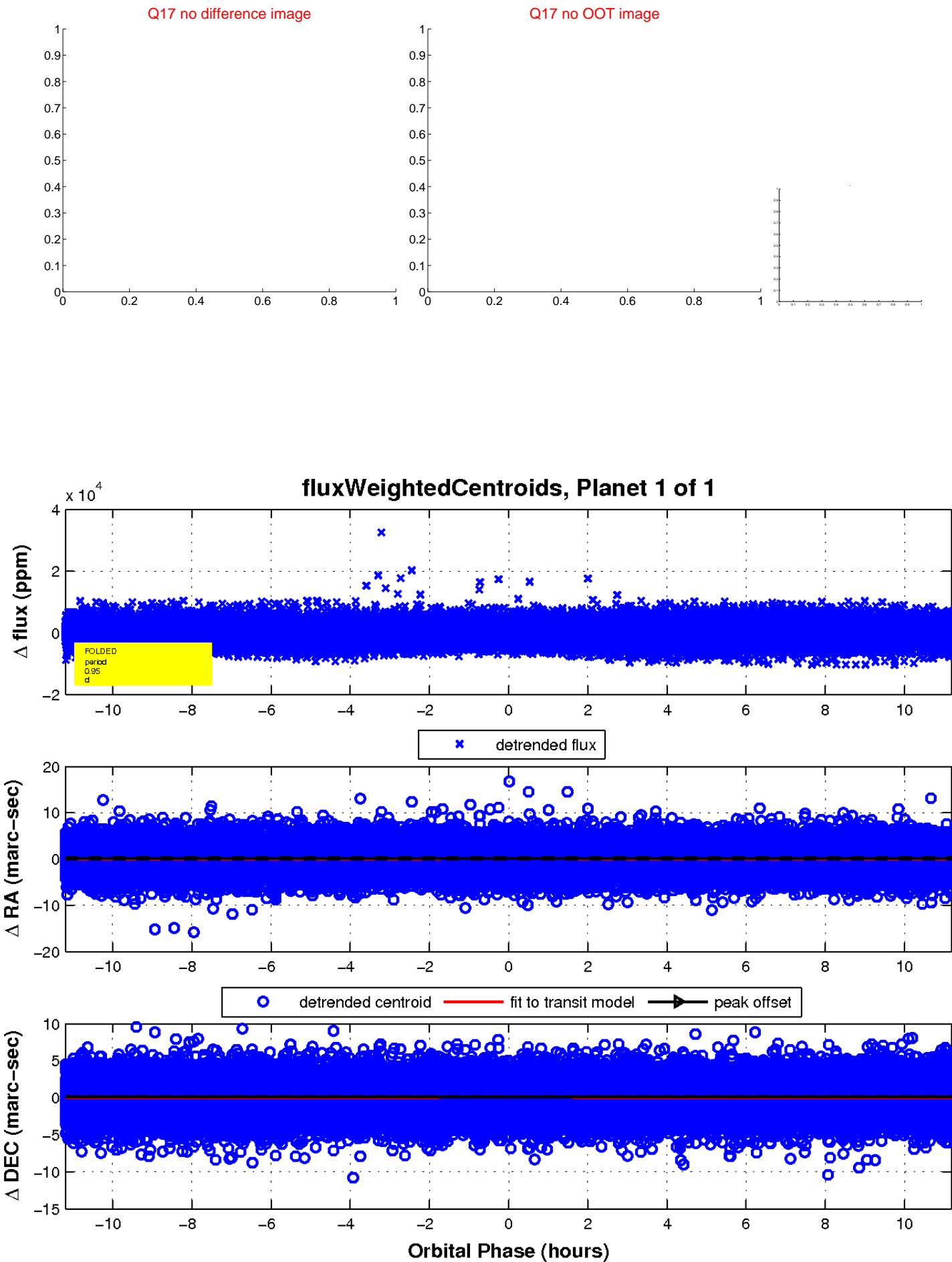
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

