

# KIC 005215672

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005215672-01	OBS	No	8.189288	138.299761	235.5	19.583	18.1	19.9	1.03	6104	2.98	206.91

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005215672-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV

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

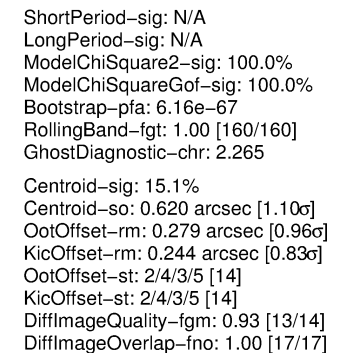
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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.

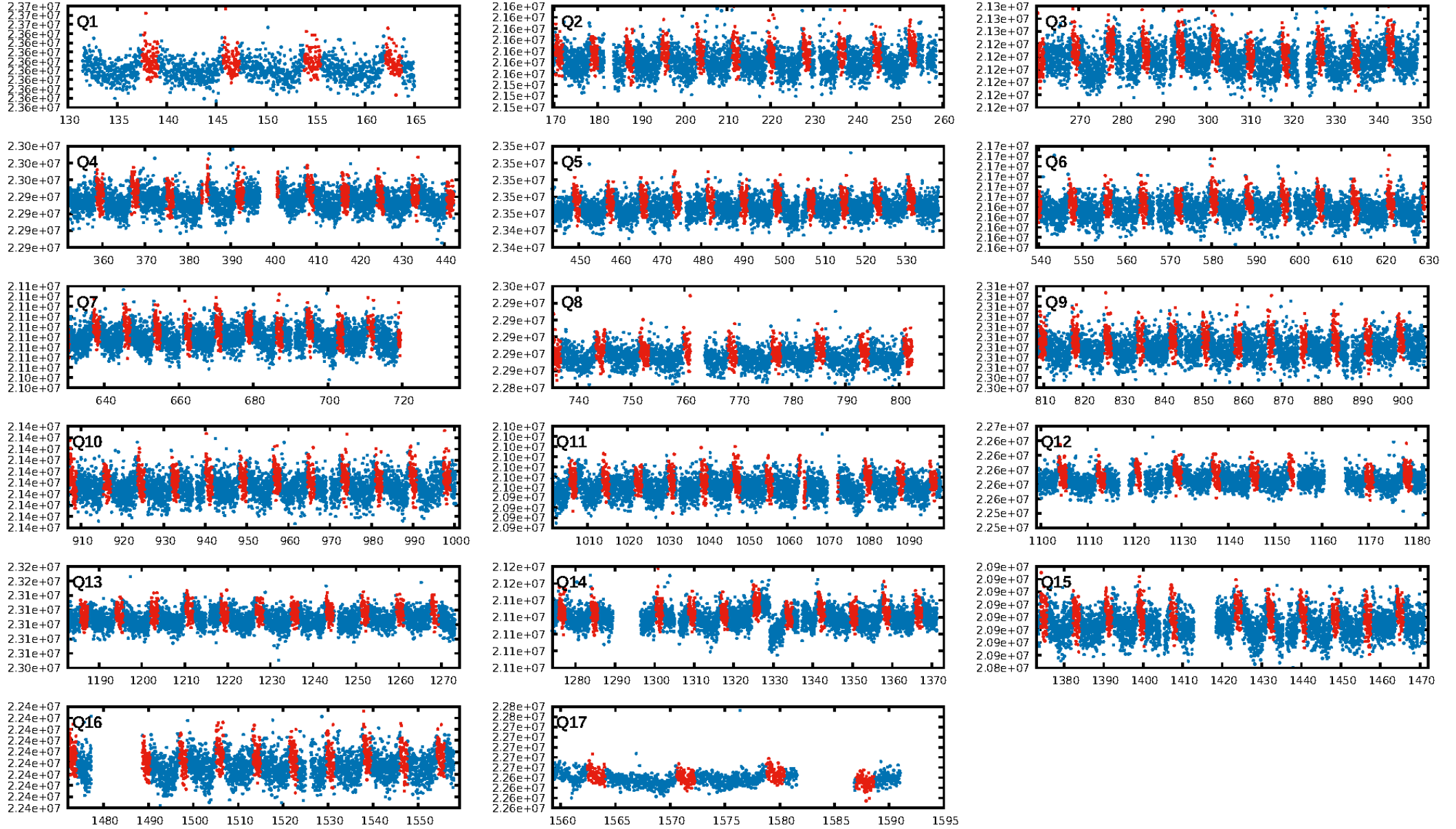
## Ephemeris Match Information For 005215672-01

No Significant Match Found

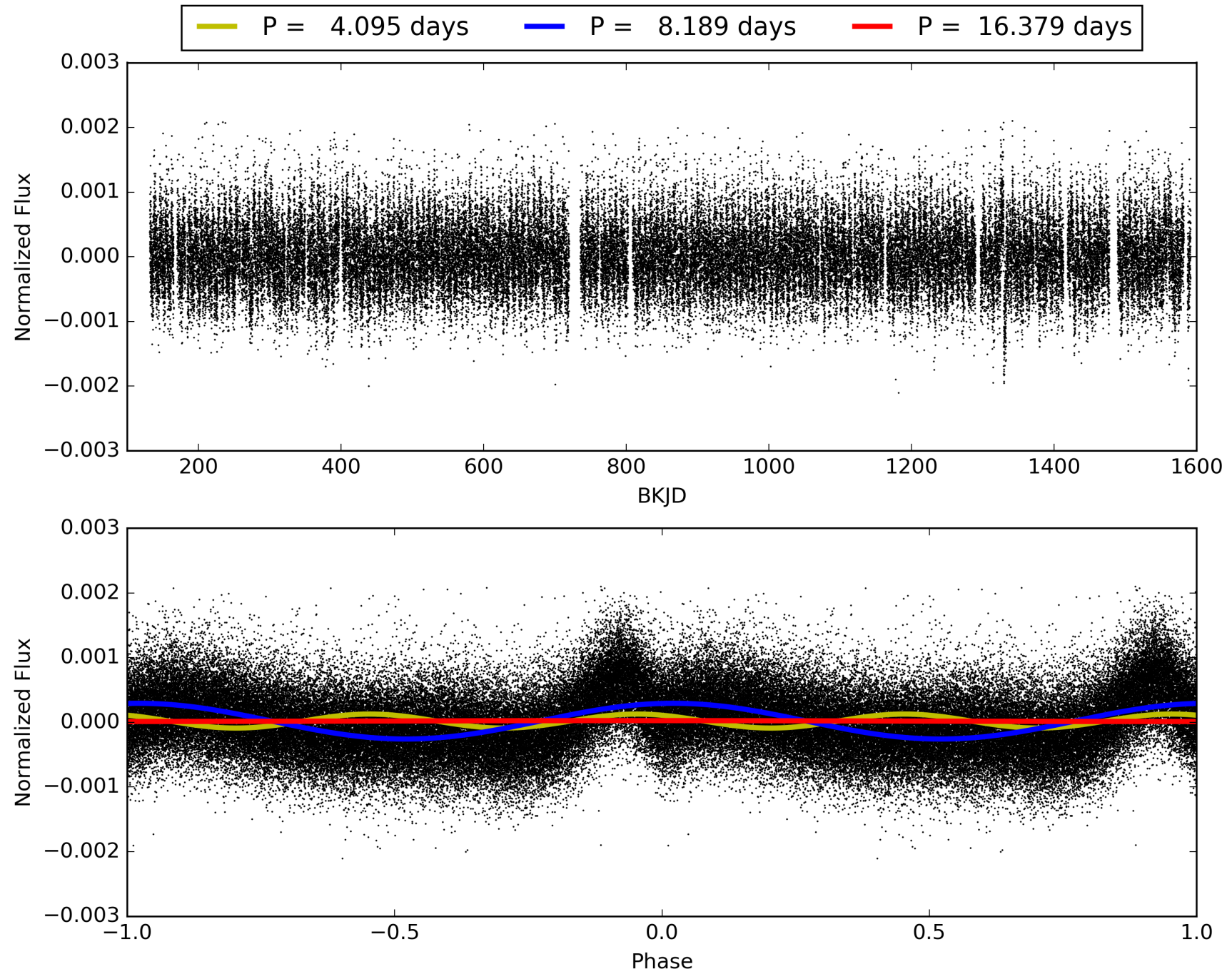
## KIC: 5215672    Candidate: 1 of 1    Period: 8.189 d



# TCE 005215672-01, PDC Light Curves

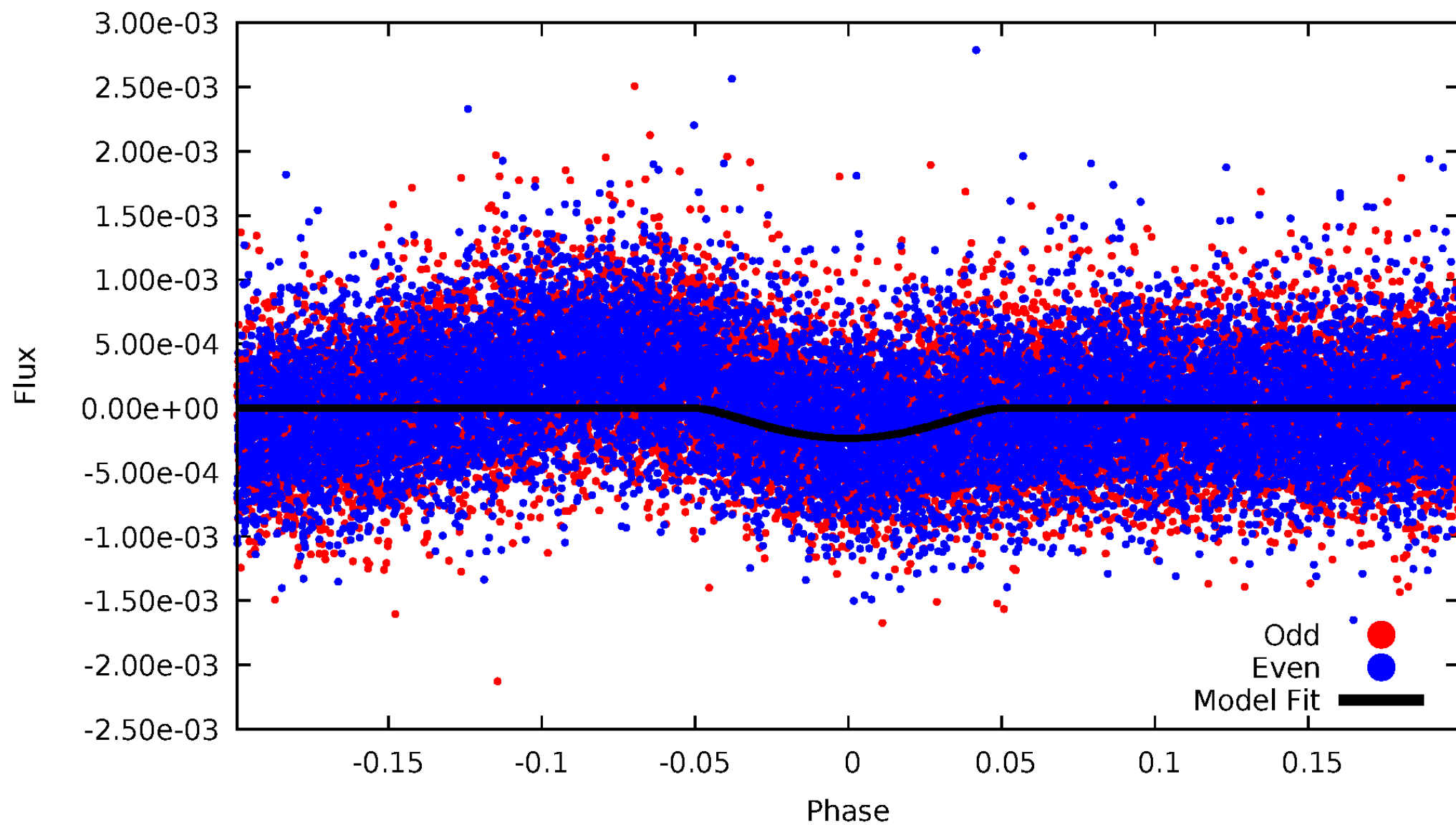


TCE 005215672-01



# DV Odd/Even

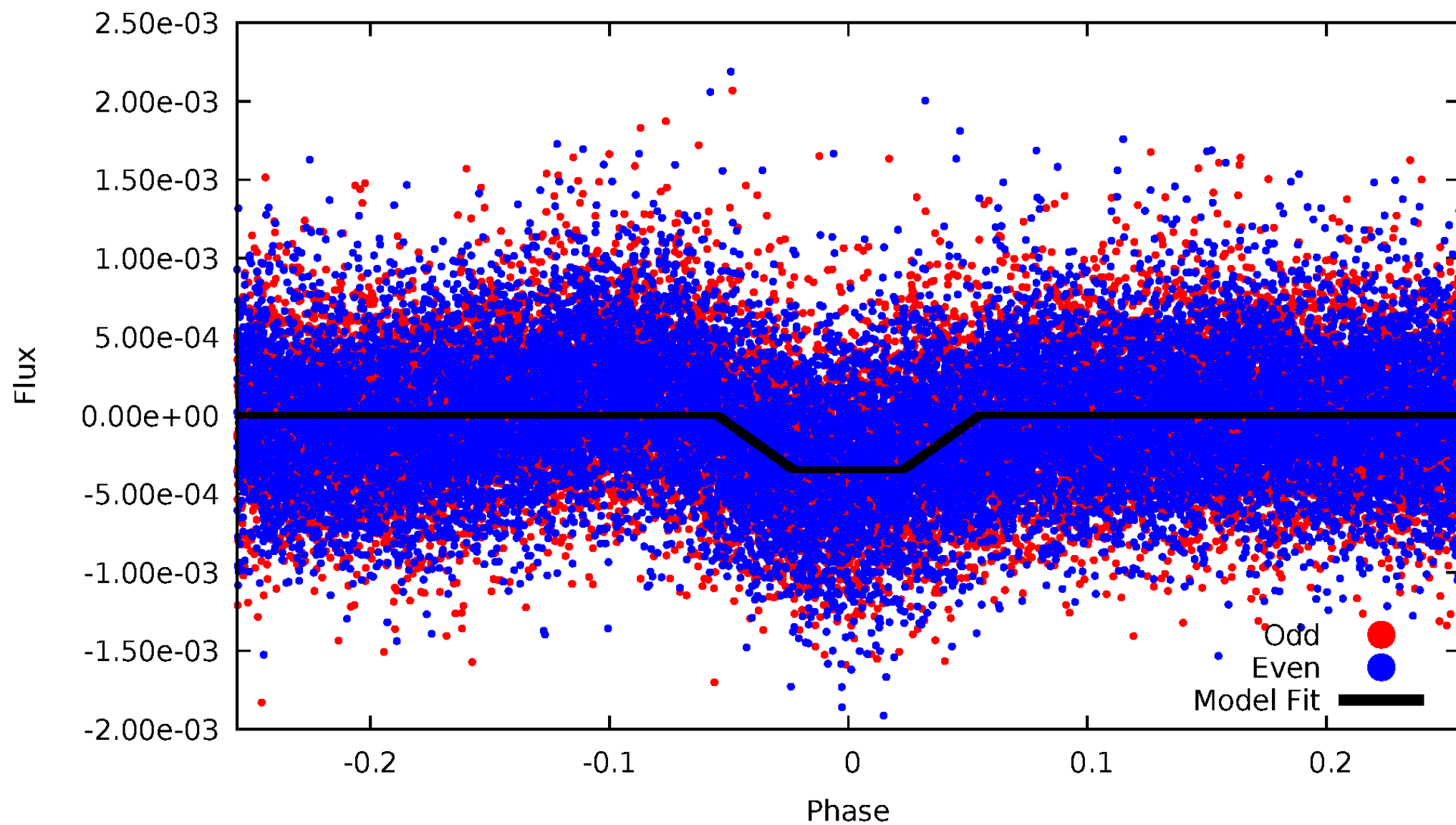
TCE 005215672-01



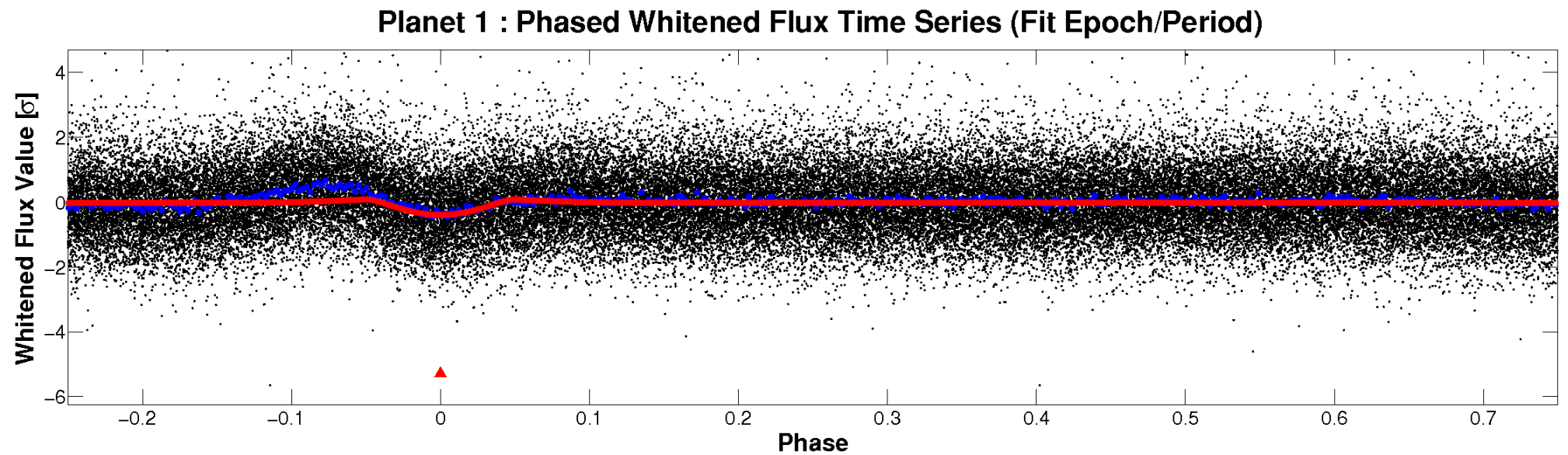
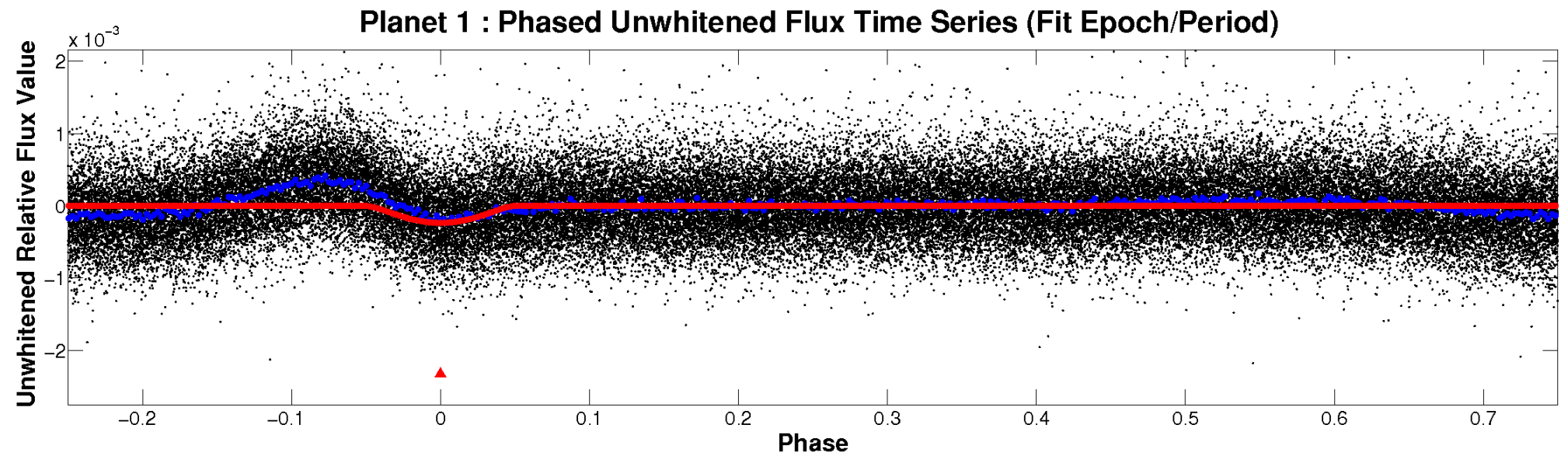


# ALT Odd/Even

TCE 005215672-01

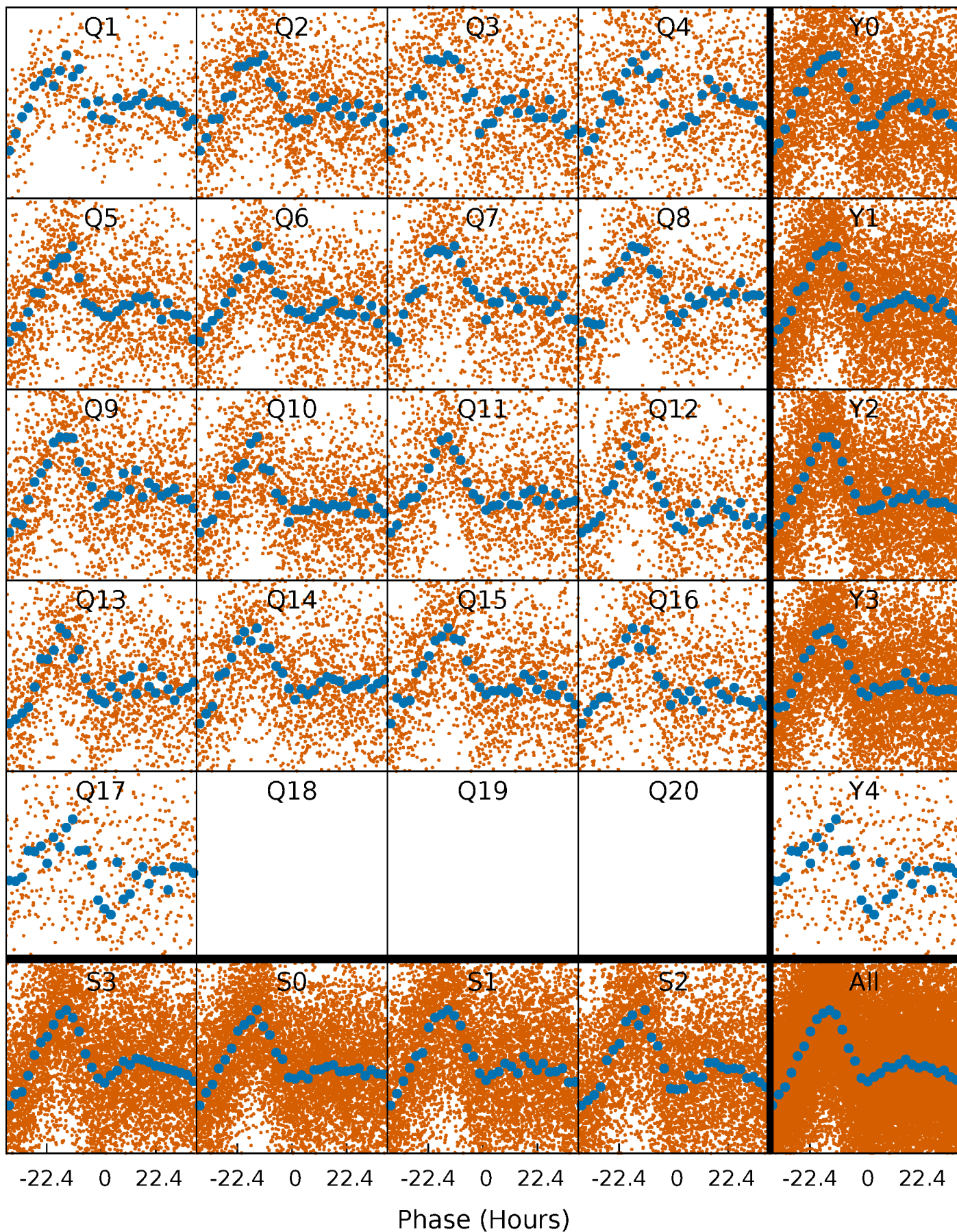


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

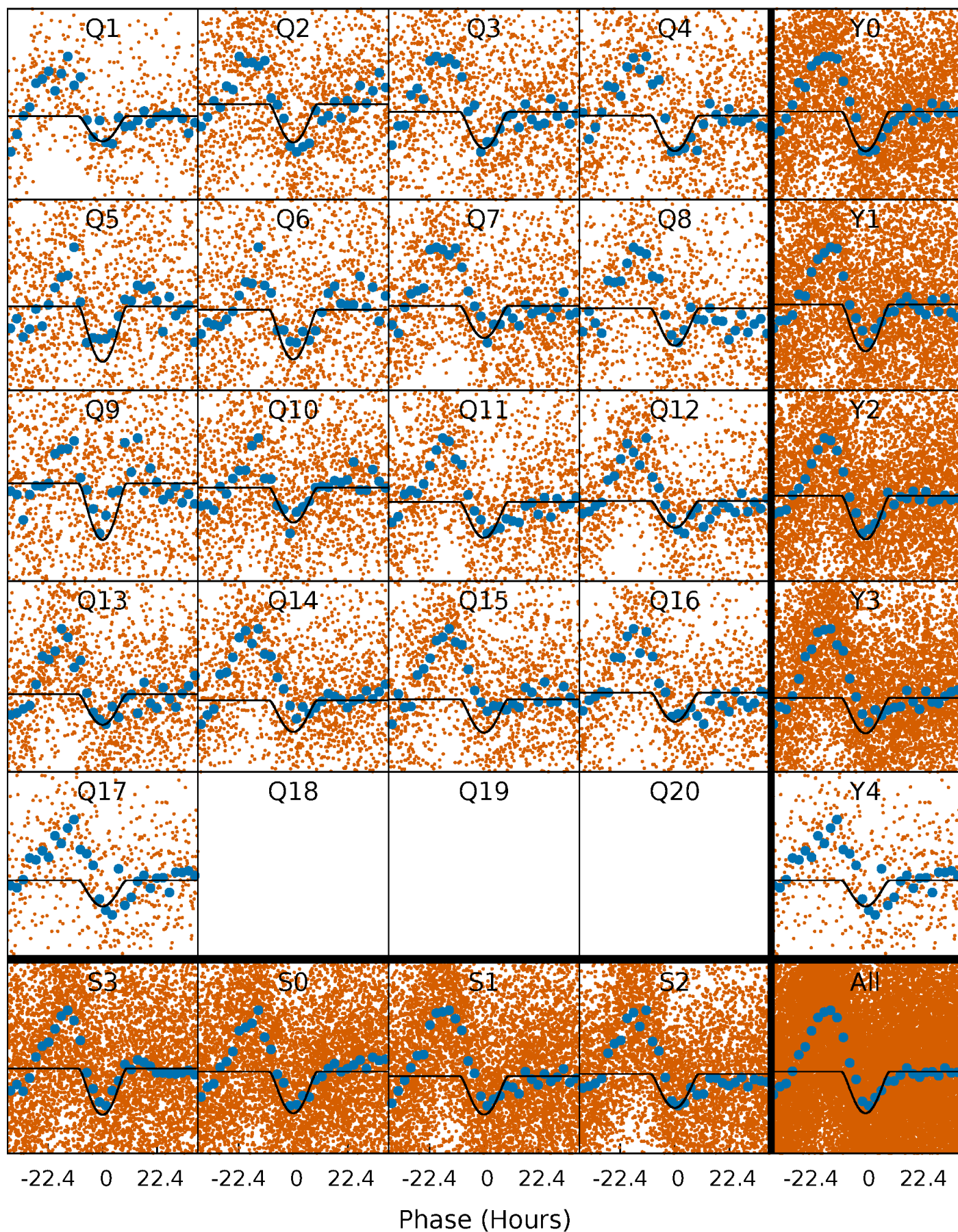
TCE 005215672-01 P= 8.189288 Days  $T_0=138.299761$  (BKJD)





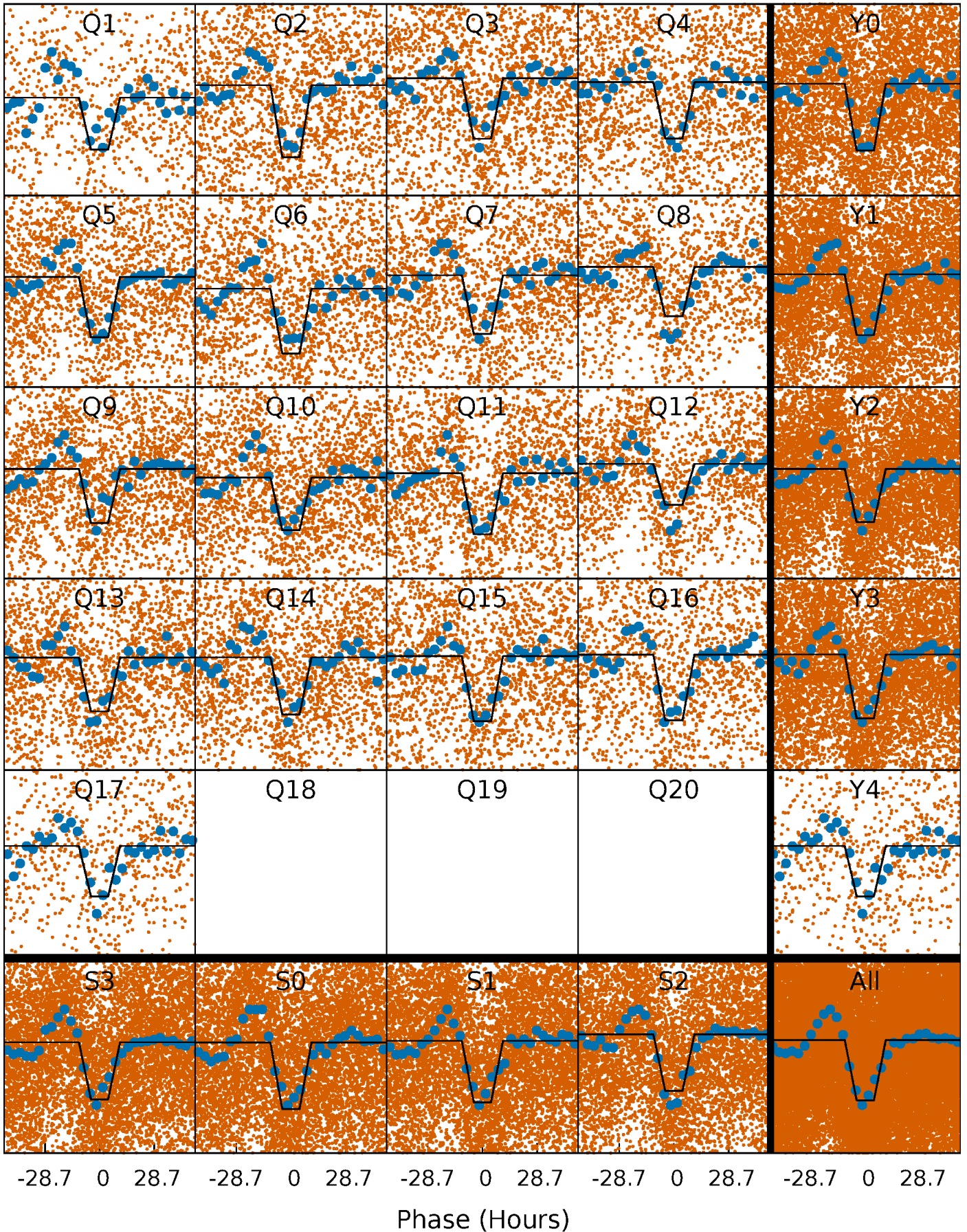
# DV Quarter-Phased Transit Curves

TCE 005215672-01   P= 8.189288 Days    $T_0=138.299761$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 005215672-01 P= 8.189506 Days  $T_0=138.360711$  (BKJD)

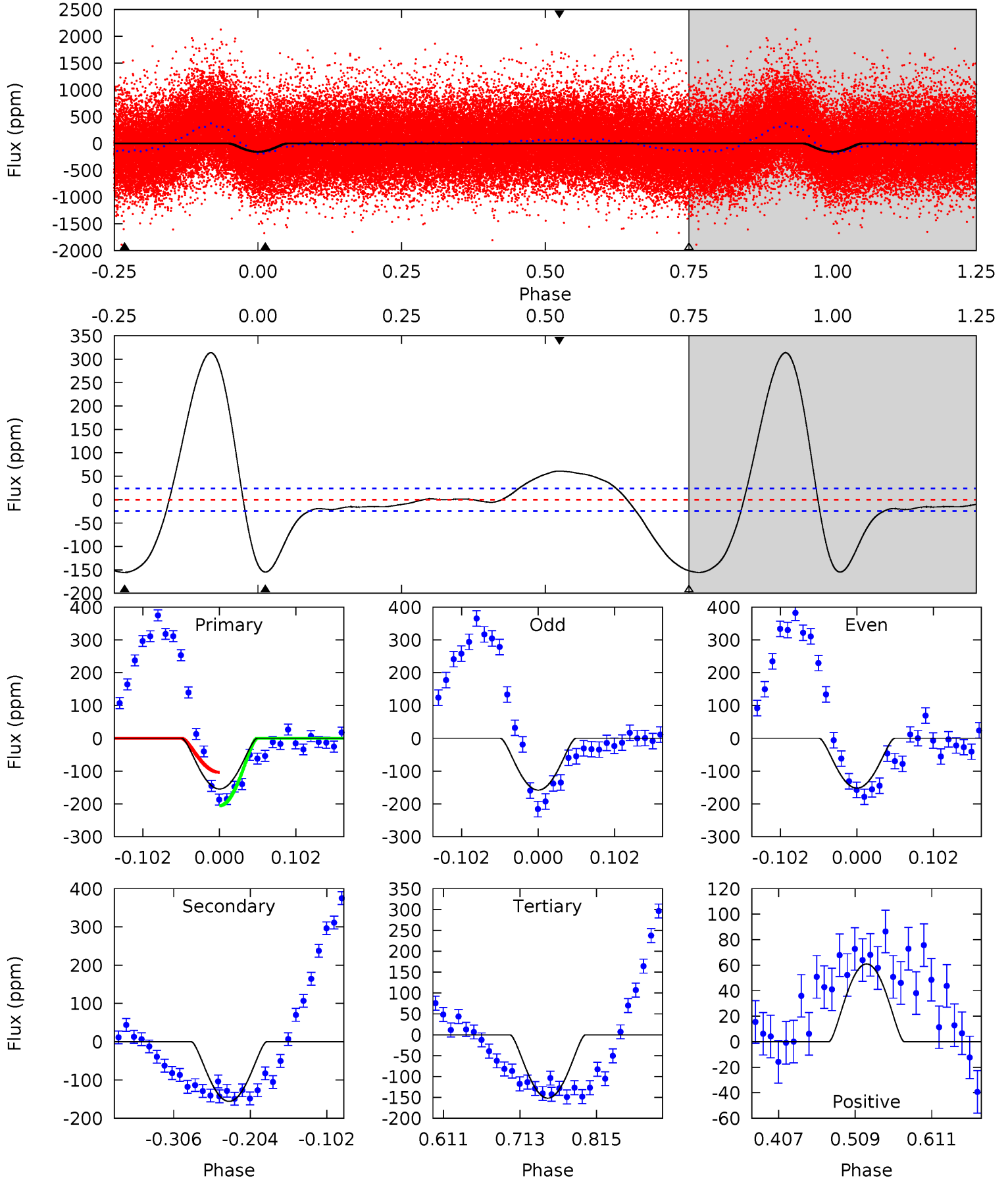




# DV Model-Shift Uniqueness Test

005215672-01, P = 8.189288 Days, E = 130.110473 Days

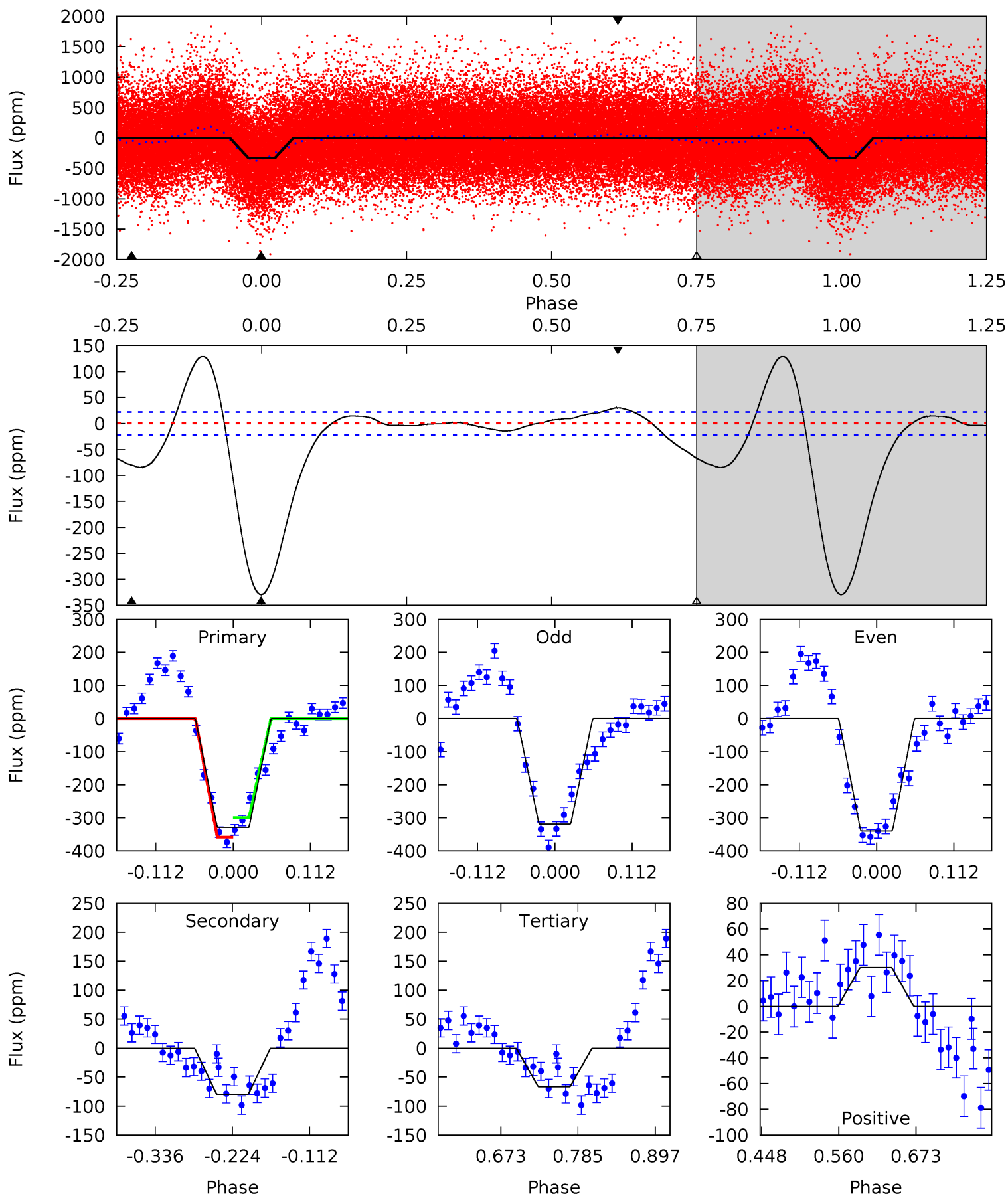
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.1	29.3	28.6	11.5	4.56	1.64	14.3	0.54	17.6	0.74	17.9	0.55	1.09	0.67	9.49



# Alt Model-Shift Uniqueness Test

005215672-01, P = 8.189506 Days, E = 130.171205 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
68.2	16.5	13.8	6.25	4.54	1.59	3.80	54.3	61.9	2.69	10.3	2.16	1.01	0.28	6.03





### Stellar Parameters For KIC 005215672

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6104^{+190}_{-212}$	$4.416^{+0.087}_{-0.203}$	$-0.220^{+0.250}_{-0.300}$	$1.026^{+0.321}_{-0.138}$	$0.998^{+0.155}_{-0.116}$	$1.303^{+0.508}_{-0.704}$
	+3%/-3%	+2%/-5%	+114%/-136%	+31%/-13%	+16%/-12%	+39%/-54%
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 005215672-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-156 \pm 5$	$3.74^{+2.90}_{-2.35}$	$1370^{+91}_{-77}$	$4112^{+2028}_{-740}$	$39^{+237}_{-27}$
Alt.	$-80 \pm 5$	$3.11^{+3.04}_{-2.07}$	$1370^{+107}_{-79}$	$3877^{+2272}_{-784}$	$29^{+233}_{-22}$

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

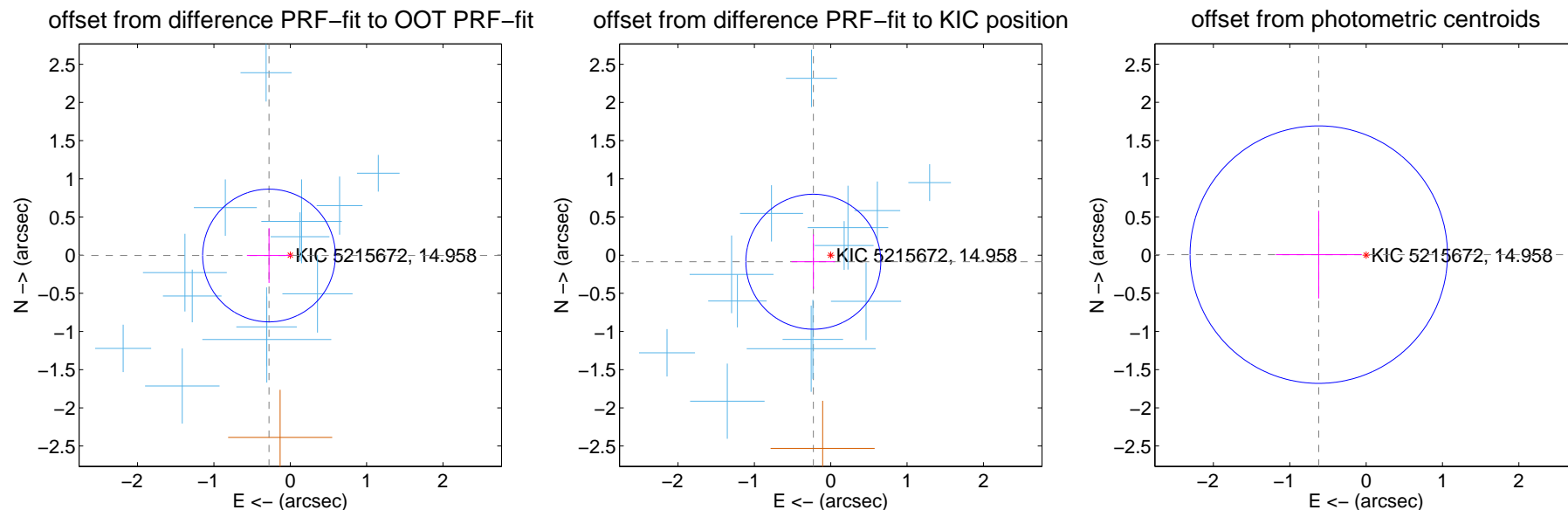
## DV Centroid Data

Supplemental centroid analysis for 005215672-01. Kepler magnitude: 14.96. Transit SNR 19.95

There are 13 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

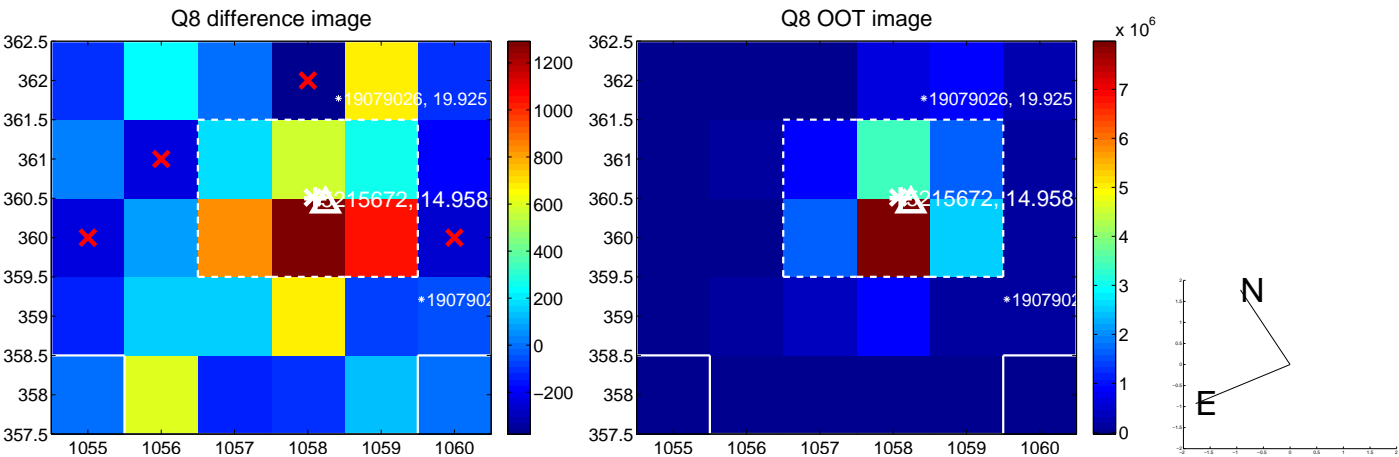
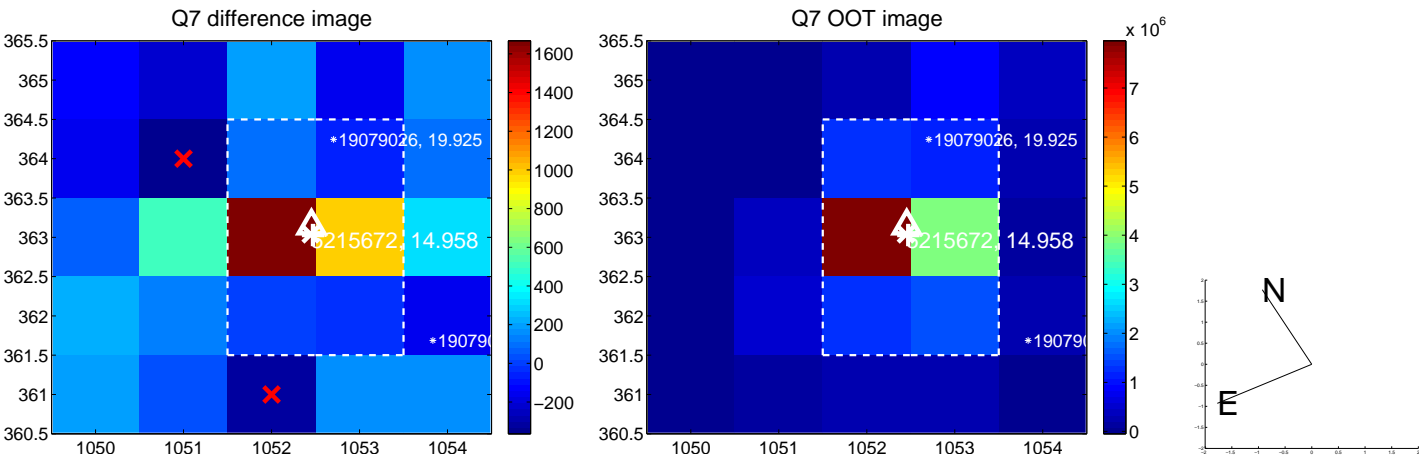
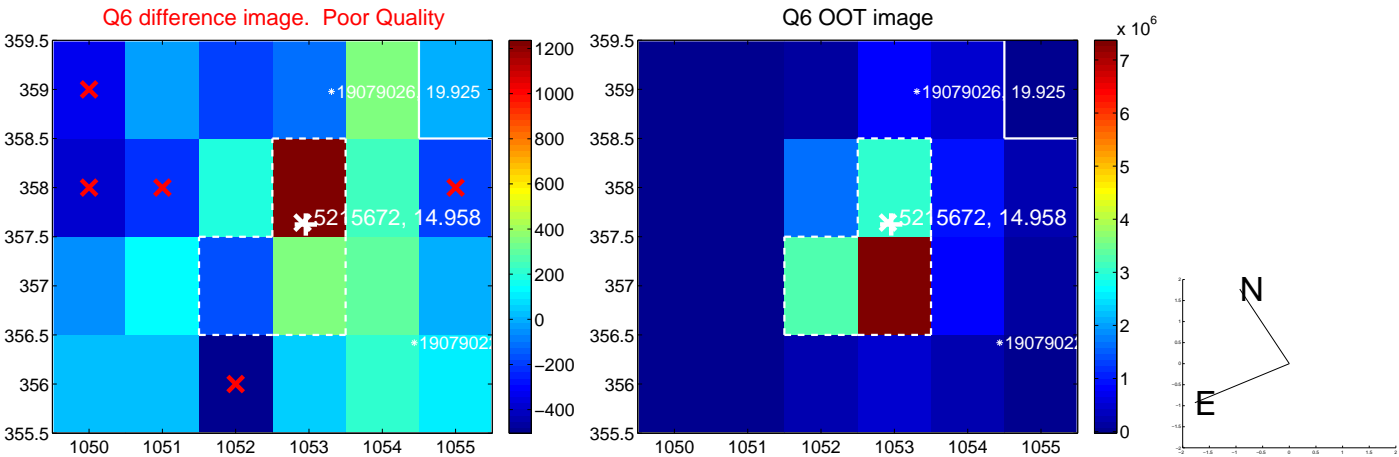
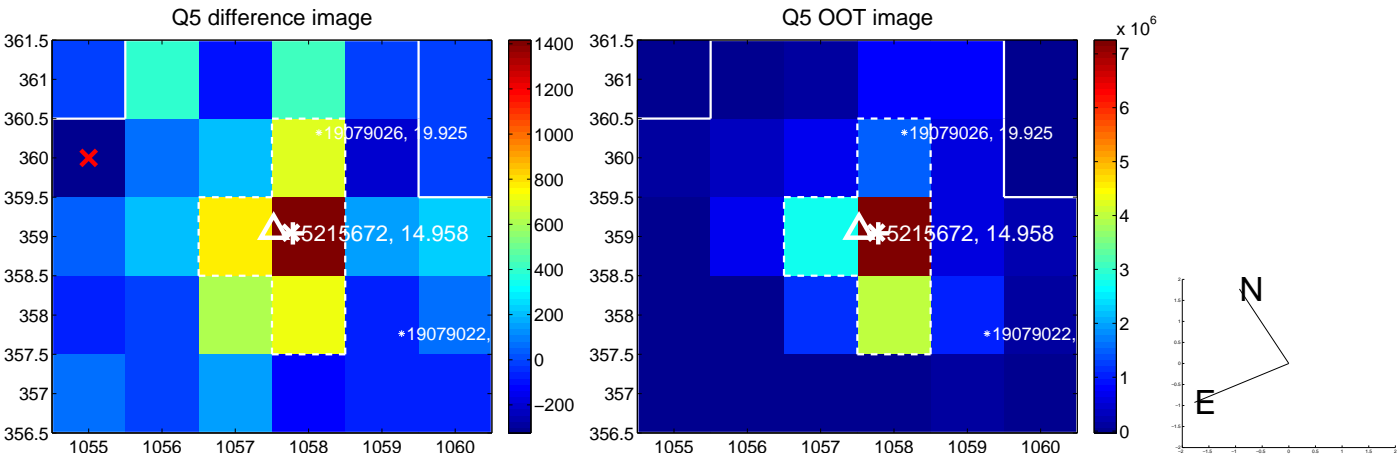
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.279 \pm 0.290$	0.96	$0.279 \pm 0.290$	$-0.005 \pm 0.358$
PRF-fit source offset from KIC position	$0.244 \pm 0.295$	0.83	$0.228 \pm 0.284$	$-0.086 \pm 0.358$
photometric centroid source offset	$0.62 \pm 0.56$	1.10	$0.62 \pm 0.56$	$0.01 \pm 0.57$



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 > 15,000,000 are from the UKIRT catalog.

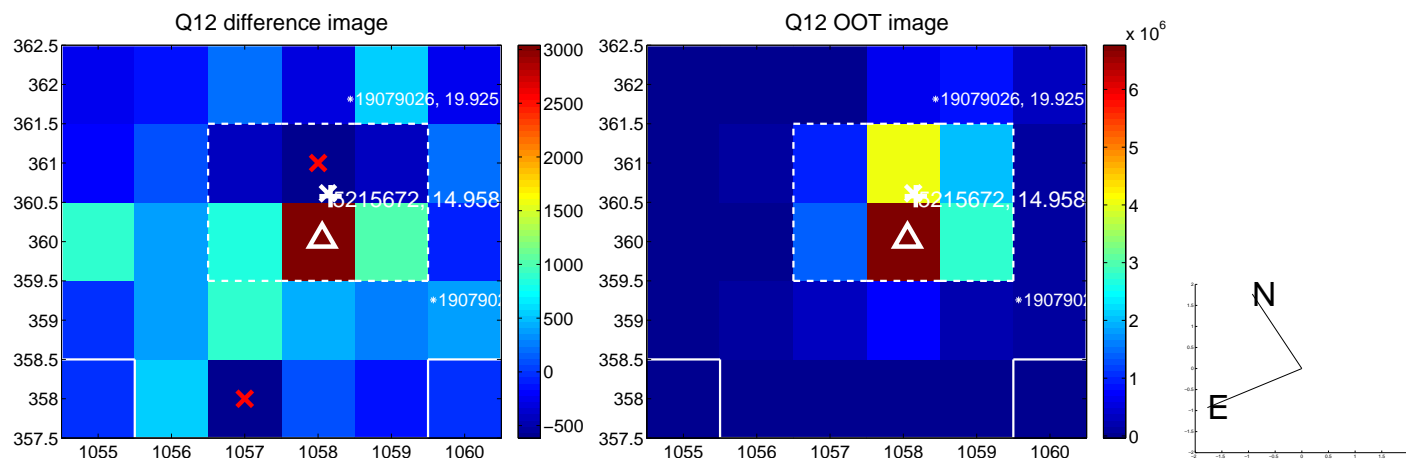
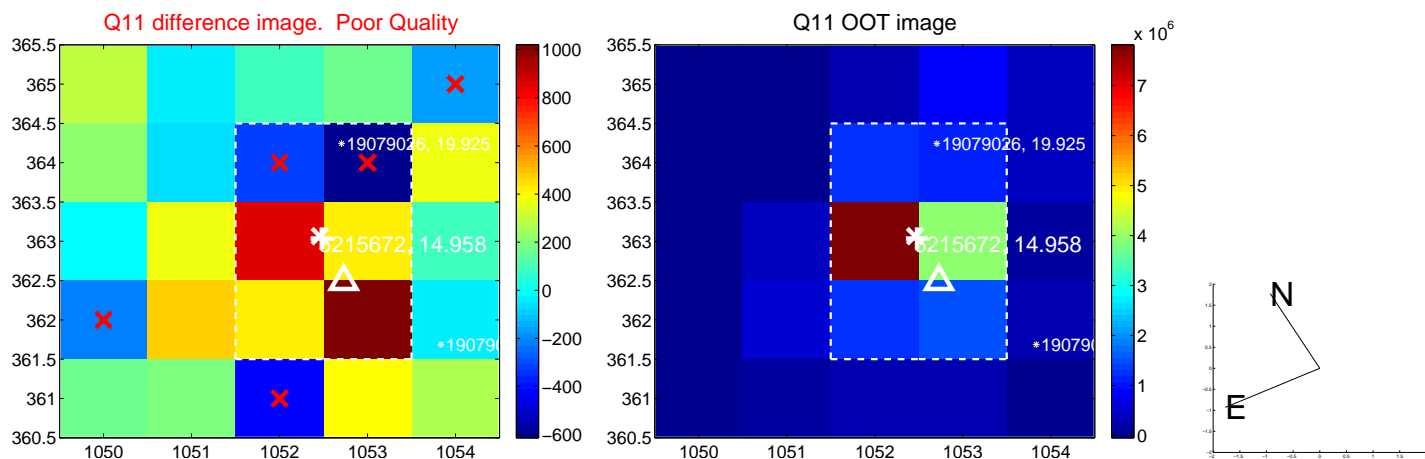
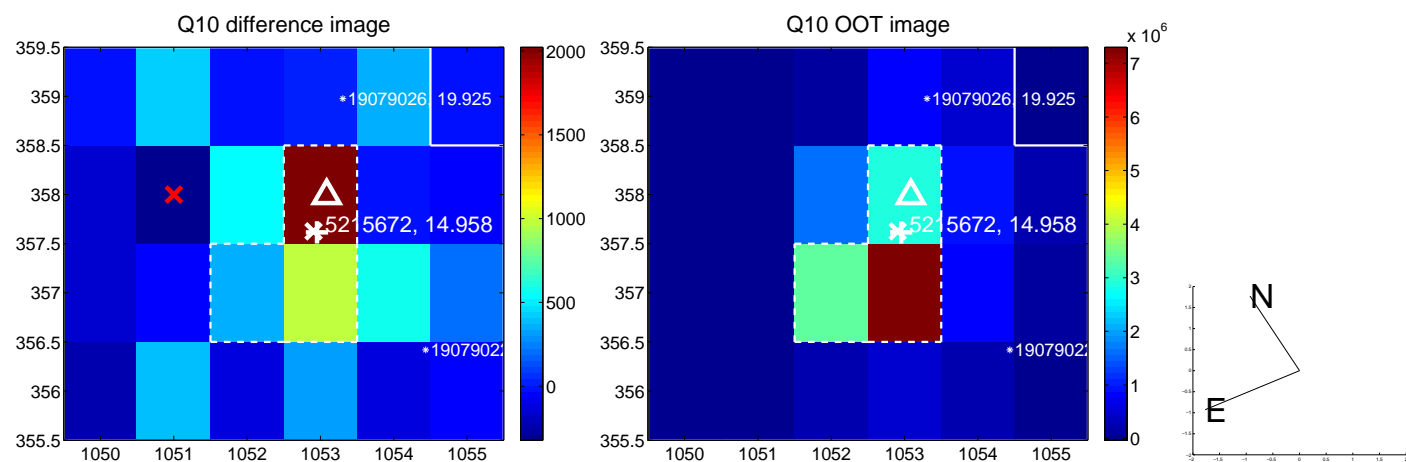
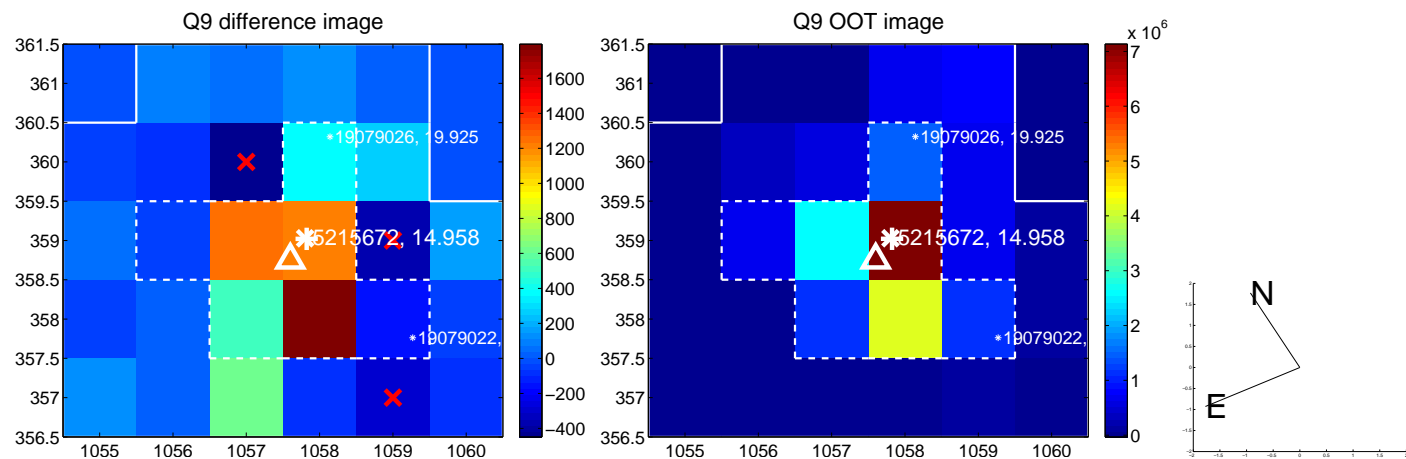


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

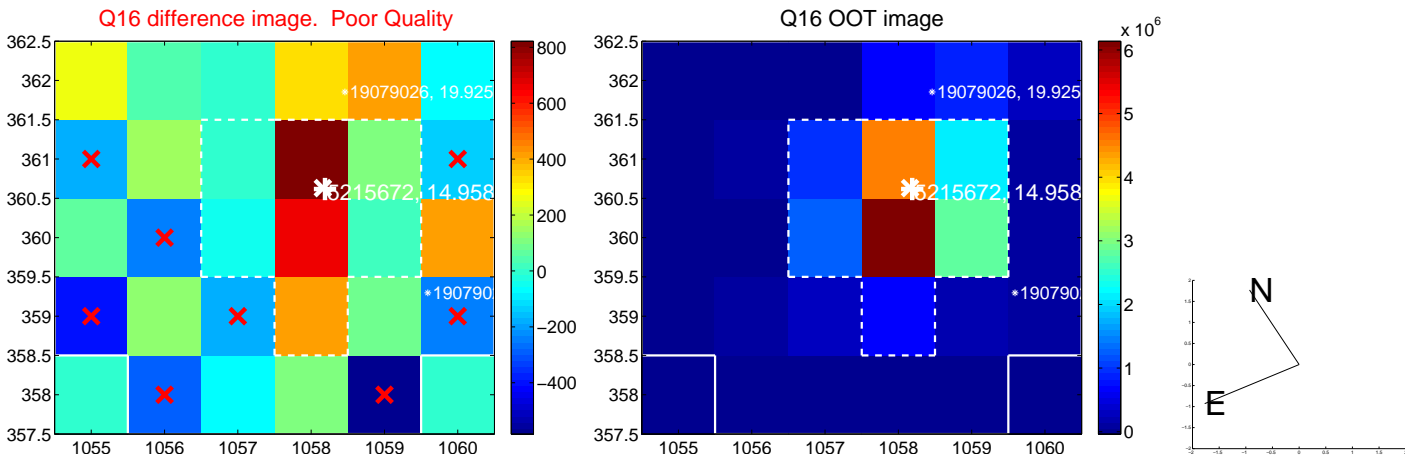
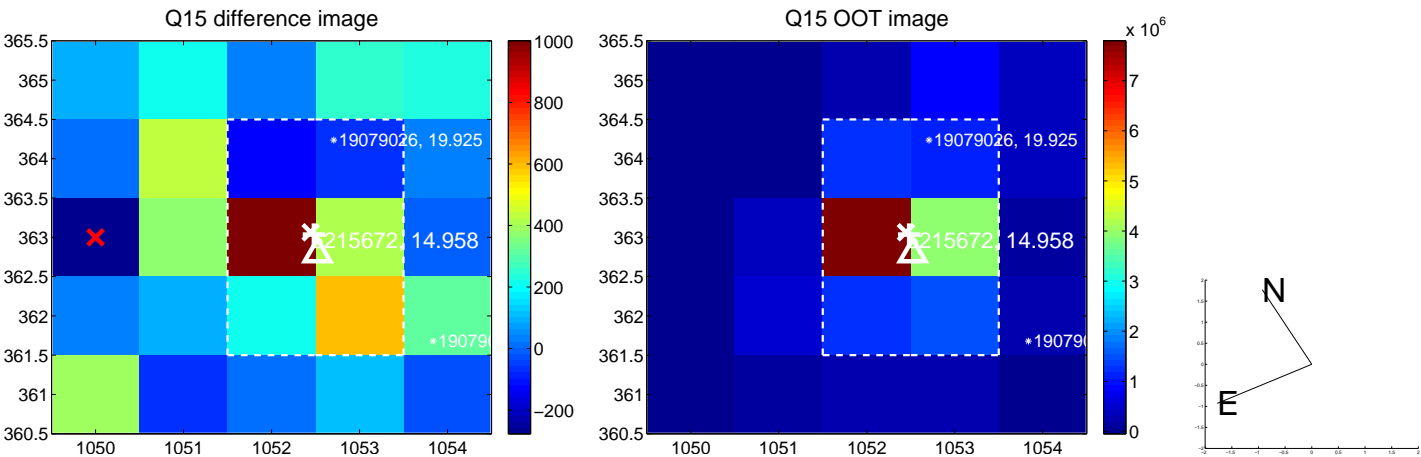
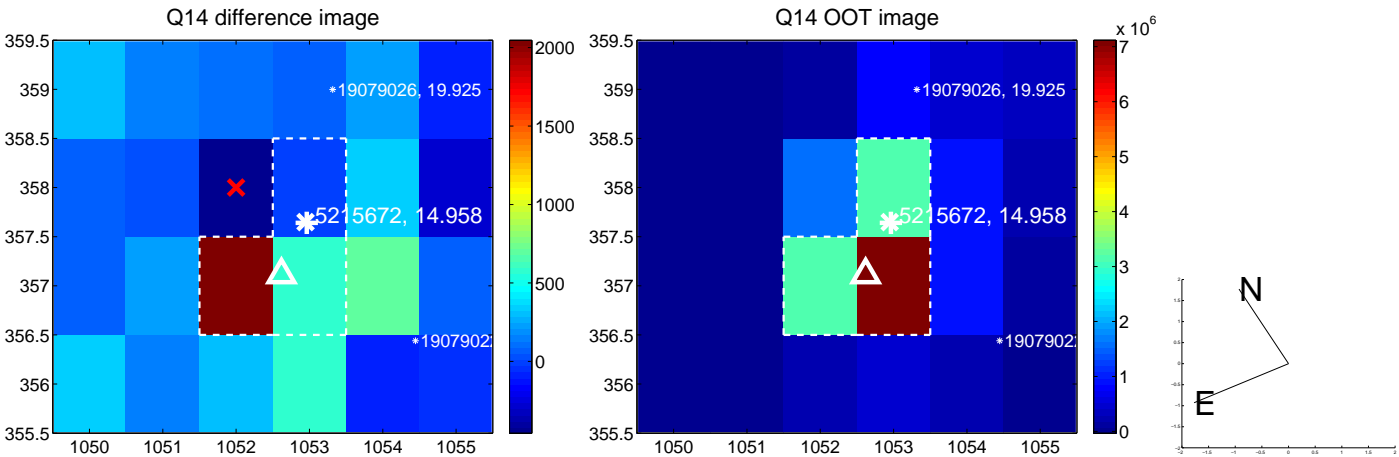
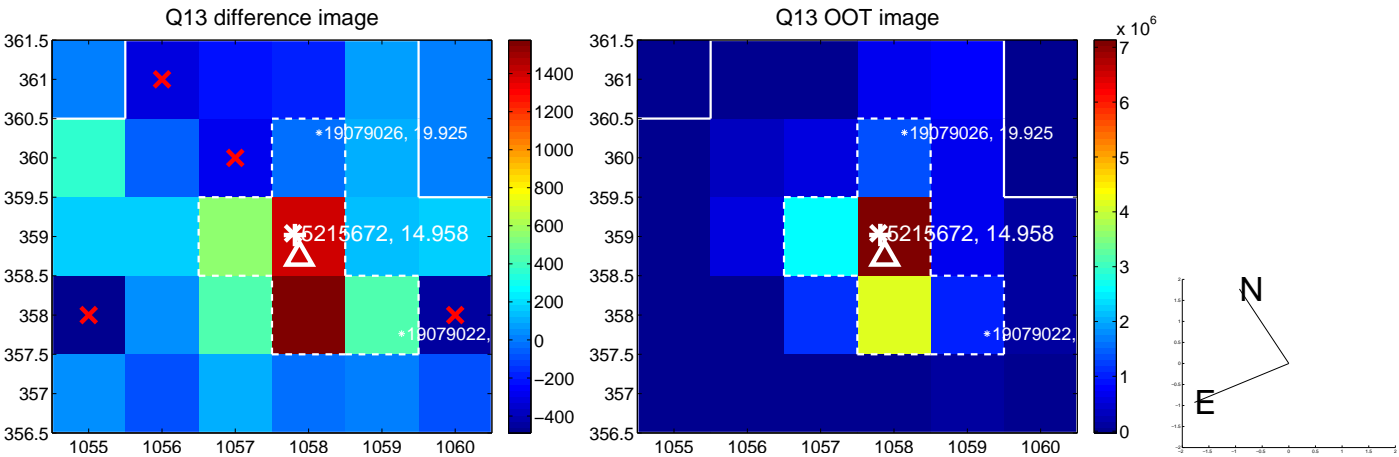




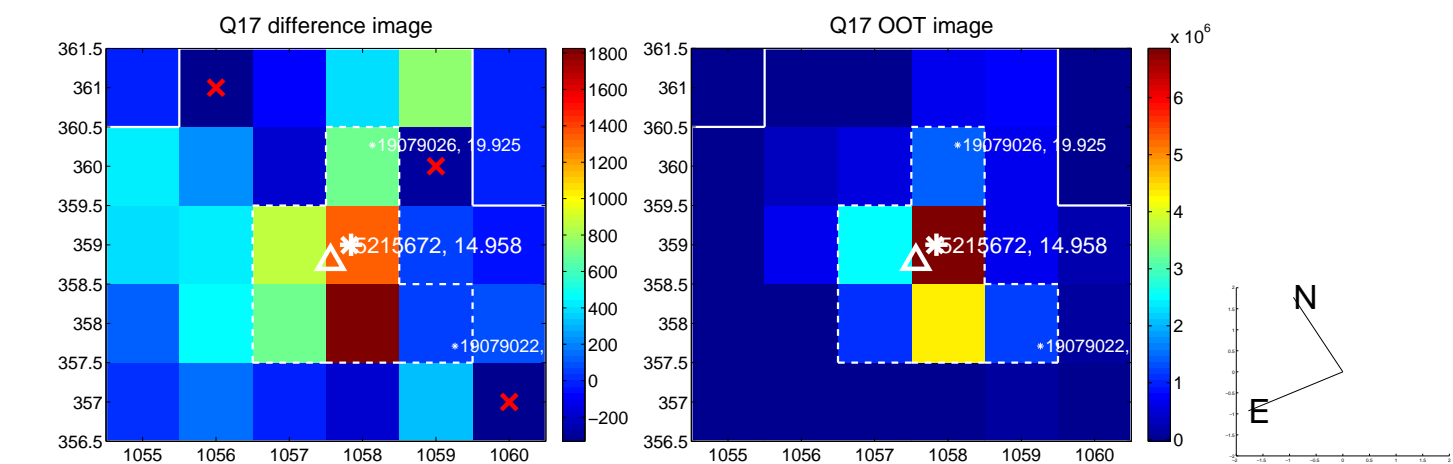
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



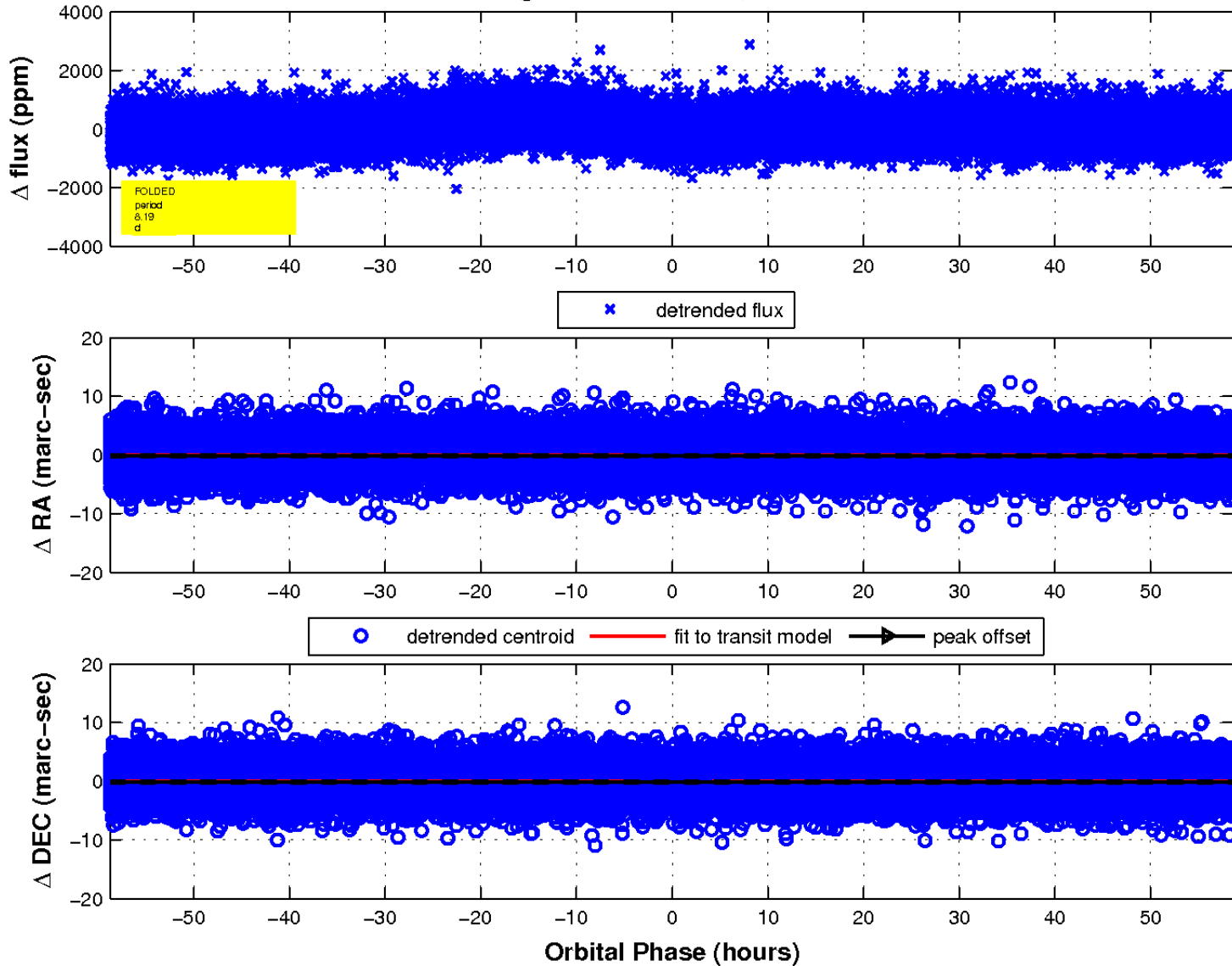
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

