

# KIC 009137447

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009137447-01	OBS	No	0.653214	131.644701	56.1	3.135	14.7	12.2	2.02	7914	1.77	47105.19

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009137447-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT

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

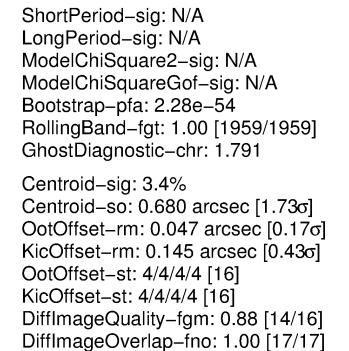
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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.

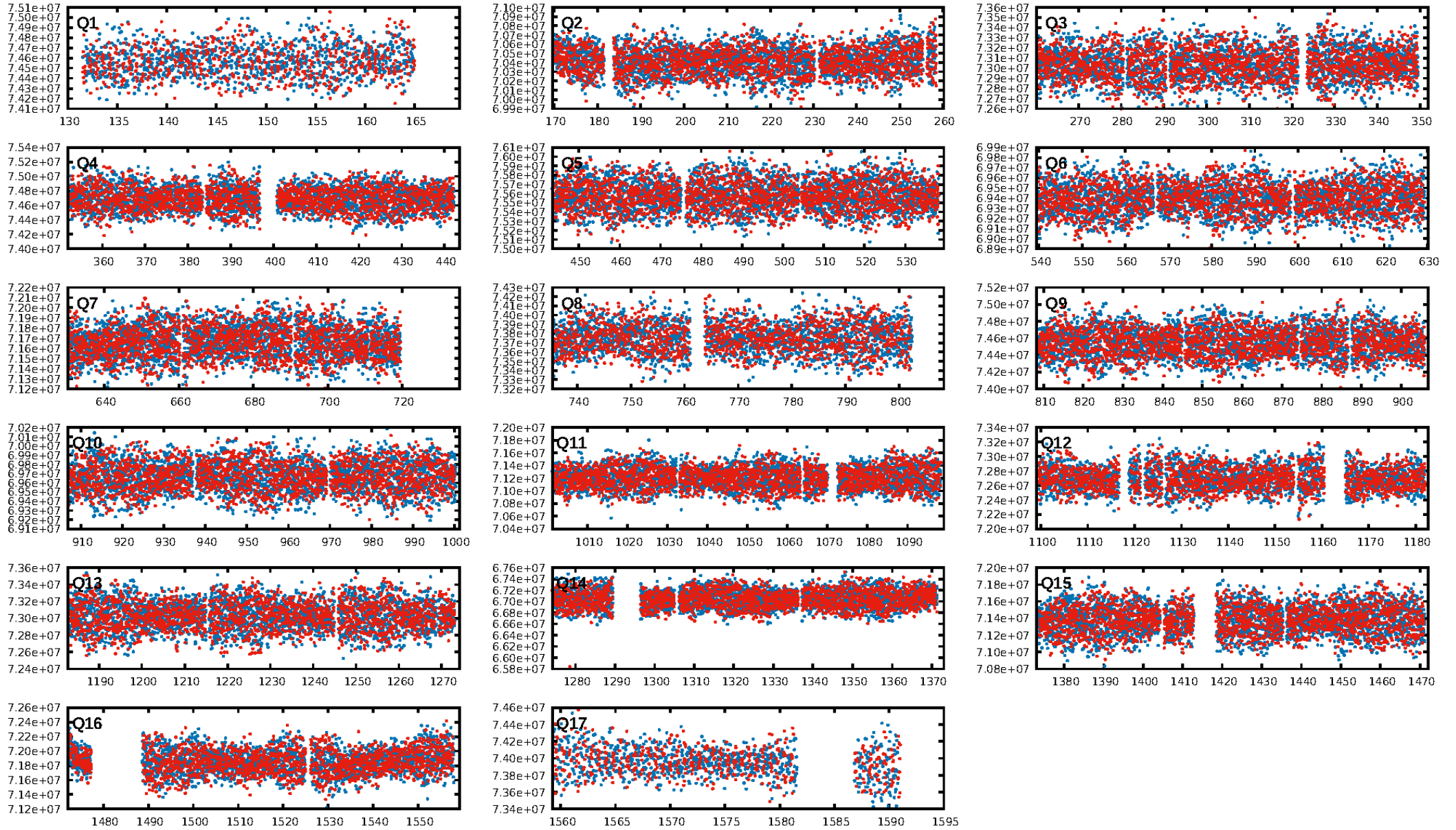
Ephemeris Match Information For 009137447-01

No Significant Match Found

KIC: 9137447    Candidate: 1 of 1    Period: 0.653 d

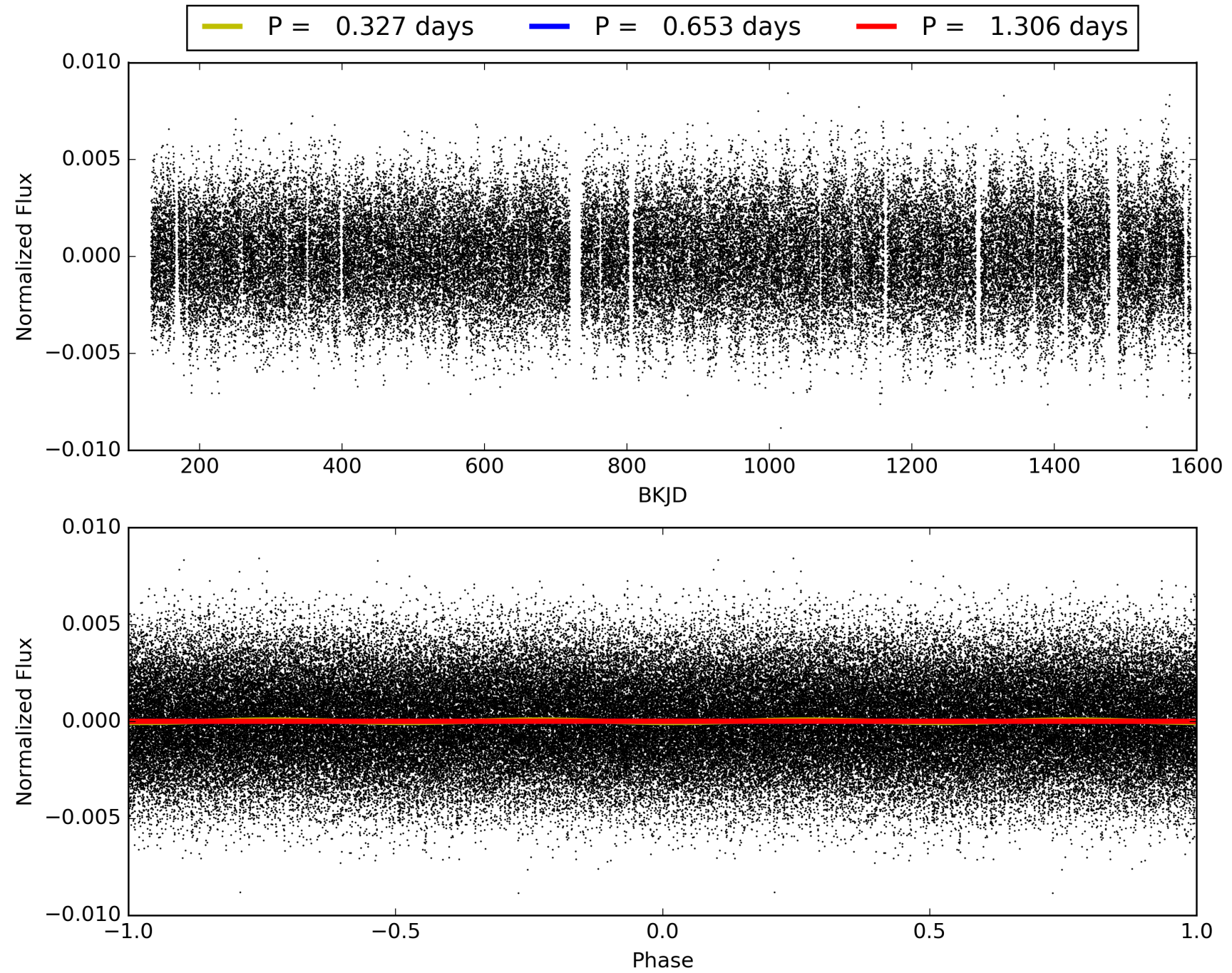


# TCE 009137447-01, PDC Light Curves



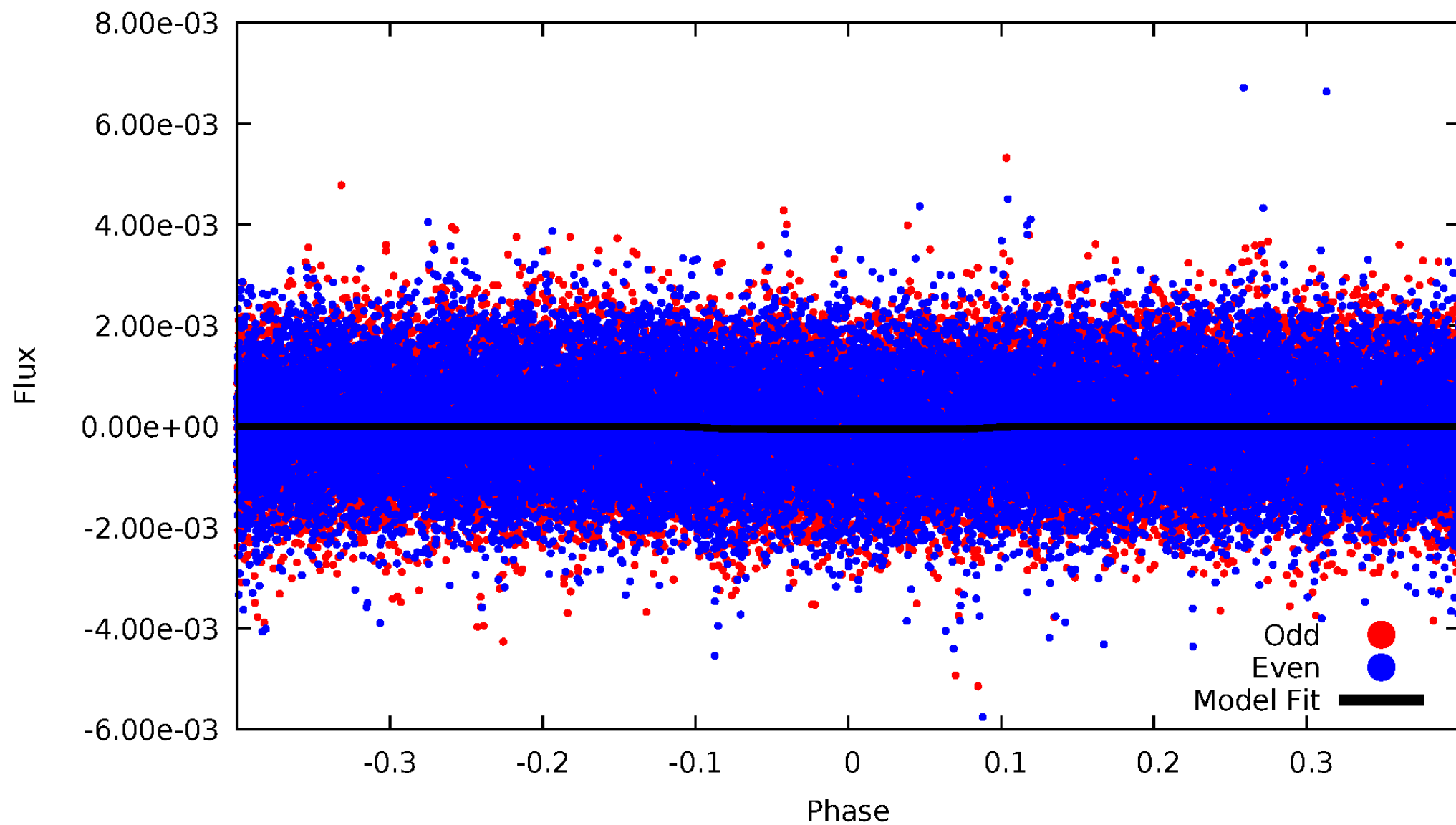


TCE 009137447-01



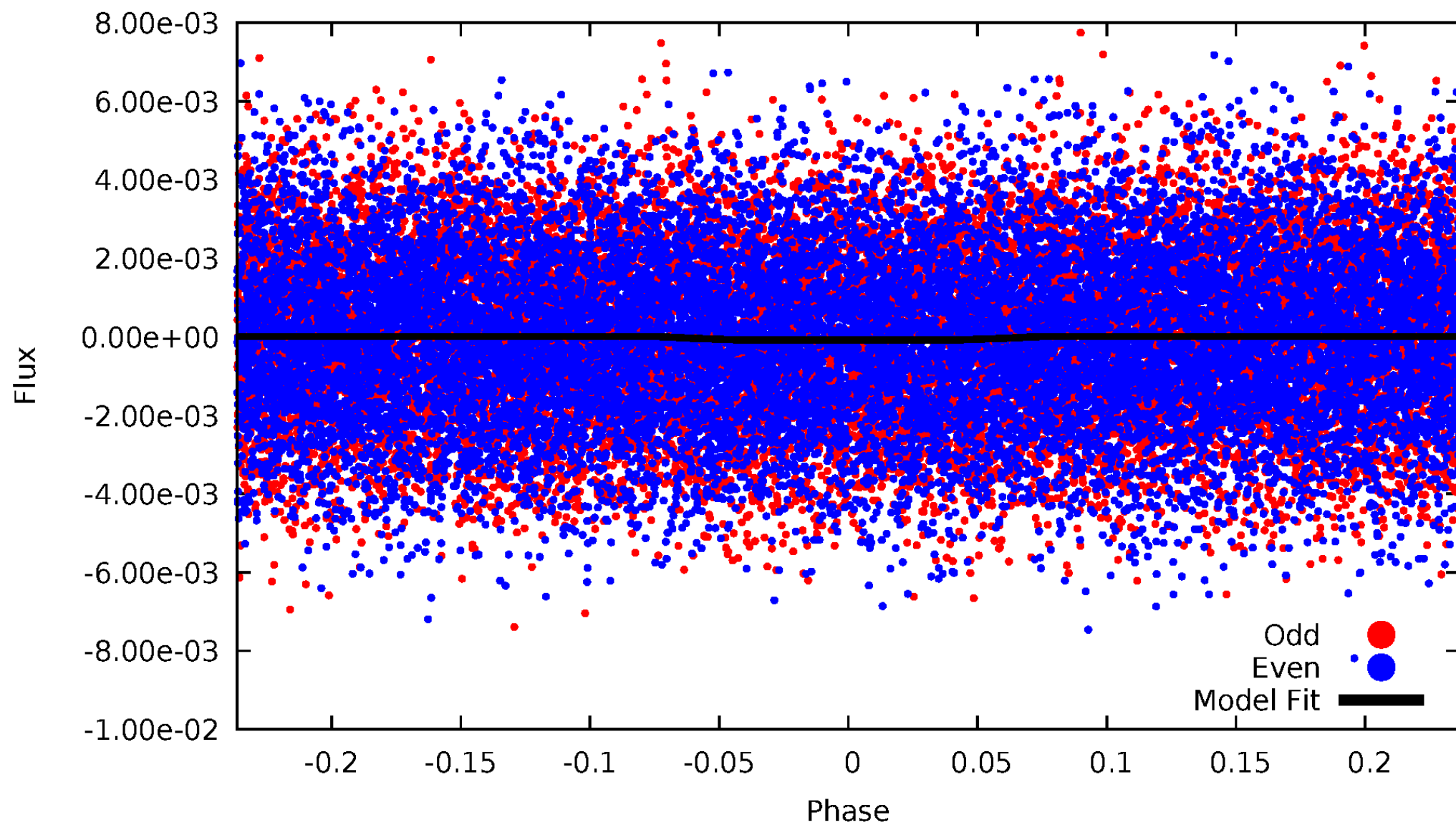
# DV Odd/Even

TCE 009137447-01

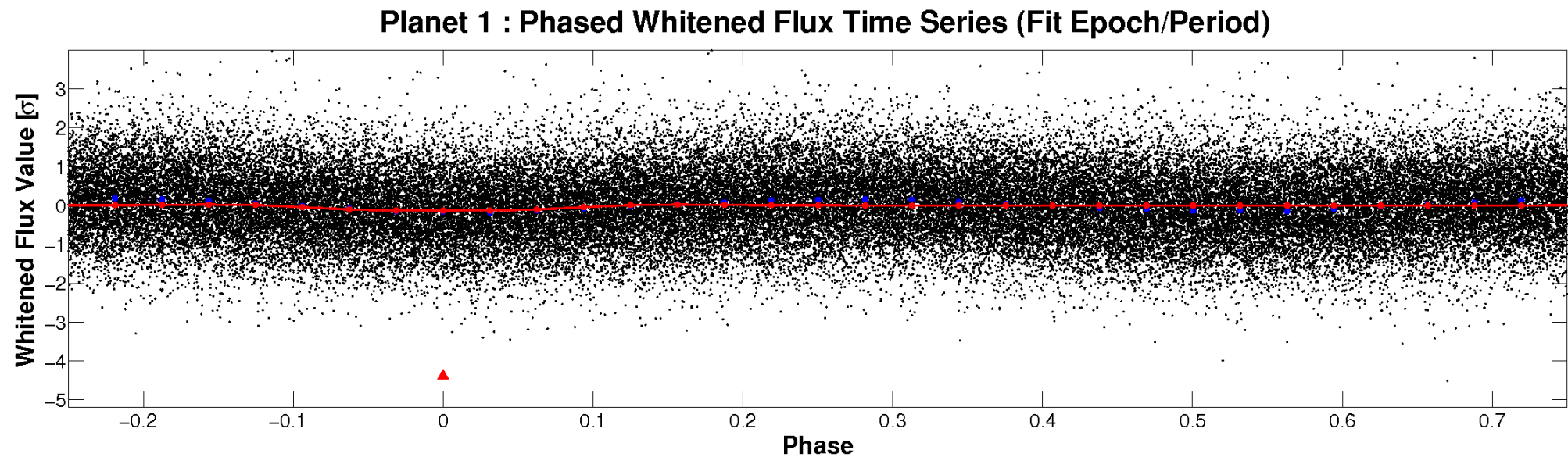
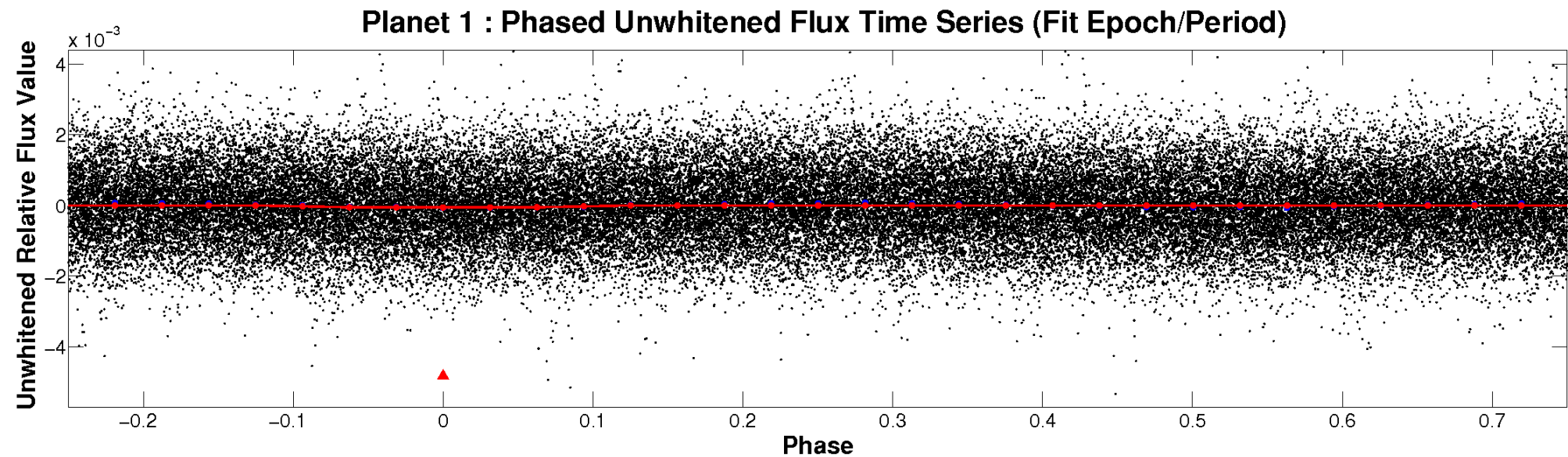


# ALT Odd/Even

TCE 009137447-01



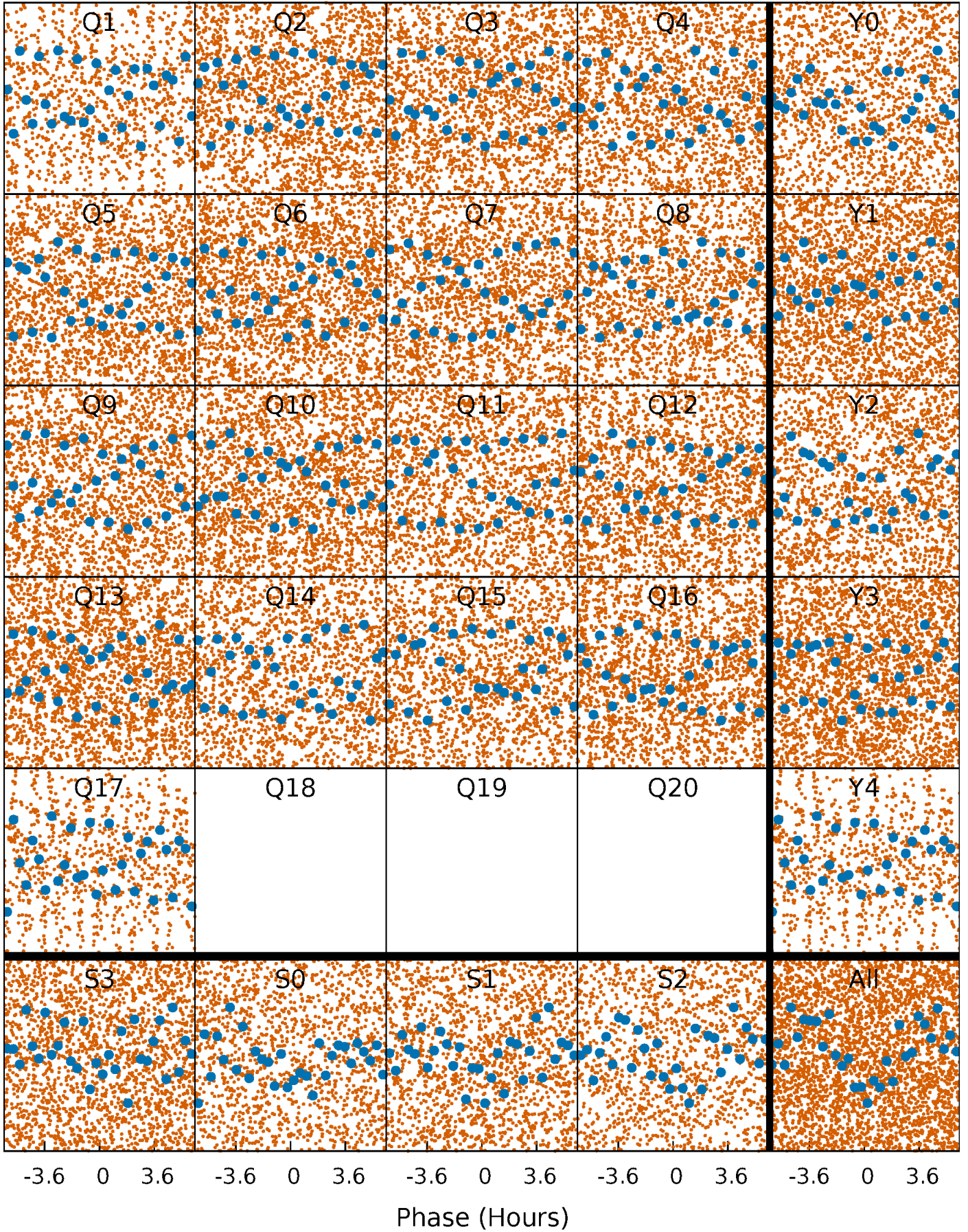
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

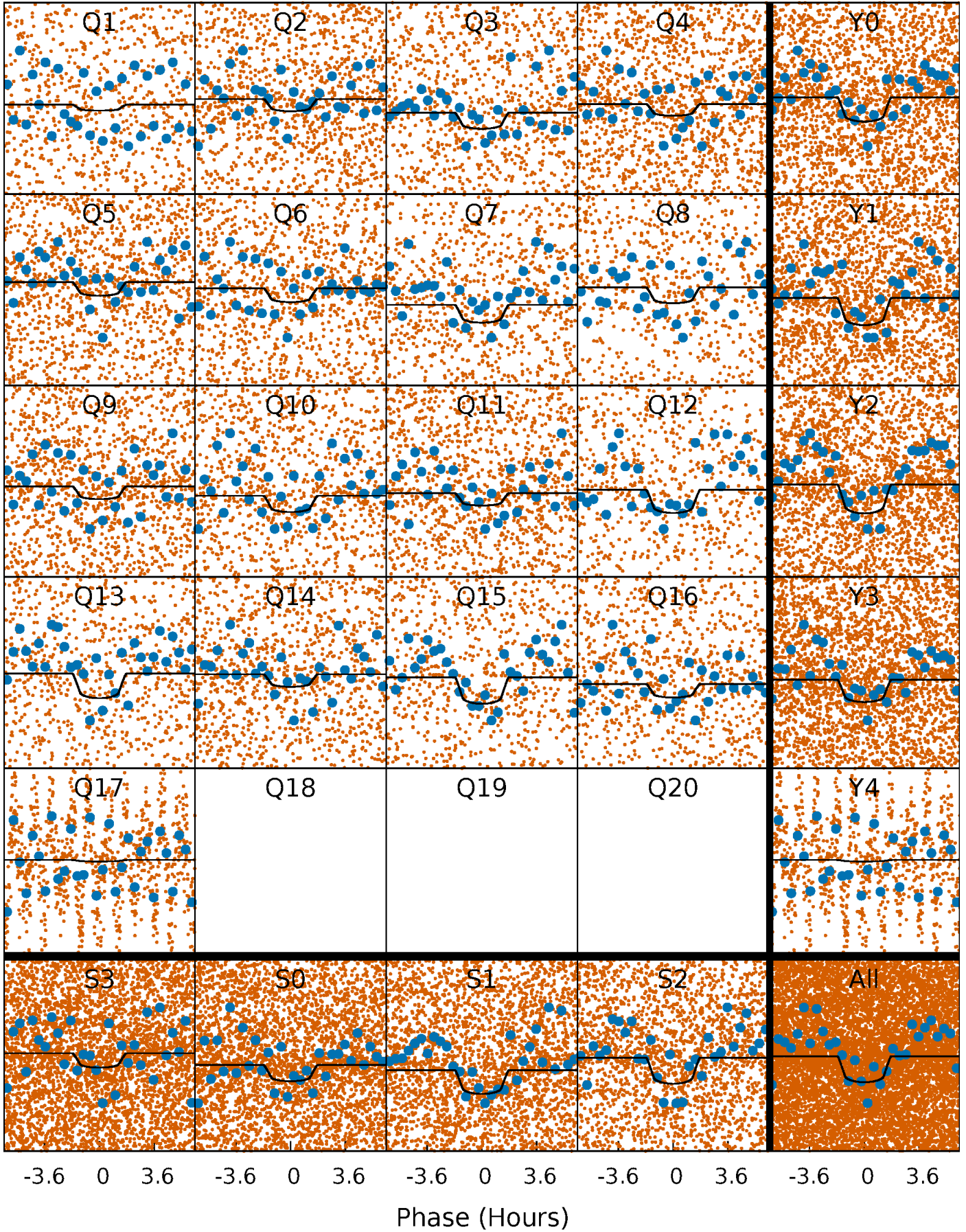
TCE 009137447-01 P= 0.653214 Days  $T_0=131.644701$  (BKJD)





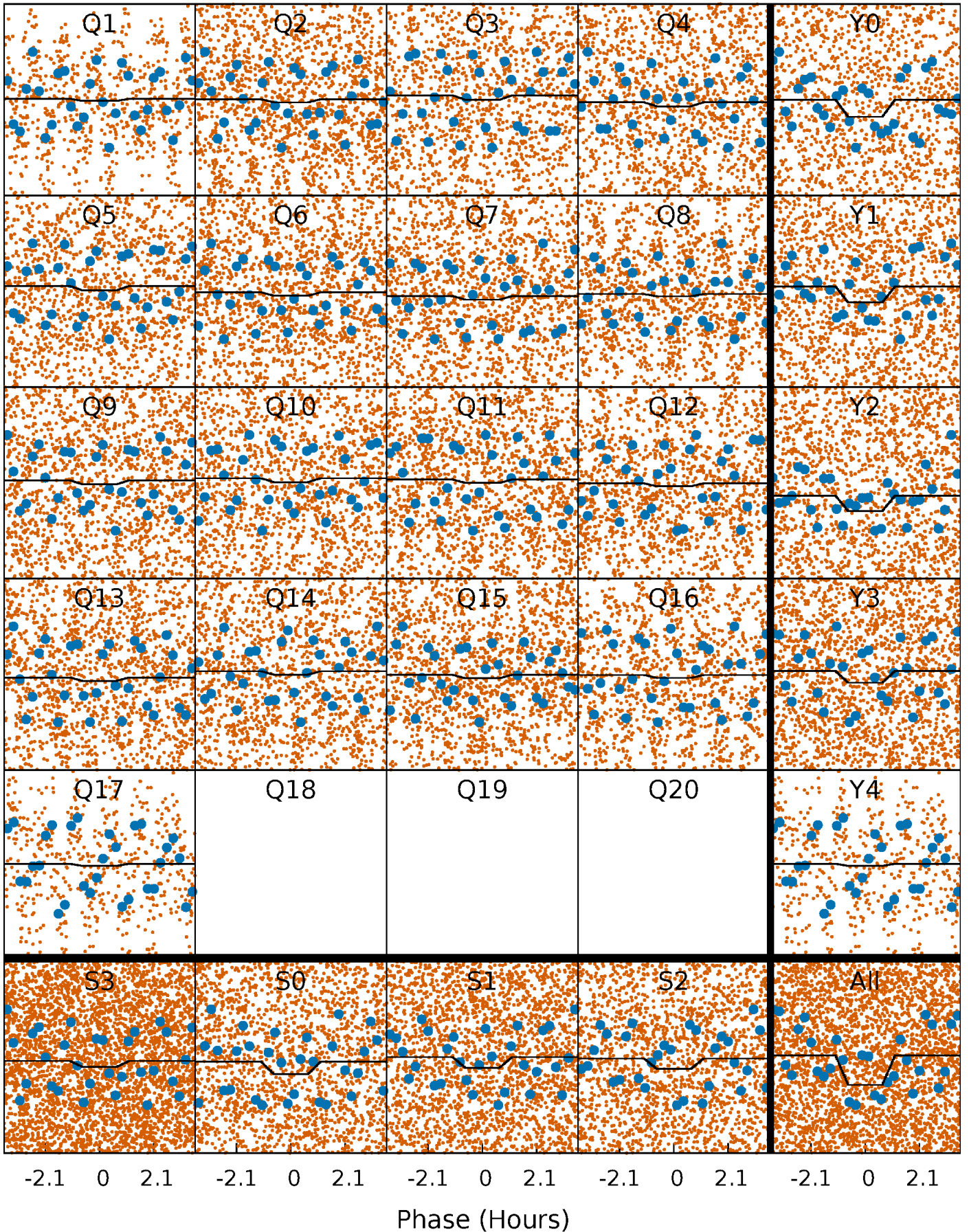
# DV Quarter-Phased Transit Curves

TCE 009137447-01 P= 0.653214 Days  $T_0=131.644701$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 009137447-01 P= 0.653219 Days  $T_0=131.640985$  (BKJD)

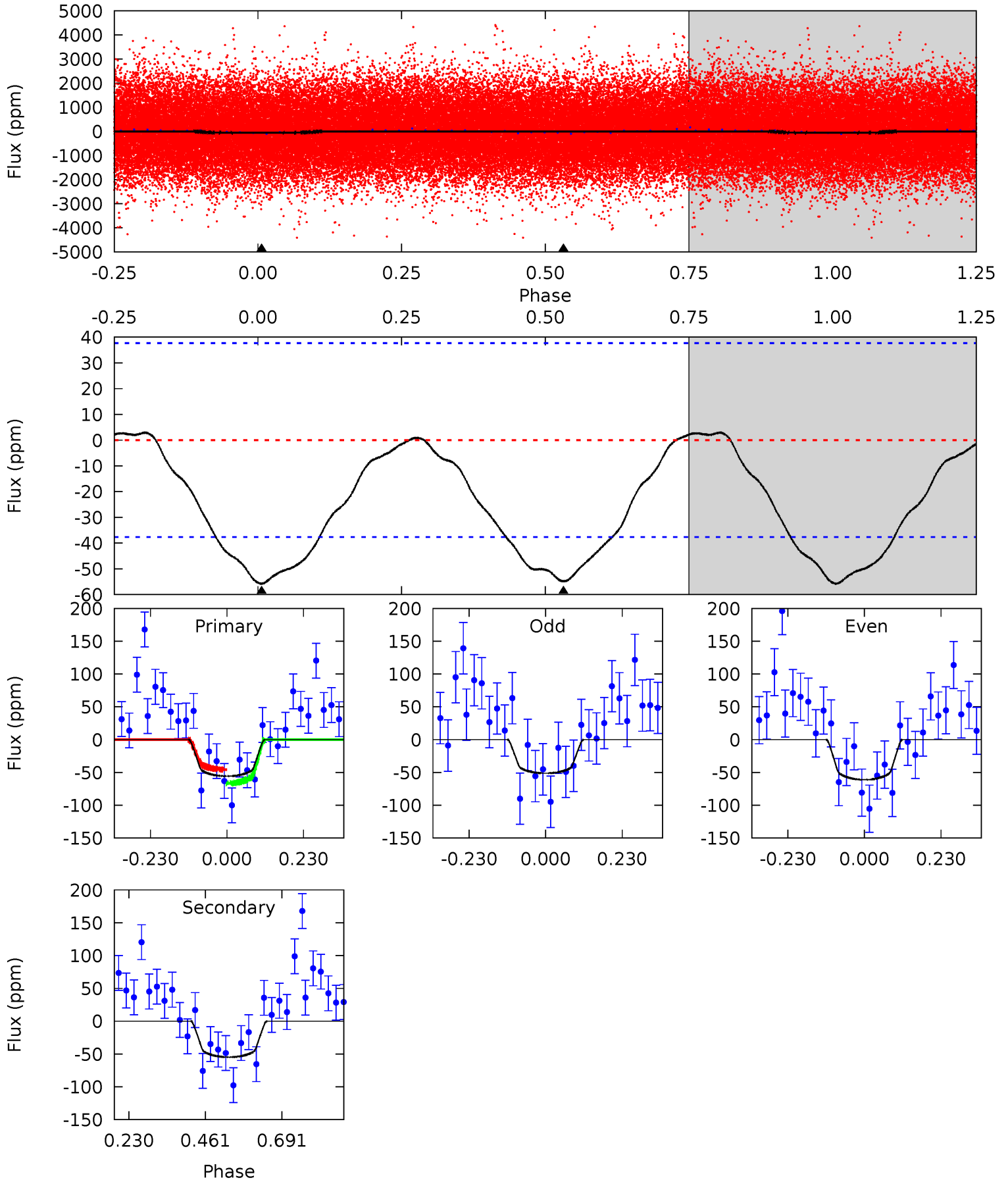




# DV Model-Shift Uniqueness Test

009137447-01, P = 0.653214 Days, E = 130.991487 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
6.50	6.39	0	0	4.39	1.20	0.25	6.50	6.50	6.39	6.39	0.57	1.00	0.05	1.24

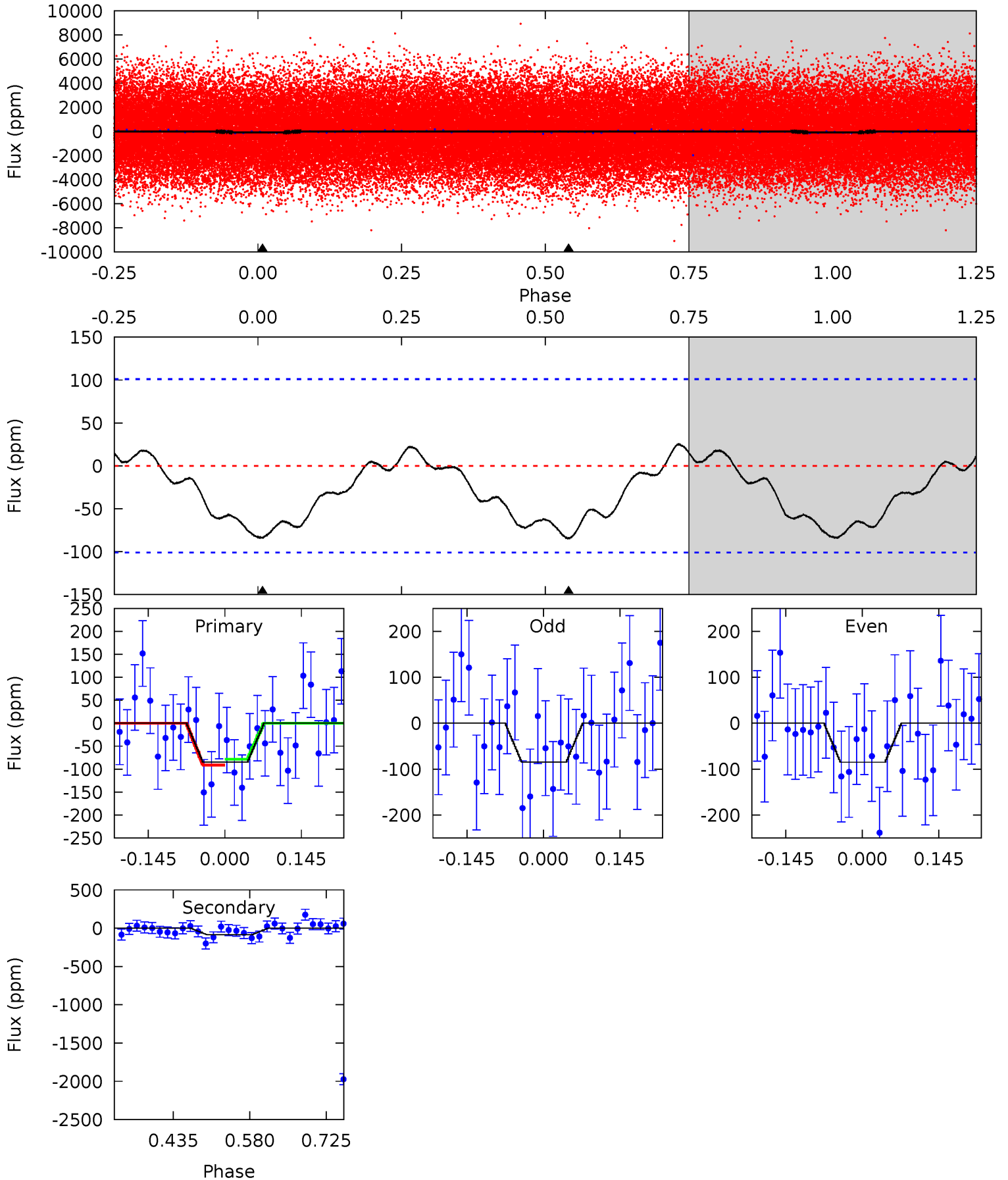




# Alt Model-Shift Uniqueness Test

009137447-01, P = 0.653219 Days, E = 130.987766 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
3.76	3.78	0	0	4.49	1.46	0.69	3.76	3.76	3.78	3.78	0.01	0.90	0.23	0.28



### Stellar Parameters For KIC 009137447

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7914^{+216}_{-325}$	$4.048^{+0.187}_{-0.153}$	$-0.240^{+0.200}_{-0.300}$	$2.023^{+0.460}_{-0.511}$	$1.666^{+0.196}_{-0.270}$	$0.283^{+0.327}_{-0.125}$
	+3%/-4%	+5%/-4%	+83%/-125%	+23%/-25%	+12%/-16%	+115%/-44%
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 009137447-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-55 \pm 9$	$1.93^{+1.34}_{-1.09}$	$5205^{+369}_{-379}$	$6772^{+5428}_{-1846}$	$2.441^{+10.117}_{-1.599}$
Alt.	$-85 \pm 23$	$2.23^{+1.25}_{-1.23}$	$5236^{+351}_{-375}$	$7108^{+6024}_{-1743}$	$2.792^{+12.356}_{-1.693}$

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

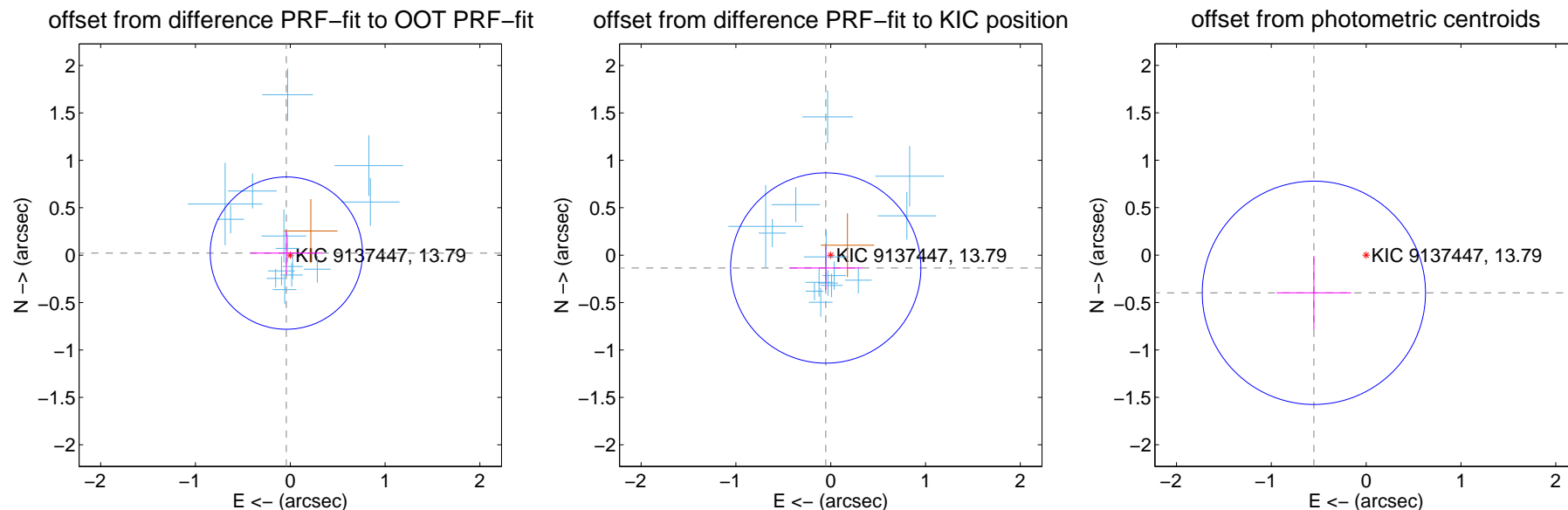
## DV Centroid Data

Supplemental centroid analysis for 009137447-01. Kepler magnitude: 13.79. Transit SNR 12.19

There are 14 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.047 \pm 0.268$	0.17	$0.041 \pm 0.381$	$0.022 \pm 0.228$
PRF-fit source offset from KIC position	$0.145 \pm 0.334$	0.43	$0.053 \pm 0.388$	$-0.135 \pm 0.230$
photometric centroid source offset	$0.68 \pm 0.39$	1.73	$0.55 \pm 0.39$	$-0.40 \pm 0.39$

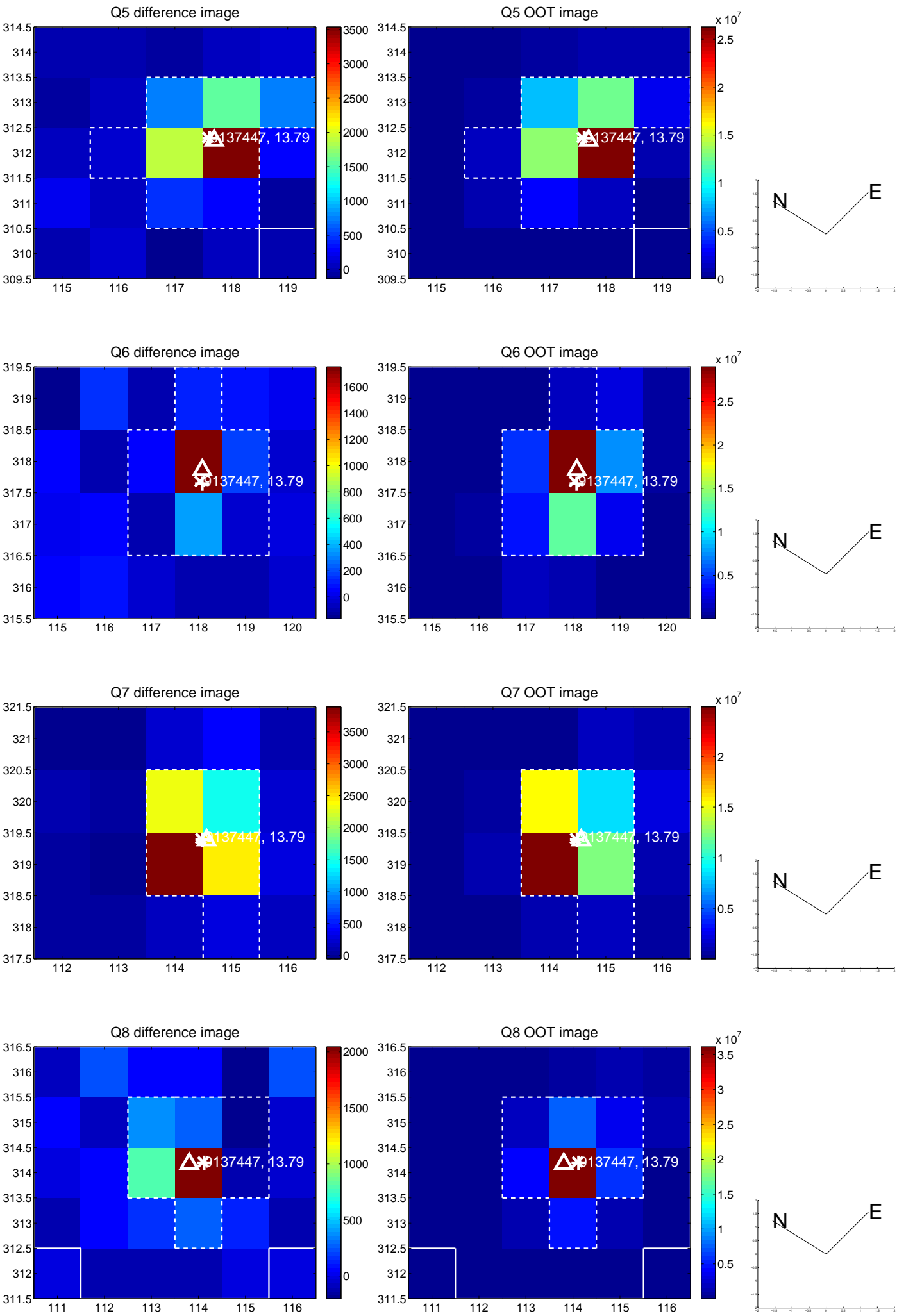


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

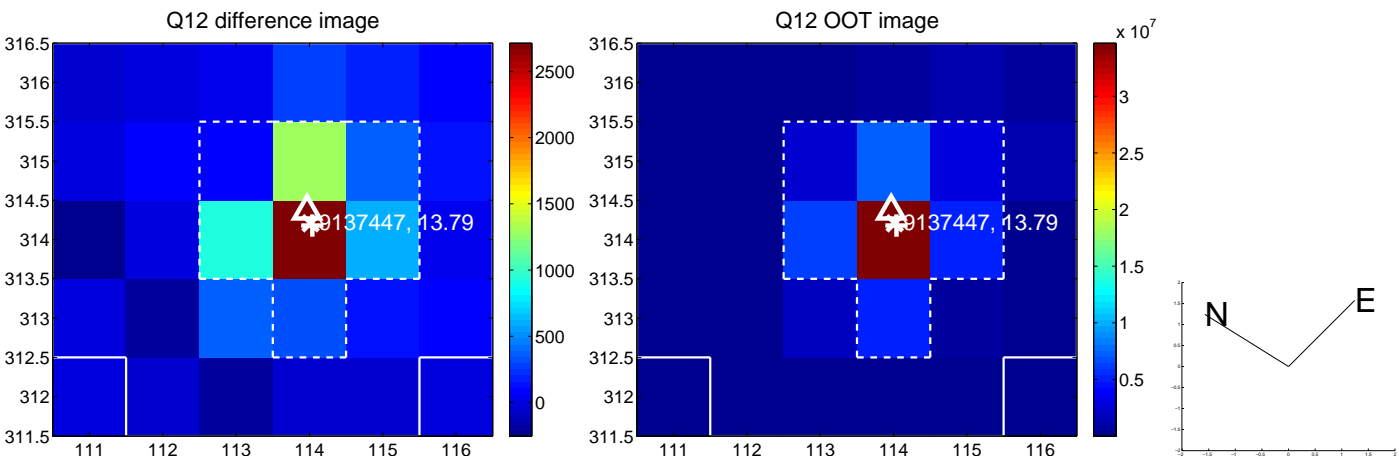
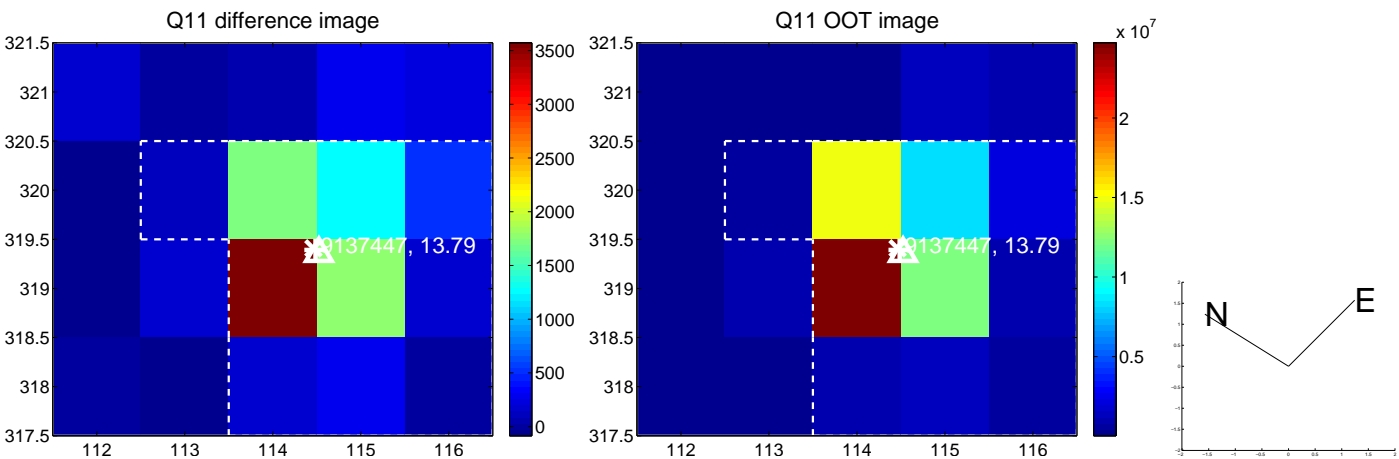
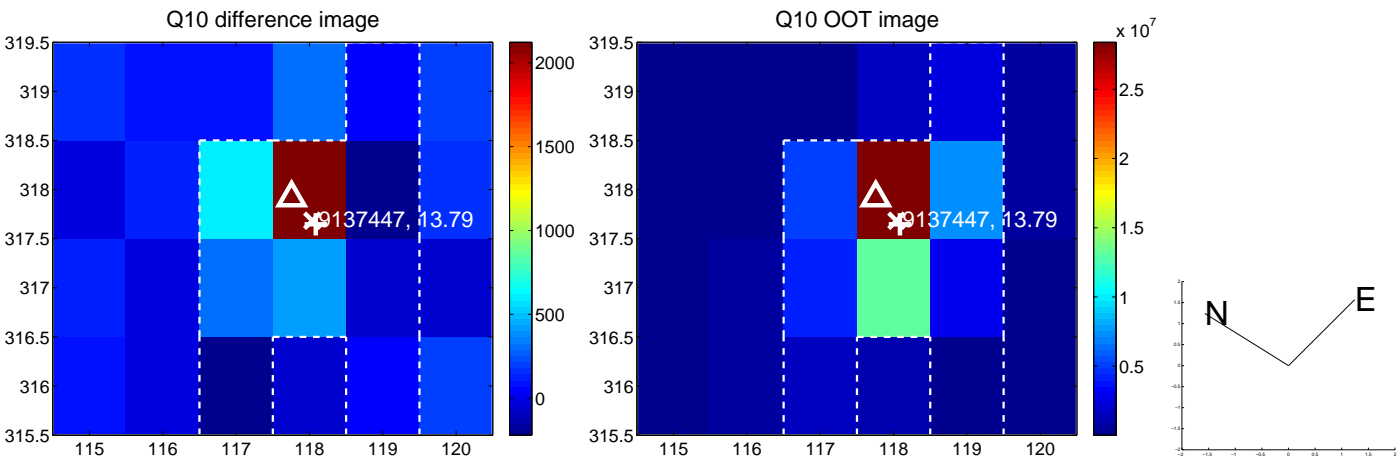
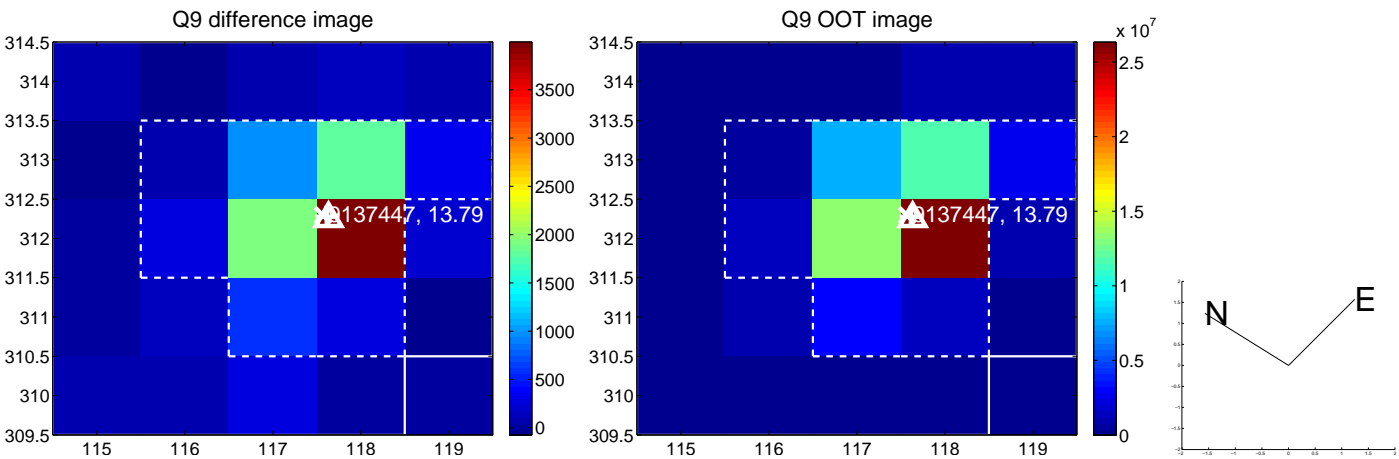




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

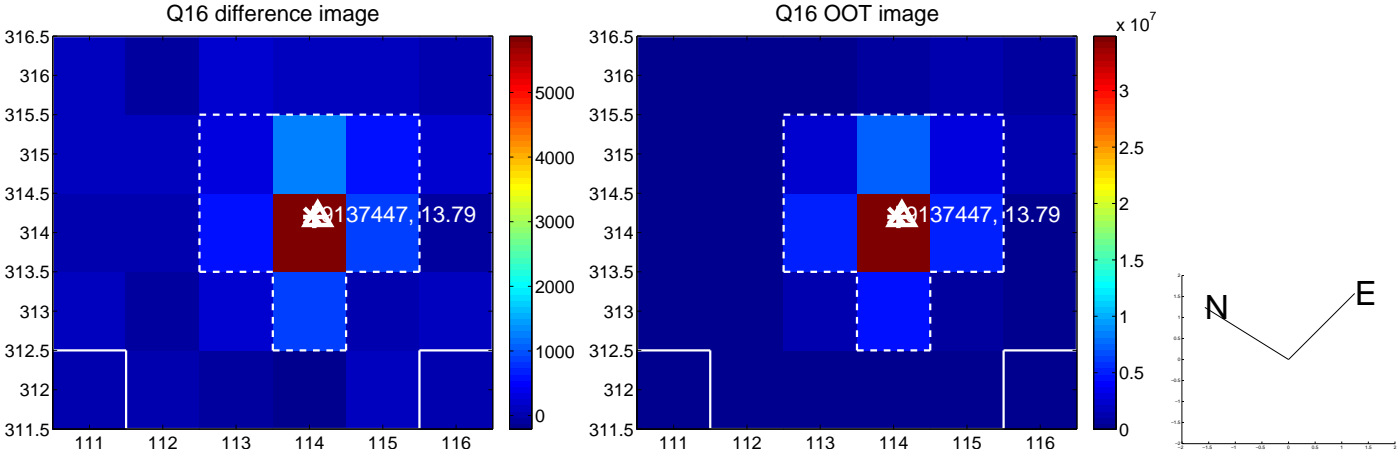
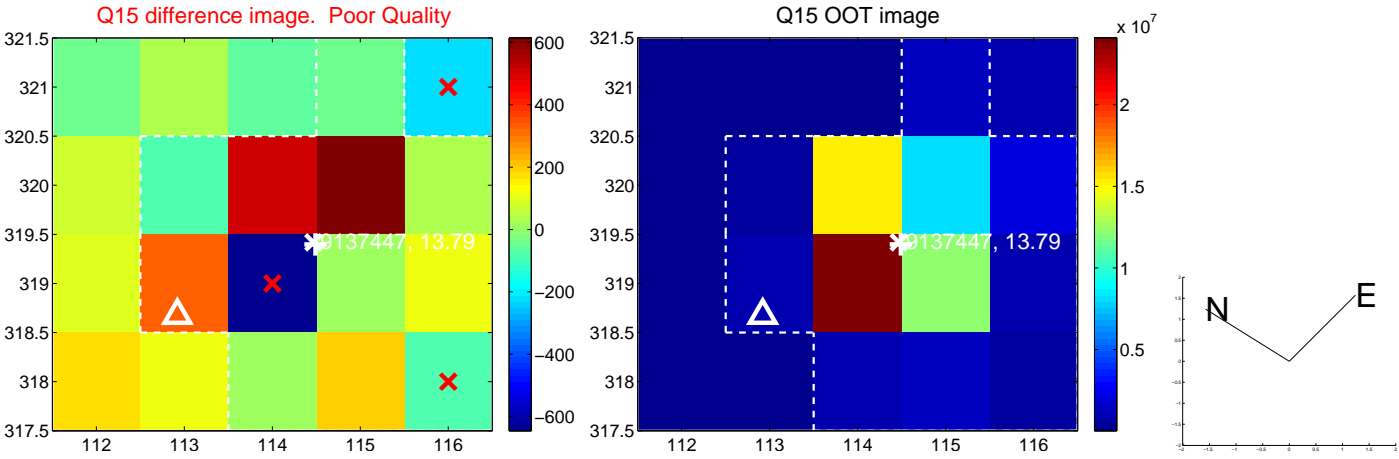
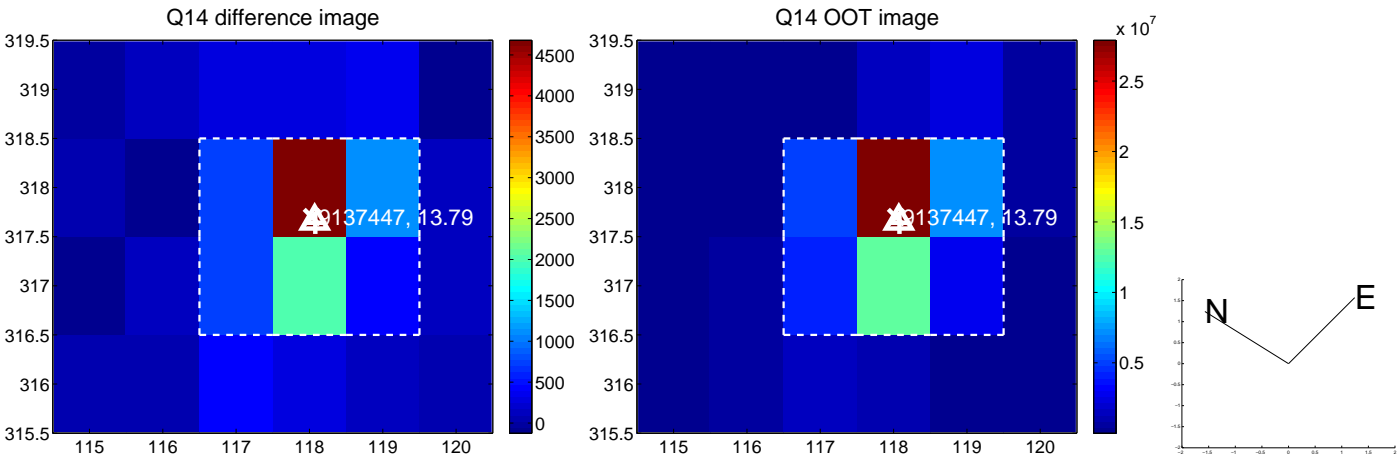
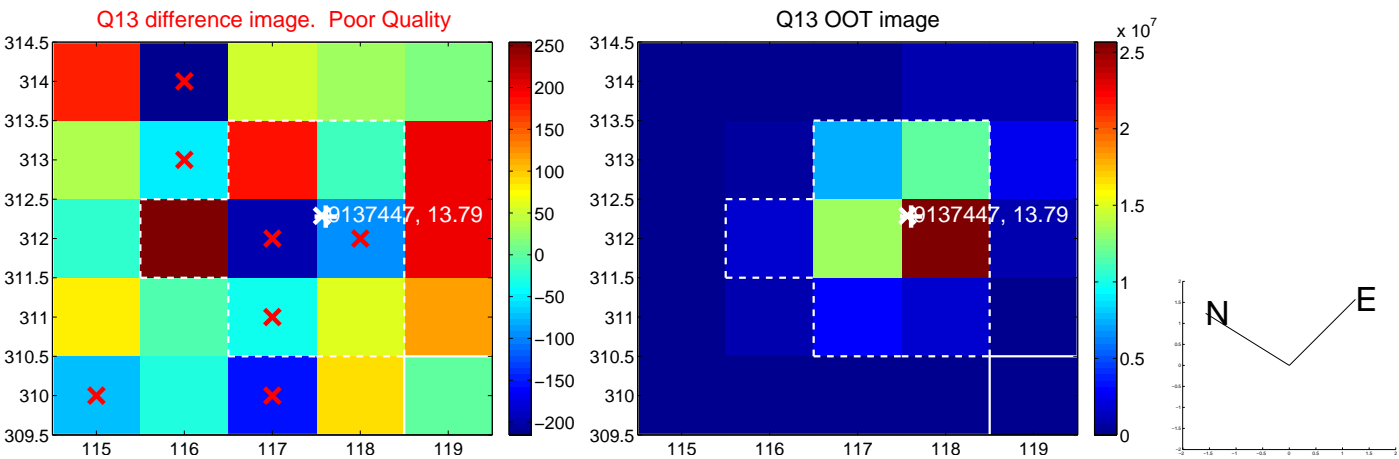


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

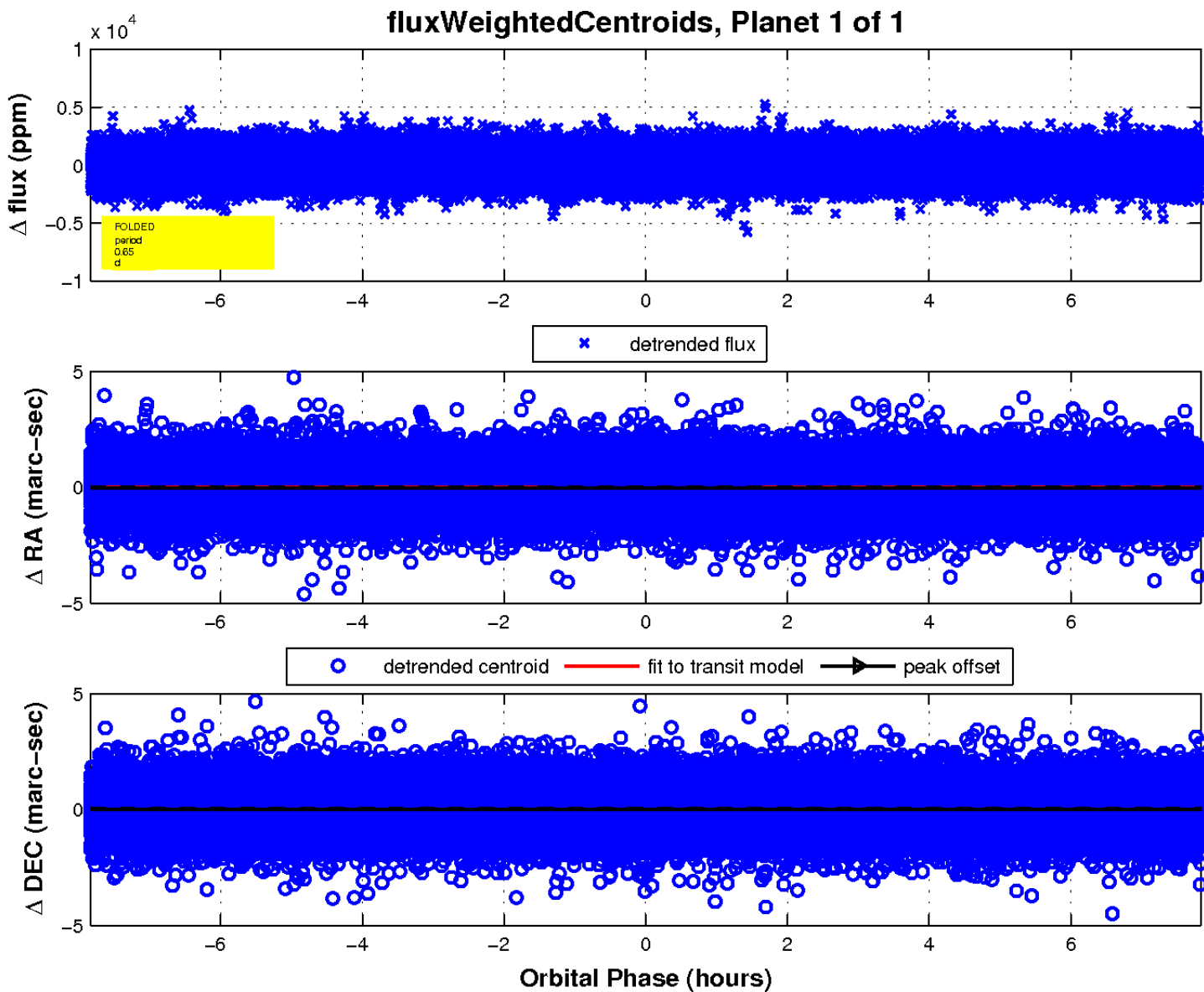
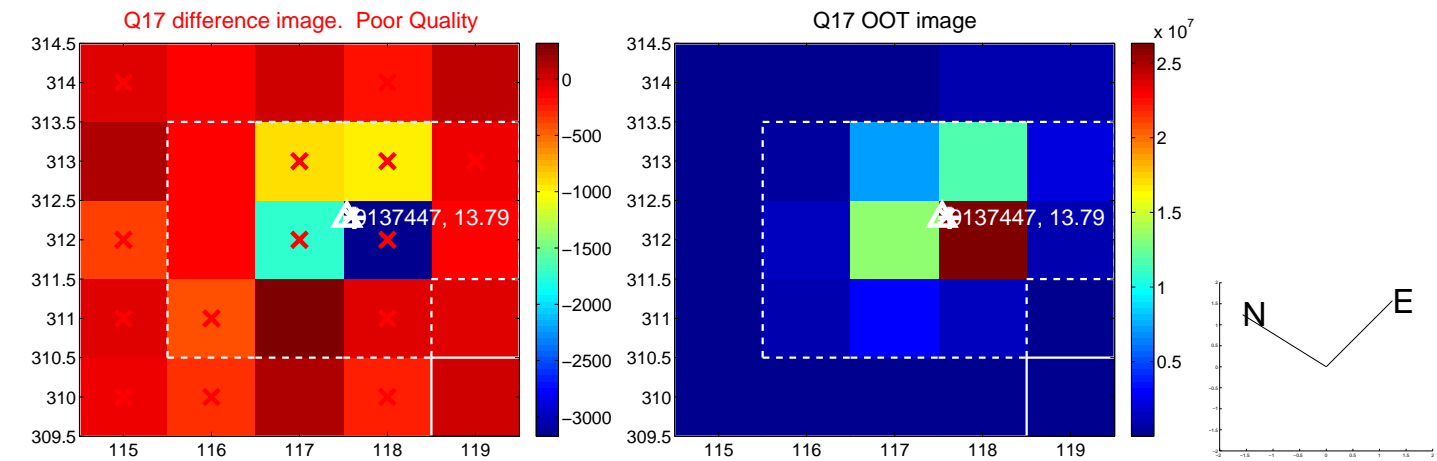




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UKIRT Image

Declination

