

# KIC 004935606

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004935606-01	OBS	No	1.209964	131.652925	16.0	5.171	13.5	14.6	1.38	7053	0.60	7552.97

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004935606-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

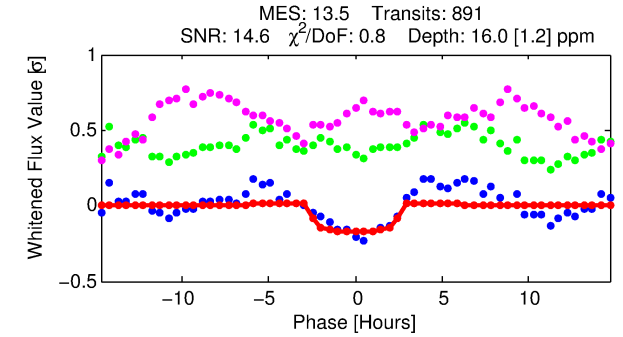
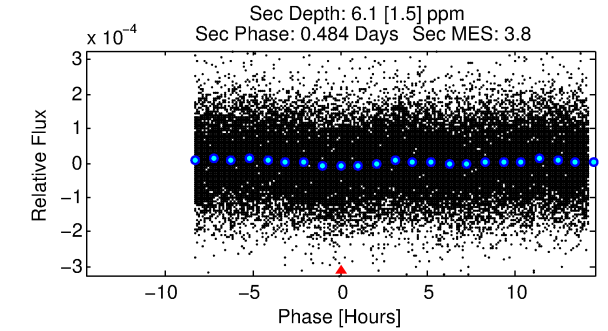
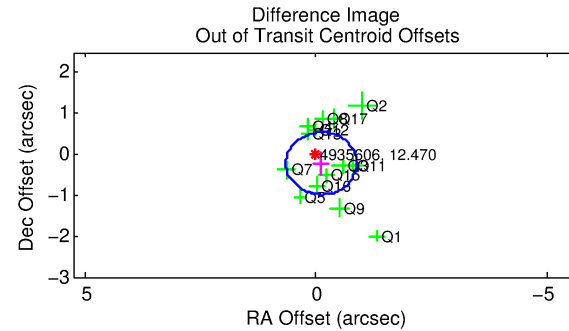
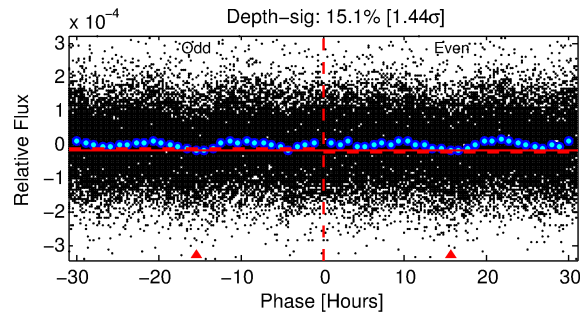
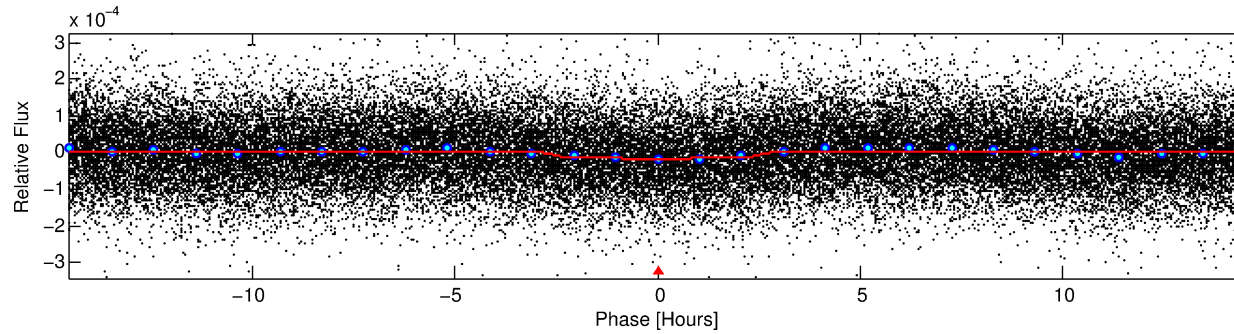
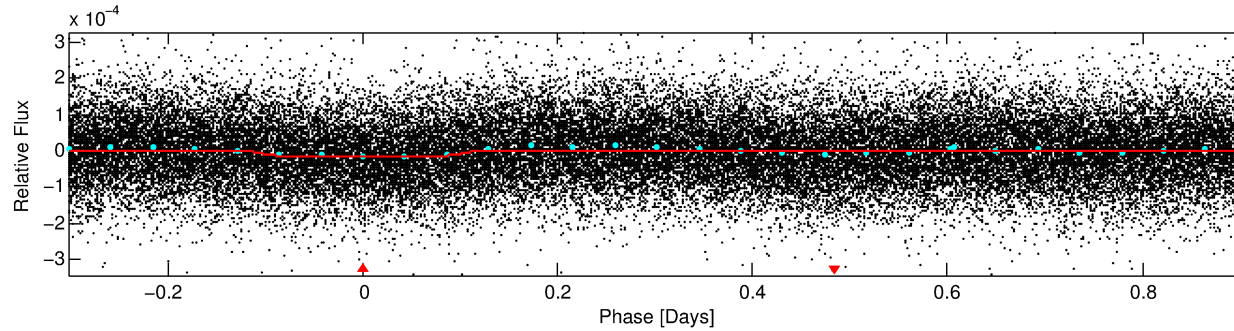
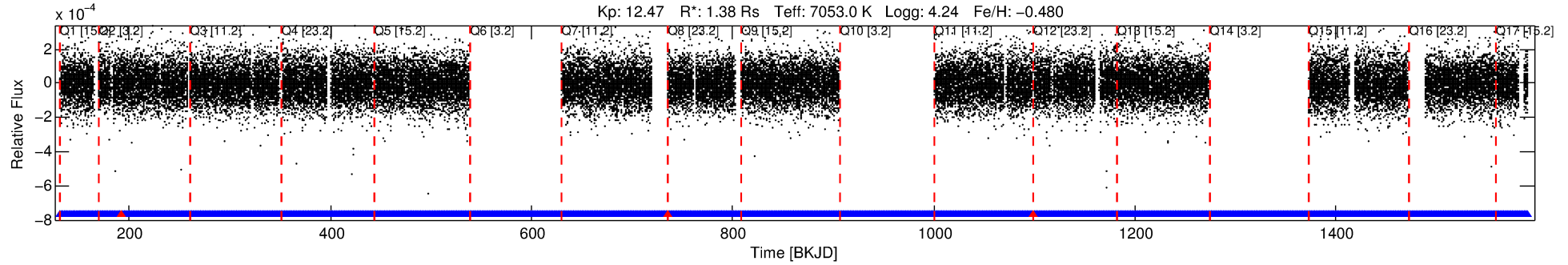
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004935606-01

No Significant Match Found

# DV One-Page Summary

KIC: 4935606 Candidate: 1 of 1 Period: 1.210 d



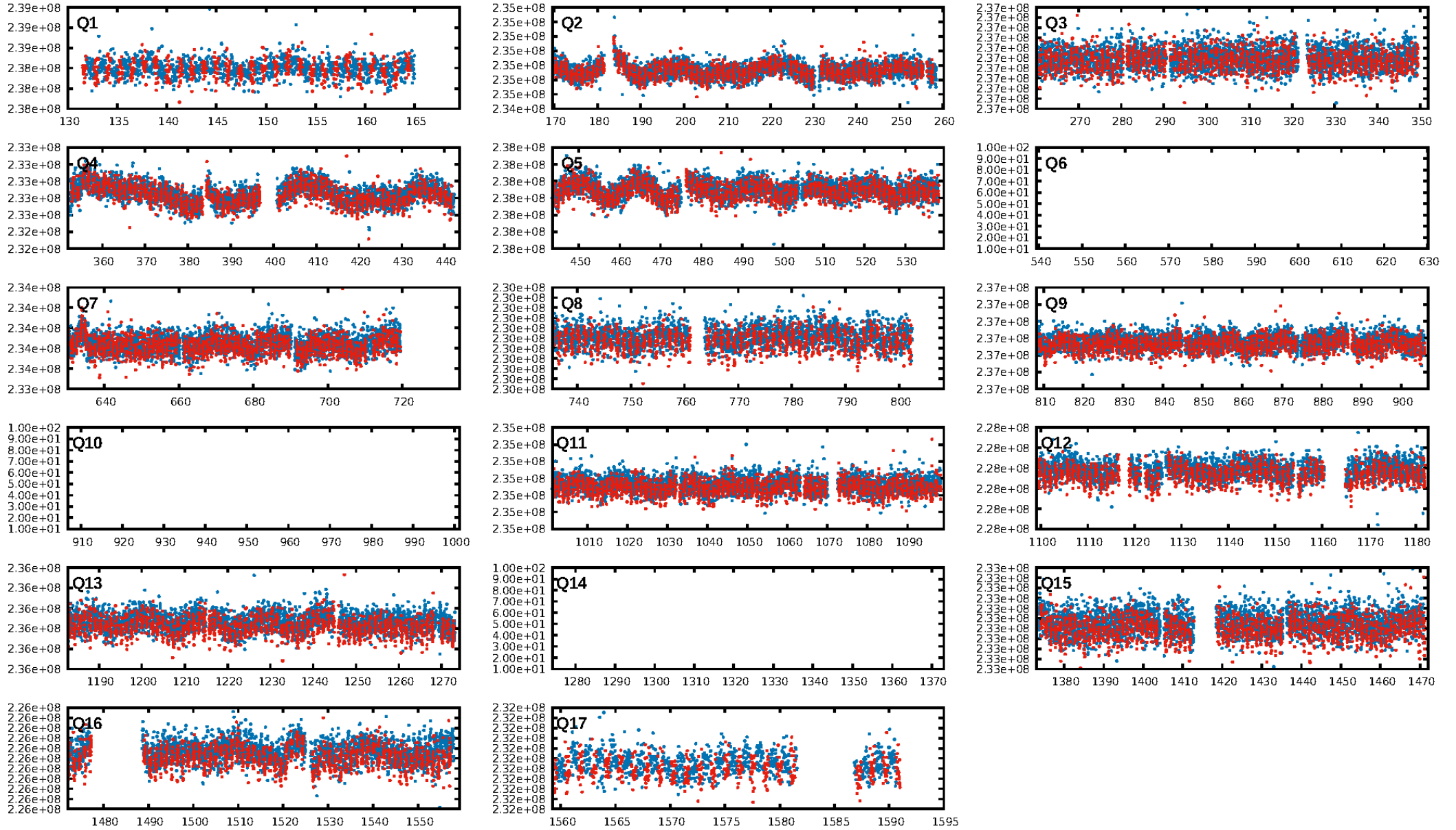
## DV Fit Results:

Period = 1.20996 [0.00001] d  
Epoch = 131.6529 [0.0038] BKJD  
Rp/R\* = 0.0040 [0.0009]  
a/R\* = 1.46 [1.07]  
b = 0.75 [0.80]  
Seff = 7552.97 [2296.89]  
Teff = 2377 [181] K  
Rp = 0.60 [0.19] Re  
a = 0.0237 [0.0041] AU  
Ag = 5.19 [3.00] [1.40 $\sigma$ ]  
Teffp = 5549 [769] K [4.02 $\sigma$ ]

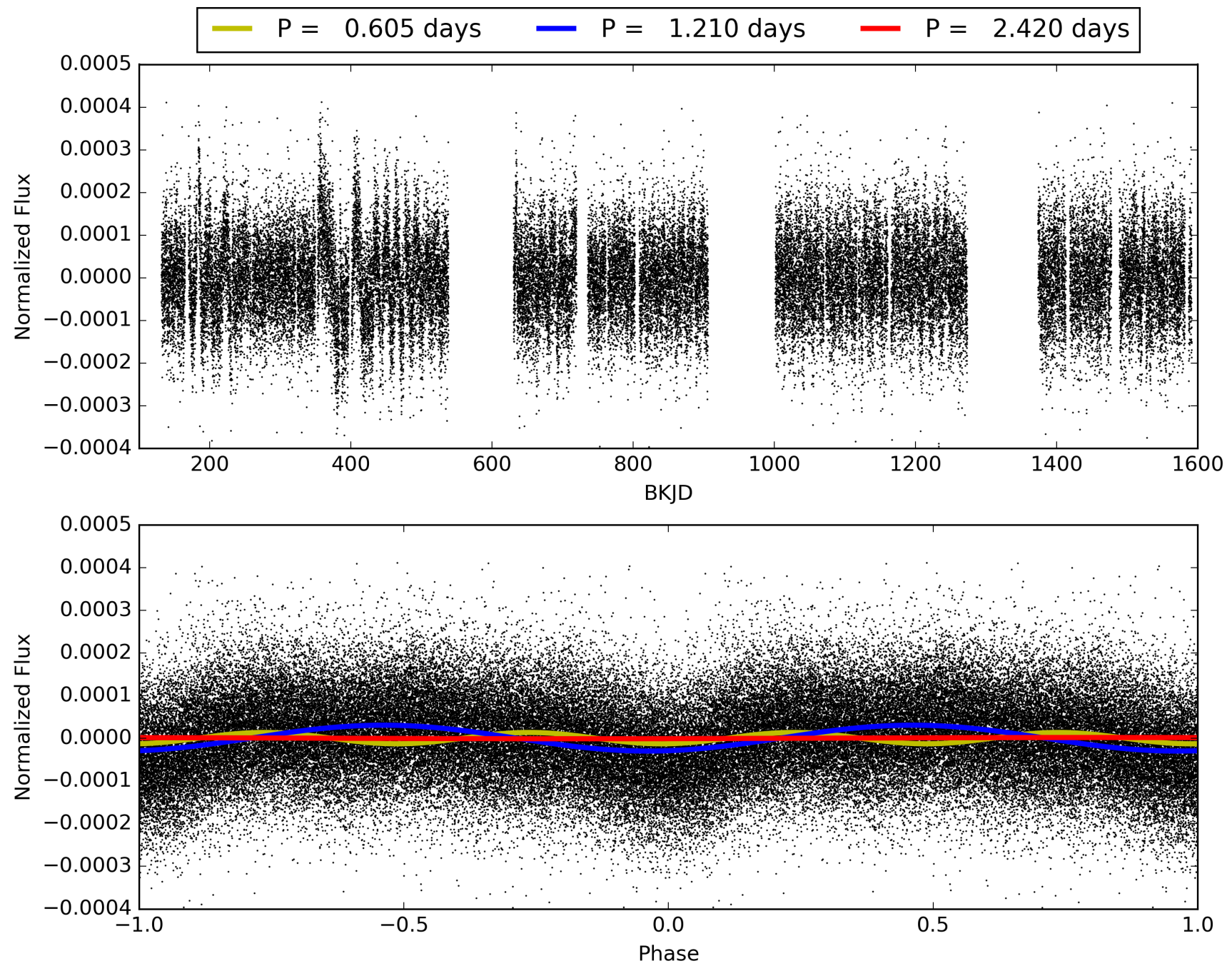
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 6.46e-35  
RollingBand-fgt: 1.00 [837/840]  
GhostDiagnostic-chr: 1.87  
Centroid-sig: 3.6%  
Centroid-so: 1.634 arcsec [1.98 $\sigma$ ]  
OotOffset-rm: 0.248 arcsec [0.98 $\sigma$ ]  
OotOffset-st: 1/4/4/5 [14]  
KicOffset-rm: 0.232 arcsec [0.90 $\sigma$ ]  
KicOffset-st: 1/4/4/5 [14]  
DiffImageQuality-fgm: 1.00 [14/14]  
DiffImageOverlap-fno: 1.00 [14/14]

# TCE 004935606-01, PDC Light Curves



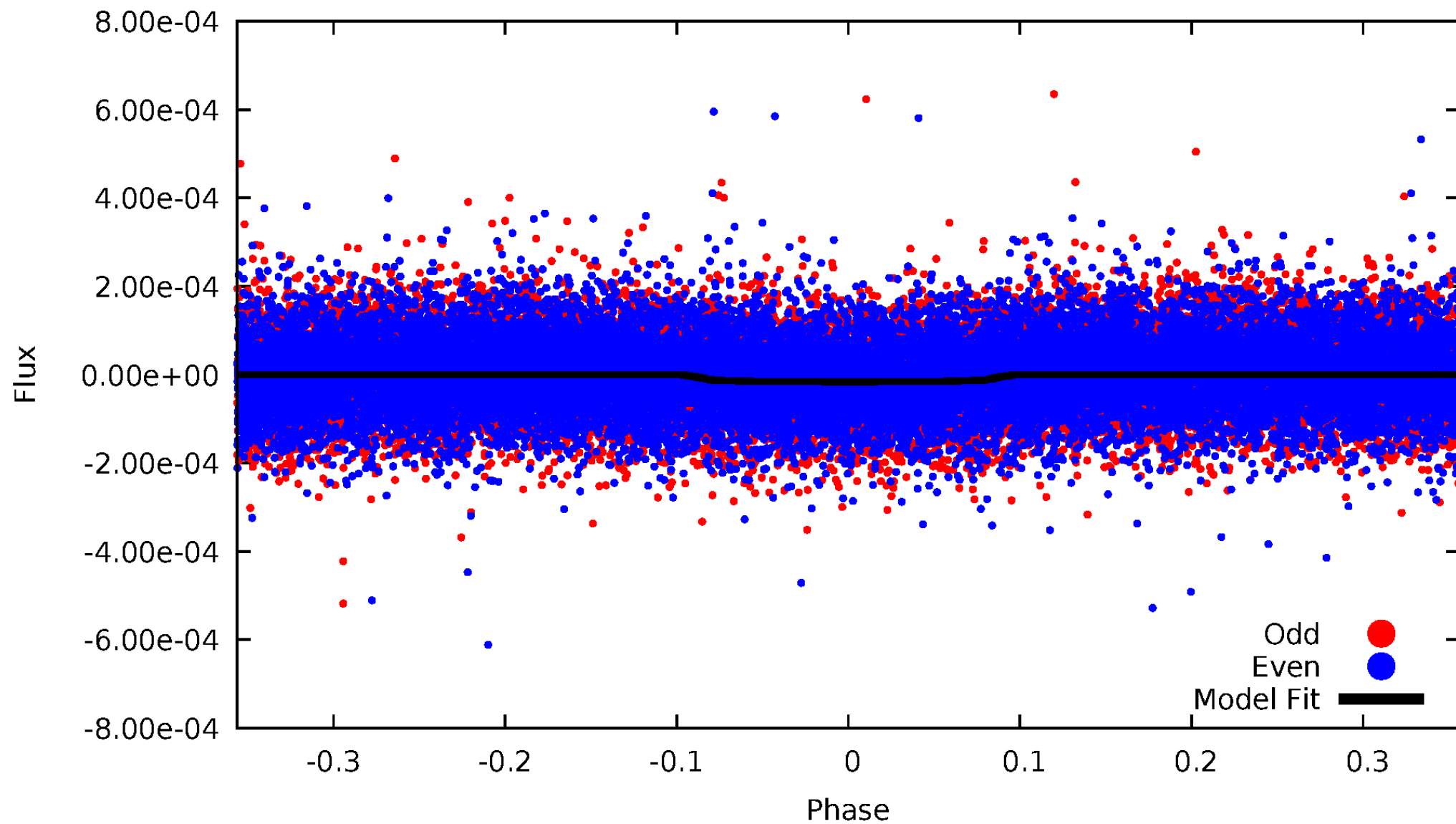
TCE 004935606-01





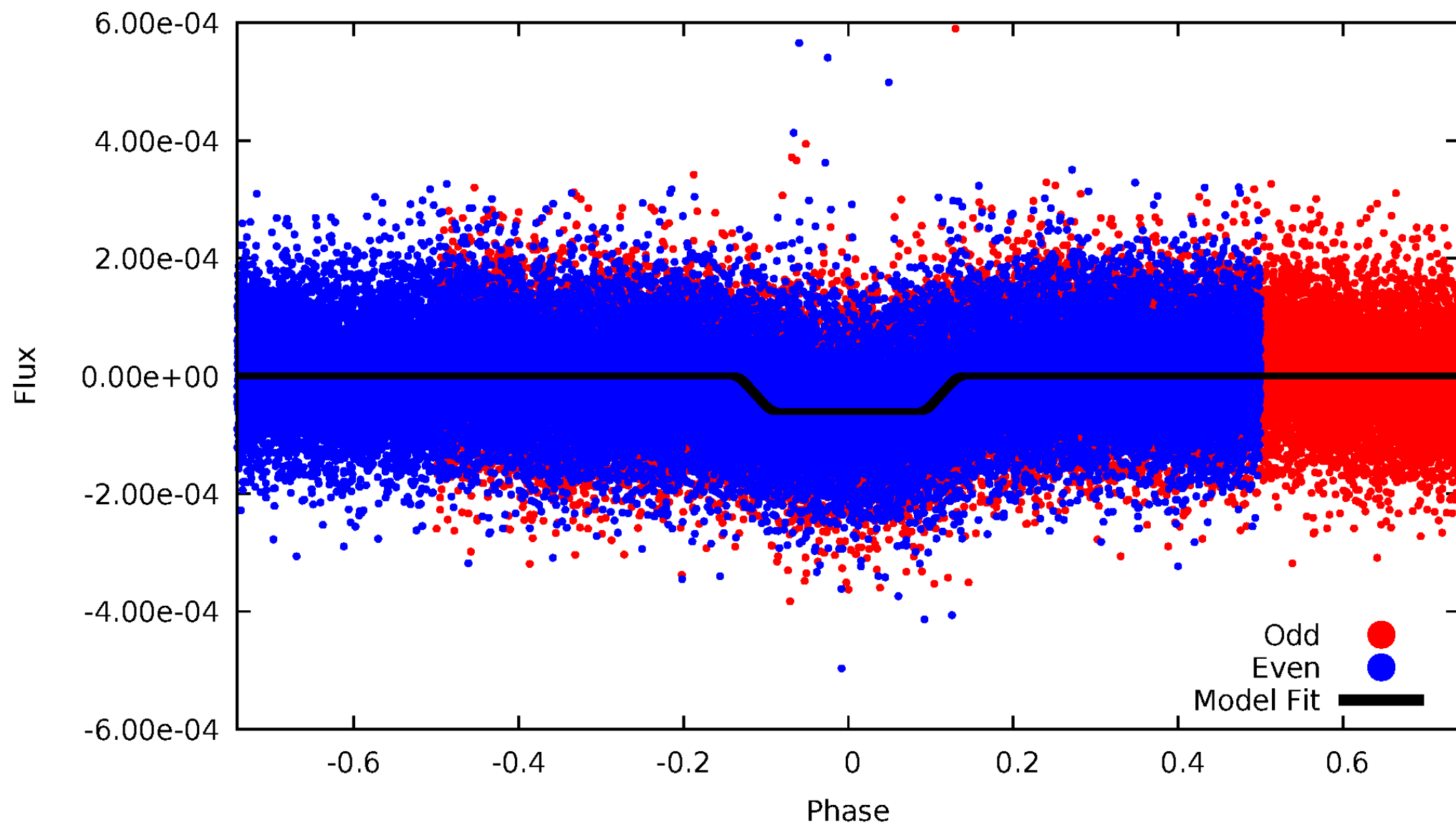
# DV Odd/Even

TCE 004935606-01



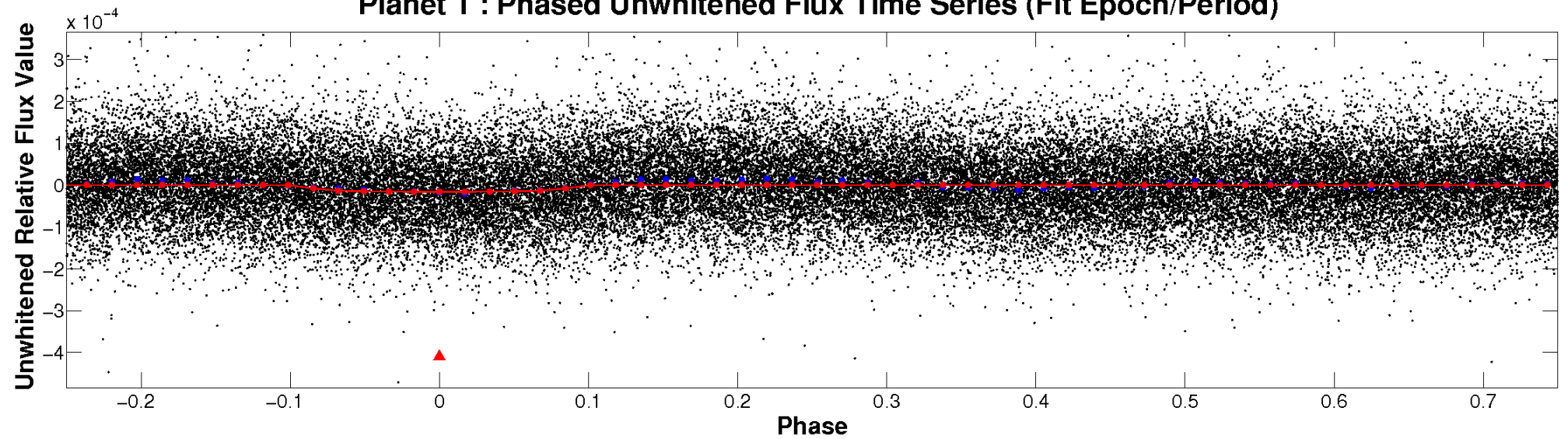
# ALT Odd/Even

TCE 004935606-01

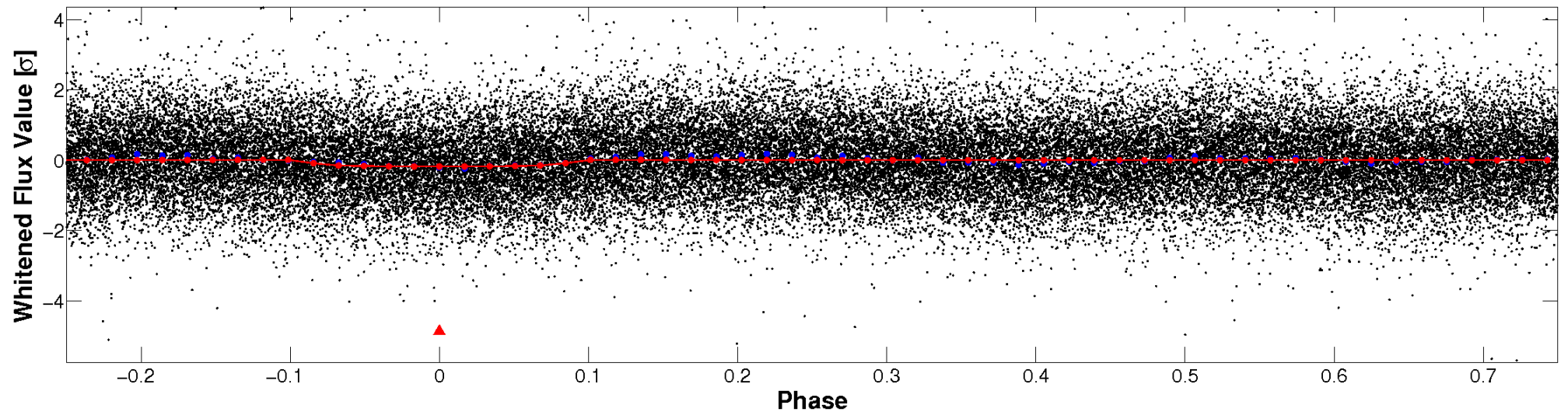


# Non-Whitened Vs. Whitened Light Curve

**Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)**

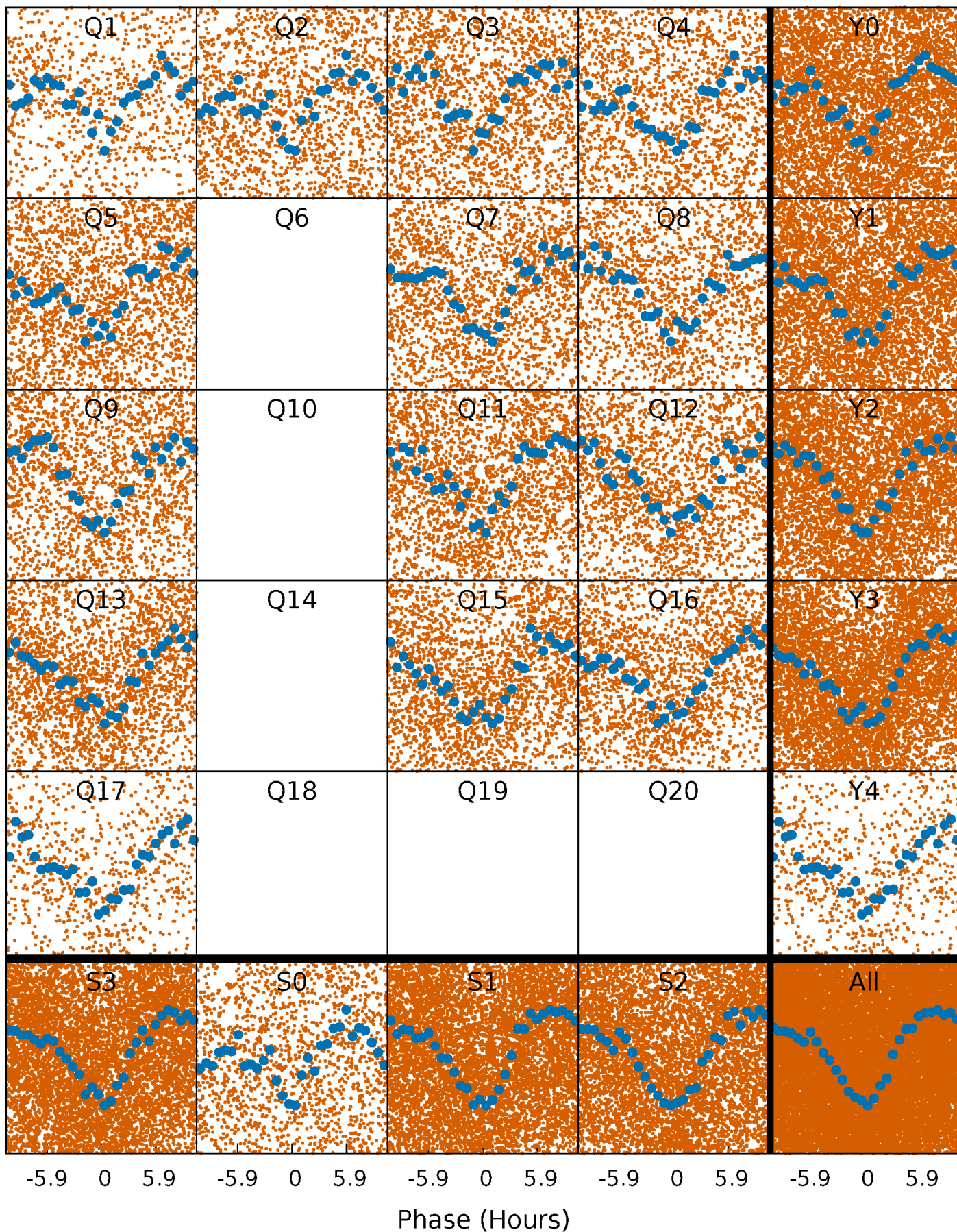


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

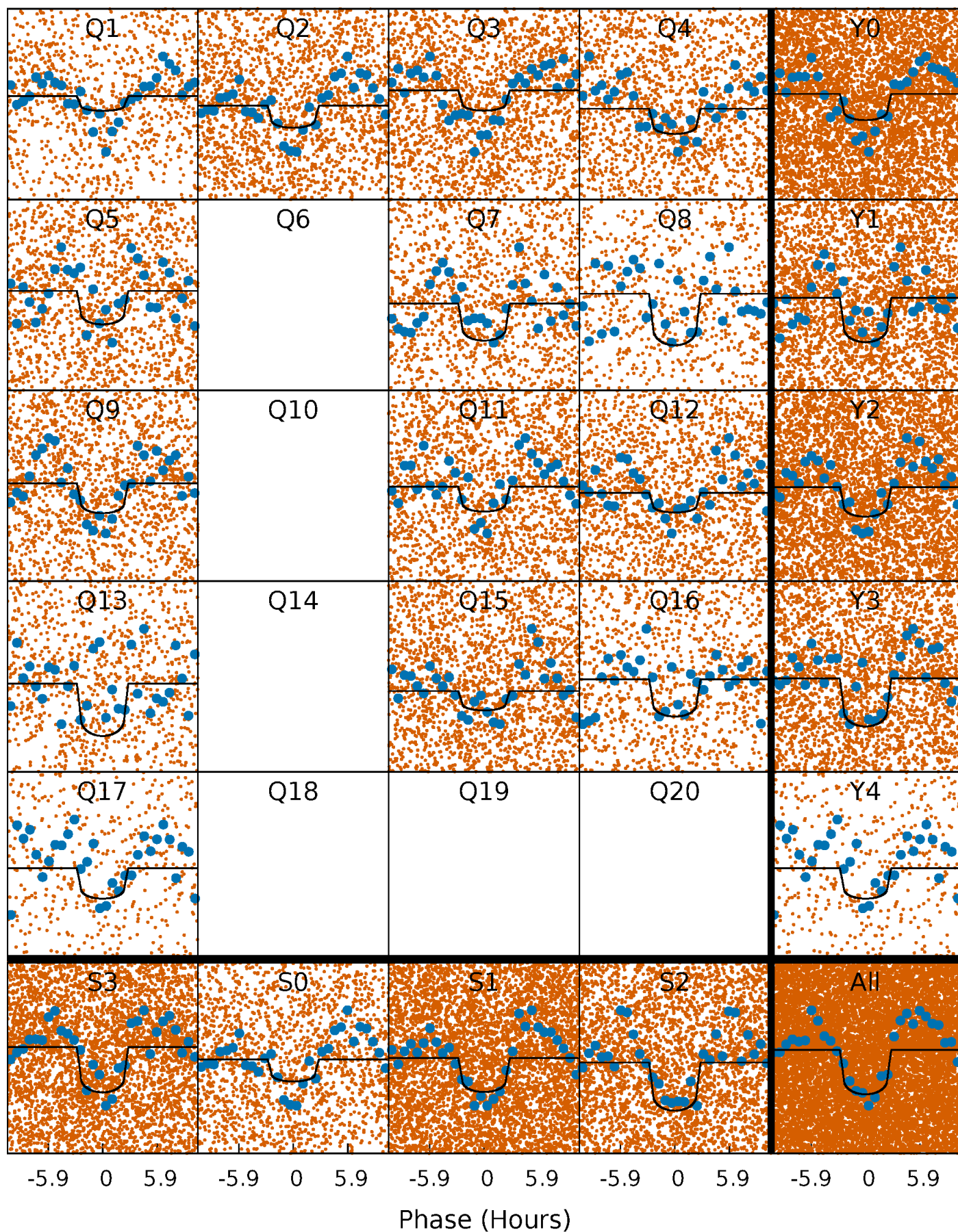
TCE 004935606-01 P= 1.209964 Days  $T_0=131.652925$  (BKJD)





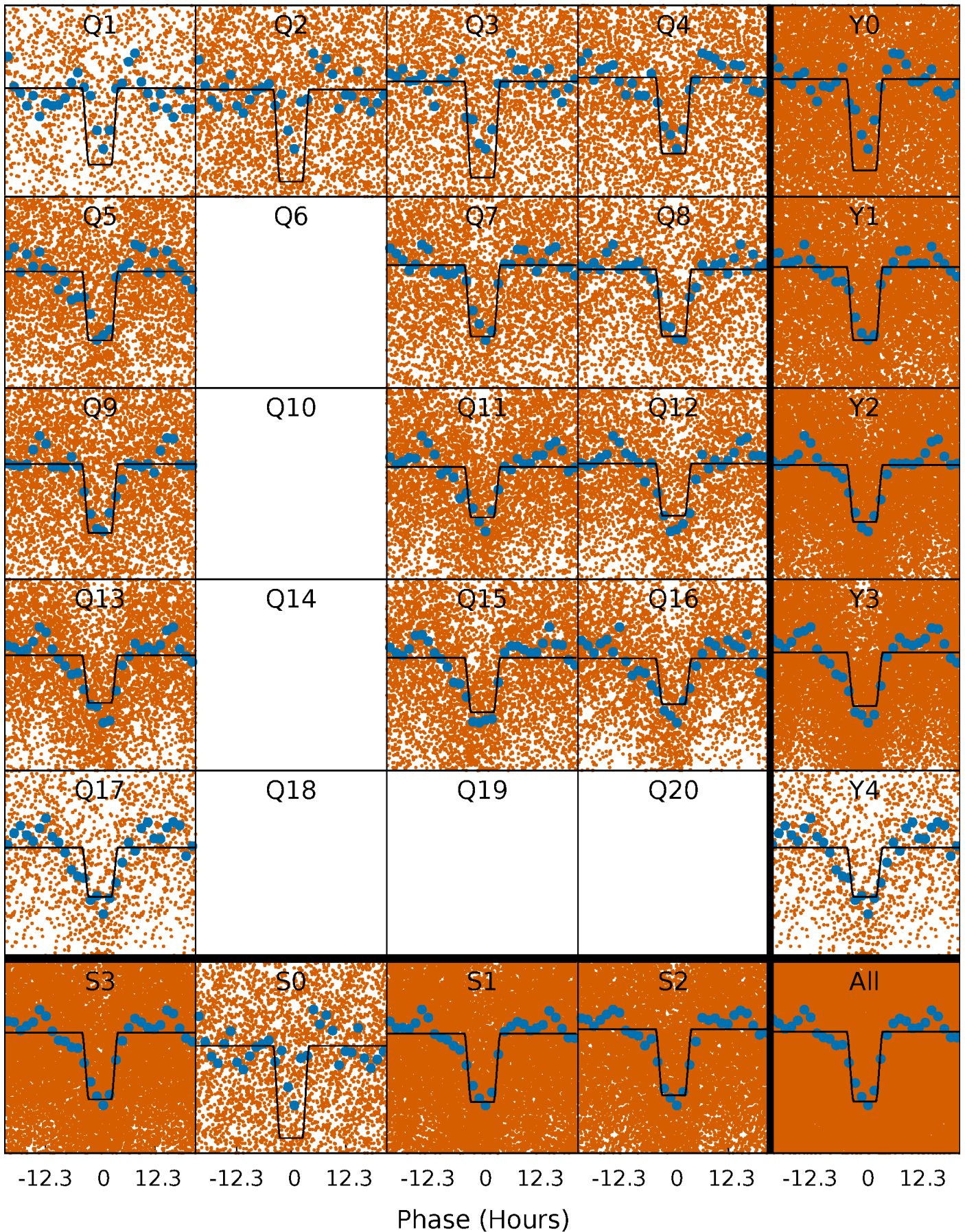
# DV Quarter-Phased Transit Curves

TCE 004935606-01 P= 1.209964 Days  $T_0=131.652925$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 004935606-01 P= 1.209982 Days  $T_0=131.625864$  (BKJD)

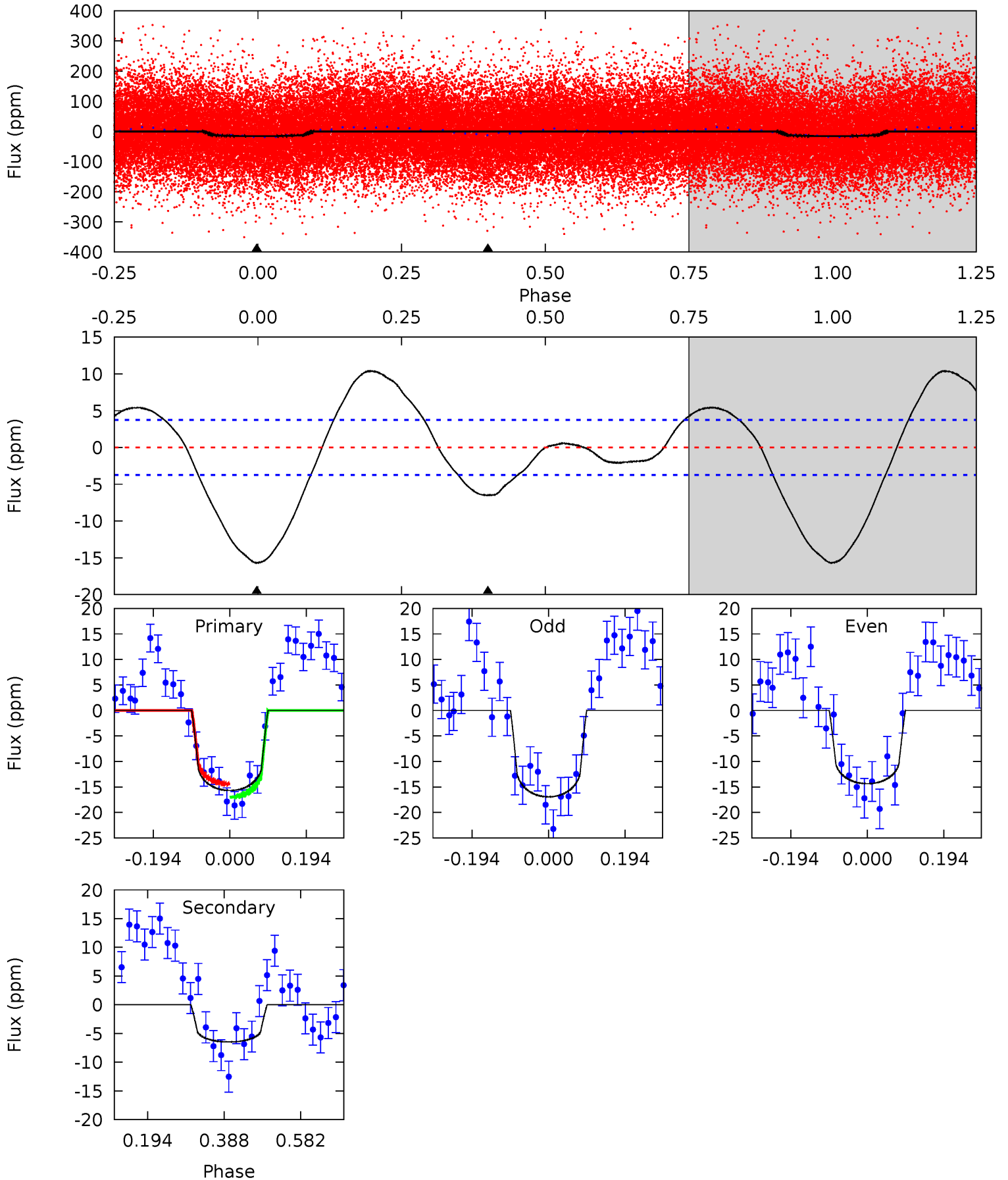




# DV Model-Shift Uniqueness Test

004935606-01, P = 1.209964 Days, E = 130.442961 Days

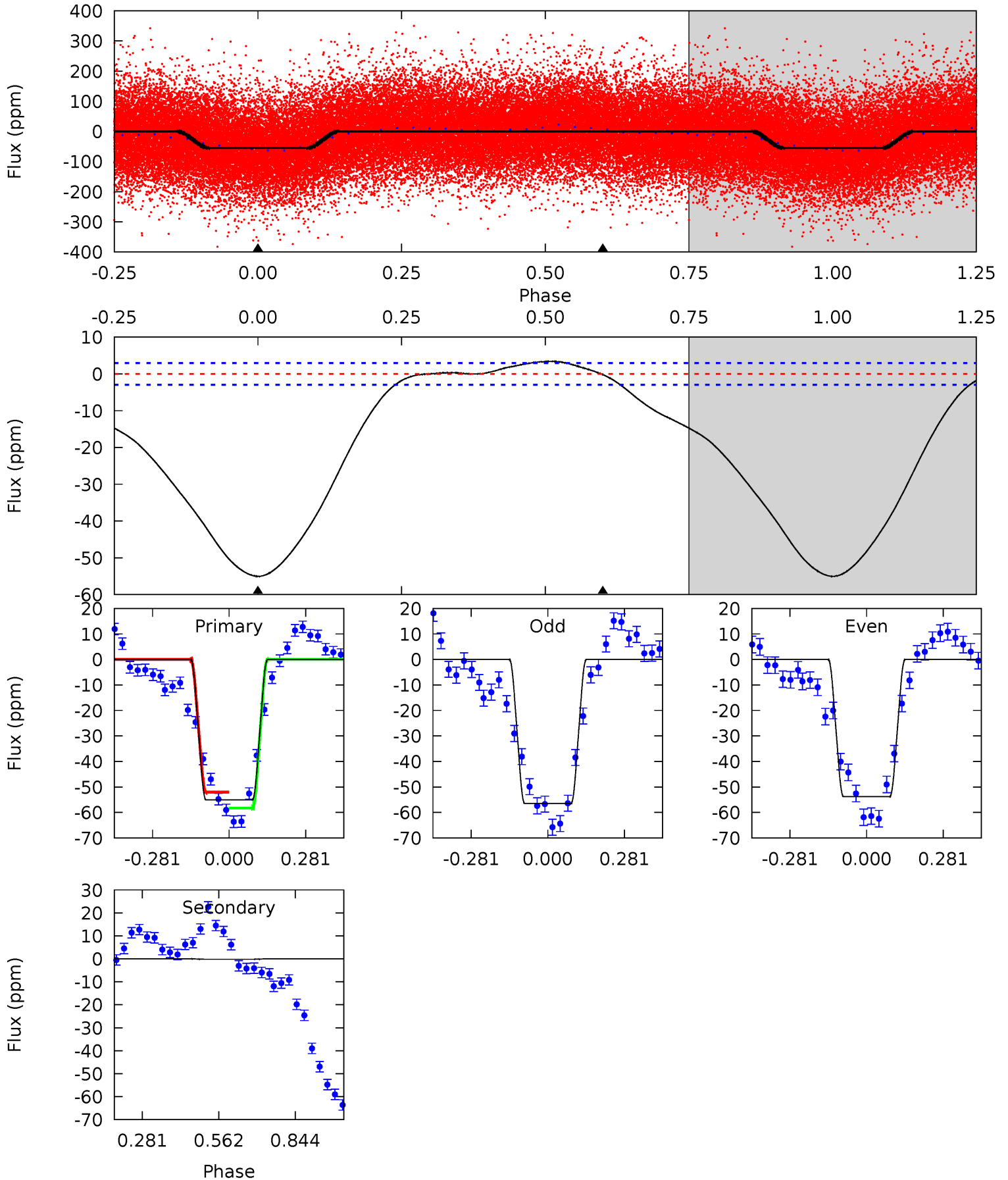
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.5	7.65	0	0	4.42	1.30	4.39	18.5	18.5	7.65	7.65	1.53	1.01	0.40	1.52



# Alt Model-Shift Uniqueness Test

004935606-01, P = 1.209982 Days, E = 130.415882 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
80.7	0.29	0	0	4.34	1.08	0.84	80.7	80.7	0.29	0.29	1.96	0.98	0.06	4.48





### Stellar Parameters For KIC 004935606

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7053^{+222}_{-321}$	$4.240^{+0.117}_{-0.130}$	$-0.480^{+0.250}_{-0.300}$	$1.384^{+0.290}_{-0.237}$	$1.214^{+0.150}_{-0.166}$	$0.645^{+0.393}_{-0.242}$
	+3%/-5%	+3%/-3%	+52%/-62%	+21%/-17%	+12%/-14%	+61%/-37%
Source	KIC0	FLK73	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 004935606-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-6 \pm 1$	$0.61^{+0.15}_{-0.15}$	$3332^{+203}_{-215}$	$5514^{+798}_{-554}$	$5.459^{+3.794}_{-2.096}$
Alt.	$-0 \pm 1$	$1.18^{+0.19}_{-0.18}$	$3313^{+204}_{-198}$	$-3204^{+403}_{-257}$	$0.036^{+0.158}_{-0.151}$

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

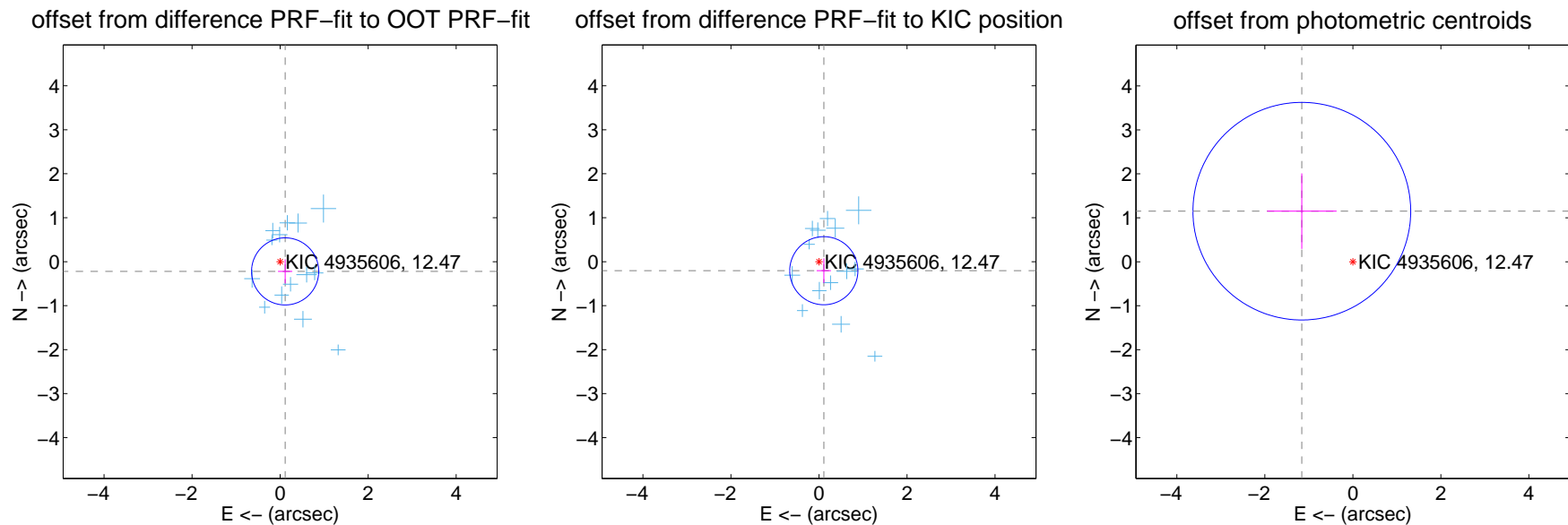
## DV Centroid Data

Supplemental centroid analysis for 004935606-01. Kepler magnitude: 12.47. Transit SNR 14.56

There are 14 quarters with good PRF difference image offsets

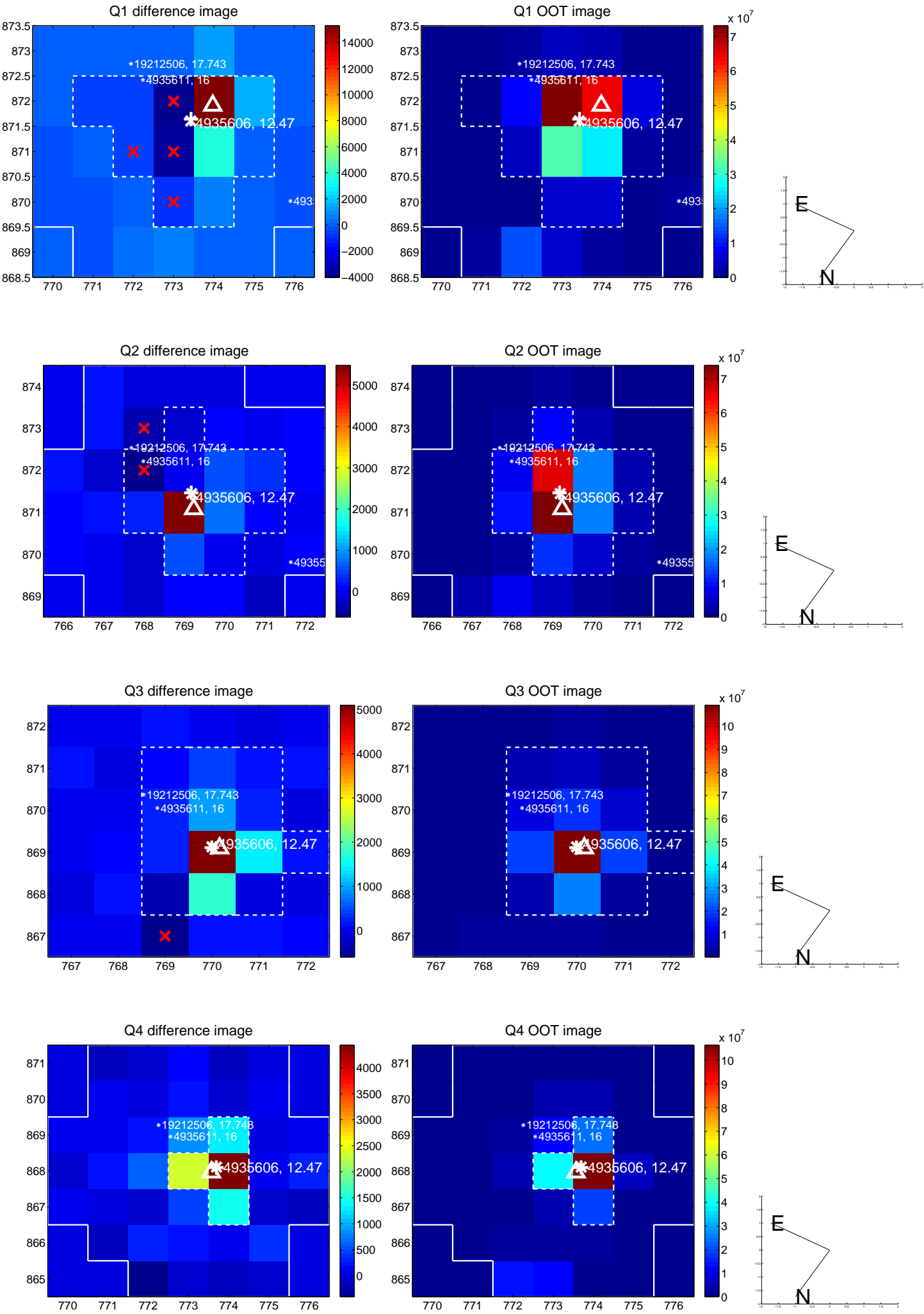
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.248 \pm 0.254$	0.98	$-0.114 \pm 0.161$	$-0.221 \pm 0.274$
PRF-fit source offset from KIC position	$0.232 \pm 0.258$	0.90	$-0.110 \pm 0.162$	$-0.205 \pm 0.280$
photometric centroid source offset	$1.63 \pm 0.83$	1.98	$1.16 \pm 0.79$	$1.15 \pm 0.86$

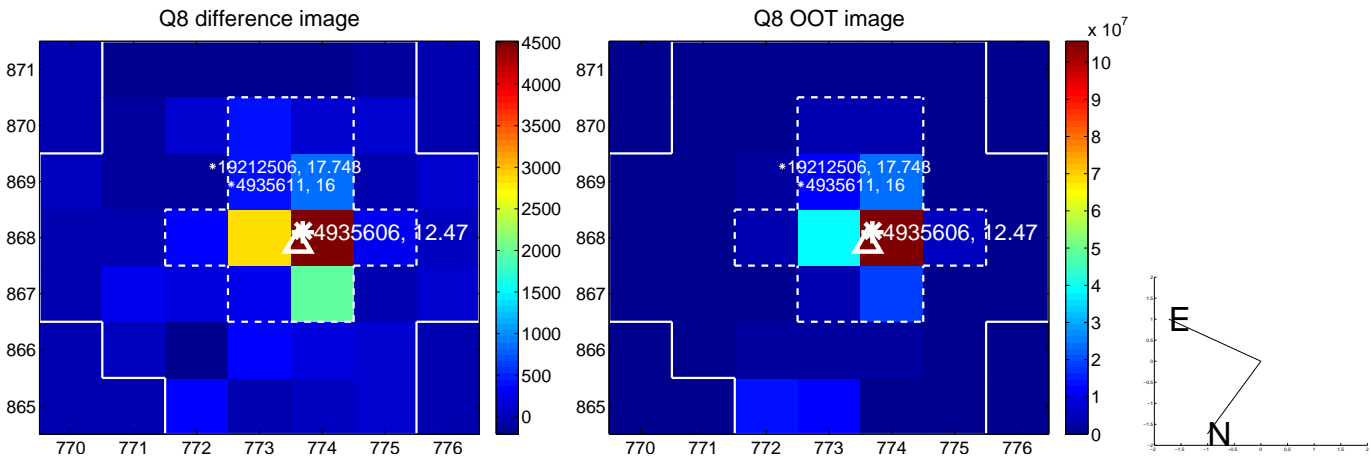
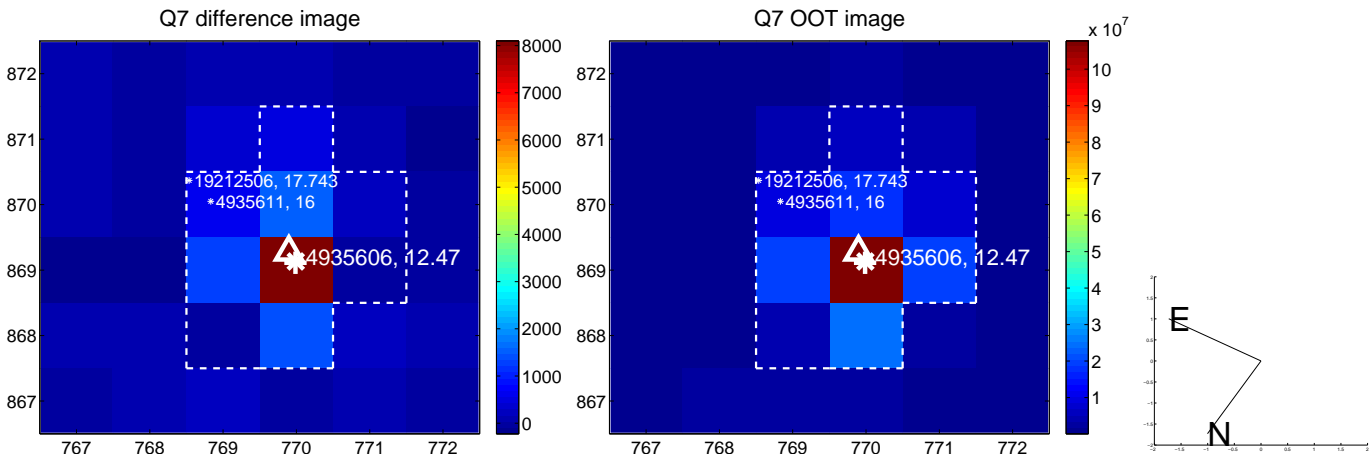
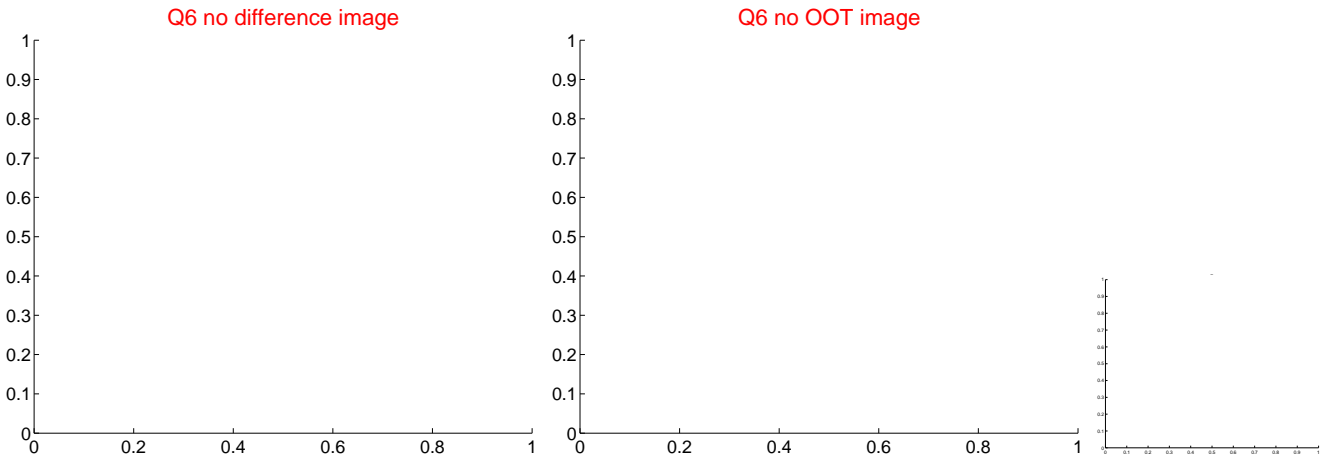
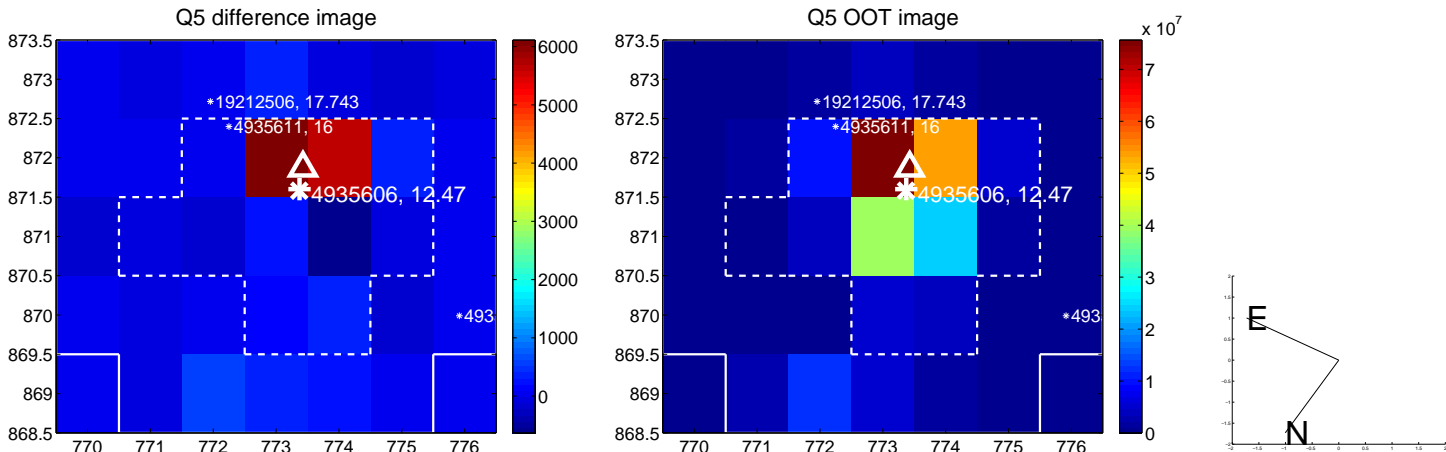


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

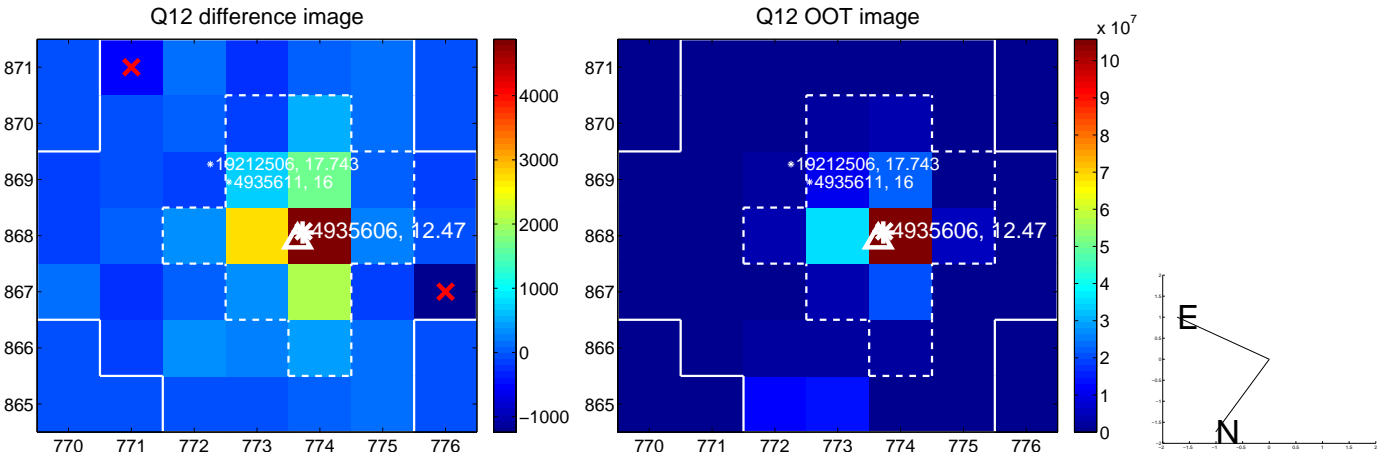
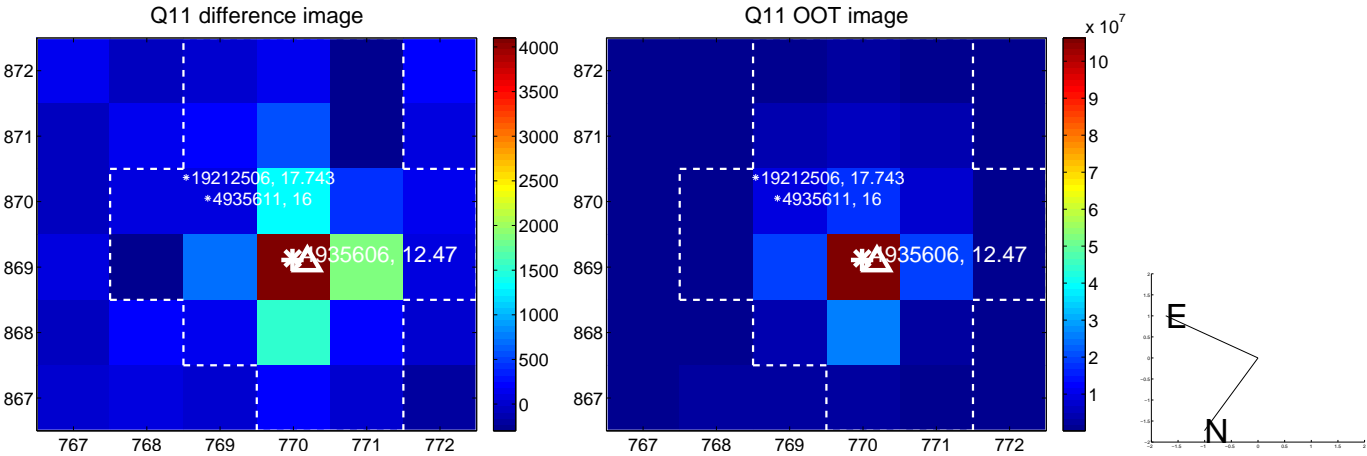
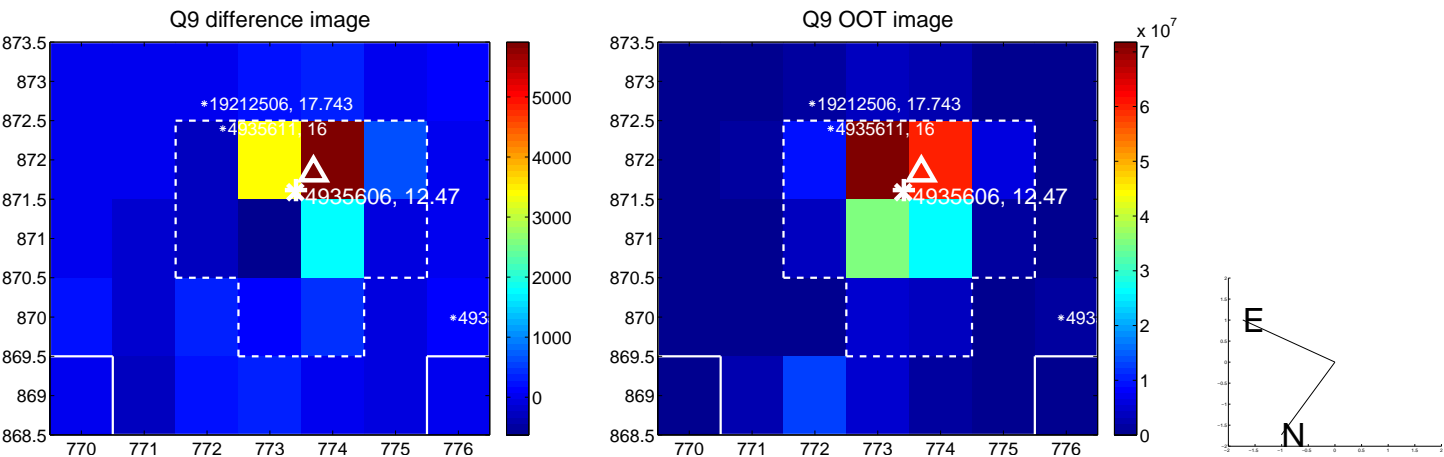


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value

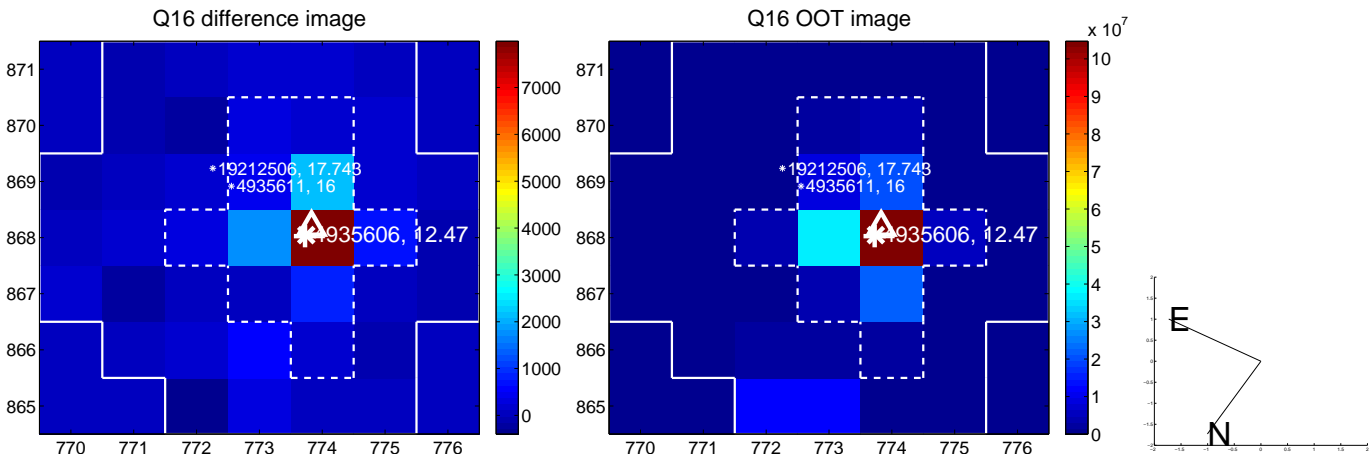
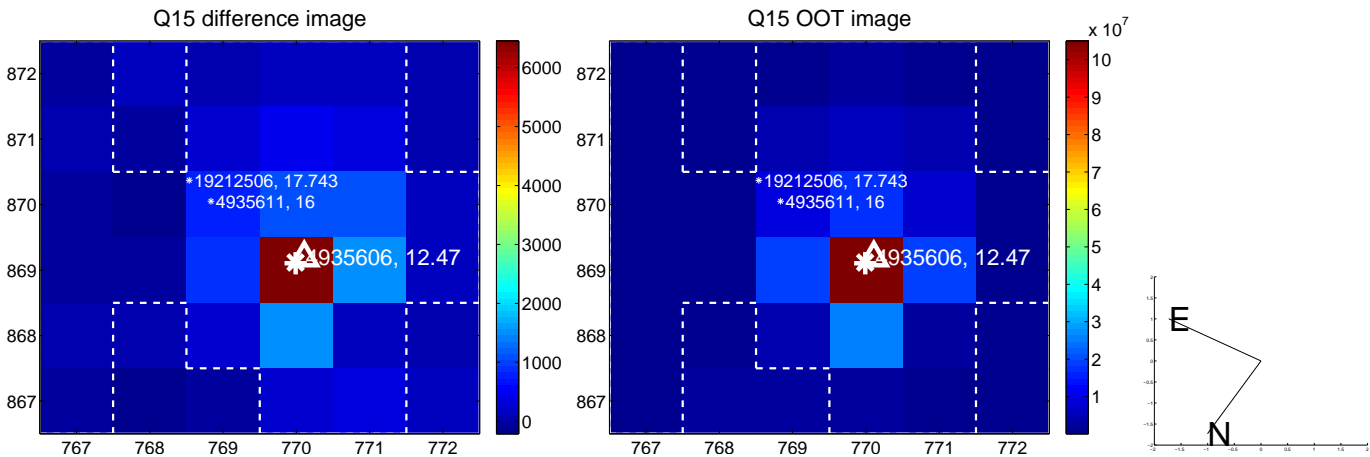
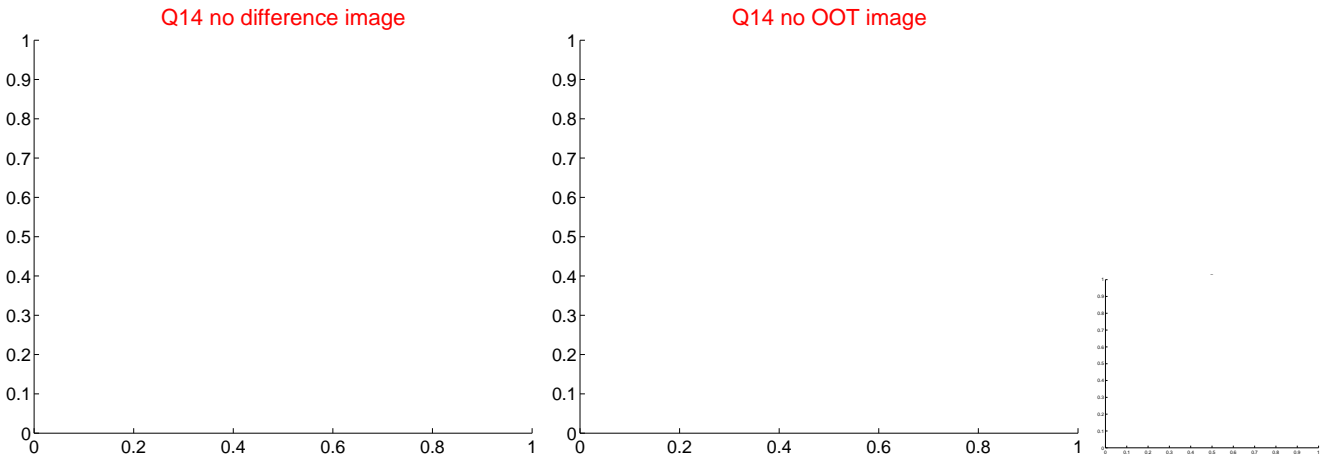
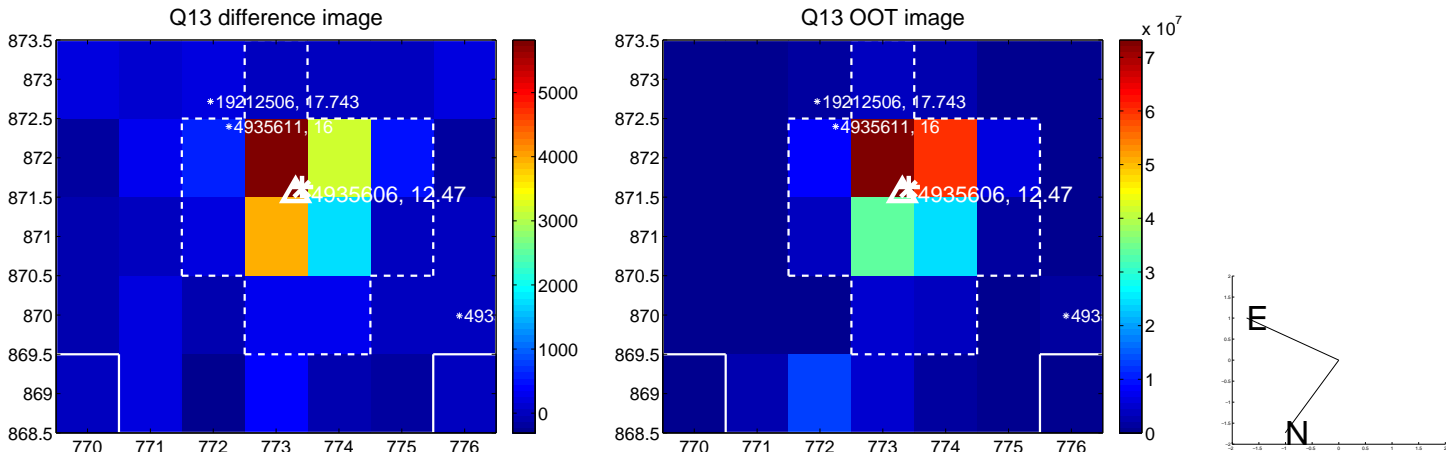




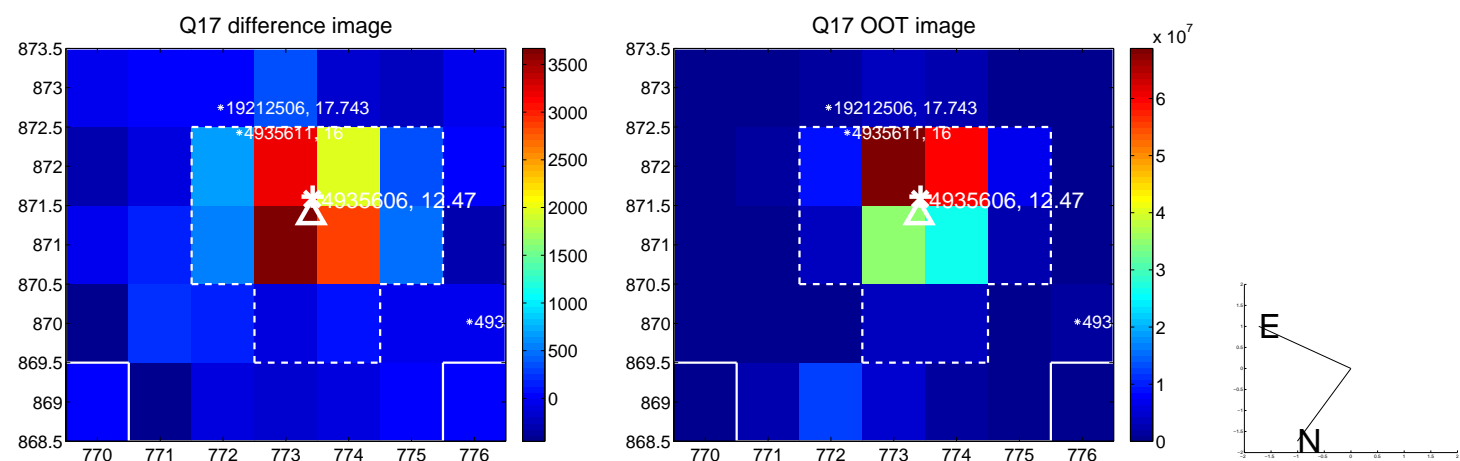
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



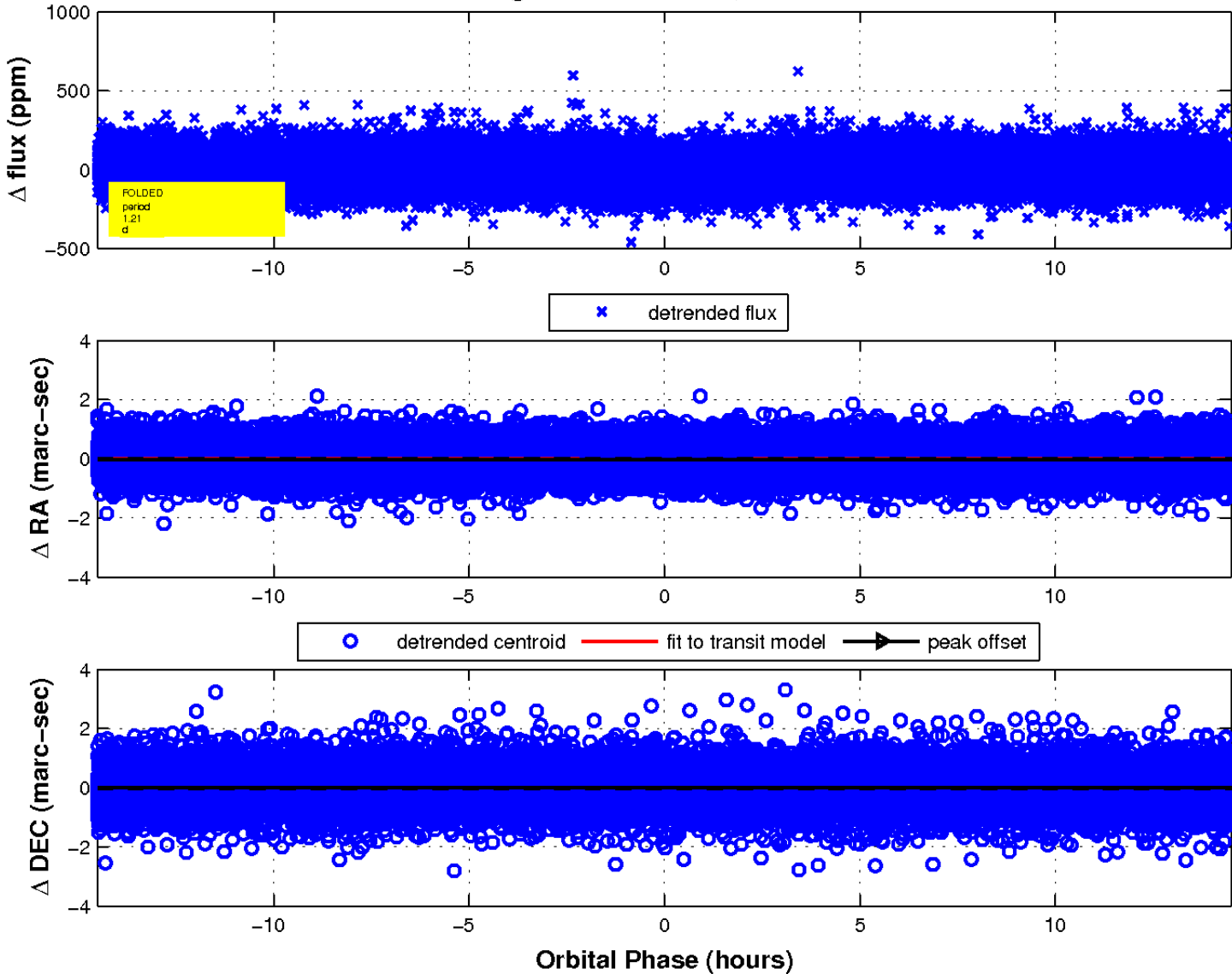
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

