

# KIC 003749134

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003749134-01	OBS	1212.01	11.301275	134.915653	259.2	4.192	16.0	16.9	1.12	5730	2.11	124.74

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003749134-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

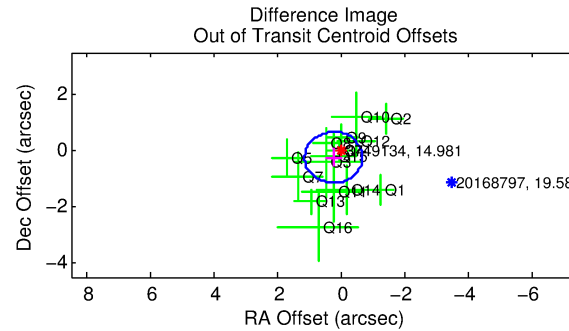
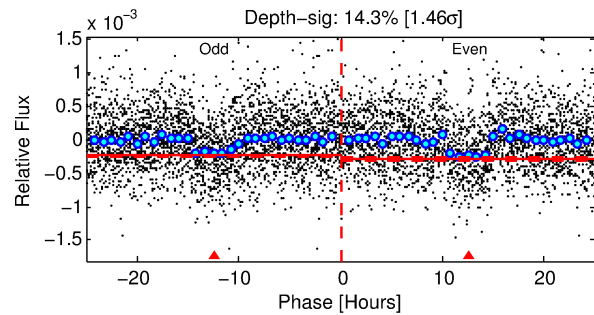
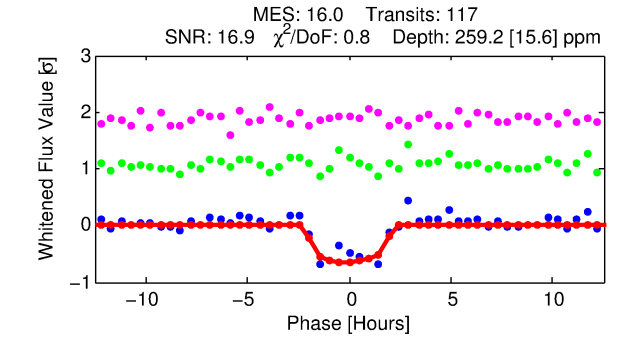
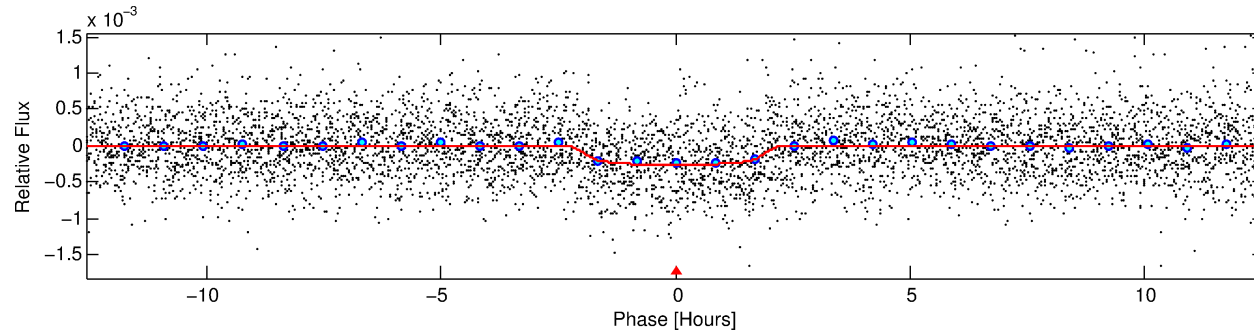
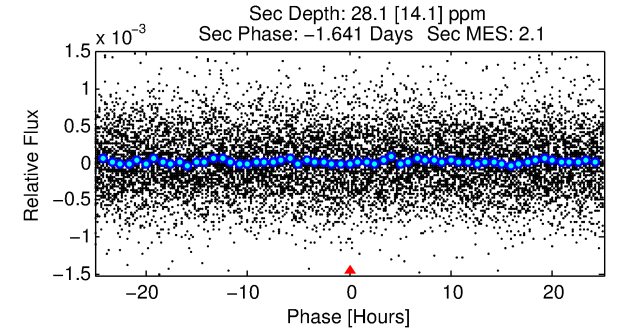
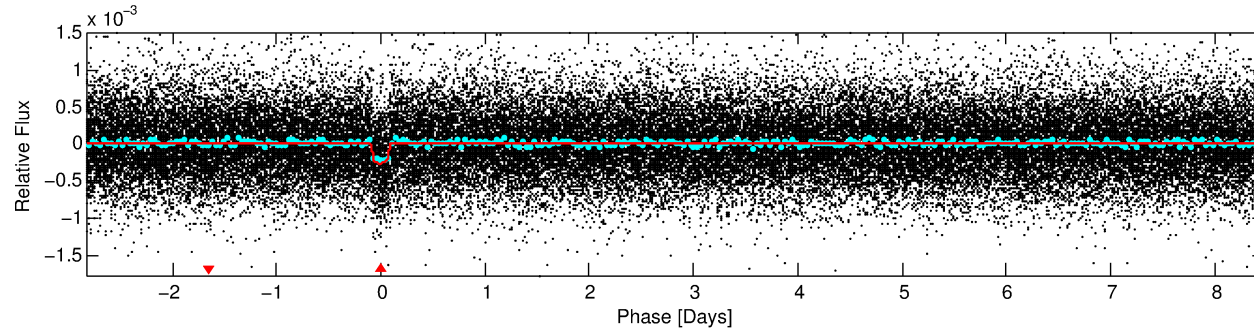
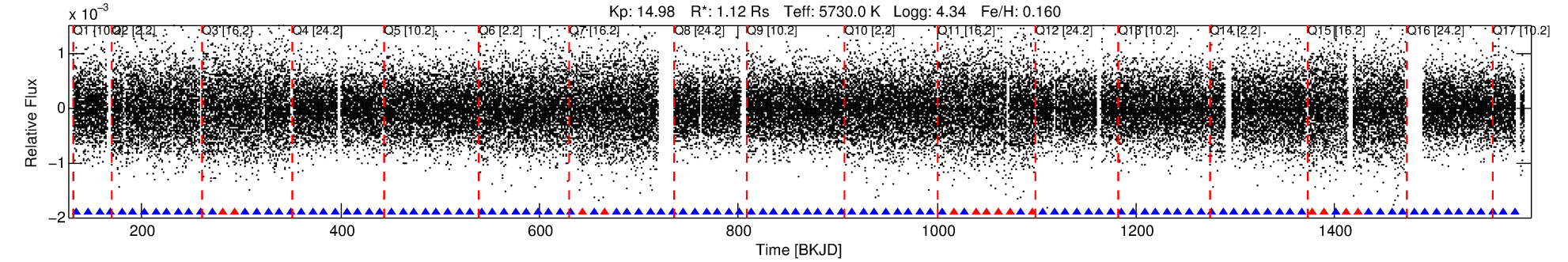
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003749134-01

No Significant Match Found

# DV One-Page Summary

KIC: 3749134 Candidate: 1 of 1 Period: 11.301 d  
KOI: K01212.01 Corr: 0.974



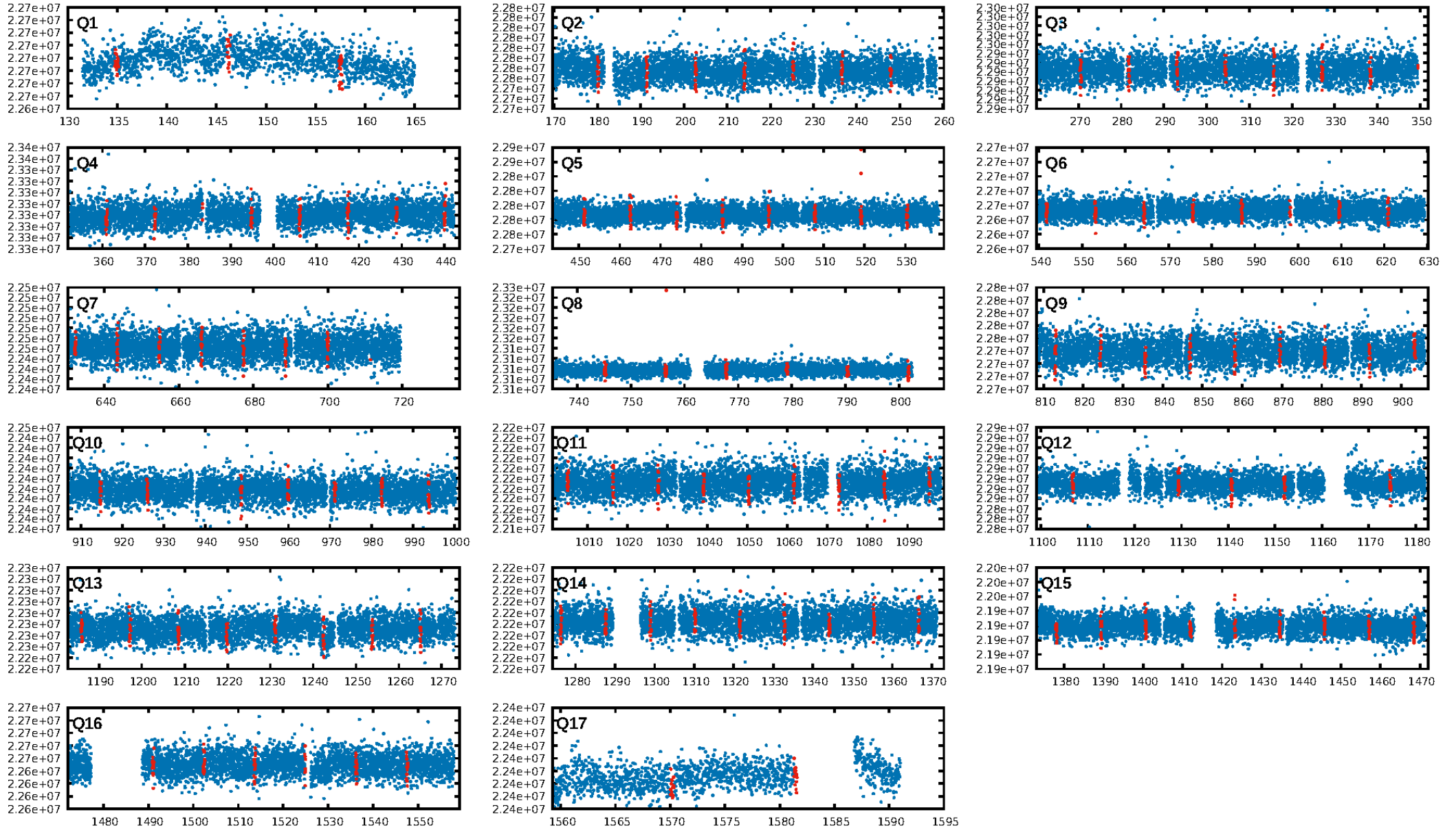
## DV Fit Results:

Period = 11.30128 [0.00008] d  
Epoch = 134.9157 [0.0055] BKJD  
Rp/R\* = 0.0172 [0.0054]  
a/R\* = 10.70 [15.21]  
b = 0.88 [0.39]  
Seff = 124.74 [25.41]  
Teff = 852 [43] K  
Rp = 2.11 [0.74] Re  
a = 0.0987 [0.0130] AU  
Ag = 33.93 [28.18] [1.17 $\sigma$ ]  
Teffp = 3180 [643] K [3.61 $\sigma$ ]

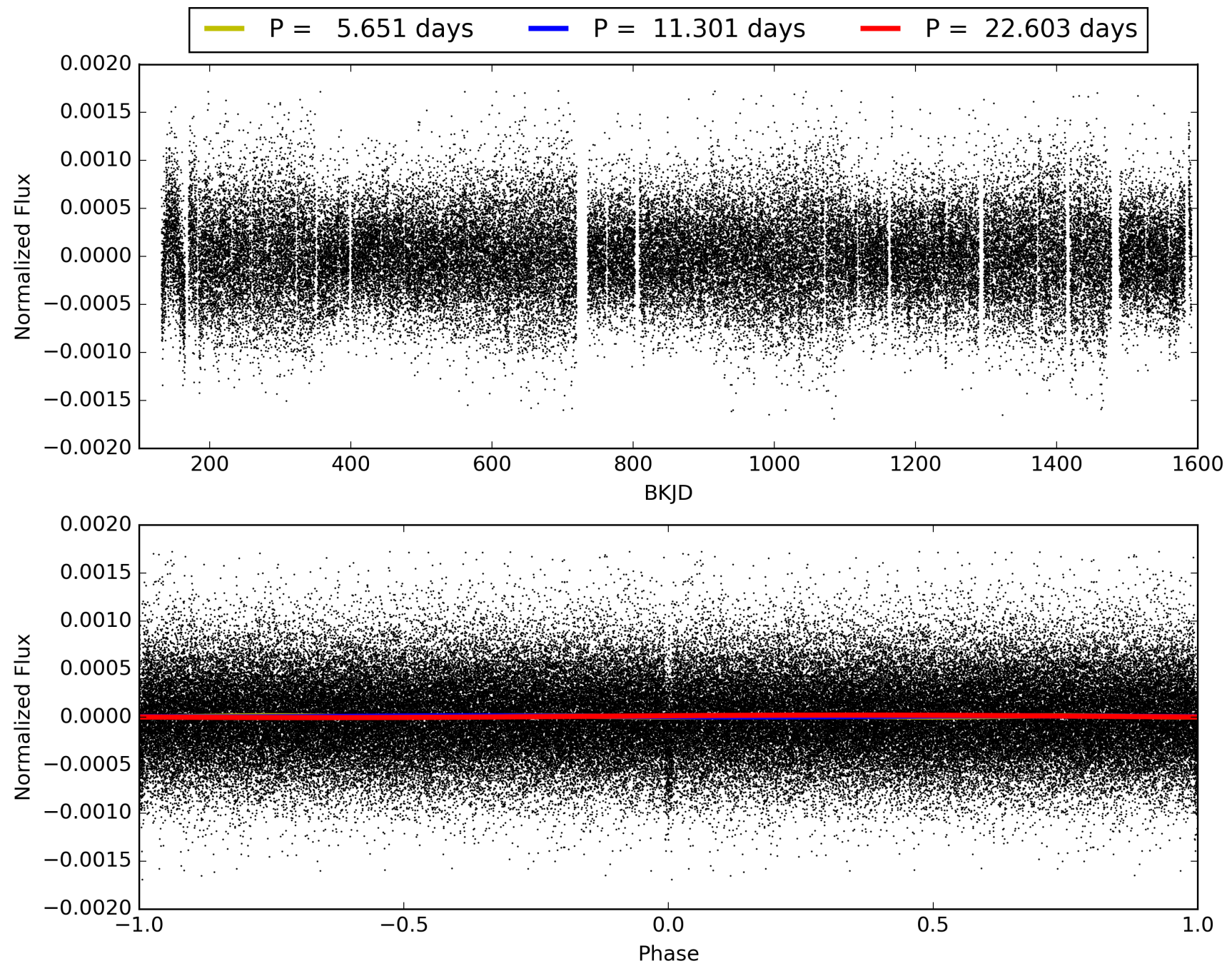
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 99.9%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 4.00e-56  
RollingBand-fgt: 0.88 [98/112]  
GhostDiagnostic-chr: 1.613  
Centroid-sig: 31.0%  
Centroid-so: 0.777 arcsec [0.79 $\sigma$ ]  
OotOffset-rm: 0.349 arcsec [1.16 $\sigma$ ]  
KicOffset-rm: 0.327 arcsec [1.23 $\sigma$ ]  
OotOffset-st: 3/4/4/4 [15]  
KicOffset-st: 3/4/4/4 [15]  
DiffImageQuality-fgm: 0.80 [12/15]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 003749134-01, PDC Light Curves



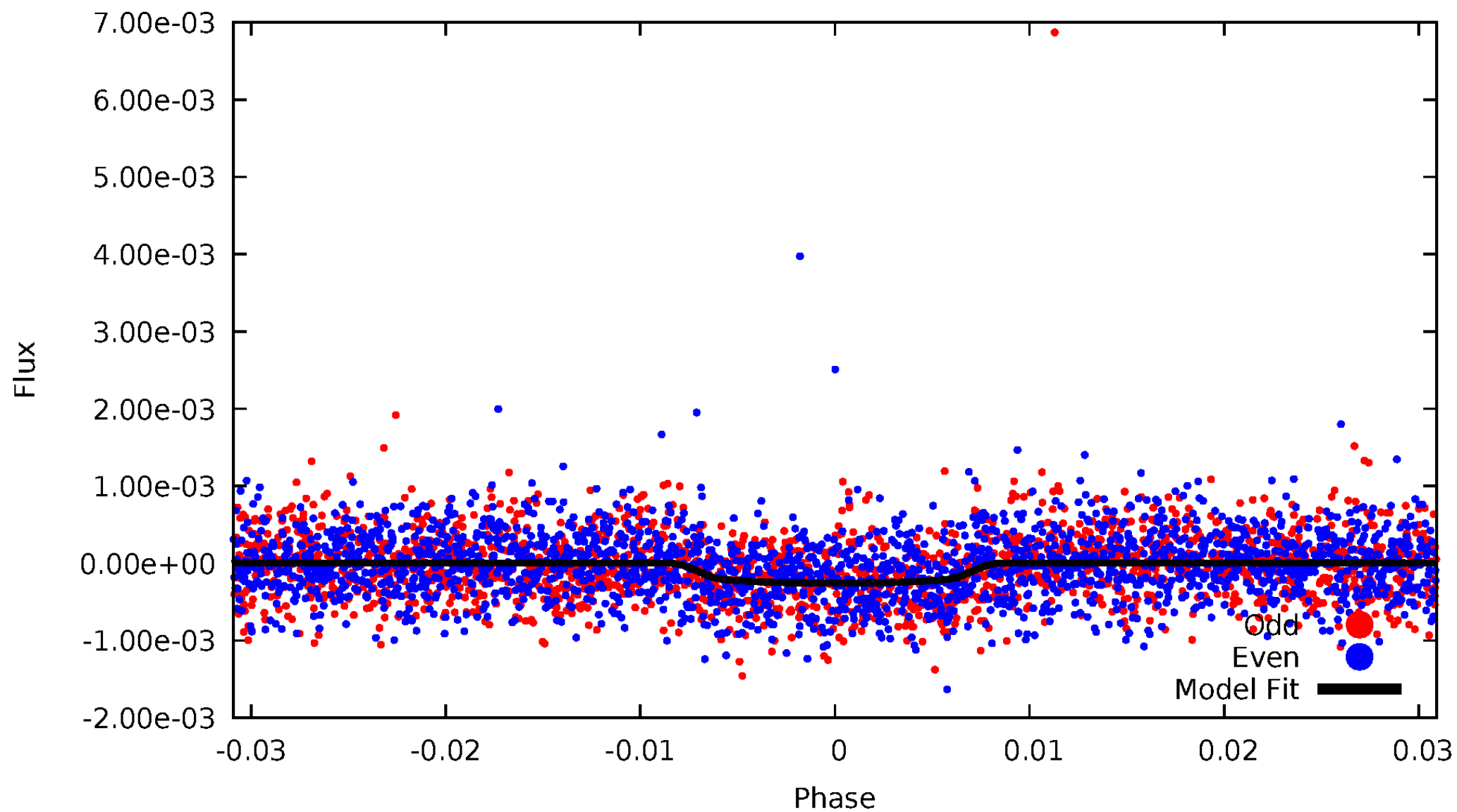
TCE 003749134-01





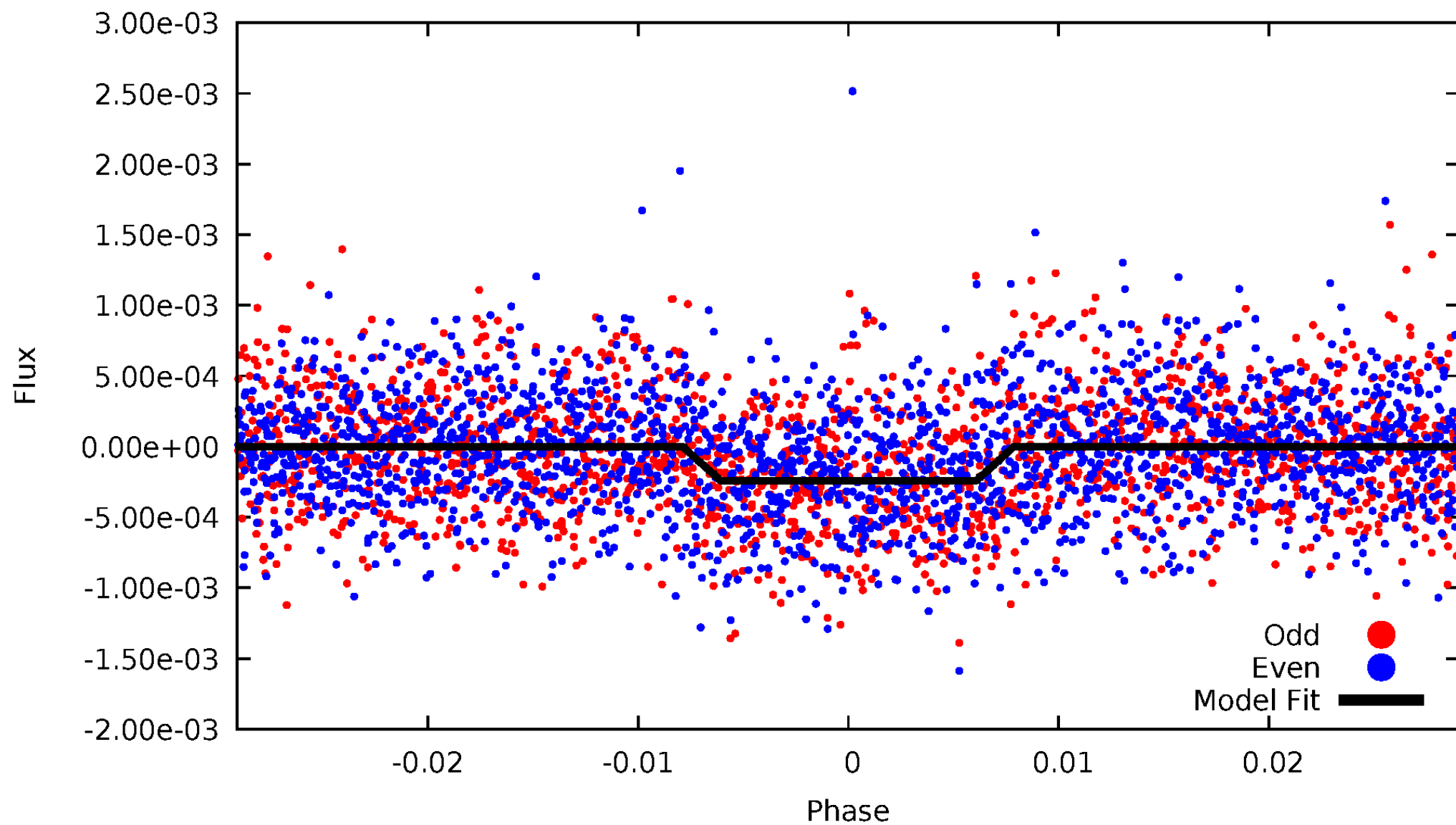
# DV Odd/Even

TCE 003749134-01



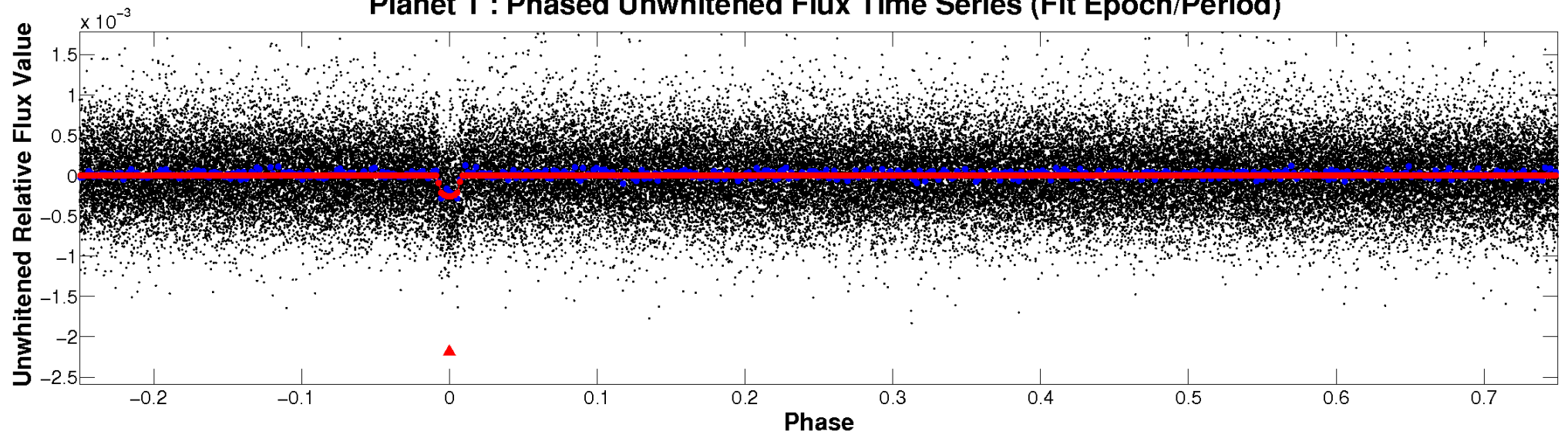
# ALT Odd/Even

TCE 003749134-01

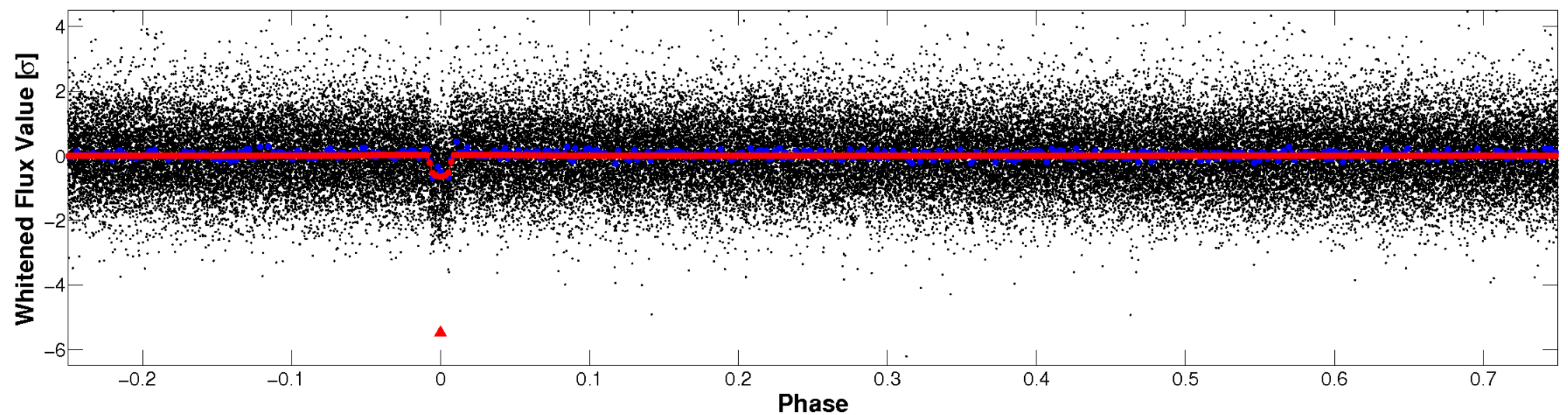


# Non-Whitened Vs. Whitened Light Curve

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

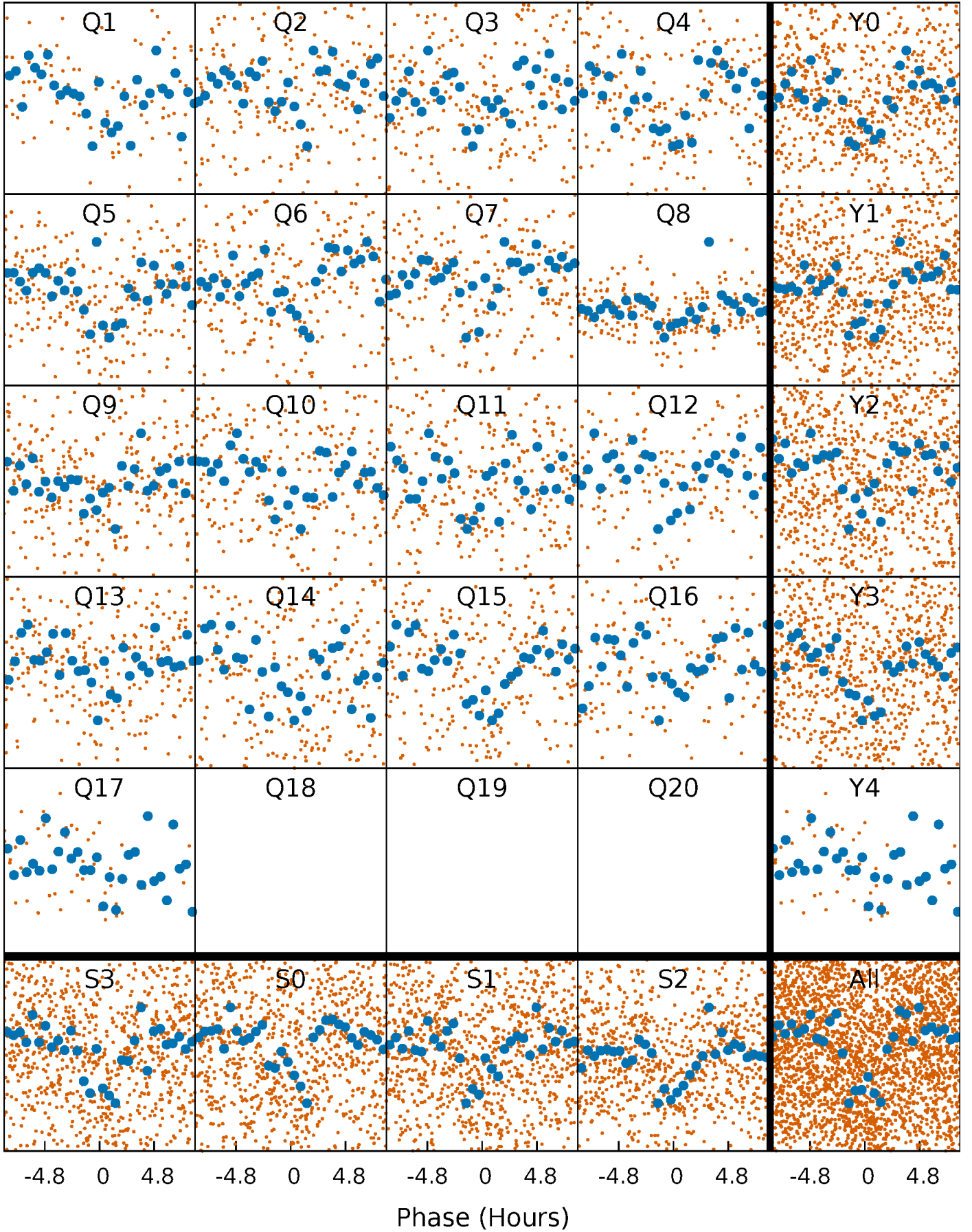


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

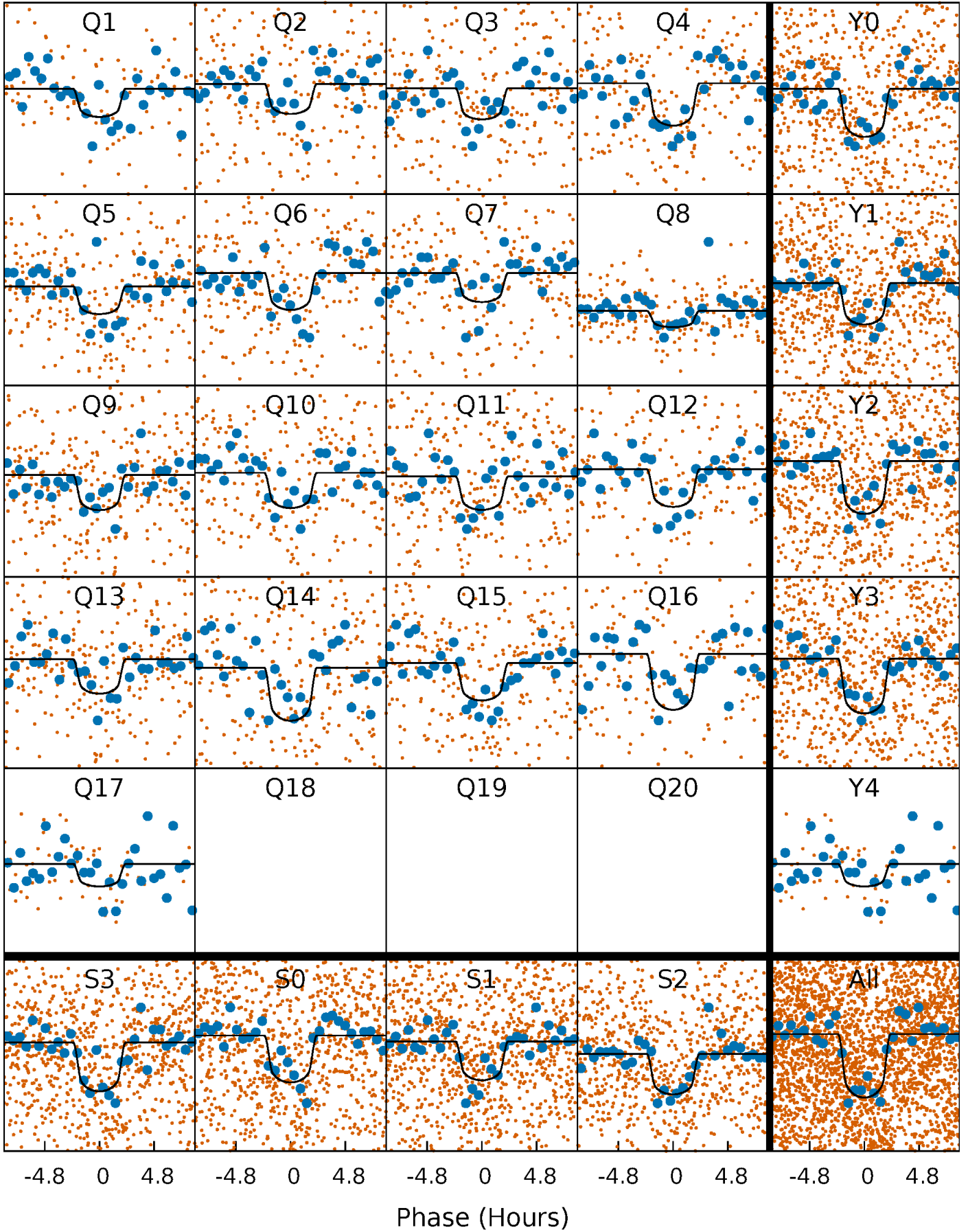
TCE 003749134-01 P= 11.301275 Days  $T_0=134.915653$  (BKJD)





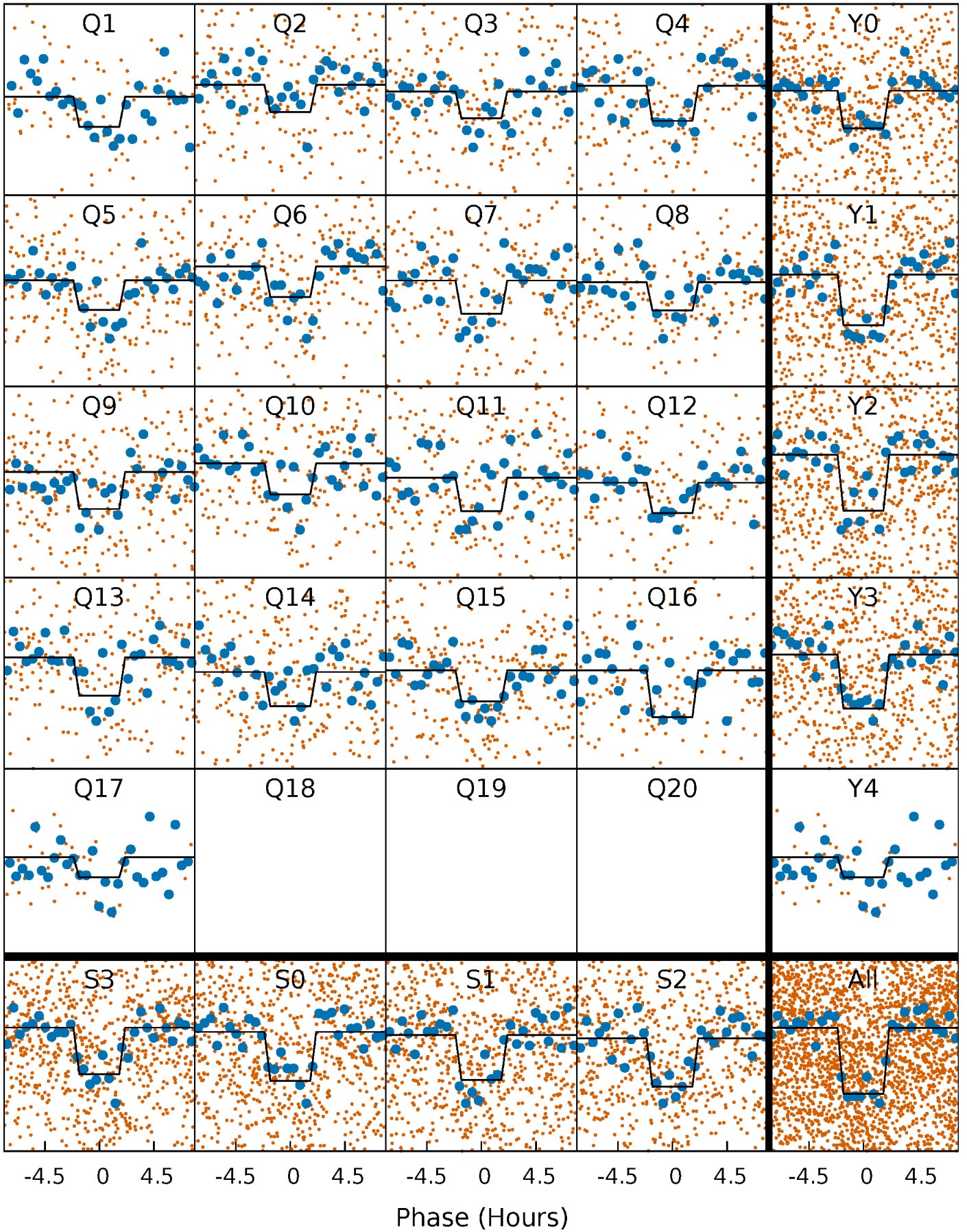
# DV Quarter-Phased Transit Curves

TCE 003749134-01 P= 11.301275 Days  $T_0=134.915653$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

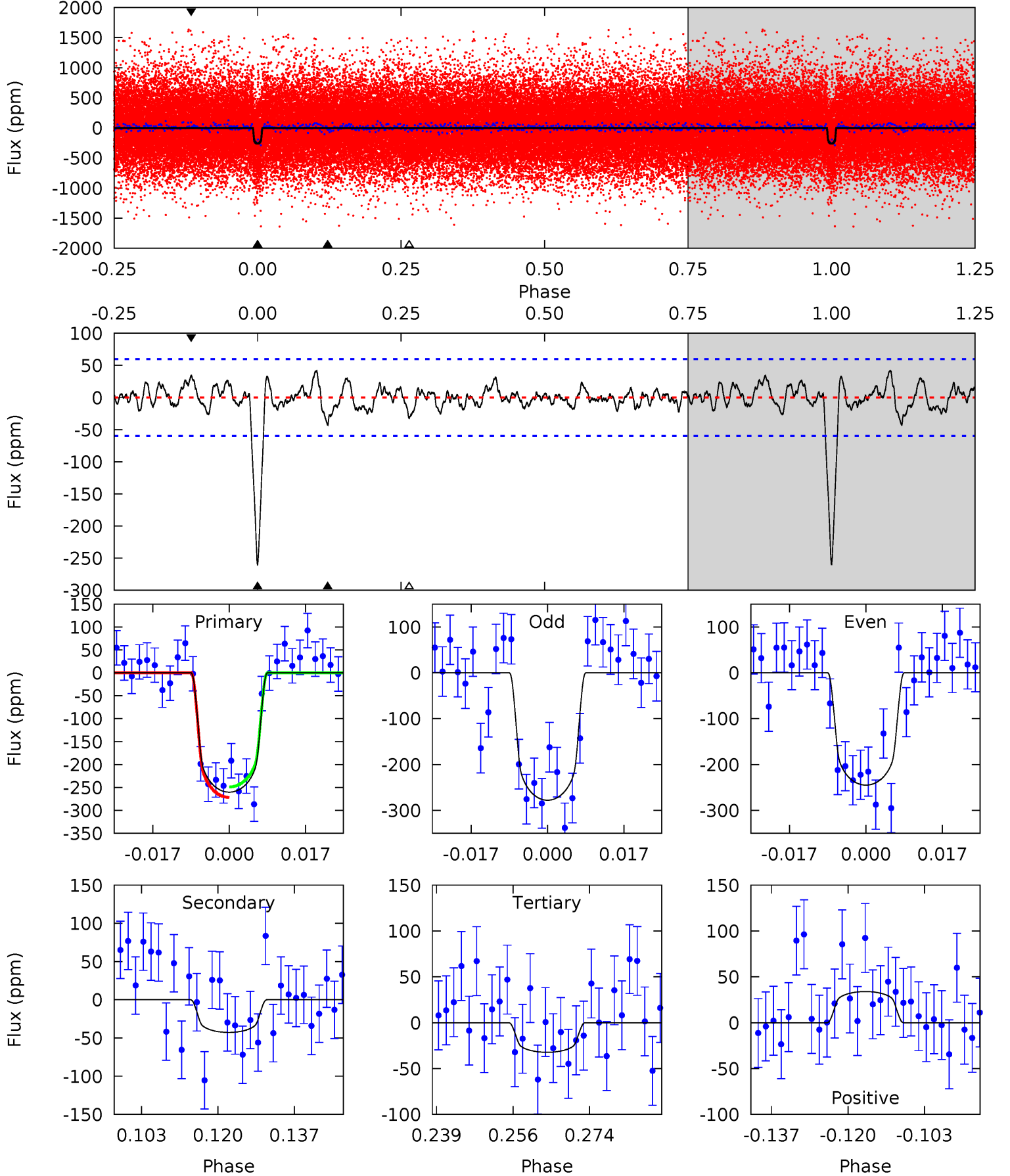
TCE 003749134-01 P= 11.301429 Days  $T_0=134.908302$  (BKJD)



# DV Model-Shift Uniqueness Test

003749134-01, P = 11.301275 Days, E = 123.614378 Days

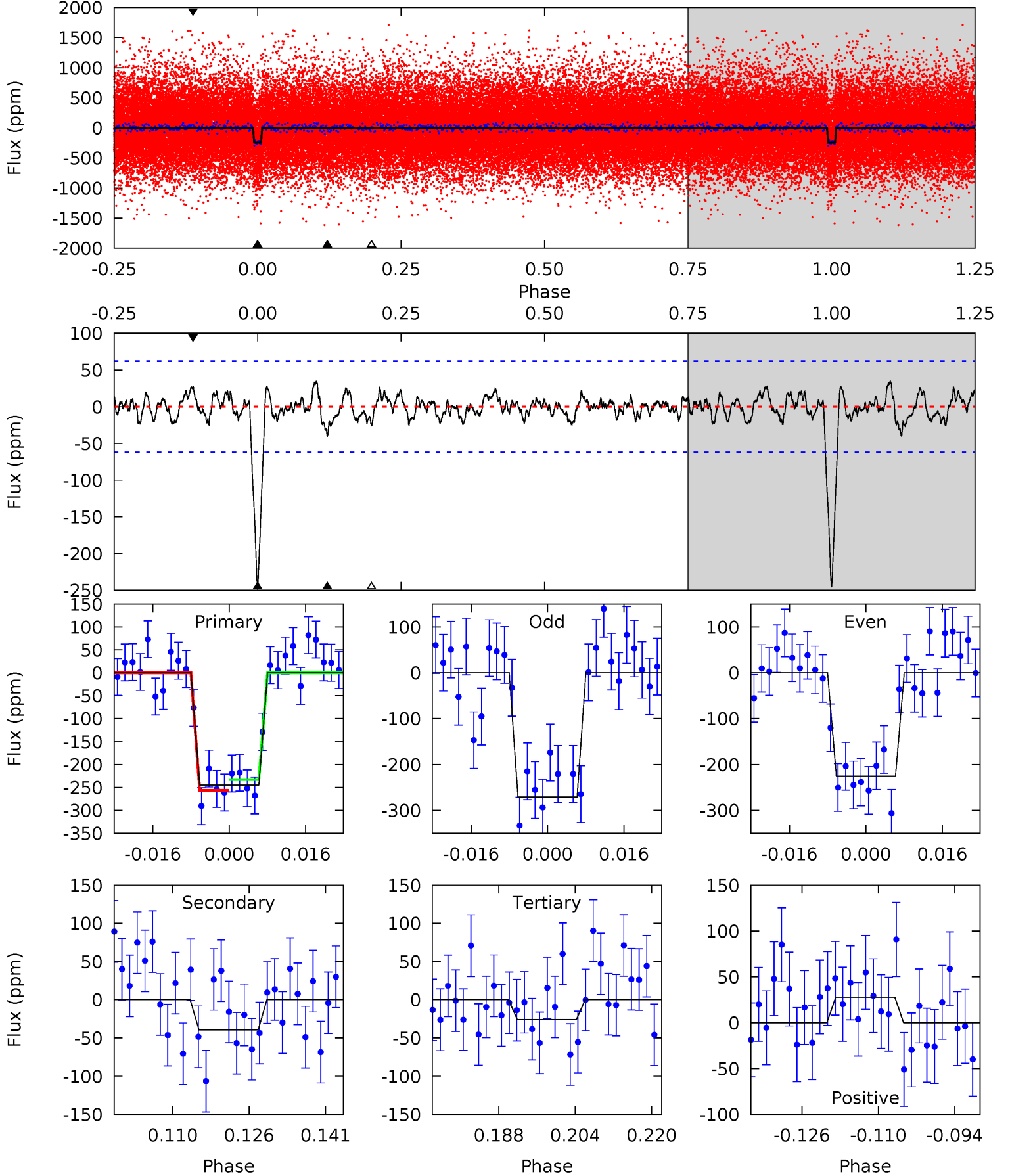
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.5	3.52	2.66	2.80	4.92	2.38	1.04	18.8	18.7	0.86	0.73	1.36	1.01	0.14	0.94



# Alt Model-Shift Uniqueness Test

003749134-01, P = 11.301429 Days, E = 123.606873 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
19.5	3.15	2.05	2.21	4.94	2.42	0.90	17.4	17.3	1.10	0.94	1.82	1.04	0.12	0.95





### Stellar Parameters For KIC 003749134

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5730^{+77}_{-77}$	$4.340^{+0.110}_{-0.110}$	$0.160^{+0.150}_{-0.150}$	$1.122^{+0.169}_{-0.138}$	$1.005^{+0.073}_{-0.061}$	$1.002^{+0.487}_{-0.329}$
	+1%/-1%	+3%/-3%	+94%/-94%	+15%/-12%	+7%/-6%	+49%/-33%
Source	SPE90	SPE90	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 003749134-01 / KOI 1212.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-43 \pm 12$	$2.12^{+0.73}_{-0.70}$	$1191^{+50}_{-47}$	$3860^{+658}_{-378}$	$51^{+67}_{-24}$
Alt.	$-40 \pm 13$	$1.92^{+0.66}_{-0.63}$	$1191^{+49}_{-44}$	$3934^{+624}_{-409}$	$57^{+71}_{-29}$

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

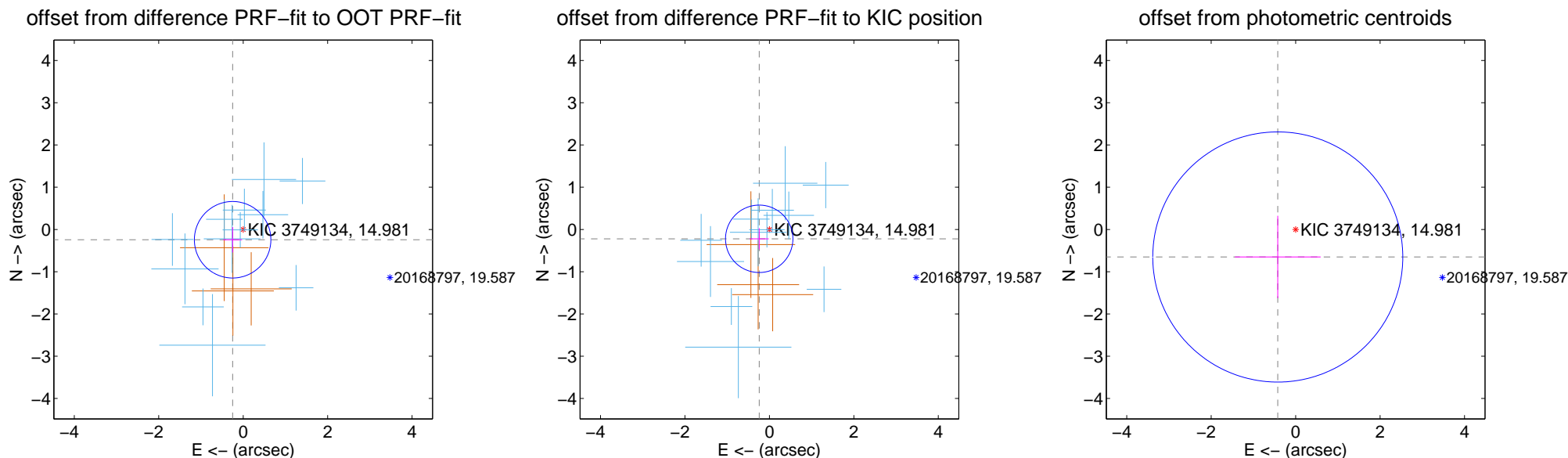
## DV Centroid Data

Supplemental centroid analysis for 003749134-01. Kepler magnitude: 14.98. Transit SNR 16.91

There are 12 quarters with good PRF difference image offsets

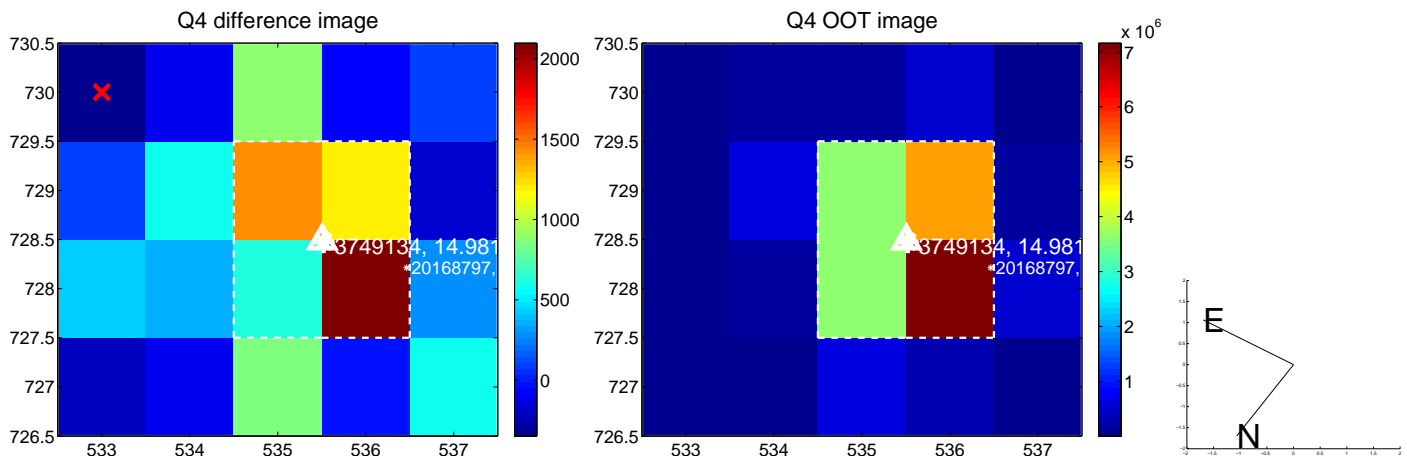
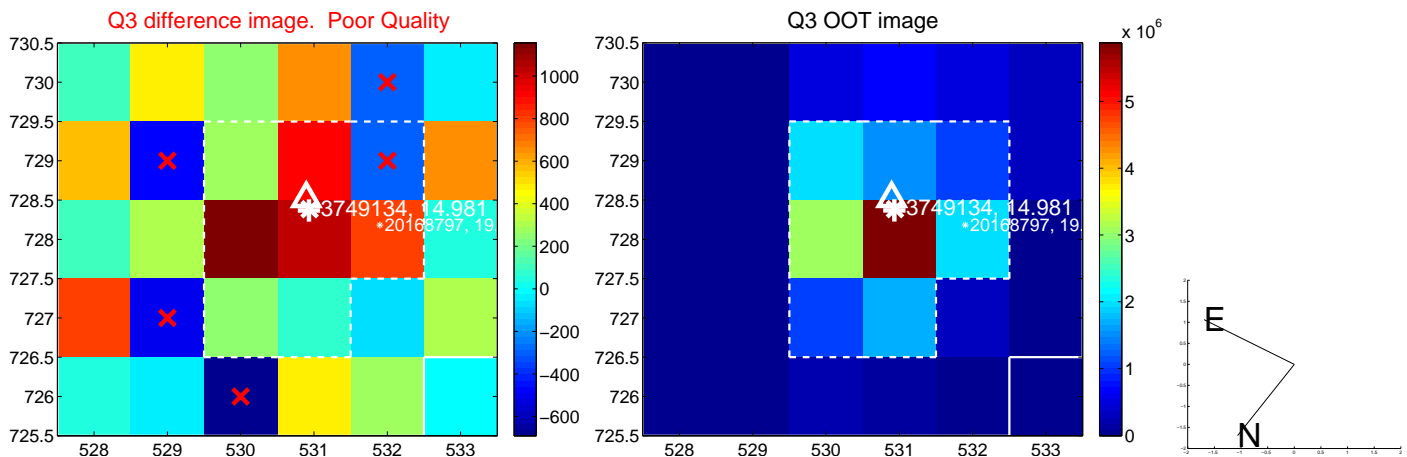
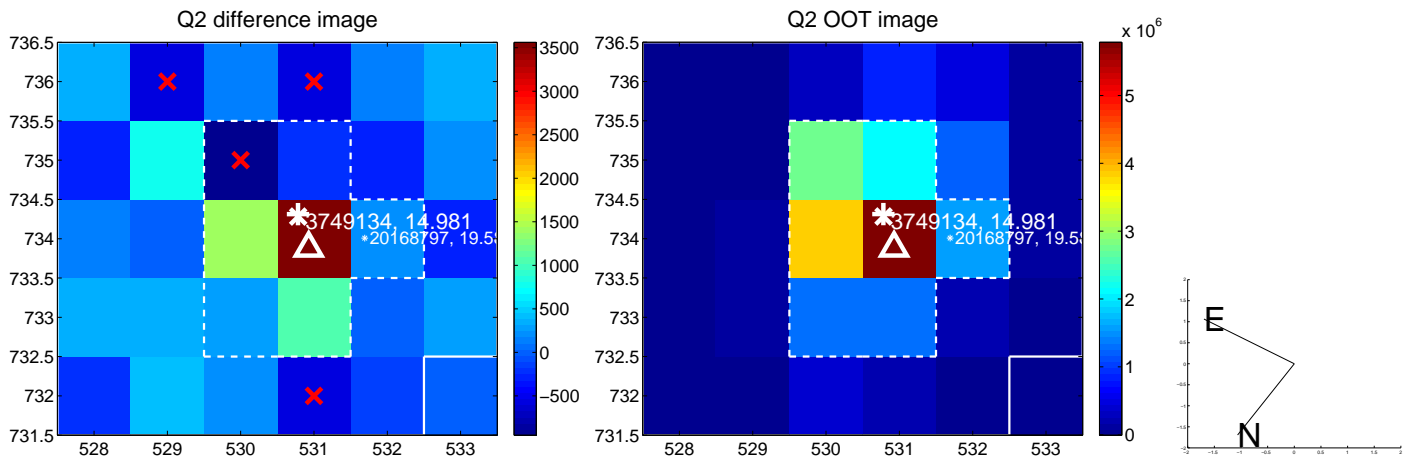
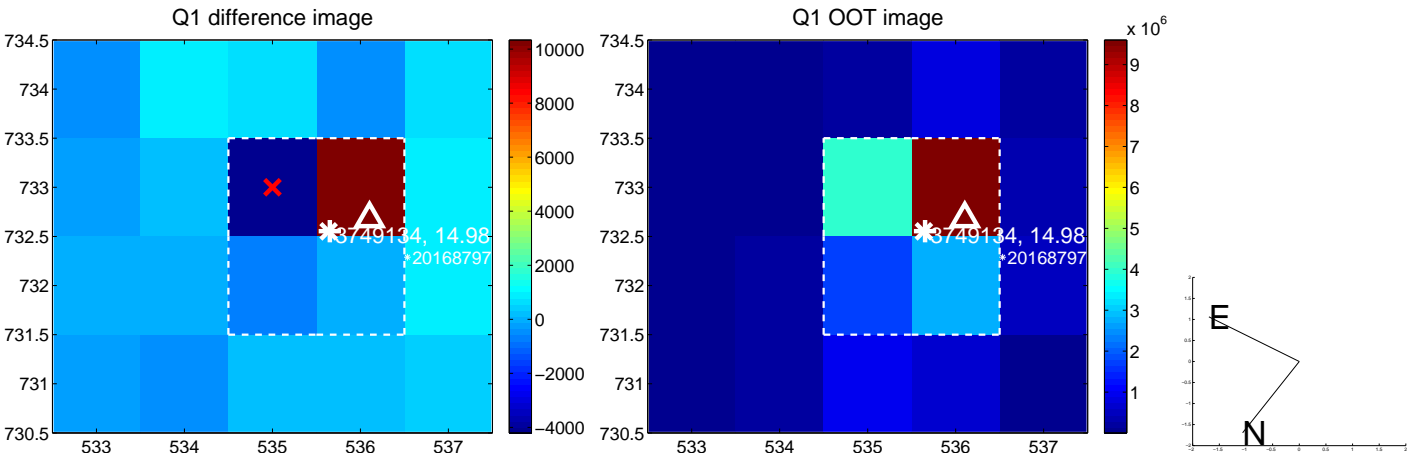
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.349 \pm 0.302$	1.16	$0.250 \pm 0.223$	$-0.243 \pm 0.301$
PRF-fit source offset from KIC position	$0.327 \pm 0.266$	1.23	$0.242 \pm 0.226$	$-0.221 \pm 0.251$
photometric centroid source offset	$0.78 \pm 0.99$	0.79	$0.42 \pm 1.02$	$-0.65 \pm 0.97$

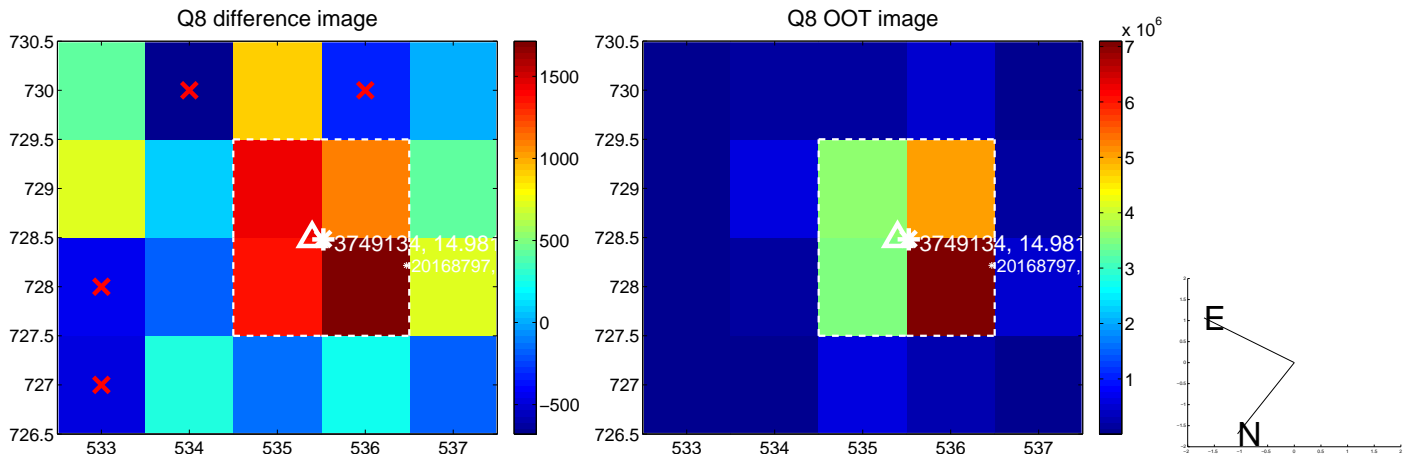
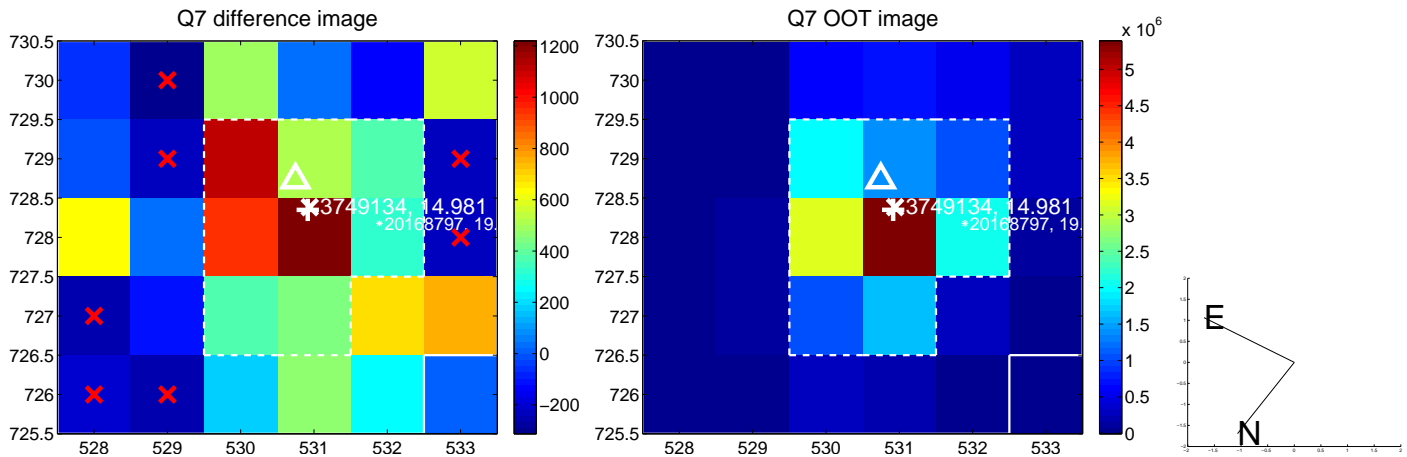
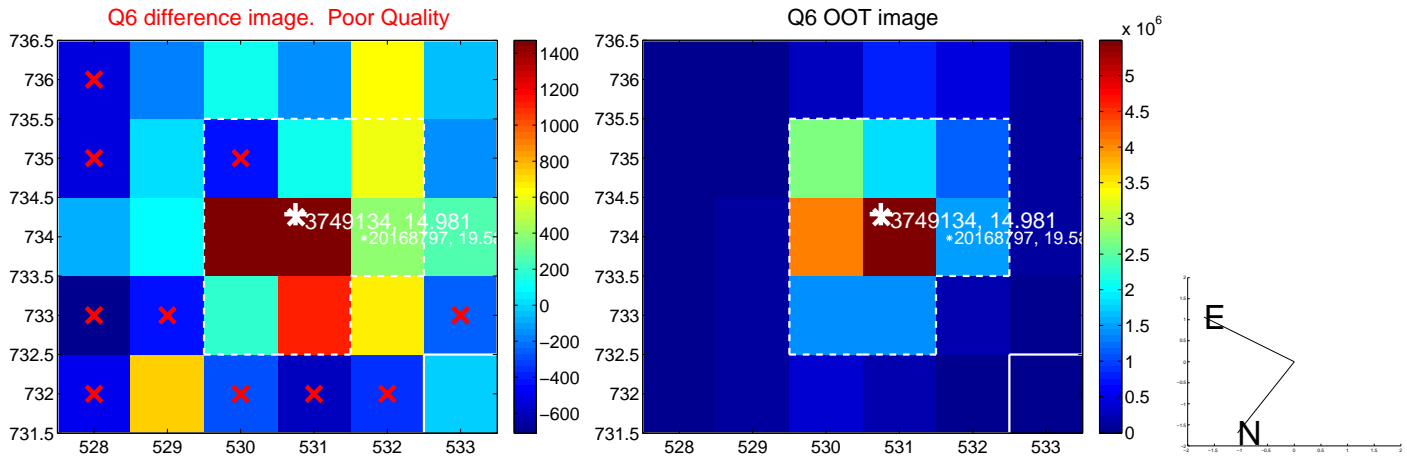
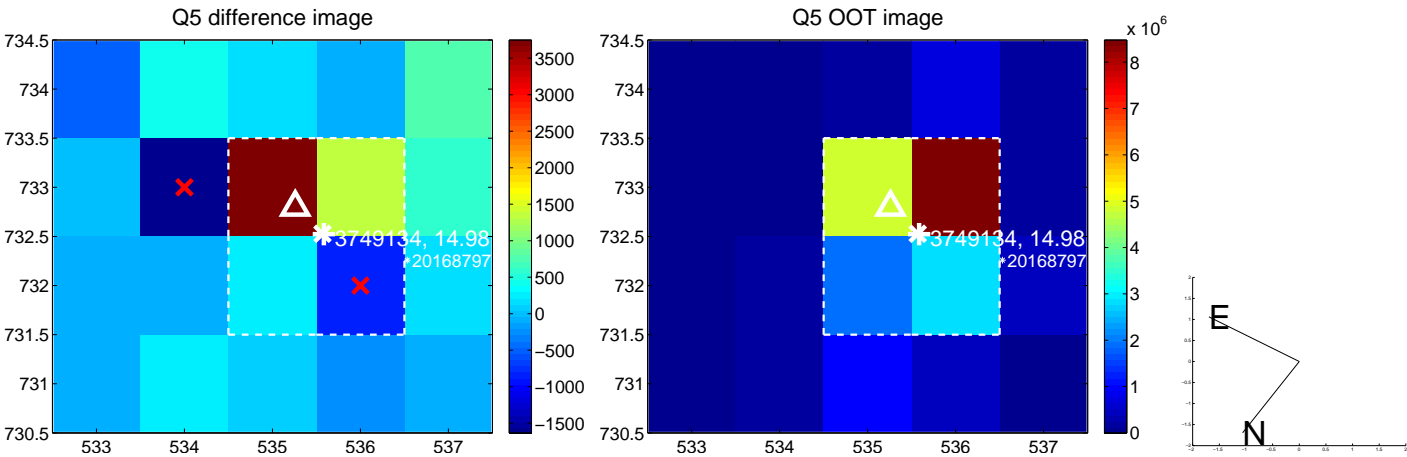


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

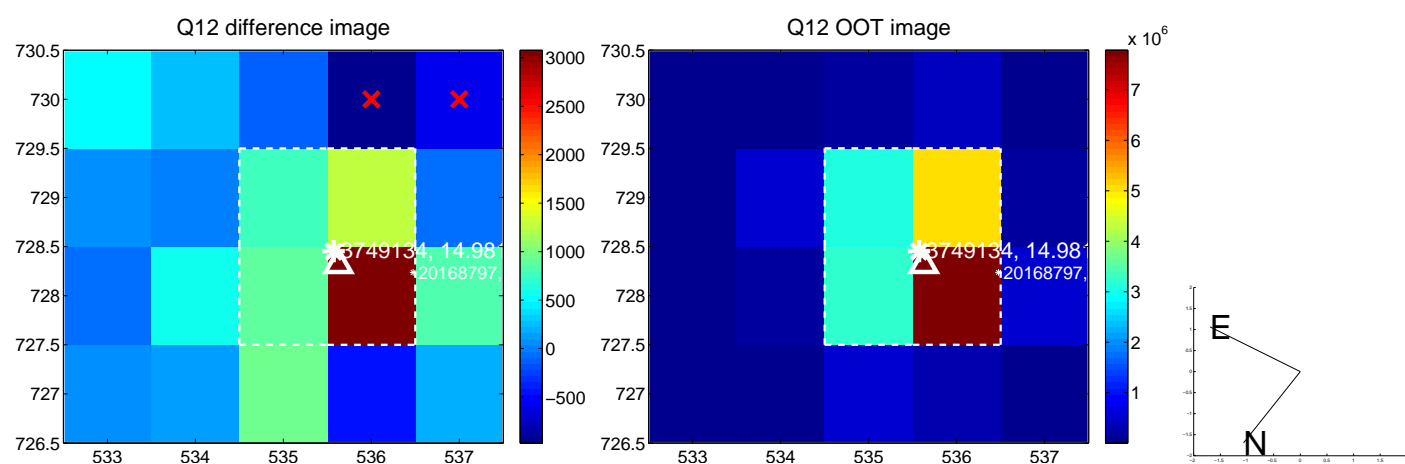
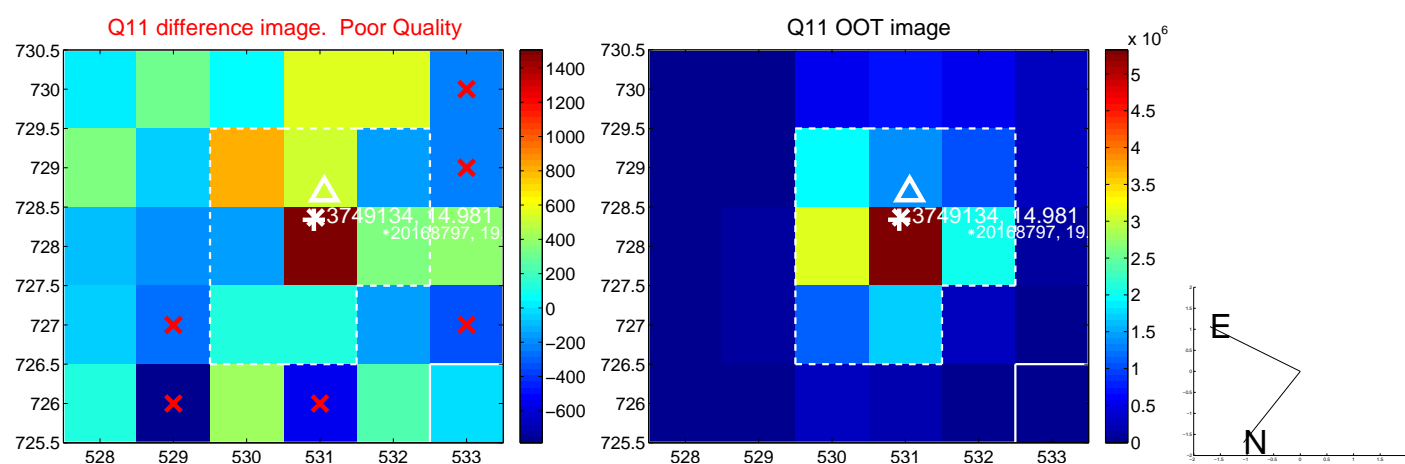
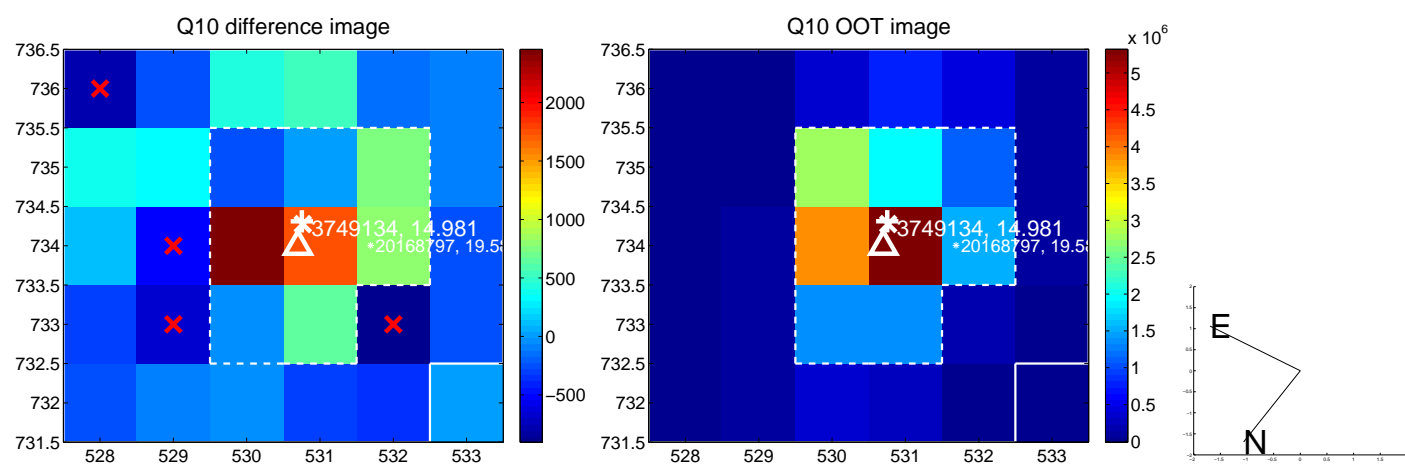
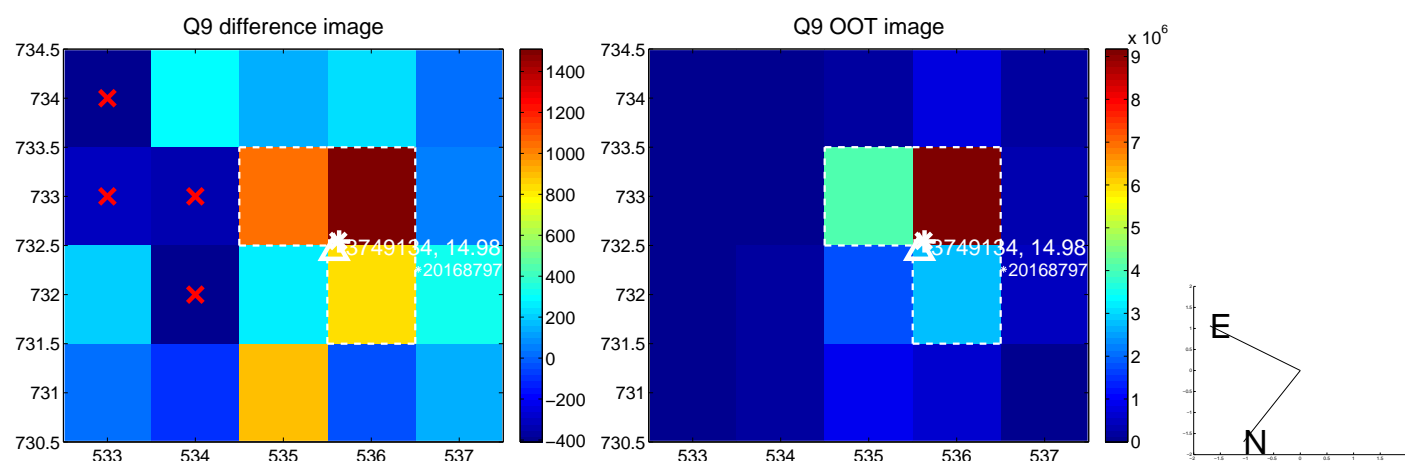


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

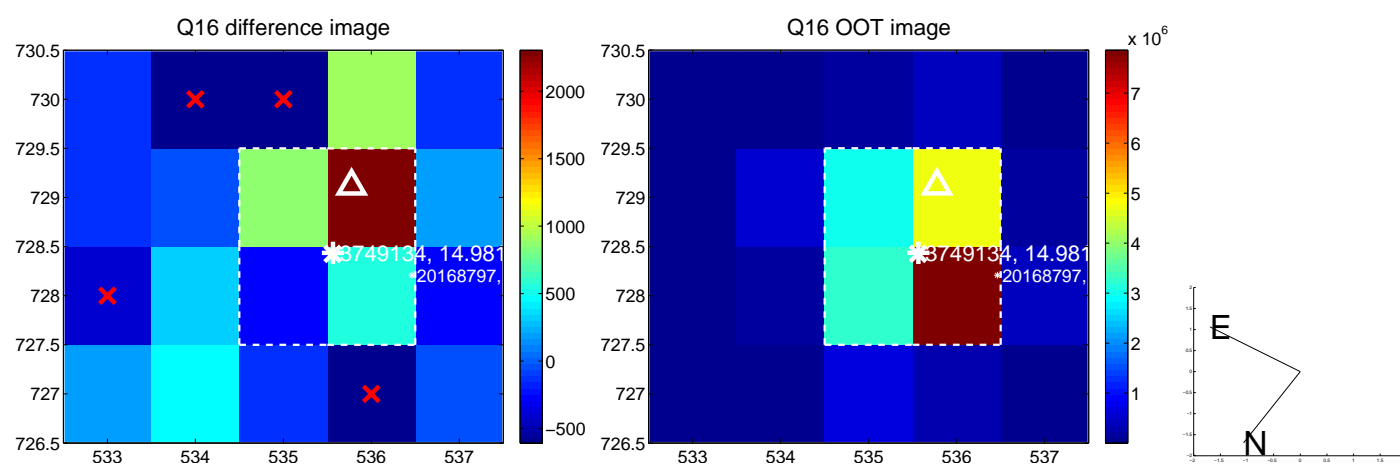
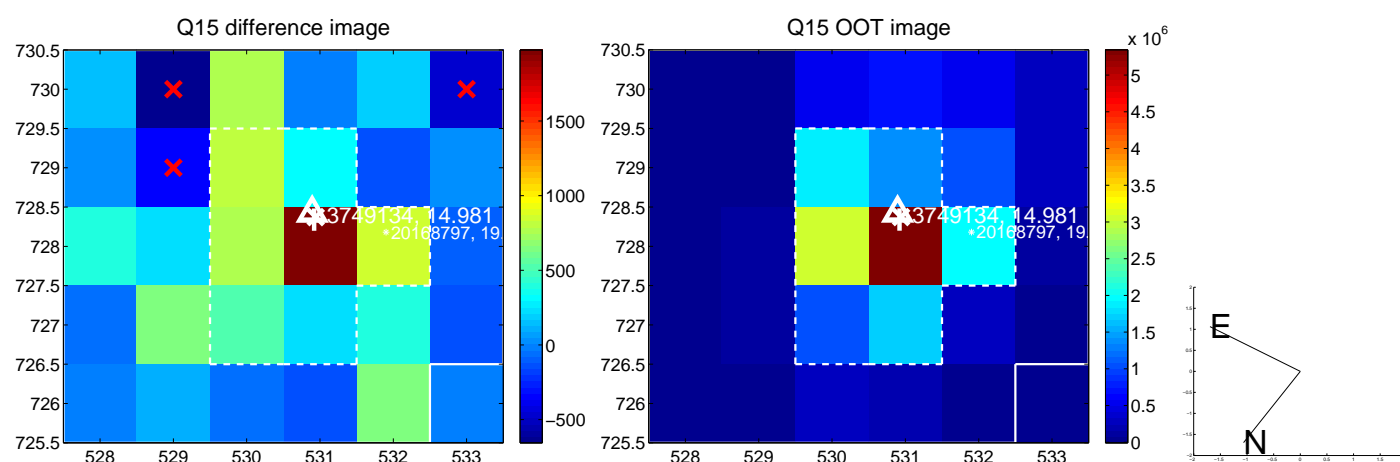
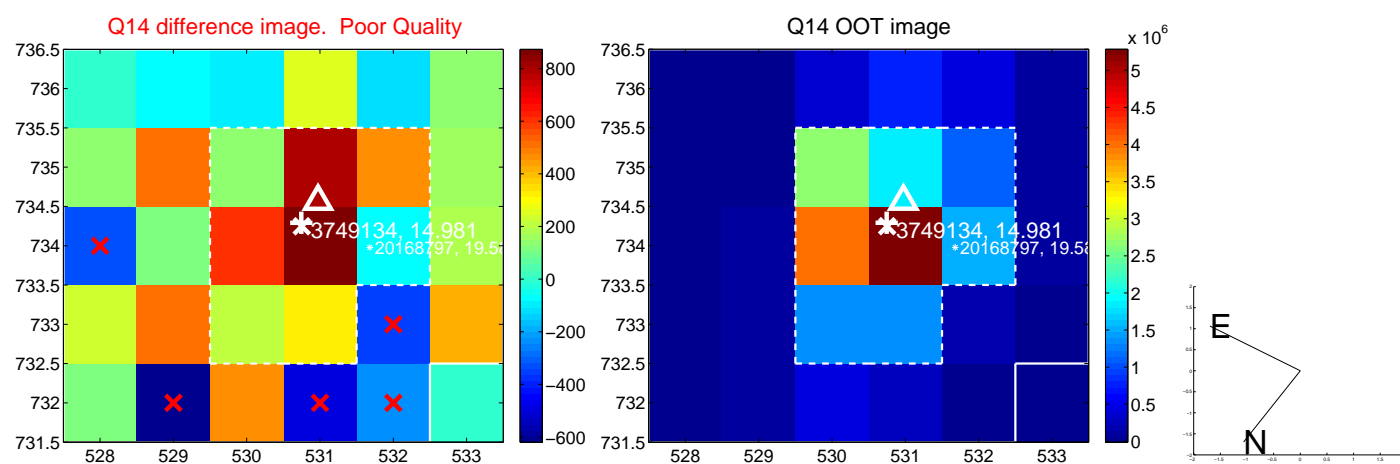
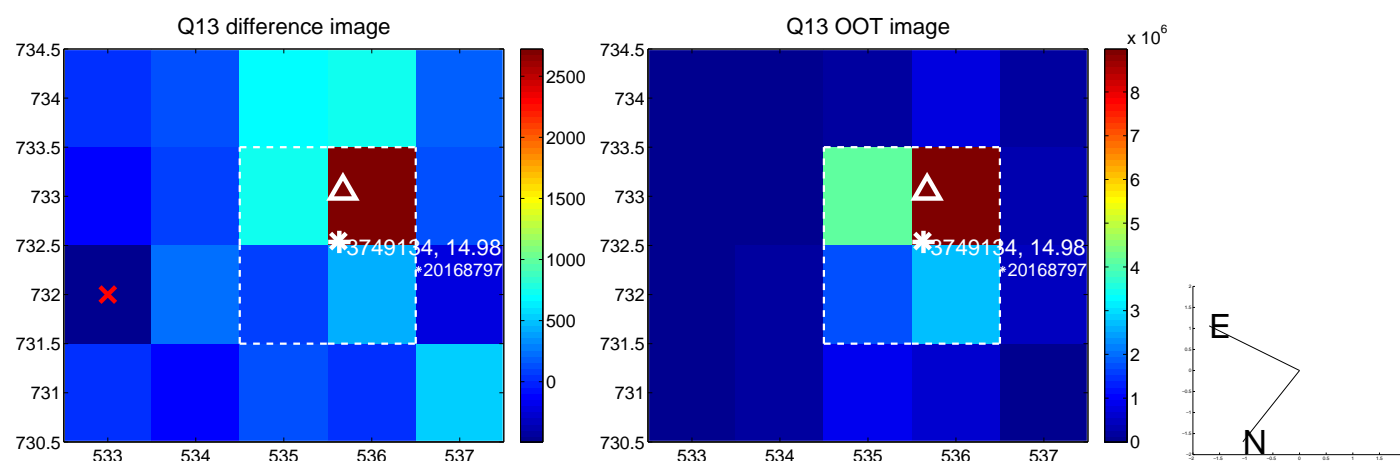




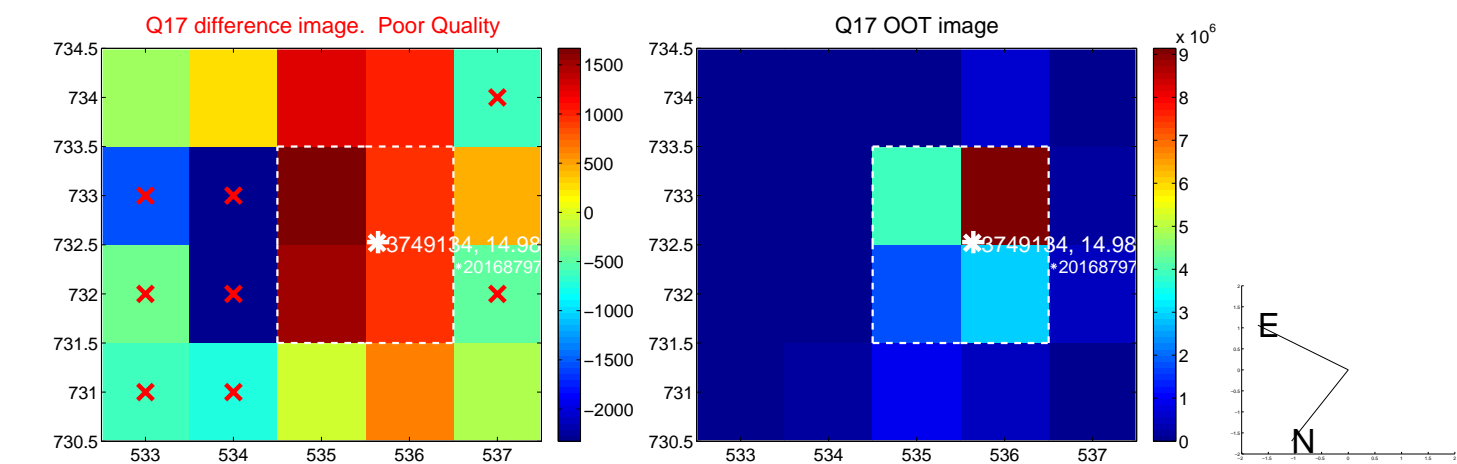
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



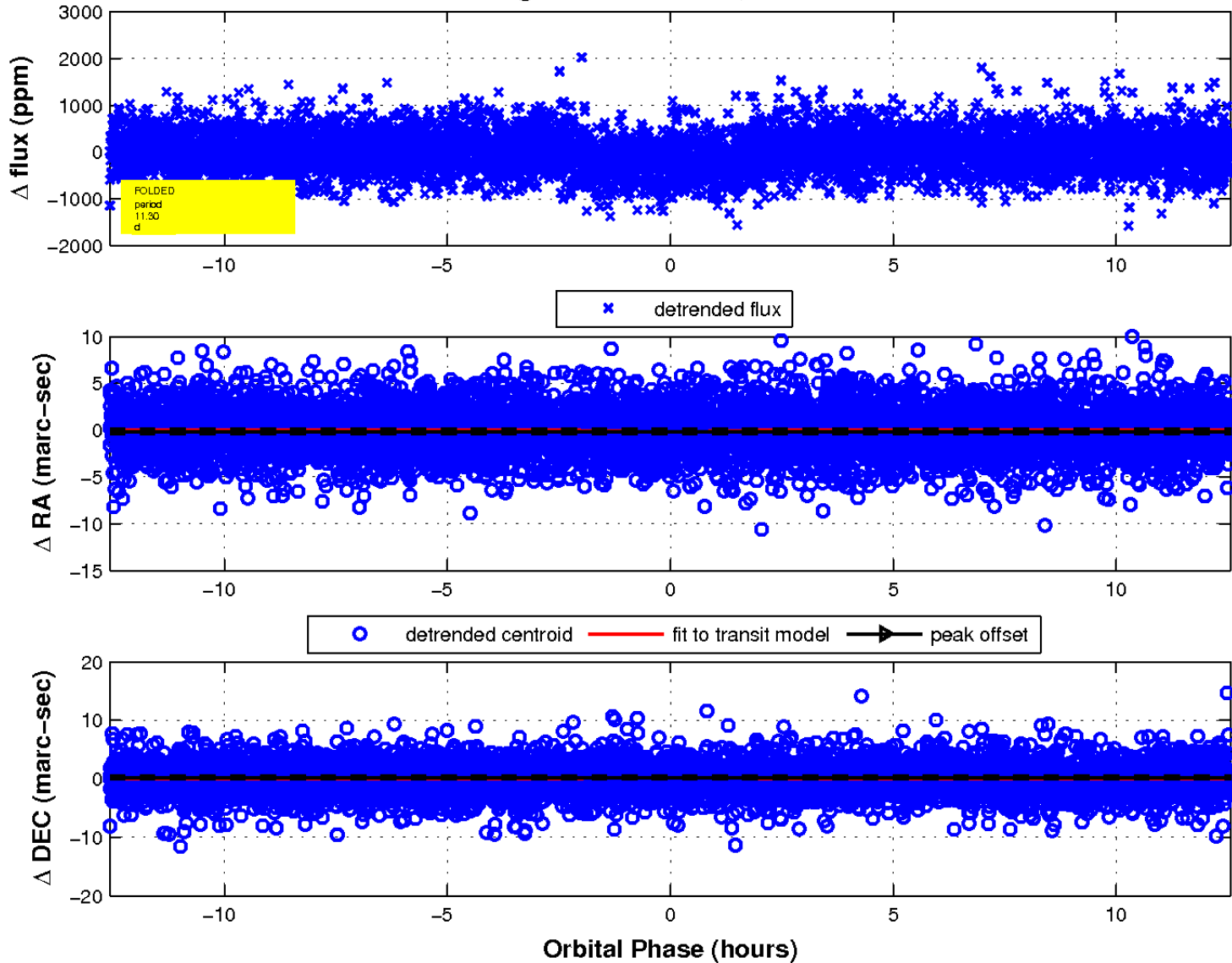
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

