

# KIC 011337141

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011337141-01	OBS	1649.01	4.043543	131.631496	373.0	1.496	17.7	20.0	0.53	3871	1.24	33.45

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011337141-01	OBS	PC	0.99	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.

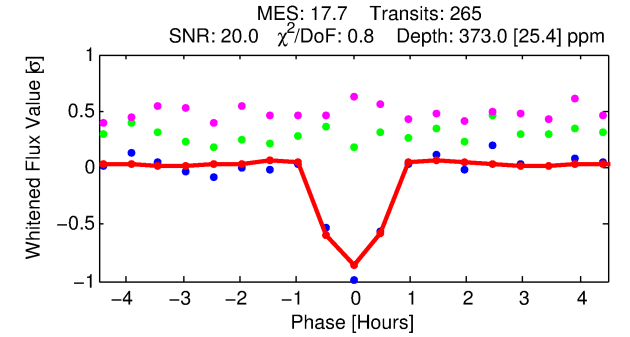
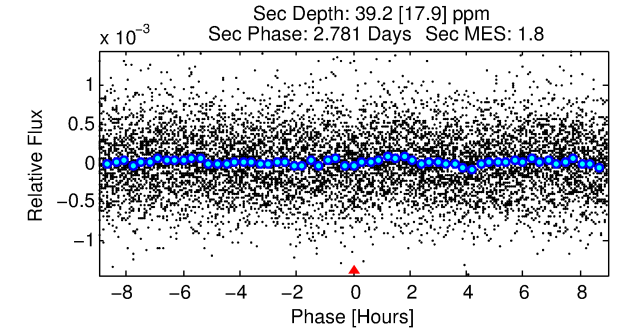
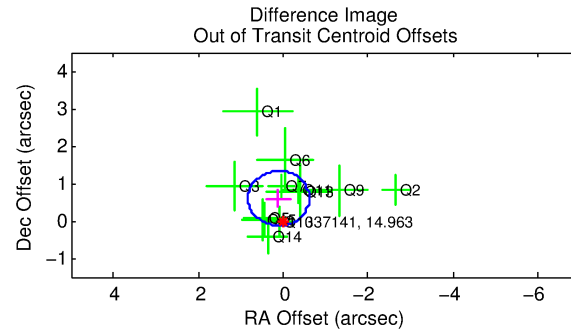
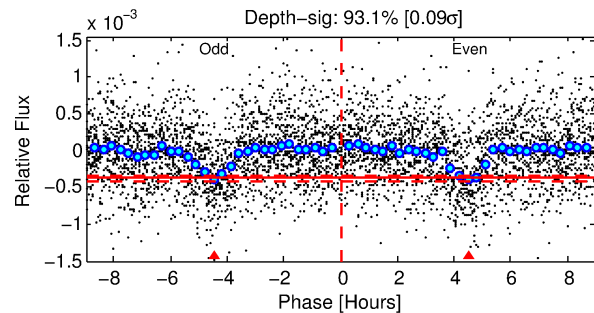
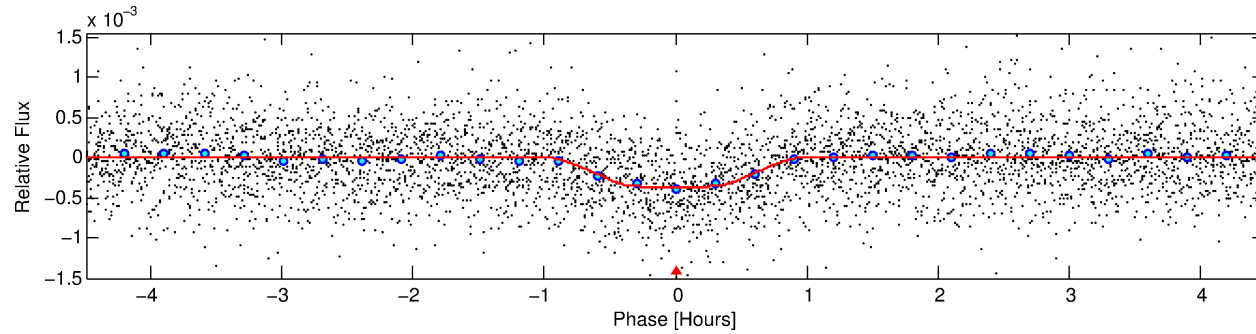
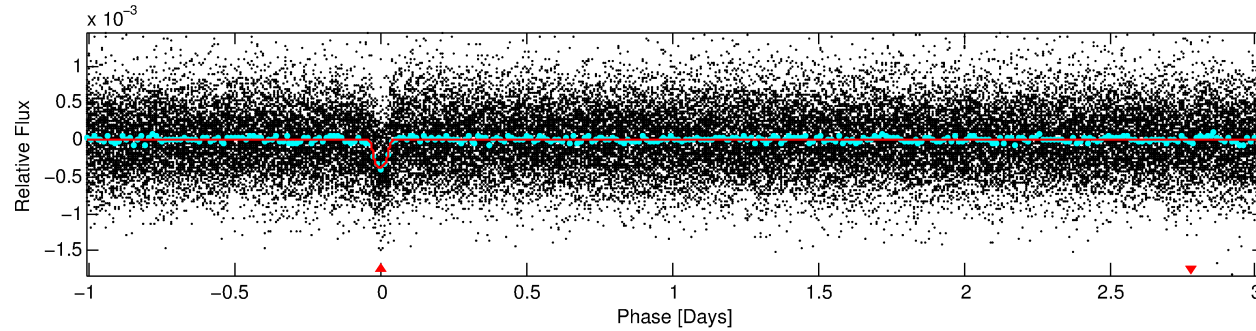
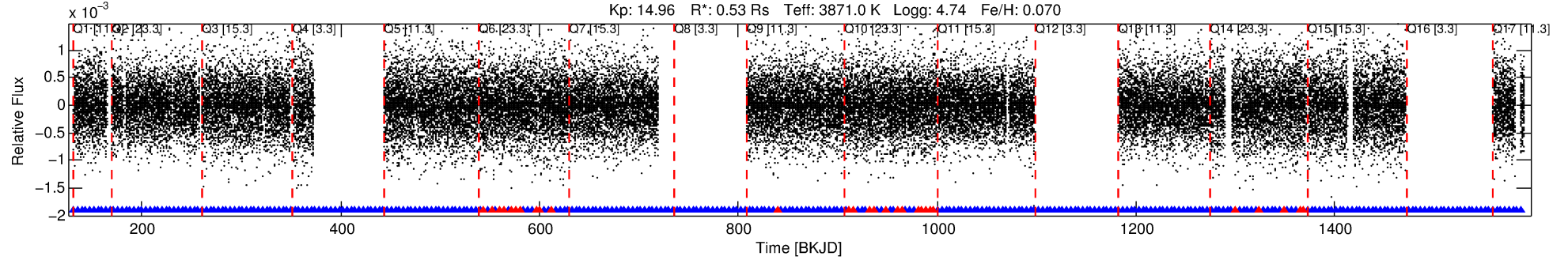
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011337141-01

No Significant Match Found

# DV One-Page Summary

KIC: 11337141 Candidate: 1 of 1 Period: 4.044 d  
KOI: K01649.01 Corr: 0.984



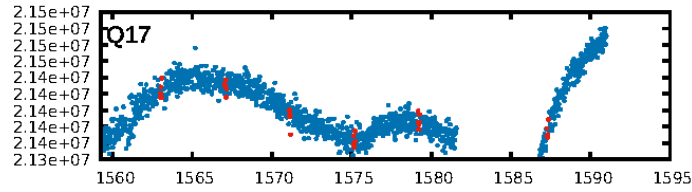
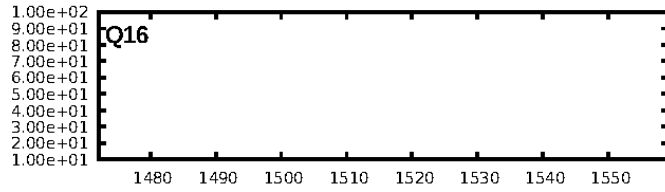
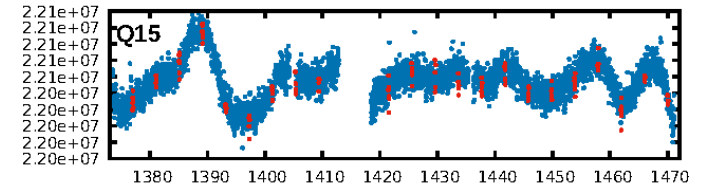
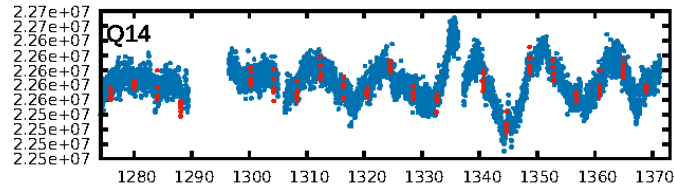
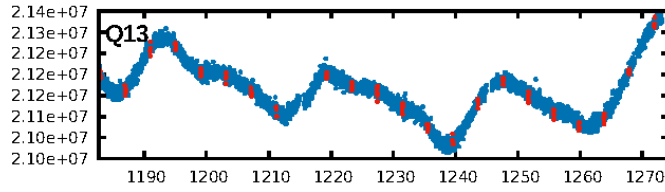
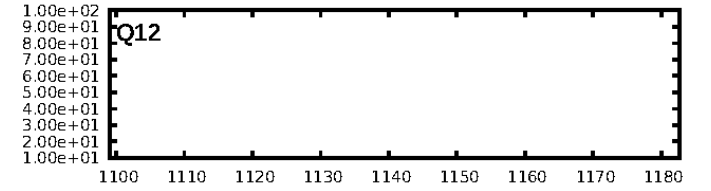
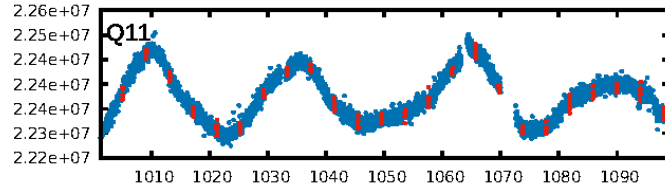
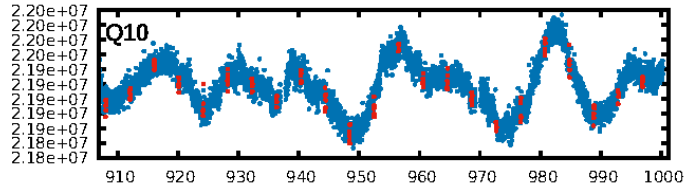
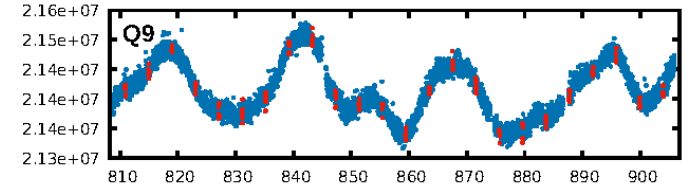
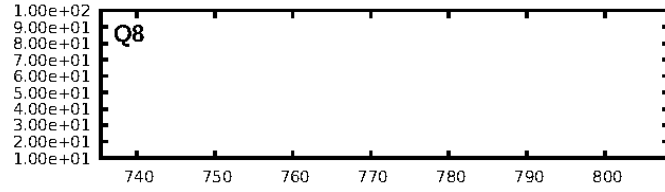
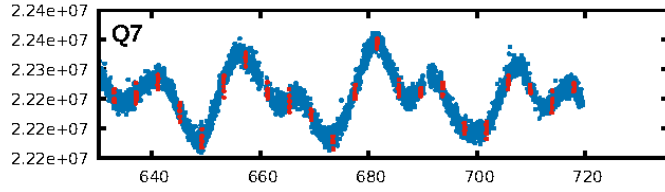
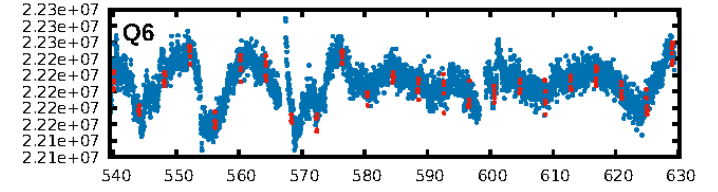
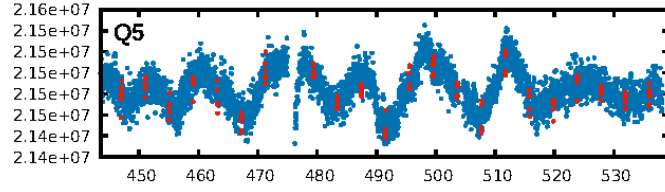
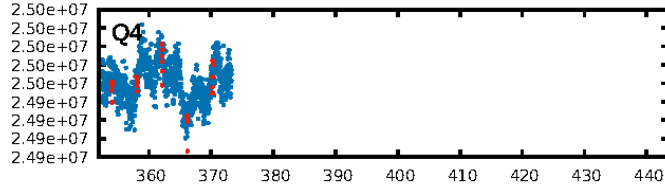
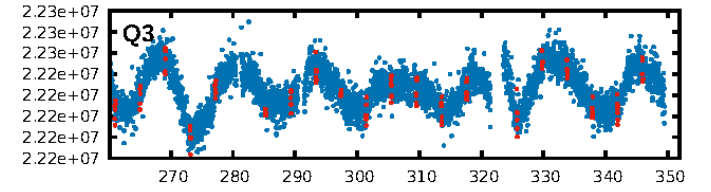
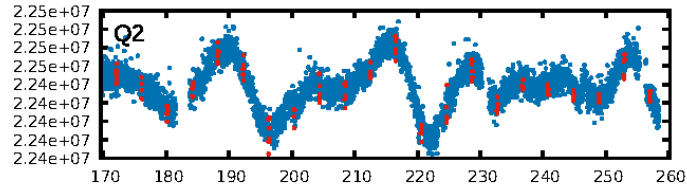
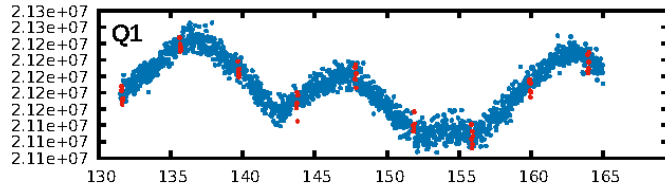
## DV Fit Results:

Period = 4.04354 [0.00001] d  
Epoch = 131.6315 [0.0014] BKJD  
Rp/R\* = 0.0213 [0.0079]  
a/R\* = 9.98 [15.46]  
b = 0.90 [0.33]  
Seff = 33.45 [4.35]  
Teff = 613 [20] K  
Rp = 1.24 [0.47] Re  
a = 0.0413 [0.0027] AU  
Ag = 23.90 [20.97] [1.09 $\sigma$ ]  
Teffp = 2096 [459] K [3.23 $\sigma$ ]

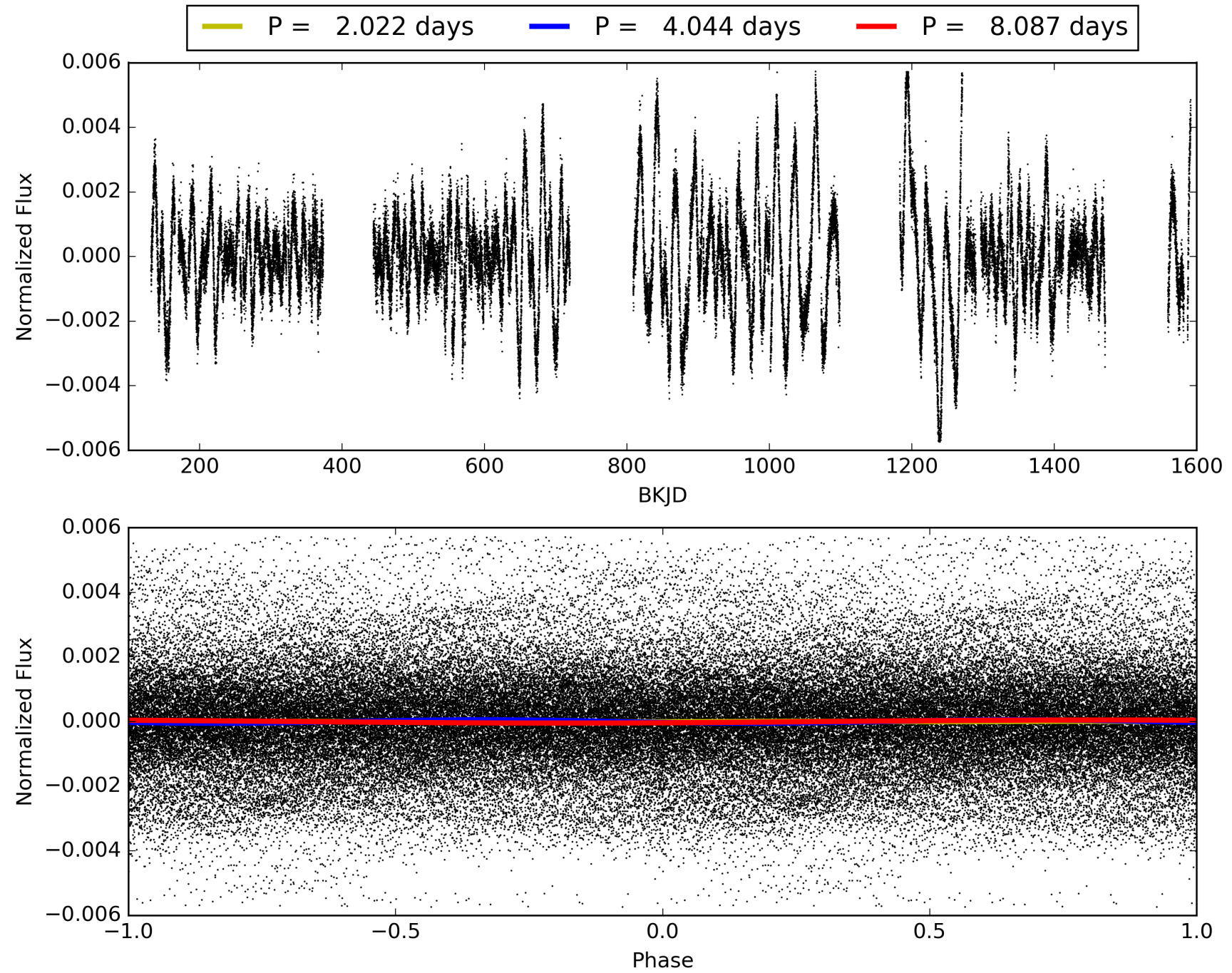
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGoF-sig: N/A  
Bootstrap-pfa: 6.29e-68  
RollingBand-fgt: 0.89 [217/245]  
GhostDiagnostic-chr: 1.908  
Centroid-sig: 0.4%  
Centroid-so: 0.993 arcsec [1.55 $\sigma$ ]  
OotOffset-rm: 0.609 arcsec [2.52 $\sigma$ ]  
**KicOffset-rm: 0.756 arcsec [3.29 $\sigma$ ]**  
OotOffset-st: 4/4/0/4 [12]  
KicOffset-st: 4/4/0/4 [12]  
DiffImageQuality-fgm: 0.92 [11/12]  
DiffImageOverlap-fno: 1.00 [14/14]

# TCE 011337141-01, PDC Light Curves

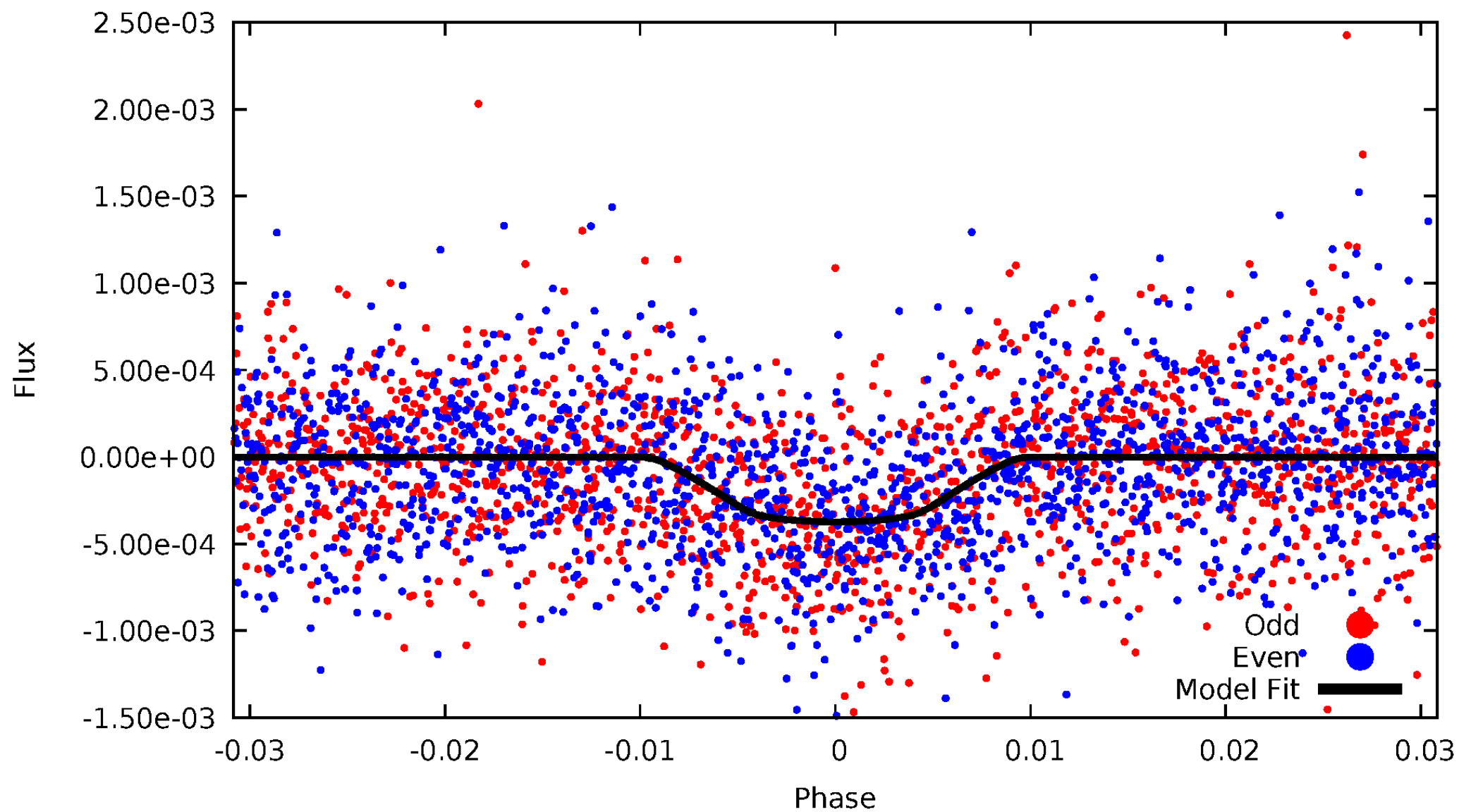


# TCE 011337141-01



# DV Odd/Even

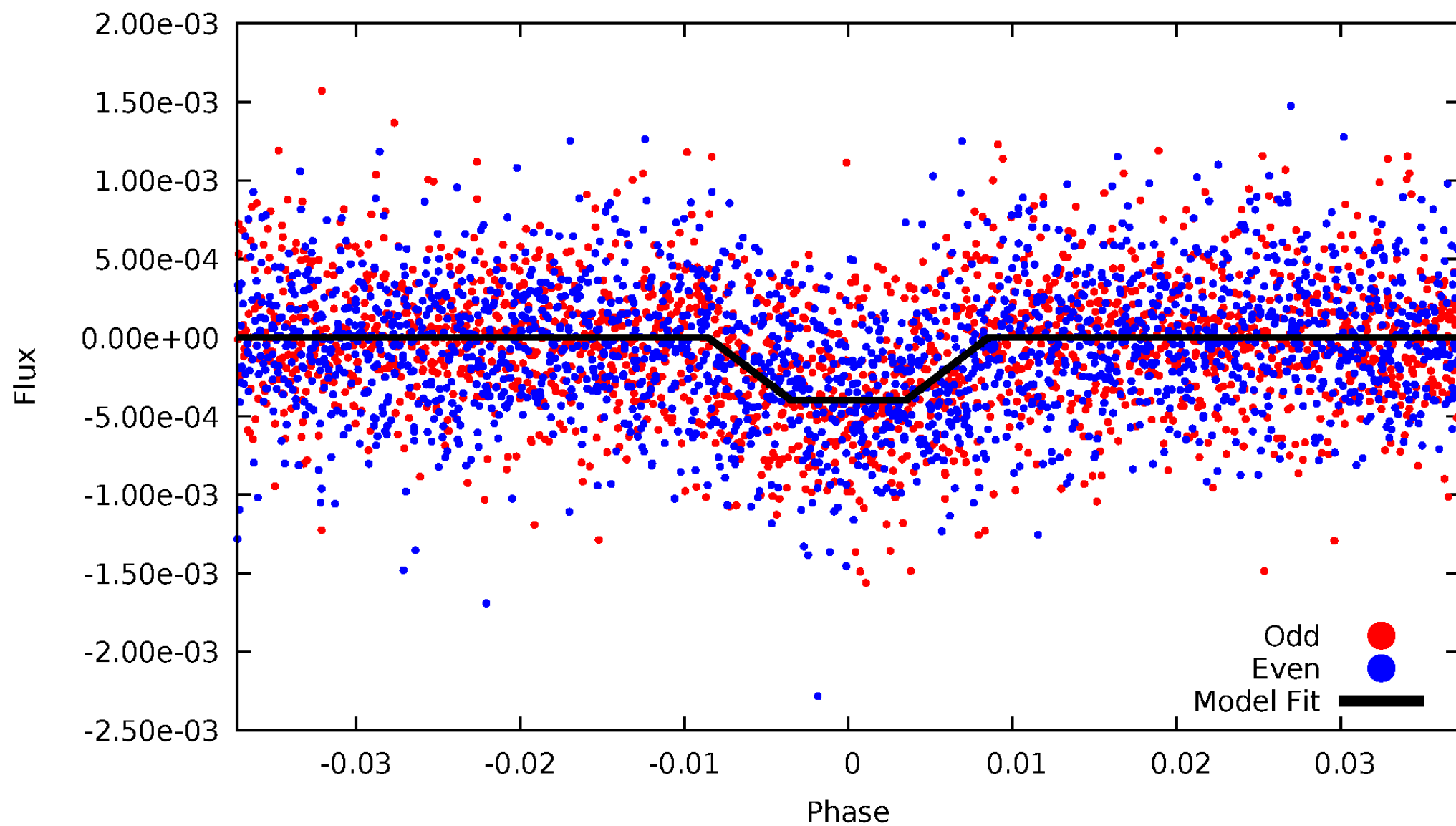
TCE 011337141-01





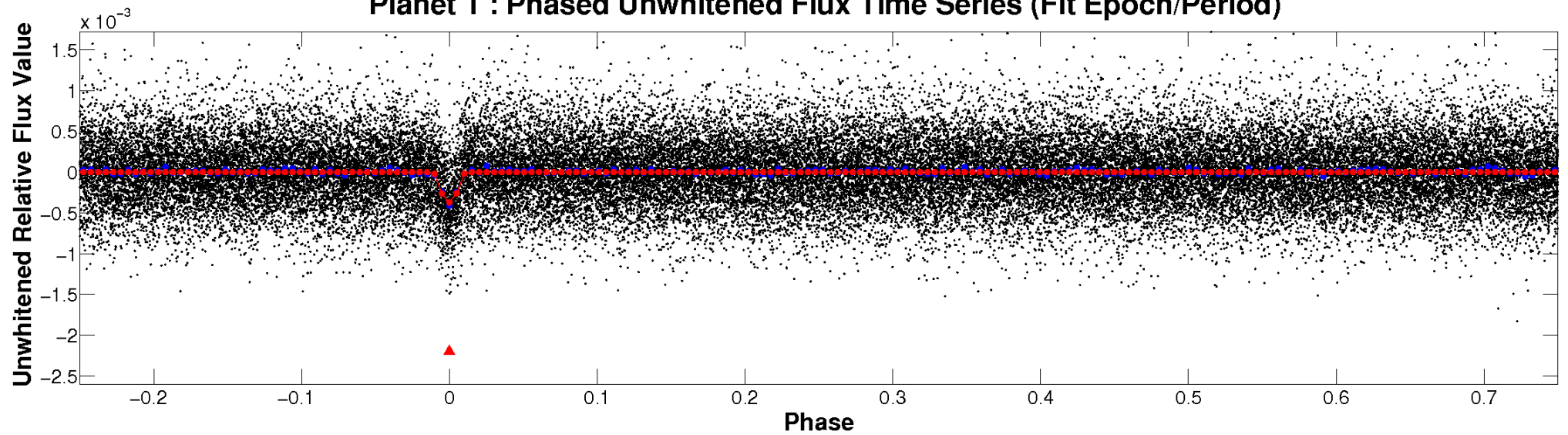
# ALT Odd/Even

TCE 011337141-01

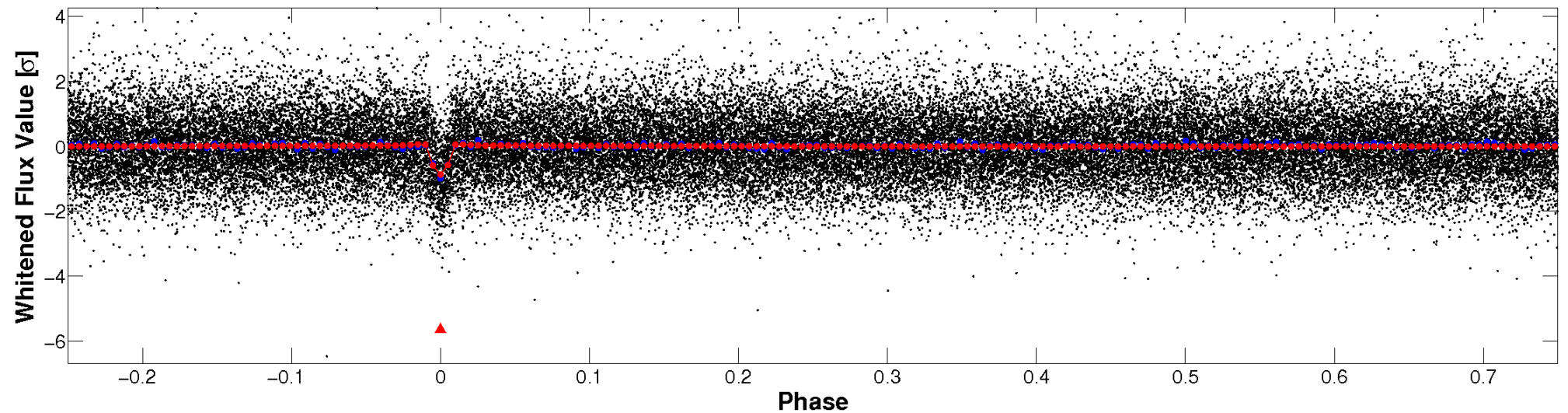


# Non-Whitened Vs. Whitened Light Curve

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

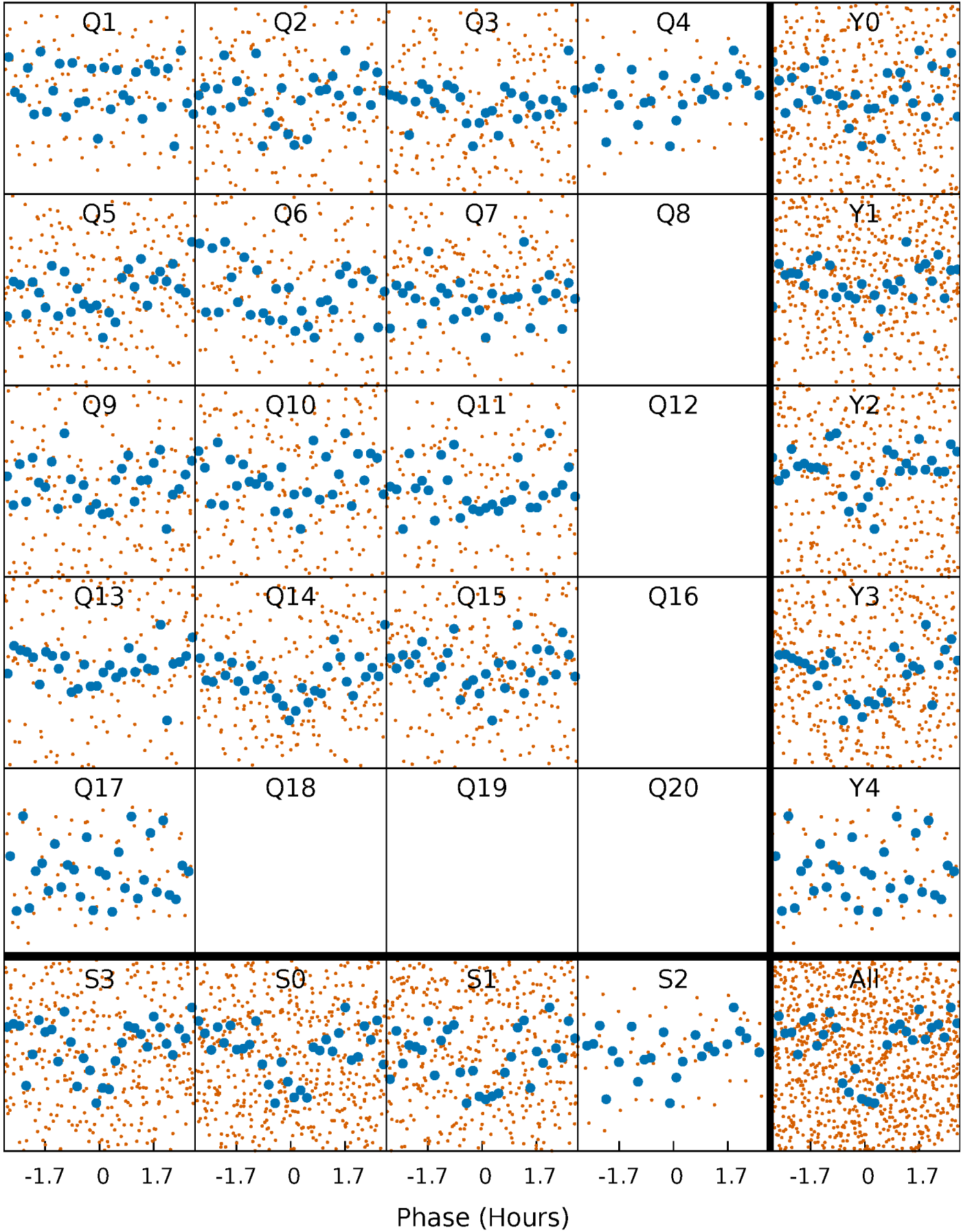


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

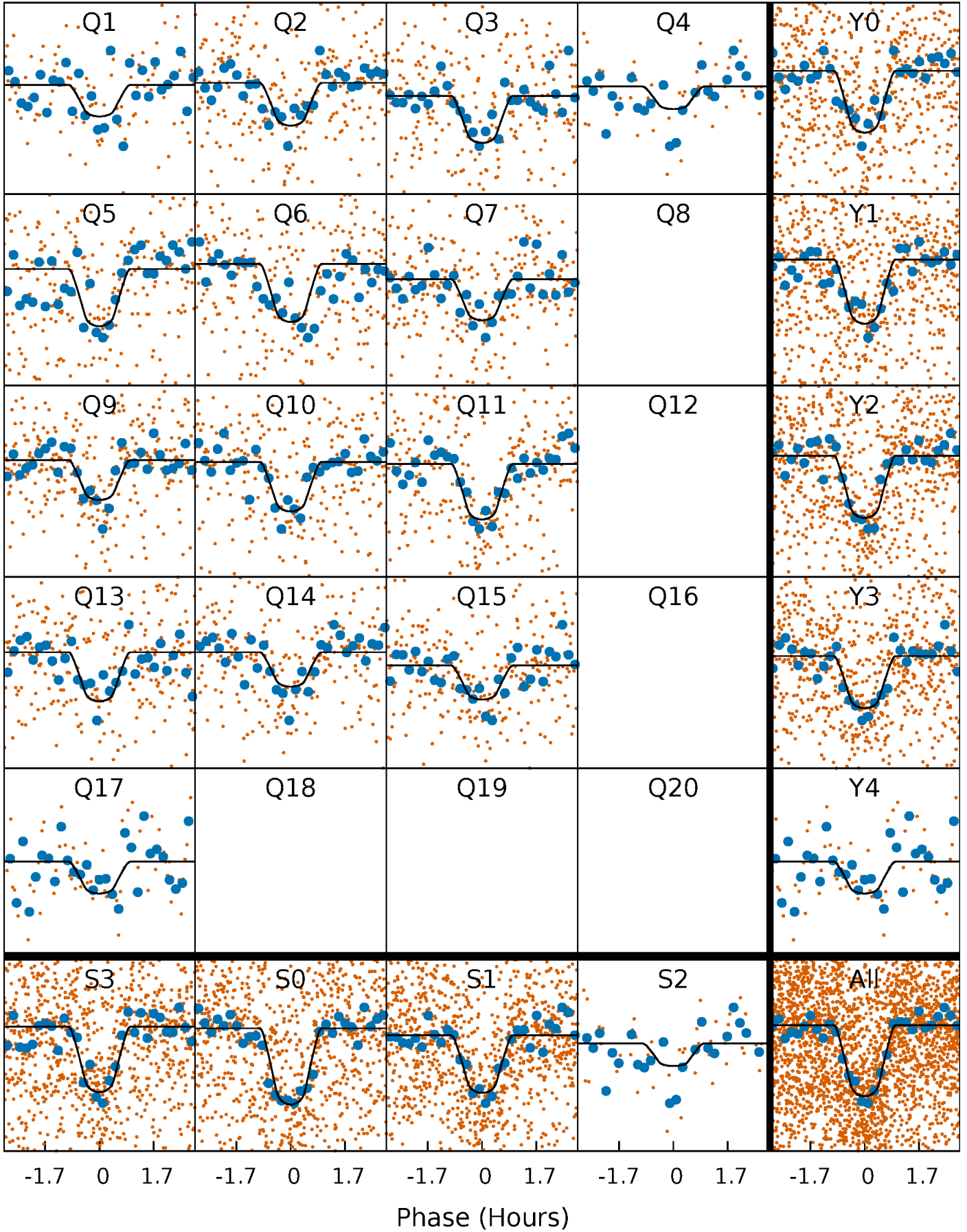
TCE 011337141-01   P= 4.043543 Days    $T_0=131.631496$  (BKJD)





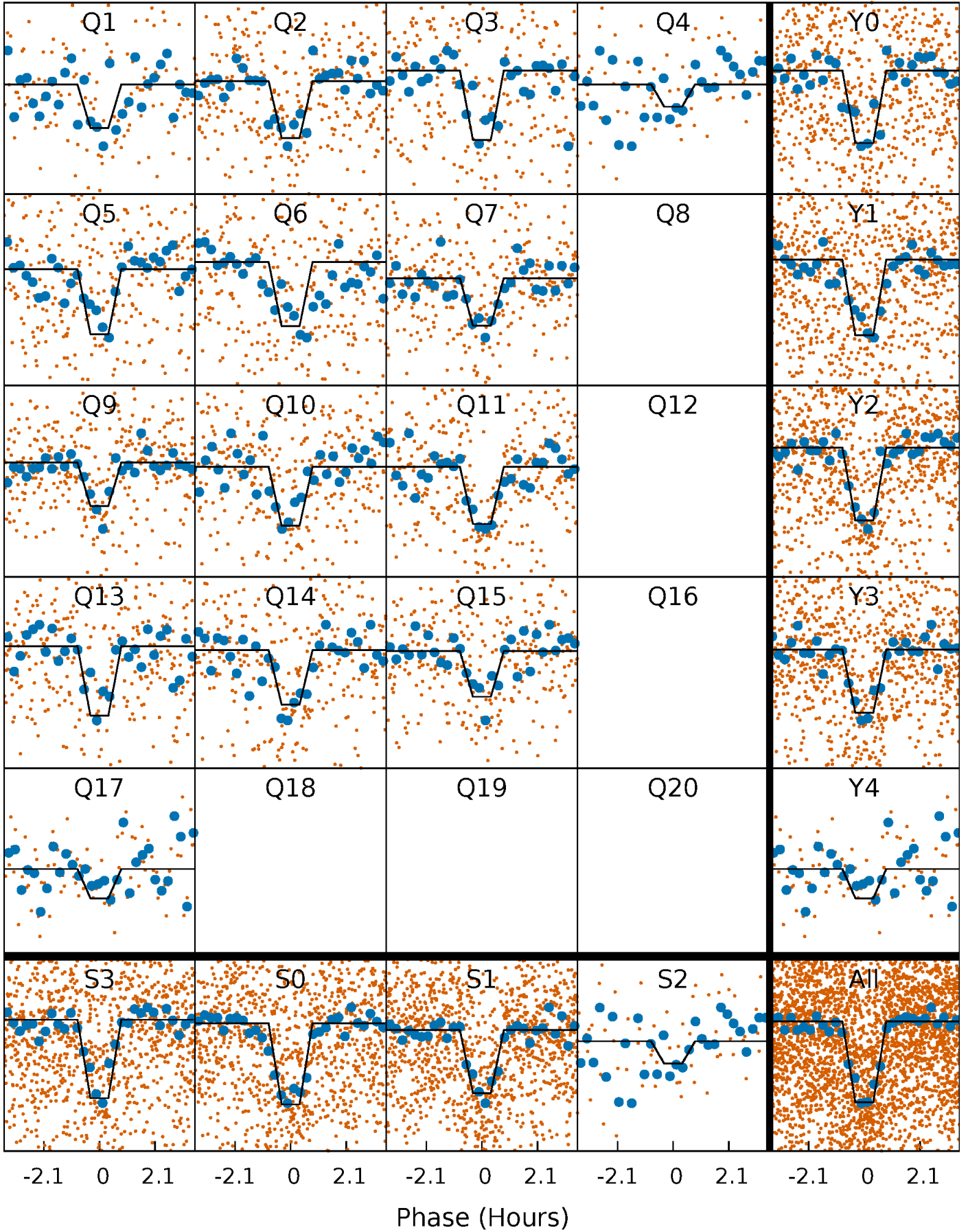
# DV Quarter-Phased Transit Curves

TCE 011337141-01 P= 4.043543 Days  $T_0=131.631496$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

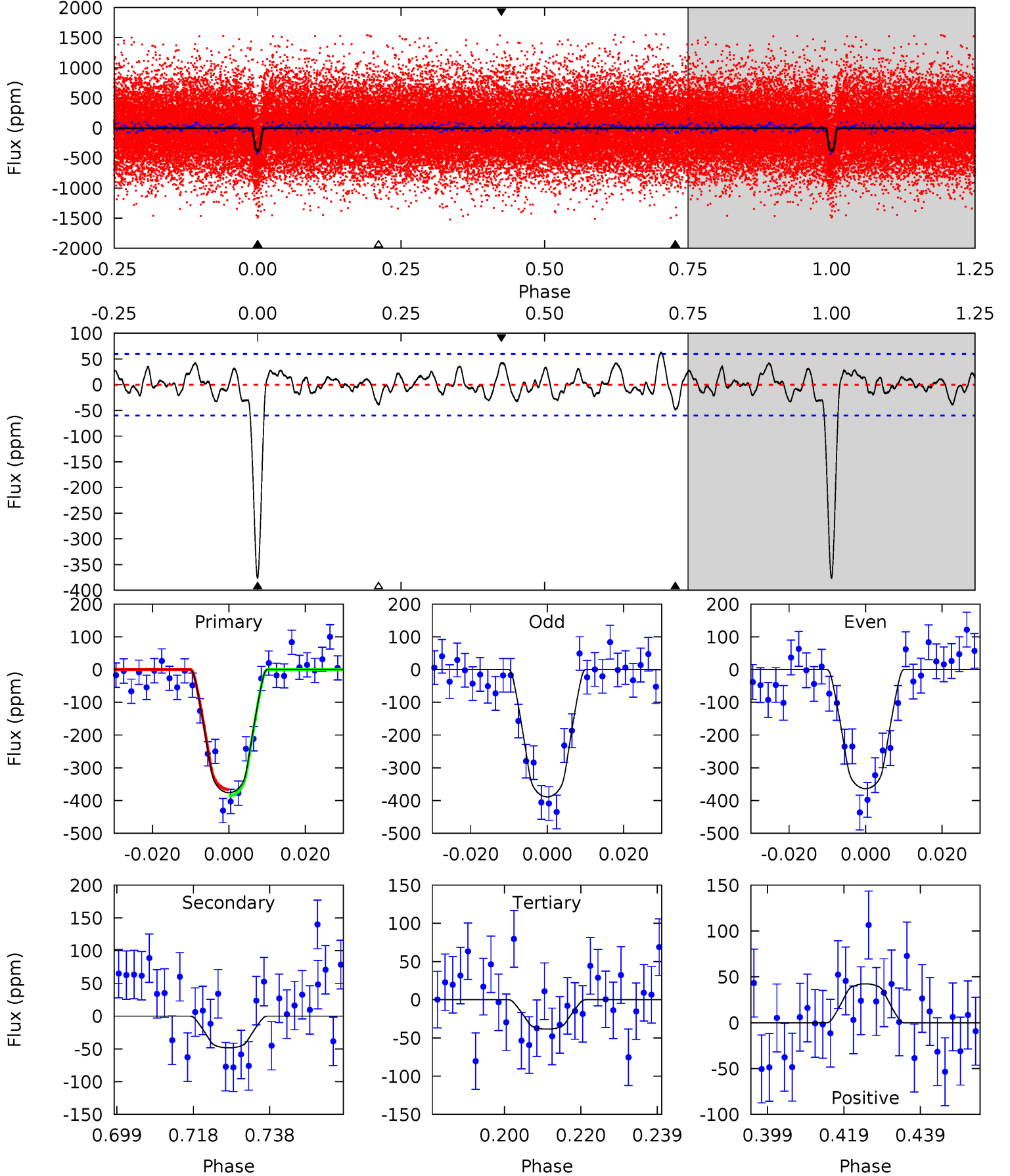
TCE 011337141-01 P= 4.043548 Days  $T_0=131.630694$  (BKJD)



# DV Model-Shift Uniqueness Test

011337141-01, P = 4.043543 Days, E = 127.587953 Days

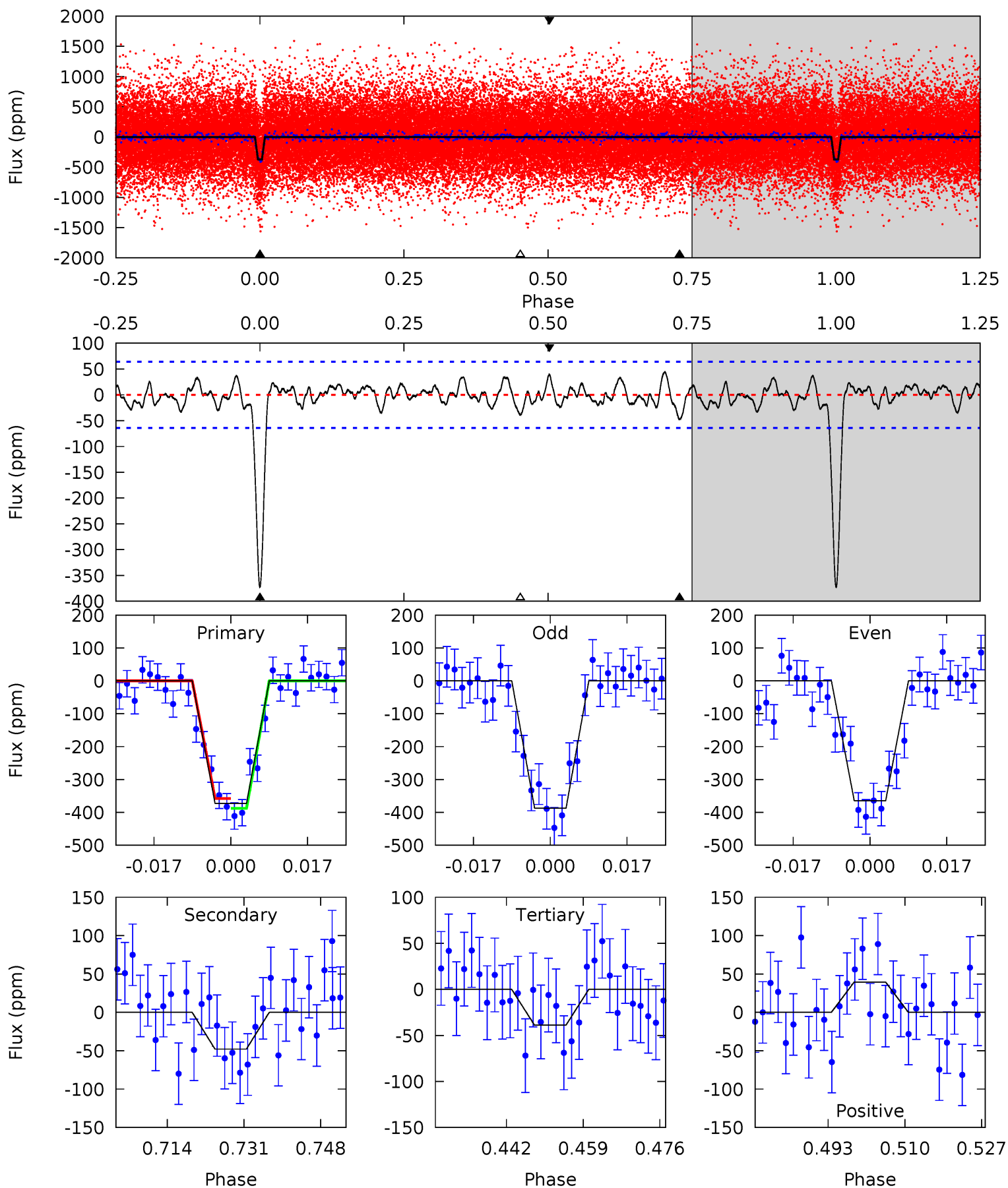
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.7	3.96	3.15	3.46	4.89	2.33	1.45	27.6	27.3	0.82	0.50	1.03	1.00	0.14	0.79



# Alt Model-Shift Uniqueness Test

011337141-01, P = 4.043548 Days, E = 127.587146 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
28.6	3.67	2.99	3.03	4.92	2.39	1.22	25.6	25.6	0.69	0.64	0.88	1.01	0.11	1.14



### Stellar Parameters For KIC 011337141

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$3871^{+77}_{-84}$	$4.744^{+0.021}_{-0.053}$	$0.070^{+0.150}_{-0.150}$	$0.532^{+0.042}_{-0.027}$	$0.573^{+0.031}_{-0.038}$	$5.343^{+0.634}_{-0.934}$
	+2%/-2%	+0%/-1%	+214%/-214%	+8%/-5%	+5%/-7%	+12%/-17%
Source	SPE70	SPE60	SPE70	DSEP		

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

### Secondary Eclipse Parameters for KIC 011337141-01 / KOI 1649.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-48 \pm 12$	$1.27^{+0.48}_{-0.43}$	$862^{+22}_{-21}$	$2740^{+390}_{-223}$	$28^{+40}_{-14}$
Alt.	$-48 \pm 13$	$1.20^{+0.44}_{-0.45}$	$863^{+22}_{-22}$	$2800^{+350}_{-249}$	$31^{+45}_{-17}$

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



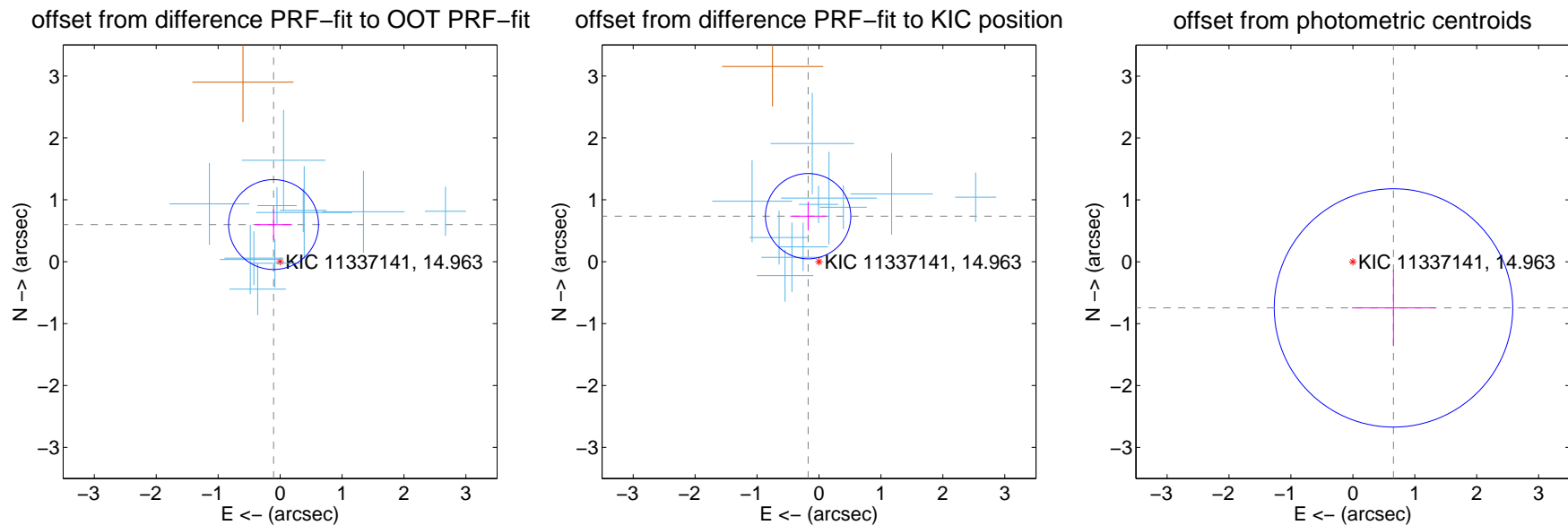
## DV Centroid Data

Supplemental centroid analysis for 011337141-01. Kepler magnitude: 14.96. Transit SNR 19.97

There are 11 quarters with good PRF difference image offsets

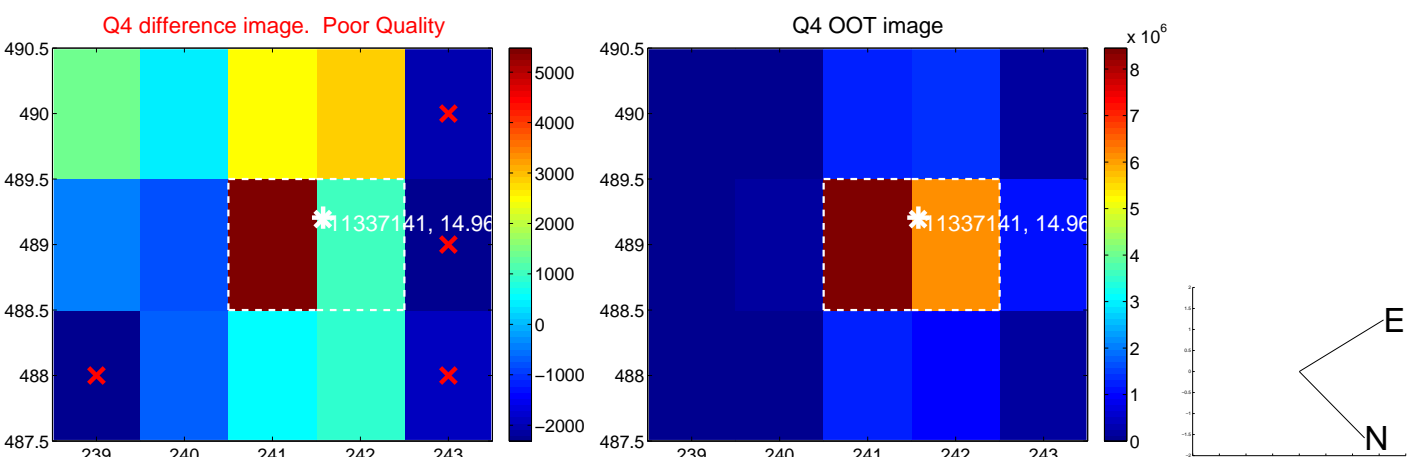
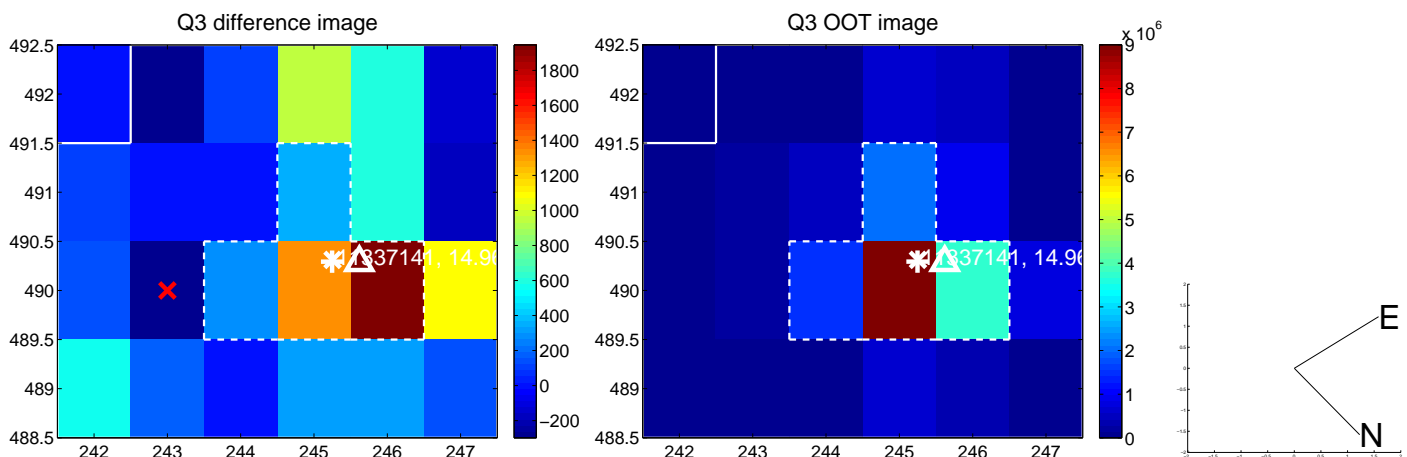
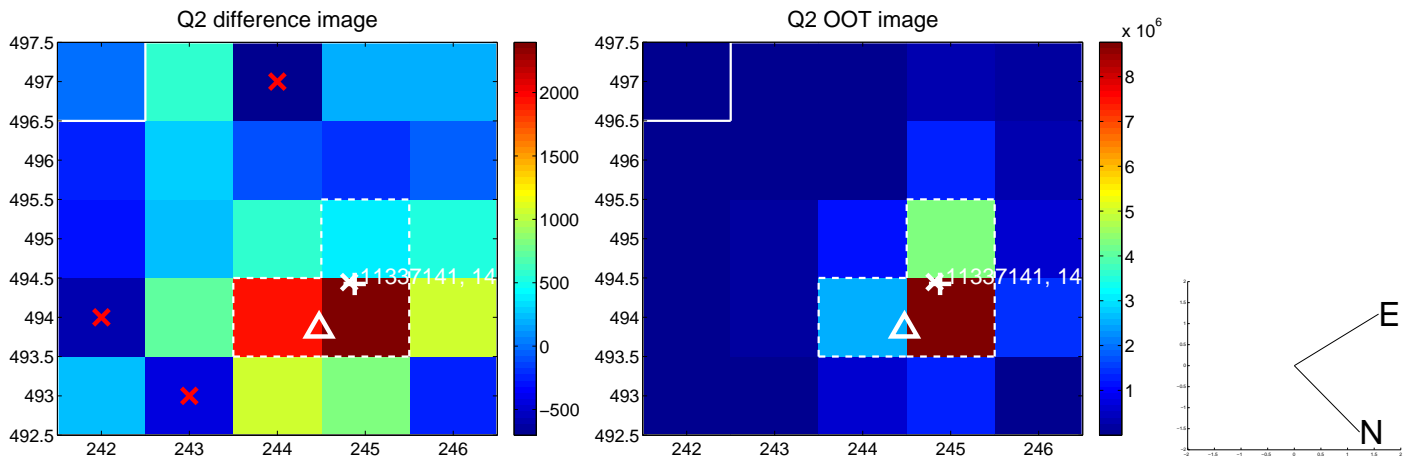
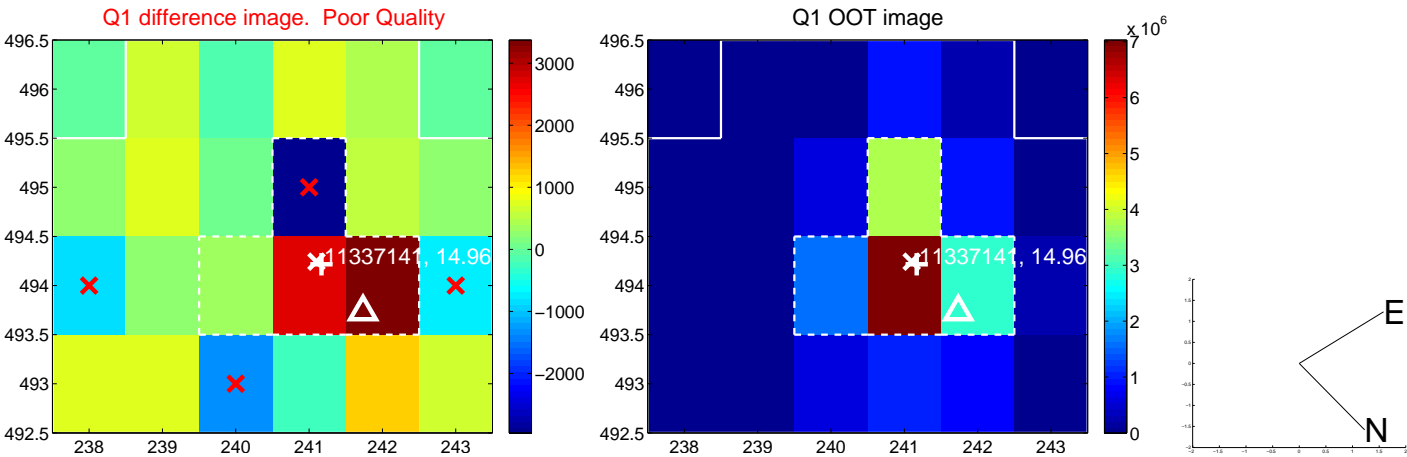
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.609 \pm 0.242$	2.52	$0.106 \pm 0.300$	$0.600 \pm 0.244$
PRF-fit source offset from KIC position	<b><math>0.756 \pm 0.230</math></b>	<b>3.29</b>	$0.175 \pm 0.289$	$0.735 \pm 0.234$
photometric centroid source offset	$0.99 \pm 0.64$	1.55	$-0.66 \pm 0.67$	$-0.75 \pm 0.62$

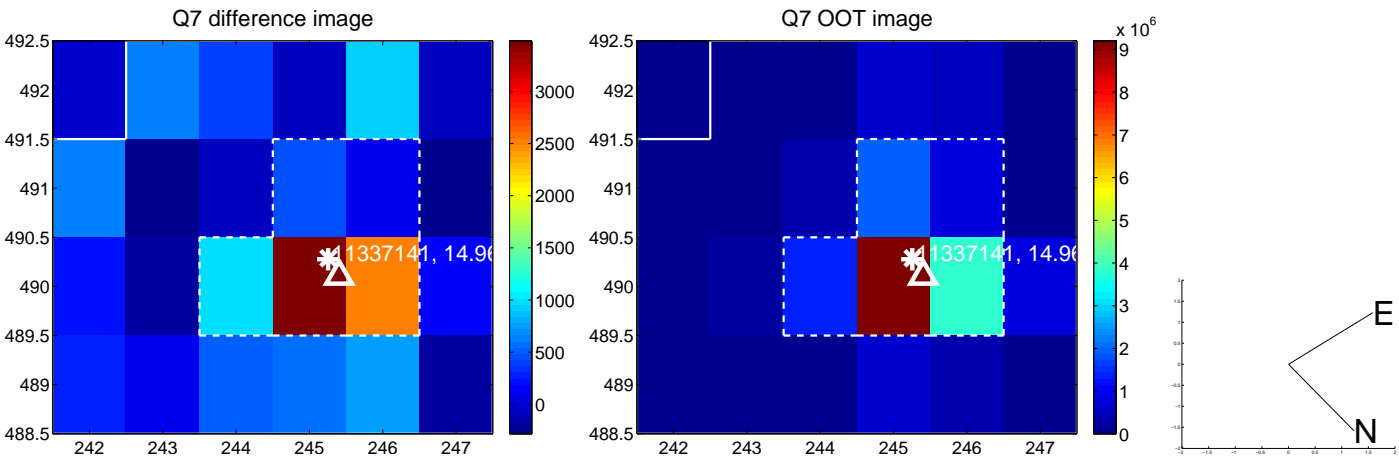
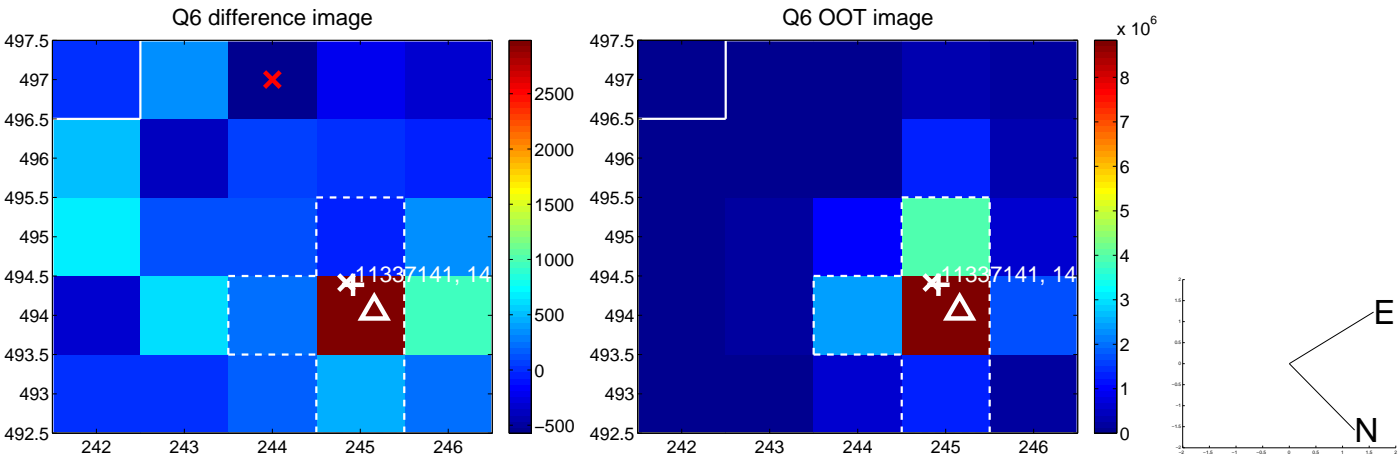
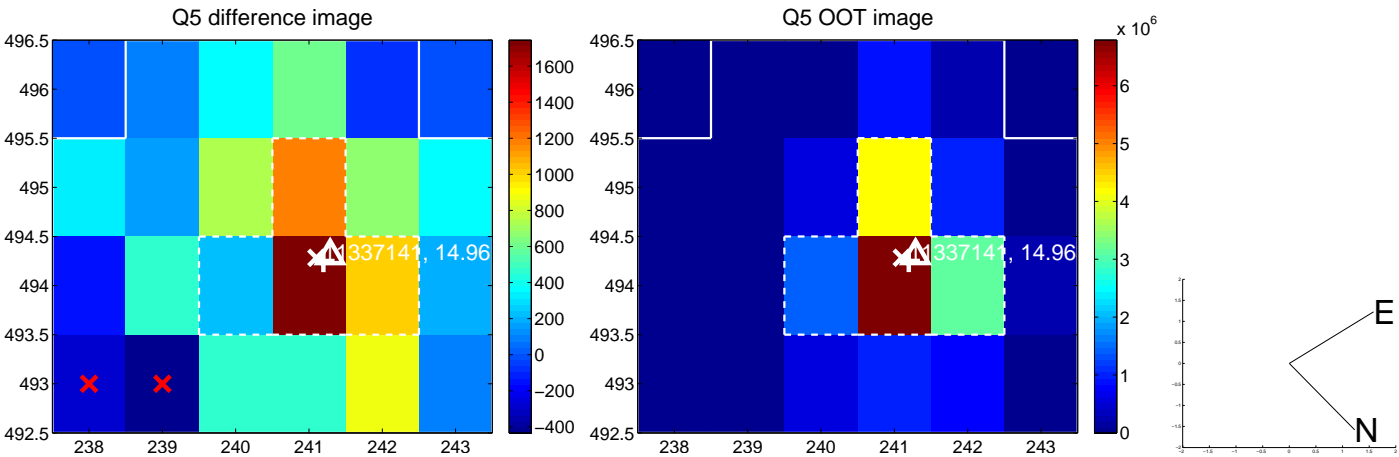


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

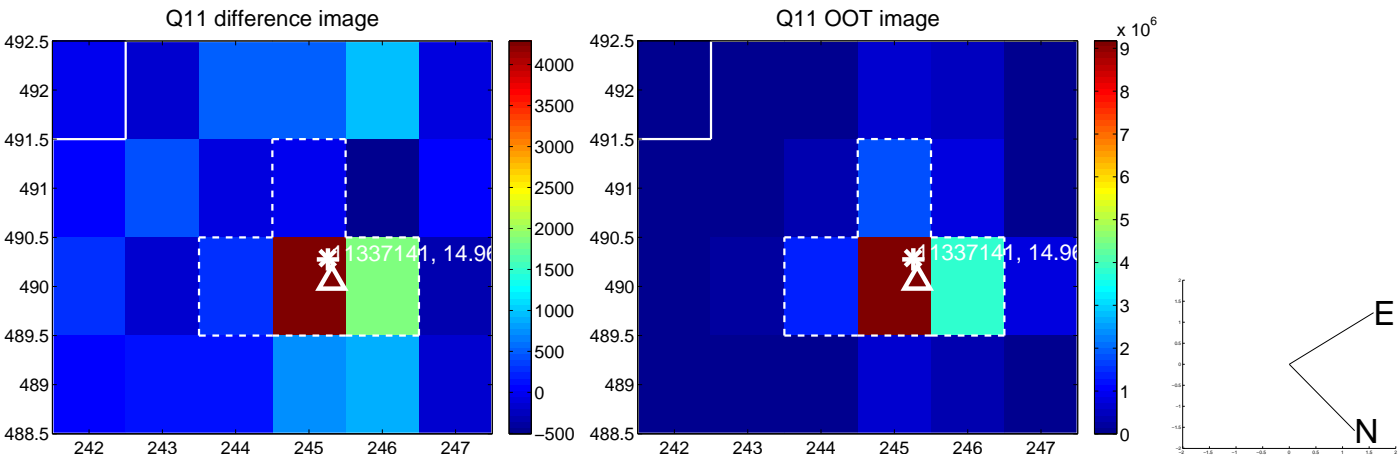
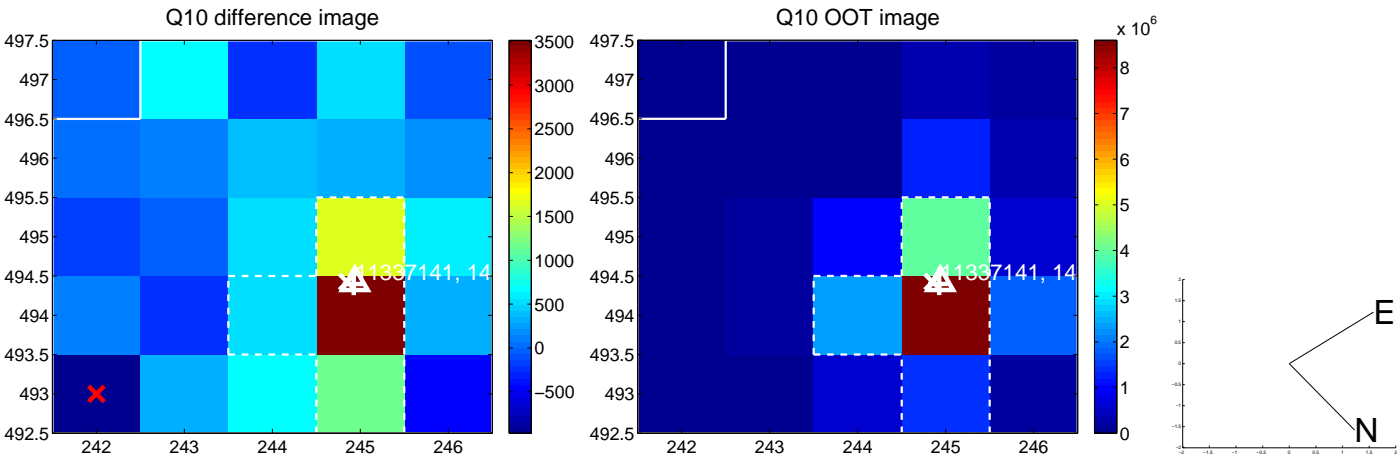
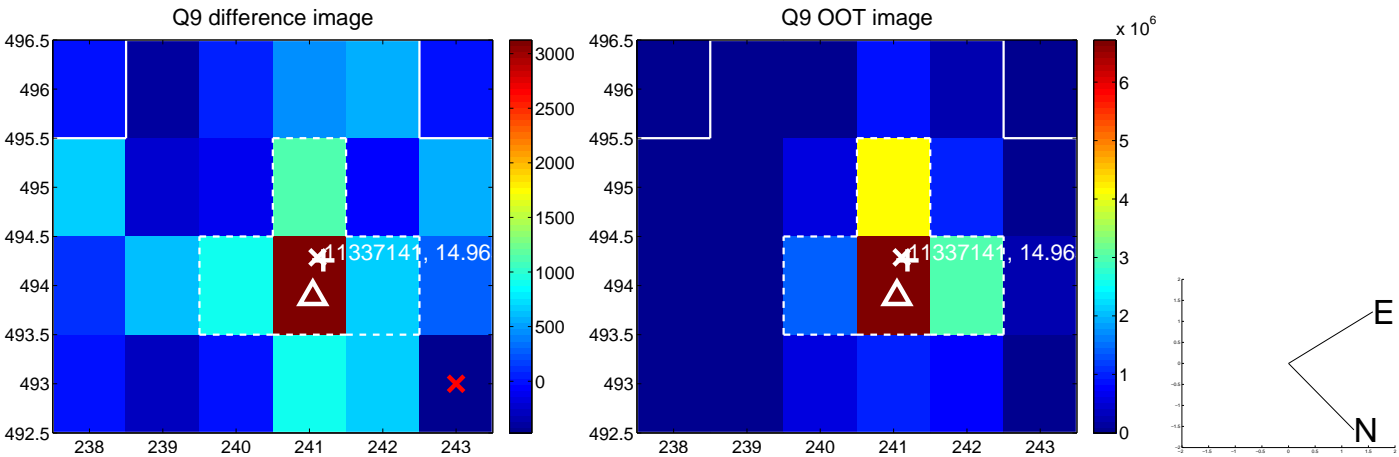
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



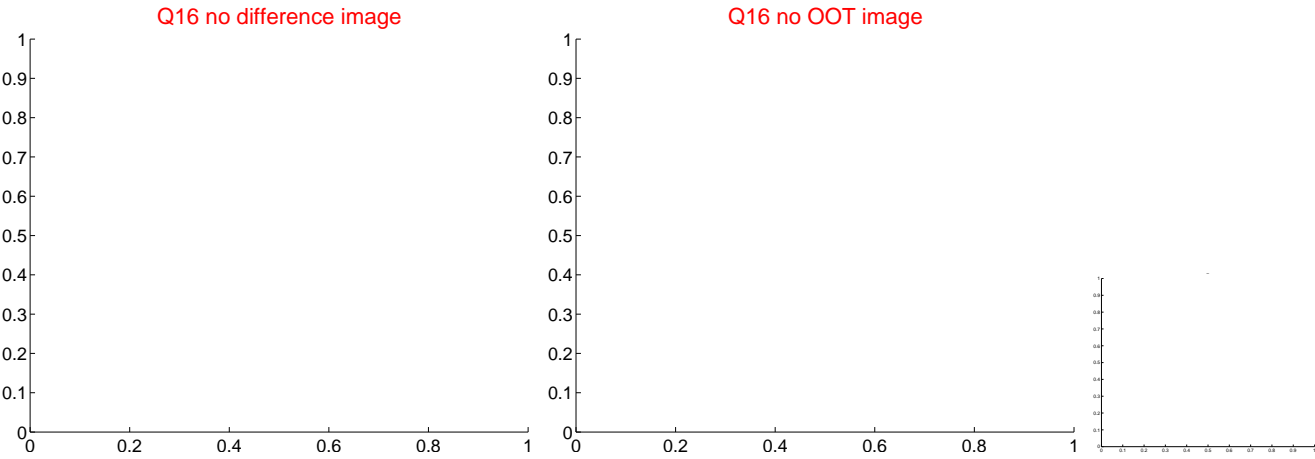
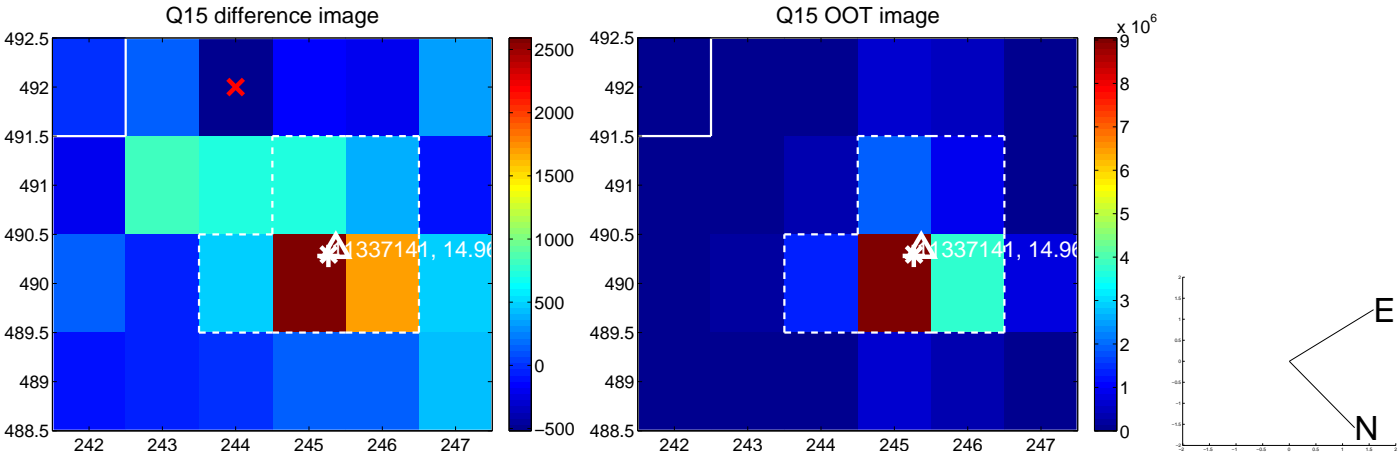
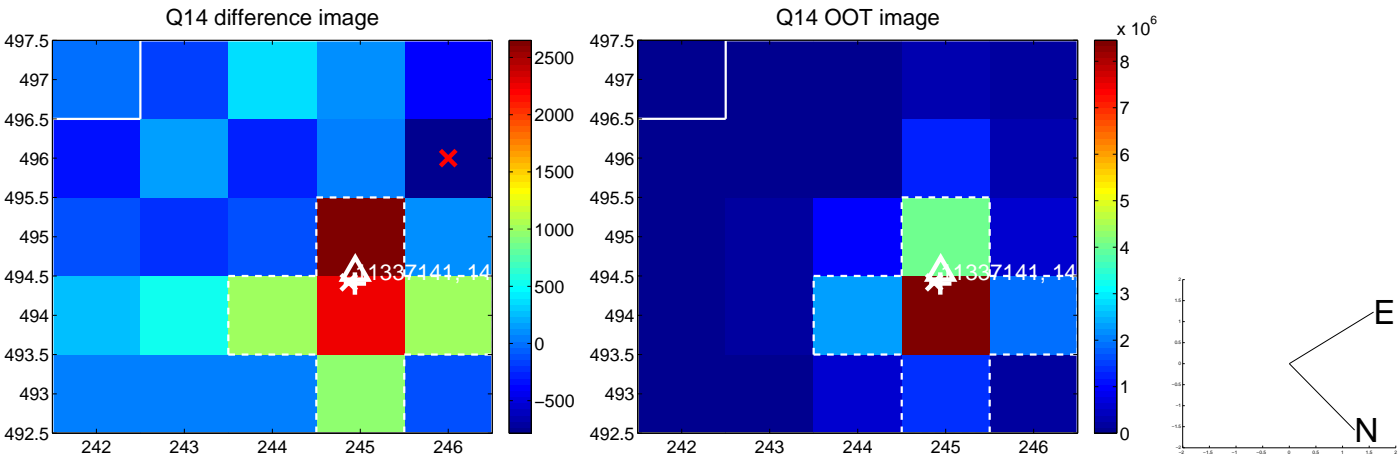
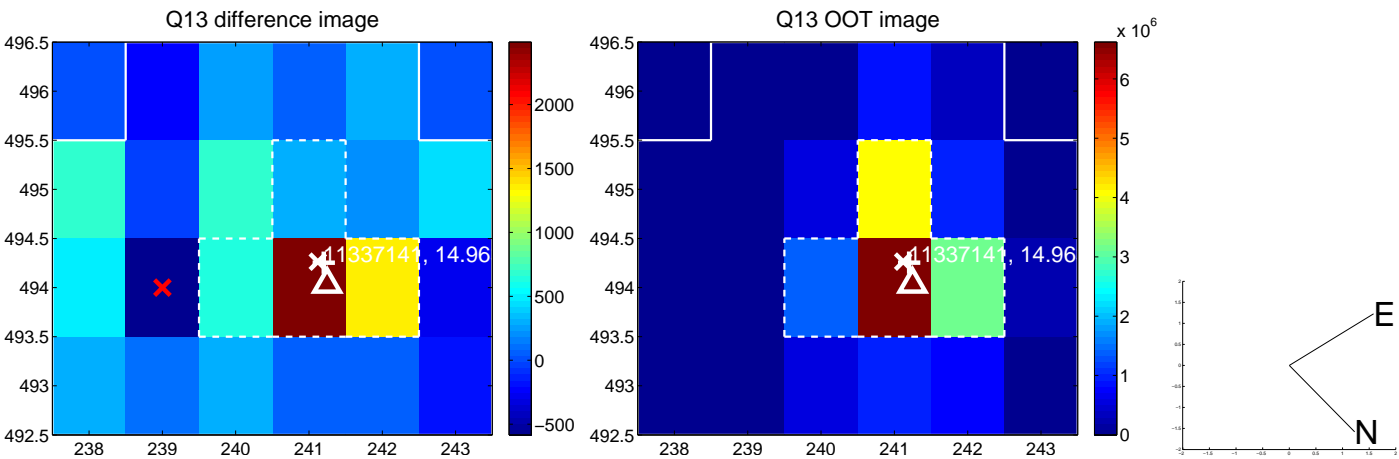
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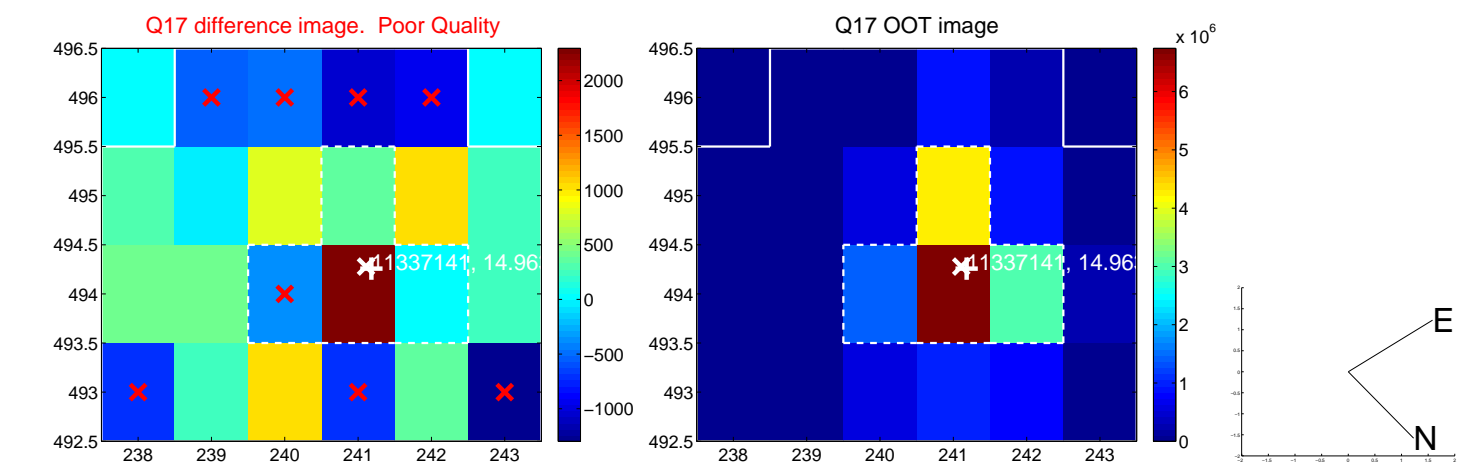


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

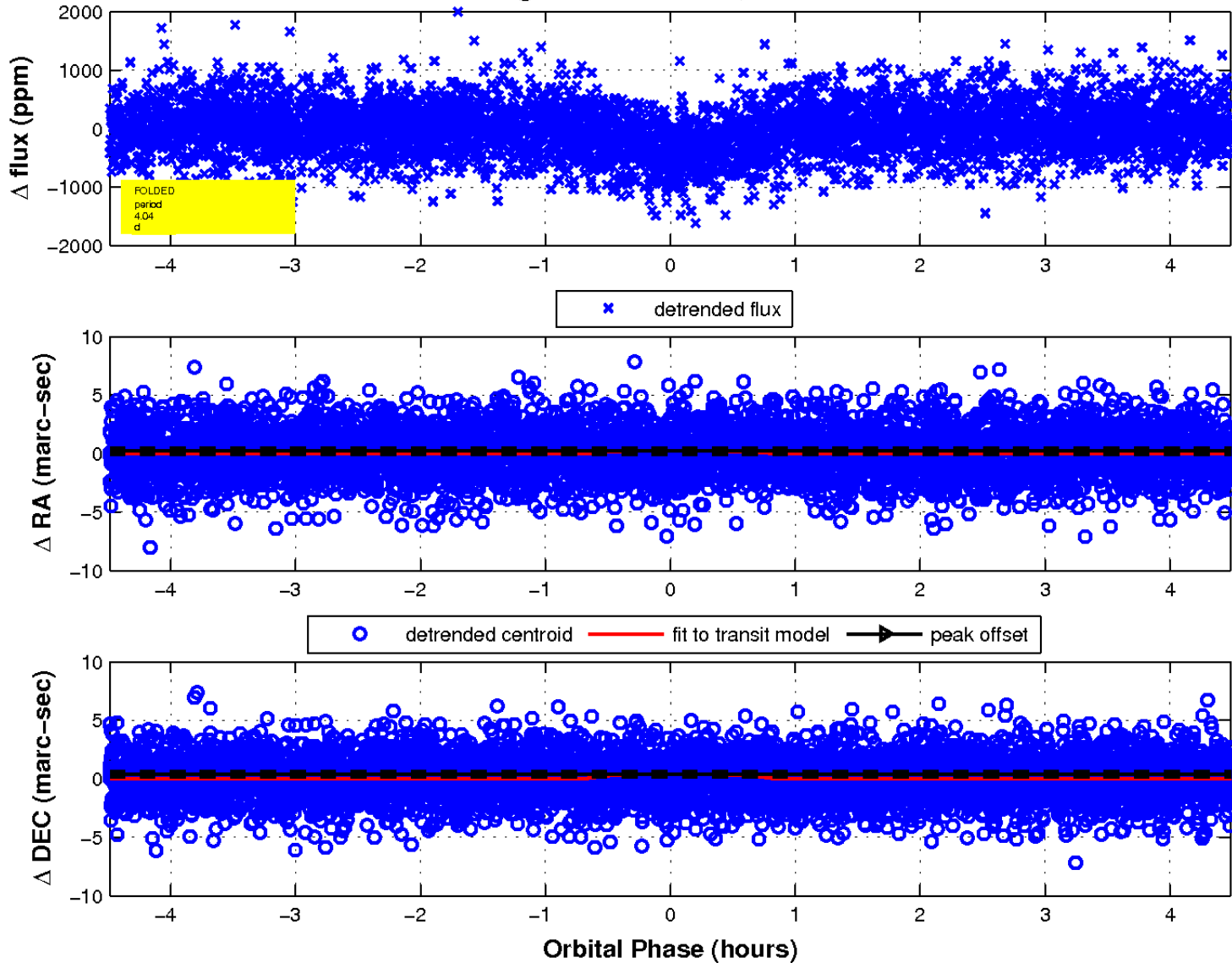




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

