

# KIC 008129641

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008129641-01	OBS	8153.01	0.808084	131.713140	1169.1	2.147	70.4	40.0	0.96	6014	3.95	3623.96

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008129641-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—CENT_FEW_MEAS—HALO_GHOST

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

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

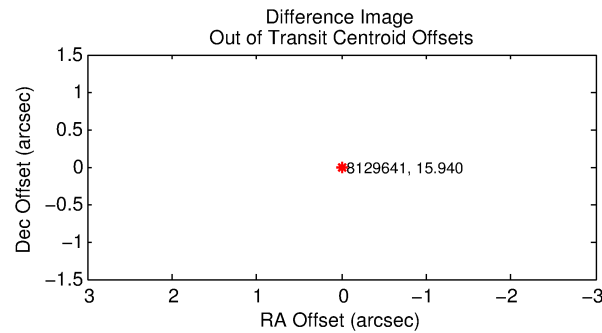
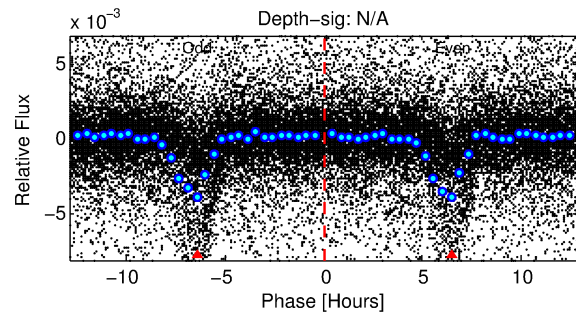
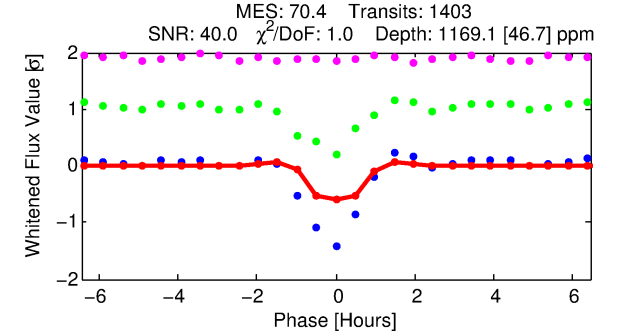
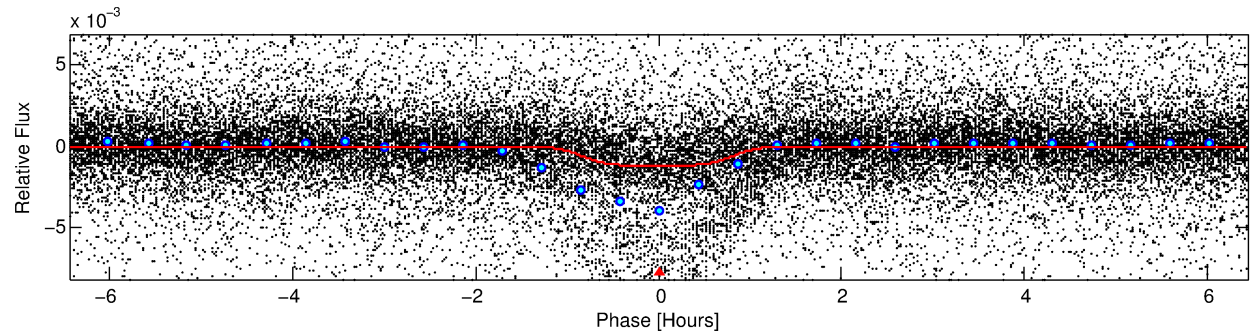
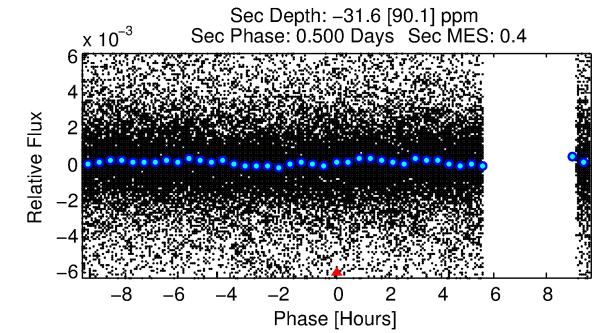
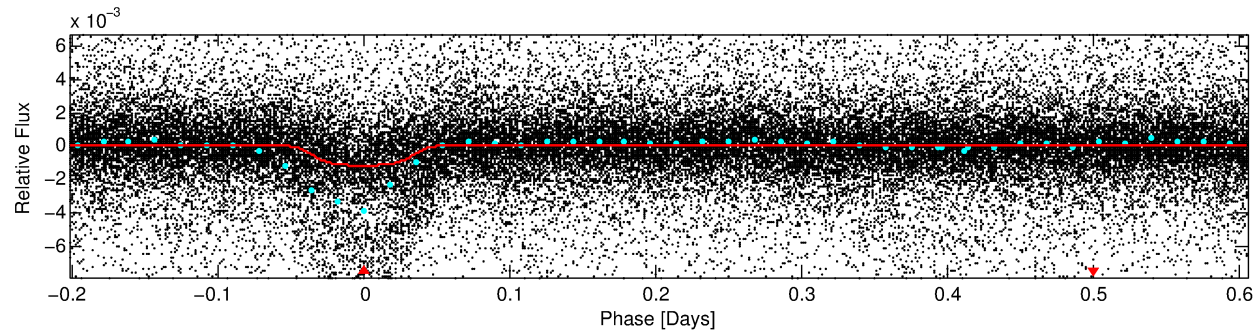
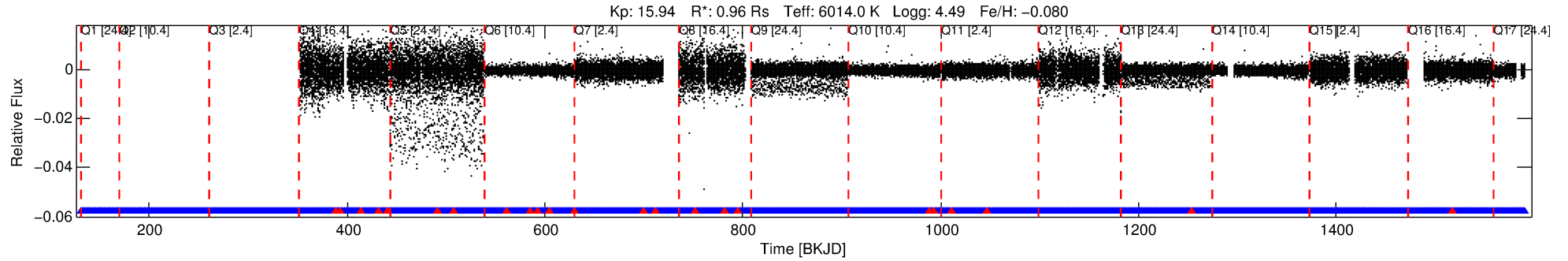
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008129641-01

No Significant Match Found

# DV One-Page Summary

KIC: 8129641 Candidate: 1 of 1 Period: 0.808 d



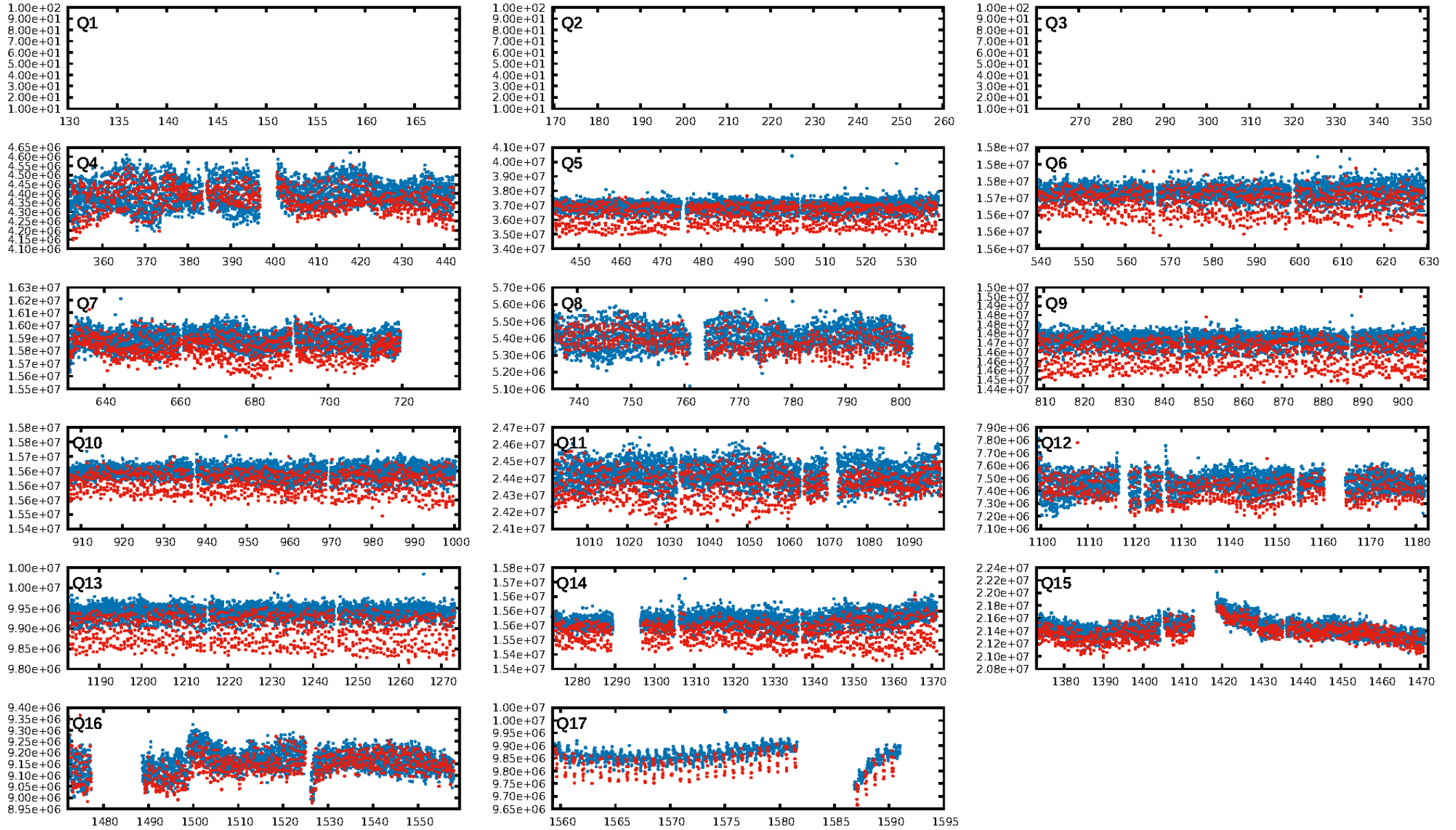
## DV Fit Results:

Period = 0.80808 [0.00000] d  
Epoch = 131.7131 [0.0007] BKJD  
Rp/R\* = 0.0378 [0.0017]  
a/R\* = 1.69 [0.19]  
b = 0.92 [0.03]  
Seff = 3623.96 [1285.48]  
Teff = 1978 [175] K  
Rp = 3.95 [1.07] Re  
a = 0.0172 [0.0038] AU  
Ag = N/A  
Teffp = N/A

## DV Diagnostic Results:

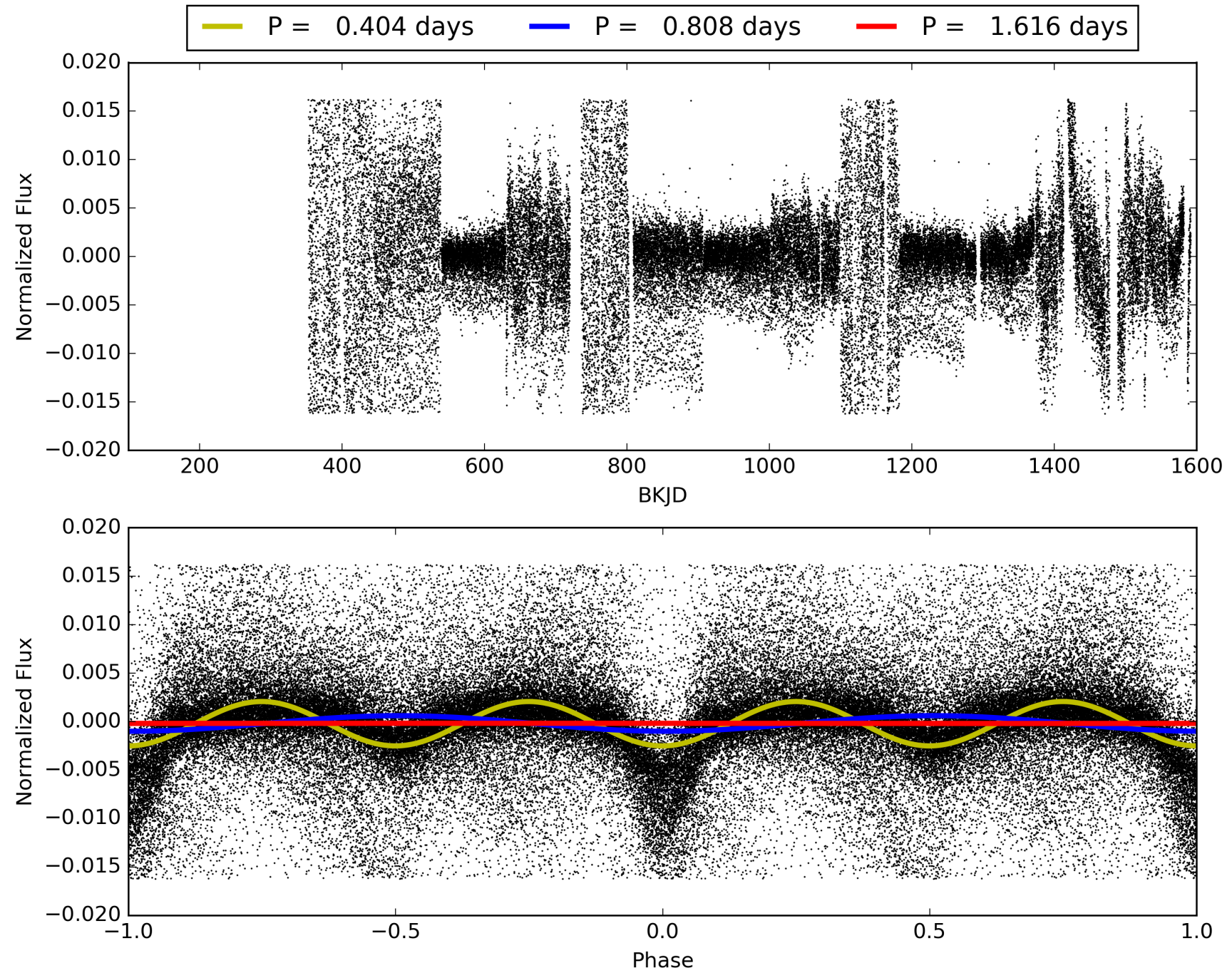
ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.98 [1347/1370]  
GhostDiagnostic-chr: 0.08355  
Centroid-sig: 0.0%  
Centroid-so: 3.076 arcsec [163.79 $\sigma$ ]  
OotOffset-rm: N/A  
KicOffset-rm: 2.890 arcsec [8.04 $\sigma$ ]  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 0/3/3/1 [7]  
DiffImageQuality-fgm: 0.43 [3/7]  
DiffImageOverlap-fno: 1.00 [14/14]

# TCE 008129641-01, PDC Light Curves



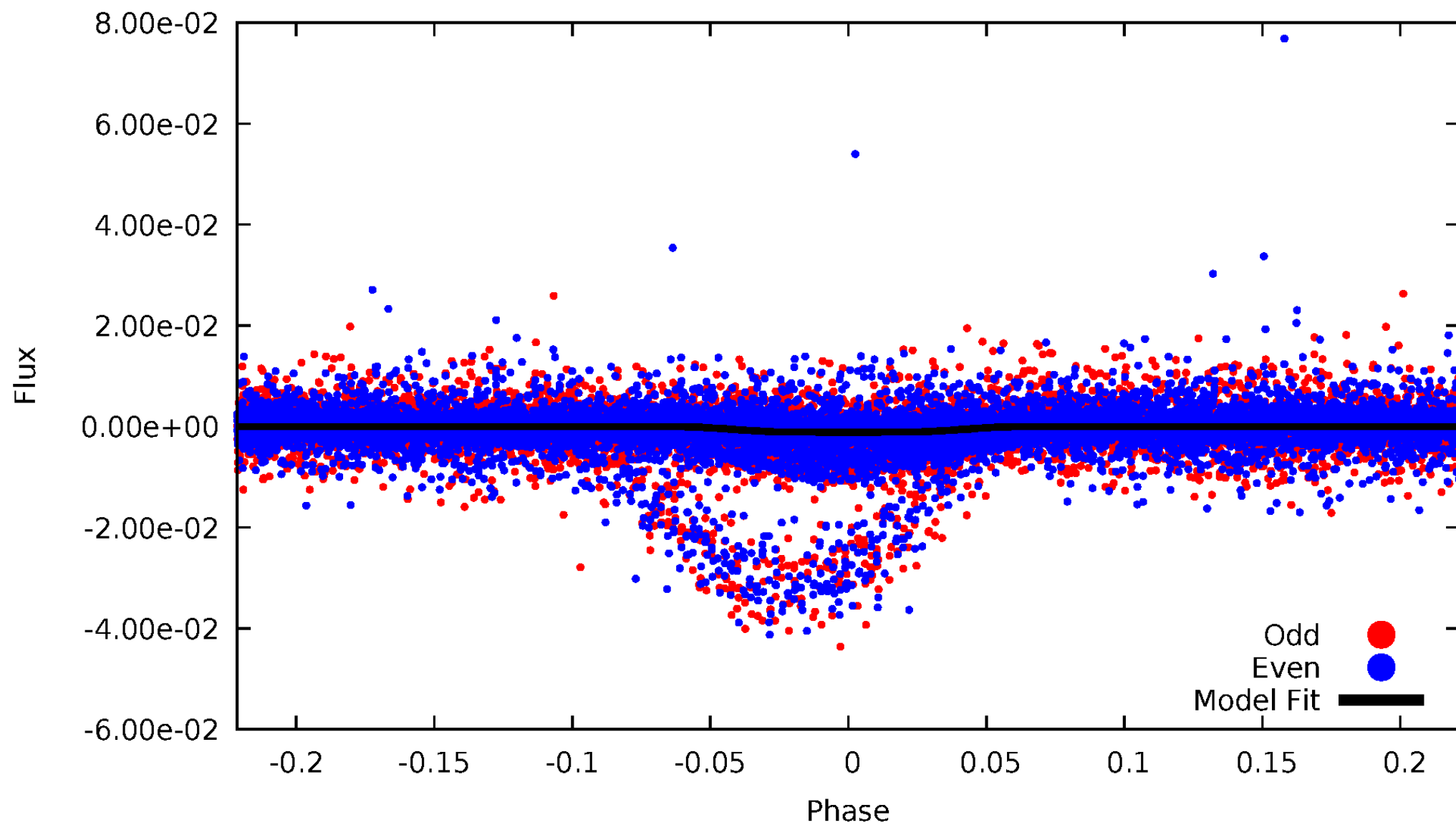


# TCE 008129641-01



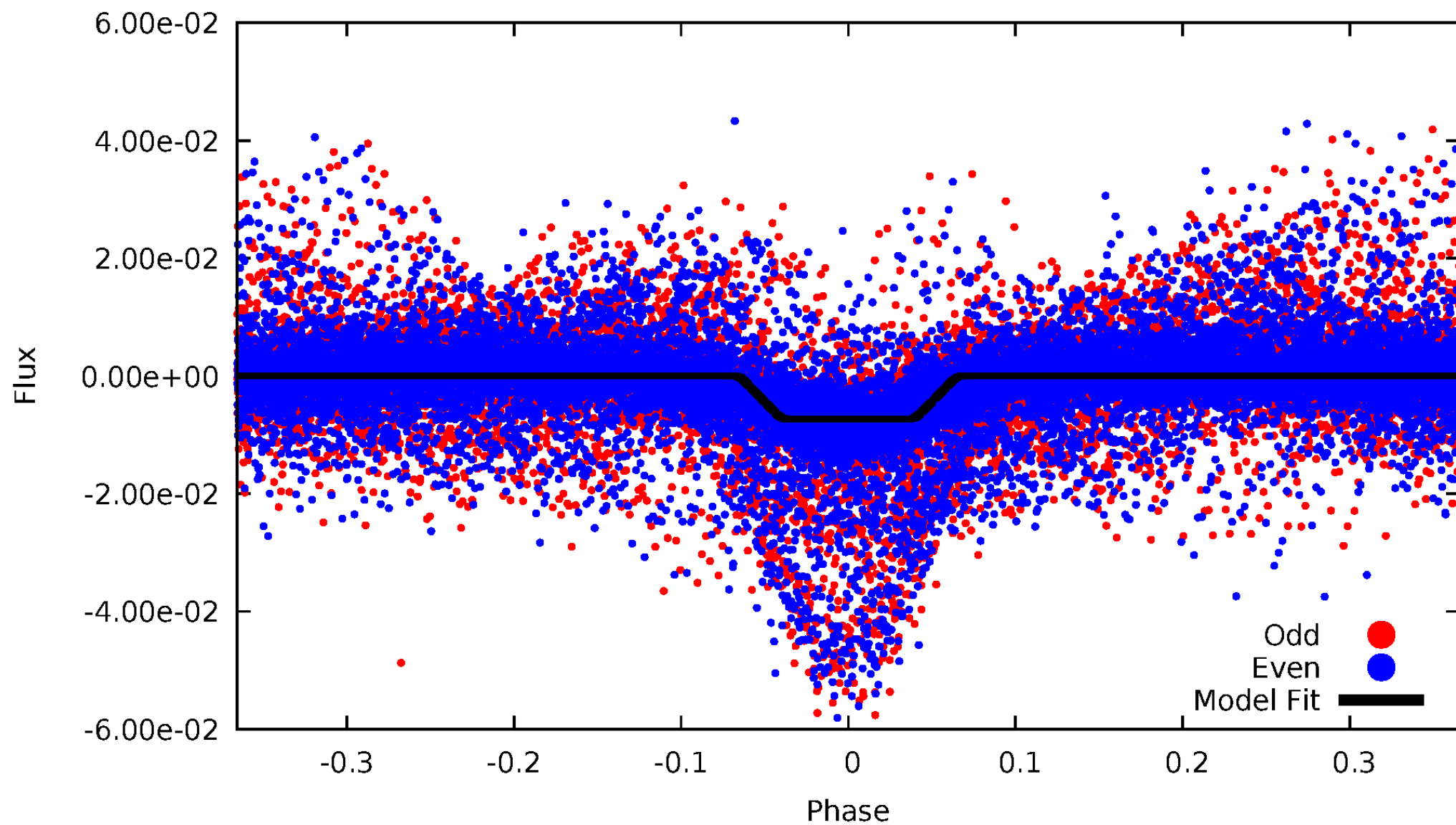
# DV Odd/Even

TCE 008129641-01



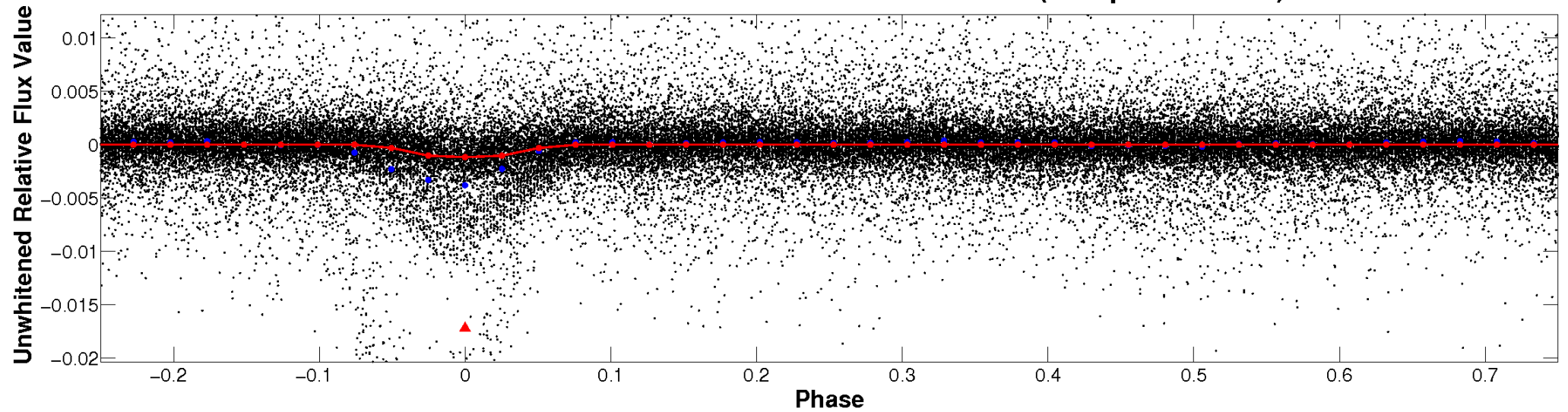
# ALT Odd/Even

TCE 008129641-01

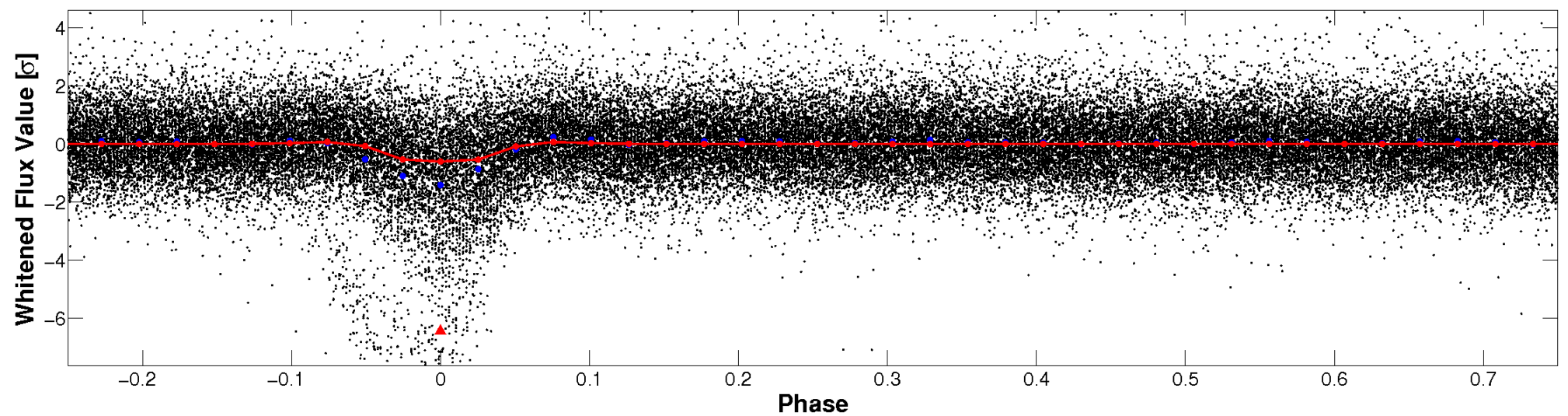


# Non-Whitened Vs. Whitened Light Curve

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



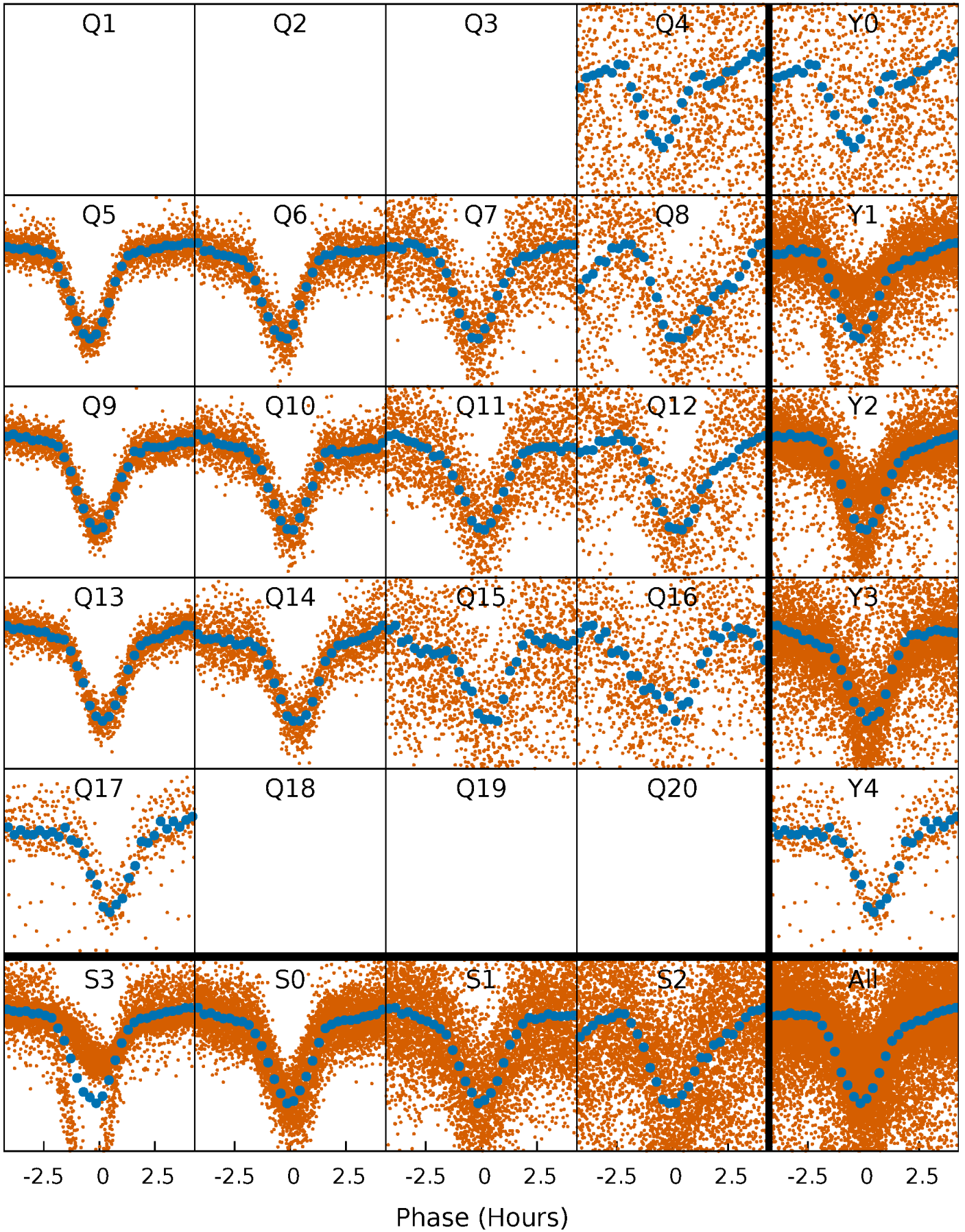
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

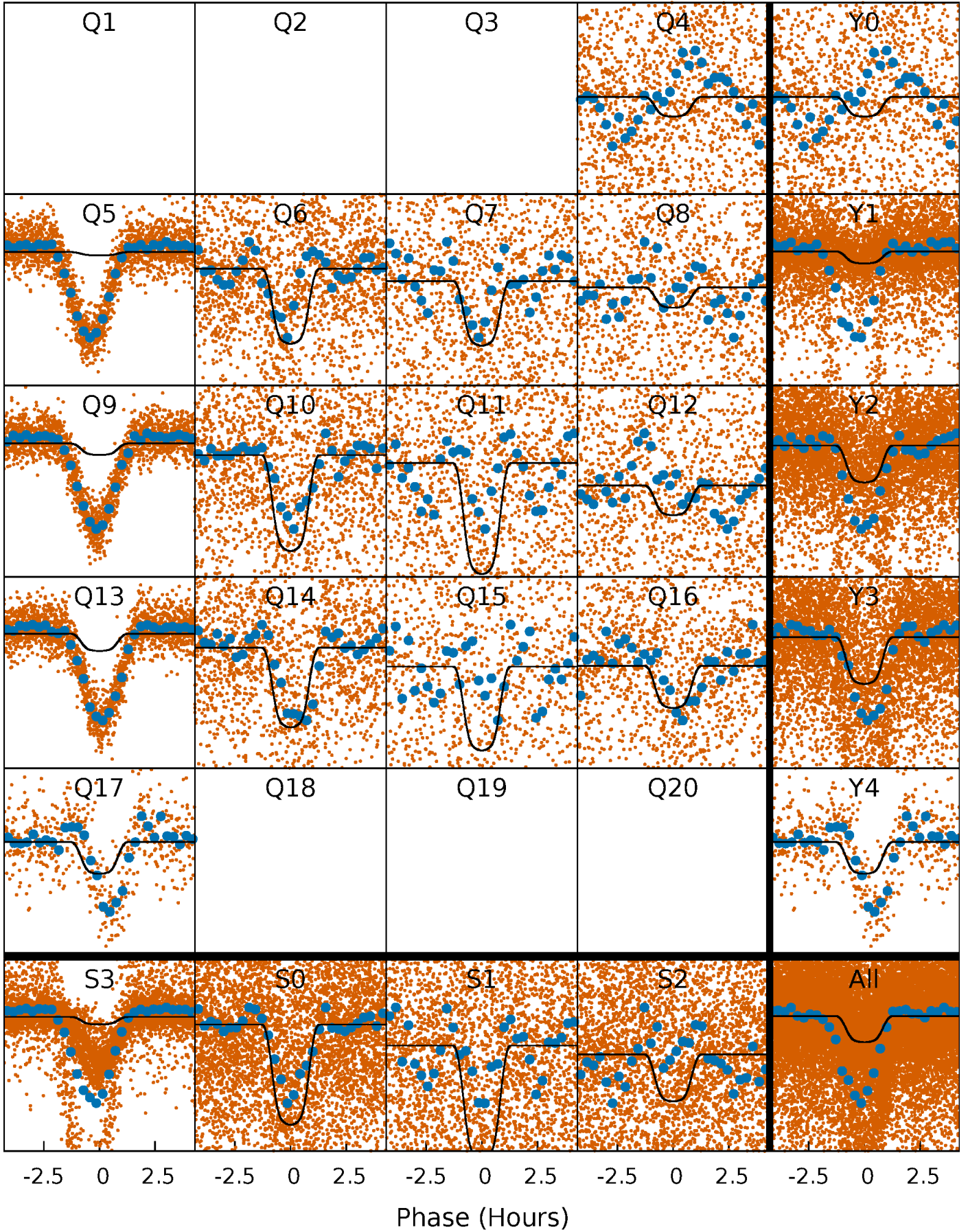
TCE 008129641-01 P= 0.808084 Days  $T_0=131.713140$  (BKJD)





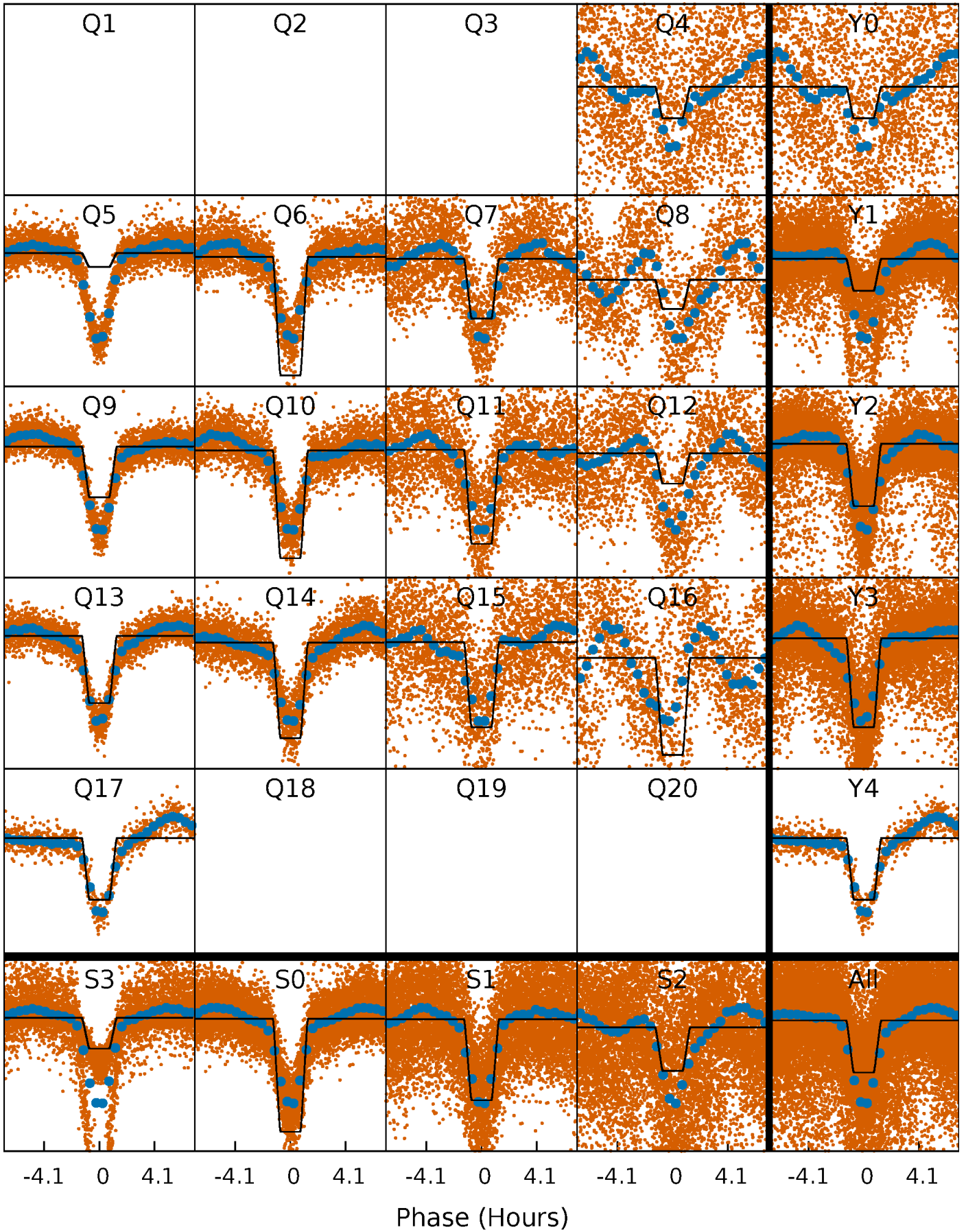
# DV Quarter-Phased Transit Curves

TCE 008129641-01   P= 0.808084 Days    $T_0=131.713140$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

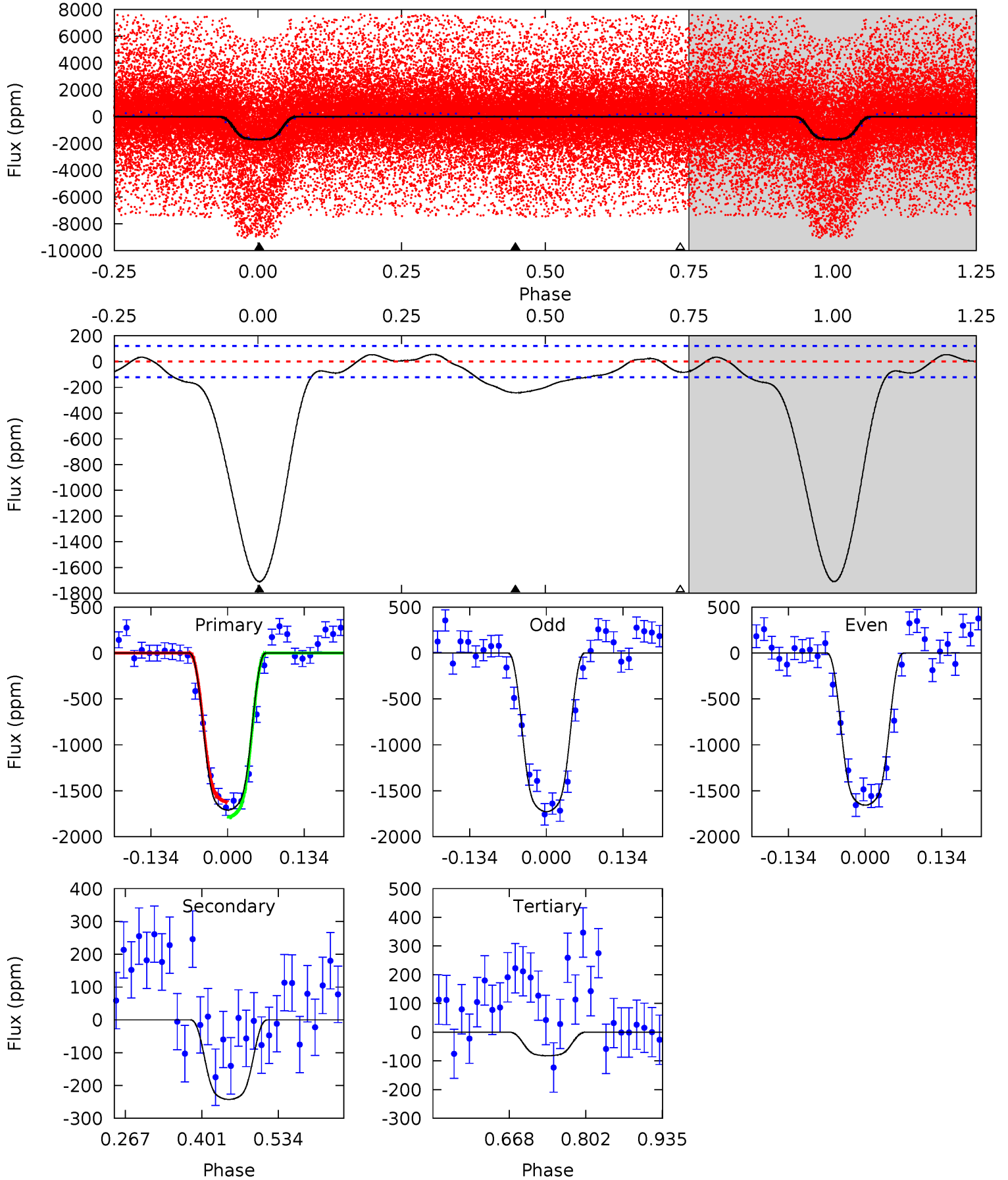
TCE 008129641-01 P= 0.808110 Days  $T_0=131.684997$  (BKJD)



# DV Model-Shift Uniqueness Test

008129641-01, P = 0.808084 Days, E = 131.713140 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
63.2	8.96	3.03	0	4.50	1.50	1.97	60.1	63.2	5.93	8.96	1.32	3.03	0.03	3.13

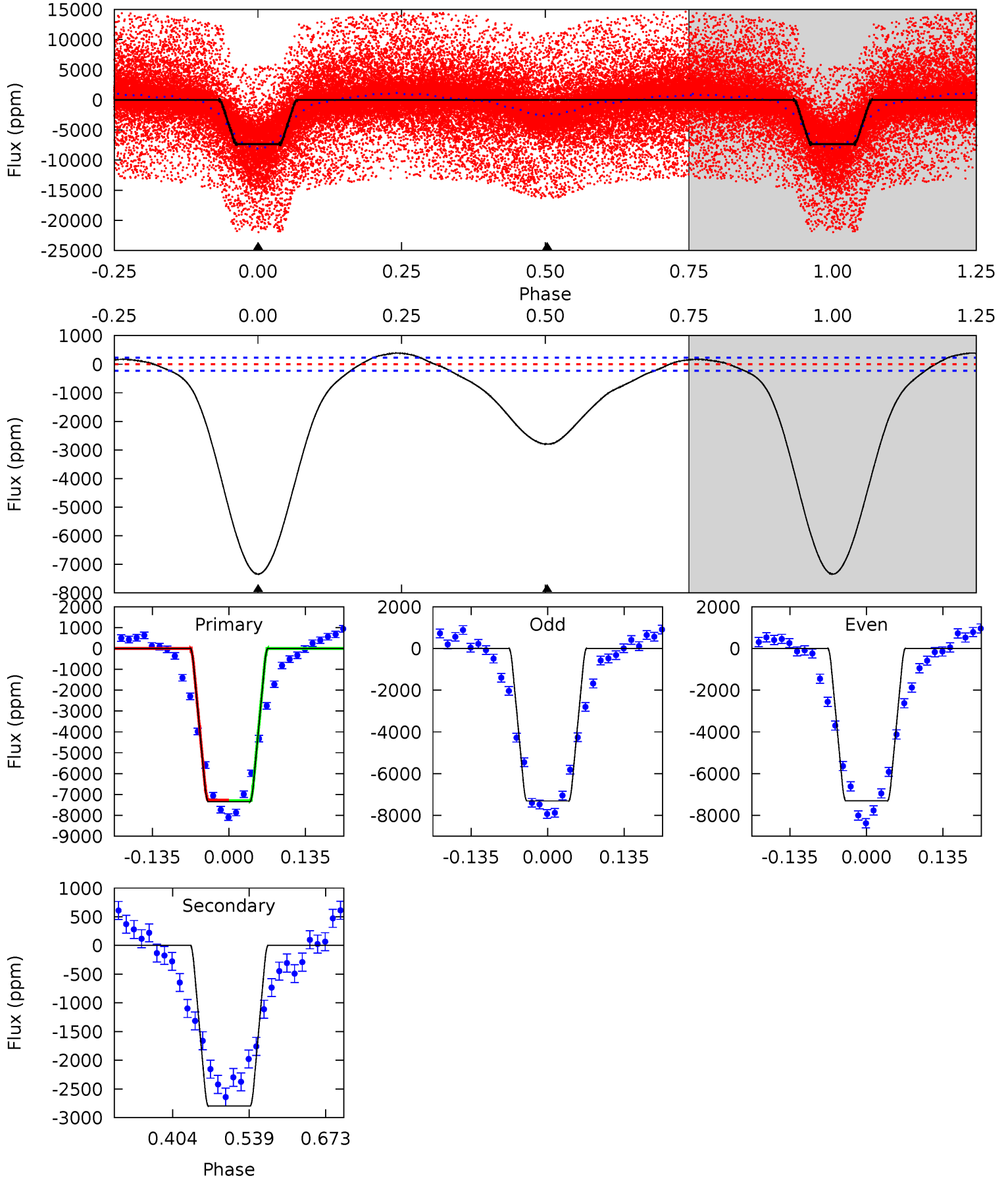




# Alt Model-Shift Uniqueness Test

008129641-01, P = 0.808110 Days, E = 131.684997 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
143.9	54.9	0	0	4.50	1.50	5.62	143.9	143.9	54.9	54.9	0.09	1.40	0.05	0.31





### Stellar Parameters For KIC 008129641

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6014^{+189}_{-232}$	$4.494^{+0.058}_{-0.173}$	$-0.080^{+0.250}_{-0.300}$	$0.958^{+0.255}_{-0.102}$	$1.043^{+0.126}_{-0.153}$	$1.673^{+0.403}_{-0.802}$
	+3%/-4%	+1%/-4%	+312%/-375%	+27%/-11%	+12%/-15%	+24%/-48%
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 008129641-01 / KOI 8153.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-243 \pm 27$	$4.00^{+0.61}_{-0.34}$	$2803^{+166}_{-133}$	$4019^{+170}_{-164}$	$2.346^{+0.546}_{-0.524}$
Alt.	$-2798 \pm 51$	$9.08^{+1.34}_{-0.69}$	$2818^{+169}_{-141}$	$4783^{+139}_{-142}$	$5.398^{+0.785}_{-1.158}$

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

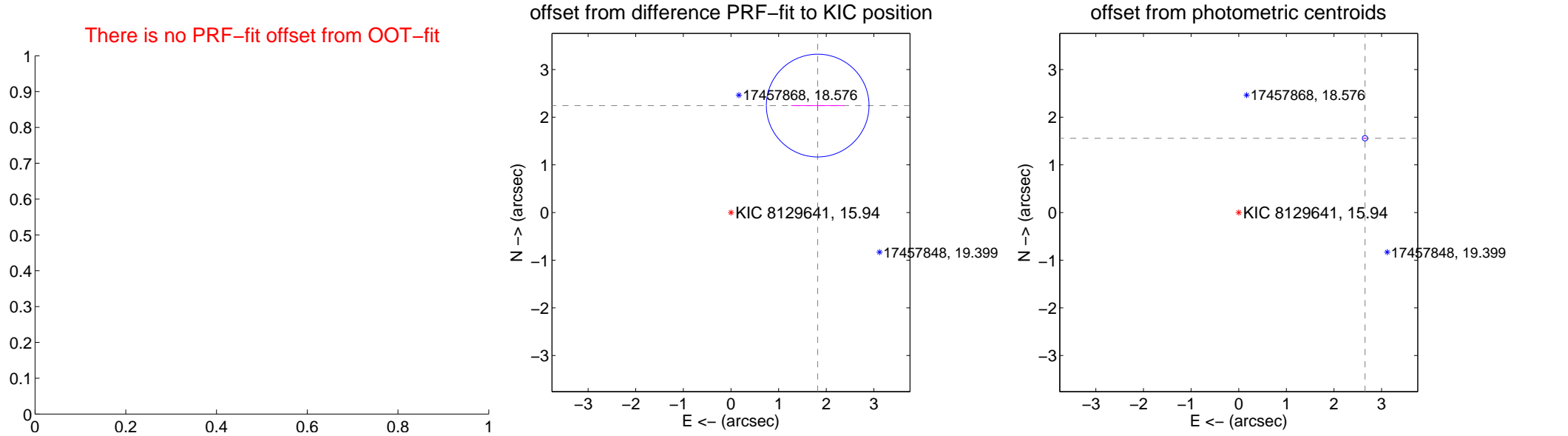
## DV Centroid Data

Supplemental centroid analysis for 008129641-01. Kepler magnitude: 15.94. Transit SNR 39.99

There are 3 quarters with good PRF difference image offsets

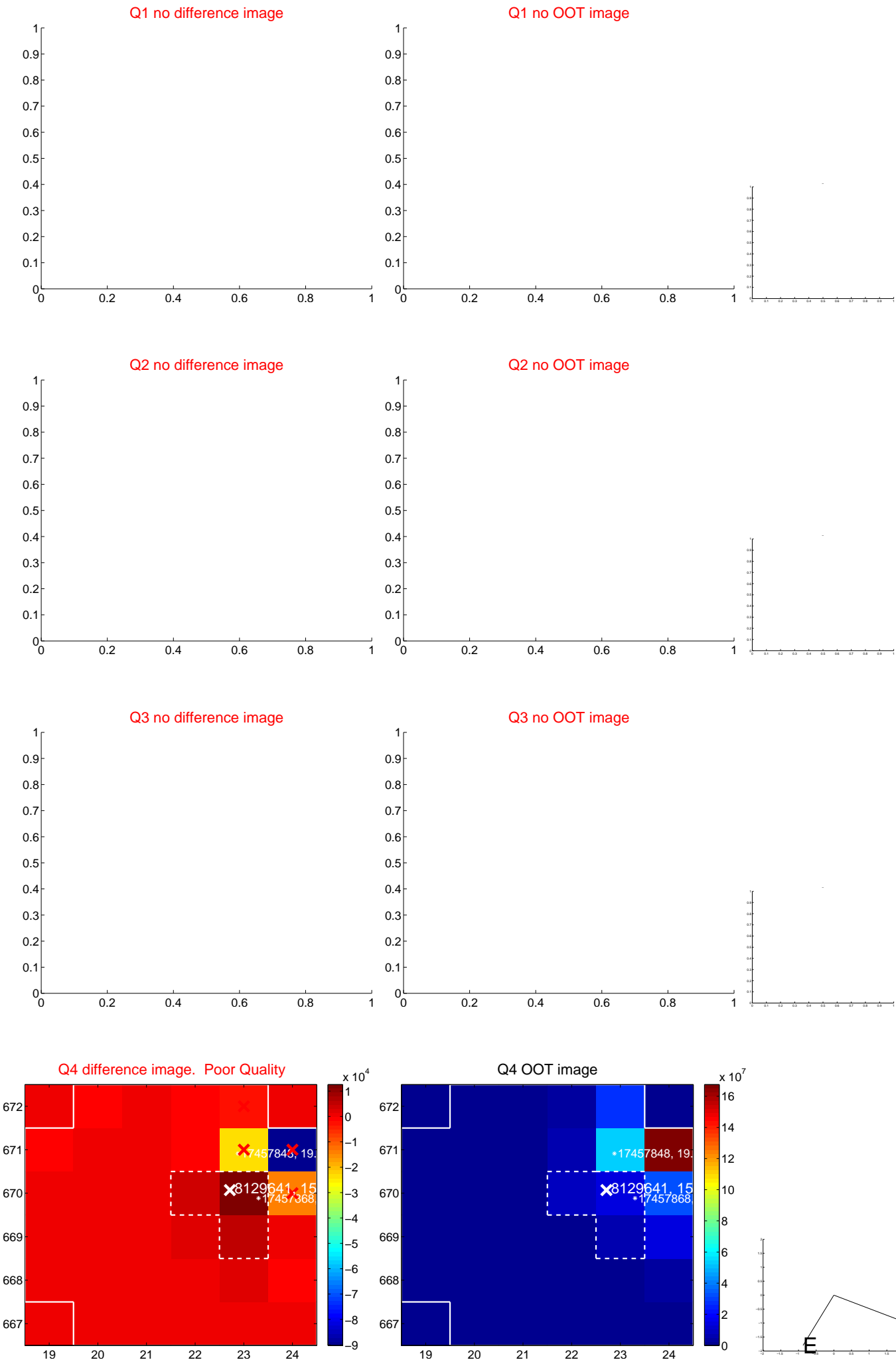
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	$2.890 \pm 0.359$	8.04	$-1.821 \pm 0.558$	$2.244 \pm 0.095$
photometric centroid source offset	$3.08 \pm 0.02$	163.79	$-2.65 \pm 0.02$	$1.56 \pm 0.02$

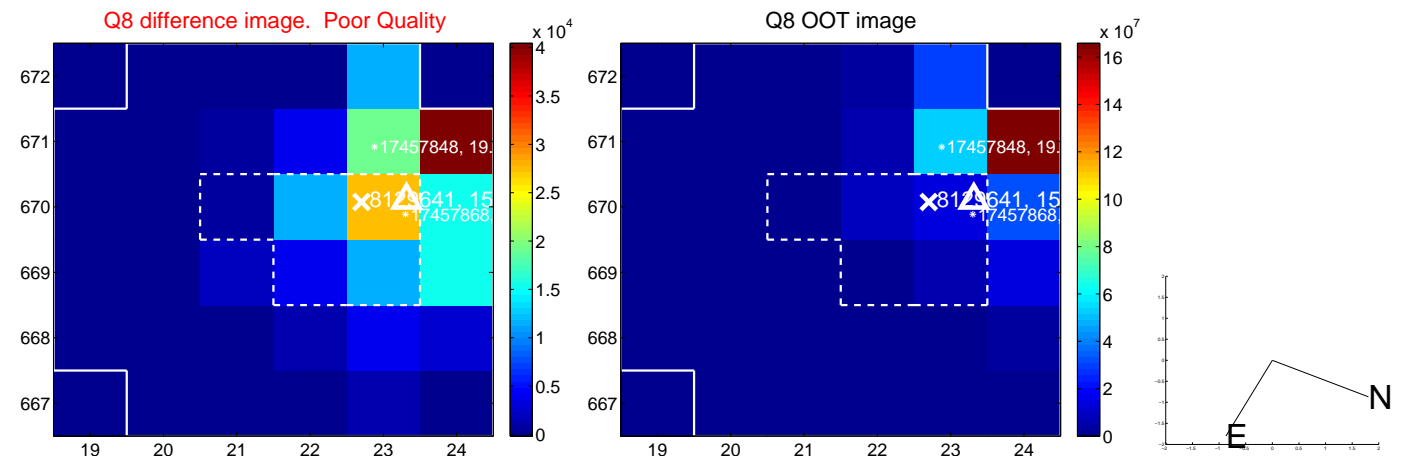
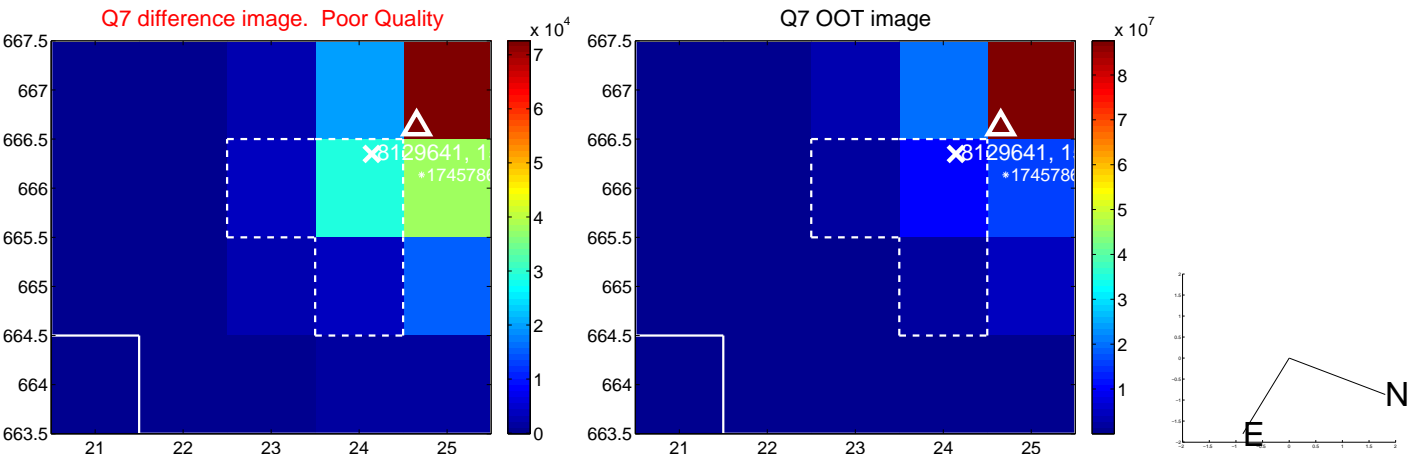
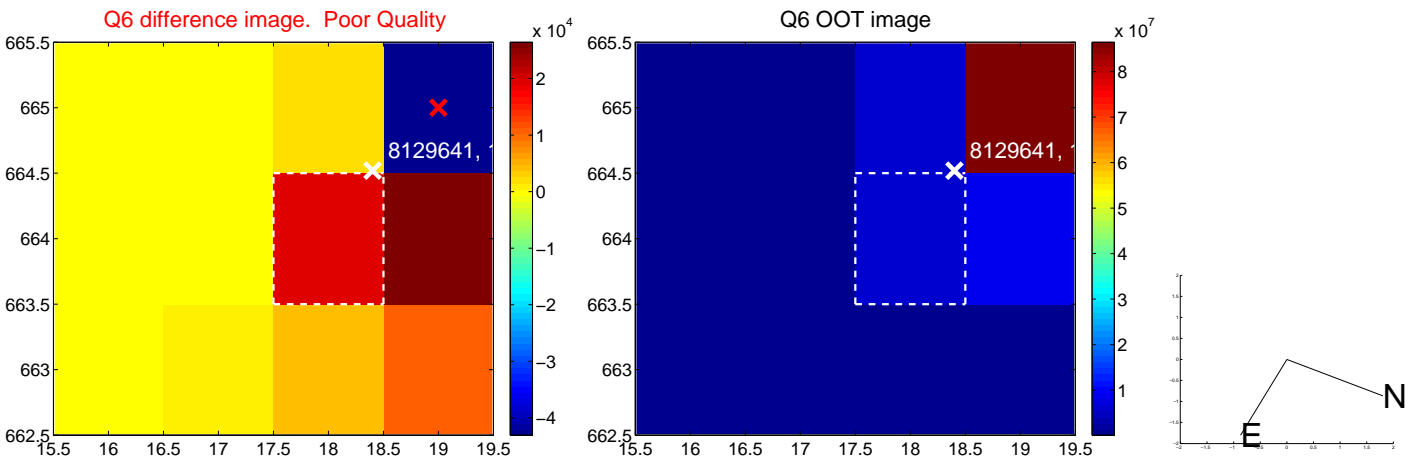
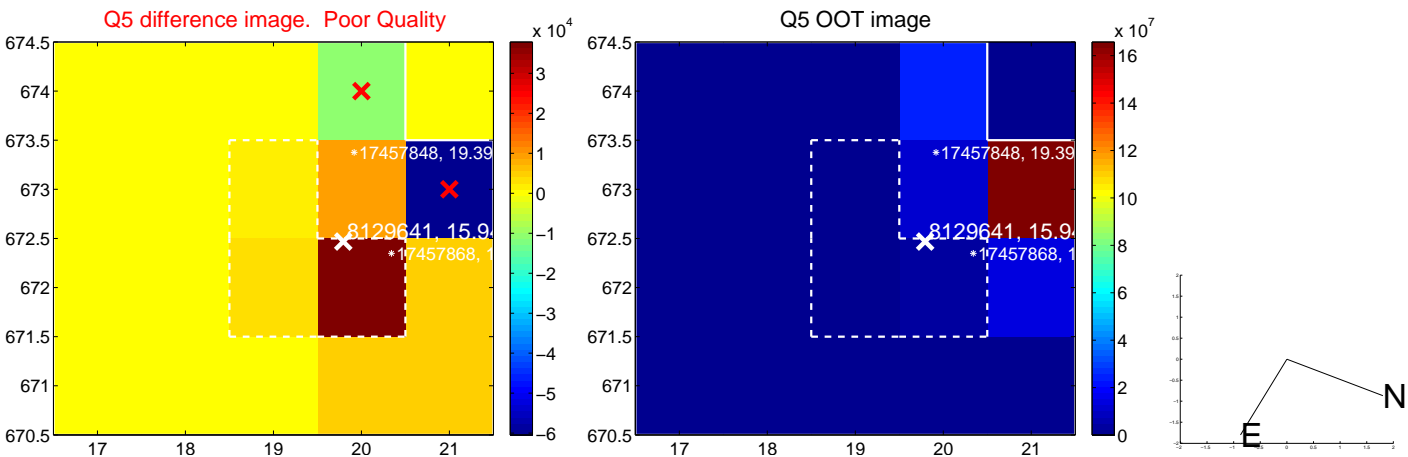


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

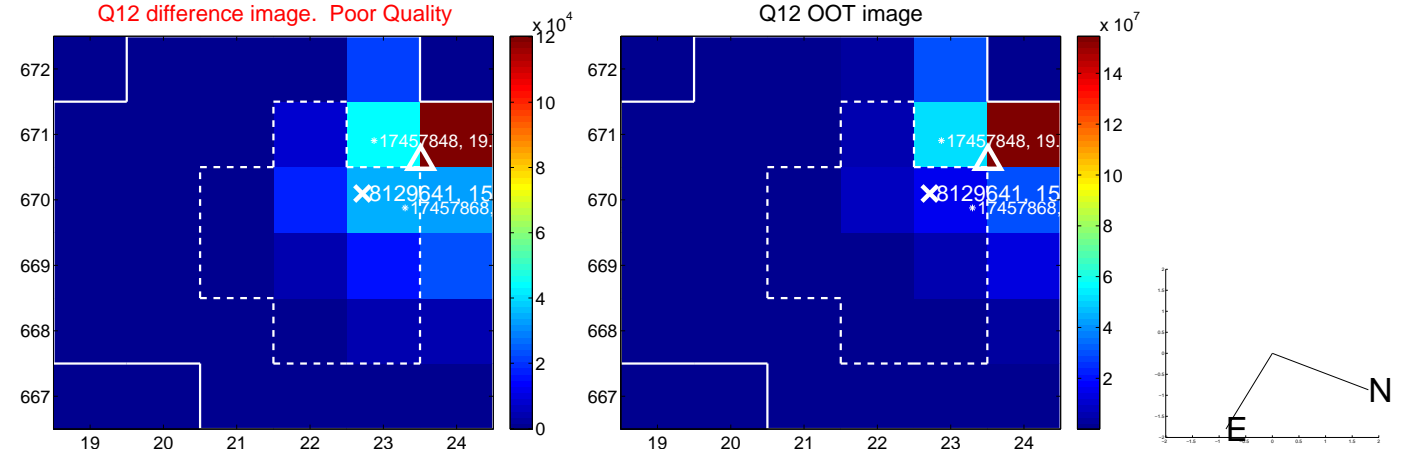
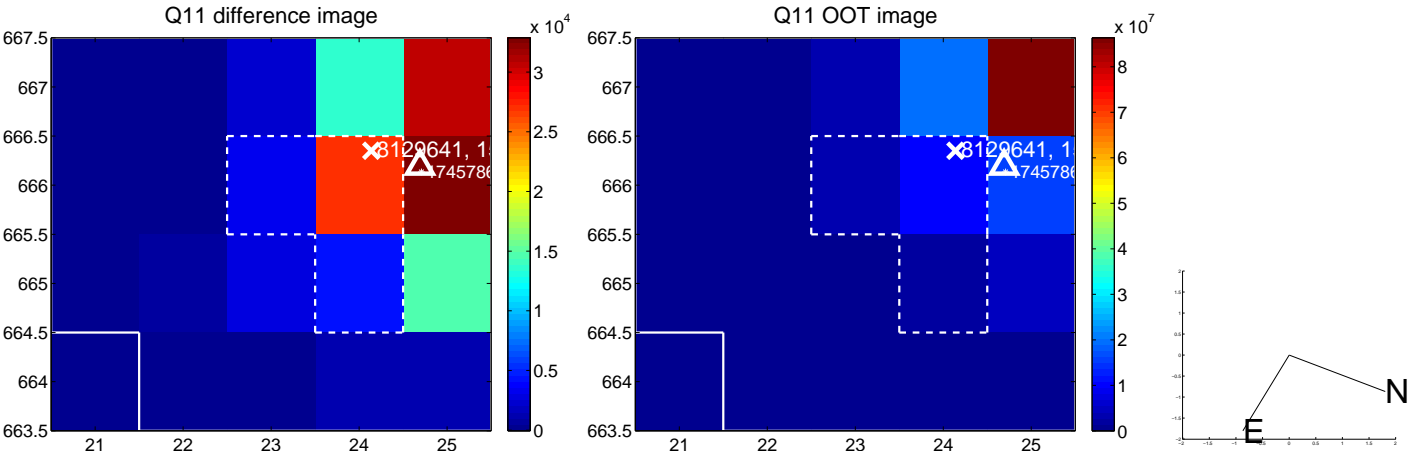
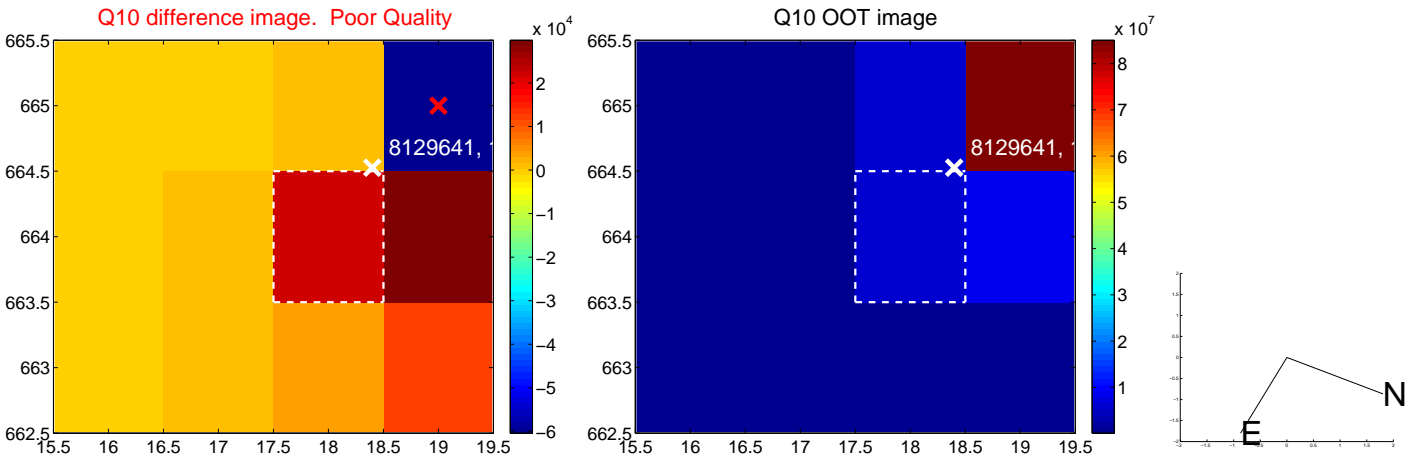
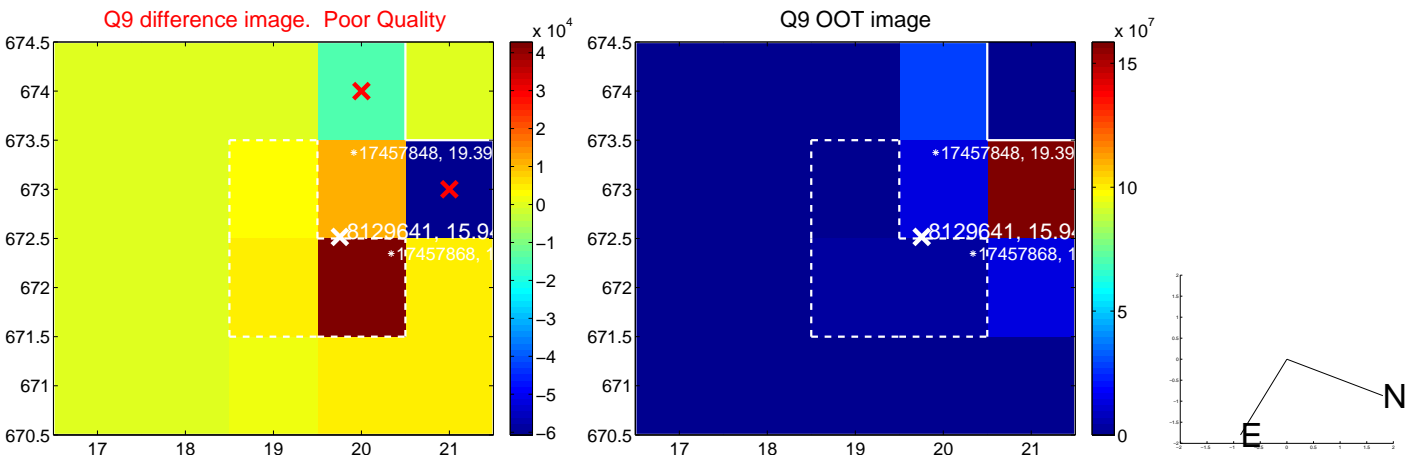


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

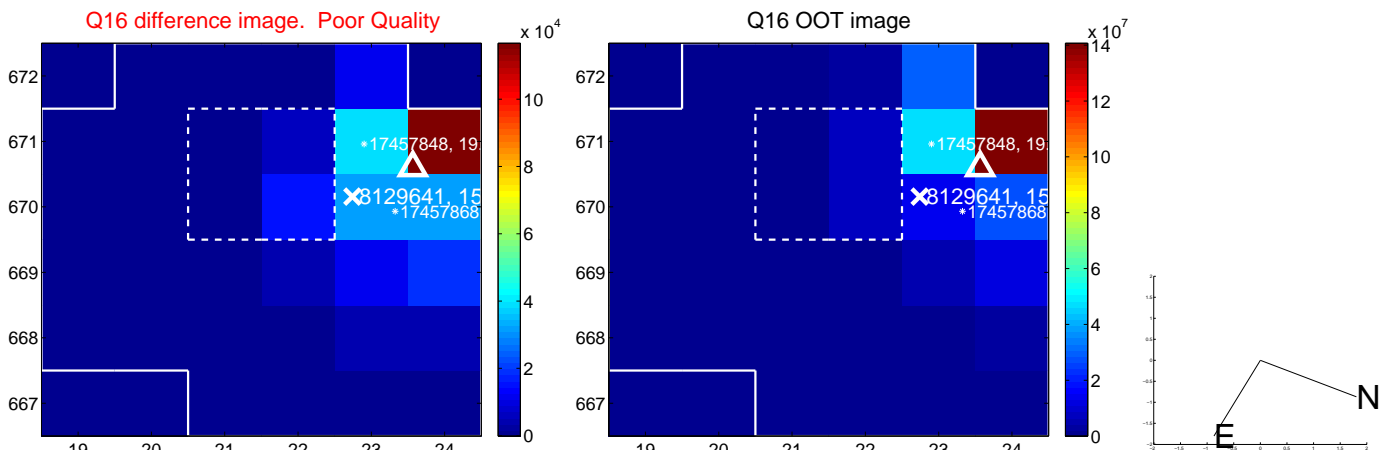
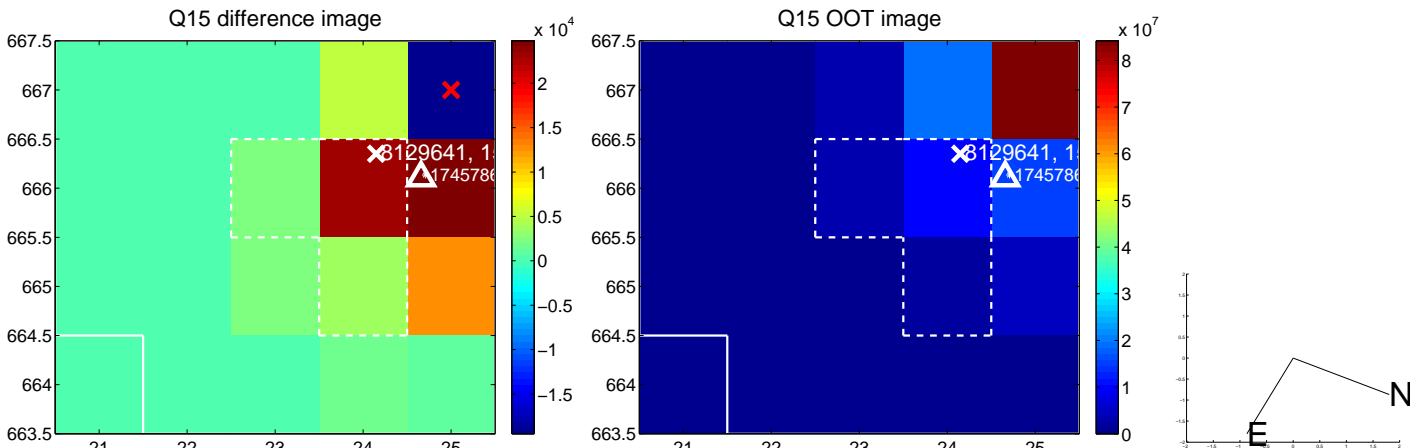
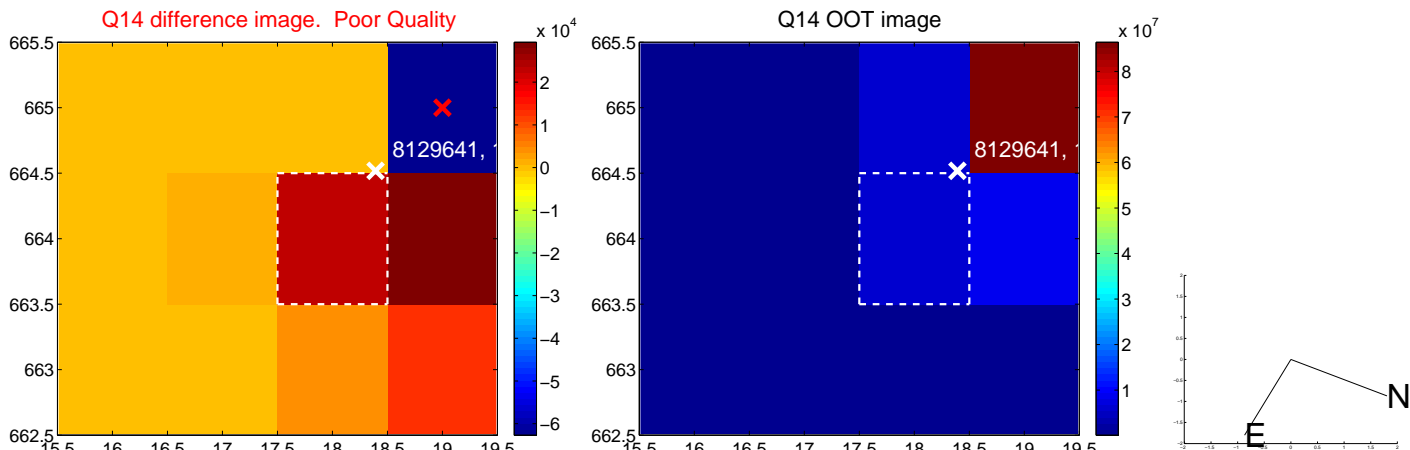
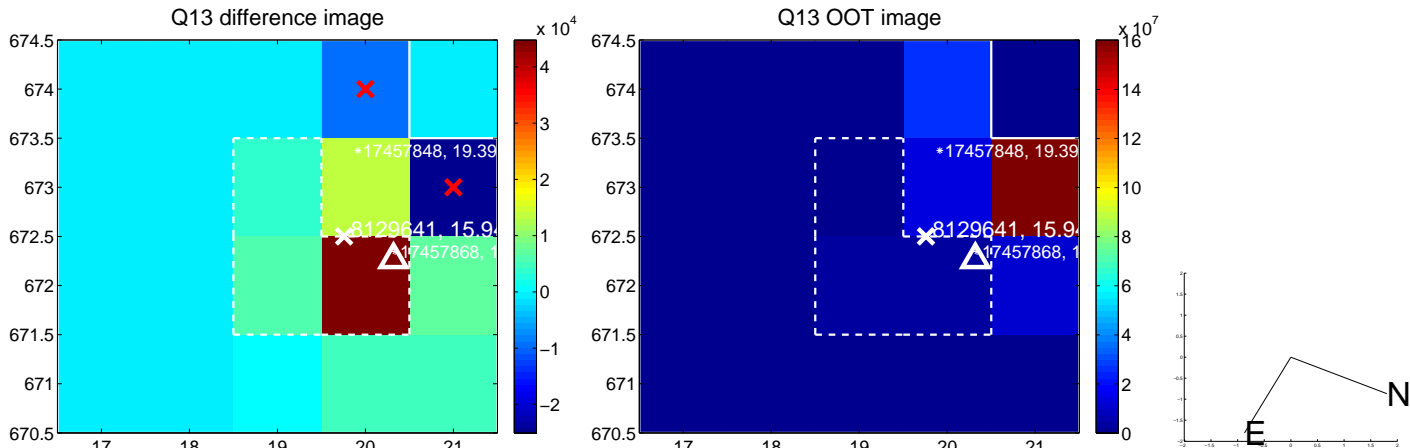




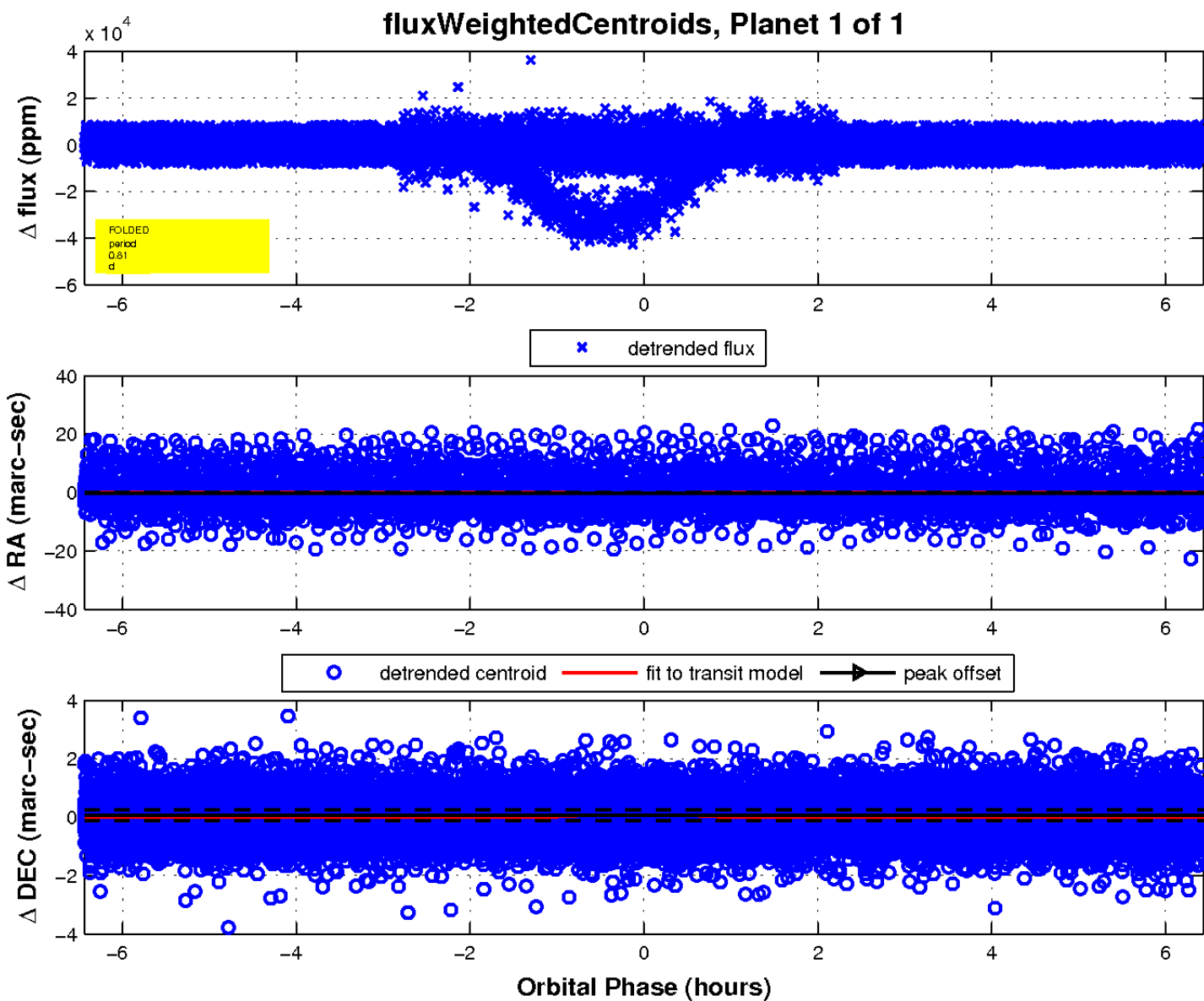
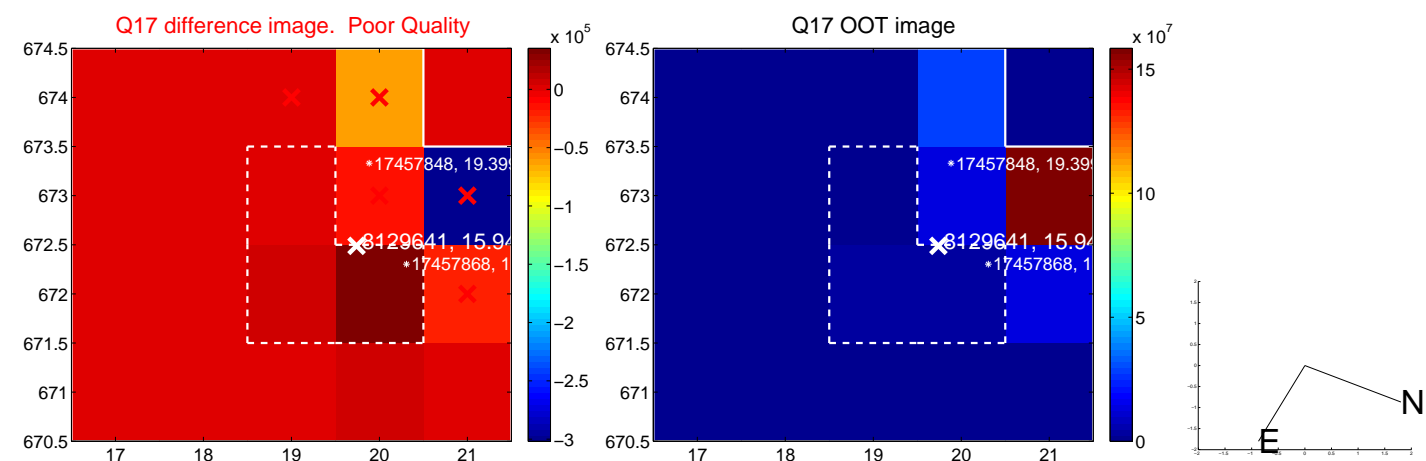
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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UKIRT Image

Declination

