

# KIC 005130563

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005130563-01	OBS	5128.01	0.915783	132.274566	155.3	1.441	21.6	36.0	1.33	6318	1.96	6709.80

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005130563-01	OBS	FP	0.00	0	0	1	0	CENT_UNRESOLVED_OFFSET

**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 005130563-01

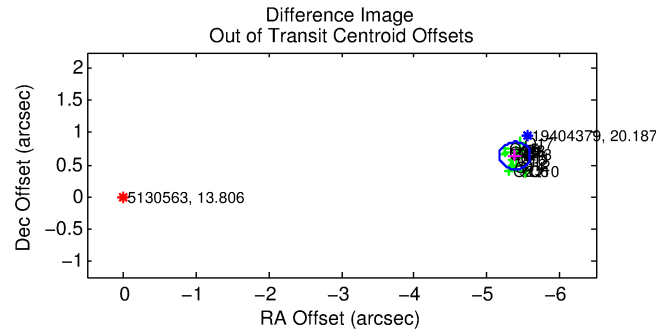
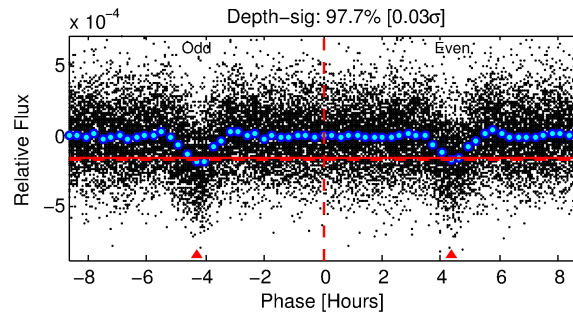
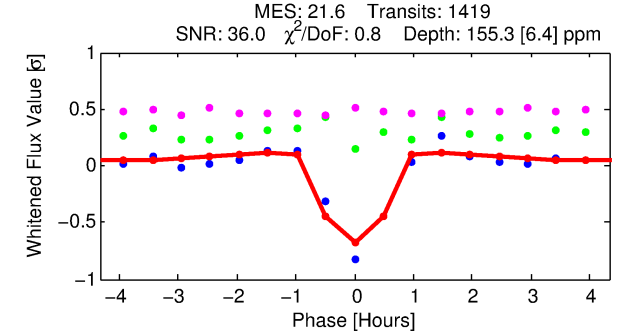
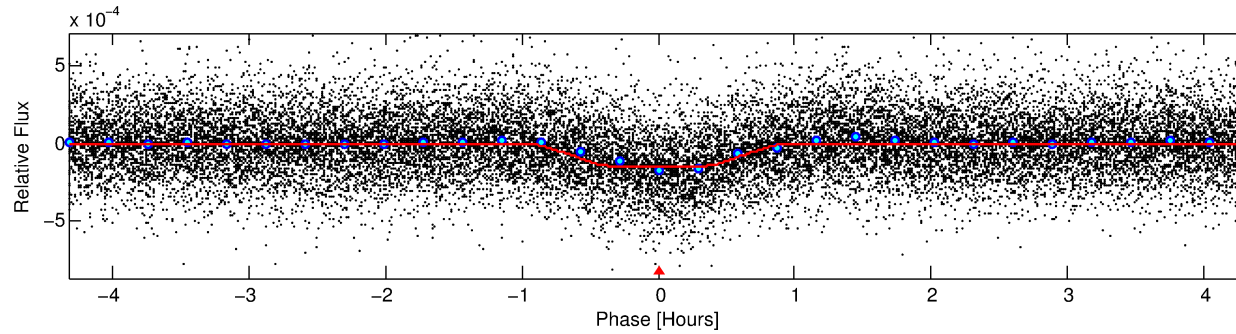
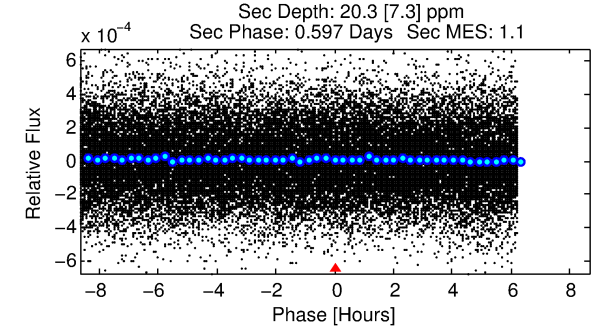
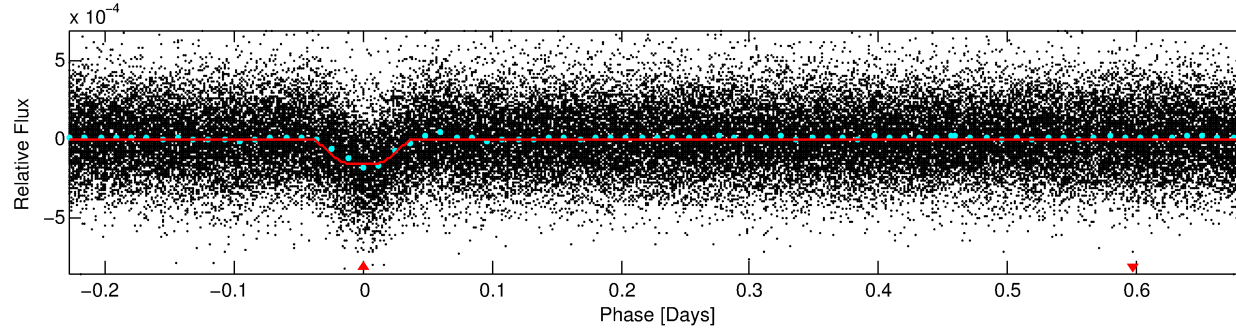
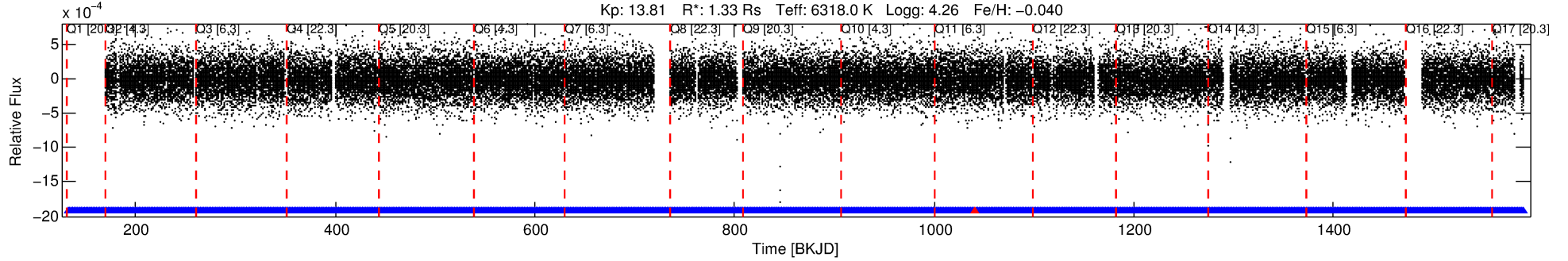
No Significant Match Found

# DV One-Page Summary

KIC: 5130563 Candidate: 1 of 1 Period: 0.916 d

KOI: K05128.01 Corr: 0.787

Kp: 13.81 R\*: 1.33 Rs Teff: 6318.0 K Logg: 4.26 Fe/H: -0.040



## DV Fit Results:

Period = 0.91578 [0.00000] d  
Epoch = 132.2746 [0.0005] BKJD  
Rp/R\* = 0.0134 [0.0022]  
a/R\* = 2.45 [1.78]  
b = 0.90 [0.19]  
Seff = 6709.80 [2713.73]  
Teq = 2308 [233] K  
Rp = 1.96 [0.68] Re  
a = 0.0194 [0.0050] AU  
Ag = 1.11 [0.67] [0.16σ]  
Teffp = 3660 [462] K [2.61σ]

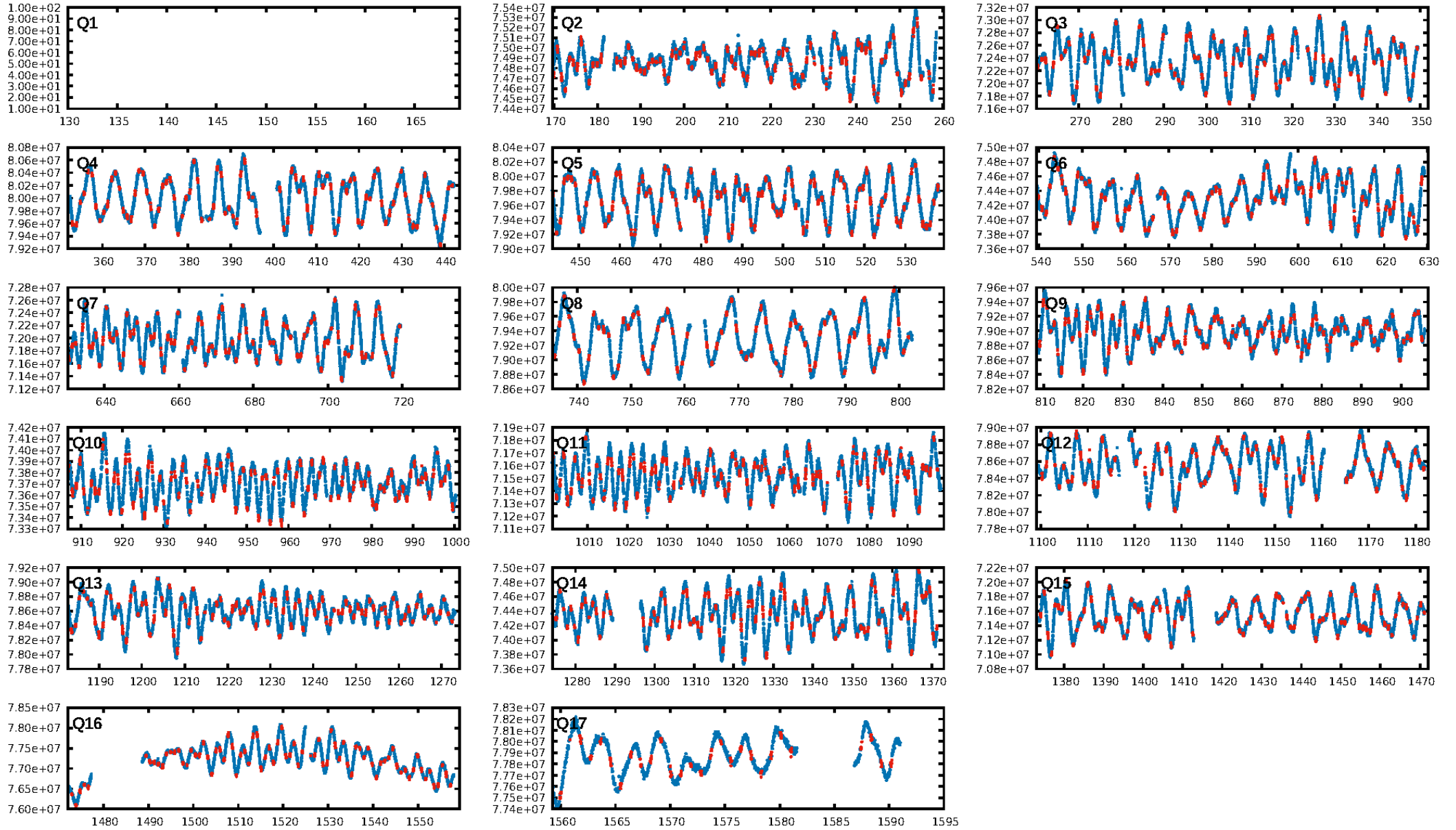
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 4.62e-98  
RollingBand-fgt: 1.00 [1391/1392]  
GhostDiagnostic-chr: 0.6007  
Centroid-sig: 0.0%  
Centroid-so: 2.195 arcsec [8.33σ]  
OotOffset-rm: 5.422 arcsec [76.22σ]  
KicOffset-rm: 5.497 arcsec [75.52σ]  
OotOffset-st: 4/4/4/4 [16]  
KicOffset-st: 4/4/4/4 [16]  
DiffImageQuality-fgm: 1.00 [16/16]  
DiffImageOverlap-fno: 1.00 [16/16]

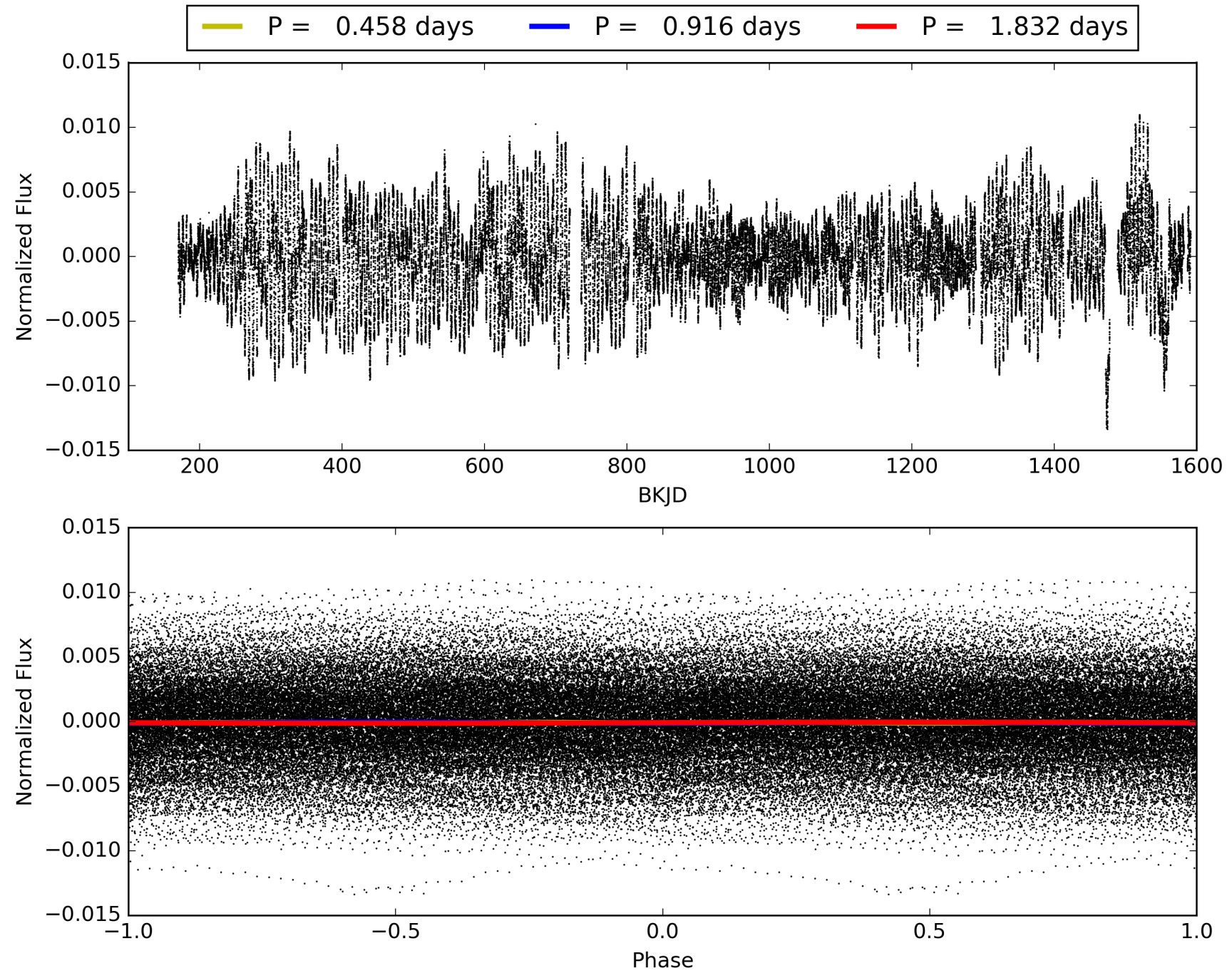
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 12:36:14 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005130563-01, PDC Light Curves

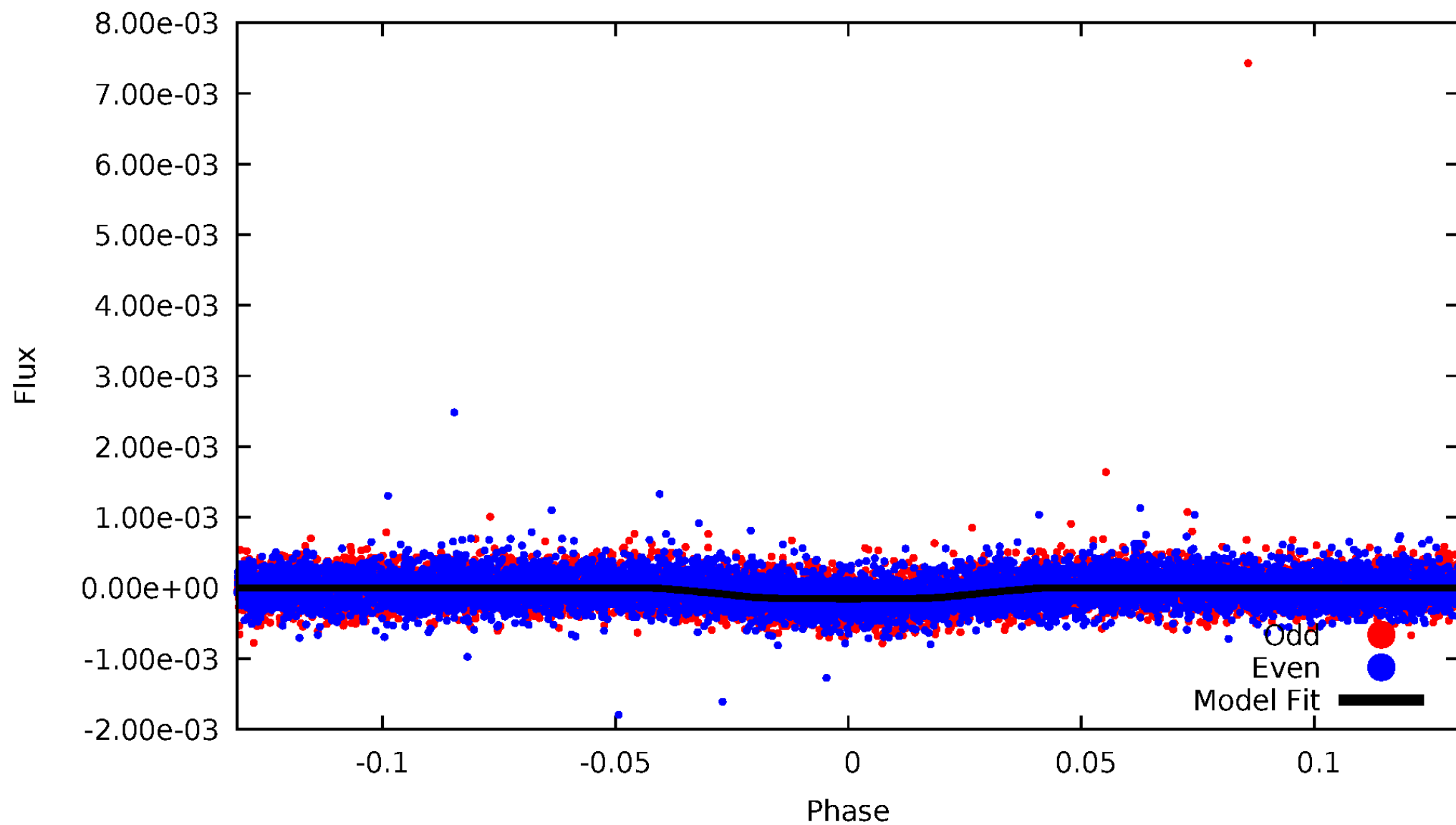


TCE 005130563-01



# DV Odd/Even

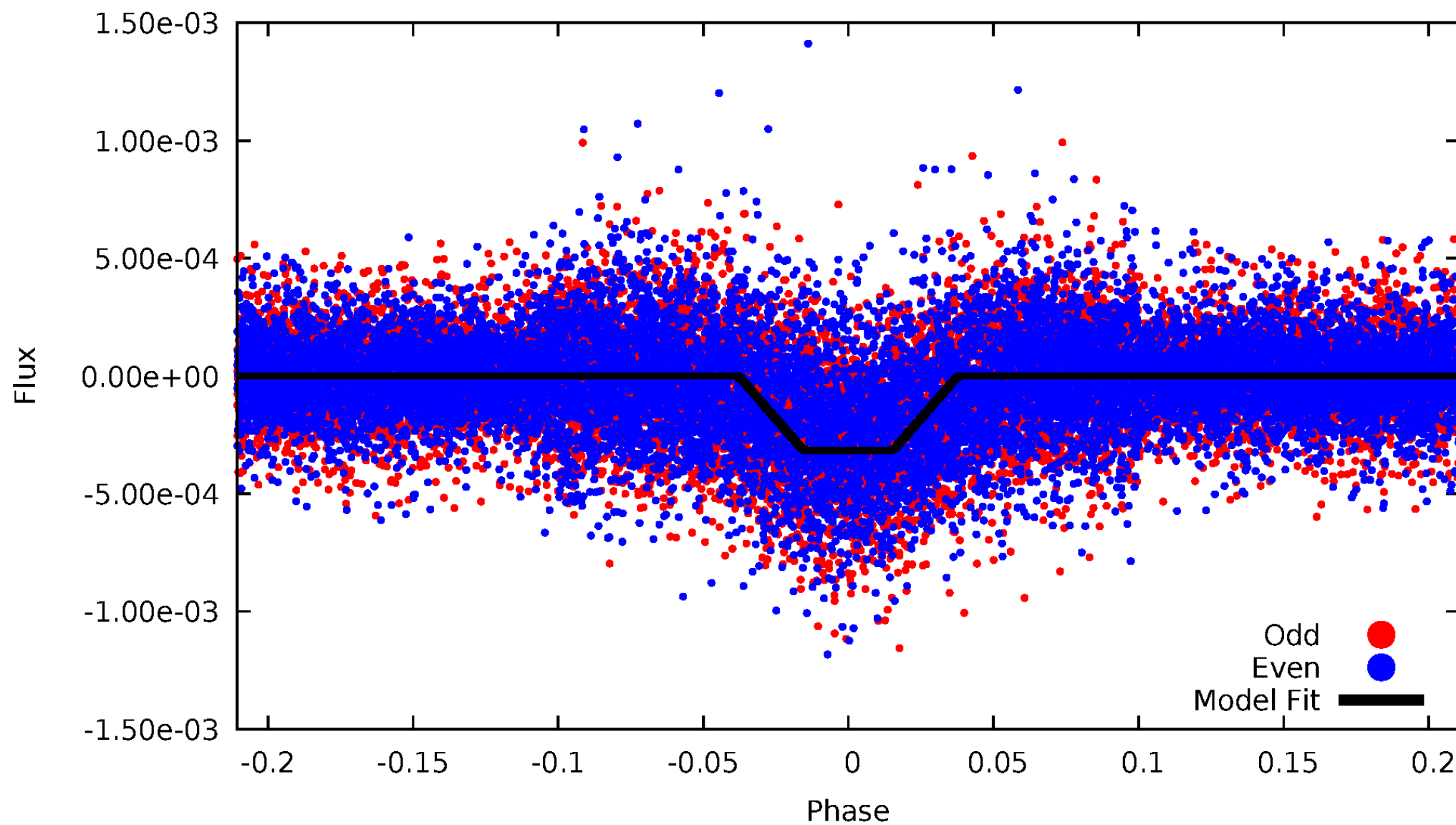
TCE 005130563-01



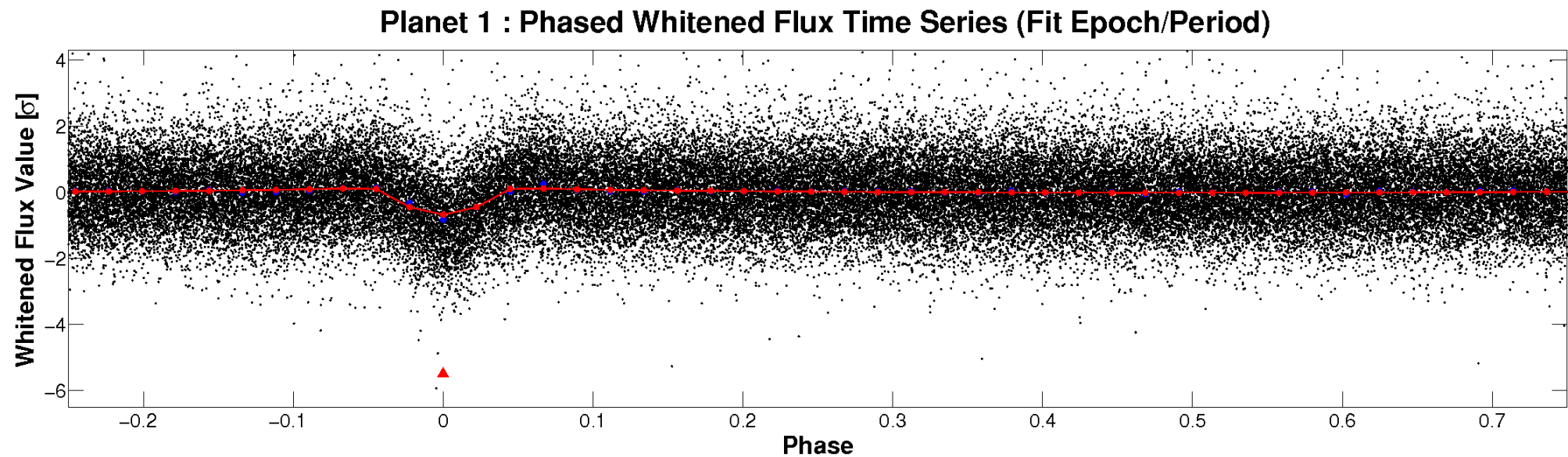
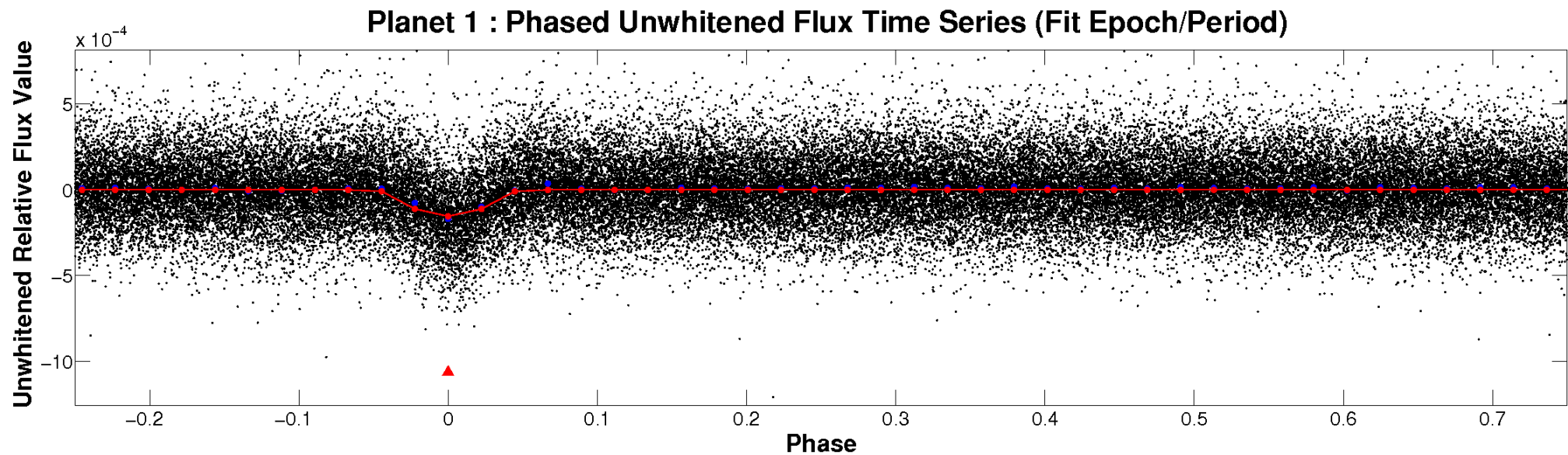


# ALT Odd/Even

TCE 005130563-01

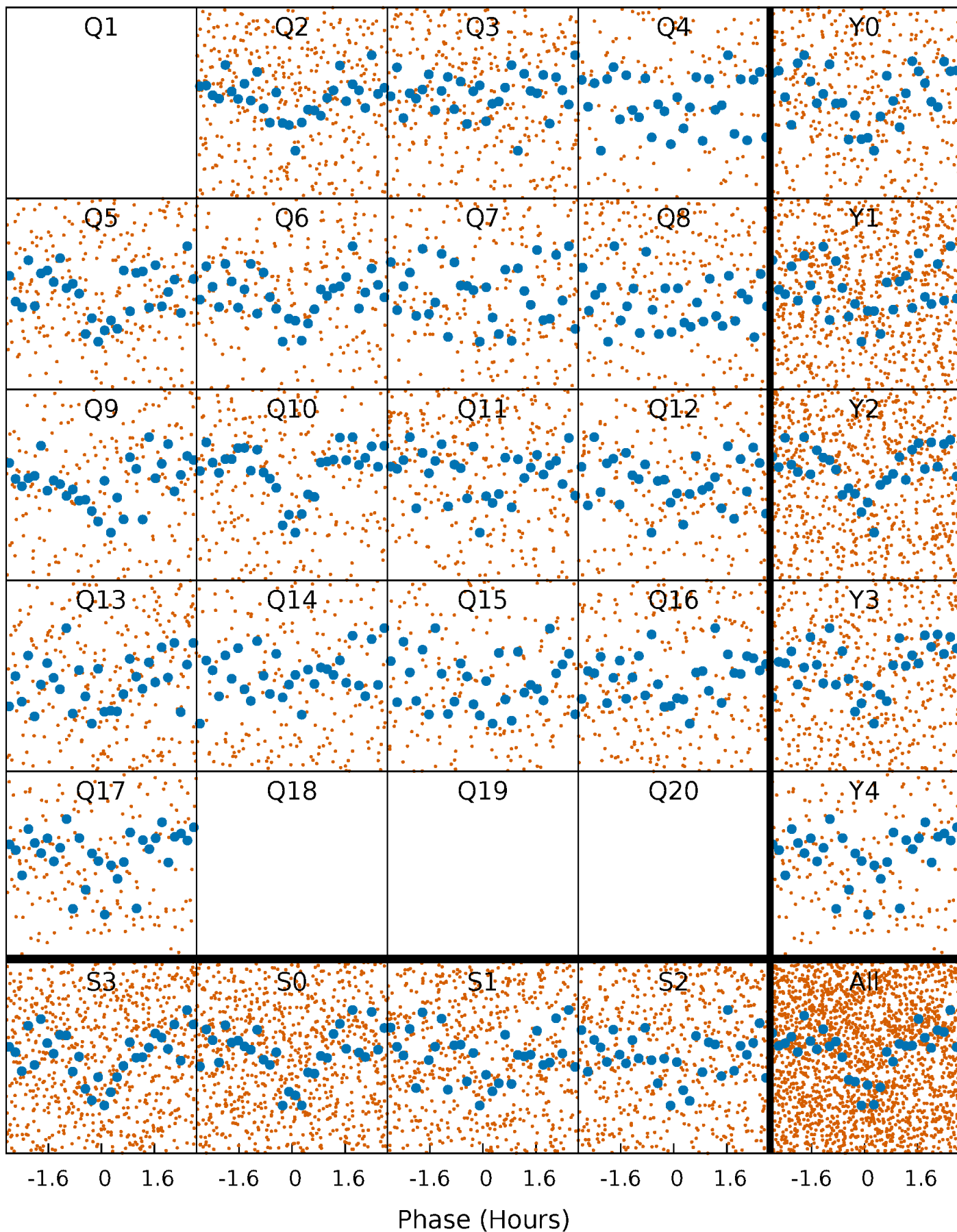


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

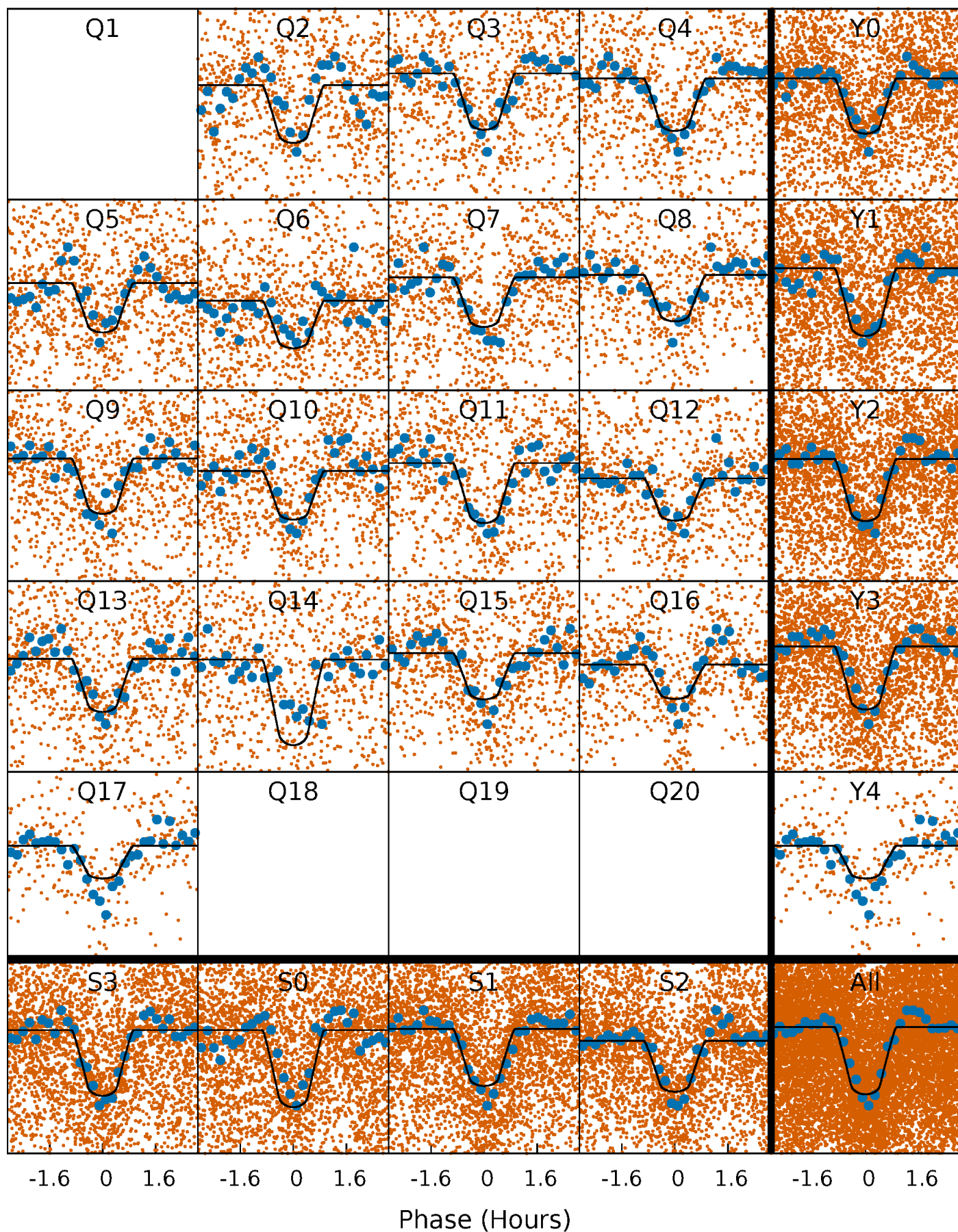
TCE 005130563-01 P= 0.915783 Days  $T_0=132.274566$  (BKJD)





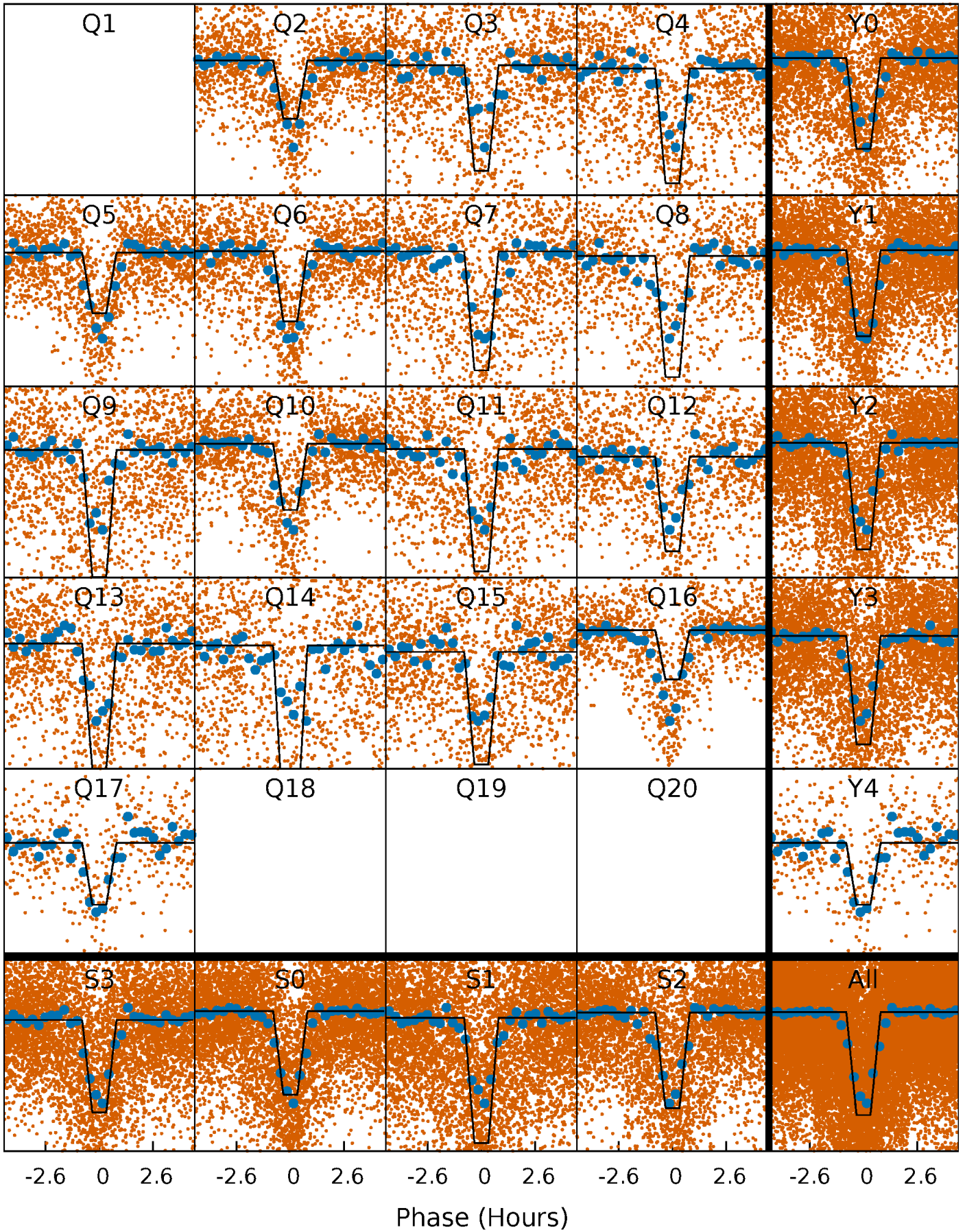
# DV Quarter-Phased Transit Curves

TCE 005130563-01 P= 0.915783 Days  $T_0=132.274566$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 005130563-01 P= 0.915791 Days  $T_0=132.270127$  (BKJD)

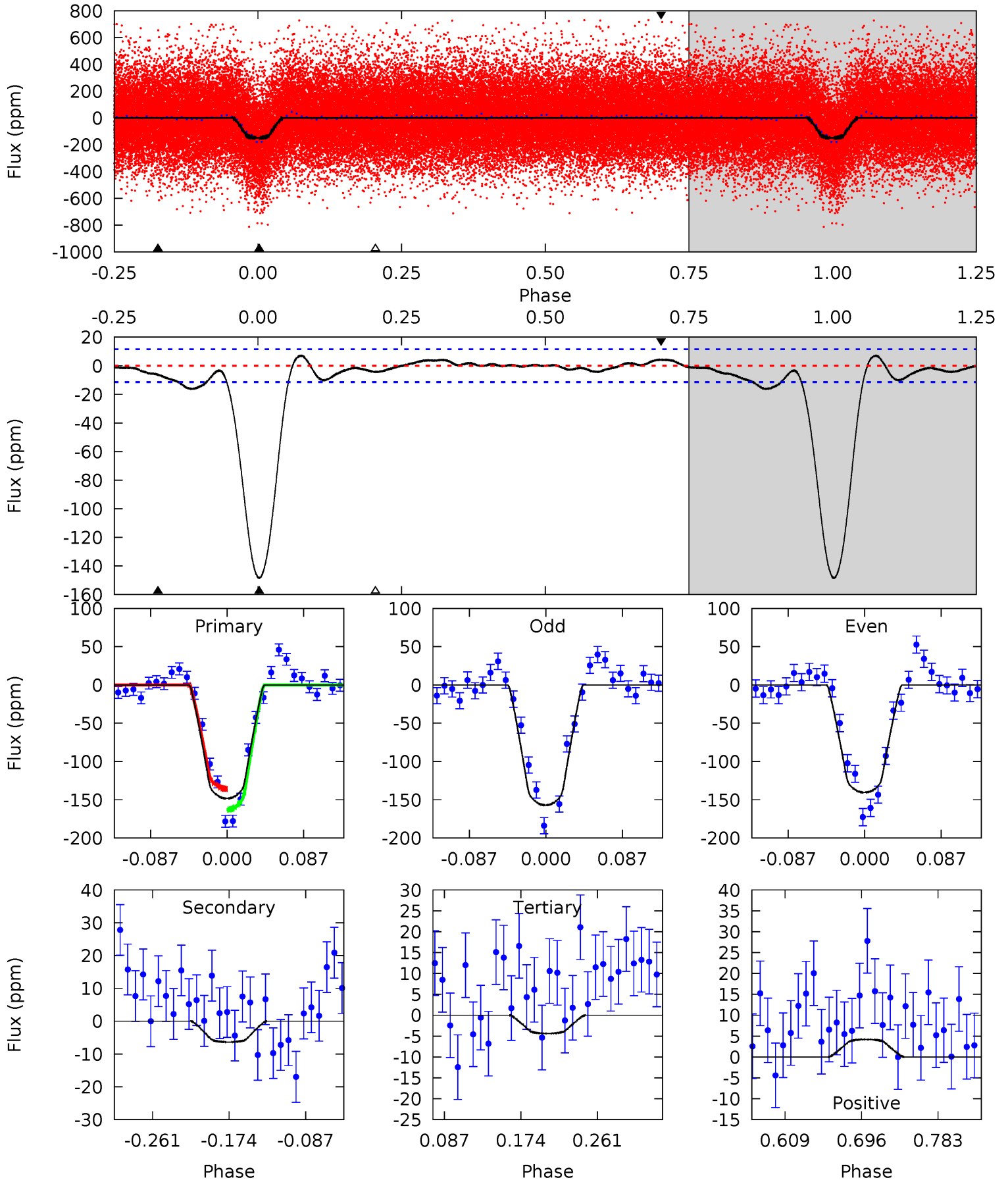




# DV Model-Shift Uniqueness Test

005130563-01, P = 0.915783 Days, E = 132.274566 Days

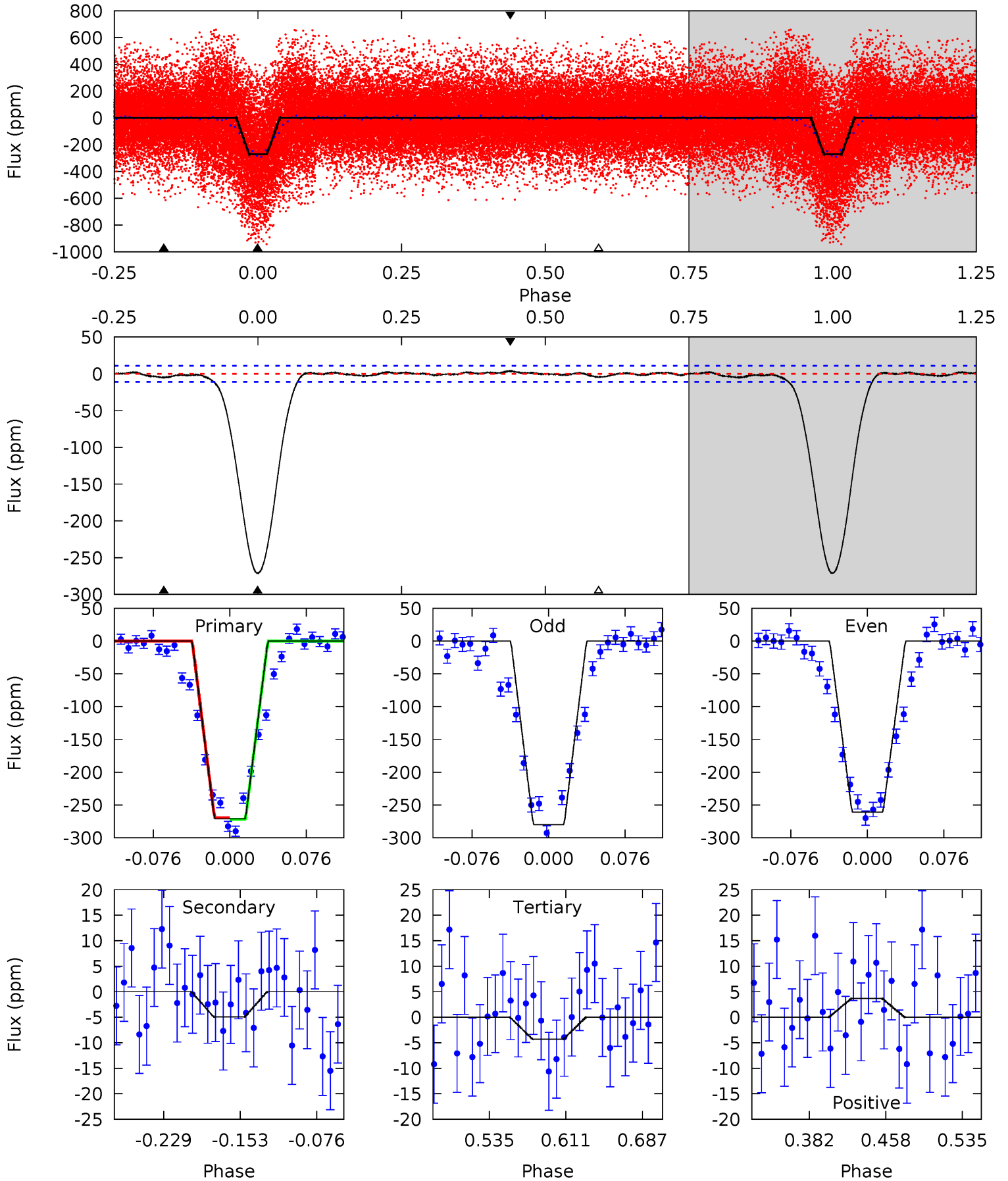
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
59.3	2.55	1.75	1.68	4.59	1.71	1.23	57.6	57.7	0.80	0.87	3.32	1.00	0.05	5.42



# Alt Model-Shift Uniqueness Test

005130563-01, P = 0.915791 Days, E = 132.270127 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
115.2	2.10	1.83	1.56	4.62	1.77	0.77	113.4	113.6	0.27	0.54	3.97	1.04	0.01	0.52



### Stellar Parameters For KIC 005130563

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6318^{+177}_{-243}$	$4.256^{+0.153}_{-0.204}$	$-0.040^{+0.250}_{-0.300}$	$1.333^{+0.409}_{-0.273}$	$1.168^{+0.194}_{-0.159}$	$0.694^{+0.545}_{-0.352}$
	+3%/-4%	+4%/-5%	+625%/-750%	+31%/-20%	+17%/-14%	+78%/-51%
Source	PHO54	PHO54	PHO54	DSEP		

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

### Secondary Eclipse Parameters for KIC 005130563-01 / KOI 5128.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-6 \pm 3$	$2.00^{+0.50}_{-0.40}$	$3244^{+254}_{-223}$	$2403^{+704}_{-5321}$	$0.334^{+0.219}_{-0.162}$
Alt.	$-5 \pm 2$	$2.61^{+0.54}_{-0.46}$	$3243^{+253}_{-223}$	$-2944^{+472}_{-253}$	$0.144^{+0.109}_{-0.077}$

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



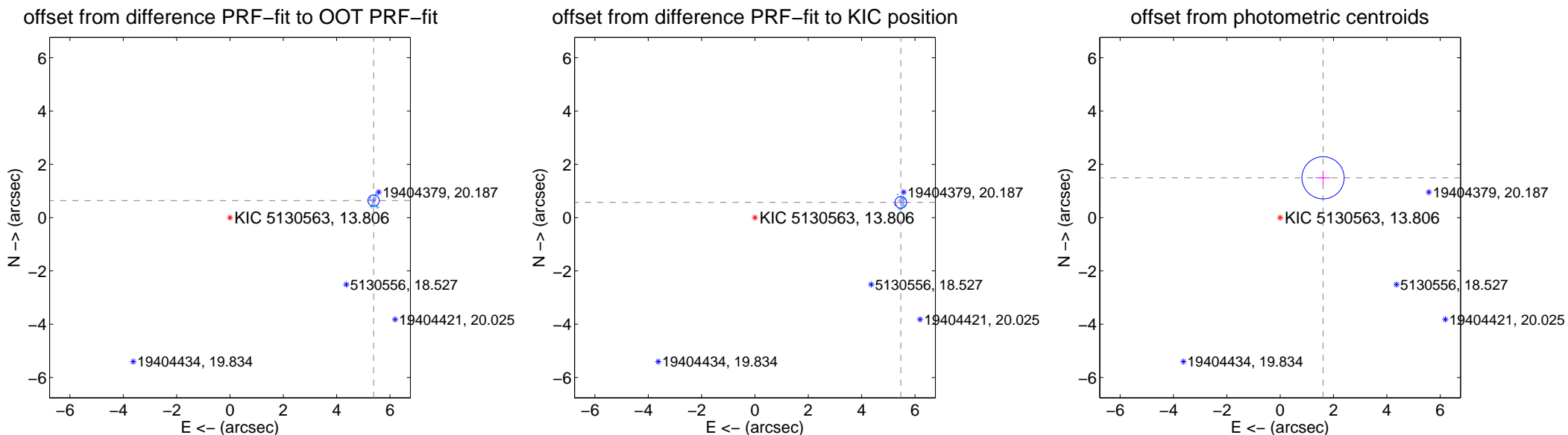
## DV Centroid Data

Supplemental centroid analysis for 005130563-01. Kepler magnitude: 13.81. Transit SNR 36.03

There are 16 quarters with good PRF difference image offsets

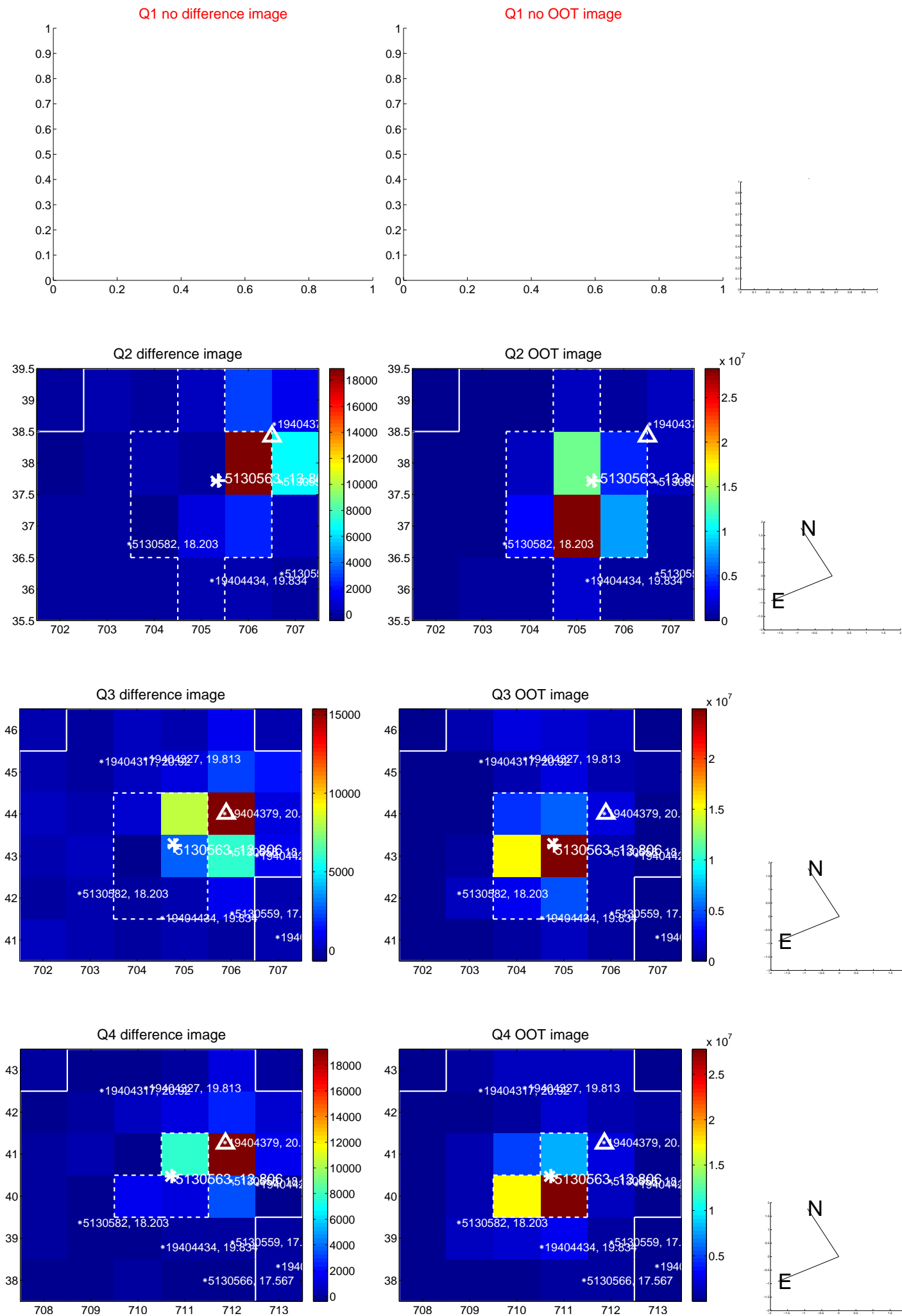
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$5.422 \pm 0.071$	<b>76.22</b>	$-5.384 \pm 0.071$	$0.638 \pm 0.075$
PRF-fit source offset from KIC position	$5.497 \pm 0.073$	<b>75.52</b>	$-5.467 \pm 0.073$	$0.572 \pm 0.079$
photometric centroid source offset	$2.19 \pm 0.26$	<b>8.33</b>	$-1.61 \pm 0.28$	$1.49 \pm 0.25$



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.

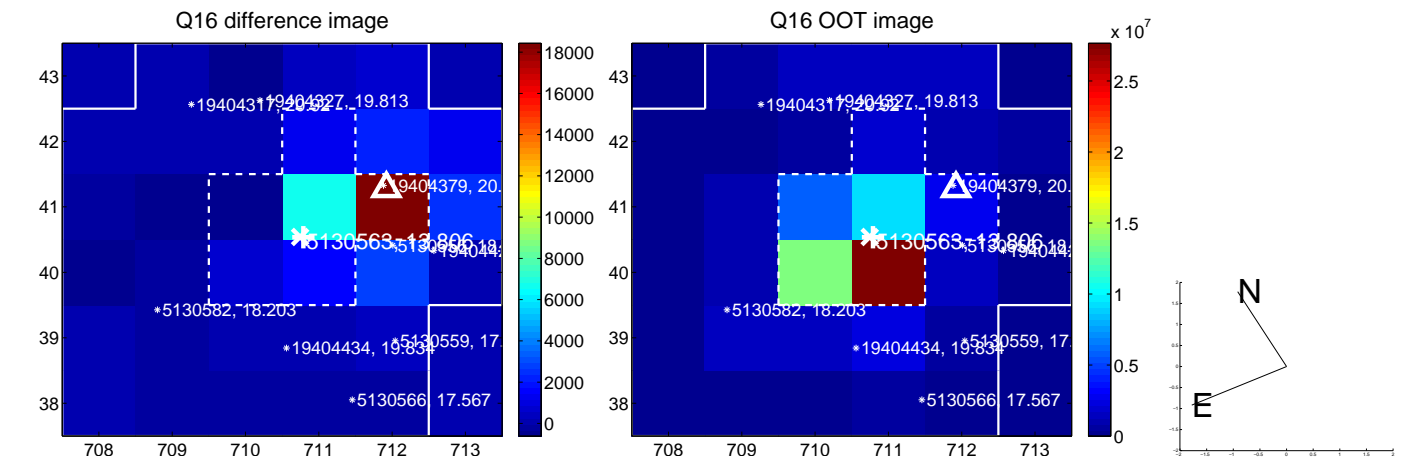
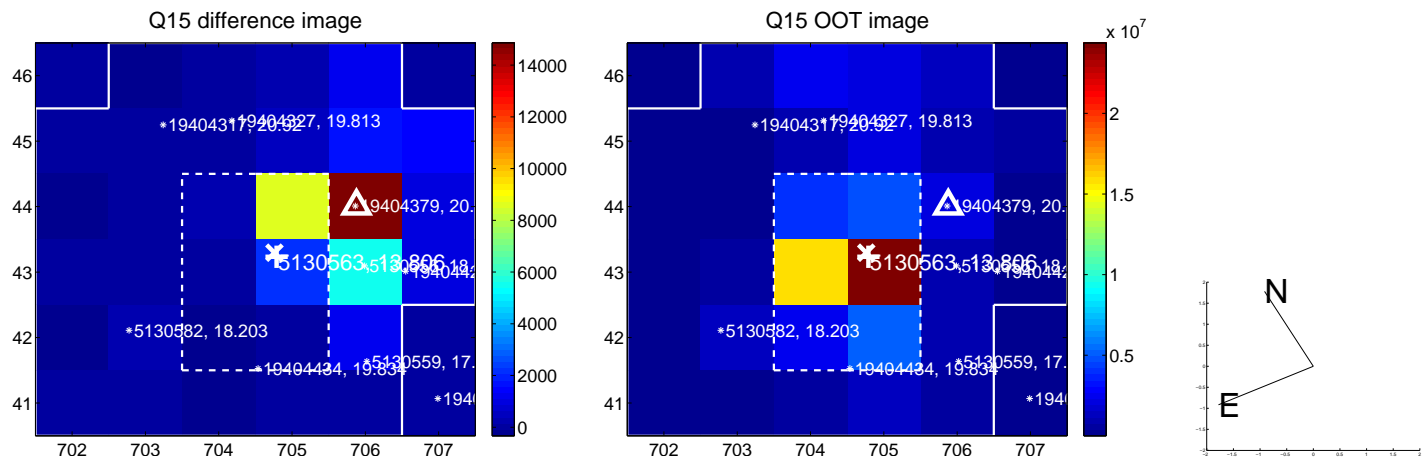
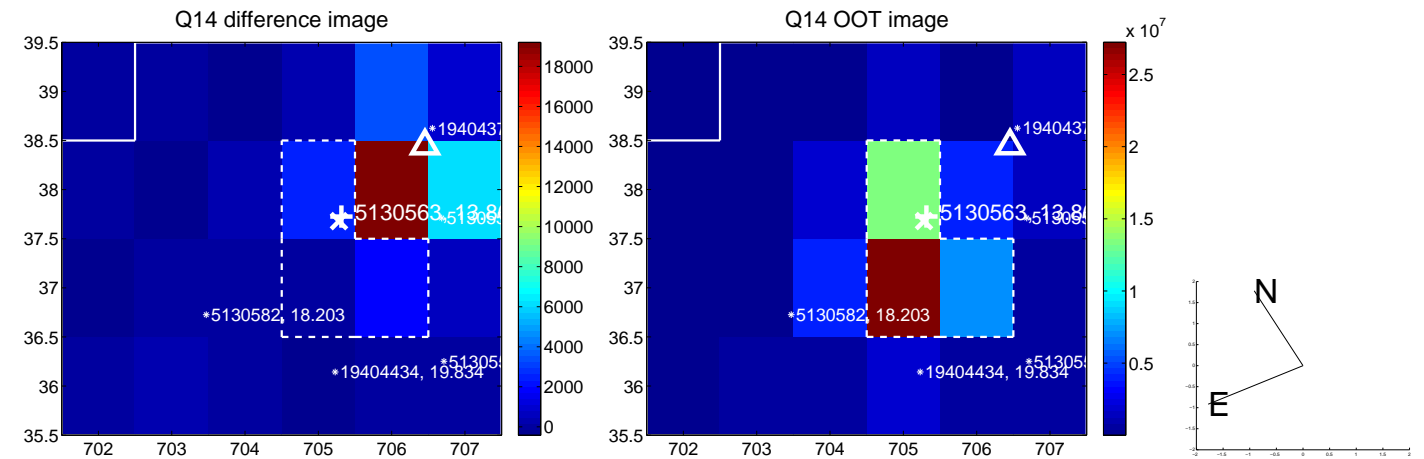
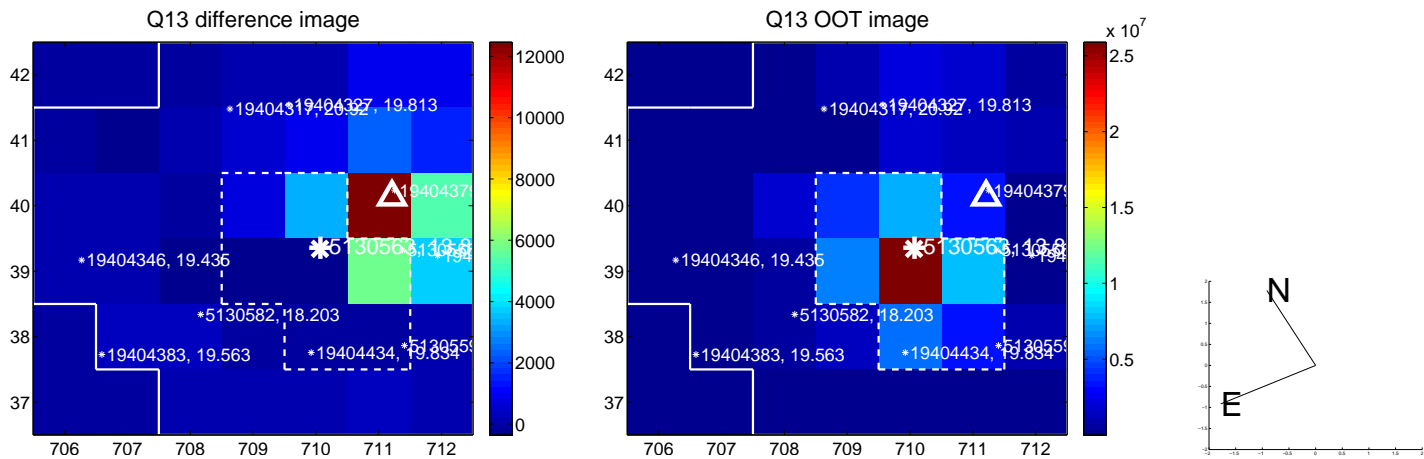
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





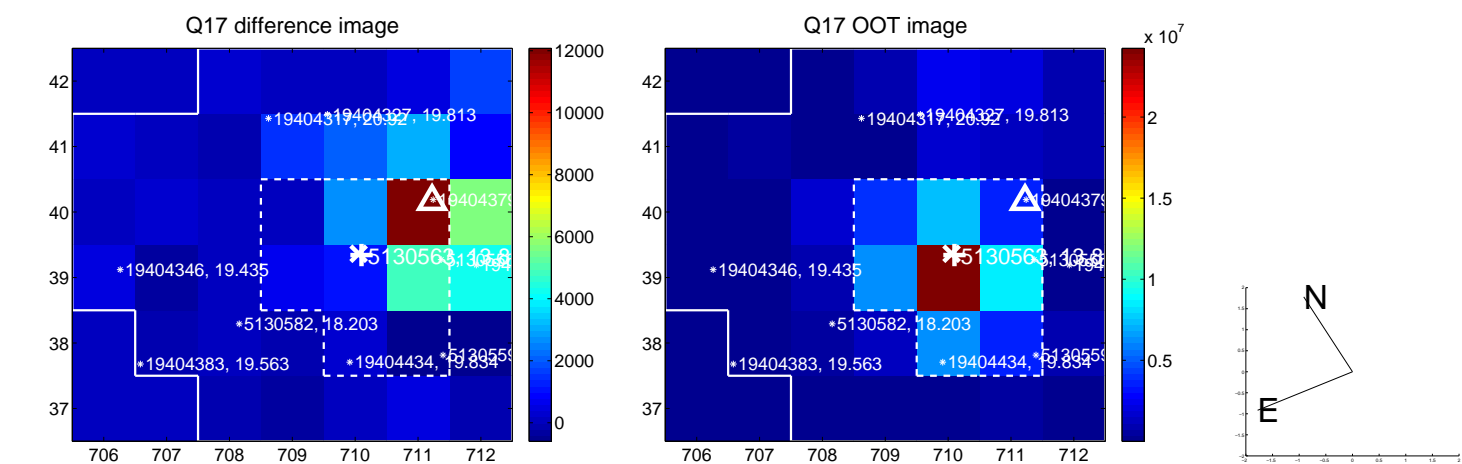


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

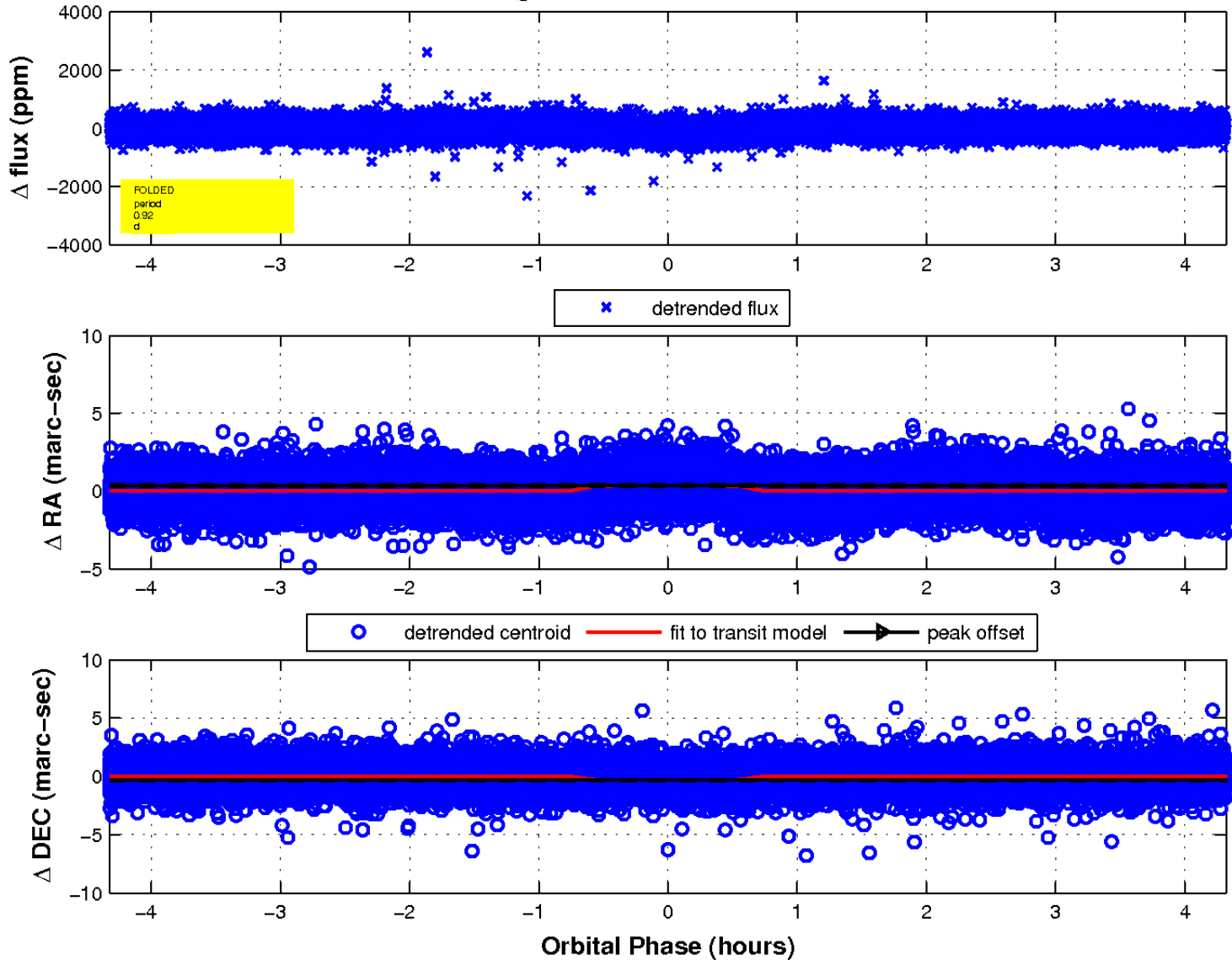




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

