

# KIC 005565707

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005565707-01	OBS	4161.01	1.294079	131.852022	48.1	1.308	10.5	12.5	7.15	6635	5.91	0.00

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005565707-01	OBS	FP	0.00	0	0	1	0	PLANET_IN_STAR—CENT_RESOLVED_OFFSET—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 005565707-01

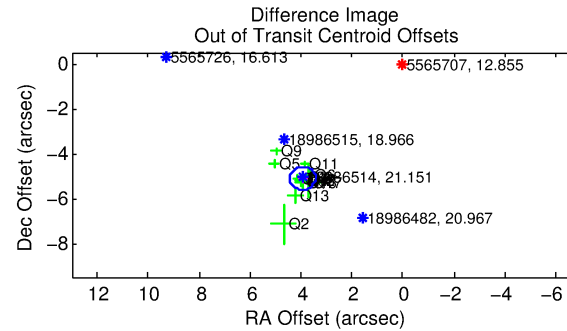
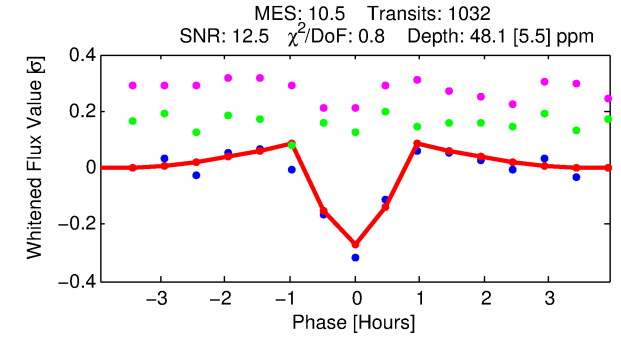
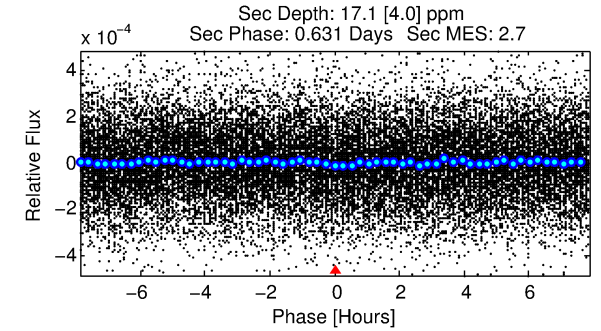
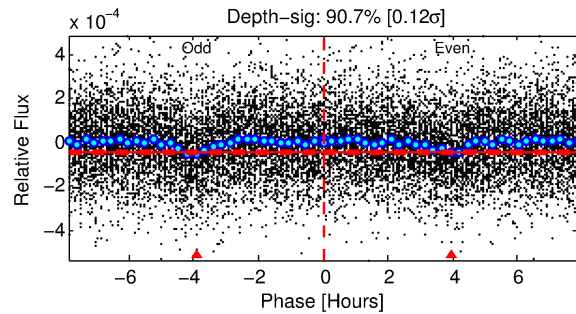
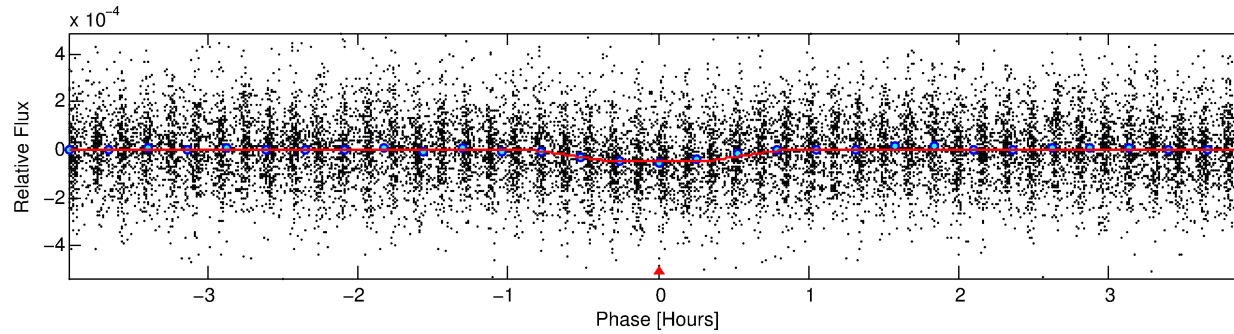
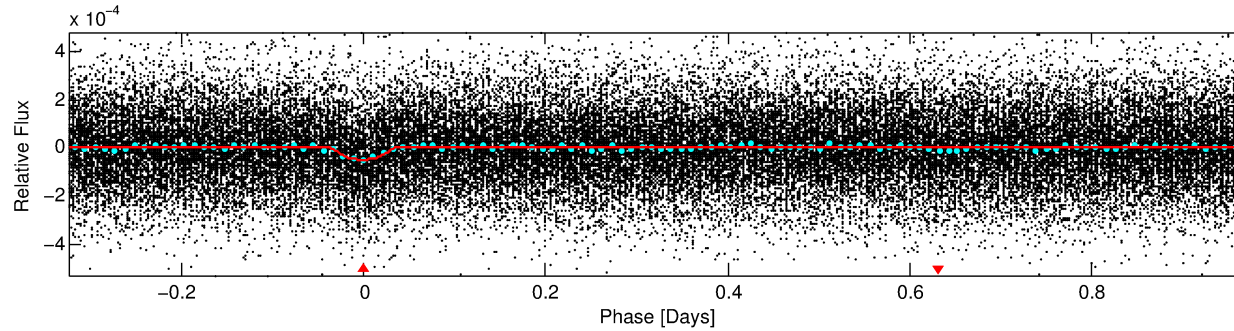
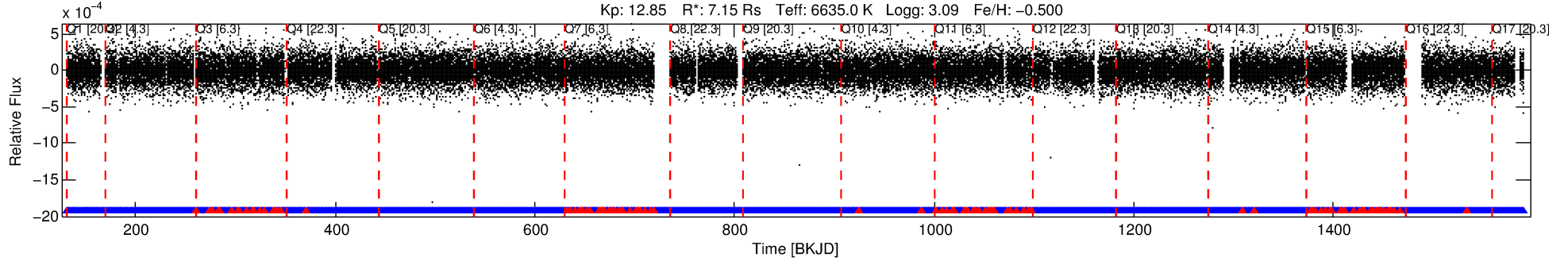
No Significant Match Found

# DV One-Page Summary

KIC: 5565707 Candidate: 1 of 1 Period: 1.294 d

KOI: K04161.01 Corr: 0.870

Kp: 12.85 R\*: 7.15 Rs Teff: 6635.0 K Logg: 3.09 Fe/H: -0.500



## DV Fit Results:

Period = 1.29408 [0.00001] d  
Epoch = 131.8520 [0.0013] BKJD  
Rp/R\* = 0.0076 [0.0025]  
a/R\* = 3.21 [5.64]  
b = 0.92 [0.32]  
Seff = N/A  
Teq = N/A  
Rp = 5.91 [3.51] Re  
a = N/A  
Ag = N/A  
Teffp = N/A

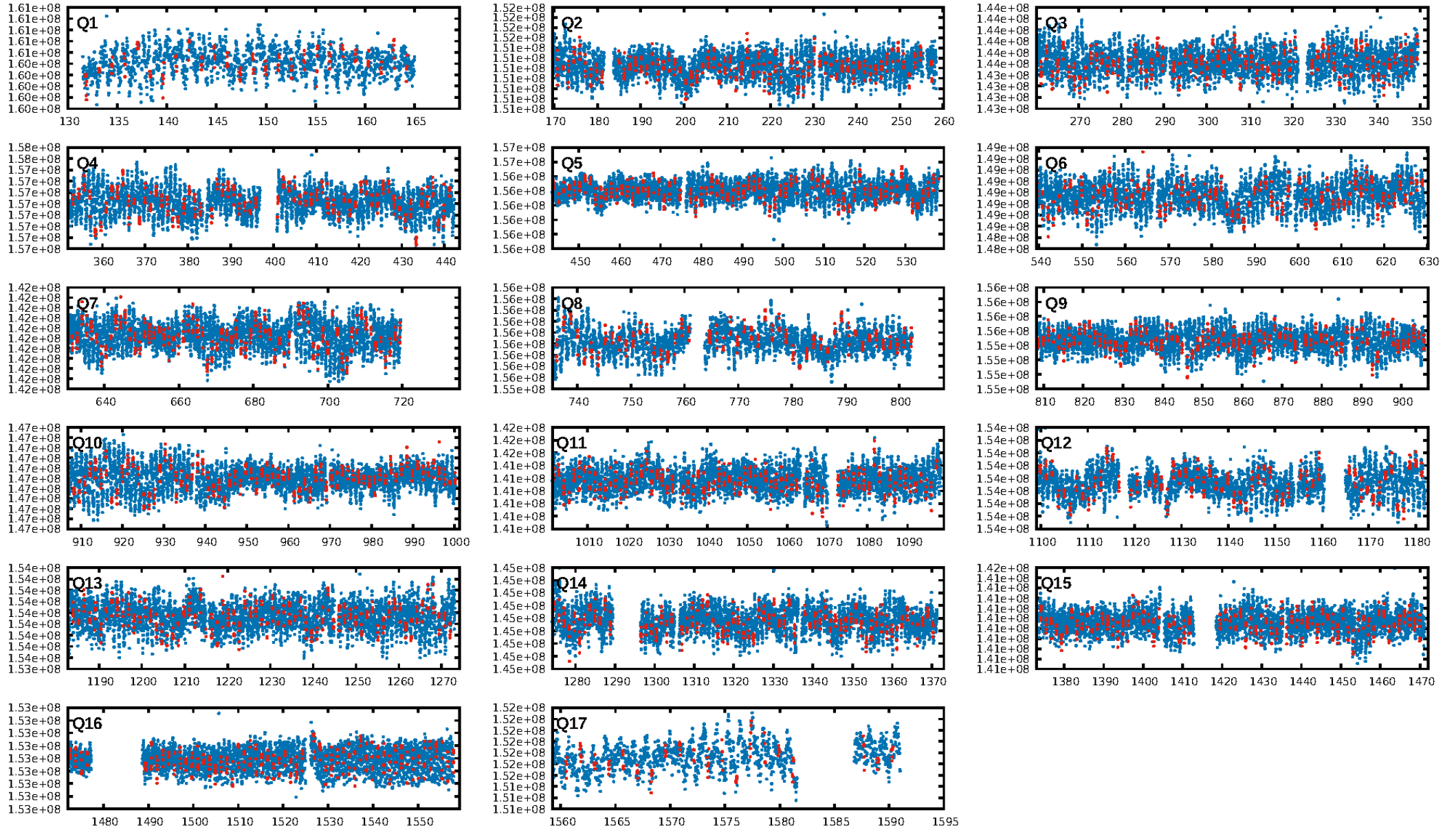
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.13e-26  
RollingBand-fgt: 0.90 [884/985]  
GhostDiagnostic-chr: 0.0186  
Centroid-sig: 0.0%  
Centroid-so: 14.308 arcsec [15.08σ]  
OotOffset-rm: 6.451 arcsec [37.36σ]  
KicOffset-rm: 6.349 arcsec [35.18σ]  
OotOffset-st: 3/4/3/4 [14]  
KicOffset-st: 3/4/3/4 [14]  
DiffImageQuality-fgm: 1.00 [14/14]  
DiffImageOverlap-fno: 1.00 [17/17]

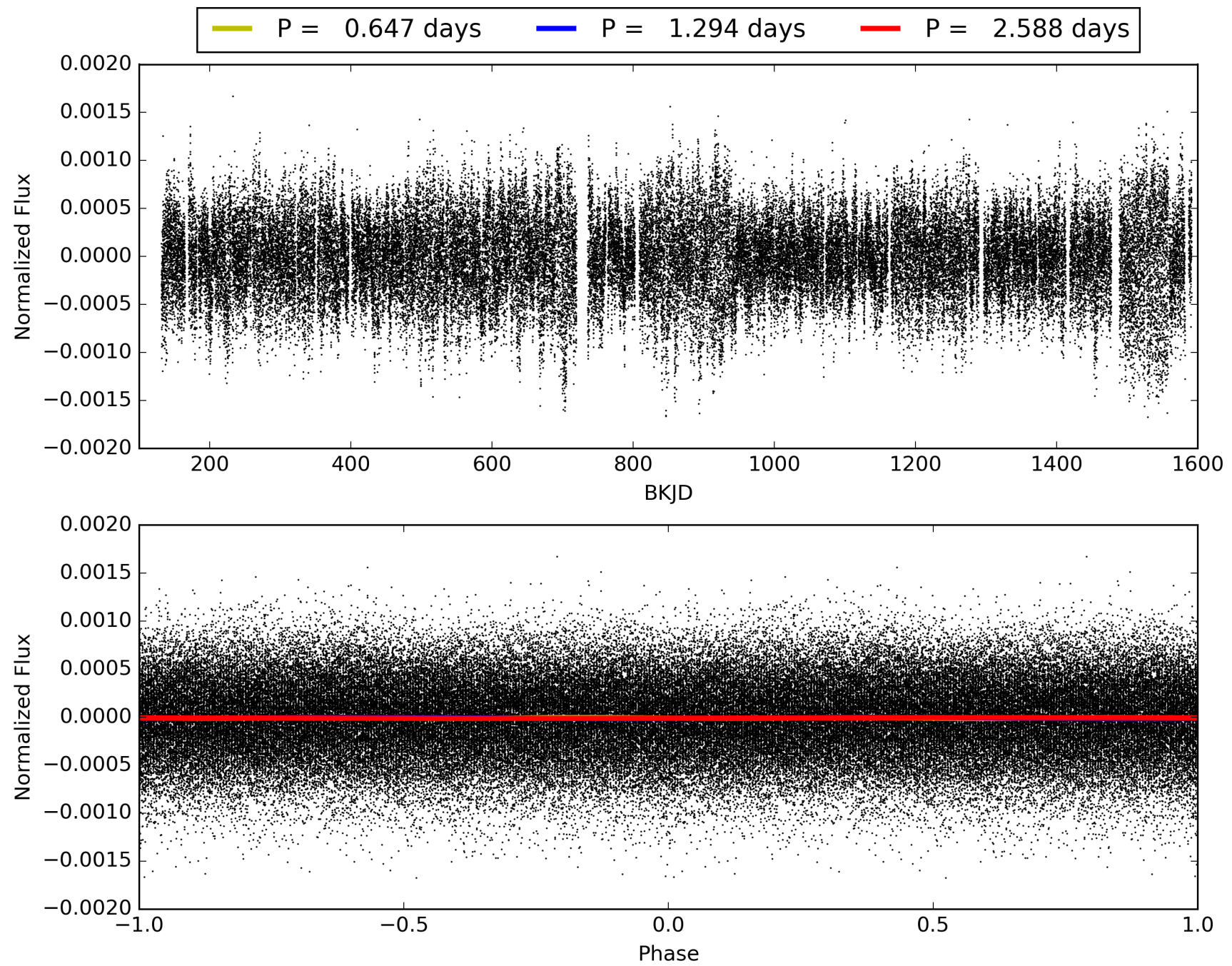
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:22:07 Z

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

# TCE 005565707-01, PDC Light Curves



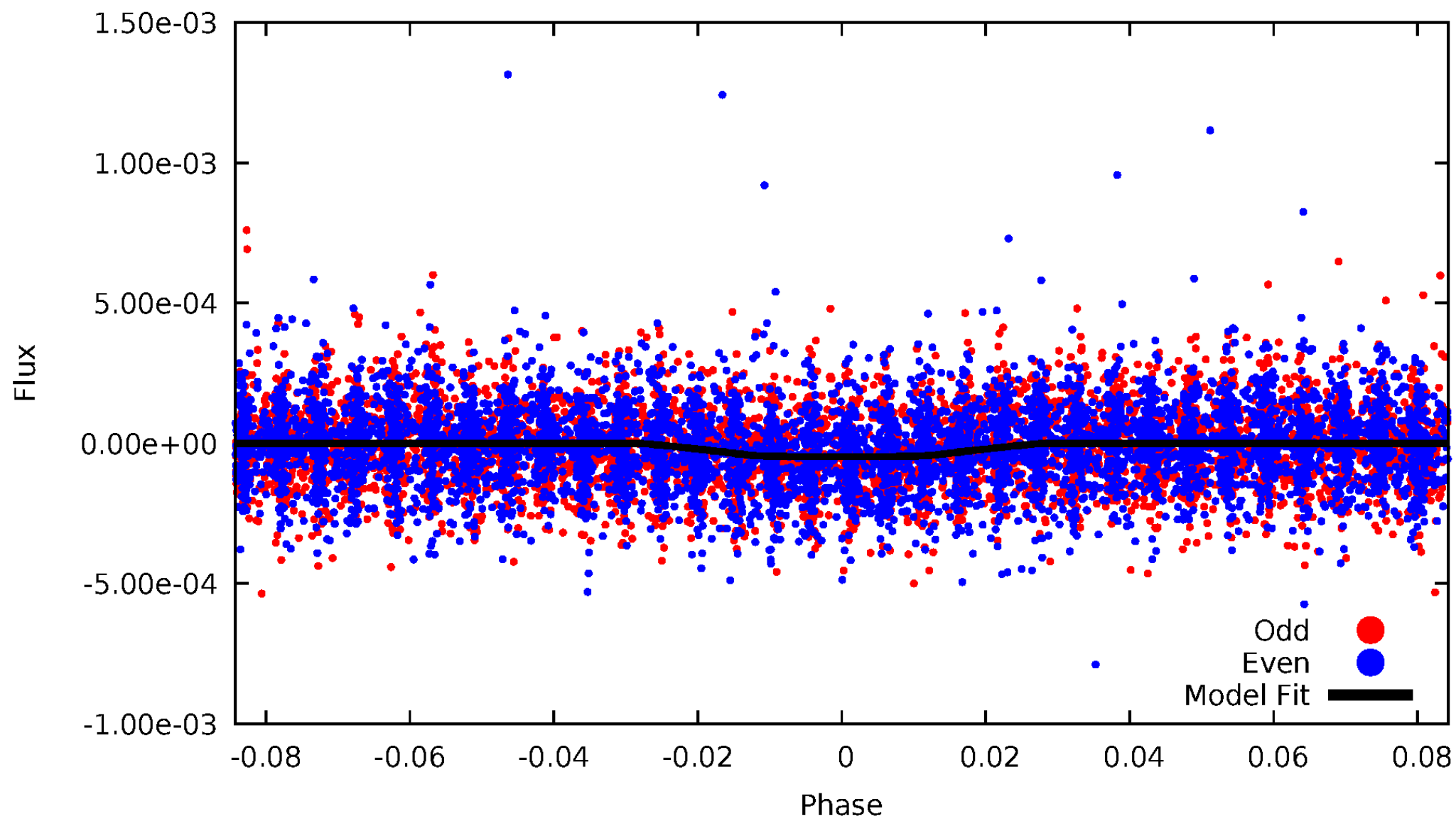
TCE 005565707-01





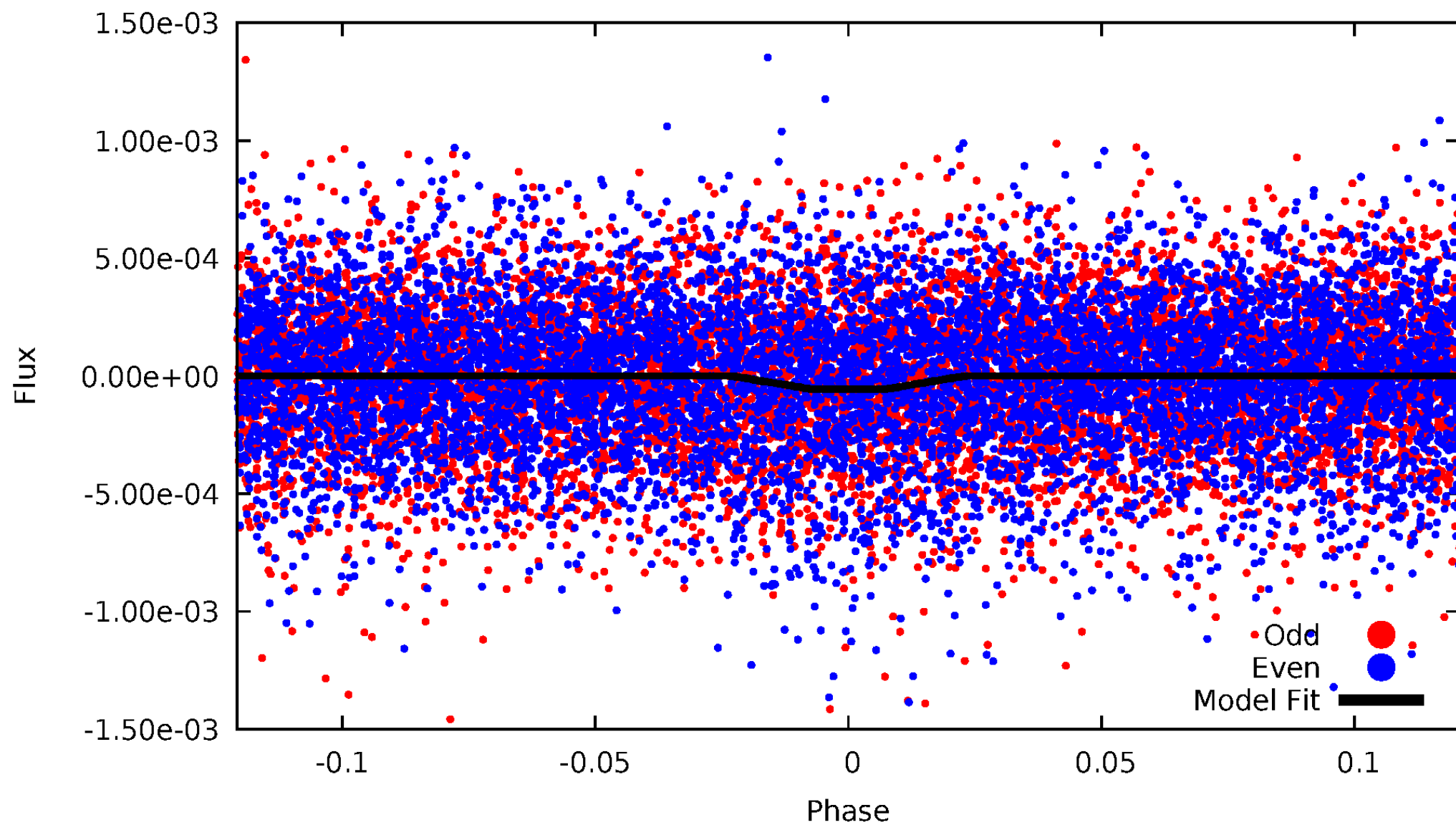
# DV Odd/Even

TCE 005565707-01

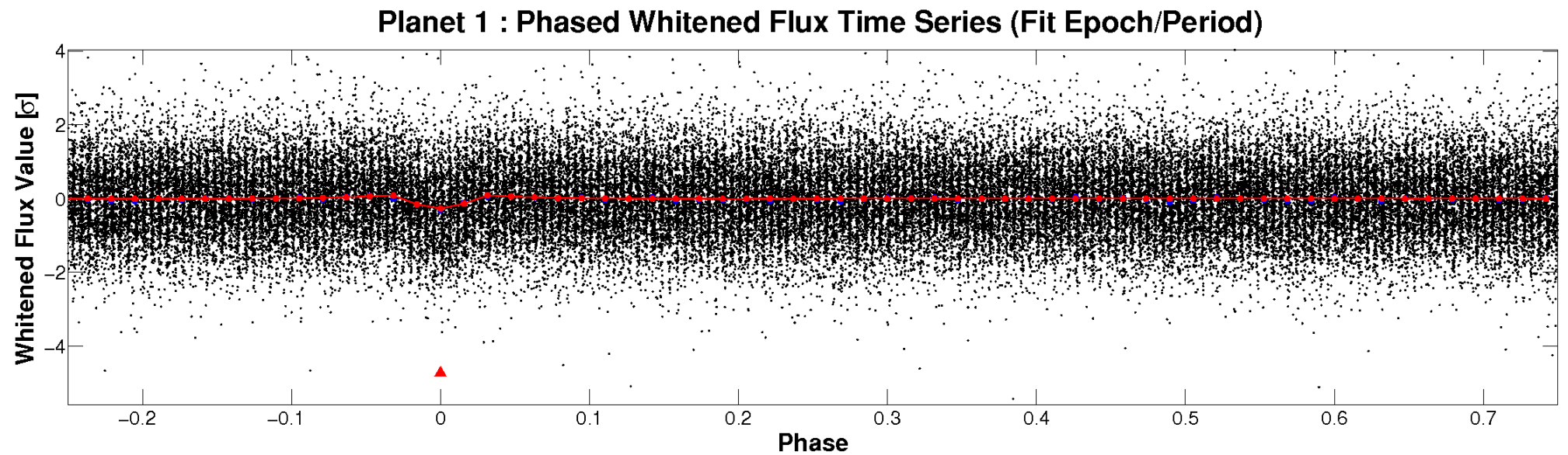
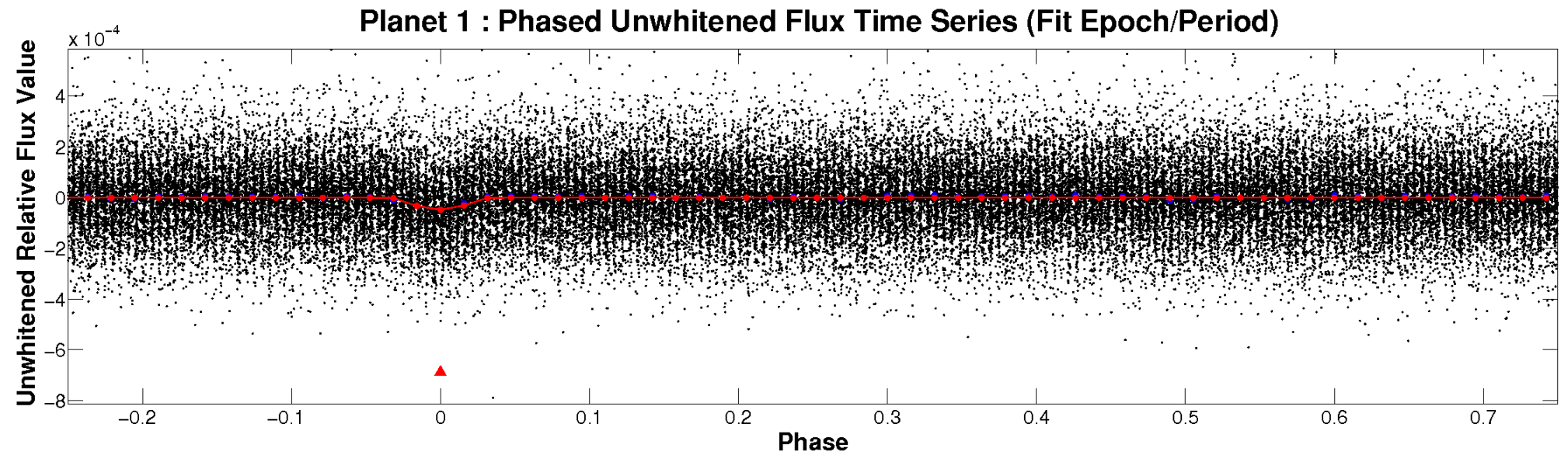


# ALT Odd/Even

TCE 005565707-01

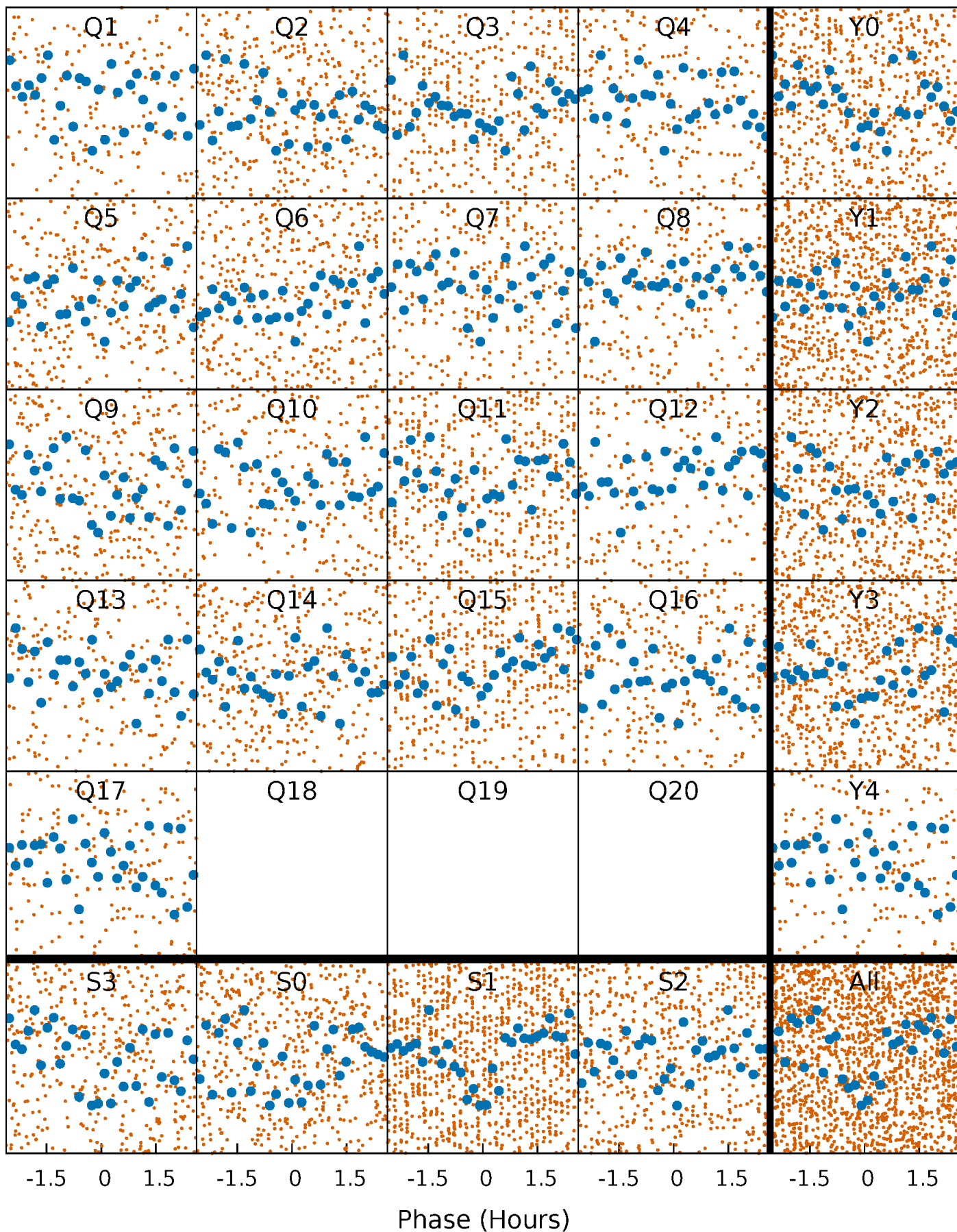


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

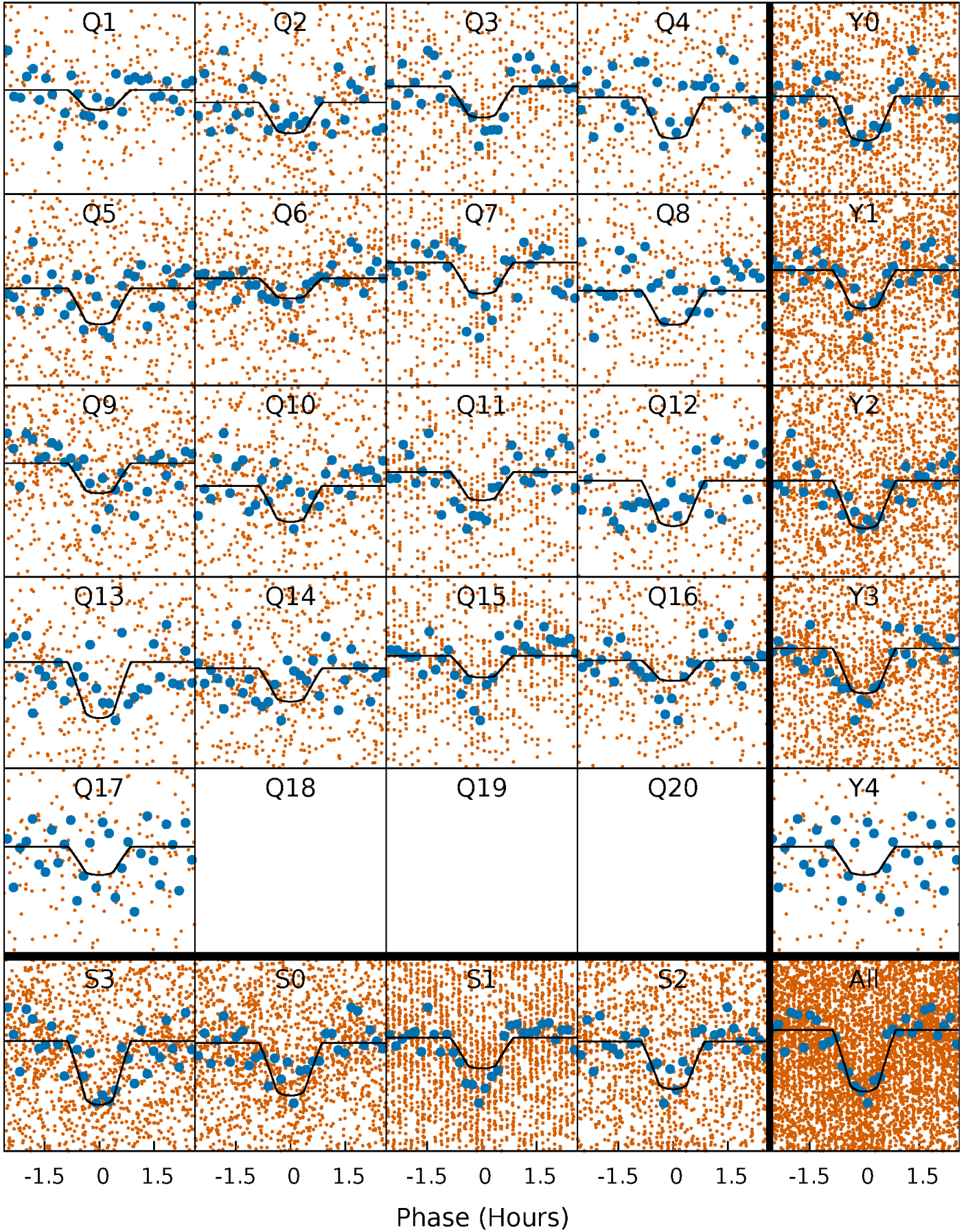
TCE 005565707-01 P= 1.294079 Days  $T_0=131.852022$  (BKJD)





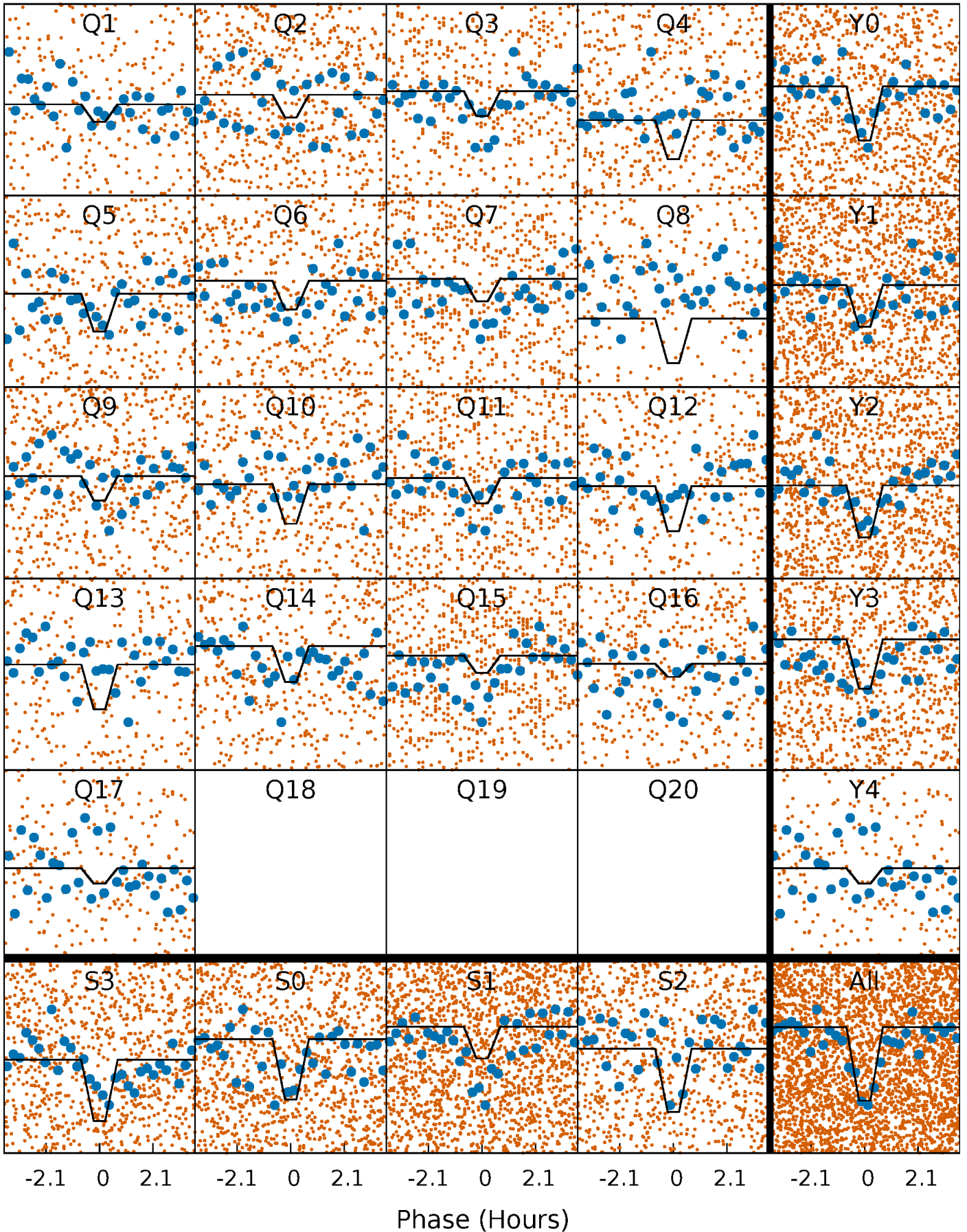
# DV Quarter-Phased Transit Curves

TCE 005565707-01   P= 1.294079 Days    $T_0=131.852022$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

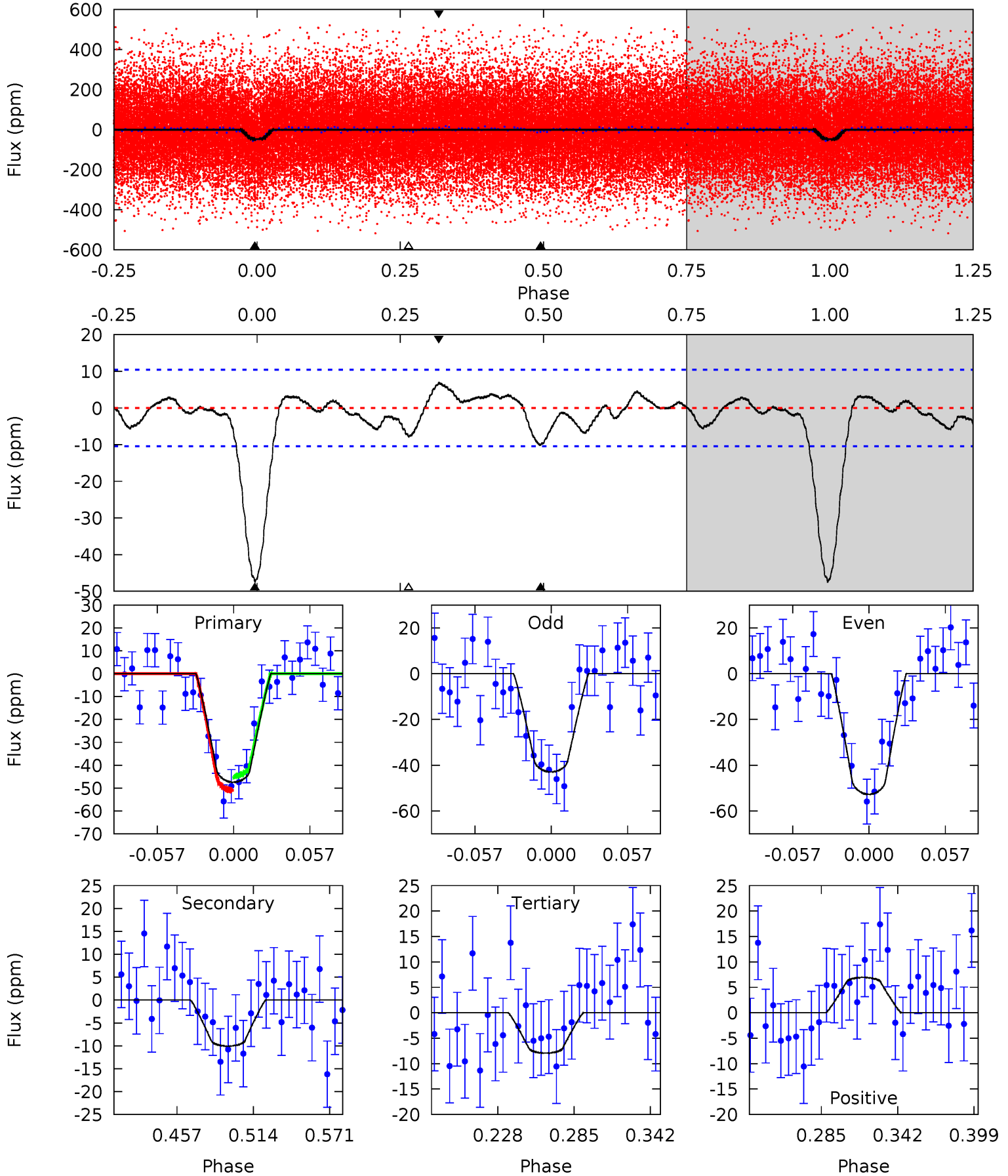
TCE 005565707-01 P= 1.294064 Days  $T_0=131.855963$  (BKJD)



# DV Model-Shift Uniqueness Test

005565707-01, P = 1.294079 Days, E = 130.557943 Days

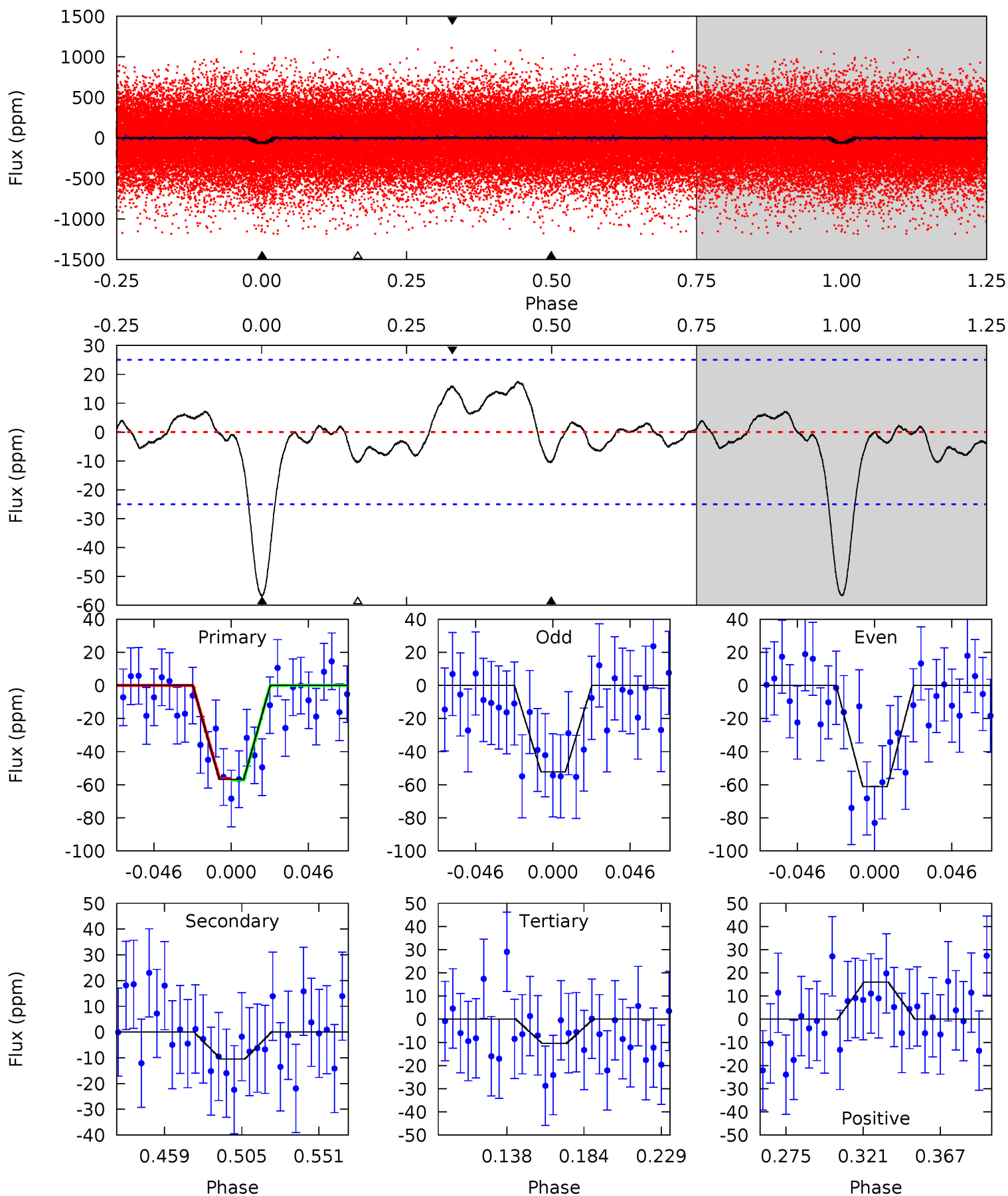
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.2	4.51	3.55	3.11	4.68	1.90	1.40	17.7	18.1	0.96	1.40	2.20	0.90	0.13	1.38



# Alt Model-Shift Uniqueness Test

005565707-01, P = 1.294064 Days, E = 130.561899 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
10.7	1.98	1.98	3.01	4.73	2.00	1.23	8.75	7.71	0.00	-1.04	0.84	1.64	0.23	0.11





### Stellar Parameters For KIC 005565707

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6635^{+157}_{-255}$	$3.092^{+0.435}_{-0.145}$	$-0.500^{+0.400}_{-0.300}$	$7.146^{+2.186}_{-3.553}$	$2.303^{+0.386}_{-0.663}$	$0.009^{+0.040}_{-0.004}$
	+2%/-4%	+14%/-5%	+80%/-60%	+31%/-50%	+17%/-29%	+445%/-43%
Source	PHO1	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 005565707-01 / KOI 4161.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-10 \pm 2$	$5.42^{+2.34}_{-2.06}$	$6082^{+488}_{-708}$	$-4161^{+8277}_{-707}$	$0.176^{+0.270}_{-0.095}$
Alt.	$-10 \pm 5$	$5.43^{+2.19}_{-2.20}$	$6040^{+529}_{-785}$	$-4090^{+8498}_{-883}$	$0.179^{+0.361}_{-0.117}$

$T_{max}$  = Theoretical Maximum Planetary Temperature

$T_{obs}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

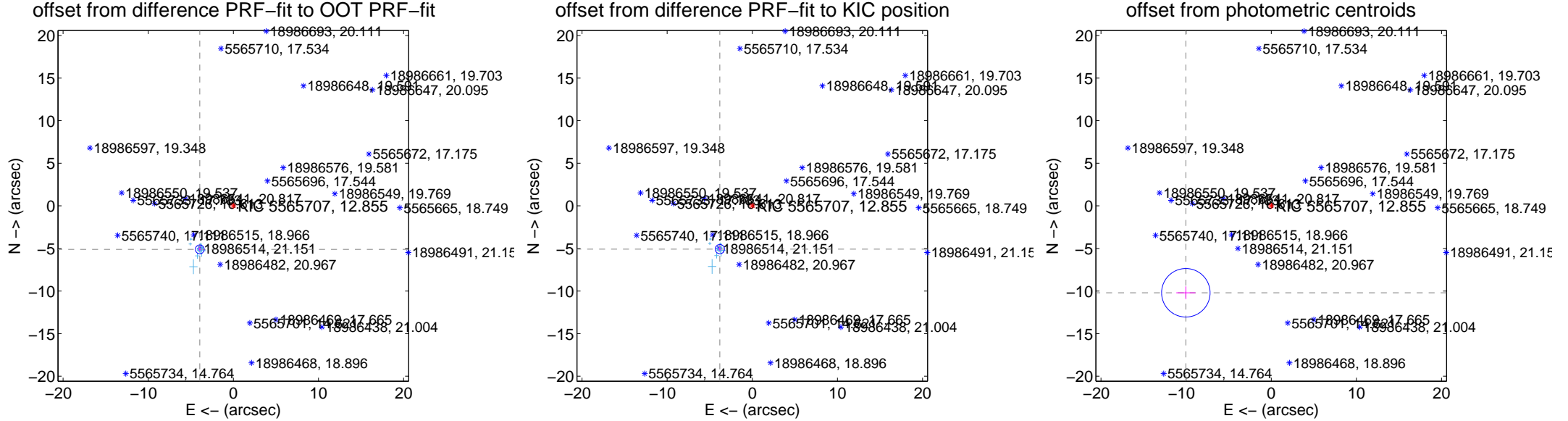
$A_{obs}$  = Observed Albedo (Assuming  $T=0$ )

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

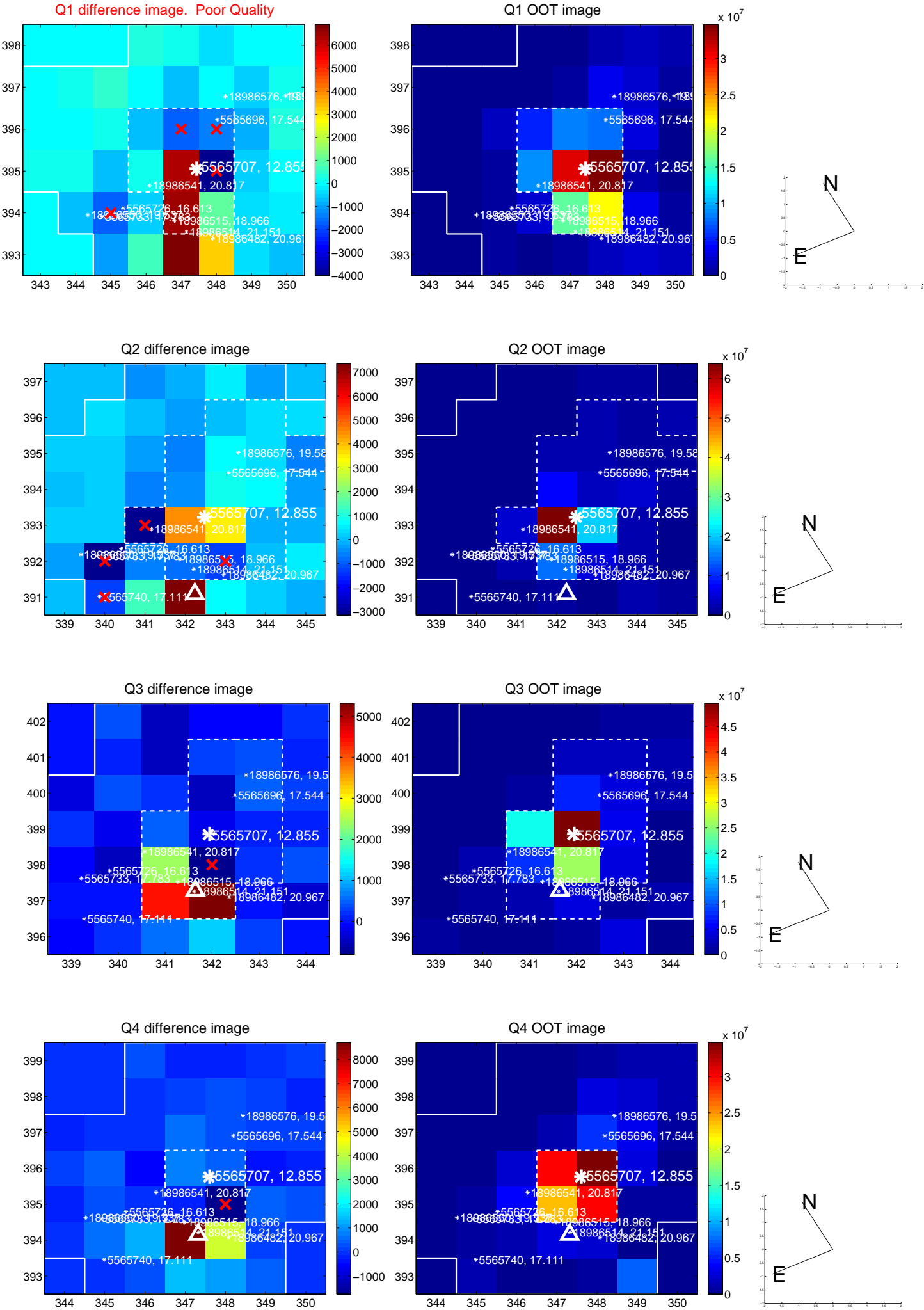
Supplemental centroid analysis for 005565707-01. Kepler magnitude: 12.86. Transit SNR 12.48  
 There are 14 quarters with good PRF difference image offsets  
 The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	6.451 $\pm$ 0.173	37.36	3.940 $\pm$ 0.135	-5.107 $\pm$ 0.202
PRF-fit source offset from KIC position	6.349 $\pm$ 0.180	35.18	3.814 $\pm$ 0.138	-5.076 $\pm$ 0.195
photometric centroid source offset	14.31 $\pm$ 0.95	15.08	10.03 $\pm$ 1.12	-10.20 $\pm$ 0.75



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.

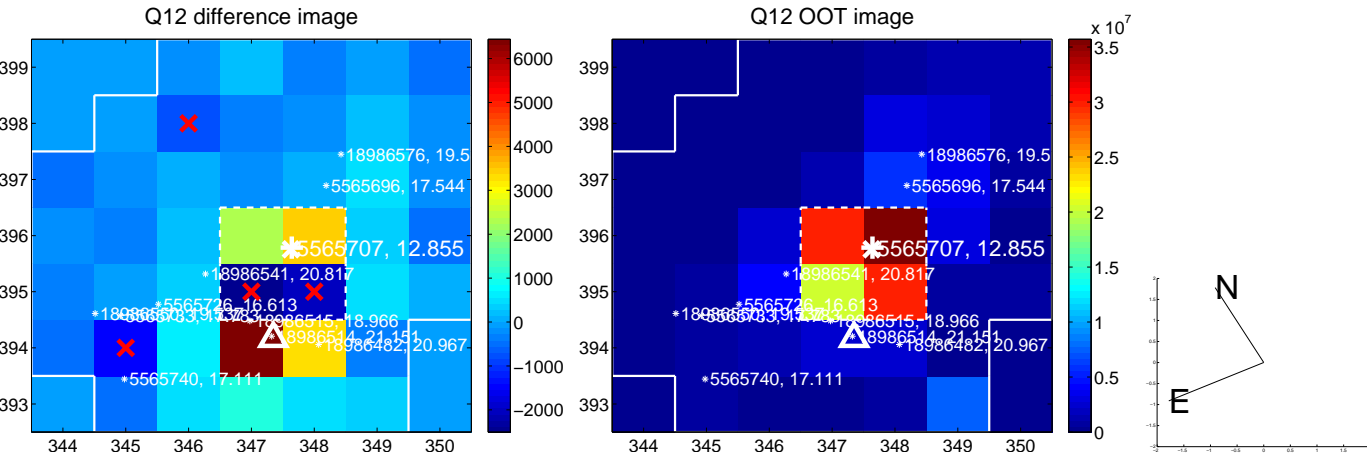
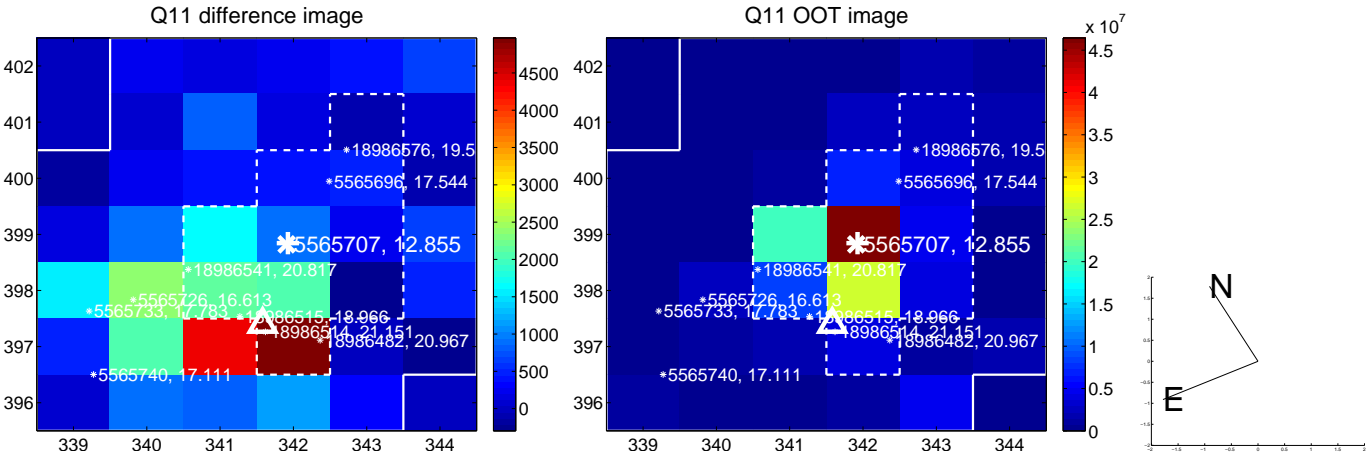
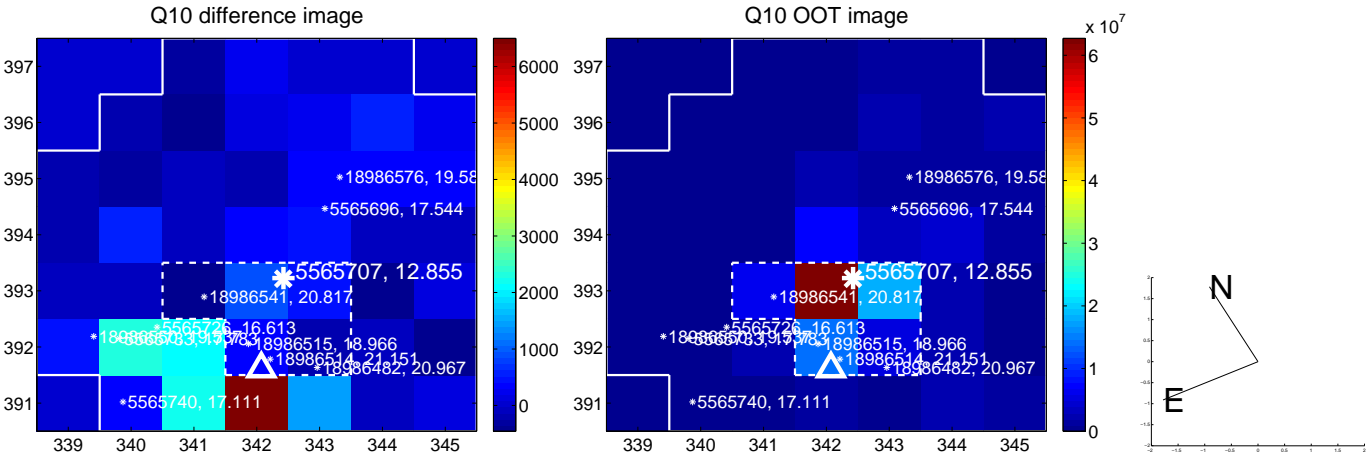
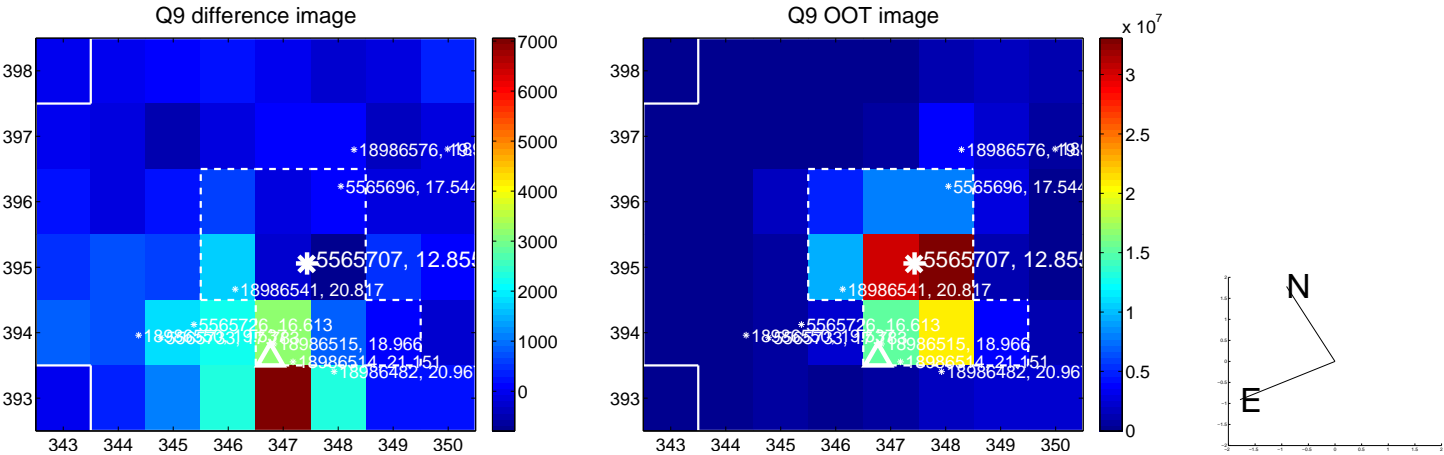
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



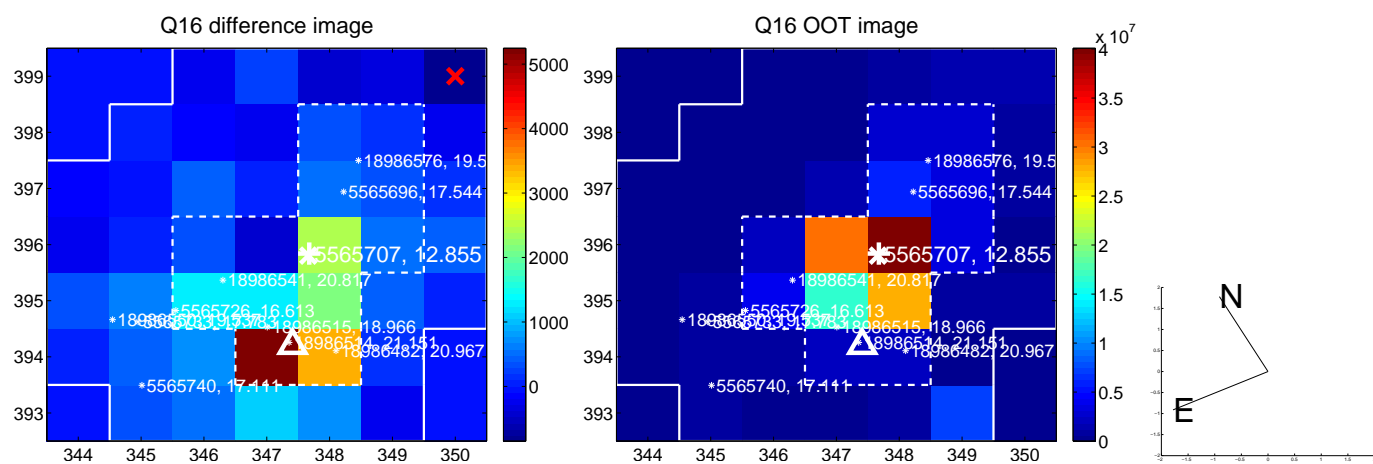
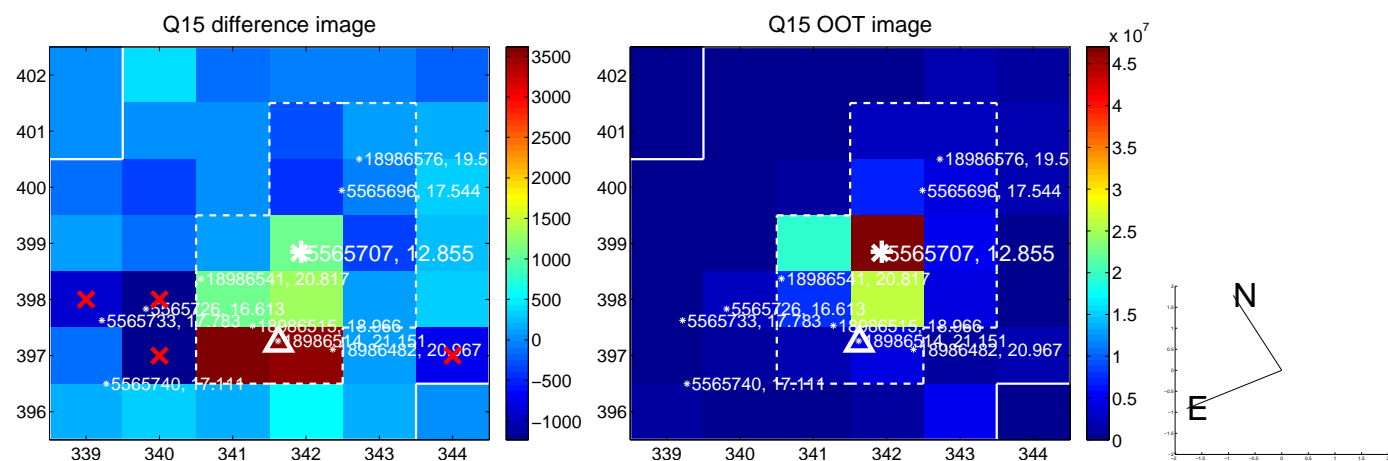
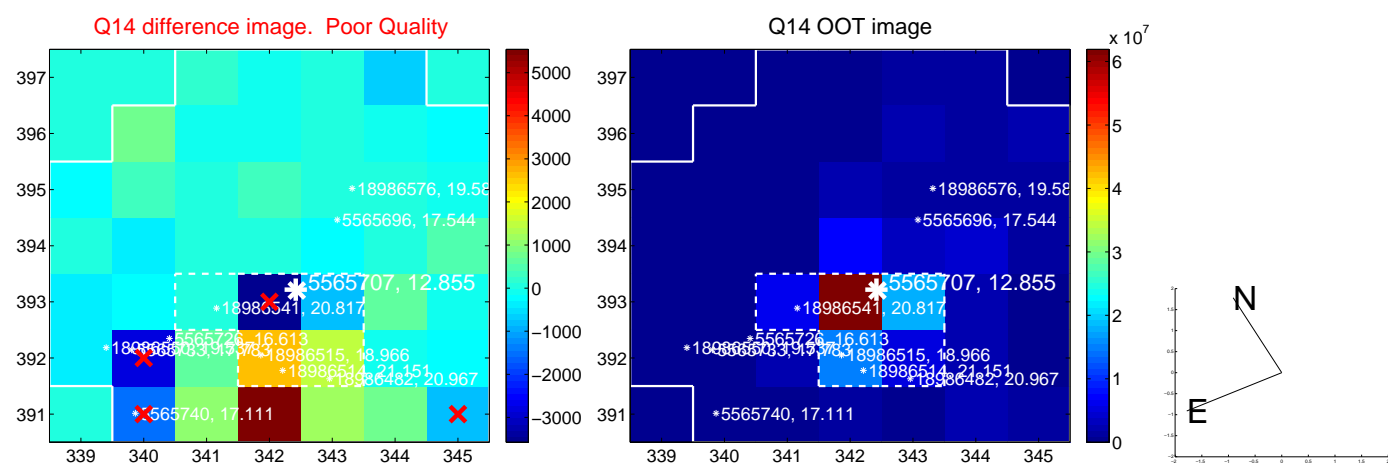
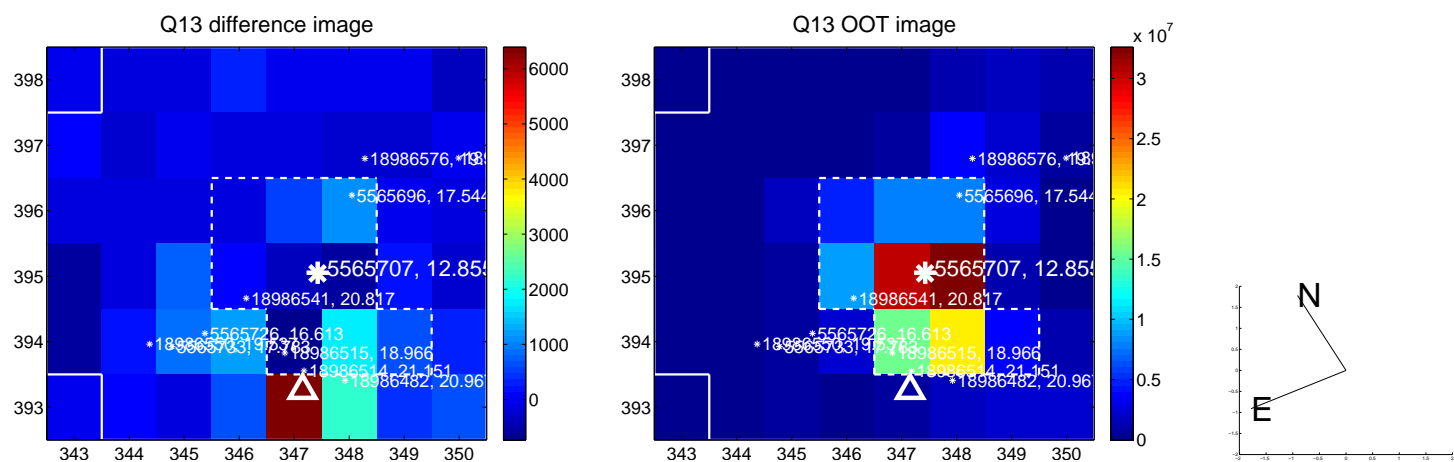




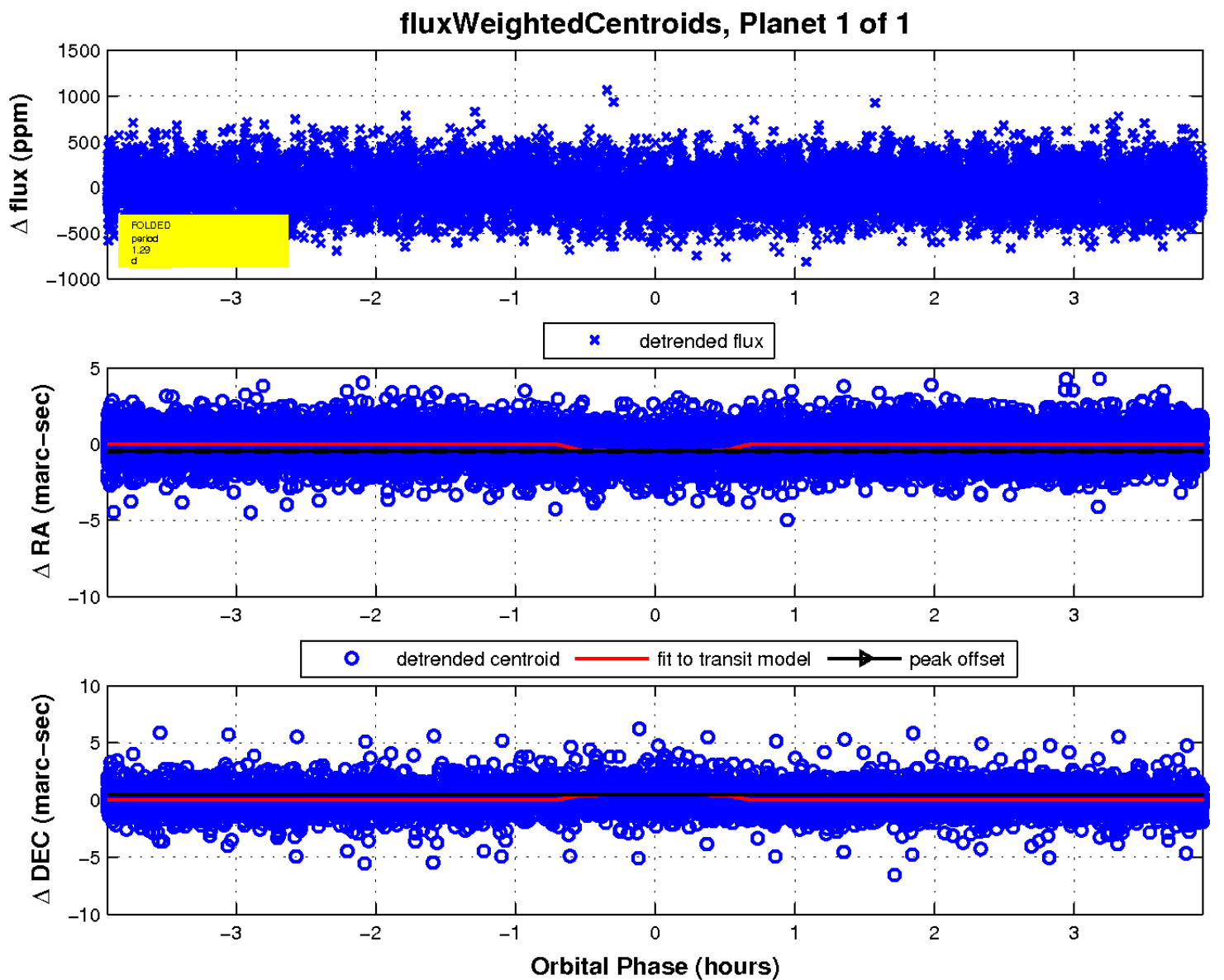
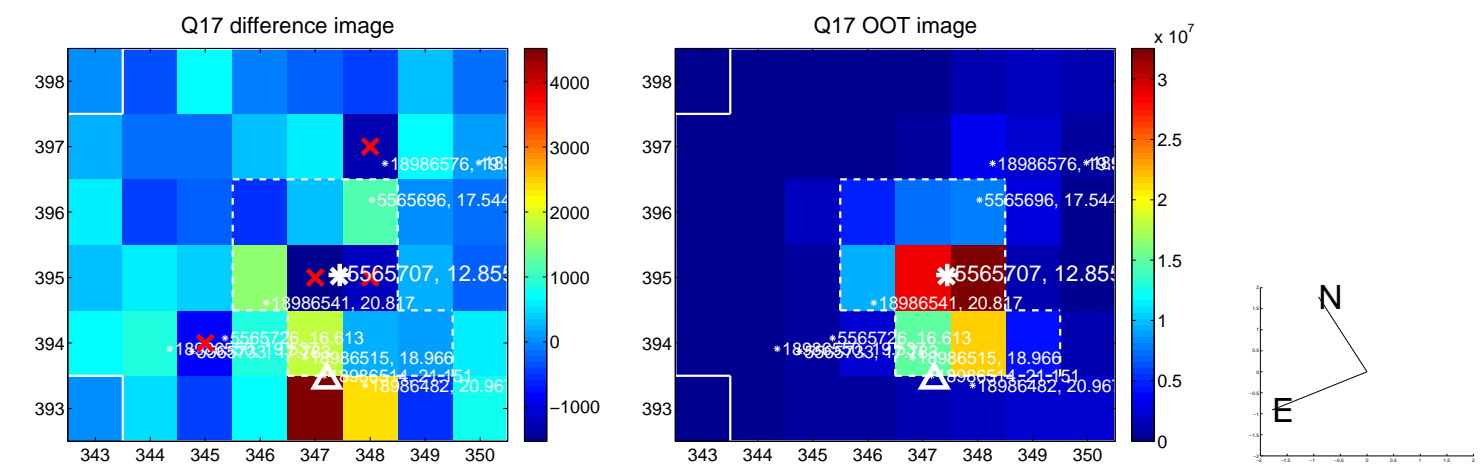
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



UKIRT Image

