

# KIC 011908559

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011908559-01	OBS	No	0.562860	131.596799	23.6	1.190	8.9	9.7	2.51	7224	1.27	58482.07

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011908559-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

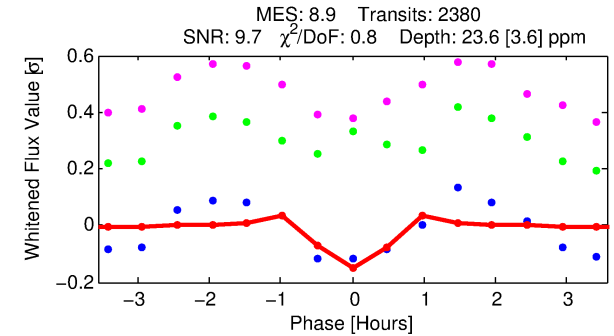
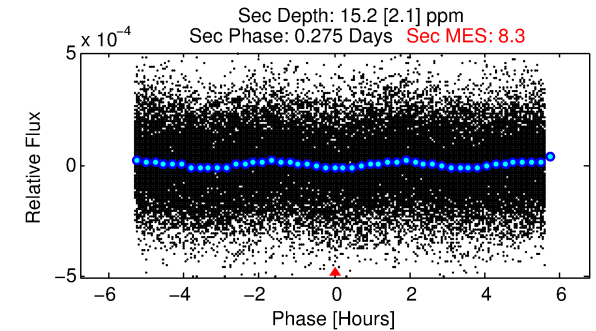
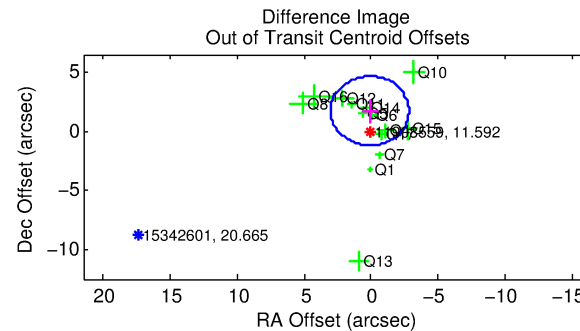
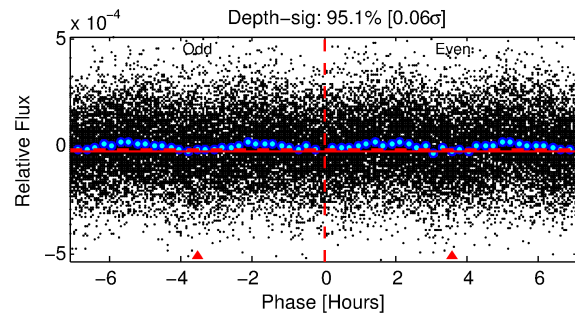
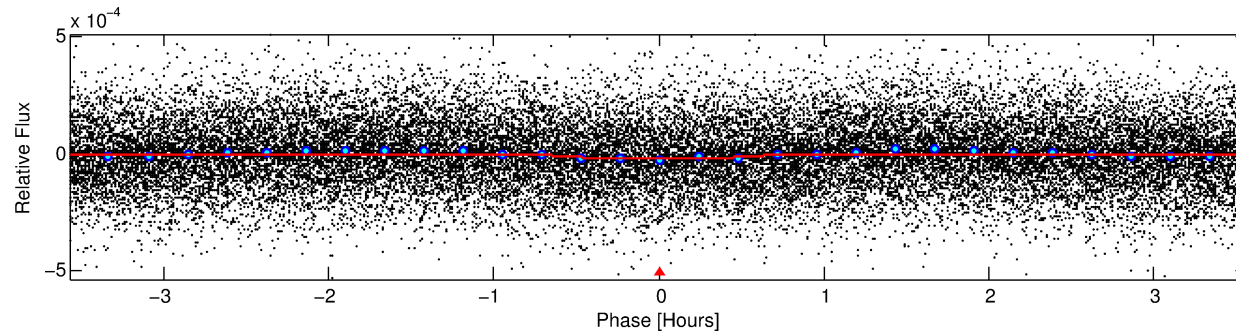
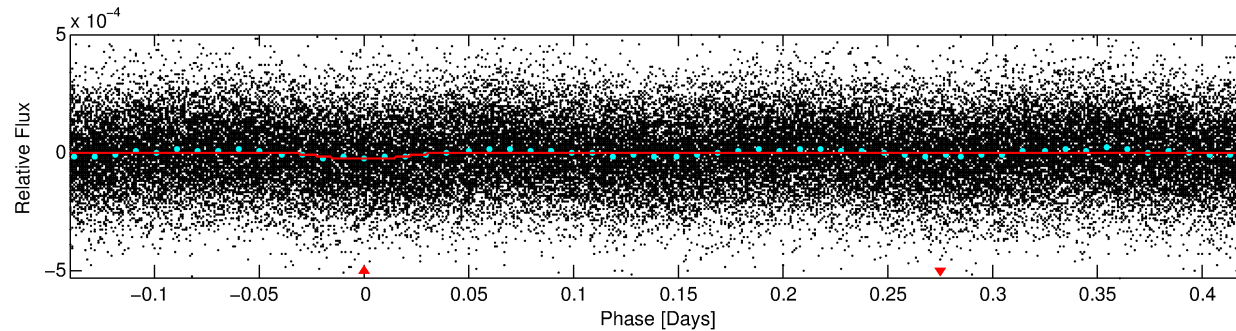
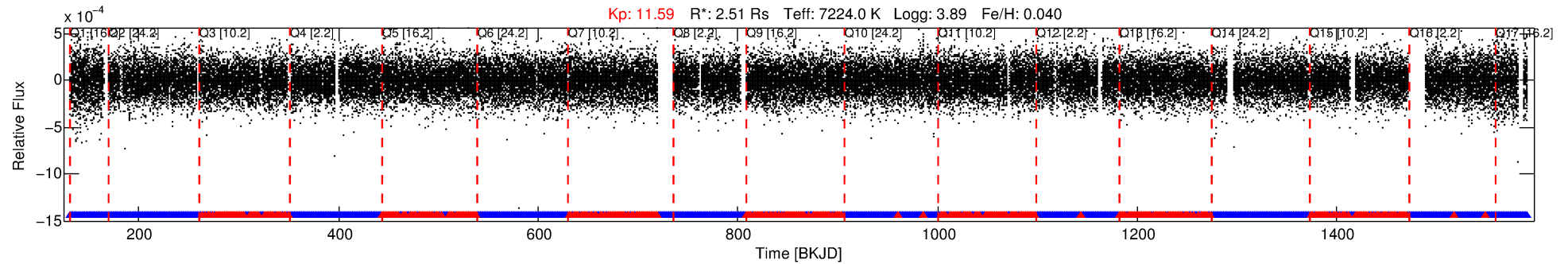
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011908559-01

No Significant Match Found

# DV One-Page Summary

KIC: 11908559 Candidate: 1 of 1 Period: 0.563 d



## DV Fit Results:

Period = 0.56286 [0.00001] d  
Epoch = 131.5968 [0.0016] BKJD  
Rp/R\* = 0.0046 [0.0010]  
a/R\* = 3.25 [3.55]  
b = 0.49 [1.89]  
Seff = 58482.07 [30818.44]  
Teq = 3965 [522] K  
Rp = 1.27 [0.52] Re  
a = 0.0162 [0.0052] AU  
Ag = 1.36 [0.92] [0.40 $\sigma$ ]  
Teffp = 6626 [805] K [2.77 $\sigma$ ]

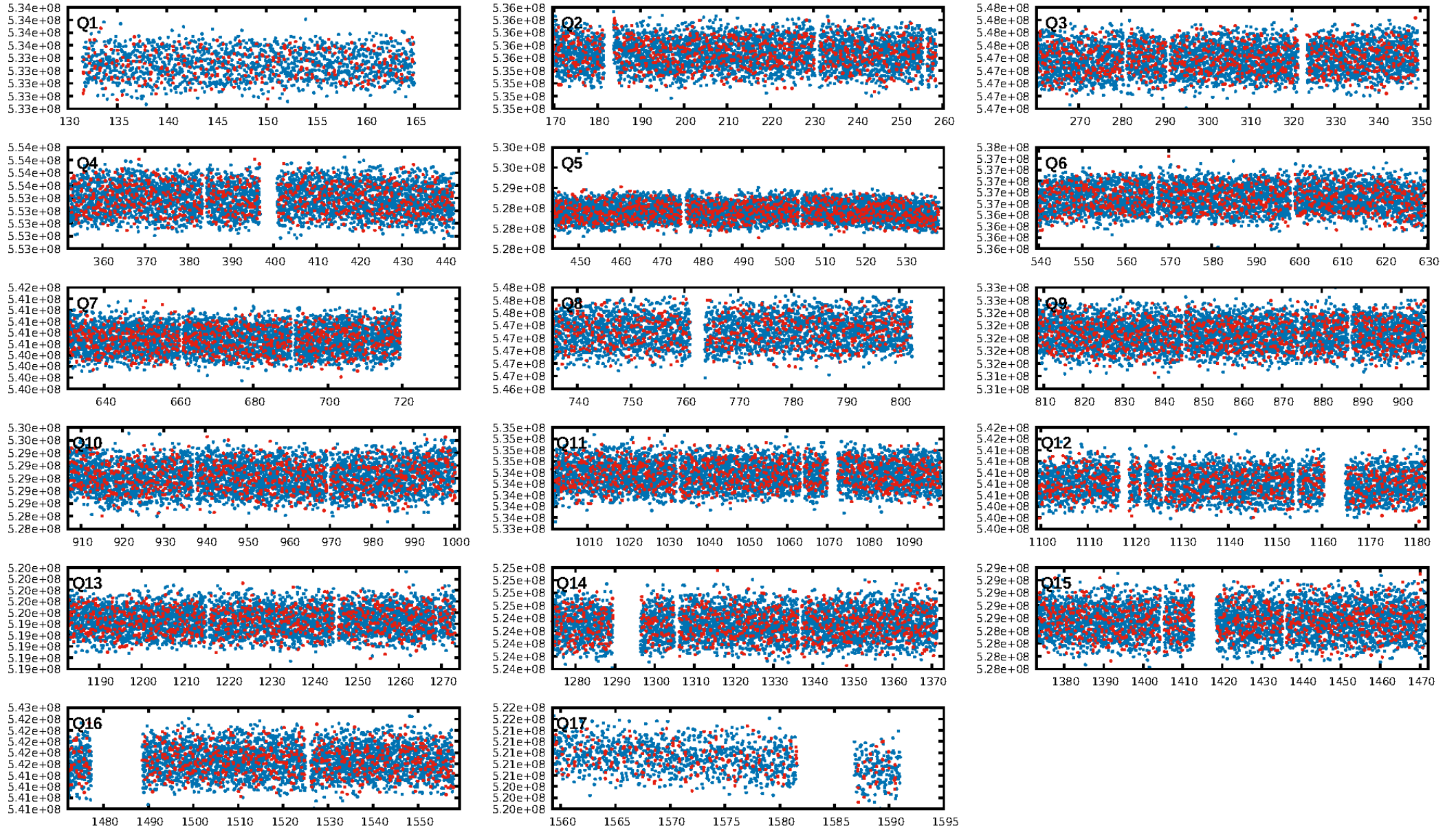
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 5.21e-15  
RollingBand-fgt: 0.76 [1724/2273]  
GhostDiagnostic-chr: 4.954  
Centroid-sig: 40.1%  
Centroid-so: 0.191 arcsec [0.29 $\sigma$ ]  
OotOffset-rm: 1.721 arcsec [1.76 $\sigma$ ]  
OotOffset-st: 3/3/4/4 [14]  
KicOffset-rm: 1.800 arcsec [1.85 $\sigma$ ]  
KicOffset-st: 3/3/4/4 [14]  
DiffImageQuality-fgm: 0.36 [5/14]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 03:50:01 Z

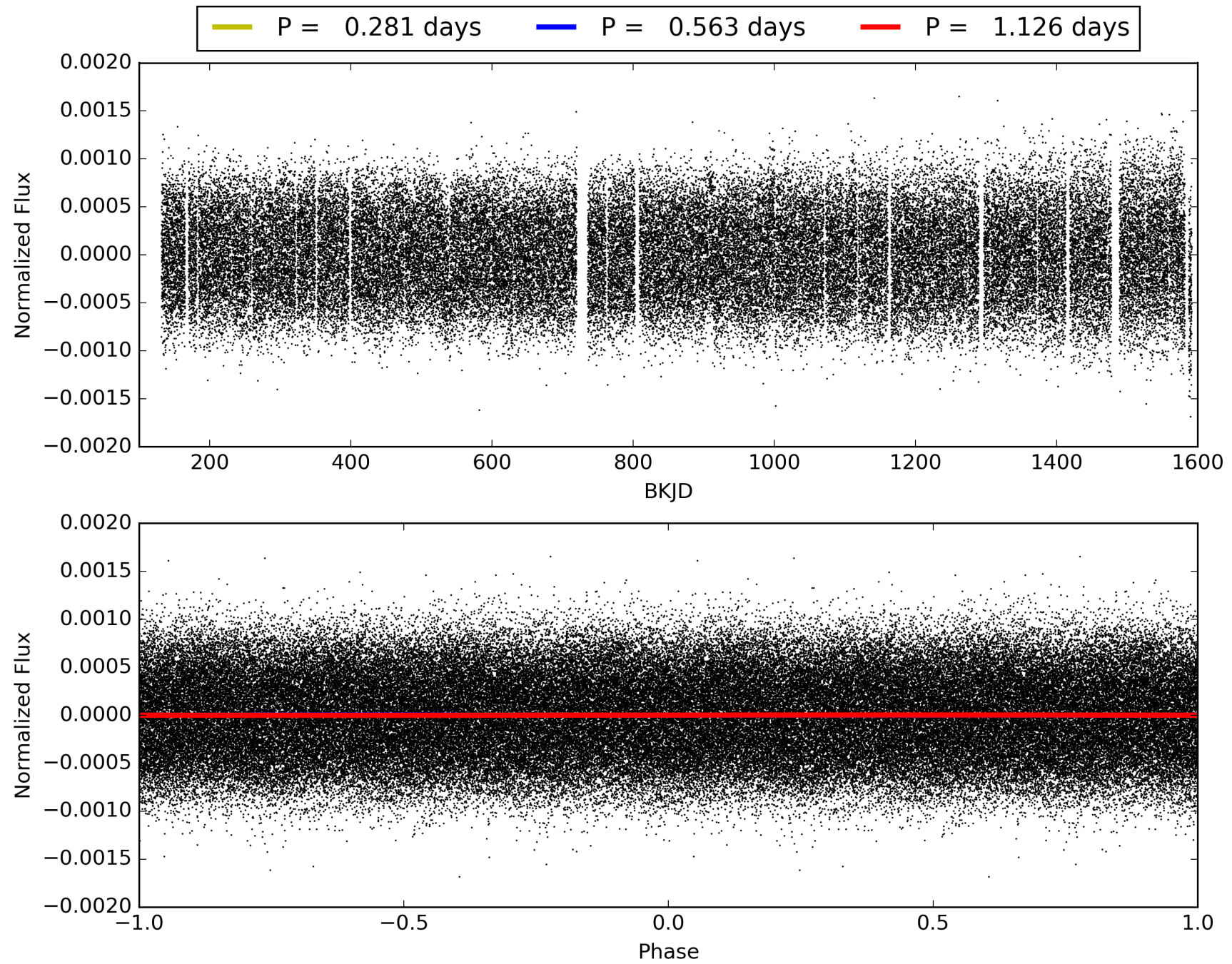
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 011908559-01, PDC Light Curves



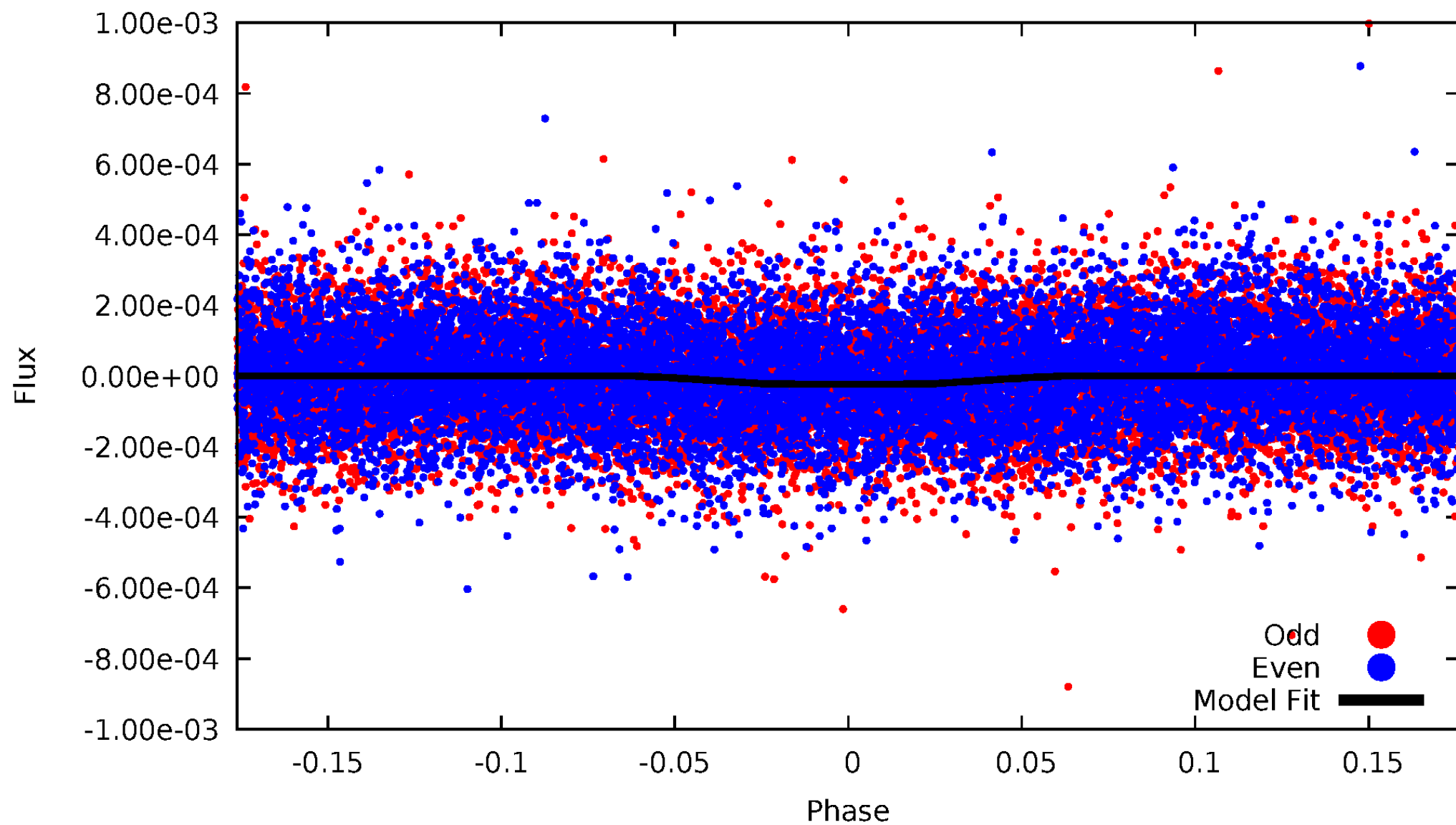


TCE 011908559-01



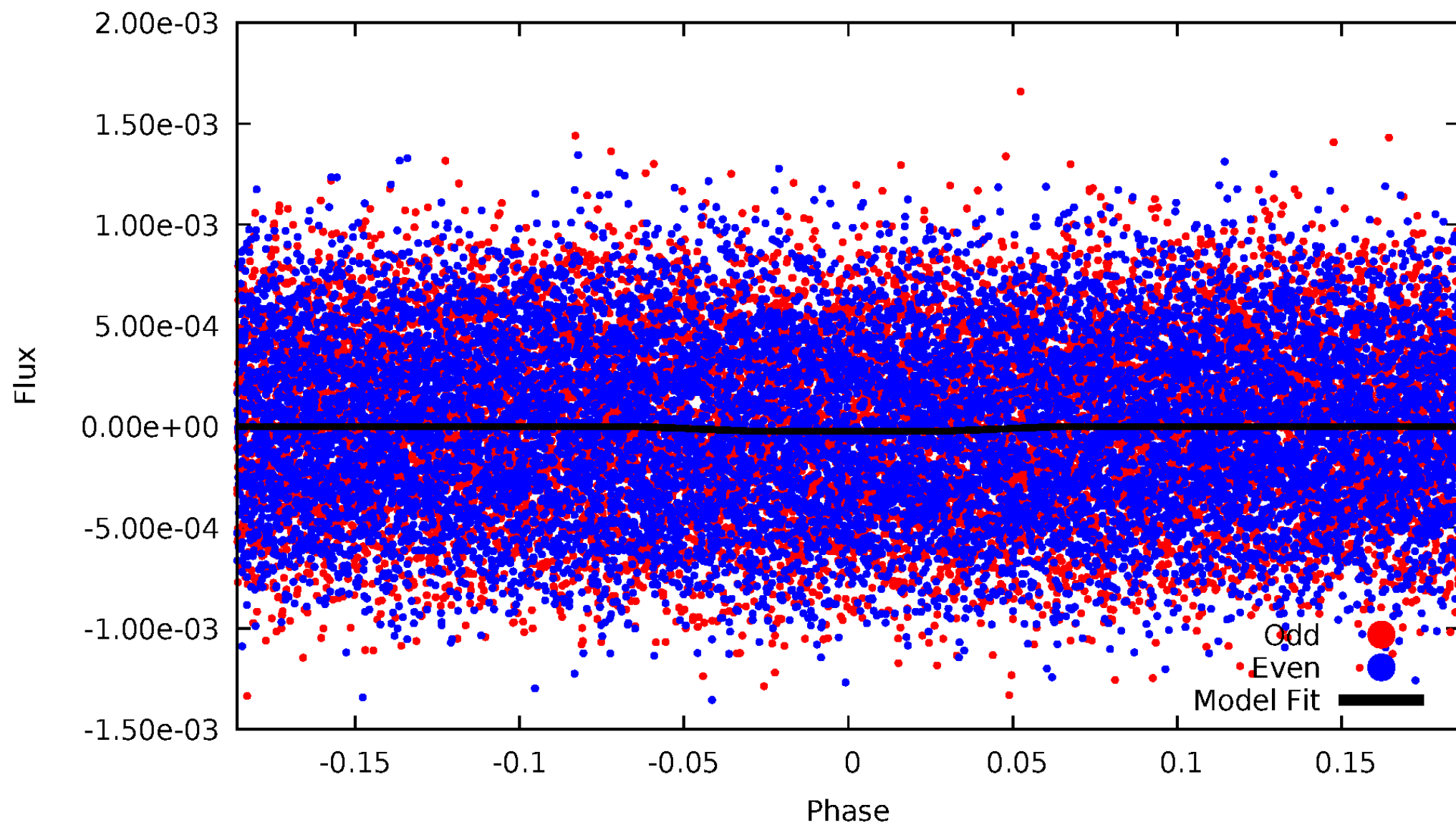
# DV Odd/Even

TCE 011908559-01



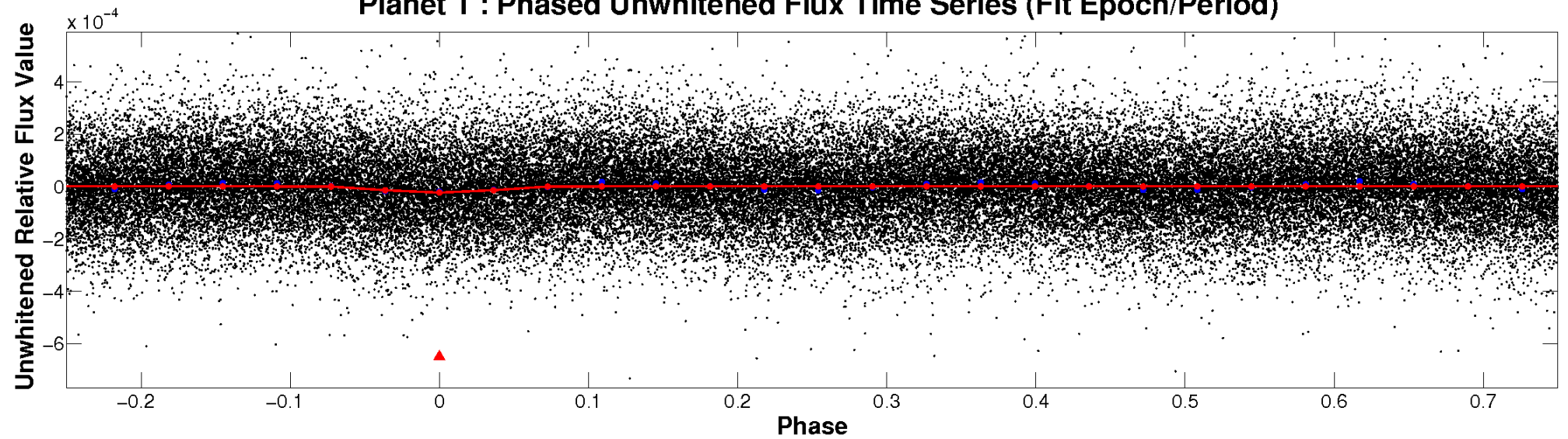
# ALT Odd/Even

TCE 011908559-01

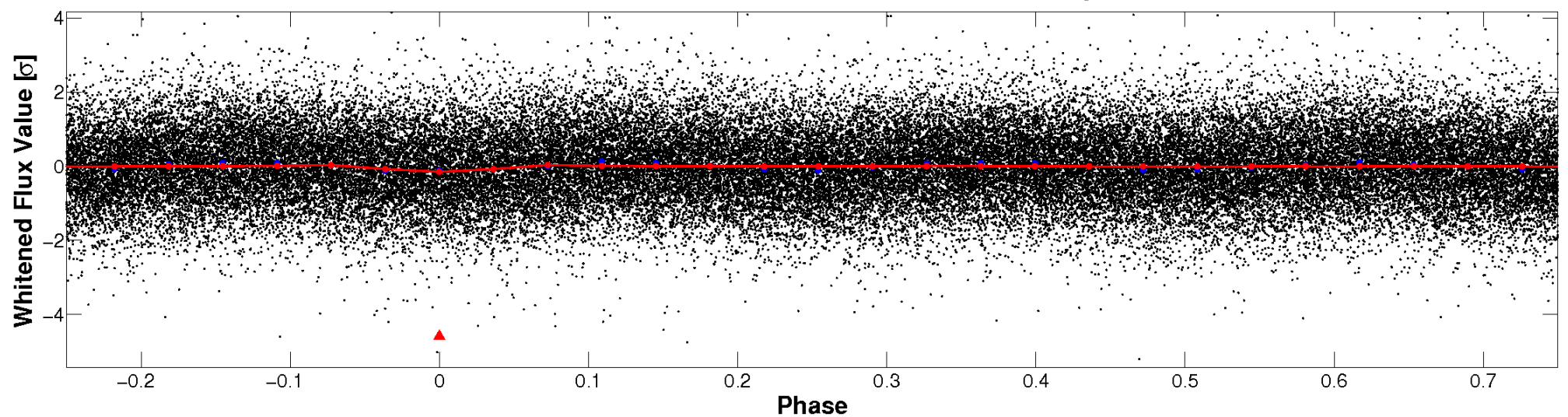


# Non-Whitened Vs. Whitened Light Curve

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



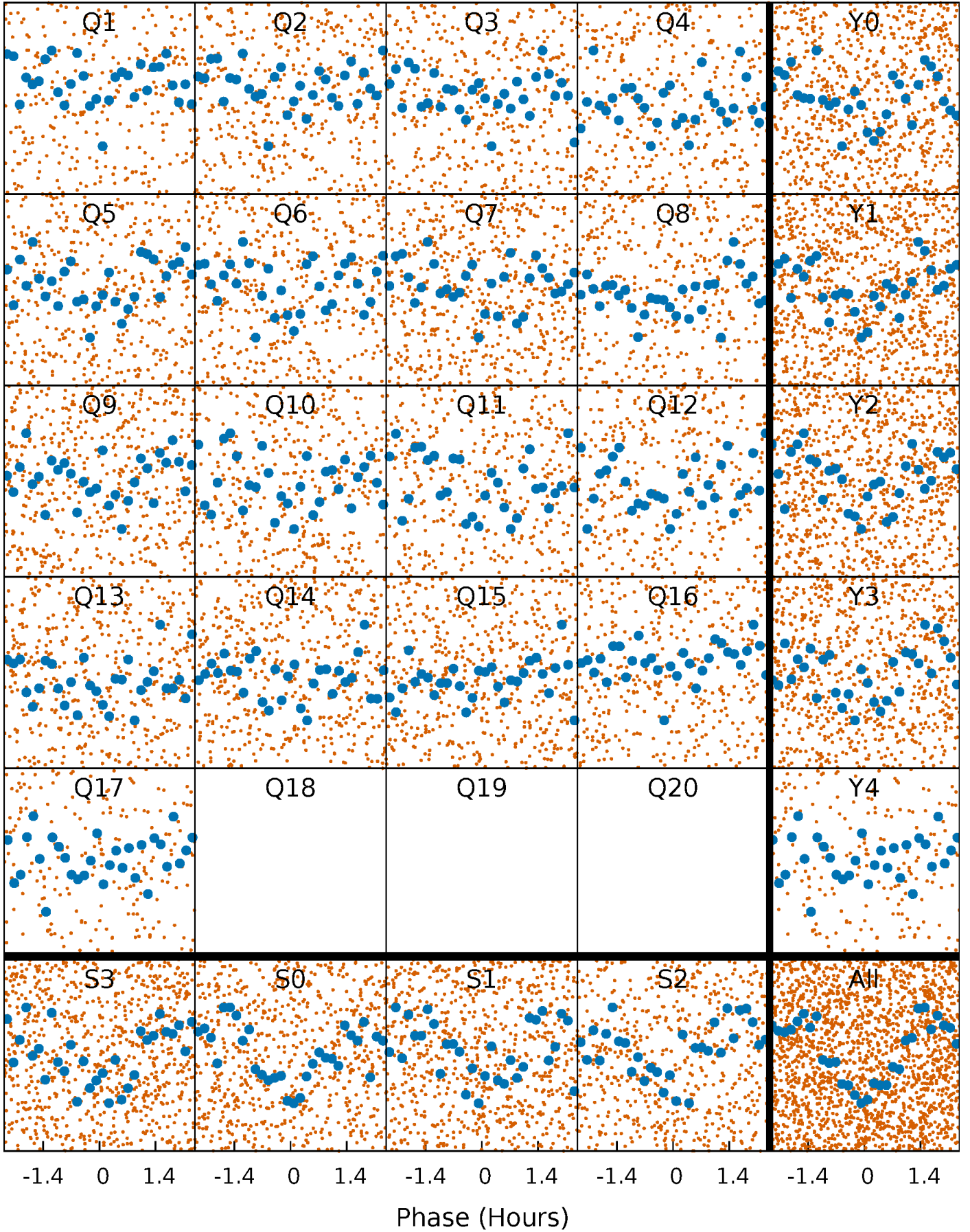
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

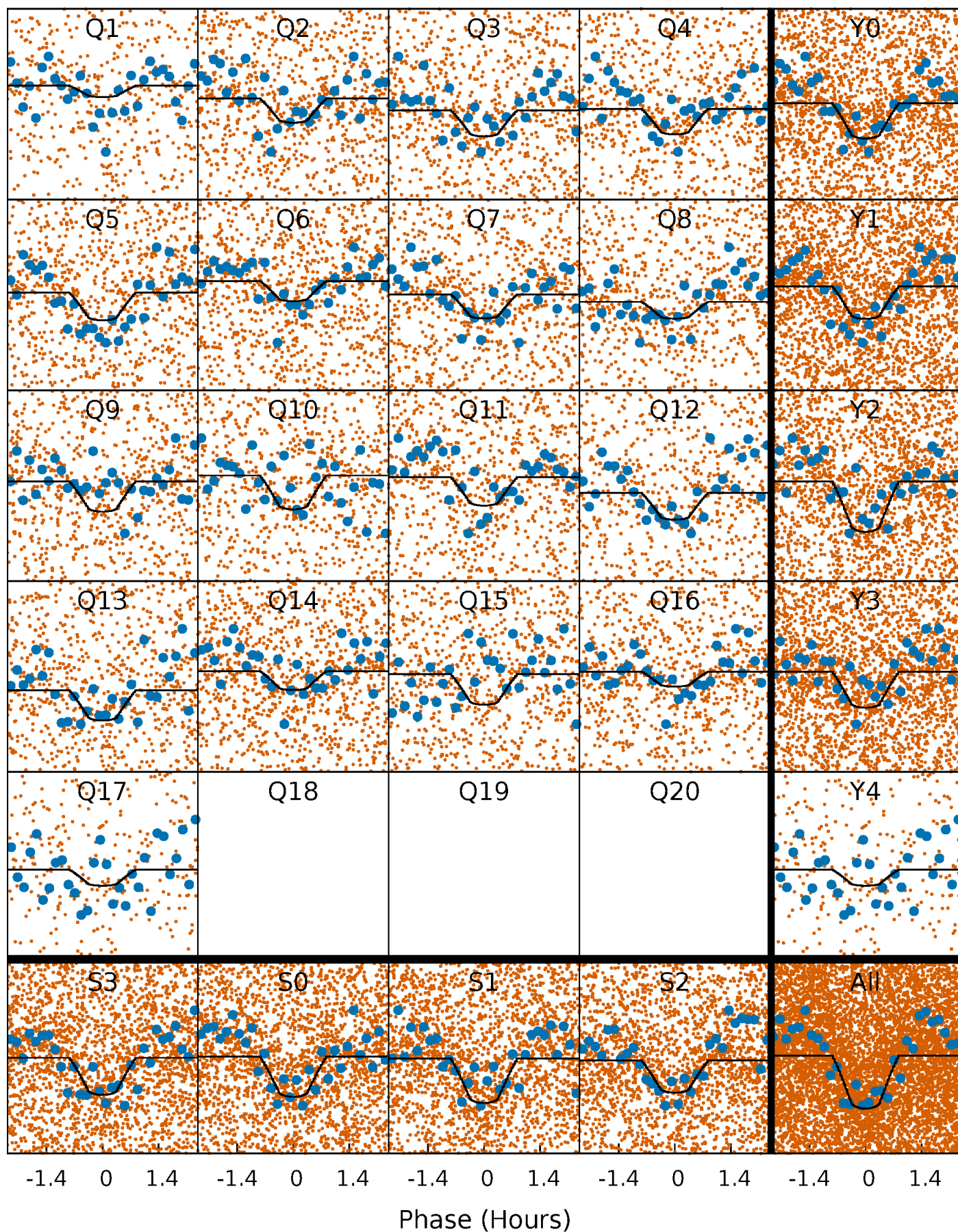
TCE 011908559-01   P= 0.562860 Days    $T_0=131.596799$  (BKJD)





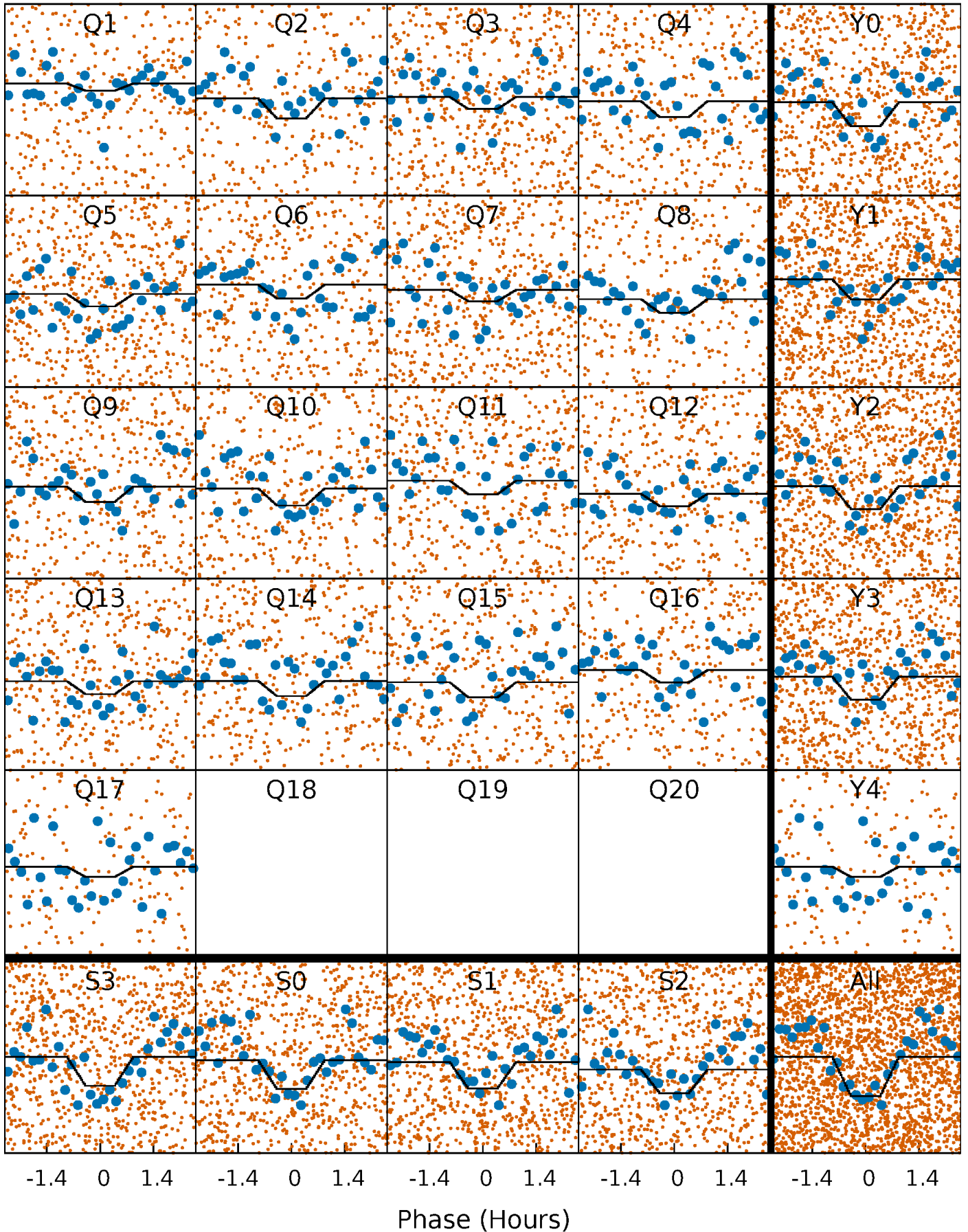
# DV Quarter-Phased Transit Curves

TCE 011908559-01 P= 0.562860 Days  $T_0=131.596799$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

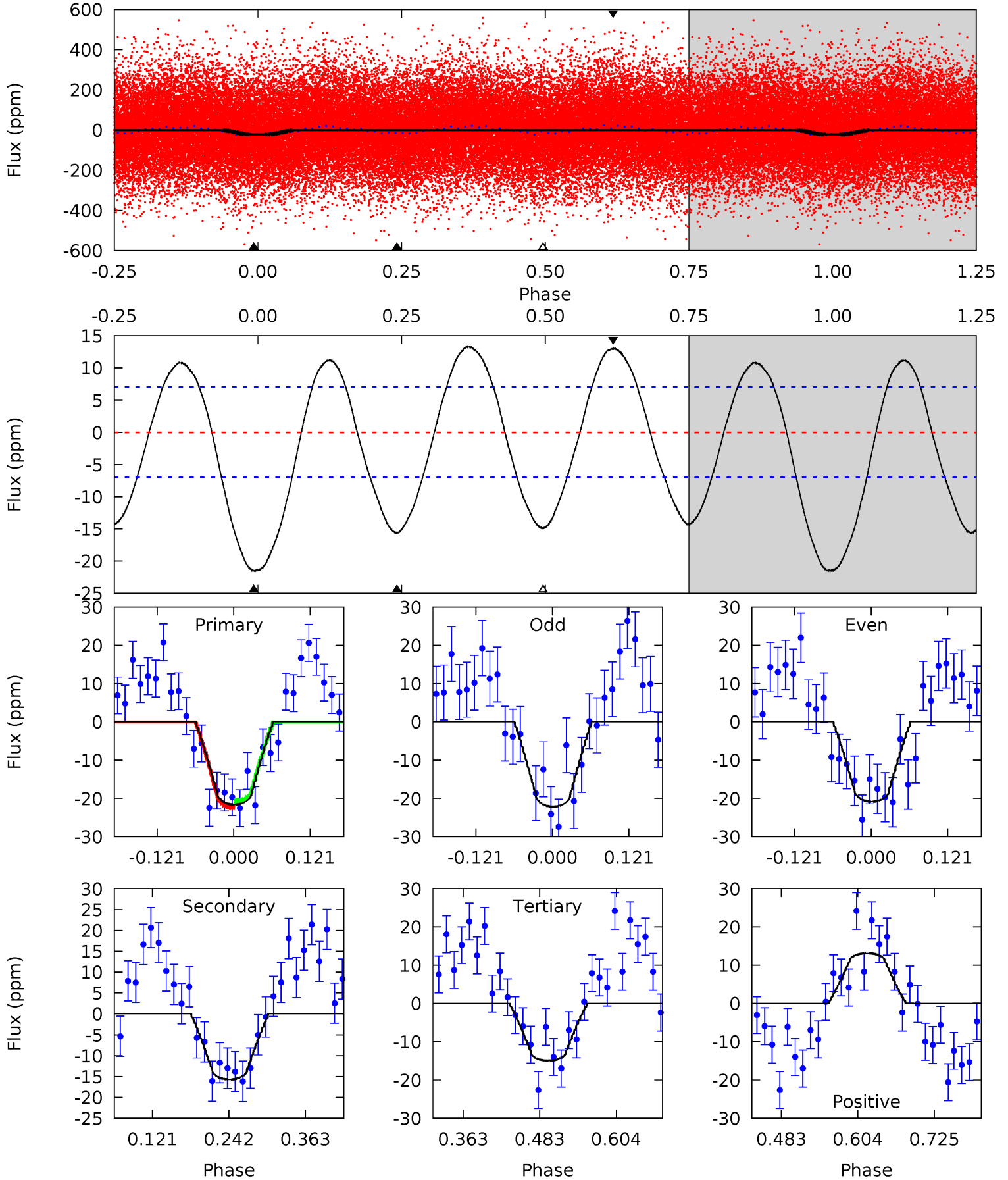
TCE 011908559-01 P= 0.562861 Days  $T_0=131.595804$  (BKJD)



# DV Model-Shift Uniqueness Test

011908559-01, P = 0.562860 Days, E = 131.033939 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
13.9	10.1	9.64	8.48	4.52	1.55	6.20	4.30	5.46	0.51	1.67	0.42	0.92	0.38	0.48

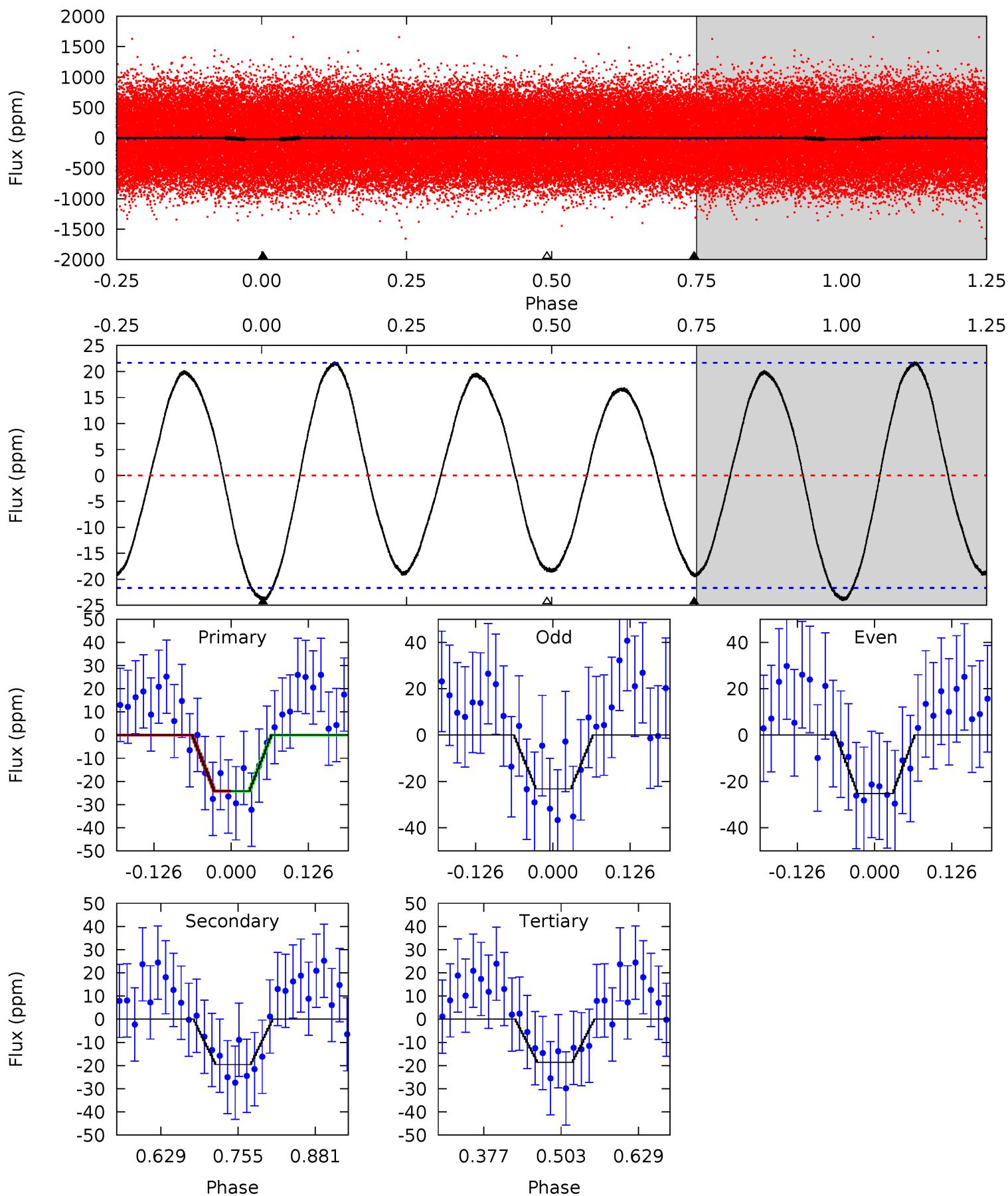




# Alt Model-Shift Uniqueness Test

011908559-01, P = 0.562861 Days, E = 131.032943 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
5.04	4.08	3.88	0	4.52	1.53	2.77	1.16	5.04	0.20	4.08	0.21	0.89	0.48	0.00





### Stellar Parameters For KIC 011908559

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7224^{+201}_{-316}$	$3.892^{+0.287}_{-0.143}$	$0.040^{+0.200}_{-0.300}$	$2.508^{+0.578}_{-0.866}$	$1.788^{+0.196}_{-0.364}$	$0.160^{+0.284}_{-0.068}$
	+3%/-4%	+7%/-4%	+500%/-750%	+23%/-35%	+11%/-20%	+178%/-43%
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 011908559-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-16 \pm 2$	$1.20^{+0.36}_{-0.32}$	$5472^{+384}_{-550}$	$6240^{+1189}_{-814}$	$1.560^{+1.347}_{-0.624}$
Alt.	$-20 \pm 5$	$1.29^{+0.37}_{-0.33}$	$5434^{+435}_{-477}$	$6399^{+1152}_{-919}$	$1.667^{+1.307}_{-0.723}$

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

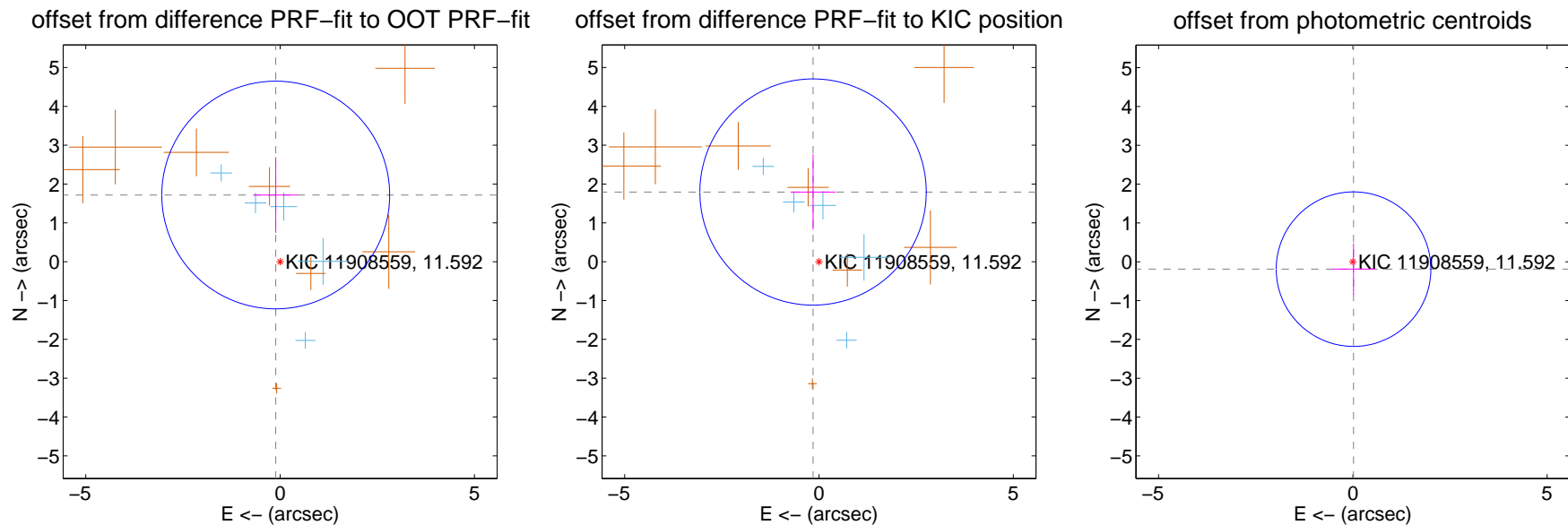
## DV Centroid Data

Supplemental centroid analysis for 011908559-01. **Kepler magnitude: 11.59.** Transit SNR 9.73

There are 5 quarters with good PRF difference image offsets

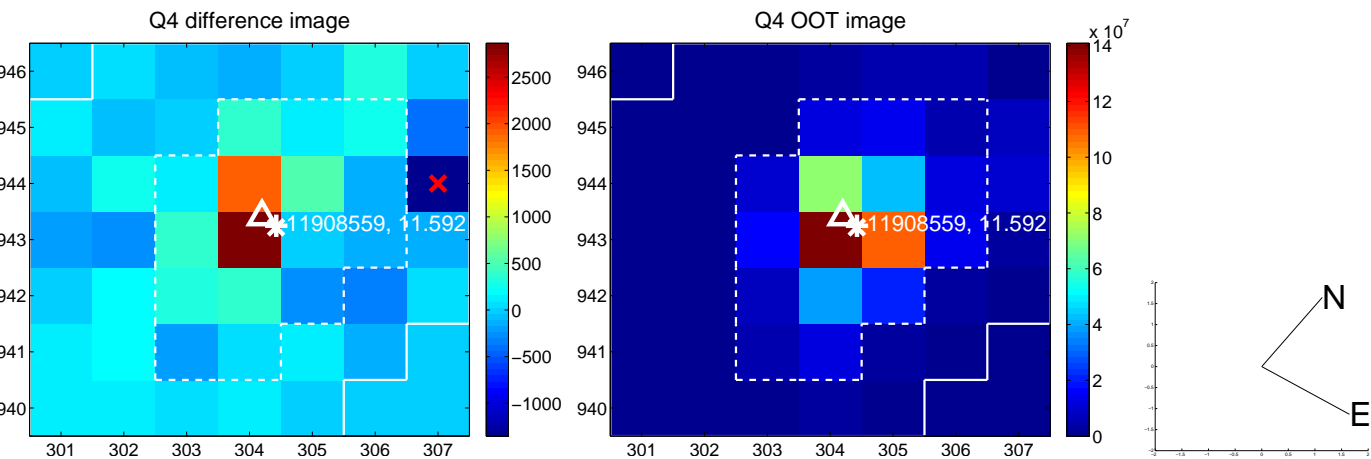
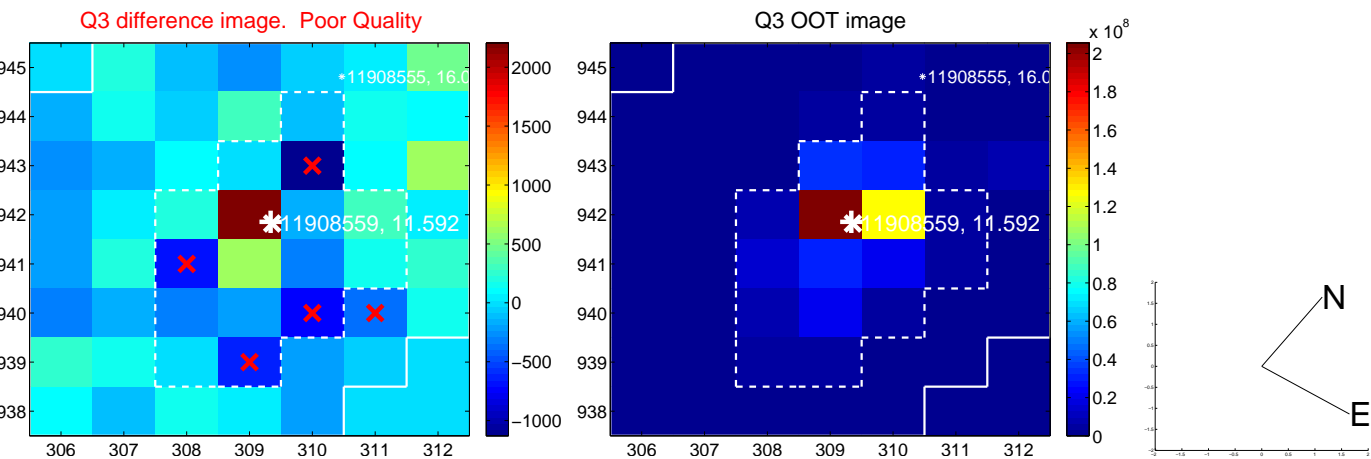
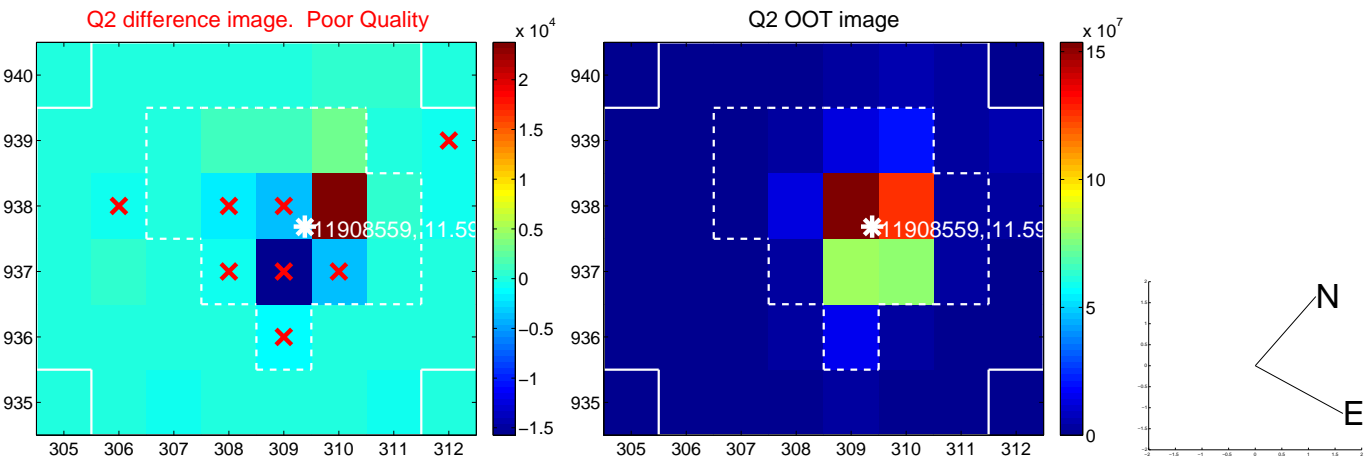
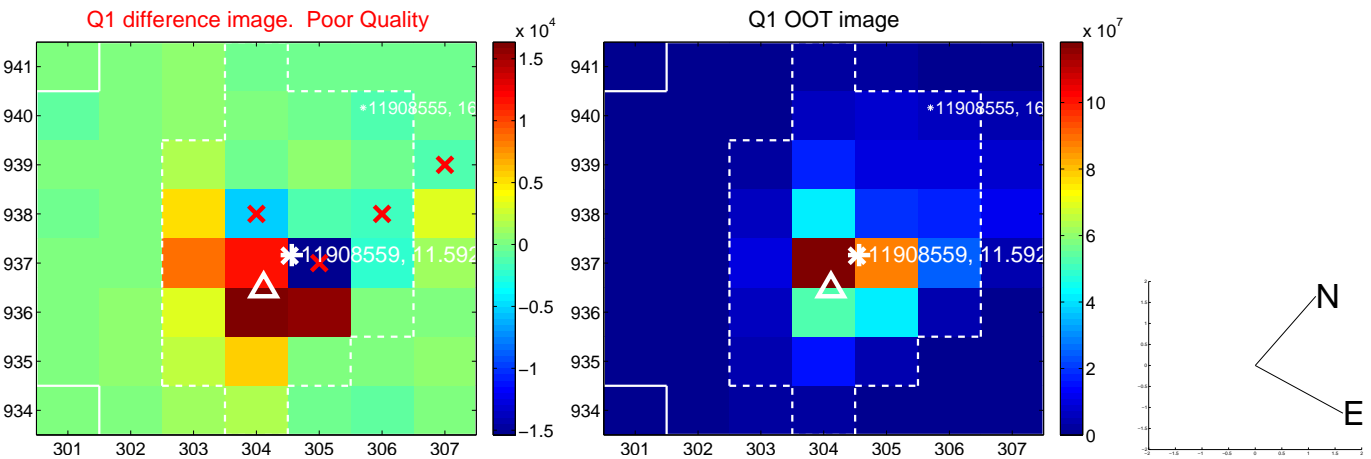
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.721 \pm 0.977$	1.76	$0.113 \pm 0.570$	$1.717 \pm 0.973$
PRF-fit source offset from KIC position	$1.800 \pm 0.971$	1.85	$0.152 \pm 0.578$	$1.794 \pm 0.971$
photometric centroid source offset	$0.19 \pm 0.66$	0.29	$-0.02 \pm 0.55$	$-0.19 \pm 0.66$

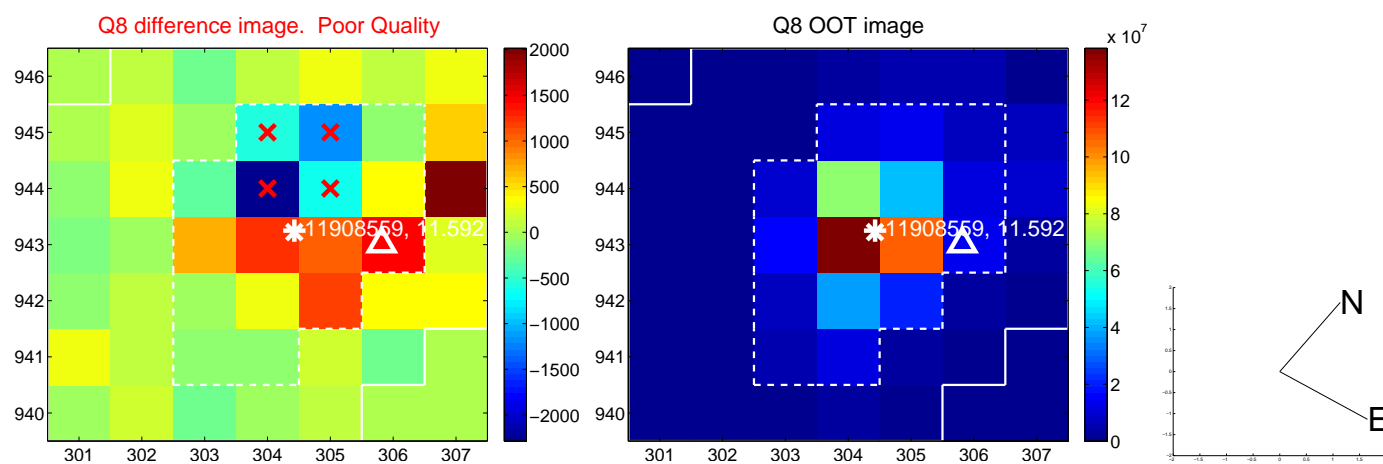
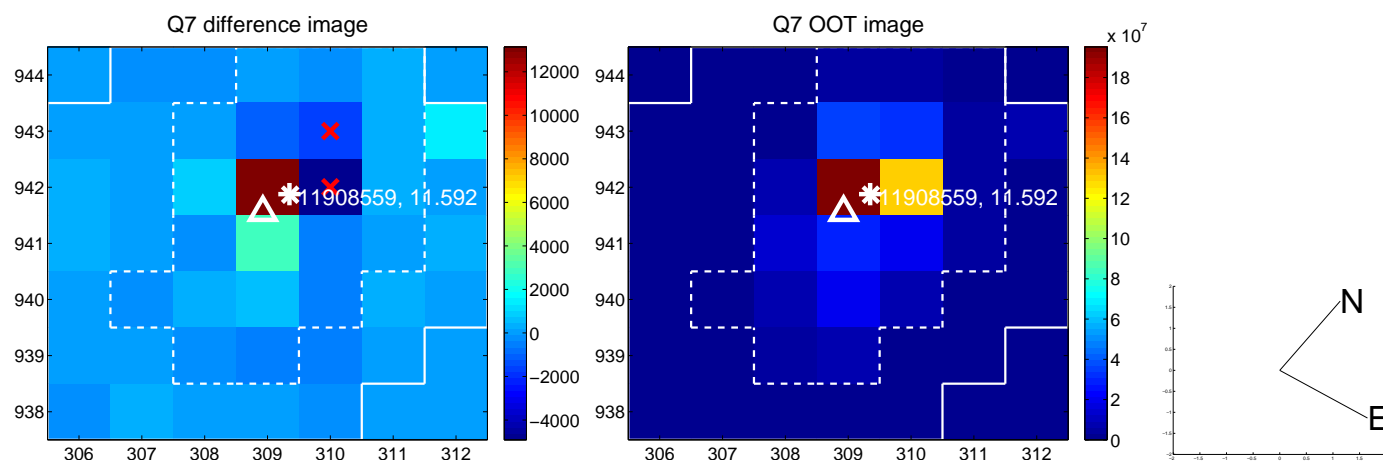
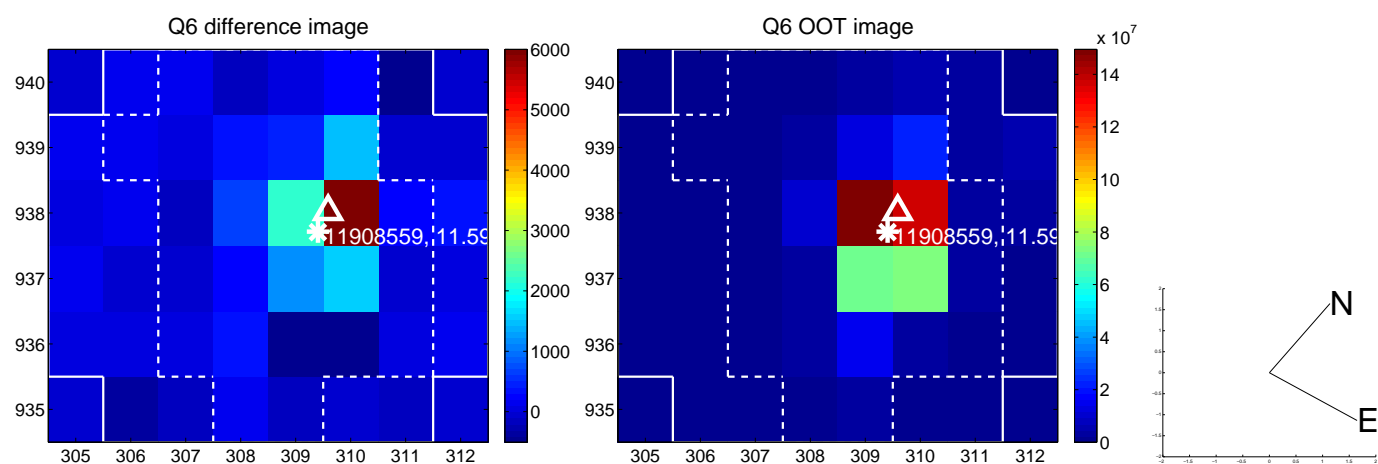
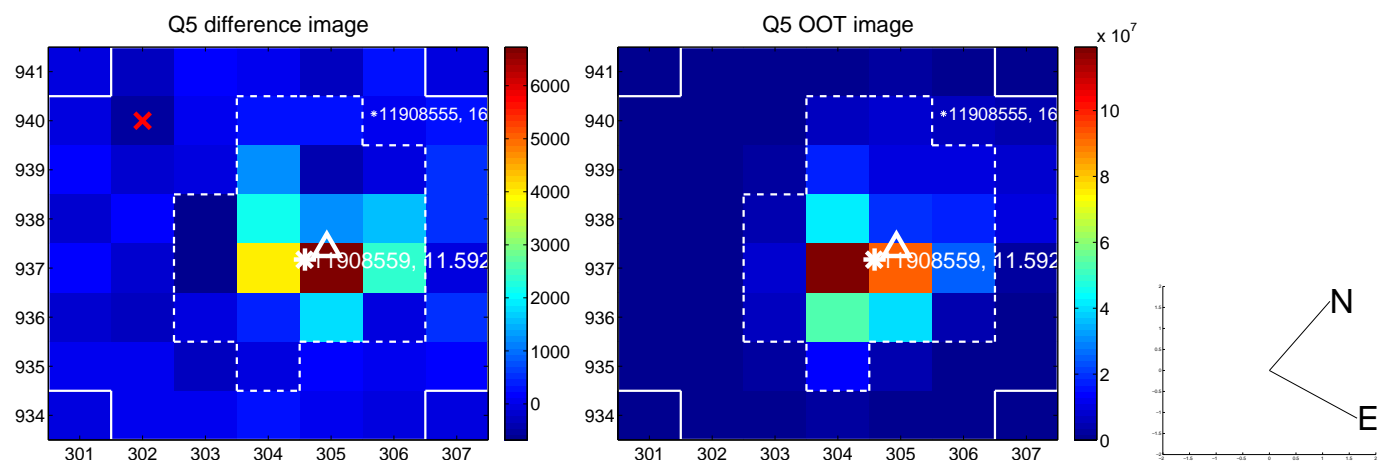


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

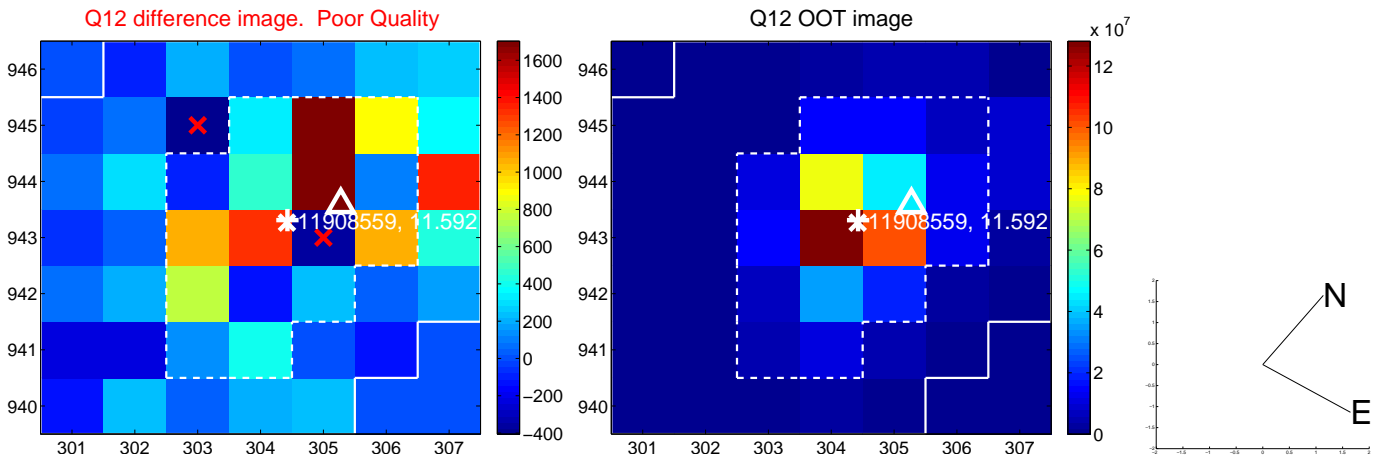
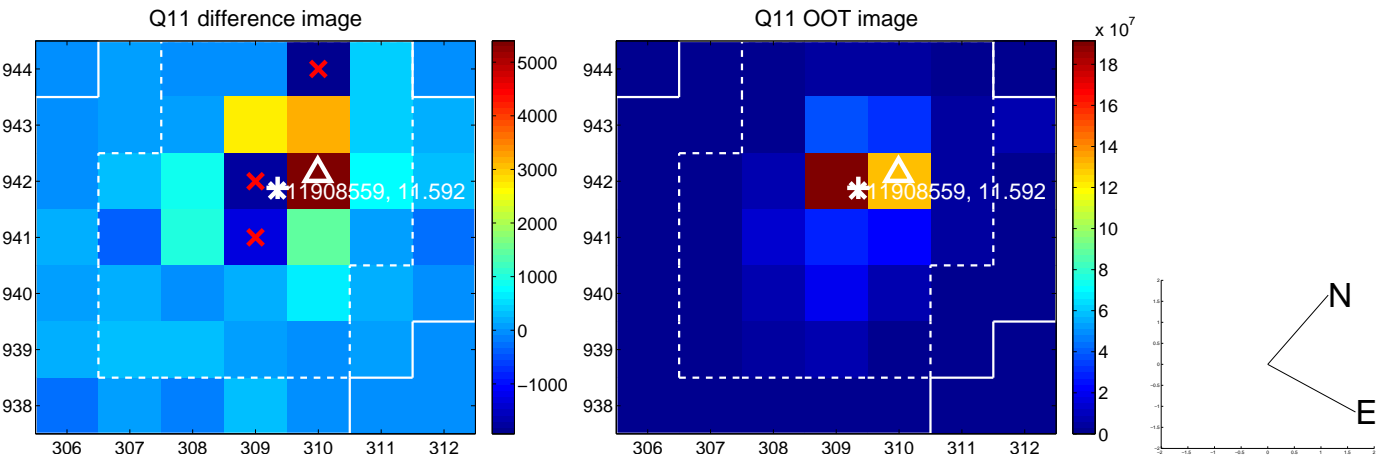
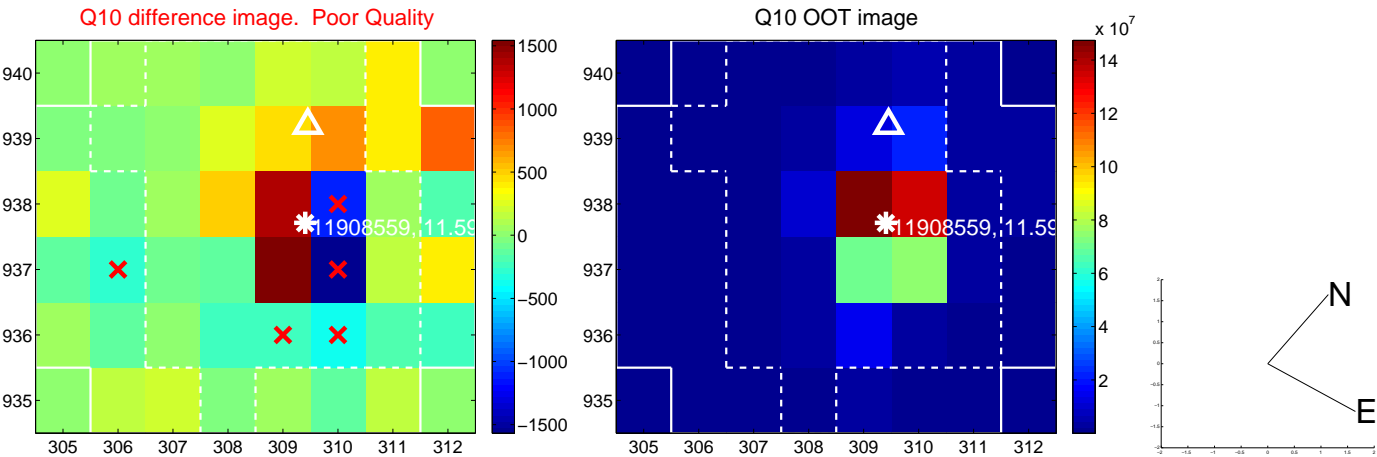
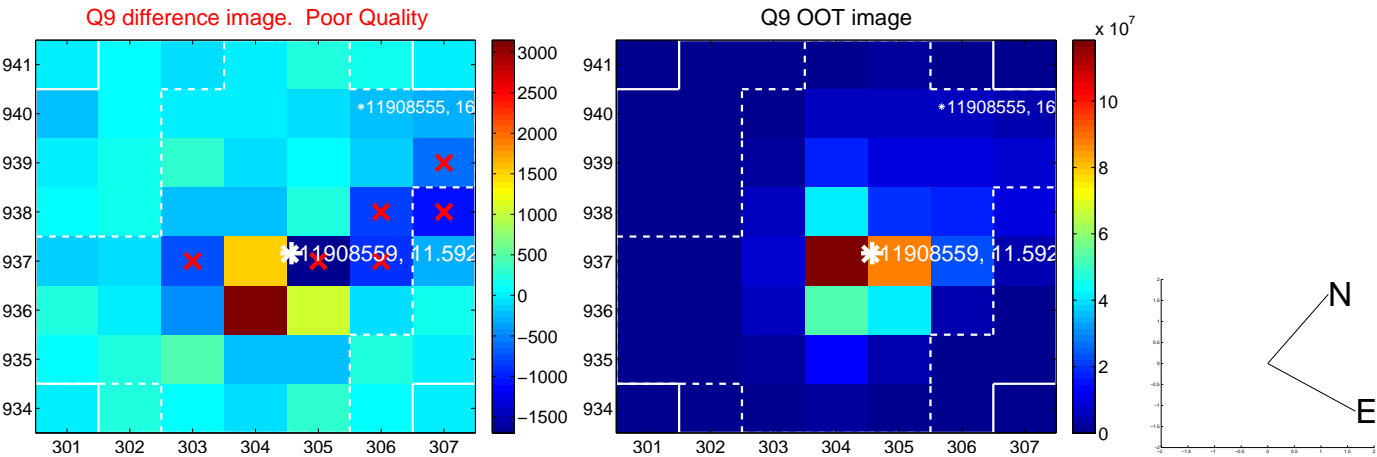


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

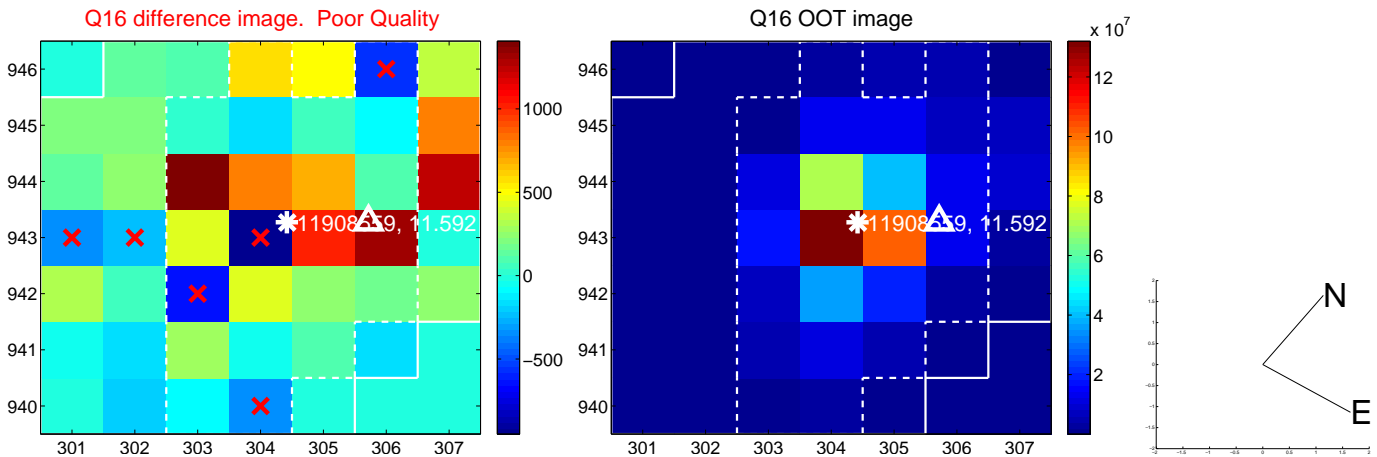
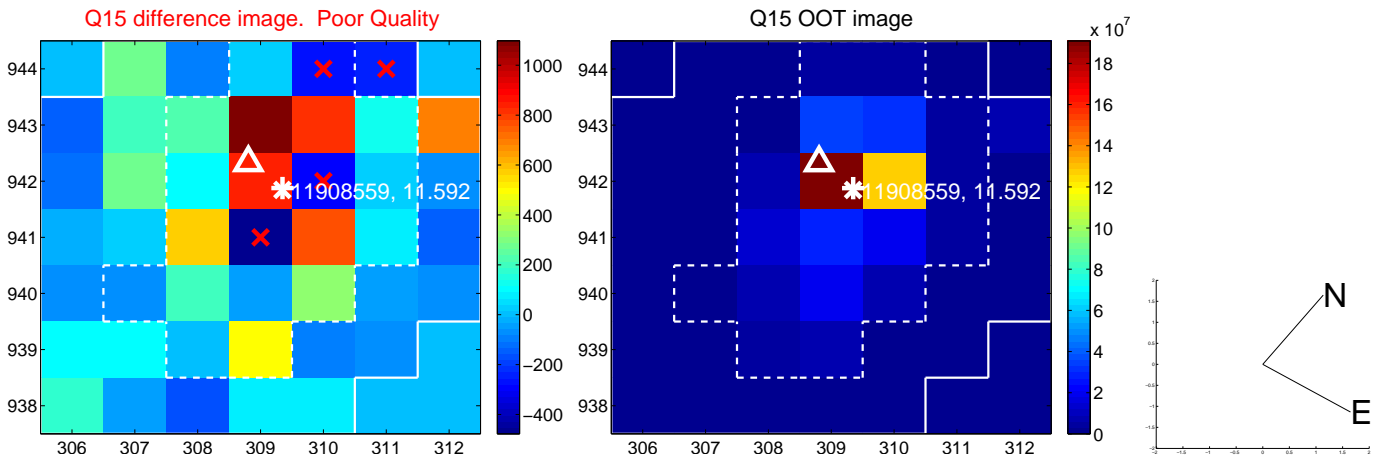
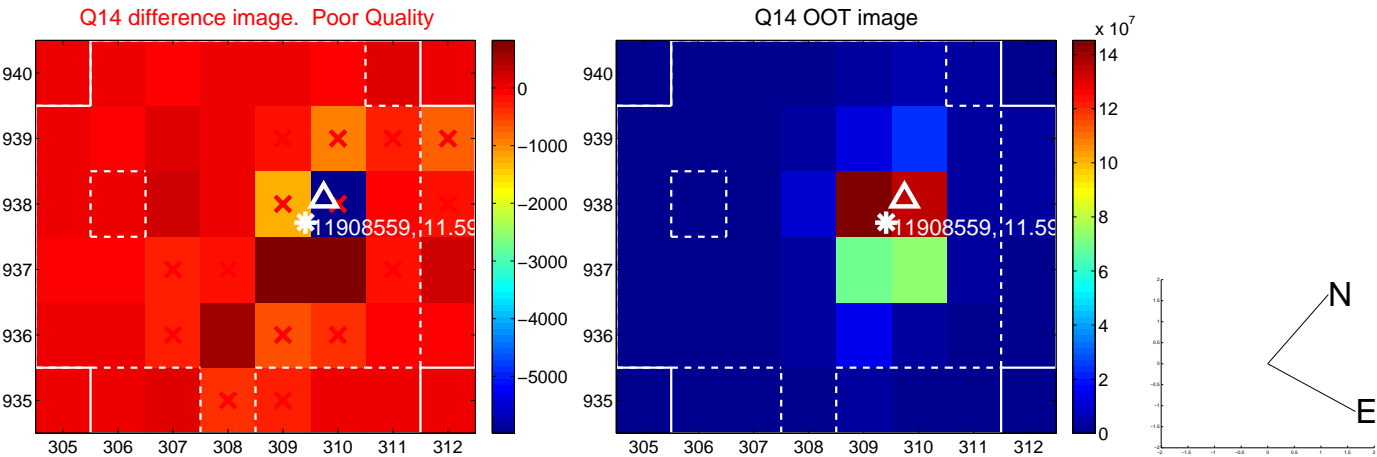
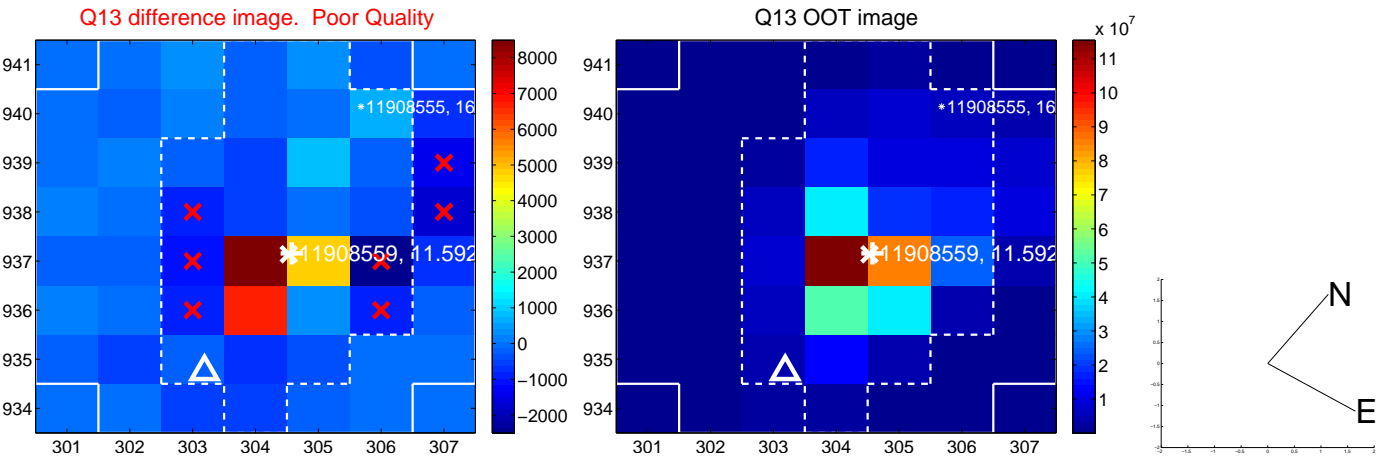




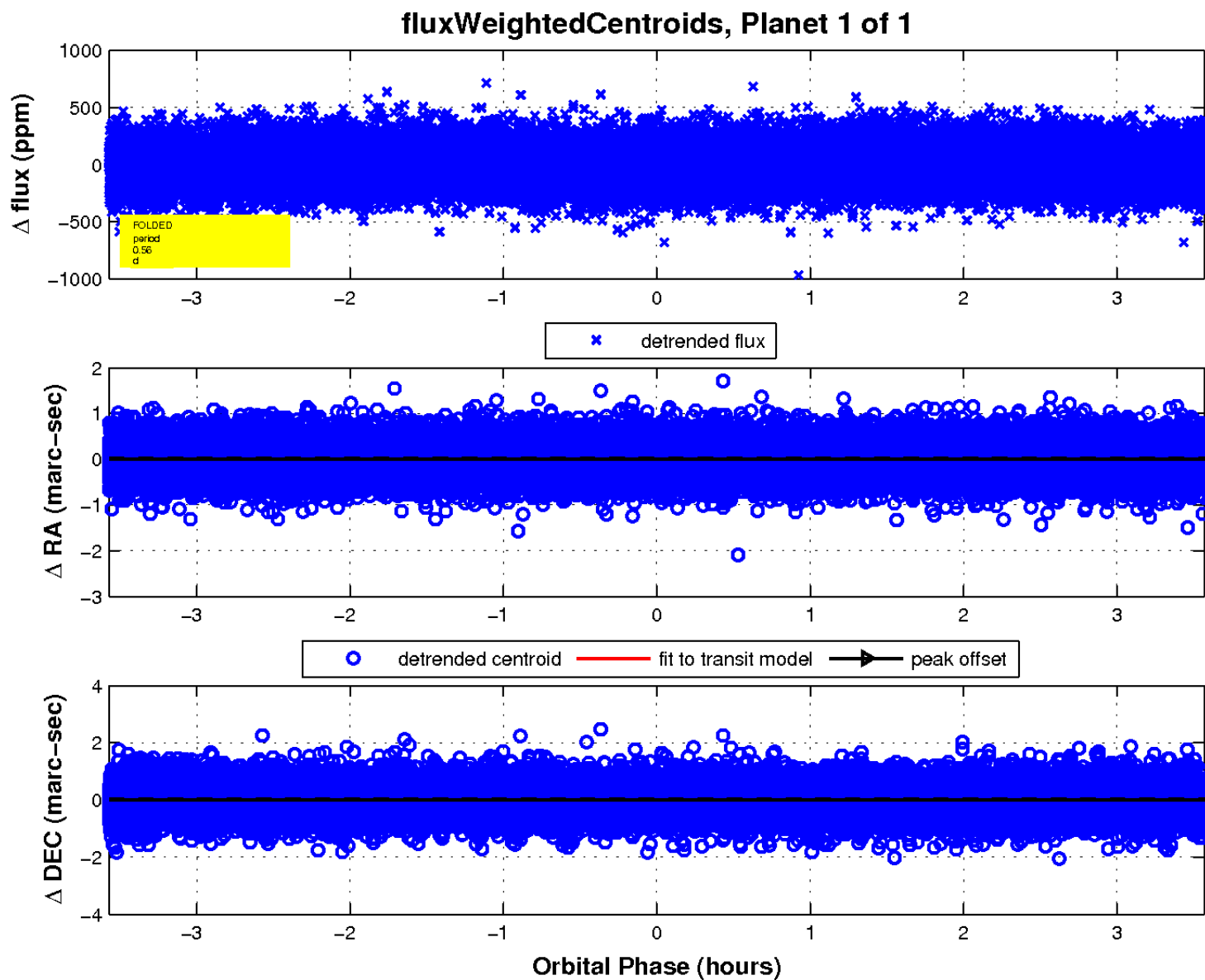
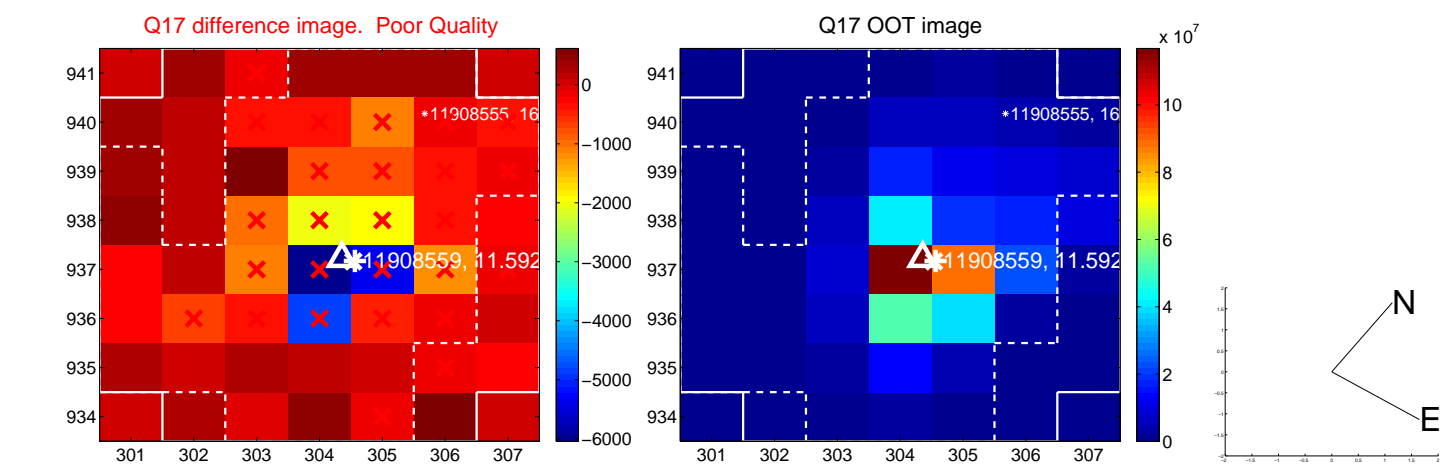
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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UKIRT Image

Declination

