

# KIC 001869607

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
001869607-01	OBS	No	12.058906	136.162215	283.9	47.780	12.8	17.3	3.10	6031	10.44	811.21

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001869607-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS

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

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

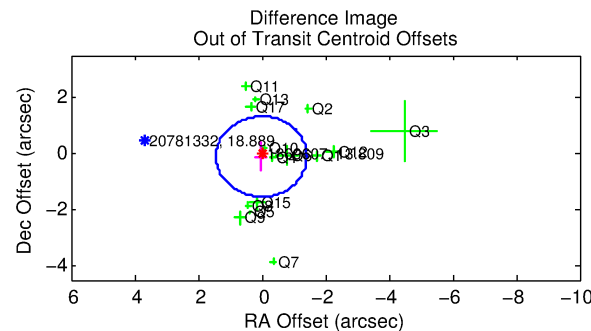
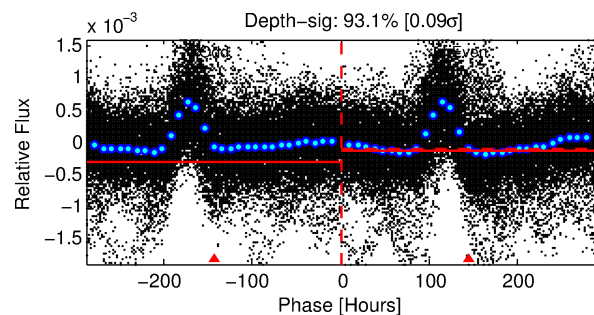
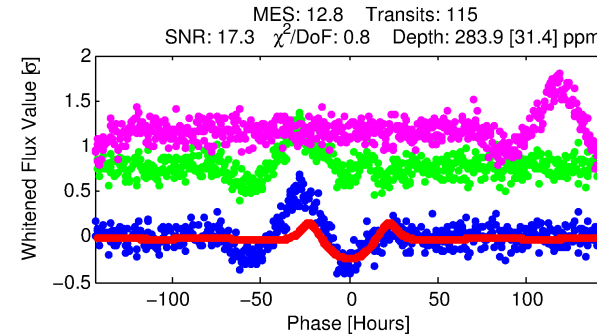
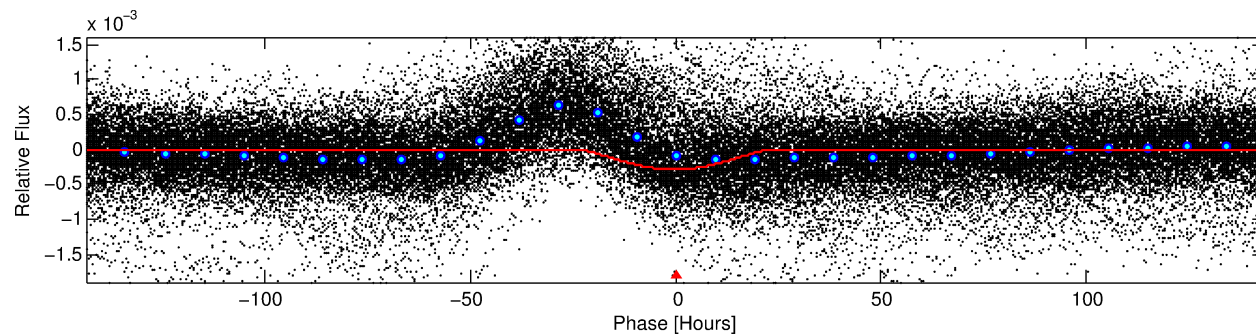
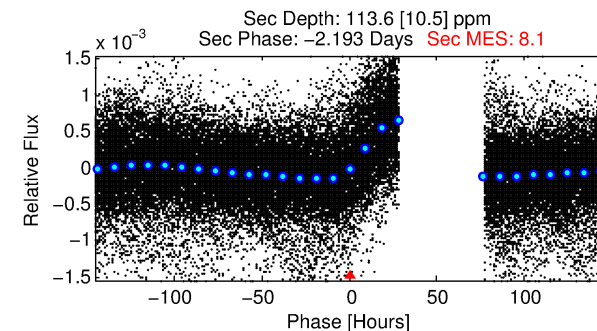
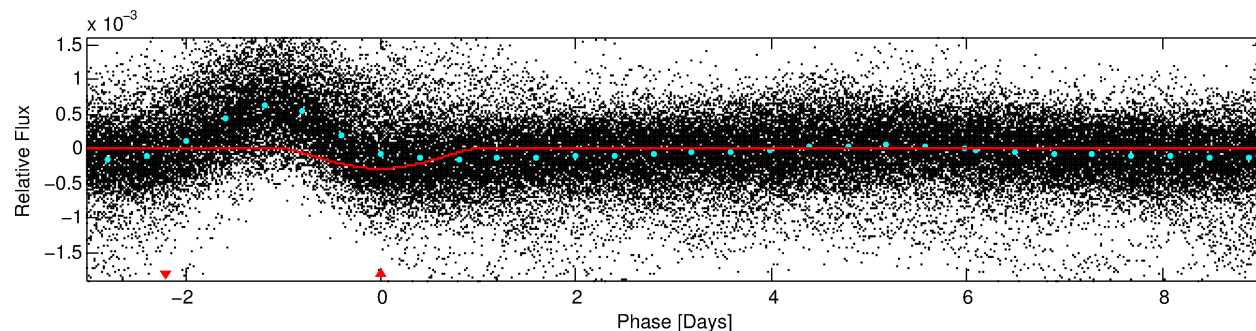
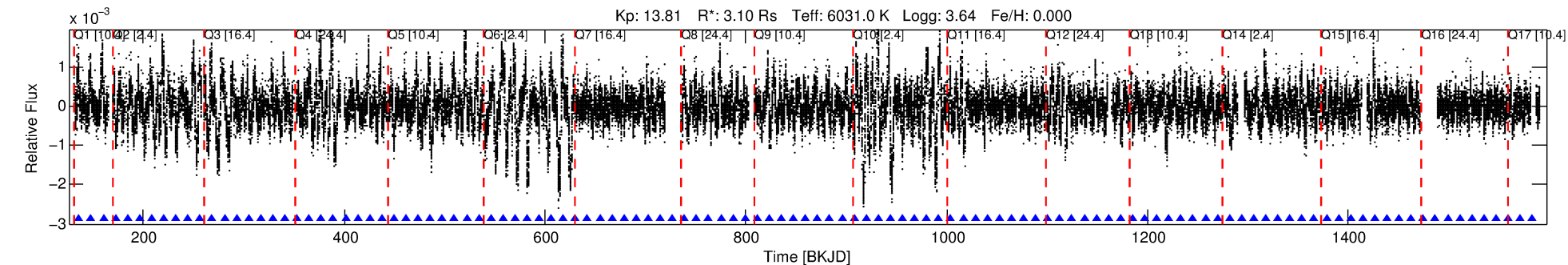
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 001869607-01

No Significant Match Found

# DV One-Page Summary

KIC: 1869607 Candidate: 1 of 1 Period: 12.059 d



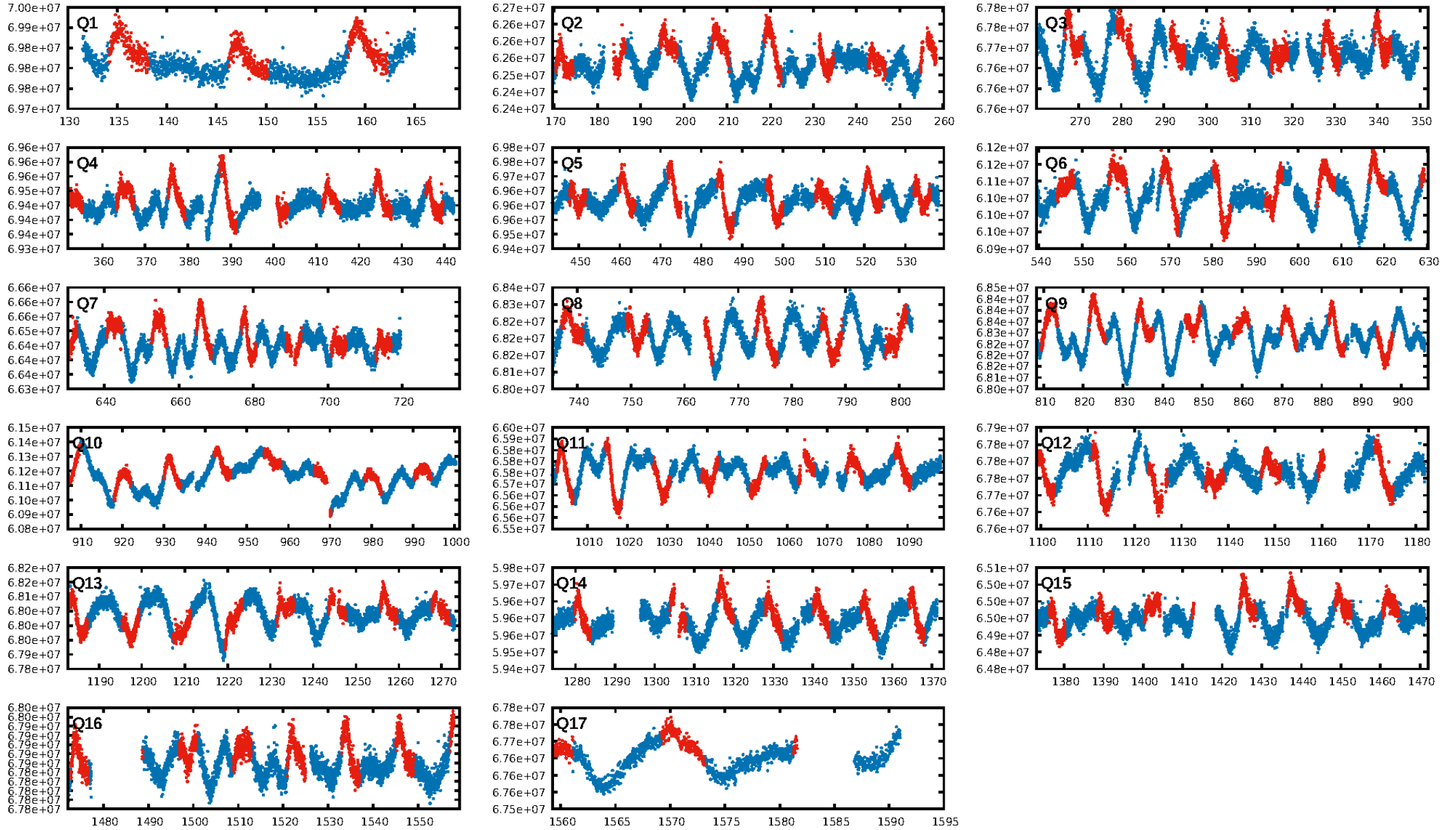
## DV Fit Results:

Period = 12.05891 [0.00050] d  
Epoch = 136.1622 [0.0348] BKJD  
Rp/R\* = 0.0308 [0.0160]  
a/R\* = 1.12 [0.01]  
b = 1.00 [0.03]  
Seff = 811.21 [892.20]  
Teff = 1361 [374] K  
Rp = 10.44 [8.55] Re  
a = 0.1186 [0.0779] AU  
Ag = 8.07 [12.18] [0.58σ]  
Teffp = 3546 [933] K [2.17σ]

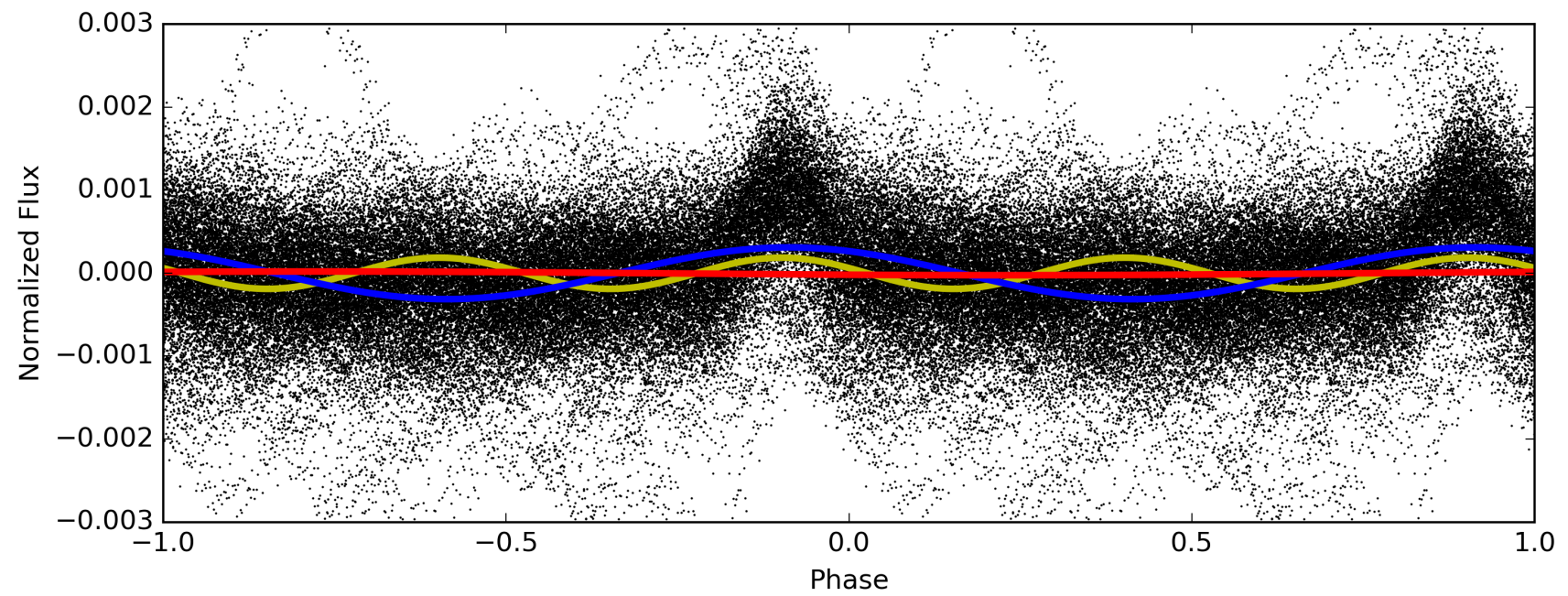
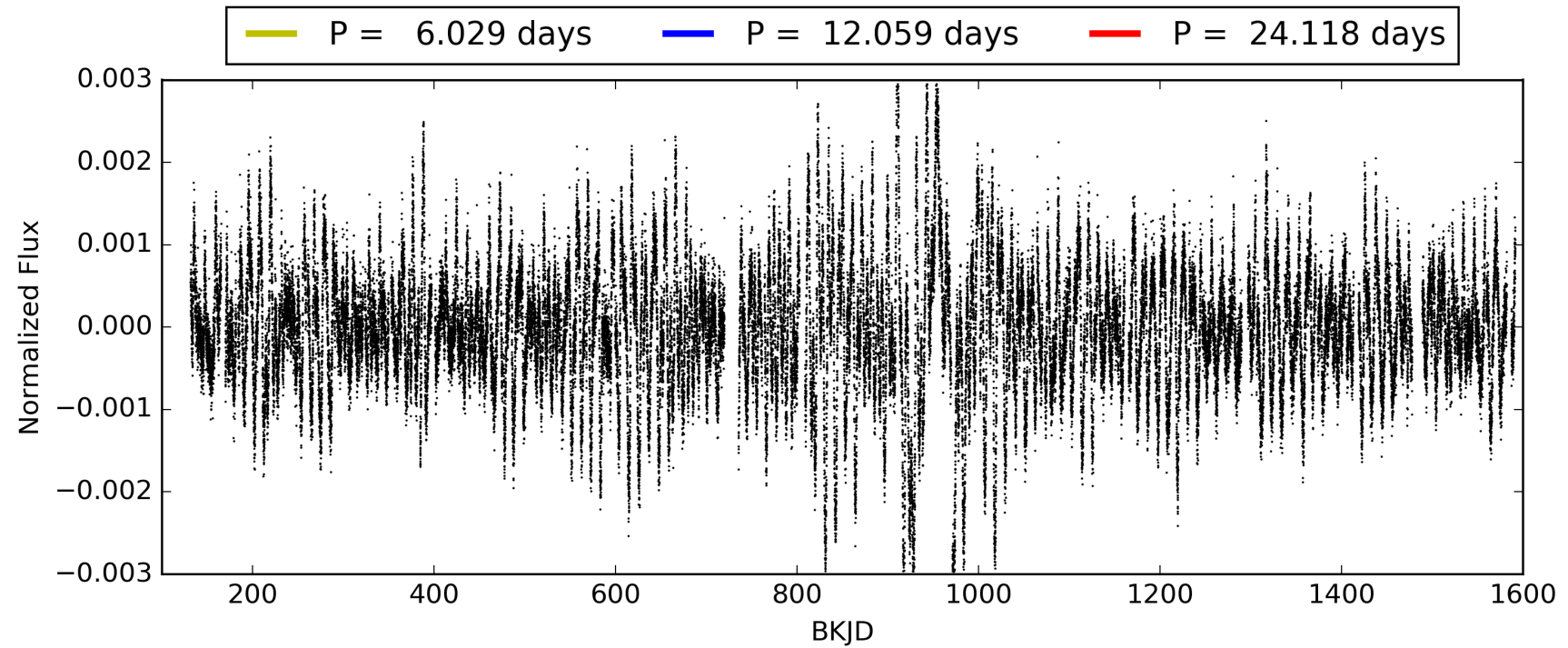
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 99.7%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 6.29e-41  
RollingBand-fgt: 1.00 [110/110]  
GhostDiagnostic-chr: 1.045  
Centroid-sig: 1.6%  
**Centroid-so: 0.970 arcsec [4.44σ]**  
OotOffset-rm: 0.107 arcsec [0.22σ]  
KicOffset-rm: 0.412 arcsec [0.85σ]  
OotOffset-st: 3/4/3/5 [15]  
KicOffset-st: 3/4/3/5 [15]  
DiffImageQuality-fgm: 0.20 [3/15]  
DiffImageOverlap-fno: 1.00 [16/16]

# TCE 001869607-01, PDC Light Curves



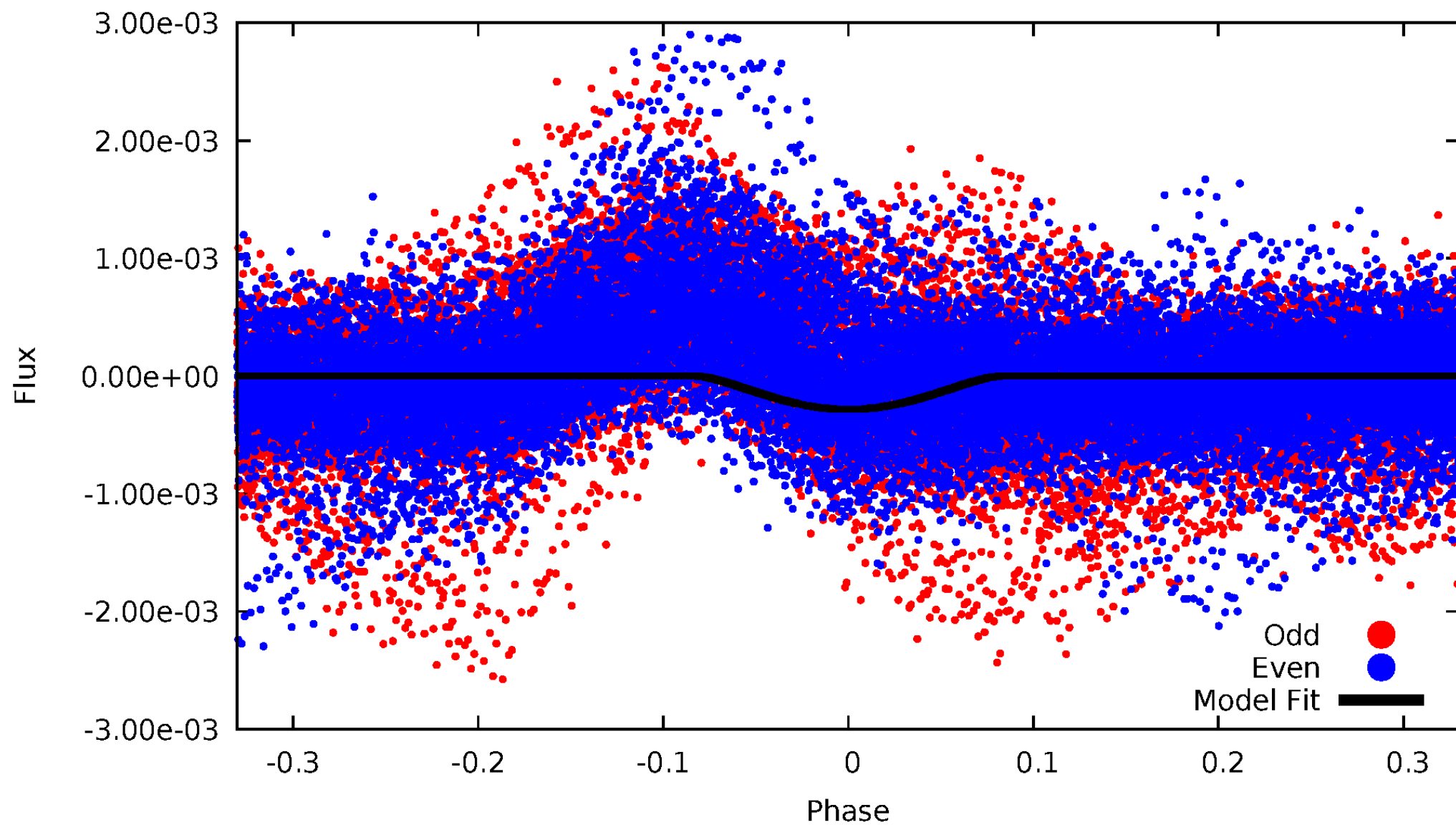
TCE 001869607-01





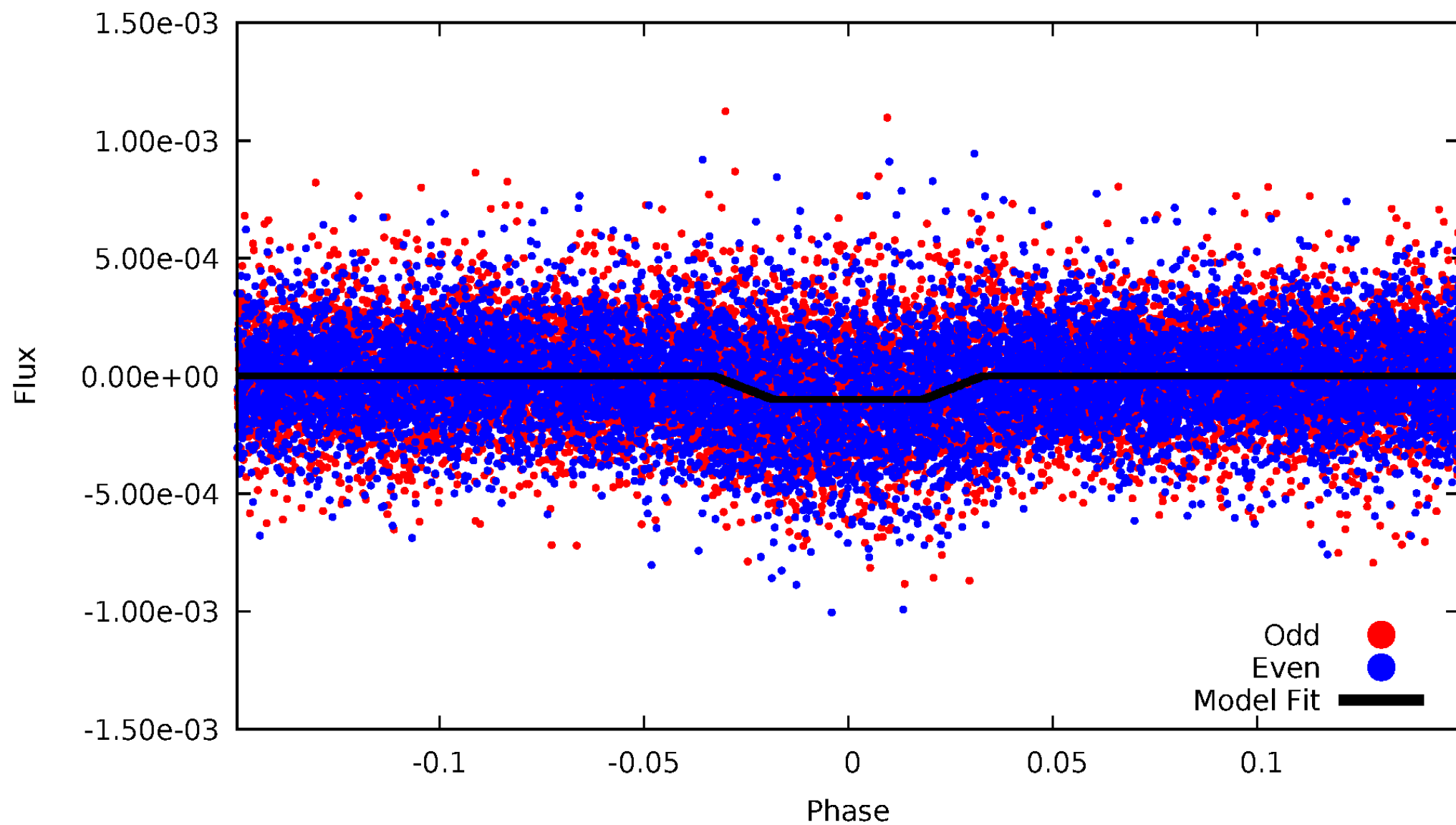
DV Odd/Even

TCE 001869607-01

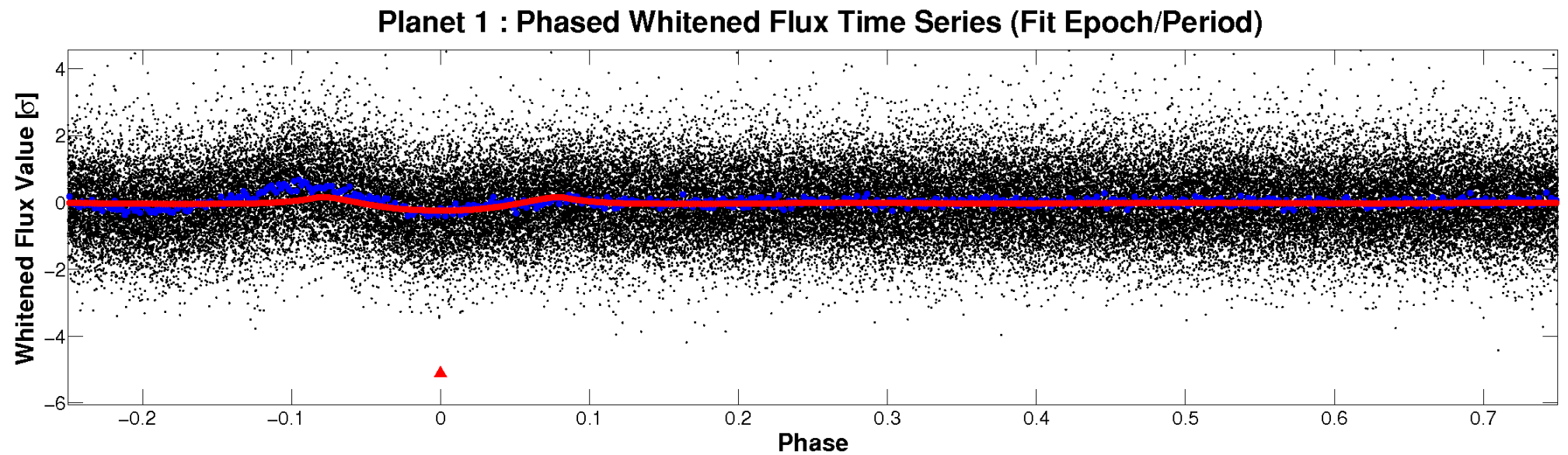
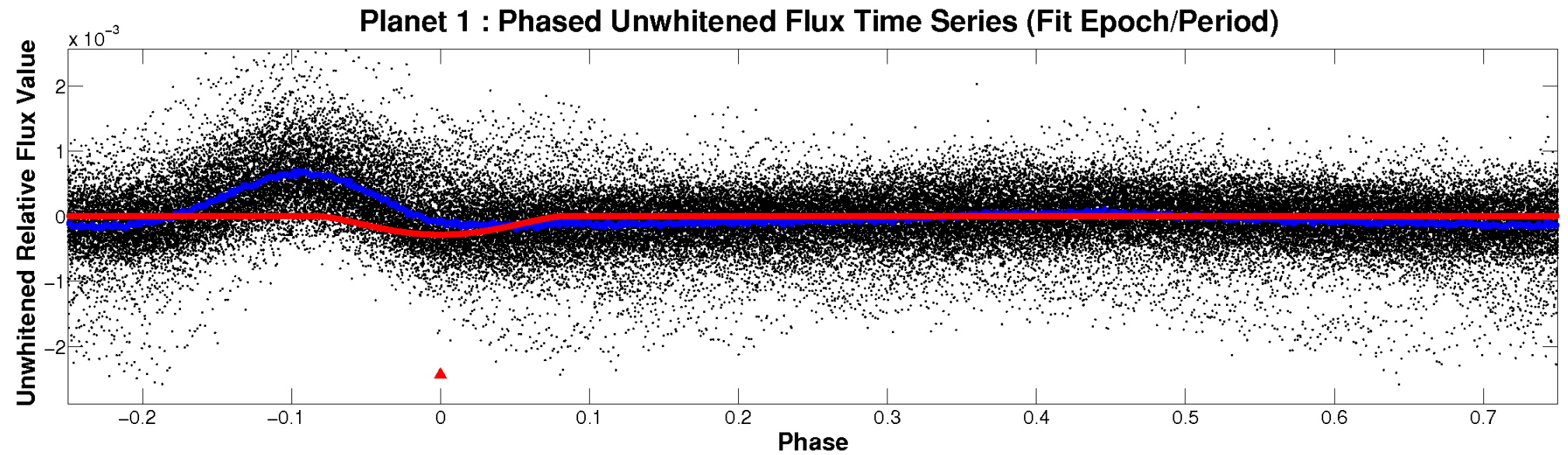


# ALT Odd/Even

TCE 001869607-01

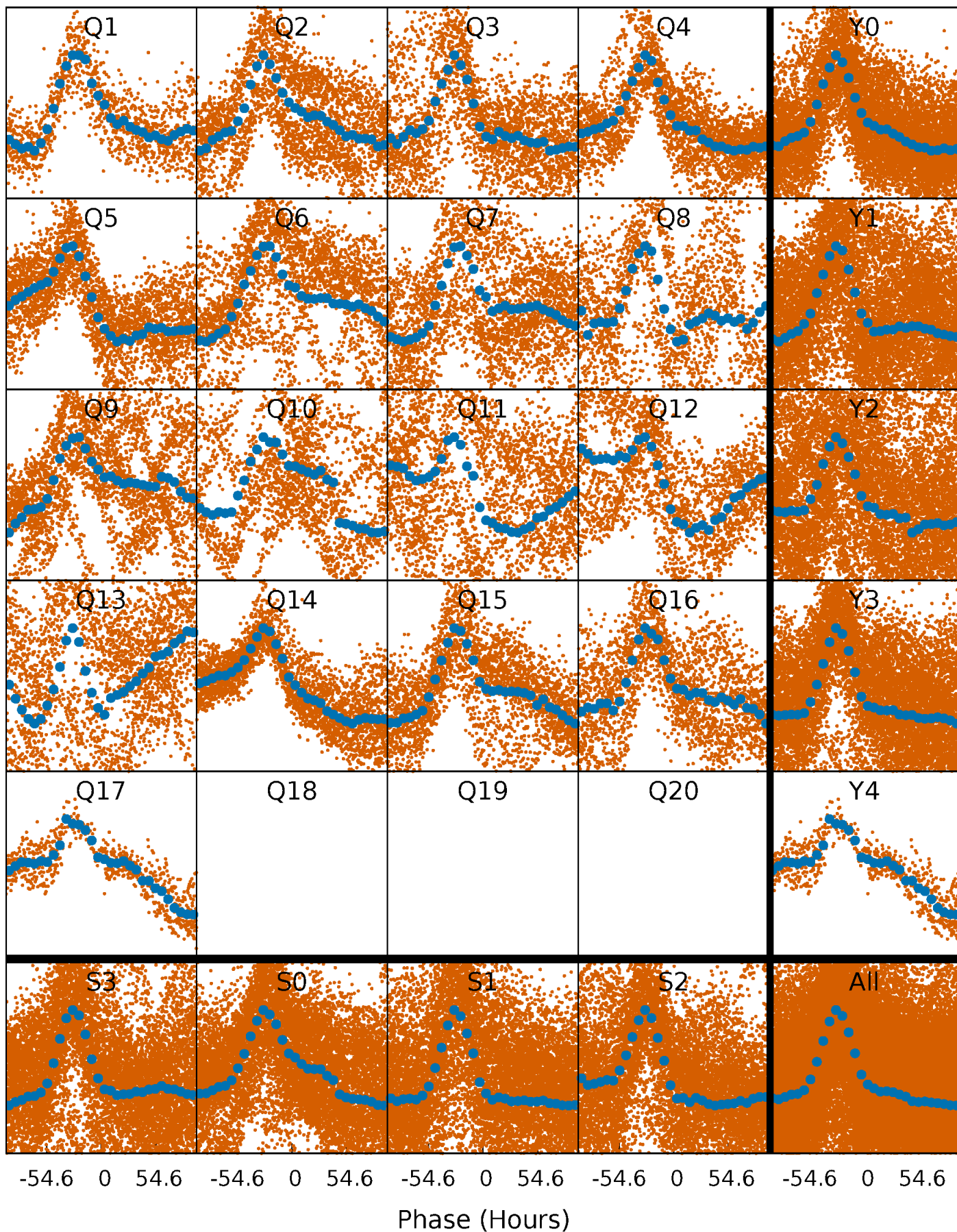


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

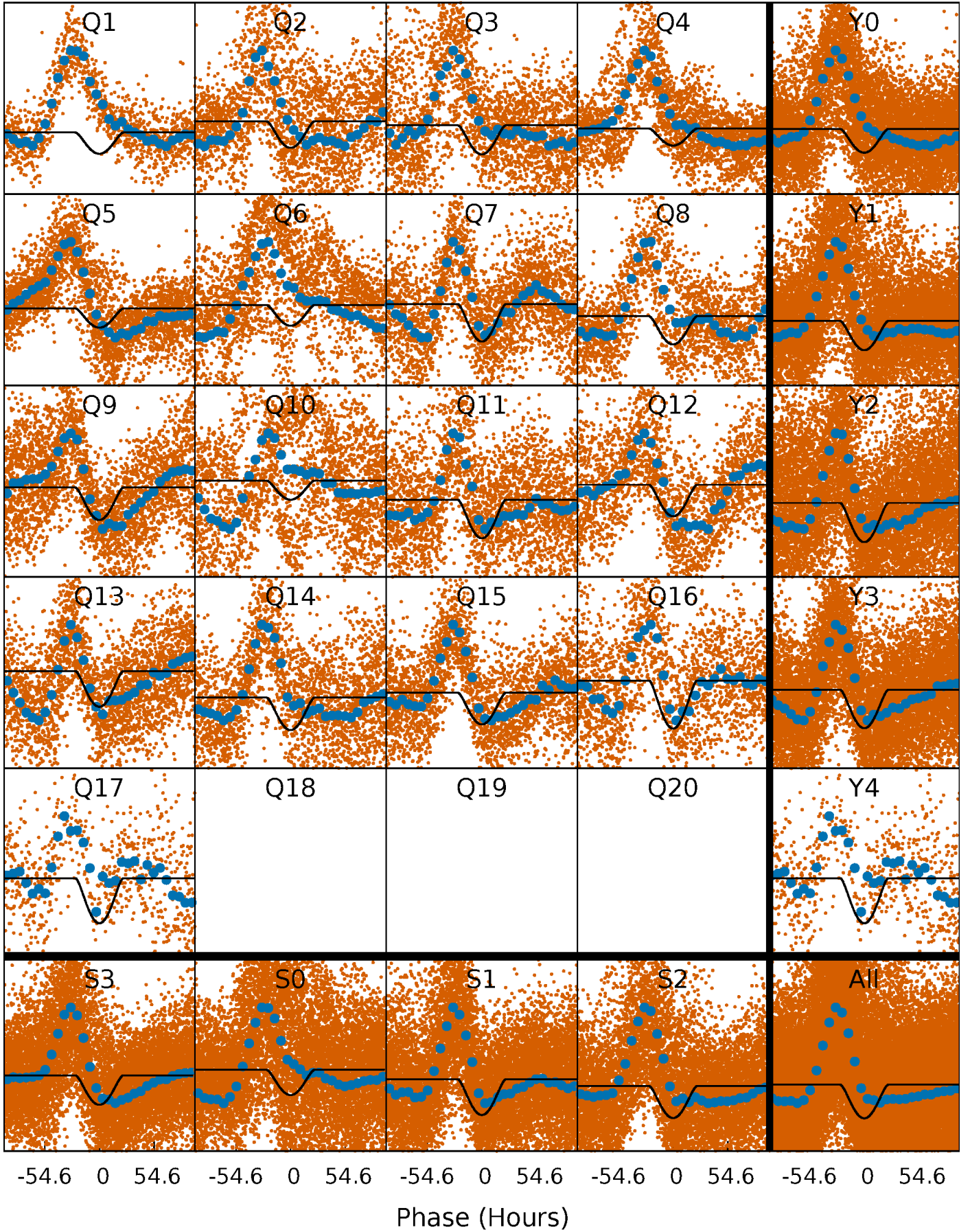
TCE 001869607-01 P= 12.058906 Days  $T_0=136.162215$  (BKJD)





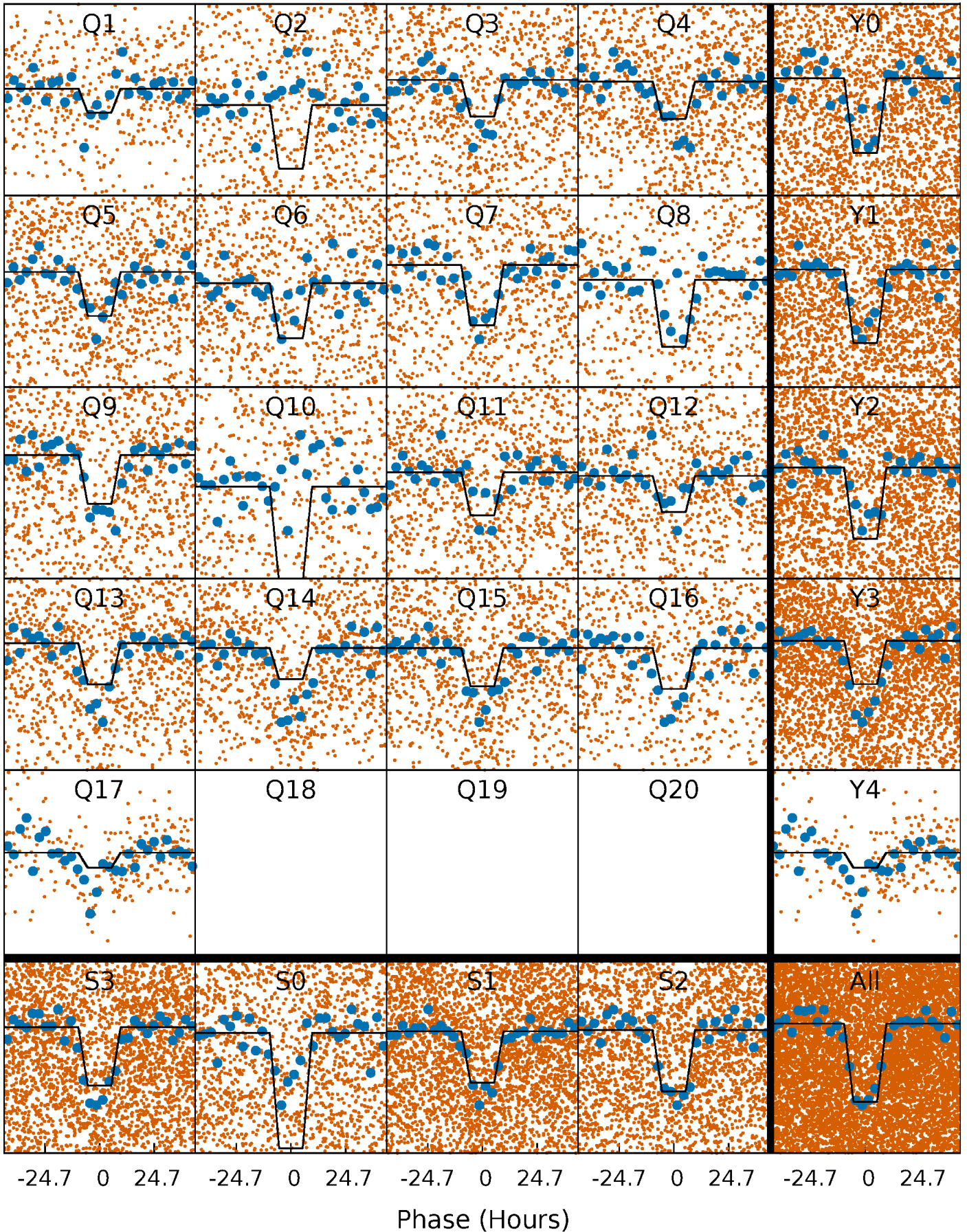
# DV Quarter-Phased Transit Curves

TCE 001869607-01   P= 12.058906 Days    $T_0=136.162215$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

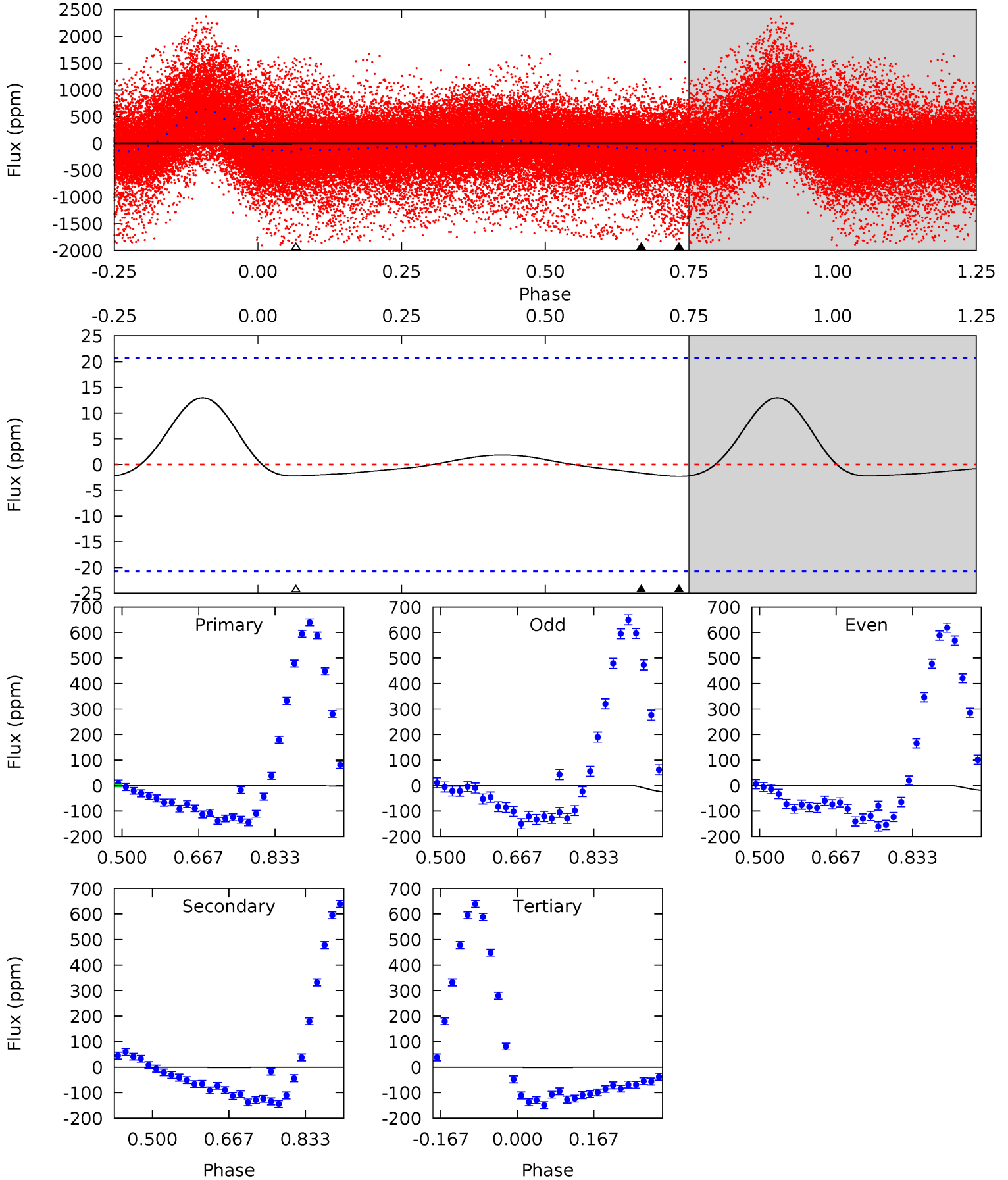
TCE 001869607-01 P= 12.060164 Days  $T_0=135.993194$  (BKJD)



# DV Model-Shift Uniqueness Test

001869607-01, P = 12.058906 Days, E = 124.103309 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
0.50	0.36	0.48	0	4.46	1.38	0.80	0.02	0.50	-0.12	0.36	0.79	-0.20	0.85	0.63

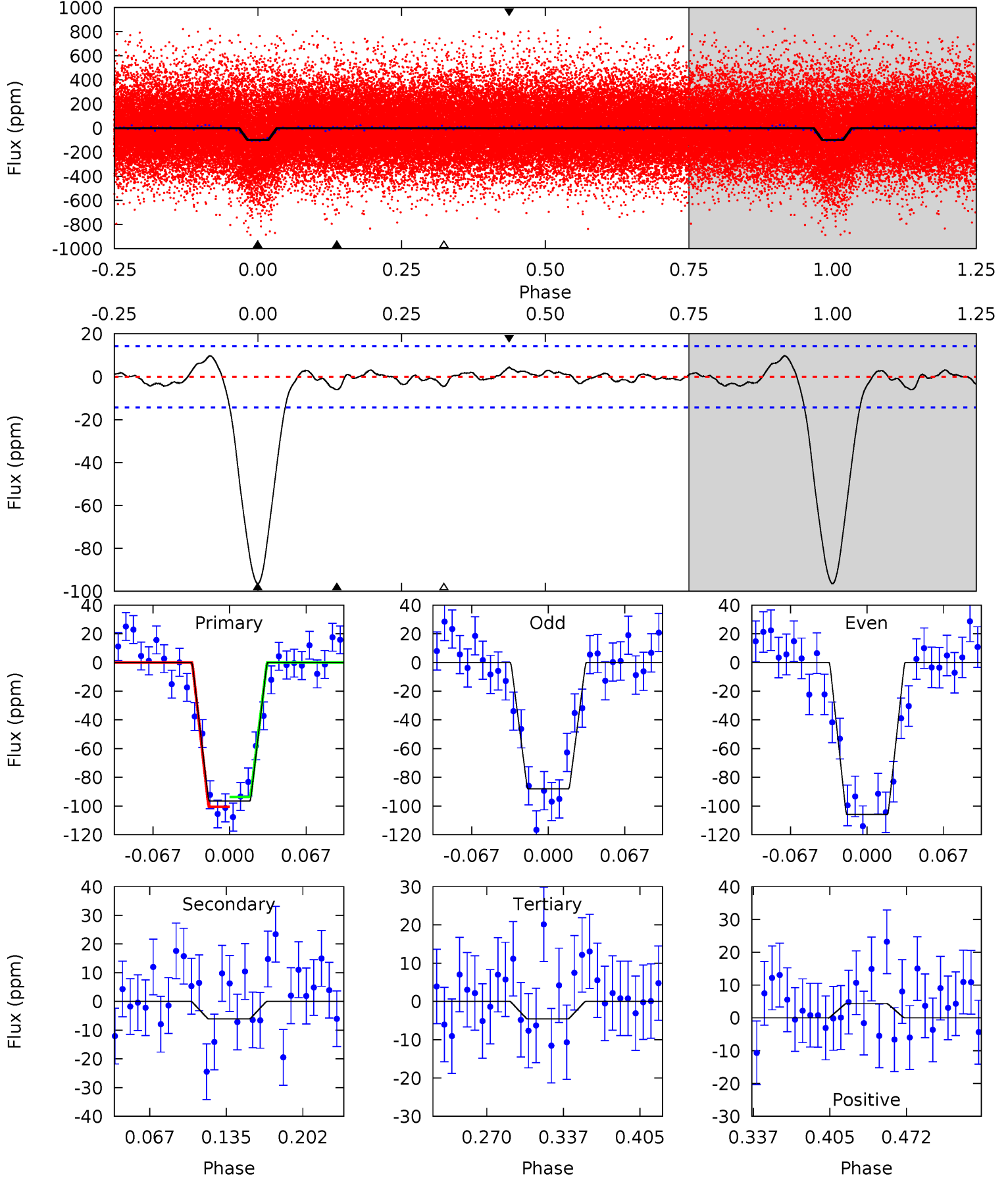




# Alt Model-Shift Uniqueness Test

001869607-01, P = 12.060164 Days, E = 123.933030 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
31.4	1.98	1.48	1.41	4.65	1.83	0.84	29.9	30.0	0.51	0.57	2.90	1.11	0.09	1.11





### Stellar Parameters For KIC 001869607

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6031^{+213}_{-213}$	$3.639^{+0.655}_{-0.154}$	$0.000^{+0.250}_{-0.300}$	$3.102^{+0.615}_{-1.967}$	$1.528^{+0.172}_{-0.515}$	$0.072^{+0.678}_{-0.026}$
	+4%/-4%	+18%/-4%	+inf%/-inf%	+20%/-63%	+11%/-34%	+940%/-37%
Source	PHO1	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 001869607-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-2 \pm 5$	$9.45^{+6.46}_{-5.03}$	$1860^{+171}_{-282}$	$-2310^{+4807}_{-290}$	$0.086^{+0.781}_{-0.348}$
Alt.	$-6 \pm 3$	$4.54^{+4.92}_{-3.05}$	$1871^{+160}_{-273}$	$2934^{+1304}_{-885}$	$1.891^{+17.579}_{-1.516}$

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

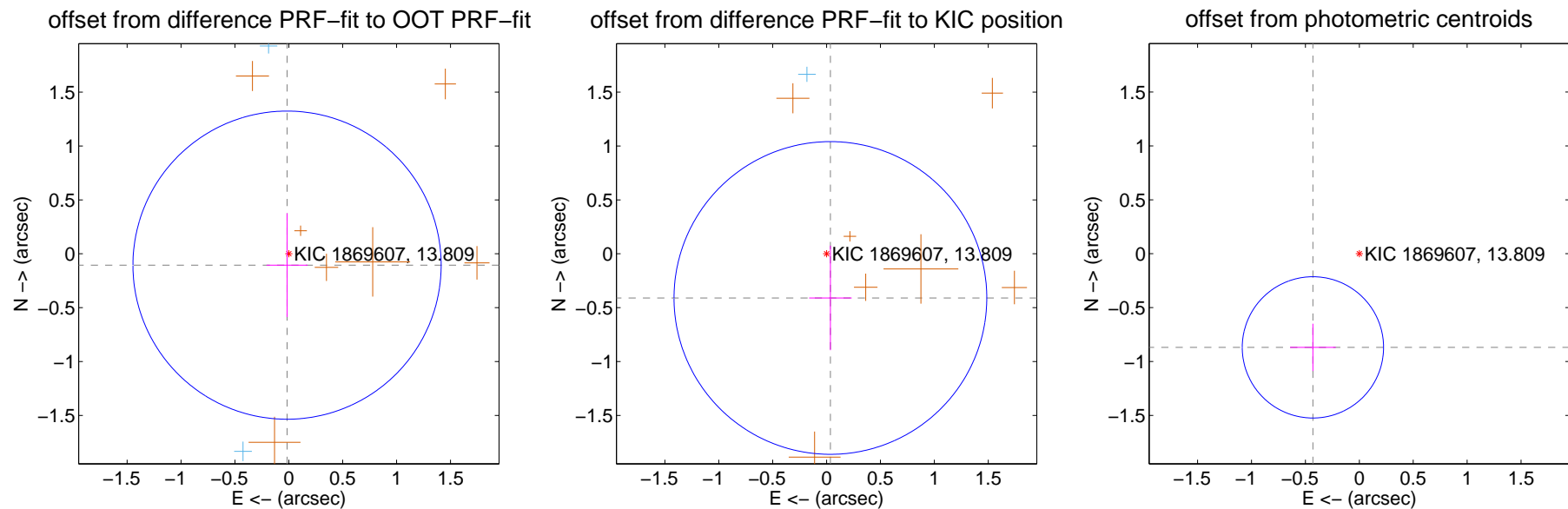
## DV Centroid Data

Supplemental centroid analysis for 001869607-01. Kepler magnitude: 13.81. Transit SNR 17.26

There are 3 quarters with good PRF difference image offsets

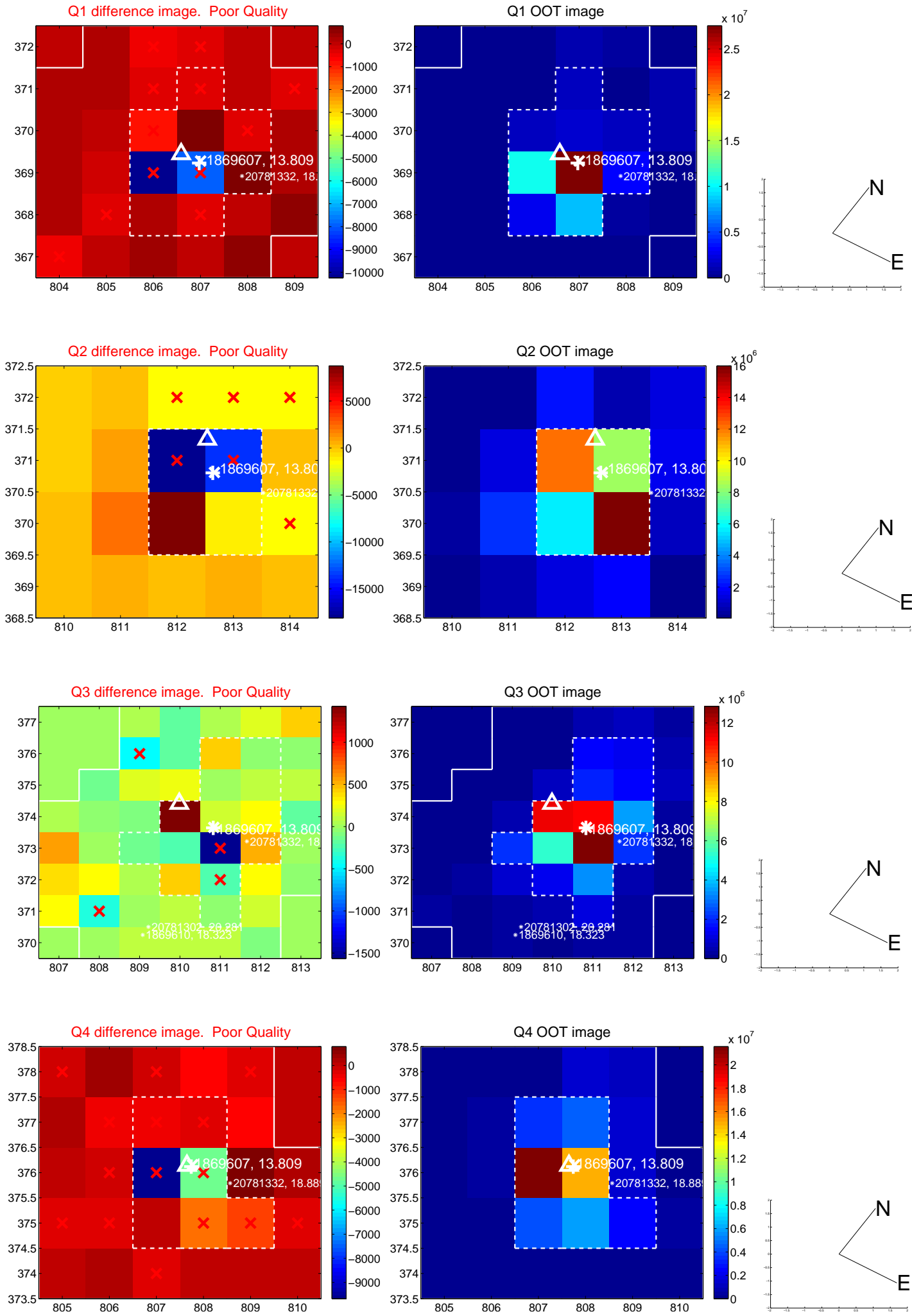
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.107 \pm 0.477$	0.22	$0.016 \pm 0.190$	$-0.106 \pm 0.481$
PRF-fit source offset from KIC position	$0.412 \pm 0.484$	0.85	$-0.036 \pm 0.198$	$-0.410 \pm 0.485$
photometric centroid source offset	$0.97 \pm 0.22$	4.44	$0.43 \pm 0.21$	$-0.87 \pm 0.22$

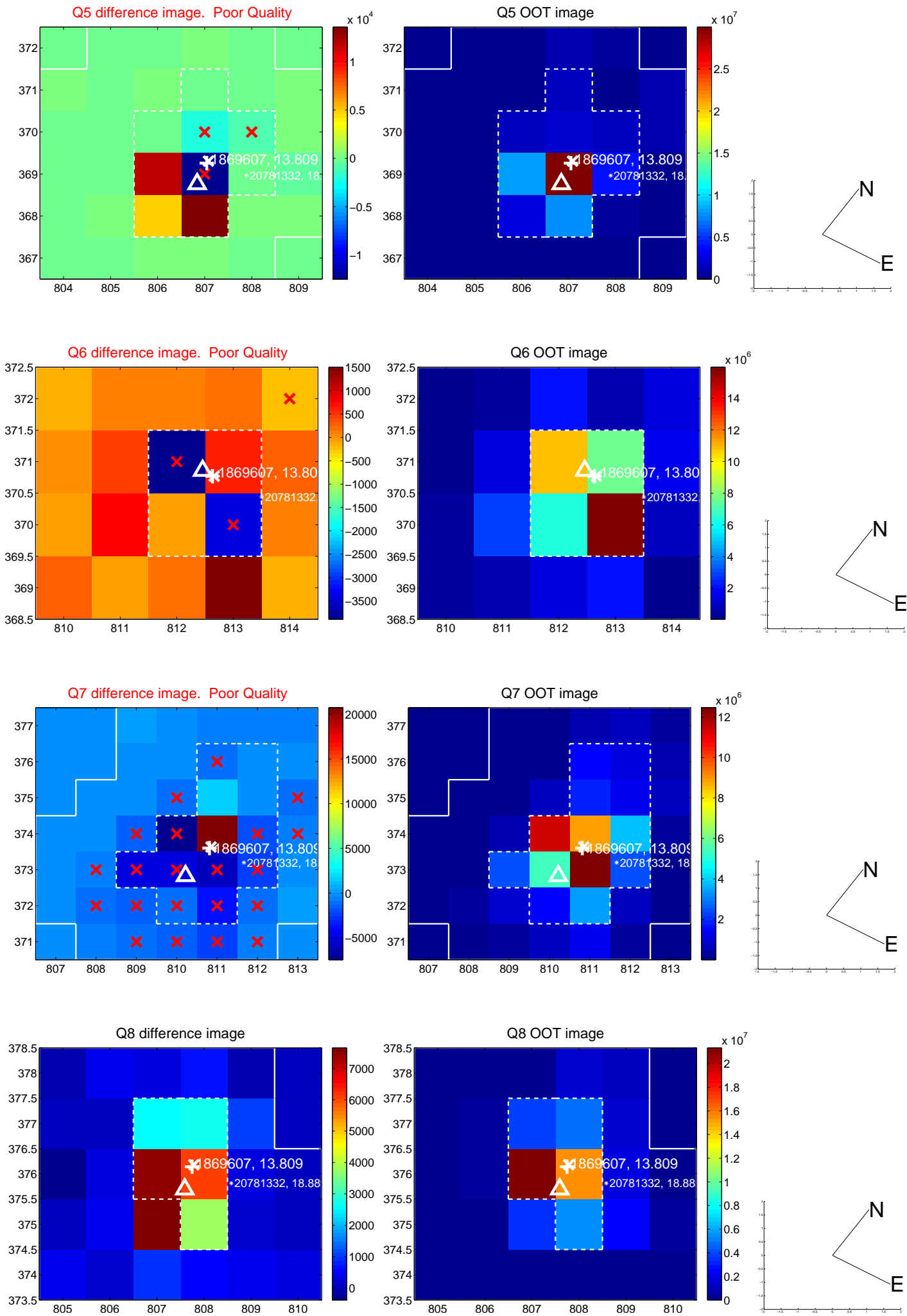


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

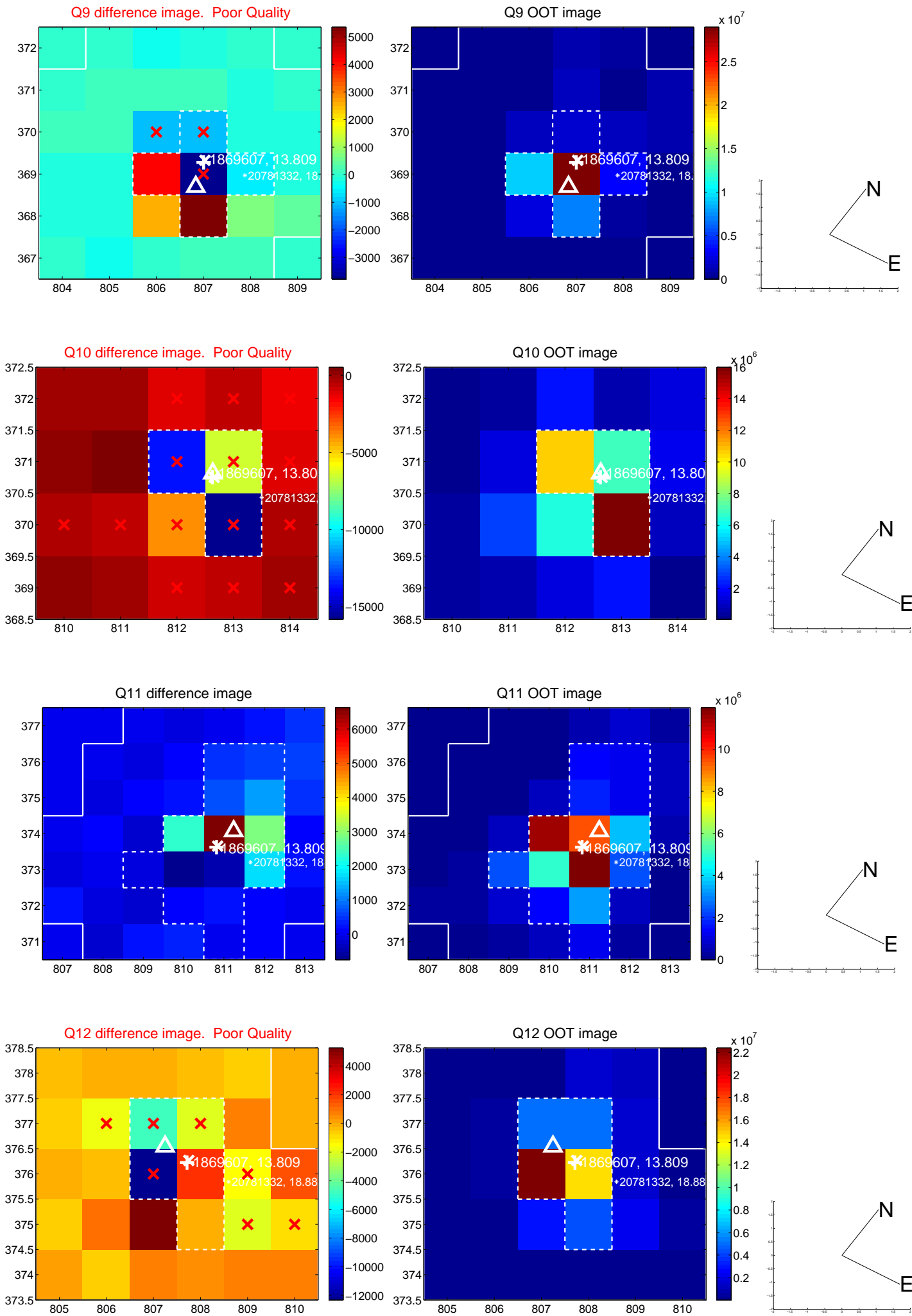


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



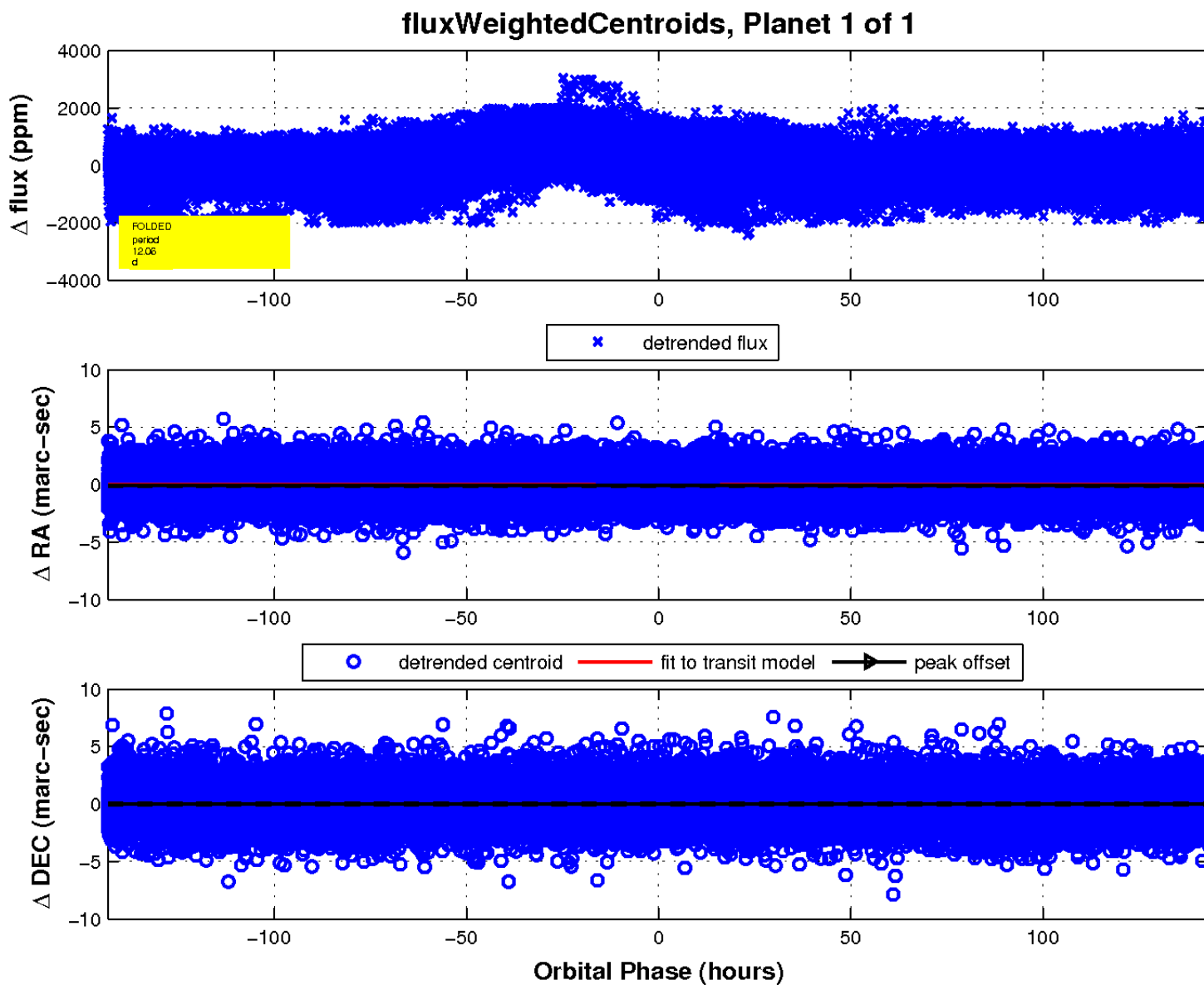
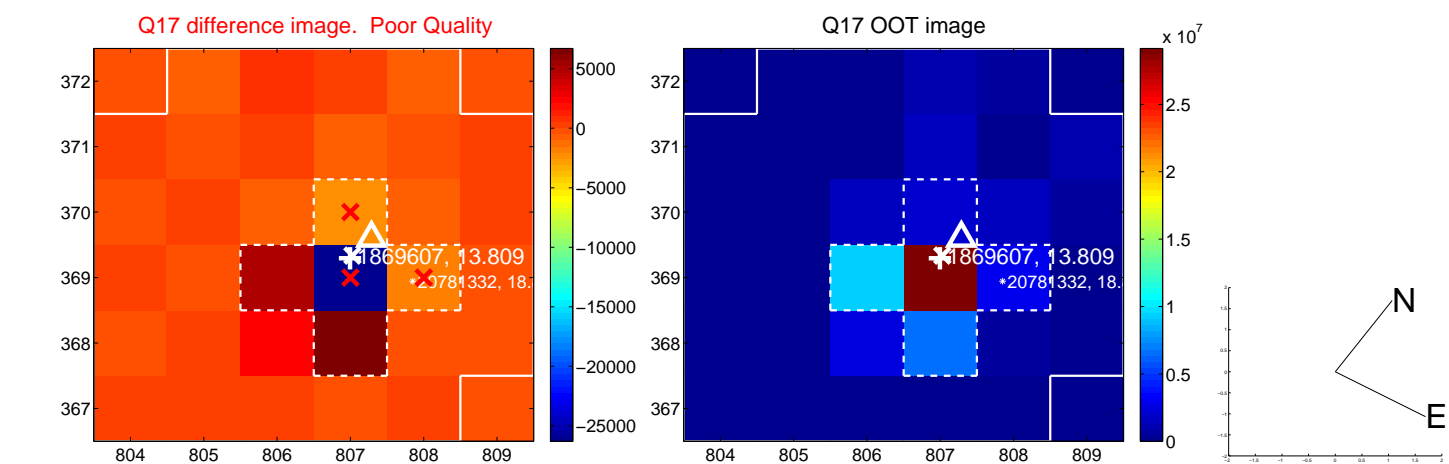


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

