

# KIC 007939835

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007939835-01	OBS	No	3.175617	134.078302	0.7	6.878	7.8	1.0	3.02	7879	0.34	10422.27

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007939835-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_SATURATED

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

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

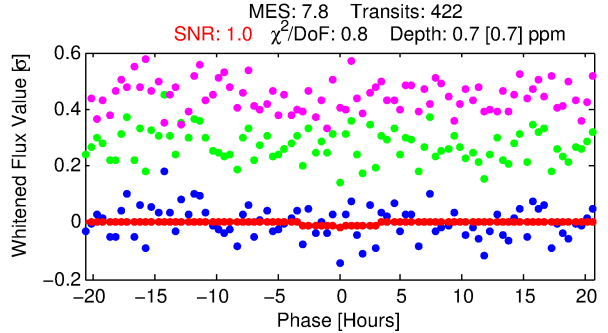
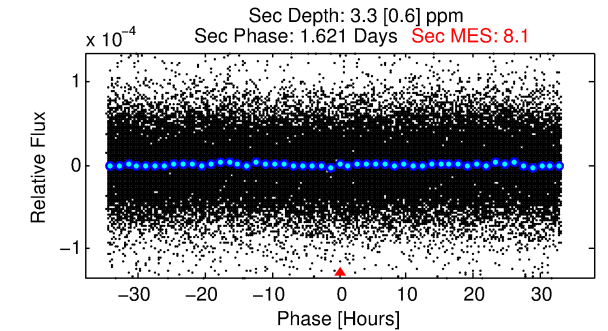
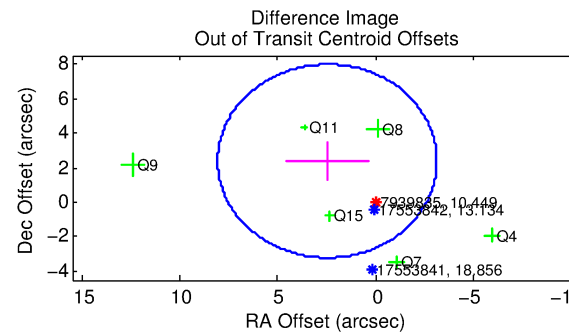
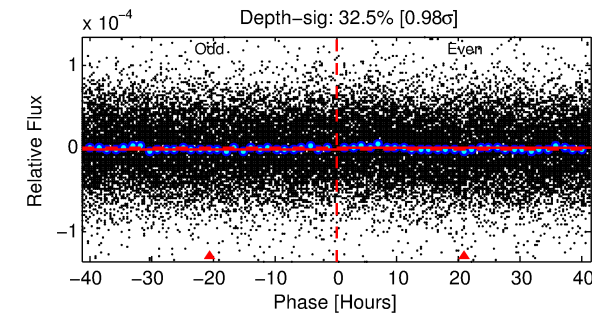
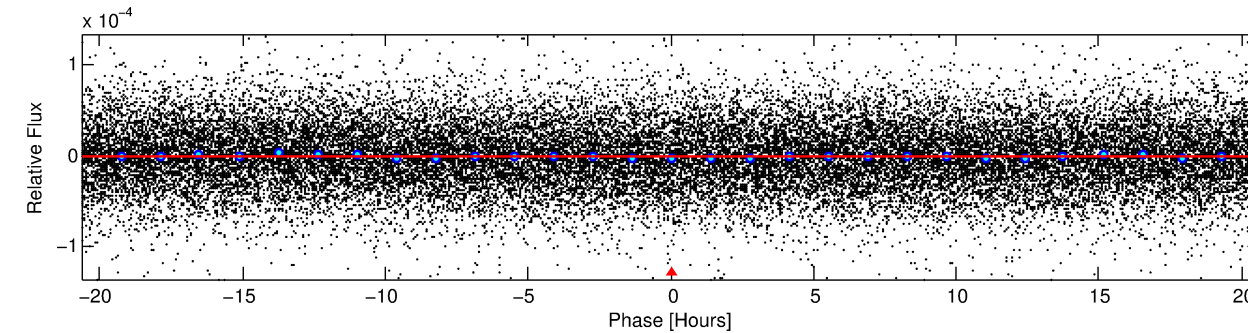
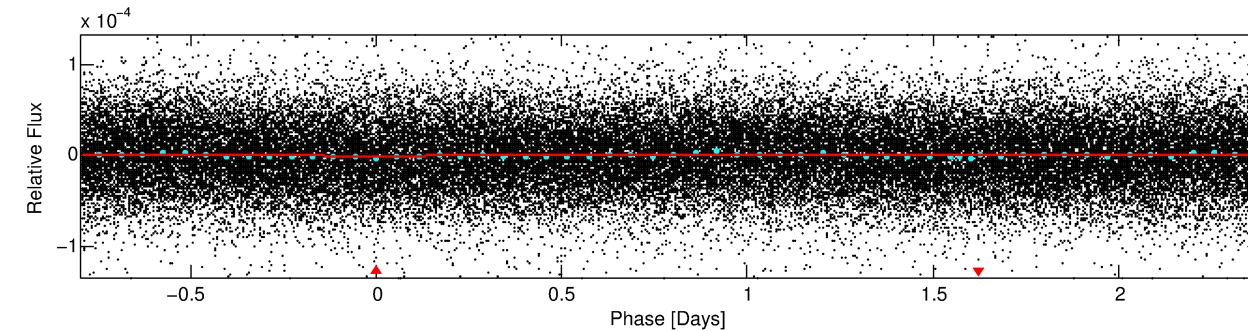
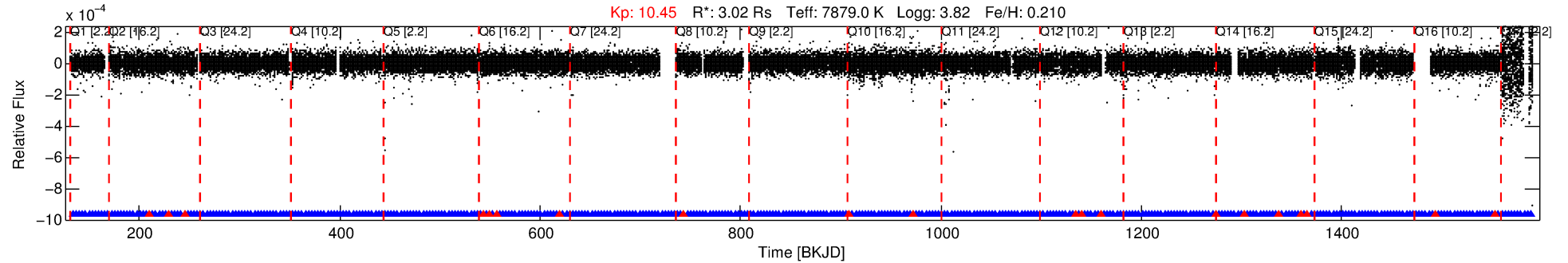
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007939835-01

No Significant Match Found

# DV One-Page Summary

KIC: 7939835 Candidate: 1 of 1 Period: 3.176 d



## DV Fit Results:

Period = 3.17562 [0.00031] d  
Epoch = 134.0783 [0.0575] BKJD  
Rp/R\* = 0.0010 [0.0009]  
a/R\* = 1.15 [1.50]  
b = 0.99 [0.14]  
Seff = 10422.27 [5892.68]  
Teq = 2576 [364] K  
Rp = 0.34 [0.31] Re  
a = 0.0549 [0.0190] AU  
Ag = 47.05 [82.41] [0.56σ]  
Teffp = 10433 [4374] K [1.79σ]

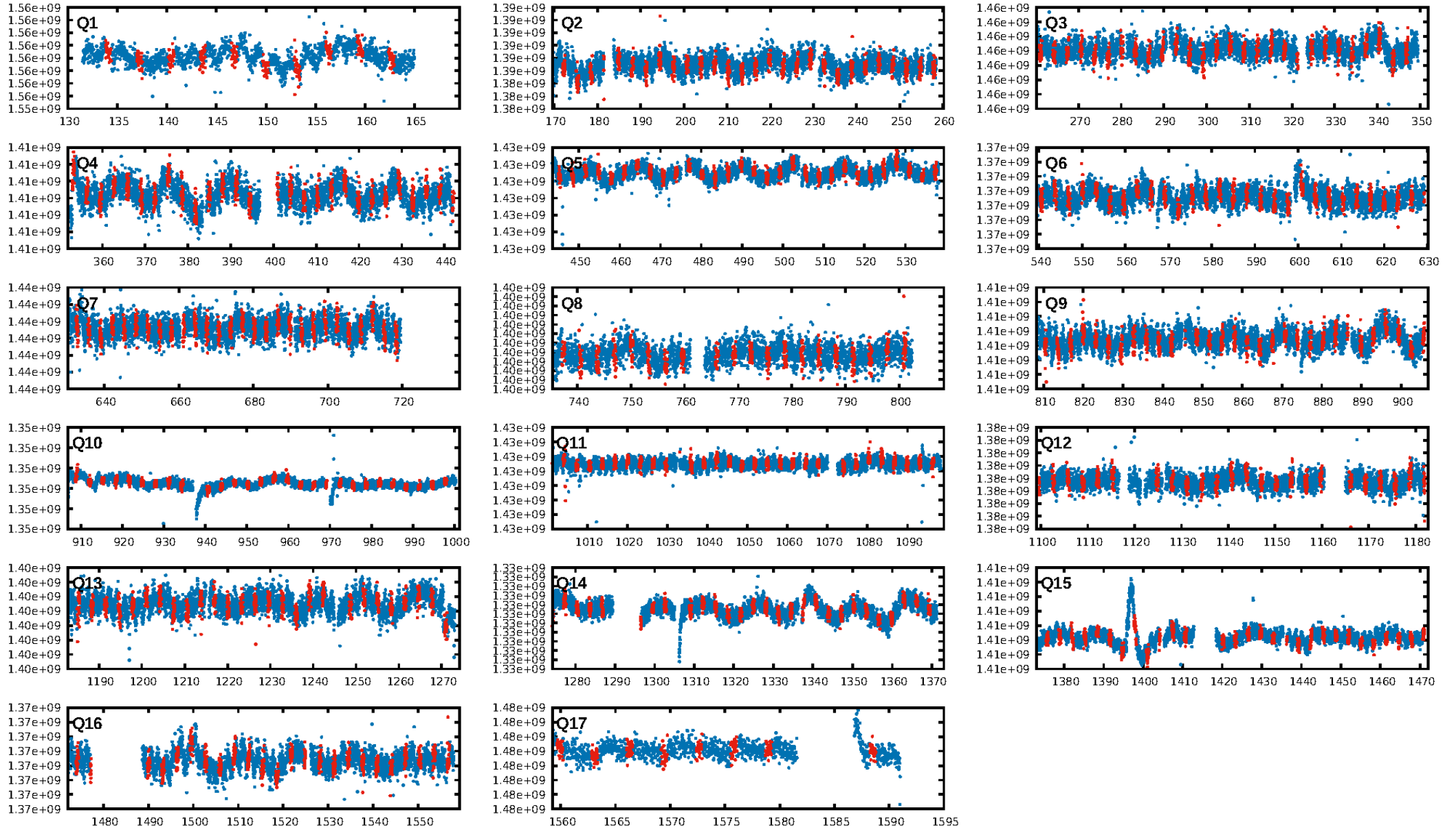
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: **1.17e-10**  
RollingBand-fgt: 0.95 [384/404]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 3.430 arcsec [1.84σ]  
KicOffset-rm: 4.404 arcsec [1.76σ]  
OotOffset-st: 0/3/2/1 [6]  
KicOffset-st: 0/3/2/1 [6]  
DiffImageQuality-fgm: 0.17 [1/6]  
DiffImageOverlap-fno: 1.00 [17/17]

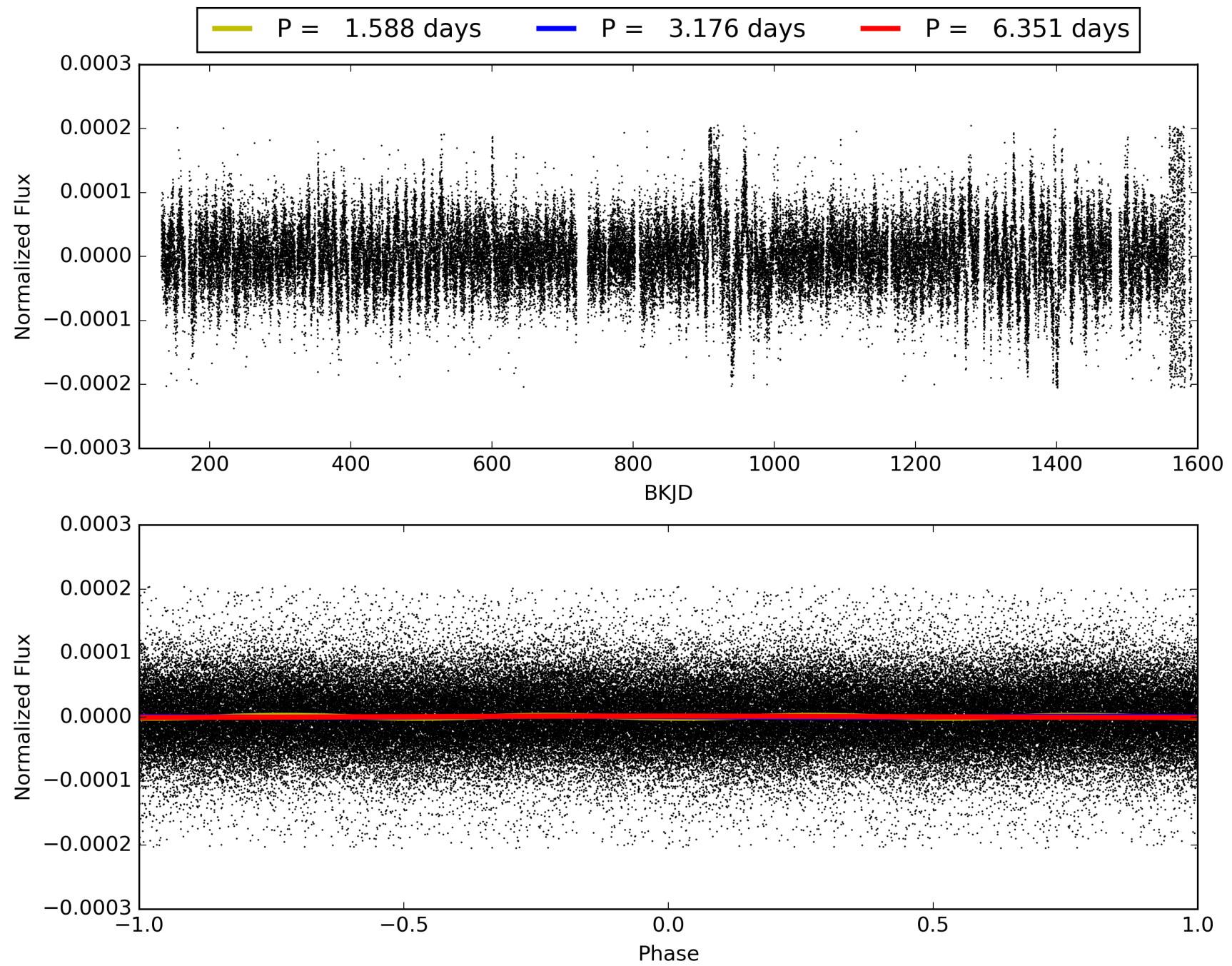
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:17:02 Z

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

# TCE 007939835-01, PDC Light Curves

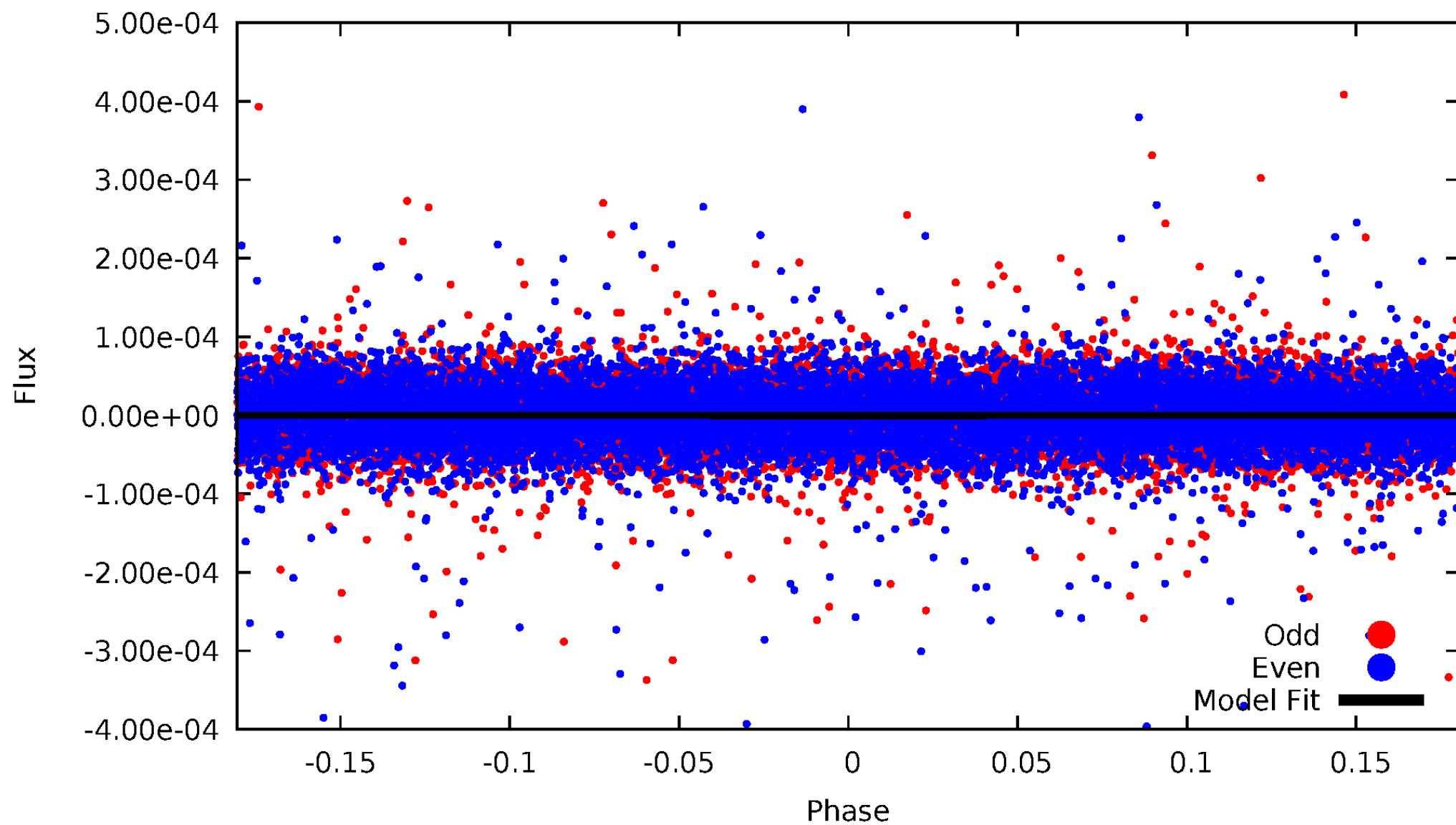


TCE 007939835-01



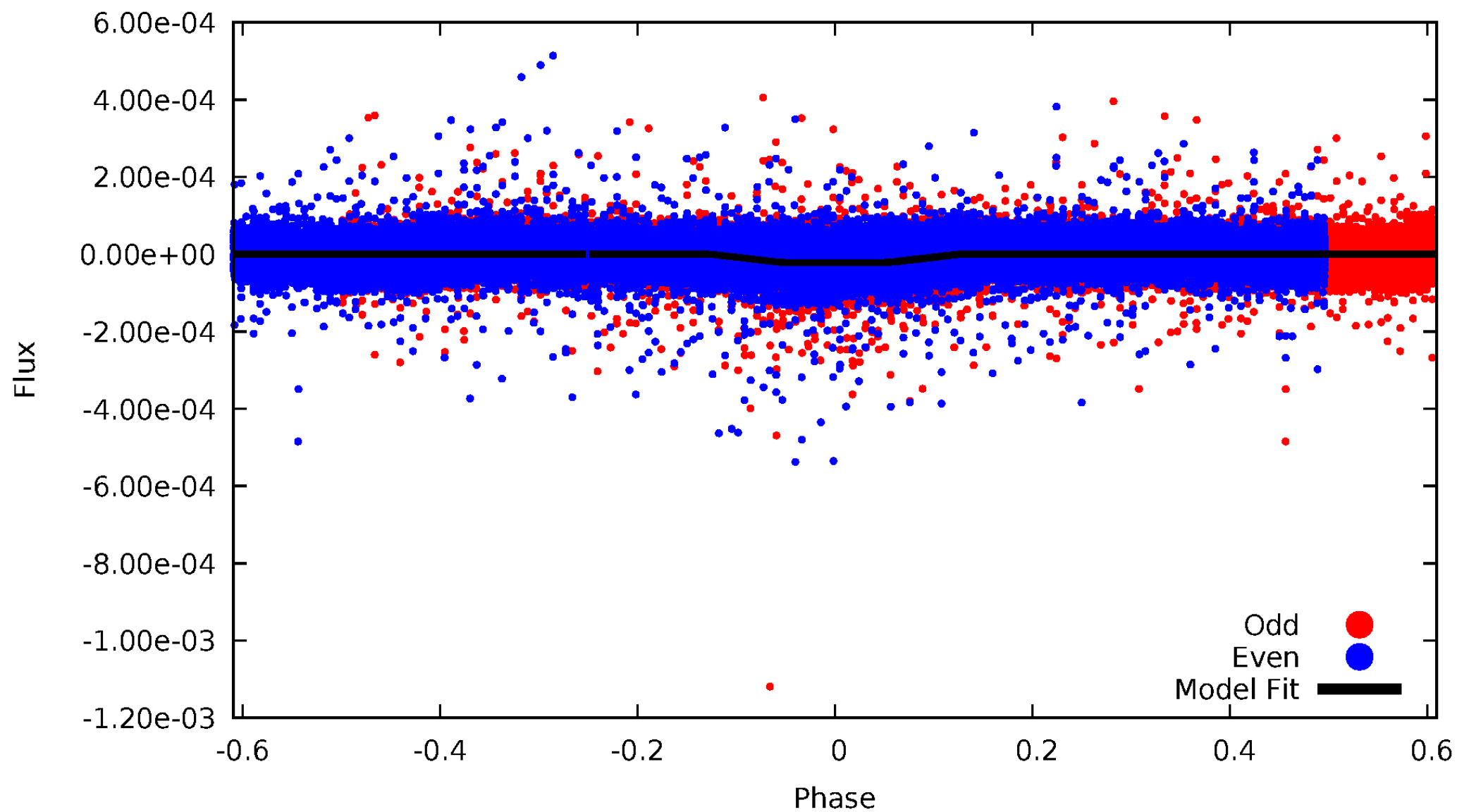
# DV Odd/Even

TCE 007939835-01



# ALT Odd/Even

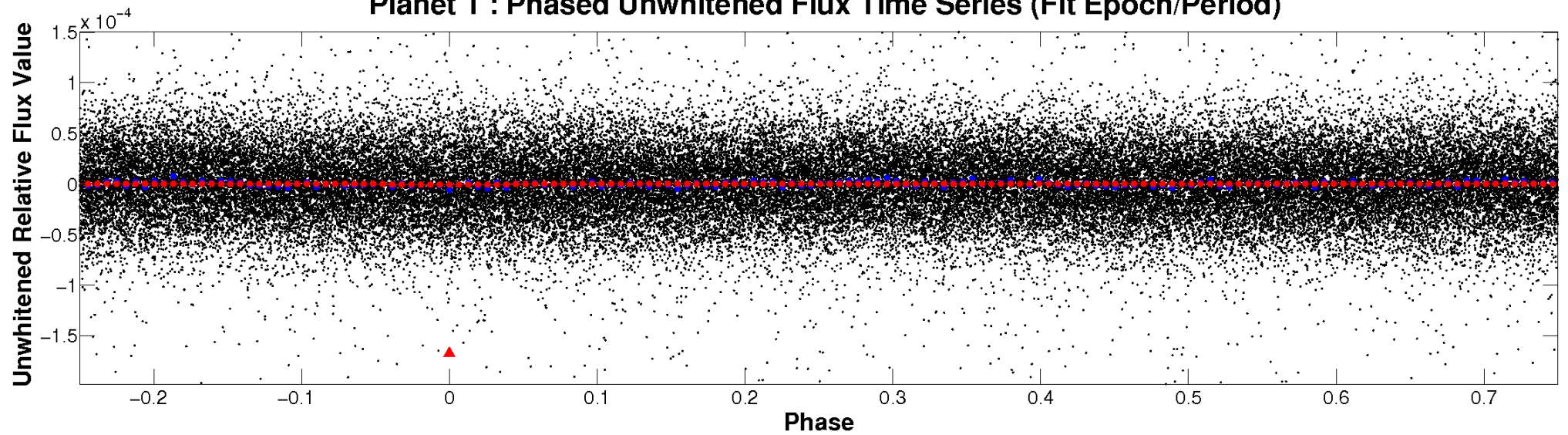
TCE 007939835-01



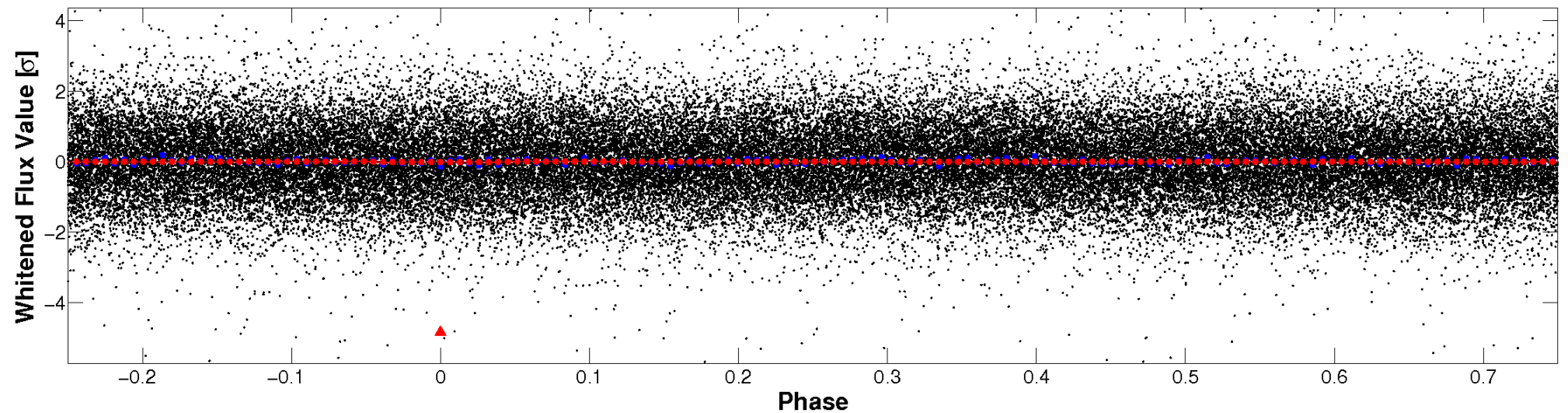


# Non-Whitened Vs. Whitened Light Curve

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

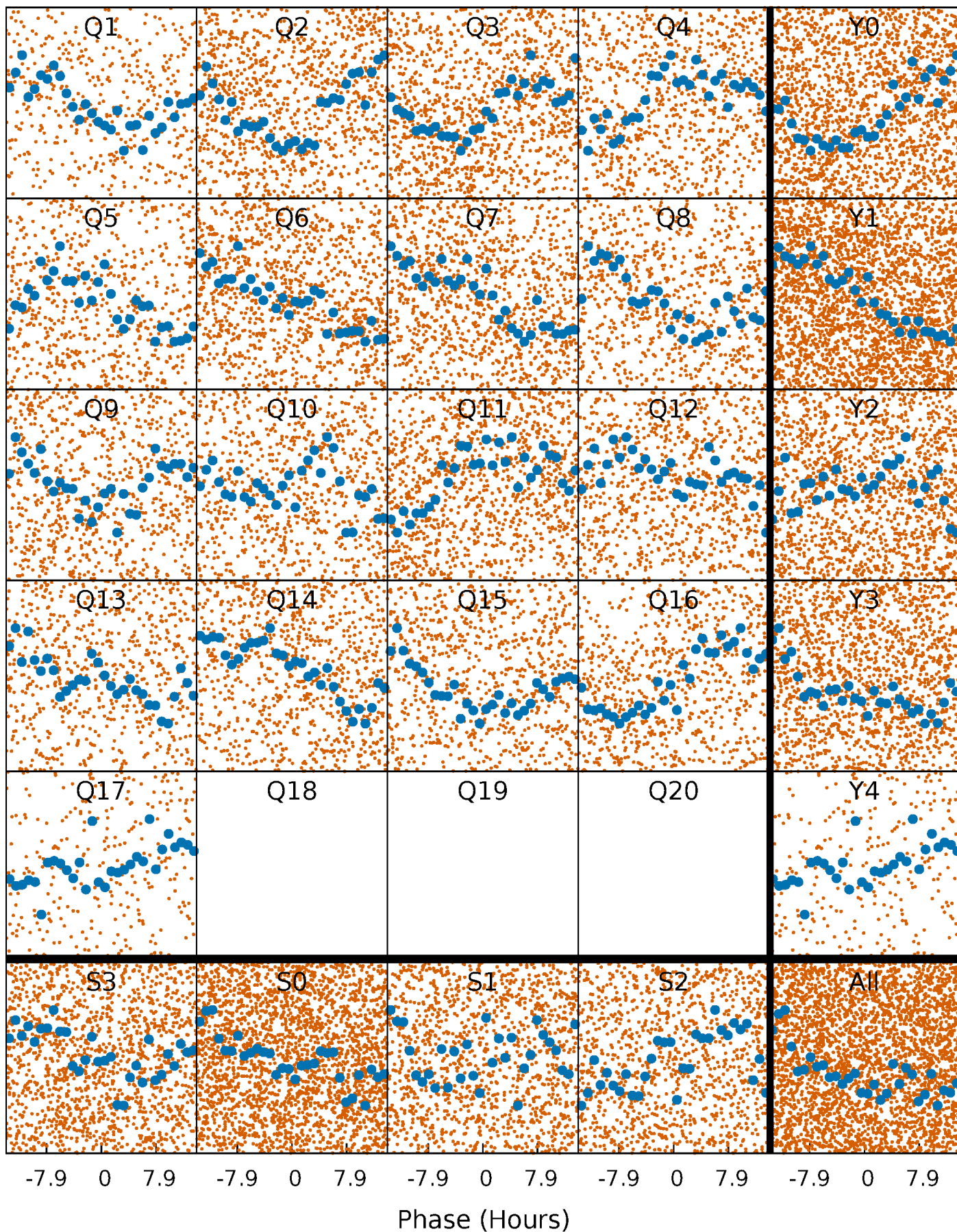


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

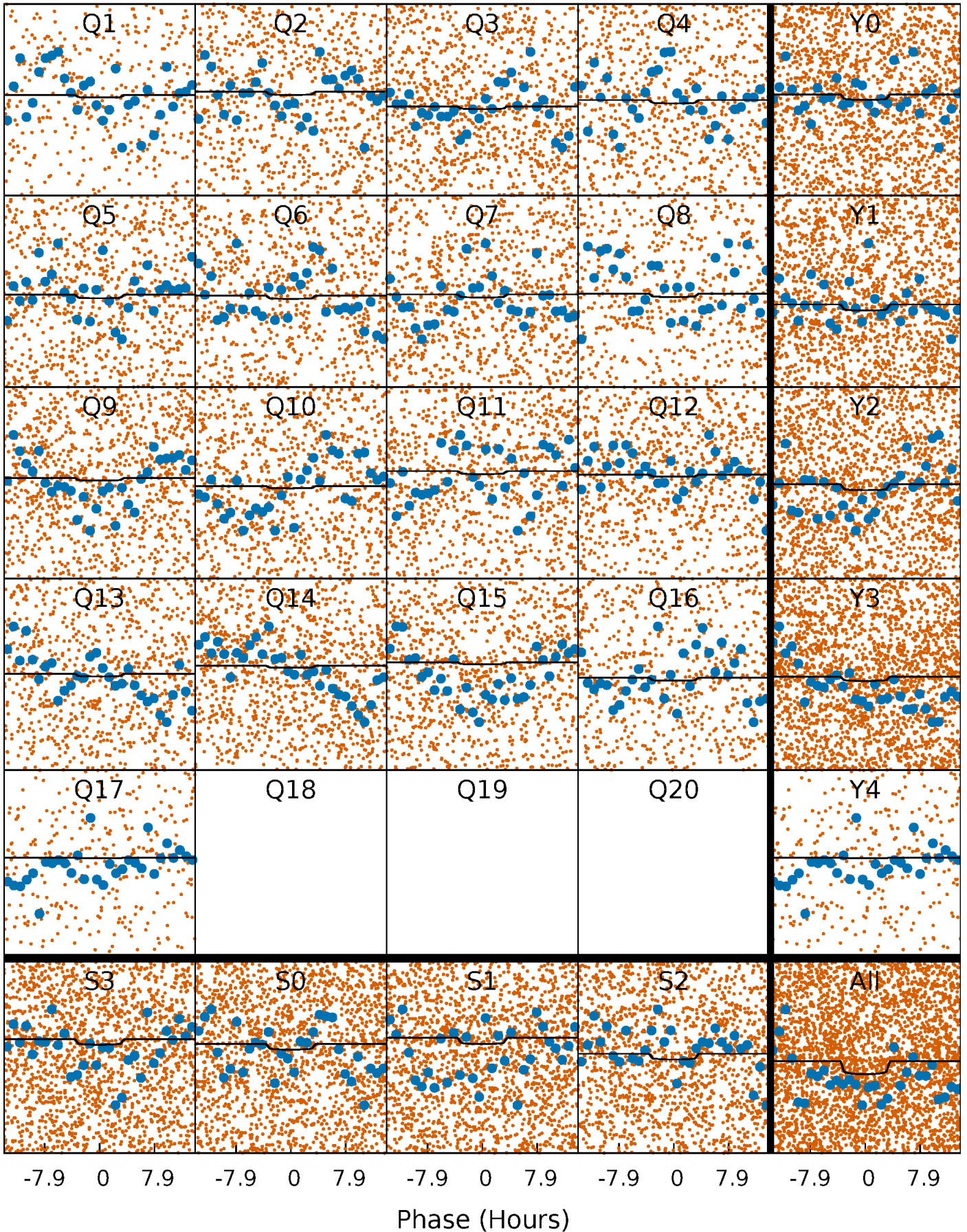
TCE 007939835-01 P= 3.175617 Days  $T_0=134.078302$  (BKJD)





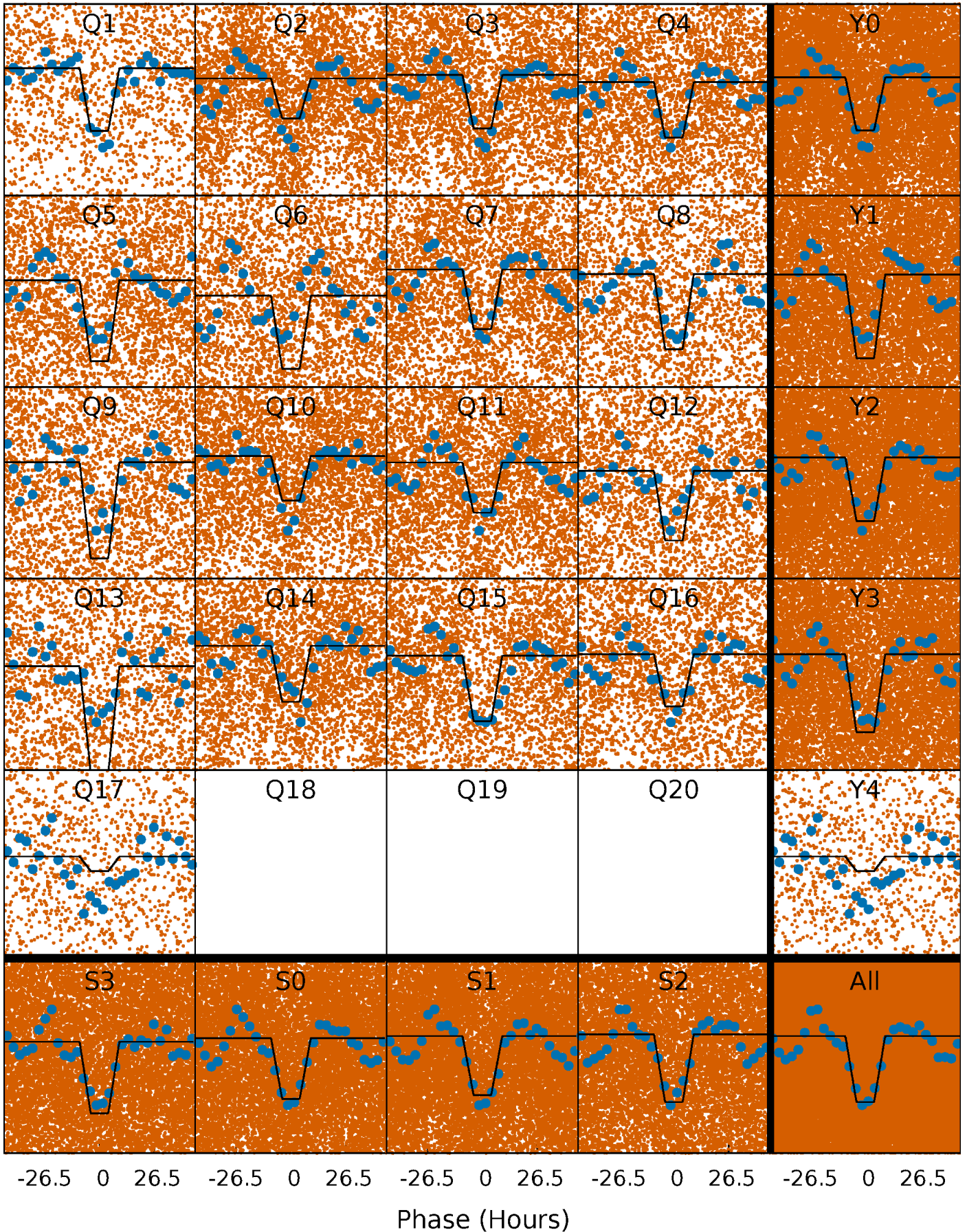
# DV Quarter-Phased Transit Curves

TCE 007939835-01 P= 3.175617 Days  $T_0=134.078302$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 007939835-01 P= 3.167202 Days  $T_0=134.277180$  (BKJD)

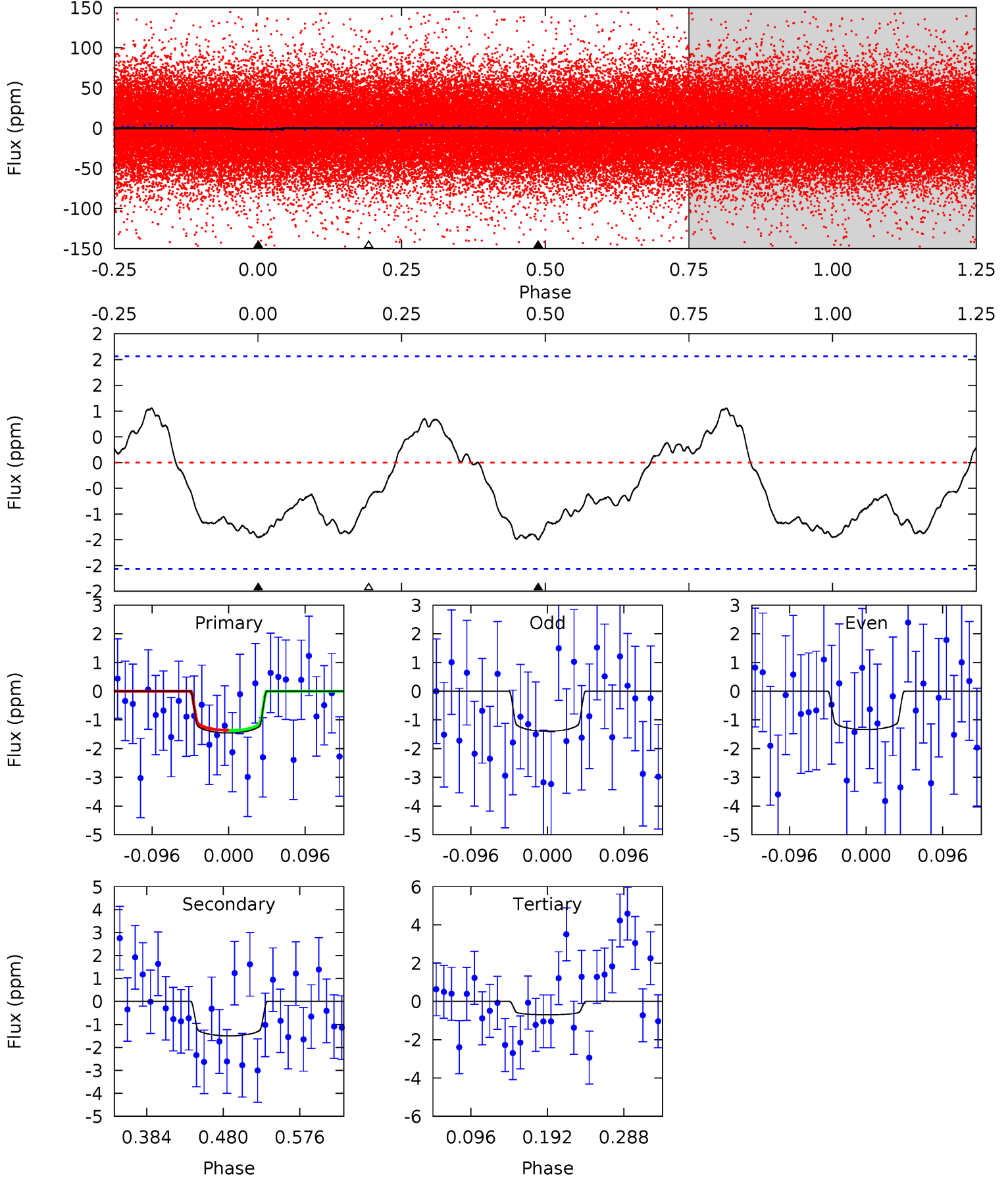




# DV Model-Shift Uniqueness Test

007939835-01, P = 3.175617 Days, E = 130.902685 Days

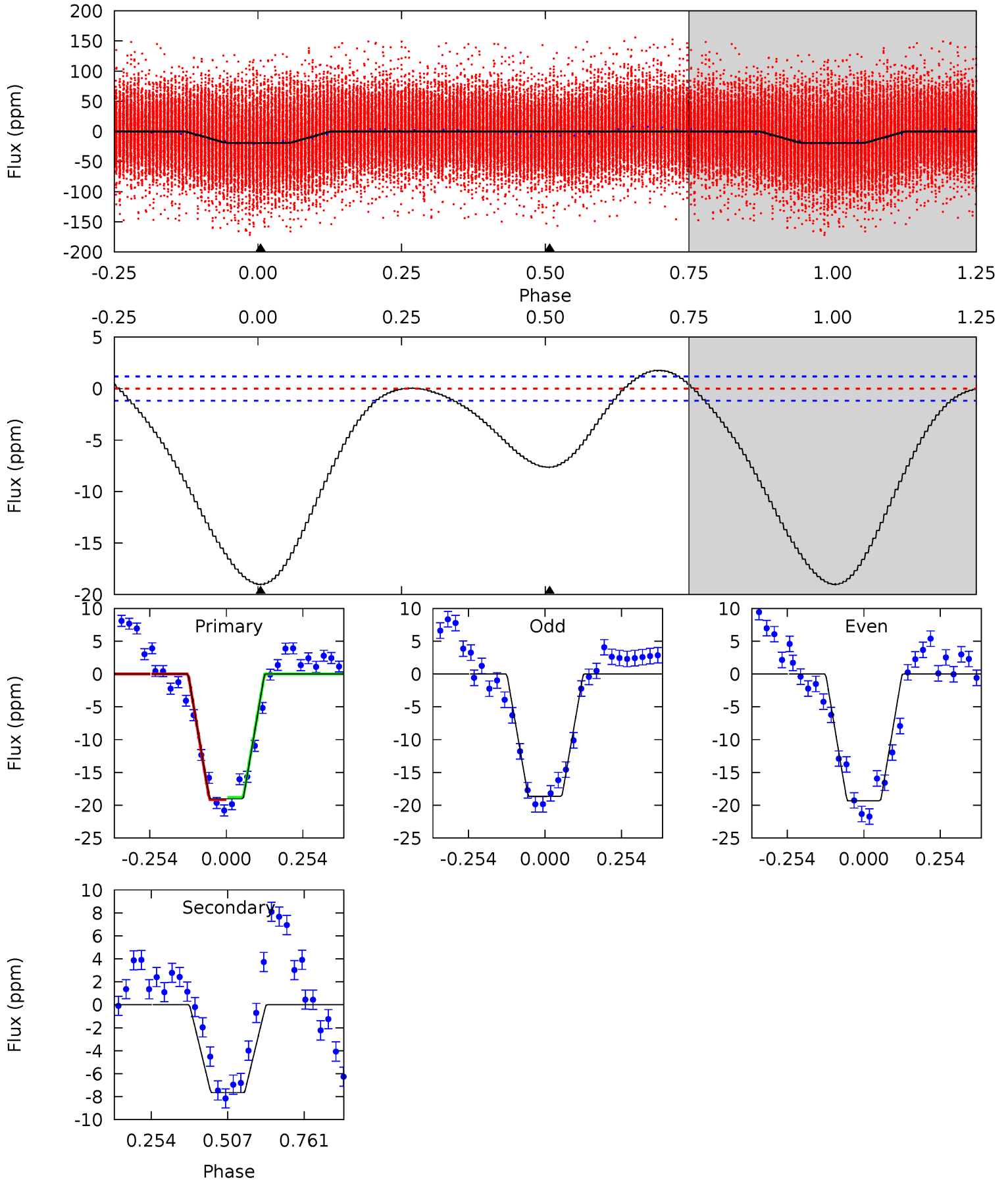
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.22	3.32	1.54	0	4.57	1.66	1.49	1.68	3.22	1.77	3.32	0.07	1.24	0.41	0.02



# Alt Model-Shift Uniqueness Test

007939835-01, P = 3.167202 Days, E = 131.109978 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
70.7	28.4	0	0	4.37	1.14	1.99	70.7	70.7	28.4	28.4	1.28	0.99	0.09	0.67





### Stellar Parameters For KIC 007939835

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7879^{+218}_{-354}$	$3.819^{+0.308}_{-0.132}$	$0.210^{+0.150}_{-0.450}$	$3.016^{+0.762}_{-1.143}$	$2.187^{+0.284}_{-0.567}$	$0.112^{+0.261}_{-0.045}$
	+3%/-4%	+8%/-3%	+71%/-214%	+25%/-38%	+13%/-26%	+232%/-40%
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 007939835-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-1 \pm 0$	$0.34^{+0.29}_{-0.20}$	$3515^{+274}_{-362}$	$8238^{+8128}_{-2395}$	$20^{+98}_{-14}$
Alt.	$-8 \pm 0$	$1.45^{+0.40}_{-0.35}$	$3536^{+262}_{-333}$	$5824^{+718}_{-471}$	$6.018^{+3.879}_{-2.224}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature  
 $T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )  
 $A_{\text{obs}}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{\text{obs}} \gg T_{\text{max}}$  AND  $A_{\text{obs}} \gg 1.0$

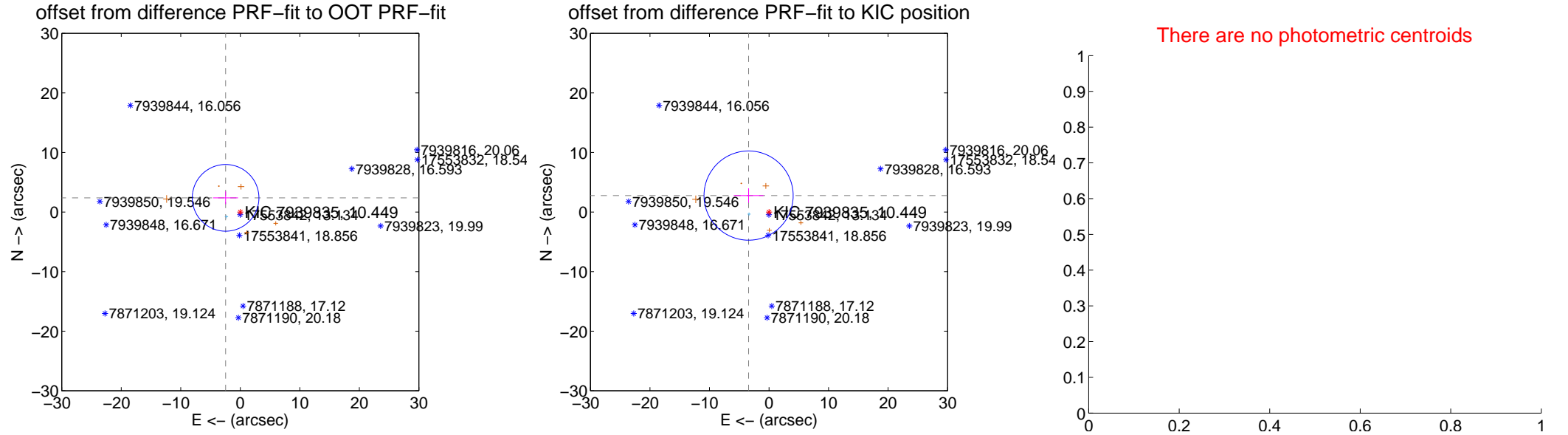
## DV Centroid Data

Supplemental centroid analysis for 007939835-01. **Kepler magnitude: 10.45.** Transit SNR 1.05

**There are 1 quarters with good PRF difference image offsets**

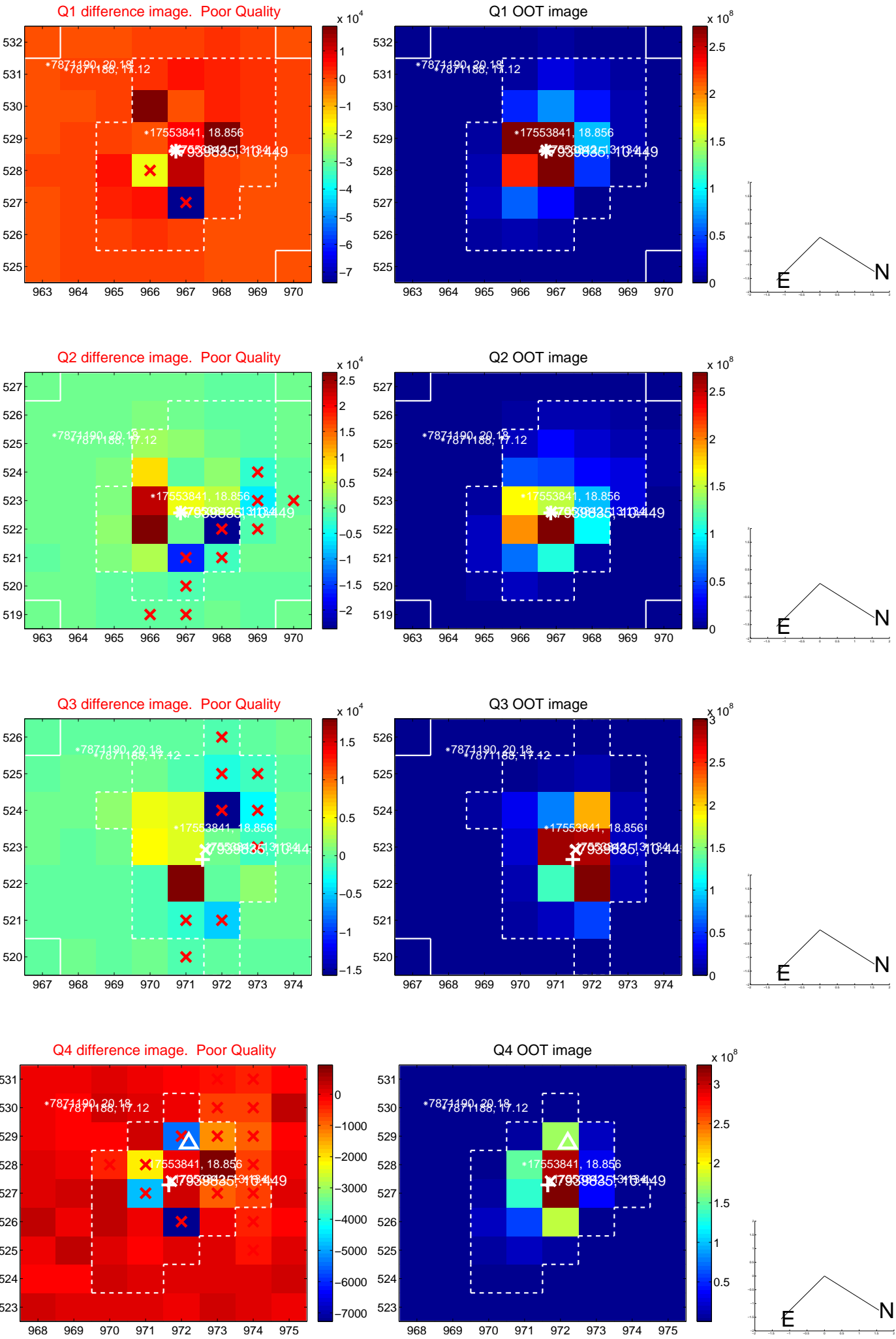
The direct PRF centroid is offset from the target star catalog position by about 1.12 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.430 \pm 1.866$	1.84	$2.468 \pm 2.098$	$2.382 \pm 1.072$
PRF-fit source offset from KIC position	$4.404 \pm 2.496$	1.76	$3.430 \pm 2.499$	$2.763 \pm 1.213$
photometric centroid source offset	—	—	—	—

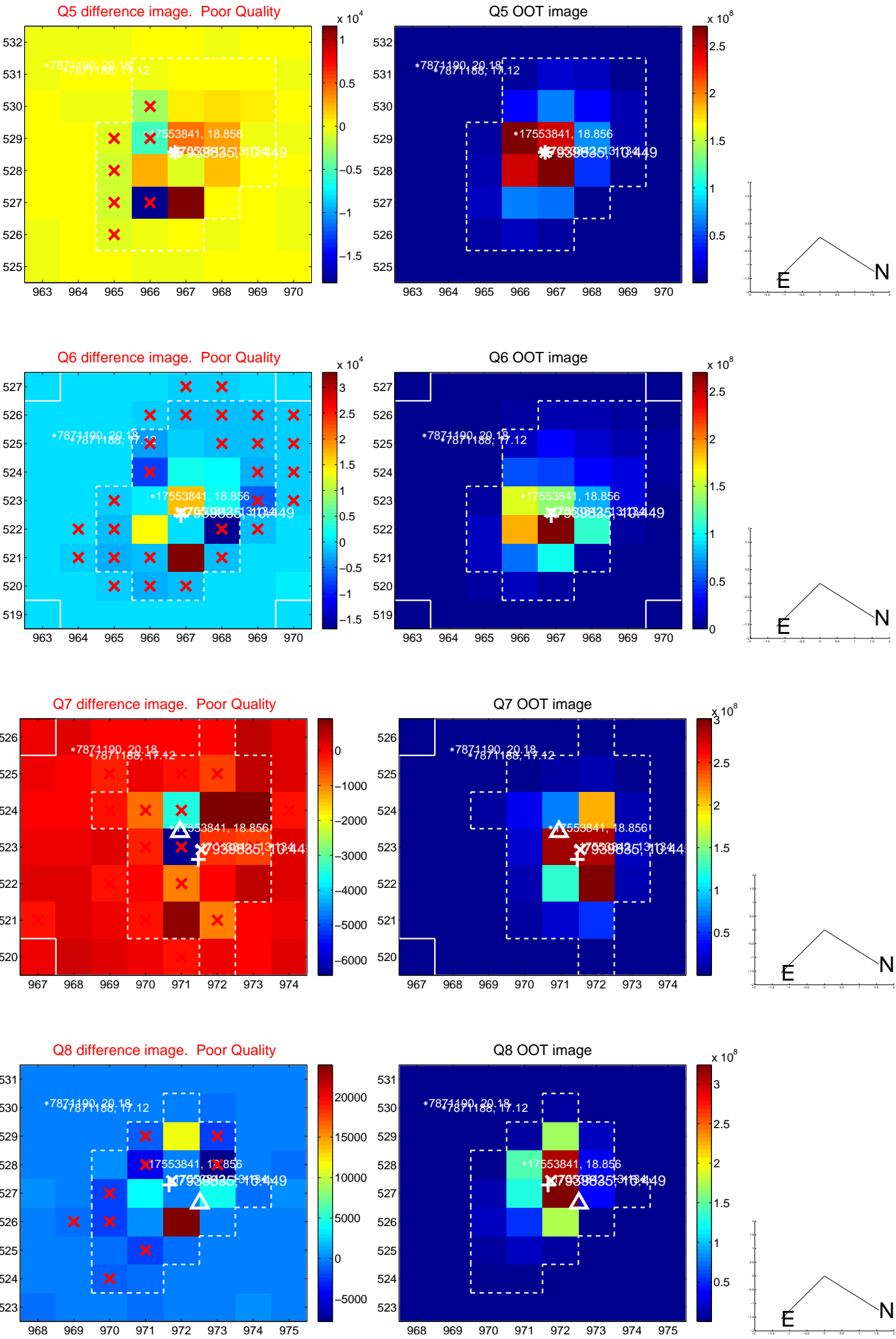


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

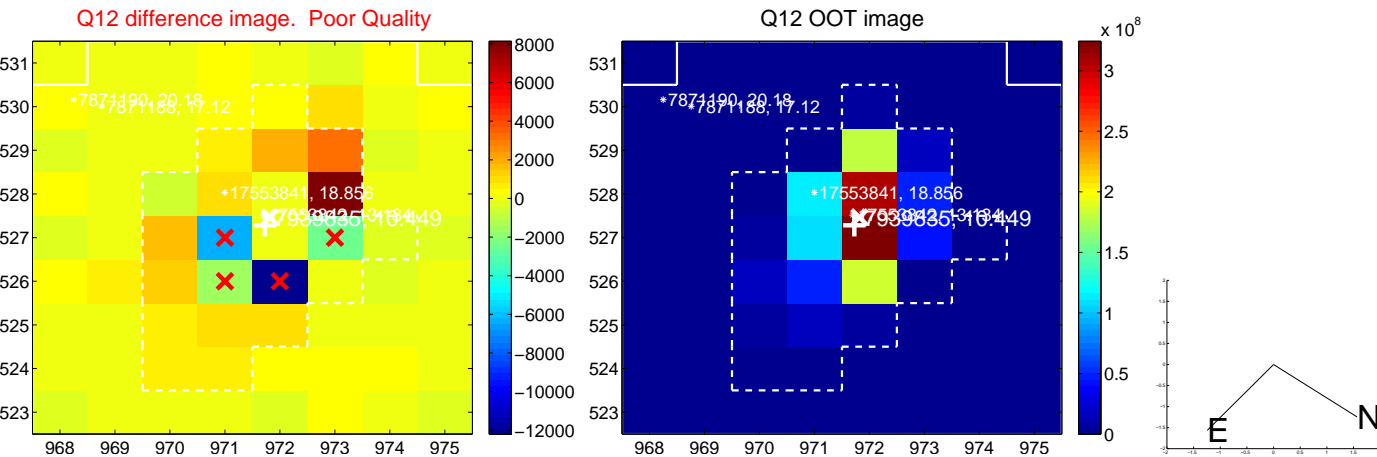
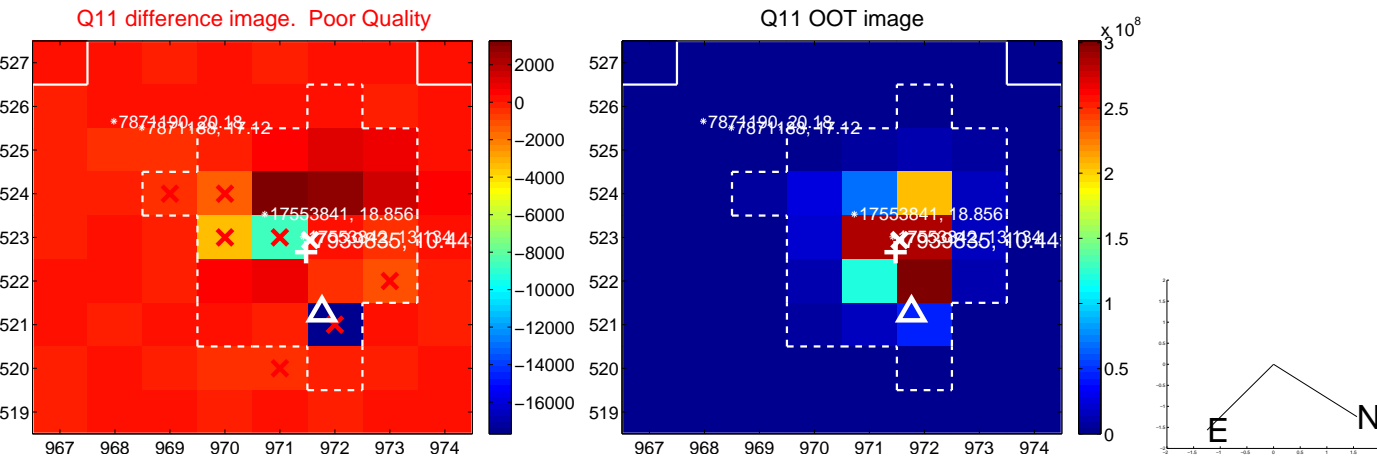
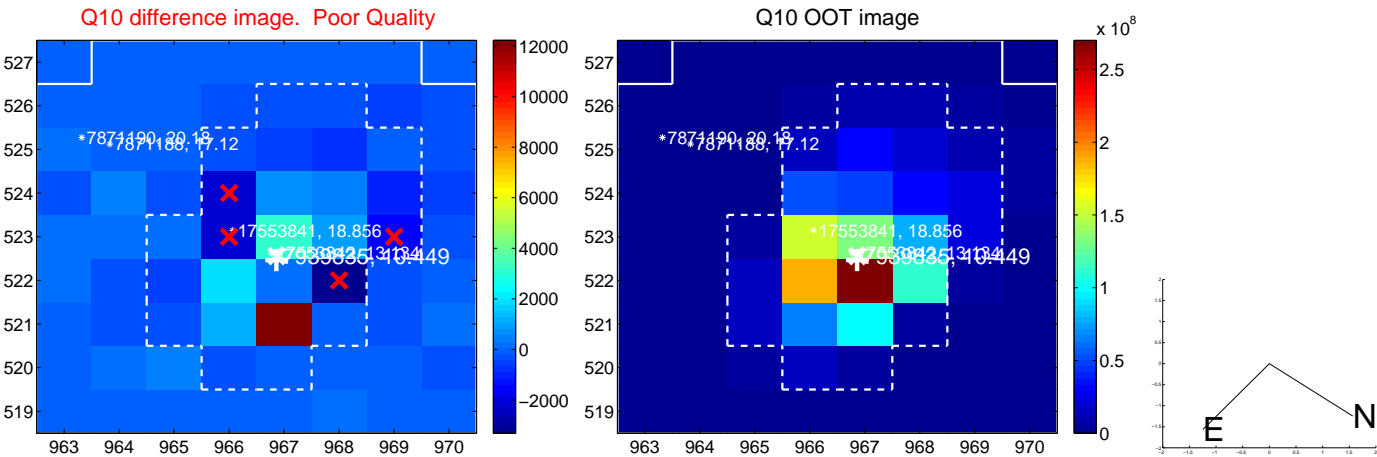
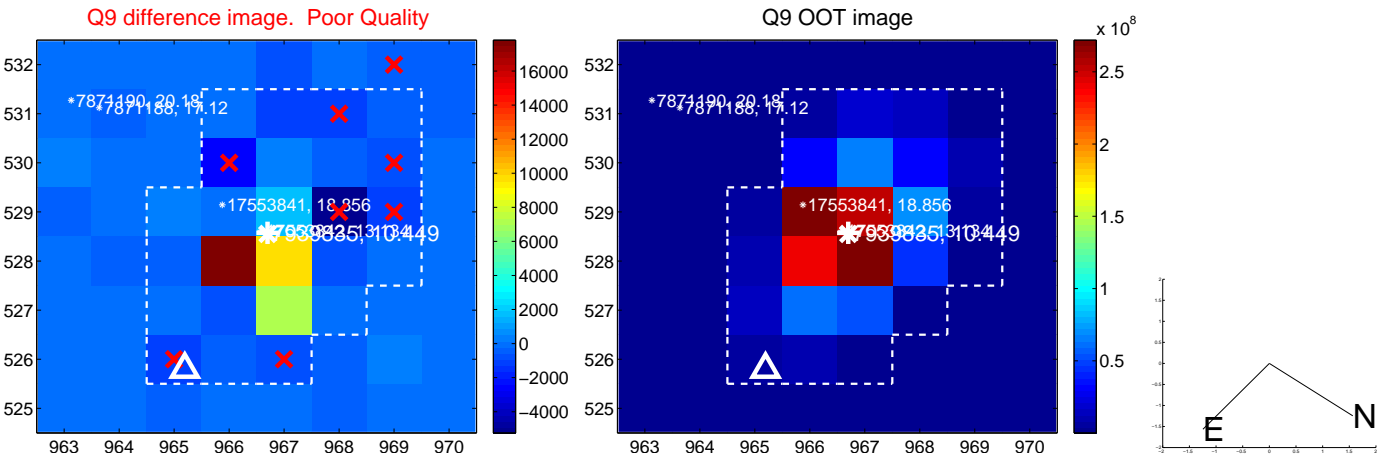


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

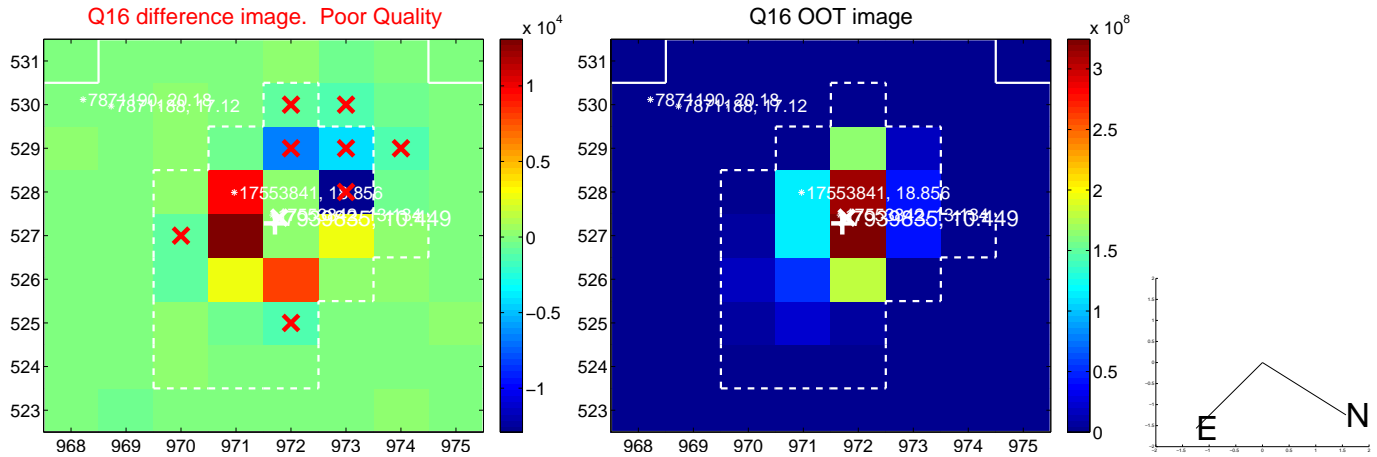
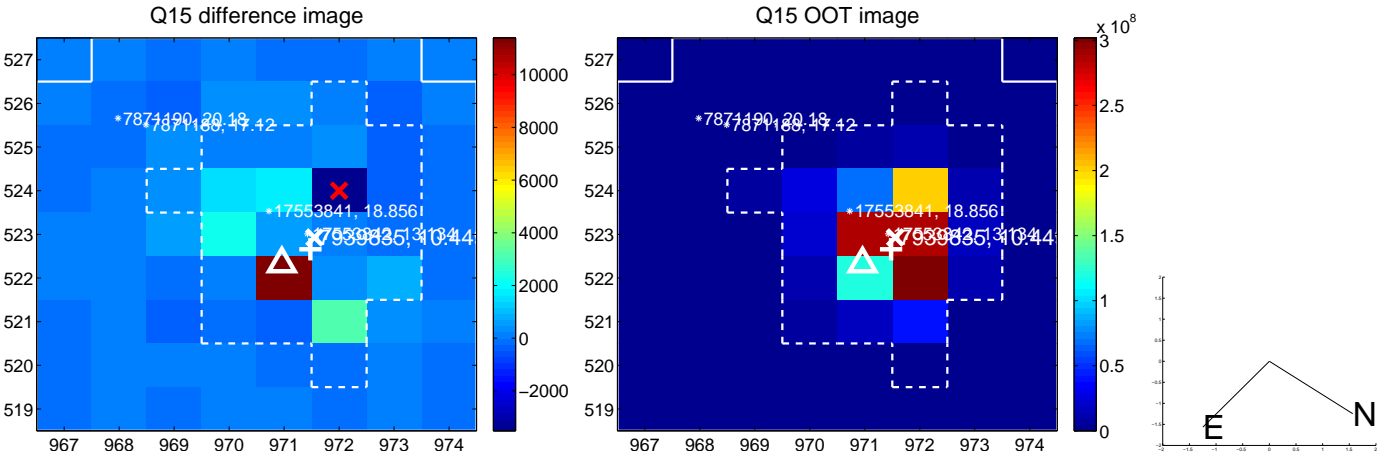
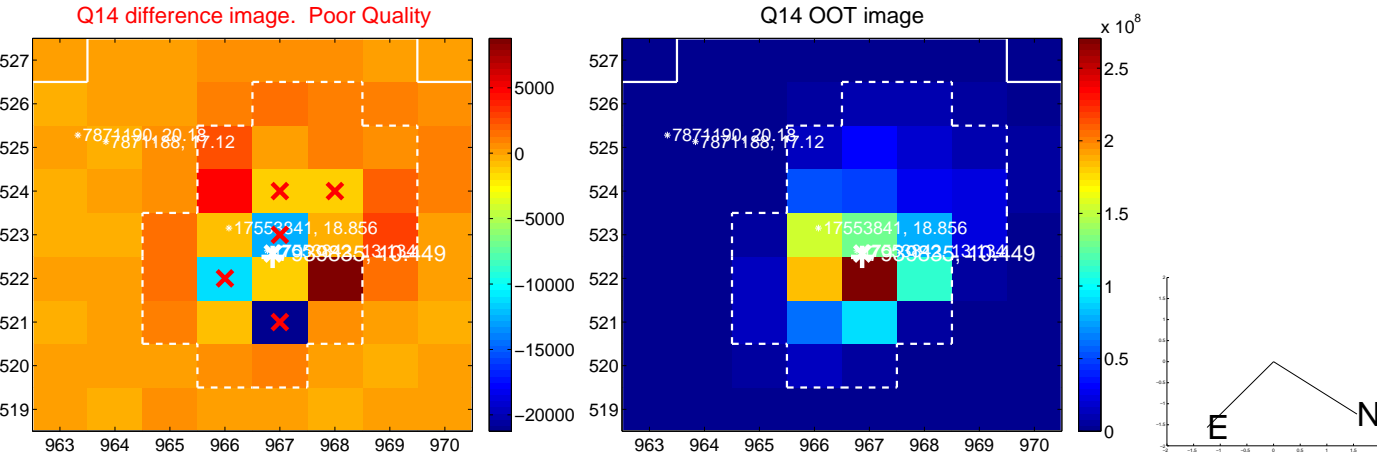
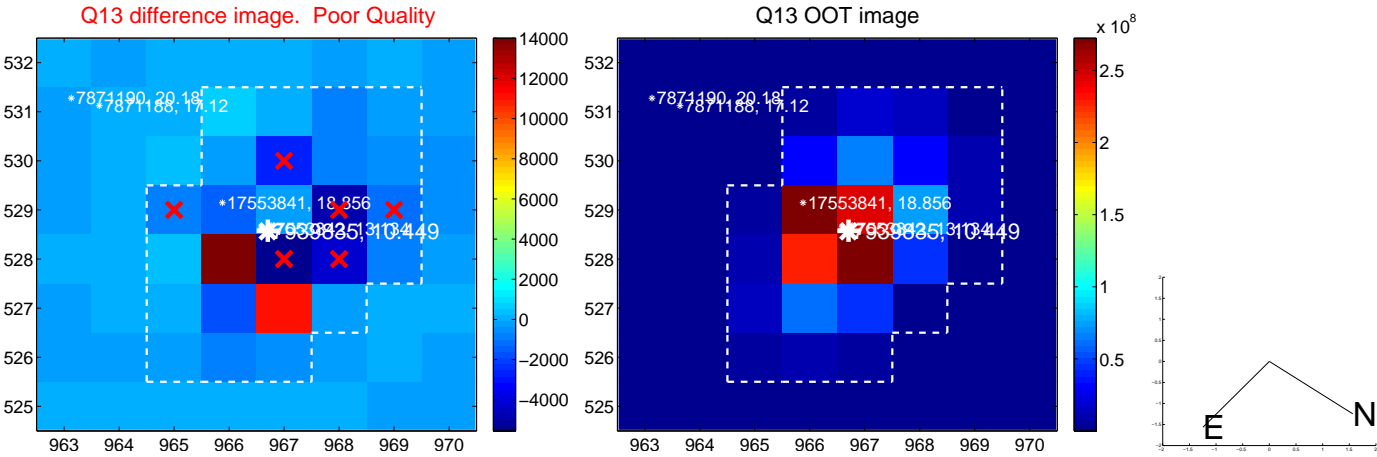




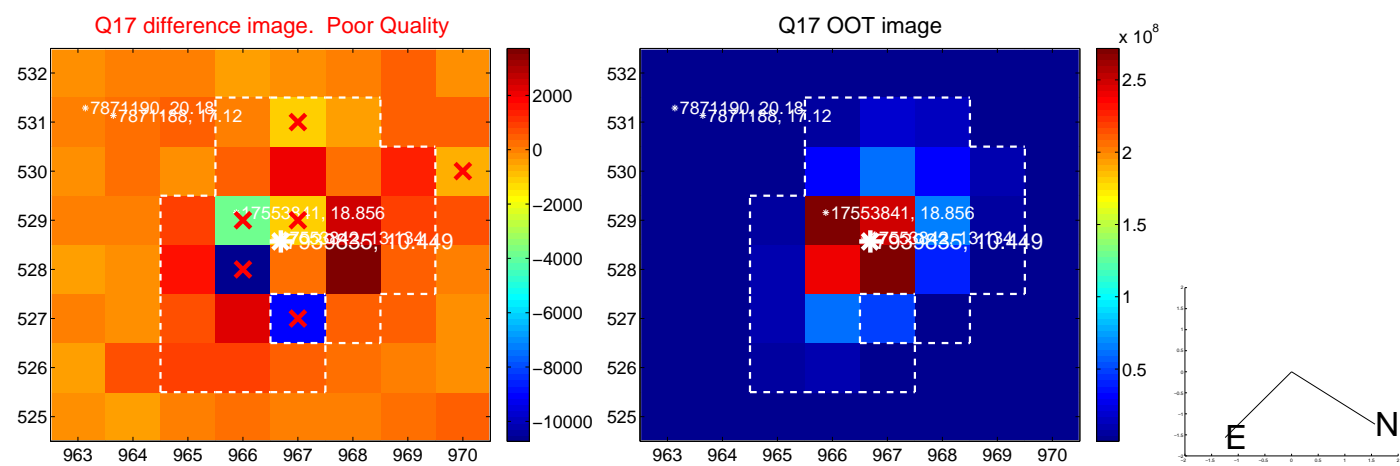
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination

