

# KIC 007839949

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007839949-01	OBS	No	0.563897	131.883911	1.8	2.793	9.2	0.7	1.55	5835	0.21	14519.28

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007839949-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—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.

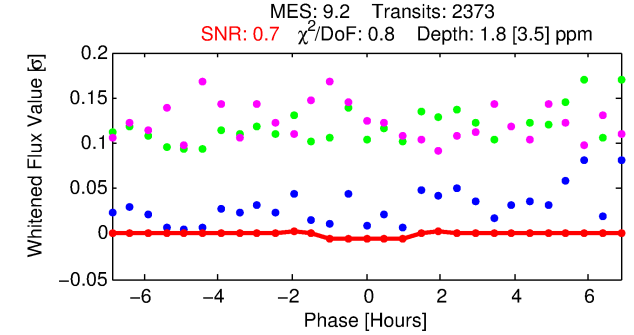
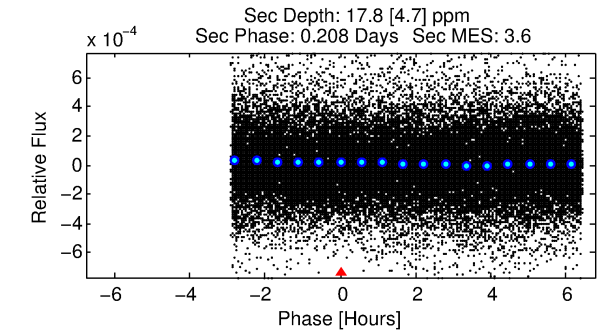
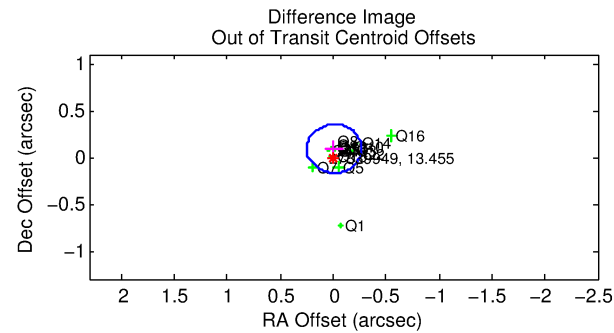
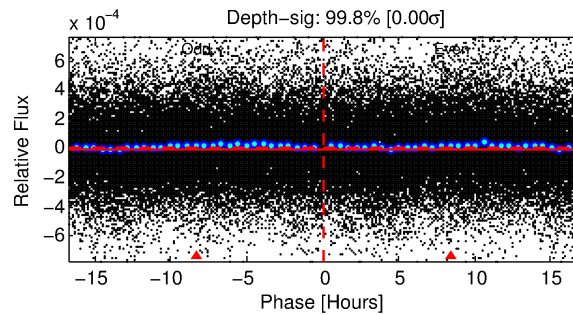
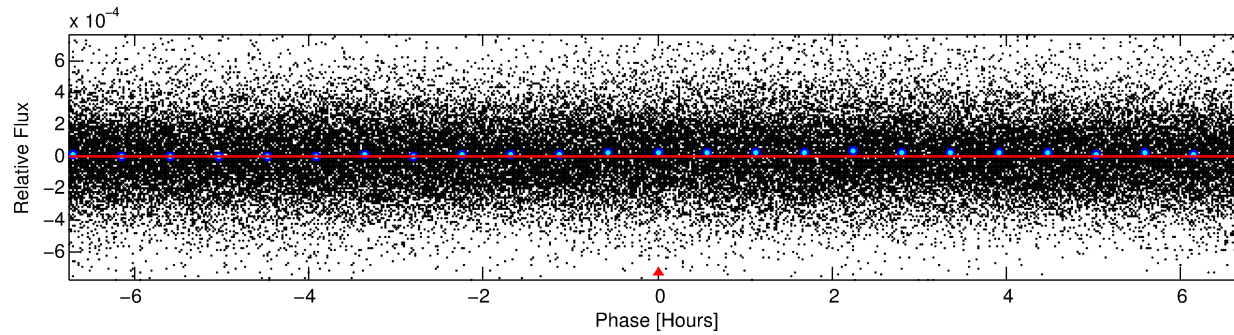
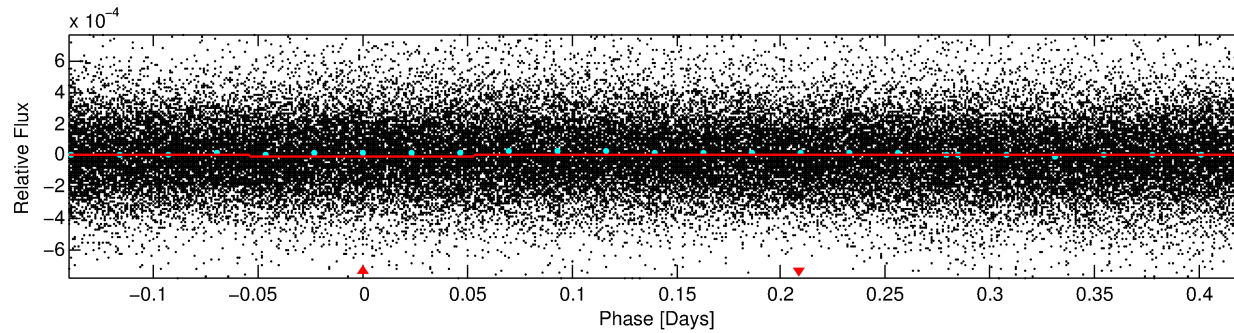
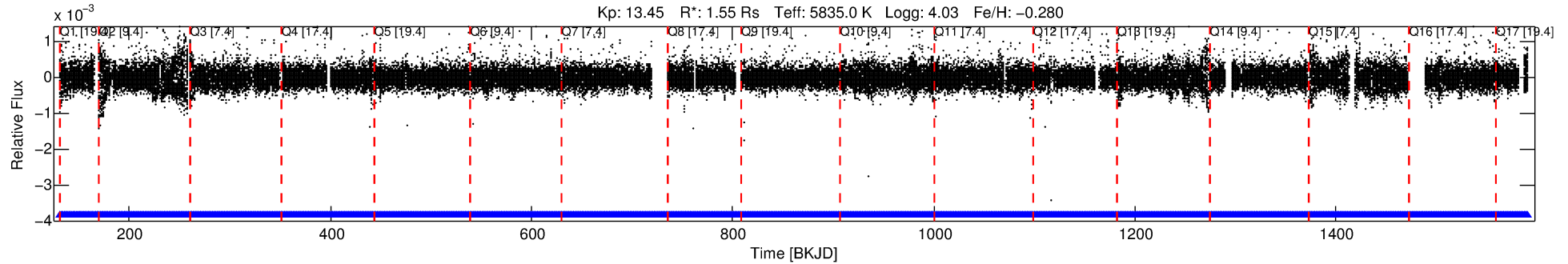
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007839949-01

No Significant Match Found

# DV One-Page Summary

KIC: 7839949 Candidate: 1 of 1 Period: 0.564 d



## DV Fit Results:

Period = 0.56390 [0.00014] d  
Epoch = 131.8839 [0.0338] BKJD  
Rp/R\* = 0.0012 [0.0174]  
a/R\* = 1.65 [69.20]  
b = 0.11 [618.29]  
Seff = 14519.28 [10534.58]  
Teq = 2799 [508] K  
Rp = 0.21 [2.95] Re  
a = 0.0132 [0.0057] AU  
Ag = 38.74 [1091.49] [0.03 $\sigma$ ]  
Teffp = 10797 [76021] K [0.11 $\sigma$ ]

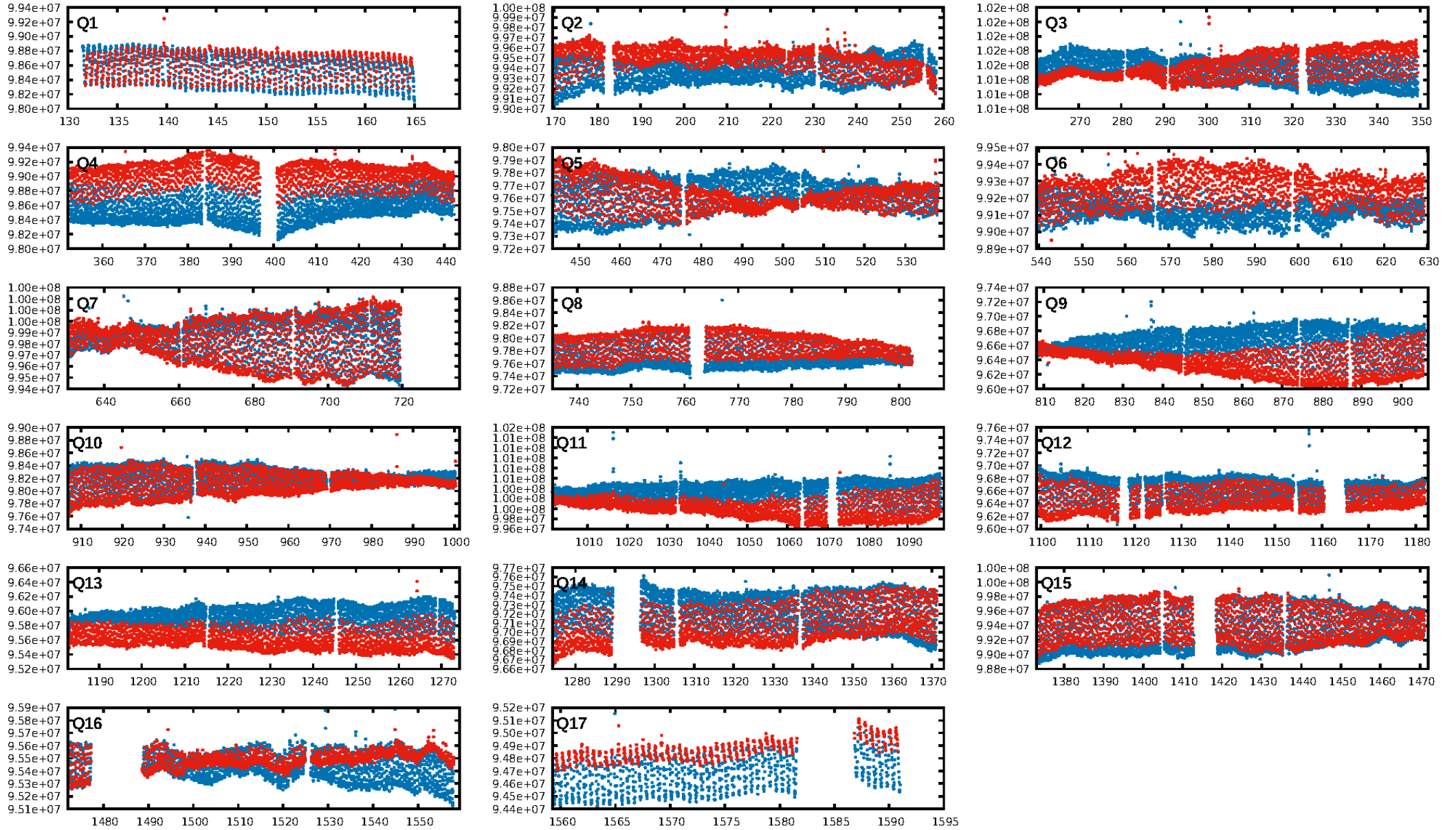
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 9.04e-18  
RollingBand-fgt: 1.00 [2268/2268]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 0.093 arcsec [1.08 $\sigma$ ]  
KicOffset-rm: 0.058 arcsec [0.74 $\sigma$ ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.41 [7/17]  
DiffImageOverlap-fno: 1.00 [17/17]

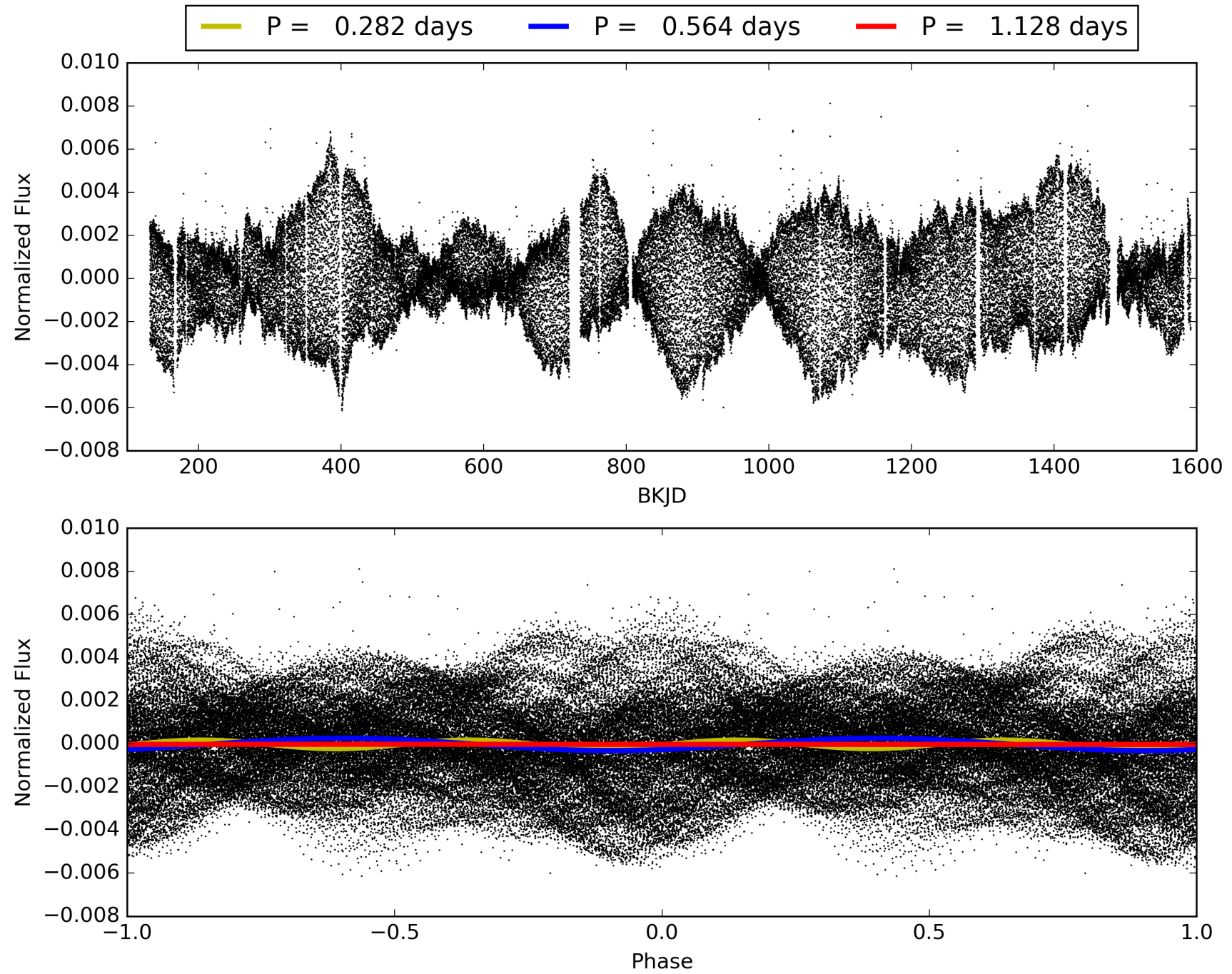
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:15:07 Z

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

# TCE 007839949-01, PDC Light Curves



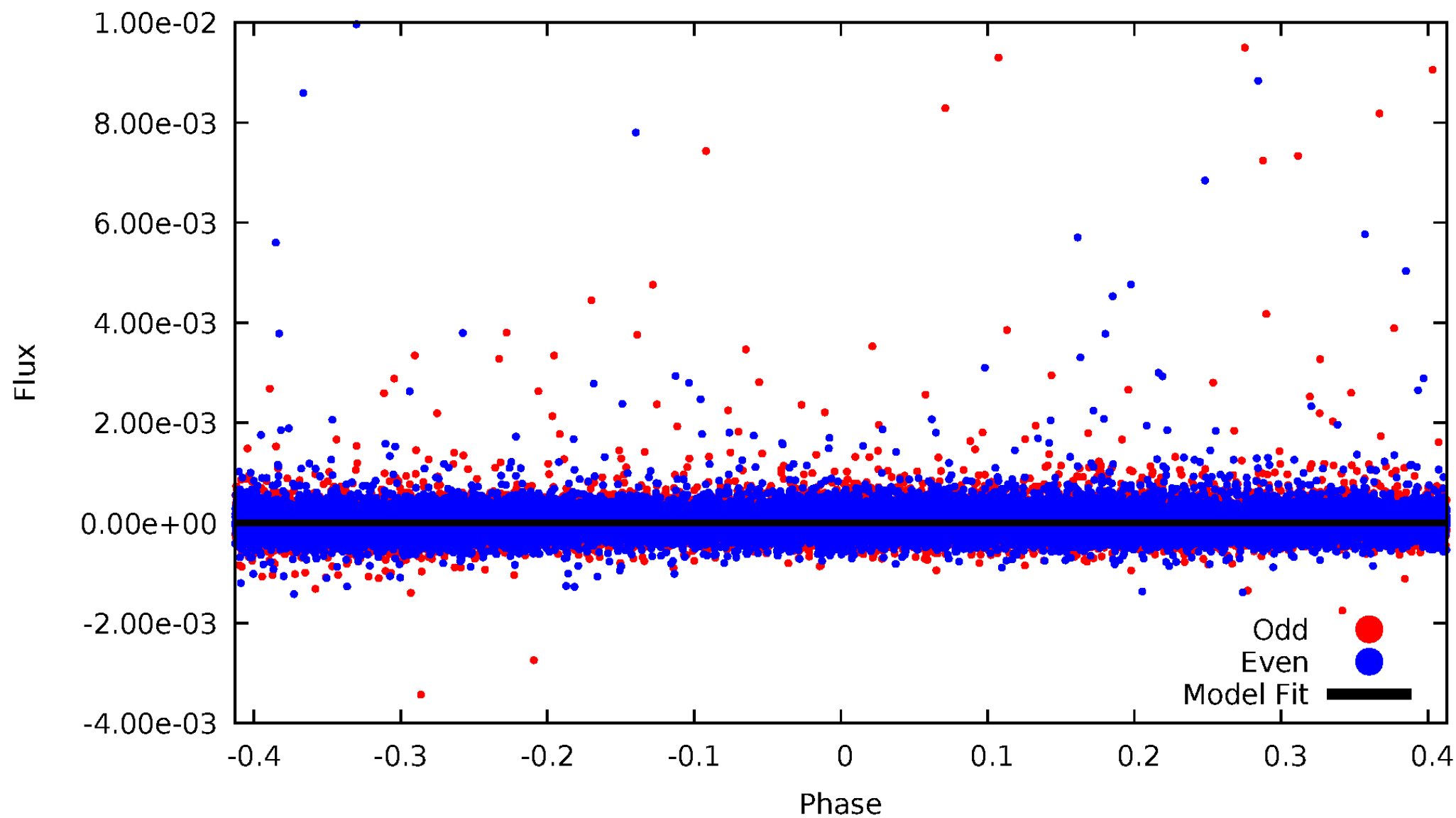
TCE 007839949-01





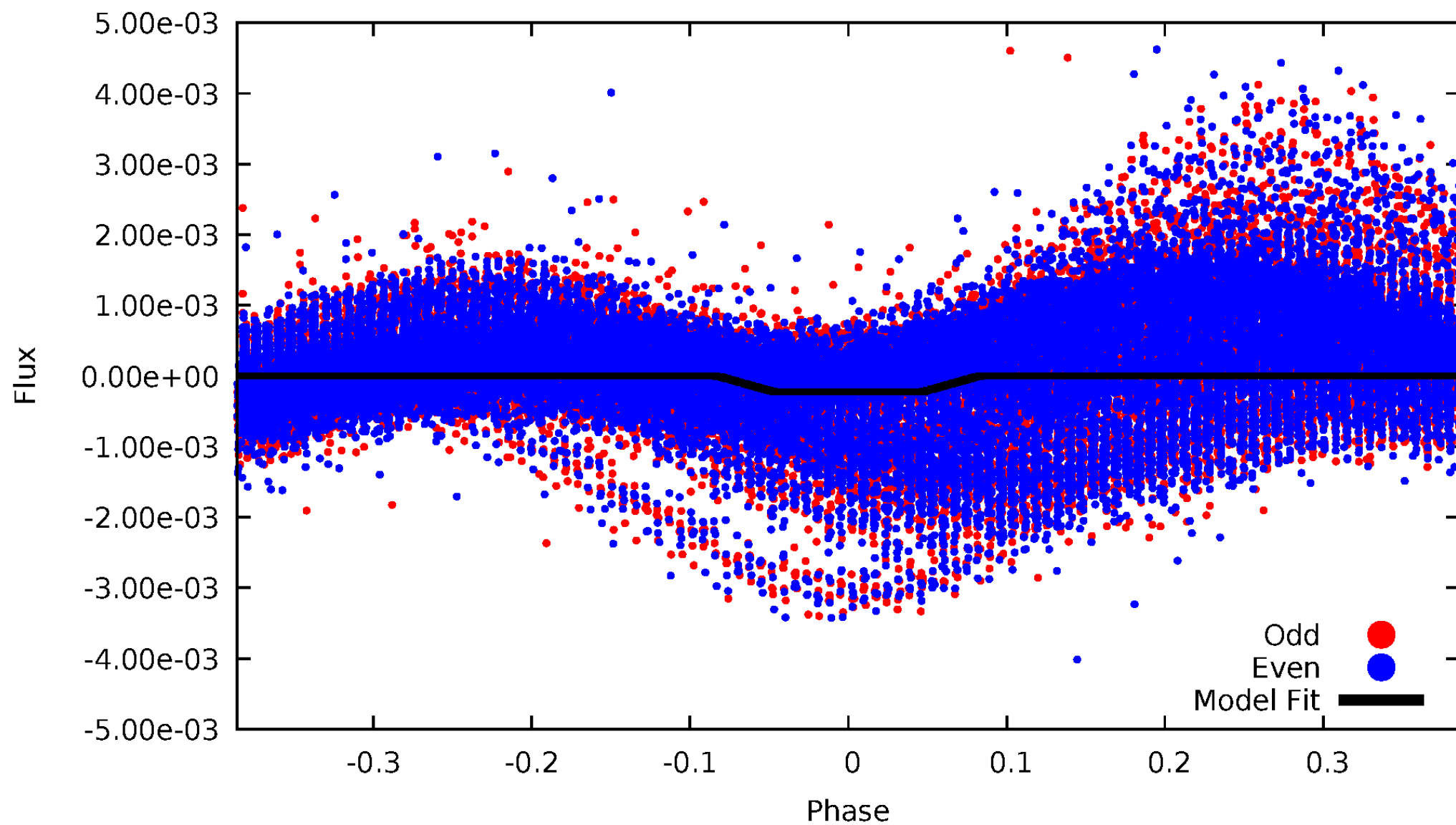
# DV Odd/Even

TCE 007839949-01



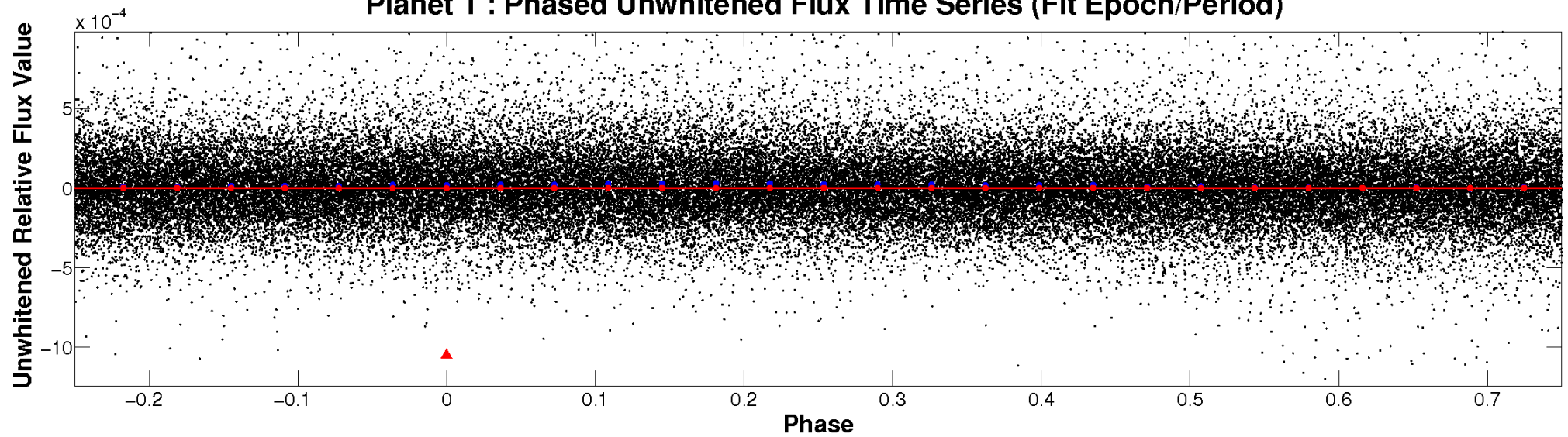
# ALT Odd/Even

TCE 007839949-01

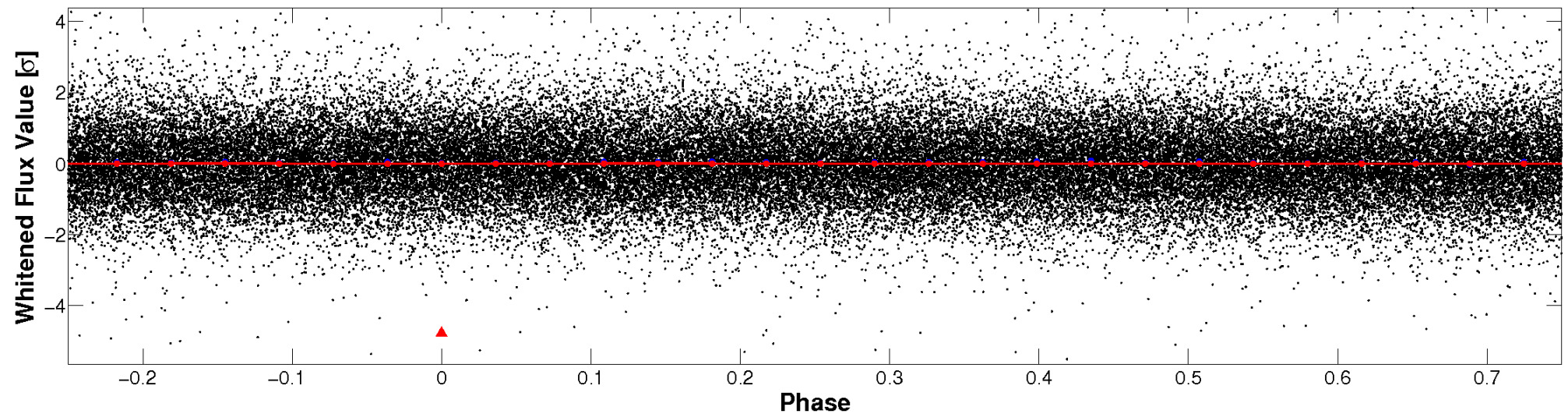


# Non-Whitened Vs. Whitened Light Curve

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

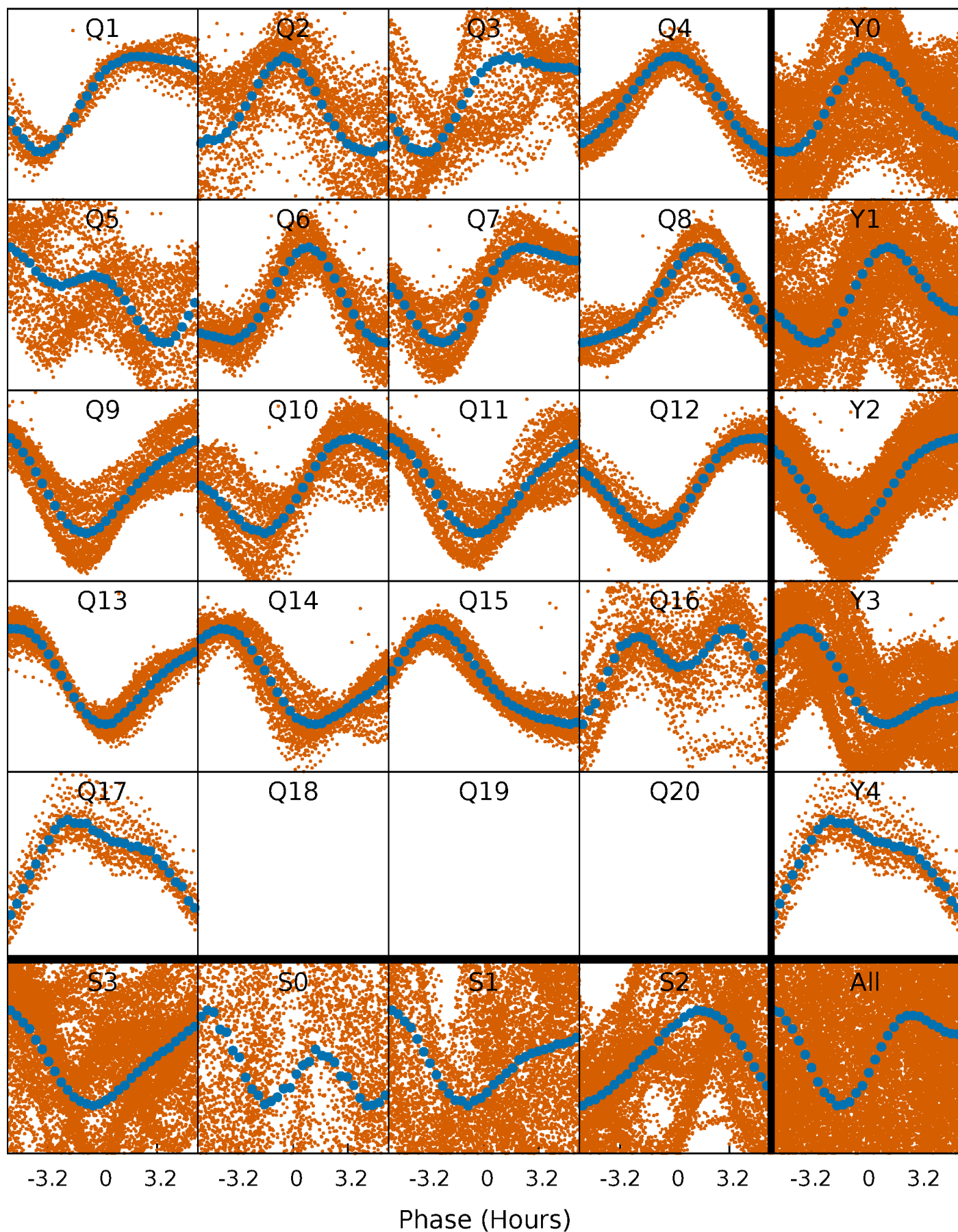


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

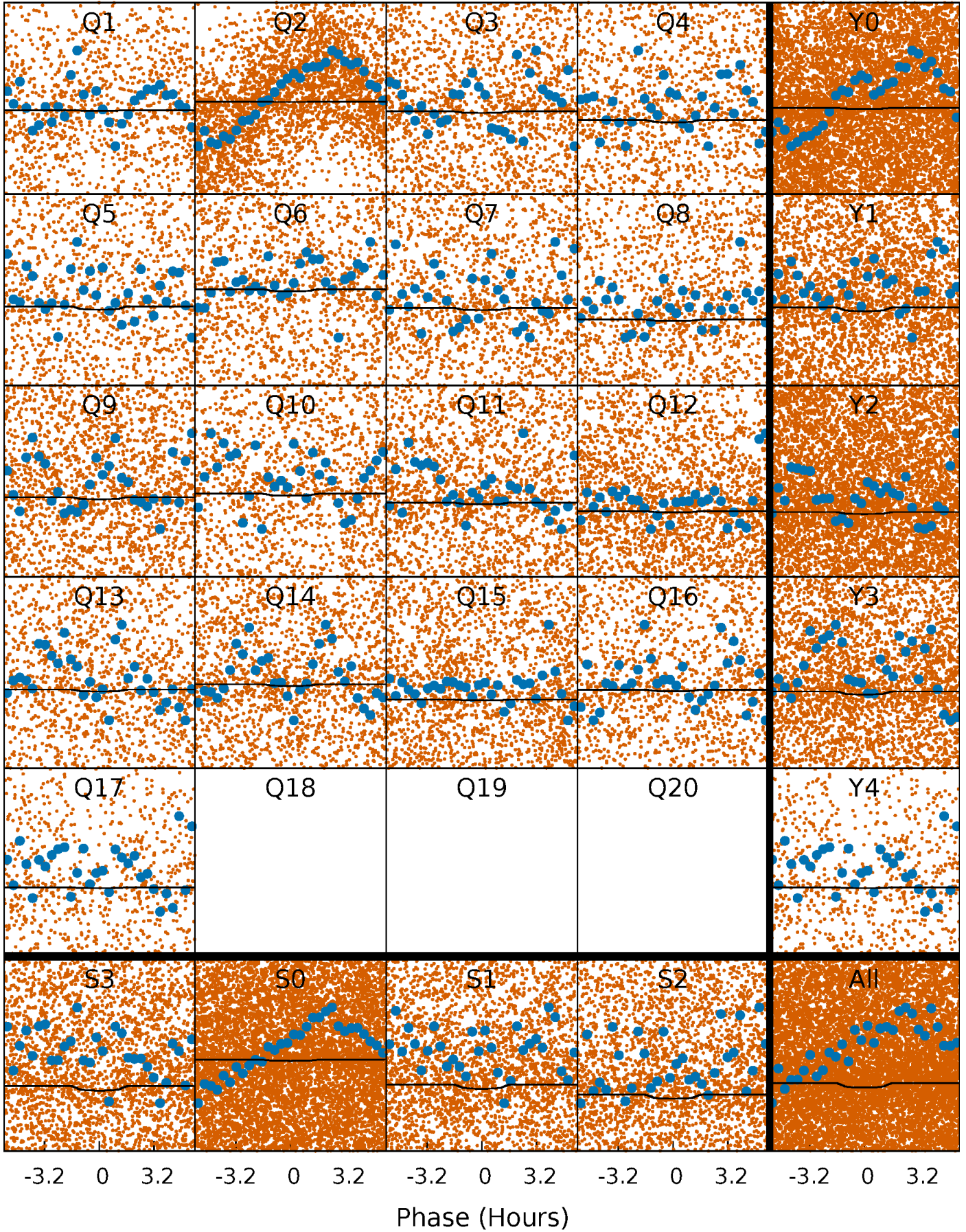
TCE 007839949-01   P= 0.563897 Days    $T_0=131.883911$  (BKJD)





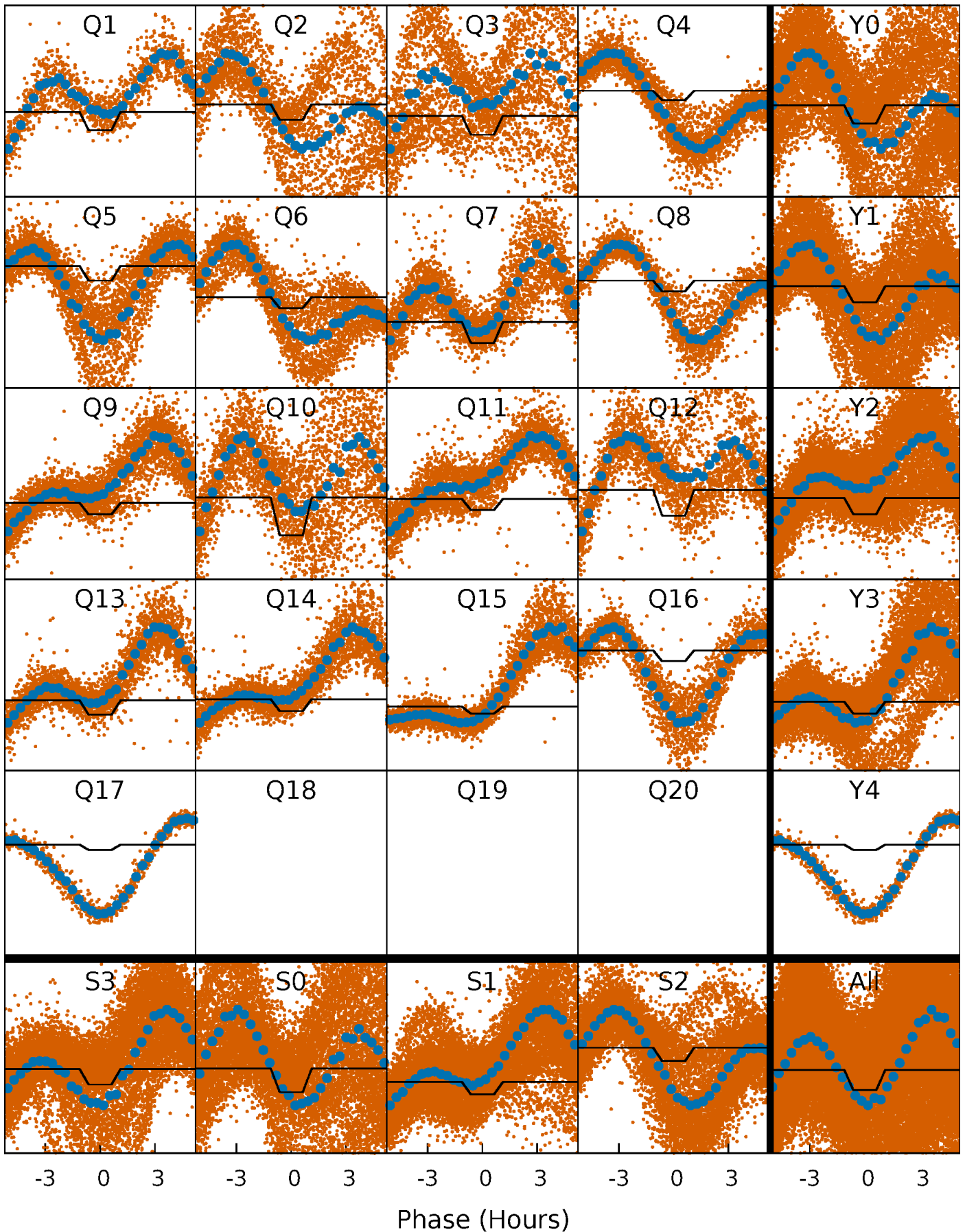
# DV Quarter-Phased Transit Curves

TCE 007839949-01   P= 0.563897 Days    $T_0=131.883911$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

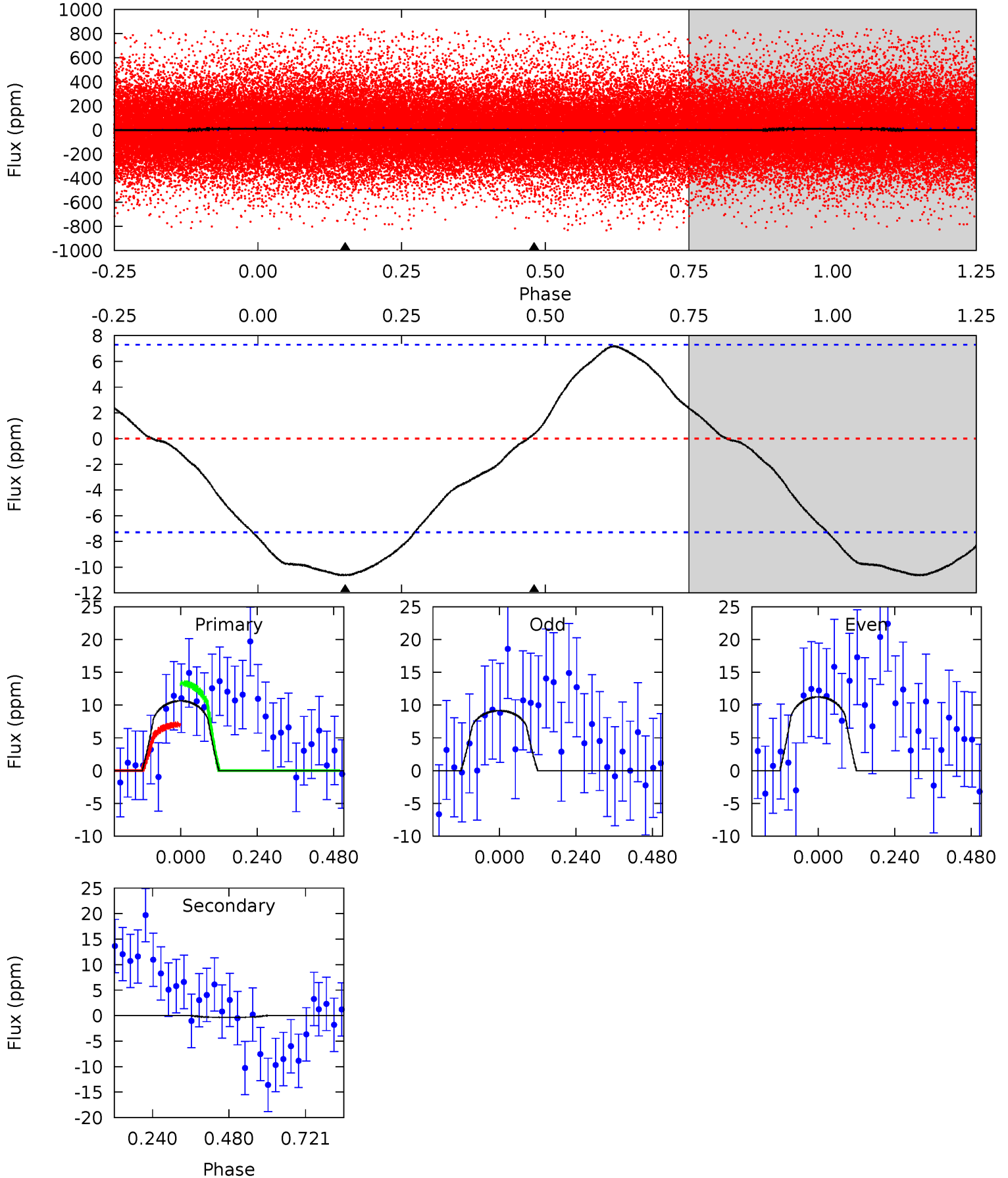
TCE 007839949-01 P= 0.563967 Days  $T_0=131.990439$  (BKJD)



# DV Model-Shift Uniqueness Test

007839949-01, P = 0.563897 Days, E = 131.320014 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
6.39	-0.20	0	0	4.38	1.17	1.07	6.39	6.39	-0.20	-0.20	0.62	2.52	0.40	1.88

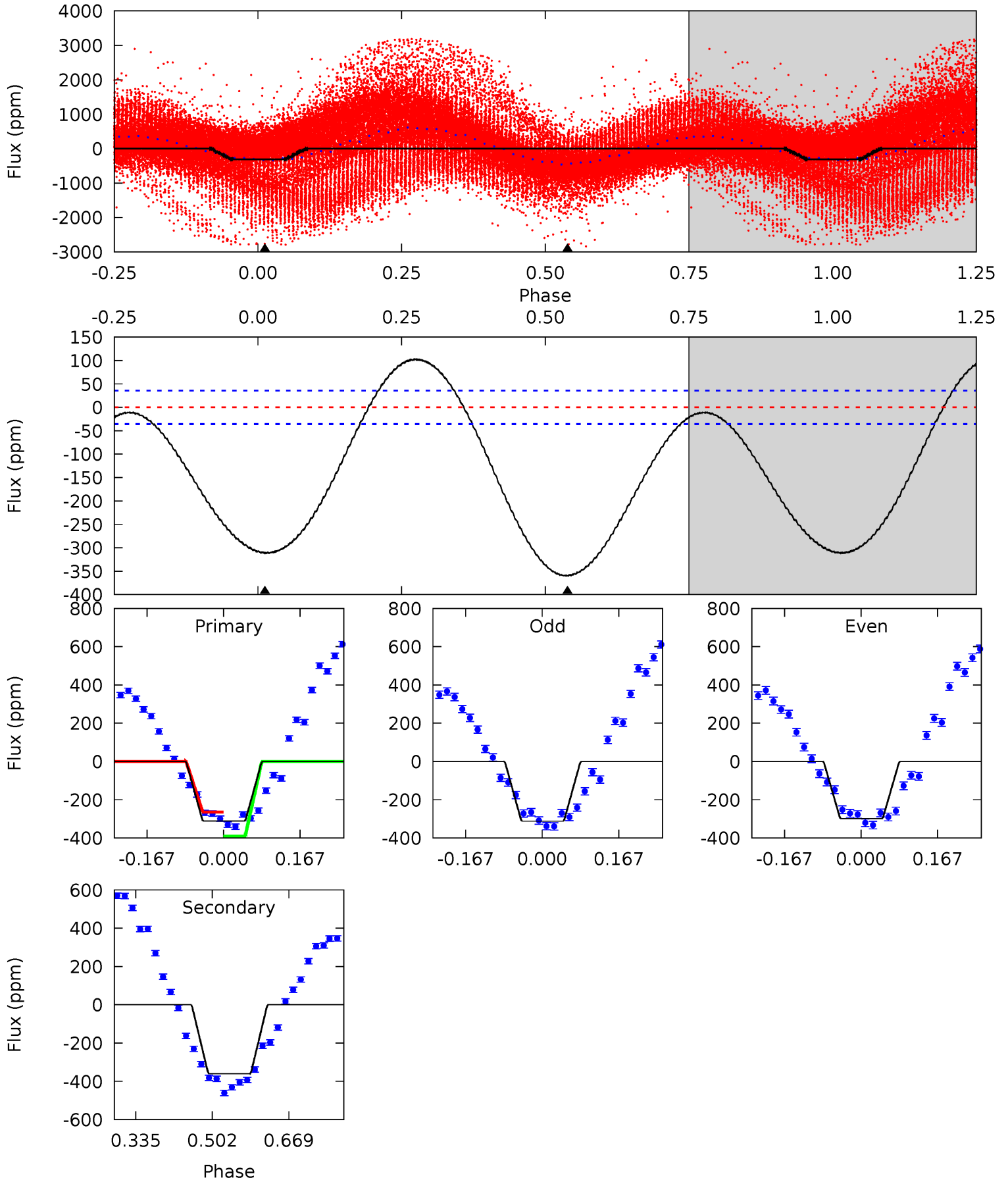




# Alt Model-Shift Uniqueness Test

007839949-01, P = 0.563967 Days, E = 131.426472 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
38.8	44.8	0	0	4.46	1.38	6.93	38.8	38.8	44.8	44.8	0.81	3.76	0.22	7.65





### Stellar Parameters For KIC 007839949

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5835^{+174}_{-157}$	$4.034^{+0.428}_{-0.143}$	$-0.280^{+0.300}_{-0.250}$	$1.555^{+0.408}_{-0.662}$	$0.954^{+0.131}_{-0.119}$	$0.358^{+1.169}_{-0.166}$
	+3%/-3%	+11%/-4%	+107%/-89%	+26%/-43%	+14%/-12%	+327%/-46%
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 007839949-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$0 \pm 2$	$1.74^{+2.12}_{-1.22}$	$3821^{+313}_{-421}$	$-3605^{+398}_{-339}$	$-0.004^{+0.059}_{-0.139}$
Alt.	$-360 \pm 8$	$3.04^{+2.77}_{-1.95}$	$3849^{+303}_{-460}$	$5626^{+4529}_{-1409}$	$3.744^{+23.830}_{-2.725}$

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

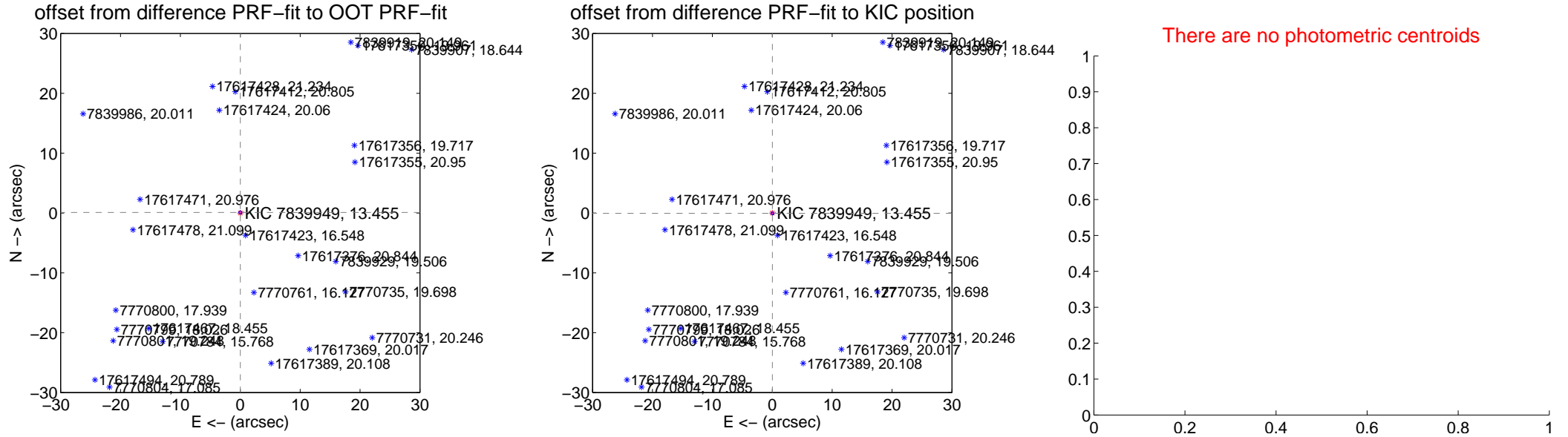
## DV Centroid Data

Supplemental centroid analysis for 007839949-01. Kepler magnitude: 13.46. Transit SNR 0.69

There are 7 quarters with good PRF difference image offsets

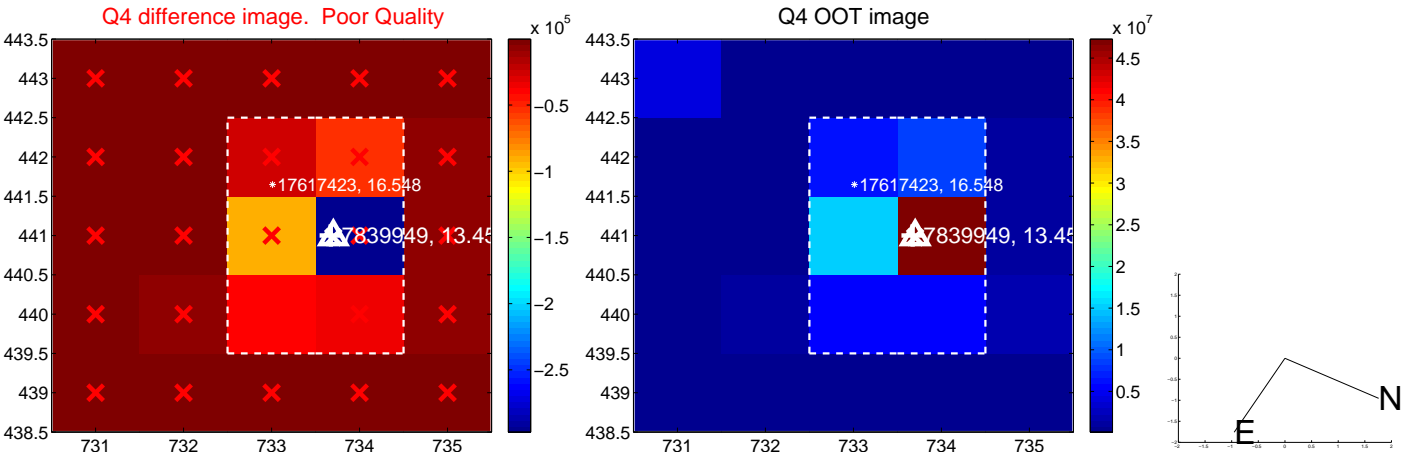
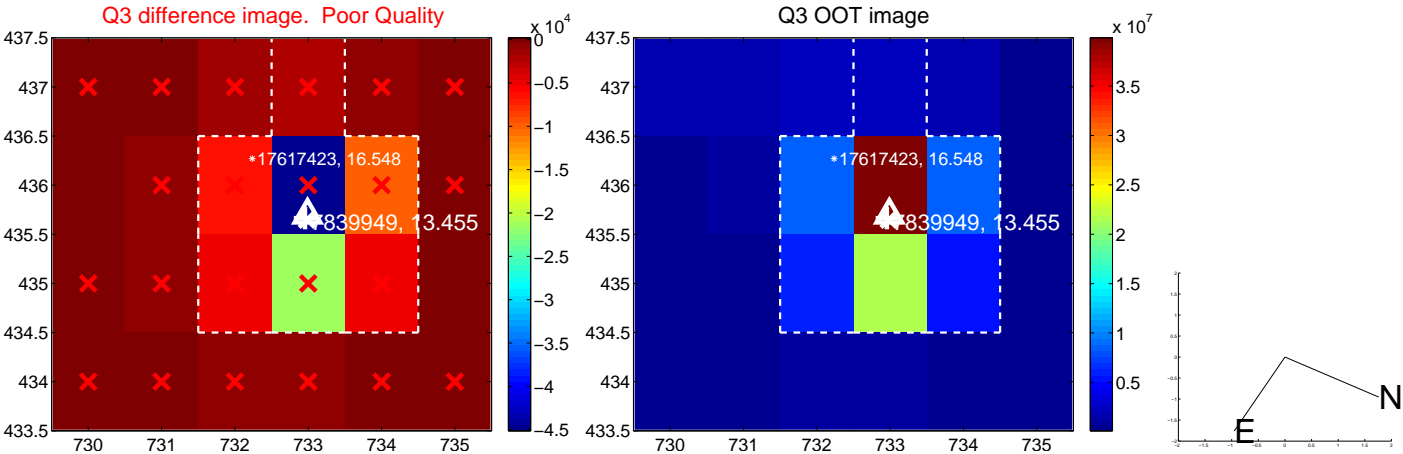
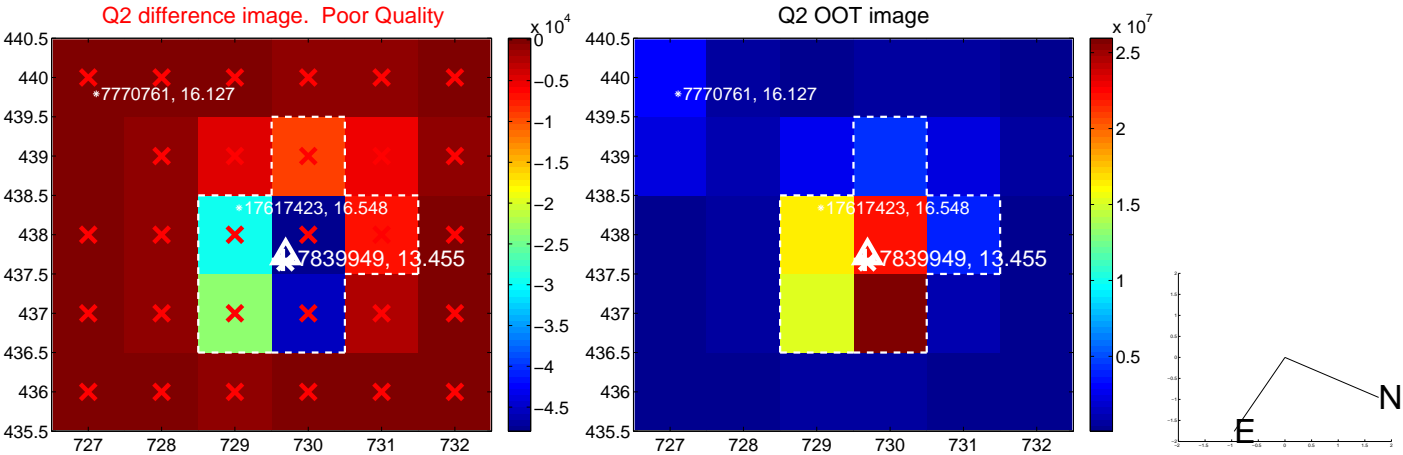
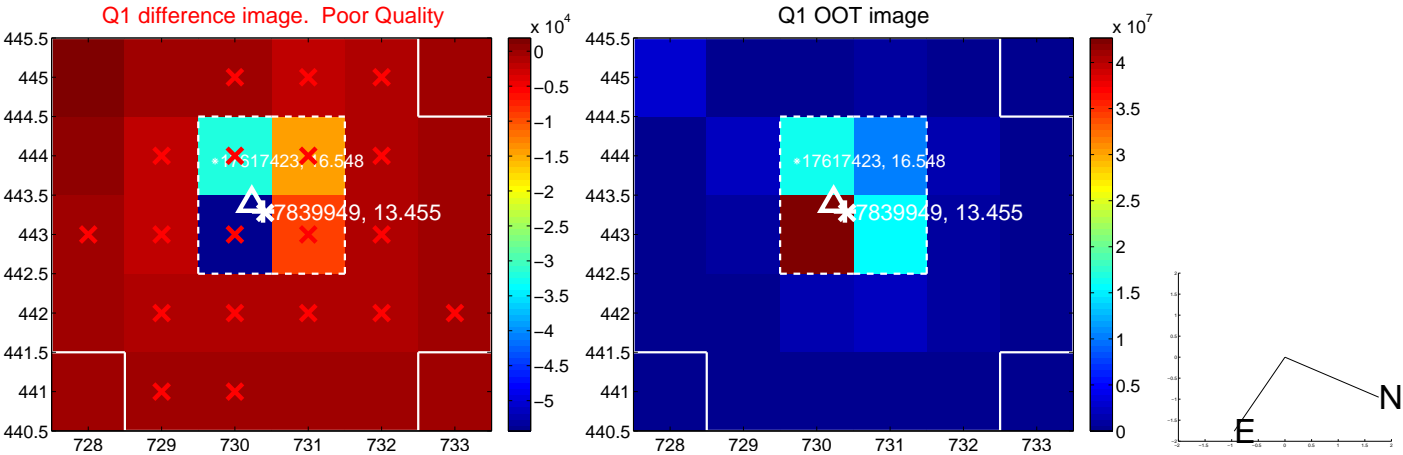
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.093 \pm 0.086$	1.08	$-0.012 \pm 0.077$	$0.092 \pm 0.086$
PRF-fit source offset from KIC position	$0.058 \pm 0.079$	0.74	$-0.024 \pm 0.078$	$-0.053 \pm 0.082$
photometric centroid source offset	—	—	—	—

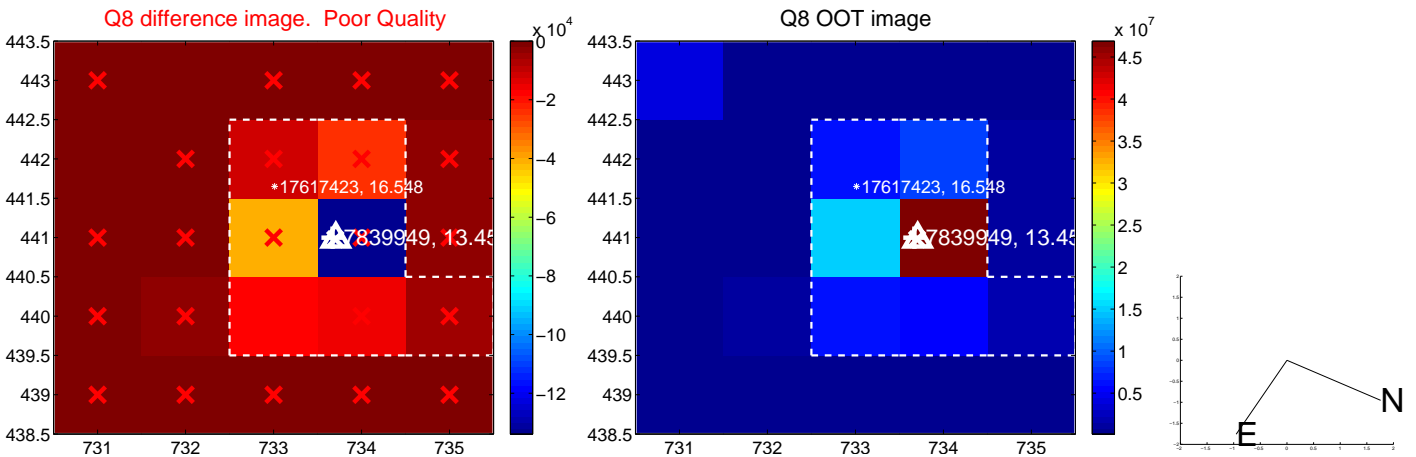
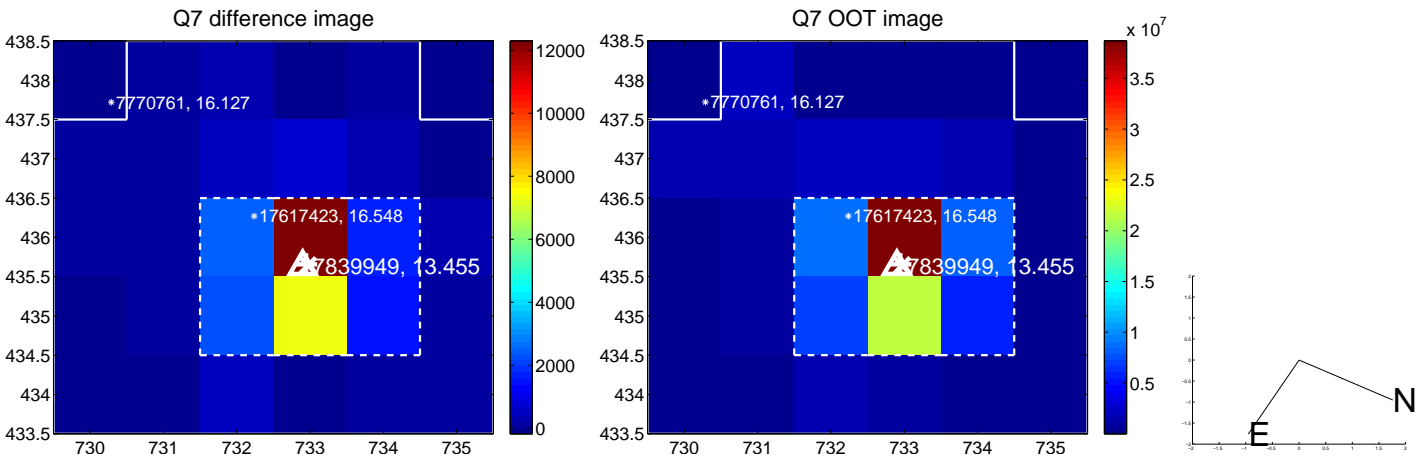
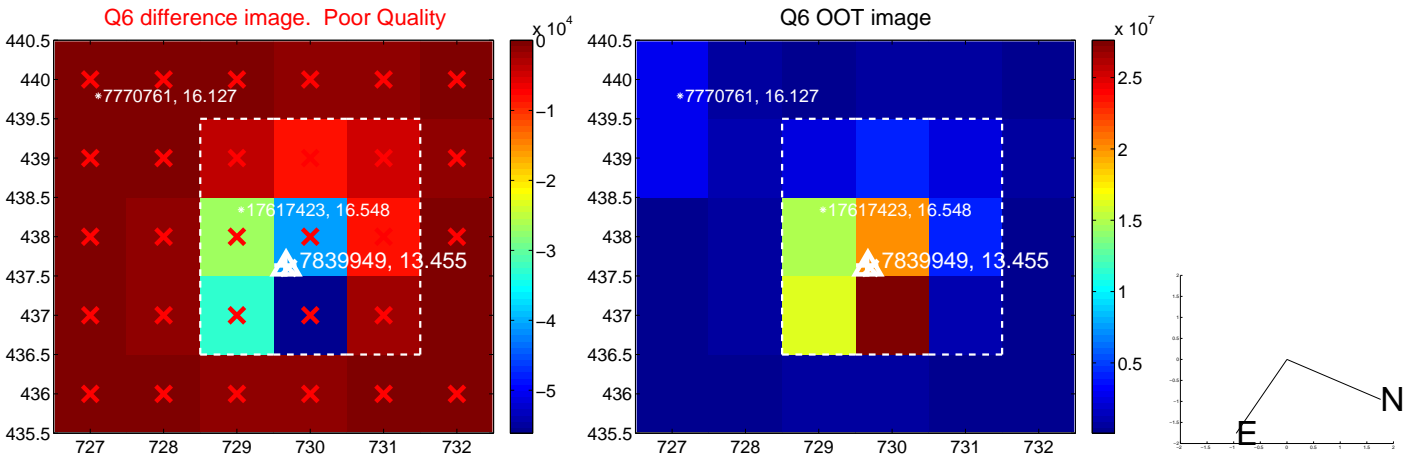
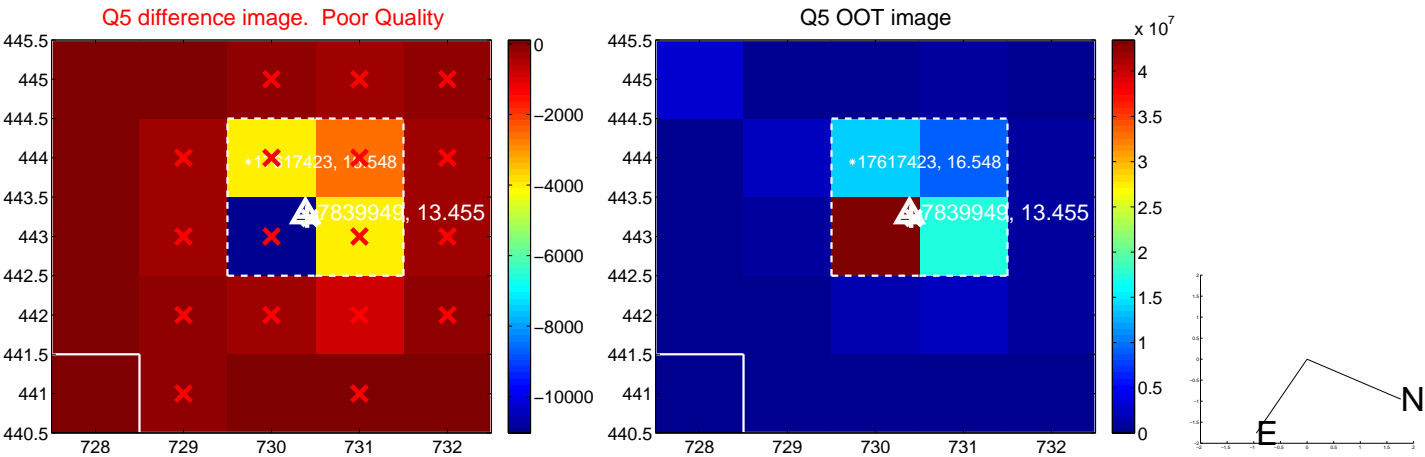


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

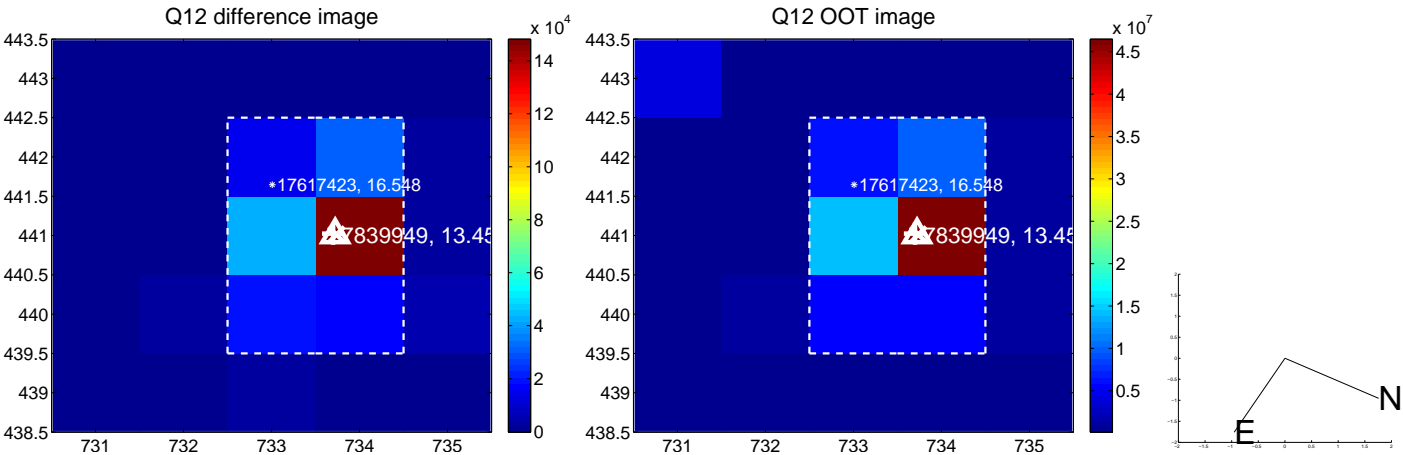
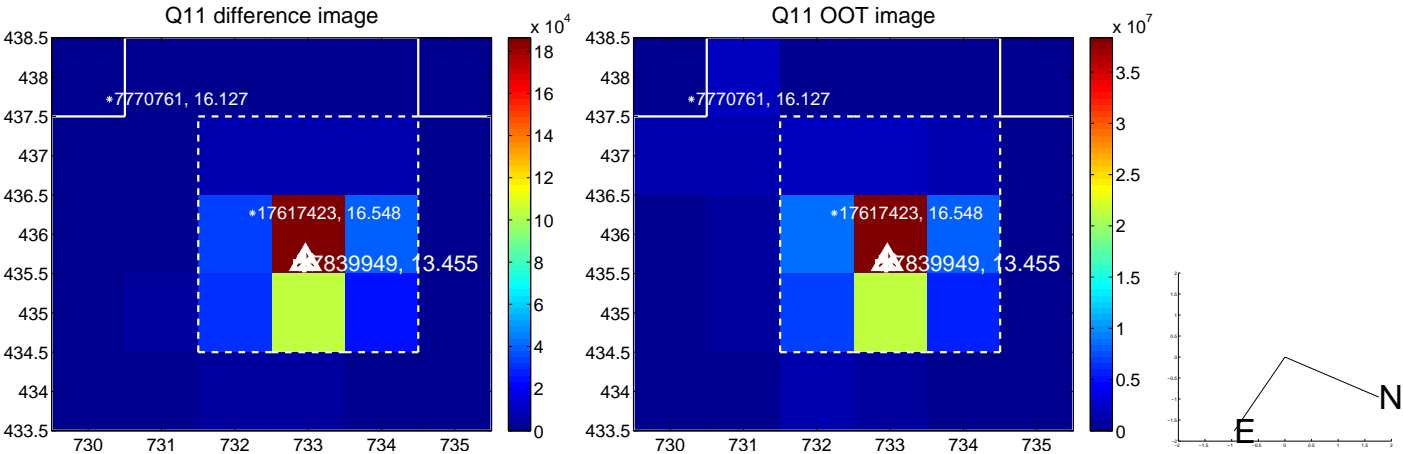
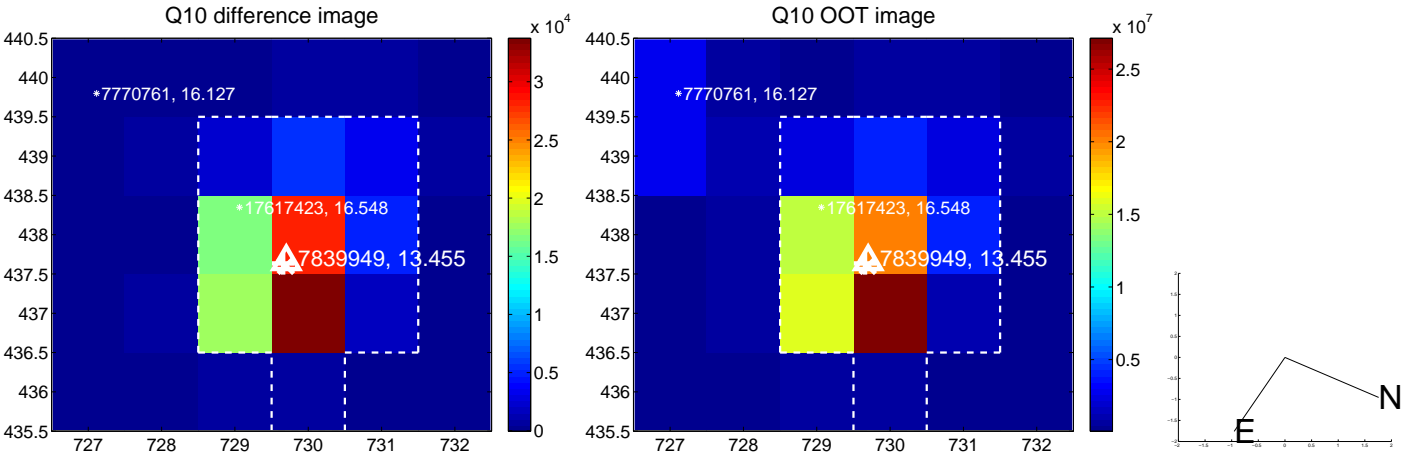
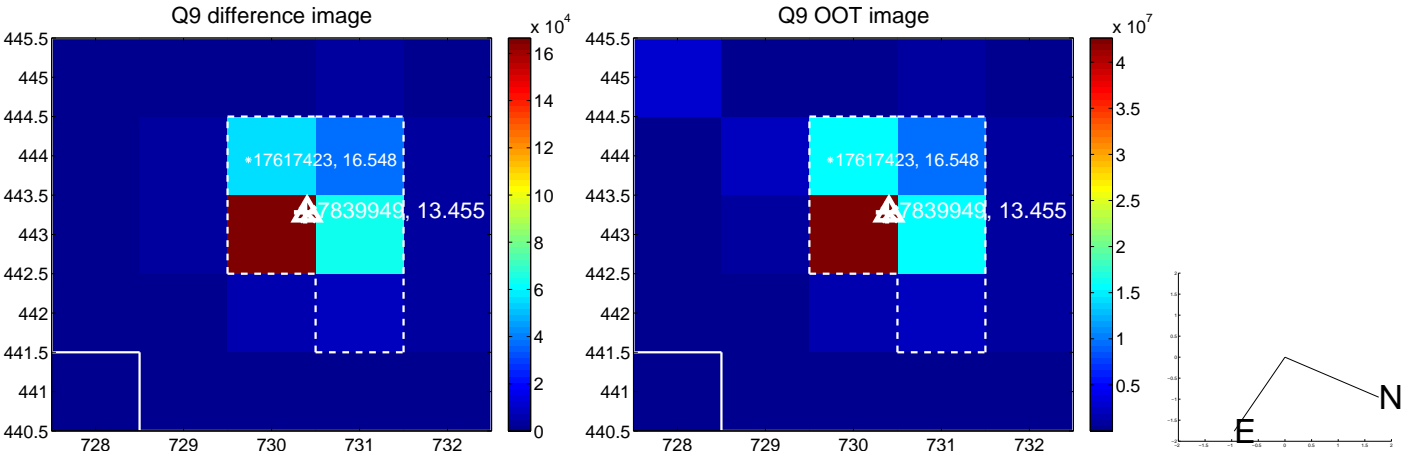


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

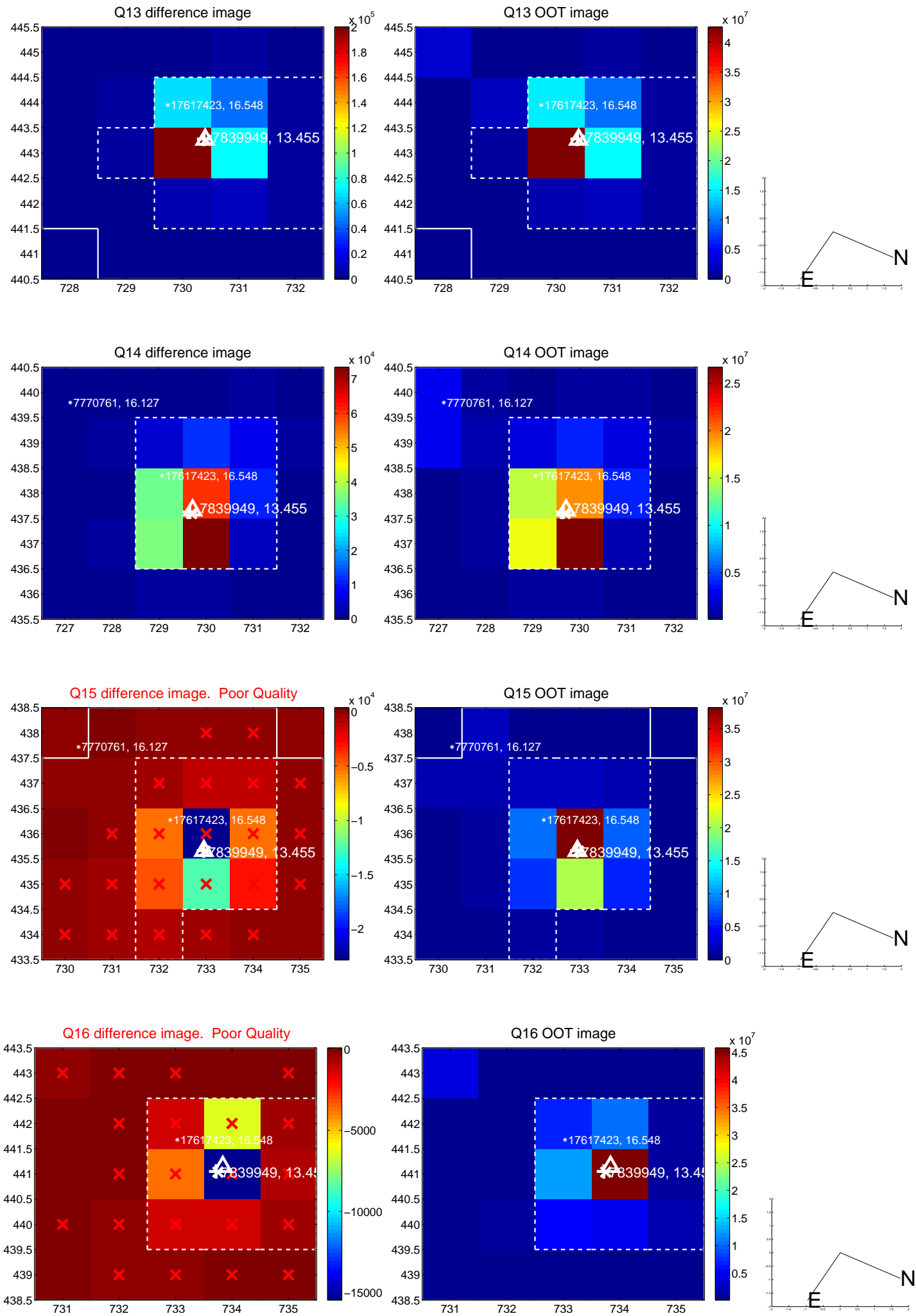




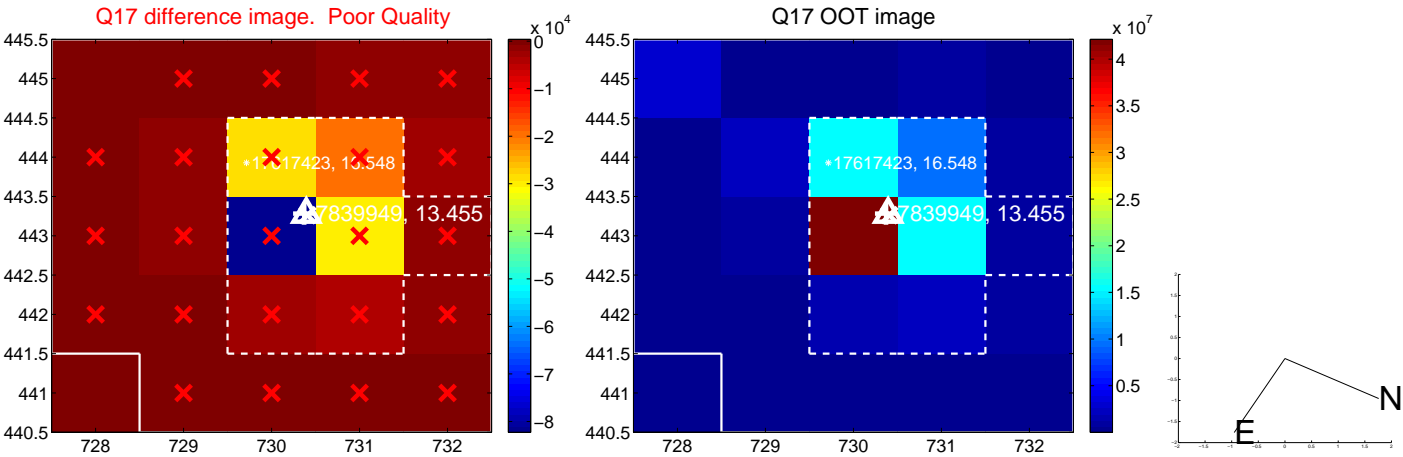
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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



folded centroid time series figure for this object.

# UKIRT Image

Declination

