

# KIC 003761319

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003761319-01	OBS	6104.01	16.248190	143.963530	432.3	7.764	14.2	16.1	0.92	5729	2.17	58.20

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003761319-01	OBS	PC	0.23	0	0	0	0	CENT_KIC_POS

**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.

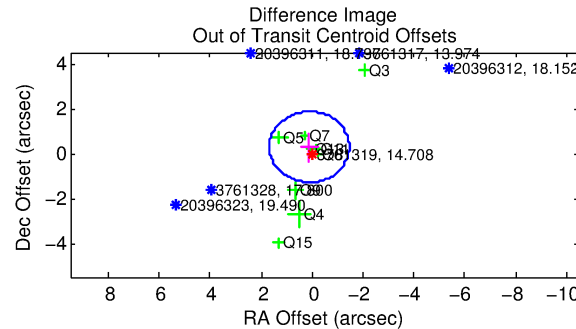
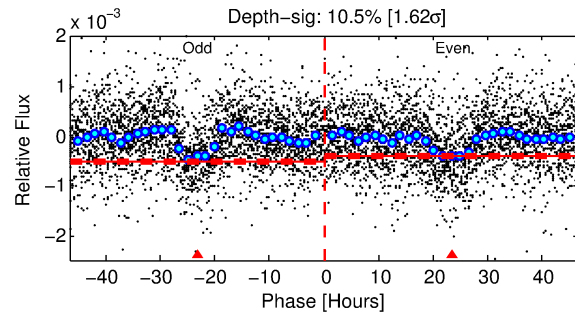
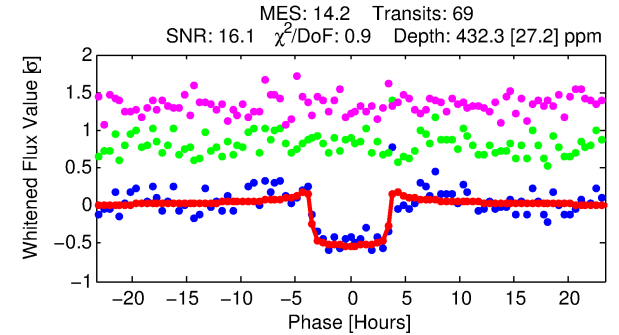
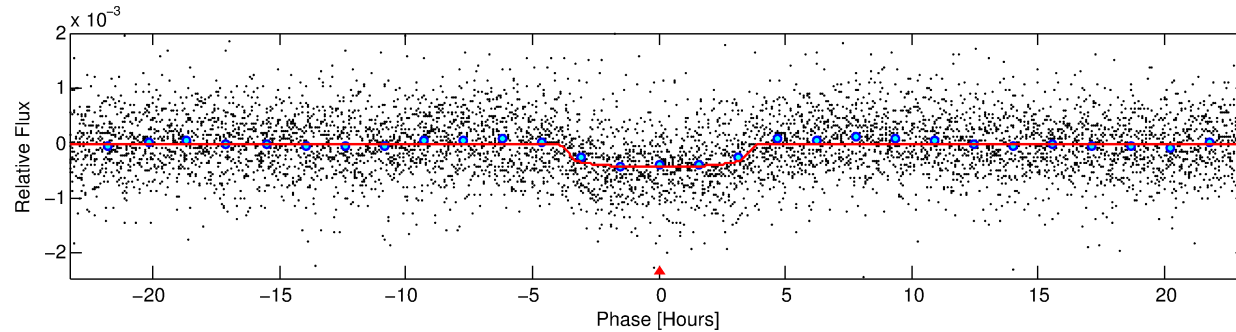
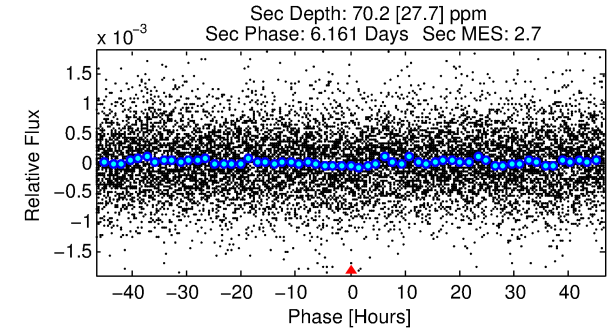
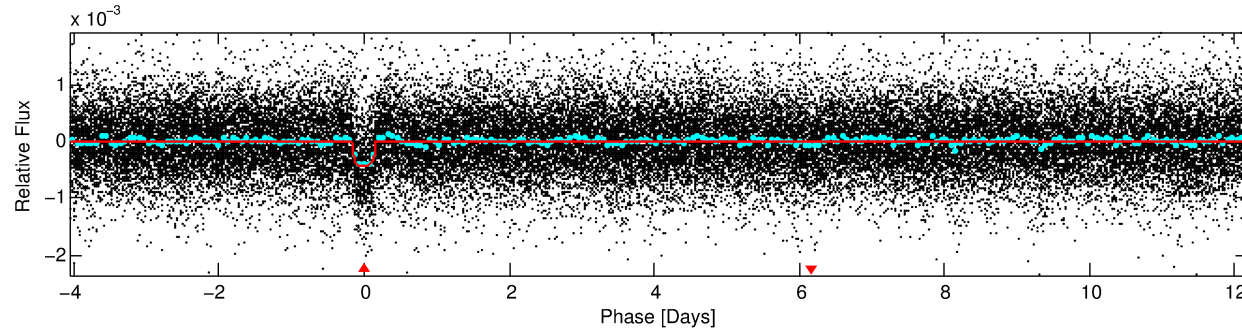
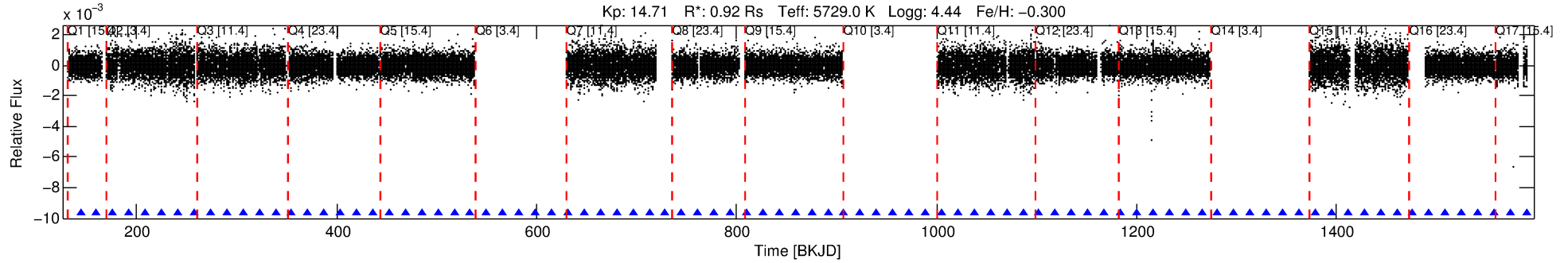
## Ephemeris Match Information For 003761319-01

No Significant Match Found

# DV One-Page Summary

KIC: 3761319 Candidate: 1 of 1 Period: 16.248 d

KOI: K06104.01 Corr: 0.985



## DV Fit Results:

Period = 16.24819 [0.00012] d  
Epoch = 143.9635 [0.0060] BKJD  
Rp/R\* = 0.0216 [0.0026]  
a/R\* = 9.39 [4.99]  
b = 0.84 [0.19]  
Seff = 58.20 [19.98]  
Teq = 704 [60] K  
Rp = 2.17 [0.64] Re  
a = 0.1189 [0.0266] AU  
Ag = 115.78 [65.25] [1.76σ]  
Teffp = 3572 [427] K [6.65σ]

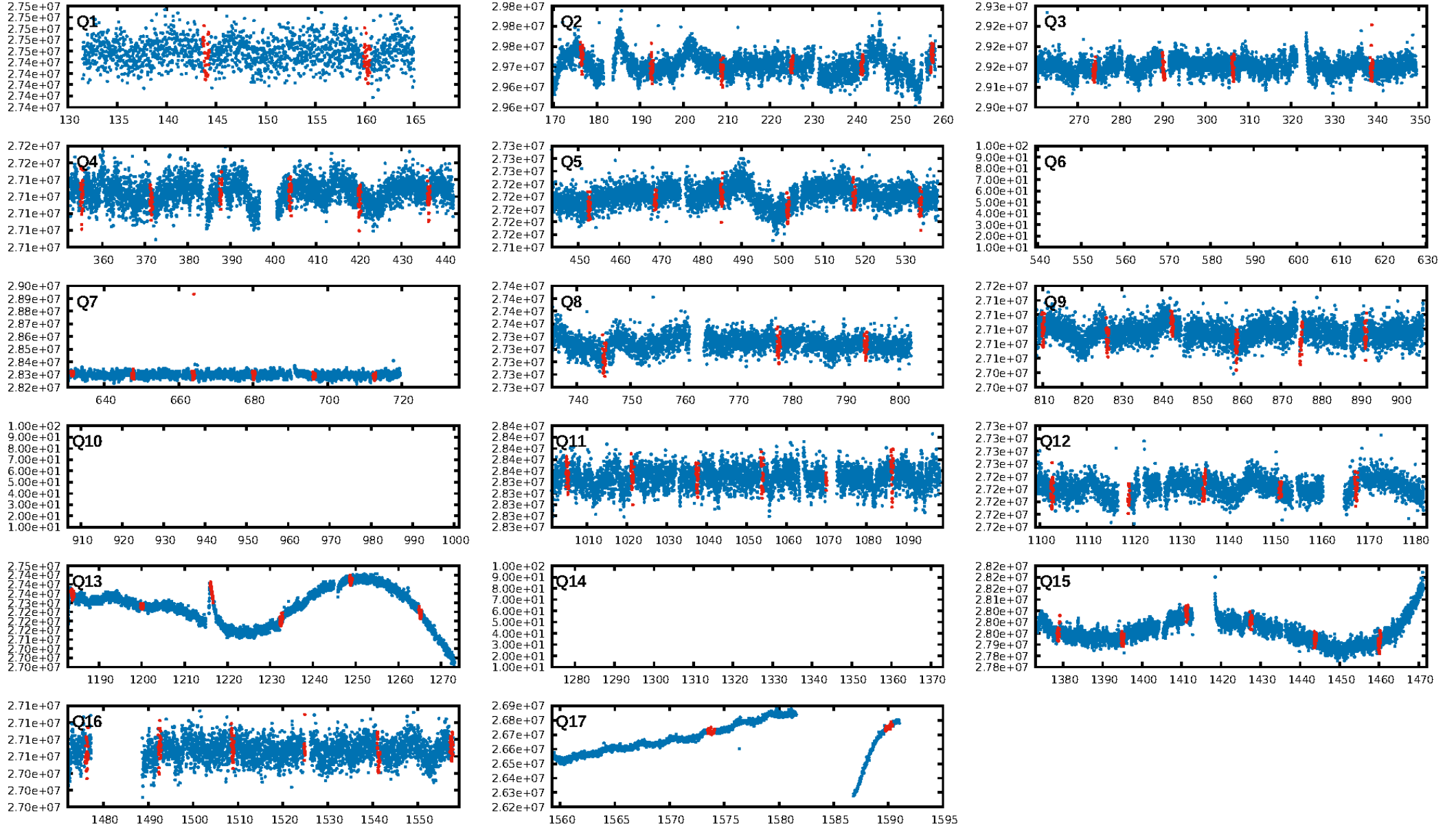
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 6.1%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.74e-45  
RollingBand-fgt: 1.00 [65/65]  
GhostDiagnostic-chr: 2.274  
Centroid-sig: 0.0%  
Centroid-so: 0.301 arcsec [0.79σ]  
OotOffset-rm: 0.305 arcsec [0.58σ]  
KicOffset-rm: 2.931 arcsec [5.07σ]  
OotOffset-st: 0/4/2/3 [9]  
KicOffset-st: 0/4/2/3 [9]  
DiffImageQuality-fgm: 1.00 [9/9]  
DiffImageOverlap-fno: 1.00 [14/14]

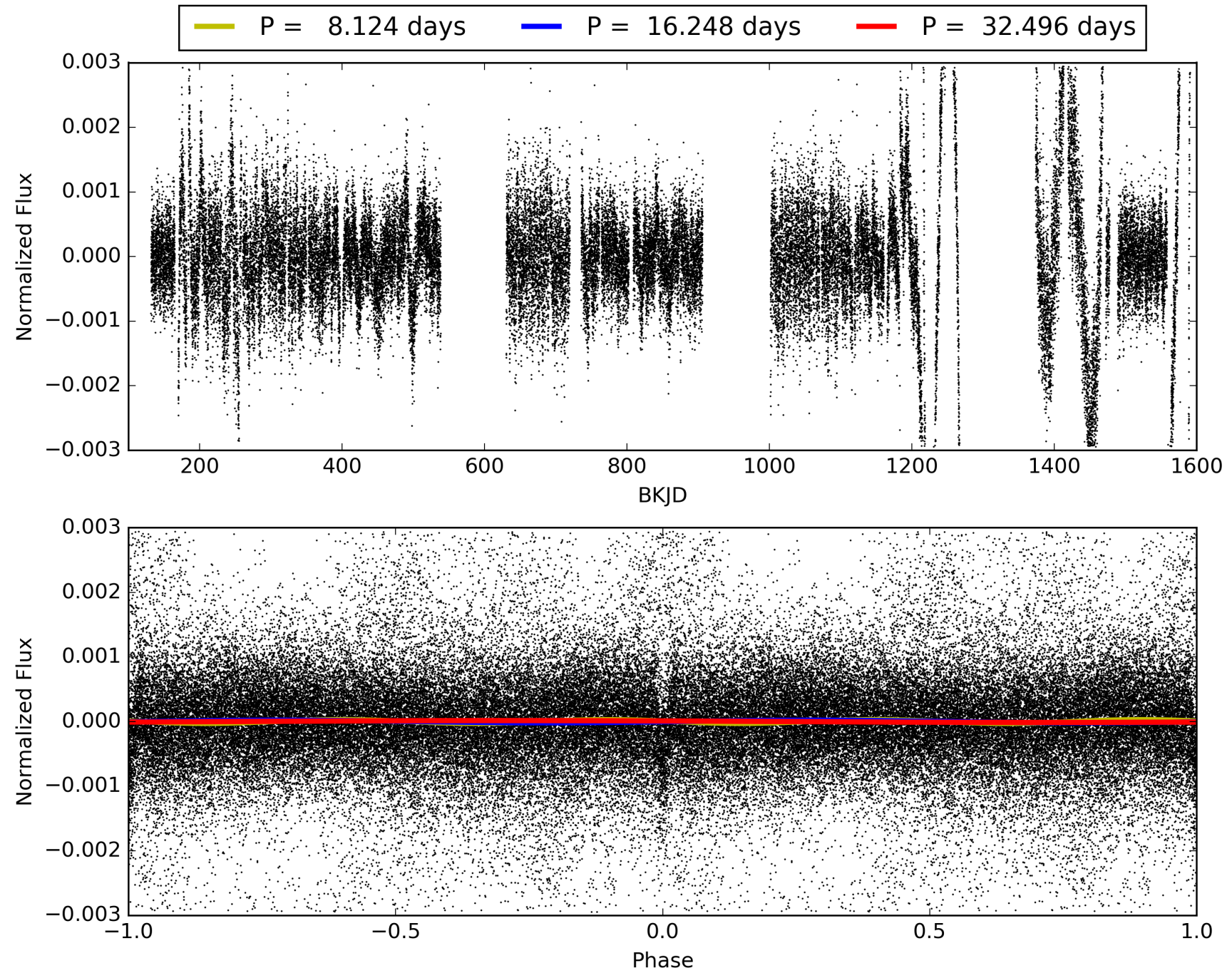
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:27:33 Z

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

# TCE 003761319-01, PDC Light Curves

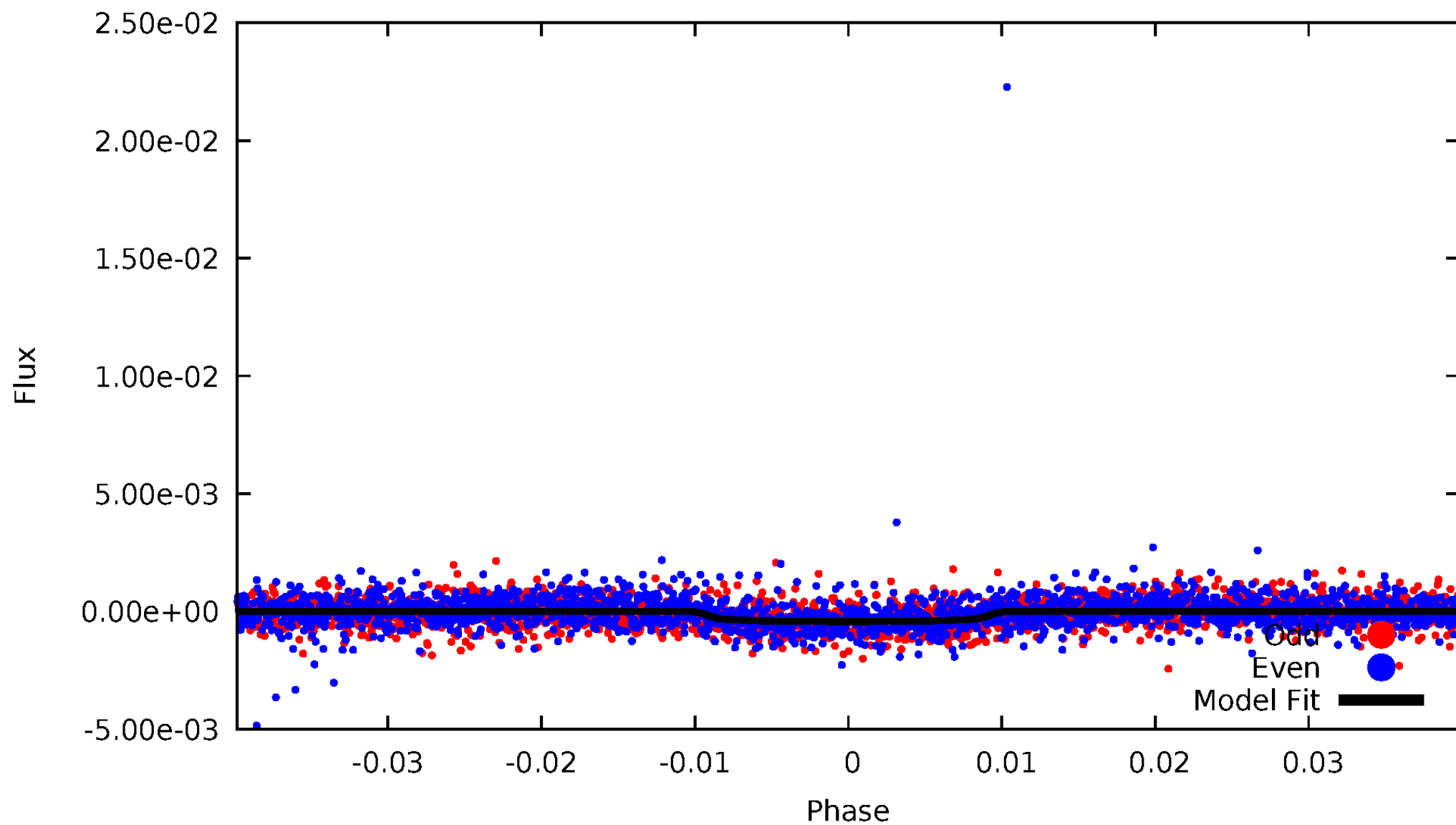


TCE 003761319-01



# DV Odd/Even

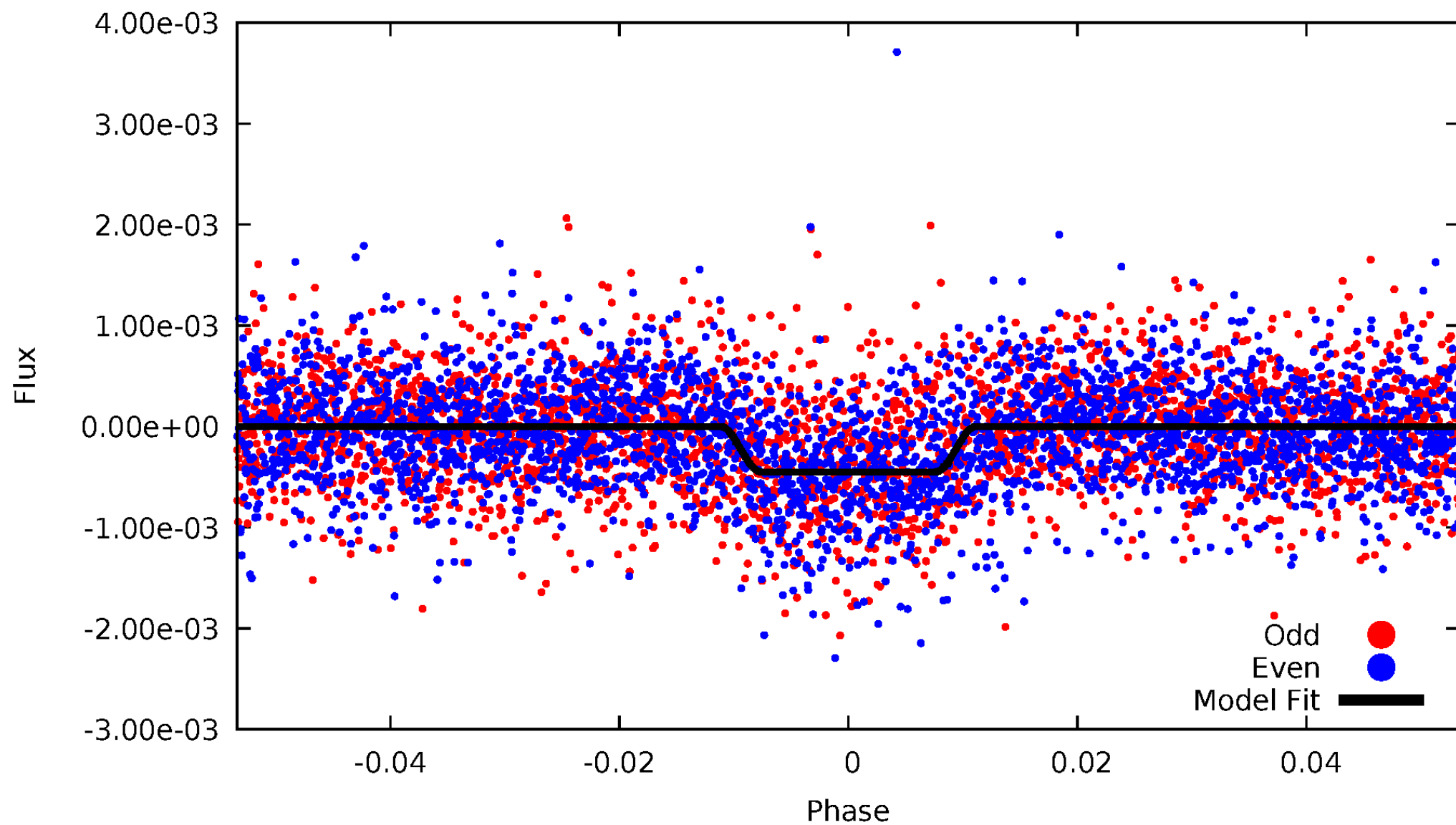
TCE 003761319-01





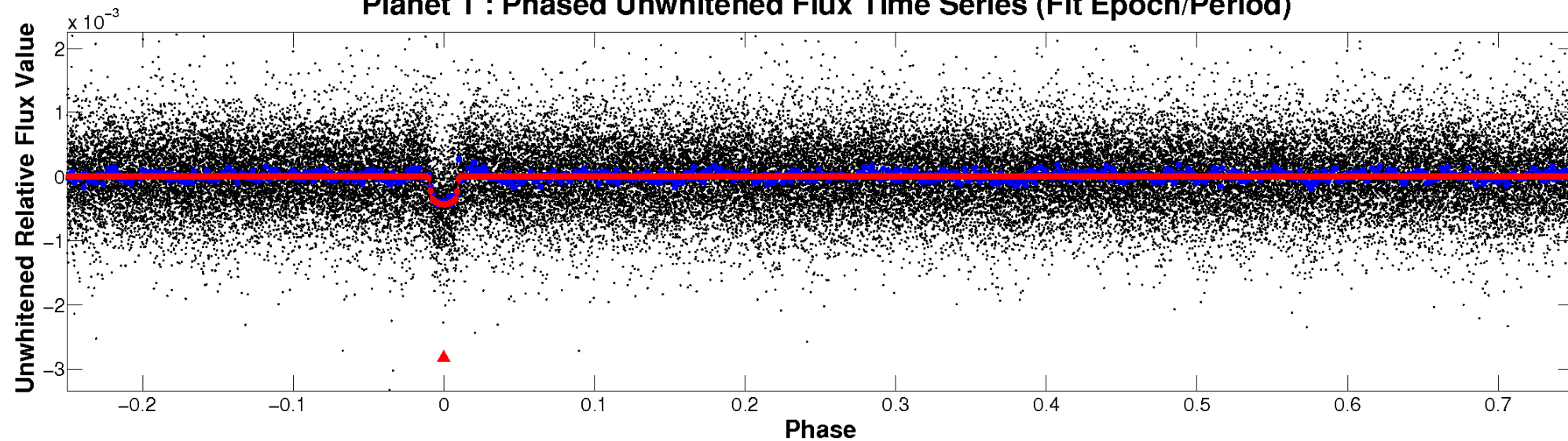
# ALT Odd/Even

TCE 003761319-01

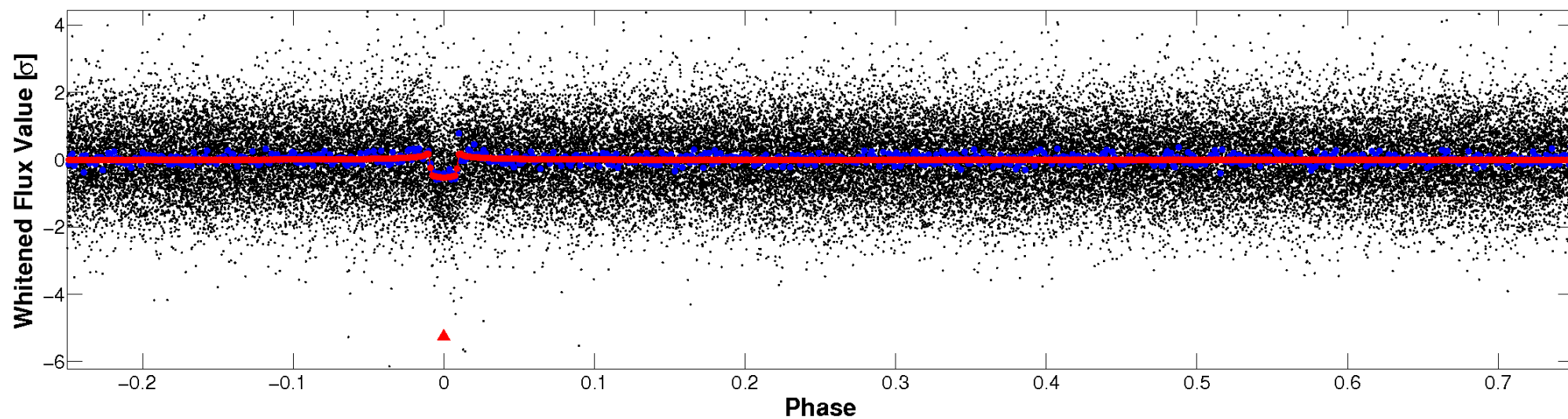


# Non-Whitened Vs. Whitened Light Curve

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

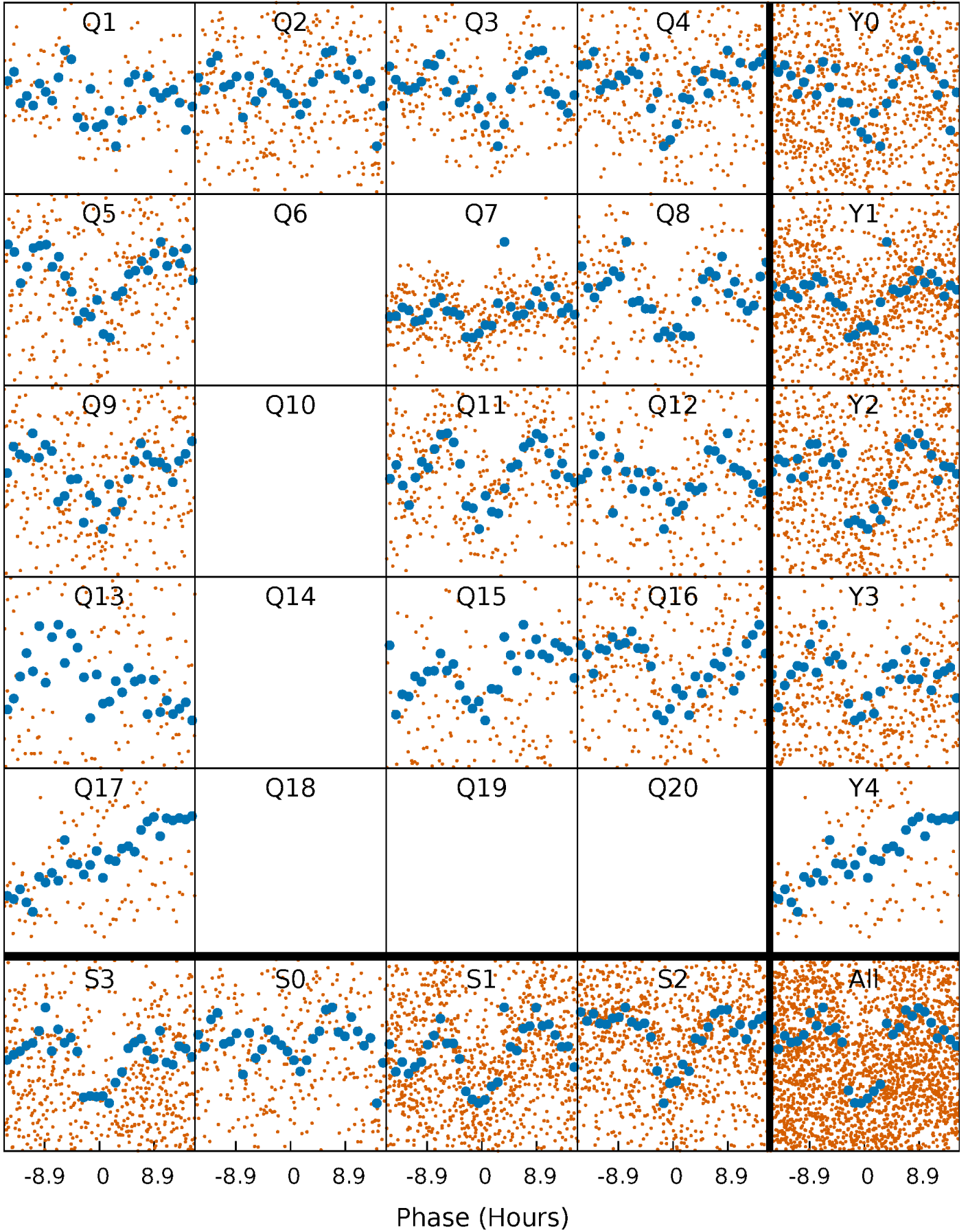


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

TCE 003761319-01 P= 16.248190 Days  $T_0=143.963530$  (BKJD)





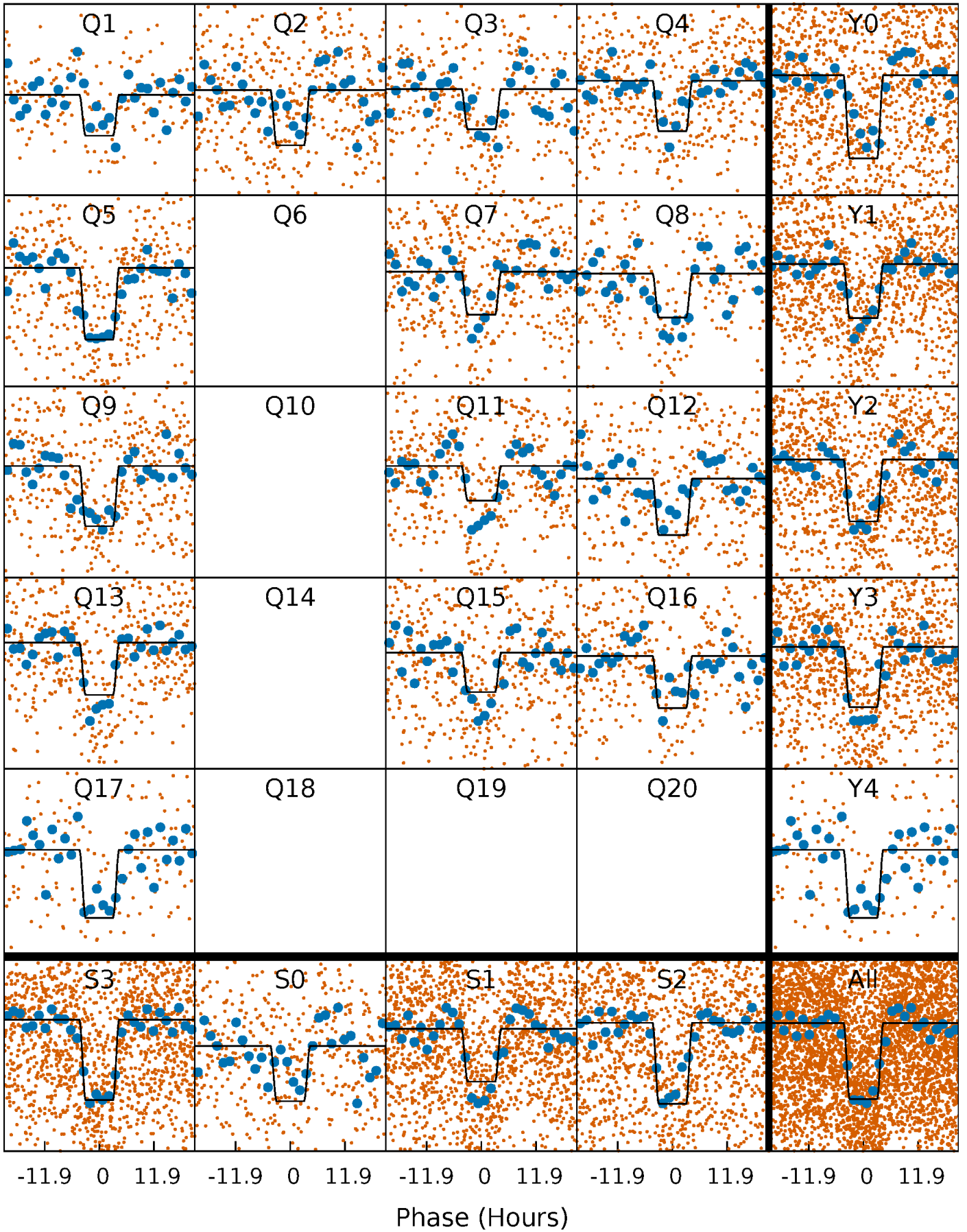
# DV Quarter-Phased Transit Curves

TCE 003761319-01 P= 16.248190 Days  $T_0=143.963530$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

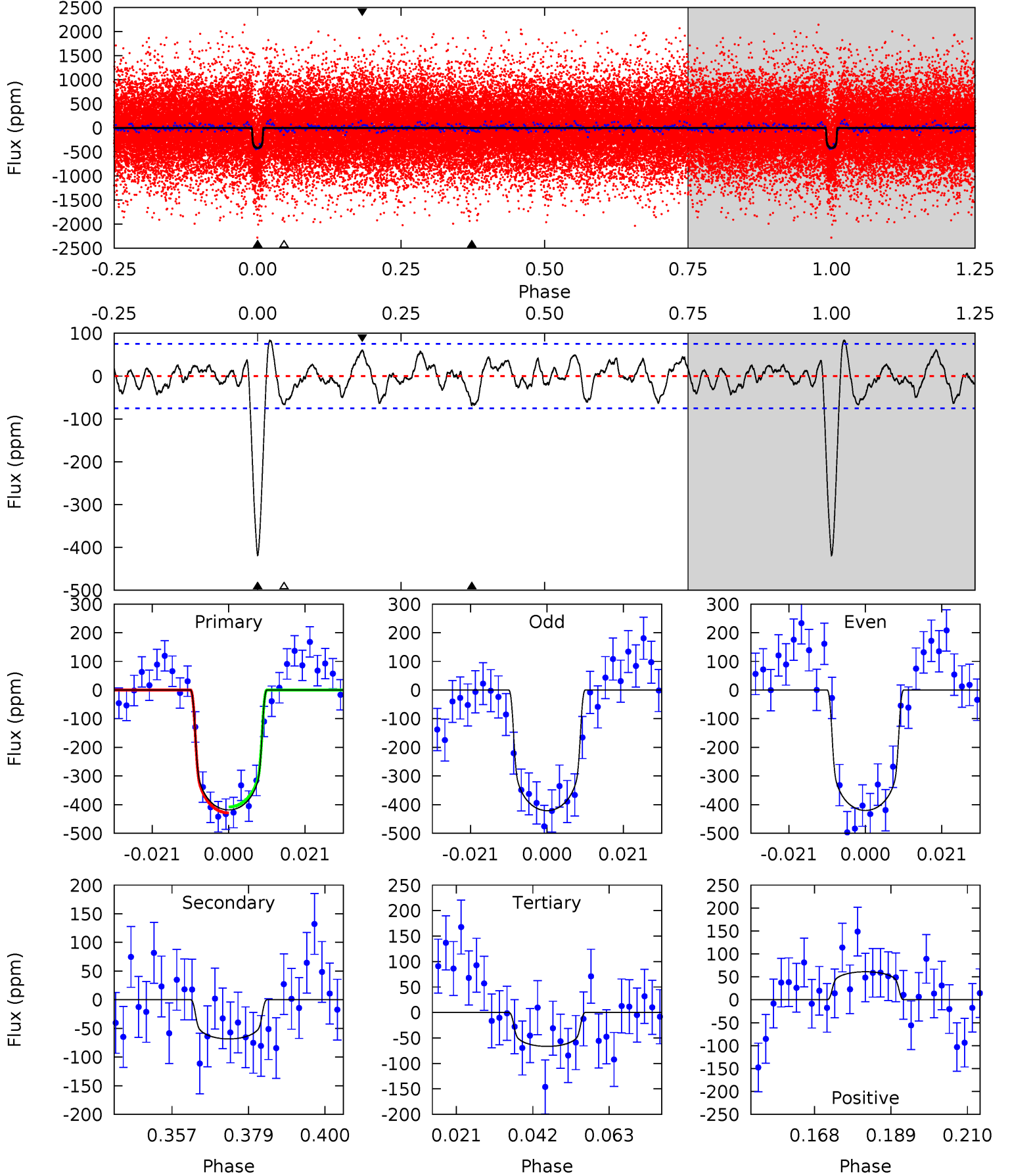
TCE 003761319-01 P= 16.248838 Days  $T_0=143.937951$  (BKJD)



# DV Model-Shift Uniqueness Test

003761319-01,  $P = 16.248190$  Days,  $E = 127.715340$  Days

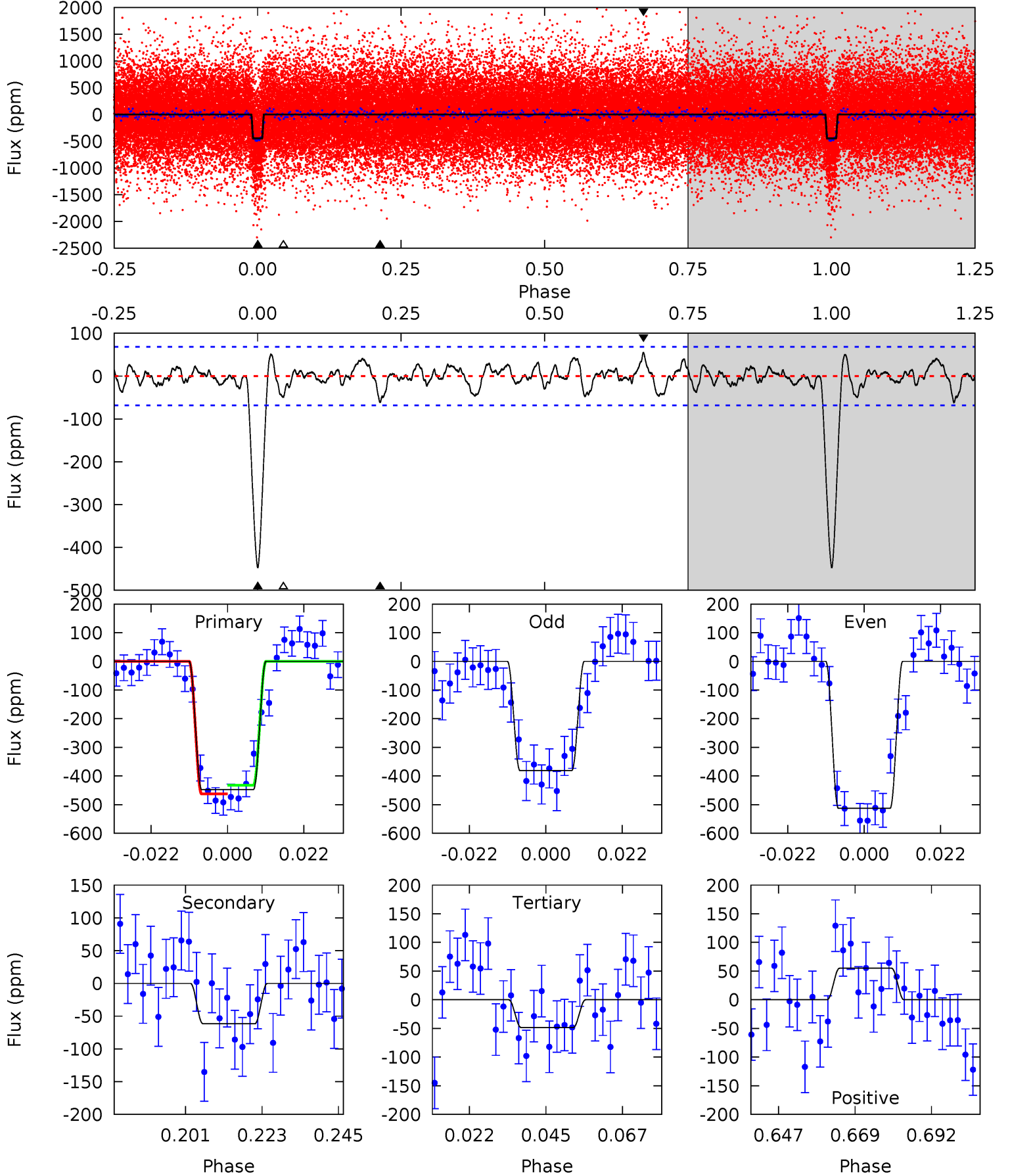
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.2	4.44	4.32	3.97	4.88	2.31	1.72	22.9	23.2	0.11	0.47	0.02	0.88	0.17	0.68



# Alt Model-Shift Uniqueness Test

003761319-01, P = 16.248838 Days, E = 127.689113 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
31.9	4.40	3.47	3.93	4.87	2.29	1.37	28.5	28.0	0.93	0.47	4.70	0.89	0.11	1.09



### Stellar Parameters For KIC 003761319

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5729^{+172}_{-155}$	$4.436^{+0.116}_{-0.174}$	$-0.300^{+0.300}_{-0.300}$	$0.923^{+0.248}_{-0.134}$	$0.848^{+0.120}_{-0.070}$	$1.521^{+0.782}_{-0.697}$
	+3%/-3%	+3%/-4%	+100%/-100%	+27%/-15%	+14%/-8%	+51%/-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 003761319-01 / KOI 6104.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-68 \pm 15$	$2.23^{+0.40}_{-0.34}$	$993^{+63}_{-54}$	$3879^{+254}_{-224}$	$107^{+50}_{-37}$
Alt.	$-62 \pm 14$	$2.20^{+0.40}_{-0.36}$	$993^{+76}_{-54}$	$3842^{+258}_{-224}$	$99^{+47}_{-33}$

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



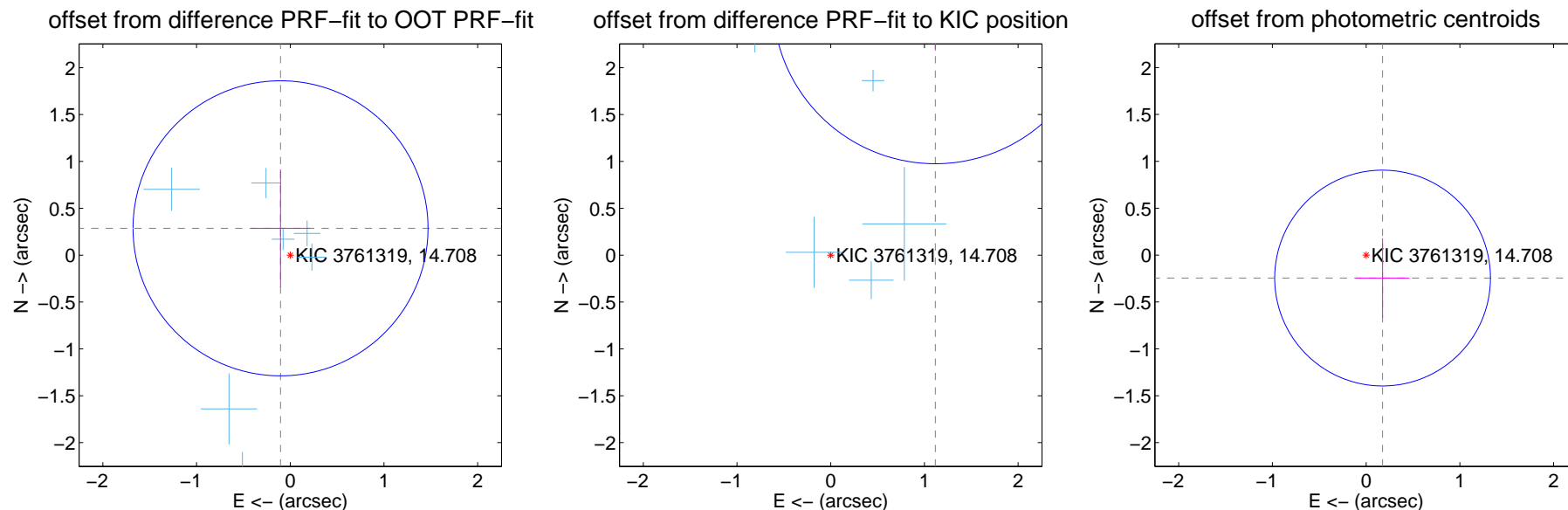
## DV Centroid Data

Supplemental centroid analysis for 003761319-01. Kepler magnitude: 14.71. Transit SNR 16.12

There are 9 quarters with good PRF difference image offsets

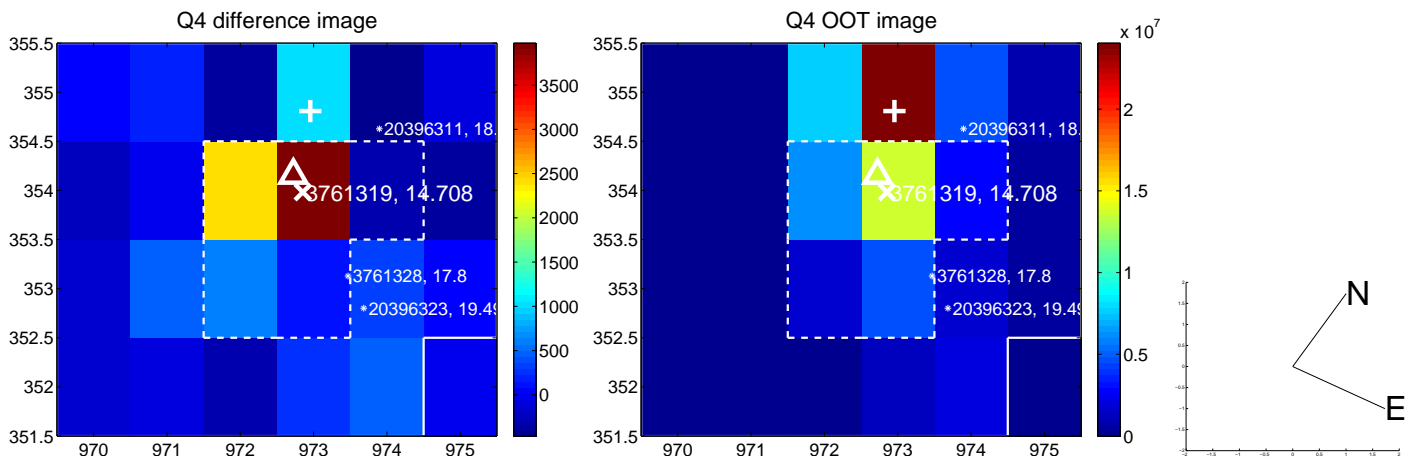
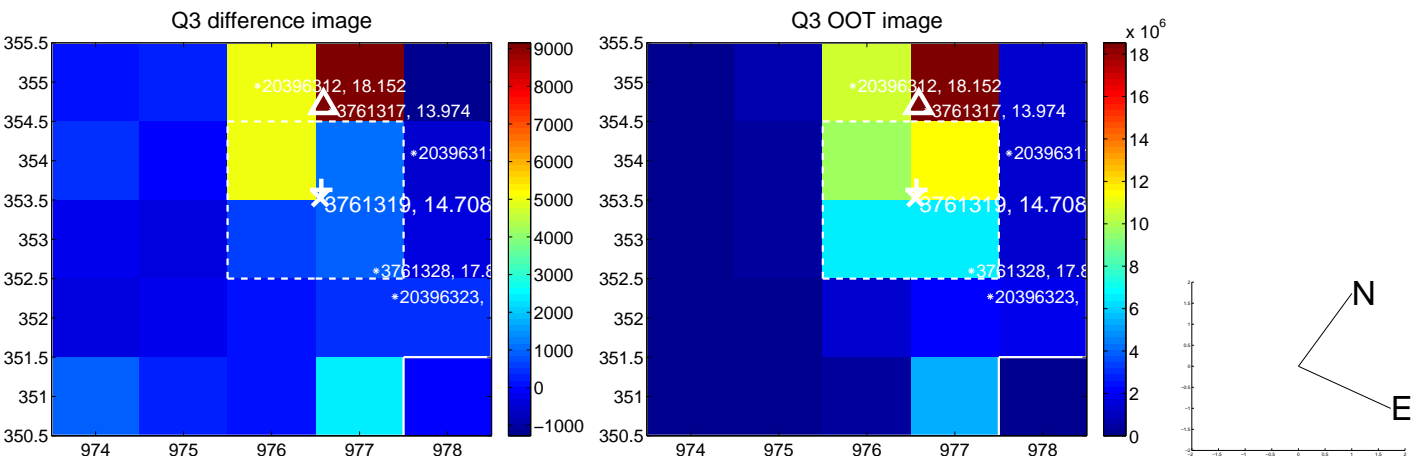
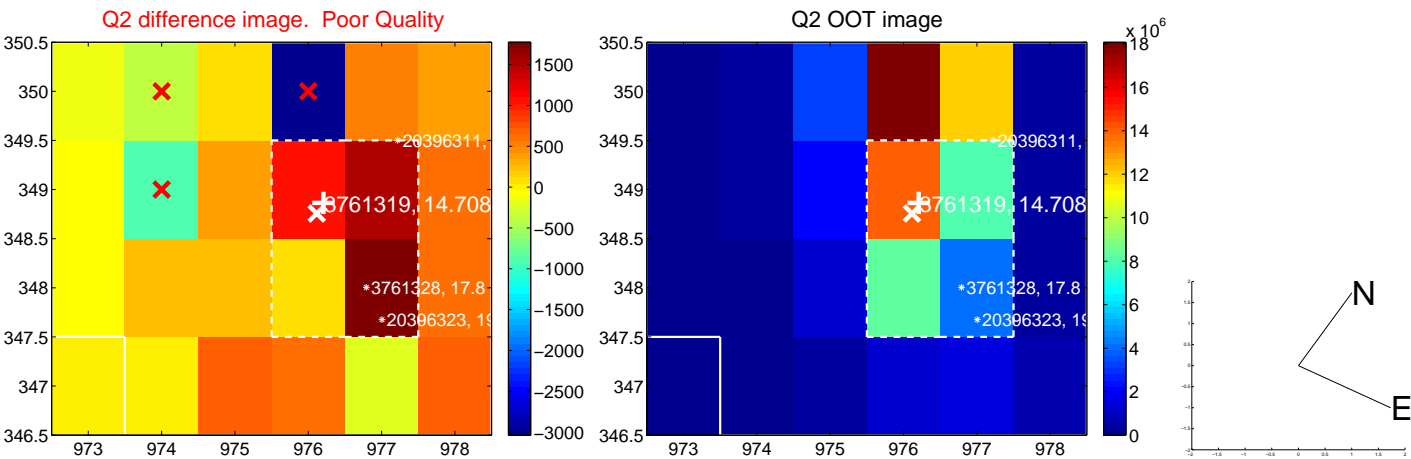
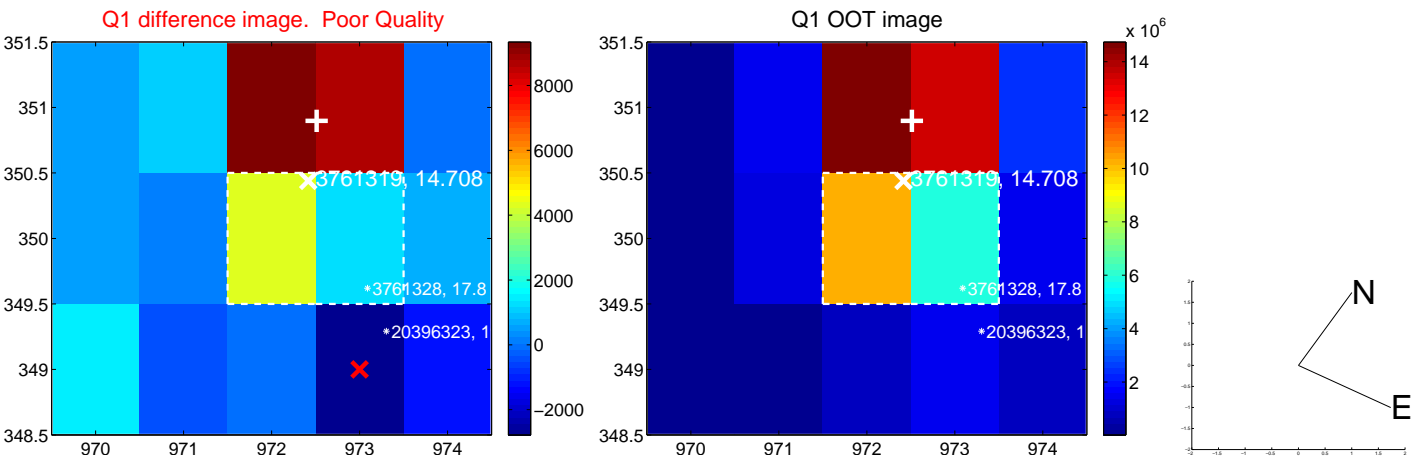
The OOT PRF centroid is offset from the target star catalog position by about 4.10 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.305 \pm 0.525$	0.58	$0.104 \pm 0.314$	$0.286 \pm 0.629$
PRF-fit source offset from KIC position	$2.931 \pm 0.578$	5.07	$-1.117 \pm 0.328$	$2.710 \pm 0.526$
photometric centroid source offset	$0.30 \pm 0.38$	0.79	$-0.18 \pm 0.29$	$-0.24 \pm 0.42$

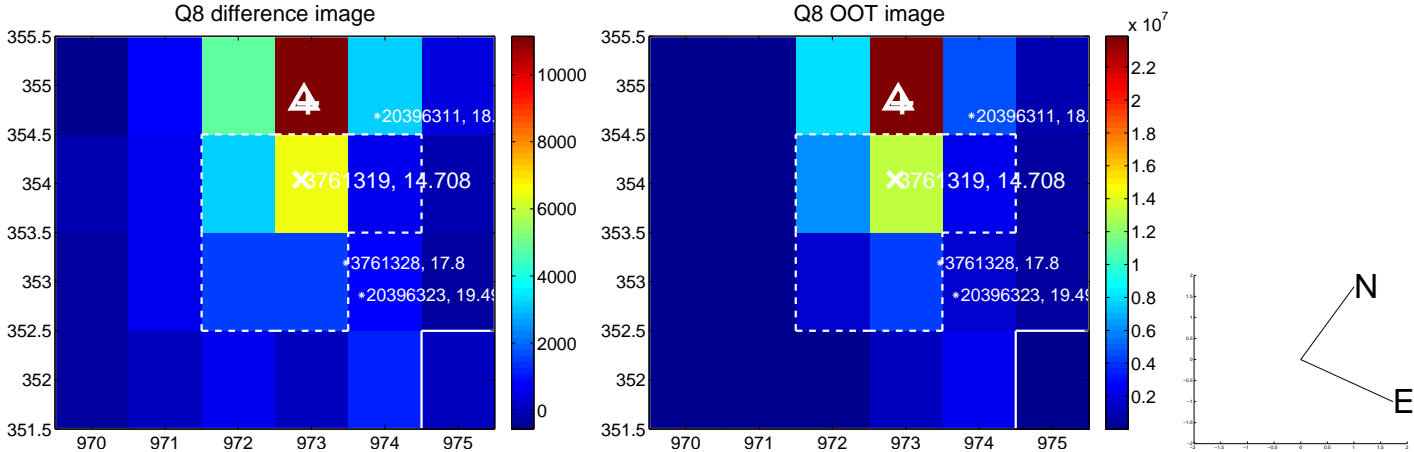
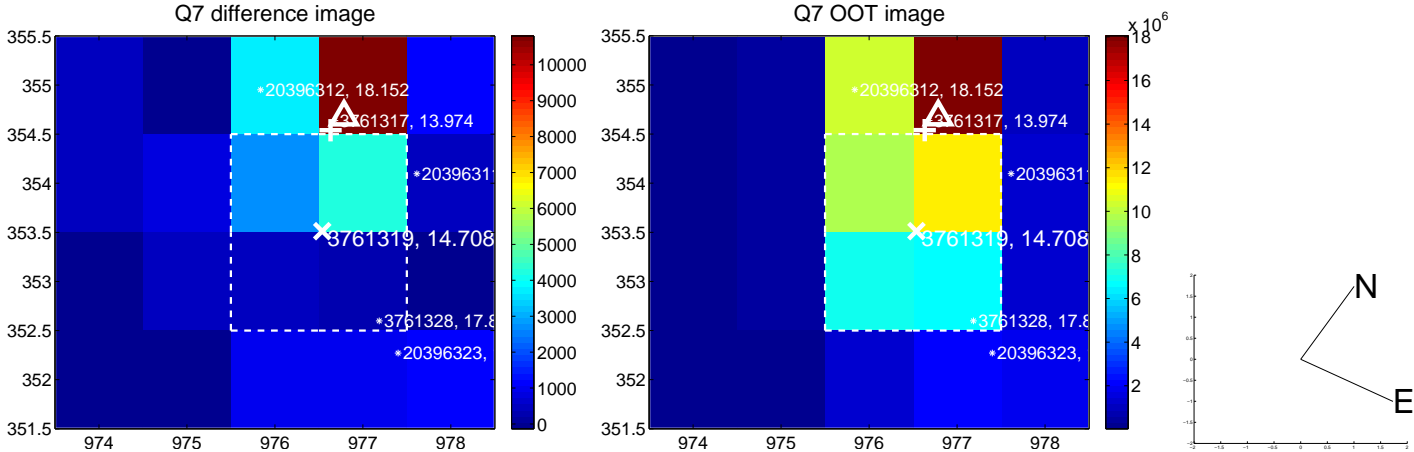
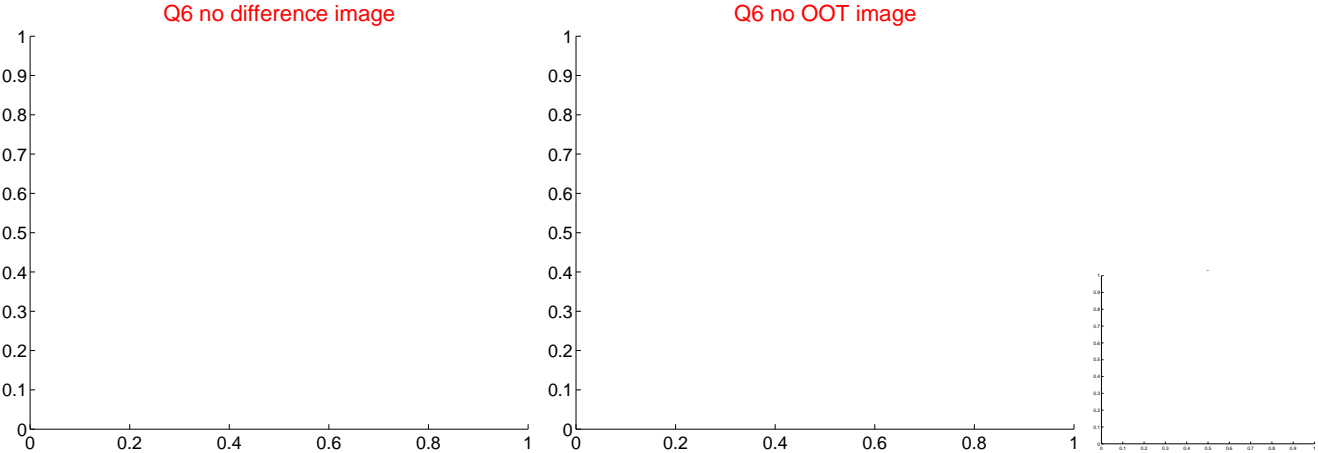
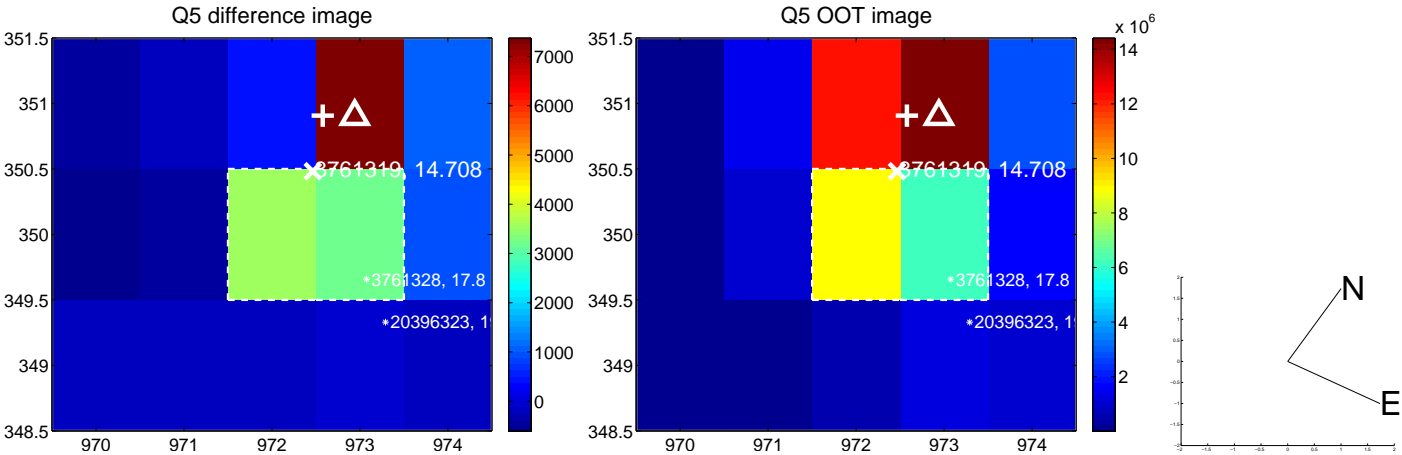


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

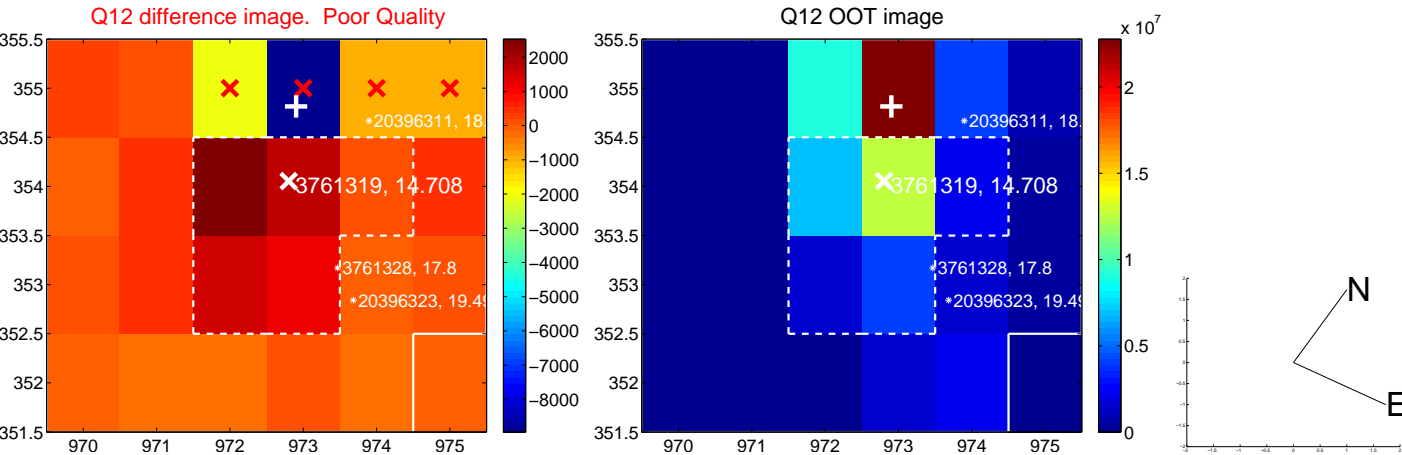
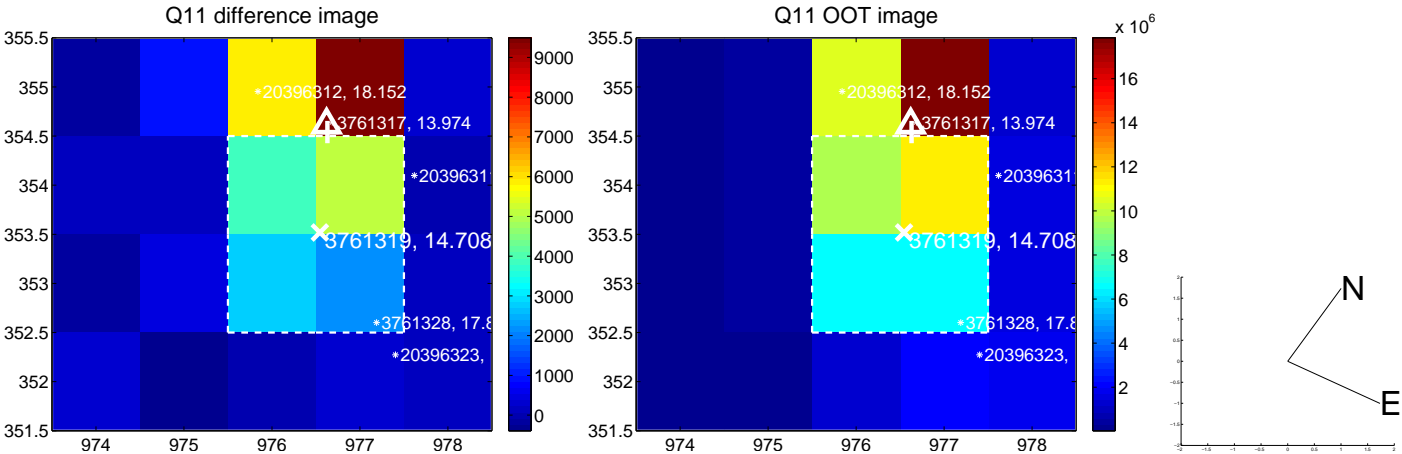
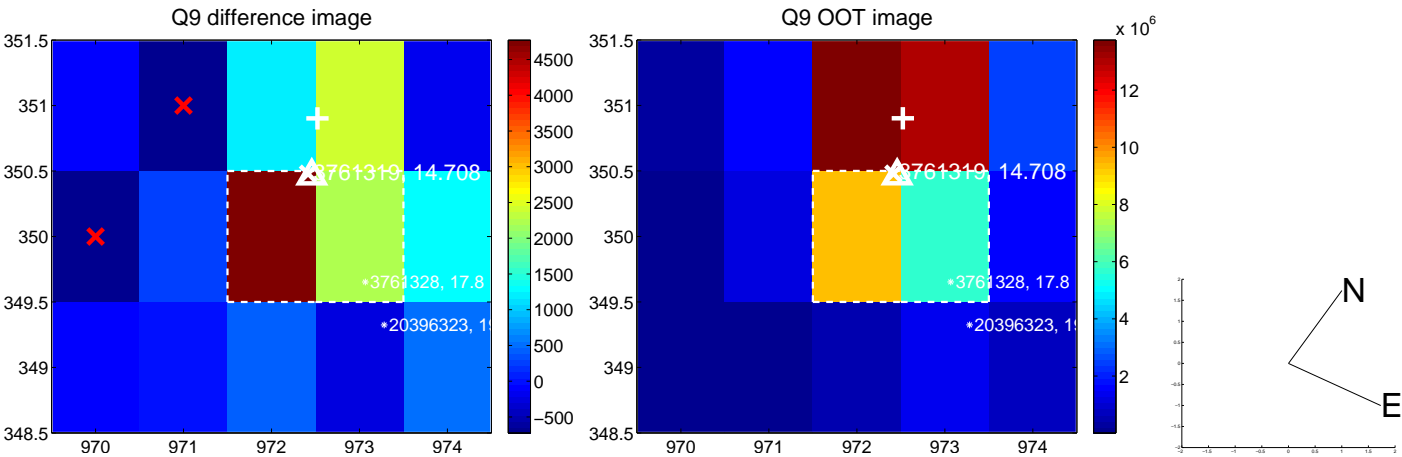
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



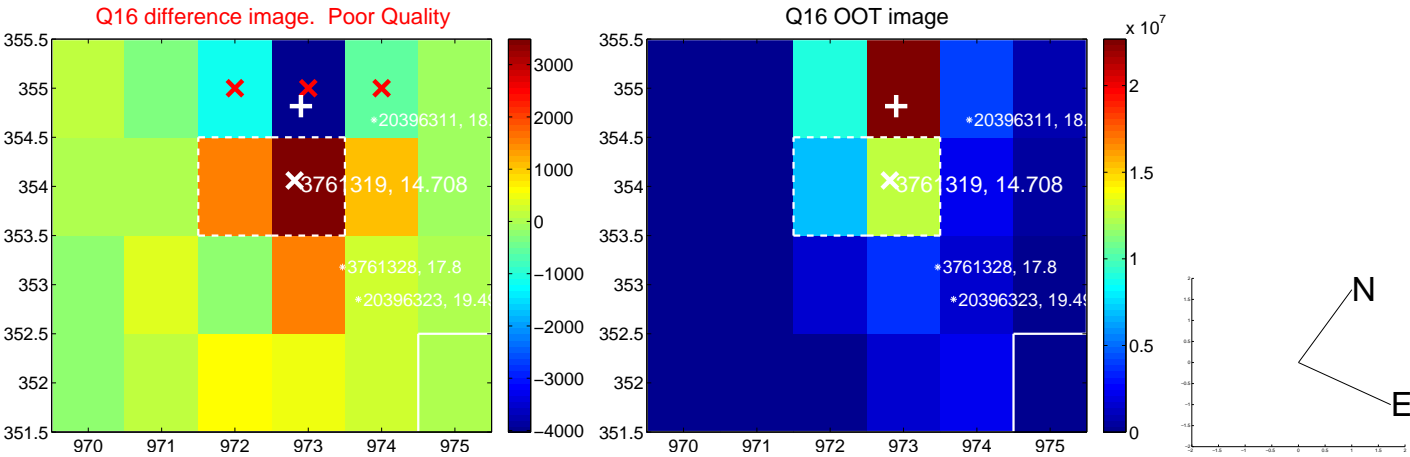
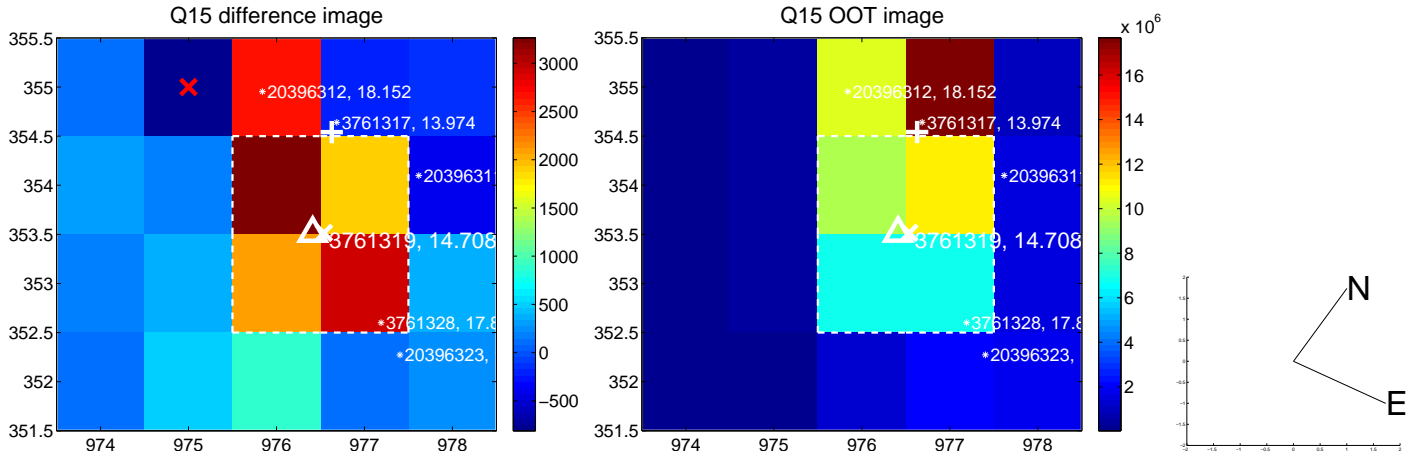
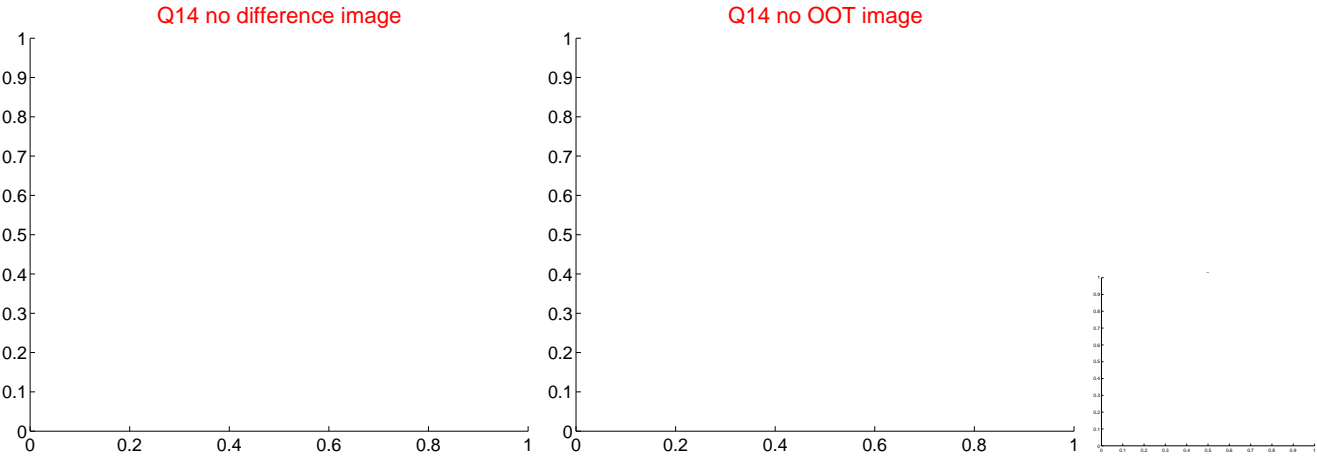
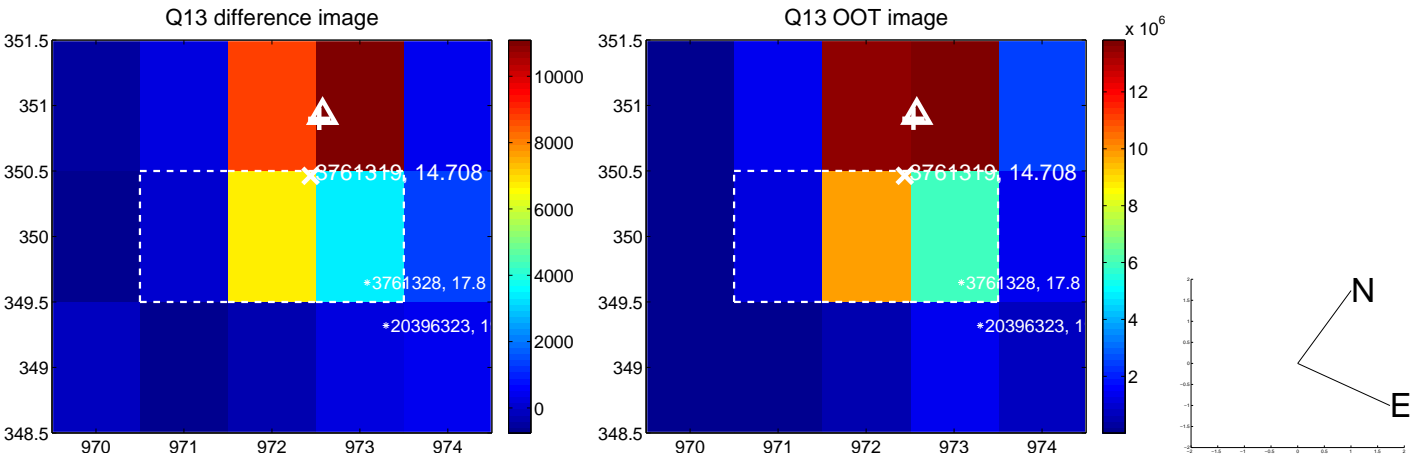
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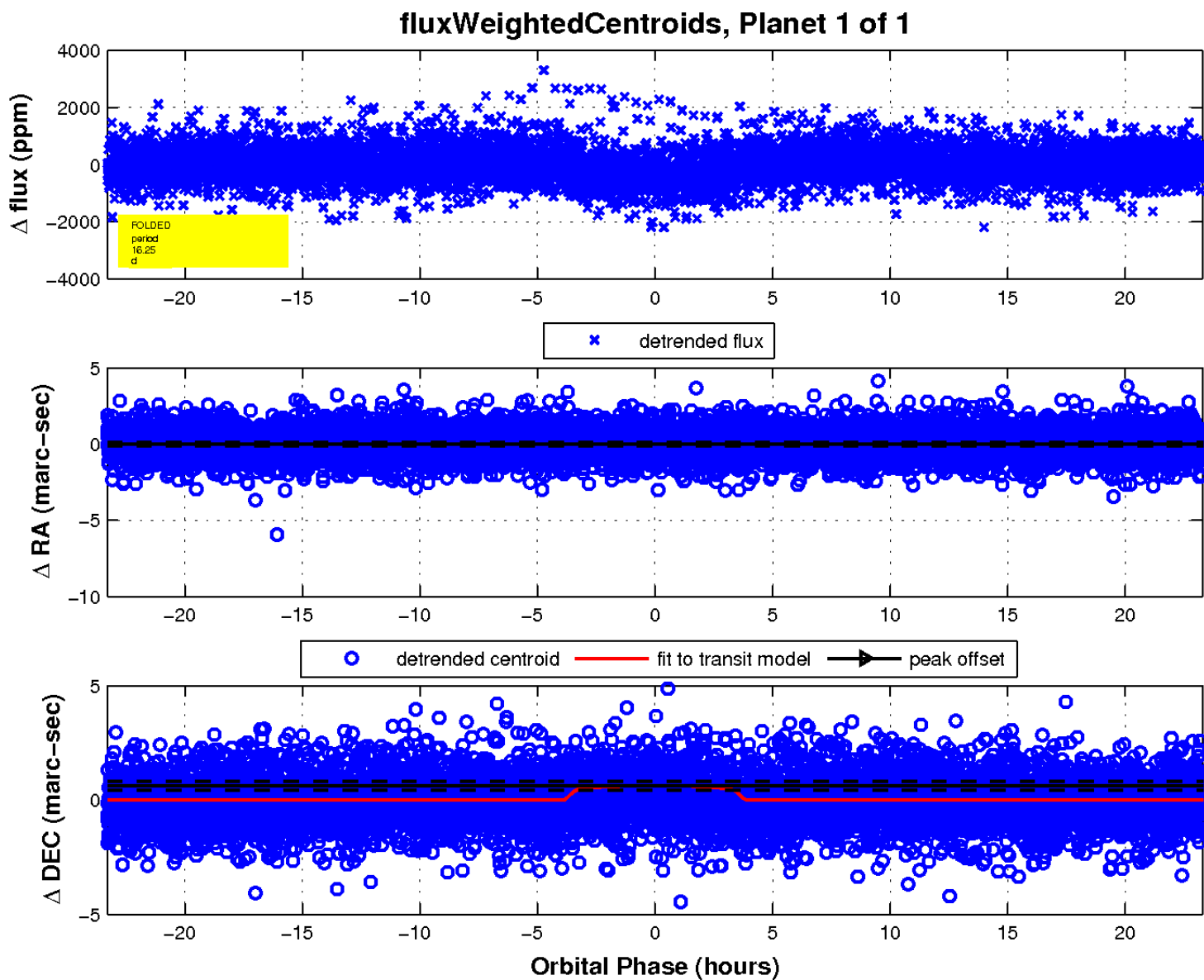
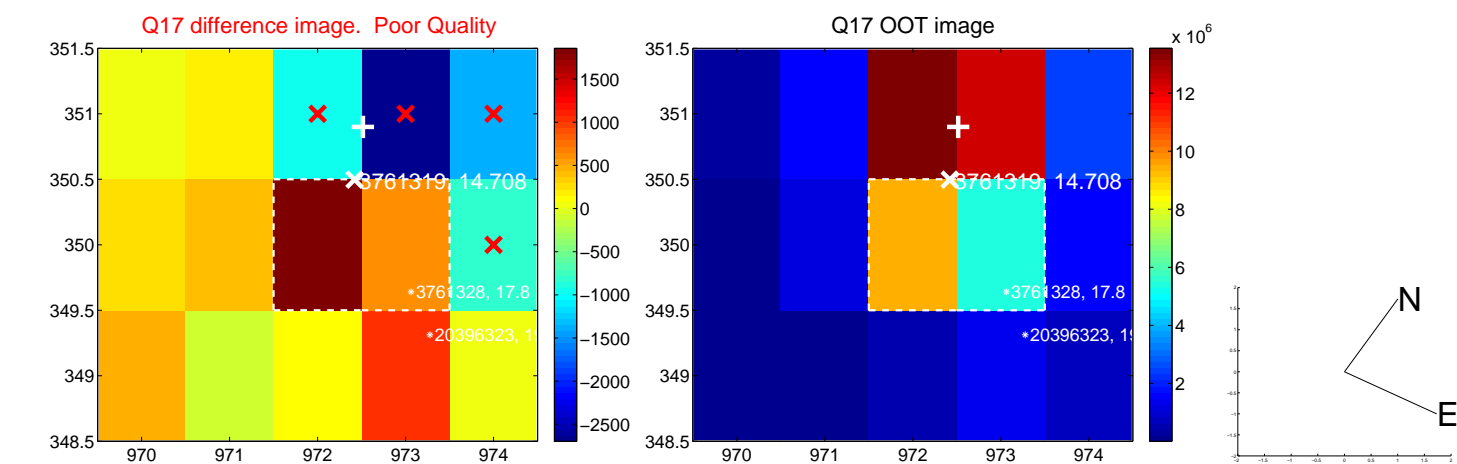


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

