

# KIC 009049673

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009049673-01	OBS	3799.01	1.327441	131.601175	1981.0	4.826	451.7	100.4	0.78	5232	4.49	896.38

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009049673-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_ALT—CENT_RESOLVED_OFFSET

**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 009049673-01

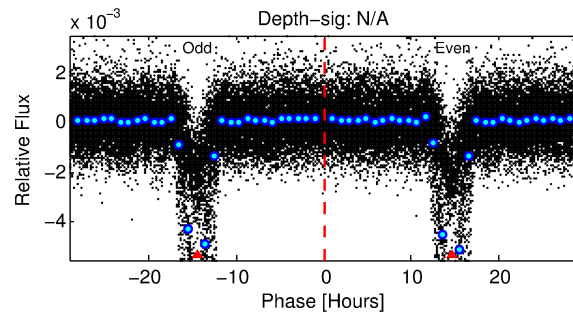
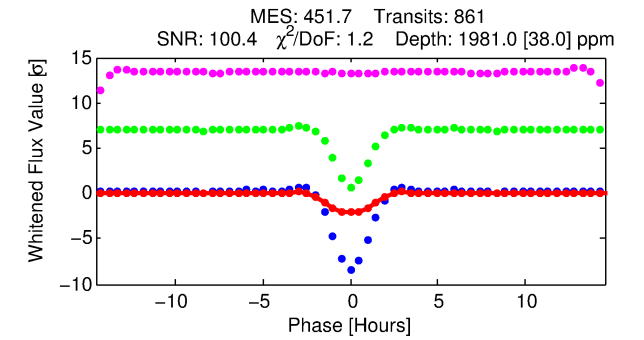
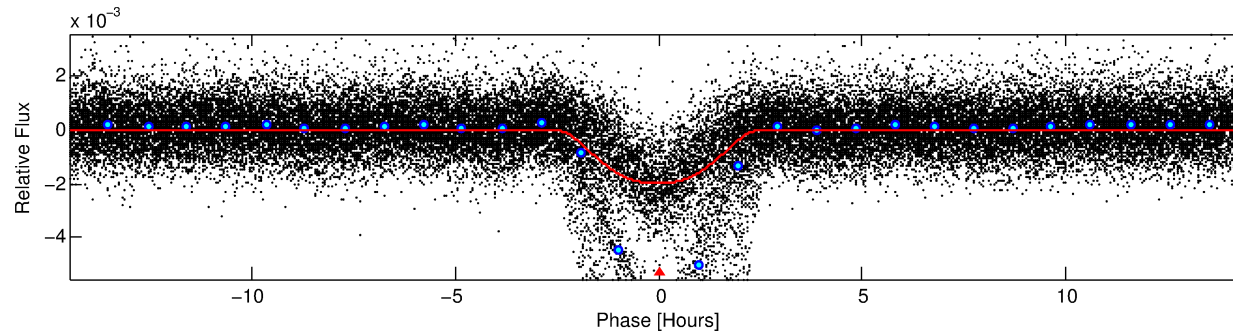
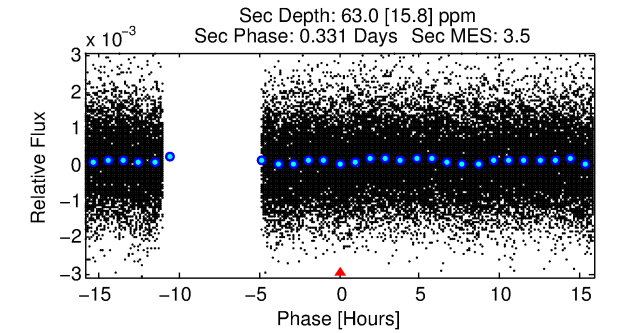
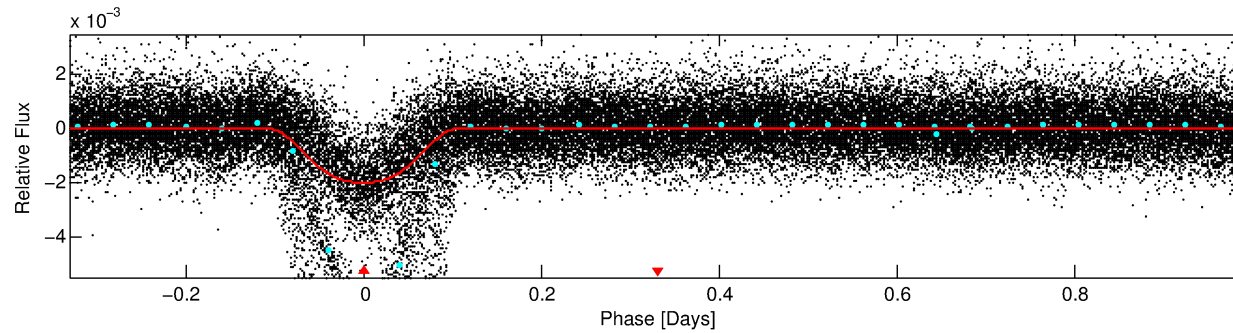
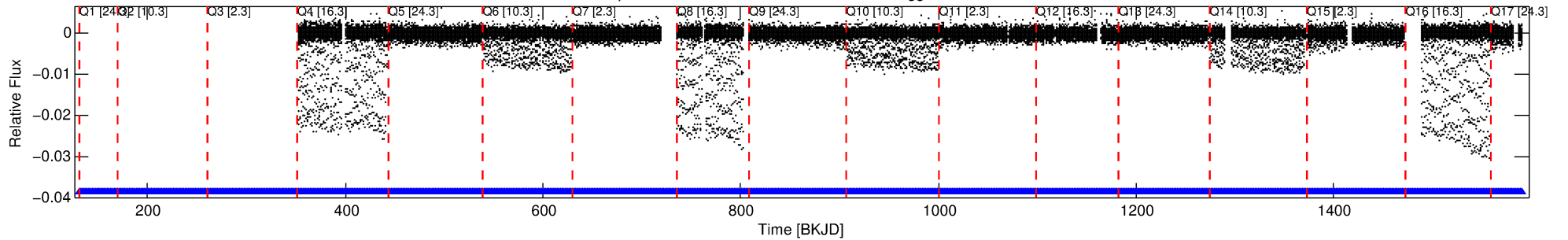
No Significant Match Found

# DV One-Page Summary

KIC: 9049673 Candidate: 1 of 1 Period: 1.327 d

KOI: K03799.01 Corr: 0.957

Kp: 15.82 R\*: 0.78 Rs Teff: 5232.0 K Logg: 4.52 Fe/H: -0.320



## DV Fit Results:

Period = 1.32744 [0.00000] d  
Epoch = 131.6012 [0.0007] BKJD  
Rp/R\* = 0.0530 [0.0009]  
a/R\* = 1.38 [0.01]  
b = 0.95 [0.00]  
Seff = 896.38 [202.40]  
Teq = 1395 [79] K  
Rp = 4.49 [0.60] Re  
a = 0.0213 [0.0024] AU  
Ag = 0.78 [0.23] [-0.95σ]  
Teffp = 2025 [150] K [3.72σ]

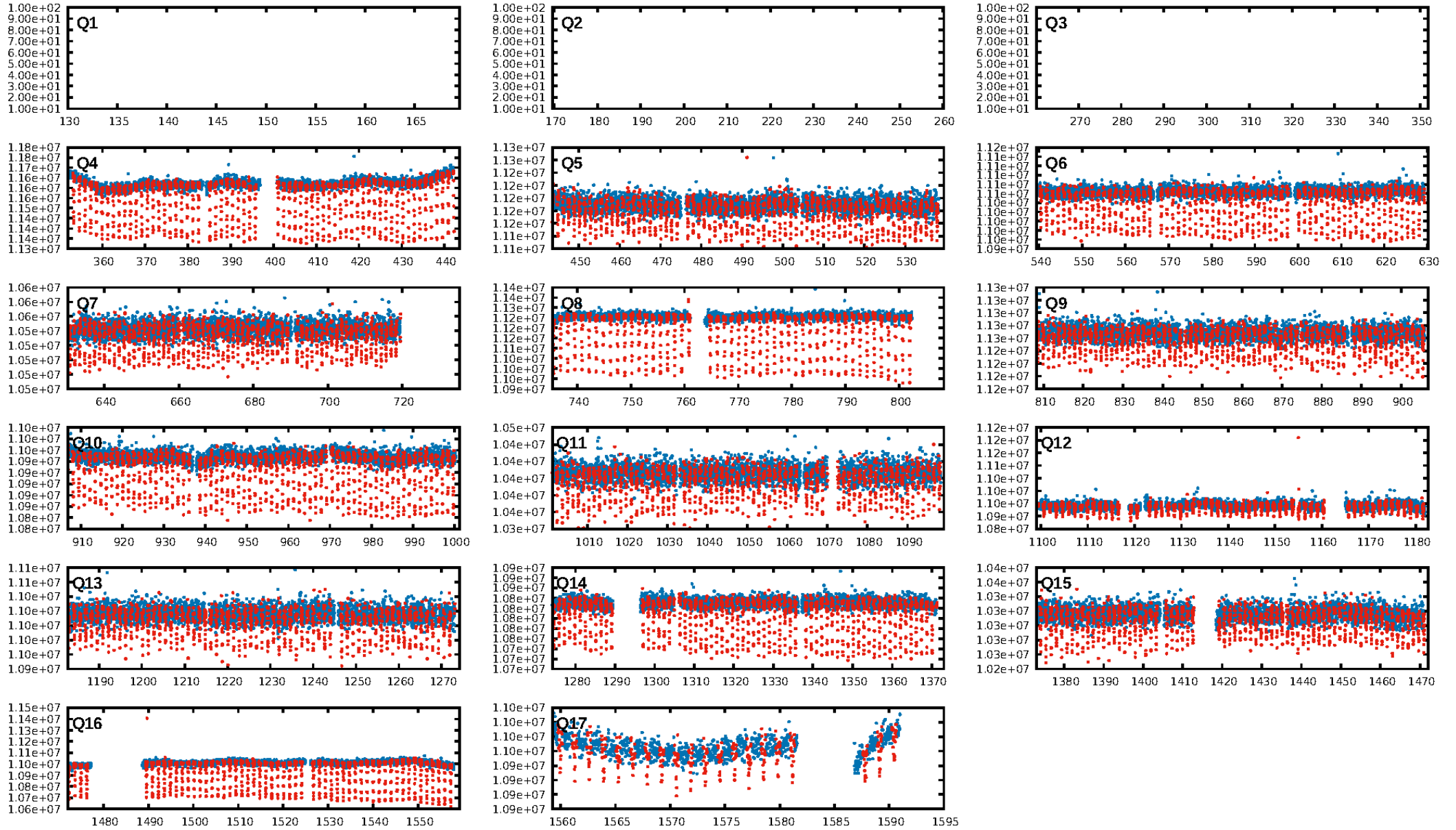
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [841/841]  
GhostDiagnostic-chr: -0.5436  
Centroid-sig: 0.0%  
Centroid-so: N/A  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [14/14]

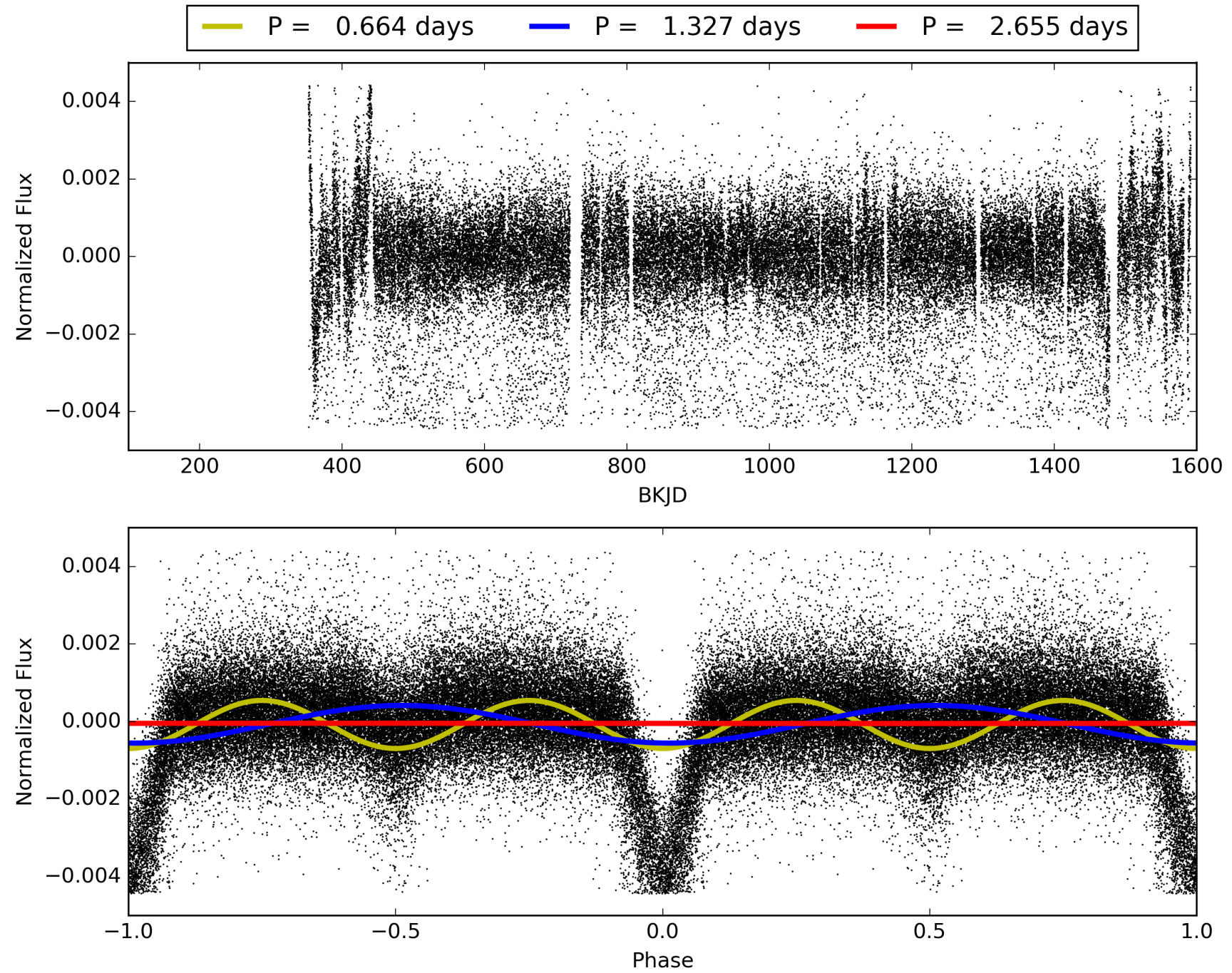
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 14:11:41 Z

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

# TCE 009049673-01, PDC Light Curves

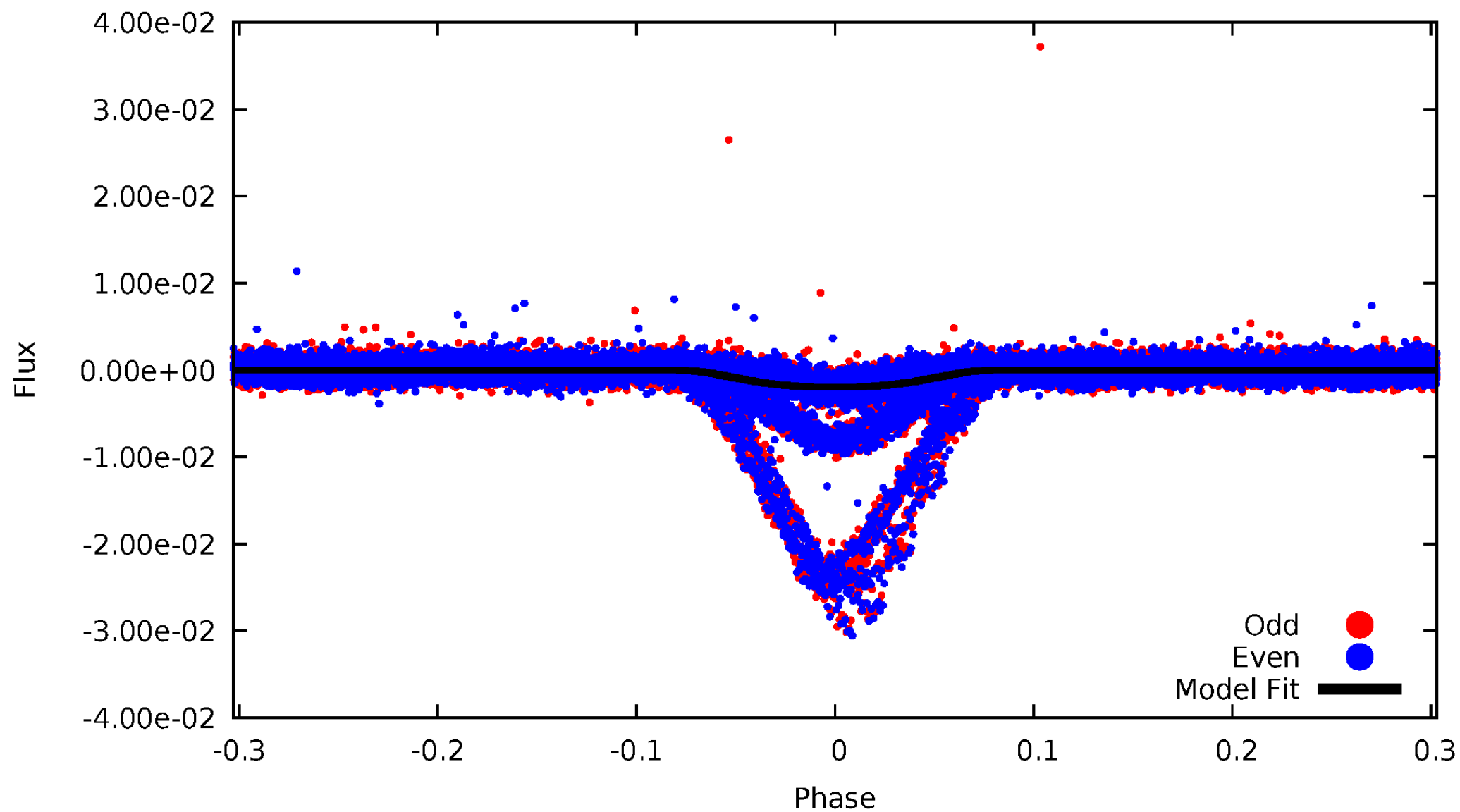


TCE 009049673-01



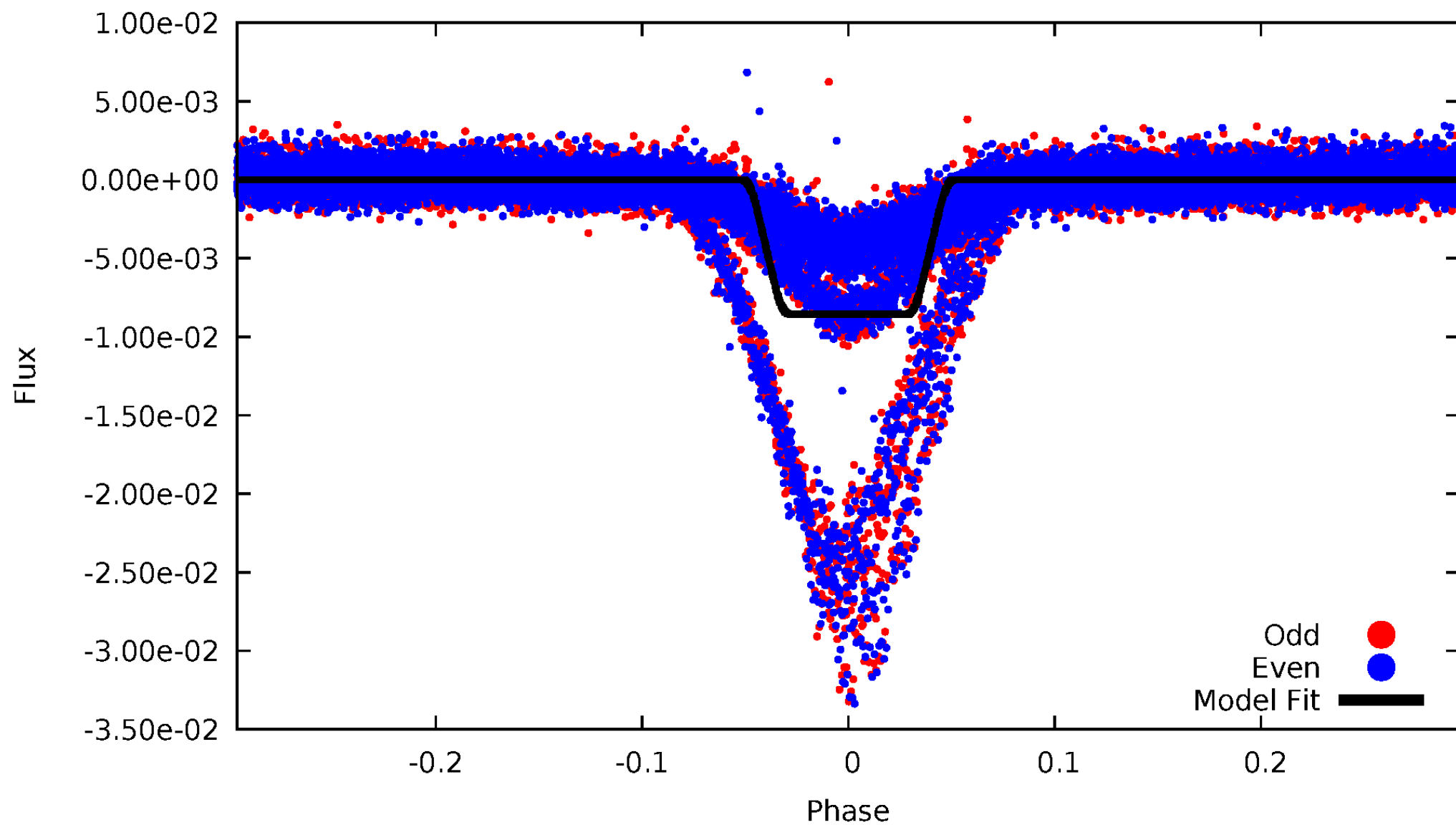
# DV Odd/Even

TCE 009049673-01



# ALT Odd/Even

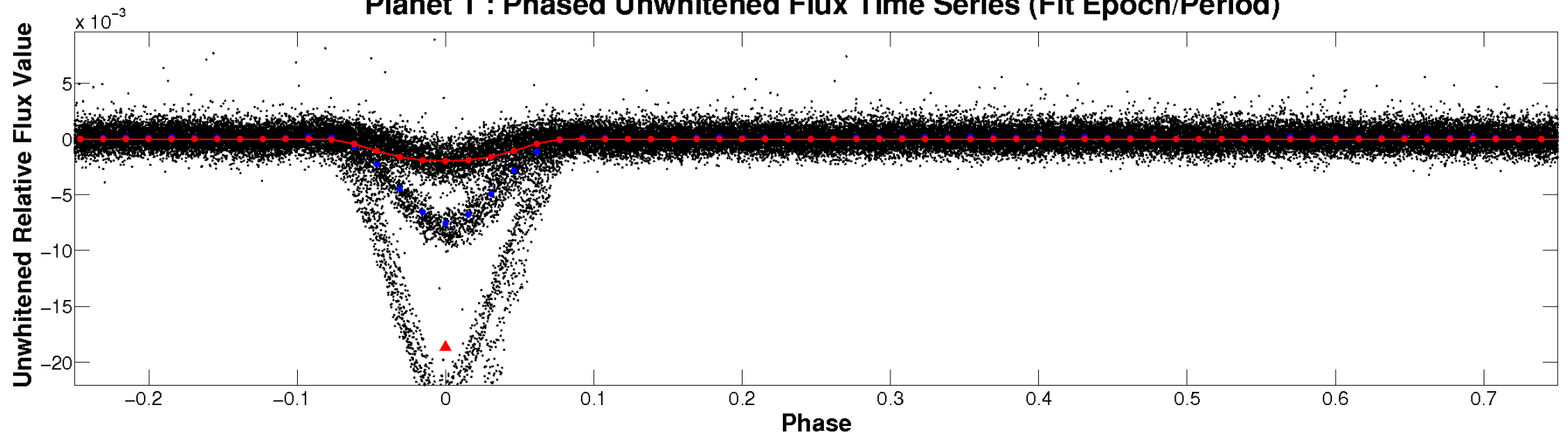
TCE 009049673-01



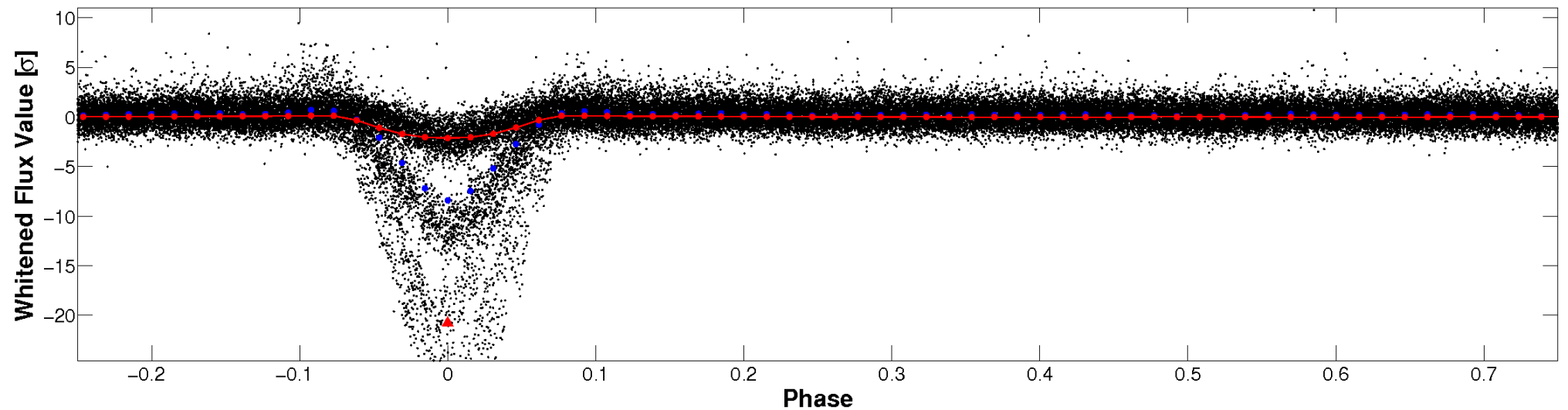


# Non-Whitened Vs. Whitened Light Curve

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

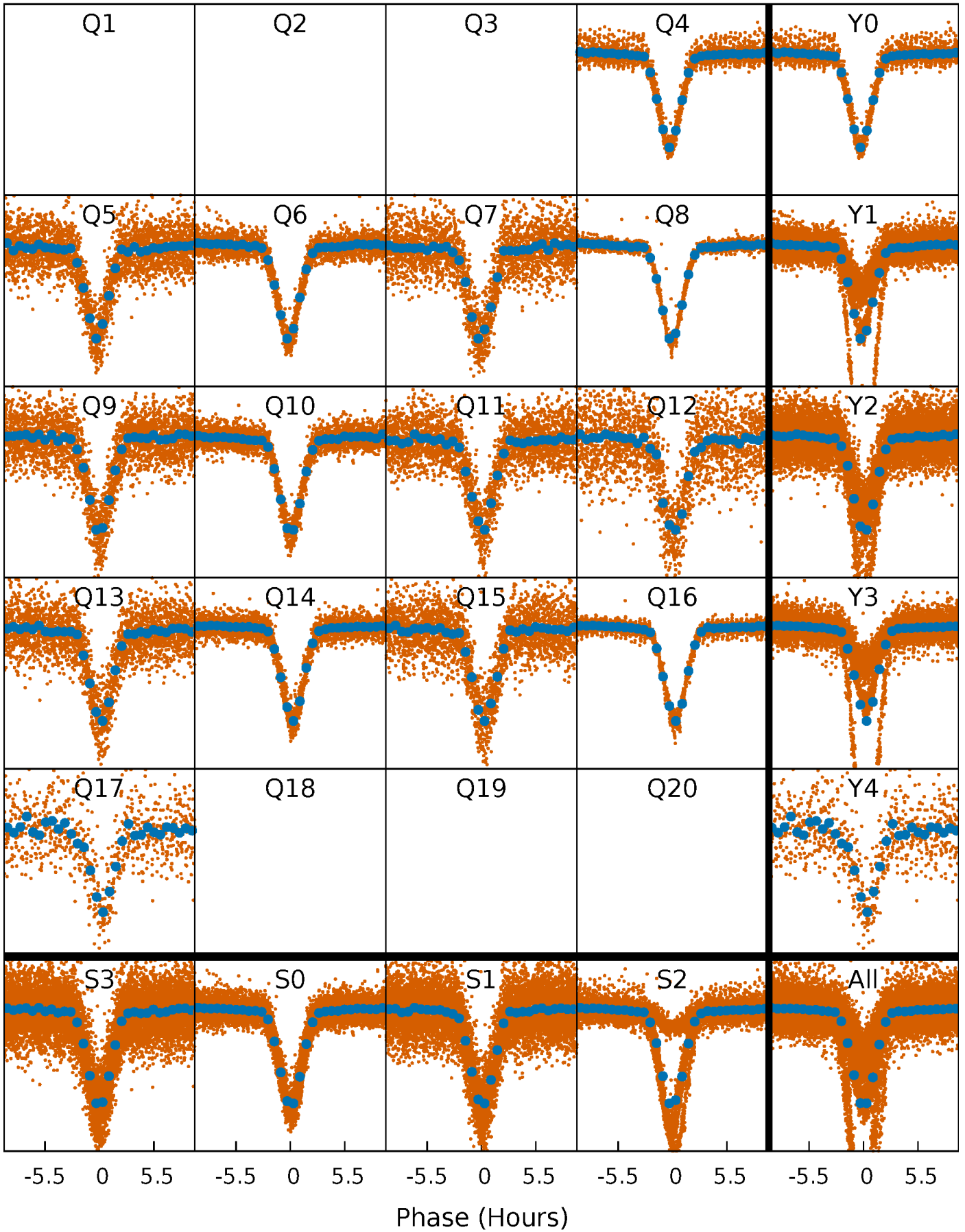


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

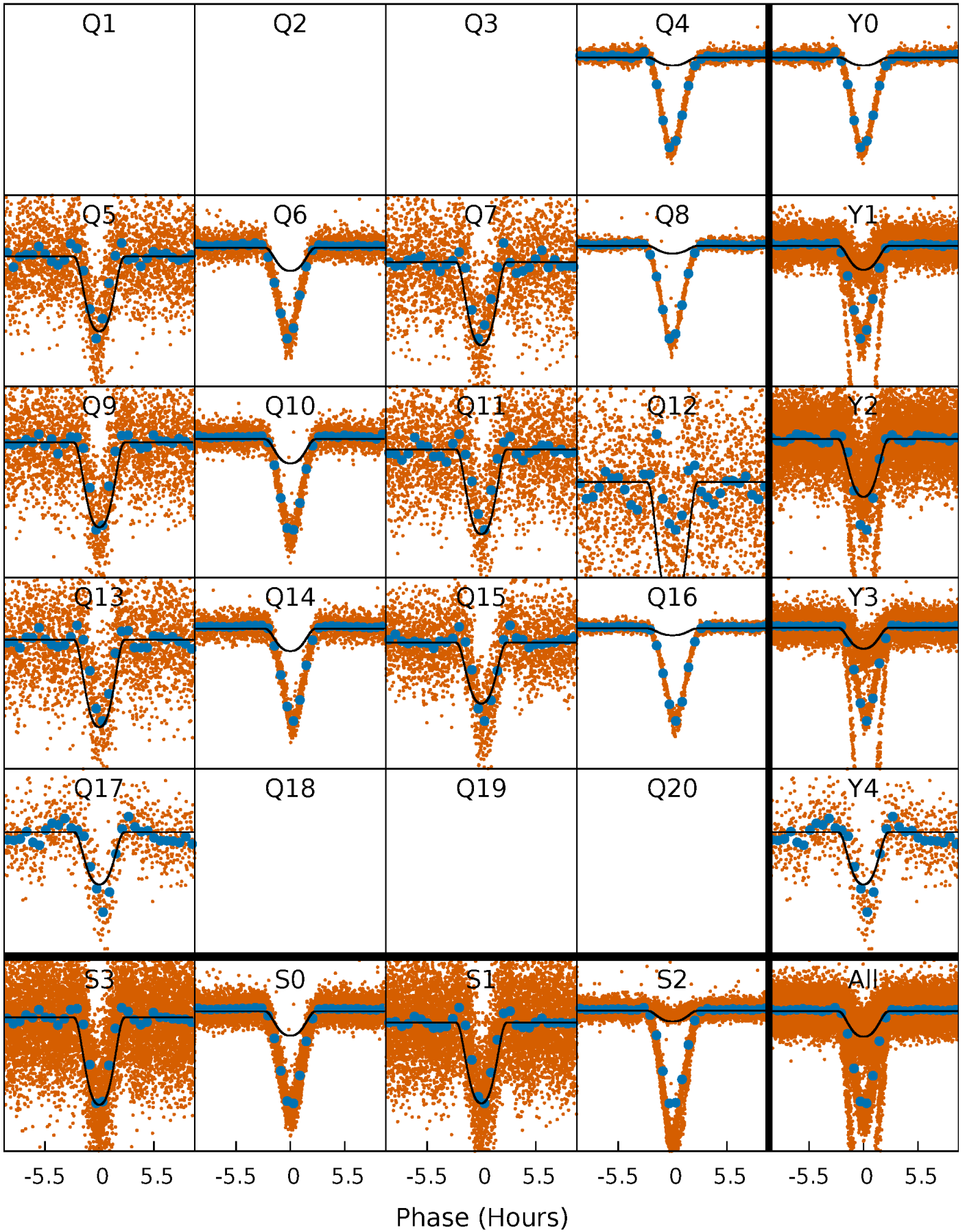
TCE 009049673-01 P= 1.327441 Days  $T_0=131.601175$  (BKJD)





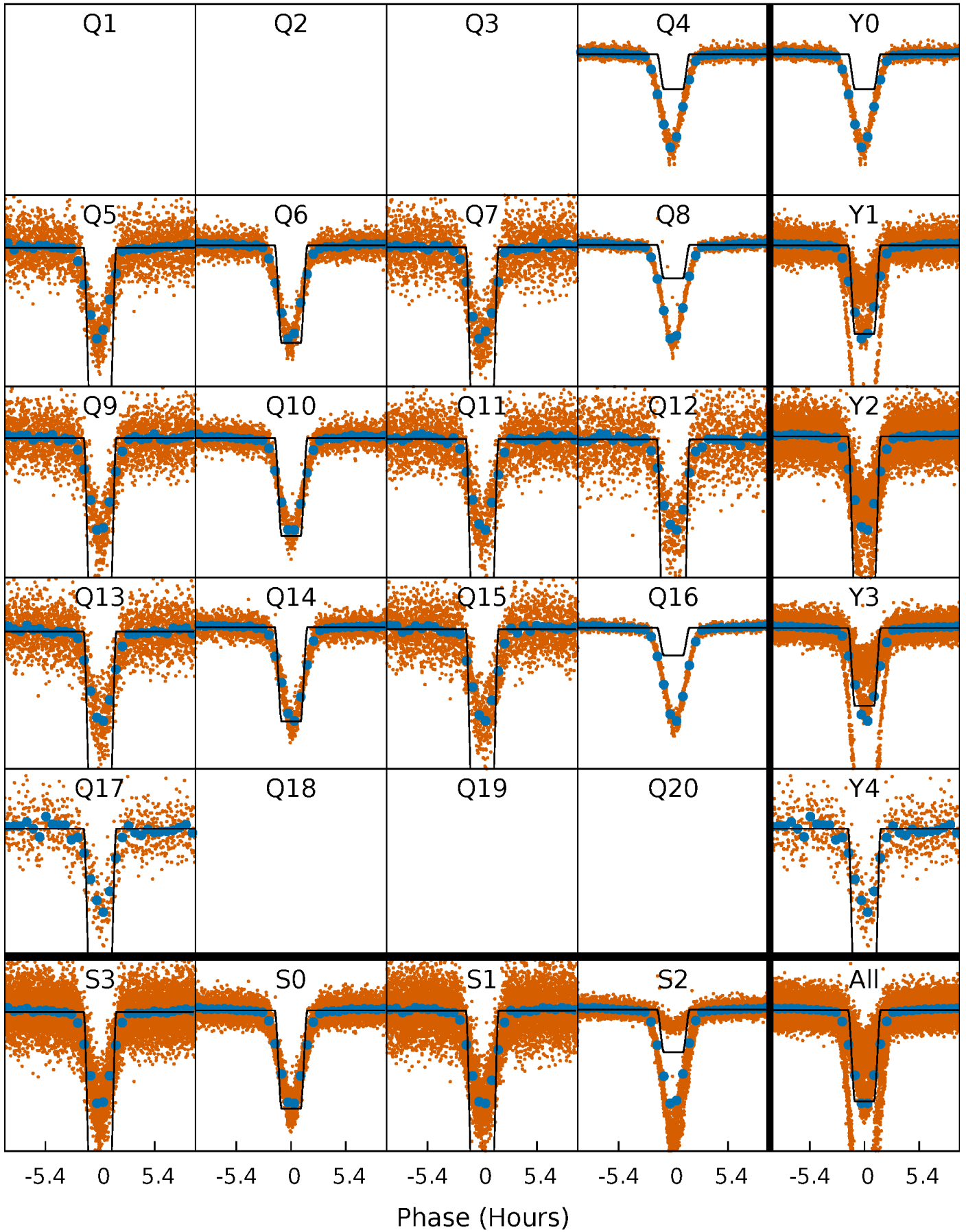
# DV Quarter-Phased Transit Curves

TCE 009049673-01 P= 1.327441 Days  $T_0=131.601175$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

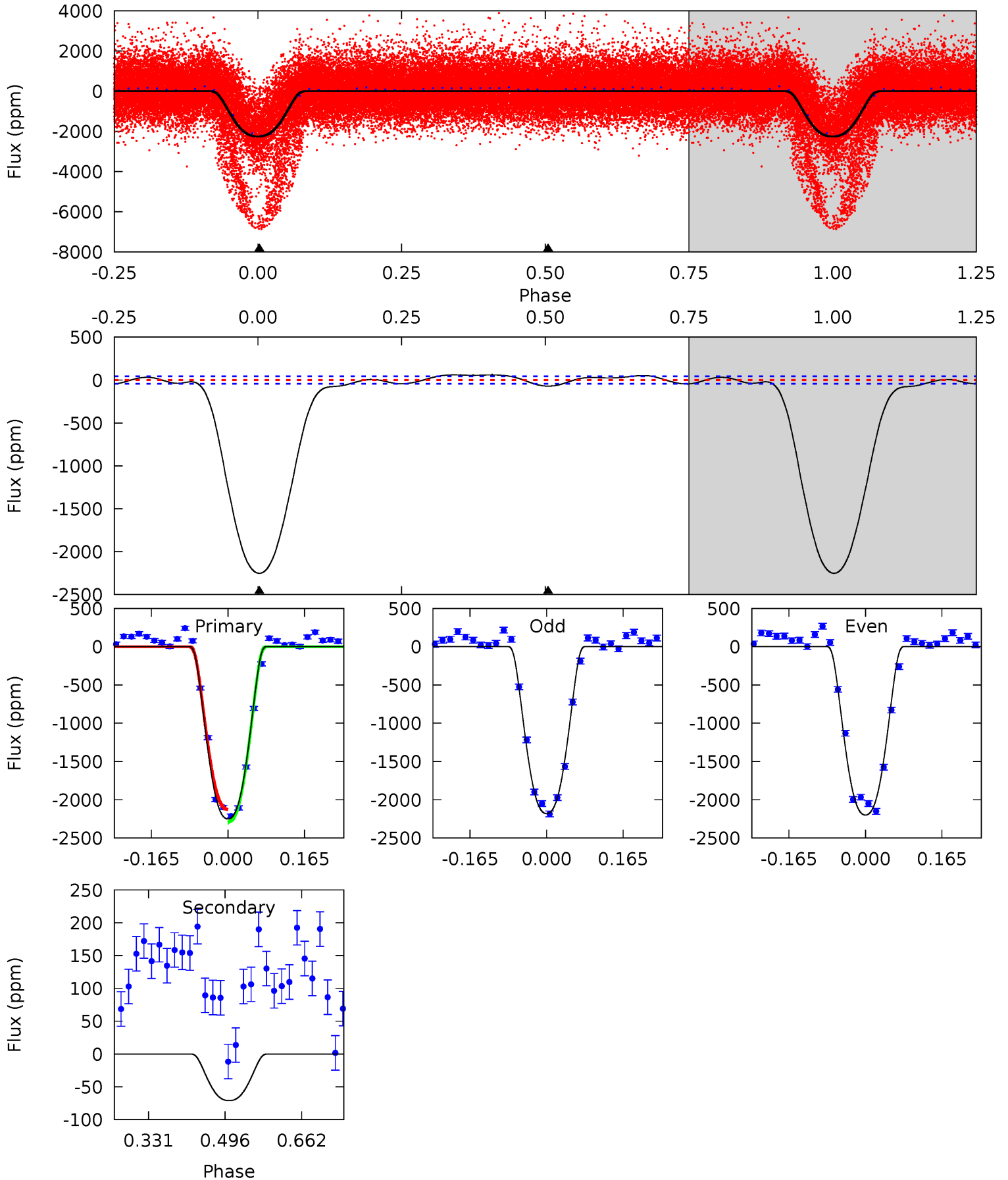
TCE 009049673-01 P= 1.327456 Days  $T_0=131.592849$  (BKJD)



# DV Model-Shift Uniqueness Test

009049673-01, P = 1.327441 Days, E = 131.601175 Days

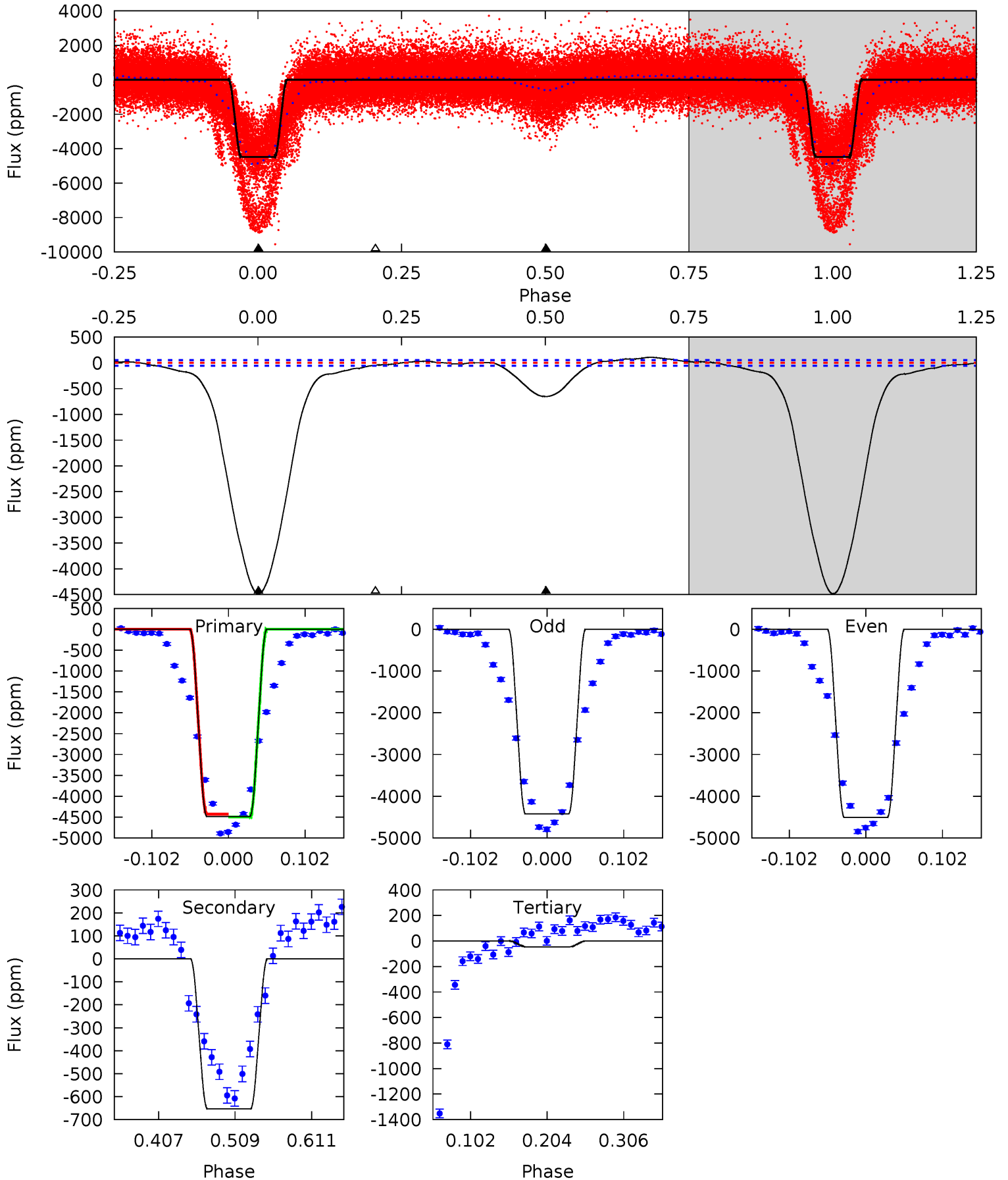
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
233.7	7.38	0	0	4.46	1.39	3.22	233.7	233.7	7.38	7.38	0.93	3.14	0.03	8.43



# Alt Model-Shift Uniqueness Test

009049673-01, P = 1.327456 Days, E = 131.592849 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
366.5	53.4	3.73	0	4.56	1.64	7.86	362.8	366.5	49.7	53.4	3.42	1.92	0.02	0



### Stellar Parameters For KIC 009049673

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5232^{+203}_{-166}$	$4.519^{+0.090}_{-0.081}$	$-0.320^{+0.350}_{-0.300}$	$0.777^{+0.103}_{-0.094}$	$0.727^{+0.109}_{-0.047}$	$2.186^{+0.928}_{-0.549}$
	+4%/-3%	+2%/-2%	+109%/-94%	+13%/-12%	+15%/-6%	+42%/-25%
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 009049673-01 / KOI 3799.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-71 \pm 10$	$4.51^{+0.37}_{-0.32}$	$1951^{+95}_{-90}$	$2659^{+89}_{-108}$	$0.863^{+0.186}_{-0.140}$
Alt.	$-653 \pm 12$	$7.89^{+0.60}_{-0.53}$	$1948^{+98}_{-94}$	$3225^{+84}_{-80}$	$2.640^{+0.367}_{-0.305}$

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

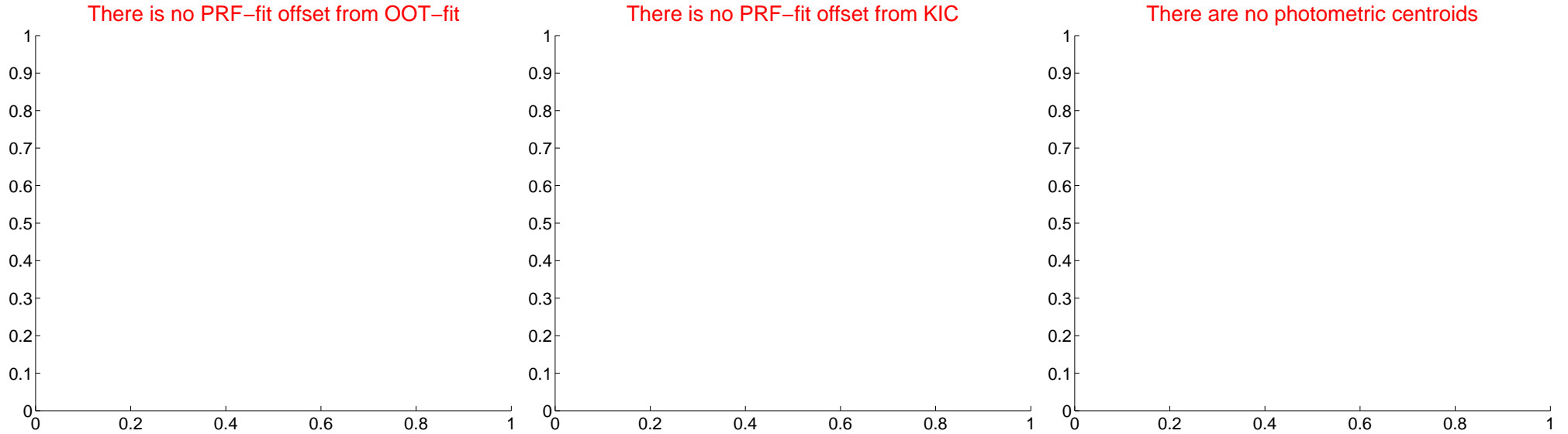
## DV Centroid Data

Supplemental centroid analysis for 009049673-01. Kepler magnitude: 15.82. Transit SNR 100.37

There are 0 quarters with good PRF difference image offsets

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

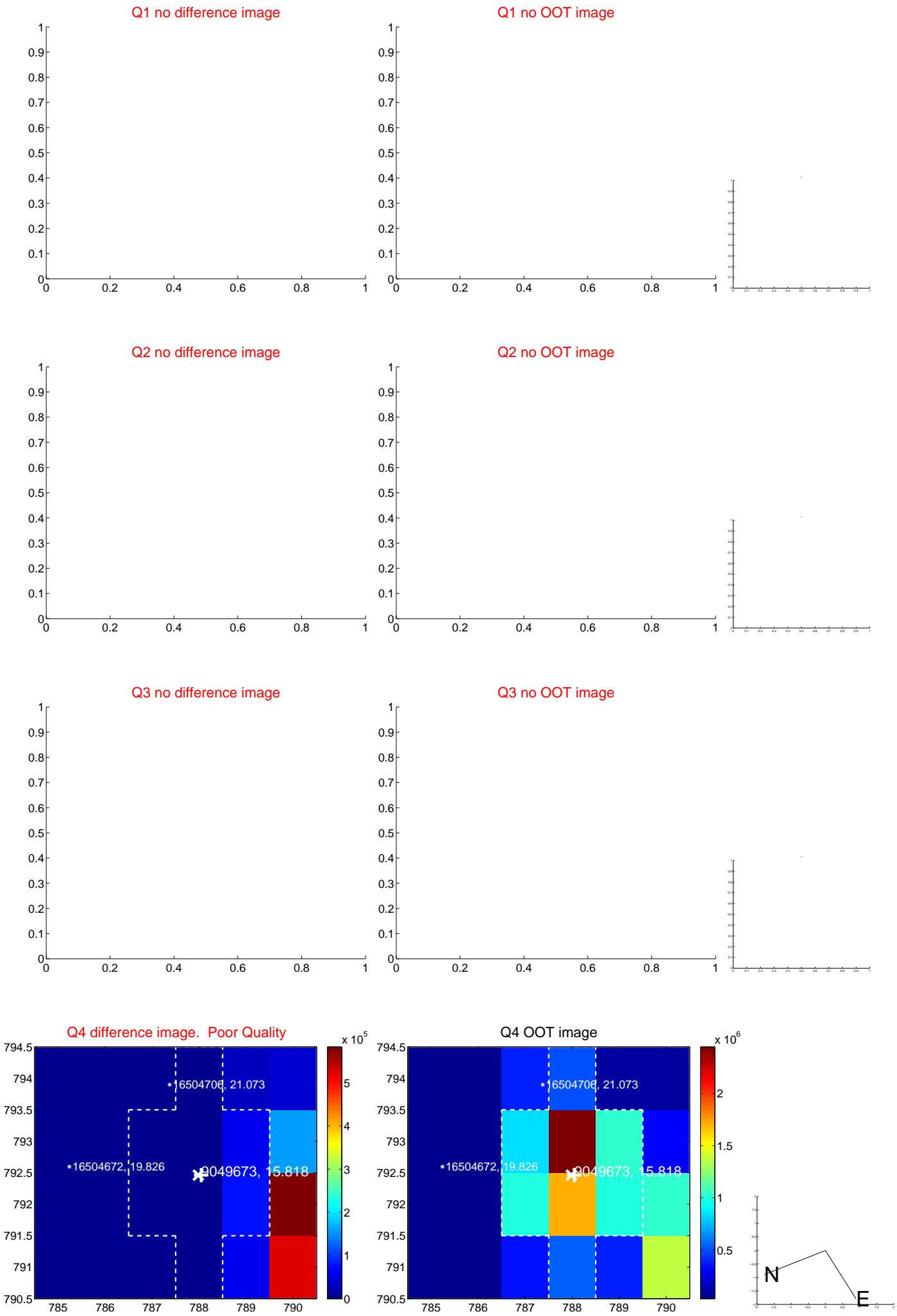
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	—	—	—	—



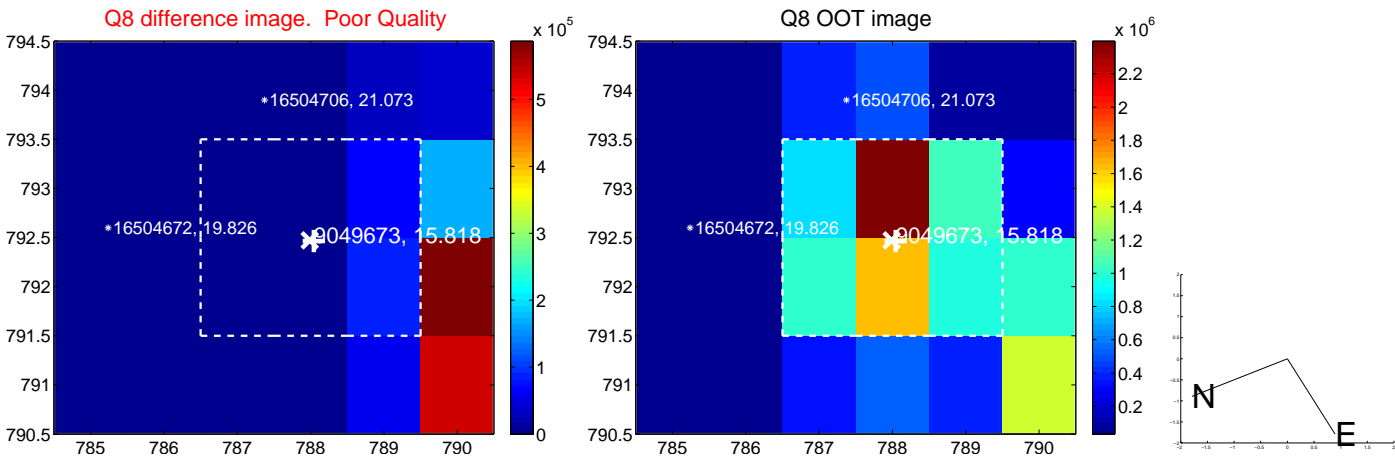
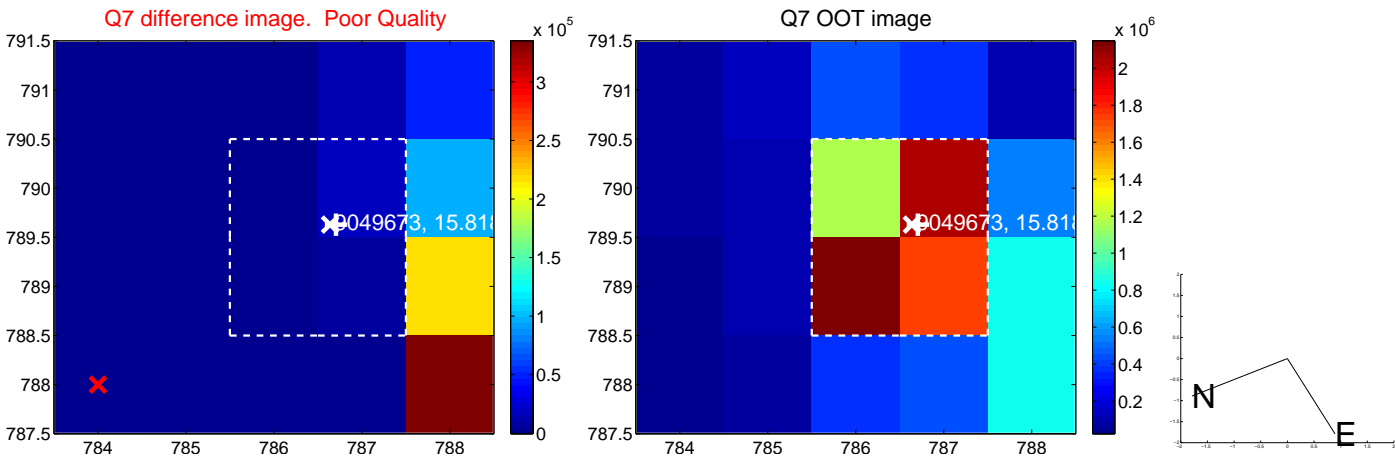
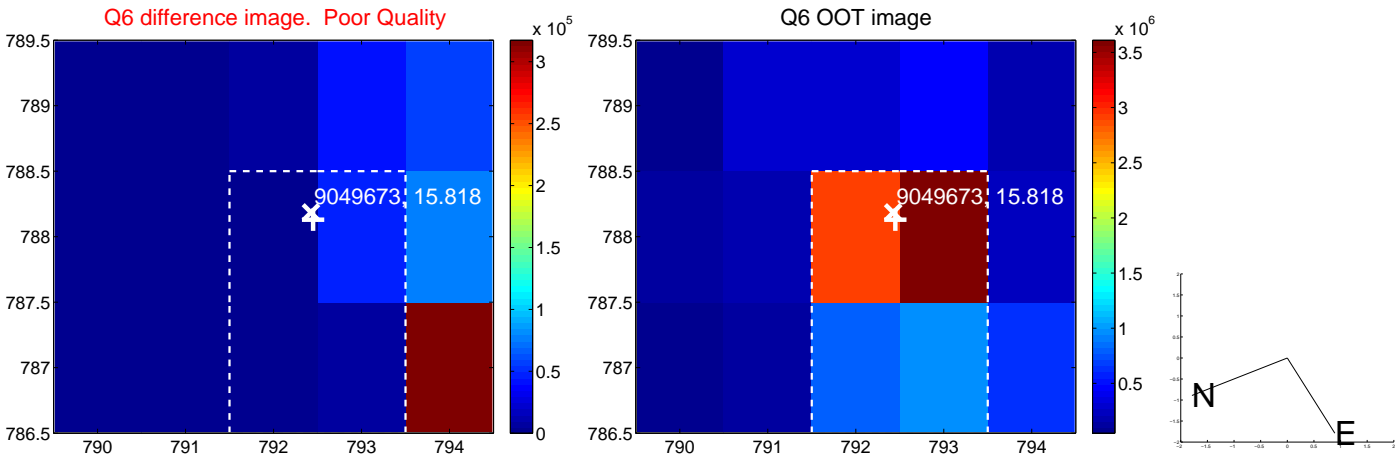
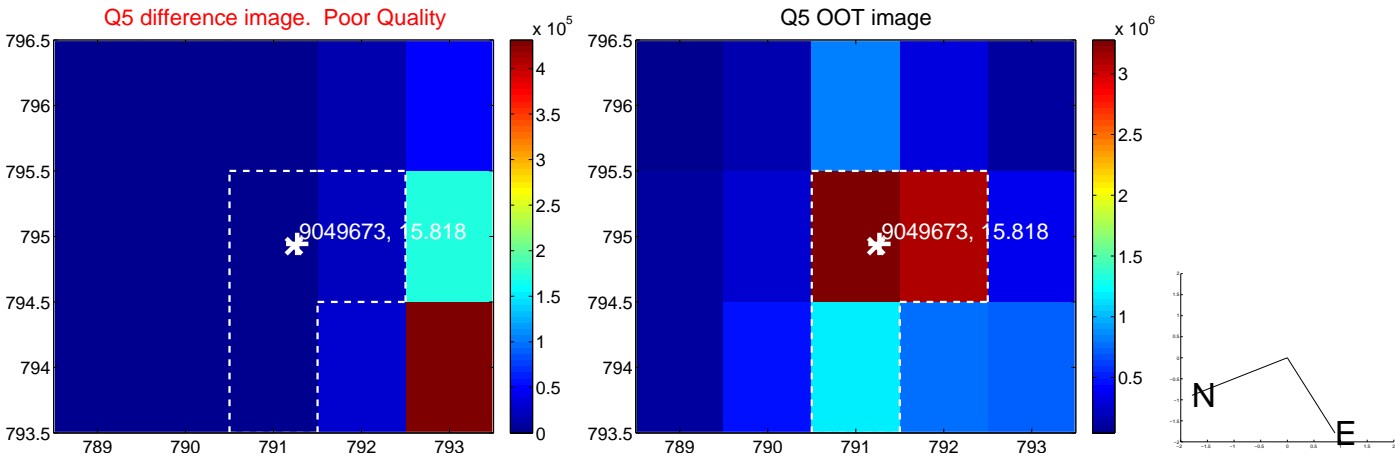
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



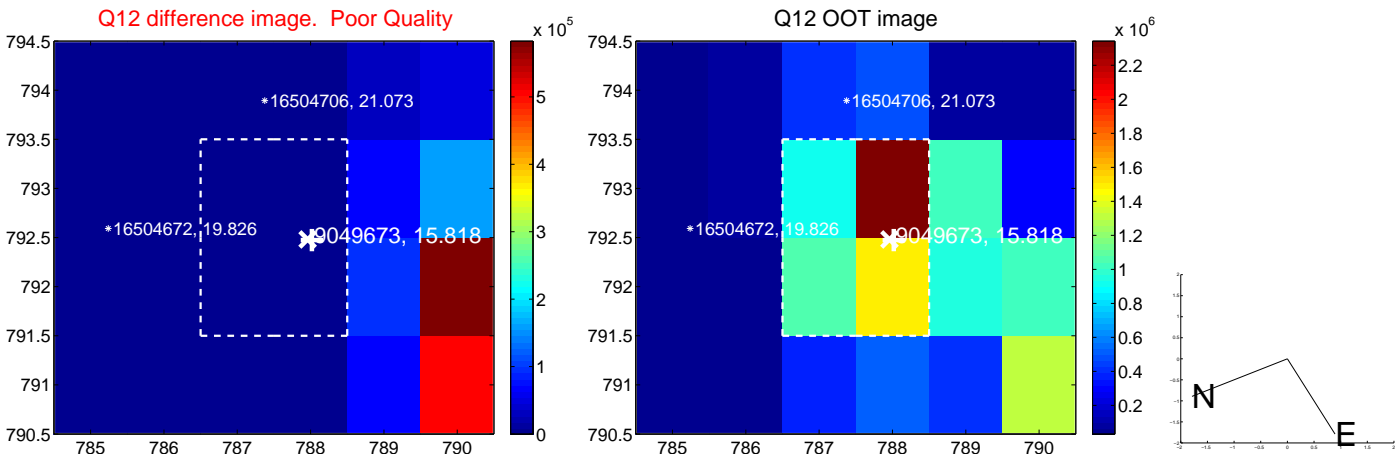
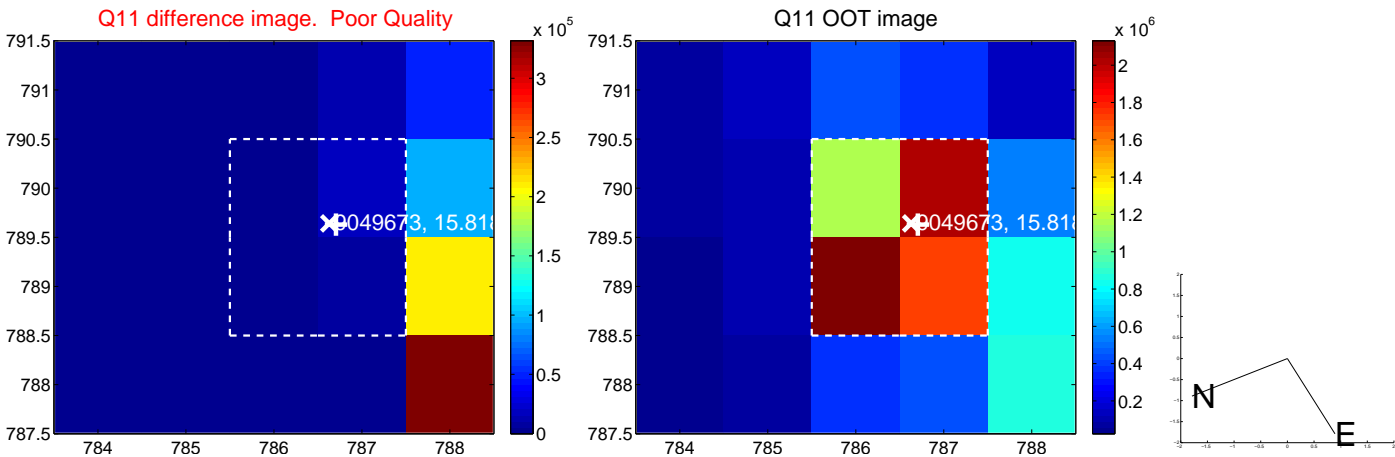
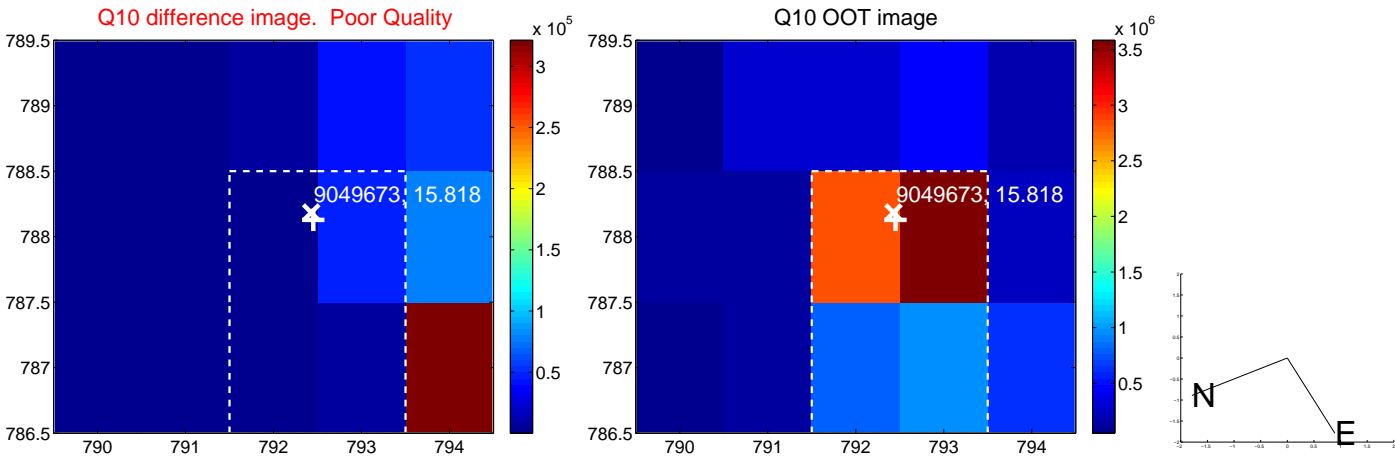
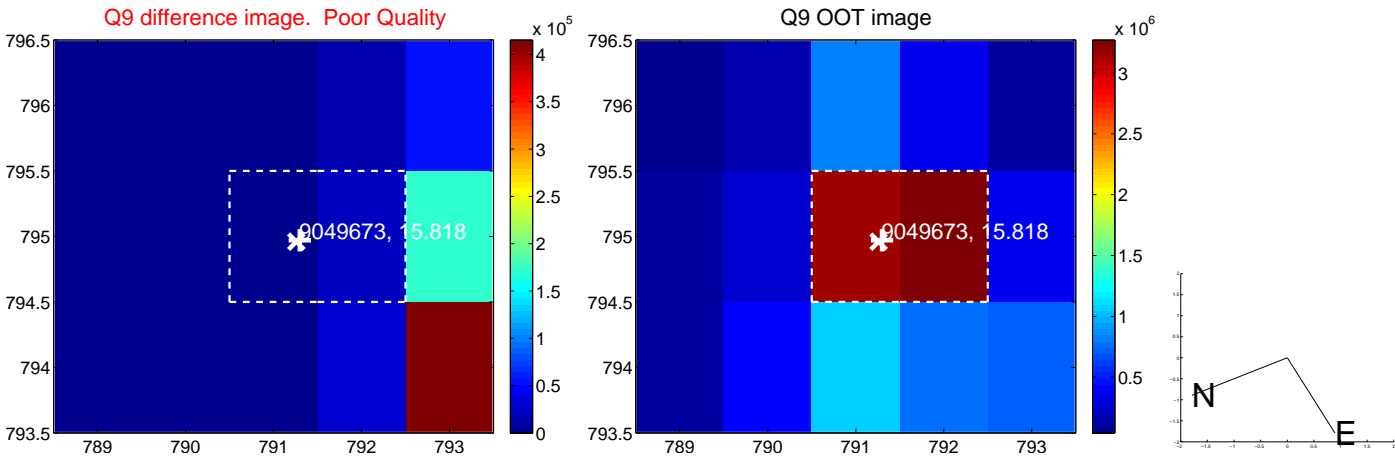
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



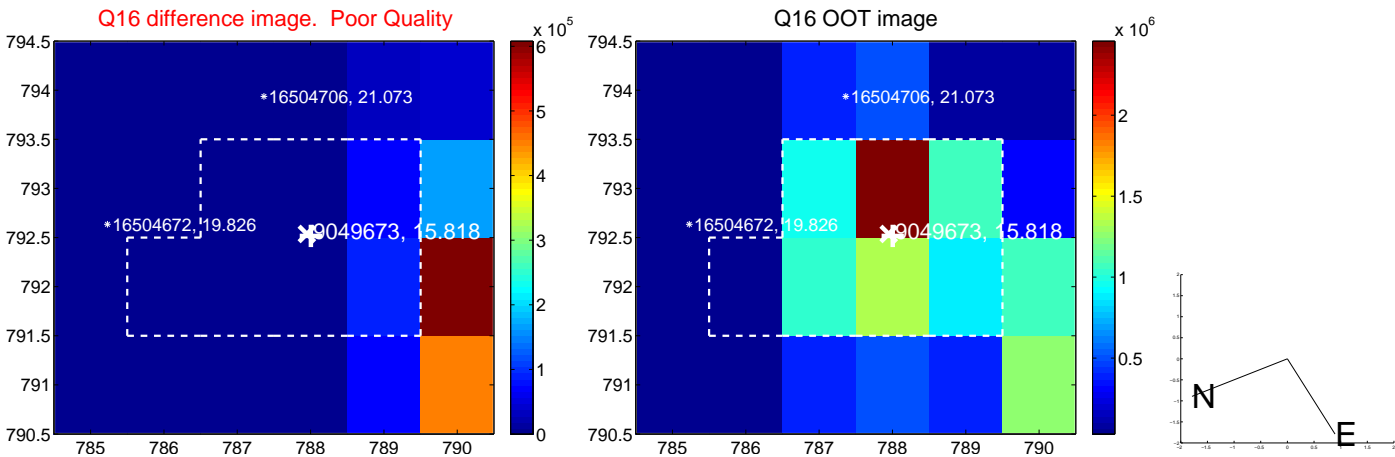
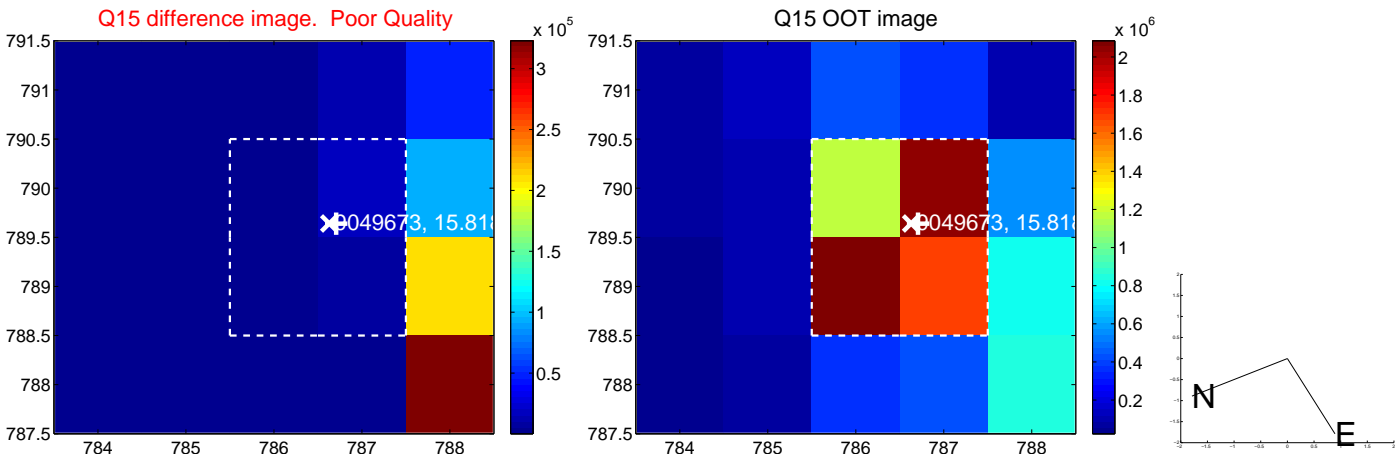
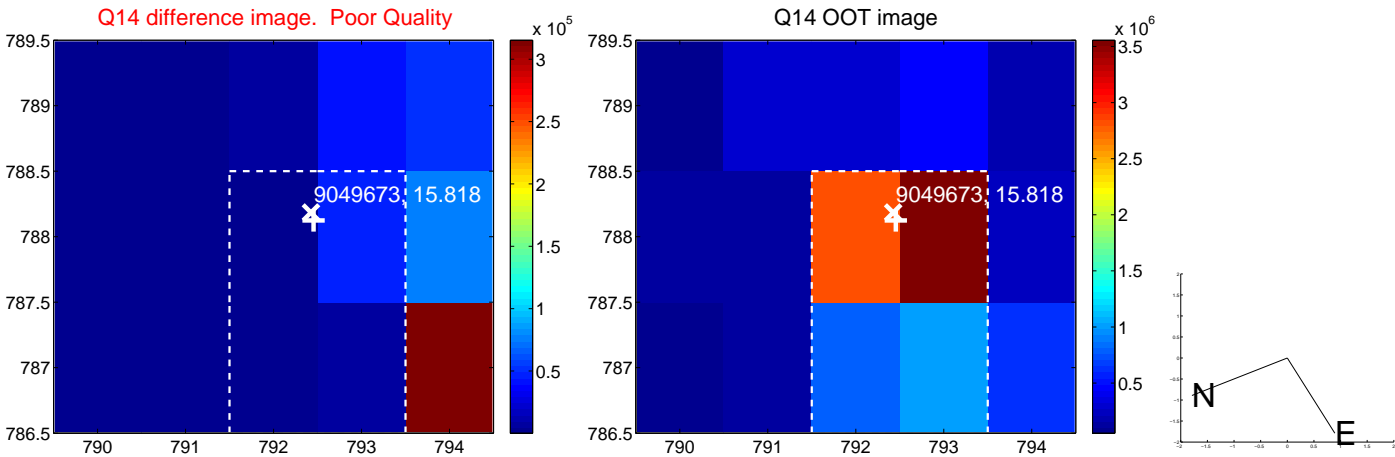
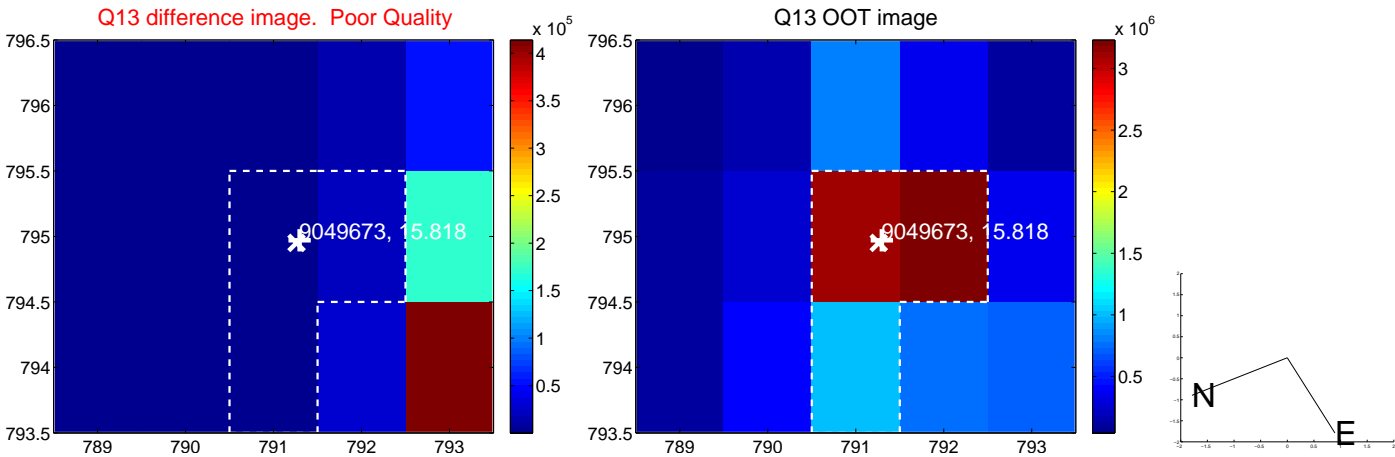
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



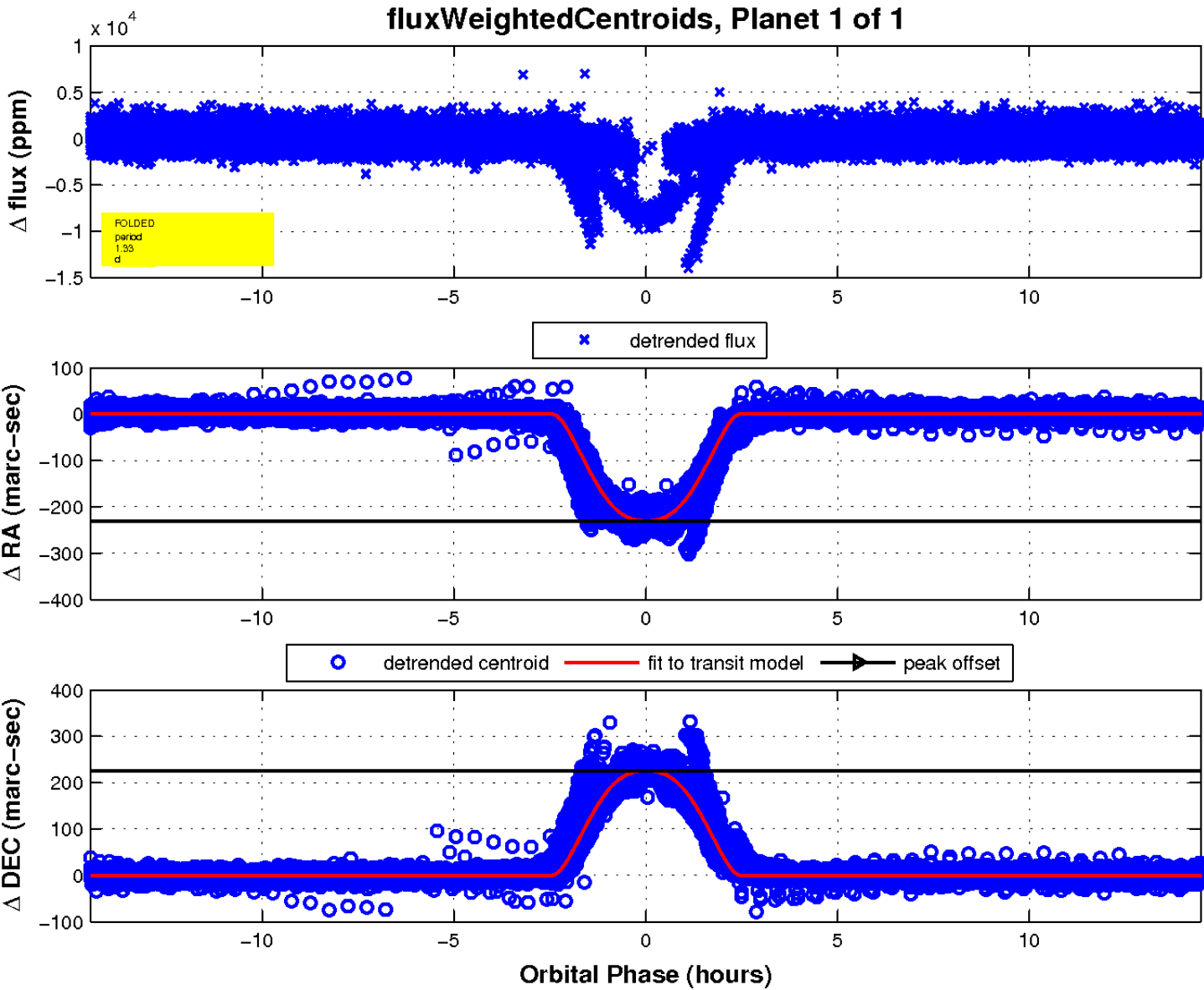
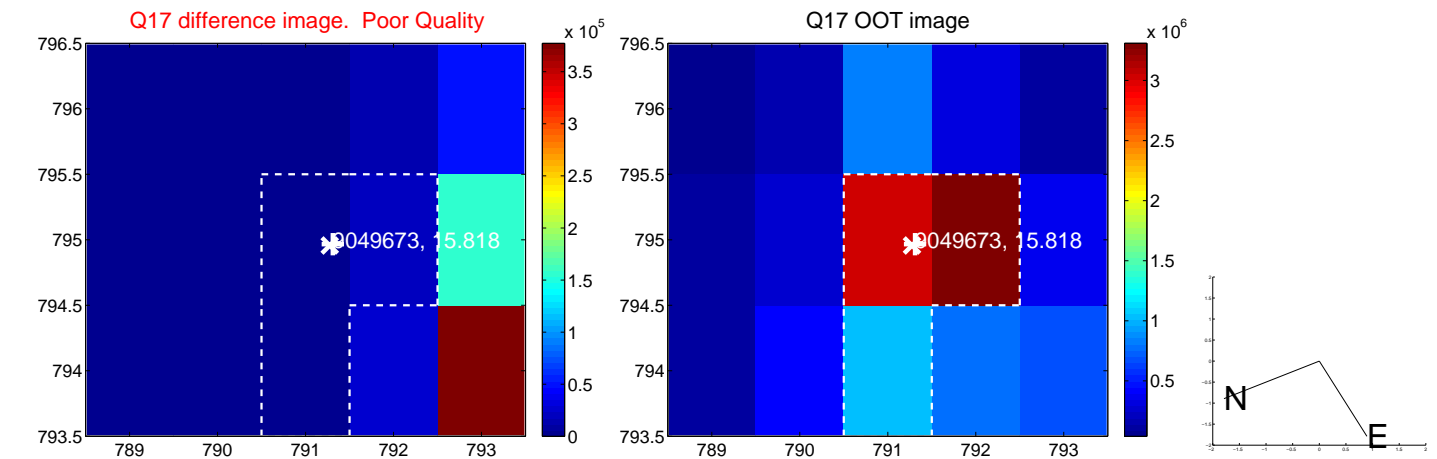
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

