

# KIC 003966950

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003966950-01	OBS	No	283.486501	159.169534	808.4	3.000	13.7	-1.0	1.25	6751	3.60	3.52

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003966950-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_NOFITS

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

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

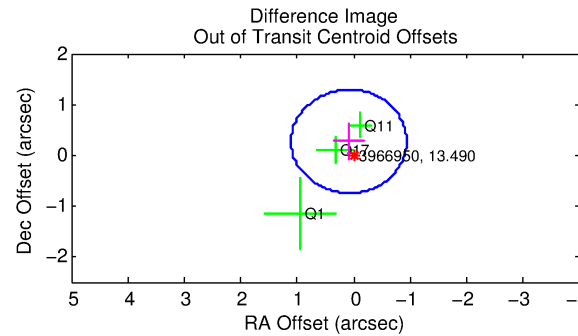
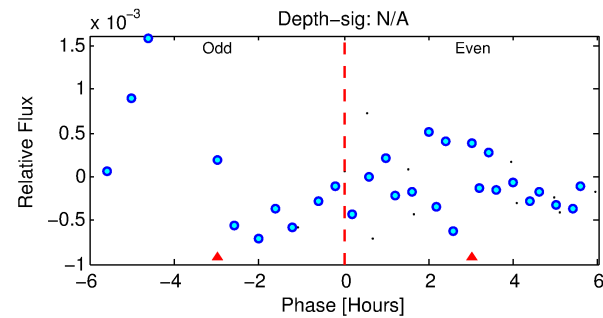
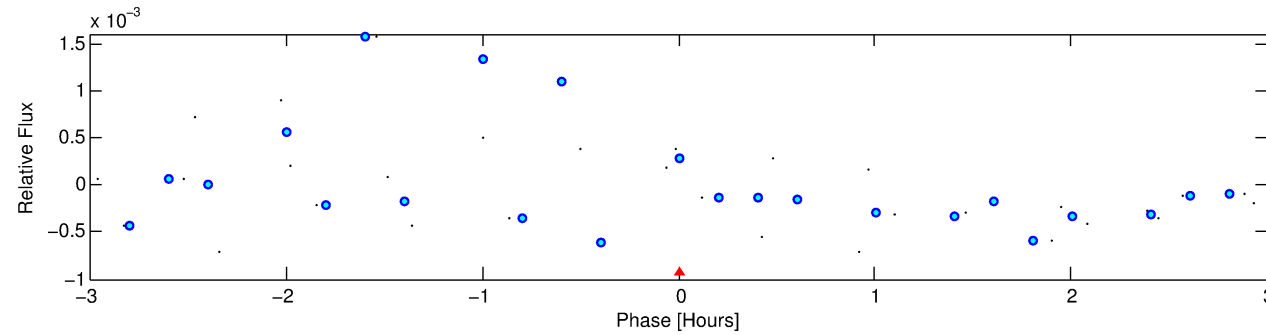
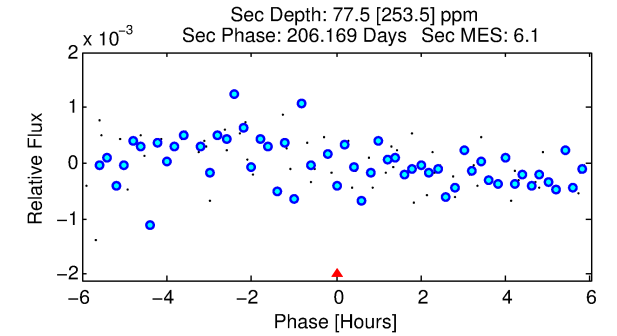
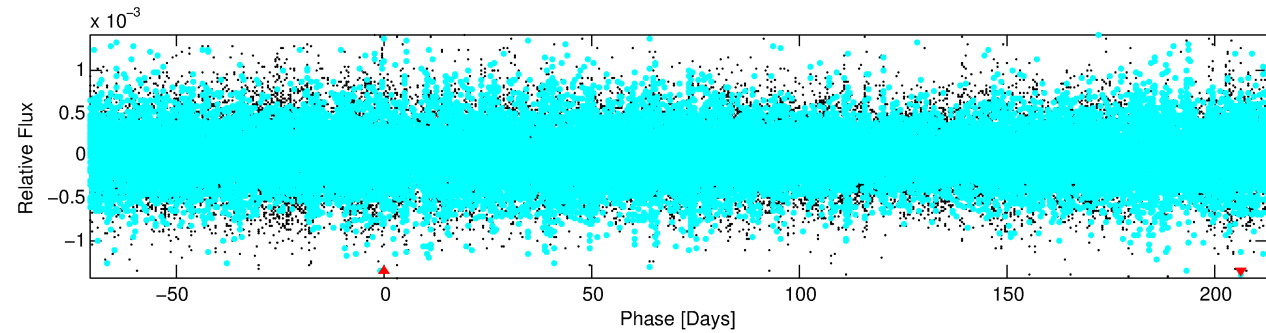
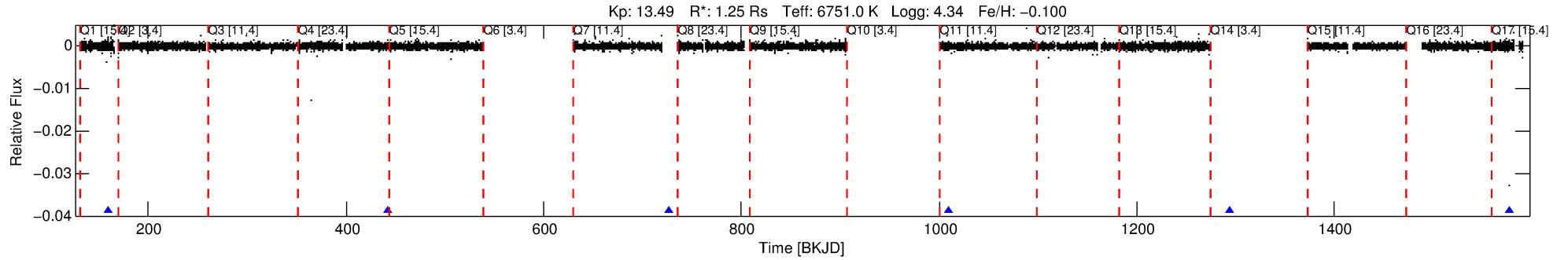
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003966950-01

No Significant Match Found

# DV One-Page Summary

KIC: 3966950 Candidate: 1 of 1 Period: 283.487 d



## TPS TCE Results:

Period = 283.48650 d  
Epoch = 159.1695 BKJD

DV fit results are unavailable

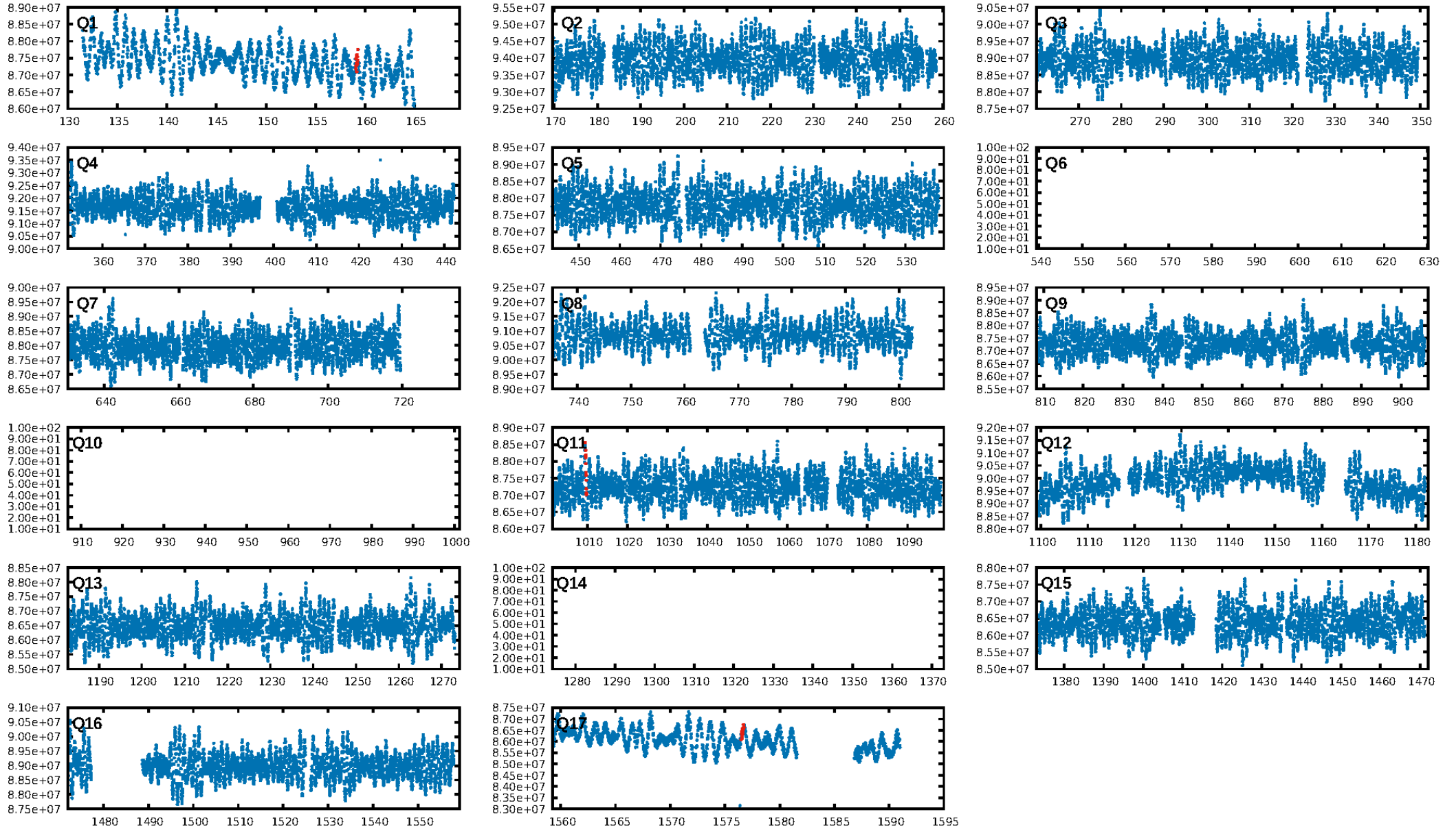
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 5.56e-20  
RollingBand-fgt: 1.00 [1/1]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 0.284 arcsec [0.84σ]  
KicOffset-rm: 0.179 arcsec [0.51σ]  
OotOffset-st: 0/1/0/2 [3]  
KicOffset-st: 0/1/0/2 [3]  
DiffImageQuality-fgm: 0.67 [2/3]  
DiffImageOverlap-fno: 1.00 [3/3]

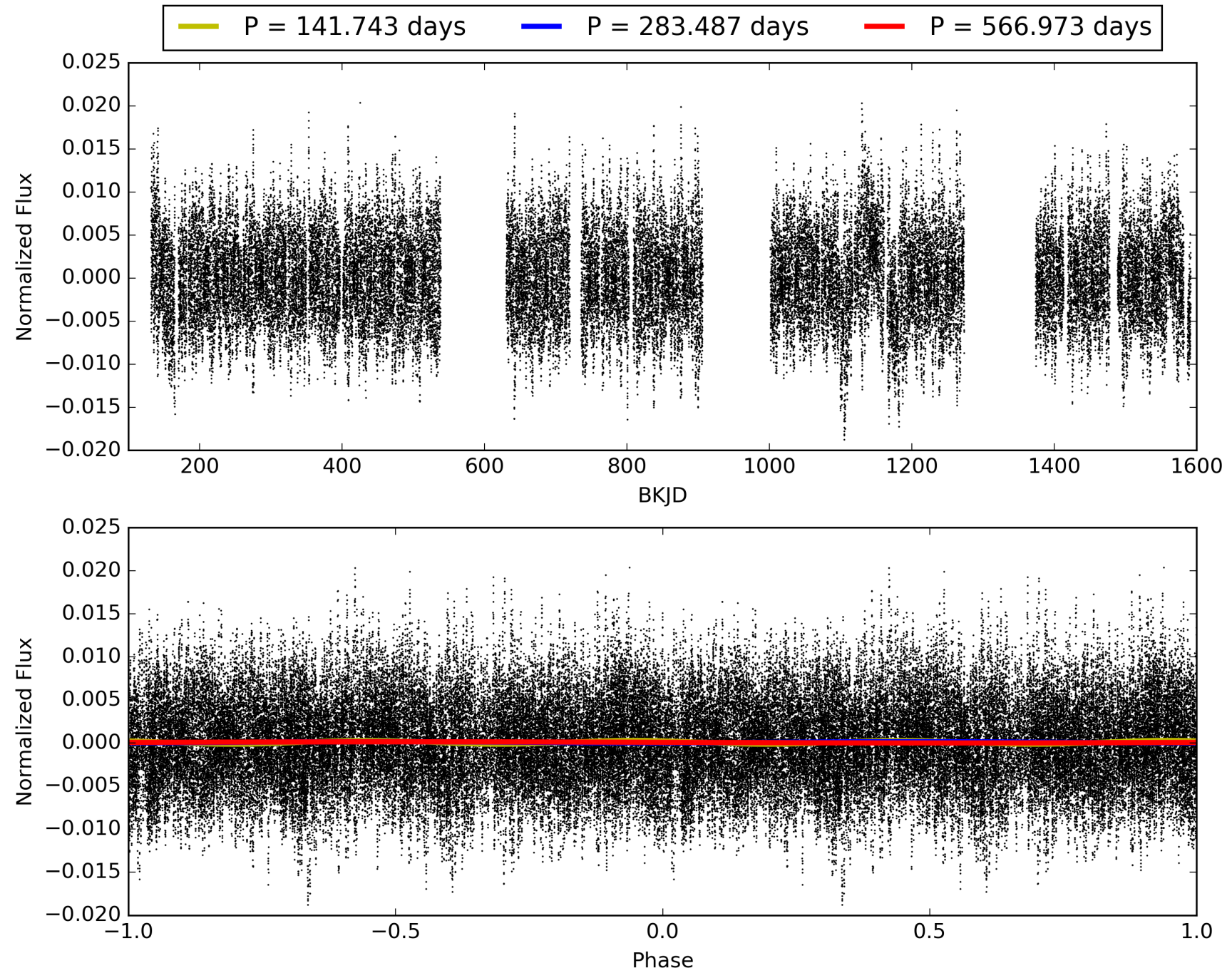
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:04:10 Z

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

# TCE 003966950-01, PDC Light Curves

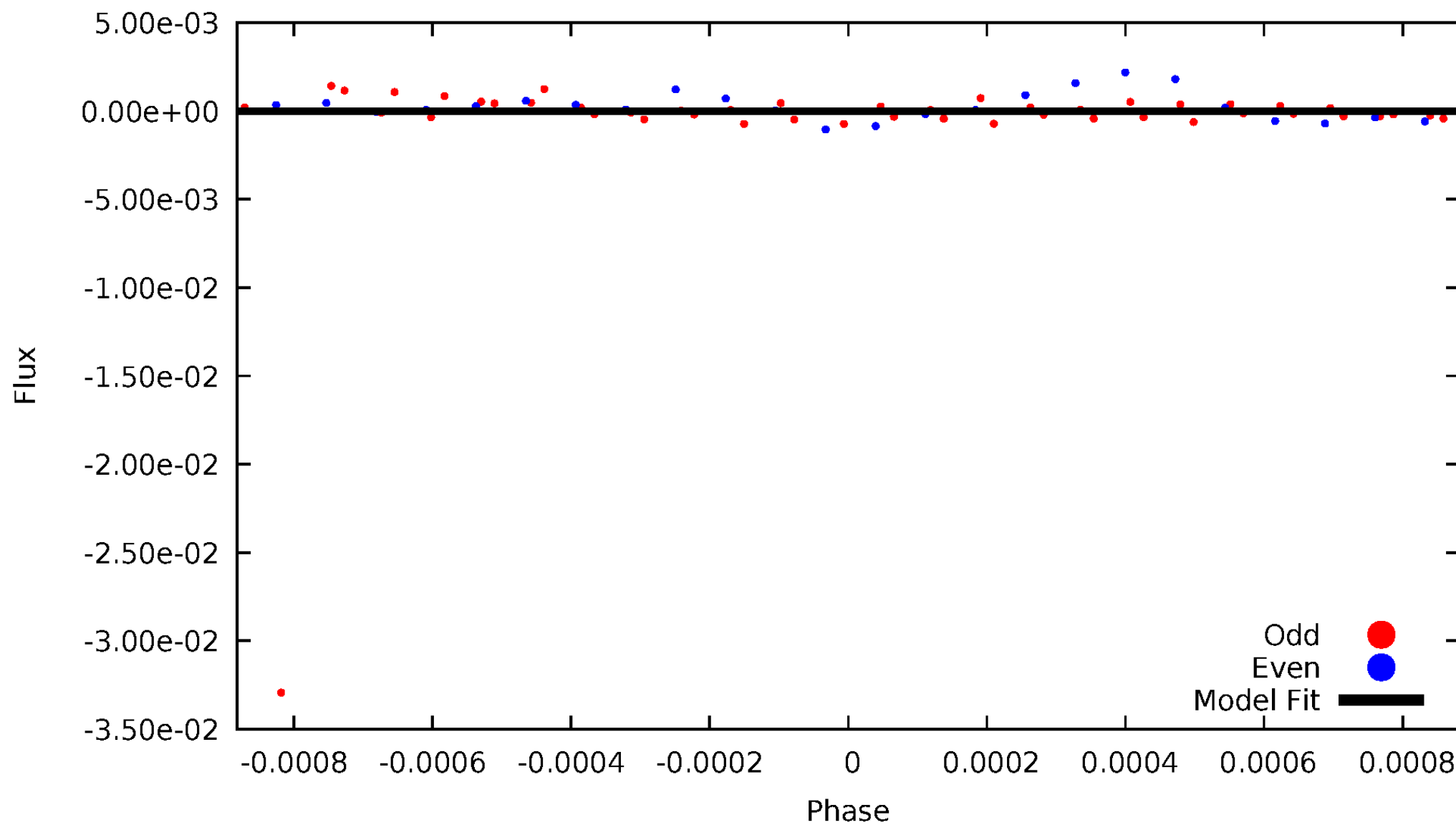


TCE 003966950-01



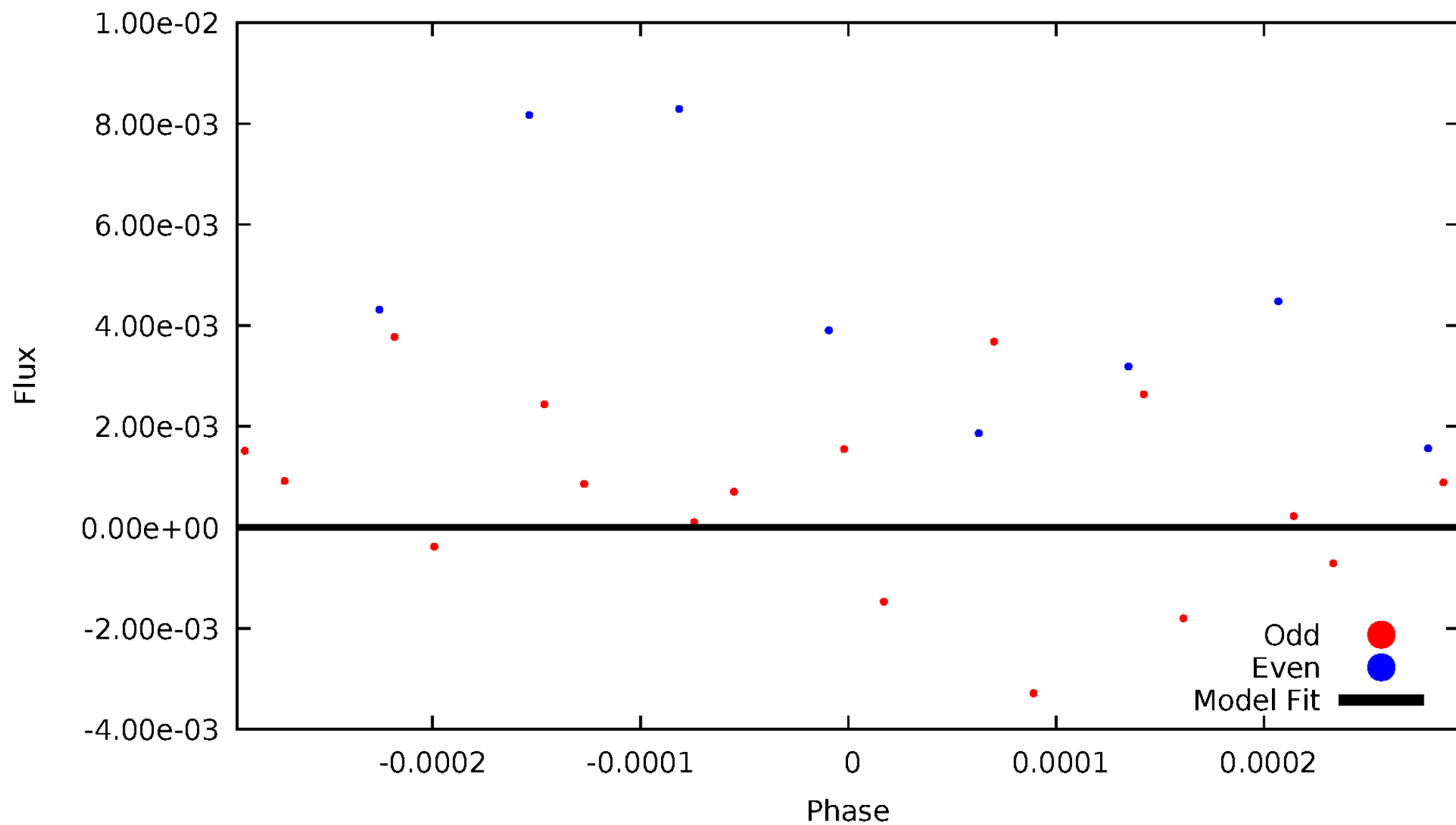
# DV Odd/Even

TCE 003966950-01



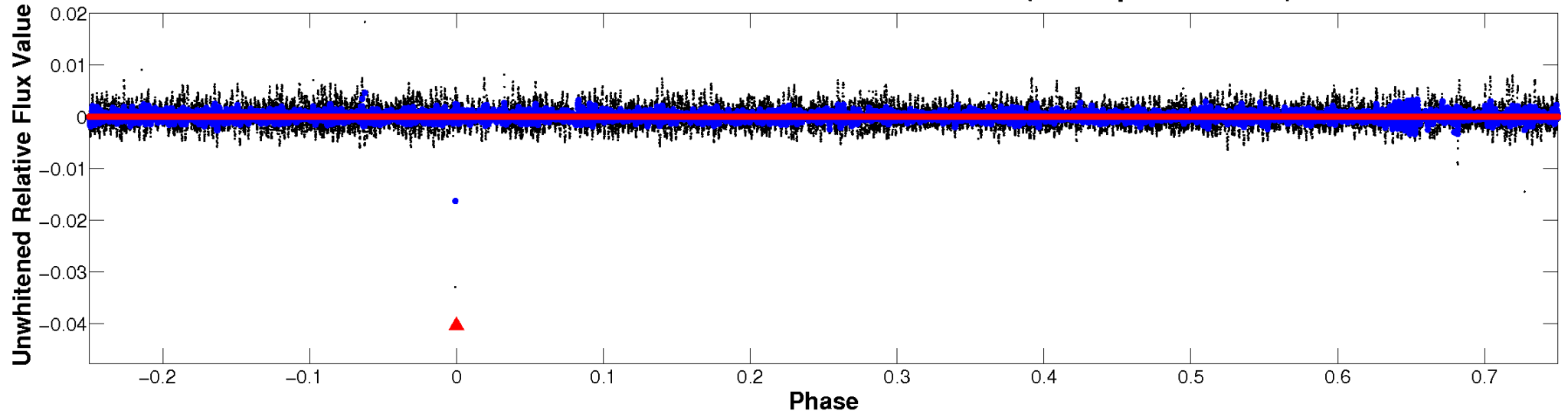
# ALT Odd/Even

TCE 003966950-01



# Non-Whitened Vs. Whitened Light Curve

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

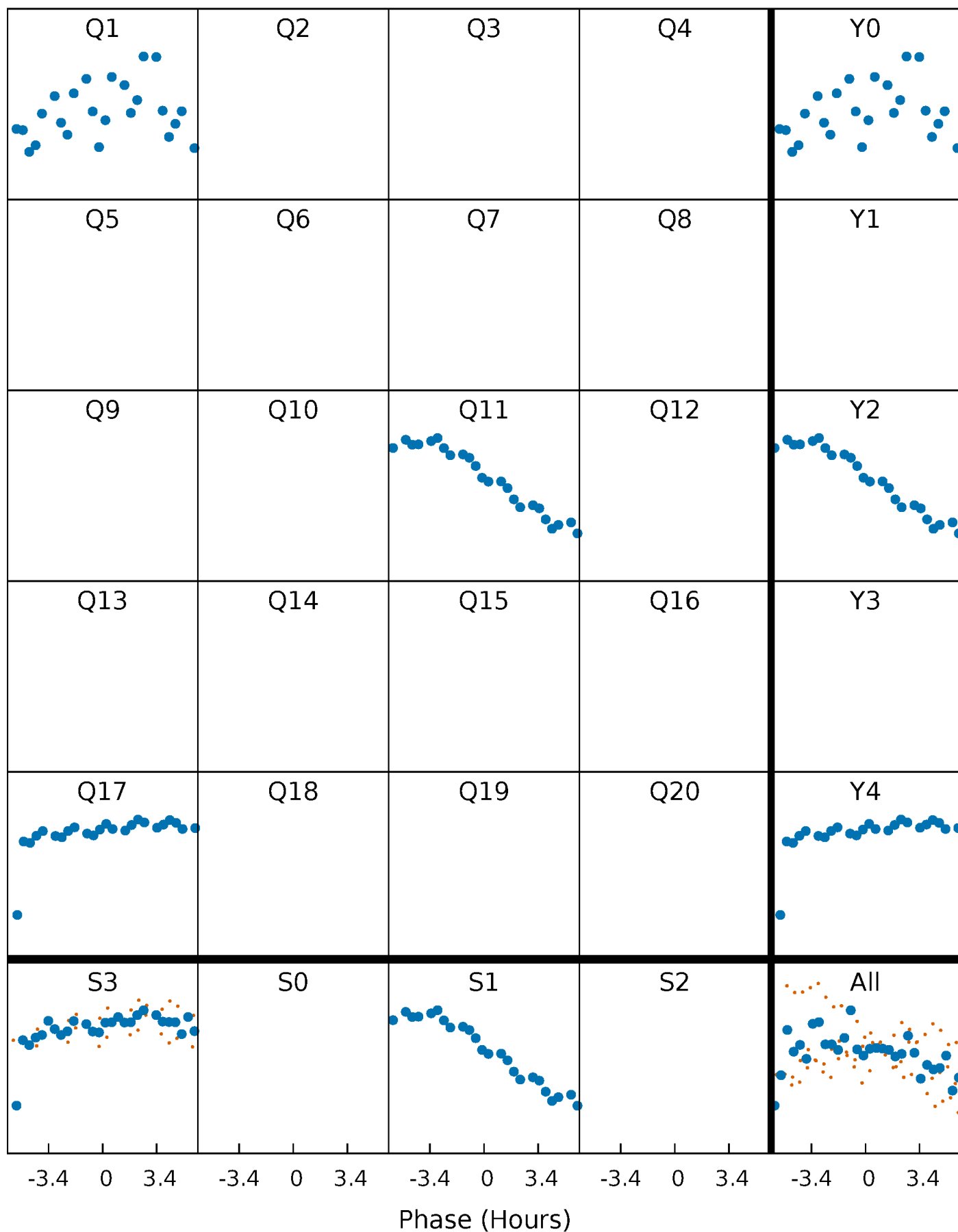


**Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)**



# PDC Quarter-Phased Transit Curves

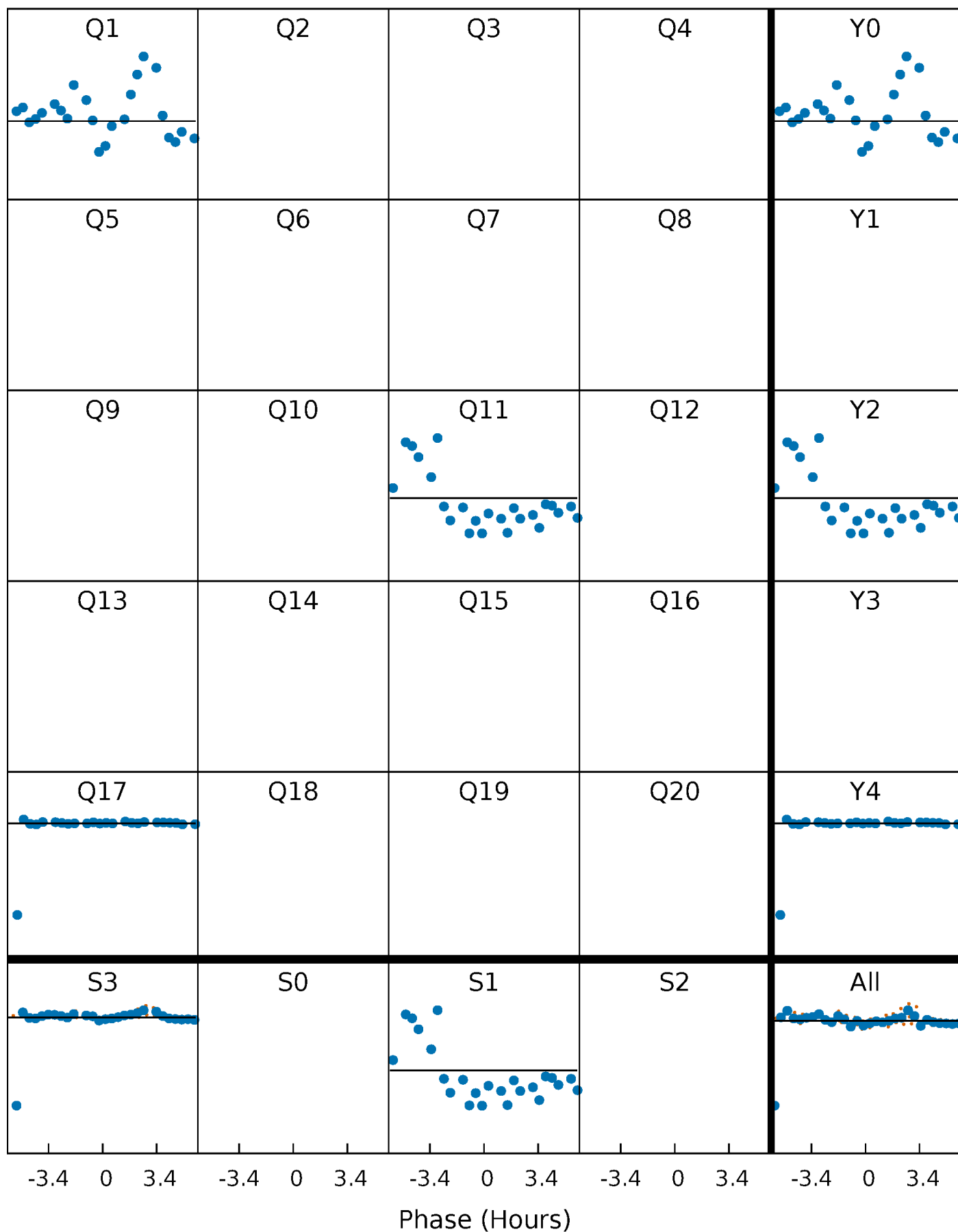
TCE 003966950-01 P=283.486501 Days  $T_0=159.169534$  (BKJD)





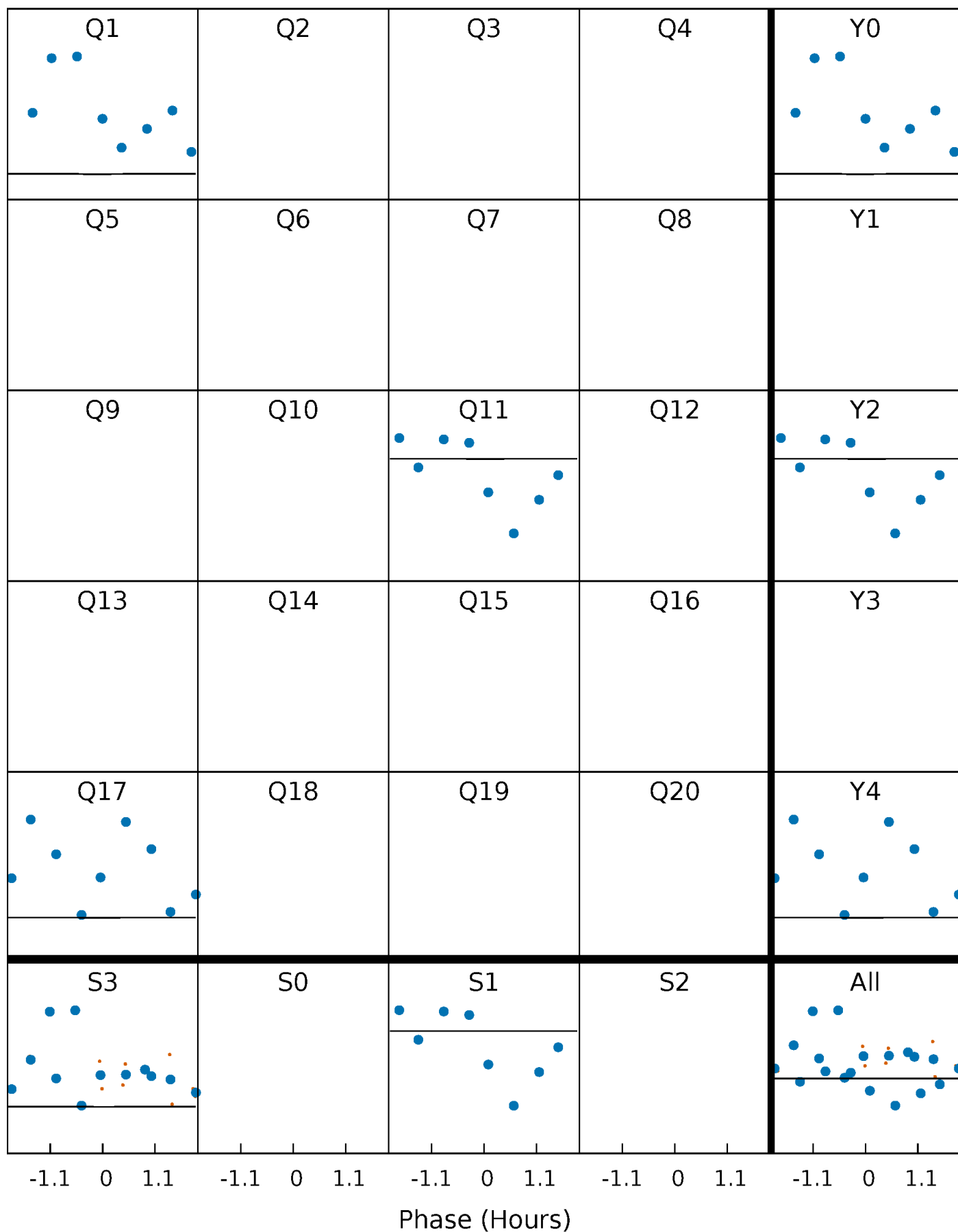
# DV Quarter-Phased Transit Curves

TCE 003966950-01 P=283.486501 Days  $T_0=159.169534$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

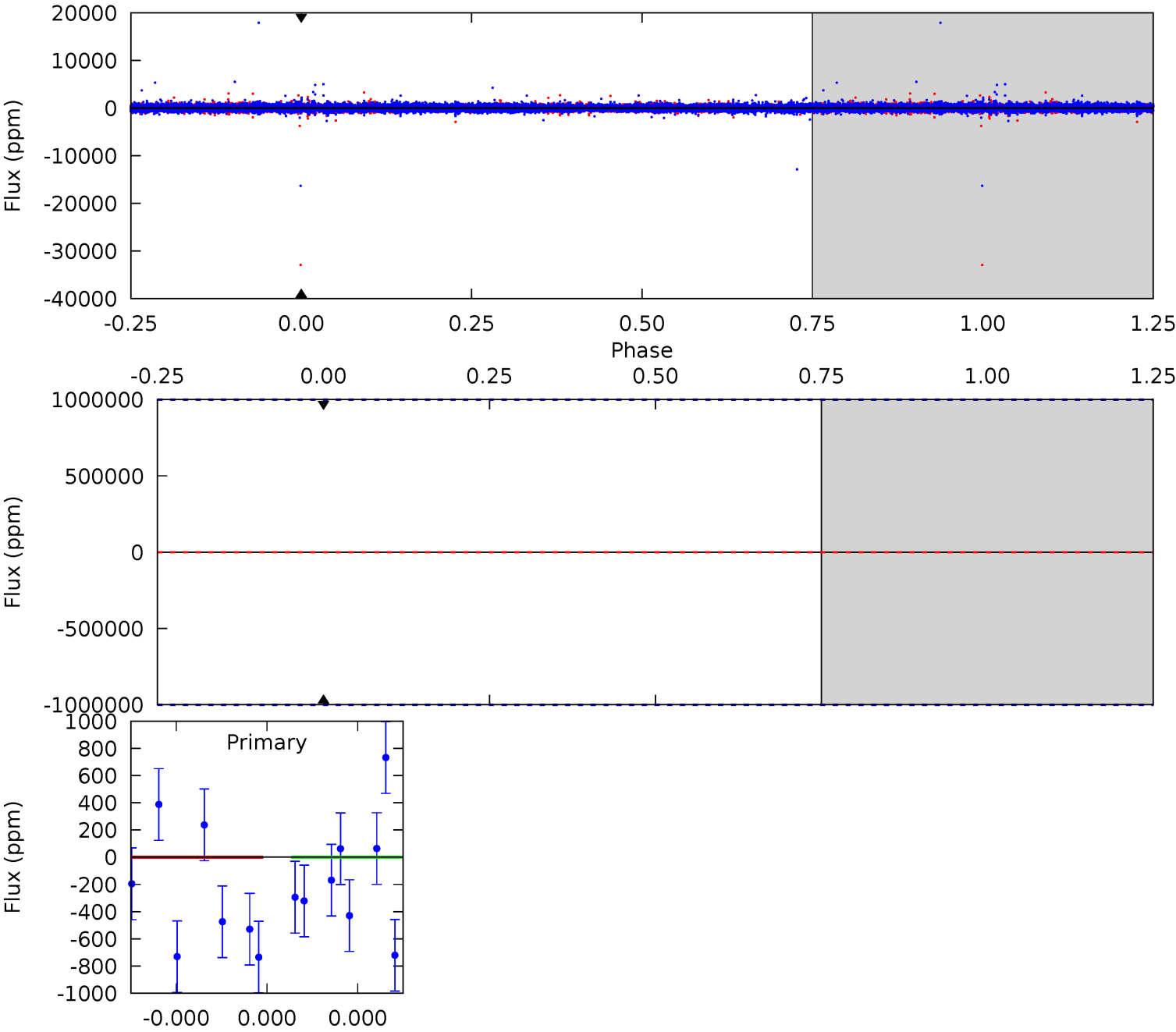
TCE 003966950-01 P=283.486501 Days  $T_0=159.326382$  (BKJD)



# DV Model-Shift Uniqueness Test

003966950-01, P = 283.486501 Days, E = 159.169534 Days

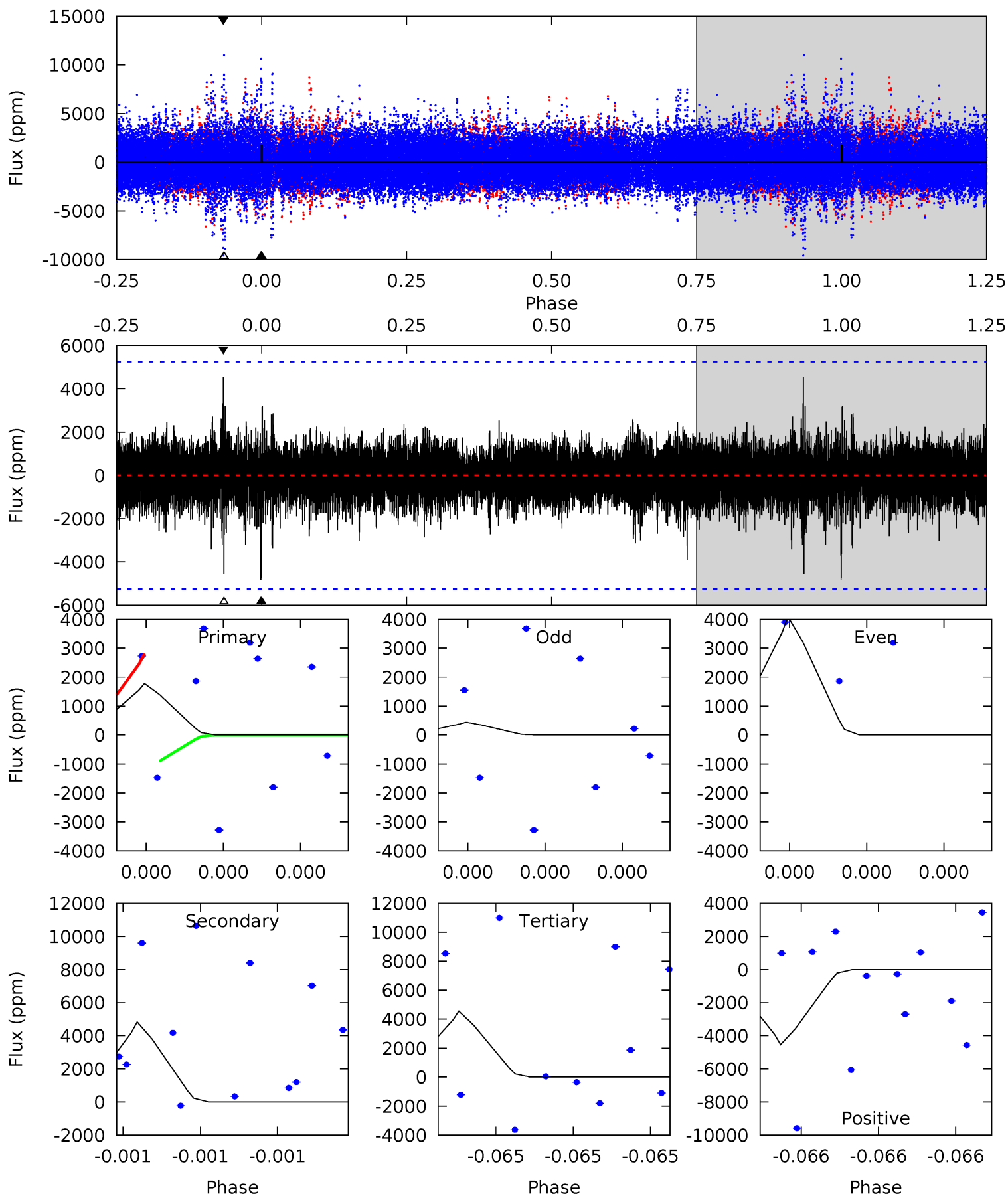
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

003966950-01, P = 283.486501 Days, E = 159.326382 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
1.99	5.39	5.08	5.06	5.85	3.89	0.84	-3.09	-3.07	0.31	0.33	1.76	0.98	0.48	0.91



### Stellar Parameters For KIC 003966950

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6751^{+182}_{-243}$	$4.341^{+0.070}_{-0.210}$	$-0.100^{+0.250}_{-0.300}$	$1.253^{+0.457}_{-0.152}$	$1.267^{+0.190}_{-0.171}$	$0.907^{+0.289}_{-0.517}$
	+3%/-4%	+2%/-5%	+250%/-300%	+36%/-12%	+15%/-13%	+32%/-57%
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 003966950-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$0 \pm 1000000$	$11.16^{+11.79}_{-7.37}$	$496^{+37}_{-28}$	$-3879^{+31552}_{-22539}$	$-1716.131^{+635862.737}_{-555652.880}$
Alt.	$-4835 \pm 898$	$9.88^{+10.94}_{-6.97}$	$495^{+37}_{-25}$	$6722^{+10208}_{-2010}$	$22835^{+247686}_{-18091}$

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

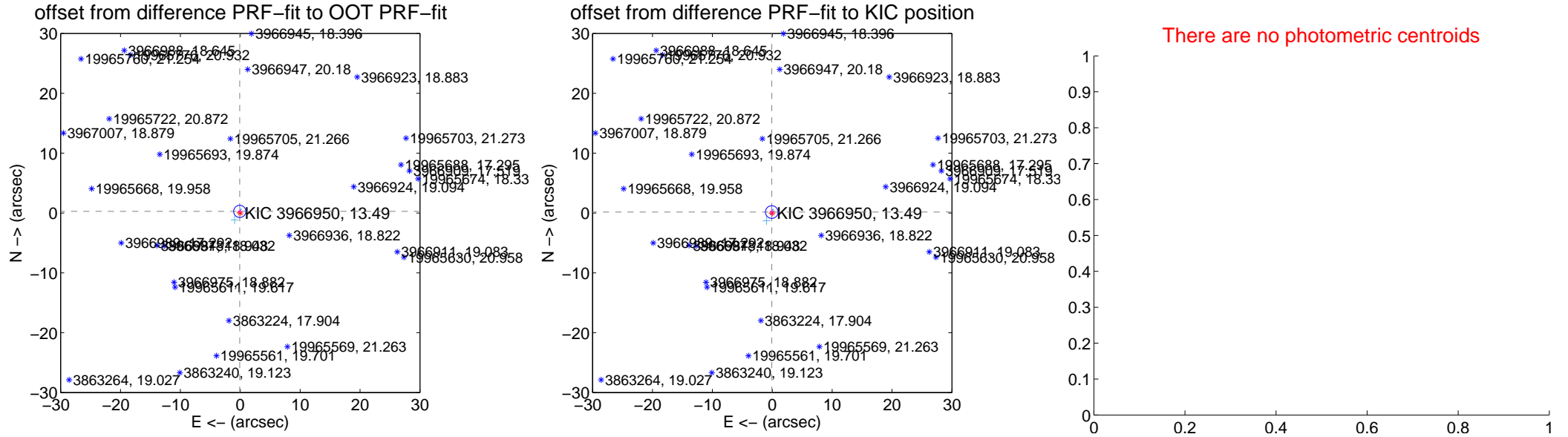
# DV Centroid Data

Supplemental centroid analysis for 003966950-01. Kepler magnitude: 13.49. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

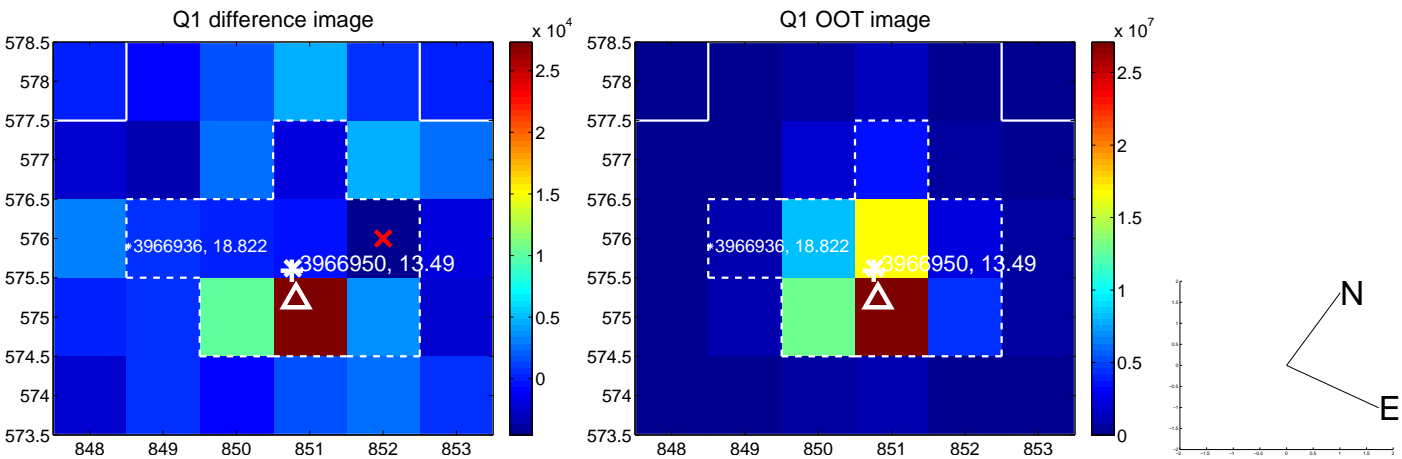
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.284 \pm 0.340$	0.84	$0.088 \pm 0.252$	$0.270 \pm 0.348$
PRF-fit source offset from KIC position	$0.179 \pm 0.352$	0.51	$0.082 \pm 0.337$	$0.159 \pm 0.564$
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.

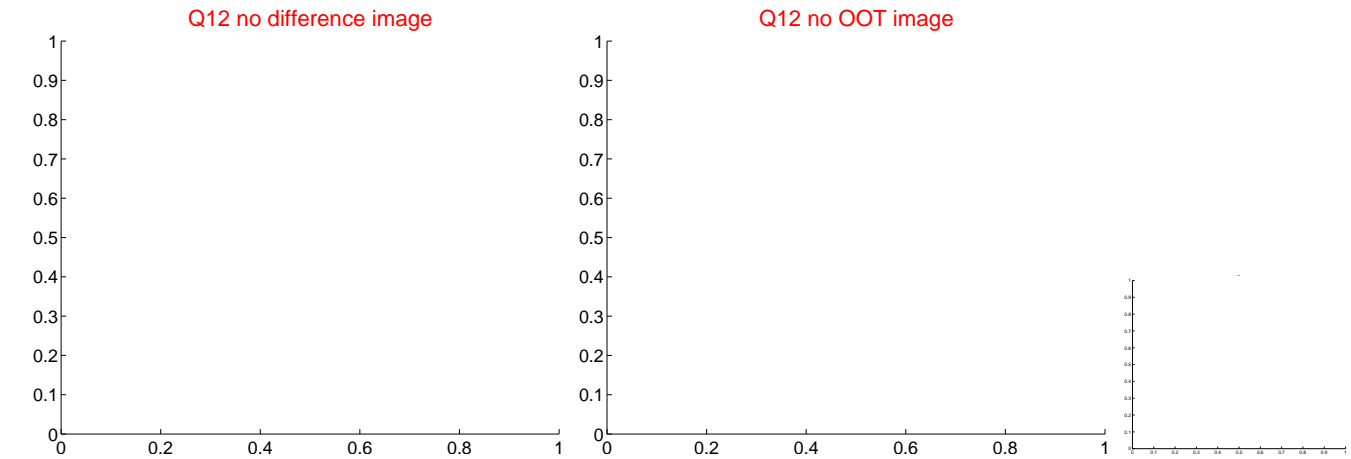
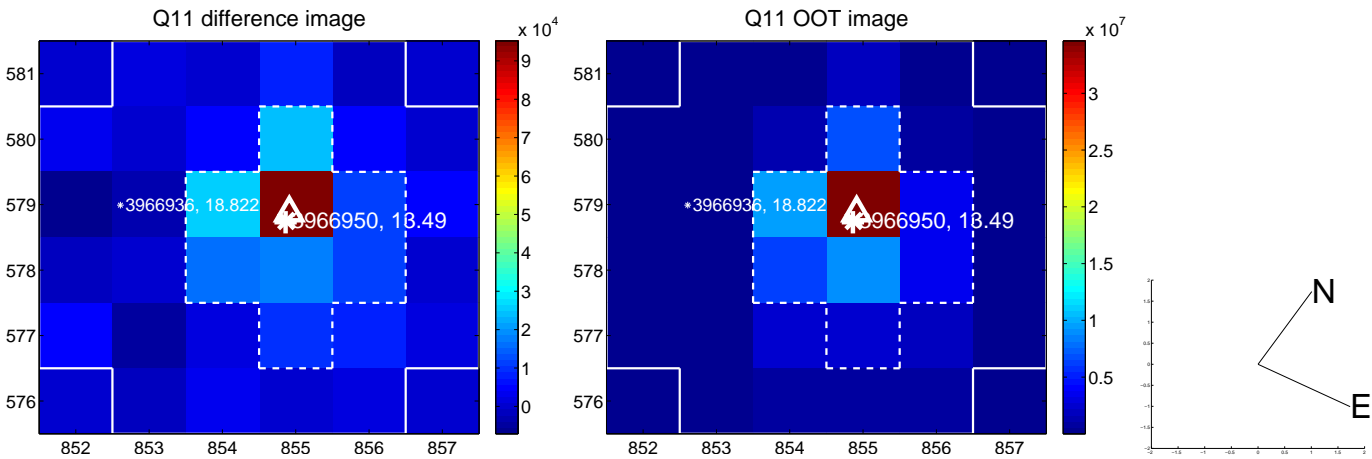
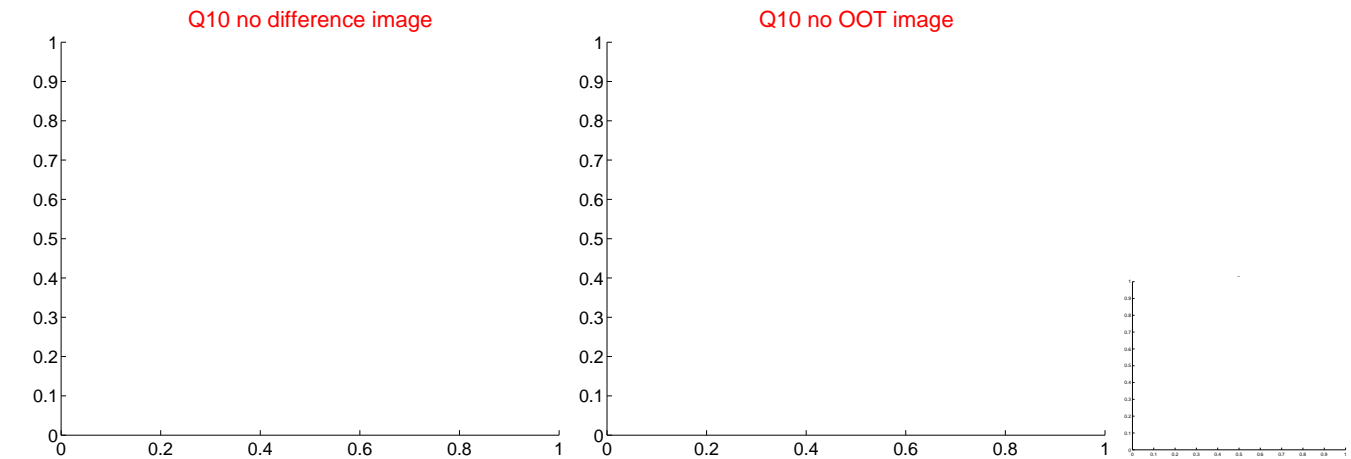
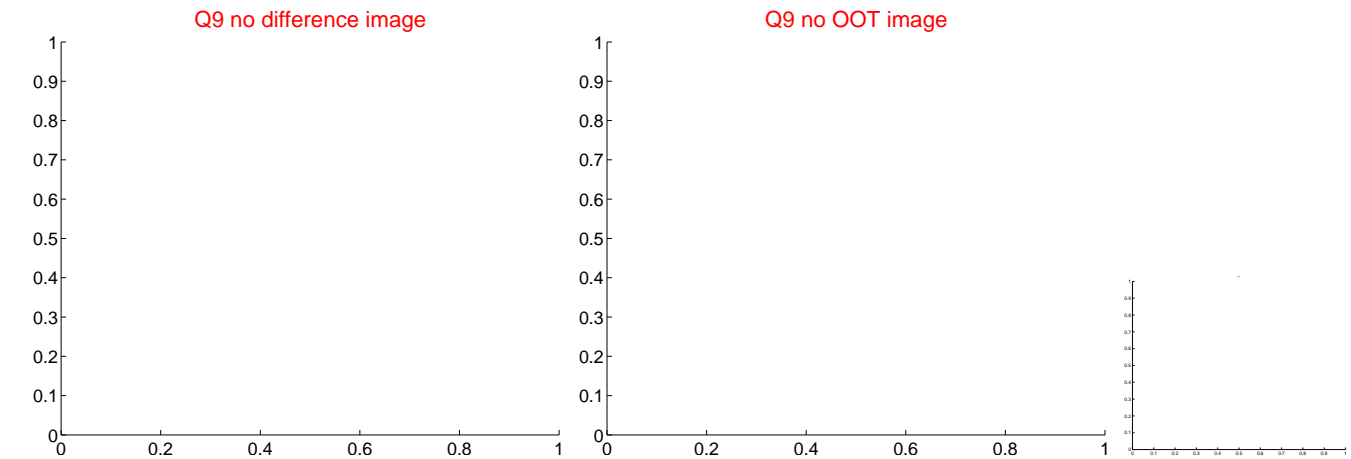


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





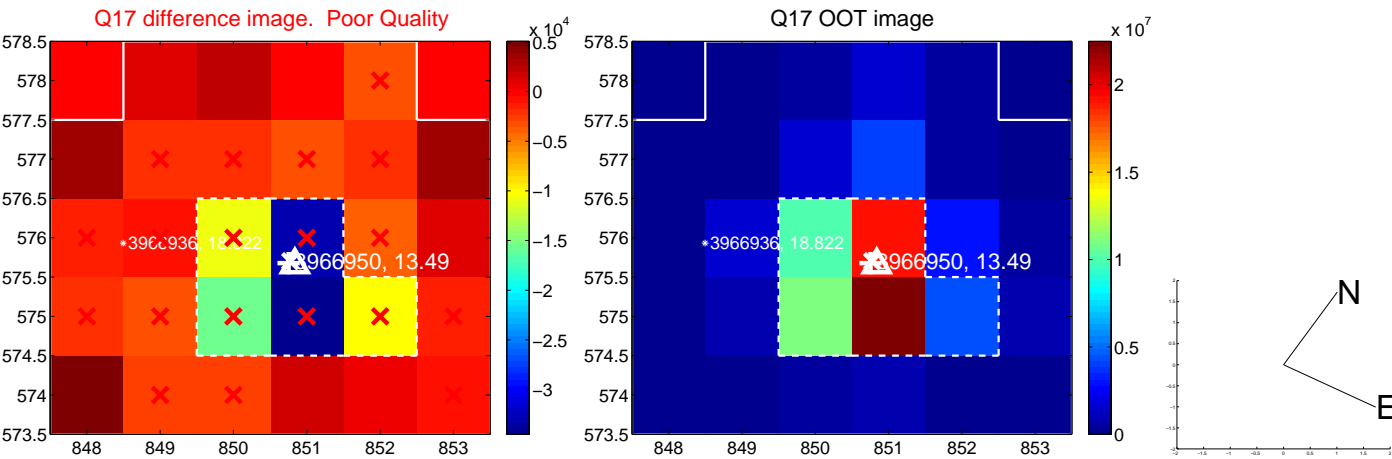
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



folded centroid time series figure for this object.

UKIRT Image

Declination

