

# KIC 005280983

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005280983-01	OBS	No	3.691338	133.902620	81.7	2.047	9.6	5.6	1.18	6555	1.25	931.19

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005280983-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

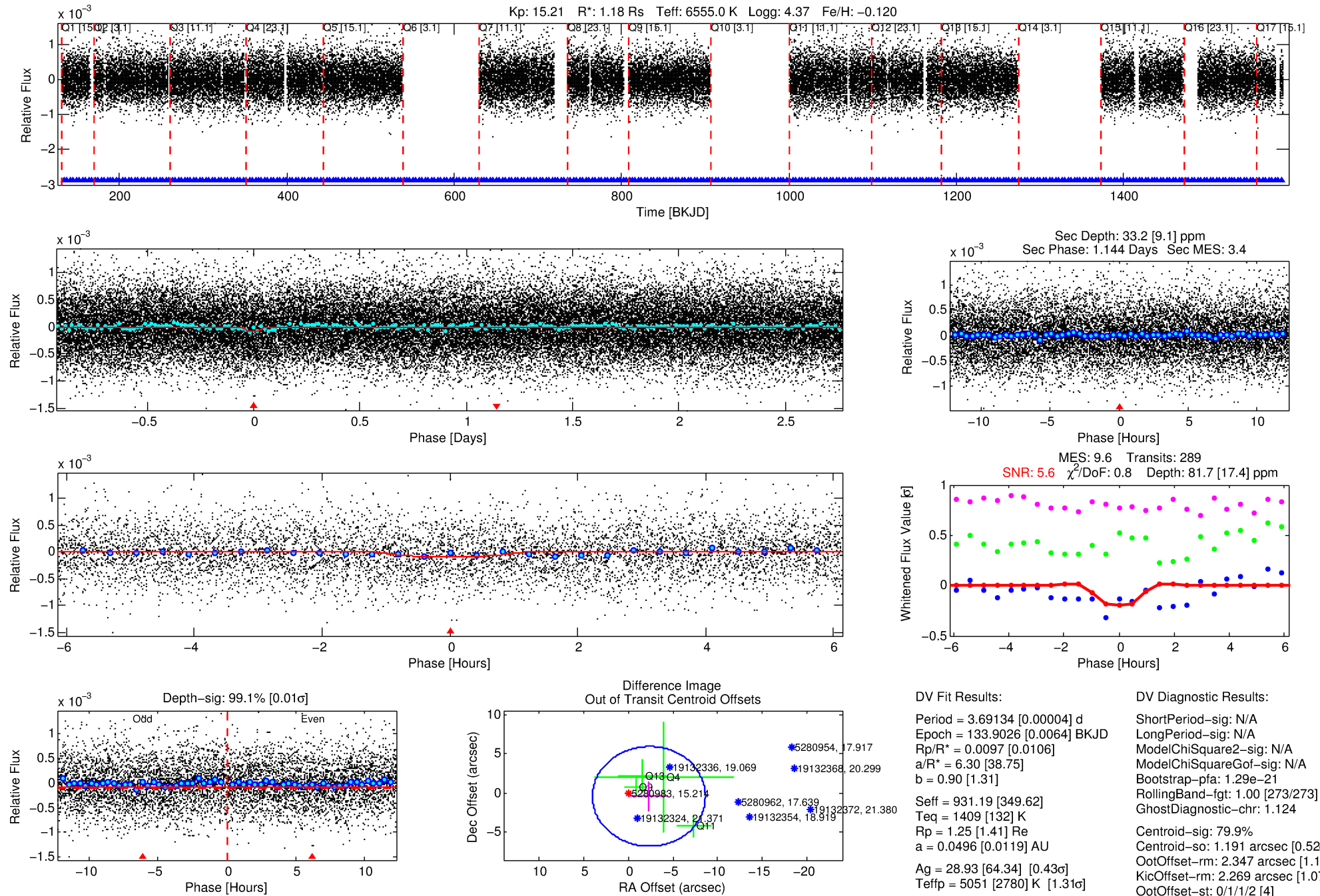
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005280983-01

No Significant Match Found

# DV One-Page Summary

KIC: 5280983 Candidate: 1 of 1 Period: 3.691 d



## DV Fit Results:

Period = 3.69134 [0.00004] d  
Epoch = 133.9026 [0.0064] BKJD  
Rp/R\* = 0.0097 [0.0106]  
a/R\* = 6.30 [38.75]  
b = 0.90 [1.31]  
Seff = 931.19 [349.62]  
Teff = 1409 [132] K  
Rp = 1.25 [1.41] Re  
a = 0.0496 [0.0119] AU  
Ag = 28.93 [64.34] [0.43 $\sigma$ ]  
Teffp = 5051 [2780] K [1.31 $\sigma$ ]

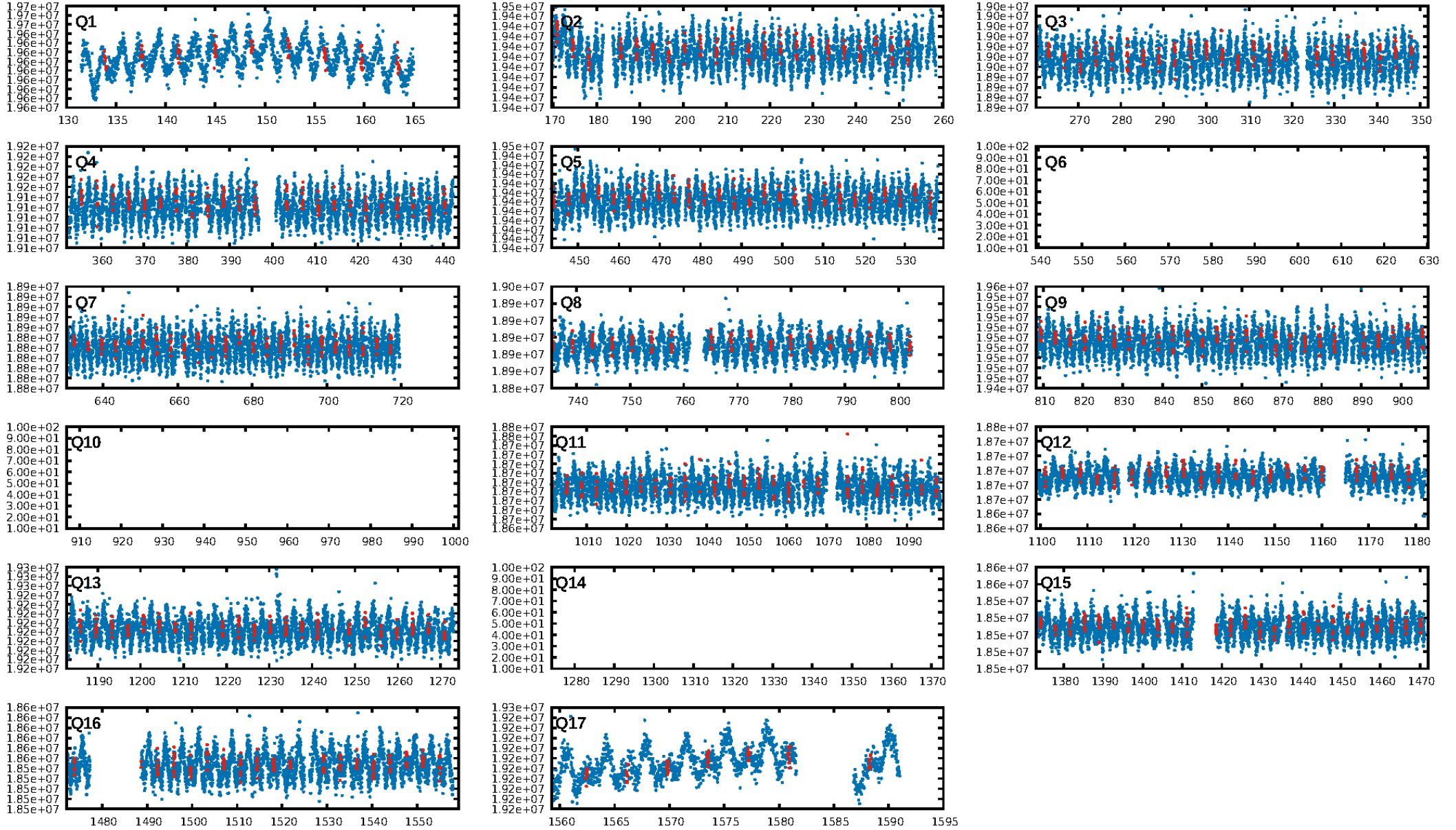
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.29e-21  
RollingBand-fgt: 1.00 [273/273]  
GhostDiagnostic-chr: 1.124  
Centroid-sig: 79.9%  
Centroid-so: 1.191 arcsec [0.52 $\sigma$ ]  
OotOffset-rm: 2.347 arcsec [1.11 $\sigma$ ]  
KicOffset-rm: 2.269 arcsec [1.07 $\sigma$ ]  
OotOffset-st: 0/1/1/2 [4]  
KicOffset-st: 0/1/1/2 [4]  
DiffImageQuality-fgm: 0.25 [1/4]  
DiffImageOverlap-fno: 1.00 [14/14]

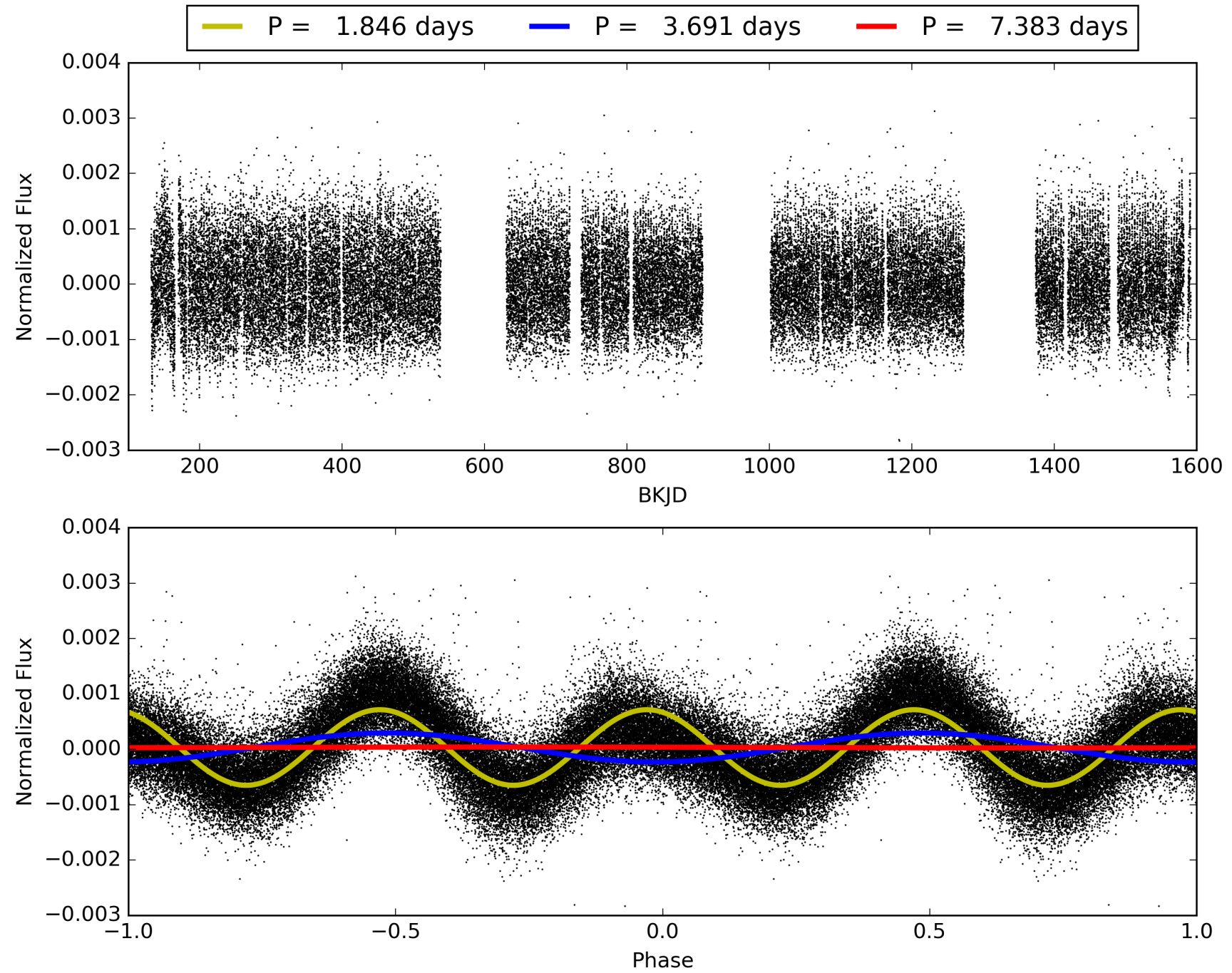
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:16:33 Z

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

# TCE 005280983-01, PDC Light Curves

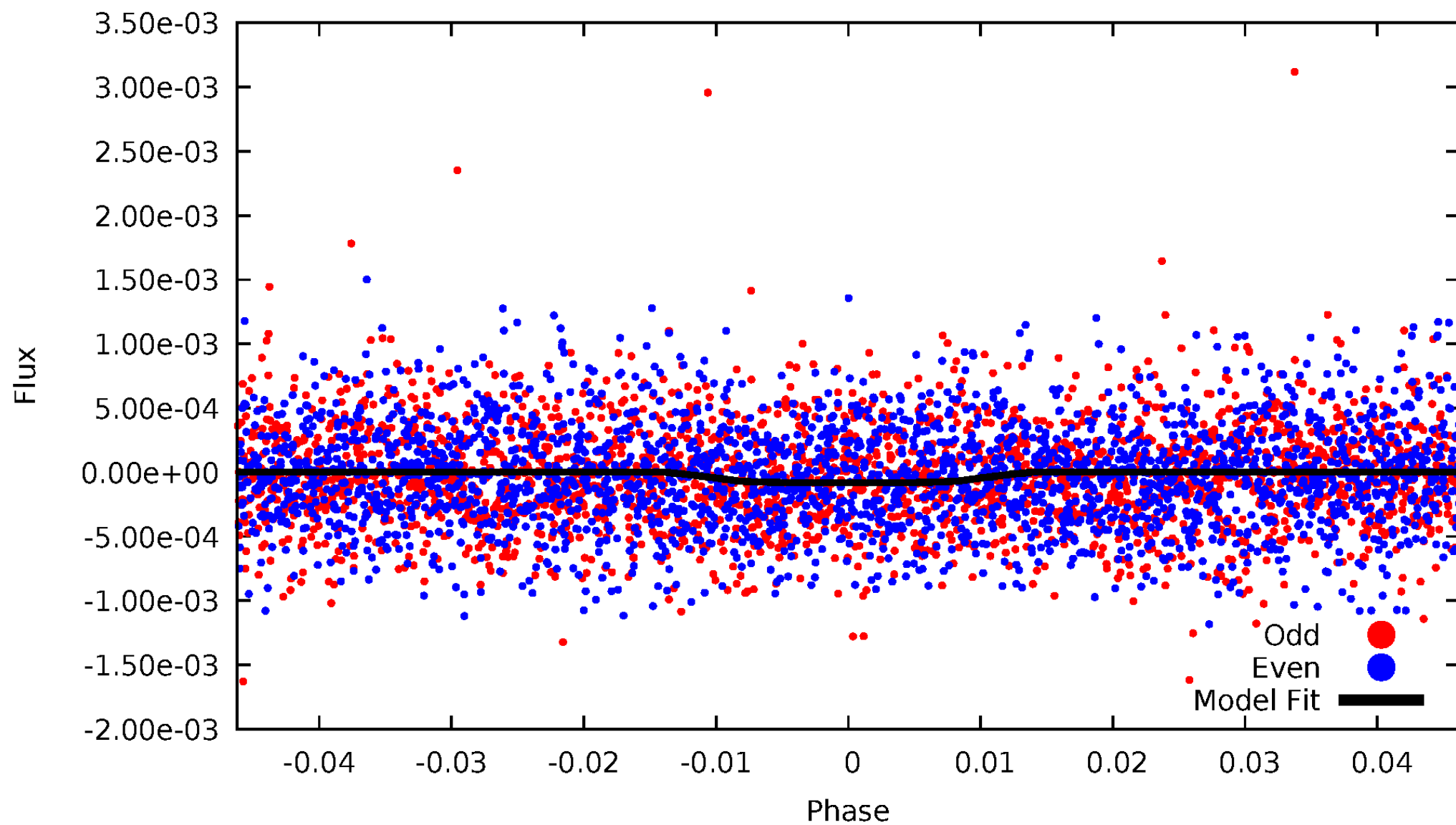


TCE 005280983-01



# DV Odd/Even

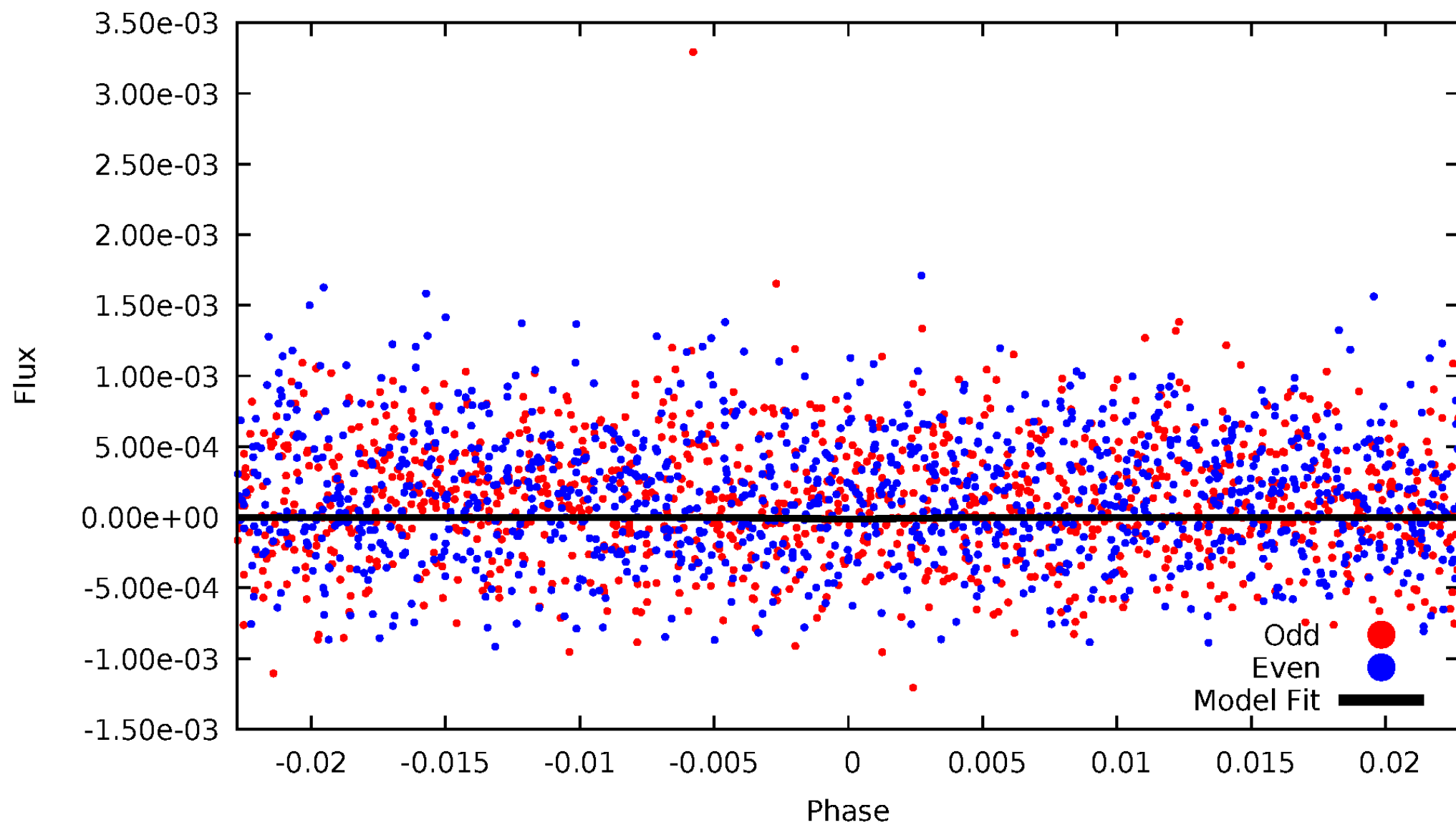
TCE 005280983-01



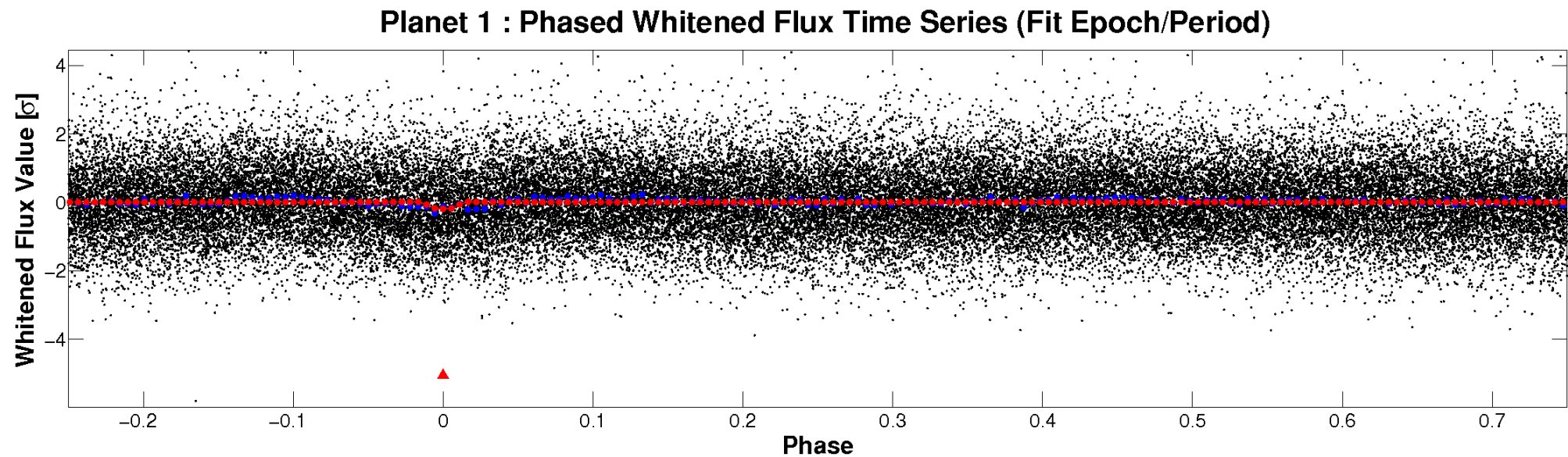
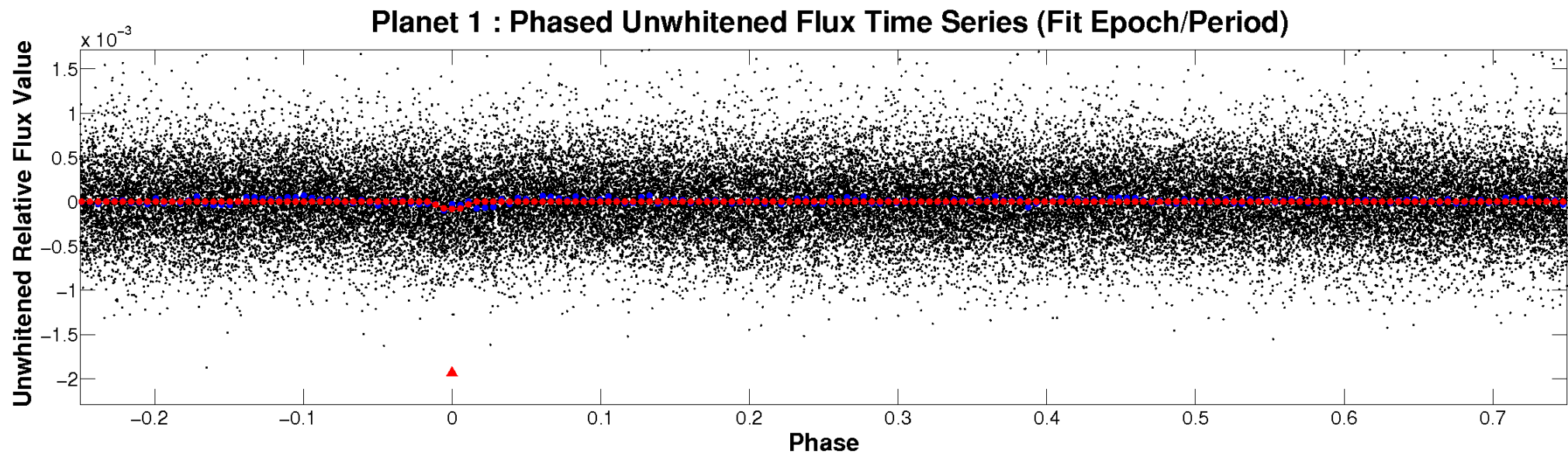


# ALT Odd/Even

TCE 005280983-01

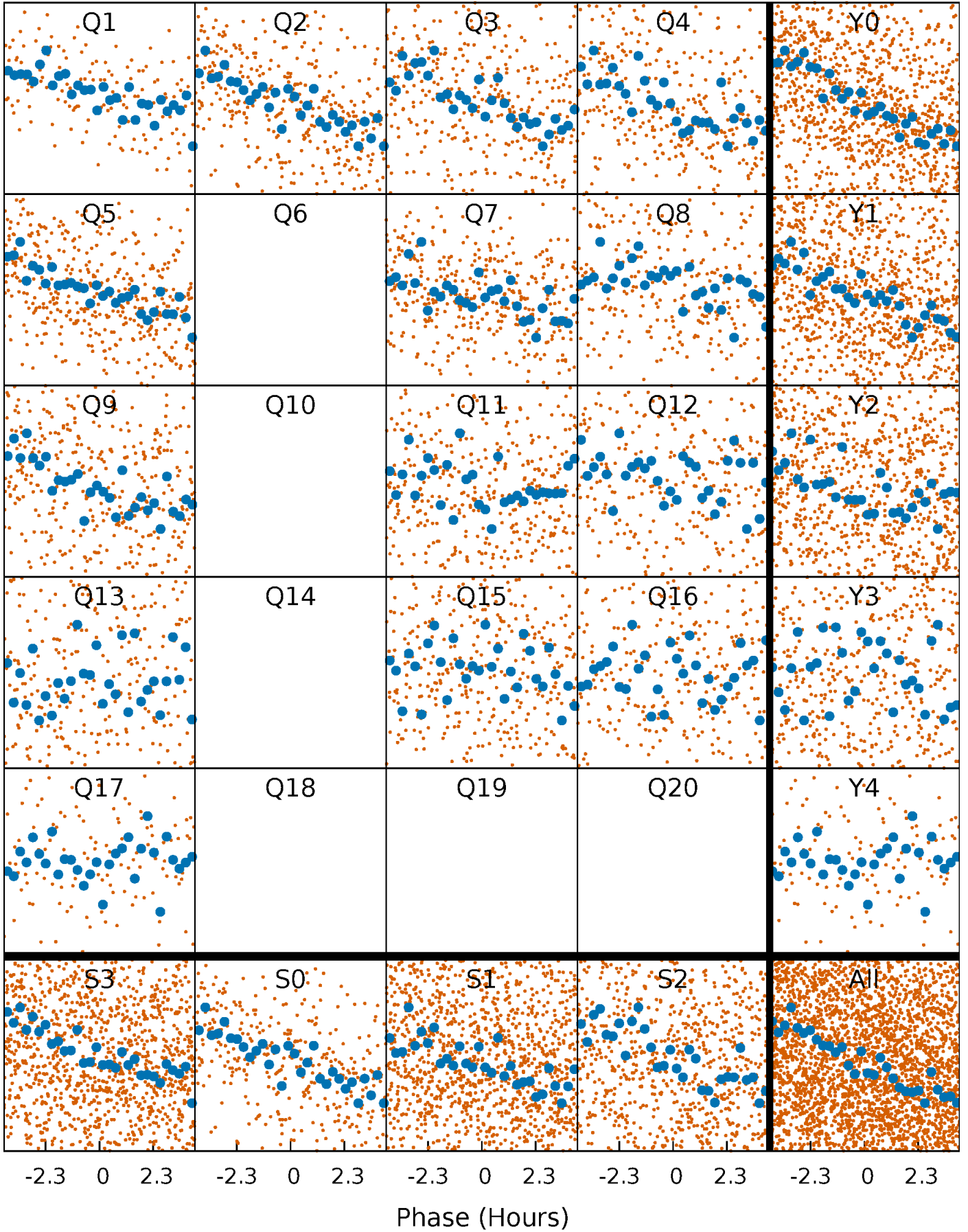


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

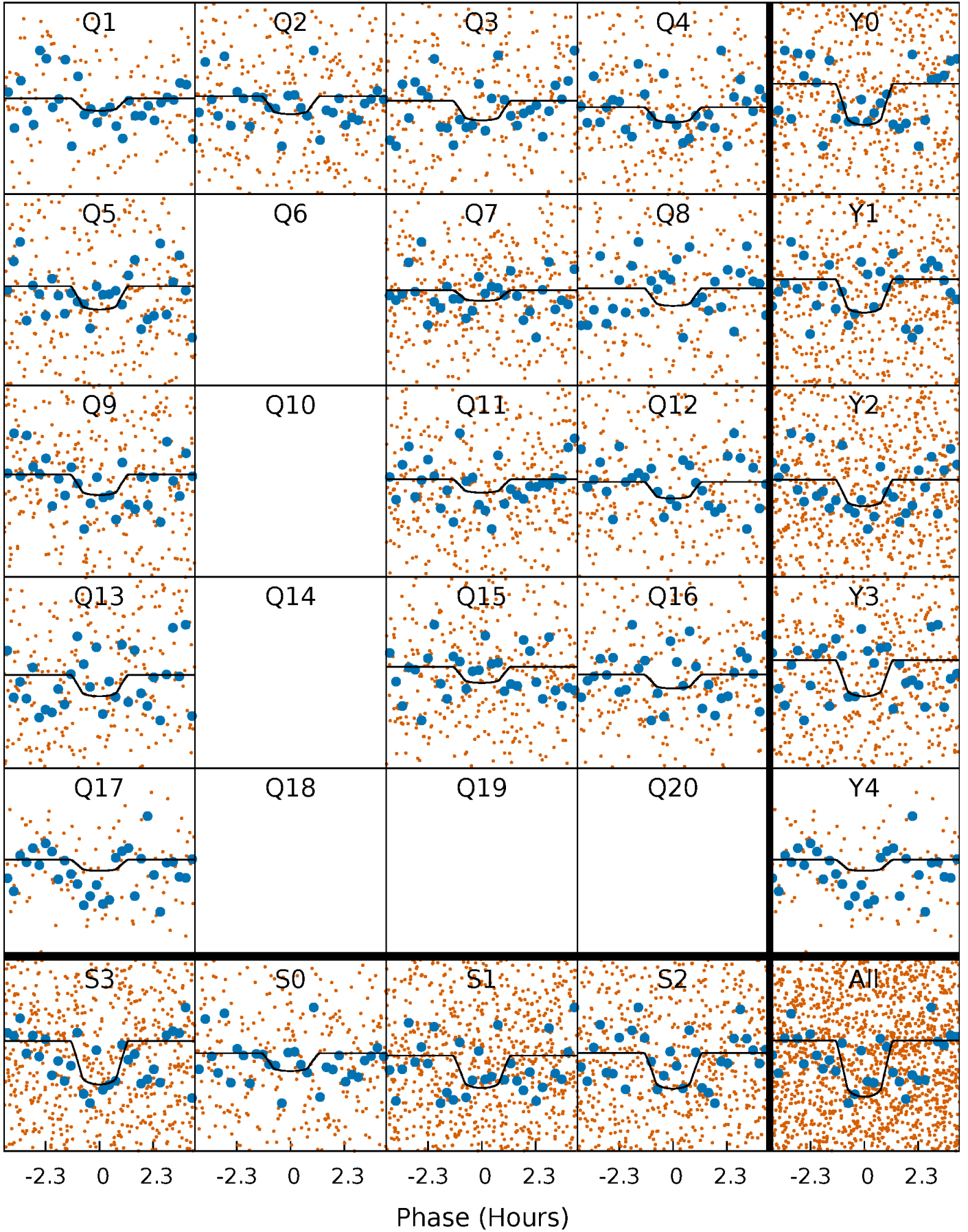
TCE 005280983-01 P= 3.691338 Days  $T_0=133.902620$  (BKJD)





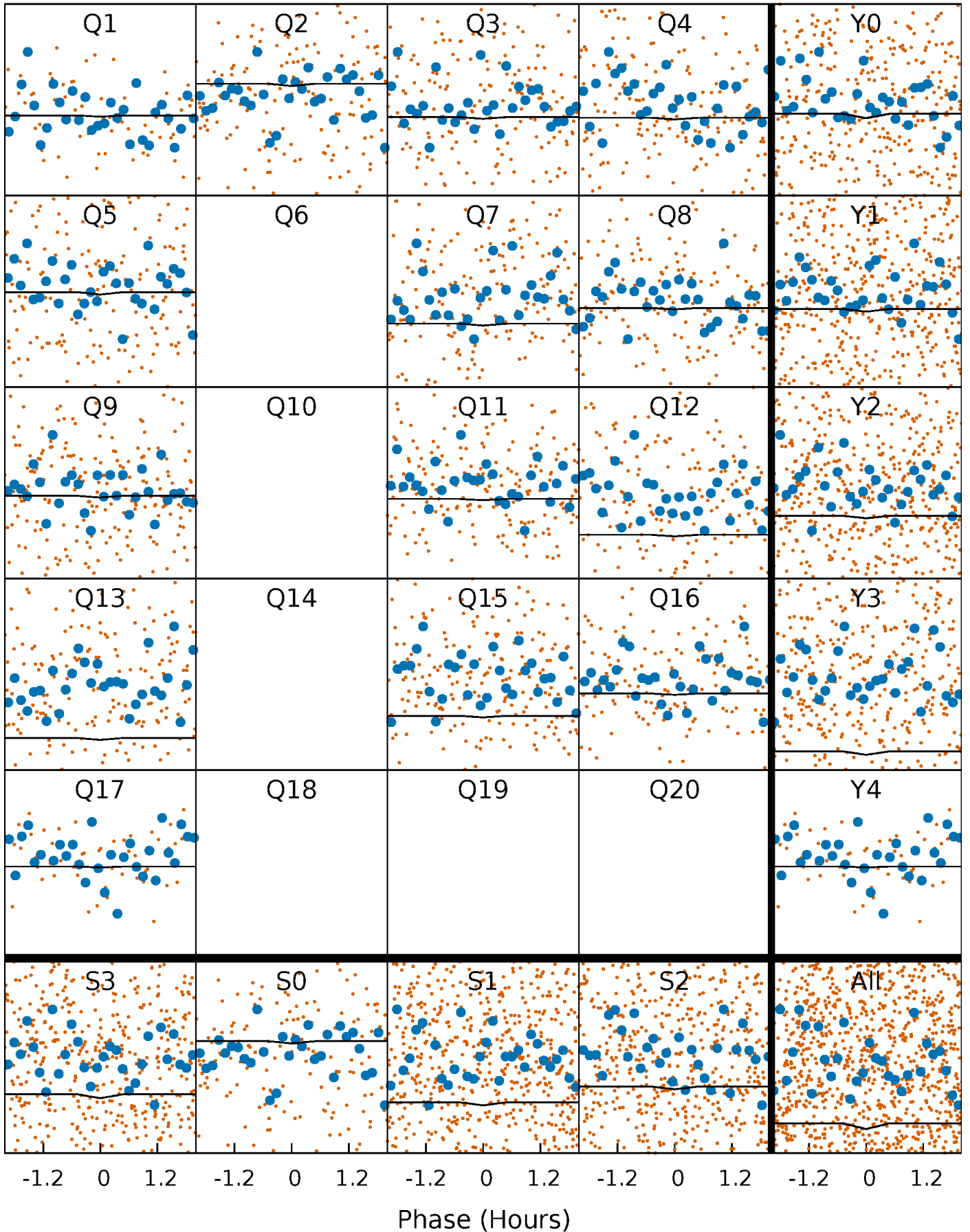
# DV Quarter-Phased Transit Curves

TCE 005280983-01 P= 3.691338 Days  $T_0=133.902620$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

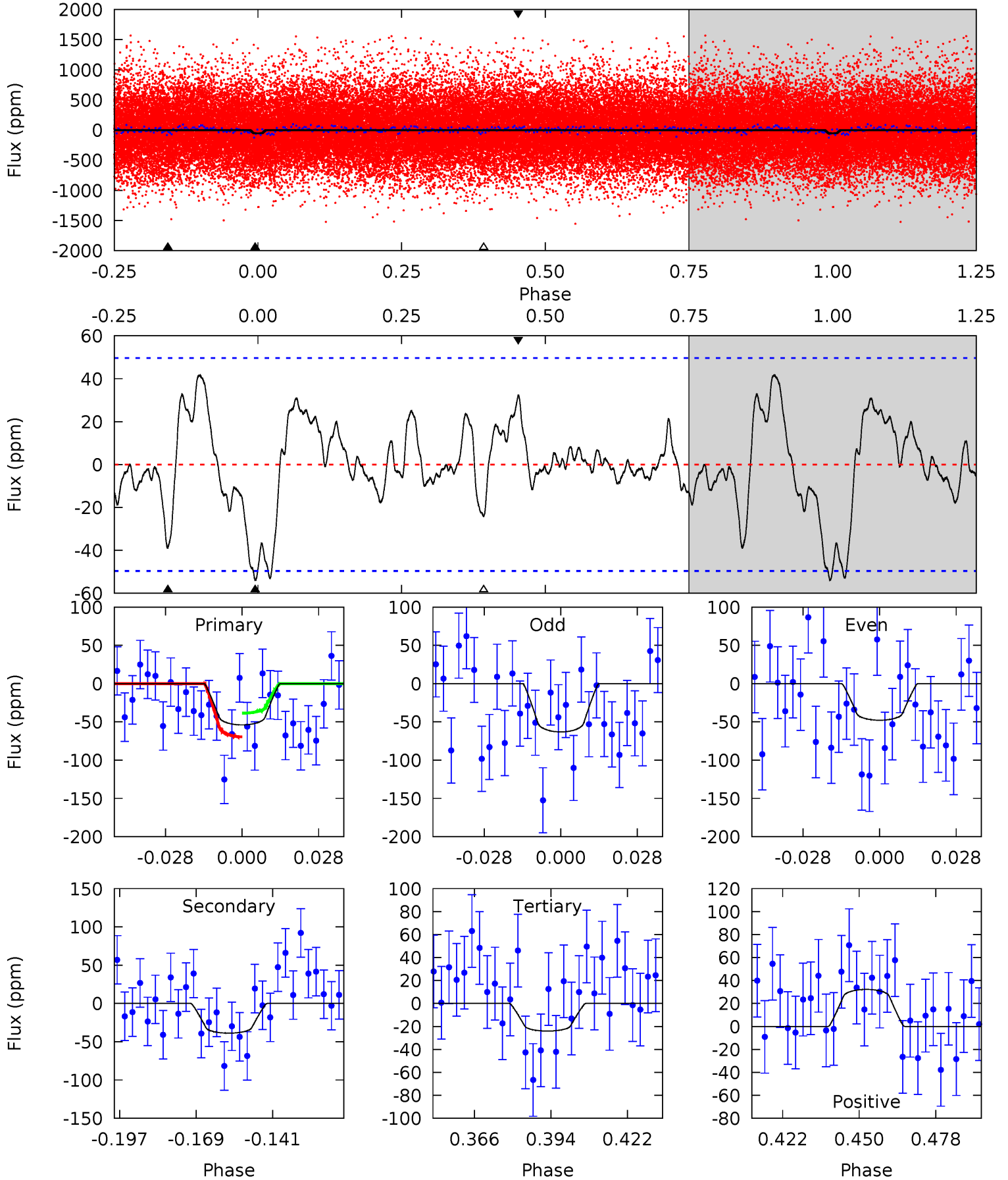
TCE 005280983-01 P= 3.691270 Days  $T_0=133.902186$  (BKJD)



# DV Model-Shift Uniqueness Test

005280983-01, P = 3.691338 Days, E = 130.211282 Days

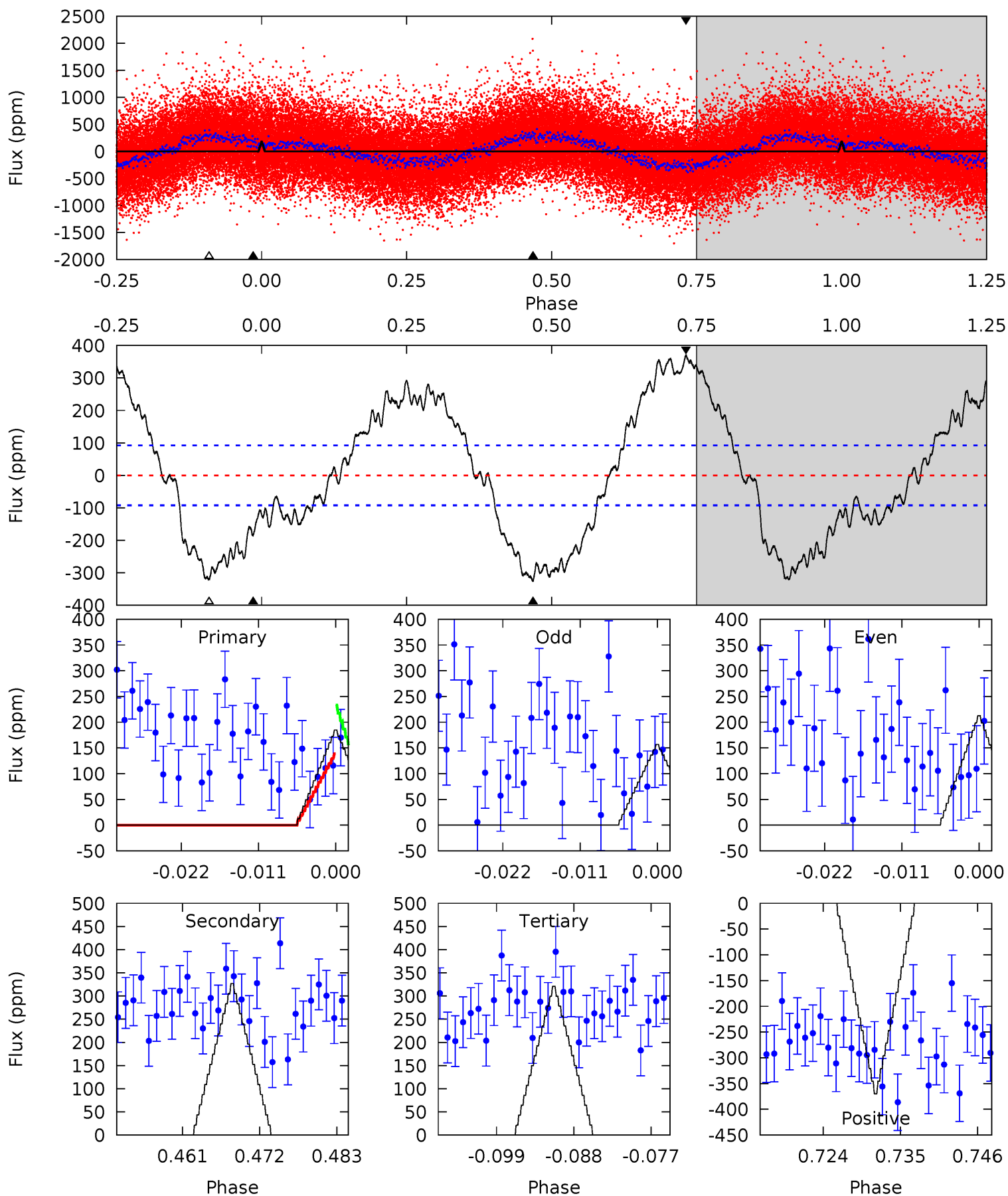
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.25	3.77	2.34	3.13	4.82	2.20	1.35	2.91	2.11	1.44	0.64	0.75	1.03	0.44	1.51



# Alt Model-Shift Uniqueness Test

005280983-01, P = 3.691270 Days, E = 130.210916 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
10.0	17.8	17.5	20.1	5.01	2.54	11.2	-7.40	-10.1	0.32	-2.35	1.52	0.92	0.53	2.57



### Stellar Parameters For KIC 005280983

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6555^{+158}_{-238}$	$4.374^{+0.062}_{-0.188}$	$-0.120^{+0.250}_{-0.300}$	$1.178^{+0.338}_{-0.145}$	$1.200^{+0.164}_{-0.164}$	$1.033^{+0.337}_{-0.497}$
	+2%/-4%	+1%/-4%	+208%/-250%	+29%/-12%	+14%/-14%	+33%/-48%
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 005280983-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-39 \pm 10$	$1.60^{+1.36}_{-0.99}$	$2005^{+137}_{-94}$	$4797^{+2886}_{-1026}$	$21^{+114}_{-15}$
Alt.	$-327 \pm 18$	$1.15^{+1.18}_{-0.74}$	$1995^{+122}_{-97}$	$10741^{+18768}_{-4062}$	$339^{+2403}_{-257}$

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



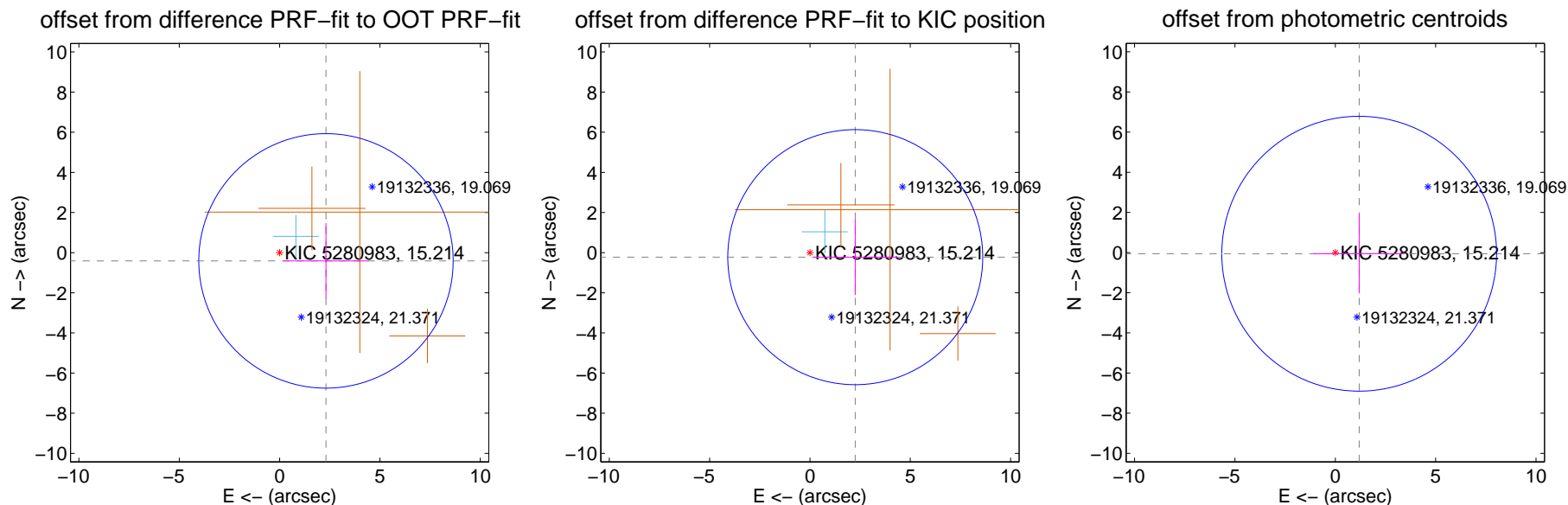
## DV Centroid Data

Supplemental centroid analysis for 005280983-01. Kepler magnitude: 15.21. Transit SNR 5.55

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

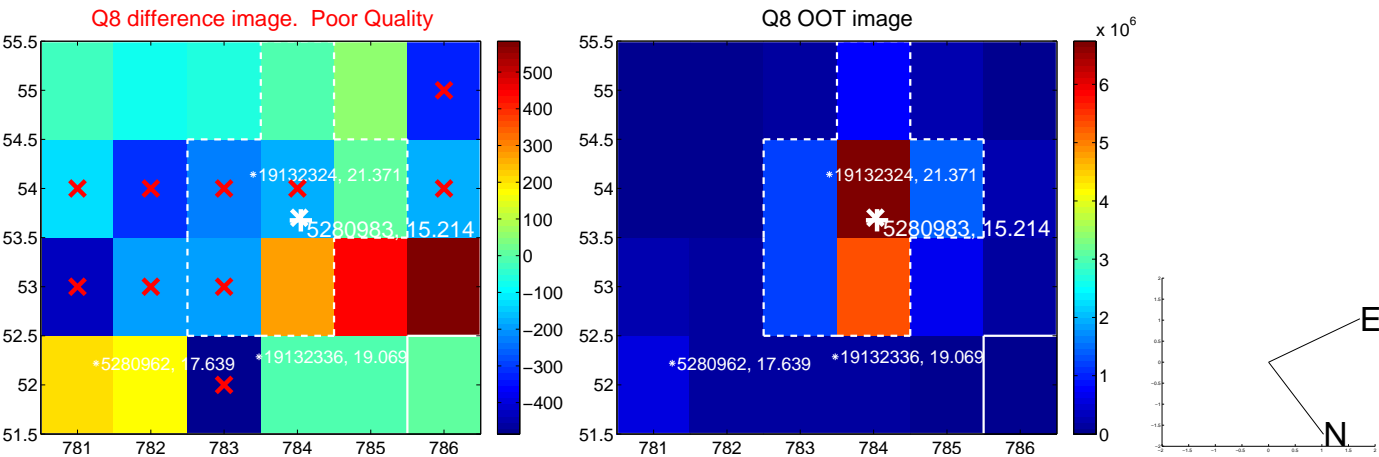
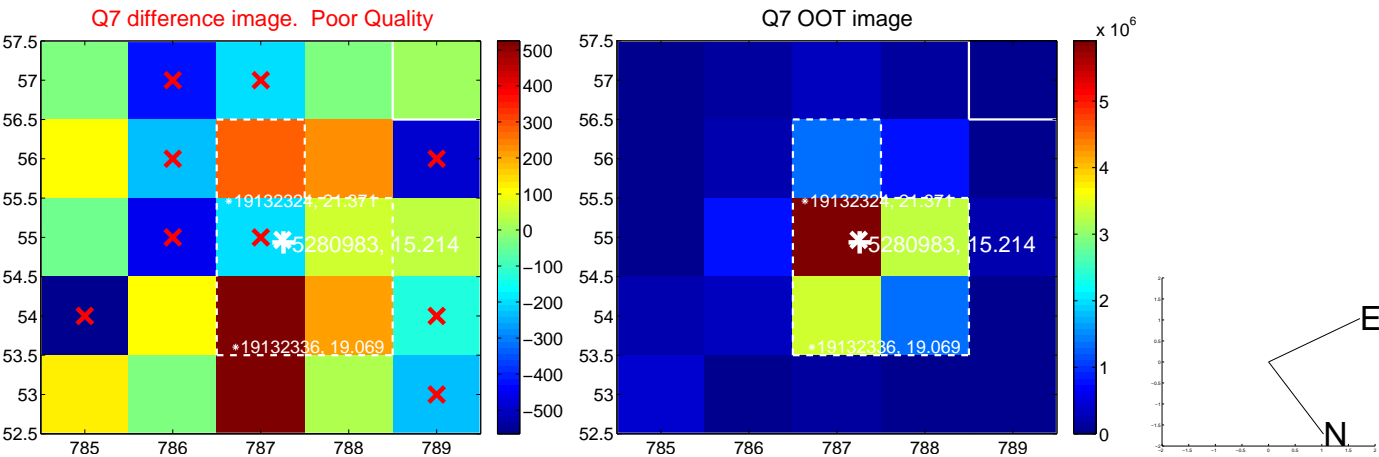
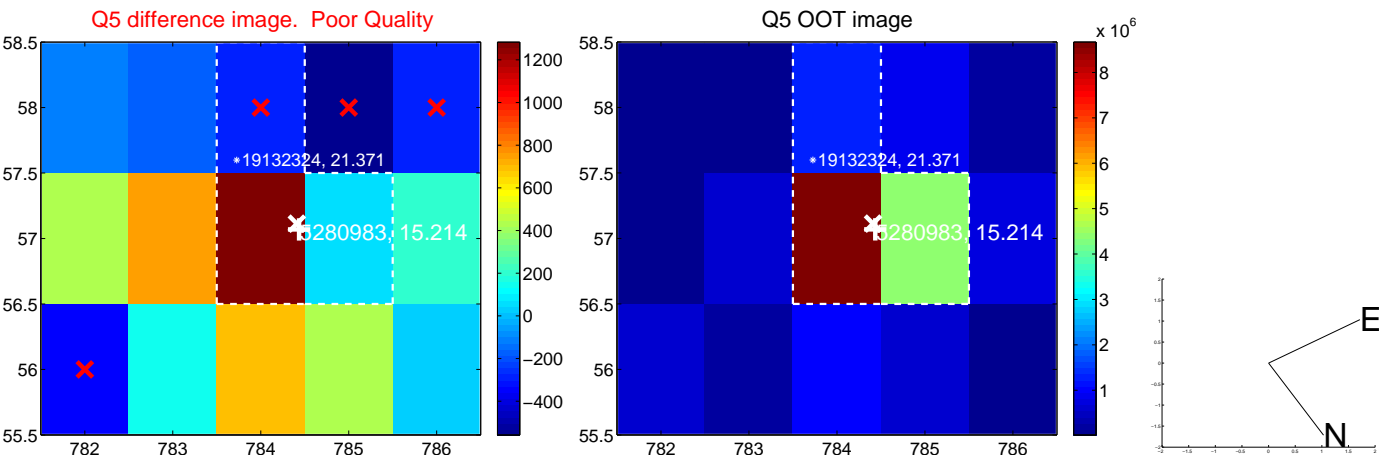
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.347 \pm 2.113$	1.11	$-2.311 \pm 2.120$	$-0.410 \pm 1.882$
PRF-fit source offset from KIC position	$2.269 \pm 2.117$	1.07	$-2.258 \pm 2.120$	$-0.225 \pm 1.882$
photometric centroid source offset	$1.19 \pm 2.28$	0.52	$-1.19 \pm 2.28$	$-0.06 \pm 1.98$



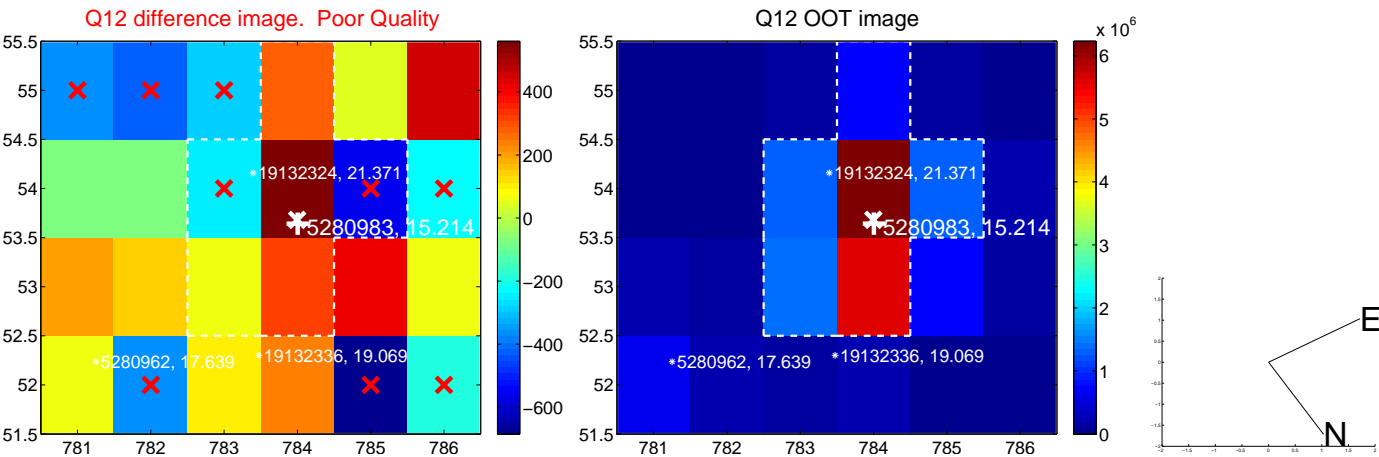
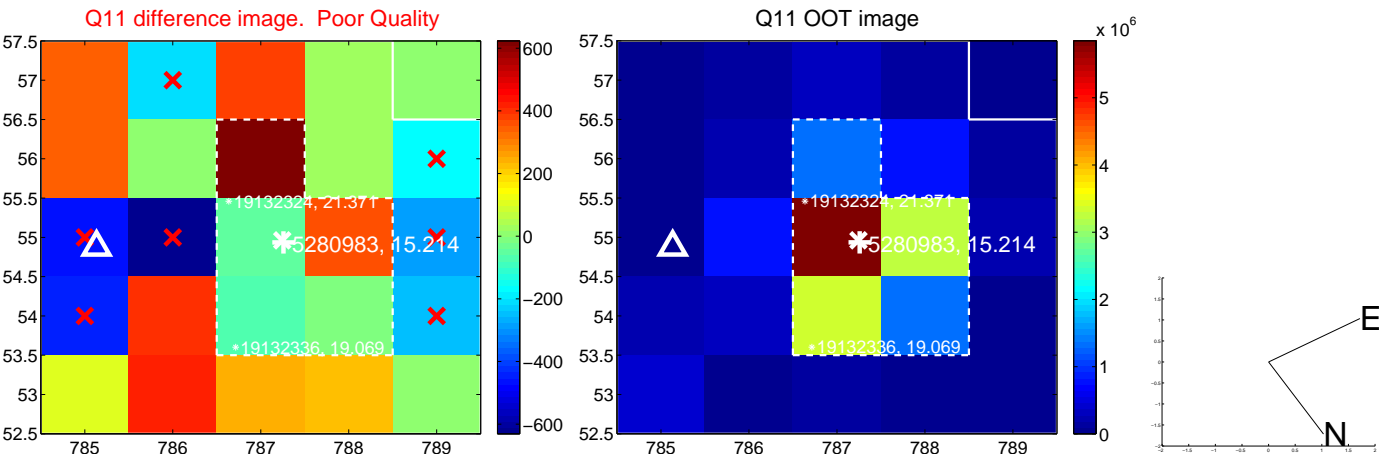
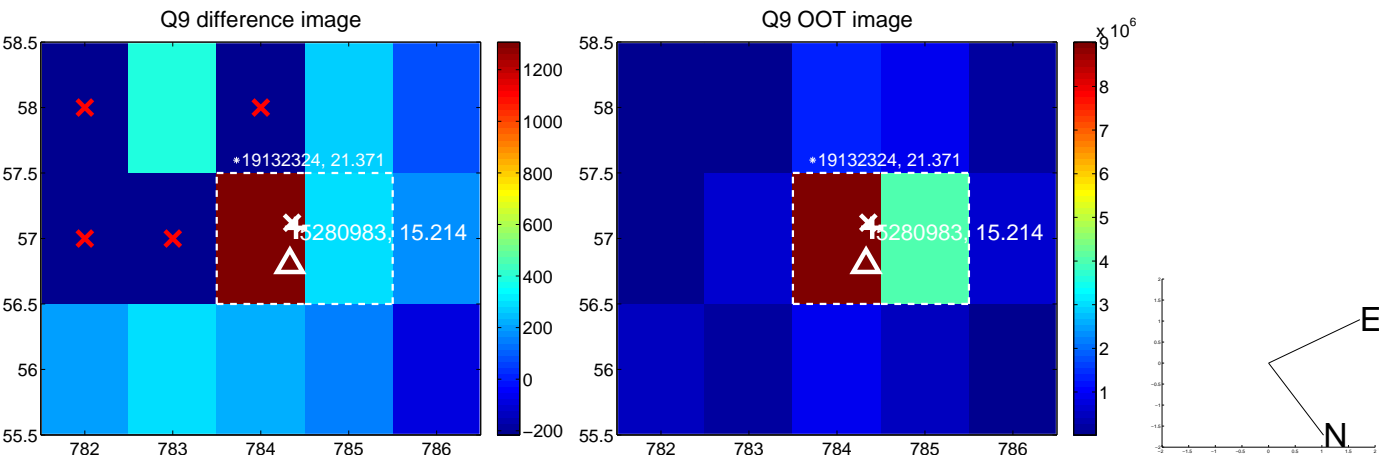
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



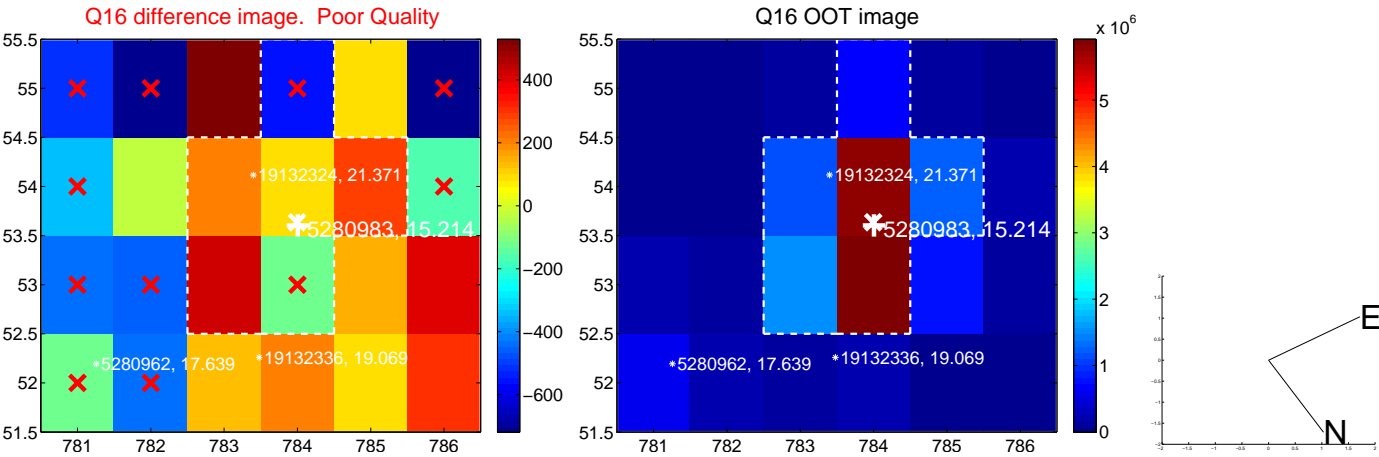
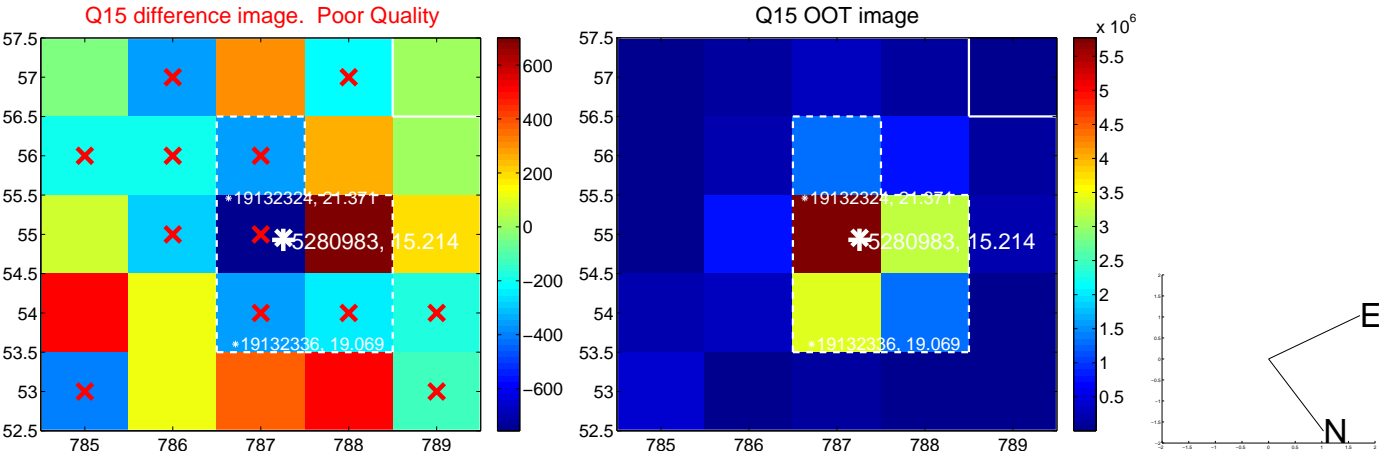
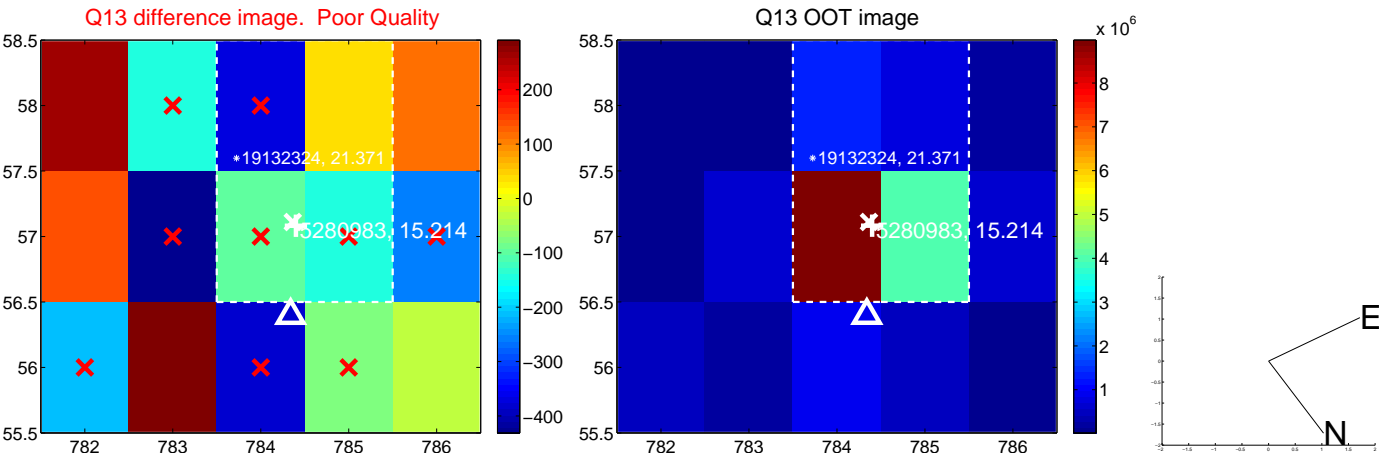
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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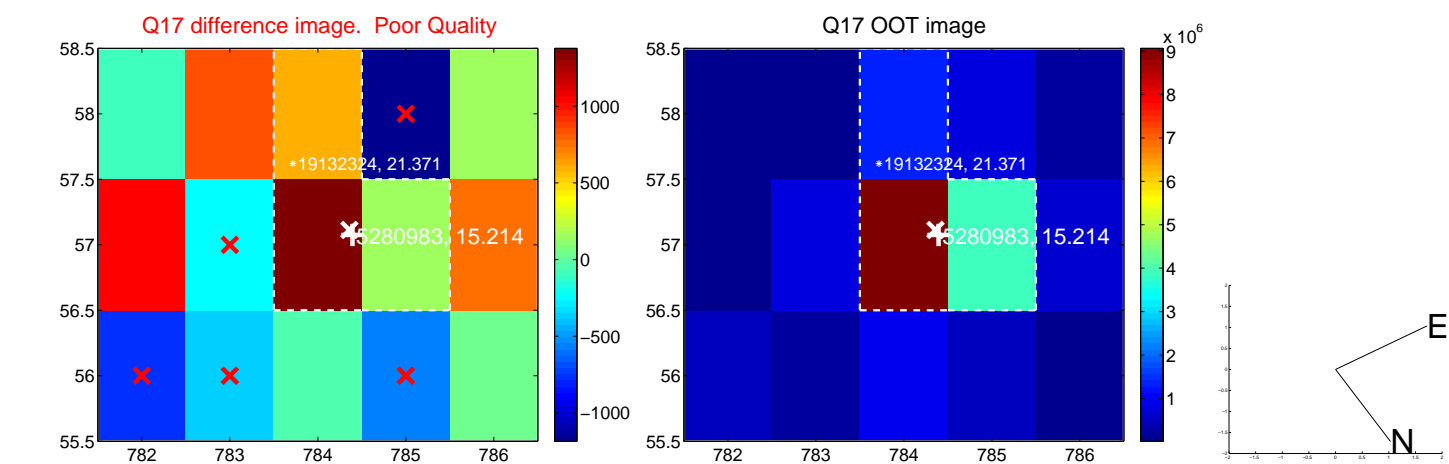


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

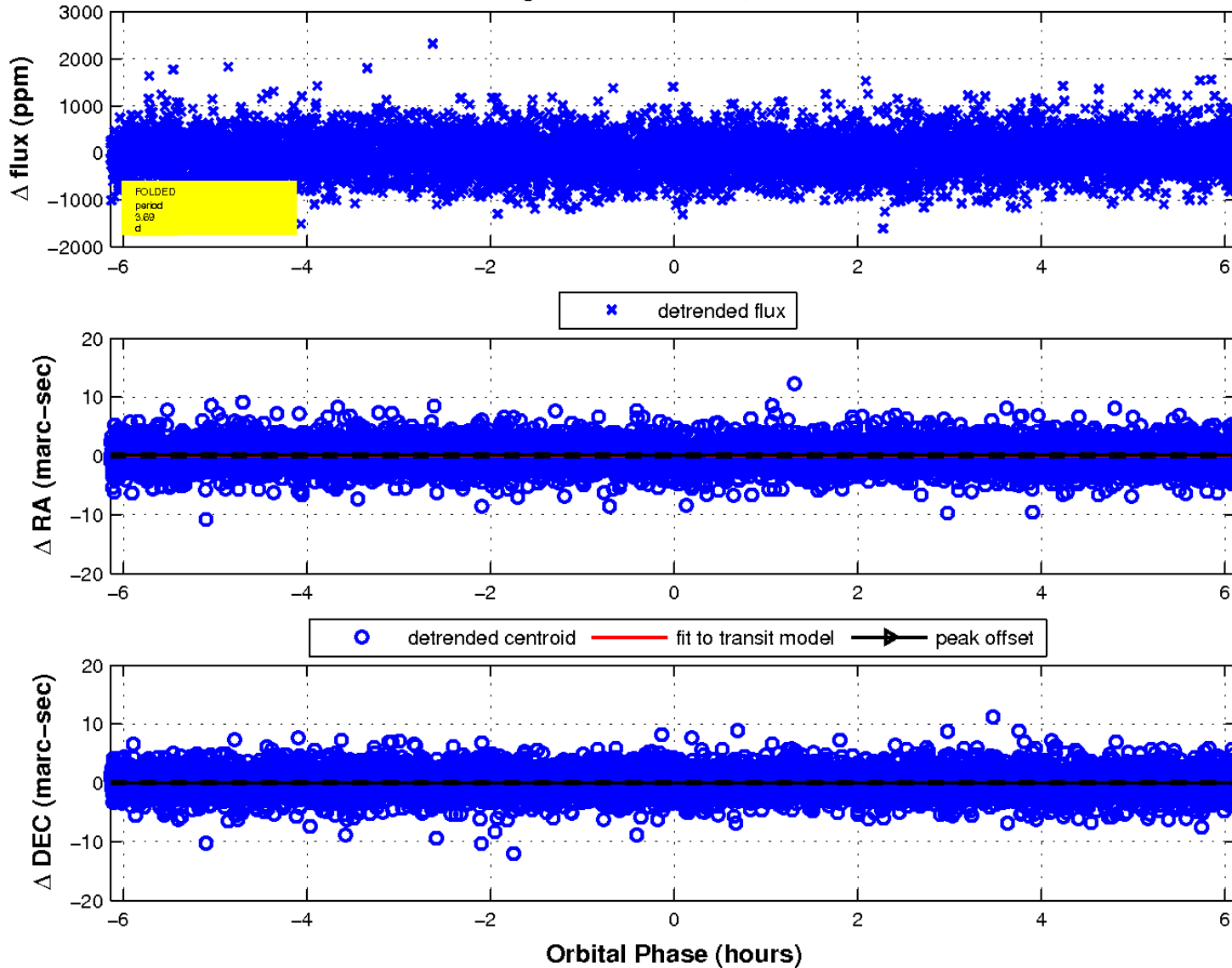




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

