

# KIC 008566353

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008566353-01	OBS	No	1.392961	131.704505	39.6	7.899	7.6	5.9	2.16	6723	1.58	11866.63

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008566353-01	OBS	FP	0.00	1	0	1	0	LPP_DV—HALO_GHOST

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

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

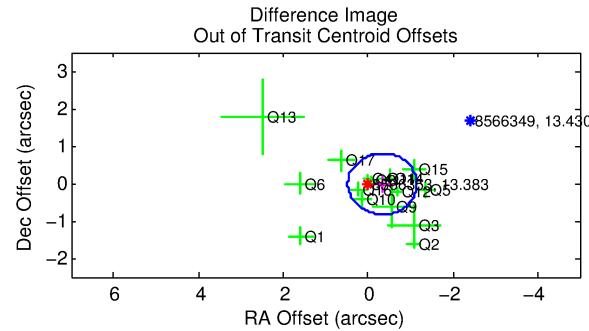
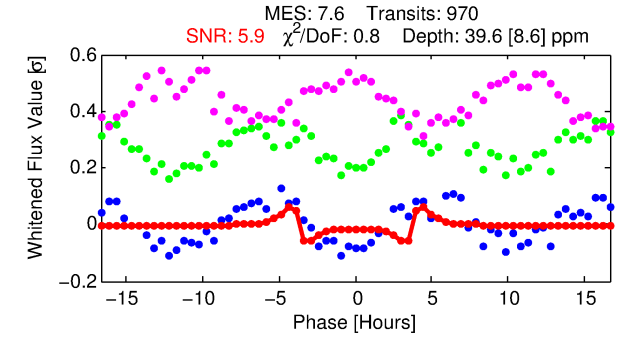
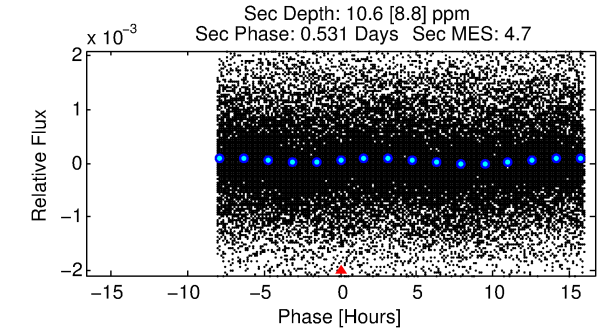
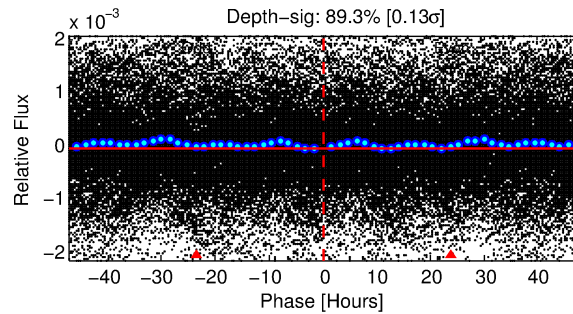
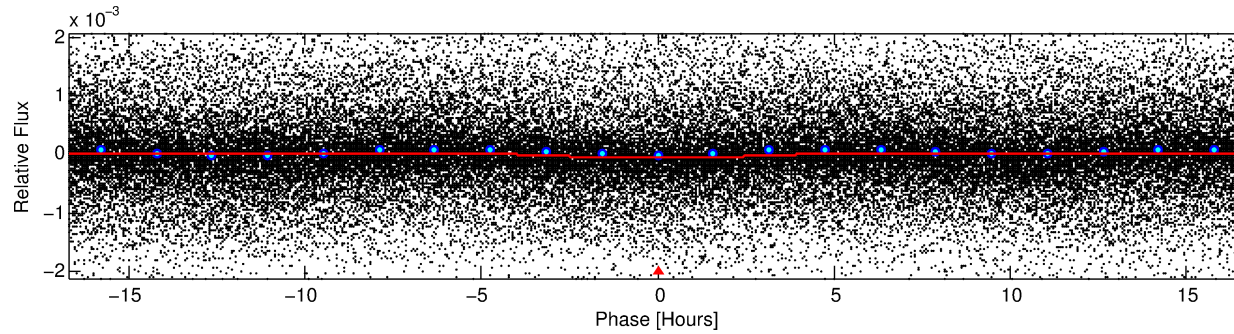
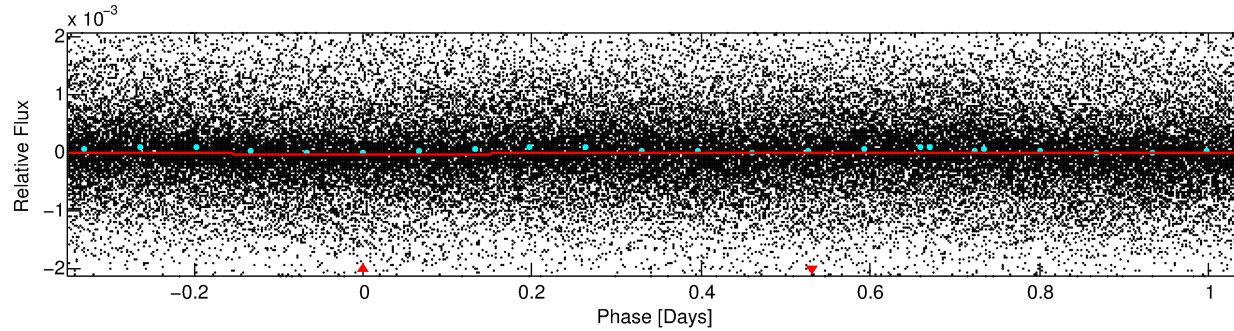
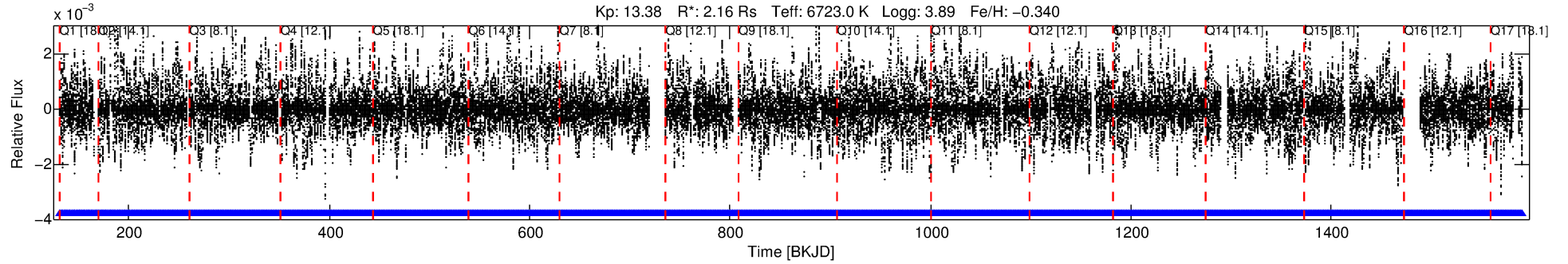
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008566353-01

No Significant Match Found

# DV One-Page Summary

KIC: 8566353 Candidate: 1 of 1 Period: 1.393 d



## DV Fit Results:

Period = 1.39296 [0.00002] d  
Epoch = 131.7045 [0.0032] BKJD  
Rp/R\* = 0.0067 [0.0013]  
a/R\* = 1.12 [0.19]  
b = 0.90 [0.18]  
Seff = 11866.63 [6049.02]  
Teff = 2661 [339] K  
Rp = 1.58 [0.58] Re  
a = 0.0268 [0.0082] AU  
Ag = 1.67 [1.74] [0.38 $\sigma$ ]  
Teffp = 4677 [1083] K [1.78 $\sigma$ ]

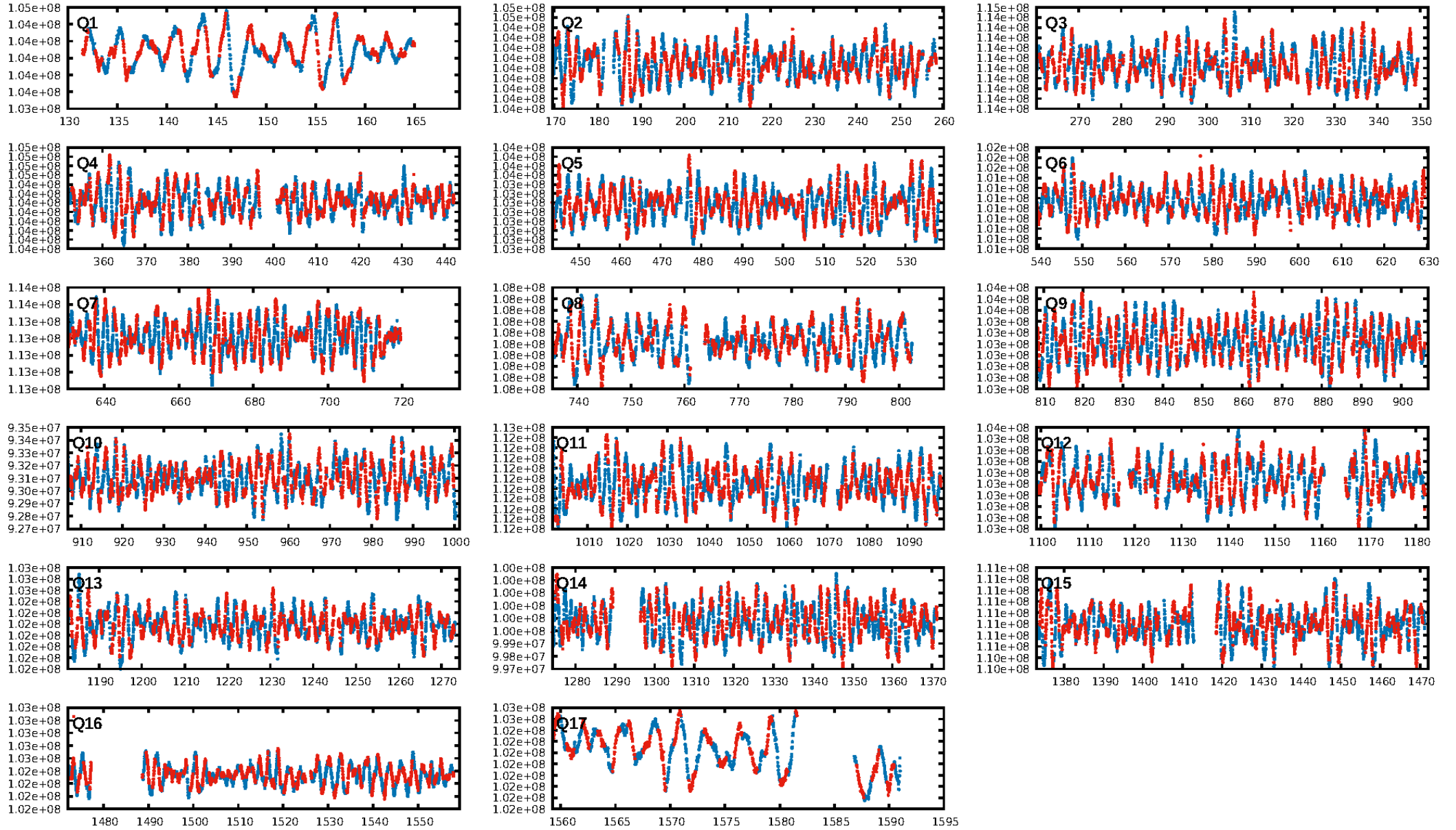
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 3.51e-12  
RollingBand-fgt: 1.00 [926/926]  
GhostDiagnostic-chr: -0.03084  
Centroid-sig: 22.7%  
Centroid-so: 0.676 arcsec [1.67 $\sigma$ ]  
OotOffset-rm: 0.339 arcsec [1.25 $\sigma$ ]  
OotOffset-st: 4/3/4/5 [16]  
KicOffset-rm: 0.485 arcsec [1.67 $\sigma$ ]  
KicOffset-st: 4/3/4/5 [16]  
DiffImageQuality-fgm: 0.56 [9/16]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:18:47 Z

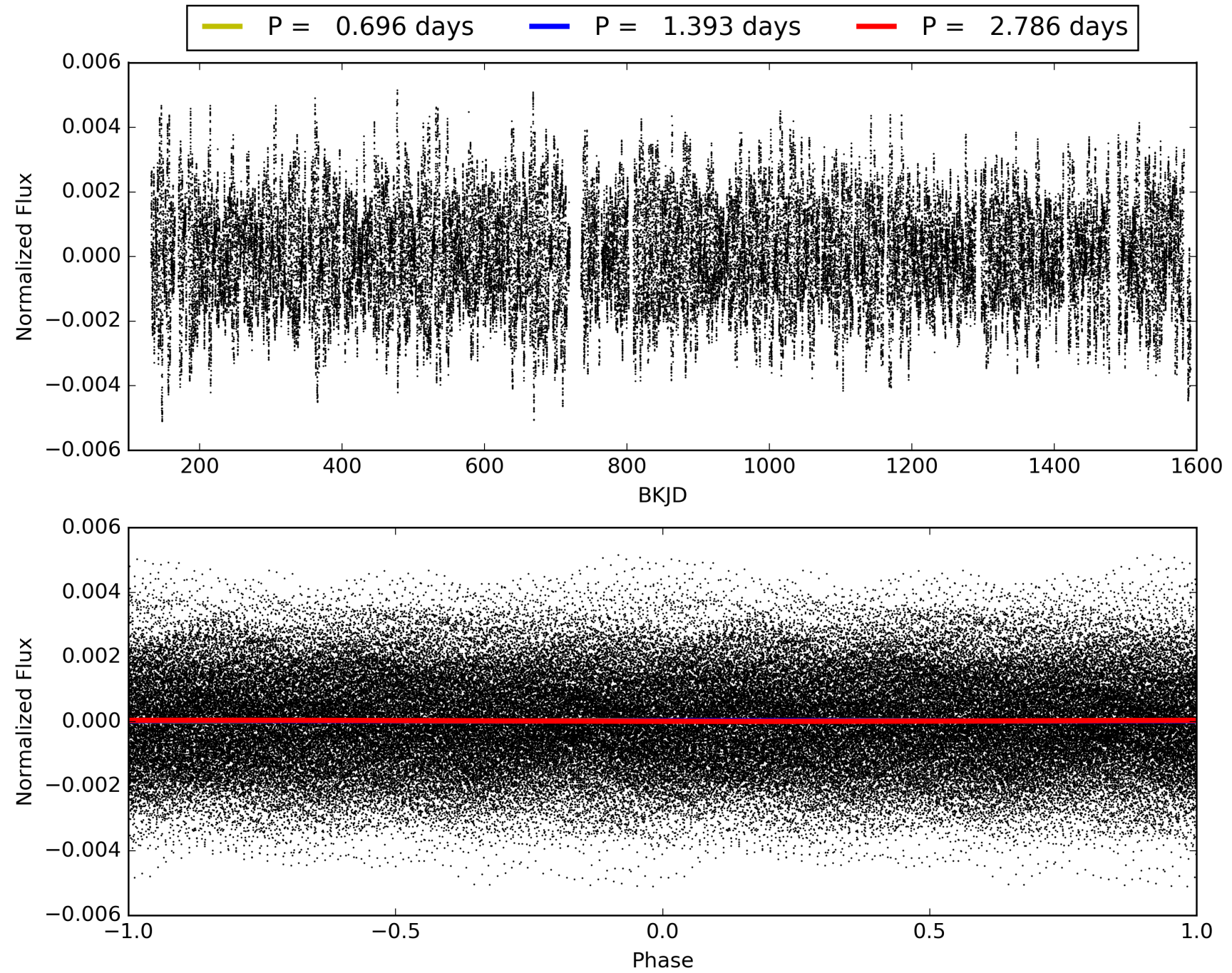
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 00566353-01, PDC Light Curves



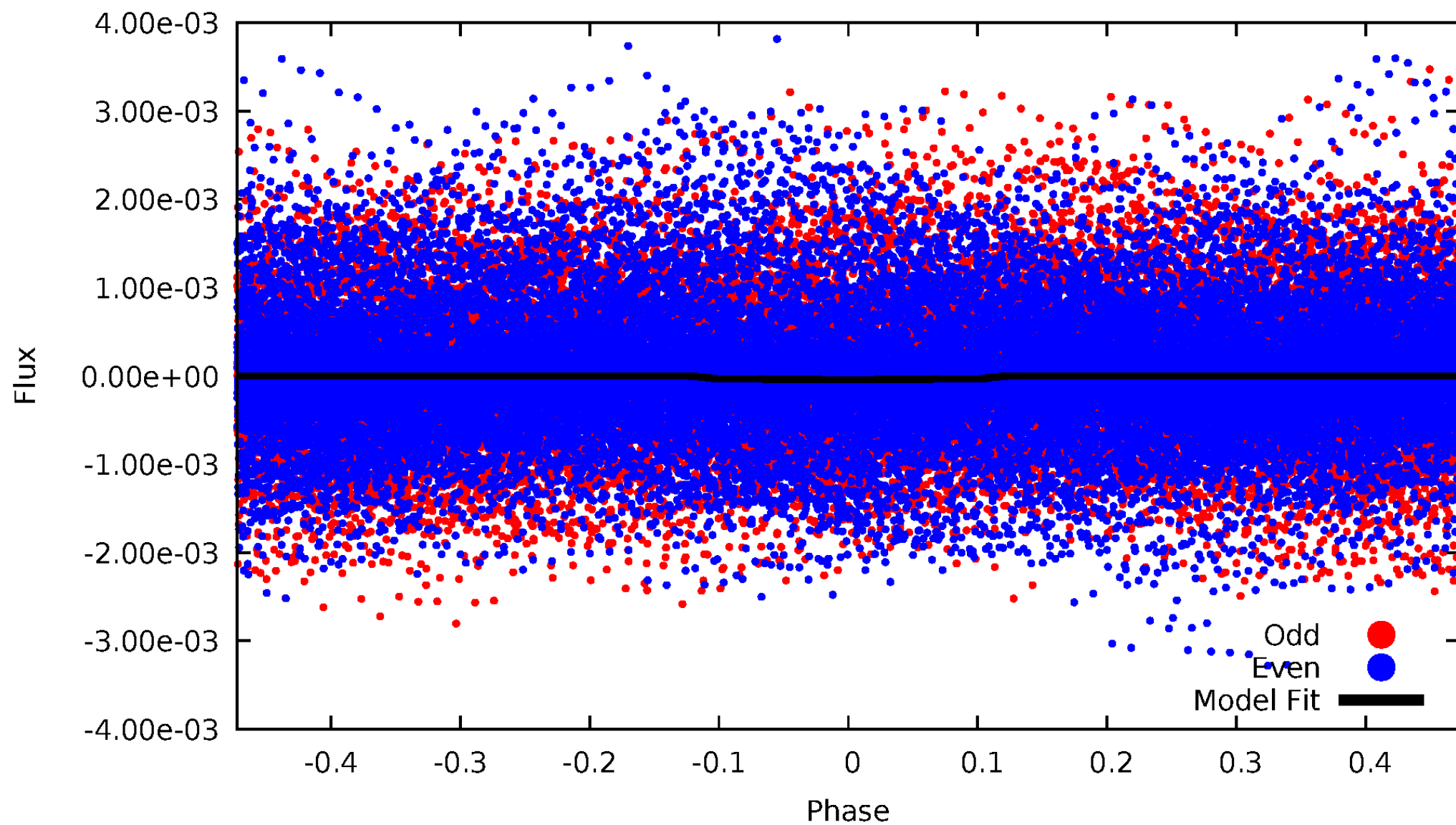


TCE 008566353-01



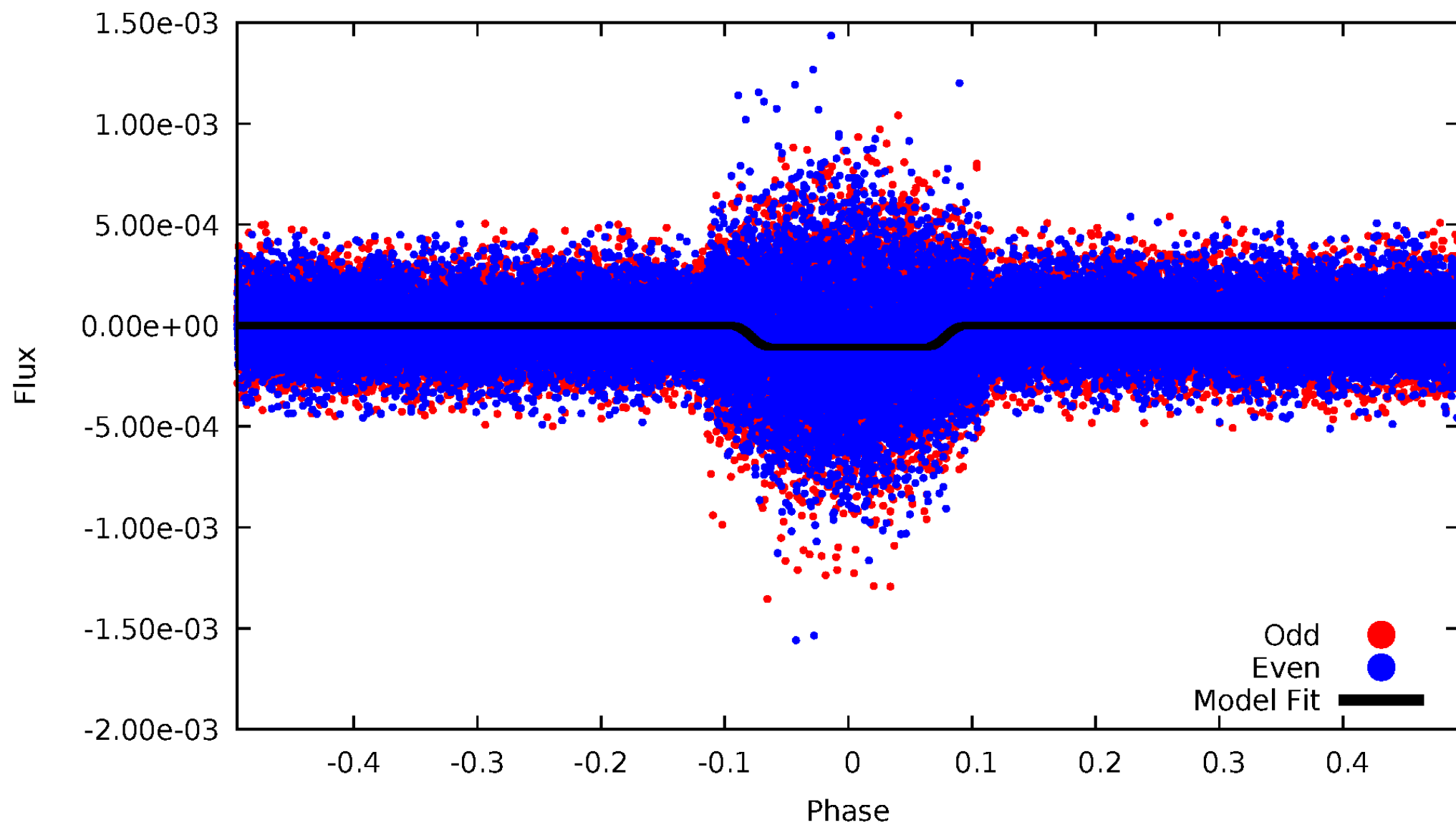
# DV Odd/Even

TCE 008566353-01

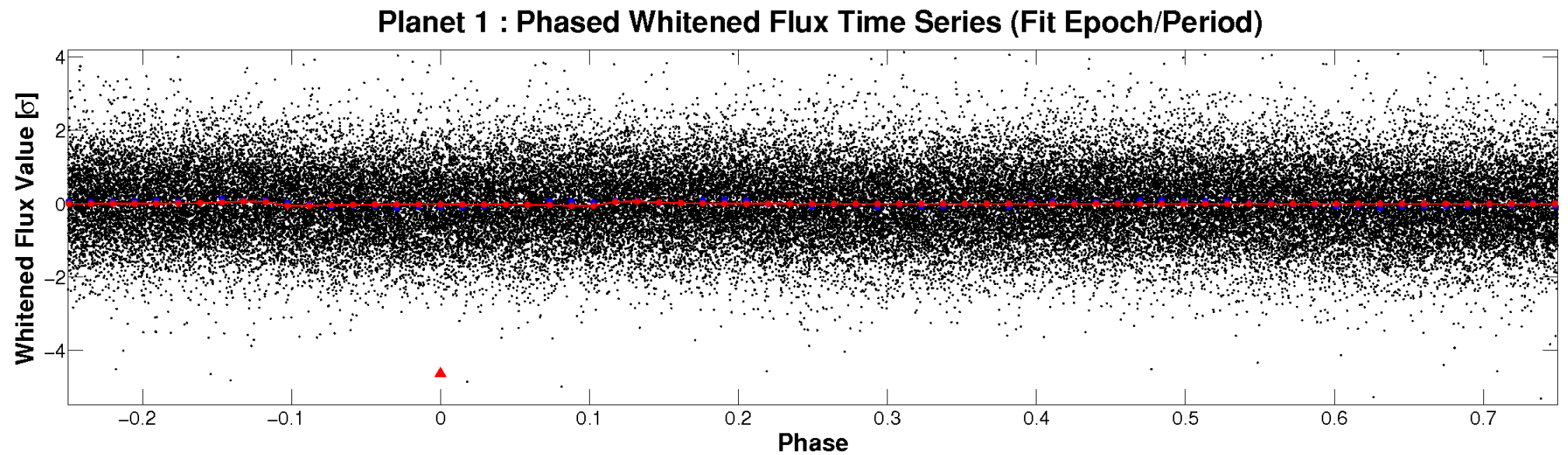
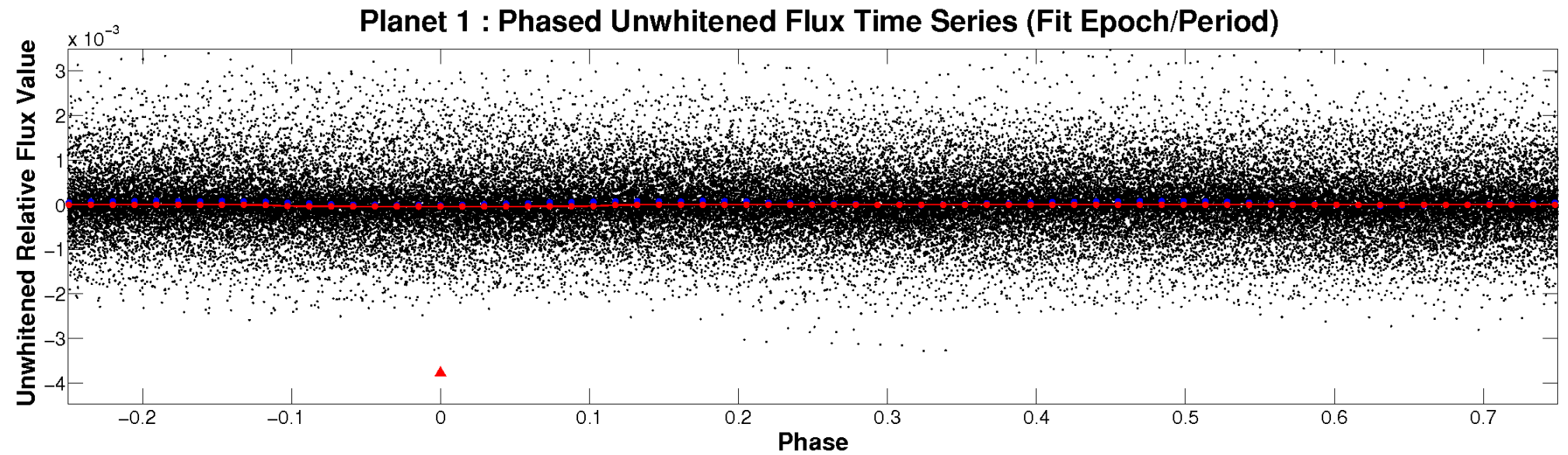


# ALT Odd/Even

TCE 008566353-01



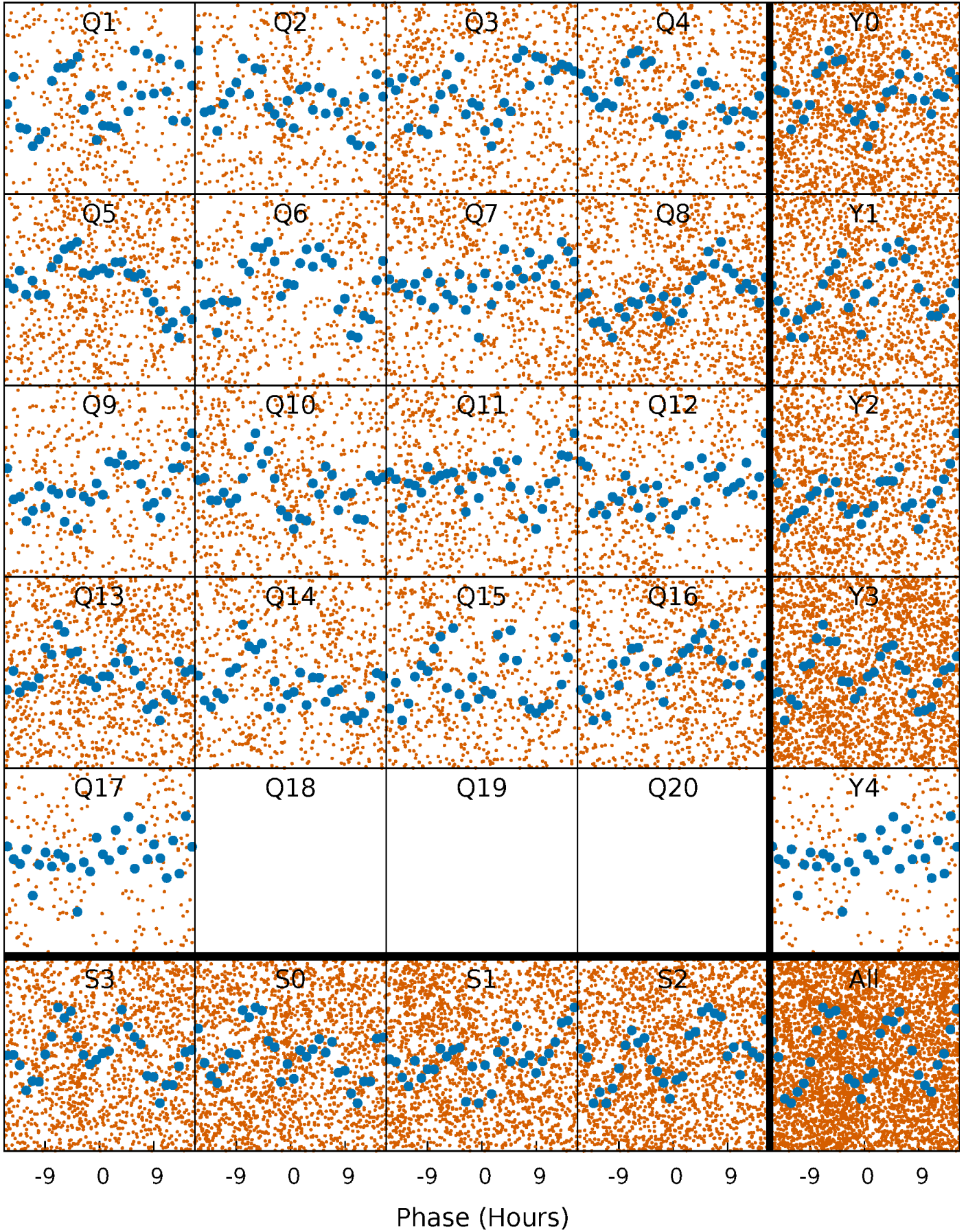
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

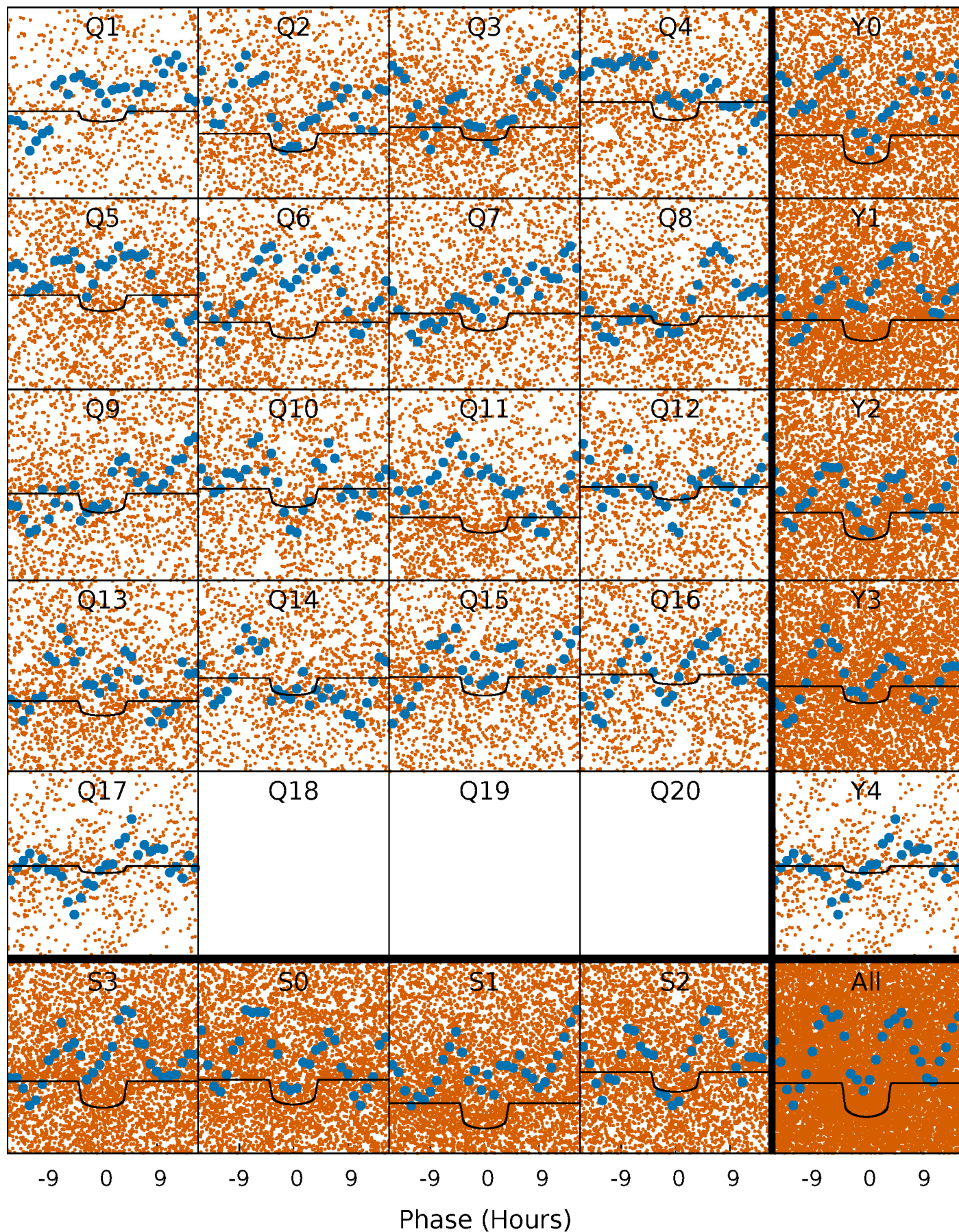
TCE 008566353-01 P= 1.392961 Days  $T_0=131.704505$  (BKJD)





# DV Quarter-Phased Transit Curves

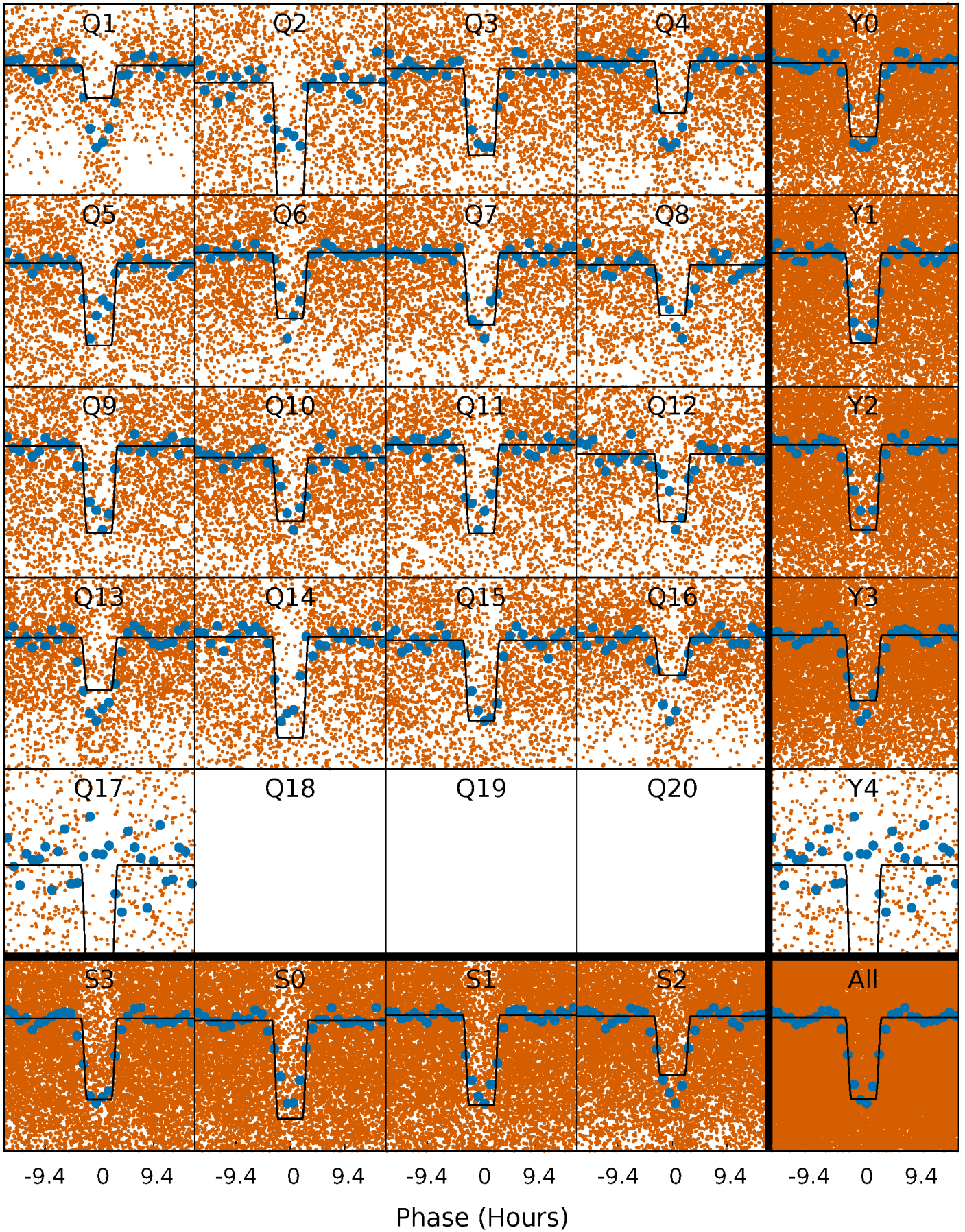
TCE 008566353-01 P= 1.392961 Days  $T_0=131.704505$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

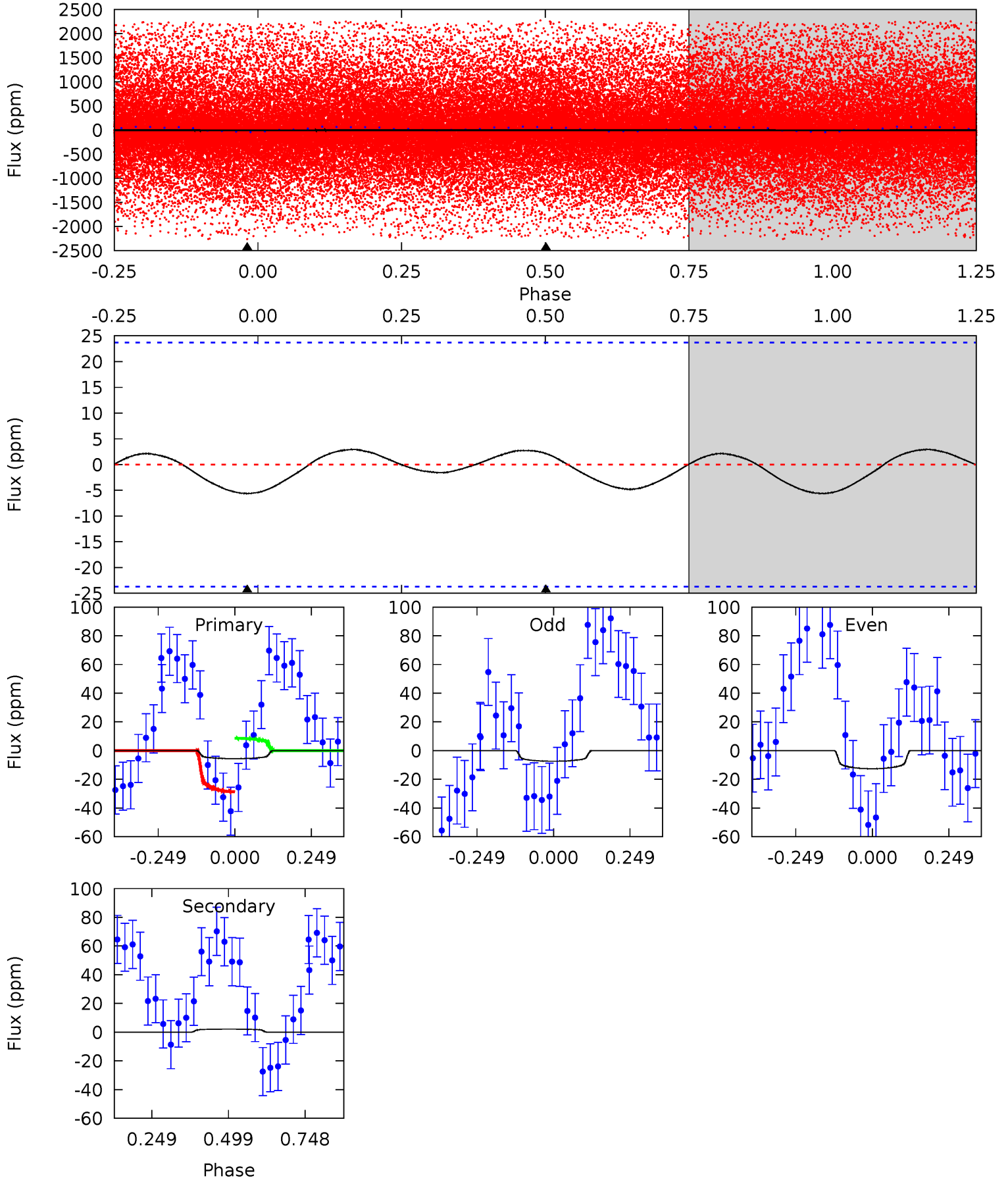
TCE 008566353-01 P= 1.392908 Days  $T_0=131.698393$  (BKJD)



# DV Model-Shift Uniqueness Test

008566353-01, P = 1.392961 Days, E = 130.311544 Days

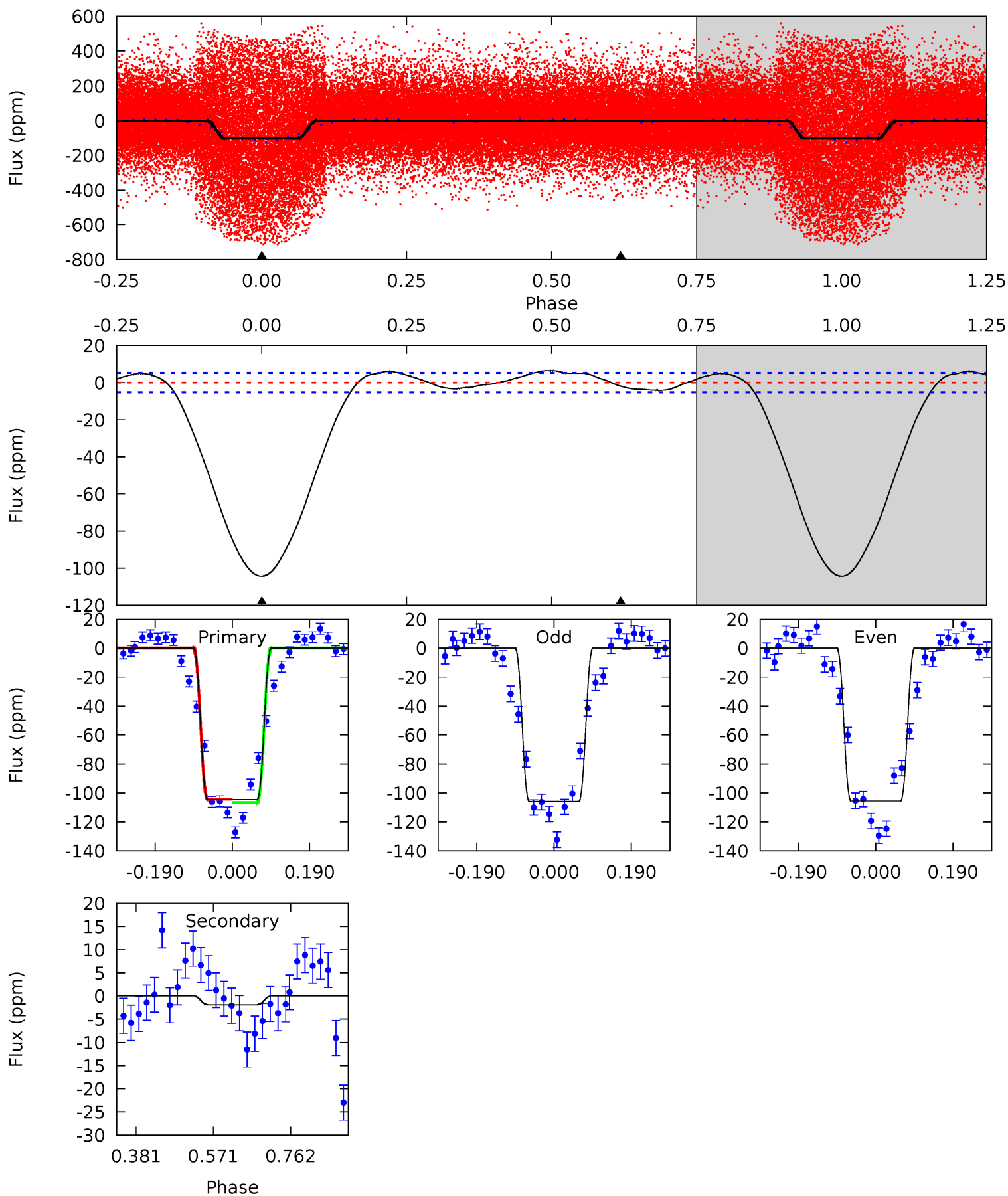
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.04	-0.39	0	0	4.37	1.15	0.17	1.04	1.04	-0.39	-0.39	0.50	-0.47	0.34	1.87



# Alt Model-Shift Uniqueness Test

008566353-01, P = 1.392908 Days, E = 130.305485 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
87.6	1.59	0	0	4.43	1.31	2.67	87.6	87.6	1.59	1.59	0.09	0.93	0.06	1.00





### Stellar Parameters For KIC 008566353

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6723^{+183}_{-203}$	$3.891^{+0.292}_{-0.097}$	$-0.340^{+0.300}_{-0.250}$	$2.156^{+0.397}_{-0.681}$	$1.320^{+0.217}_{-0.217}$	$0.185^{+0.372}_{-0.066}$
	+3%/-3%	+8%/-2%	+88%/-74%	+18%/-32%	+16%/-16%	+200%/-35%
Source	PHO1	FLK73	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 008566353-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$2\pm5$	$1.48^{+0.41}_{-0.35}$	$3635^{+220}_{-300}$	$-3847^{+7246}_{-818}$	$-0.322^{+0.924}_{-1.106}$
Alt.	$-2\pm1$	$2.35^{+0.44}_{-0.52}$	$3641^{+213}_{-311}$	$-3151^{+579}_{-270}$	$0.135^{+0.127}_{-0.092}$

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

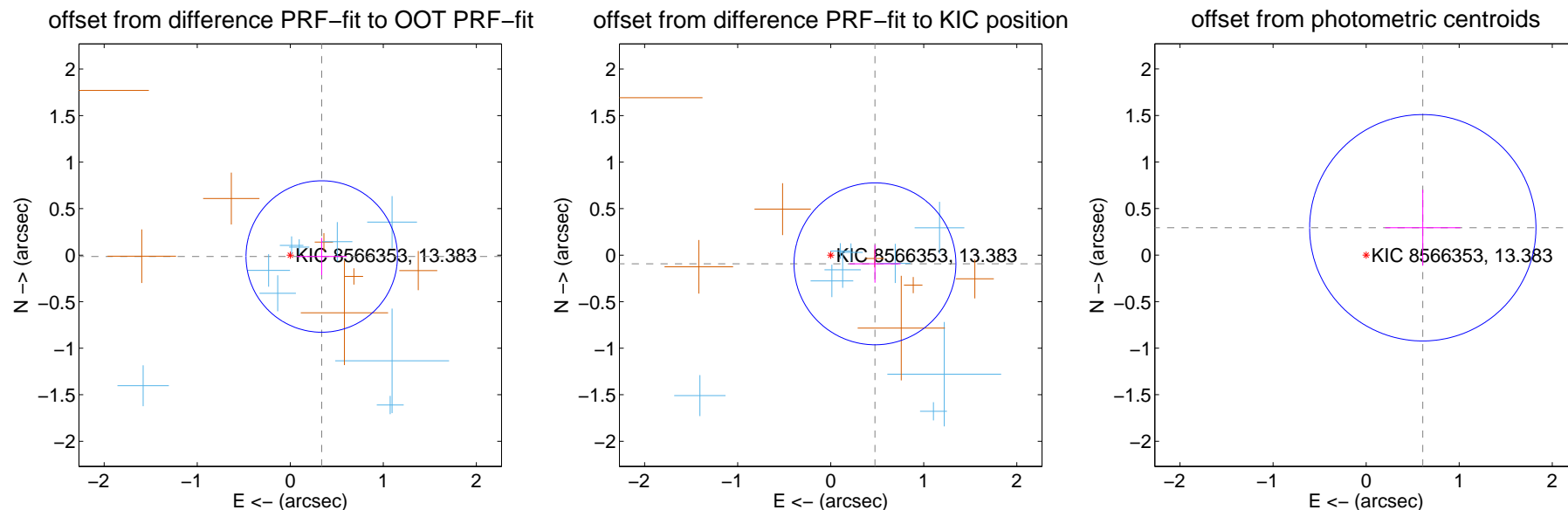
## DV Centroid Data

Supplemental centroid analysis for 008566353-01. Kepler magnitude: 13.38. Transit SNR 5.90

There are 9 quarters with good PRF difference image offsets

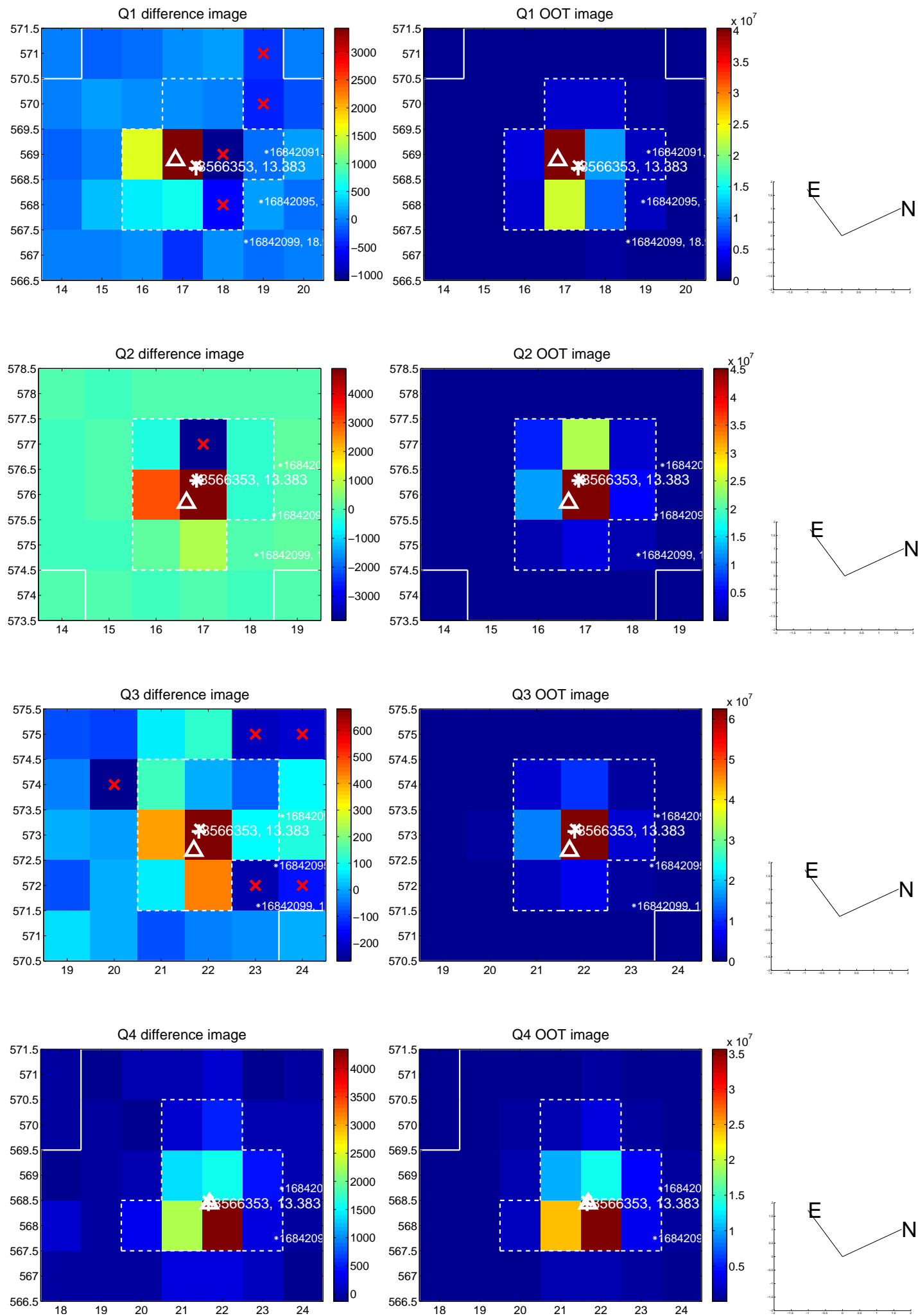
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.339 \pm 0.271$	1.25	$-0.338 \pm 0.269$	$-0.015 \pm 0.200$
PRF-fit source offset from KIC position	$0.485 \pm 0.290$	1.67	$-0.476 \pm 0.275$	$-0.093 \pm 0.203$
photometric centroid source offset	$0.68 \pm 0.41$	1.67	$-0.61 \pm 0.40$	$0.29 \pm 0.41$

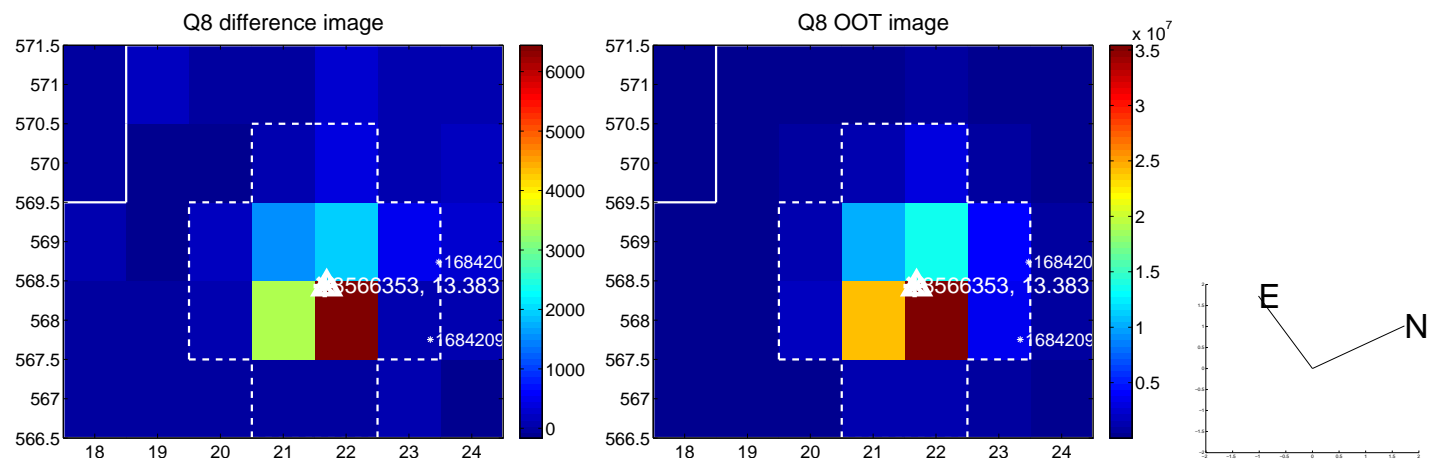
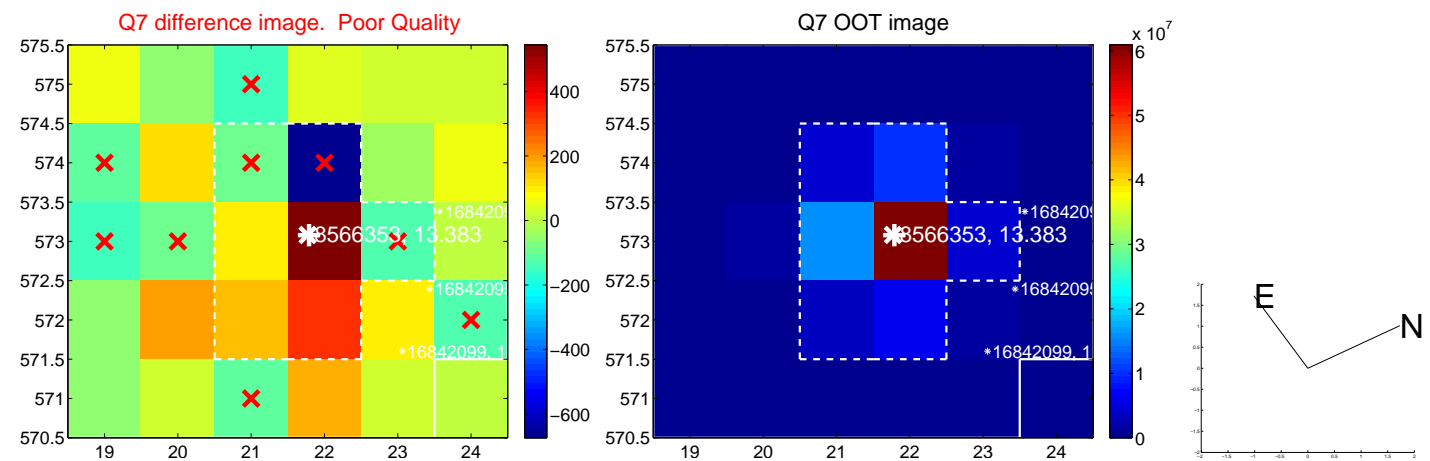
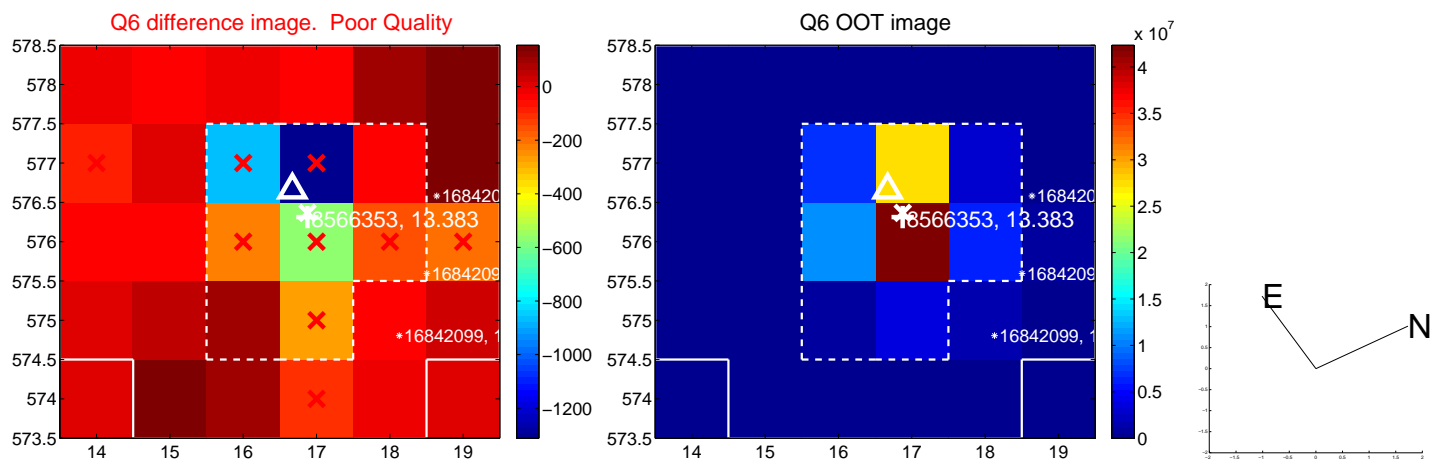
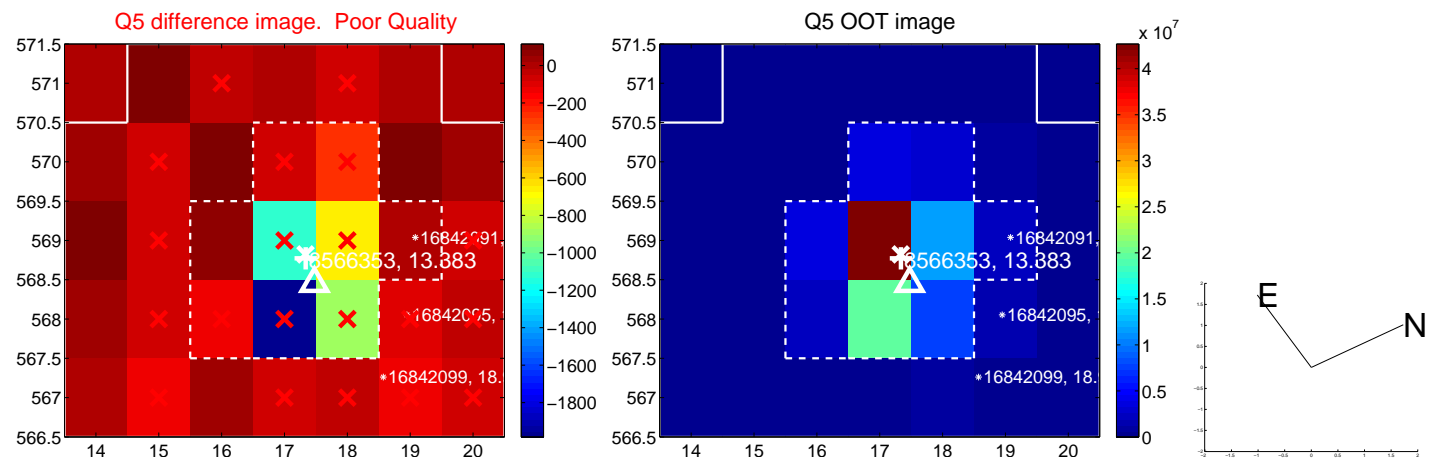


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

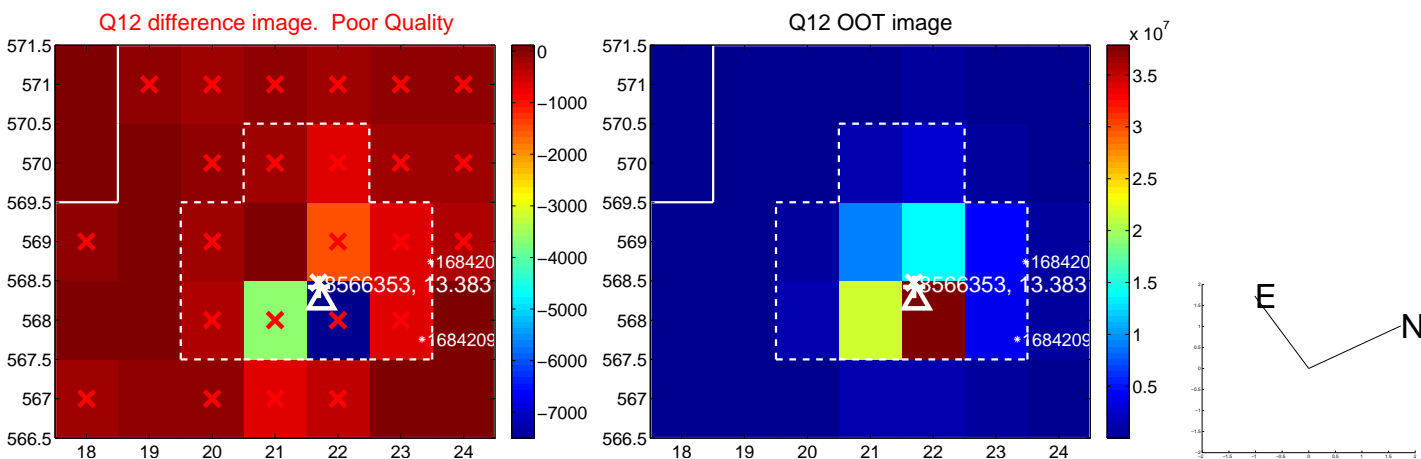
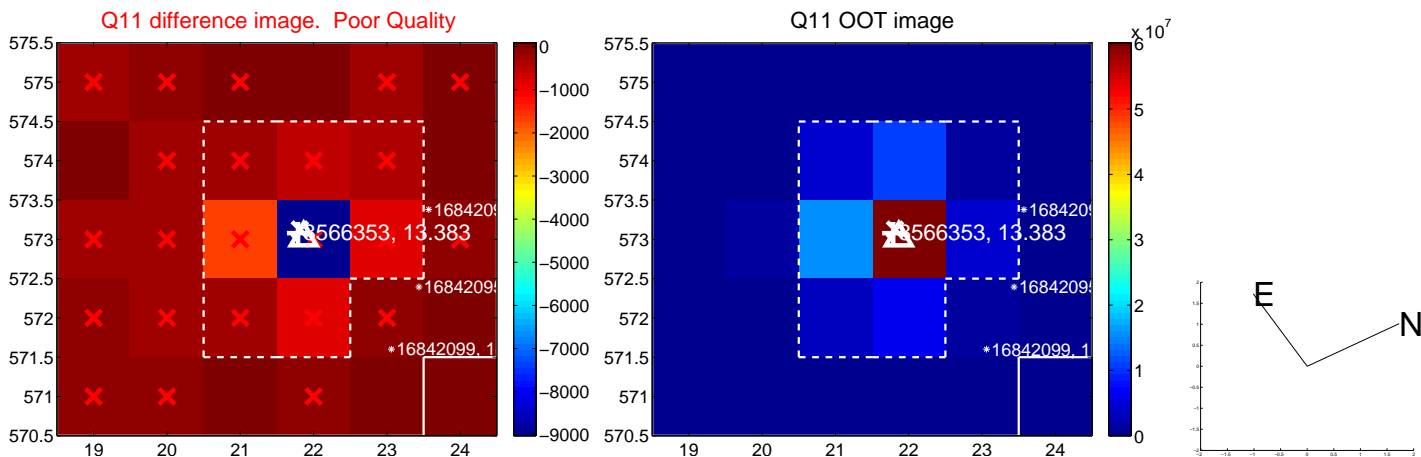
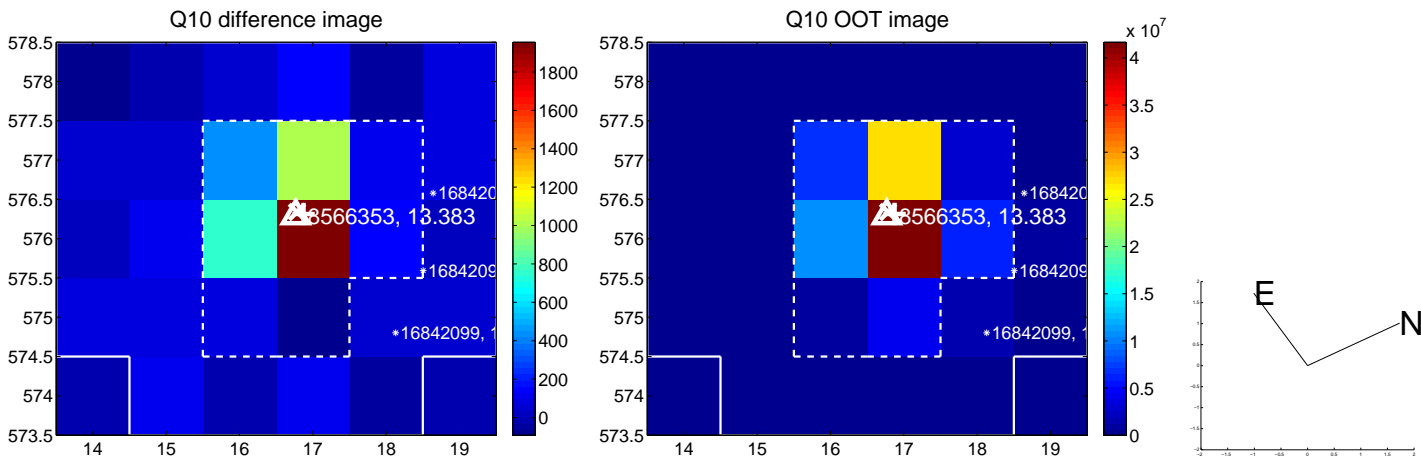
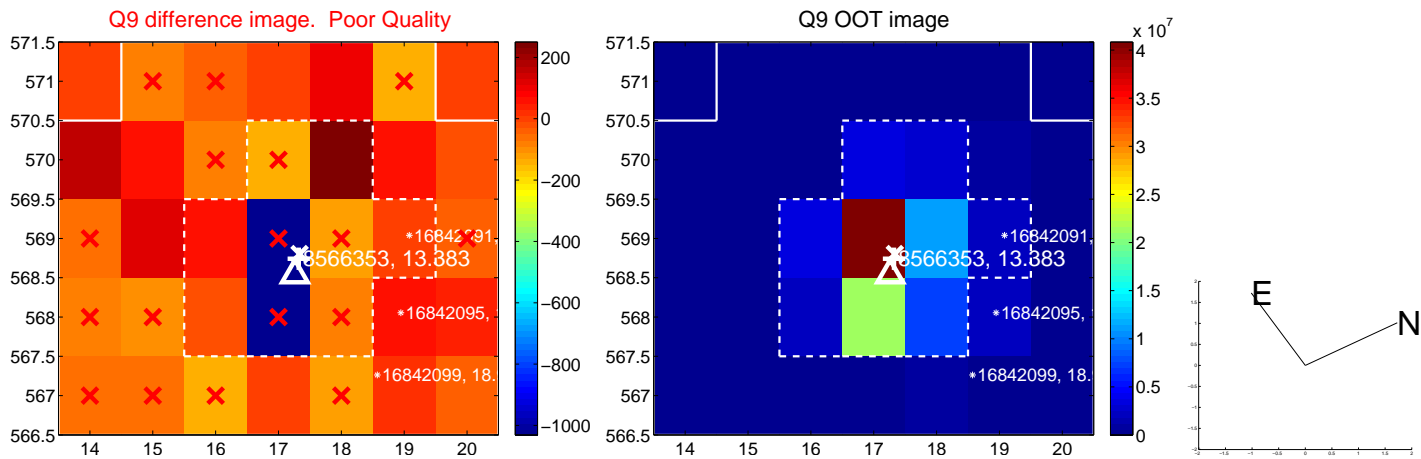


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

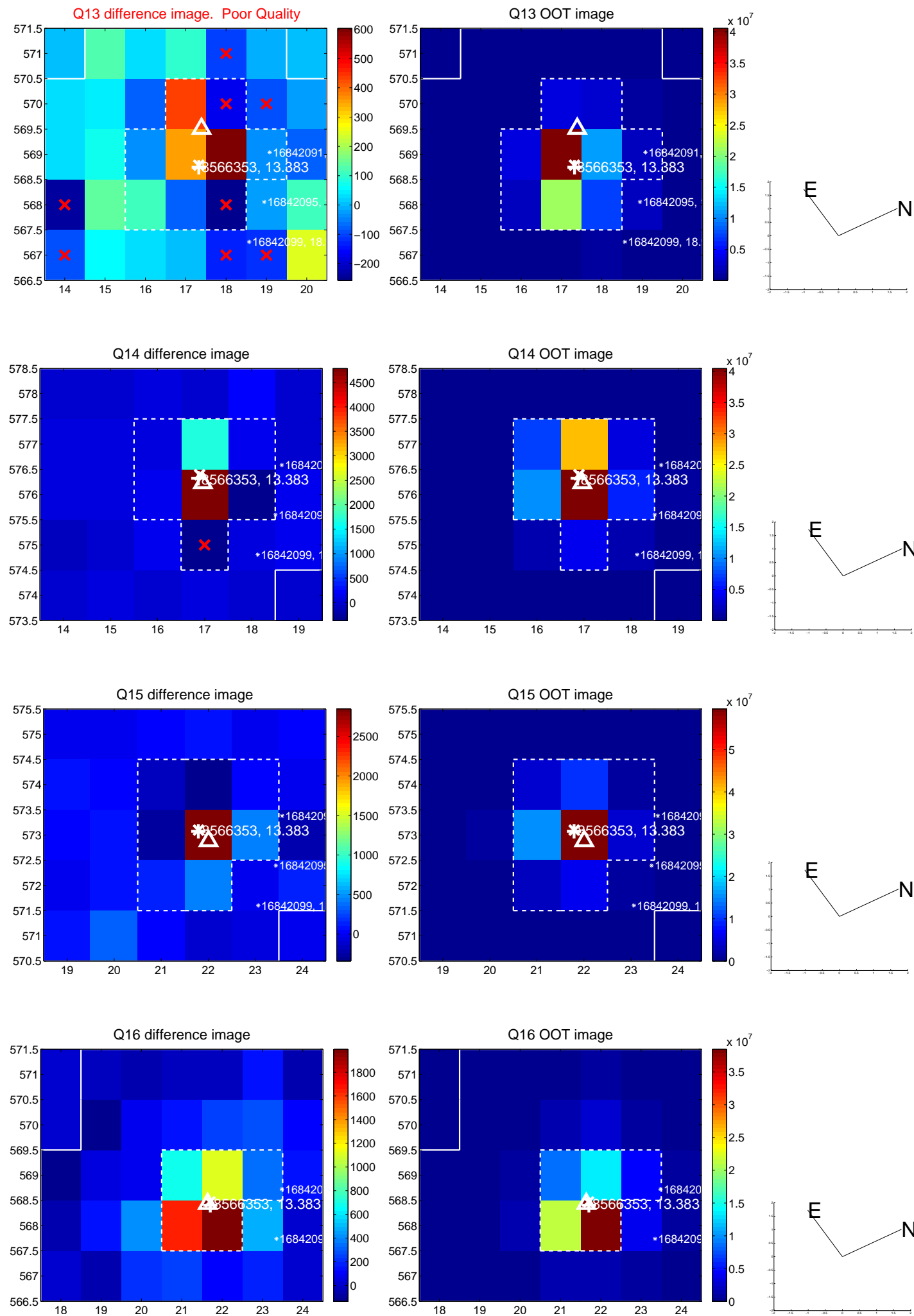




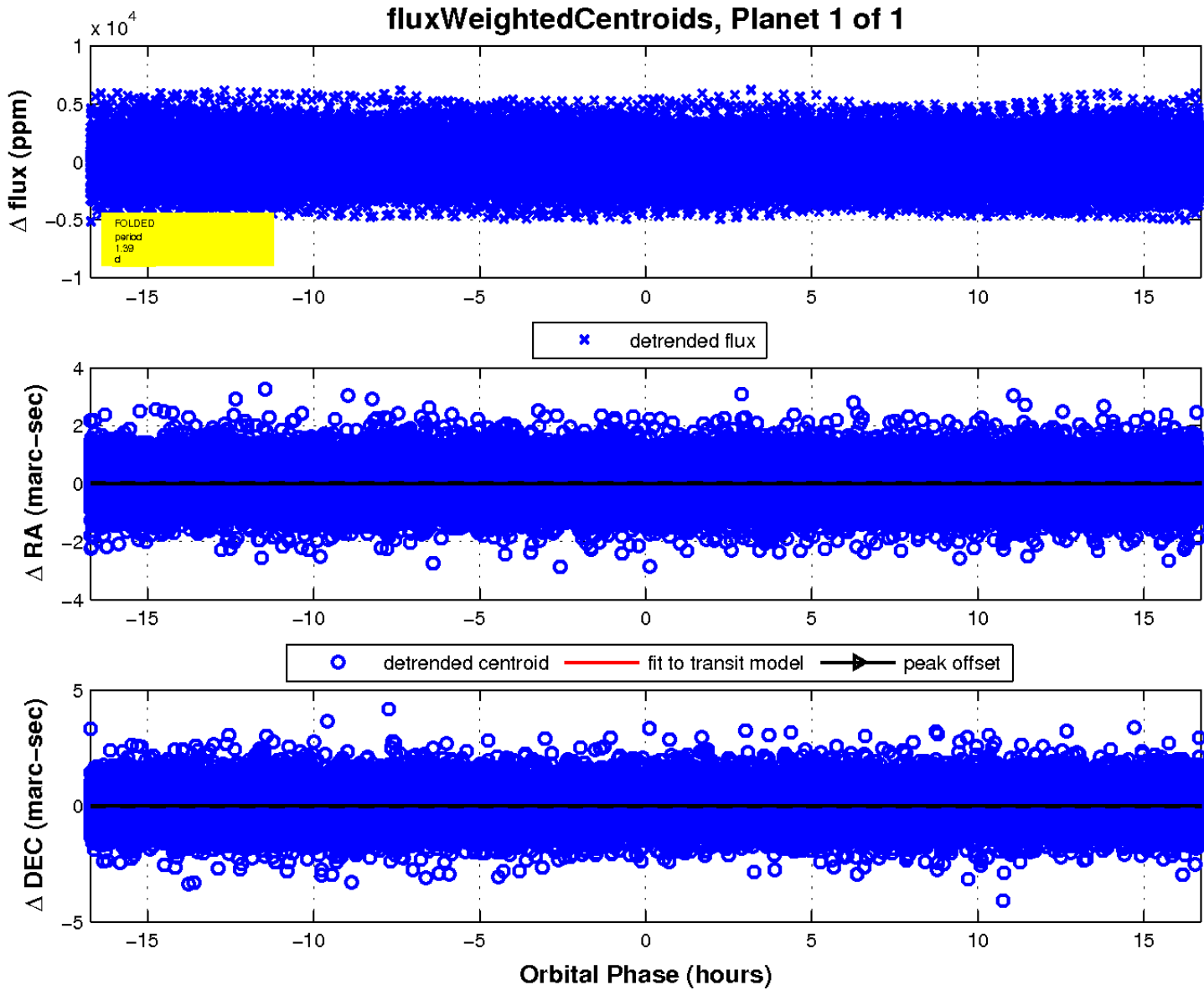
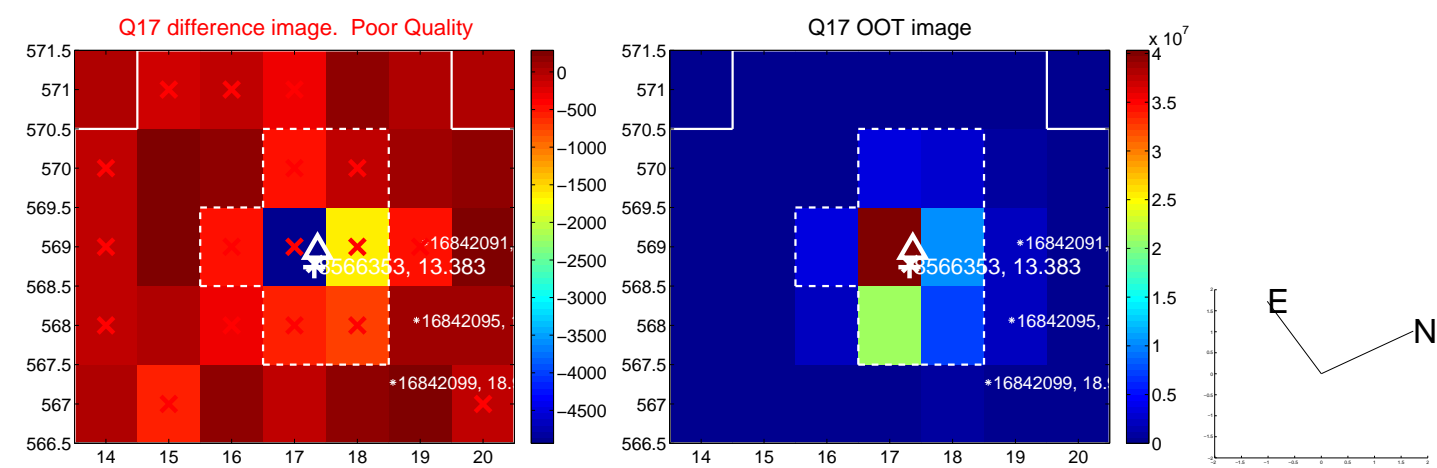
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UKIRT Image

Declination

