

# KIC 005988387

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005988387-01	OBS	No	0.666553	132.203006	2.5	2.455	9.8	6.1	2.43	8105	0.43	67642.82

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005988387-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—CENT_SATURATED

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

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

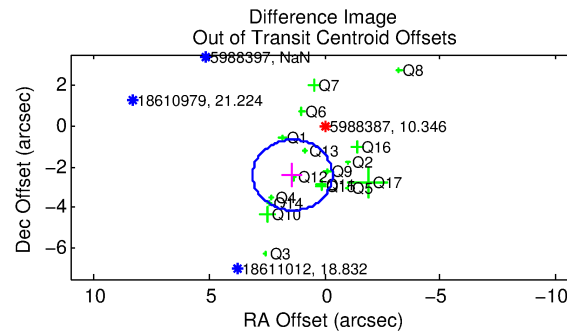
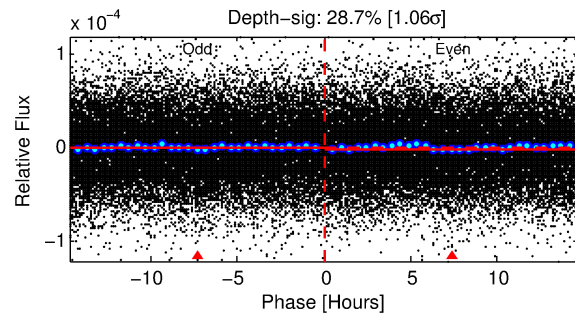
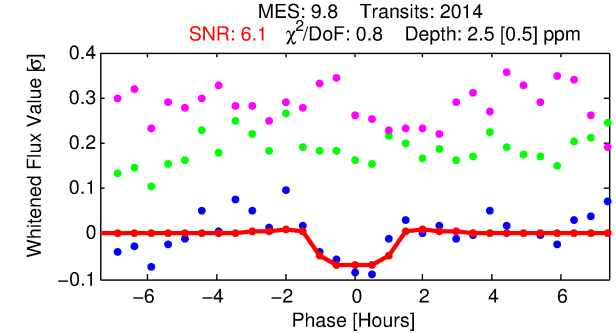
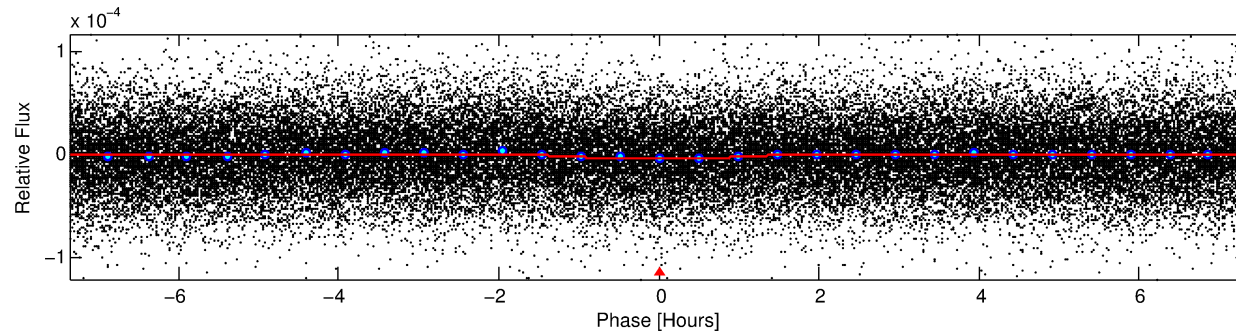
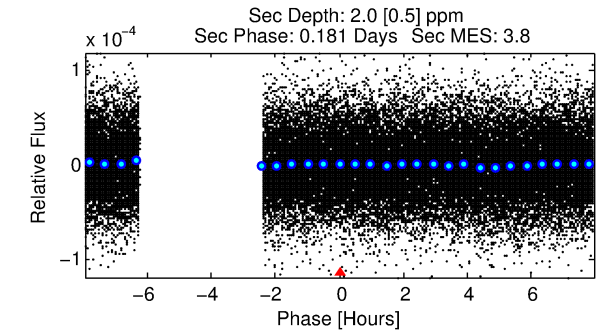
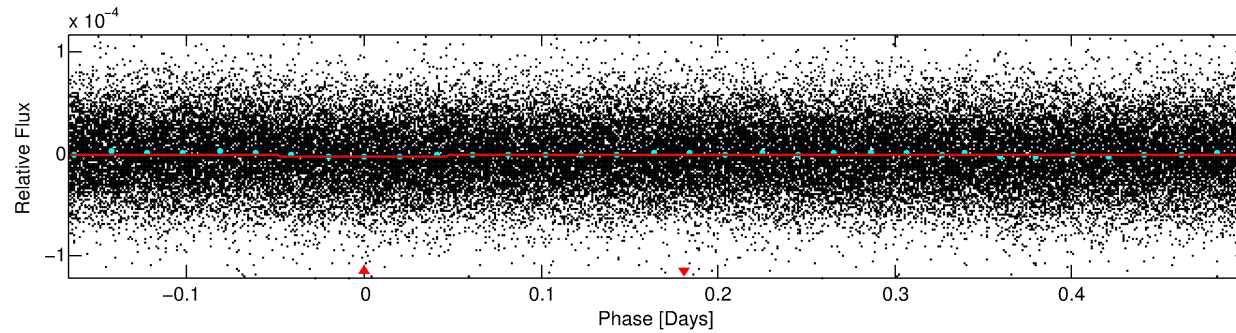
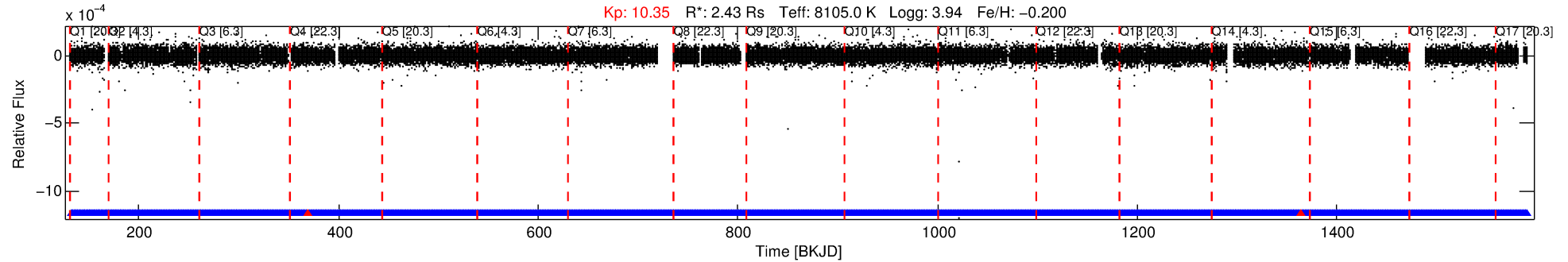
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005988387-01

No Significant Match Found

# DV One-Page Summary

KIC: 5988387 Candidate: 1 of 1 Period: 0.667 d



## DV Fit Results:

Period = 0.66655 [0.00002] d  
Epoch = 132.2030 [0.0046] BKJD  
Rp/R\* = 0.0016 [0.0002]  
a/R\* = 1.52 [0.43]  
b = 0.80 [0.22]  
Seff = 67642.82 [32367.04]  
Teq = 4112 [492] K  
Rp = 0.43 [0.15] Re  
a = 0.0184 [0.0054] AU  
Ag = 2.05 [1.20] [0.87σ]  
Teffp = 7607 [767] K [3.84σ]

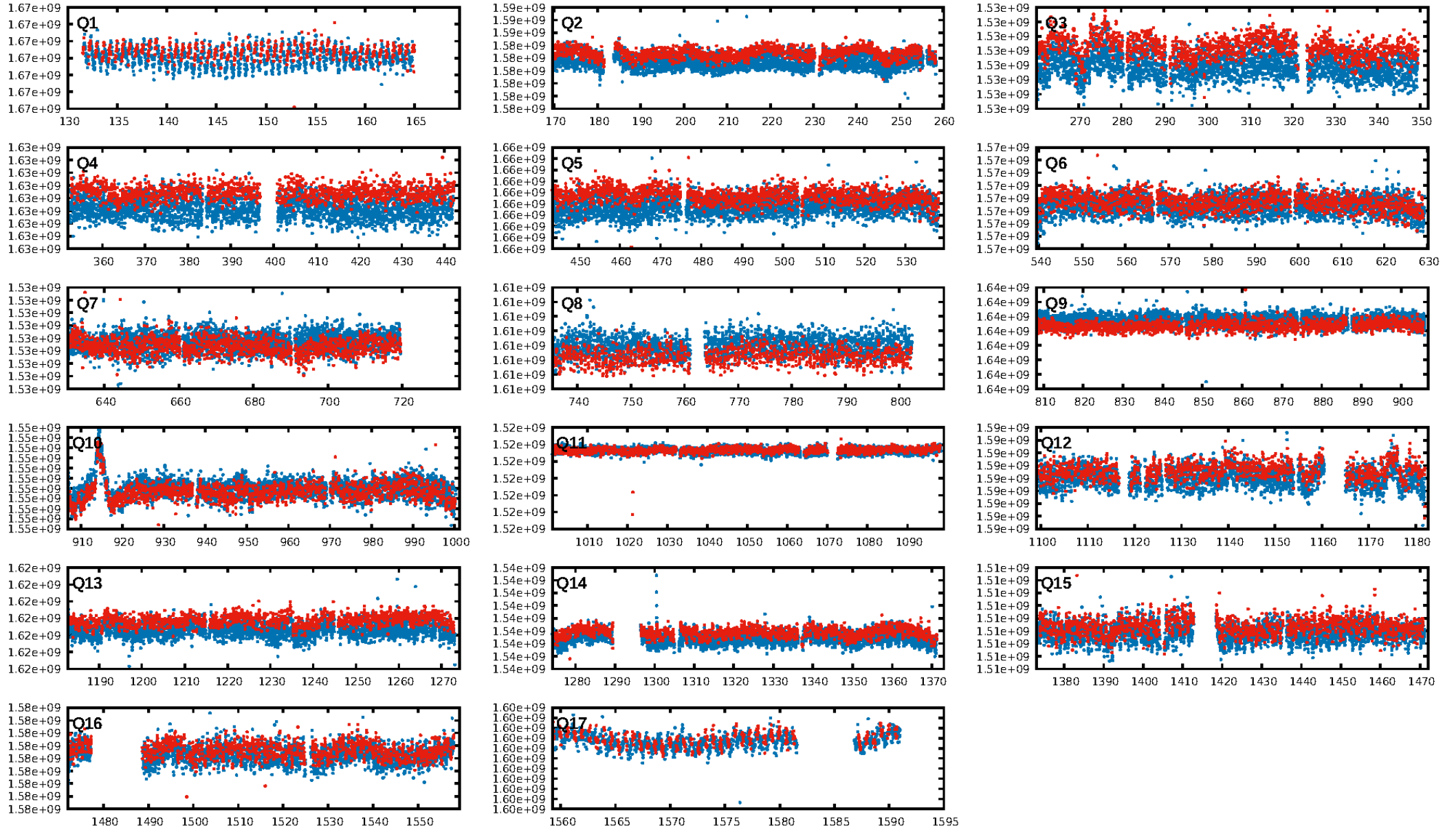
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 3.56e-18  
RollingBand-fgt: 1.00 [1920/1923]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 2.786 arcsec [4.84σ]  
KicOffset-rm: 3.046 arcsec [5.35σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.12 [2/17]  
DiffImageOverlap-fno: 1.00 [17/17]

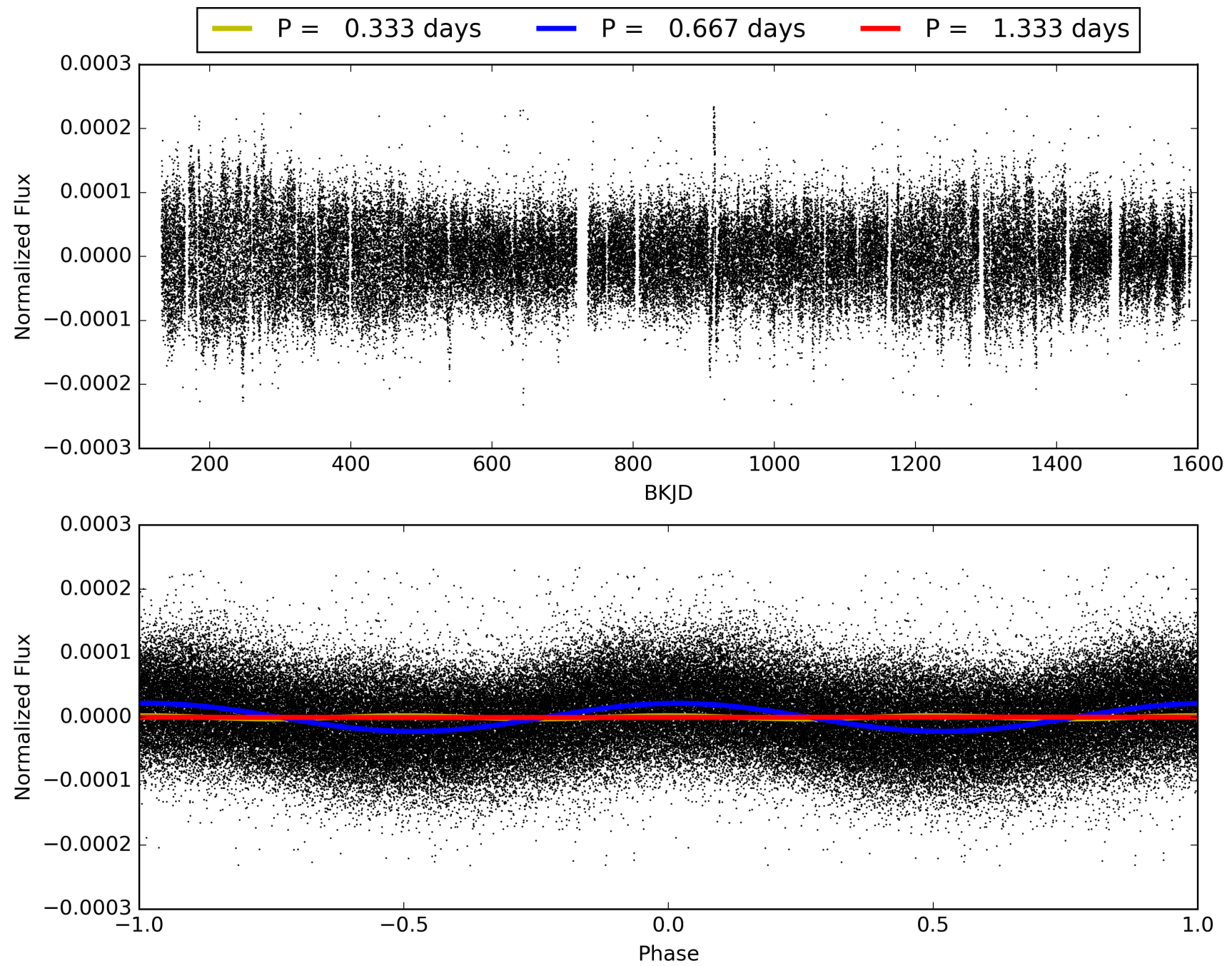
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 14:06:03 Z

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

# TCE 005988387-01, PDC Light Curves

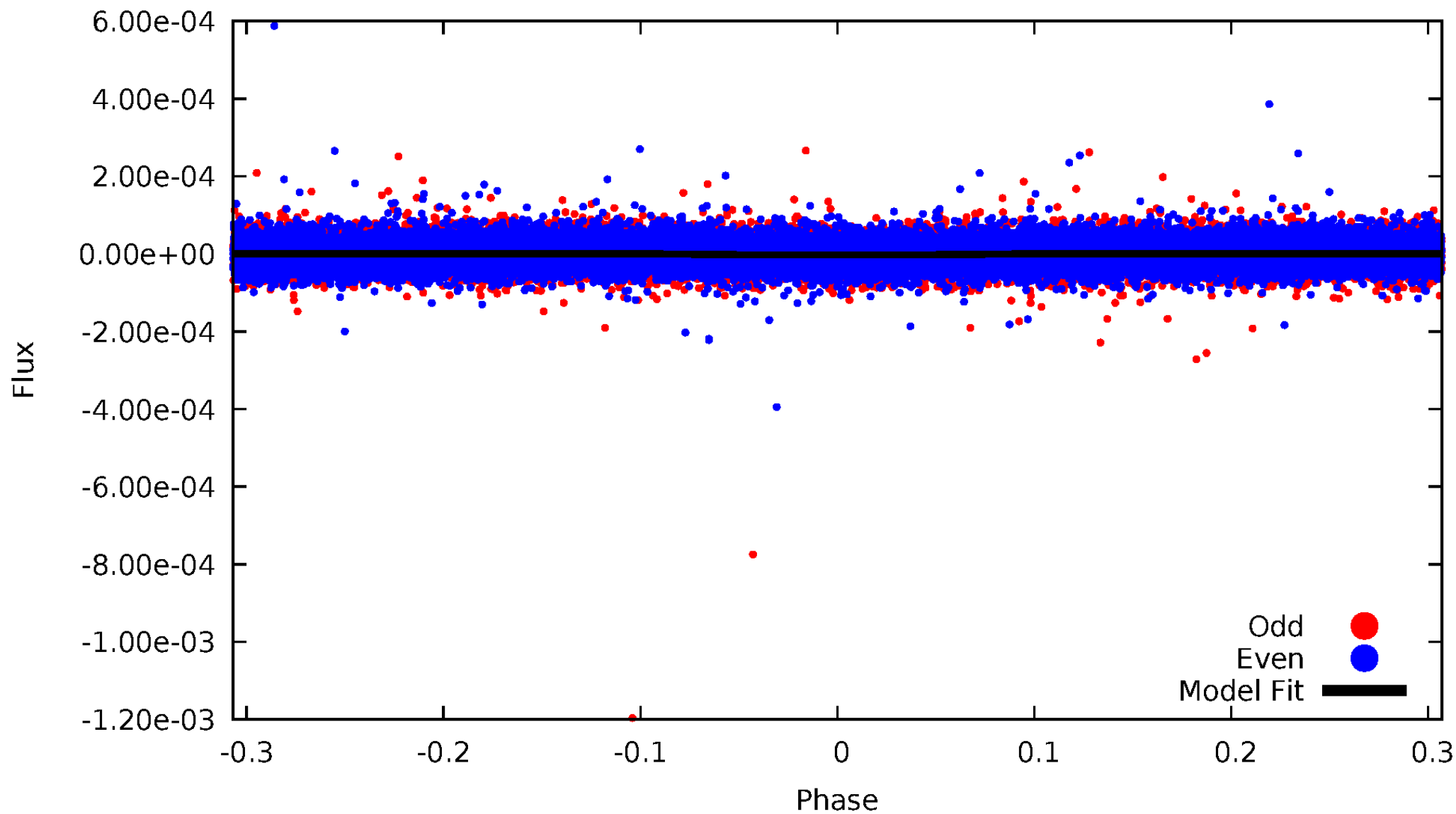


TCE 005988387-01



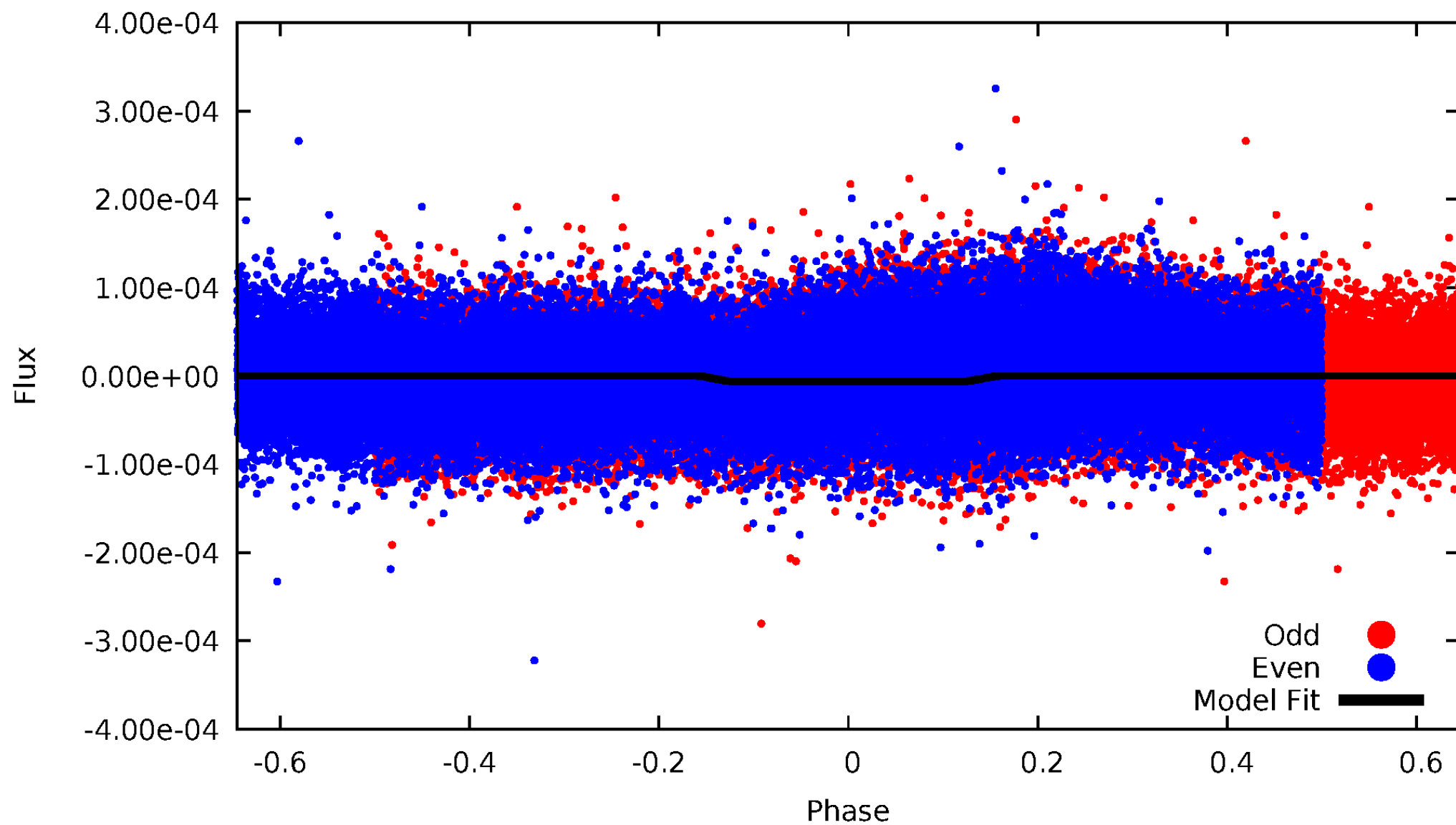
# DV Odd/Even

TCE 005988387-01



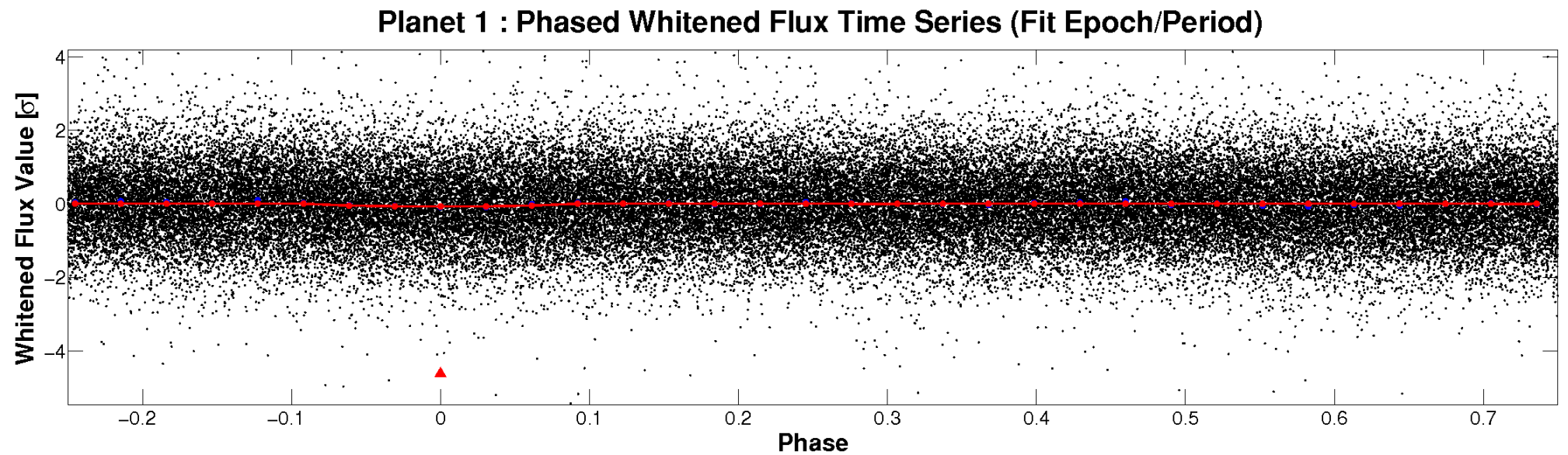
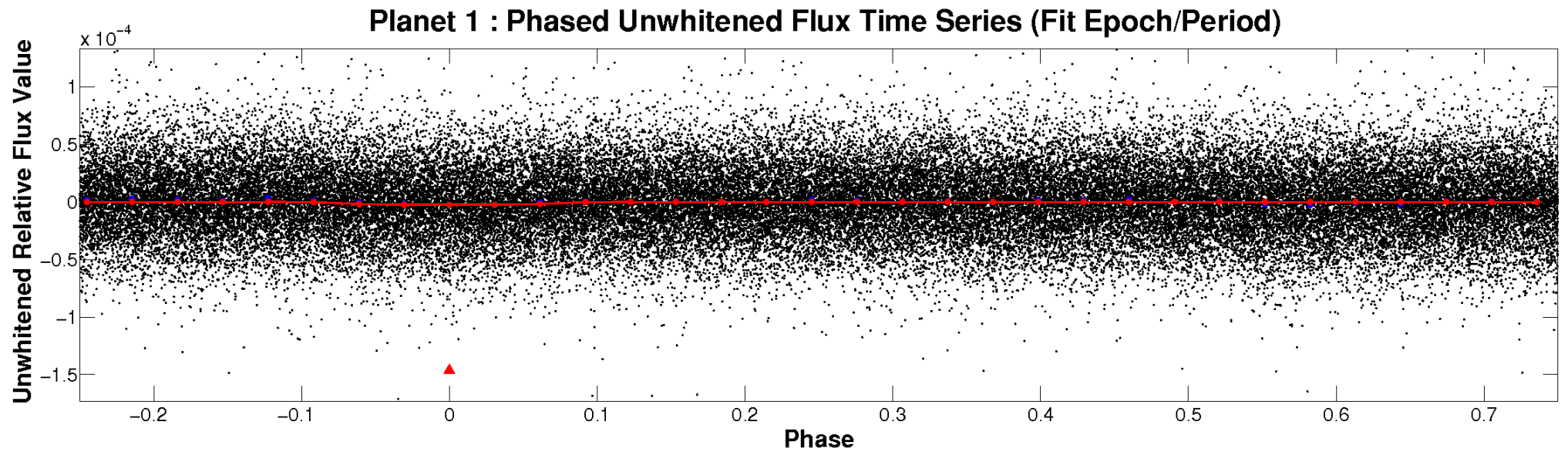
# ALT Odd/Even

TCE 005988387-01



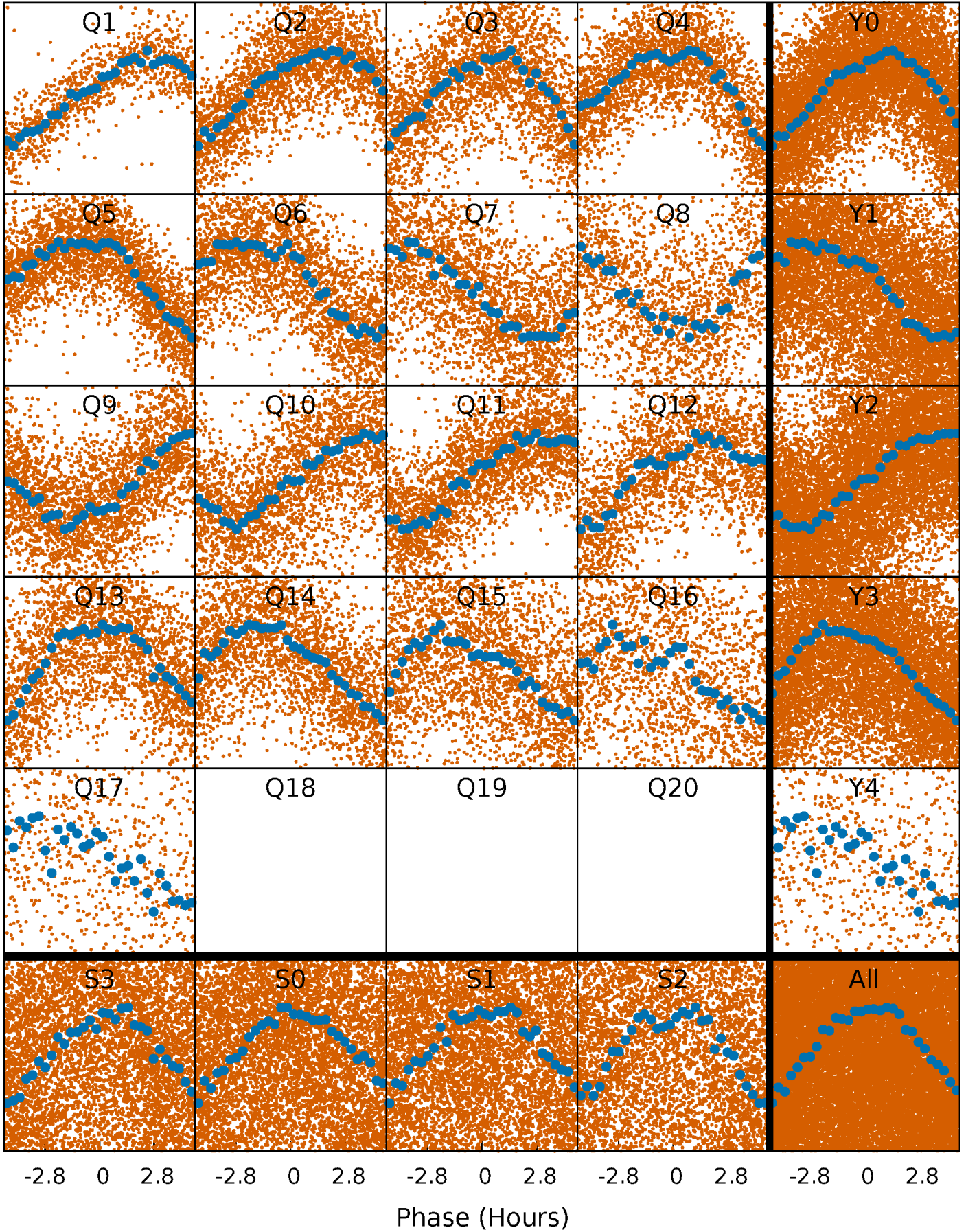


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

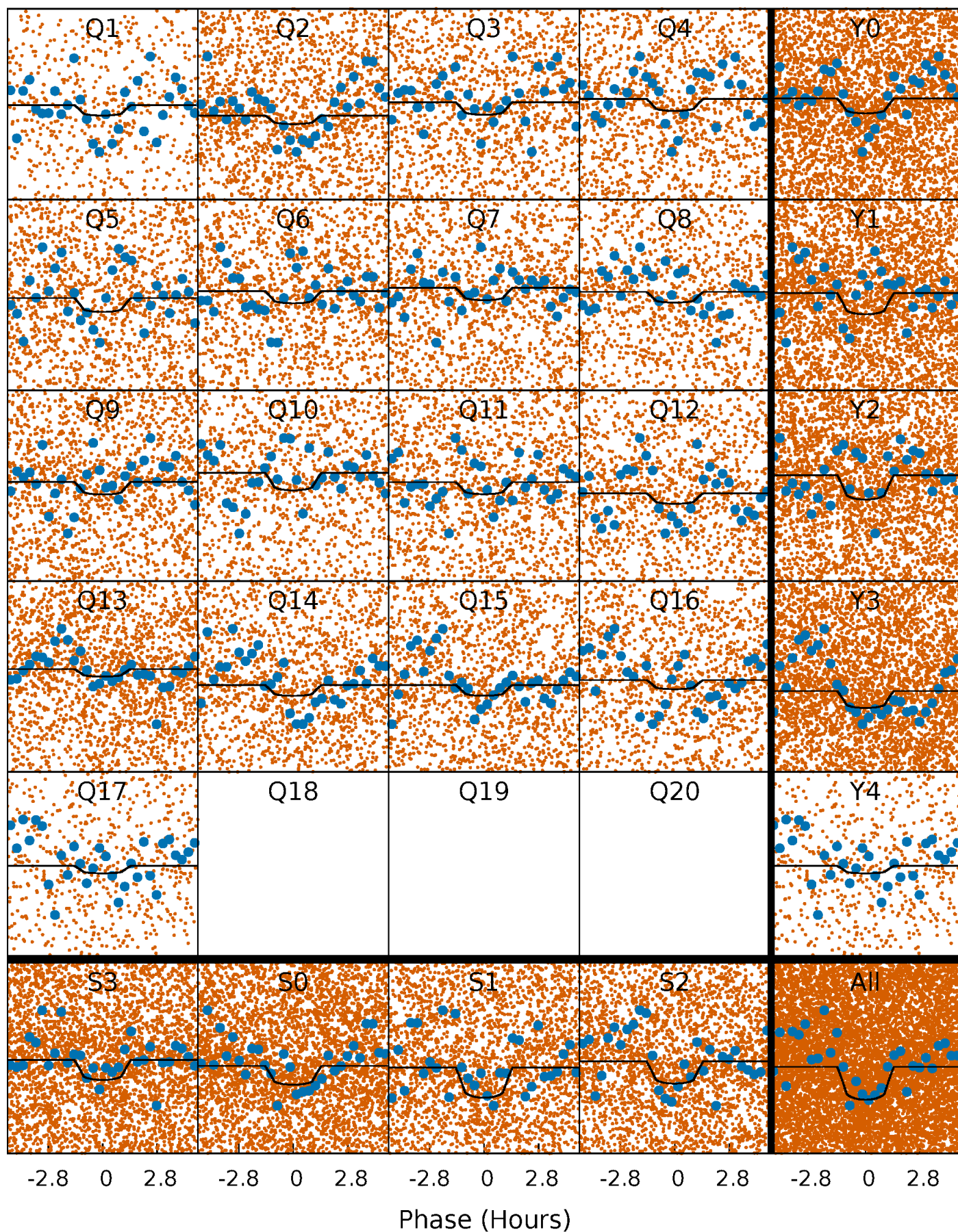
TCE 005988387-01   P= 0.666553 Days    $T_0=132.203006$  (BKJD)





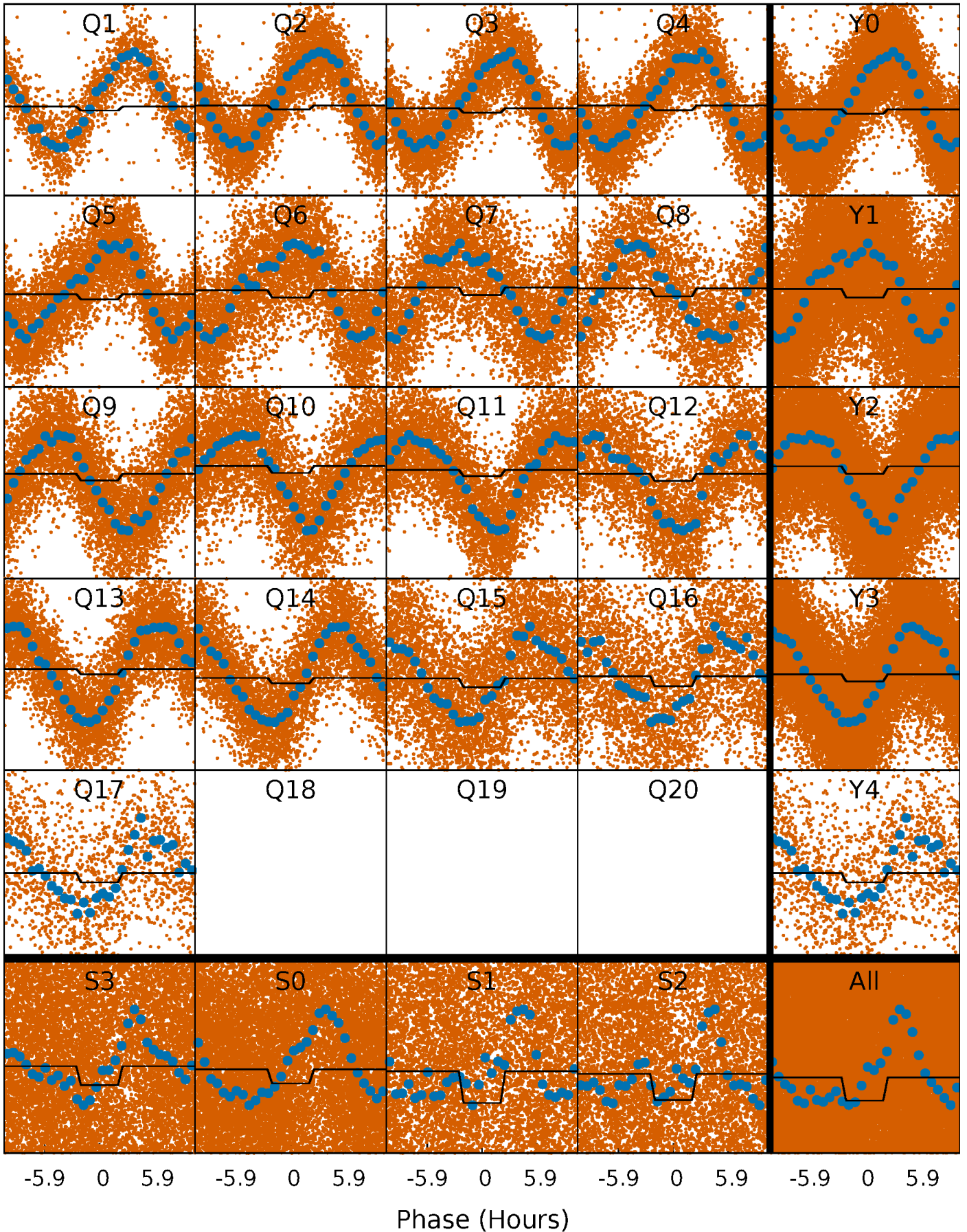
# DV Quarter-Phased Transit Curves

TCE 005988387-01 P= 0.666553 Days  $T_0=132.203006$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 005988387-01 P= 0.666417 Days  $T_0=132.167060$  (BKJD)

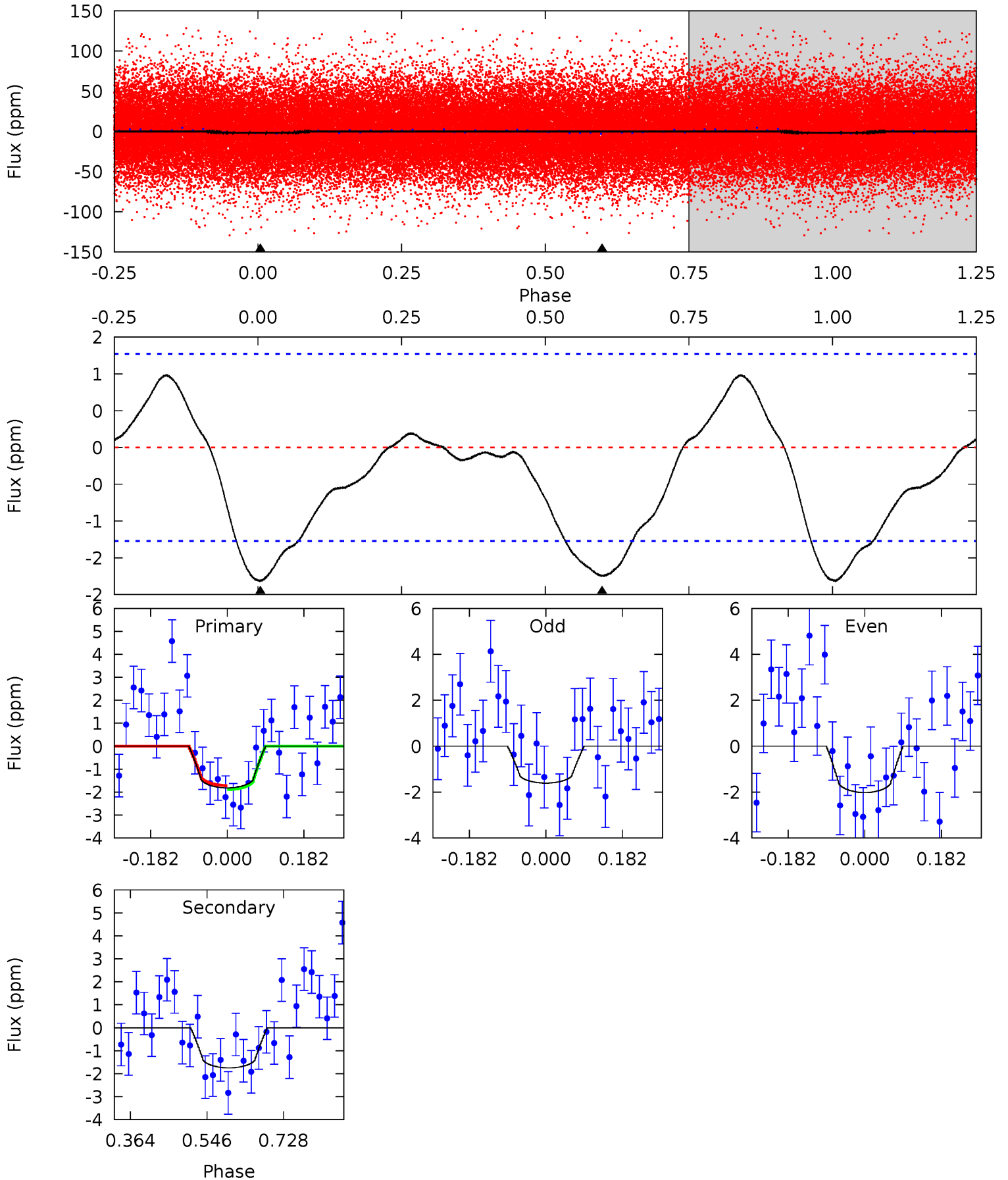




# DV Model-Shift Uniqueness Test

005988387-01, P = 0.666553 Days, E = 130.869900 Days

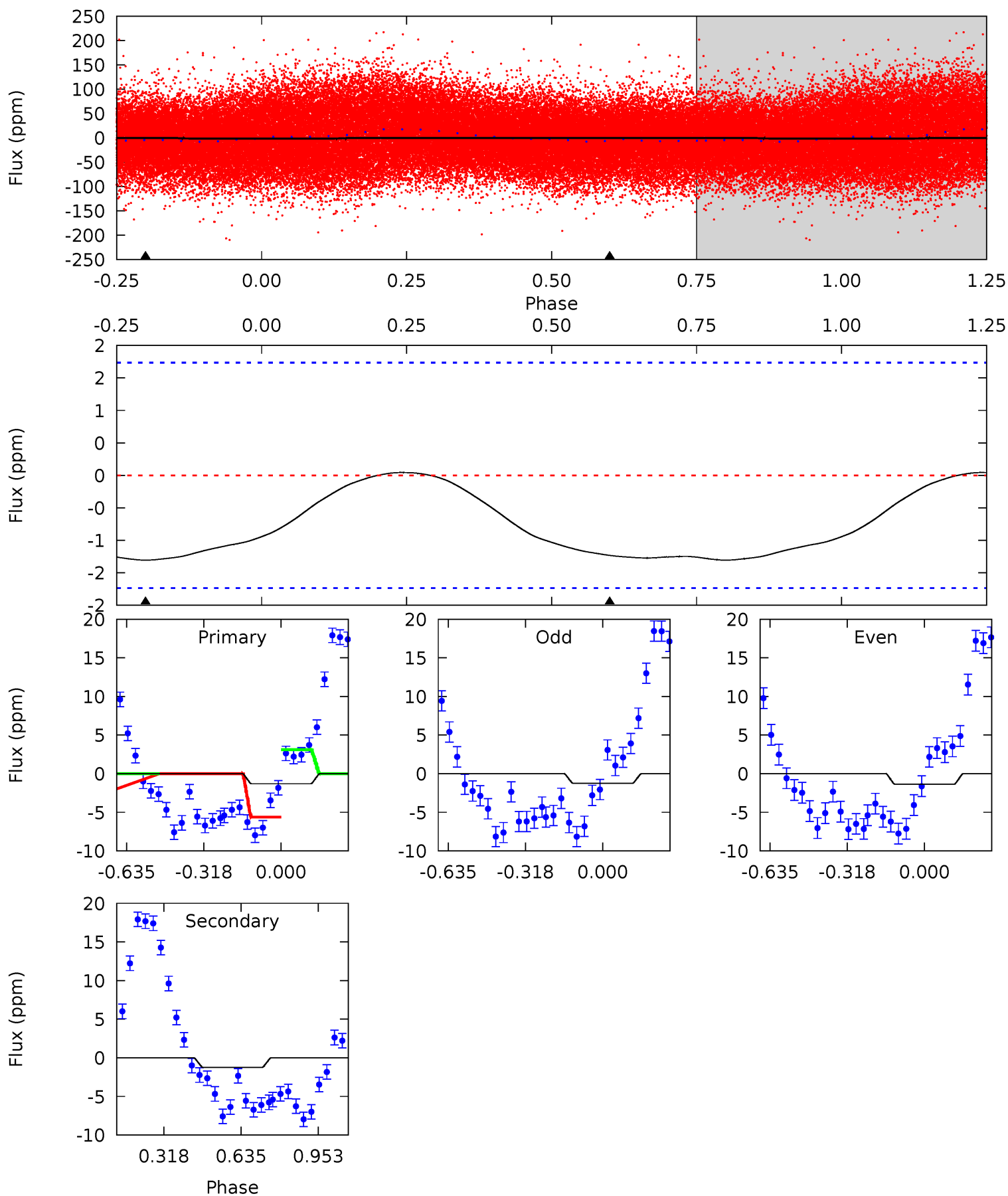
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.35	6.10	0	0	4.44	1.33	0.90	6.35	6.35	6.10	6.10	0.72	1.46	0.35	0.30



# Alt Model-Shift Uniqueness Test

005988387-01, P = 0.666417 Days, E = 131.500643 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
3.25	3.06	0	0	4.32	1.00	0.25	3.25	3.25	3.06	3.06	0.14	0.30	0.03	3.79





### Stellar Parameters For KIC 005988387

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8105^{+226}_{-311}$	$3.937^{+0.259}_{-0.111}$	$-0.200^{+0.200}_{-0.300}$	$2.433^{+0.428}_{-0.794}$	$1.868^{+0.096}_{-0.384}$	$0.183^{+0.311}_{-0.063}$
	+3%/-4%	+7%/-3%	+100%/-150%	+18%/-33%	+5%/-21%	+170%/-35%
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 005988387-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-2 \pm 0$	$0.41^{+0.08}_{-0.08}$	$5642^{+364}_{-465}$	$6847^{+807}_{-665}$	$1.925^{+1.107}_{-0.617}$
Alt.	$-1 \pm 0$	$0.63^{+0.10}_{-0.13}$	$5645^{+383}_{-515}$	$4482^{+676}_{-1258}$	$0.542^{+0.373}_{-0.208}$

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

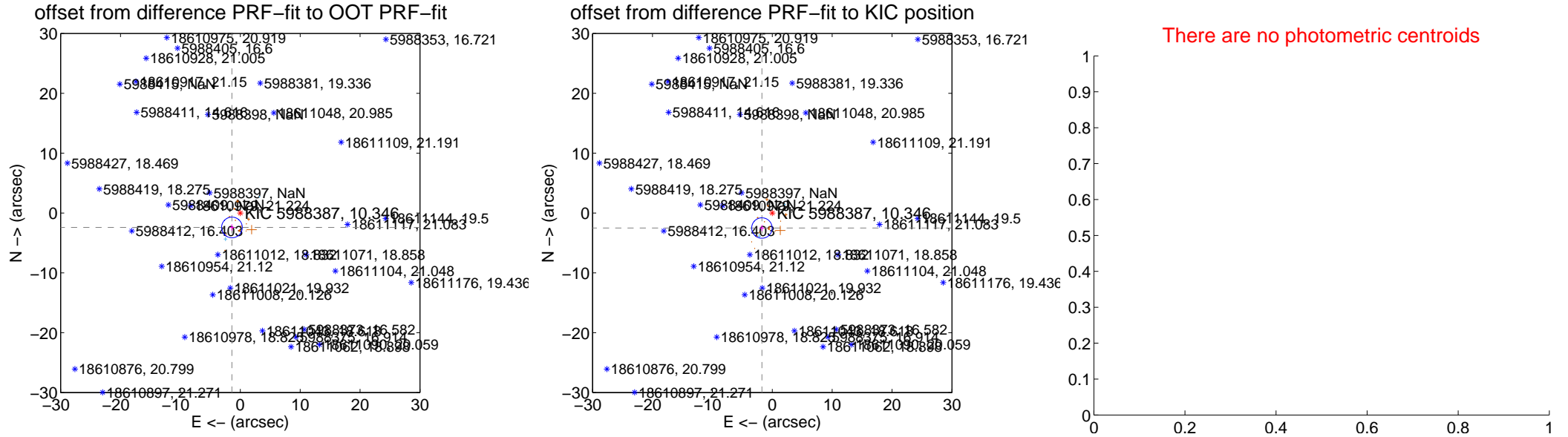
## DV Centroid Data

Supplemental centroid analysis for 005988387-01. **Kepler magnitude: 10.35**. Transit SNR 6.06

**There are 2 quarters with good PRF difference image offsets**

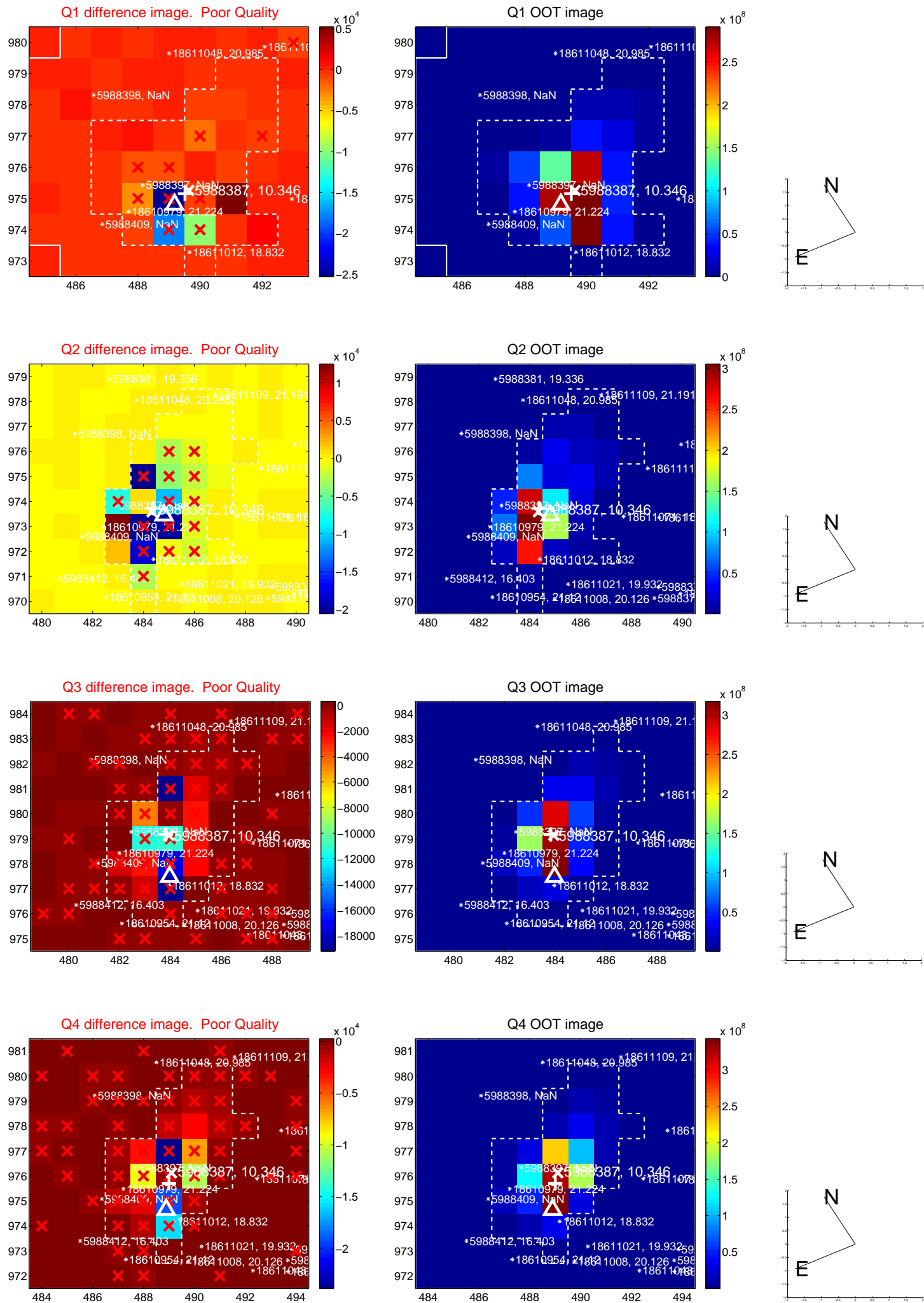
The direct PRF centroid is offset from the target star catalog position by about 0.57 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>2.786 <math>\pm</math> 0.576</b>	<b>4.84</b>	1.393 $\pm$ 0.406	-2.412 $\pm$ 0.513
PRF-fit source offset from KIC position	<b>3.046 <math>\pm</math> 0.569</b>	<b>5.35</b>	1.728 $\pm$ 0.420	-2.508 $\pm$ 0.501
photometric centroid source offset	—	—	—	—

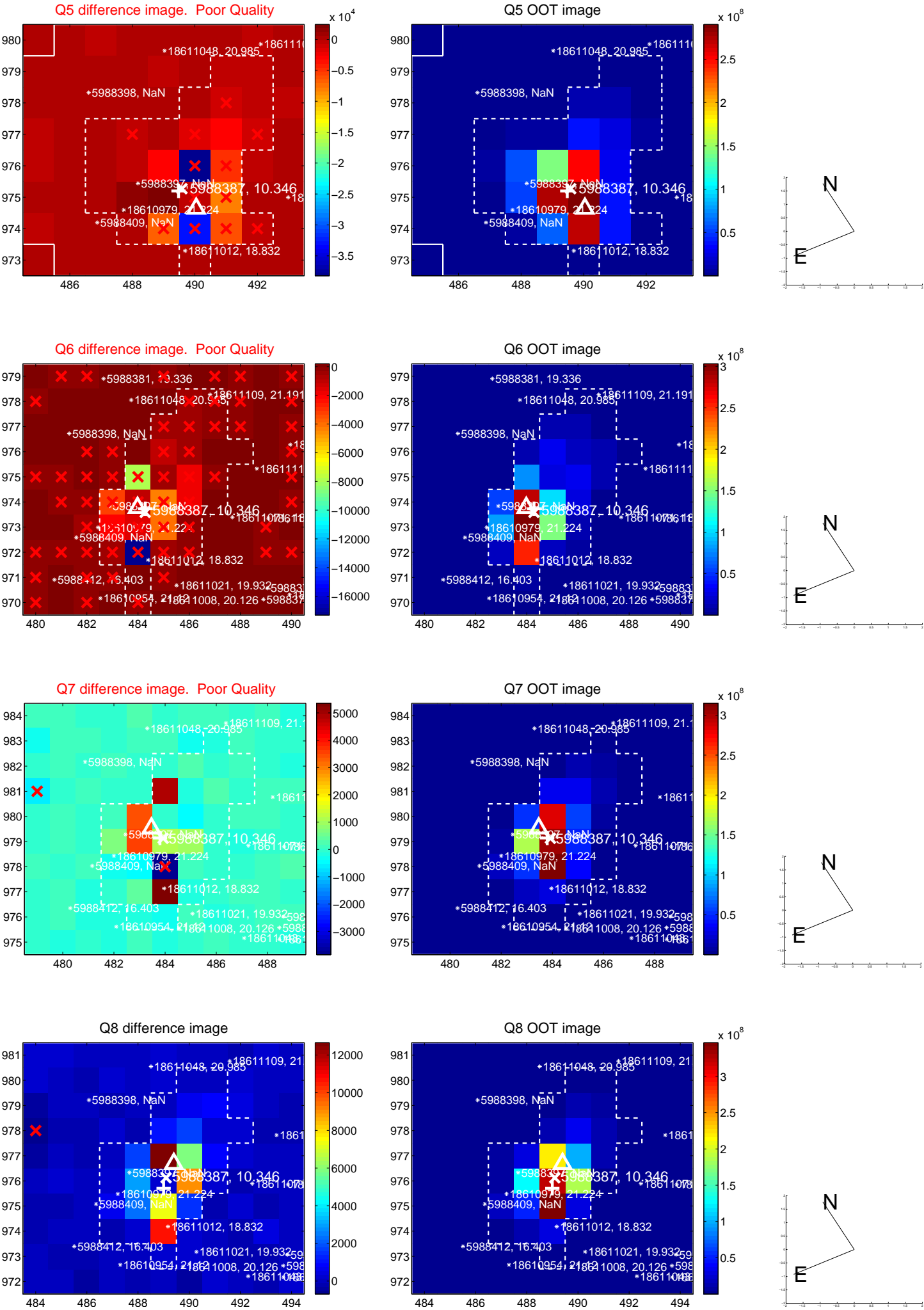


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

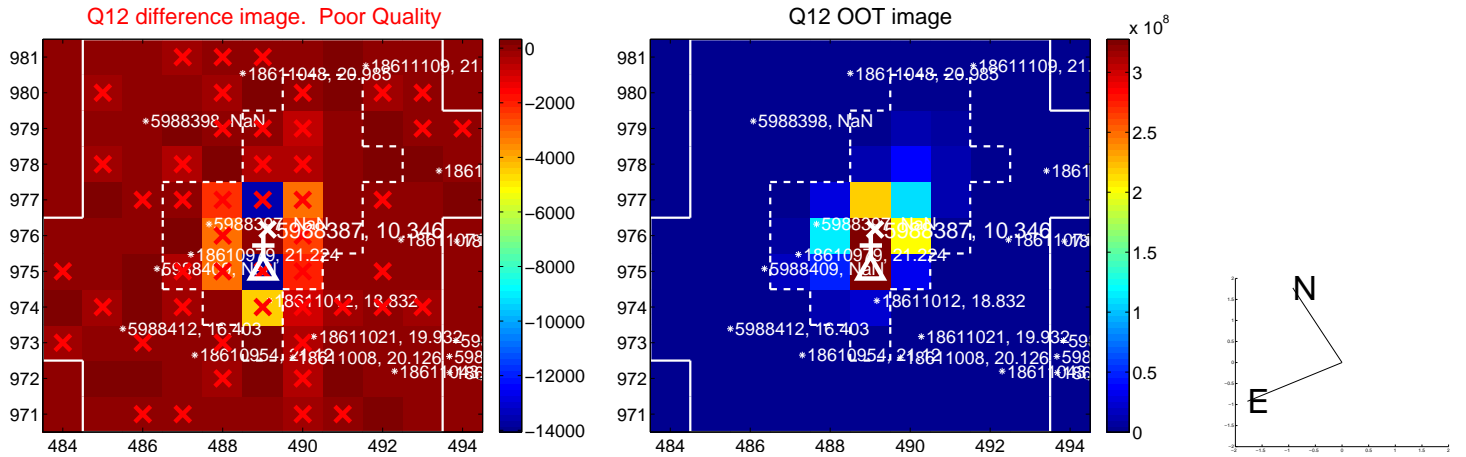
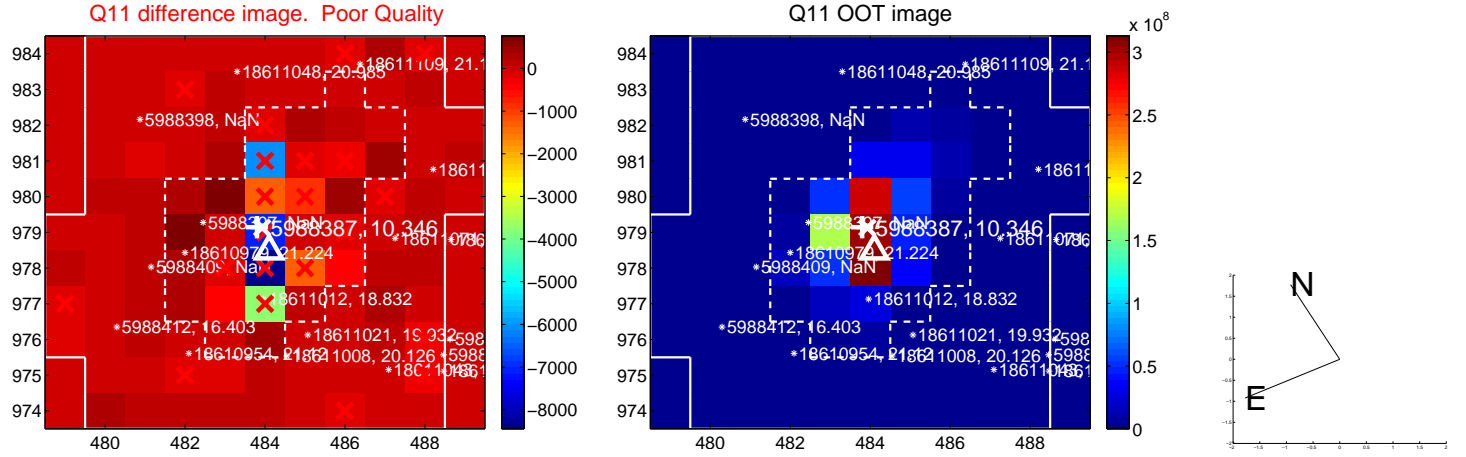
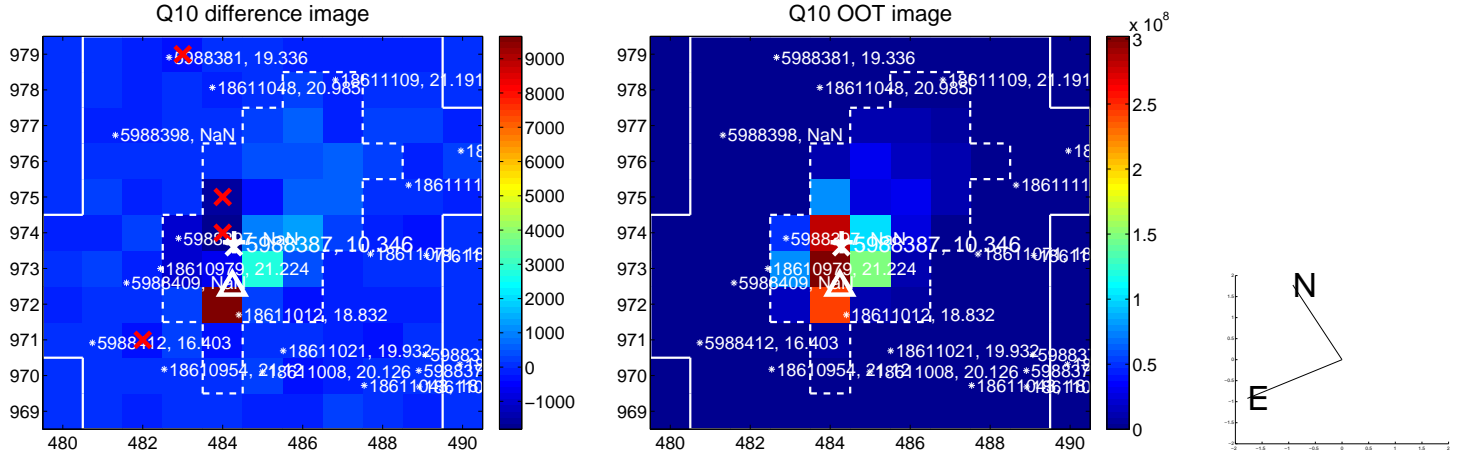
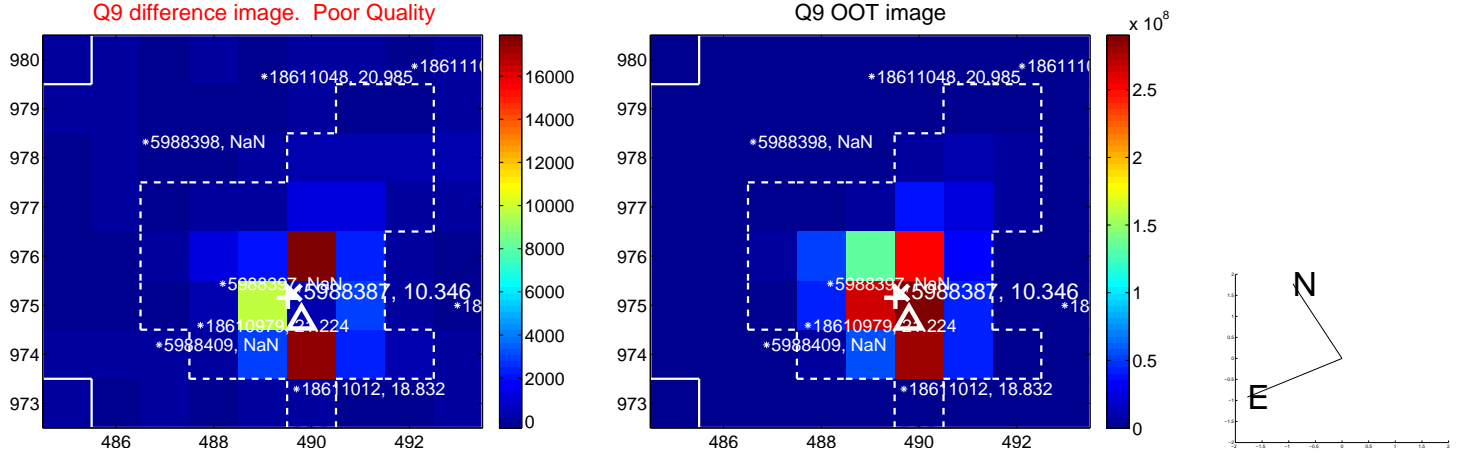


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

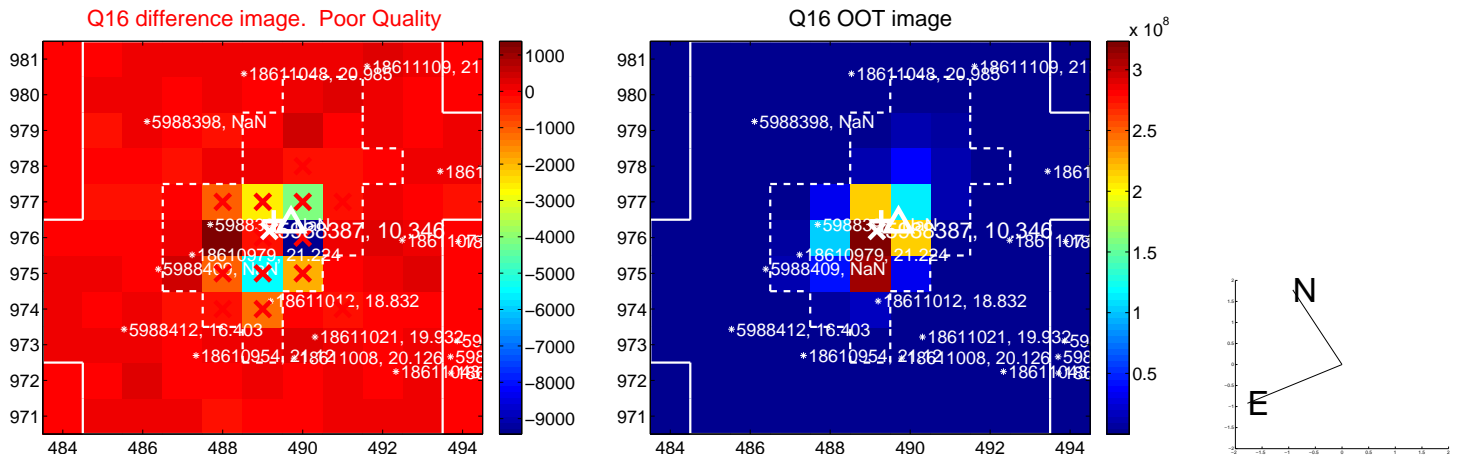
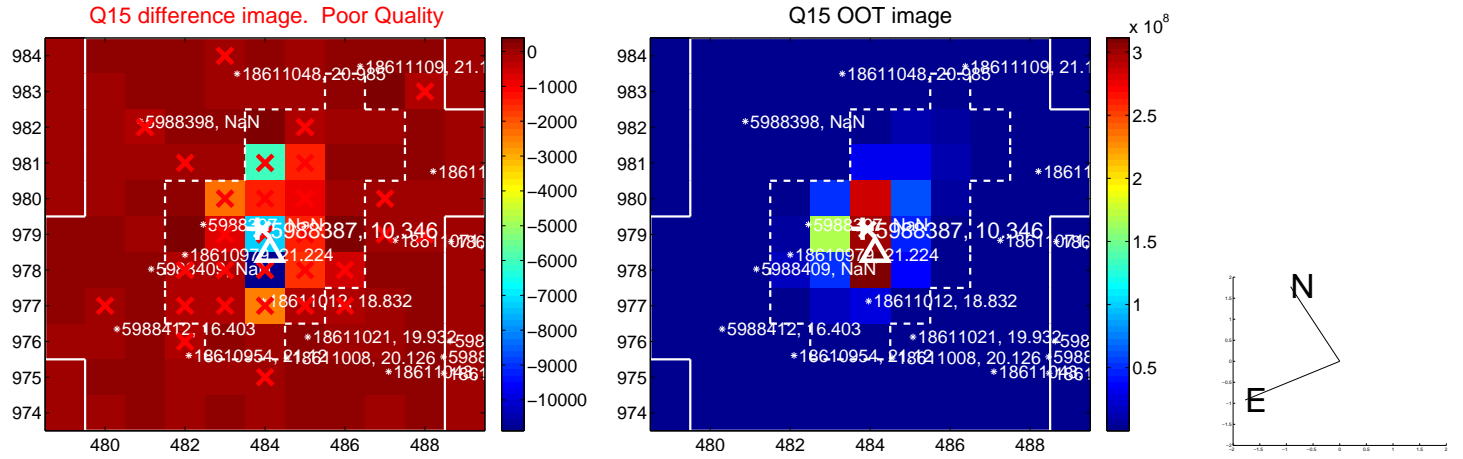
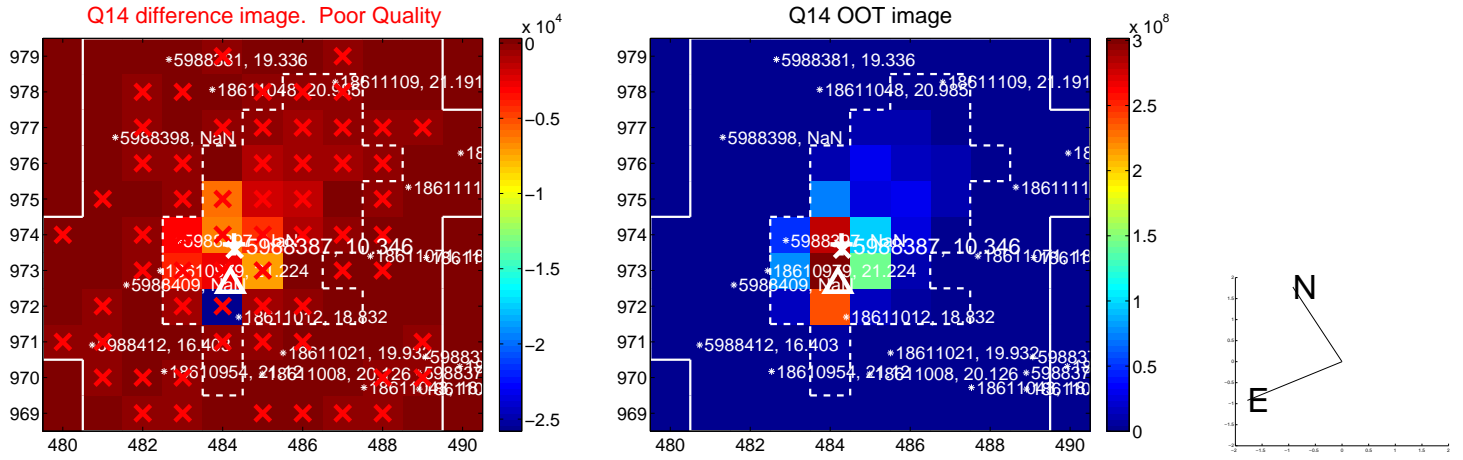
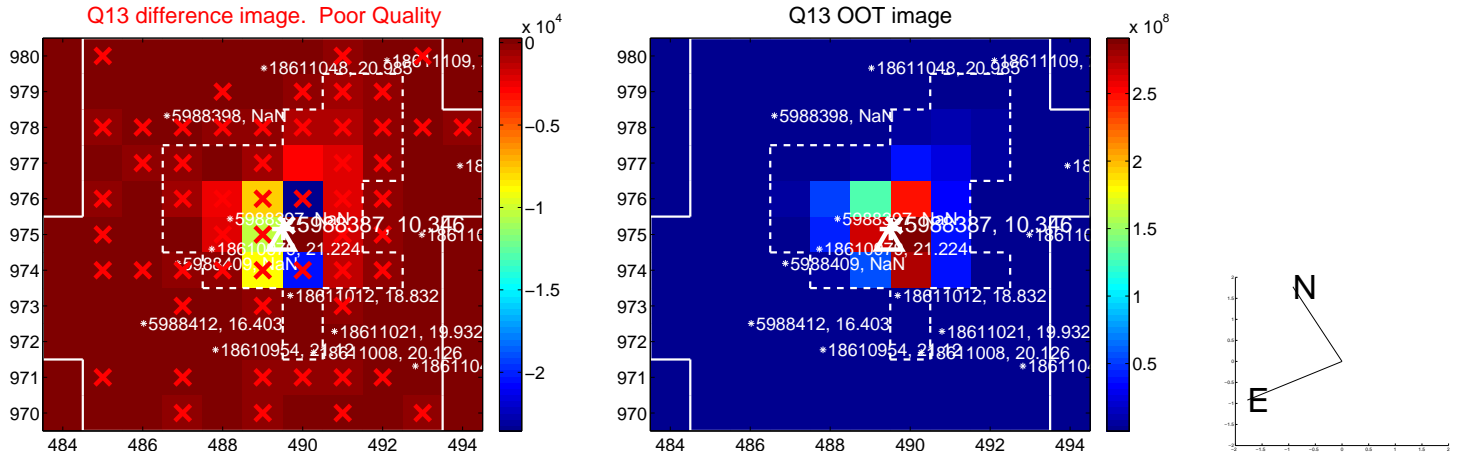




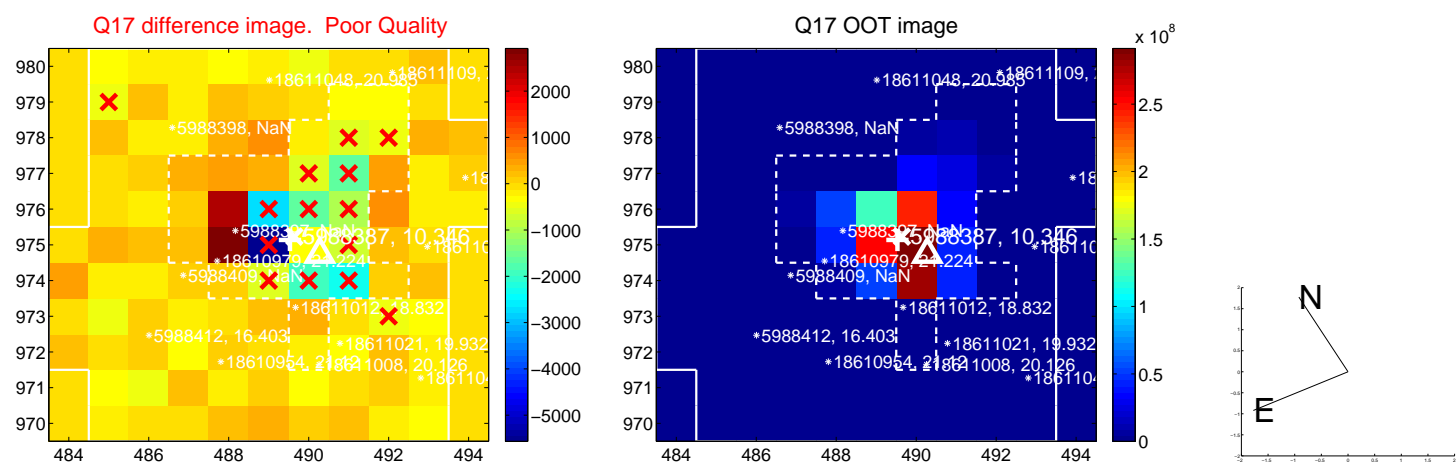
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

