

# KIC 002575964

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
002575964-01	OBS	No	4.257263	132.024036	135.2	31.052	8.9	8.0	1.00	5780	1.16	378.24

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002575964-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST

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

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

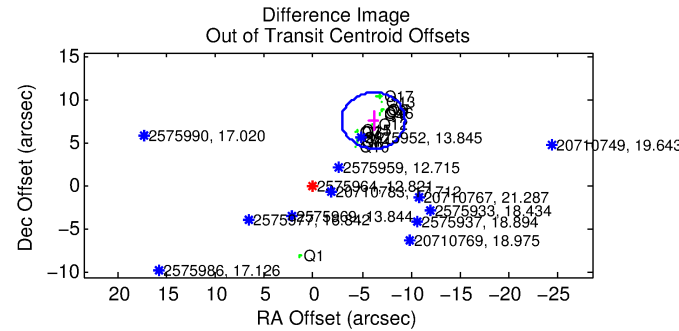
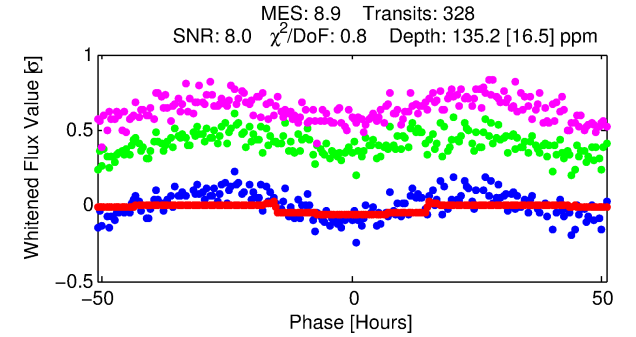
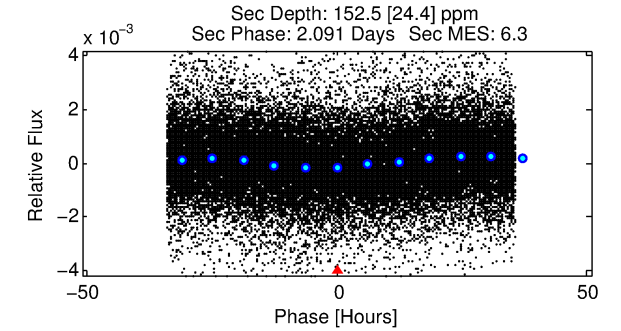
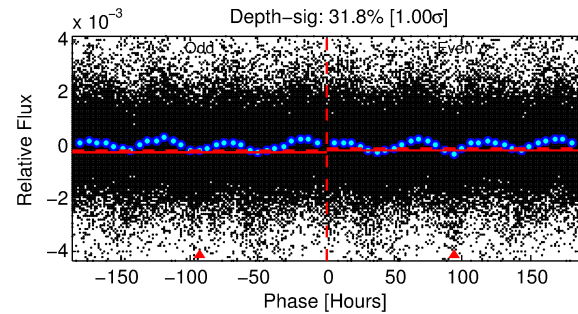
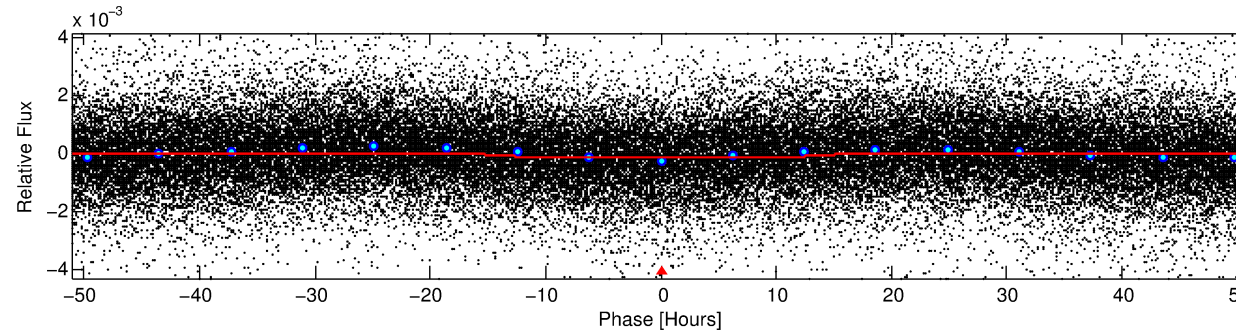
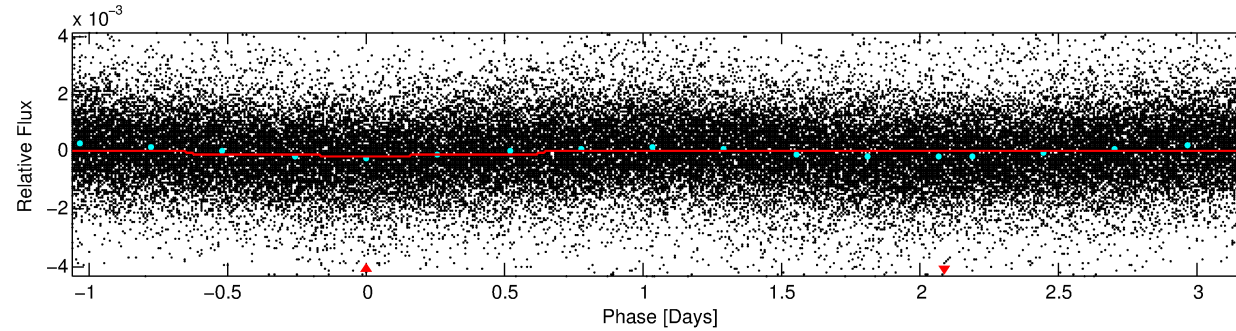
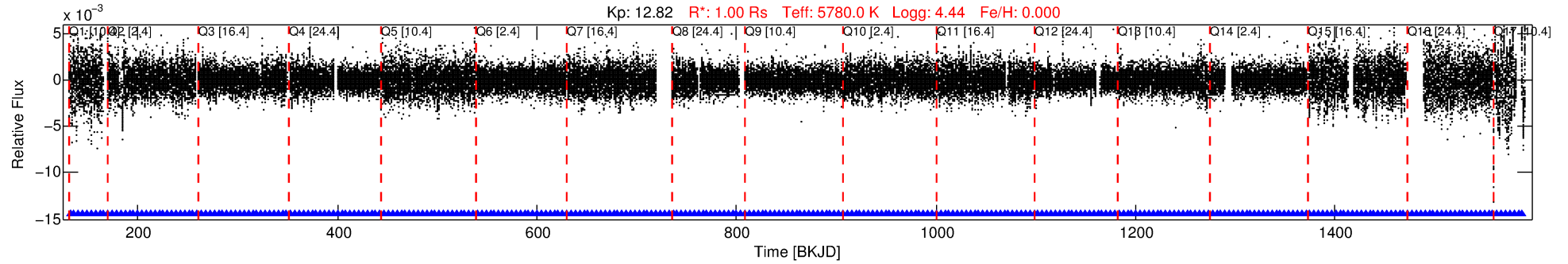
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 002575964-01

No Significant Match Found

# DV One-Page Summary

KIC: 2575964 Candidate: 1 of 1 Period: 4.257 d



## DV Fit Results:

Period = 4.25726 [0.00011] d  
Epoch = 132.0240 [0.0166] BKJD  
Rp/R\* = 0.0107 [0.0049]  
a/R\* = 1.22 [0.81]  
b = 0.31 [6.00]  
Seff = 378.24 [0.01]  
Teq = 1125 [0] K  
Rp = 1.16 [0.54] Re  
a = 0.0514 [0.0000] AU  
Ag = 164.02 [153.61] [1.06σ]  
Teffp = 6222 [1457] K [3.50σ]

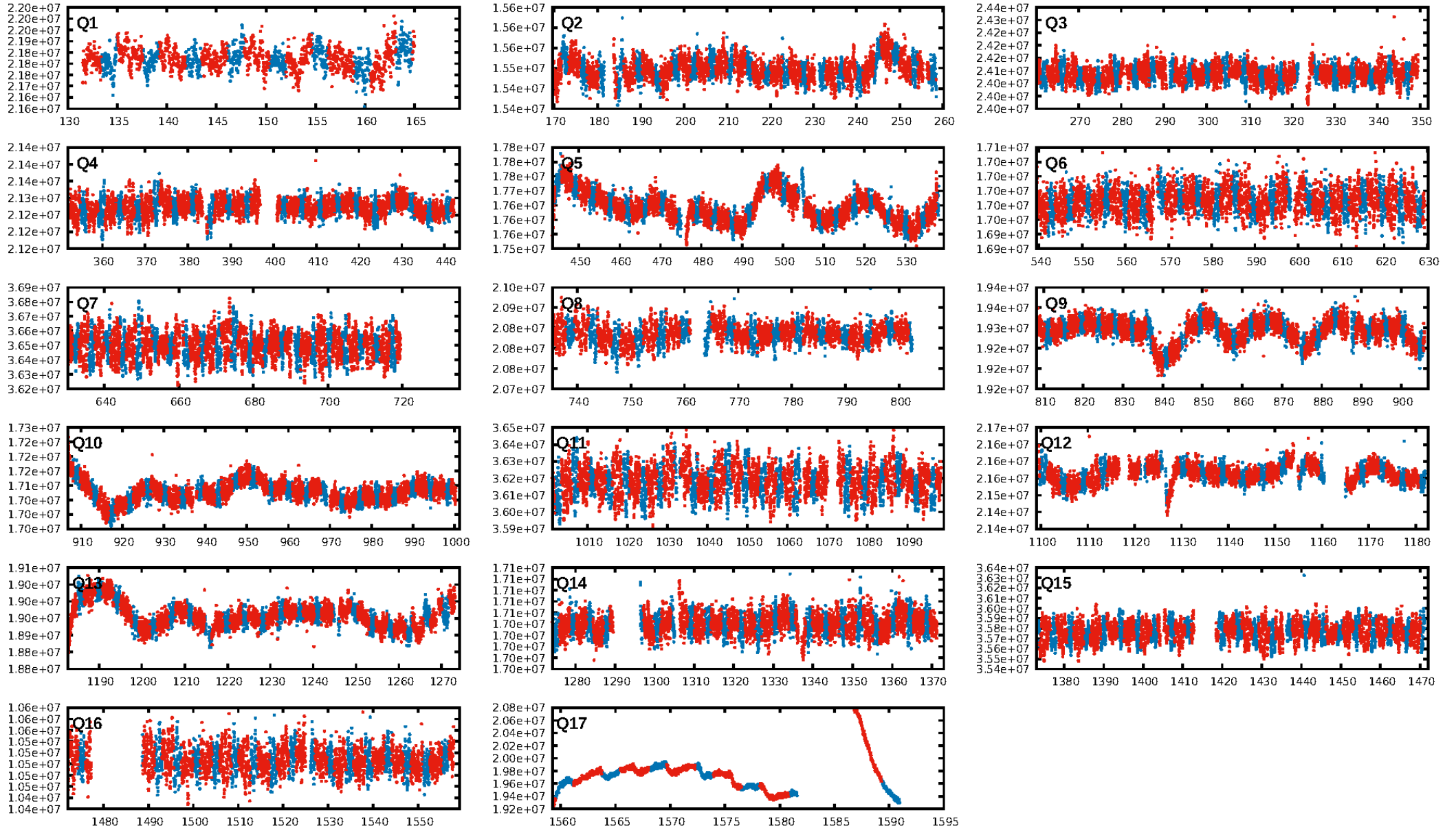
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [314/314]  
GhostDiagnostic-chr: -0.2146  
Centroid-sig: 0.0%  
Centroid-so: 2.105 arcsec [3.63σ]  
OotOffset-rm: 9.773 arcsec [9.04σ]  
KicOffset-rm: 7.535 arcsec [16.33σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.88 [15/17]  
DiffImageOverlap-fno: 1.00 [17/17]

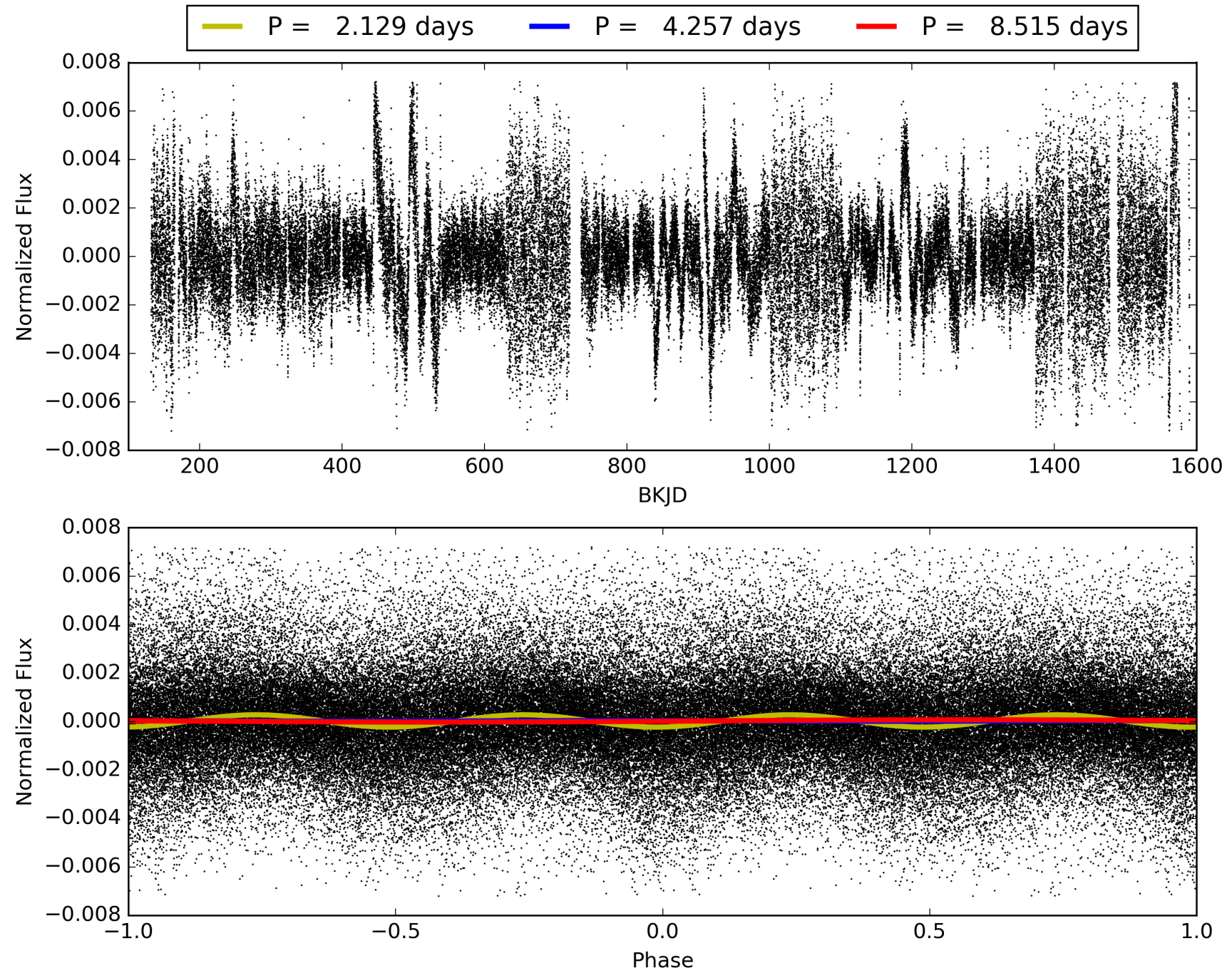
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 04:15:25 Z

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

# TCE 002575964-01, PDC Light Curves



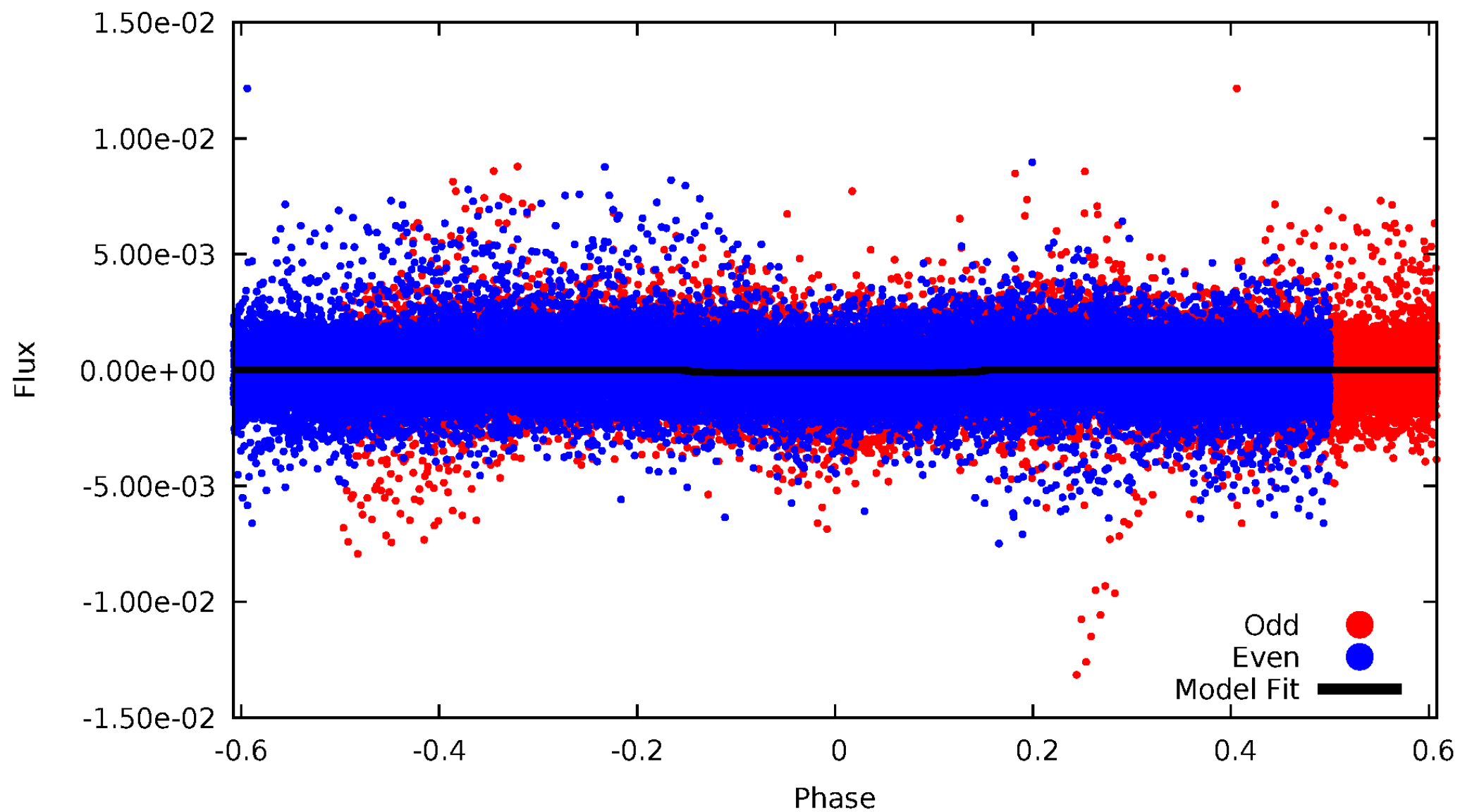
TCE 002575964-01





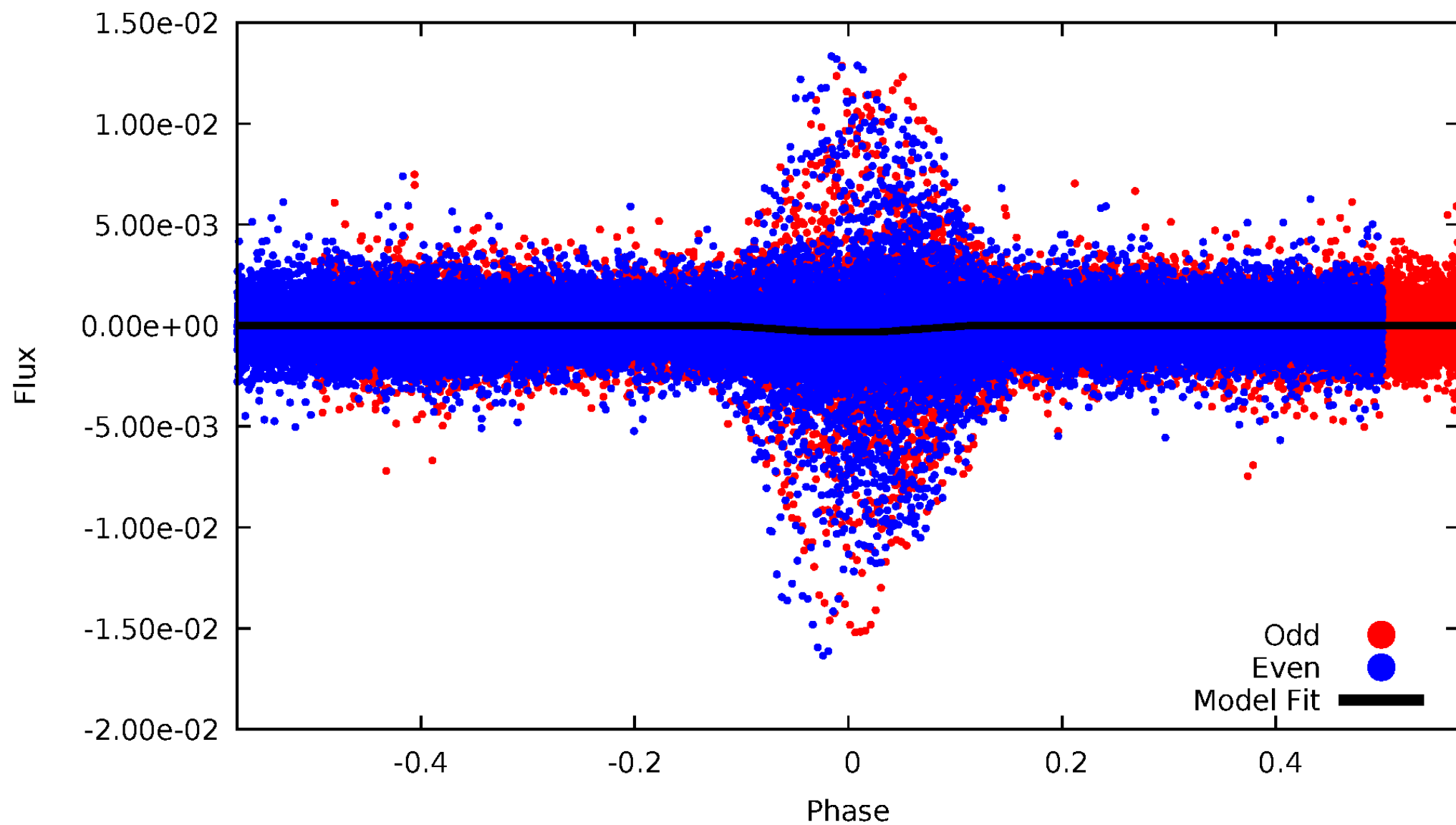
# DV Odd/Even

TCE 002575964-01

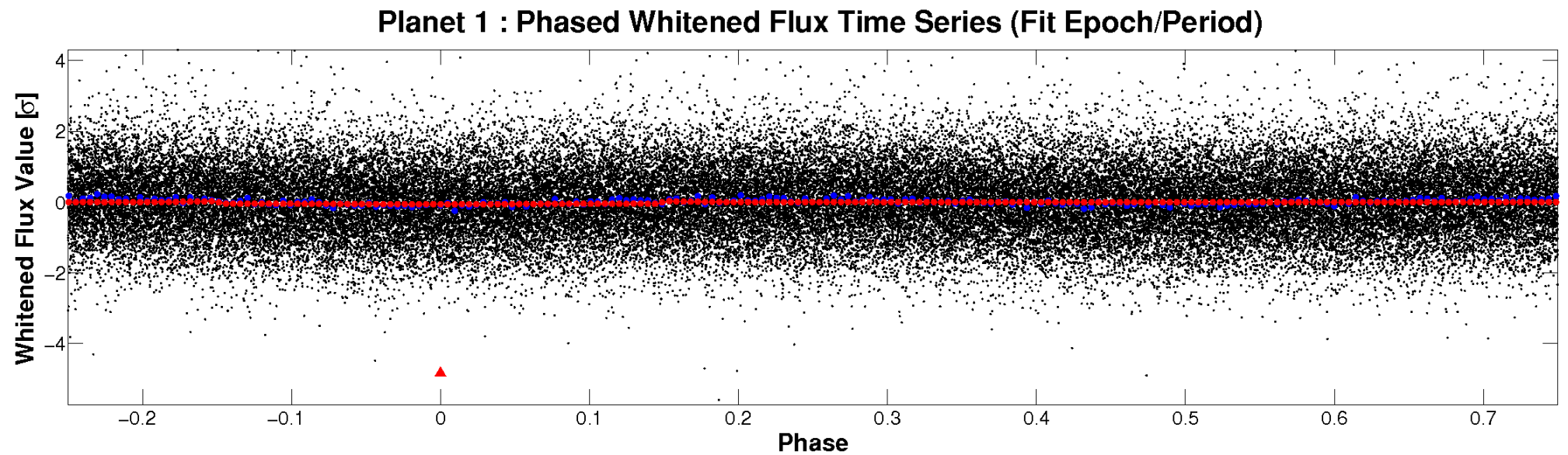
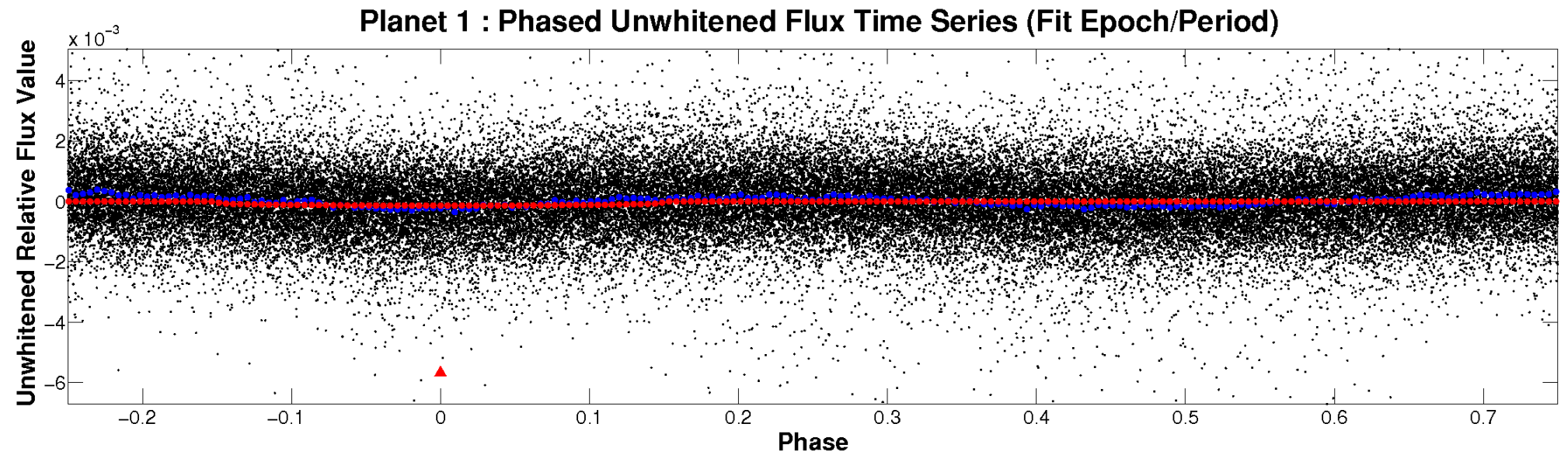


# ALT Odd/Even

TCE 002575964-01

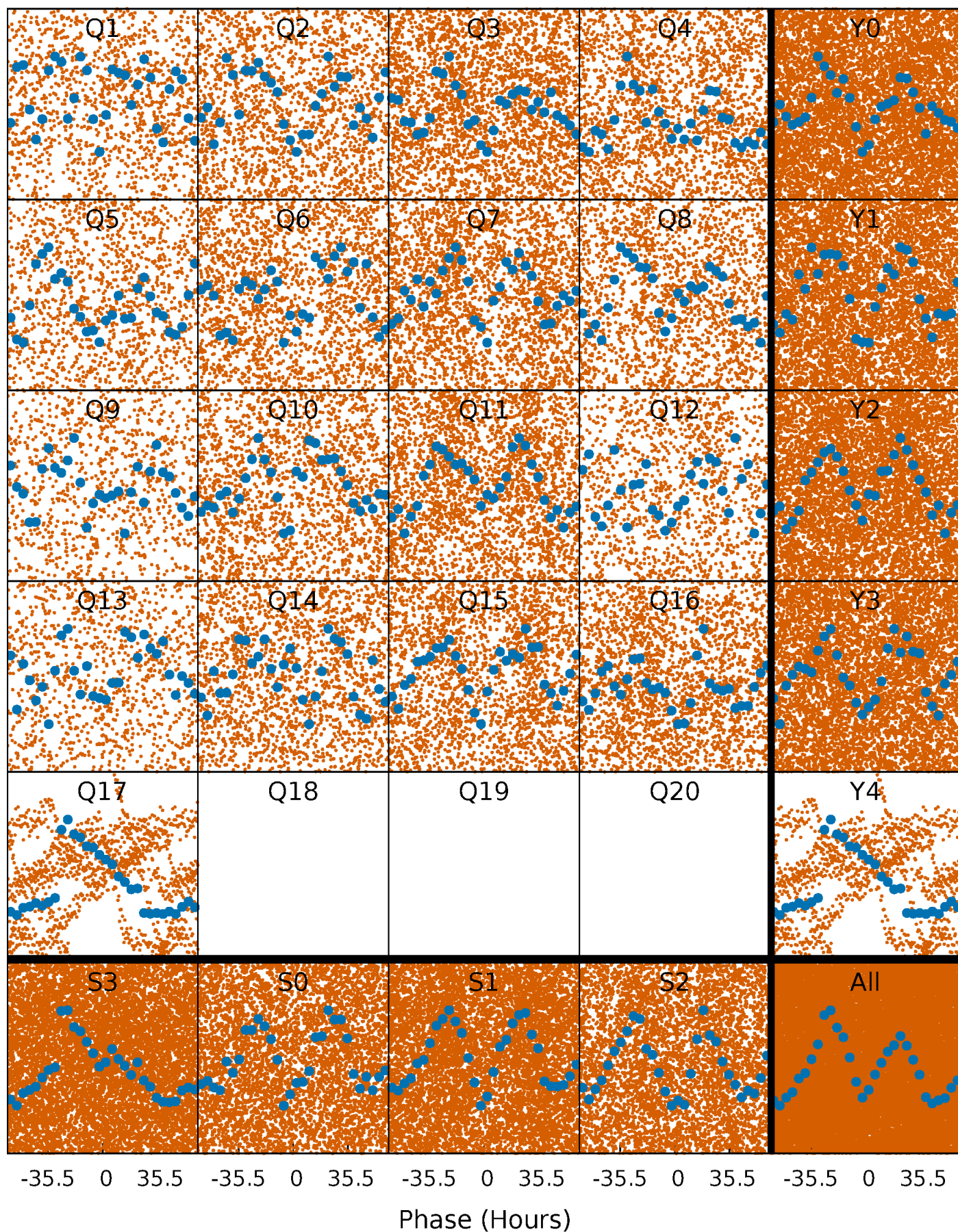


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

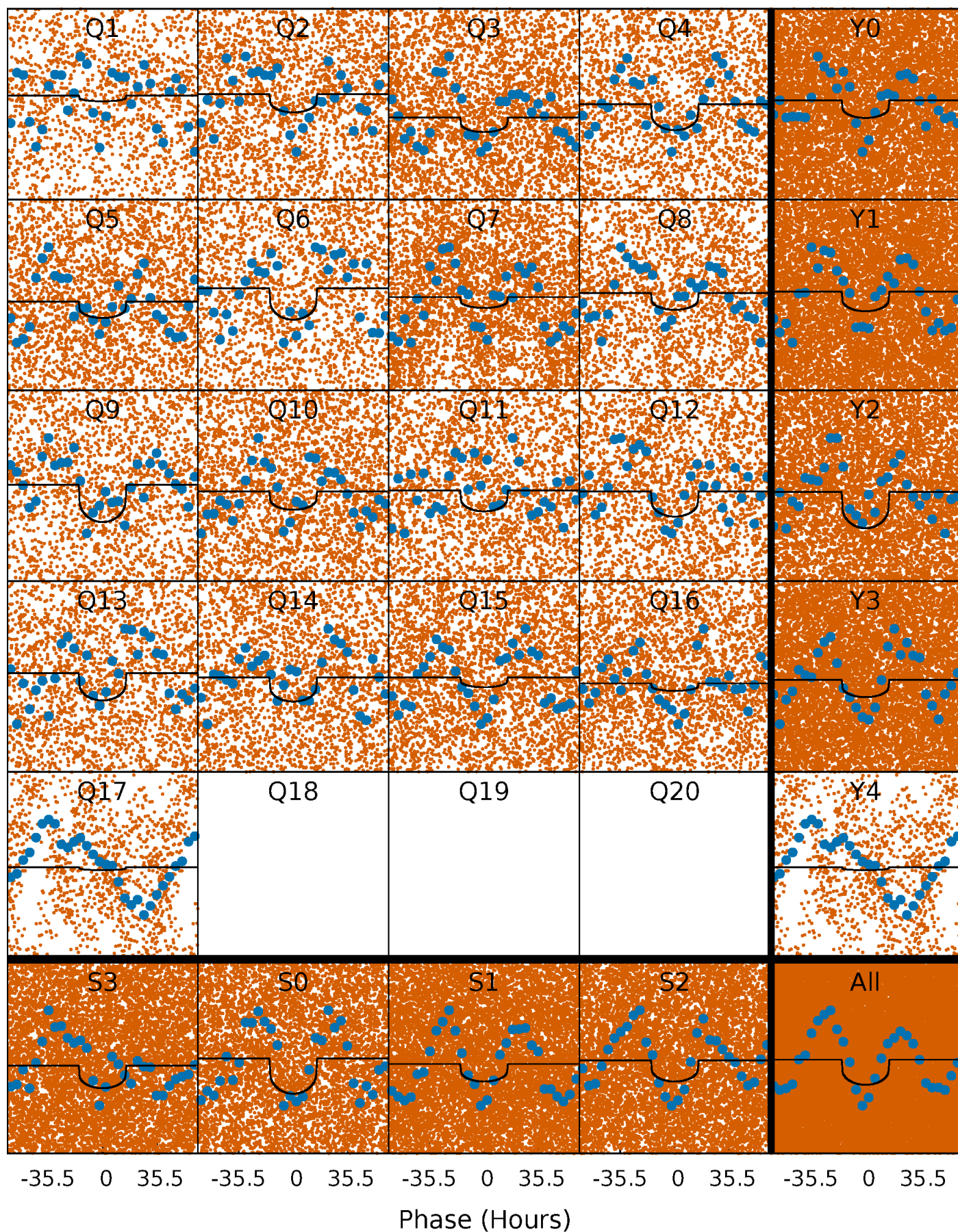
TCE 002575964-01 P= 4.257263 Days  $T_0=132.024036$  (BKJD)





# DV Quarter-Phased Transit Curves

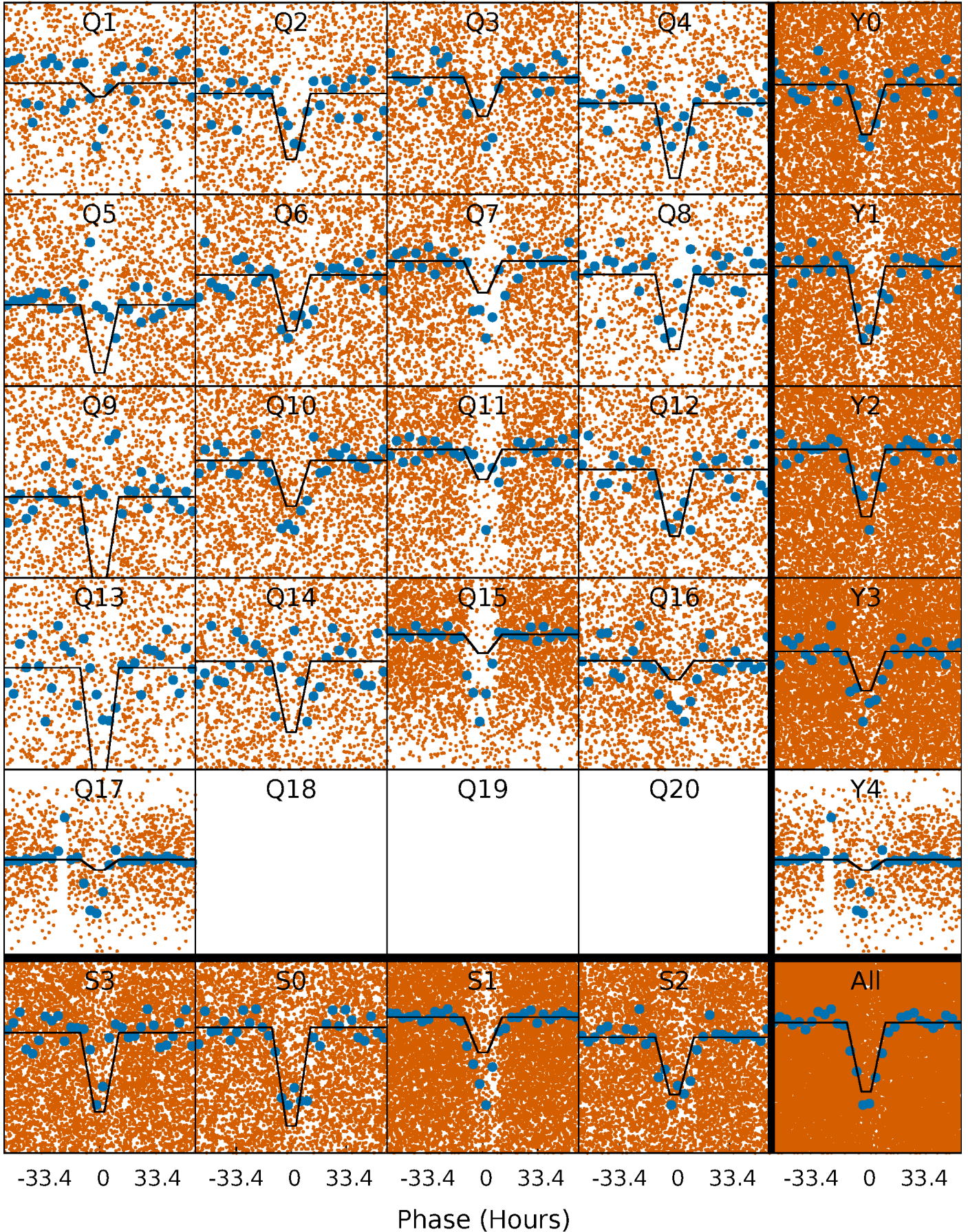
TCE 002575964-01 P= 4.257263 Days  $T_0=132.024036$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

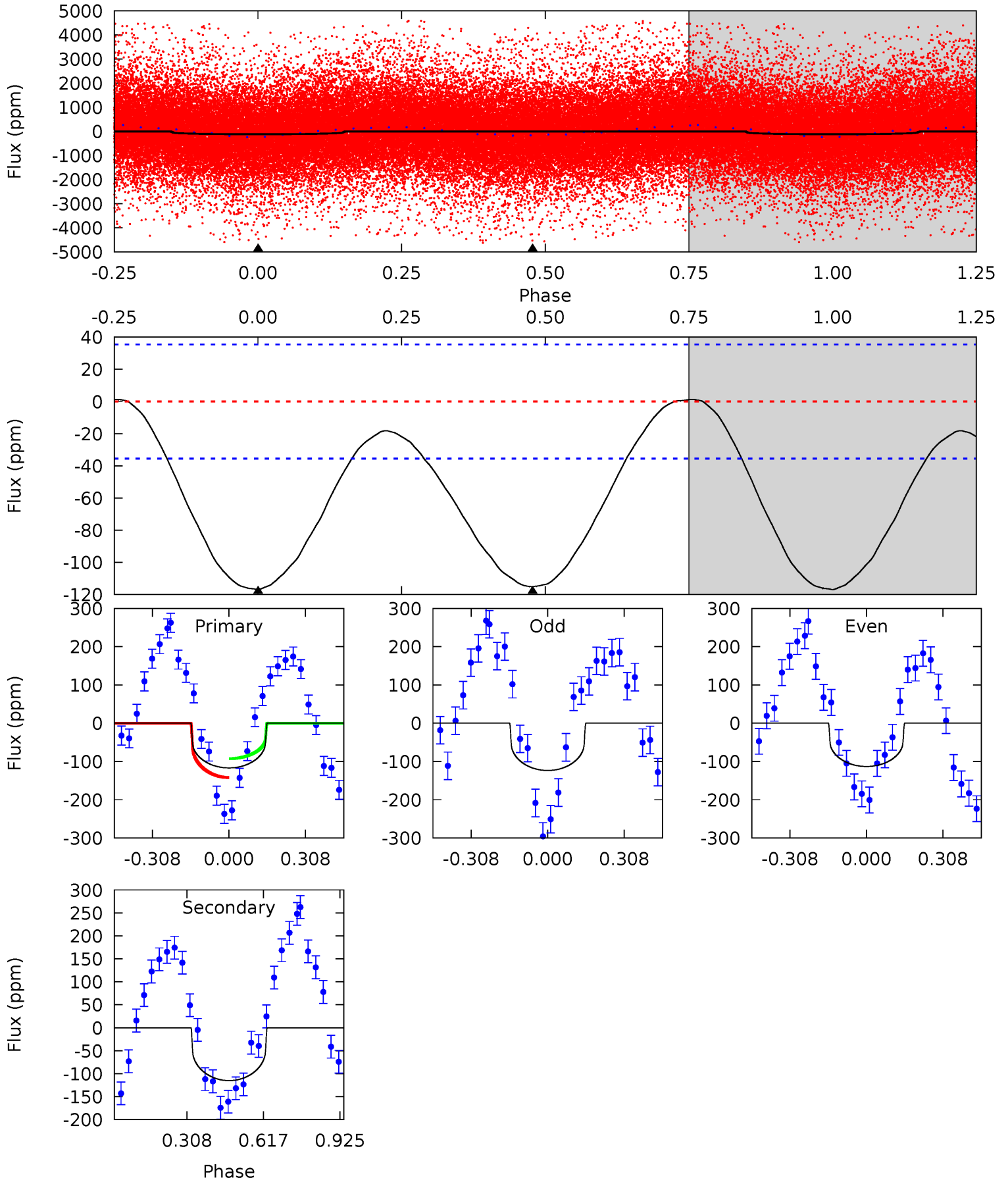
TCE 002575964-01 P= 4.257203 Days  $T_0=131.957303$  (BKJD)



# DV Model-Shift Uniqueness Test

002575964-01, P = 4.257263 Days, E = 127.766773 Days

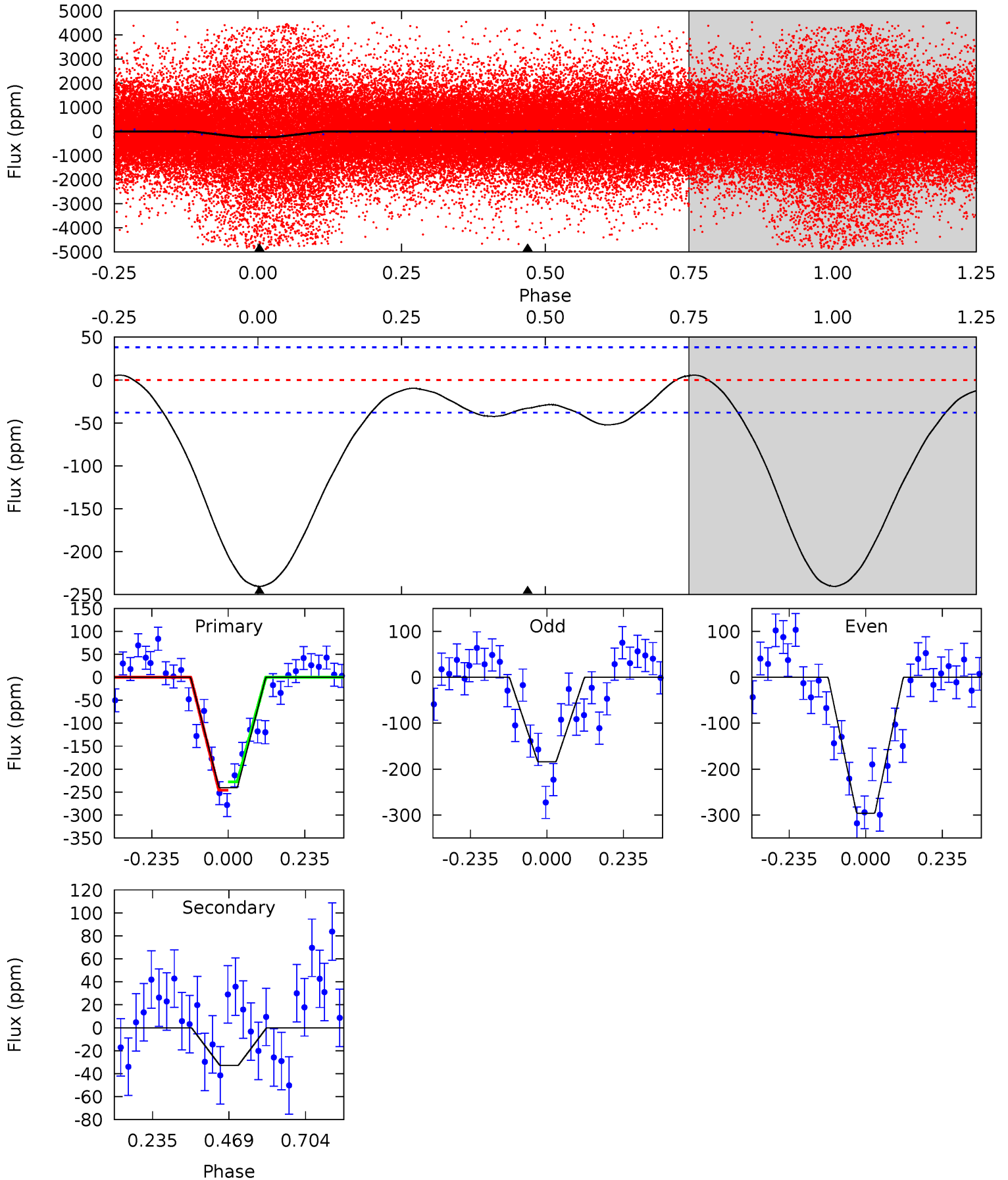
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	14.0	0	0	4.32	1.02	1.09	14.2	14.2	14.0	14.0	0.66	1.35	0.01	3.14



# Alt Model-Shift Uniqueness Test

002575964-01, P = 4.257203 Days, E = 127.700100 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
27.7	3.78	0	0	4.38	1.19	0.99	27.7	27.7	3.78	3.78	6.38	1.40	0.02	0





### Stellar Parameters For KIC 002575964

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5780^{+1}_{-1}$	$4.438^{+1.000}_{-1.000}$	$0.000^{+1.000}_{-1.000}$	$1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$	$-1.000^{+1.000}_{-1.000}$
	+0%/-0%	+23%/-23%	+inf%/-inf%	+100%/-100%	+100%/-100%	+100%/-100%
Source	Solar	Solar	Solar	Solar		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 002575964-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-115 \pm 8$	$1.18^{+0.54}_{-0.51}$	$1570^{+81}_{-77}$	$5737^{+2044}_{-911}$	$122^{+259}_{-66}$
Alt.	$-33 \pm 9$	$1.95^{+0.56}_{-0.53}$	$1570^{+77}_{-76}$	$3664^{+474}_{-337}$	$12^{+12}_{-5}$

$T_{\text{max}}$  = 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

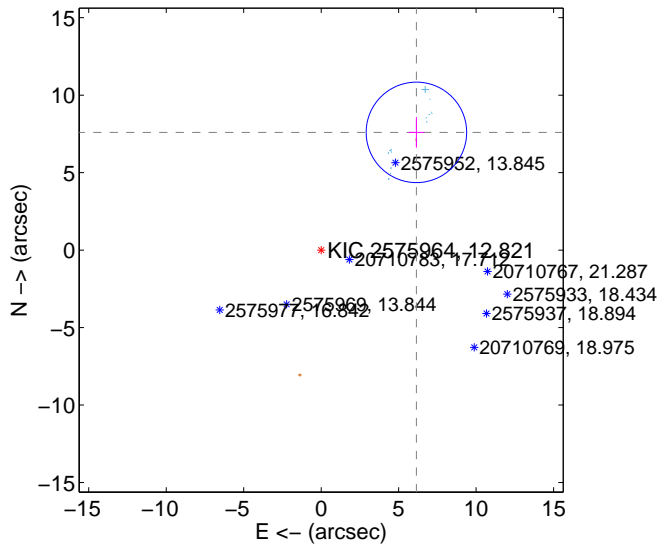
Supplemental centroid analysis for 002575964-01. Kepler magnitude: 12.82. Transit SNR 8.00

There are 15 quarters with good PRF difference image offsets

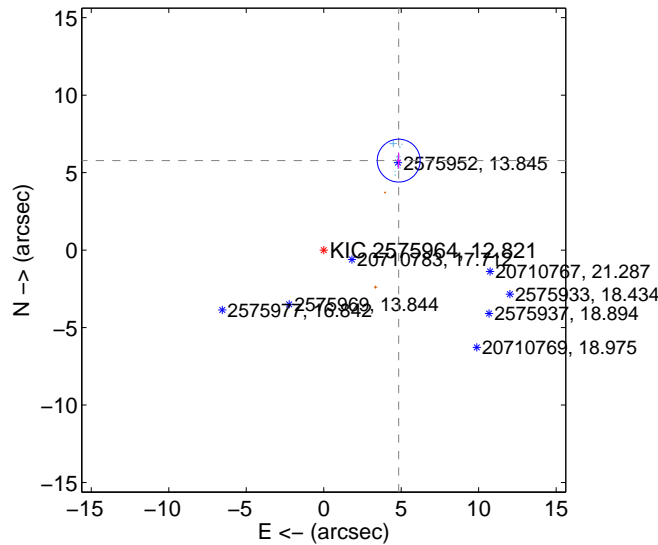
The OOT PRF centroid is offset from the target star catalog position by about 4.14 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	9.773 $\pm$ 1.081	9.04	-6.147 $\pm$ 0.511	7.598 $\pm$ 0.990
PRF-fit source offset from KIC position	7.535 $\pm$ 0.461	16.33	-4.839 $\pm$ 0.122	5.775 $\pm$ 0.520
photometric centroid source offset	2.10 $\pm$ 0.58	3.63	-1.39 $\pm$ 0.51	1.58 $\pm$ 0.63

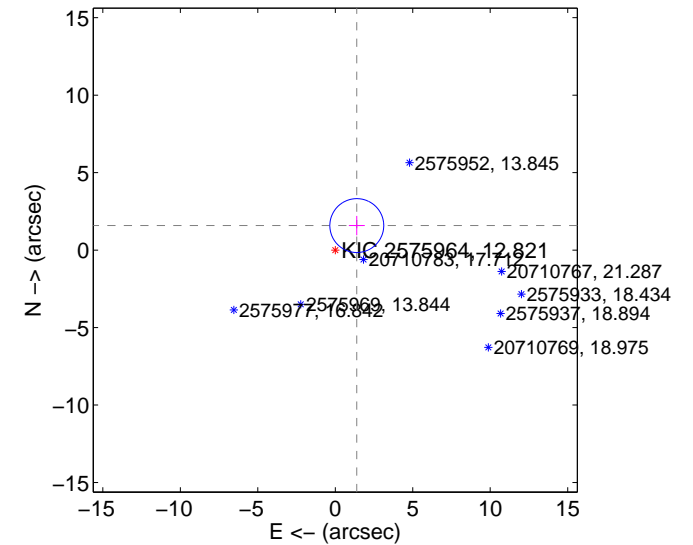
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

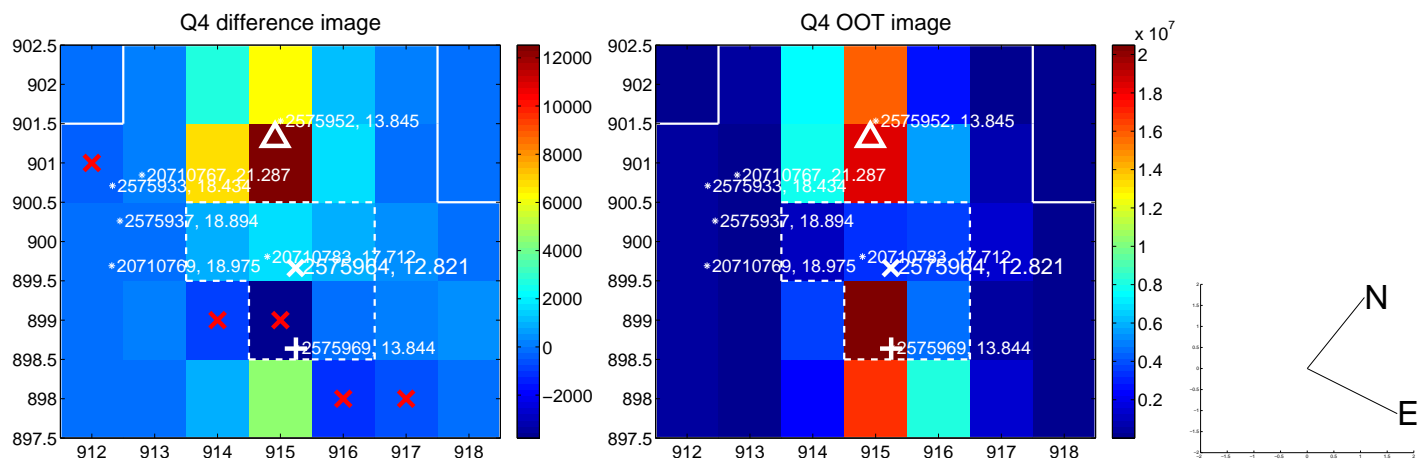
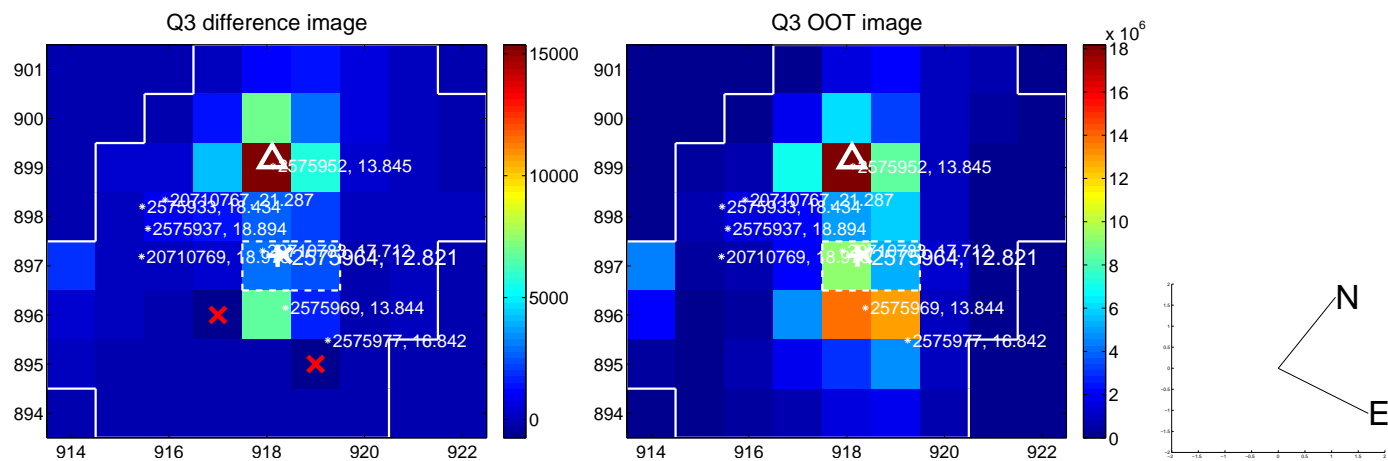
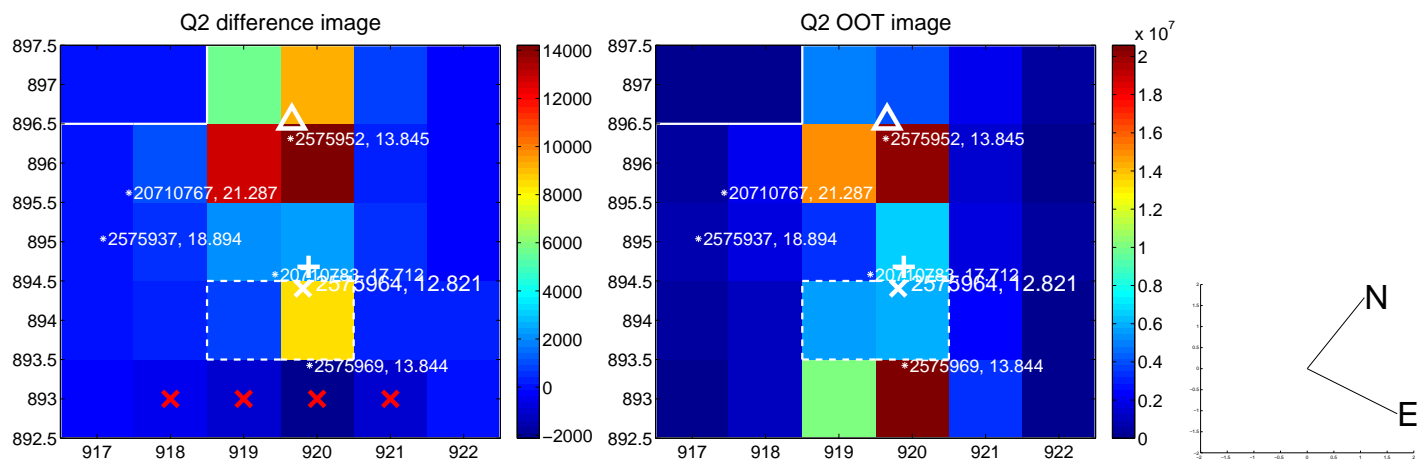
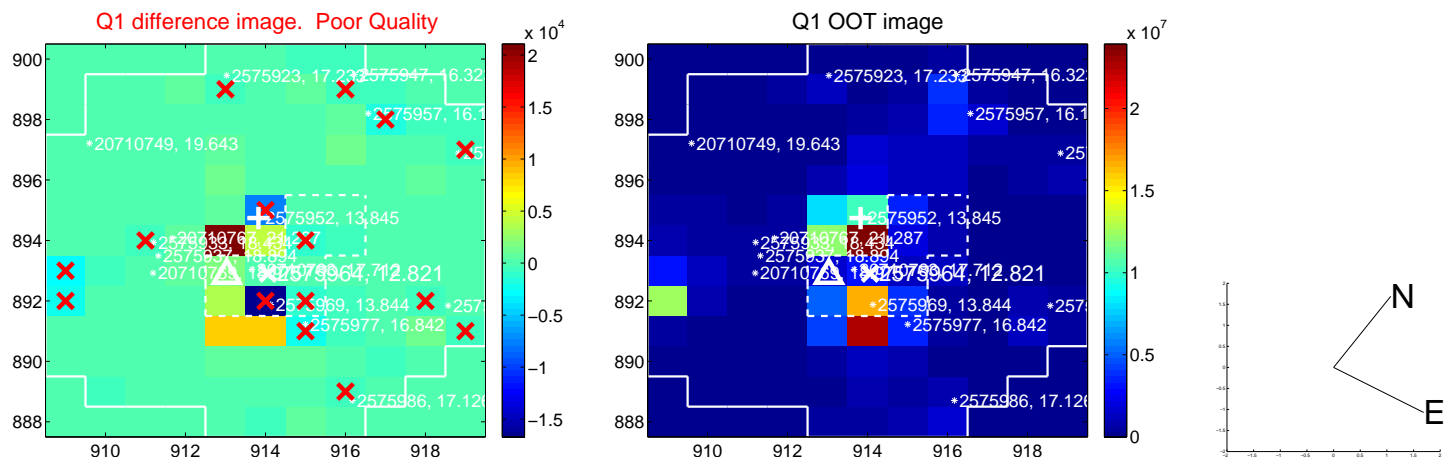


offset from photometric centroids

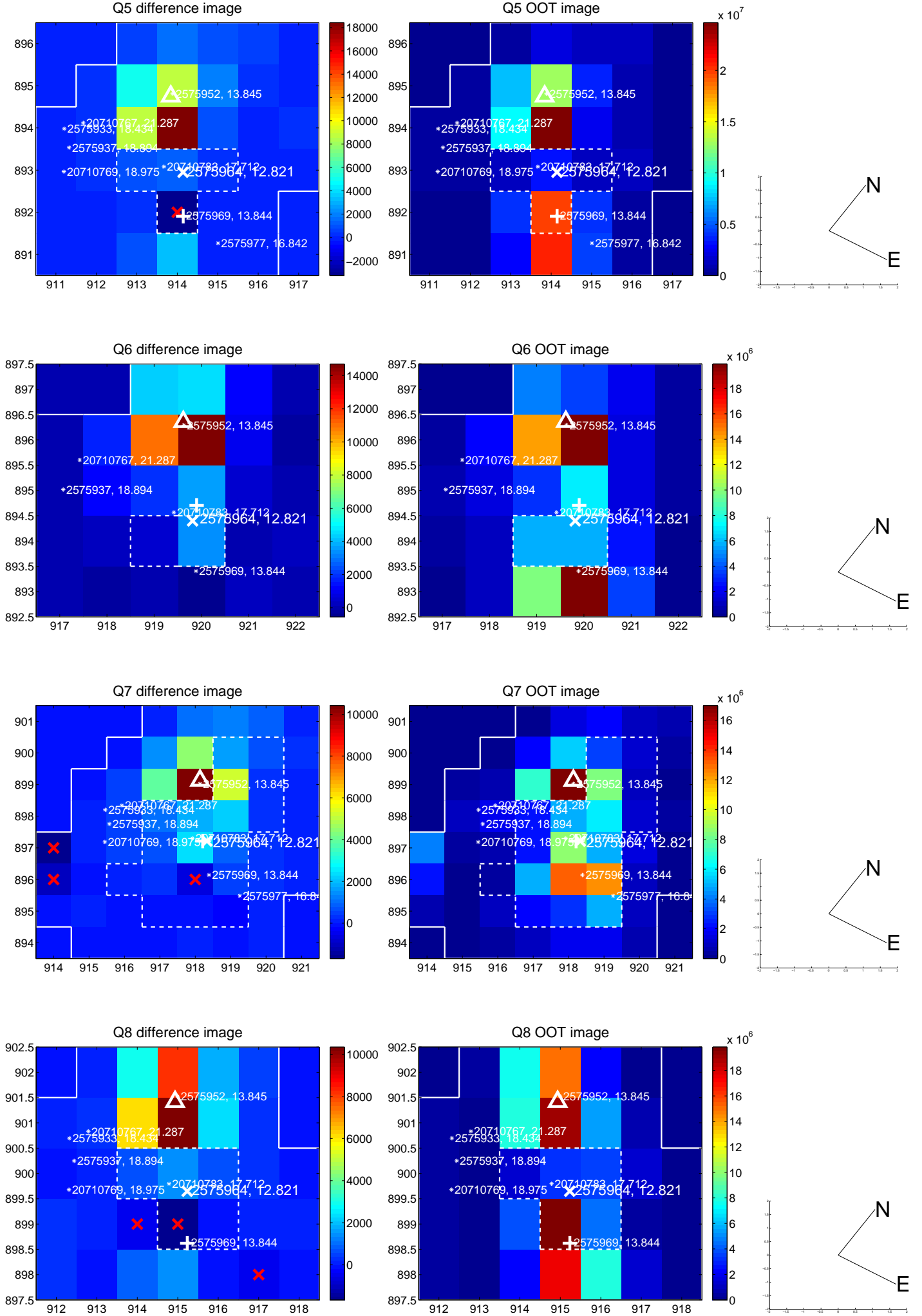


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

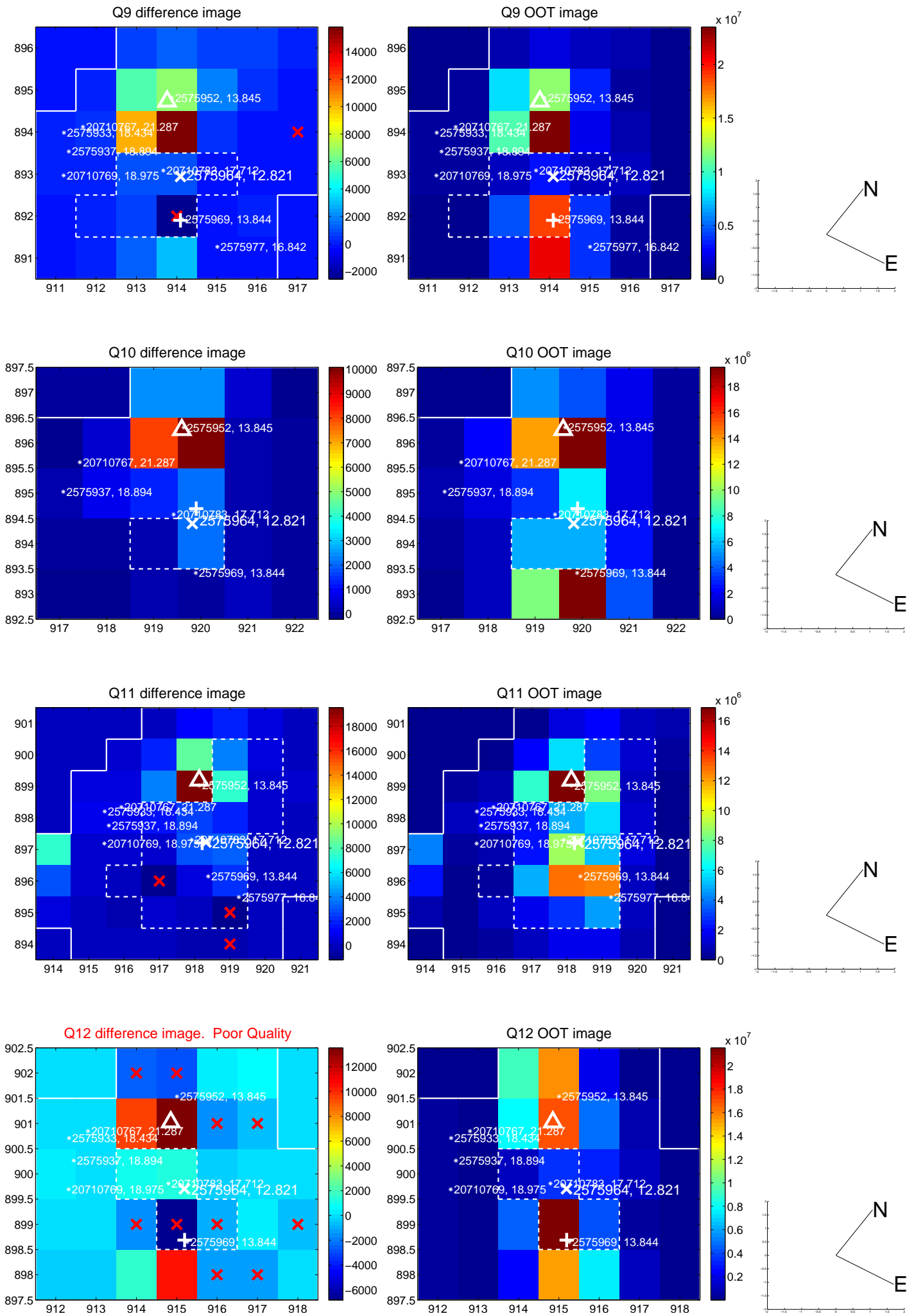


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

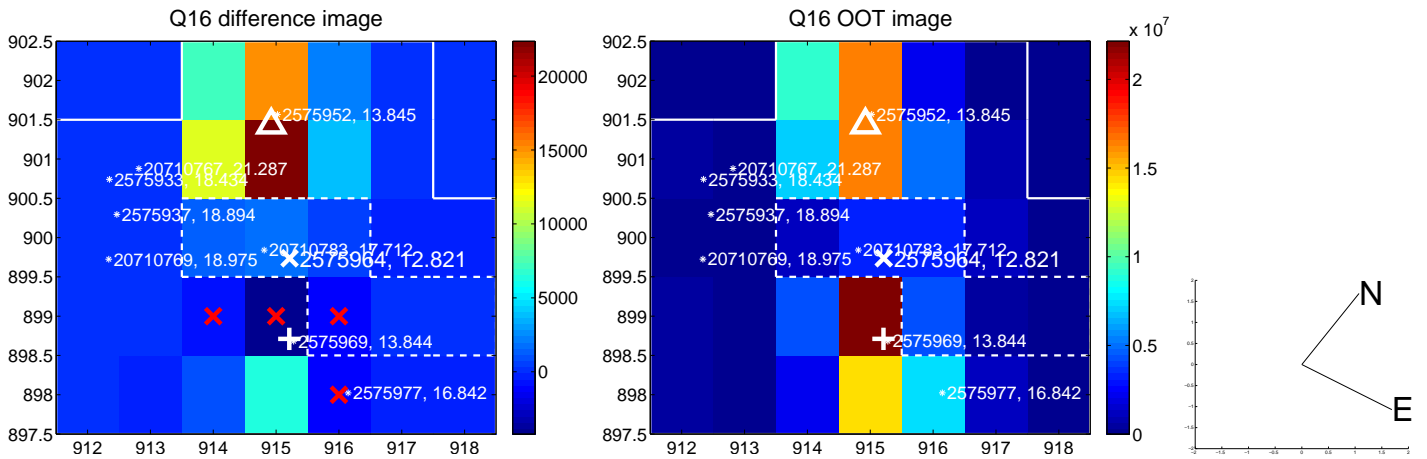
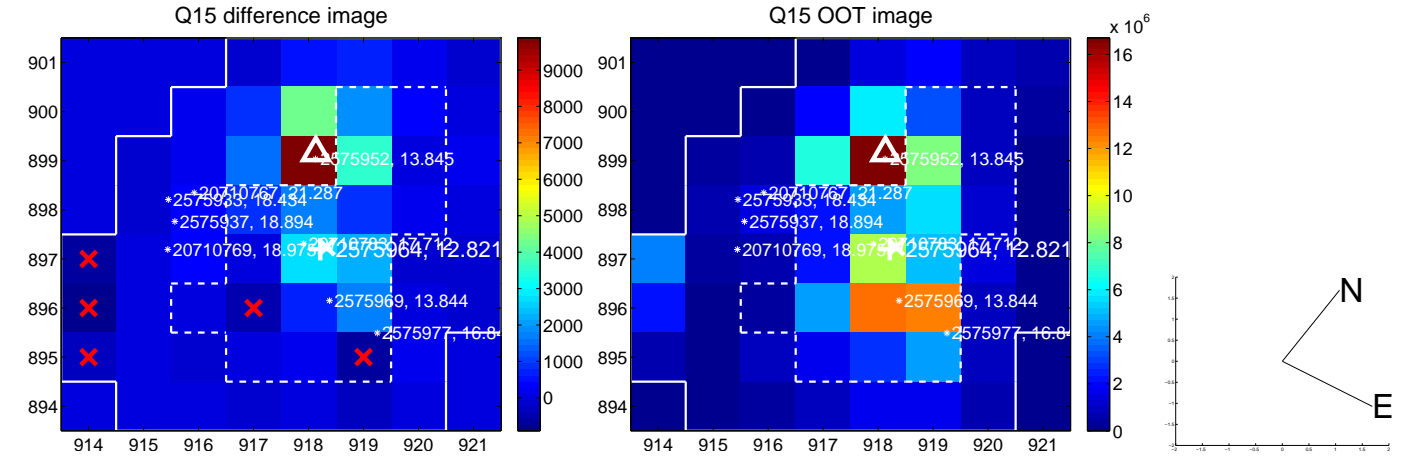
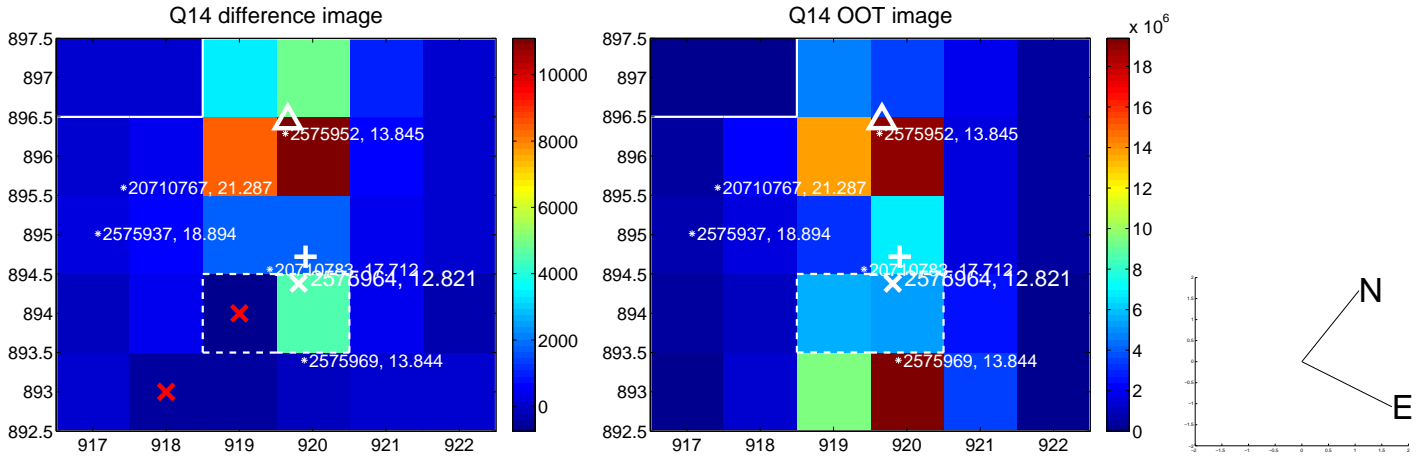
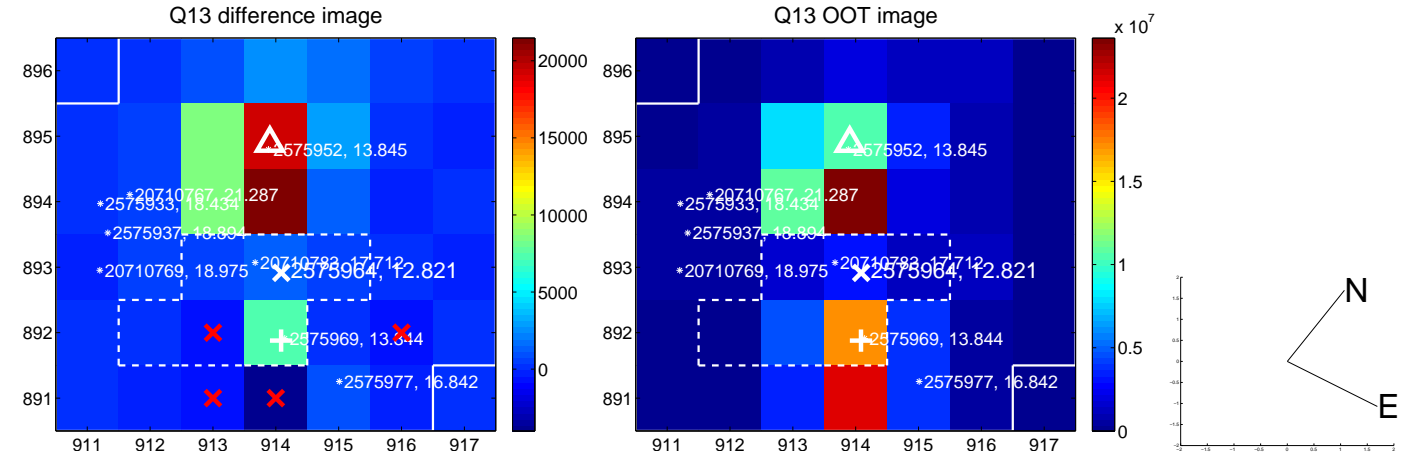




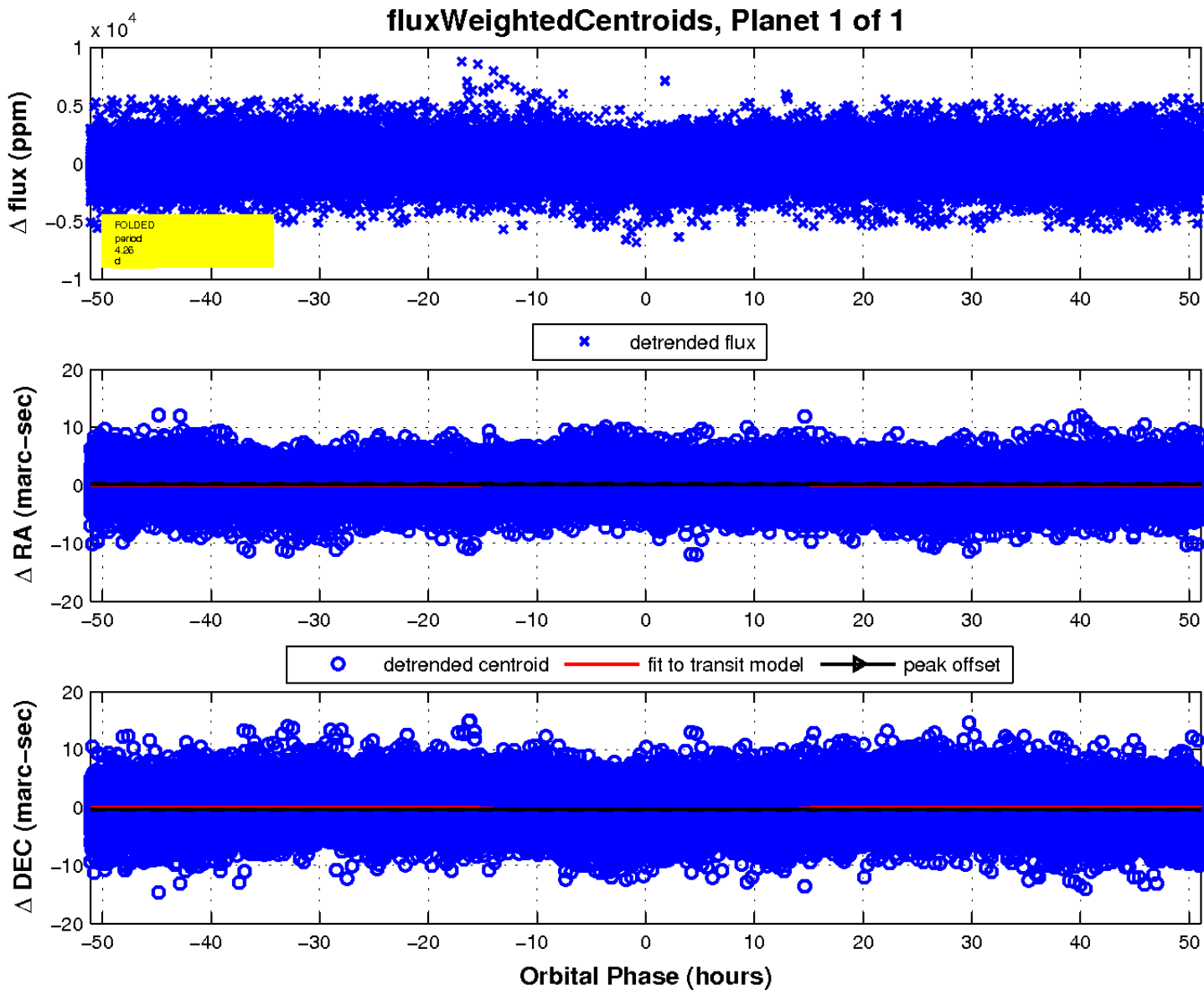
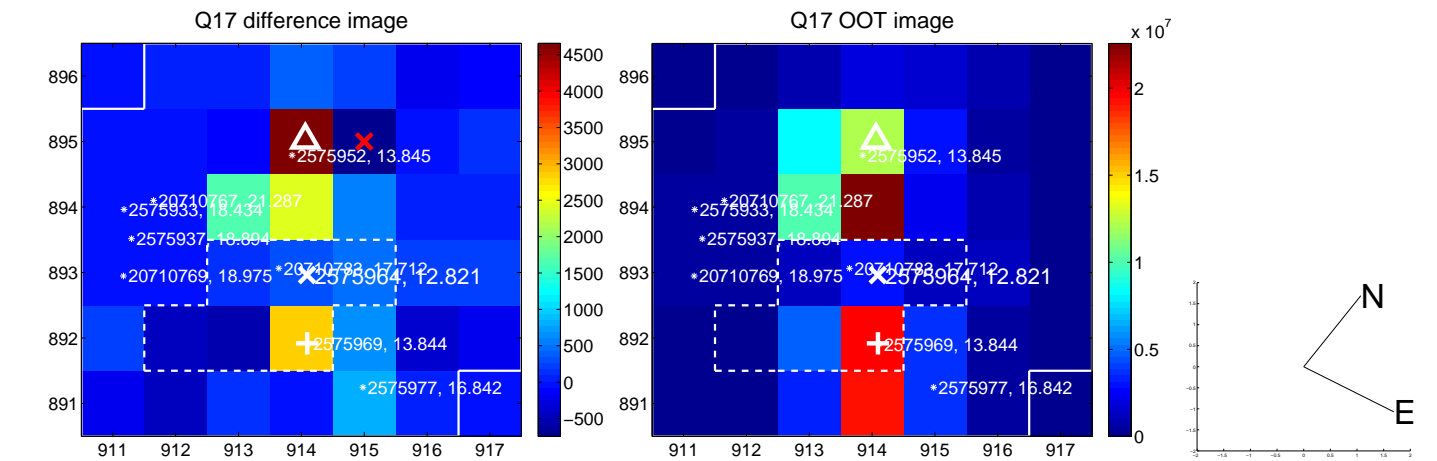
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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



UKIRT Image

Declination

