

# KIC 008750503

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008750503-01	OBS	7910.01	11.928256	142.129727	172.0	6.807	7.4	8.3	0.75	5010	1.16	37.86

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008750503-01	OBS	FP	0.07	1	0	0	0	MOD_NONUNIQ_ALT

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

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

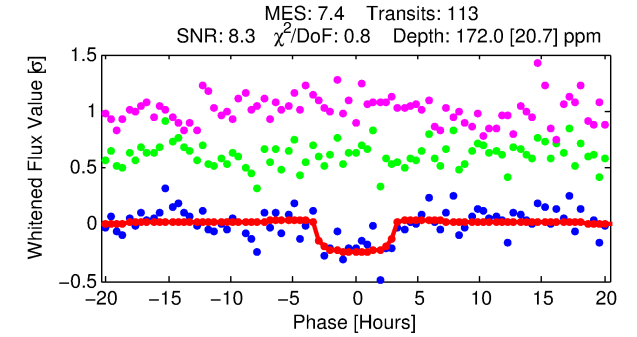
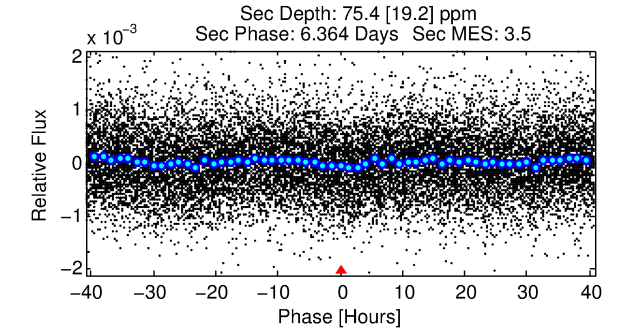
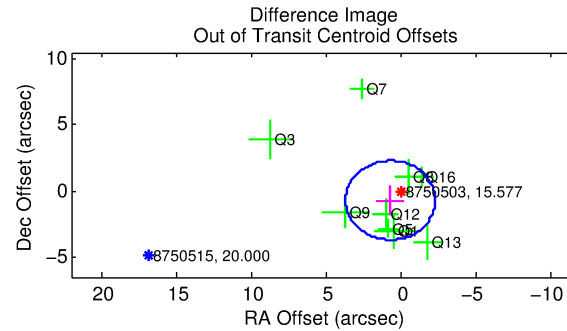
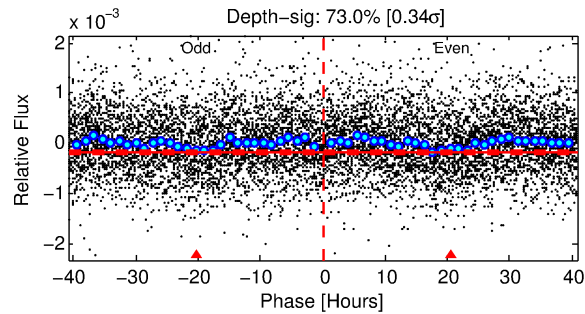
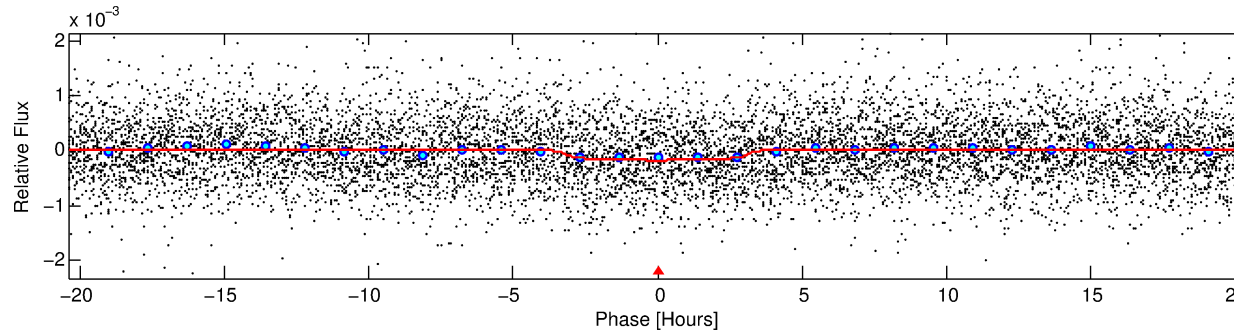
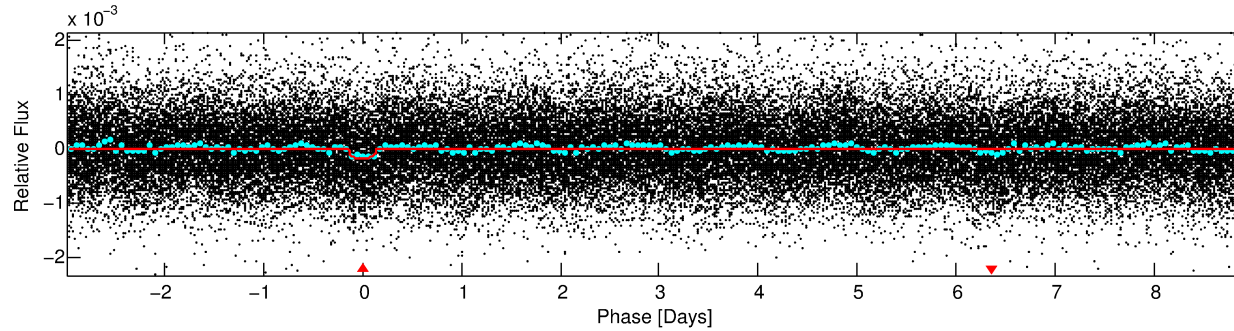
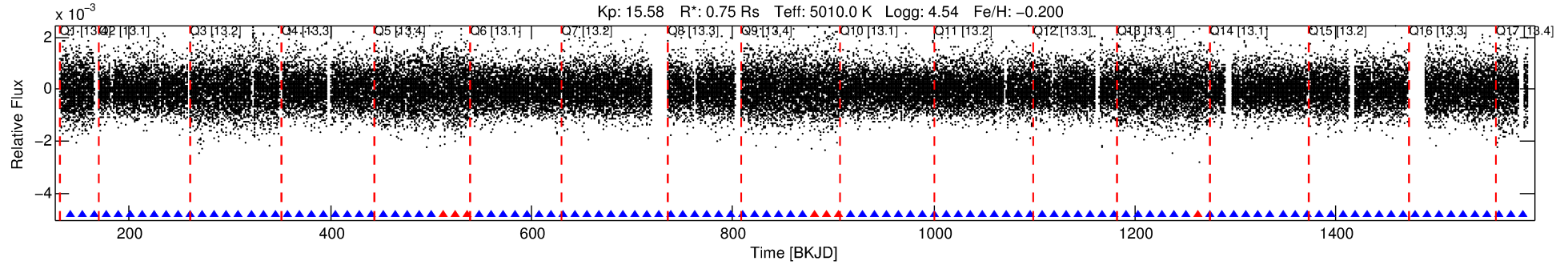
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008750503-01

No Significant Match Found

# DV One-Page Summary

KIC: 8750503 Candidate: 1 of 1 Period: 11.928 d



## DV Fit Results:

Period = 11.92826 [0.00020] d  
Epoch = 142.1297 [0.0139] BKJD  
Rp/R\* = 0.0142 [0.0069]  
a/R\* = 6.96 [13.16]  
b = 0.87 [0.53]  
Seff = 37.86 [6.70]  
Teq = 633 [28] K  
Rp = 1.16 [0.58] Re  
a = 0.0916 [0.0081] AU  
Ag = 257.55 [262.50] [0.98 $\sigma$ ]  
Teff = 3918 [997] K [3.29 $\sigma$ ]

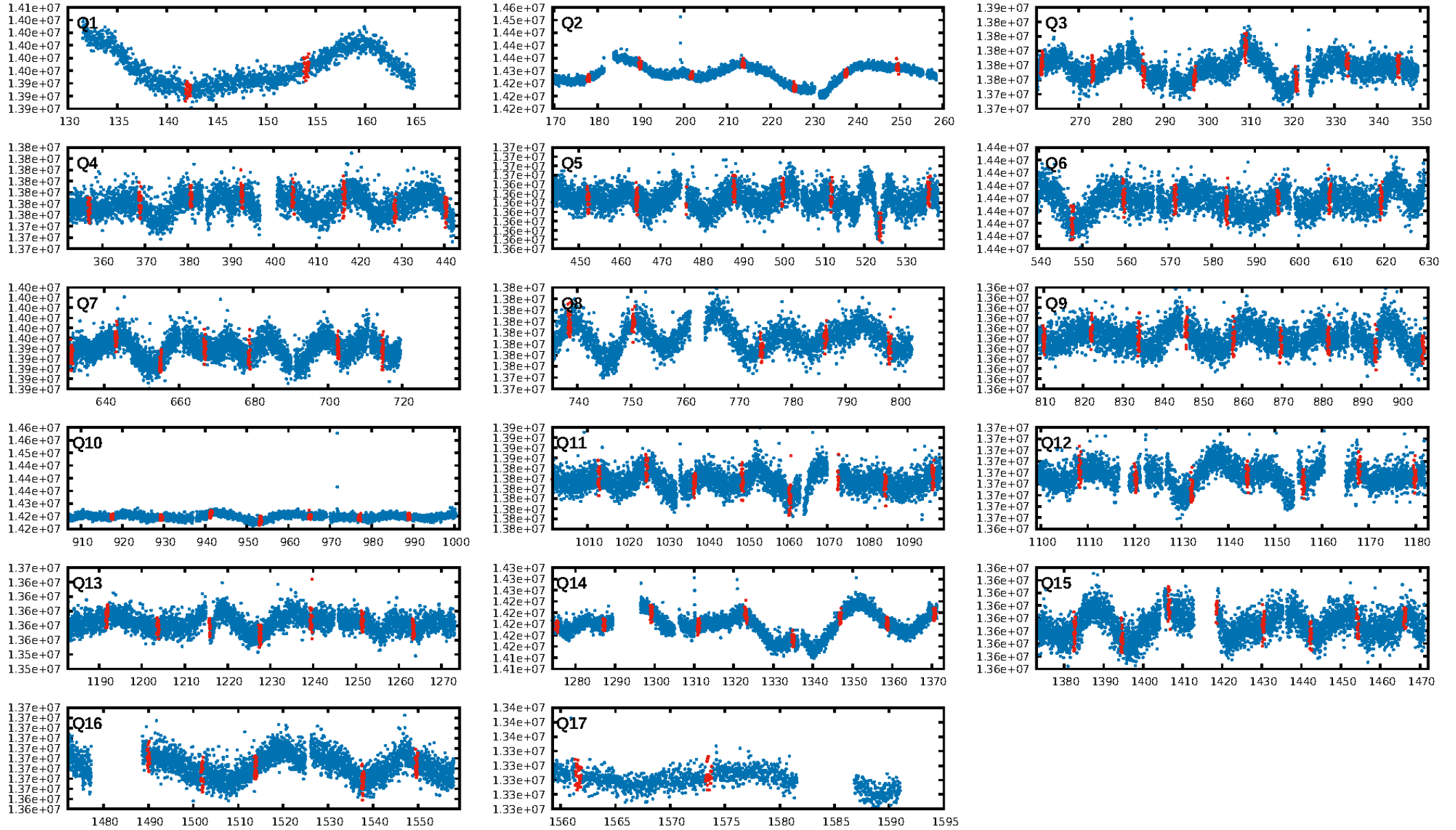
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 99.5%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 7.10e-13  
RollingBand-fgt: 0.94 [102/109]  
GhostDiagnostic-chr: -9.174  
Centroid-sig: 0.2%  
Centroid-so: 3.040 arcsec [2.05 $\sigma$ ]  
OotOffset-rm: 0.972 arcsec [0.97 $\sigma$ ]  
KicOffset-rm: 1.072 arcsec [1.11 $\sigma$ ]  
OotOffset-st: 0/2/3/4 [9]  
KicOffset-st: 0/2/3/4 [9]  
DiffImageQuality-fgm: 0.44 [4/9]  
DiffImageOverlap-fno: 1.00 [17/17]

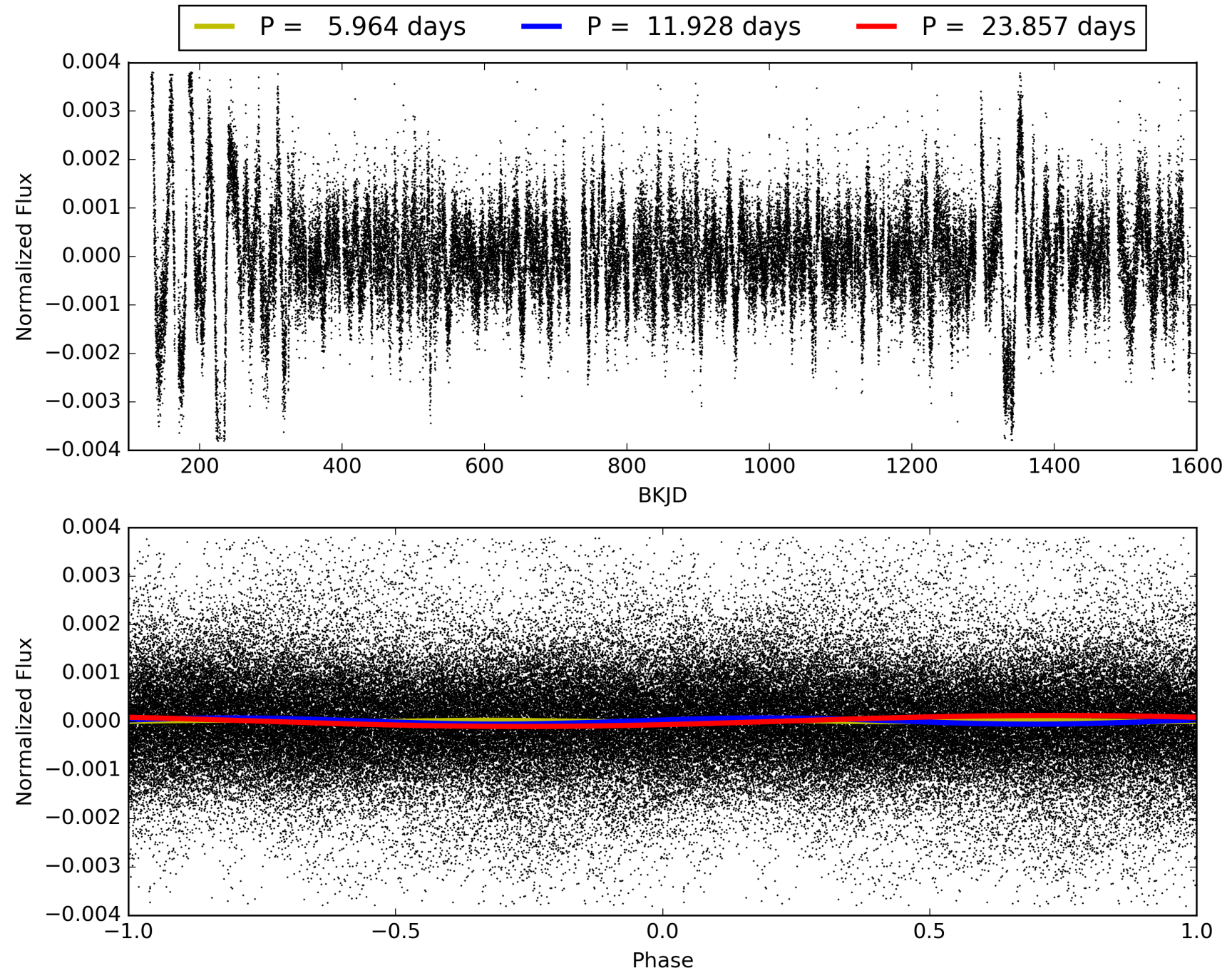
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:58:35 Z

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

# TCE 008750503-01, PDC Light Curves



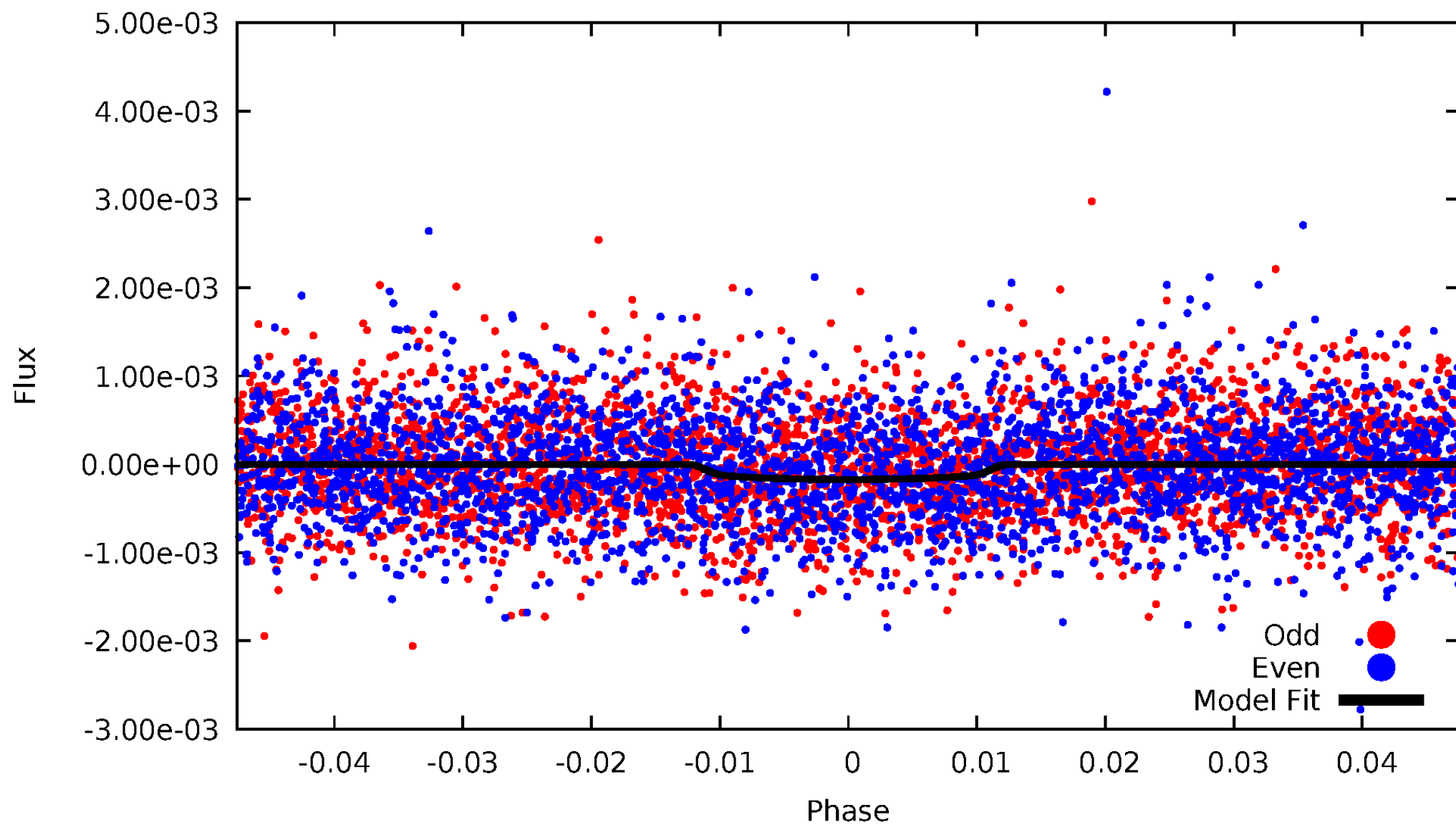
TCE 008750503-01





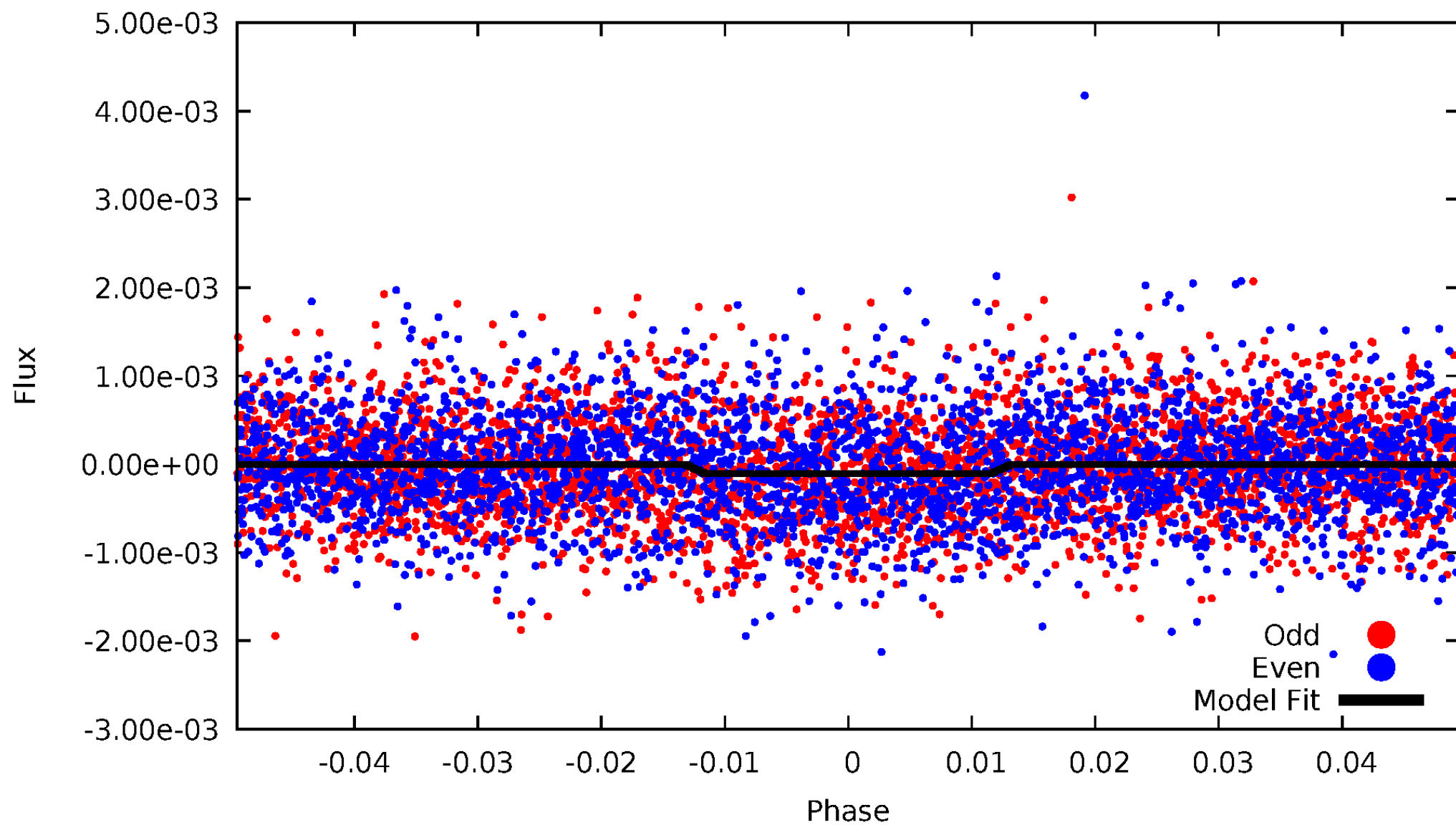
# DV Odd/Even

TCE 008750503-01

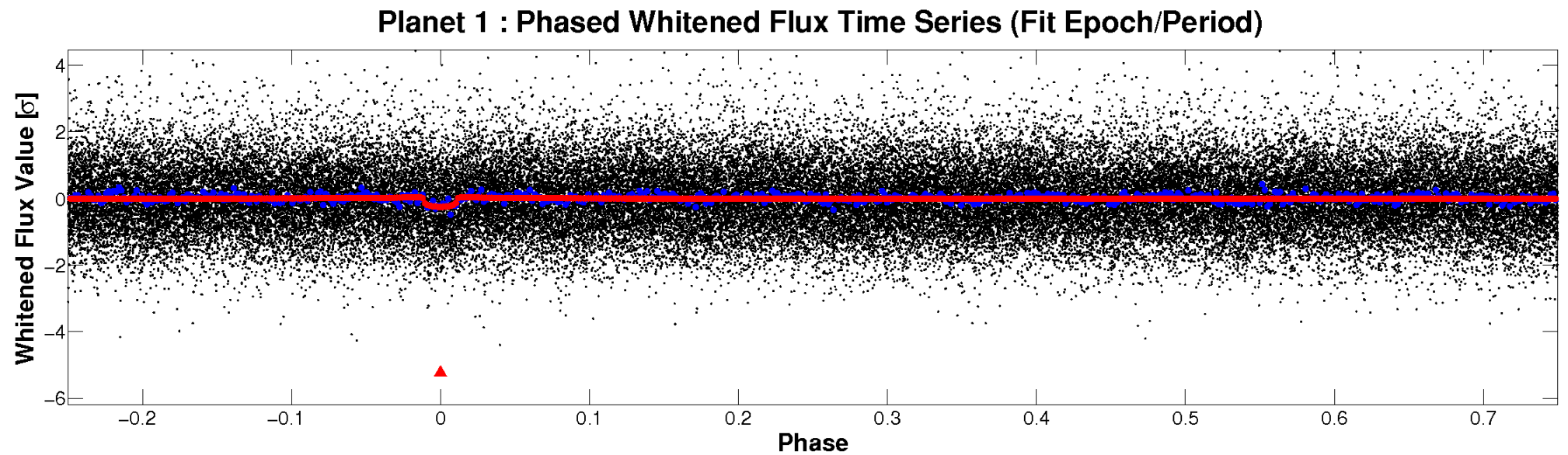
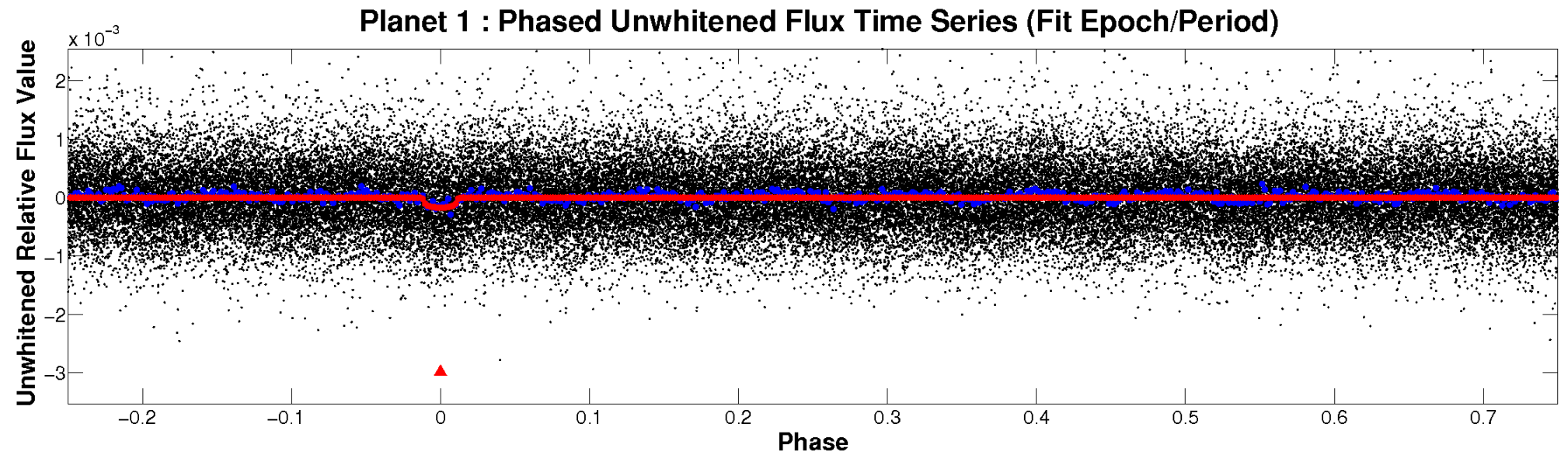


# ALT Odd/Even

TCE 008750503-01

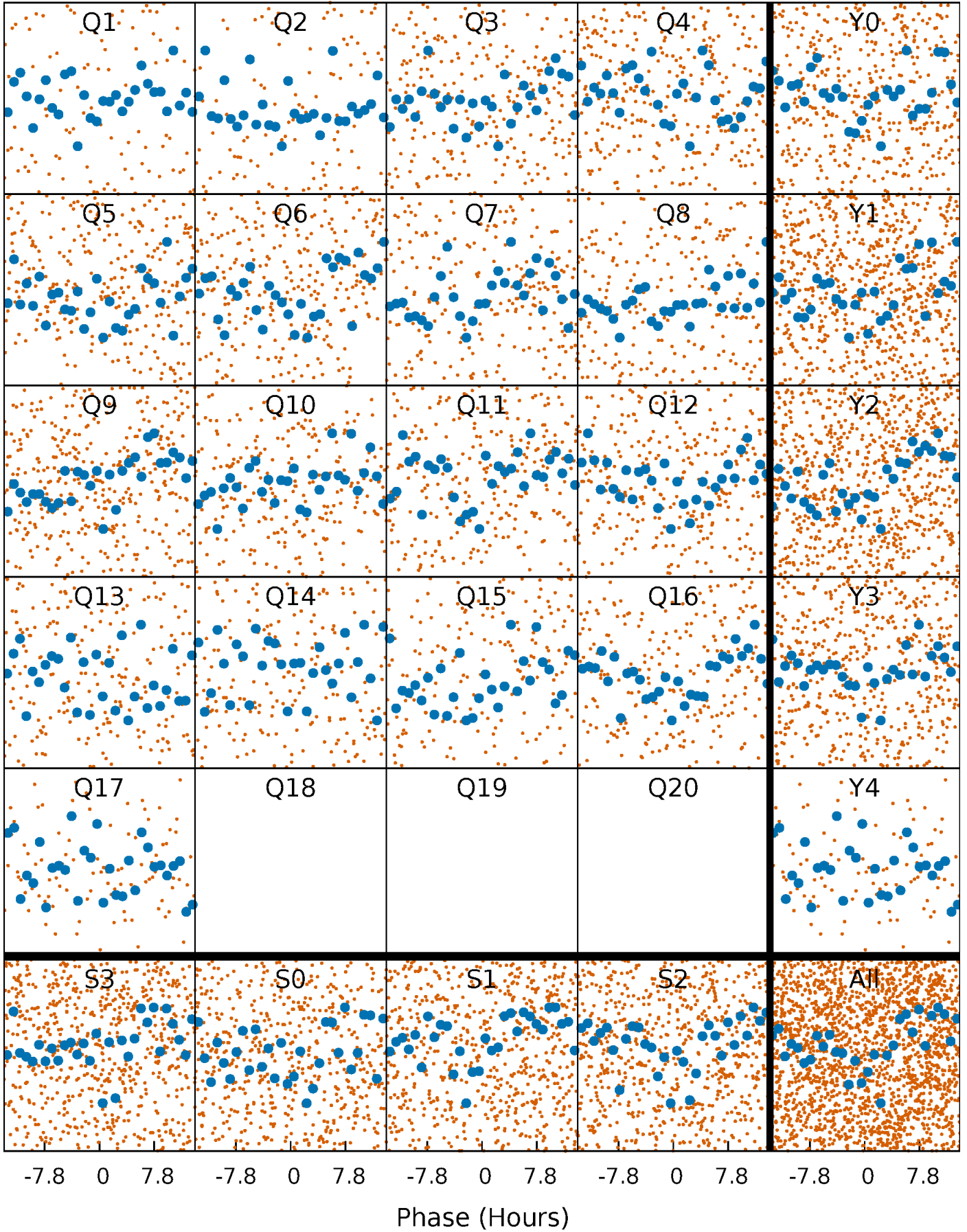


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

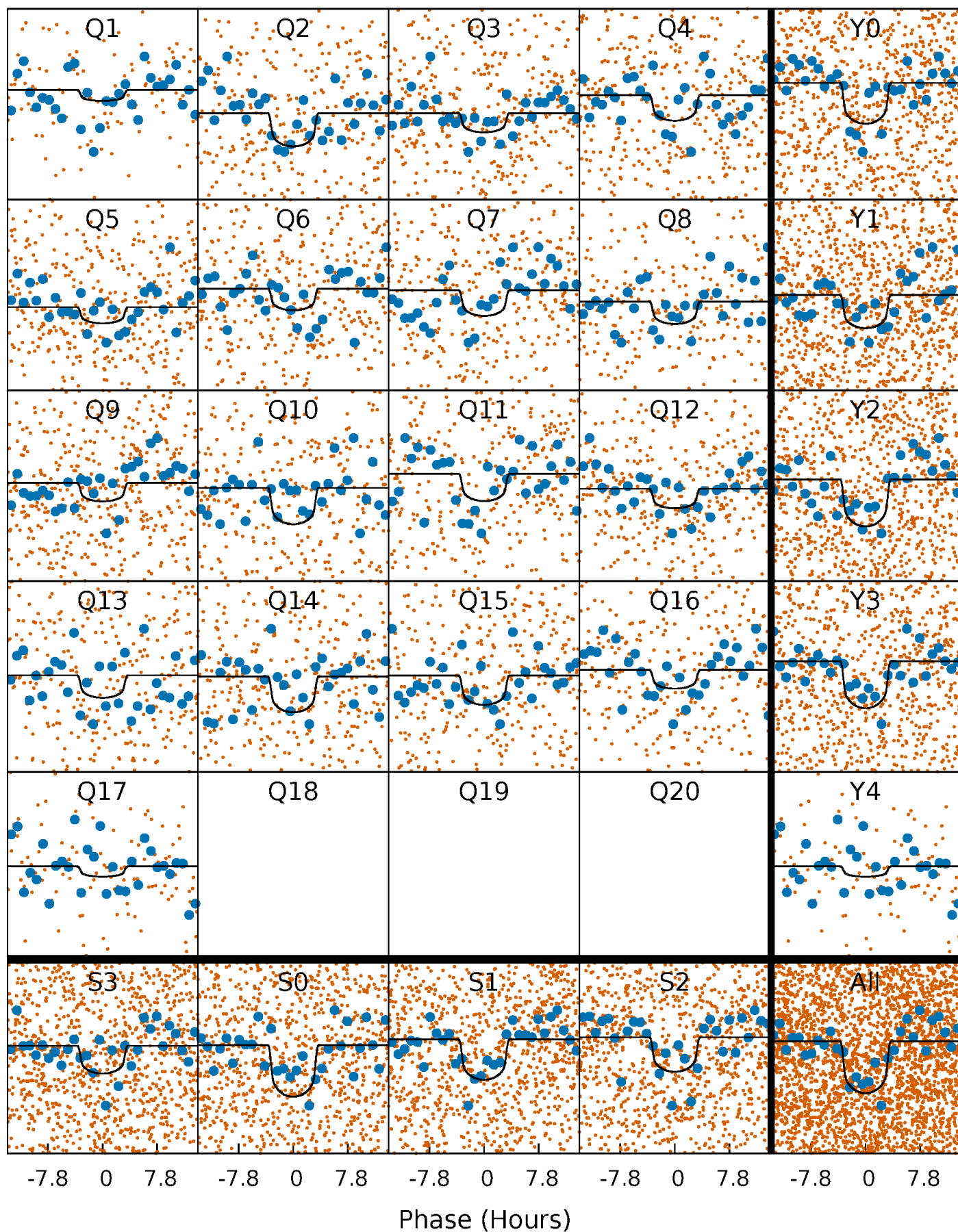
TCE 008750503-01 P= 11.928256 Days  $T_0=142.129727$  (BKJD)





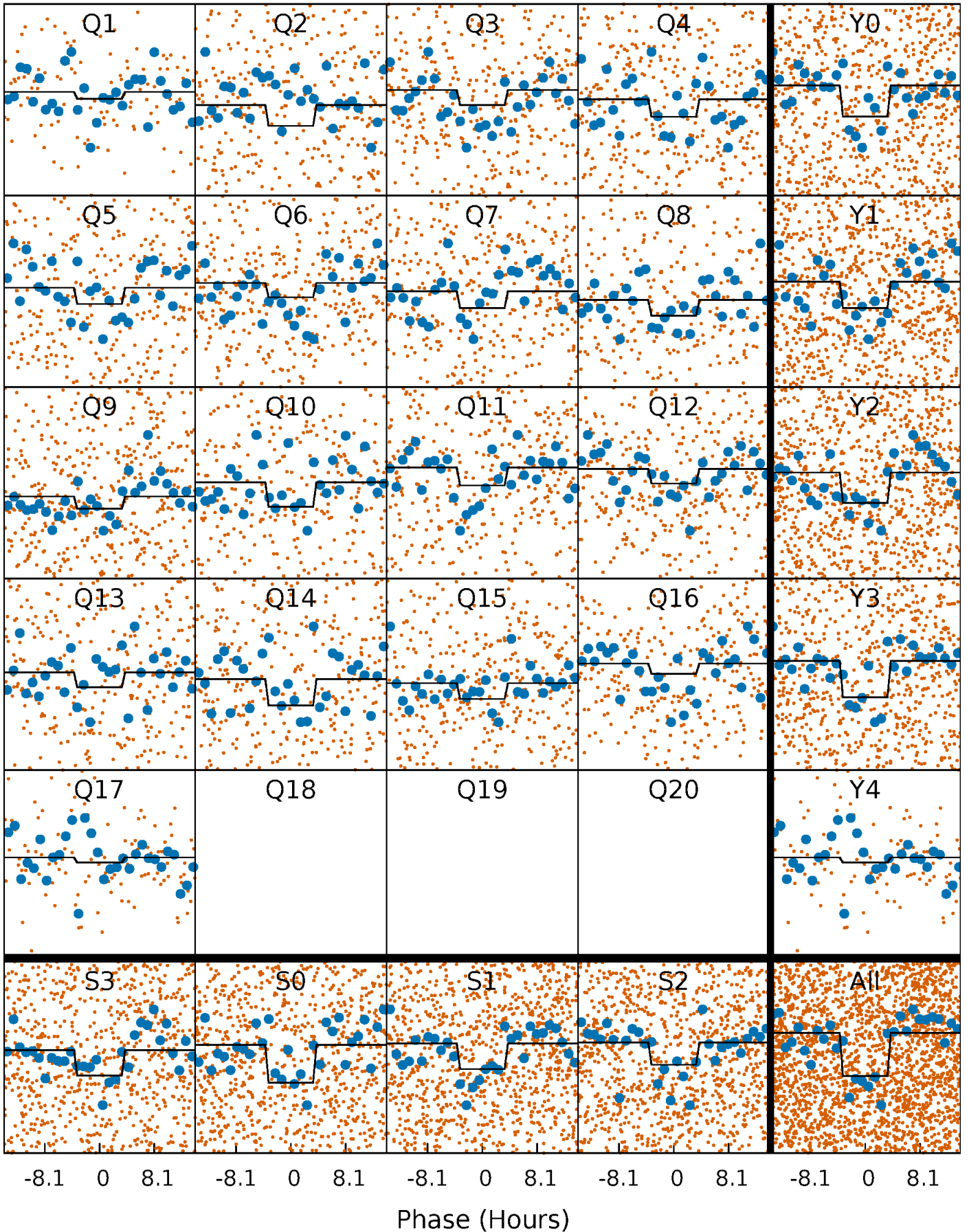
# DV Quarter-Phased Transit Curves

TCE 008750503-01 P= 11.928256 Days  $T_0=142.129727$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

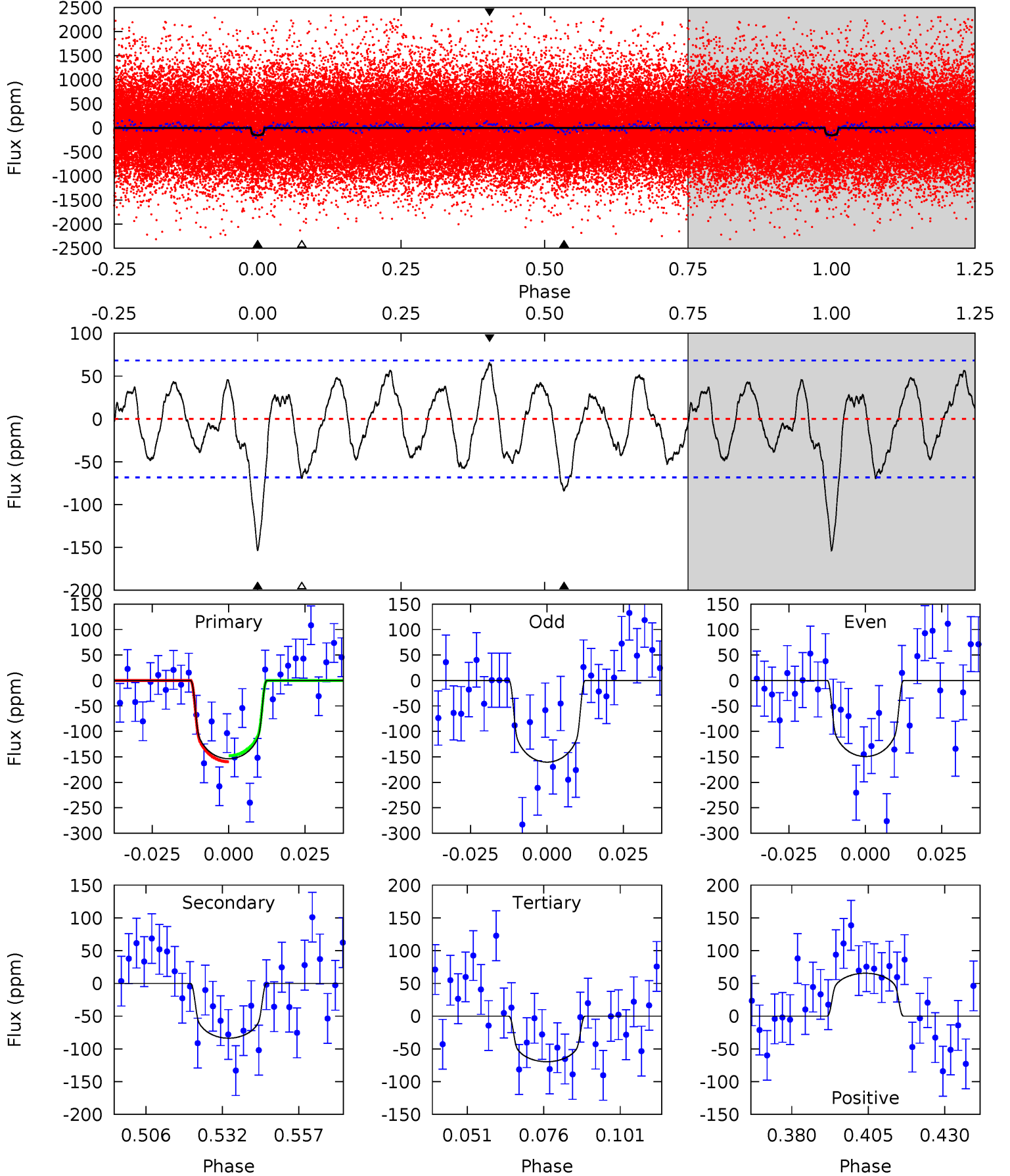
TCE 008750503-01 P= 11.928355 Days  $T_0=142.132217$  (BKJD)



# DV Model-Shift Uniqueness Test

008750503-01, P = 11.928256 Days, E = 130.201471 Days

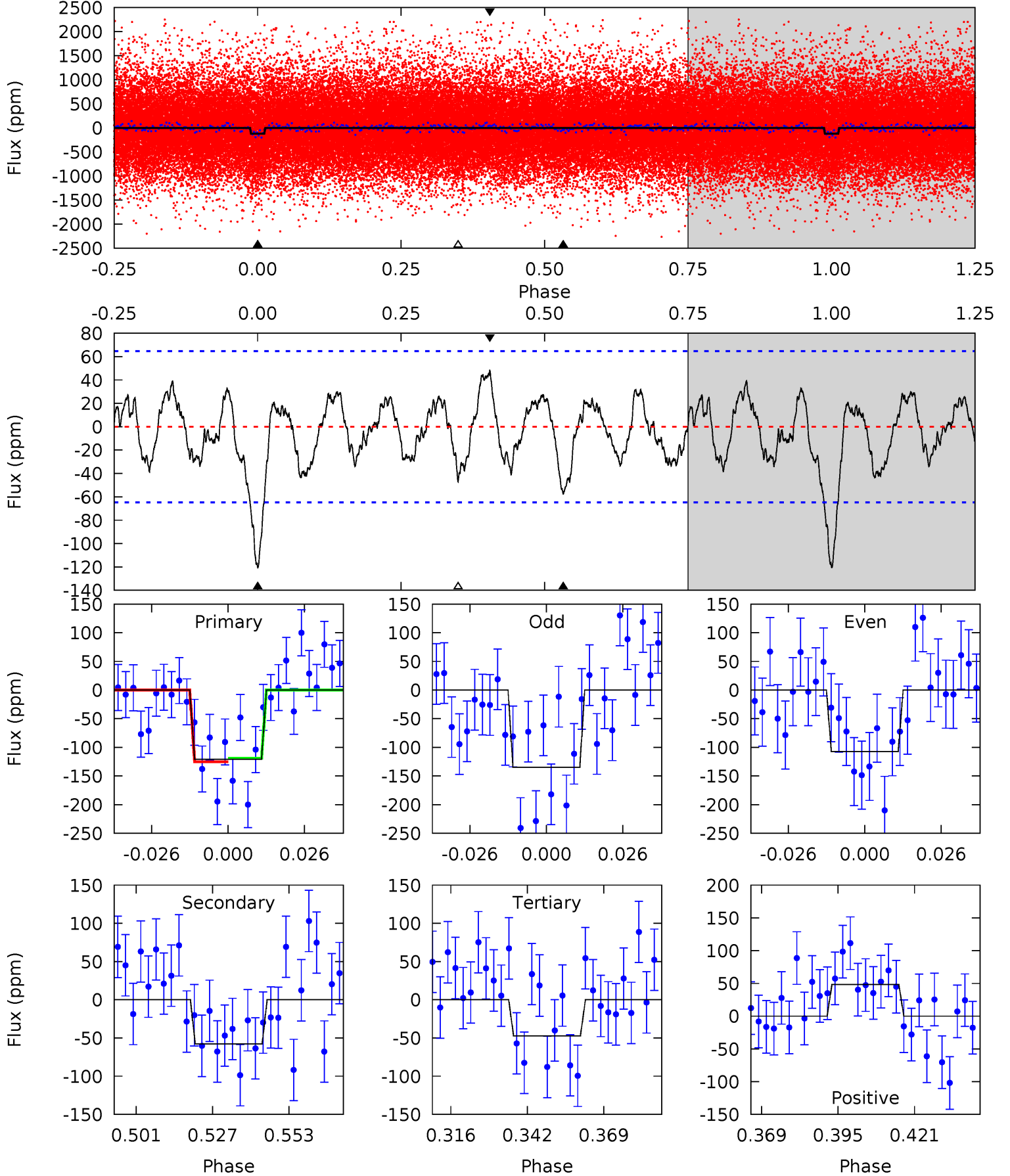
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	5.95	4.95	4.65	4.85	2.24	2.25	5.97	6.26	1.00	1.30	0.39	1.12	0.30	0.41



# Alt Model-Shift Uniqueness Test

008750503-01, P = 11.928355 Days, E = 130.203862 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
9.03	4.33	3.53	3.62	4.84	2.22	1.59	5.50	5.41	0.79	0.71	1.02	0.74	0.29	0.23





### Stellar Parameters For KIC 008750503

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5010^{+151}_{-151}$	$4.545^{+0.071}_{-0.052}$	$-0.200^{+0.300}_{-0.300}$	$0.750^{+0.071}_{-0.079}$	$0.720^{+0.093}_{-0.057}$	$2.400^{+0.759}_{-0.401}$
	+3%/-3%	+2%/-1%	+150%/-150%	+9%/-11%	+13%/-8%	+32%/-17%
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 008750503-01 / KOI 7910.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-84 \pm 14$	$1.17^{+0.56}_{-0.57}$	$879^{+38}_{-36}$	$4189^{+1392}_{-556}$	$283^{+824}_{-153}$
Alt.	$-58 \pm 13$	$0.89^{+0.55}_{-0.49}$	$883^{+33}_{-36}$	$4328^{+1790}_{-713}$	$331^{+1318}_{-208}$

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

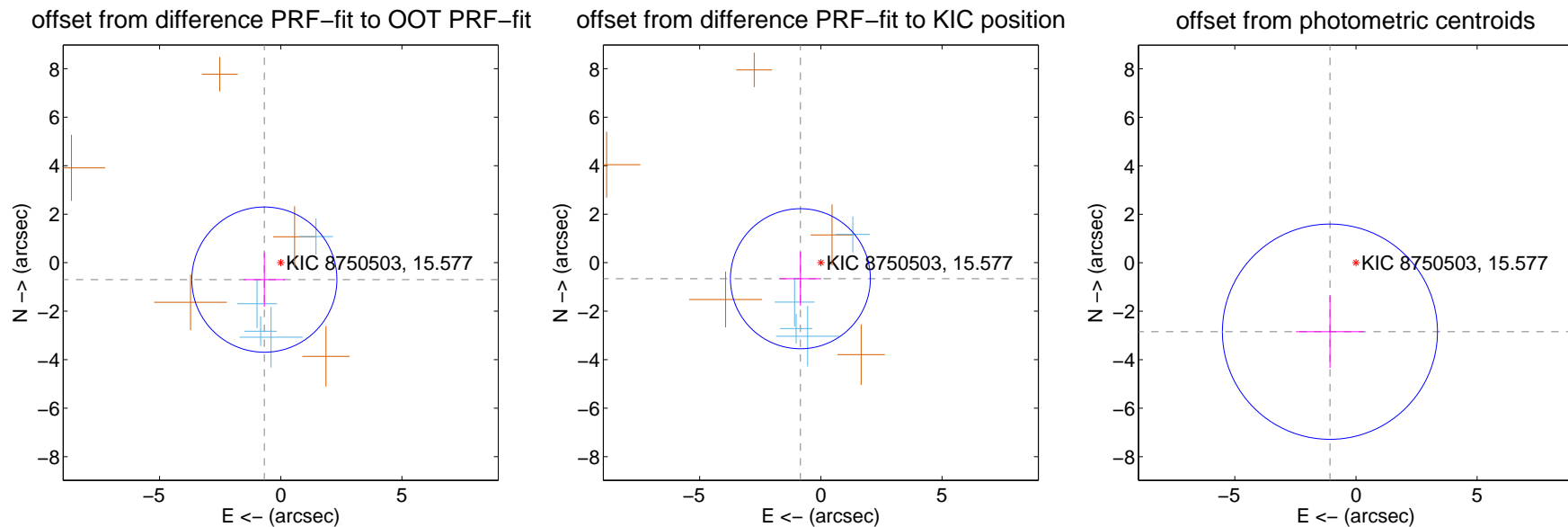
## DV Centroid Data

Supplemental centroid analysis for 008750503-01. Kepler magnitude: 15.58. Transit SNR 8.30

There are 4 quarters with good PRF difference image offsets

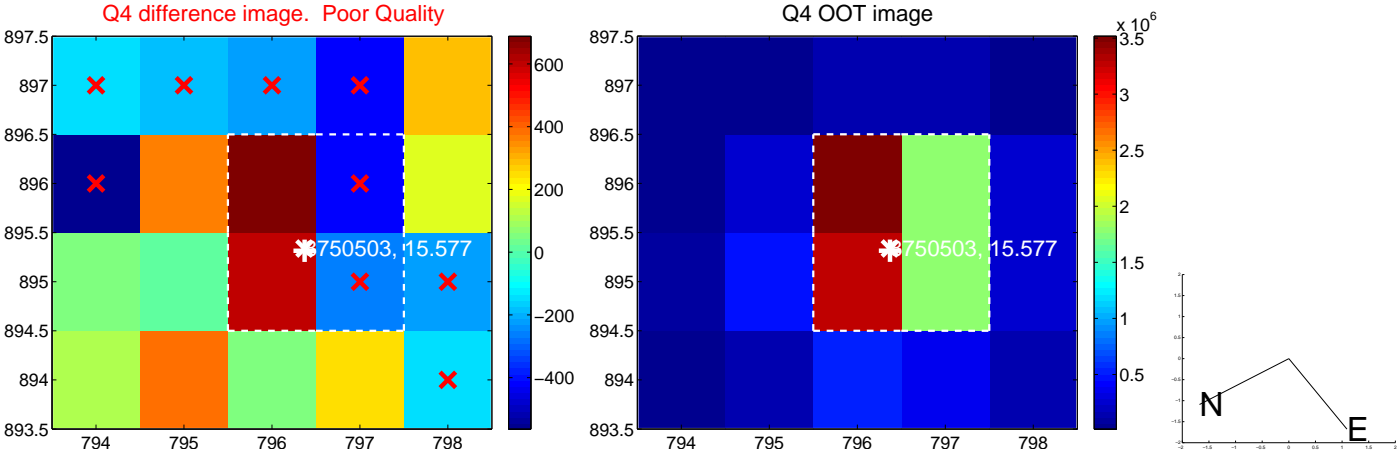
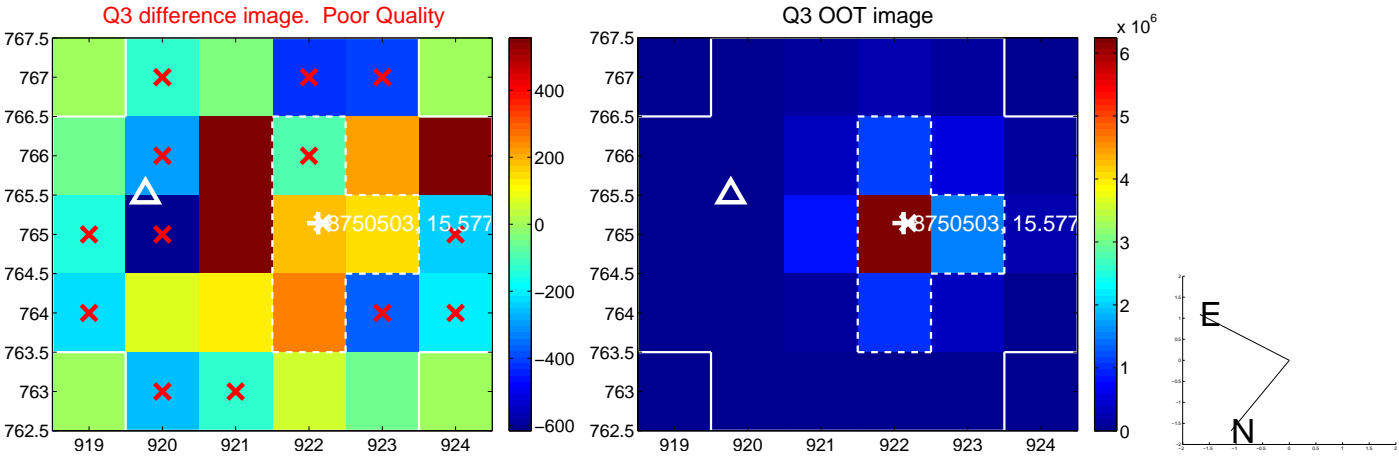
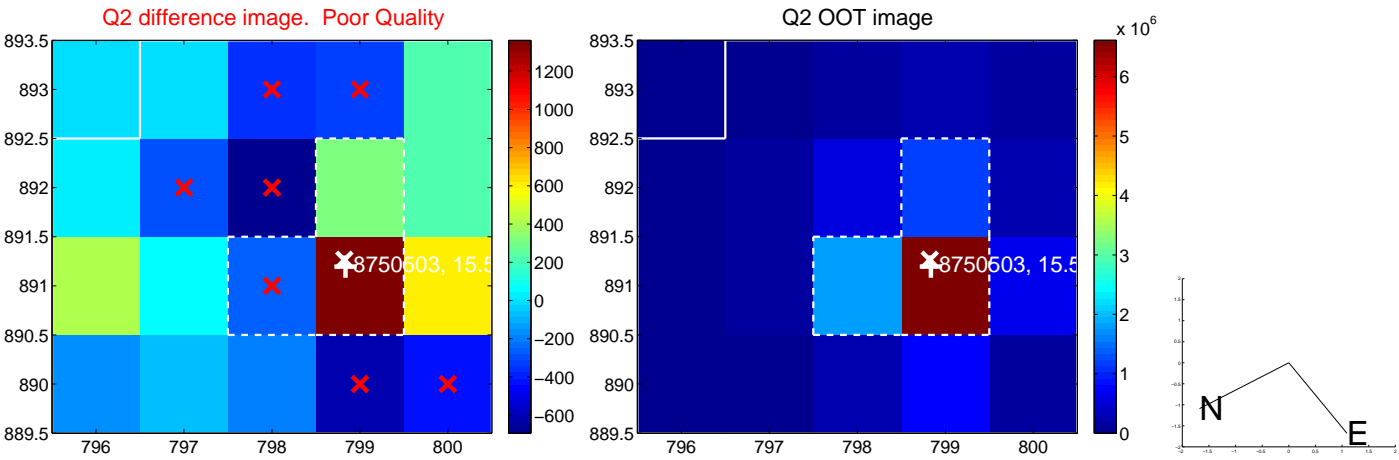
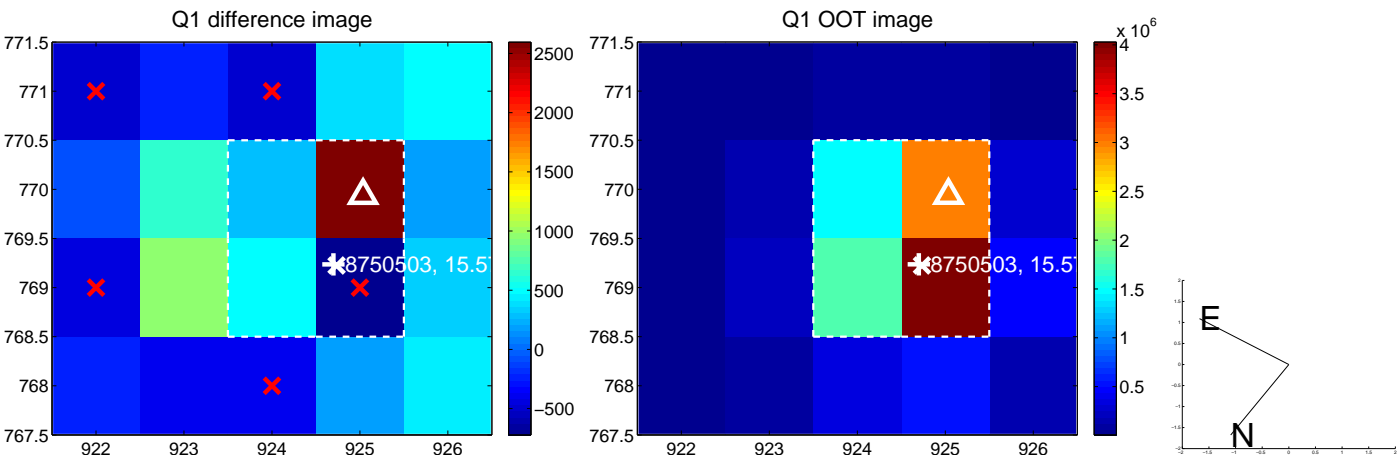
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.972 \pm 0.998$	0.97	$0.677 \pm 0.851$	$-0.698 \pm 1.118$
PRF-fit source offset from KIC position	$1.072 \pm 0.962$	1.11	$0.844 \pm 0.862$	$-0.661 \pm 1.107$
photometric centroid source offset	$3.04 \pm 1.48$	2.05	$1.07 \pm 1.40$	$-2.84 \pm 1.49$

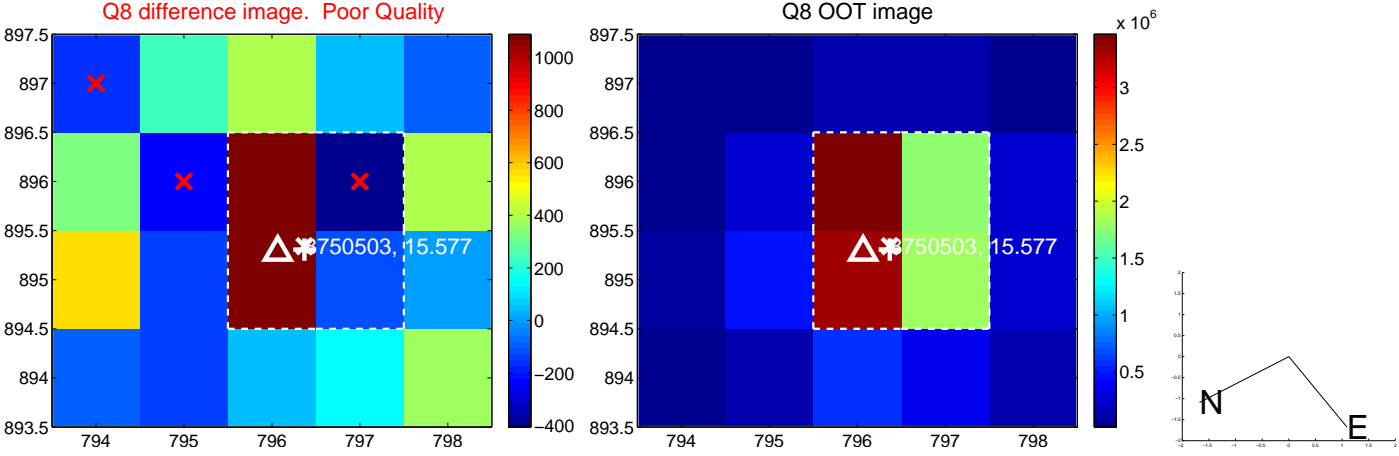
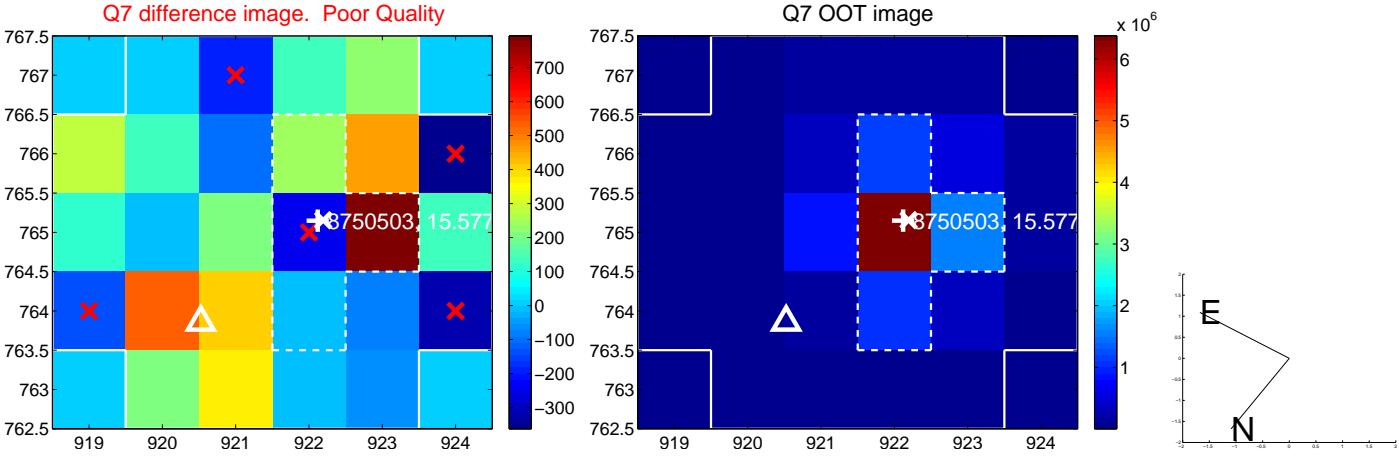
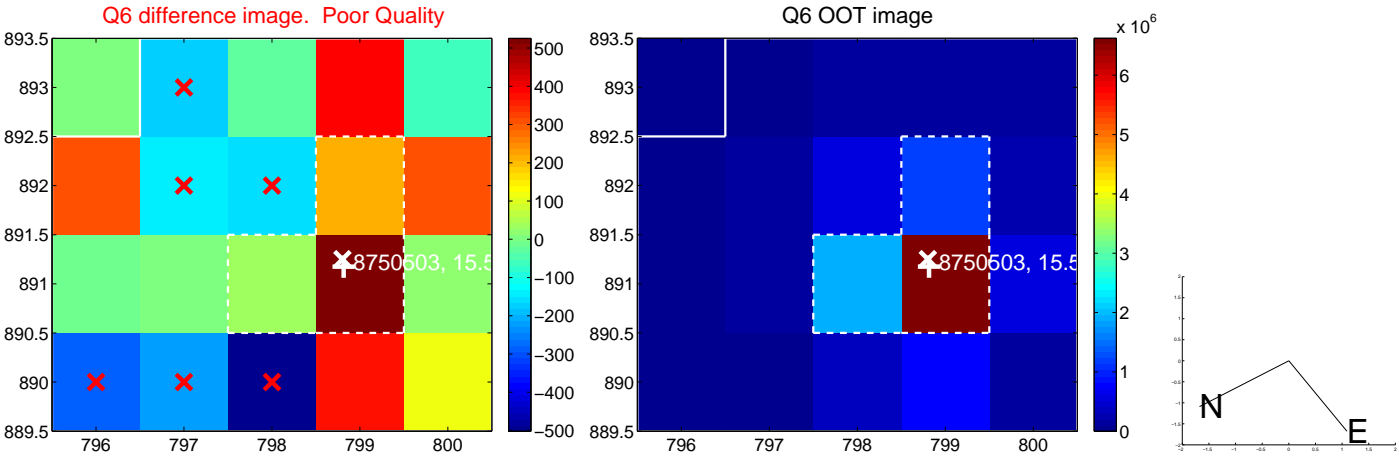
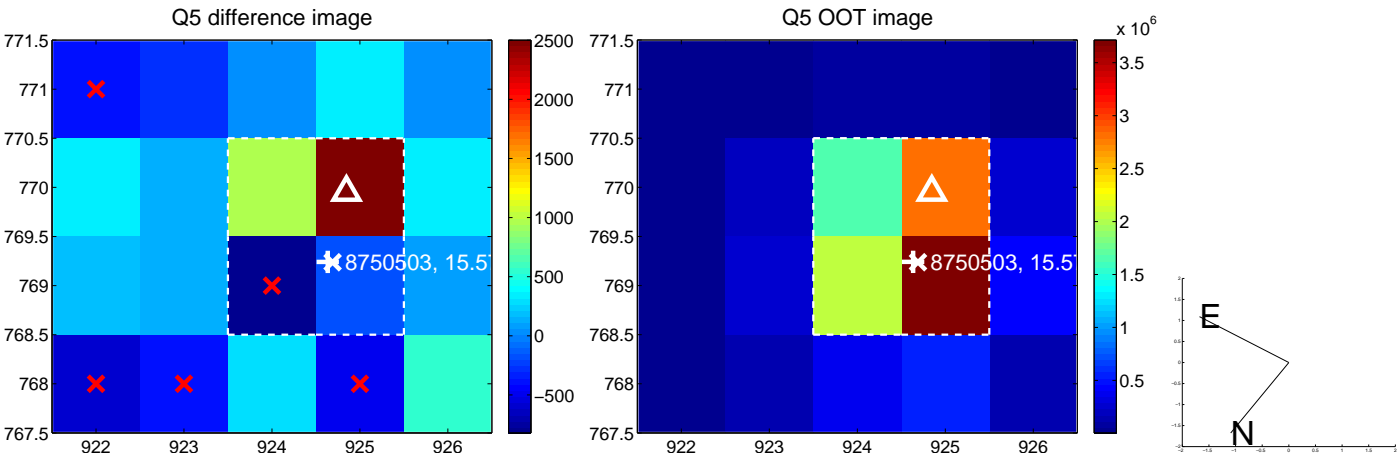


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

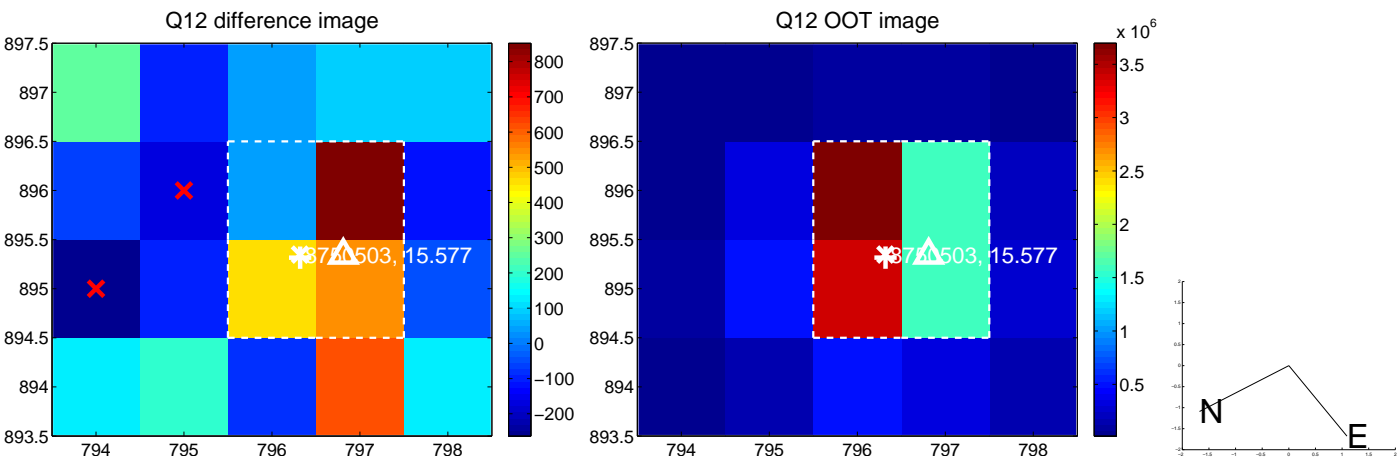
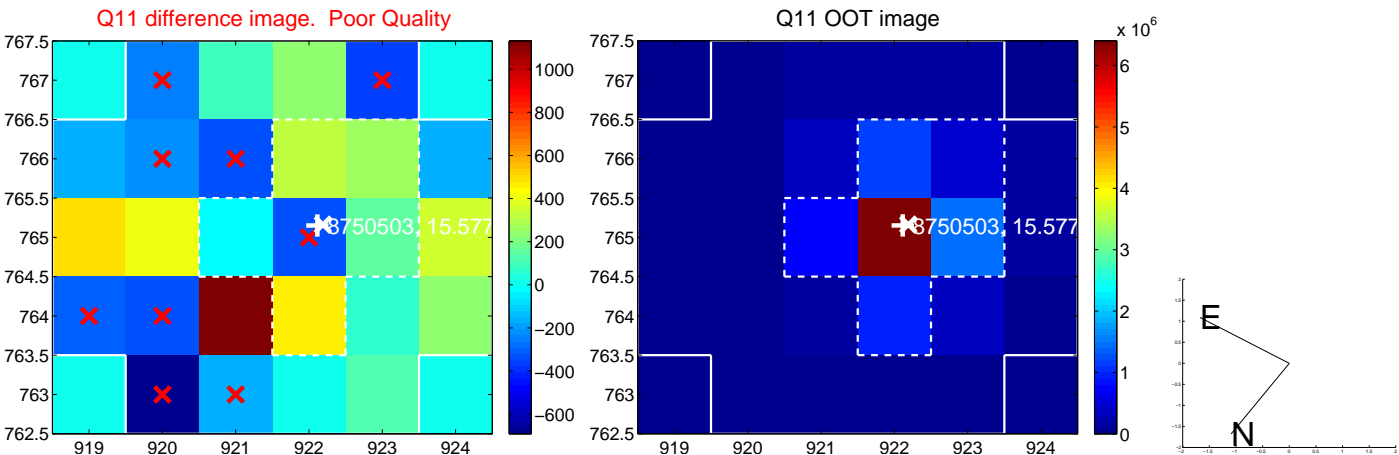
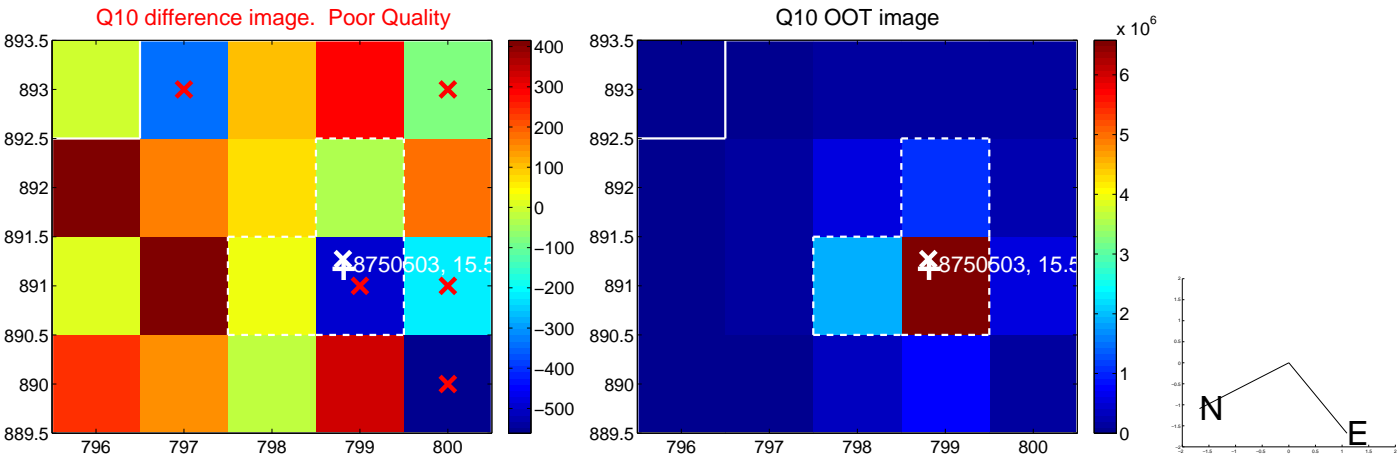
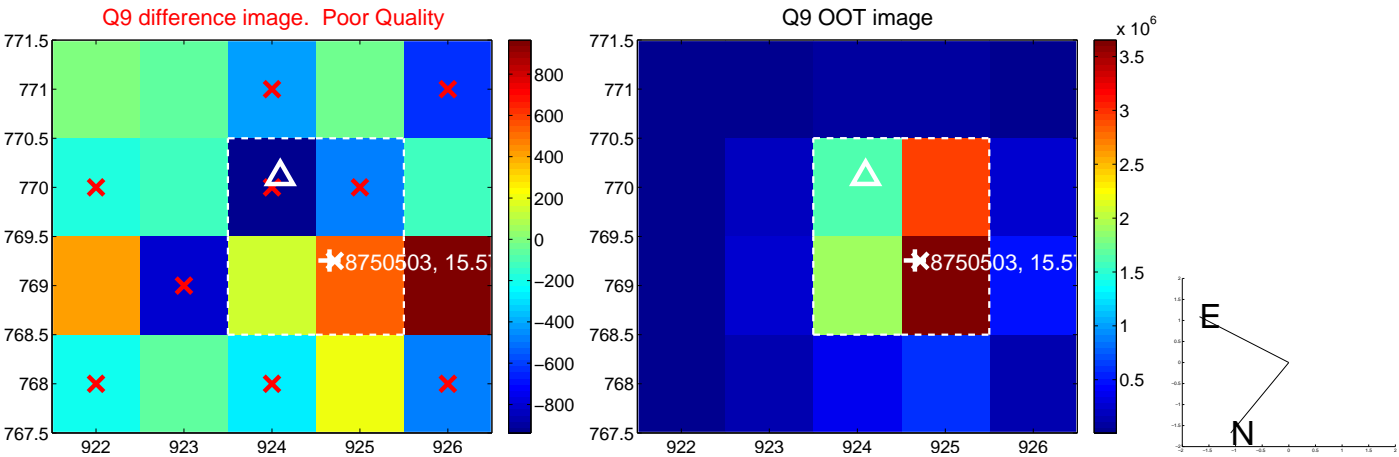


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



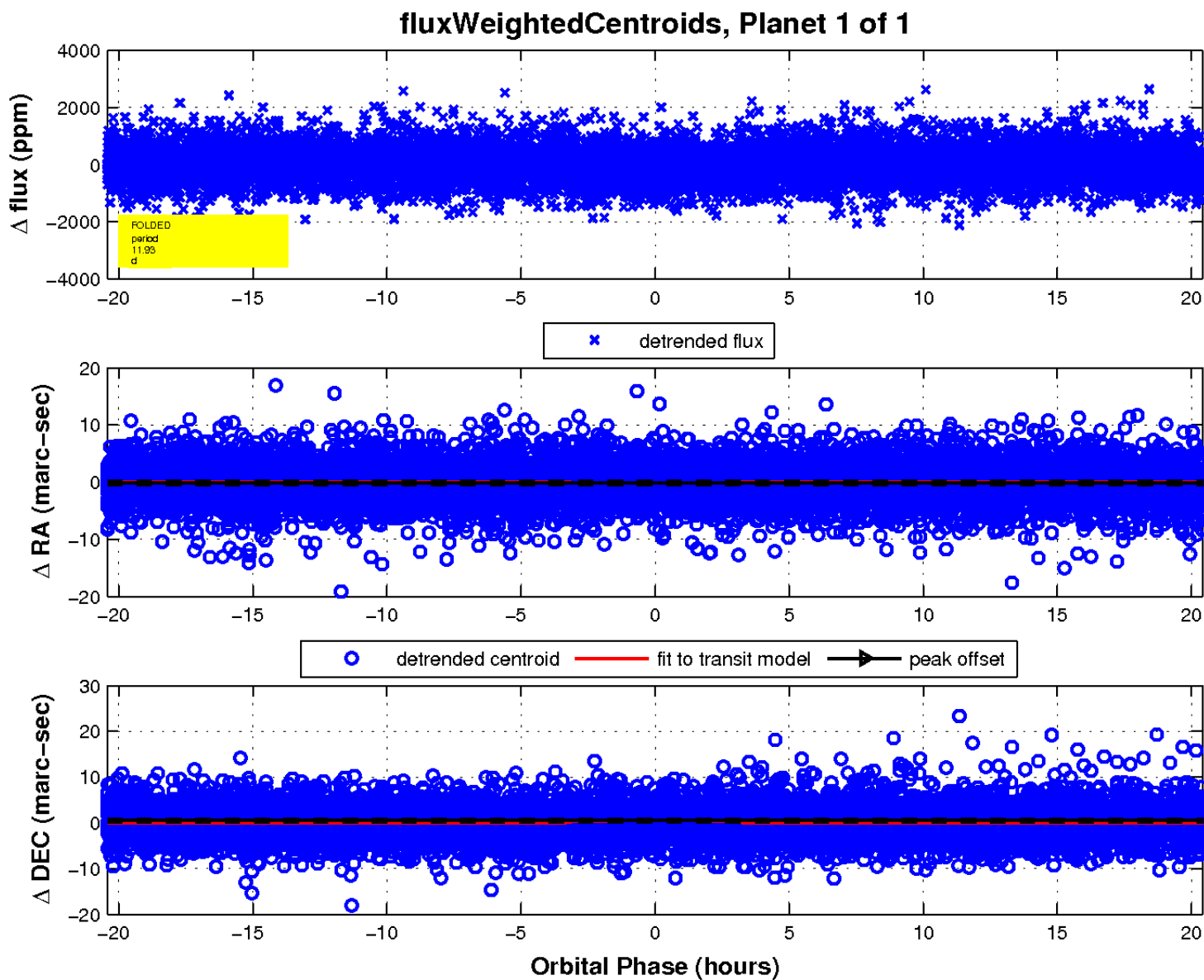
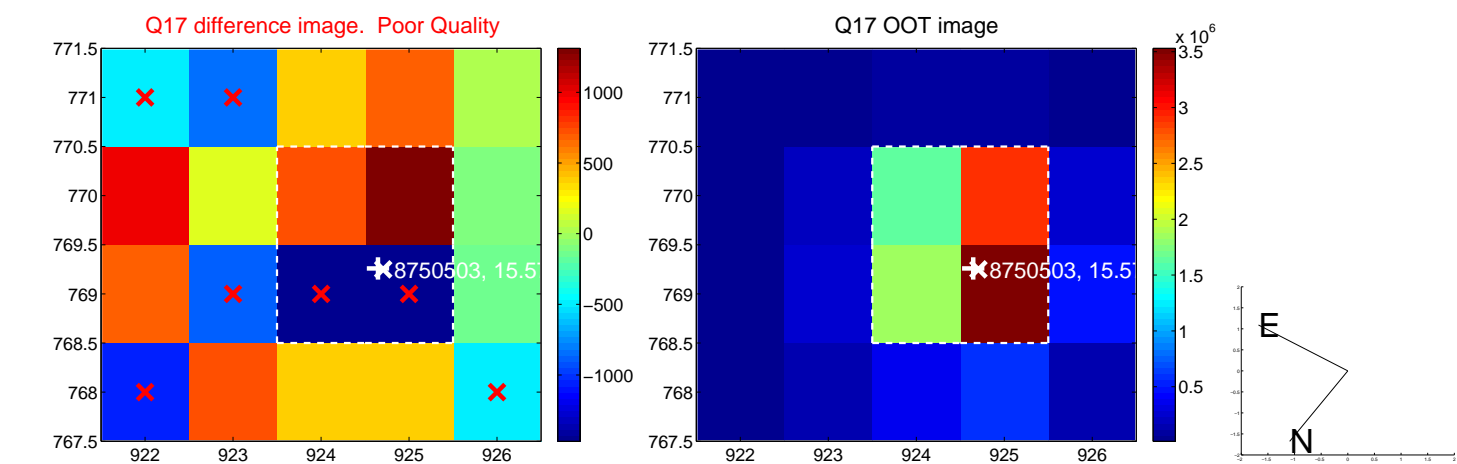


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



## UKIRT Image

