

# KIC 003428013

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003428013-01	OBS	No	0.626685	131.557869	1163.1	1.500	9.5	-1.0	0.84	5778	2.86	4025.02

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003428013-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS

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

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

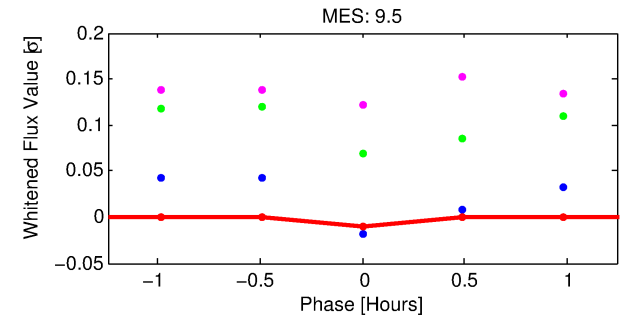
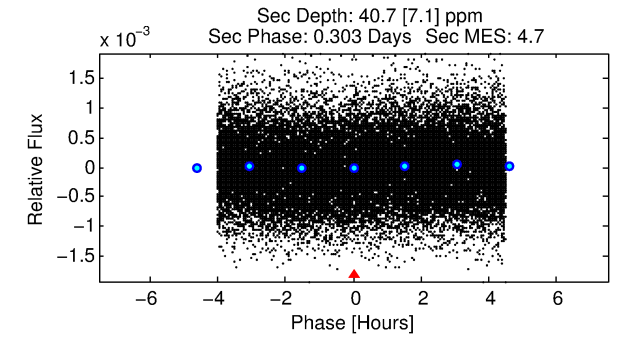
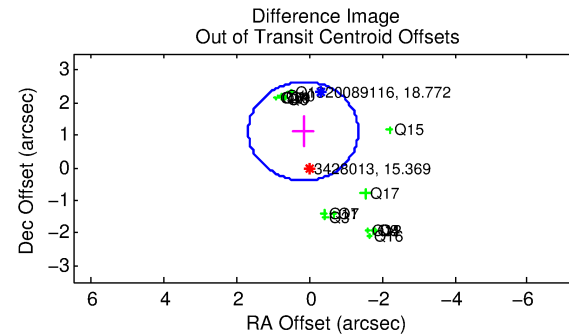
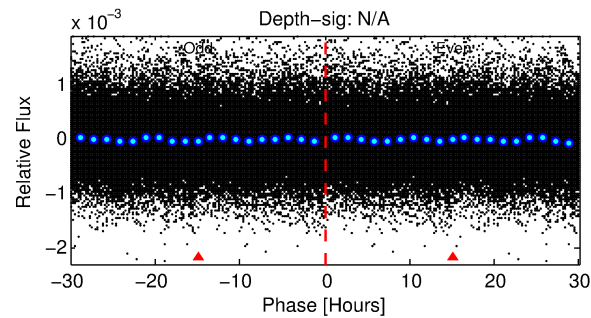
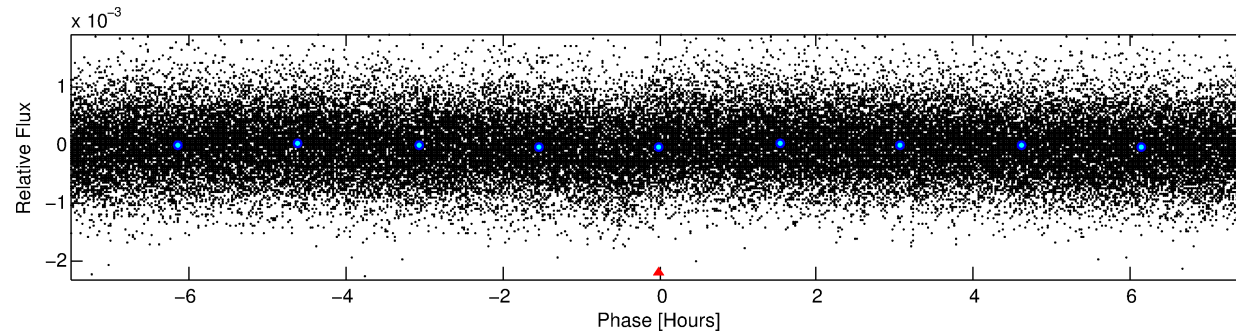
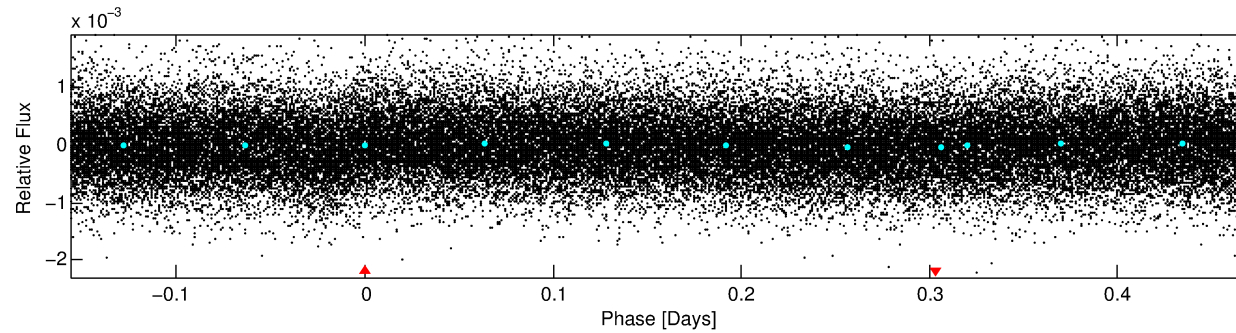
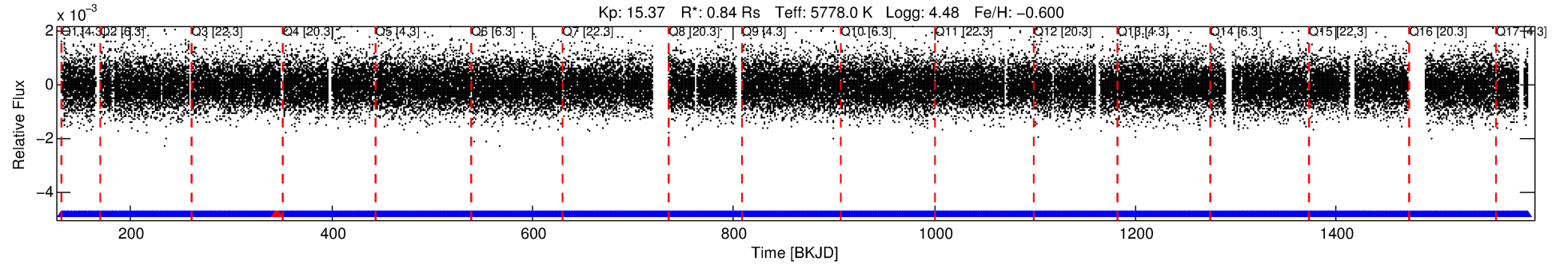
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 003428013-01

No Significant Match Found

# DV One-Page Summary

KIC: 3428013 Candidate: 1 of 1 Period: 0.627 d



TPS TCE Results:

Period = 0.62669 d  
Epoch = 131.5579 BKJD

DV fit results are unavailable

DV Diagnostic Results:

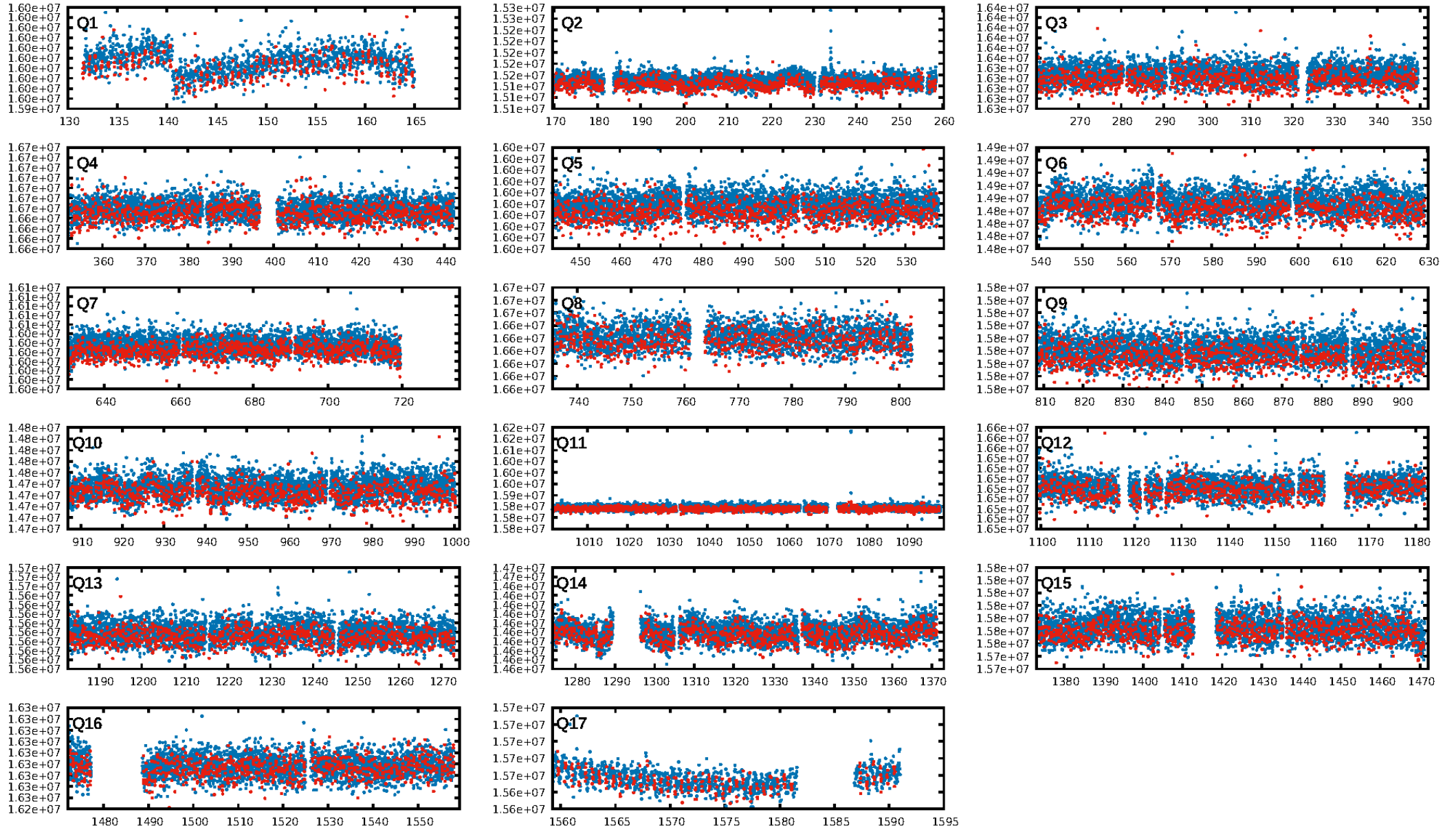
ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 3.42e-20  
RollingBand-fgt: 1.00 [2051/2055]  
GhostDiagnostic-chr: -5.179

Centroid-sig: 0.0%  
Centroid-so: 1.082 arcsec [7.17 $\sigma$ ]  
OotOffset-rm: 1.132 arcsec [2.24 $\sigma$ ]  
KicOffset-rm: 1.025 arcsec [1.87 $\sigma$ ]  
OotOffset-st: 3/4/4/4 [15]  
KicOffset-st: 3/4/4/4 [15]  
DiffImageQuality-fgm: 0.87 [13/15]  
DiffImageOverlap-fno: 1.00 [17/17]

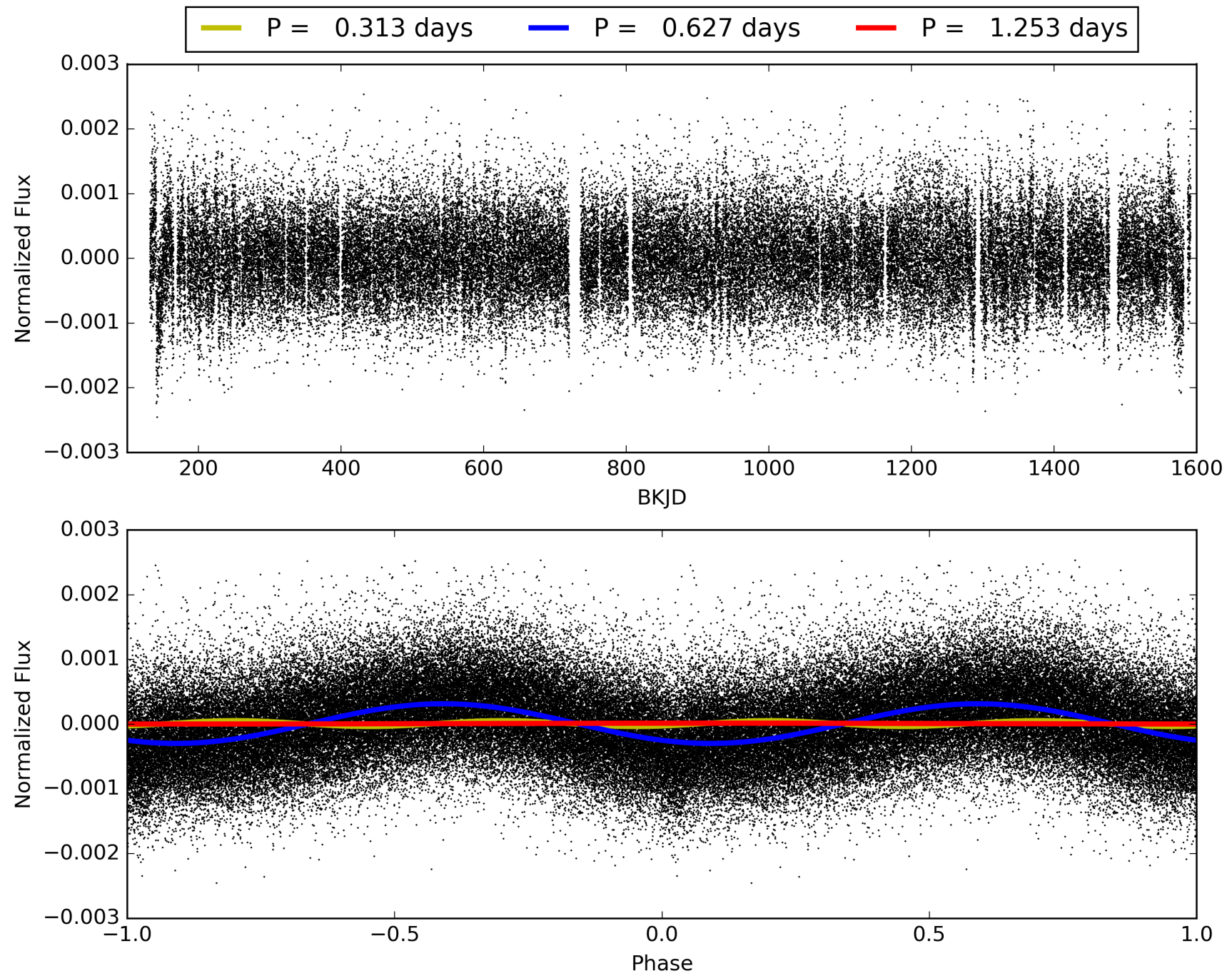
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 20:35:26 Z

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

# TCE 003428013-01, PDC Light Curves

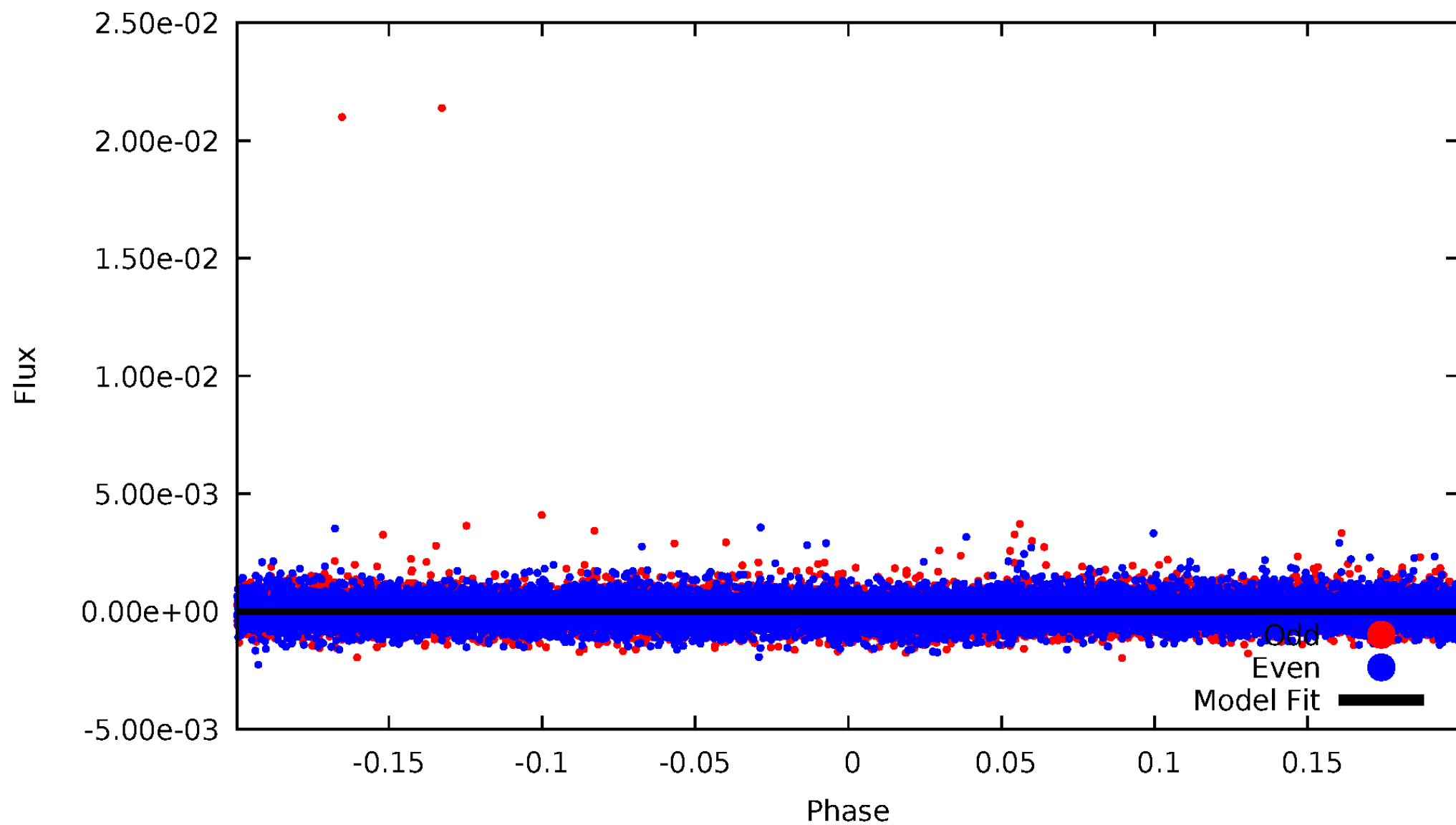


TCE 003428013-01



# DV Odd/Even

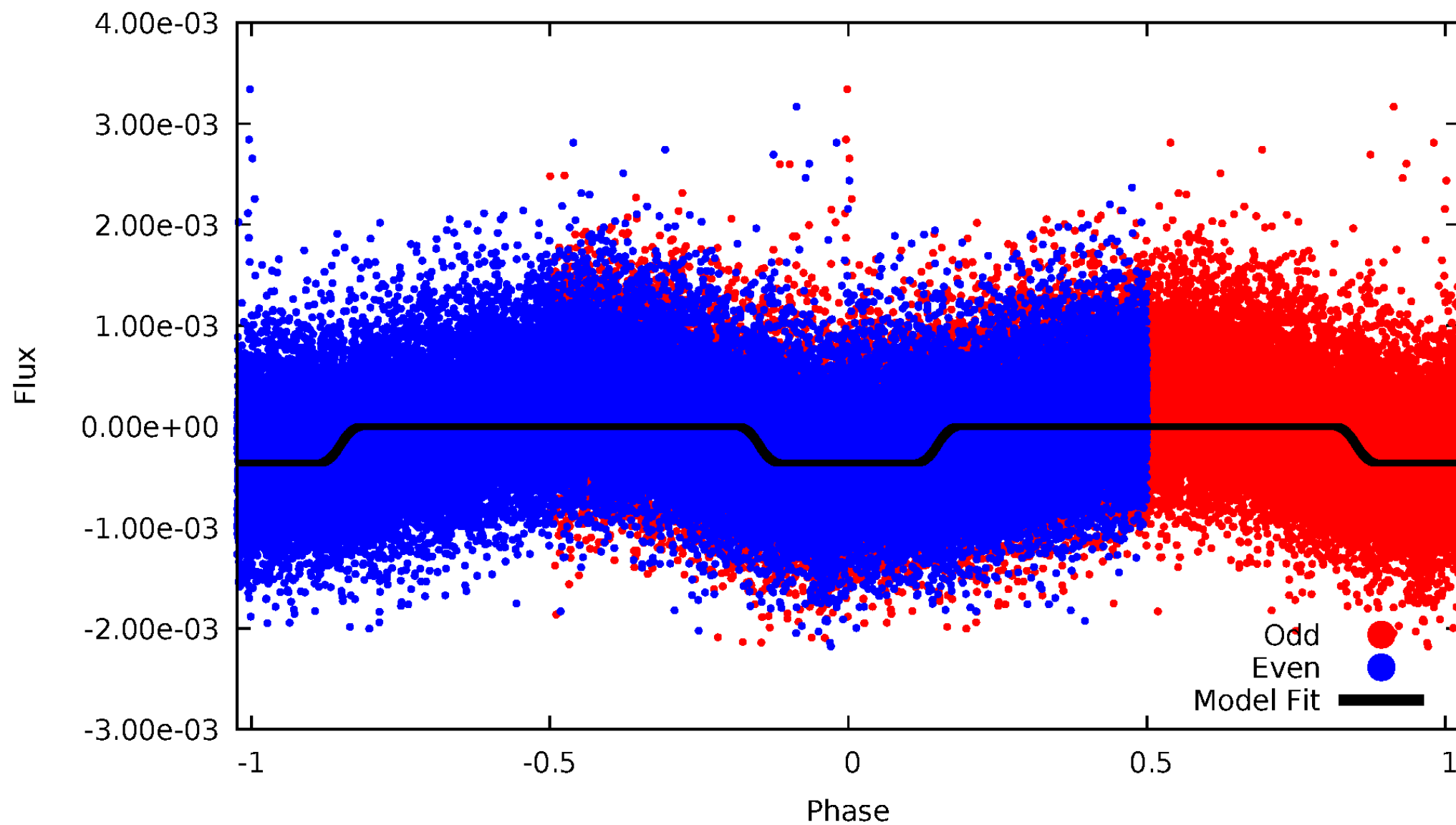
TCE 003428013-01





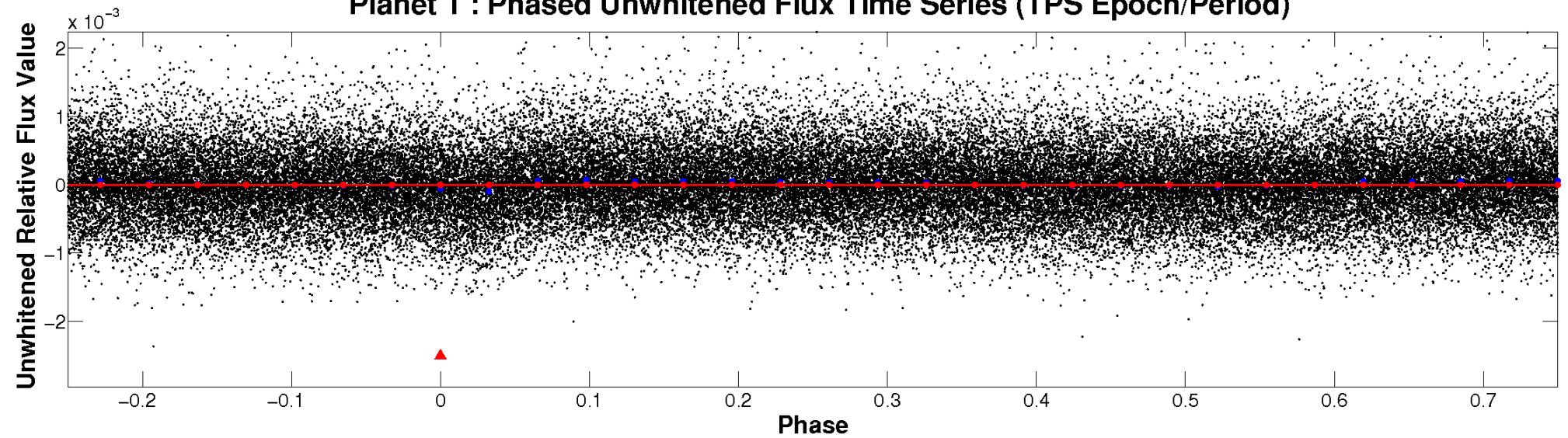
# ALT Odd/Even

TCE 003428013-01

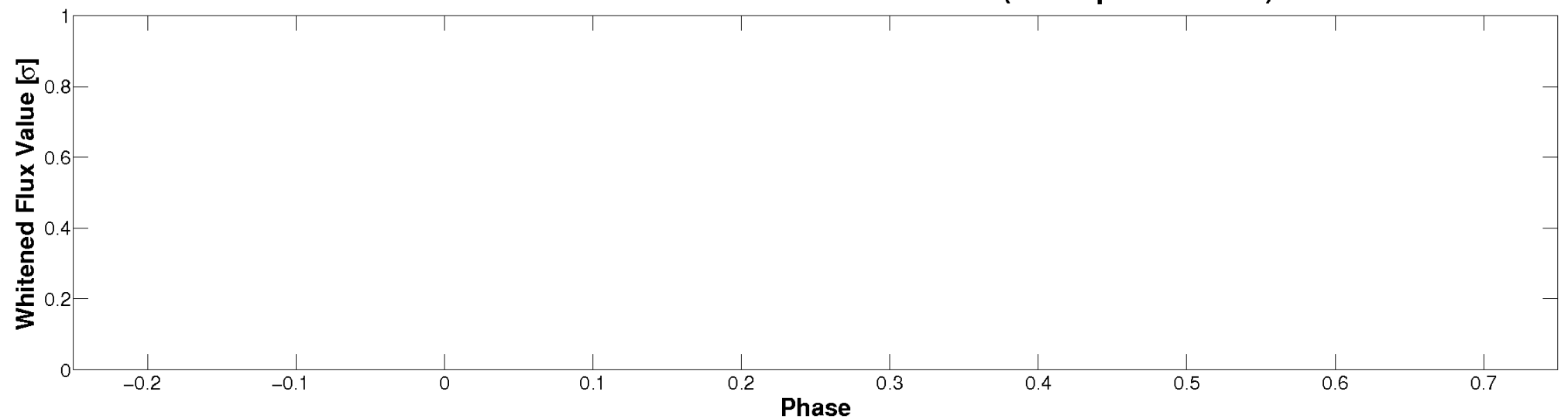


# Non-Whitened Vs. Whitened Light Curve

**Planet 1 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)**

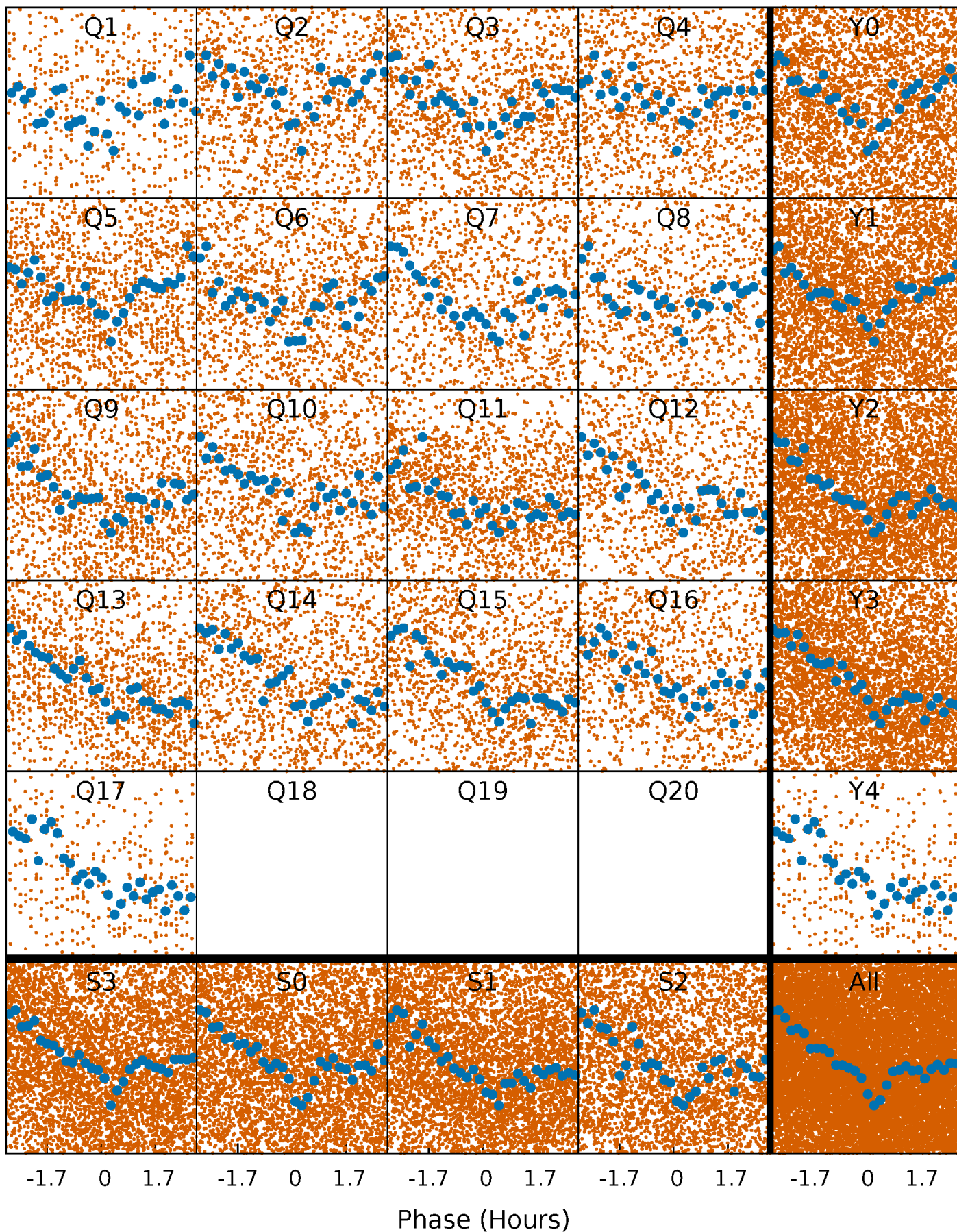


**Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)**



# PDC Quarter-Phased Transit Curves

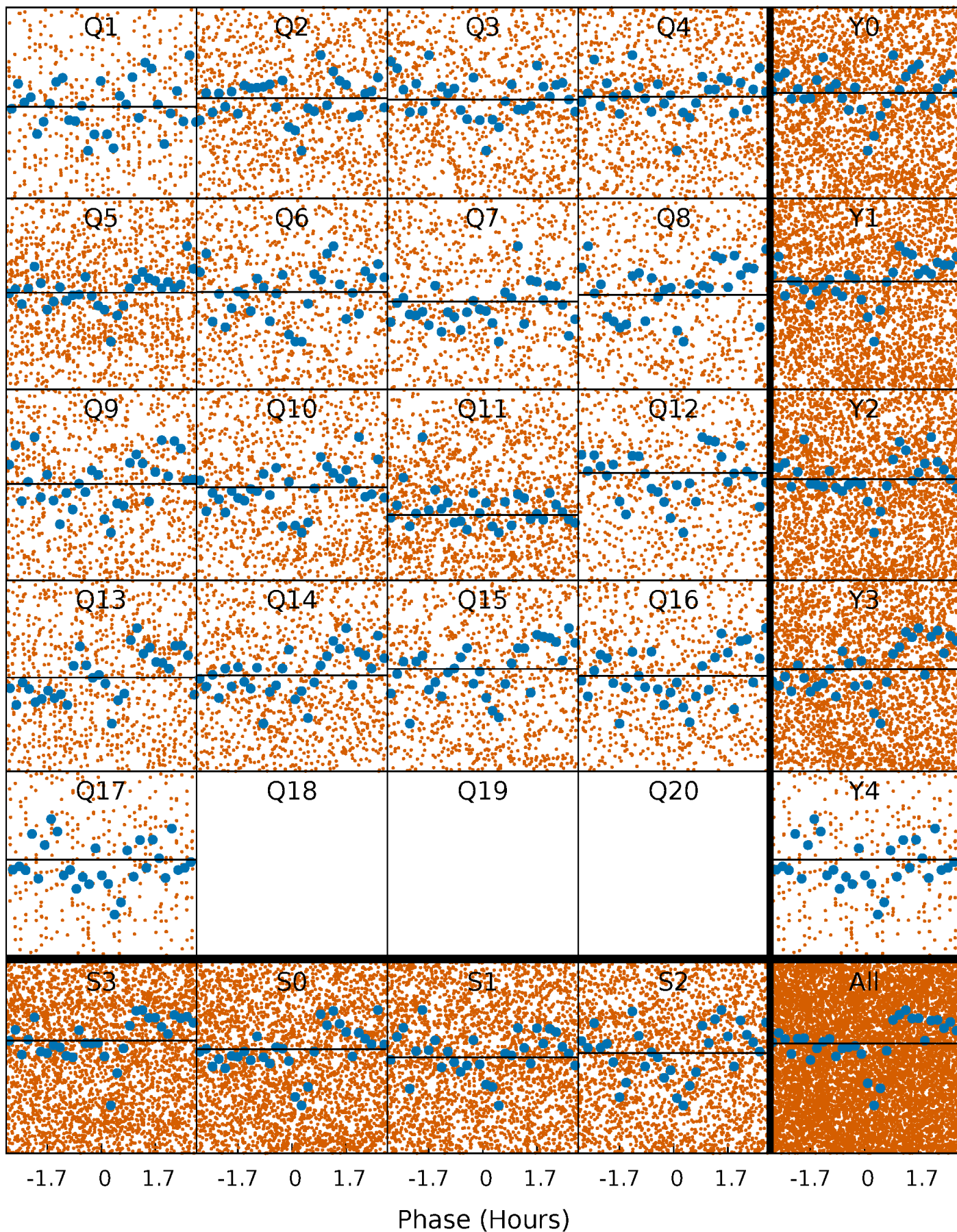
TCE 003428013-01 P= 0.626685 Days  $T_0=131.557869$  (BKJD)





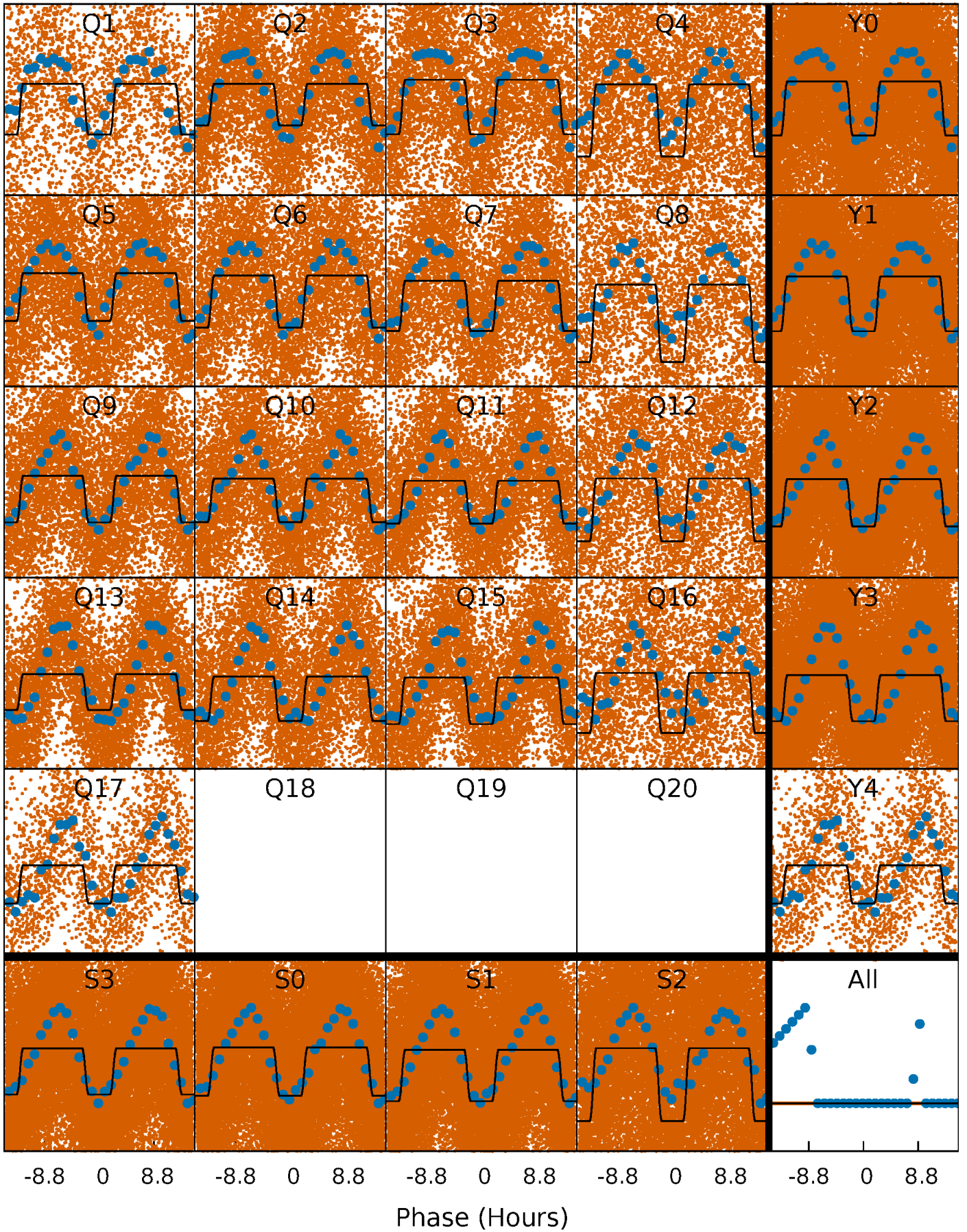
# DV Quarter-Phased Transit Curves

TCE 003428013-01 P= 0.626685 Days  $T_0=131.557869$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

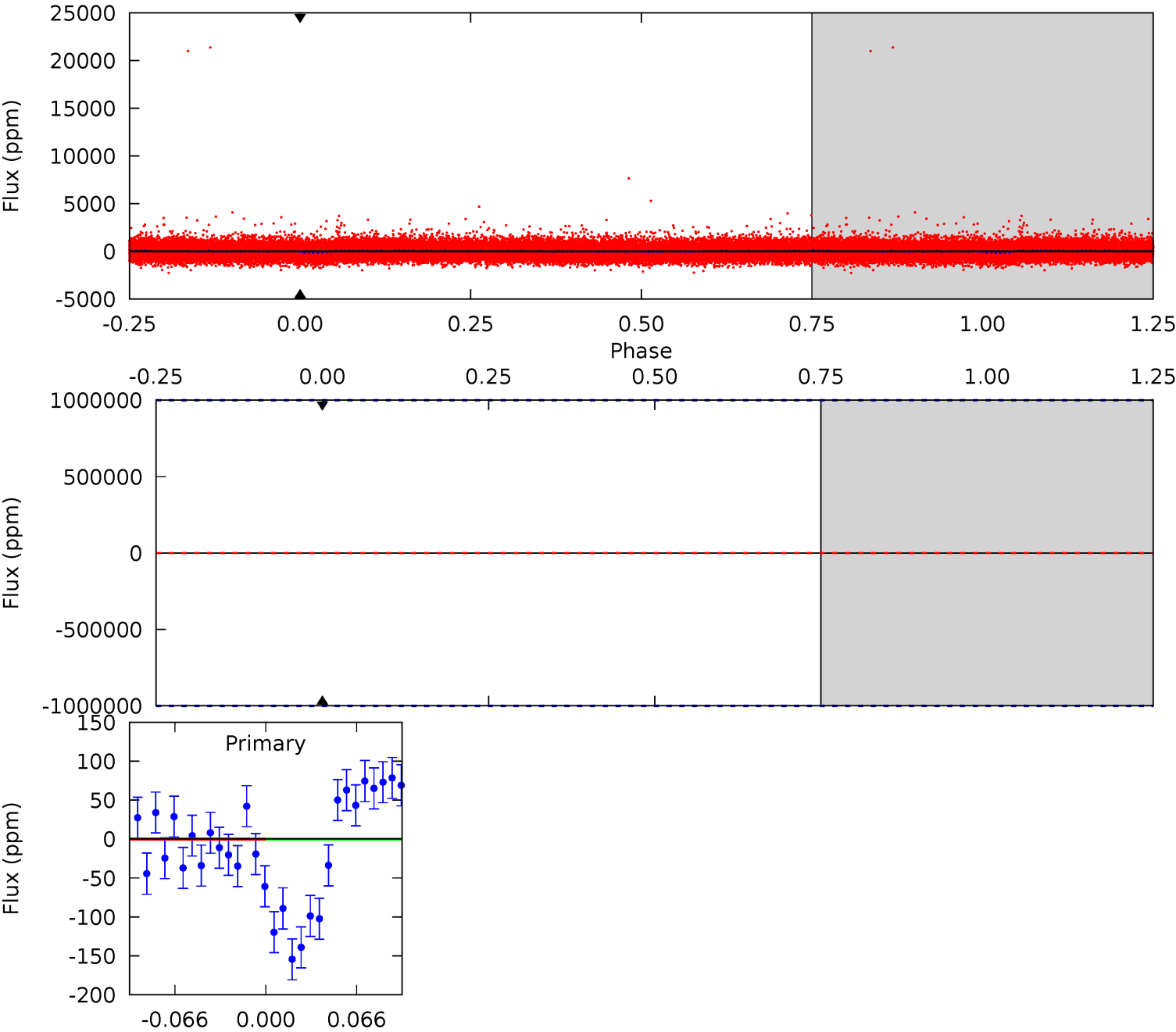
TCE 003428013-01 P= 0.626685 Days  $T_0=131.594269$  (BKJD)



DV Model-Shift Uniqueness Test

003428013-01, P = 0.626685 Days, E = 130.931184 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
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0

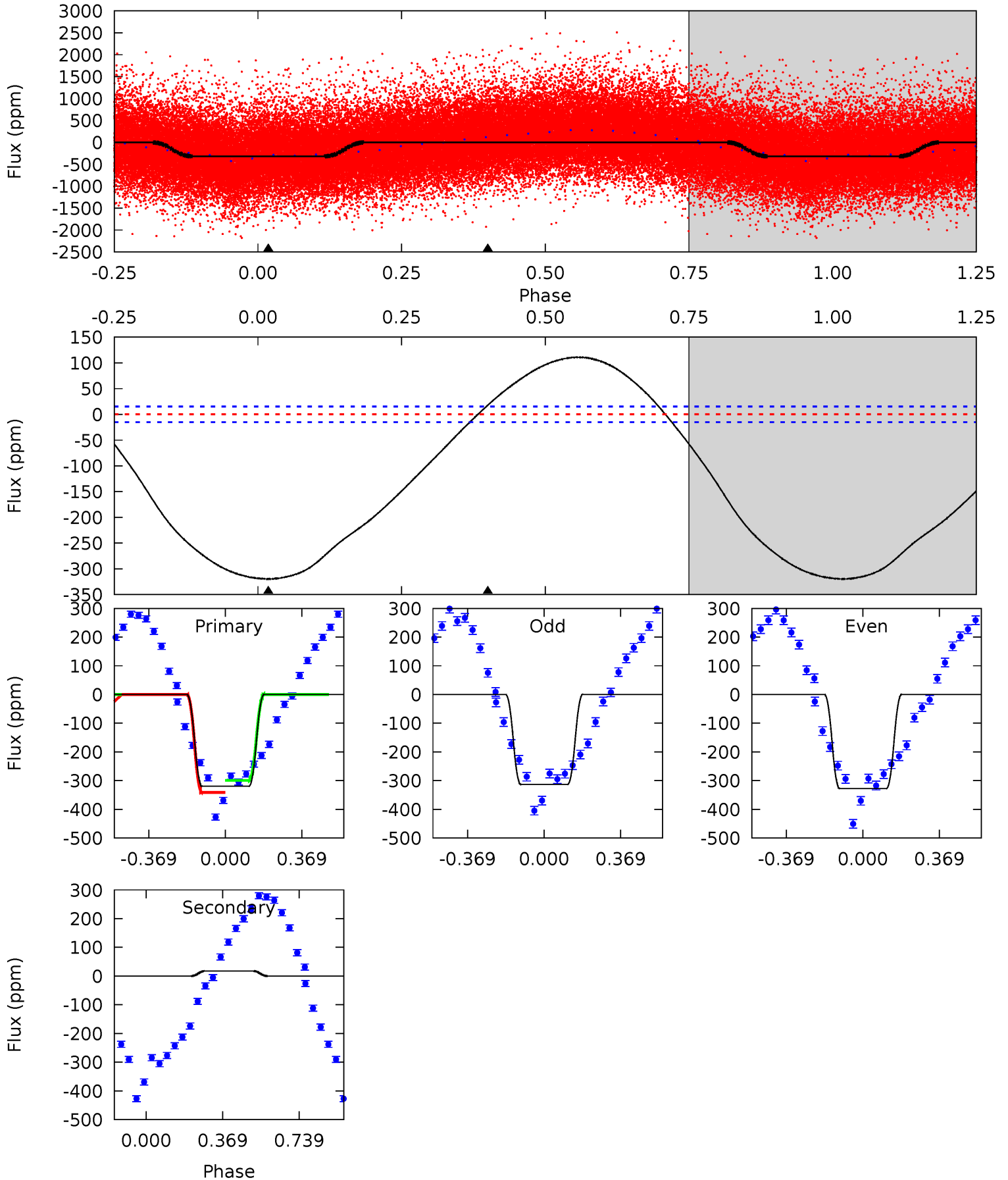




# Alt Model-Shift Uniqueness Test

003428013-01, P = 0.626685 Days, E = 130.967584 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
89.8	-5.02	0	0	4.28	0.90	10.7	89.8	89.8	-5.02	-5.02	2.03	0.98	0.26	6.15





### Stellar Parameters For KIC 003428013

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5778^{+174}_{-174}$	$4.484^{+0.104}_{-0.156}$	$-0.600^{+0.300}_{-0.300}$	$0.838^{+0.194}_{-0.104}$	$0.780^{+0.100}_{-0.054}$	$1.869^{+0.844}_{-0.796}$
	+3%/-3%	+2%/-3%	+50%/-50%	+23%/-12%	+13%/-7%	+45%/-43%
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 003428013-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$0 \pm 1000000$	$7.14^{+7.10}_{-4.92}$	$2844^{+187}_{-135}$	$5167^{+17580}_{-21132}$	$7.212^{+392.061}_{-238.246}$
Alt.	$18 \pm 4$	$6.90^{+7.63}_{-4.72}$	$2856^{+171}_{-138}$	$-3094^{+124}_{-342}$	$-0.036^{+0.028}_{-0.315}$

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

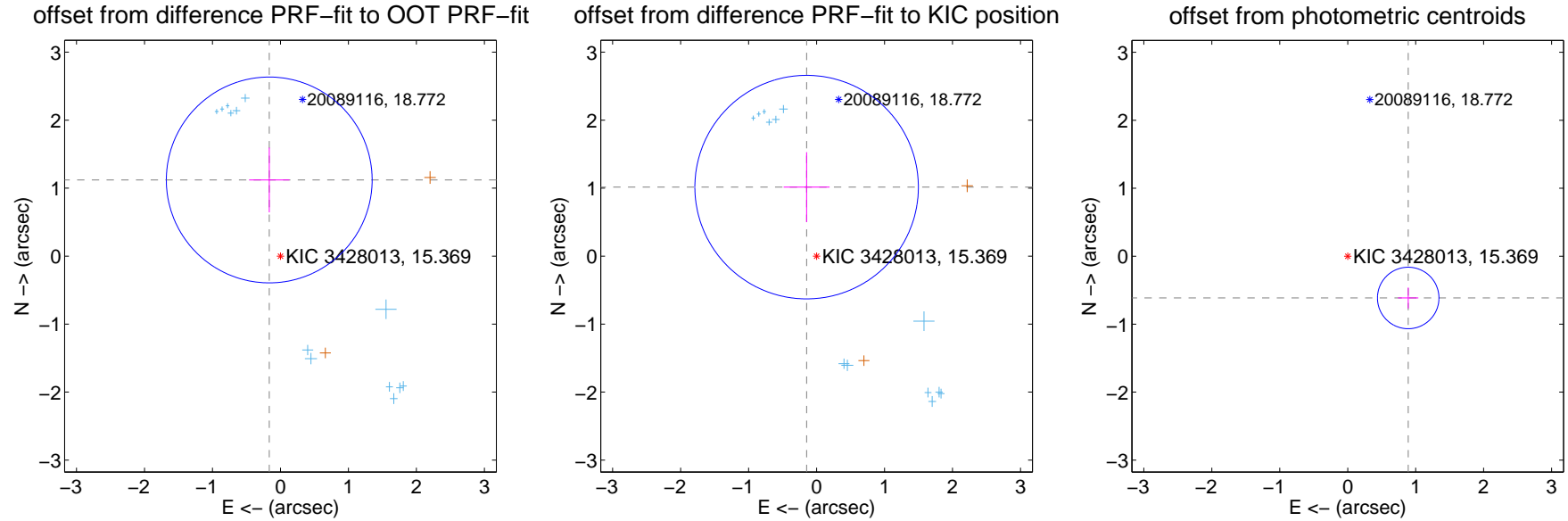
## DV Centroid Data

Supplemental centroid analysis for 003428013-01. Kepler magnitude: 15.37. Transit SNR -1.00

There are 13 quarters with good PRF difference image offsets

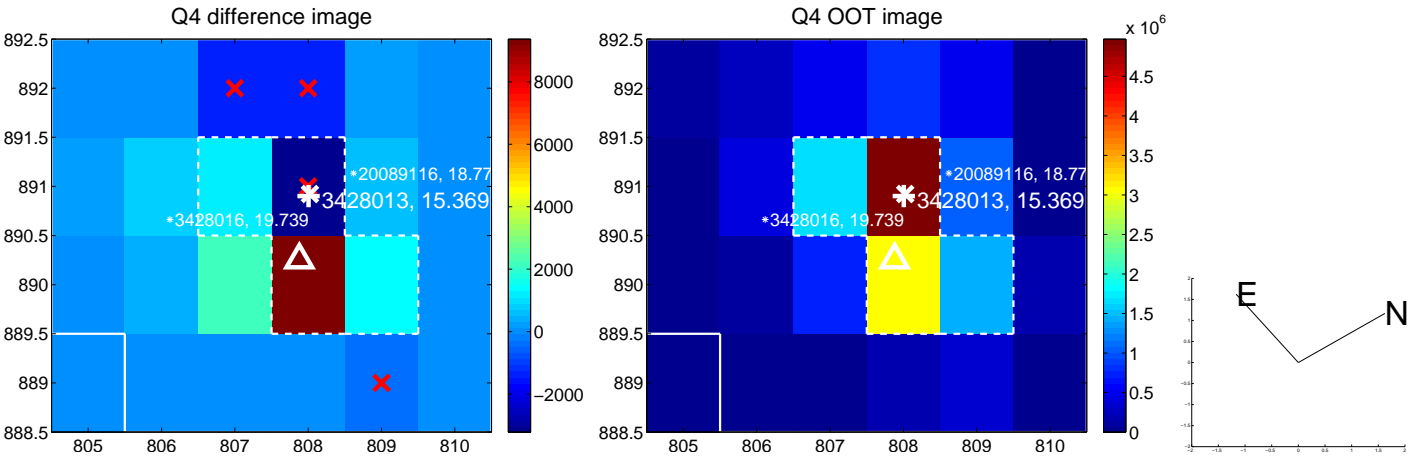
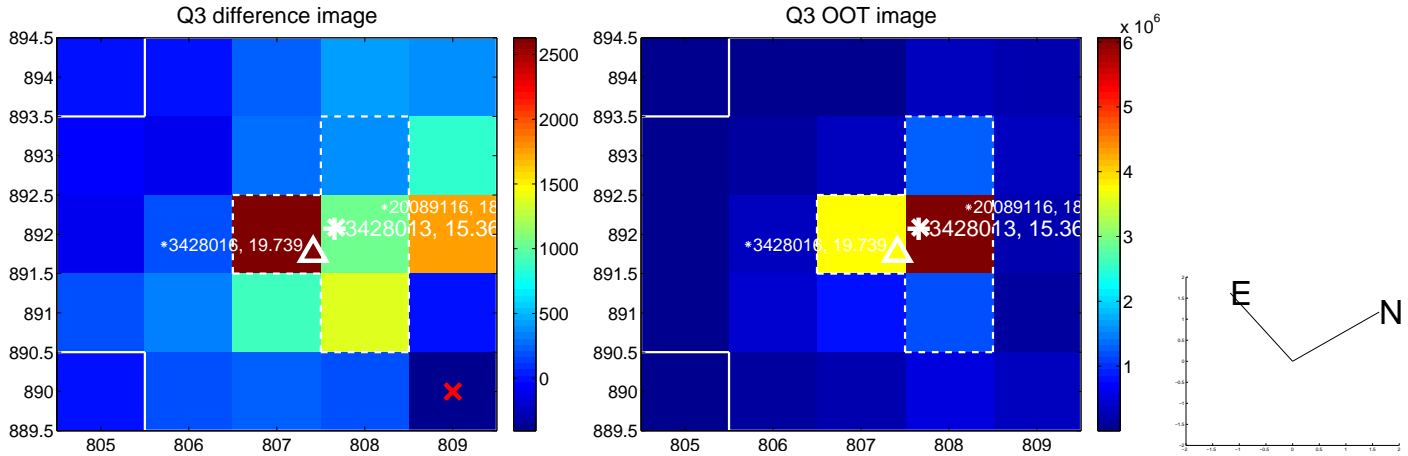
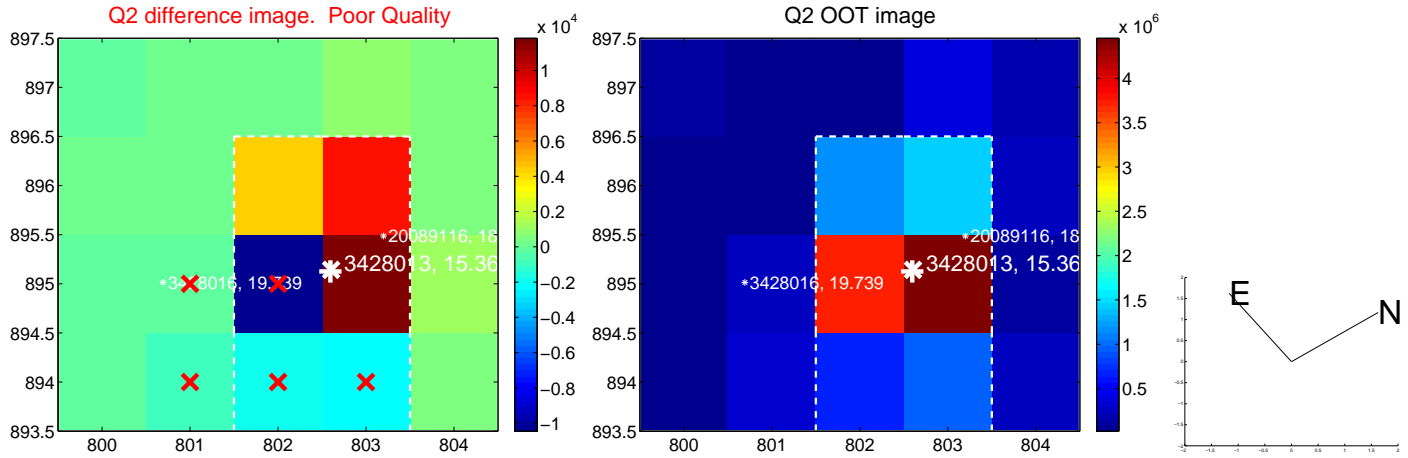
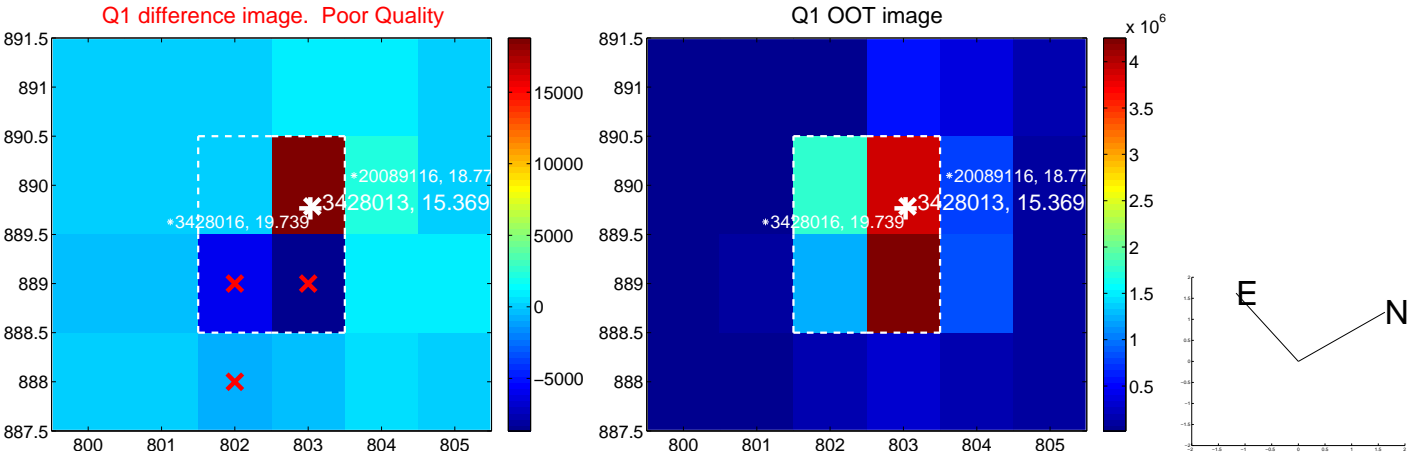
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.132 \pm 0.505$	2.24	$0.165 \pm 0.297$	$1.120 \pm 0.477$
PRF-fit source offset from KIC position	$1.025 \pm 0.548$	1.87	$0.146 \pm 0.338$	$1.015 \pm 0.515$
photometric centroid source offset	$1.08 \pm 0.15$	7.17	$-0.89 \pm 0.15$	$-0.61 \pm 0.15$

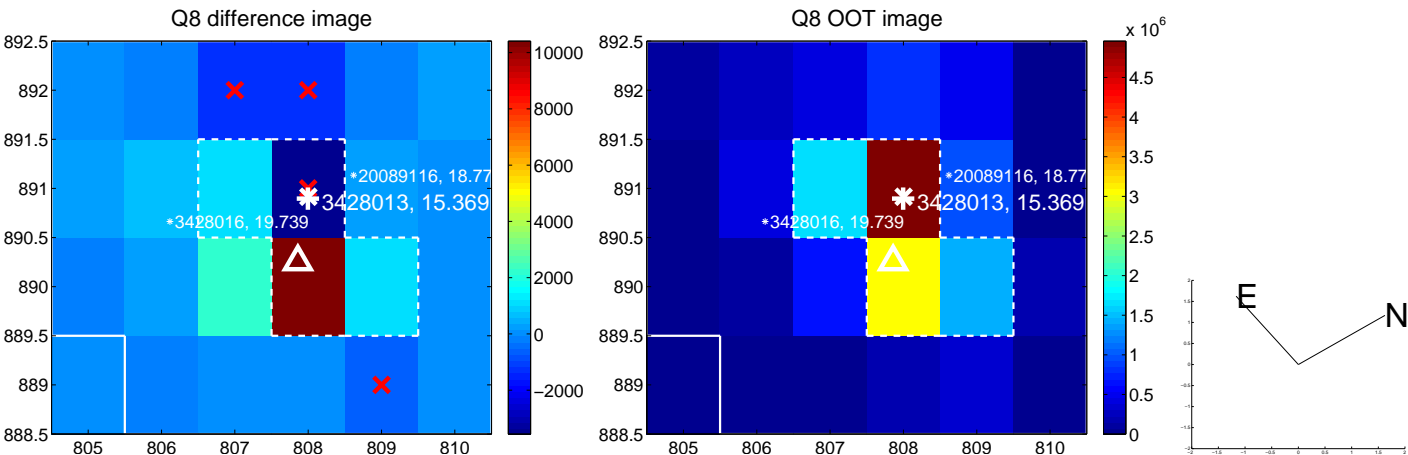
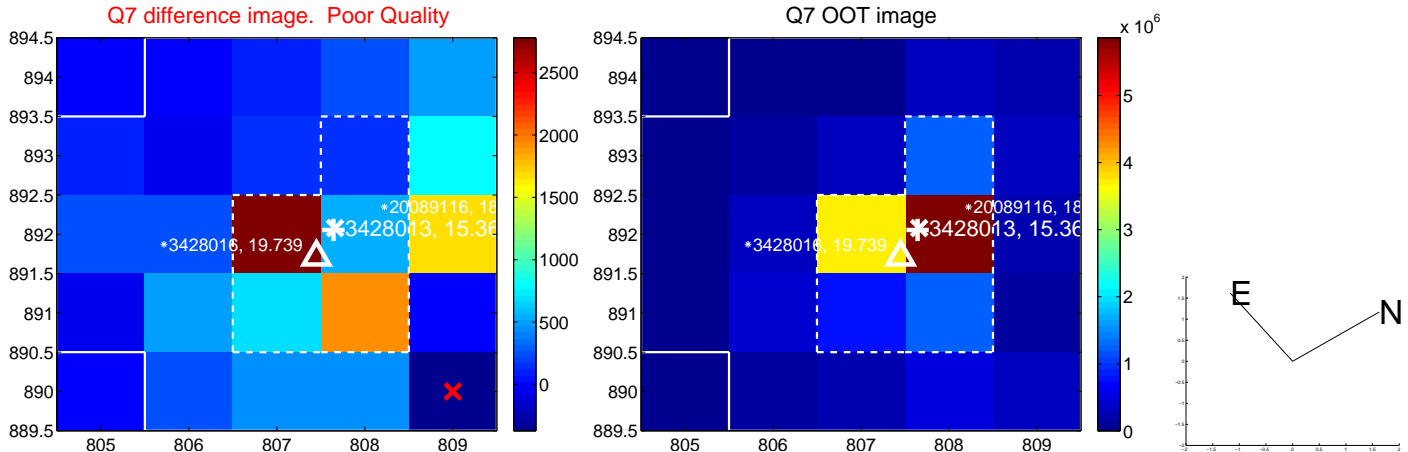
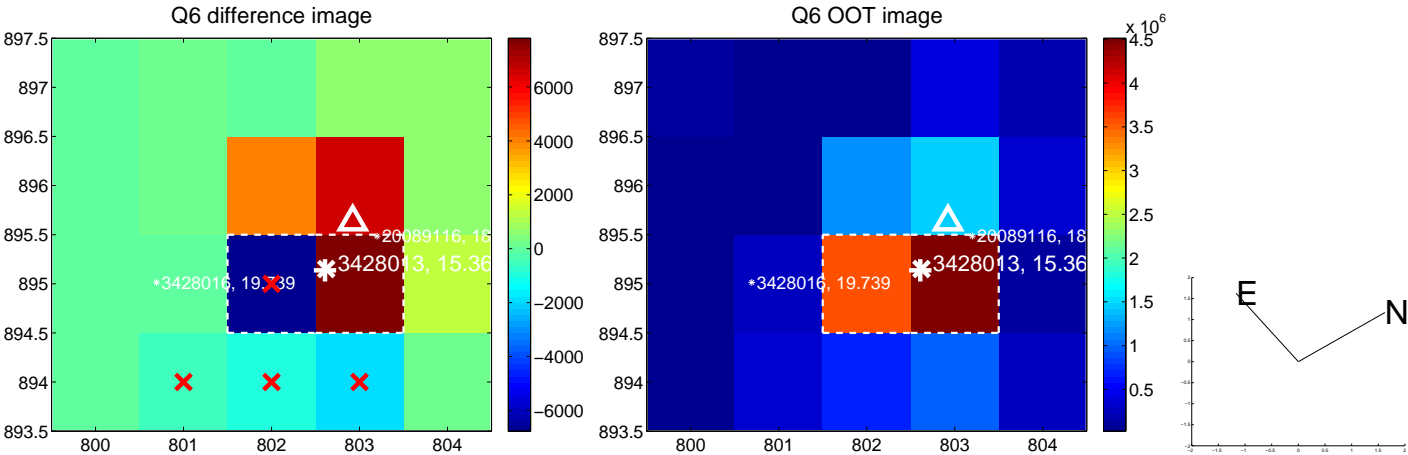
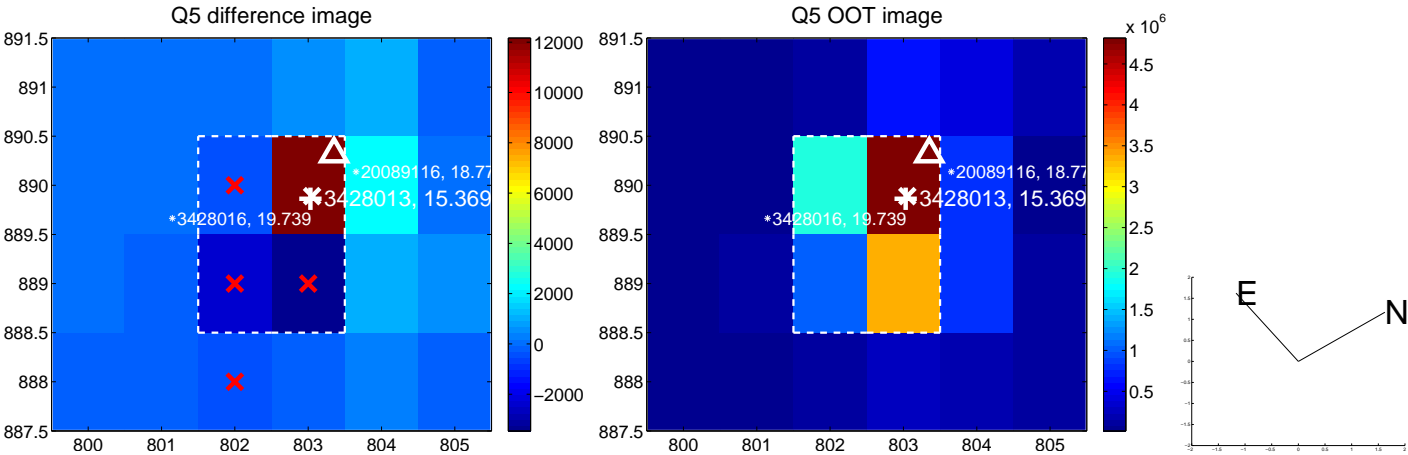


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

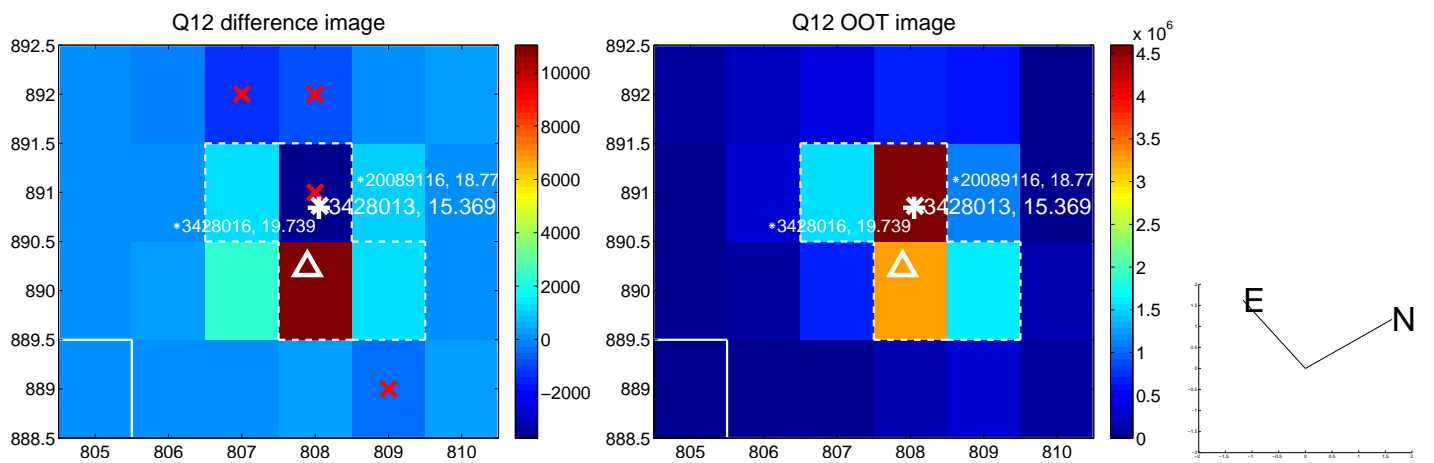
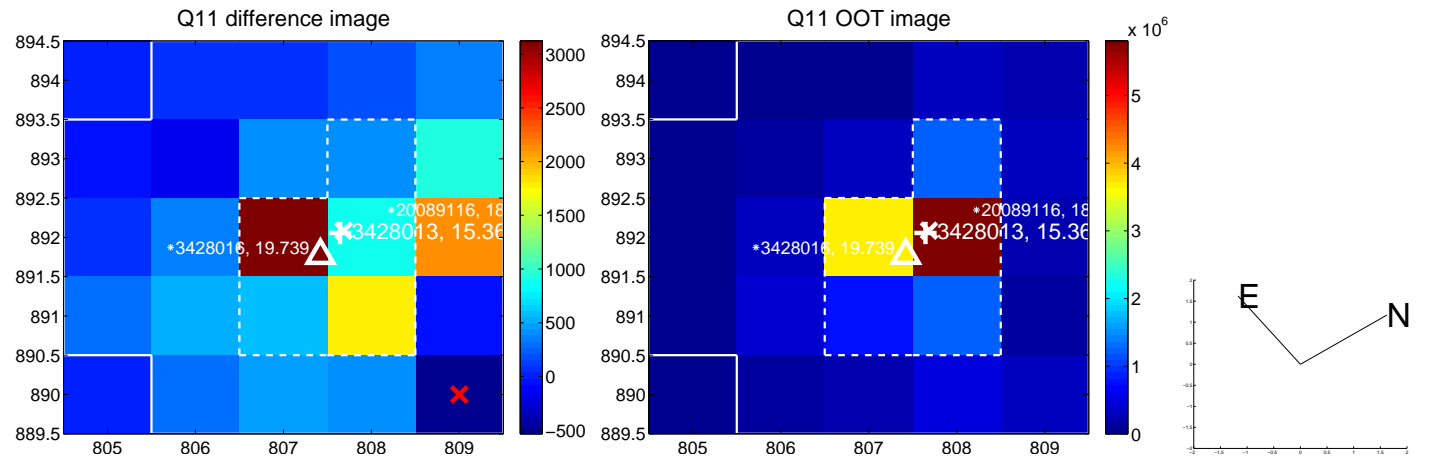
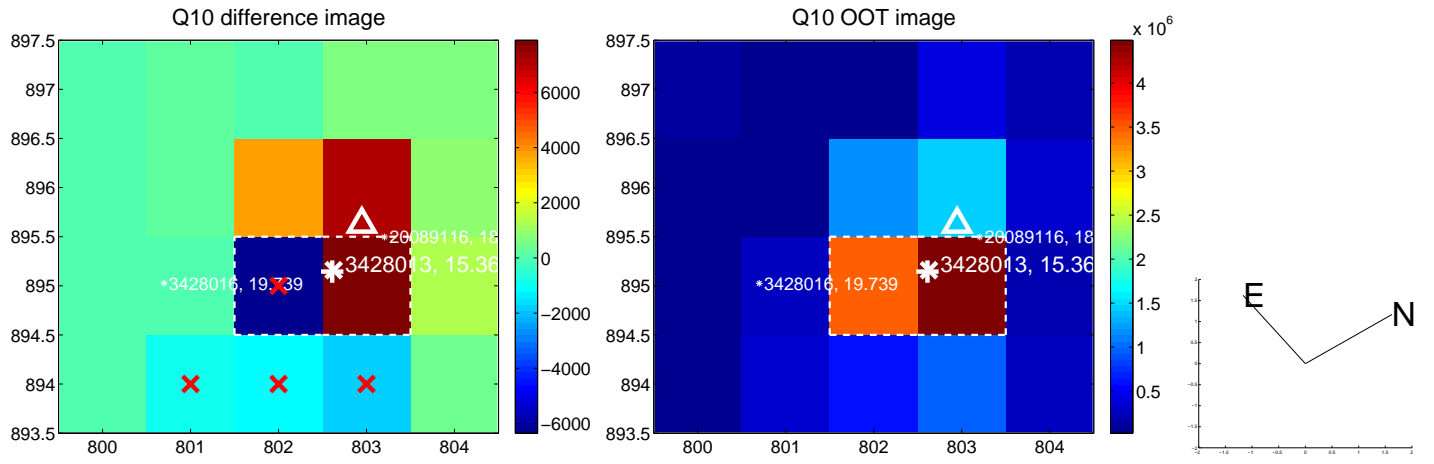
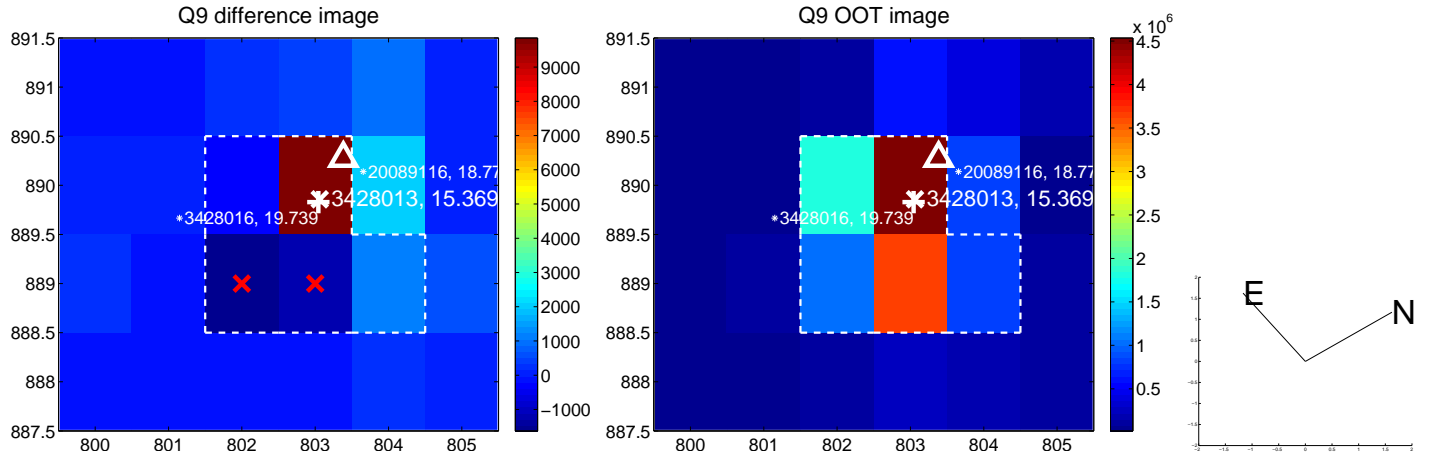


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

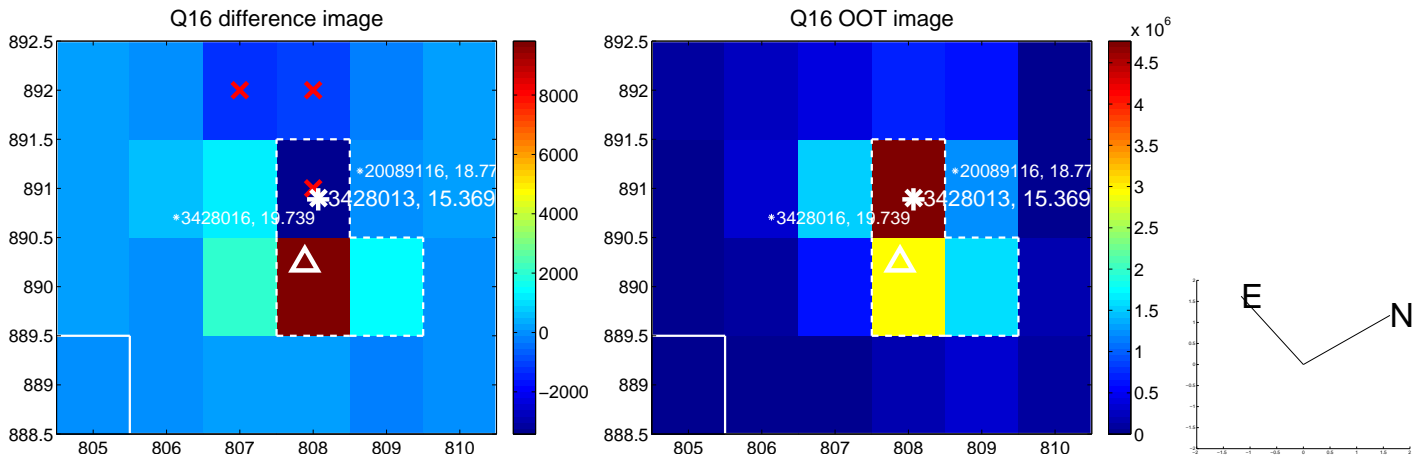
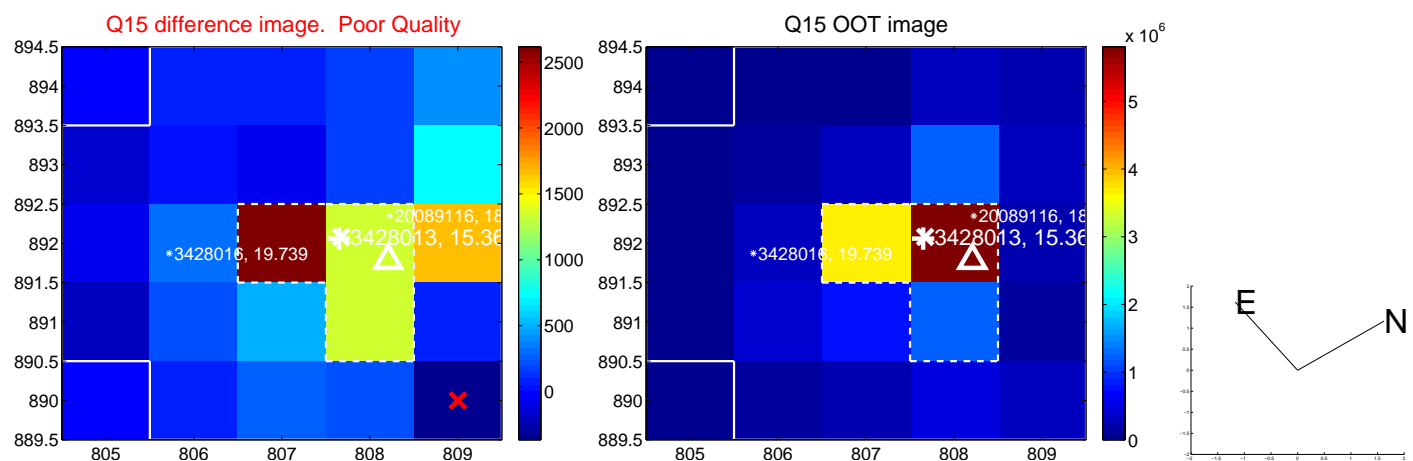
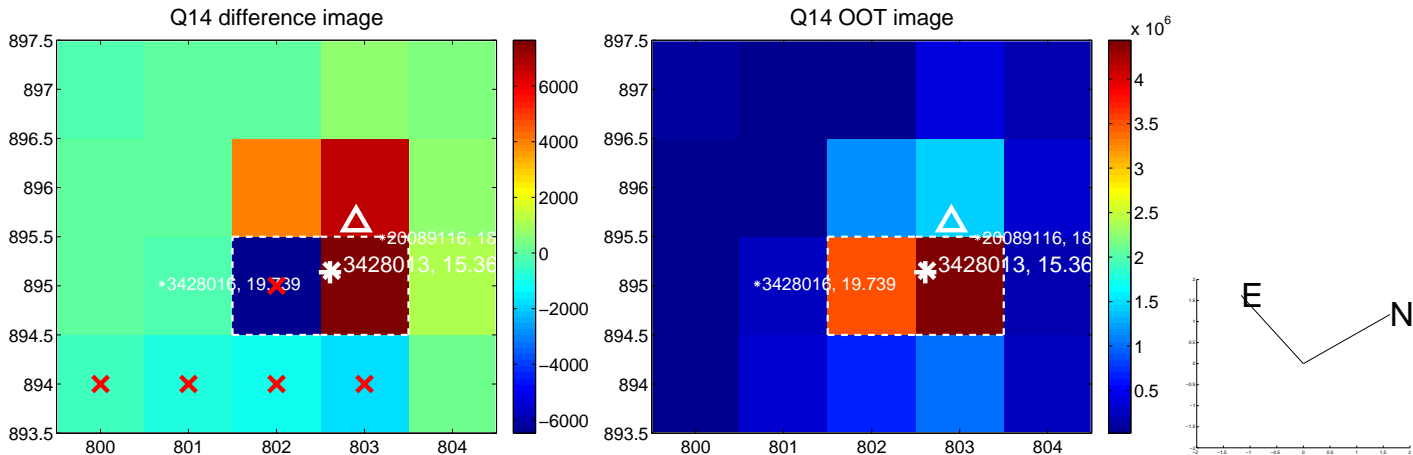
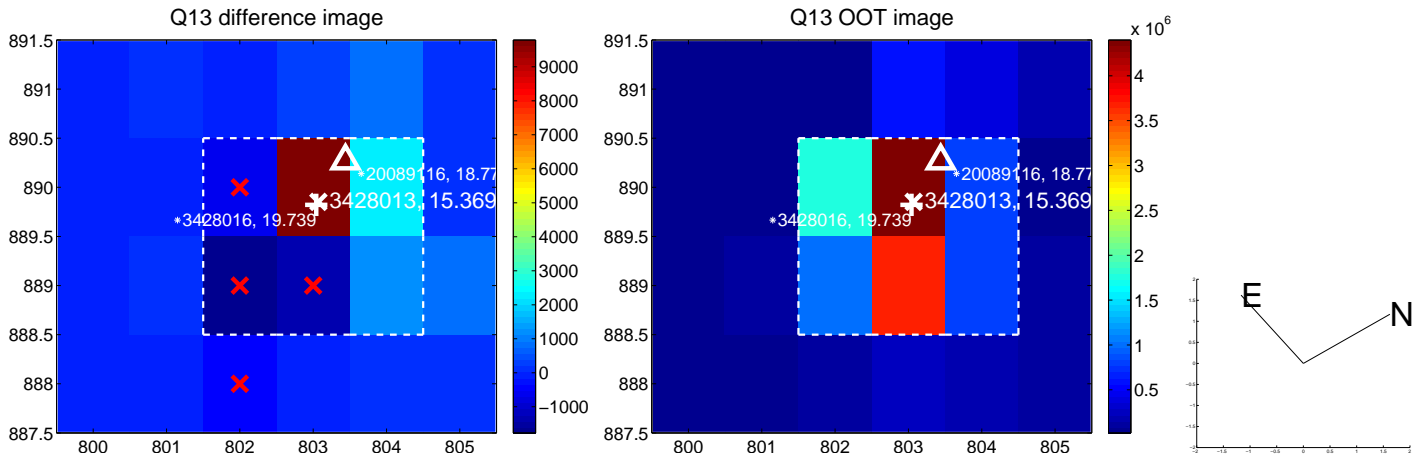




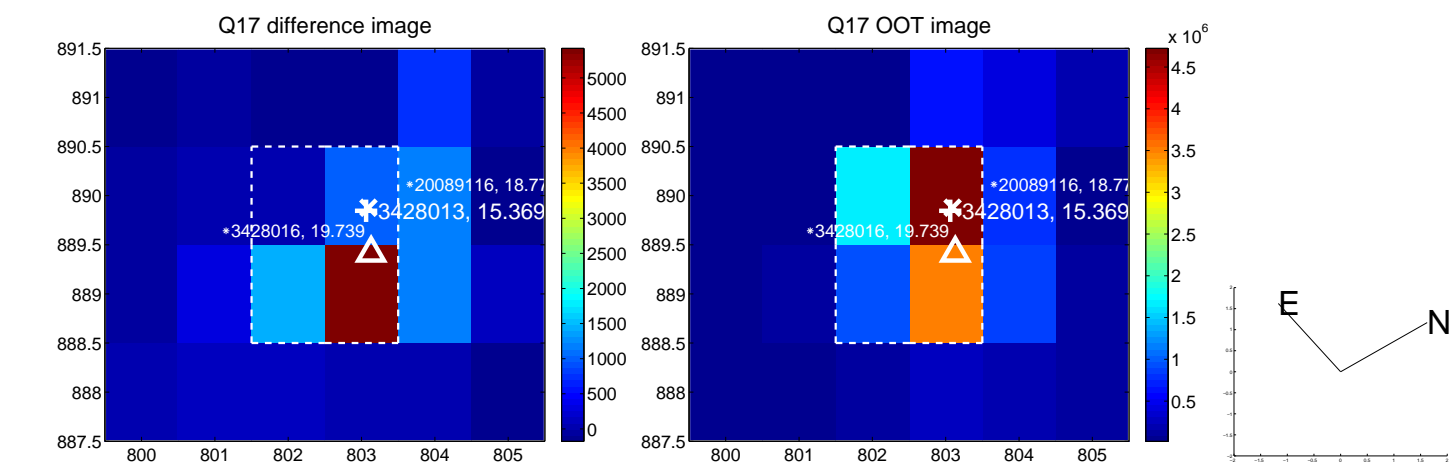
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



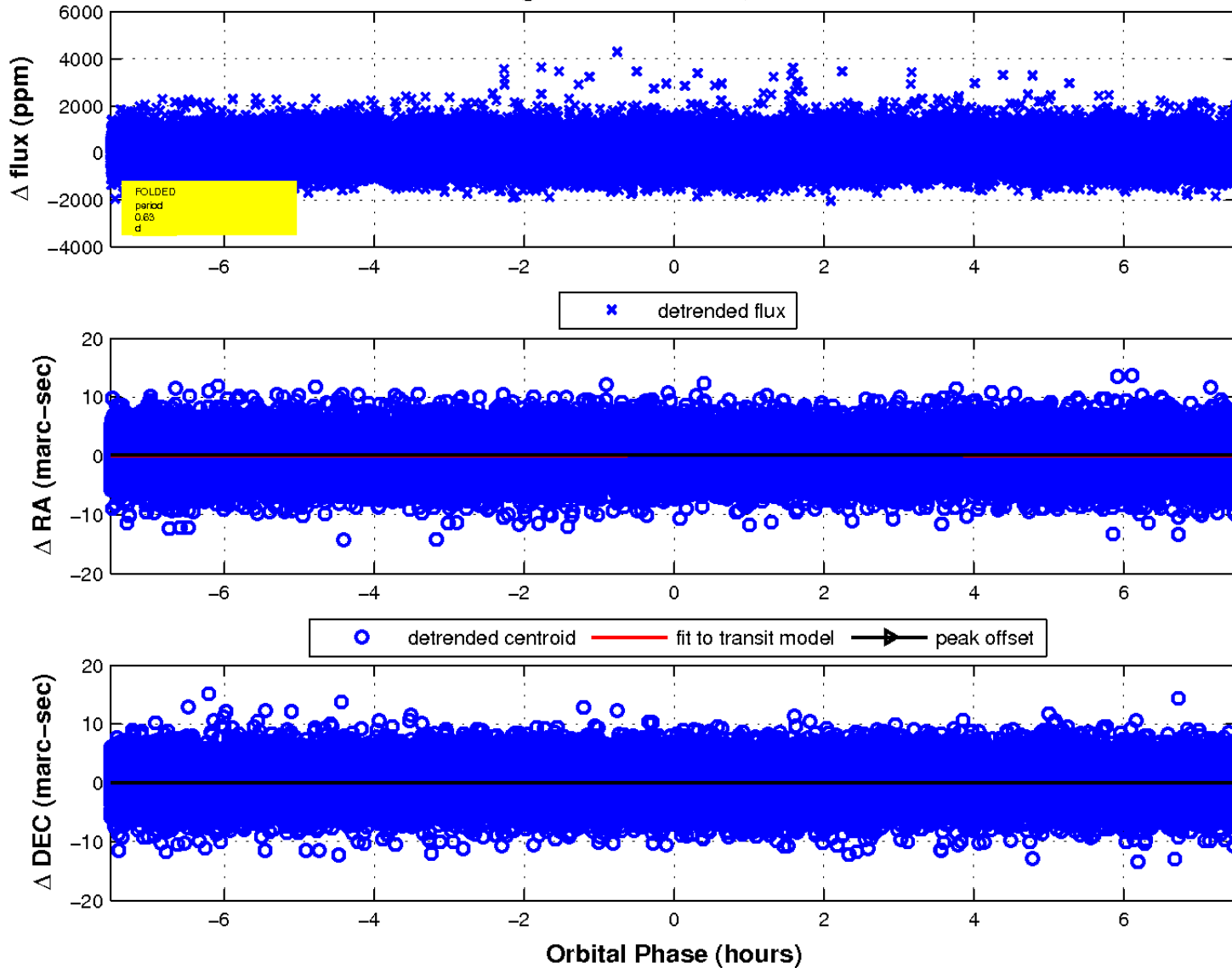
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

