

# KIC 004768611

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004768611-01	OBS	No	1.202688	132.431515	90.4	1.664	7.8	7.9	1.24	6572	1.21	4398.40

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004768611-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—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.

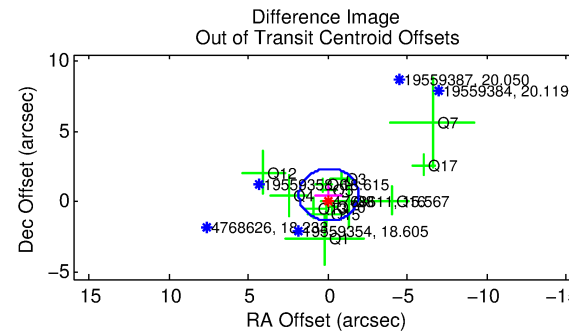
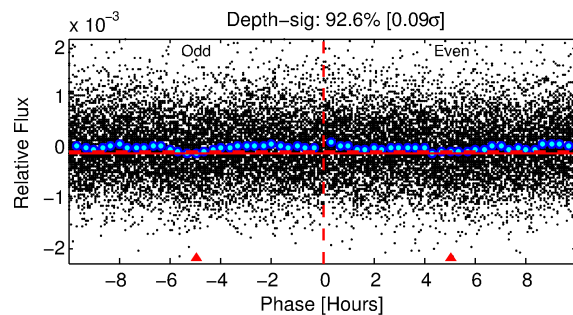
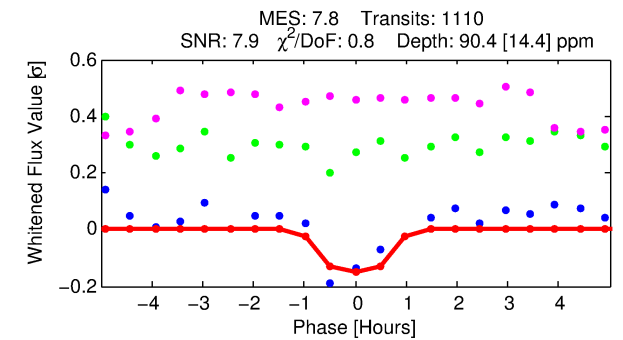
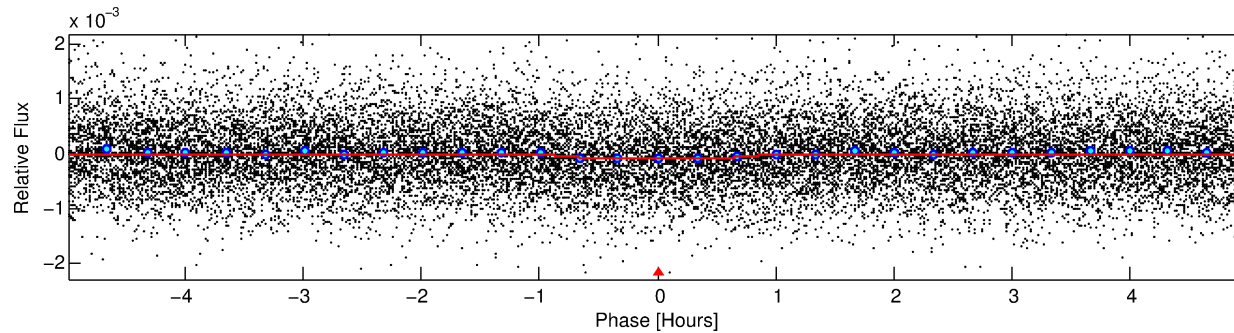
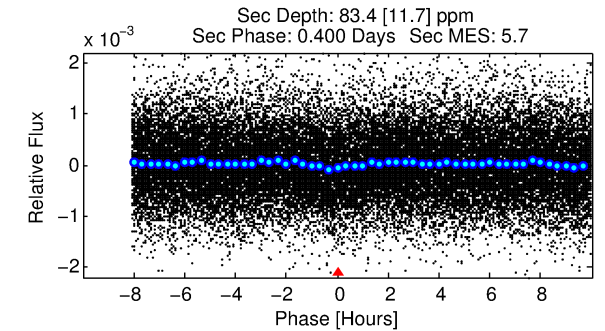
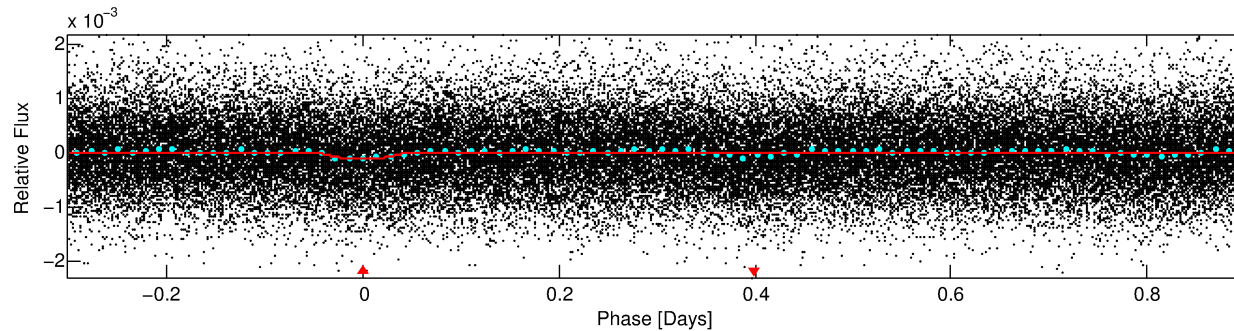
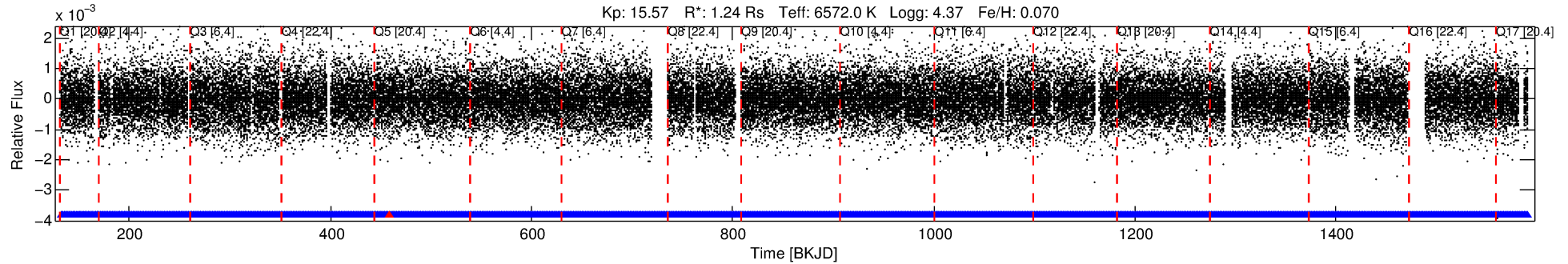
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004768611-01

No Significant Match Found

# DV One-Page Summary

KIC: 4768611 Candidate: 1 of 1 Period: 1.203 d



## DV Fit Results:

Period = 1.20269 [0.00001] d  
Epoch = 132.4315 [0.0032] BKJD  
Rp/R\* = 0.0090 [0.0061]  
a/R\* = 4.99 [17.24]  
b = 0.46 [6.11]  
Seff = 4398.39 [1665.98]  
Teq = 2077 [197] K  
Rp = 1.21 [0.89] Re  
a = 0.0241 [0.0057] AU  
Ag = 18.15 [25.62] [0.67σ]  
Teffp = 6627 [2283] K [1.99σ]

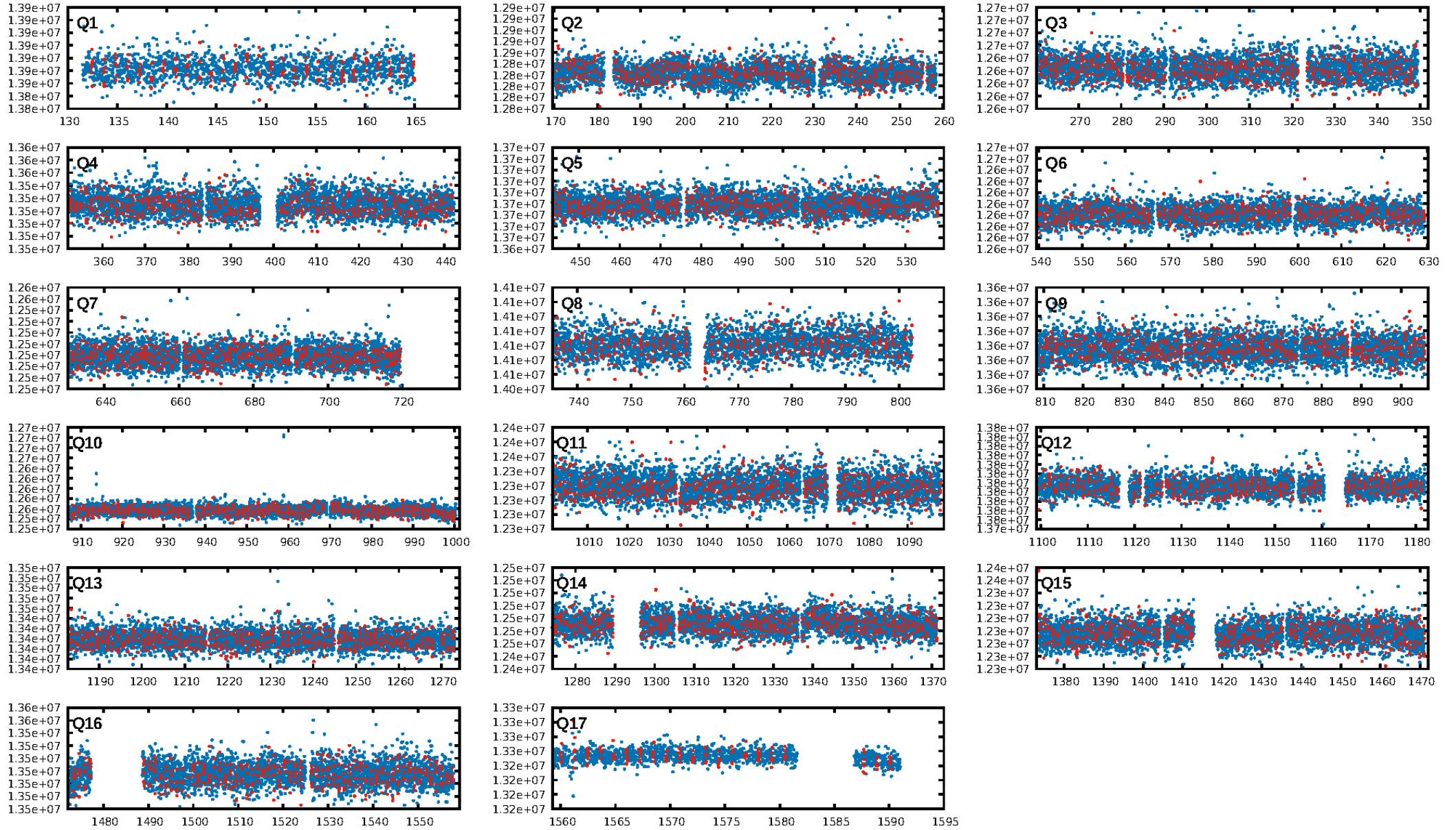
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.05e-15  
RollingBand-fgt: 1.00 [1060/1061]  
GhostDiagnostic-chr: 1.484  
Centroid-sig: 7.3%  
Centroid-so: 1.459 arcsec [1.00σ]  
OotOffset-rm: 0.503 arcsec [0.81σ]  
OotOffset-st: 2/3/4/4 [13]  
KicOffset-rm: 0.382 arcsec [0.64σ]  
KicOffset-st: 2/3/4/4 [13]  
DiffImageQuality-fgm: 0.38 [5/13]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 10:04:19 Z

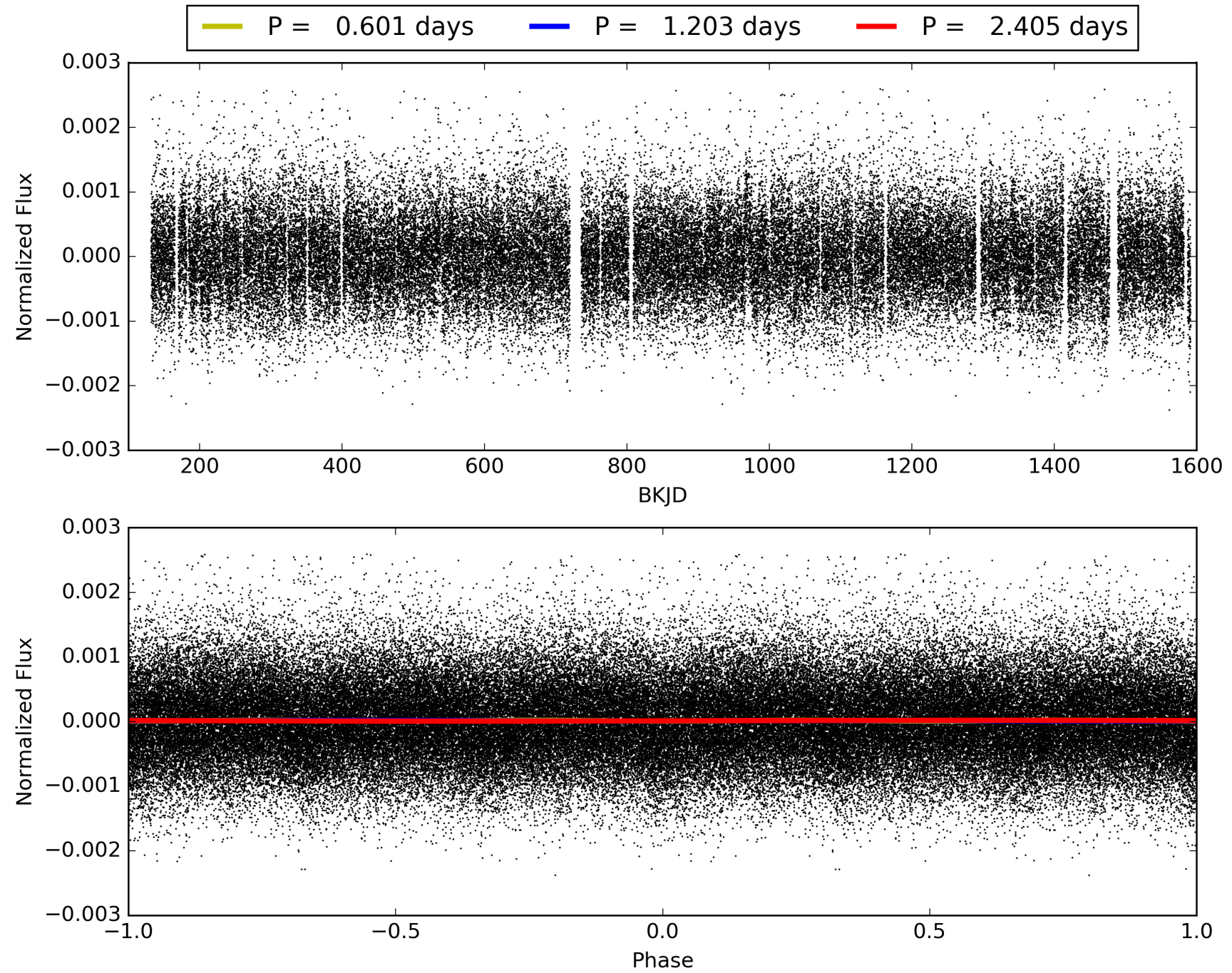
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 004768611-01, PDC Light Curves



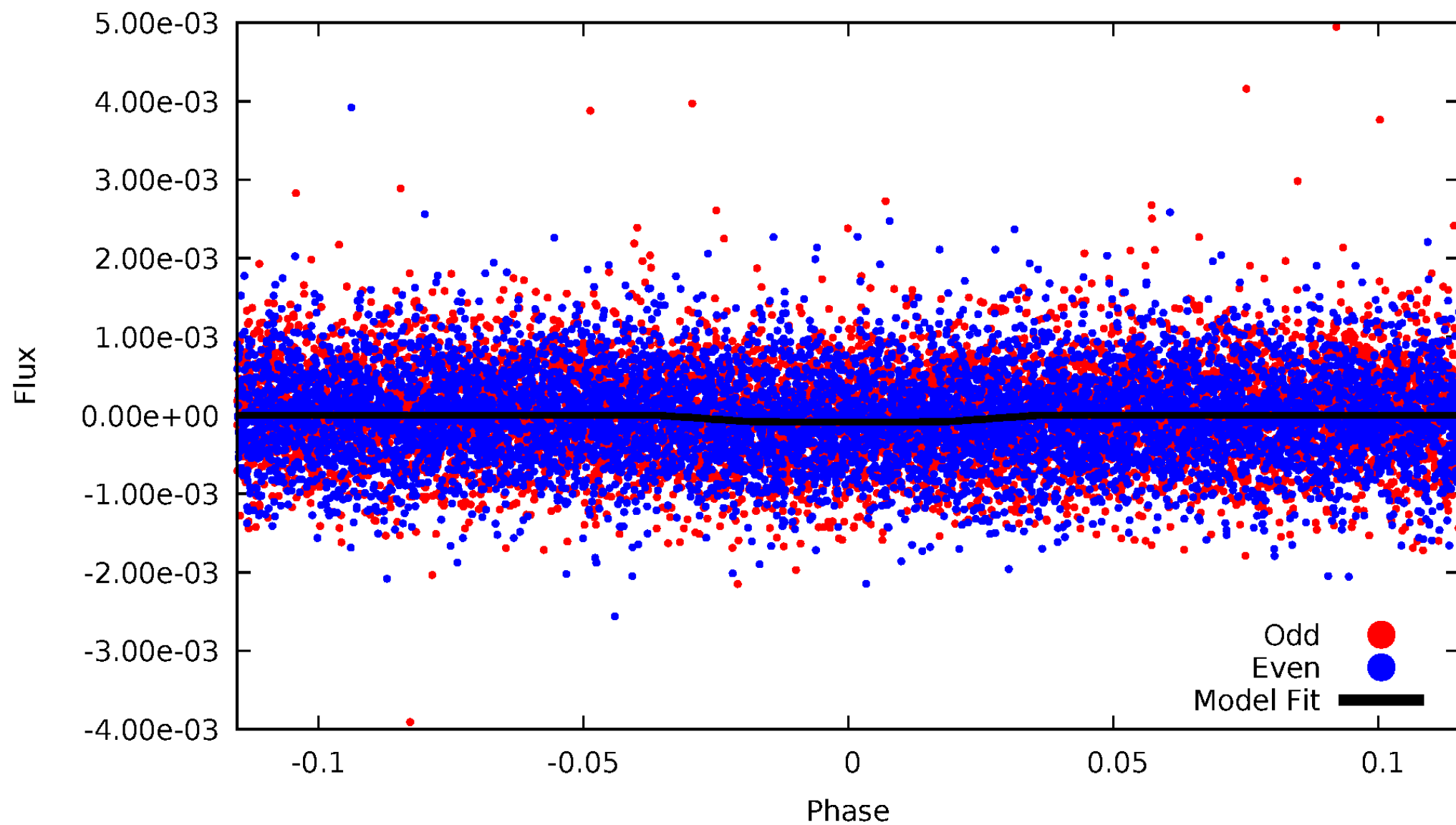


TCE 004768611-01



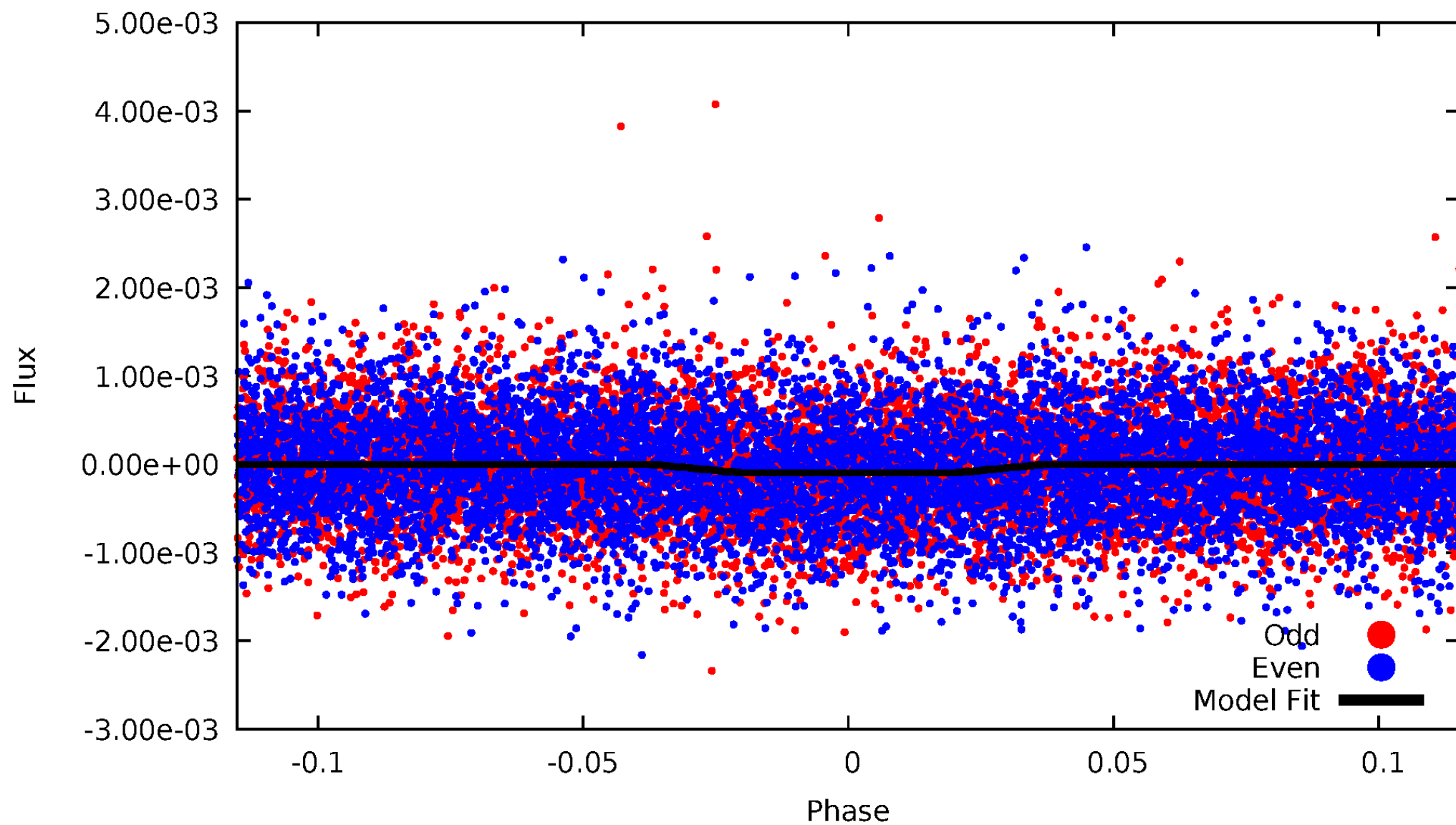
# DV Odd/Even

TCE 004768611-01

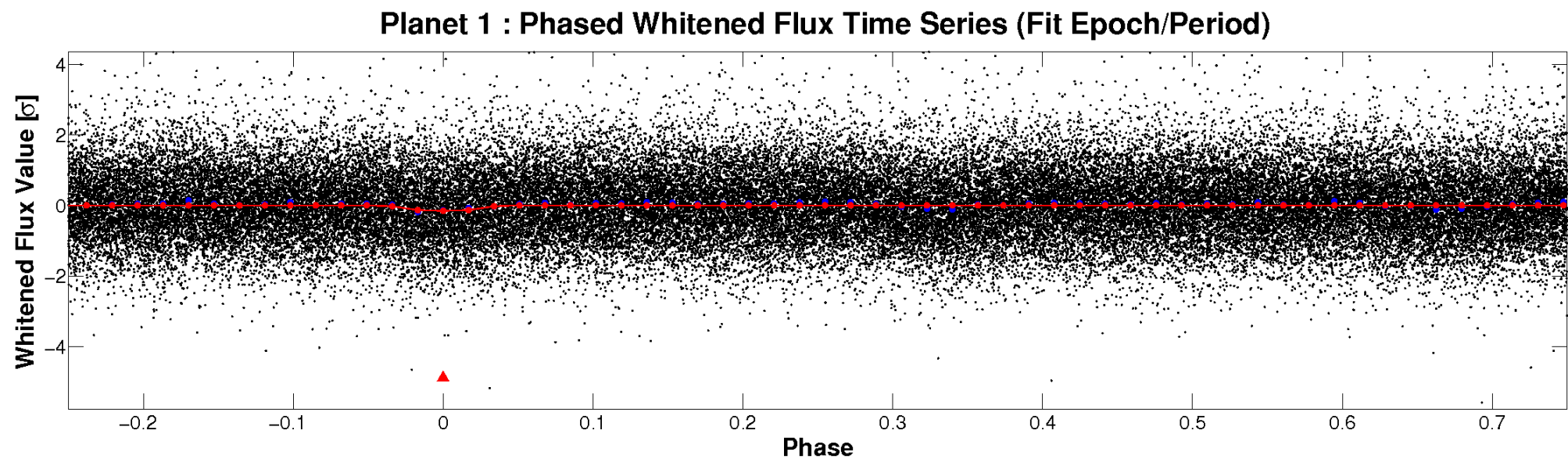
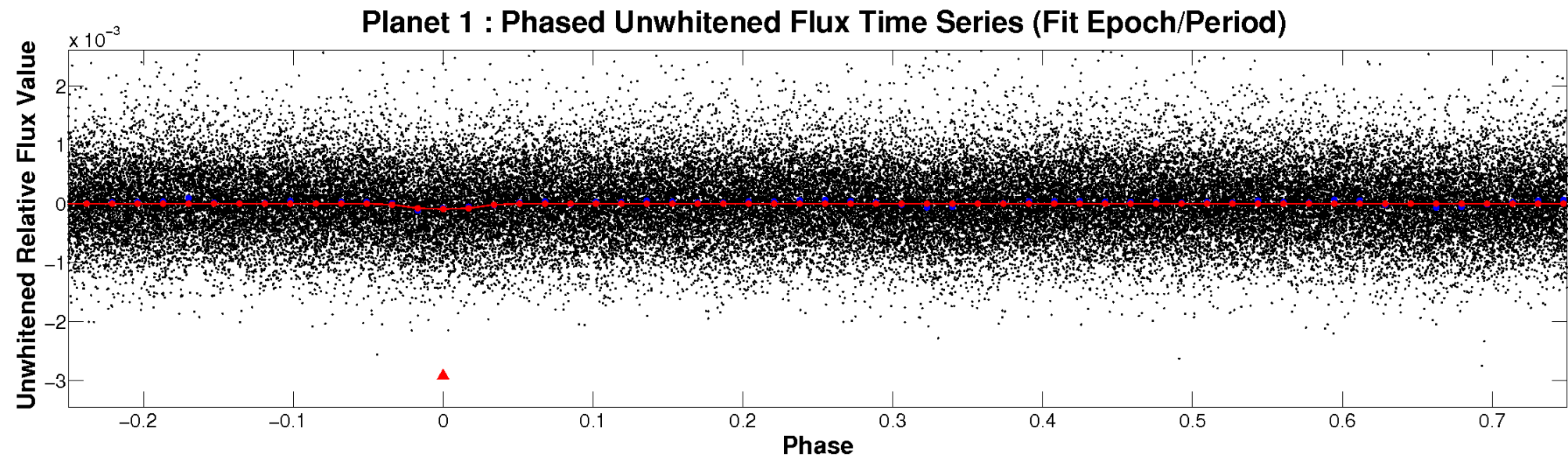


# ALT Odd/Even

TCE 004768611-01



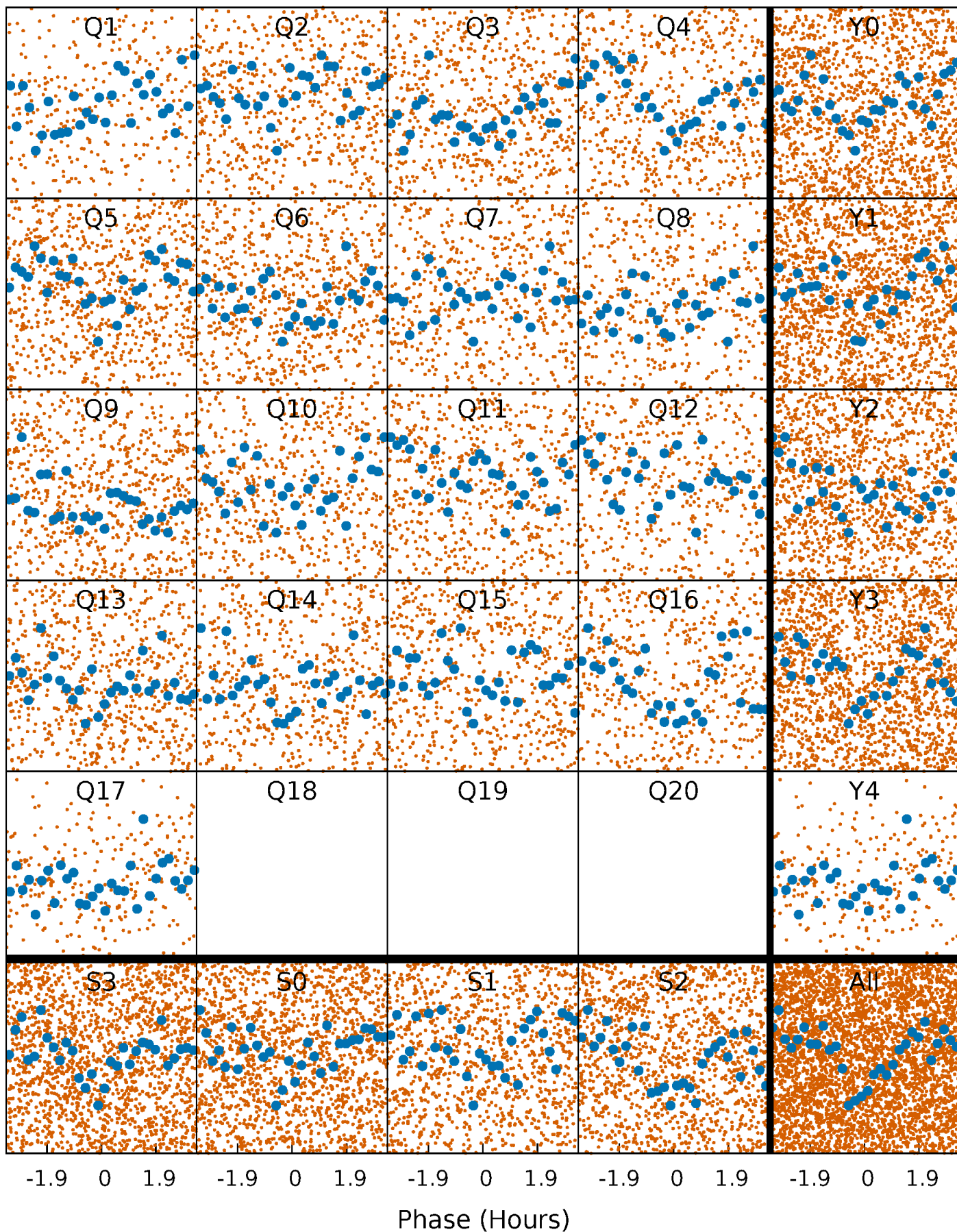
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

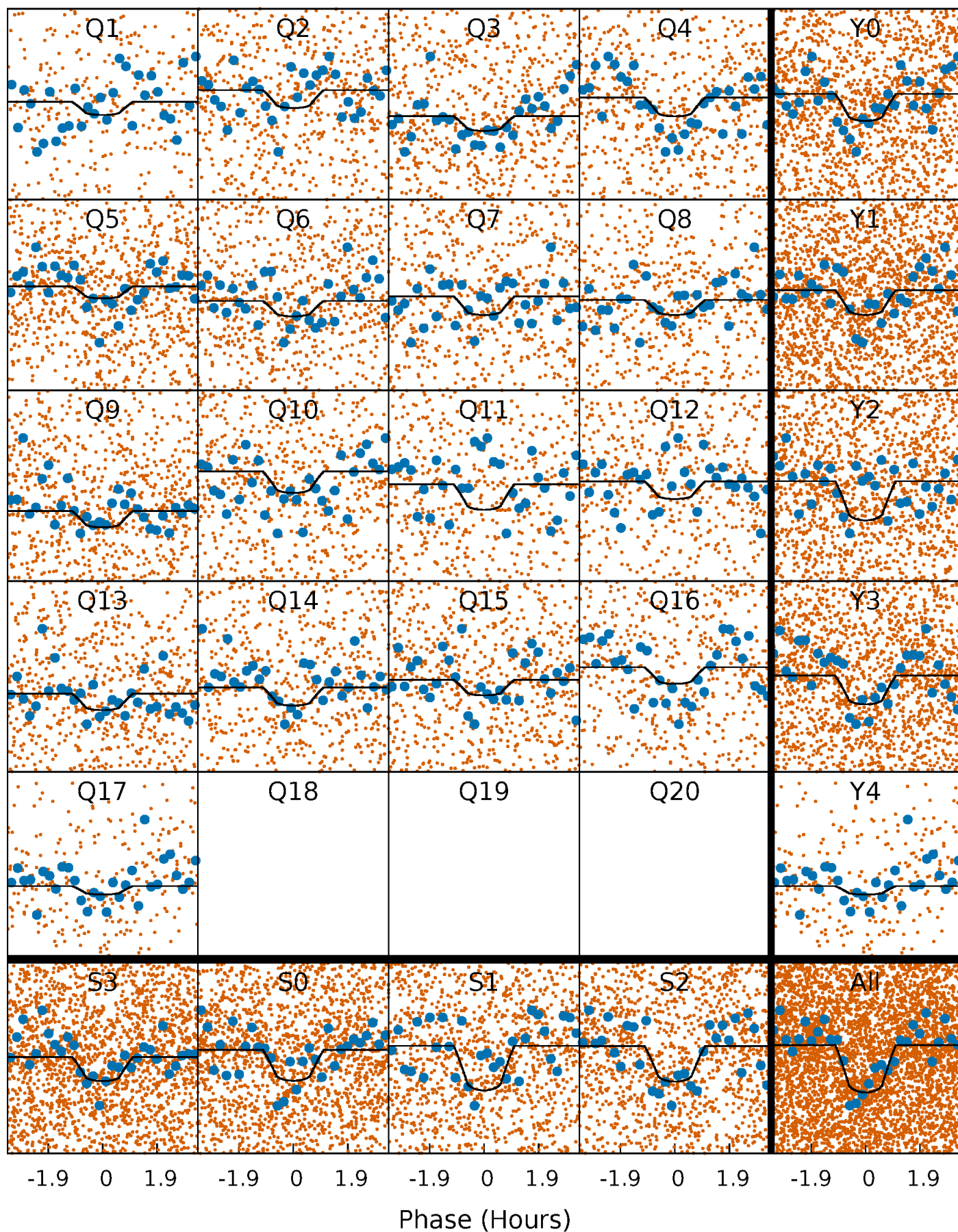
TCE 004768611-01 P= 1.202688 Days  $T_0=132.431515$  (BKJD)





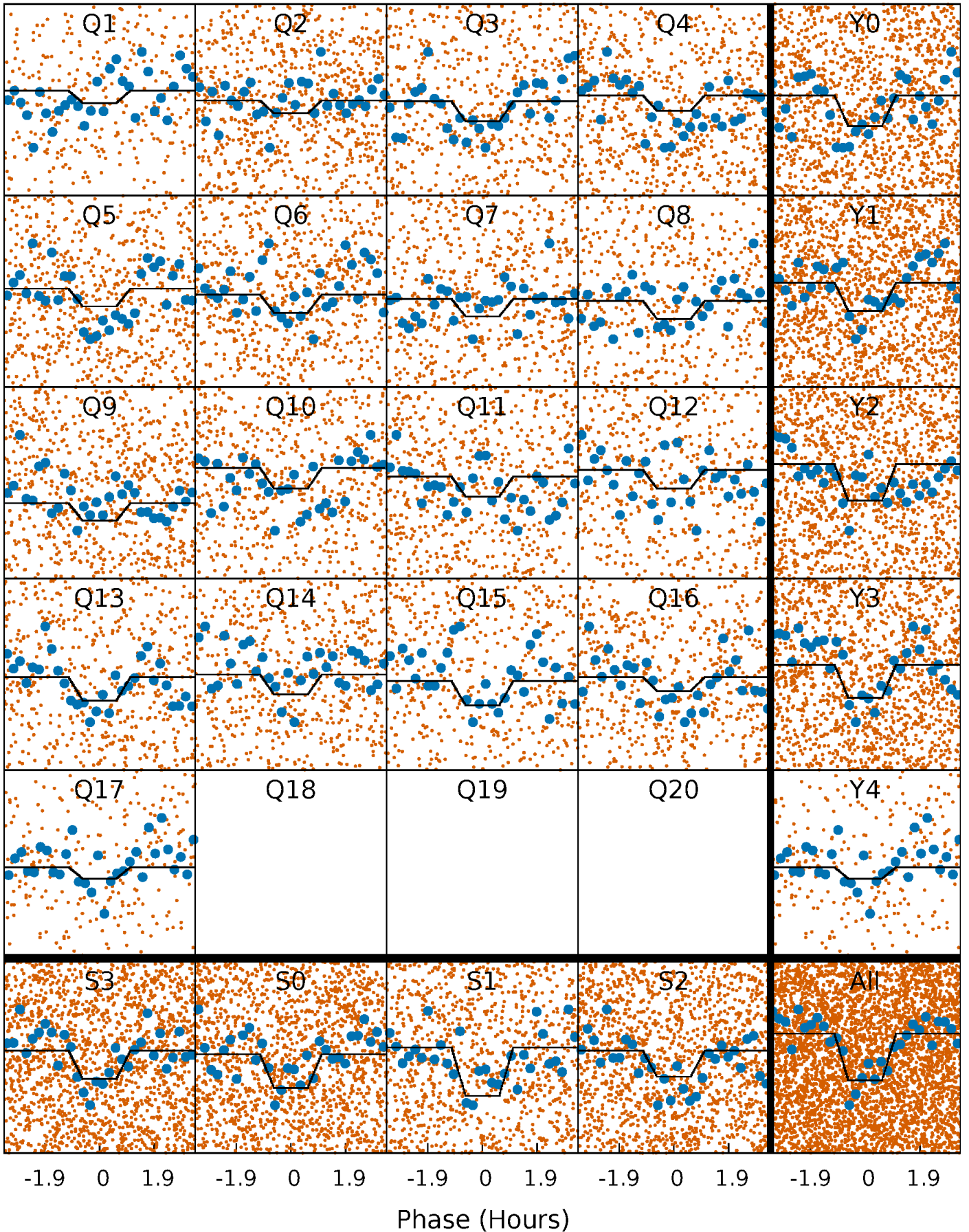
# DV Quarter-Phased Transit Curves

TCE 004768611-01 P= 1.202688 Days  $T_0=132.431515$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

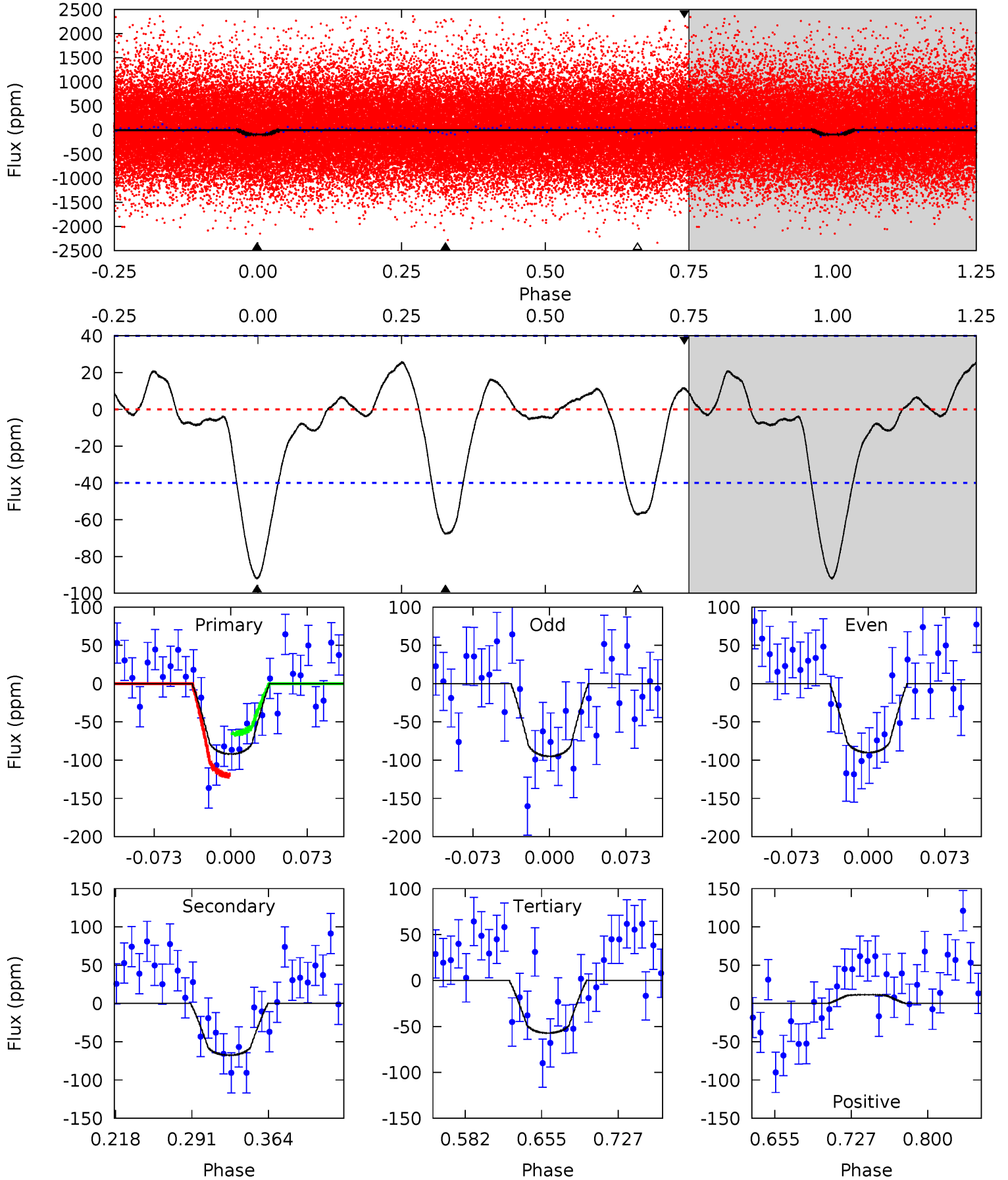
TCE 004768611-01 P= 1.202677 Days  $T_0=132.437798$  (BKJD)



# DV Model-Shift Uniqueness Test

004768611-01, P = 1.202688 Days, E = 131.228827 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
10.7	7.84	6.63	1.33	4.63	1.79	2.04	4.03	9.33	1.21	6.51	0.28	0.94	0.22	3.17

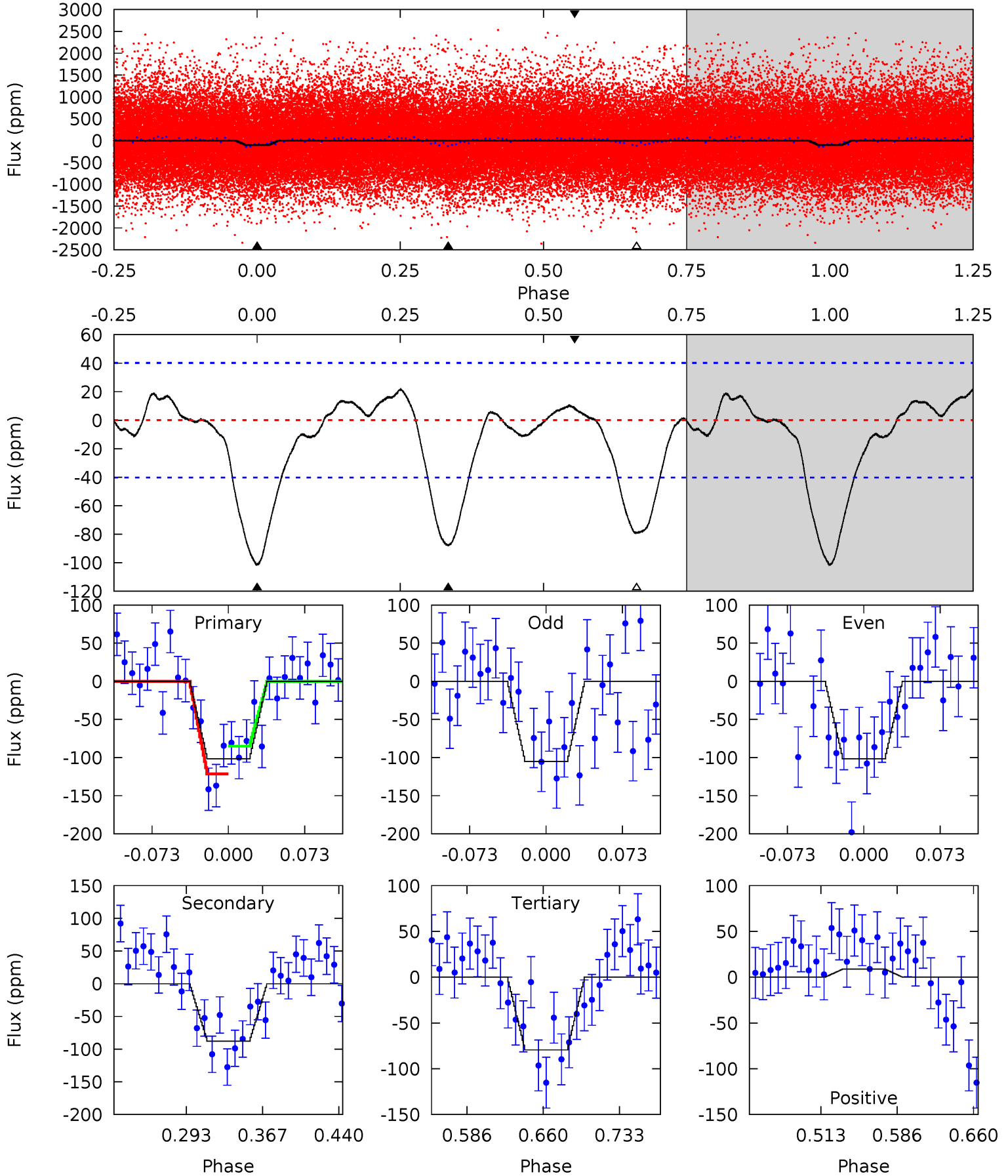




# Alt Model-Shift Uniqueness Test

004768611-01, P = 1.202677 Days, E = 131.235121 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
11.7	10.1	9.14	1.01	4.63	1.79	2.69	2.56	10.7	0.98	9.11	0.20	0.94	0.18	2.10





### Stellar Parameters For KIC 004768611

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6572^{+187}_{-258}$	$4.365^{+0.062}_{-0.188}$	$0.070^{+0.200}_{-0.400}$	$1.238^{+0.350}_{-0.150}$	$1.298^{+0.150}_{-0.224}$	$0.964^{+0.320}_{-0.468}$
	+3%/-4%	+1%/-4%	+286%/-571%	+28%/-12%	+12%/-17%	+33%/-49%
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 004768611-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-68 \pm 9$	$1.33^{+0.88}_{-0.75}$	$2948^{+201}_{-154}$	$6029^{+4041}_{-1303}$	$12^{+55}_{-7}$
Alt.	$-88 \pm 9$	$1.42^{+0.86}_{-0.76}$	$2950^{+189}_{-150}$	$6277^{+3789}_{-1320}$	$14^{+48}_{-8}$

$T_{max}$  = 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

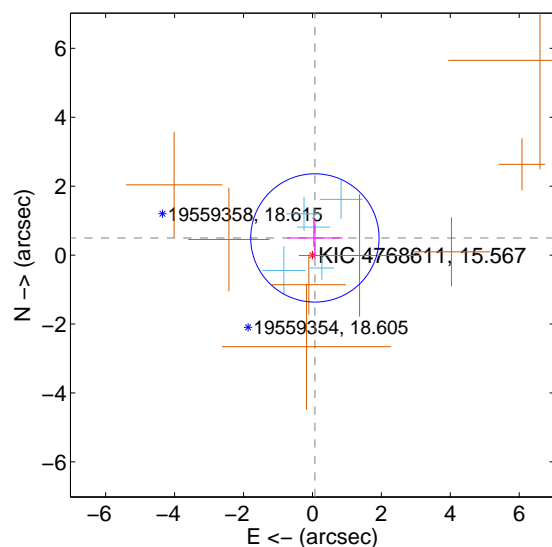
Supplemental centroid analysis for 004768611-01. Kepler magnitude: 15.57. Transit SNR 7.92

There are 5 quarters with good PRF difference image offsets

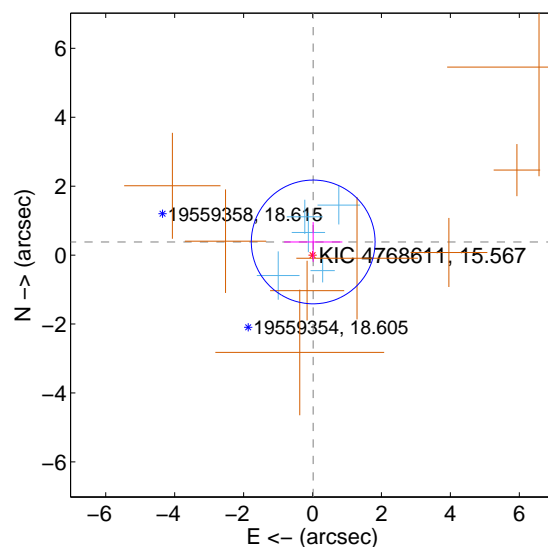
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.503 \pm 0.620$	0.81	$-0.071 \pm 0.804$	$0.498 \pm 0.560$
PRF-fit source offset from KIC position	$0.382 \pm 0.598$	0.64	$-0.019 \pm 0.847$	$0.382 \pm 0.575$
photometric centroid source offset	$1.46 \pm 1.46$	1.00	$-0.23 \pm 1.81$	$1.44 \pm 1.45$

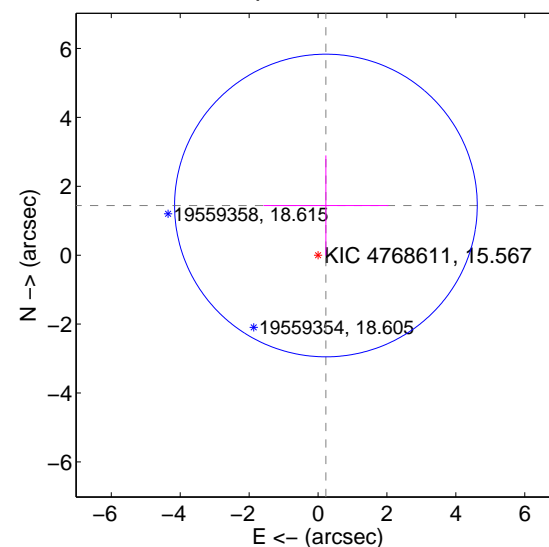
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

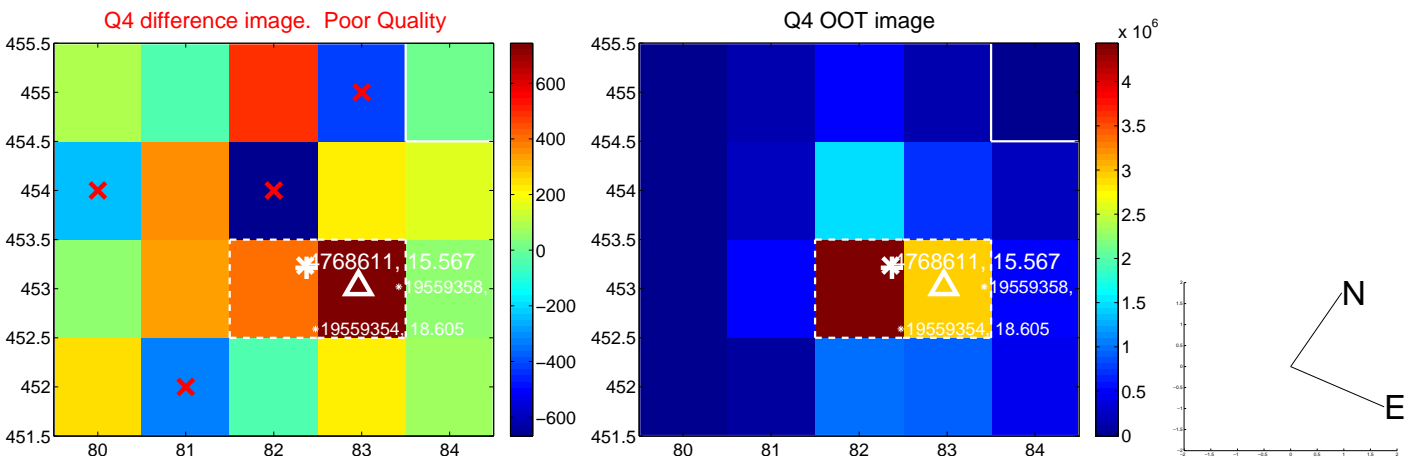
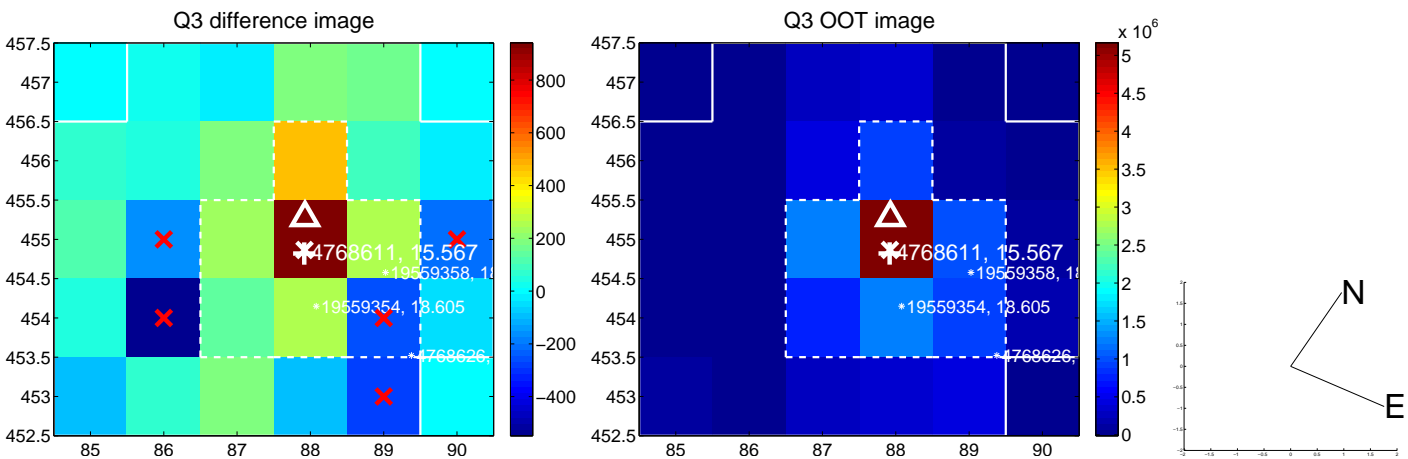
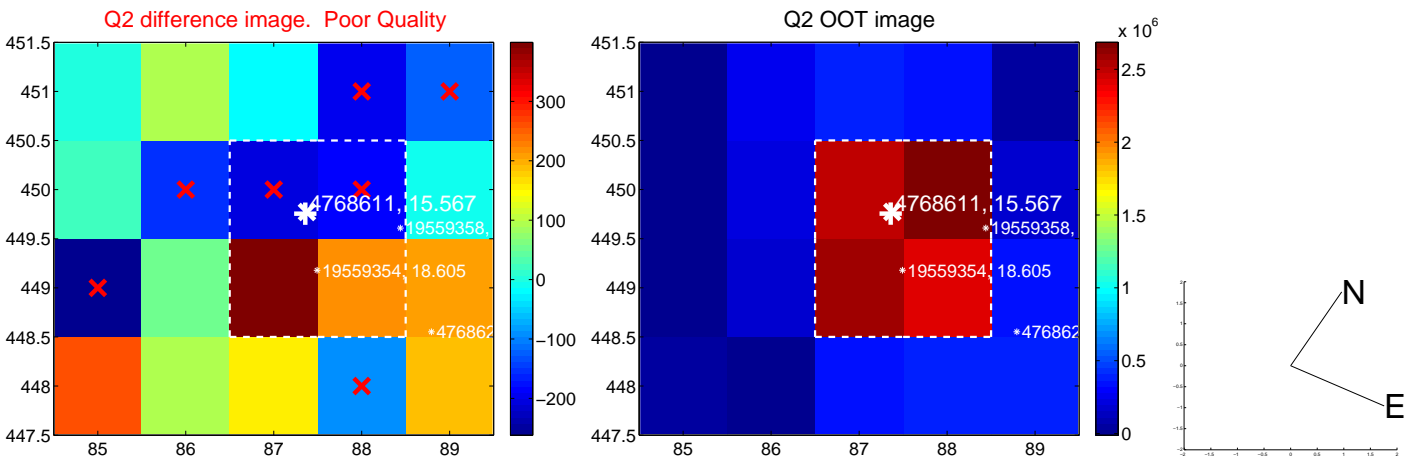
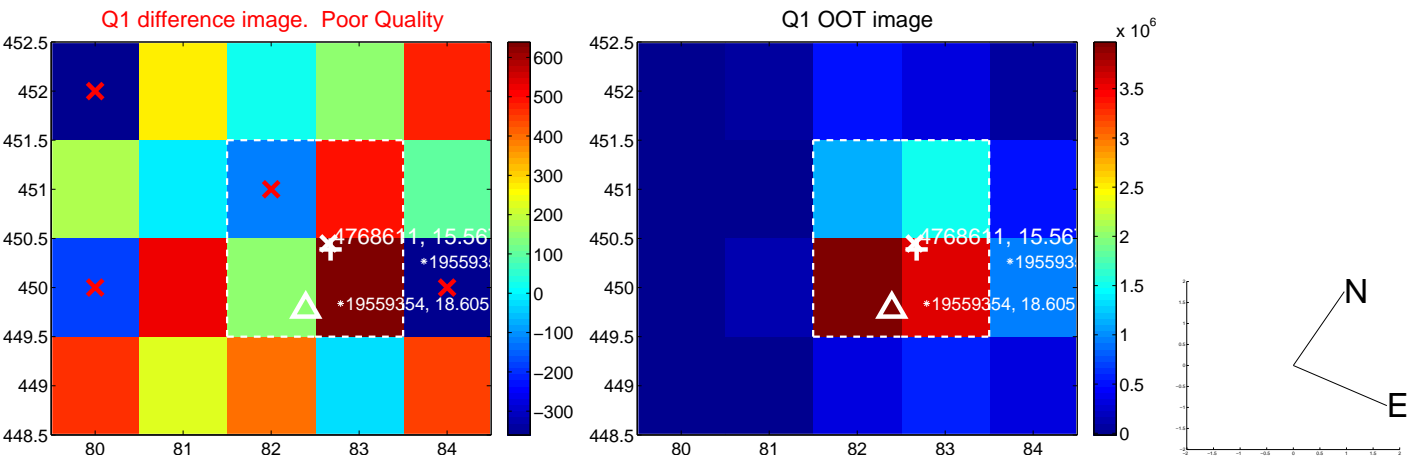


offset from photometric centroids



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.

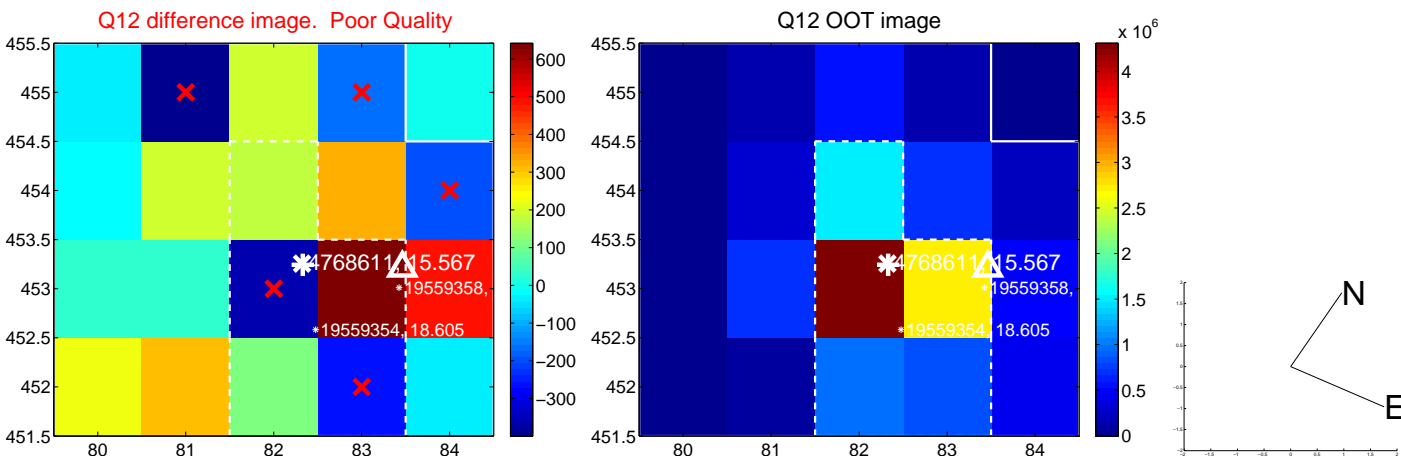
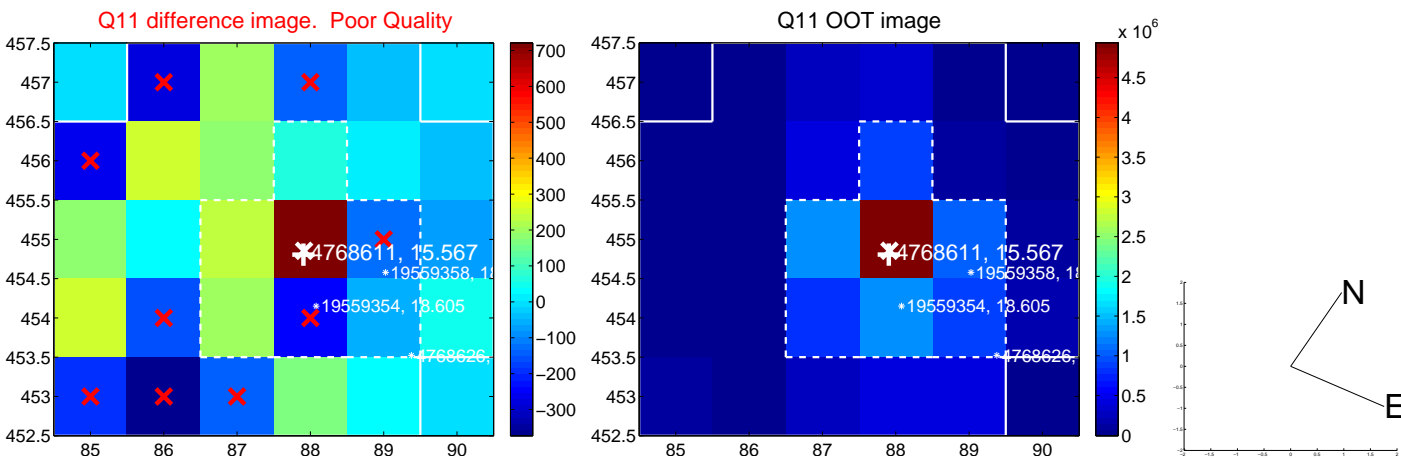
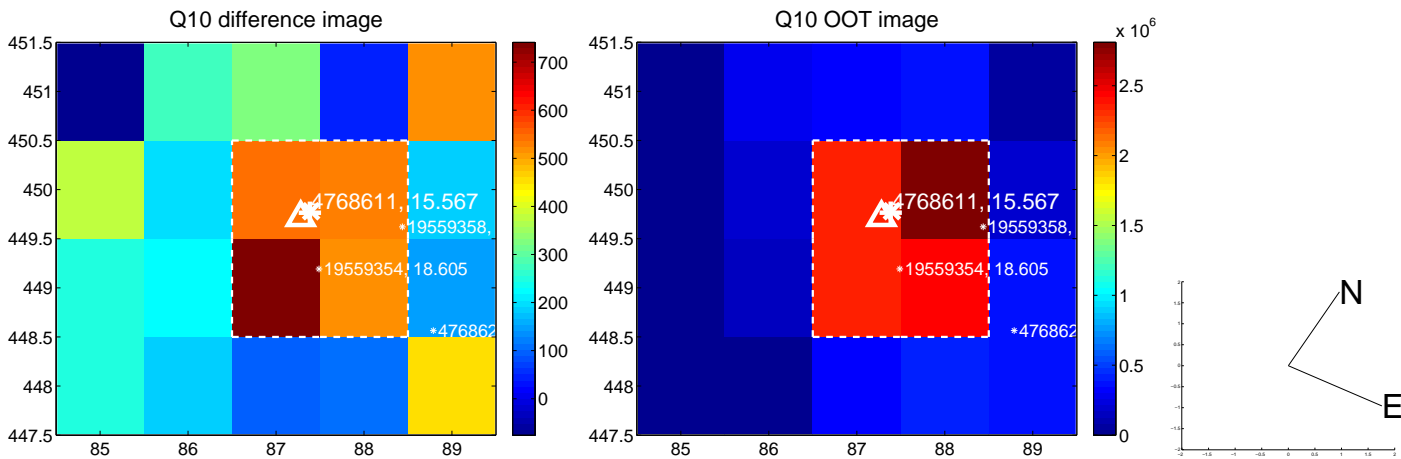
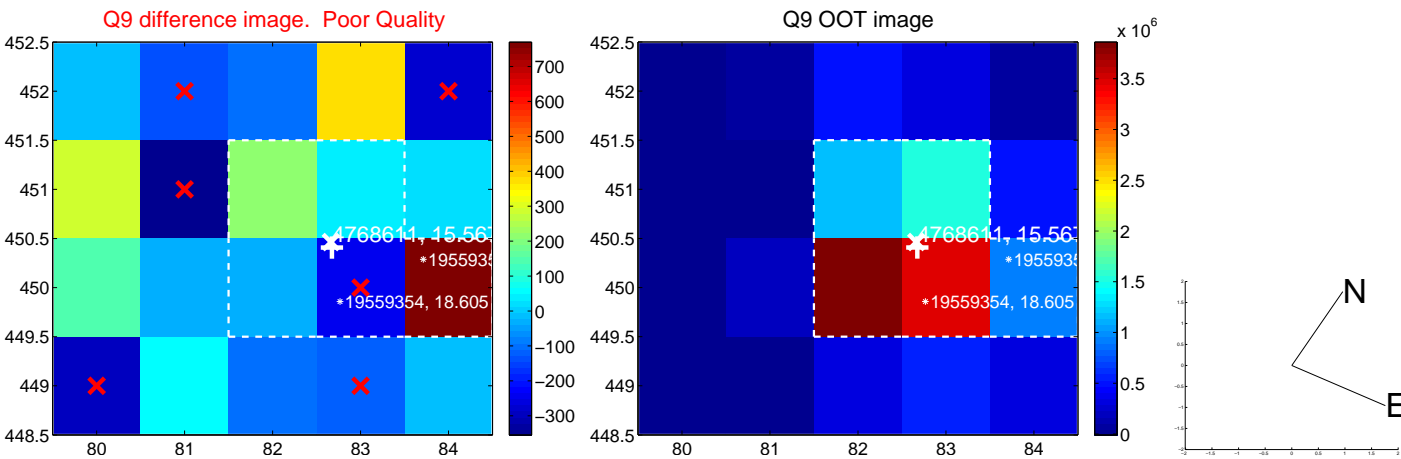
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



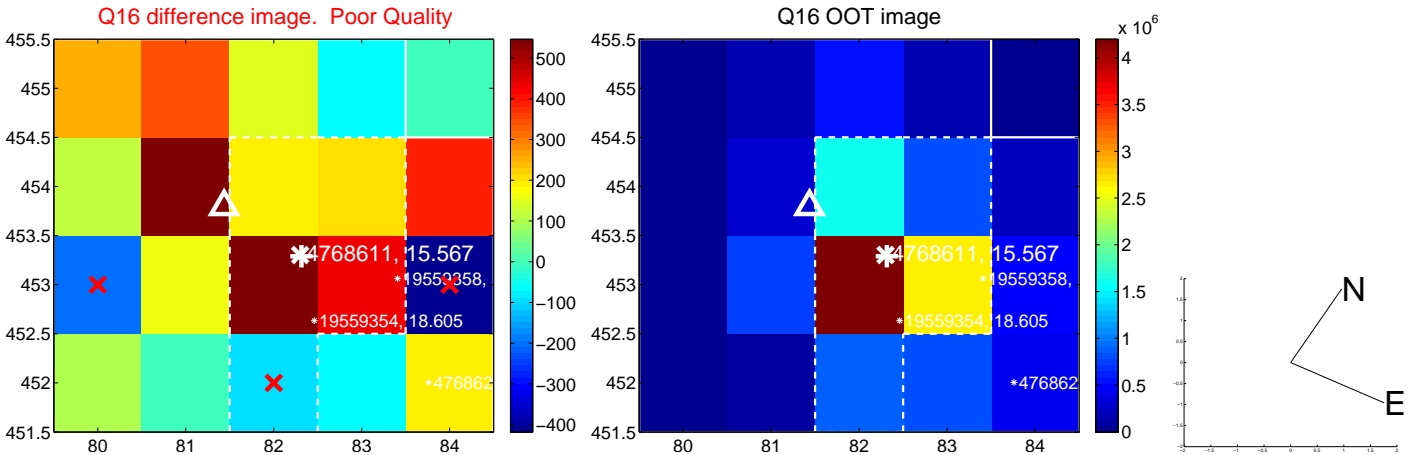
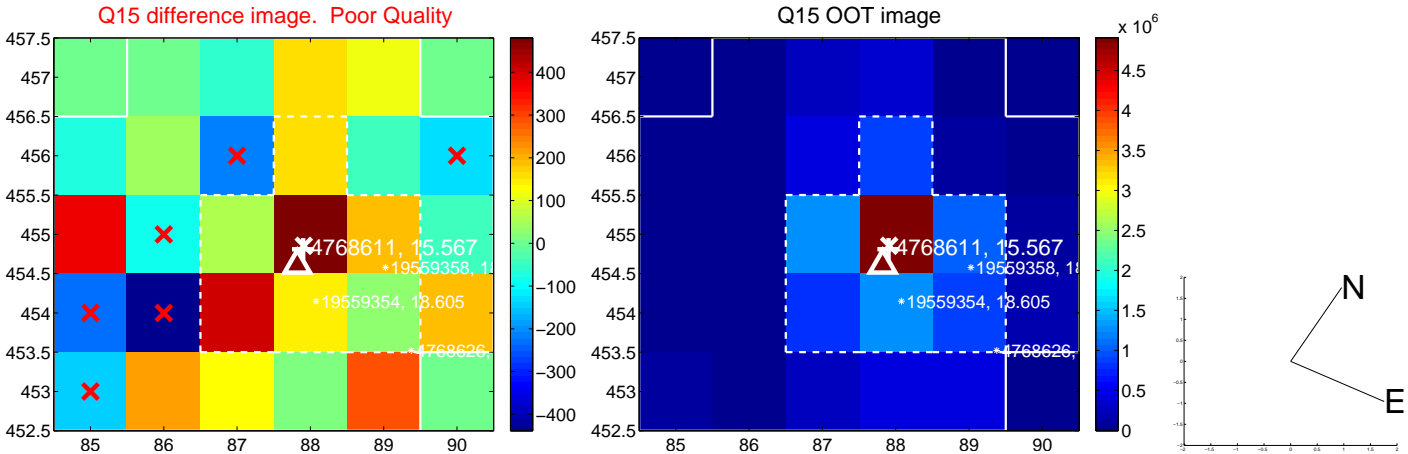
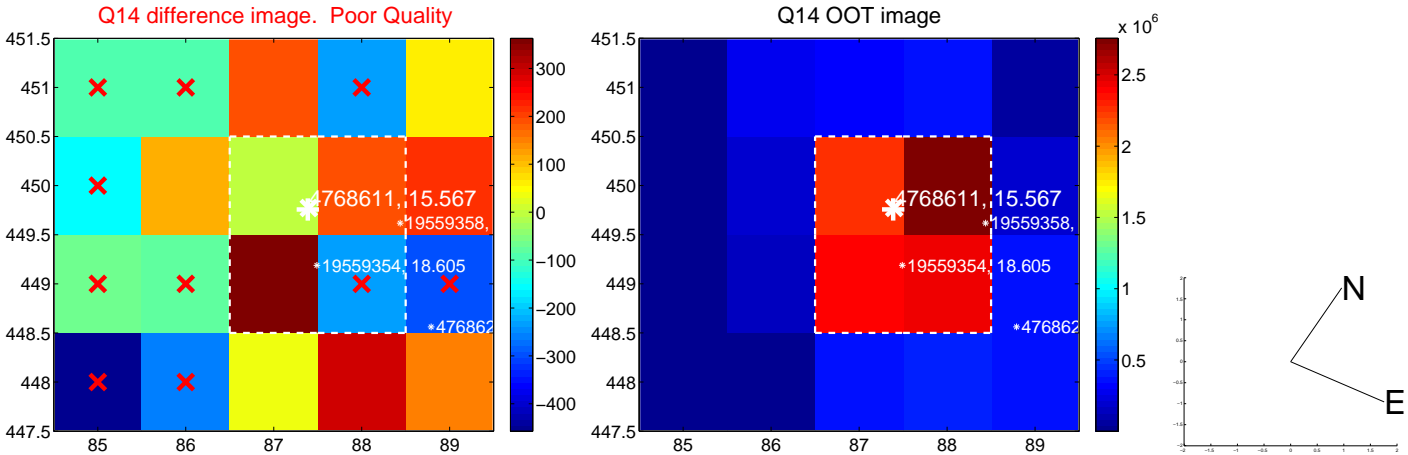
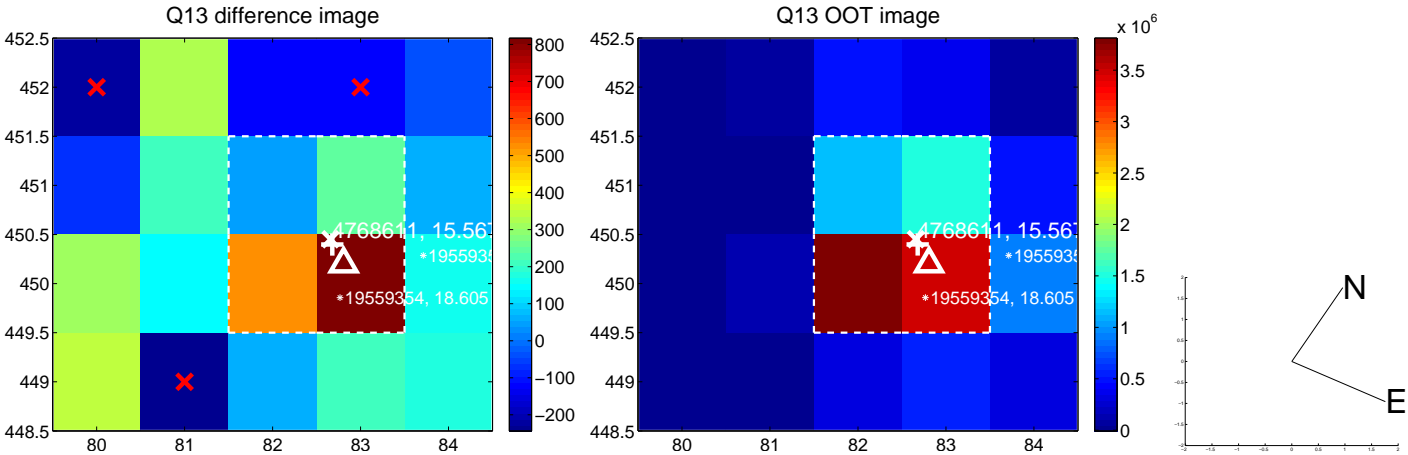




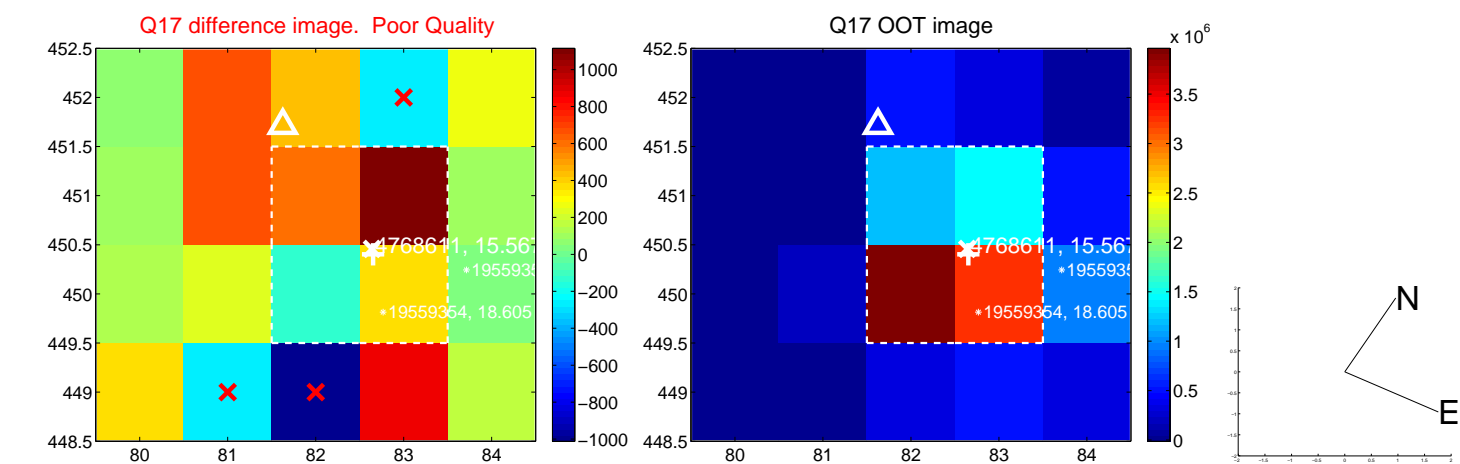
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



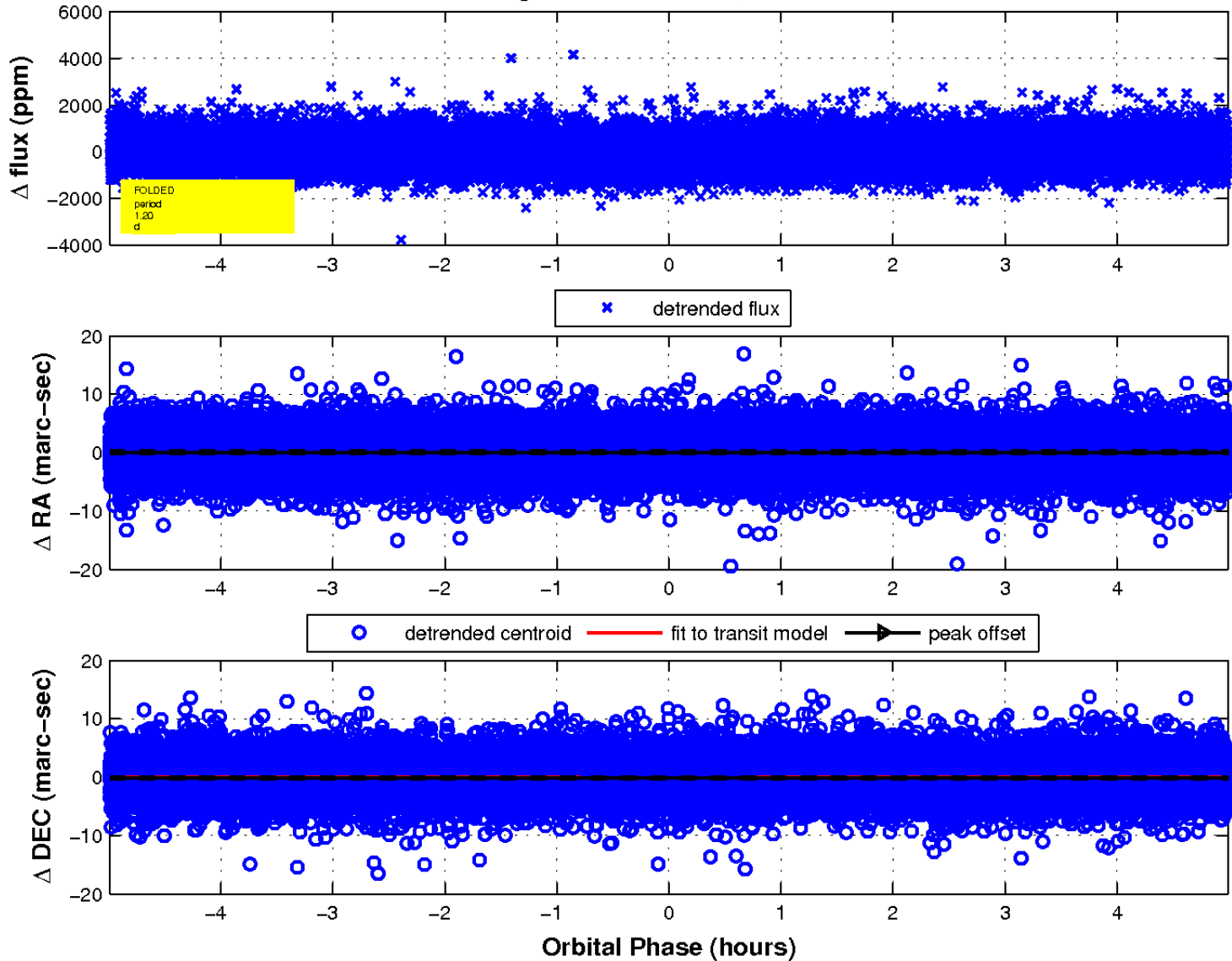
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



# UKIRT Image

Declination

