

# KIC 007117489

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007117489-01	OBS	No	0.566782	131.821610	529.3	2.000	9.9	-1.0	0.98	5494	2.22	4947.85

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007117489-01	OBS	FP	0.00	1	0	0	1	LPP_DV—CENT_NOFITS—EPHEM_MATCH

**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.

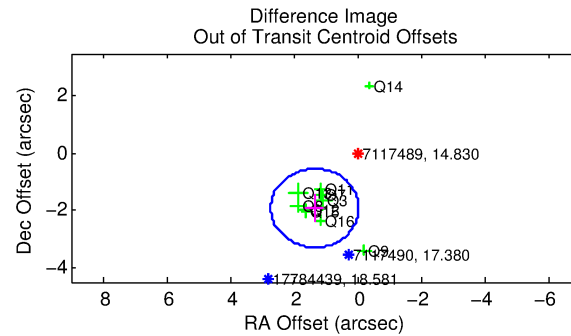
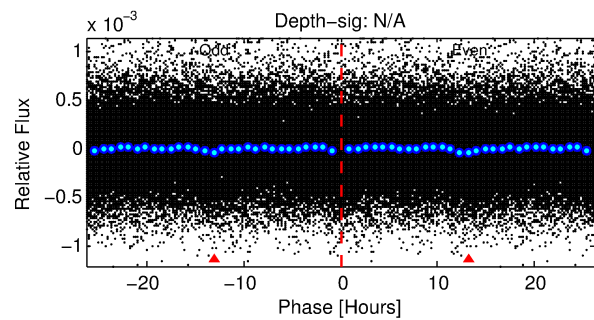
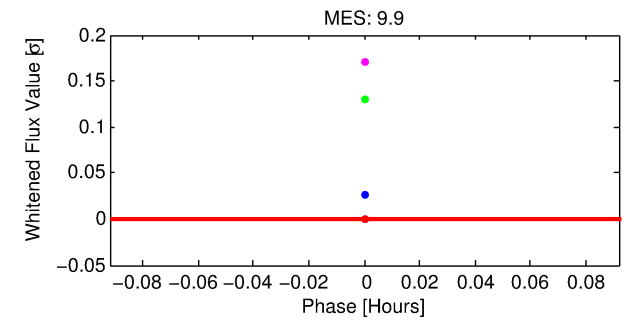
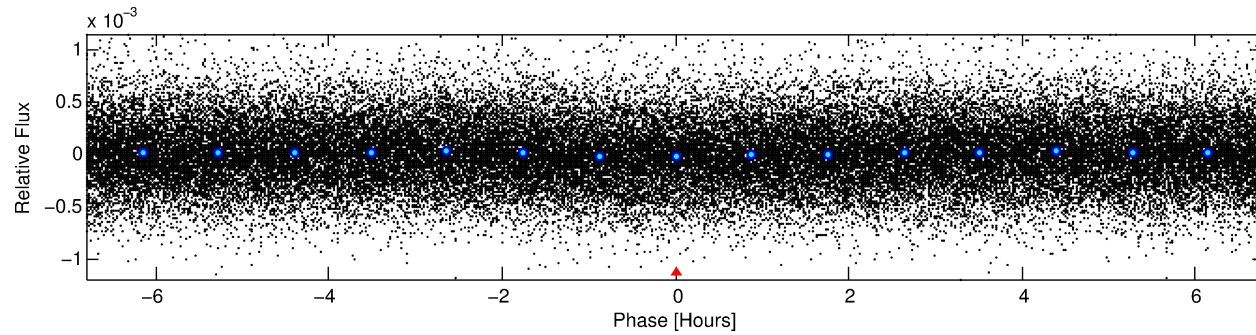
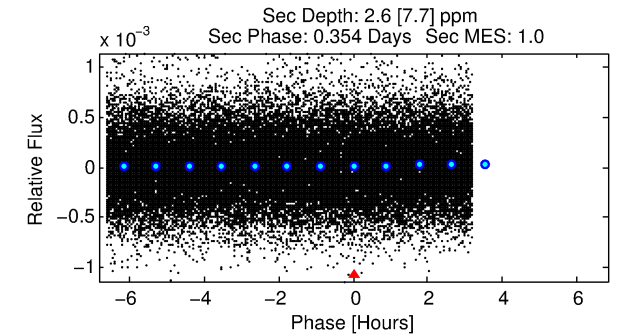
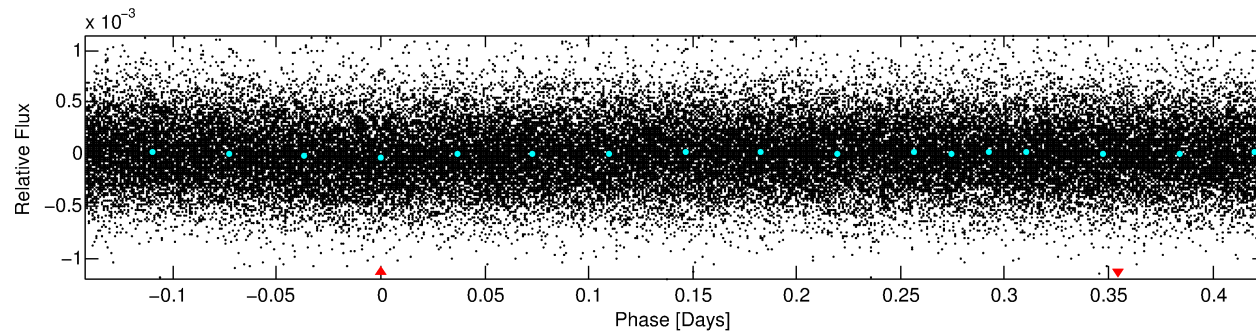
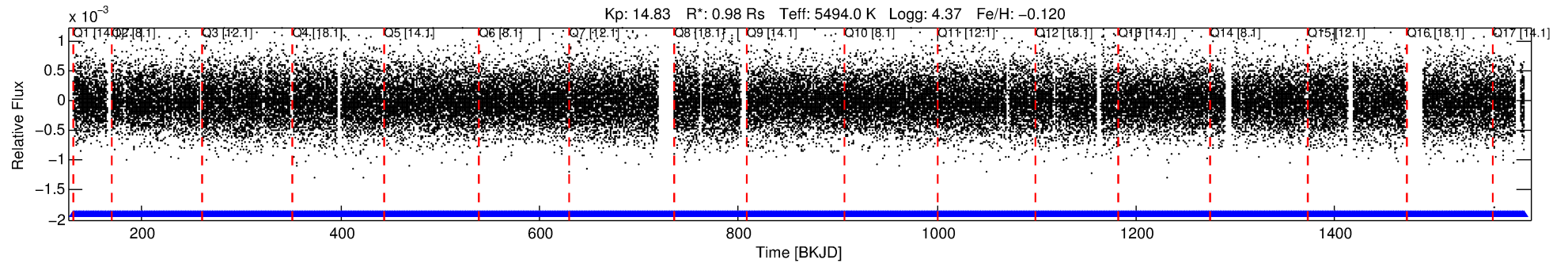
## Ephemeris Match Information For 007117489-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ( $''$ )	$\Delta$ Row	$\Delta$ Col	$m_2$	$m_1$	$D_2/D_1$	Mechanism	Flag	$\sigma_P$	$\sigma_T$
007117489-01	7117489	RR-Lyr-pri	7198959	1:1	957.4	188	150	7.86	14.83	1178.30	Direct-PRF	0	3.23	19.27

**Notes:**  $P_1:P_2$  is the period ratio. Dist is the distance in arcseconds.  $\Delta$ Row and  $\Delta$ Col are the number of pixels apart in row and column.  $m_2$  and  $m_1$  are the magnitudes of the parent and child.  $D_2/D_1$  is the parent's transit depth divided by the child's.  $\sigma_P$  and  $\sigma_T$  are the significance of the match in period and epoch. For a match to be considered significant  $\sigma_P < 5.0$  and  $\sigma_T < 5.0$ . Matches which have  $\sigma_P$  and  $\sigma_T$  very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

# DV One-Page Summary

KIC: 7117489 Candidate: 1 of 1 Period: 0.567 d



## TPS TCE Results:

Period = 0.56678 d  
Epoch = 131.8216 BKJD

DV fit results are unavailable

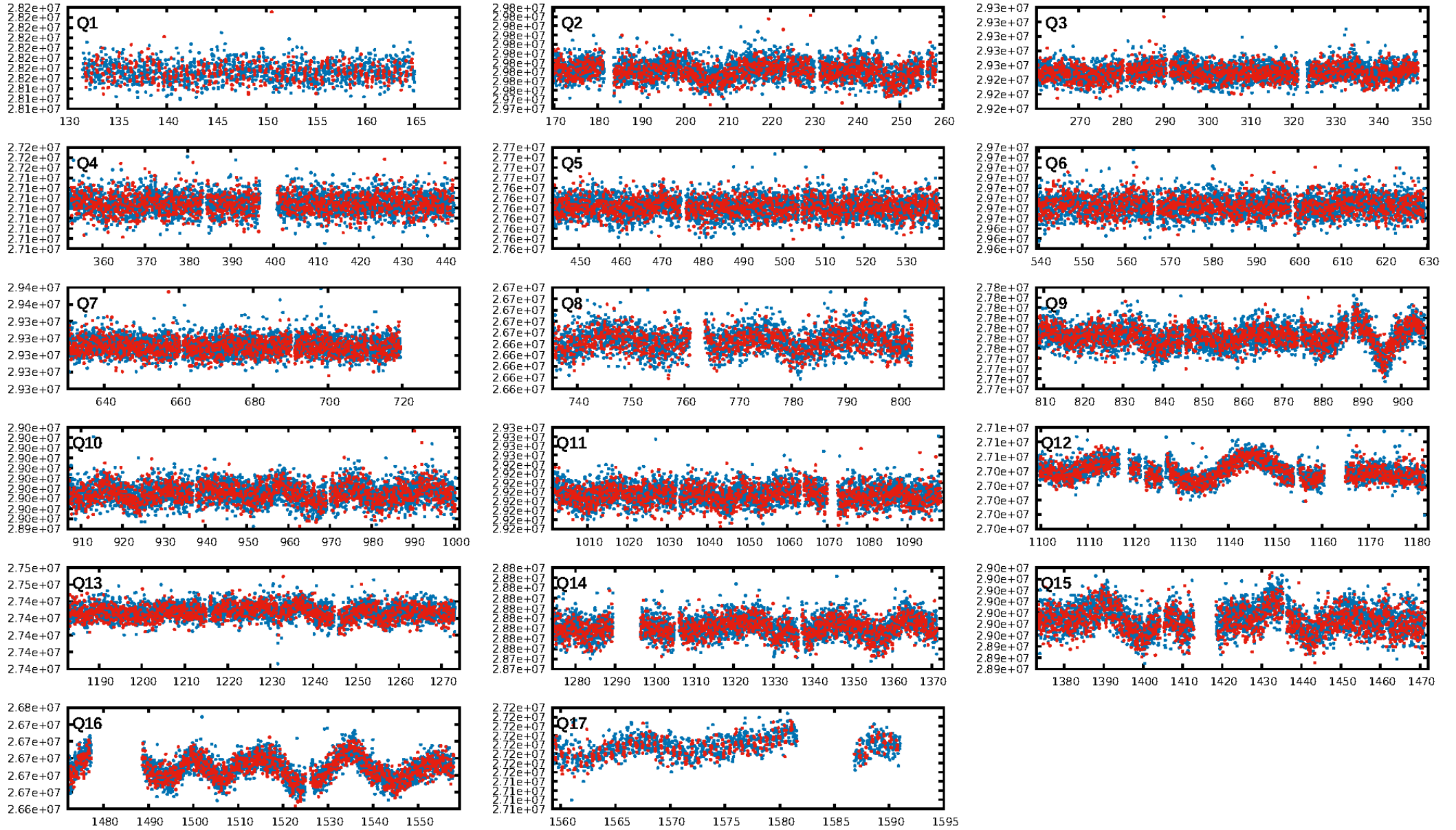
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 7.92e-23  
RollingBand-fgt: 1.00 [2270/2270]  
GhostDiagnostic-chr: 0.2733  
Centroid-sig: 1.1%  
Centroid-so: 2.061 arcsec [2.35σ]  
OOTOffset-rm: 2.337 arcsec [5.09σ]  
KICOffset-rm: 2.391 arcsec [6.15σ]  
OOTOffset-st: 1/4/3/2 [10]  
KICOffset-st: 1/4/3/2 [10]  
DiffImageQuality-fgm: 0.70 [7/10]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:16:10 Z

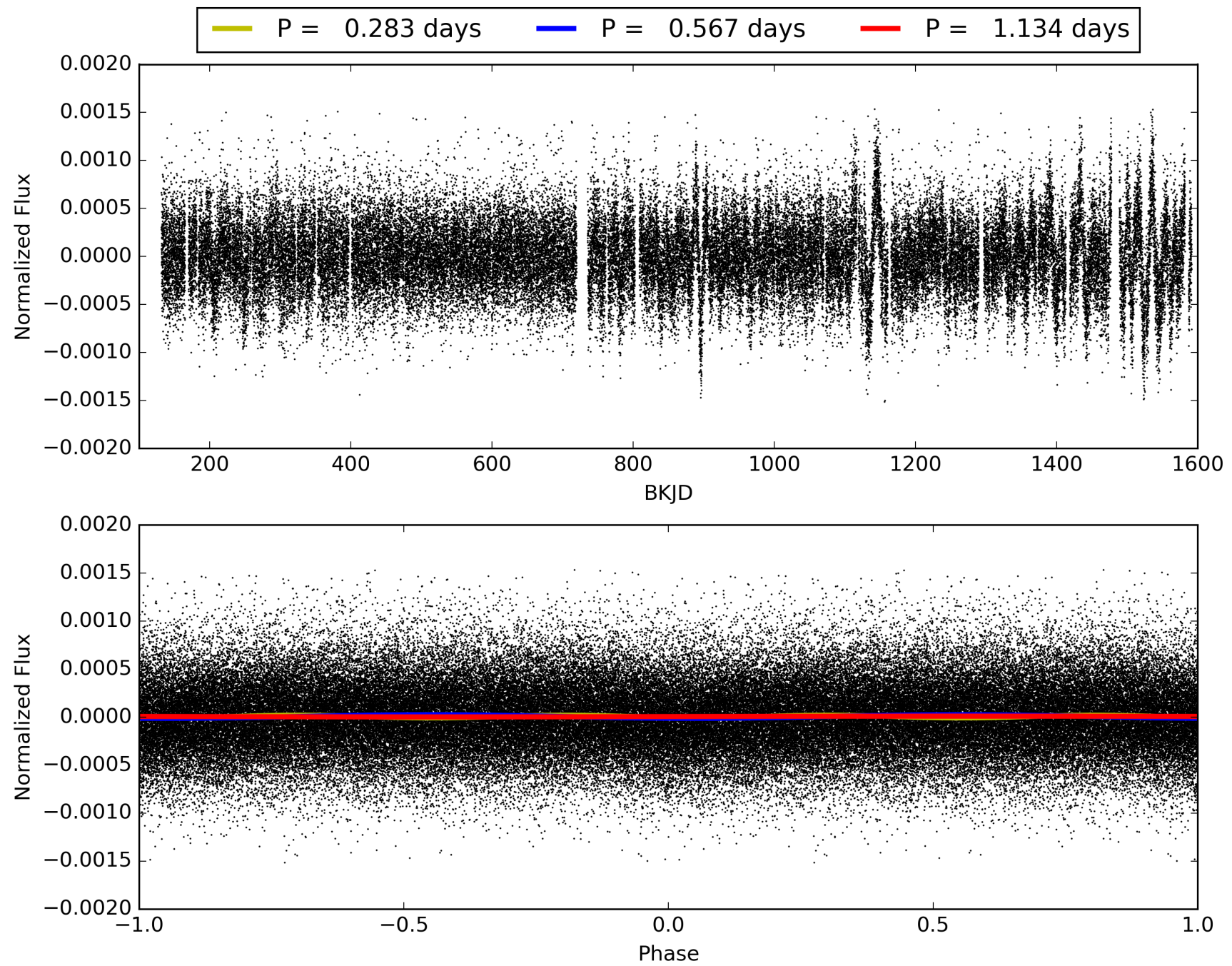
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 007117489-01, PDC Light Curves



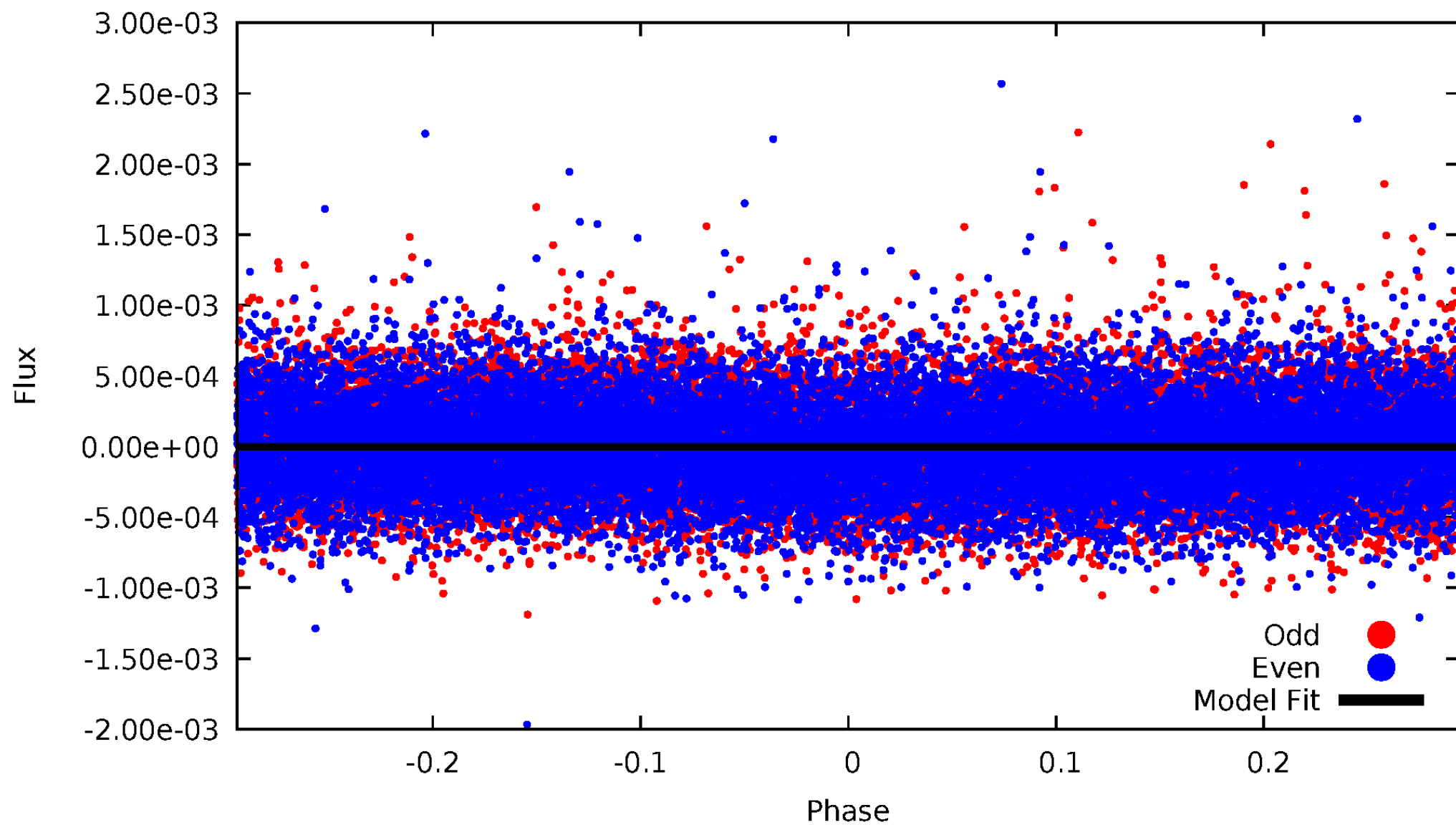


TCE 007117489-01



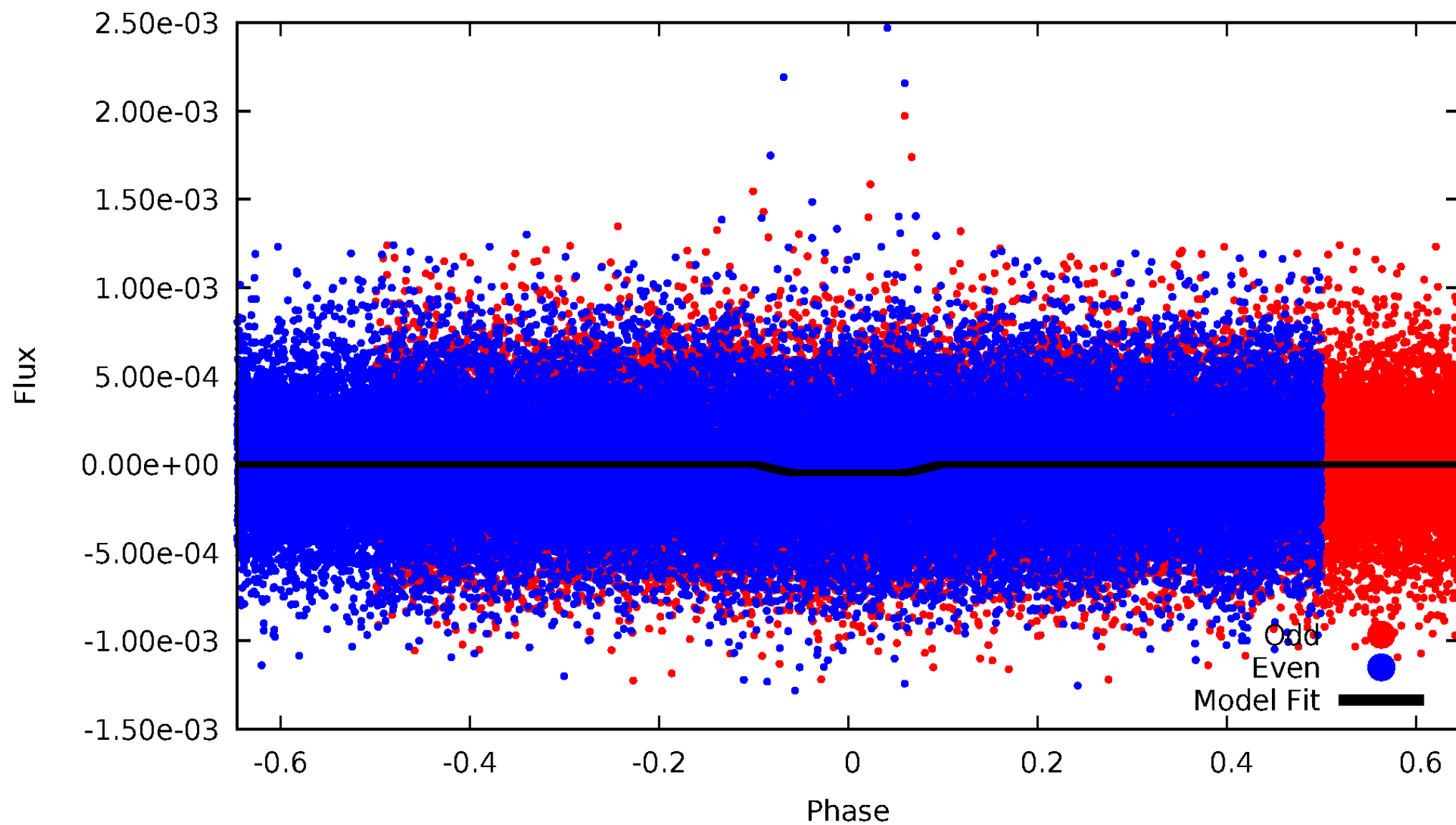
# DV Odd/Even

TCE 007117489-01

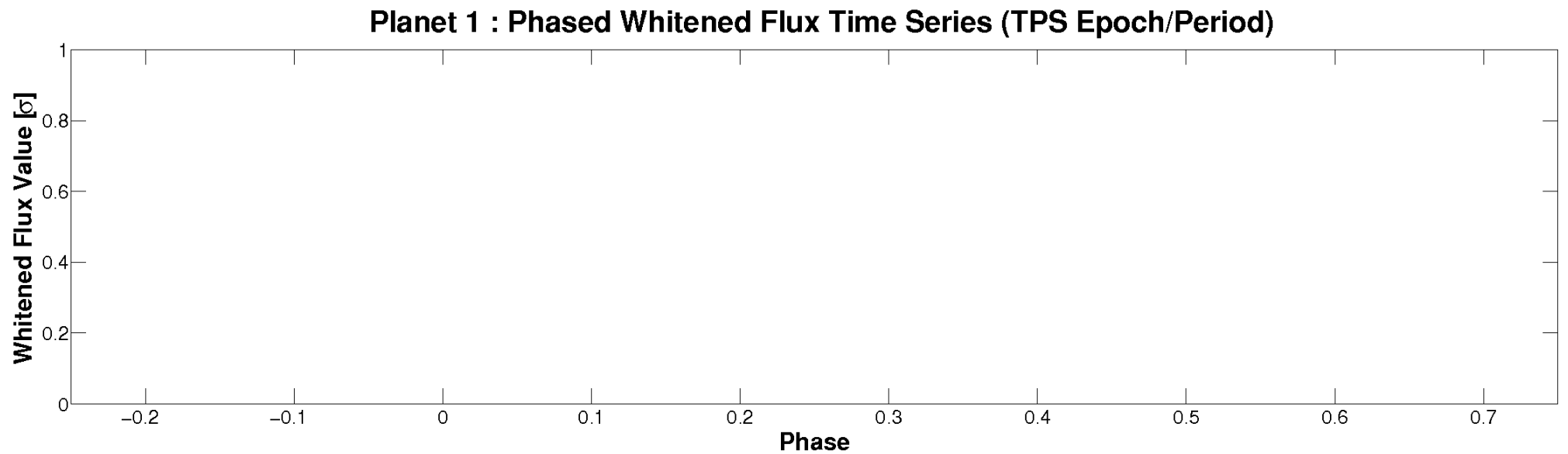
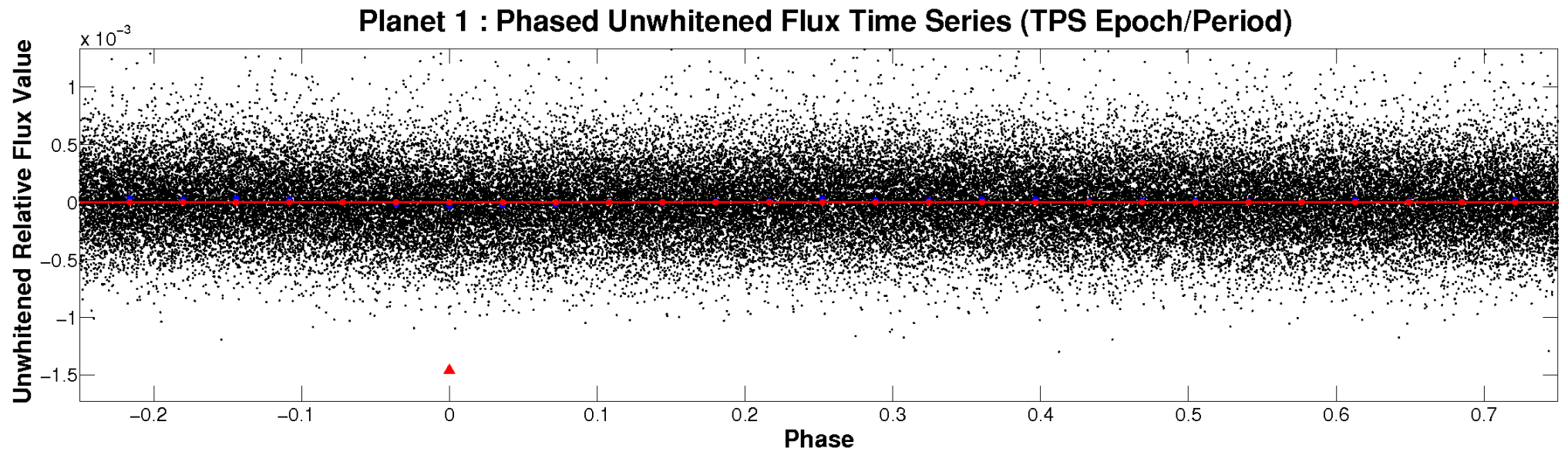


# ALT Odd/Even

TCE 007117489-01



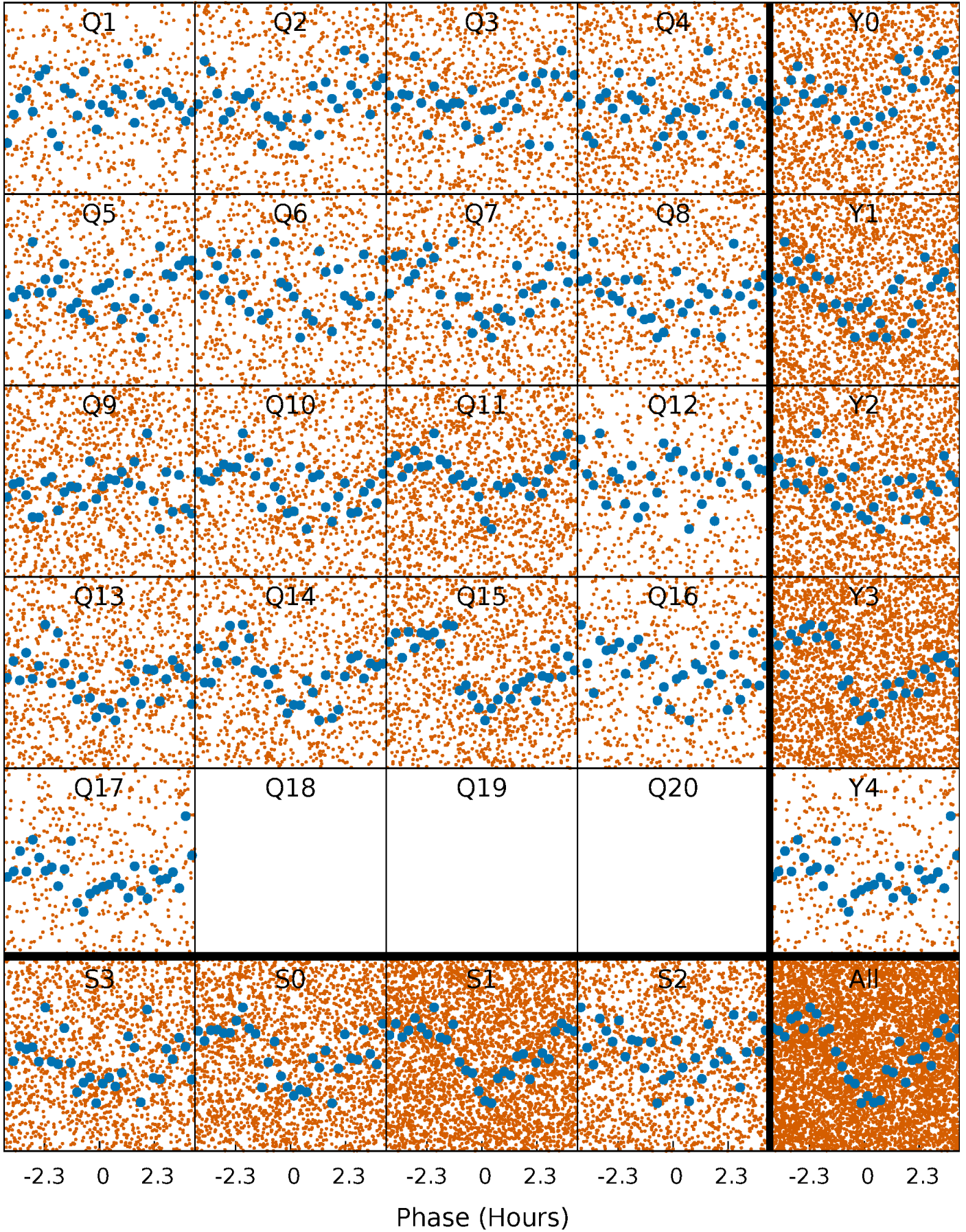
# Non-Whitened Vs. Whitened Light Curve





# PDC Quarter-Phased Transit Curves

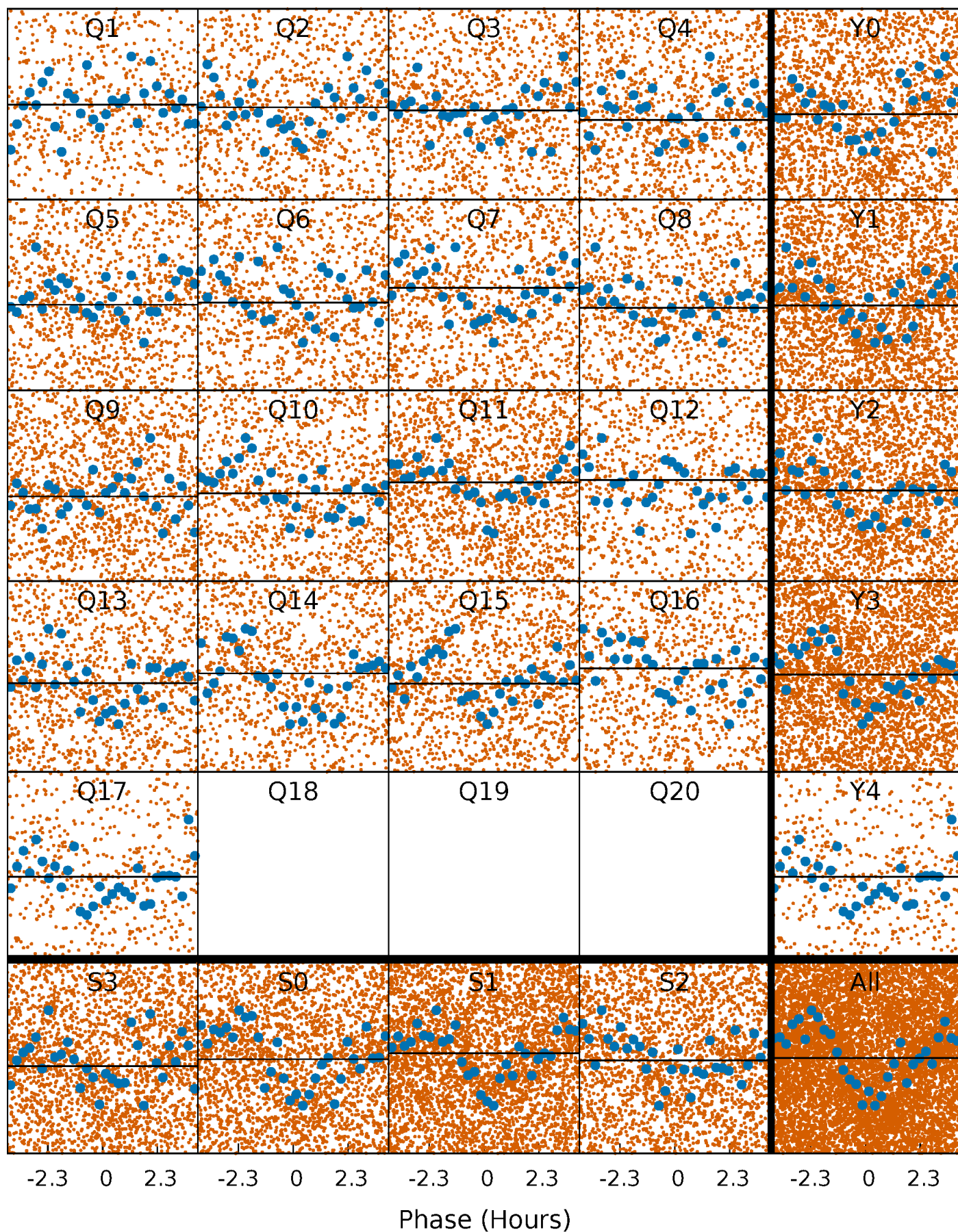
TCE 007117489-01 P= 0.566782 Days  $T_0=131.821610$  (BKJD)





# DV Quarter-Phased Transit Curves

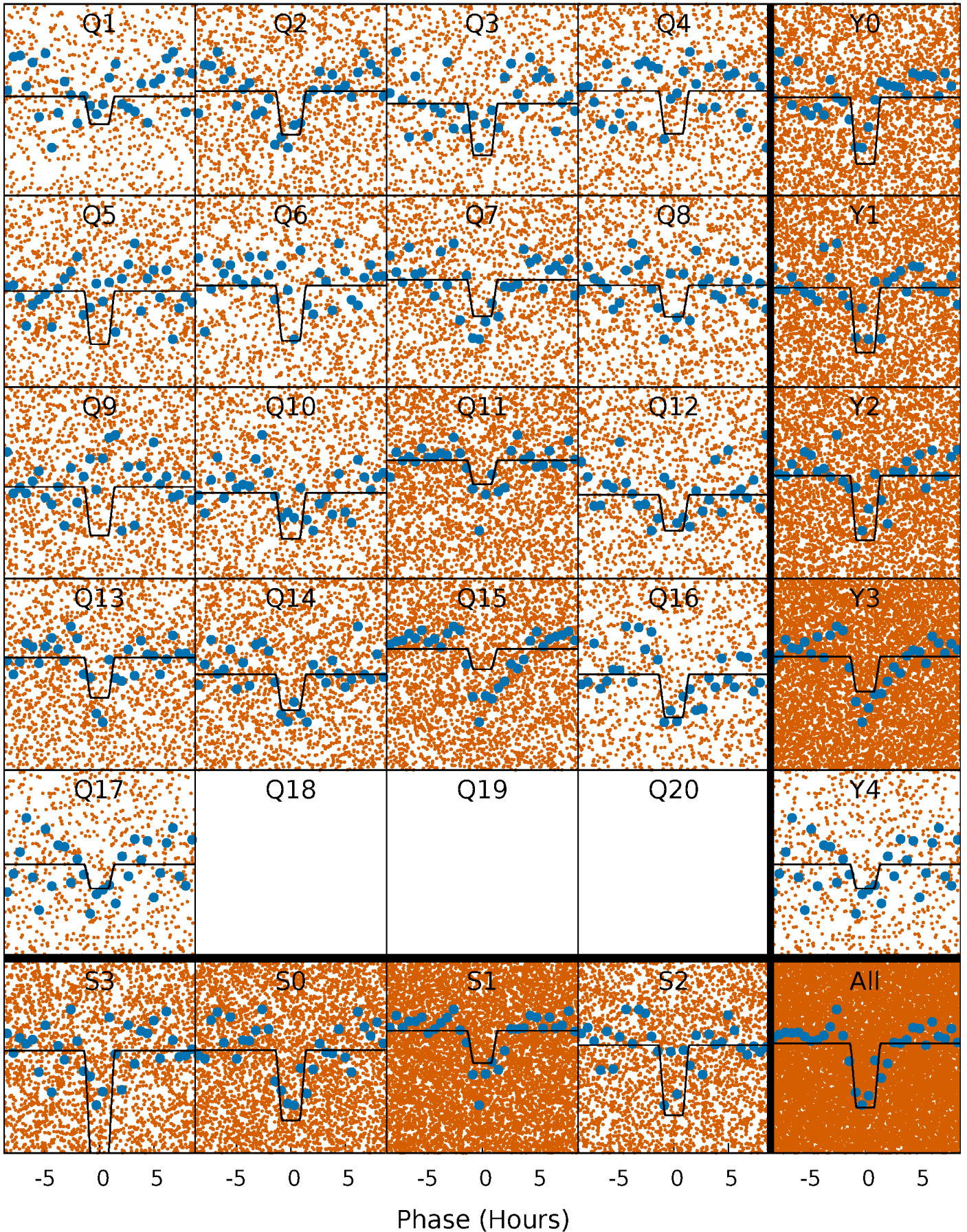
TCE 007117489-01 P= 0.566782 Days  $T_0=131.821610$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

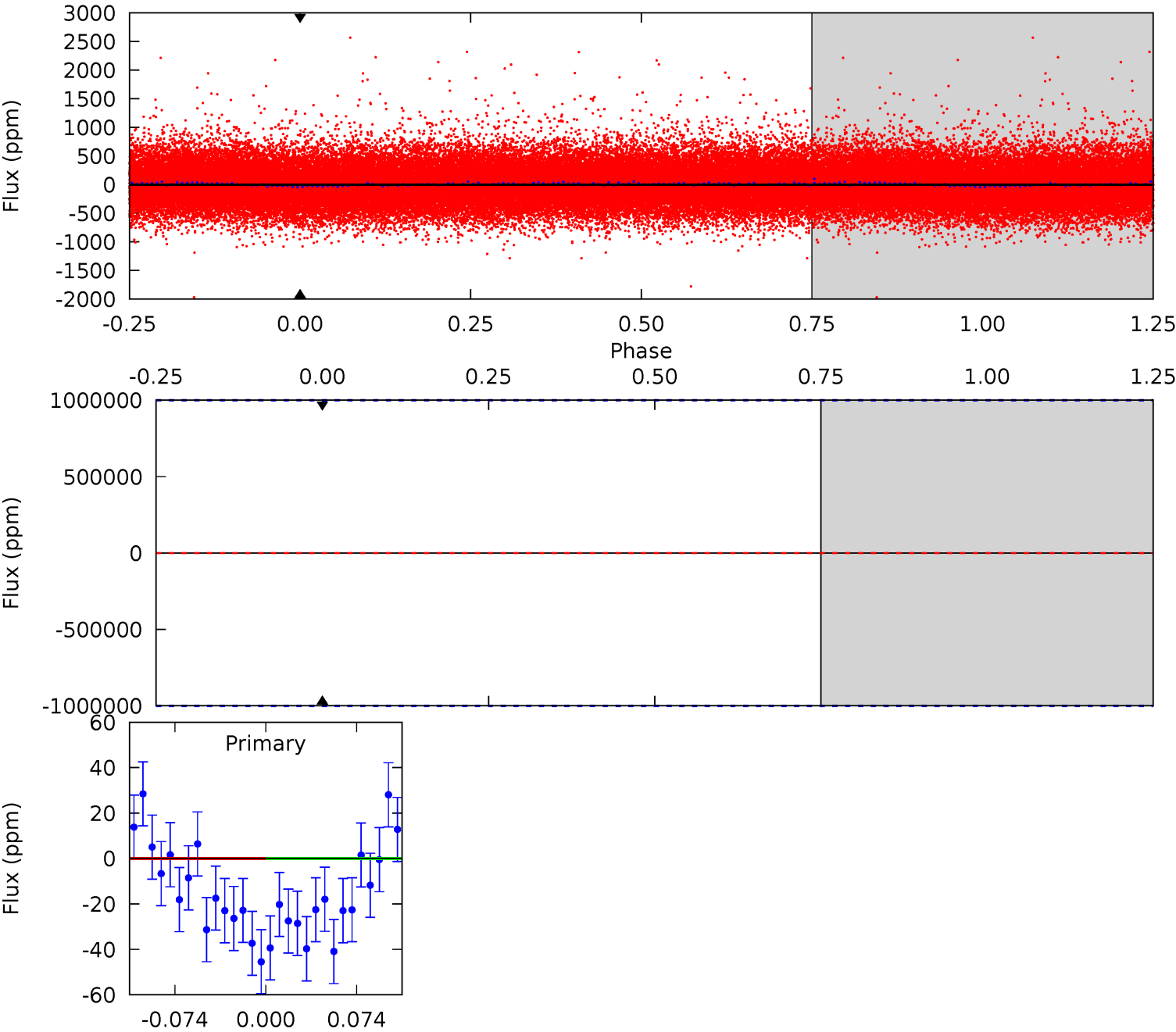
TCE 007117489-01 P= 0.566782 Days  $T_0=131.839989$  (BKJD)



DV Model-Shift Uniqueness Test

007117489-01, P = 0.566782 Days, E = 131.254828 Days

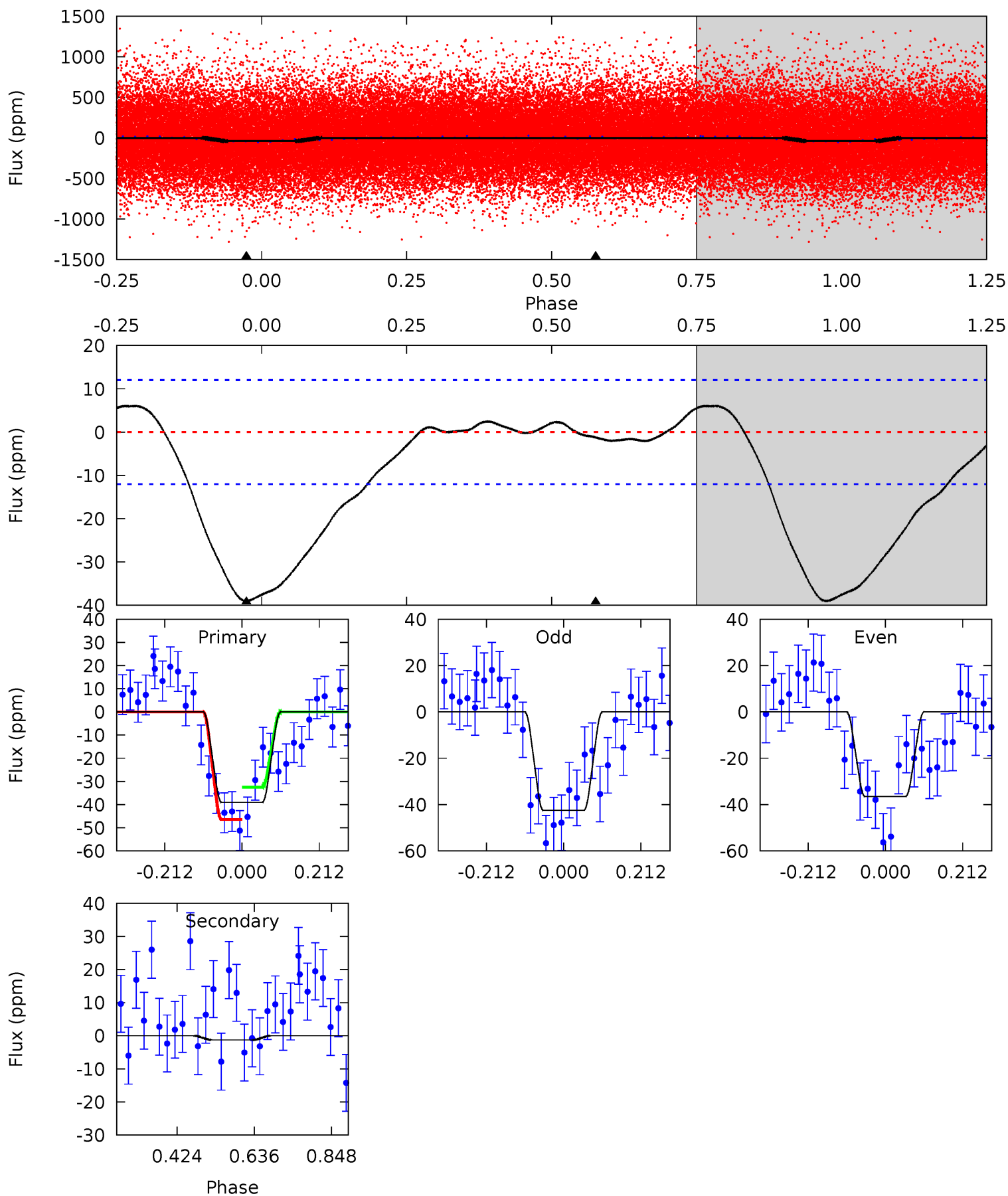
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

007117489-01, P = 0.566782 Days, E = 131.273207 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
14.3	0.46	0	0	4.40	1.25	1.39	14.3	14.3	0.46	0.46	1.10	0.96	0.13	2.55





### Stellar Parameters For KIC 007117489

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5494^{+164}_{-164}$	$4.373^{+0.175}_{-0.214}$	$-0.120^{+0.300}_{-0.300}$	$0.979^{+0.303}_{-0.187}$	$0.825^{+0.121}_{-0.060}$	$1.239^{+1.038}_{-0.641}$
	+3%/-3%	+4%/-5%	+250%/-250%	+31%/-19%	+15%/-7%	+84%/-52%
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 007117489-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$0 \pm 1000000$	$7.73^{+9.22}_{-5.28}$	$2987^{+244}_{-199}$	$4376^{+15100}_{-21225}$	$3.018^{+281.828}_{-187.026}$
Alt.	$-1 \pm 3$	$7.08^{+8.93}_{-5.01}$	$2984^{+247}_{-197}$	$-3059^{+146}_{-181}$	$0.001^{+0.023}_{-0.003}$

$T_{max}$  = 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

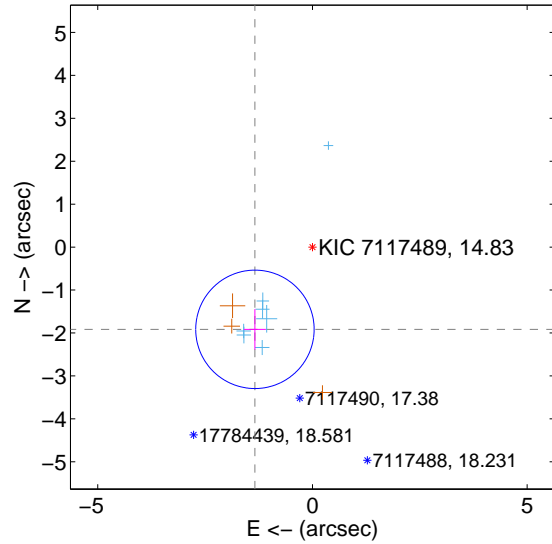
Supplemental centroid analysis for 007117489-01. Kepler magnitude: 14.83. Transit SNR -1.00

There are 7 quarters with good PRF difference image offsets

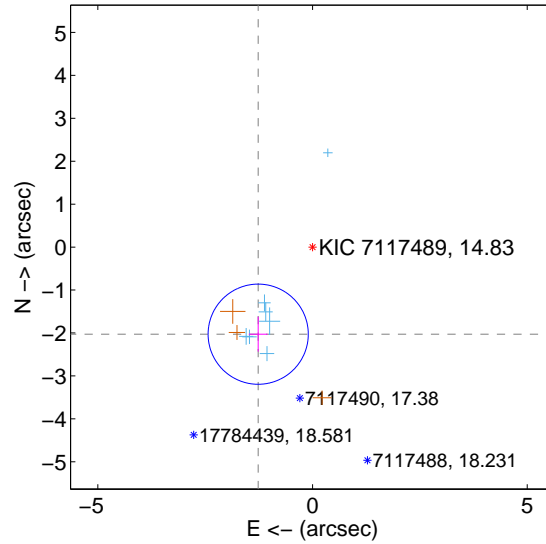
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.337 \pm 0.460$	5.09	$1.339 \pm 0.255$	$-1.916 \pm 0.472$
PRF-fit source offset from KIC position	$2.391 \pm 0.389$	6.15	$1.265 \pm 0.218$	$-2.029 \pm 0.407$
photometric centroid source offset	$2.06 \pm 0.88$	2.35	$-2.06 \pm 0.88$	$-0.05 \pm 0.85$

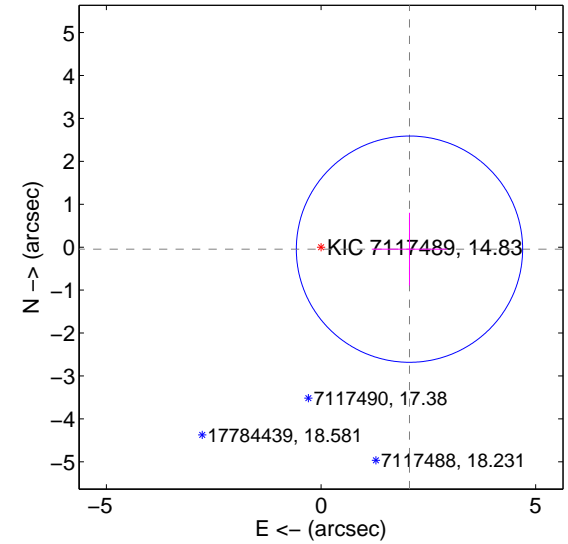
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

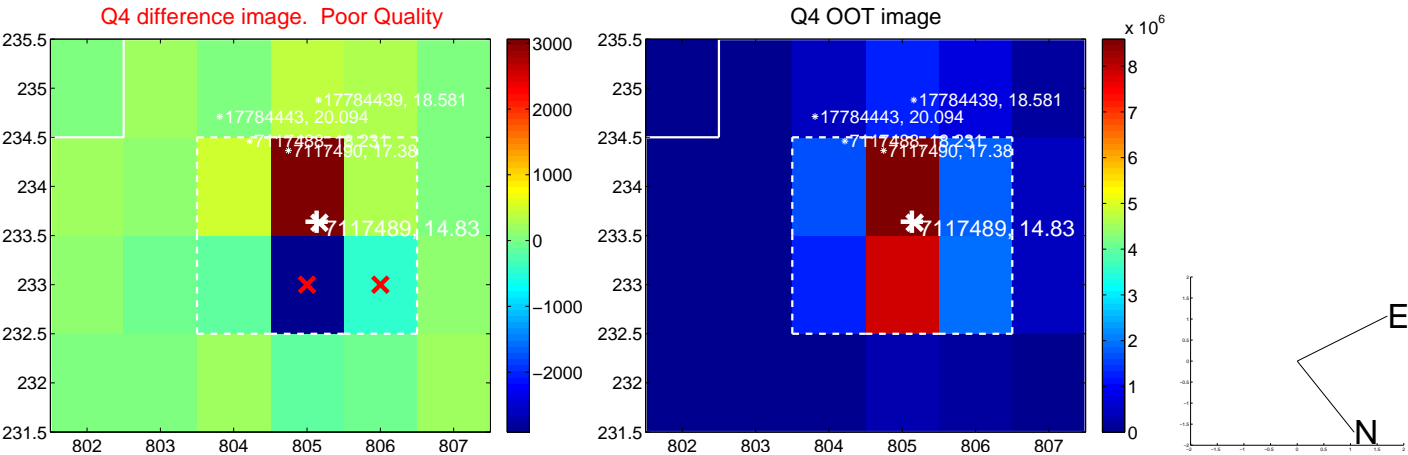
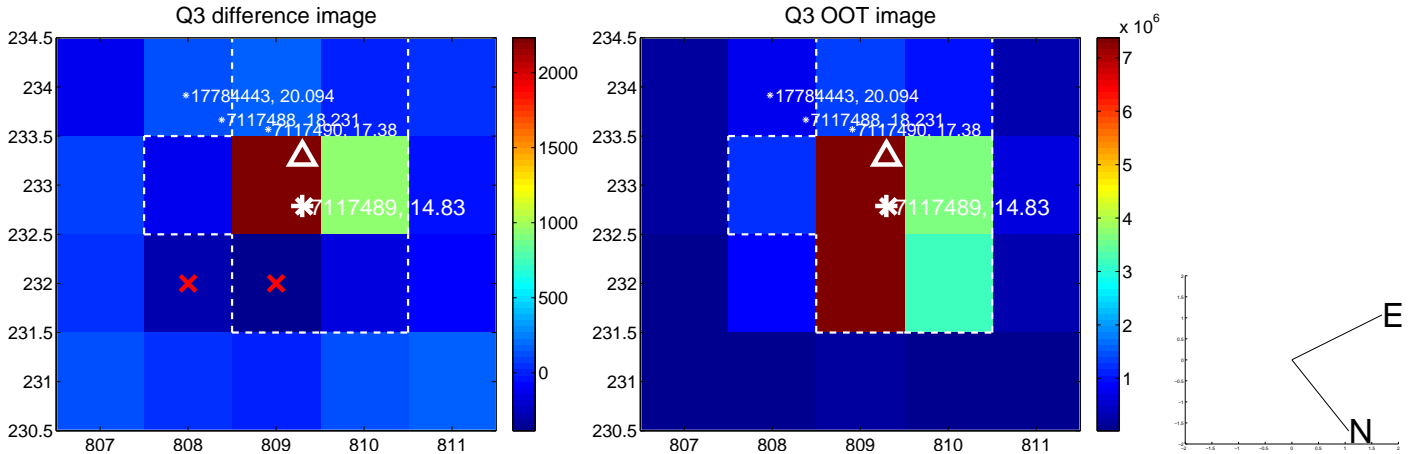
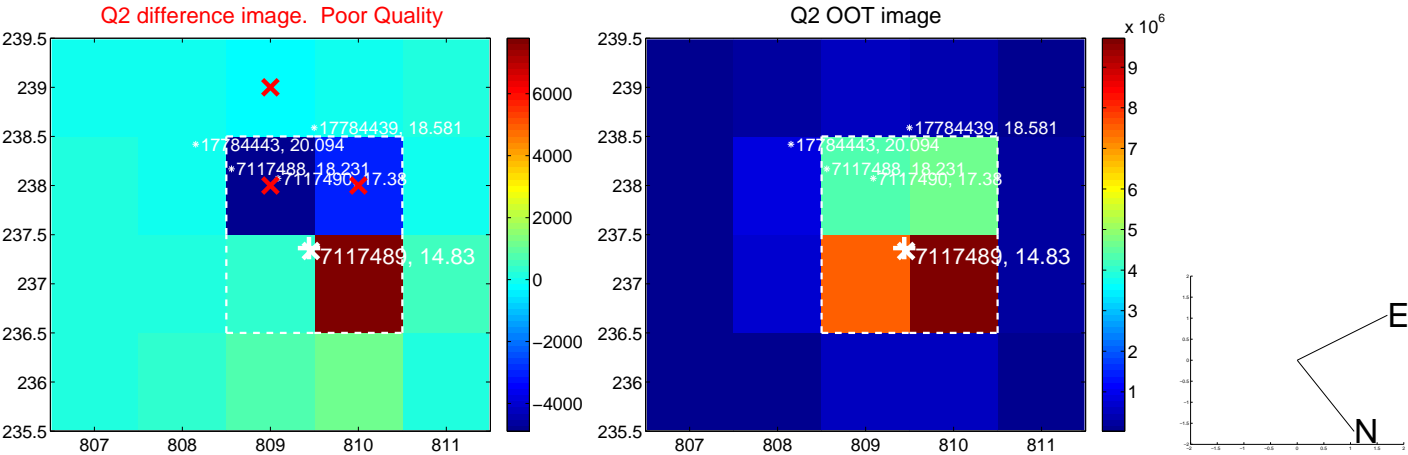
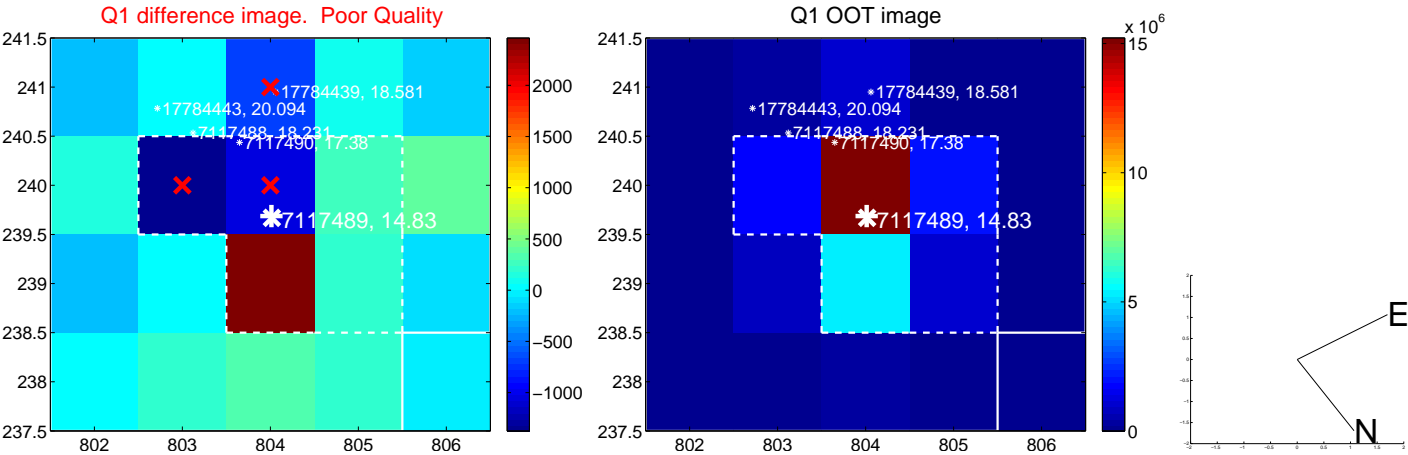


offset from photometric centroids

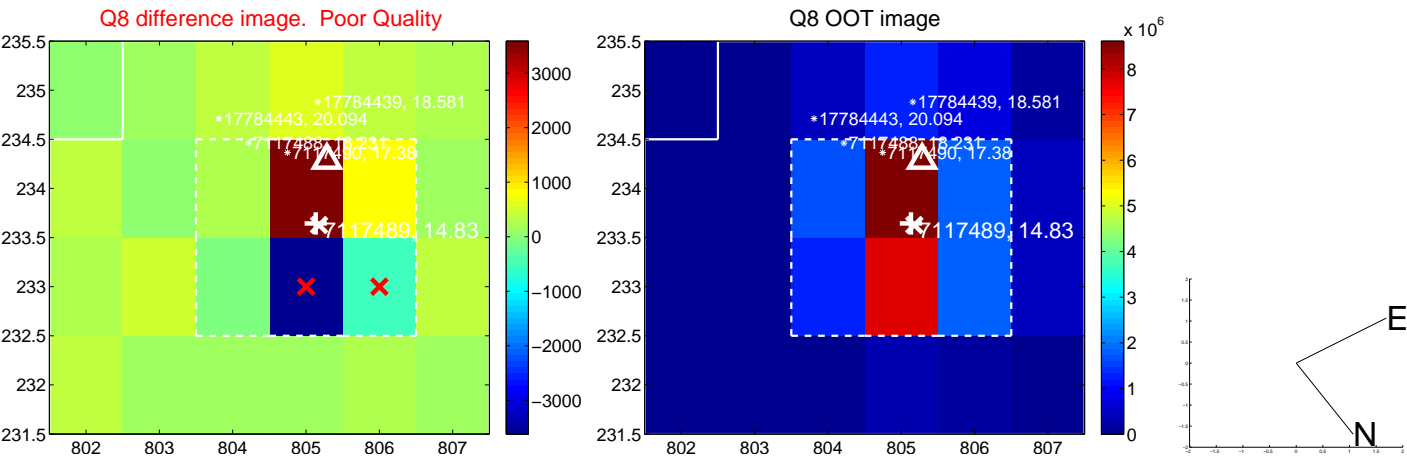
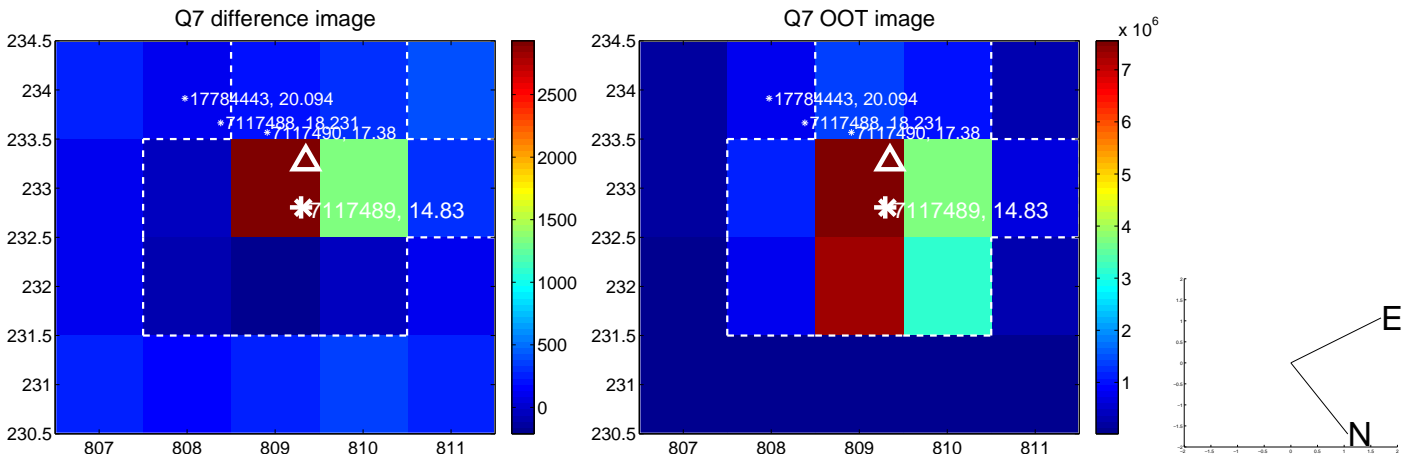
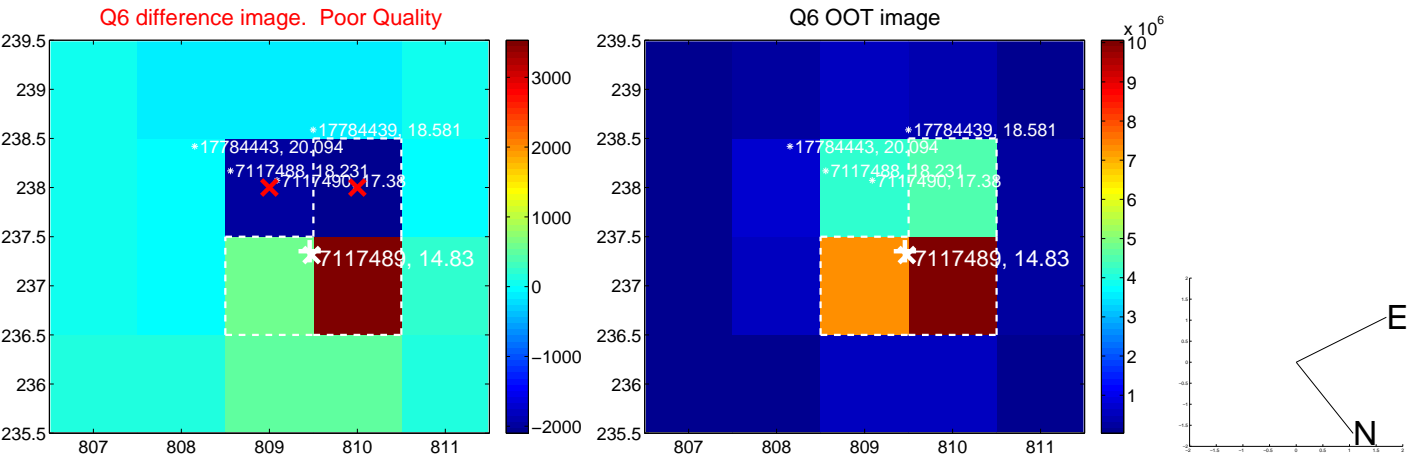
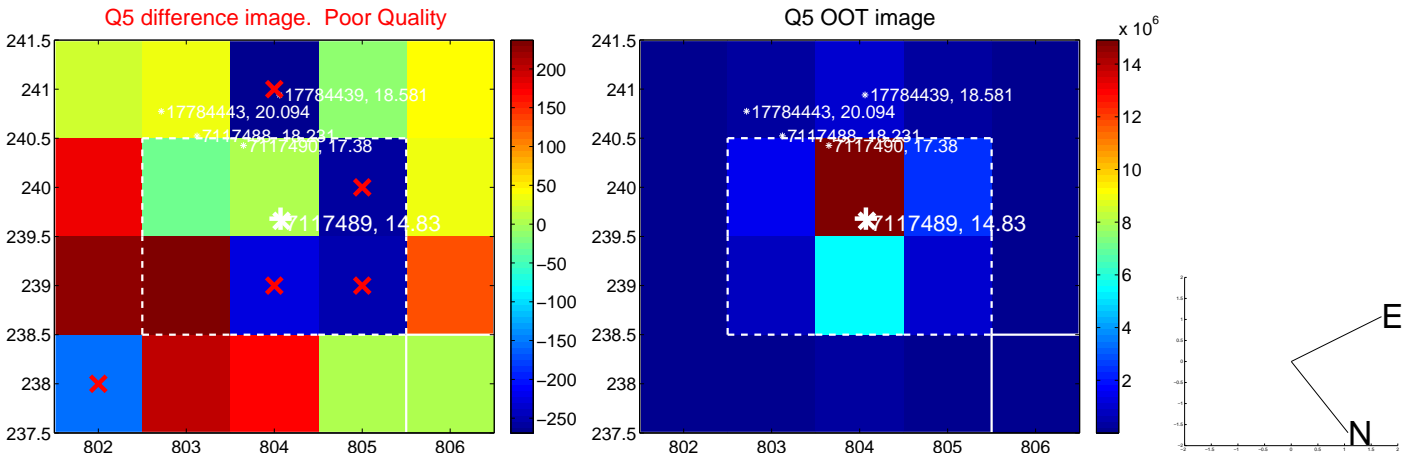


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

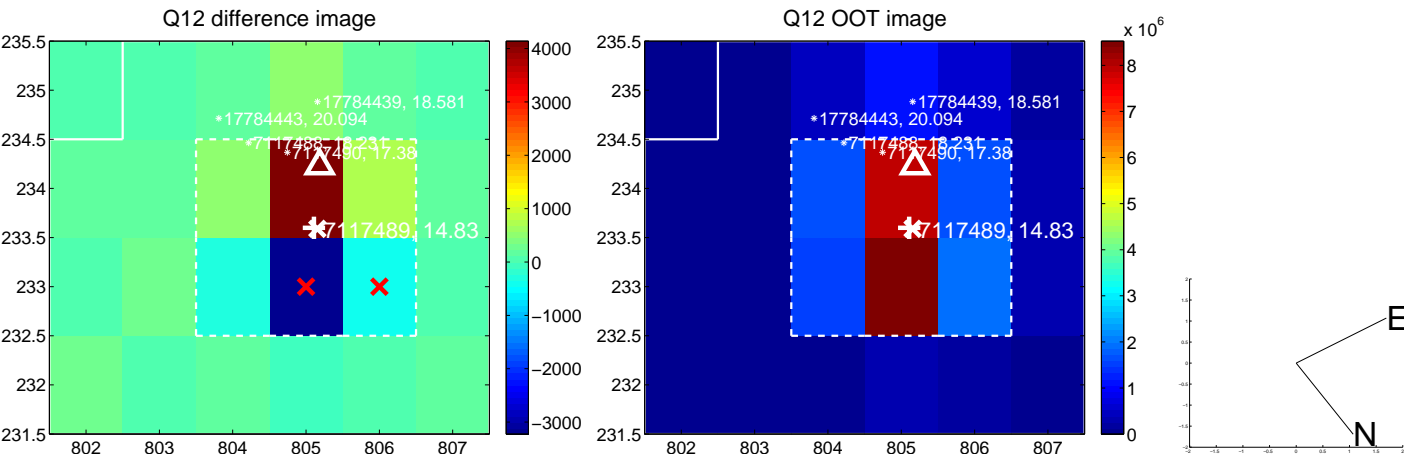
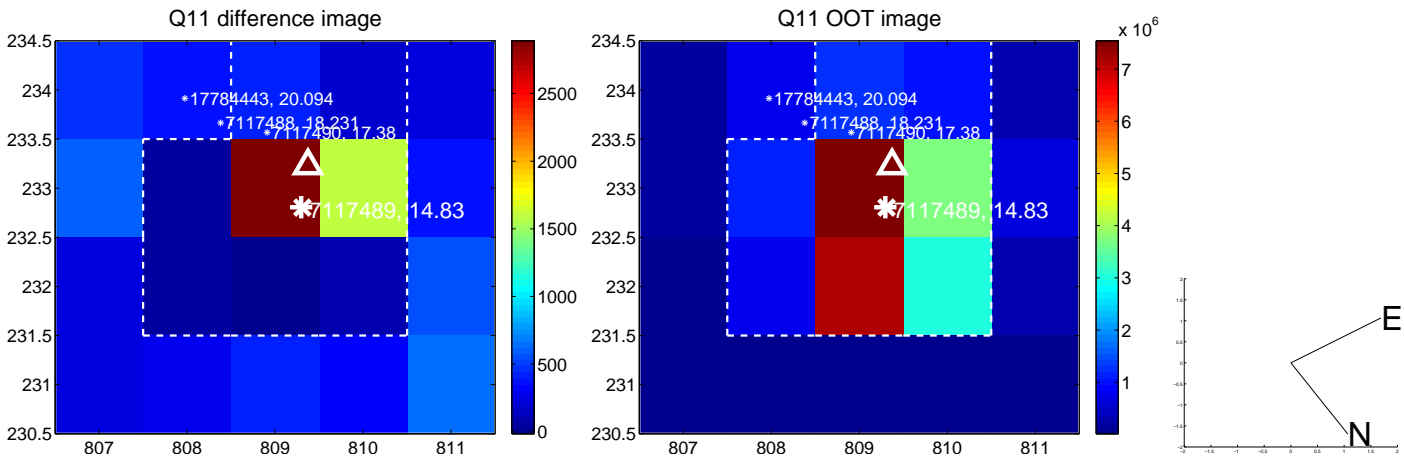
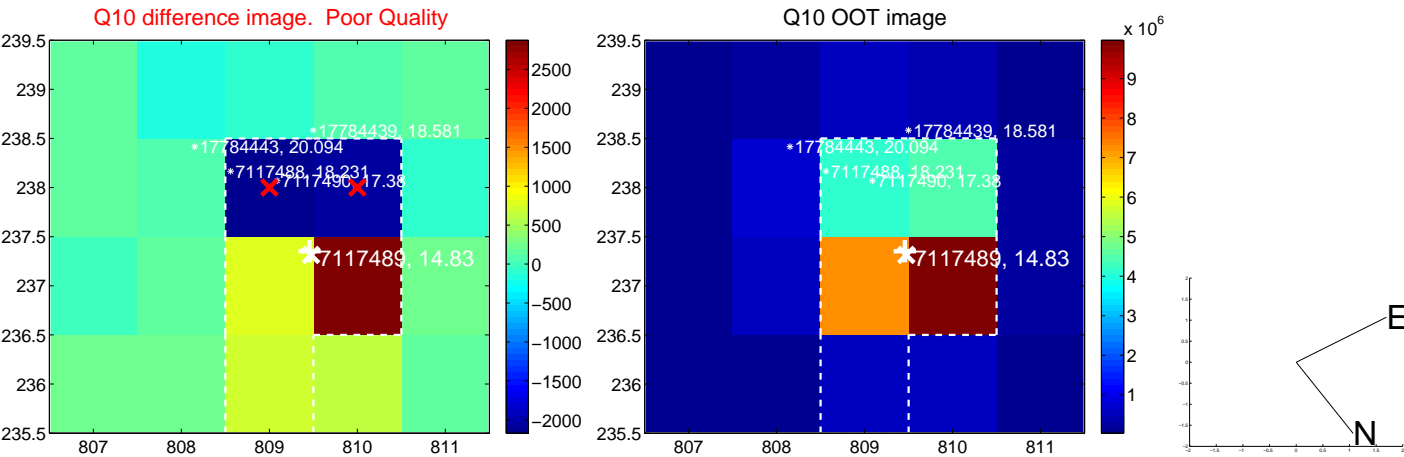
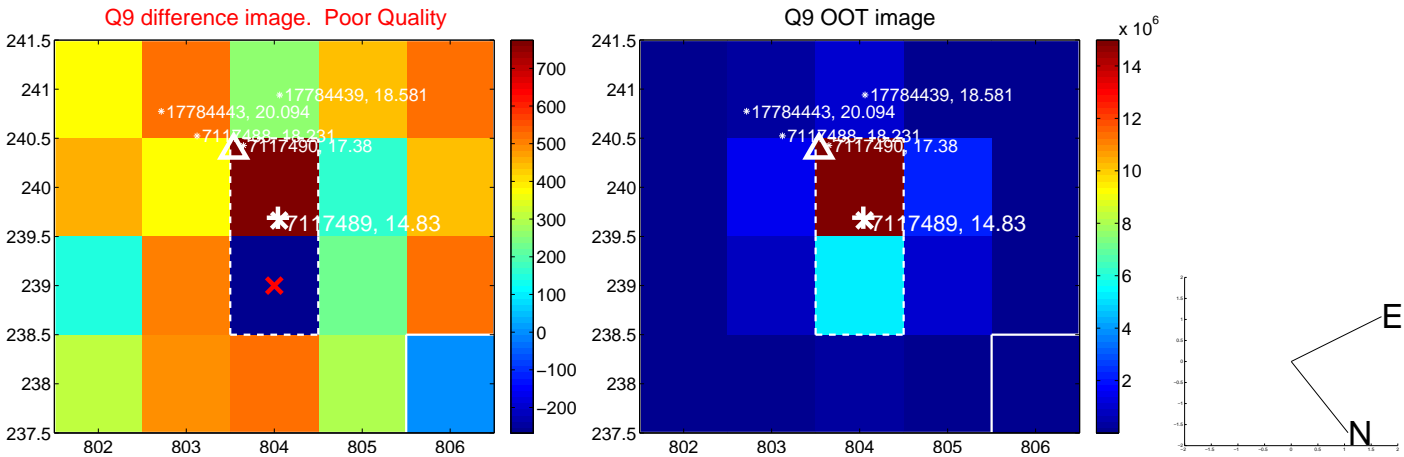


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

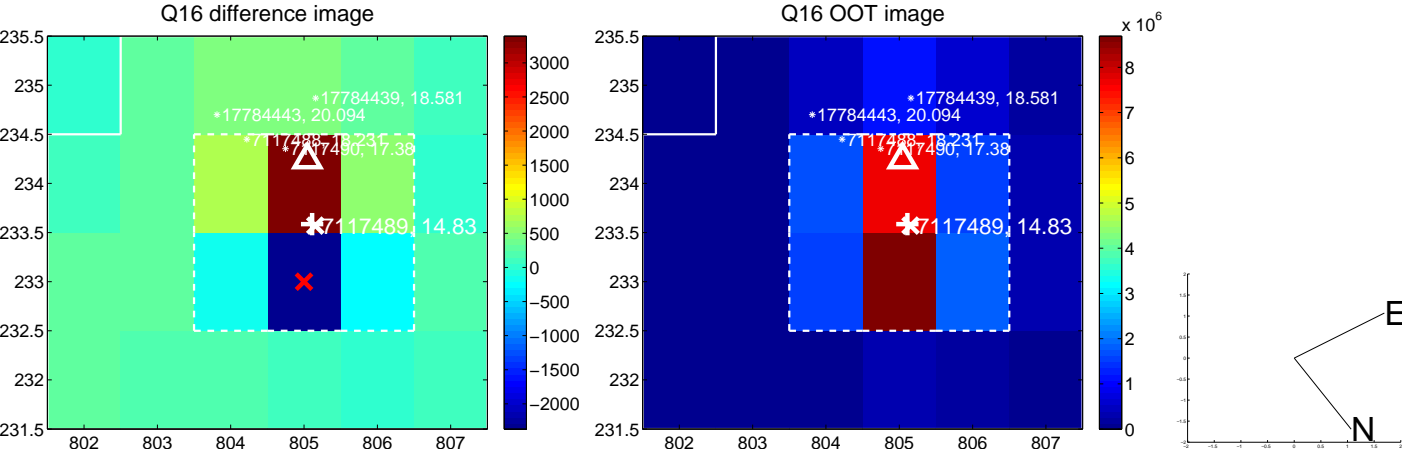
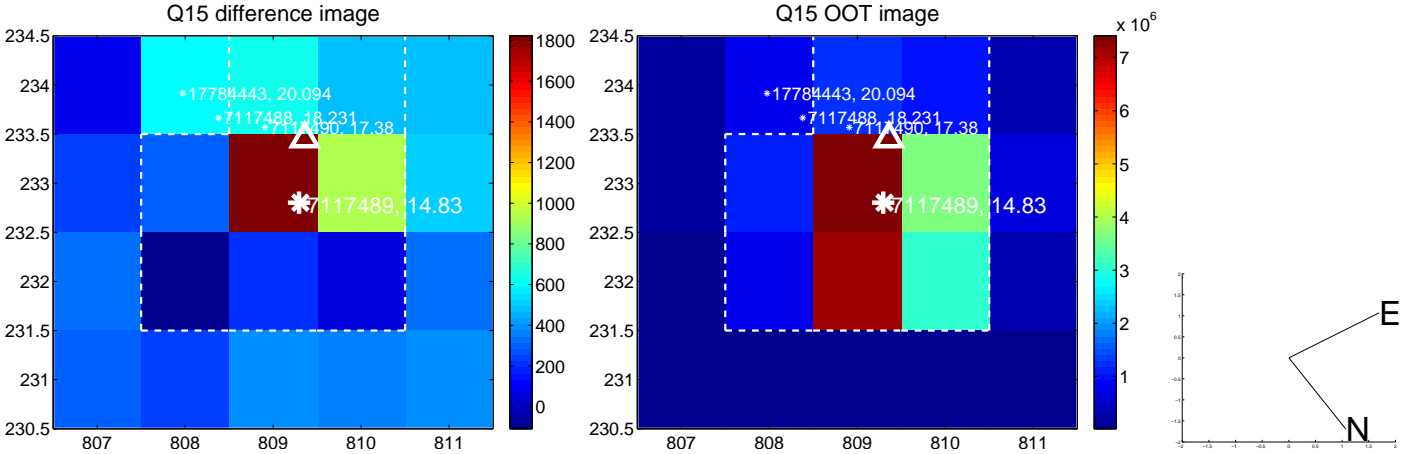
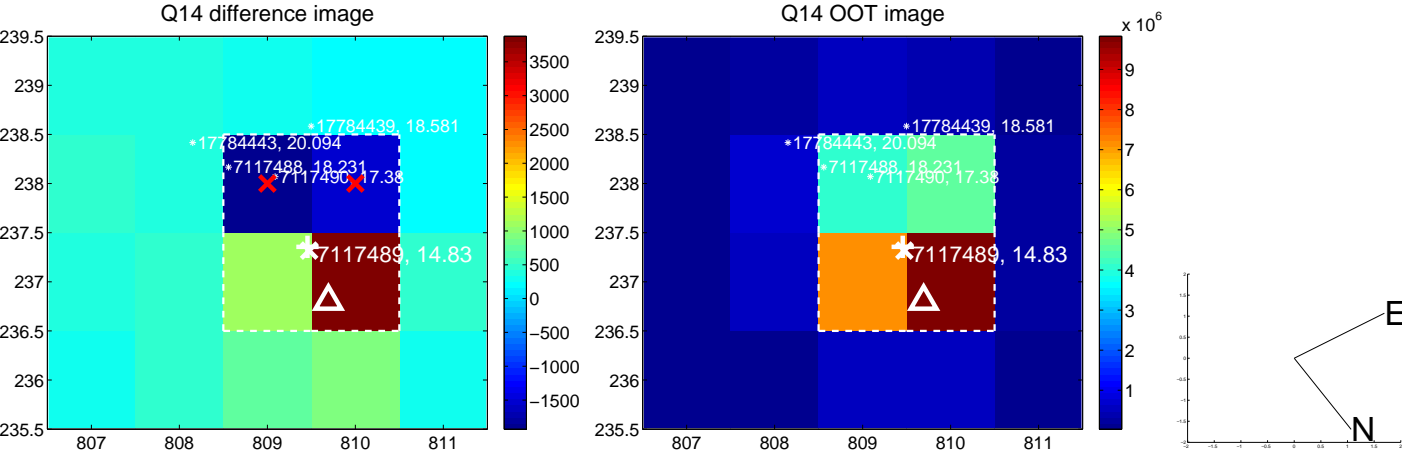
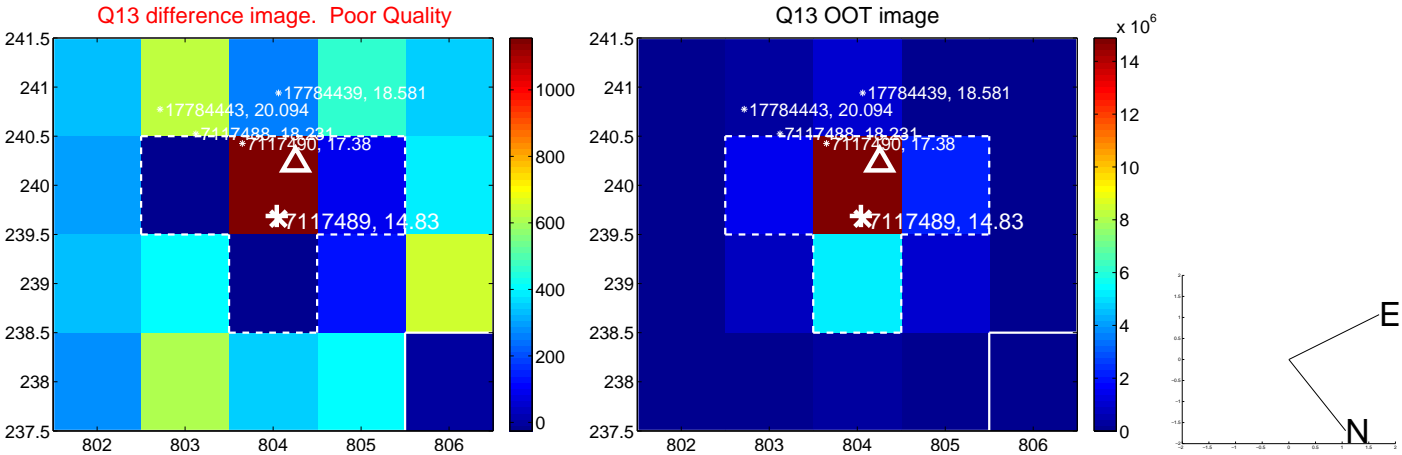




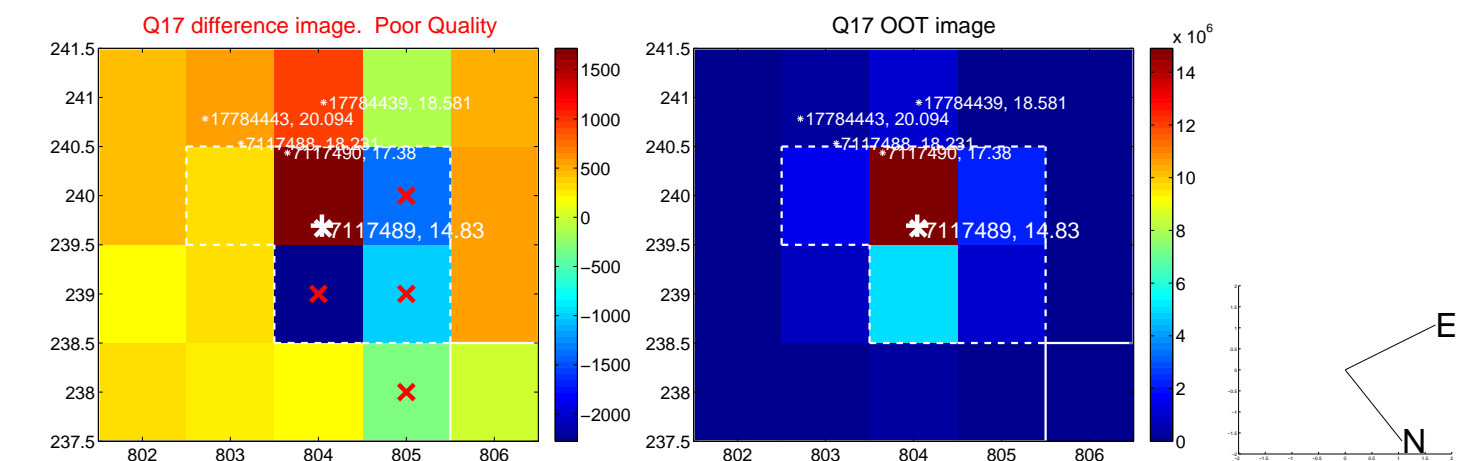
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



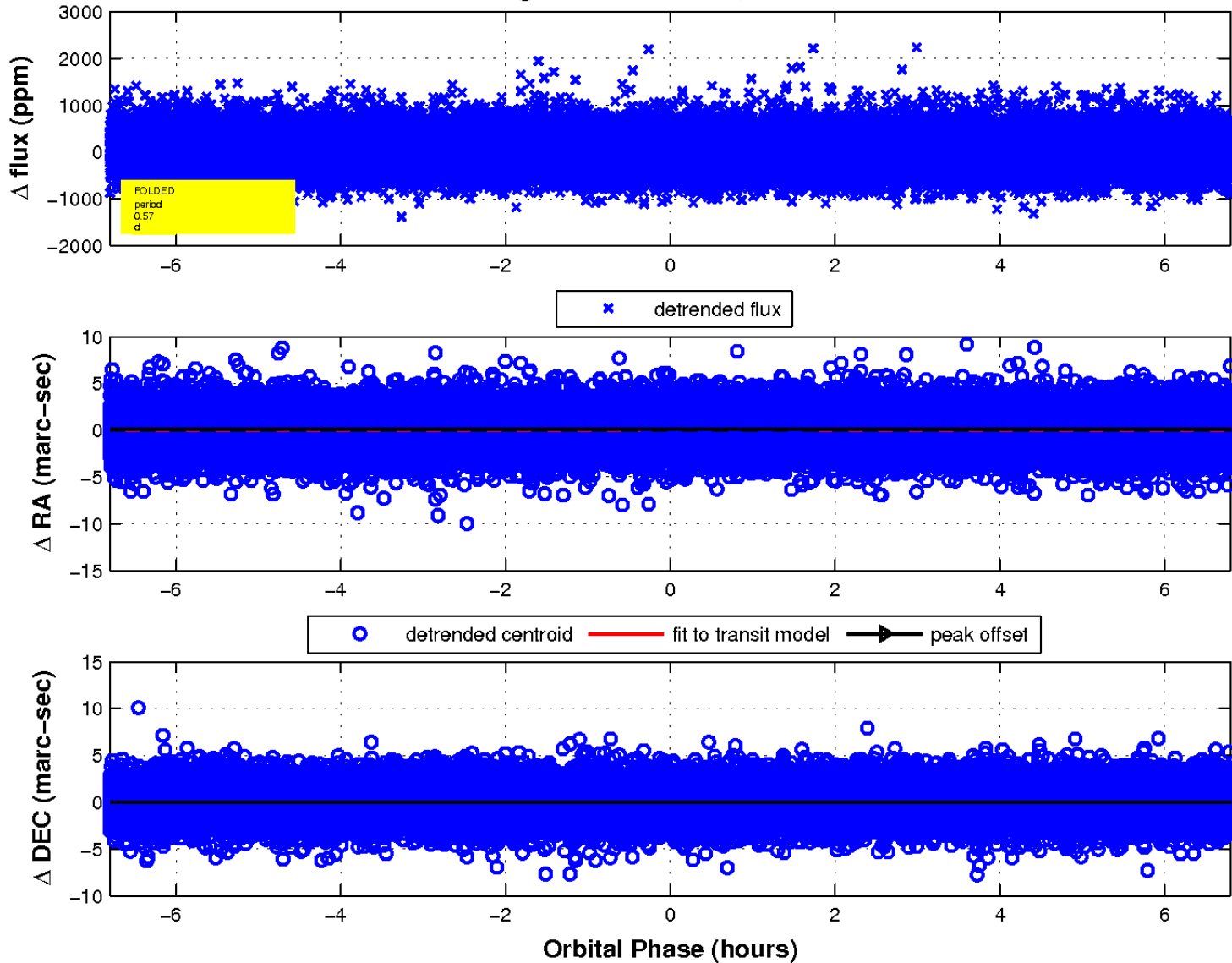
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



# UKIRT Image

Declination

