

# KIC 004947130

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004947130-01	OBS	No	0.711870	131.715714	17.2	6.045	9.9	9.4	1.56	7166	0.67	18464.03

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004947130-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_FEW_DIFFS

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

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

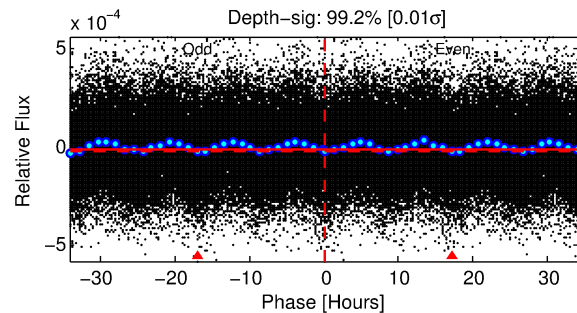
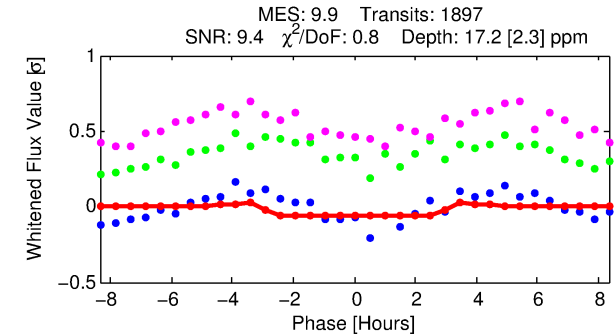
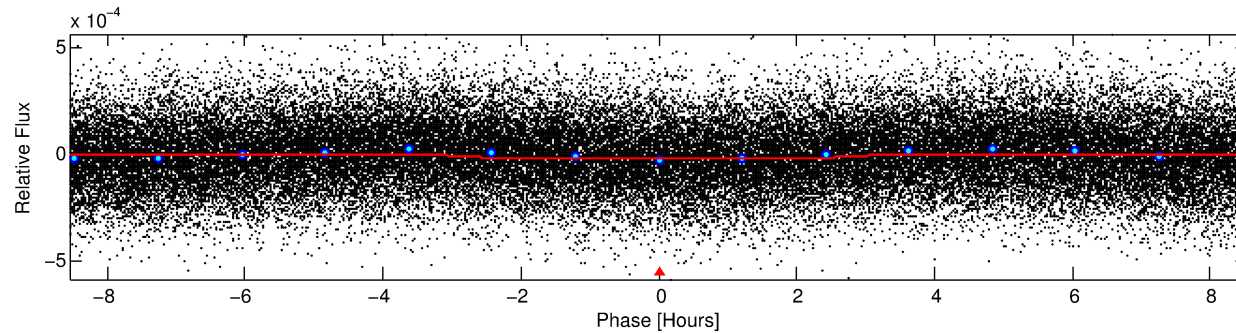
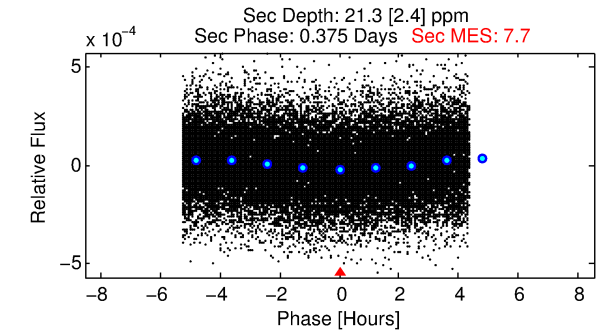
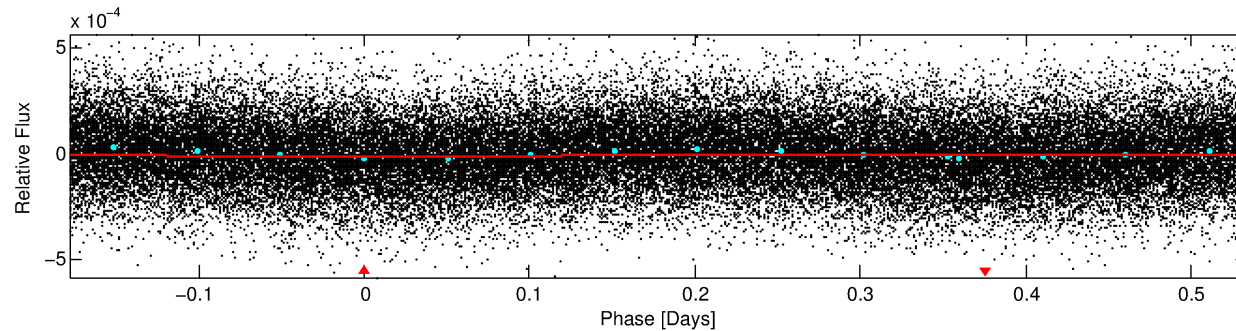
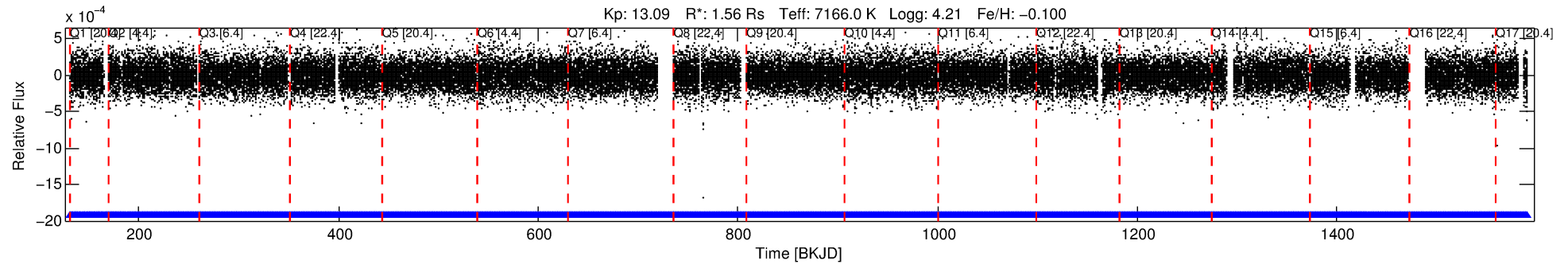
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004947130-01

No Significant Match Found

# DV One-Page Summary

KIC: 4947130 Candidate: 1 of 1 Period: 0.712 d



## DV Fit Results:

Period = 0.71187 [0.00001] d  
Epoch = 131.7157 [0.0042] BKJD  
Rp/R\* = 0.0040 [0.0032]  
a/R\* = 1.09 [0.83]  
b = 0.54 [6.61]  
Seff = 18464.03 [7676.49]  
Teq = 2972 [309] K  
Rp = 0.67 [0.60] Re  
a = 0.0176 [0.0048] AU  
Ag = 8.05 [13.55] [0.52σ]  
Teffp = 7740 [3197] K [1.48σ]

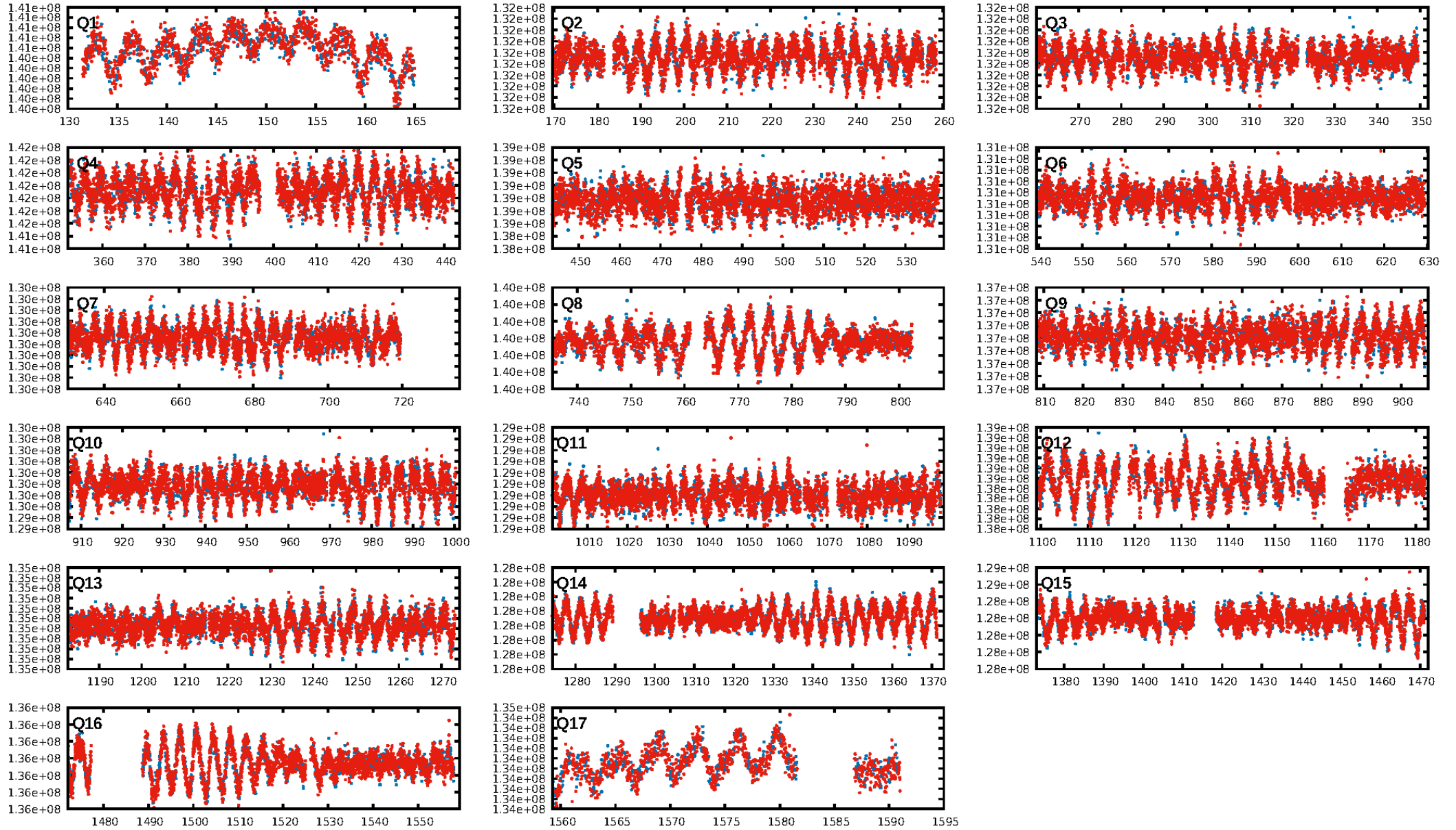
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1812/1812]  
GhostDiagnostic-chr: 1.403  
Centroid-sig: 51.7%  
Centroid-so: 0.574 arcsec [0.70σ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0 [0]  
KicOffset-st: 0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [17/17]

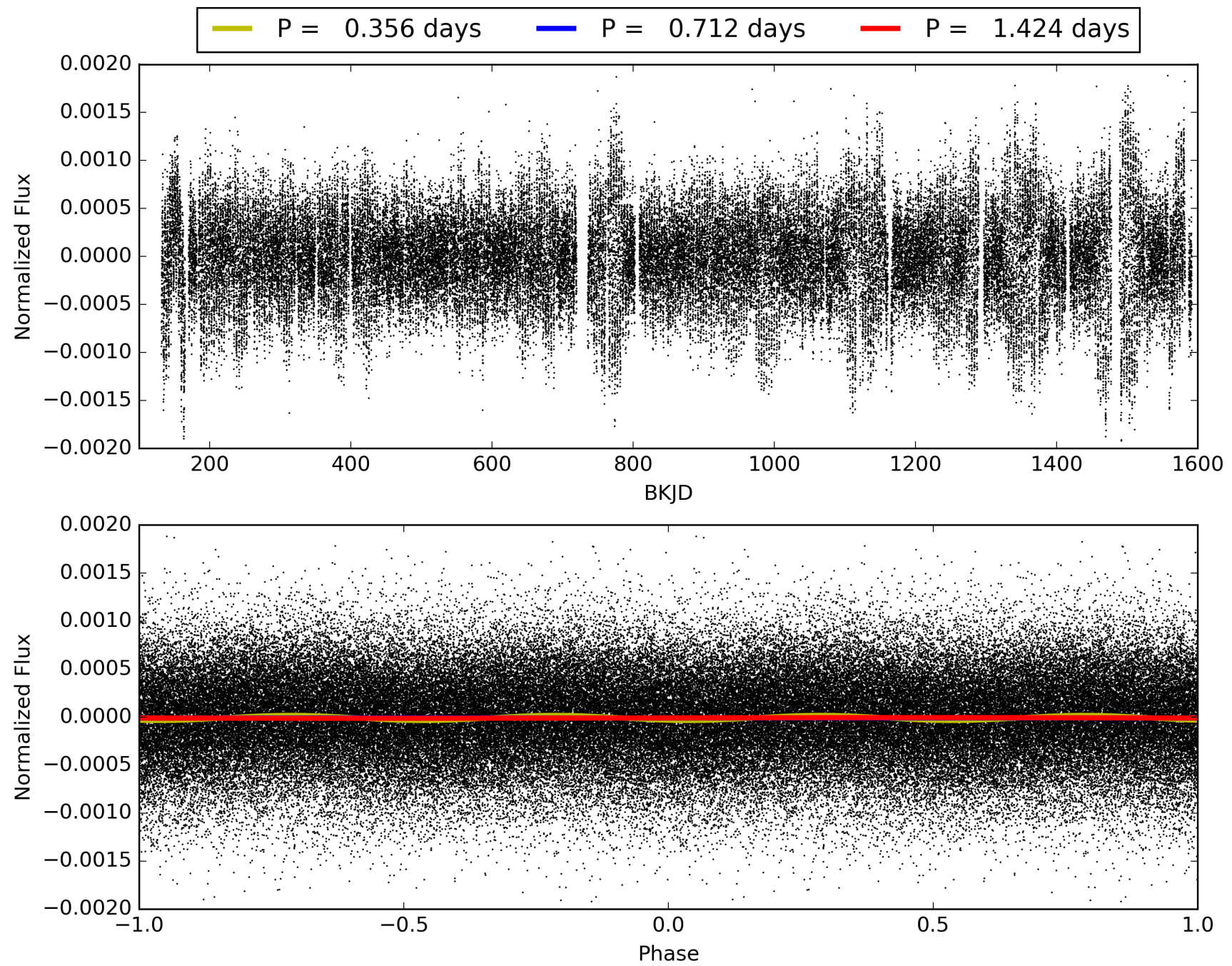
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:33:54 Z

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

# TCE 004947130-01, PDC Light Curves



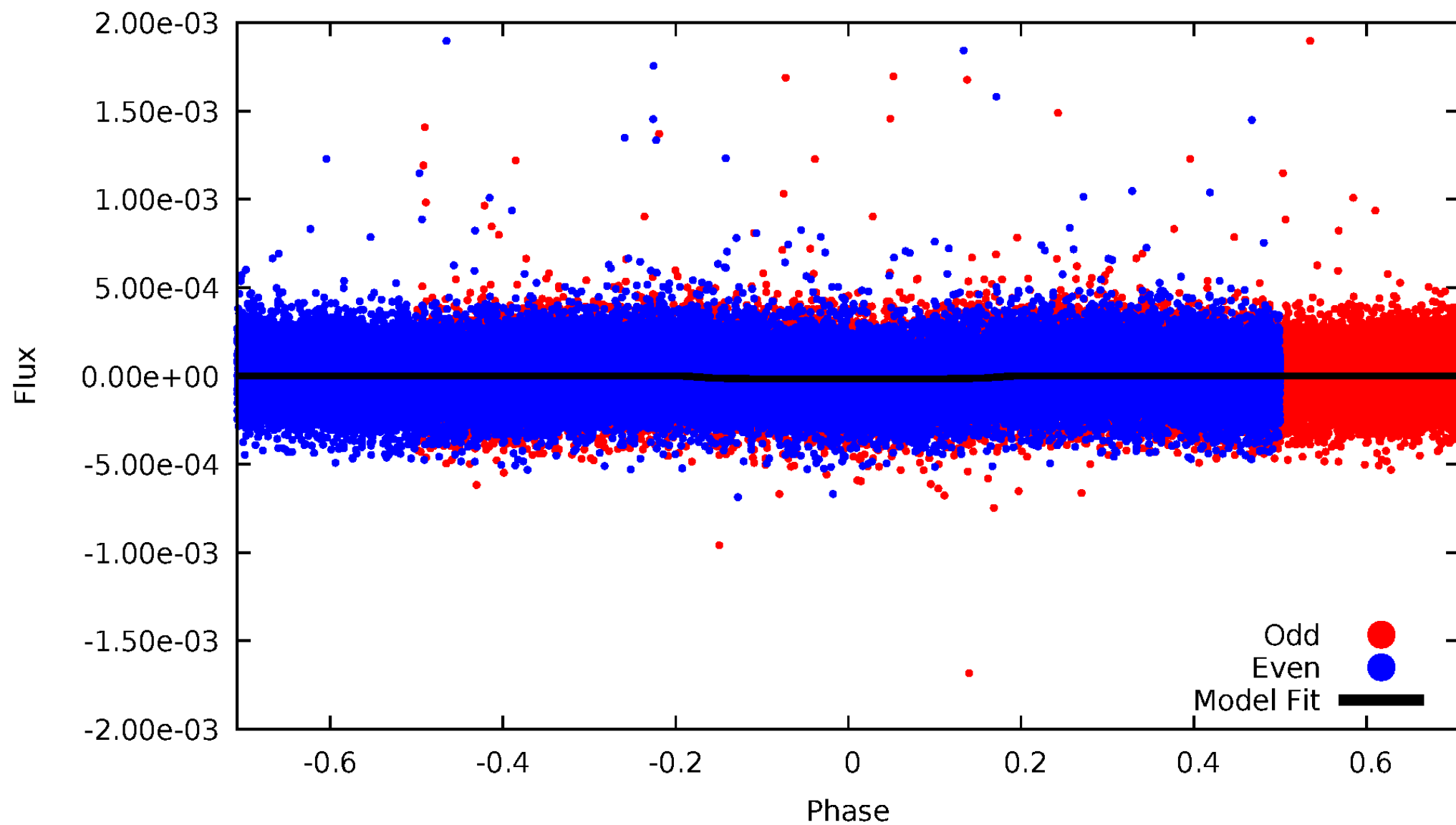
TCE 004947130-01





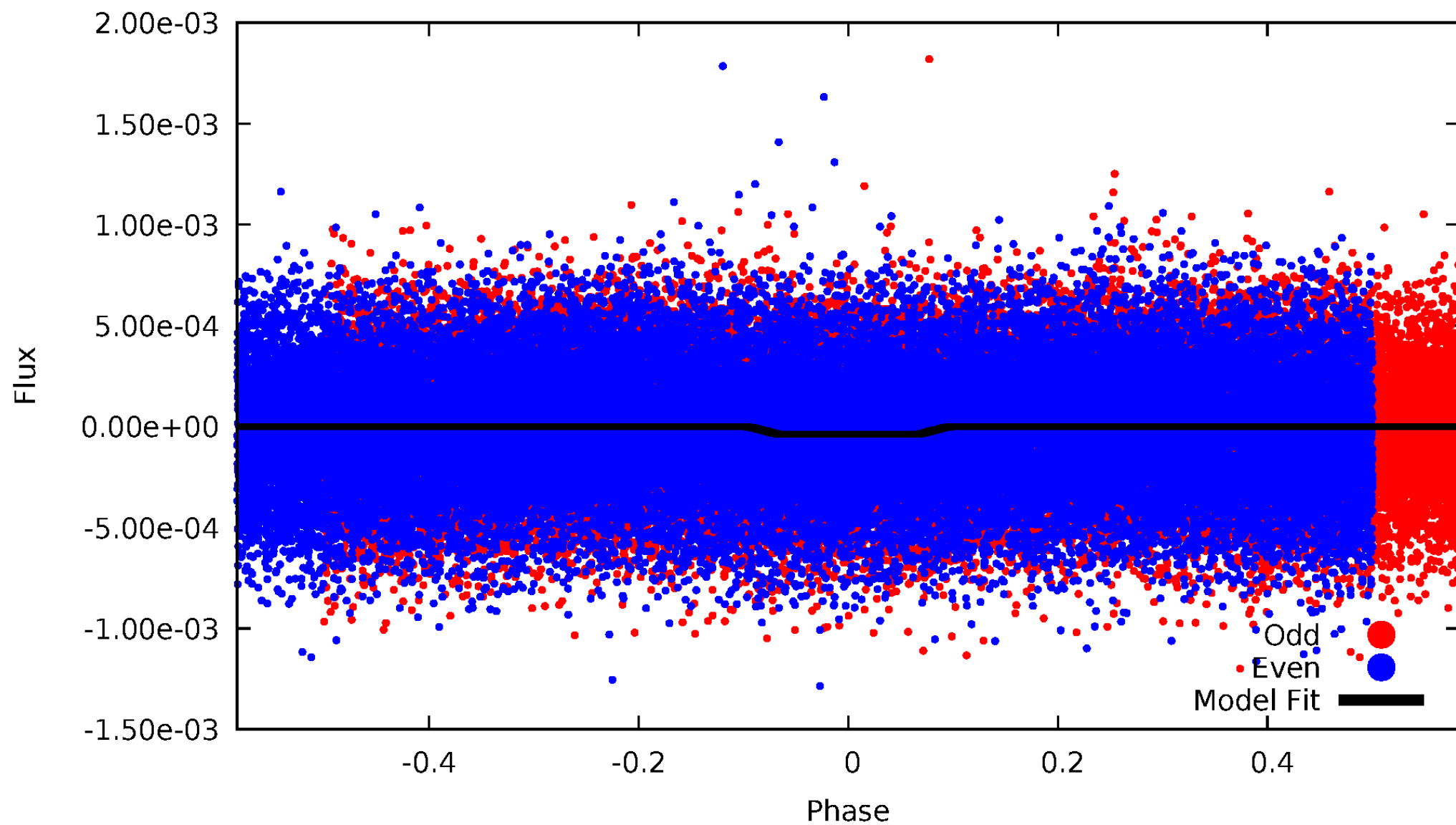
# DV Odd/Even

TCE 004947130-01



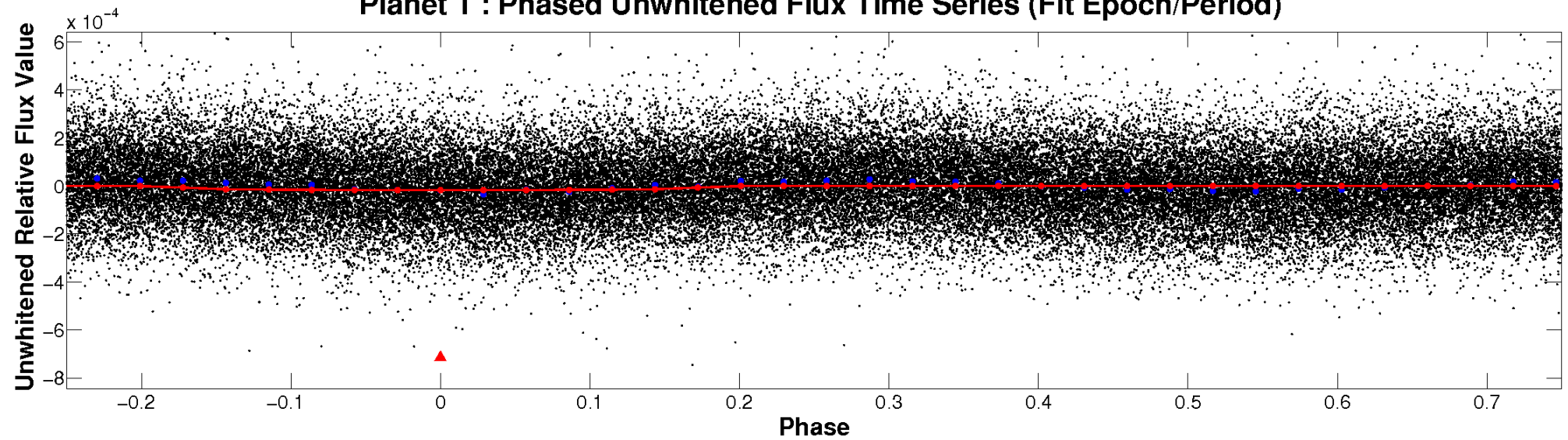
# ALT Odd/Even

TCE 004947130-01

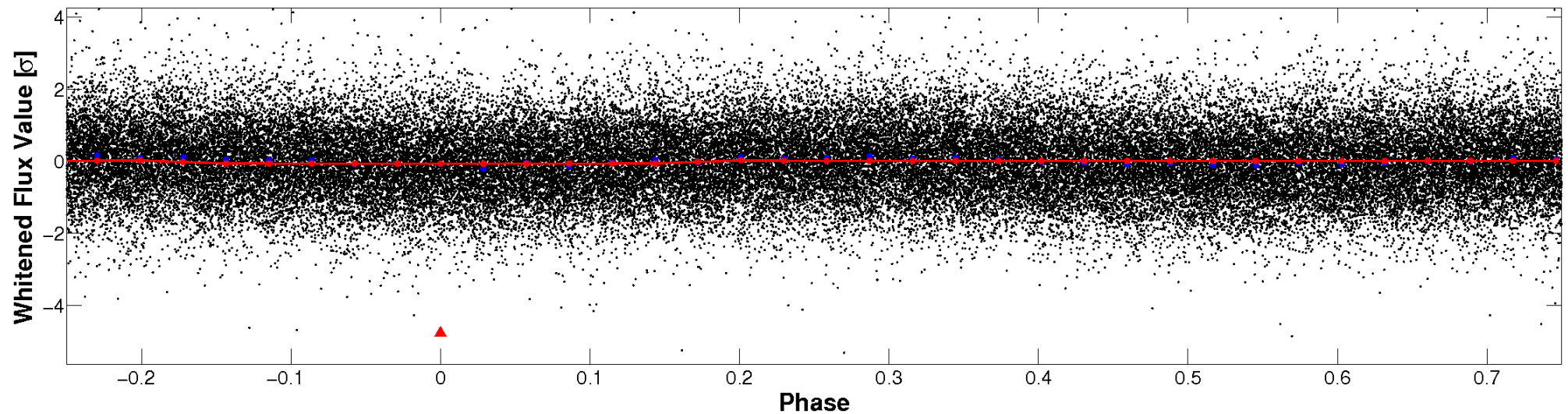


# Non-Whitened Vs. Whitened Light Curve

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

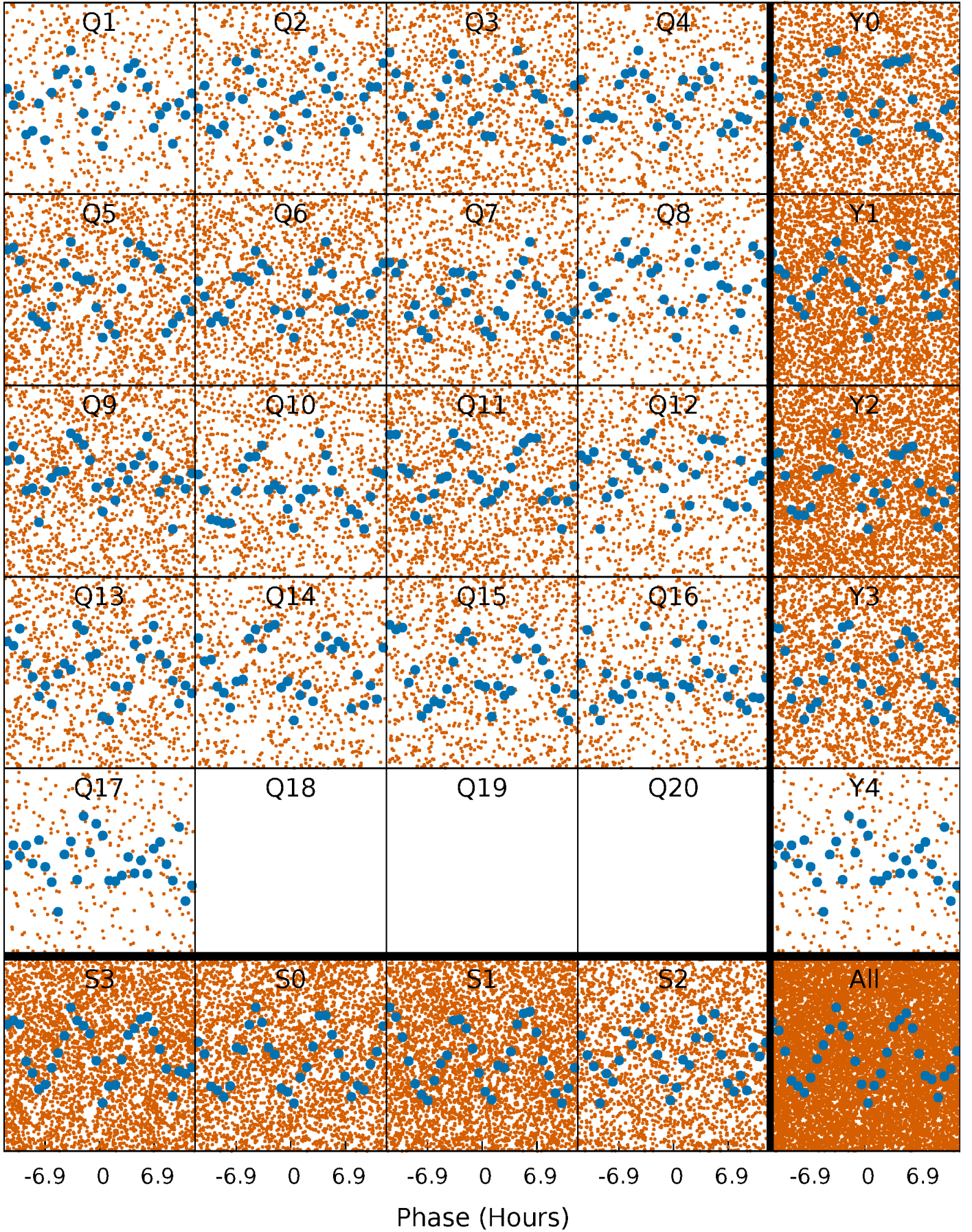


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

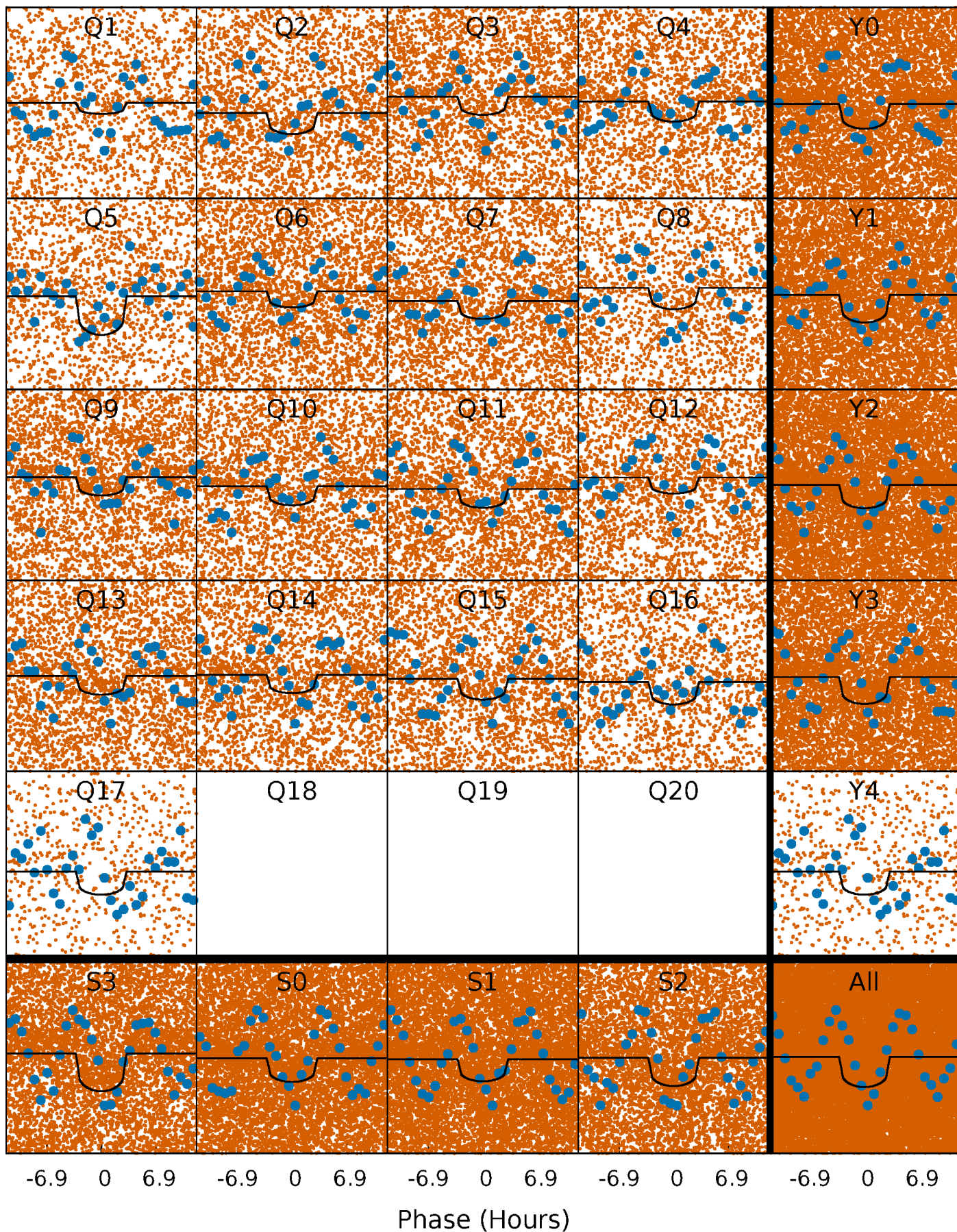
TCE 004947130-01 P= 0.711870 Days  $T_0=131.715714$  (BKJD)





# DV Quarter-Phased Transit Curves

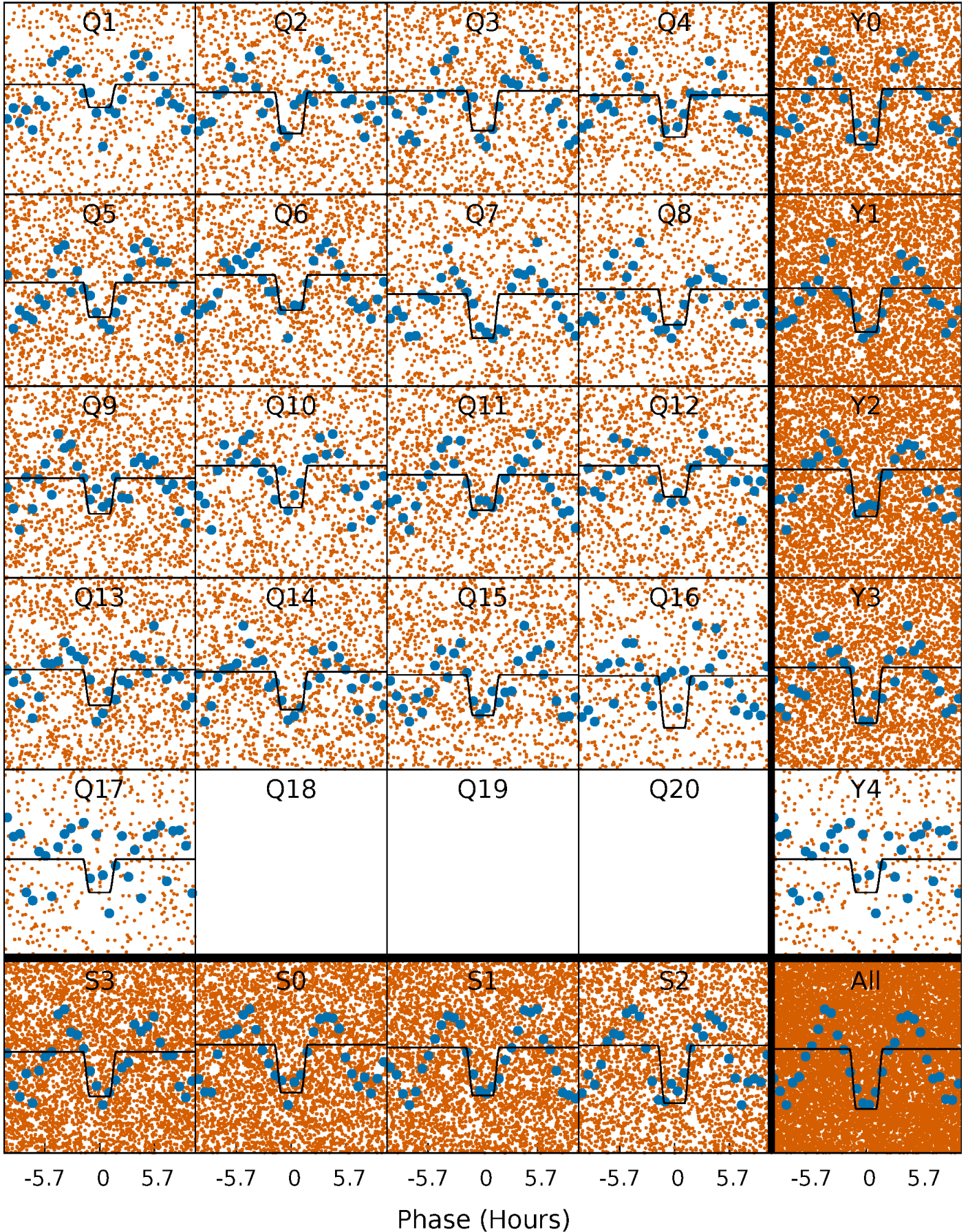
TCE 004947130-01 P= 0.711870 Days  $T_0=131.715714$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

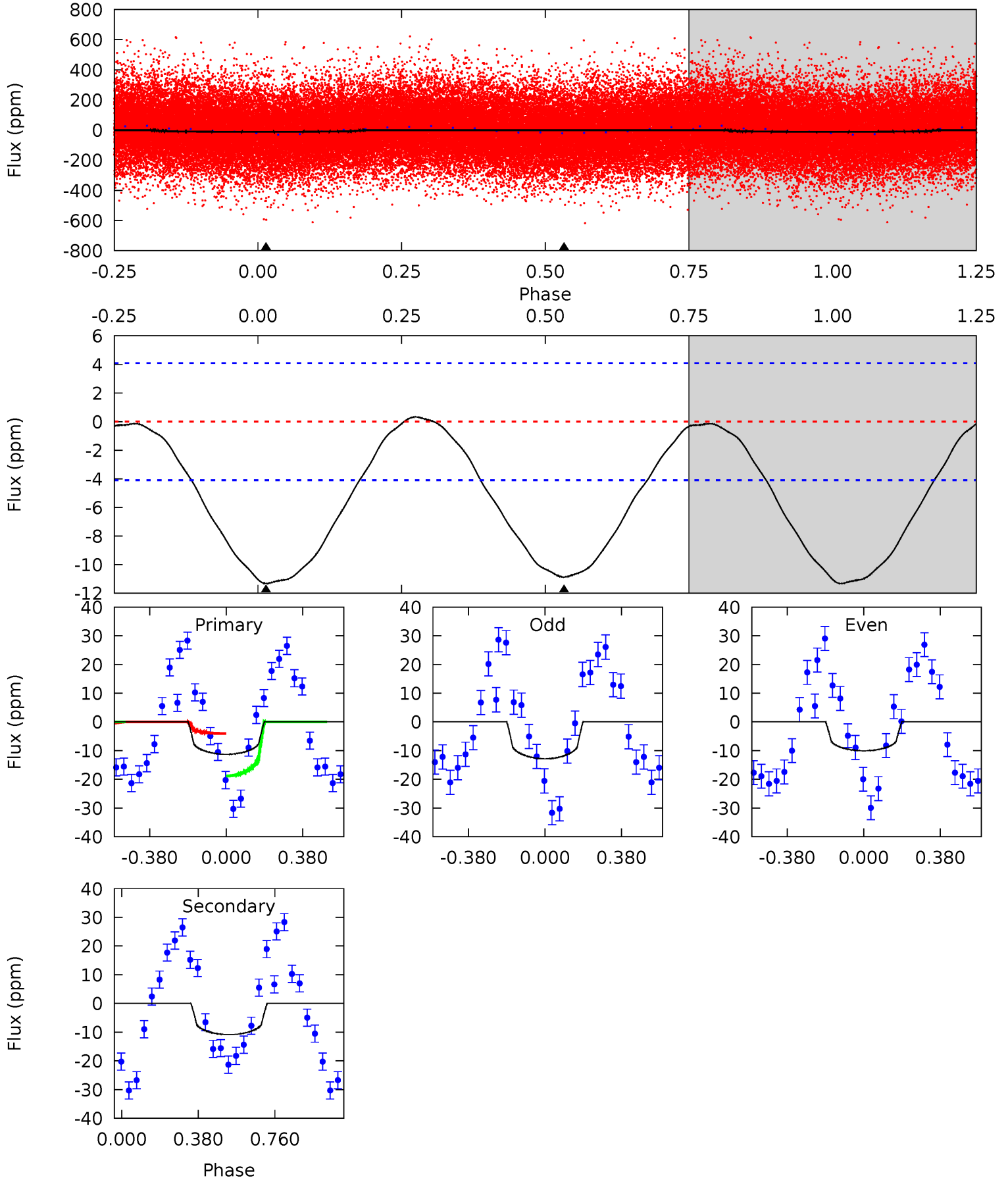
TCE 004947130-01 P= 0.711900 Days  $T_0=131.709282$  (BKJD)



# DV Model-Shift Uniqueness Test

004947130-01, P = 0.711870 Days, E = 131.003844 Days

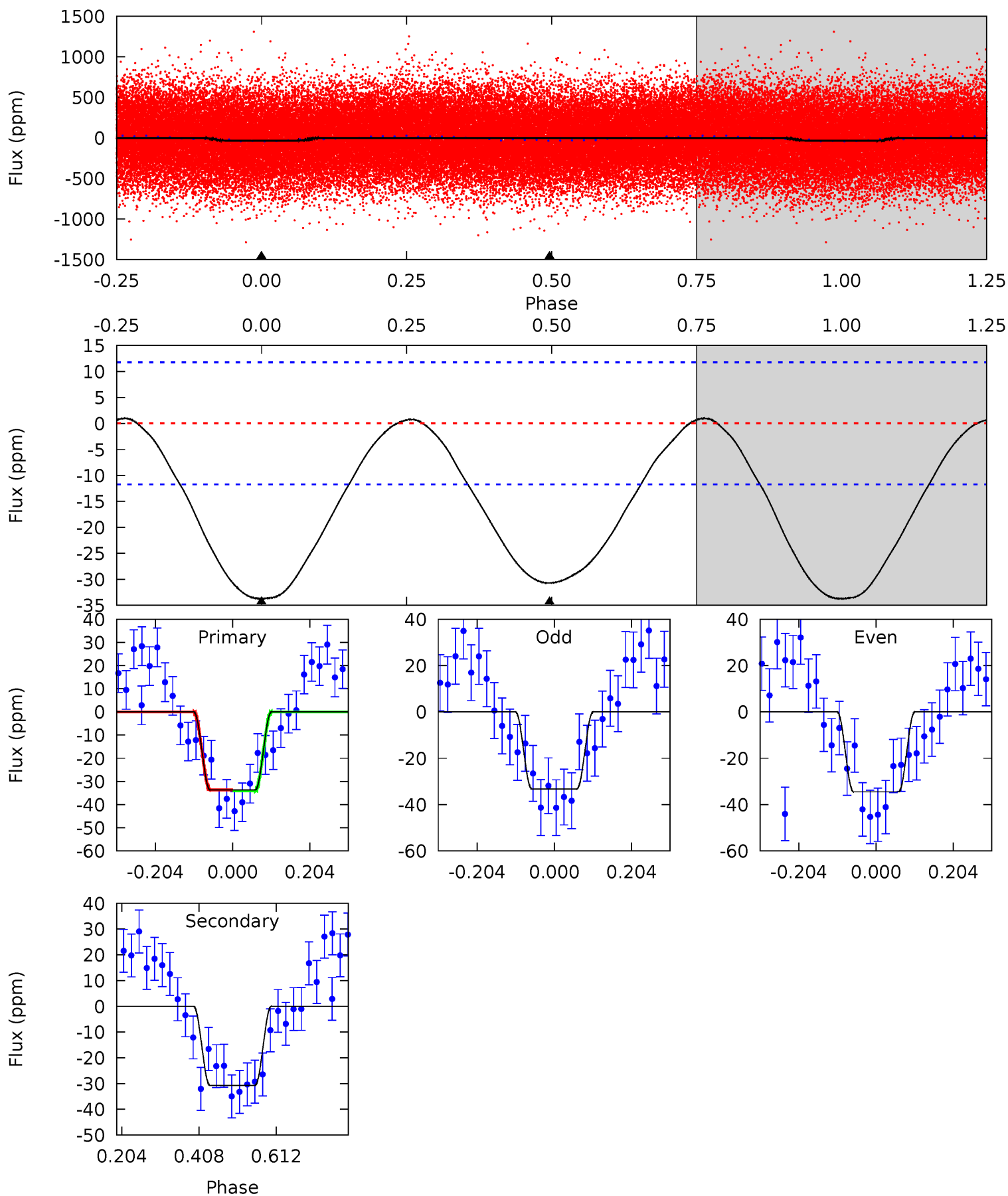
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	11.4	0	0	4.28	0.88	0.24	11.8	11.8	11.4	11.4	1.46	1.13	0.03	7.85



# Alt Model-Shift Uniqueness Test

004947130-01, P = 0.711900 Days, E = 130.997382 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
12.7	11.5	0	0	4.41	1.27	0.48	12.7	12.7	11.5	11.5	0.24	1.05	0.03	0.07





### Stellar Parameters For KIC 004947130

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7166^{+200}_{-325}$	$4.211^{+0.105}_{-0.195}$	$-0.100^{+0.250}_{-0.400}$	$1.557^{+0.524}_{-0.282}$	$1.438^{+0.232}_{-0.209}$	$0.537^{+0.287}_{-0.298}$
	+3%/-5%	+2%/-5%	+250%/-400%	+34%/-18%	+16%/-15%	+53%/-55%
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 004947130-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-11 \pm 1$	$0.76^{+0.53}_{-0.45}$	$4176^{+352}_{-249}$	$6081^{+4566}_{-1532}$	$3.309^{+17.862}_{-2.189}$
Alt.	$-31 \pm 3$	$1.10^{+0.56}_{-0.54}$	$4163^{+326}_{-235}$	$6486^{+3248}_{-1256}$	$4.314^{+12.168}_{-2.440}$

$T_{max}$  = 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

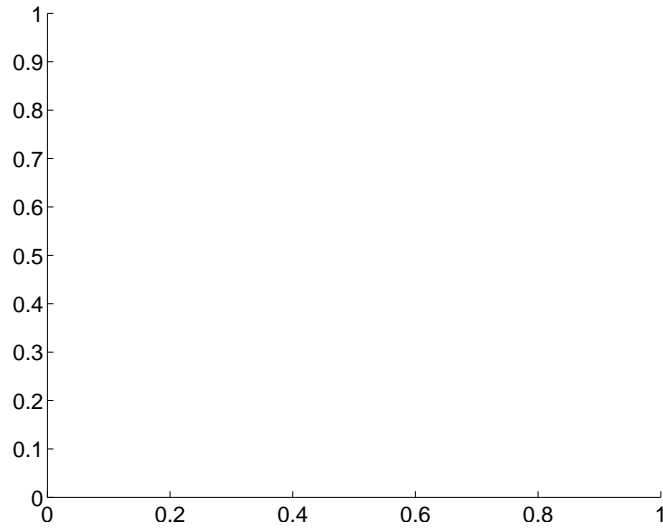
Supplemental centroid analysis for 004947130-01. Kepler magnitude: 13.09. Transit SNR 9.43

There are 0 quarters with good PRF difference image offsets

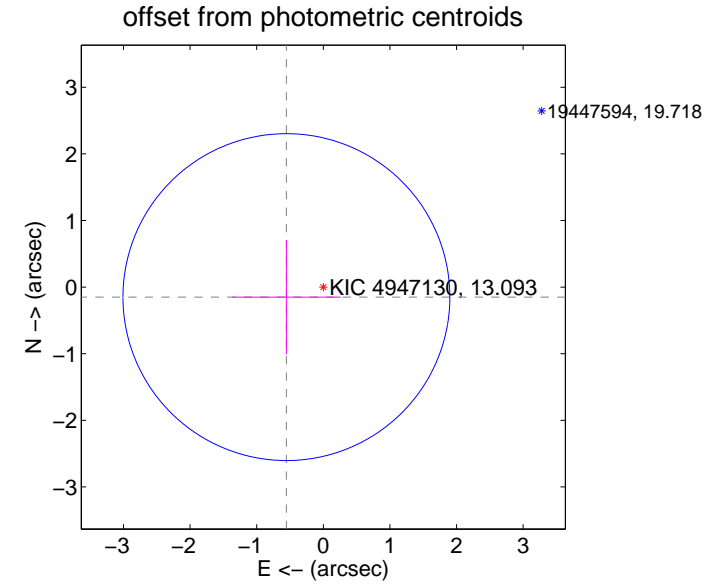
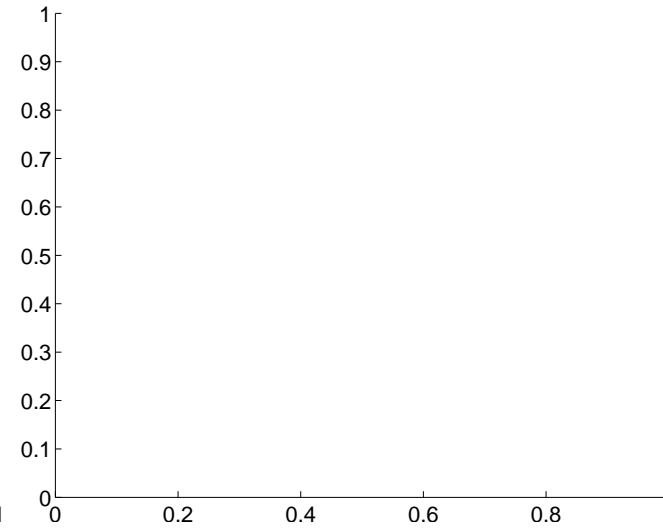
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$0.57 \pm 0.82$	0.70	$0.55 \pm 0.81$	$-0.15 \pm 0.86$

There is no PRF-fit offset from OOT-fit

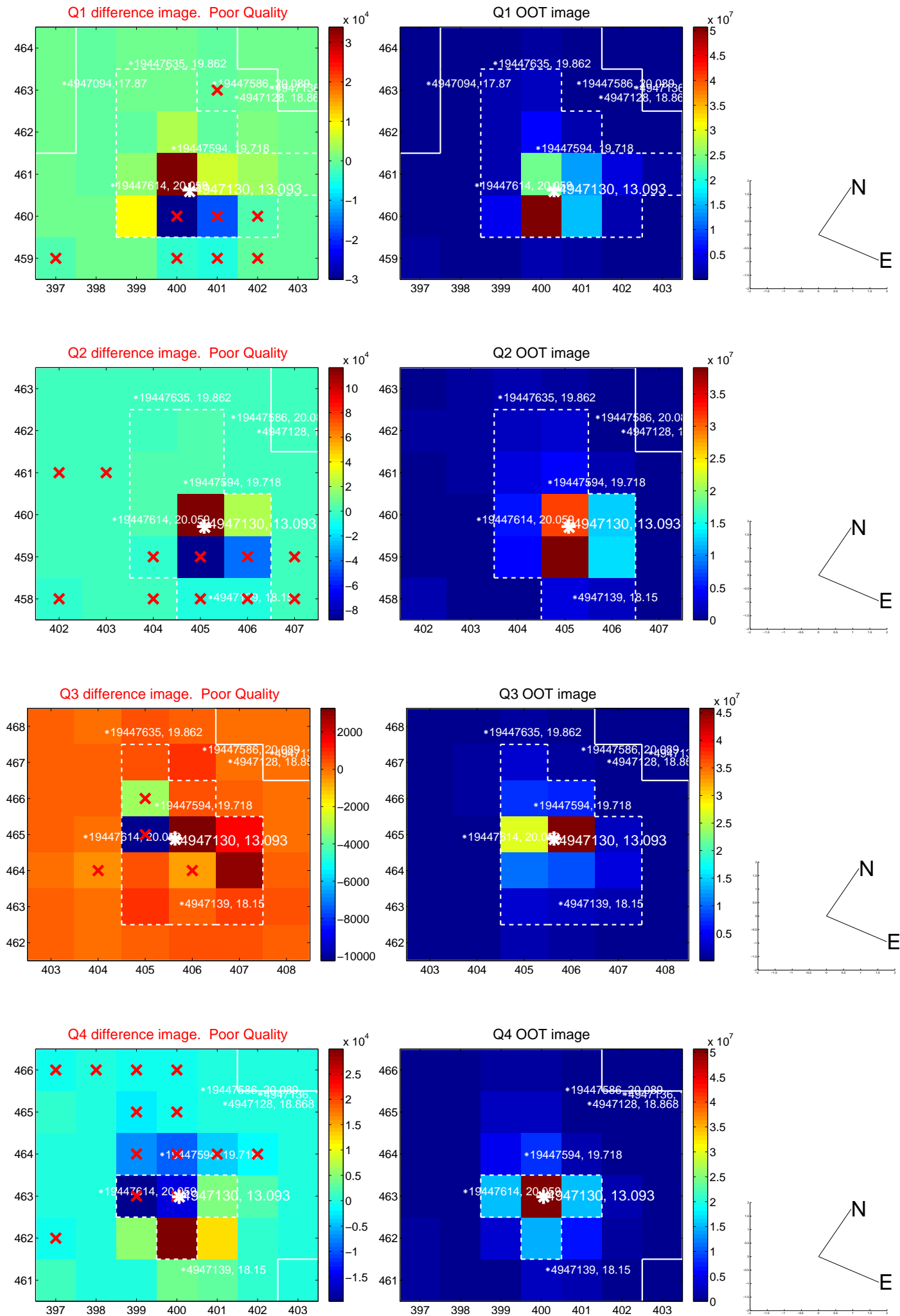


There is no PRF-fit offset from KIC

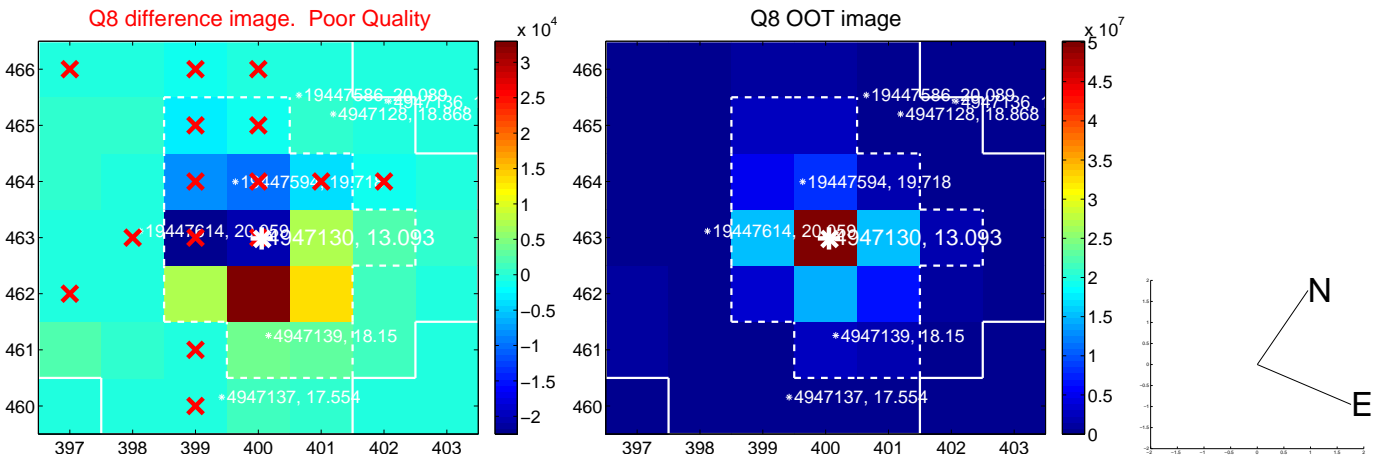
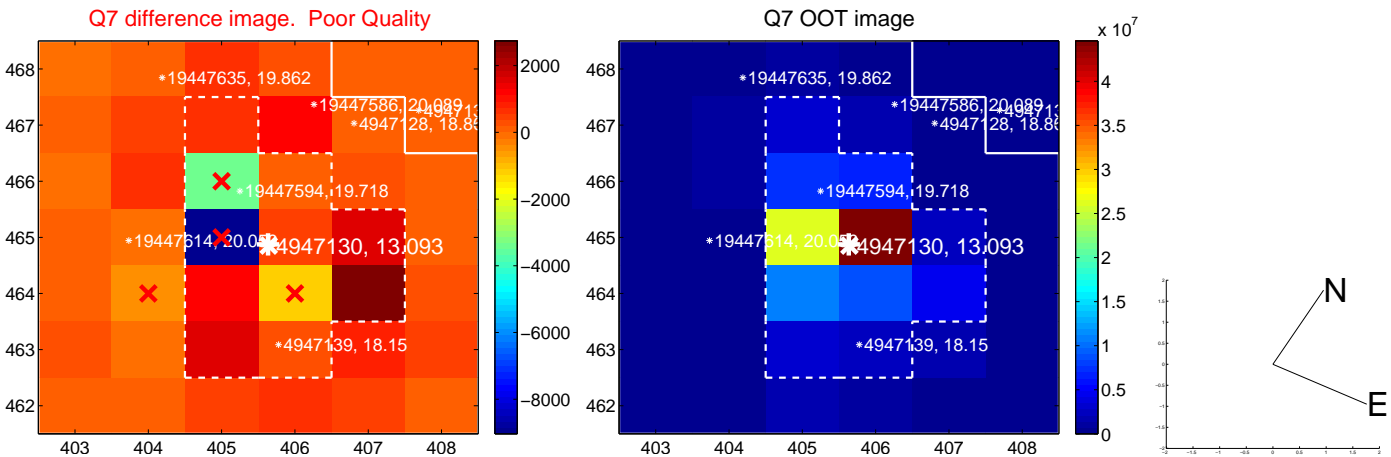
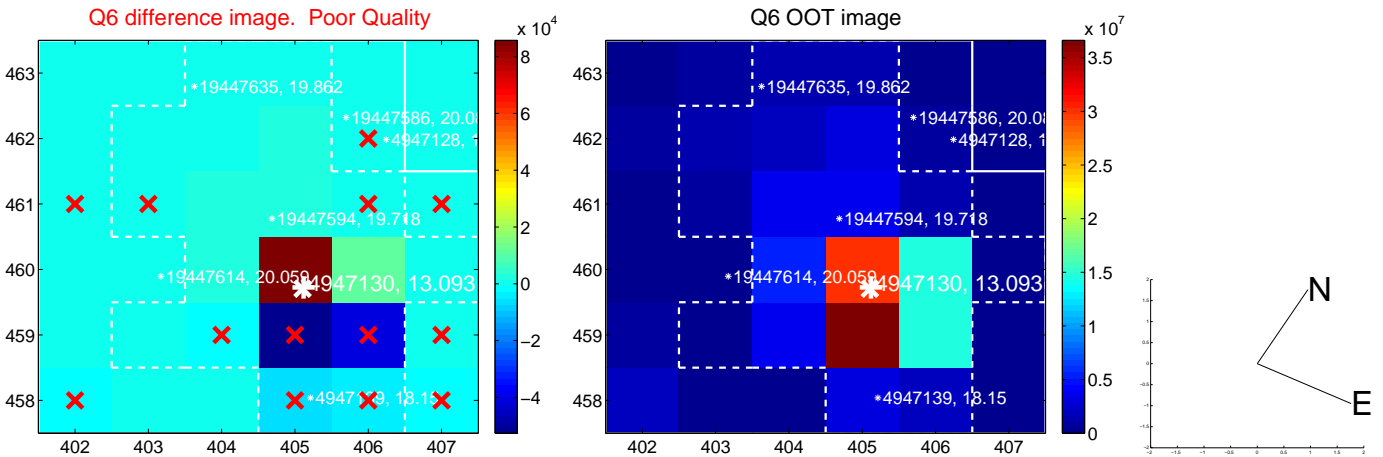
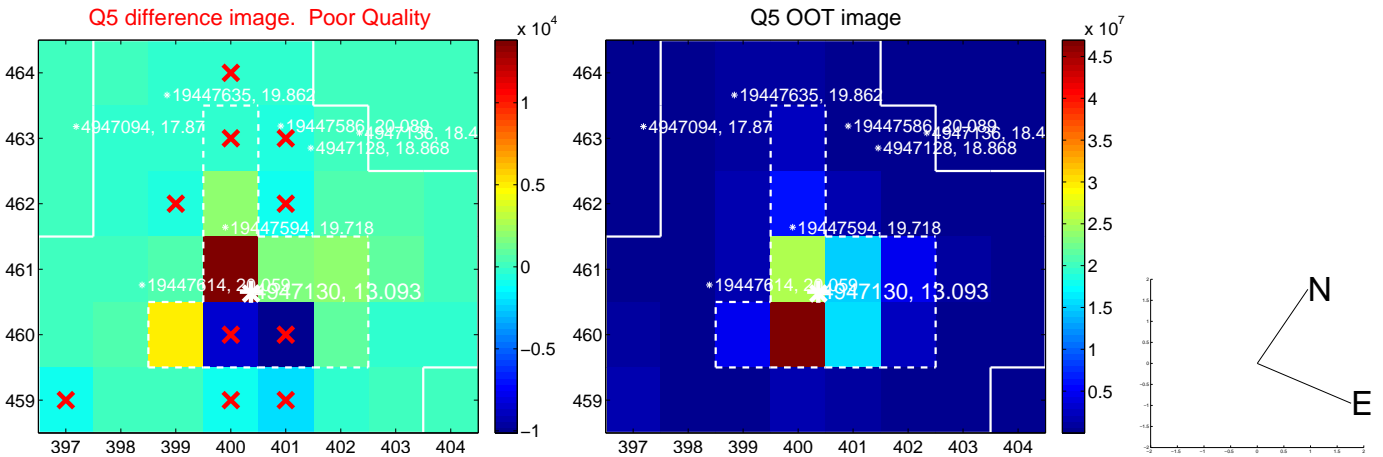


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

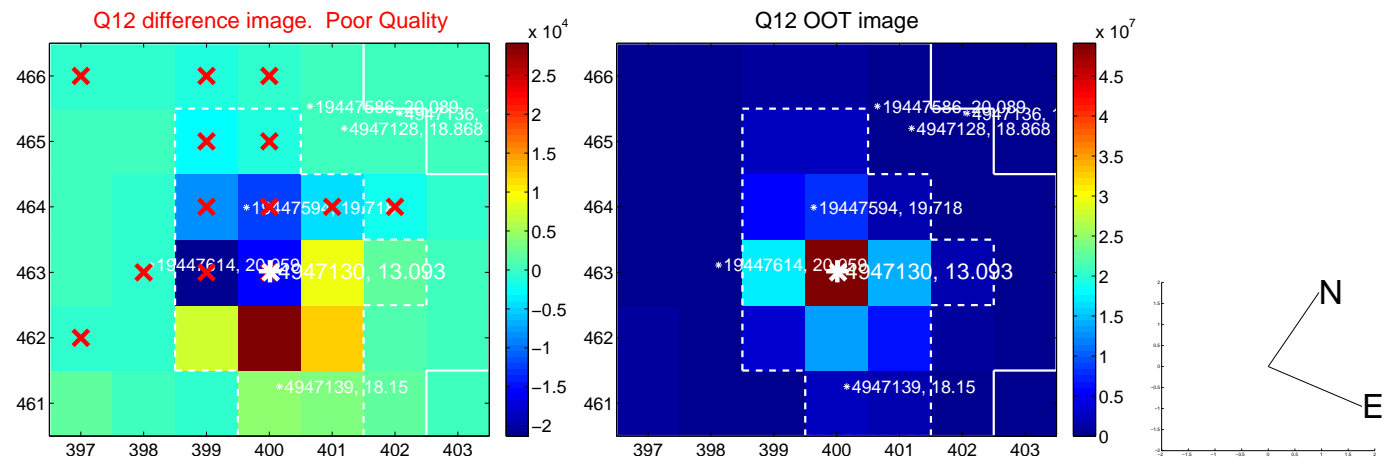
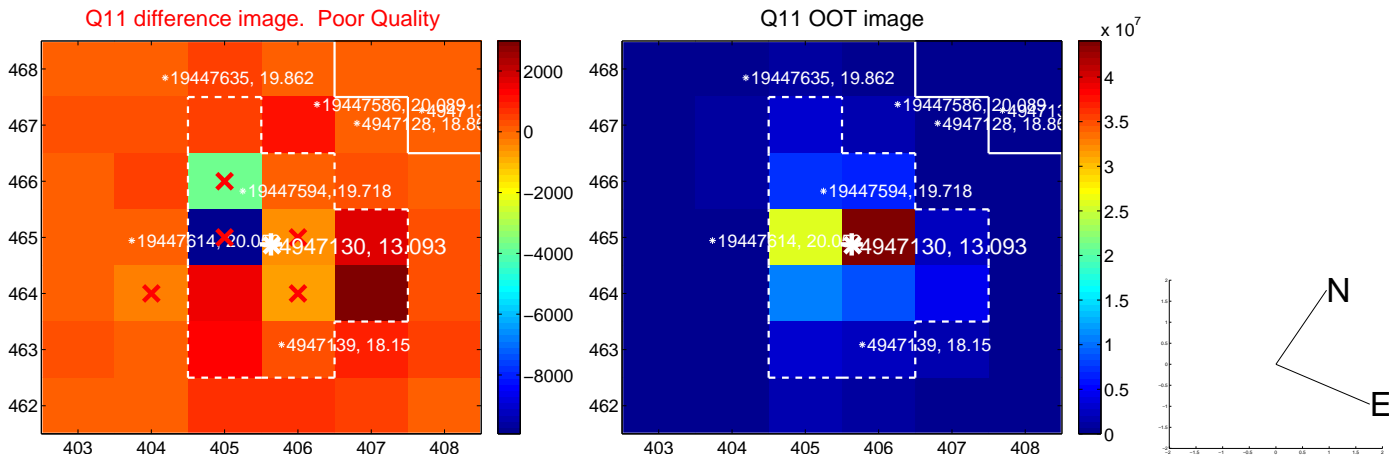
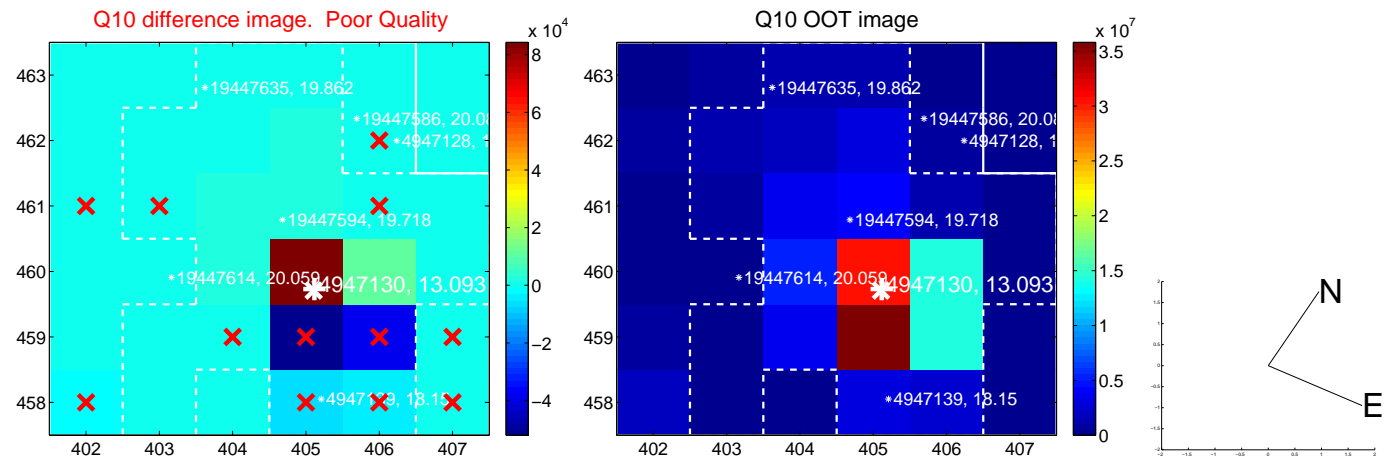
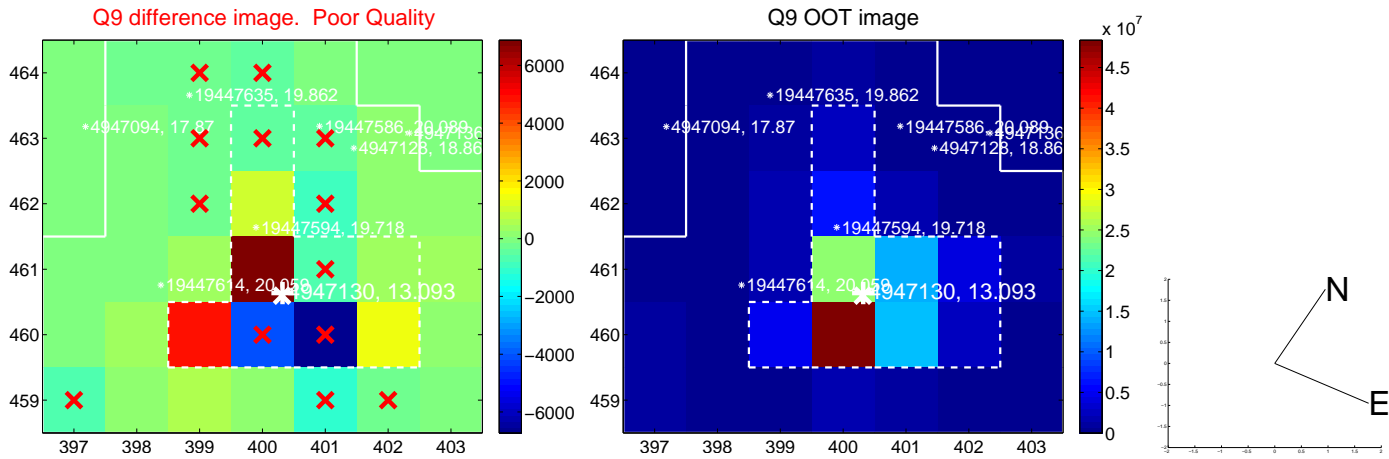


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

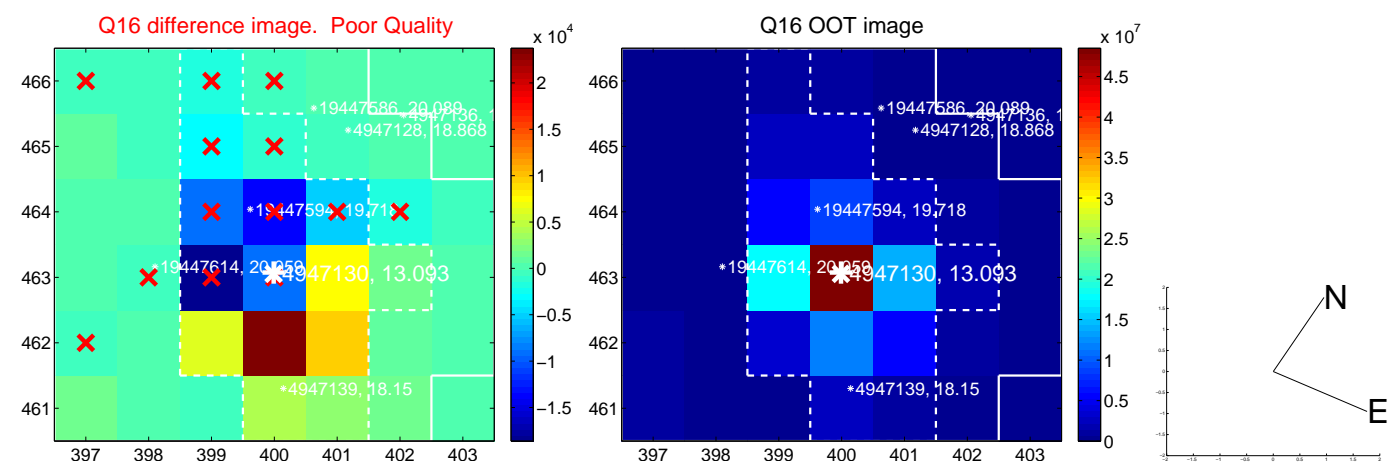
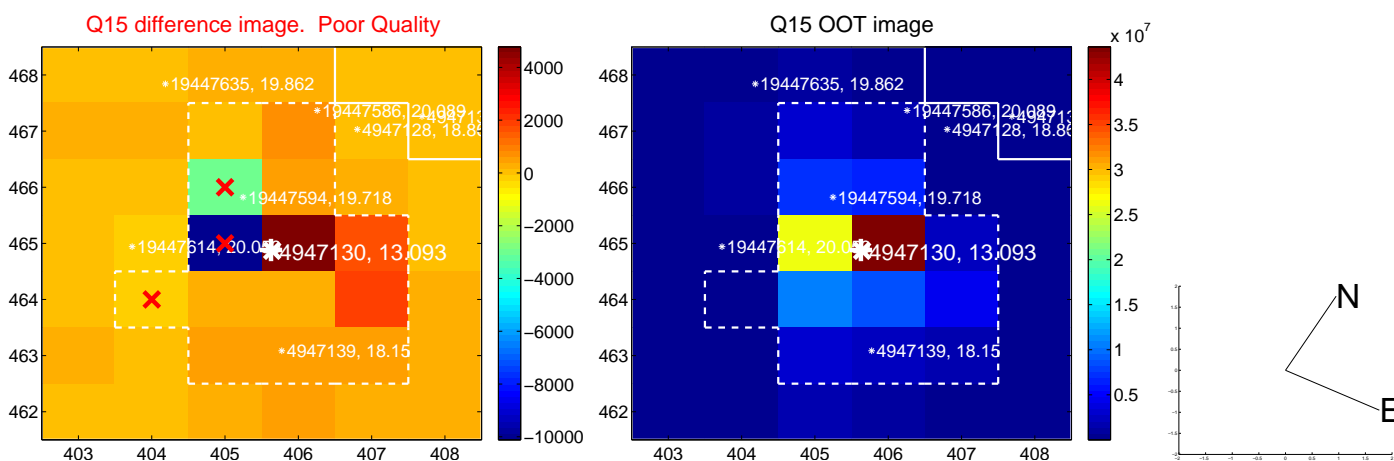
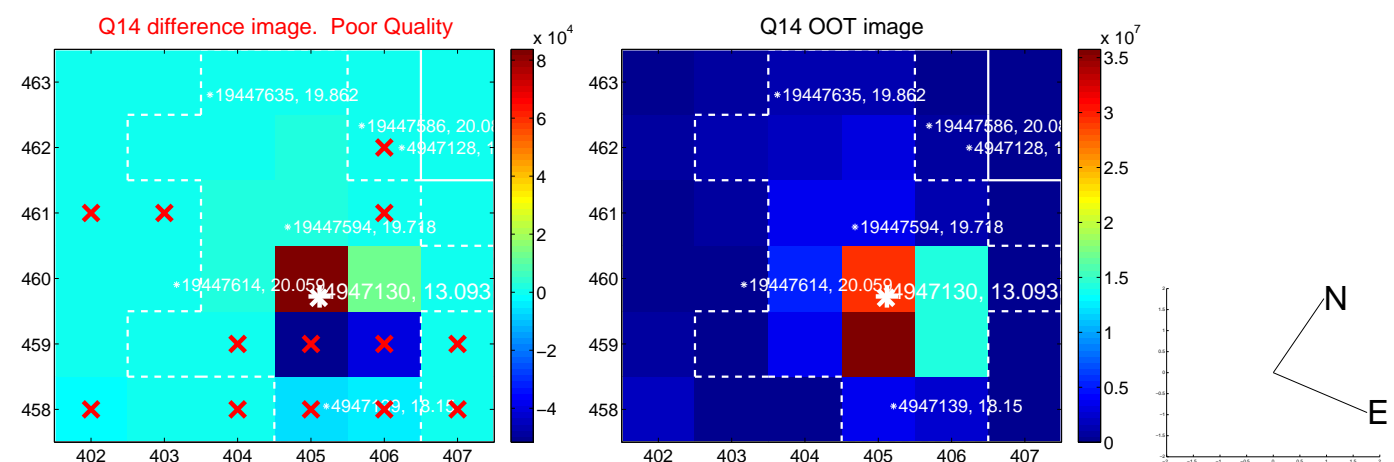
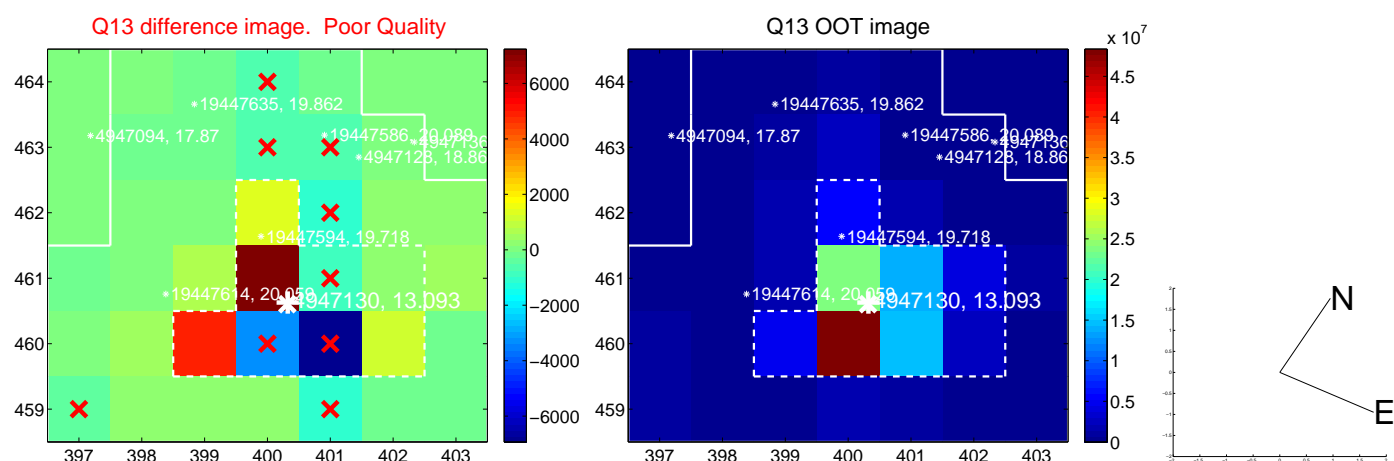




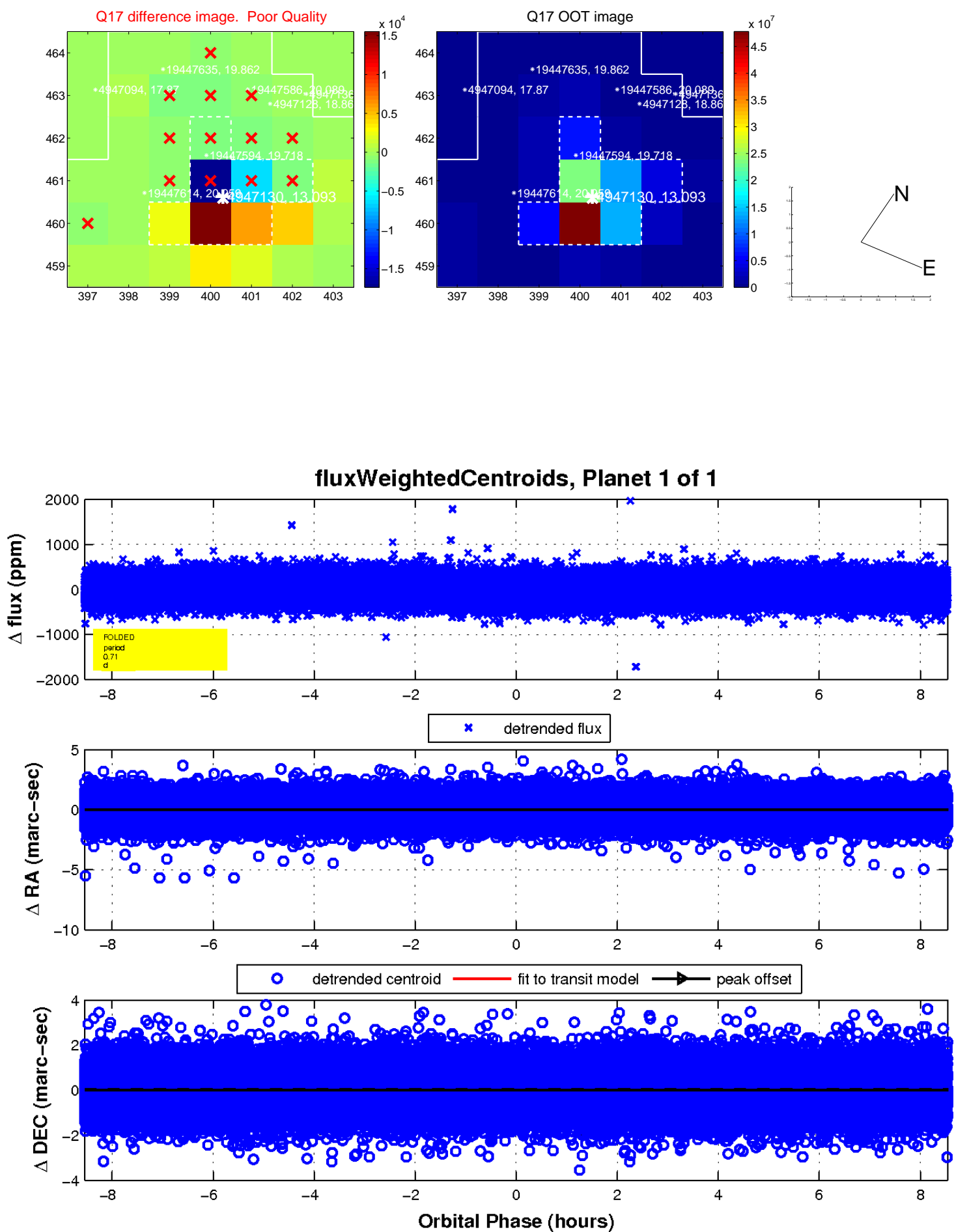
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

