

# KIC 008979204

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008979204-01	OBS	No	2.294058	132.503022	136.2	7.479	8.1	8.5	1.37	6287	2.21	2208.67

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008979204-01	OBS	FP	0.00	1	0	1	0	LPP_DV—MOD_NONUNIQ_DV—HALO_GHOST

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

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

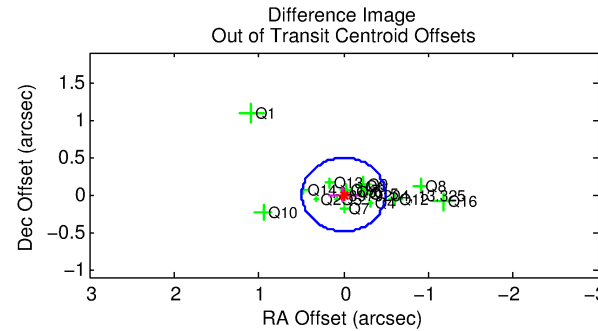
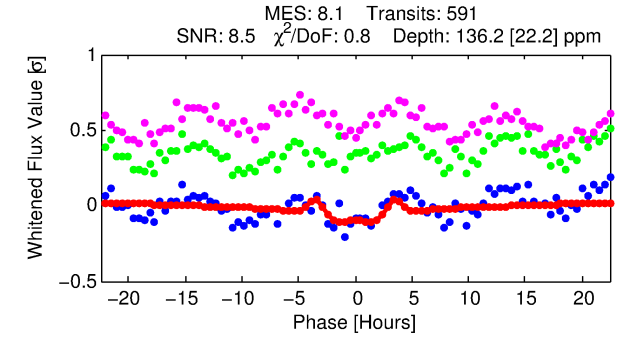
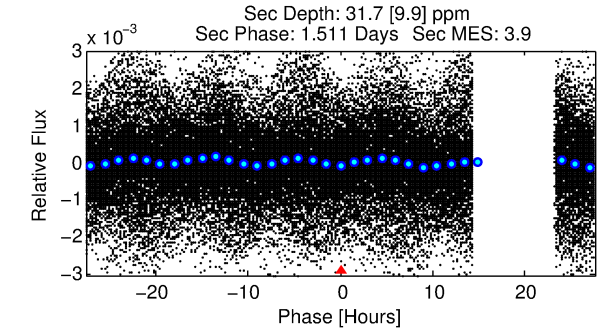
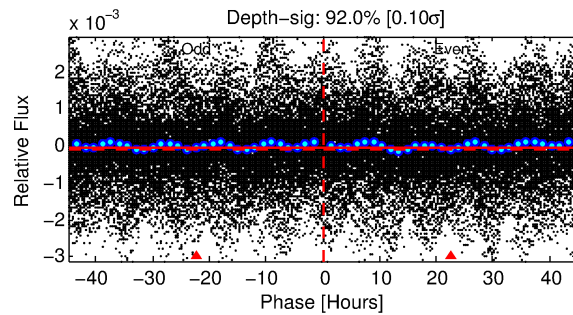
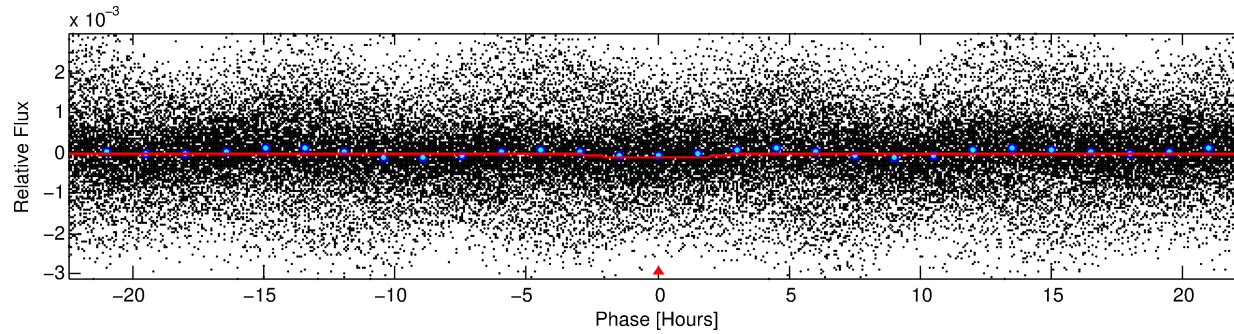
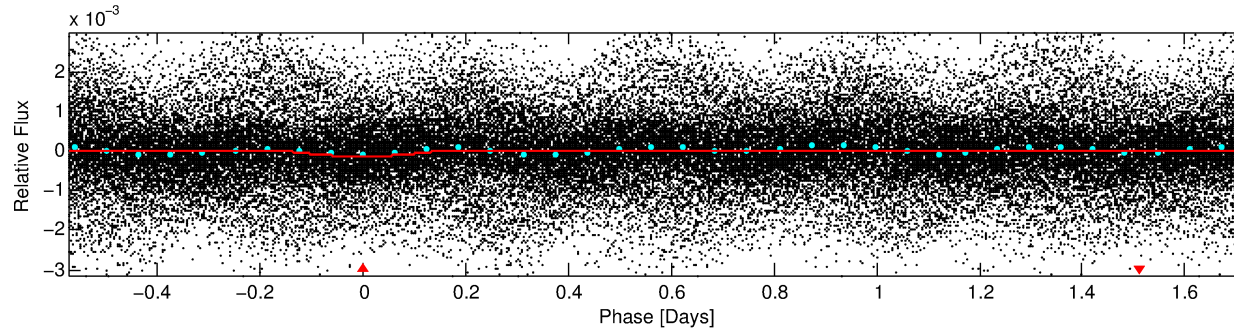
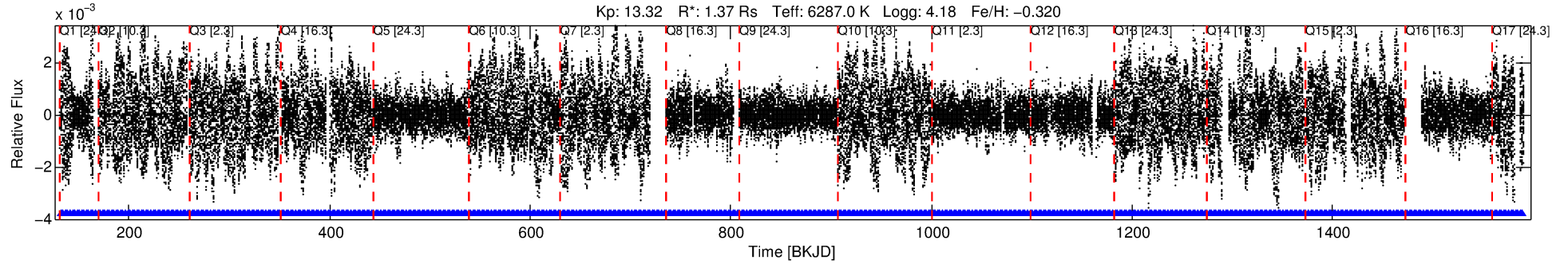
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008979204-01

No Significant Match Found

# DV One-Page Summary

KIC: 8979204 Candidate: 1 of 1 Period: 2.294 d



## DV Fit Results:

Period = 2.29406 [0.00003] d  
Epoch = 132.5030 [0.0074] BKJD  
Rp/R\* = 0.0148 [0.0017]  
a/R\* = 1.14 [0.02]  
b = 0.99 [0.00]  
Seff = 2208.67 [984.89]  
Teq = 1748 [195] K  
Rp = 2.21 [0.70] Re  
a = 0.0345 [0.0094] AU  
Ag = 4.24 [2.43] [1.33 $\sigma$ ]  
Teffp = 3879 [393] K [4.86 $\sigma$ ]

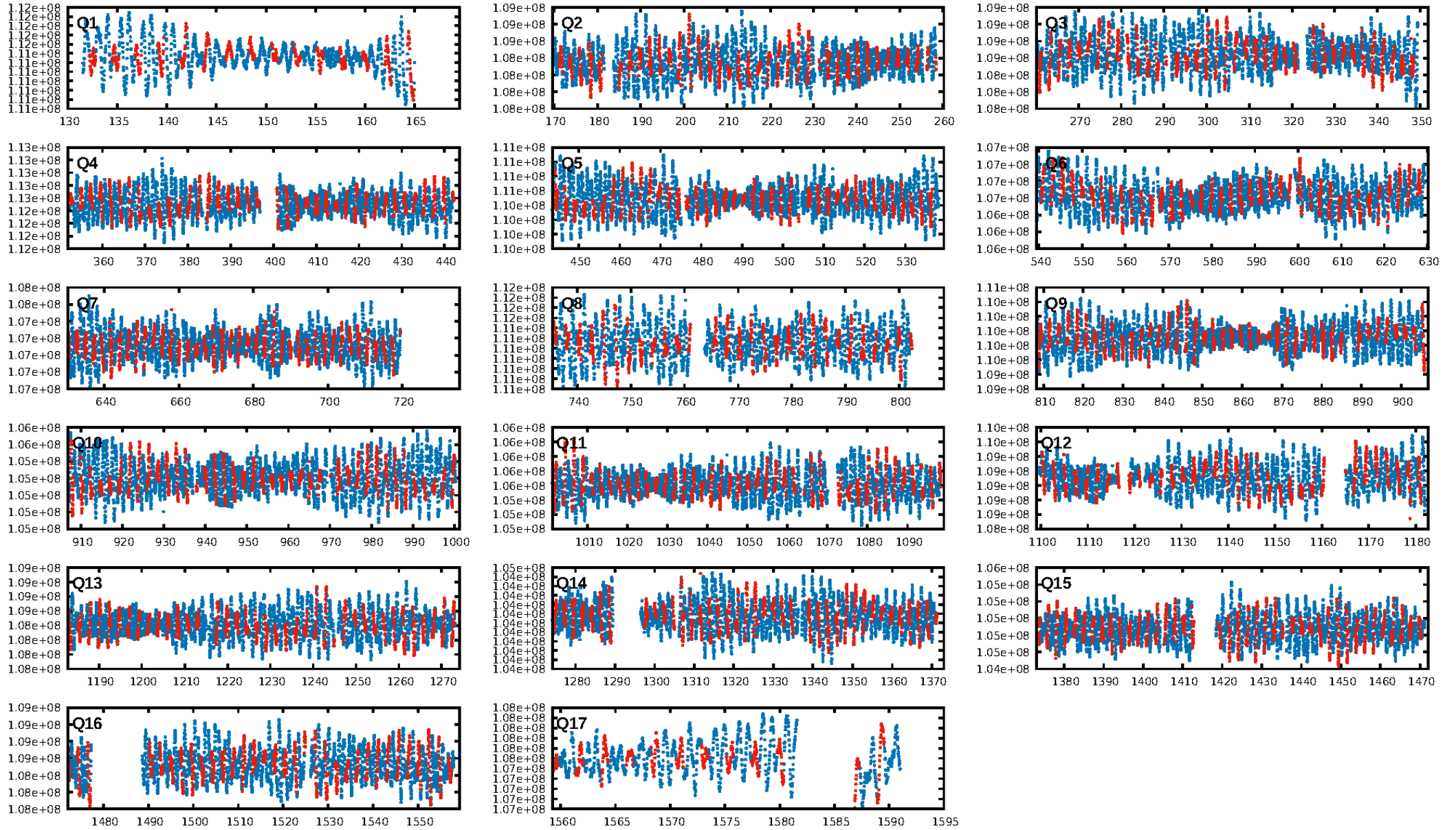
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 5.09e-16  
RollingBand-fgt: 1.00 [564/564]  
**GhostDiagnostic-chr: 0.2153**  
Centroid-sig: 11.7%  
Centroid-so: 0.444 arcsec [1.41 $\sigma$ ]  
OotOffset-rm: 0.001 arcsec [0.01 $\sigma$ ]  
OotOffset-st: 4/3/4/5 [16]  
KicOffset-rm: 0.138 arcsec [0.91 $\sigma$ ]  
KicOffset-st: 4/3/4/5 [16]  
DiffImageQuality-fgm: 0.44 [7/16]  
DiffImageOverlap-fno: 1.00 [17/17]

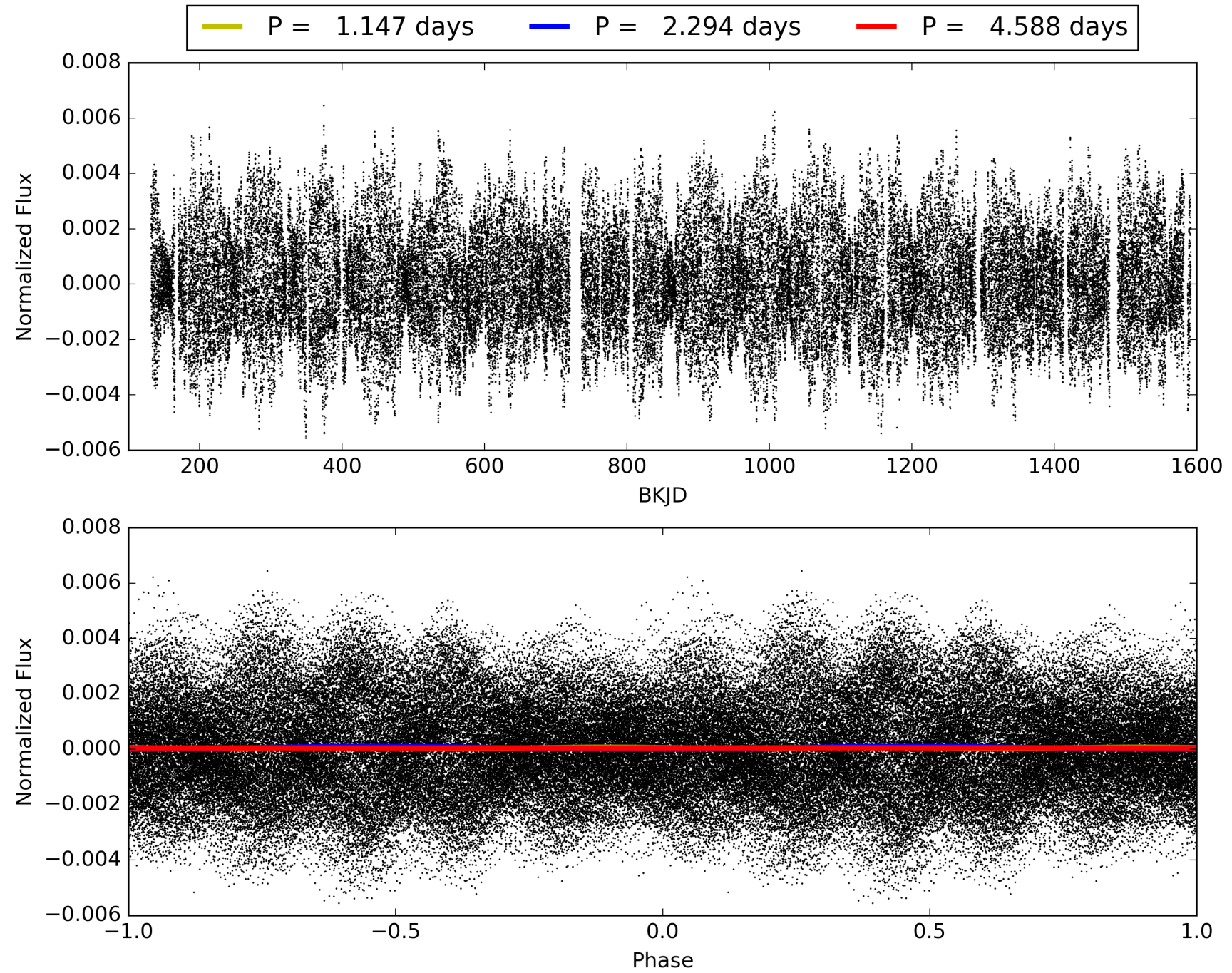
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:00:04 Z

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

# TCE 008979204-01, PDC Light Curves

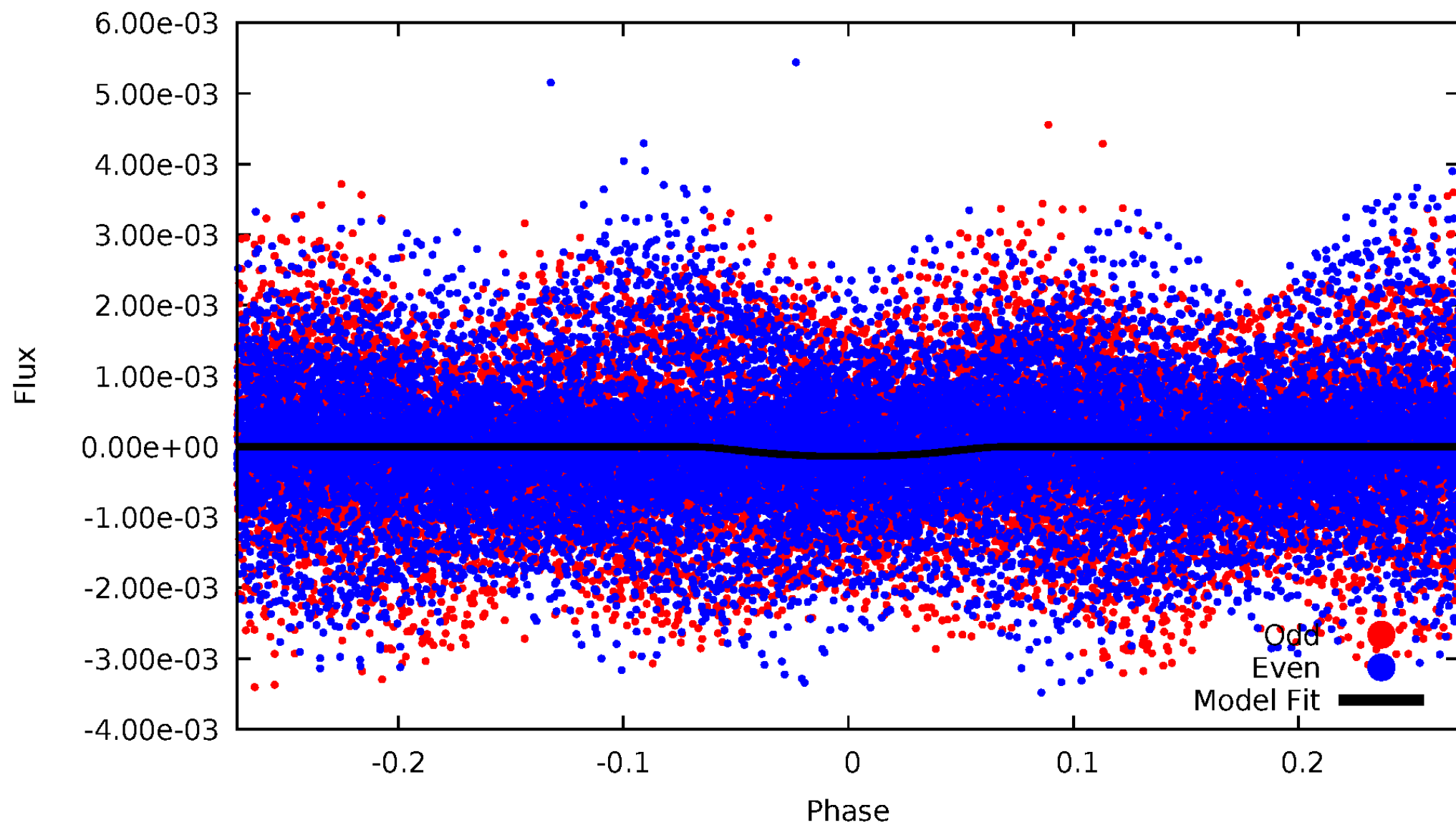


TCE 008979204-01



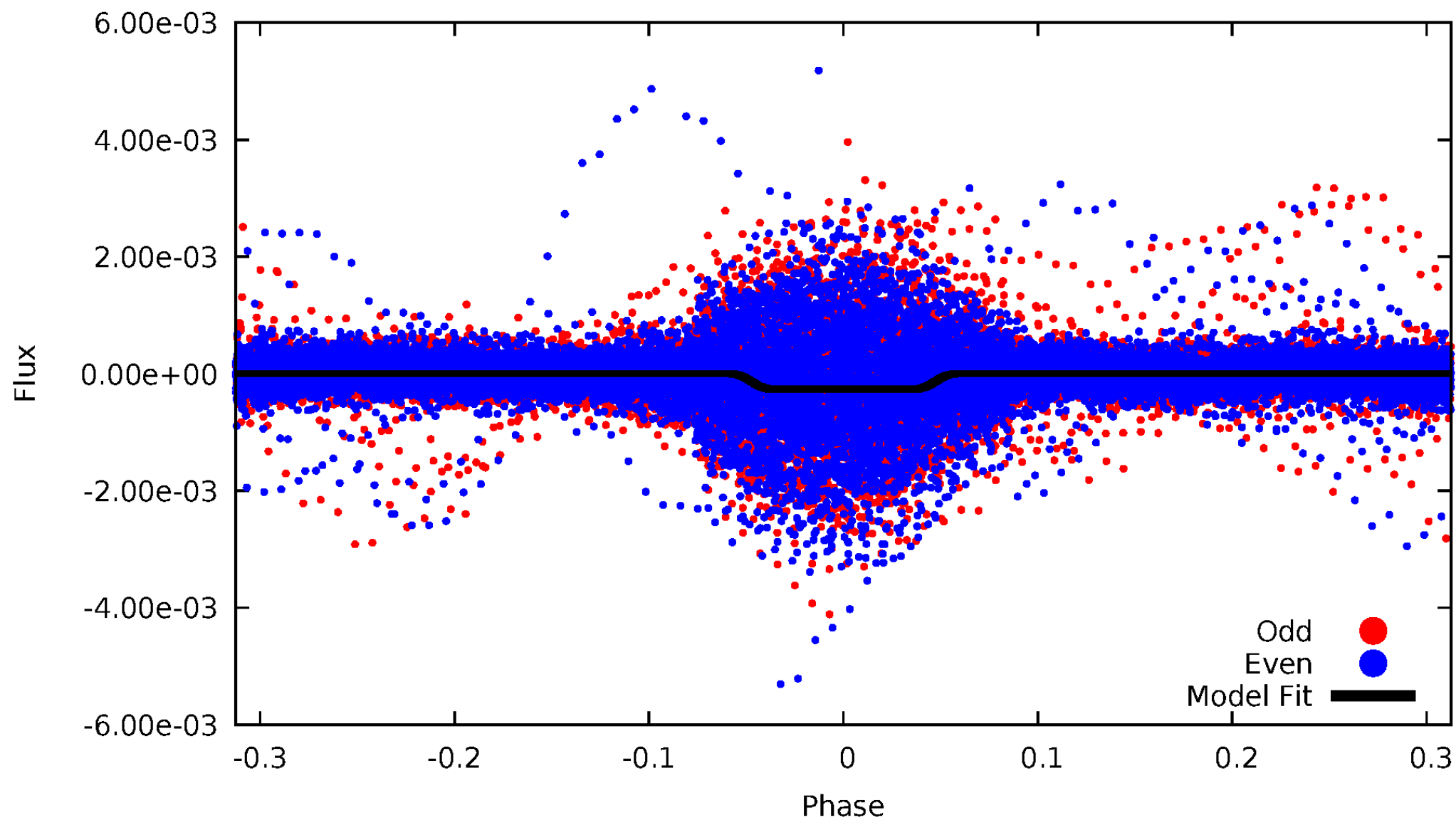
# DV Odd/Even

TCE 008979204-01



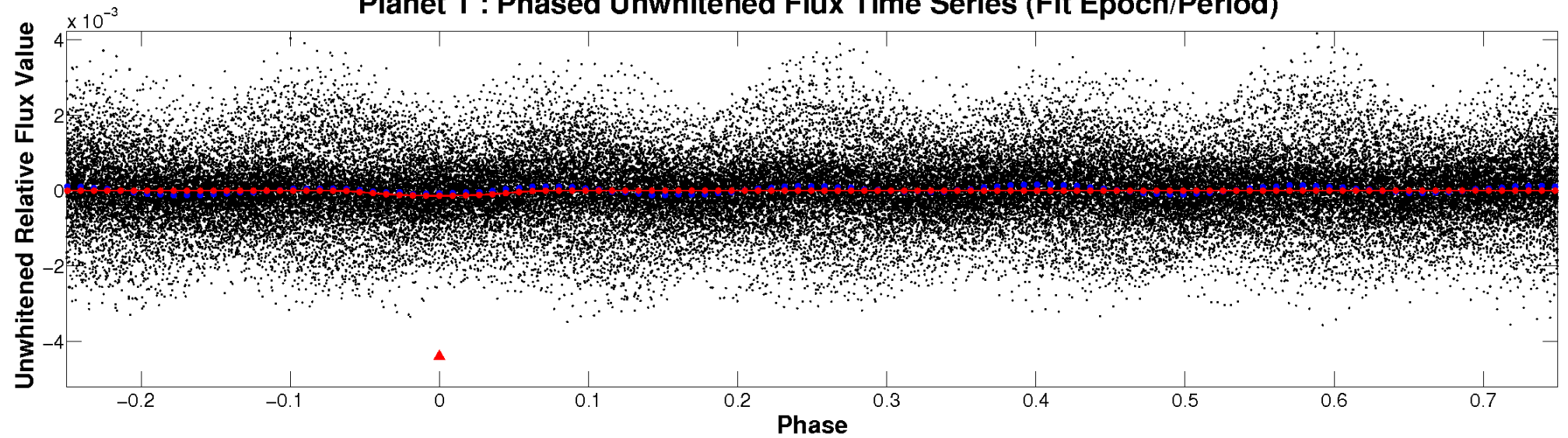
# ALT Odd/Even

TCE 008979204-01

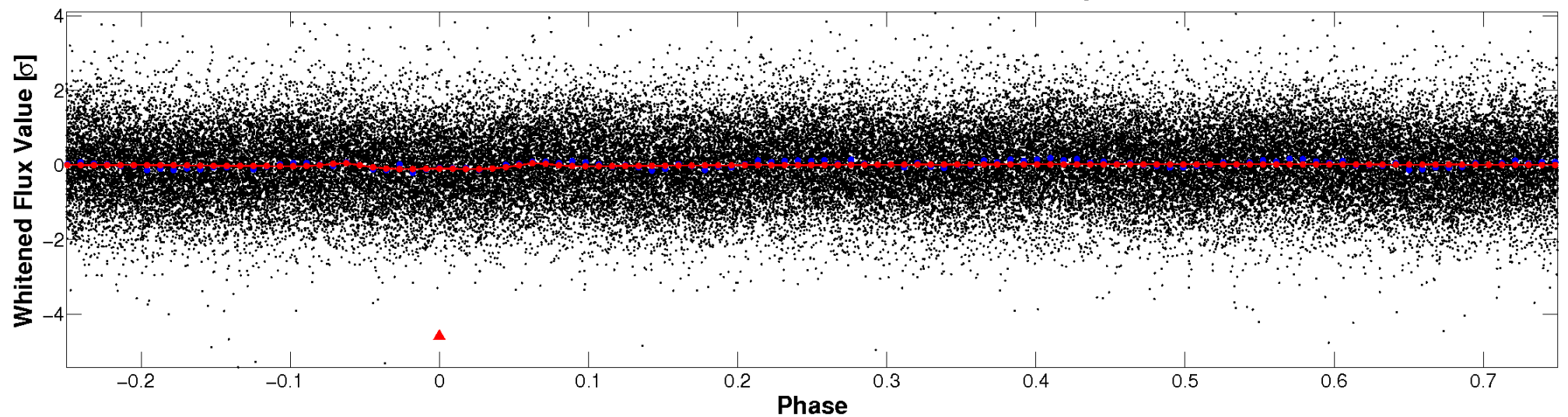


# Non-Whitened Vs. Whitened Light Curve

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

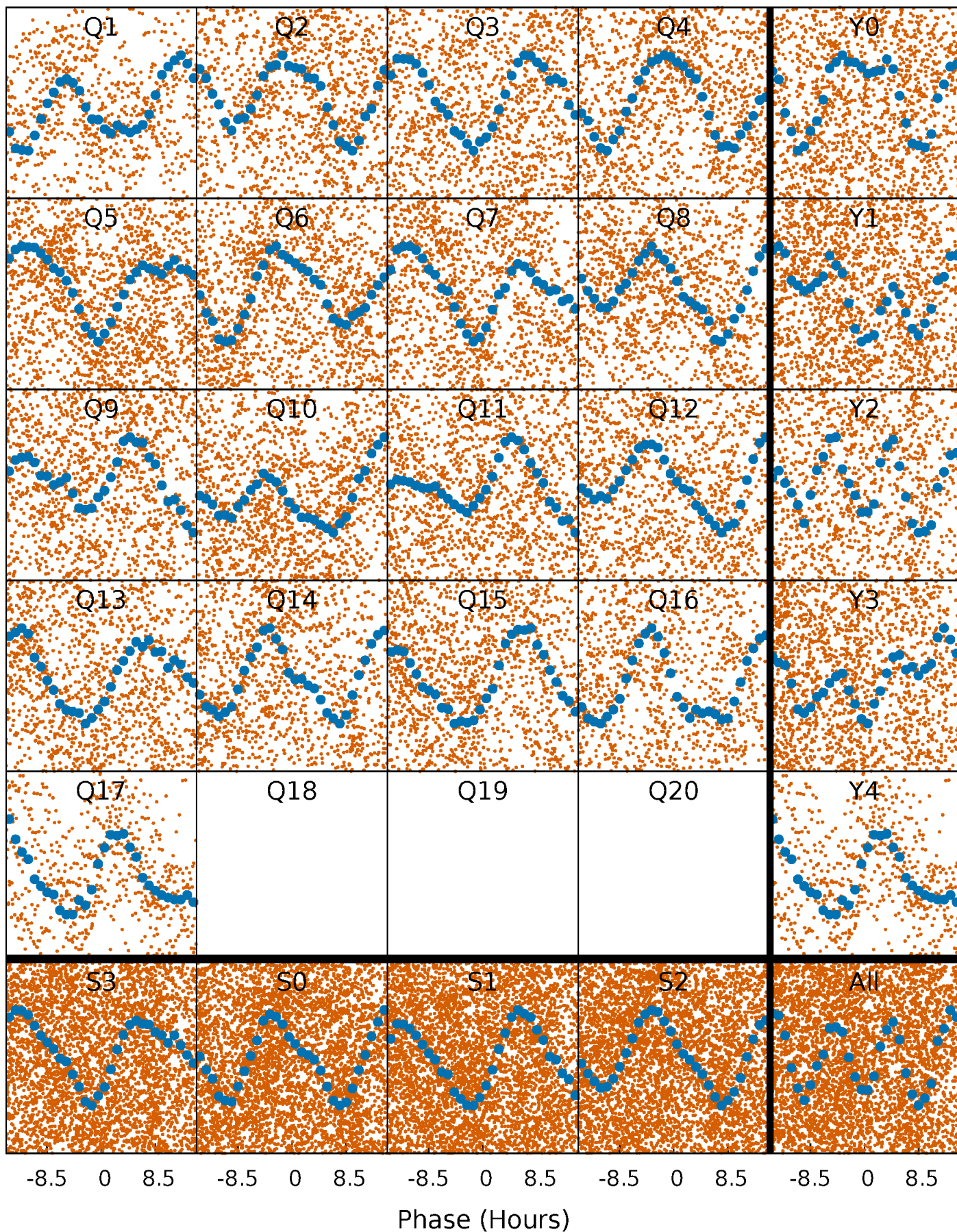


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



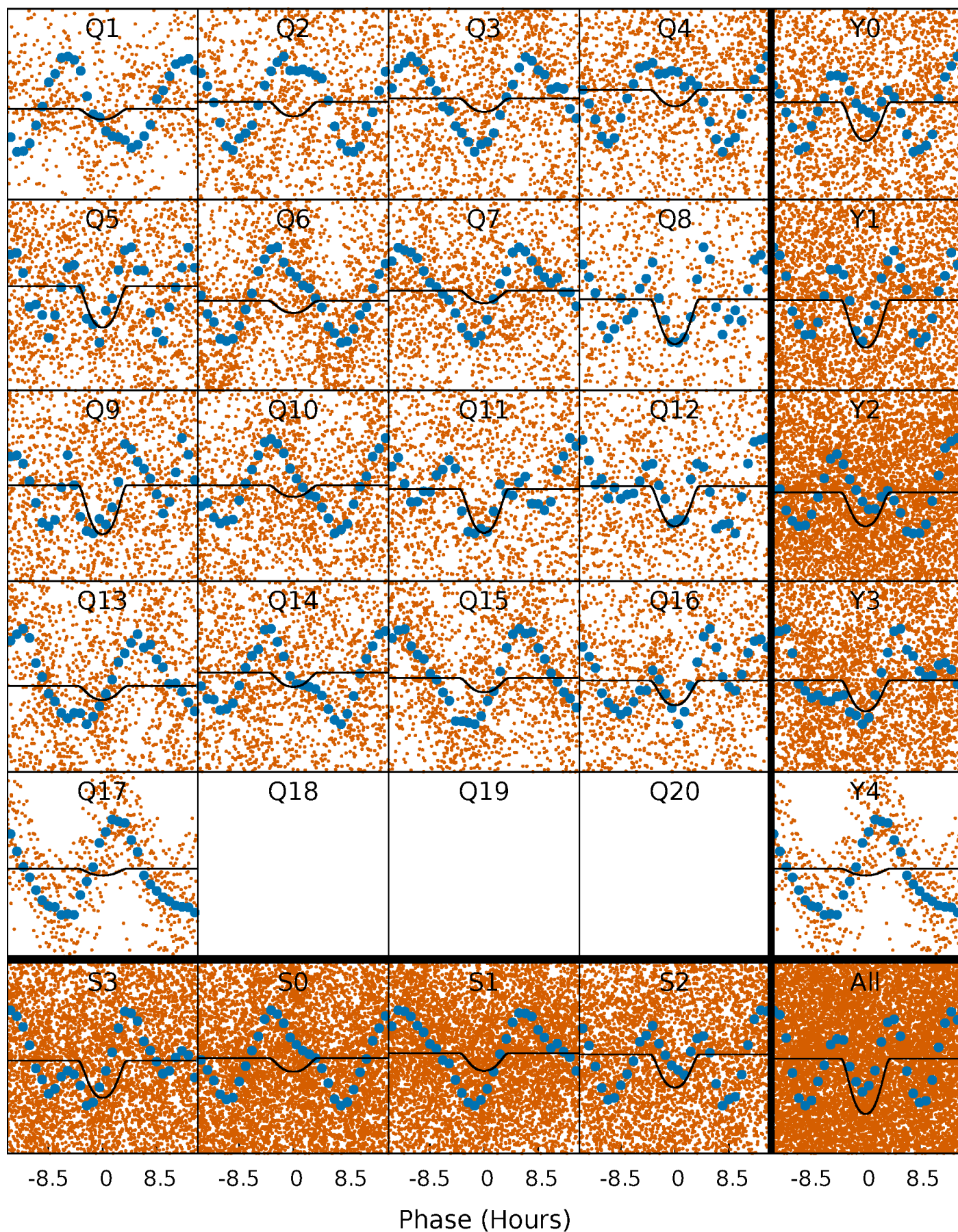
# PDC Quarter-Phased Transit Curves

TCE 008979204-01 P= 2.294058 Days  $T_0=132.503022$  (BKJD)



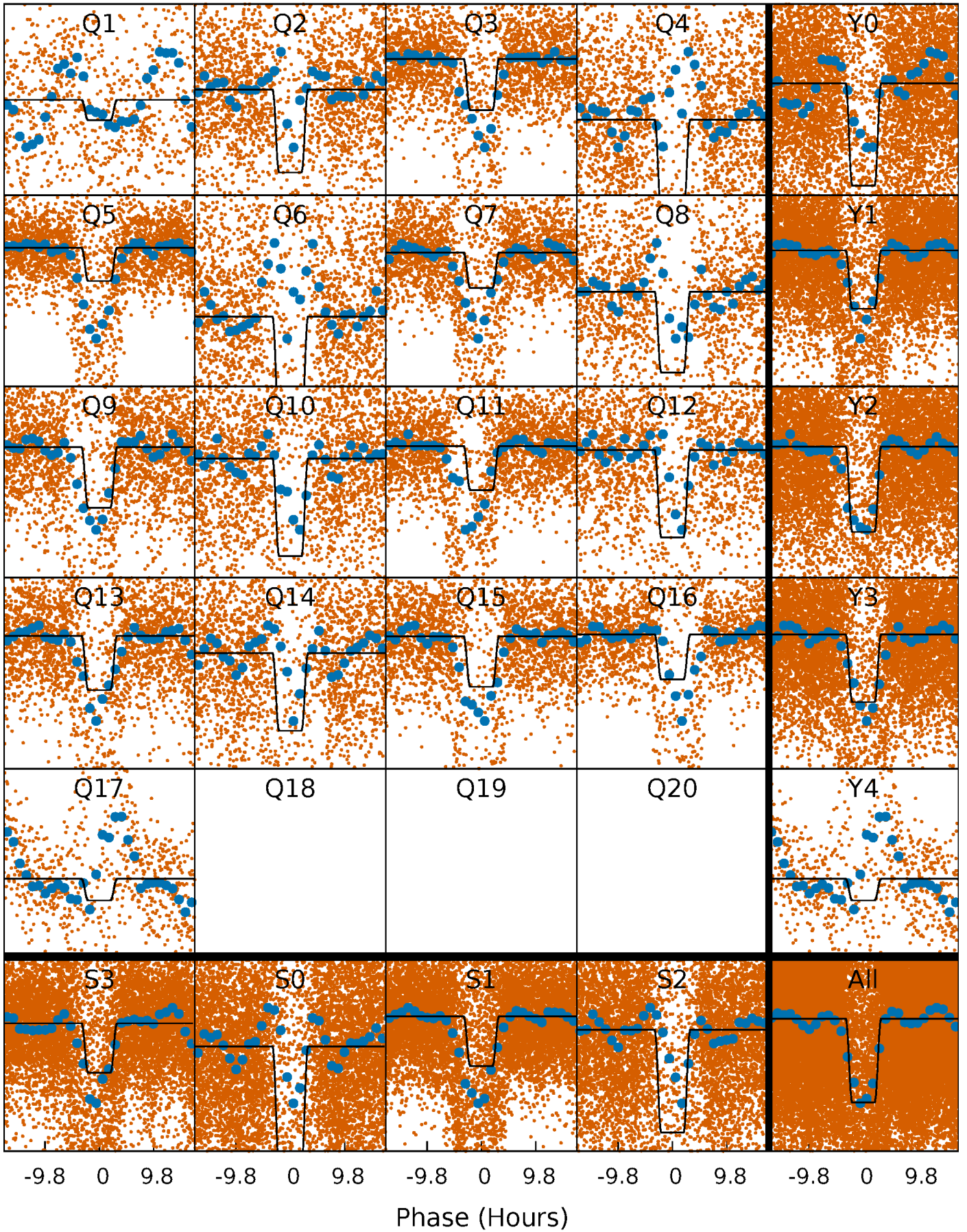
# DV Quarter-Phased Transit Curves

TCE 008979204-01 P= 2.294058 Days  $T_0=132.503022$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

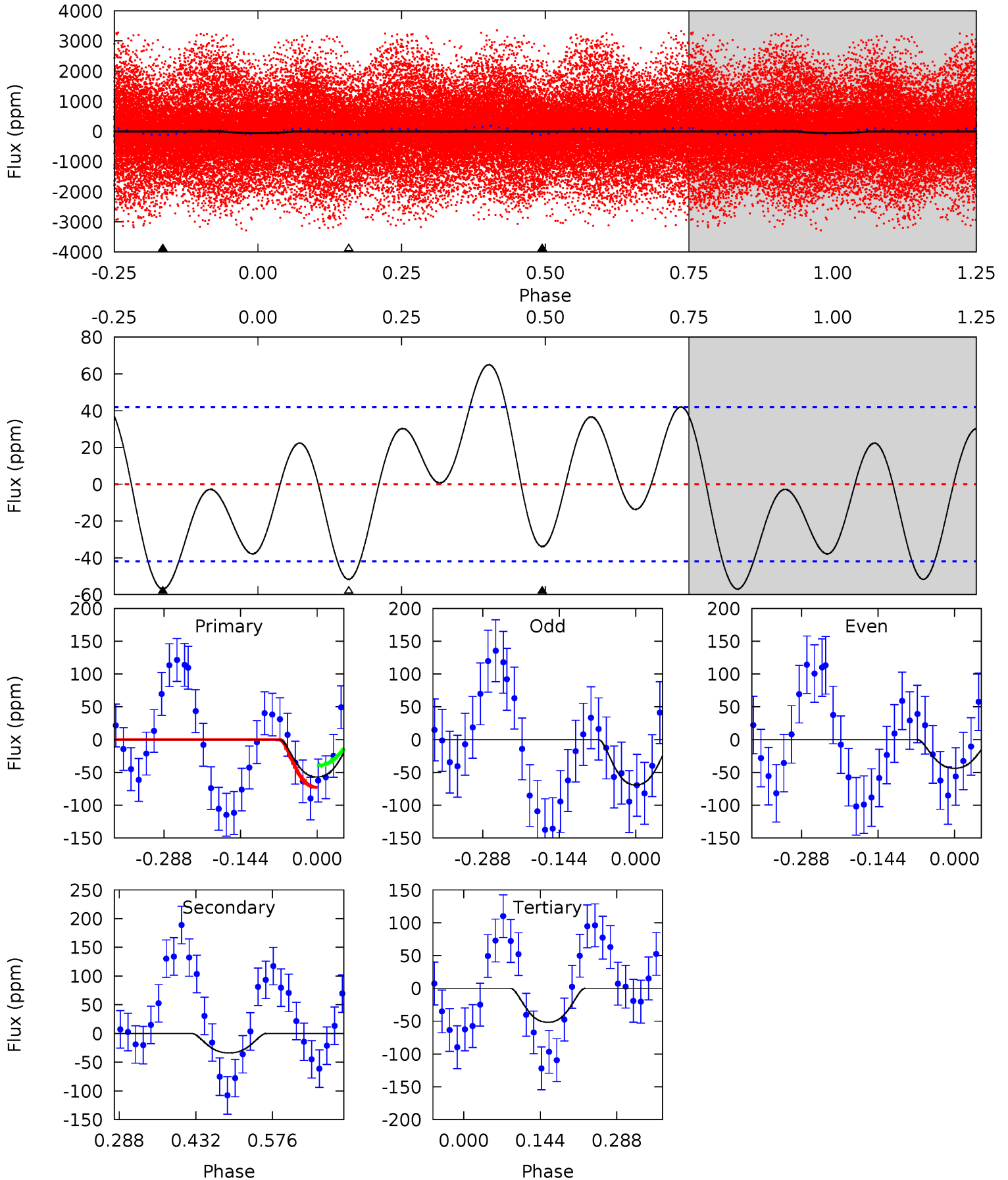
TCE 008979204-01 P= 2.294015 Days  $T_0=132.500937$  (BKJD)



# DV Model-Shift Uniqueness Test

008979204-01, P = 2.294058 Days, E = 130.208964 Days

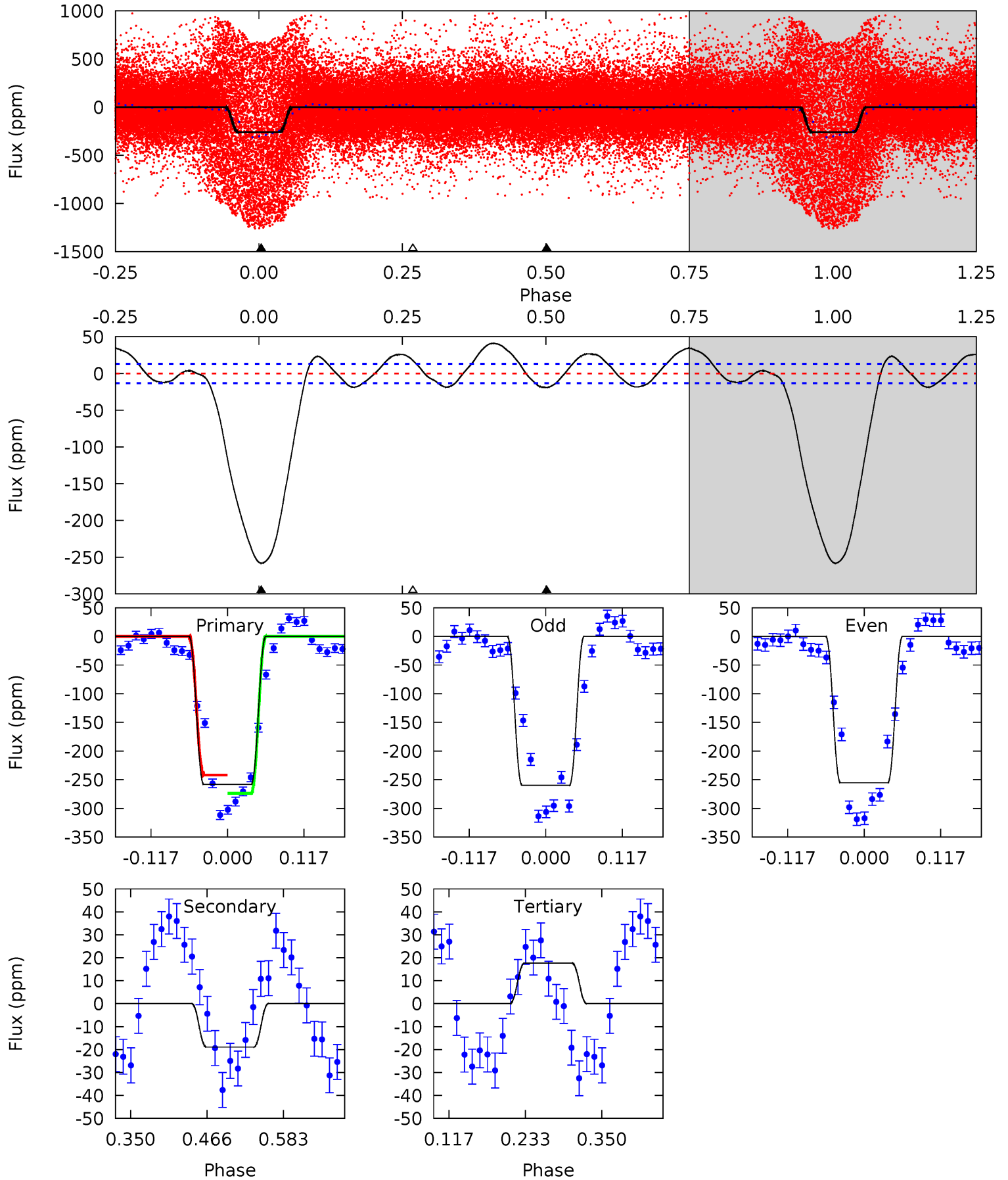
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.10	3.63	5.53	0	4.49	1.46	2.54	0.57	6.10	-1.91	3.63	1.37	0.75	0.53	1.84



# Alt Model-Shift Uniqueness Test

008979204-01, P = 2.294015 Days, E = 130.206922 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
88.8	6.51	-6.08	0	4.53	1.57	5.45	94.9	88.8	12.6	6.51	0.76	0.83	0.14	5.41



### Stellar Parameters For KIC 008979204

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6287^{+169}_{-207}$	$4.181^{+0.246}_{-0.164}$	$-0.320^{+0.300}_{-0.300}$	$1.369^{+0.405}_{-0.368}$	$1.036^{+0.169}_{-0.123}$	$0.568^{+0.719}_{-0.279}$
	+3%/-3%	+6%/-4%	+94%/-94%	+30%/-27%	+16%/-12%	+127%/-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 008979204-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-34 \pm 9$	$2.16^{+0.42}_{-0.40}$	$2411^{+178}_{-186}$	$4113^{+325}_{-311}$	$4.579^{+2.779}_{-1.717}$
Alt.	$-19 \pm 3$	$2.37^{+0.45}_{-0.41}$	$2415^{+188}_{-204}$	$3586^{+185}_{-187}$	$2.185^{+1.133}_{-0.626}$

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

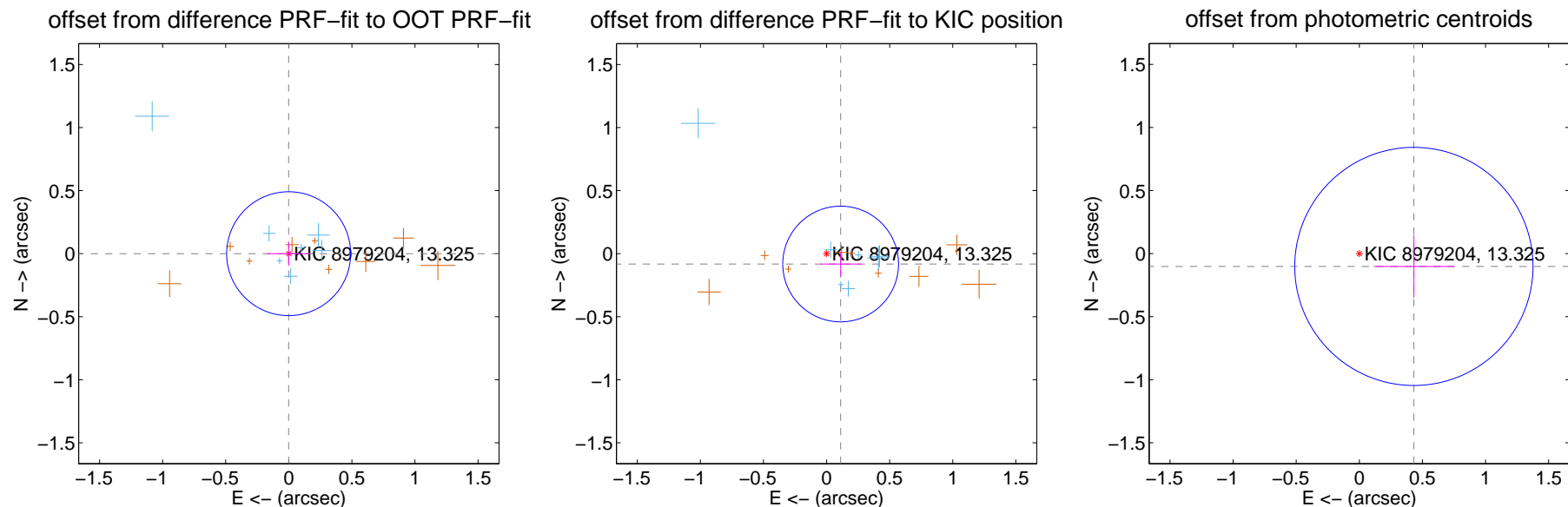
## DV Centroid Data

Supplemental centroid analysis for 008979204-01. Kepler magnitude: 13.32. Transit SNR 8.53

There are 7 quarters with good PRF difference image offsets

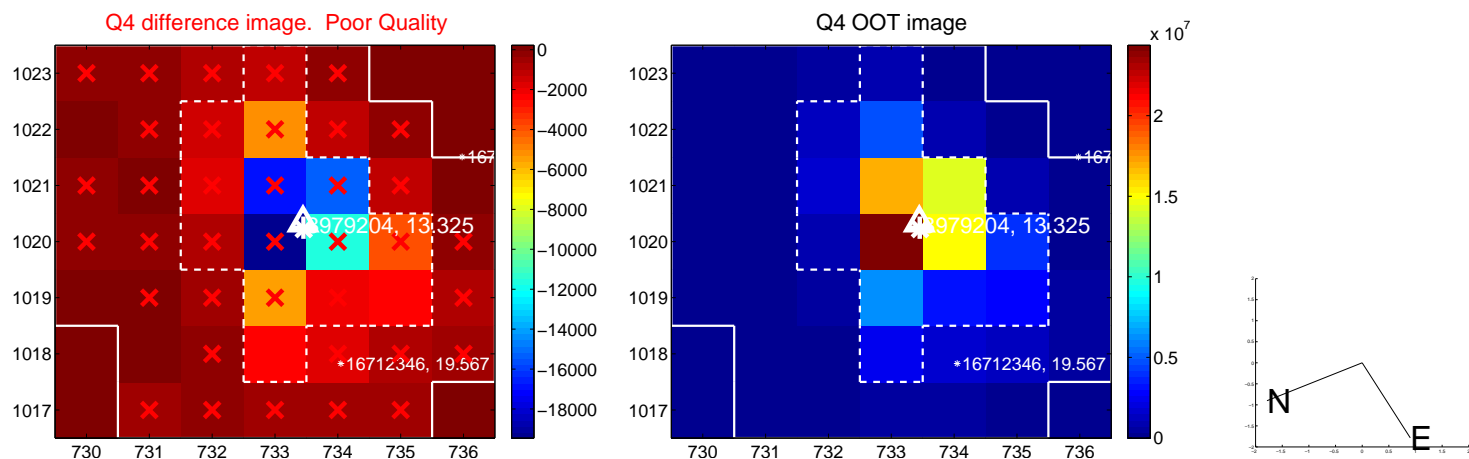
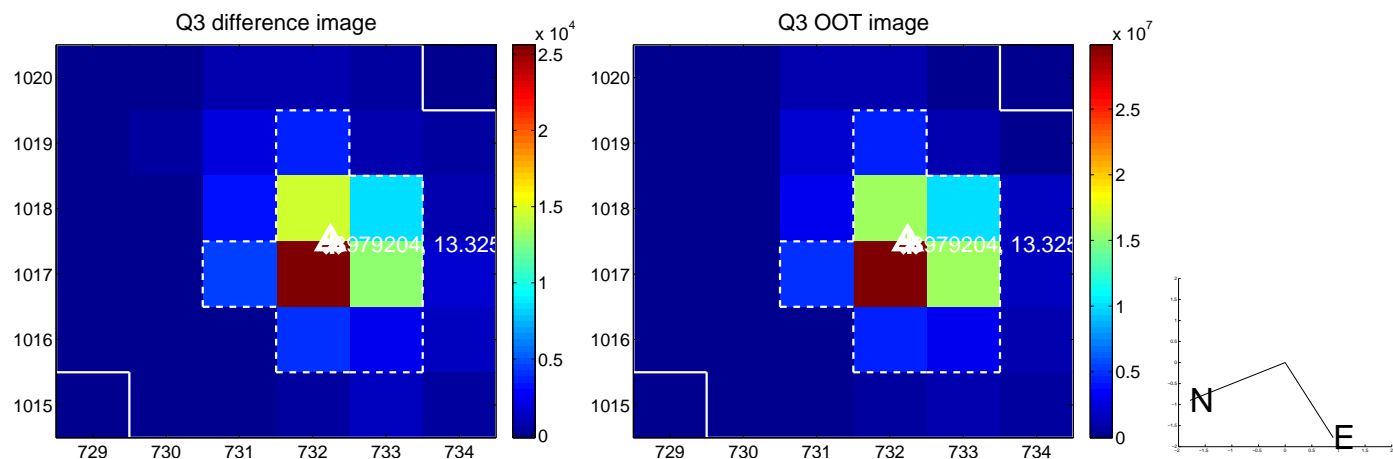
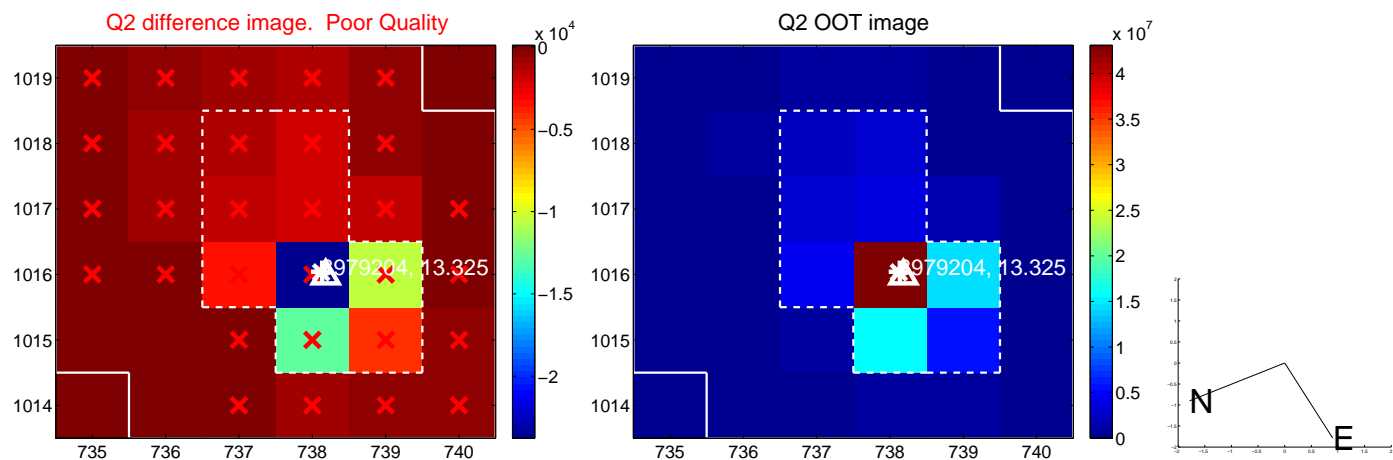
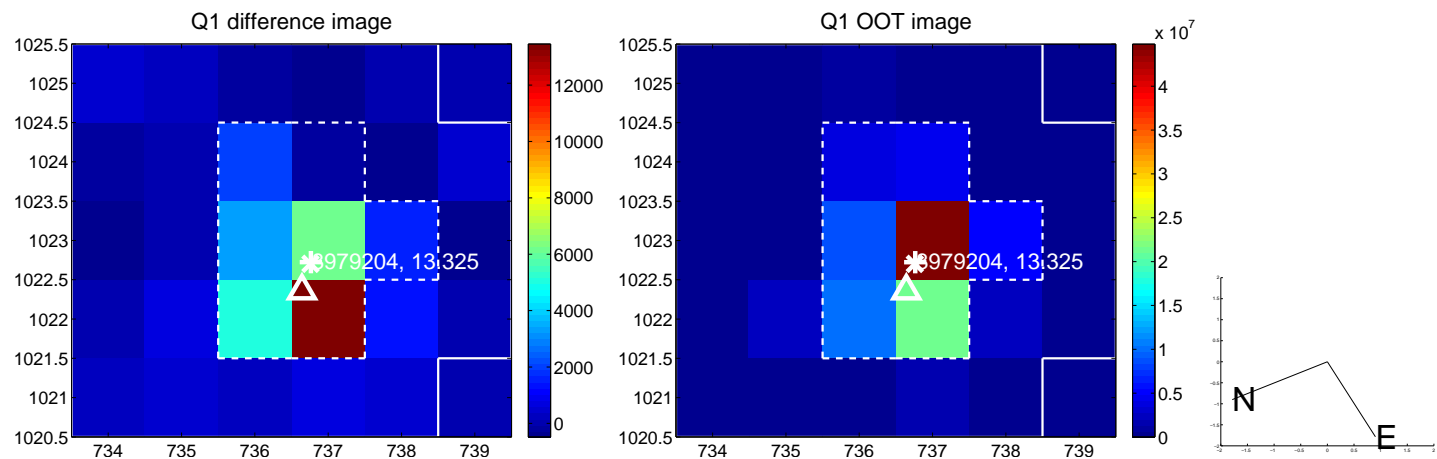
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.001 \pm 0.164$	0.01	$0.001 \pm 0.168$	$-0.000 \pm 0.095$
PRF-fit source offset from KIC position	$0.138 \pm 0.153$	0.91	$-0.111 \pm 0.160$	$-0.082 \pm 0.096$
photometric centroid source offset	$0.44 \pm 0.31$	1.41	$-0.43 \pm 0.32$	$-0.10 \pm 0.25$

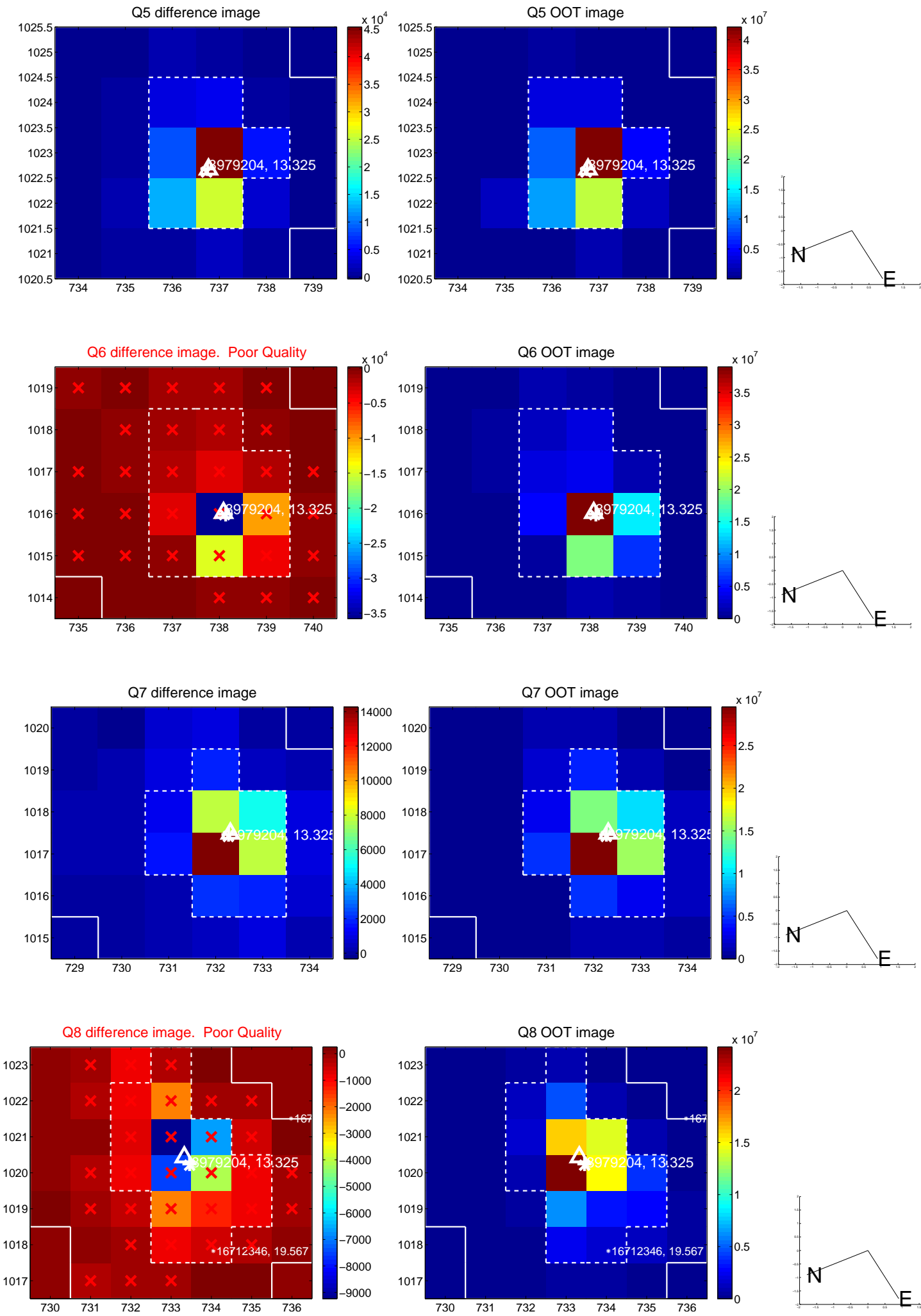


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

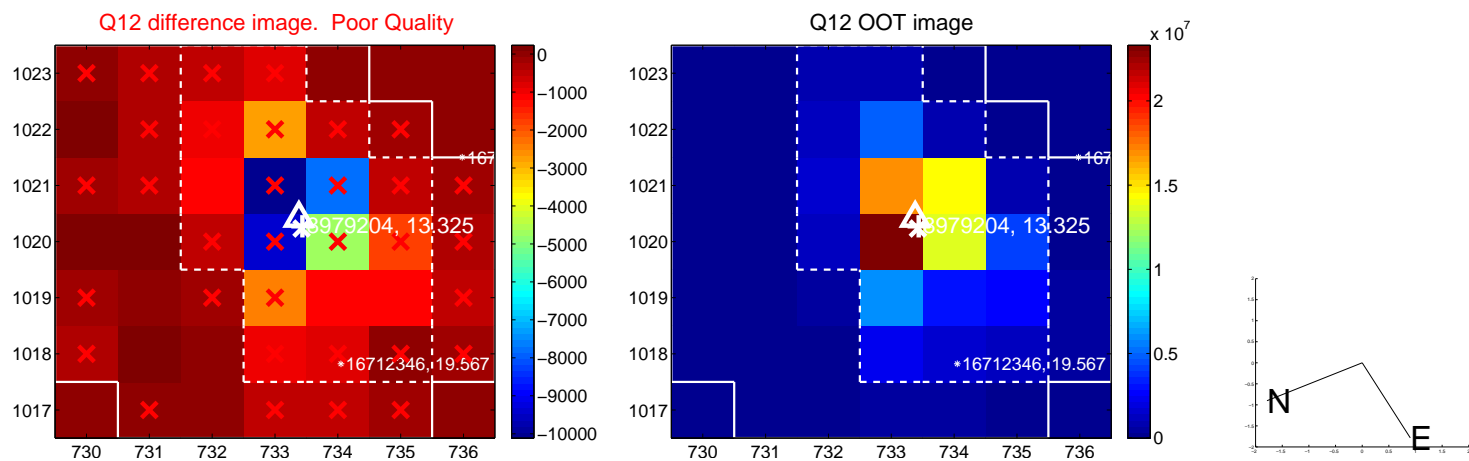
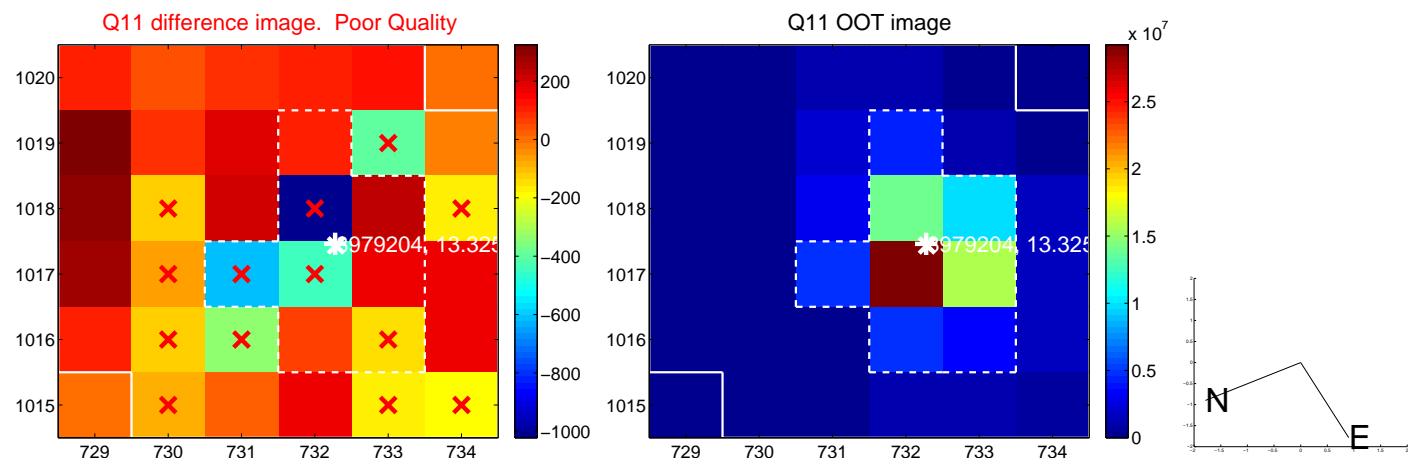
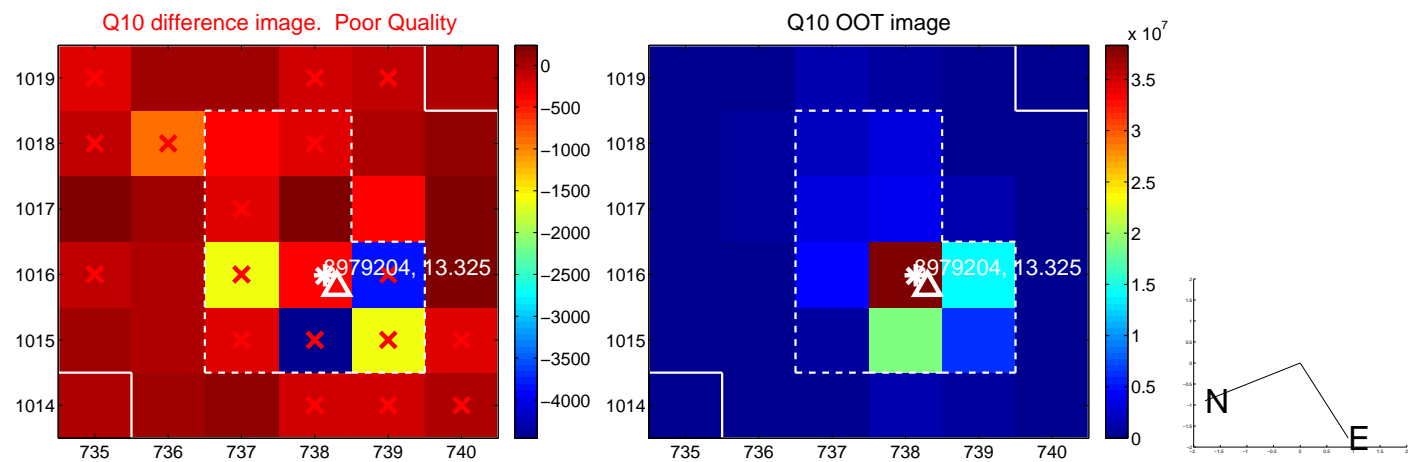
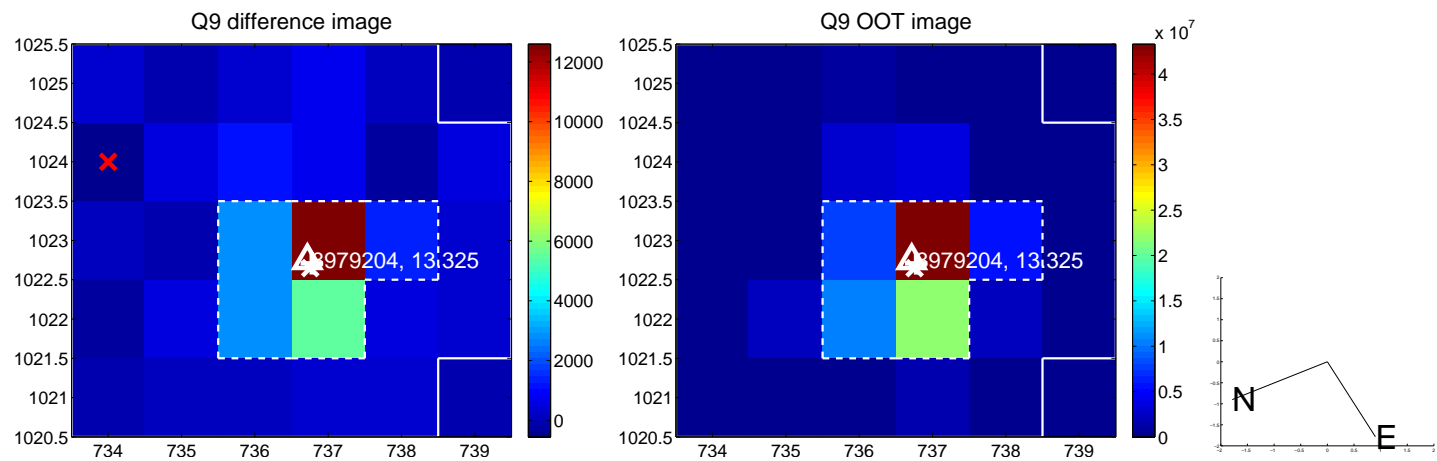
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

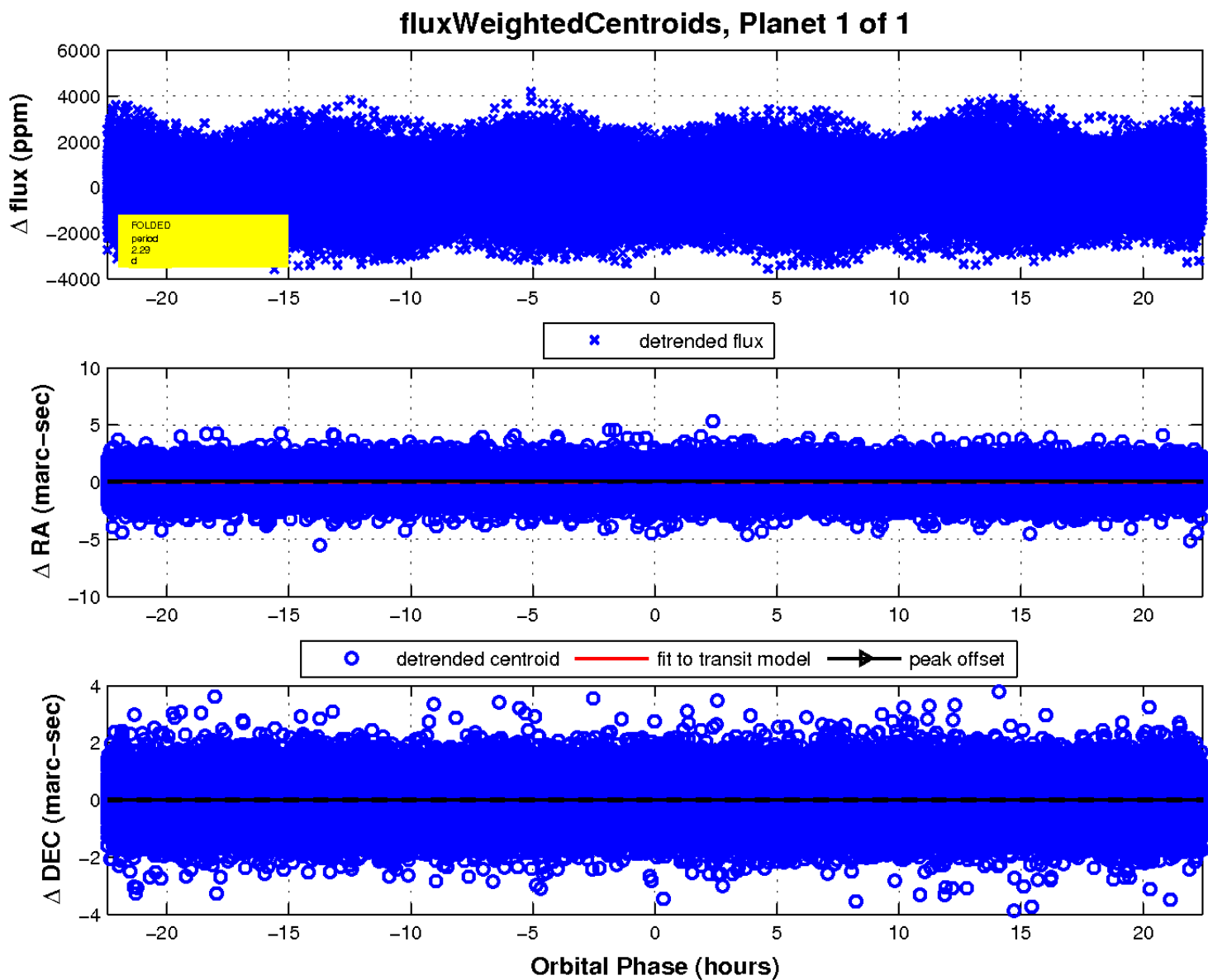
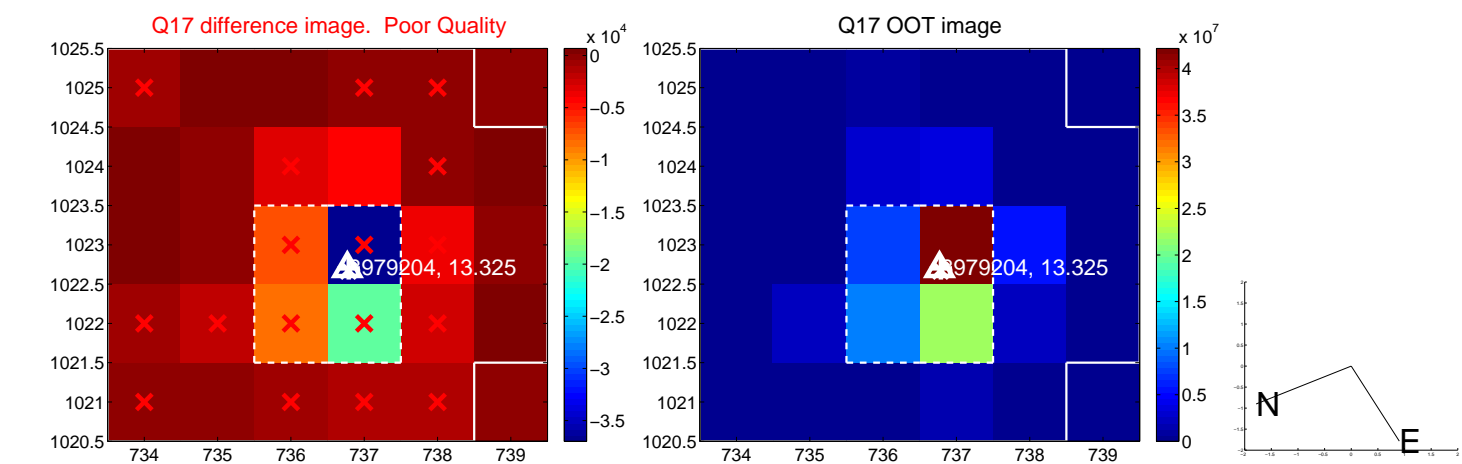


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



UKIRT Image

Declination

