

# KIC 006341932

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006341932-01	OBS	No	1.455364	131.801887	18.1	2.915	11.0	7.3	4.51	6921	2.23	40368.84
006341932-02	OBS	No	0.727747	131.676903	6.9	2.677	8.9	2.9	4.51	6921	1.38	0.00

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006341932-01	OBS	FP	0.00	1	0	0	0	LPP_DV
006341932-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—HALO_GHOST

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

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

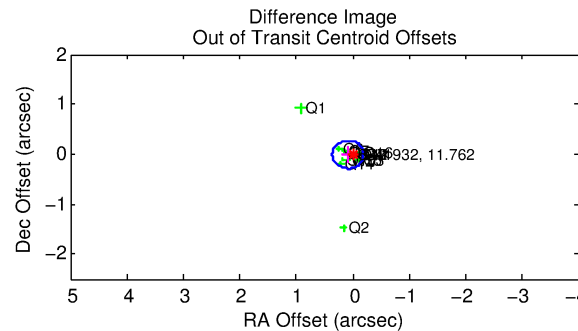
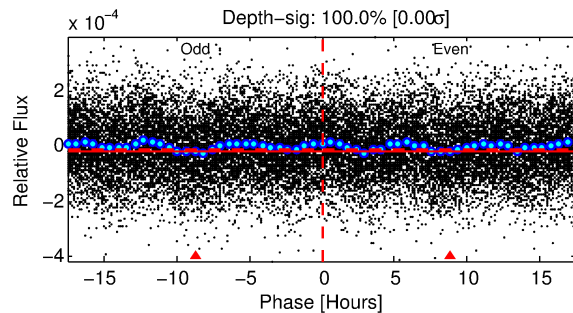
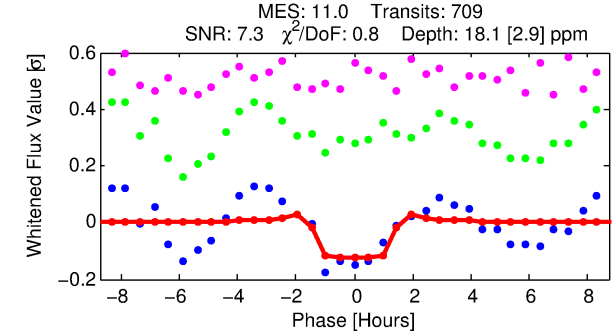
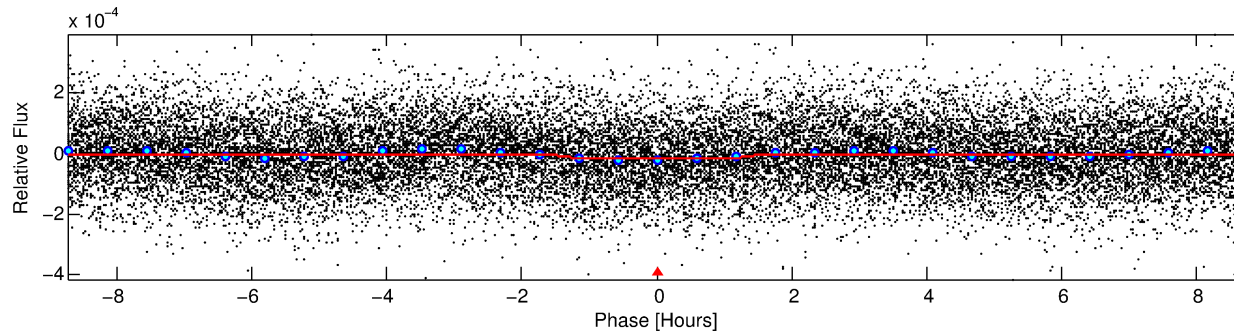
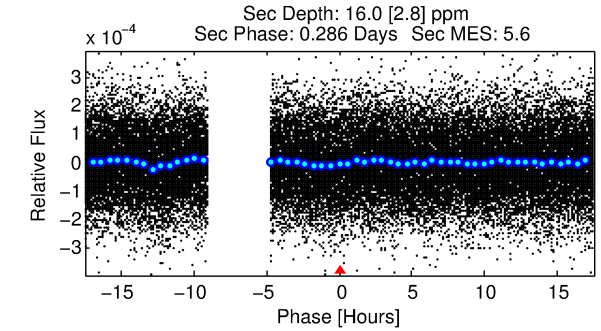
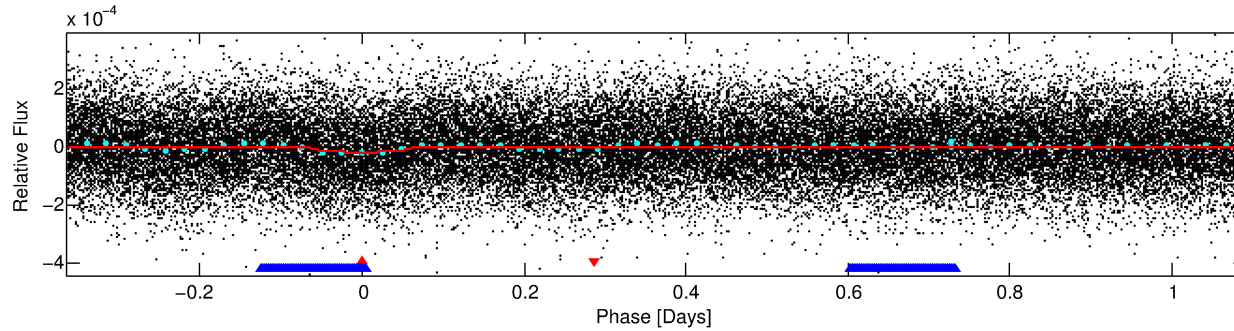
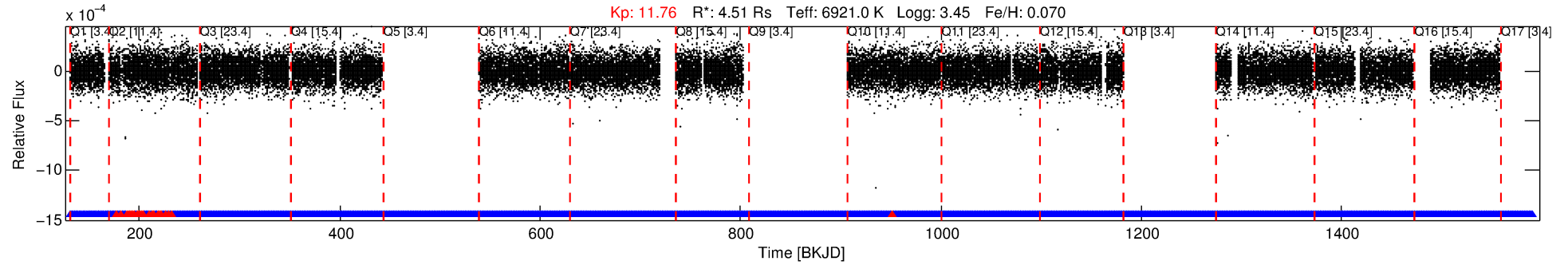
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006341932-01

No Significant Match Found

# DV One-Page Summary

KIC: 6341932 Candidate: 1 of 2 Period: 1.455 d



## DV Fit Results:

Period = 1.45536 [0.00002] d  
Epoch = 131.8019 [0.0039] BKJD  
Rp/R\* = 0.0045 [0.0014]  
a/R\* = 1.94 [2.56]  
b = 0.90 [0.38]  
Seff = 40368.84 [27065.15]  
Teq = 3614 [606] K  
Rp = 2.24 [1.16] Re  
a = 0.0322 [0.0132] AU  
Ag = 1.83 [1.66] [0.50σ]  
Teffp = 6497 [1038] K [2.40σ]

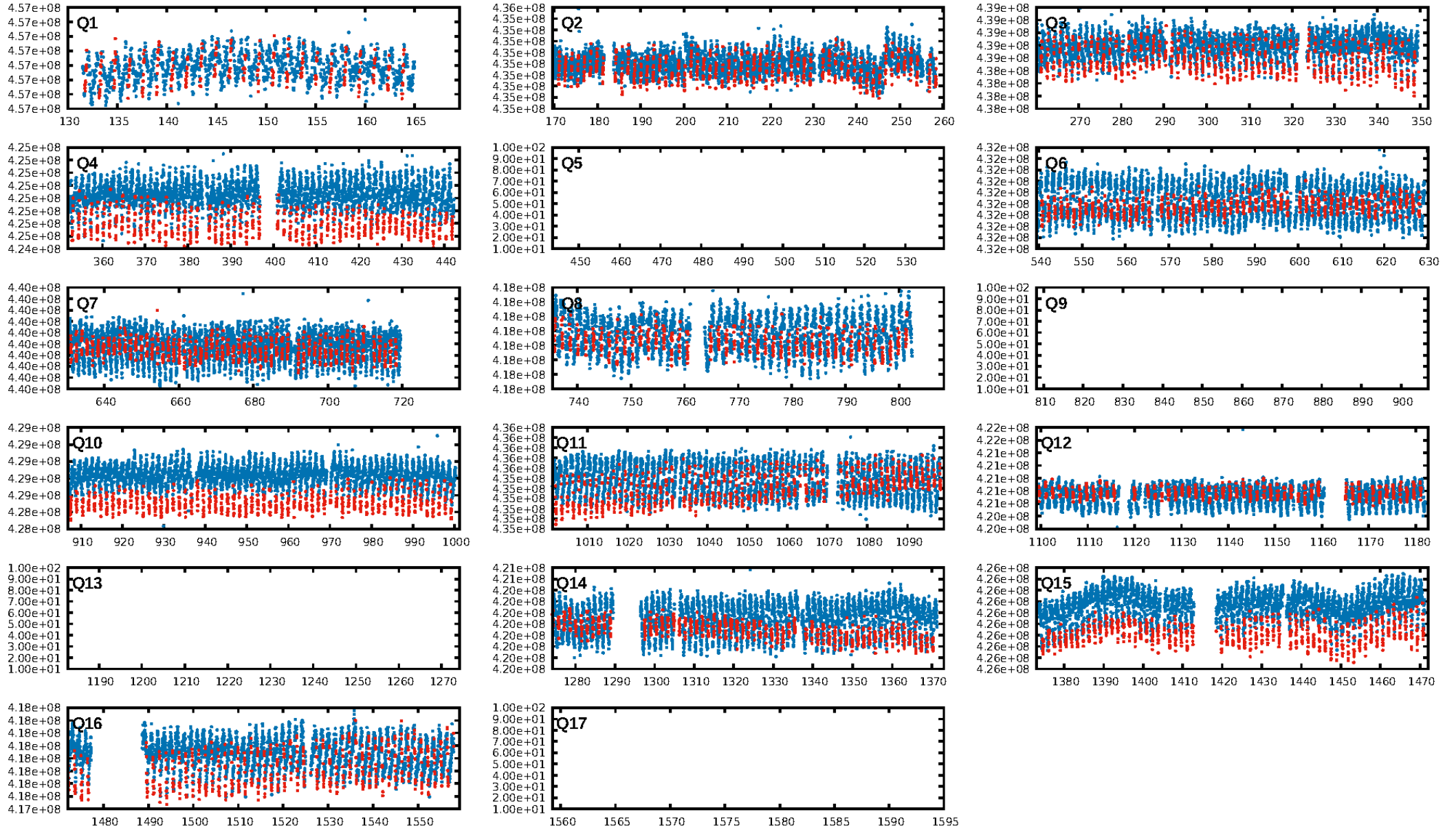
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [4.41σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 3.06e-21  
RollingBand-fgt: 0.97 [662/686]  
GhostDiagnostic-chr: 1.8  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 0.090 arcsec [0.97σ]  
KicOffset-rm: 0.102 arcsec [1.02σ]  
OotOffset-st: 4/4/4/1 [13]  
KicOffset-st: 4/4/4/1 [13]  
DiffImageQuality-fgm: 1.00 [13/13]  
DiffImageOverlap-fno: 0.00 [0/13]

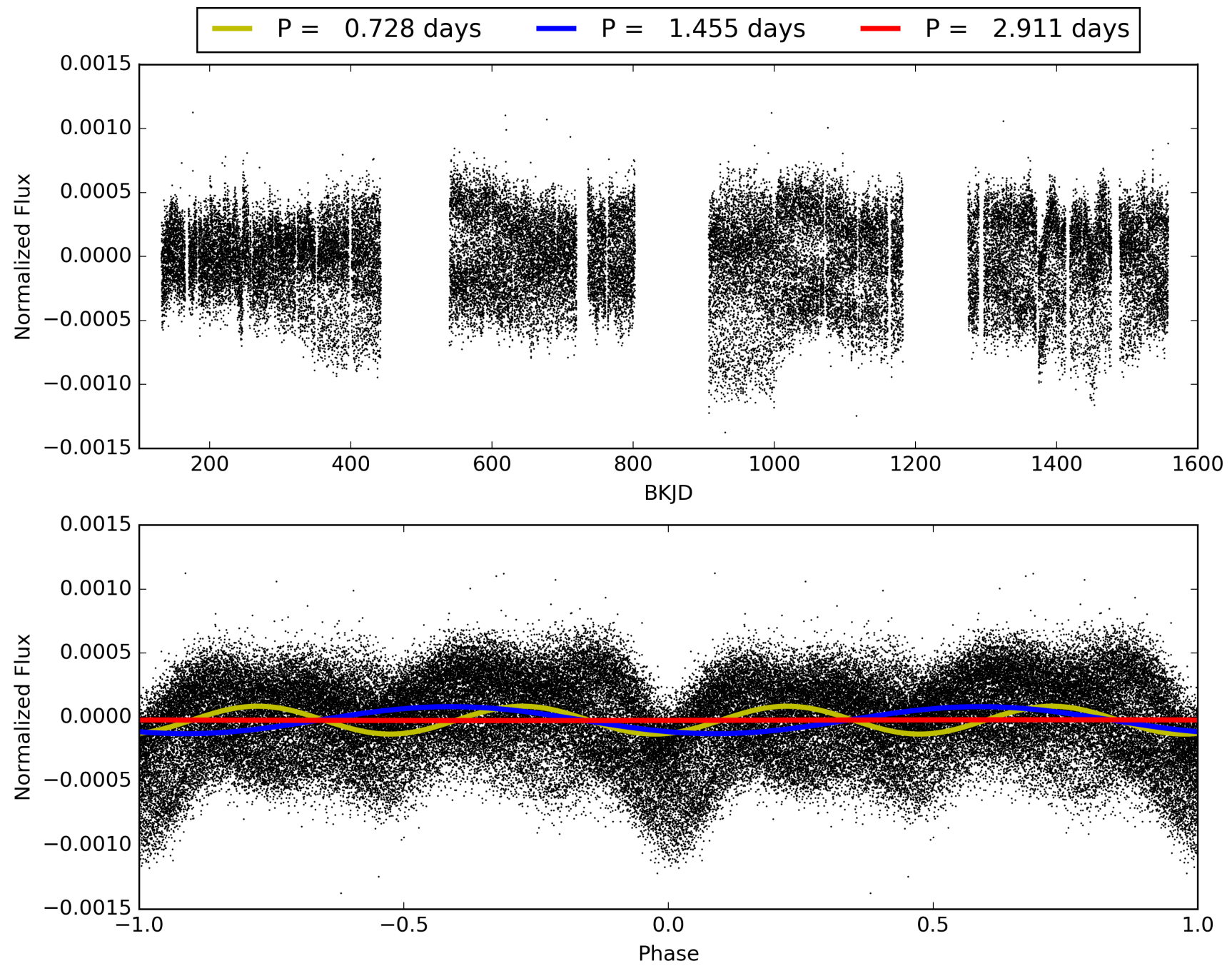
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:39:24 Z

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

# TCE 006341932-01, PDC Light Curves

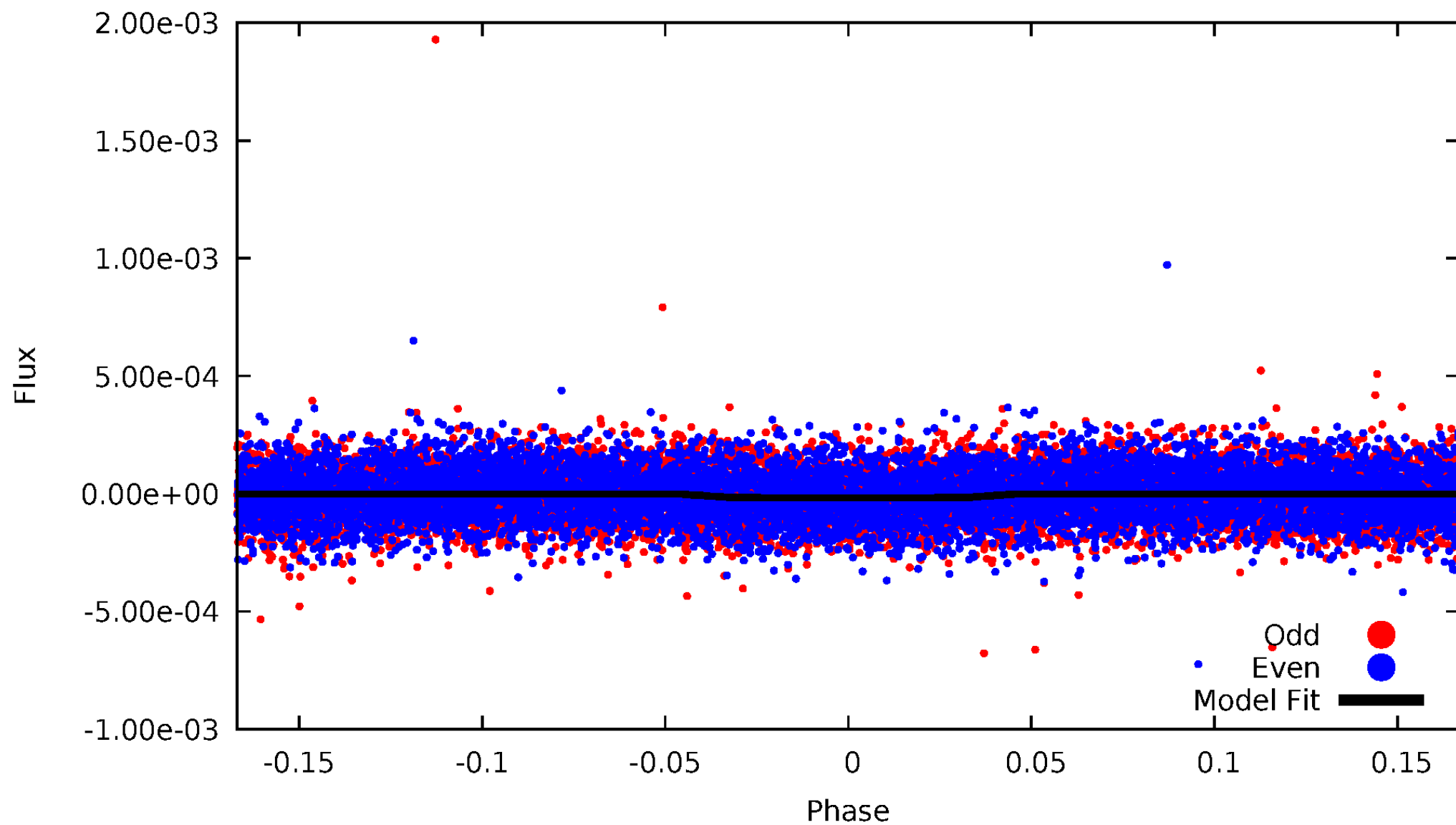


TCE 006341932-01



# DV Odd/Even

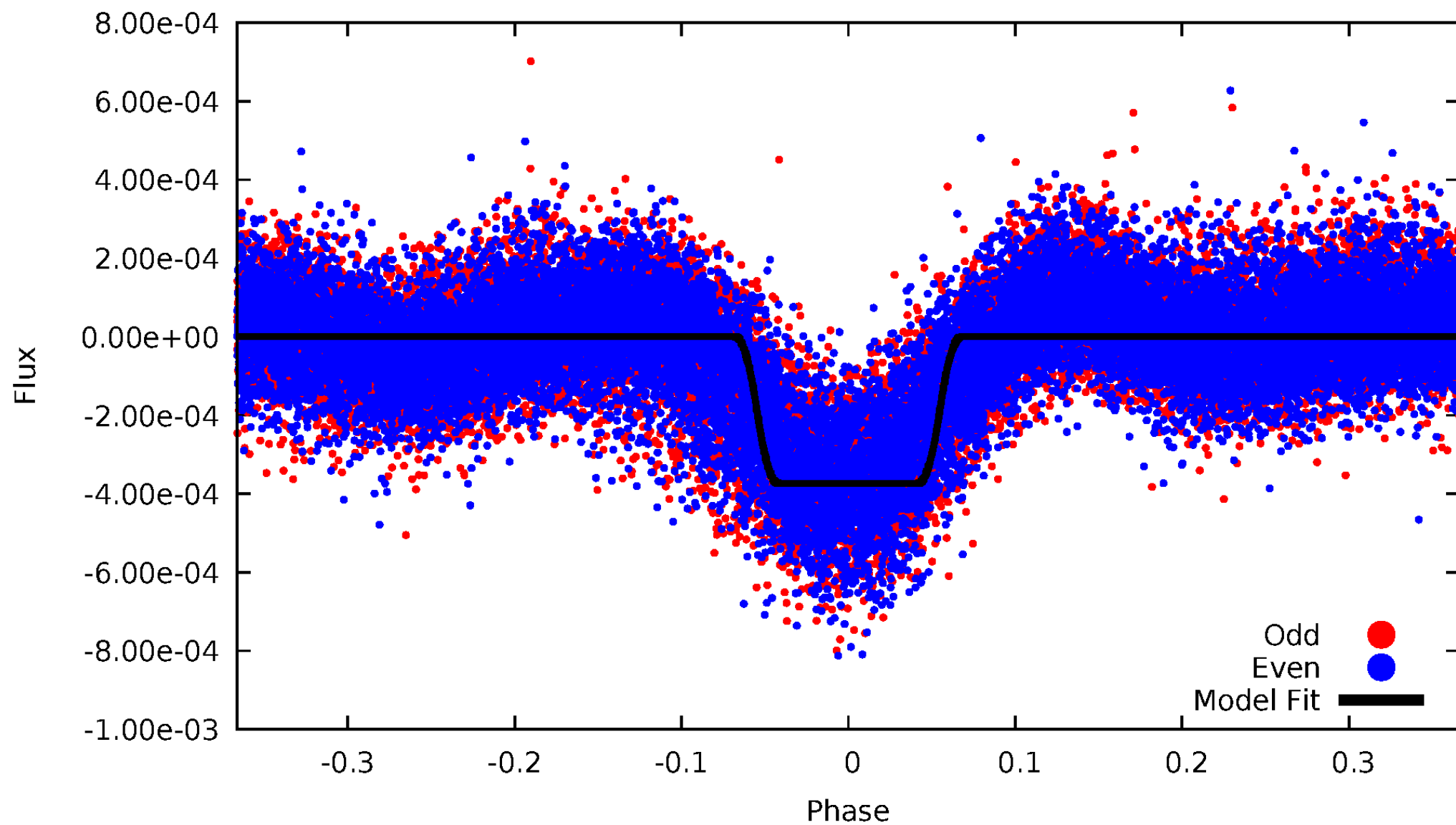
TCE 006341932-01



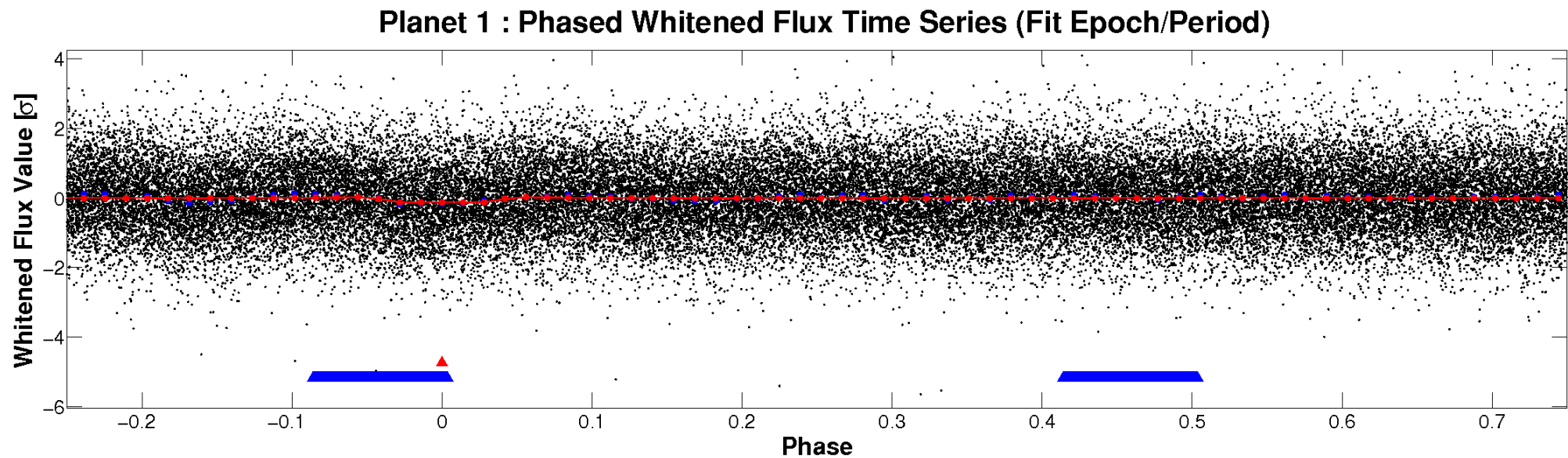
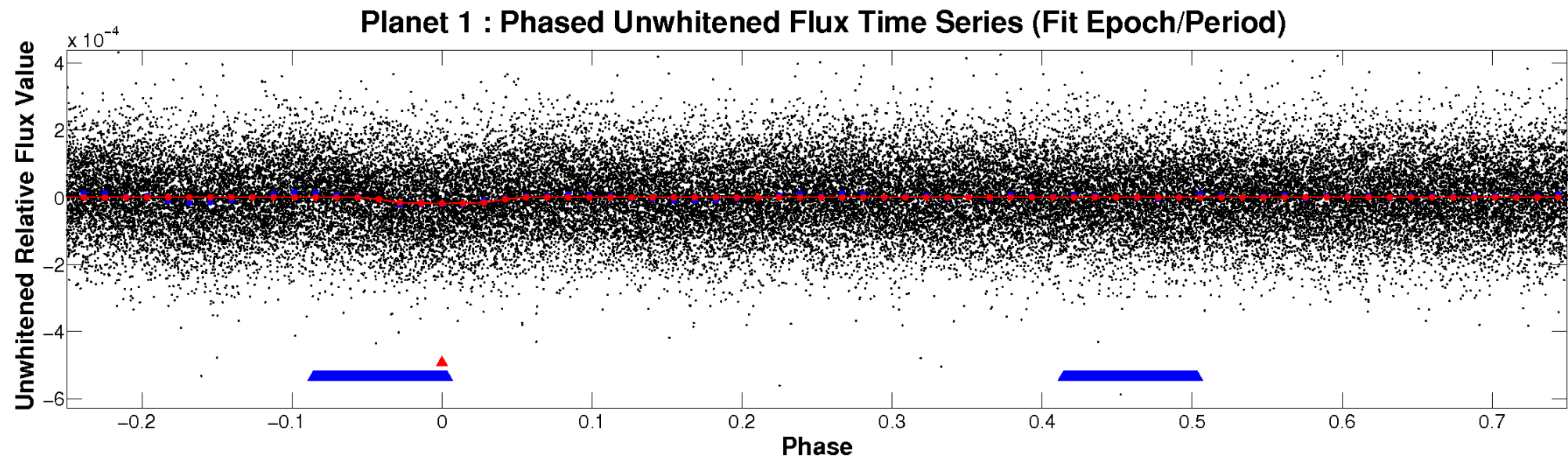


# ALT Odd/Even

TCE 006341932-01

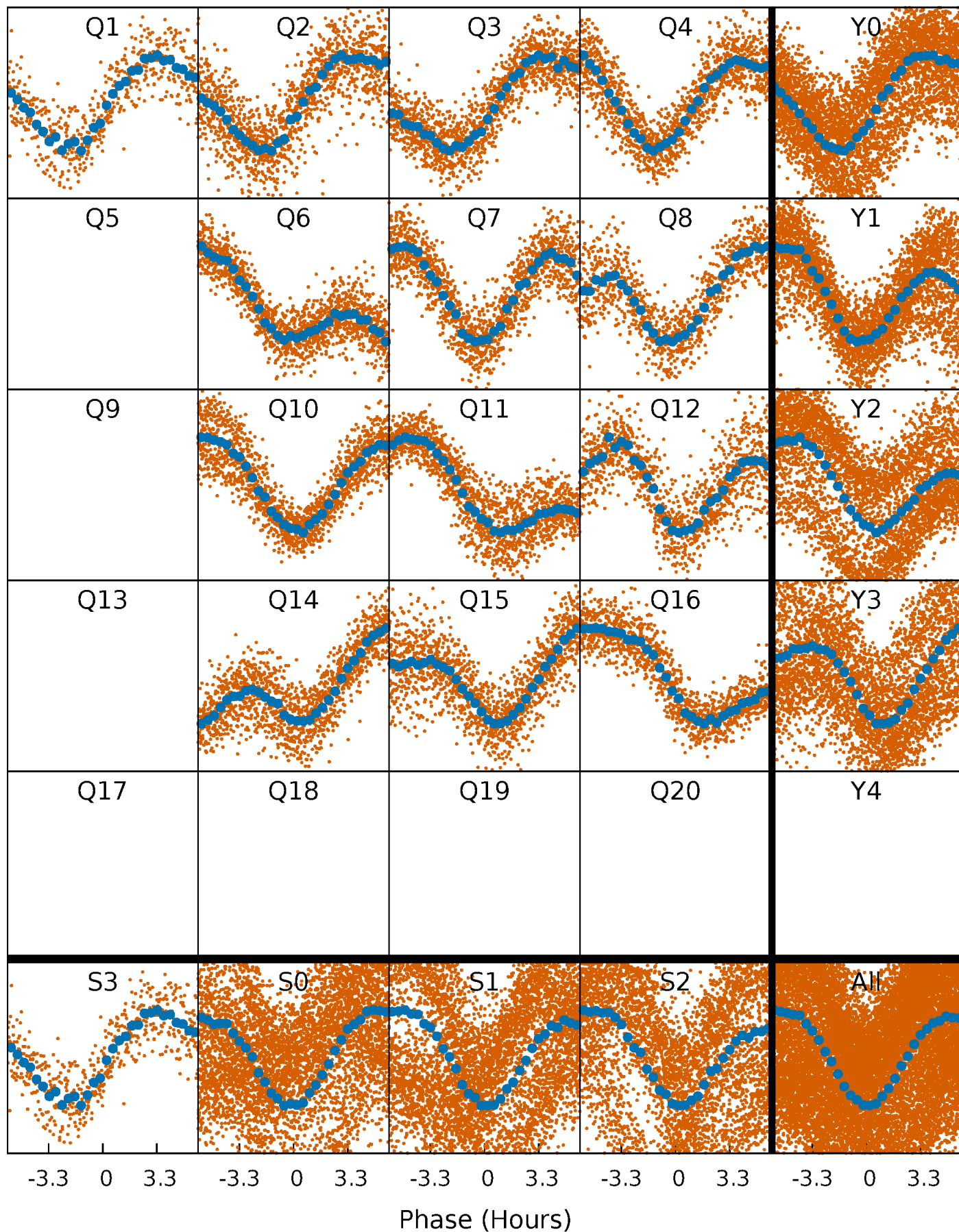


# Non-Whitened Vs. Whitened Light Curve



## PDC Quarter-Phased Transit Curves

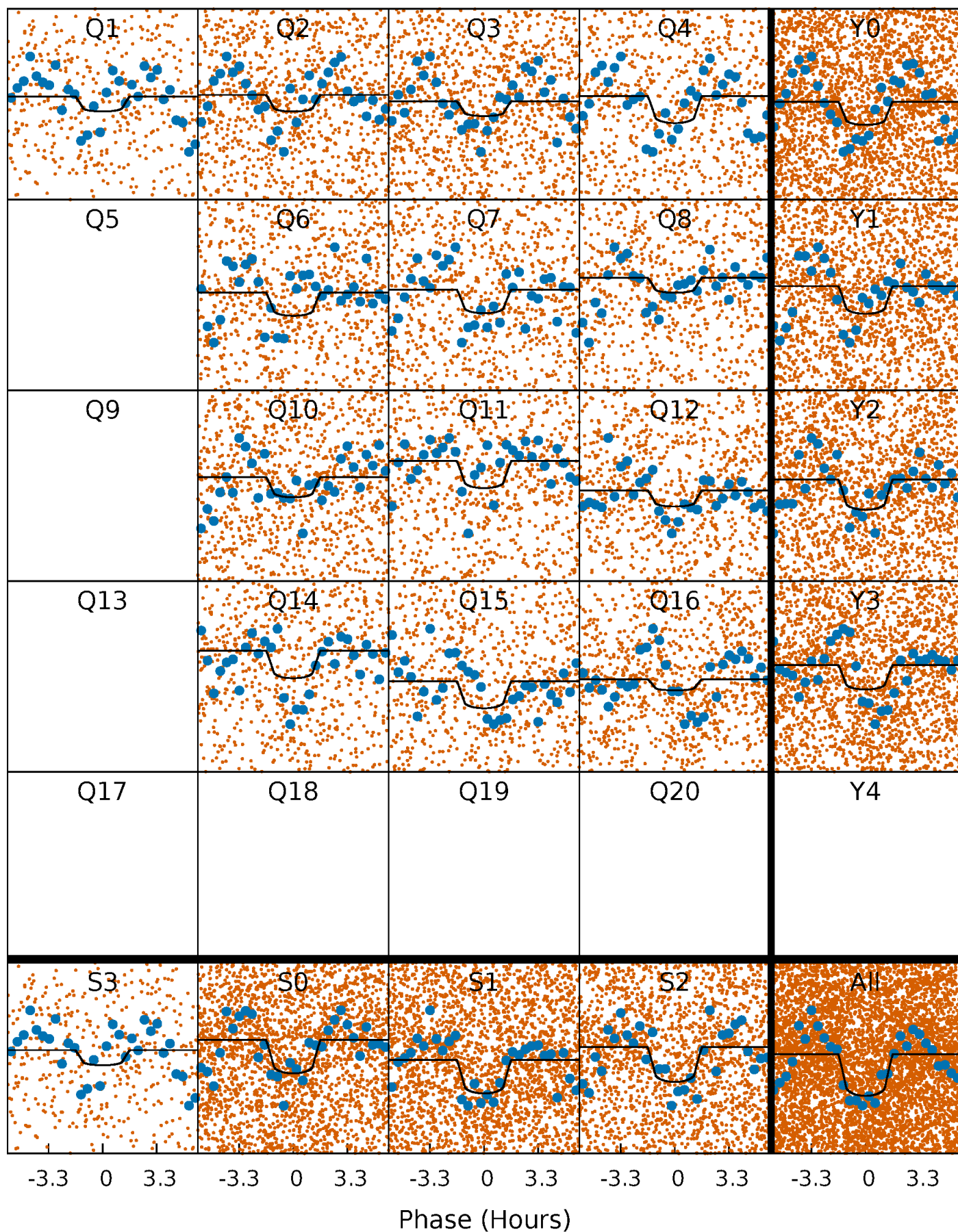
TCE 006341932-01   P= 1.455364 Days    $T_0=131.801887$  (BKJD)





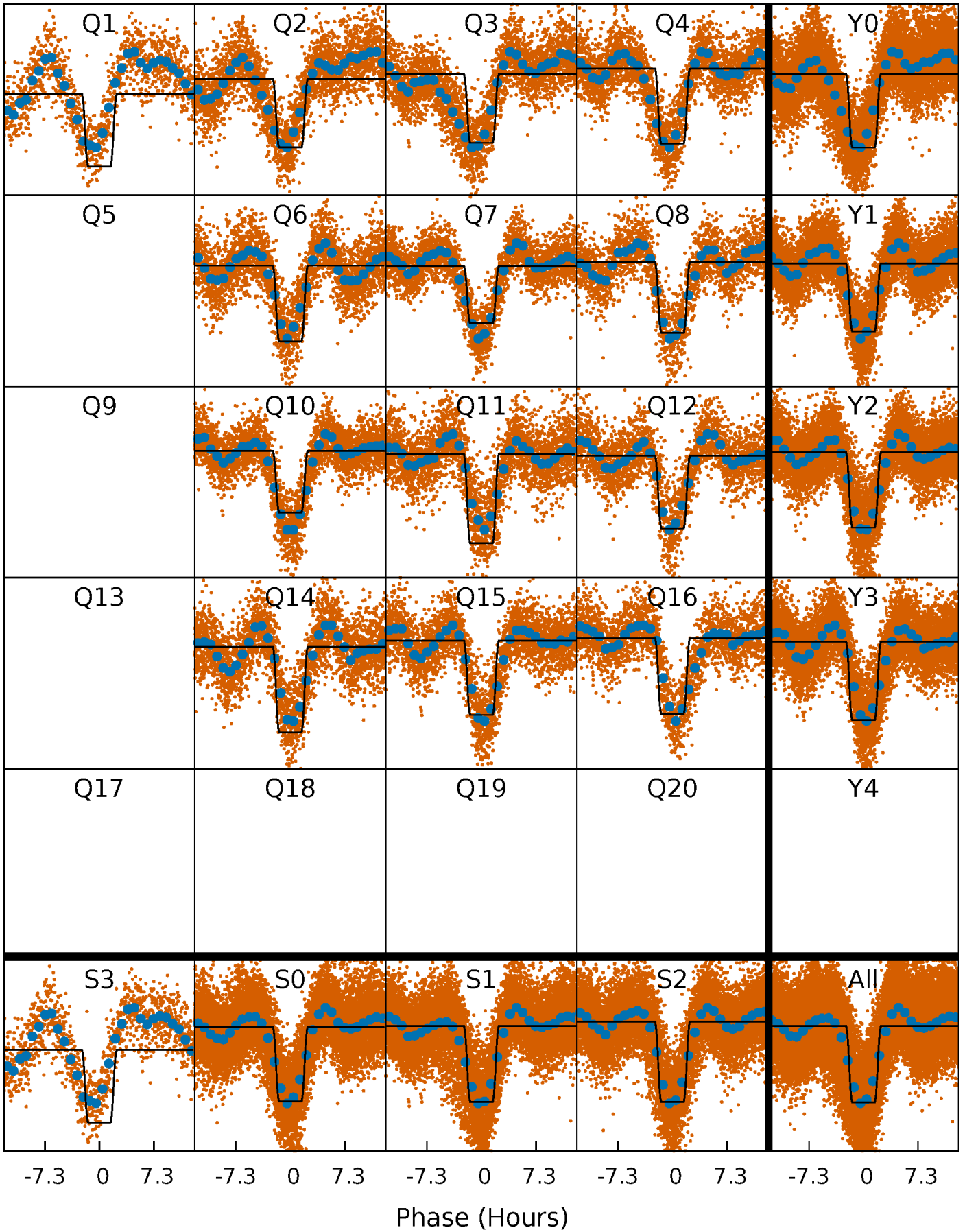
# DV Quarter-Phased Transit Curves

TCE 006341932-01 P= 1.455364 Days  $T_0=131.801887$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

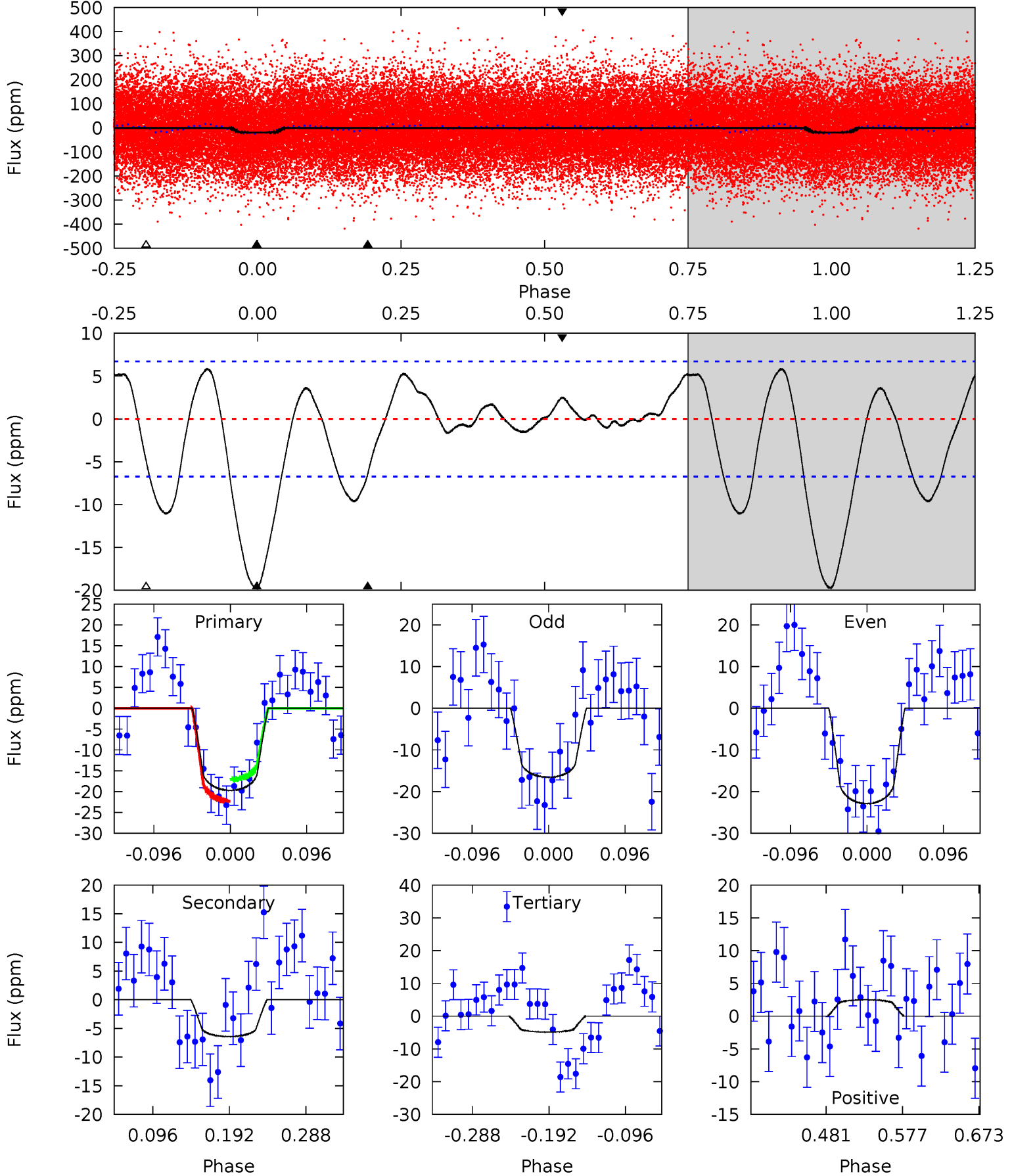
TCE 006341932-01 P= 1.455454 Days  $T_0=131.756060$  (BKJD)



# DV Model-Shift Uniqueness Test

006341932-01, P = 1.455364 Days, E = 130.346523 Days

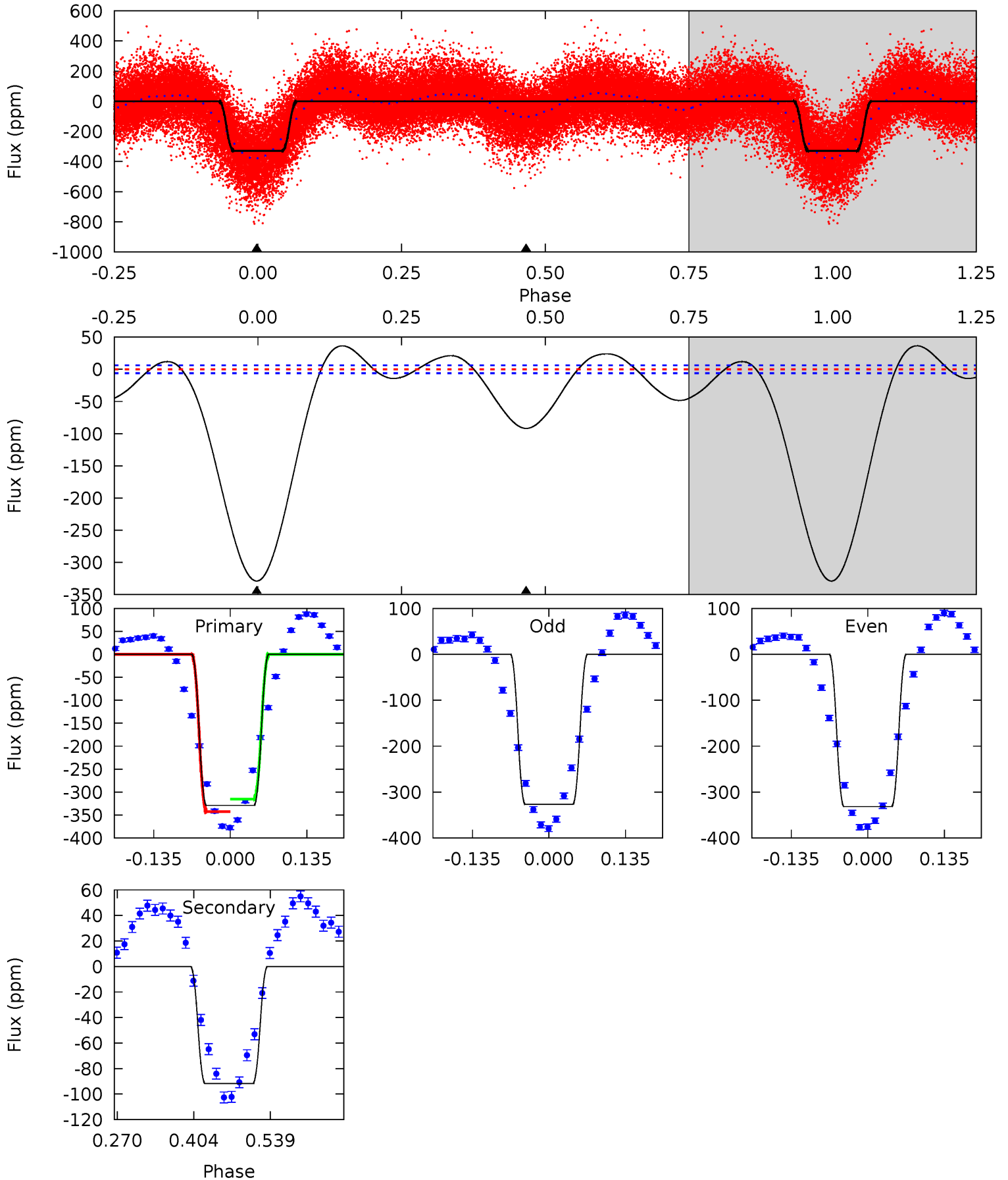
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.4	4.37	3.32	1.70	4.57	1.66	2.37	10.1	11.7	1.05	2.67	2.15	1.22	0.23	1.78



# Alt Model-Shift Uniqueness Test

006341932-01, P = 1.455454 Days, E = 130.300606 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
240.4	67.1	0	0	4.50	1.50	17.3	240.4	240.4	67.1	67.1	1.88	1.02	0.10	9.92



### Stellar Parameters For KIC 006341932

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6921^{+154}_{-222}$	$3.452^{+0.387}_{-0.065}$	$0.070^{+0.250}_{-0.250}$	$4.515^{+0.320}_{-1.917}$	$2.105^{+0.073}_{-0.415}$	$0.032^{+0.093}_{-0.007}$
	+2%/-3%	+11%/-2%	+357%/-357%	+7%/-42%	+3%/-20%	+290%/-21%
Source	PHO1	FLK73	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 006341932-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-6\pm1$	$2.06^{+0.73}_{-0.71}$	$4958^{+261}_{-492}$	$4703^{+1181}_{-1011}$	$0.851^{+1.133}_{-0.414}$
Alt.	$-92\pm1$	$8.98^{+1.19}_{-1.91}$	$4912^{+264}_{-528}$	$4369^{+294}_{-297}$	$0.642^{+0.360}_{-0.131}$

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



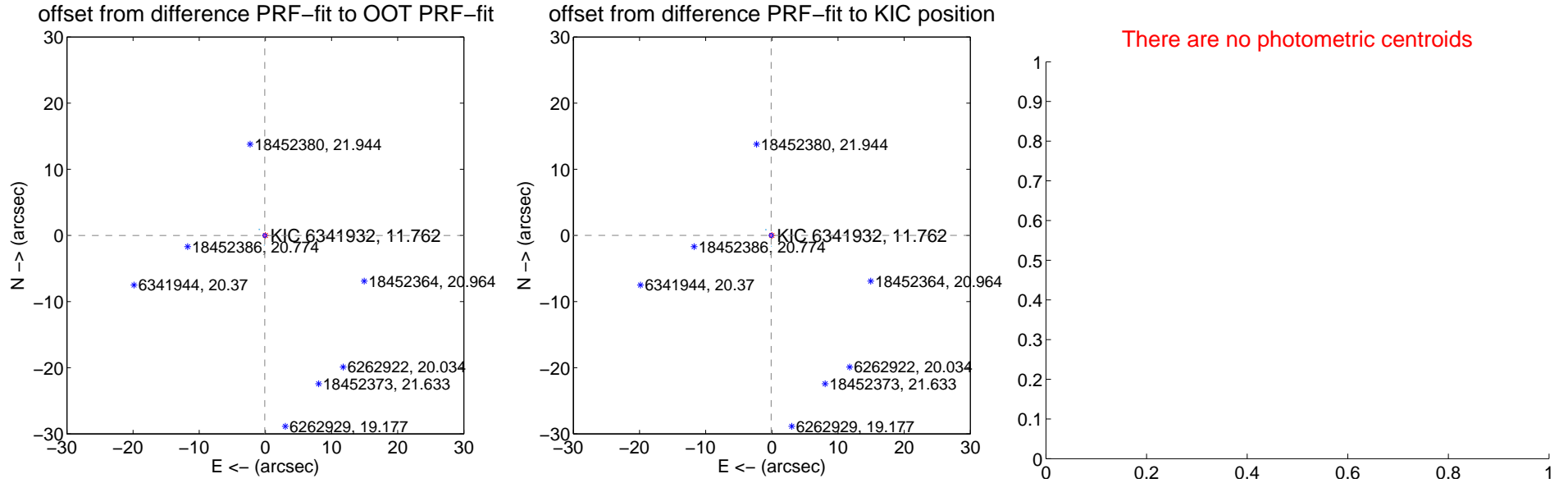
## DV Centroid Data

Supplemental centroid analysis for 006341932-01. **Kepler magnitude: 11.76.** Transit SNR 7.33

There are 13 quarters with good PRF difference image offsets

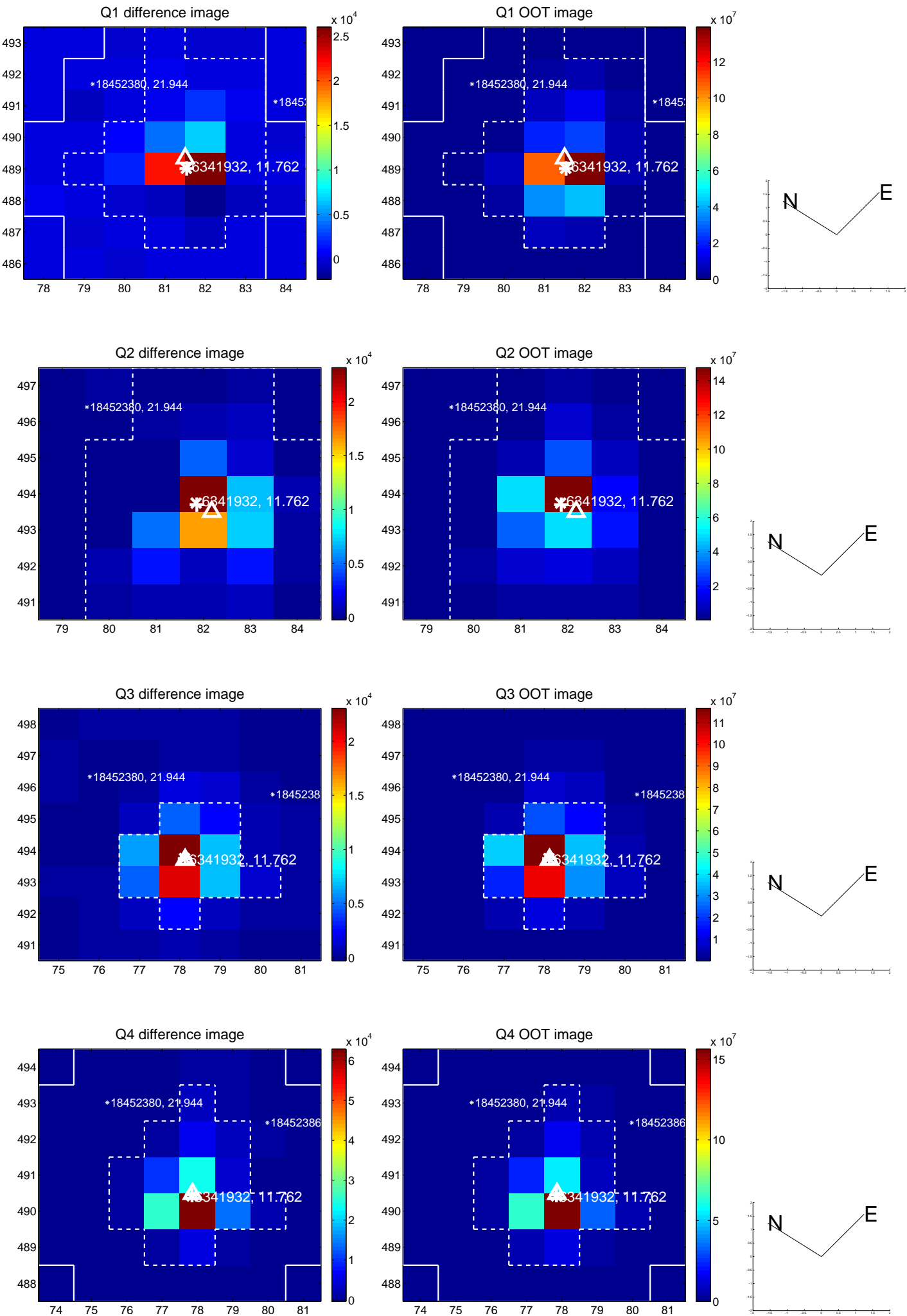
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.090 \pm 0.094$	0.97	$0.090 \pm 0.097$	$-0.009 \pm 0.141$
PRF-fit source offset from KIC position	$0.102 \pm 0.100$	1.02	$0.102 \pm 0.096$	$0.008 \pm 0.164$
photometric centroid source offset	—	—	—	—

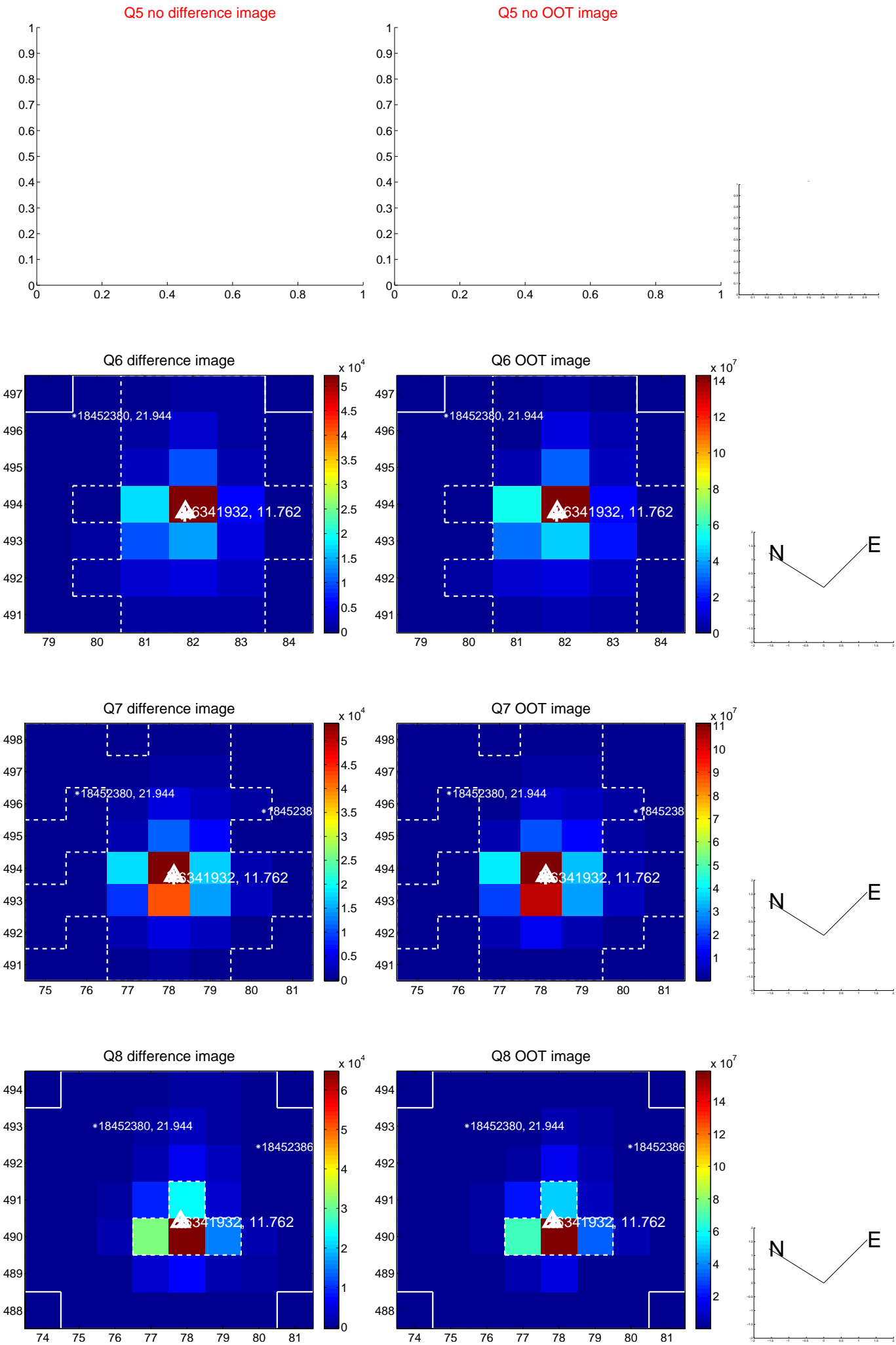


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

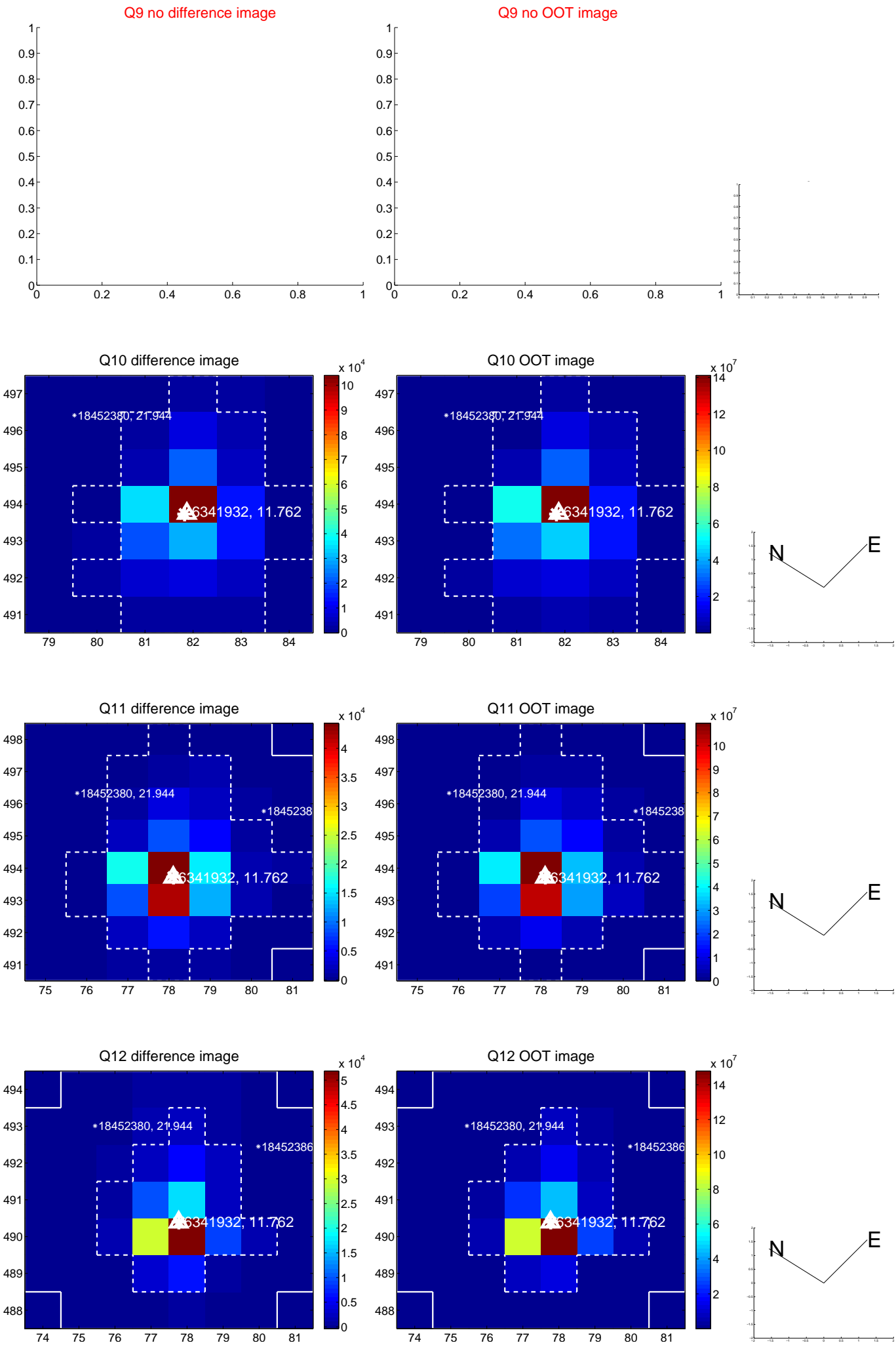
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



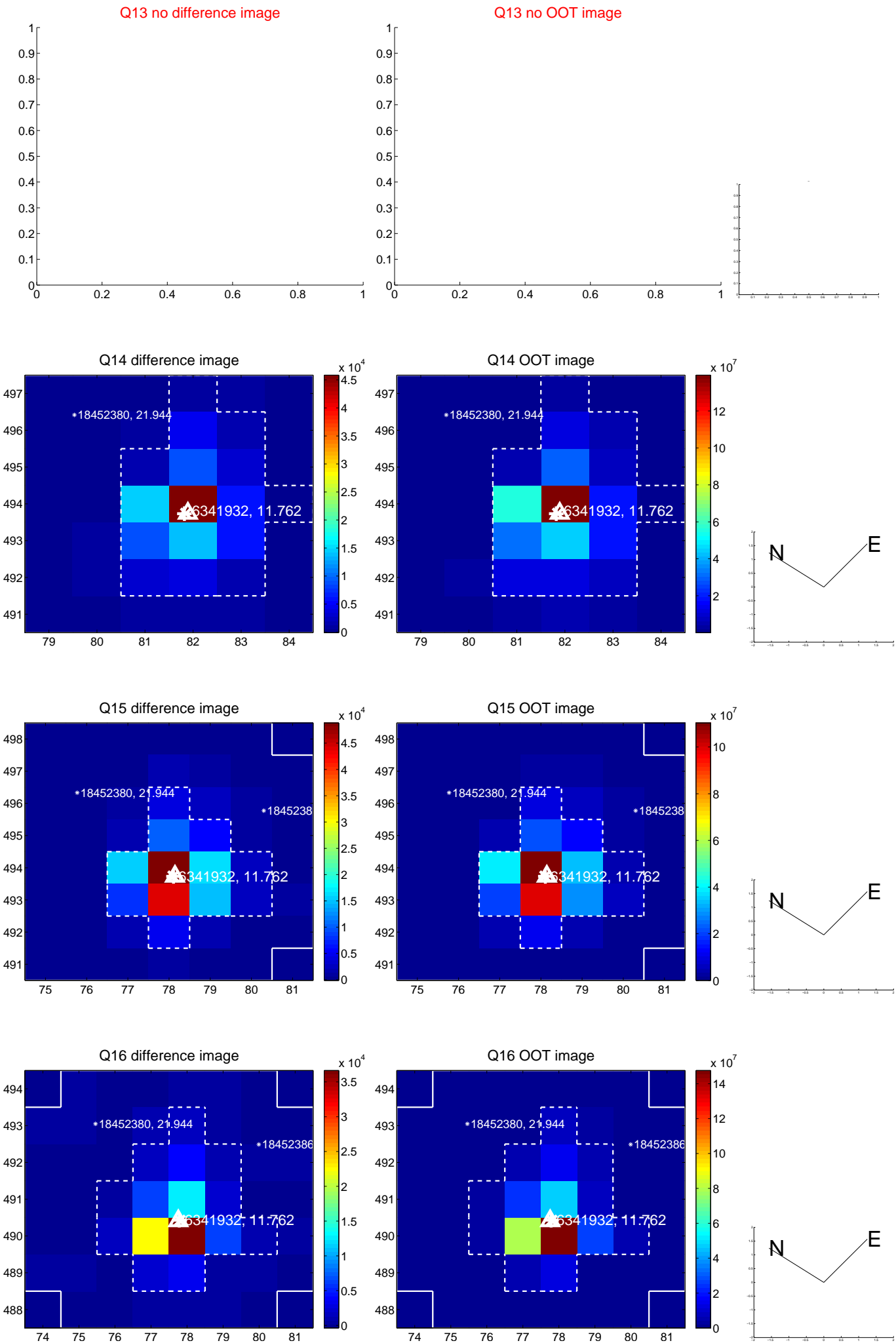
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.





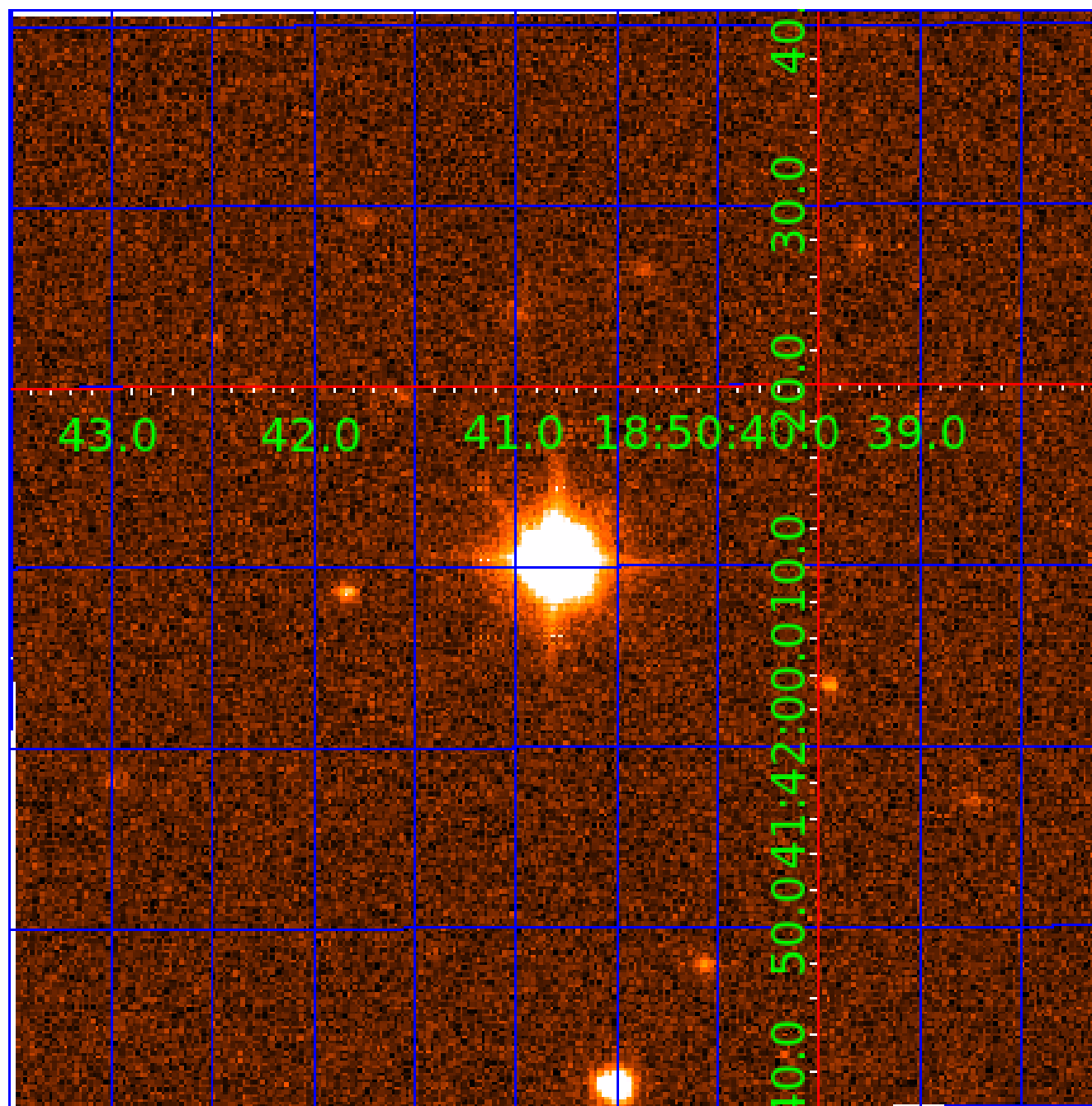
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



# KIC 006341932

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006341932-01	OBS	No	1.455364	131.801887	18.1	2.915	11.0	7.3	4.51	6921	2.23	40368.84
006341932-02	OBS	No	0.727747	131.676903	6.9	2.677	8.9	2.9	4.51	6921	1.38	0.00

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006341932-01	OBS	FP	0.00	1	0	0	0	LPP_DV
006341932-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—HALO_GHOST

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

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

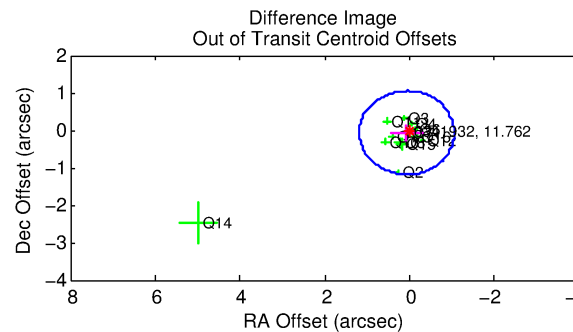
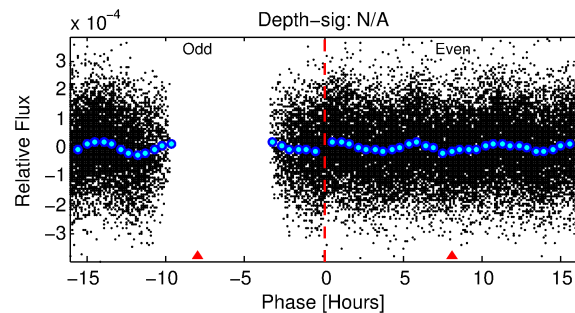
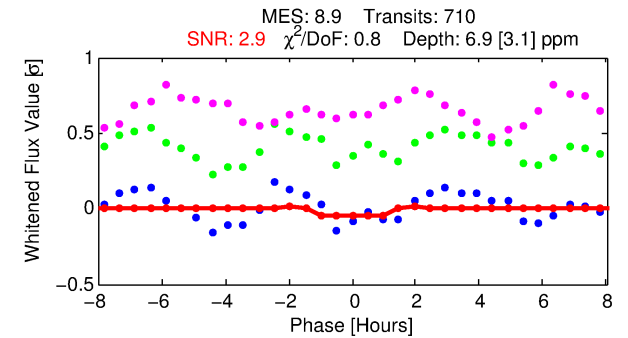
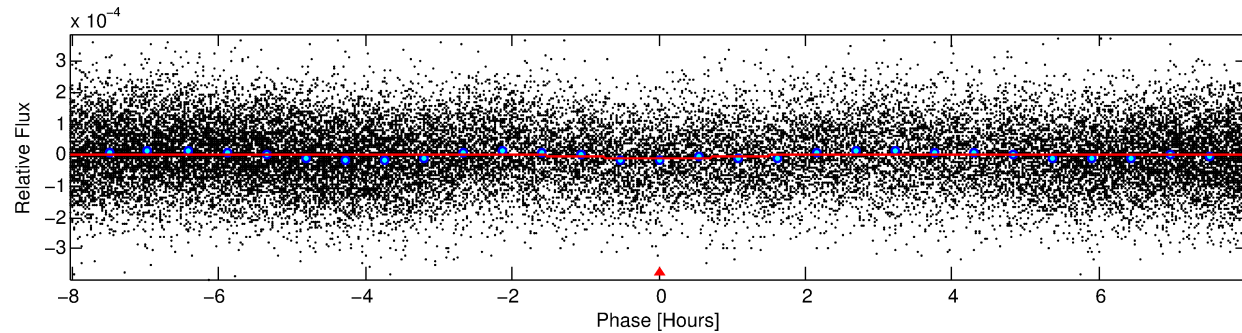
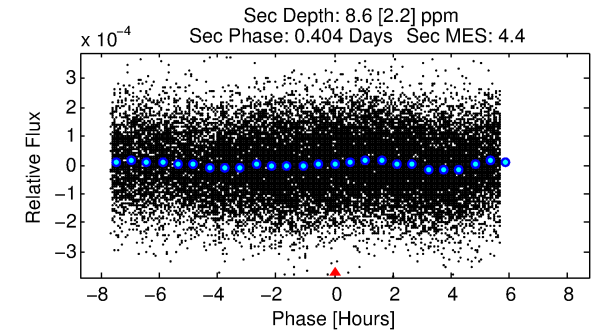
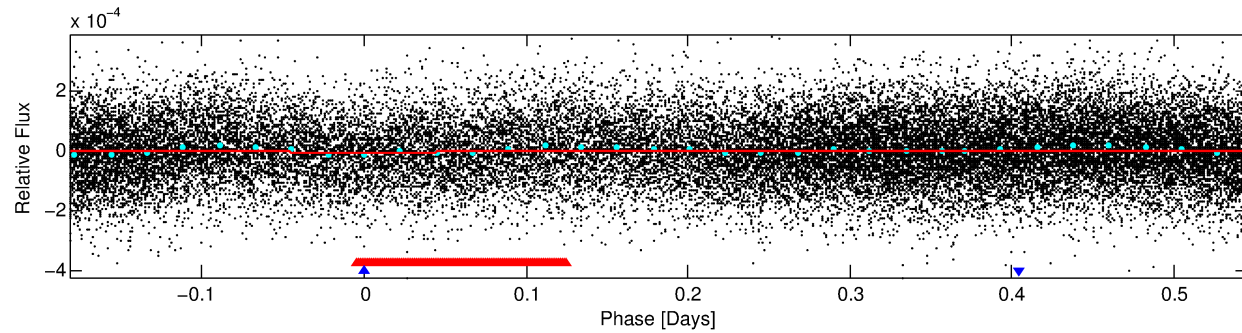
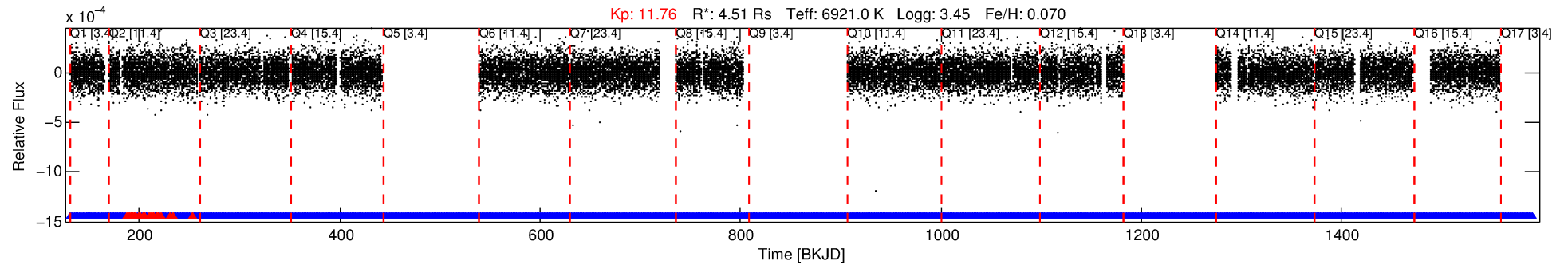
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006341932-02

No Significant Match Found

# DV One-Page Summary

KIC: 6341932 Candidate: 2 of 2 Period: 0.728 d



## DV Fit Results:

Period = 0.72775 [0.00003] d  
Epoch = 131.6769 [0.0094] BKJD  
Rp/R\* = 0.0028 [0.0013]  
a/R\* = 1.31 [1.37]  
b = 0.90 [0.53]  
Seff = N/A  
Teq = N/A  
Rp = 1.38 [0.86] Re  
a = N/A  
Ag = N/A  
Teffp = N/A

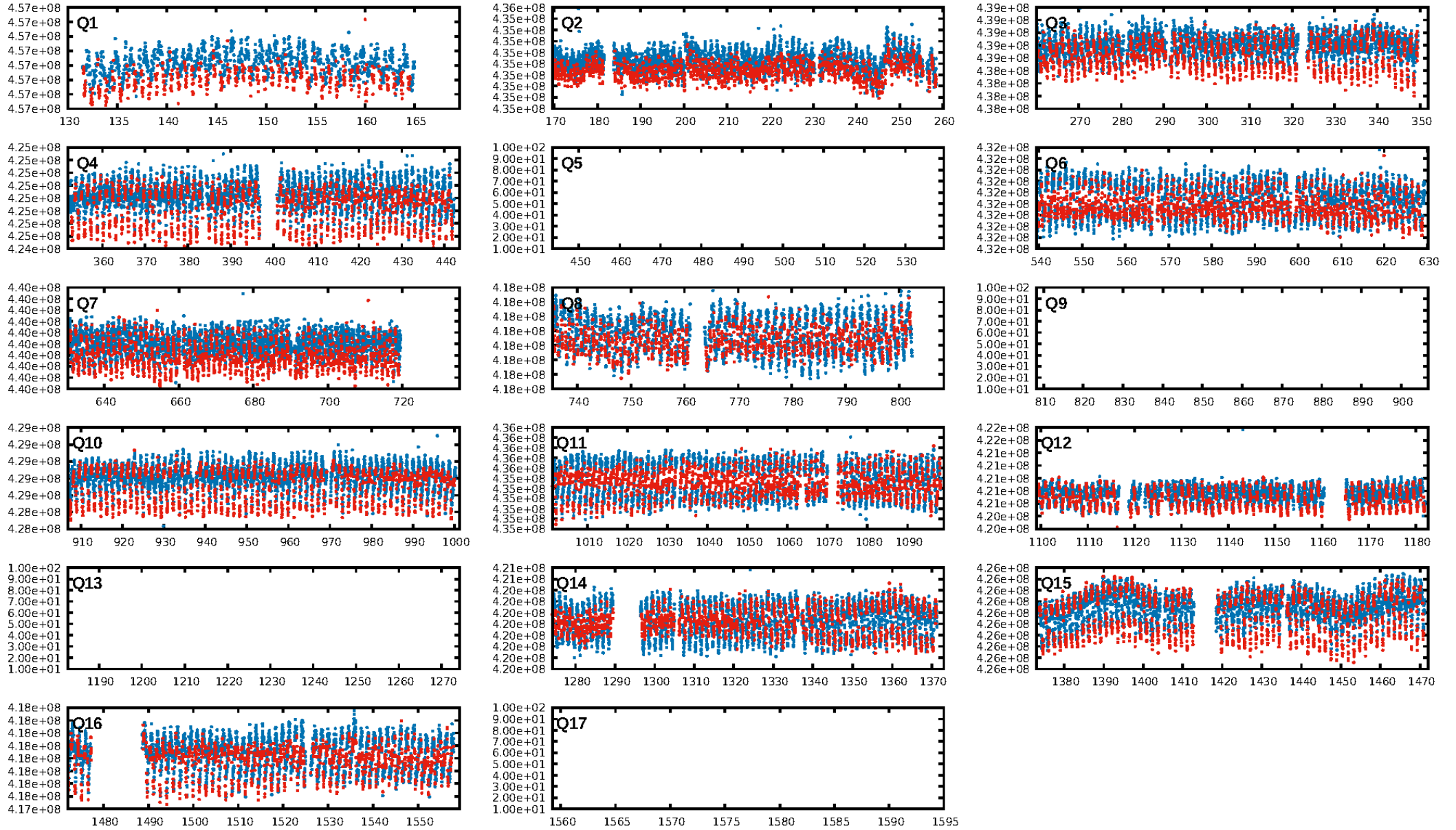
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [4.41σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.18e-15  
RollingBand-fgt: 0.97 [666/687]  
GhostDiagnostic-chr: 0.2113  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 0.094 arcsec [0.25σ]  
KicOffset-rm: 0.106 arcsec [0.29σ]  
OotOffset-st: 4/4/4/1 [13]  
KicOffset-st: 4/4/4/1 [13]  
DiffImageQuality-fgm: 0.92 [12/13]  
DiffImageOverlap-fno: 1.00 [13/13]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 12:39:34 Z

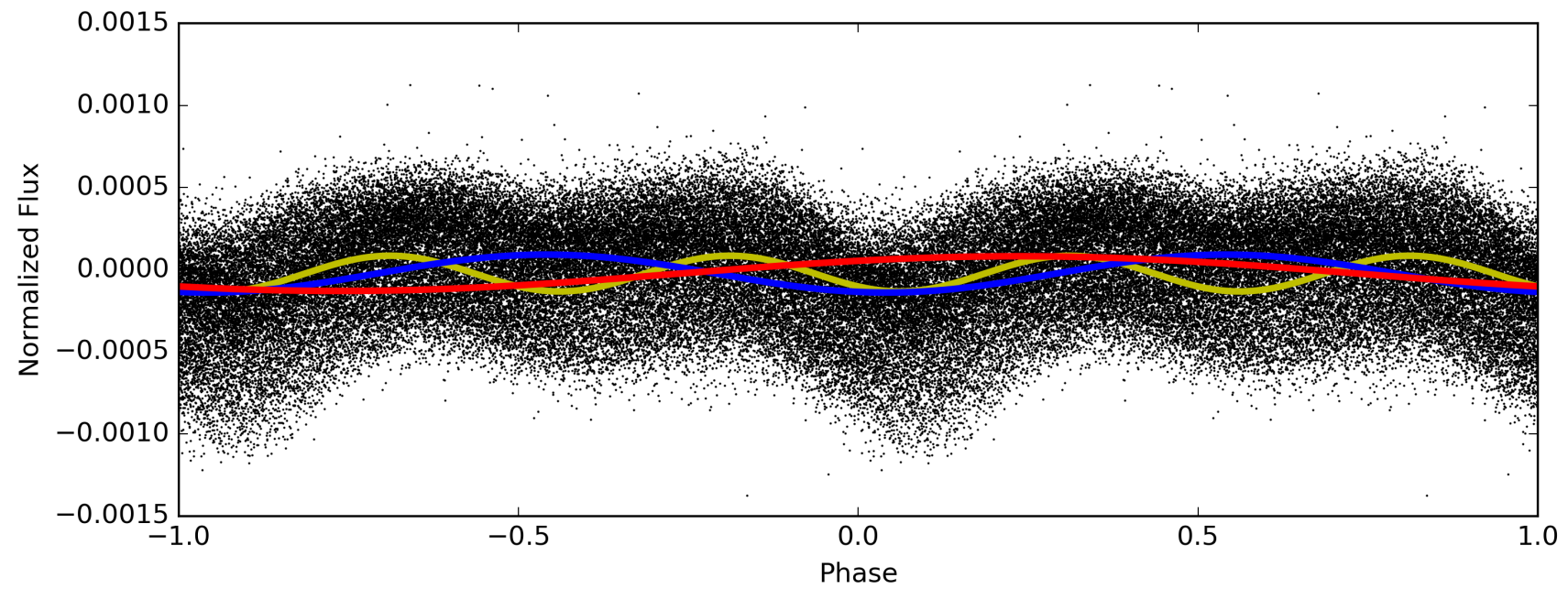
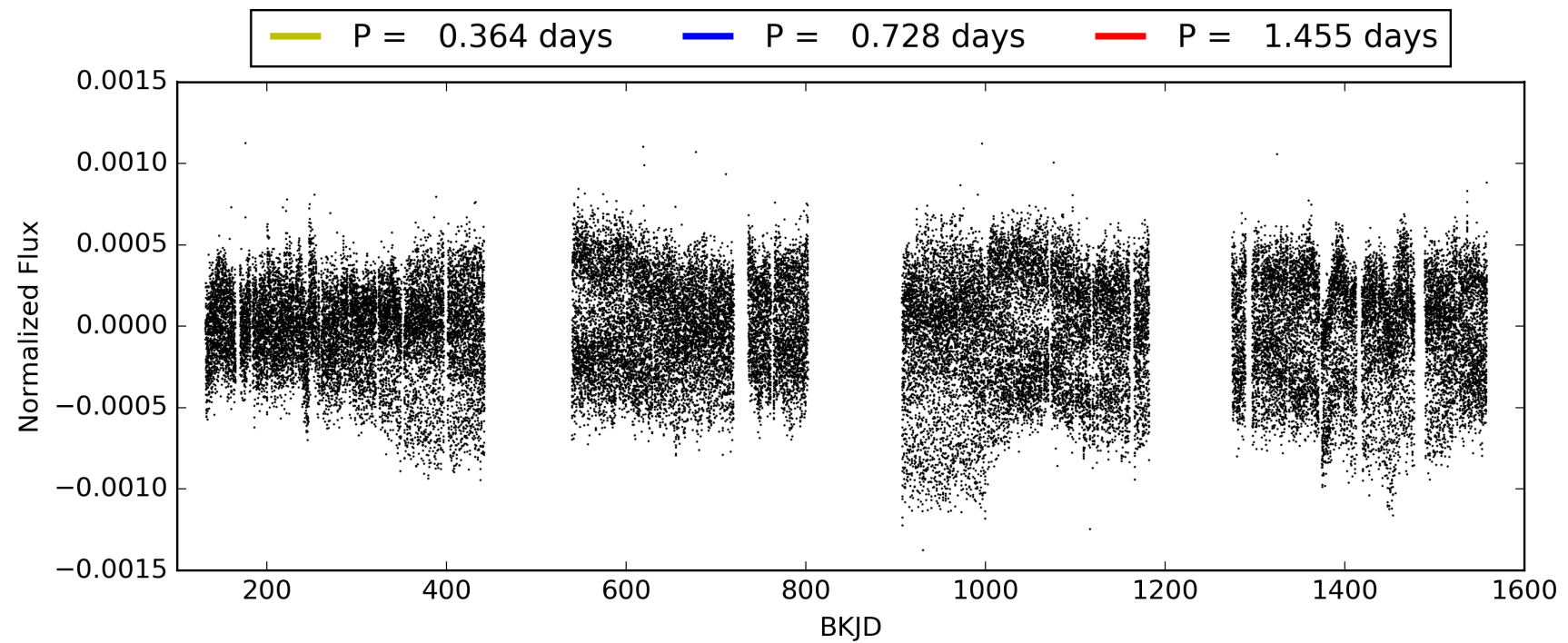
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 006341932-02, PDC Light Curves



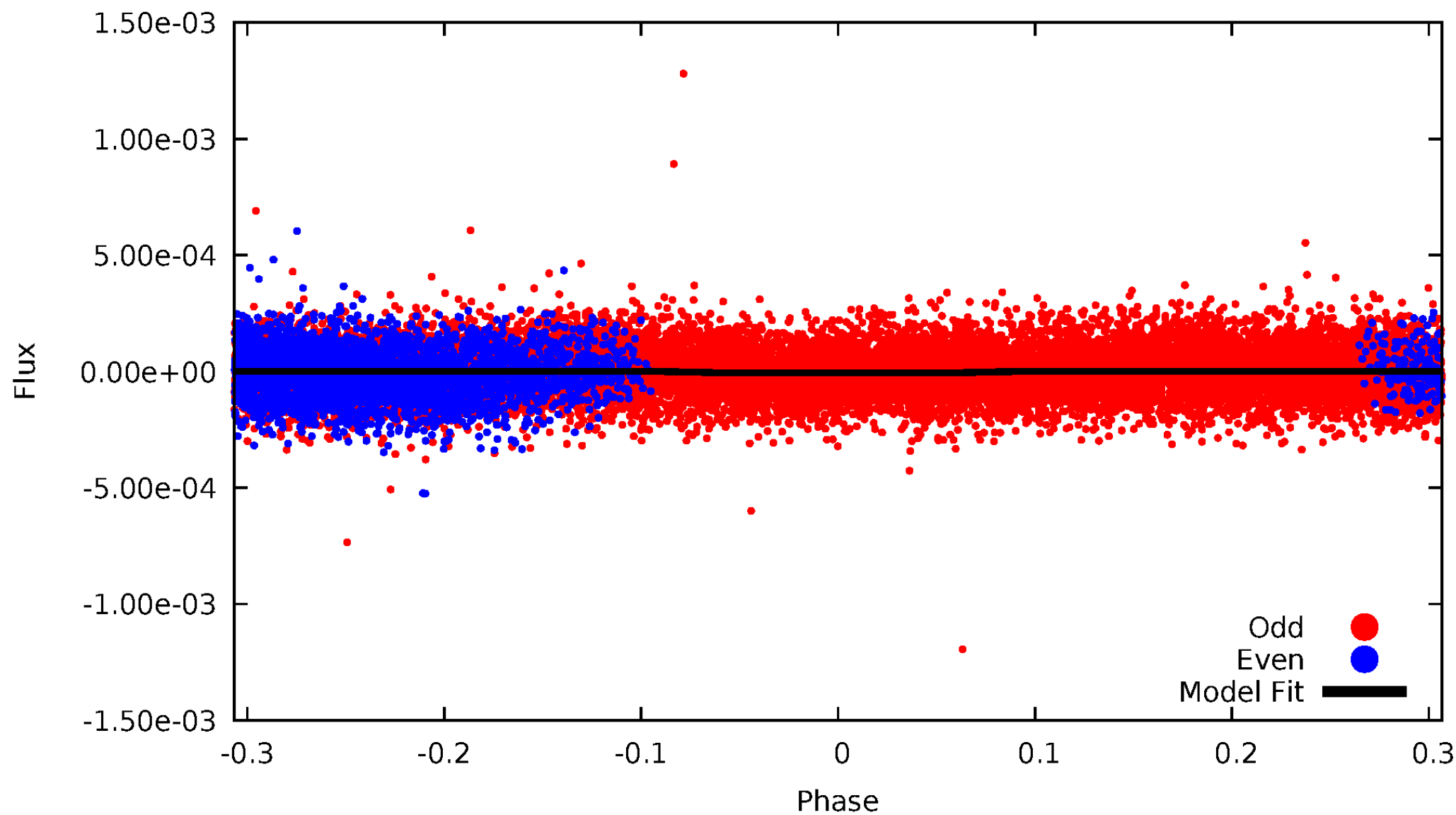


TCE 006341932-02



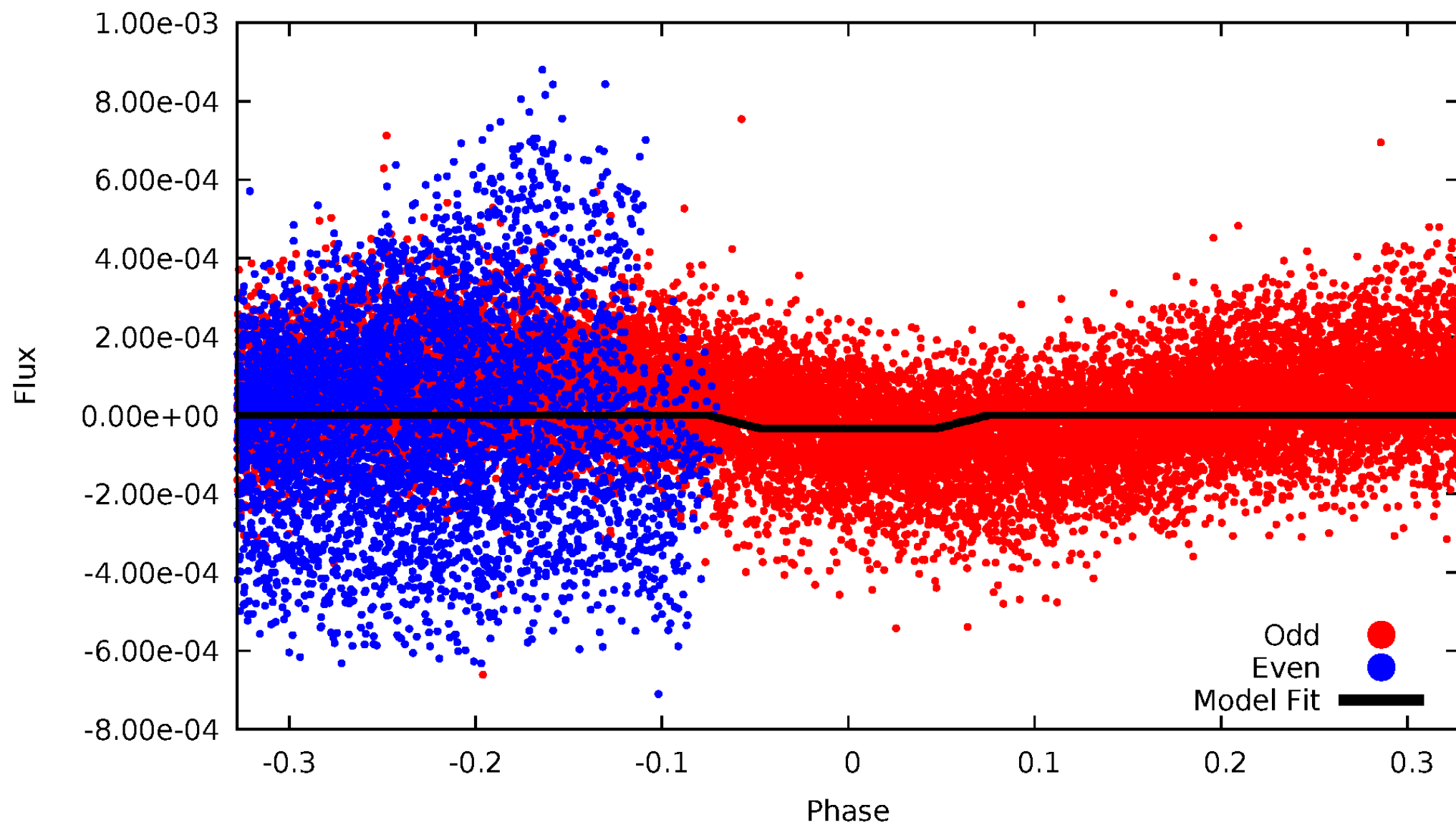
# DV Odd/Even

TCE 006341932-02



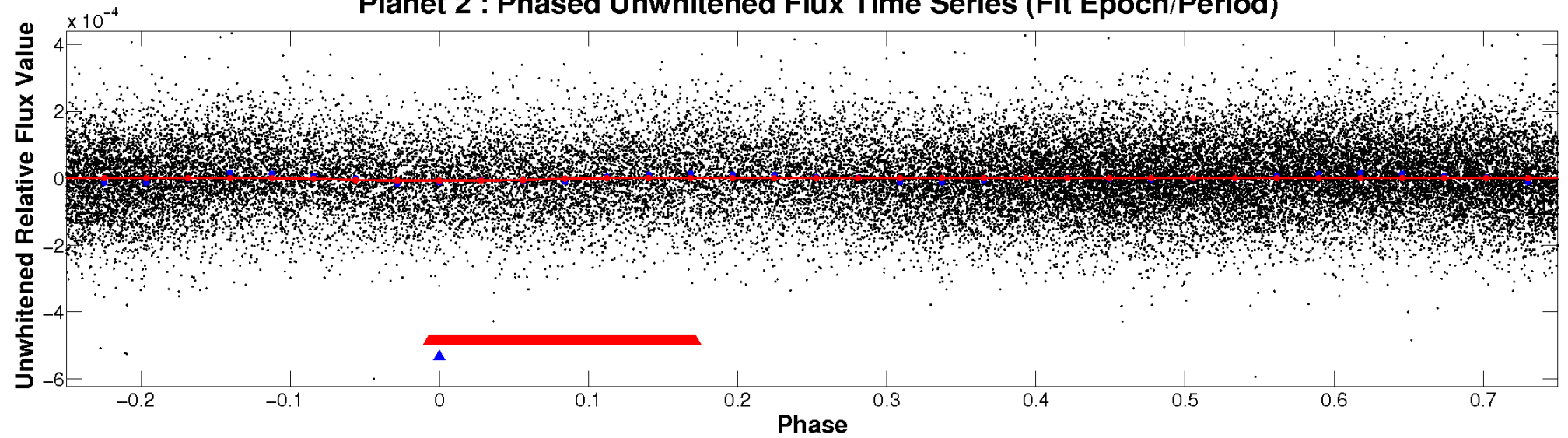
# ALT Odd/Even

TCE 006341932-02

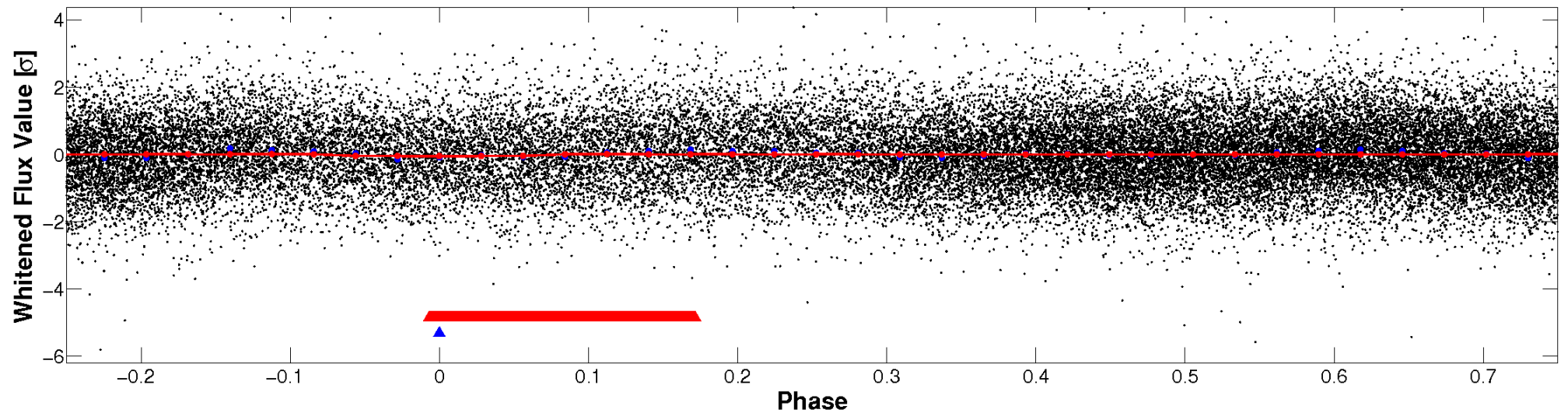


# Non-Whitened Vs. Whitened Light Curve

## Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)



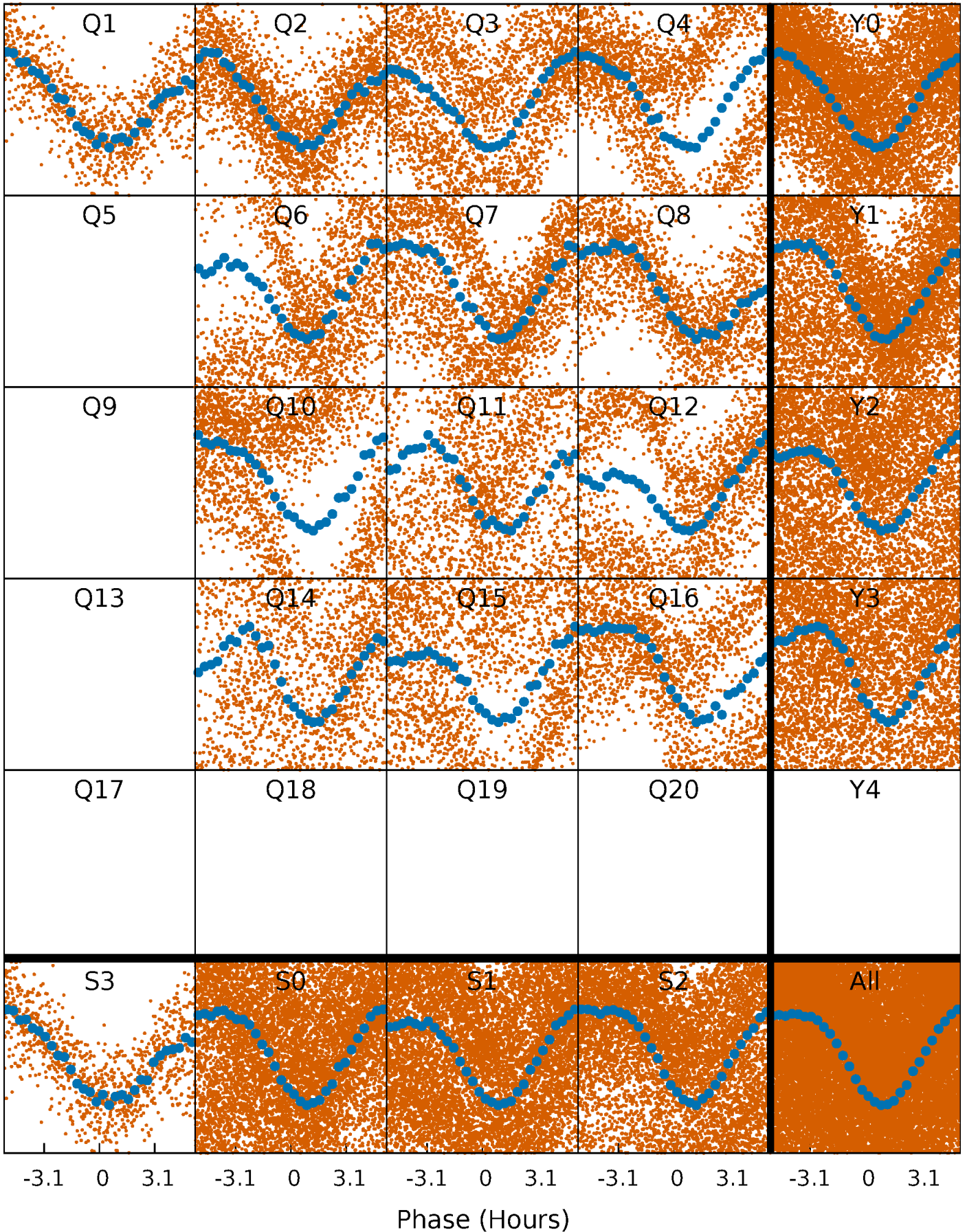
## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)





# PDC Quarter-Phased Transit Curves

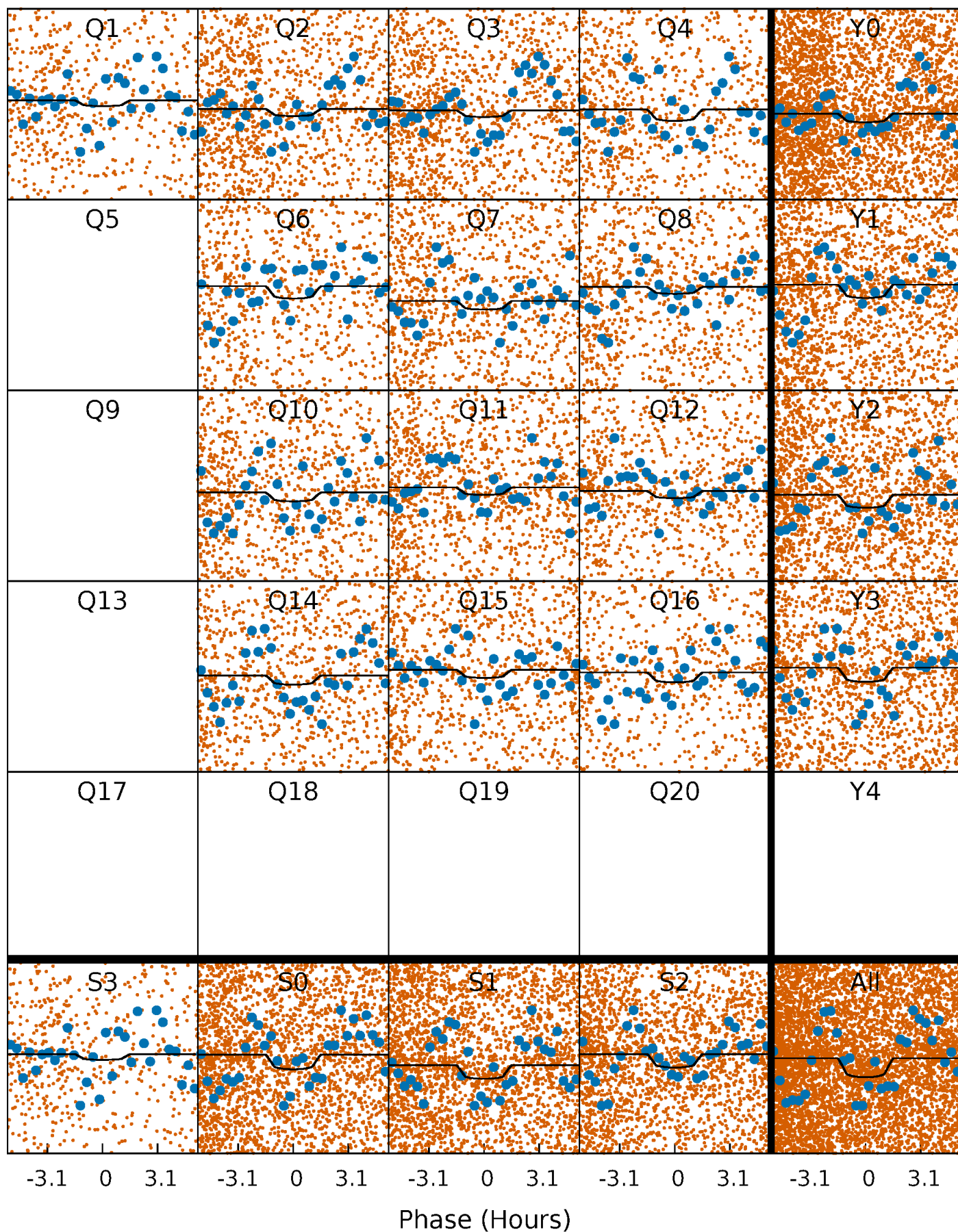
TCE 006341932-02   P= 0.727747 Days    $T_0=131.676903$  (BKJD)





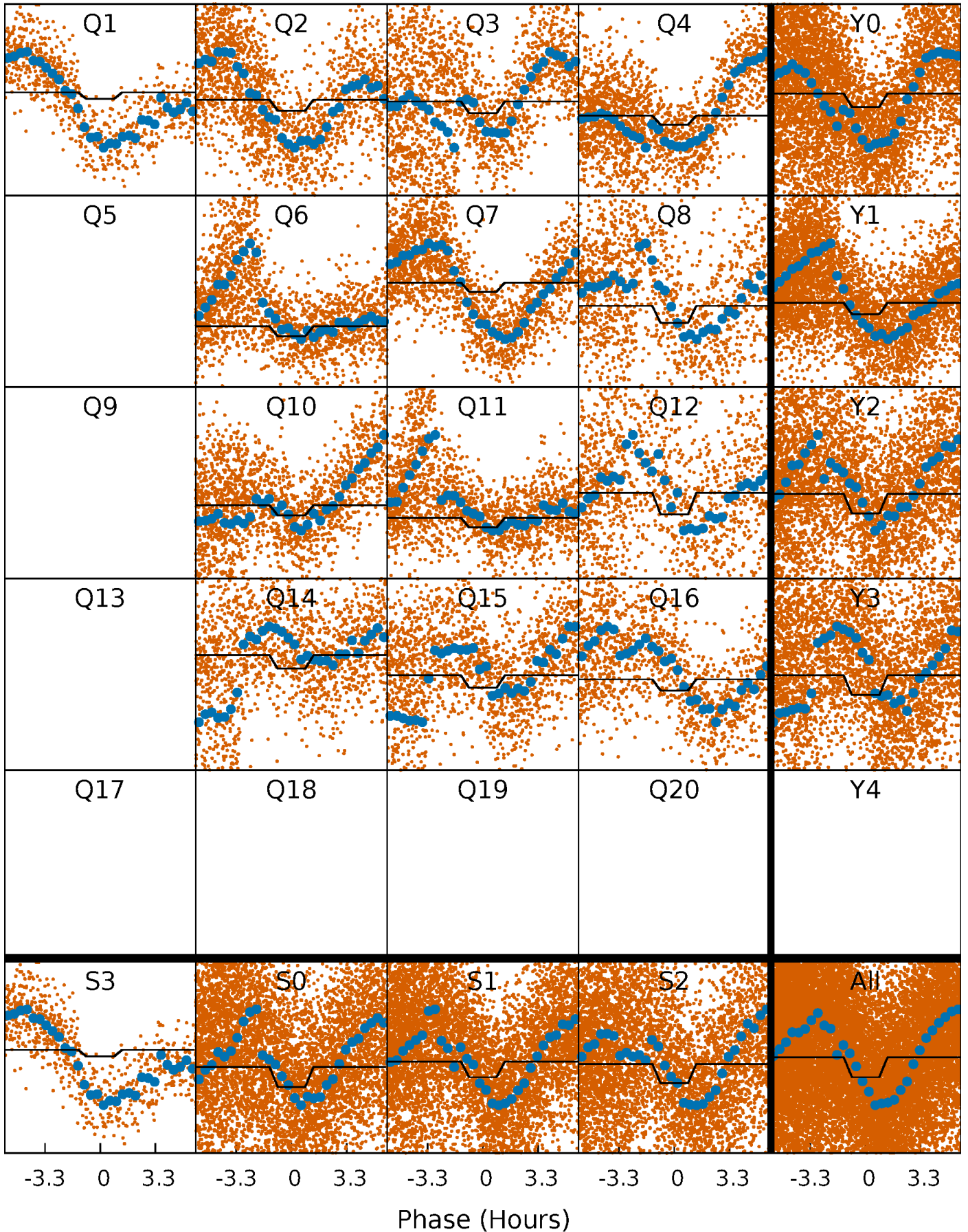
# DV Quarter-Phased Transit Curves

TCE 006341932-02     $P = 0.727747$  Days     $T_0 = 131.676903$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

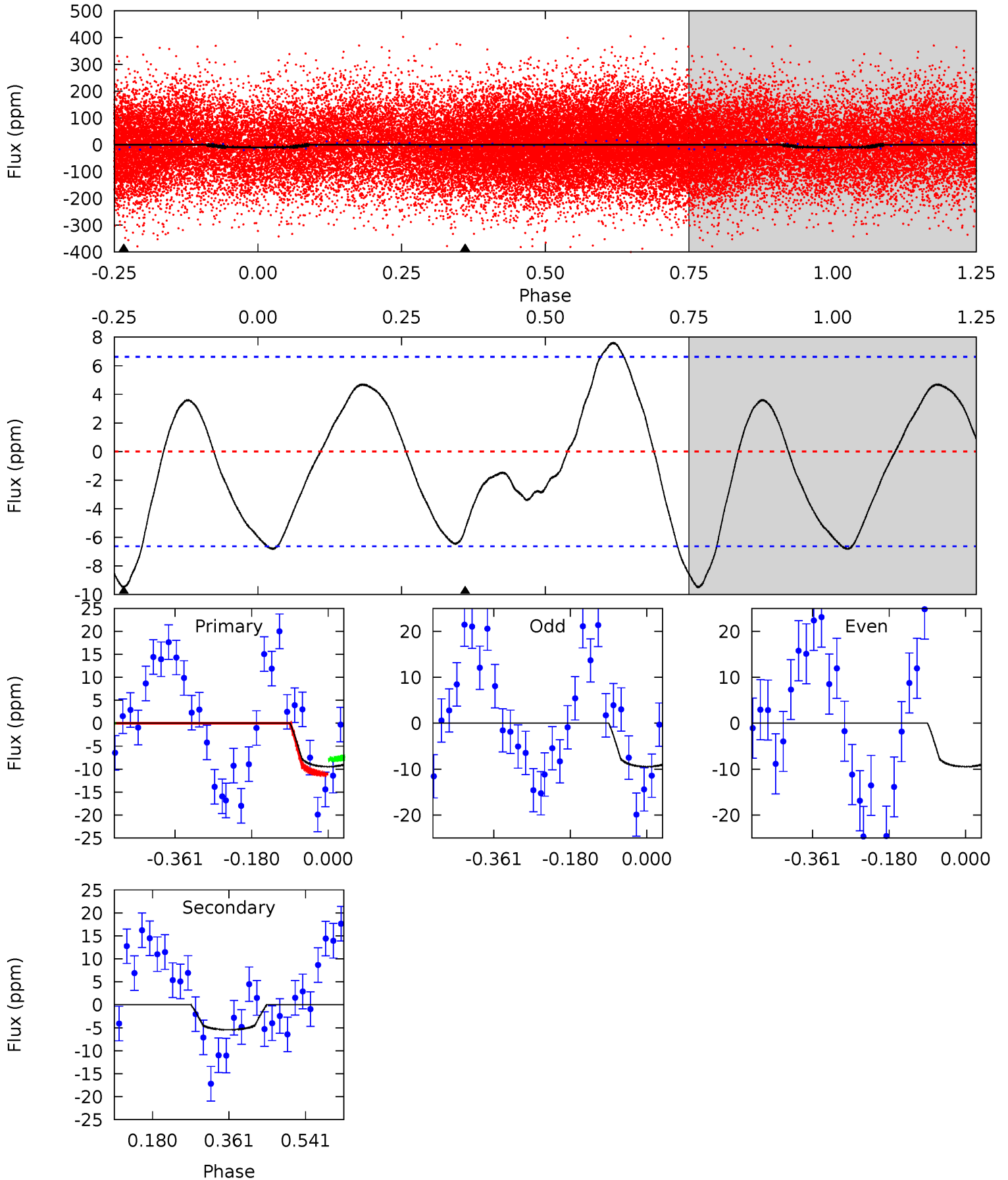
TCE 006341932-02   P= 0.727733 Days    $T_0=131.658422$  (BKJD)



# DV Model-Shift Uniqueness Test

006341932-02, P = 0.727747 Days, E = 130.949156 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
6.36	3.65	0	0	4.44	1.34	2.62	6.36	6.36	3.65	3.65	0	0.97	0.45	1.10

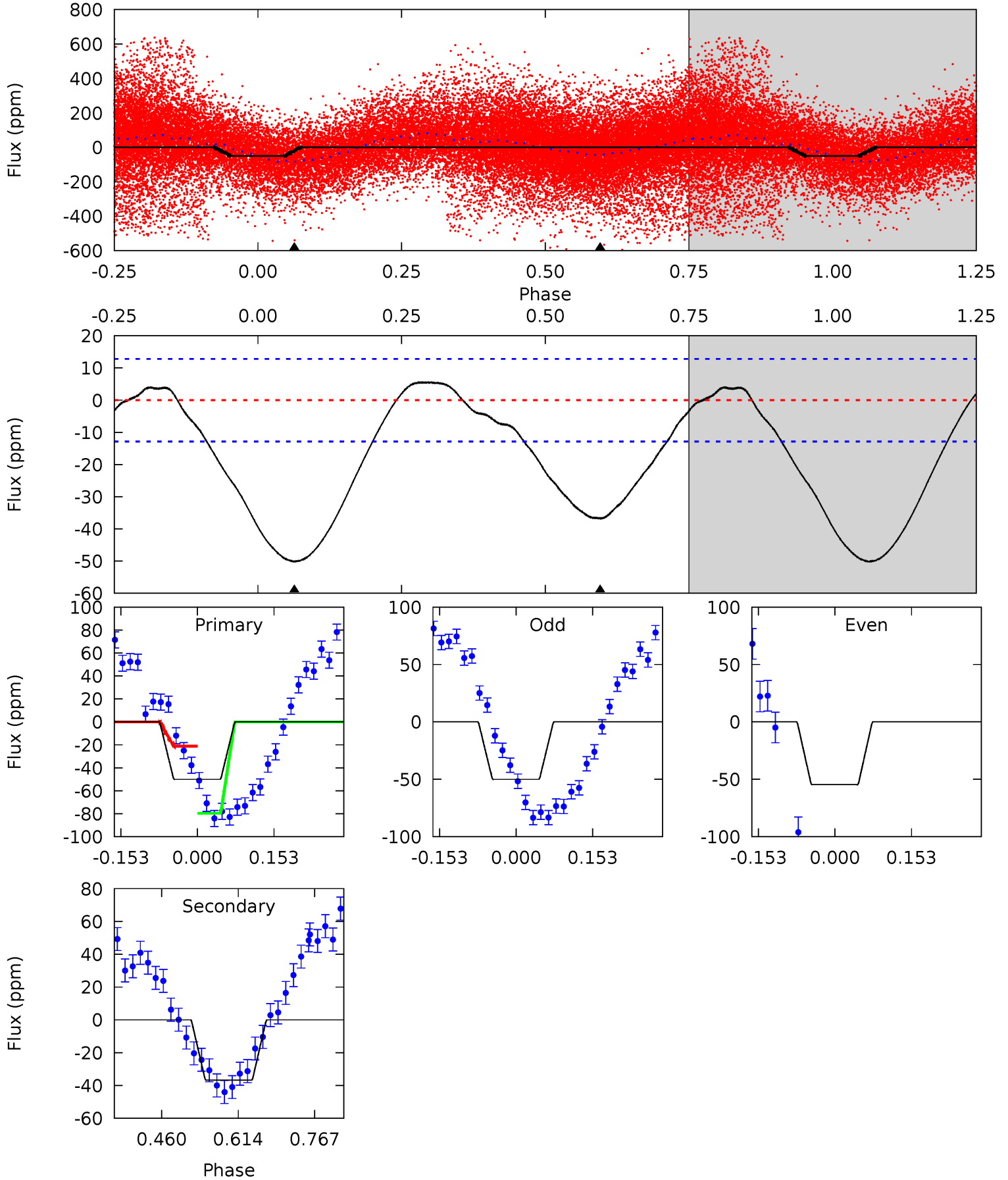




# Alt Model-Shift Uniqueness Test

006341932-02, P = 0.727733 Days, E = 130.930689 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
17.5	12.8	0	0	4.47	1.43	1.59	17.5	17.5	12.8	12.8	0.08	1.58	0.10	10.3



### Stellar Parameters For KIC 006341932

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6921^{+154}_{-222}$	$3.452^{+0.387}_{-0.065}$	$0.070^{+0.250}_{-0.250}$	$4.515^{+0.320}_{-1.917}$	$2.105^{+0.073}_{-0.415}$	$0.032^{+0.093}_{-0.007}$
	+2%/-3%	+11%/-2%	+357%/-357%	+7%/-42%	+3%/-20%	+290%/-21%
Source	PHO1	FLK73	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 006341932-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-5 \pm 1$	$1.22^{+0.65}_{-0.55}$	$6211^{+320}_{-641}$	$5506^{+2912}_{-2476}$	$0.786^{+2.028}_{-0.471}$
Alt.	$-37 \pm 3$	$2.60^{+0.80}_{-0.69}$	$6220^{+320}_{-622}$	$6535^{+1155}_{-965}$	$1.198^{+0.935}_{-0.481}$

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

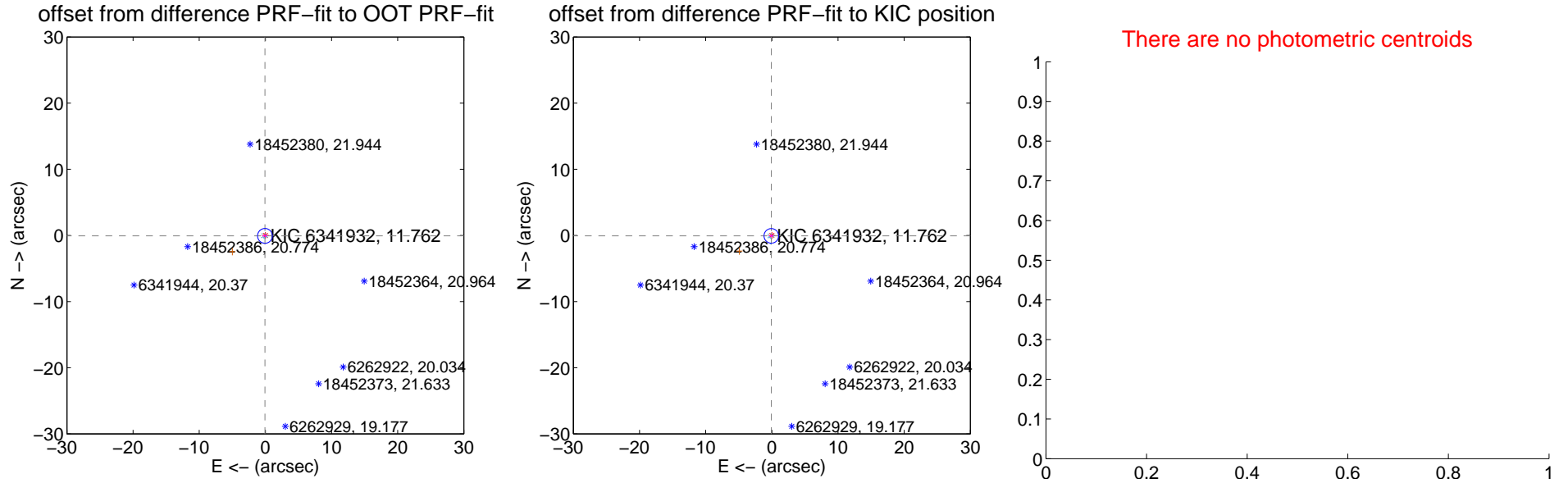
## DV Centroid Data

Supplemental centroid analysis for 006341932-02. **Kepler magnitude: 11.76.** Transit SNR 2.87

There are 12 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

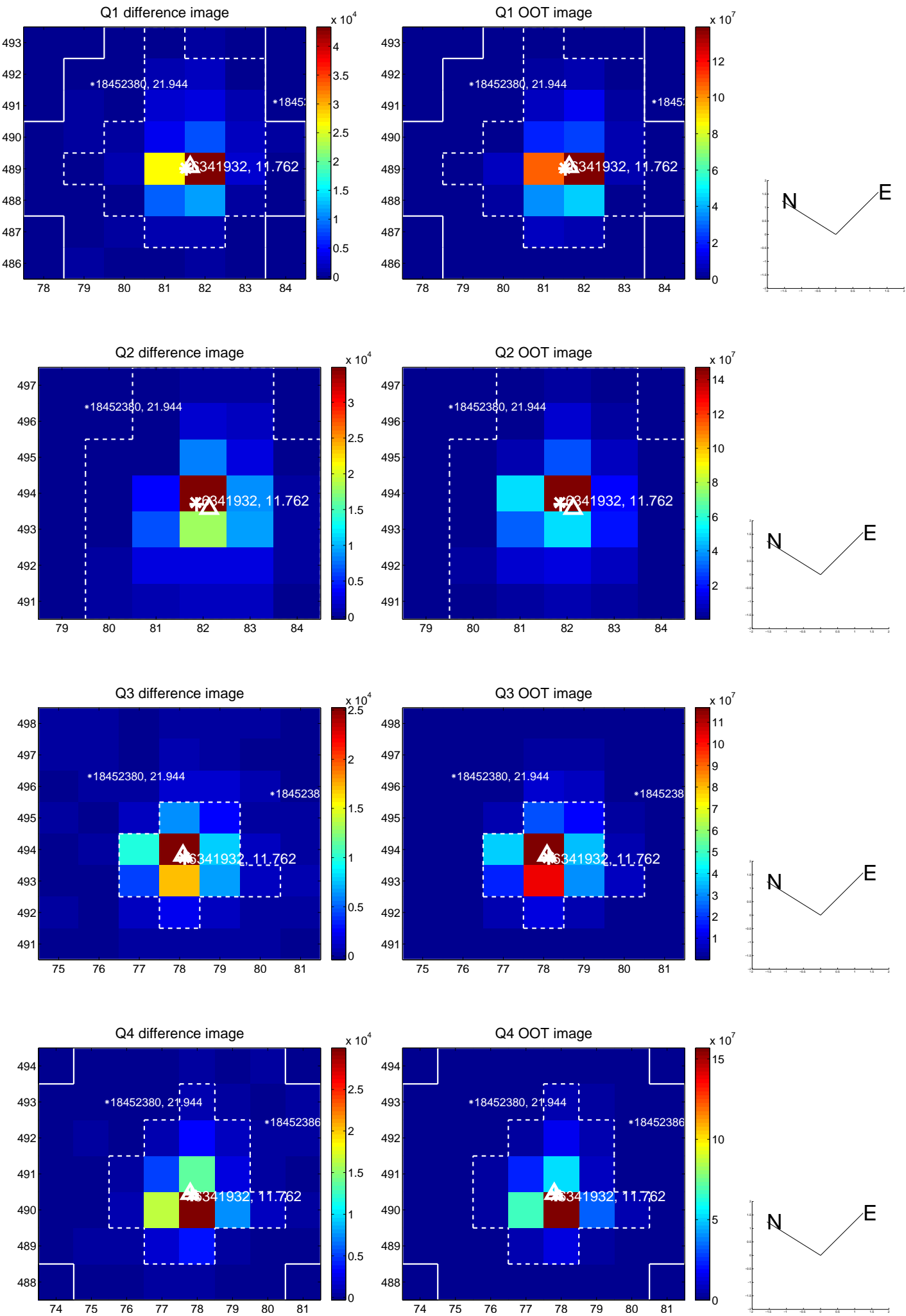
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.094 \pm 0.373$	0.25	$0.065 \pm 0.367$	$-0.068 \pm 0.192$
PRF-fit source offset from KIC position	$0.106 \pm 0.368$	0.29	$0.082 \pm 0.352$	$-0.068 \pm 0.189$
photometric centroid source offset	—	—	—	—



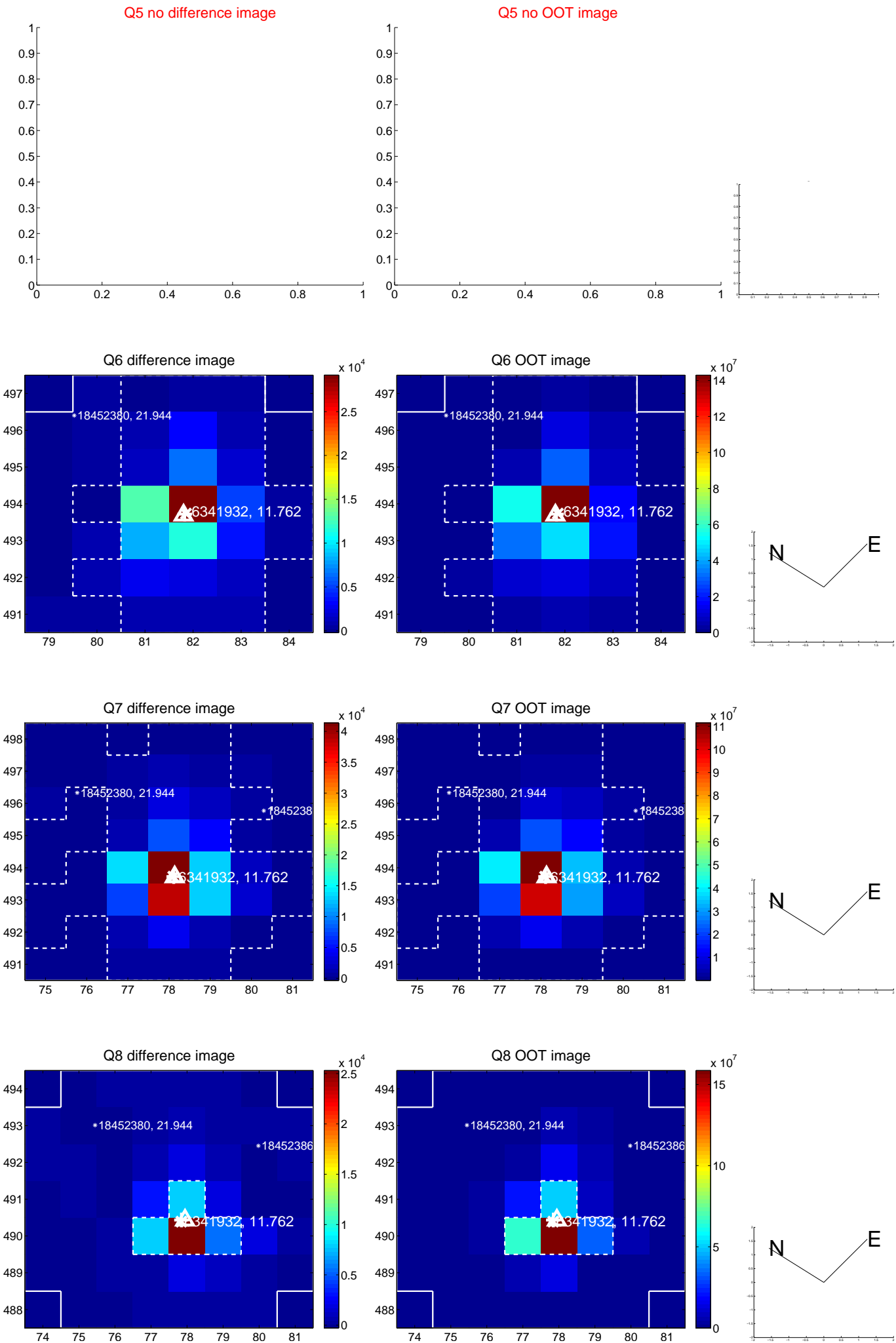
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



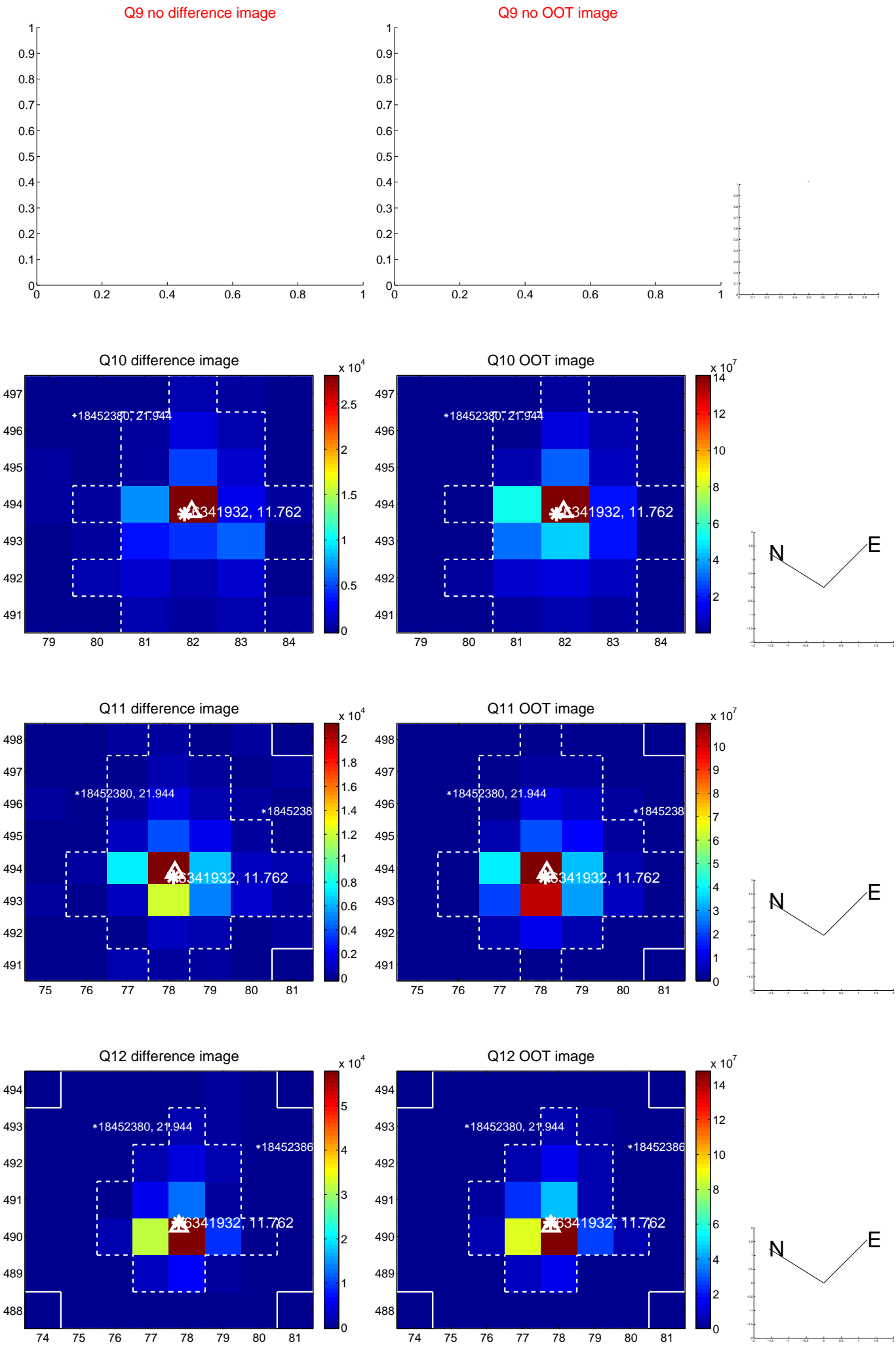
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



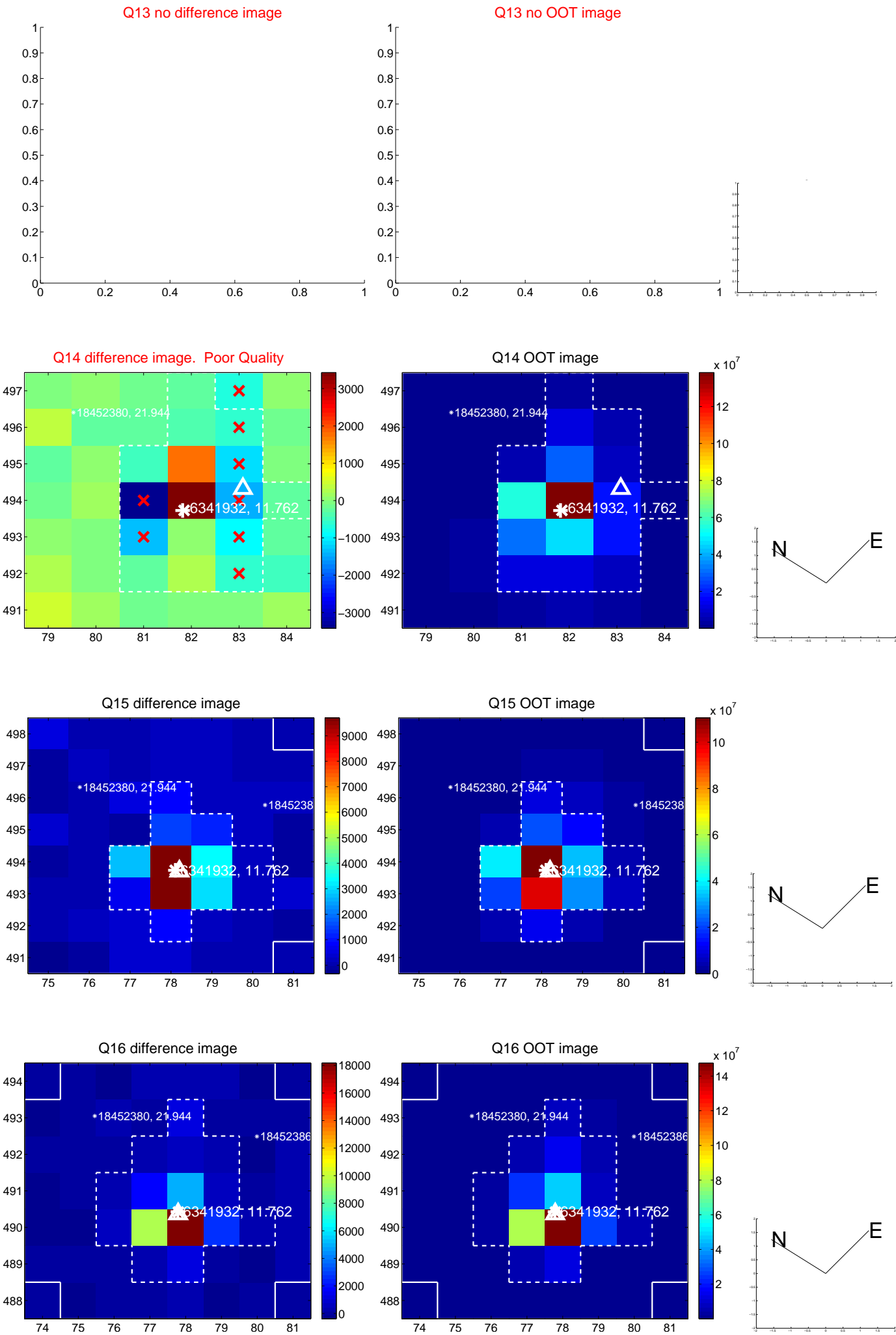
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



folded centroid time series figure for this object.

UKIRT Image

Declination

