

# KIC 009279865

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009279865-01	OBS	No	2.164562	133.045884	24.1	13.978	7.3	3.8	1.82	6532	0.93	4311.55
009279865-02	OBS	No	106.353524	160.048391	1824.6	15.046	26.8	14.0	1.82	6532	9.96	23.96
009279865-03	OBS	No	2.164461	131.985242	86.2	6.993	16.1	18.0	1.82	6532	1.70	4311.82

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009279865-01	OBS	FP	0.00	1	0	0	0	LPP_DV
009279865-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS
009279865-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—SAME_NTL_PERIOD

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

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

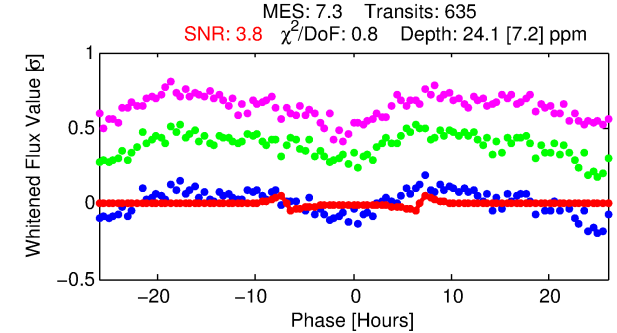
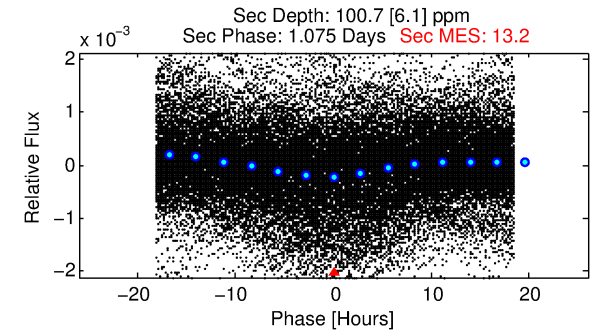
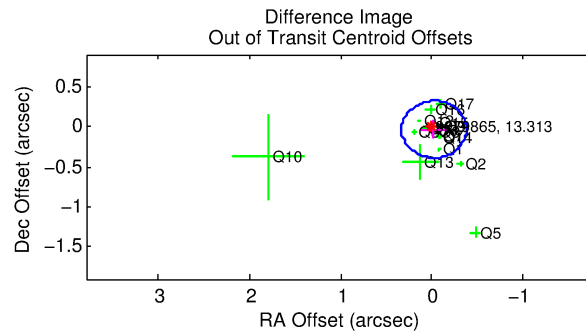
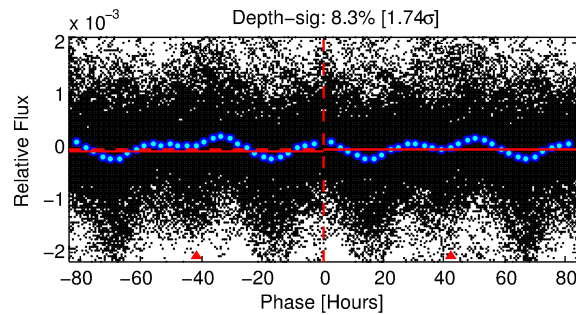
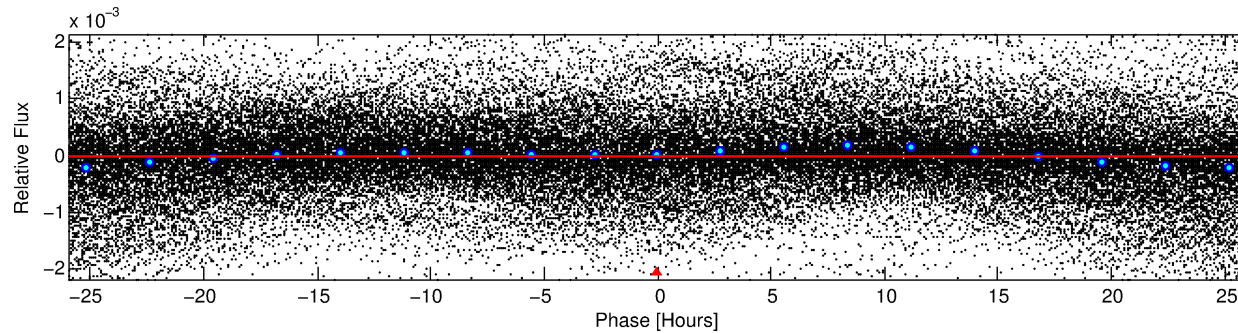
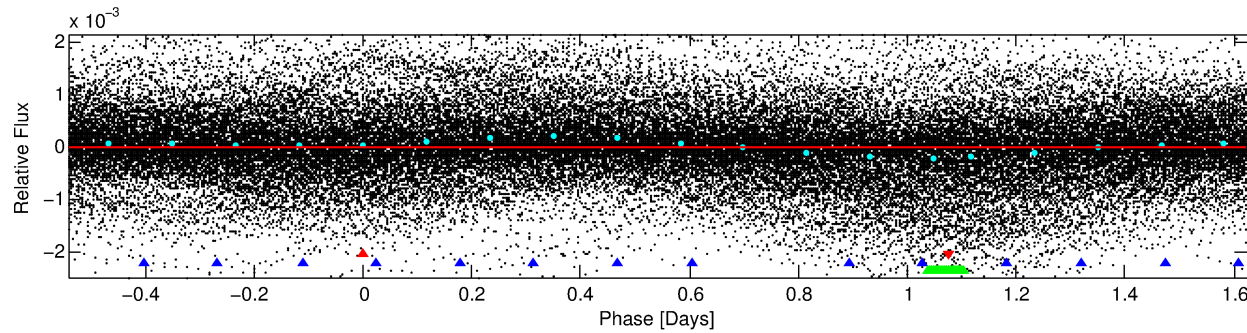
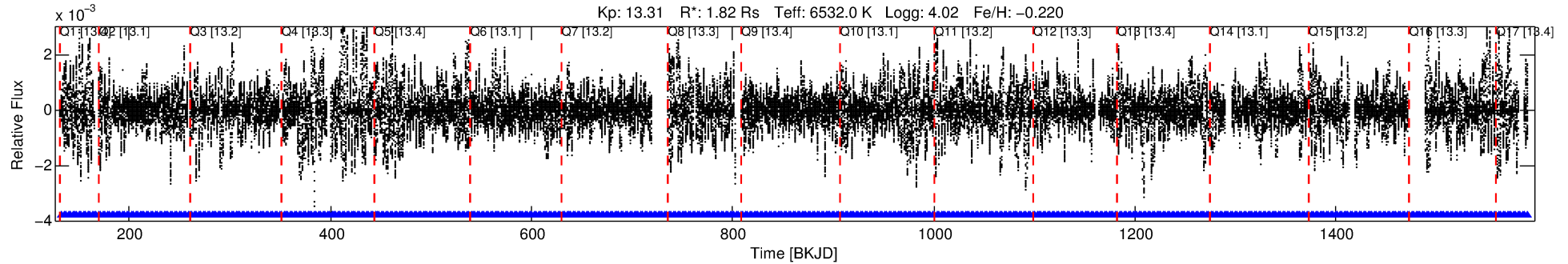
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 009279865-01

No Significant Match Found

# DV One-Page Summary

KIC: 9279865 Candidate: 1 of 3 Period: 2.165 d



## DV Fit Results:

Period = 2.16456 [0.00003] d  
Epoch = 133.0459 [0.0062] BKJD  
Rp/R\* = 0.0047 [0.0022]  
a/R\* = 1.25 [1.14]  
b = 0.56 [3.12]  
Seff = 4311.55 [2330.01]  
Teq = 2066 [279] K  
Rp = 0.93 [0.54] Re  
a = 0.0354 [0.0116] AU  
Ag = 79.97 [85.96] [0.92 $\sigma$ ]  
Teff = 9553 [2268] K [3.28 $\sigma$ ]

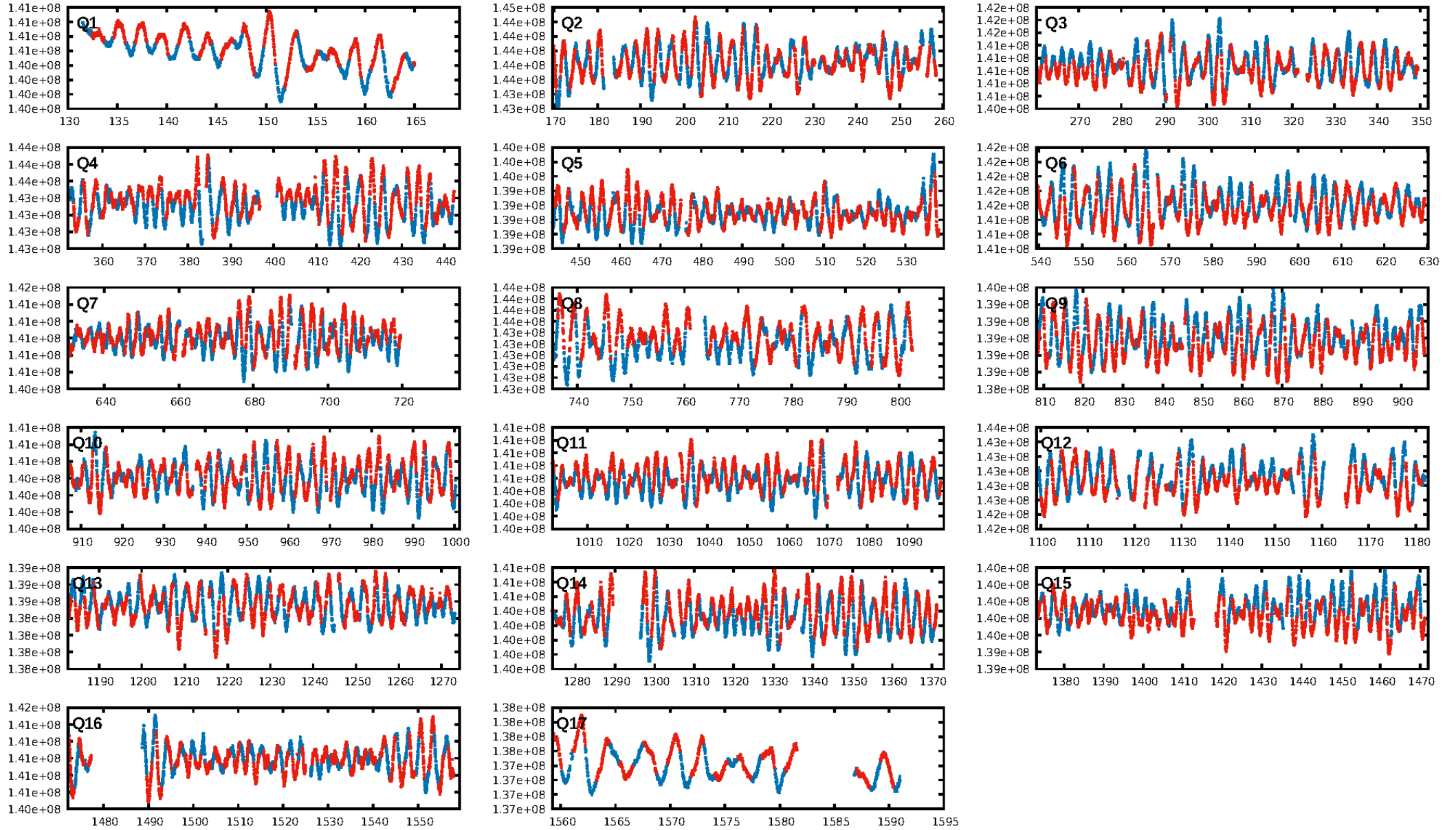
## DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 $\sigma$ ]  
LongPeriod-sig: 100.0% [121.76 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [607/607]  
GhostDiagnostic-chr: 2.347  
Centroid-sig: 73.5%  
Centroid-so: 0.294 arcsec [0.47 $\sigma$ ]  
OotOffset-rm: 0.045 arcsec [0.38 $\sigma$ ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-rm: 0.098 arcsec [0.80 $\sigma$ ]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.53 [9/17]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:23:15 Z

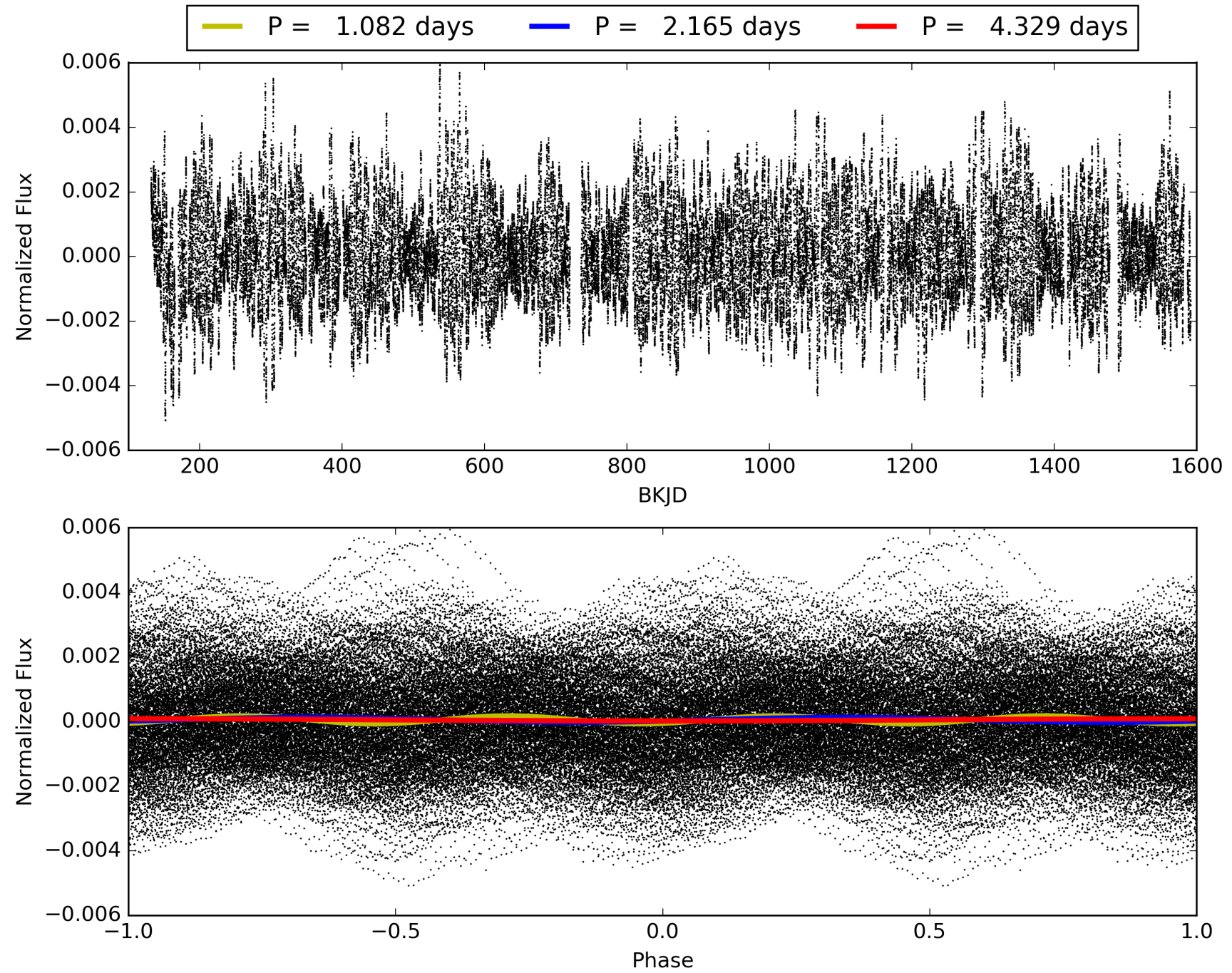
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 009279865-01, PDC Light Curves





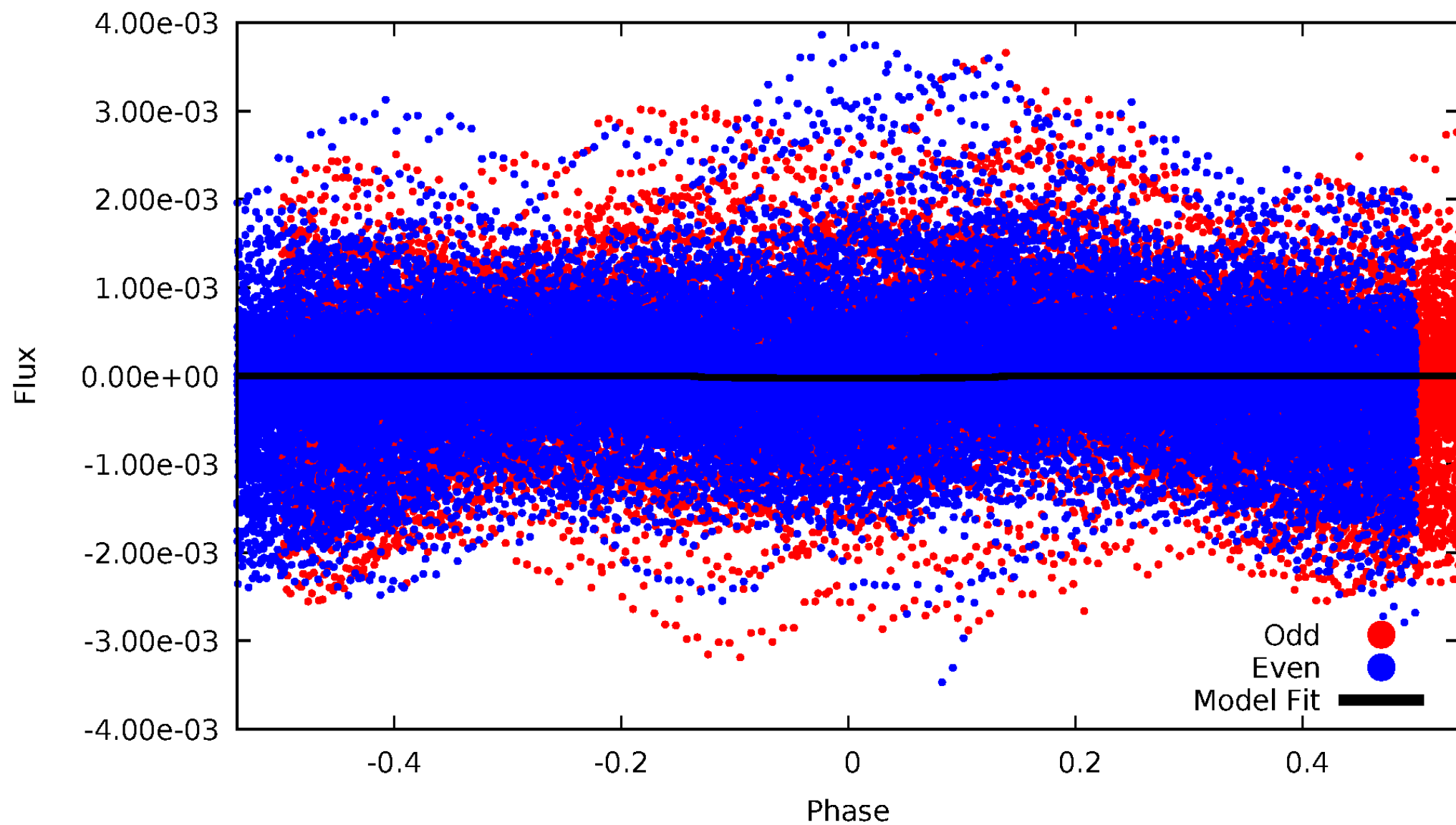
TCE 009279865-01





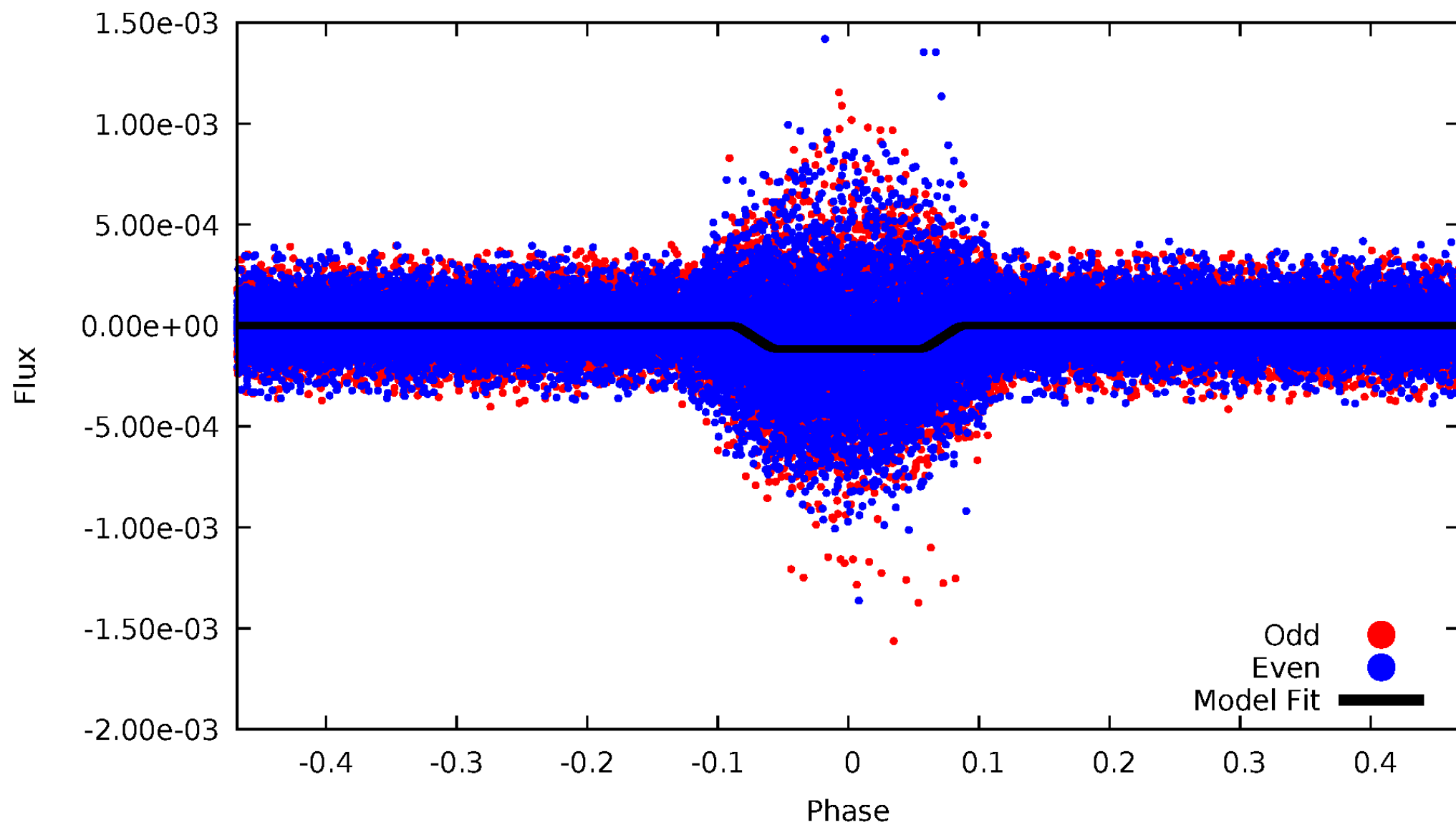
# DV Odd/Even

TCE 009279865-01



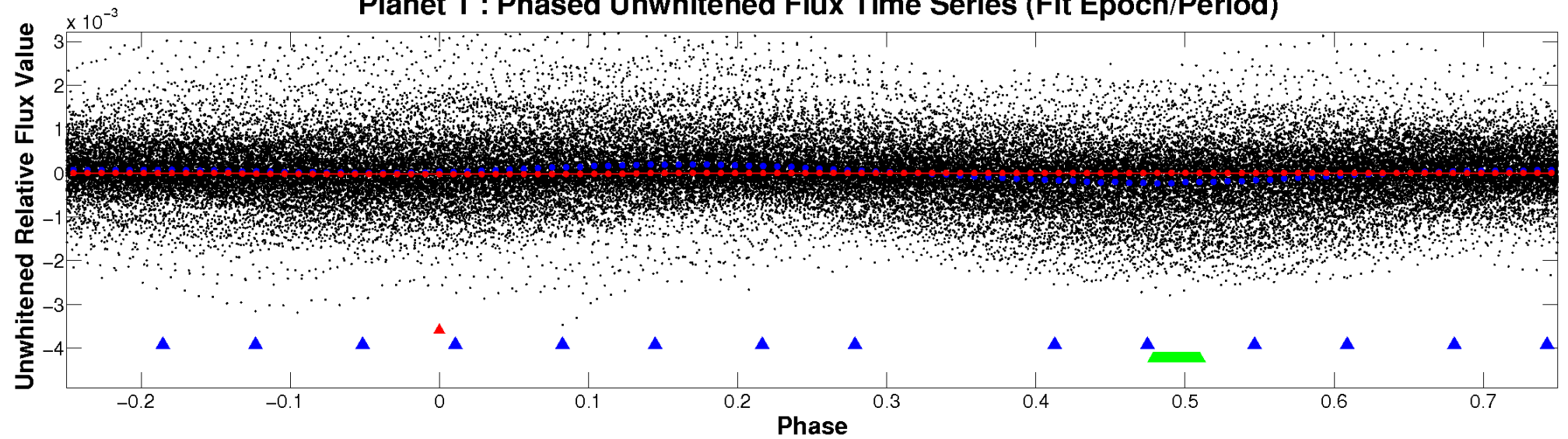
# ALT Odd/Even

TCE 009279865-01

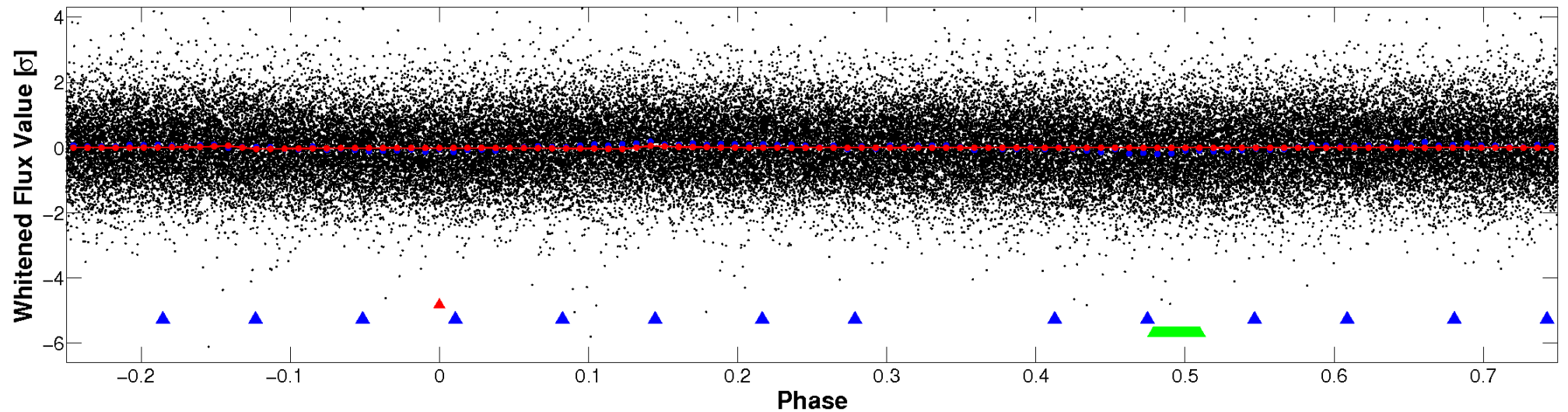


# Non-Whitened Vs. Whitened Light Curve

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



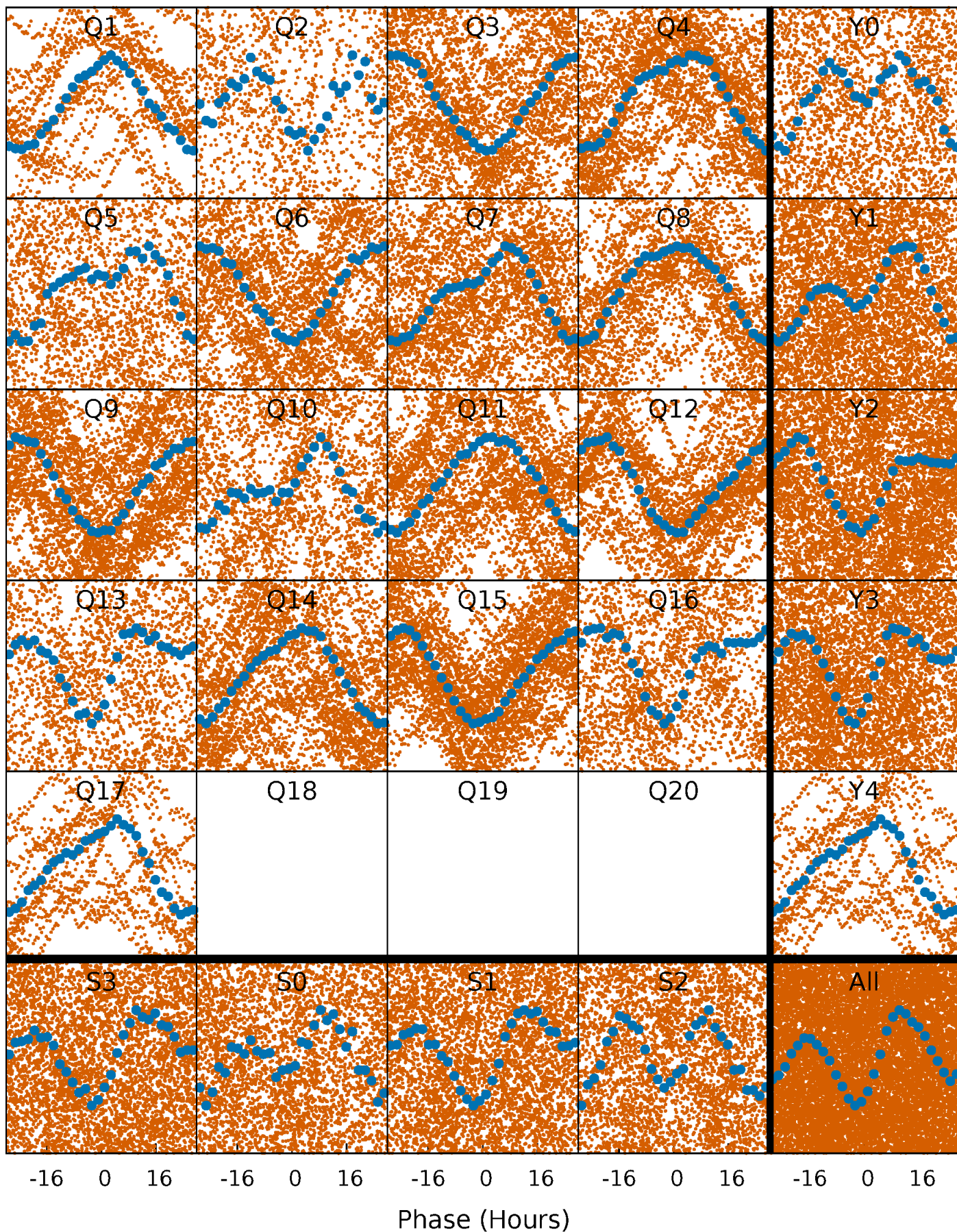
## Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)





# PDC Quarter-Phased Transit Curves

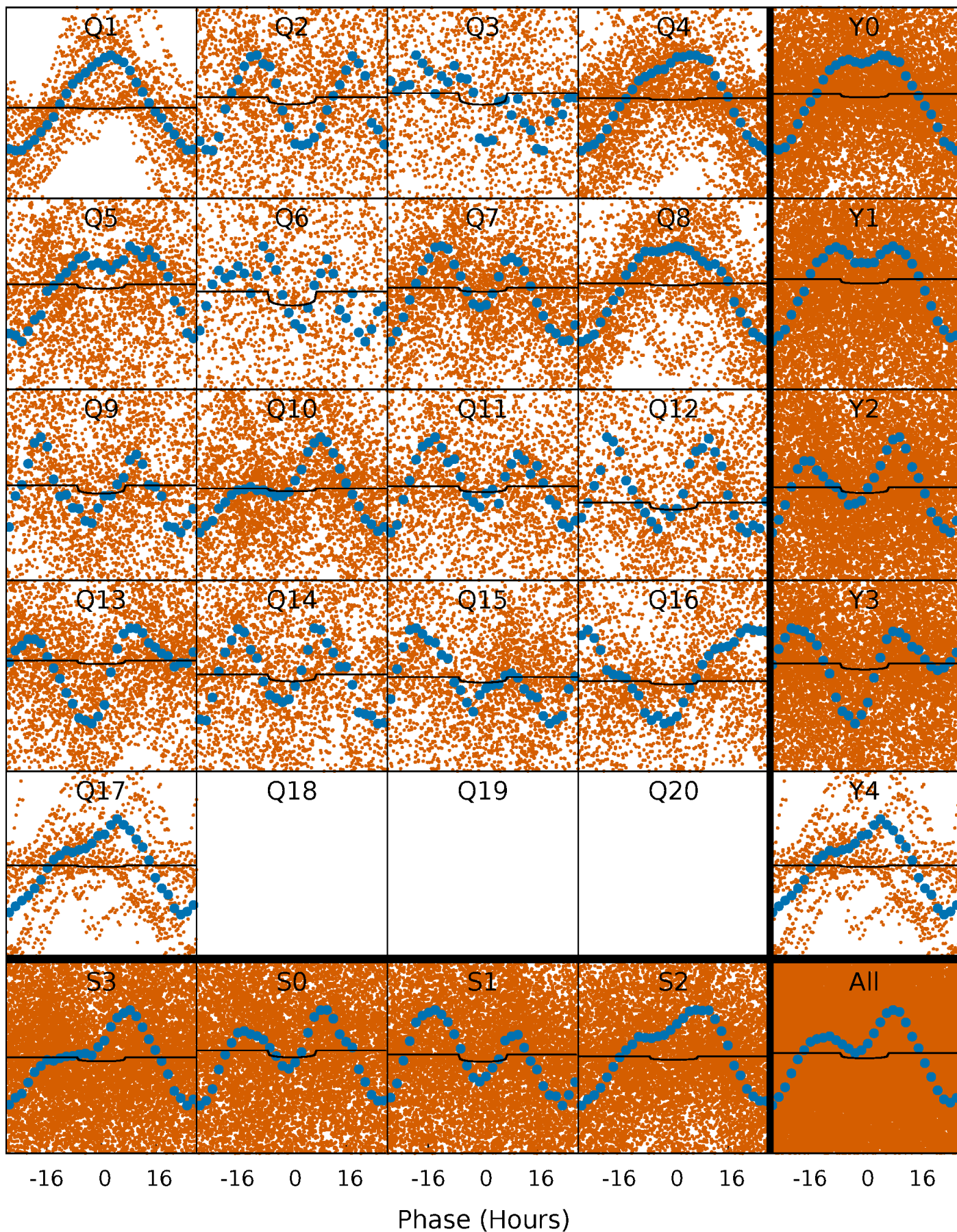
TCE 009279865-01 P= 2.164562 Days  $T_0=133.045884$  (BKJD)





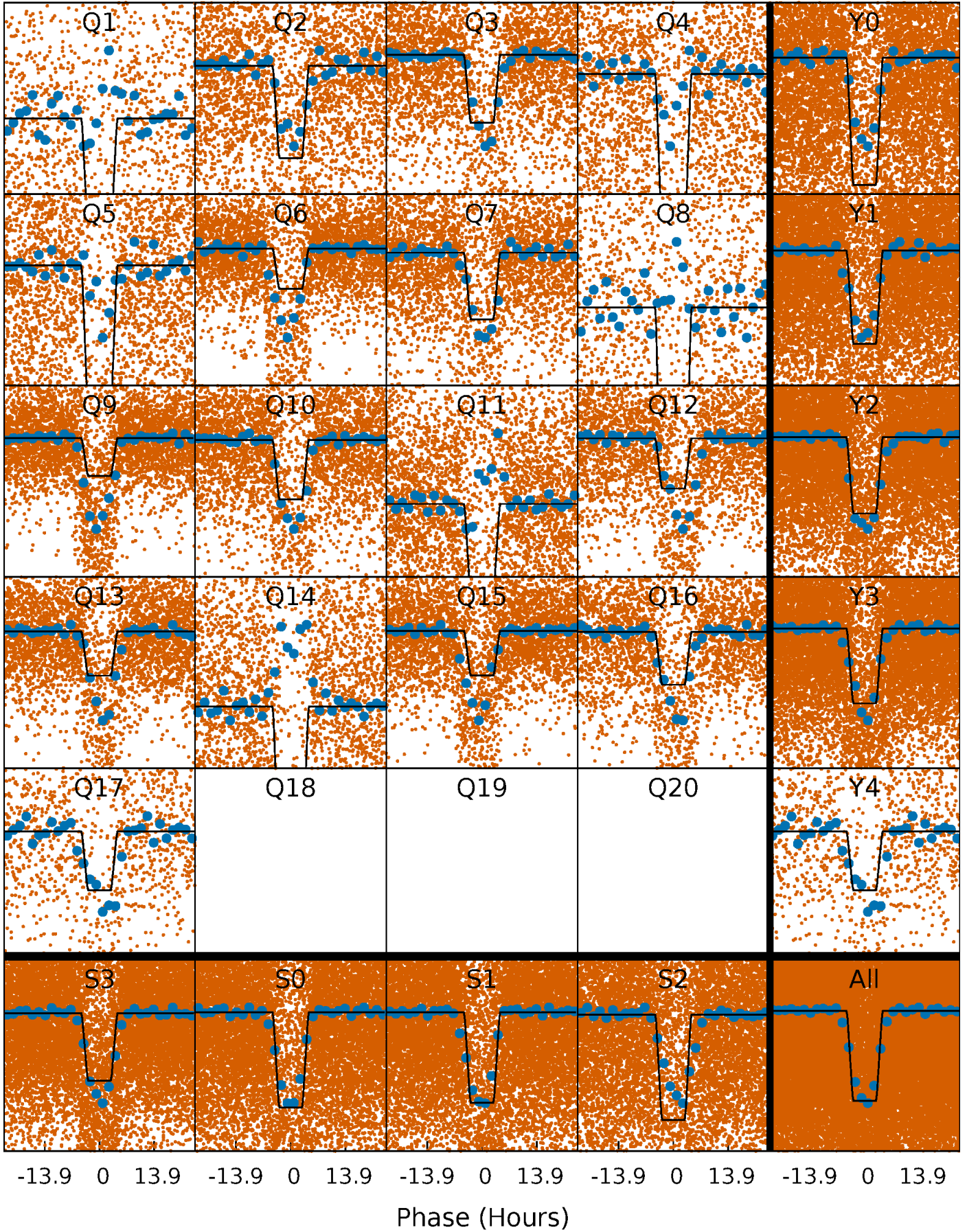
# DV Quarter-Phased Transit Curves

TCE 009279865-01 P= 2.164562 Days  $T_0=133.045884$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 009279865-01 P= 2.164372 Days  $T_0=133.067849$  (BKJD)

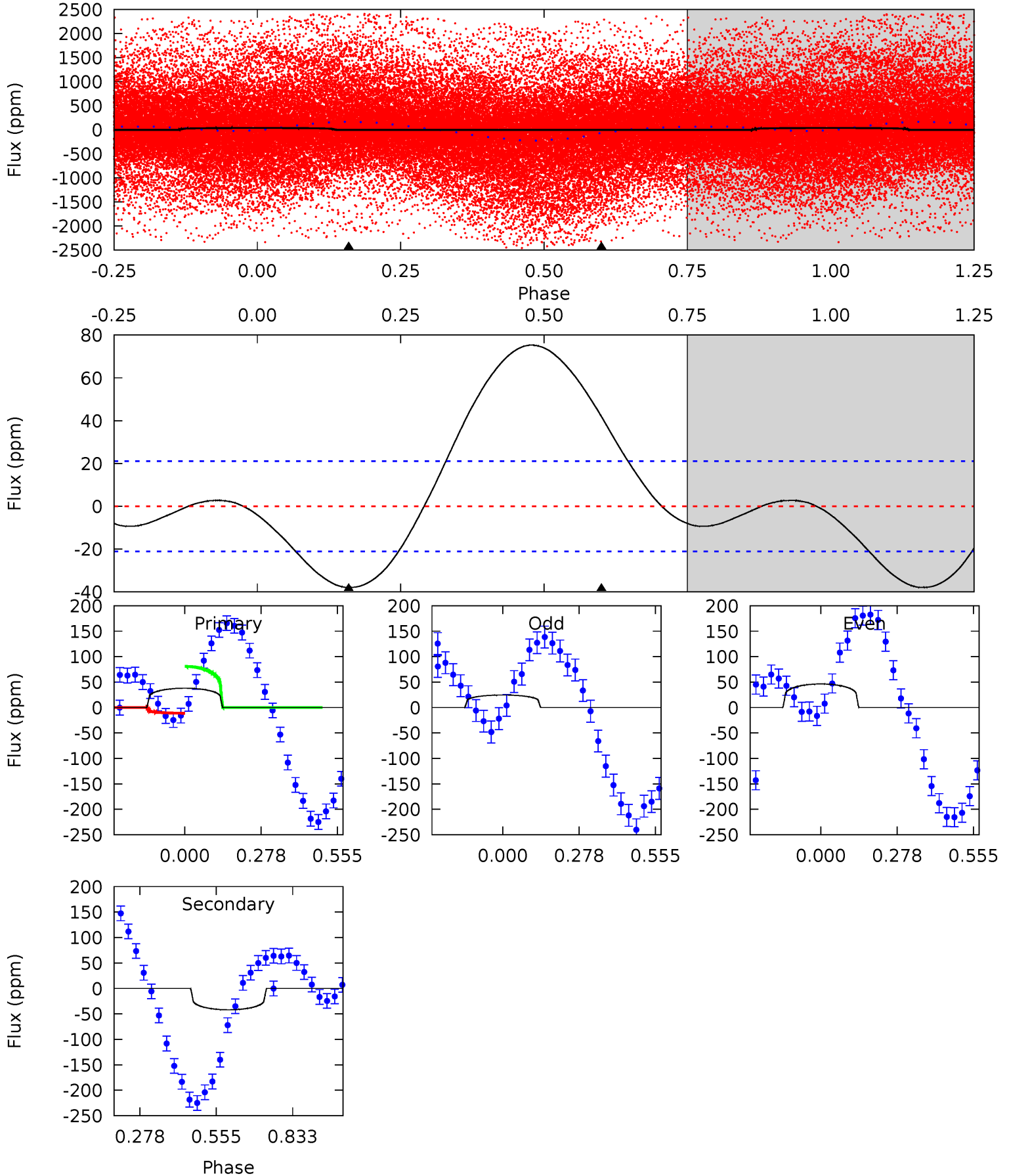




# DV Model-Shift Uniqueness Test

009279865-01, P = 2.164562 Days, E = 130.881322 Days

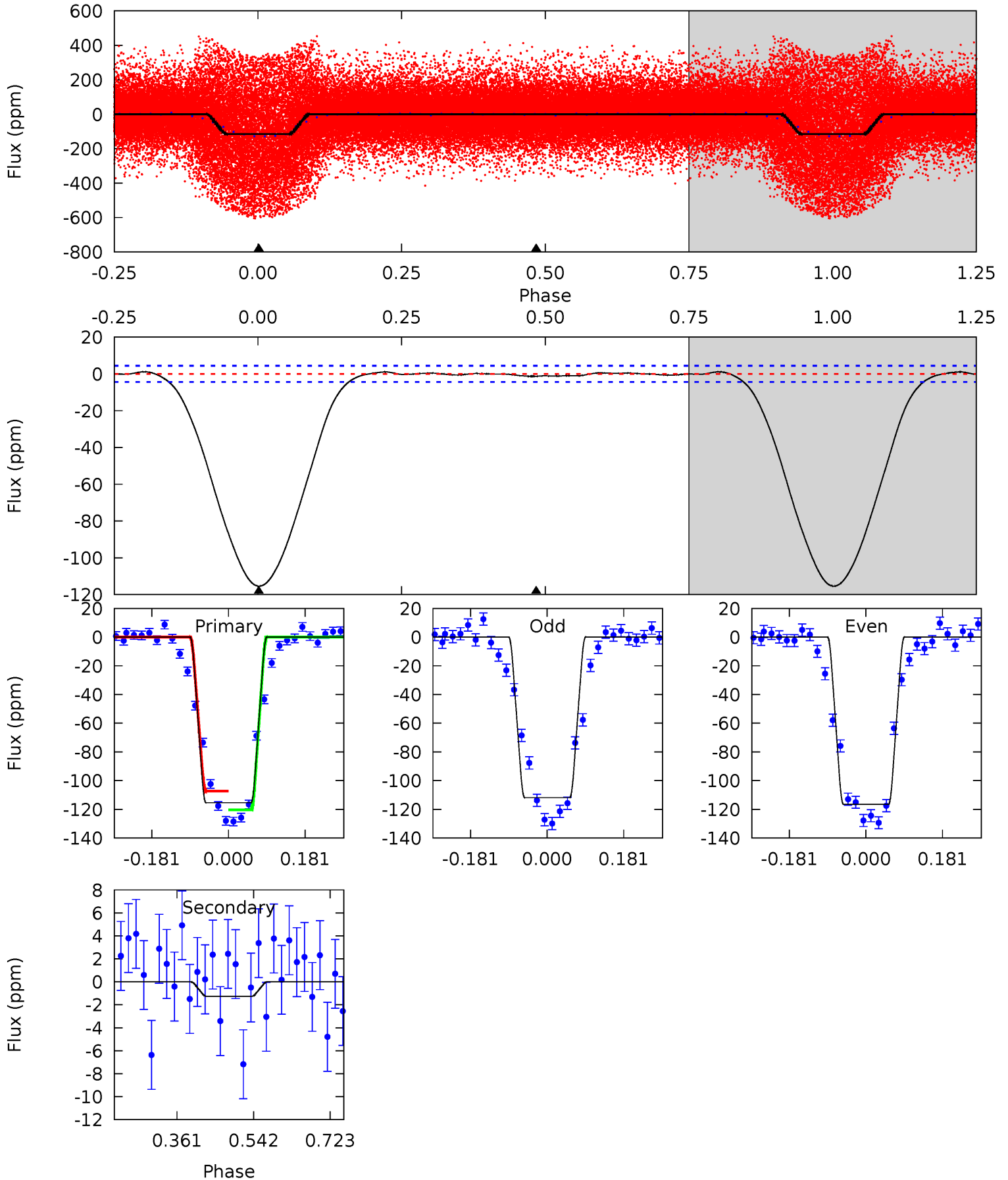
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.82	-8.65	0	0	4.35	1.09	0.56	7.82	7.82	-8.65	-8.65	2.26	2.58	0.67	7.25



# Alt Model-Shift Uniqueness Test

009279865-01, P = 2.164372 Days, E = 130.903477 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
116.0	1.27	0	0	4.44	1.34	0.51	116.0	116.0	1.27	1.27	2.34	0.88	0.01	6.57



### Stellar Parameters For KIC 009279865

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6532^{+181}_{-227}$	$4.019^{+0.306}_{-0.165}$	$-0.220^{+0.250}_{-0.300}$	$1.820^{+0.510}_{-0.623}$	$1.266^{+0.193}_{-0.236}$	$0.296^{+0.648}_{-0.140}$
	+3%/-3%	+8%/-4%	+114%/-136%	+28%/-34%	+15%/-19%	+219%/-47%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 009279865-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$42 \pm 5$	$0.90^{+0.45}_{-0.39}$	$2857^{+228}_{-305}$	$-7788^{+1470}_{-3435}$	$-35.404^{+19.356}_{-79.363}$
Alt.	$-1 \pm 1$	$2.06^{+0.55}_{-0.55}$	$2842^{+251}_{-254}$	$-2582^{+5275}_{-415}$	$0.201^{+0.266}_{-0.161}$

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



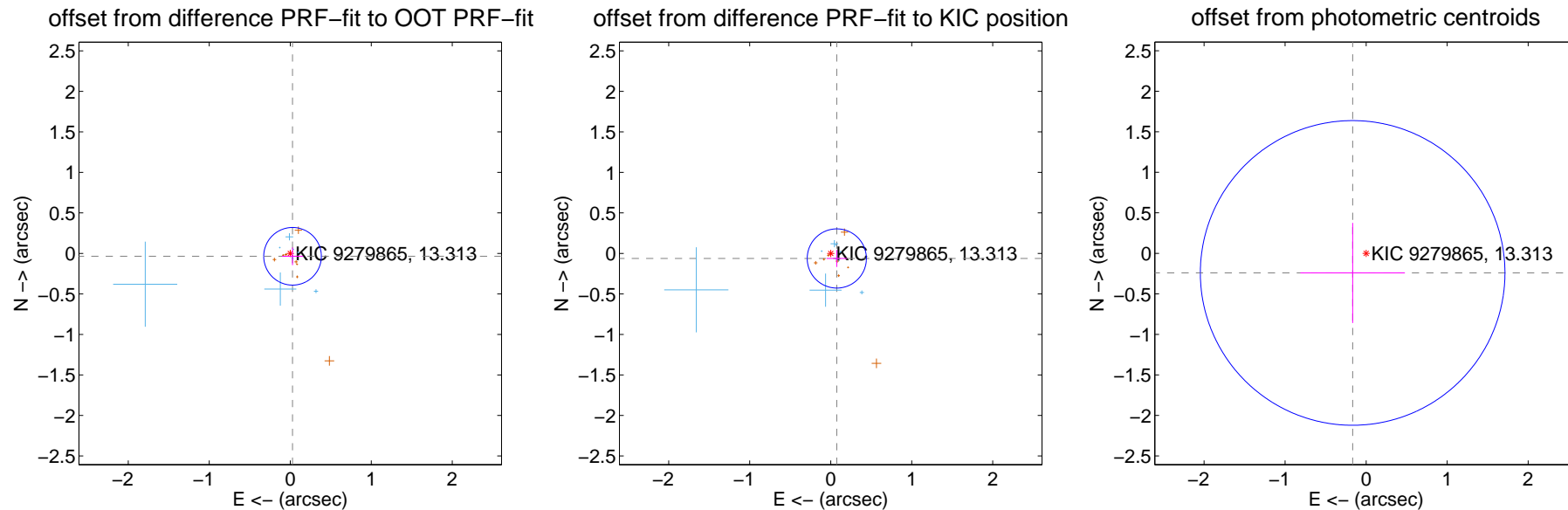
## DV Centroid Data

Supplemental centroid analysis for 009279865-01. Kepler magnitude: 13.31. Transit SNR 3.84

There are 9 quarters with good PRF difference image offsets

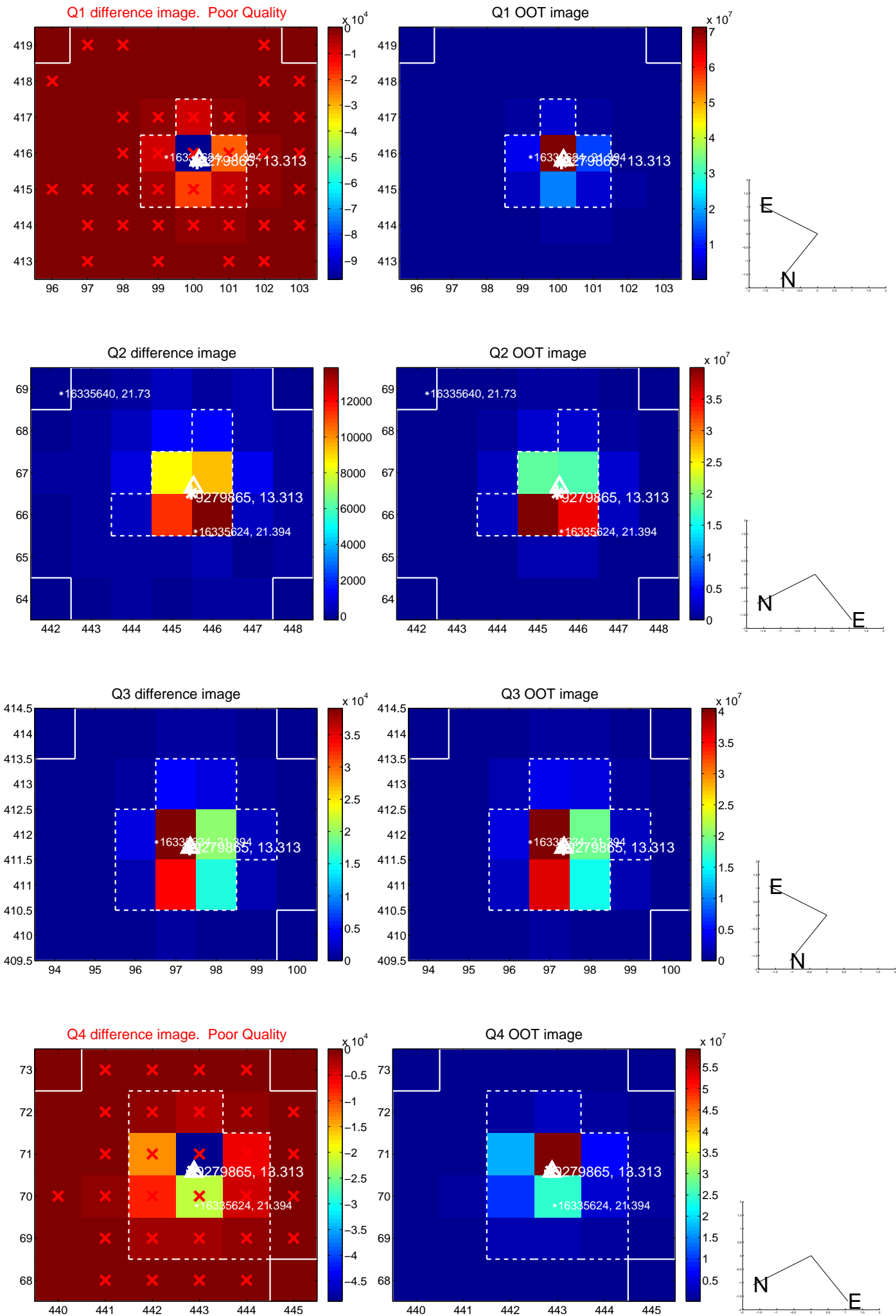
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.045 \pm 0.119$	0.38	$-0.028 \pm 0.130$	$-0.036 \pm 0.109$
PRF-fit source offset from KIC position	$0.098 \pm 0.122$	0.80	$-0.075 \pm 0.125$	$-0.063 \pm 0.105$
photometric centroid source offset	$0.29 \pm 0.63$	0.47	$0.17 \pm 0.64$	$-0.24 \pm 0.62$

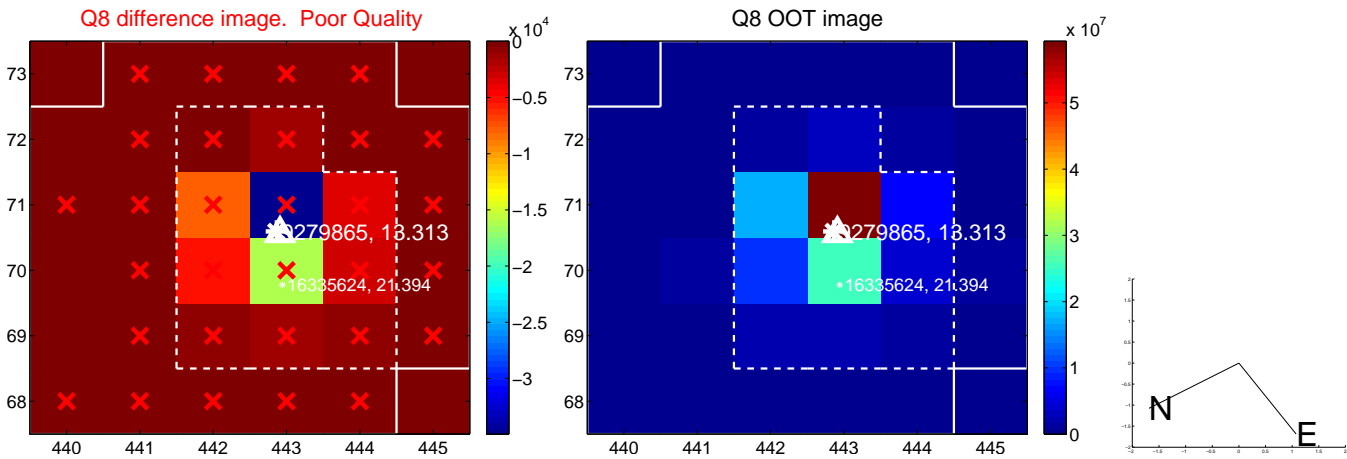
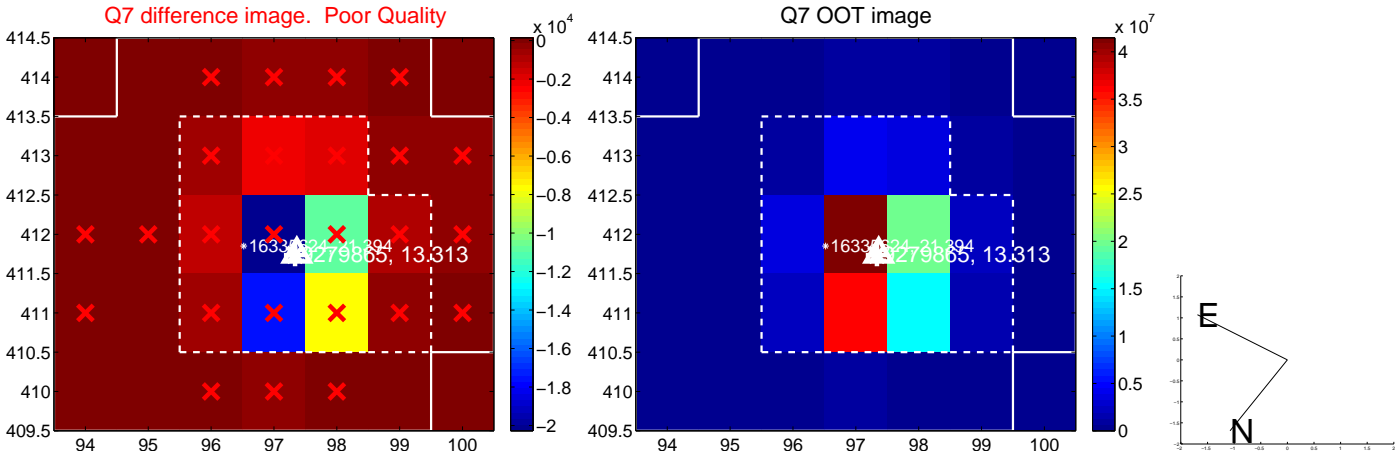
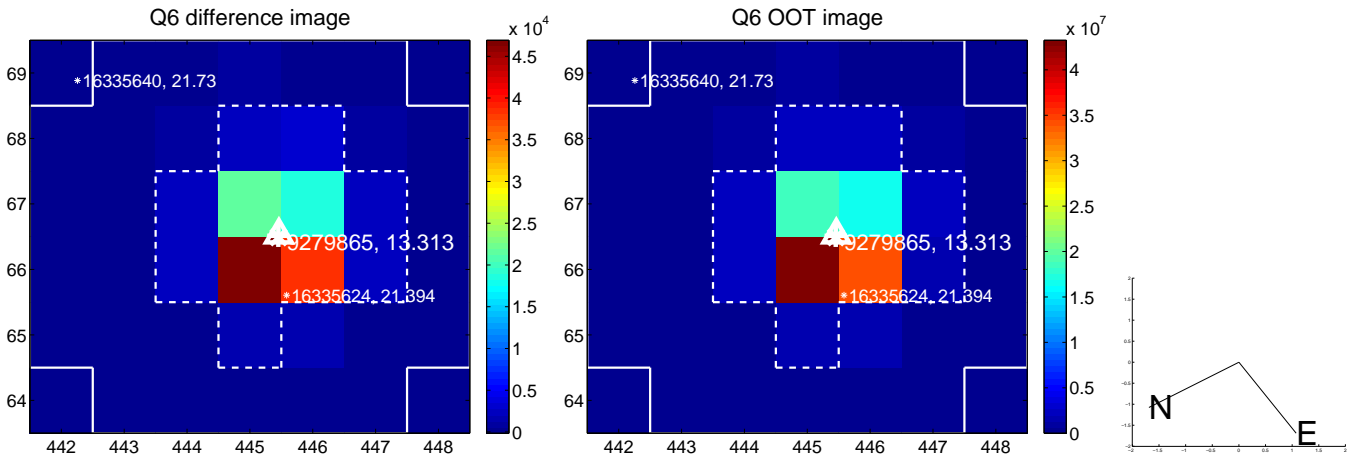
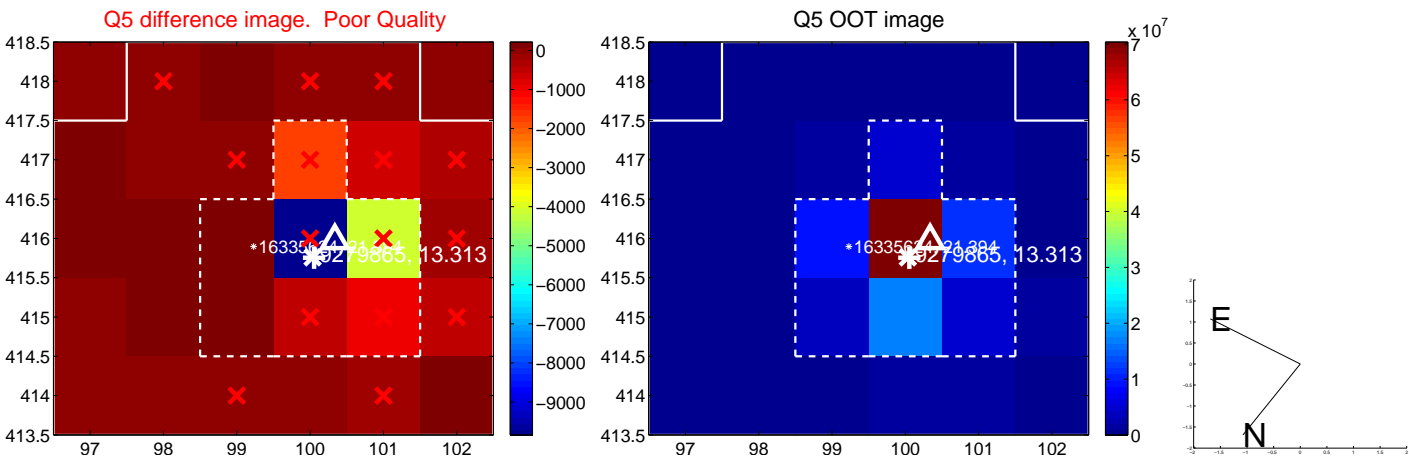


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

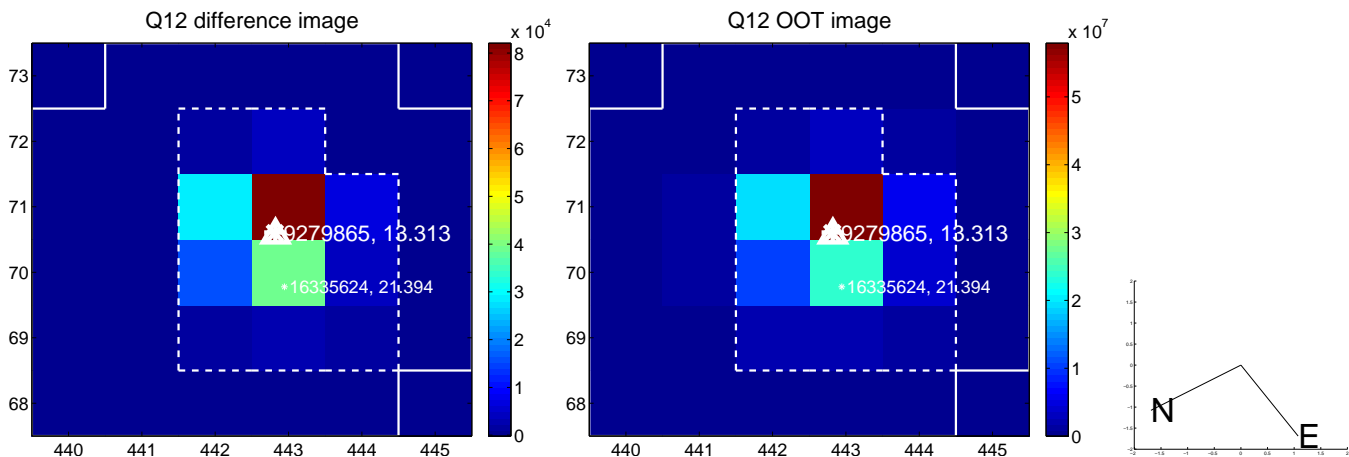
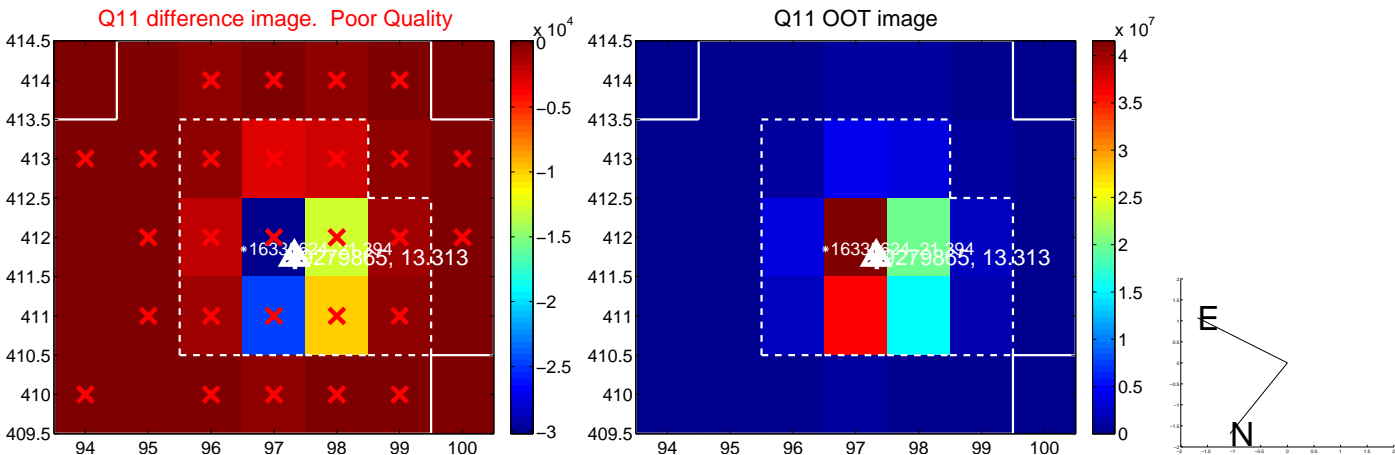
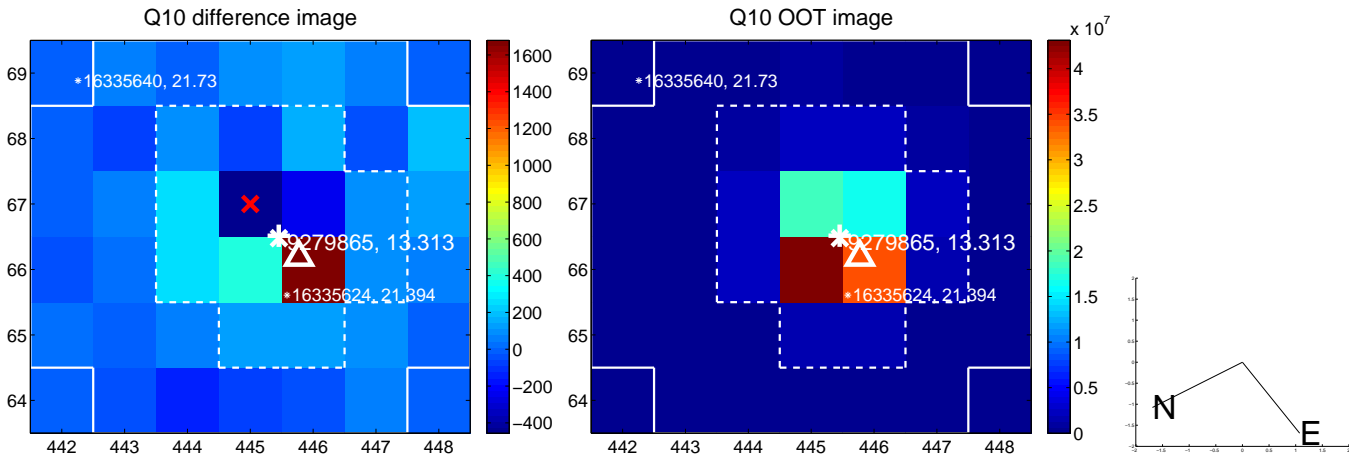
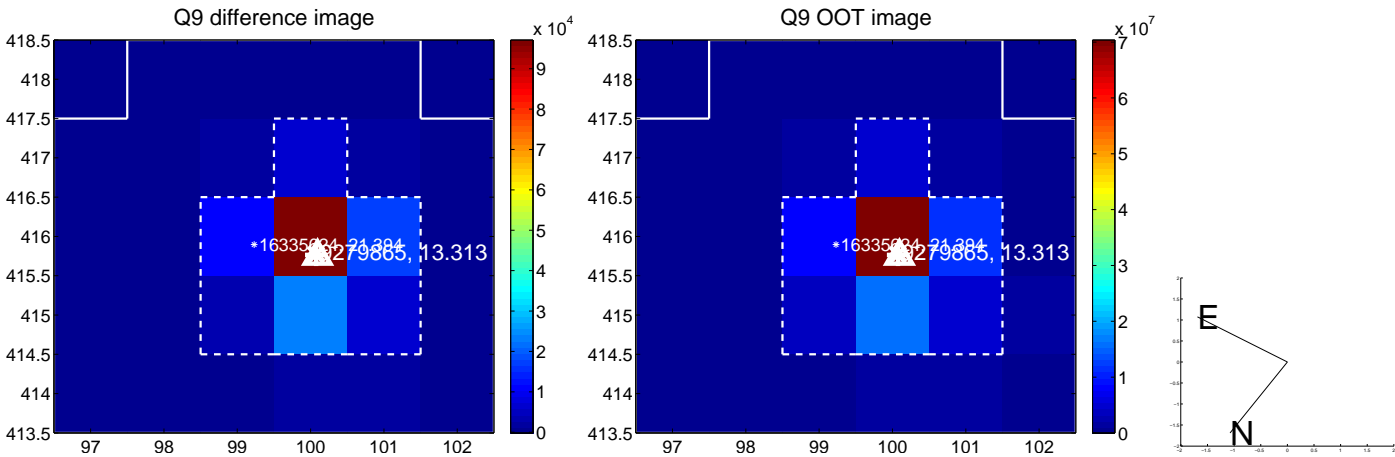


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

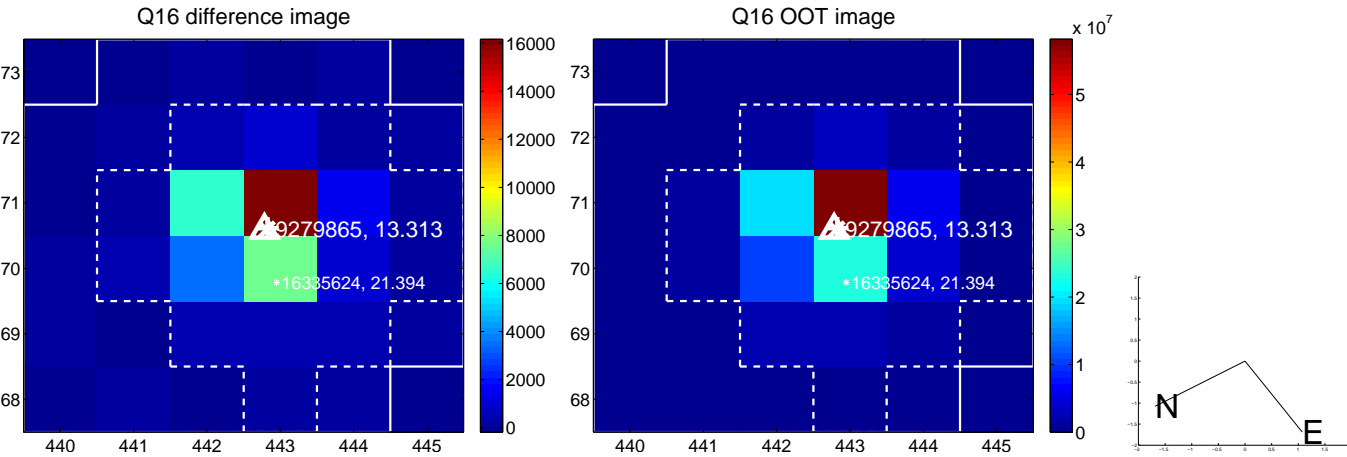
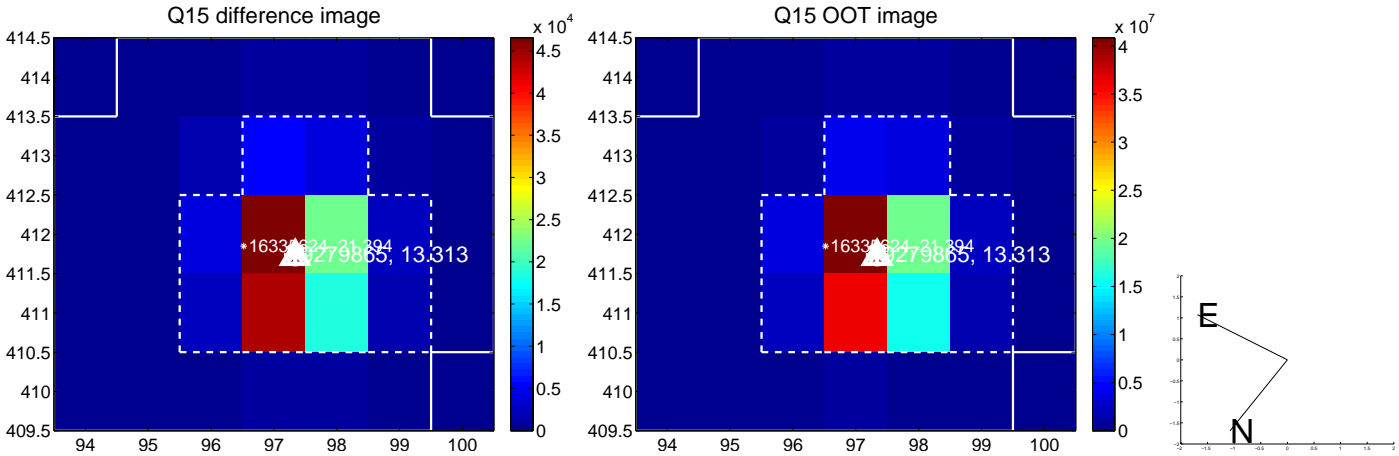
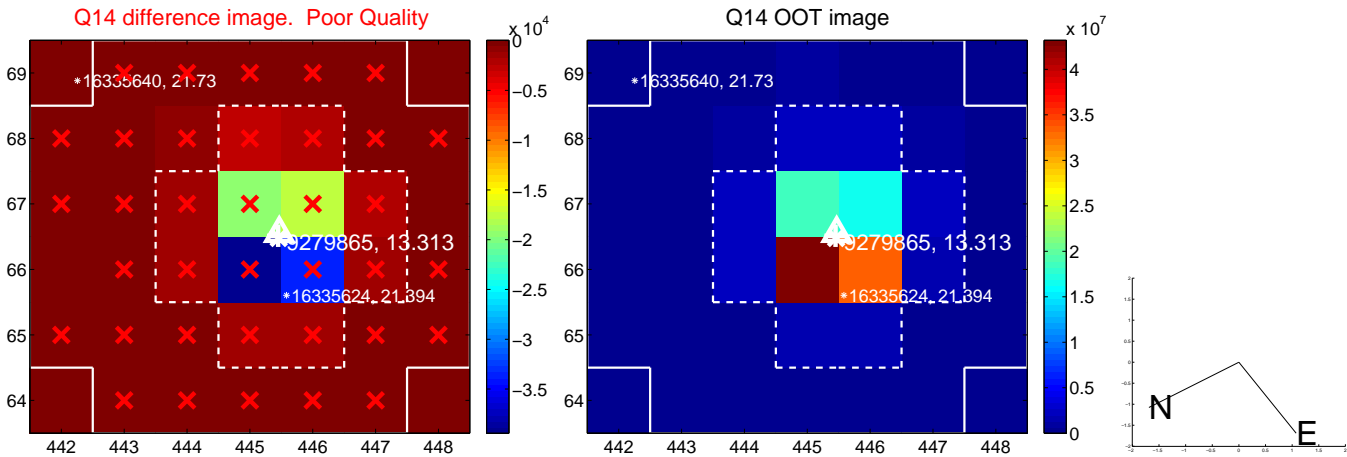
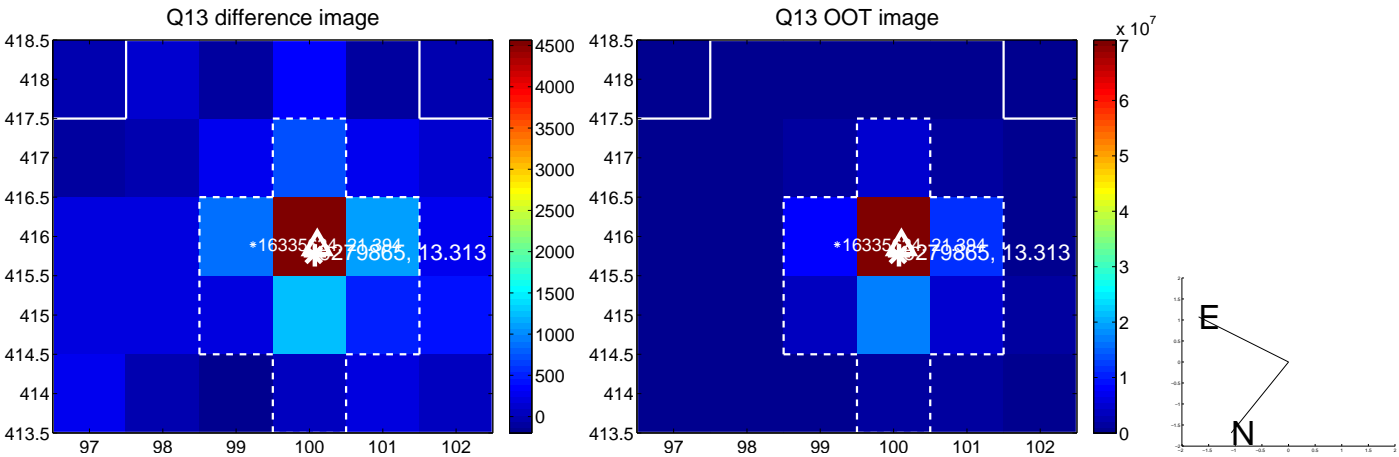




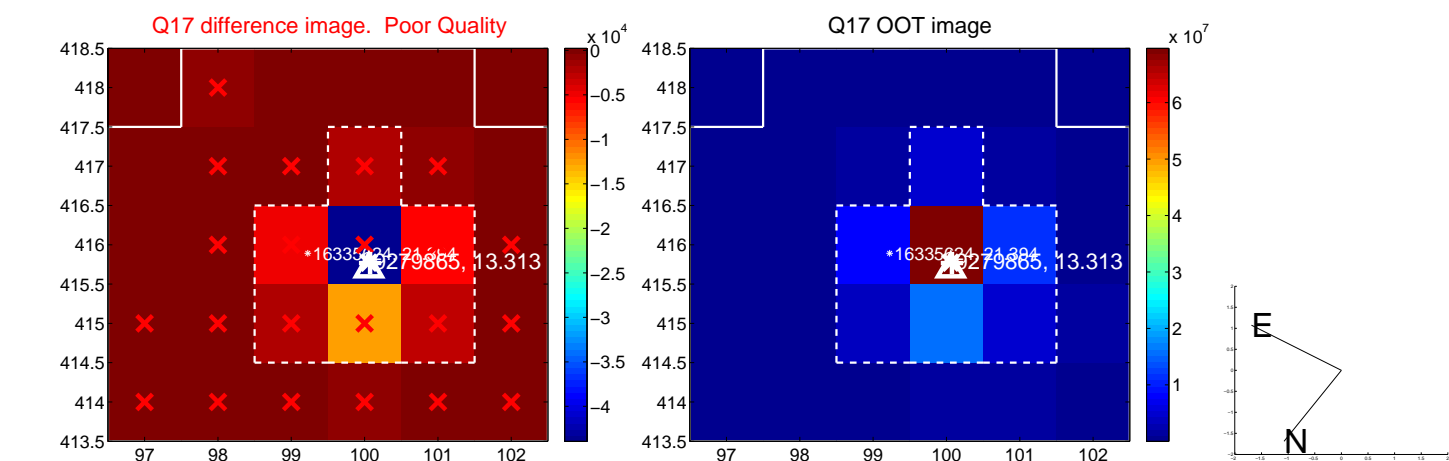
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



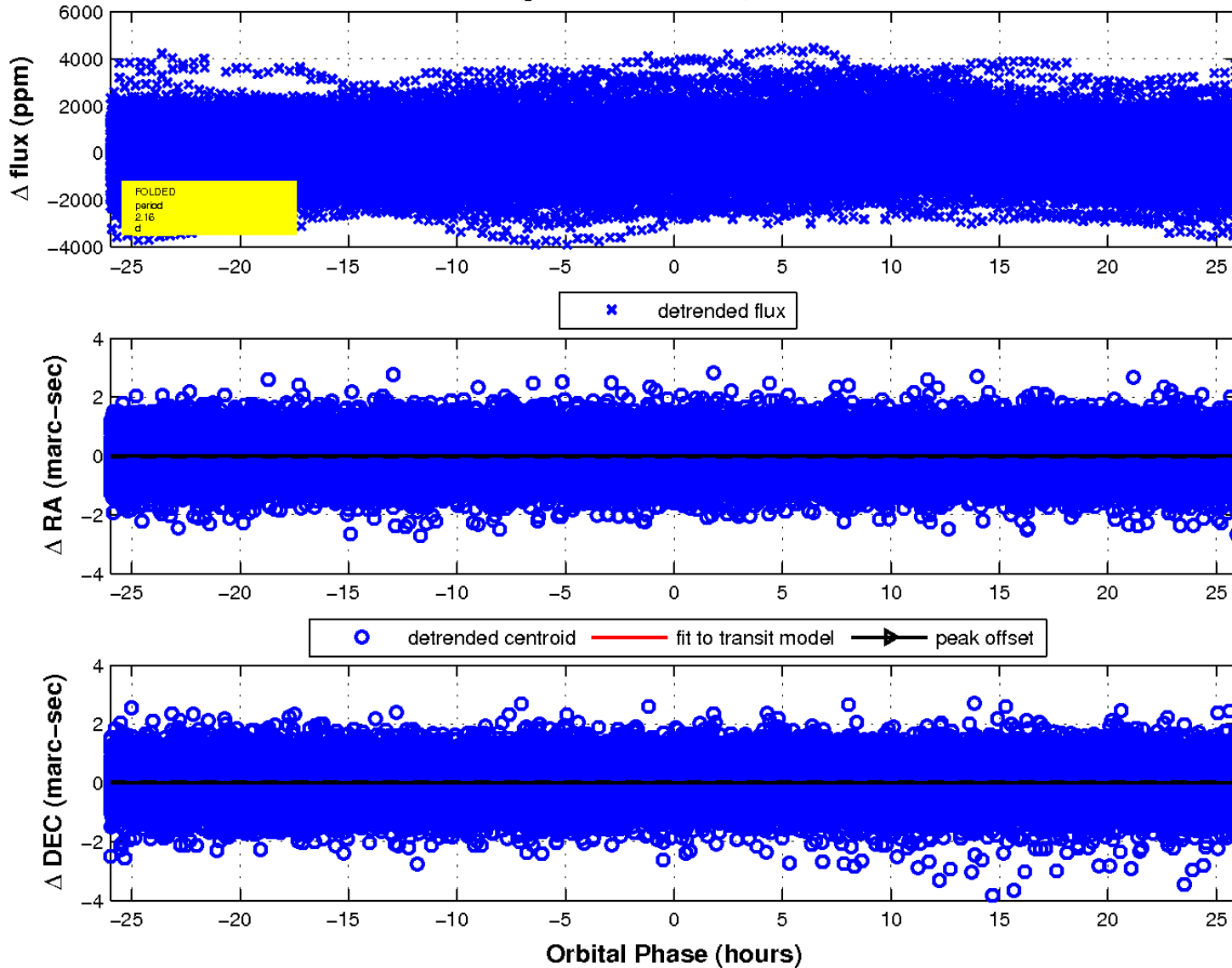
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

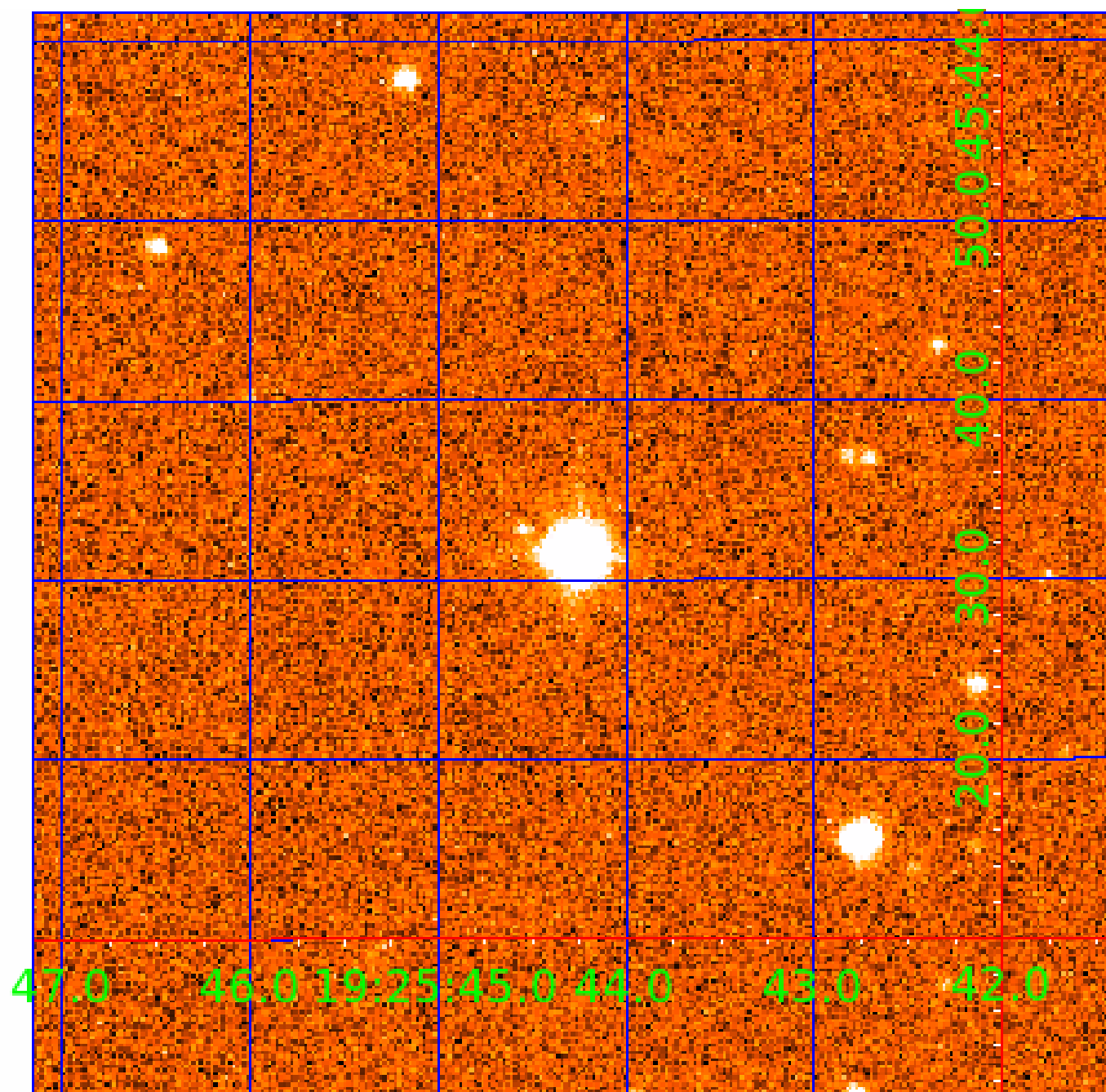


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



# KIC 009279865

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009279865-01	OBS	No	2.164562	133.045884	24.1	13.978	7.3	3.8	1.82	6532	0.93	4311.55
009279865-02	OBS	No	106.353524	160.048391	1824.6	15.046	26.8	14.0	1.82	6532	9.96	23.96
009279865-03	OBS	No	2.164461	131.985242	86.2	6.993	16.1	18.0	1.82	6532	1.70	4311.82

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009279865-01	OBS	FP	0.00	1	0	0	0	LPP_DV
009279865-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS
009279865-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—SAME_NTL_PERIOD

**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.

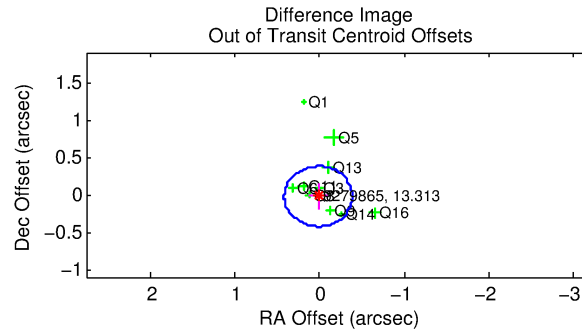
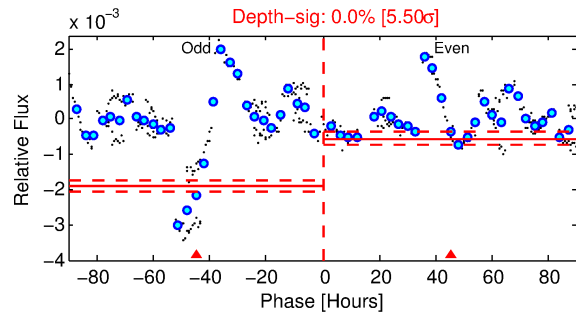
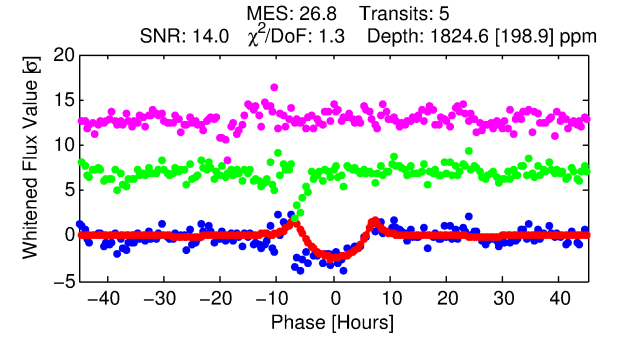
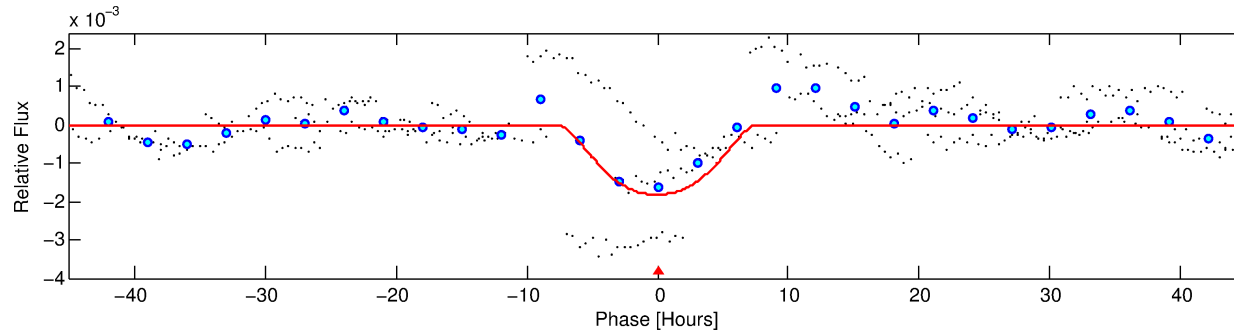
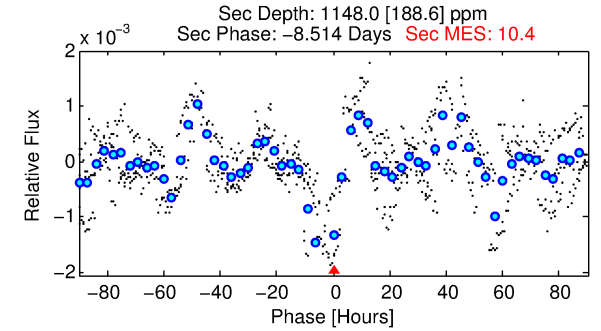
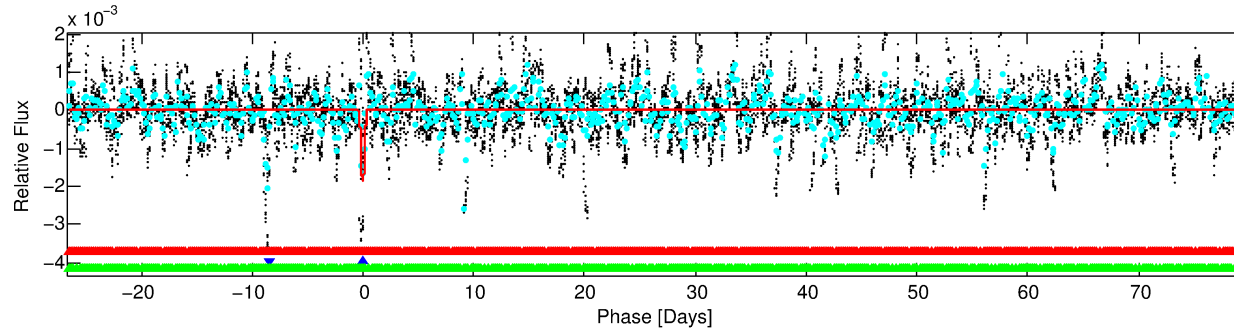
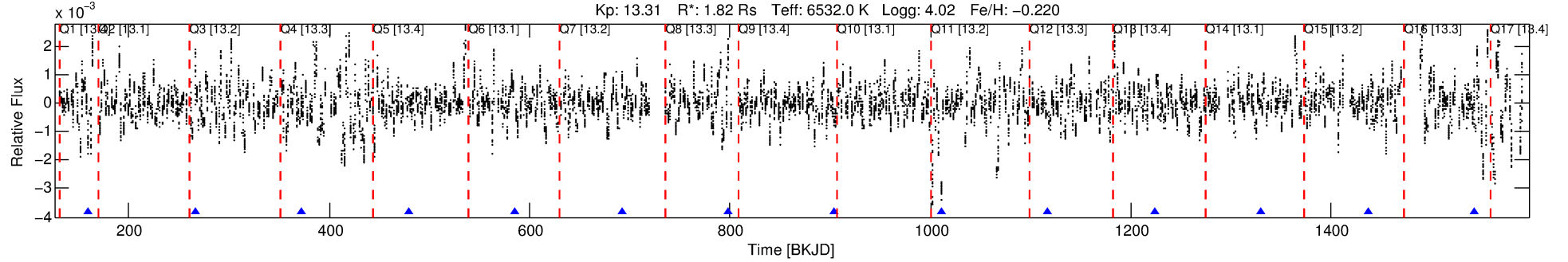
## Ephemeris Match Information For 009279865-02

No Significant Match Found



# DV One-Page Summary

KIC: 9279865 Candidate: 2 of 3 Period: 106.354 d



## DV Fit Results:

Period = 106.35352 [0.00286] d  
Epoch = 160.0484 [0.0167] BKJD  
Rp/R\* = 0.0502 [0.0056]  
a/R\* = 23.36 [1.88]  
b = 0.96 [0.02]  
Seff = 23.96 [12.95]  
Teq = 564 [76] K  
Rp = 9.96 [3.59] Re  
a = 0.4749 [0.1555] AU  
Ag = 1435.34 [848.38] [1.69σ]  
**Teffp = 5369 [416] K [11.37σ]**

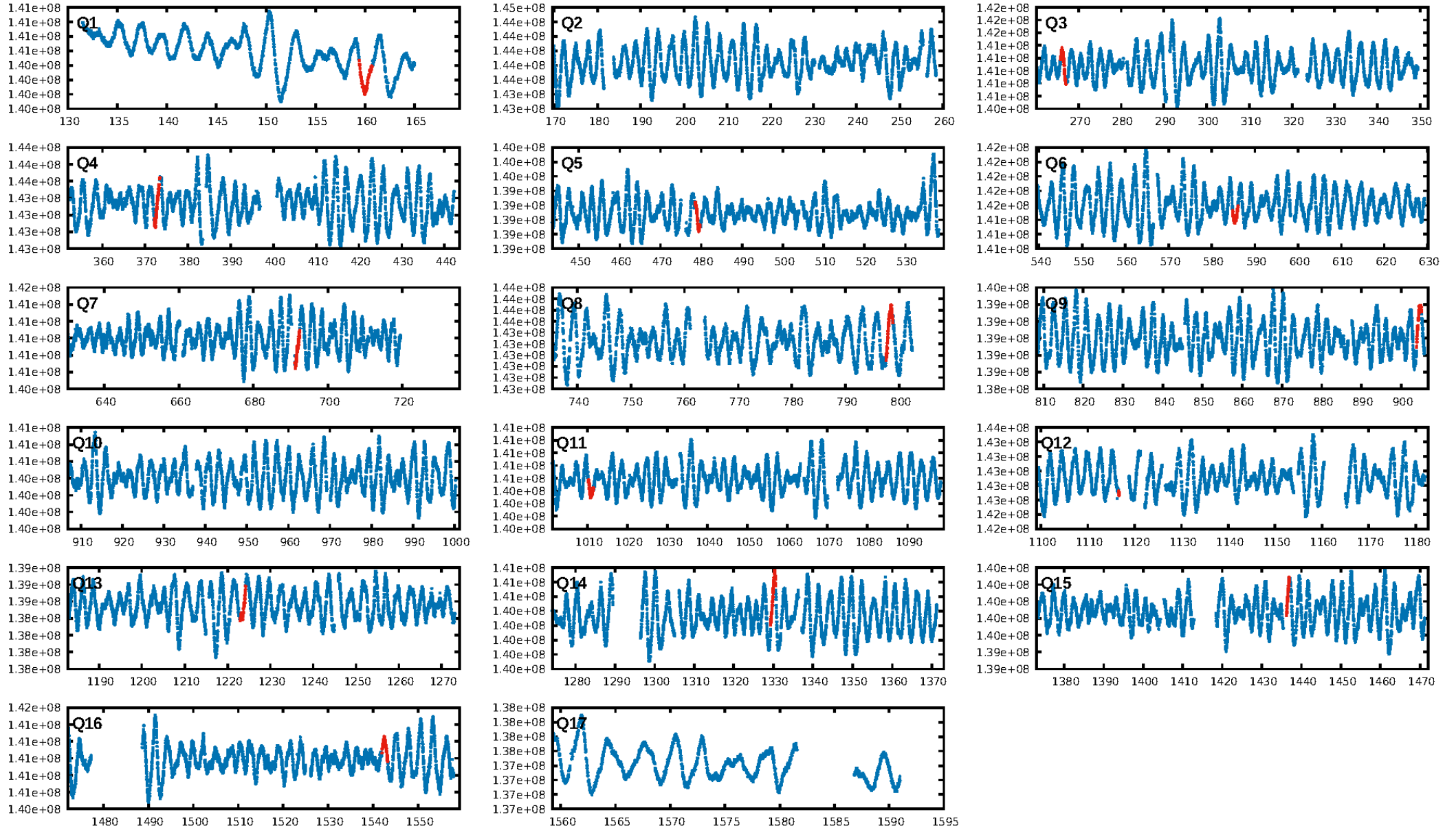
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [121.76σ]  
LongPeriod-sig: N/A  
**ModelChiSquare2-sig: 0.0%**  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [4/4]  
**GhostDiagnostic-chr: 0.7362**  
**Centroid-sig: 0.0%**  
Centroid-so: 0.171 arcsec [2.32σ]  
OotOffset-rm: 0.027 arcsec [0.20σ]  
OotOffset-st: 2/2/2/4 [10]  
KicOffset-rm: 0.054 arcsec [0.30σ]  
KicOffset-st: 2/2/2/4 [10]  
DiffImageQuality-fgm: 0.50 [5/10]  
DiffImageOverlap-fno: 0.00 [0/10]

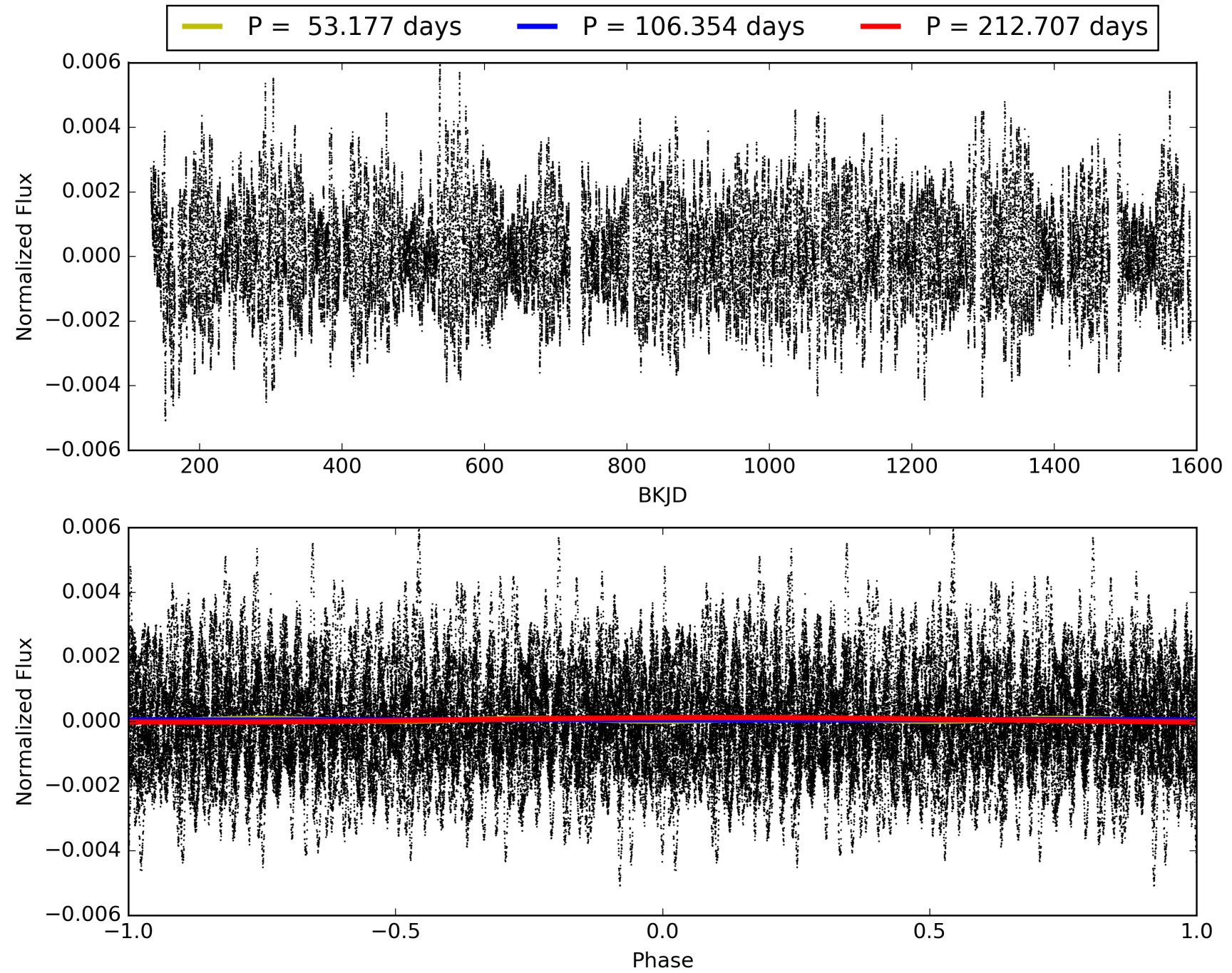
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:23:26 Z

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

# TCE 009279865-02, PDC Light Curves

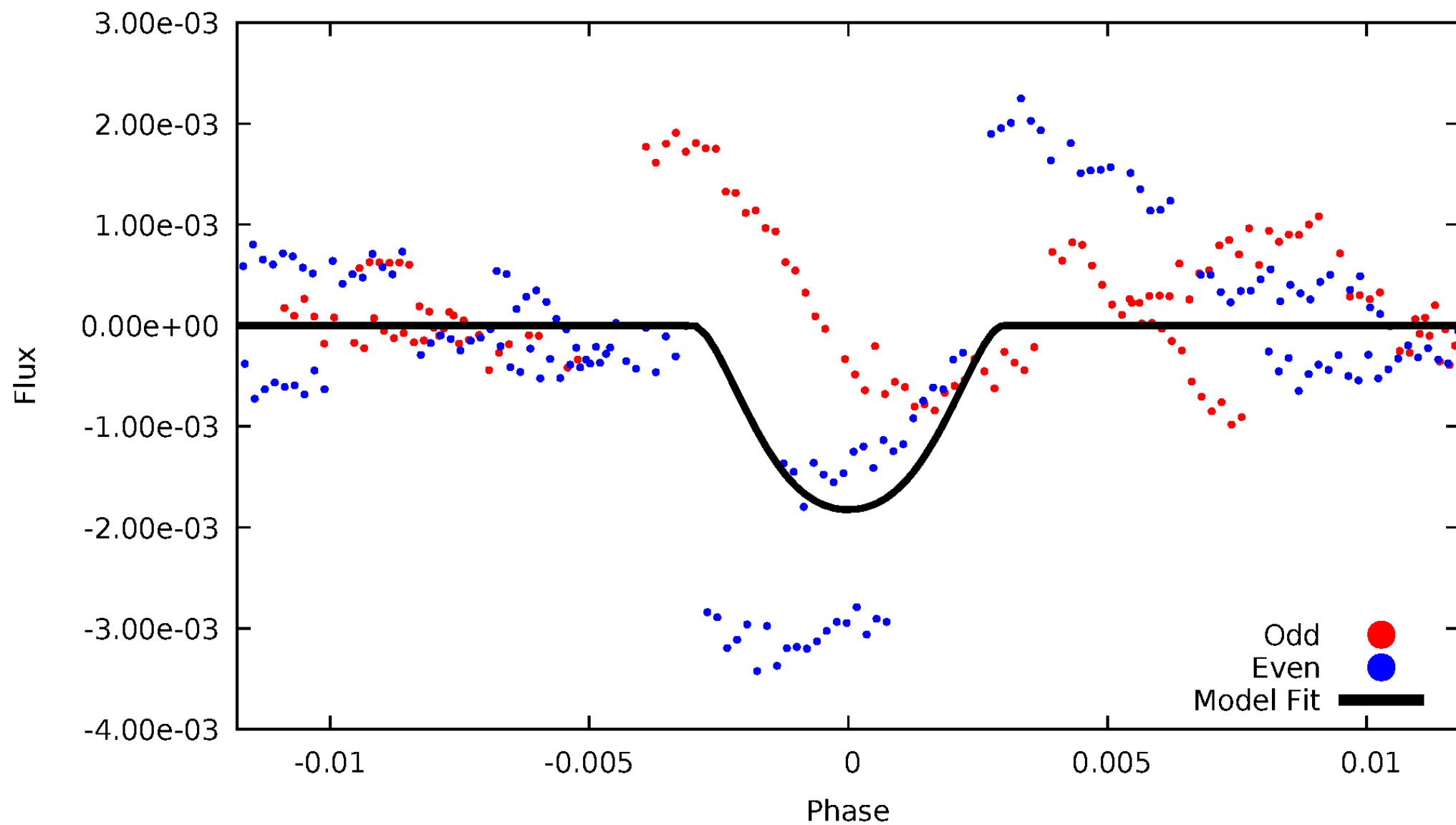


TCE 009279865-02



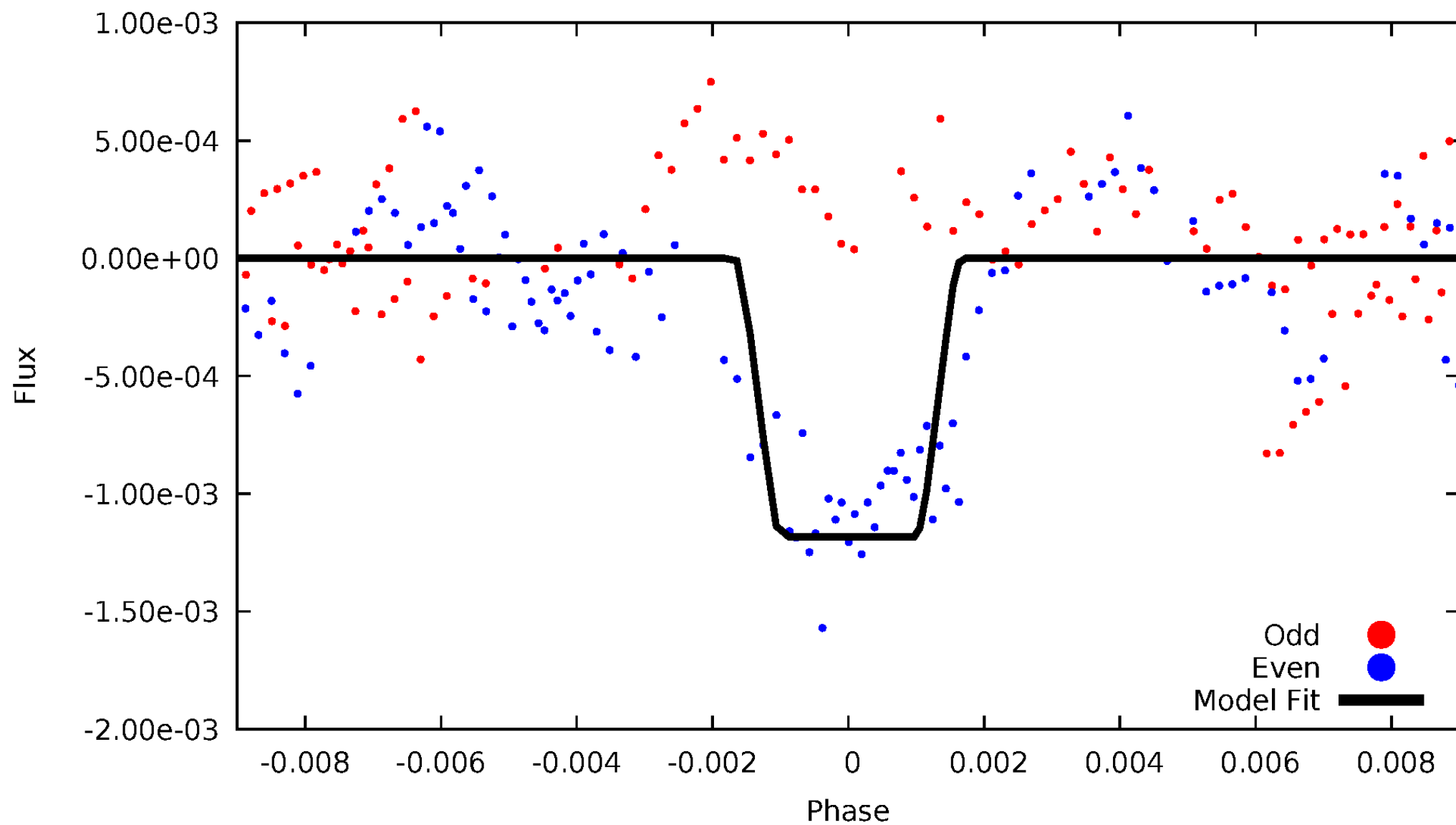
# DV Odd/Even

TCE 009279865-02



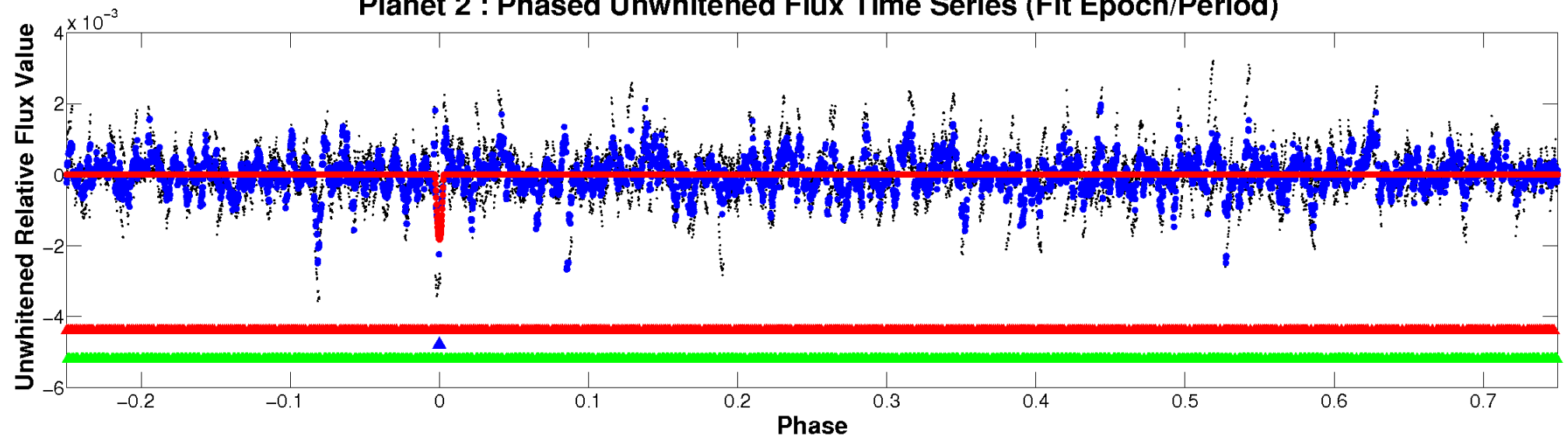
# ALT Odd/Even

TCE 009279865-02

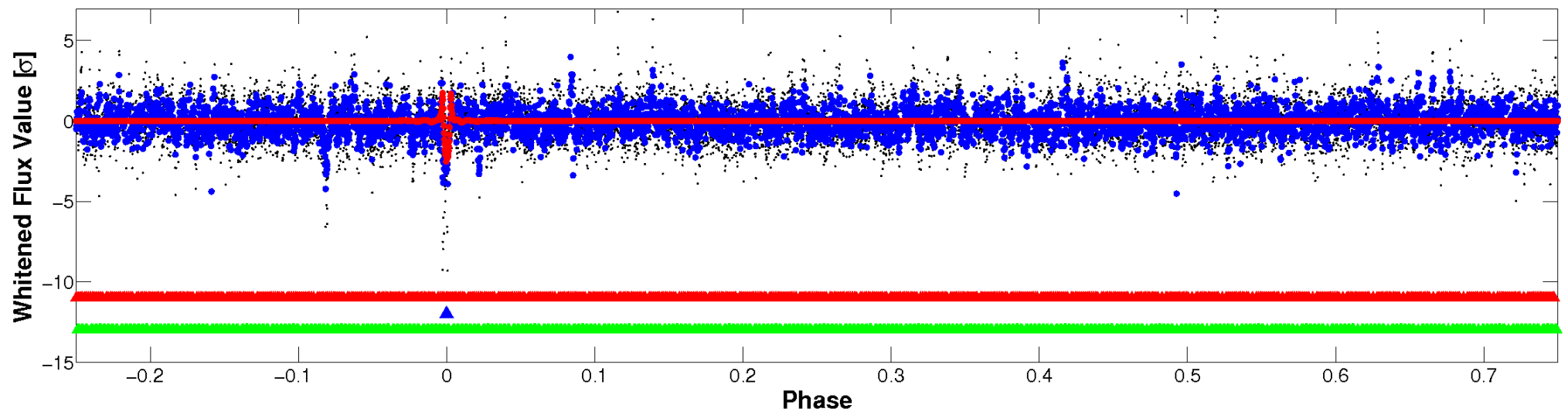


# Non-Whitened Vs. Whitened Light Curve

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



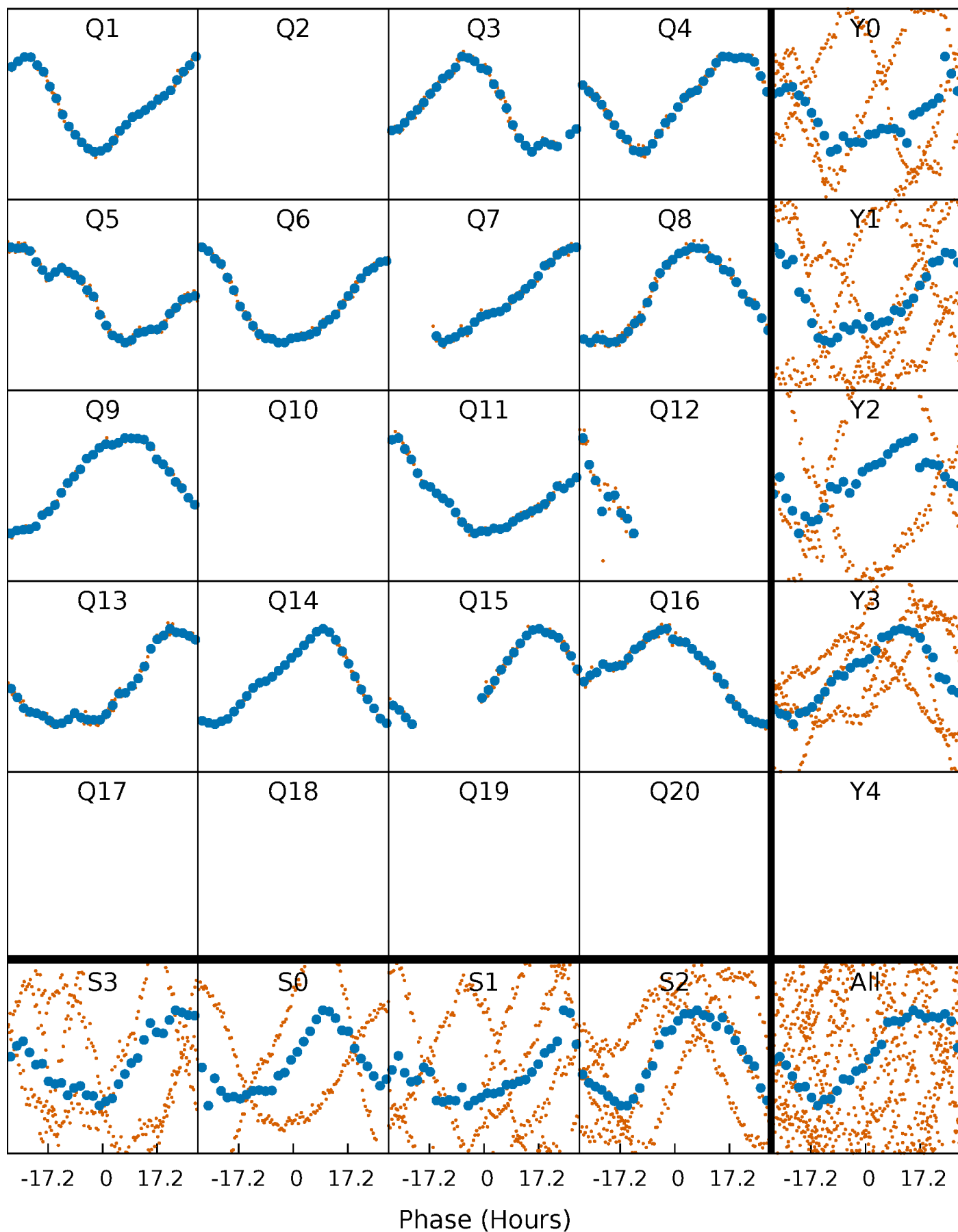
## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)





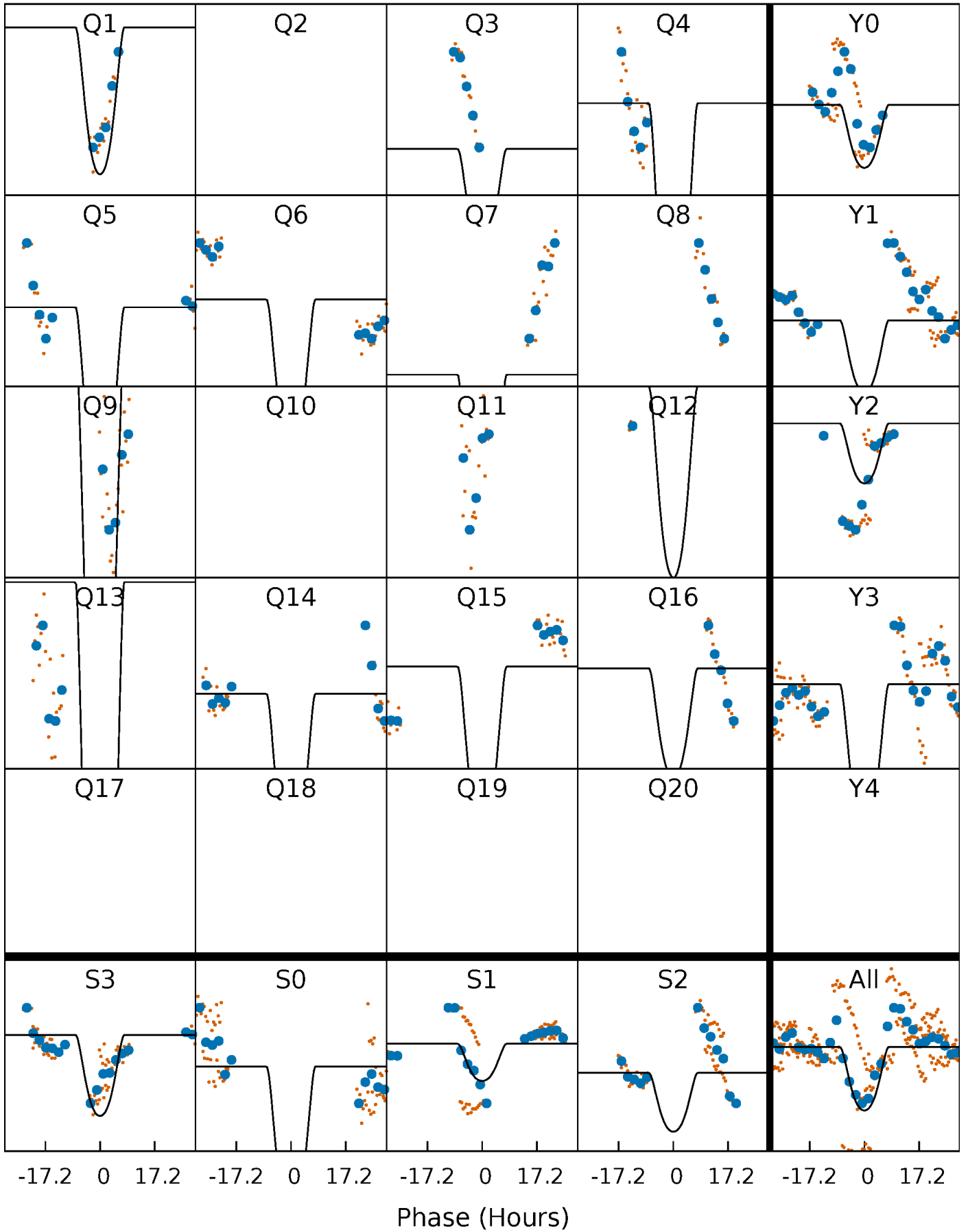
# PDC Quarter-Phased Transit Curves

TCE 009279865-02     $P=106.353524$  Days     $T_0=160.048391$  (BKJD)



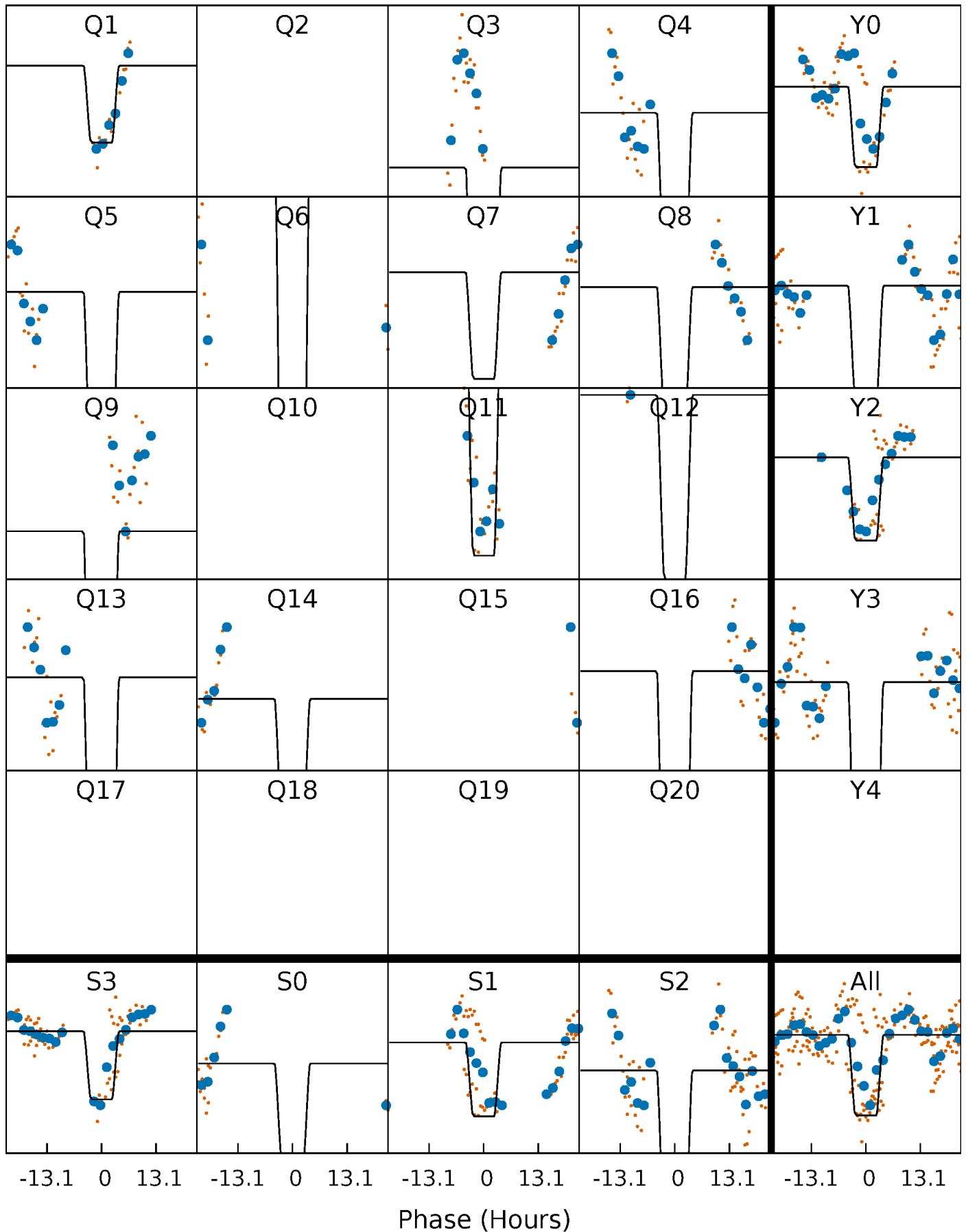
# DV Quarter-Phased Transit Curves

TCE 009279865-02     $P=106.353524$  Days     $T_0=160.048391$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

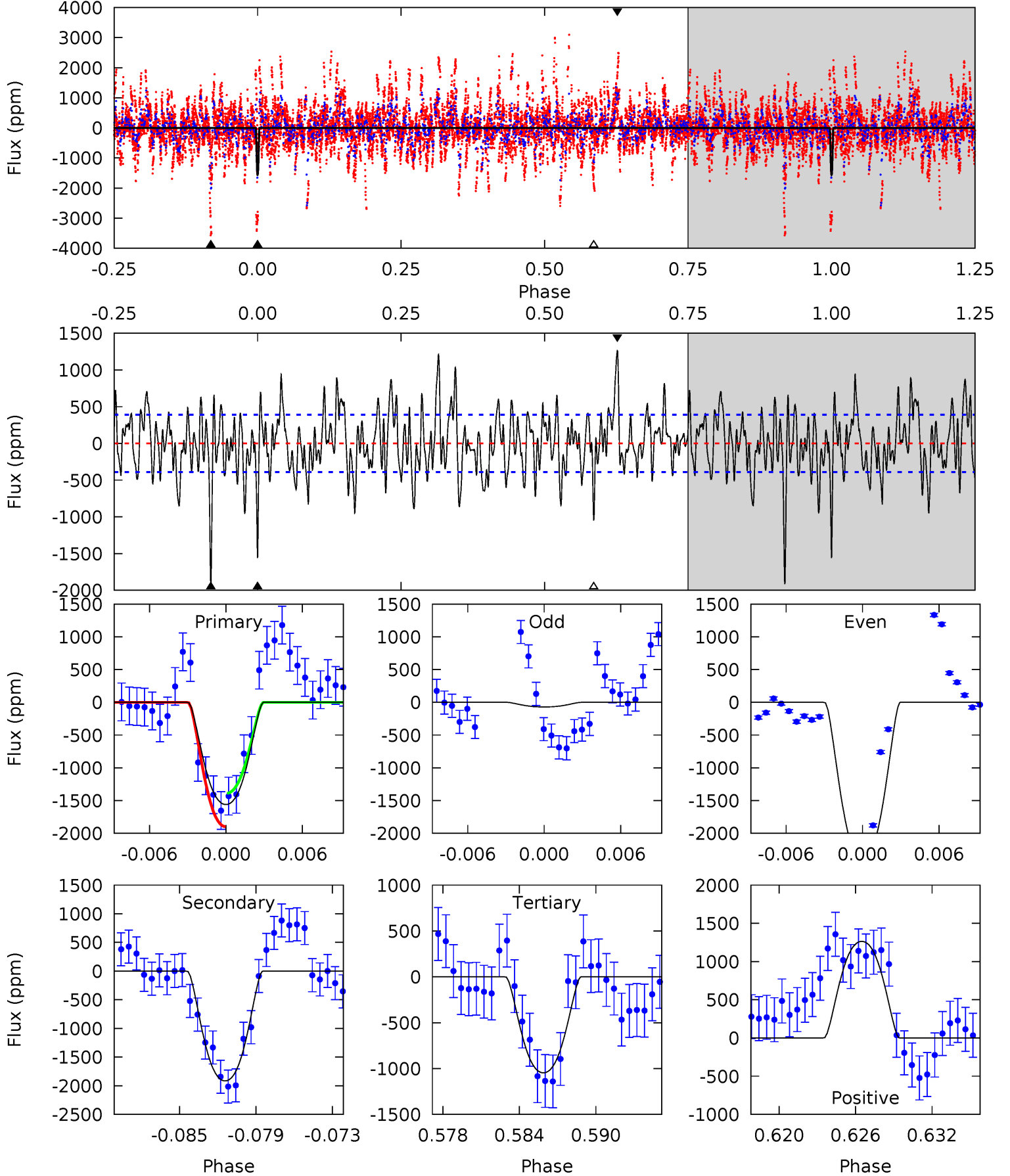
TCE 009279865-02 P=106.348031 Days  $T_0=159.997411$  (BKJD)



# DV Model-Shift Uniqueness Test

009279865-02,  $P = 106.353524$  Days,  $E = 53.694867$  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
20.5	25.1	13.7	16.6	5.12	2.74	4.68	6.74	3.90	11.4	8.55	14.9	-10.5	0.40	3.28

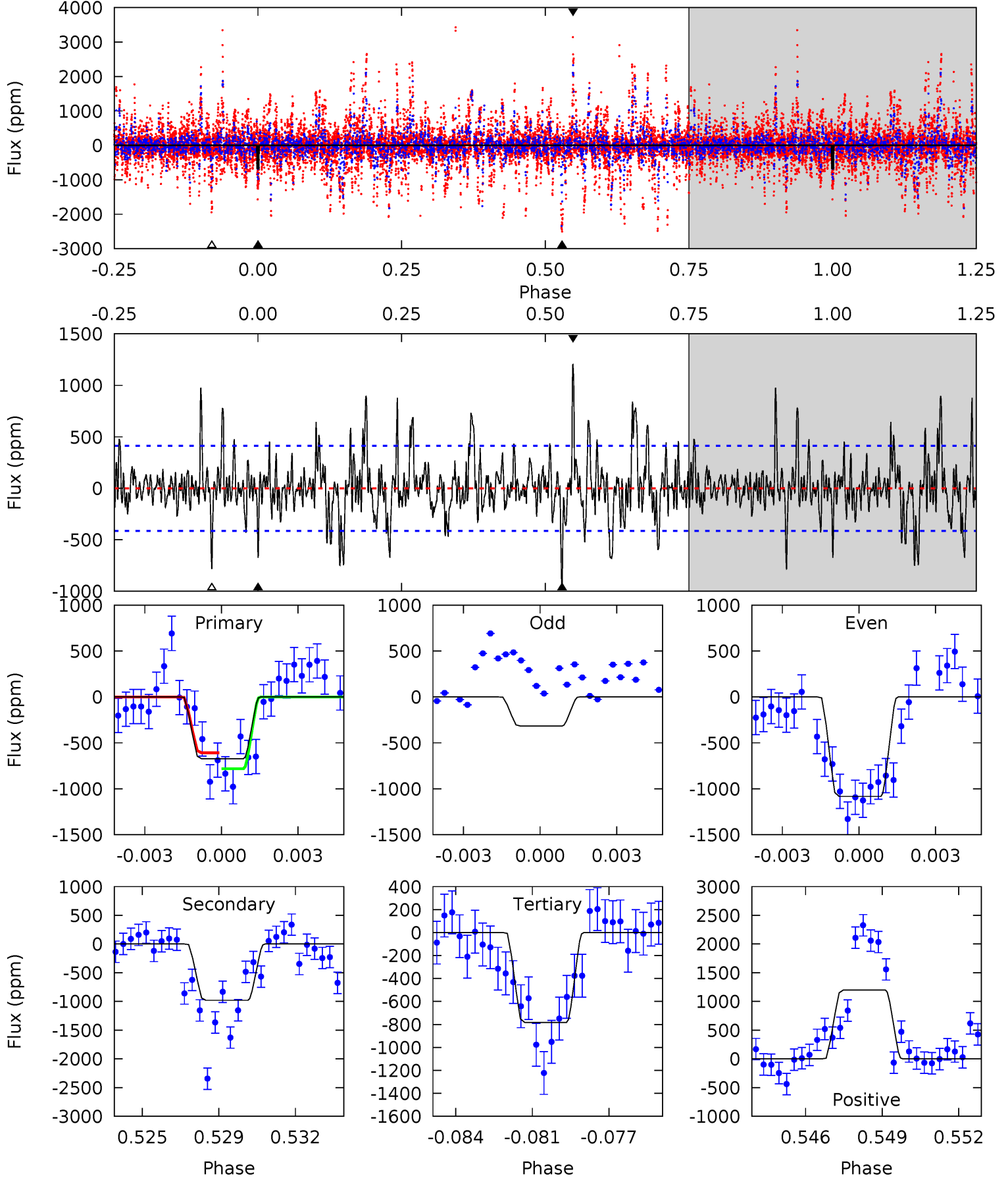




# Alt Model-Shift Uniqueness Test

009279865-02, P = 106.348031 Days, E = 53.649380 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
8.53	12.4	9.92	15.2	5.23	2.93	2.88	-1.39	-6.68	2.51	-2.78	4.11	1.04	0.55	1.10



### Stellar Parameters For KIC 009279865

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6532^{+181}_{-227}$	$4.019^{+0.306}_{-0.165}$	$-0.220^{+0.250}_{-0.300}$	$1.820^{+0.510}_{-0.623}$	$1.266^{+0.193}_{-0.236}$	$0.296^{+0.648}_{-0.140}$
	+3%/-3%	+8%/-4%	+114%/-136%	+28%/-34%	+15%/-19%	+219%/-47%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 009279865-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-1916 \pm 76$	$9.47^{+2.03}_{-2.02}$	$771^{+62}_{-73}$	$6076^{+446}_{-348}$	$2664^{+1530}_{-853}$
Alt.	$-980 \pm 79$	$6.62^{+1.65}_{-1.43}$	$776^{+70}_{-70}$	$6218^{+629}_{-515}$	$2790^{+1761}_{-1000}$

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

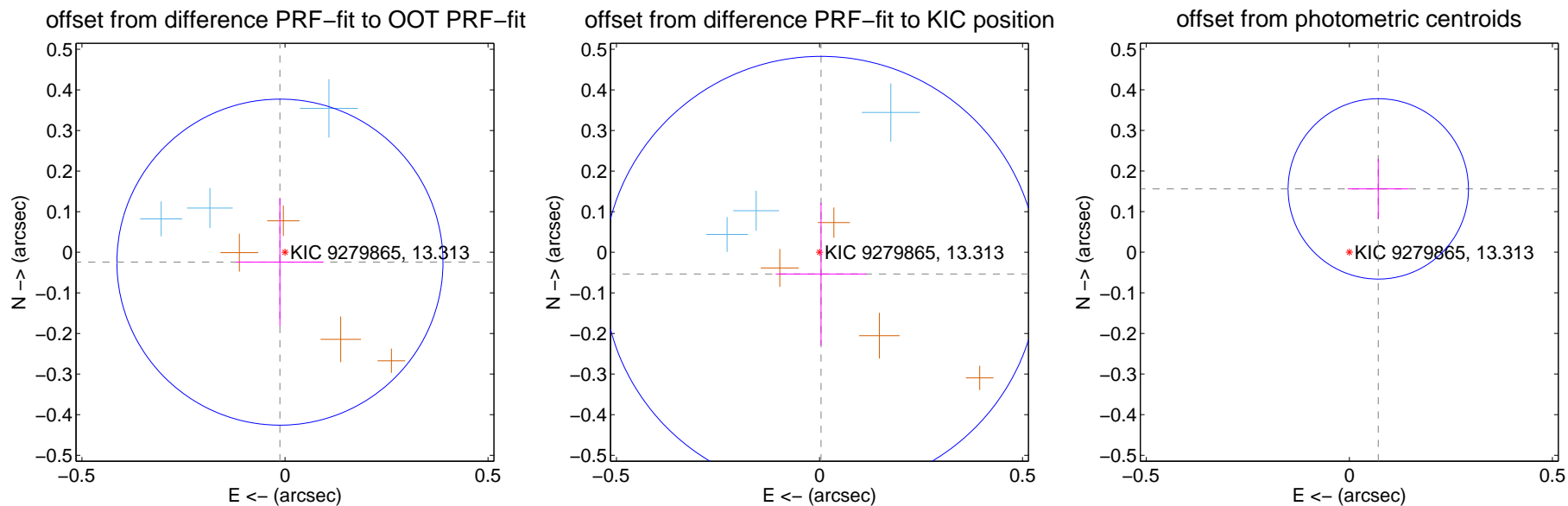
## DV Centroid Data

Supplemental centroid analysis for 009279865-02. Kepler magnitude: 13.31. Transit SNR 13.99

There are 5 quarters with good PRF difference image offsets

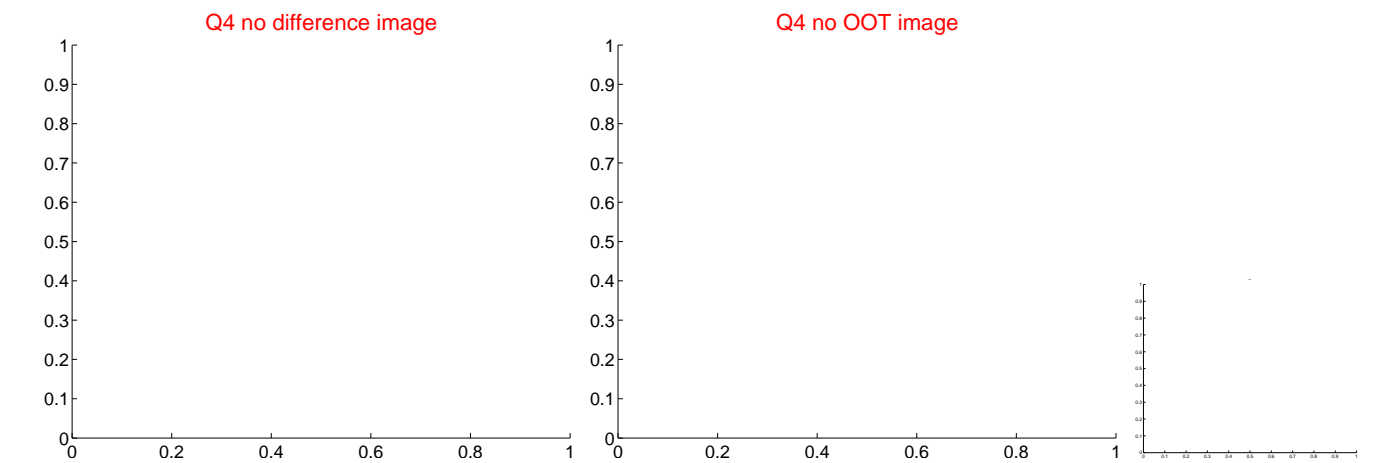
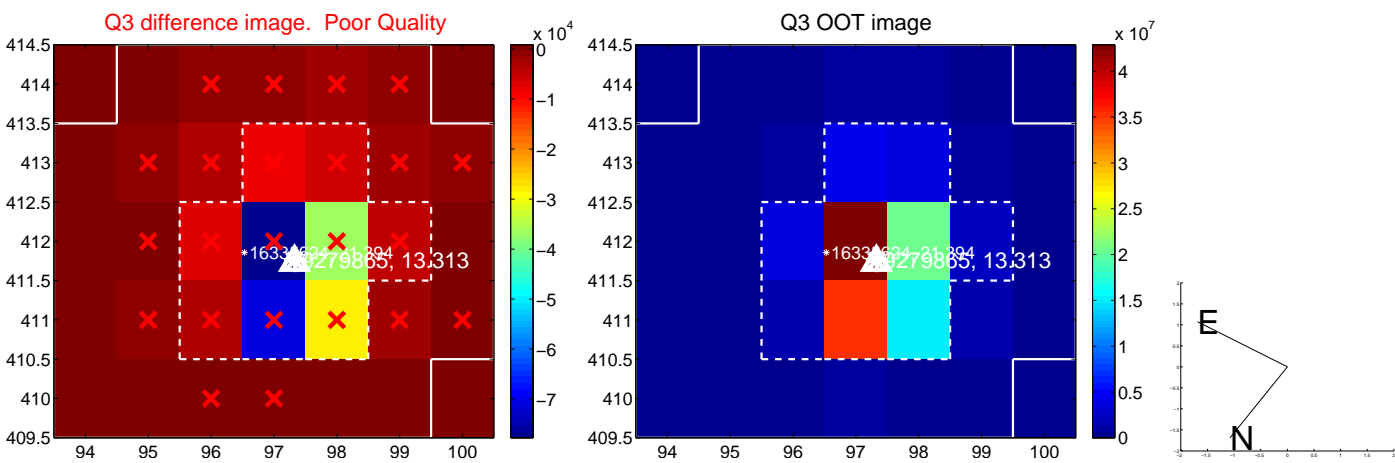
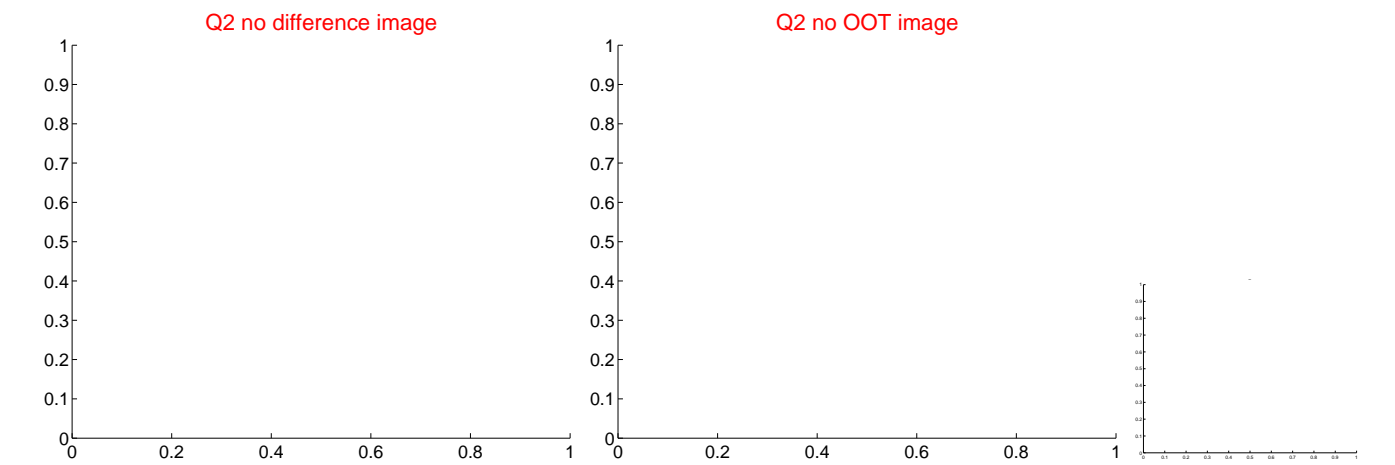
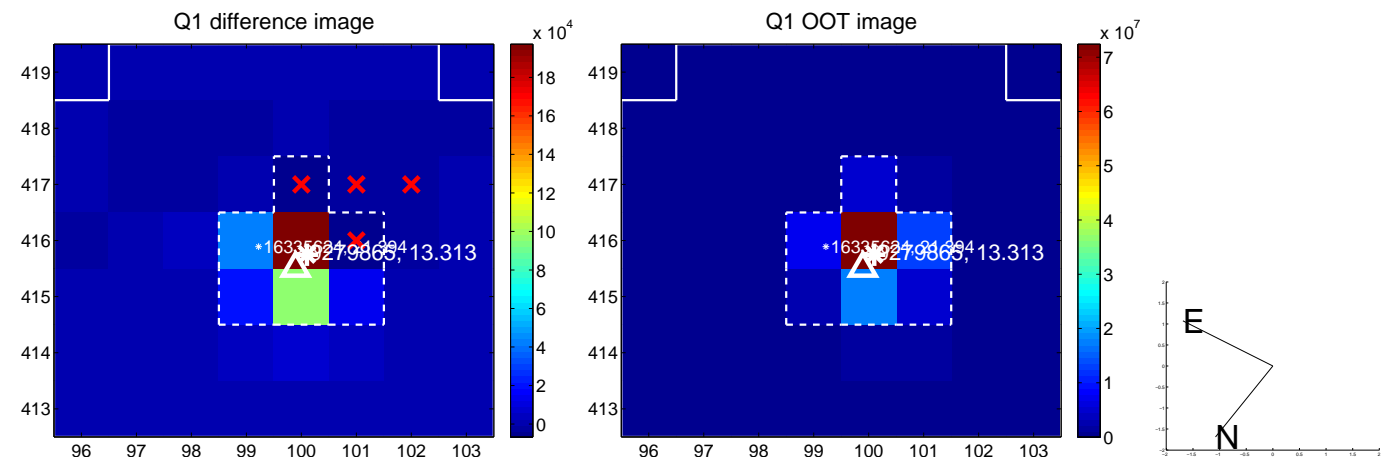
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.027 \pm 0.134$	0.20	$0.012 \pm 0.107$	$-0.024 \pm 0.157$
PRF-fit source offset from KIC position	$0.054 \pm 0.179$	0.30	$-0.004 \pm 0.112$	$-0.054 \pm 0.176$
photometric centroid source offset	$0.17 \pm 0.07$	2.32	$-0.07 \pm 0.08$	$0.16 \pm 0.07$



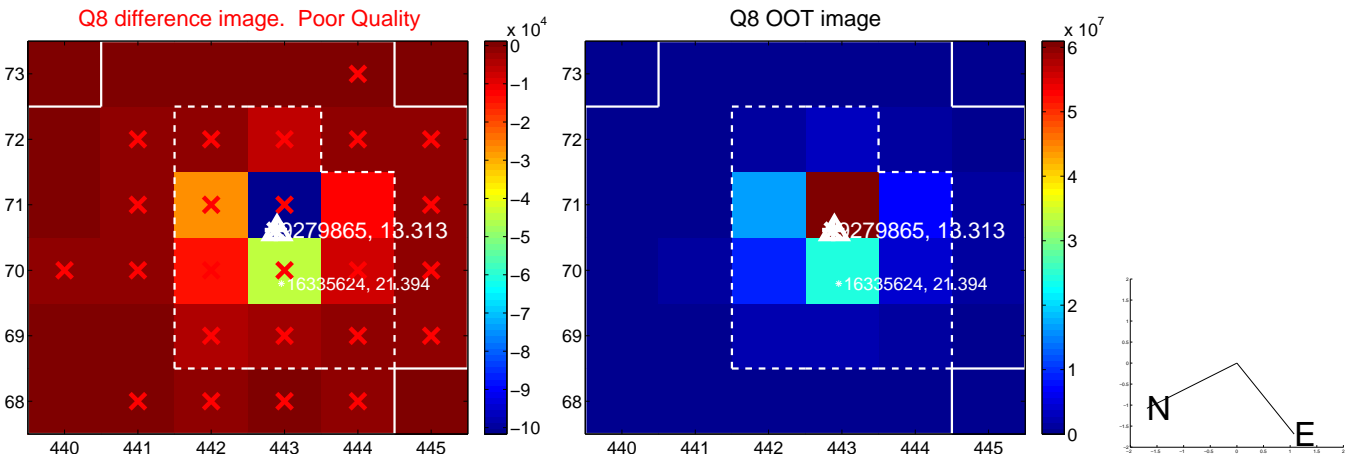
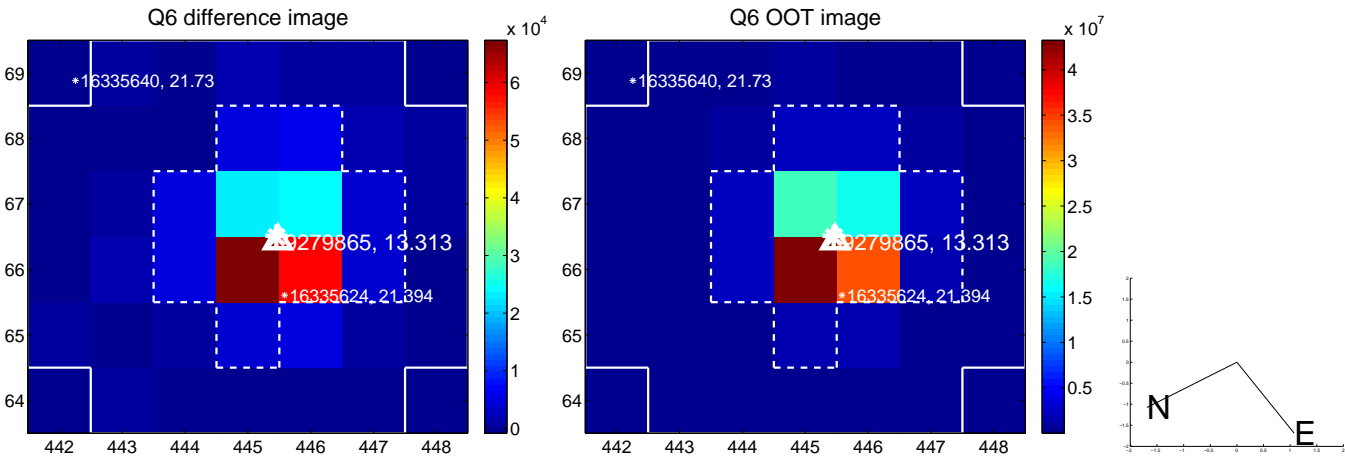
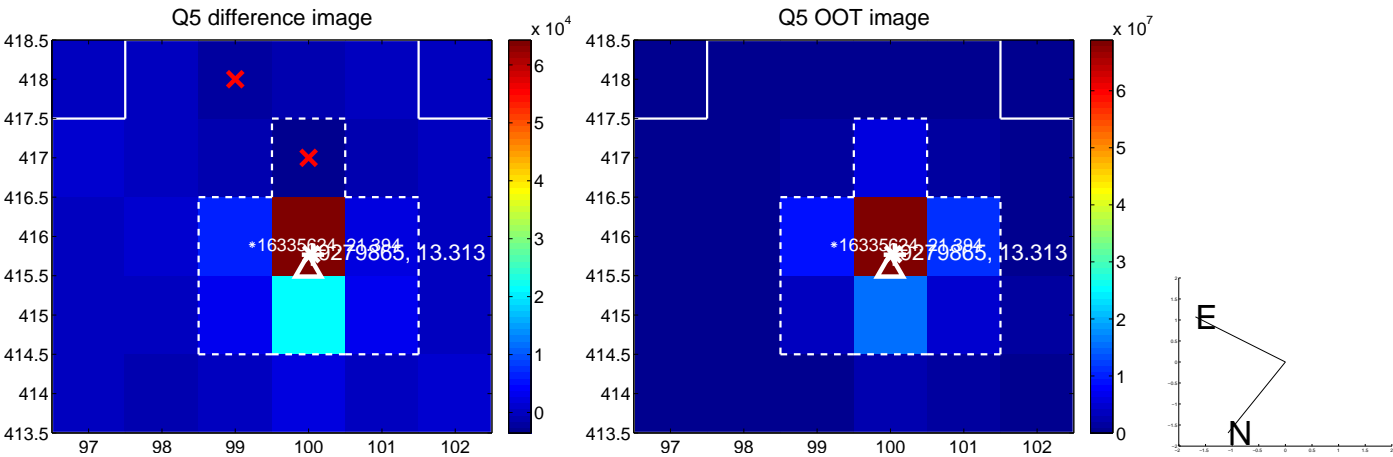
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

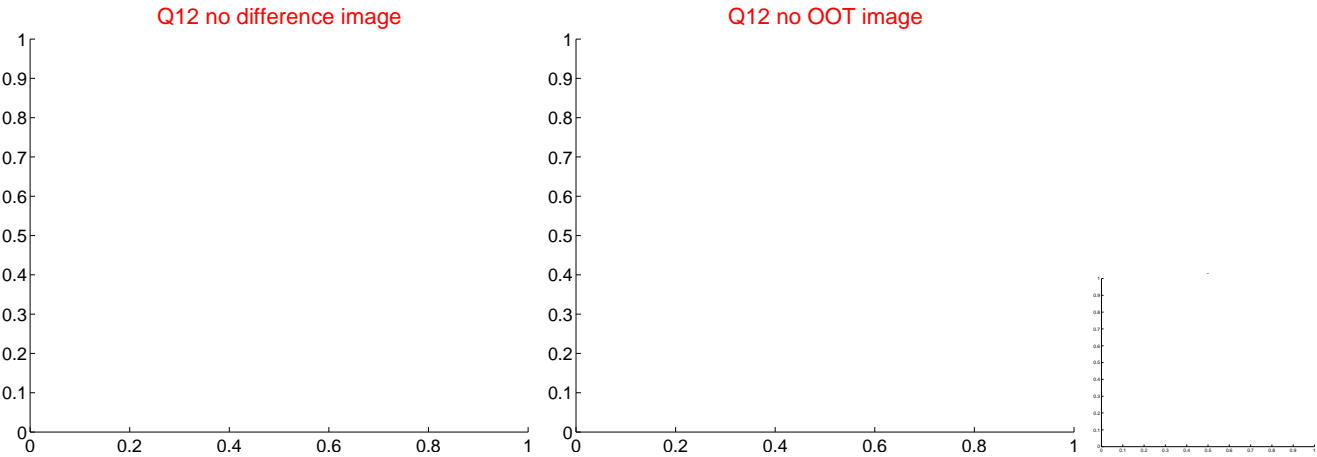
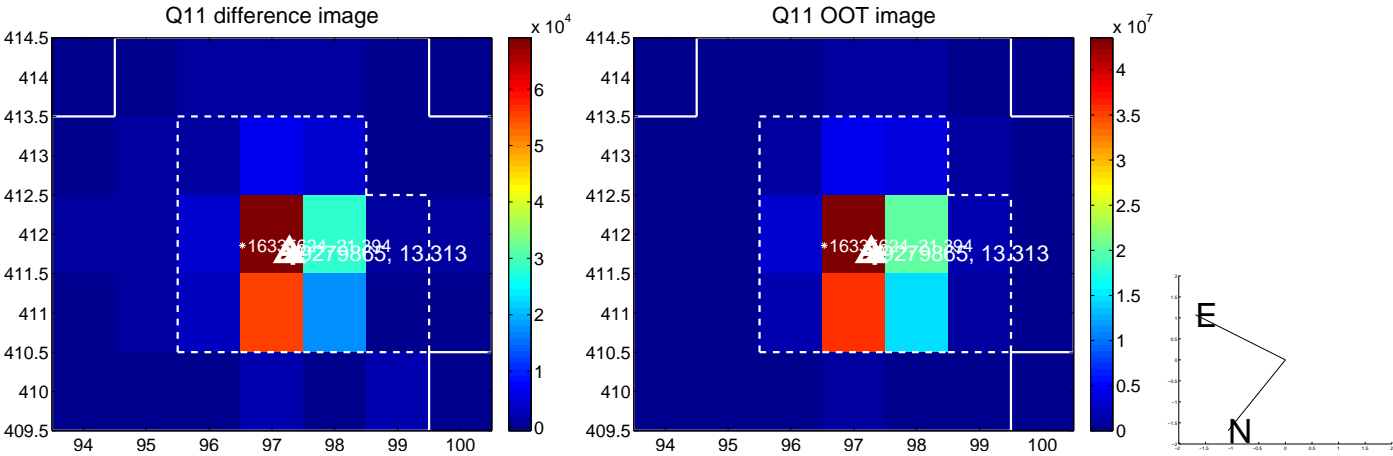
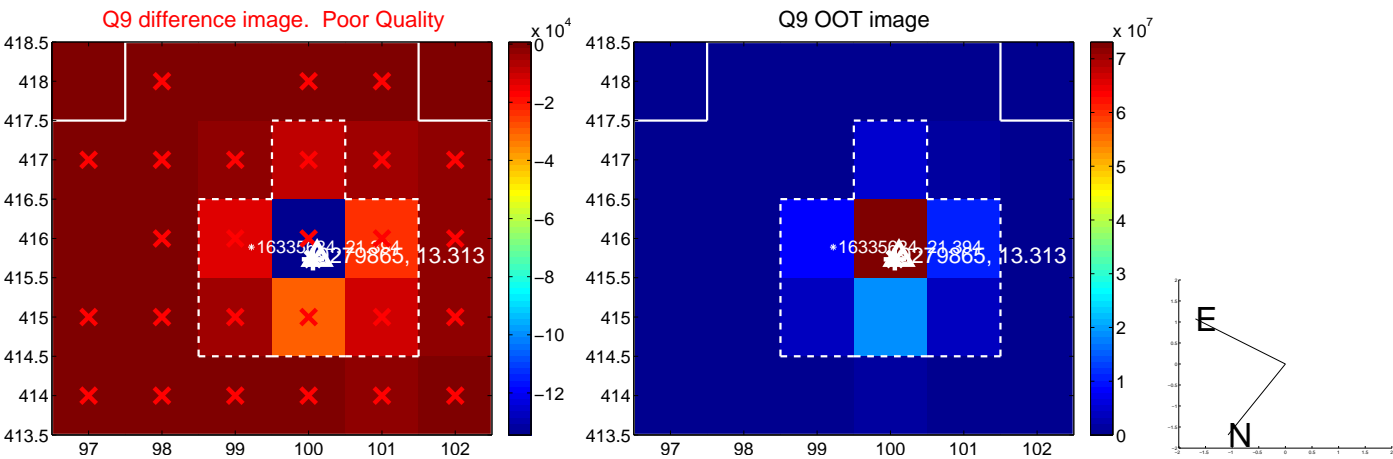




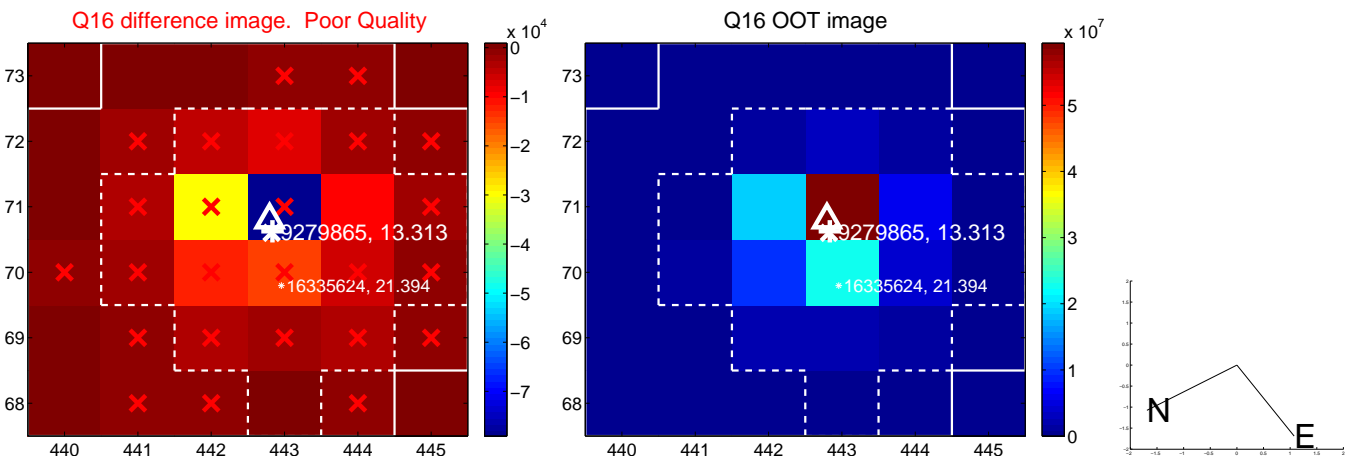
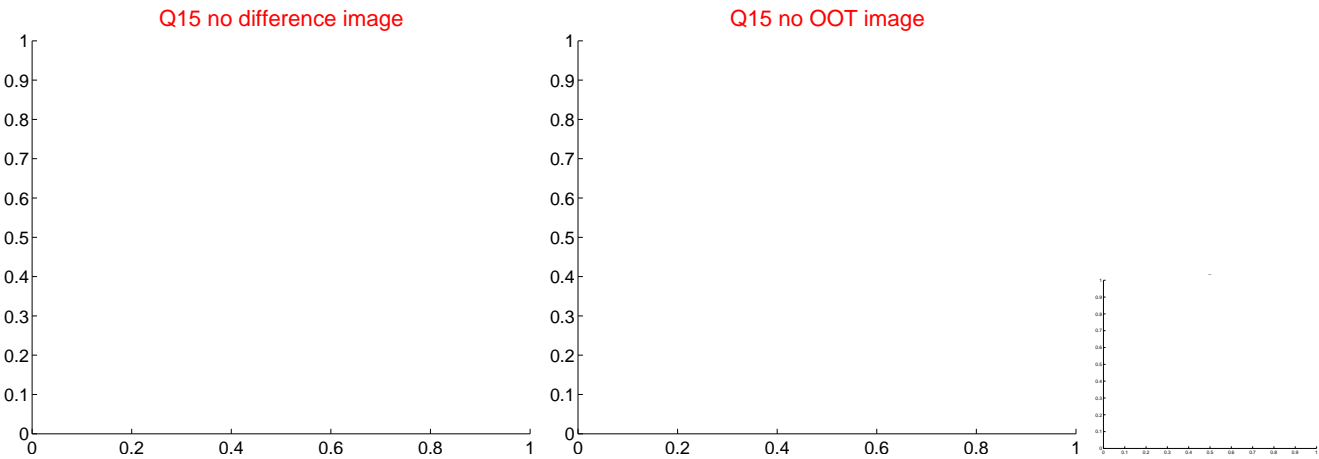
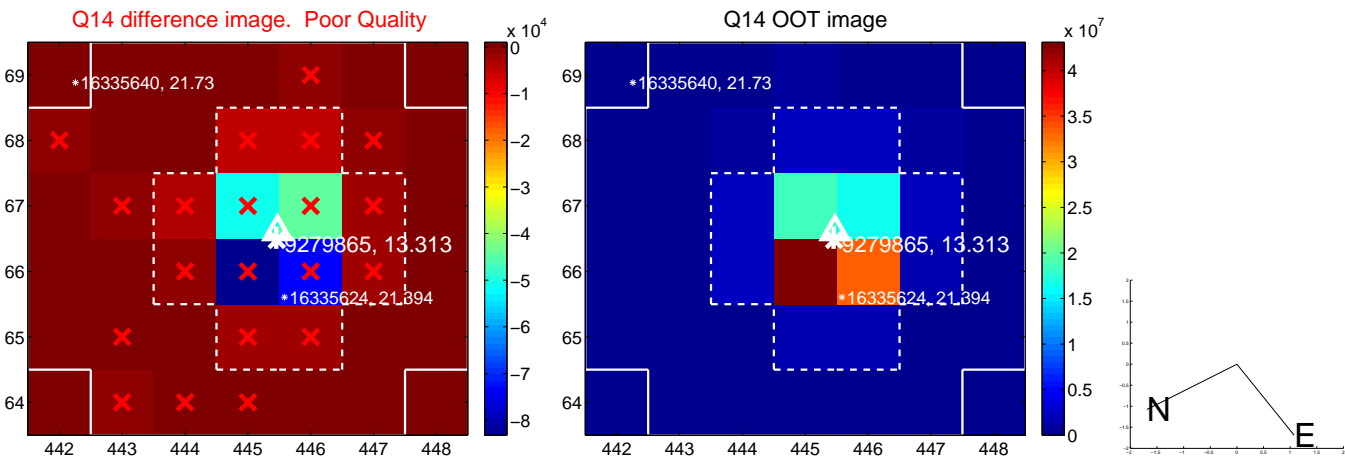
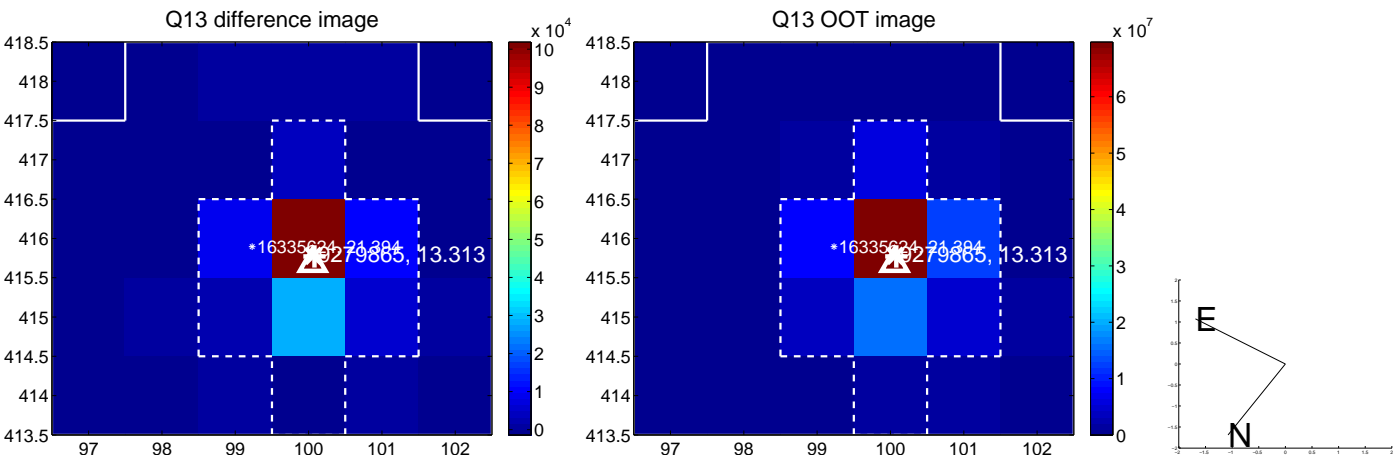
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



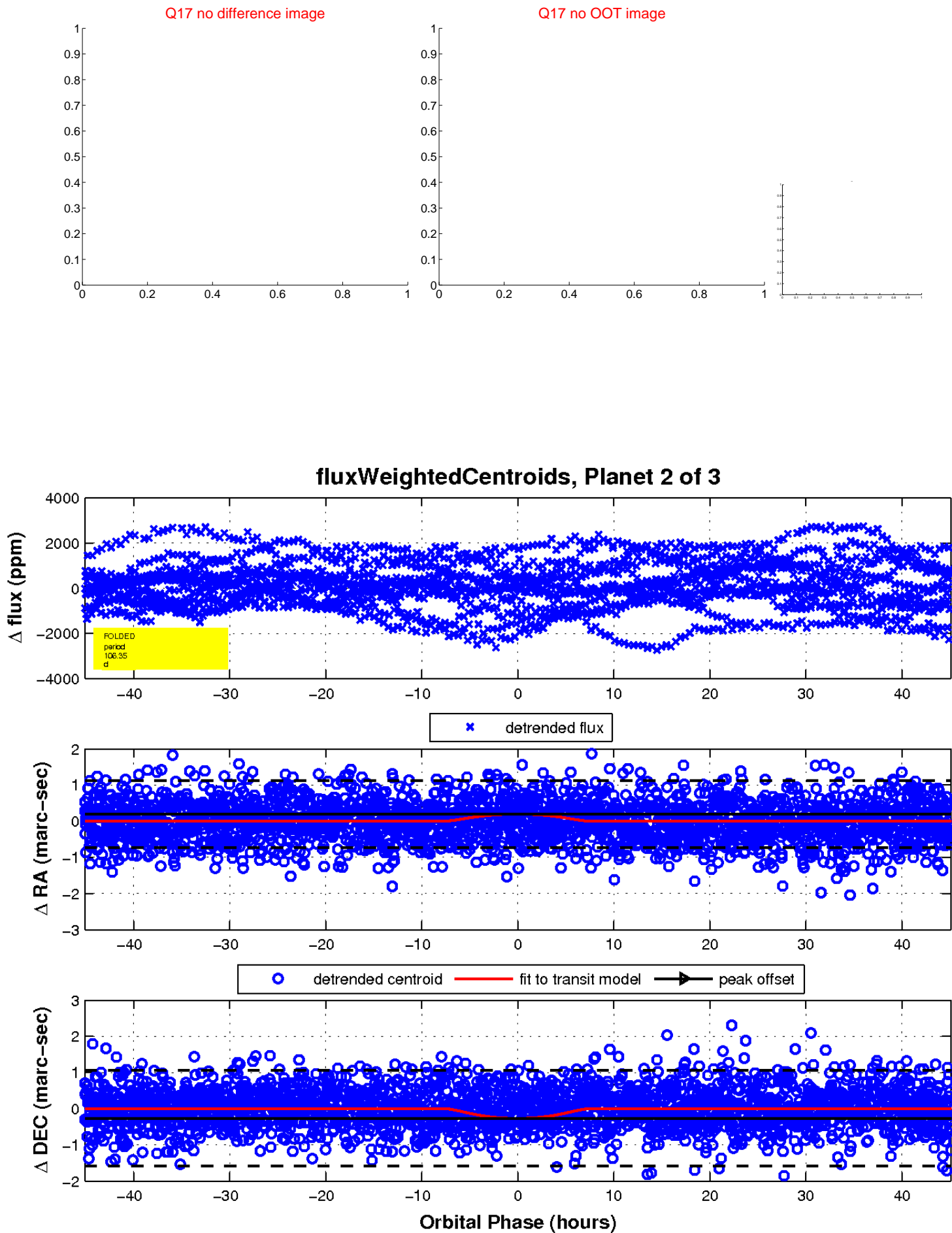
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

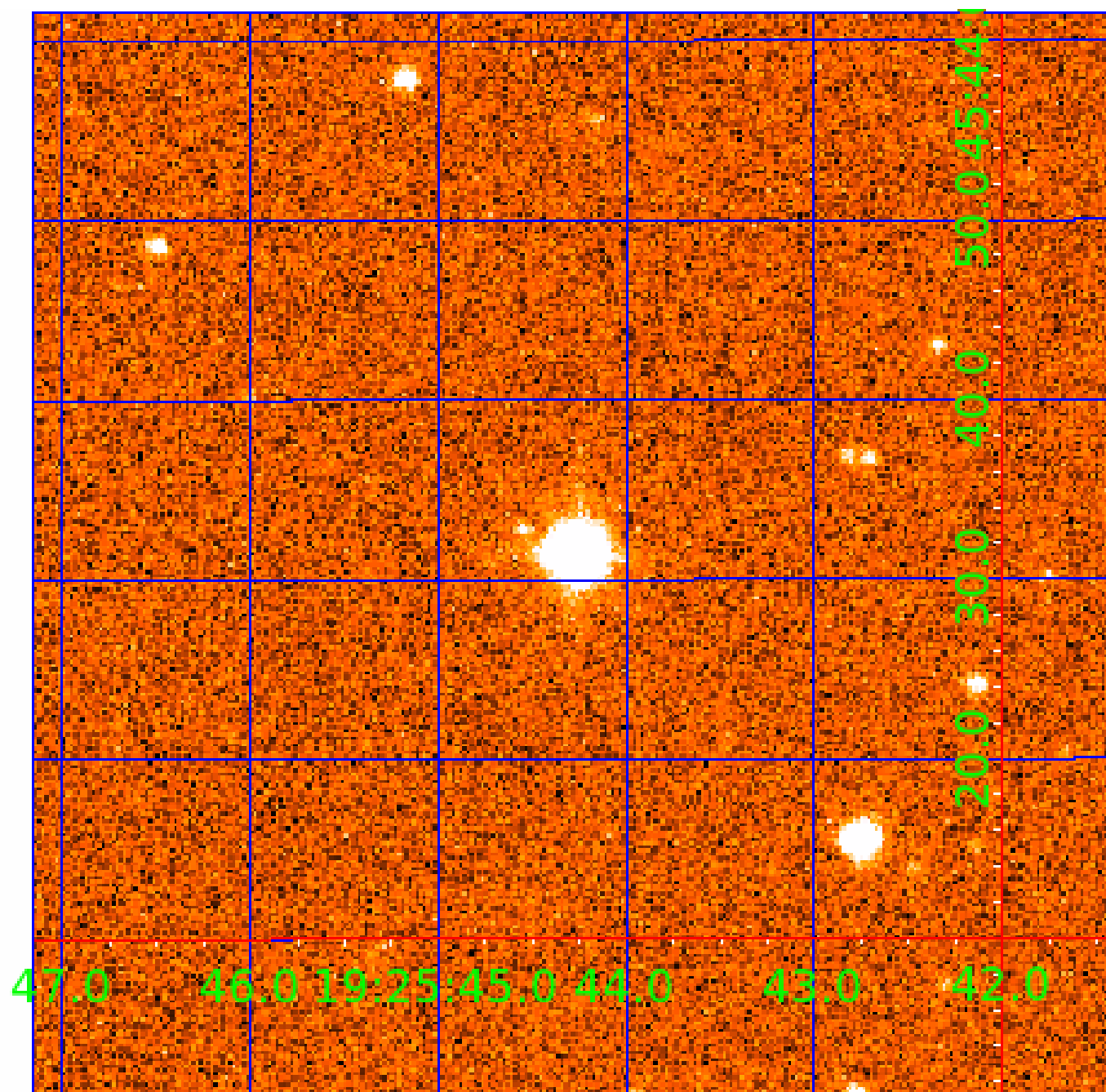


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 009279865

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009279865-01	OBS	No	2.164562	133.045884	24.1	13.978	7.3	3.8	1.82	6532	0.93	4311.55
009279865-02	OBS	No	106.353524	160.048391	1824.6	15.046	26.8	14.0	1.82	6532	9.96	23.96
009279865-03	OBS	No	2.164461	131.985242	86.2	6.993	16.1	18.0	1.82	6532	1.70	4311.82

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009279865-01	OBS	FP	0.00	1	0	0	0	LPP_DV
009279865-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS
009279865-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—SAME_NTL_PERIOD

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

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

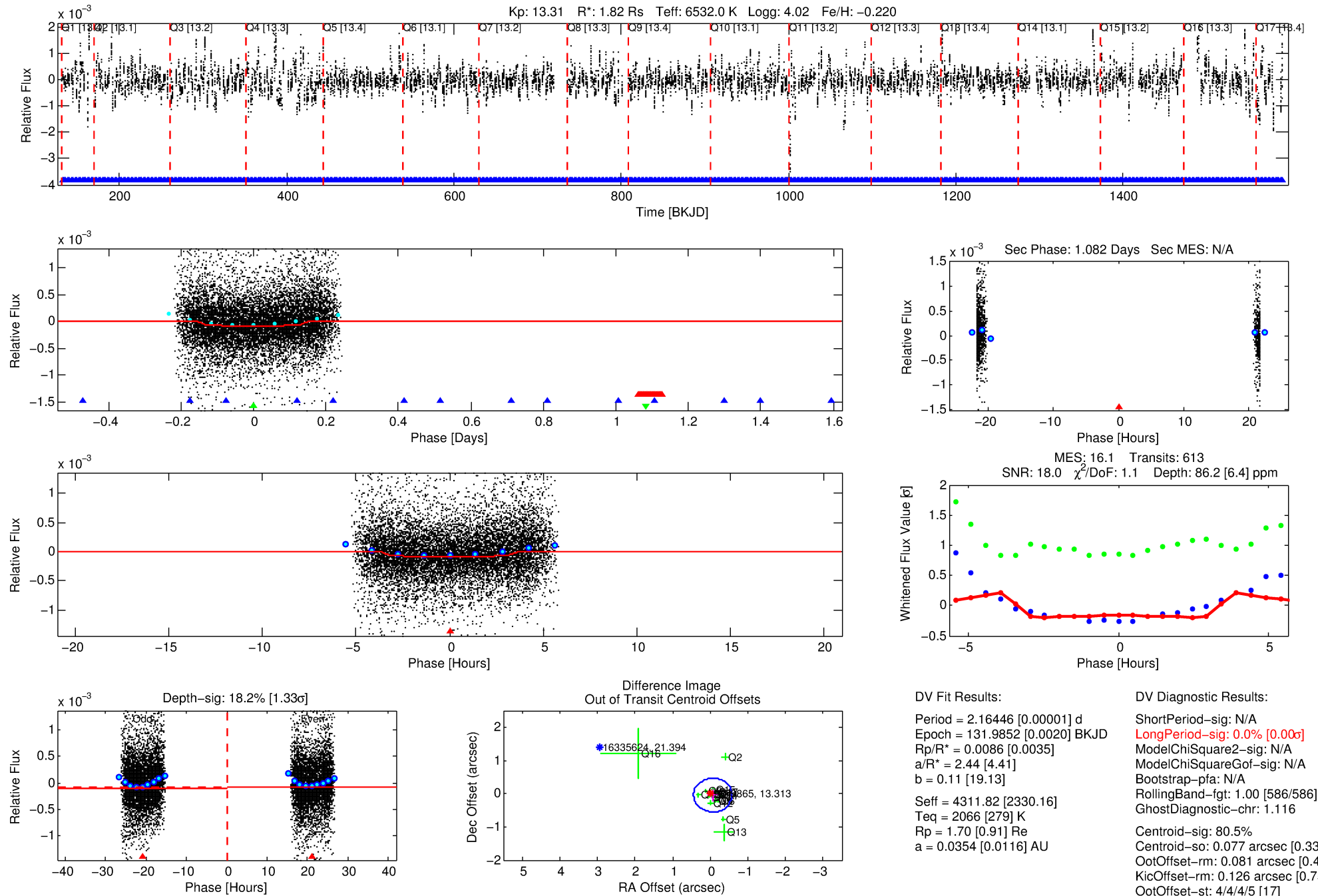
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 009279865-03

No Significant Match Found

# DV One-Page Summary

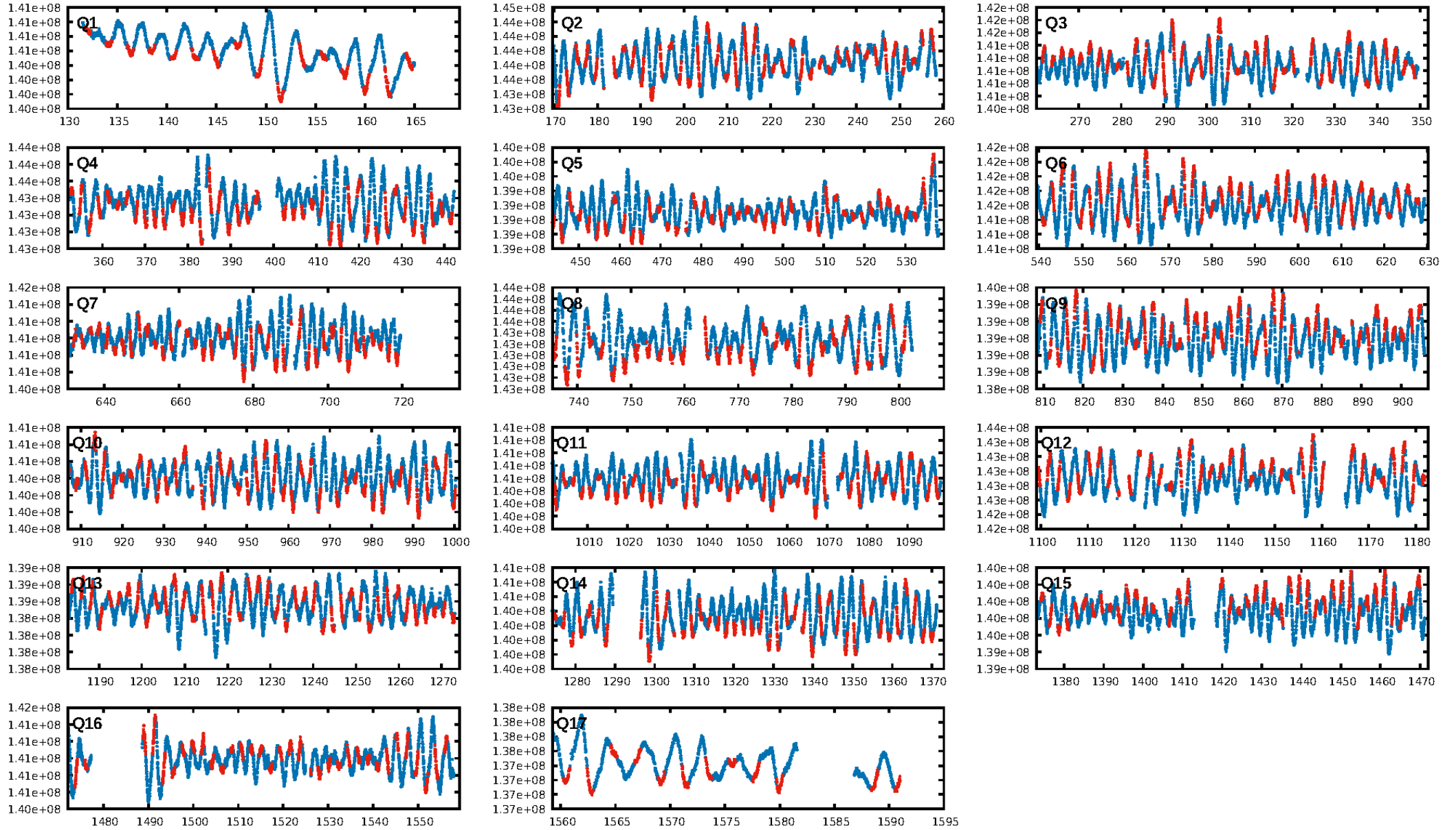
KIC: 9279865 Candidate: 3 of 3 Period: 2.164 d



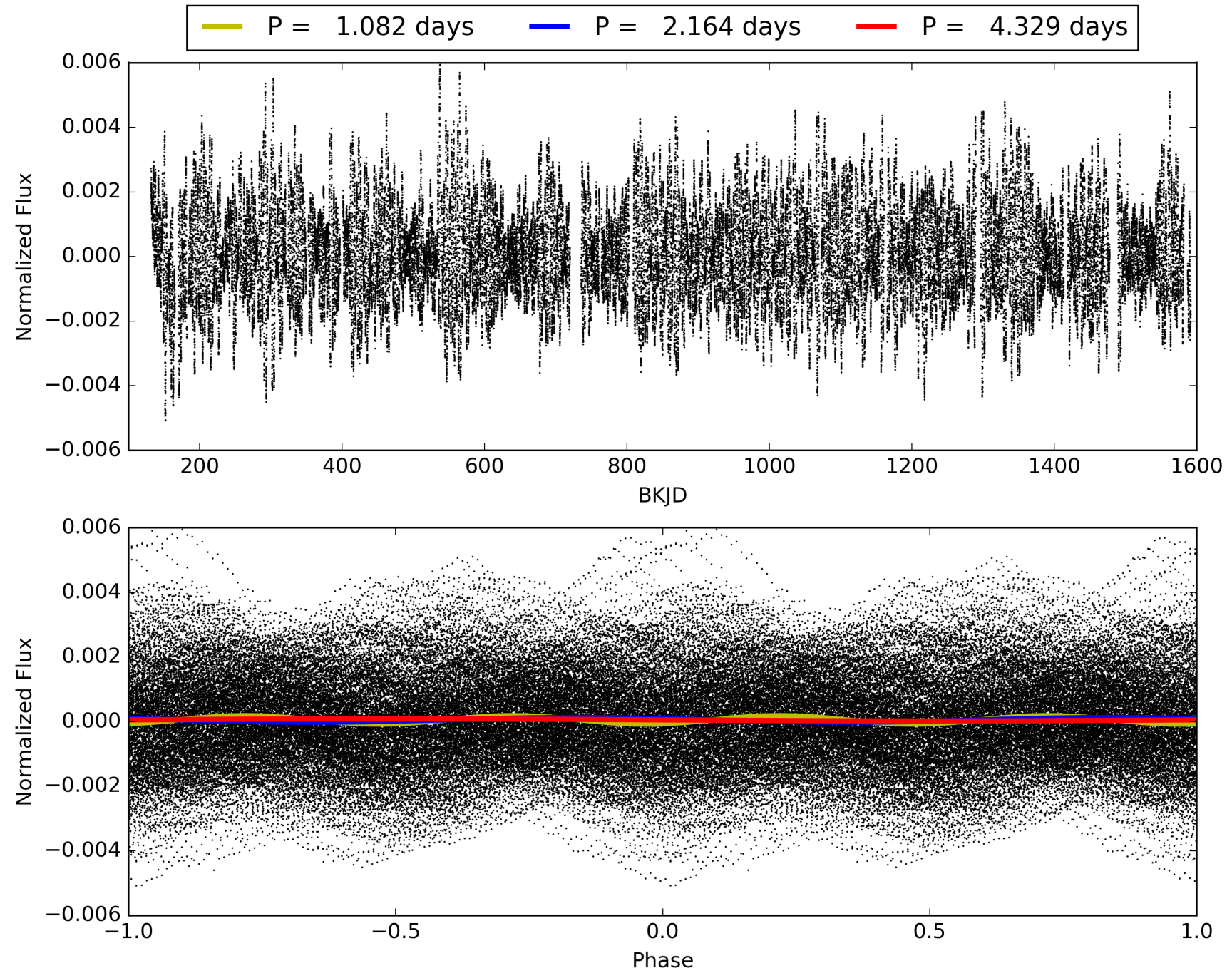
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:23:31 Z

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

# TCE 009279865-03, PDC Light Curves

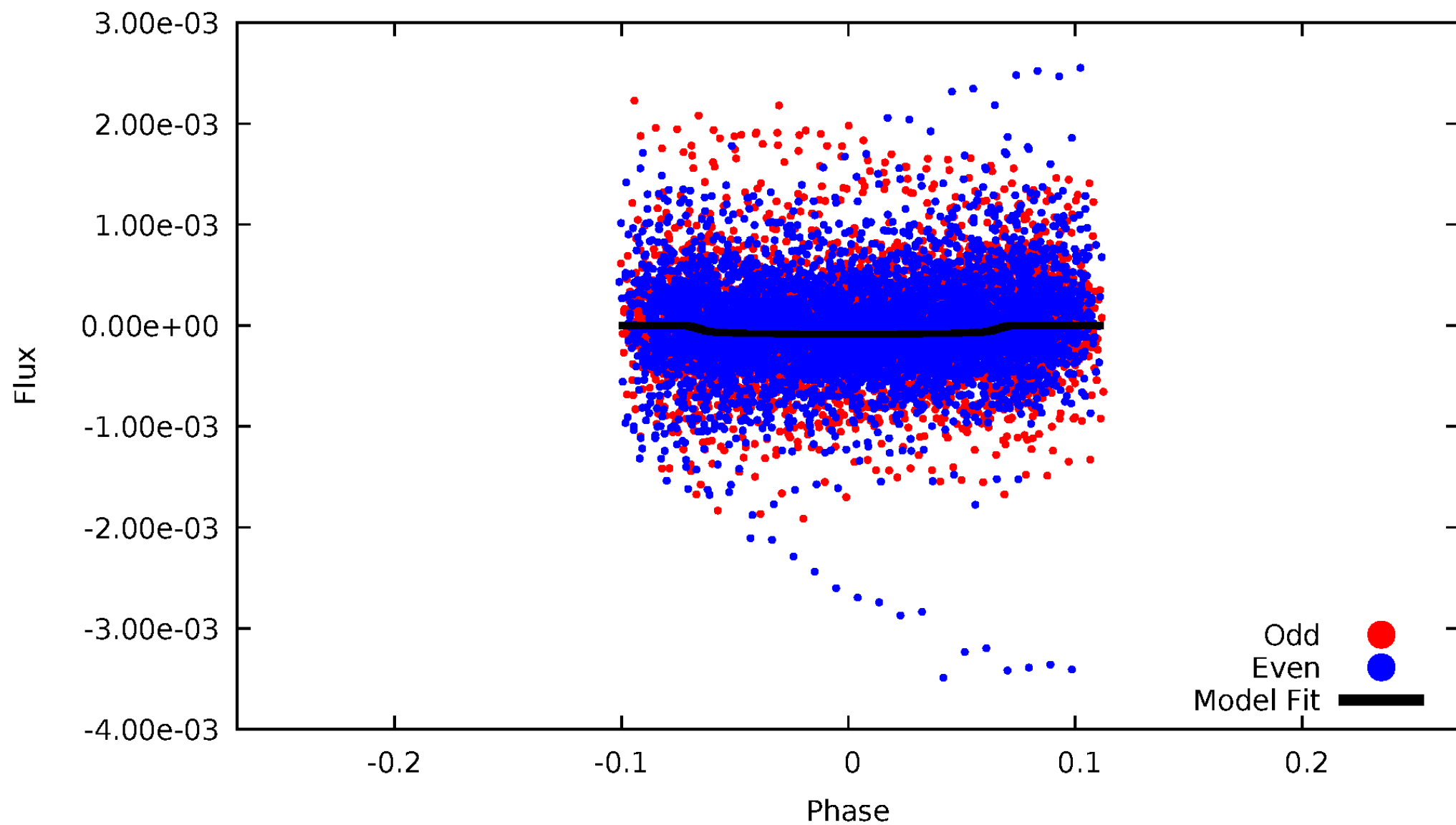


TCE 009279865-03



# DV Odd/Even

TCE 009279865-03



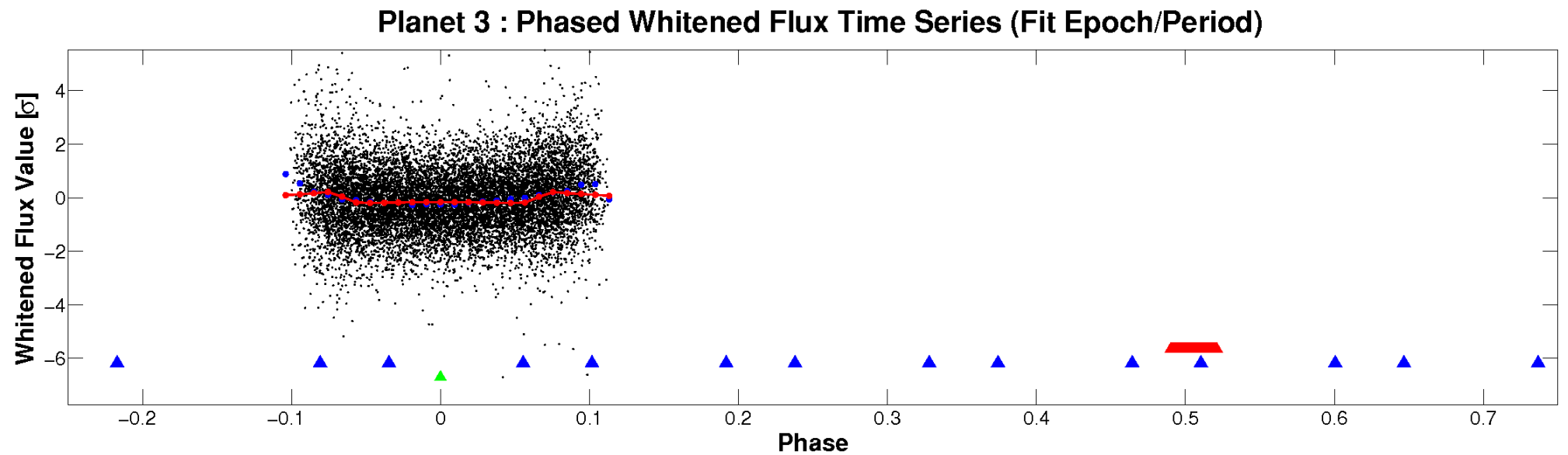
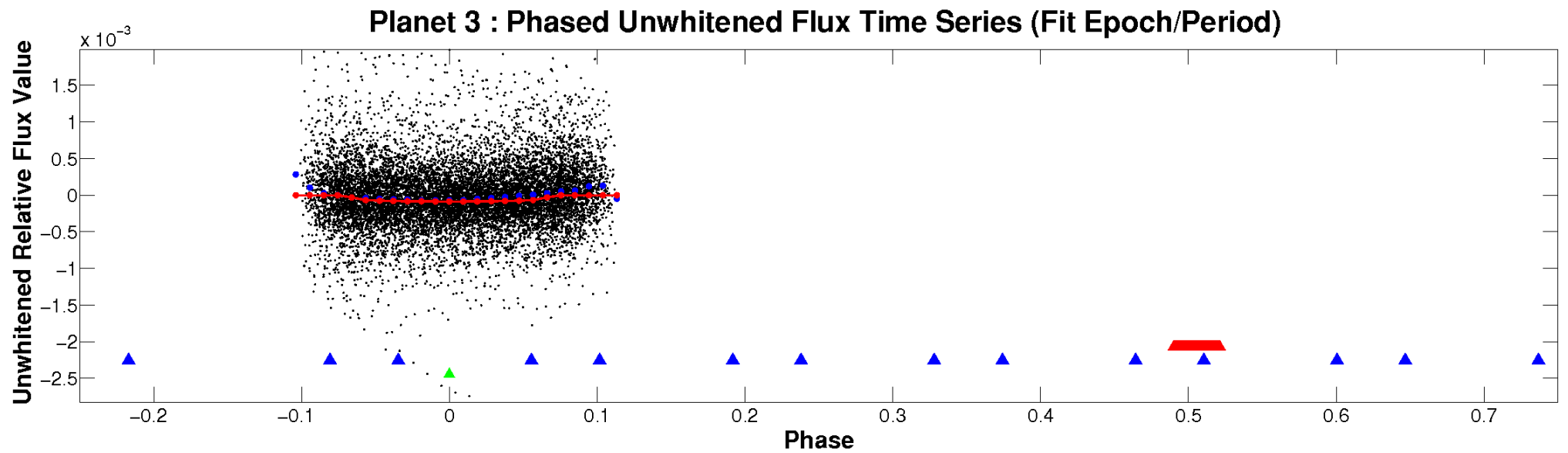




ALT Odd/Even

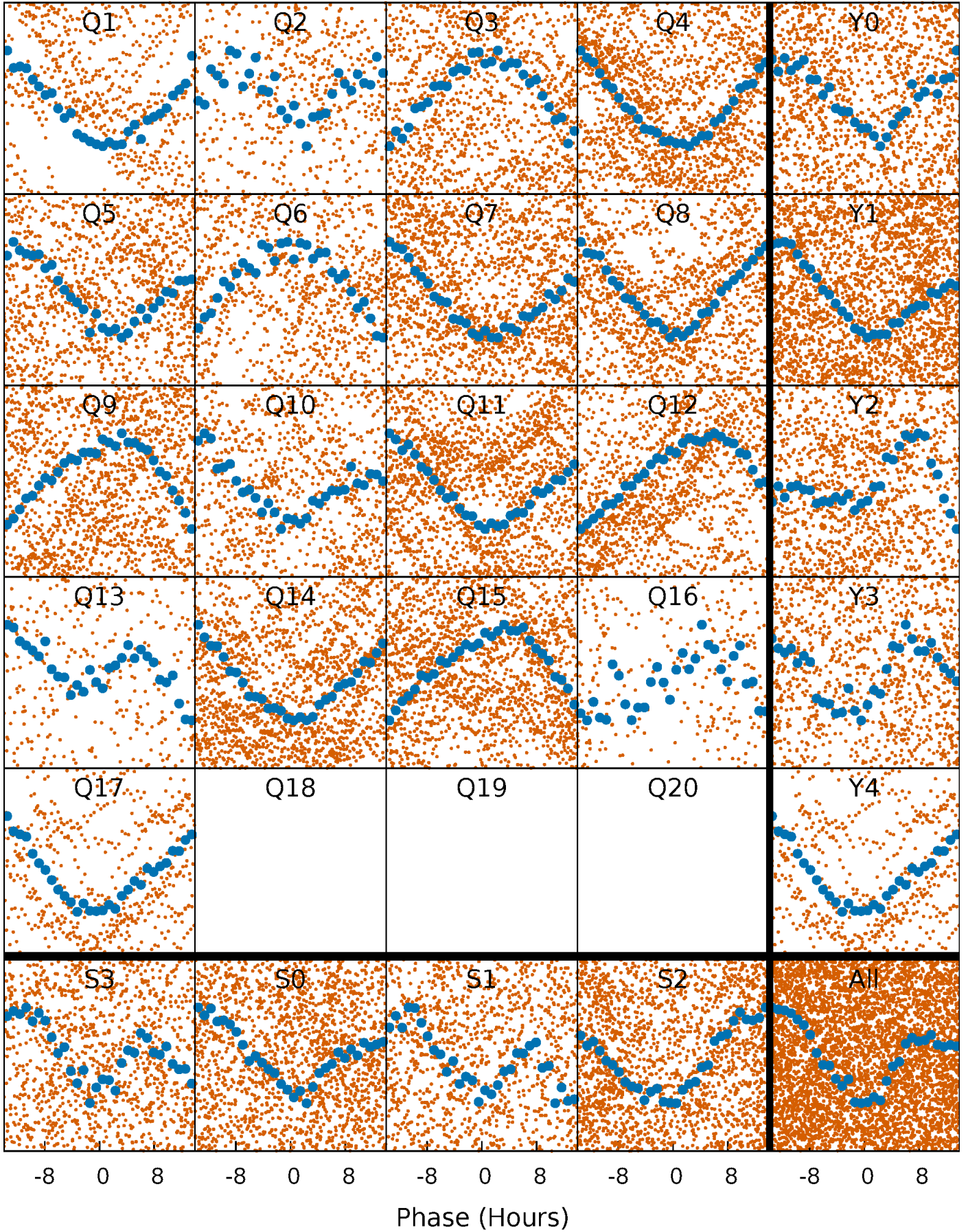
This plot does not exist for this TCE.

# Non-Whitened Vs. Whitened Light Curve



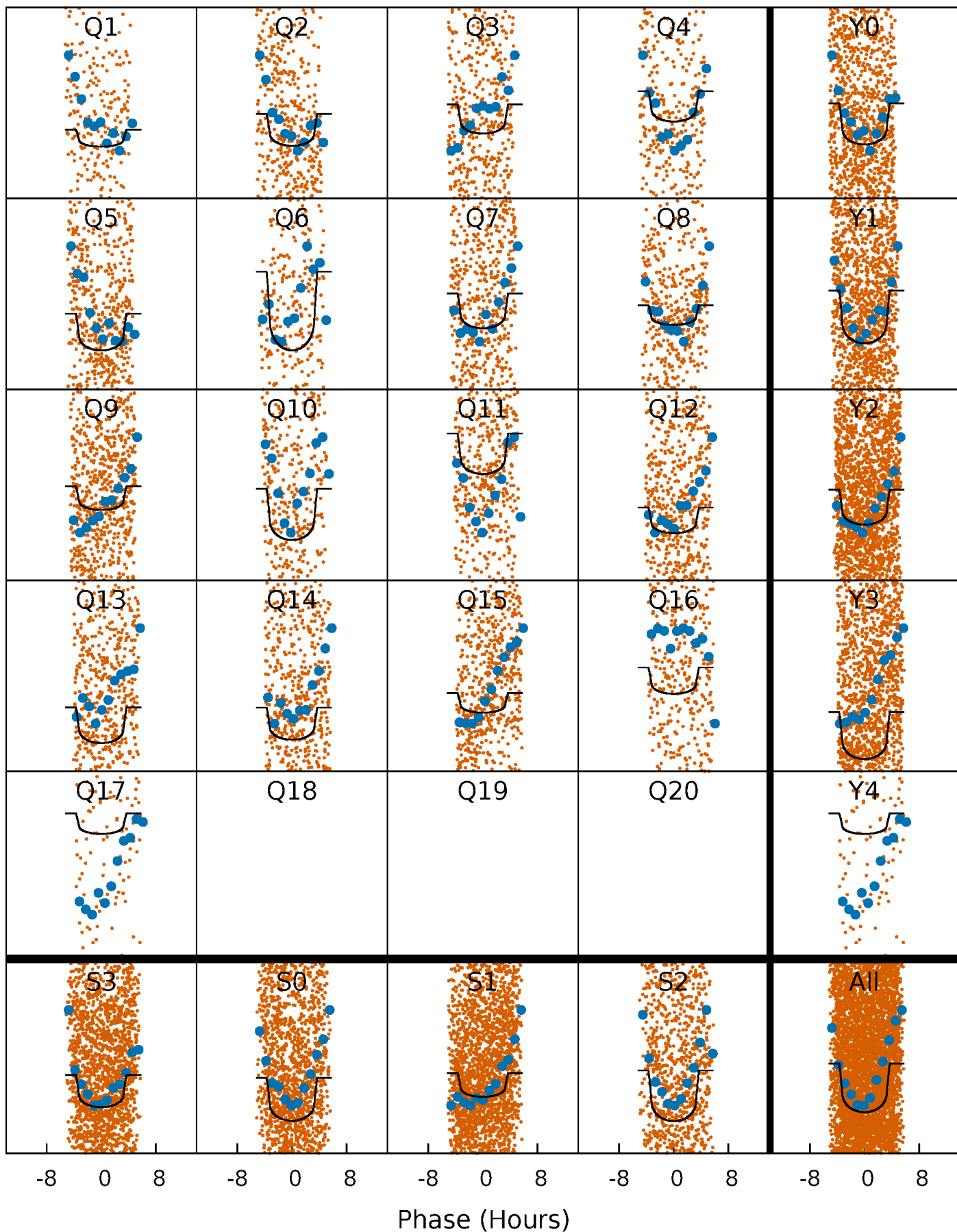
# PDC Quarter-Phased Transit Curves

TCE 009279865-03   P= 2.164461 Days    $T_0=131.985242$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 009279865-03   P= 2.164461 Days    $T_0=131.985242$  (BKJD)

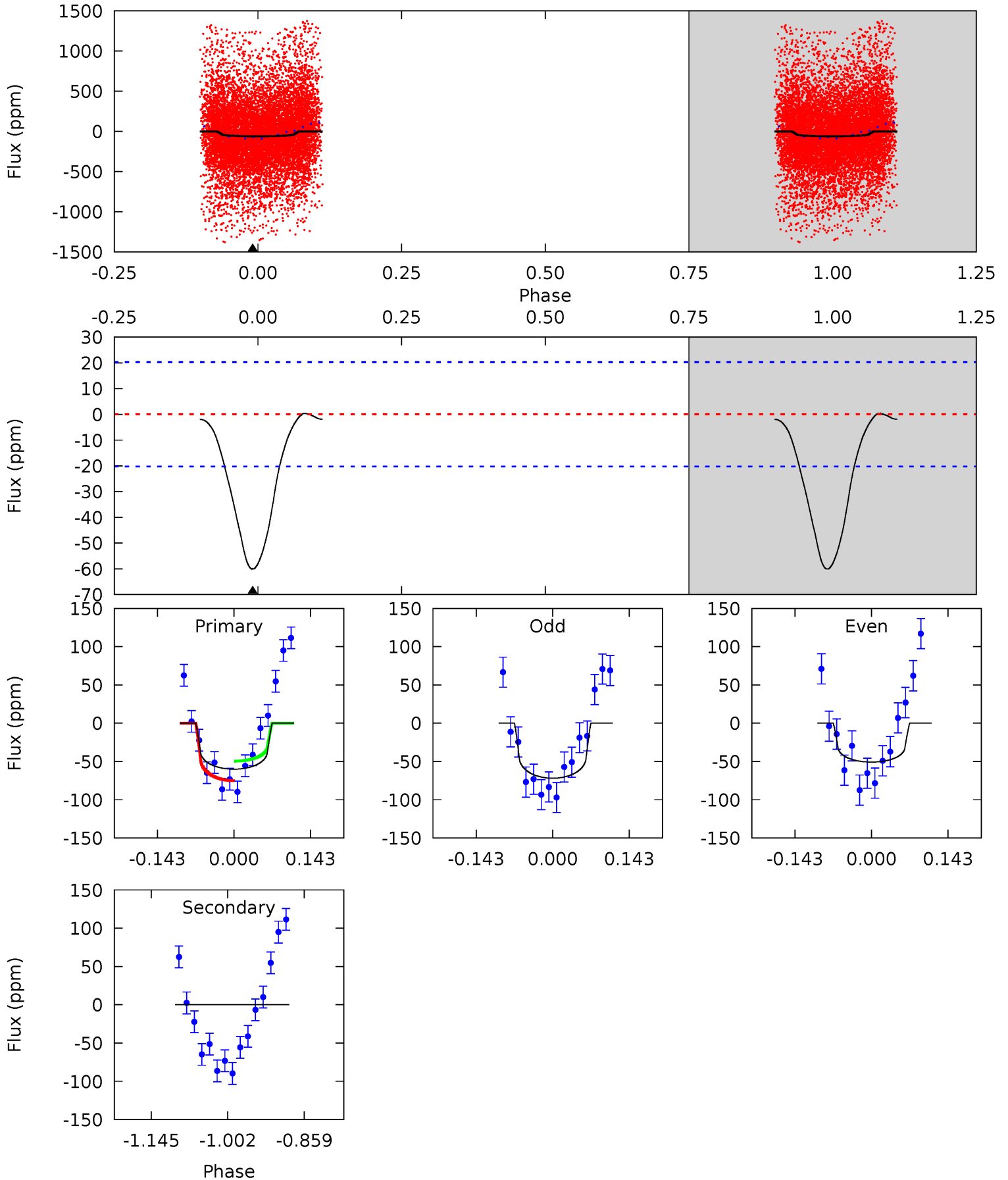


This plot does not exist for this TCE.

# DV Model-Shift Uniqueness Test

009279865-03, P = 2.164461 Days, E = 129.820781 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
13.3	0	0	0	4.49	1.46	0.15	13.3	13.3	0	0	2.41	0.82	0.01	2.91





## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 009279865

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6532^{+181}_{-227}$	$4.019^{+0.306}_{-0.165}$	$-0.220^{+0.250}_{-0.300}$	$1.820^{+0.510}_{-0.623}$	$1.266^{+0.193}_{-0.236}$	$0.296^{+0.648}_{-0.140}$
	+3%/-3%	+8%/-4%	+114%/-136%	+28%/-34%	+15%/-19%	+219%/-47%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 009279865-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$0 \pm 5$	$1.64^{+0.73}_{-0.69}$	$2844^{+228}_{-260}$	$-3072^{+6622}_{-877}$	$-0.031^{+1.298}_{-1.419}$
Alt.	N/A	N/A	N/A	N/A	N/A

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

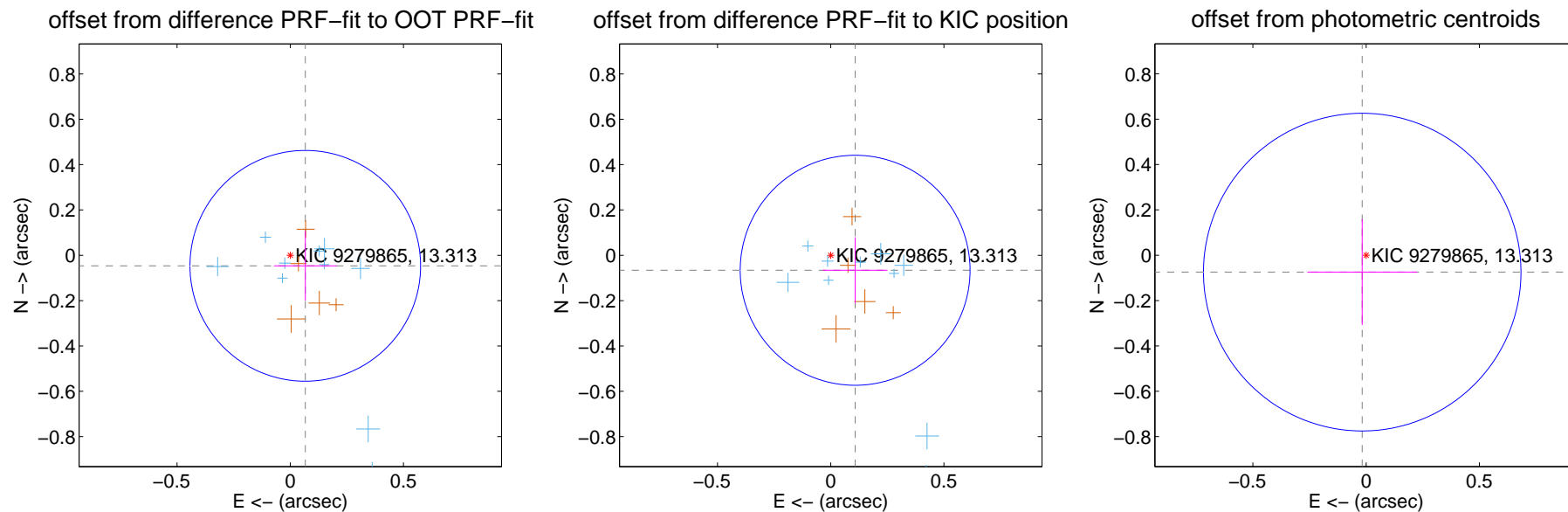
## DV Centroid Data

Supplemental centroid analysis for 009279865-03. Kepler magnitude: 13.31. Transit SNR 17.99

There are 12 quarters with good PRF difference image offsets

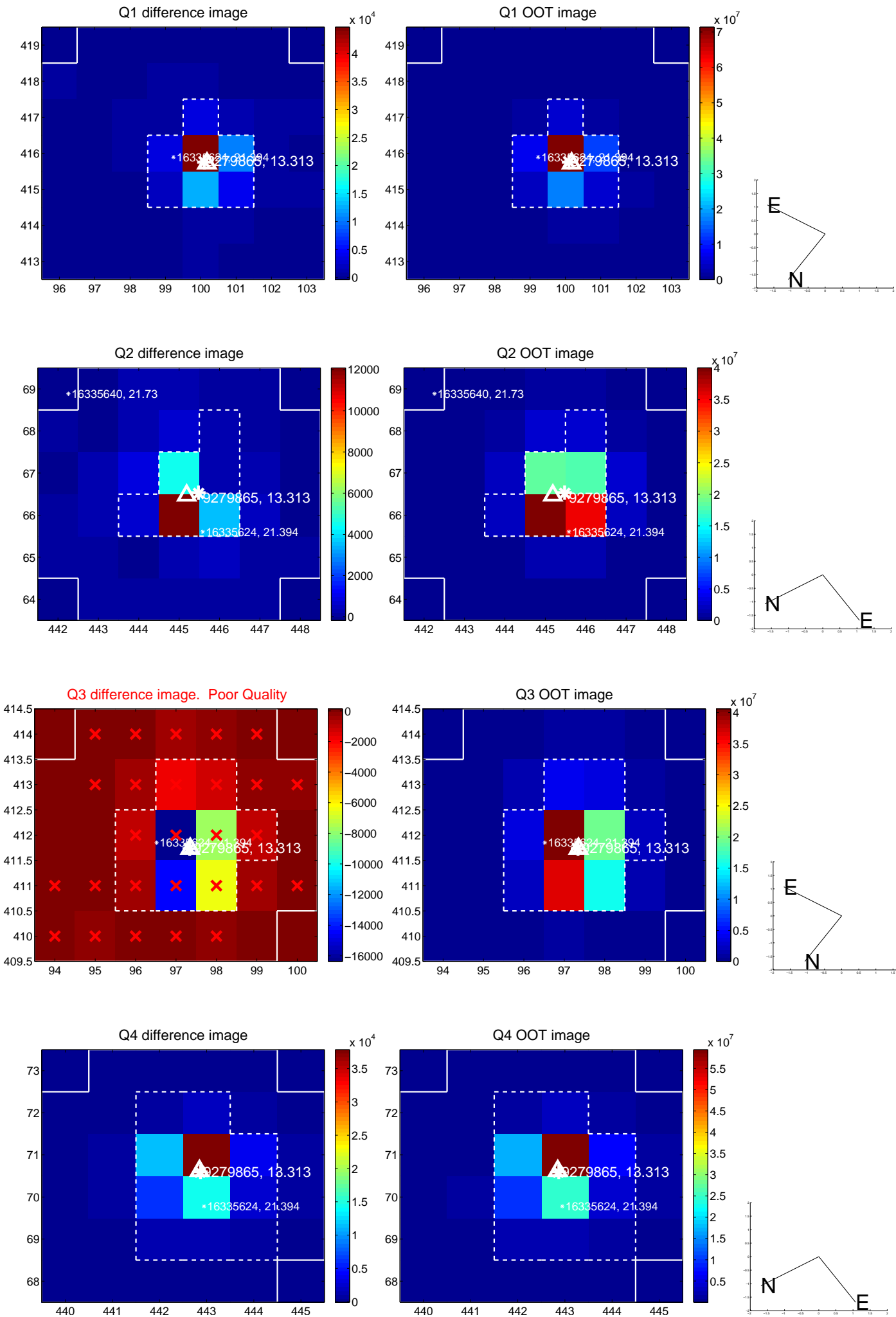
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.081 \pm 0.170$	0.48	$-0.066 \pm 0.138$	$-0.047 \pm 0.154$
PRF-fit source offset from KIC position	$0.126 \pm 0.169$	0.75	$-0.108 \pm 0.143$	$-0.066 \pm 0.146$
photometric centroid source offset	$0.08 \pm 0.23$	0.33	$0.02 \pm 0.24$	$-0.07 \pm 0.23$

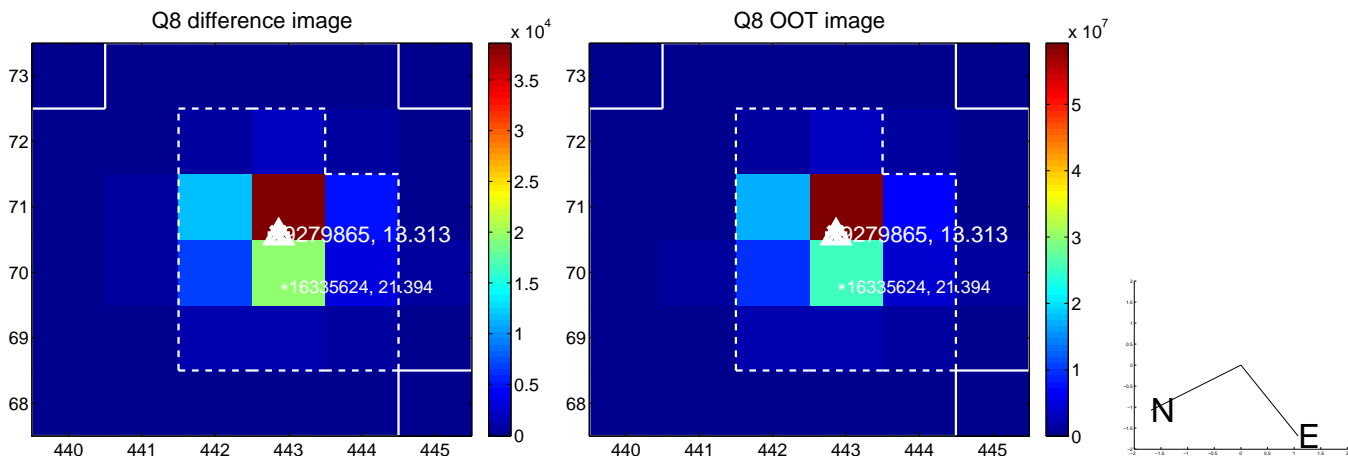
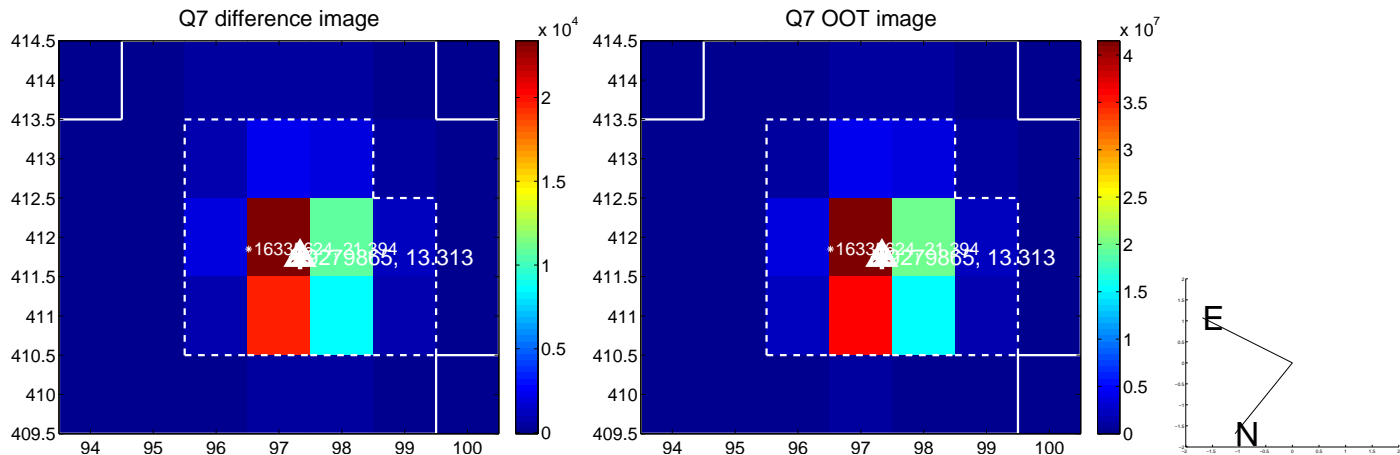
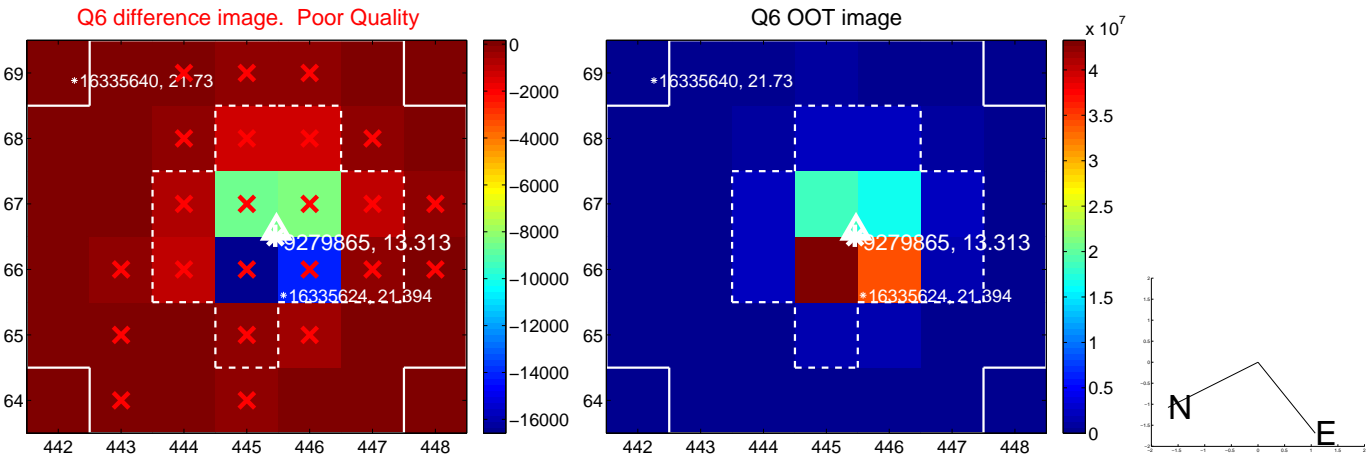
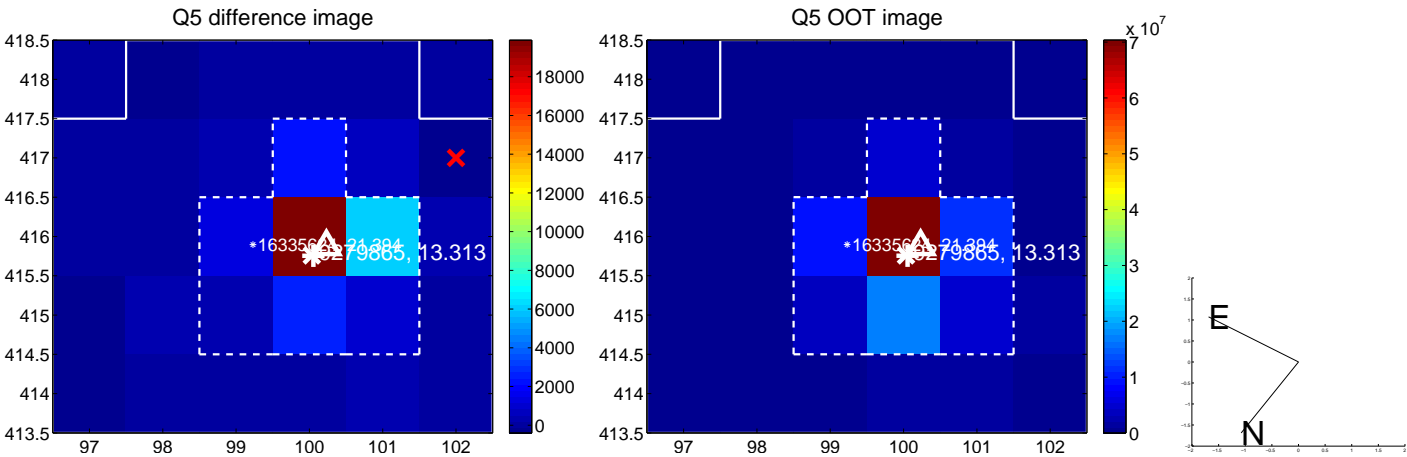


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

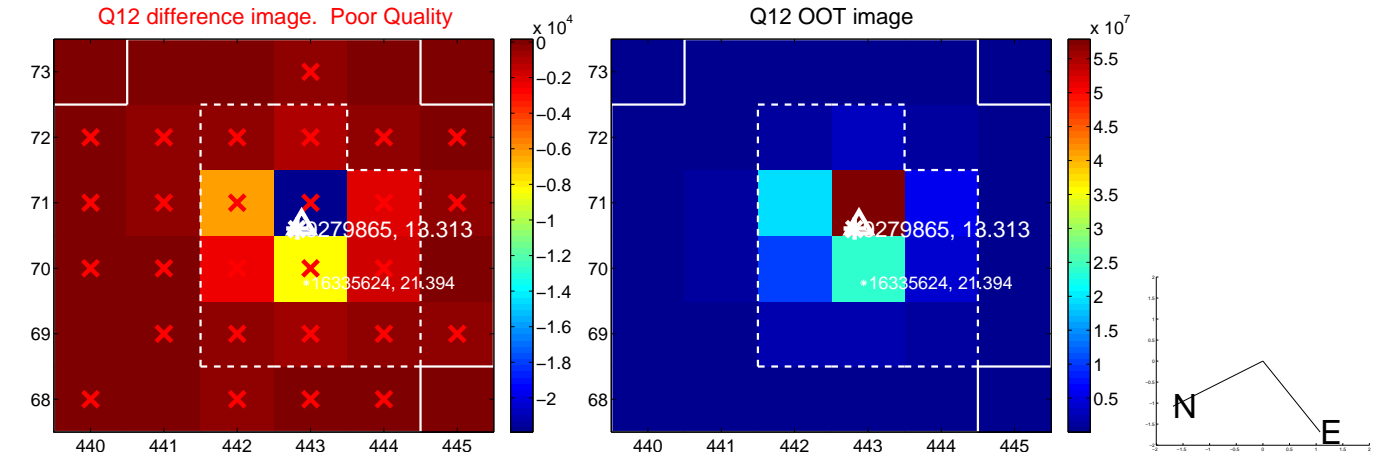
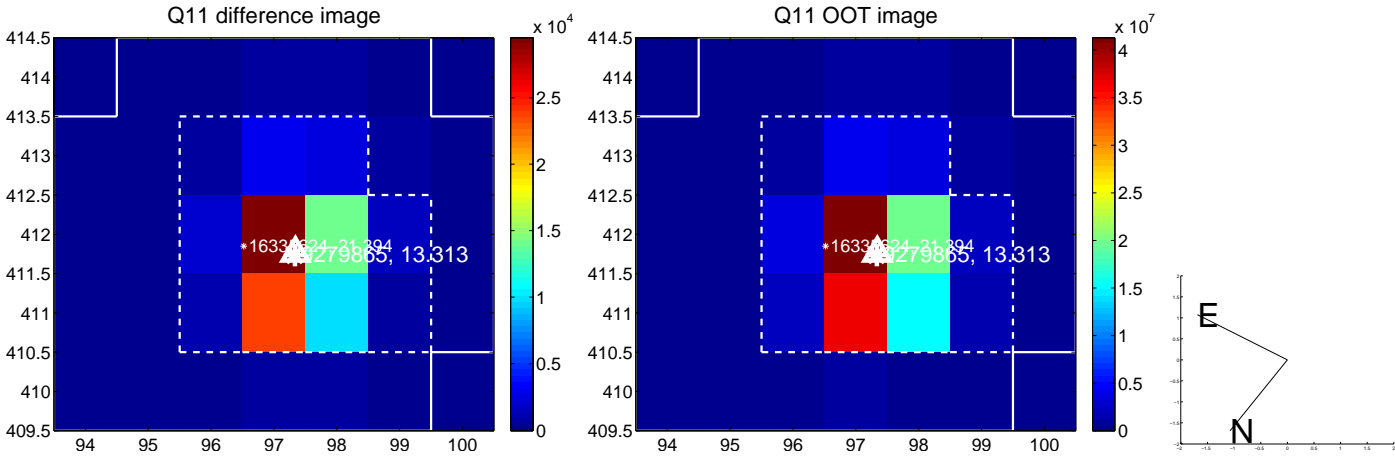
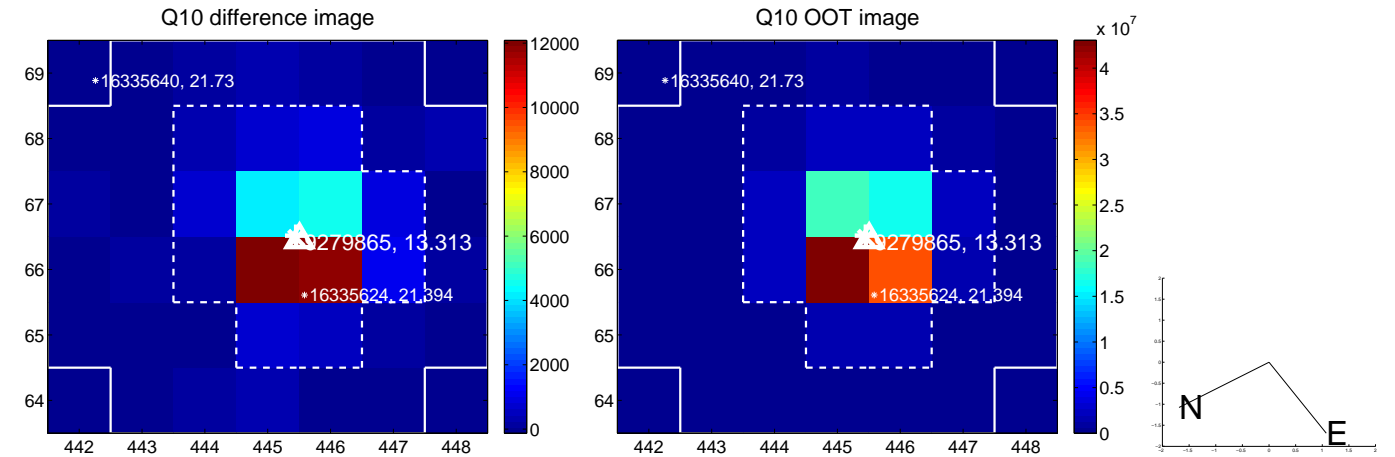
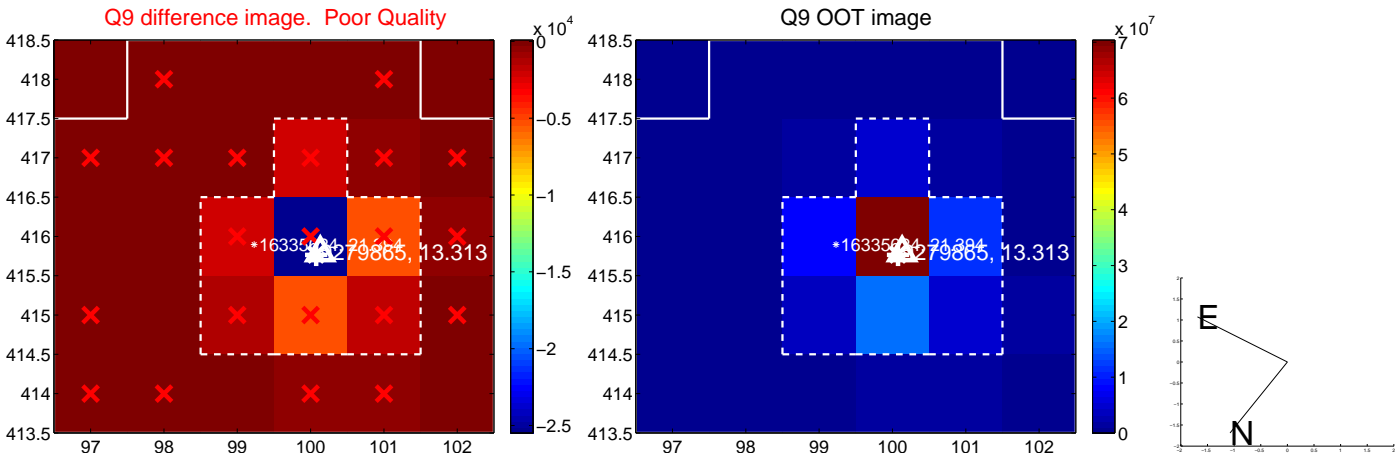
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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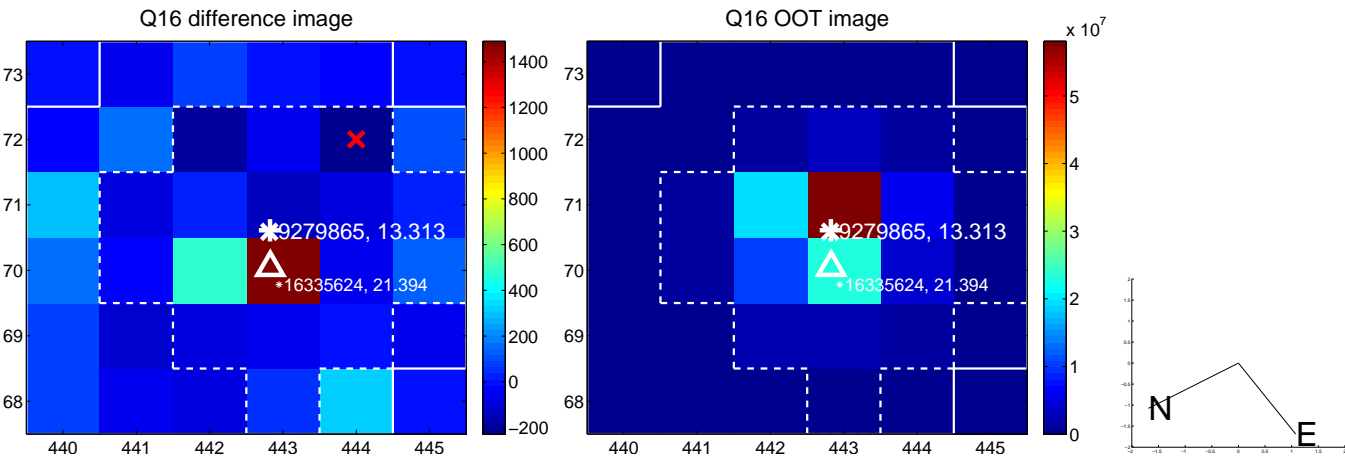
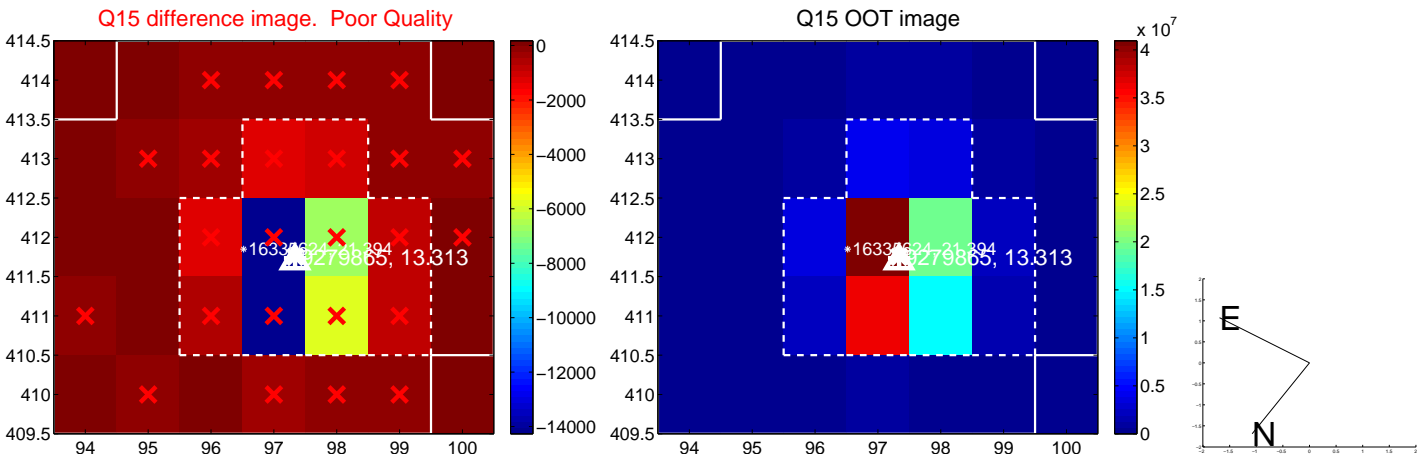
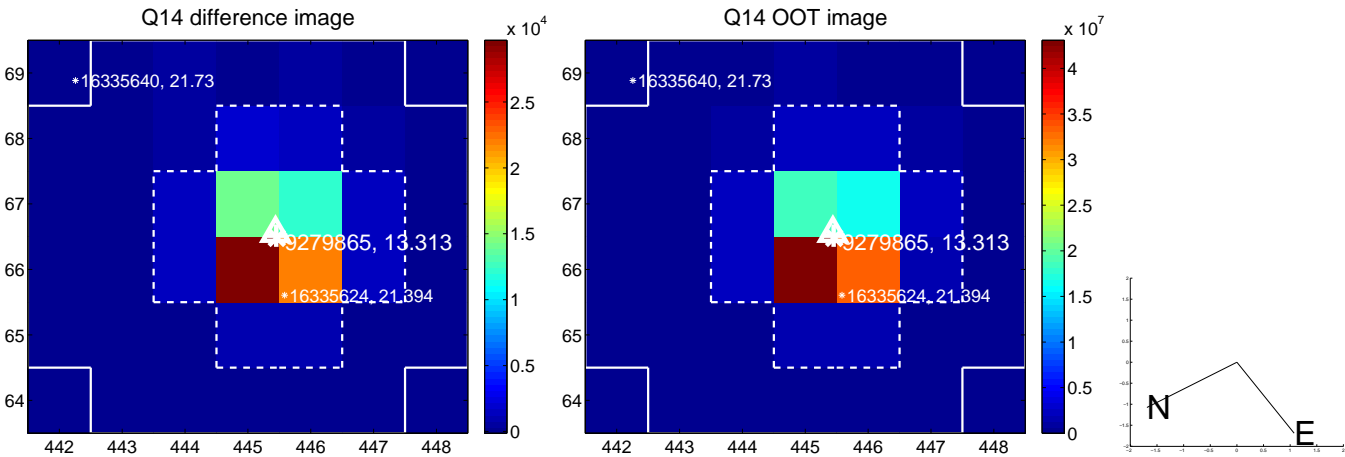
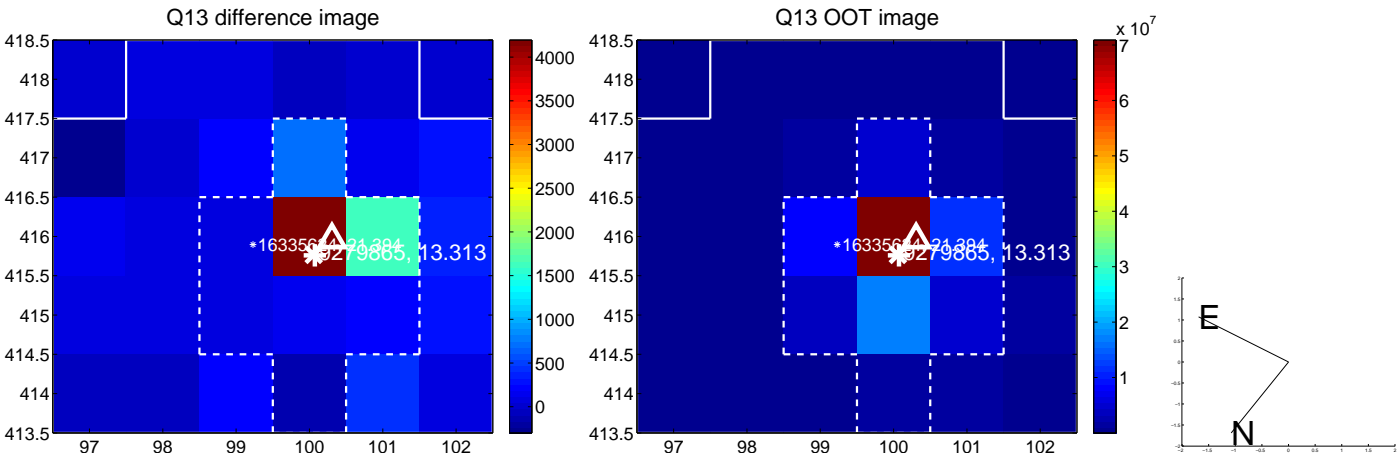


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UKIRT Image

Declination

