

# KIC 008892124

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008892124-01	OBS	No	0.713885	132.005503	0.0	4.612	10.0	0.0	0.70	5263	0.00	1764.58
008892124-02	OBS	No	46.741760	149.755534	4695.0	1.900	10.6	7.6	0.70	5263	4.73	6.69
008892124-03	OBS	No	50.948733	180.719106	2669.9	4.777	7.9	7.3	0.70	5263	3.80	5.96
008892124-04	OBS	No	39.868879	160.022745	2220.6	4.777	8.6	5.9	0.70	5263	3.32	8.27
008892124-05	OBS	No	35.713799	137.872524	899.1	10.339	8.5	3.7	0.70	5263	2.12	9.57

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008892124-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT
008892124-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—HALO_GHOST
008892124-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008892124-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008892124-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST

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

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

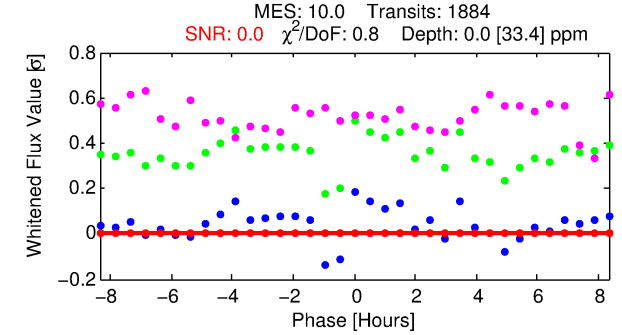
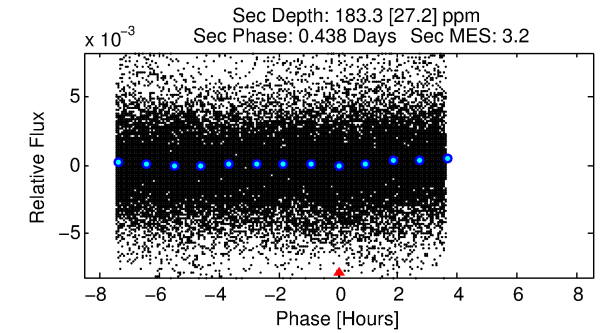
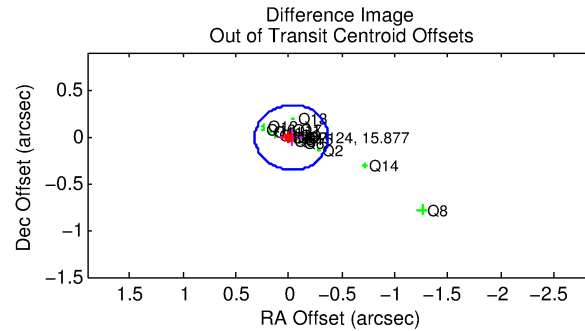
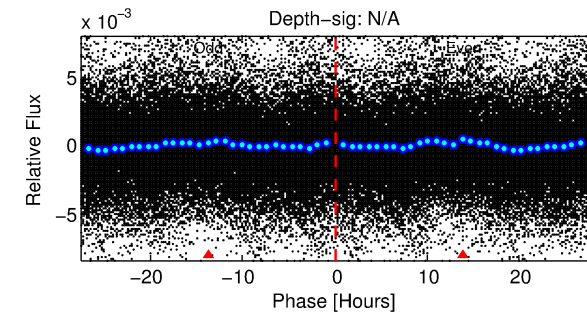
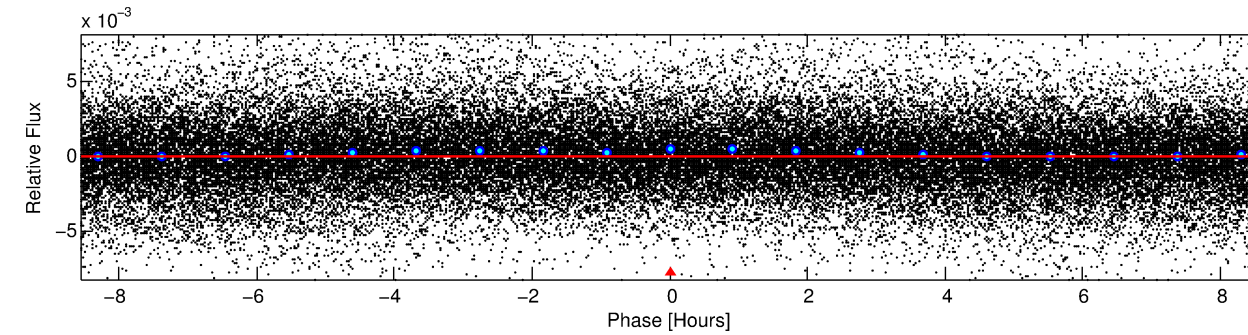
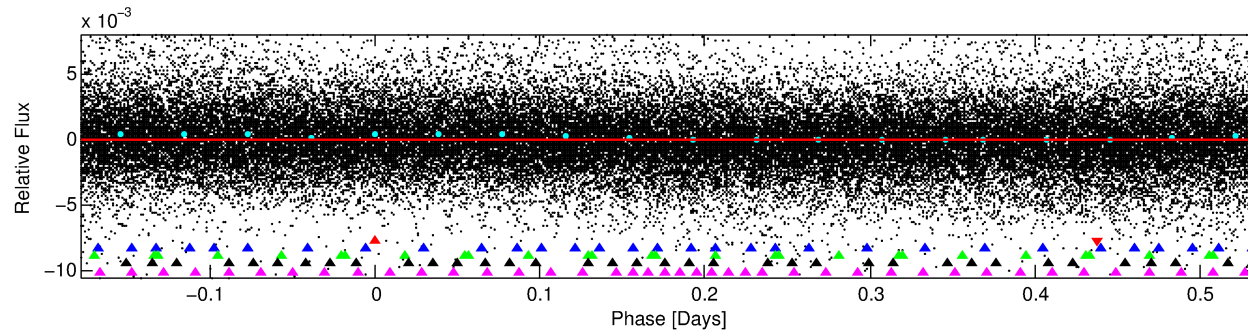
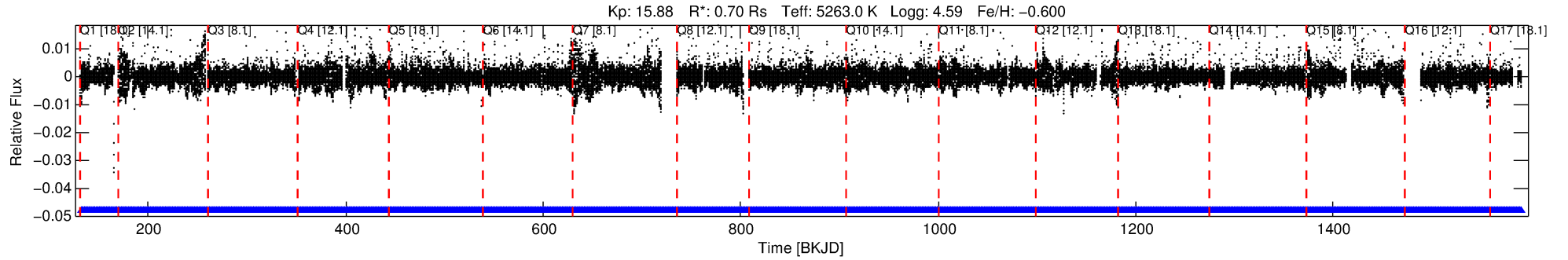
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008892124-01

No Significant Match Found

# DV One-Page Summary

KIC: 8892124 Candidate: 1 of 5 Period: 0.714 d



## DV Fit Results:

Period = 0.71388 [4.55652] d  
Epoch = 132.0055 [827.4467] BKJD  
Rp/R\* = 0.0000 [0.6576]  
a/R\* = 1.28 [920.51]  
b = 0.43 [4362.64]  
Seff = 1764.58 [15020.41]  
Teq = 1653 [3517] K  
Rp = 0.00 [50.16] Re  
a = 0.0138 [0.0587] AU  
Ag = 6967023.89 [421058535129.45] [0.005]  
Teffp = 131277 [1983647886] K [0.005]

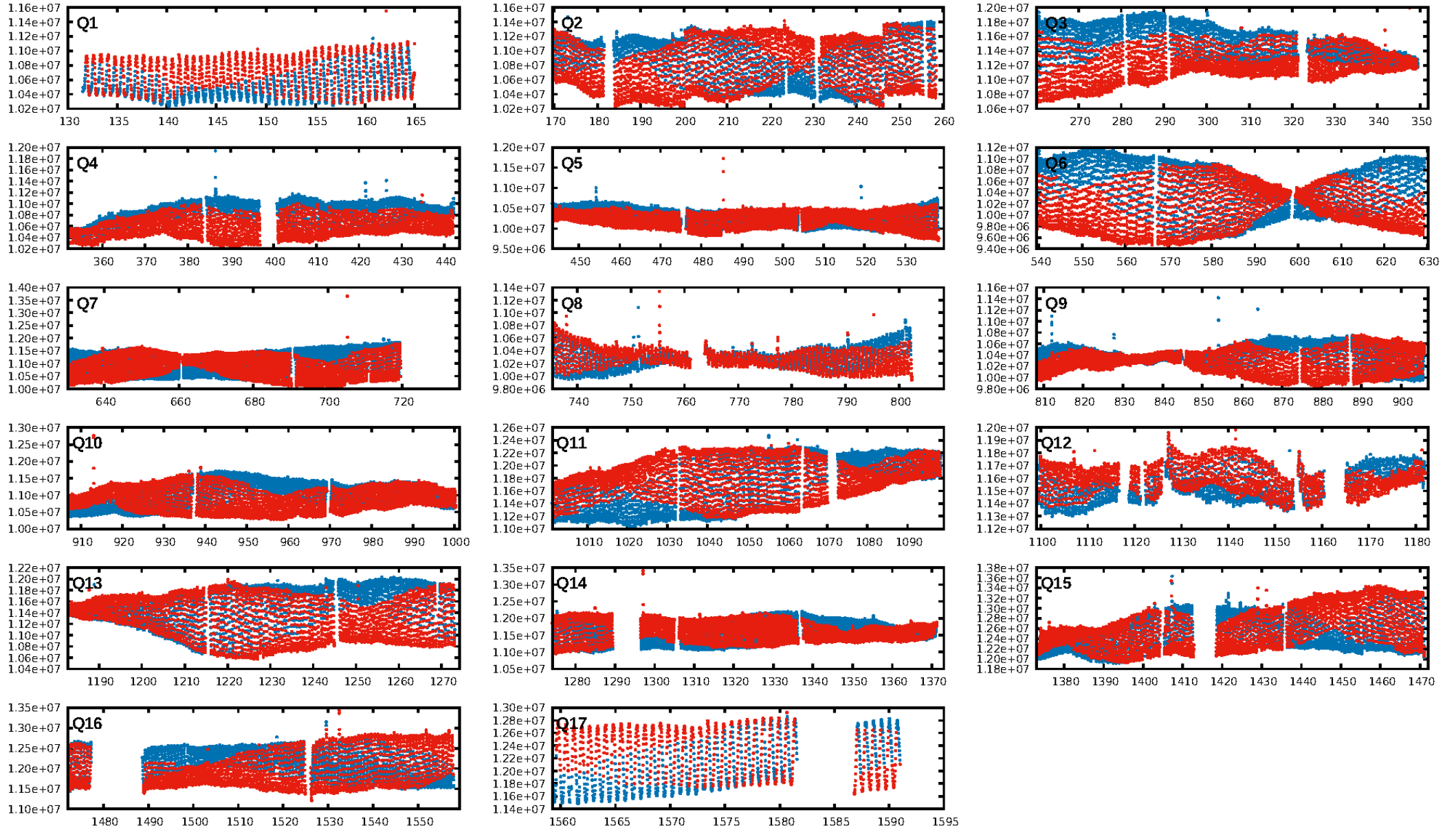
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [74.20σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 2.42e-21  
RollingBand-fgt: 1.00 [1800/1800]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
QotOffset-rm: 0.030 arcsec [0.26σ]  
KicOffset-rm: 0.085 arcsec [1.15σ]  
QotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.65 [11/17]  
DiffImageOverlap-fno: 1.00 [17/17]

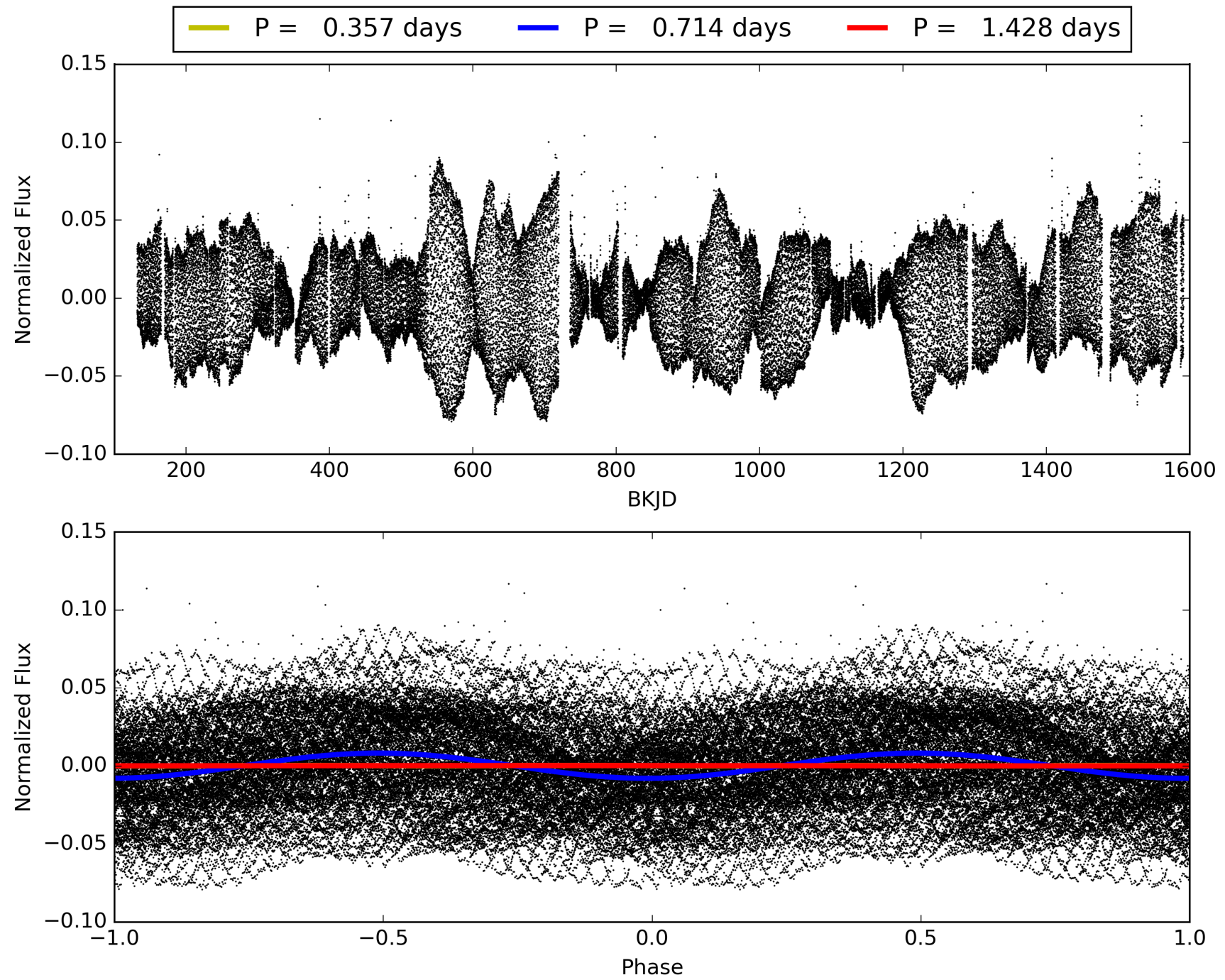
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 09:54:01 Z

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

# TCE 008892124-01, PDC Light Curves



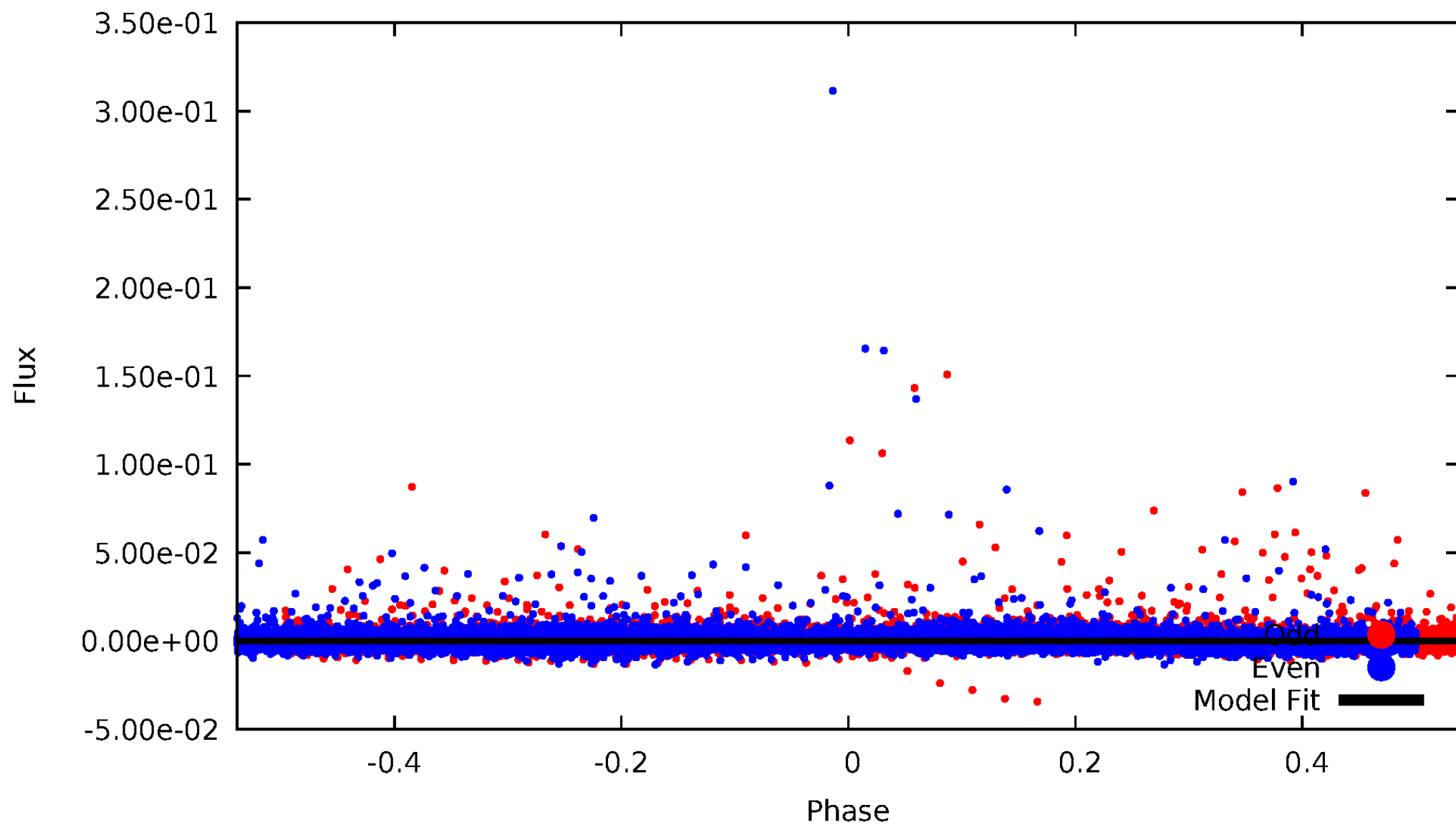
TCE 008892124-01





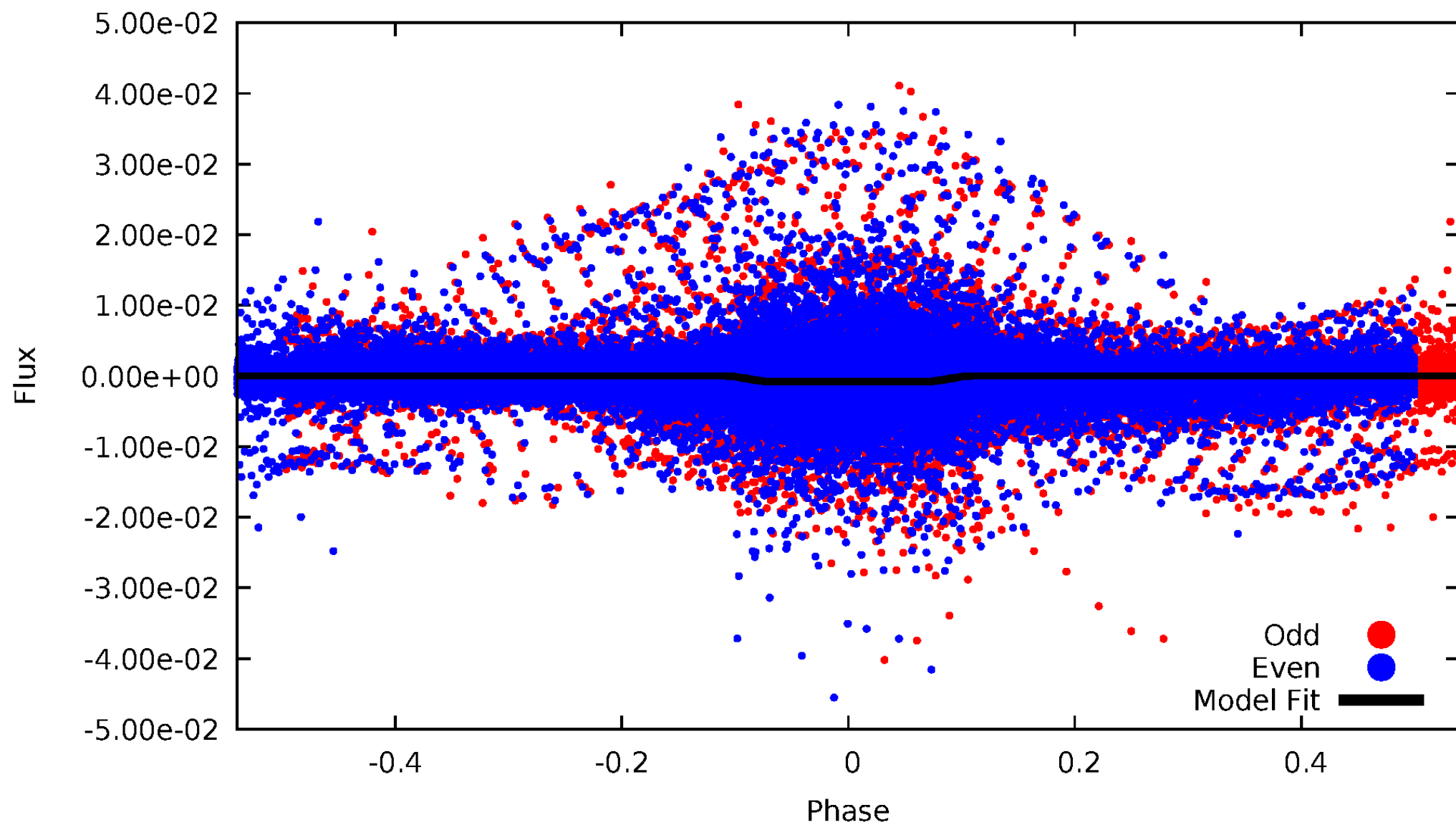
# DV Odd/Even

TCE 008892124-01



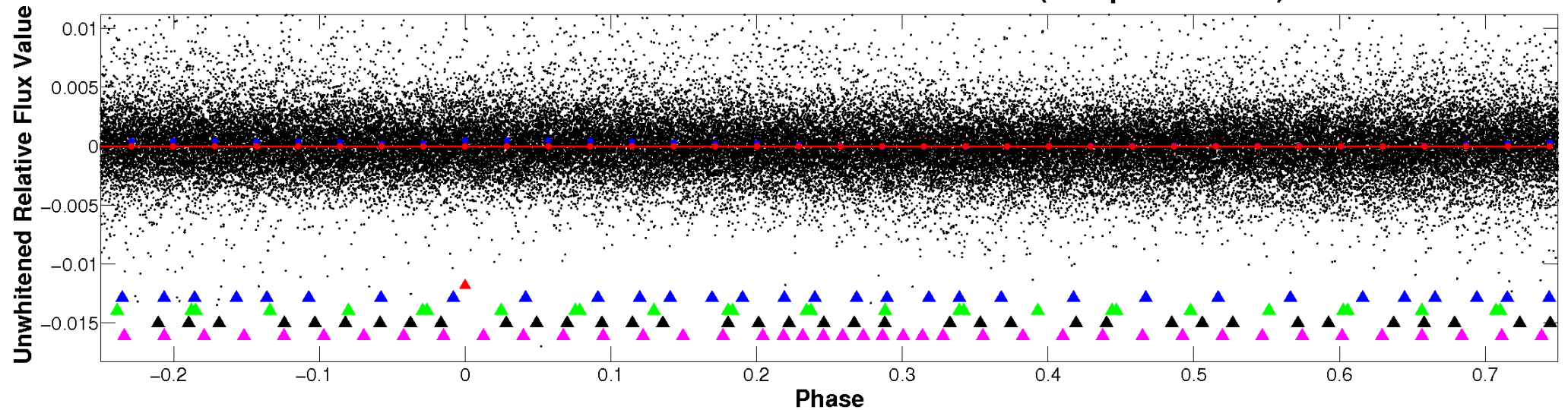
# ALT Odd/Even

TCE 008892124-01

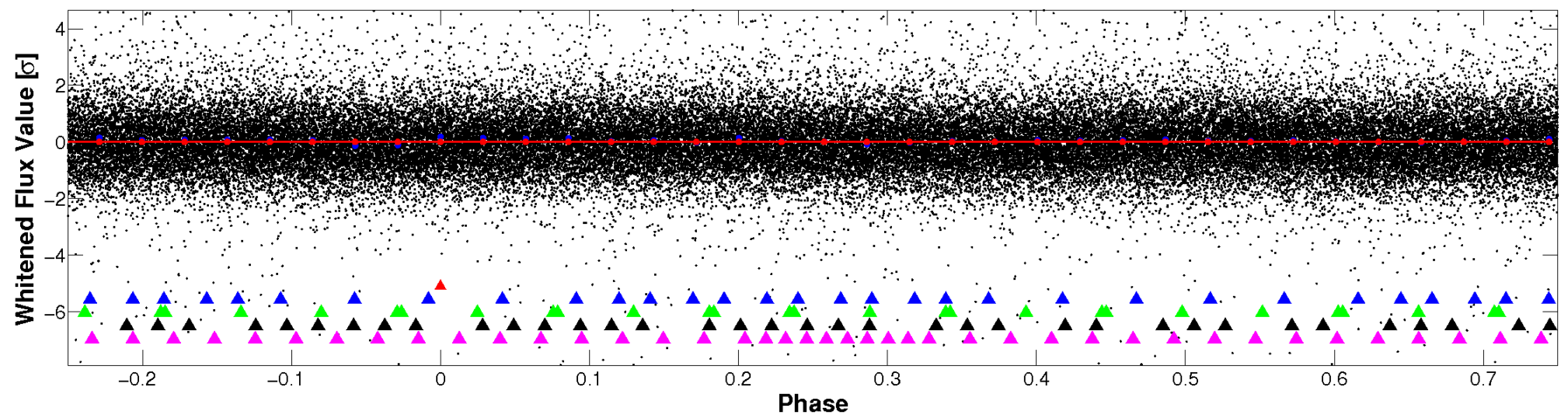


# Non-Whitened Vs. Whitened Light Curve

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

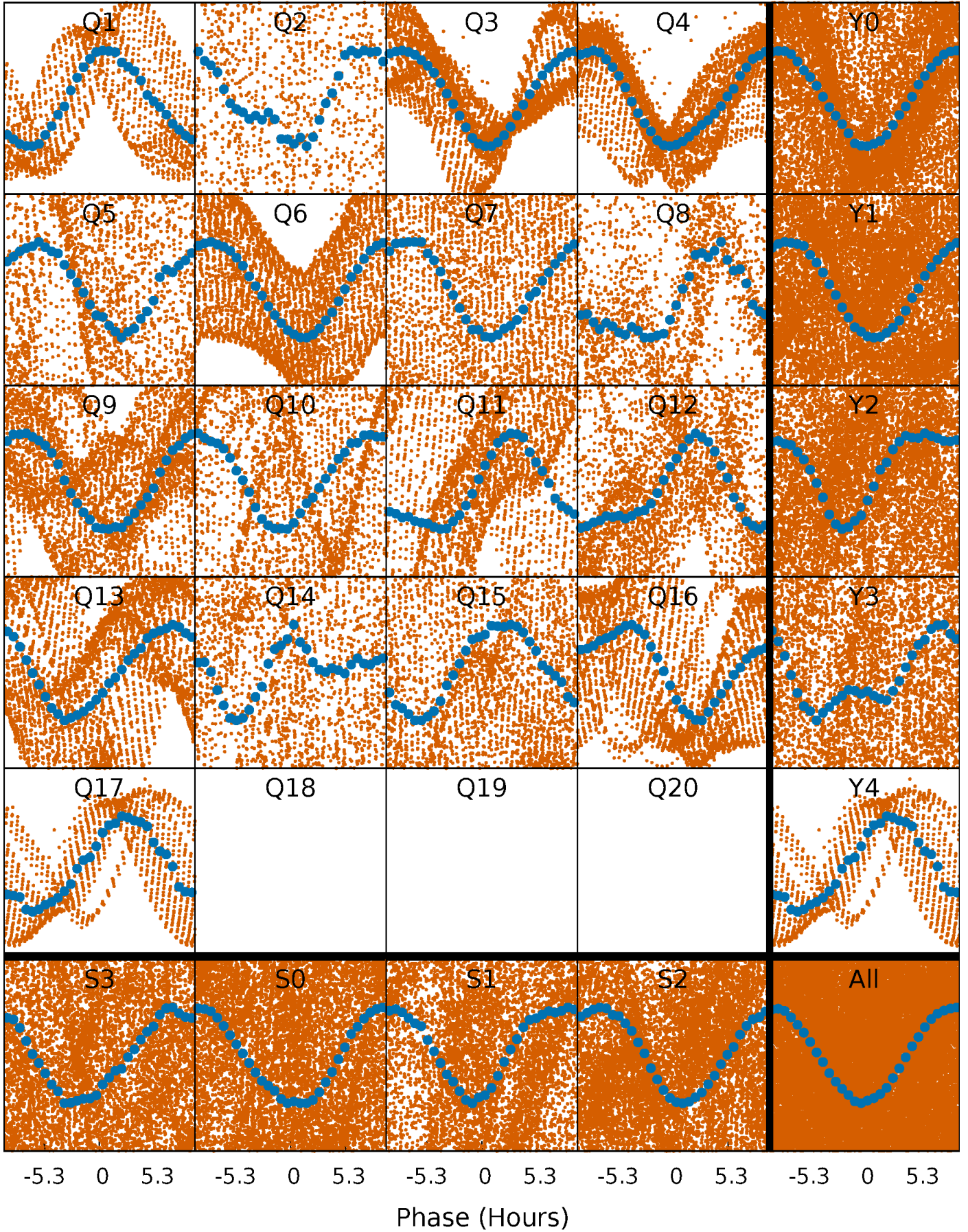


## Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

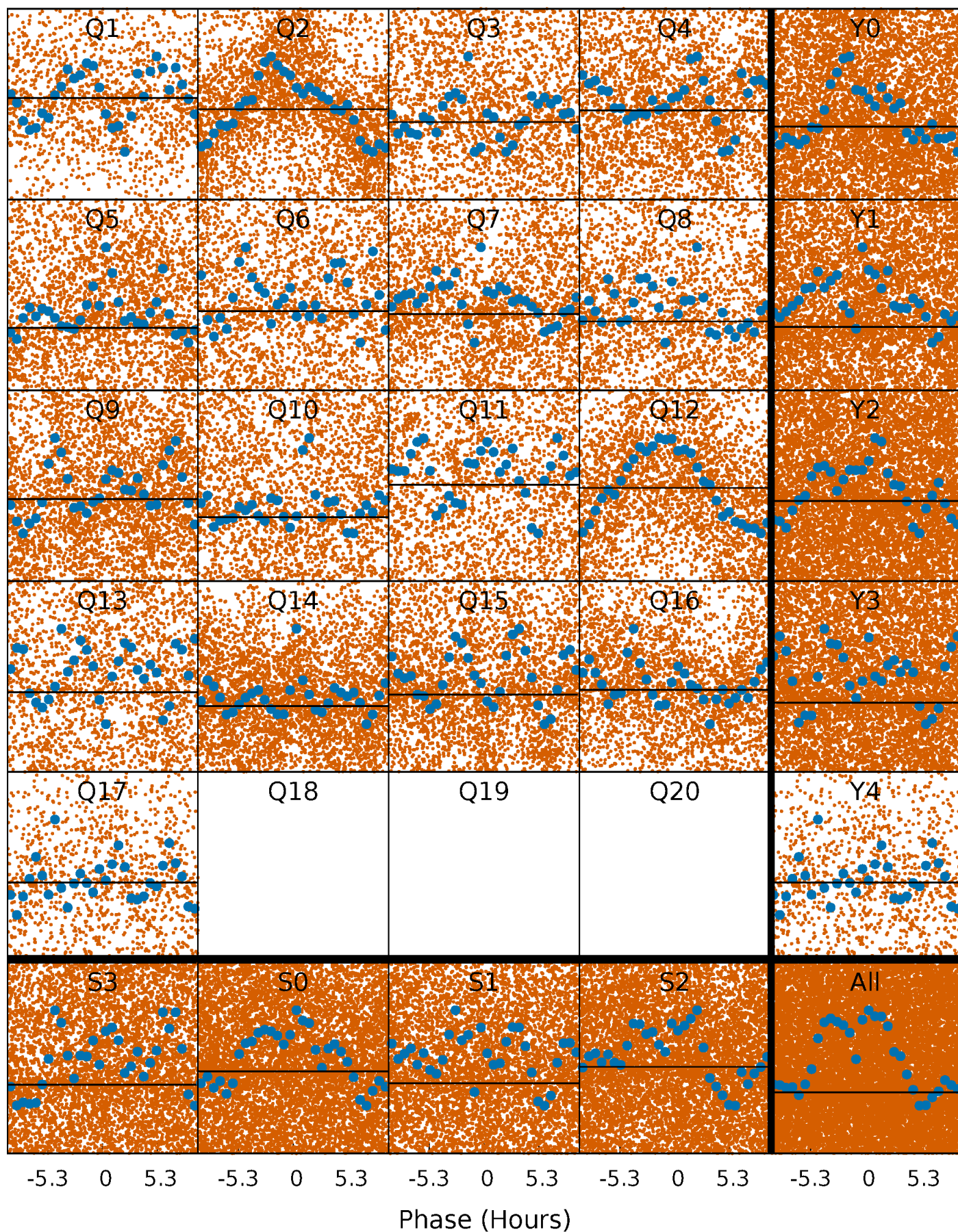
TCE 008892124-01   P= 0.713885 Days    $T_0=132.005503$  (BKJD)





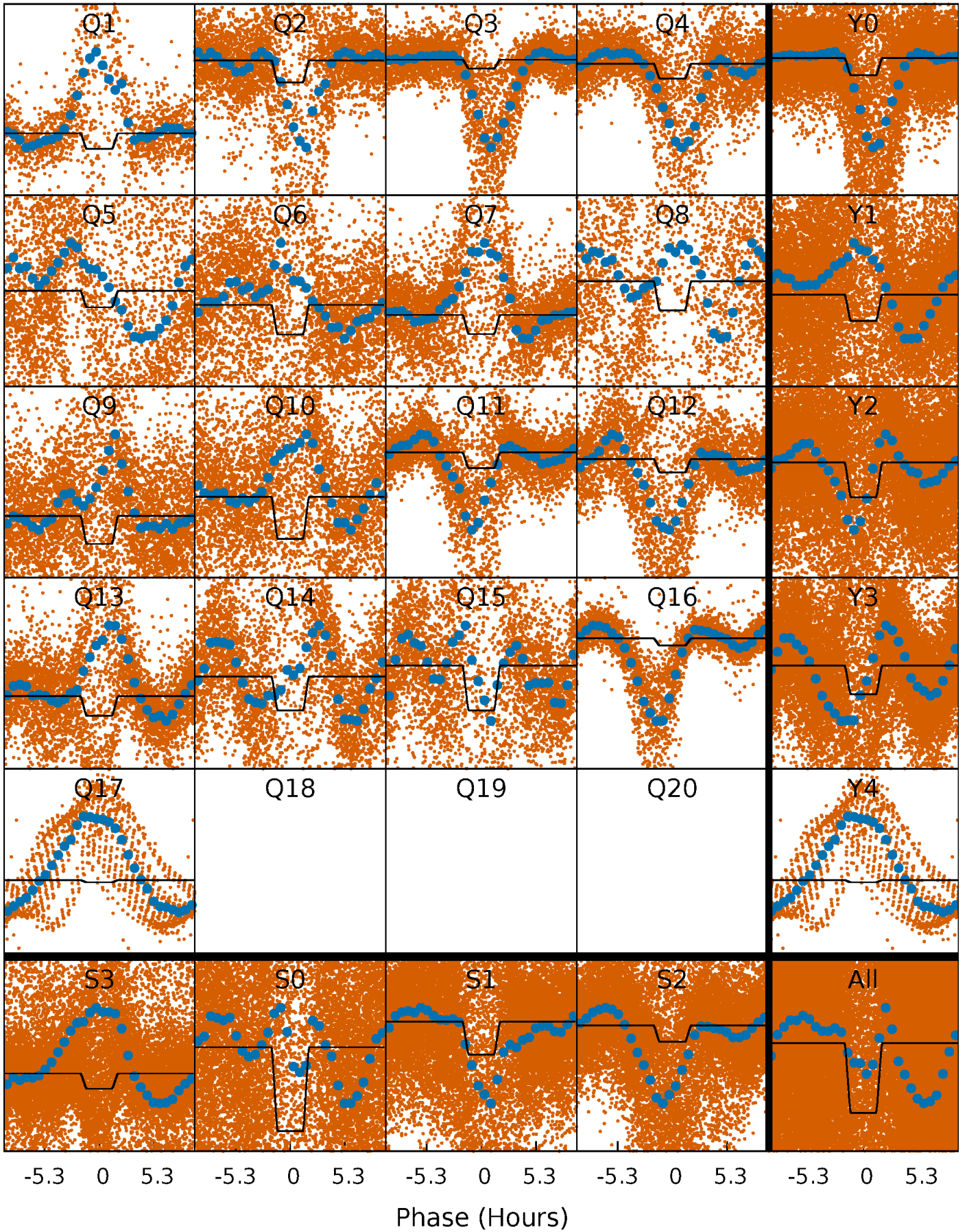
# DV Quarter-Phased Transit Curves

TCE 008892124-01 P= 0.713885 Days  $T_0=132.005503$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 008892124-01 P= 0.713588 Days  $T_0=132.037469$  (BKJD)

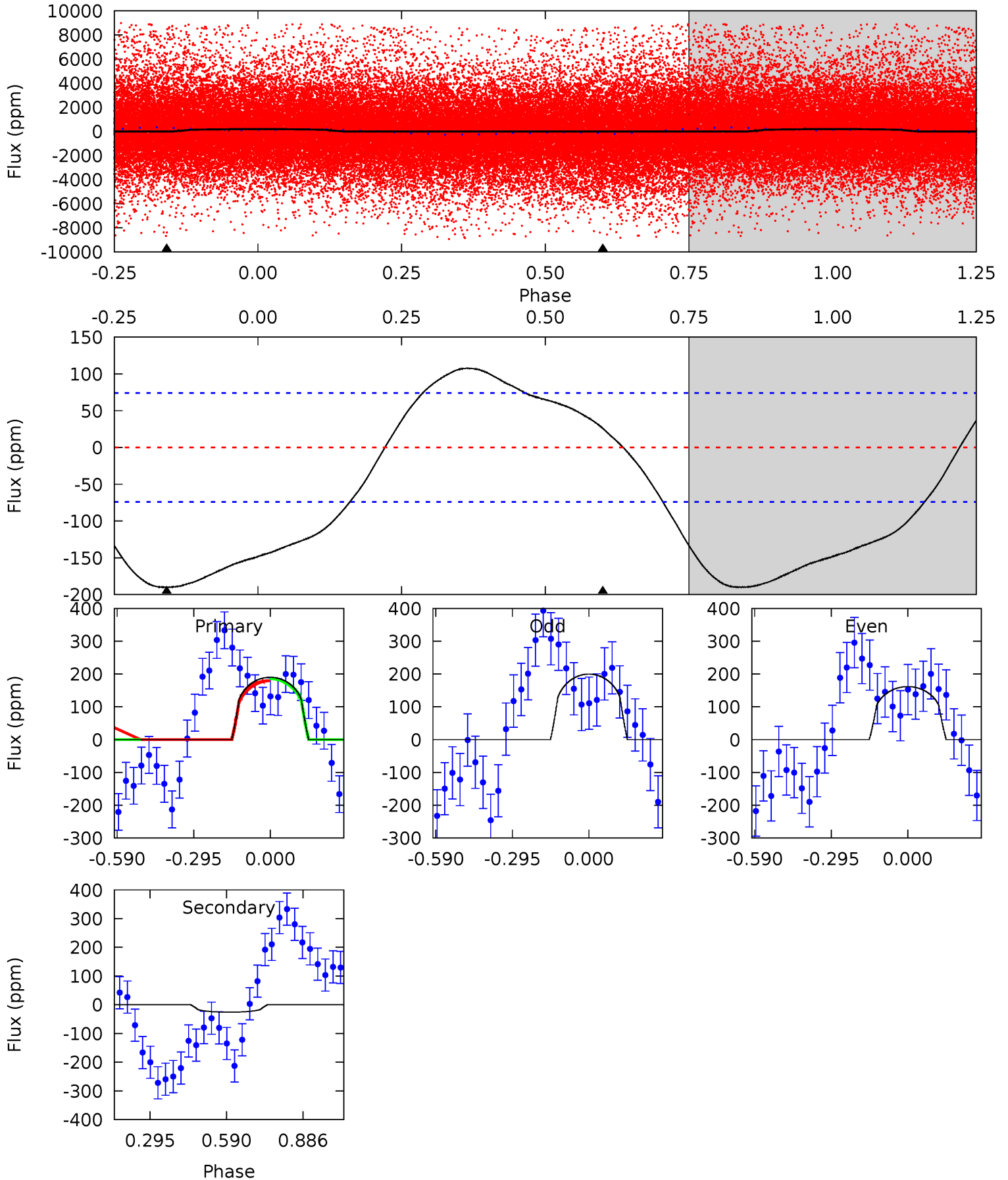




# DV Model-Shift Uniqueness Test

008892124-01, P = 0.713885 Days, E = 131.291618 Days

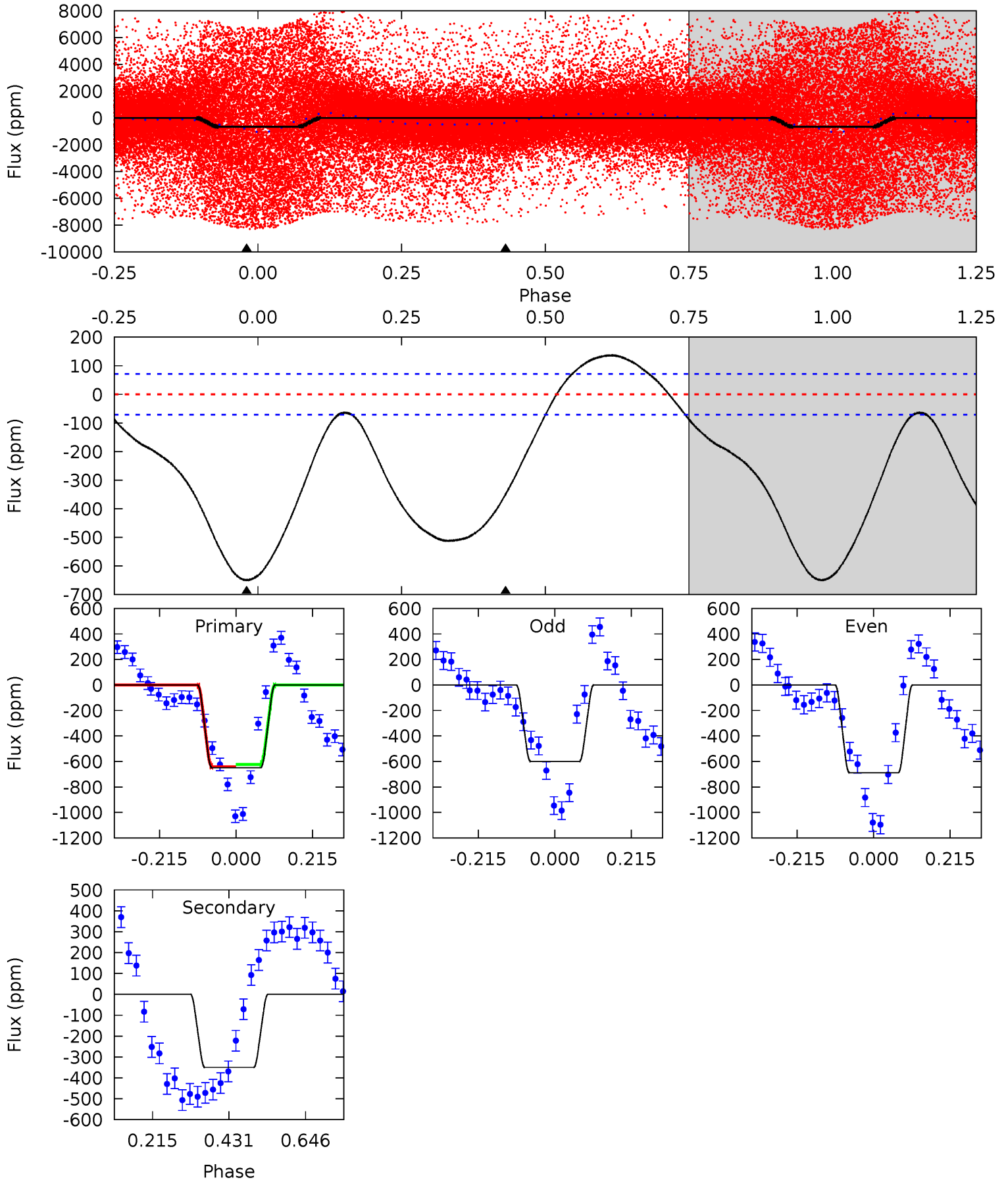
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	-1.52	0	0	4.33	1.05	3.33	11.1	11.1	-1.52	-1.52	1.12	2.51	0.36	0.17



# Alt Model-Shift Uniqueness Test

008892124-01, P = 0.713588 Days, E = 131.323881 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
40.2	21.6	0	0	4.40	1.24	6.43	40.2	40.2	21.6	21.6	2.72	0.29	0.17	0





### Stellar Parameters For KIC 008892124

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$5263^{+157}_{-157}$	$4.586^{+0.071}_{-0.058}$	$-0.600^{+0.350}_{-0.300}$	$0.699^{+0.081}_{-0.066}$	$0.688^{+0.082}_{-0.044}$	$2.834^{+0.855}_{-0.603}$
	+3%/-3%	+2%/-1%	+58%/-50%	+12%/-9%	+12%/-6%	+30%/-21%
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 008892124-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$26 \pm 17$	$34.08^{+41.12}_{-24.50}$	$1396^{+691}_{-296}$	$-2176^{+229}_{-531}$	$-0.012^{+0.011}_{-0.202}$
Alt.	$-350 \pm 16$	$33.37^{+39.64}_{-21.98}$	$1382^{+686}_{-295}$	$-1728^{+4256}_{-657}$	$0.224^{+1.964}_{-0.196}$

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

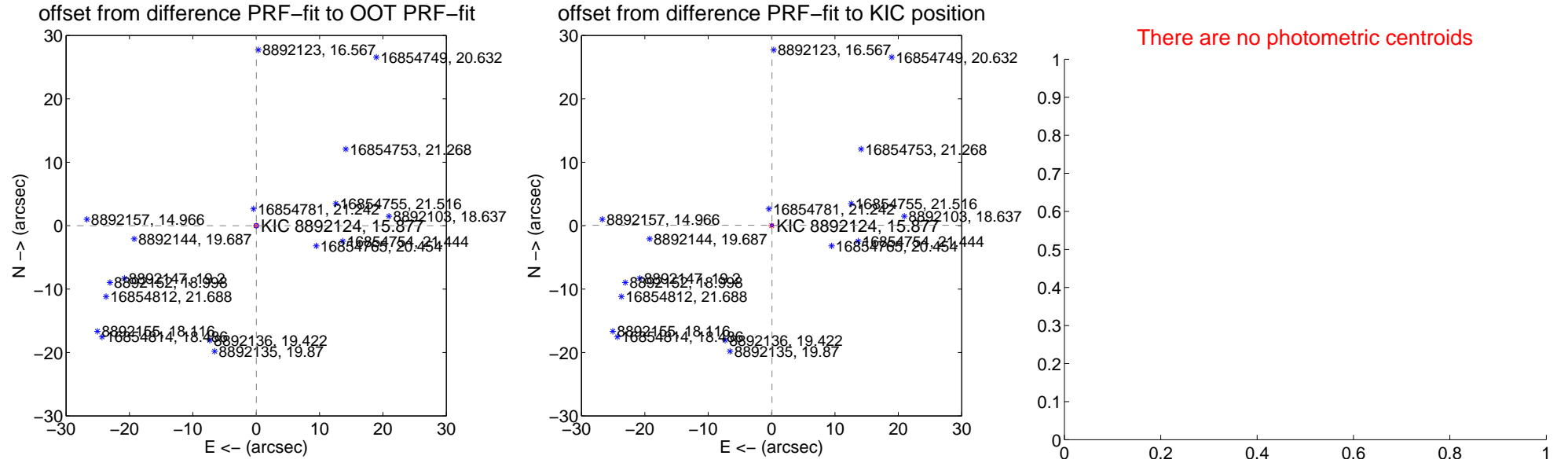
## DV Centroid Data

Supplemental centroid analysis for 008892124-01. Kepler magnitude: 15.88. Transit SNR 0.00

There are 11 quarters with good PRF difference image offsets

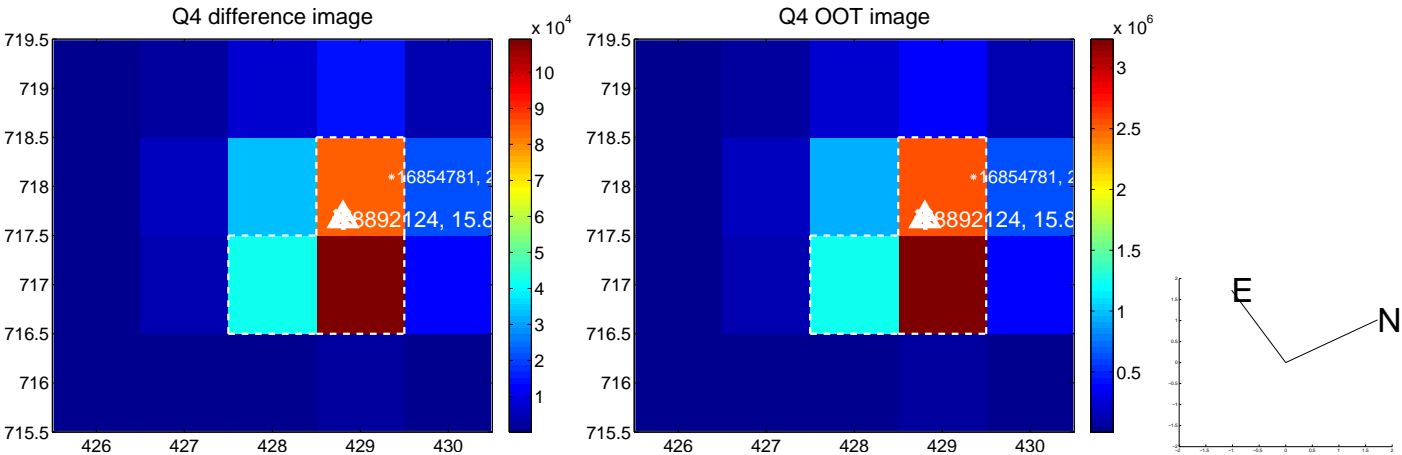
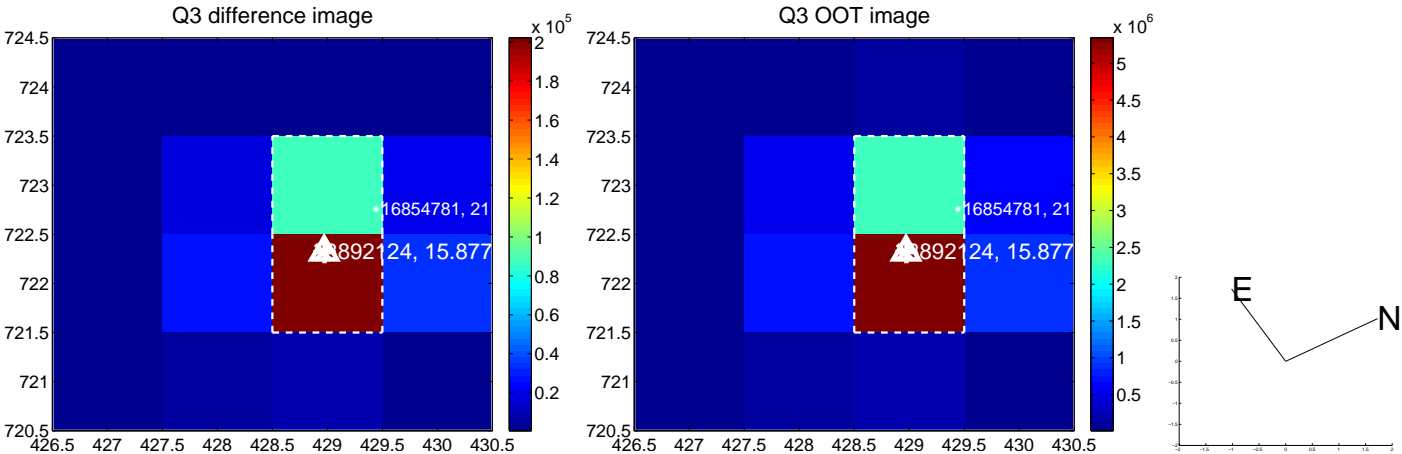
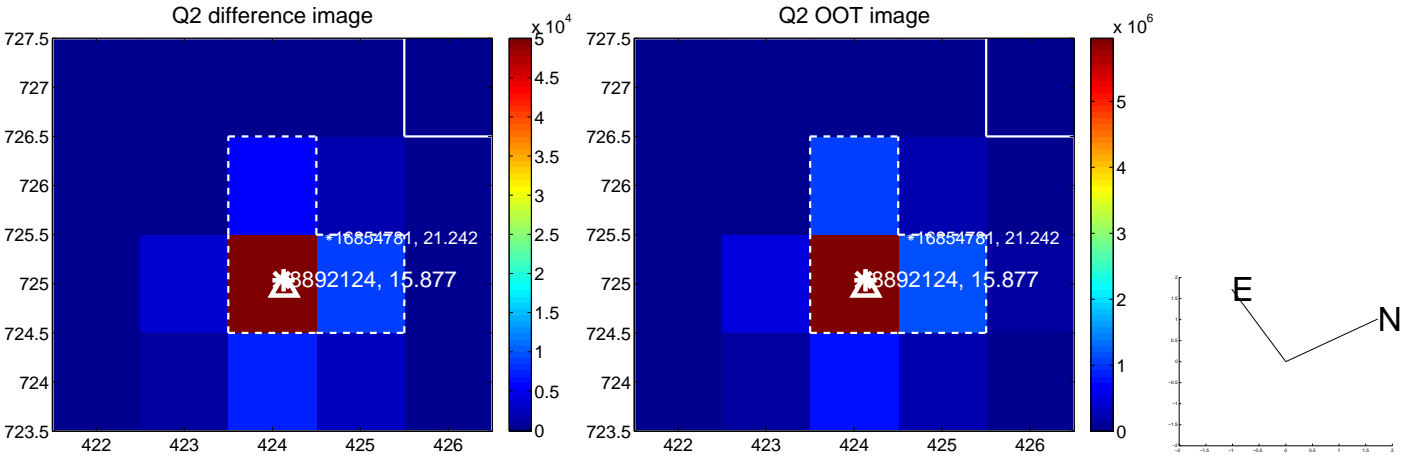
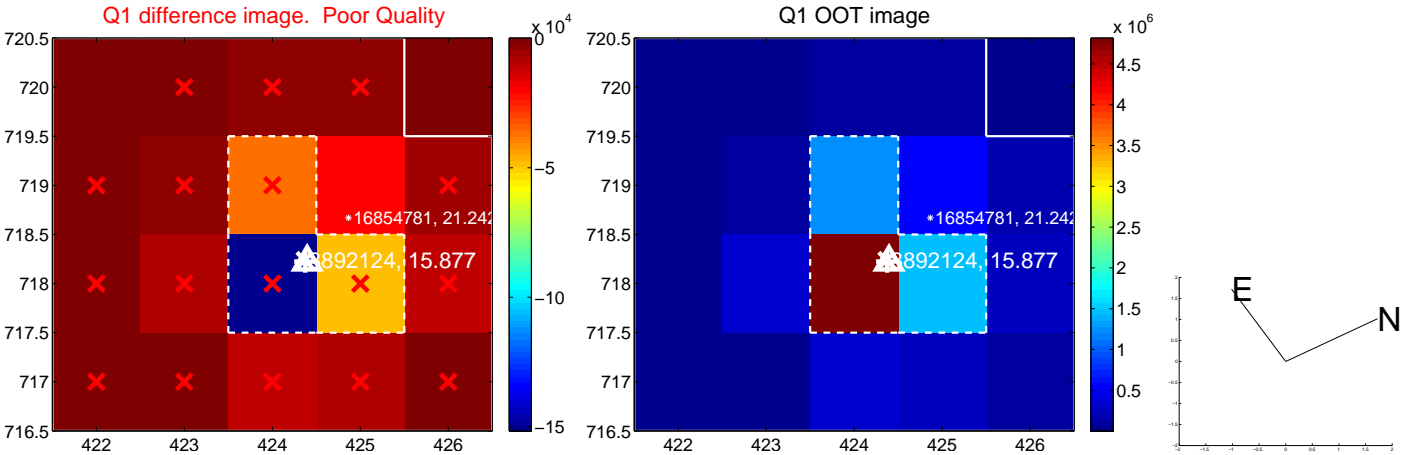
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.030 \pm 0.116$	0.26	$-0.028 \pm 0.107$	$-0.010 \pm 0.083$
PRF-fit source offset from KIC position	$0.085 \pm 0.074$	1.15	$-0.059 \pm 0.112$	$0.061 \pm 0.084$
photometric centroid source offset	—	—	—	—

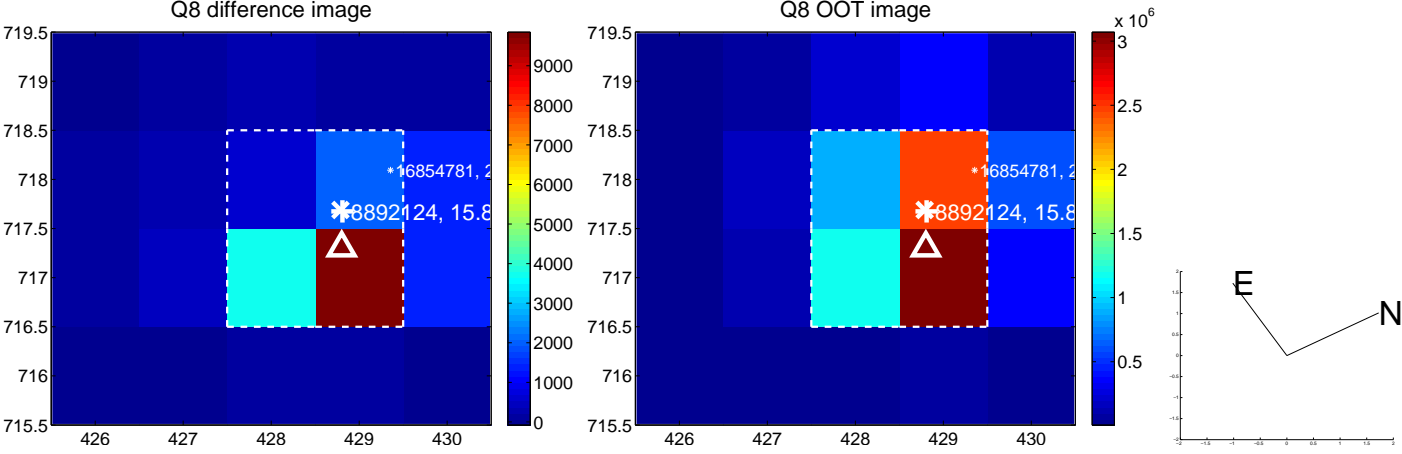
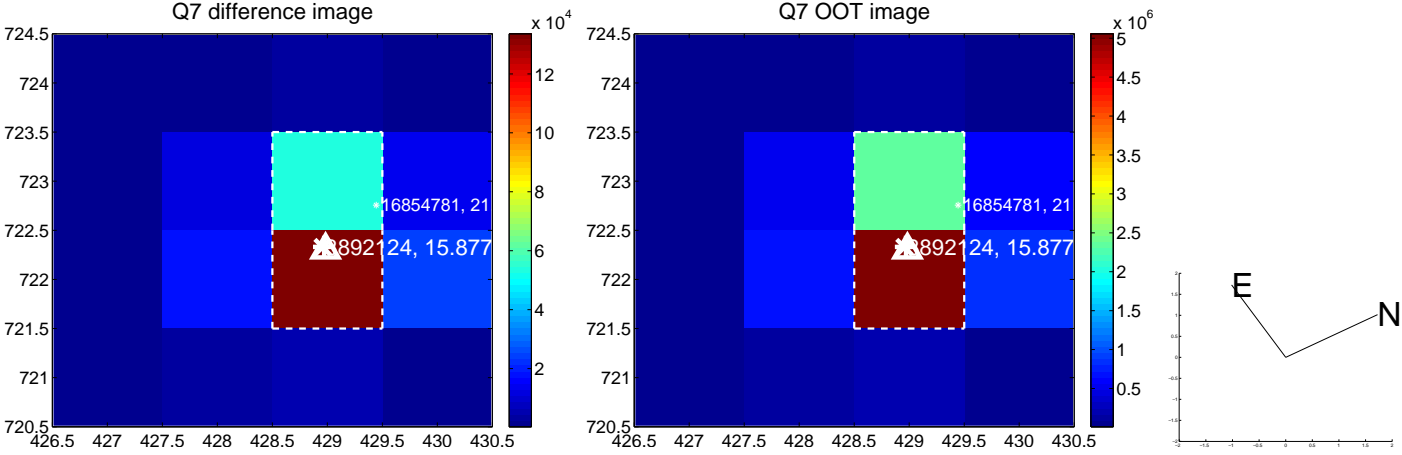
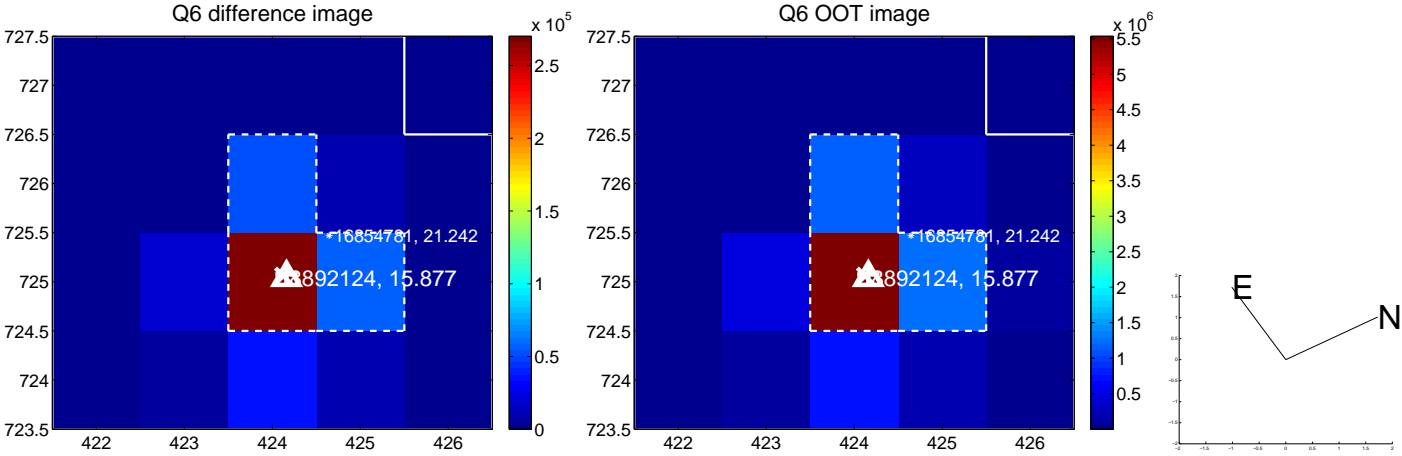
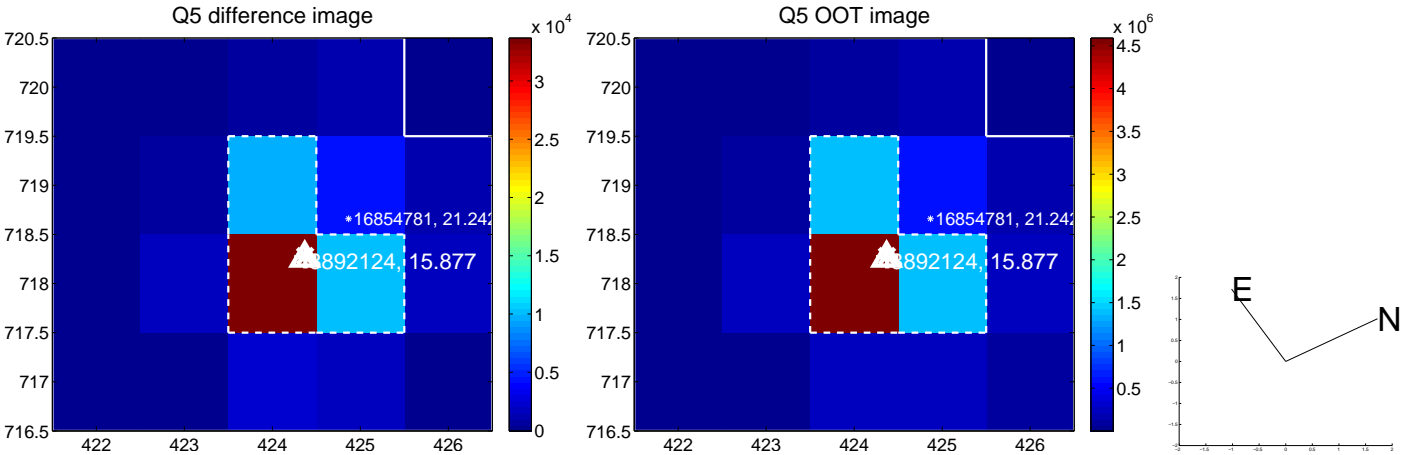


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

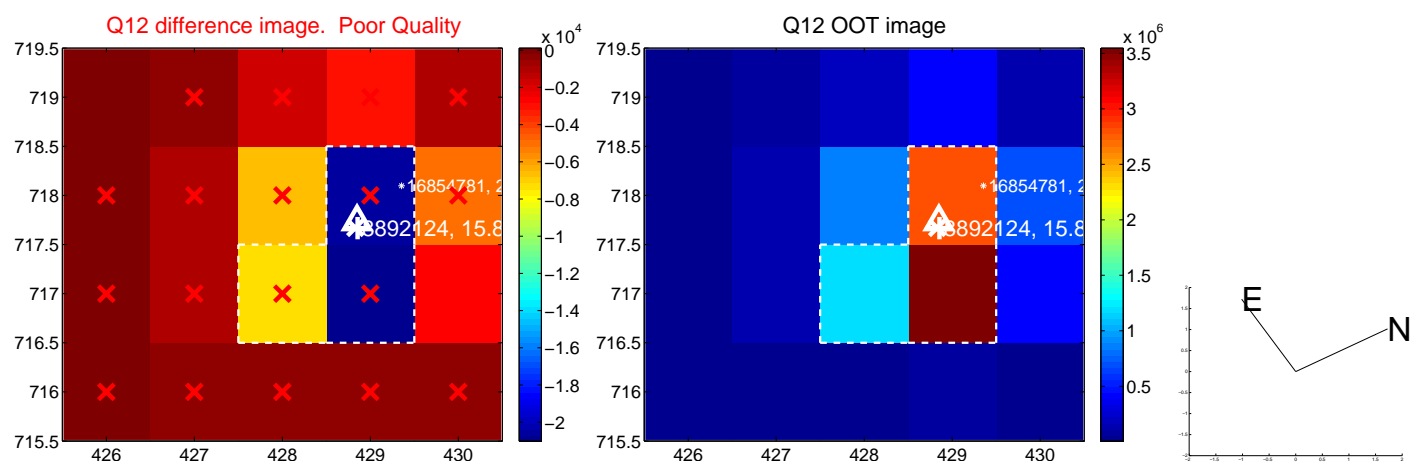
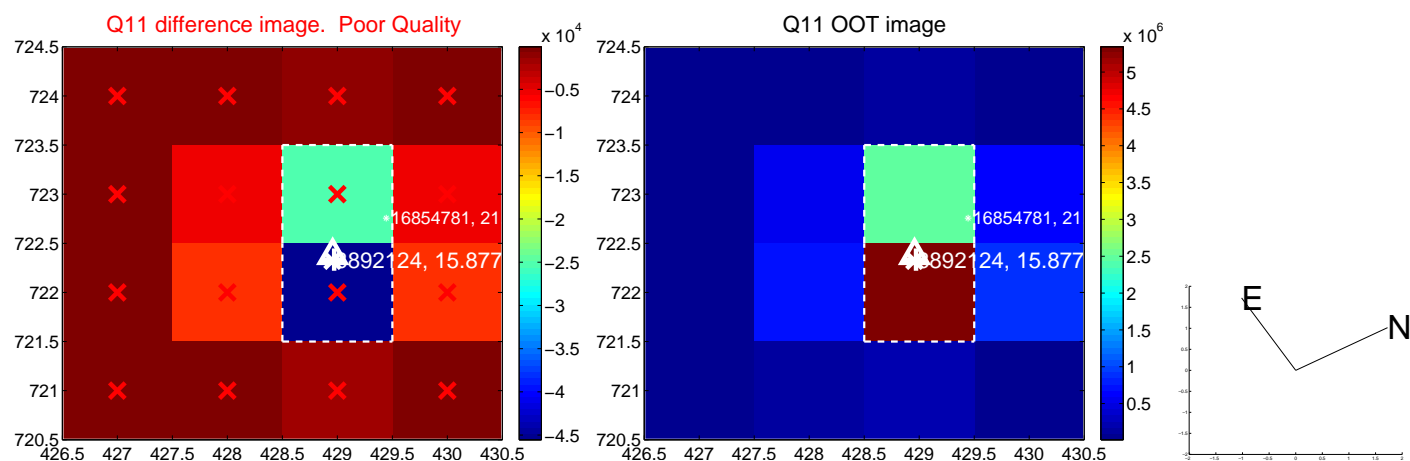
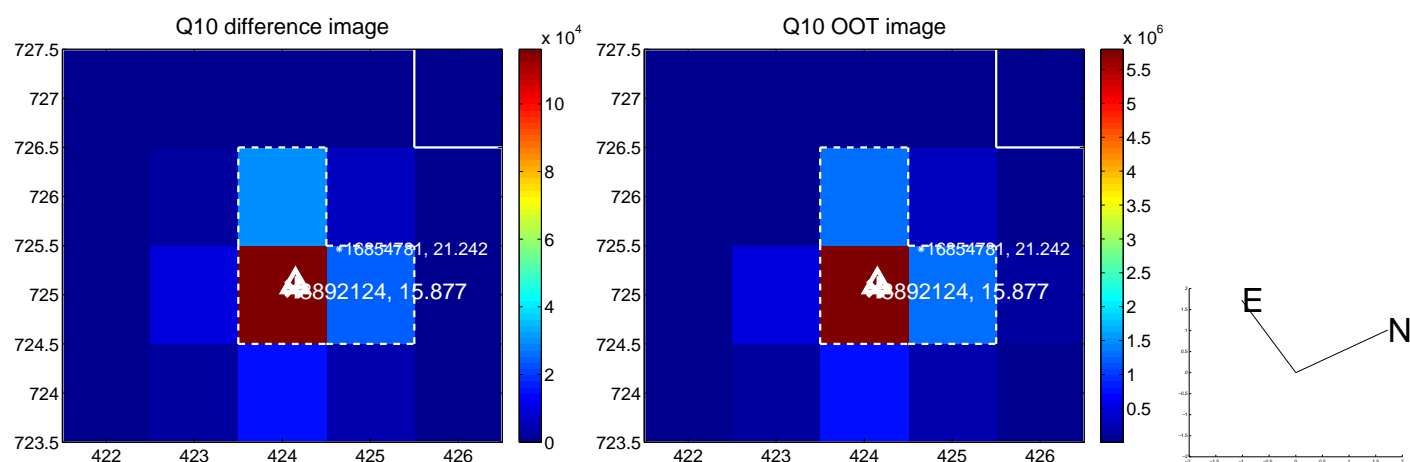
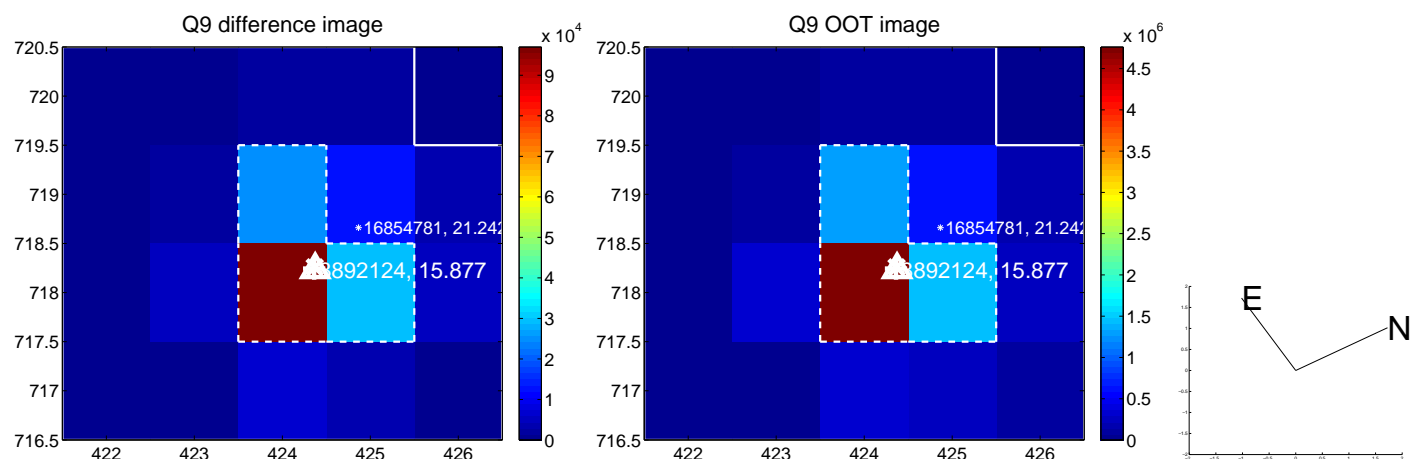


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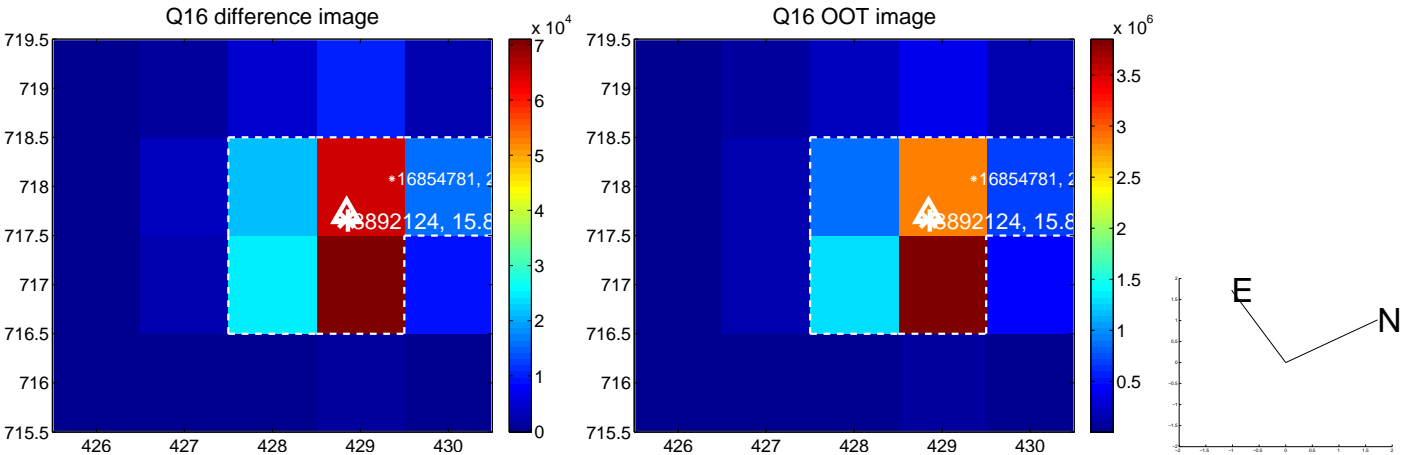
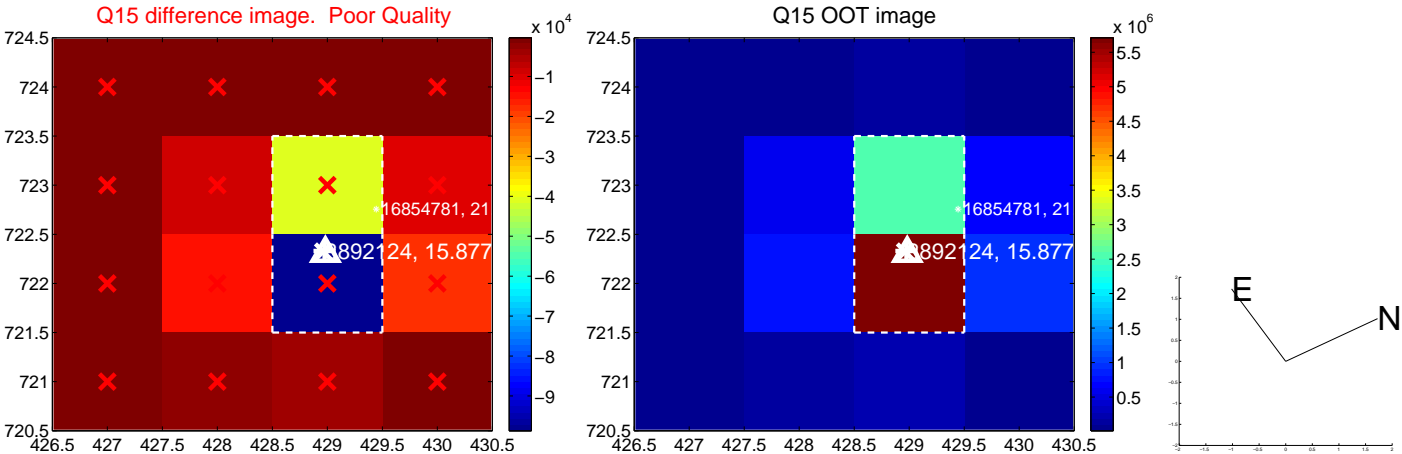
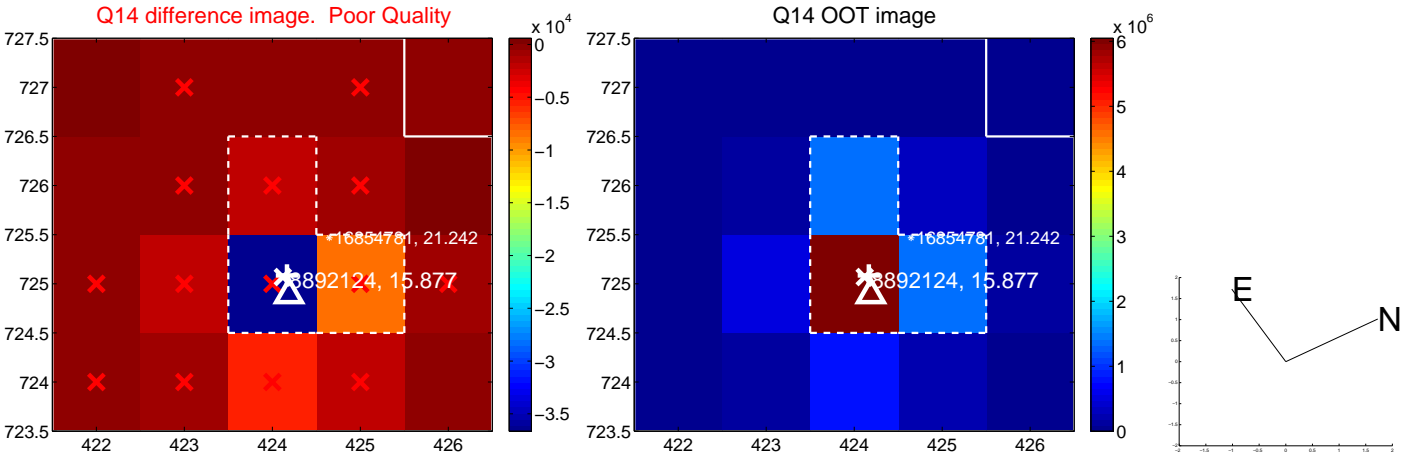
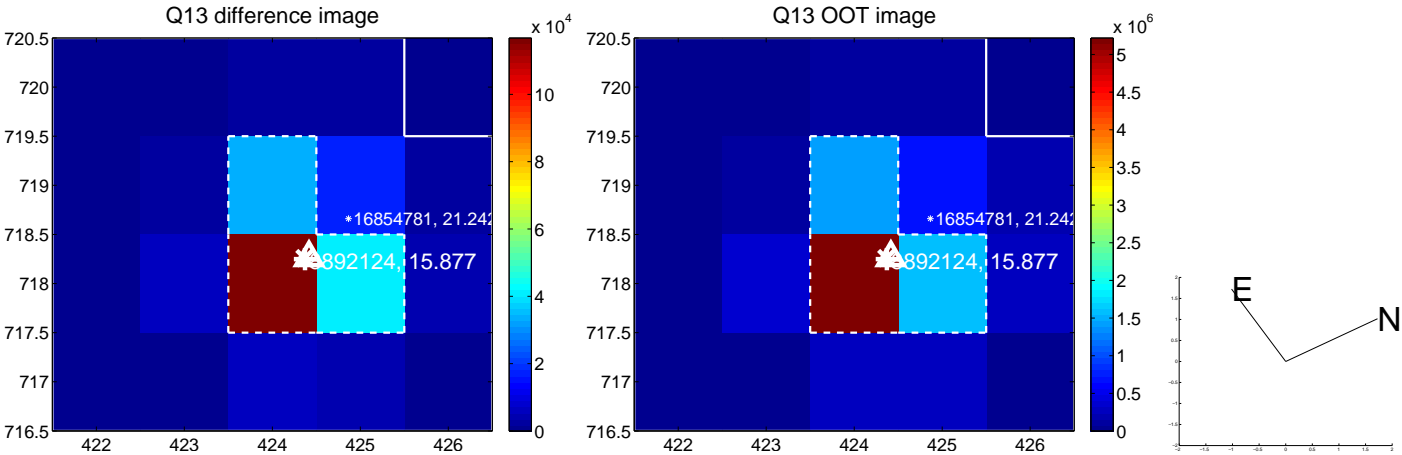




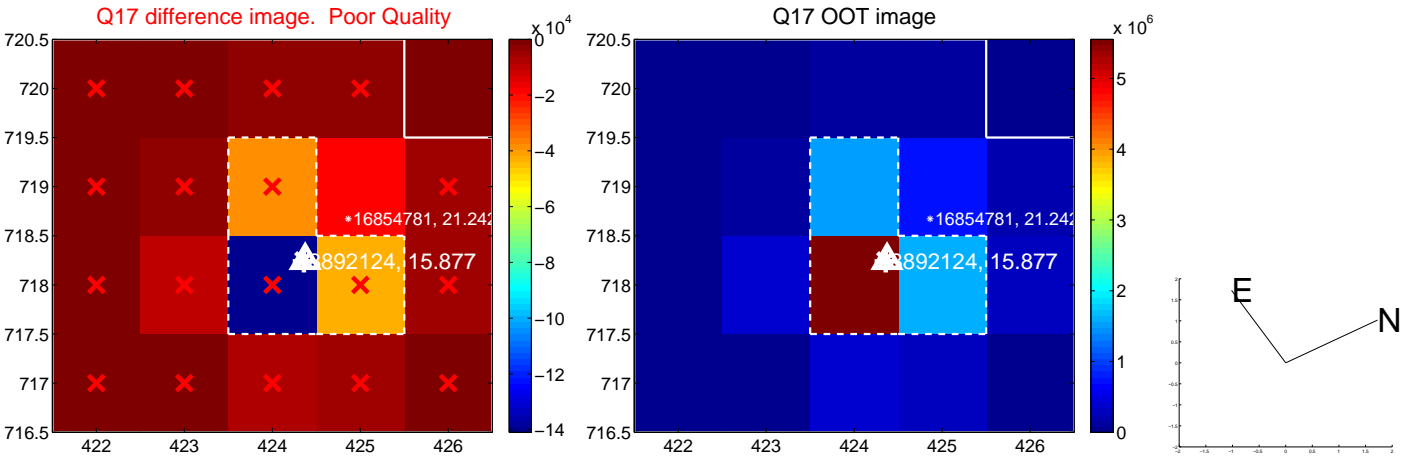
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white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



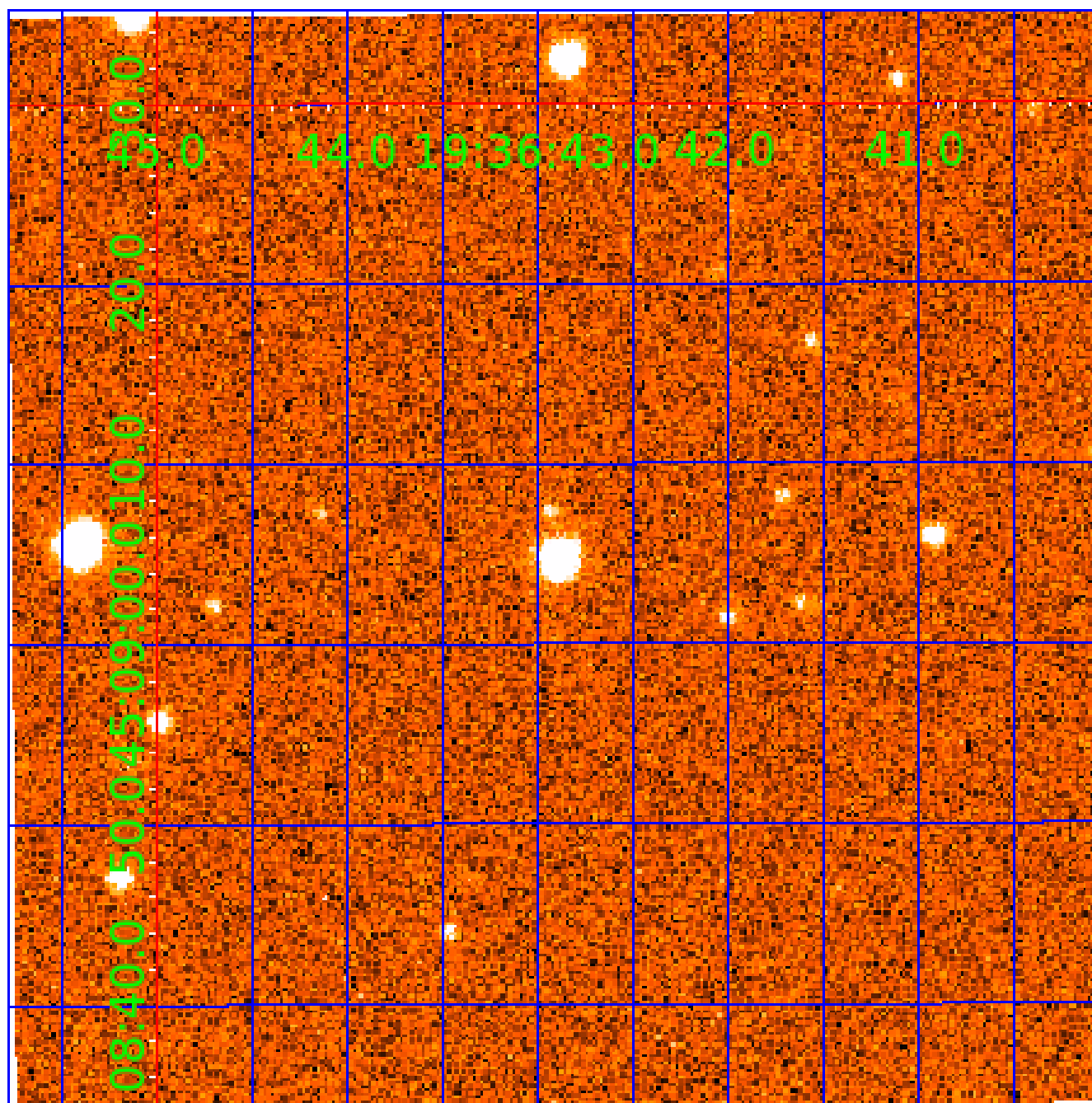
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



folded centroid time series figure for this object.

# UKIRT Image

Declination





# KIC 008892124

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
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## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008892124-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT
008892124-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—HALO_GHOST
008892124-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008892124-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008892124-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST

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

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

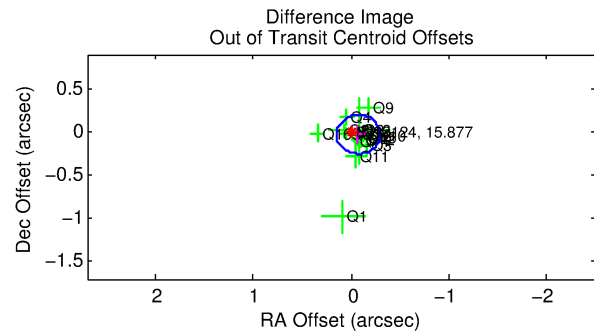
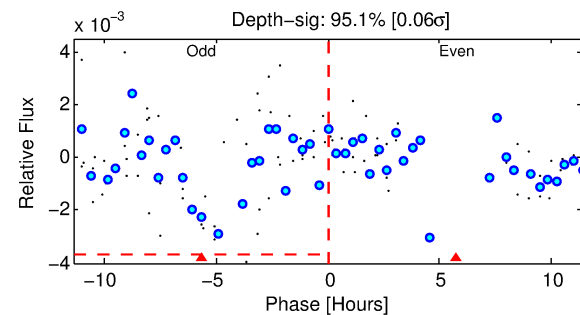
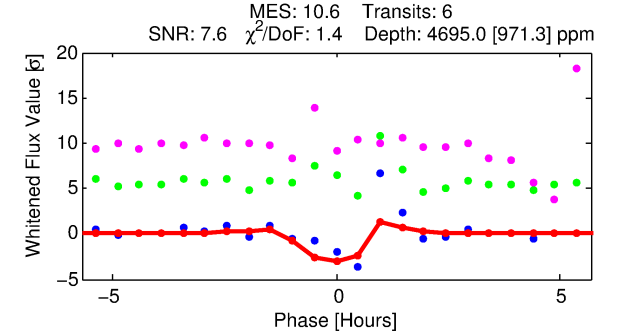
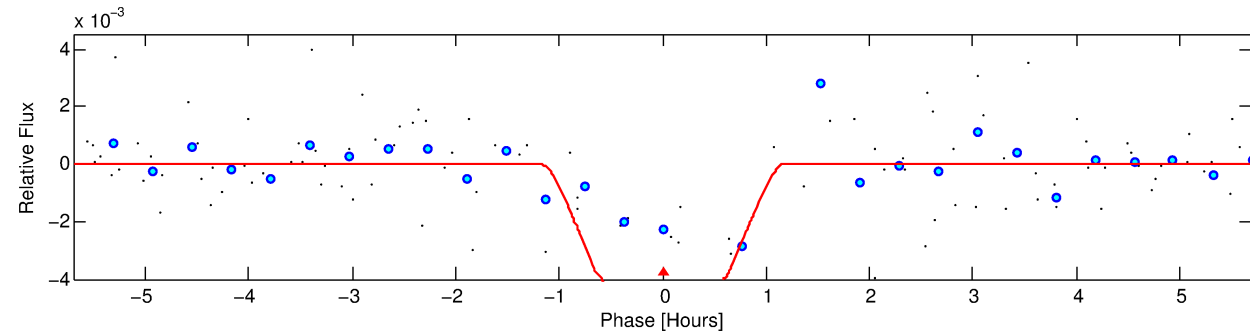
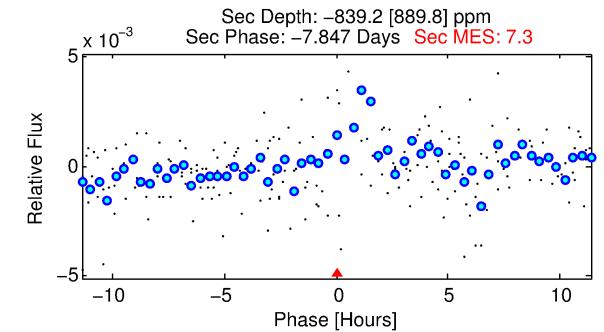
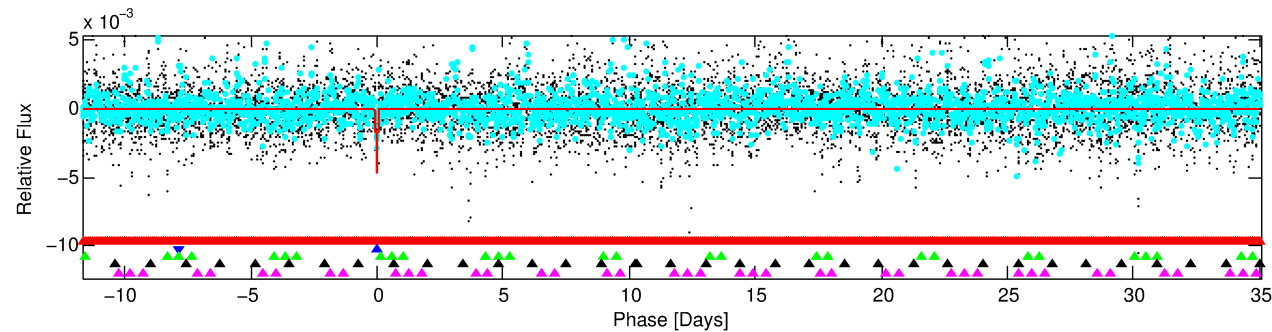
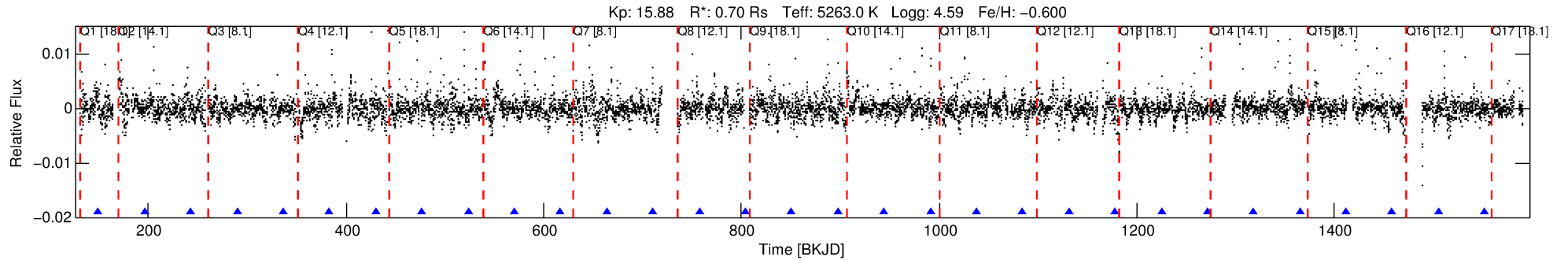
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008892124-02

No Significant Match Found

# DV One-Page Summary

KIC: 8892124 Candidate: 2 of 5 Period: 46.742 d



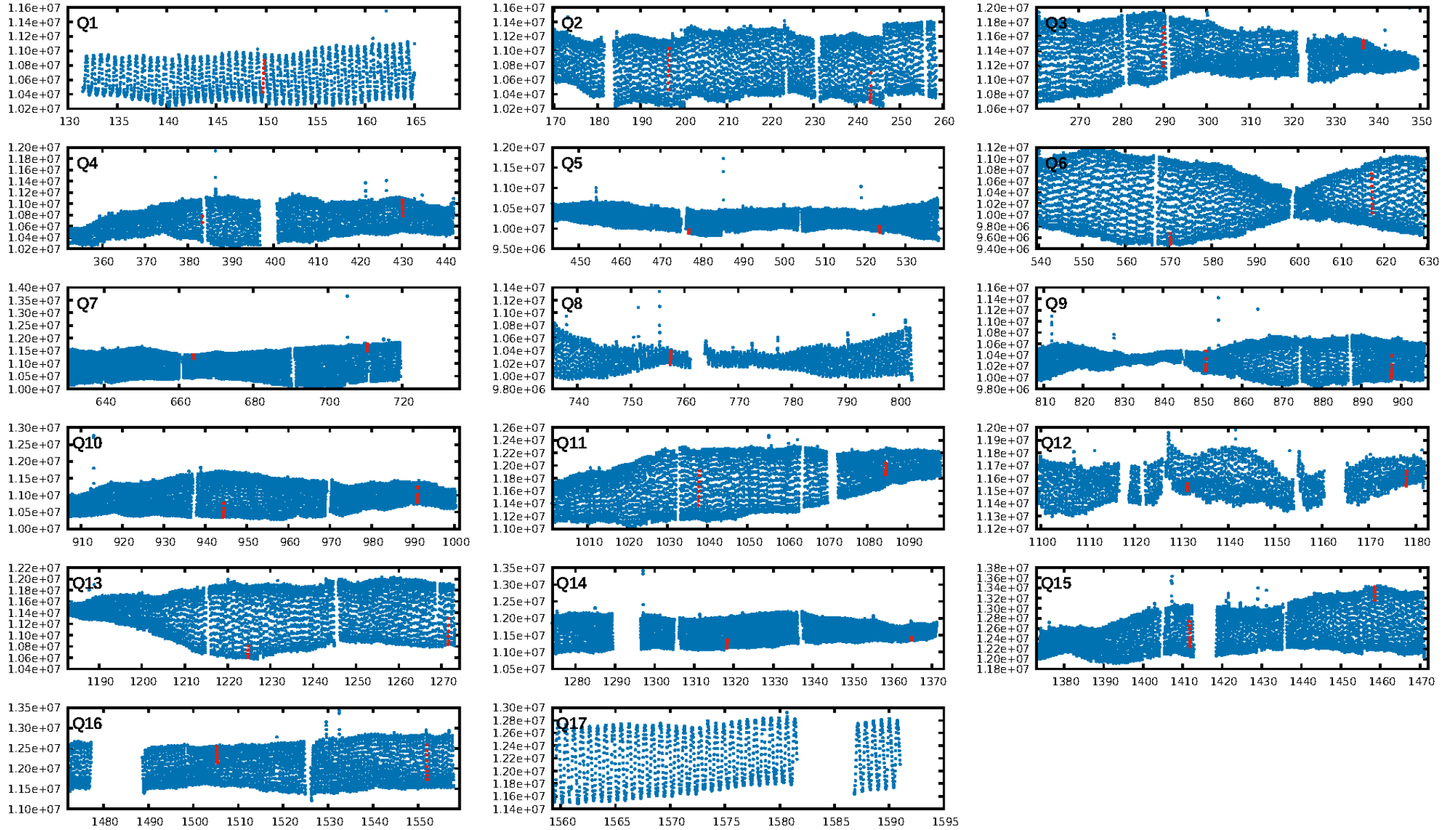
## DV Fit Results:

Period = 46.74176 [0.00140] d  
Epoch = 149.7555 [0.0221] BKJD  
Rp/R\* = 0.0620 [0.1103]  
a/R\* = 199.16 [1439.20]  
b = 0.07 [108.90]  
Seff = 6.69 [1.20]  
Teff = 410 [18] K  
Rp = 4.73 [8.43] Re  
a = 0.2241 [0.0212] AU  
Ag = N/A  
Teffp = N/A

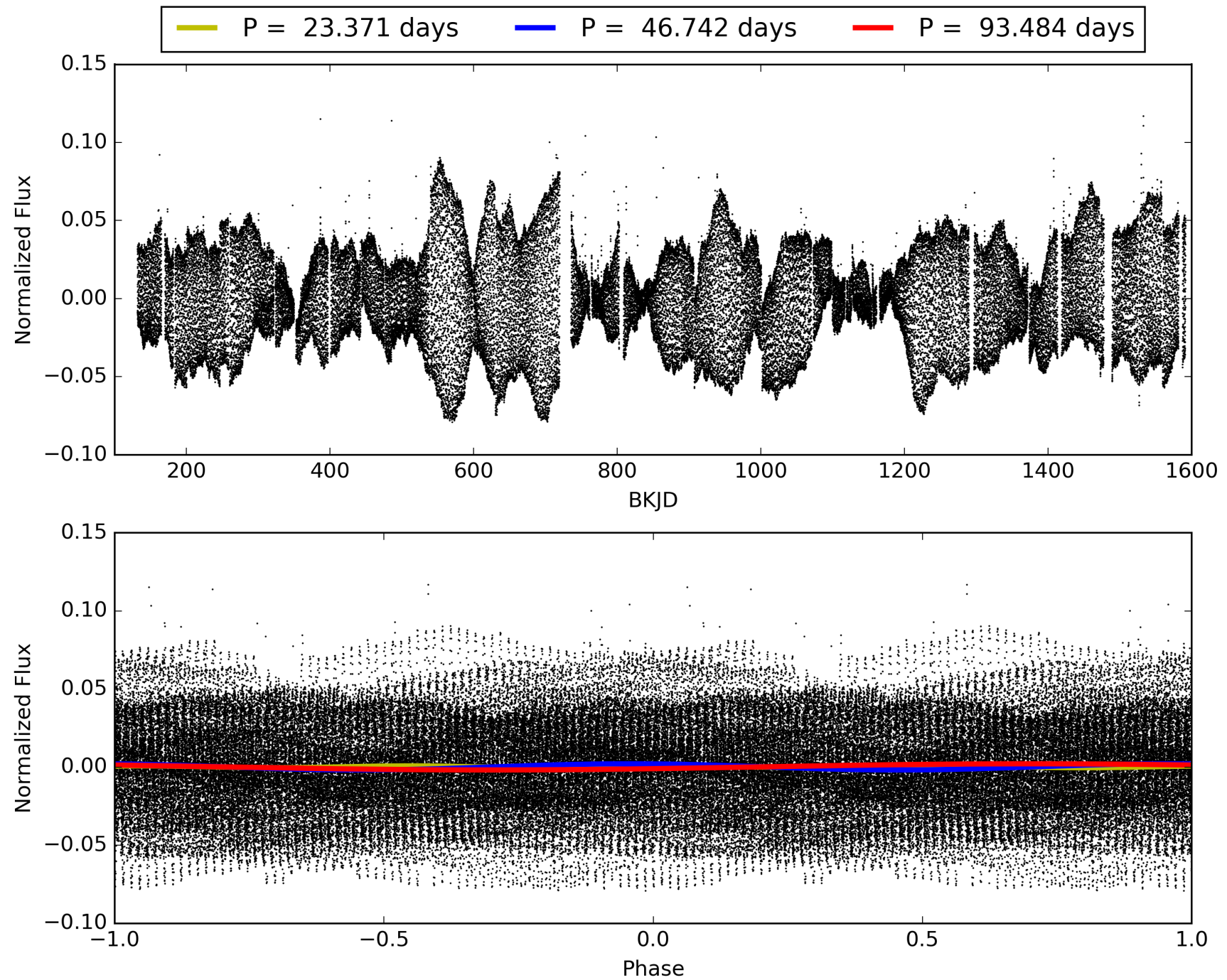
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [32.08σ]  
LongPeriod-sig: 100.0% [19.64σ]  
ModelChiSquare2-sig: 55.6%  
ModelChiSquareGof-sig: 99.9%  
Bootstrap-pfa: 9.19e-17  
RollingBand-fgt: 1.00 [6/6]  
**GhostDiagnostic-chr: -0.1701**  
Centroid-sig: 80.9%  
Centroid-so: 0.097 arcsec [0.49σ]  
OotOffset-rm: 0.075 arcsec [1.00σ]  
KicOffset-rm: 0.116 arcsec [1.42σ]  
OotOffset-st: 4/4/4 [16]  
KicOffset-st: 4/4/4 [16]  
DiffImageQuality-fgm: 0.62 [10/16]  
DiffImageOverlap-fno: 0.00 [0/16]

# TCE 008892124-02, PDC Light Curves

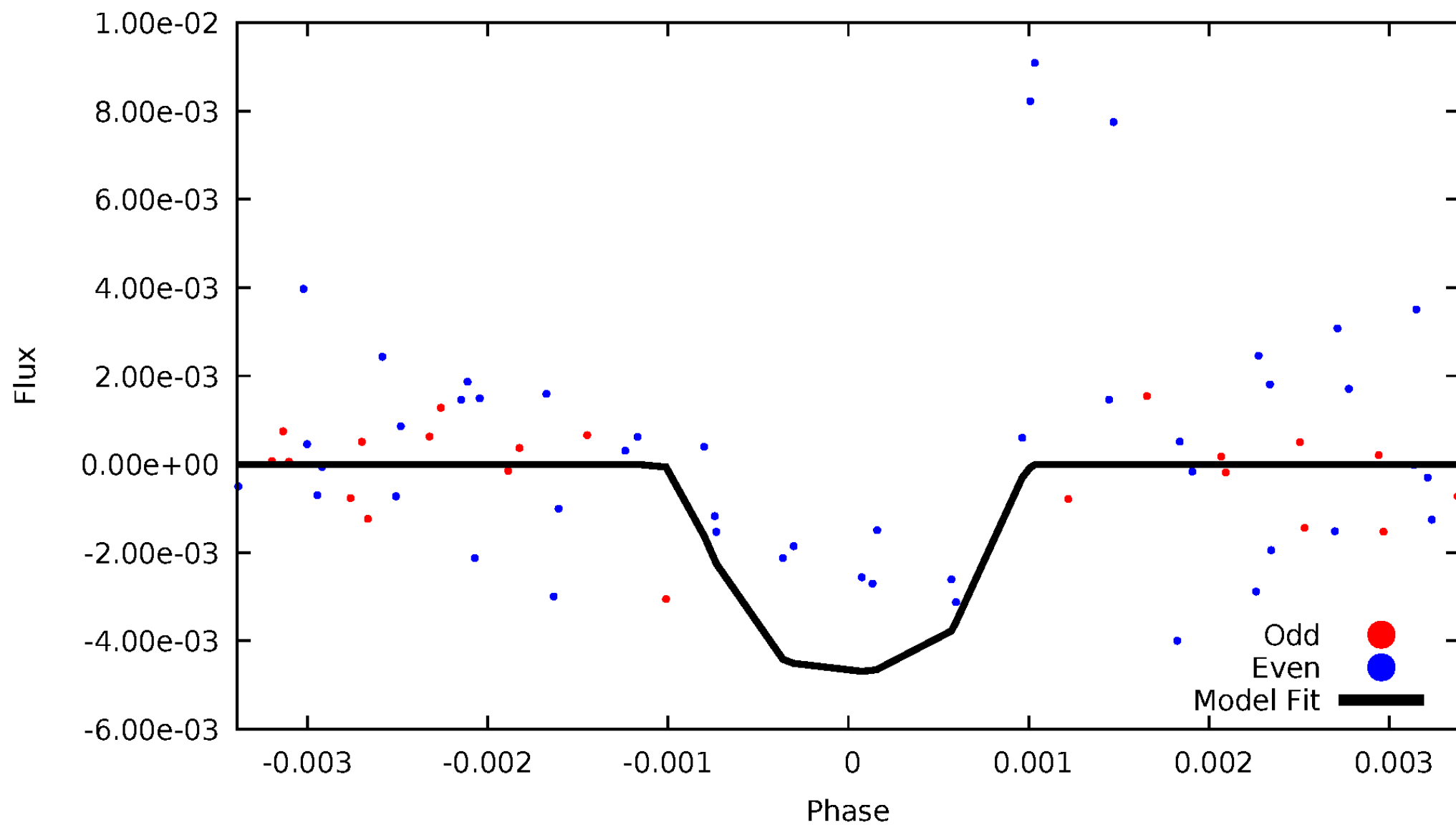


TCE 008892124-02



# DV Odd/Even

TCE 008892124-02





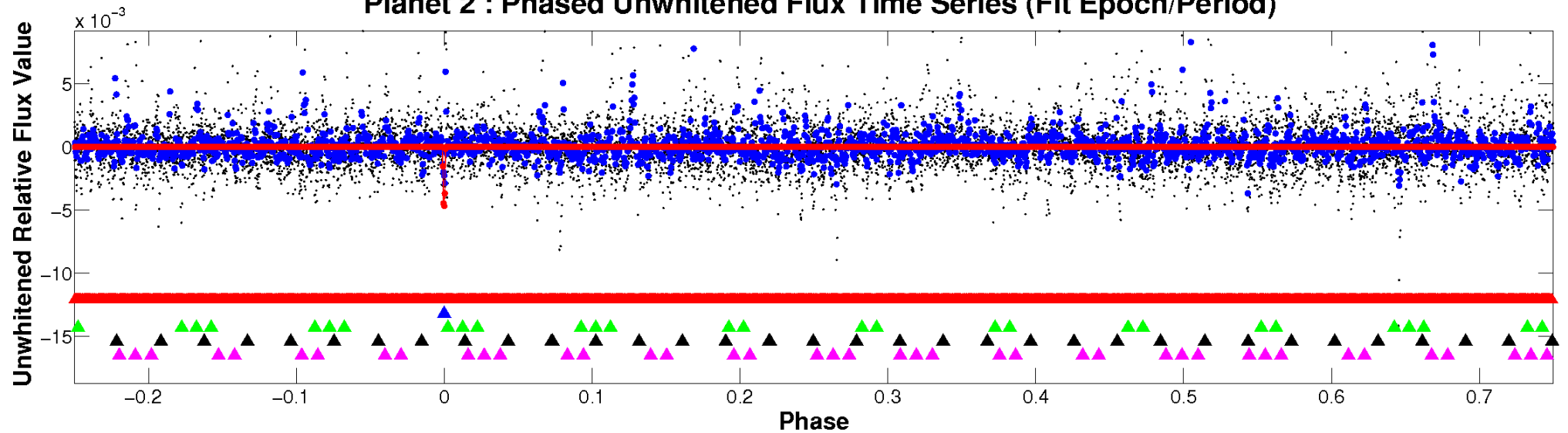


ALT Odd/Even

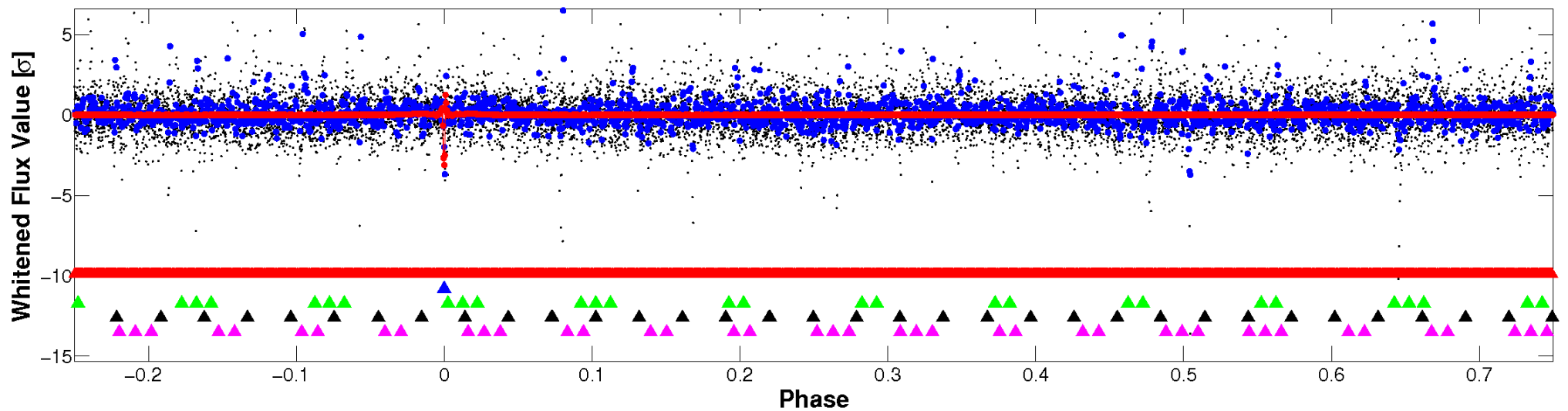
This plot does not exist for this TCE.

# Non-Whitened Vs. Whitened Light Curve

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

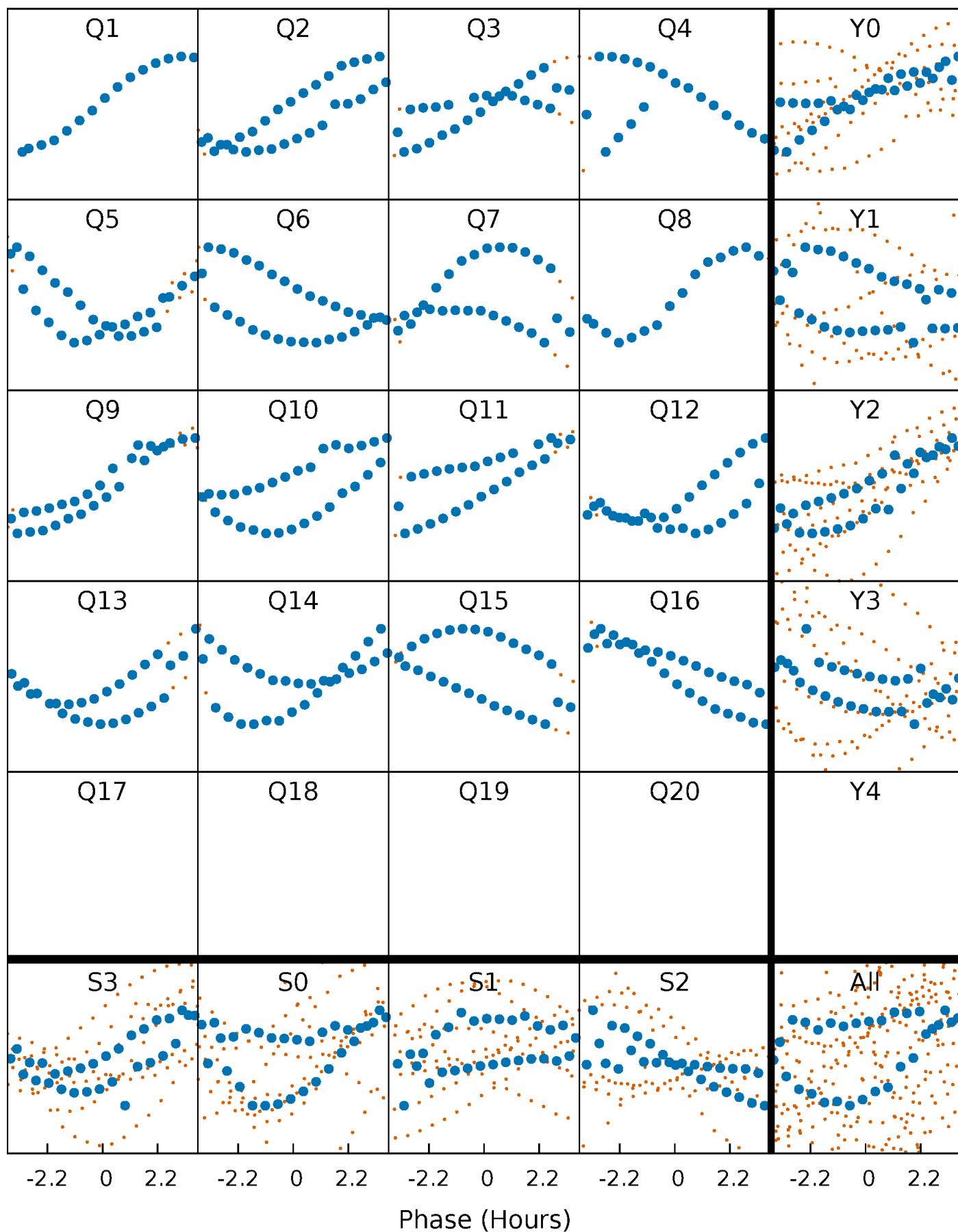


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



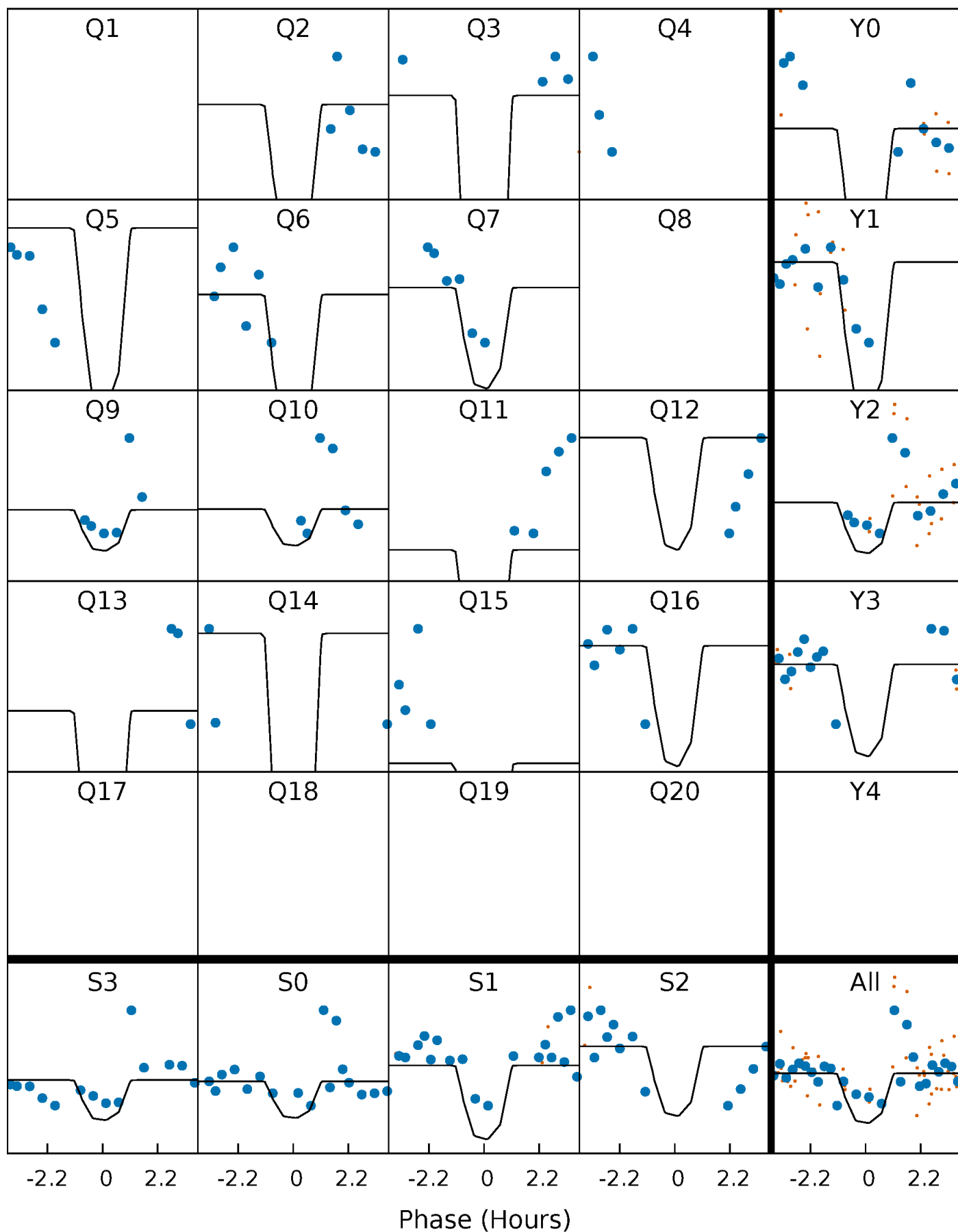
# PDC Quarter-Phased Transit Curves

TCE 008892124-02 P= 46.741760 Days  $T_0=149.755535$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 008892124-02 P= 46.741760 Days  $T_0=149.755535$  (BKJD)

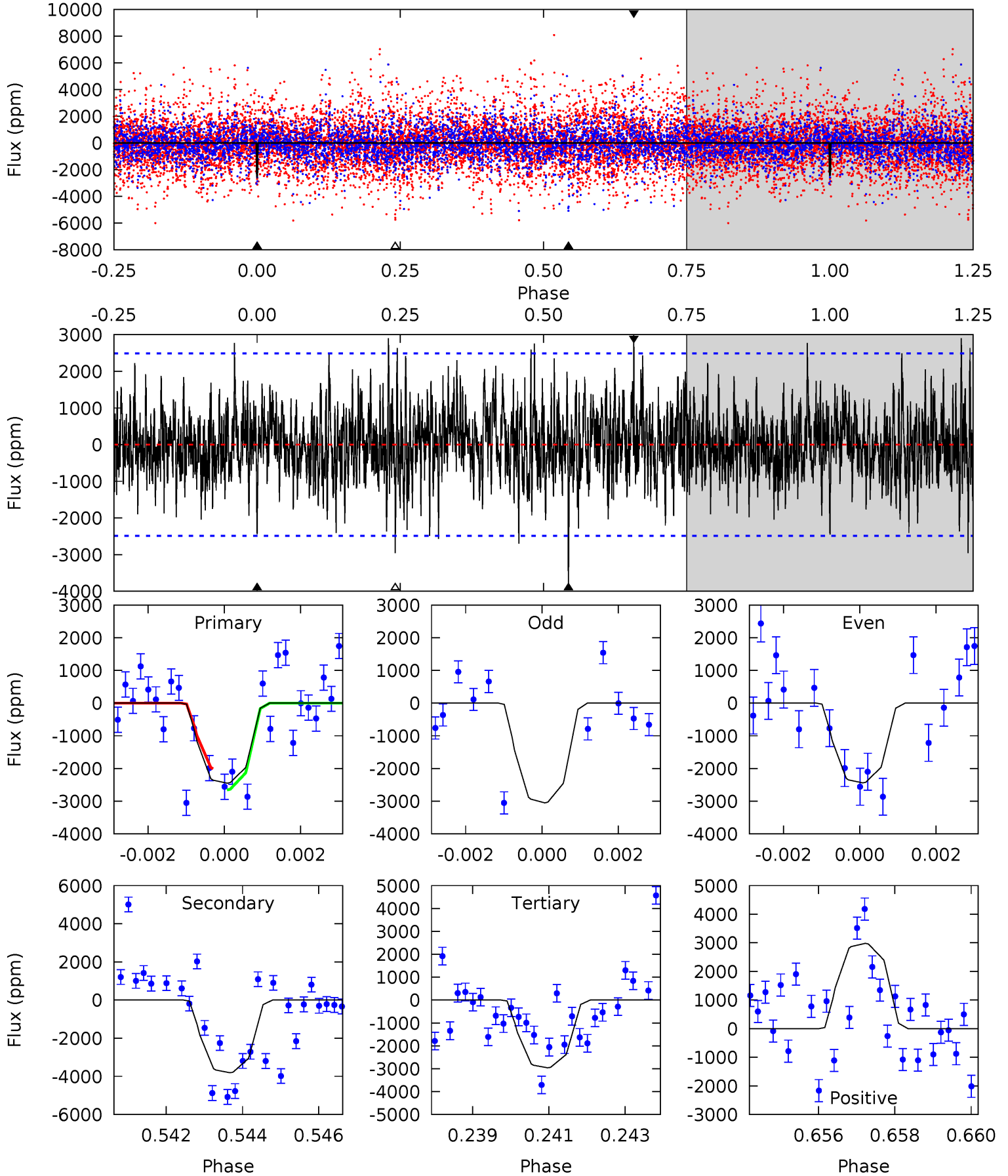


This plot does not exist for this TCE.

# DV Model-Shift Uniqueness Test

008892124-02, P = 46.741760 Days, E = 103.013775 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
5.24	8.15	6.33	6.38	5.32	3.08	1.68	-1.09	-1.13	1.82	1.78	0.76	0.98	0.44	0.70





## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 008892124

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5263^{+157}_{-157}$	$4.586^{+0.071}_{-0.058}$	$-0.600^{+0.350}_{-0.300}$	$0.699^{+0.081}_{-0.066}$	$0.688^{+0.082}_{-0.044}$	$2.834^{+0.855}_{-0.603}$
	+3%/-3%	+2%/-1%	+58%/-50%	+12%/-9%	+12%/-6%	+30%/-21%
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 008892124-02 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-3811 \pm 467$	$7.63^{+7.24}_{-5.18}$	$571^{+24}_{-21}$	$4318^{+3067}_{-858}$	$1850^{+16696}_{-1357}$
Alt.	N/A	N/A	N/A	N/A	N/A

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

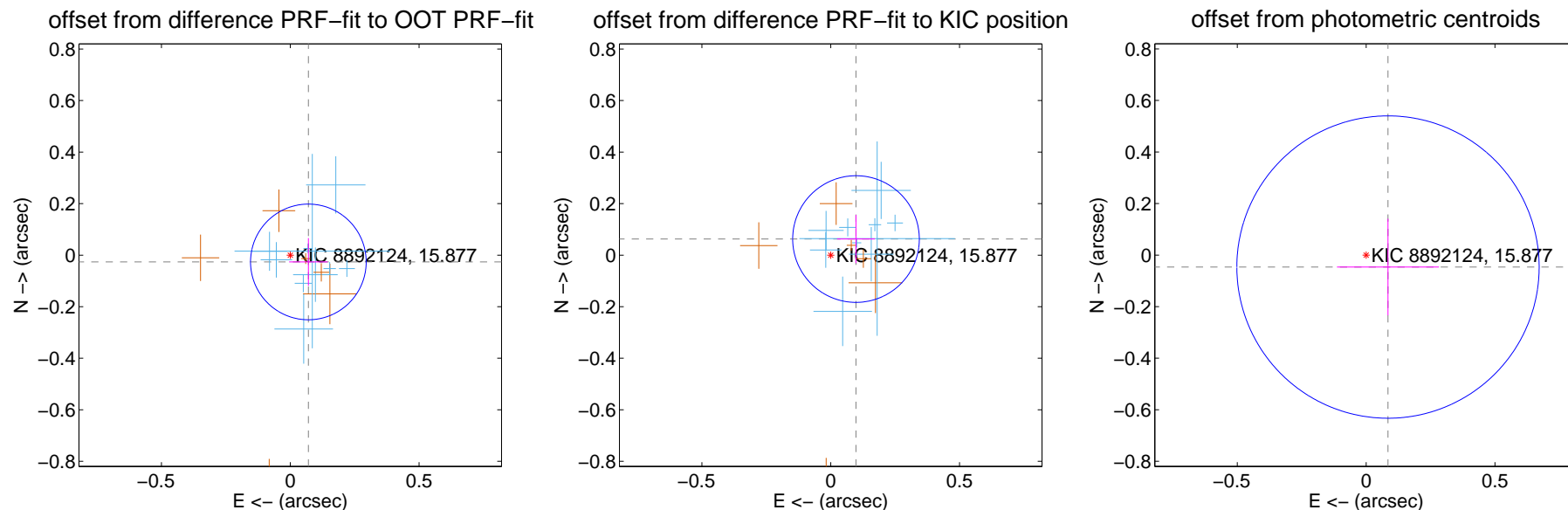
## DV Centroid Data

Supplemental centroid analysis for 008892124-02. Kepler magnitude: 15.88. Transit SNR 7.61

There are 10 quarters with good PRF difference image offsets

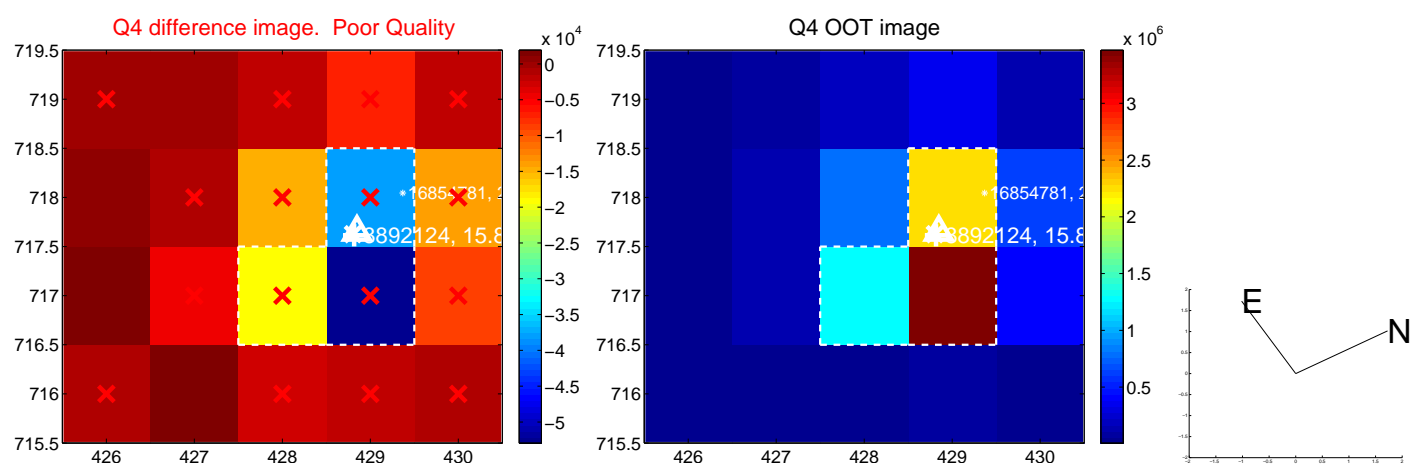
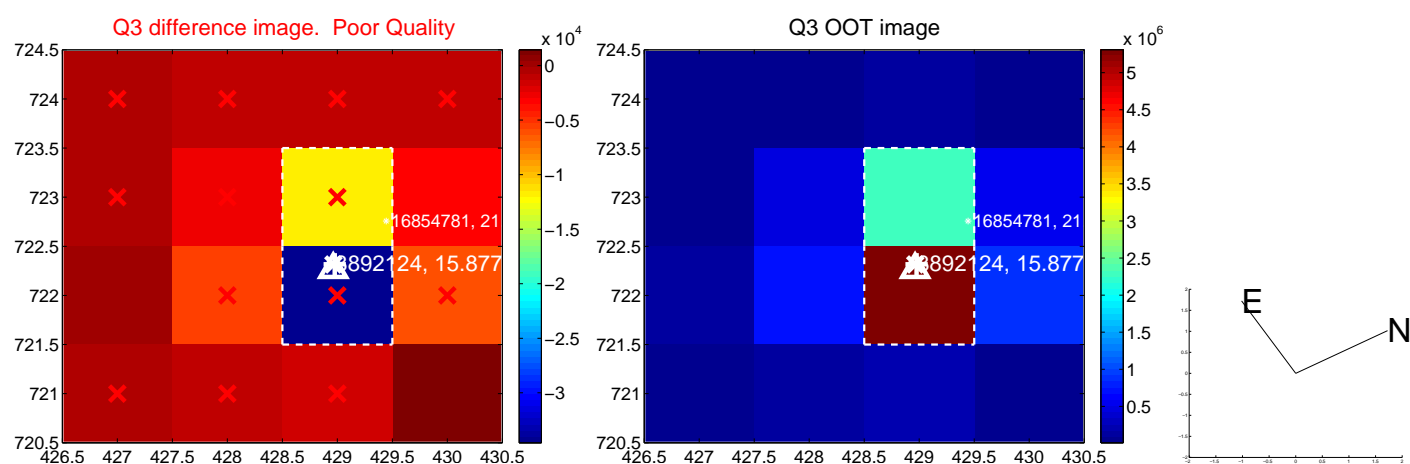
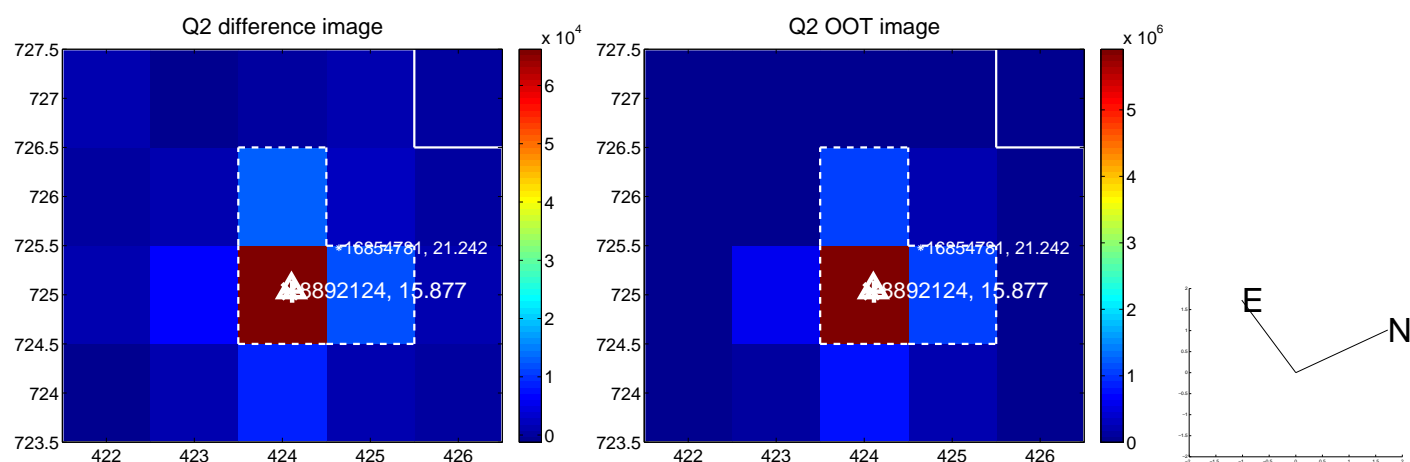
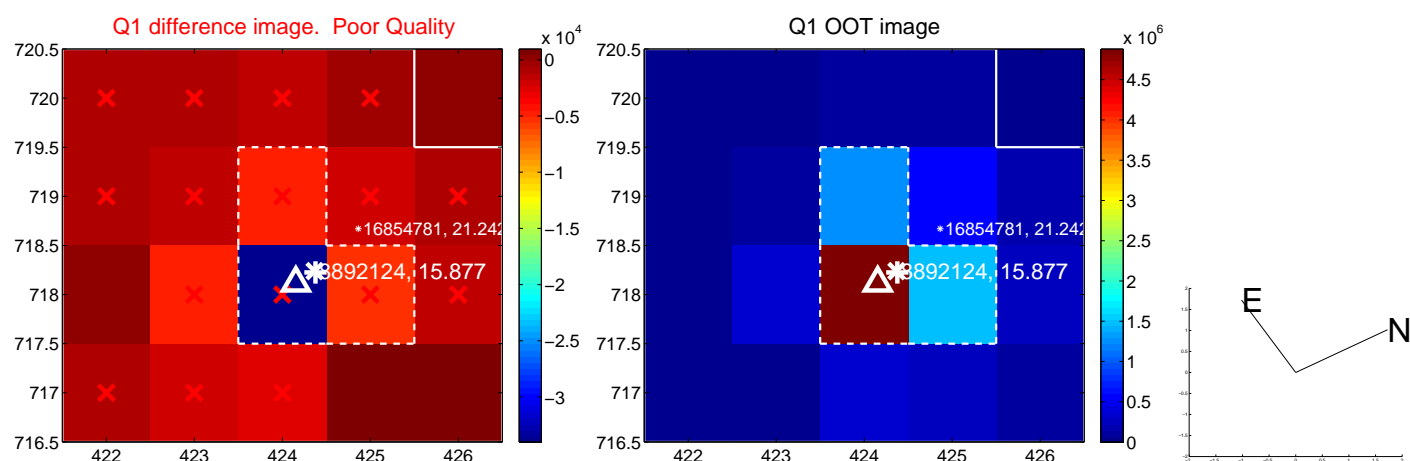
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.075 \pm 0.075$	1.00	$-0.070 \pm 0.075$	$-0.026 \pm 0.093$
PRF-fit source offset from KIC position	$0.116 \pm 0.082$	1.42	$-0.098 \pm 0.074$	$0.062 \pm 0.093$
photometric centroid source offset	$0.10 \pm 0.20$	0.49	$-0.08 \pm 0.20$	$-0.05 \pm 0.19$

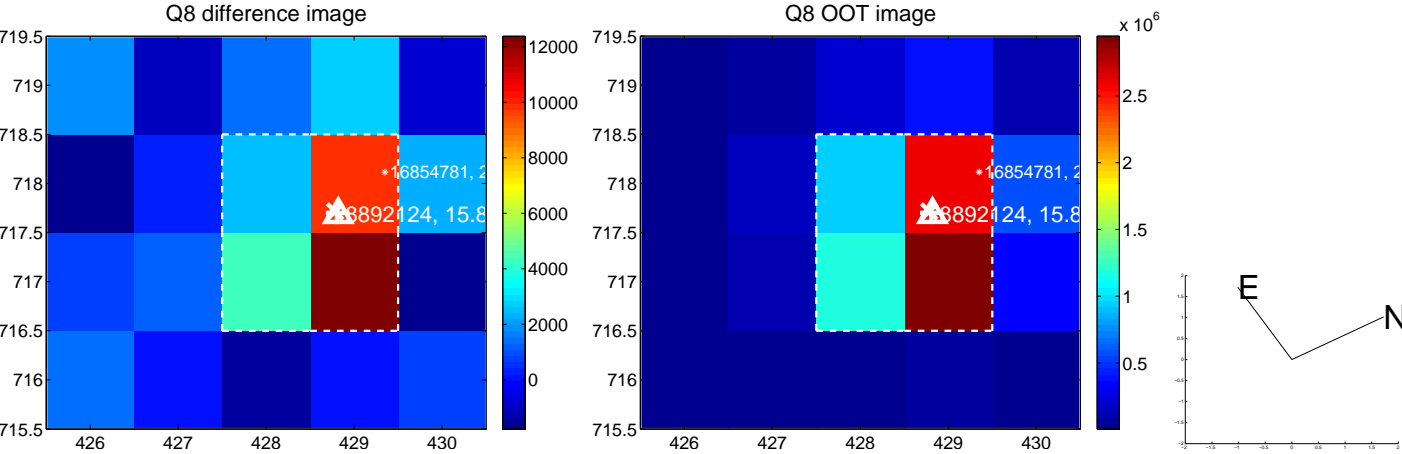
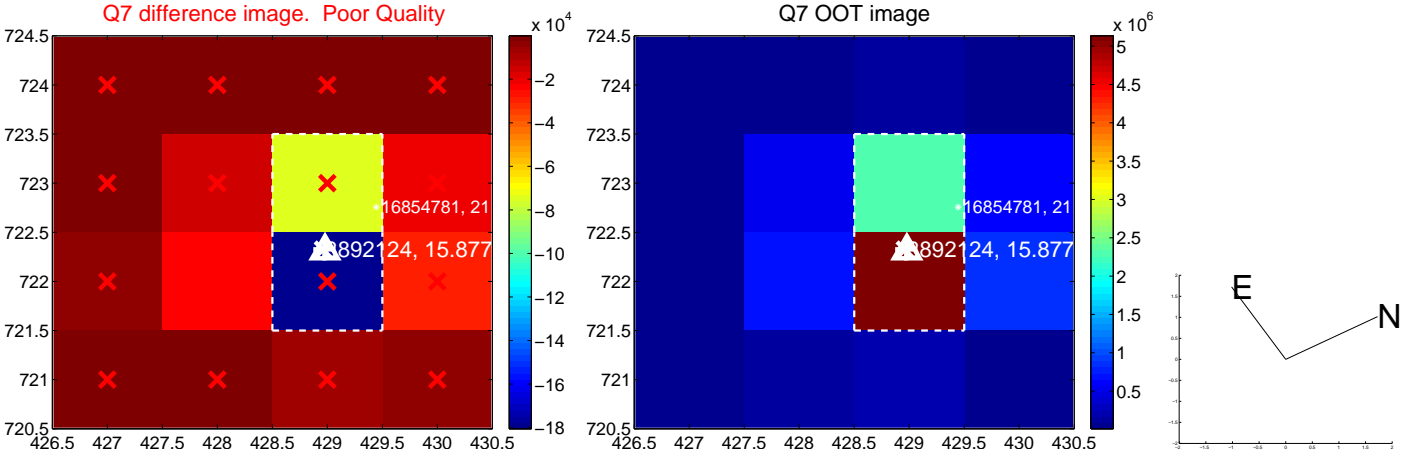
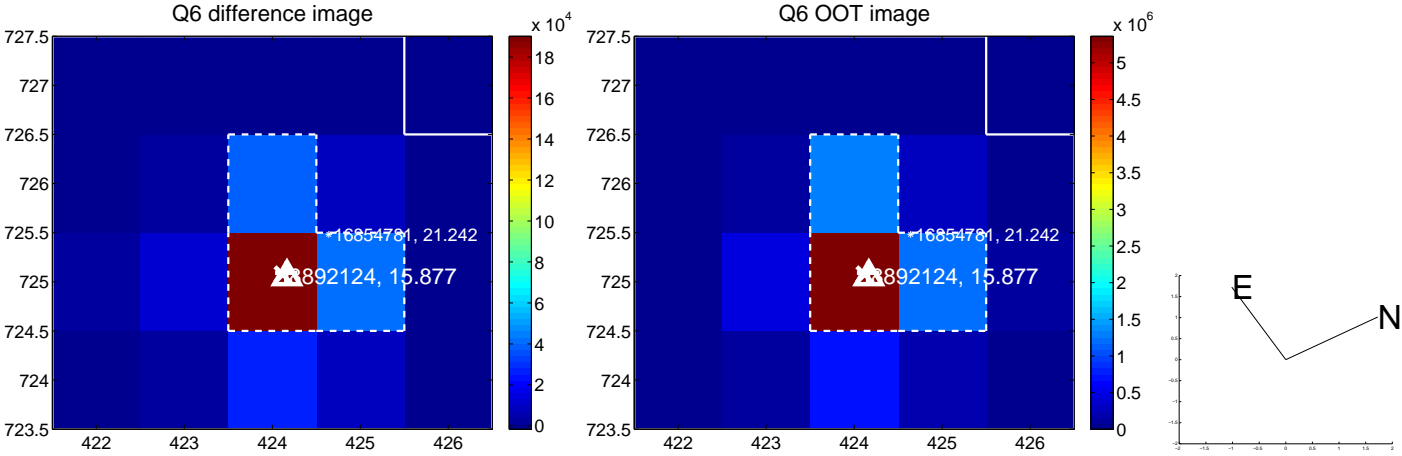
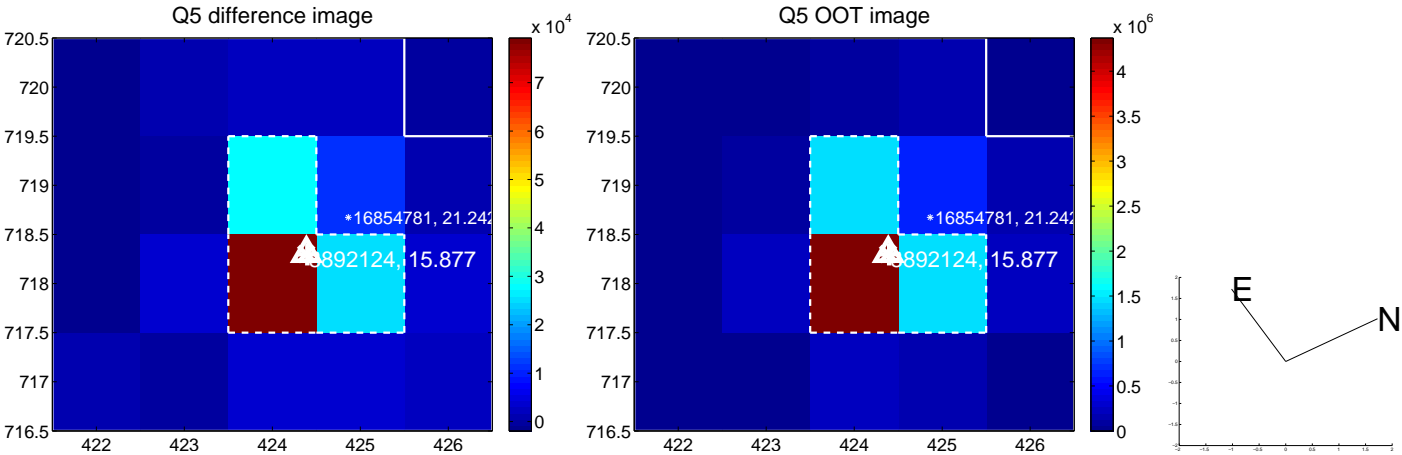


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

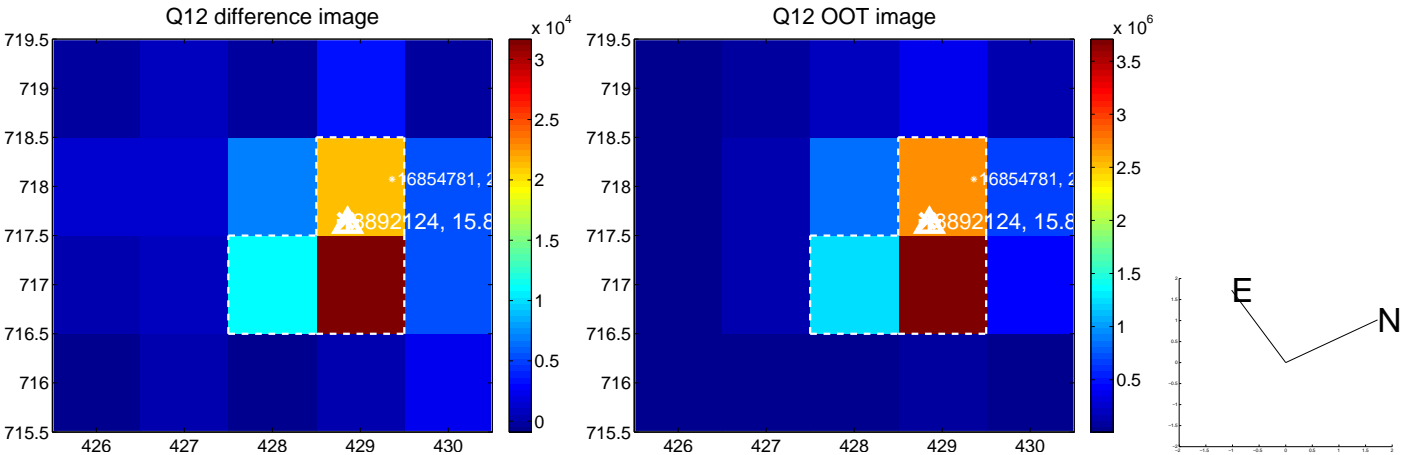
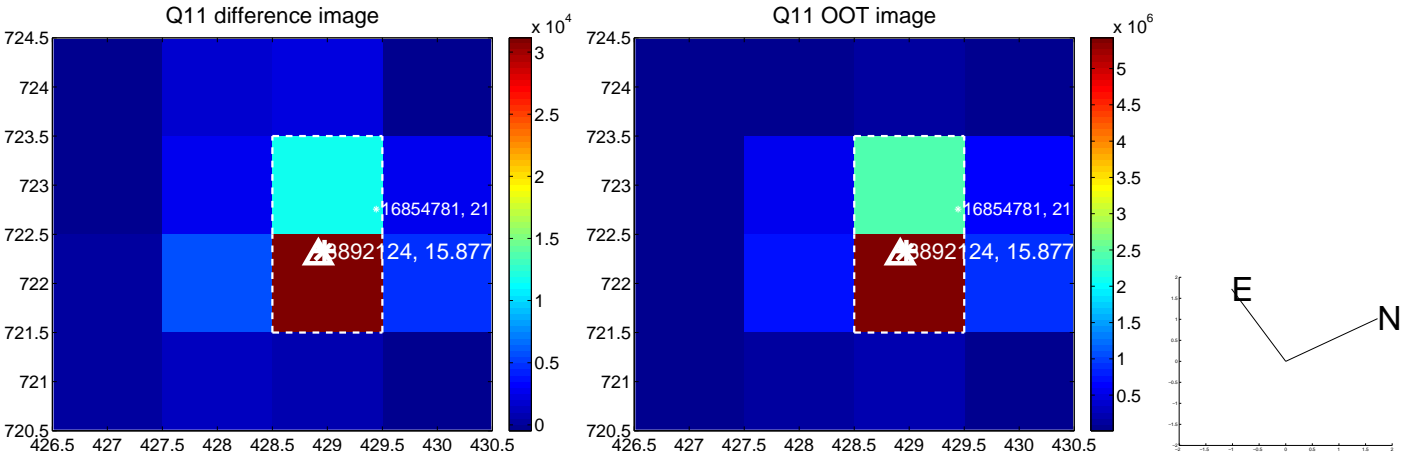
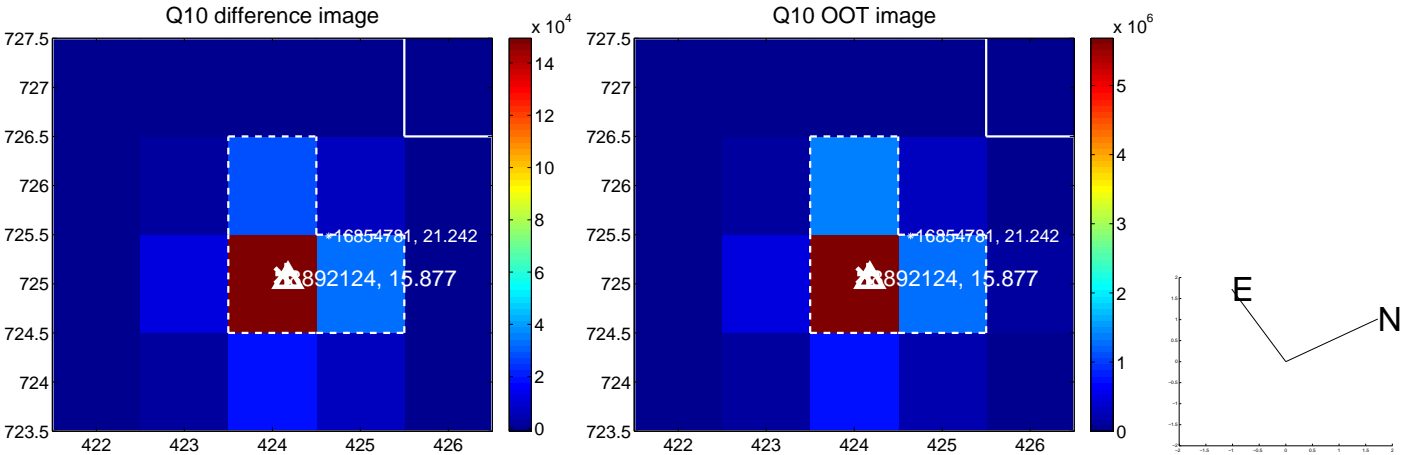
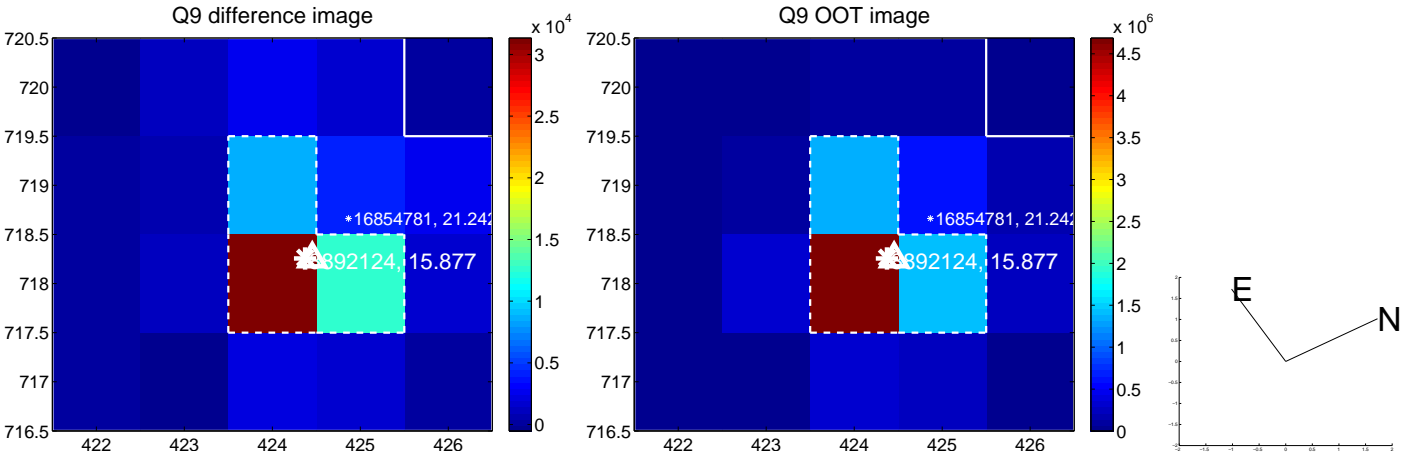
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

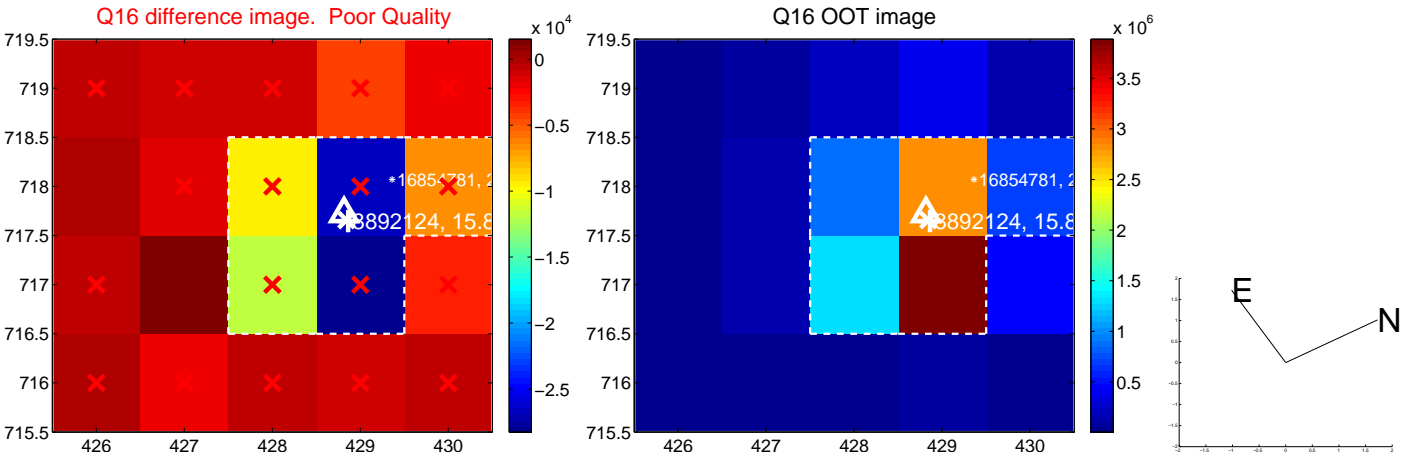
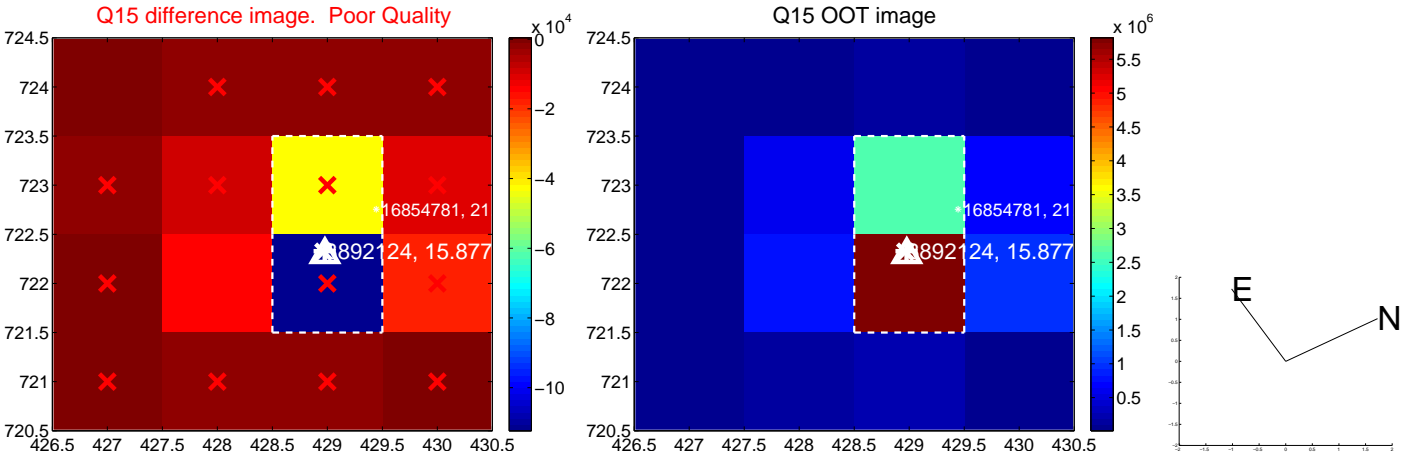
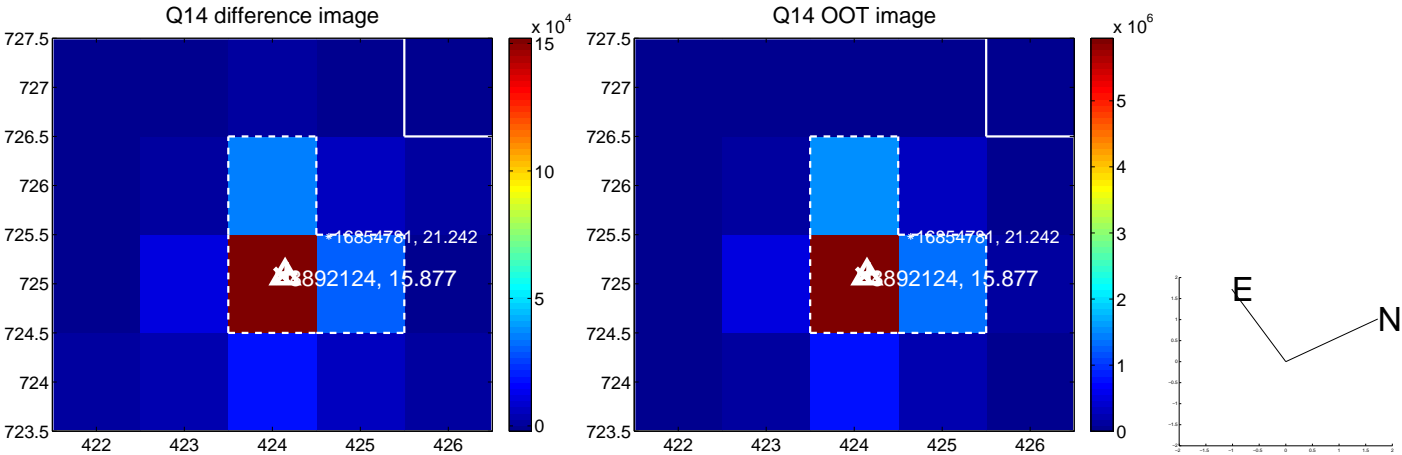
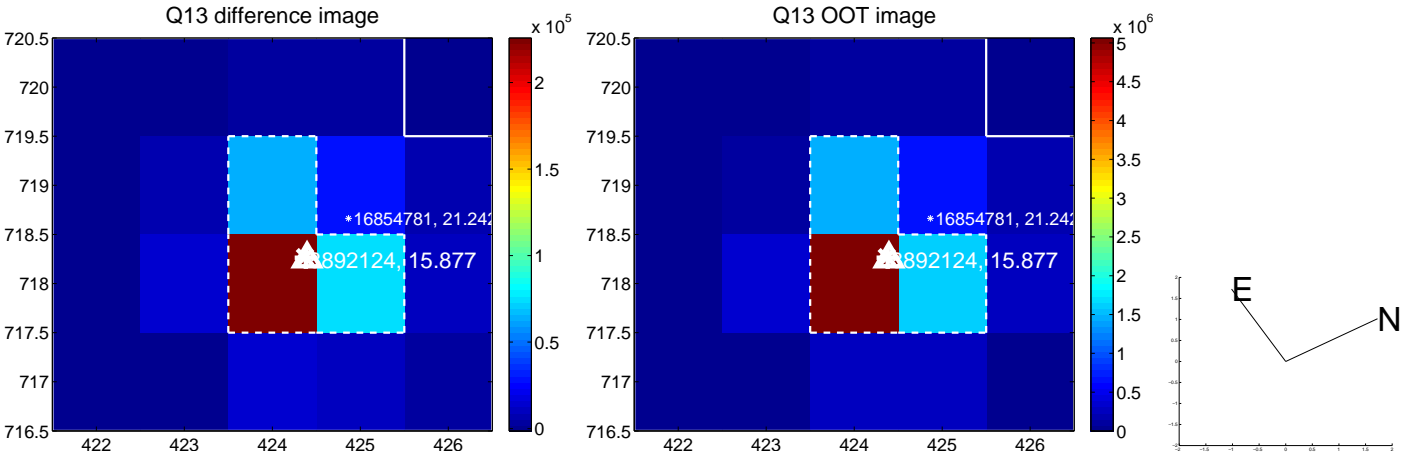


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

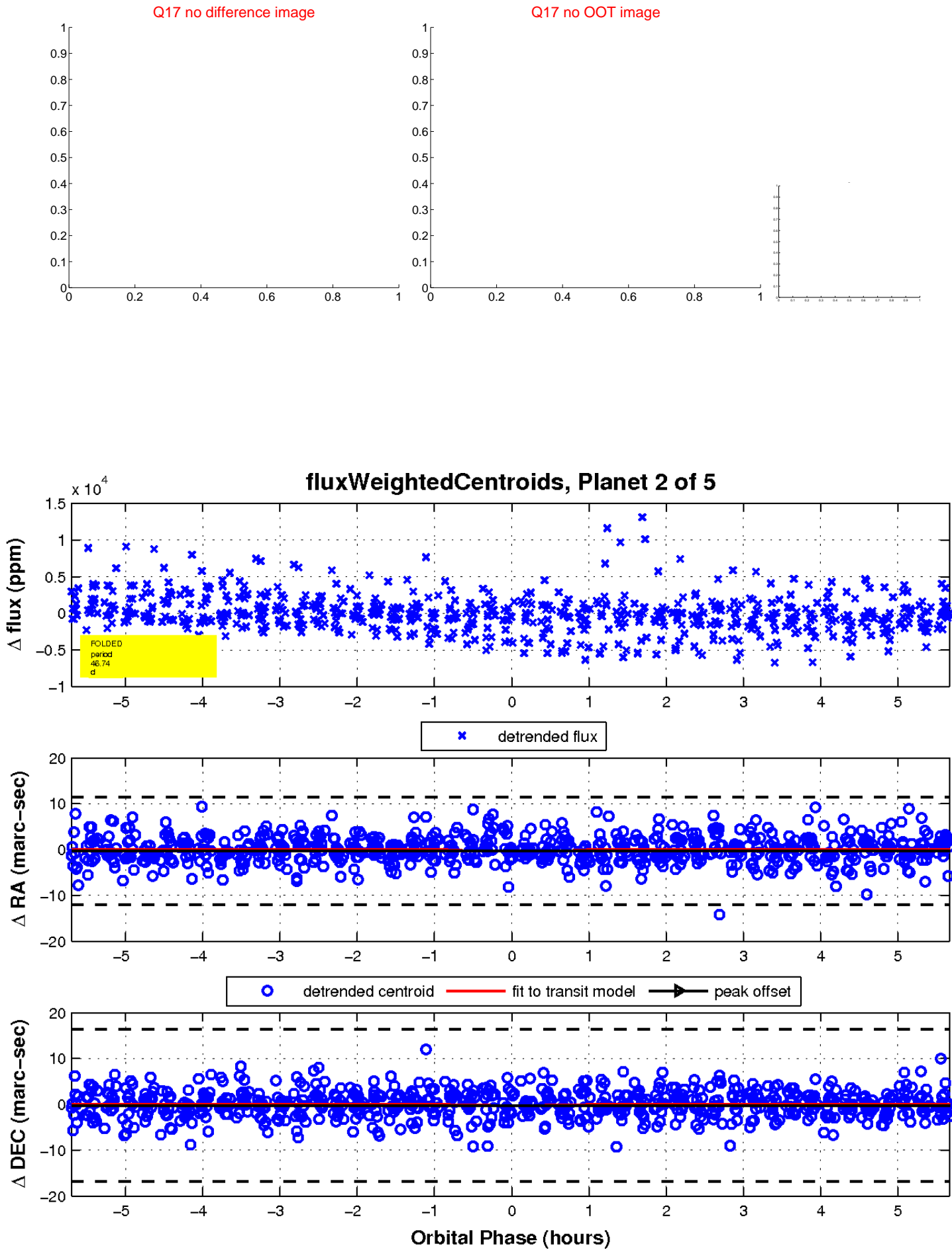




white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

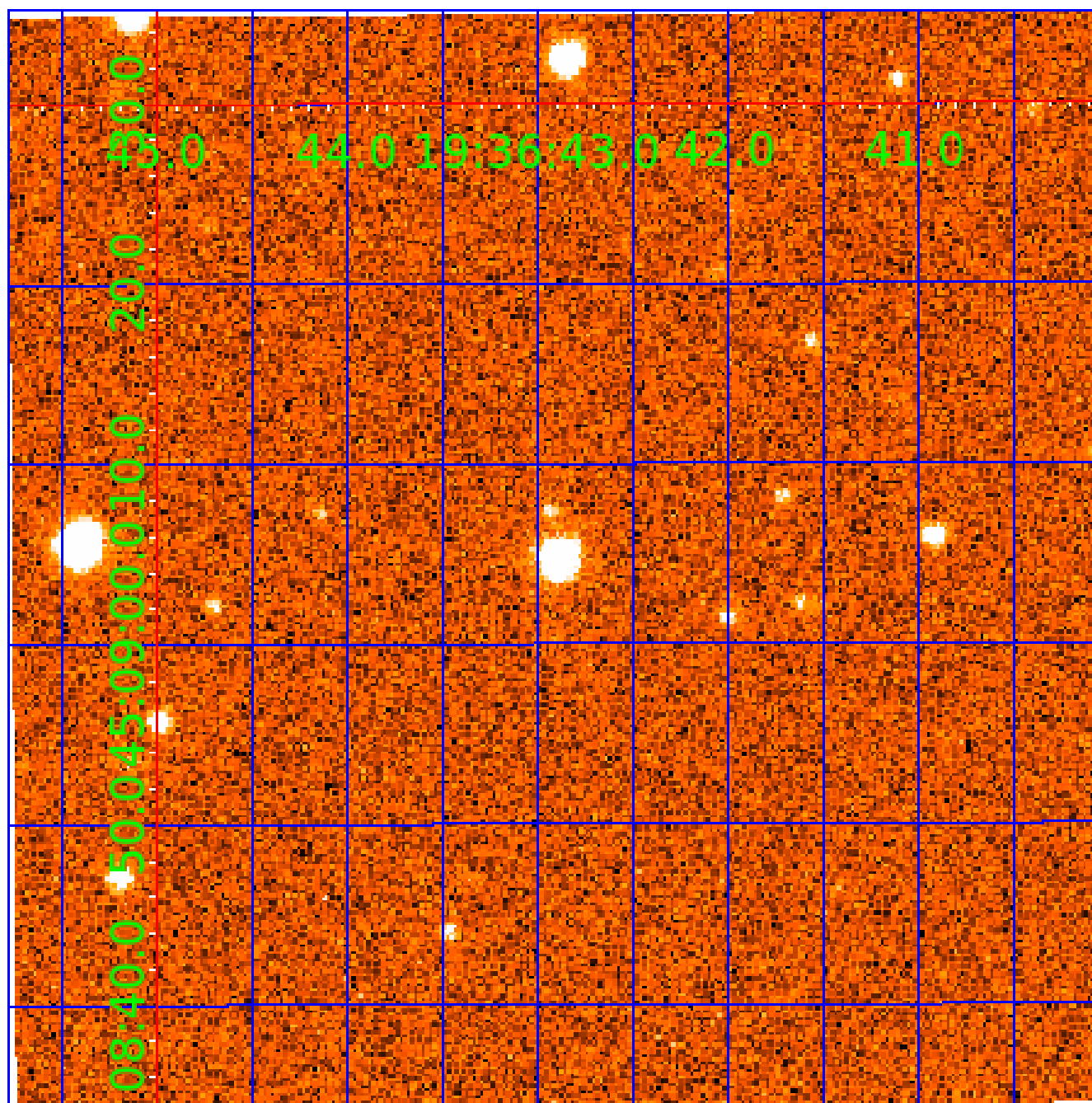


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



# UKIRT Image

Declination



# KIC 008892124

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008892124-01	OBS	No	0.713885	132.005503	0.0	4.612	10.0	0.0	0.70	5263	0.00	1764.58
008892124-02	OBS	No	46.741760	149.755534	4695.0	1.900	10.6	7.6	0.70	5263	4.73	6.69
008892124-03	OBS	No	50.948733	180.719106	2669.9	4.777	7.9	7.3	0.70	5263	3.80	5.96
008892124-04	OBS	No	39.868879	160.022745	2220.6	4.777	8.6	5.9	0.70	5263	3.32	8.27
008892124-05	OBS	No	35.713799	137.872524	899.1	10.339	8.5	3.7	0.70	5263	2.12	9.57

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008892124-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT
008892124-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—HALO_GHOST
008892124-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008892124-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008892124-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST

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

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

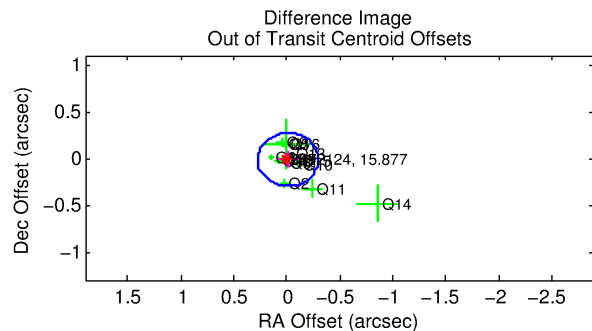
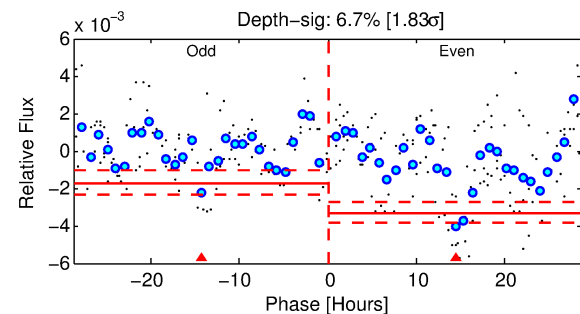
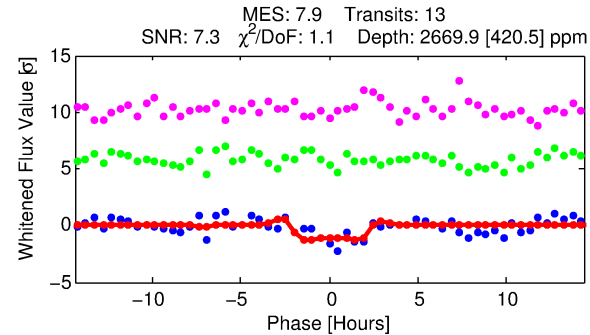
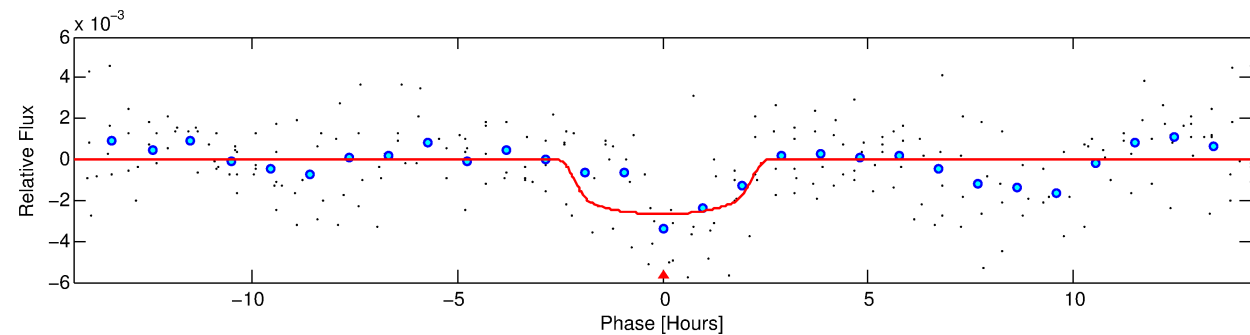
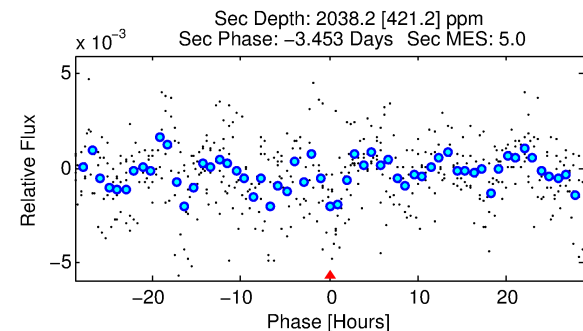
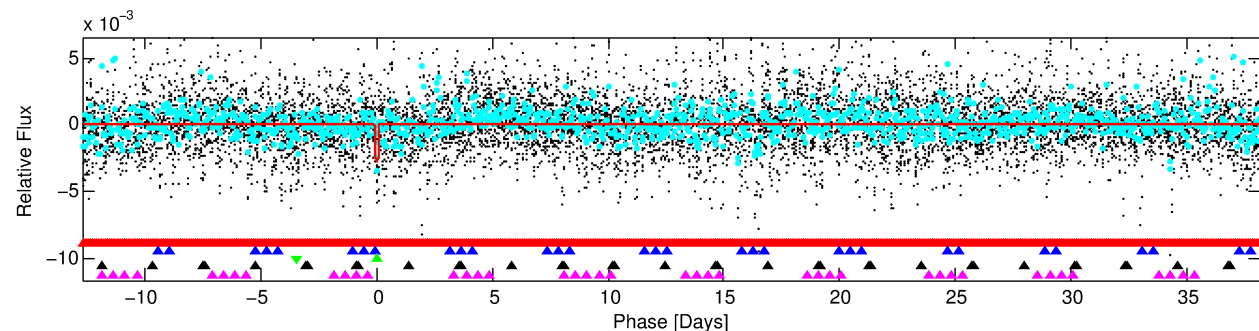
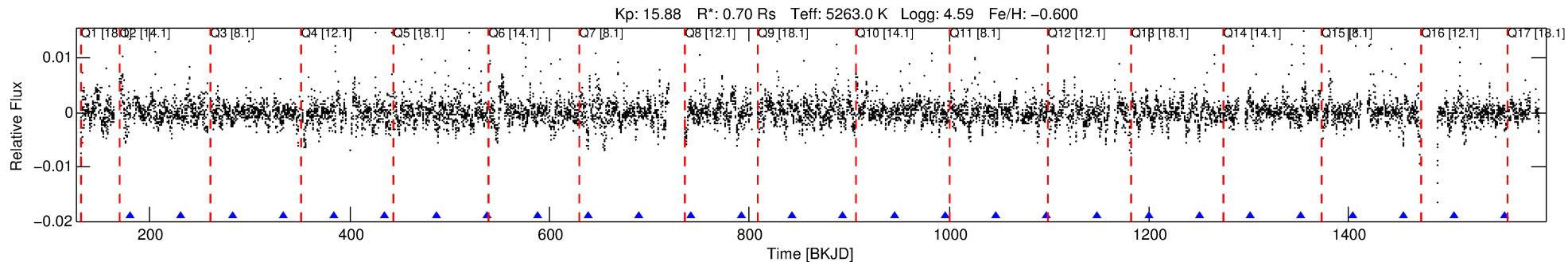
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008892124-03

No Significant Match Found

# DV One-Page Summary

KIC: 8892124 Candidate: 3 of 5 Period: 50.949 d



## DV Fit Results:

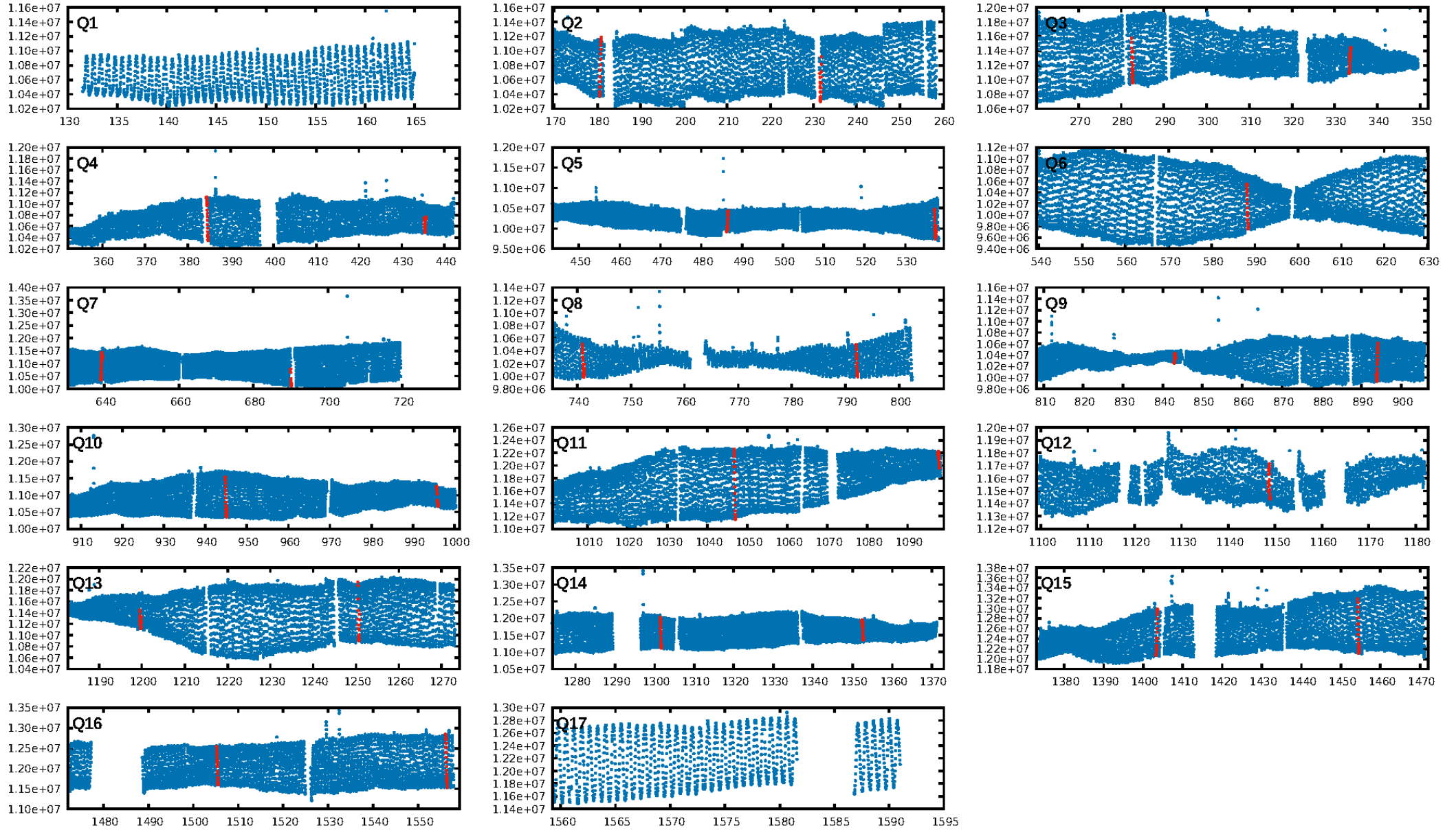
Period = 50.94873 [0.00054] d  
Epoch = 180.7191 [0.0078] BKJD  
Rp/R\* = 0.0499 [0.0222]  
a/R\* = 66.81 [113.24]  
b = 0.66 [1.51]  
Seff = 5.96 [1.07]  
Teq = 398 [18] K  
Rp = 3.80 [1.75] Re  
a = 0.2374 [0.0224] AU  
Ag = 4369.01 [4041.97] [1.08 $\sigma$ ]  
Teffp = 5008 [1156] K [3.99 $\sigma$ ]

## DV Diagnostic Results:

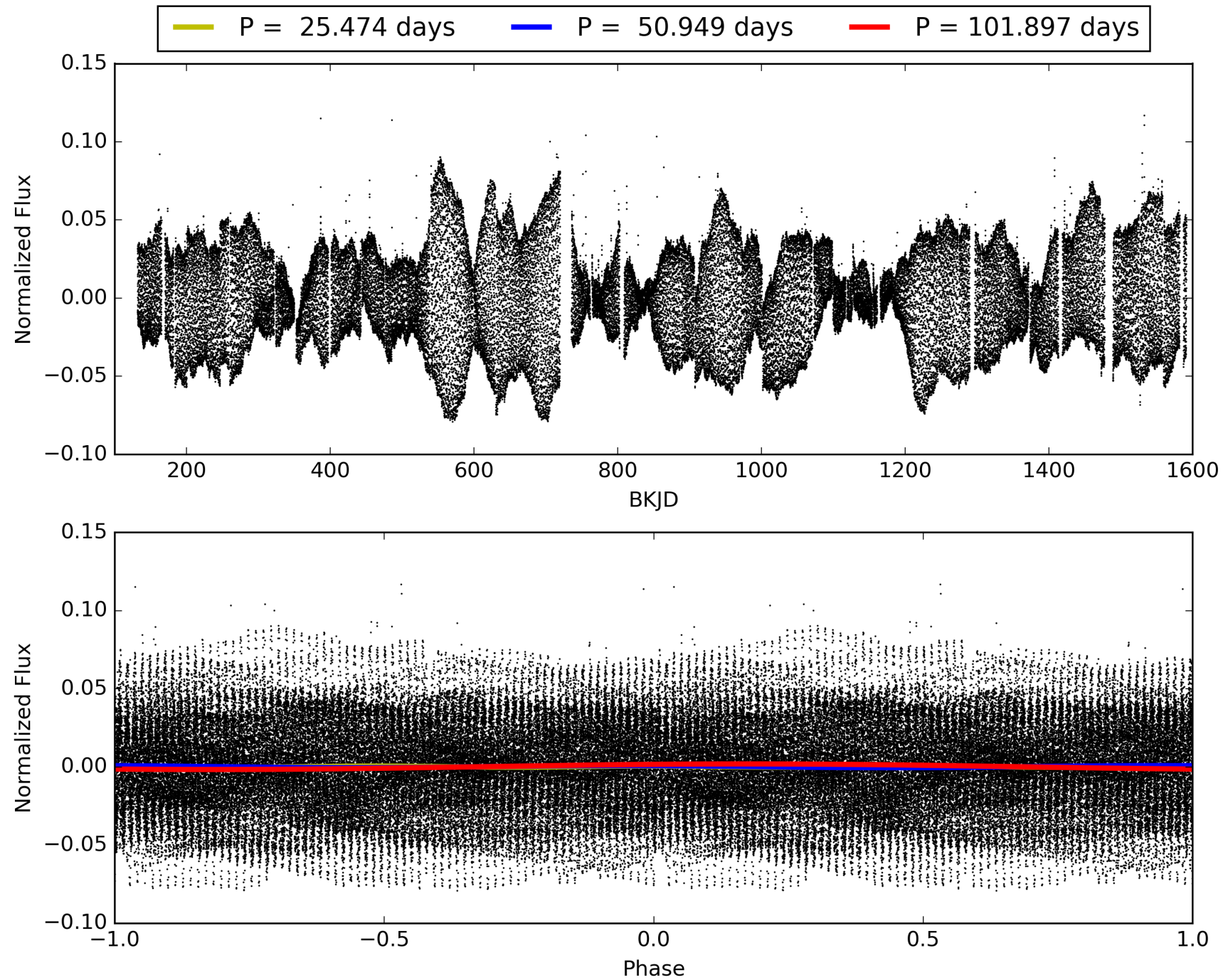
ShortPeriod-sig: 100.0% [19.64 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 2.3%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 4.40e-09**  
RollingBand-fgt: 1.00 [13/13]  
**GhostDiagnostic-chr: 0.3931**  
Centroid-sig: 0.0%  
Centroid-so: 0.599 arcsec [2.75 $\sigma$ ]  
OotOffset-rm: 0.019 arcsec [0.20 $\sigma$ ]  
KicOffset-rm: 0.075 arcsec [1.04 $\sigma$ ]  
OotOffset-st: 4/4/4/3 [15]  
KicOffset-st: 4/4/4/3 [15]  
DiffImageQuality-fgm: 0.67 [10/15]  
DiffImageOverlap-fno: 0.00 [0/15]



# TCE 008892124-03, PDC Light Curves

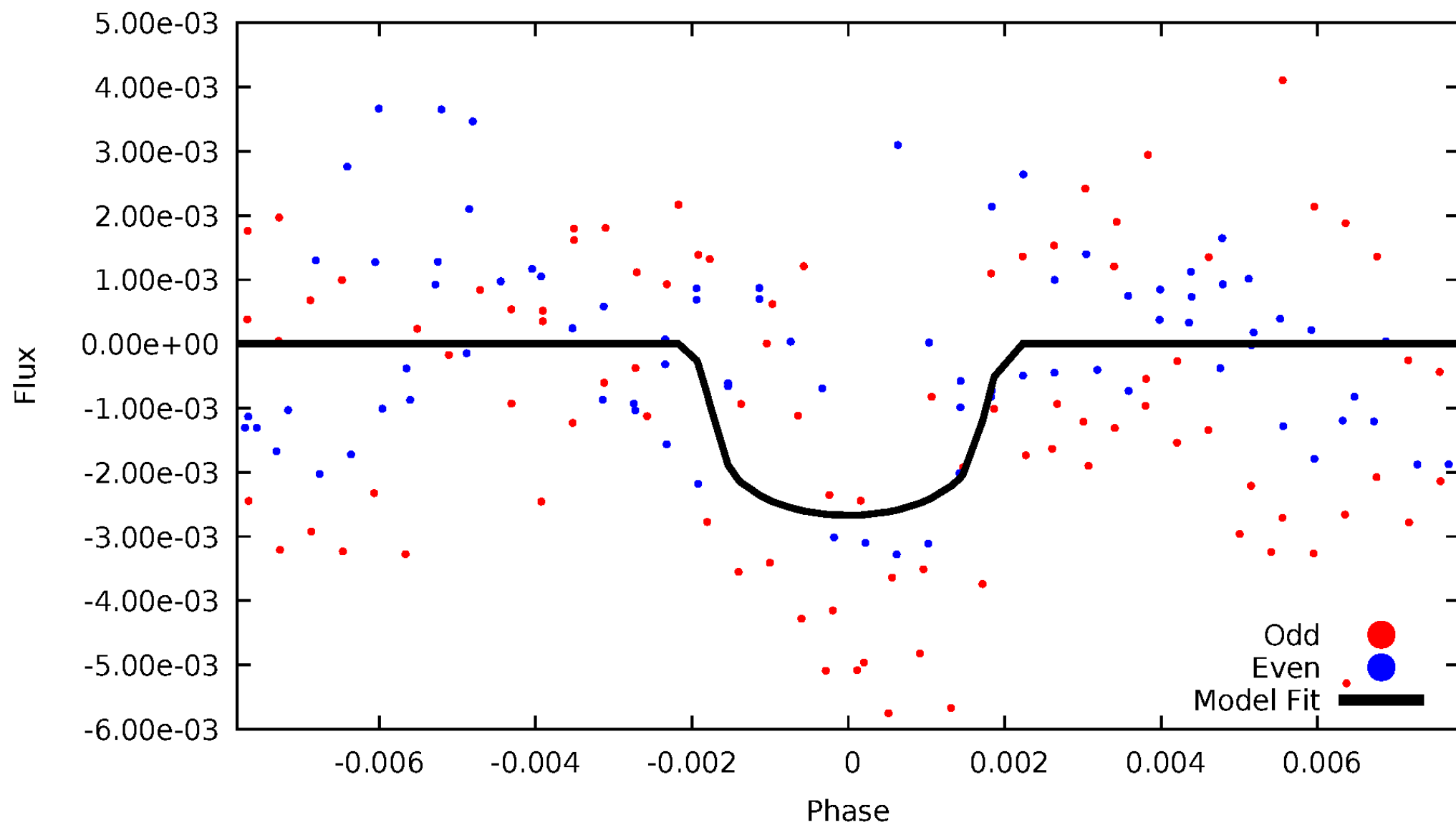


TCE 008892124-03



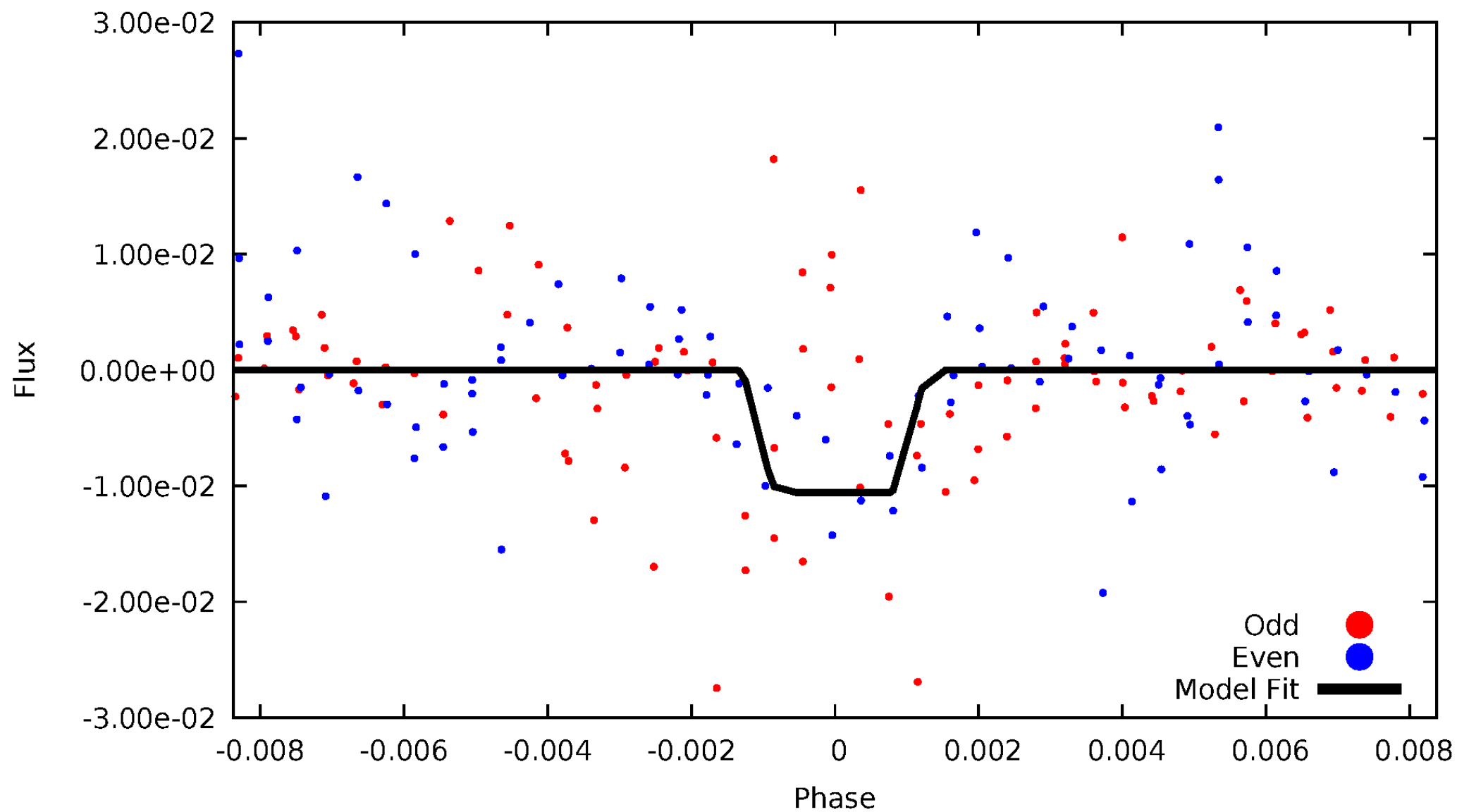
# DV Odd/Even

TCE 008892124-03



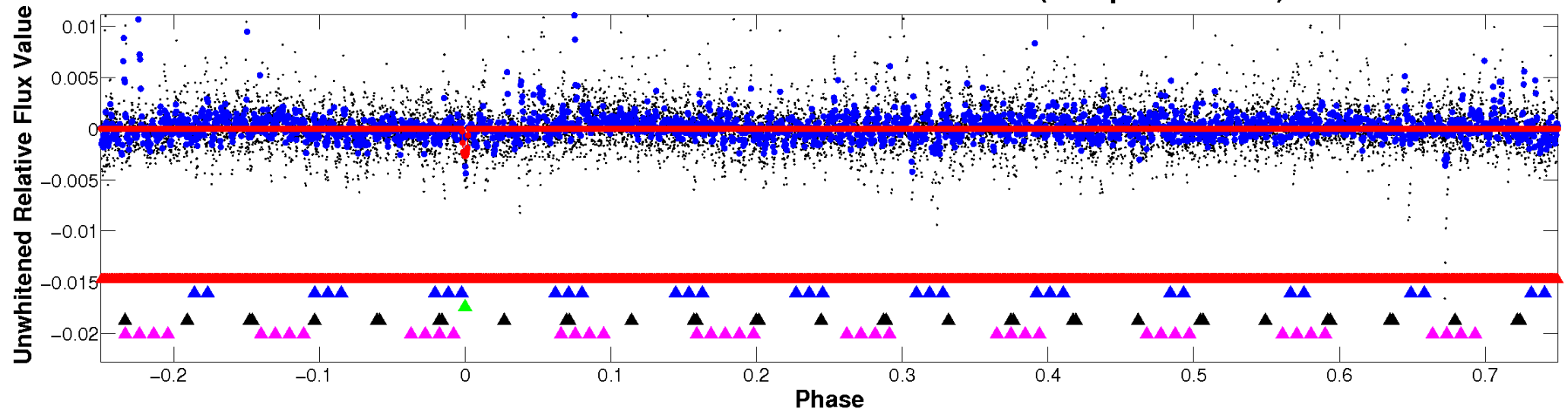
# ALT Odd/Even

TCE 008892124-03

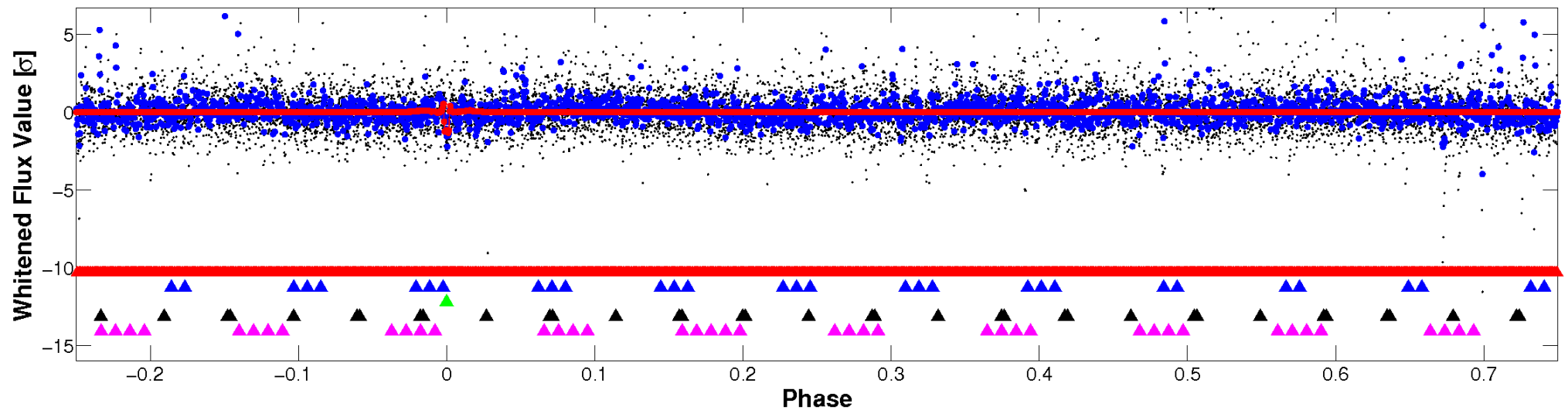


# Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

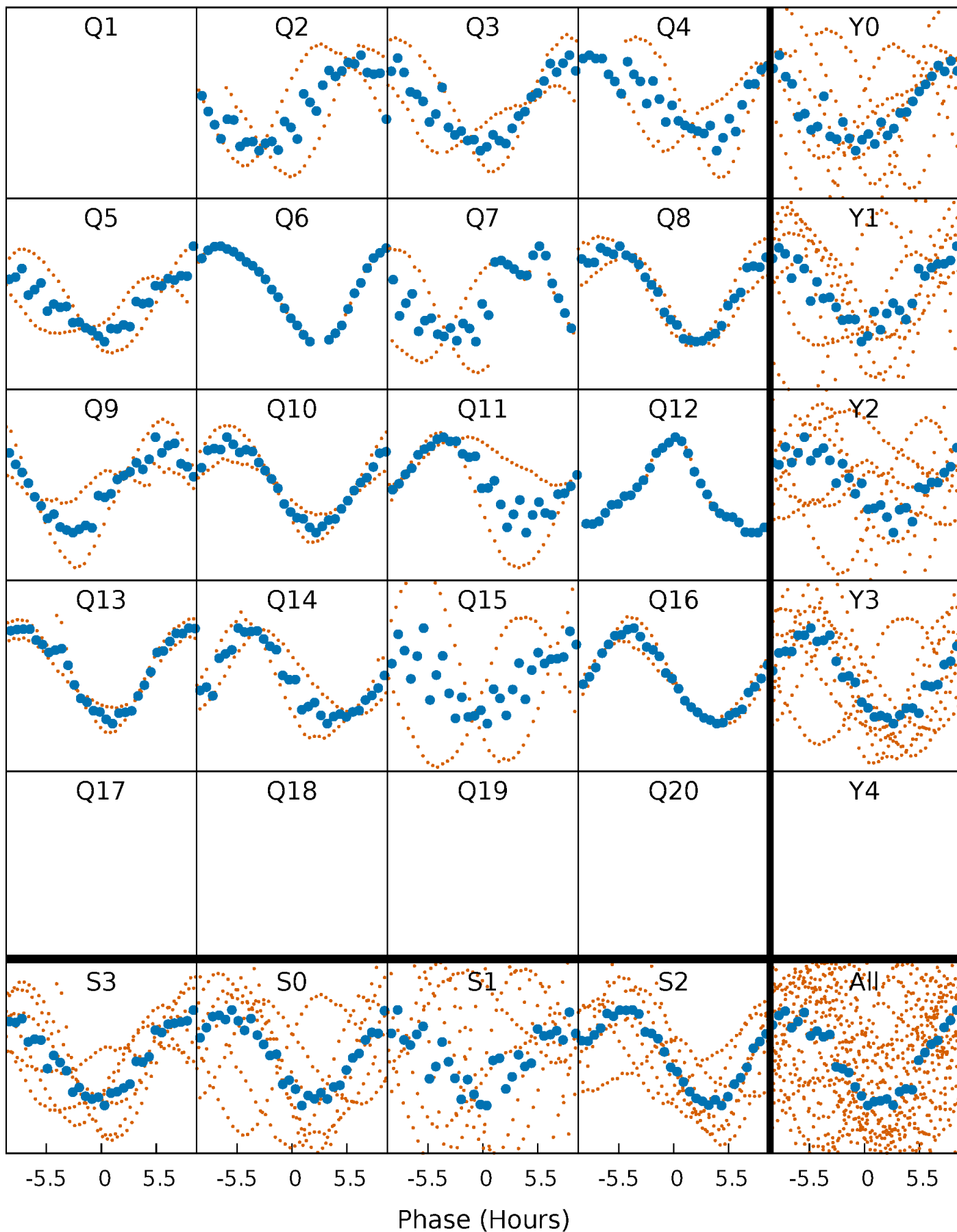


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



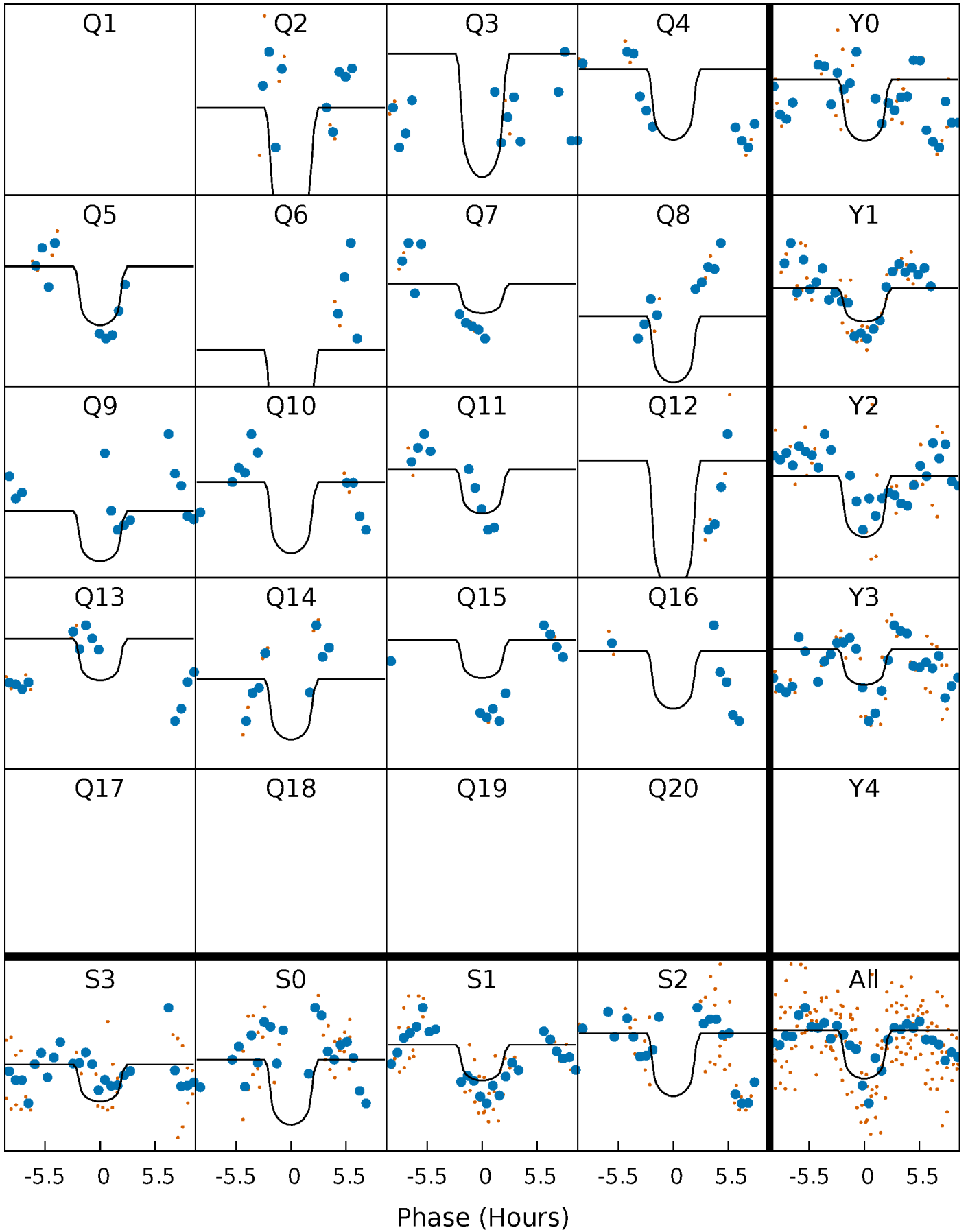
# PDC Quarter-Phased Transit Curves

TCE 008892124-03   P= 50.948733 Days    $T_0=180.719106$  (BKJD)



# DV Quarter-Phased Transit Curves

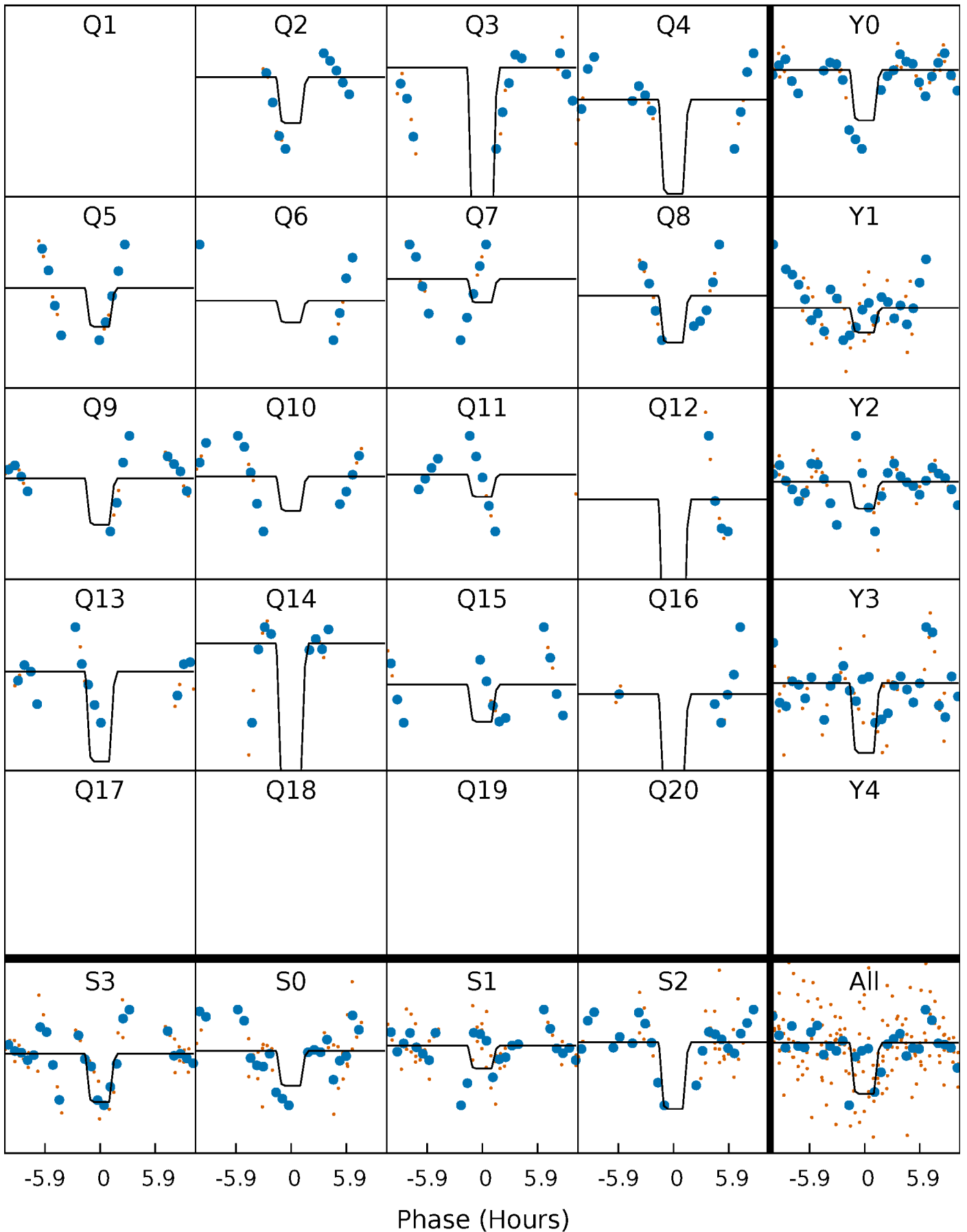
TCE 008892124-03 P= 50.948733 Days  $T_0=180.719106$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

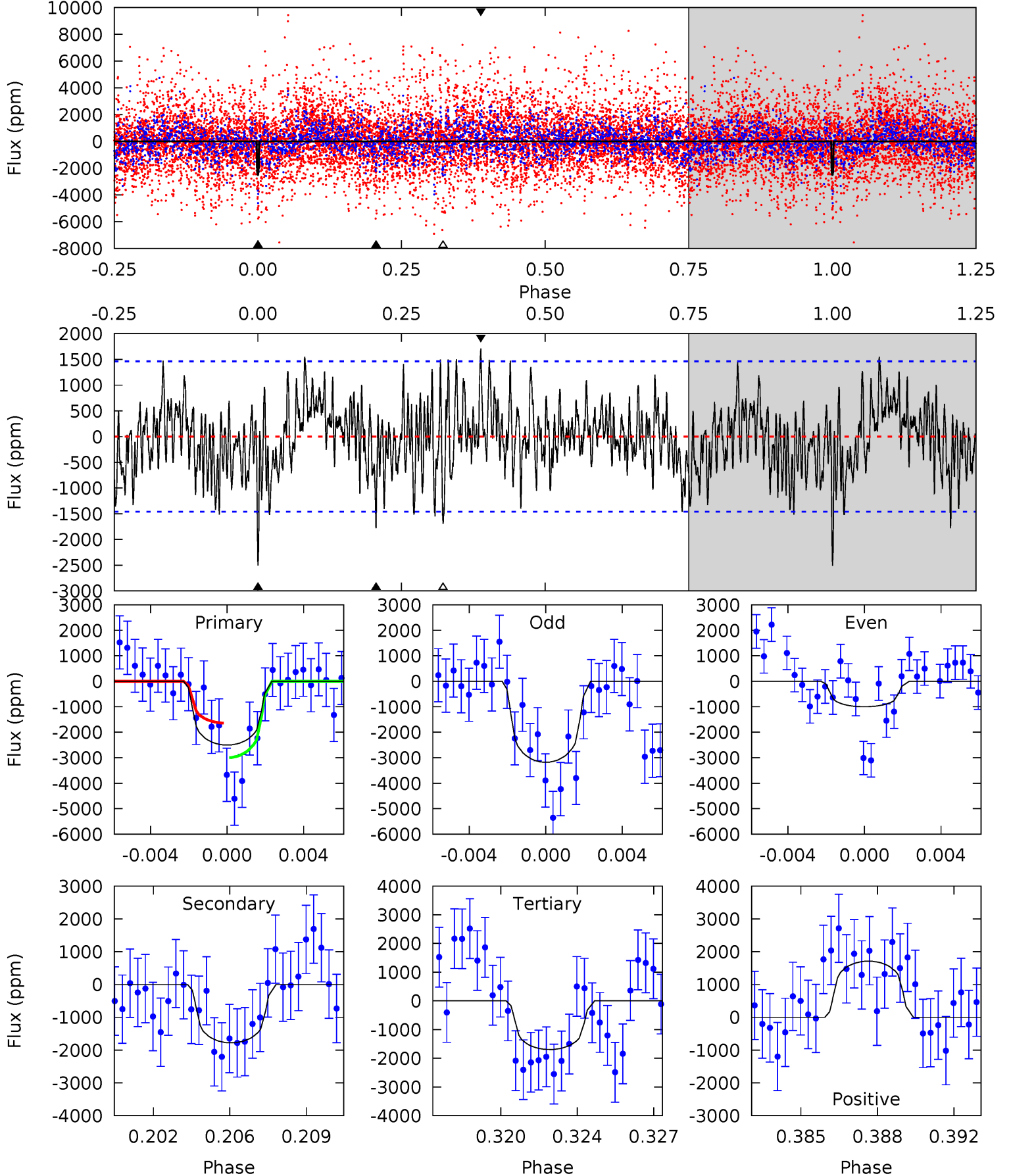
TCE 008892124-03 P= 50.948512 Days  $T_0=180.713081$  (BKJD)



# DV Model-Shift Uniqueness Test

008892124-03, P = 50.948733 Days, E = 129.770373 Days

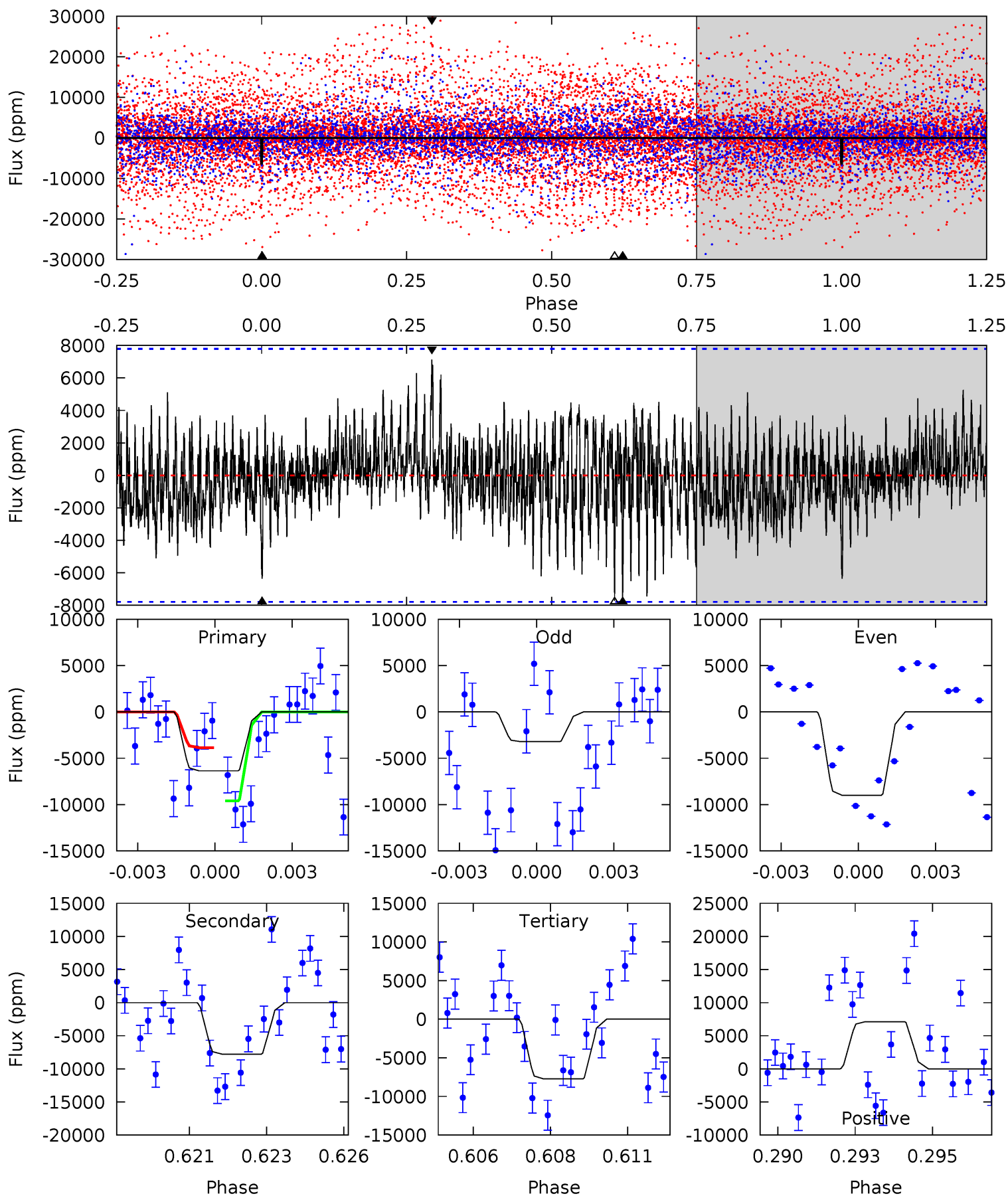
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.92	6.34	6.04	6.10	5.21	2.89	2.02	2.88	2.83	0.30	0.25	3.69	1.76	0.41	2.46



# Alt Model-Shift Uniqueness Test

008892124-03, P = 50.948512 Days, E = 129.764569 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
4.31	5.27	5.24	4.83	5.28	3.02	1.34	-0.93	-0.52	0.03	0.45	1.79	1.43	0.48	1.92



### Stellar Parameters For KIC 008892124

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5263^{+157}_{-157}$	$4.586^{+0.071}_{-0.058}$	$-0.600^{+0.350}_{-0.300}$	$0.699^{+0.081}_{-0.066}$	$0.688^{+0.082}_{-0.044}$	$2.834^{+0.855}_{-0.603}$
	+3%/-3%	+2%/-1%	+58%/-50%	+12%/-9%	+12%/-6%	+30%/-21%
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 008892124-03 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-1778 \pm 280$	$3.87^{+1.71}_{-1.55}$	$556^{+21}_{-22}$	$4865^{+1357}_{-677}$	$3765^{+7179}_{-2025}$
Alt.	$-7780 \pm 1475$	$7.83^{+1.90}_{-1.74}$	$555^{+21}_{-21}$	$4945^{+623}_{-473}$	$4056^{+2728}_{-1540}$

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

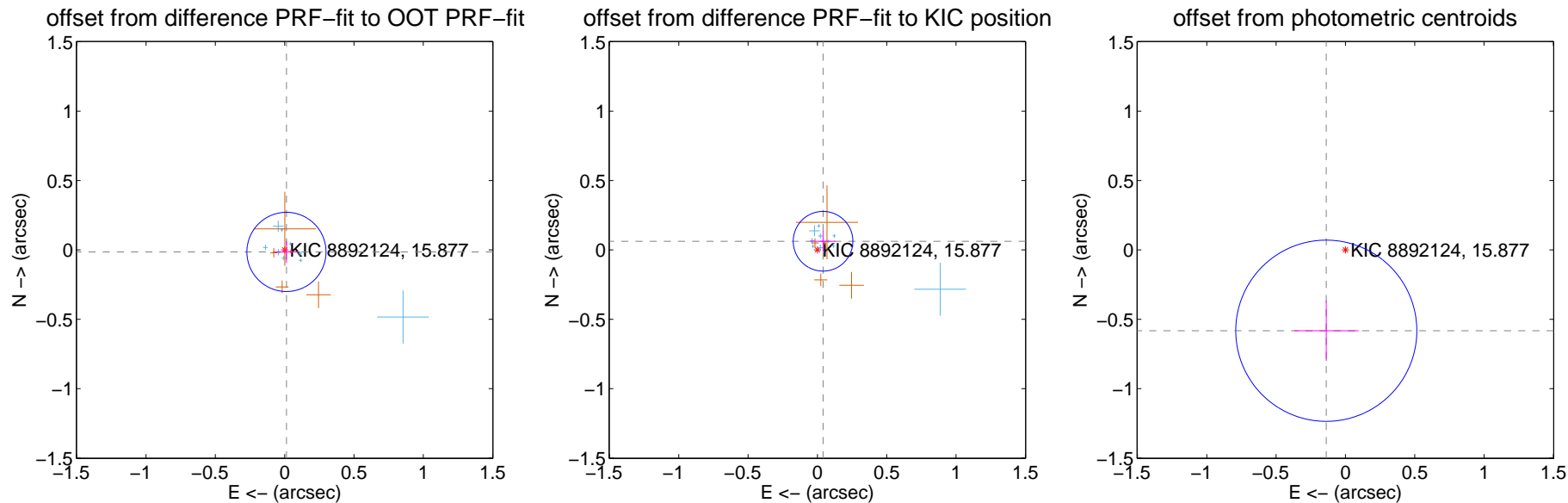
## DV Centroid Data

Supplemental centroid analysis for 008892124-03. Kepler magnitude: 15.88. Transit SNR 7.31

There are 10 quarters with good PRF difference image offsets

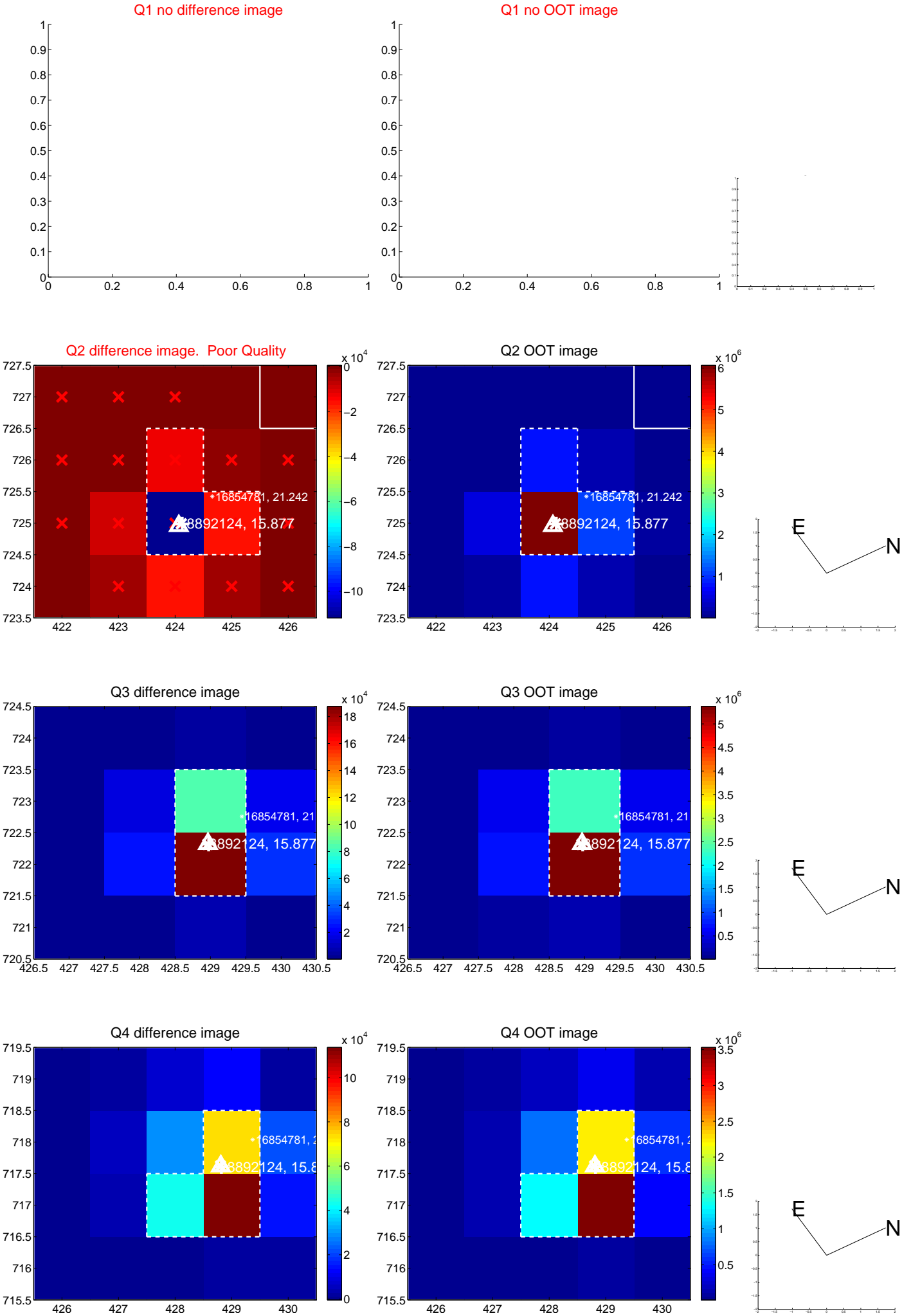
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.019 \pm 0.095$	0.20	$-0.013 \pm 0.089$	$-0.014 \pm 0.080$
PRF-fit source offset from KIC position	$0.075 \pm 0.072$	1.04	$-0.041 \pm 0.090$	$0.062 \pm 0.076$
photometric centroid source offset	$0.60 \pm 0.22$	2.75	$0.14 \pm 0.23$	$-0.58 \pm 0.22$

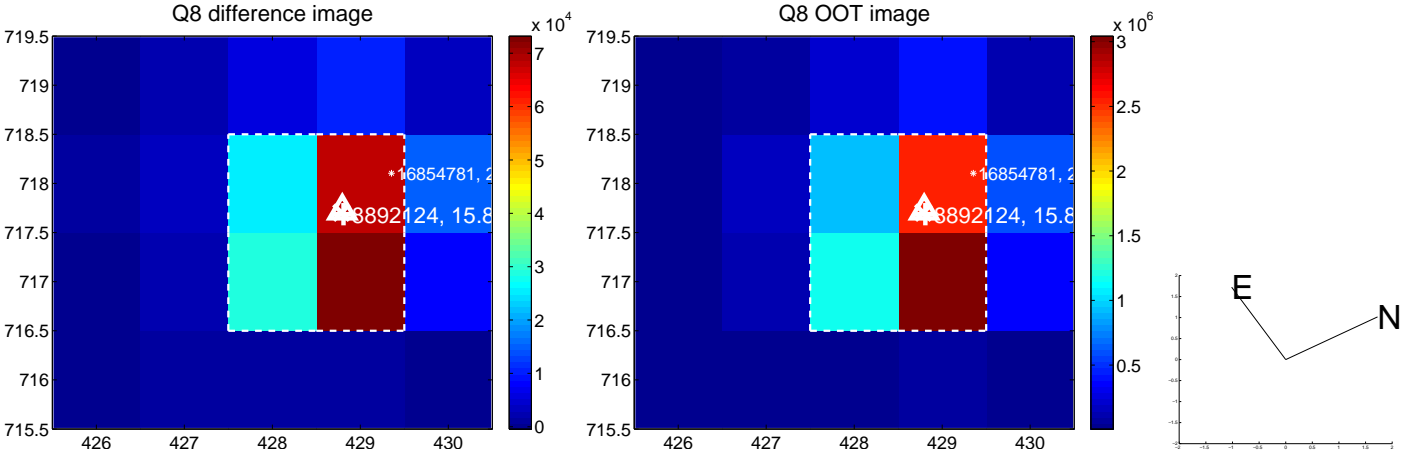
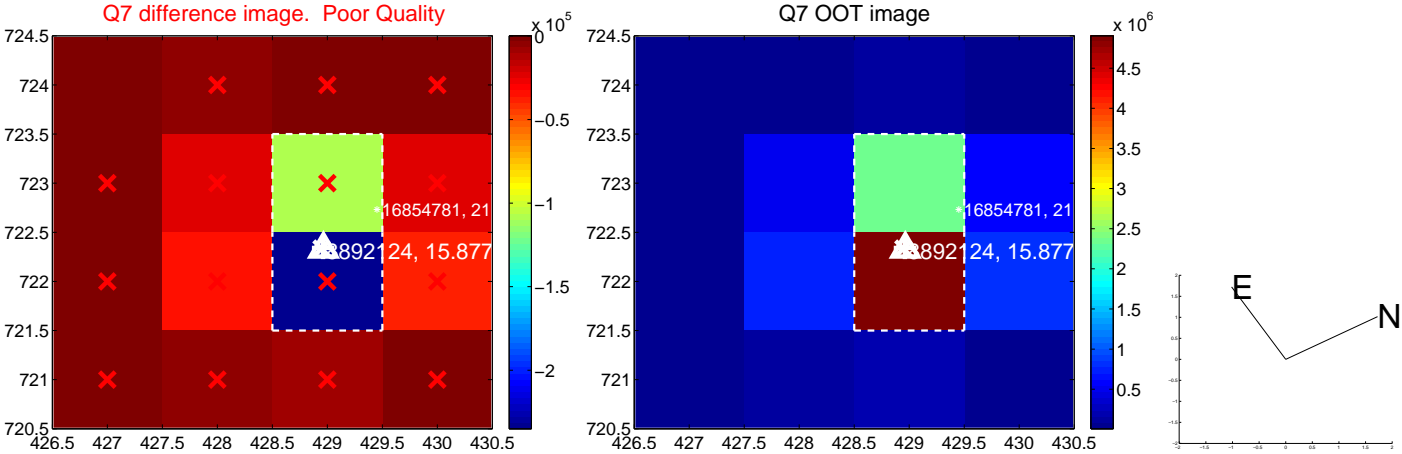
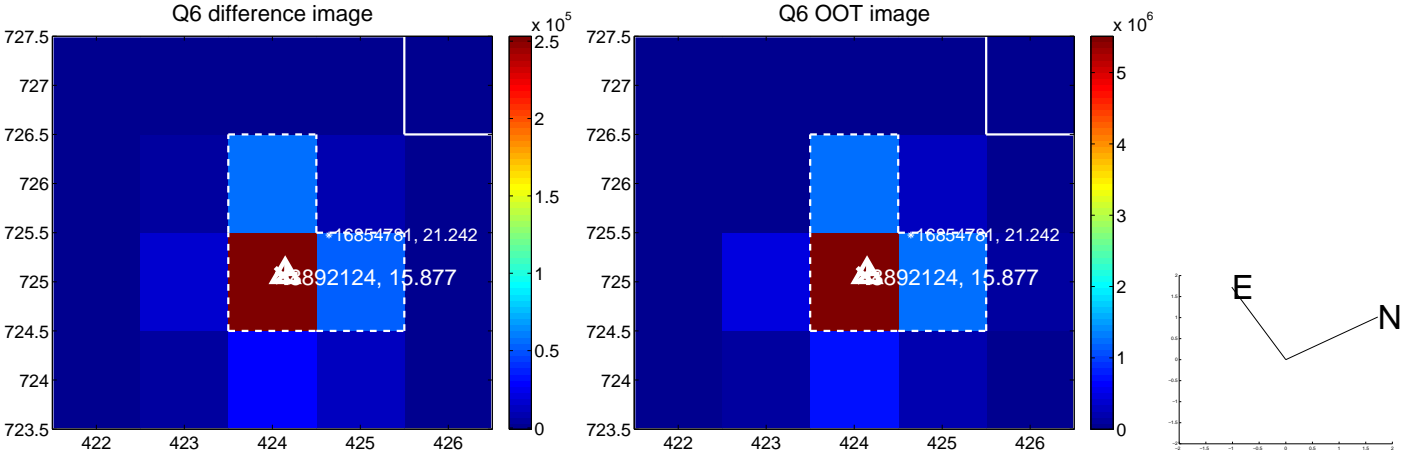
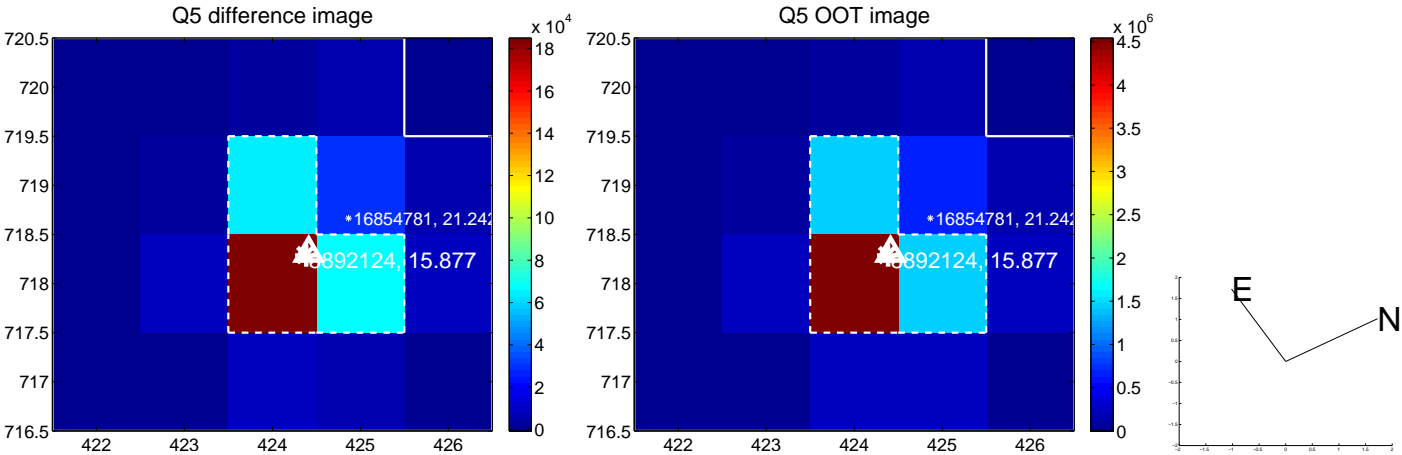


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

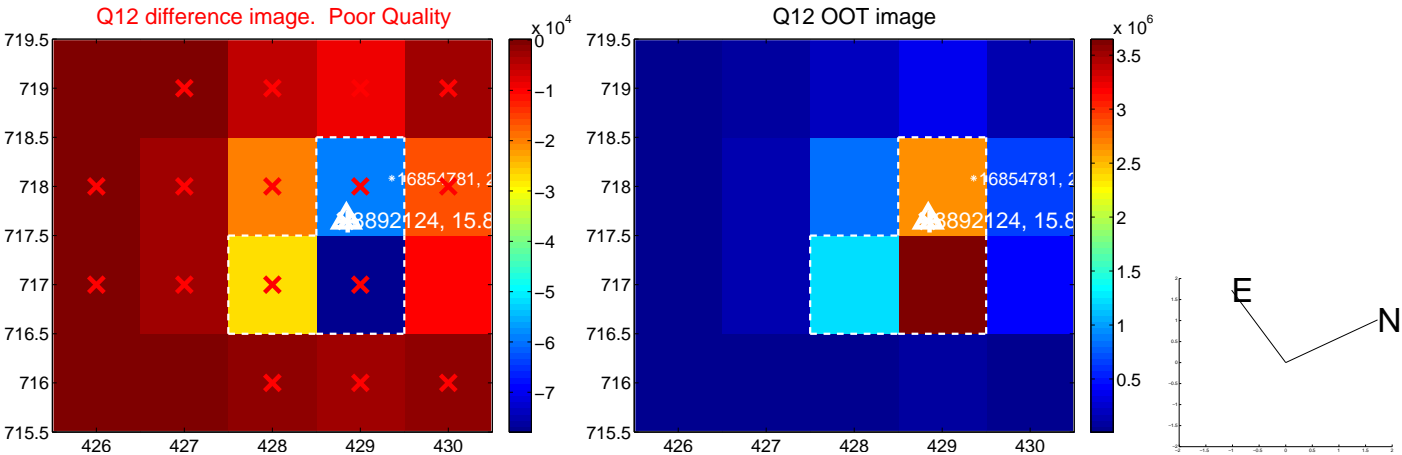
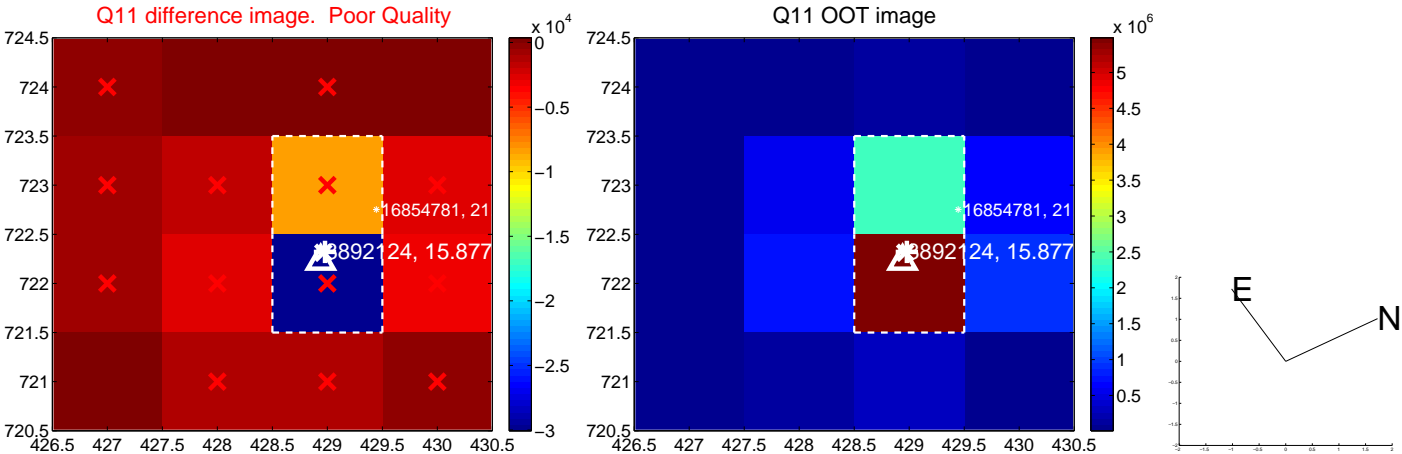
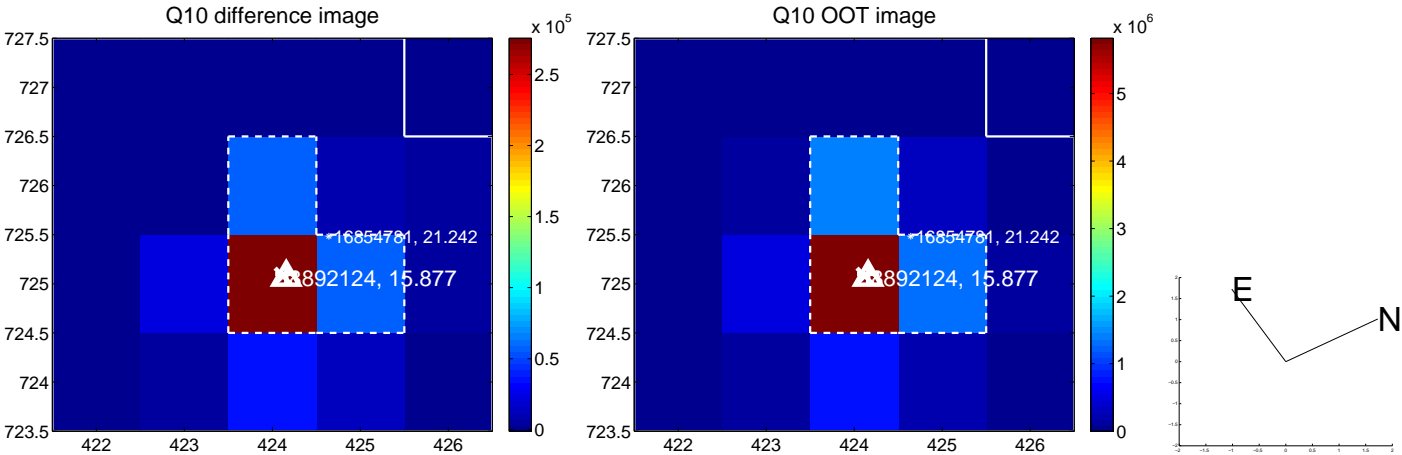
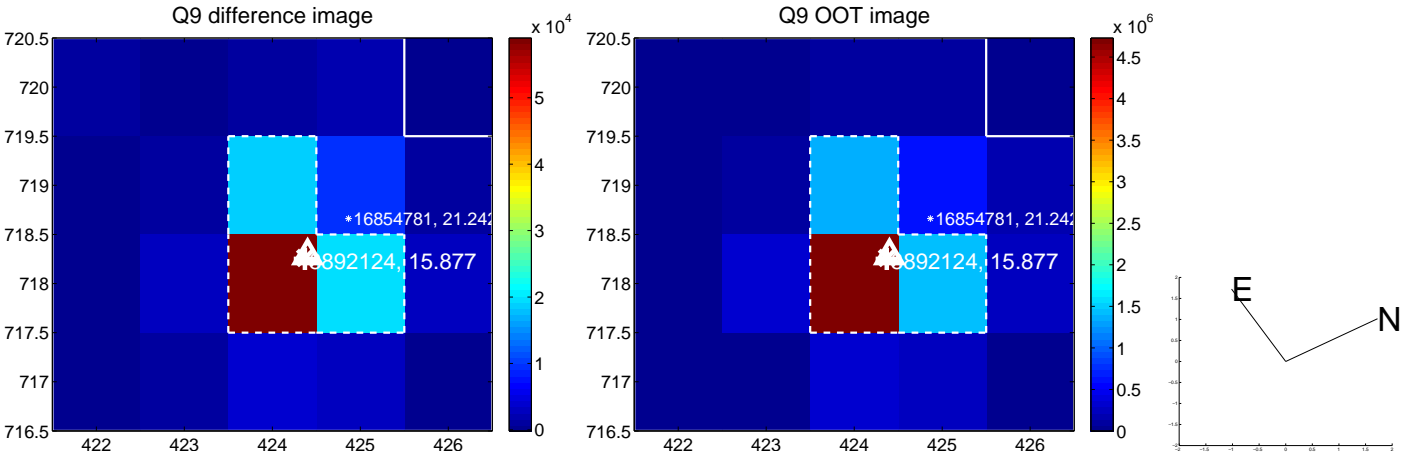


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

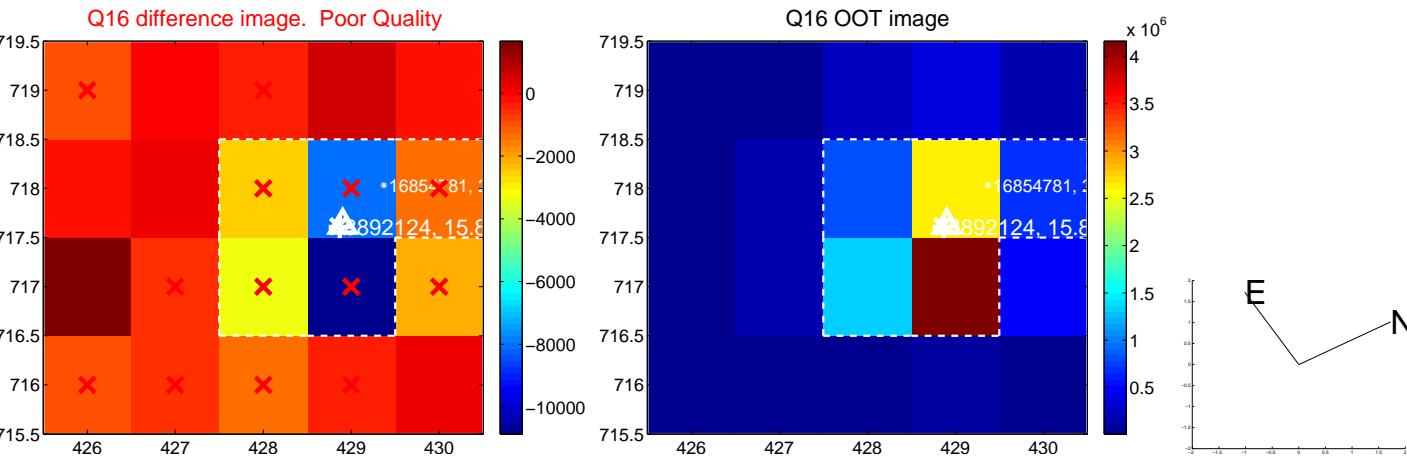
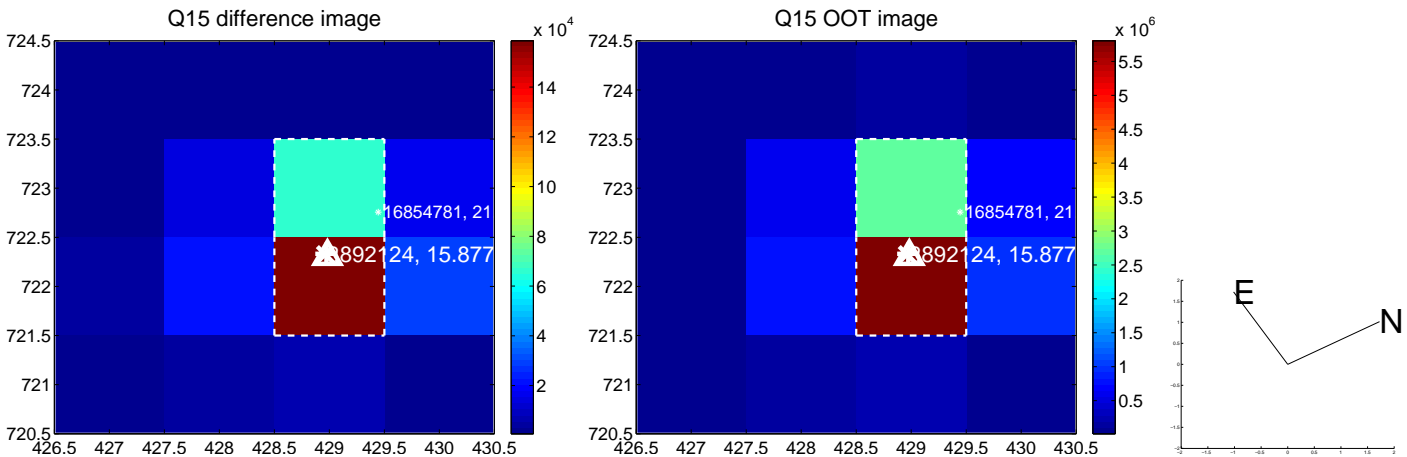
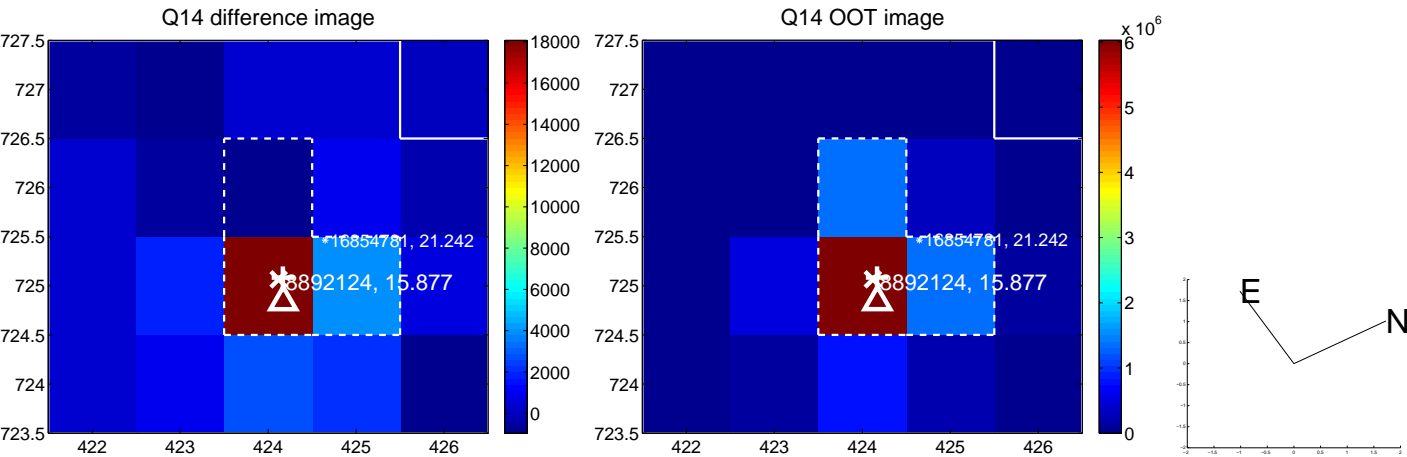
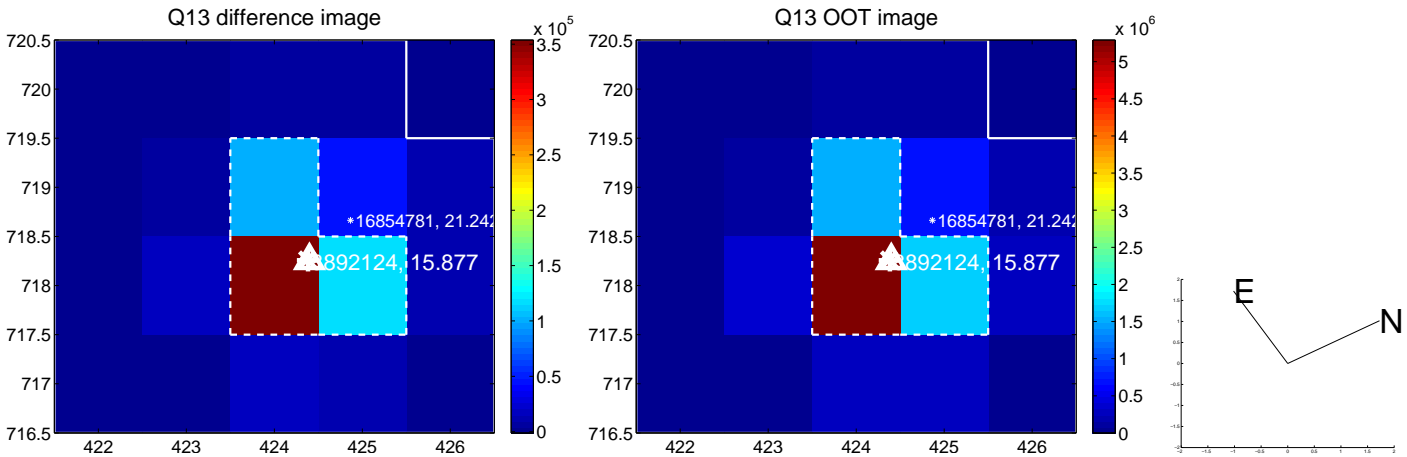




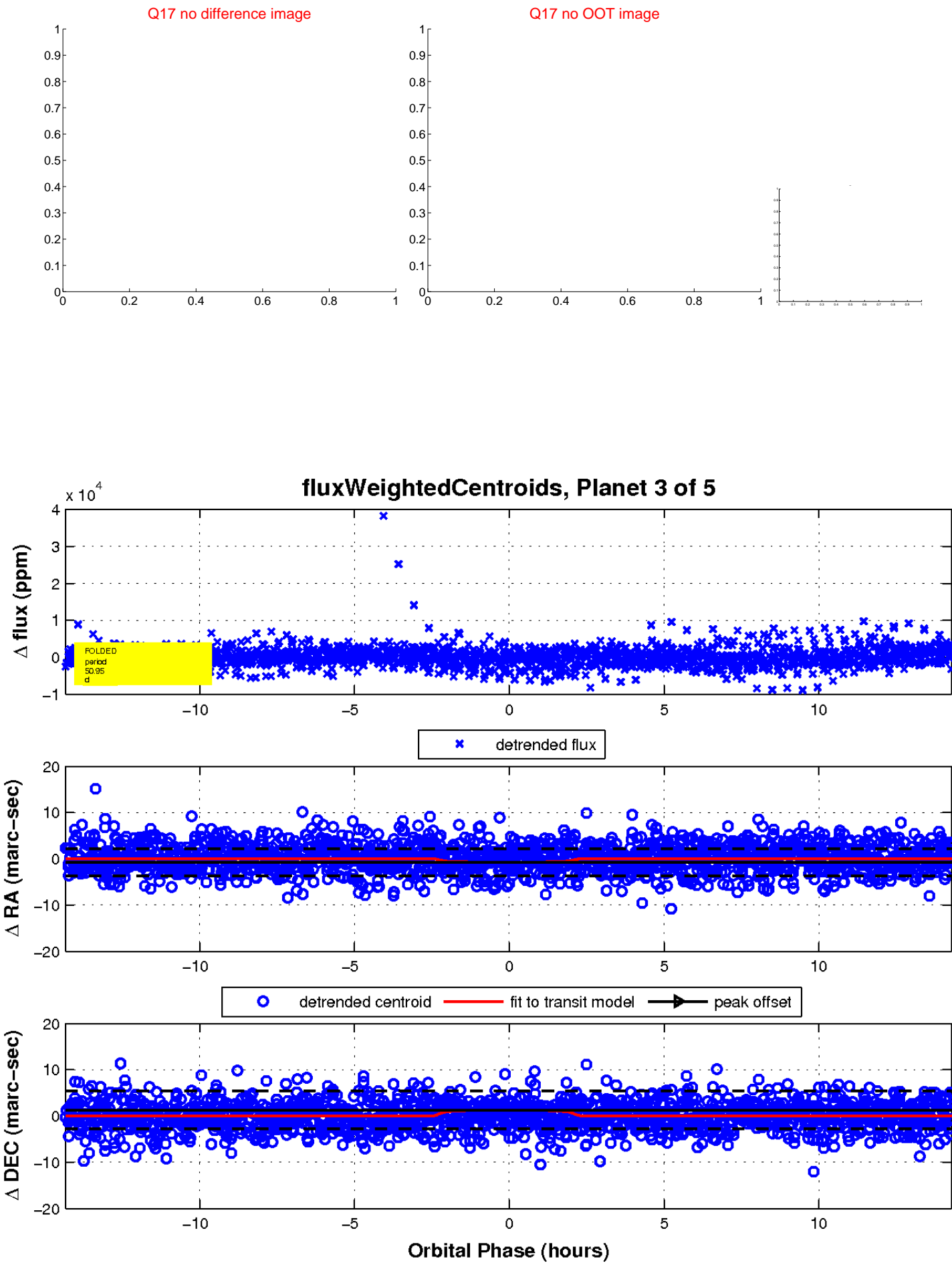
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

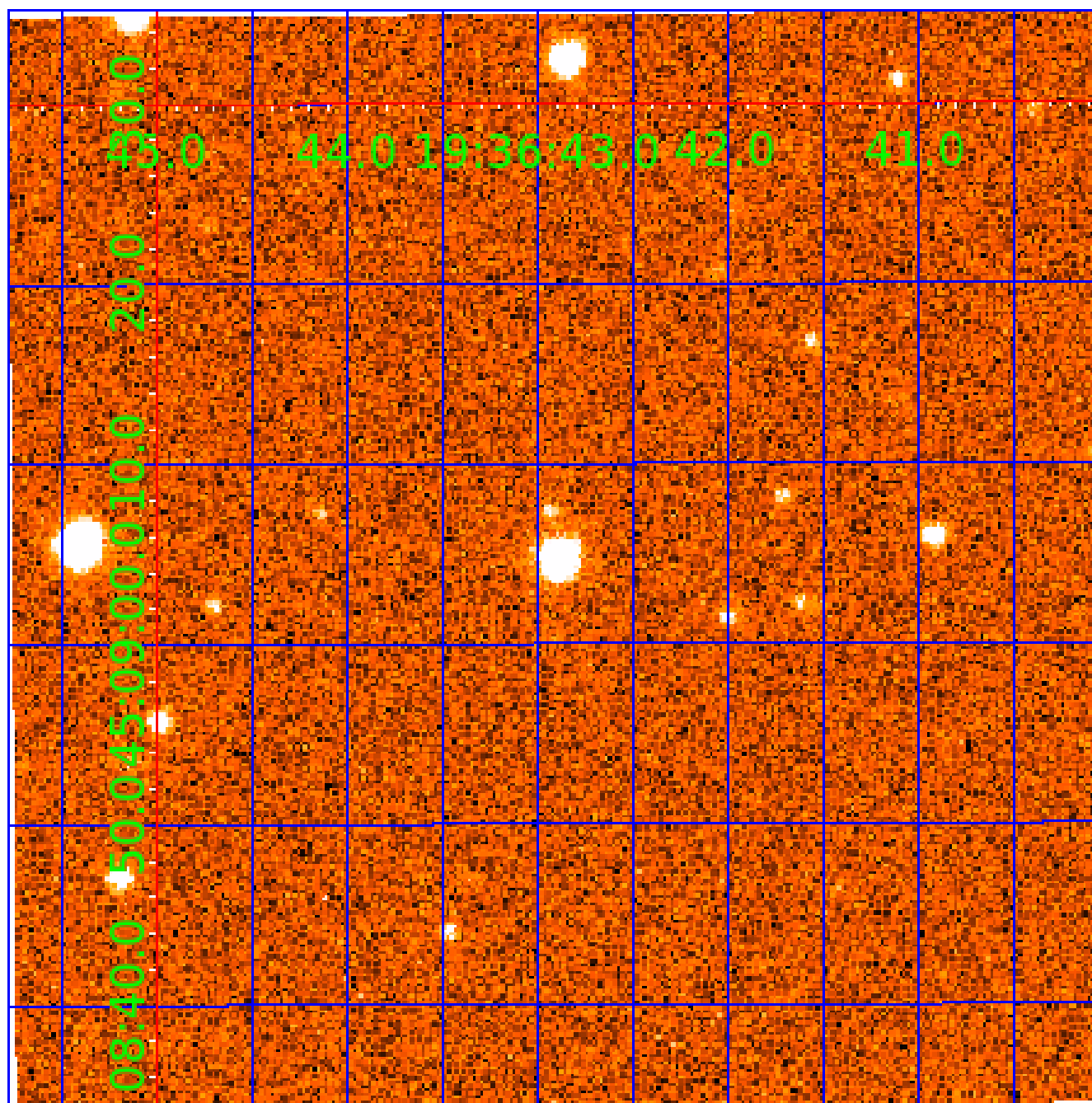


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



# UKIRT Image

Declination



# KIC 008892124

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008892124-01	OBS	No	0.713885	132.005503	0.0	4.612	10.0	0.0	0.70	5263	0.00	1764.58
008892124-02	OBS	No	46.741760	149.755534	4695.0	1.900	10.6	7.6	0.70	5263	4.73	6.69
008892124-03	OBS	No	50.948733	180.719106	2669.9	4.777	7.9	7.3	0.70	5263	3.80	5.96
008892124-04	OBS	No	39.868879	160.022745	2220.6	4.777	8.6	5.9	0.70	5263	3.32	8.27
008892124-05	OBS	No	35.713799	137.872524	899.1	10.339	8.5	3.7	0.70	5263	2.12	9.57

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008892124-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT
008892124-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—HALO_GHOST
008892124-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008892124-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008892124-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST

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

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

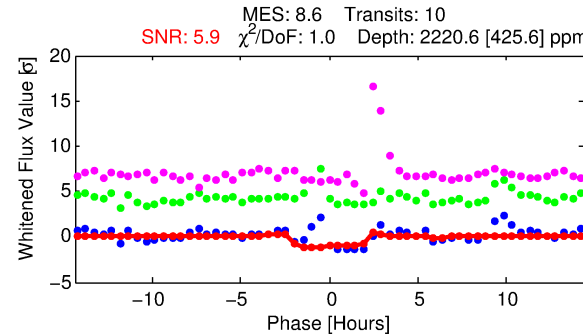
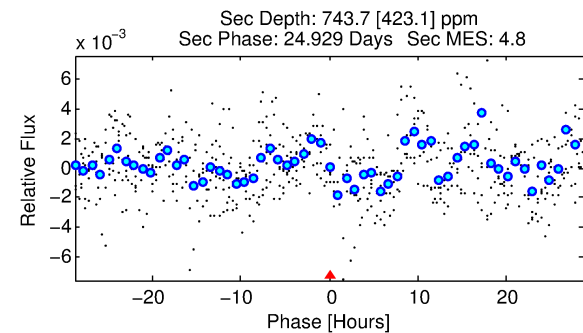
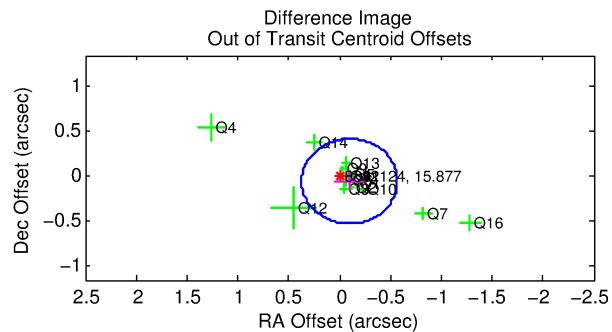
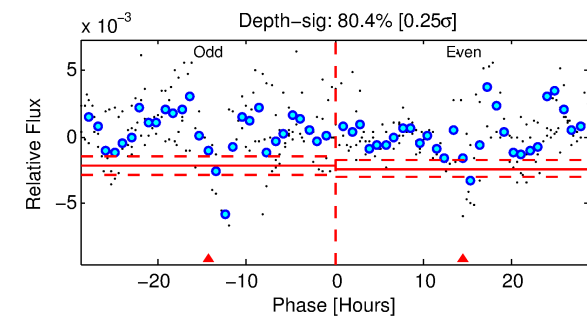
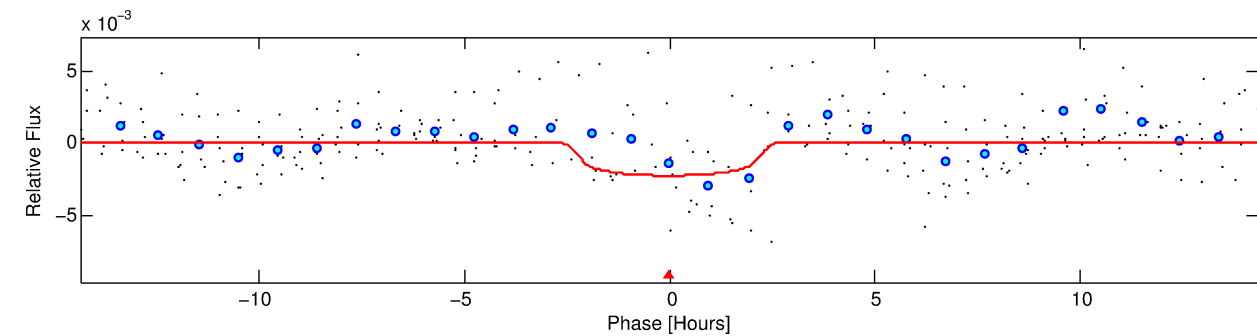
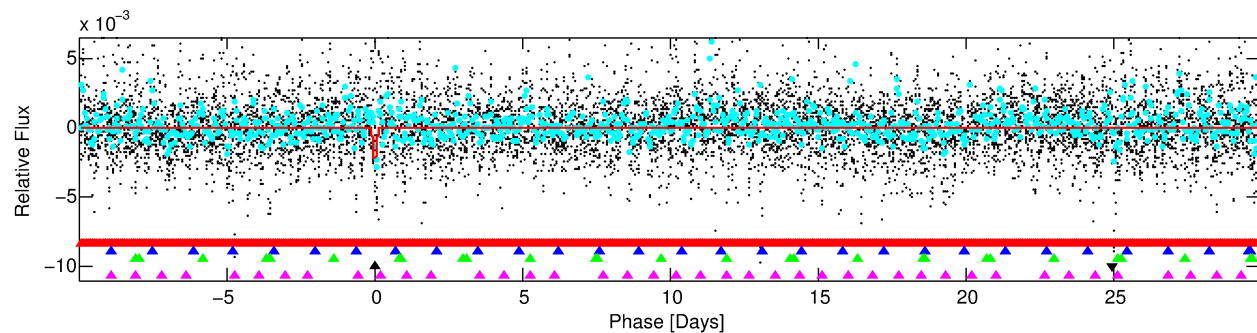
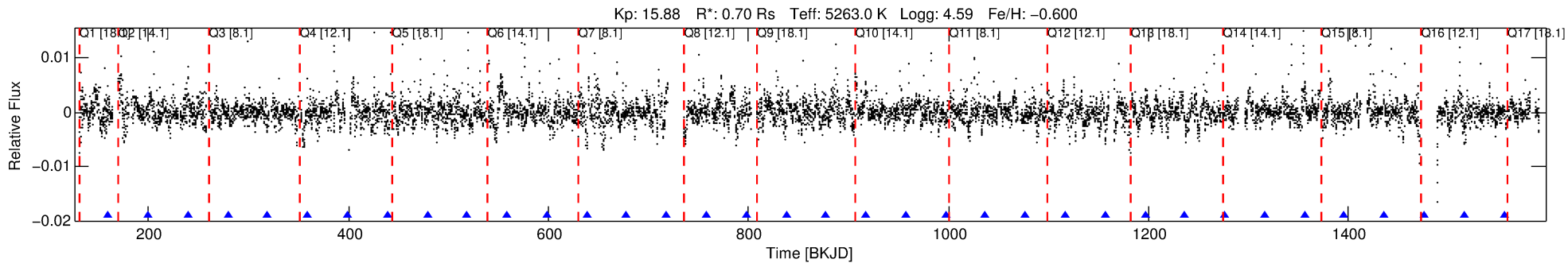
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008892124-04

No Significant Match Found

# DV One-Page Summary

KIC: 8892124 Candidate: 4 of 5 Period: 39.869 d



## DV Fit Results:

Period = 39.86888 [0.00088] d  
Epoch = 160.0227 [0.0208] BKJD  
Rp/R\* = 0.0435 [0.0525]  
a/R\* = 60.74 [294.84]  
b = 0.43 [9.43]  
Seff = 8.27 [1.48]  
Teq = 432 [19] K  
Rp = 3.32 [4.02] Re  
a = 0.2016 [0.0191] AU  
Ag = 1509.09 [3747.31] [0.40 $\sigma$ ]  
Teffp = 4166 [2586] K [1.44 $\sigma$ ]

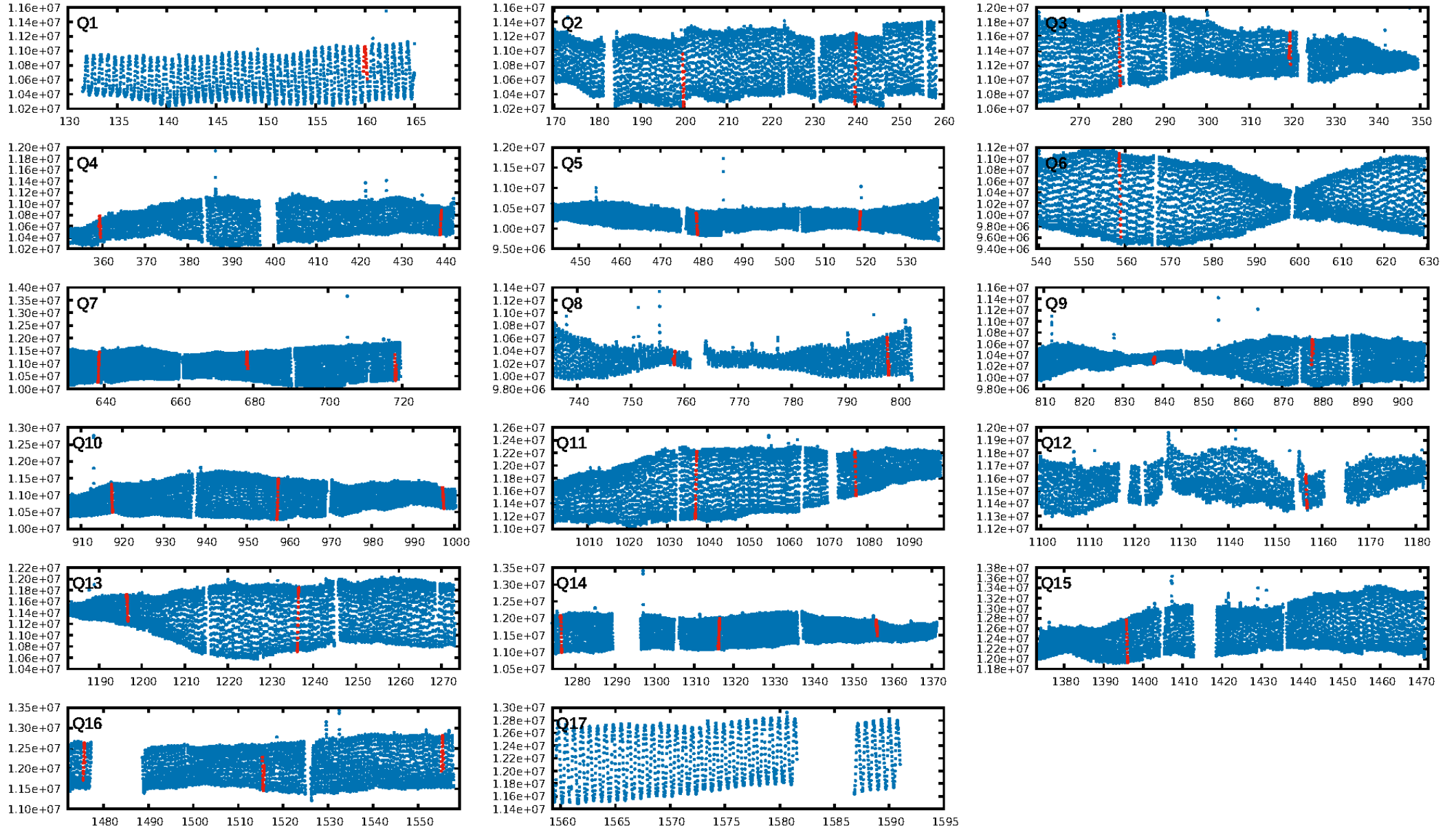
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [8.76 $\sigma$ ]  
LongPeriod-sig: 100.0% [32.08 $\sigma$ ]  
ModelChiSquare2-sig: 17.2%  
ModelChiSquareGof-sig: 100.0%  
**Bootstrap-pfa: 5.43e-11**  
RollingBand-fgt: 1.00 [10/10]  
GhostDiagnostic-chr: 0.7129  
Centroid-sig: 1.5%  
Centroid-so: 0.629 arcsec [2.43 $\sigma$ ]  
OotOffset-rm: 0.110 arcsec [0.70 $\sigma$ ]  
KicOffset-rm: 0.146 arcsec [1.08 $\sigma$ ]  
OotOffset-st: 4/3/4/4 [15]  
KicOffset-st: 4/3/4/4 [15]  
DiffImageQuality-fgm: 0.47 [7/15]  
DiffImageOverlap-fno: 0.00 [0/15]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 09:54:19 Z

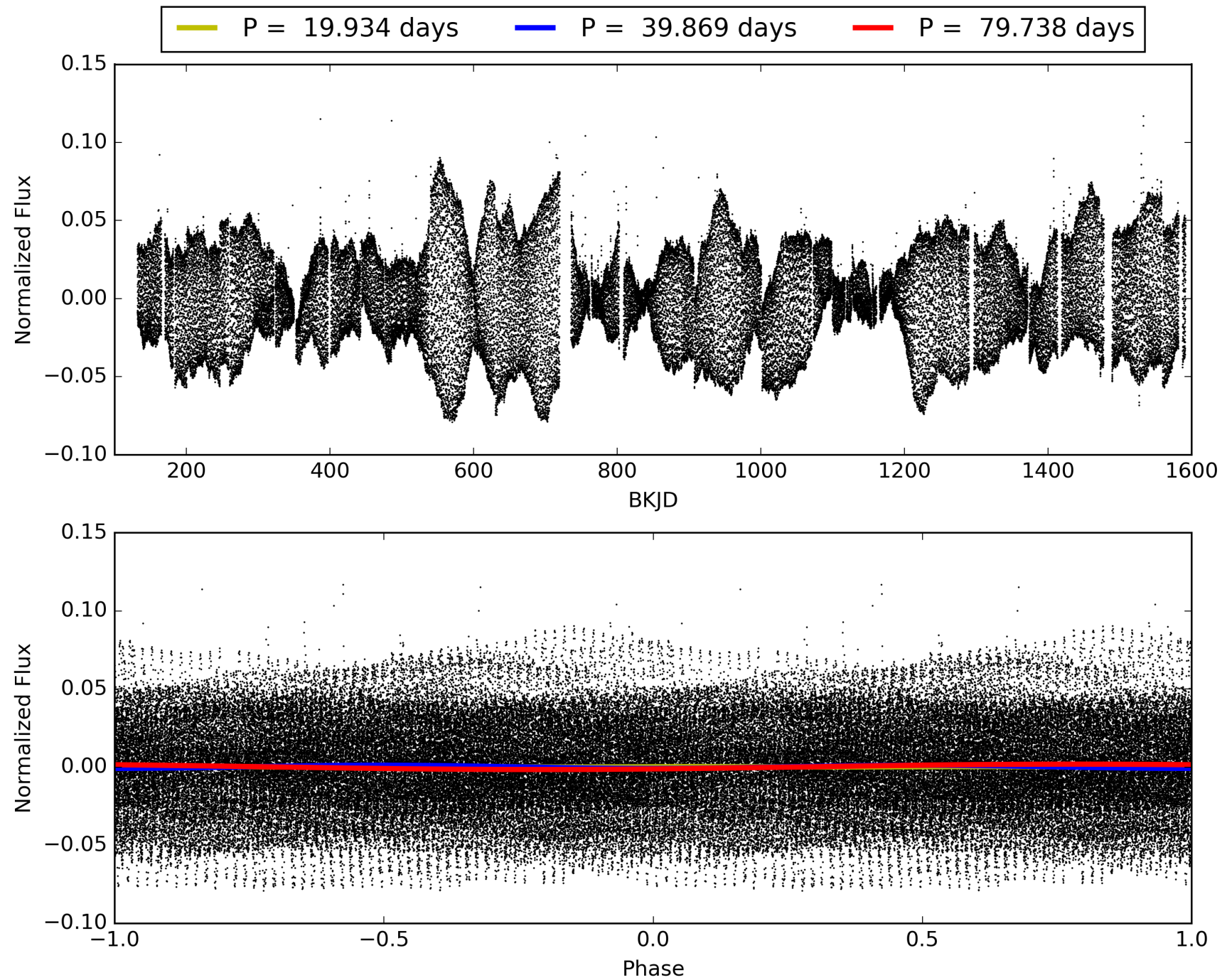
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 008892124-04, PDC Light Curves



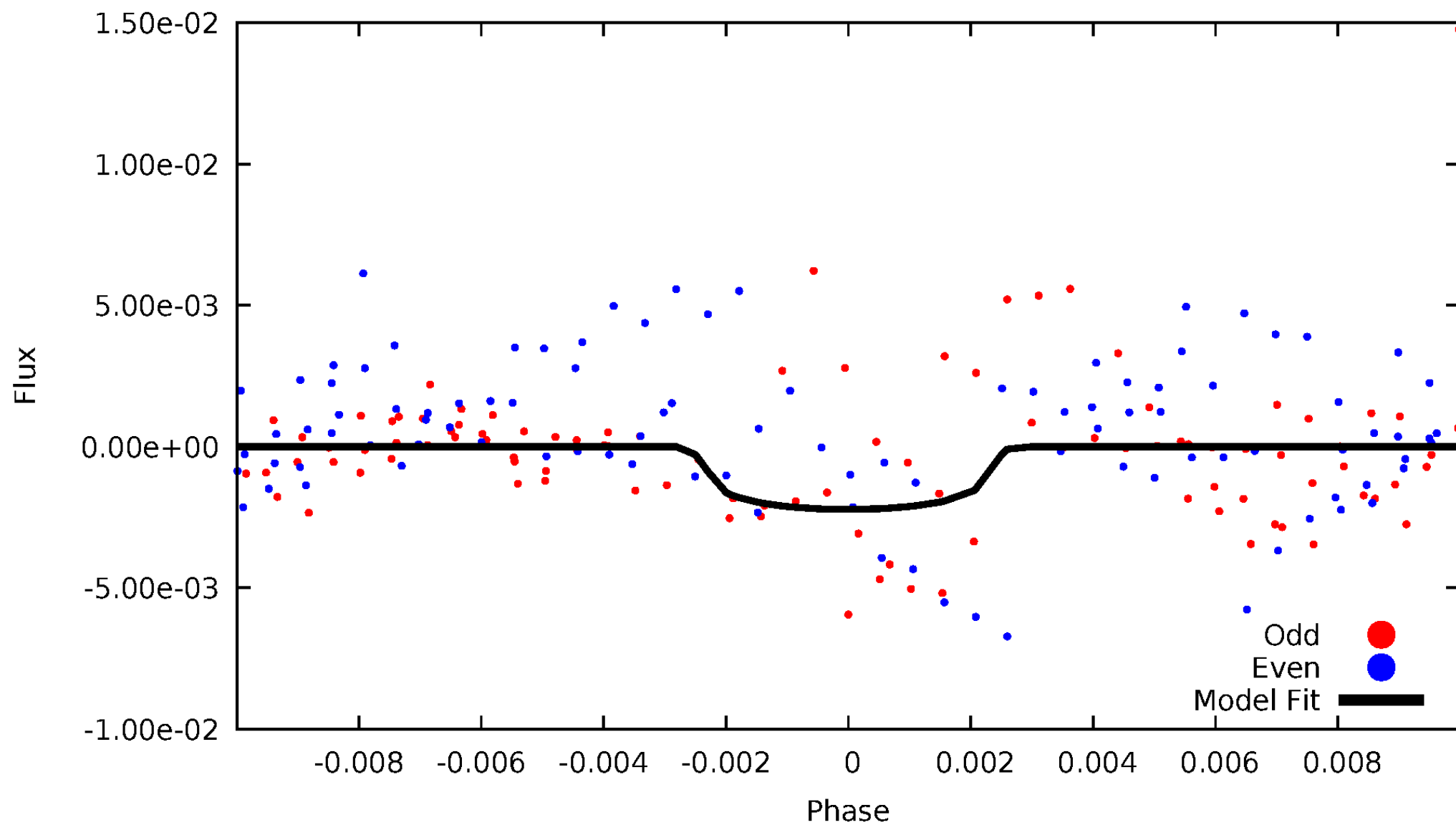


TCE 008892124-04



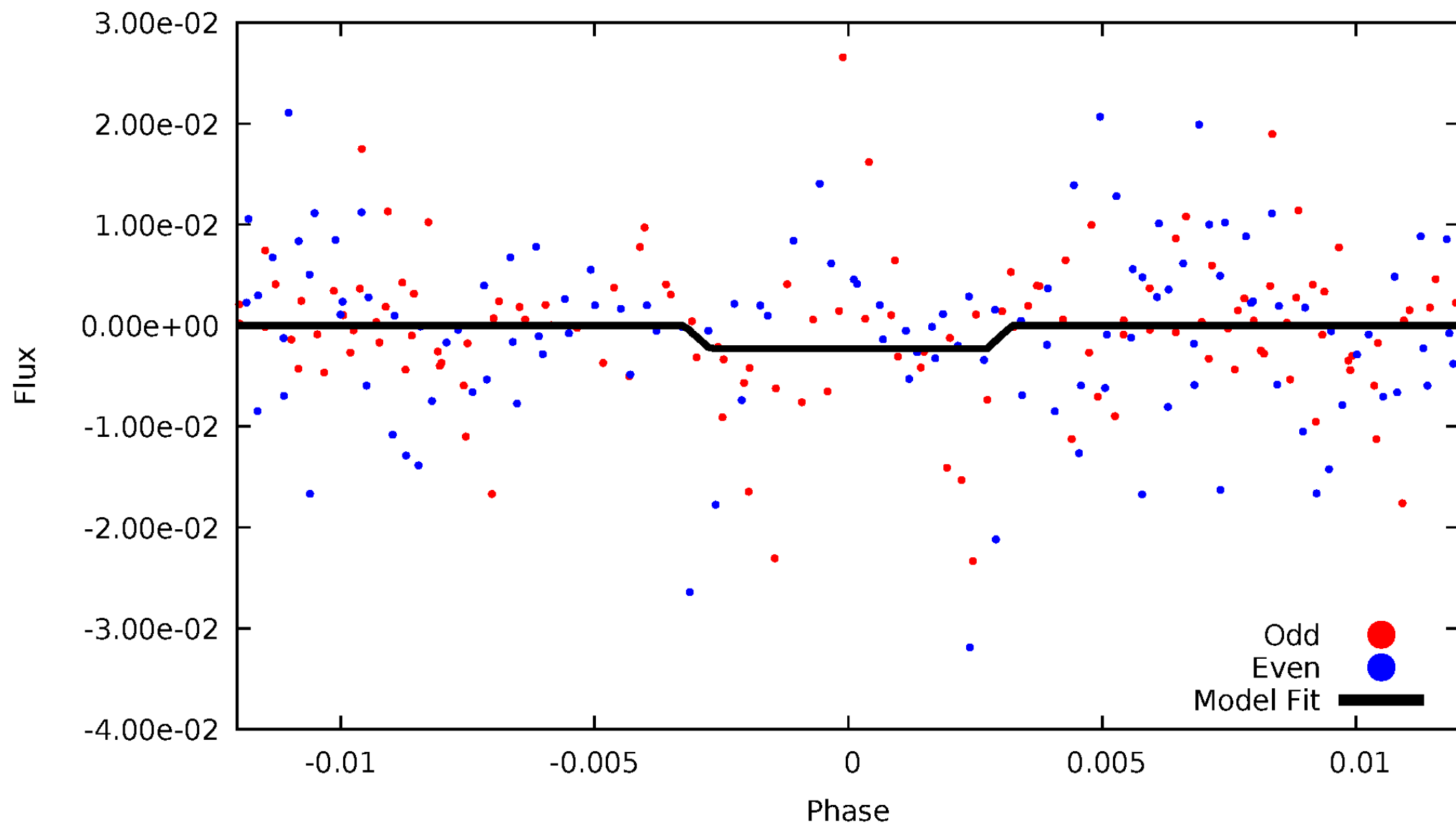
# DV Odd/Even

TCE 008892124-04



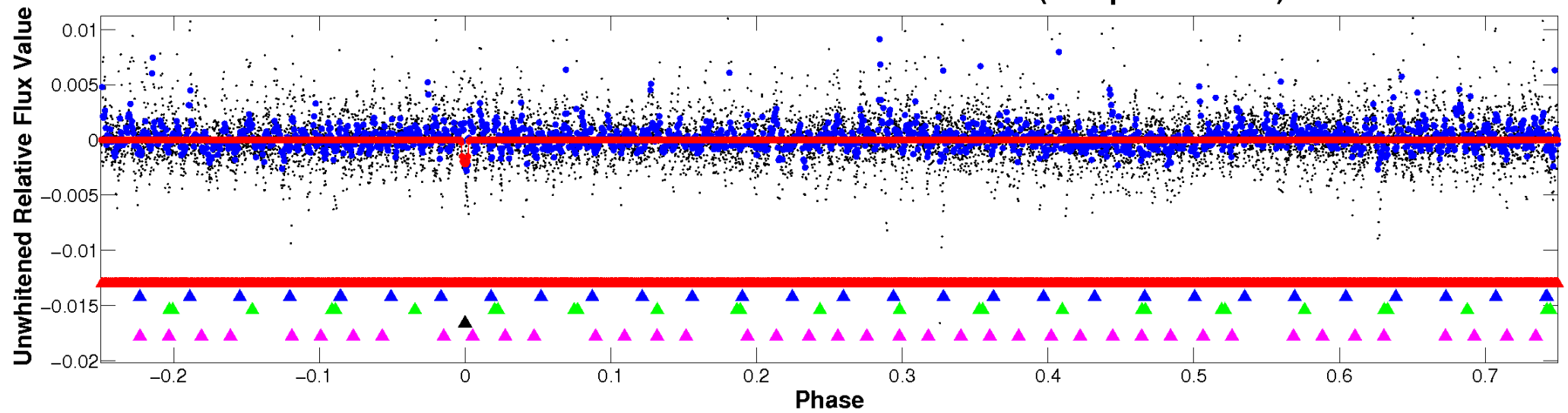
# ALT Odd/Even

TCE 008892124-04

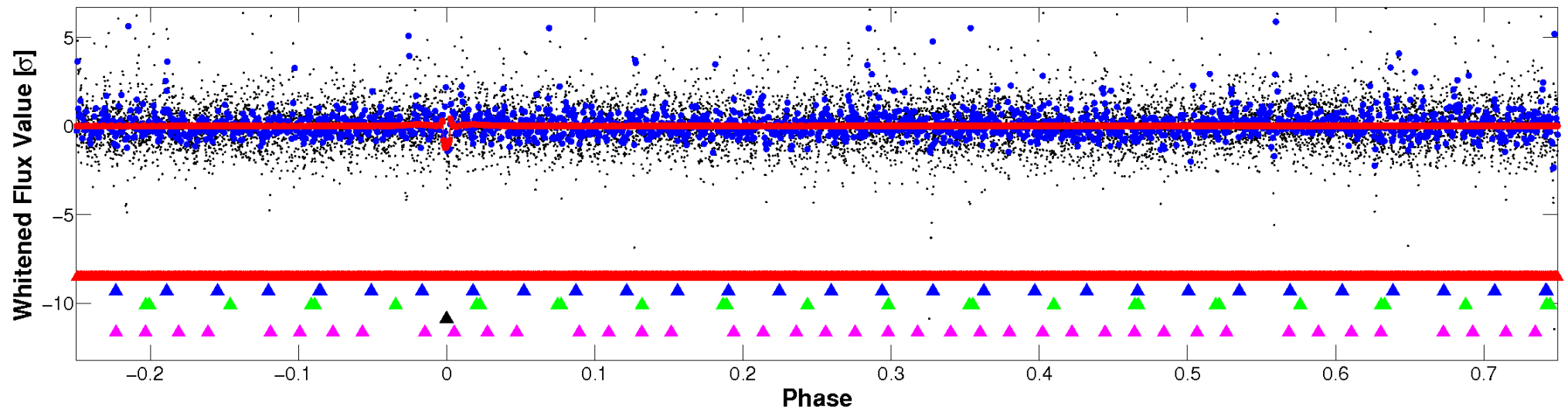


# Non-Whitened Vs. Whitened Light Curve

## Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

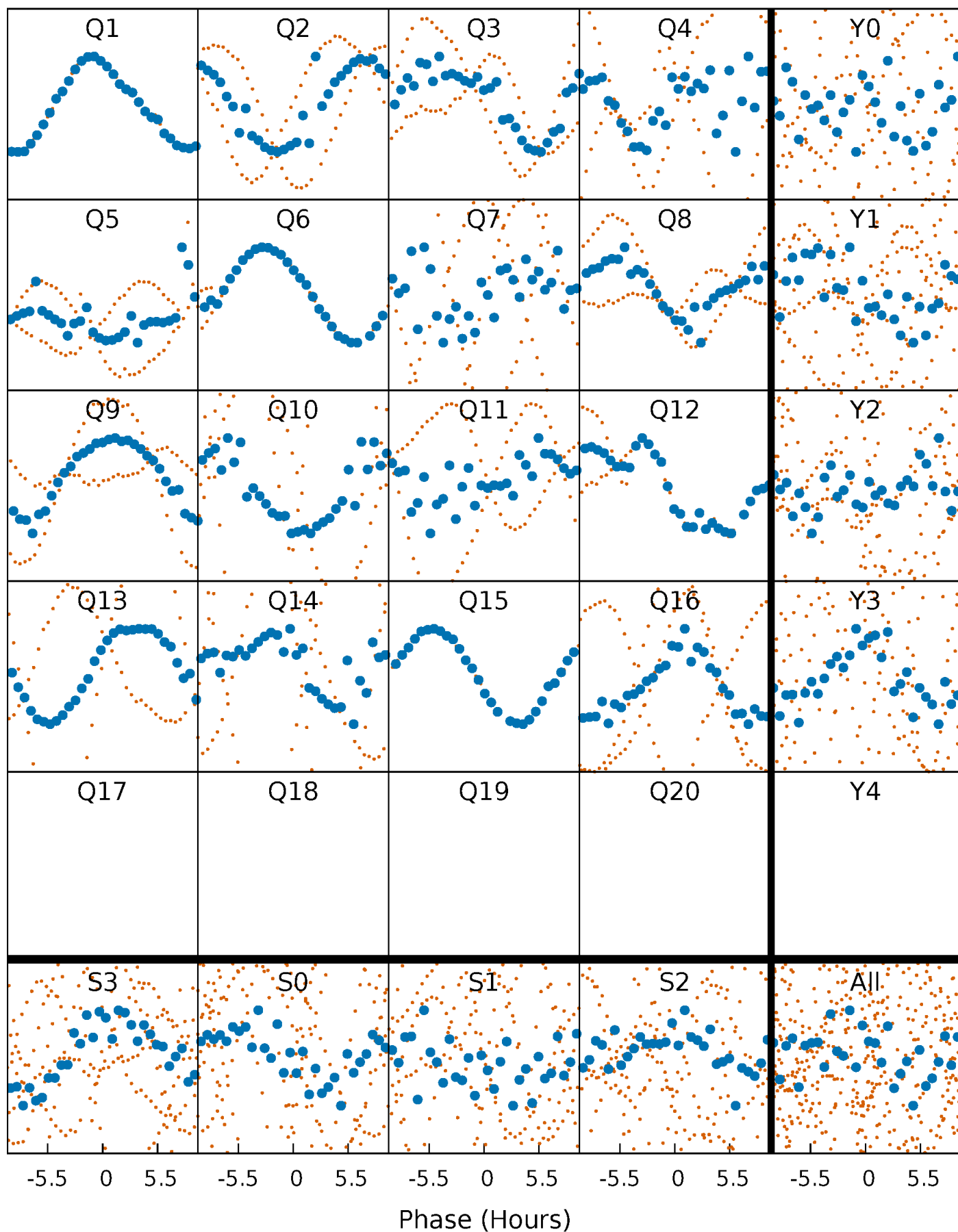


## Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



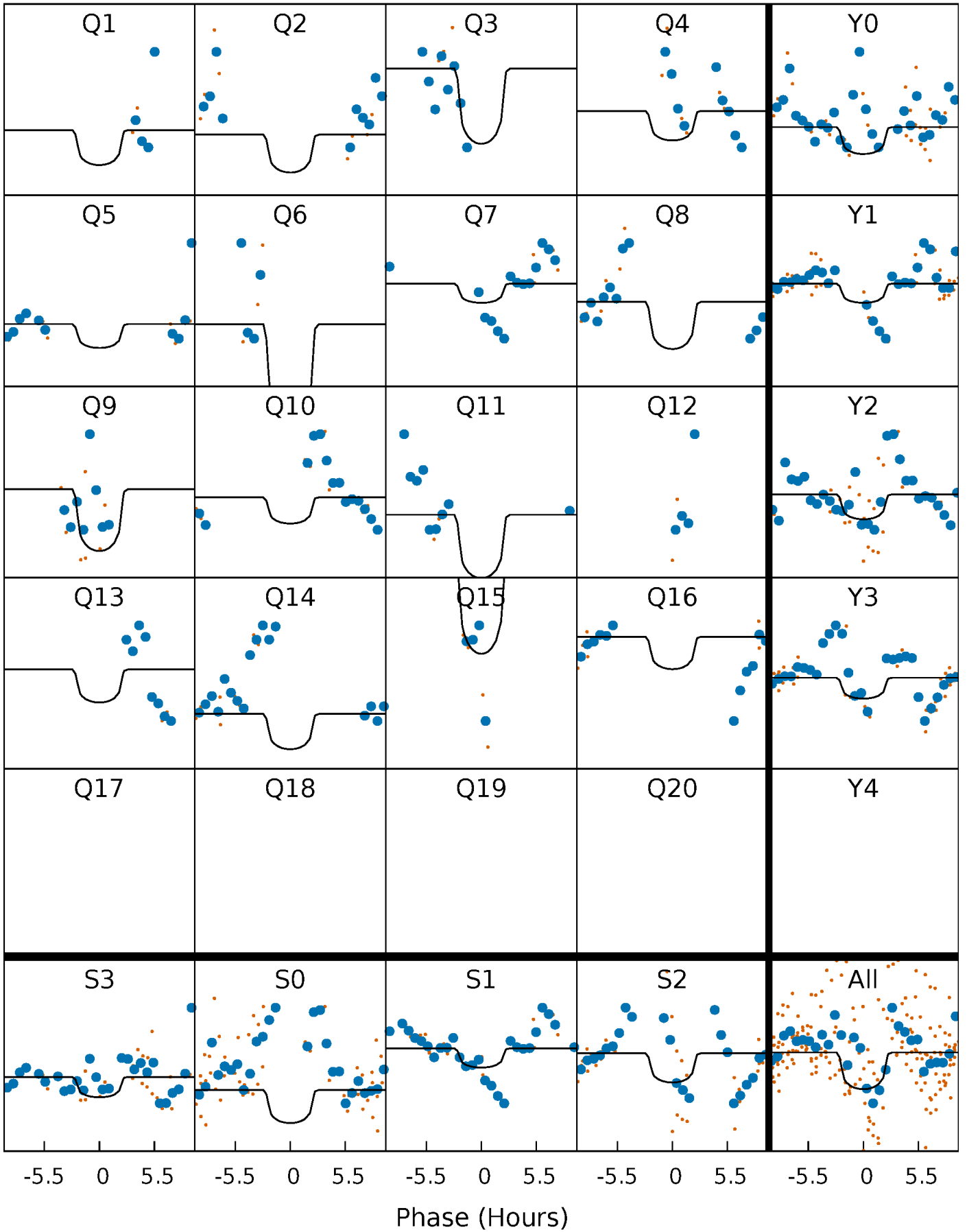
# PDC Quarter-Phased Transit Curves

TCE 008892124-04   P= 39.868879 Days    $T_0=160.022745$  (BKJD)



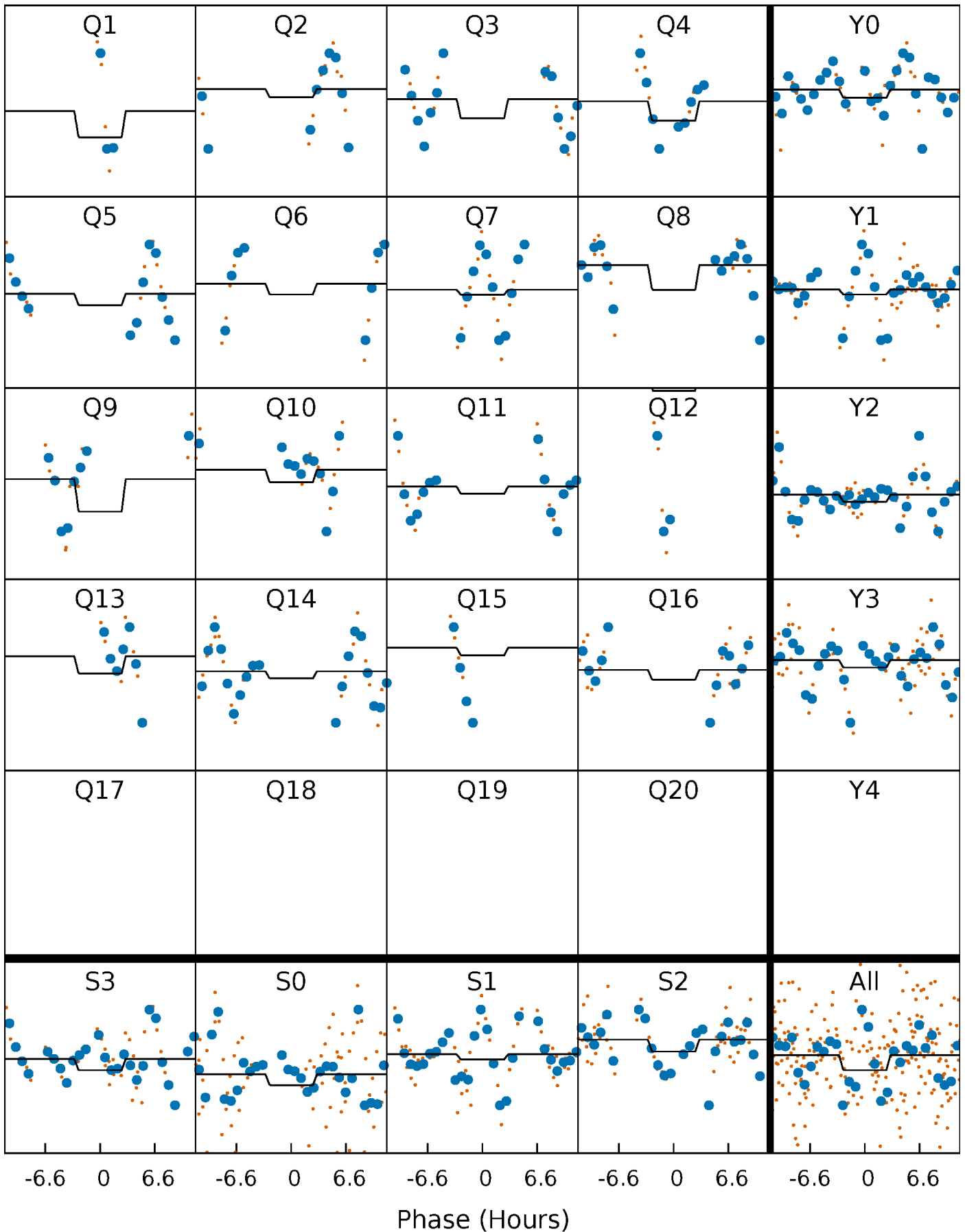
# DV Quarter-Phased Transit Curves

TCE 008892124-04   P= 39.868879 Days    $T_0=160.022745$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 008892124-04   P= 39.866718 Days    $T_0=160.174635$  (BKJD)

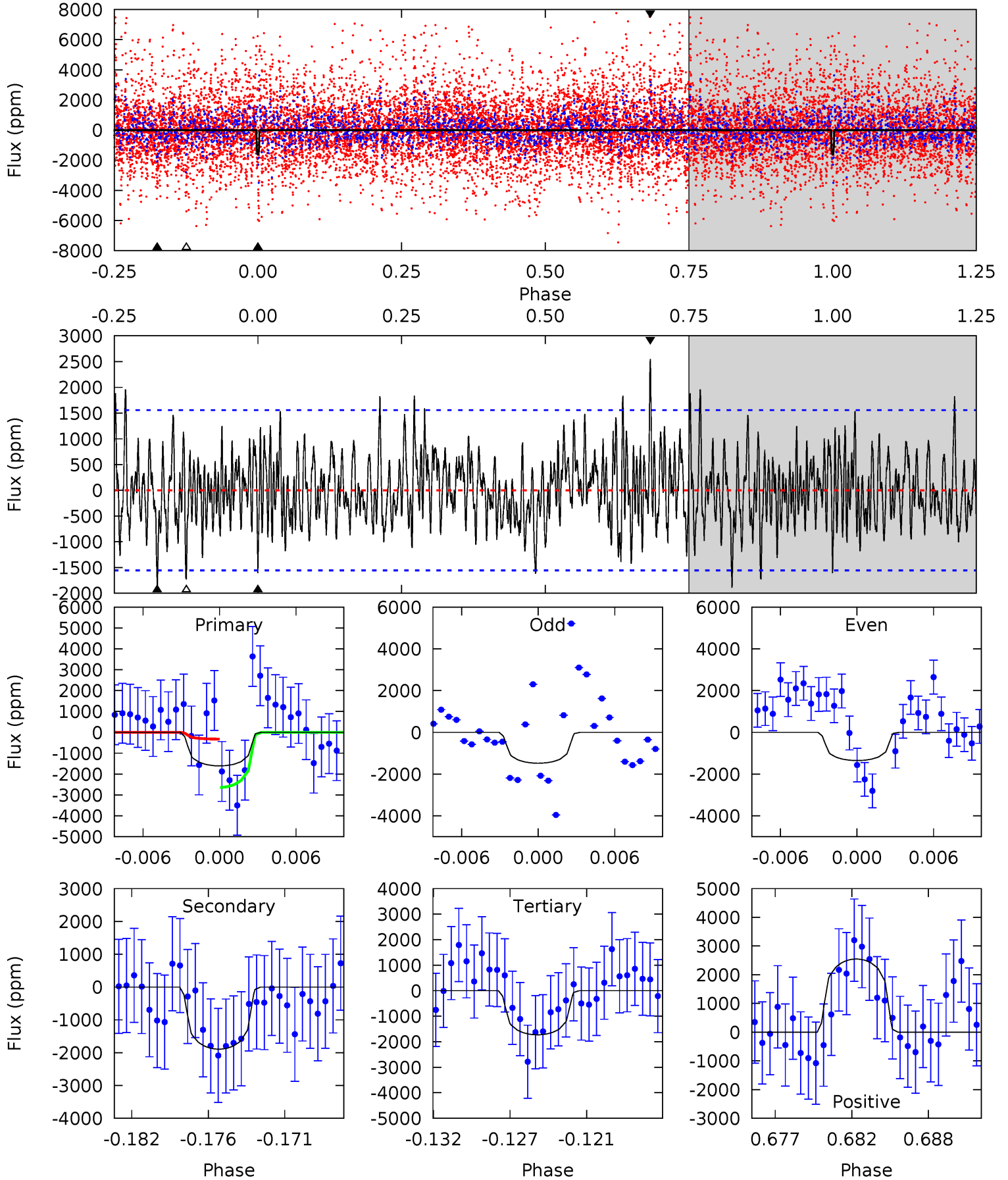




# DV Model-Shift Uniqueness Test

008892124-04, P = 39.868879 Days, E = 120.153866 Days

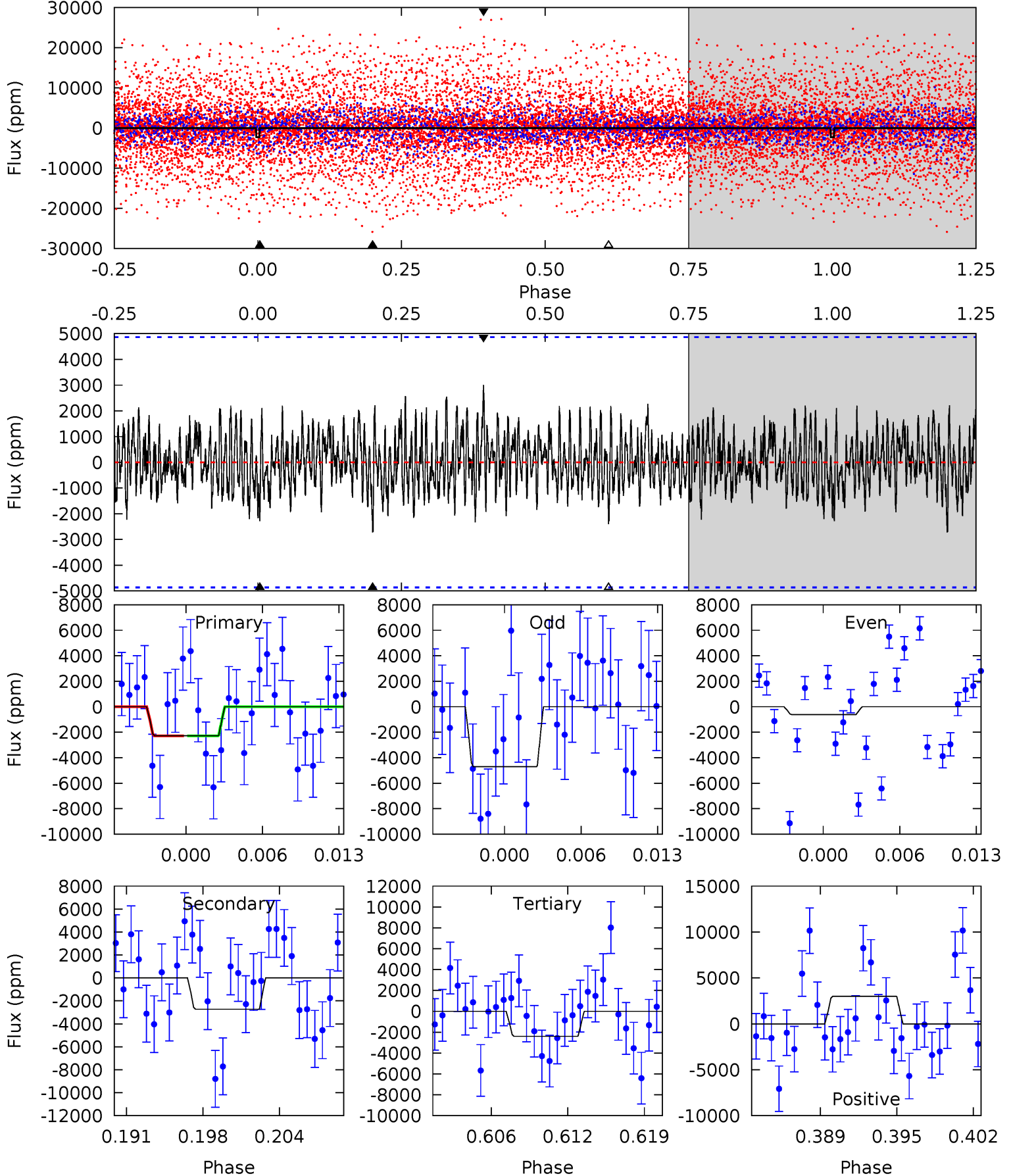
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.31	6.25	5.71	8.41	5.14	2.78	1.96	-0.40	-3.10	0.54	-2.16	0.21	0.23	0.57	3.82



# Alt Model-Shift Uniqueness Test

008892124-04, P = 39.866718 Days, E = 120.307917 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
2.40	2.86	2.52	3.15	5.11	2.73	0.98	-0.12	-0.76	0.34	-0.29	2.13	4.03	0.52	0



### Stellar Parameters For KIC 008892124

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5263^{+157}_{-157}$	$4.586^{+0.071}_{-0.058}$	$-0.600^{+0.350}_{-0.300}$	$0.699^{+0.081}_{-0.066}$	$0.688^{+0.082}_{-0.044}$	$2.834^{+0.855}_{-0.603}$
	+3%/-3%	+2%/-1%	+58%/-50%	+12%/-9%	+12%/-6%	+30%/-21%
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 008892124-04 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-1893 \pm 303$	$4.23^{+3.57}_{-2.74}$	$602^{+24}_{-24}$	$4800^{+3183}_{-1051}$	$2548^{+17668}_{-1859}$
Alt.	$-2726 \pm 952$	$4.84^{+3.68}_{-3.01}$	$603^{+22}_{-23}$	$4759^{+3020}_{-890}$	$2470^{+16153}_{-1694}$

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

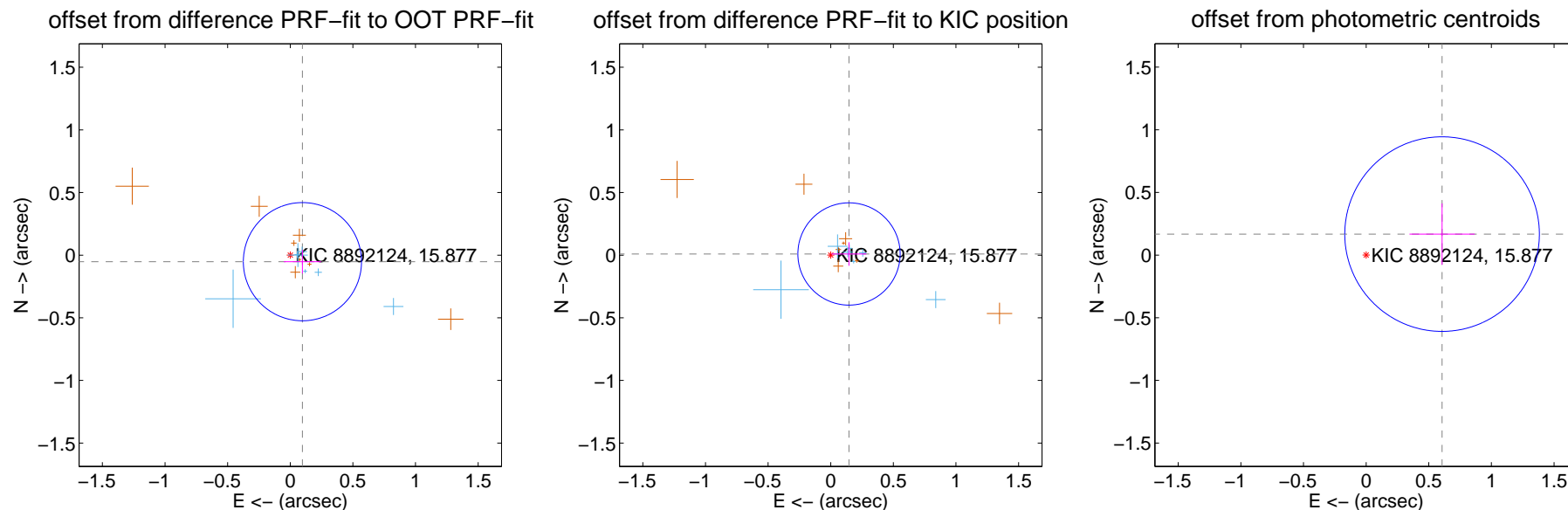
## DV Centroid Data

Supplemental centroid analysis for 008892124-04. Kepler magnitude: 15.88. Transit SNR 5.86

There are 7 quarters with good PRF difference image offsets

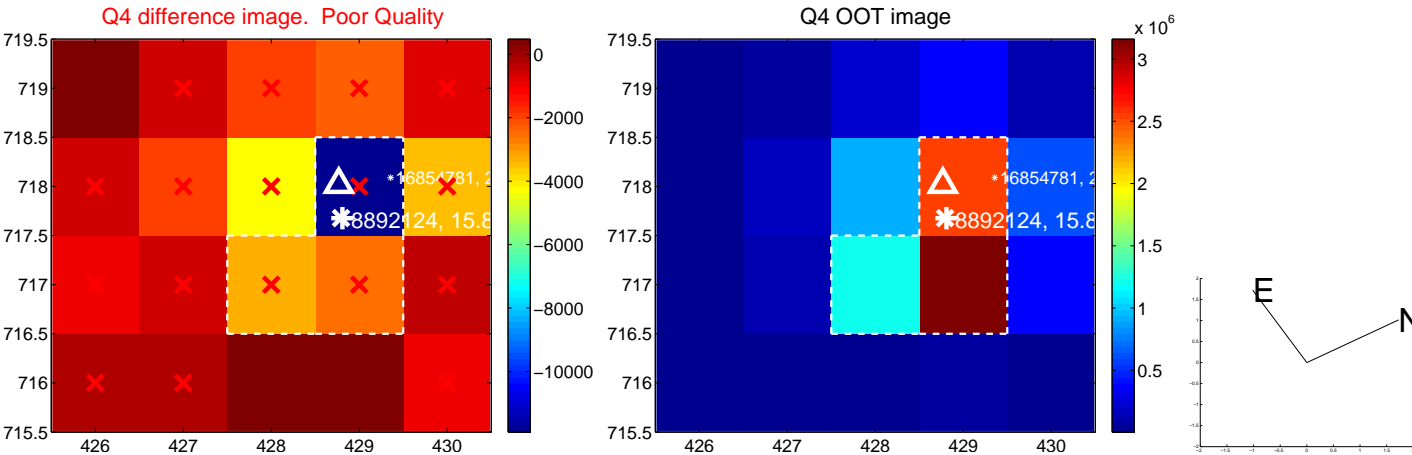
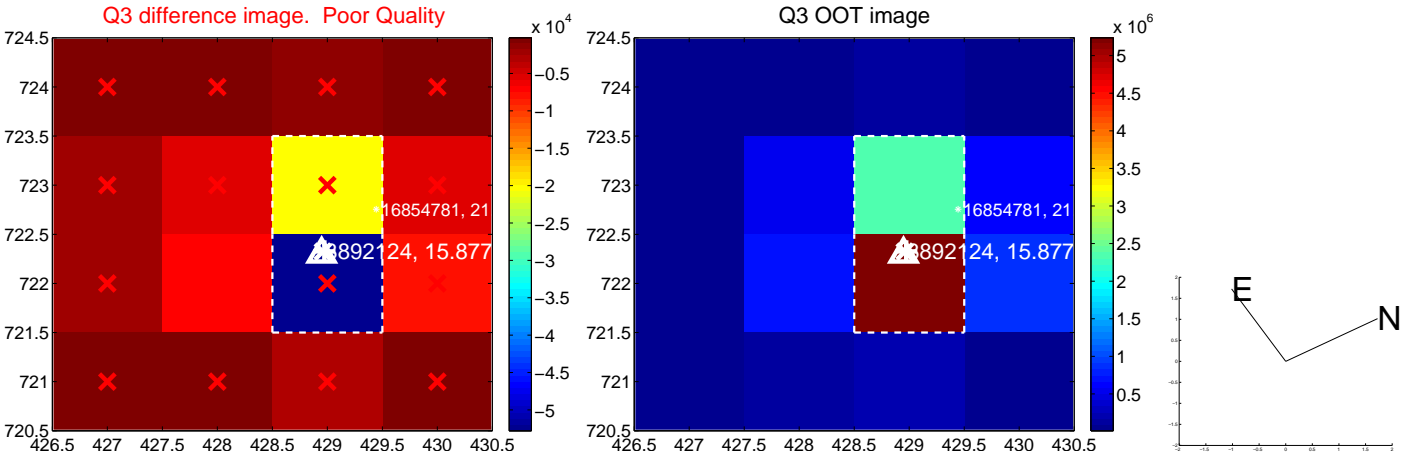
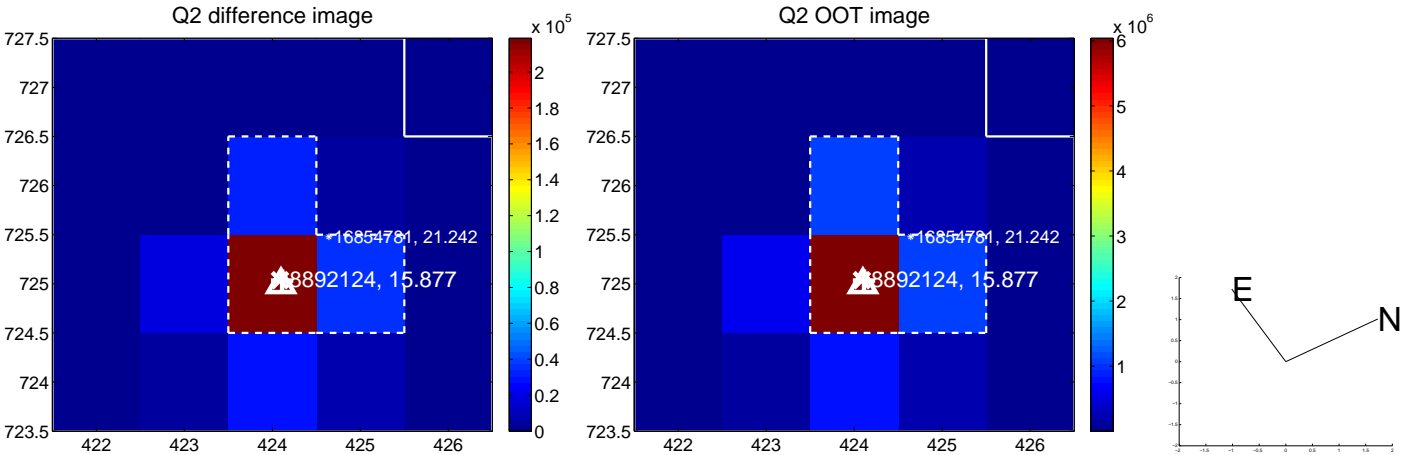
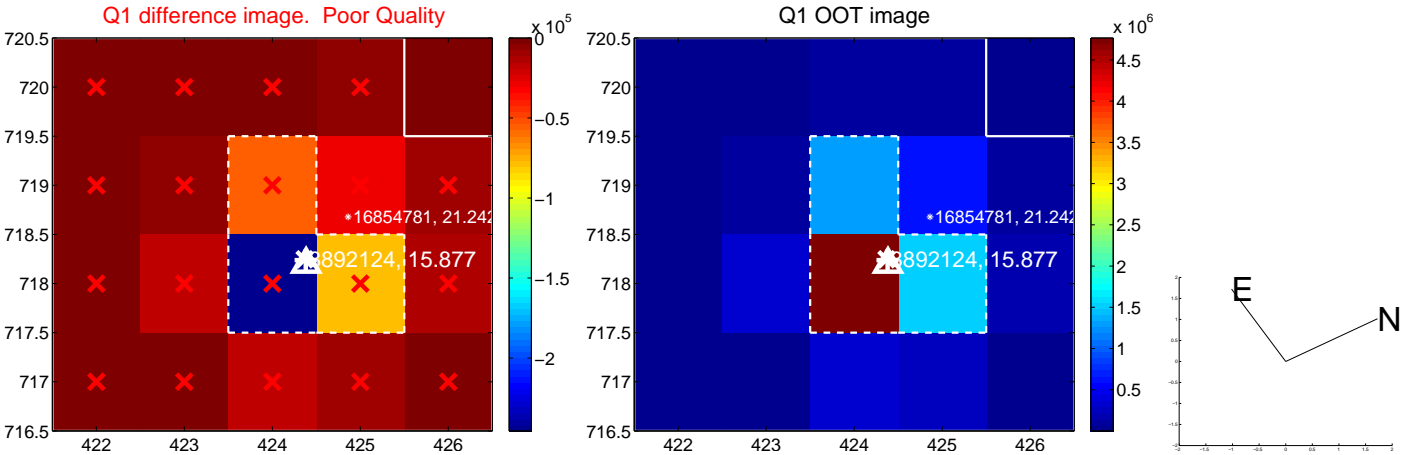
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.110 \pm 0.157$	0.70	$-0.097 \pm 0.149$	$-0.052 \pm 0.094$
PRF-fit source offset from KIC position	$0.146 \pm 0.136$	1.08	$-0.146 \pm 0.139$	$0.009 \pm 0.094$
photometric centroid source offset	$0.63 \pm 0.26$	2.43	$-0.61 \pm 0.26$	$0.17 \pm 0.24$

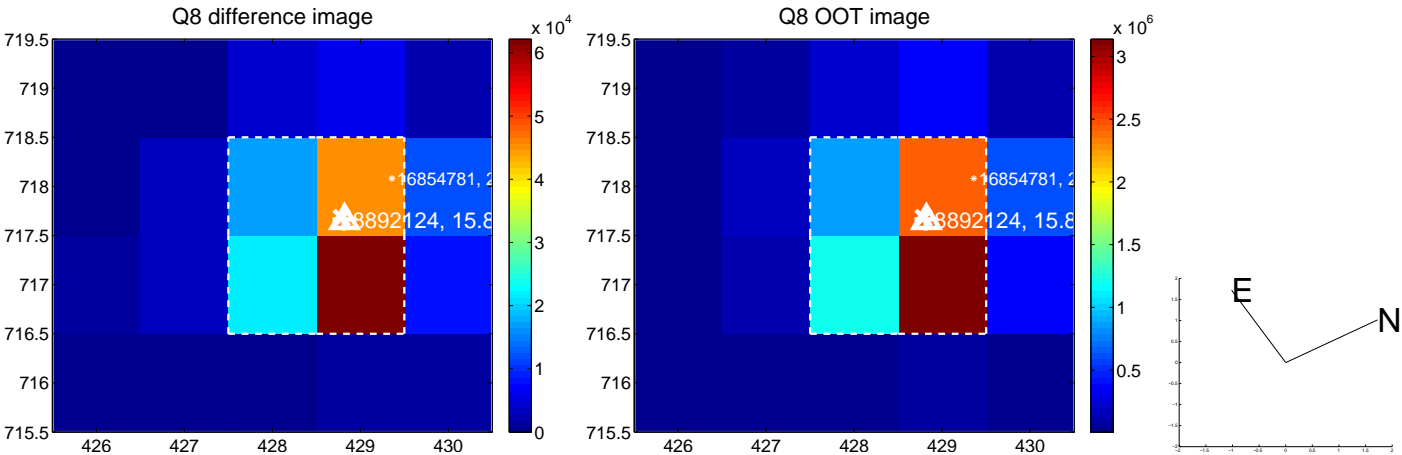
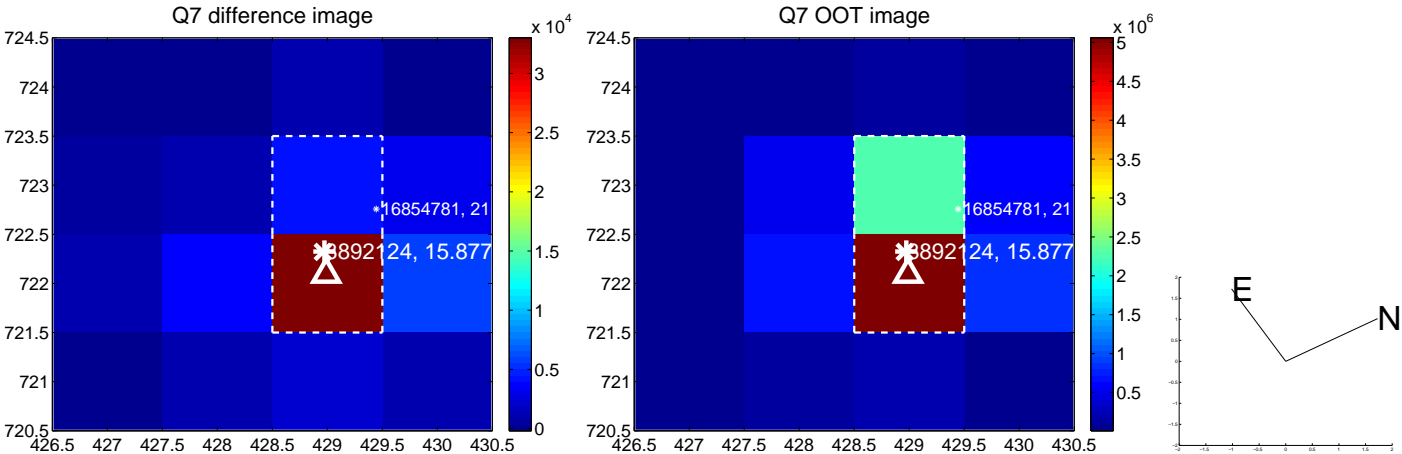
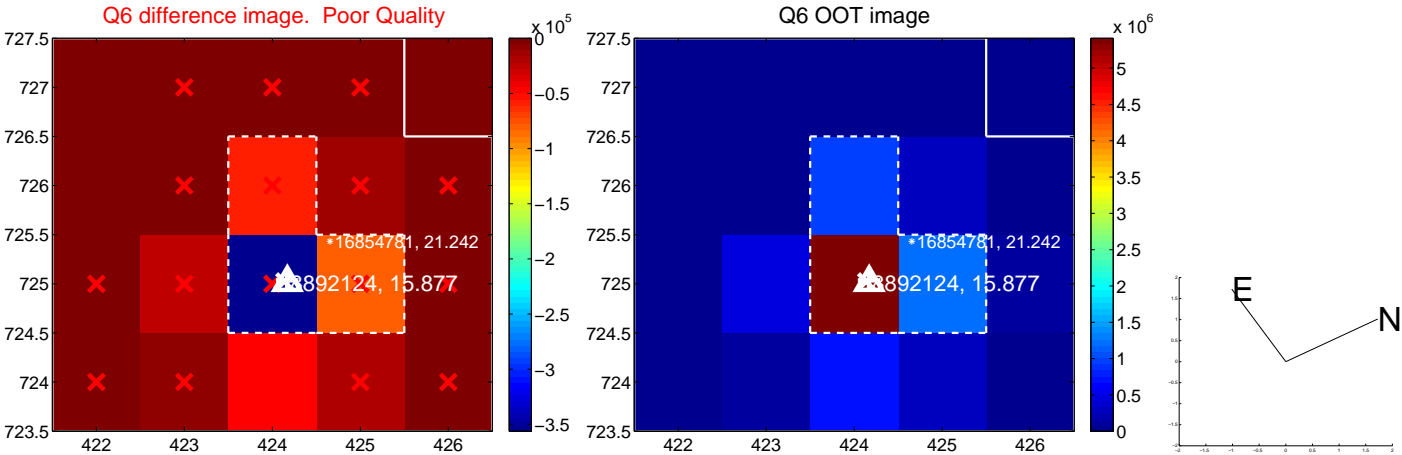
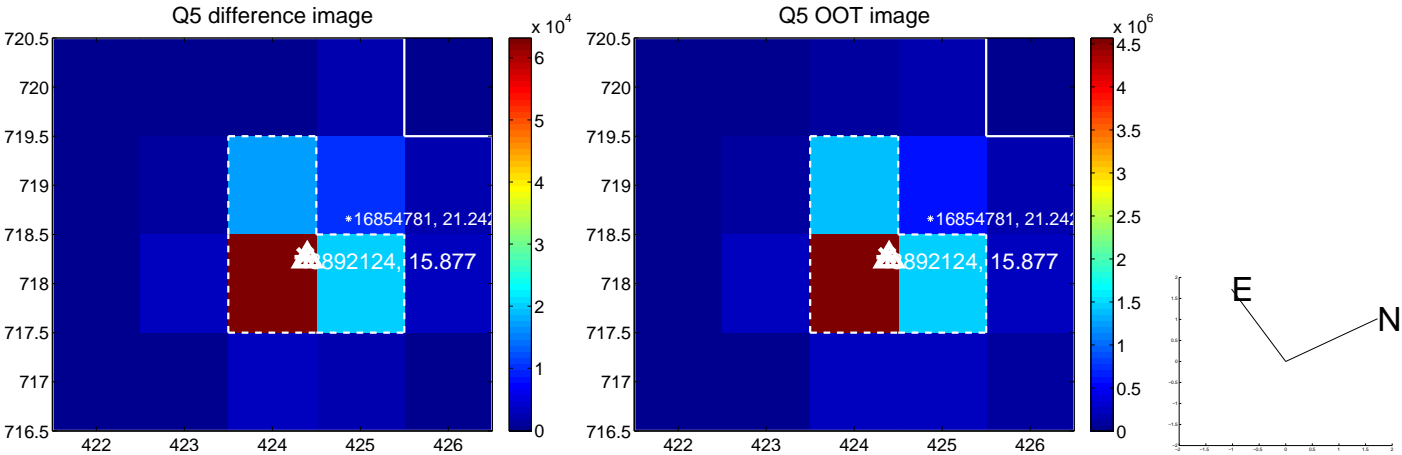


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

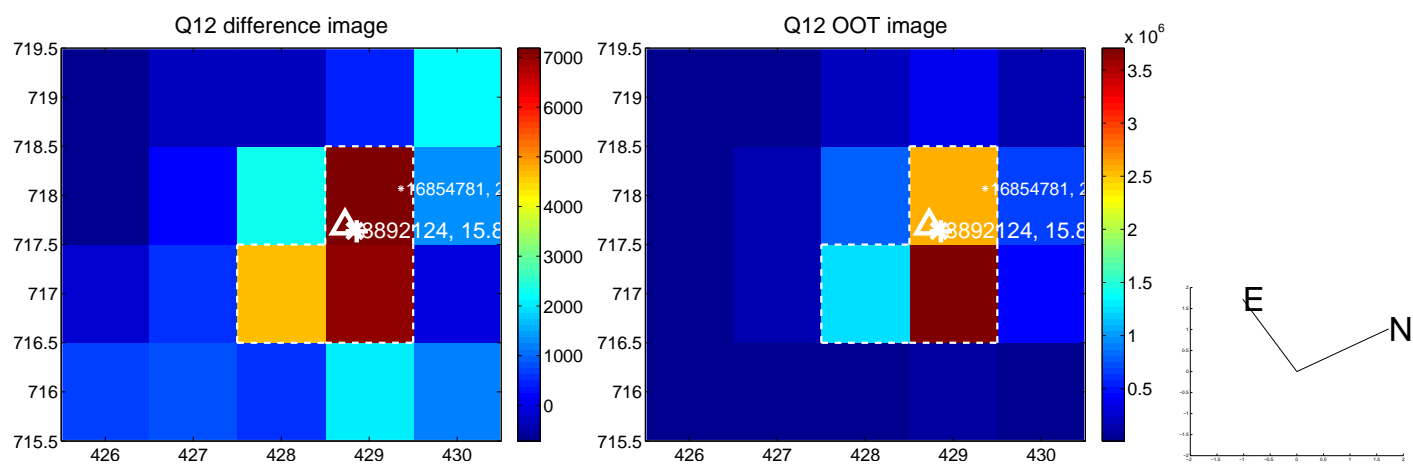
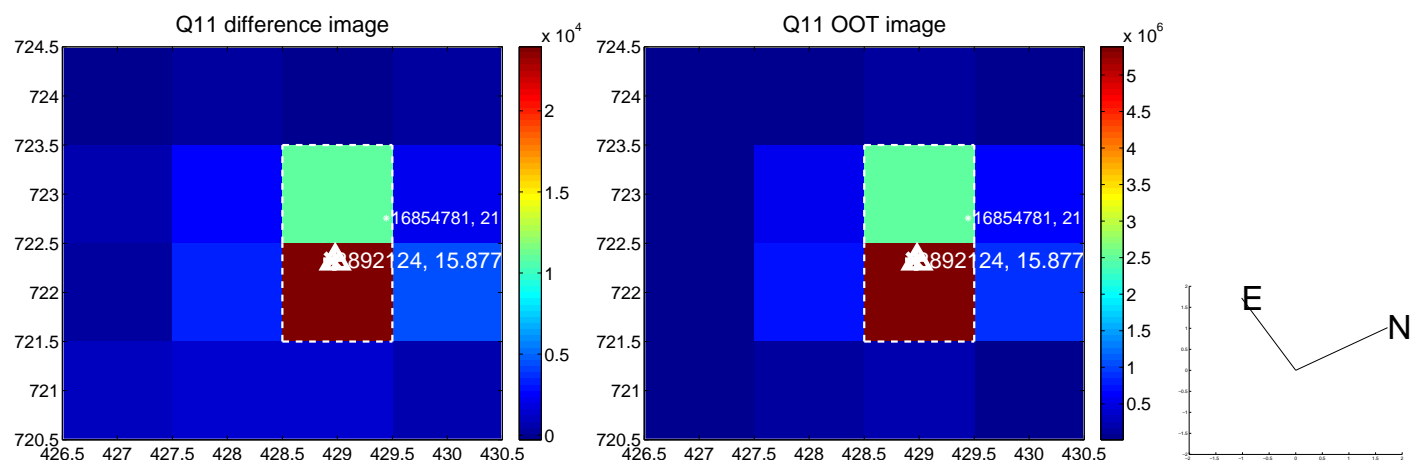
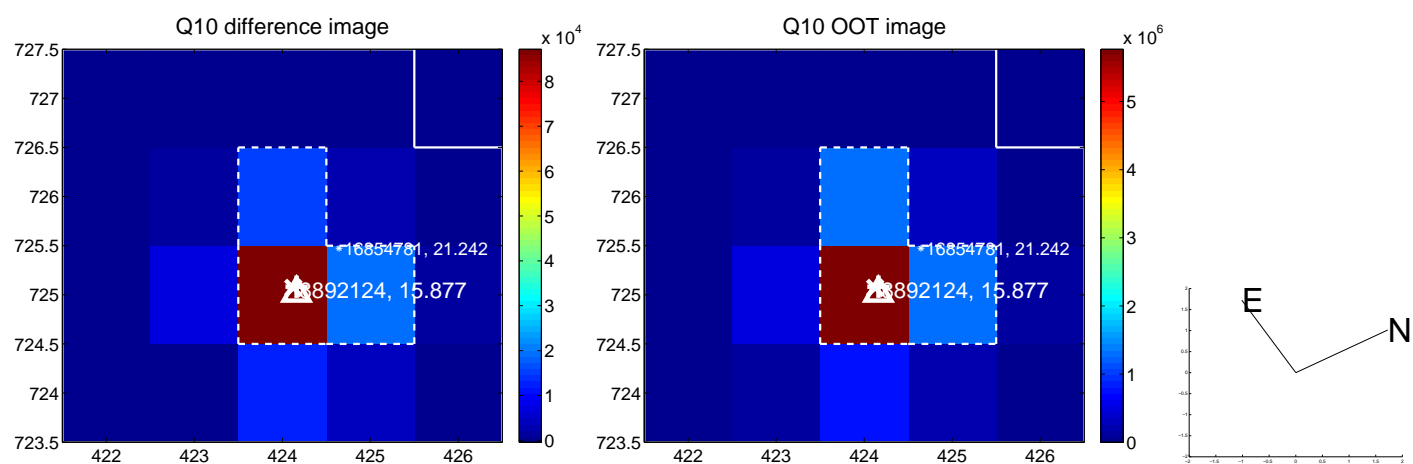
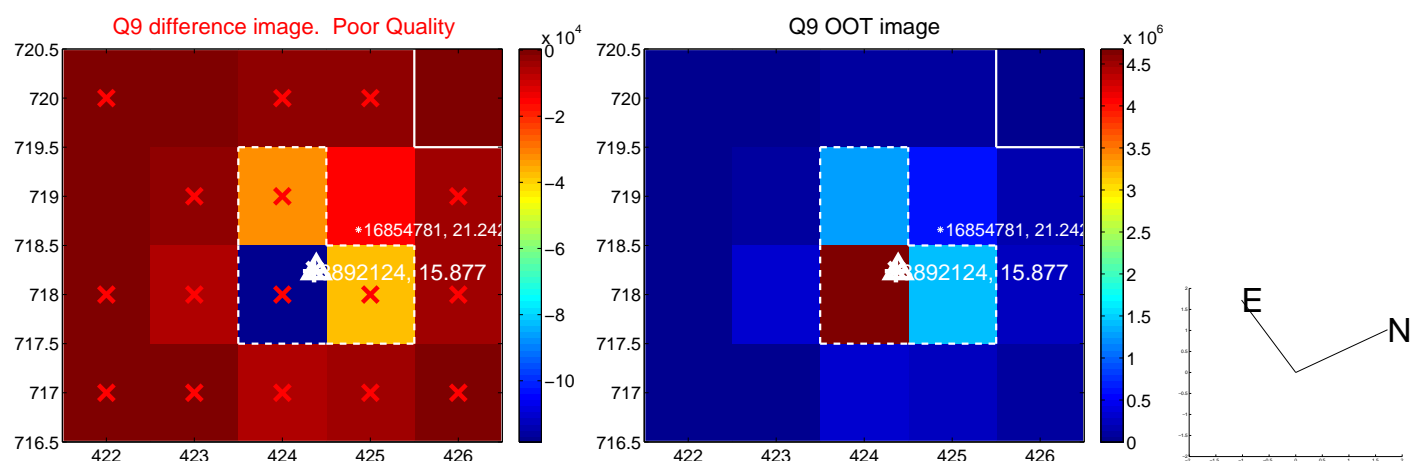
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

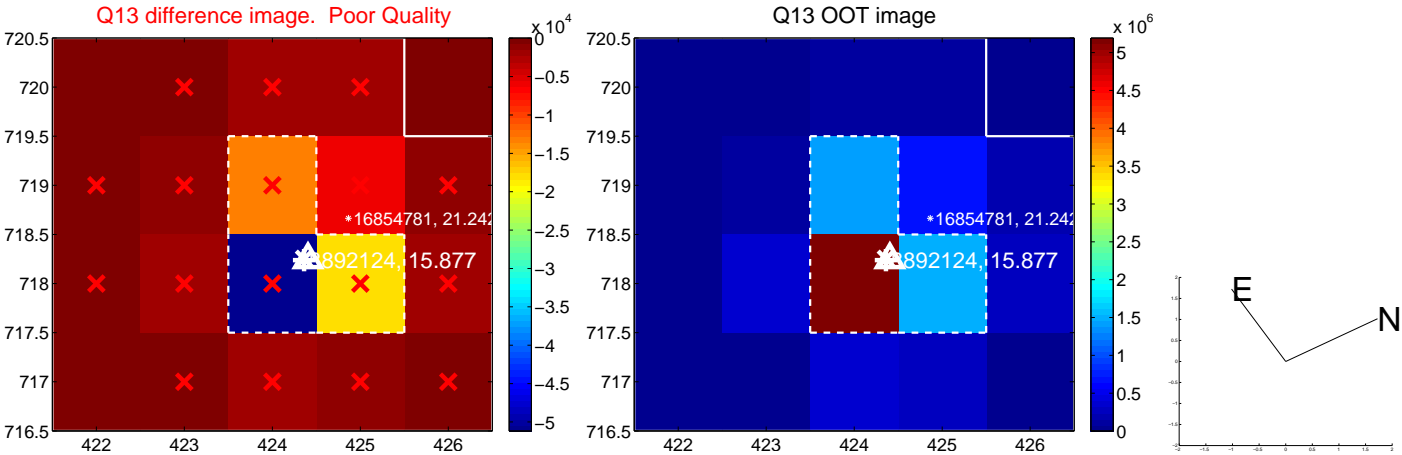


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

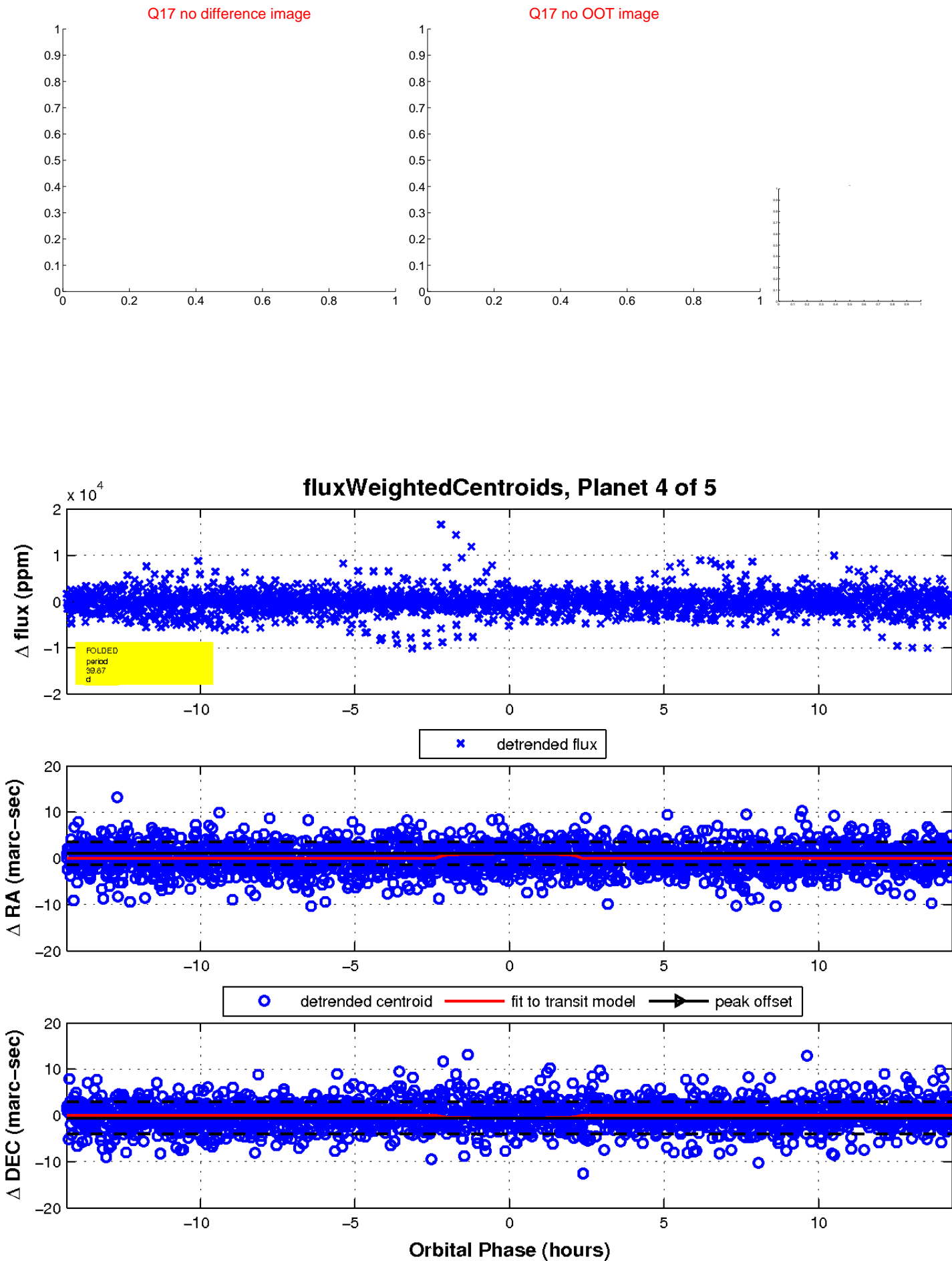




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

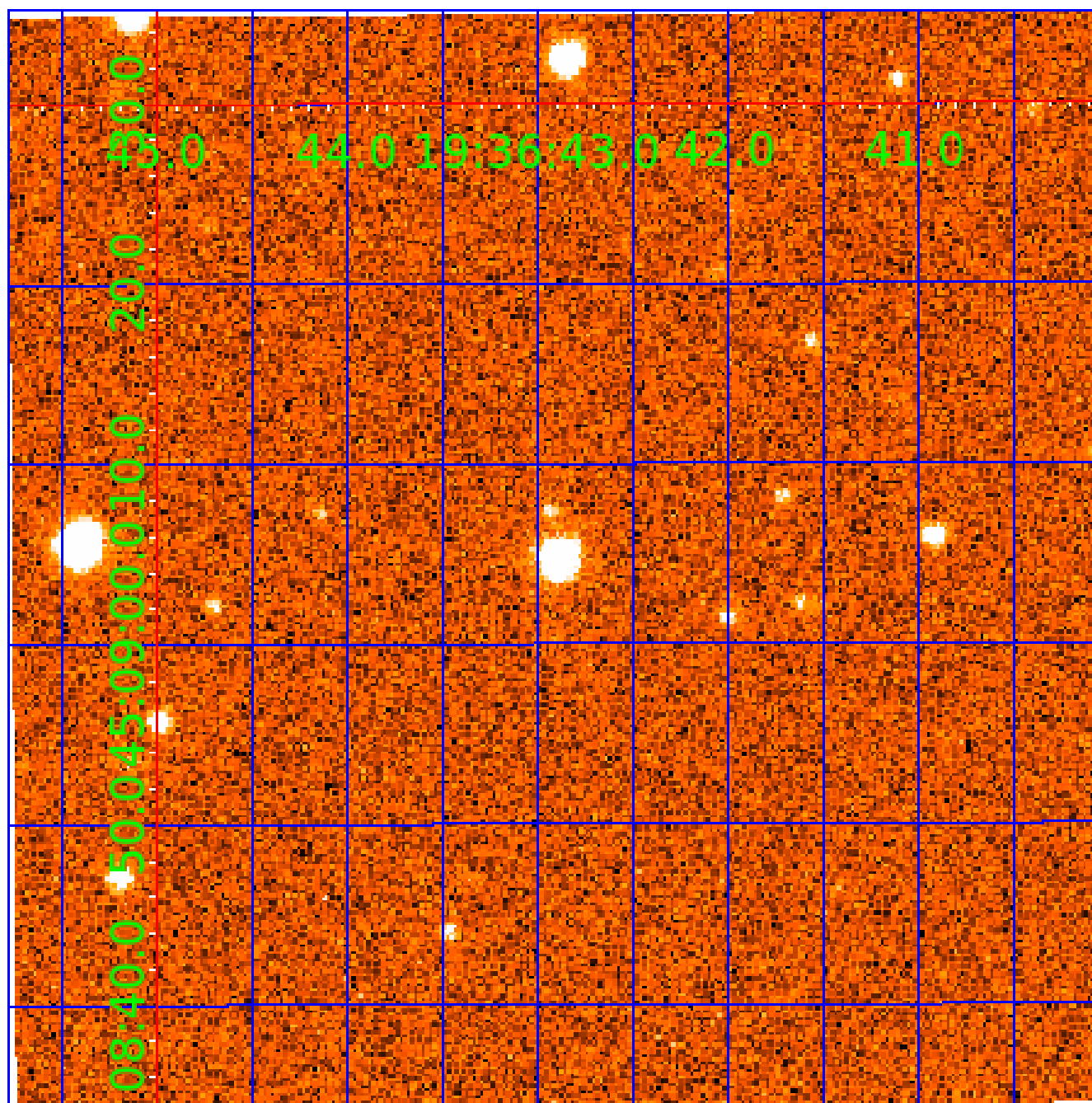


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



# UKIRT Image

Declination



# KIC 008892124

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008892124-01	OBS	No	0.713885	132.005503	0.0	4.612	10.0	0.0	0.70	5263	0.00	1764.58
008892124-02	OBS	No	46.741760	149.755534	4695.0	1.900	10.6	7.6	0.70	5263	4.73	6.69
008892124-03	OBS	No	50.948733	180.719106	2669.9	4.777	7.9	7.3	0.70	5263	3.80	5.96
008892124-04	OBS	No	39.868879	160.022745	2220.6	4.777	8.6	5.9	0.70	5263	3.32	8.27
008892124-05	OBS	No	35.713799	137.872524	899.1	10.339	8.5	3.7	0.70	5263	2.12	9.57

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008892124-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT
008892124-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—HALO_GHOST
008892124-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008892124-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008892124-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST

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

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

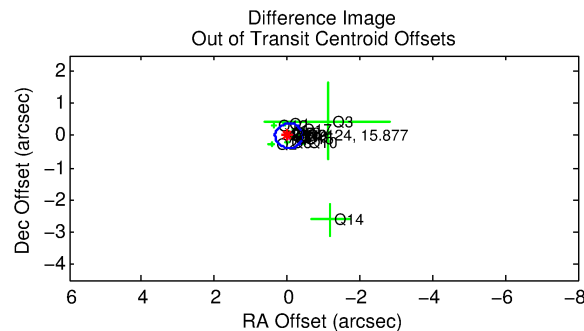
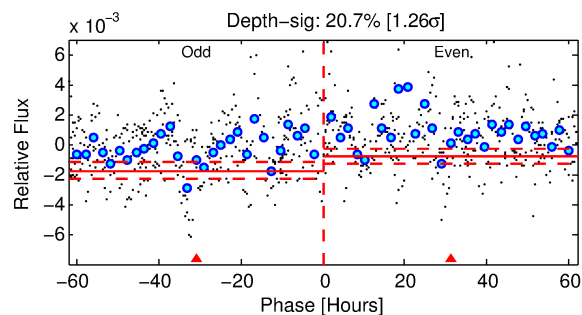
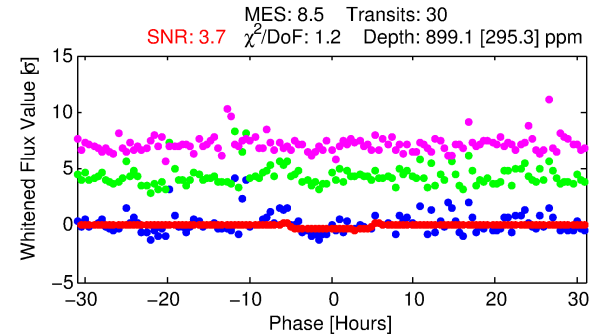
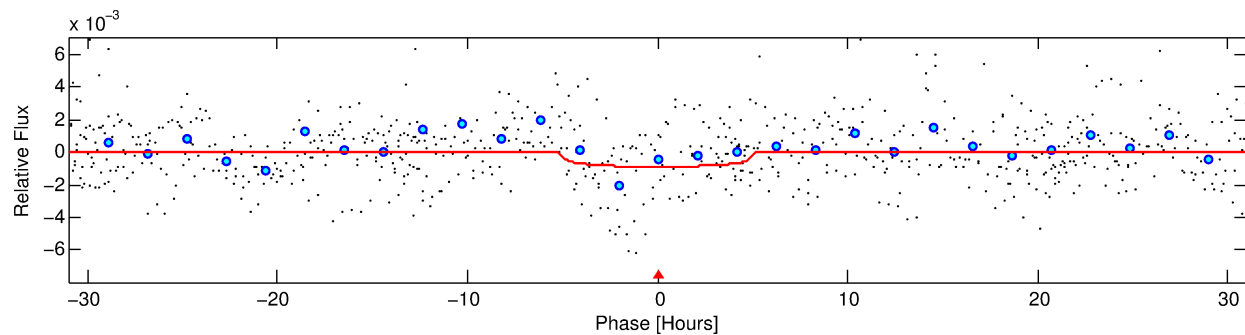
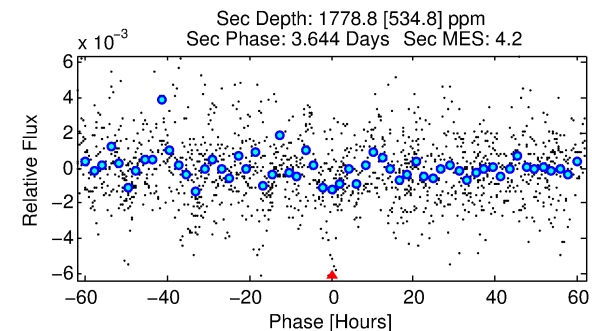
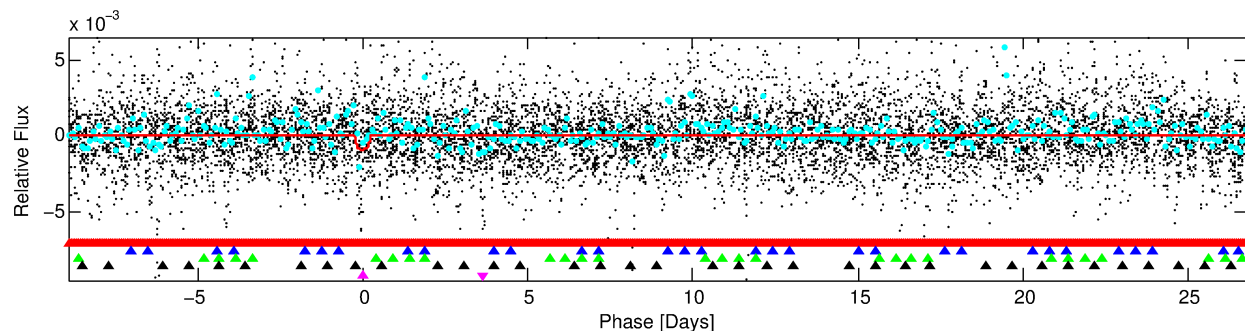
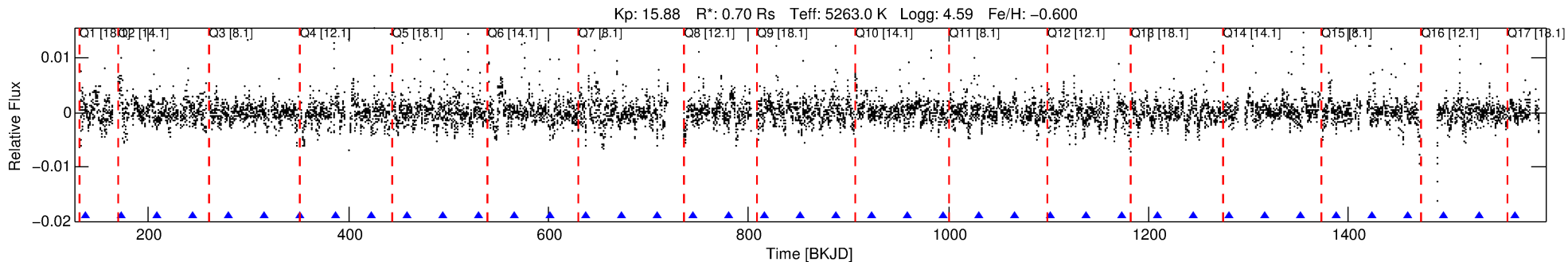
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008892124-05

No Significant Match Found

# DV One-Page Summary

KIC: 8892124 Candidate: 5 of 5 Period: 35.714 d



## DV Fit Results:

Period = 35.71380 [0.00120] d  
Epoch = 137.8725 [0.0306] BKJD  
Rp/R\* = 0.0278 [0.0342]  
a/R\* = 24.21 [119.64]  
b = 0.46 [8.42]  
Seff = 9.57 [1.71]  
Teq = 449 [20] K  
Rp = 2.12 [2.62] Re  
a = 0.1873 [0.0177] AU  
Ag = 7627.35 [18912.81] [0.40σ]  
Teffp = 6481 [4016] K [1.50σ]

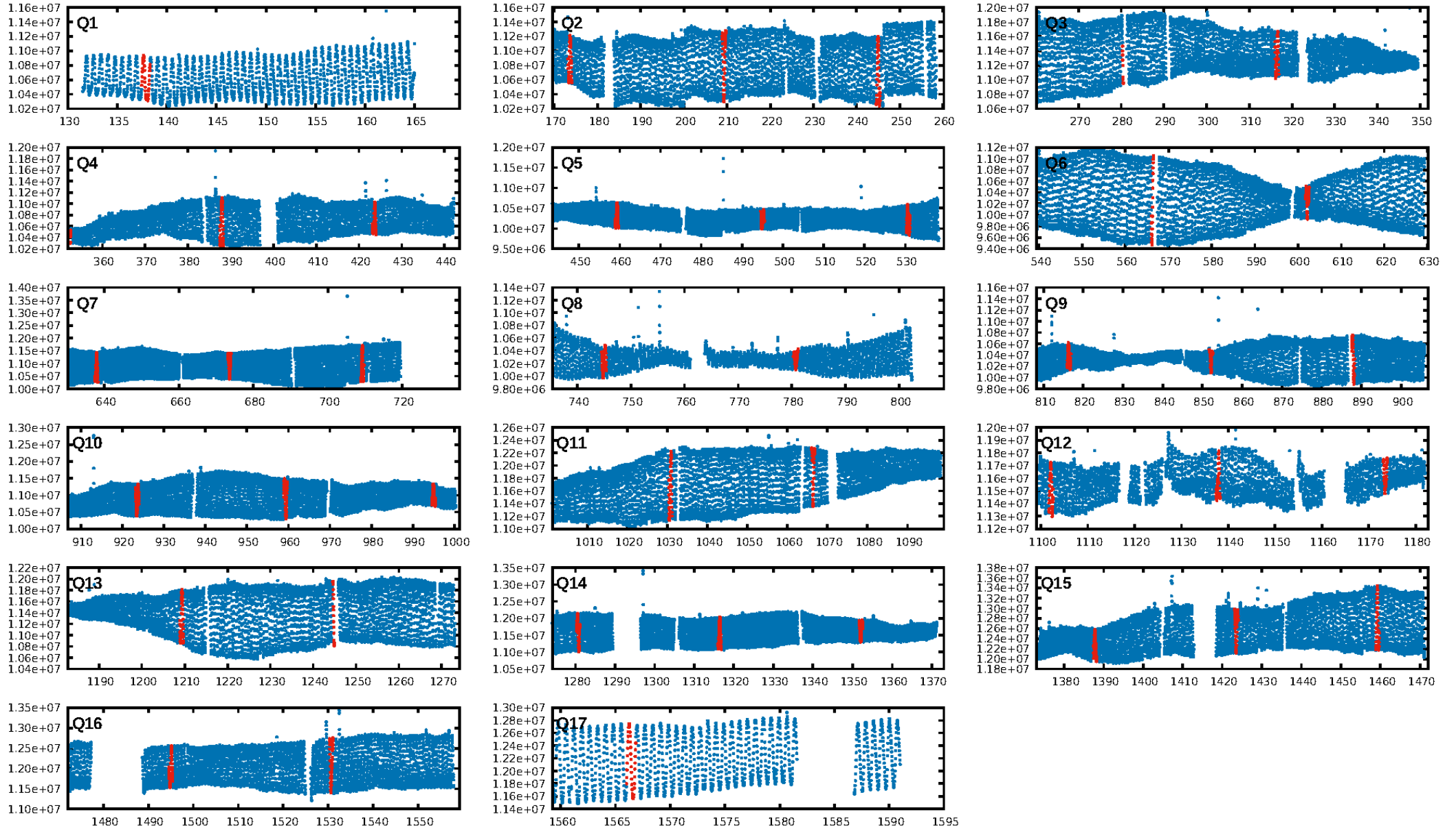
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [74.20σ]  
LongPeriod-sig: 100.0% [8.76σ]  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.45e-14  
RollingBand-fgt: 1.00 [28/28]  
GhostDiagnostic-chr: 0.1766  
Centroid-sig: 9.5%  
Centroid-so: 0.759 arcsec [1.97σ]  
OotOffset-rm: 0.039 arcsec [0.31σ]  
KicOffset-rm: 0.073 arcsec [0.61σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.41 [7/17]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 09:54:23 Z

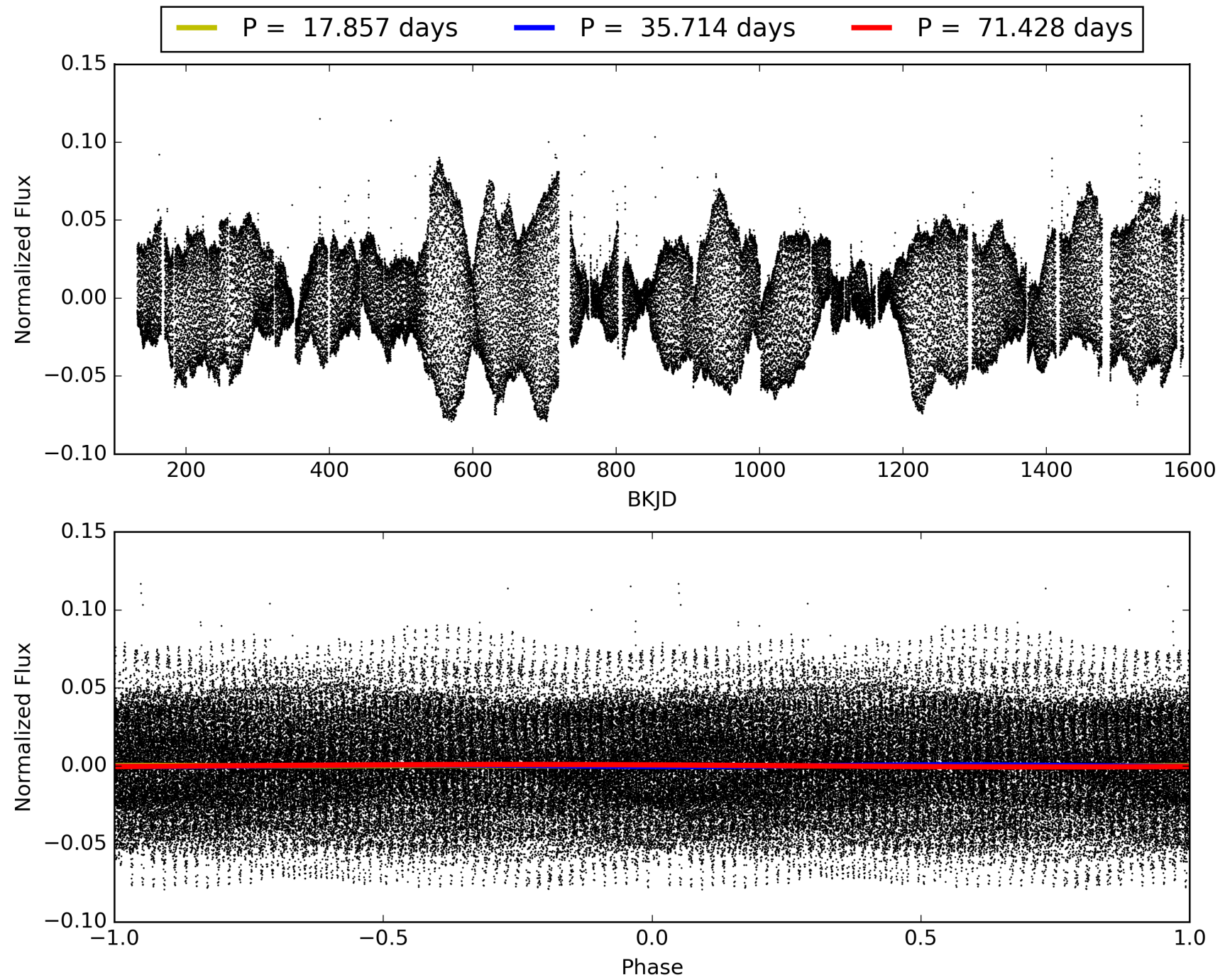
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 008892124-05, PDC Light Curves





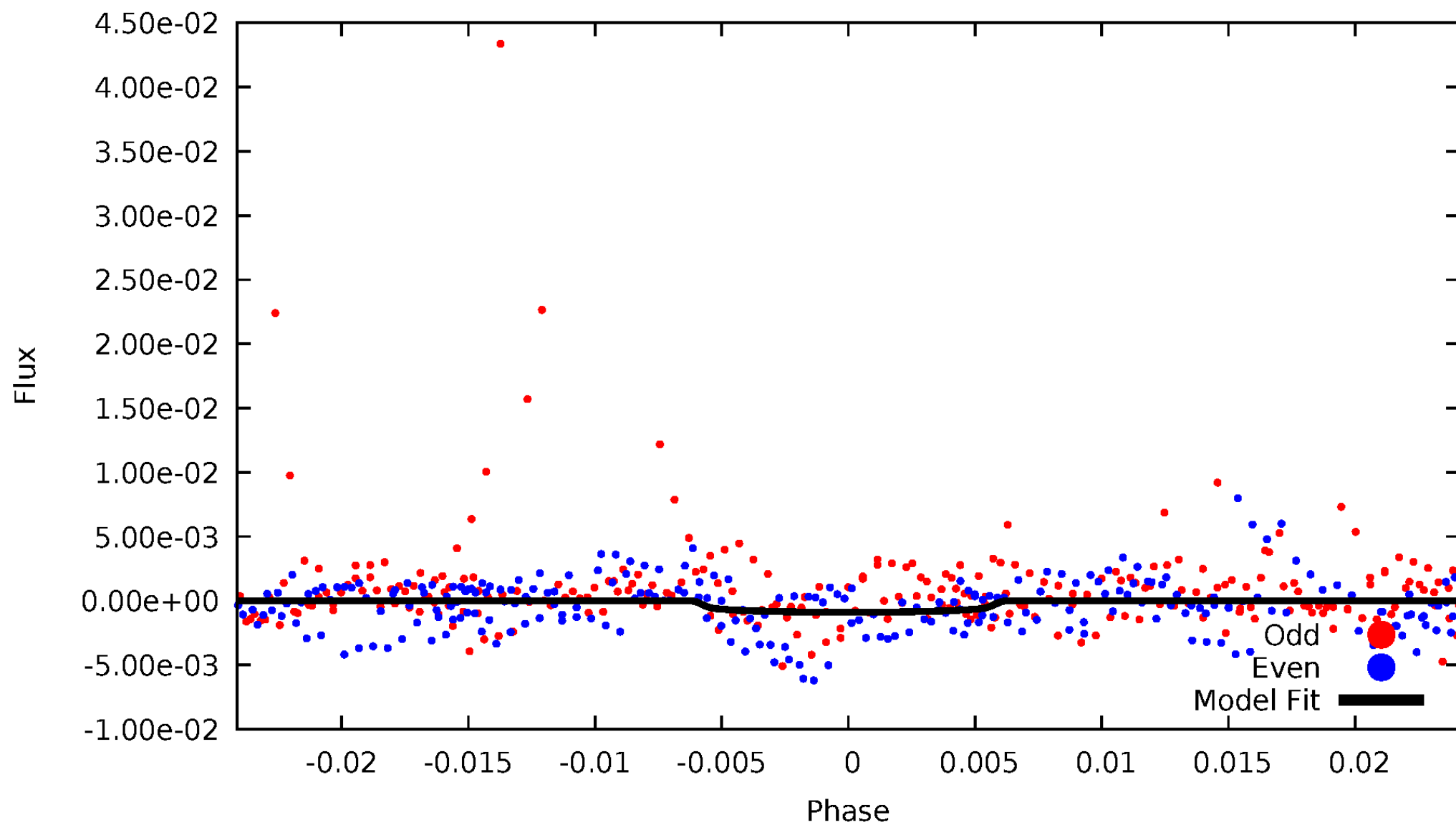
TCE 008892124-05





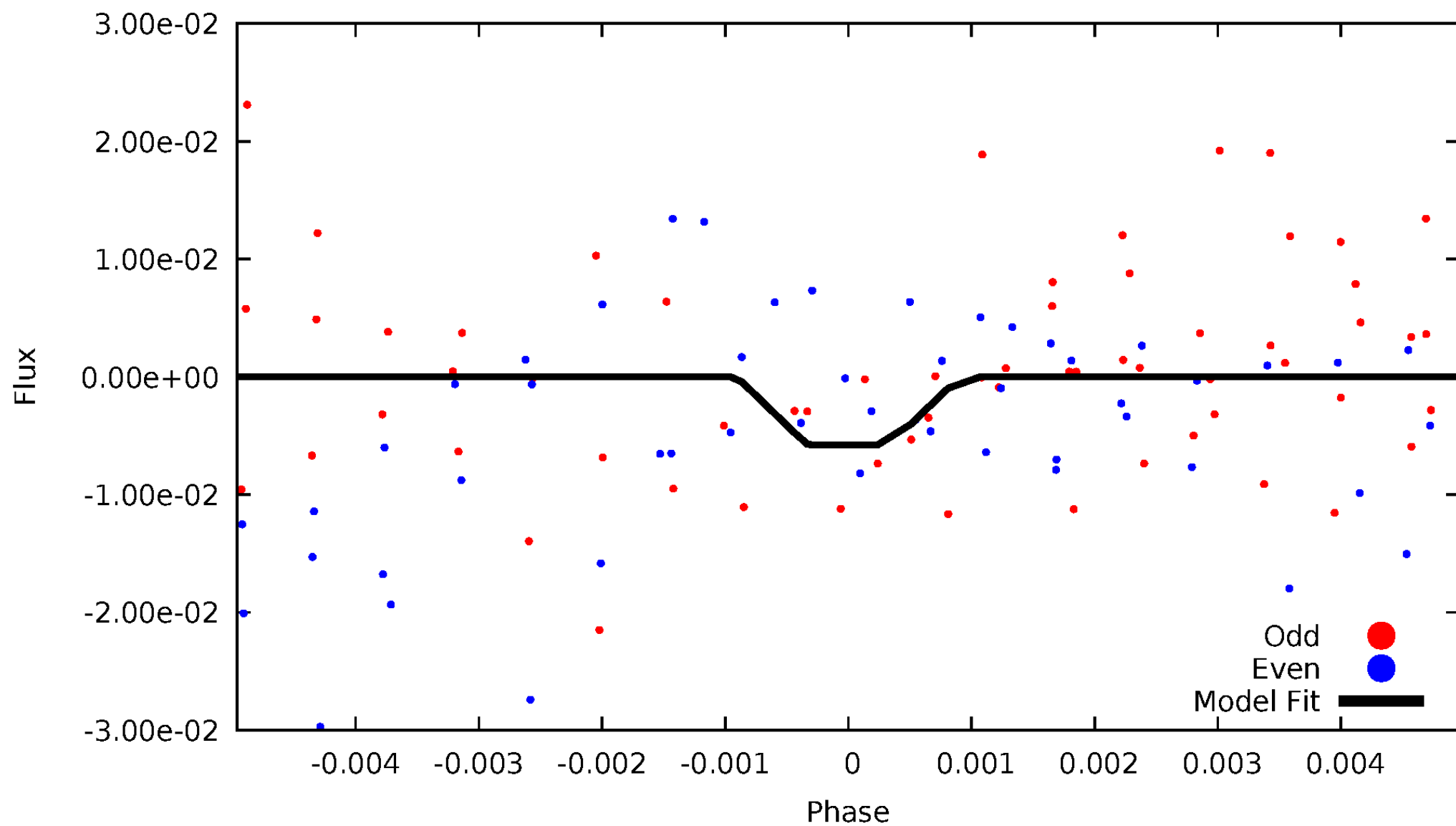
# DV Odd/Even

TCE 008892124-05



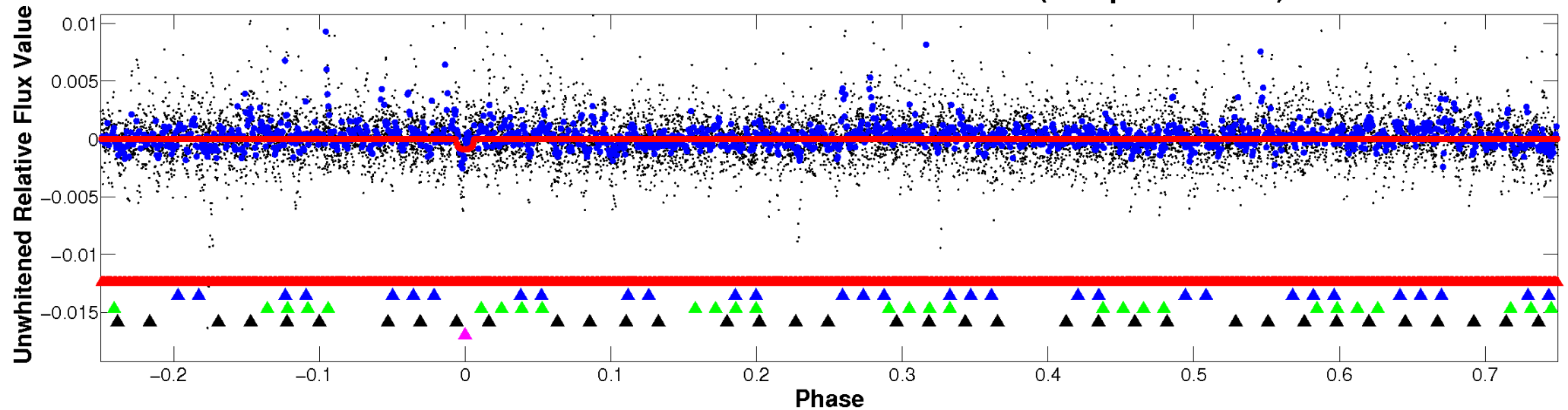
# ALT Odd/Even

TCE 008892124-05

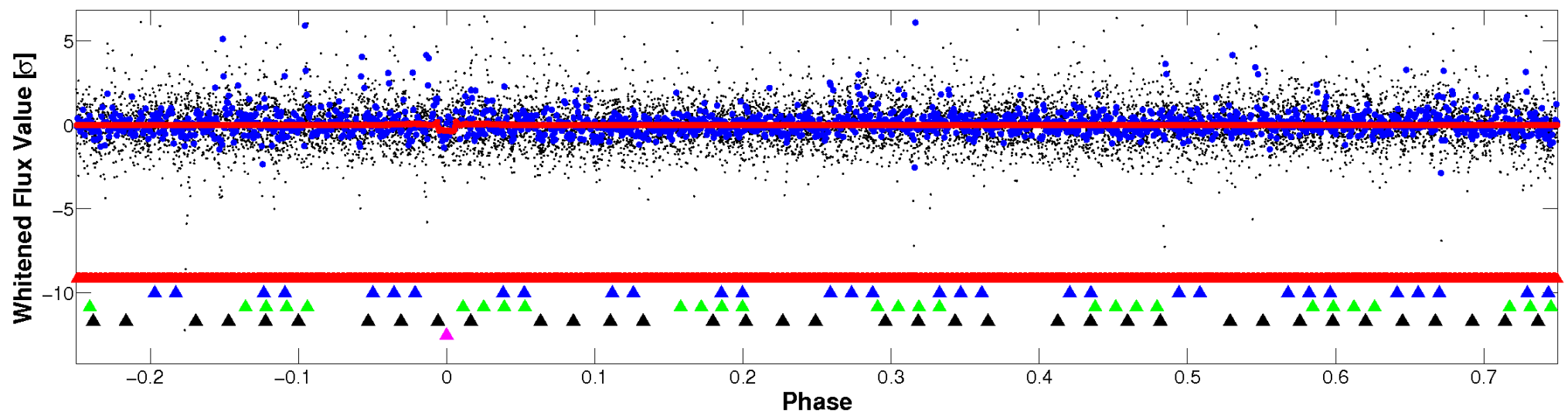


# Non-Whitened Vs. Whitened Light Curve

## Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

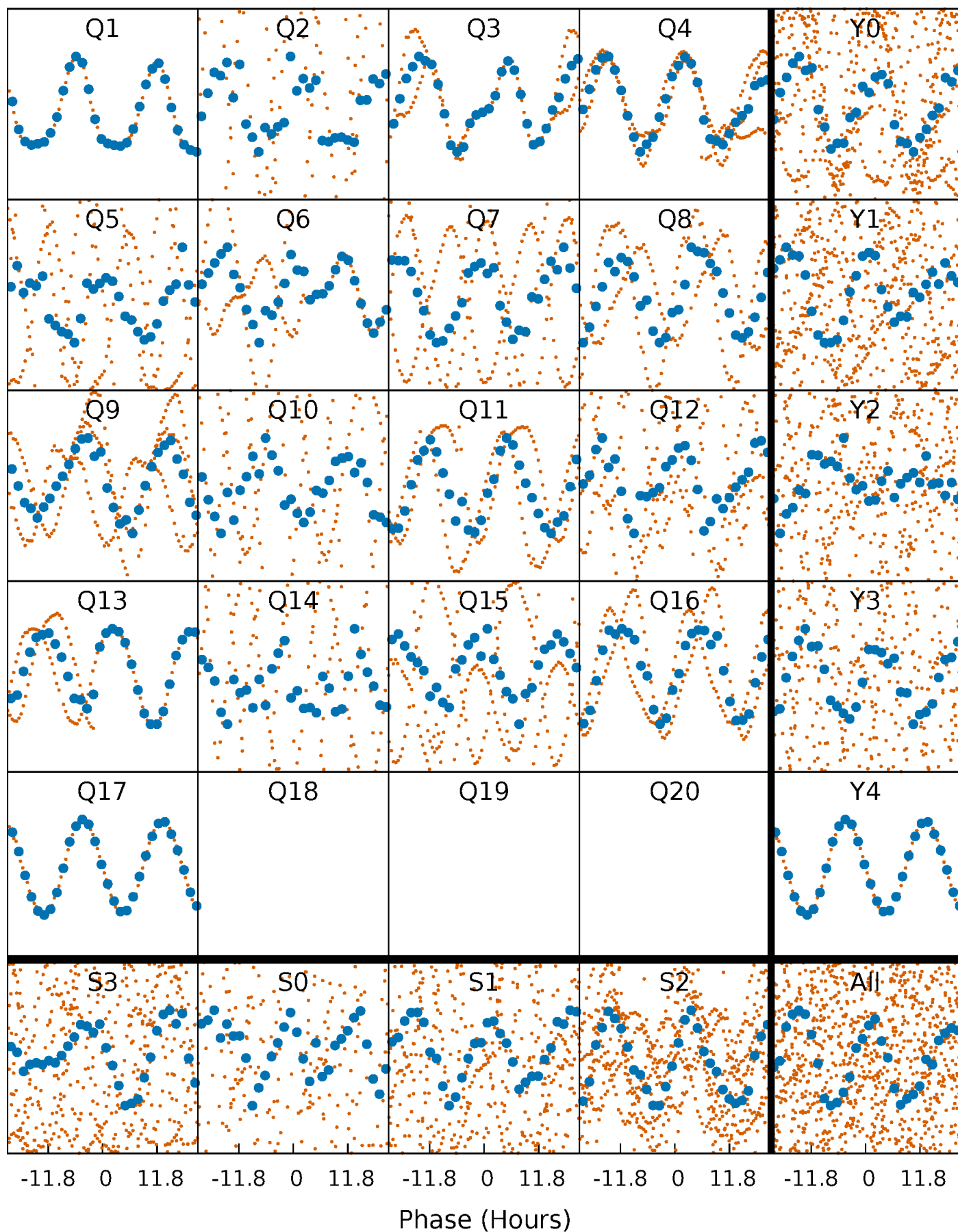


## Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



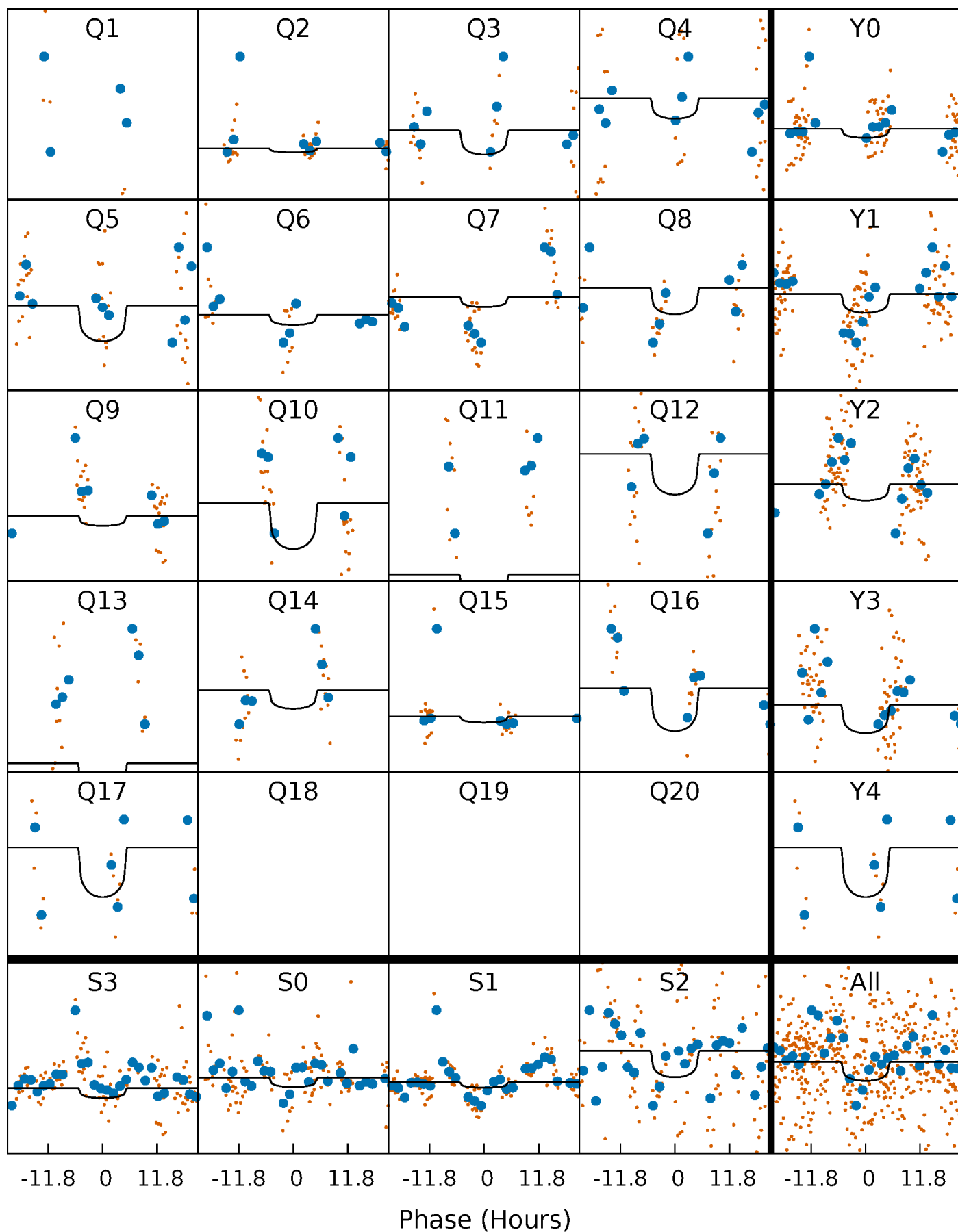
# PDC Quarter-Phased Transit Curves

TCE 008892124-05     $P = 35.713799$  Days     $T_0 = 137.872524$  (BKJD)



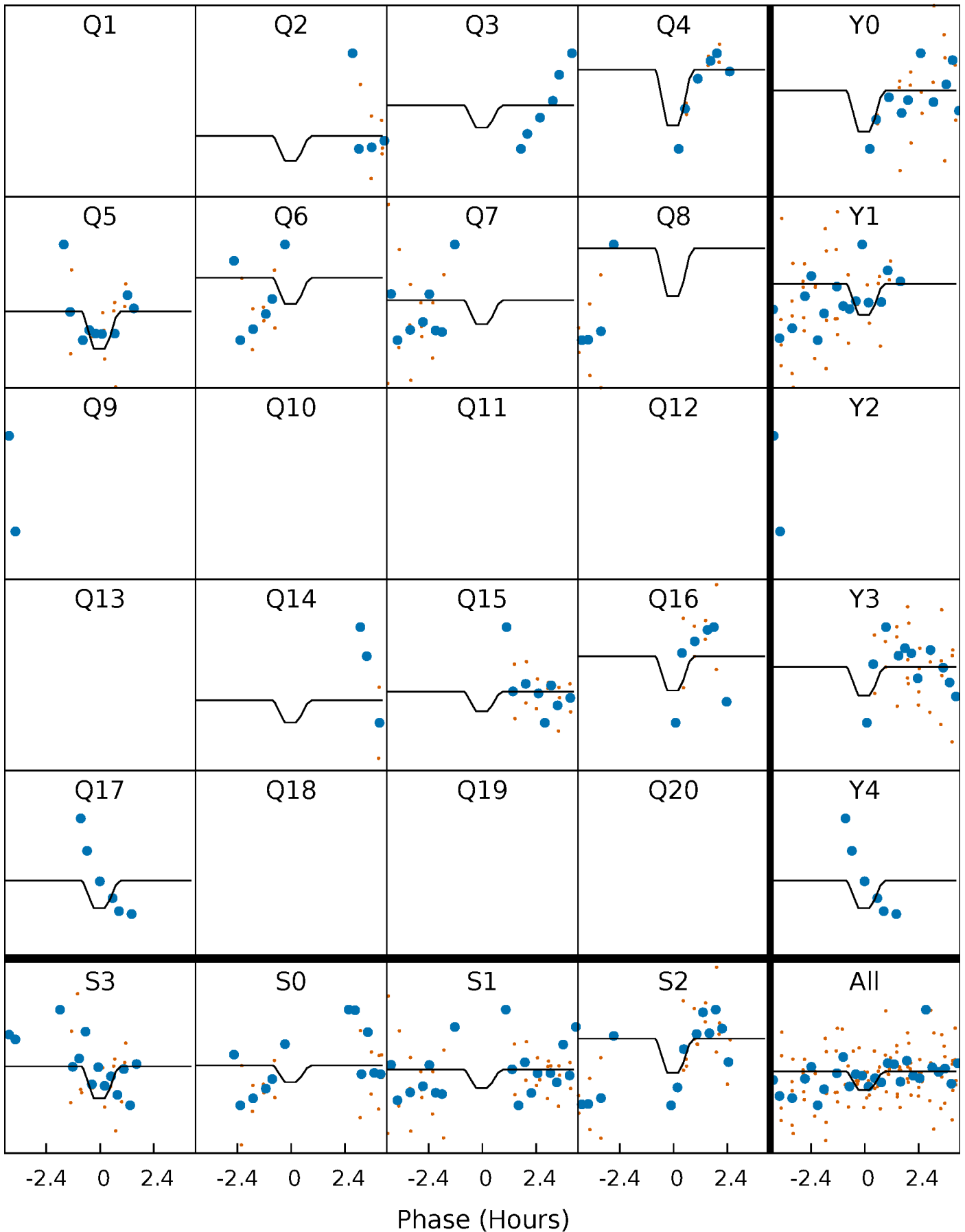
# DV Quarter-Phased Transit Curves

TCE 008892124-05   P= 35.713799 Days    $T_0=137.872524$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

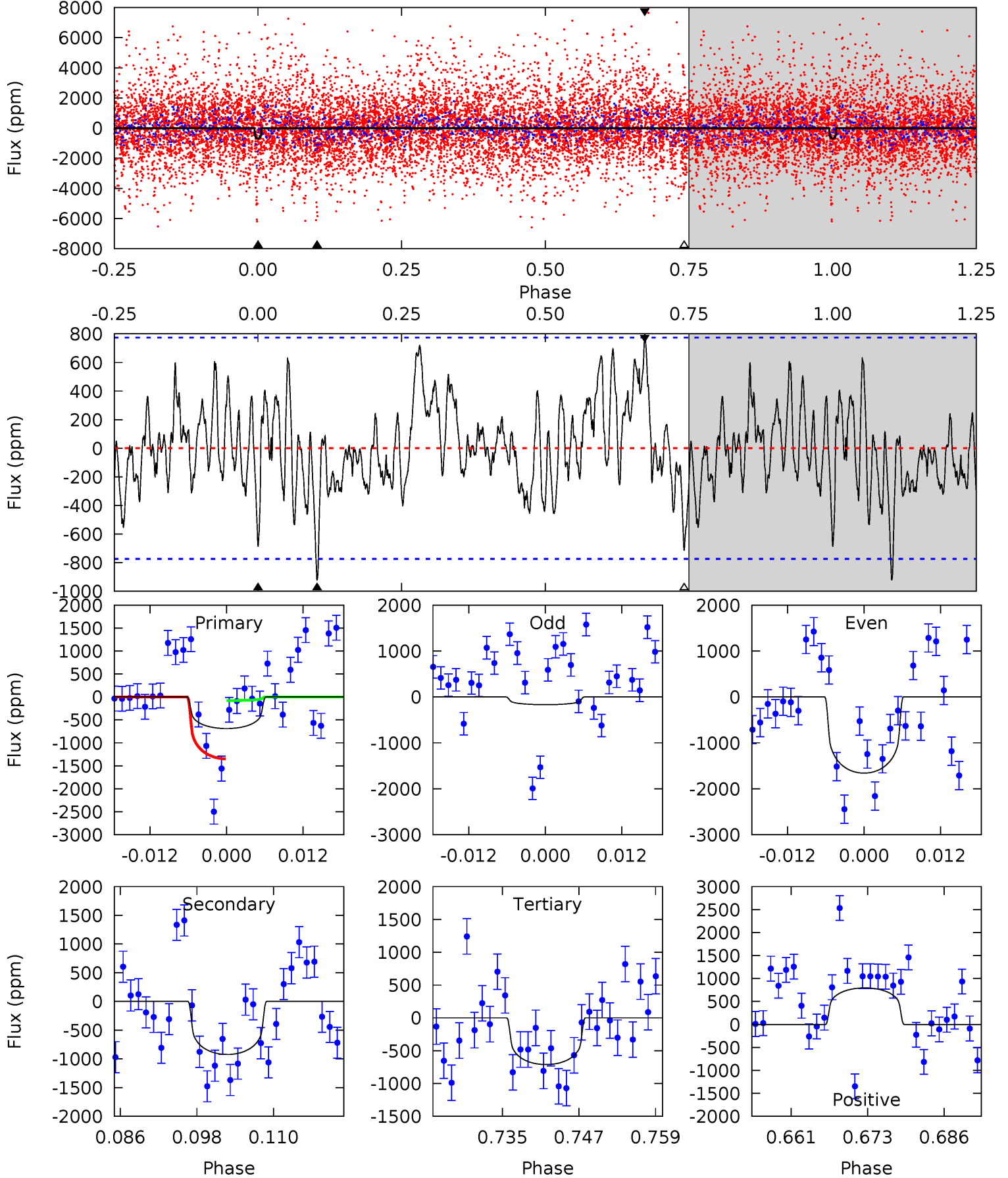
TCE 008892124-05     $P = 35.717447$  Days     $T_0 = 137.844343$  (BKJD)



# DV Model-Shift Uniqueness Test

008892124-05,  $P = 35.713799$  Days,  $E = 102.158725$  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
4.44	5.96	4.59	5.12	4.99	2.51	1.75	-0.15	-0.68	1.37	0.83	4.75	0.99	0.46	4.14

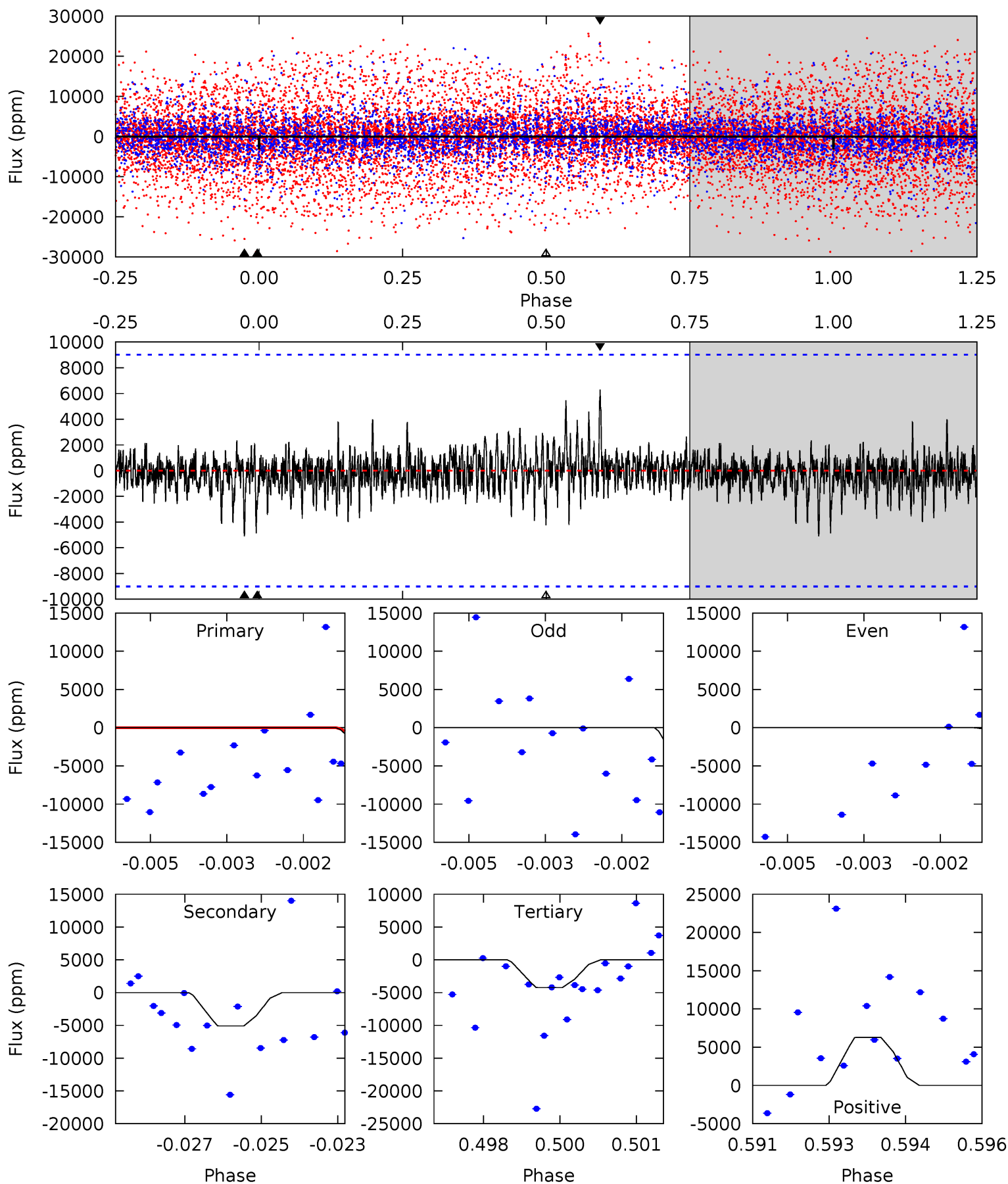




# Alt Model-Shift Uniqueness Test

008892124-05, P = 35.717447 Days, E = 102.126896 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
1.80	3.03	2.52	3.74	5.36	3.15	0.69	-0.72	-1.94	0.51	-0.71	1.52	0.94	0.55	0.73



### Stellar Parameters For KIC 008892124

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5263^{+157}_{-157}$	$4.586^{+0.071}_{-0.058}$	$-0.600^{+0.350}_{-0.300}$	$0.699^{+0.081}_{-0.066}$	$0.688^{+0.082}_{-0.044}$	$2.834^{+0.855}_{-0.603}$
	+3%/-3%	+2%/-1%	+58%/-50%	+12%/-9%	+12%/-6%	+30%/-21%
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 008892124-05 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-923 \pm 155$	$2.82^{+2.51}_{-1.83}$	$627^{+24}_{-25}$	$4862^{+3577}_{-1031}$	$2242^{+17848}_{-1610}$
Alt.	$-5093 \pm 1681$	$5.87^{+2.58}_{-2.66}$	$626^{+25}_{-26}$	$5067^{+1859}_{-770}$	$2818^{+7530}_{-1591}$

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

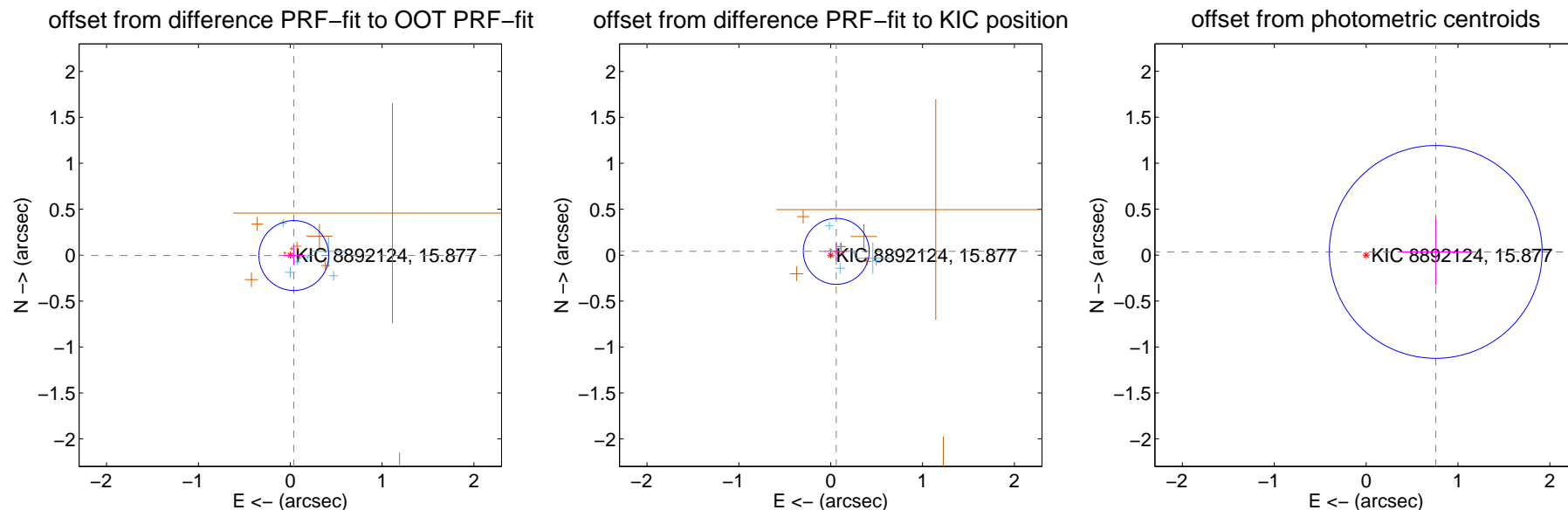
## DV Centroid Data

Supplemental centroid analysis for 008892124-05. Kepler magnitude: 15.88. Transit SNR 3.70

There are 7 quarters with good PRF difference image offsets

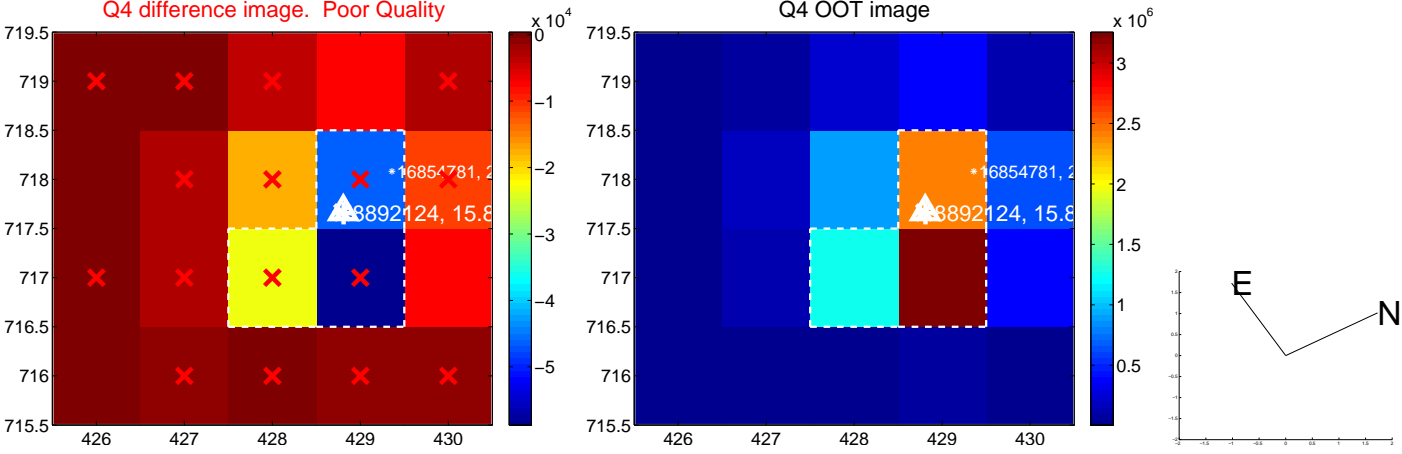
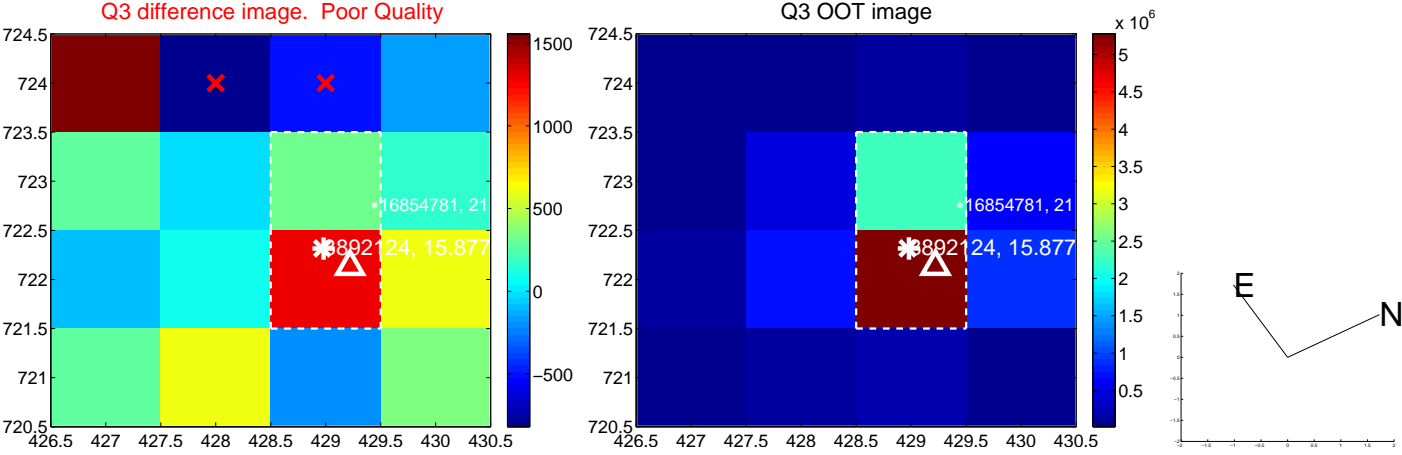
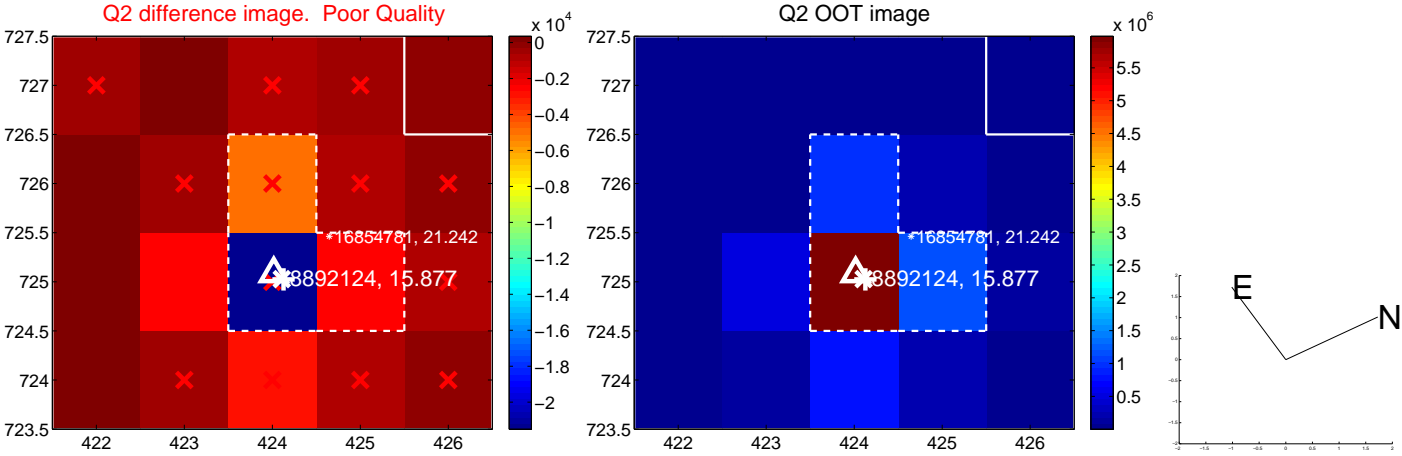
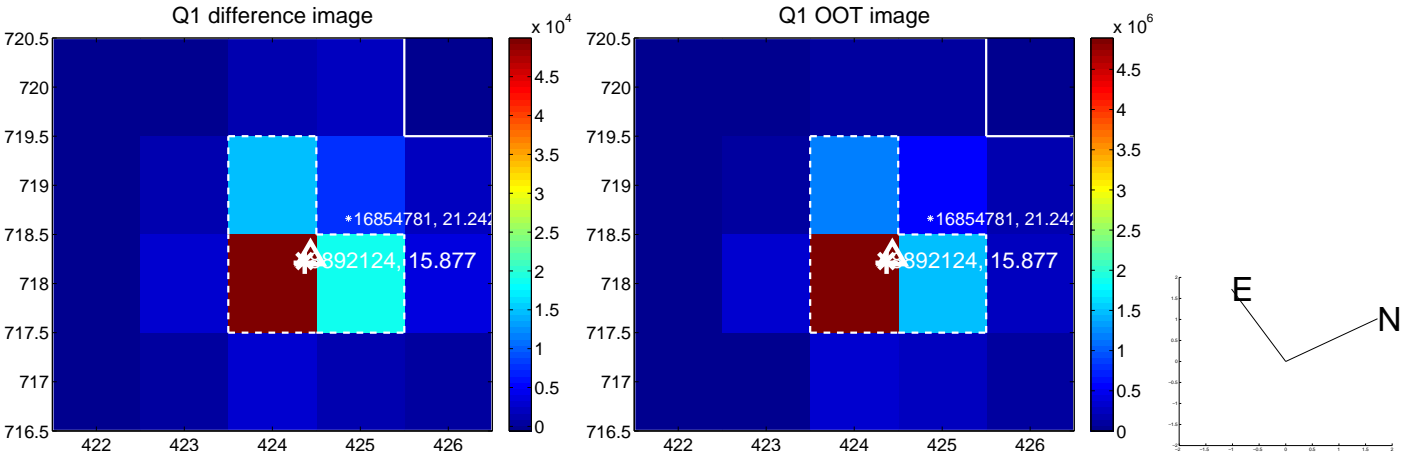
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.039 \pm 0.127$	0.31	$-0.039 \pm 0.127$	$-0.004 \pm 0.102$
PRF-fit source offset from KIC position	$0.073 \pm 0.120$	0.61	$-0.060 \pm 0.127$	$0.041 \pm 0.102$
photometric centroid source offset	$0.76 \pm 0.39$	1.97	$-0.76 \pm 0.39$	$0.03 \pm 0.37$

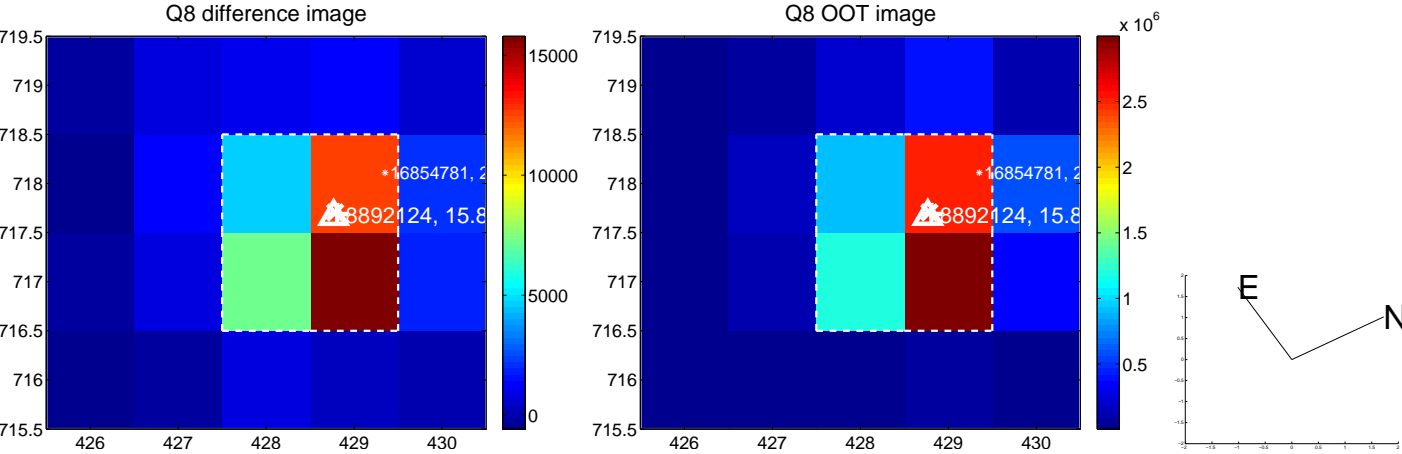
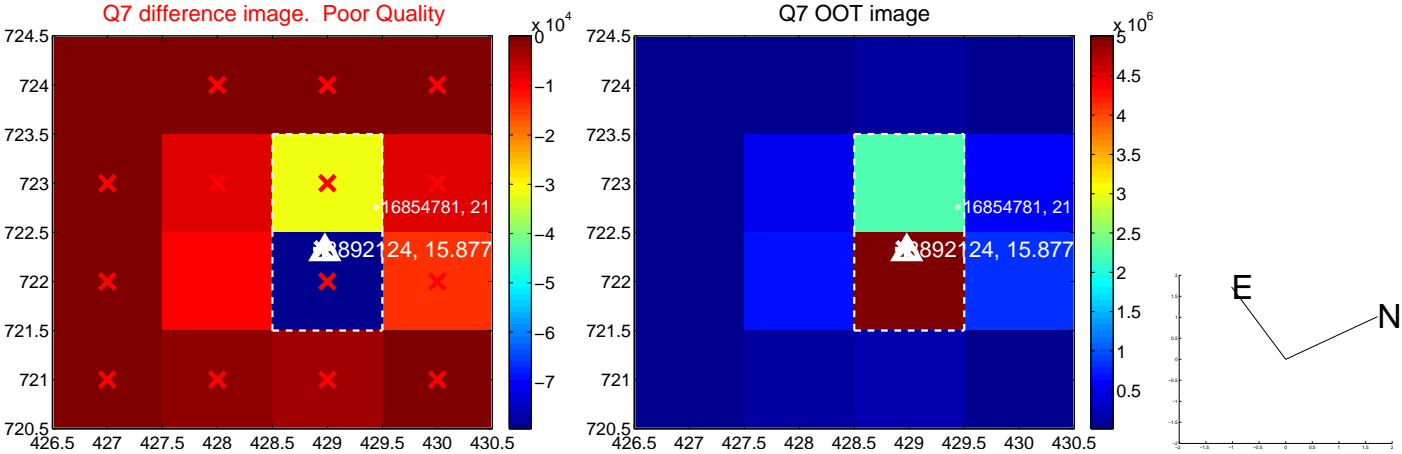
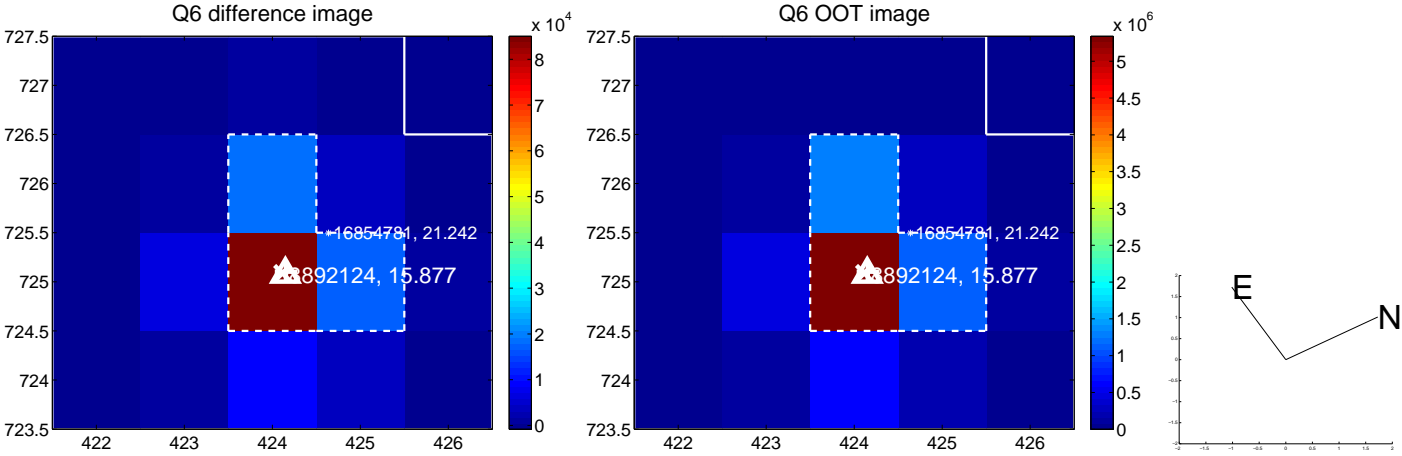
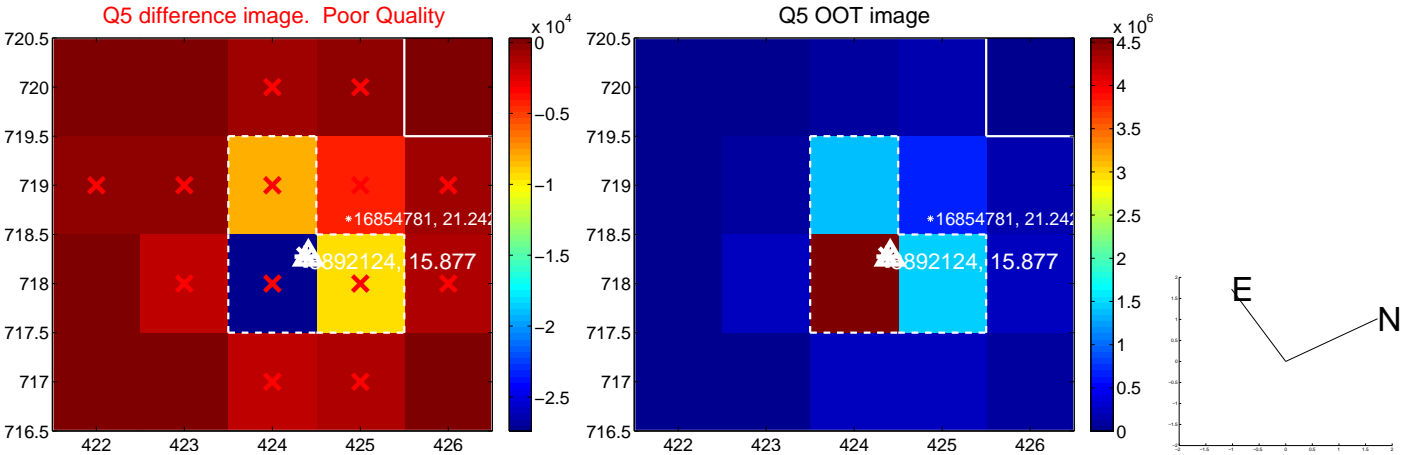


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

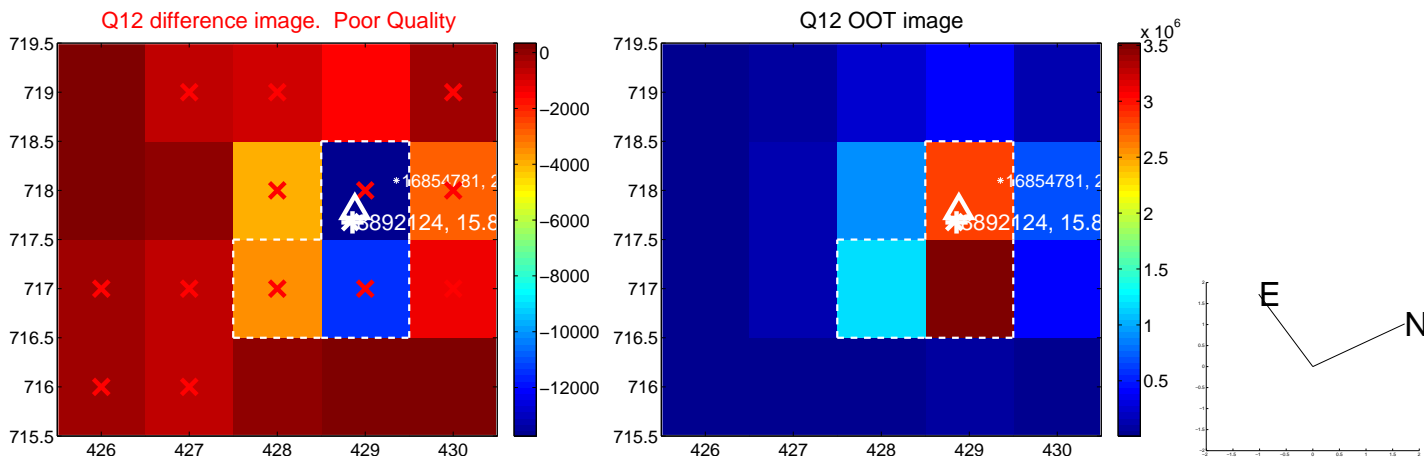
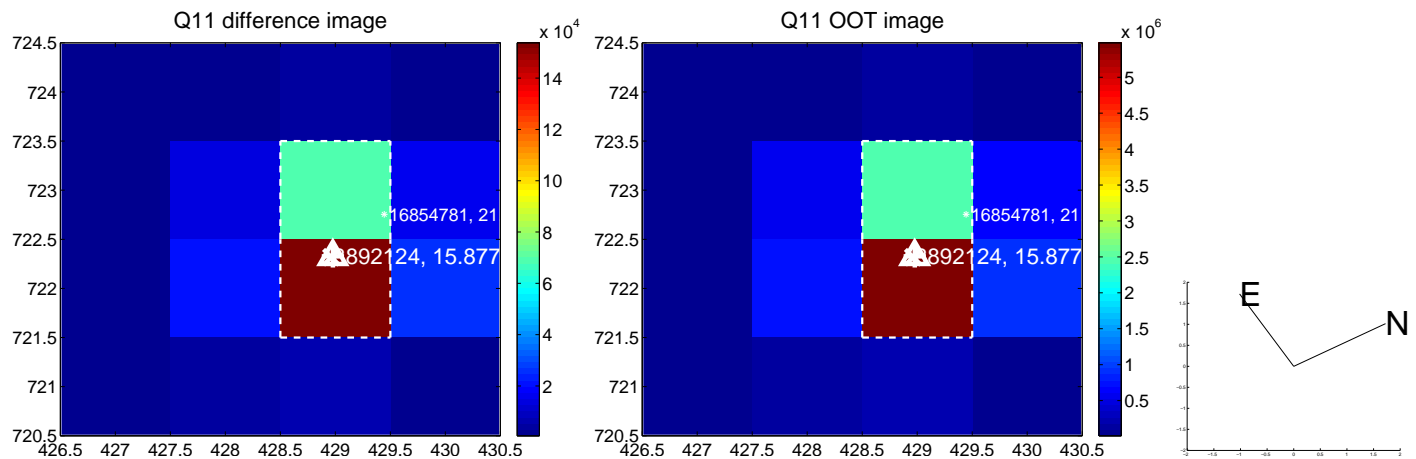
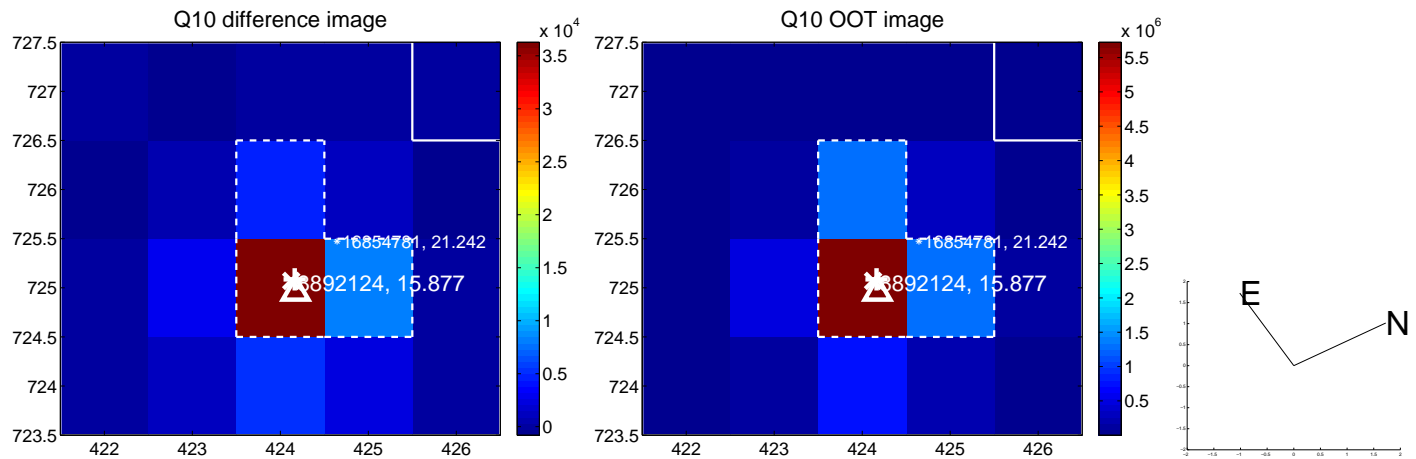
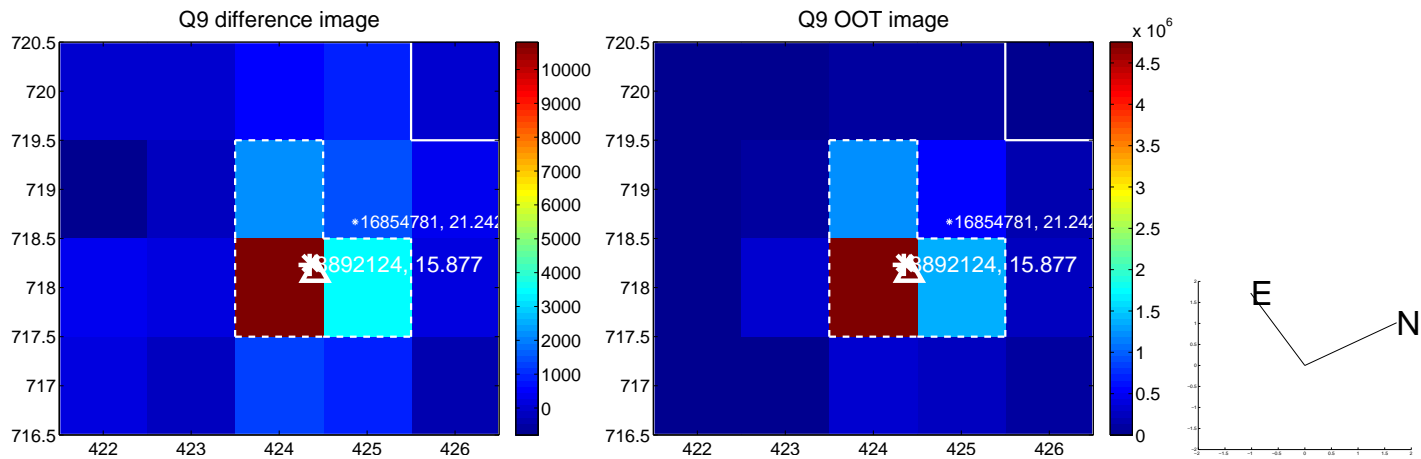
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



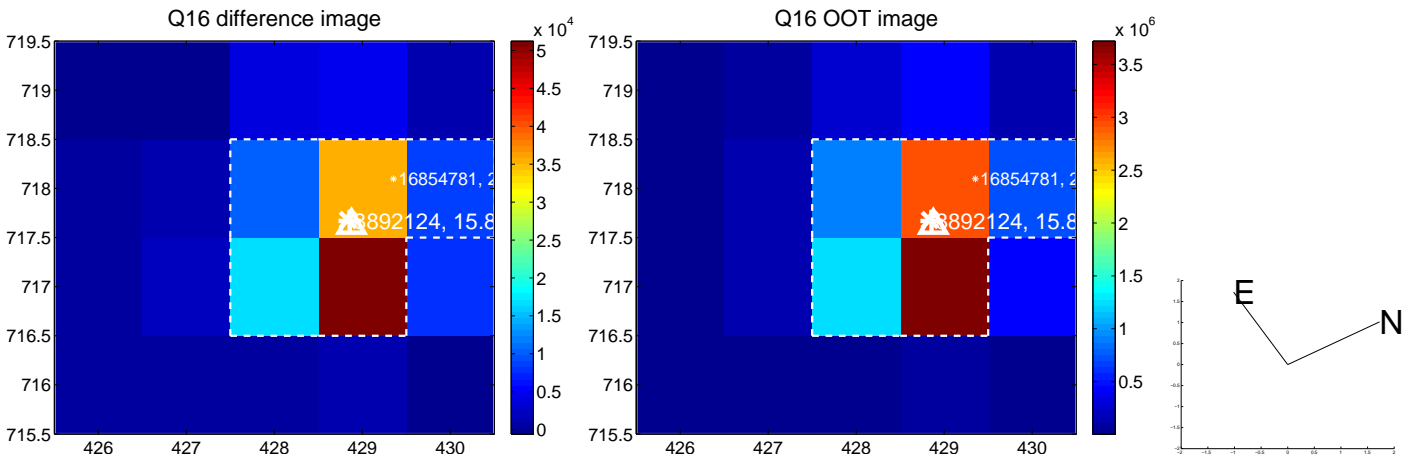
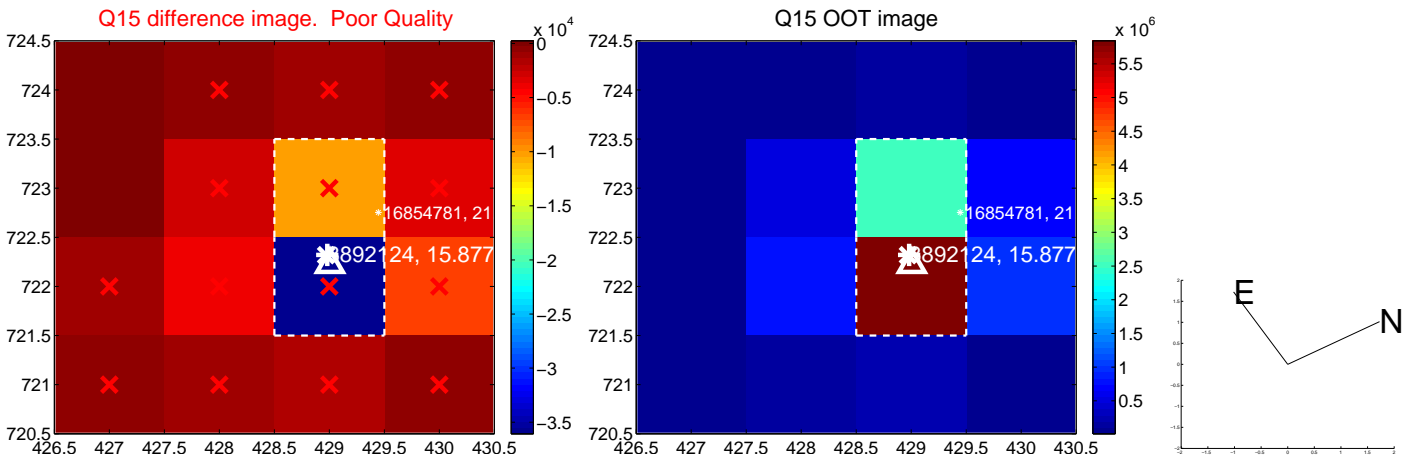
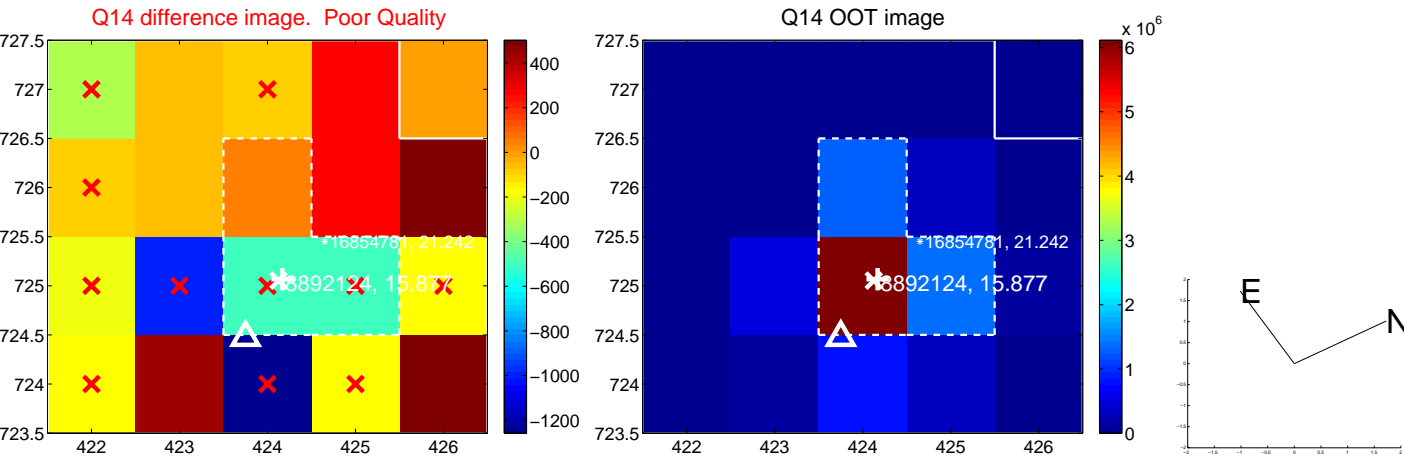
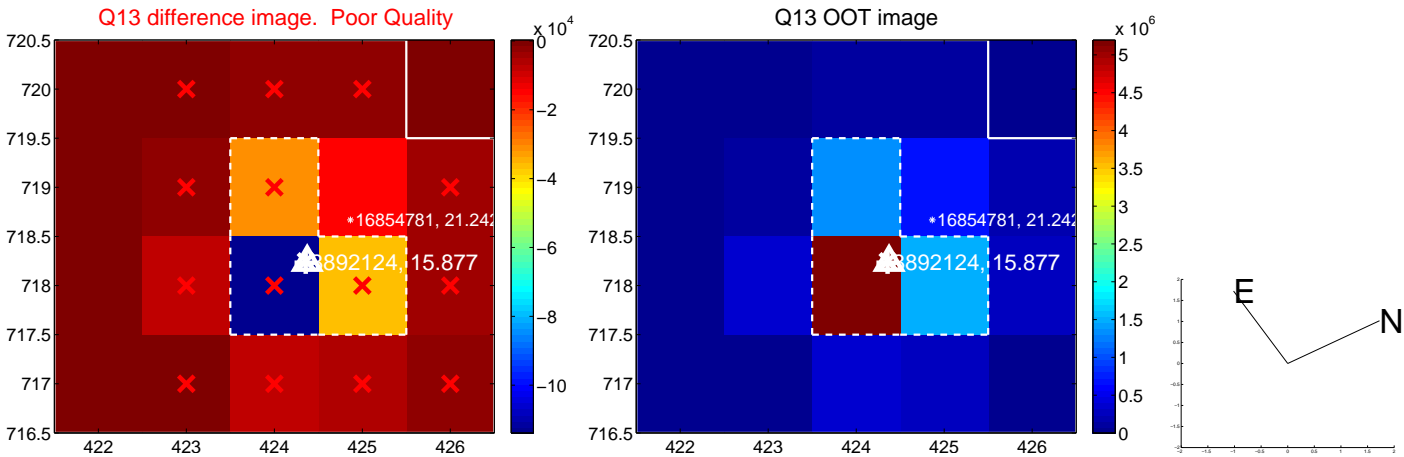
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

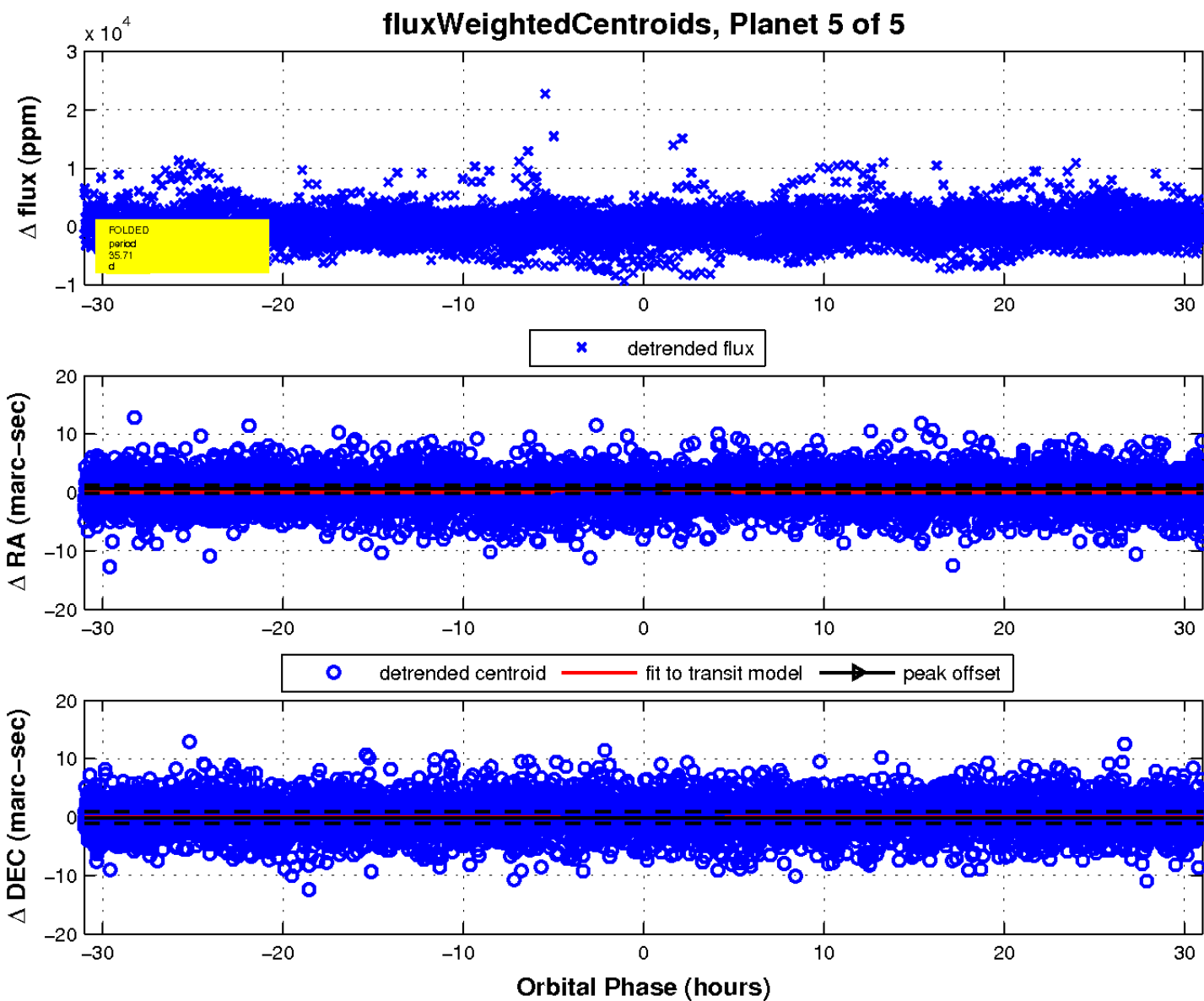
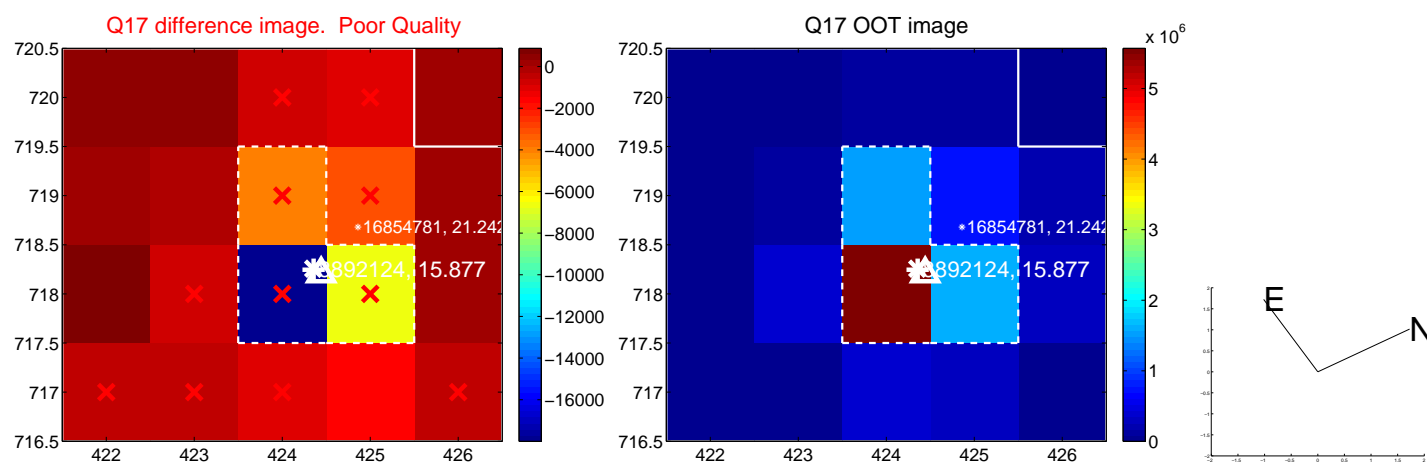


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





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



# UKIRT Image

Declination

