

# KIC 005650341

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005650341-01	OBS	No	0.745532	131.737293	11.2	3.333	13.6	1.8	1.28	6450	0.51	9732.20
005650341-02	OBS	No	1.450383	132.427808	277.5	6.893	12.8	15.3	1.28	6450	4.12	4007.34
005650341-03	OBS	No	1.450423	131.677868	456.1	5.000	21.0	-1.0	1.28	6450	2.75	4007.19

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005650341-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
005650341-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
005650341-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

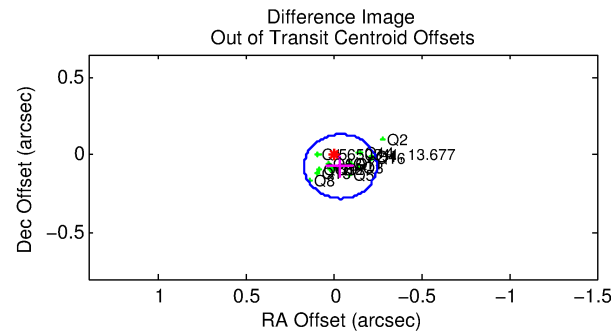
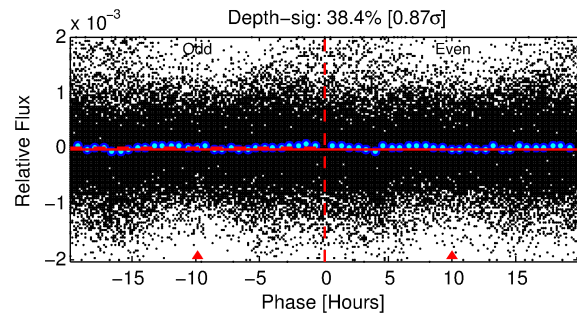
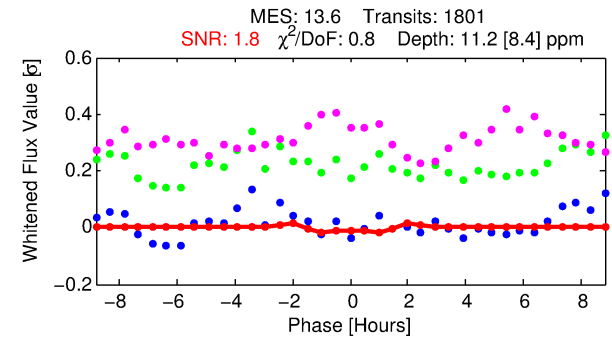
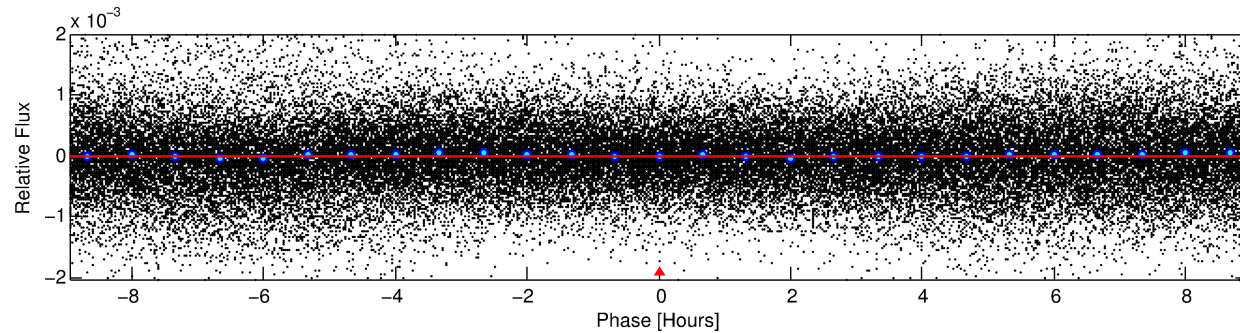
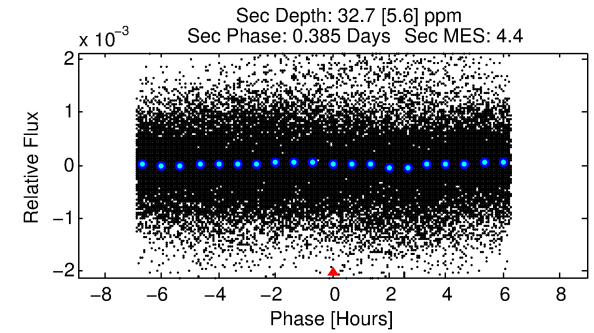
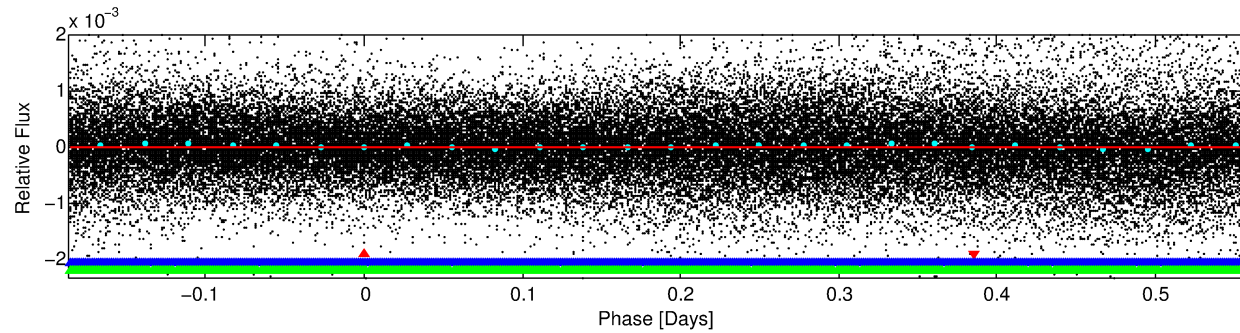
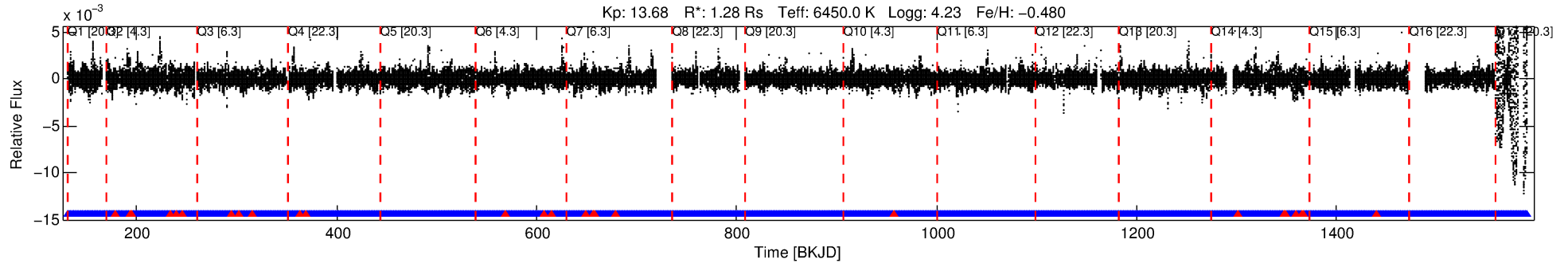
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 005650341-01

No Significant Match Found

# DV One-Page Summary

KIC: 5650341 Candidate: 1 of 3 Period: 0.746 d



## DV Fit Results:

Period = 0.74553 [0.00005] d  
Epoch = 131.7373 [0.0092] BKJD  
Rp/R\* = 0.0036 [0.0029]  
a/R\* = 1.19 [1.47]  
b = 0.91 [0.80]  
Seff = 9732.20 [3538.96]  
Teq = 2533 [230] K  
Rp = 0.51 [0.43] Re  
a = 0.0162 [0.0038] AU  
Ag = 18.31 [30.39] [0.57σ]  
Teffp = 8100 [3301] K [1.68σ]

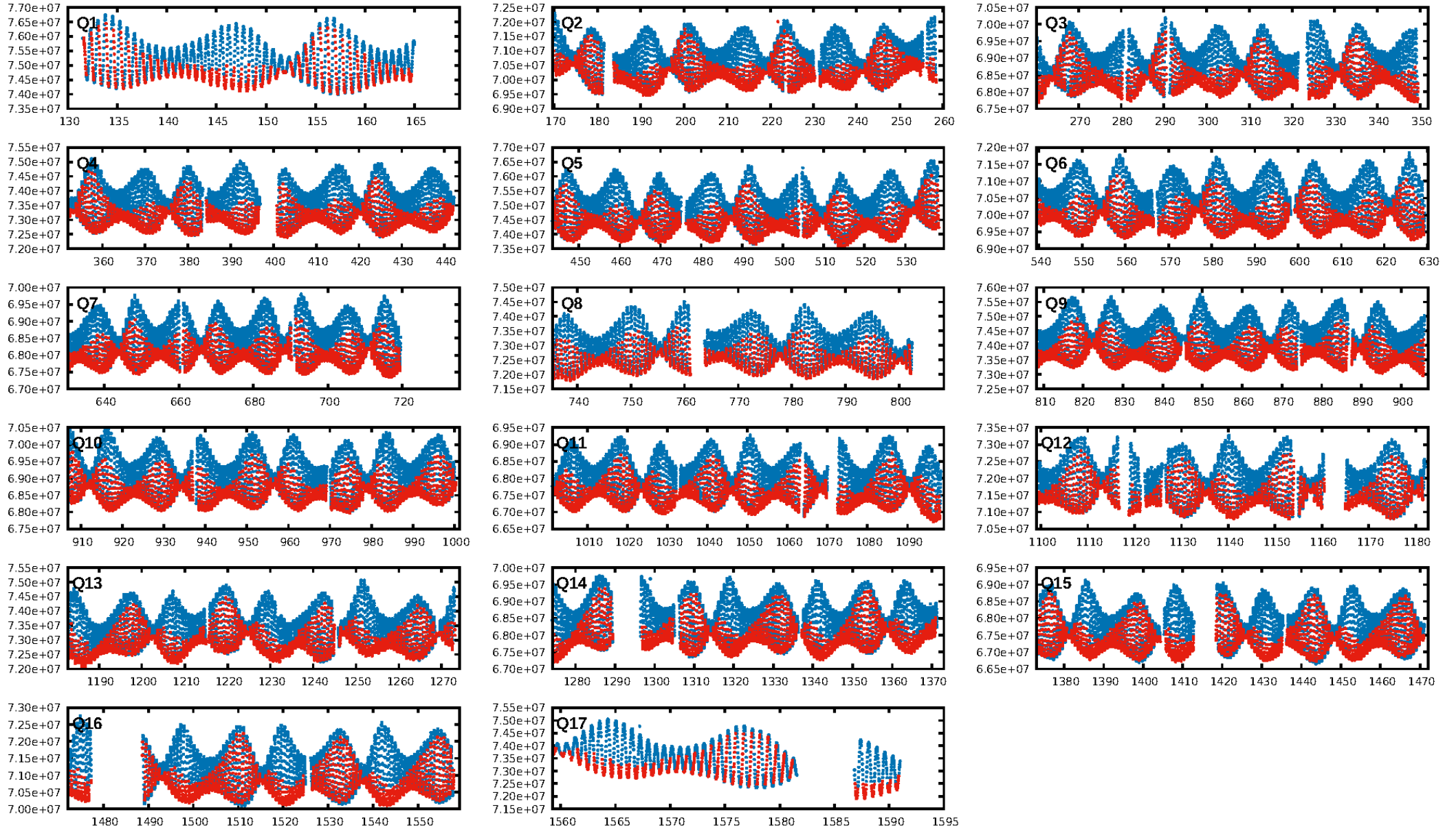
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 97.3% [2.21σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.98 [1693/1720]  
GhostDiagnostic-chr: 0.5458  
Centroid-sig: 10.6%  
Centroid-so: 4.669 arcsec [1.49σ]  
OotOffset-rm: 0.082 arcsec [1.20σ]  
KicOffset-rm: 0.177 arcsec [2.47σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 07:02:32 Z

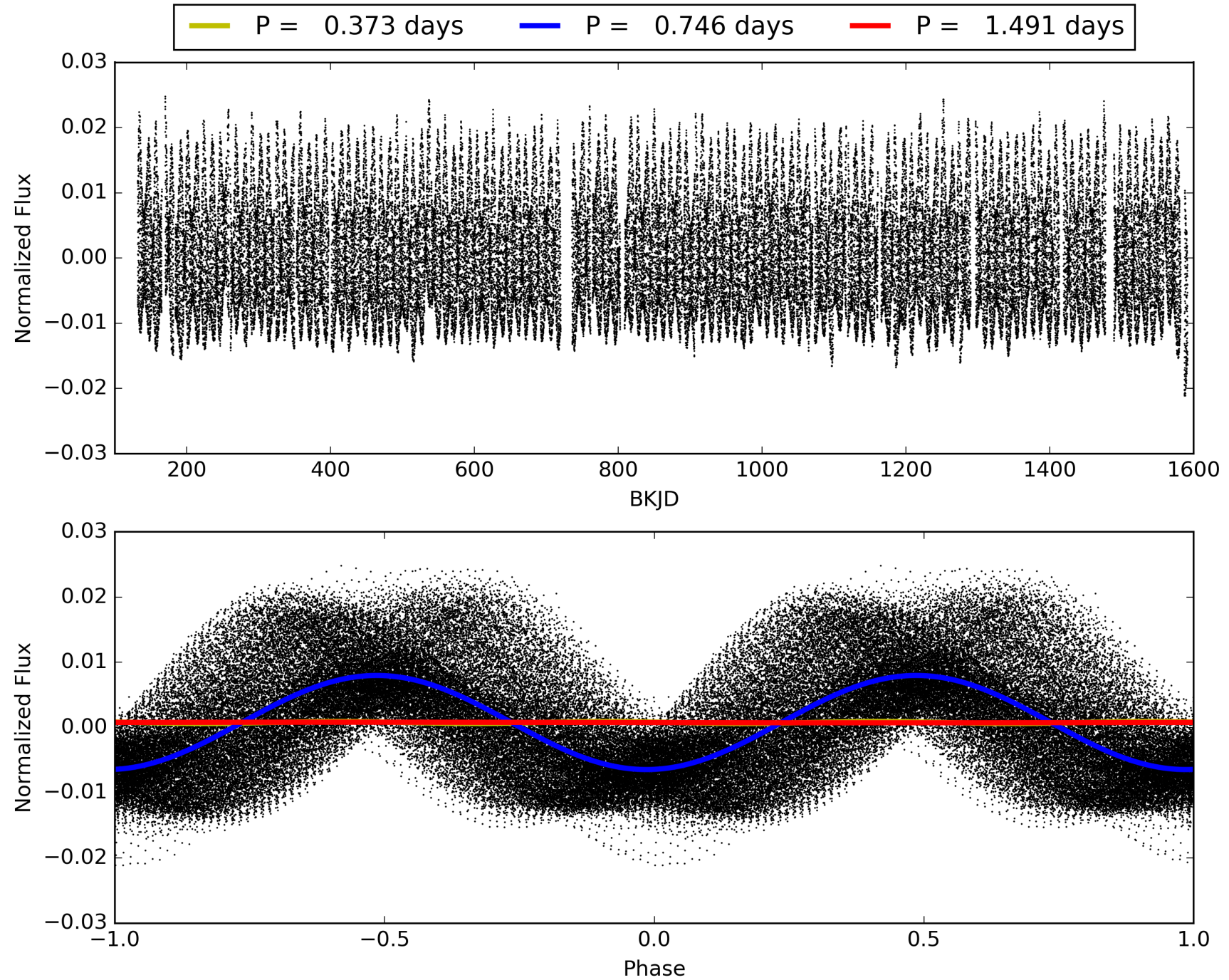
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005650341-01, PDC Light Curves





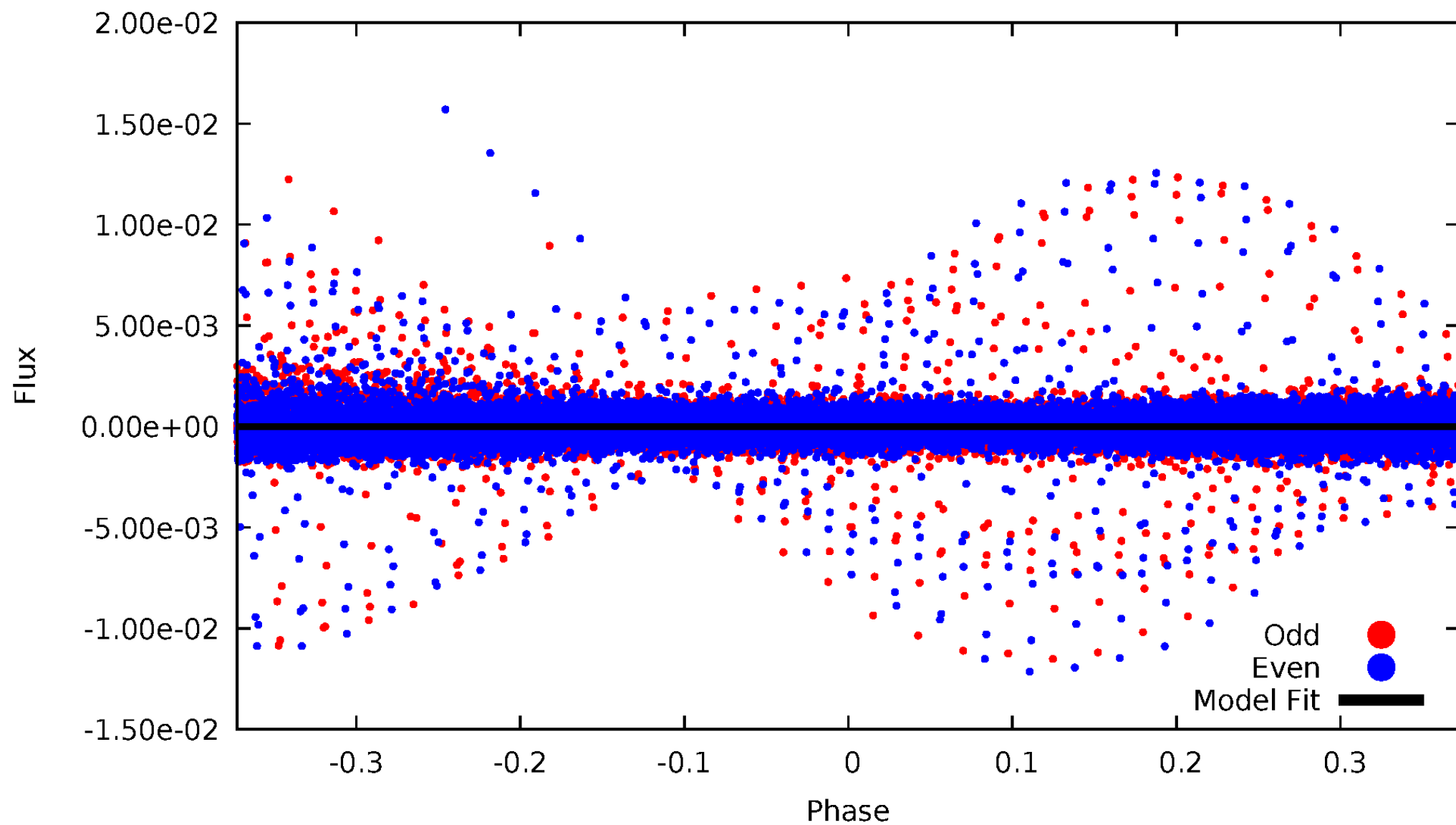
TCE 005650341-01





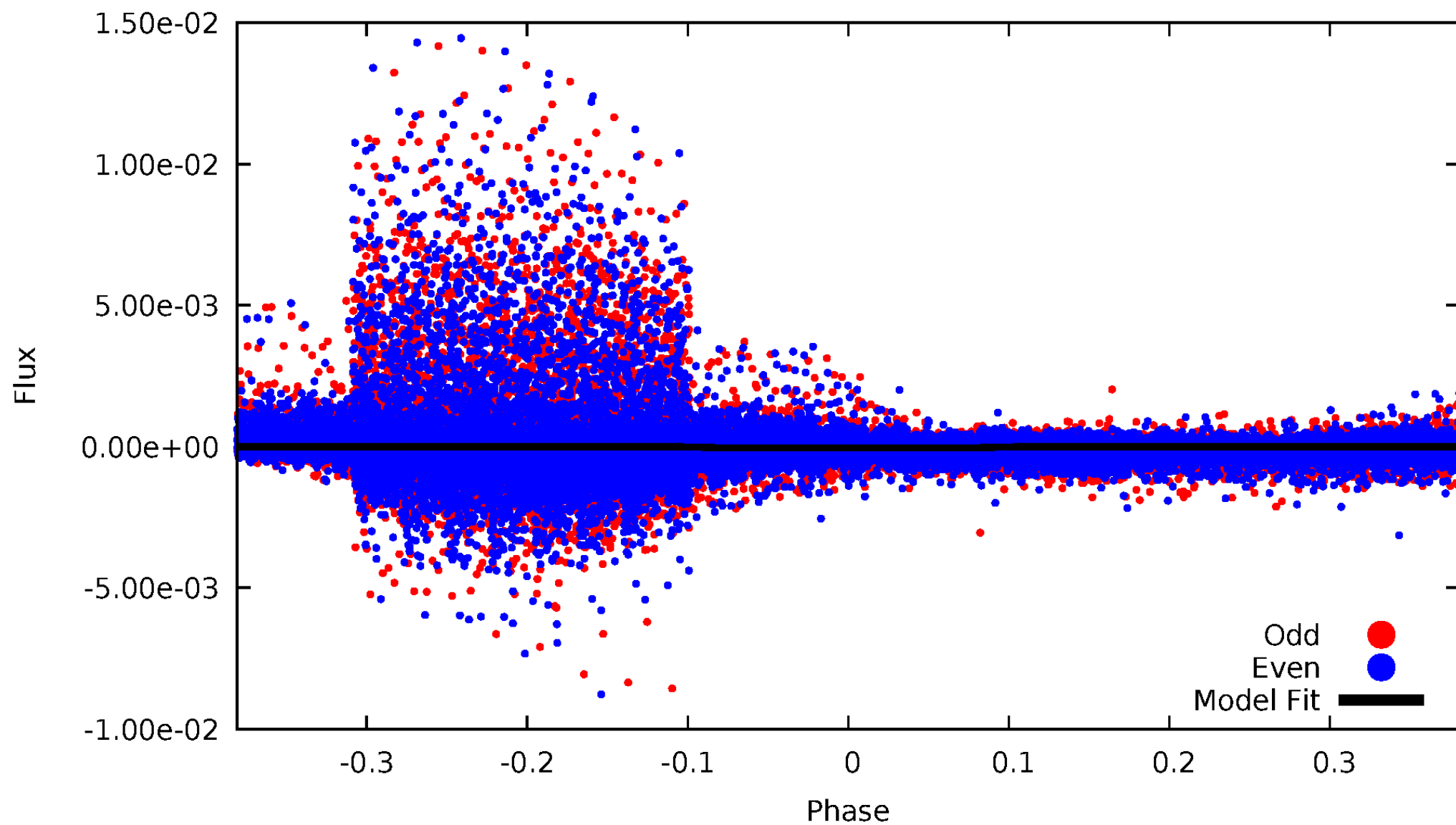
# DV Odd/Even

TCE 005650341-01



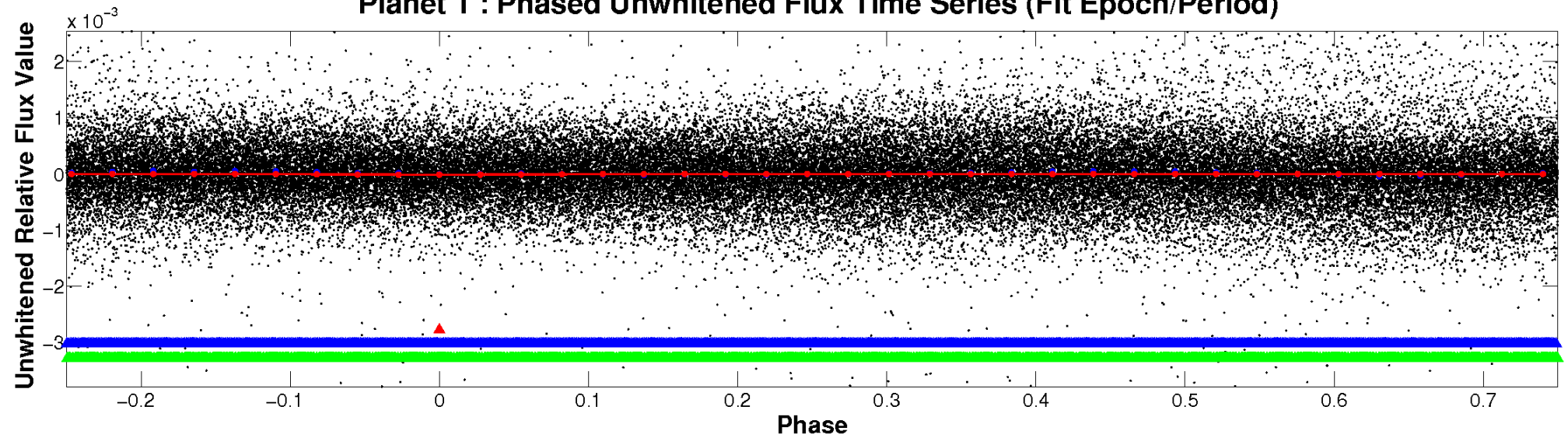
# ALT Odd/Even

TCE 005650341-01

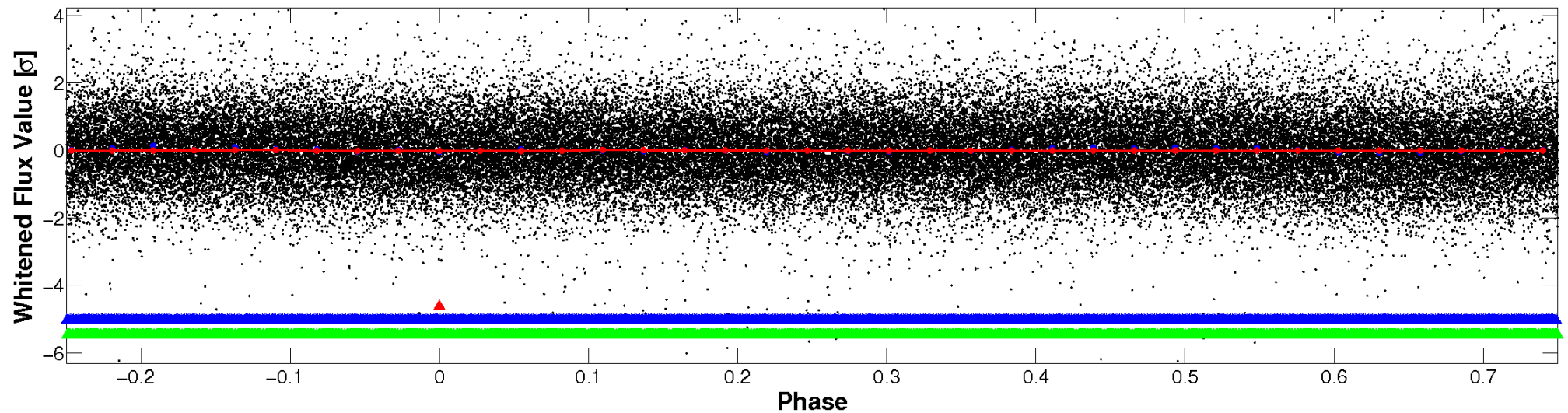


# Non-Whitened Vs. Whitened Light Curve

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



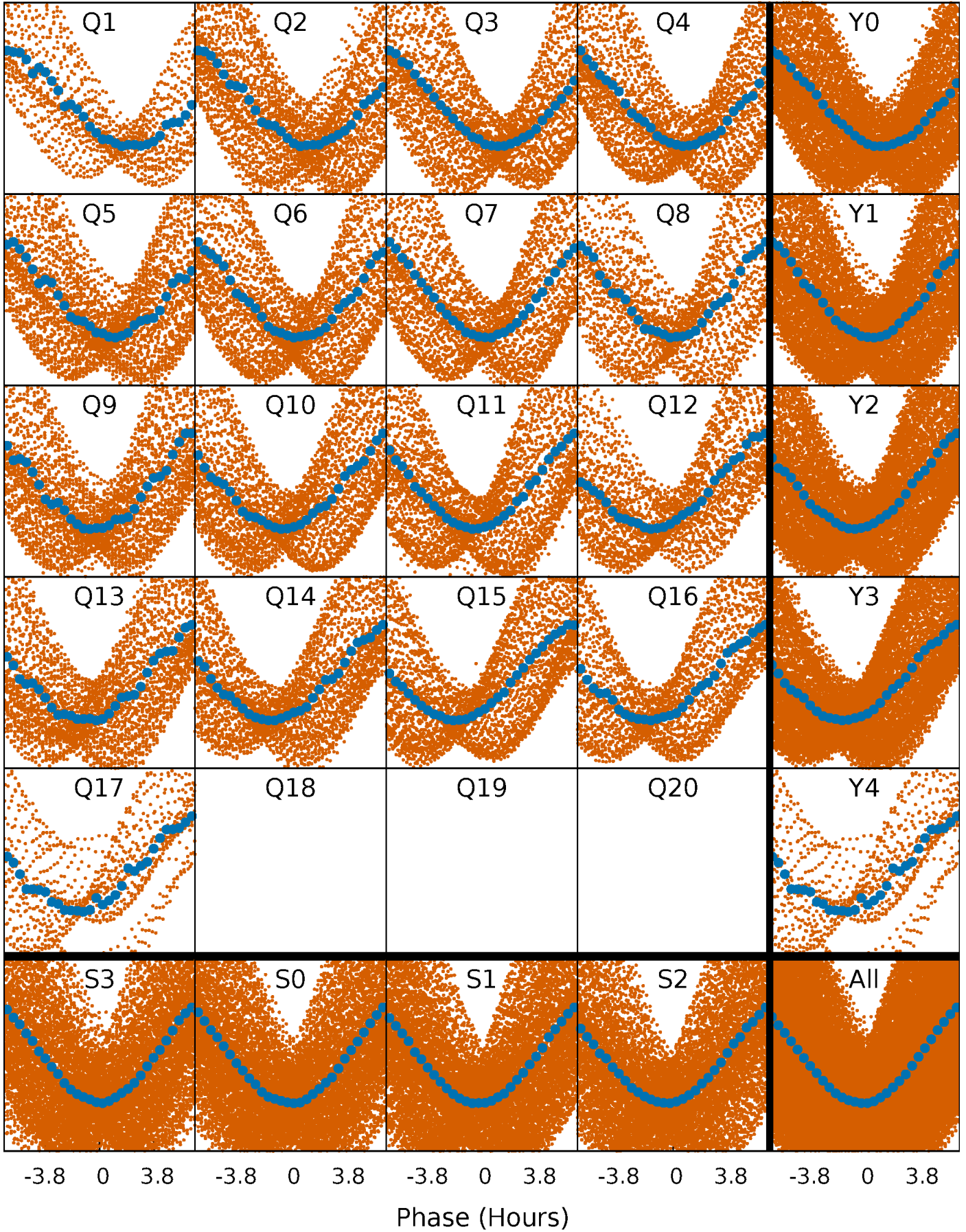
Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)





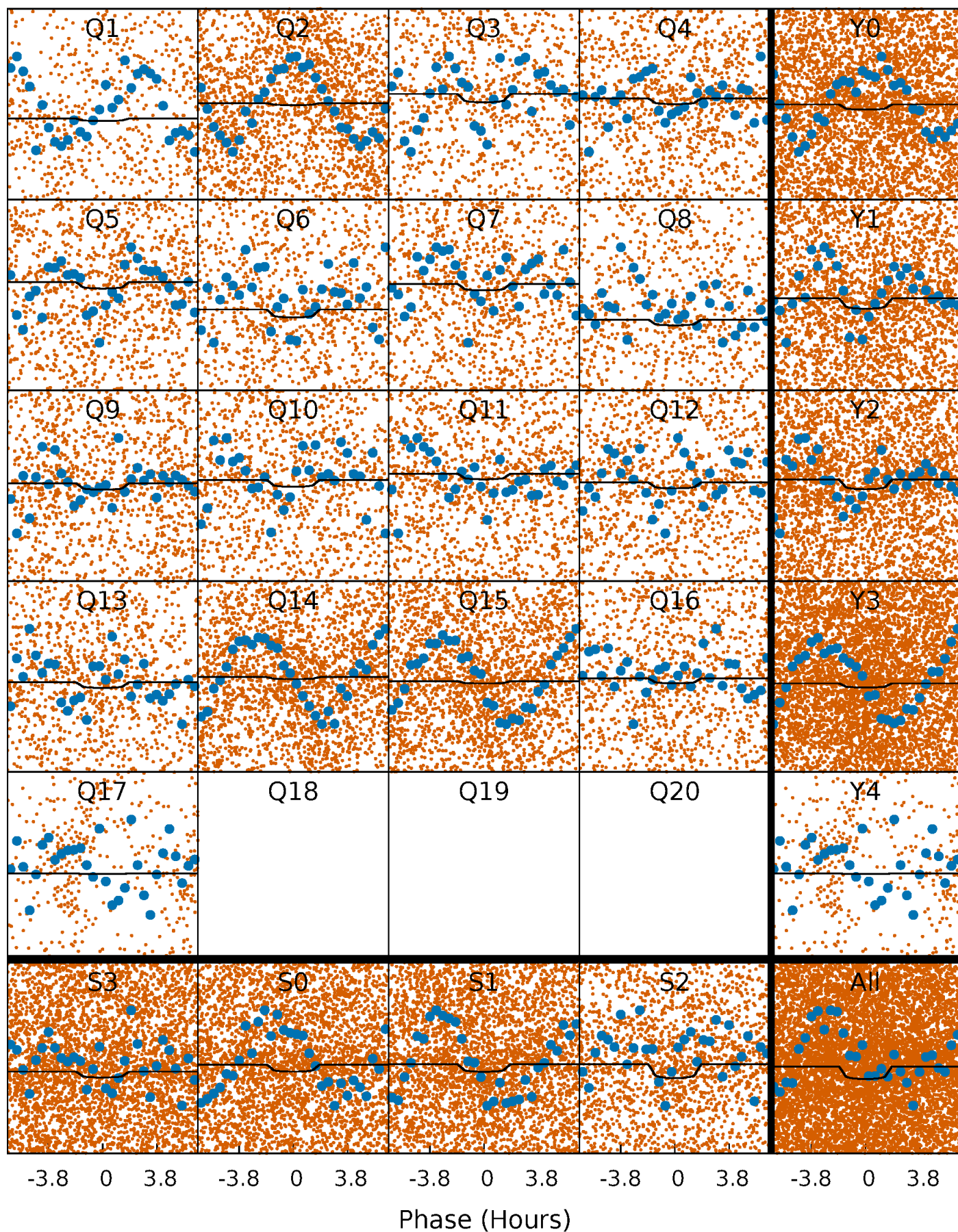
# PDC Quarter-Phased Transit Curves

TCE 005650341-01 P= 0.745532 Days  $T_0=131.737293$  (BKJD)



# DV Quarter-Phased Transit Curves

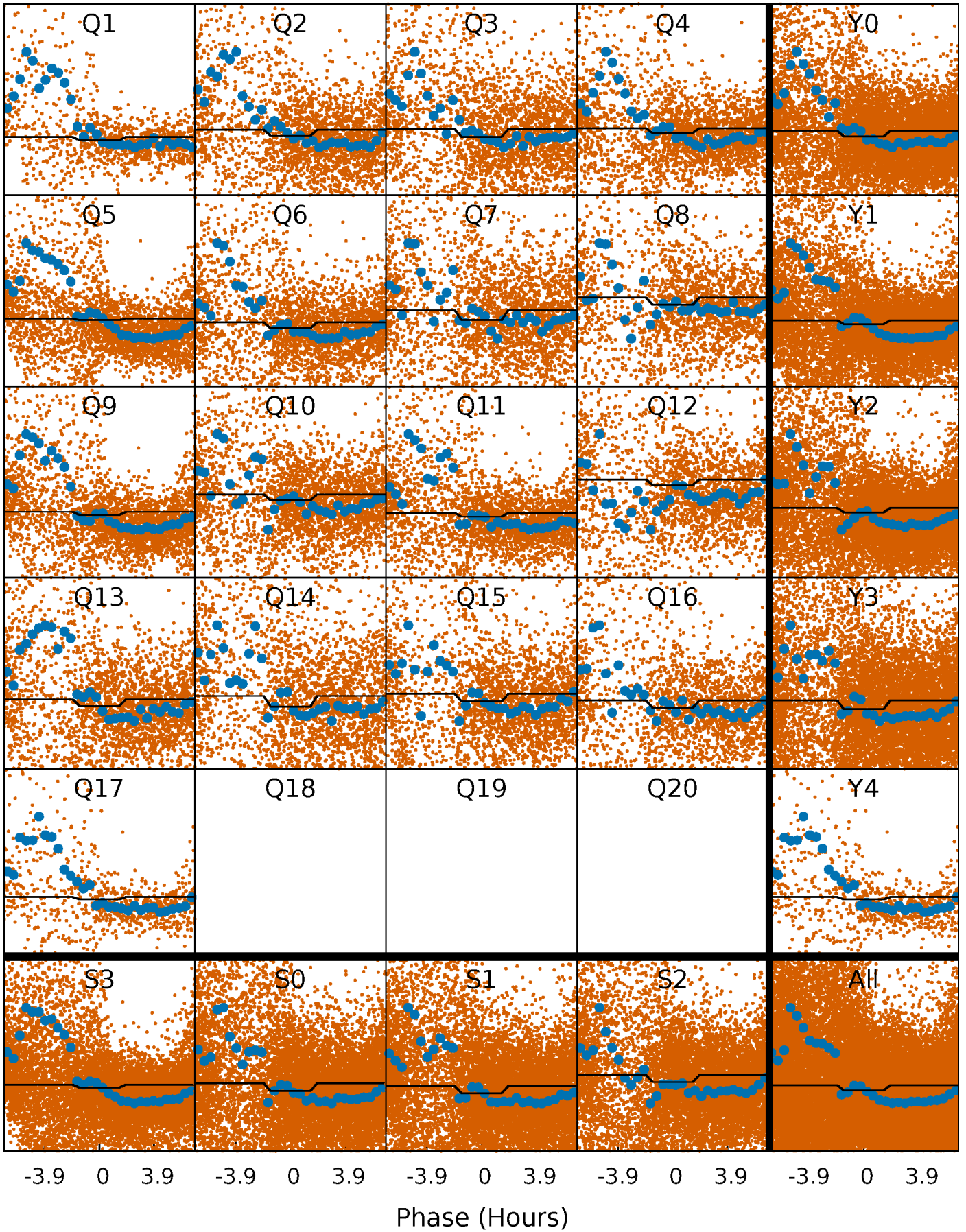
TCE 005650341-01 P= 0.745532 Days  $T_0=131.737293$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 005650341-01 P= 0.745461 Days  $T_0=131.704693$  (BKJD)

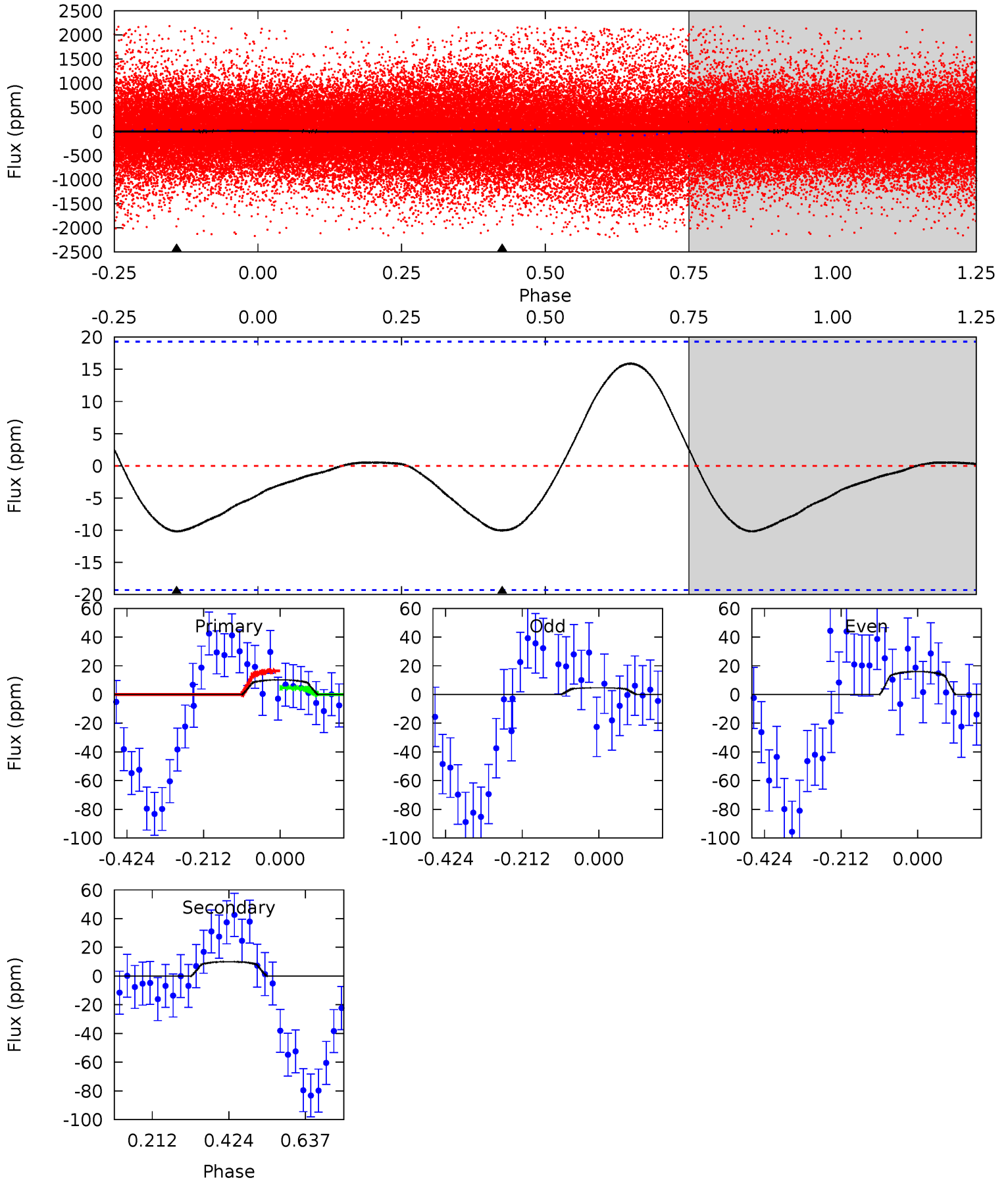




# DV Model-Shift Uniqueness Test

005650341-01, P = 0.745532 Days, E = 130.991761 Days

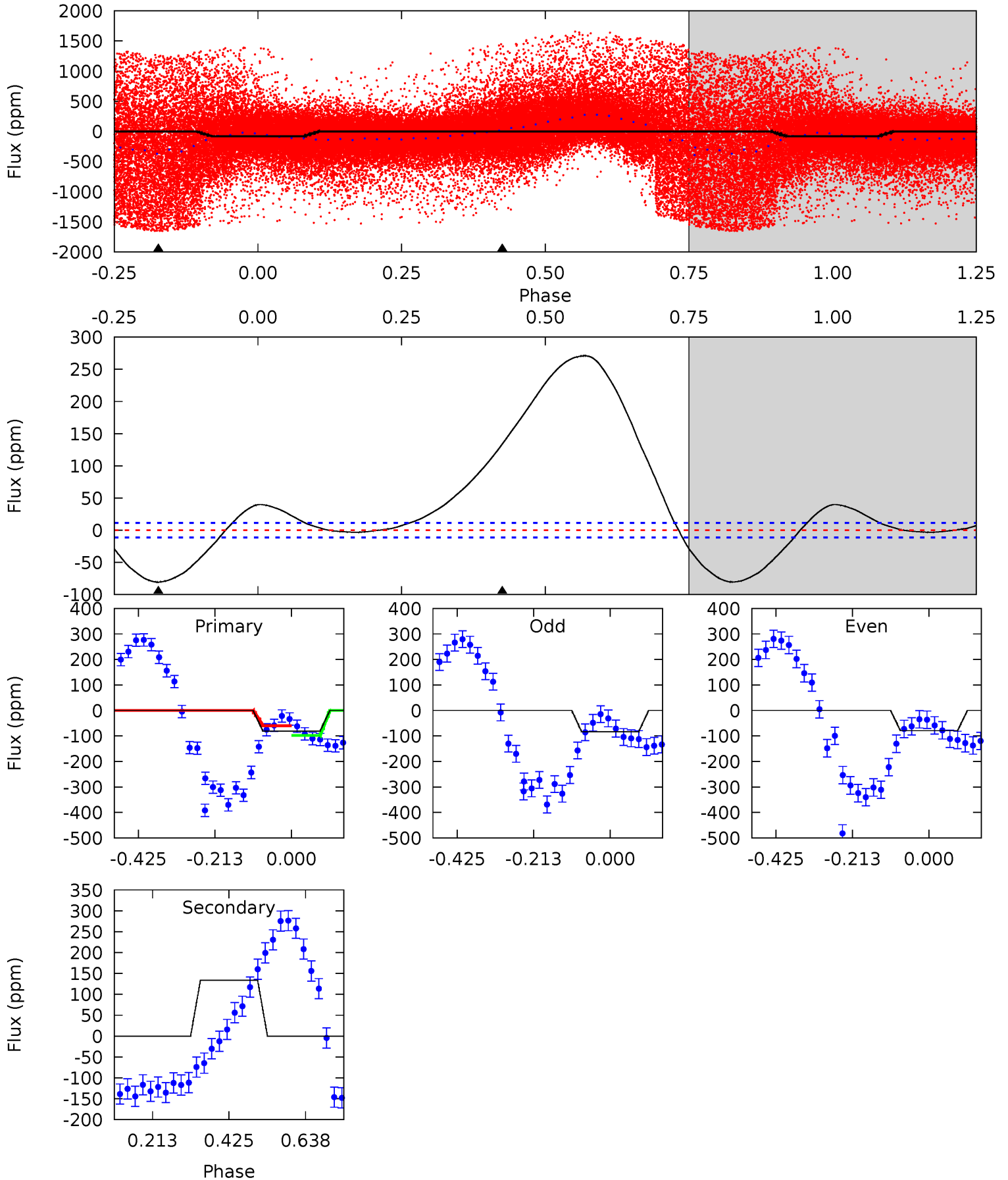
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.32	2.29	0	0	4.40	1.25	0.88	2.32	2.32	2.29	2.29	1.26	-1.48	0.61	1.24



# Alt Model-Shift Uniqueness Test

005650341-01, P = 0.745461 Days, E = 130.959232 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
31.3	-51.9	0	0	4.40	1.25	3.97	31.3	31.3	-51.9	-51.9	0.76	1.02	0.77	4.18



### Stellar Parameters For KIC 005650341

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6450^{+175}_{-213}$	$4.229^{+0.185}_{-0.167}$	$-0.480^{+0.300}_{-0.300}$	$1.281^{+0.355}_{-0.291}$	$1.013^{+0.159}_{-0.106}$	$0.678^{+0.708}_{-0.322}$
	+3%/-3%	+4%/-4%	+62%/-62%	+28%/-23%	+16%/-10%	+104%/-47%
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 005650341-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-10 \pm 4$	$0.54^{+0.40}_{-0.32}$	$3524^{+258}_{-250}$	$5555^{+4079}_{-1391}$	$4.408^{+24.594}_{-3.145}$
Alt.	$134 \pm 3$	$0.91^{+0.45}_{-0.40}$	$3537^{+255}_{-236}$	$-8930^{+1725}_{-5335}$	$-23.003^{+12.817}_{-52.587}$

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



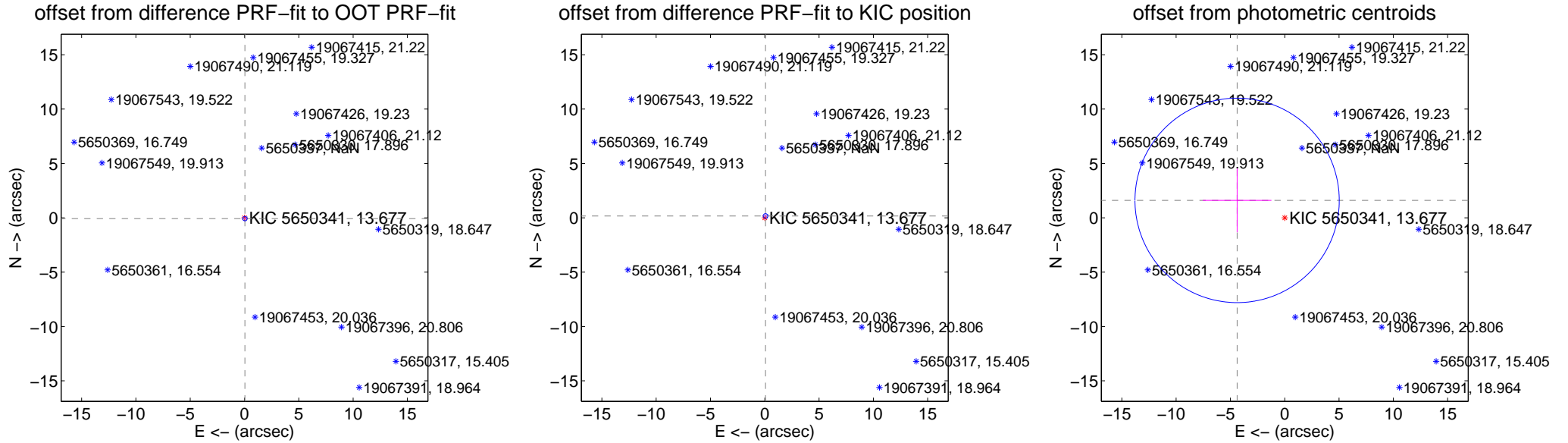
## DV Centroid Data

Supplemental centroid analysis for 005650341-01. Kepler magnitude: 13.68. Transit SNR 1.84

There are 17 quarters with good PRF difference image offsets

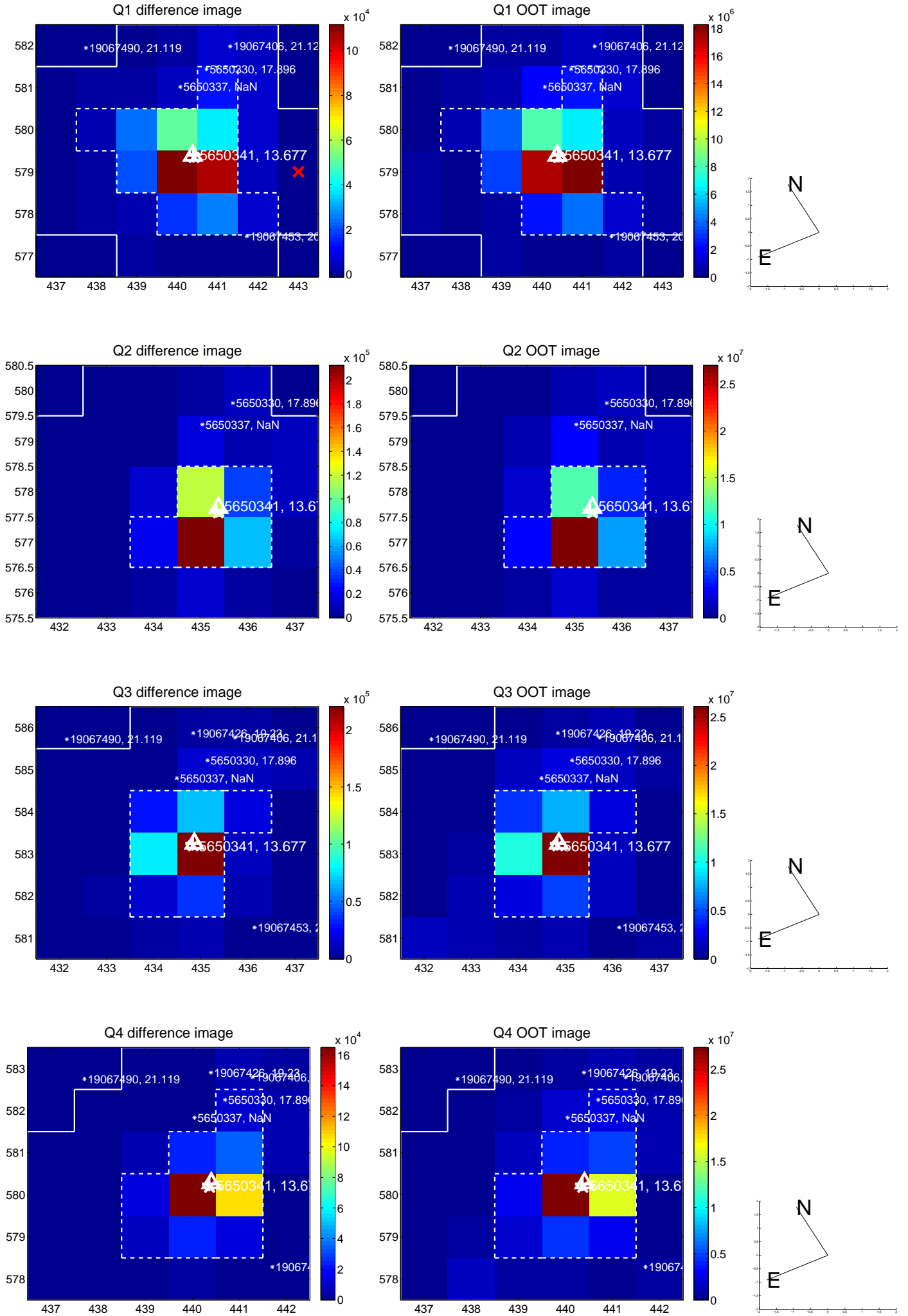
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.082 \pm 0.069$	1.20	$-0.037 \pm 0.073$	$-0.074 \pm 0.068$
PRF-fit source offset from KIC position	$0.177 \pm 0.072$	2.47	$-0.068 \pm 0.073$	$0.163 \pm 0.069$
photometric centroid source offset	$4.67 \pm 3.14$	1.49	$4.39 \pm 3.16$	$1.60 \pm 2.93$

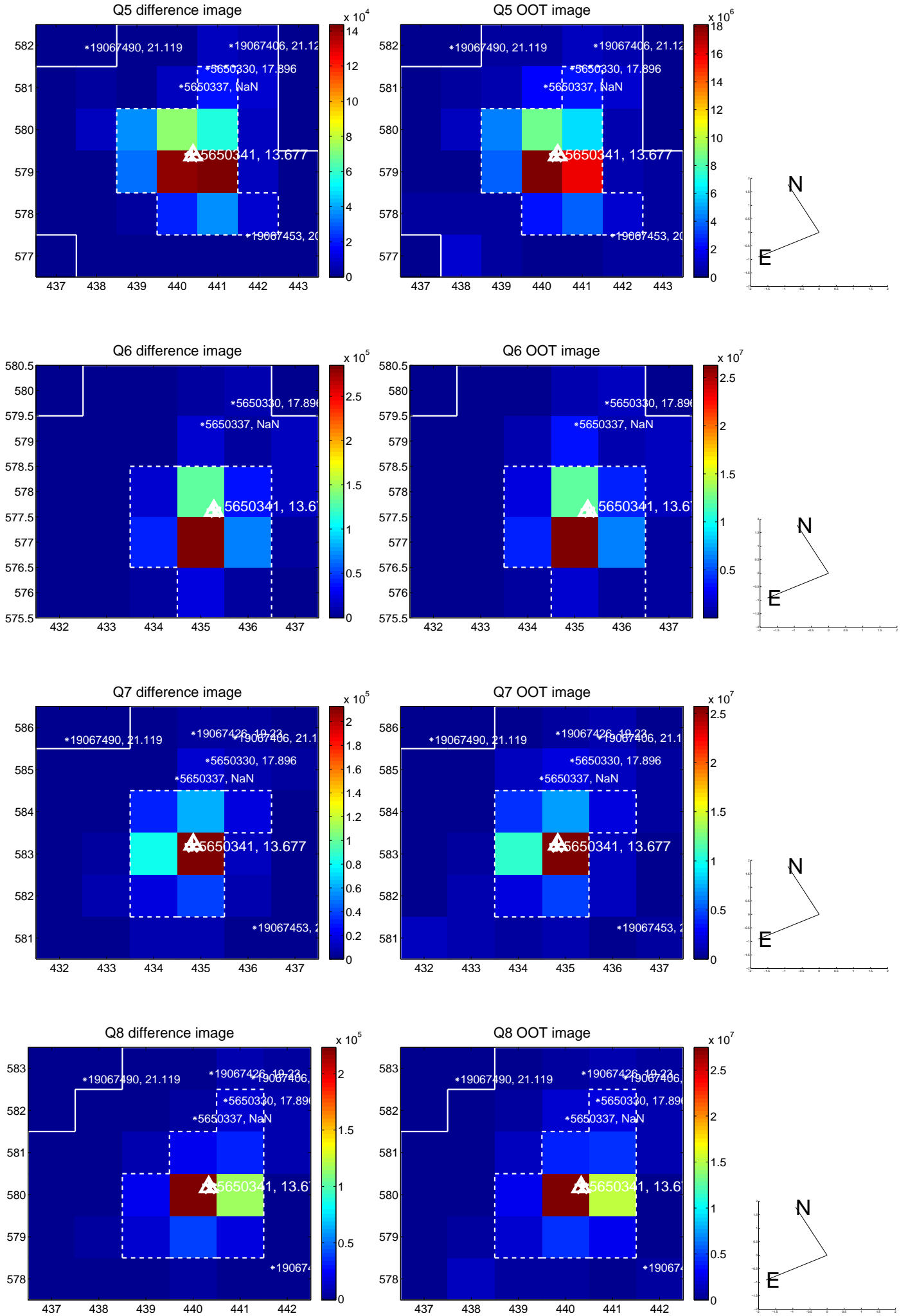


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

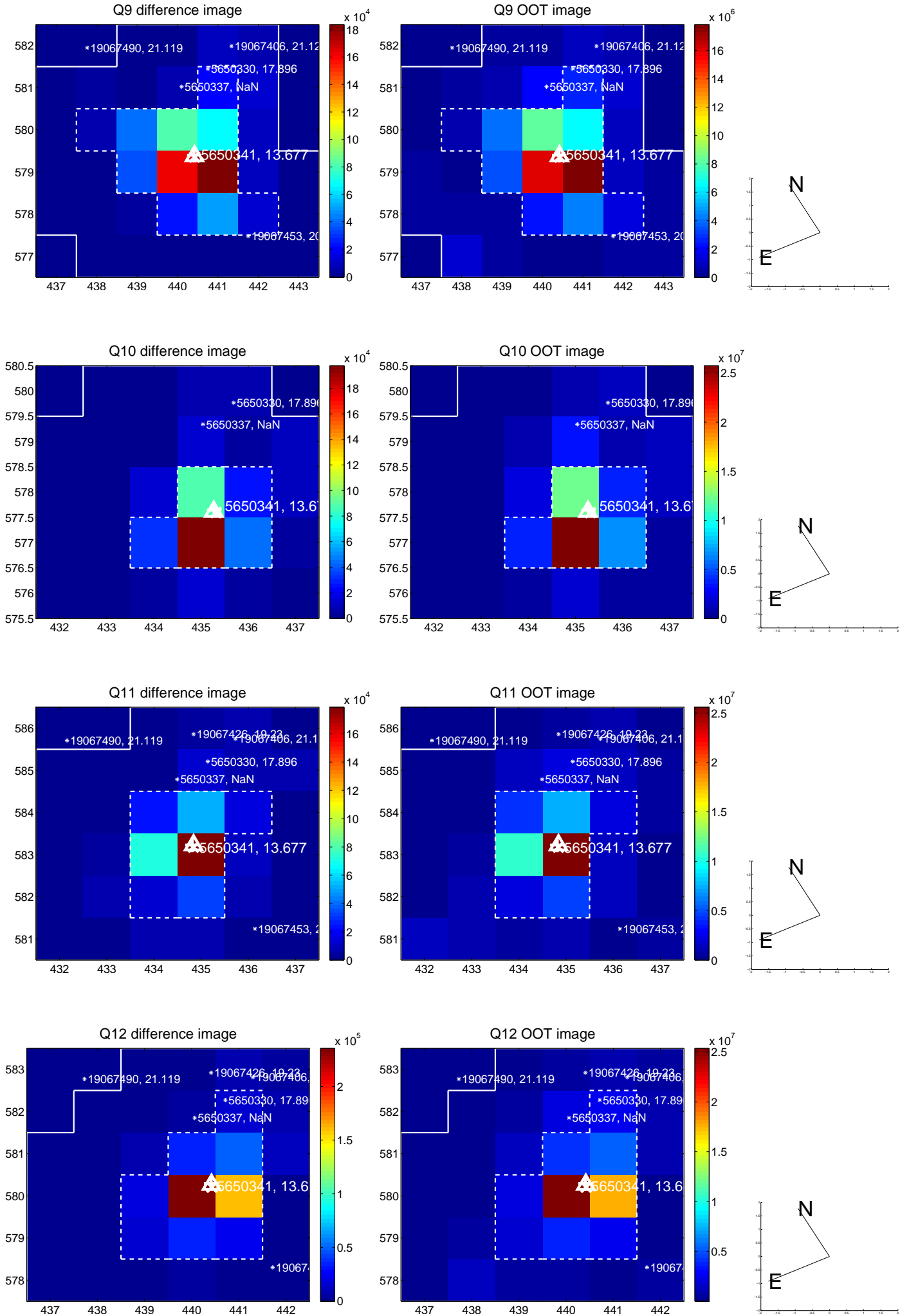


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

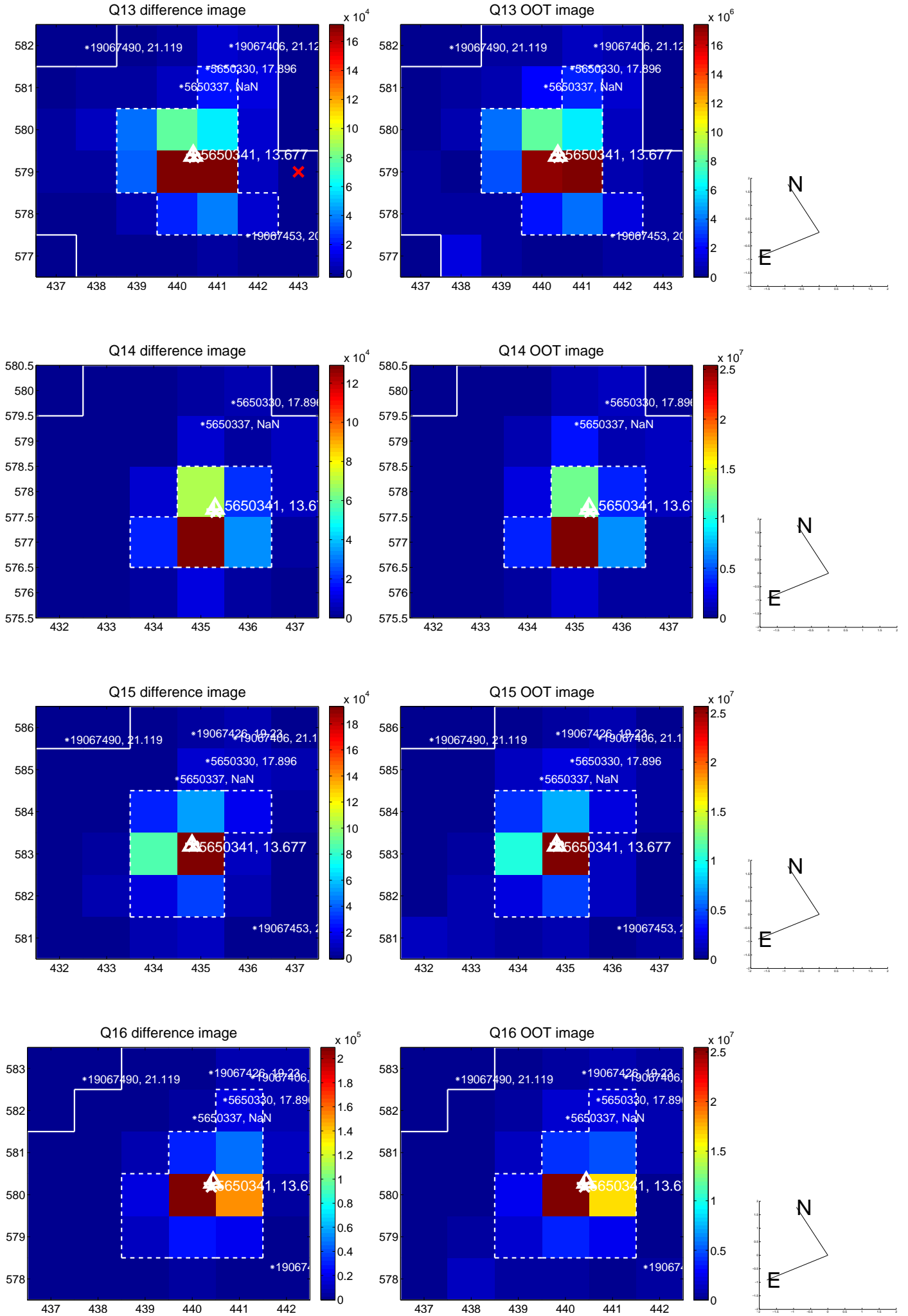




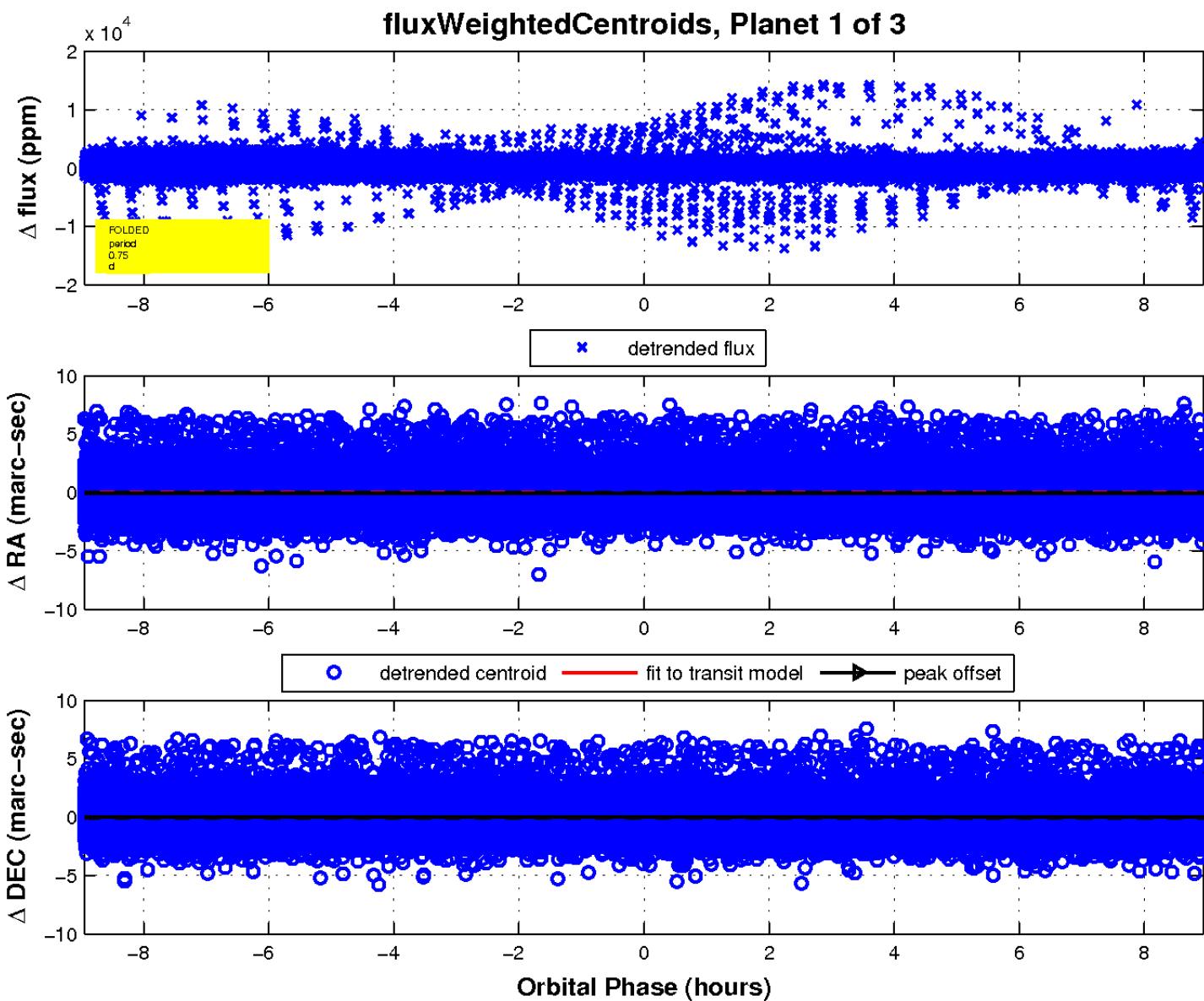
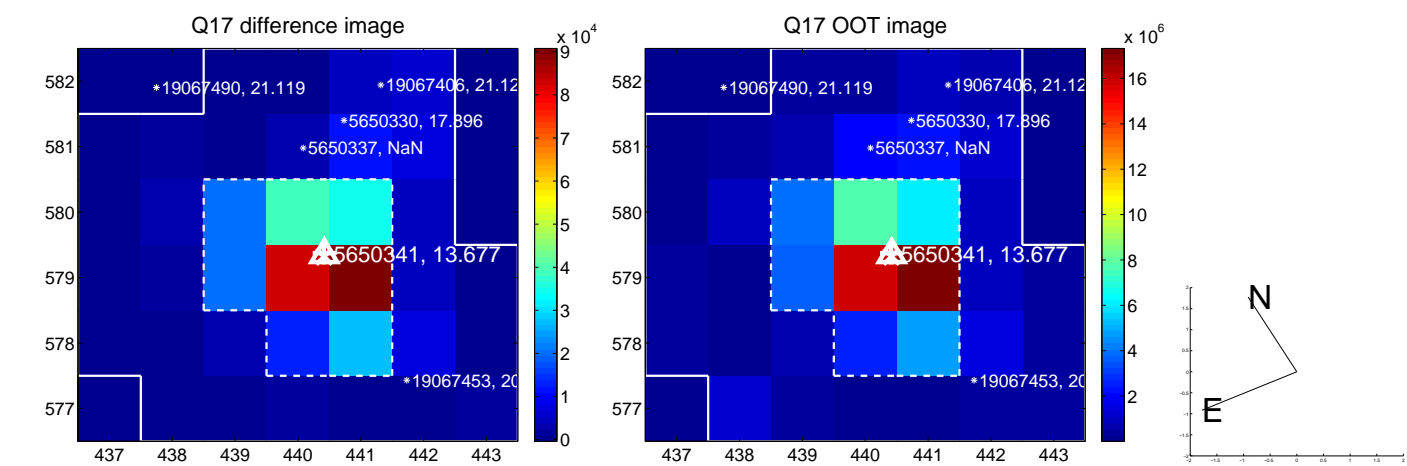
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



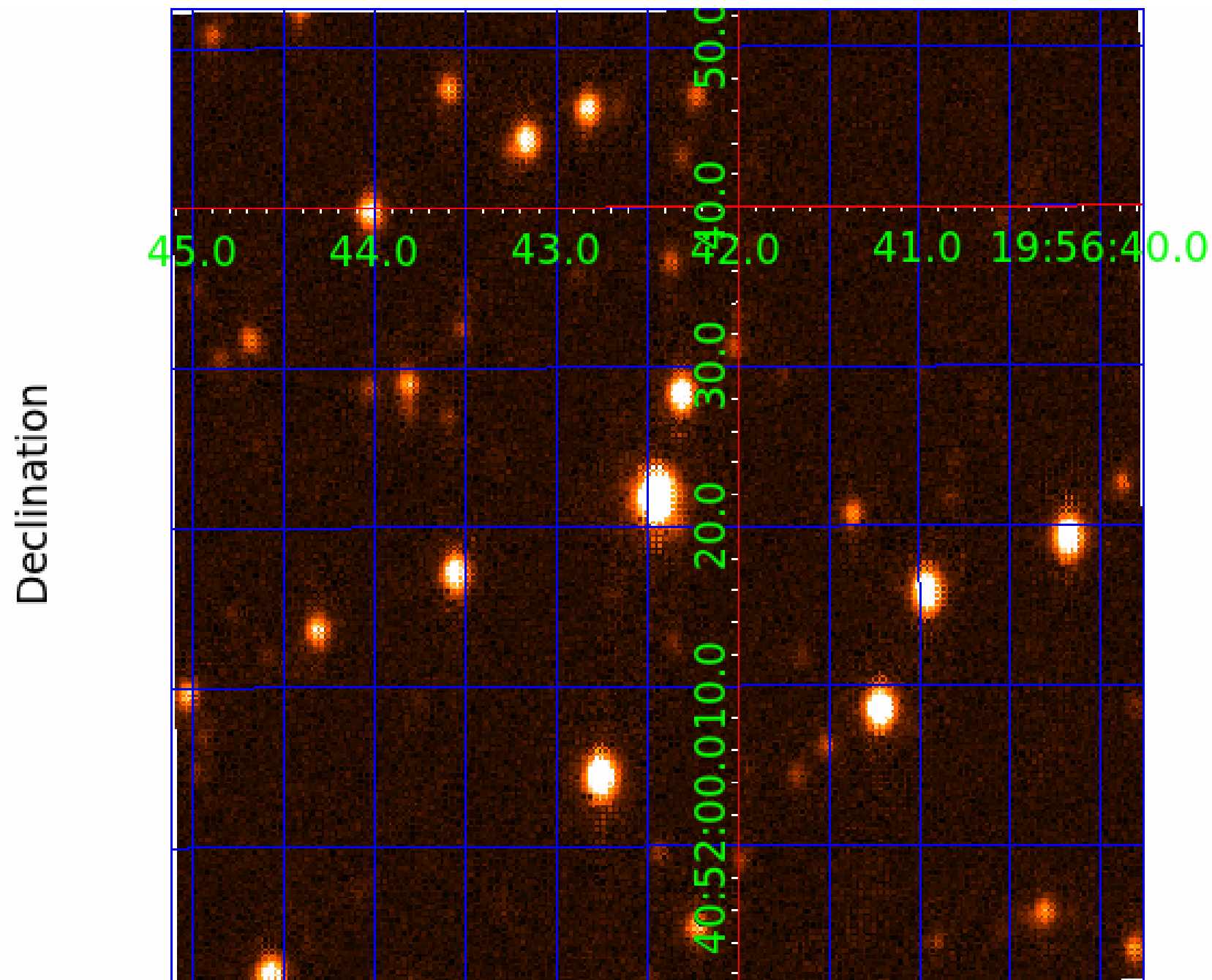
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image



# KIC 005650341

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005650341-01	OBS	No	0.745532	131.737293	11.2	3.333	13.6	1.8	1.28	6450	0.51	9732.20
005650341-02	OBS	No	1.450383	132.427808	277.5	6.893	12.8	15.3	1.28	6450	4.12	4007.34
005650341-03	OBS	No	1.450423	131.677868	456.1	5.000	21.0	-1.0	1.28	6450	2.75	4007.19

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005650341-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
005650341-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
005650341-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS

**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.

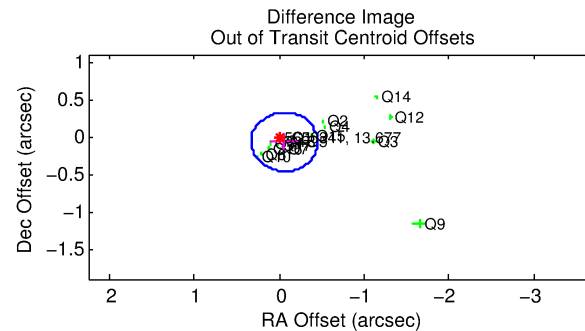
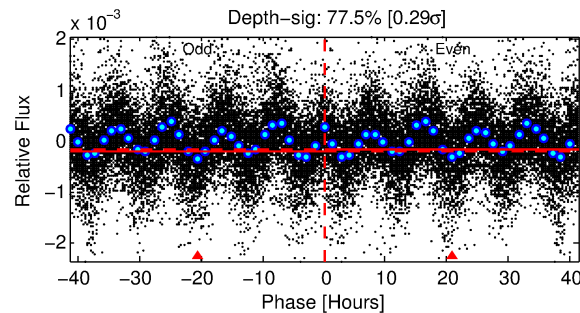
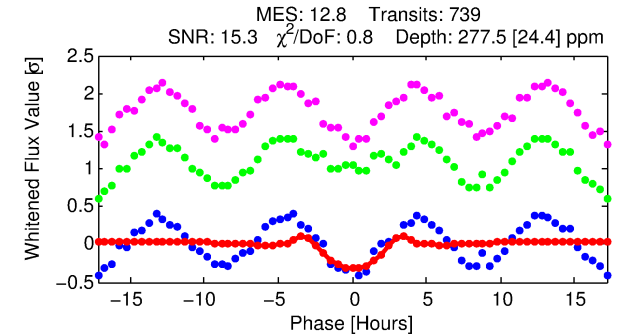
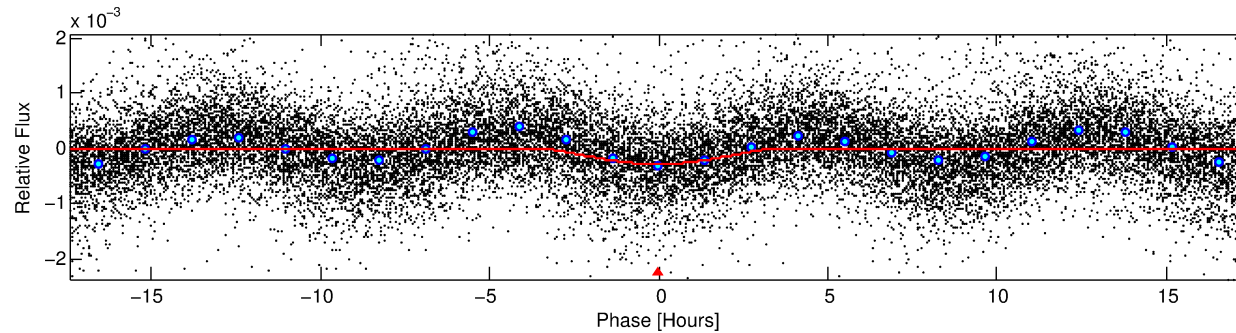
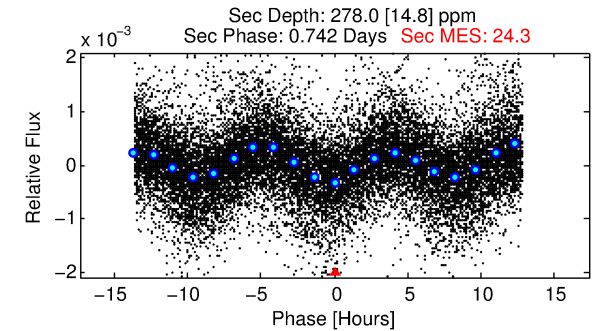
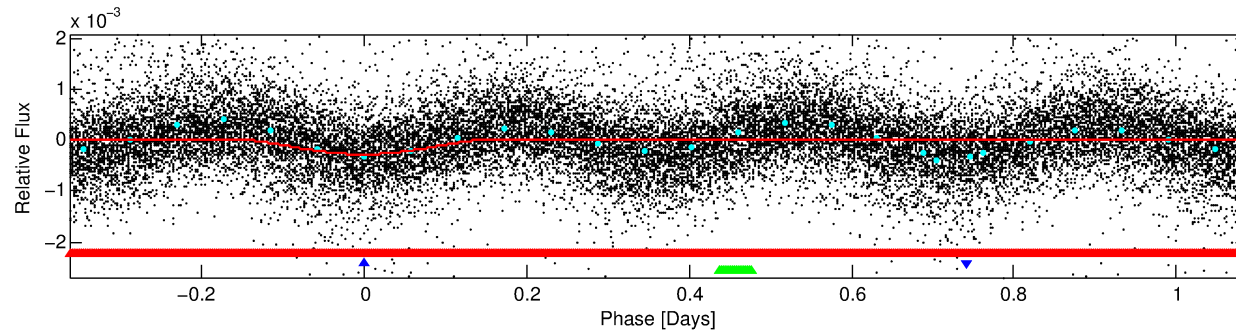
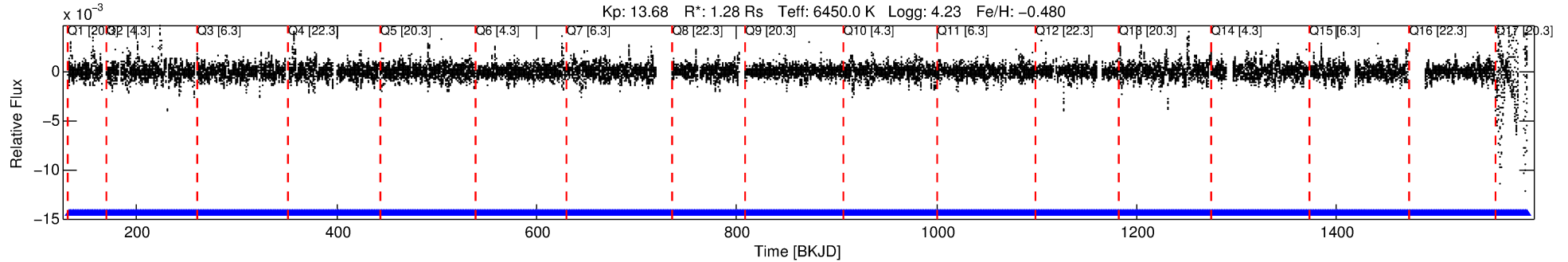
## Ephemeris Match Information For 005650341-02

No Significant Match Found



# DV One-Page Summary

KIC: 5650341 Candidate: 2 of 3 Period: 1.450 d



## DV Fit Results:

Period = 1.45038 [0.00001] d  
Epoch = 132.4278 [0.0049] BKJD  
Rp/R\* = 0.0295 [0.0225]  
a/R\* = 1.09 [0.01]  
b = 1.00 [0.03]  
Seff = 4007.34 [1457.20]  
Teq = 2029 [184] K  
Rp = 4.12 [3.35] Re  
a = 0.0252 [0.0059] AU  
Ag = 5.72 [8.96] [0.53σ]  
Teffp = 4852 [1862] K [1.51σ]

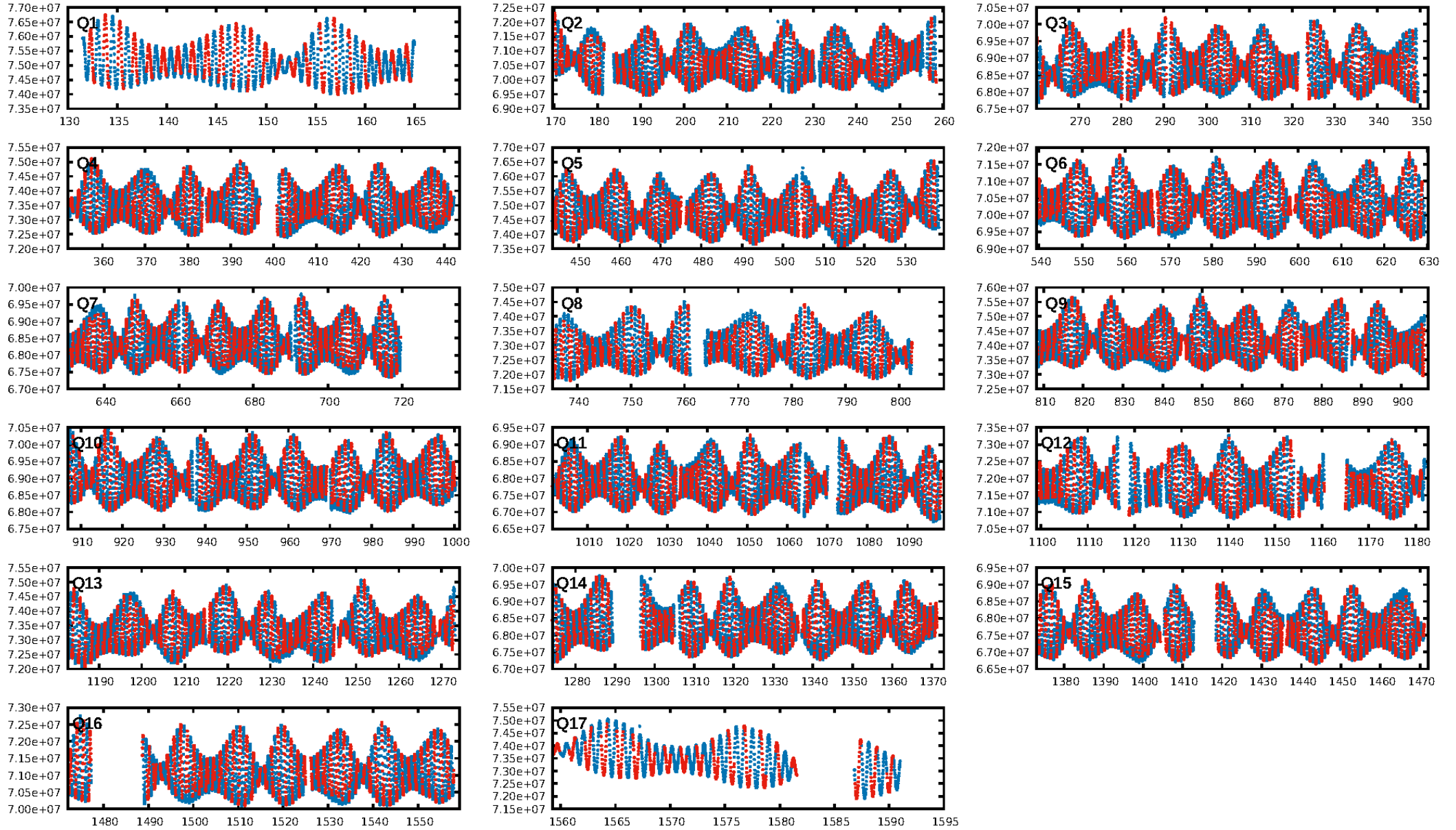
## DV Diagnostic Results:

ShortPeriod-sig: 97.3% [2.21σ]  
**LongPeriod-sig: 0.0% [0.00σ]**  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [705/705]  
GhostDiagnostic-chr: -0.8995  
Centroid-sig: 77.0%  
Centroid-so: 0.389 arcsec [2.19σ]  
OotOffset-rm: 0.094 arcsec [0.72σ]  
KicOffset-rm: 0.197 arcsec [1.50σ]  
OotOffset-st: 3/4/4/5 [16]  
KicOffset-st: 3/4/4/5 [16]  
DiffImageQuality-fgm: 0.56 [9/16]  
DiffImageOverlap-fno: 0.00 [0/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 07:02:45 Z

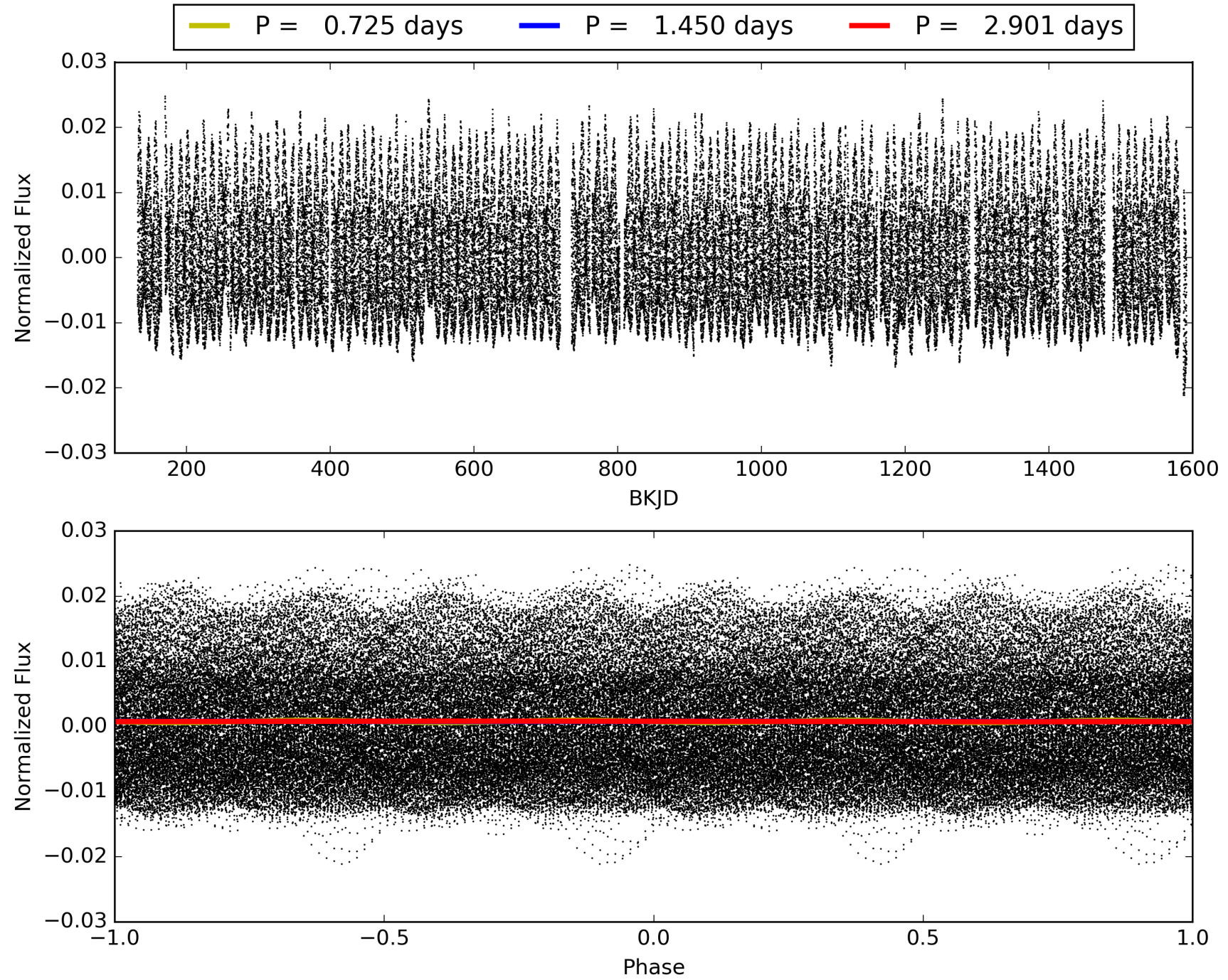
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005650341-02, PDC Light Curves



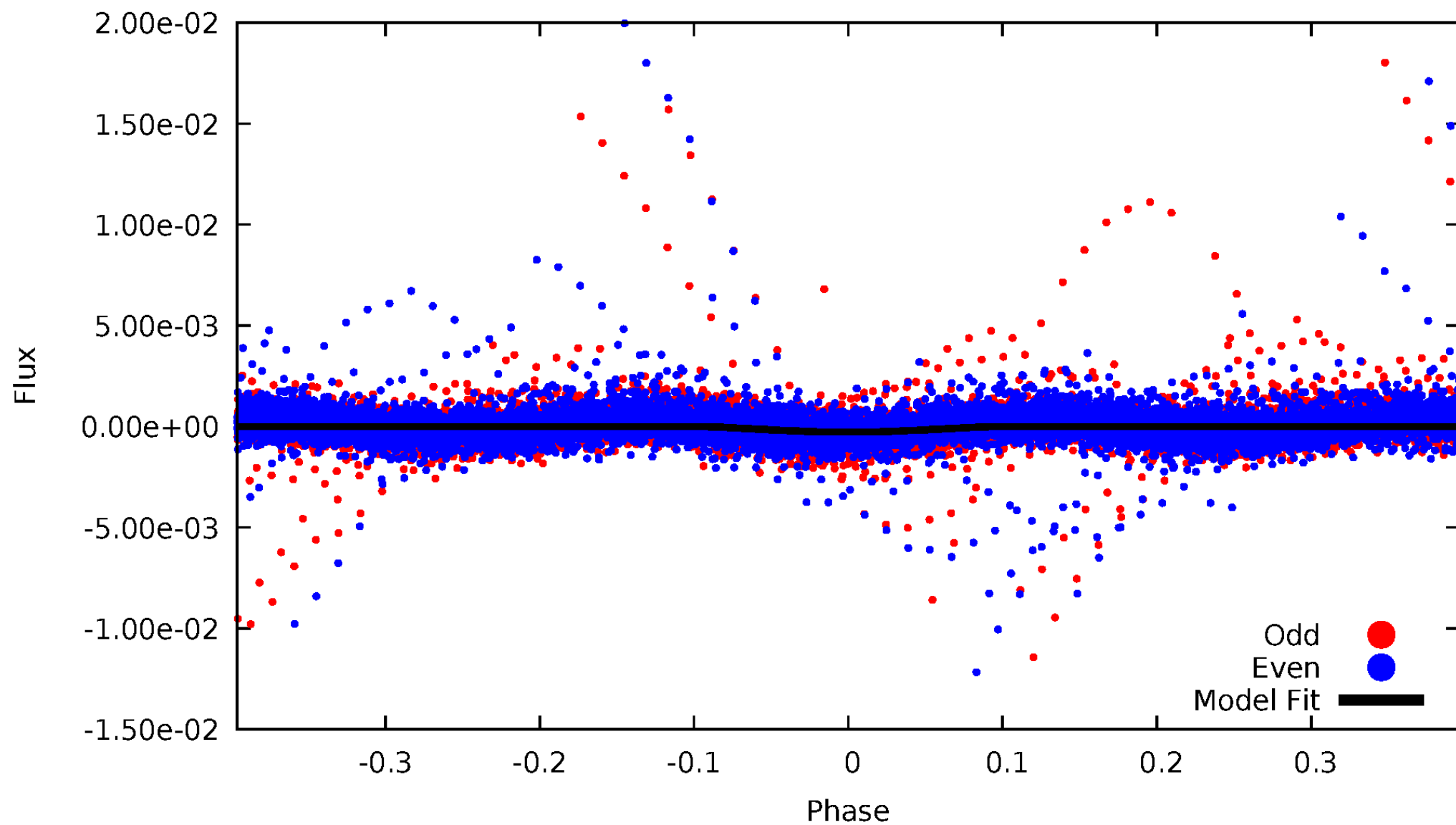


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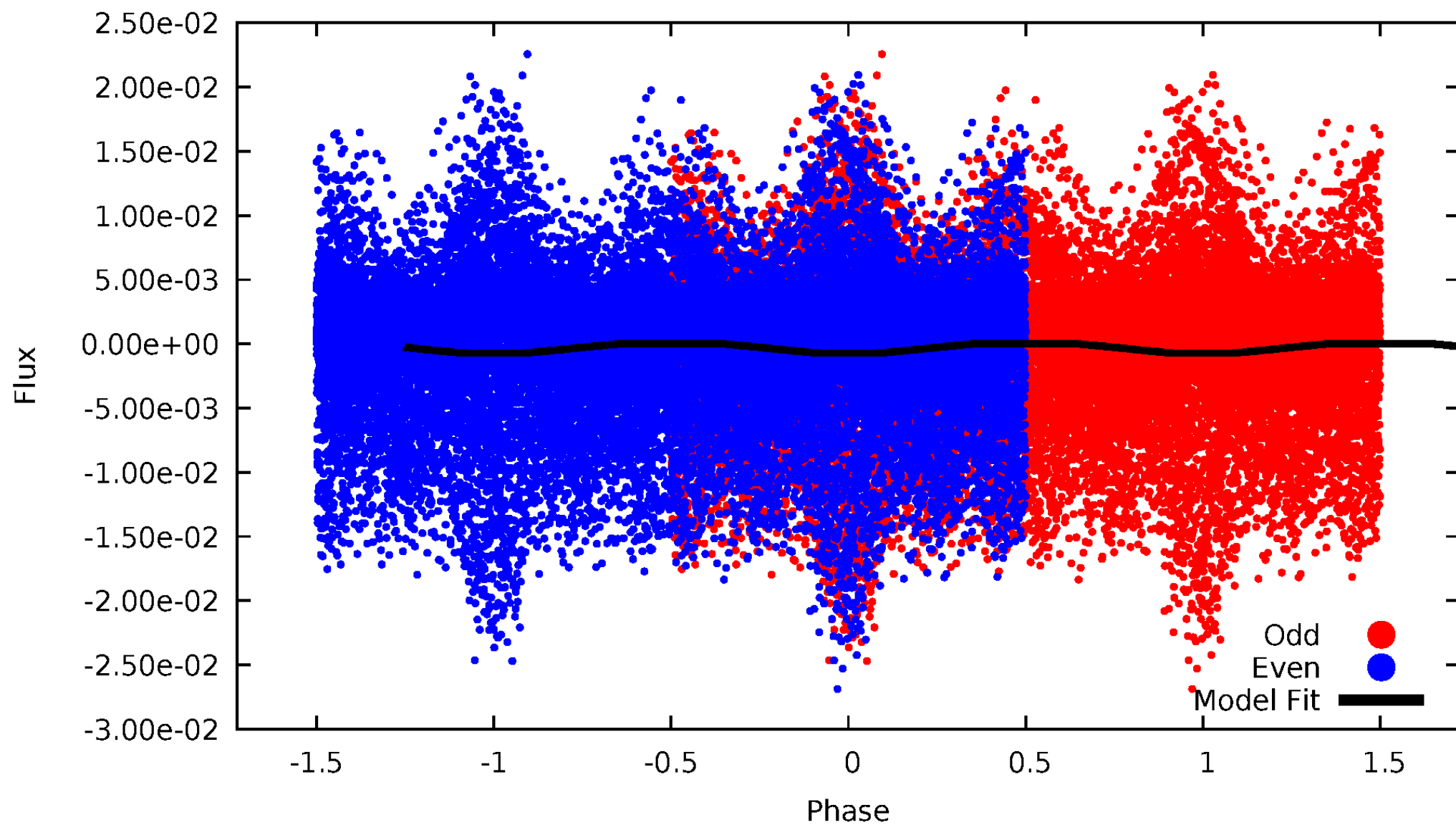
# DV Odd/Even

TCE 005650341-02



# ALT Odd/Even

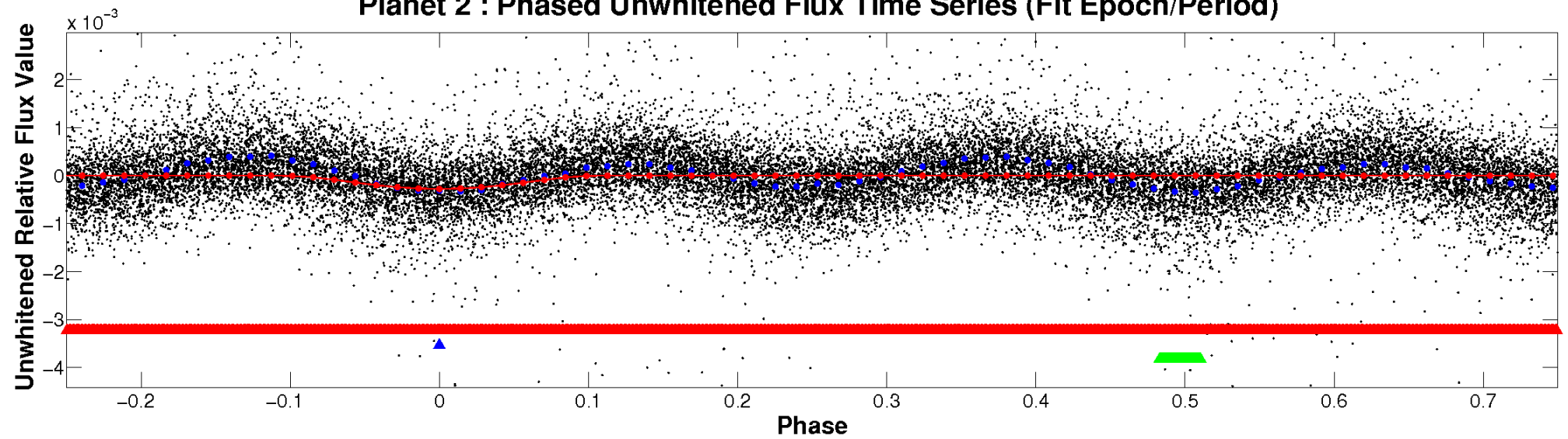
TCE 005650341-02



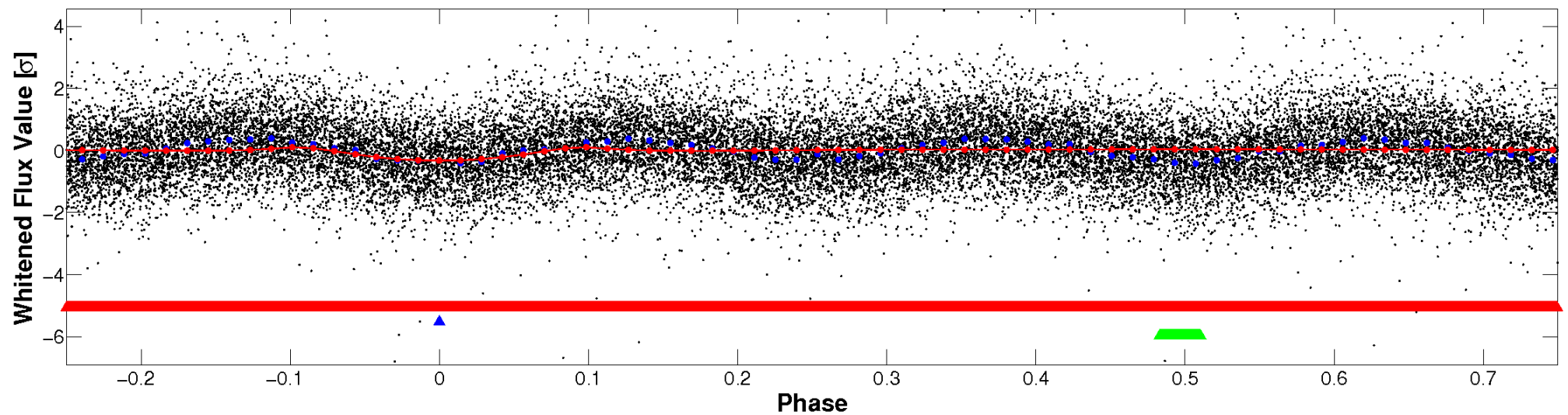


# Non-Whitened Vs. Whitened Light Curve

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

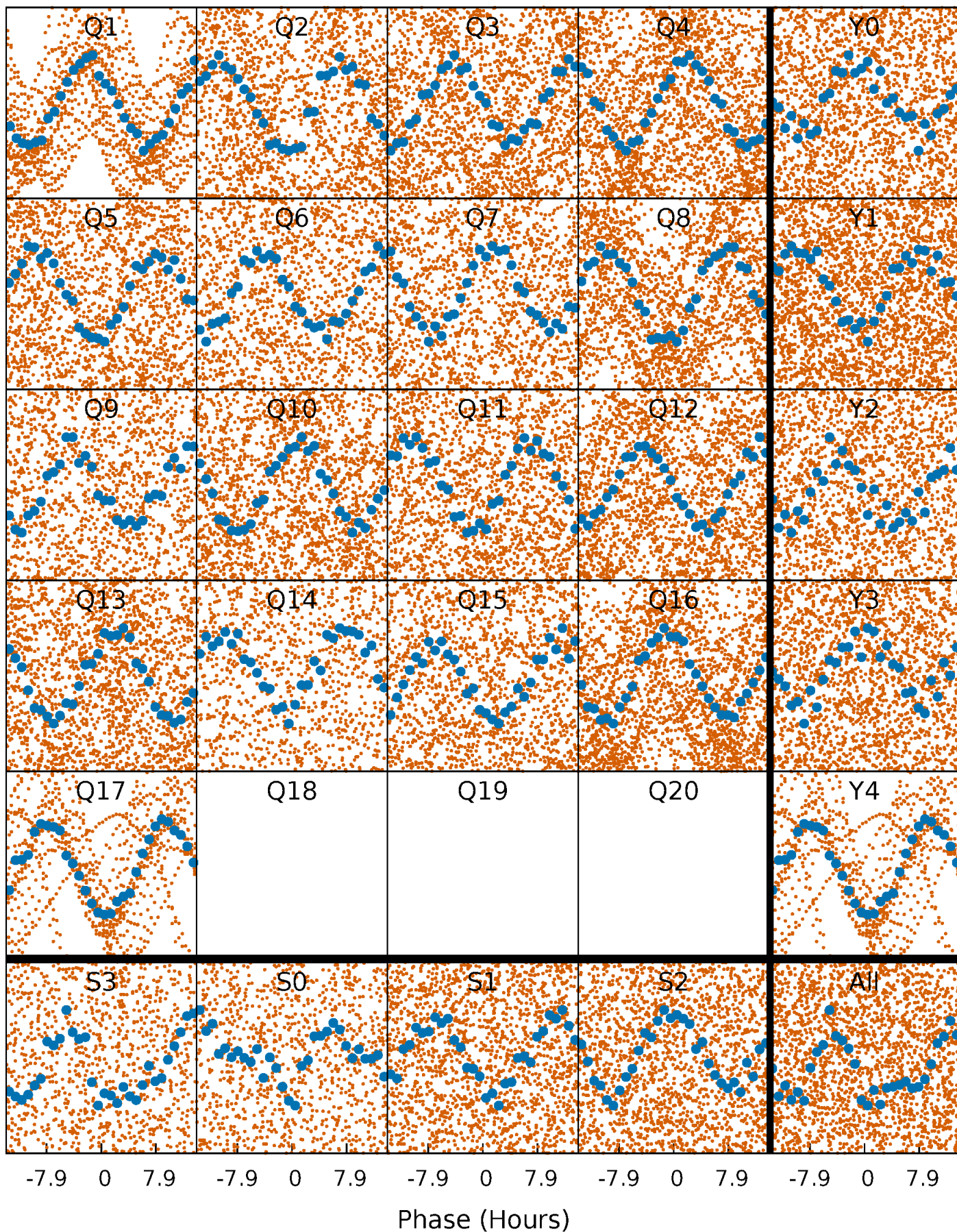


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

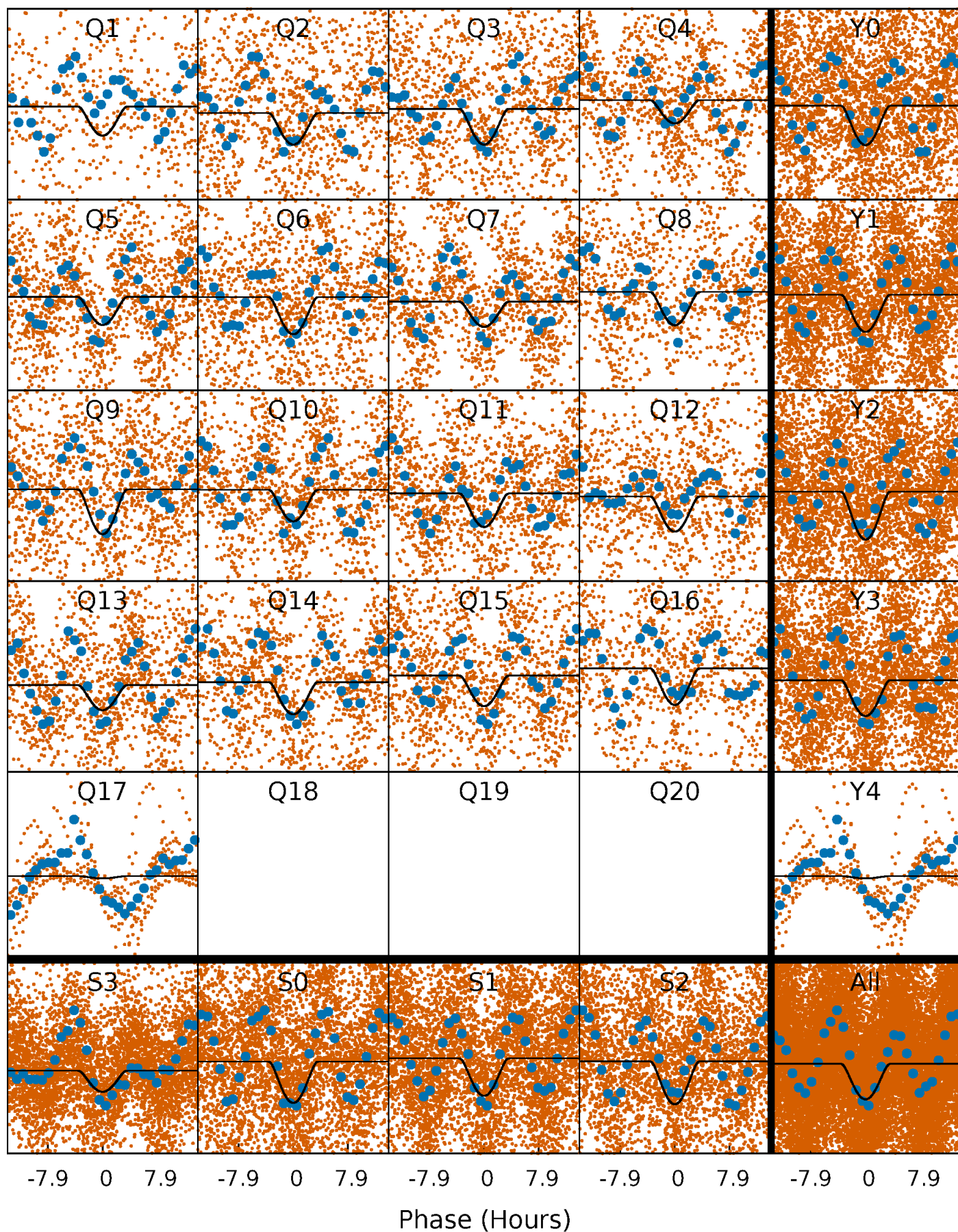
TCE 005650341-02 P= 1.450383 Days  $T_0=132.427808$  (BKJD)





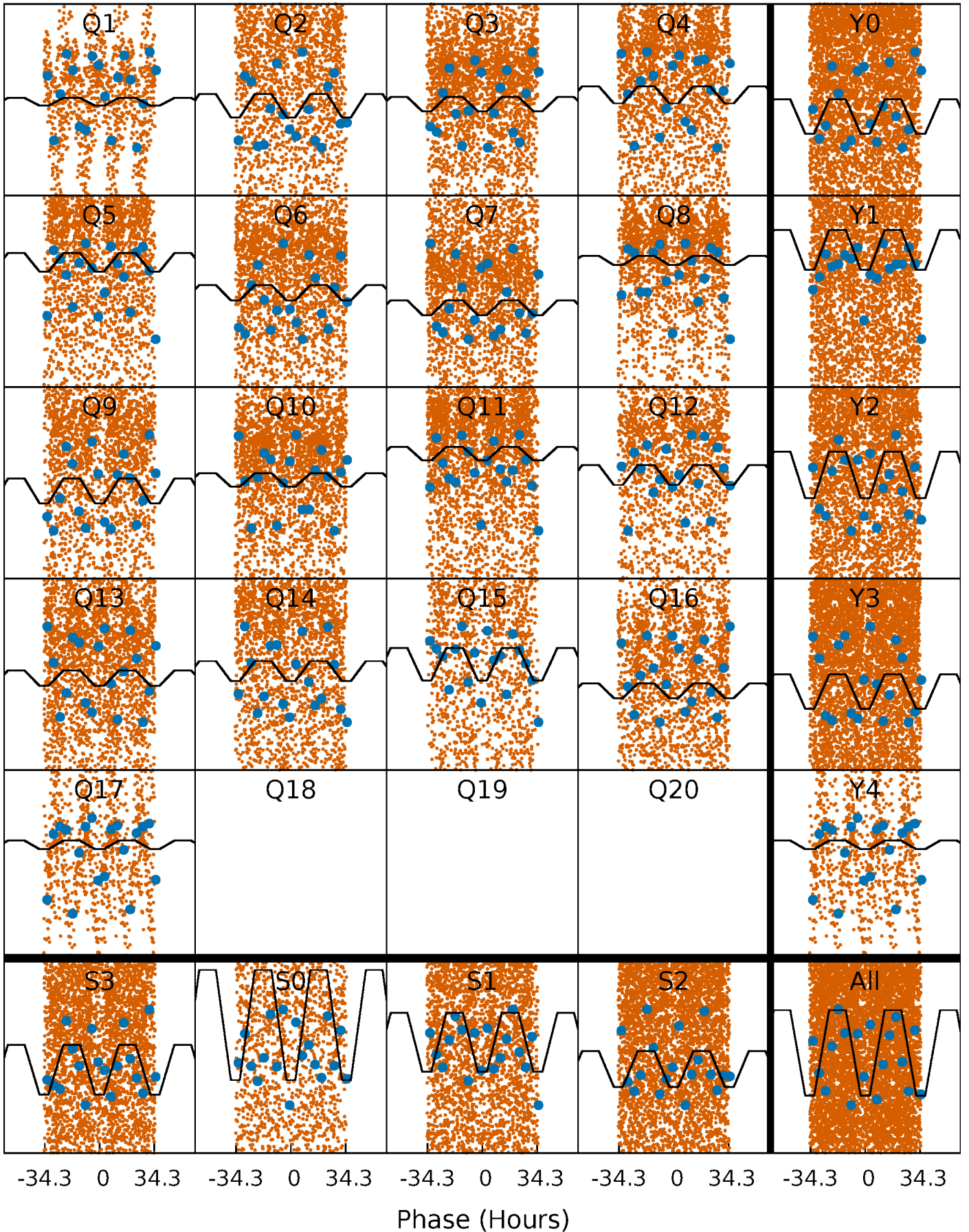
# DV Quarter-Phased Transit Curves

TCE 005650341-02 P= 1.450383 Days  $T_0=132.427808$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 005650341-02     $P = 1.450423$  Days     $T_0 = 132.401571$  (BKJD)

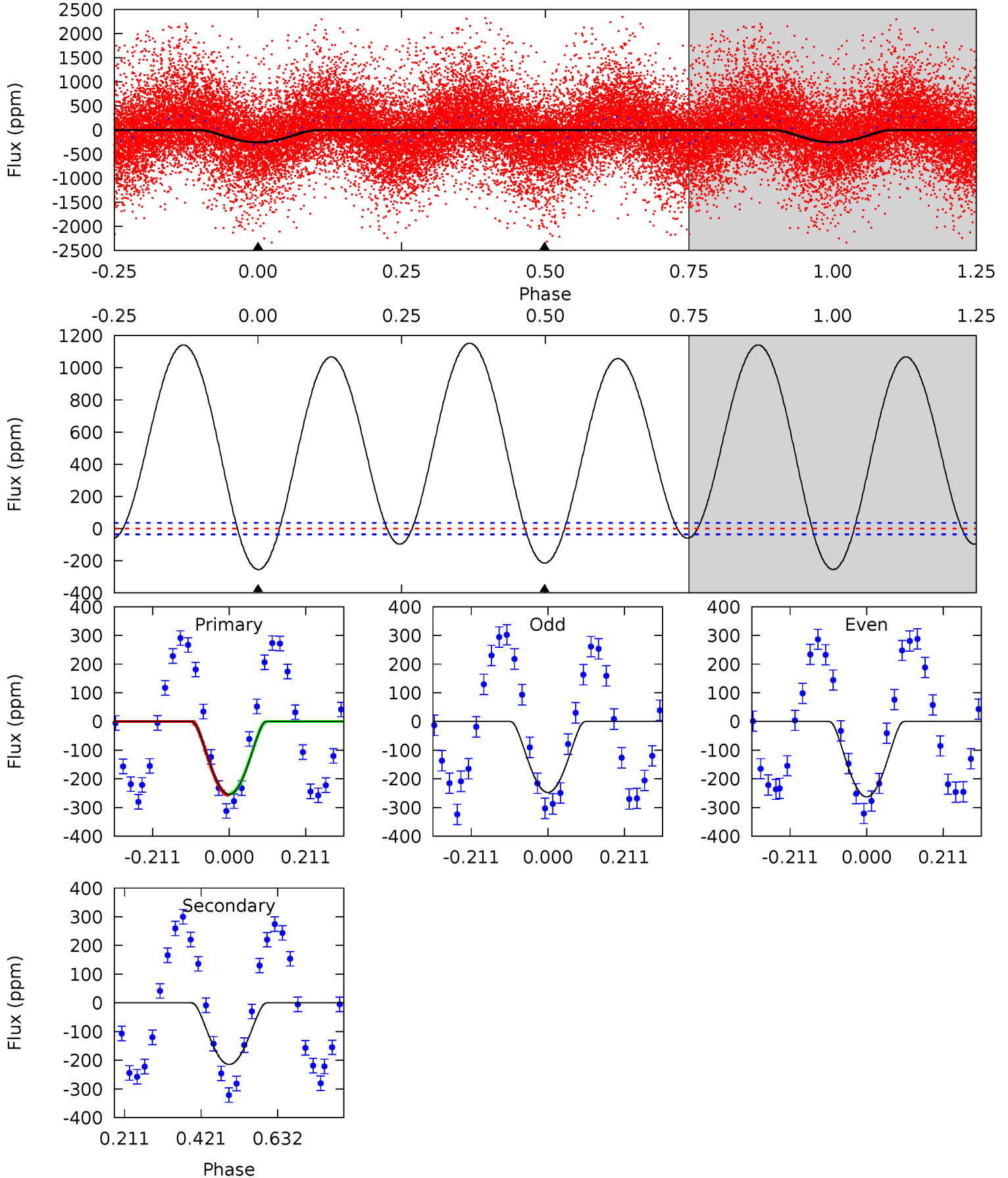




# DV Model-Shift Uniqueness Test

005650341-02, P = 1.450383 Days, E = 130.977425 Days

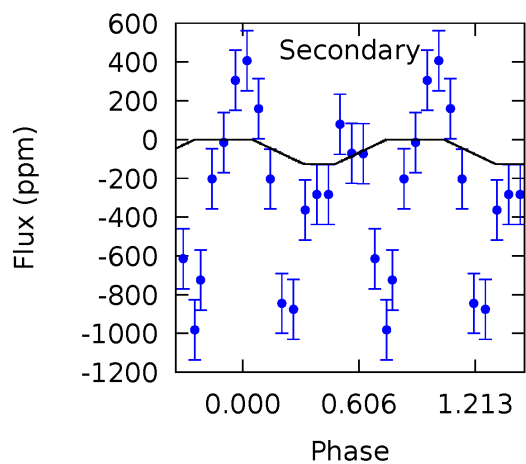
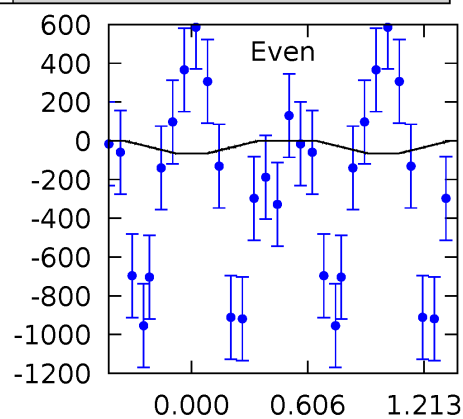
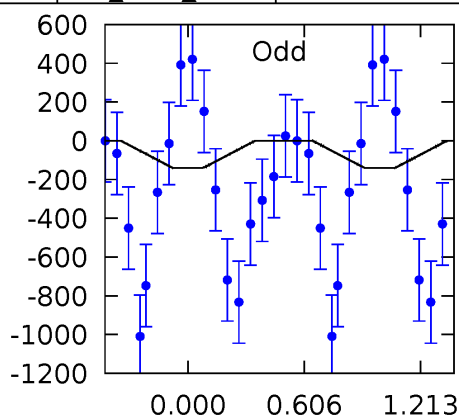
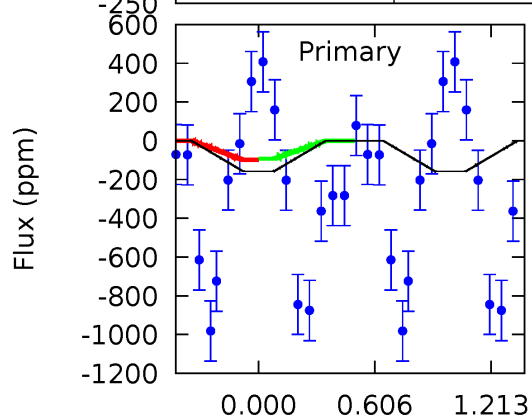
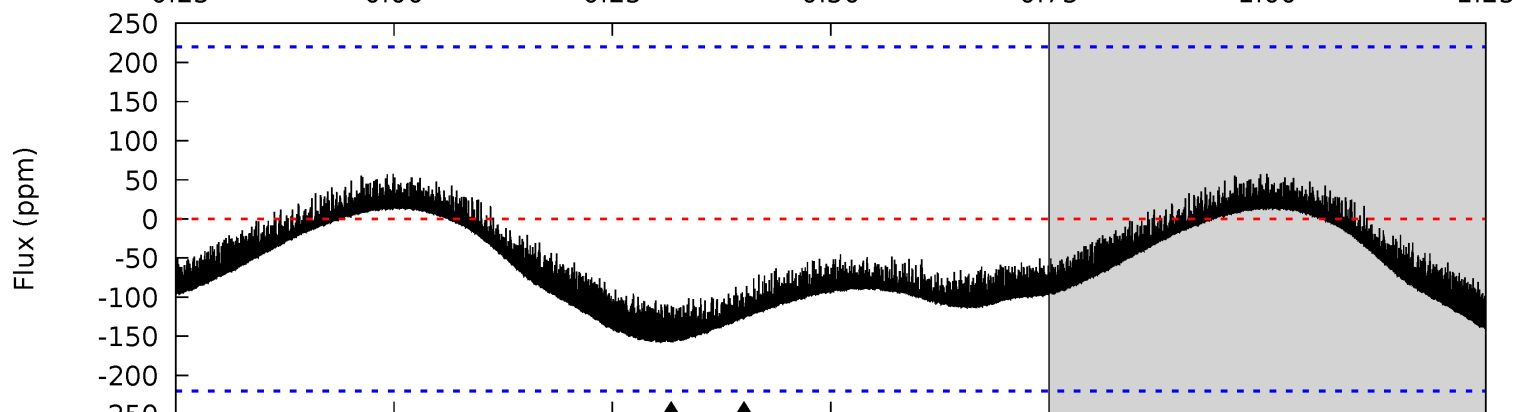
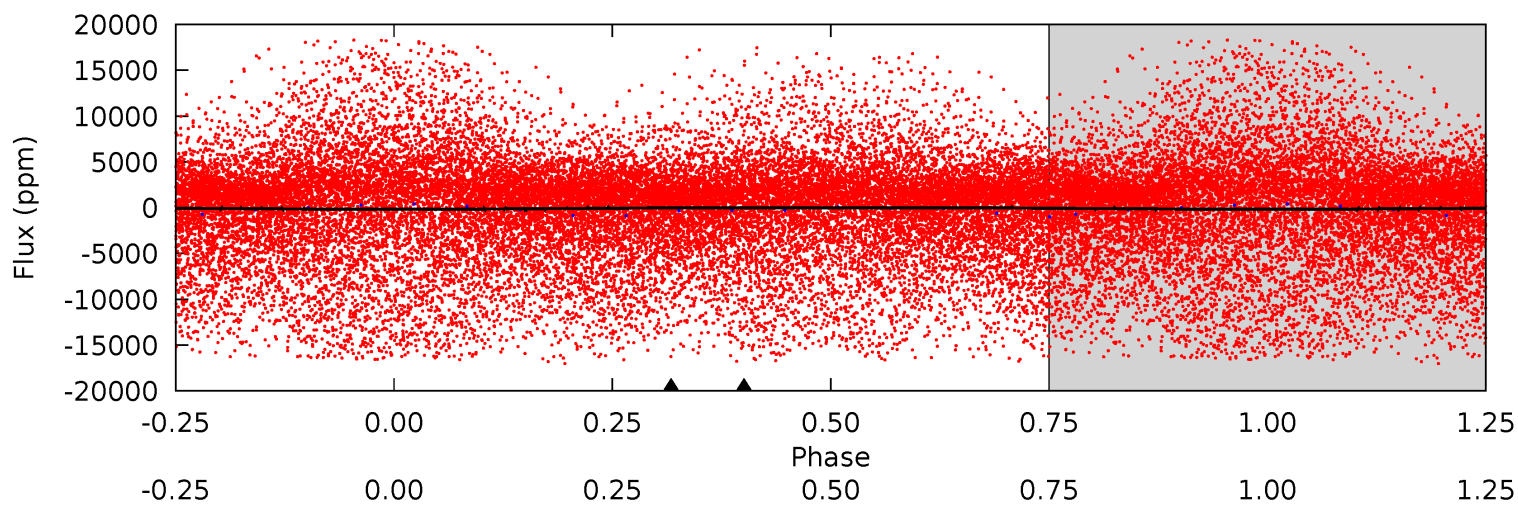
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.2	26.3	0	0	4.41	1.25	11.2	31.2	31.2	26.3	26.3	0.95	-0.53	0.82	0.29



# Alt Model-Shift Uniqueness Test

005650341-02, P = 1.450423 Days, E = 130.951148 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
2.99	2.40	0	0	4.17	0.52	0.26	2.99	2.99	2.40	2.40	0.72	1.72	0.27	0.07



### Stellar Parameters For KIC 005650341

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$\rho_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6450^{+175}_{-213}$	$4.229^{+0.185}_{-0.167}$	$-0.480^{+0.300}_{-0.300}$	$1.281^{+0.355}_{-0.291}$	$1.013^{+0.159}_{-0.106}$	$0.678^{+0.708}_{-0.322}$
	+3%/-3%	+4%/-4%	+62%/-62%	+28%/-23%	+16%/-10%	+104%/-47%
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 005650341-02 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-215 \pm 8$	$4.37^{+3.36}_{-2.47}$	$2832^{+201}_{-208}$	$4500^{+2142}_{-942}$	$3.889^{+16.492}_{-2.650}$
Alt.	$-127 \pm 53$	$4.34^{+3.09}_{-2.53}$	$2820^{+227}_{-190}$	$4050^{+1948}_{-1020}$	$2.312^{+11.587}_{-1.687}$

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

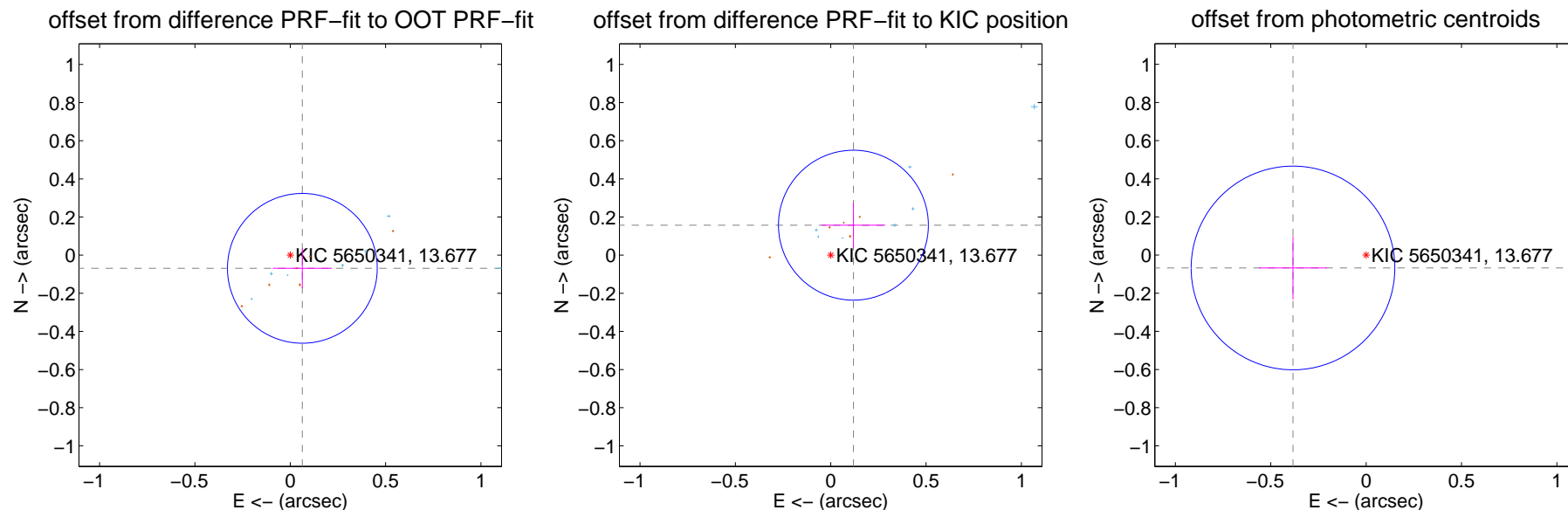
## DV Centroid Data

Supplemental centroid analysis for 005650341-02. Kepler magnitude: 13.68. Transit SNR 15.25

There are 9 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

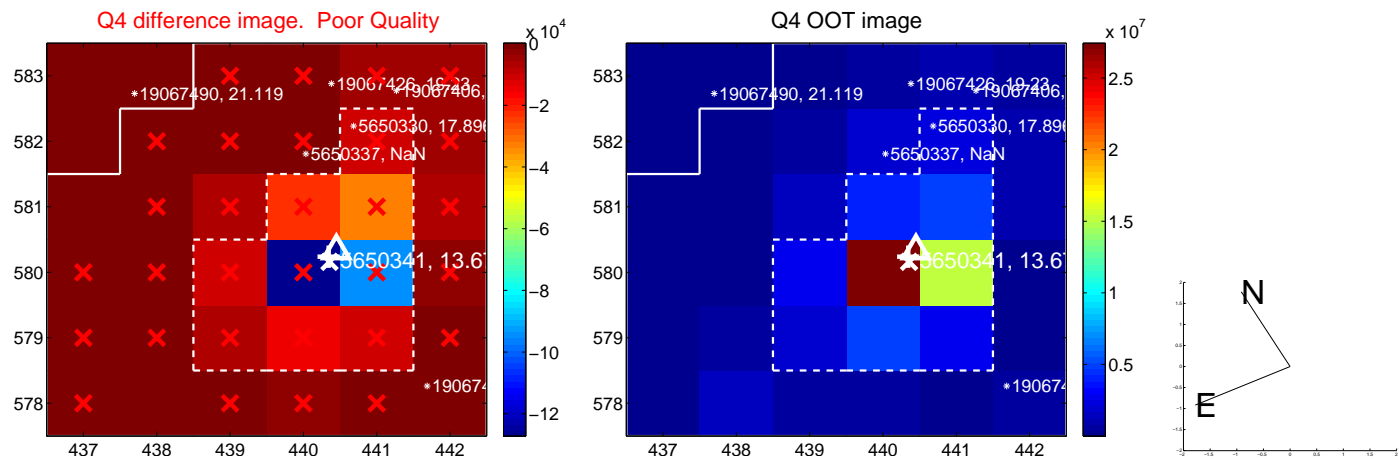
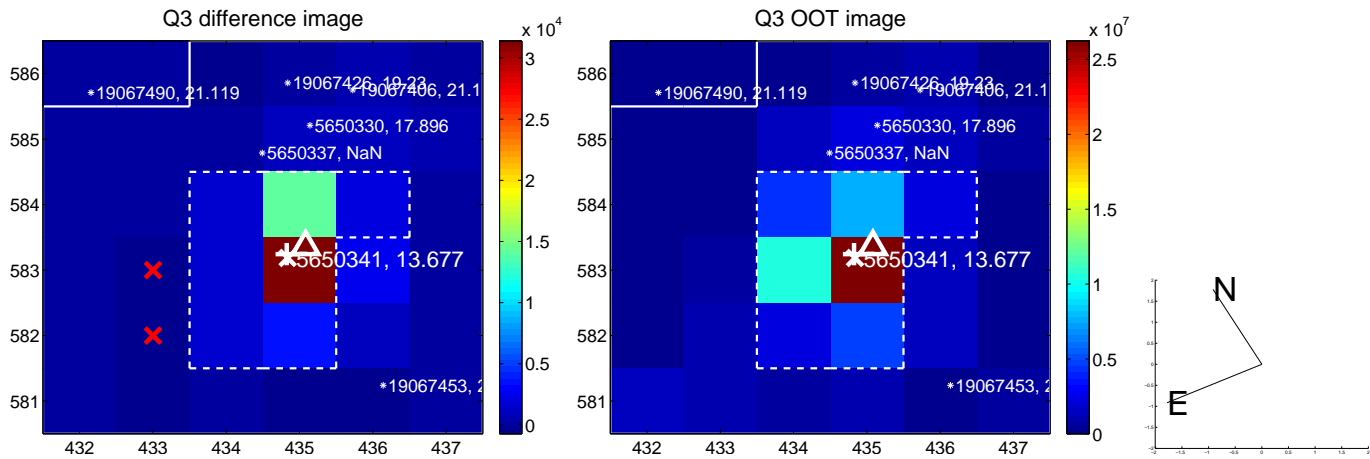
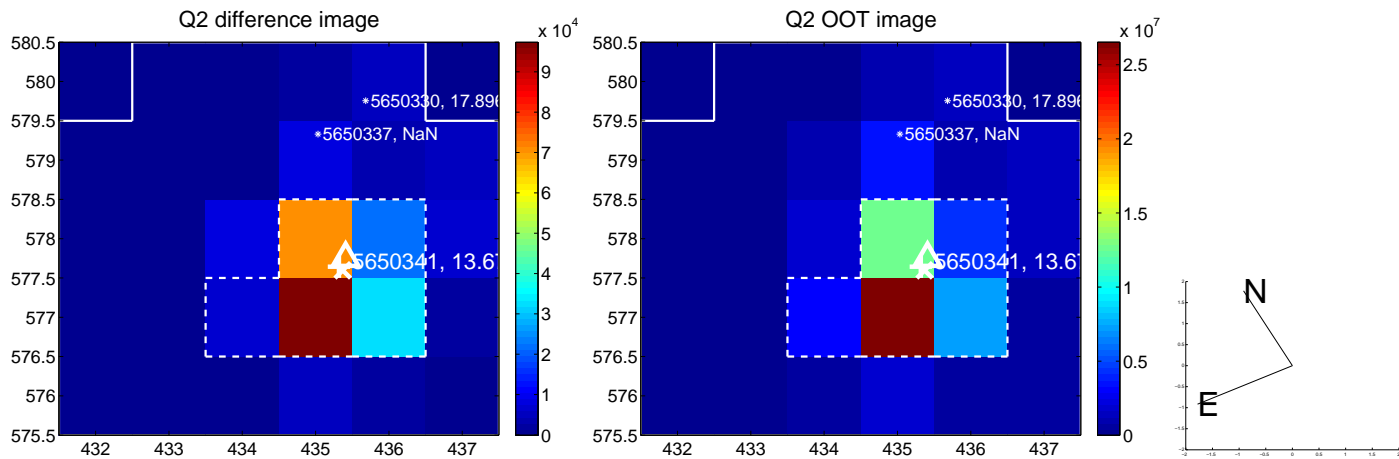
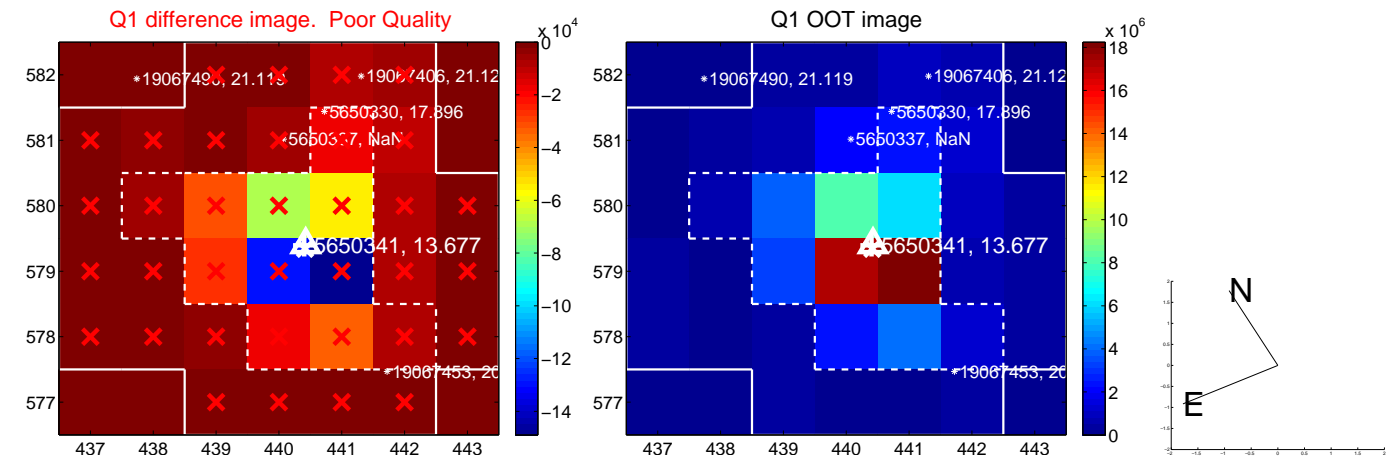
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.094 \pm 0.131$	0.72	$-0.063 \pm 0.156$	$-0.069 \pm 0.105$
PRF-fit source offset from KIC position	$0.197 \pm 0.131$	1.50	$-0.119 \pm 0.167$	$0.157 \pm 0.119$
photometric centroid source offset	$0.39 \pm 0.18$	2.19	$0.38 \pm 0.18$	$-0.07 \pm 0.17$



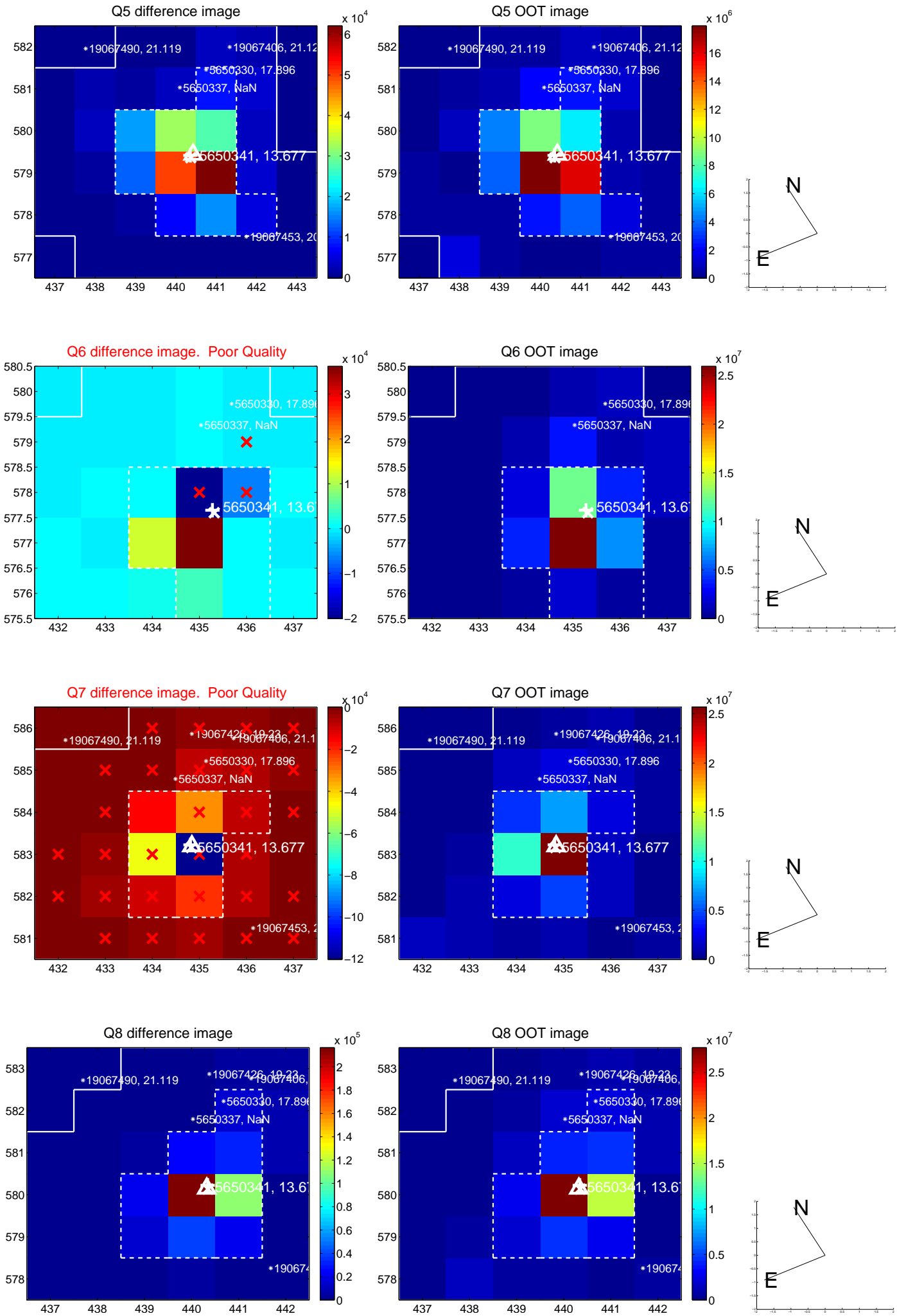
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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



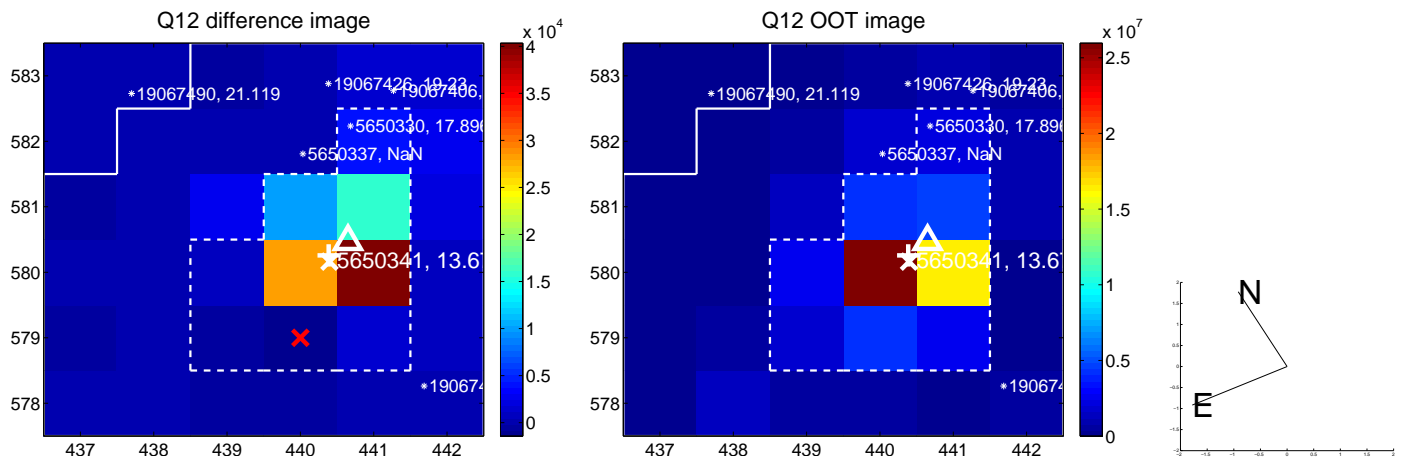
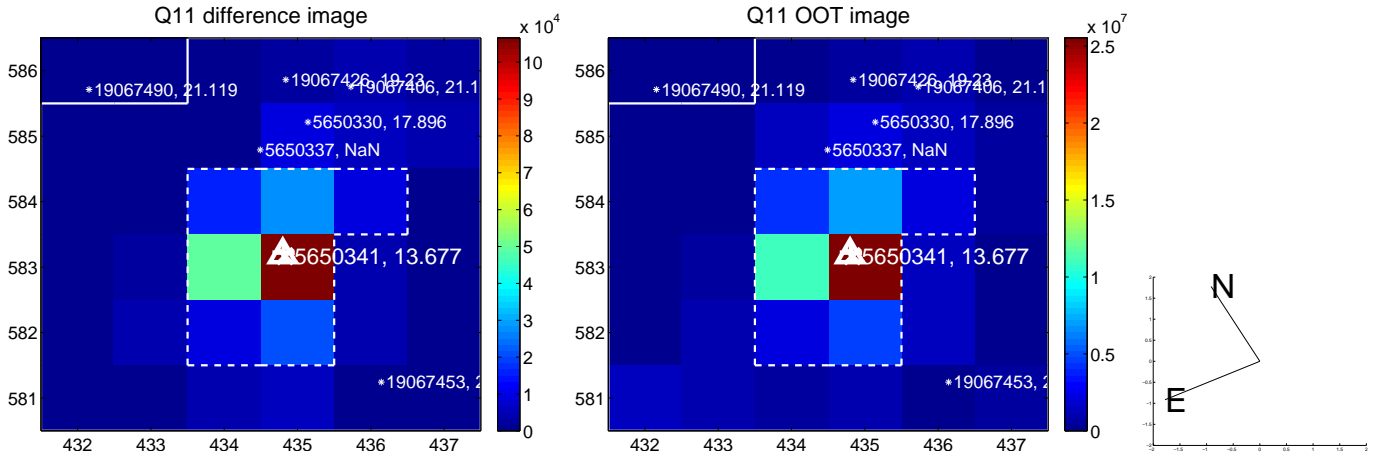
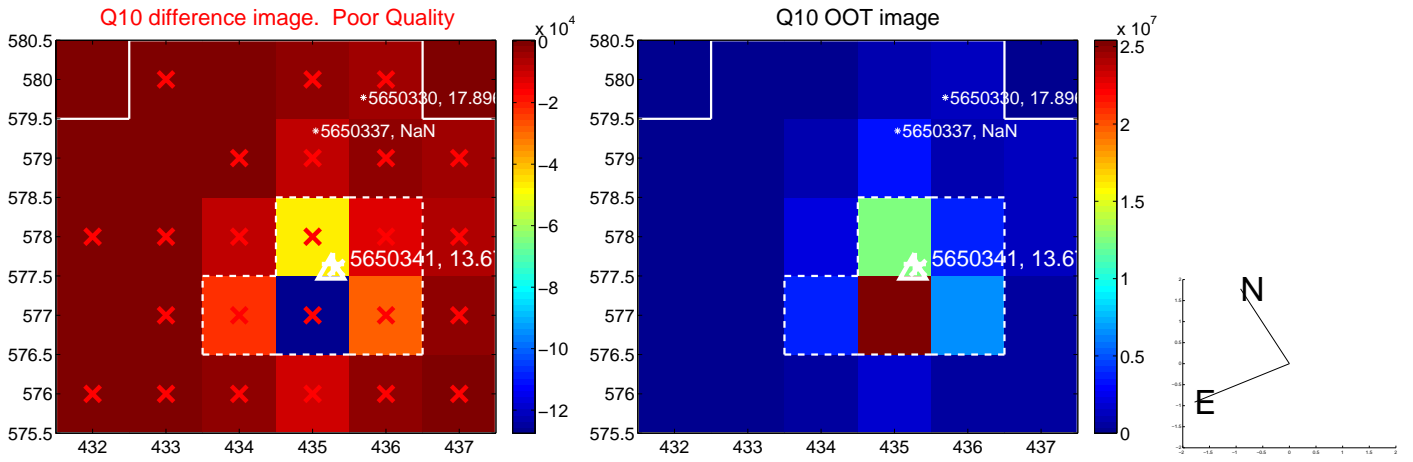
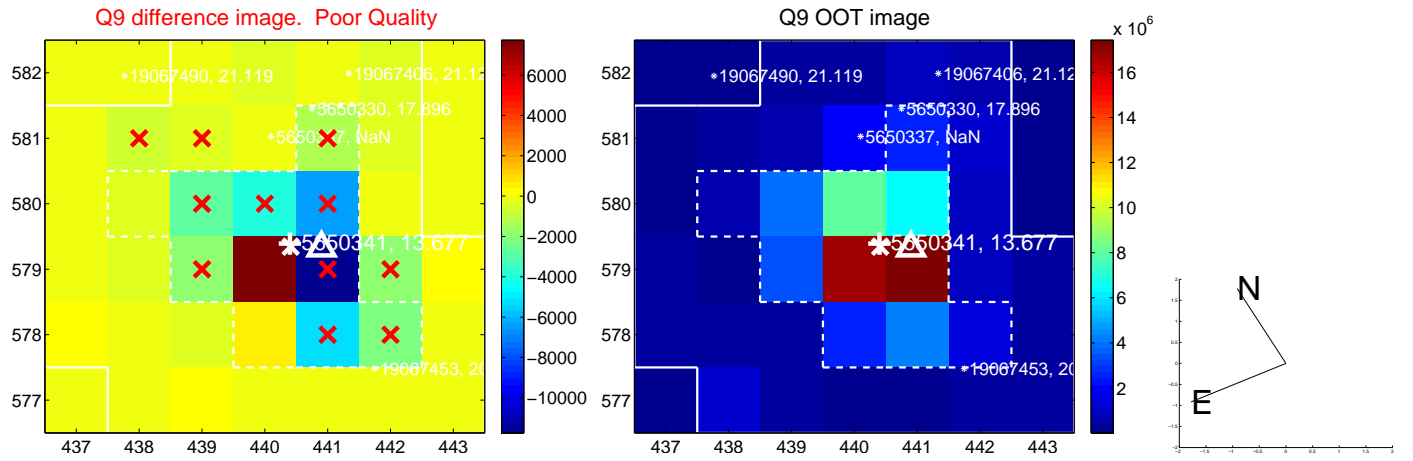
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



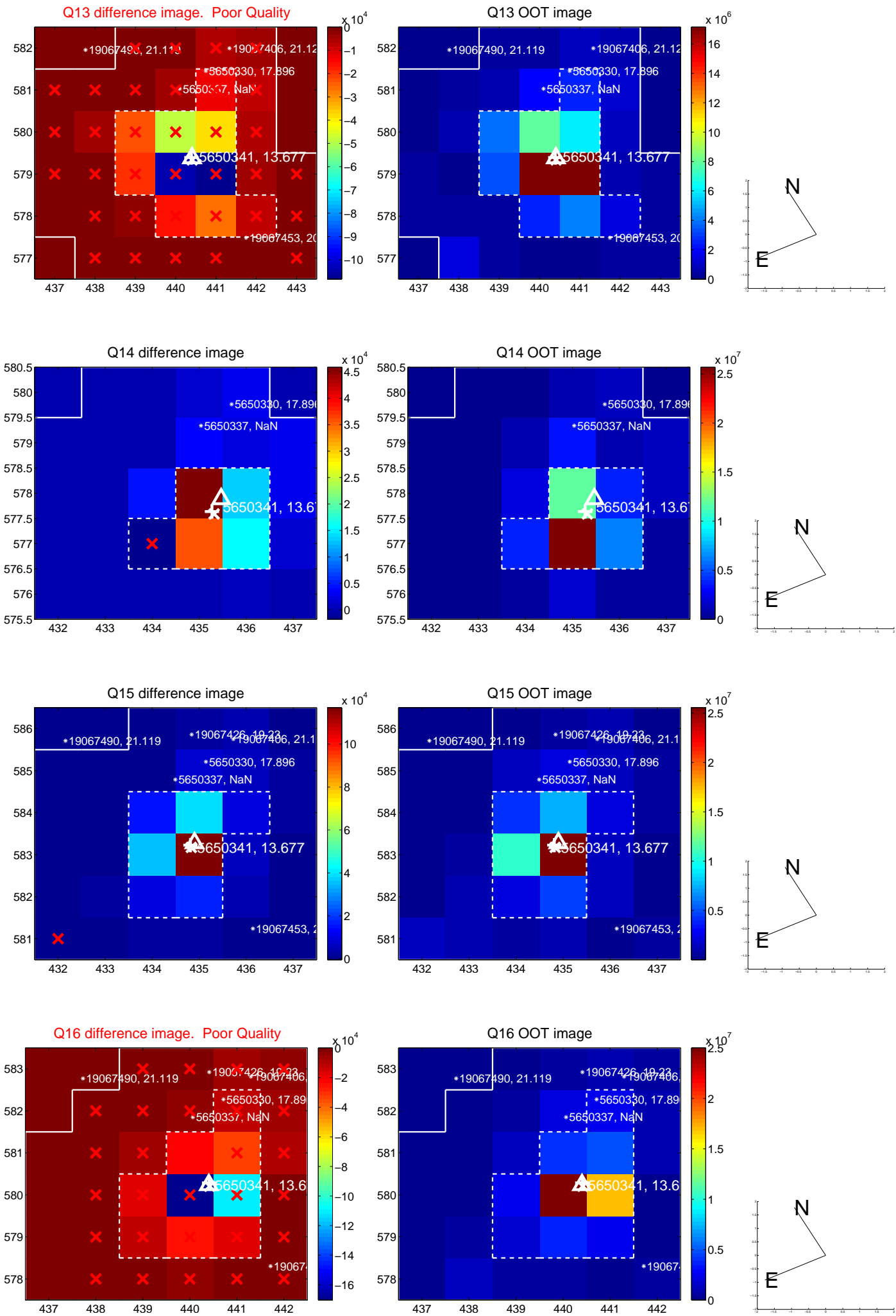
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



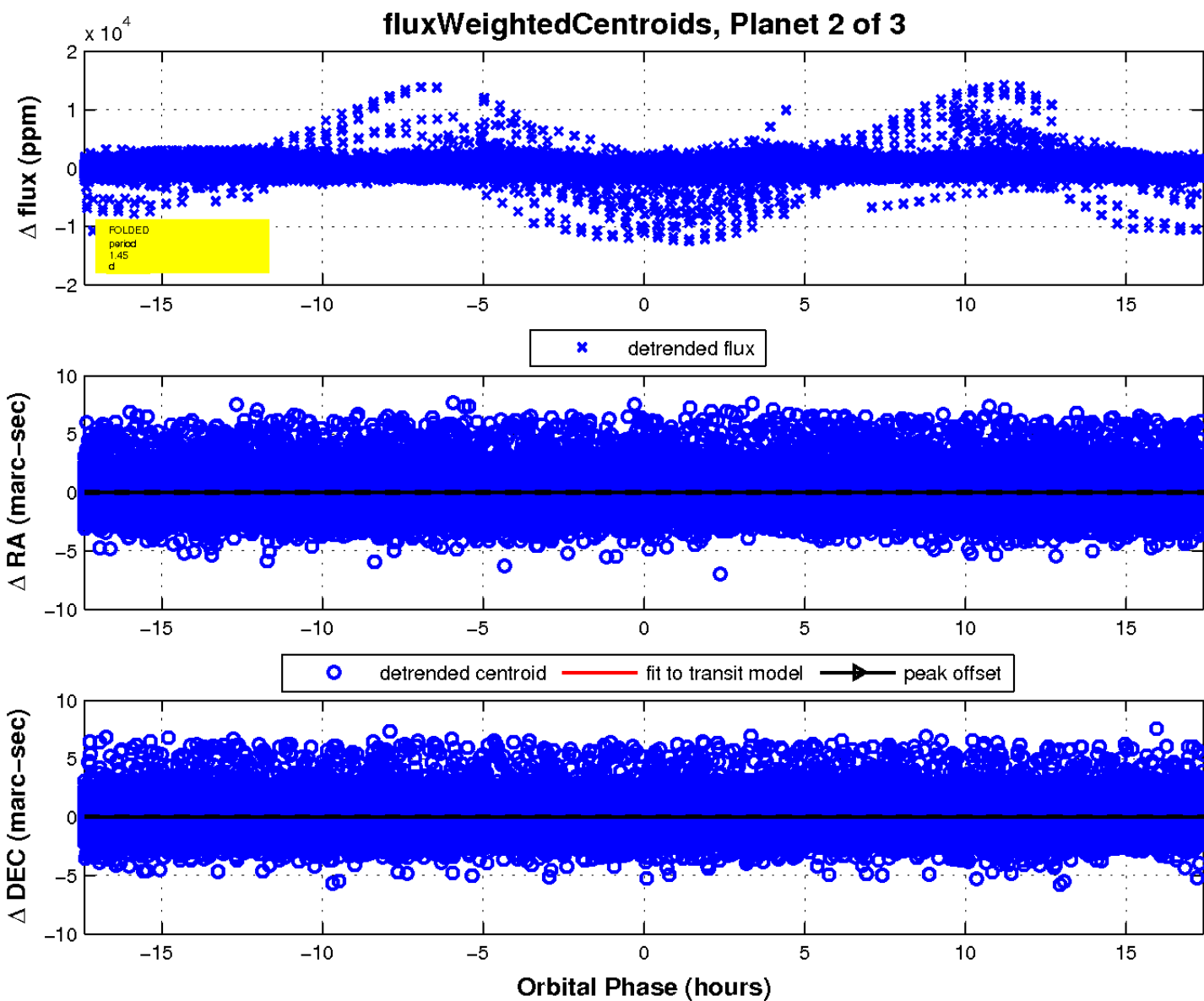
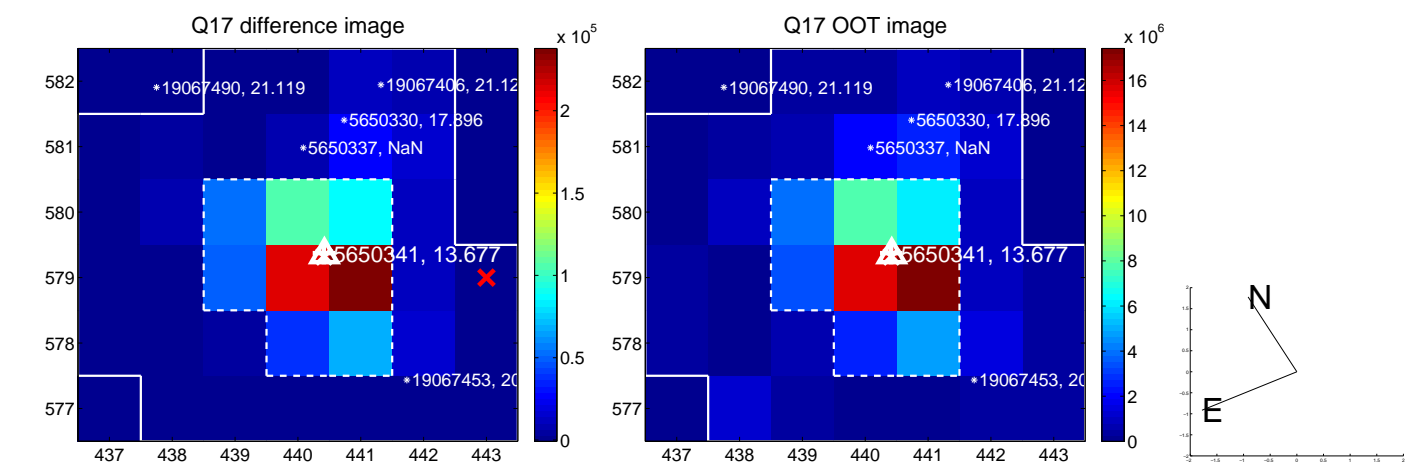
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

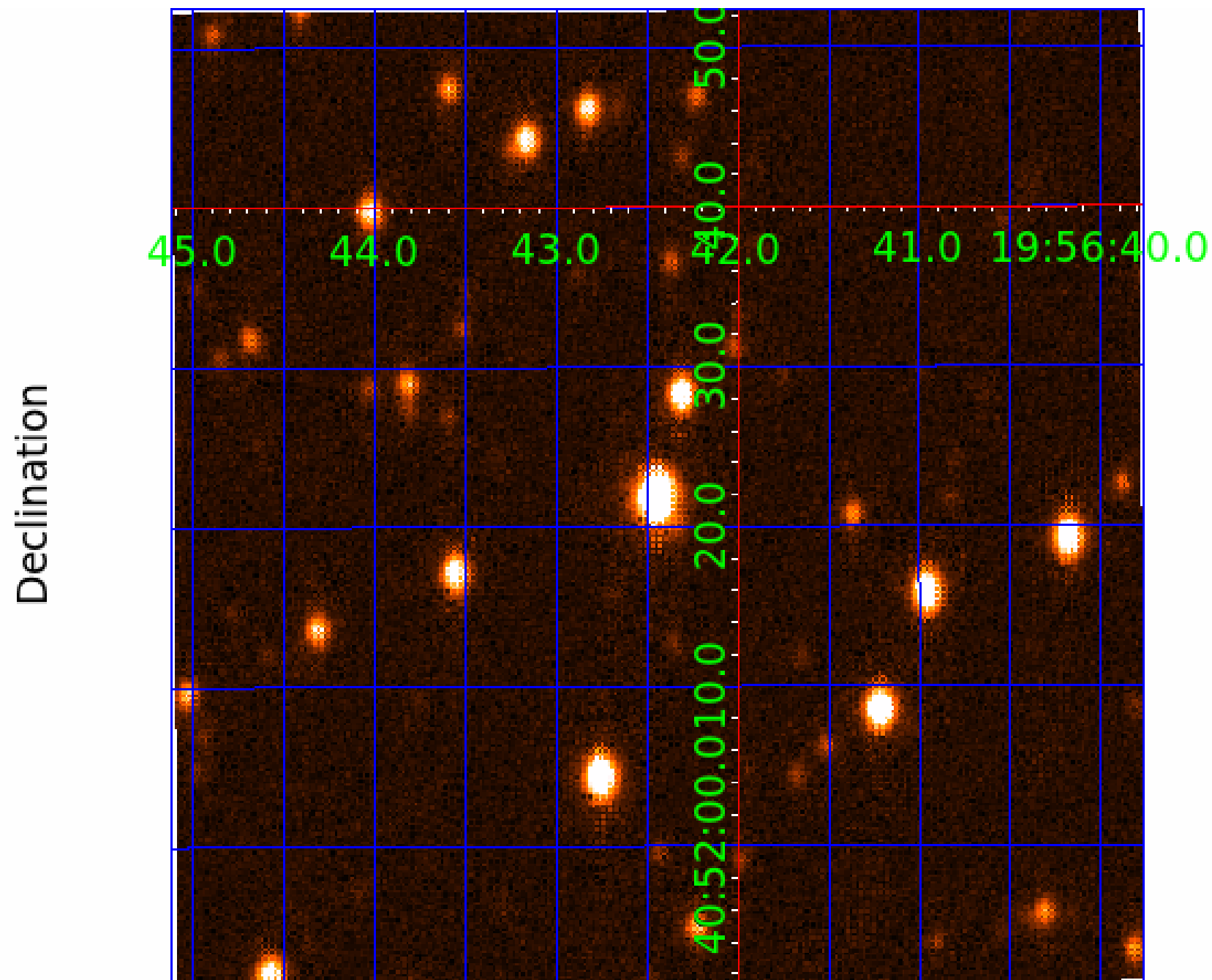


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





UKIRT Image



# KIC 005650341

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005650341-01	OBS	No	0.745532	131.737293	11.2	3.333	13.6	1.8	1.28	6450	0.51	9732.20
005650341-02	OBS	No	1.450383	132.427808	277.5	6.893	12.8	15.3	1.28	6450	4.12	4007.34
005650341-03	OBS	No	1.450423	131.677868	456.1	5.000	21.0	-1.0	1.28	6450	2.75	4007.19

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005650341-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
005650341-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
005650341-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—SAME_NTL_PERIOD—CENT_NOFITS

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

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

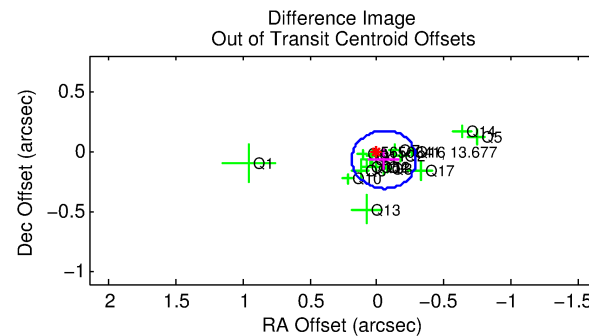
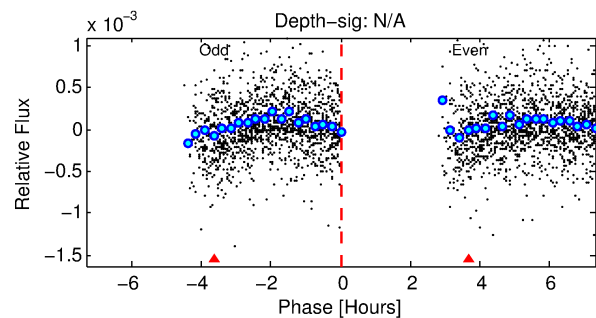
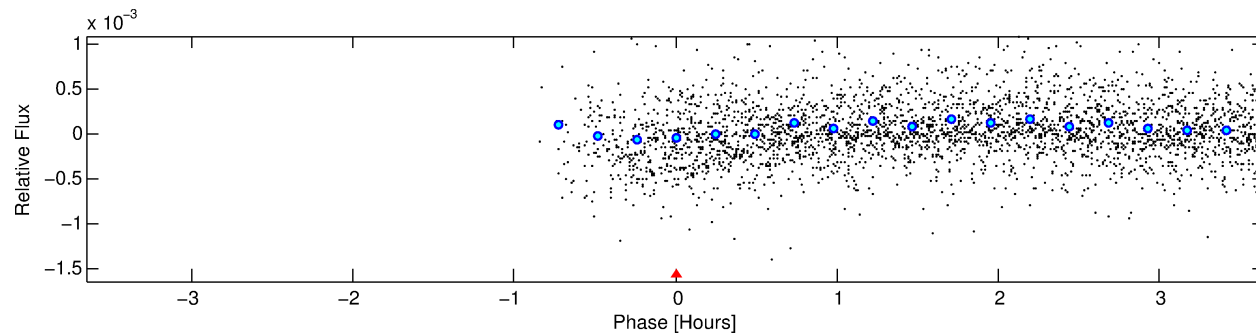
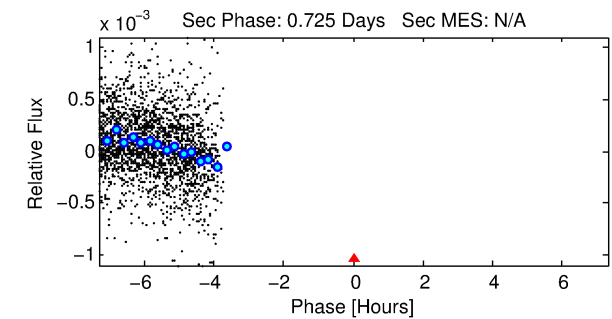
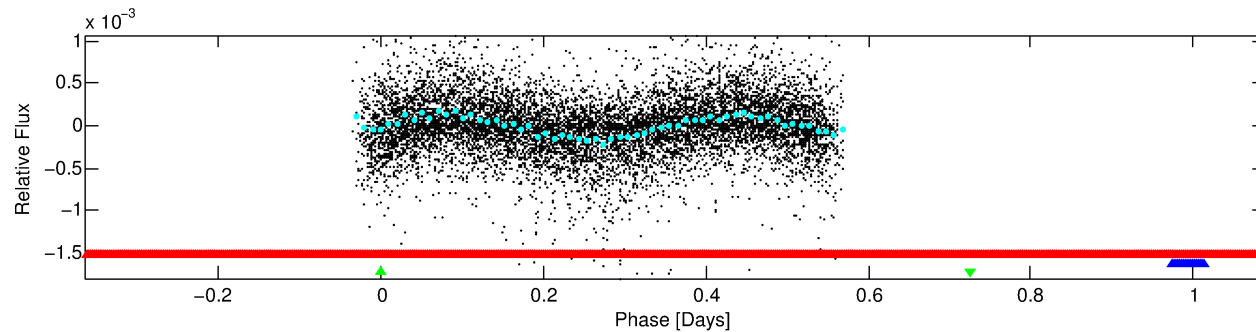
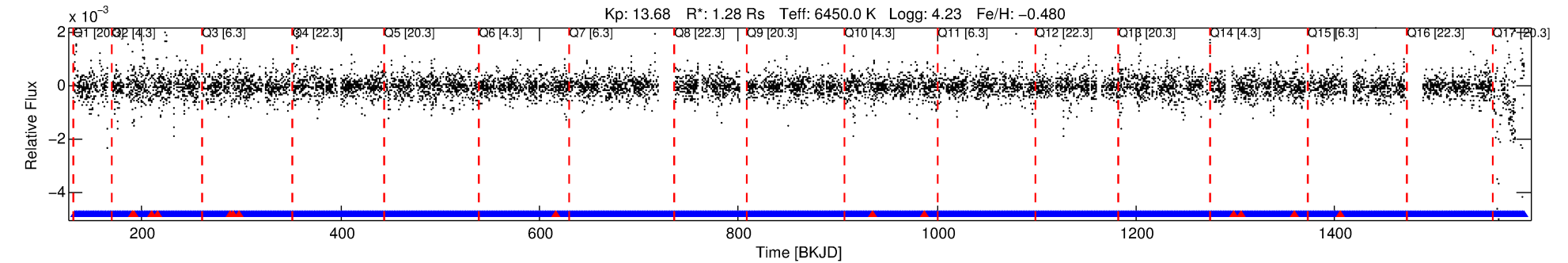
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005650341-03

No Significant Match Found

# DV One-Page Summary

KIC: 5650341 Candidate: 3 of 3 Period: 1.450 d



## TPS TCE Results:

Period = 1.45042 d  
Epoch = 131.6779 BKJD

DV fit results are unavailable

## DV Diagnostic Results:

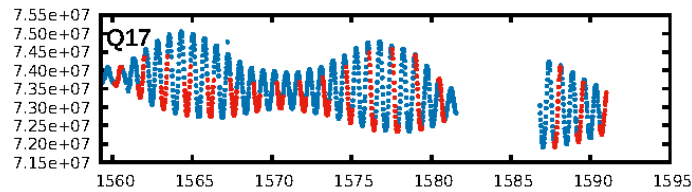
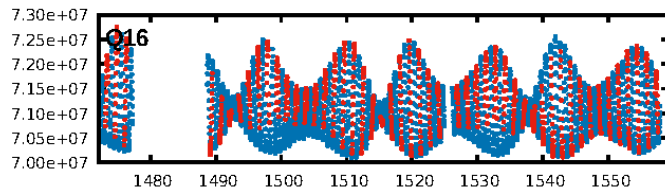
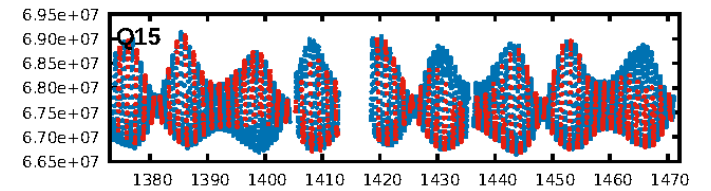
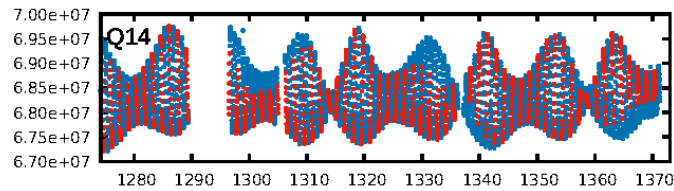
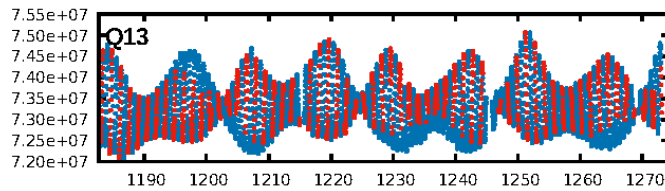
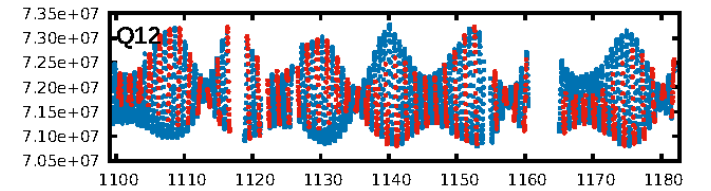
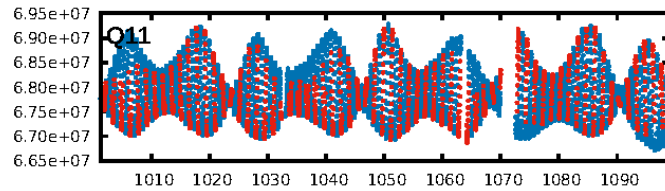
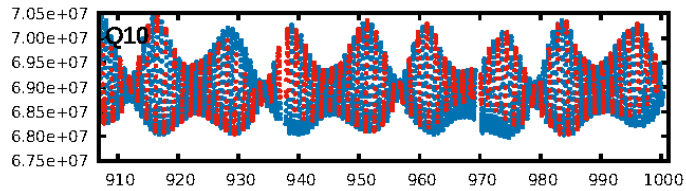
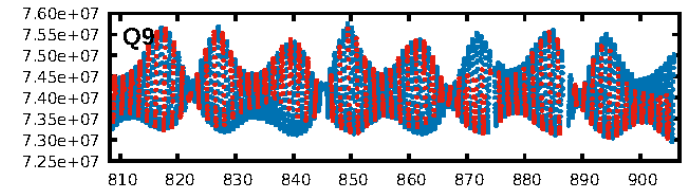
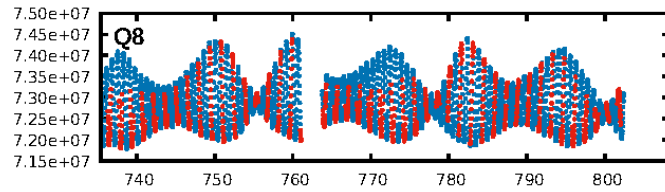
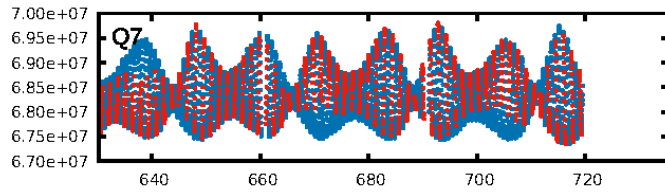
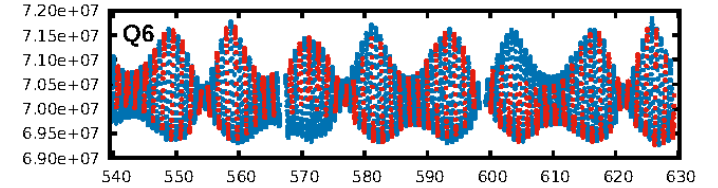
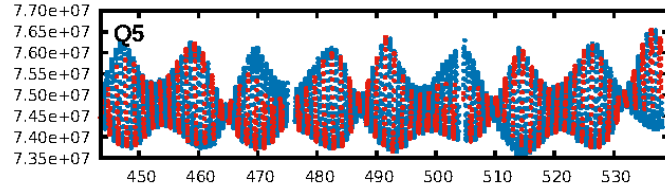
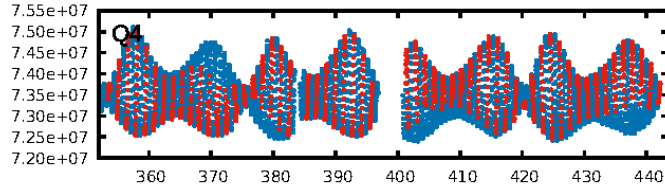
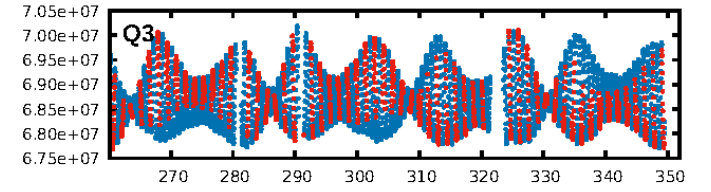
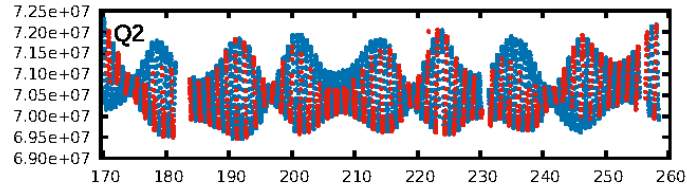
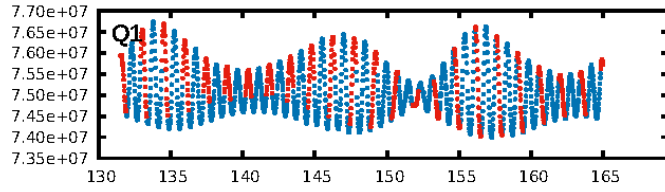
ShortPeriod-sig: 0.0% [0.00σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.97 [402/416]  
GhostDiagnostic-chr: -1.794

Centroid-sig: 0.3%  
Centroid-so: 0.471 arcsec [2.48σ]  
OotOffset-rm: 0.083 arcsec [1.03σ]  
KicOffset-rm: 0.197 arcsec [2.23σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.00 [0/17]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 07:02:51 Z

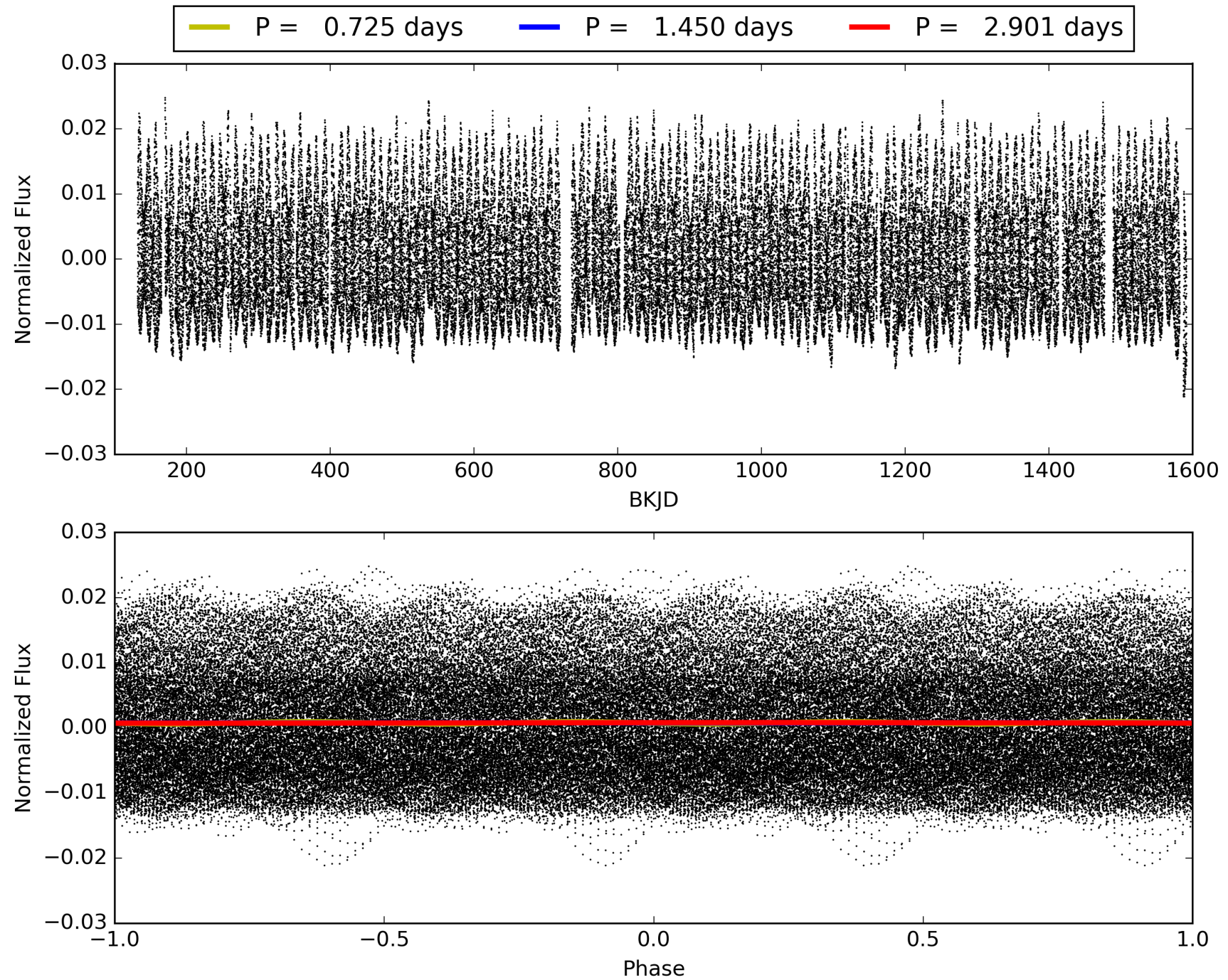
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005650341-03, PDC Light Curves



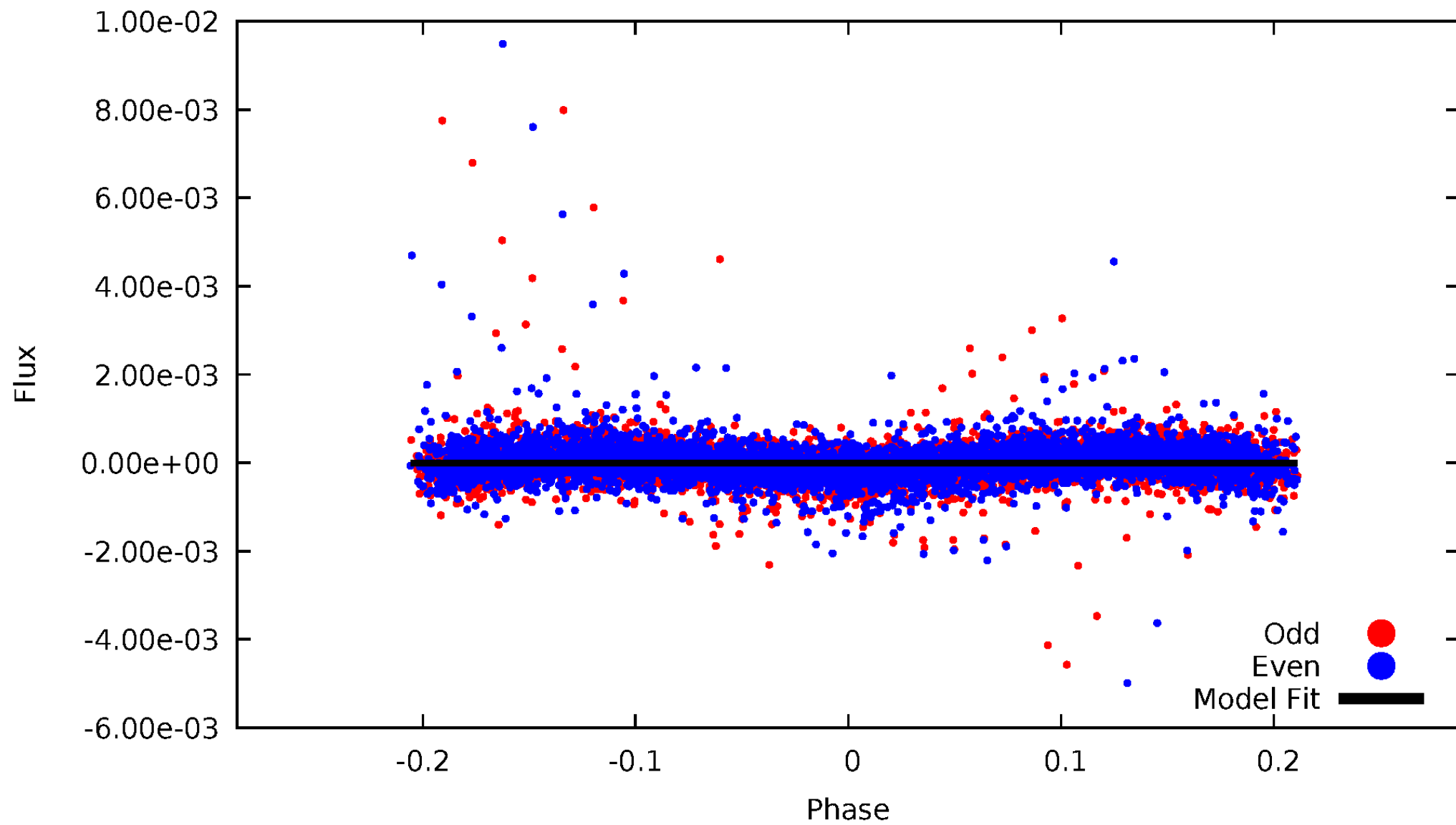


TCE 005650341-03



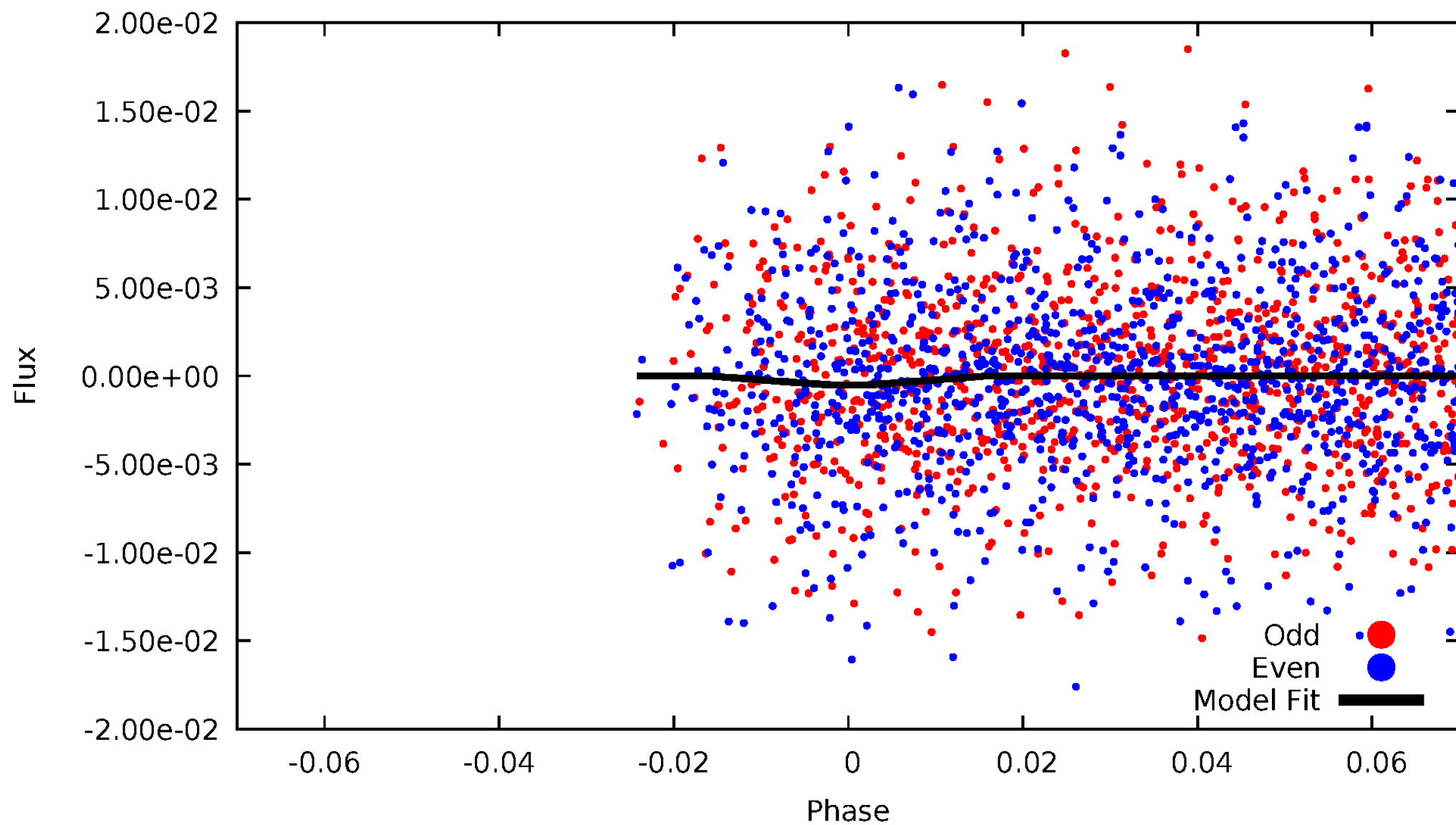
# DV Odd/Even

TCE 005650341-03



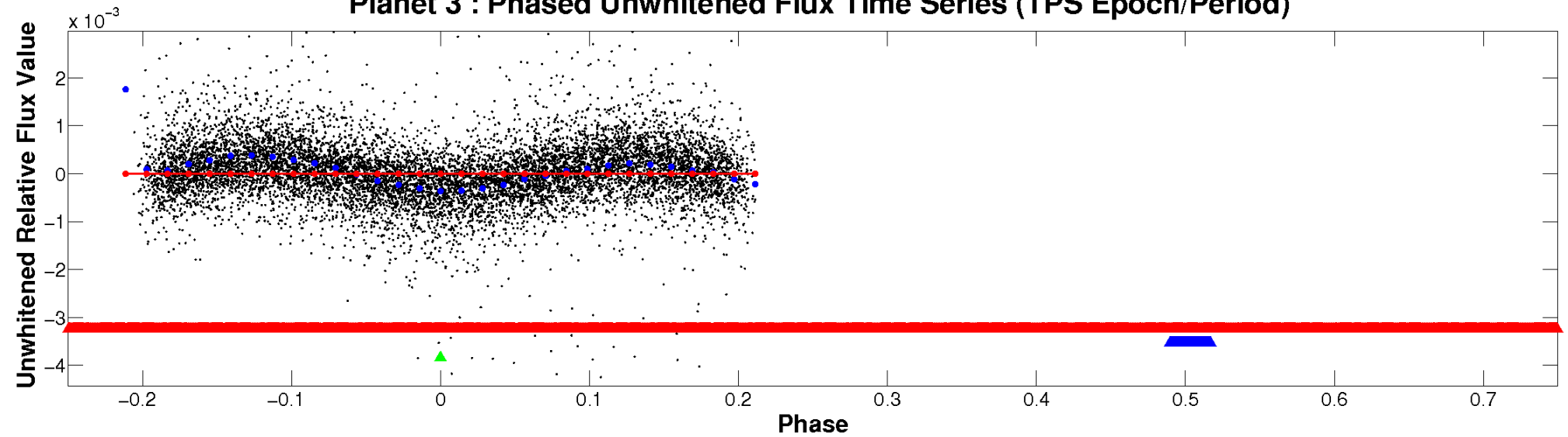
# ALT Odd/Even

TCE 005650341-03

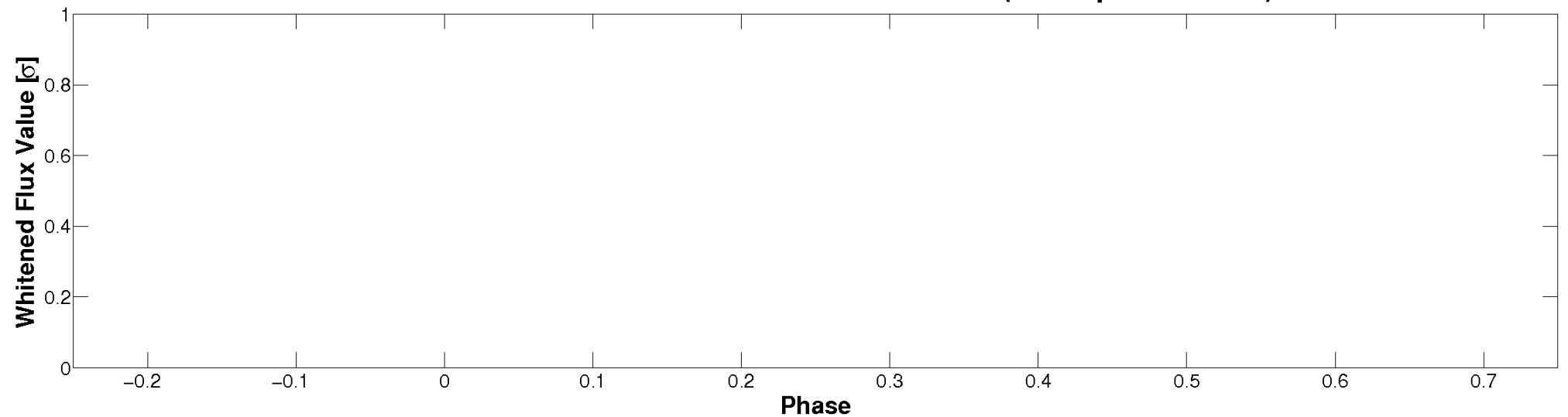


# Non-Whitened Vs. Whitened Light Curve

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



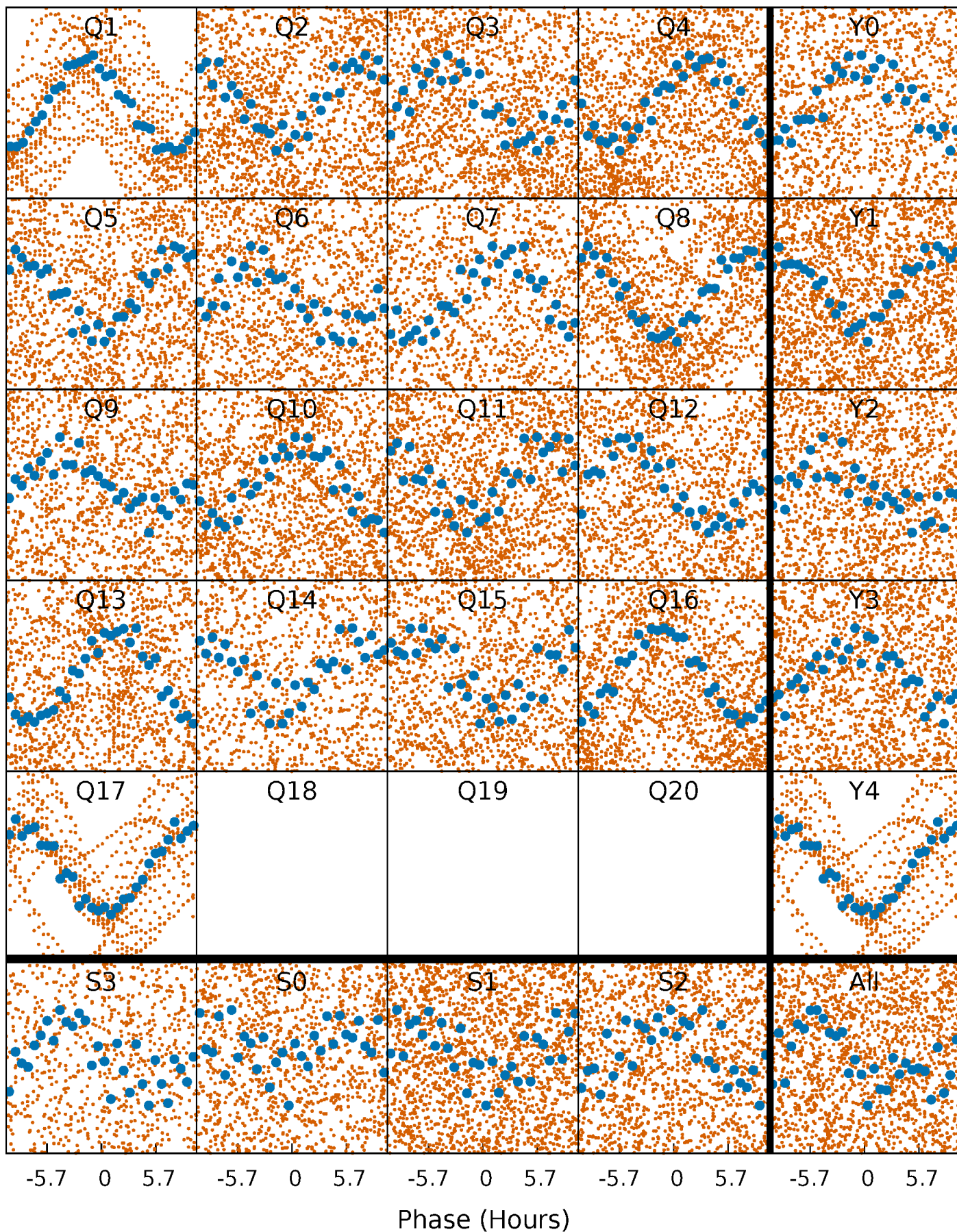
**Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)**





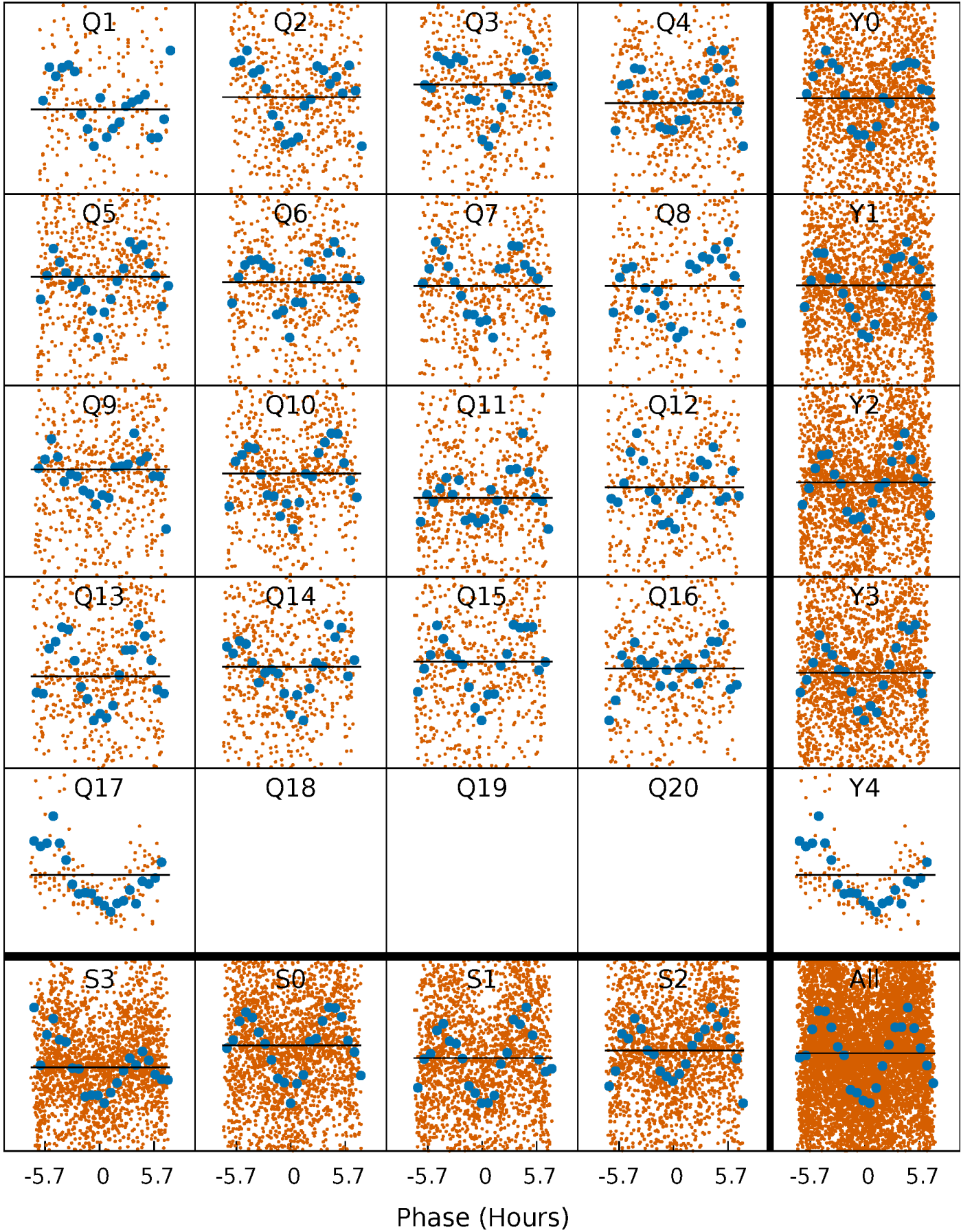
# PDC Quarter-Phased Transit Curves

TCE 005650341-03   P= 1.450423 Days    $T_0=131.677868$  (BKJD)



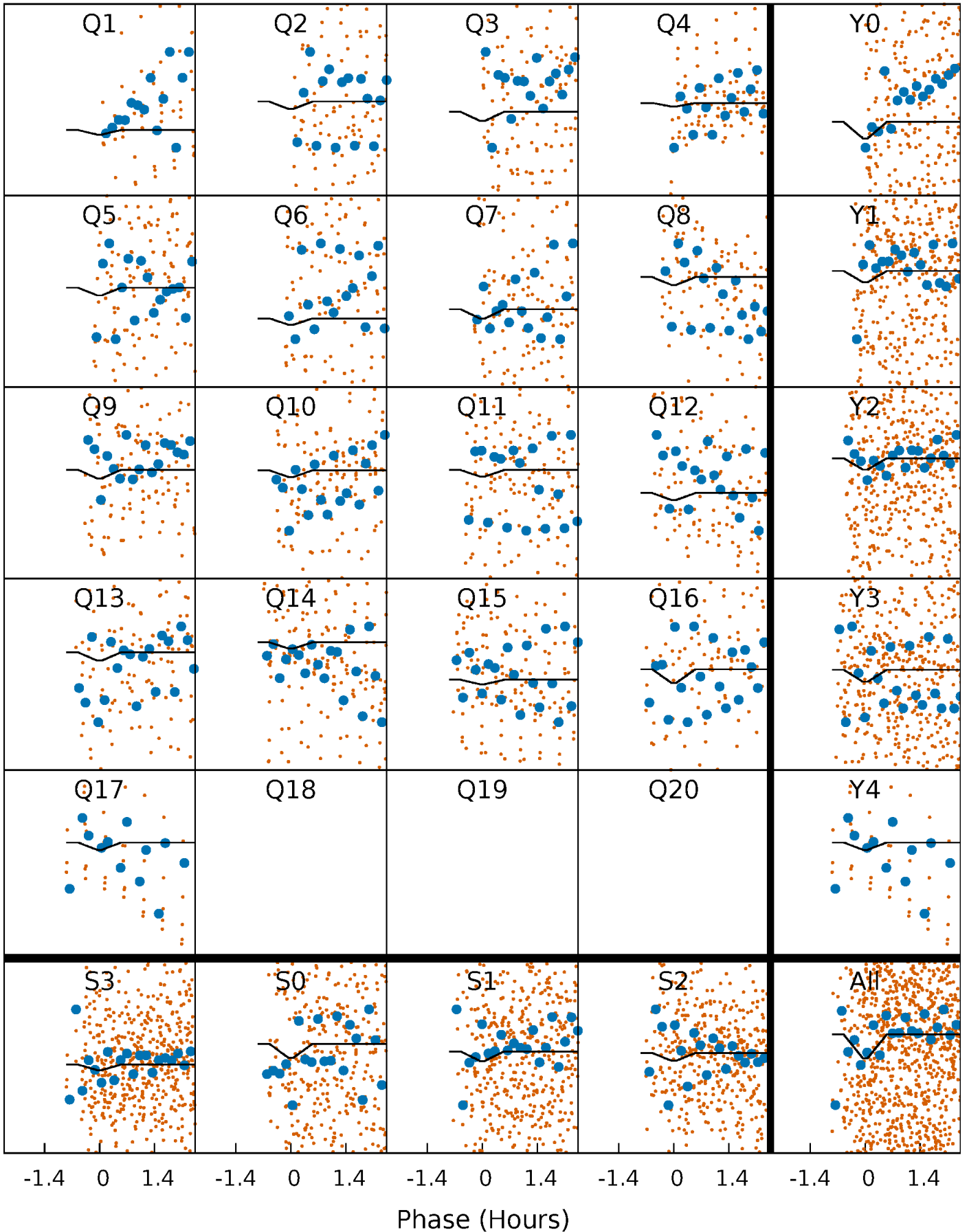
# DV Quarter-Phased Transit Curves

TCE 005650341-03   P= 1.450423 Days    $T_0=131.677868$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

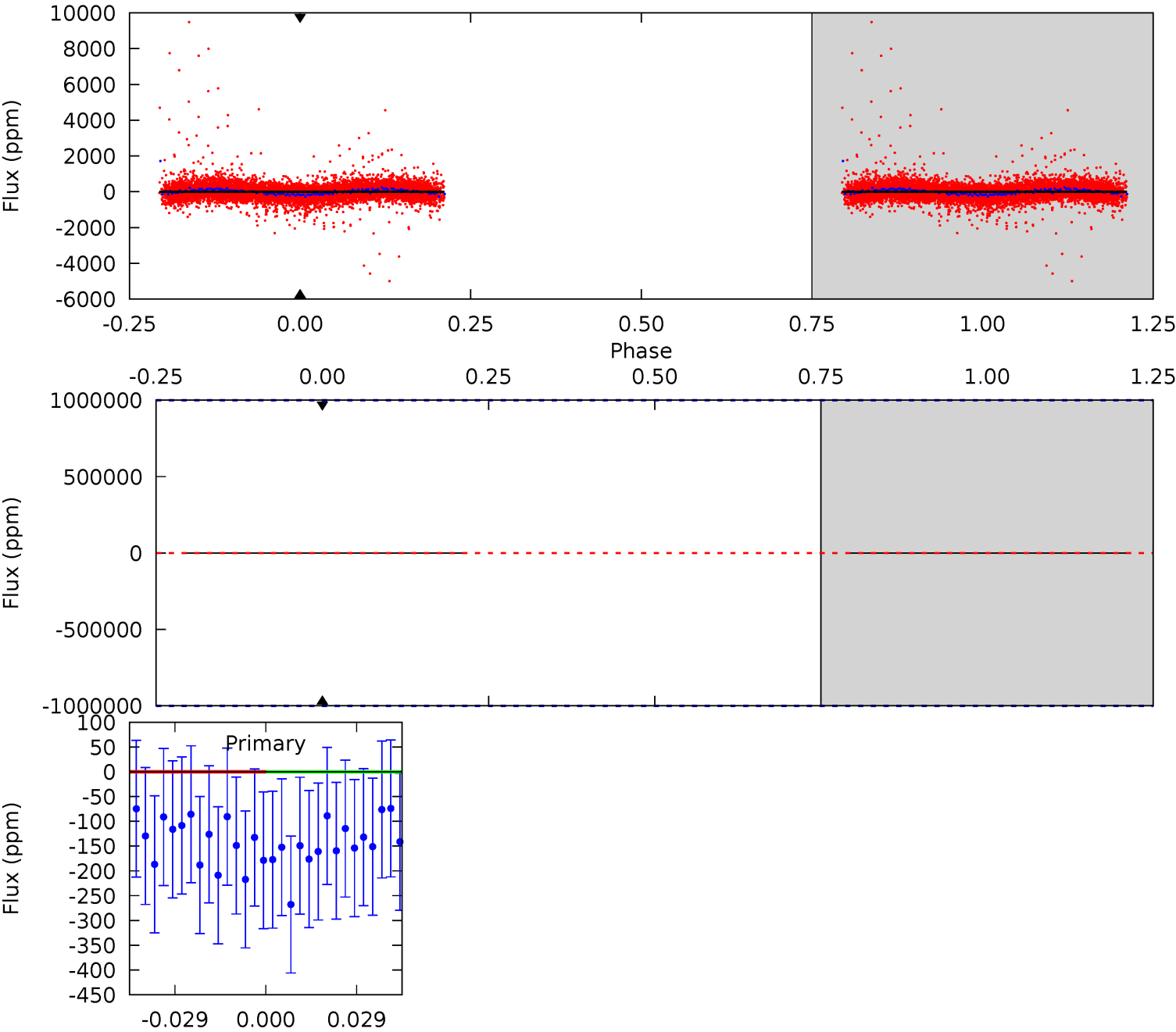
TCE 005650341-03     $P = 1.450423$  Days     $T_0 = 132.864898$  (BKJD)



DV Model-Shift Uniqueness Test

005650341-03, P = 1.450423 Days, E = 130.227445 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
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0

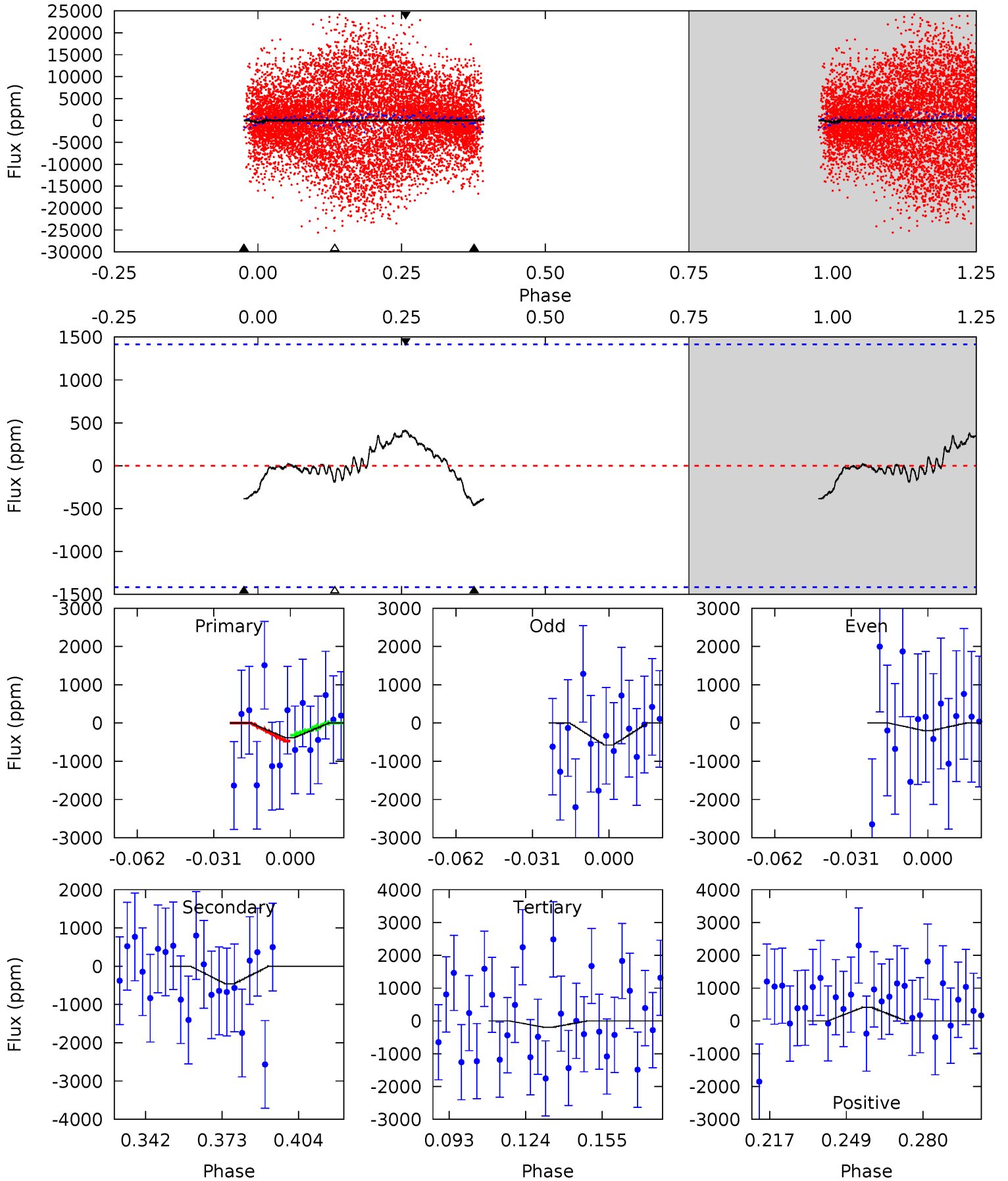




# Alt Model-Shift Uniqueness Test

005650341-03, P = 1.450423 Days, E = 131.414475 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
1.31	1.56	0.66	1.40	4.80	2.16	0.53	0.65	-0.09	0.90	0.16	0.66	0.73	0.47	0.29



### Stellar Parameters For KIC 005650341

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$6450^{+175}_{-213}$	$4.229^{+0.185}_{-0.167}$	$-0.480^{+0.300}_{-0.300}$	$1.281^{+0.355}_{-0.291}$	$1.013^{+0.159}_{-0.106}$	$0.678^{+0.708}_{-0.322}$
	+3%/-3%	+4%/-4%	+62%/-62%	+28%/-23%	+16%/-10%	+104%/-47%
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 005650341-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$0 \pm 1000000$	$9.73^{+11.34}_{-6.72}$	$2810^{+190}_{-188}$	$-5709^{+33100}_{-21627}$	$-10.514^{+608.364}_{-613.101}$
Alt.	$-460 \pm 295$	$11.17^{+11.02}_{-8.15}$	$2814^{+190}_{-198}$	$3425^{+2705}_{-6041}$	$1.077^{+14.255}_{-0.892}$

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

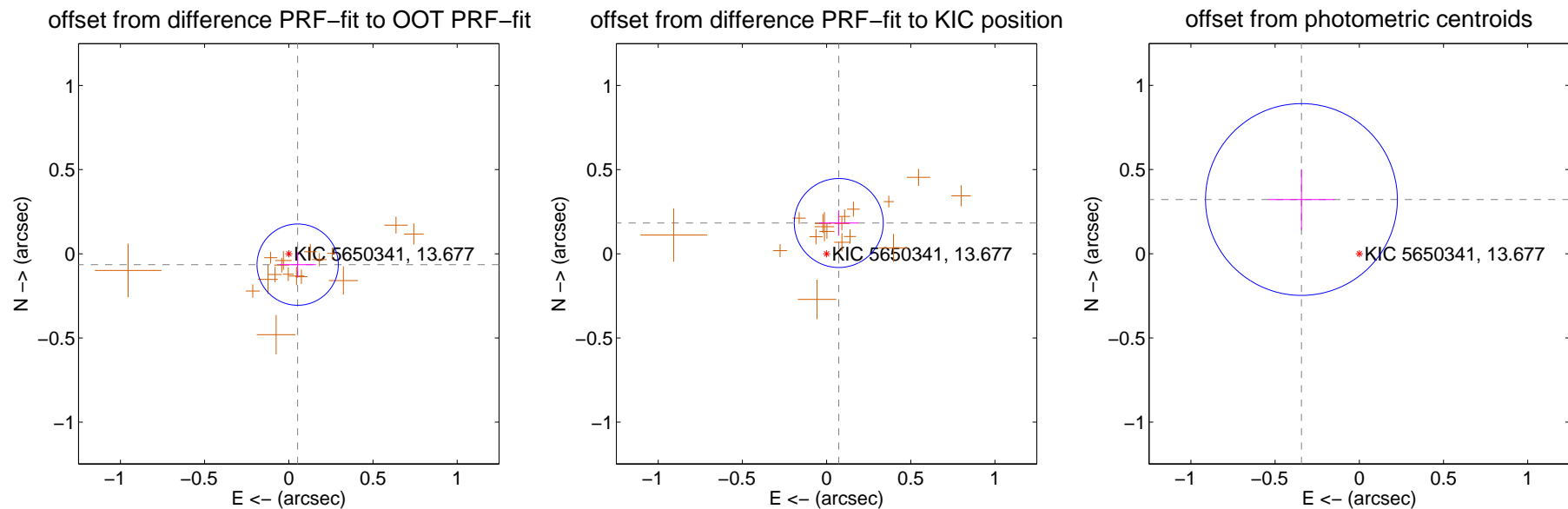
## DV Centroid Data

Supplemental centroid analysis for 005650341-03. Kepler magnitude: 13.68. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

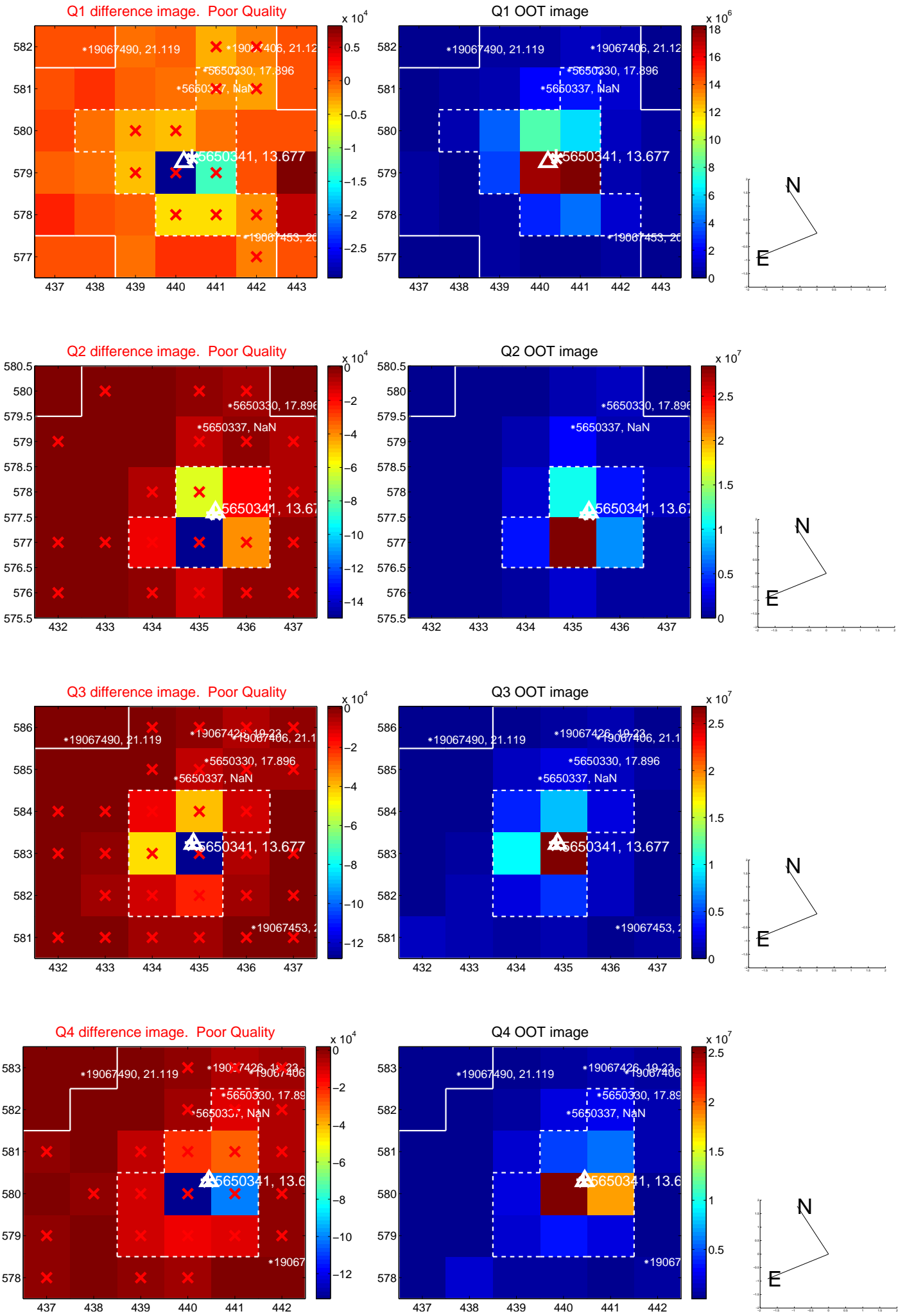
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.083 \pm 0.080$	1.03	$-0.053 \pm 0.108$	$-0.065 \pm 0.075$
PRF-fit source offset from KIC position	$0.197 \pm 0.088$	2.23	$-0.072 \pm 0.116$	$0.183 \pm 0.076$
photometric centroid source offset	$0.47 \pm 0.19$	2.48	$0.34 \pm 0.20$	$0.32 \pm 0.18$

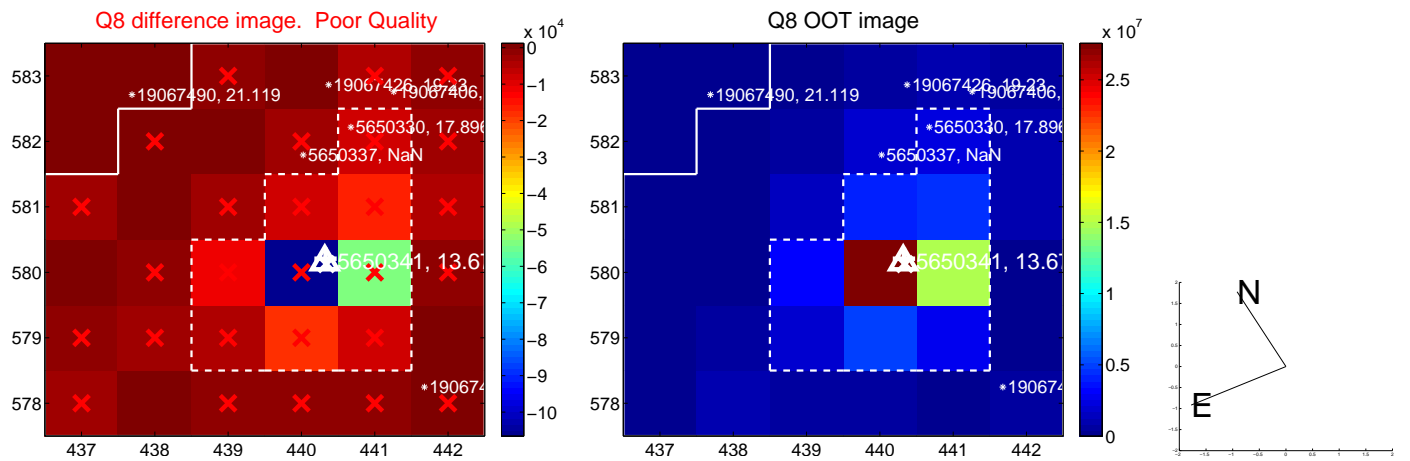
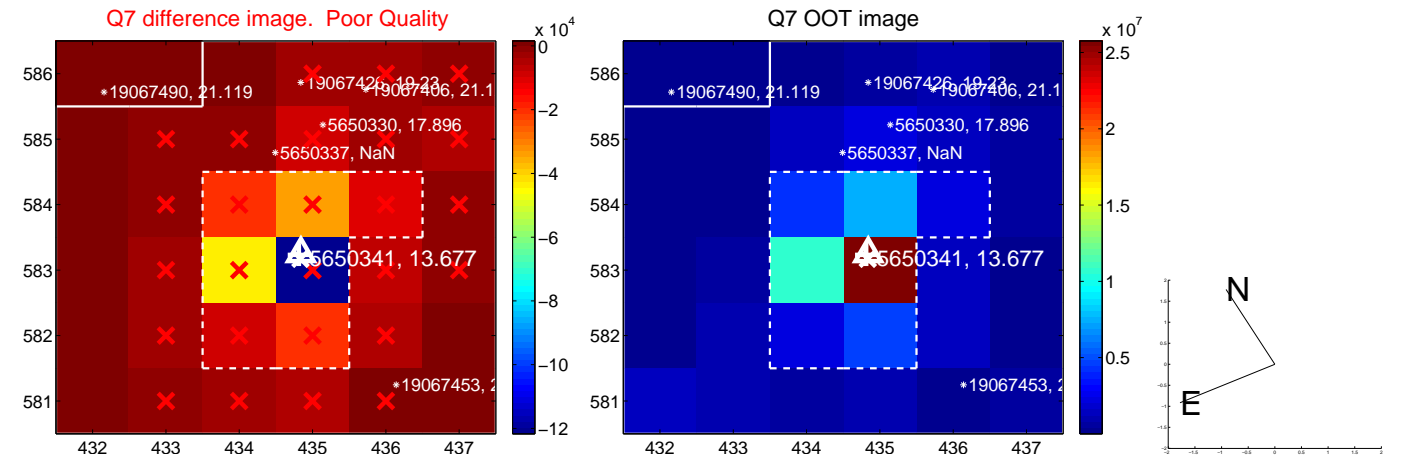
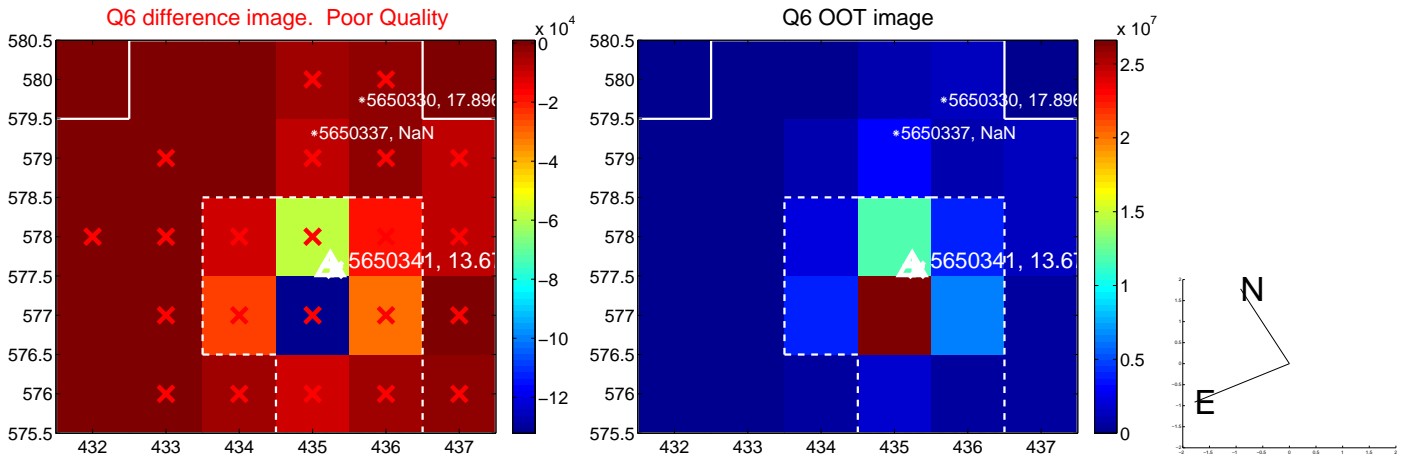
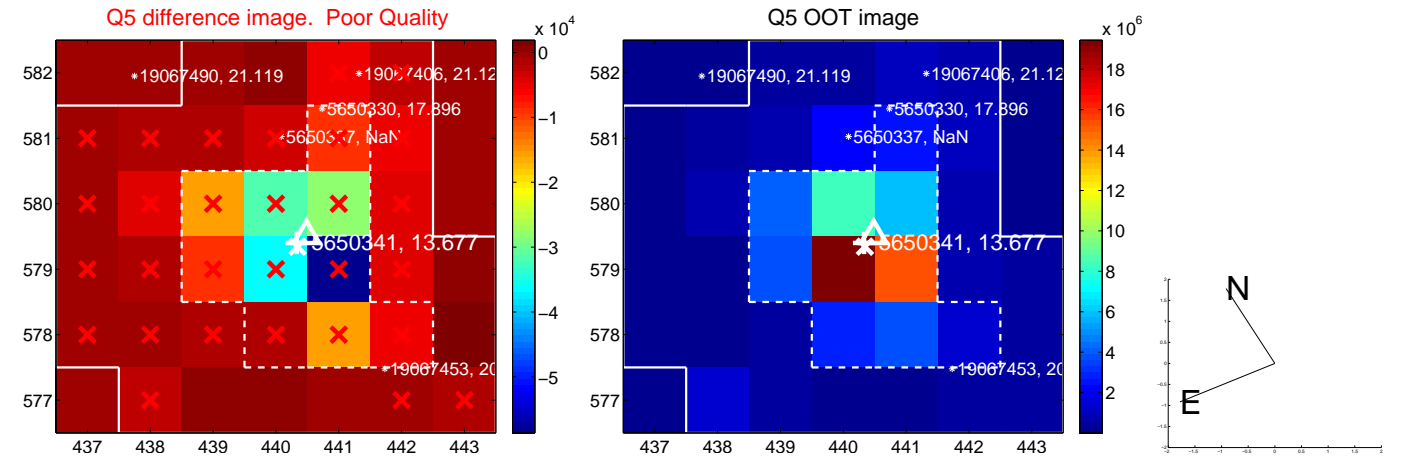


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

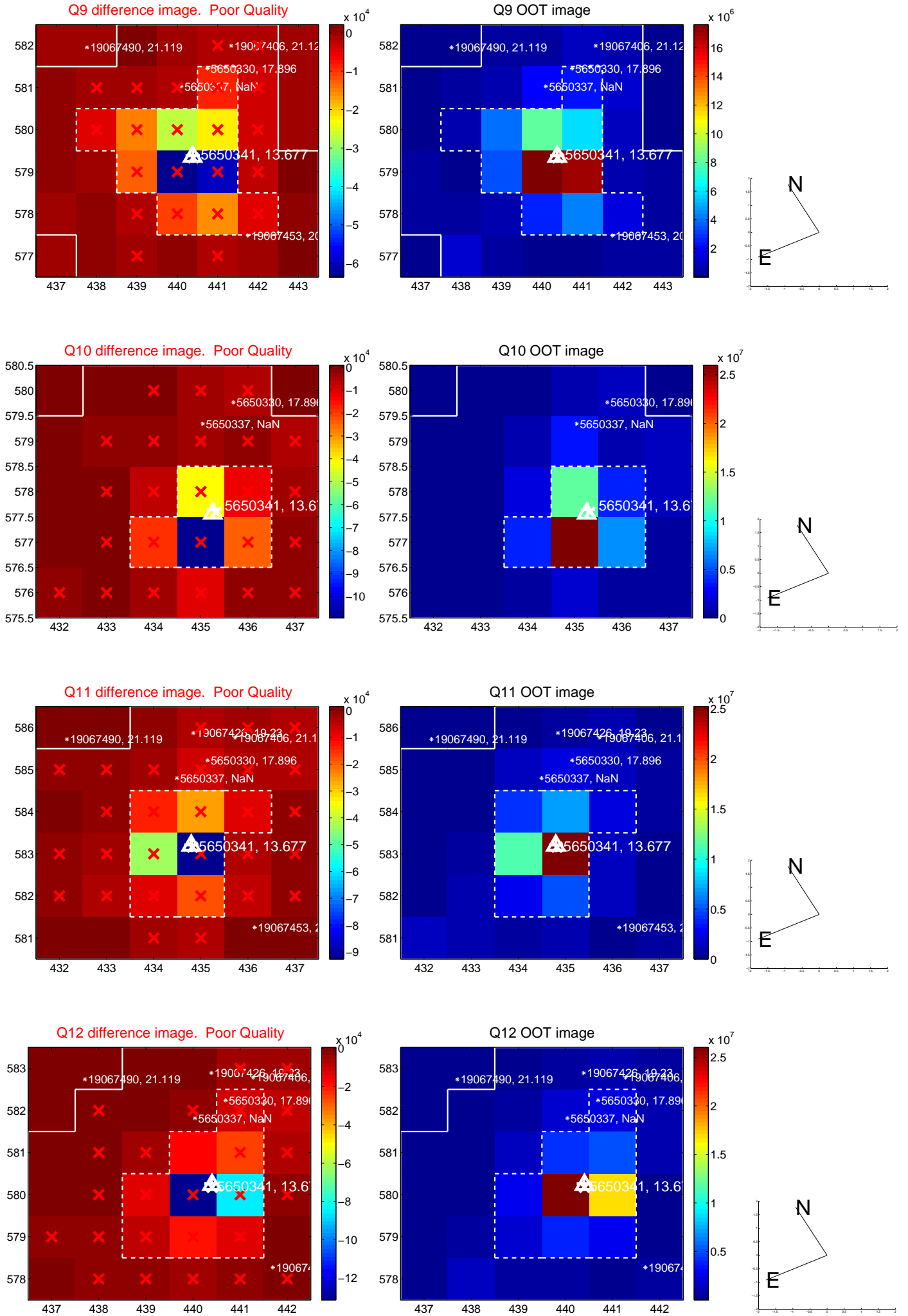


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

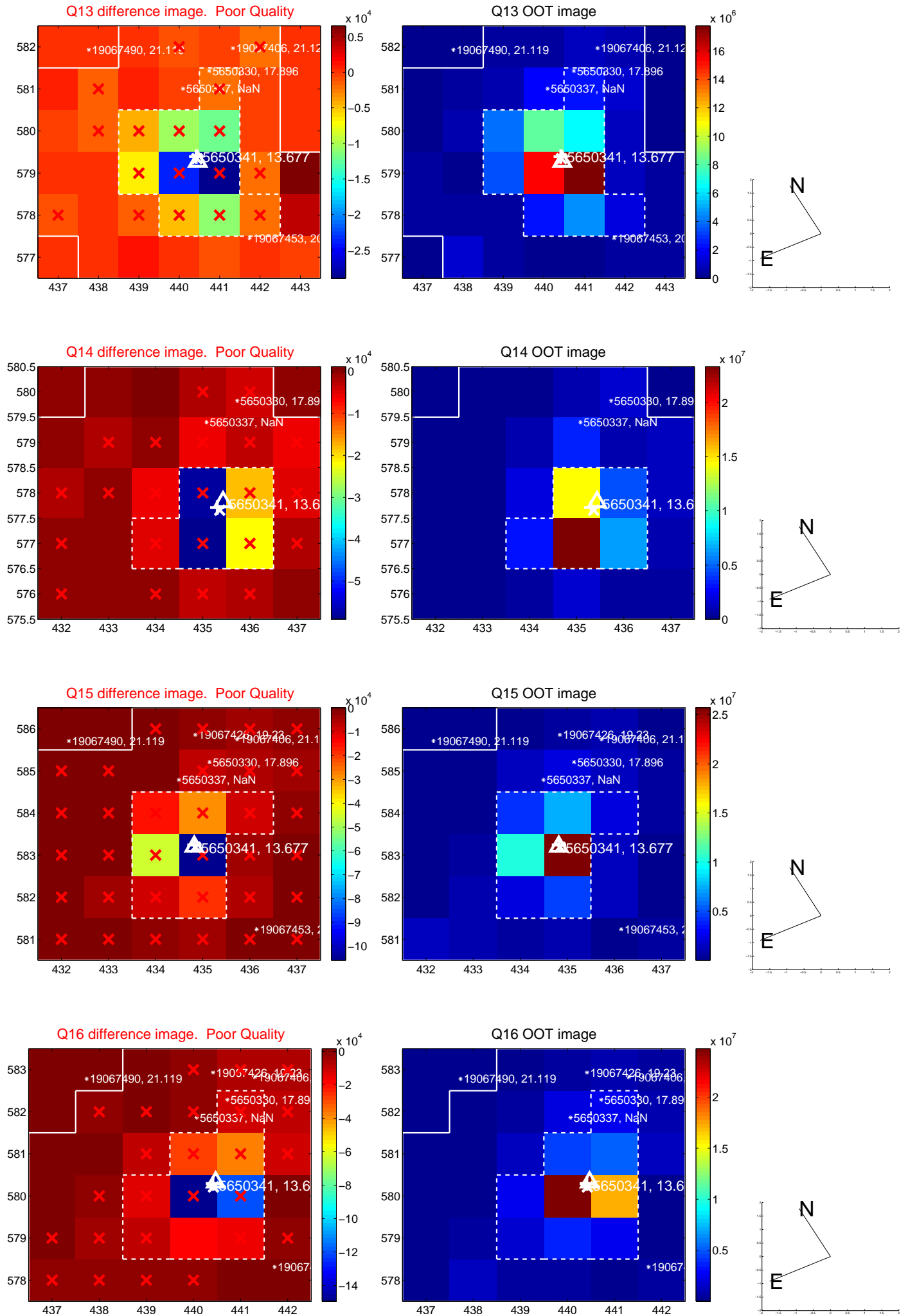




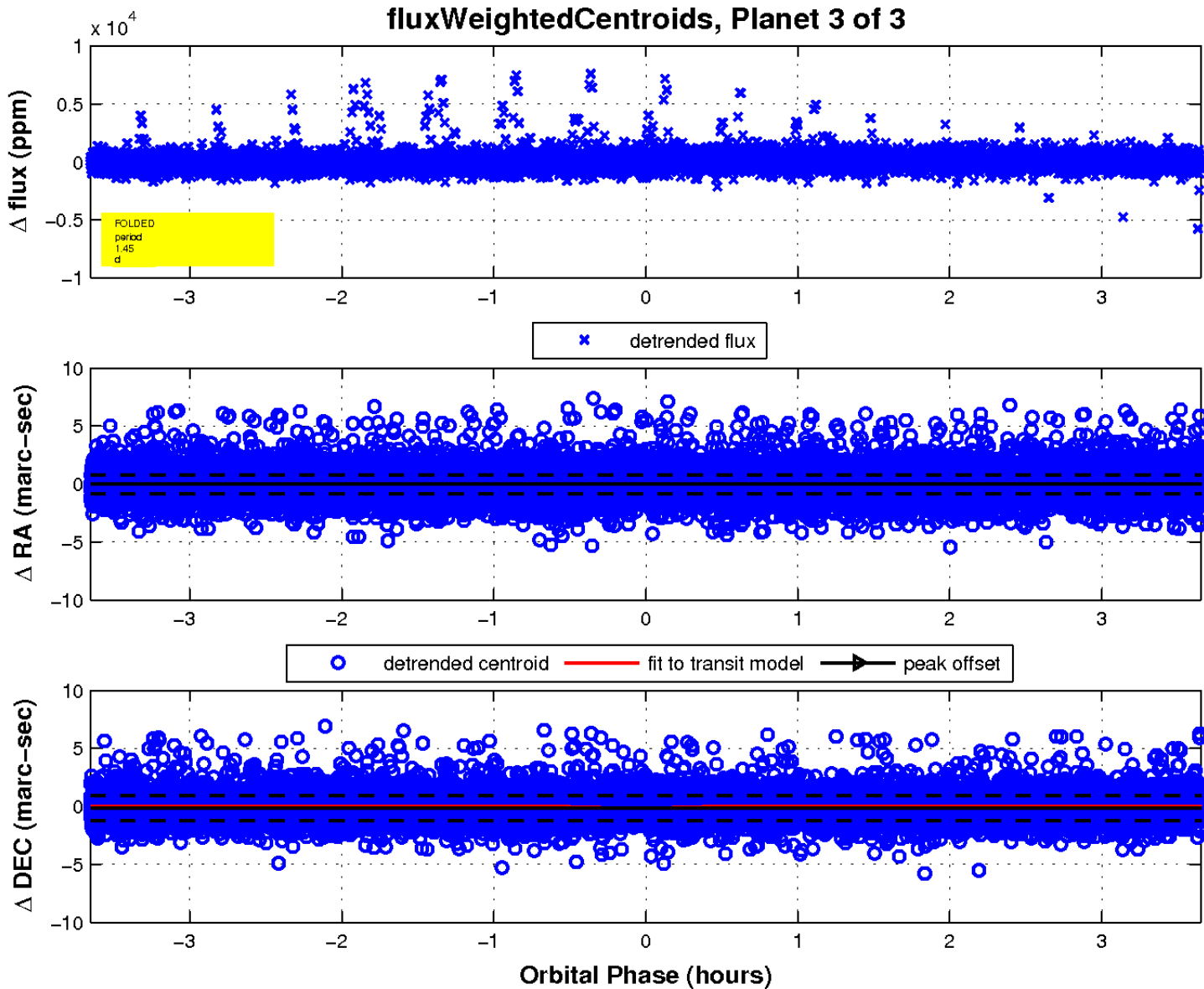
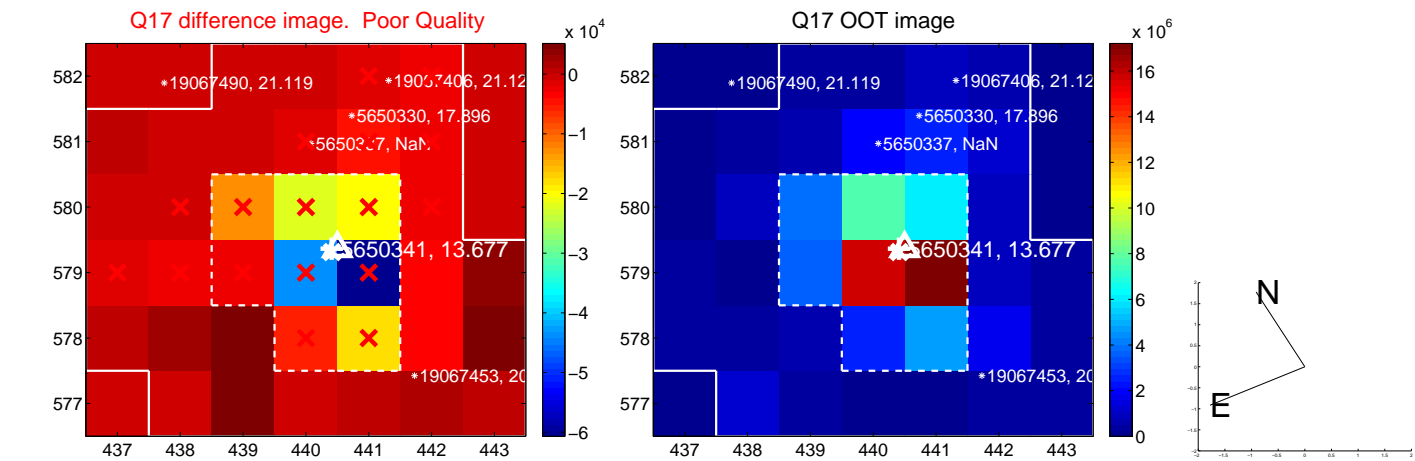
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

