

# KIC 006632435

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006632435-01	OBS	No	1.982836	132.462566	0.1	14.982	9.1	0.0	0.88	6050	0.02	1094.41
006632435-02	OBS	No	12.042471	143.251456	577.6	6.950	31.3	7.5	0.88	6050	2.27	98.77
006632435-03	OBS	No	11.912588	135.390053	955.3	5.154	11.9	13.0	0.88	6050	2.95	100.20

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006632435-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006632435-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006632435-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT

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

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

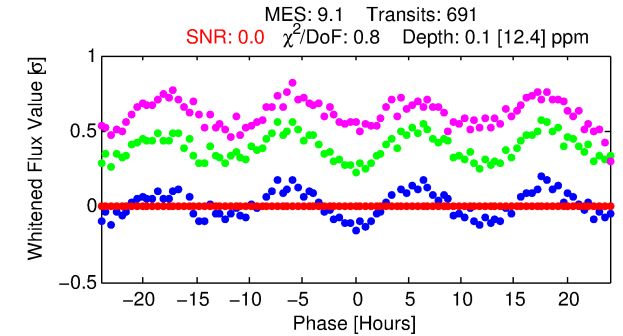
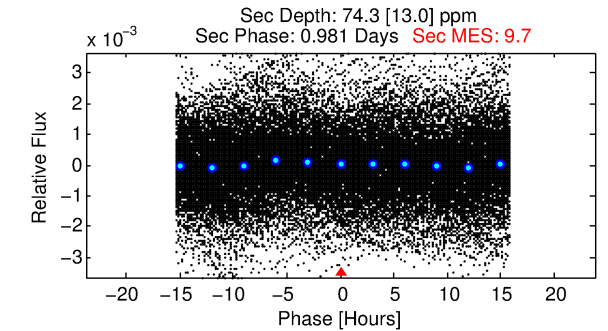
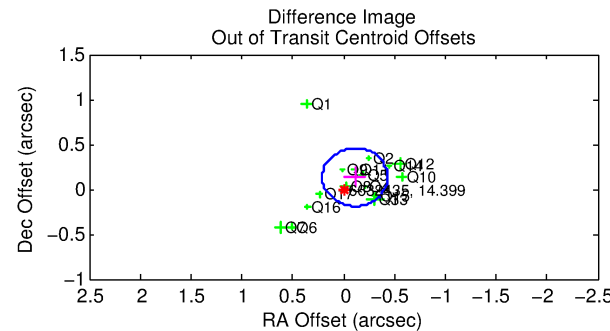
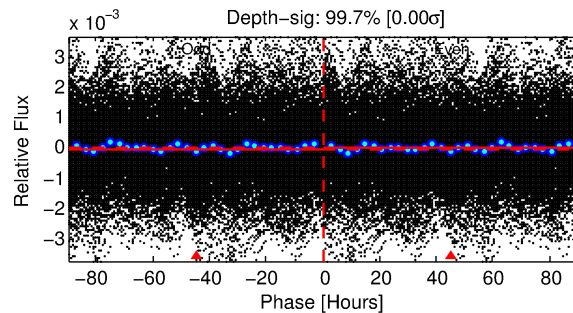
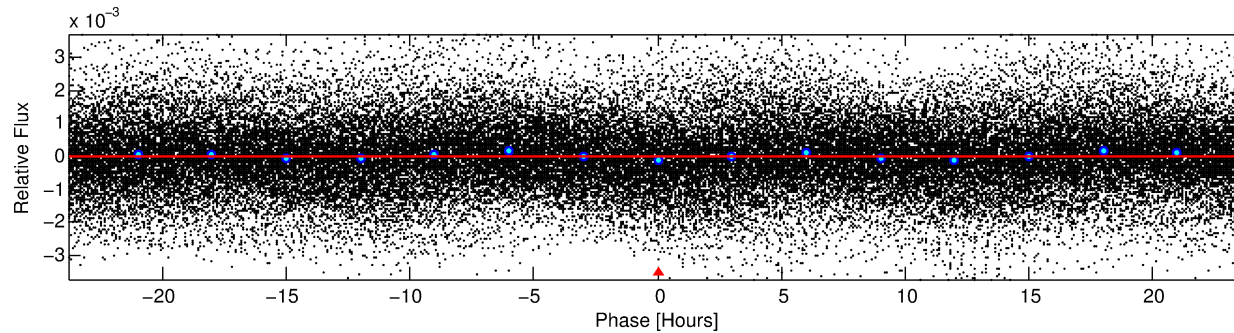
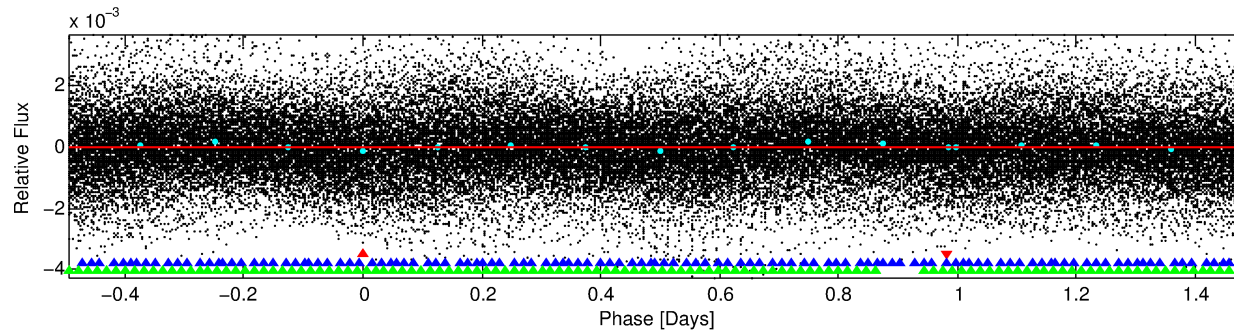
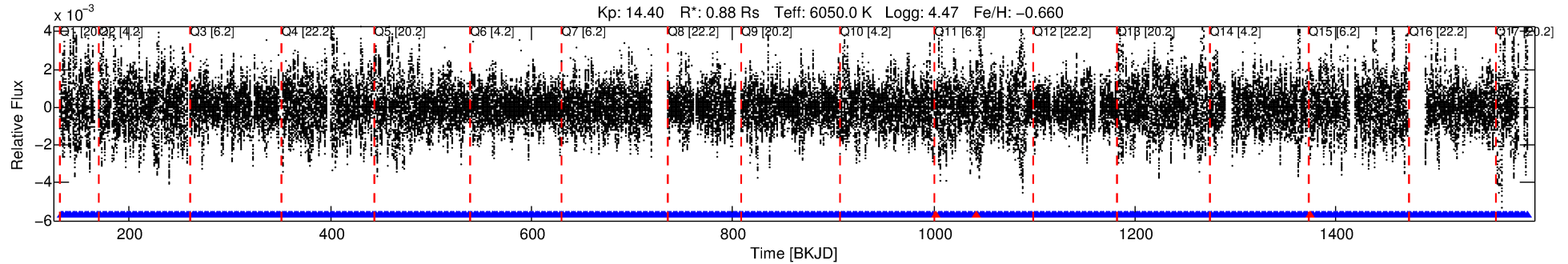
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 006632435-01

No Significant Match Found

# DV One-Page Summary

KIC: 6632435 Candidate: 1 of 3 Period: 1.983 d



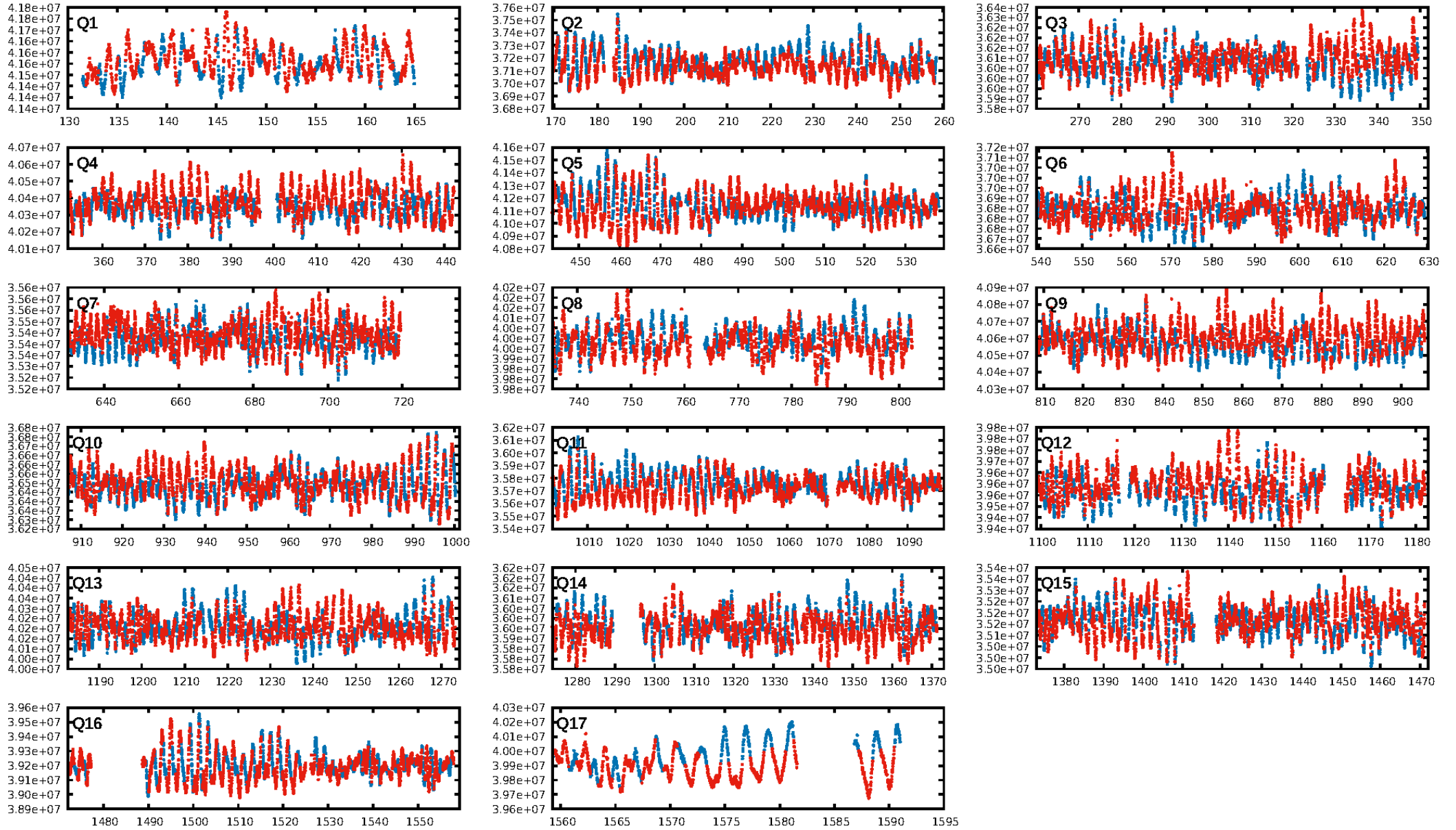
## DV Fit Results:

Period = 1.98284 [0.02433] d  
Epoch = 132.4626 [4.9312] BKJD  
Rp/R\* = 0.0002 [0.0233]  
a/R\* = 1.15 [25.77]  
b = 0.52 [133.53]  
Seff = 1094.41 [368.81]  
Teq = 1467 [124] K  
Rp = 0.02 [2.25] Re  
a = 0.0292 [0.0062] AU  
Ag = 63314.05 [12117608.91] [0.01 $\sigma$ ]  
Teffp = 35970 [1721107] K [0.02 $\sigma$ ]

## DV Diagnostic Results:

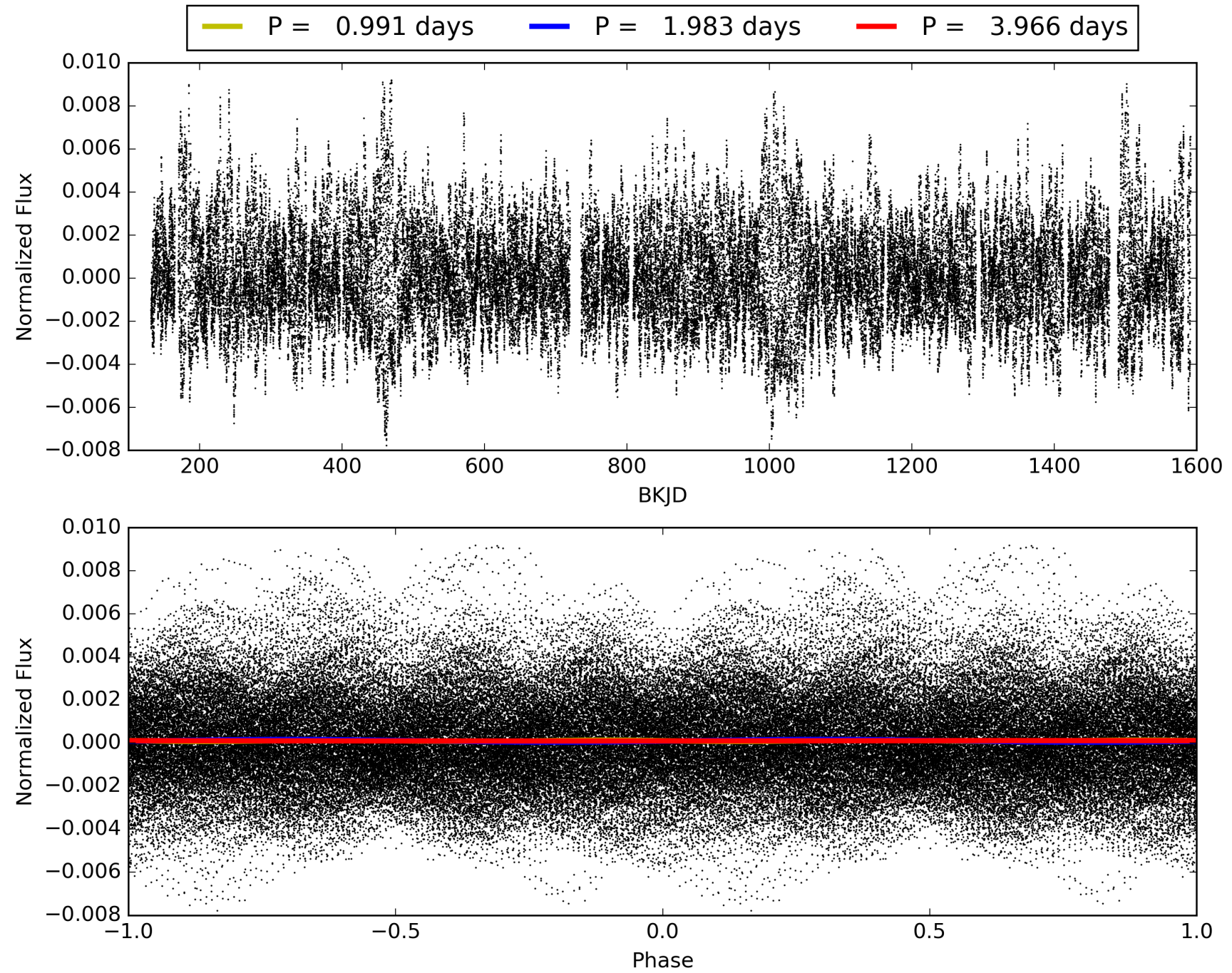
ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [15.04 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.59e-61  
RollingBand-fgt: 1.00 [658/661]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 0.173 arcsec [1.61 $\sigma$ ]  
KicOffset-rm: 0.245 arcsec [2.14 $\sigma$ ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.41 [7/17]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 006632435-01, PDC Light Curves





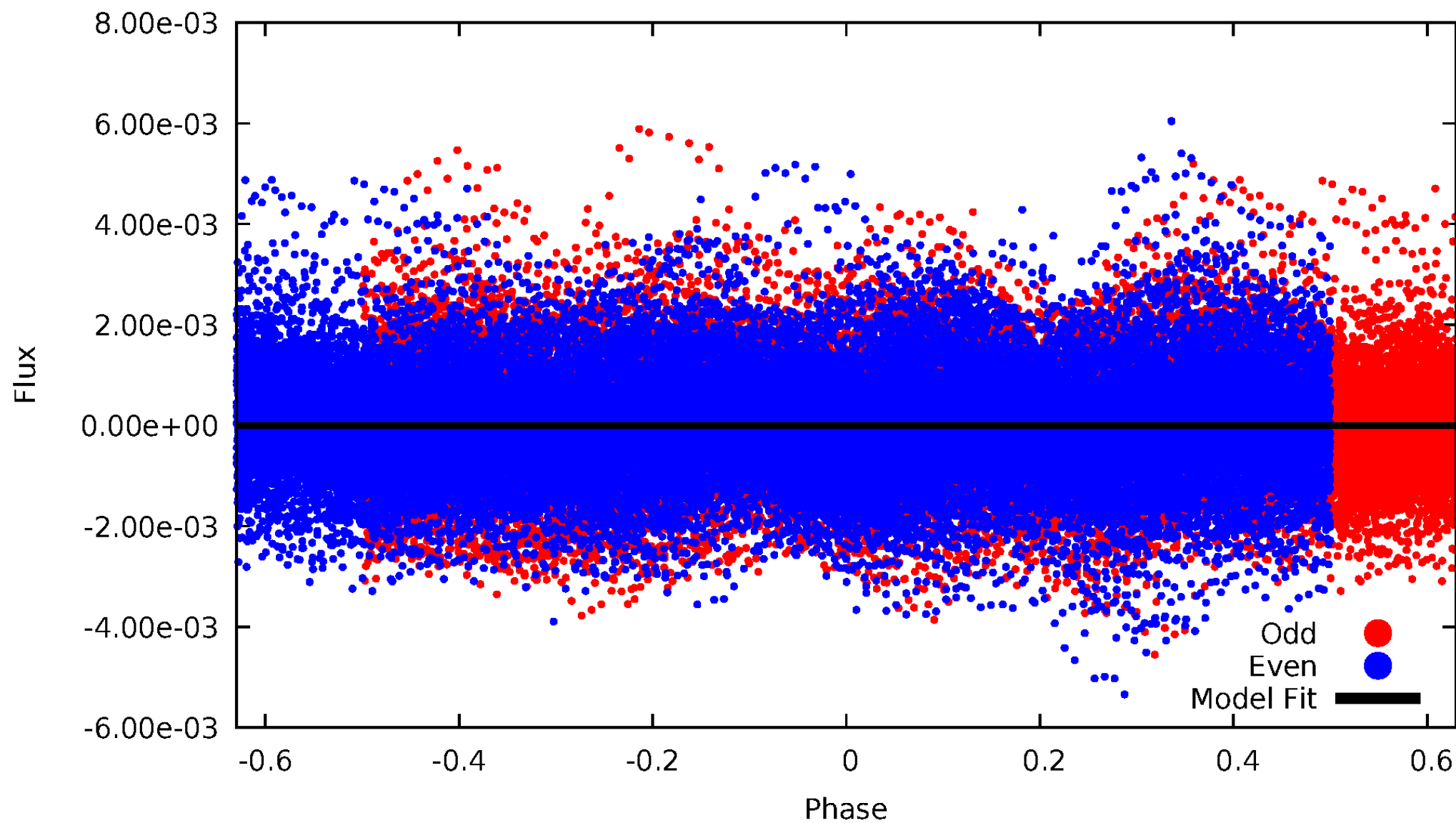
TCE 006632435-01





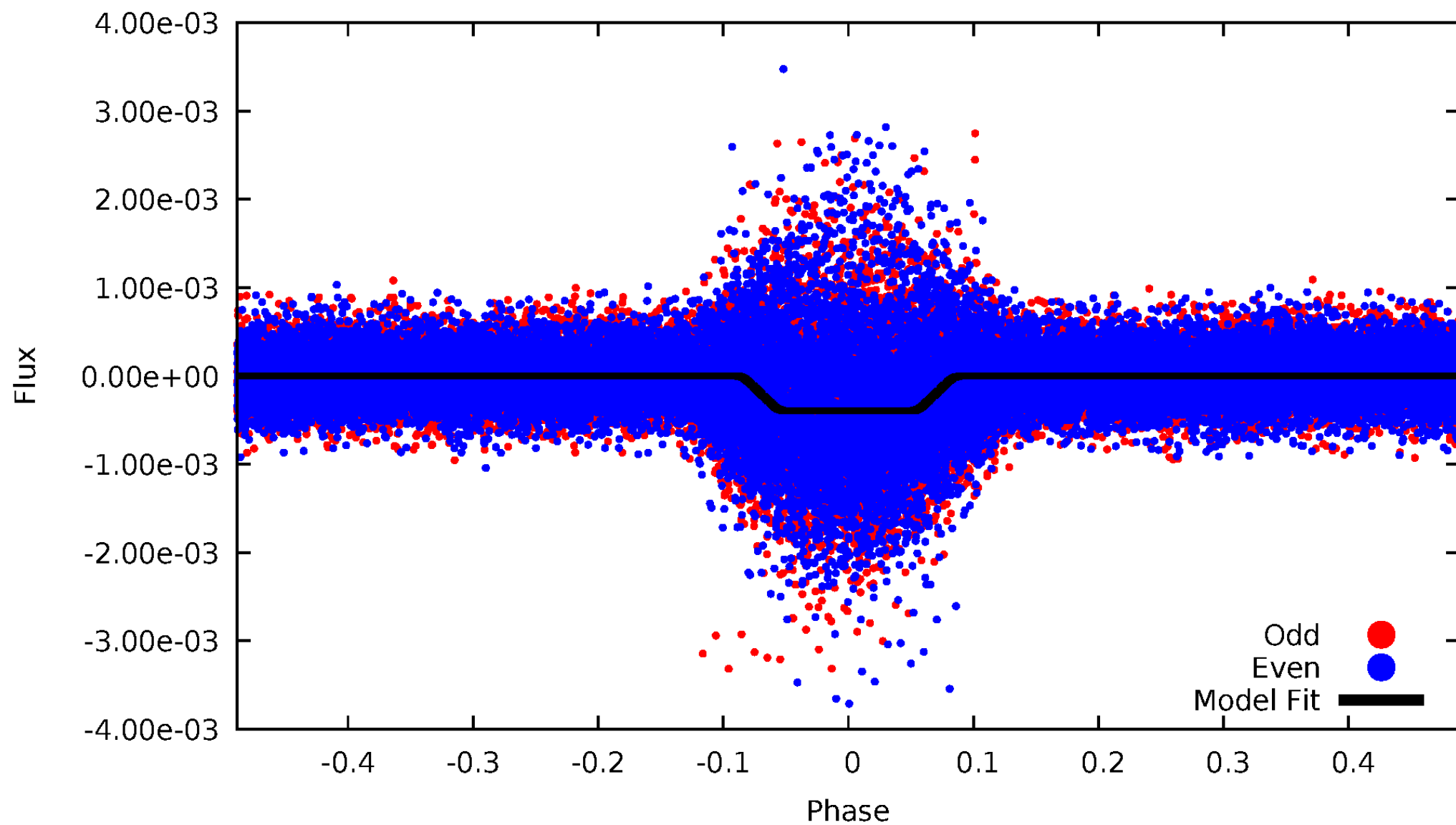
# DV Odd/Even

TCE 006632435-01



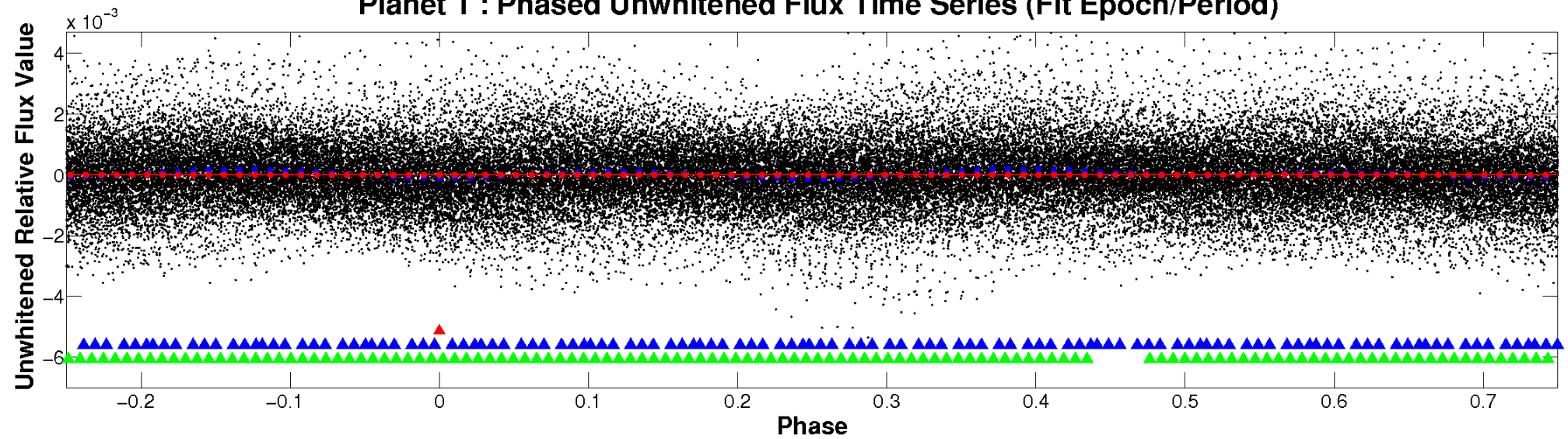
# ALT Odd/Even

TCE 006632435-01

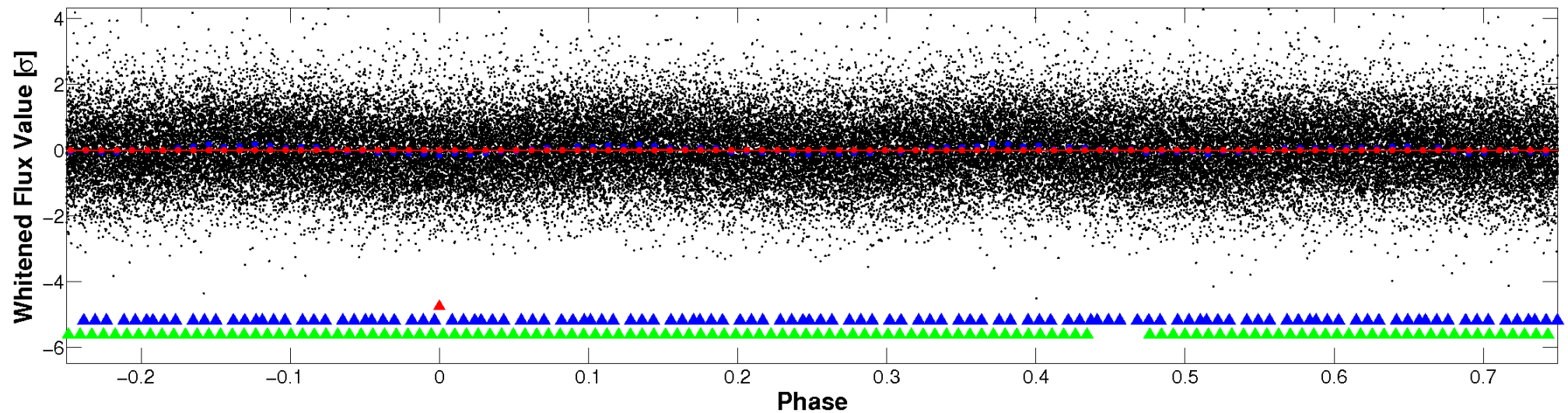


# Non-Whitened Vs. Whitened Light Curve

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



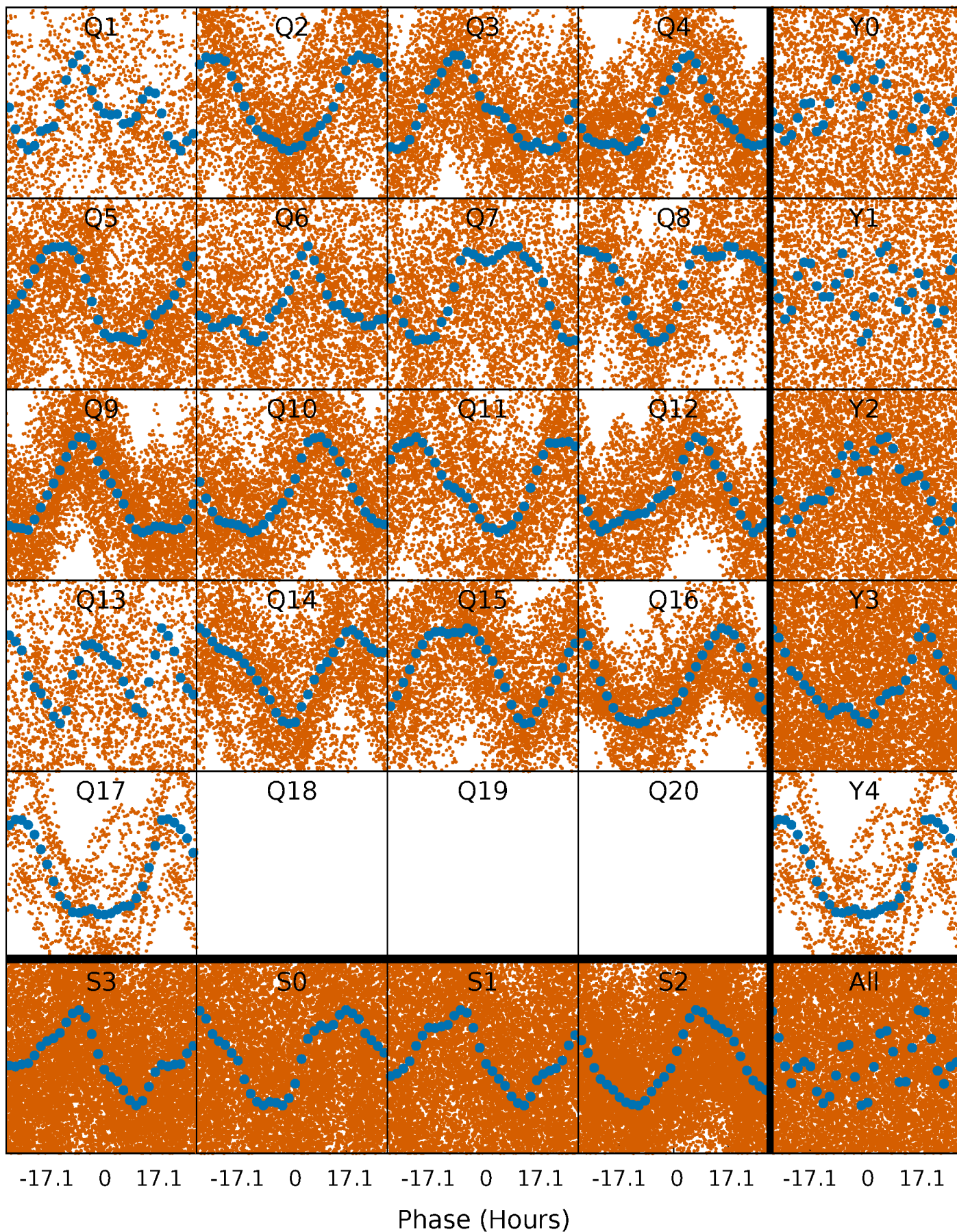
## Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)





# PDC Quarter-Phased Transit Curves

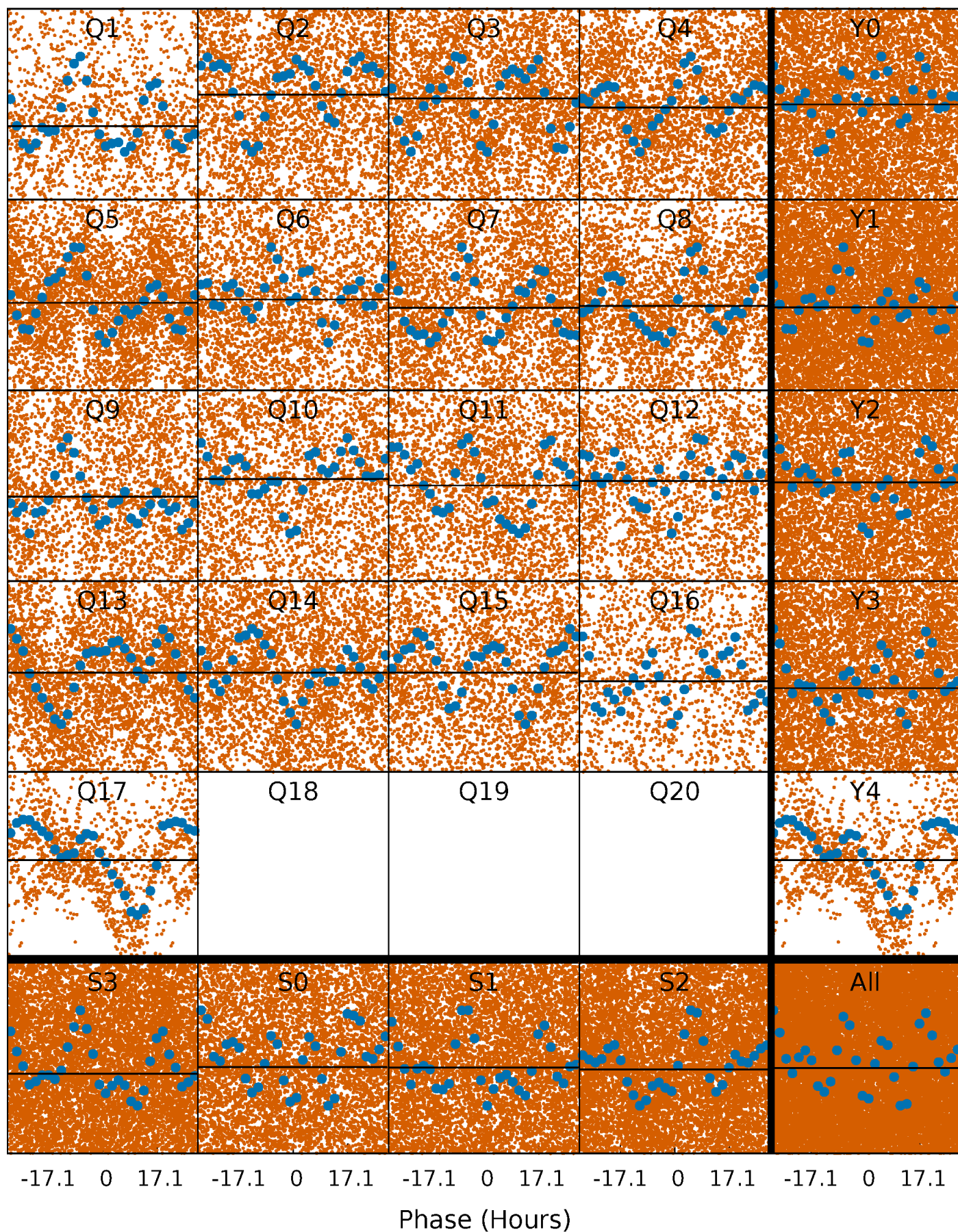
TCE 006632435-01 P= 1.982836 Days  $T_0=132.462566$  (BKJD)





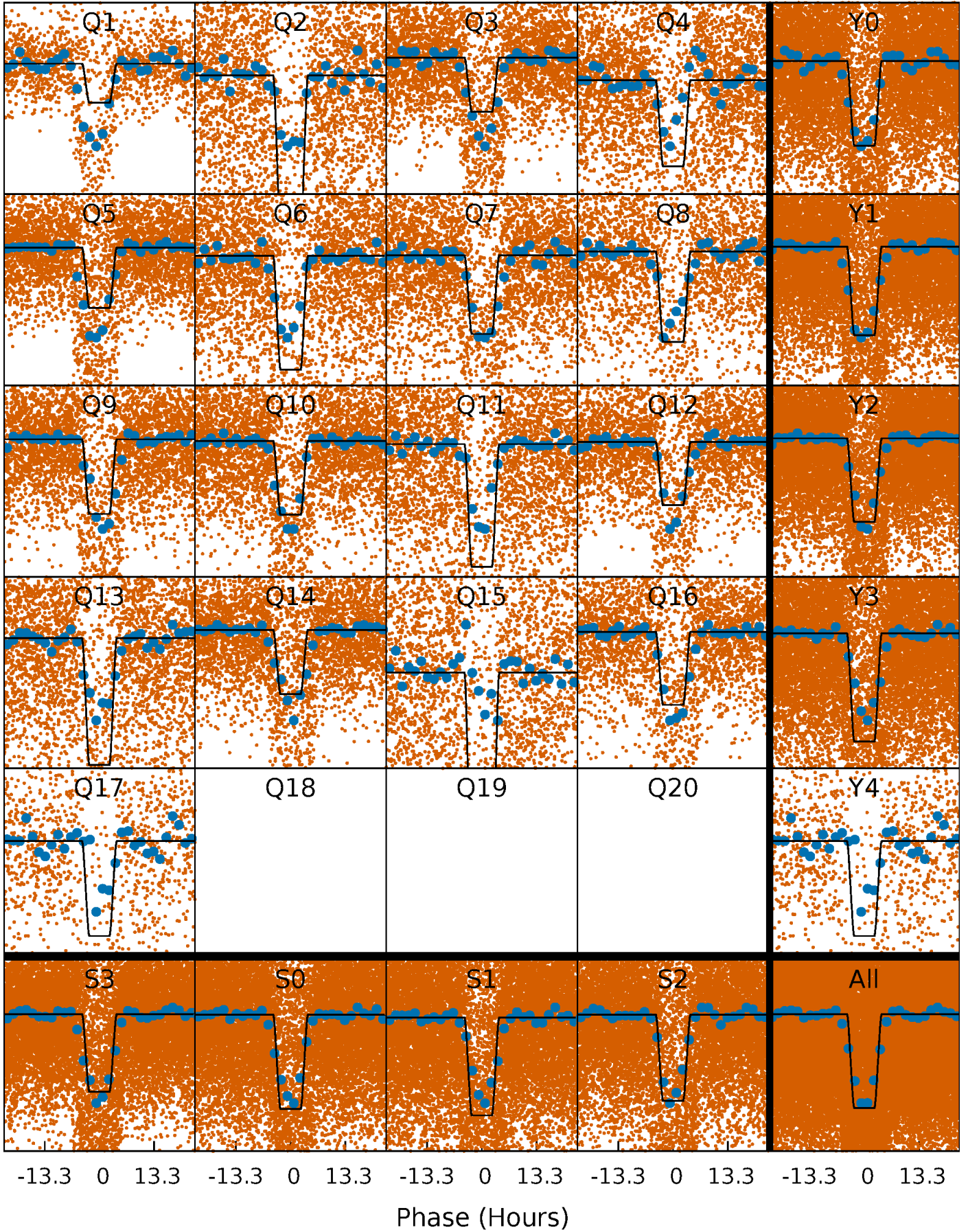
# DV Quarter-Phased Transit Curves

TCE 006632435-01 P= 1.982836 Days  $T_0=132.462566$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 006632435-01 P= 1.982852 Days  $T_0=132.453285$  (BKJD)

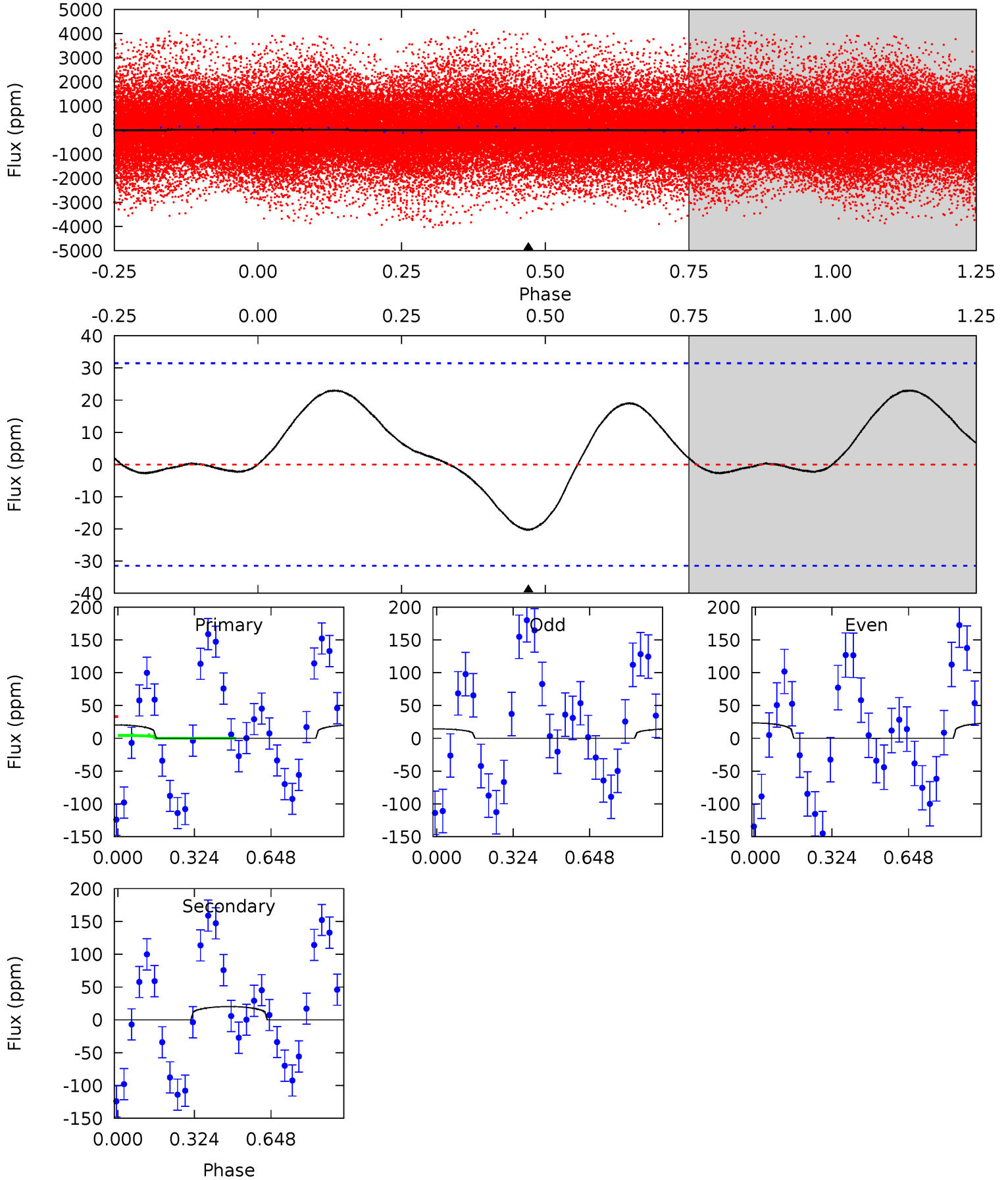




# DV Model-Shift Uniqueness Test

006632435-01, P = 1.982836 Days, E = 130.479730 Days

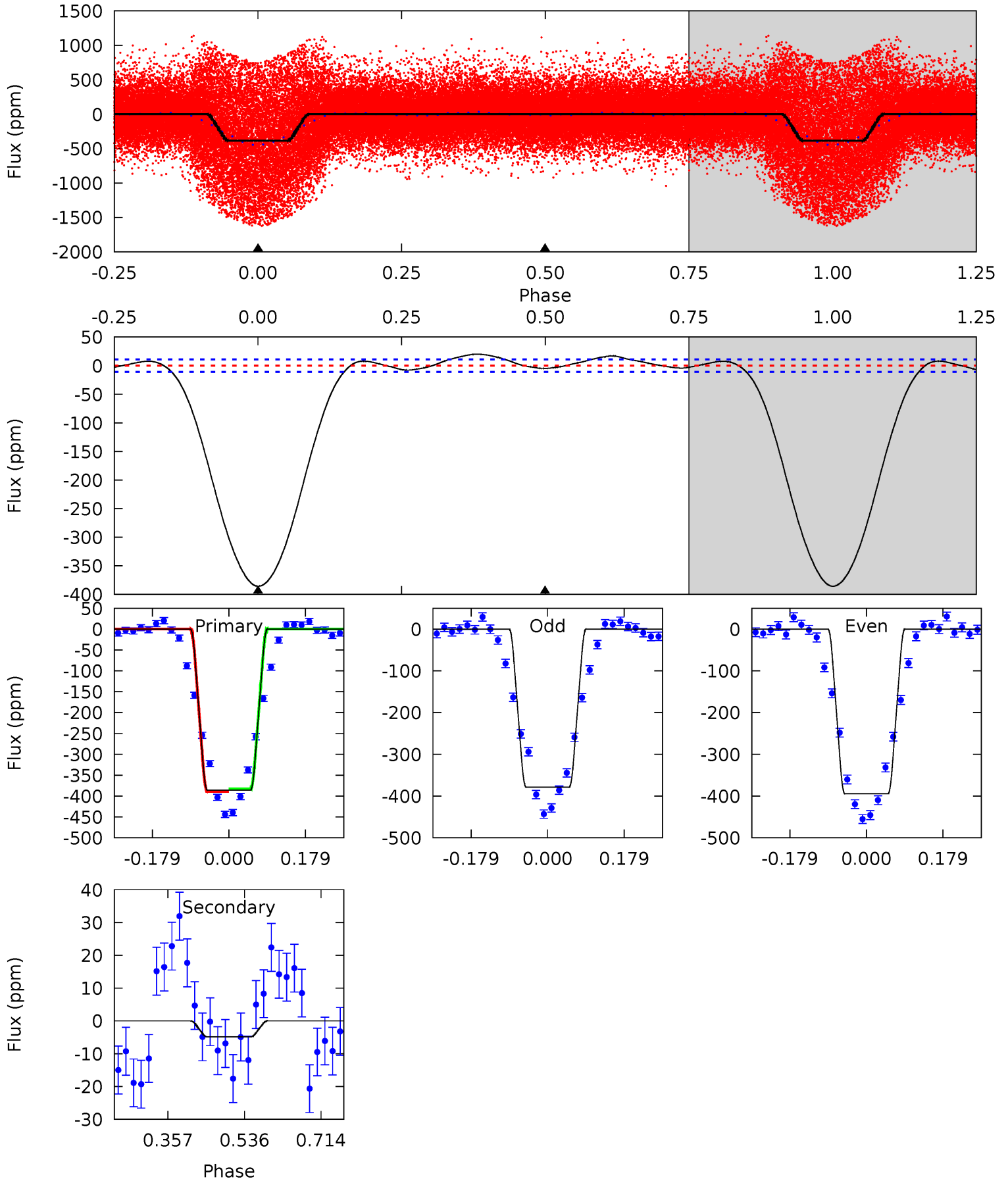
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.78	2.78	0	0	4.31	0.99	1.24	2.78	2.78	2.78	2.78	0.61	-20.1	0.53	1.94



# Alt Model-Shift Uniqueness Test

006632435-01, P = 1.982852 Days, E = 130.470433 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
158.7	2.01	0	0	4.44	1.35	1.94	158.7	158.7	2.01	2.01	3.28	0.89	0.05	1.30



### Stellar Parameters For KIC 006632435

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6050^{+164}_{-182}$	$4.474^{+0.094}_{-0.175}$	$-0.660^{+0.300}_{-0.300}$	$0.882^{+0.216}_{-0.116}$	$0.844^{+0.097}_{-0.073}$	$1.734^{+0.712}_{-0.825}$
	+3%/-3%	+2%/-4%	+45%/-45%	+24%/-13%	+11%/-9%	+41%/-48%
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 006632435-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-20 \pm 7$	$1.55^{+1.75}_{-1.07}$	$2072^{+137}_{-103}$	$3572^{+2303}_{-820}$	$3.735^{+40.396}_{-2.898}$
Alt.	$-5 \pm 2$	$2.69^{+1.97}_{-1.64}$	$2067^{+132}_{-105}$	$-1675^{+4852}_{-791}$	$0.294^{+1.706}_{-0.222}$

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



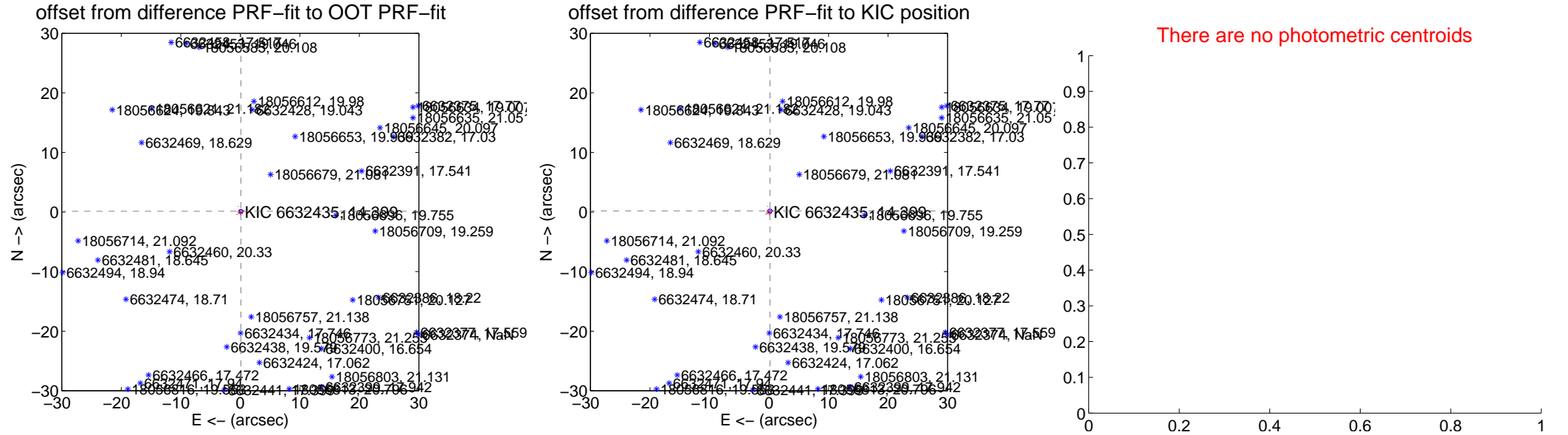
## DV Centroid Data

Supplemental centroid analysis for 006632435-01. Kepler magnitude: 14.40. Transit SNR 0.01

There are 7 quarters with good PRF difference image offsets

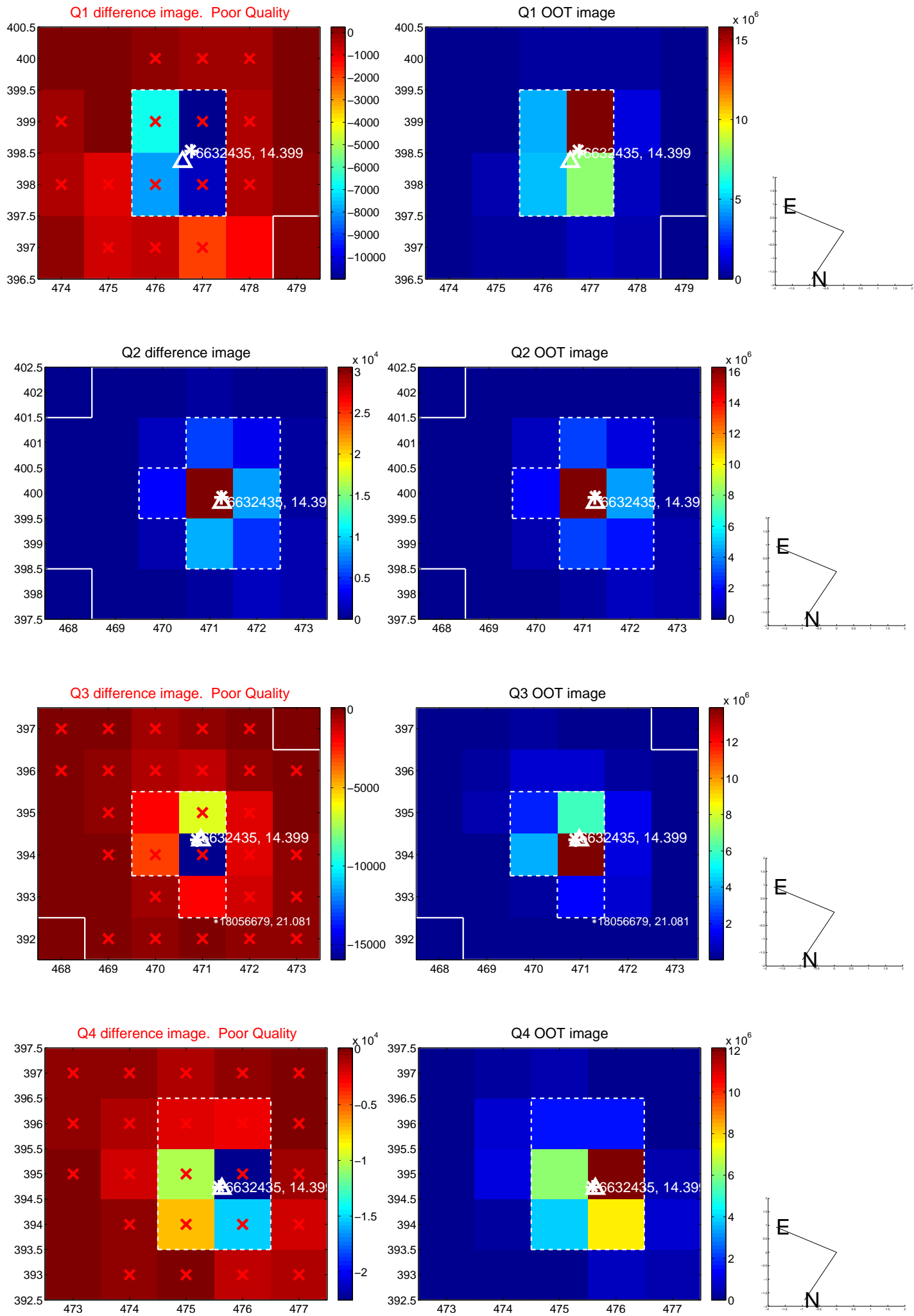
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.173 \pm 0.107$	1.61	$-0.111 \pm 0.107$	$0.132 \pm 0.099$
PRF-fit source offset from KIC position	$0.245 \pm 0.114$	2.14	$-0.168 \pm 0.111$	$0.178 \pm 0.100$
photometric centroid source offset	—	—	—	—

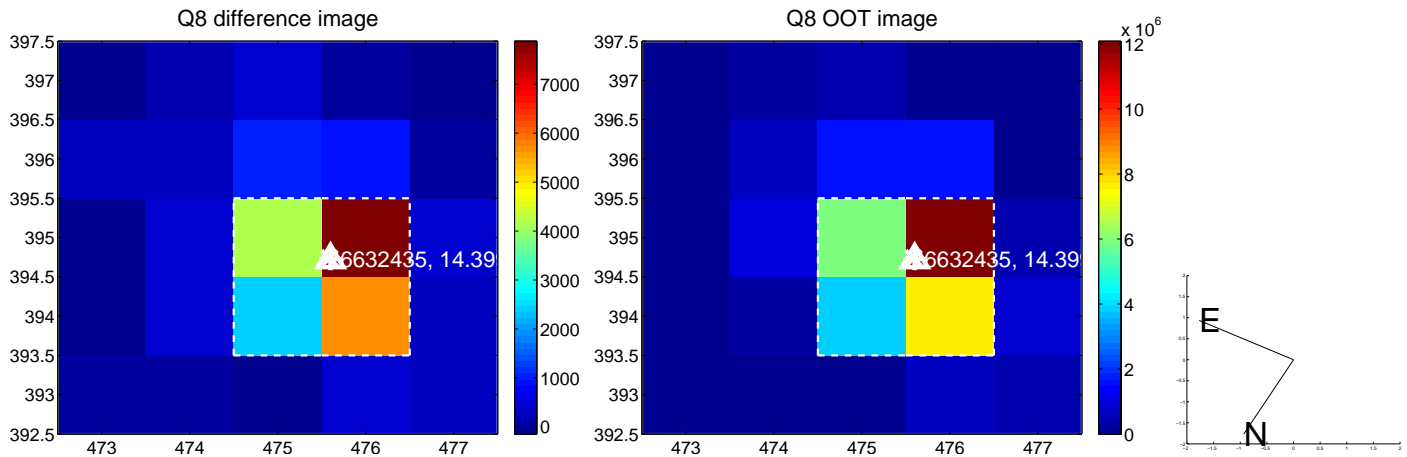
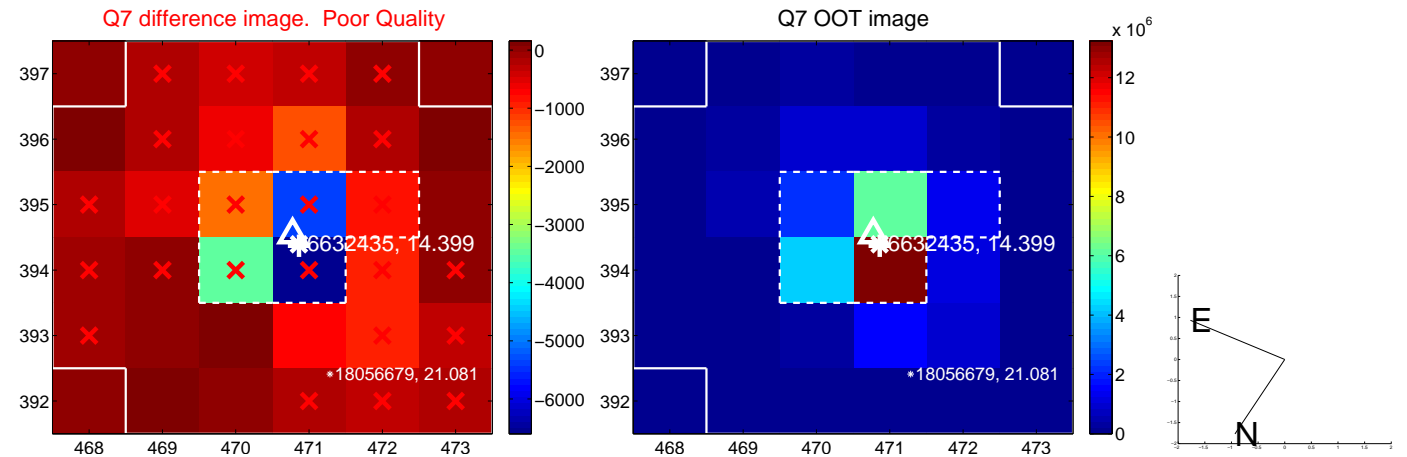
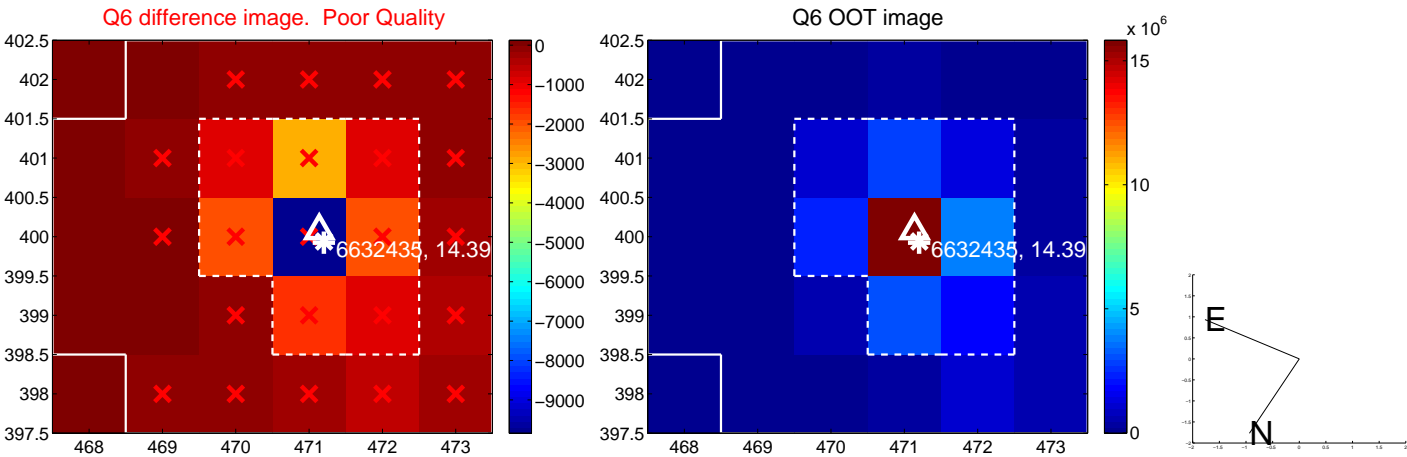
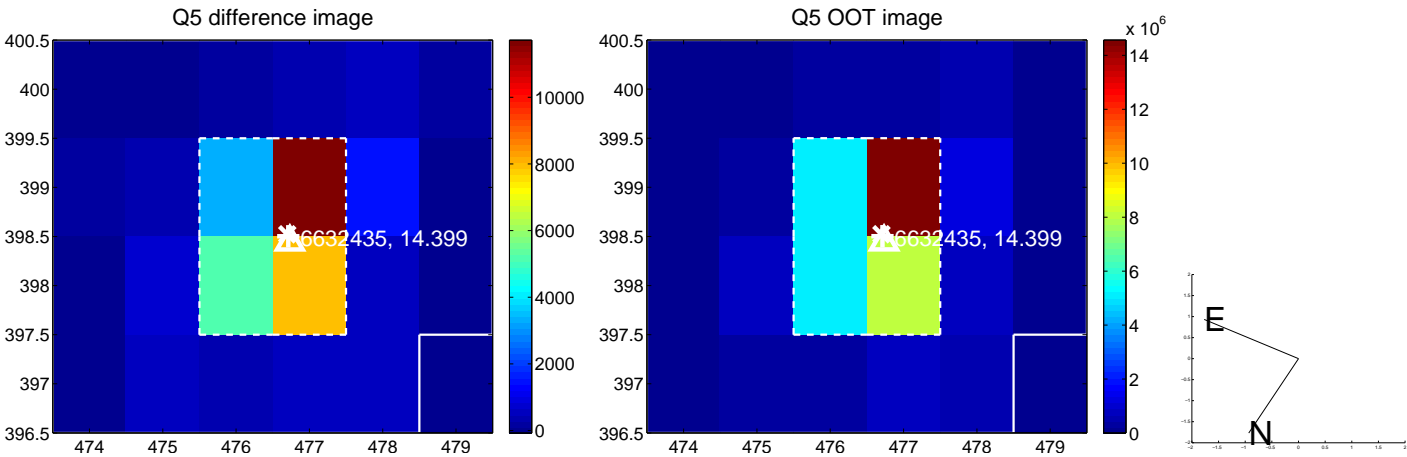


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

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

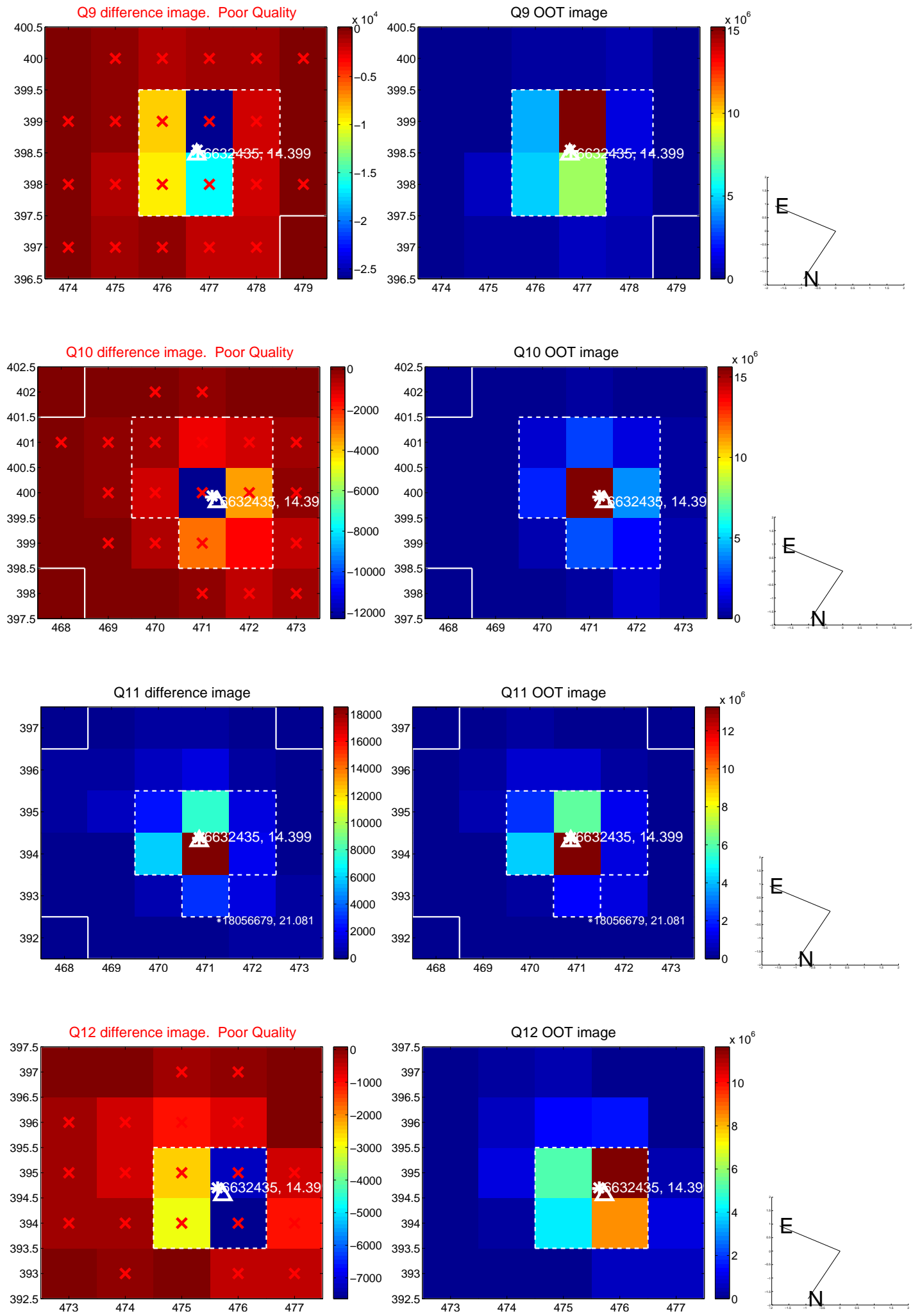


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

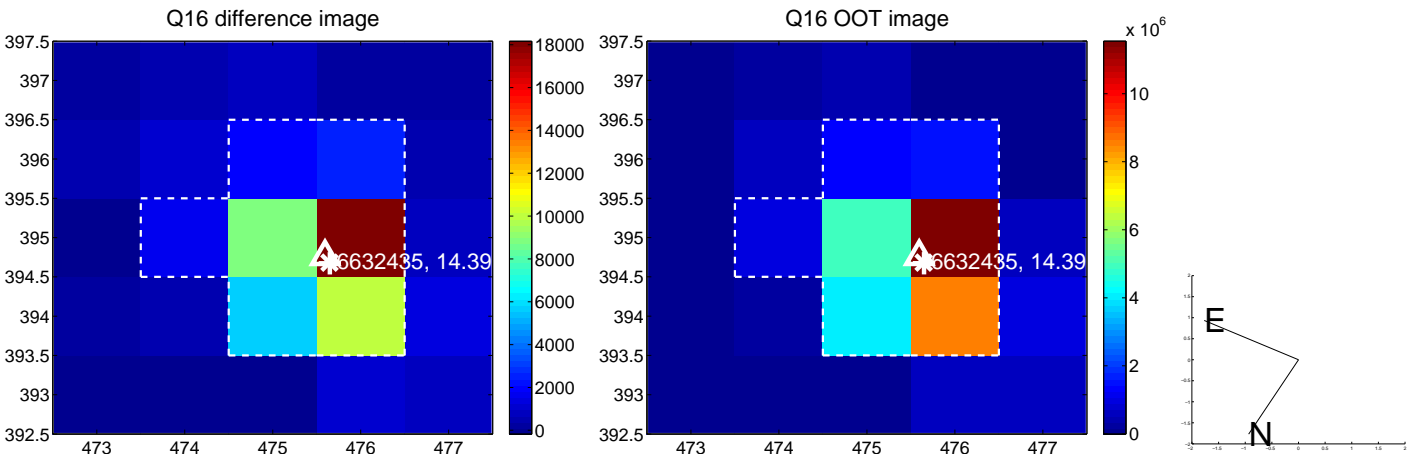
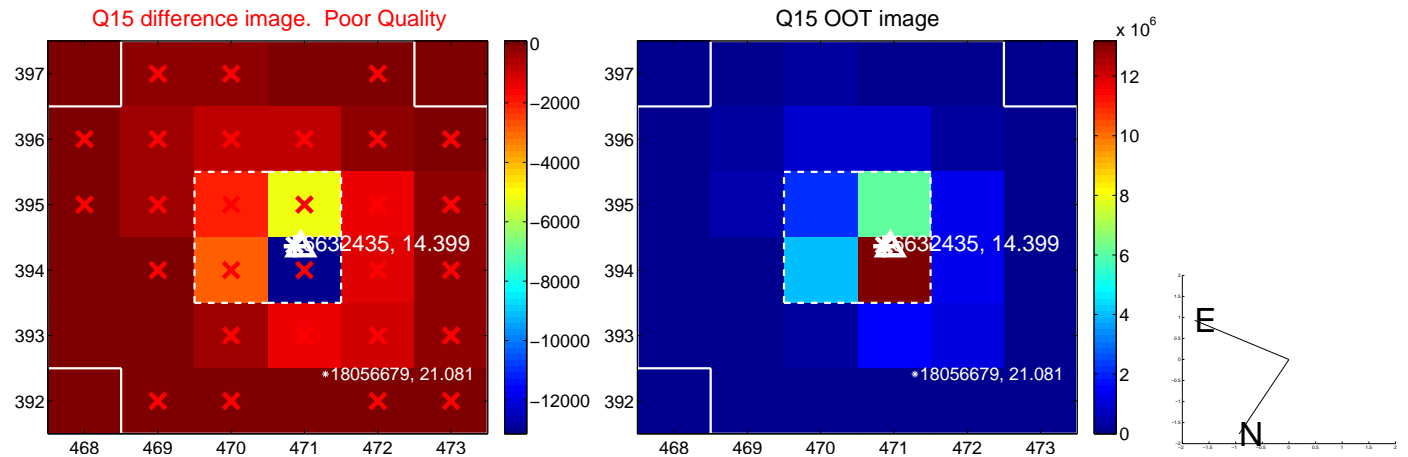
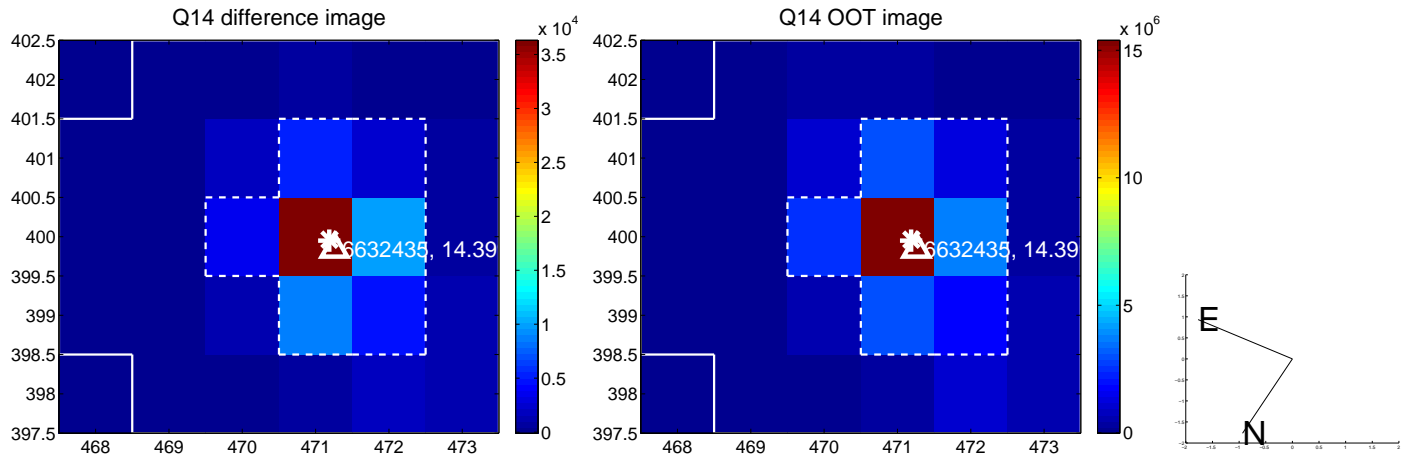
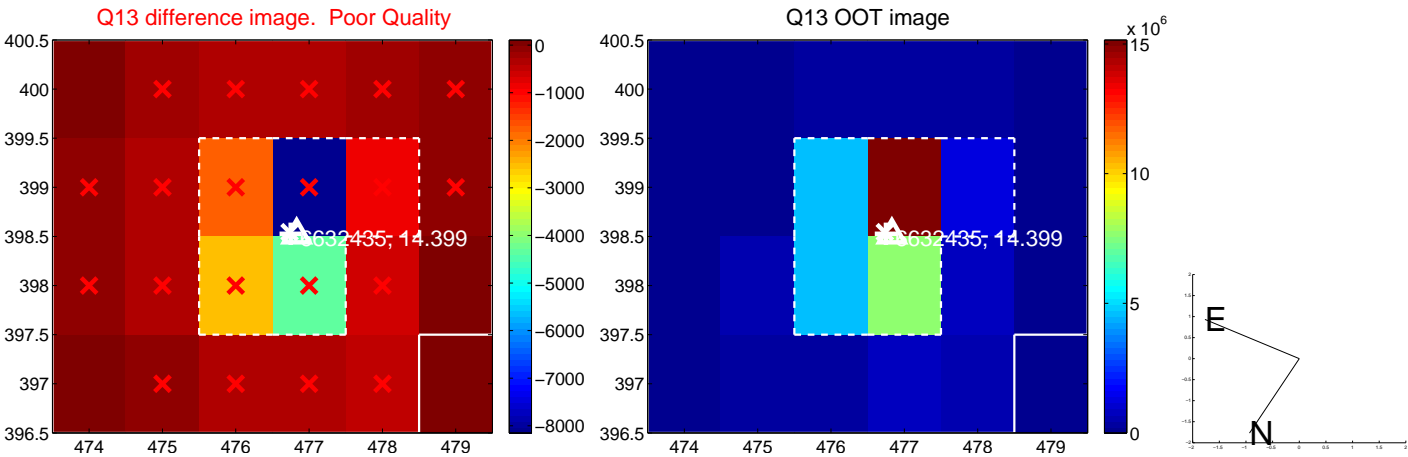




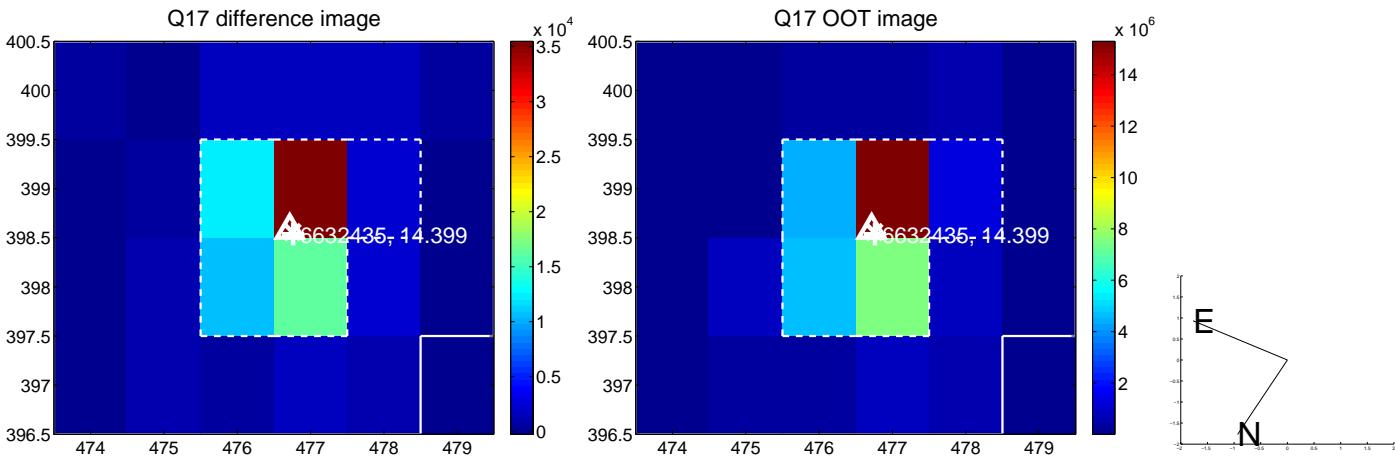
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



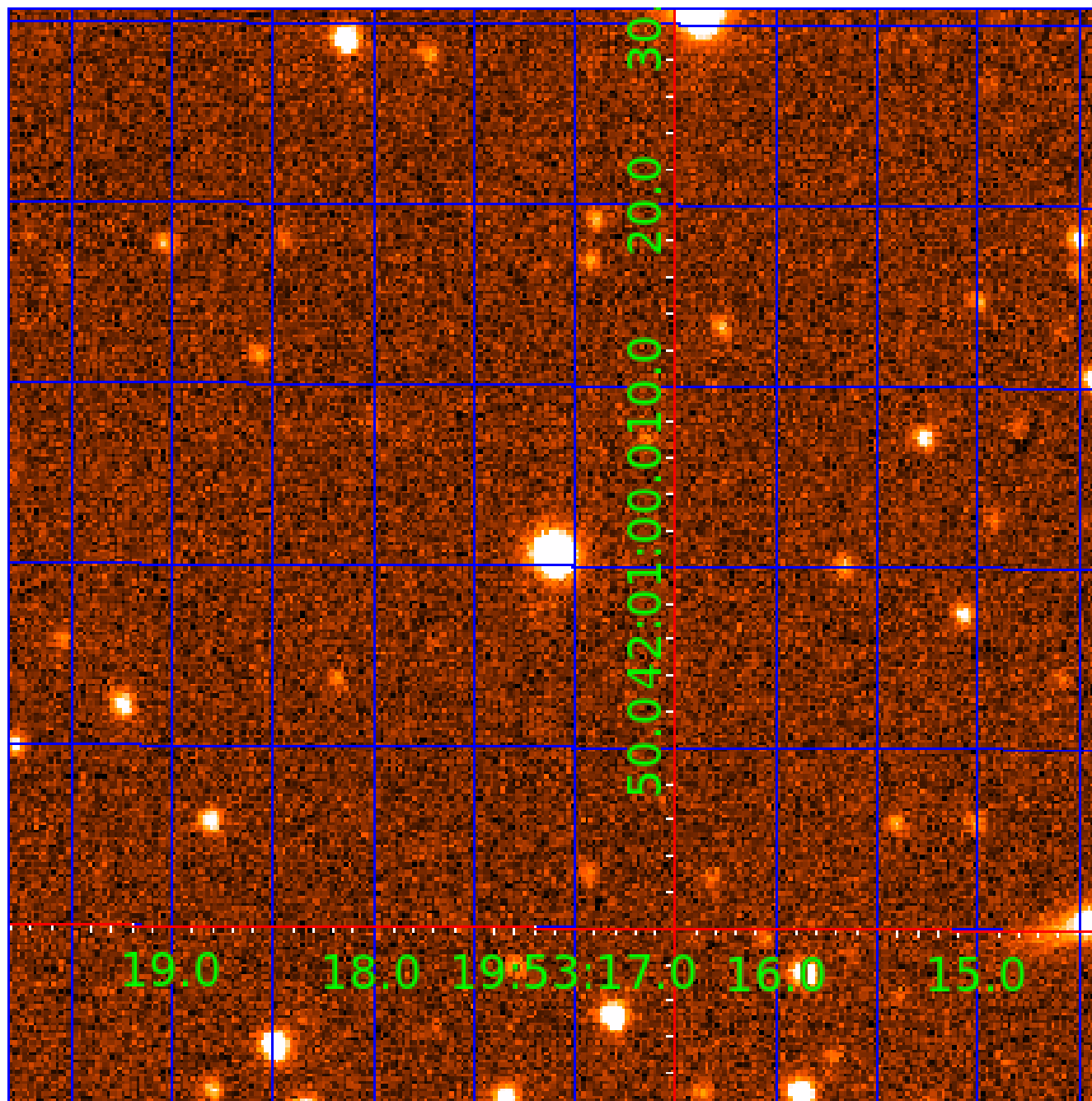
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



folded centroid time series figure for this object.

# UKIRT Image

Declination





# KIC 006632435

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006632435-01	OBS	No	1.982836	132.462566	0.1	14.982	9.1	0.0	0.88	6050	0.02	1094.41
006632435-02	OBS	No	12.042471	143.251456	577.6	6.950	31.3	7.5	0.88	6050	2.27	98.77
006632435-03	OBS	No	11.912588	135.390053	955.3	5.154	11.9	13.0	0.88	6050	2.95	100.20

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006632435-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006632435-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006632435-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT

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

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

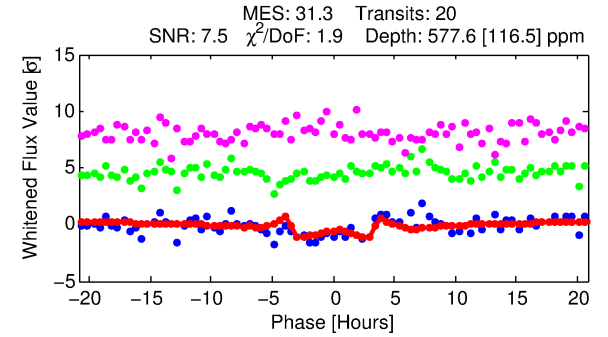
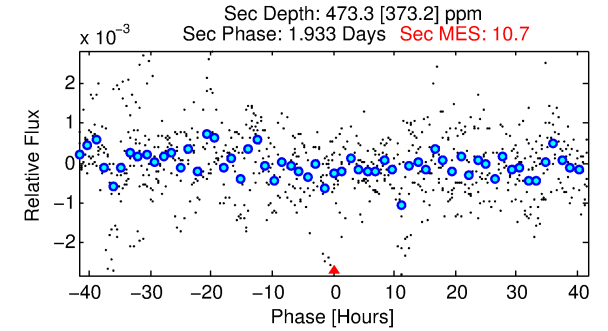
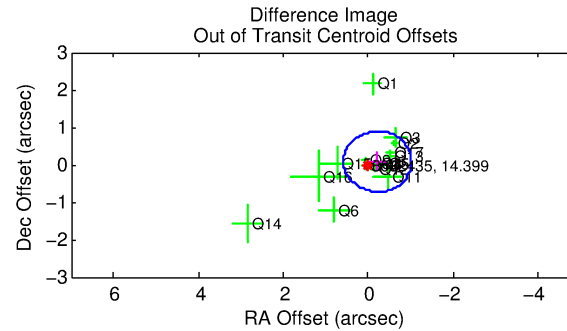
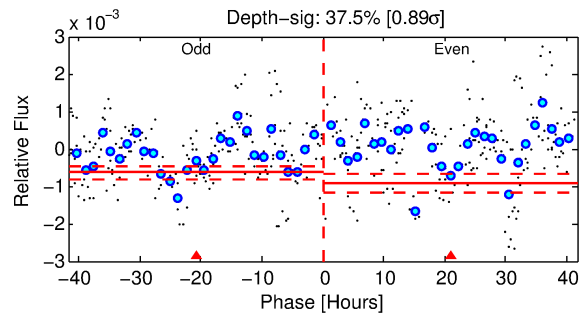
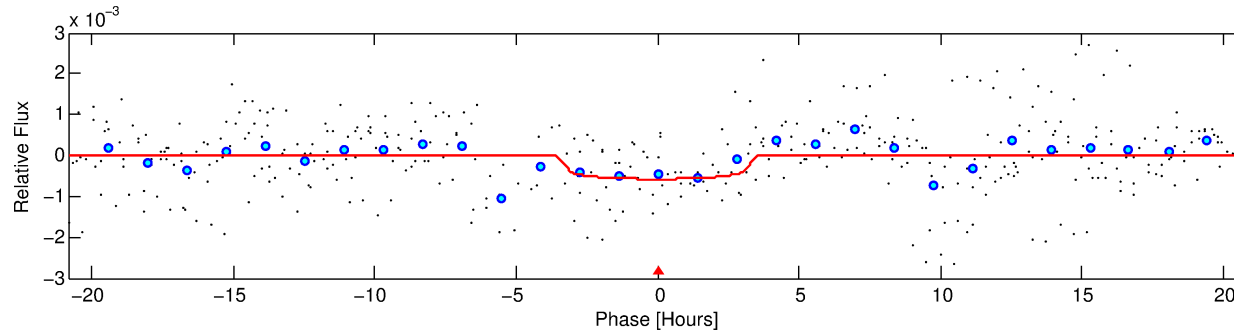
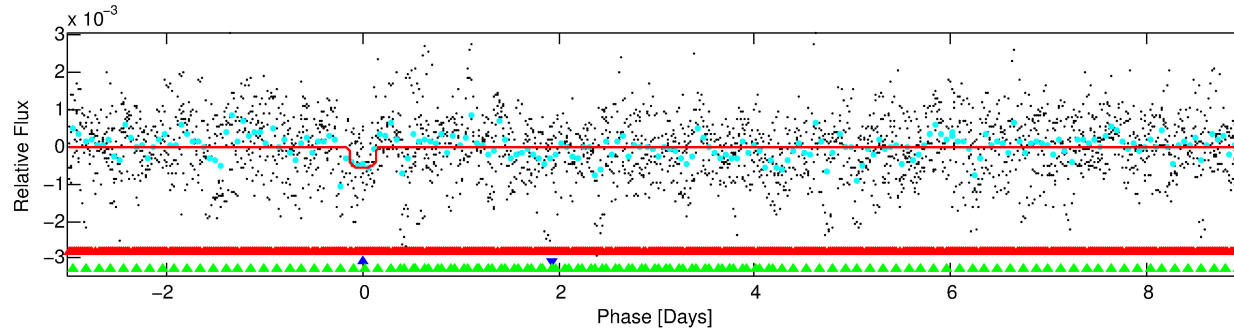
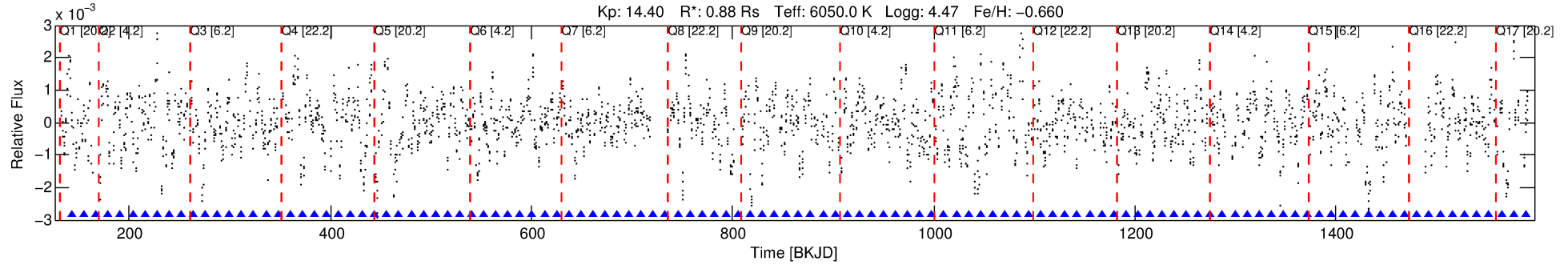
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006632435-02

No Significant Match Found

# DV One-Page Summary

KIC: 6632435 Candidate: 2 of 3 Period: 12.042 d



## DV Fit Results:

Period = 12.04247 [0.00019] d  
Epoch = 143.2515 [0.0119] BKJD  
Rp/R\* = 0.0236 [0.0152]  
a/R\* = 9.86 [32.15]  
b = 0.70 [2.37]  
Seff = 98.77 [33.24]  
Teq = 804 [68] K  
Rp = 2.27 [1.57] Re  
a = 0.0972 [0.0206] AU  
Ag = 477.84 [738.68] [0.65 $\sigma$ ]  
Teffp = 5811 [2206] K [2.27 $\sigma$ ]

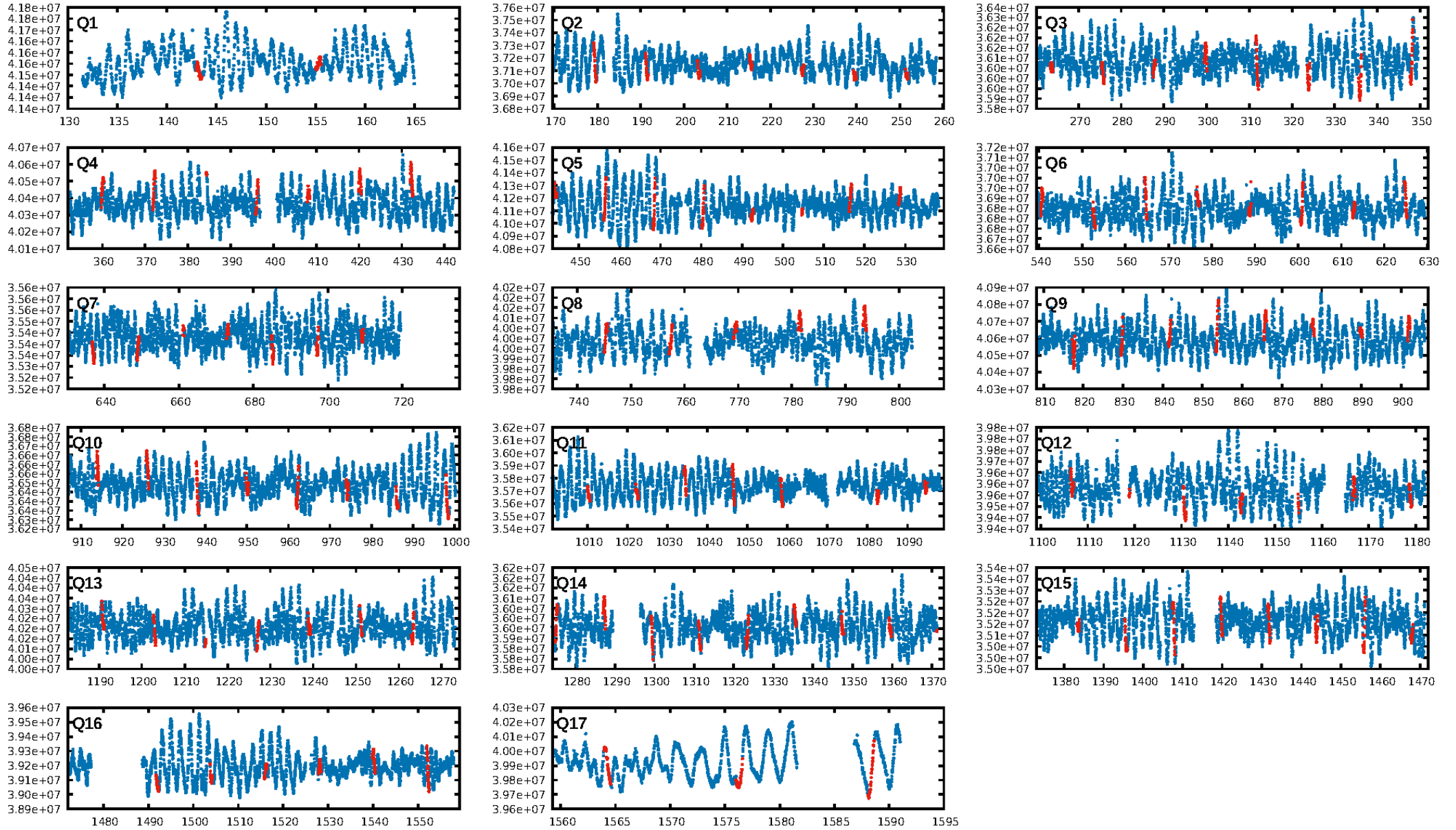
## DV Diagnostic Results:

ShortPeriod-sig: 28.1% [0.36 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.1%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [18/18]  
GhostDiagnostic-chr: -0.3145  
Centroid-sig: 76.0%  
Centroid-so: 0.175 arcsec [0.76 $\sigma$ ]  
OotOffset-rm: 0.237 arcsec [0.88 $\sigma$ ]  
KicOffset-rm: 0.311 arcsec [1.12 $\sigma$ ]  
OotOffset-st: 4/3/4/5 [16]  
KicOffset-st: 4/3/4/5 [16]  
DiffImageQuality-fgm: 0.69 [11/16]  
DiffImageOverlap-fno: 0.47 [8/17]

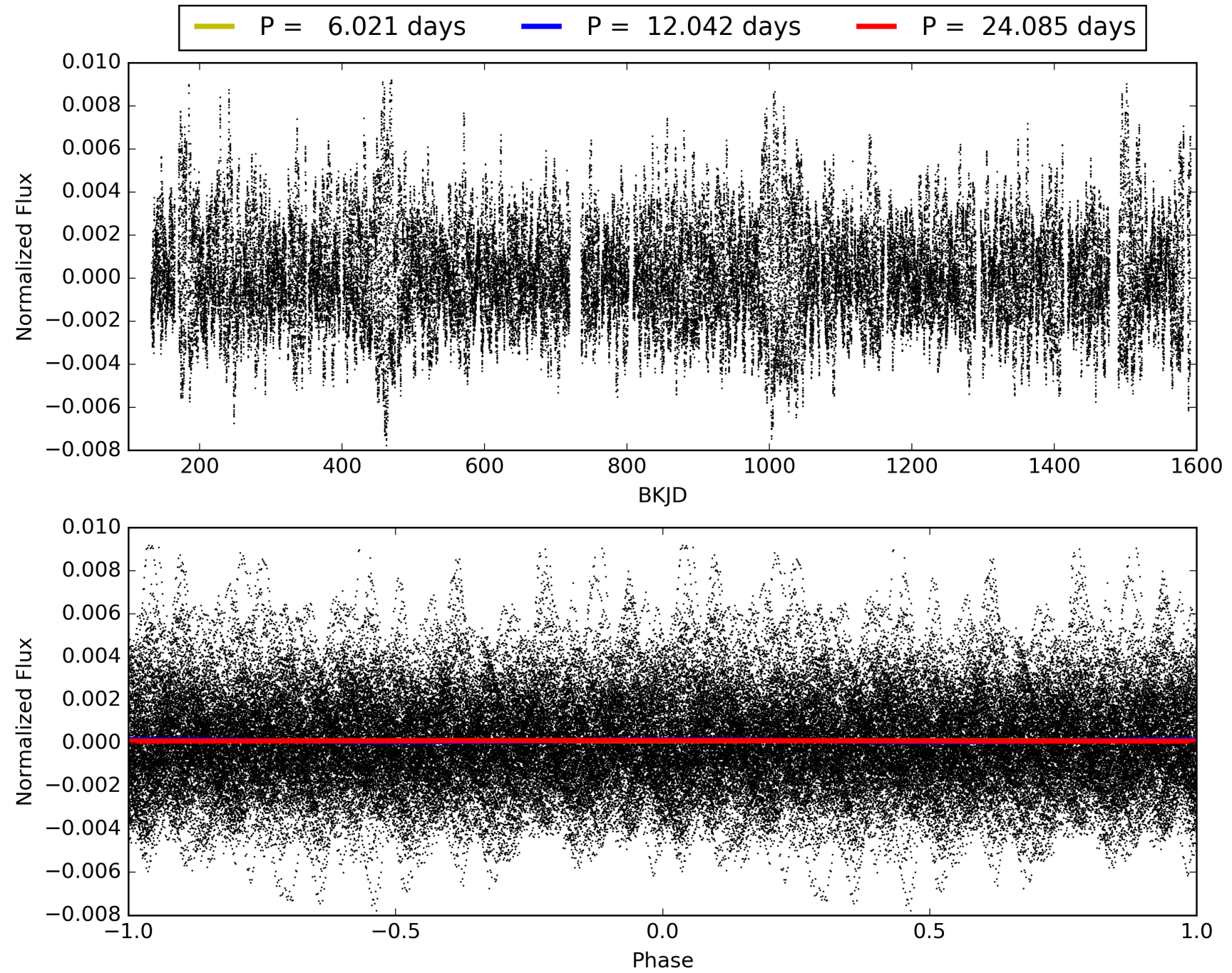
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 09:14:02 Z

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

# TCE 006632435-02, PDC Light Curves

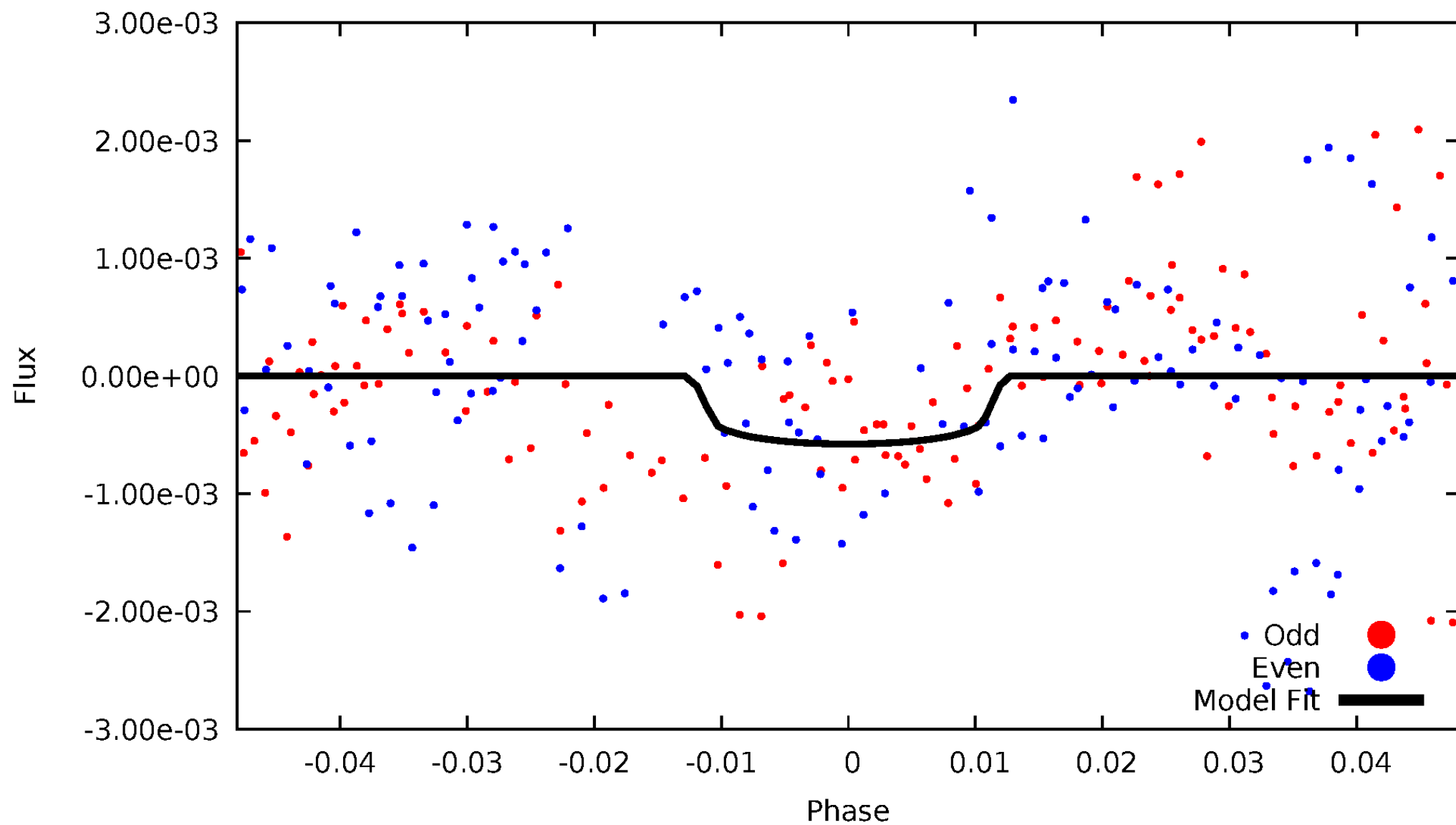


TCE 006632435-02



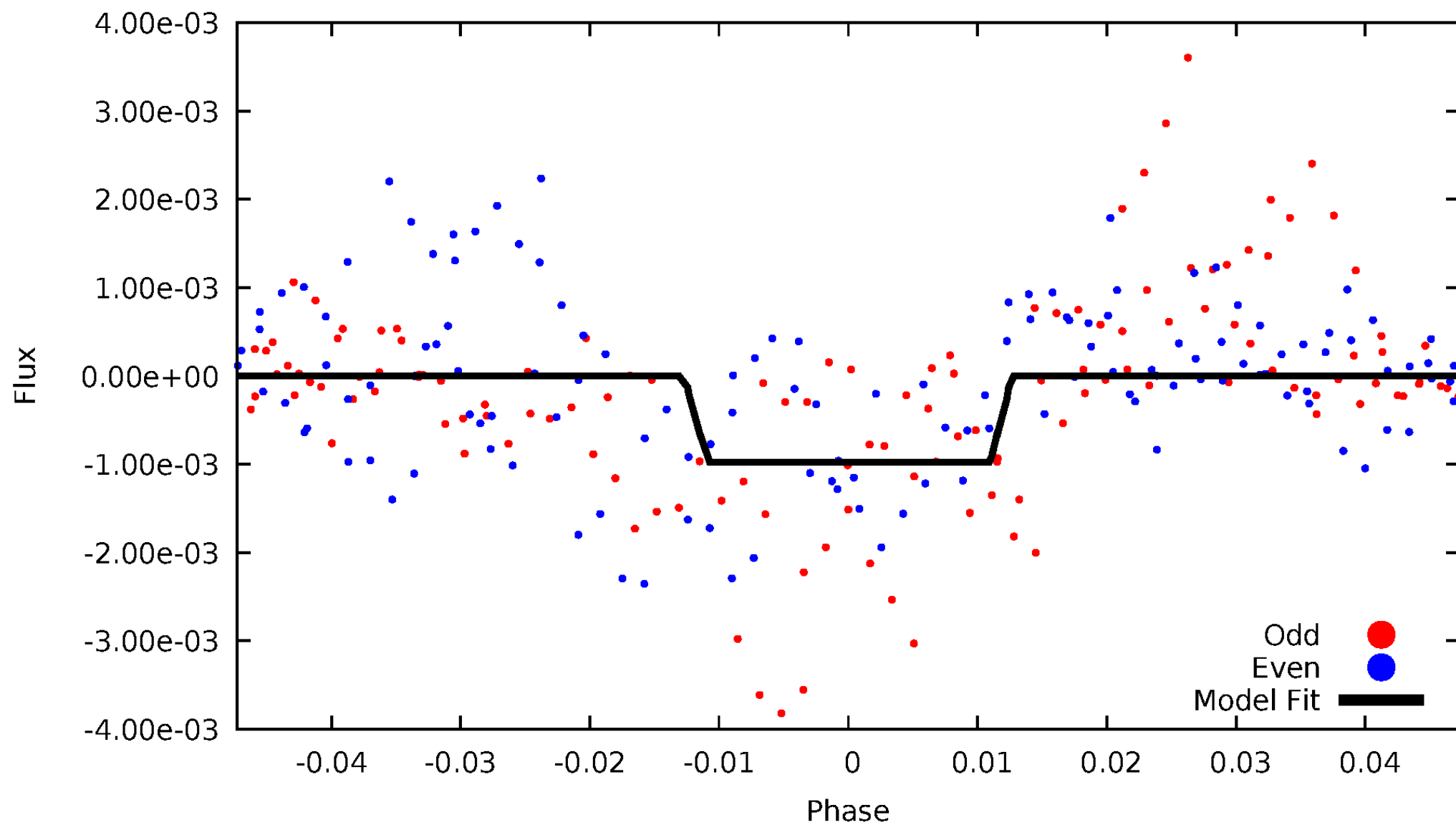
# DV Odd/Even

TCE 006632435-02



# ALT Odd/Even

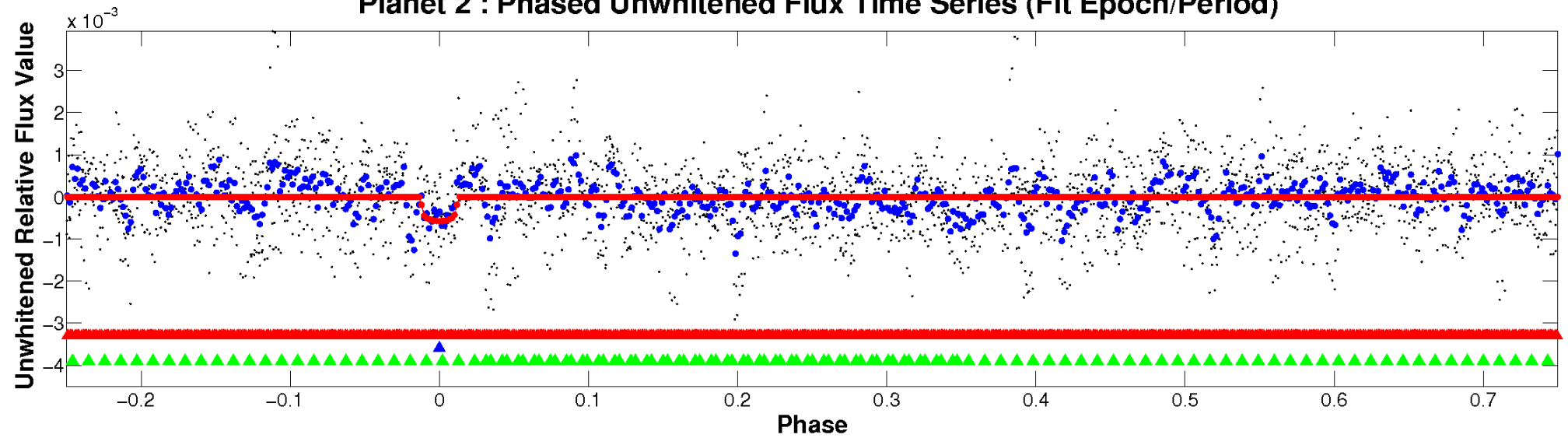
TCE 006632435-02



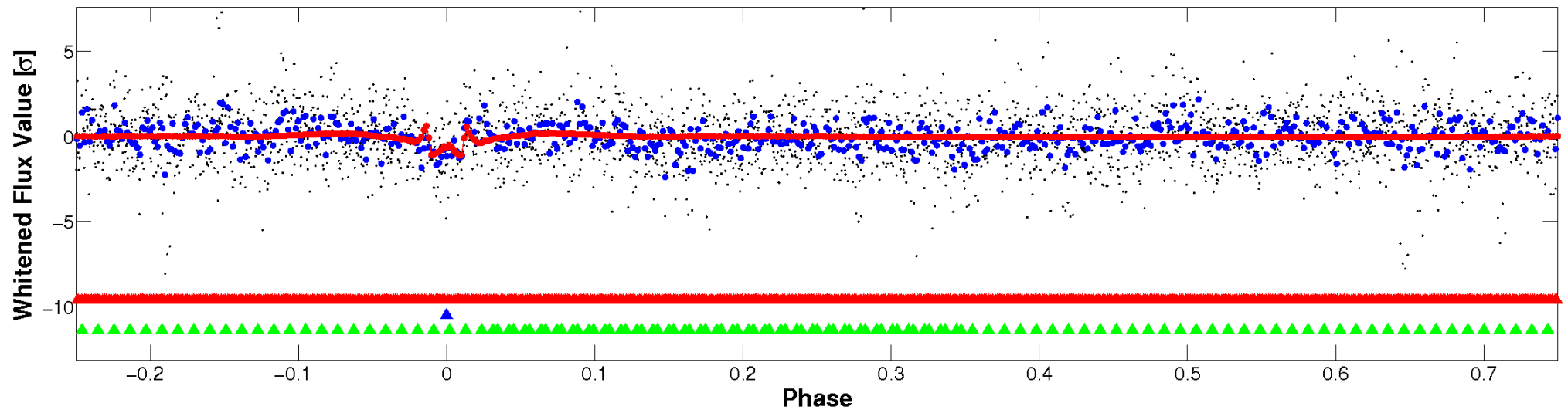


# Non-Whitened Vs. Whitened Light Curve

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

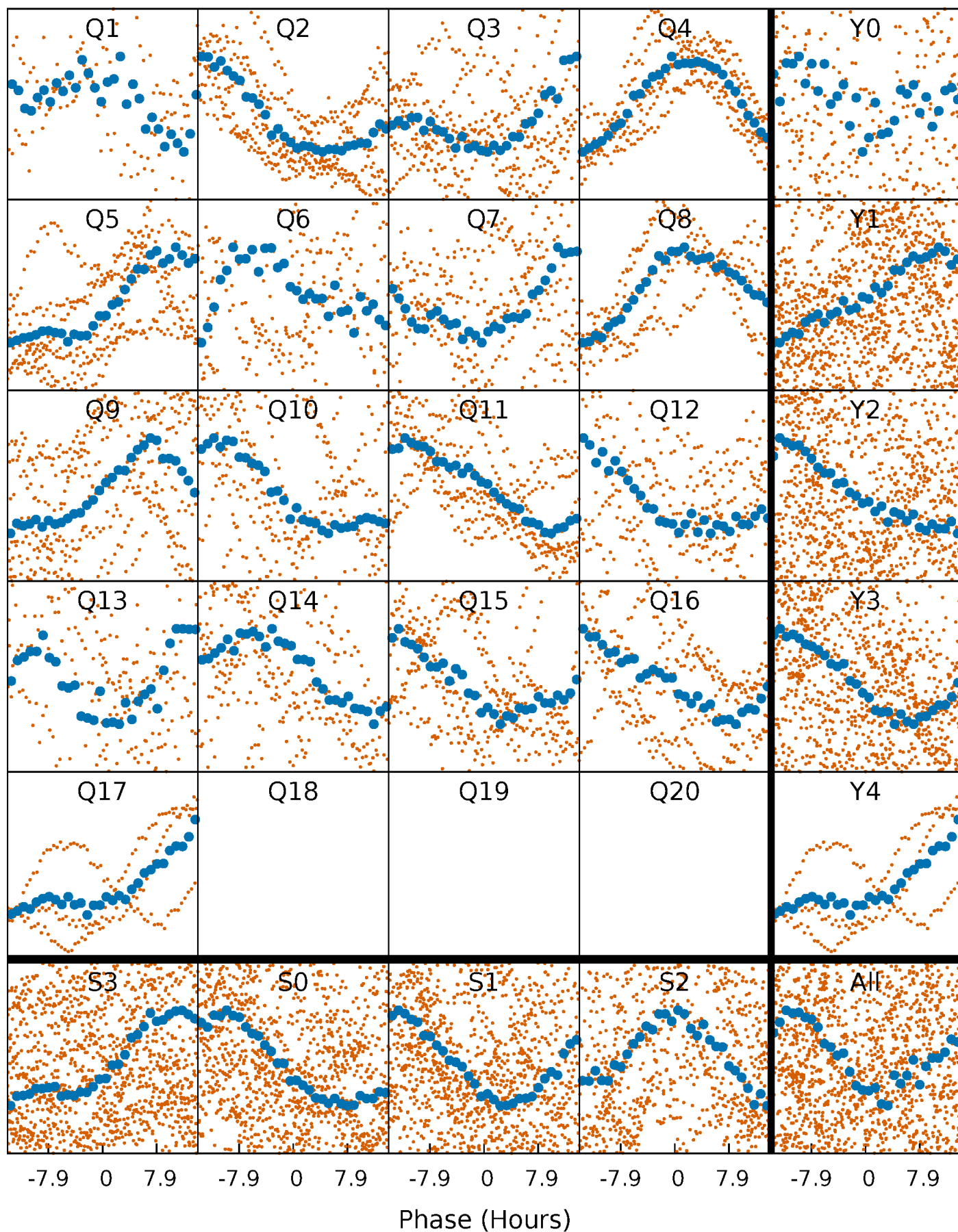


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



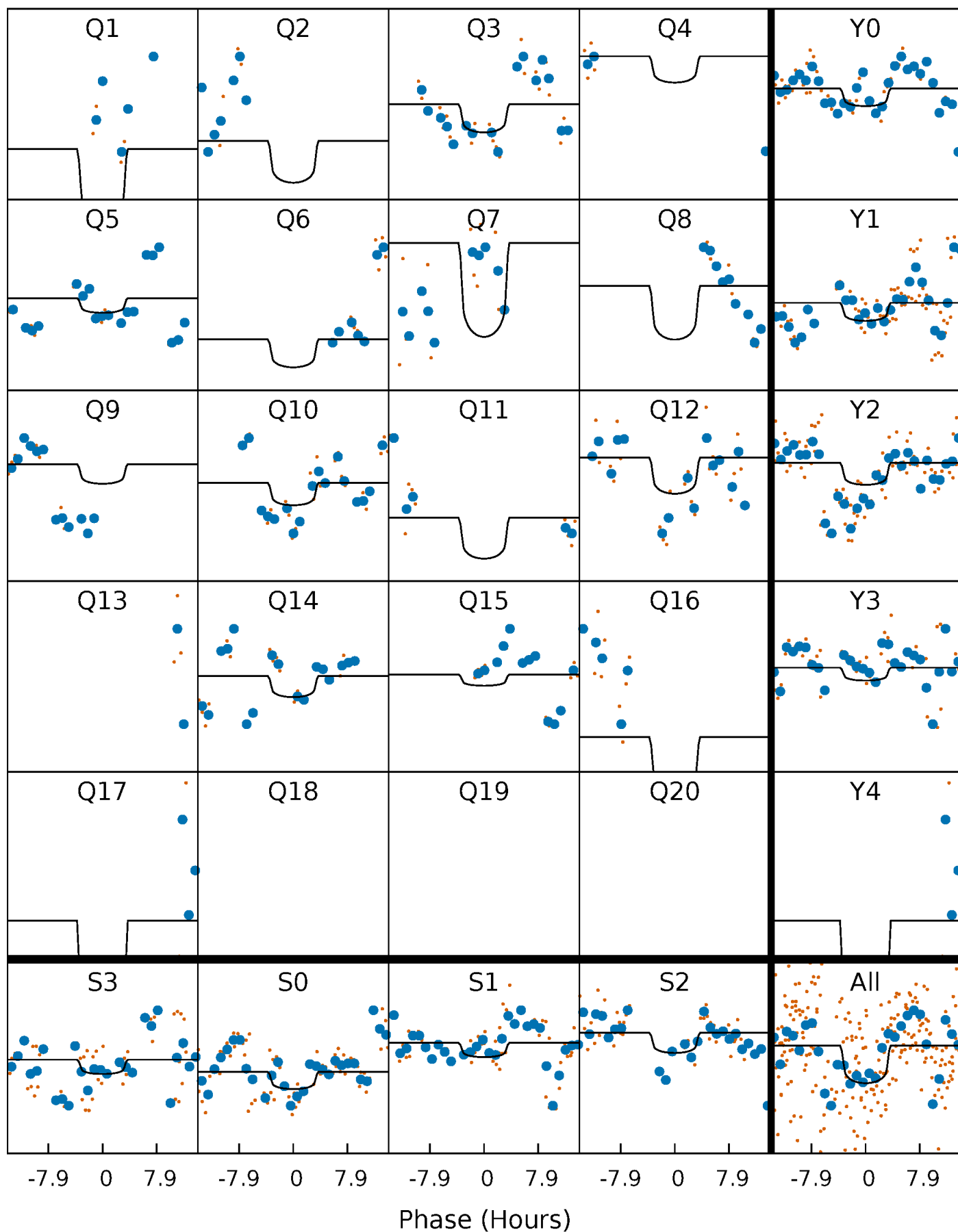
# PDC Quarter-Phased Transit Curves

TCE 006632435-02 P= 12.042471 Days  $T_0=143.251456$  (BKJD)



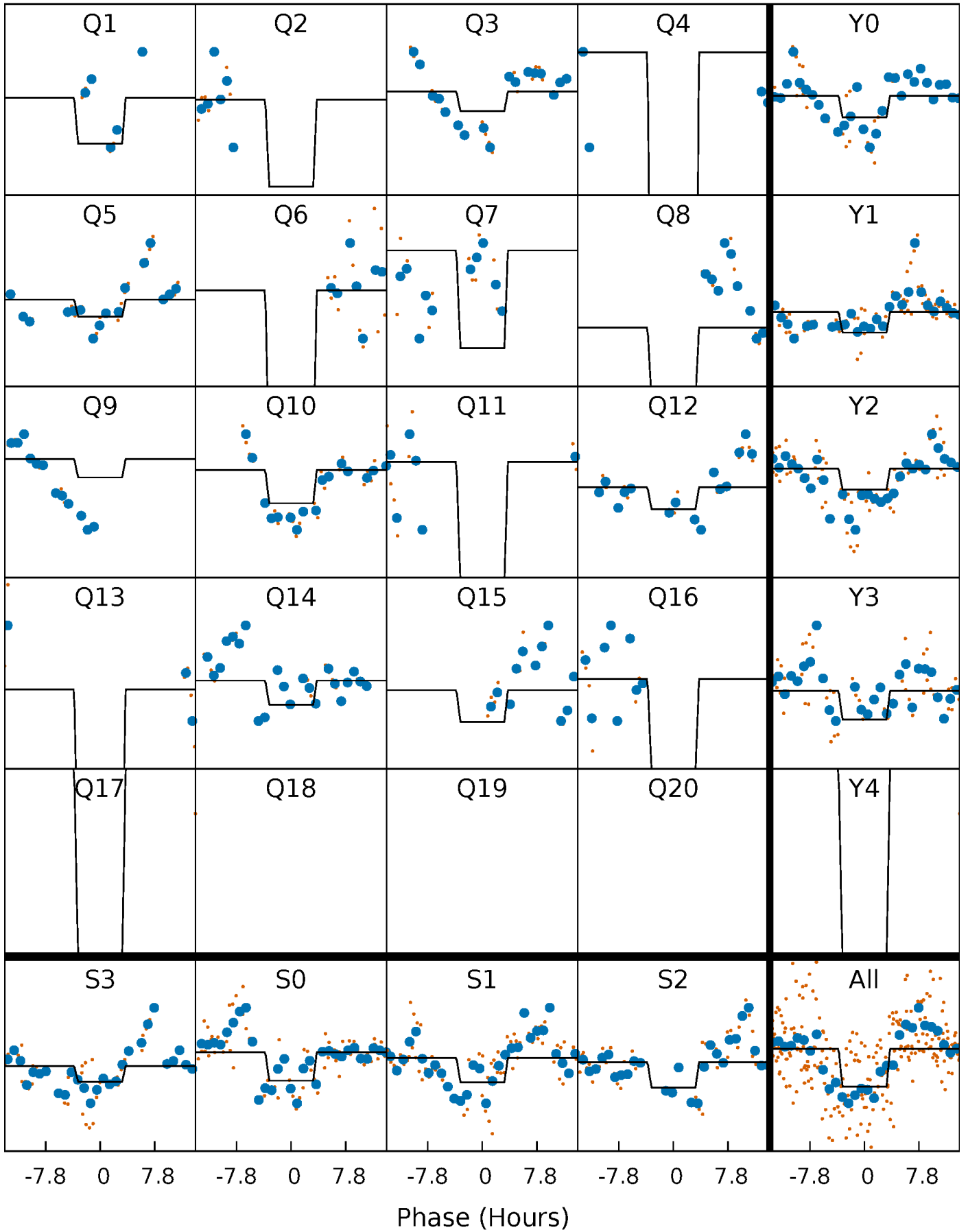
# DV Quarter-Phased Transit Curves

TCE 006632435-02 P= 12.042471 Days  $T_0=143.251456$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

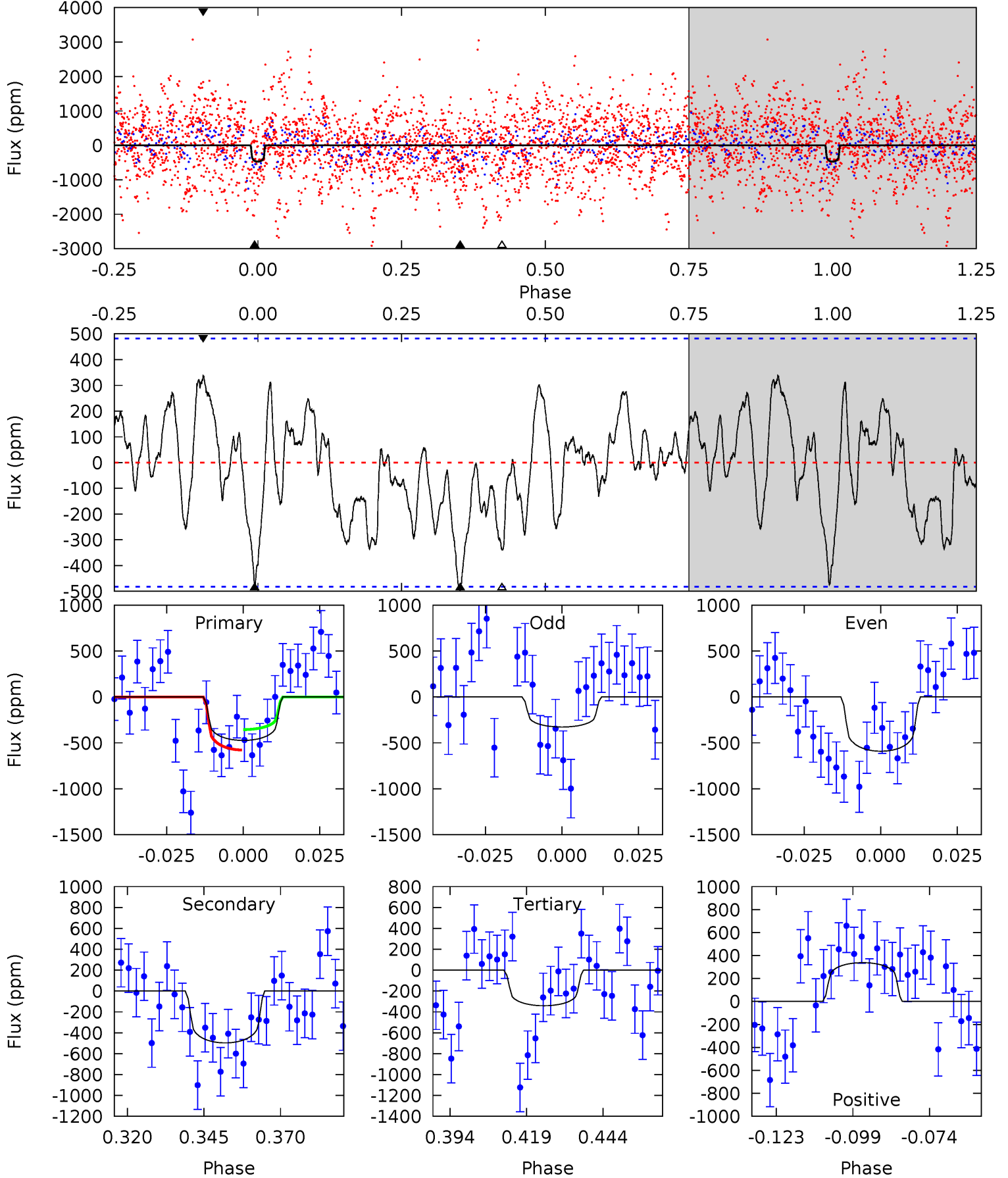
TCE 006632435-02 P= 12.041193 Days  $T_0=143.302701$  (BKJD)



# DV Model-Shift Uniqueness Test

006632435-02, P = 12.042471 Days, E = 131.208985 Days

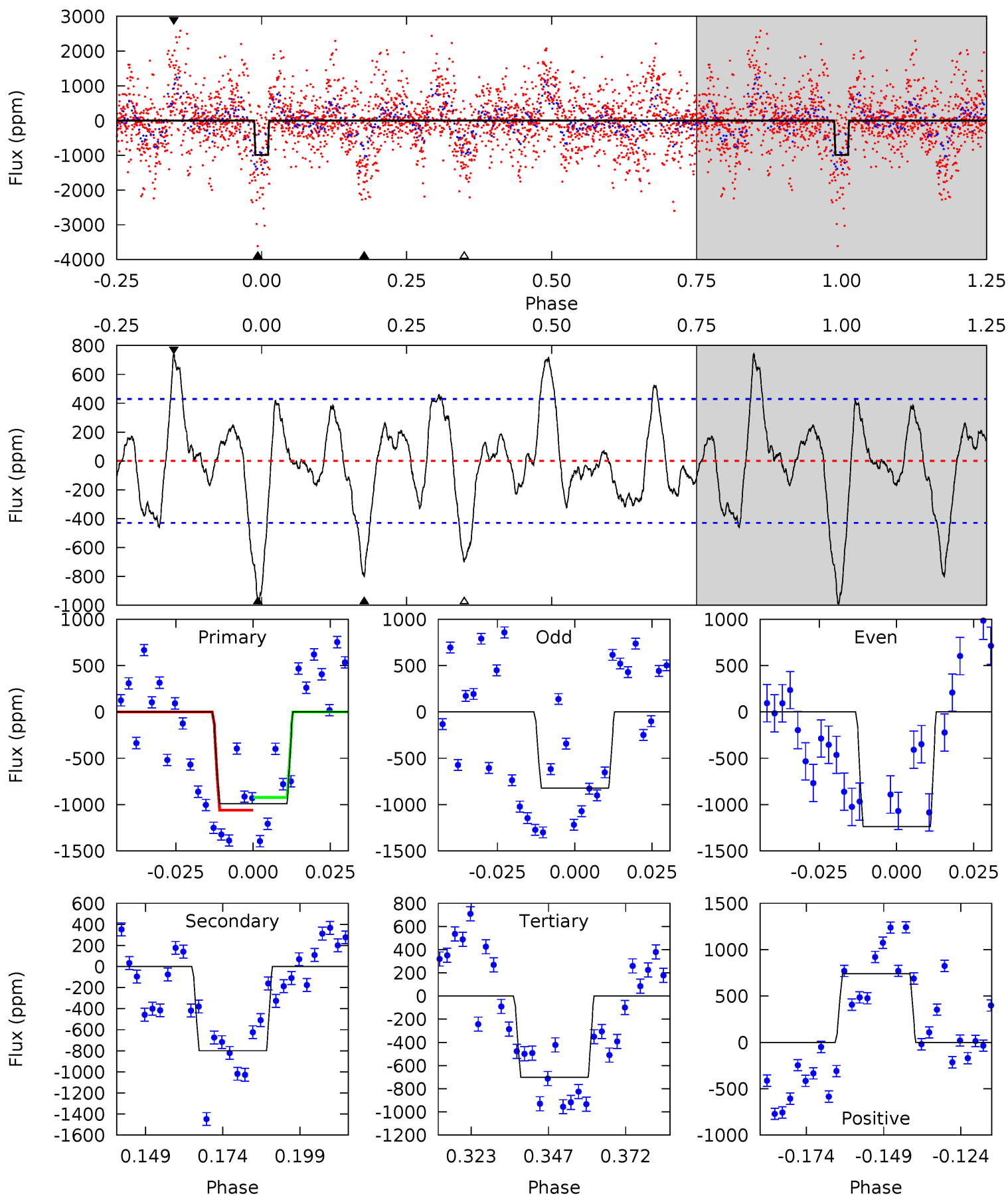
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.77	5.00	3.43	3.40	4.85	2.25	1.56	1.34	1.37	1.57	1.60	1.34	0.73	0.40	1.17



# Alt Model-Shift Uniqueness Test

006632435-02, P = 12.041193 Days, E = 131.261508 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
11.2	9.02	7.92	8.37	4.85	2.24	2.88	3.26	2.81	1.10	0.65	2.32	1.17	0.43	0.78





### Stellar Parameters For KIC 006632435

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6050^{+164}_{-182}$	$4.474^{+0.094}_{-0.175}$	$-0.660^{+0.300}_{-0.300}$	$0.882^{+0.216}_{-0.116}$	$0.844^{+0.097}_{-0.073}$	$1.734^{+0.712}_{-0.825}$
	+3%/-3%	+2%/-4%	+45%/-45%	+24%/-13%	+11%/-9%	+41%/-48%
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 006632435-02 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-497 \pm 99$	$2.46^{+1.49}_{-1.38}$	$1134^{+67}_{-52}$	$5742^{+3644}_{-1070}$	$412^{+1869}_{-247}$
Alt.	$-799 \pm 89$	$3.09^{+1.56}_{-1.39}$	$1137^{+73}_{-63}$	$5726^{+1986}_{-897}$	$428^{+996}_{-238}$

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

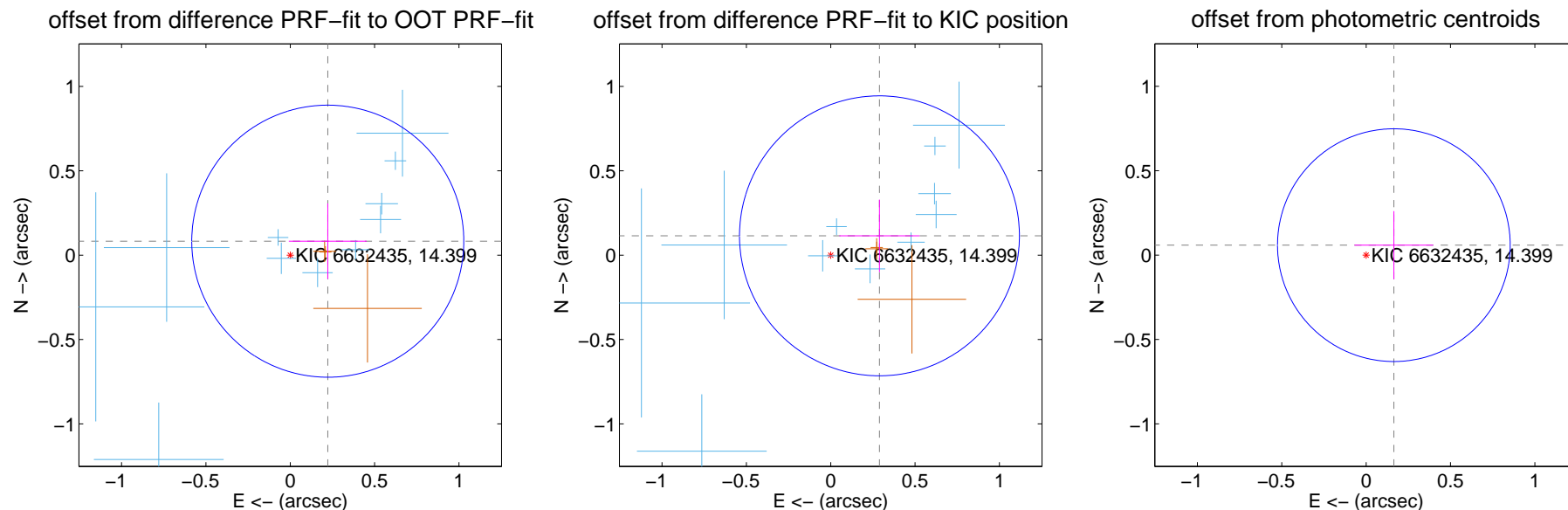
## DV Centroid Data

Supplemental centroid analysis for 006632435-02. Kepler magnitude: 14.40. Transit SNR 7.51

There are 11 quarters with good PRF difference image offsets

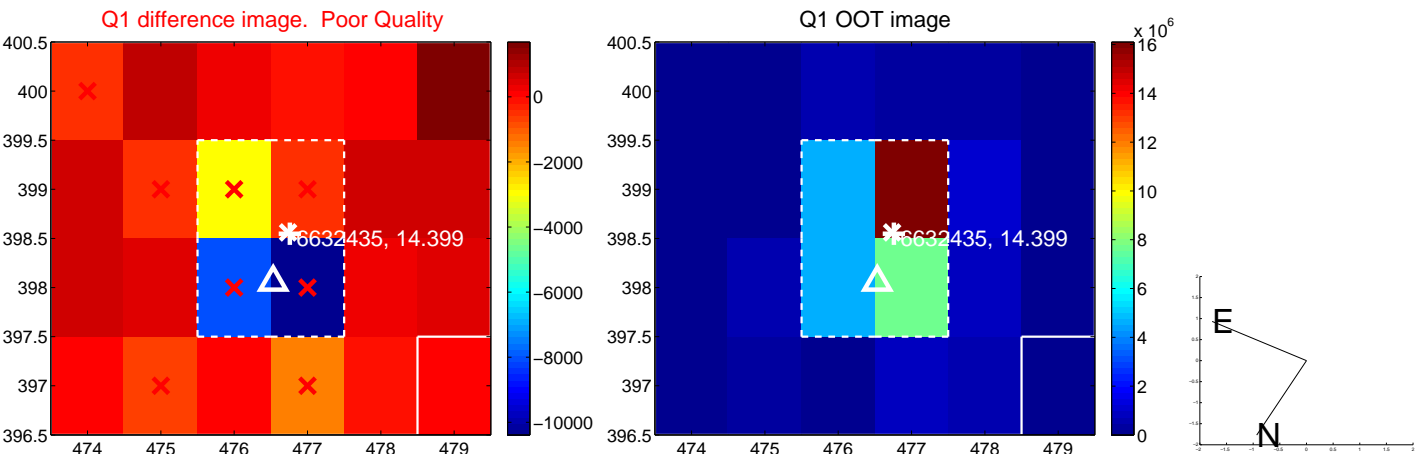
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.237 \pm 0.269$	0.88	$-0.222 \pm 0.231$	$0.083 \pm 0.224$
PRF-fit source offset from KIC position	$0.311 \pm 0.277$	1.12	$-0.289 \pm 0.238$	$0.115 \pm 0.215$
photometric centroid source offset	$0.17 \pm 0.23$	0.76	$-0.16 \pm 0.23$	$0.06 \pm 0.20$

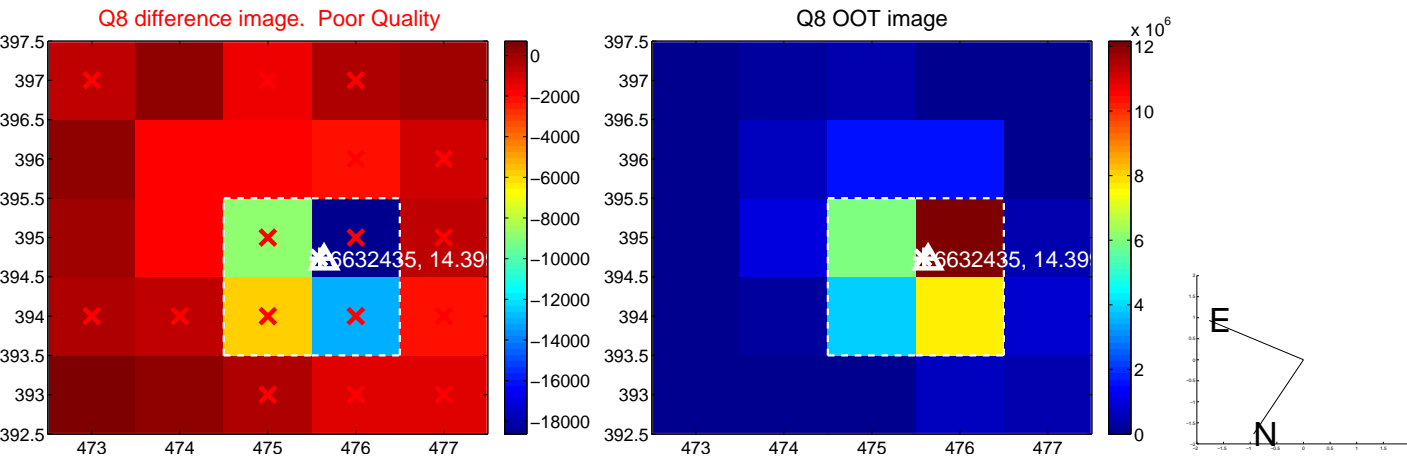
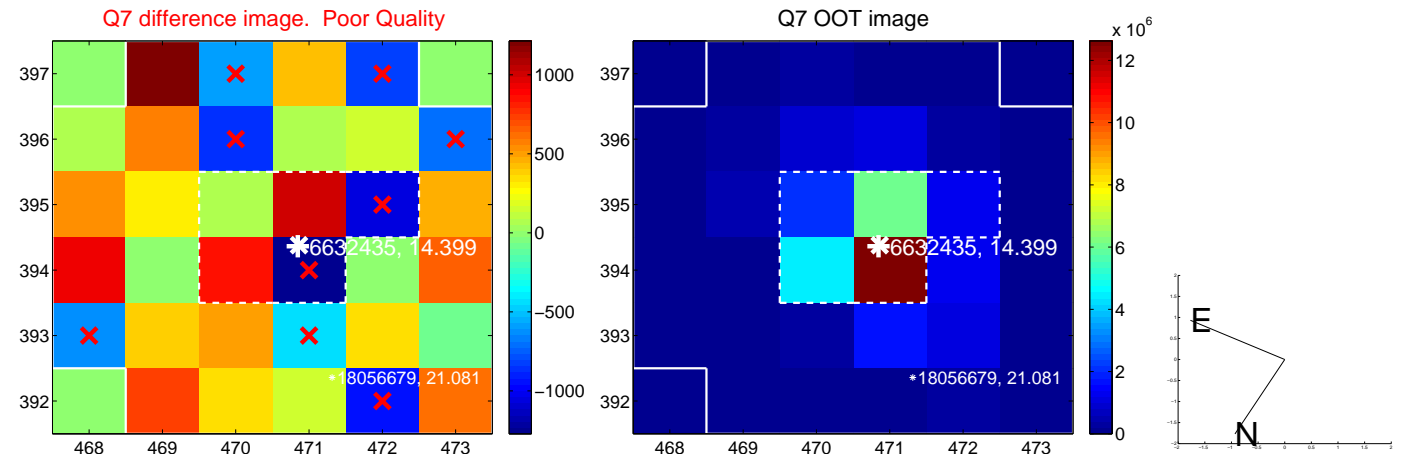
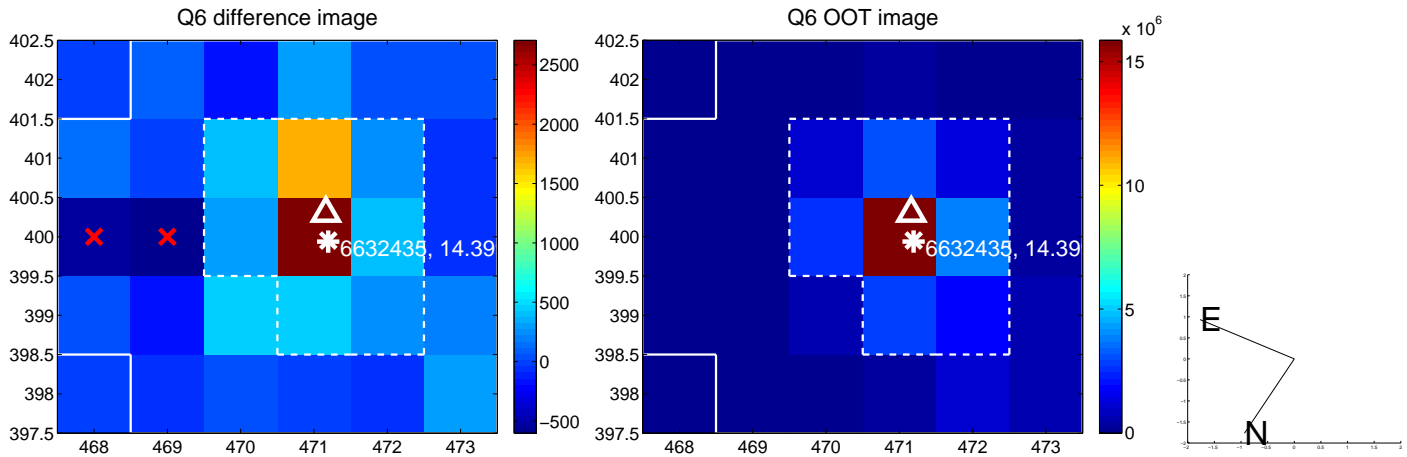
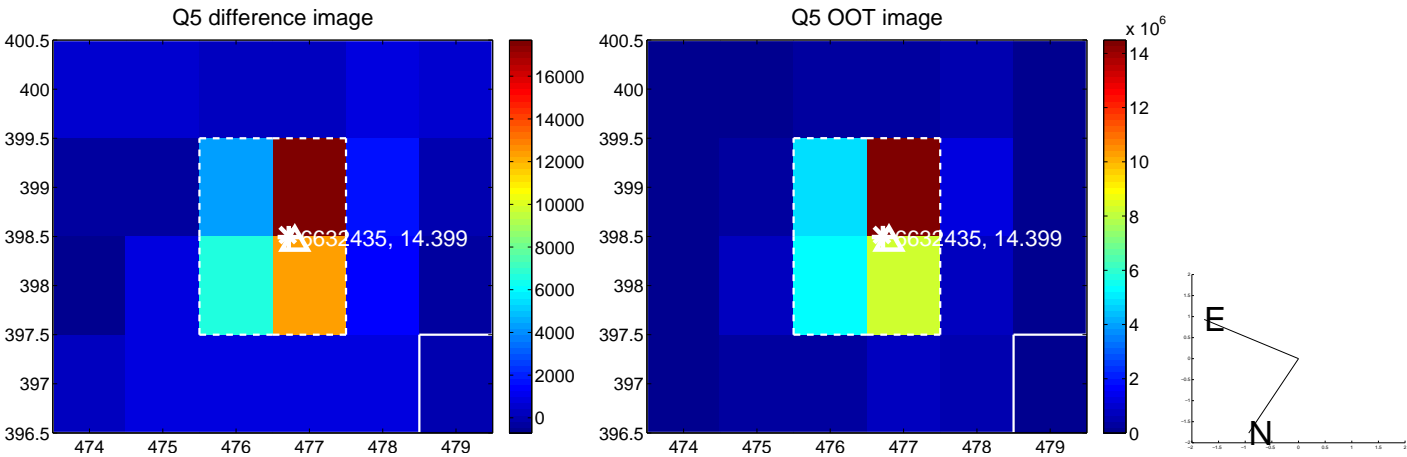


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

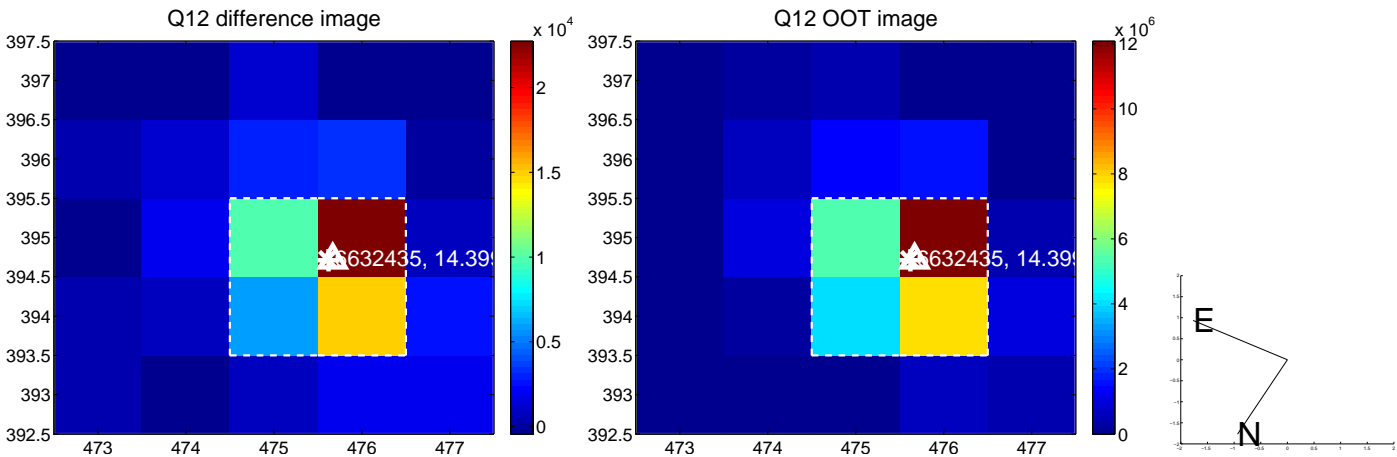
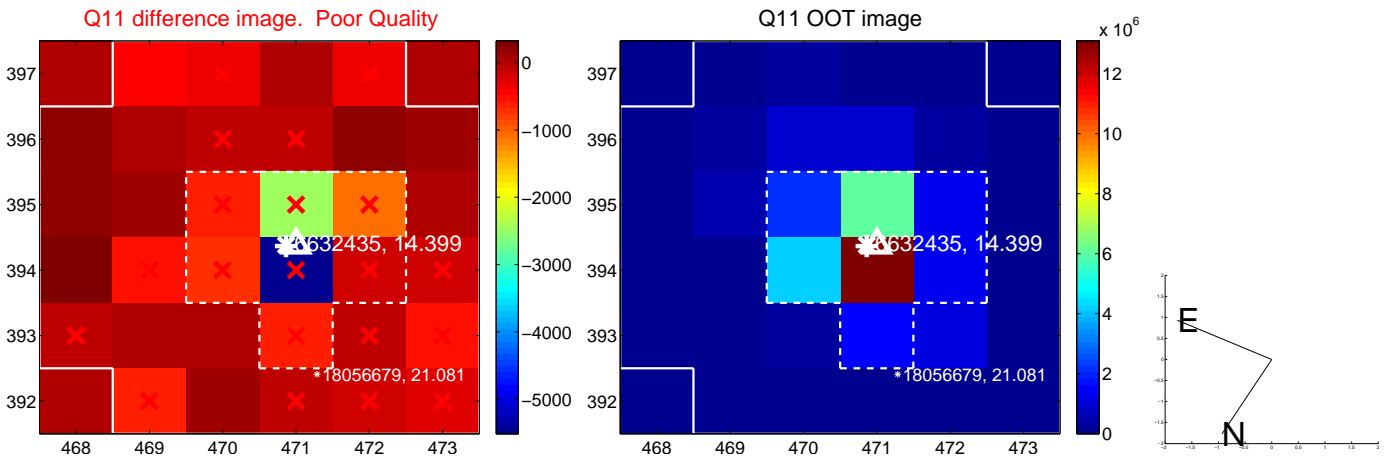
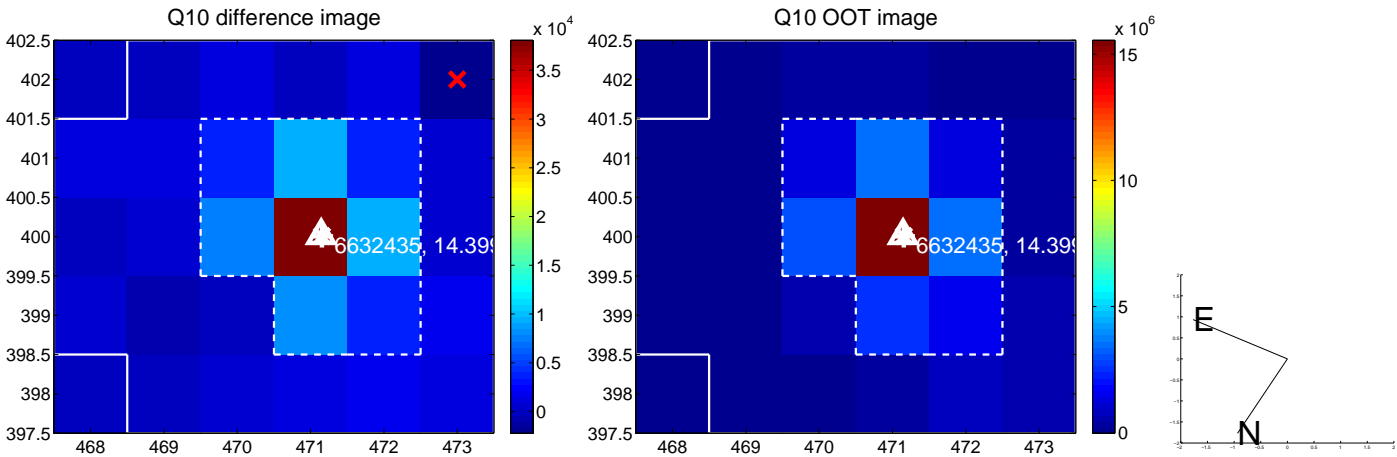
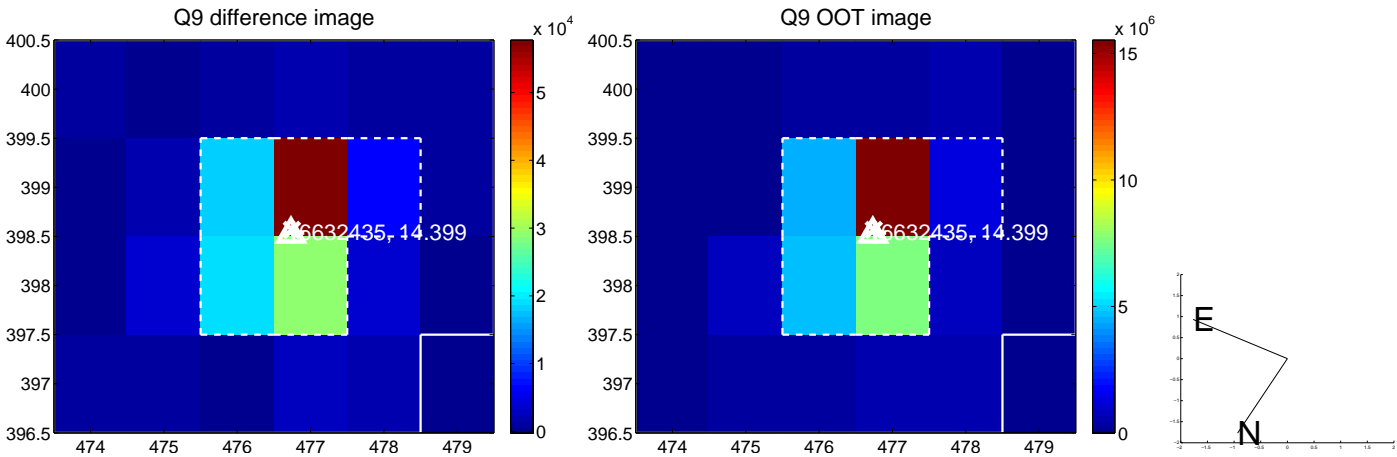
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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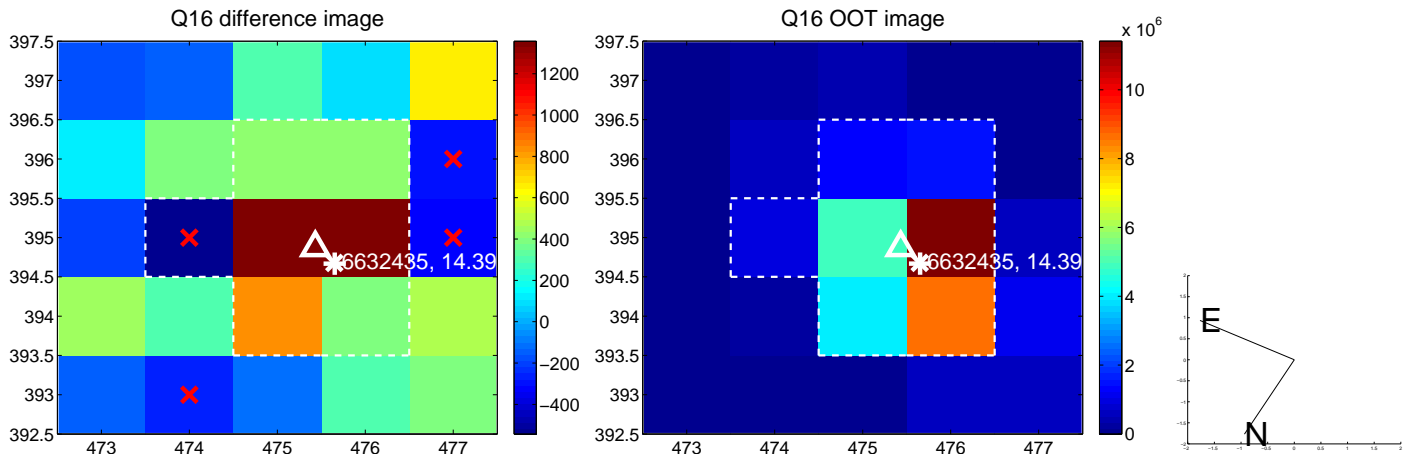
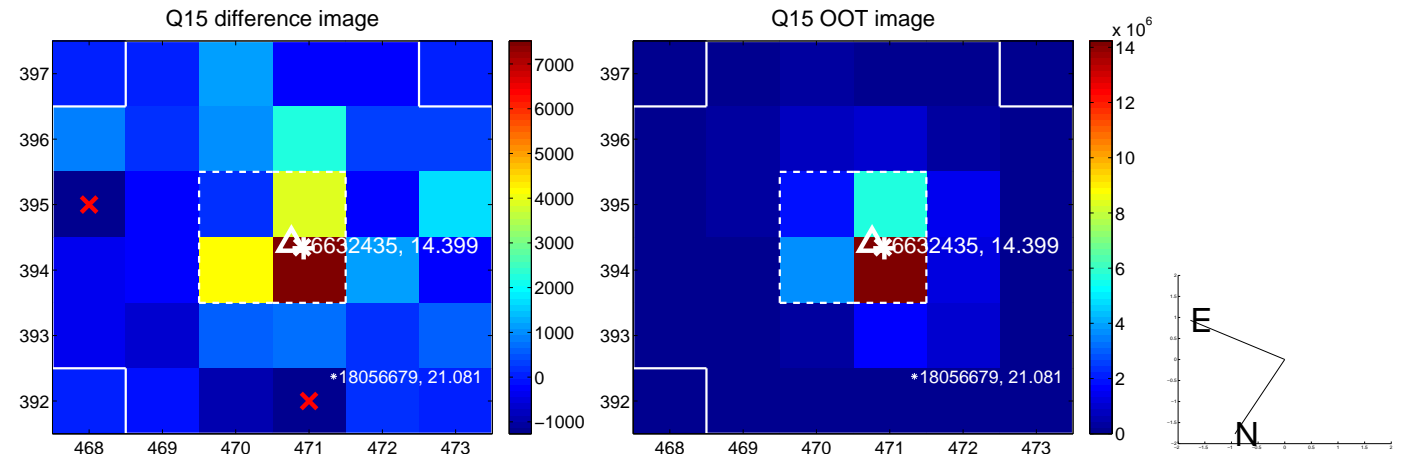
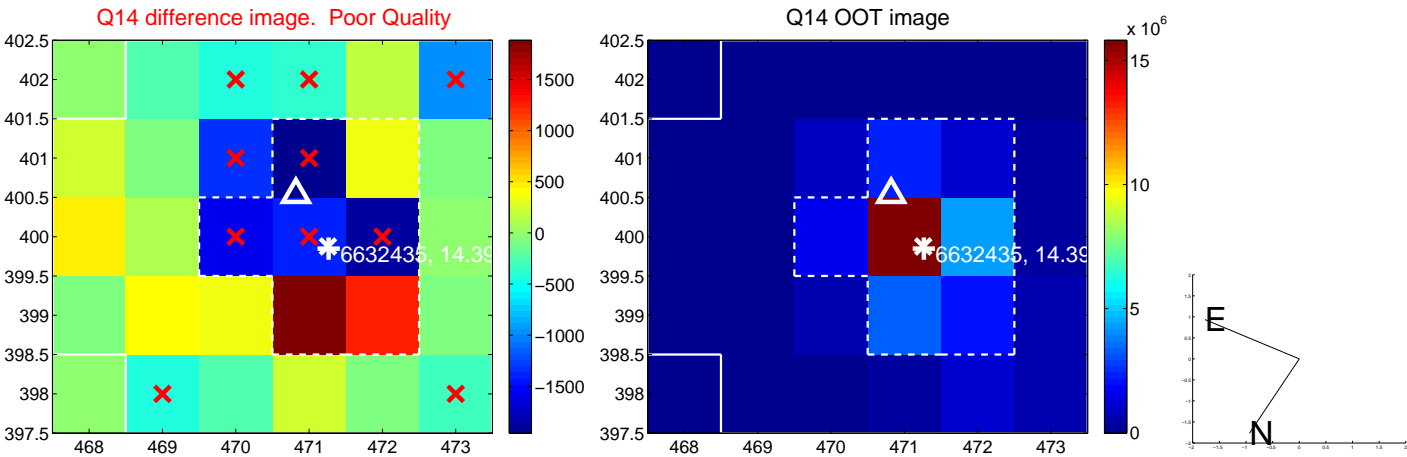
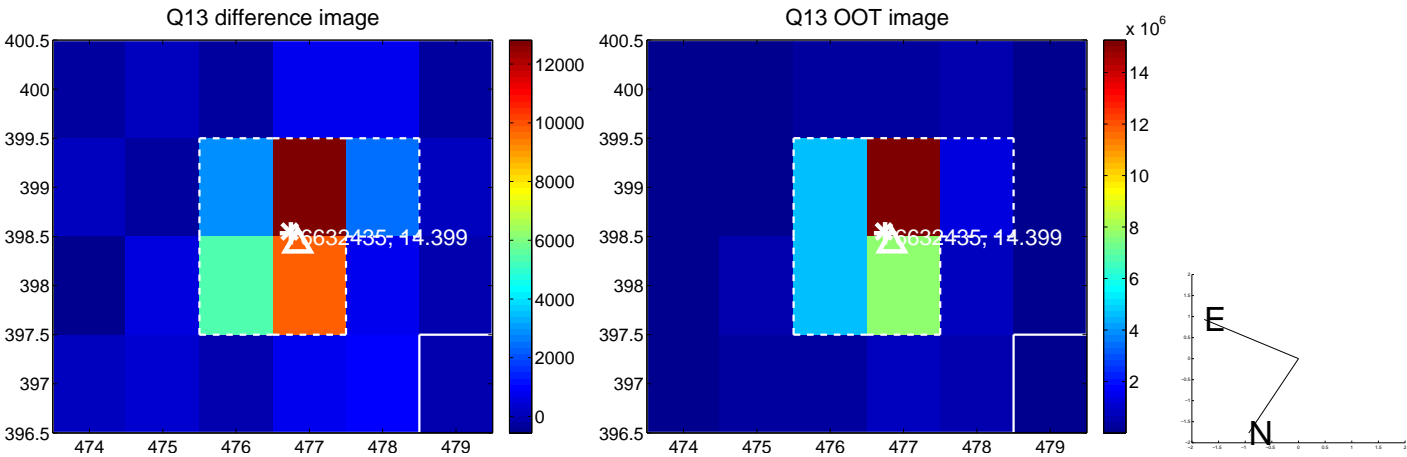


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

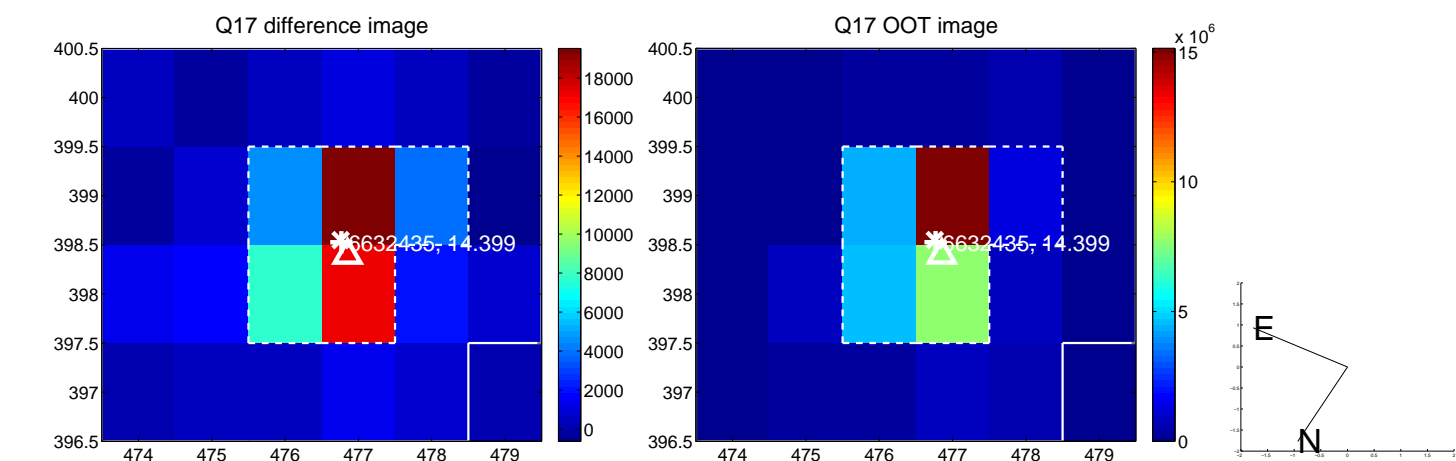




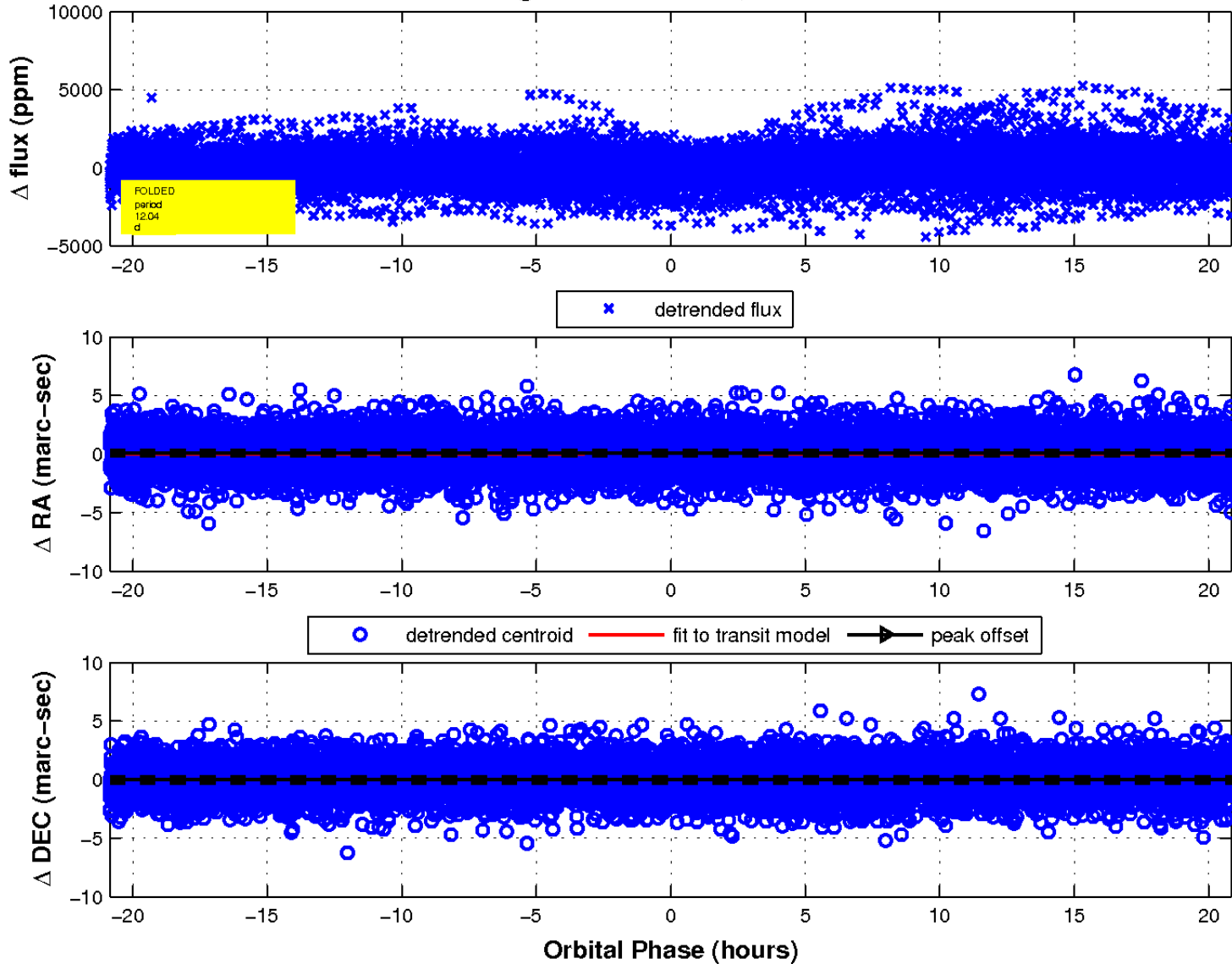
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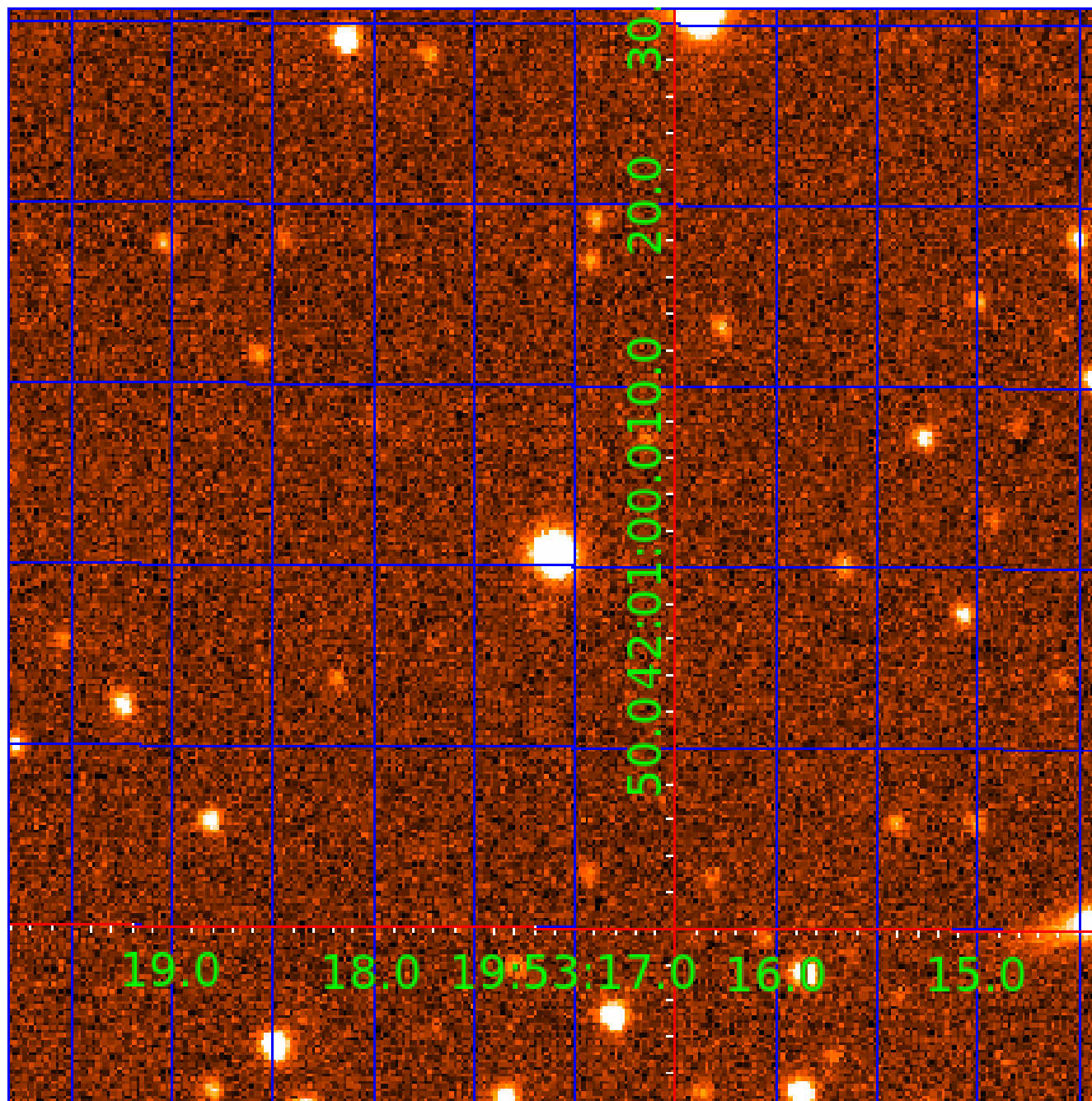


fluxWeightedCentroids, Planet 2 of 3



# UKIRT Image

Declination



# KIC 006632435

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006632435-01	OBS	No	1.982836	132.462566	0.1	14.982	9.1	0.0	0.88	6050	0.02	1094.41
006632435-02	OBS	No	12.042471	143.251456	577.6	6.950	31.3	7.5	0.88	6050	2.27	98.77
006632435-03	OBS	No	11.912588	135.390053	955.3	5.154	11.9	13.0	0.88	6050	2.95	100.20

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006632435-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
006632435-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006632435-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT

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

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

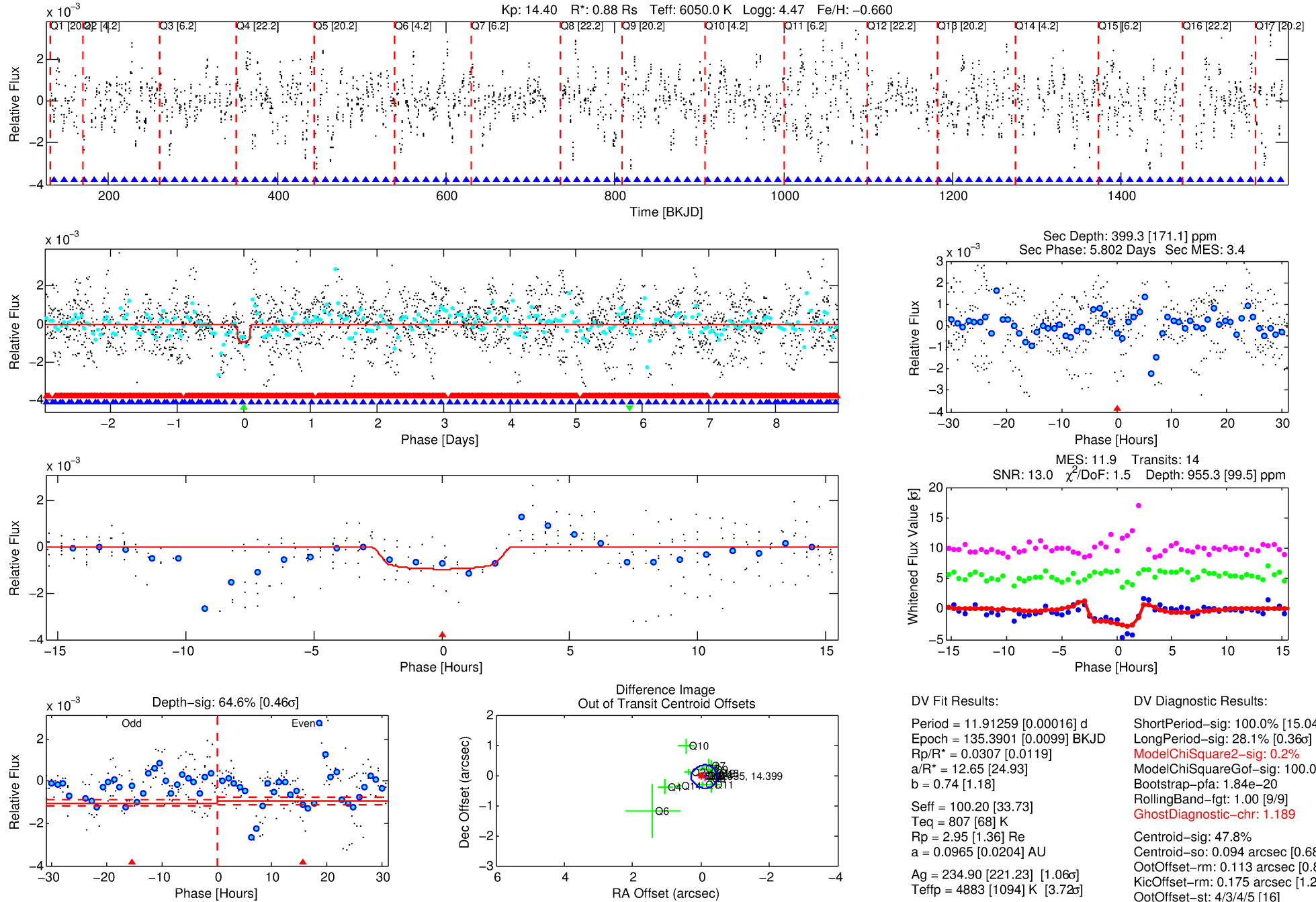
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 006632435-03

No Significant Match Found

# DV One-Page Summary

KIC: 6632435 Candidate: 3 of 3 Period: 11.913 d



## DV Fit Results:

Period = 11.91259 [0.00016] d  
Epoch = 135.3901 [0.0099] BKJD  
Rp/R\* = 0.0307 [0.0119]  
a/R\* = 12.65 [24.93]  
b = 0.74 [1.18]  
Seff = 100.20 [33.73]  
Teq = 807 [68] K  
Rp = 2.95 [1.36] Re  
a = 0.0965 [0.0204] AU  
Ag = 234.90 [221.23] [1.06 $\sigma$ ]  
Teffp = 4883 [1094] K [3.72 $\sigma$ ]

## DV Diagnostic Results:

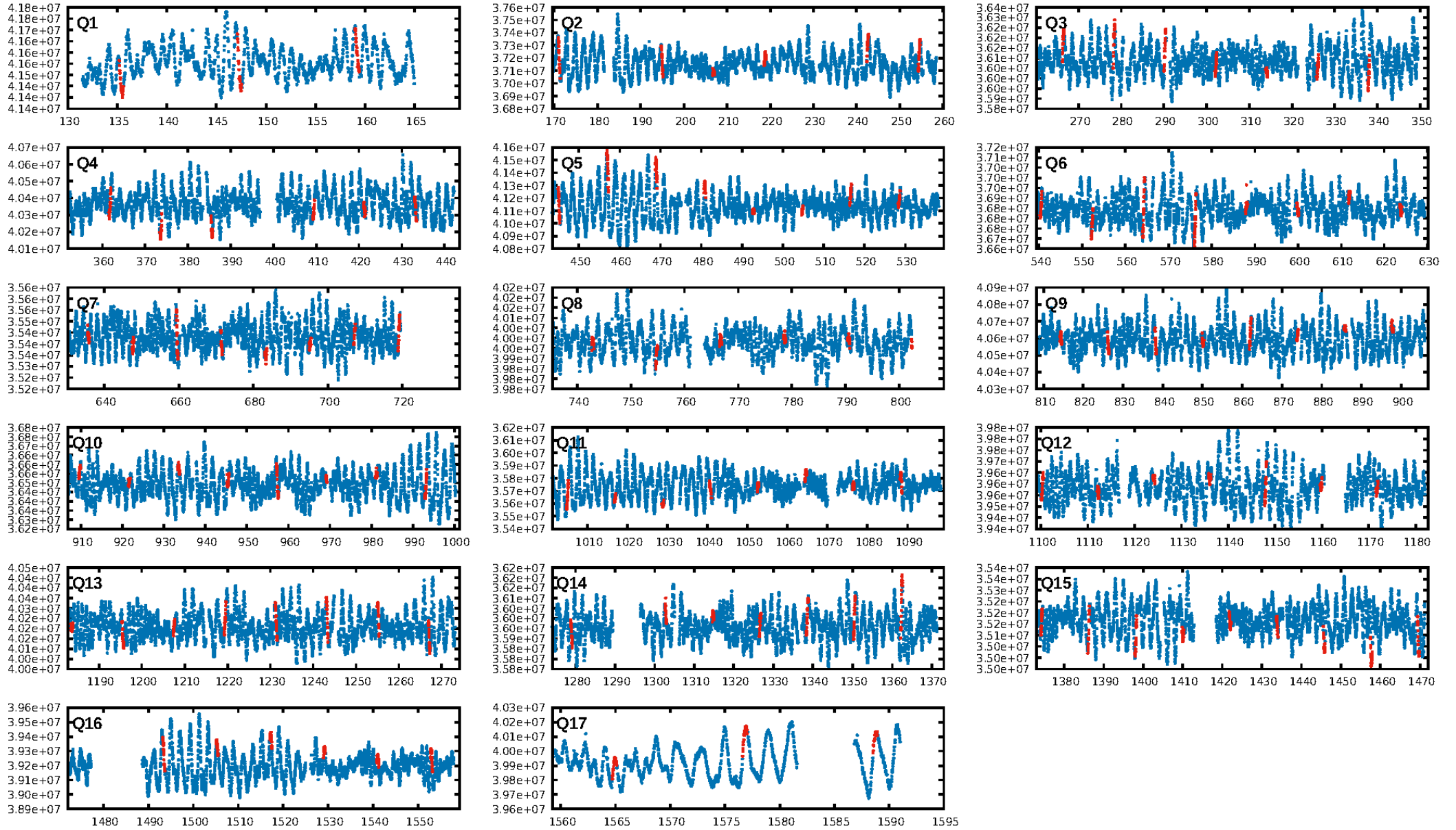
ShortPeriod-sig: 100.0% [15.04 $\sigma$ ]  
LongPeriod-sig: 28.1% [0.36 $\sigma$ ]  
ModelChiSquare2-sig: 0.2%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.84e-20  
RollingBand-fgt: 1.00 [9/9]  
GhostDiagnostic-chr: 1.189  
Centroid-sig: 47.8%  
Centroid-so: 0.094 arcsec [0.68 $\sigma$ ]  
OotOffset-rm: 0.113 arcsec [0.89 $\sigma$ ]  
OotOffset-st: 4/3/4/5 [16]  
KicOffset-rm: 0.175 arcsec [1.27 $\sigma$ ]  
KicOffset-st: 4/3/4/5 [16]  
DiffImageQuality-fgm: 0.44 [7/16]  
DiffImageOverlap-fno: 0.29 [5/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 09:14:05 Z

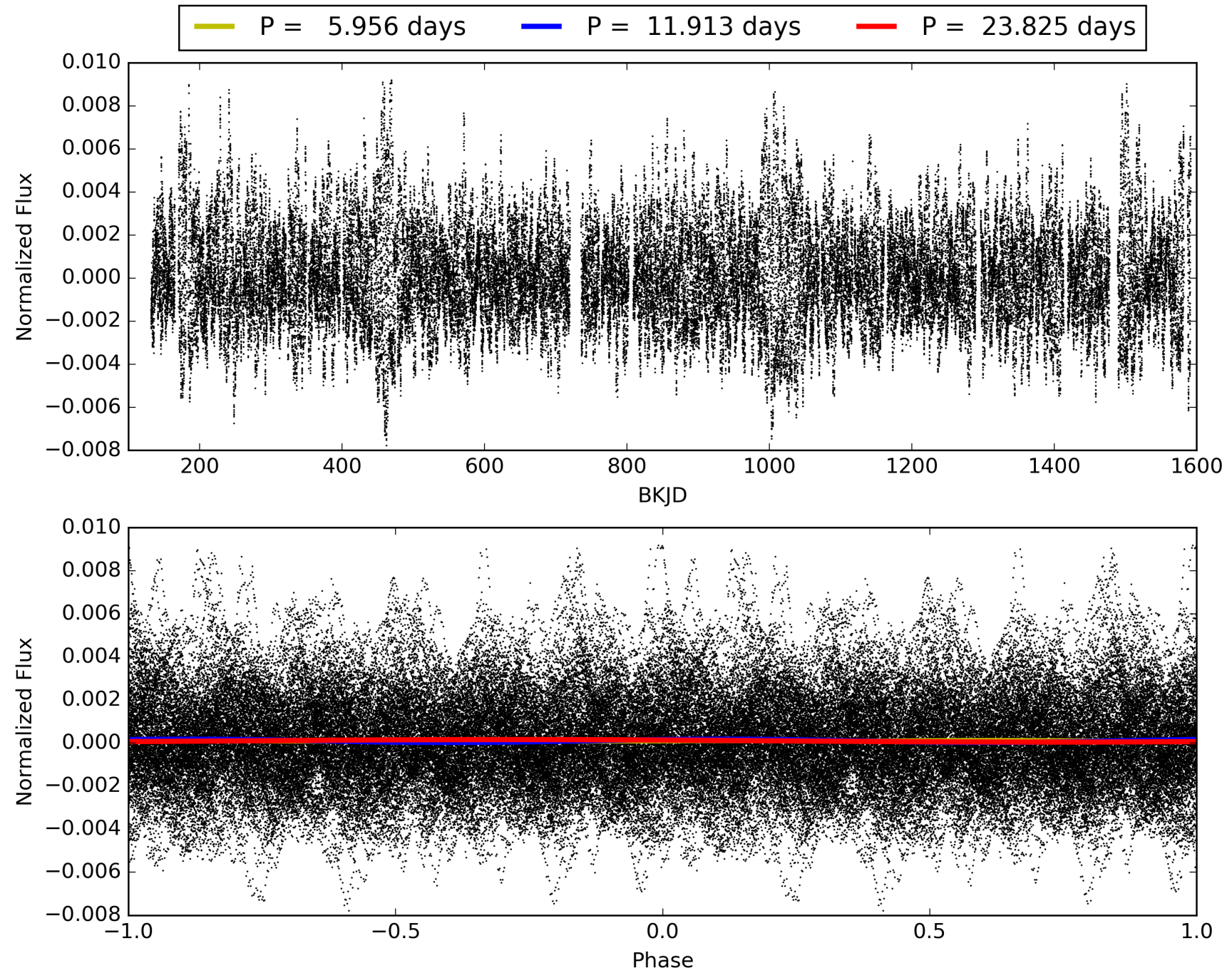
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center



# TCE 006632435-03, PDC Light Curves

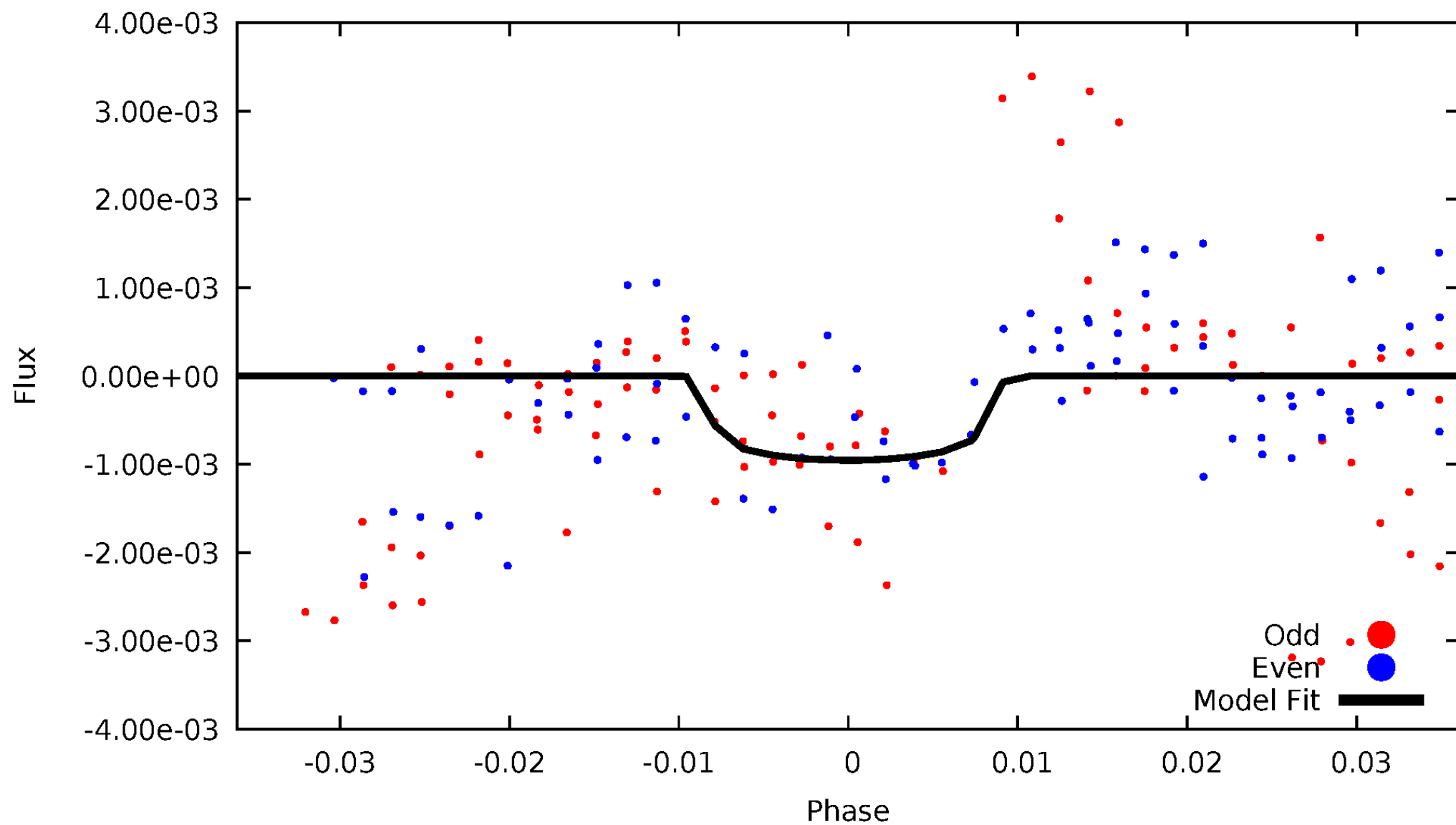


TCE 006632435-03



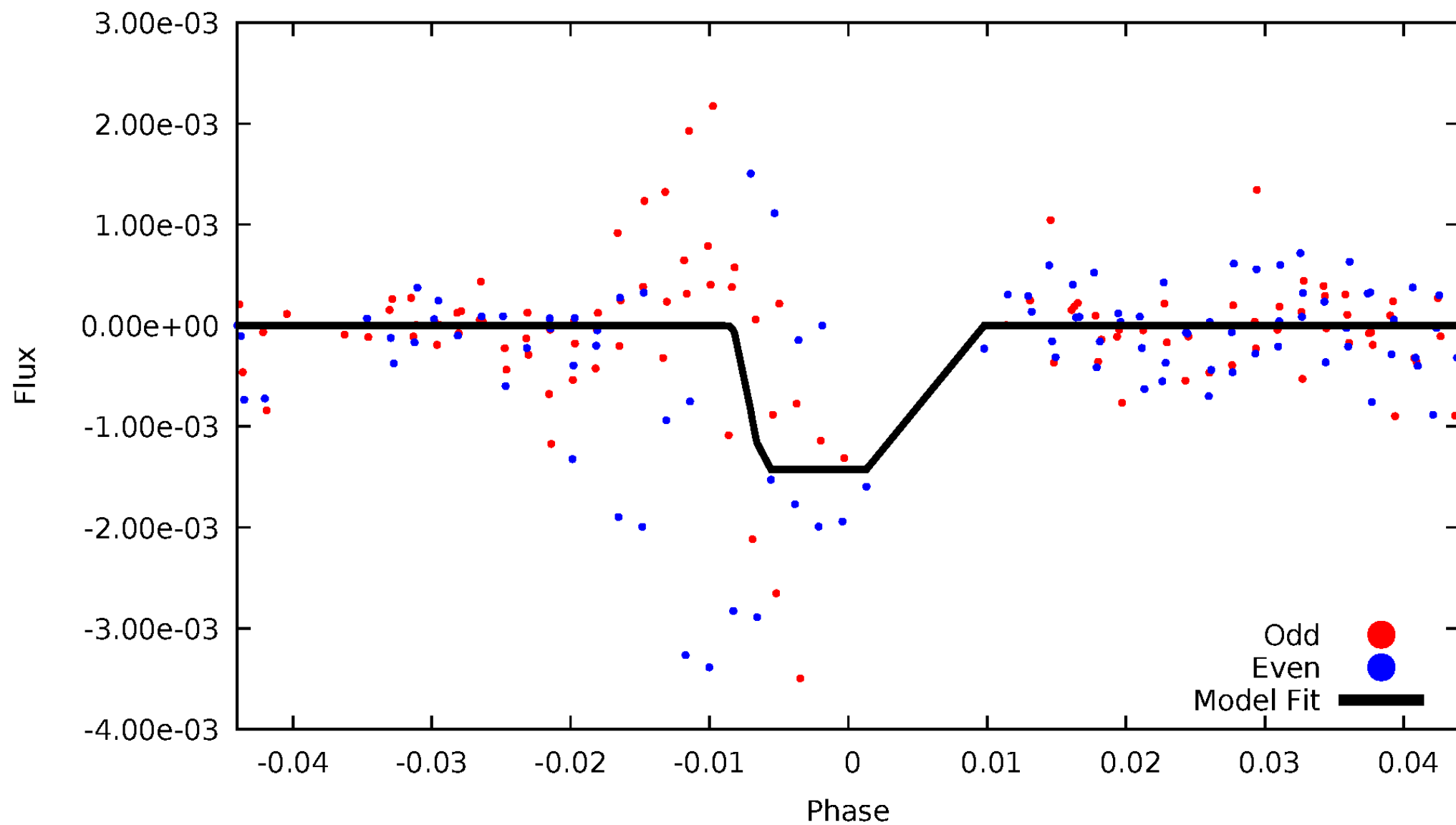
# DV Odd/Even

TCE 006632435-03



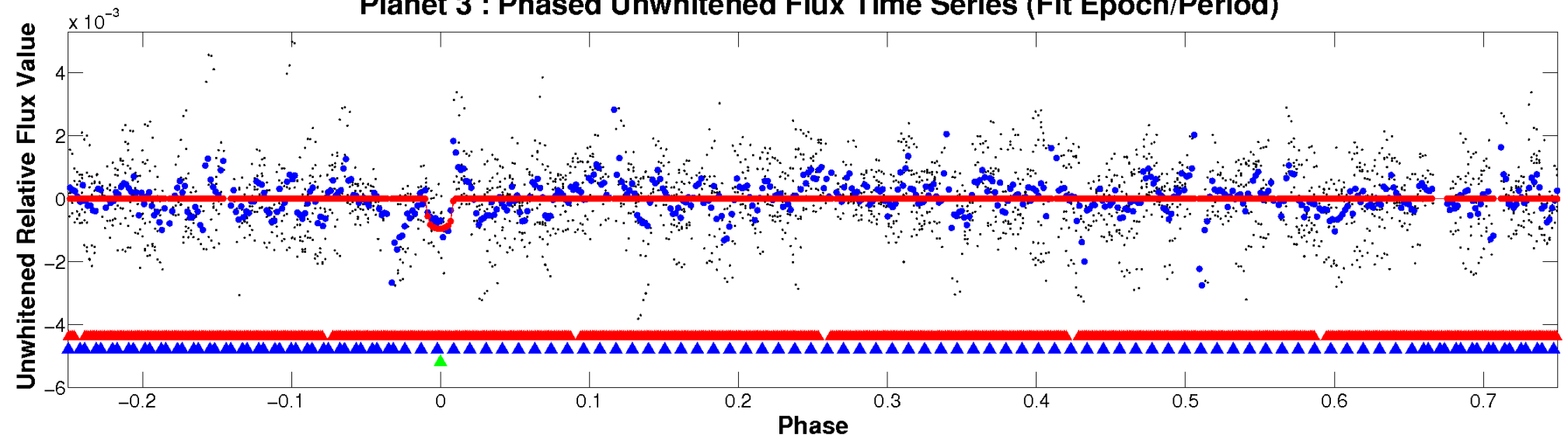
# ALT Odd/Even

TCE 006632435-03

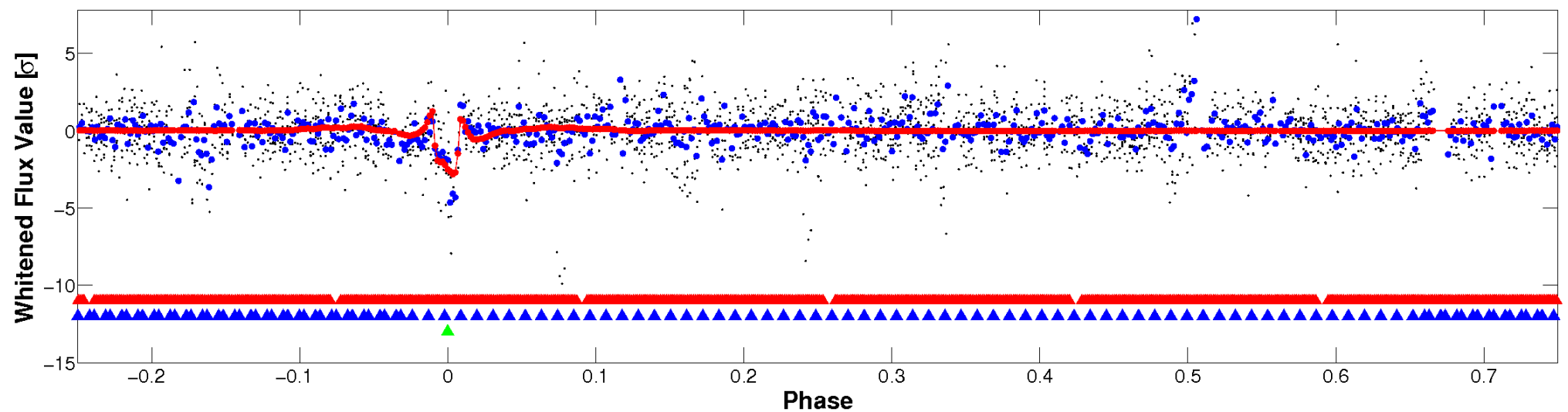


# Non-Whitened Vs. Whitened Light Curve

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



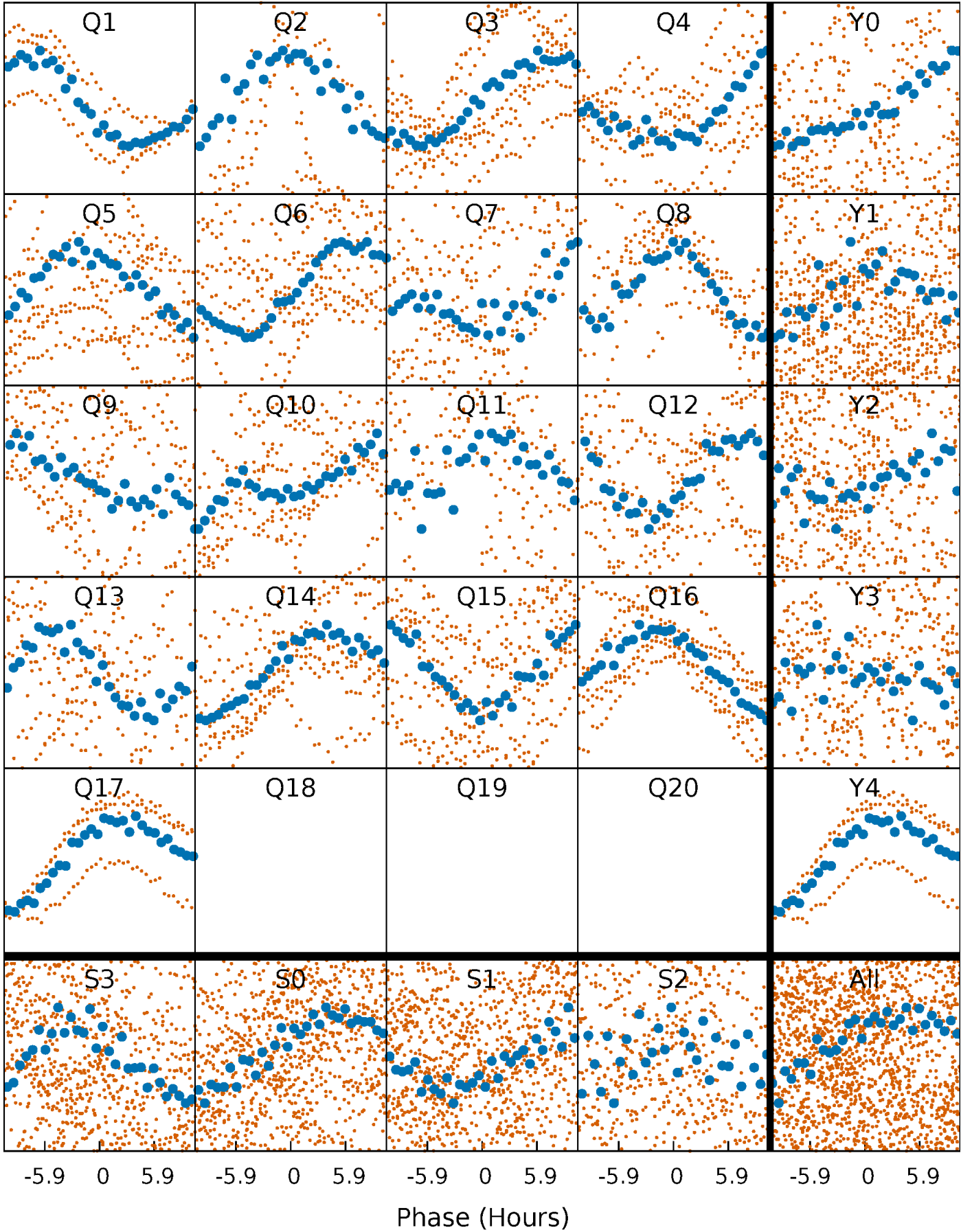
**Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

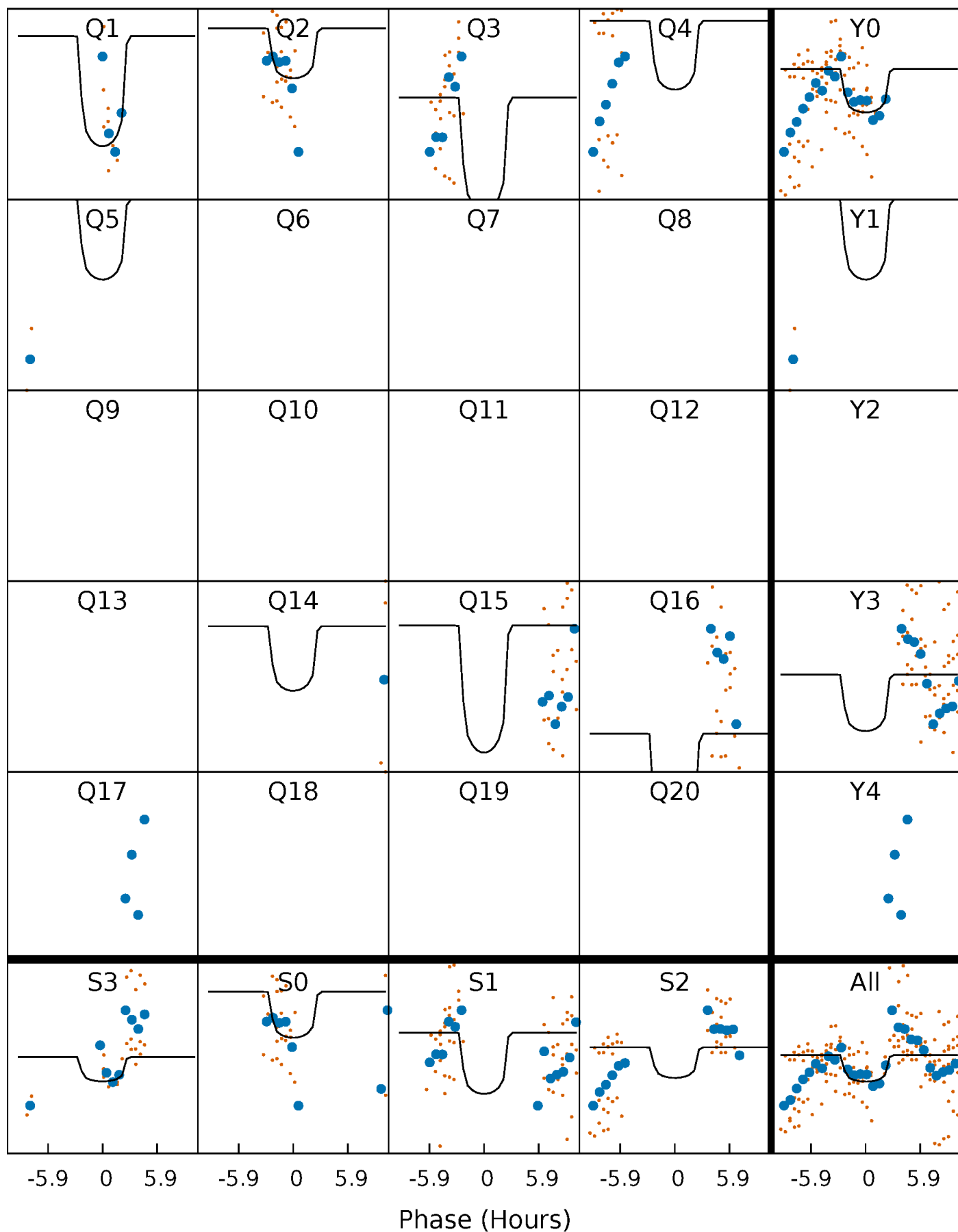
TCE 006632435-03     $P = 11.912588$  Days     $T_0 = 135.390053$  (BKJD)





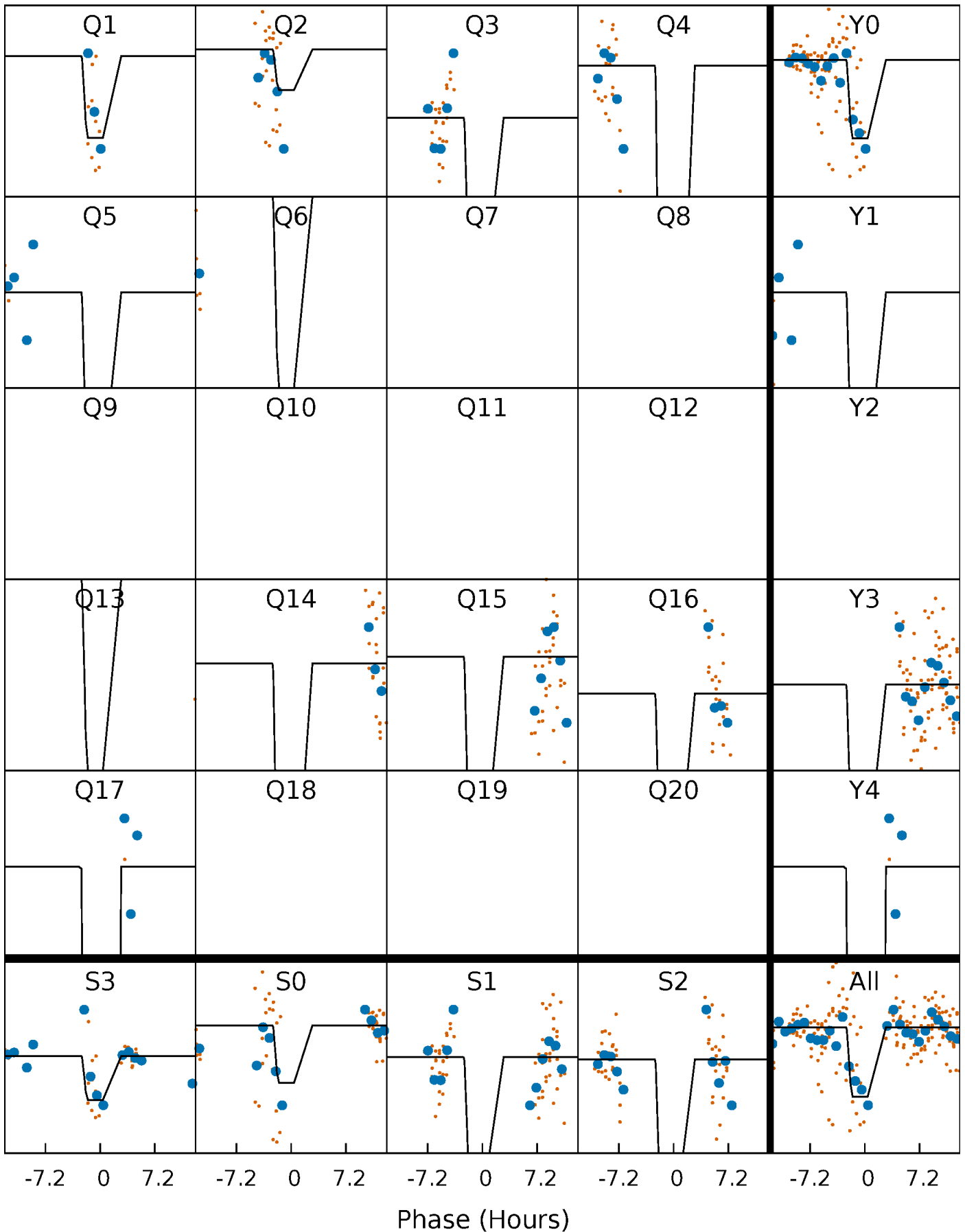
# DV Quarter-Phased Transit Curves

TCE 006632435-03 P= 11.912588 Days  $T_0=135.390053$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

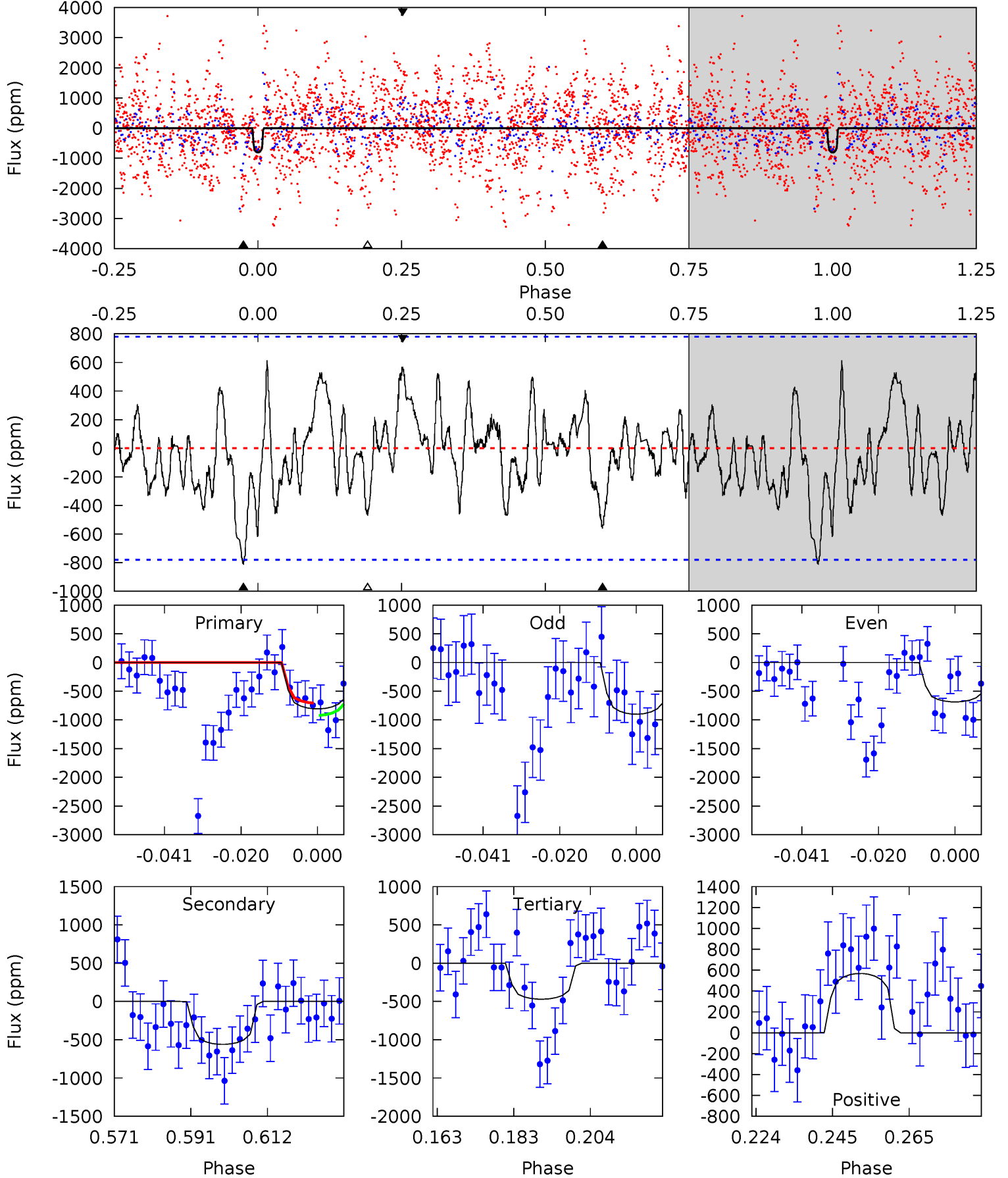
TCE 006632435-03 P= 11.911779 Days  $T_0=135.460834$  (BKJD)



# DV Model-Shift Uniqueness Test

006632435-03, P = 11.912588 Days, E = 123.477465 Days

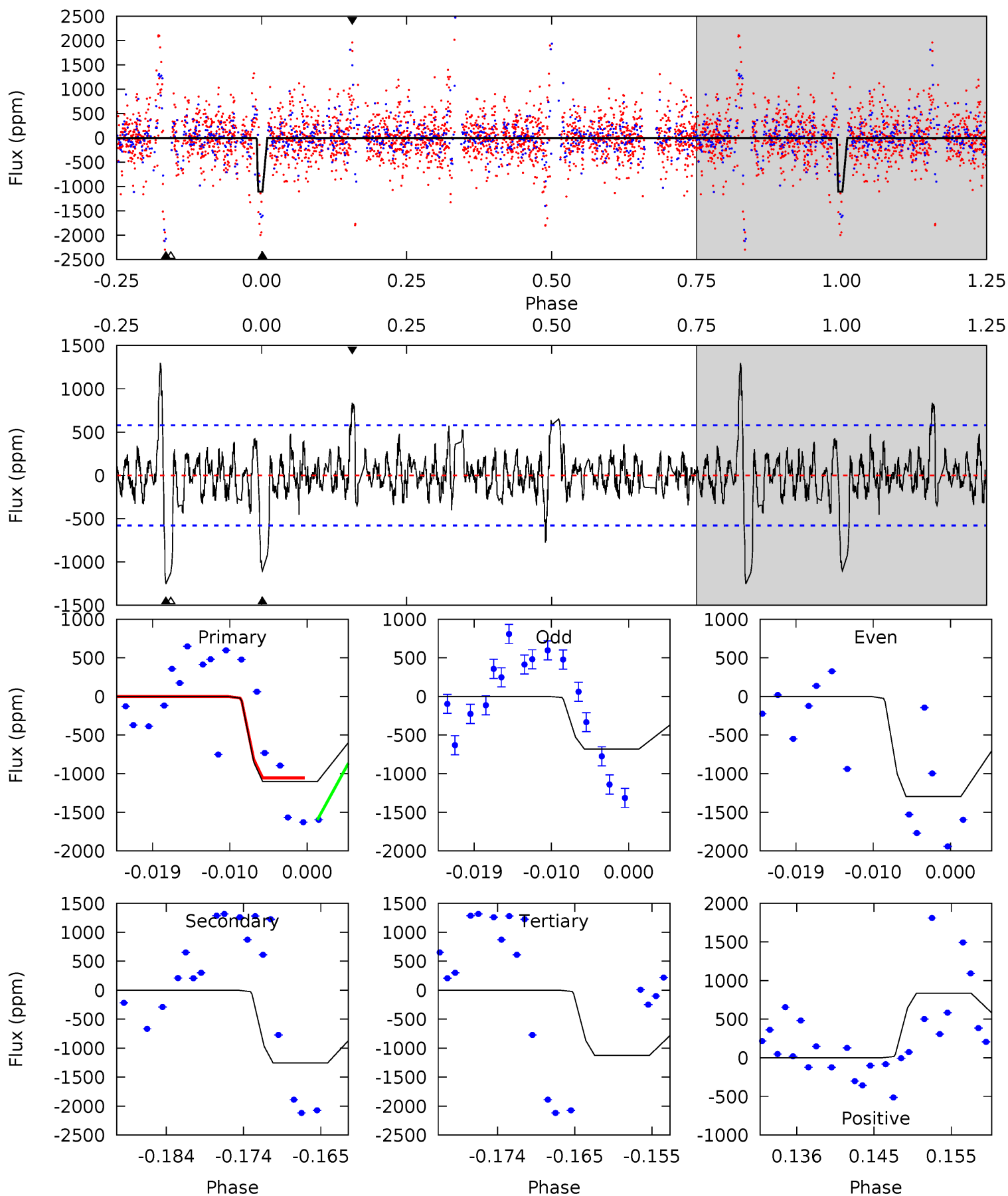
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.07	3.52	2.95	3.56	4.89	2.32	1.39	2.12	1.51	0.57	-0.04	0.66	0.99	0.43	0.67



# Alt Model-Shift Uniqueness Test

006632435-03, P = 11.911779 Days, E = 123.549055 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
9.60	10.9	9.80	7.28	5.03	2.59	1.58	-0.20	2.32	1.12	3.63	2.76	0	0.51	3.66



### Stellar Parameters For KIC 006632435

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6050^{+164}_{-182}$	$4.474^{+0.094}_{-0.175}$	$-0.660^{+0.300}_{-0.300}$	$0.882^{+0.216}_{-0.116}$	$0.844^{+0.097}_{-0.073}$	$1.734^{+0.712}_{-0.825}$
	+3%/-3%	+2%/-4%	+45%/-45%	+24%/-13%	+11%/-9%	+41%/-48%
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 006632435-03 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-561 \pm 160$	$3.06^{+1.28}_{-1.20}$	$1139^{+75}_{-59}$	$5356^{+1528}_{-807}$	$312^{+536}_{-166}$
Alt.	$-1253 \pm 115$	$3.64^{+1.30}_{-1.08}$	$1138^{+67}_{-57}$	$5933^{+1184}_{-732}$	$482^{+494}_{-216}$

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

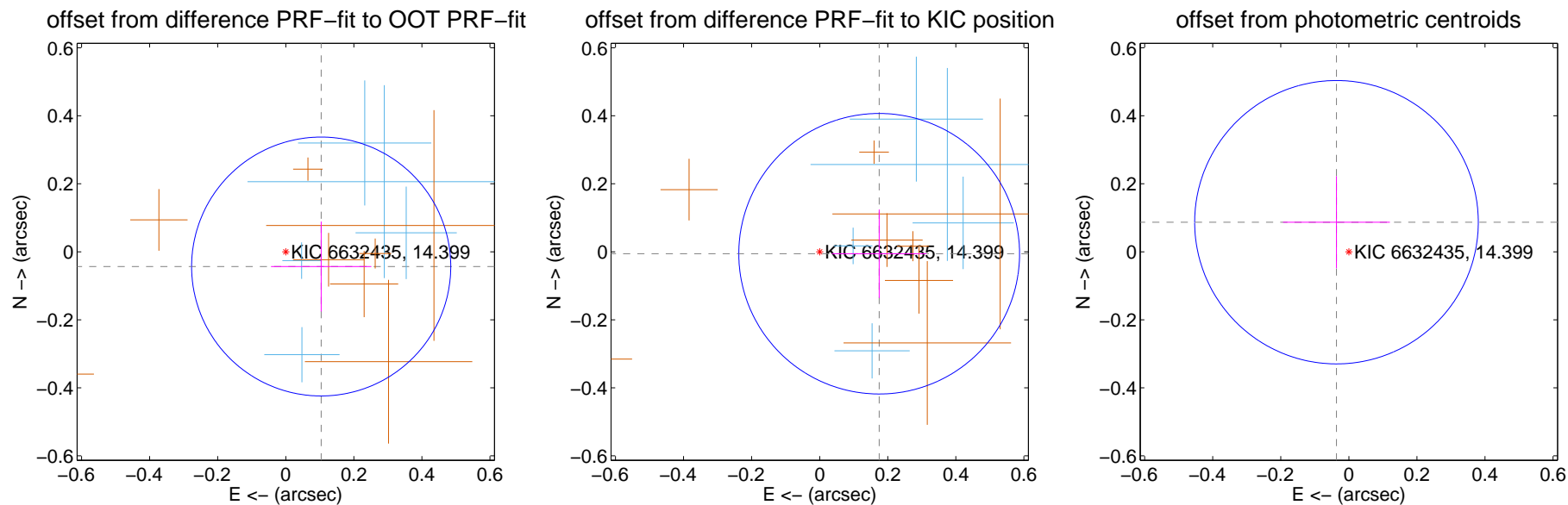
## DV Centroid Data

Supplemental centroid analysis for 006632435-03. Kepler magnitude: 14.40. Transit SNR 12.97

There are 7 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

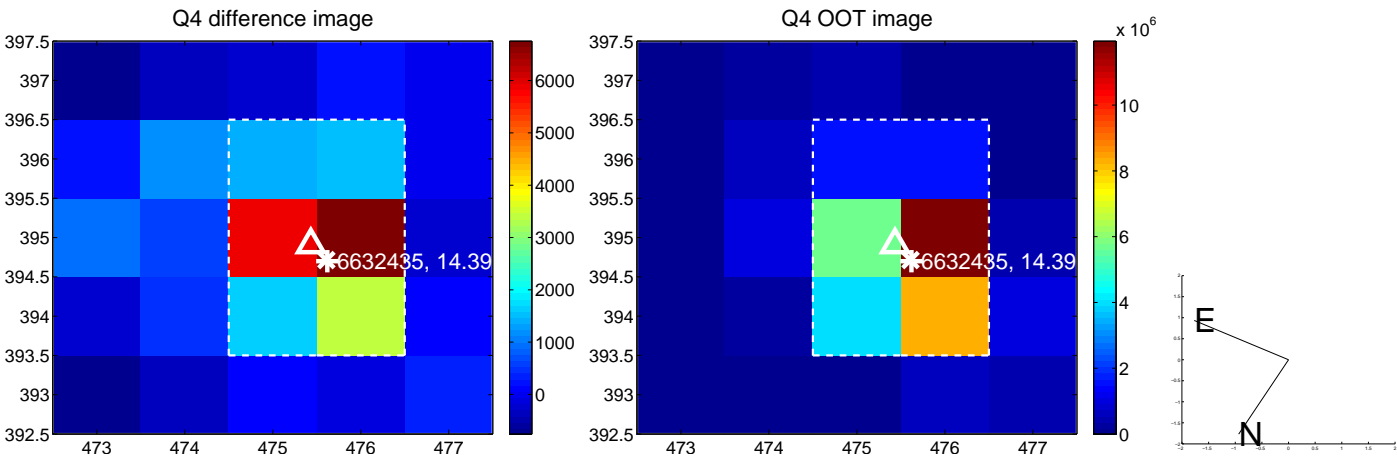
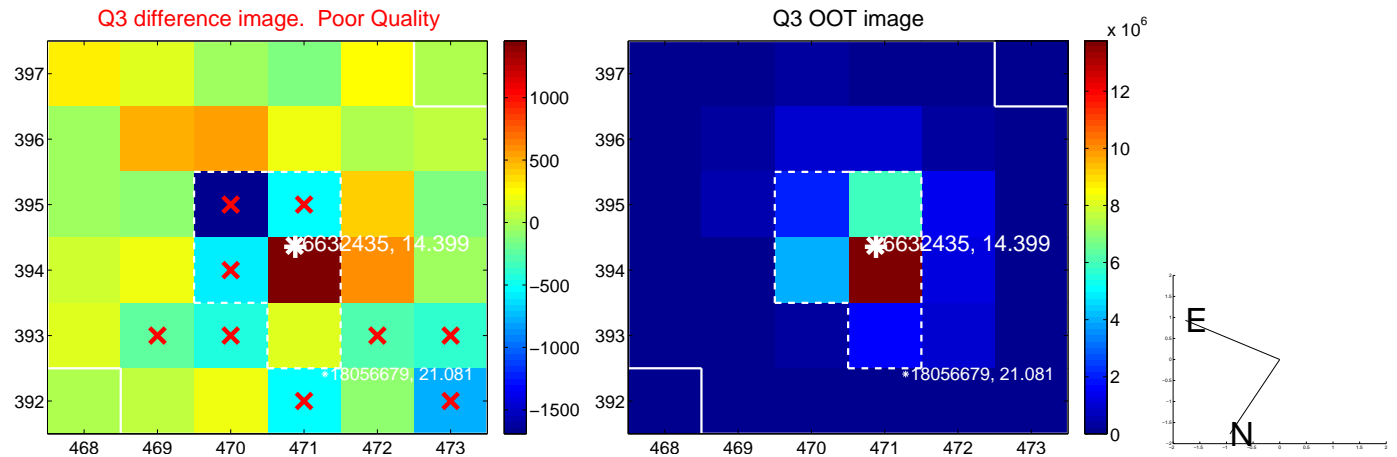
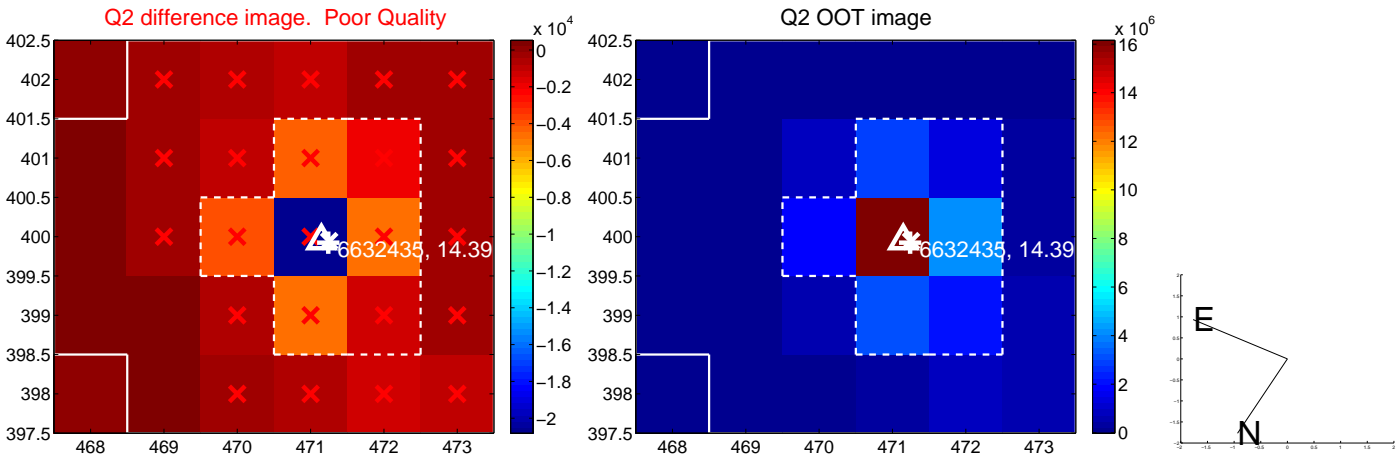
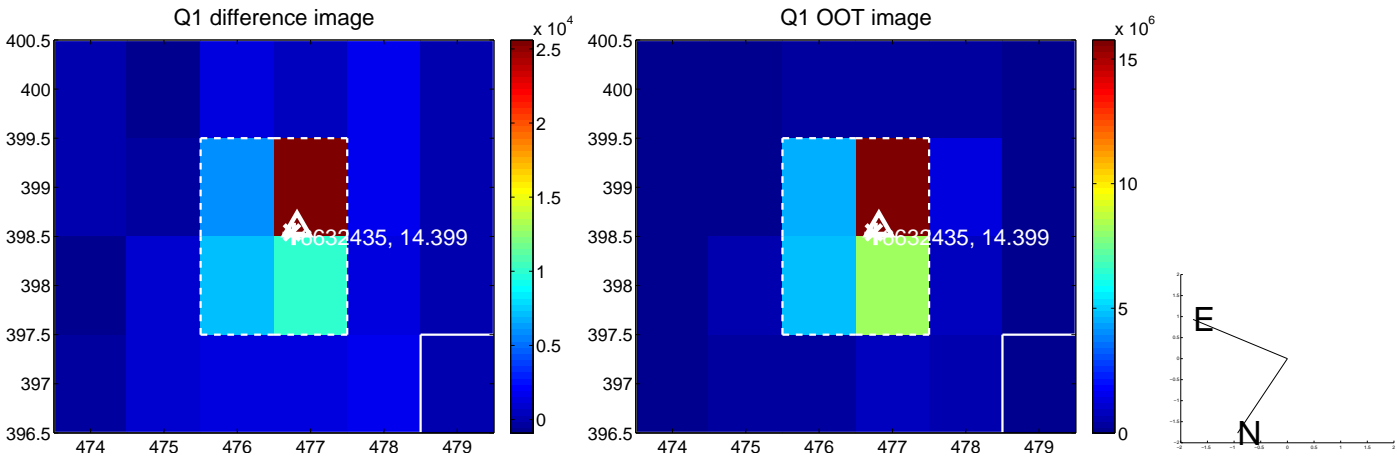
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.113 \pm 0.127$	0.89	$-0.104 \pm 0.147$	$-0.043 \pm 0.132$
PRF-fit source offset from KIC position	$0.175 \pm 0.137$	1.27	$-0.175 \pm 0.139$	$-0.006 \pm 0.130$
photometric centroid source offset	$0.09 \pm 0.14$	0.68	$0.04 \pm 0.16$	$0.09 \pm 0.14$



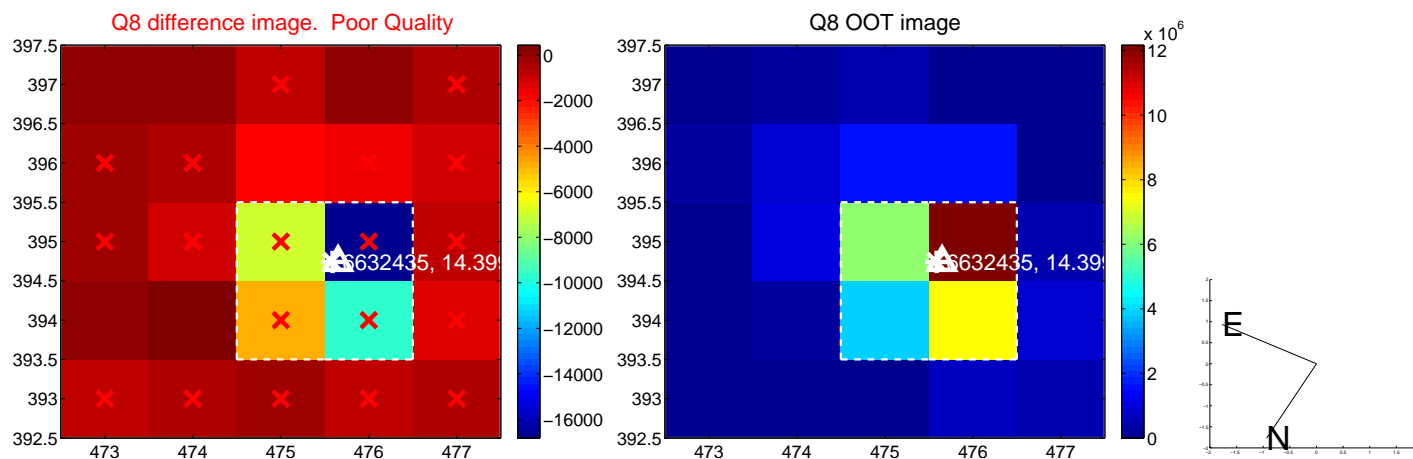
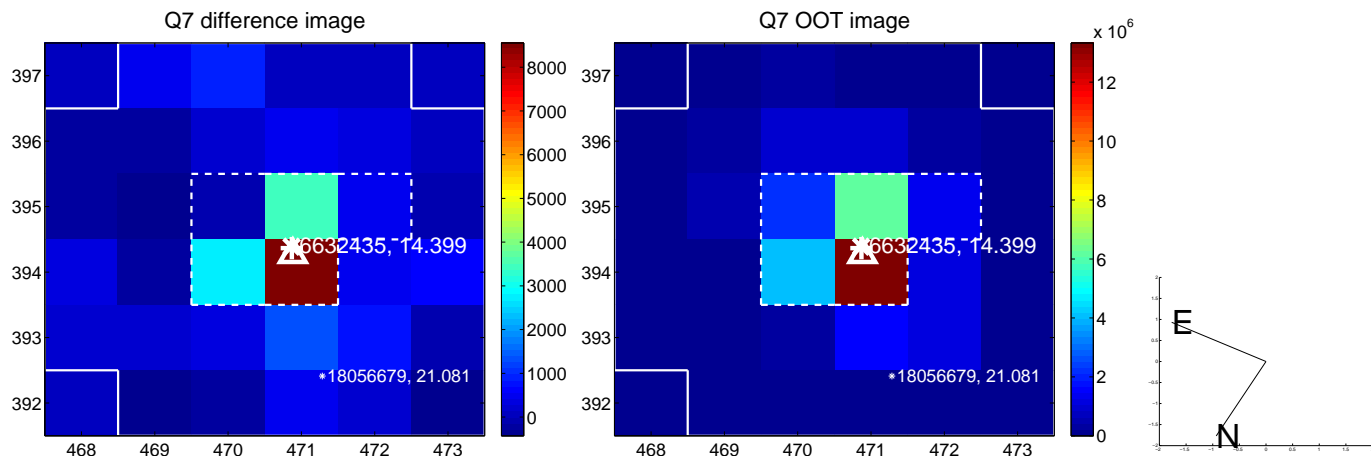
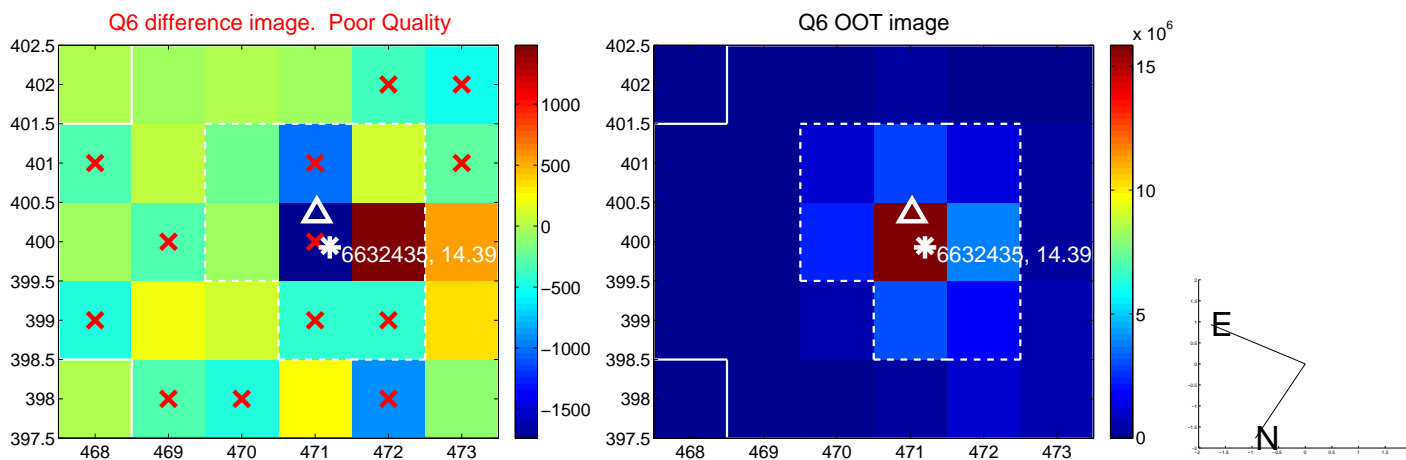
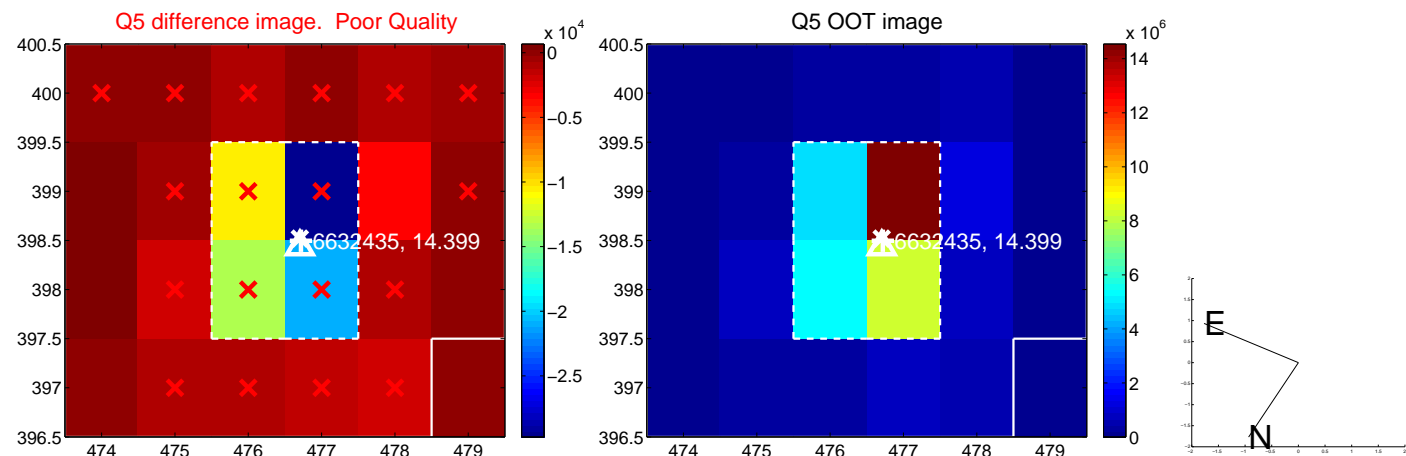
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.



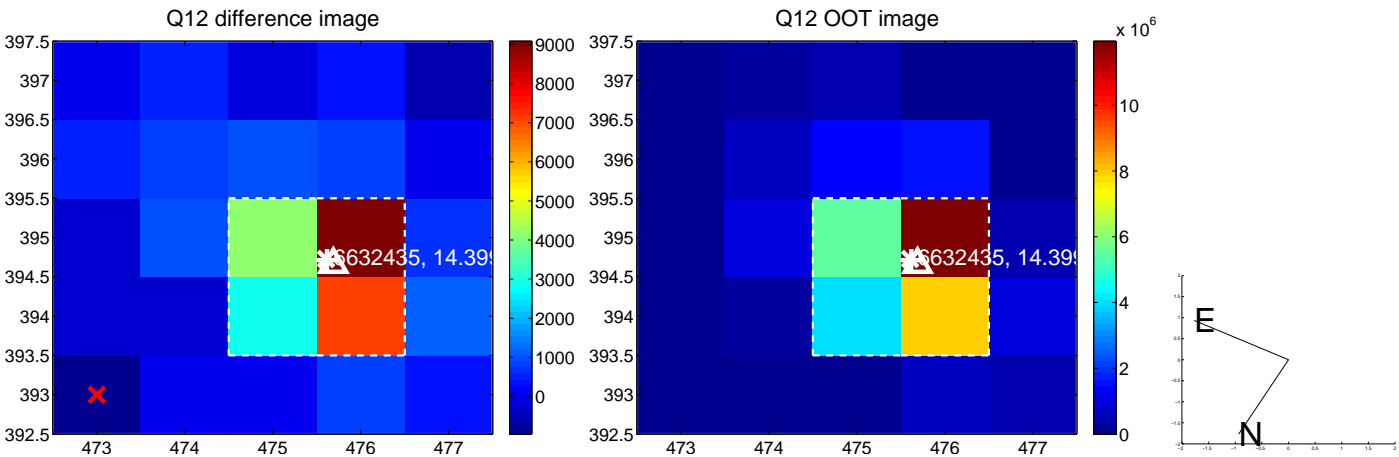
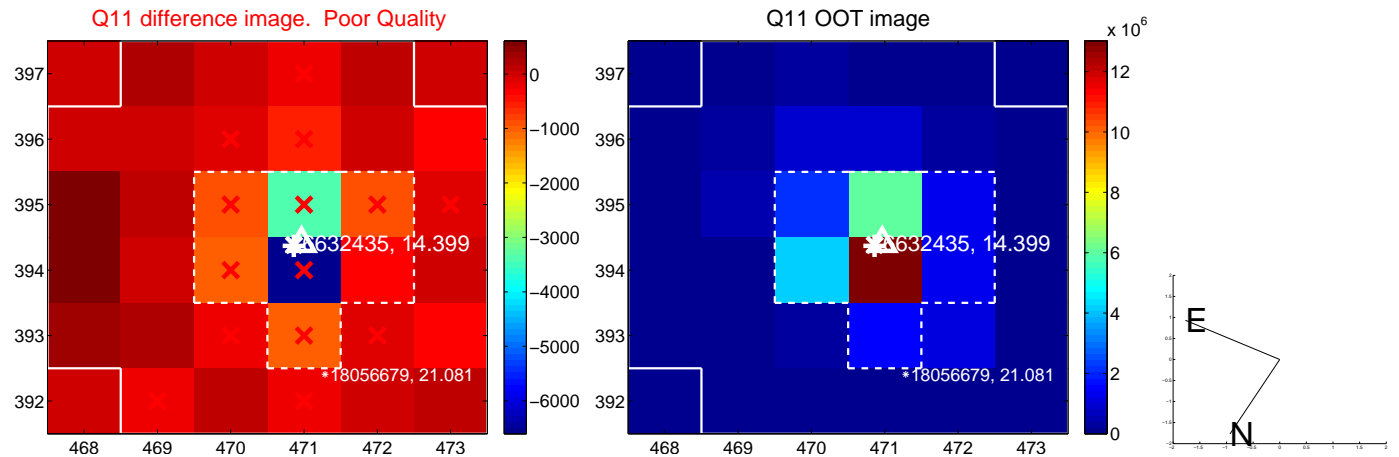
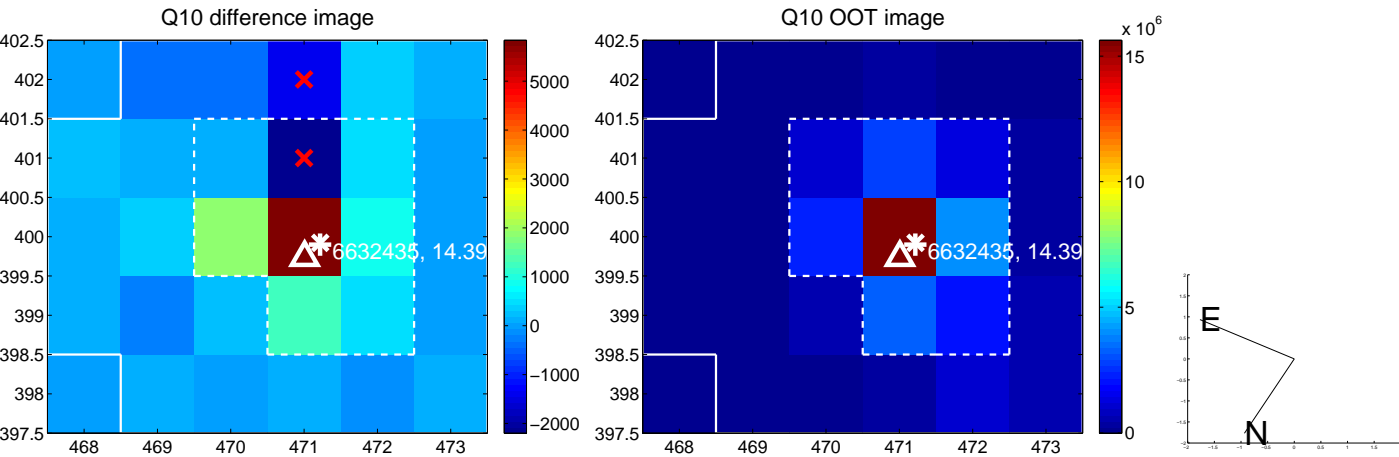
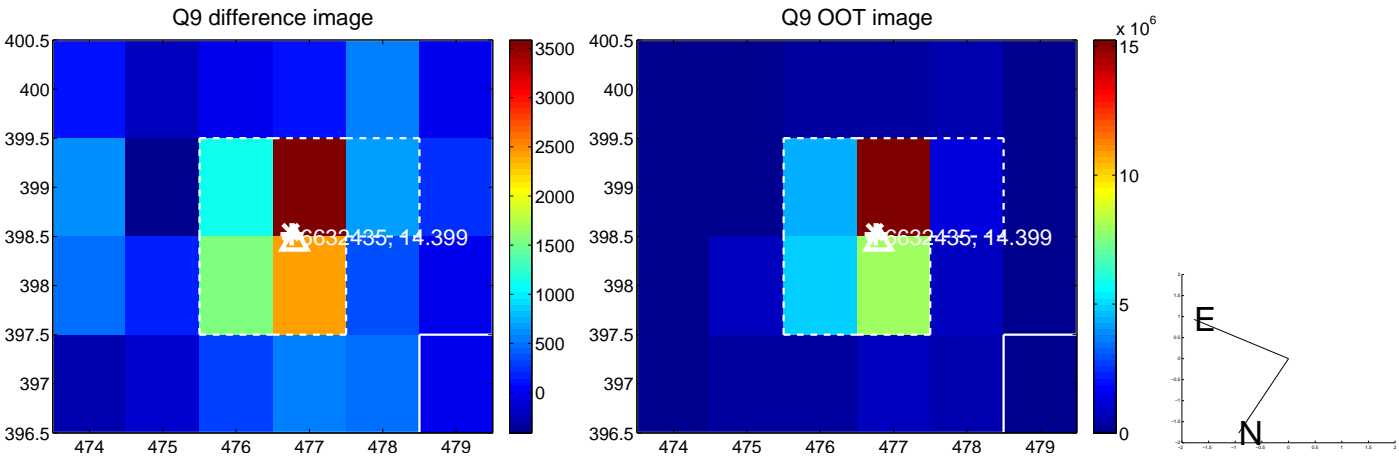
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



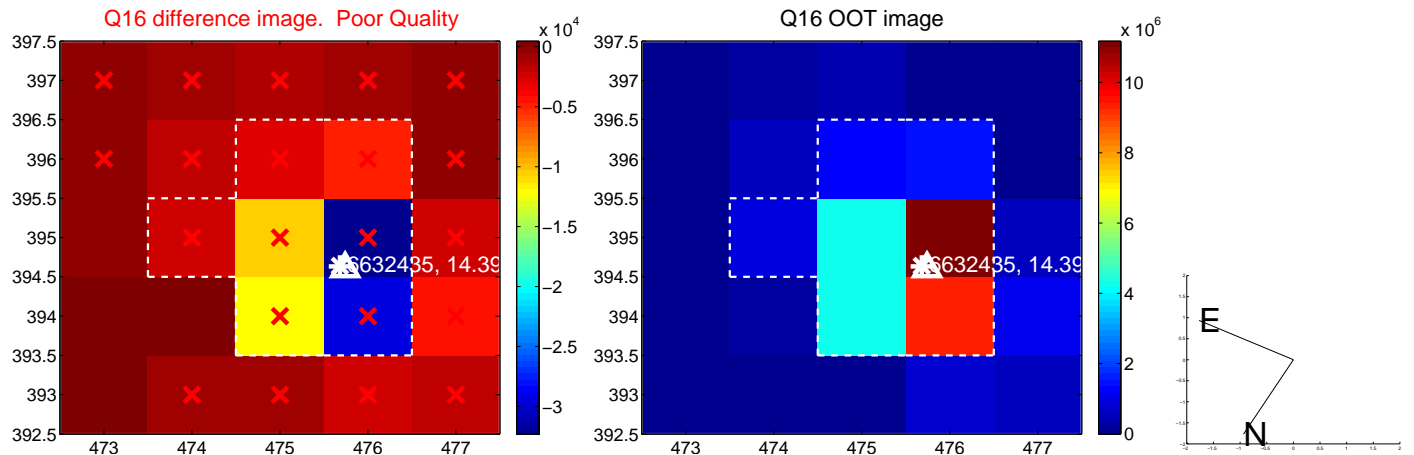
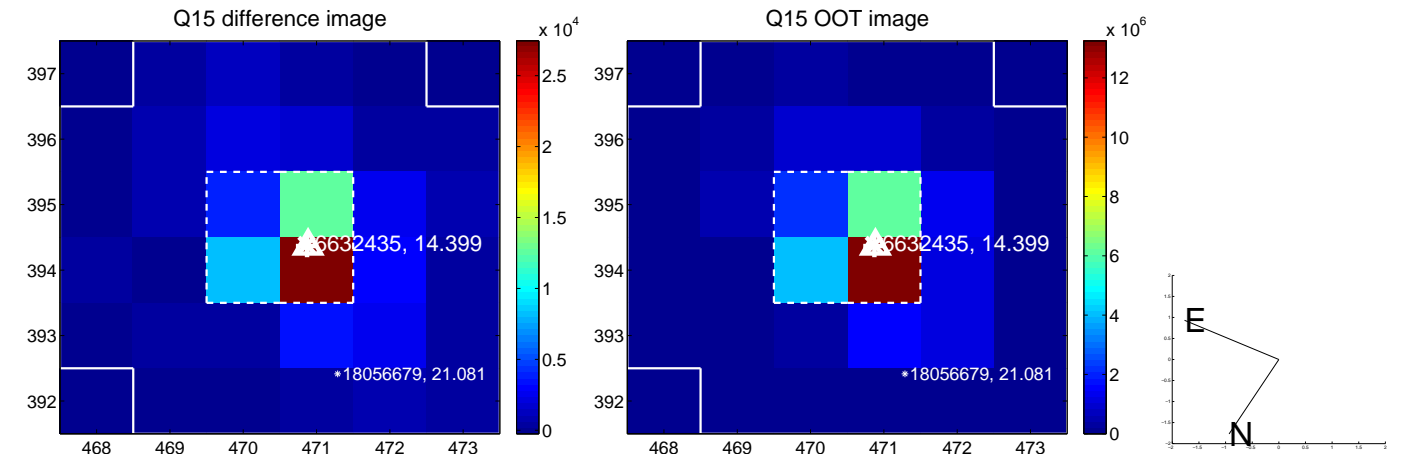
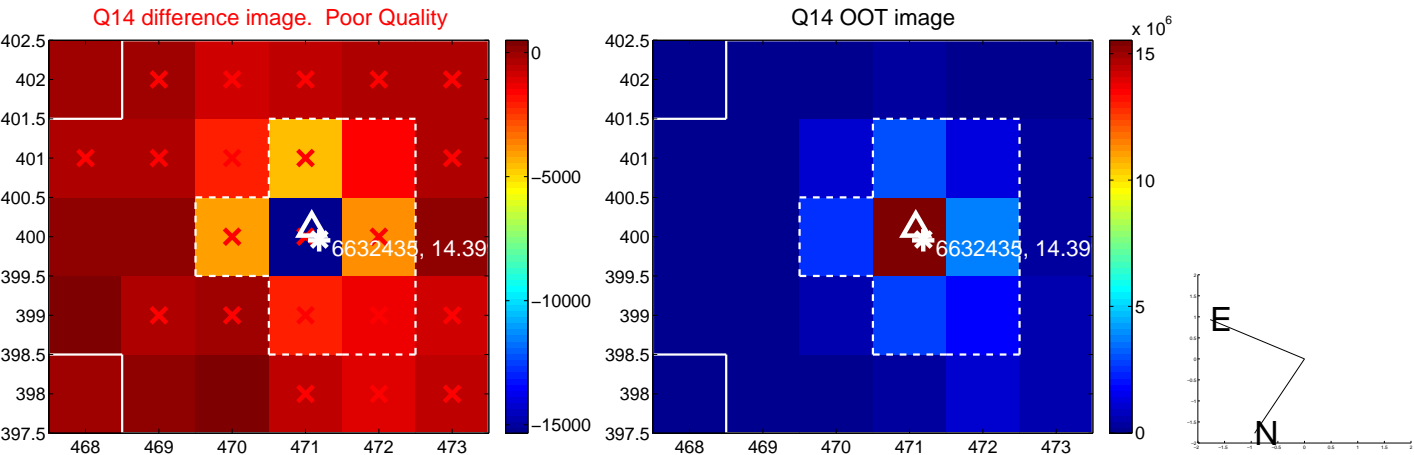
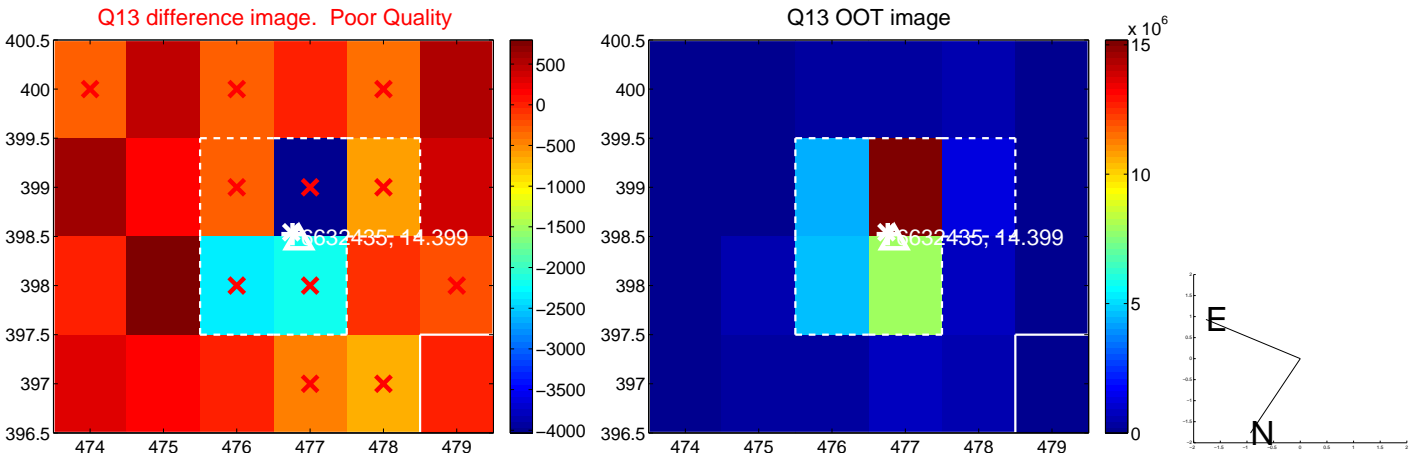
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



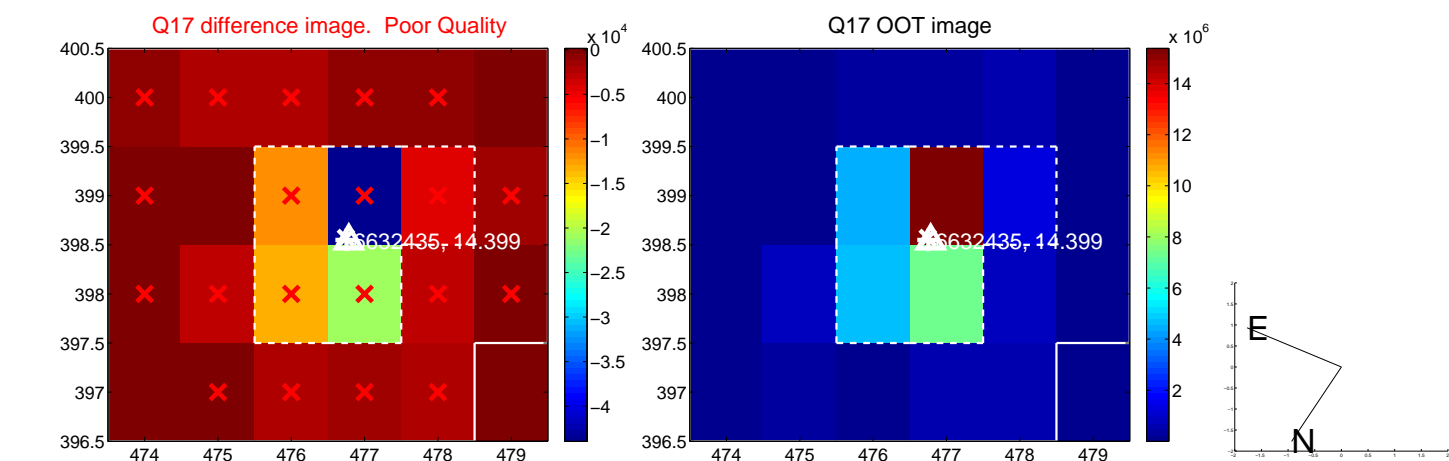
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



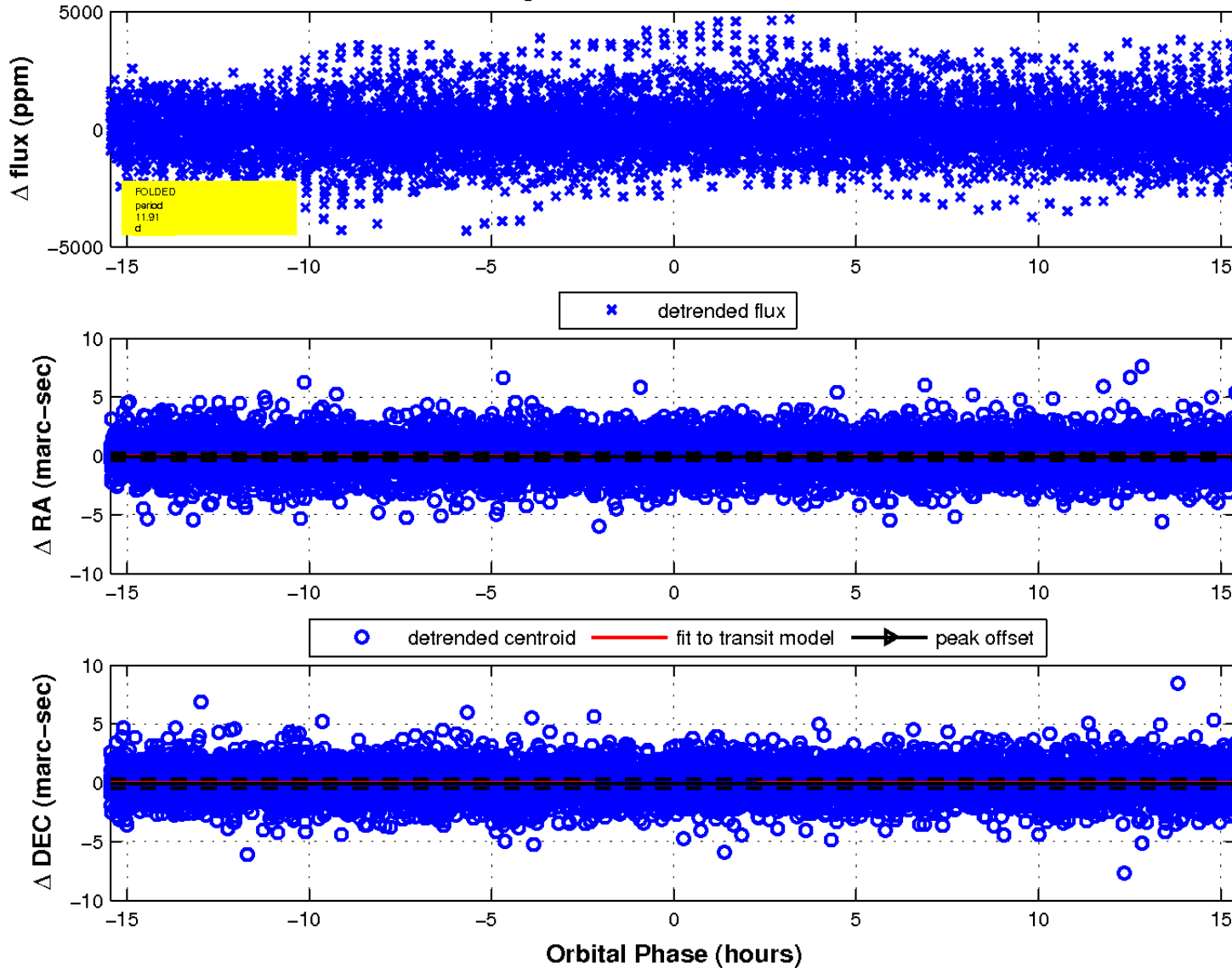
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



# UKIRT Image

Declination

