

# KIC 007352425

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007352425-01	OBS	No	0.639644	132.057342	136.6	0.798	13.8	12.3	1.89	7138	2.59	29986.35
007352425-02	OBS	No	3.051833	131.510994	21.3	10.500	11.3	-1.0	1.89	7138	0.88	3733.31
007352425-03	OBS	No	3.051703	133.063765	313.8	27.245	13.2	24.1	1.89	7138	4.44	3733.52

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007352425-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
007352425-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—CENT_SATURATED
007352425-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_SATURATED

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

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

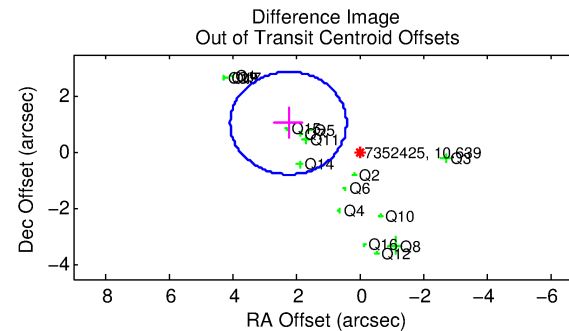
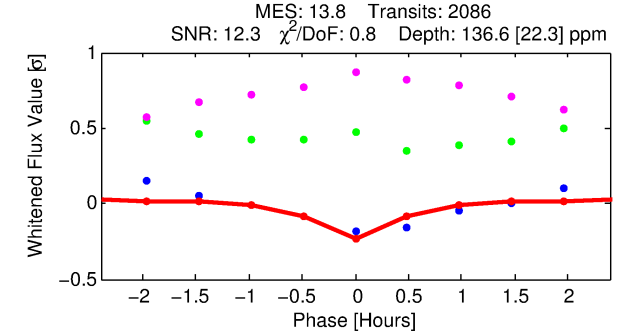
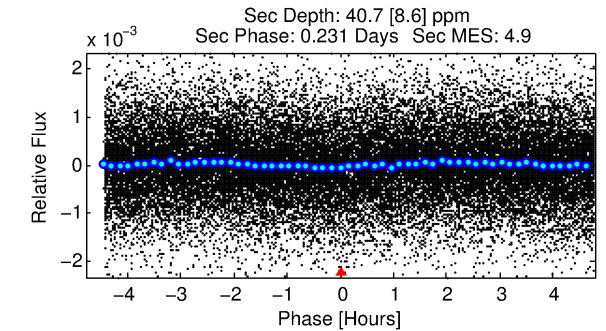
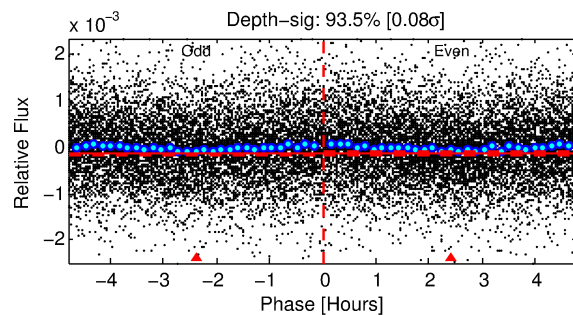
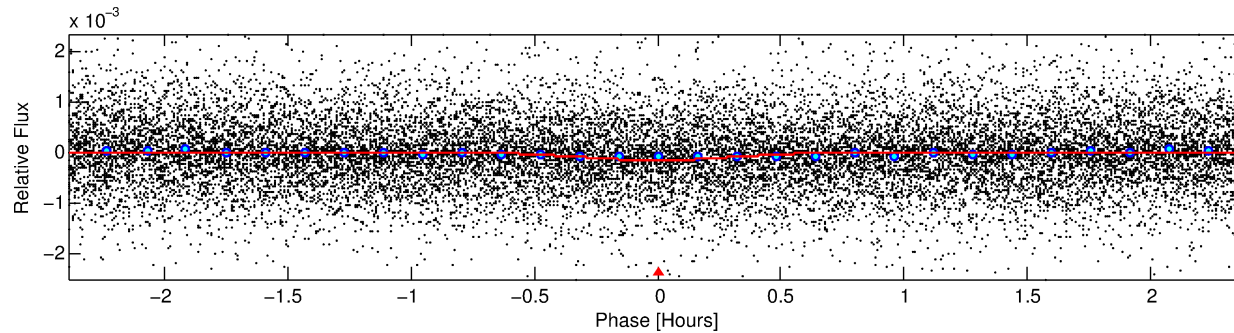
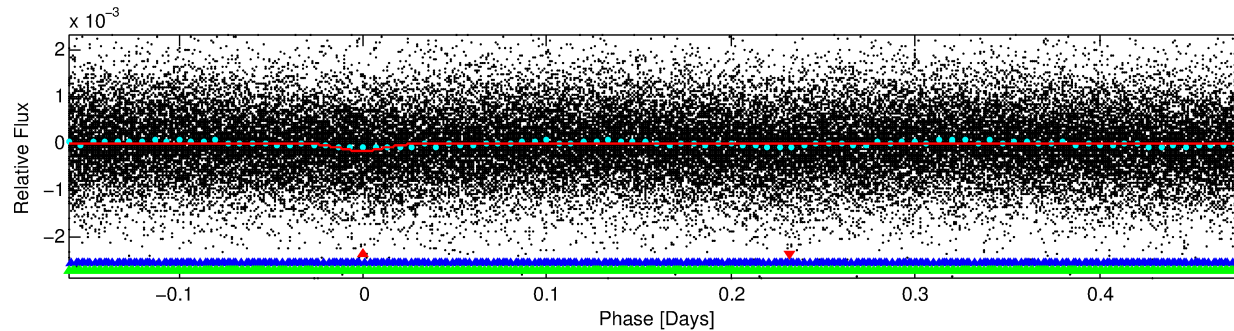
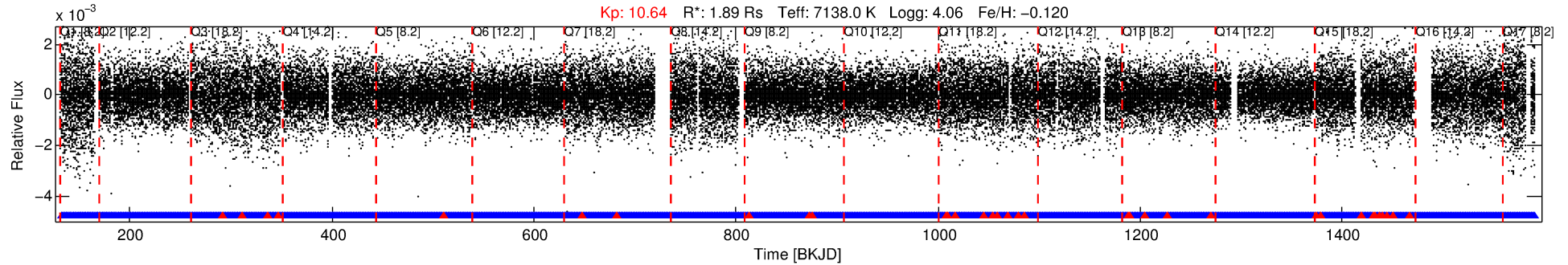
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 007352425-01

No Significant Match Found

# DV One-Page Summary

KIC: 7352425 Candidate: 1 of 3 Period: 0.640 d



## DV Fit Results:

Period = 0.63964 [0.00001] d  
Epoch = 132.0573 [0.0015] BKJD  
 $R_p/R^* = 0.0126$  [0.0042]  
 $a/R^* = 3.00$  [5.31]  
 $b = 0.90$  [0.43]  
 $\text{Seff} = 29986.35$  [10744.41]  
 $T_{\text{eq}} = 3355$  [301] K  
 $R_p = 2.59$  [1.16]  $R_e$   
 $a = 0.0166$  [0.0040] AU  
 $A_g = 0.92$  [0.71] [-0.11 $\sigma$ ]  
 $T_{\text{eff}} = 5084$  [903] K [1.81 $\sigma$ ]

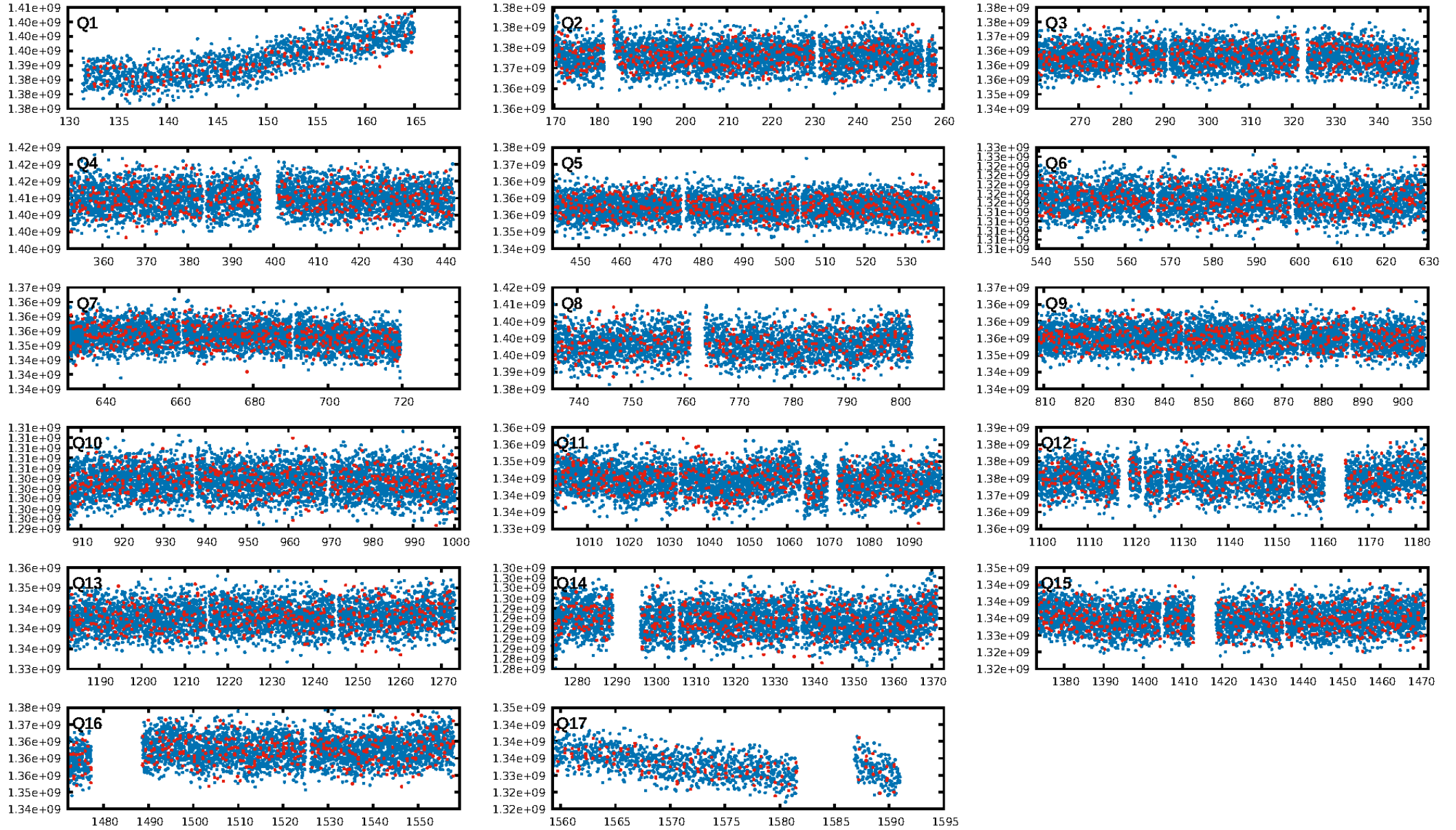
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 96.6% [2.12 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.98 [1959/1993]  
GhostDiagnostic-chr: 1.857  
Centroid-sig: 16.8%  
Centroid-so: 1.039 arcsec [6.20 $\sigma$ ]  
OotOffset-rm: 2.467 arcsec [4.05 $\sigma$ ]  
KicOffset-rm: 3.830 arcsec [6.89 $\sigma$ ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.24 [4/17]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:37:16 Z

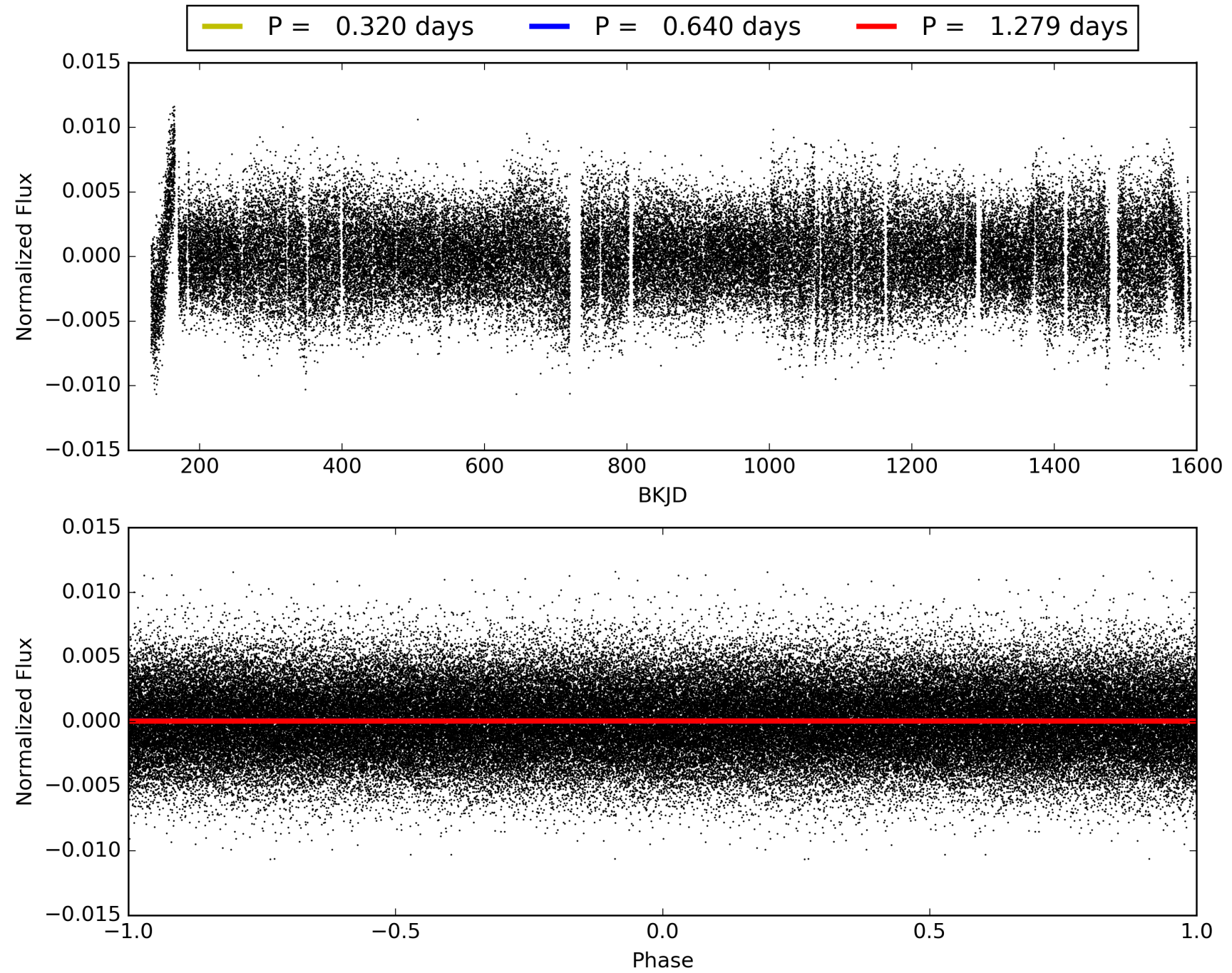
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 007352425-01, PDC Light Curves





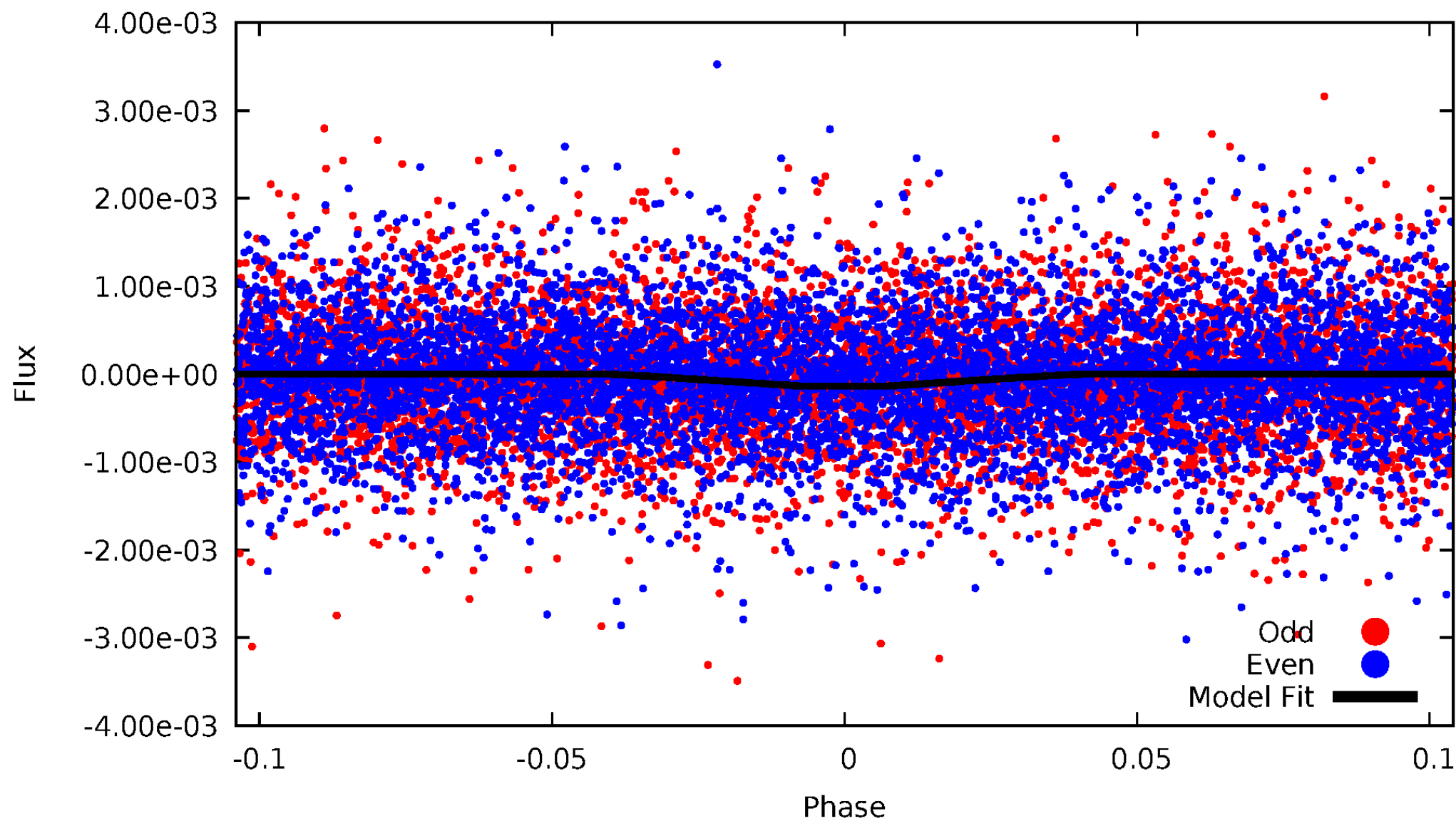
TCE 007352425-01





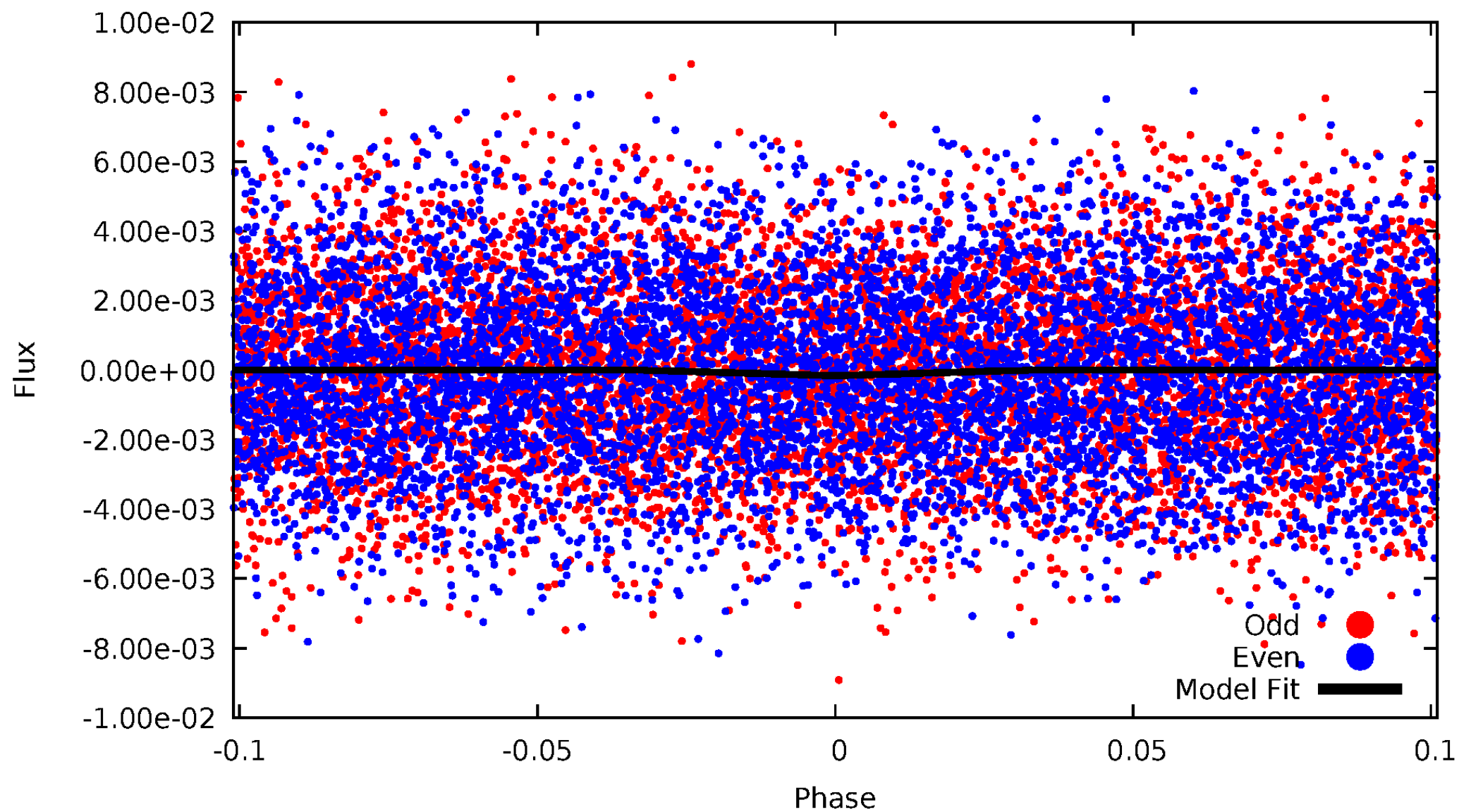
# DV Odd/Even

TCE 007352425-01



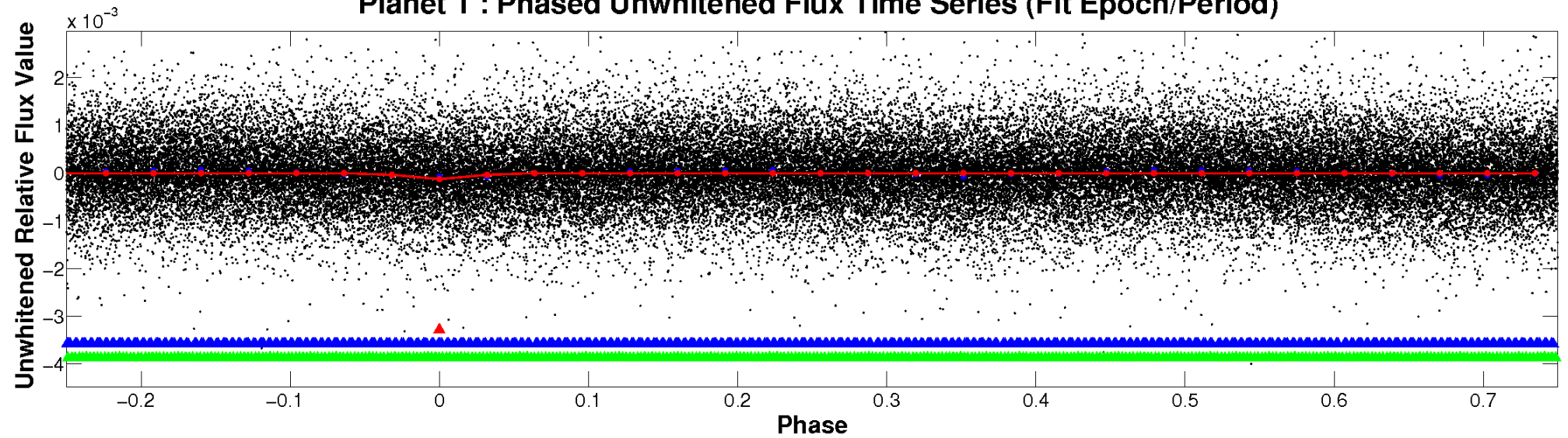
# ALT Odd/Even

TCE 007352425-01

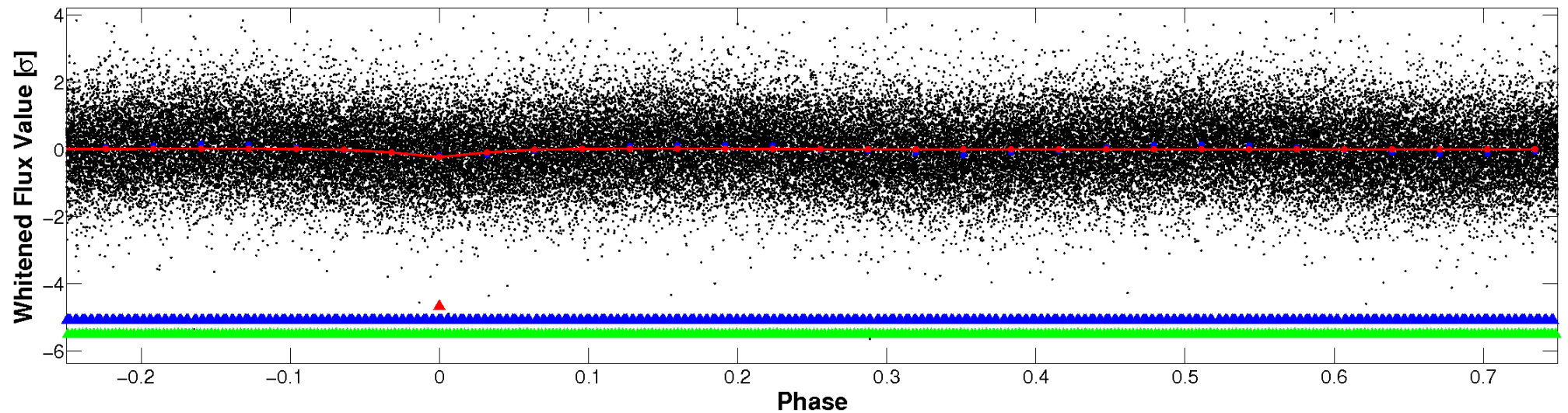


# Non-Whitened Vs. Whitened Light Curve

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



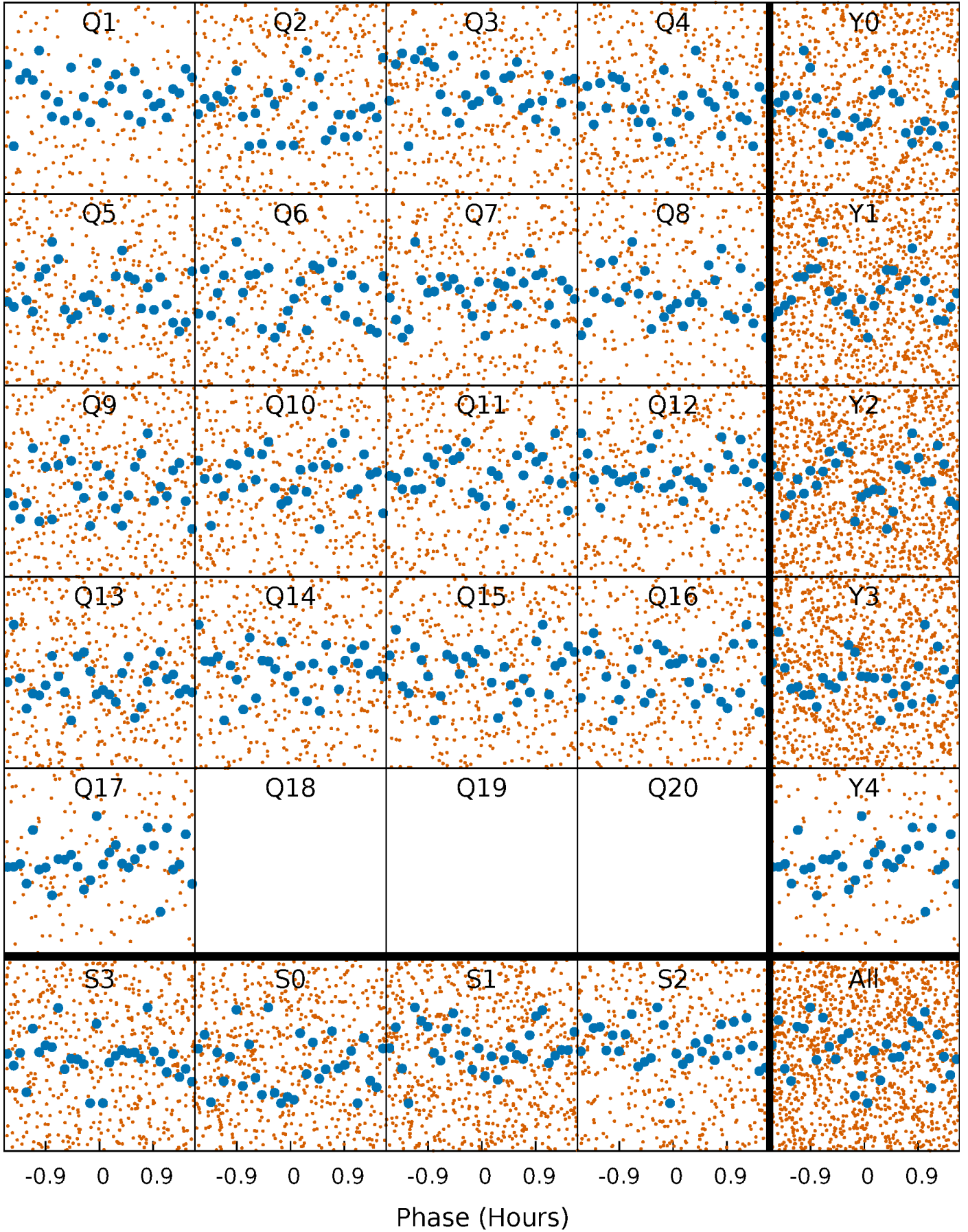
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





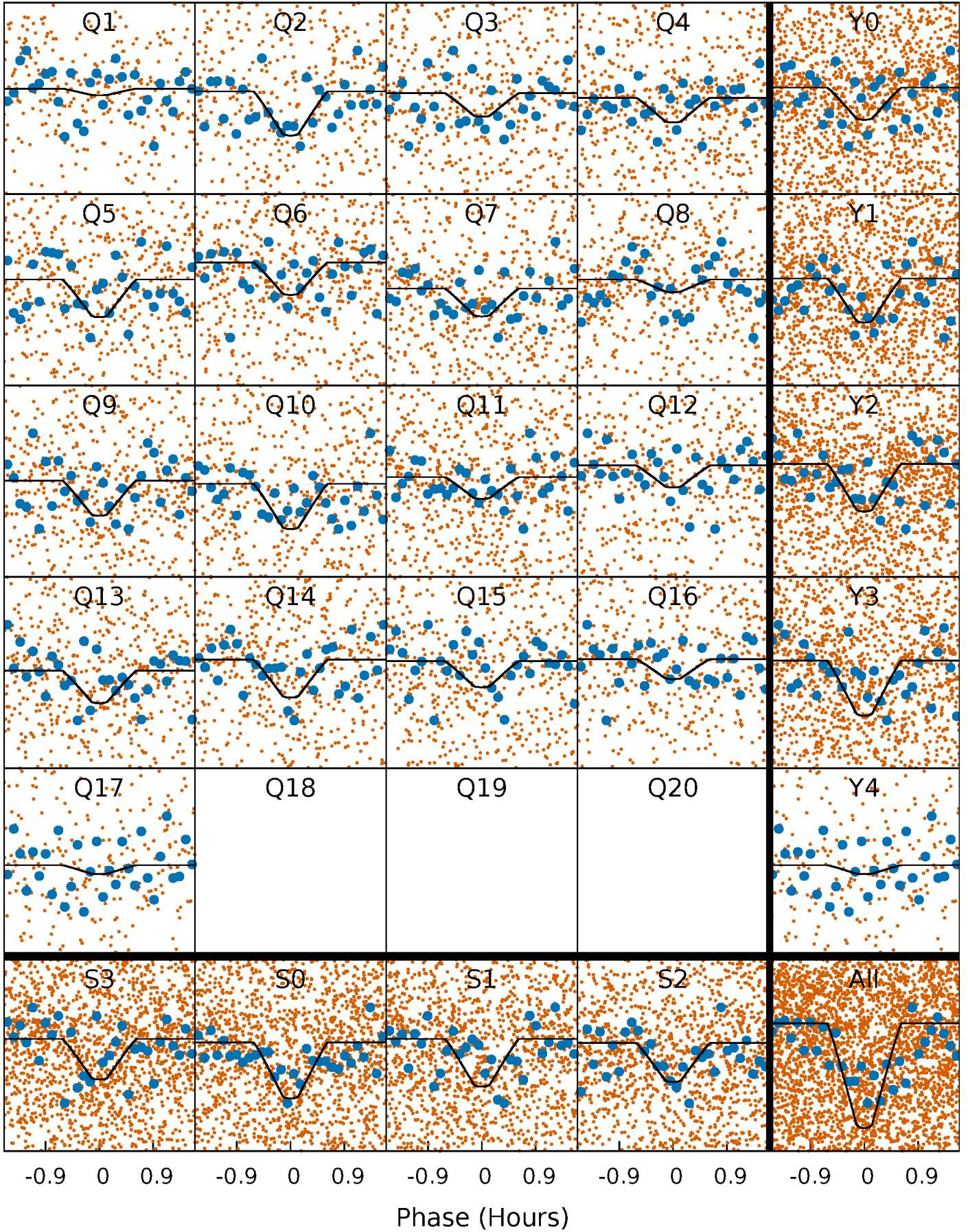
# PDC Quarter-Phased Transit Curves

TCE 007352425-01   P= 0.639644 Days    $T_0=132.057342$  (BKJD)



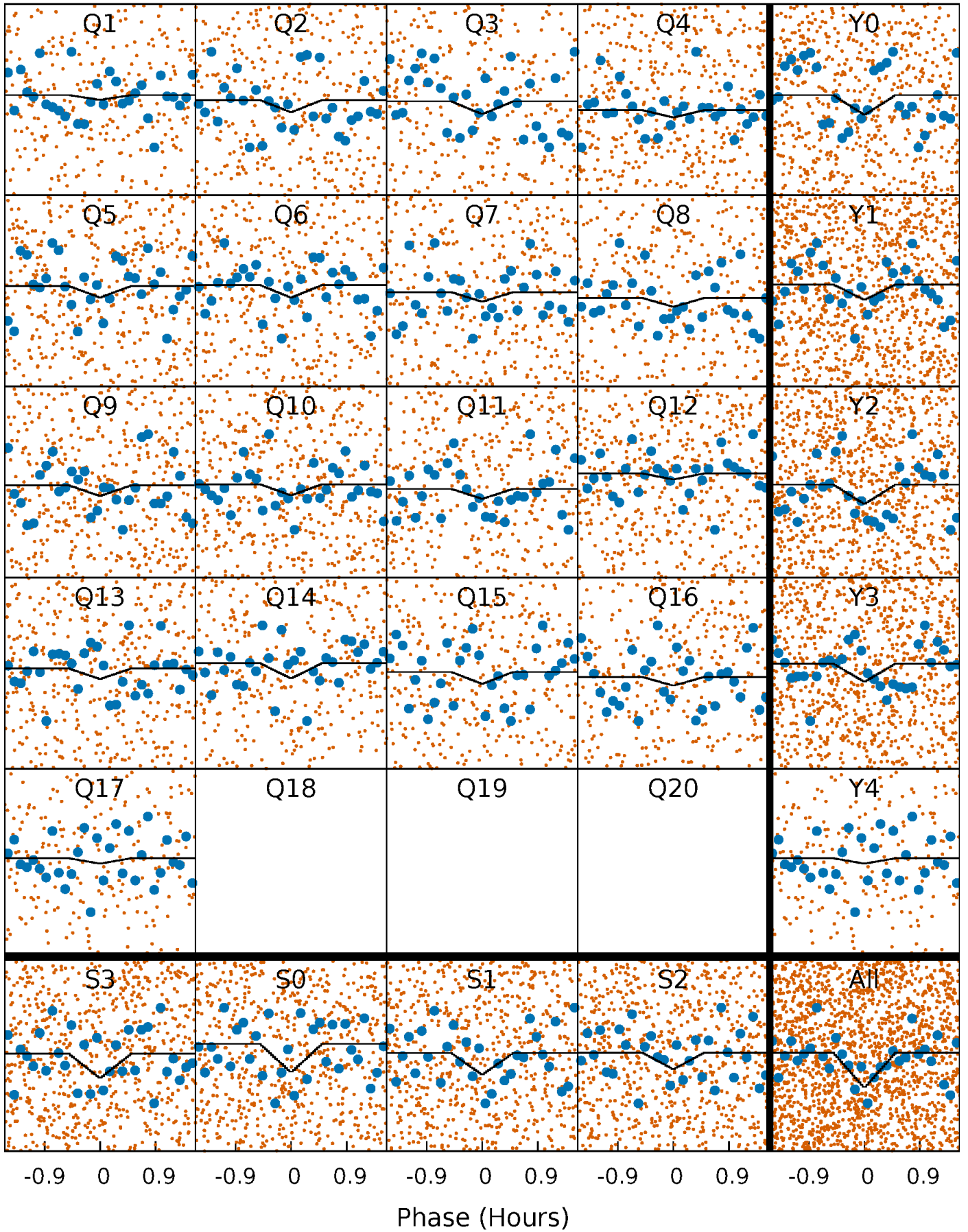
# DV Quarter-Phased Transit Curves

TCE 007352425-01   P= 0.639644 Days    $T_0=132.057342$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 007352425-01 P= 0.639646 Days  $T_0=132.056976$  (BKJD)

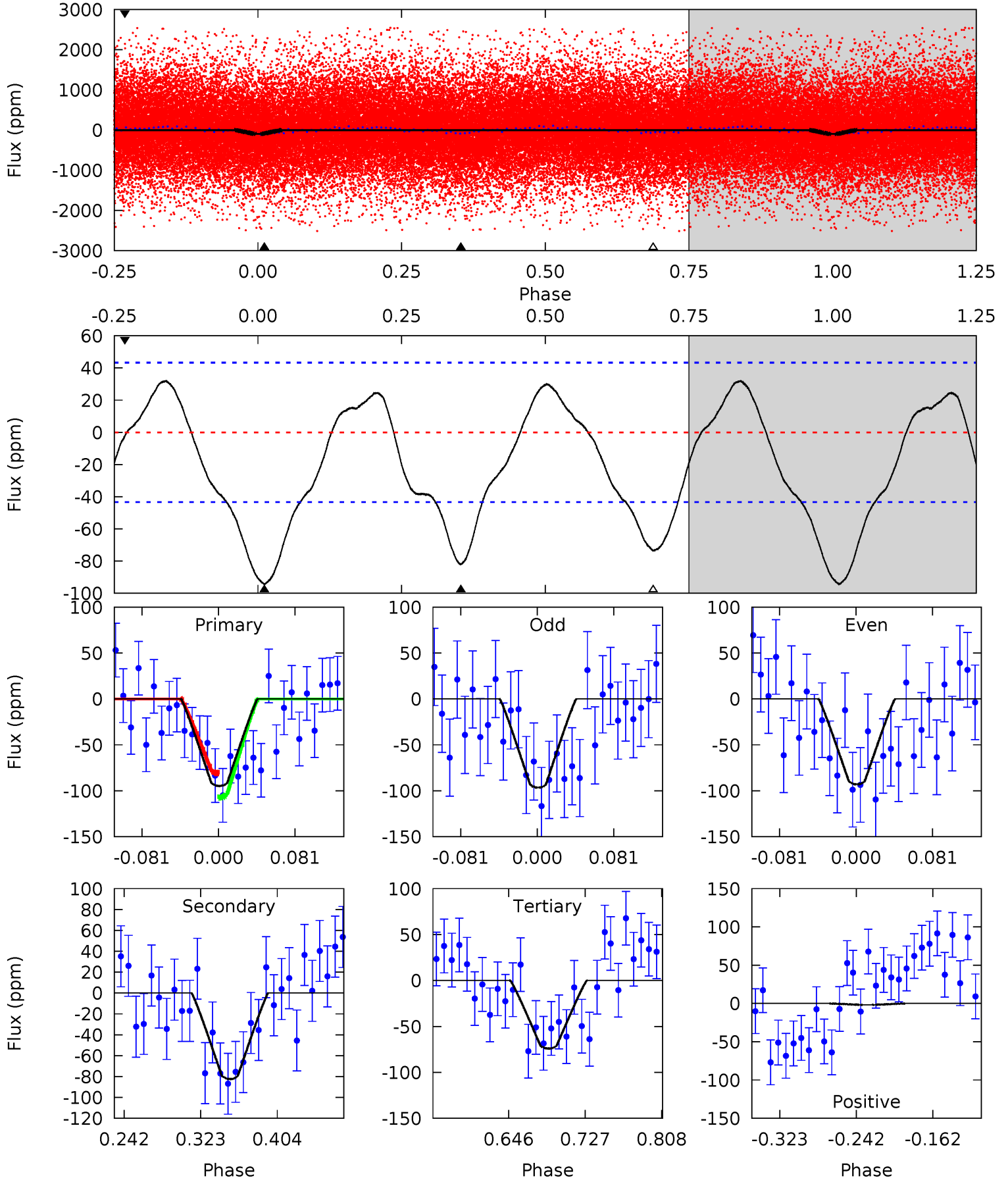




# DV Model-Shift Uniqueness Test

007352425-01, P = 0.639644 Days, E = 131.417698 Days

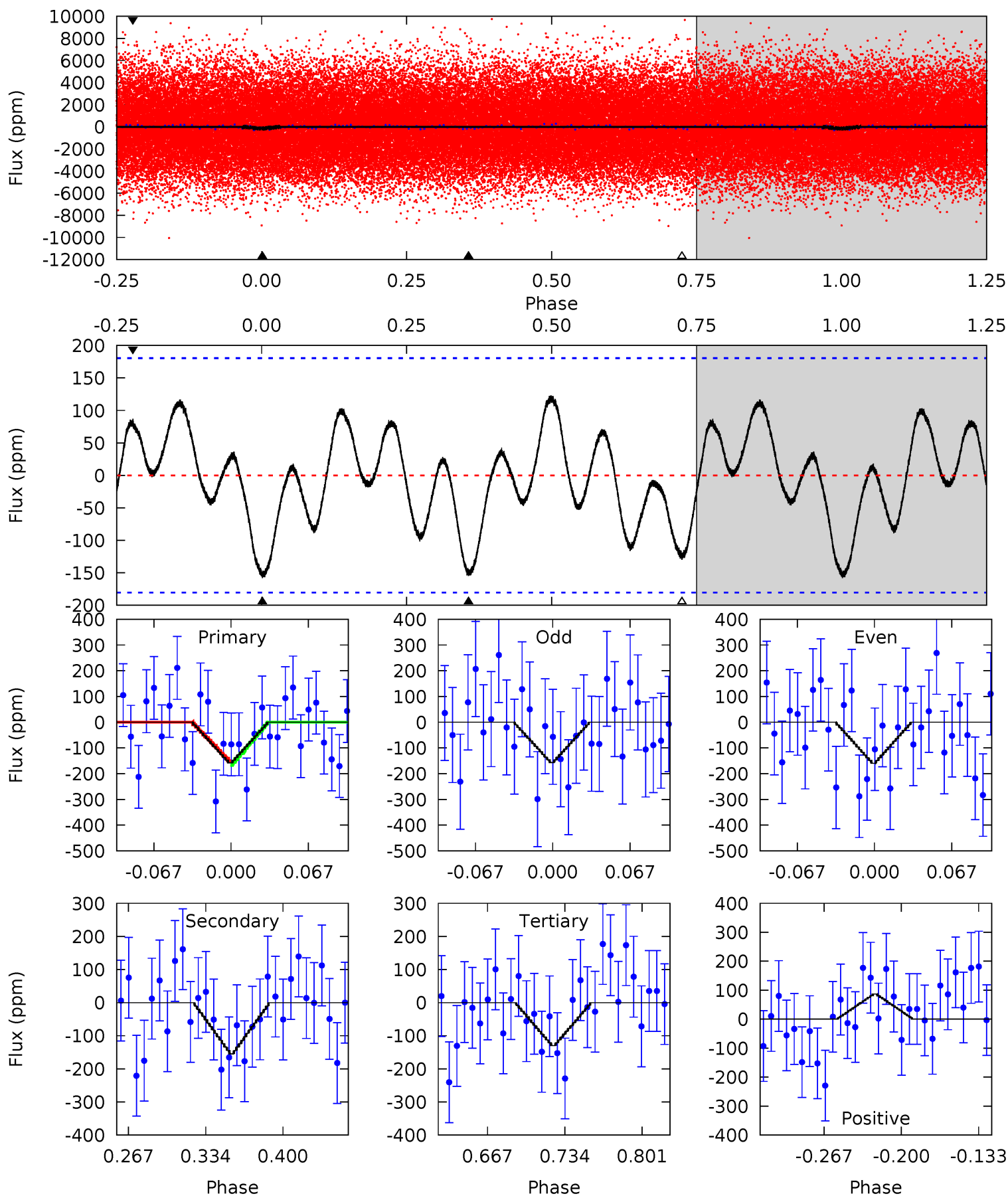
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	8.77	7.87	-0.19	4.61	1.75	3.09	2.21	10.3	0.90	8.96	0.19	0.90	0.26	1.42



# Alt Model-Shift Uniqueness Test

007352425-01, P = 0.639646 Days, E = 131.417330 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
4.07	3.99	3.35	2.24	4.65	1.83	1.60	0.72	1.83	0.64	1.75	0.04	0.99	0.44	0.23



### Stellar Parameters For KIC 007352425

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7138^{+192}_{-235}$	$4.062^{+0.175}_{-0.175}$	$-0.120^{+0.250}_{-0.350}$	$1.890^{+0.559}_{-0.457}$	$1.500^{+0.209}_{-0.255}$	$0.313^{+0.320}_{-0.160}$
	+3%/-3%	+4%/-4%	+208%/-292%	+30%/-24%	+14%/-17%	+102%/-51%
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 007352425-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-82 \pm 9$	$2.62^{+0.99}_{-0.89}$	$4701^{+383}_{-310}$	$5684^{+1622}_{-894}$	$1.791^{+2.381}_{-0.827}$
Alt.	$-155 \pm 39$	$2.54^{+1.00}_{-0.93}$	$4698^{+347}_{-326}$	$7010^{+2444}_{-1299}$	$3.663^{+5.467}_{-1.846}$

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



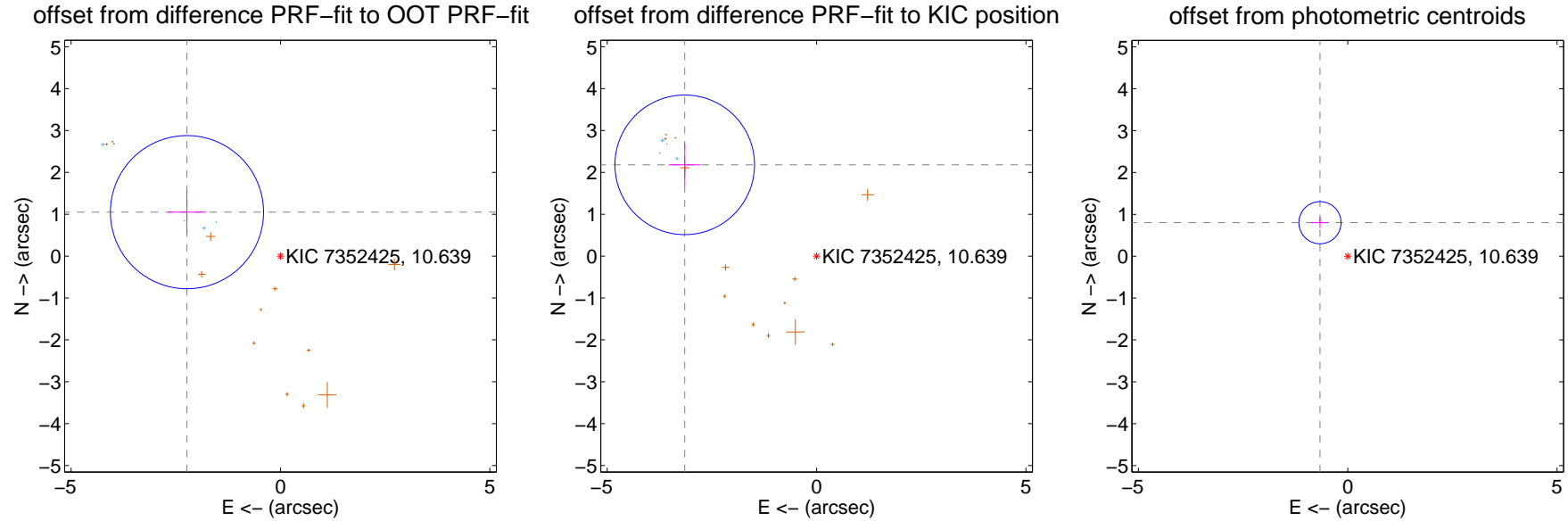
## DV Centroid Data

Supplemental centroid analysis for 007352425-01. **Kepler magnitude: 10.64.** Transit SNR 12.31

There are 4 quarters with good PRF difference image offsets

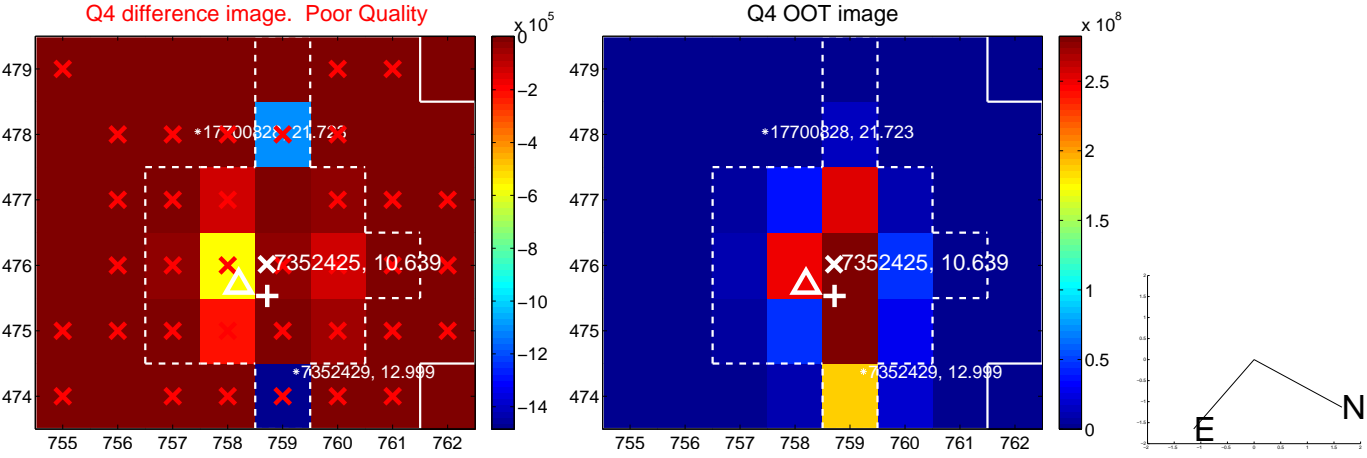
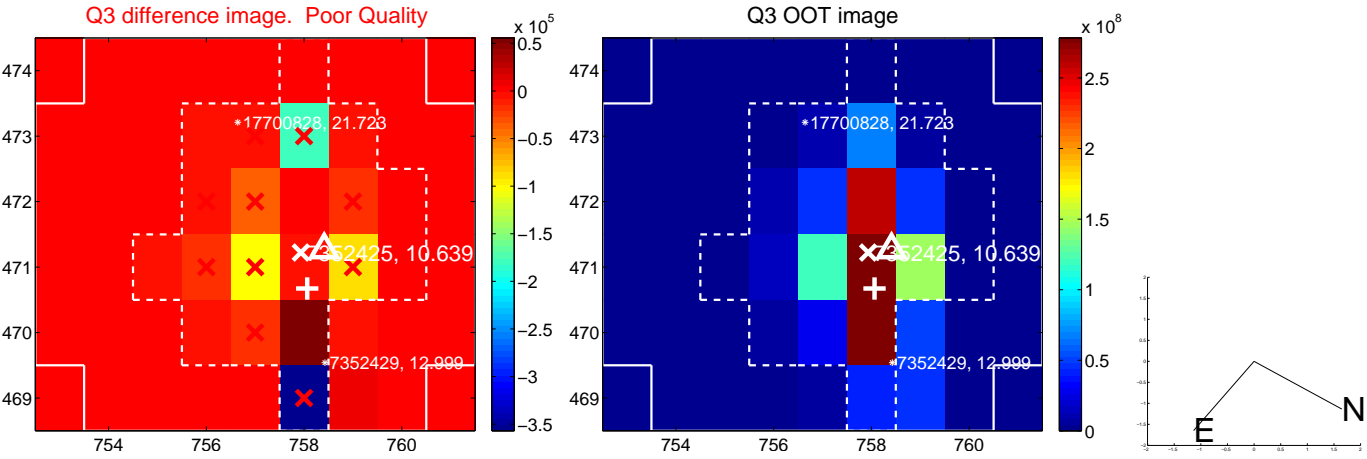
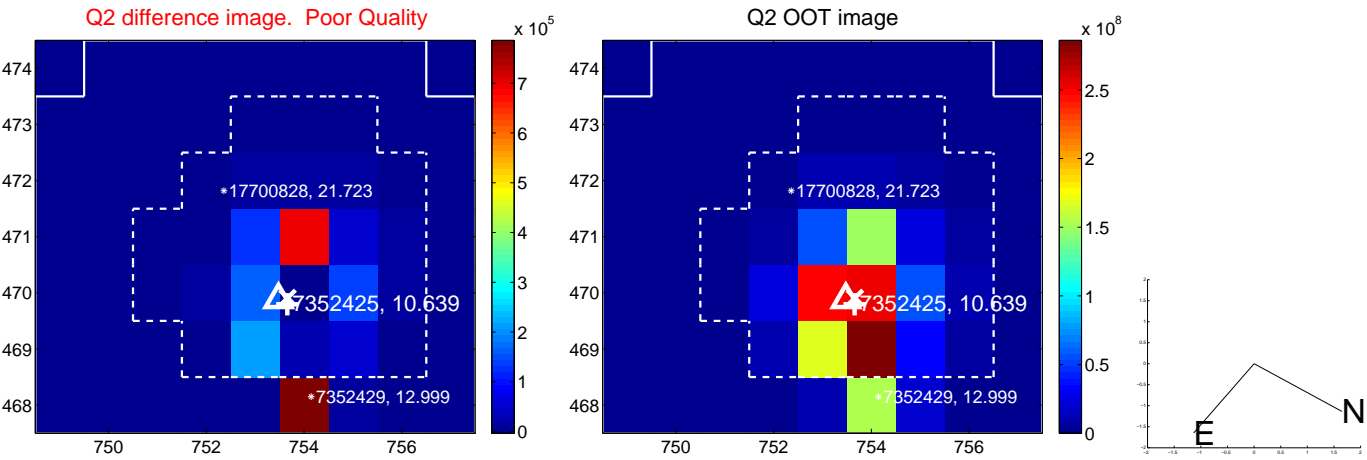
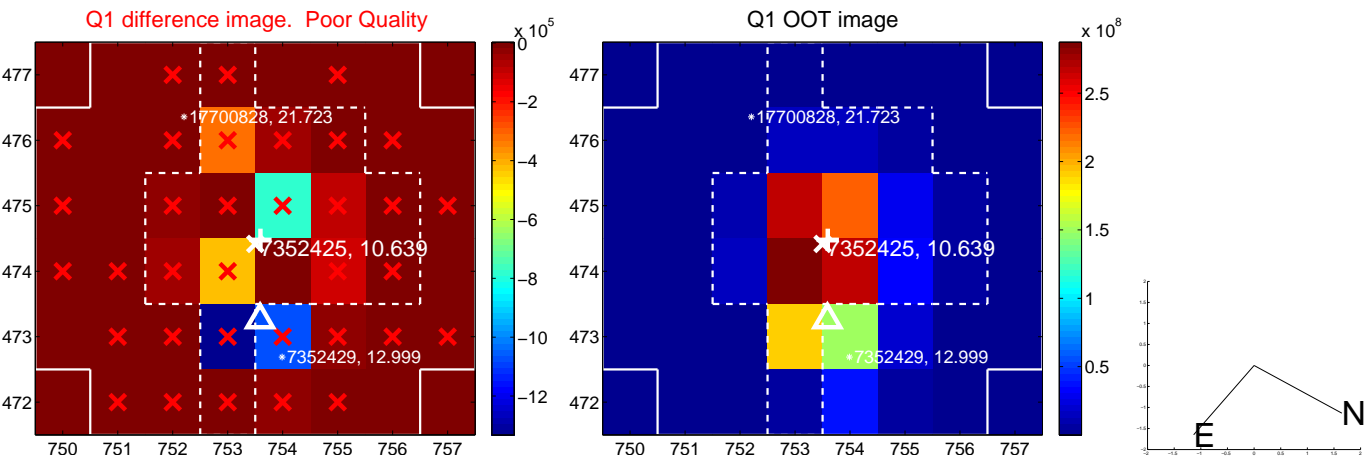
The direct PRF centroid is offset from the target star catalog position by about 0.56 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b><math>2.467 \pm 0.610</math></b>	<b>4.05</b>	$2.233 \pm 0.458$	$1.050 \pm 0.521$
PRF-fit source offset from KIC position	<b><math>3.830 \pm 0.556</math></b>	<b>6.89</b>	$3.149 \pm 0.377$	$2.180 \pm 0.504$
photometric centroid source offset	<b><math>1.04 \pm 0.17</math></b>	<b>6.20</b>	$0.66 \pm 0.21$	$0.80 \pm 0.13$

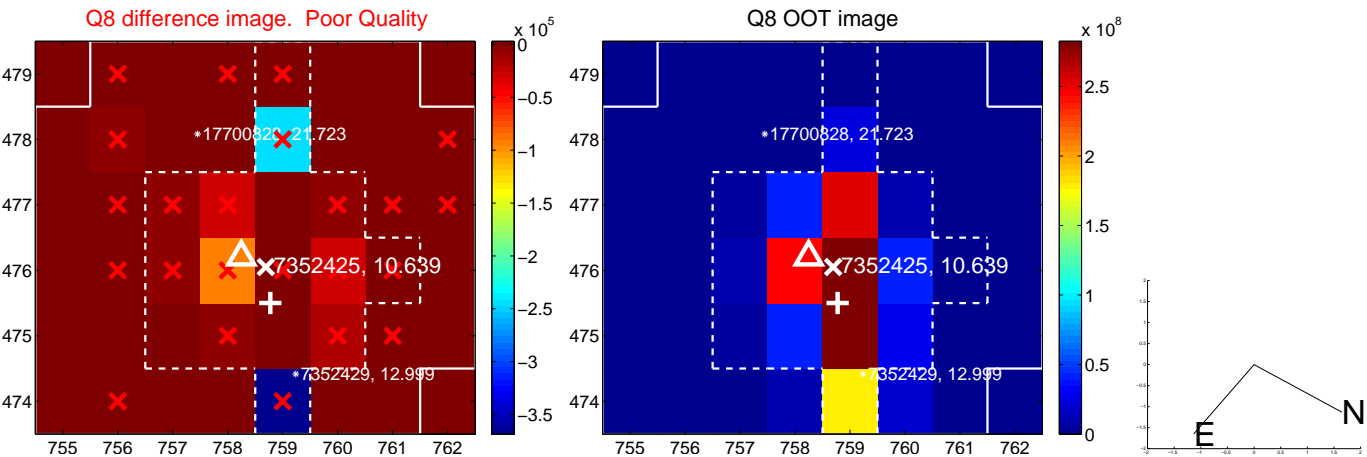
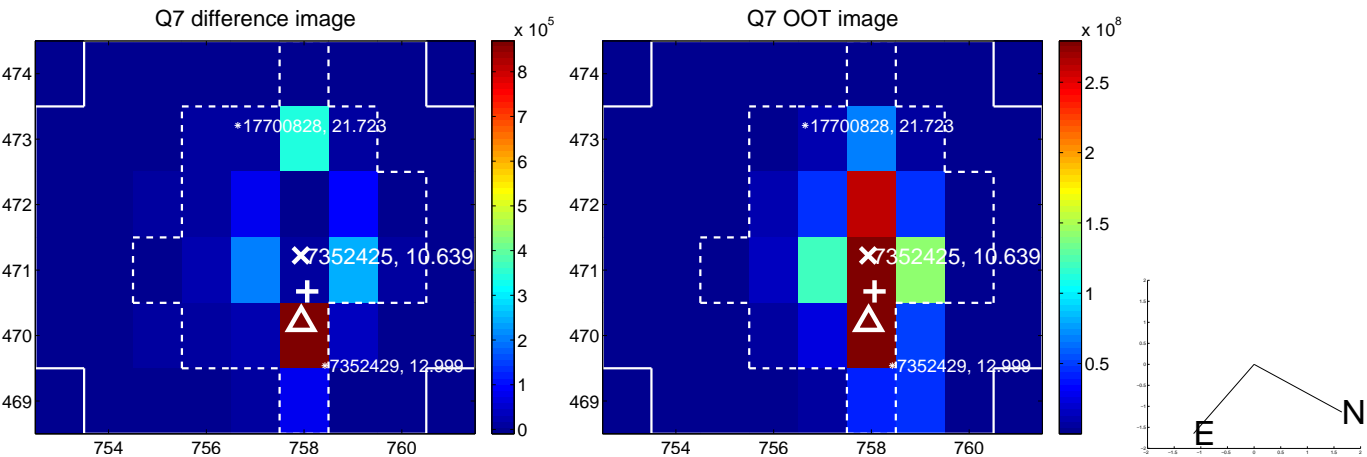
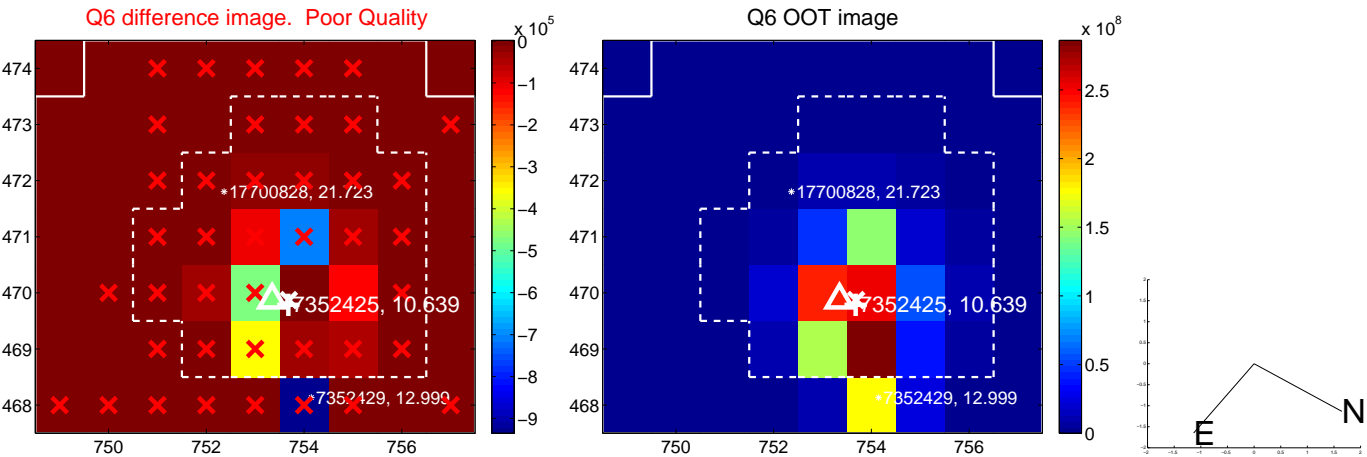
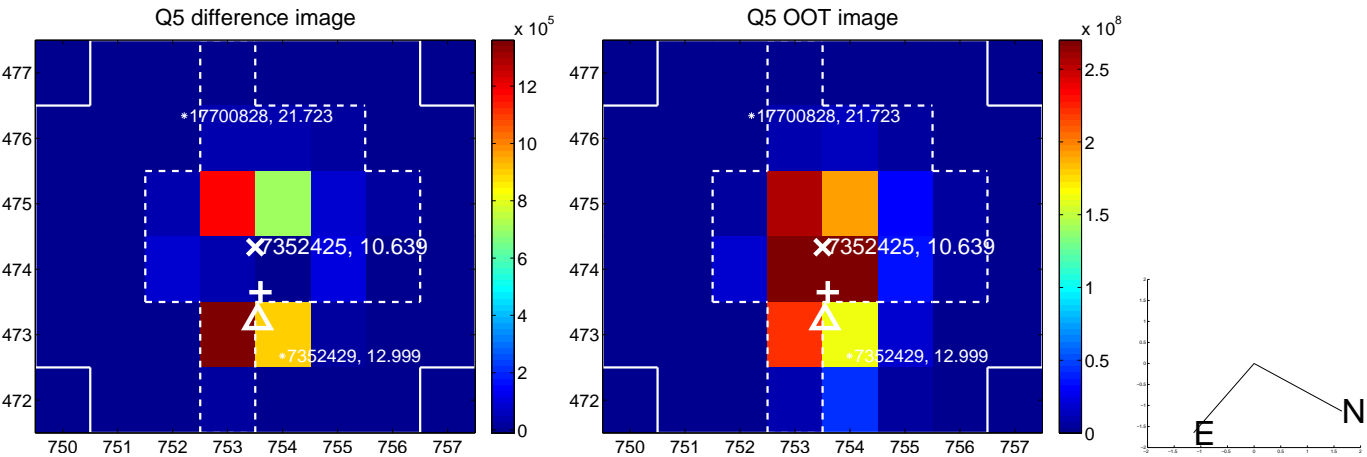


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

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

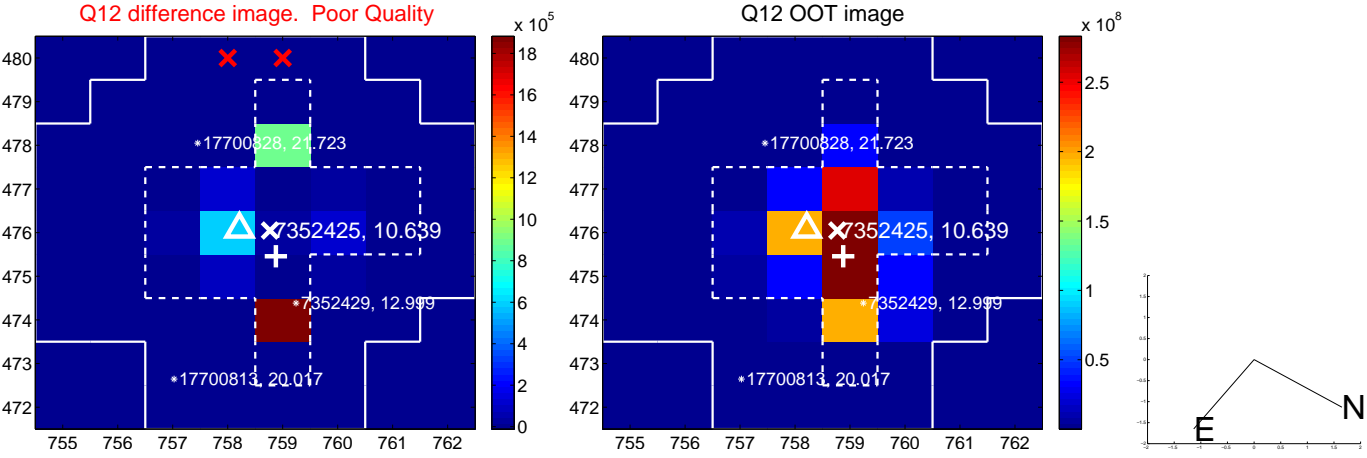
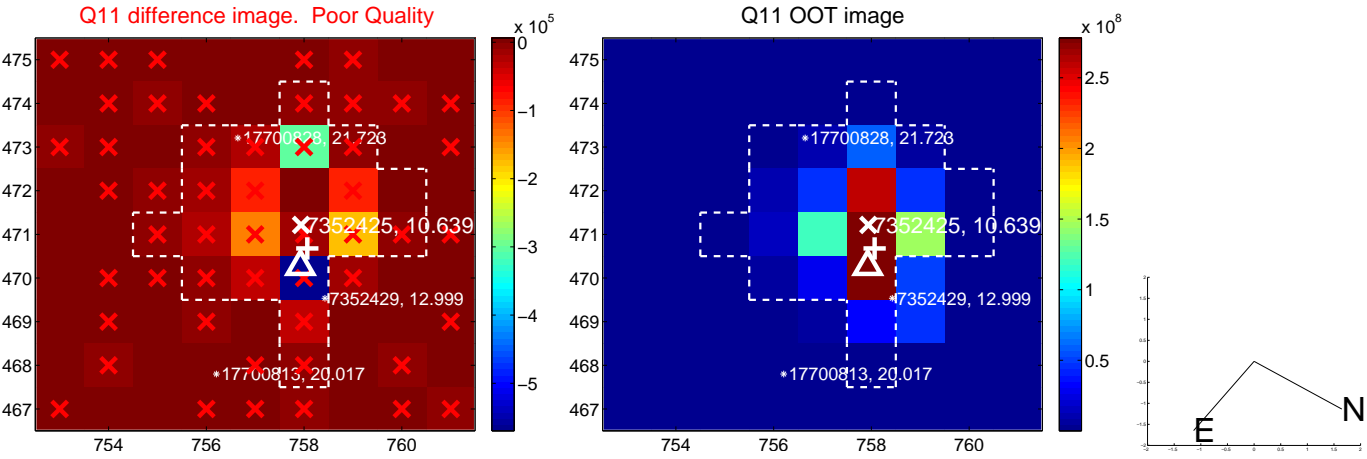
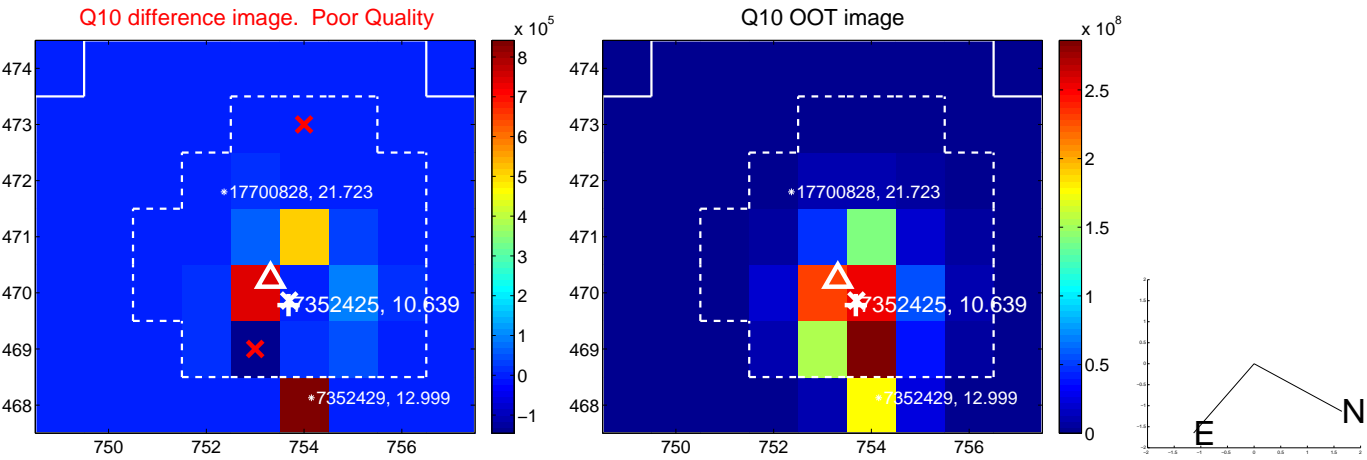
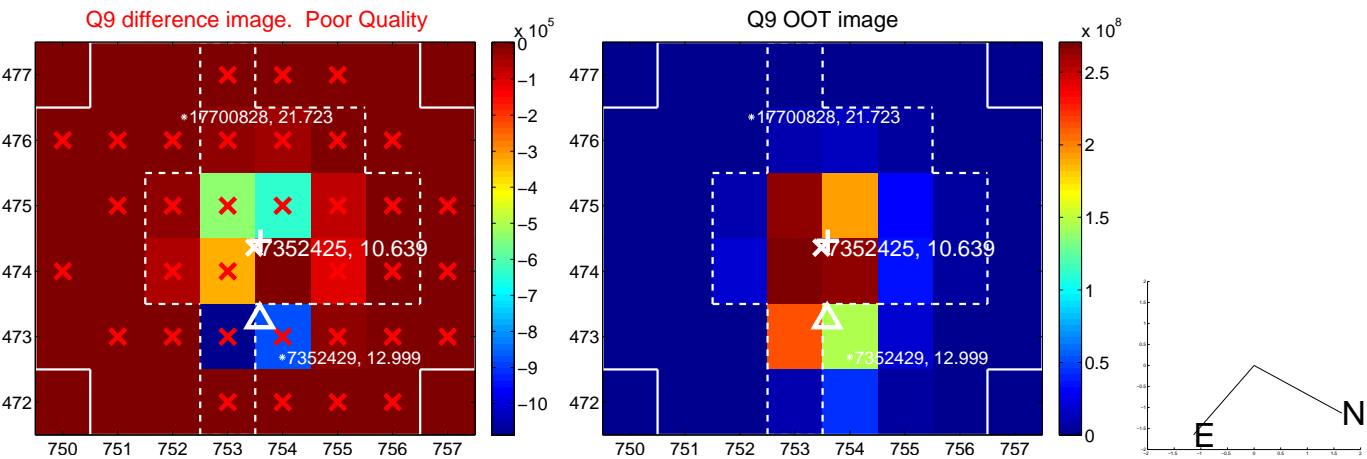


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

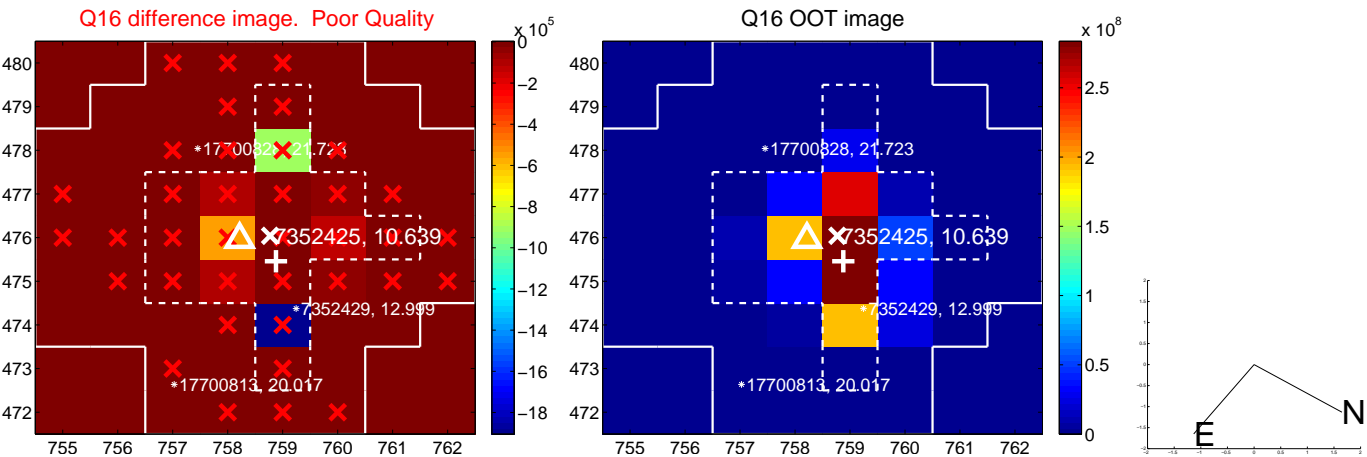
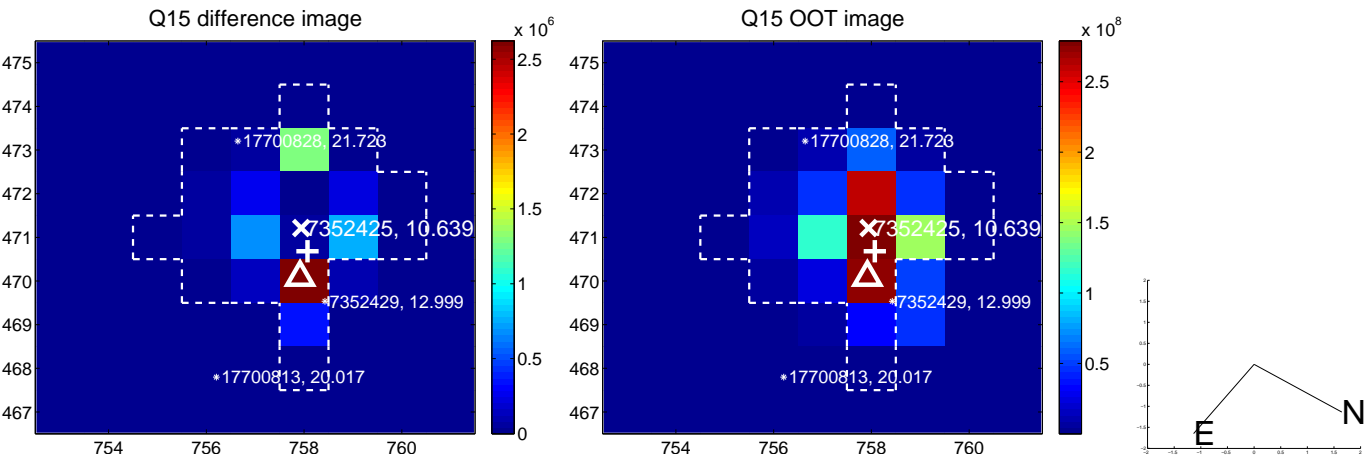
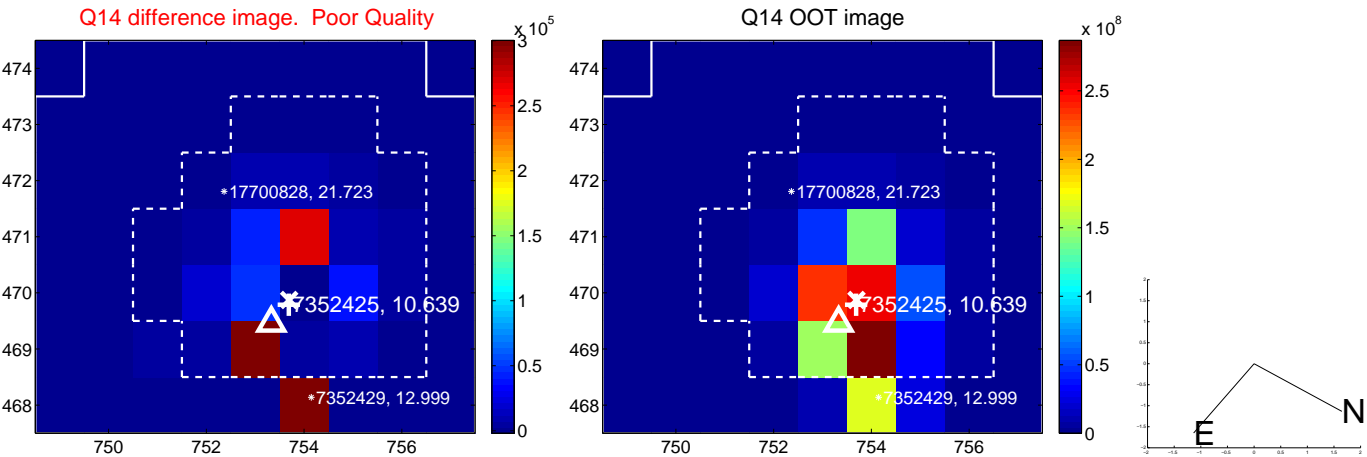
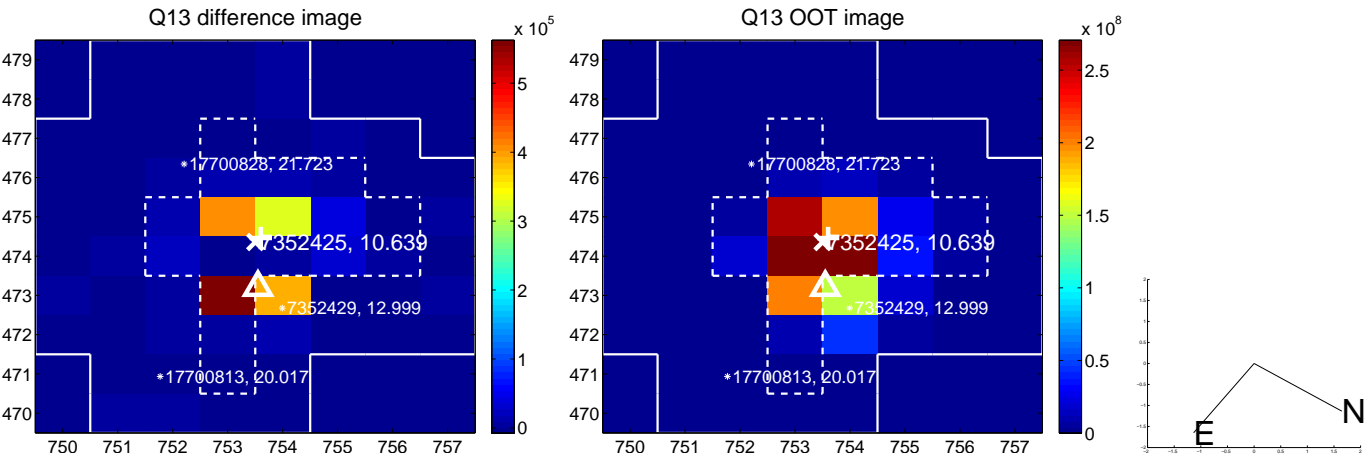




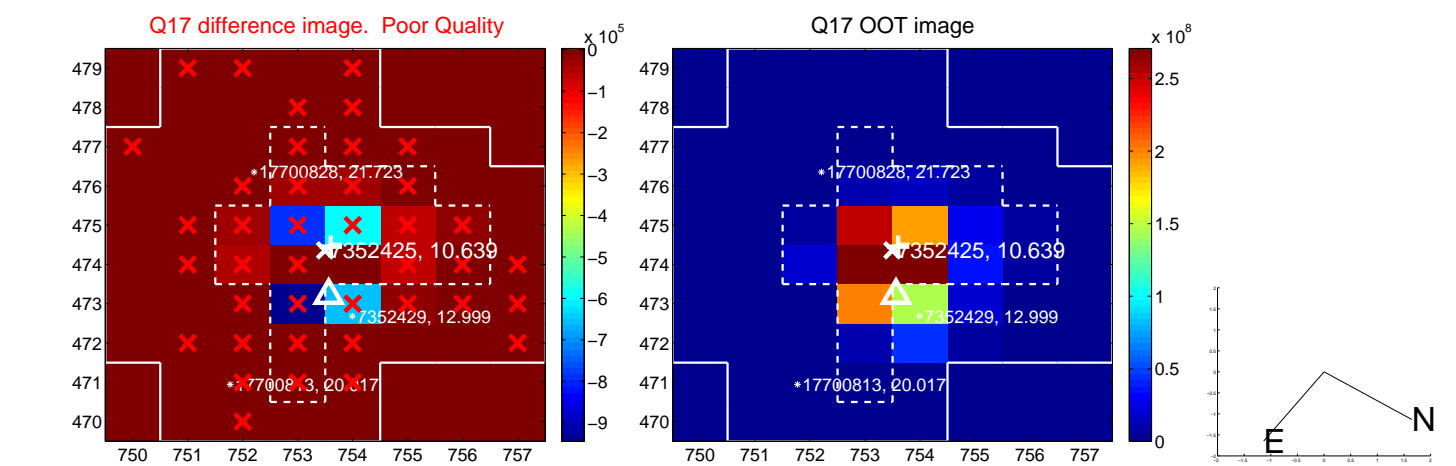
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



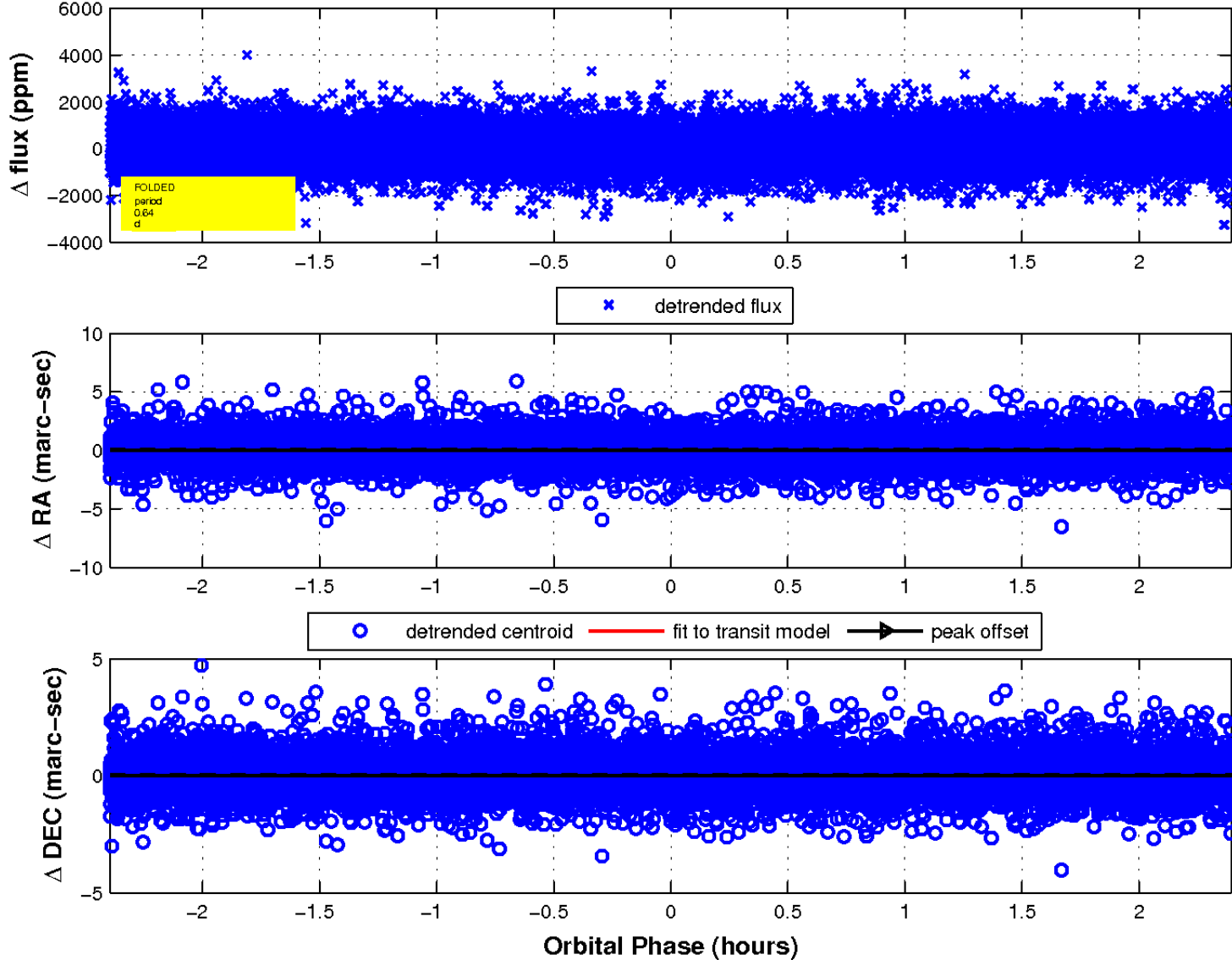
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

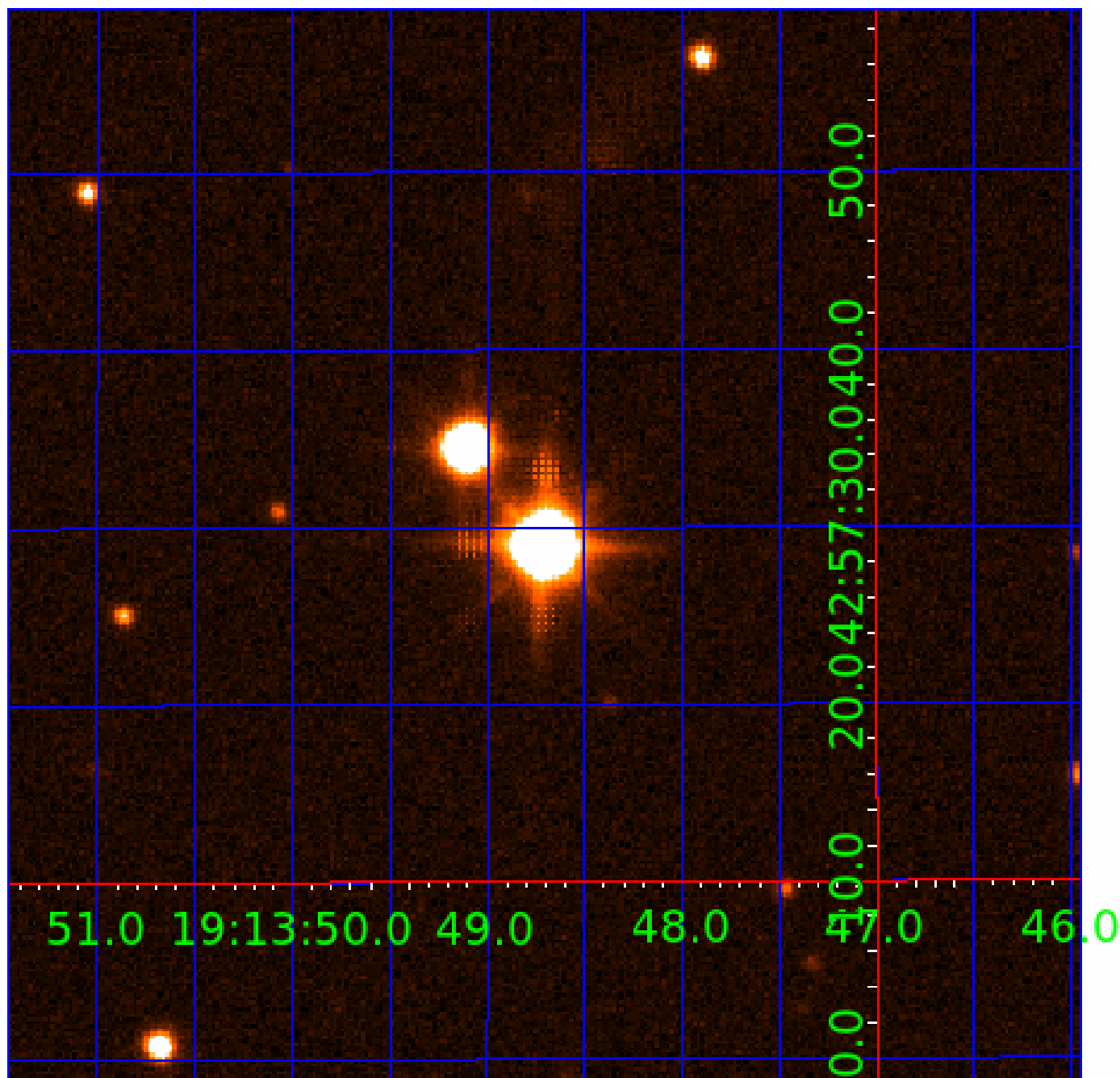


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



# KIC 007352425

## 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
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007352425-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—CENT_SATURATED
007352425-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_SATURATED

**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.

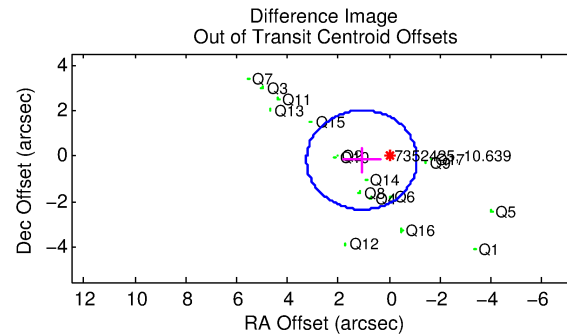
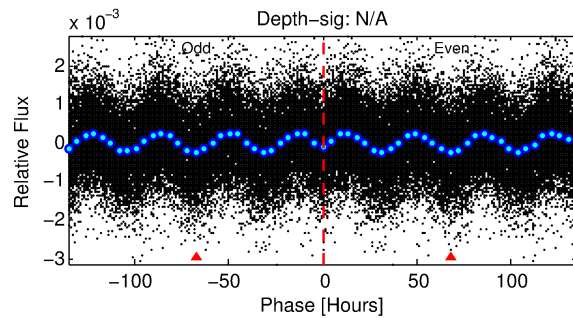
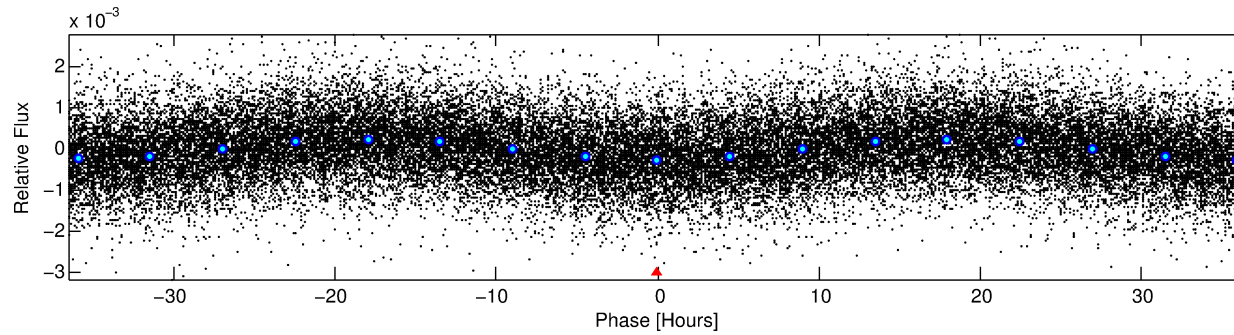
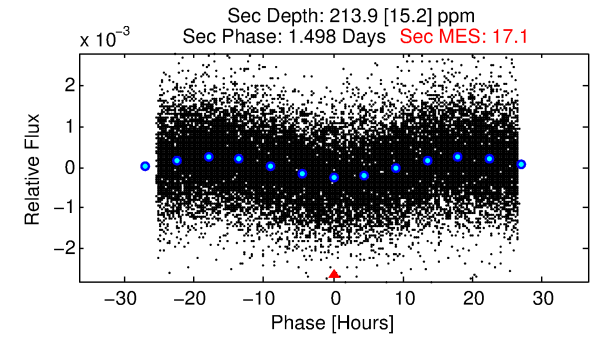
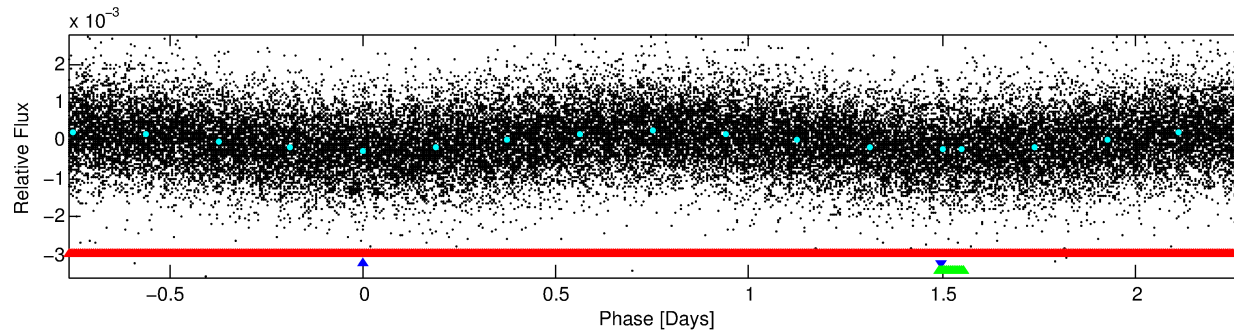
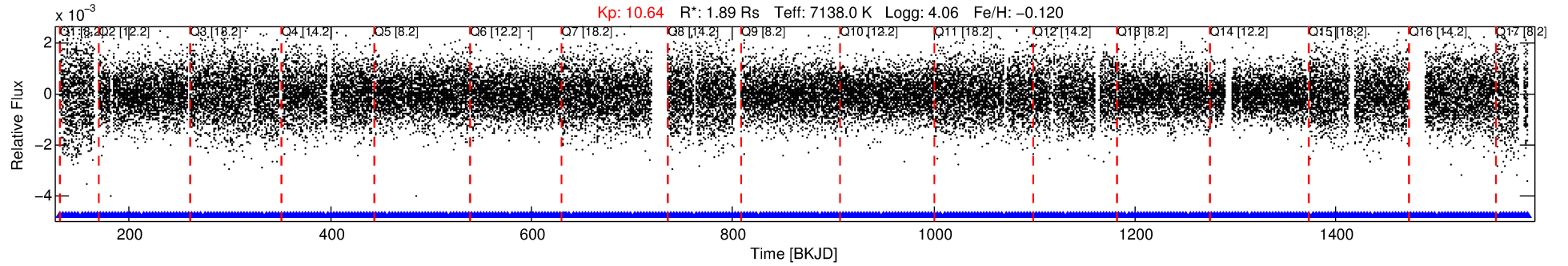
## Ephemeris Match Information For 007352425-02

No Significant Match Found



# DV One-Page Summary

KIC: 7352425 Candidate: 2 of 3 Period: 3.052 d



## TPS TCE Results:

Period = 3.05183 d  
Epoch = 131.5110 BKJD

DV fit results are unavailable

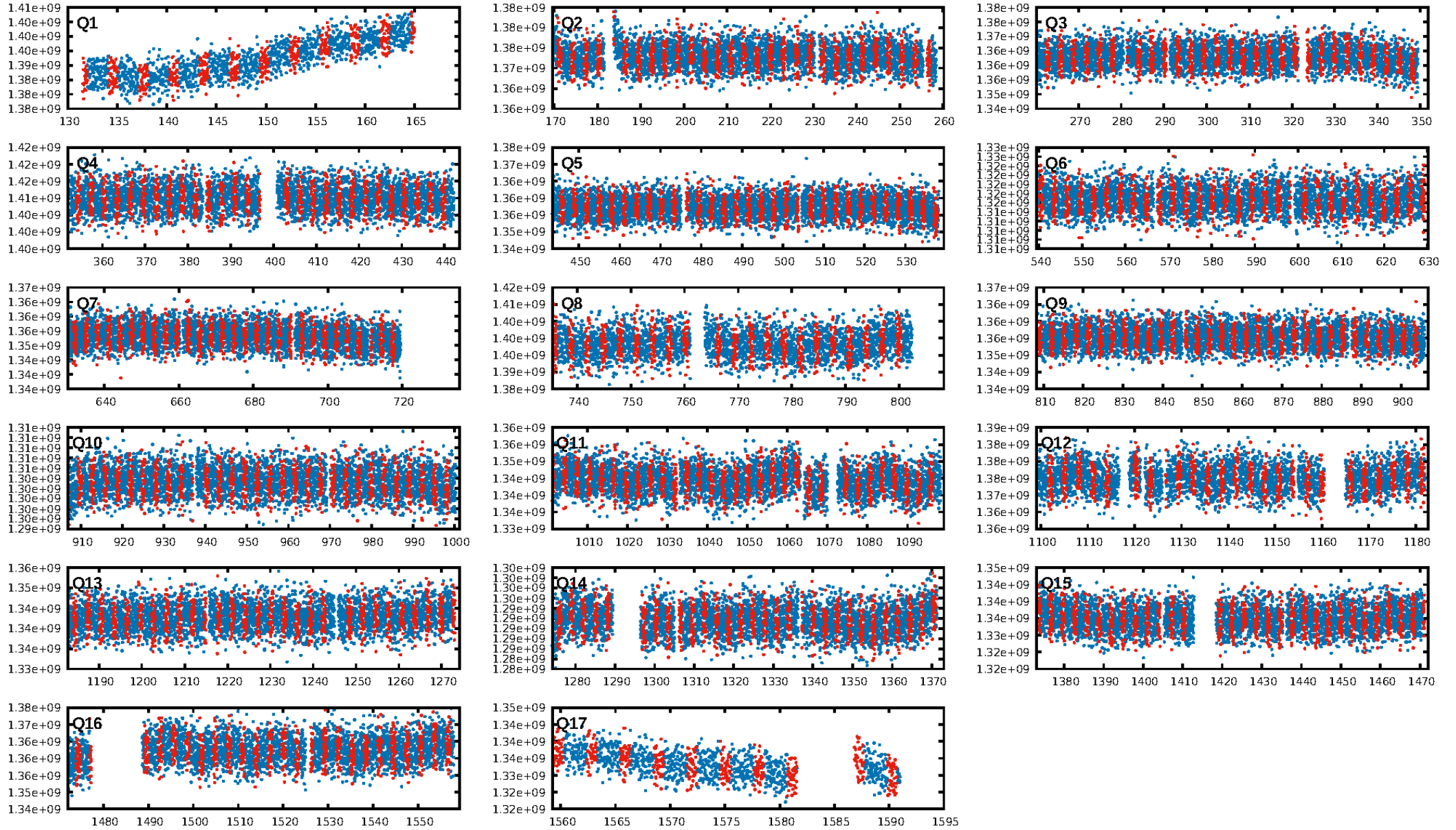
## DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [431/431]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 1.087 arcsec [1.50 $\sigma$ ]  
KicOffset-rm: 1.743 arcsec [1.93 $\sigma$ ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
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DiffImageOverlap-fno: 0.00 [0/17]

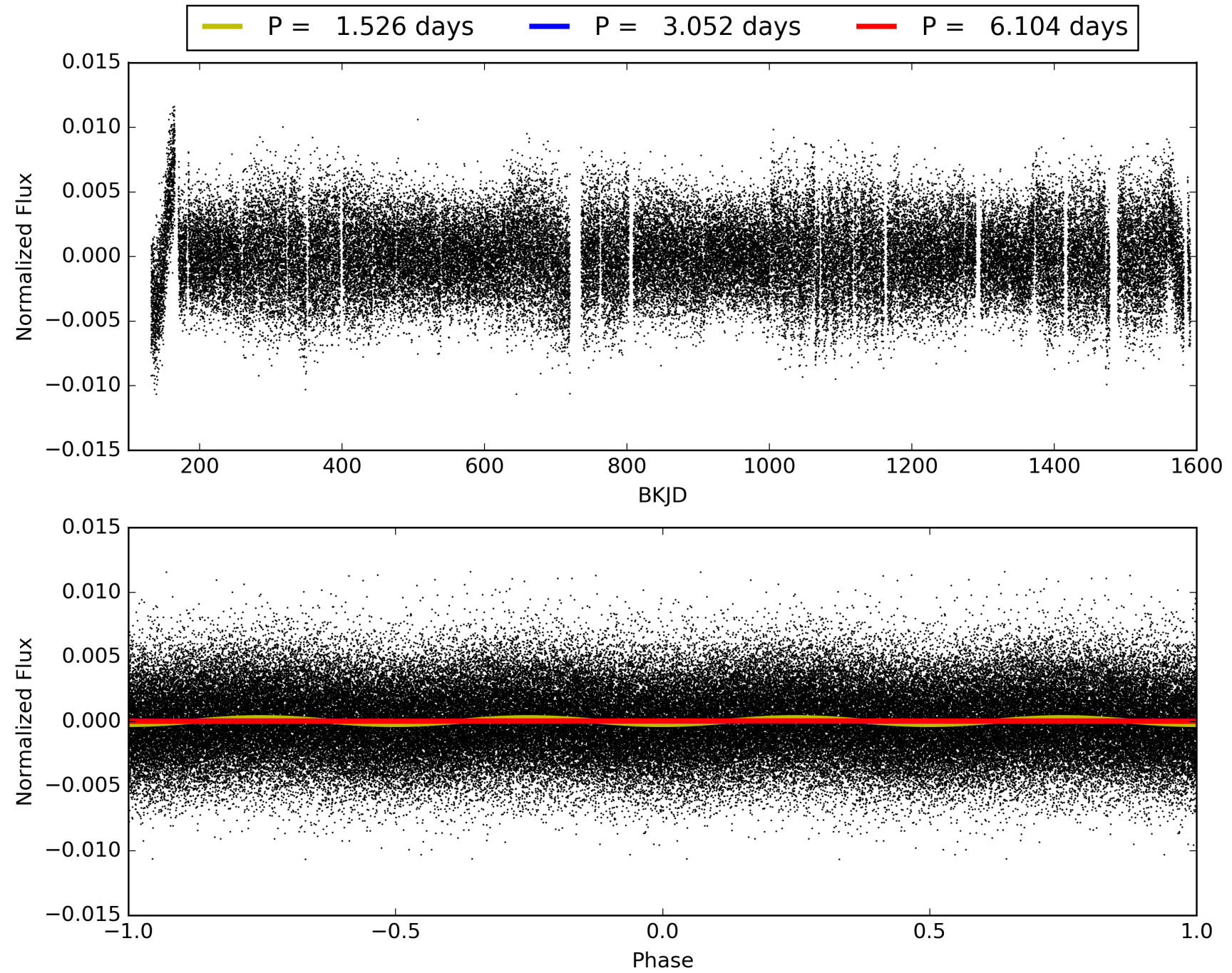
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:37:28 Z

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

# TCE 007352425-02, PDC Light Curves



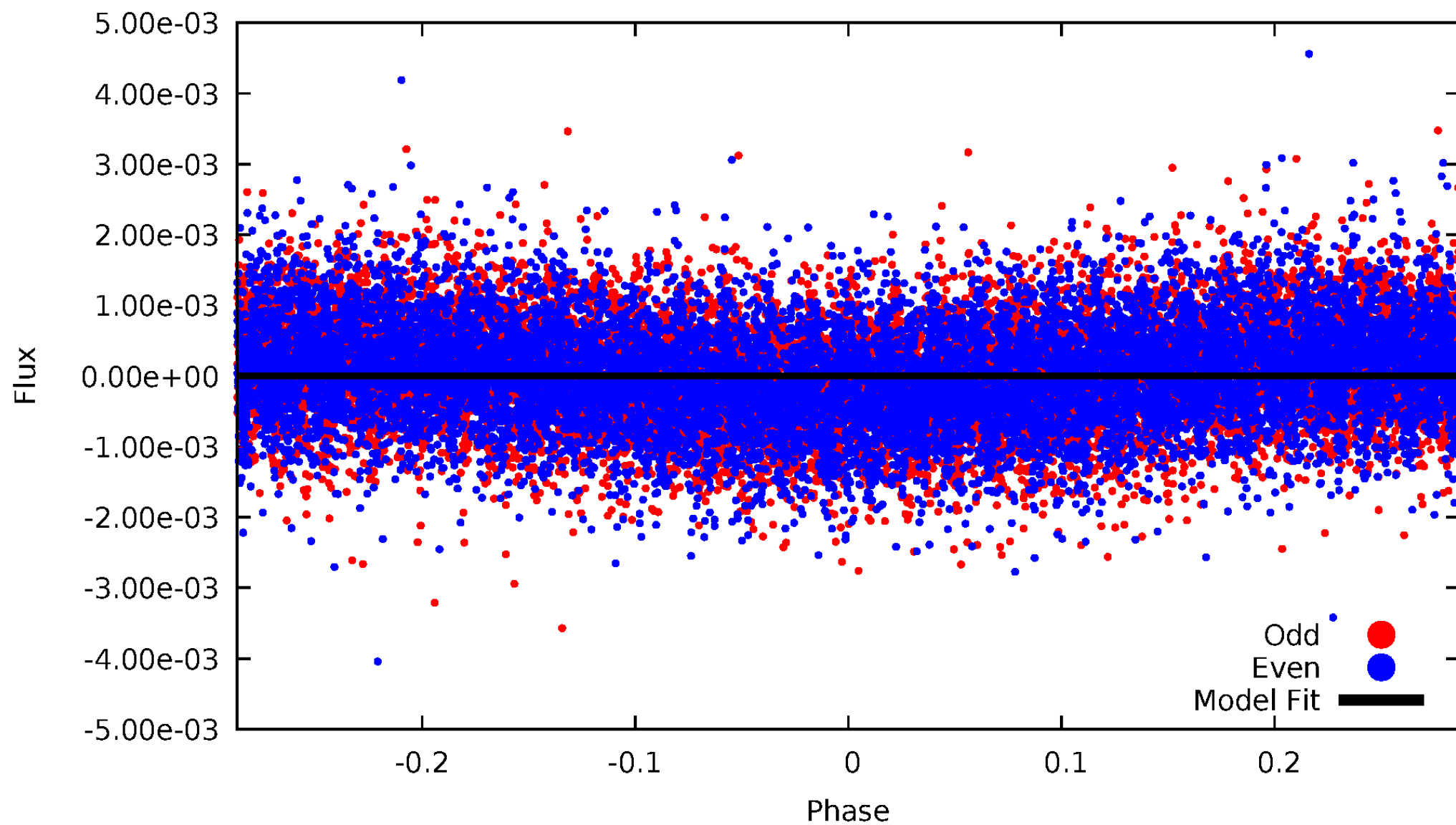
TCE 007352425-02





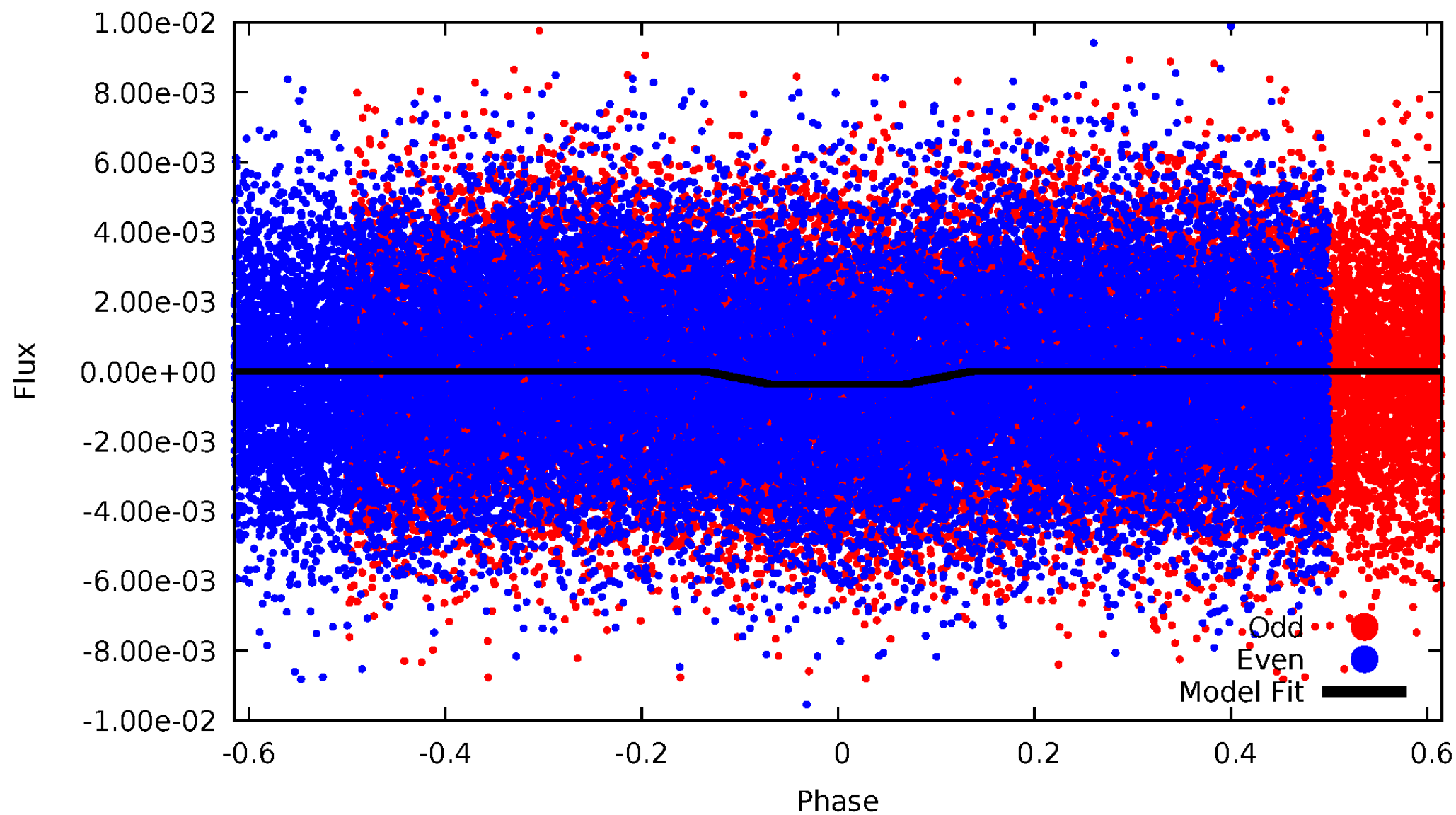
DV Odd/Even

TCE 007352425-02



# ALT Odd/Even

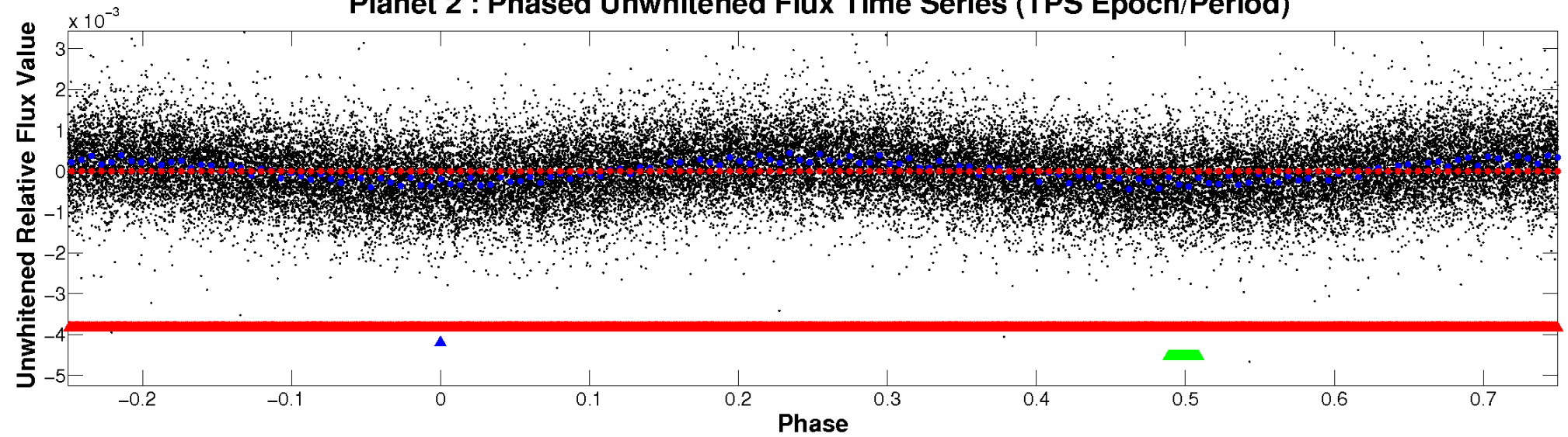
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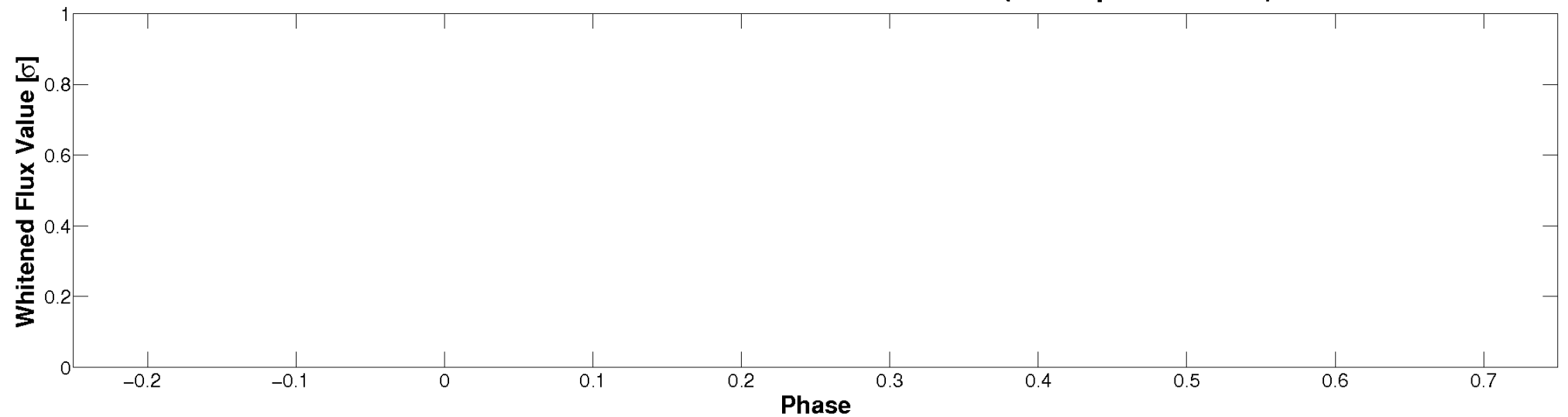


# Non-Whitened Vs. Whitened Light Curve

**Planet 2 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)**

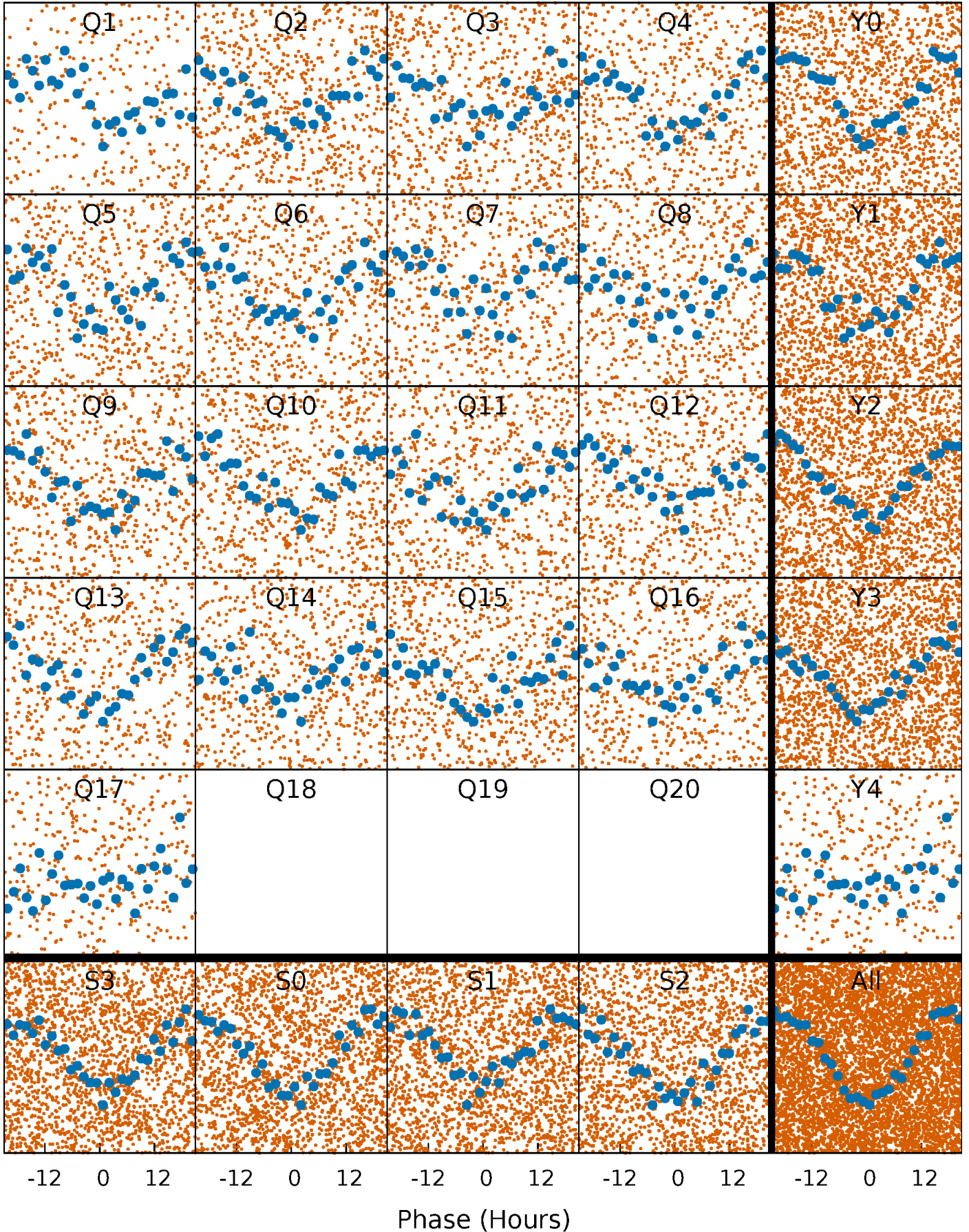


**Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)**



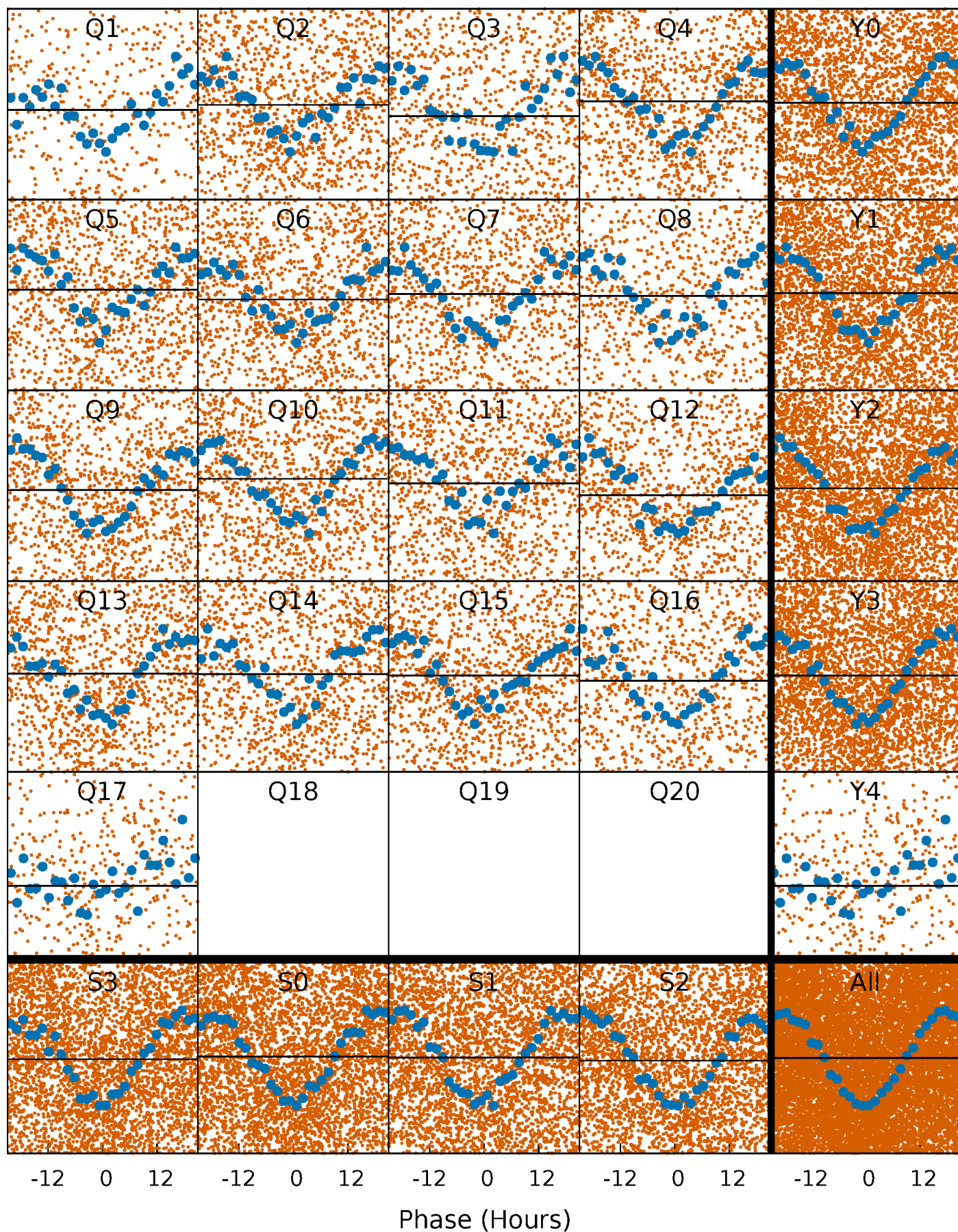
# PDC Quarter-Phased Transit Curves

TCE 007352425-02 P= 3.051833 Days  $T_0=131.510994$  (BKJD)



# DV Quarter-Phased Transit Curves

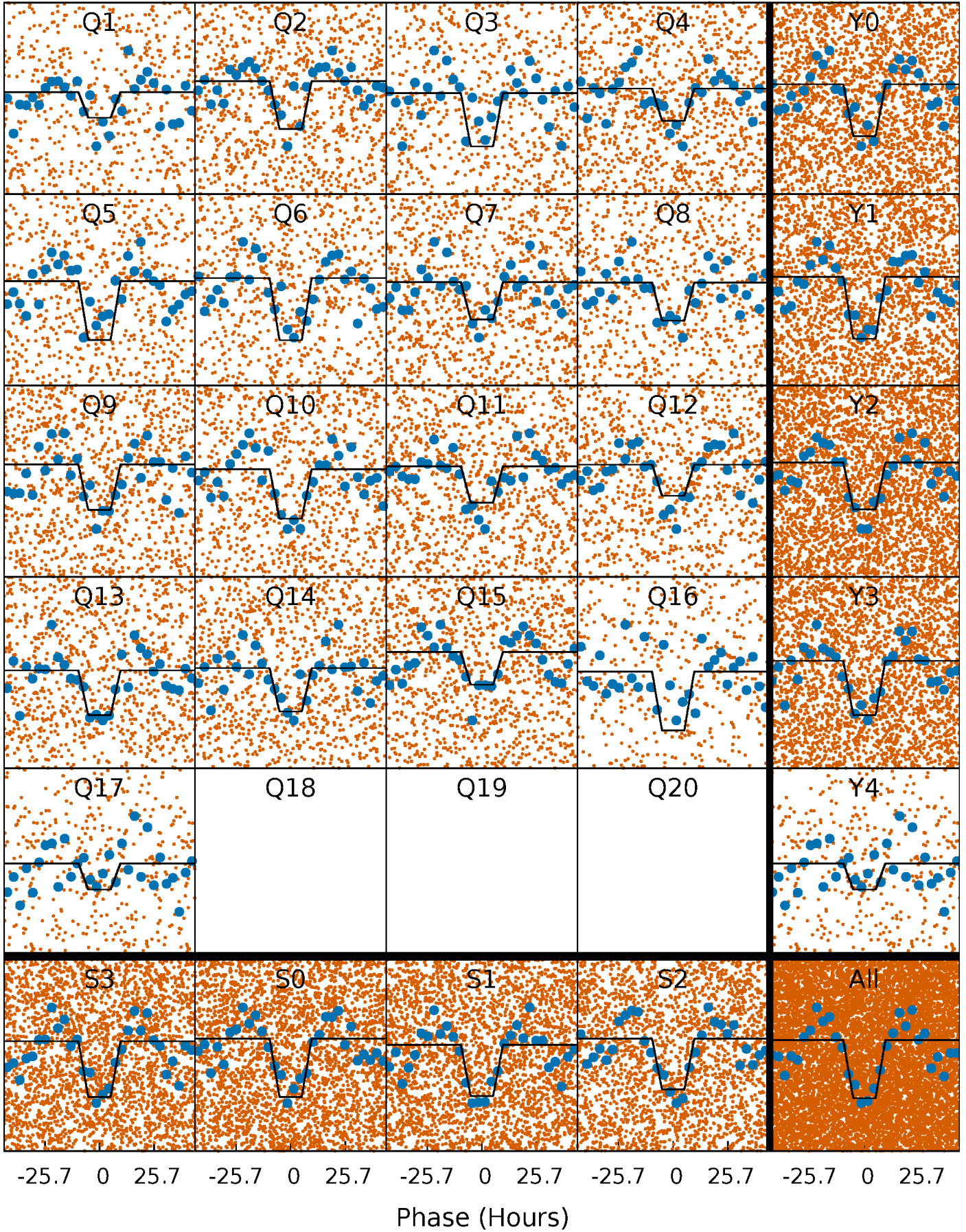
TCE 007352425-02   P= 3.051833 Days    $T_0=131.510994$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

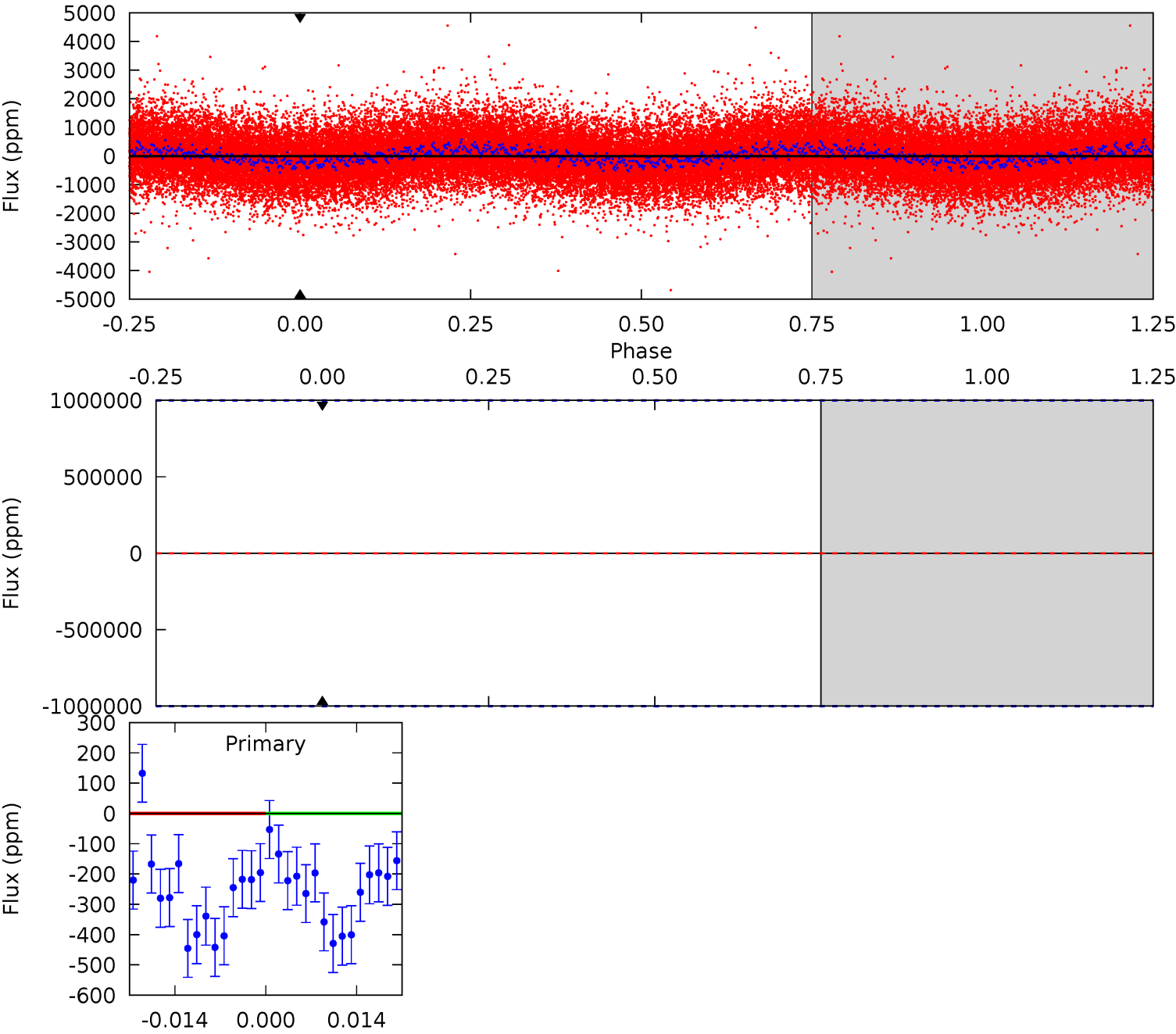
TCE 007352425-02 P= 3.051833 Days  $T_0=131.508454$  (BKJD)



# DV Model-Shift Uniqueness Test

007352425-02, P = 3.051833 Days, E = 131.510994 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

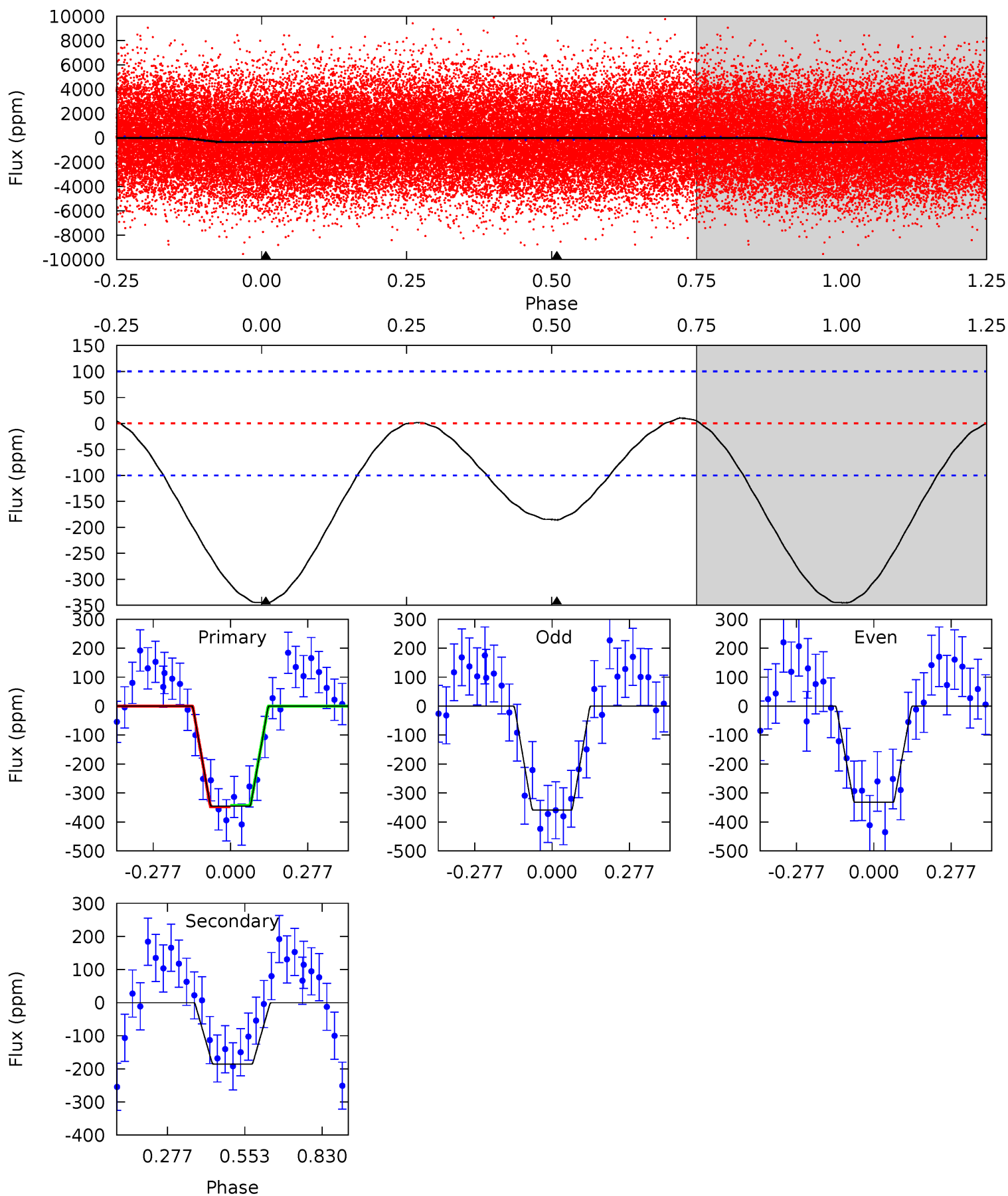




# Alt Model-Shift Uniqueness Test

007352425-02, P = 3.051833 Days, E = 131.508454 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
15.0	8.06	0	0	4.35	1.09	0.34	15.0	15.0	8.06	8.06	0.58	0.95	0.03	0.12



### Stellar Parameters For KIC 007352425

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7138^{+192}_{-235}$	$4.062^{+0.175}_{-0.175}$	$-0.120^{+0.250}_{-0.350}$	$1.890^{+0.559}_{-0.457}$	$1.500^{+0.209}_{-0.255}$	$0.313^{+0.320}_{-0.160}$
	+3%/-3%	+4%/-4%	+208%/-292%	+30%/-24%	+14%/-17%	+102%/-51%
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 007352425-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$0 \pm 1000000$	$13.41^{+16.17}_{-9.44}$	$2793^{+193}_{-182}$	$5095^{+41956}_{-48606}$	$7.226^{+1512.653}_{-1321.524}$
Alt.	$-186 \pm 23$	$15.68^{+17.61}_{-10.82}$	$2779^{+216}_{-195}$	$3265^{+1919}_{-5799}$	$0.940^{+8.895}_{-0.736}$

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

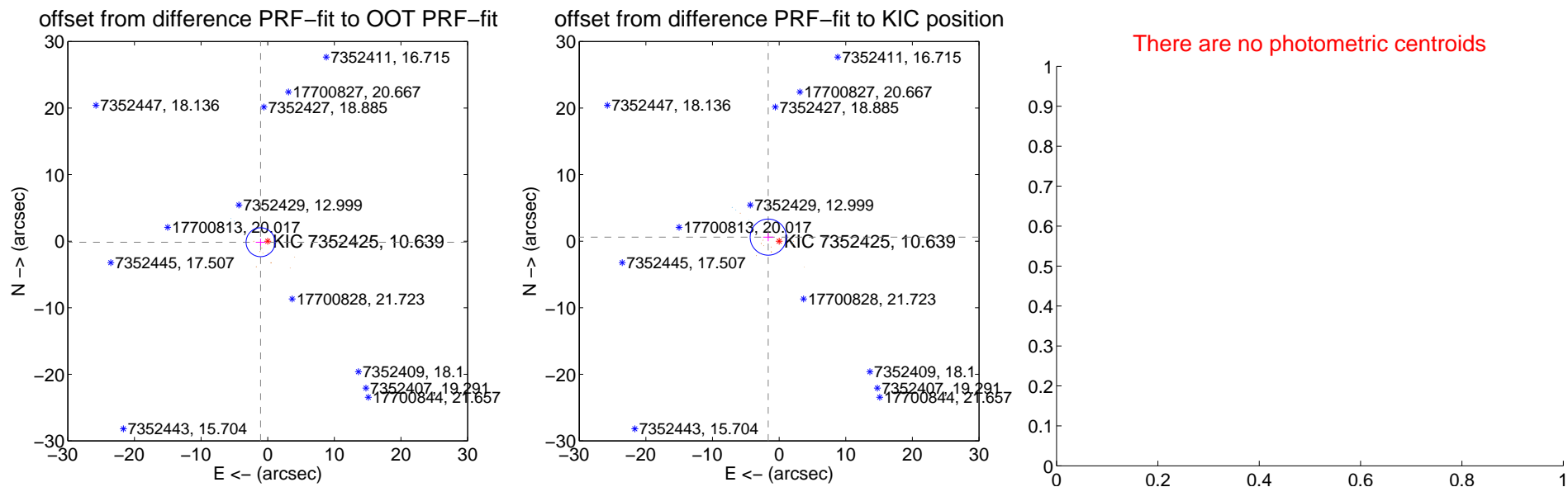
## DV Centroid Data

Supplemental centroid analysis for 007352425-02. **Kepler magnitude: 10.64.** Transit SNR -1.00

There are 5 quarters with good PRF difference image offsets

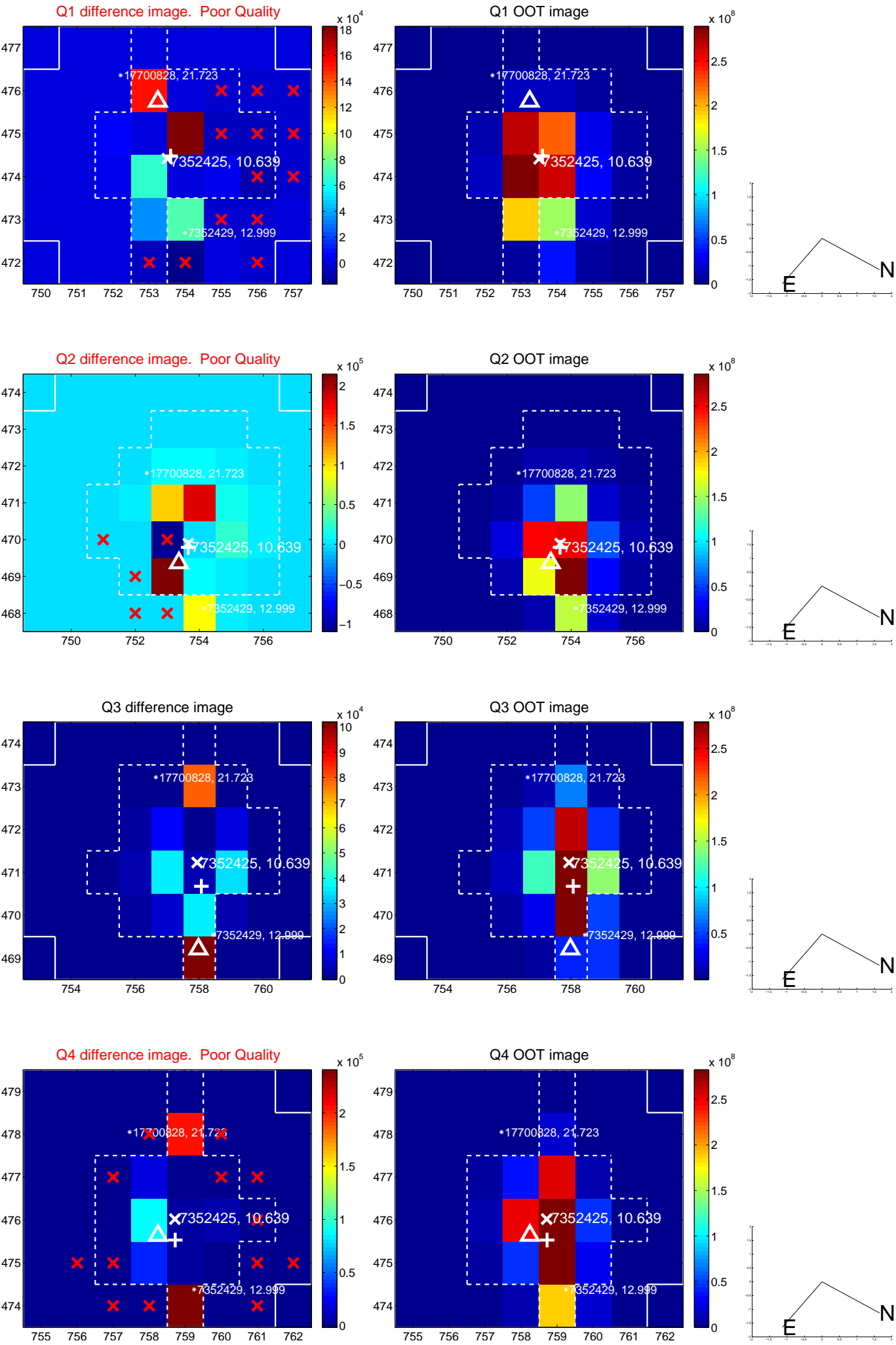
The direct PRF centroid is offset from the target star catalog position by about 0.55 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.087 \pm 0.724$	1.50	$1.075 \pm 0.728$	$-0.159 \pm 0.530$
PRF-fit source offset from KIC position	$1.743 \pm 0.905$	1.93	$1.633 \pm 0.770$	$0.608 \pm 0.617$
photometric centroid source offset	—	—	—	—

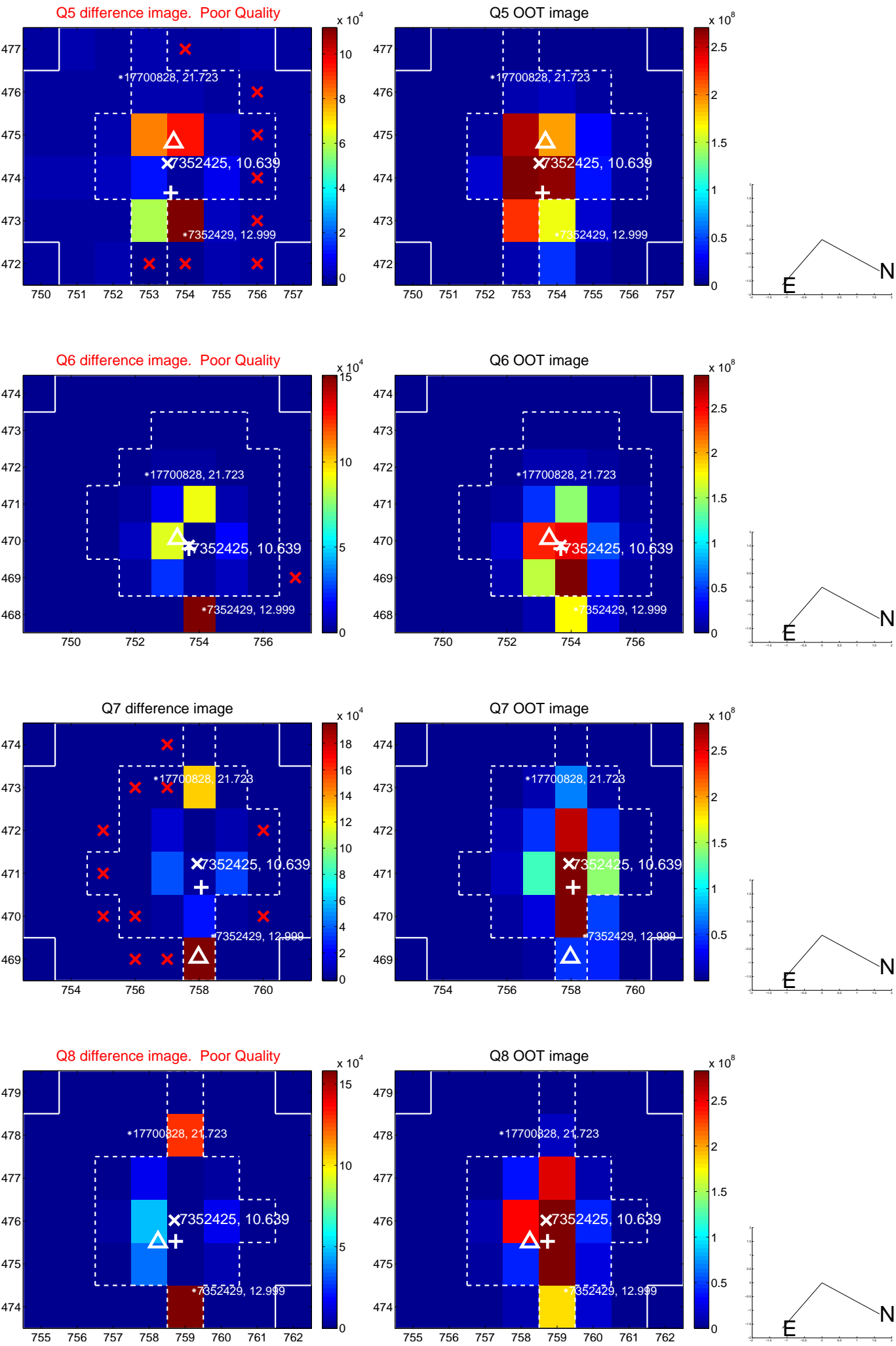


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

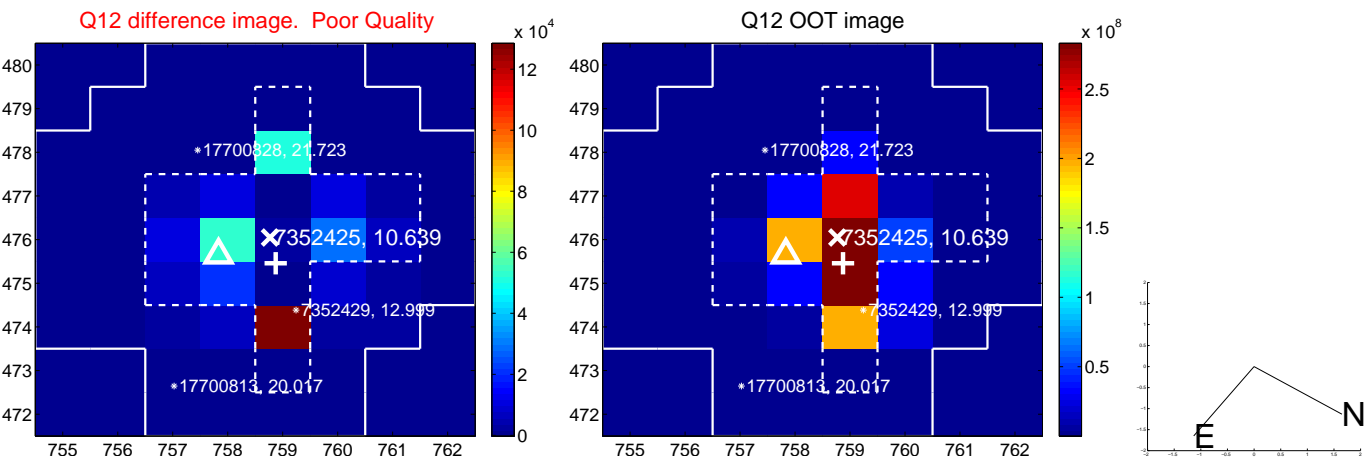
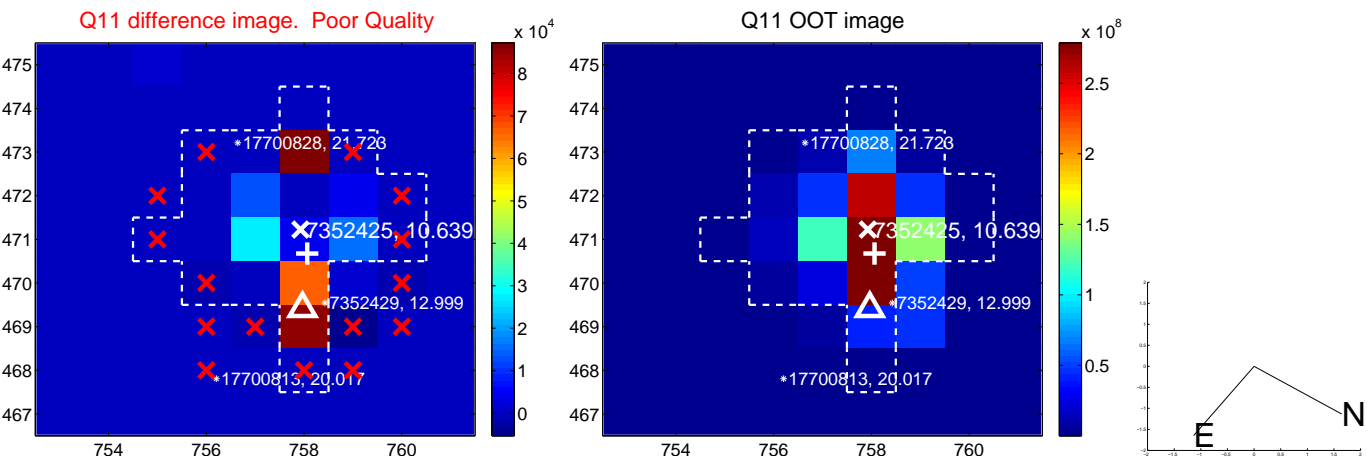
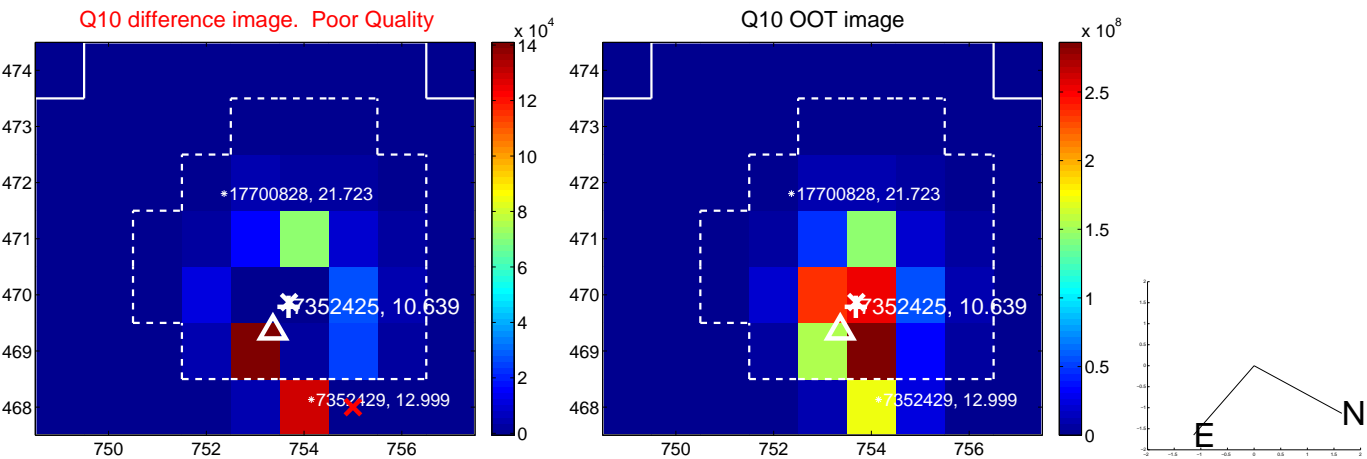
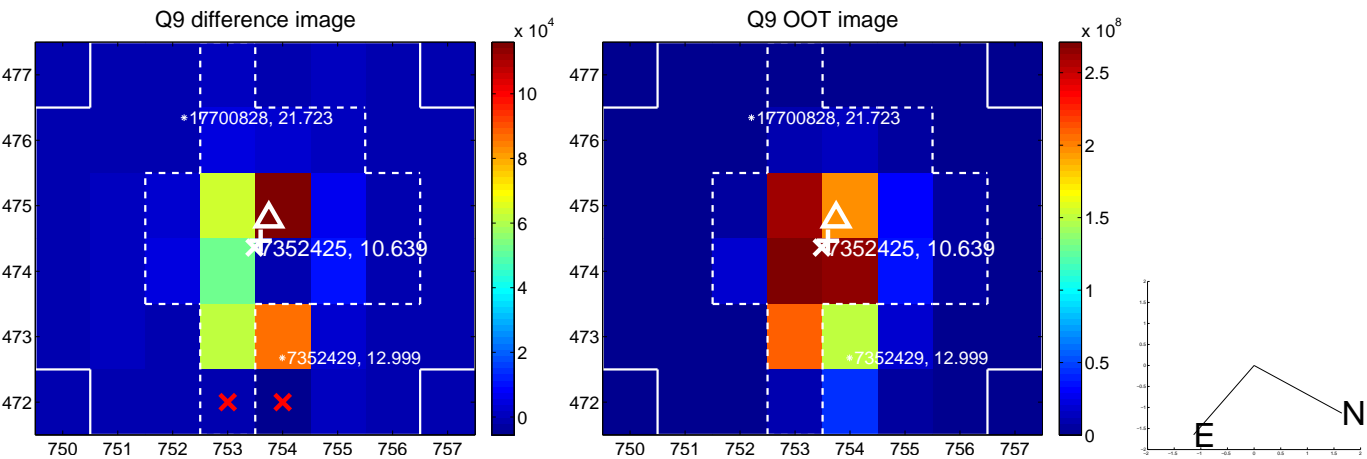


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

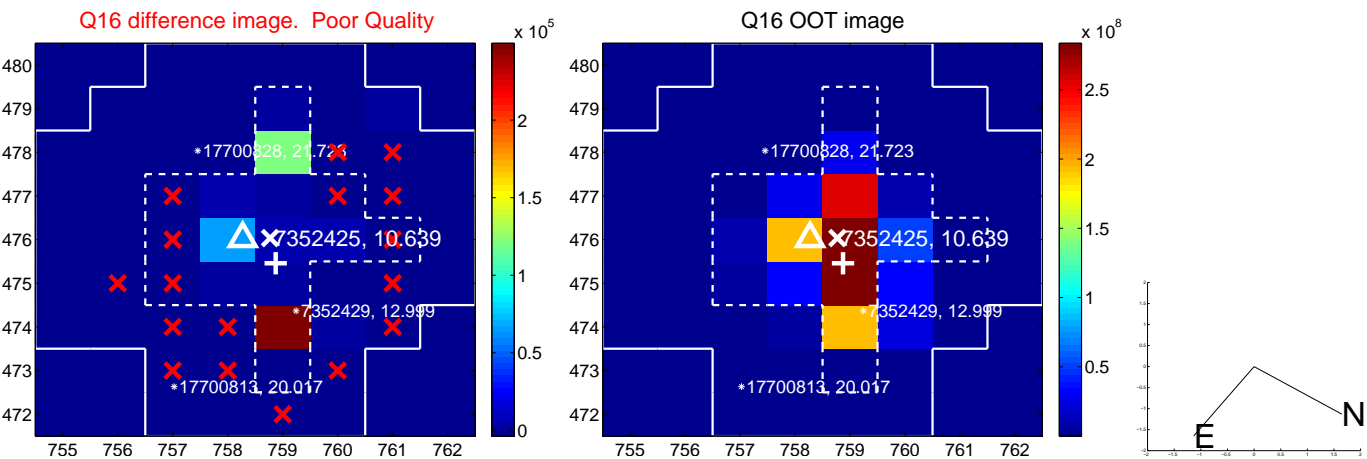
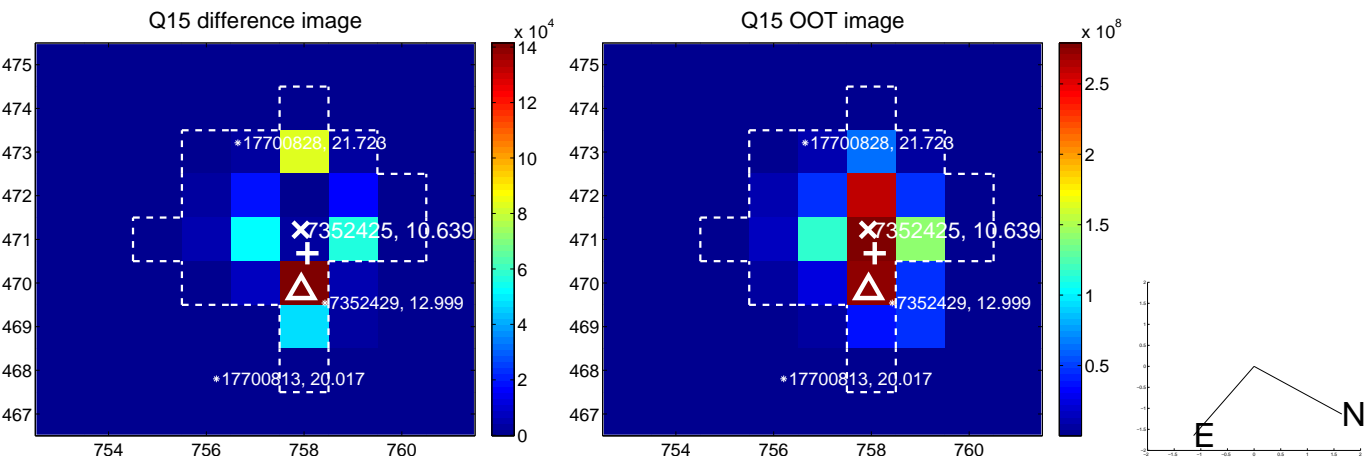
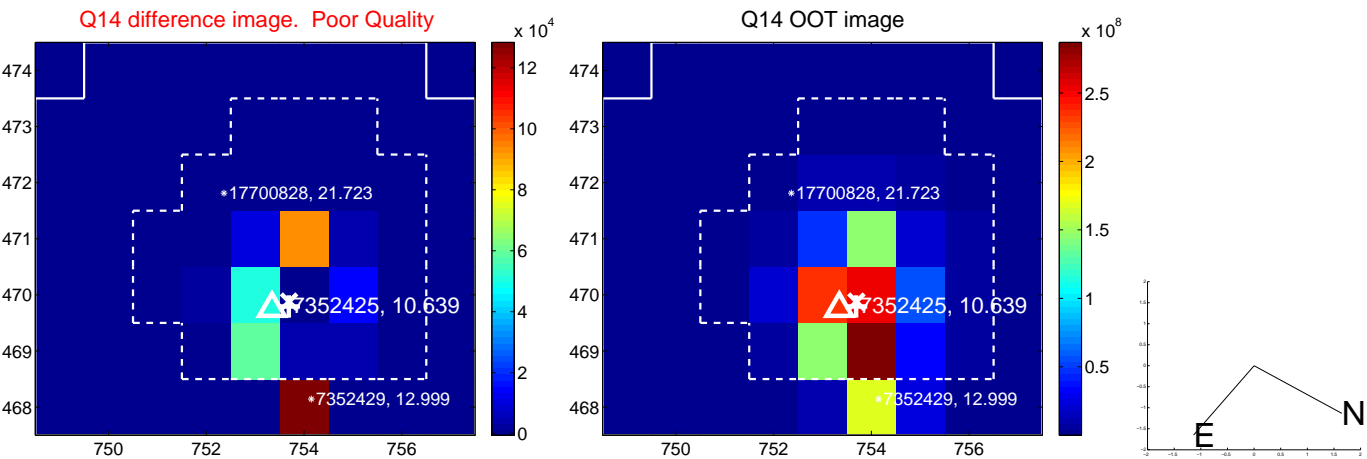
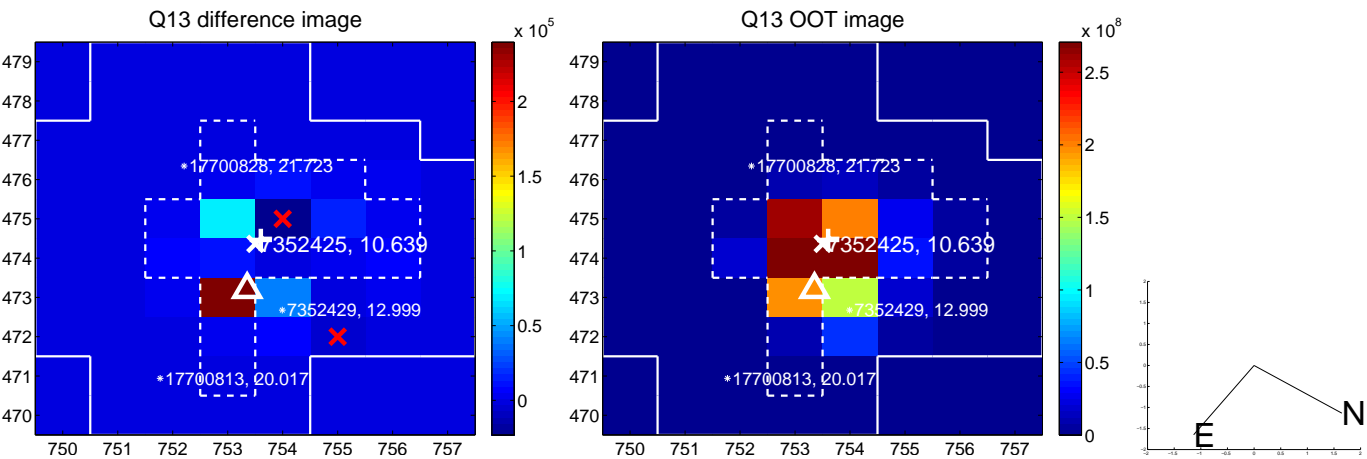




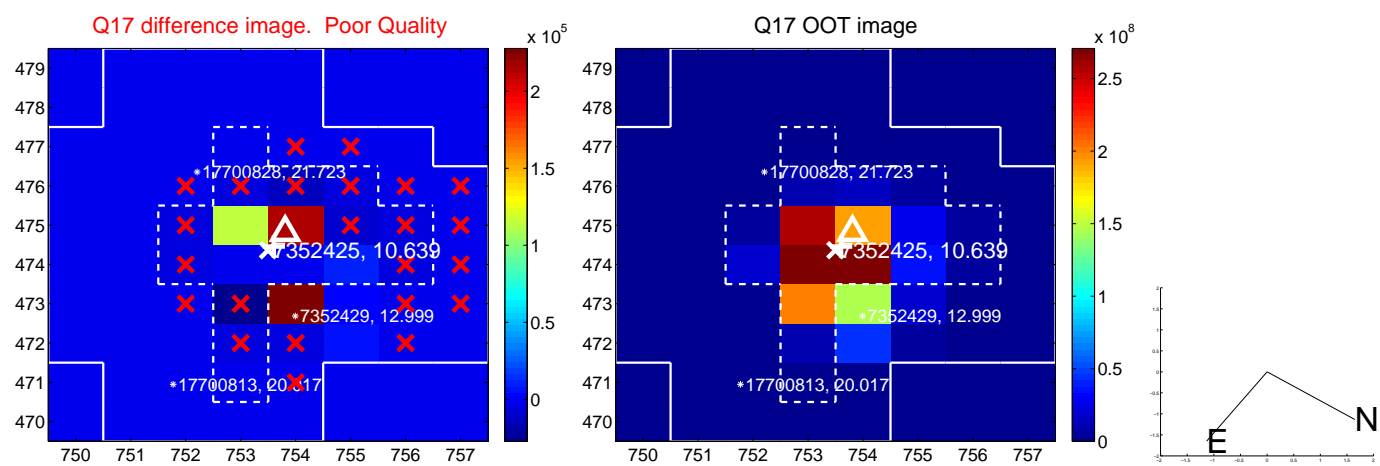
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



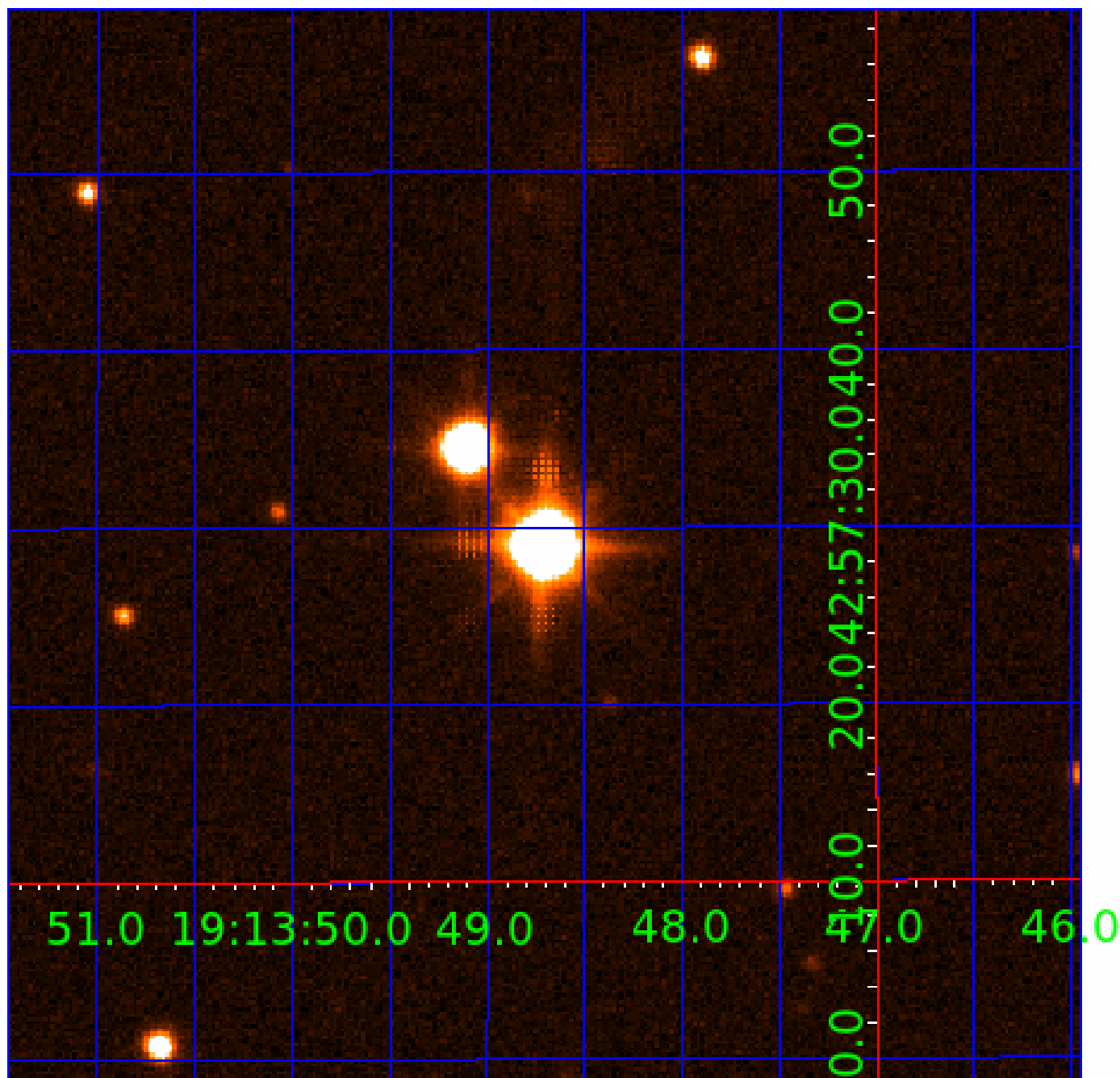
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



# KIC 007352425

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007352425-01	OBS	No	0.639644	132.057342	136.6	0.798	13.8	12.3	1.89	7138	2.59	29986.35
007352425-02	OBS	No	3.051833	131.510994	21.3	10.500	11.3	-1.0	1.89	7138	0.88	3733.31
007352425-03	OBS	No	3.051703	133.063765	313.8	27.245	13.2	24.1	1.89	7138	4.44	3733.52

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007352425-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
007352425-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—CENT_SATURATED
007352425-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_SATURATED

**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.

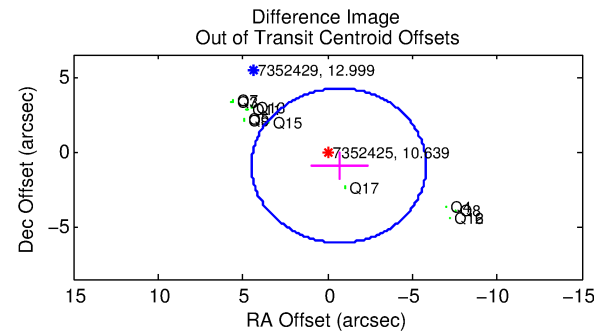
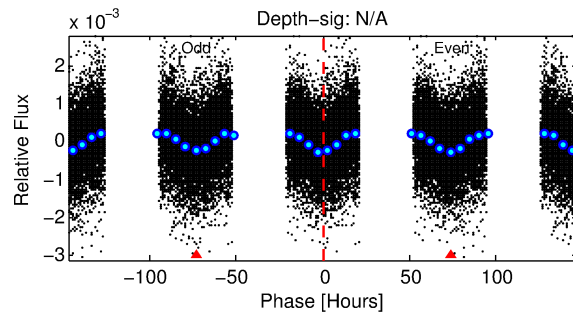
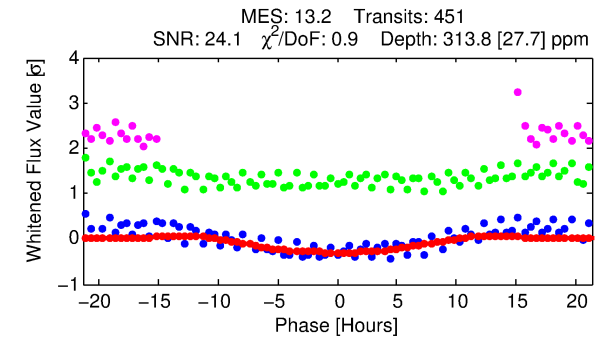
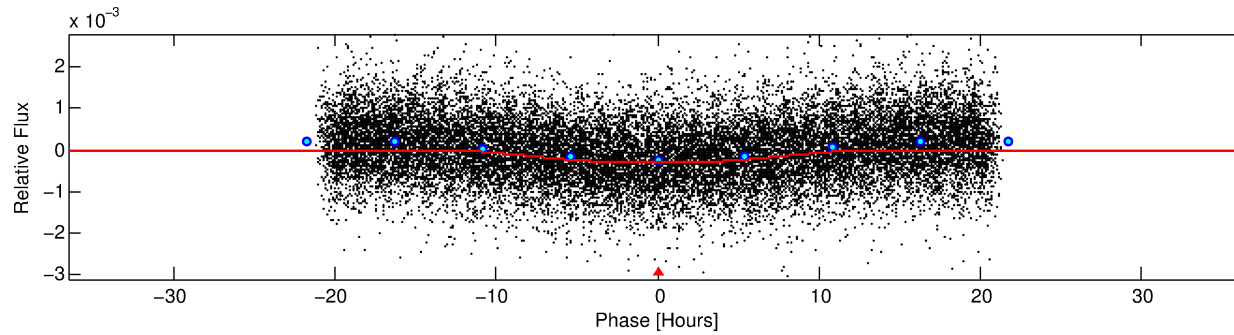
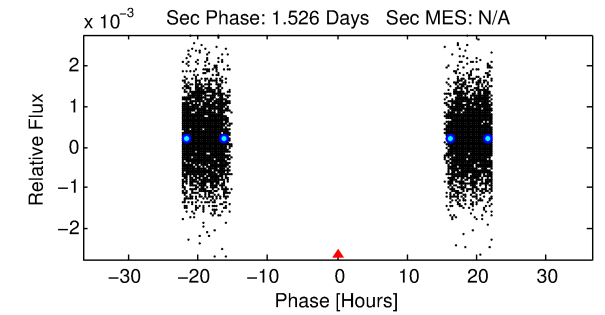
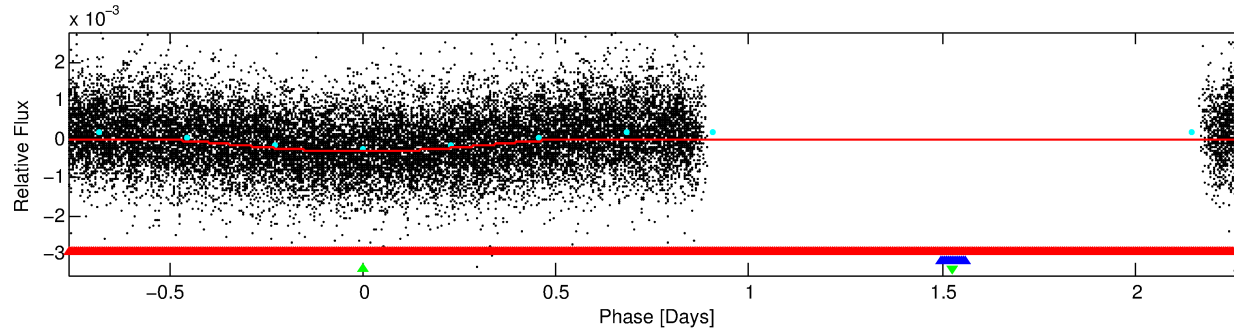
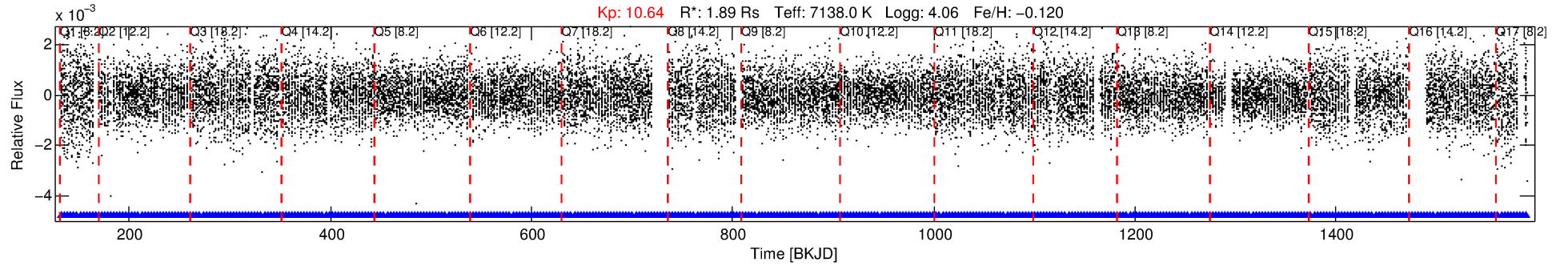
Ephemeris Match Information For 007352425-03

No Significant Match Found



# DV One-Page Summary

KIC: 7352425 Candidate: 3 of 3 Period: 3.052 d



## DV Fit Results:

Period = 3.05170 [0.00008] d  
Epoch = 133.0638 [0.0228] BKJD  
Rp/R\* = 0.0215 [0.0016]  
a/R\* = 1.03 [0.00]  
b = 0.98 [0.00]  
Seff = 3733.52 [1337.76]  
Teq = 1993 [179] K  
Rp = 4.44 [1.35] Re  
a = 0.0472 [0.0113] AU

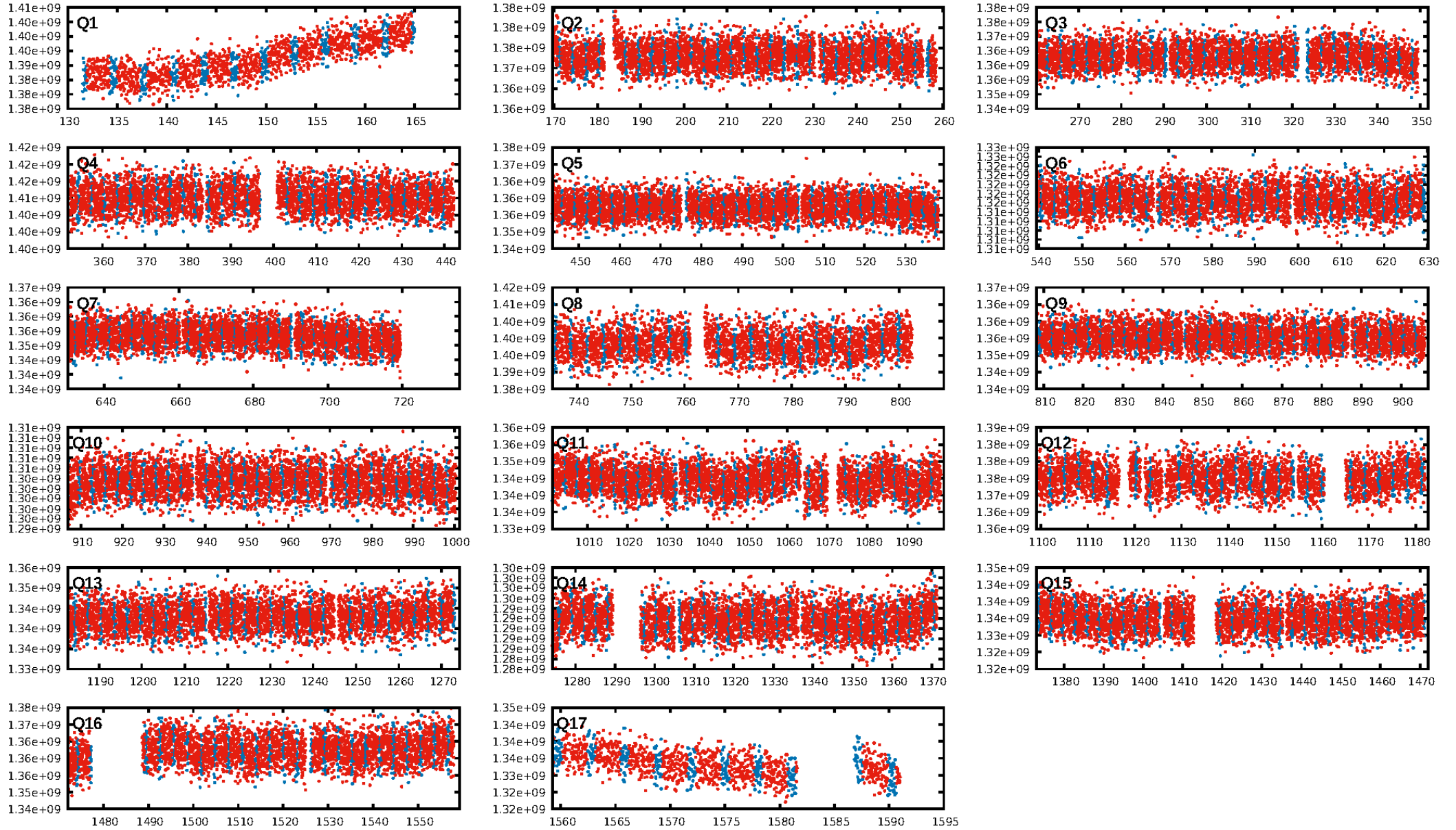
## DV Diagnostic Results:

ShortPeriod-sig: 96.6% [2.12σ]  
LongPeriod-sig: 0.0% [0.00σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [432/432]  
GhostDiagnostic-chr: 0.8791  
Centroid-sig: 0.0%  
Centroid-so: 1.461 arcsec [22.80σ]  
OotOffset-rm: 1.151 arcsec [0.67σ]  
KicOffset-rm: 0.096 arcsec [0.06σ]  
OotOffset-st: 0/4/4/4 [12]  
KicOffset-st: 0/4/4/4 [12]  
DiffImageQuality-fgm: 0.67 [8/12]  
DiffImageOverlap-fno: 0.00 [0/17]

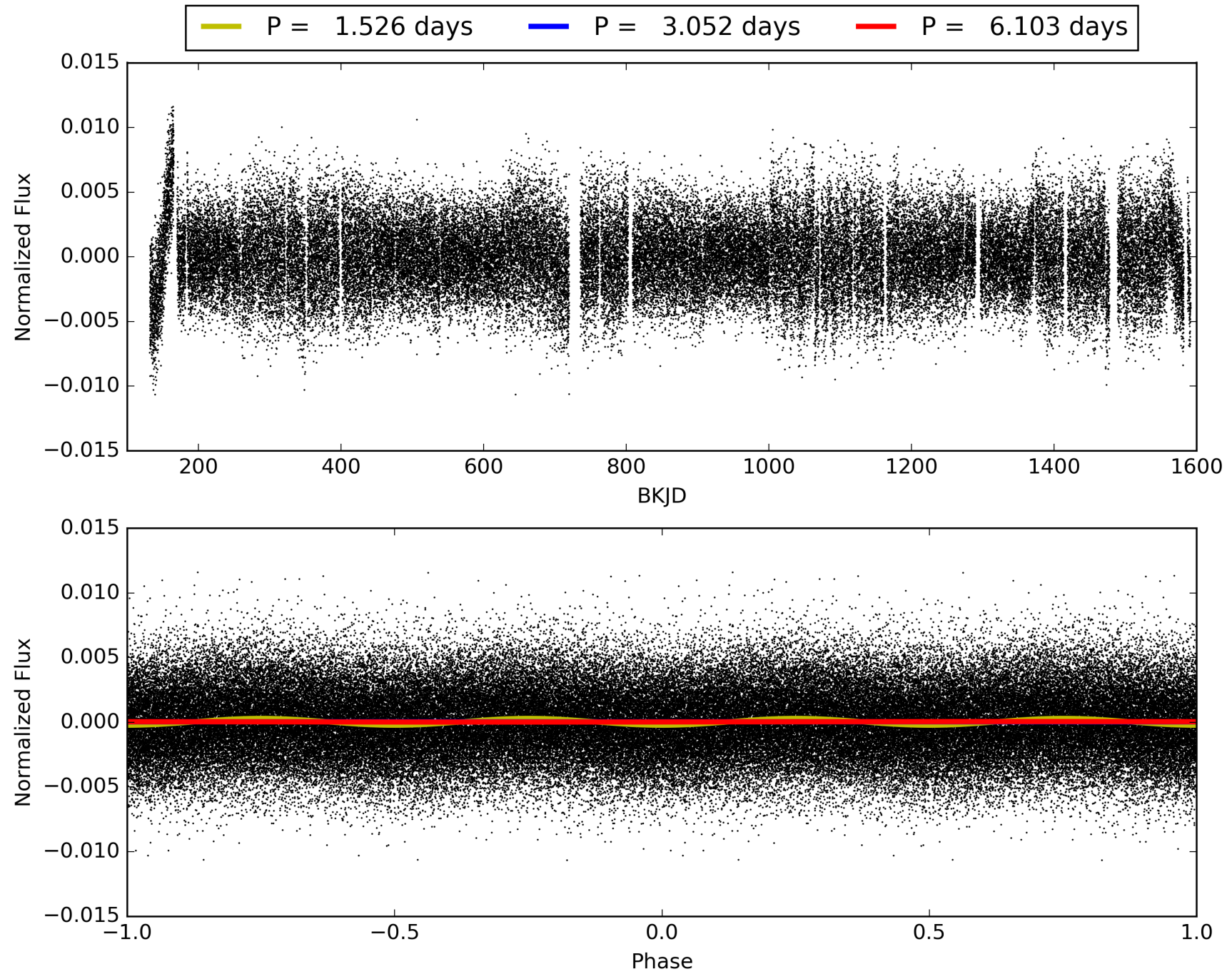
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:37:42 Z

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

# TCE 007352425-03, PDC Light Curves

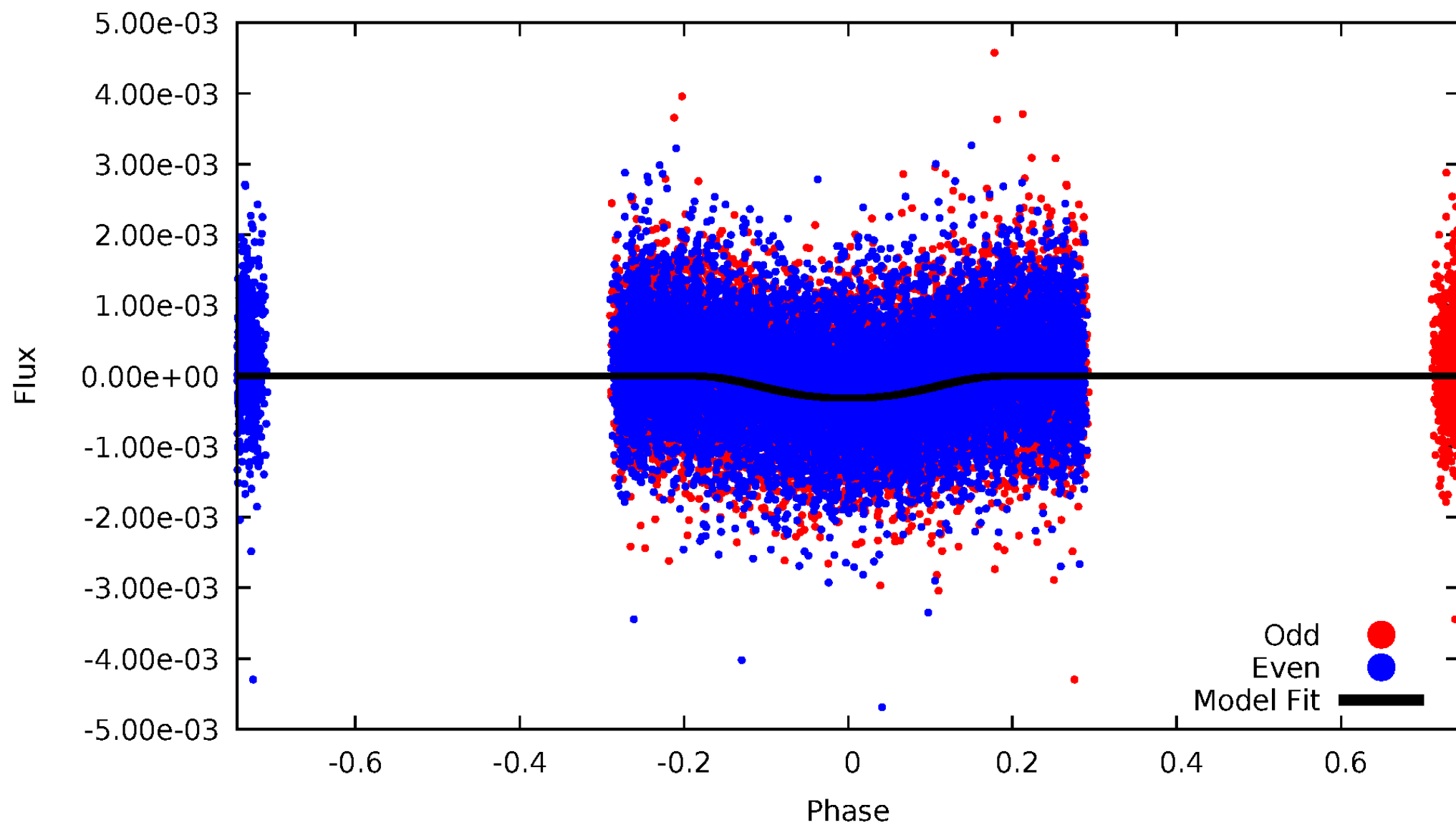


TCE 007352425-03



# DV Odd/Even

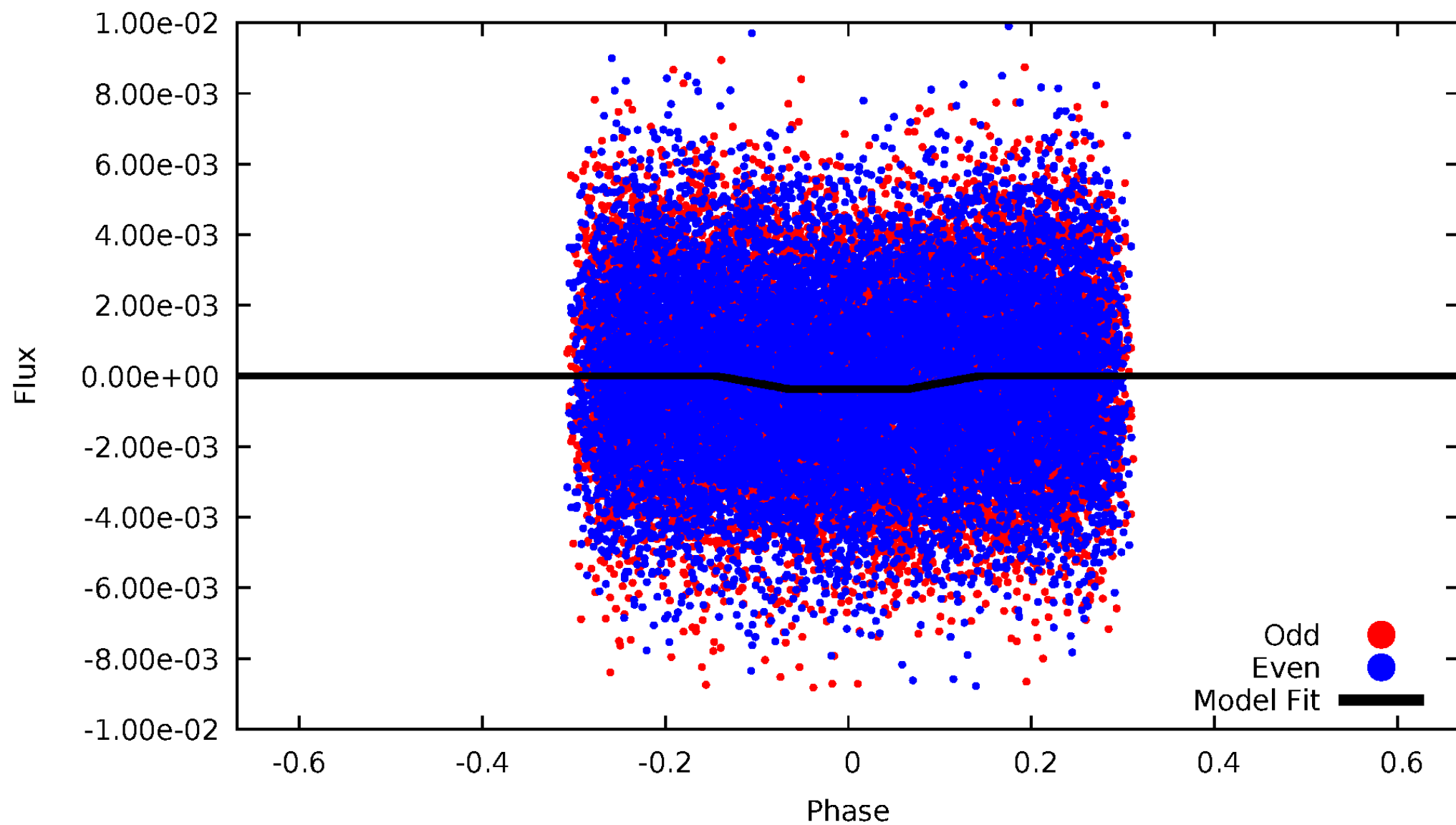
TCE 007352425-03





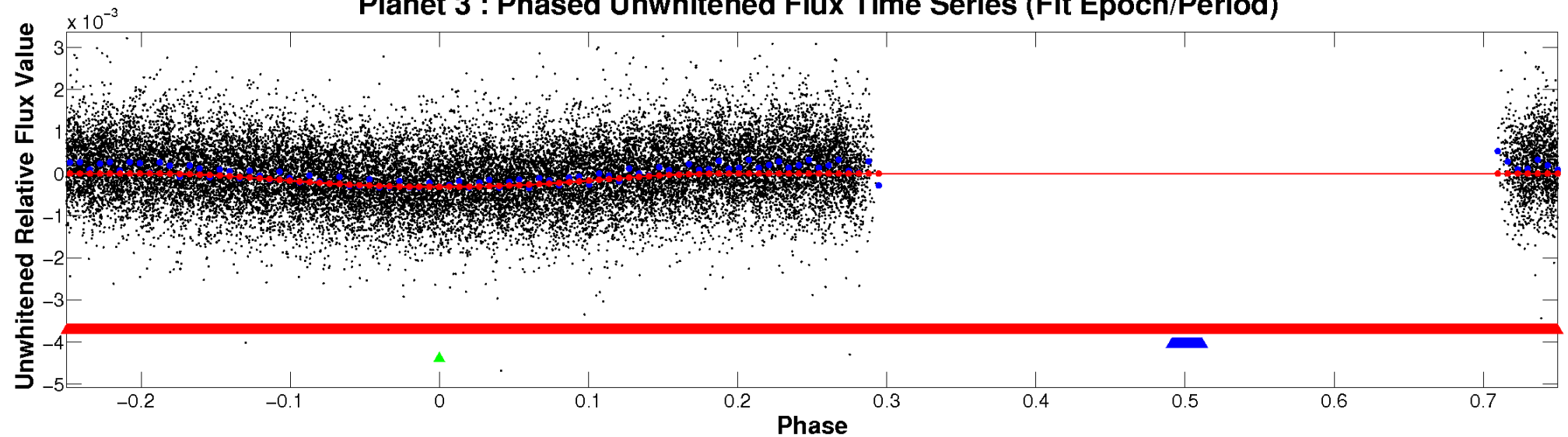
# ALT Odd/Even

TCE 007352425-03

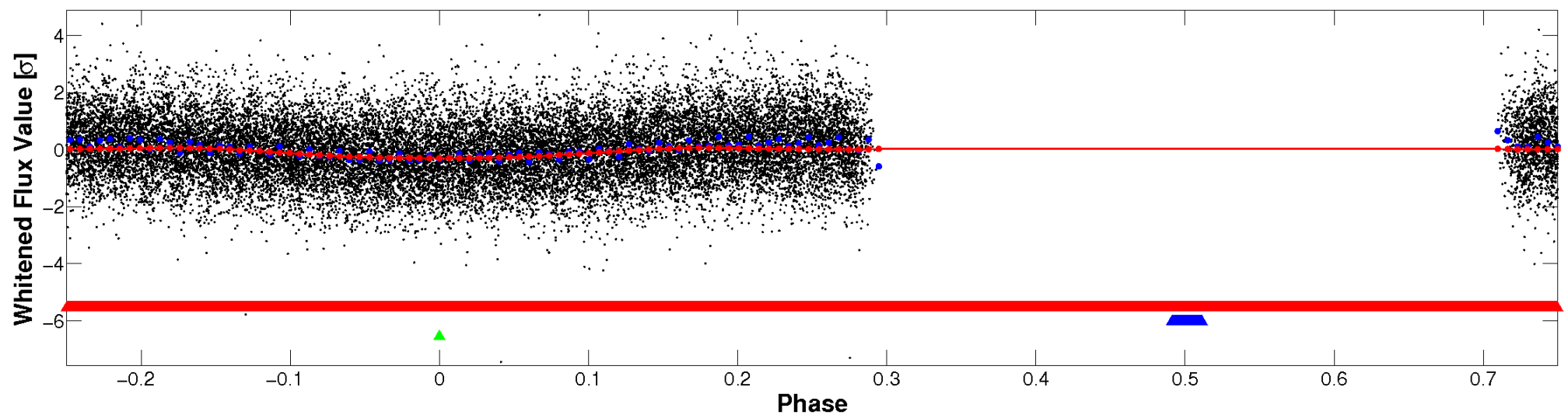


# Non-Whitened Vs. Whitened Light Curve

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



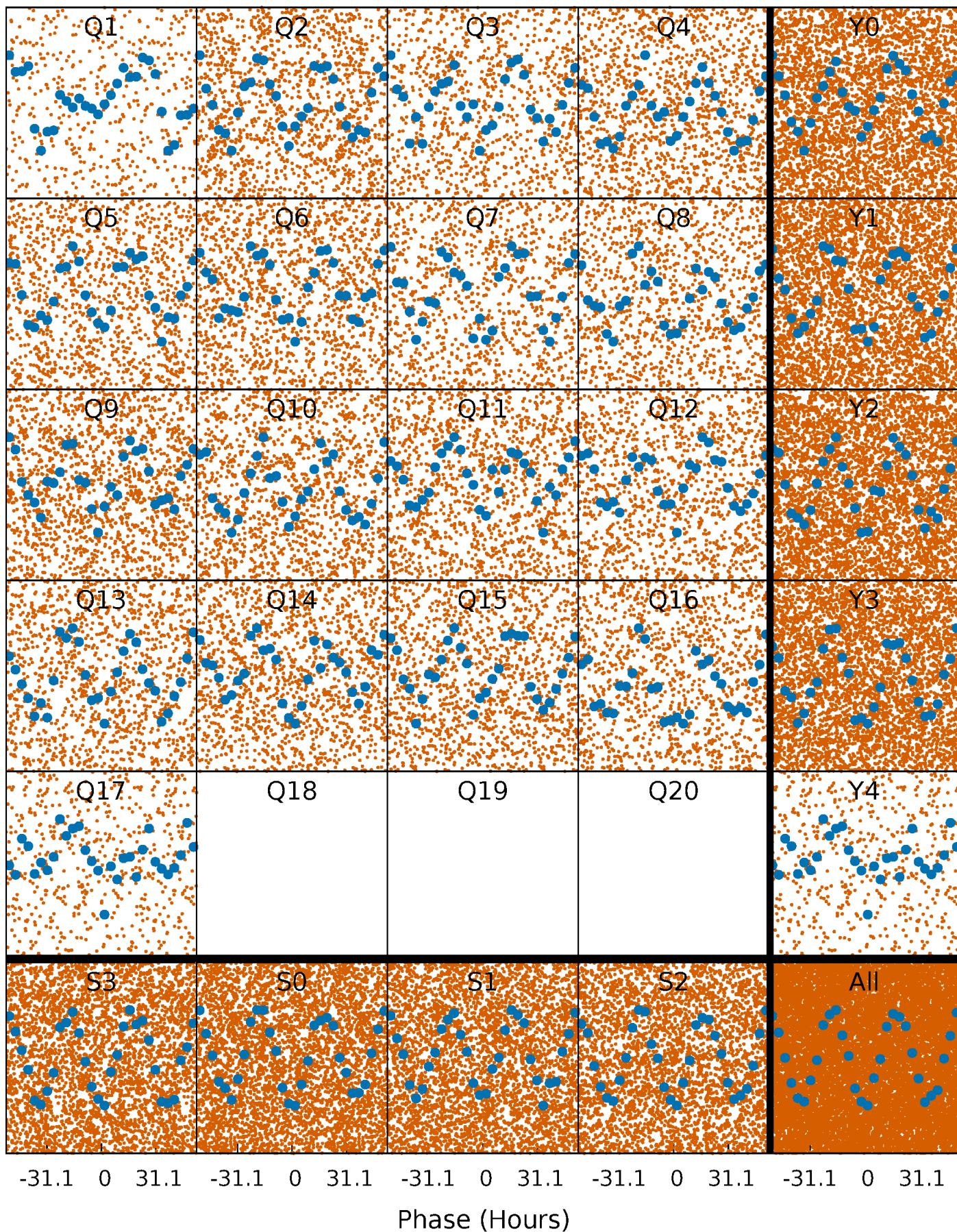
## Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)





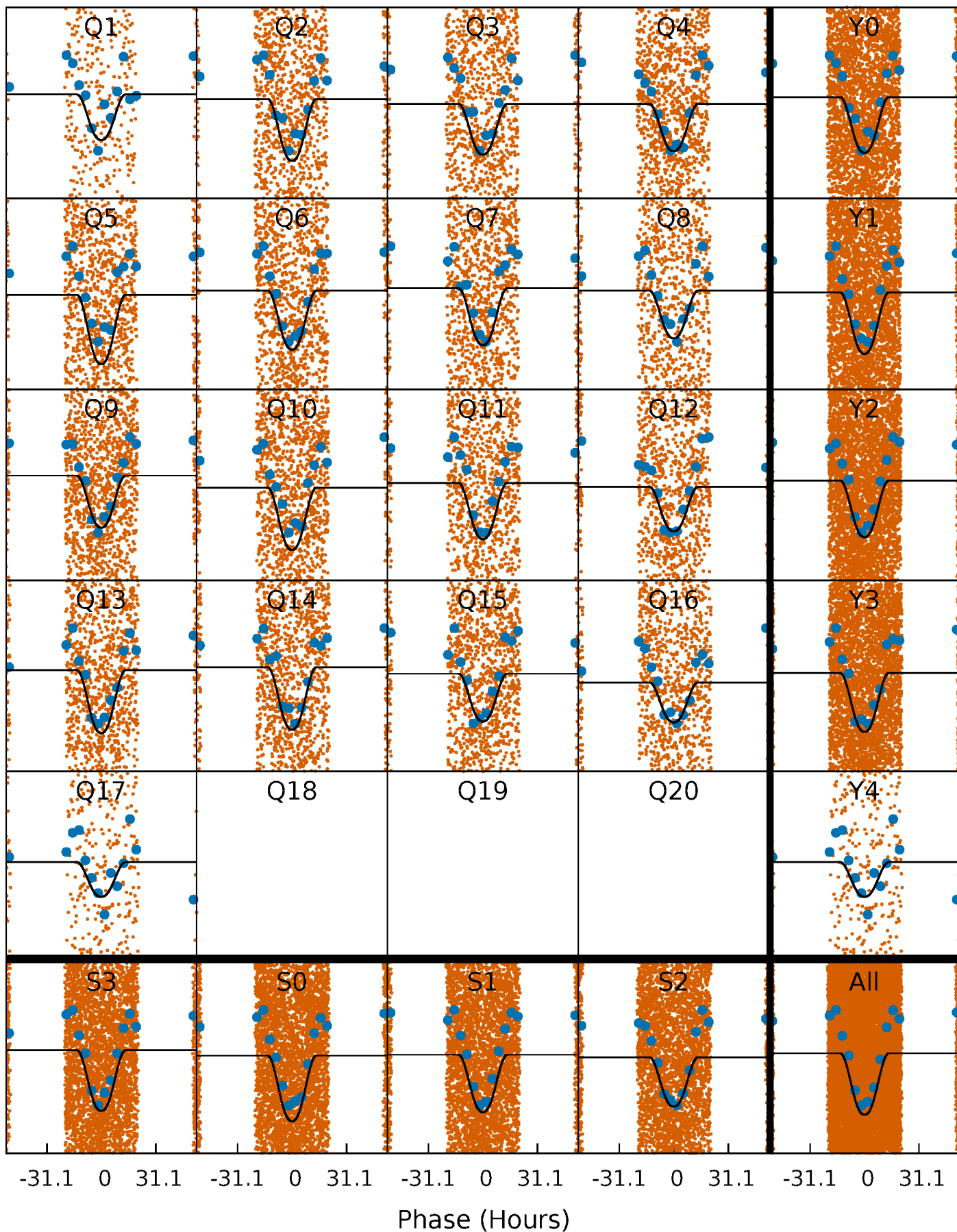
# PDC Quarter-Phased Transit Curves

TCE 007352425-03 P= 3.051703 Days  $T_0=133.063764$  (BKJD)



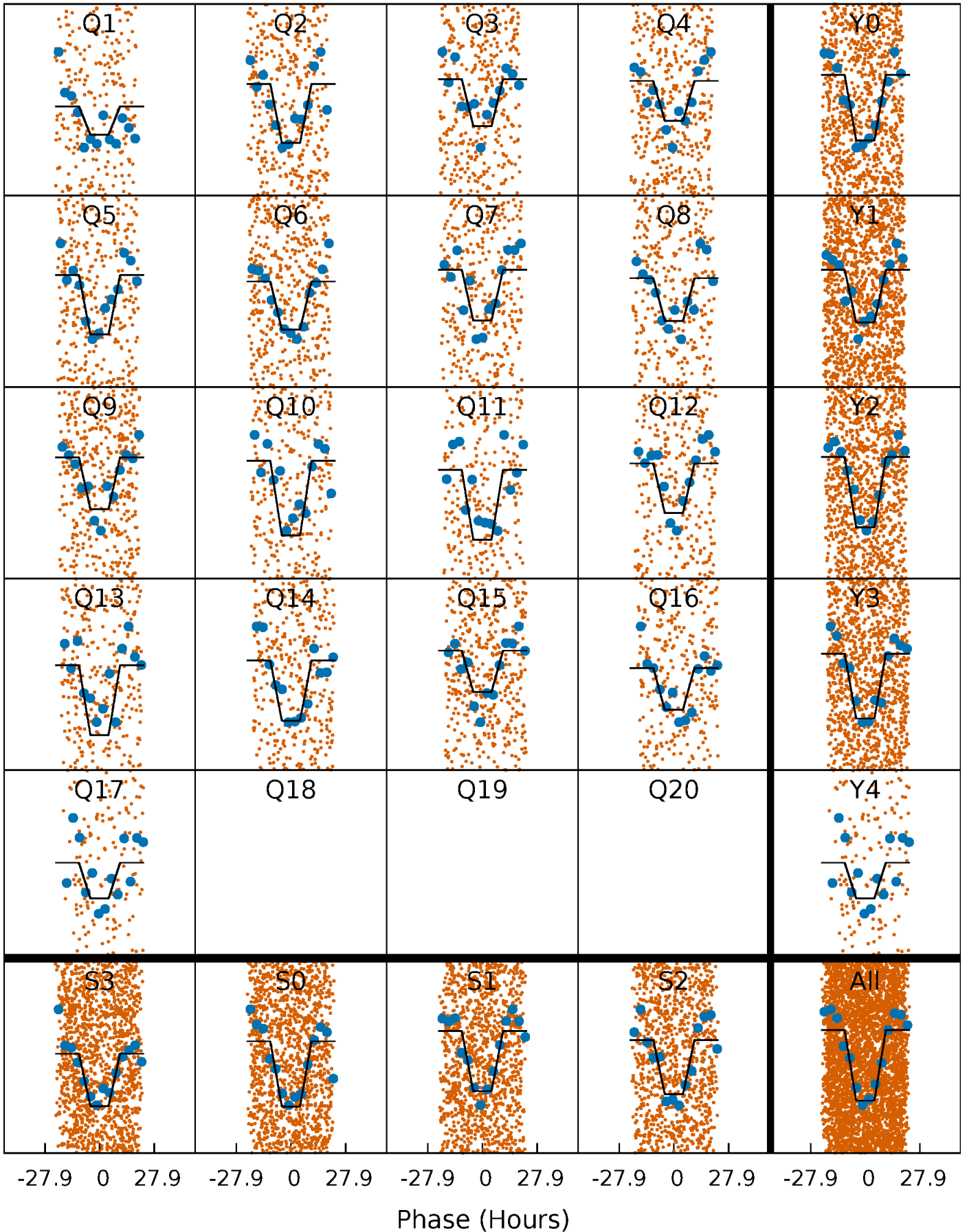
# DV Quarter-Phased Transit Curves

TCE 007352425-03   P= 3.051703 Days    $T_0=133.063764$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 007352425-03   P= 3.051467 Days    $T_0=133.118228$  (BKJD)

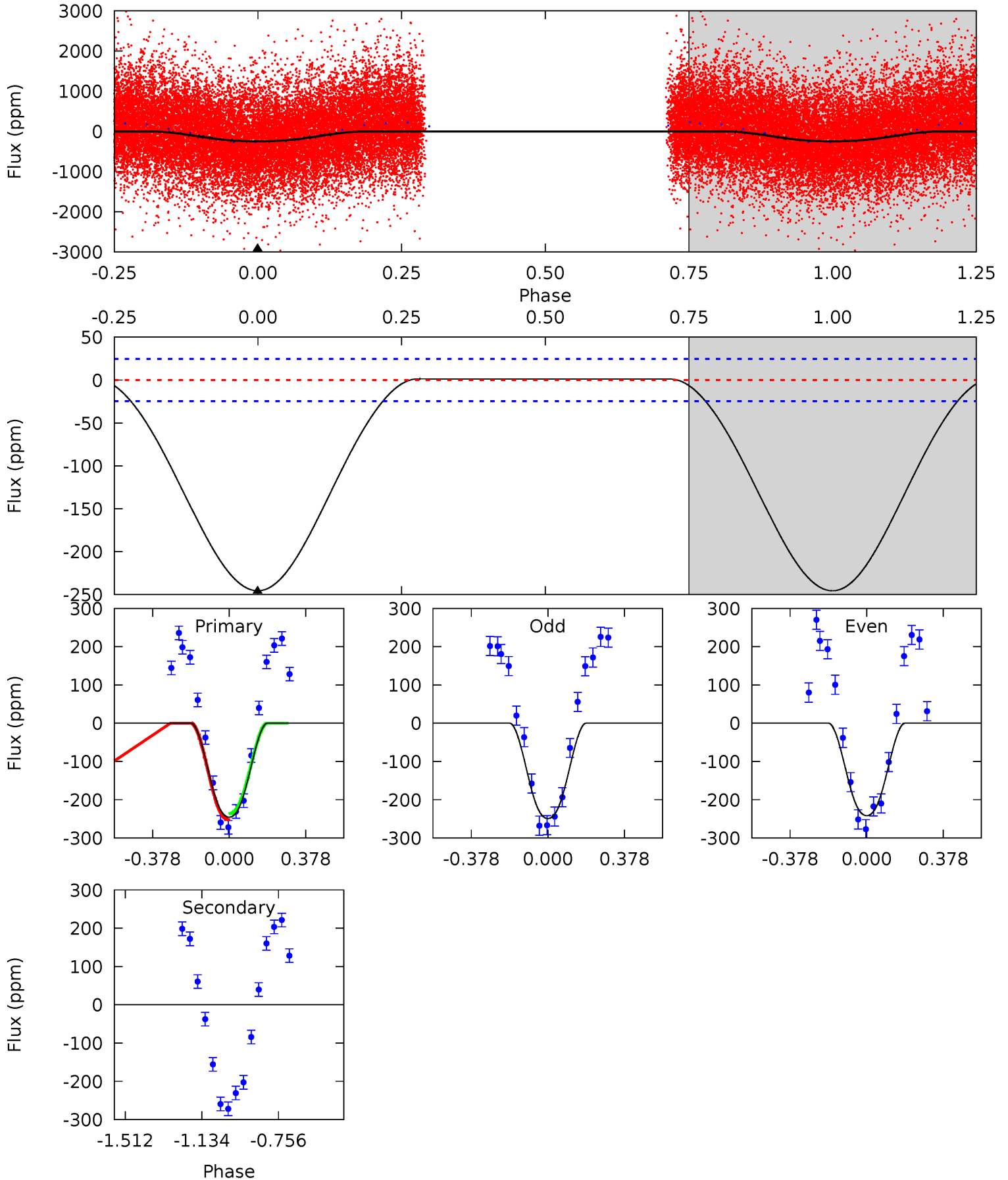




# DV Model-Shift Uniqueness Test

007352425-03, P = 3.051703 Days, E = 130.012061 Days

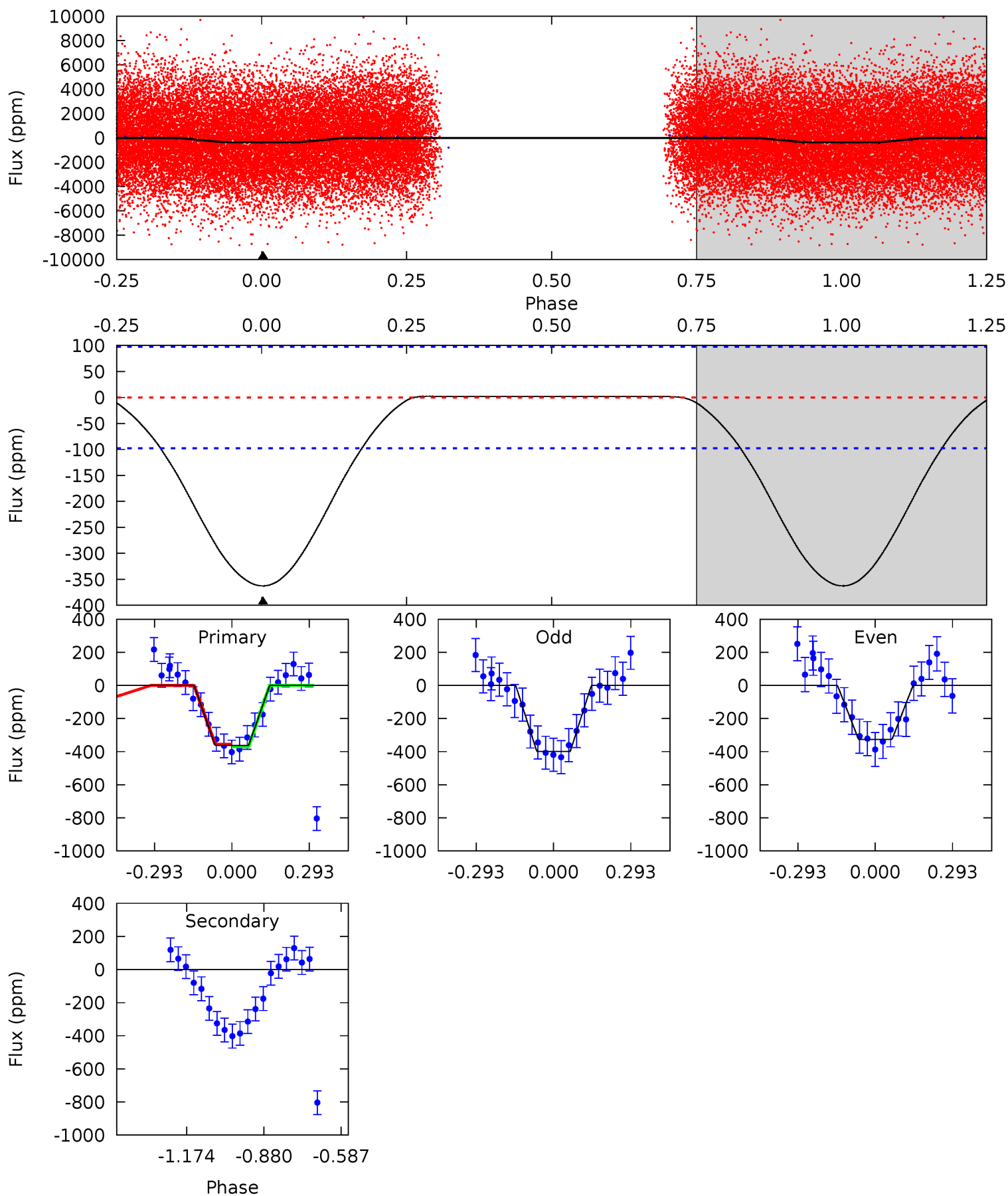
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
42.6	0	0	0	4.28	0.88	0.29	42.6	42.6	0	0	0.66	1.14	0.01	1.41



# Alt Model-Shift Uniqueness Test

007352425-03, P = 3.051467 Days, E = 130.066761 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
16.1	0	0	0	4.33	1.05	0.15	16.1	16.1	0	0	1.63	1.16	0.01	0.34





### Stellar Parameters For KIC 007352425

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7138^{+192}_{-235}$	$4.062^{+0.175}_{-0.175}$	$-0.120^{+0.250}_{-0.350}$	$1.890^{+0.559}_{-0.457}$	$1.500^{+0.209}_{-0.255}$	$0.313^{+0.320}_{-0.160}$
	+3%/-3%	+4%/-4%	+208%/-292%	+30%/-24%	+14%/-17%	+102%/-51%
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 007352425-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$0 \pm 6$	$4.42^{+0.77}_{-0.69}$	$2769^{+201}_{-189}$	$-2946^{+5458}_{-372}$	$0.004^{+0.389}_{-0.354}$
Alt.	$0 \pm 23$	$4.03^{+0.71}_{-0.59}$	$2790^{+207}_{-201}$	$-2787^{+6535}_{-1130}$	$0.100^{+1.626}_{-1.563}$

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

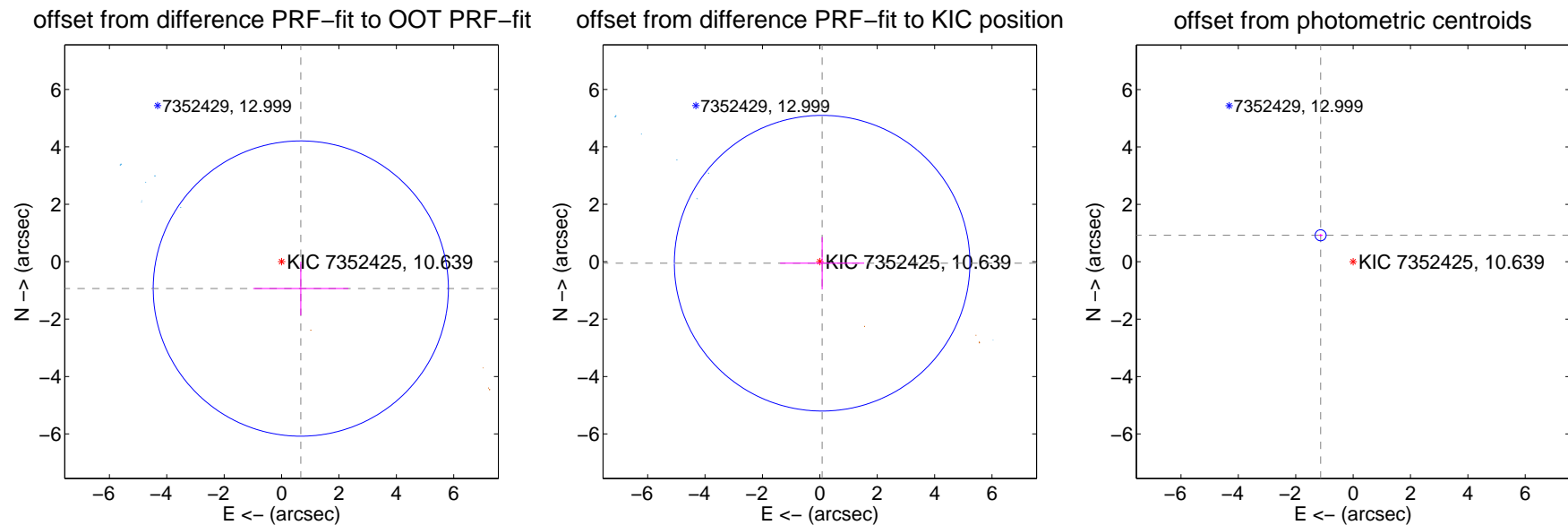
## DV Centroid Data

Supplemental centroid analysis for 007352425-03. **Kepler magnitude: 10.64.** Transit SNR 24.08

There are 8 quarters with good PRF difference image offsets

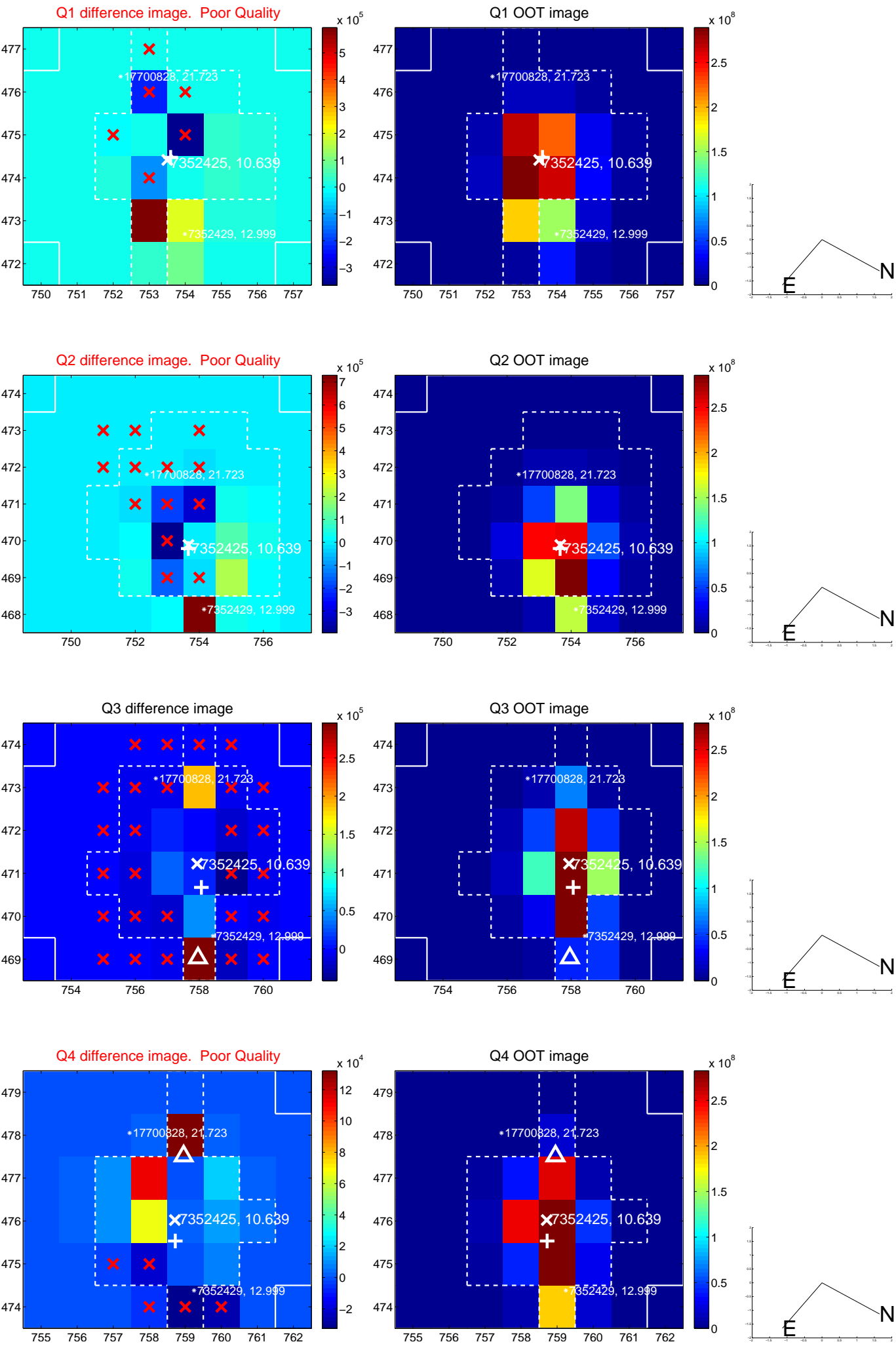
The direct PRF centroid is offset from the target star catalog position by about 0.55 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.151 \pm 1.714$	0.67	$-0.670 \pm 1.657$	$-0.936 \pm 0.933$
PRF-fit source offset from KIC position	$0.096 \pm 1.716$	0.06	$-0.079 \pm 1.465$	$-0.053 \pm 0.913$
photometric centroid source offset	<b><math>1.46 \pm 0.06</math></b>	<b>22.80</b>	$1.13 \pm 0.07$	$0.92 \pm 0.05$

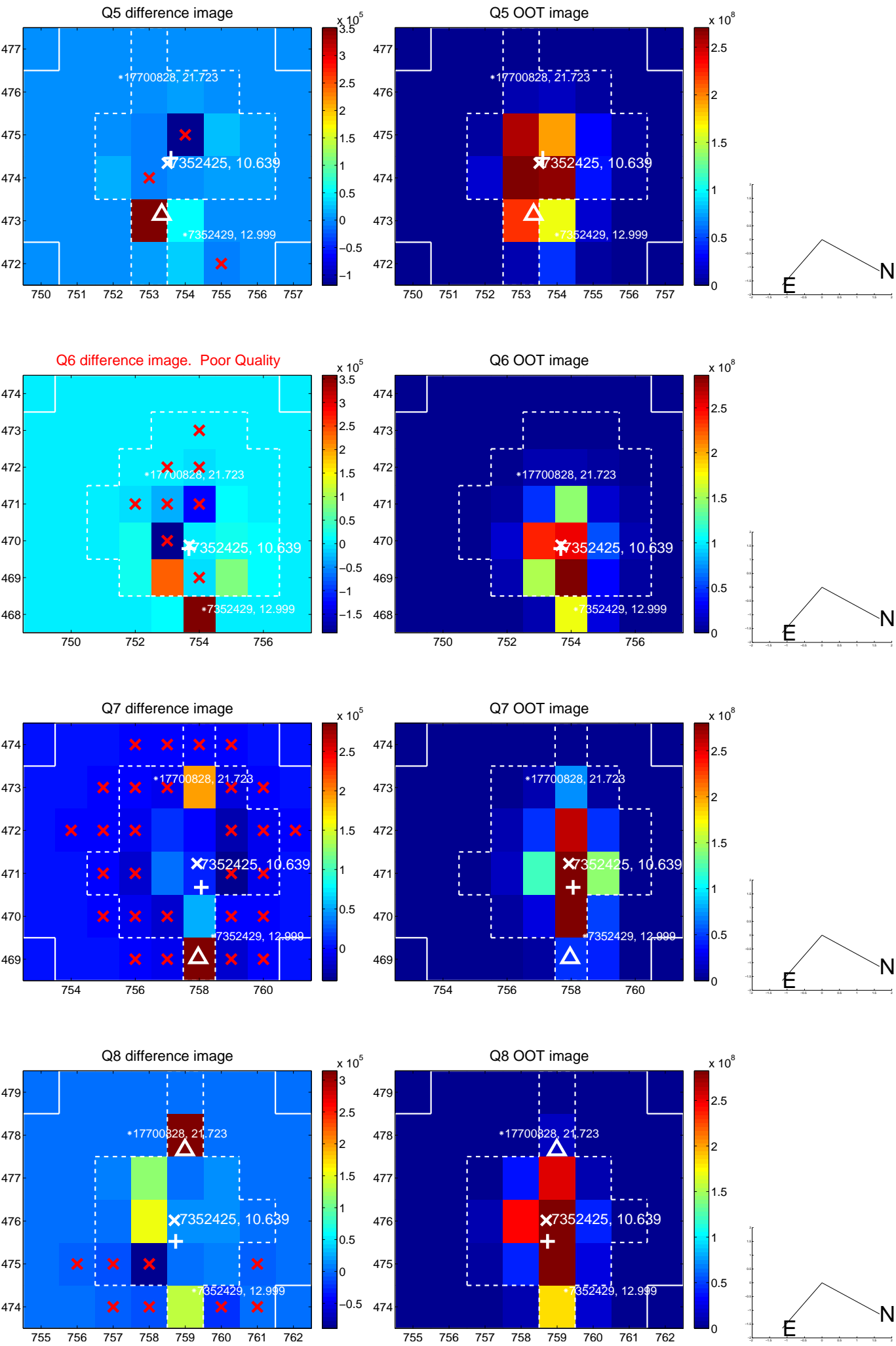


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

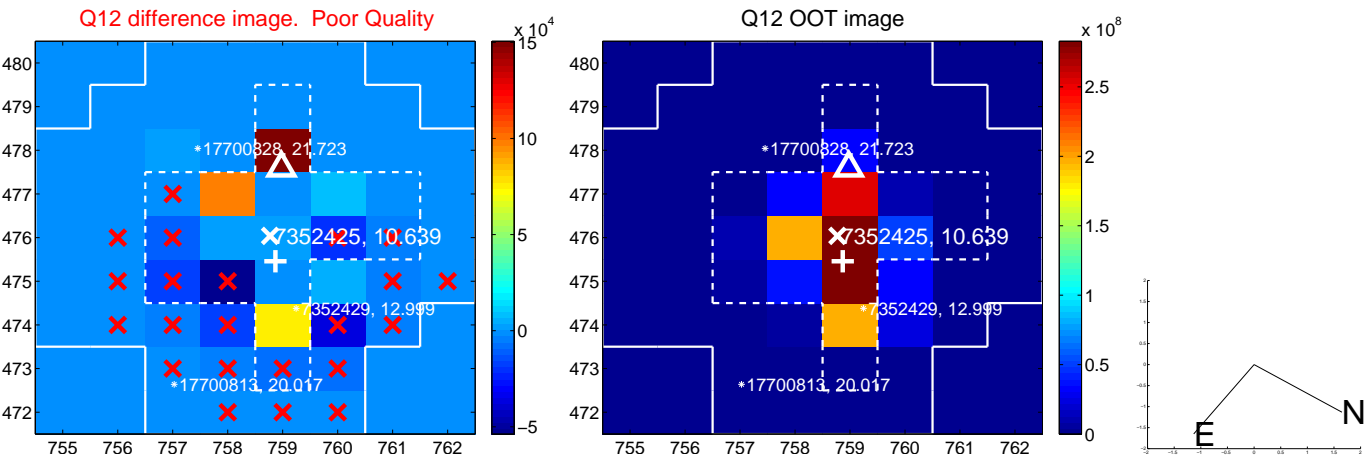
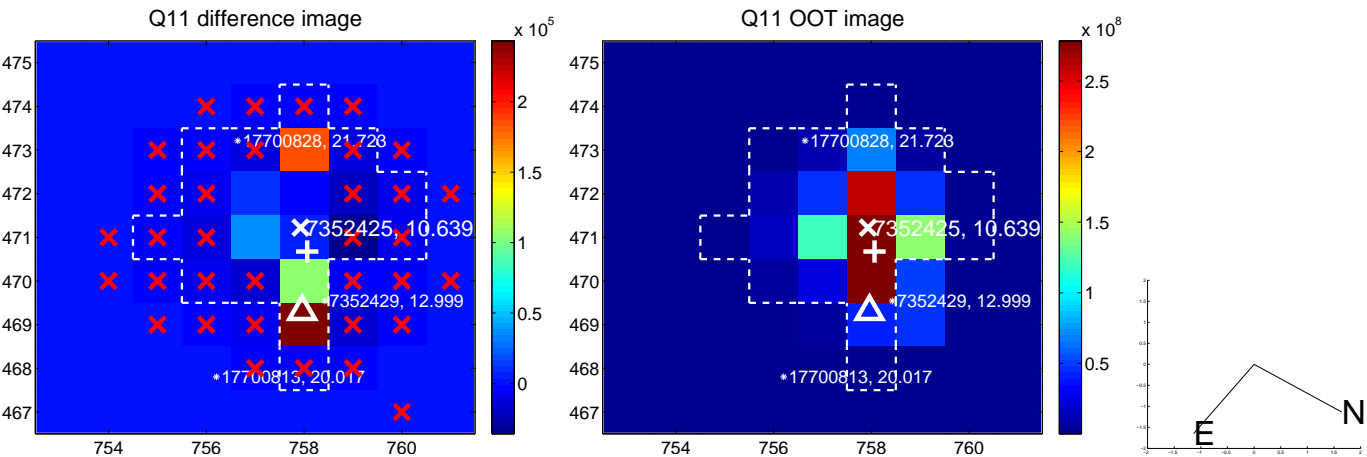
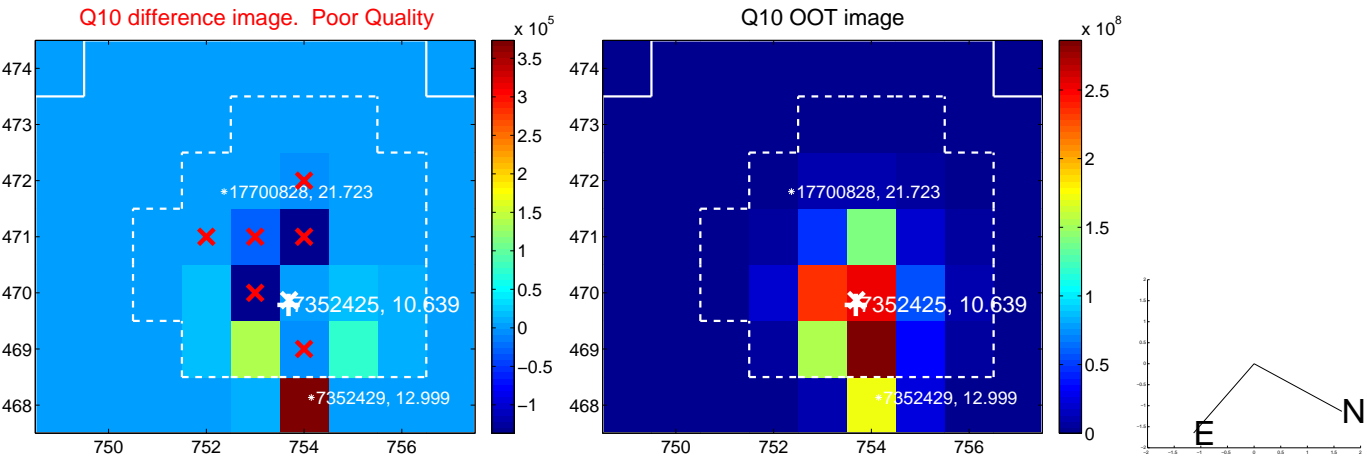
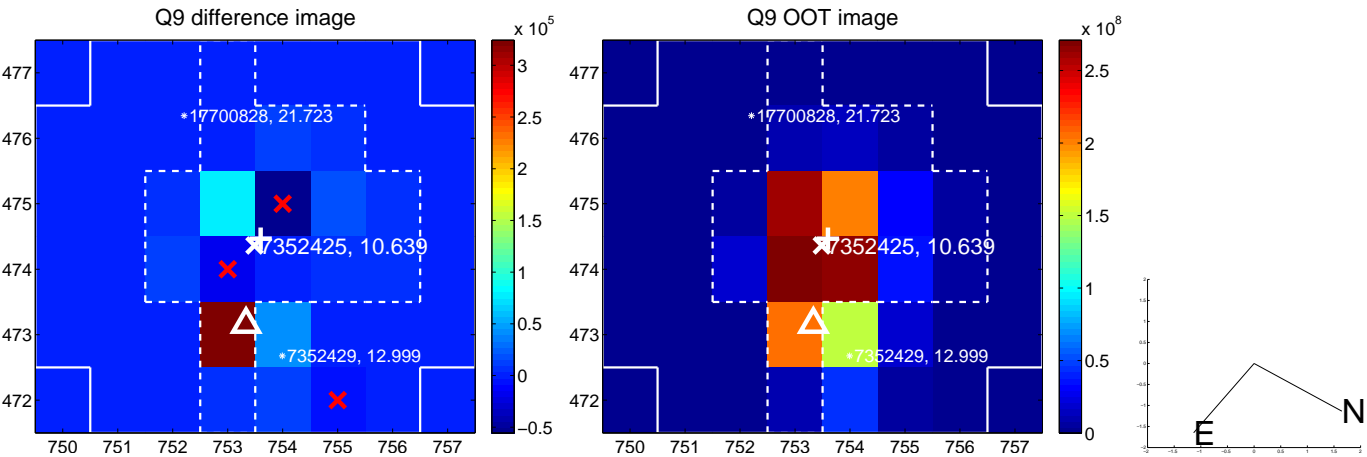
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

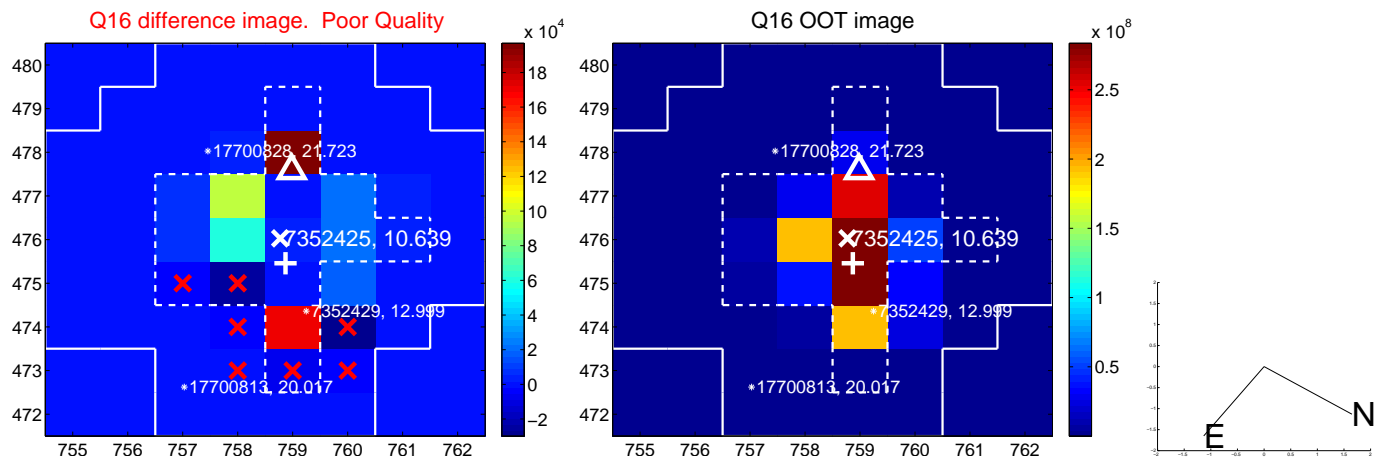
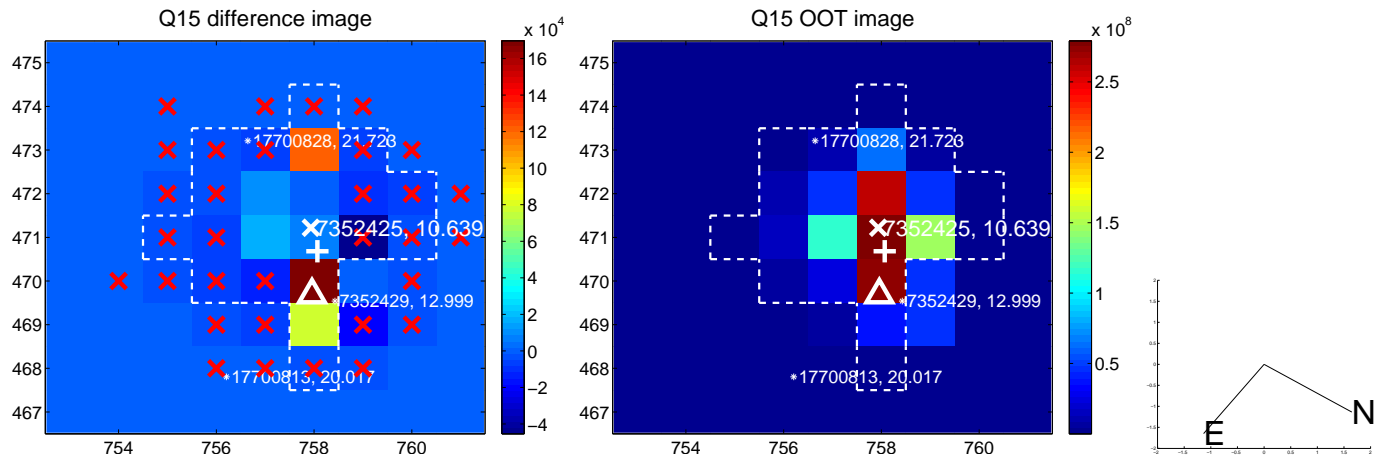
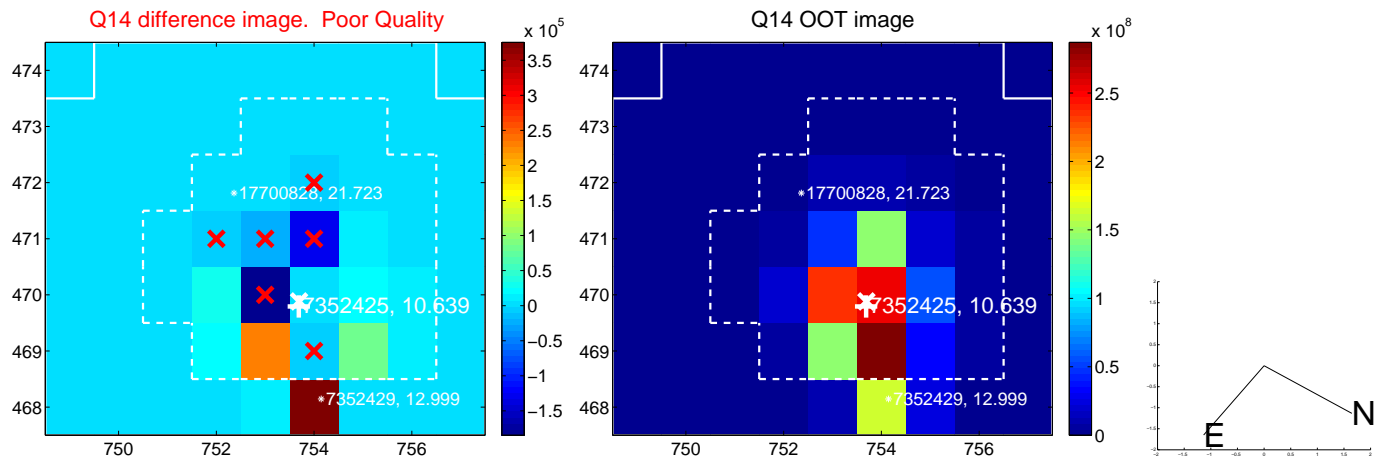
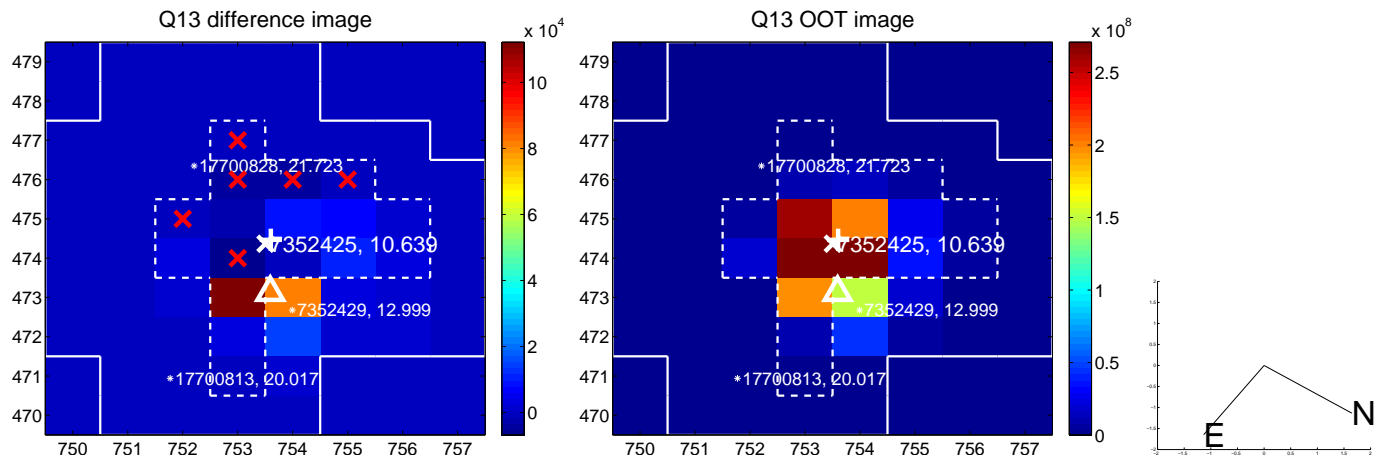


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

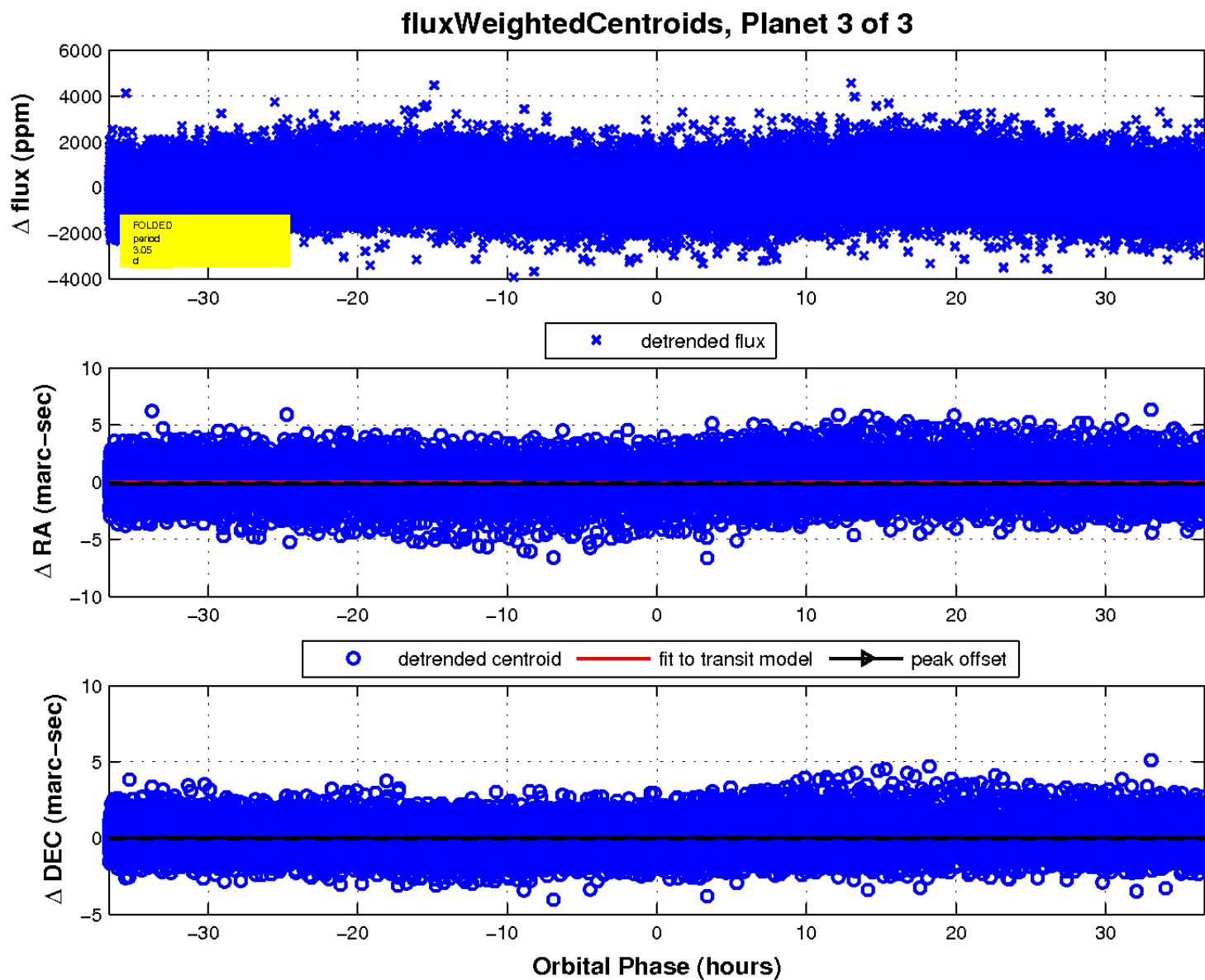
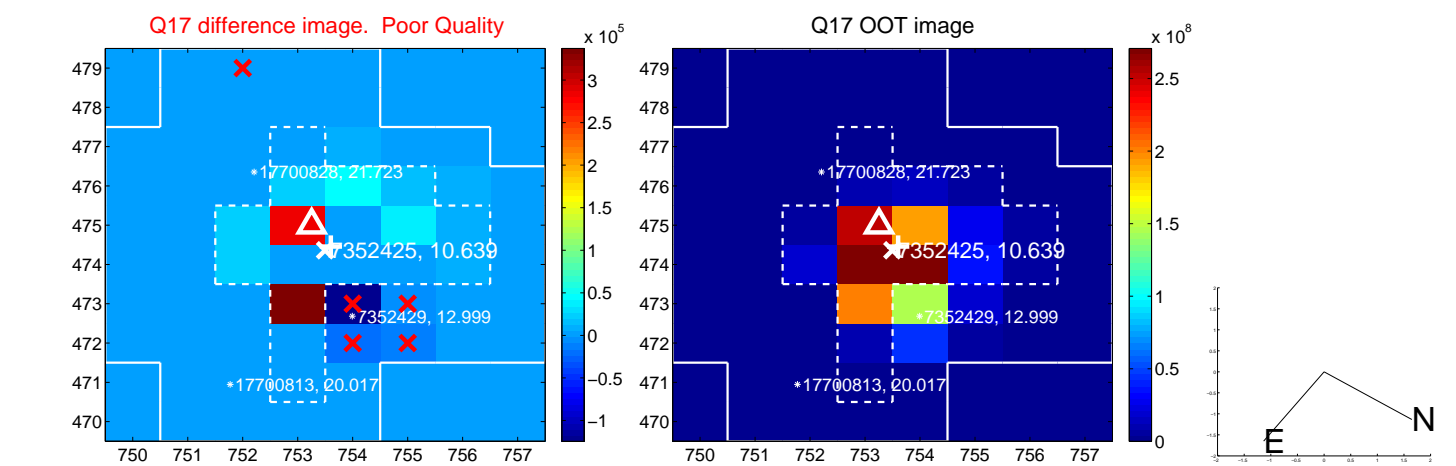




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

