

# KIC 010671402

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010671402-01	OBS	No	268.044830	250.925806	6031.4	3.000	270.8	-1.0	5.20	4904	39.33	23.67
010671402-02	OBS	No	362.123502	254.672935	1338.0	15.995	195.3	107.9	5.20	4904	22.85	15.85
010671402-03	OBS	No	464.051556	251.223078	1462.6	2.920	81.9	25.5	5.20	4904	34.76	11.39
010671402-04	OBS	No	361.419317	258.676786	936.9	43.579	44.7	54.3	5.20	4904	21.18	15.89
010671402-05	OBS	No	245.999629	367.845549	279.4	15.000	29.5	-1.0	5.20	4904	8.45	26.54

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010671402-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
010671402-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
010671402-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_SATURATED
010671402-04	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
010671402-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED

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

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

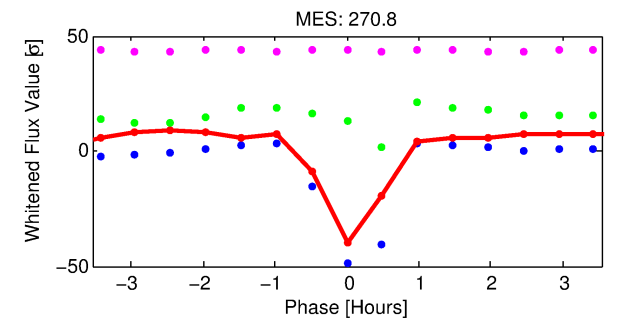
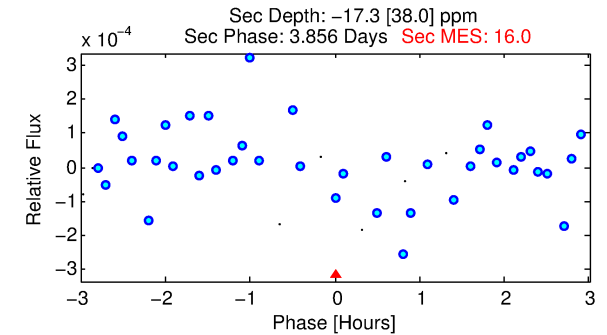
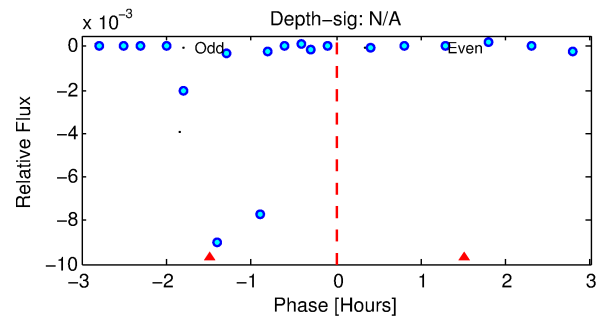
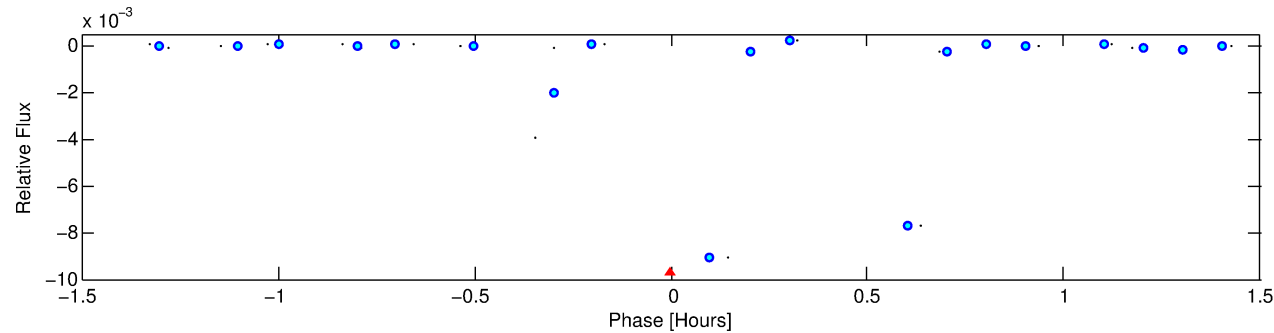
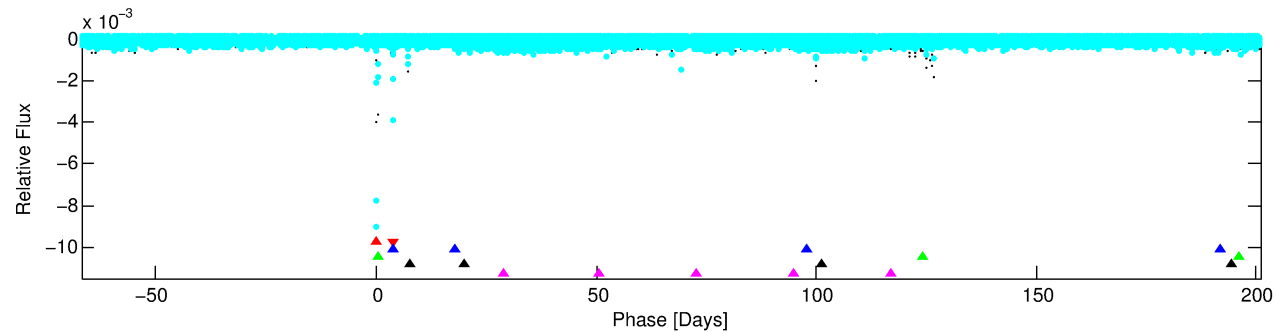
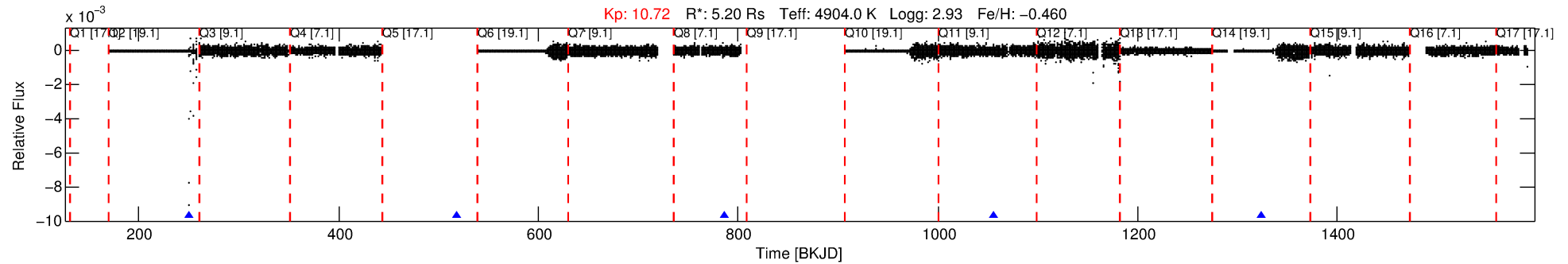
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 010671402-01

No Significant Match Found

# DV One-Page Summary

KIC: 10671402 Candidate: 1 of 5 Period: 268.045 d



## TPS TCE Results:

Period = 268.04483 d  
Epoch = 250.9258 BKJD

DV fit results are unavailable

## DV Diagnostic Results:

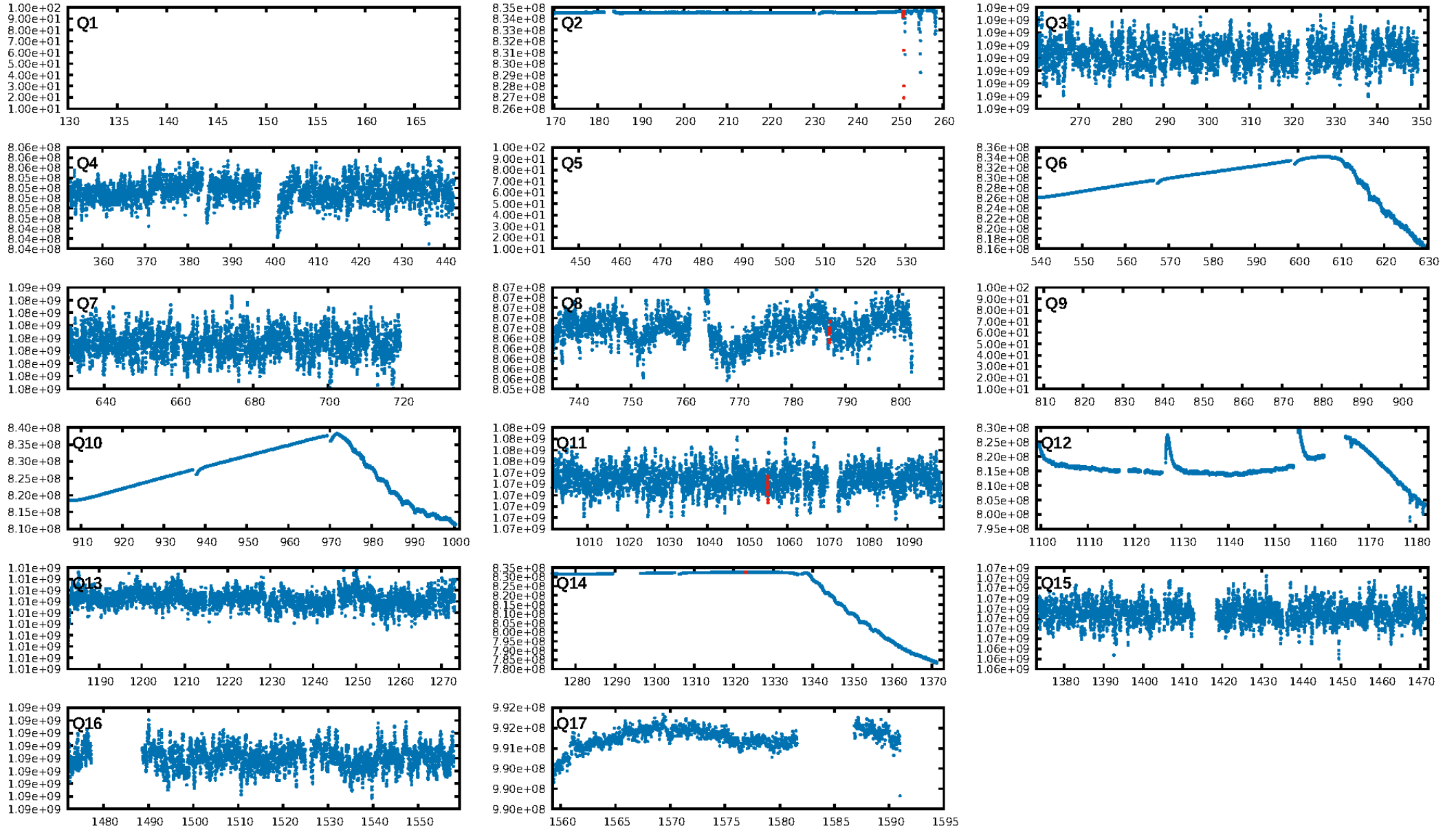
ShortPeriod-sig: 100.0% [34.59σ]  
LongPeriod-sig: 100.0% [51.30σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 91.61

Centroid-sig: 94.5%  
Centroid-so: 1.371 arcsec [25.69σ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0 [0]  
KicOffset-st: 0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [1/1]

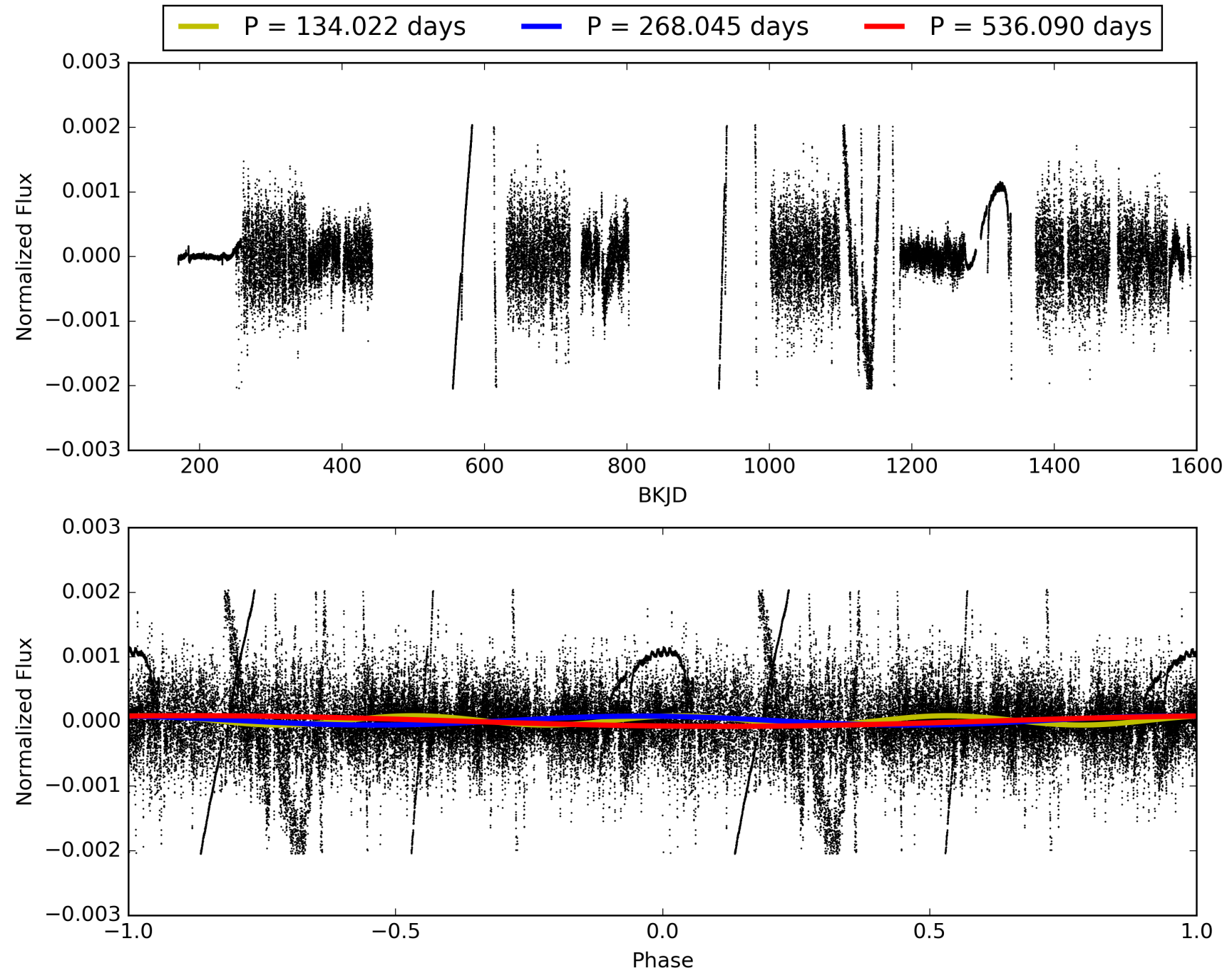
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:46:53 Z

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

# TCE 010671402-01, PDC Light Curves



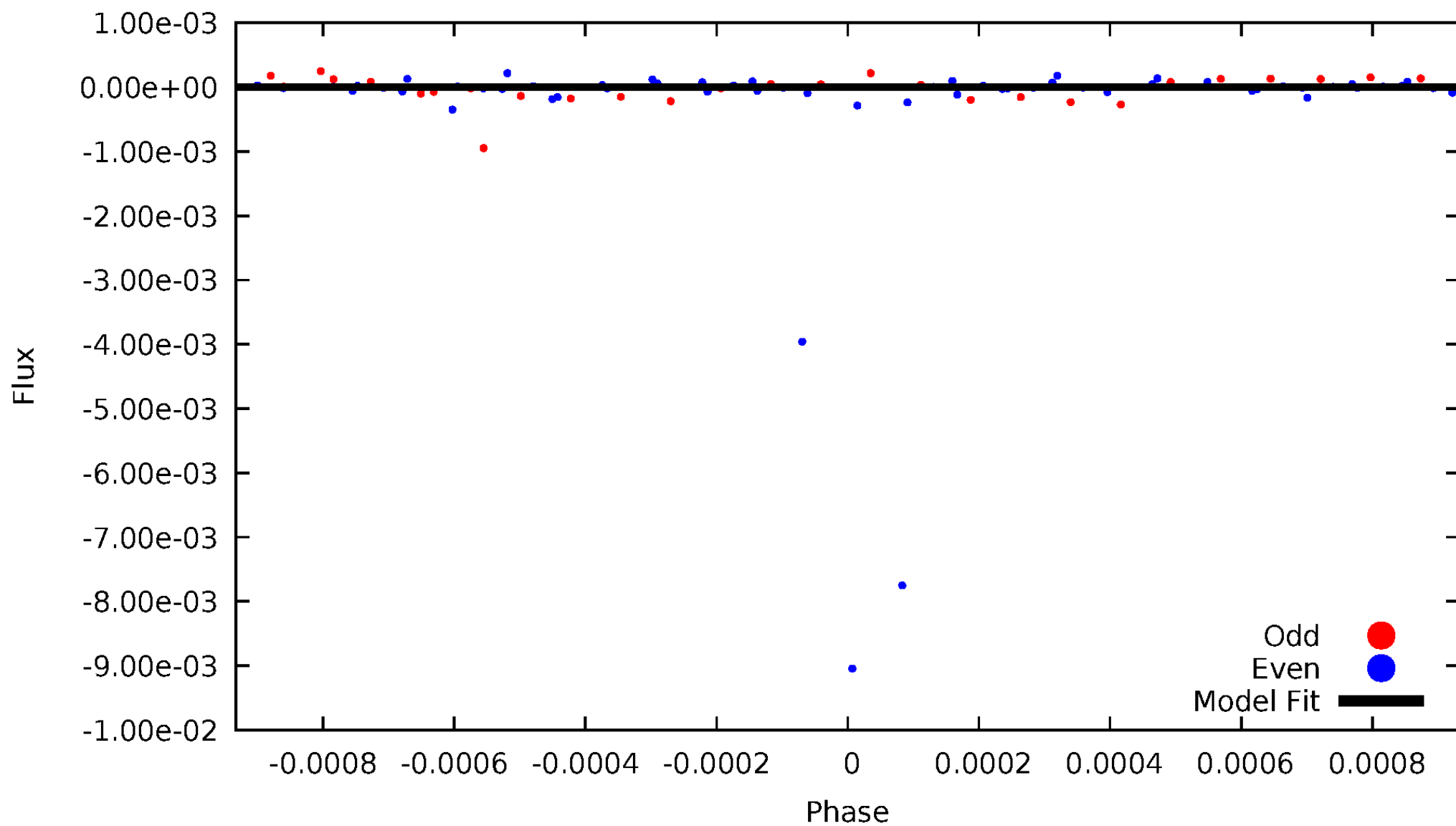
TCE 010671402-01





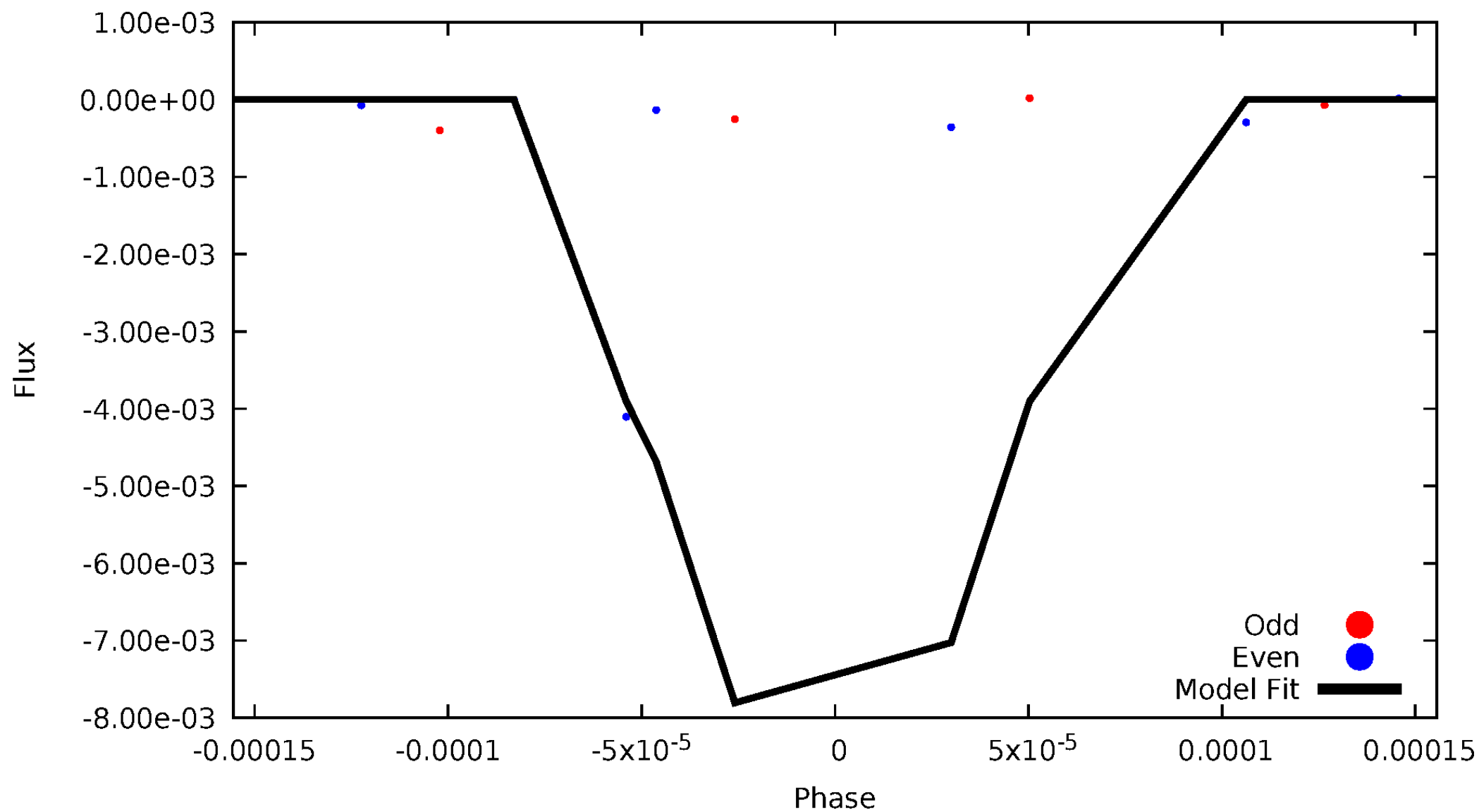
# DV Odd/Even

TCE 010671402-01

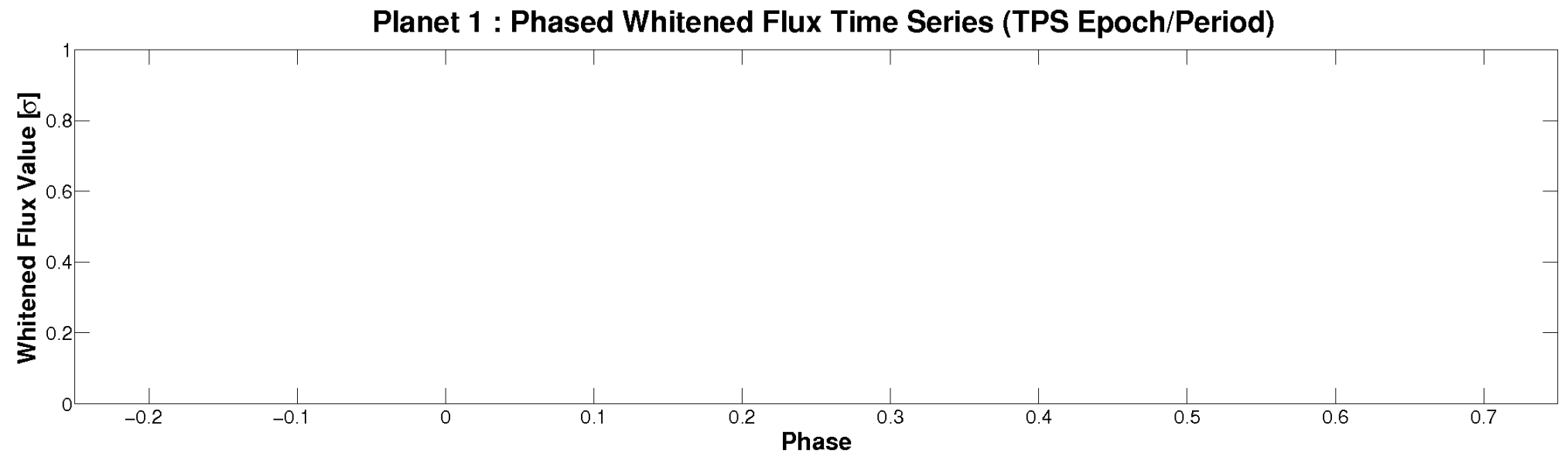
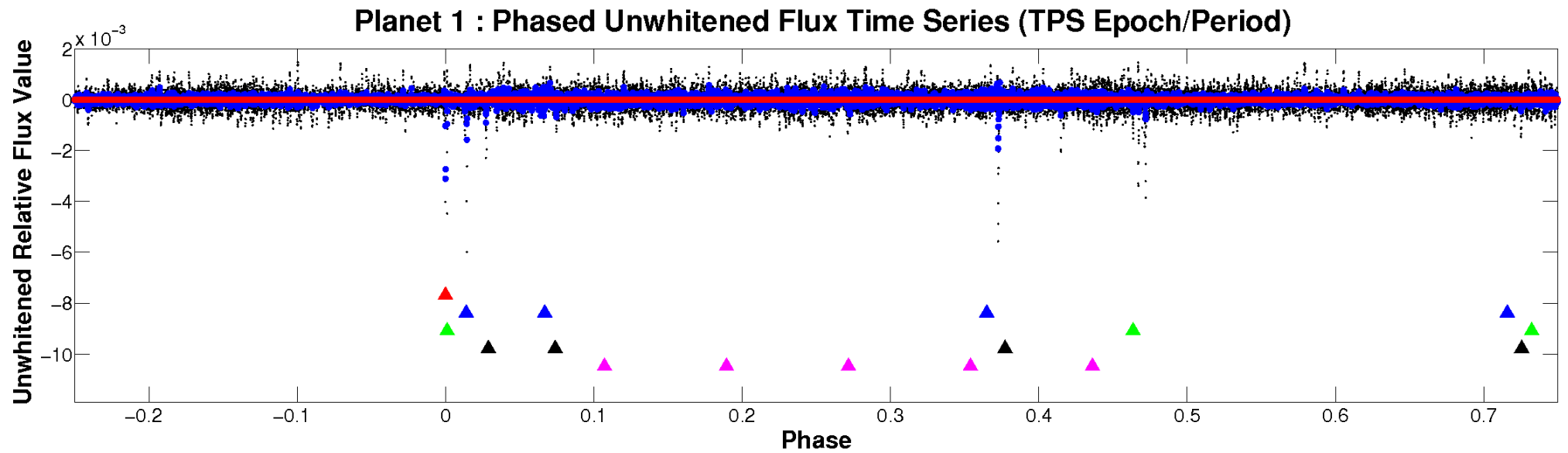


# ALT Odd/Even

TCE 010671402-01

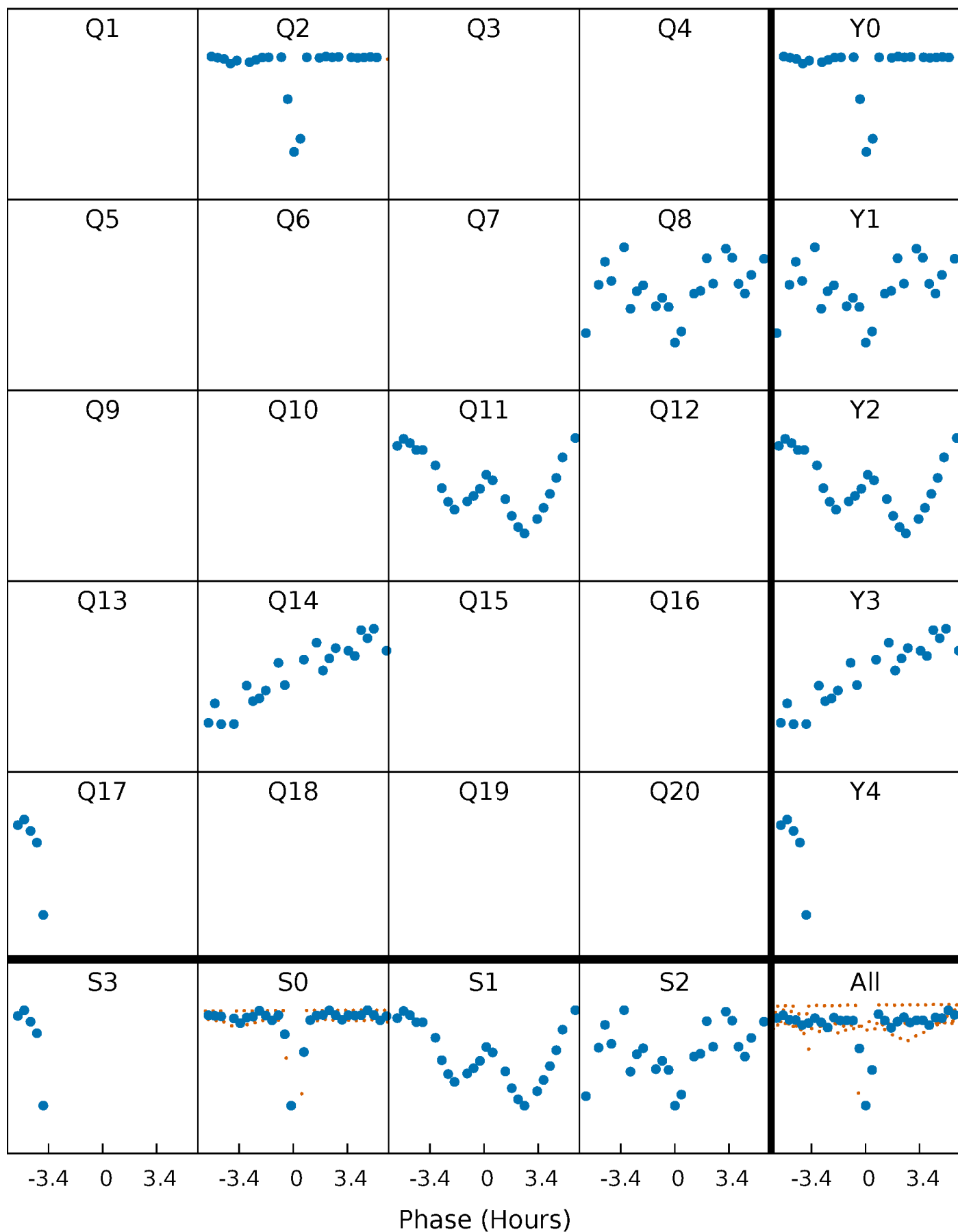


# Non-Whitened Vs. Whitened Light Curve



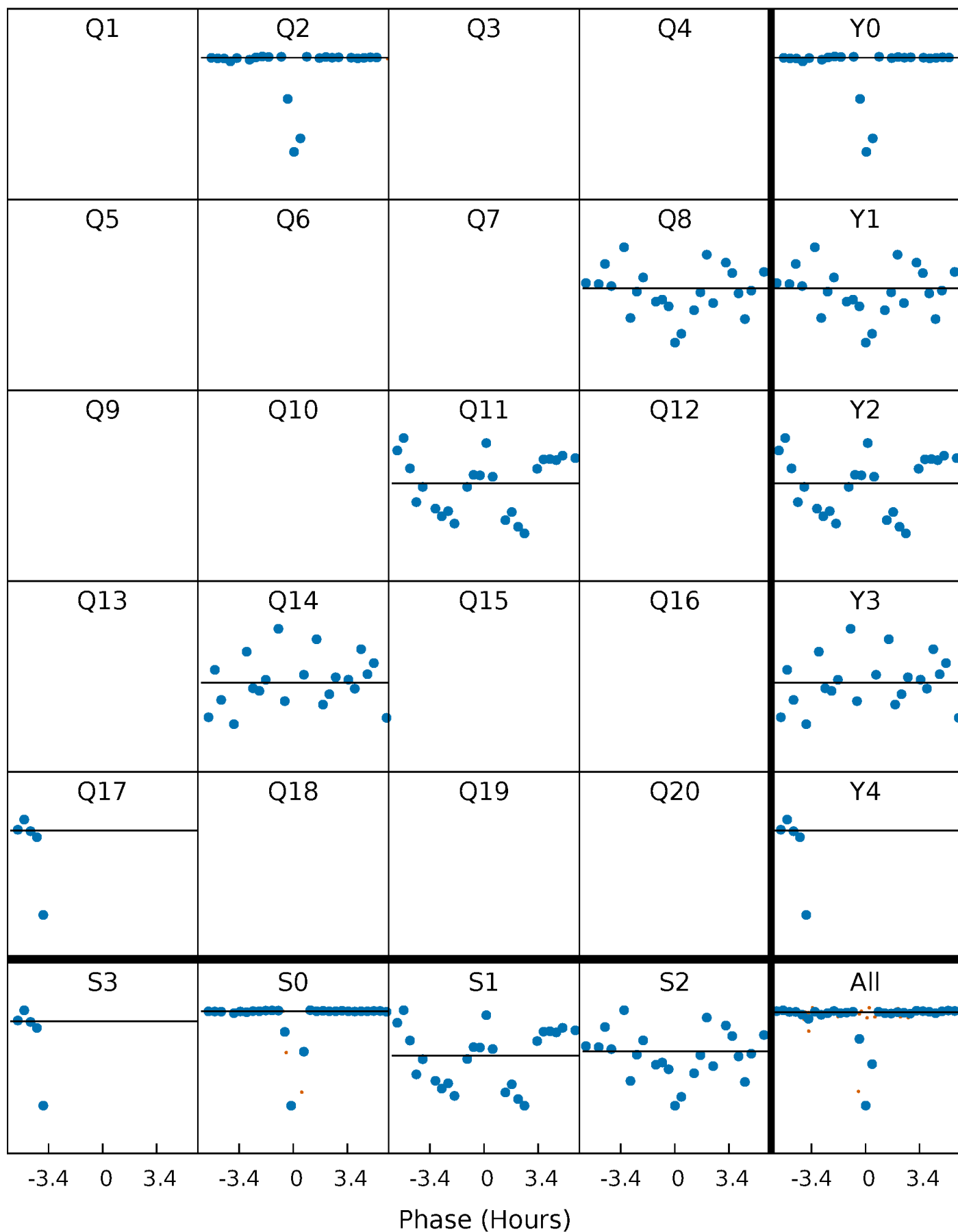
# PDC Quarter-Phased Transit Curves

TCE 010671402-01 P=268.044830 Days  $T_0=250.925805$  (BKJD)



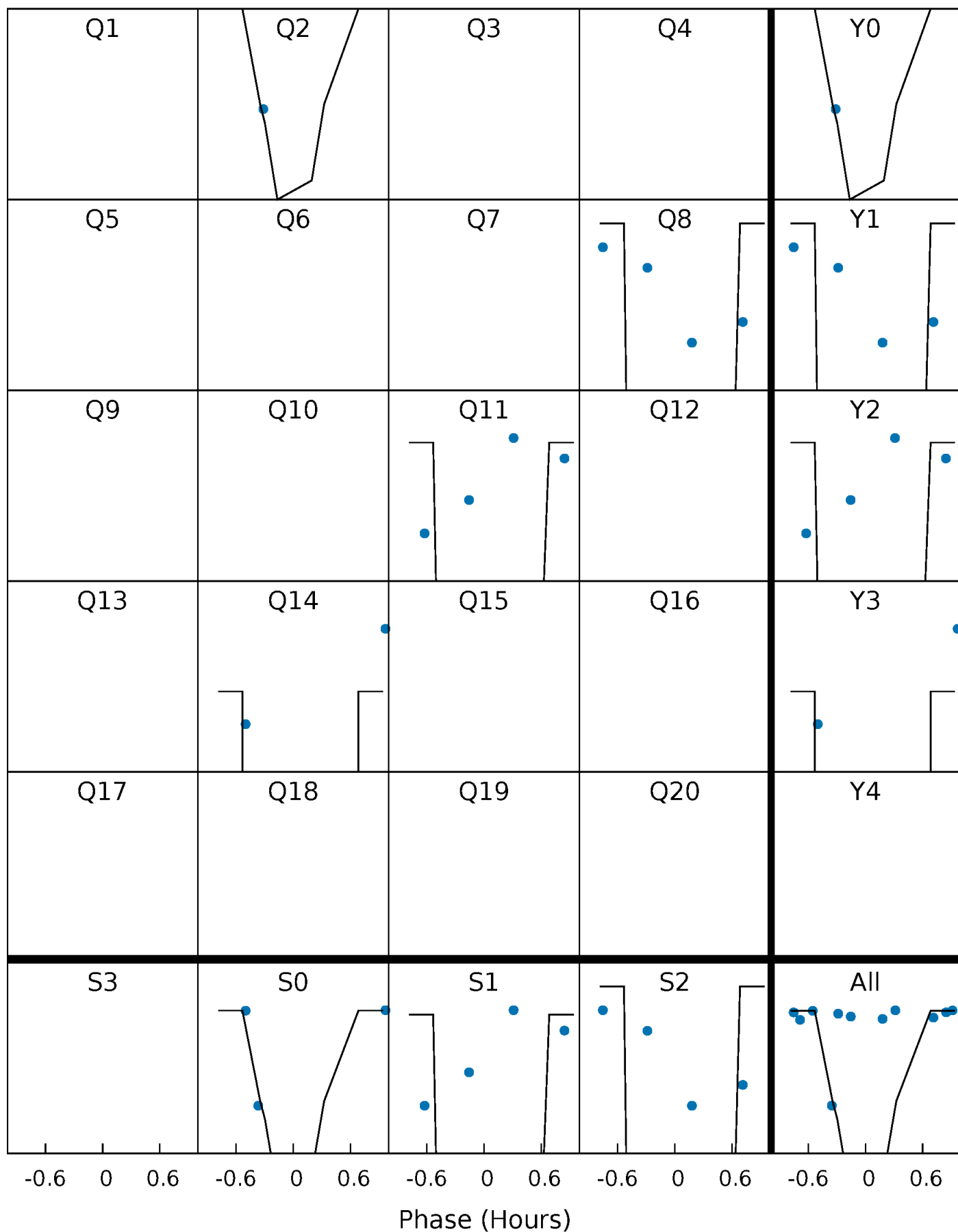
# DV Quarter-Phased Transit Curves

TCE 010671402-01     $P=268.044830$  Days     $T_0=250.925805$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

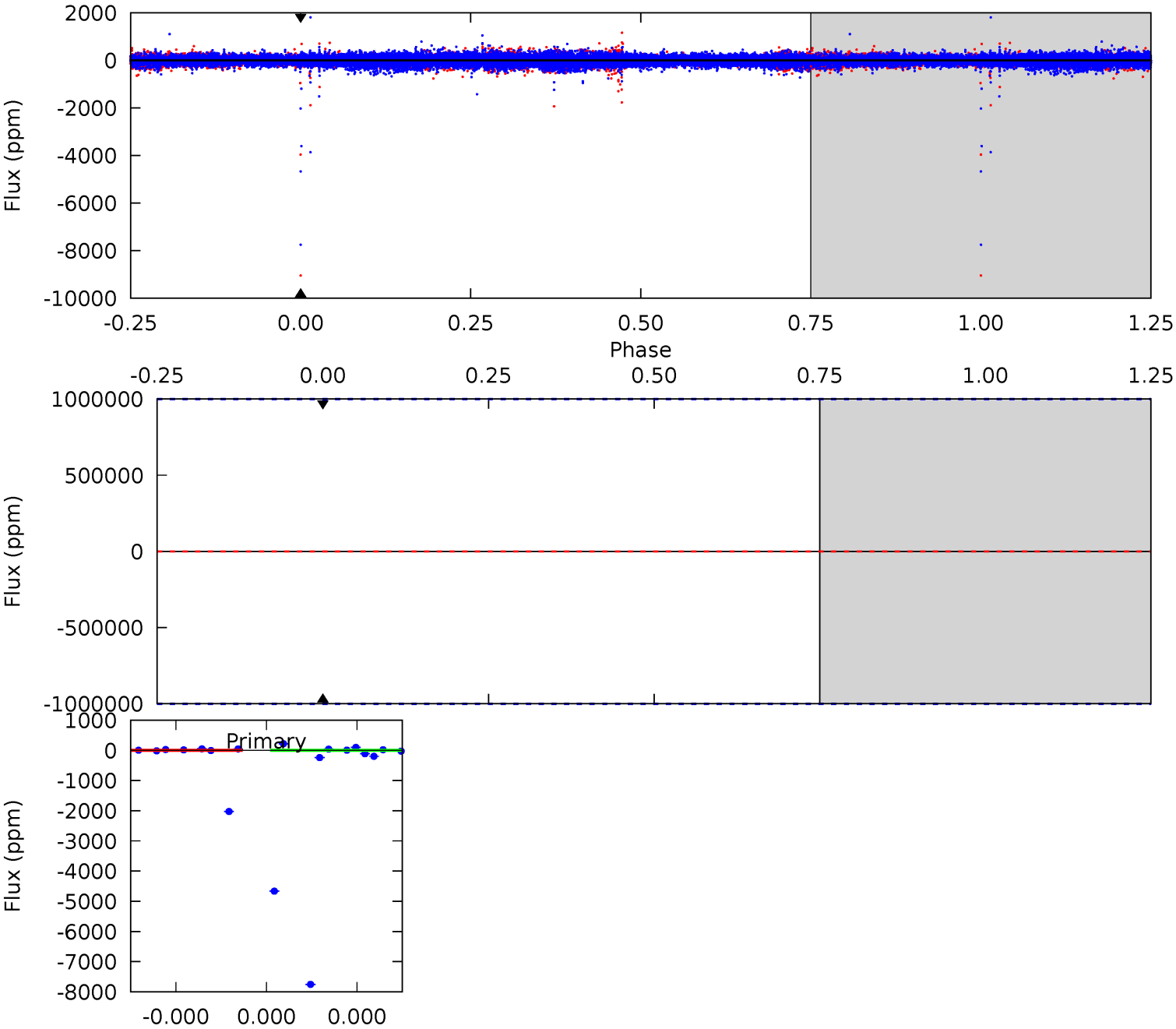
TCE 010671402-01 P=268.044830 Days  $T_0=250.921725$  (BKJD)



# DV Model-Shift Uniqueness Test

010671402-01, P = 268.044830 Days, E = 250.925805 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

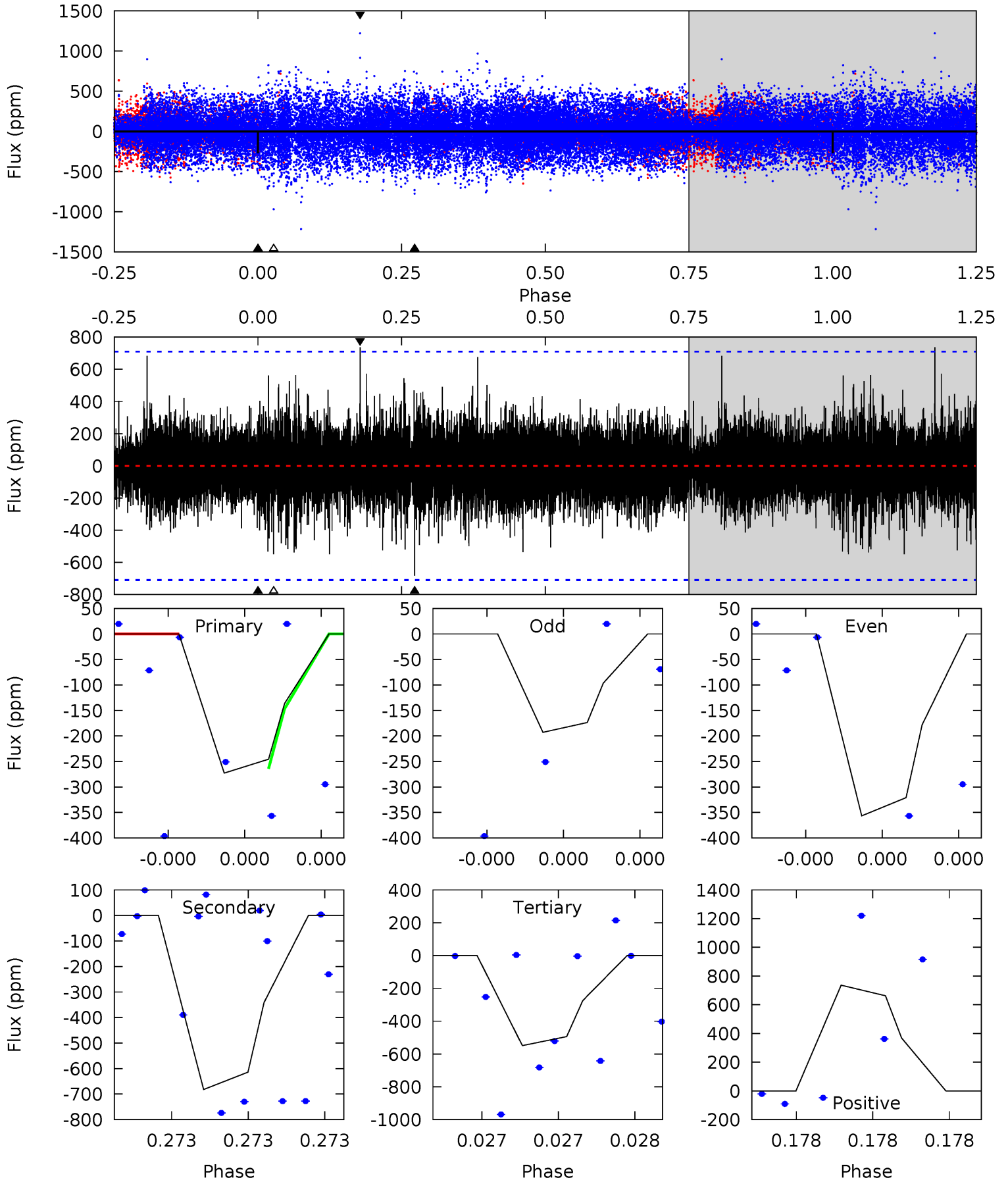




# Alt Model-Shift Uniqueness Test

010671402-01, P = 268.044830 Days, E = 250.921725 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
2.25	5.63	4.53	6.08	5.85	3.90	0.93	-2.28	-3.83	1.10	-0.45	0.59	1.00	0.52	0



### Stellar Parameters For KIC 010671402

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$4904^{+136}_{-86}$	$2.933^{+0.195}_{-0.195}$	$-0.460^{+0.250}_{-0.200}$	$5.201^{+2.127}_{-1.064}$	$0.846^{+0.435}_{-0.023}$	$0.008^{+0.008}_{-0.004}$
	+3%/-2%	+7%/-7%	+54%/-43%	+41%/-20%	+51%/-3%	+89%/-50%
Source	PHO1	FLK73	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 010671402-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$0 \pm 1000000$	$58.73^{+55.15}_{-38.09}$	$787^{+68}_{-52}$	$-3992^{+14488}_{-7428}$	$-334.436^{+15822.624}_{-19442.289}$
Alt.	$-682 \pm 121$	$75.26^{+60.11}_{-45.04}$	$787^{+69}_{-52}$	$2878^{+902}_{-382}$	$41^{+224}_{-28}$

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

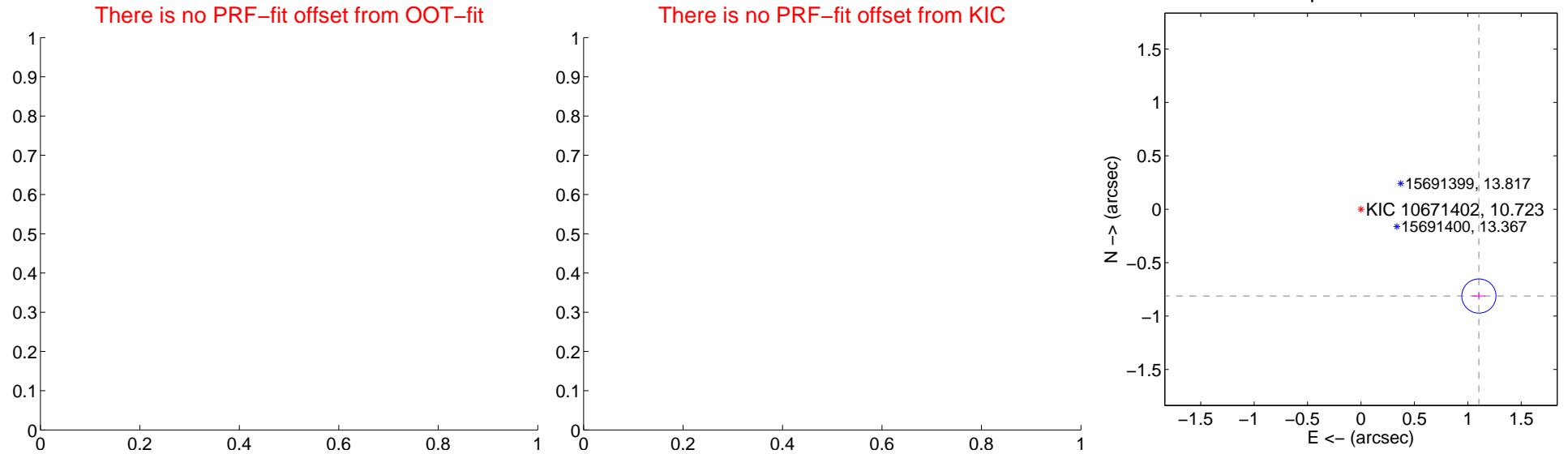
## DV Centroid Data

Supplemental centroid analysis for 010671402-01. **Kepler magnitude: 10.72.** Transit SNR -1.00

**There are 0 quarters with good PRF difference image offsets**

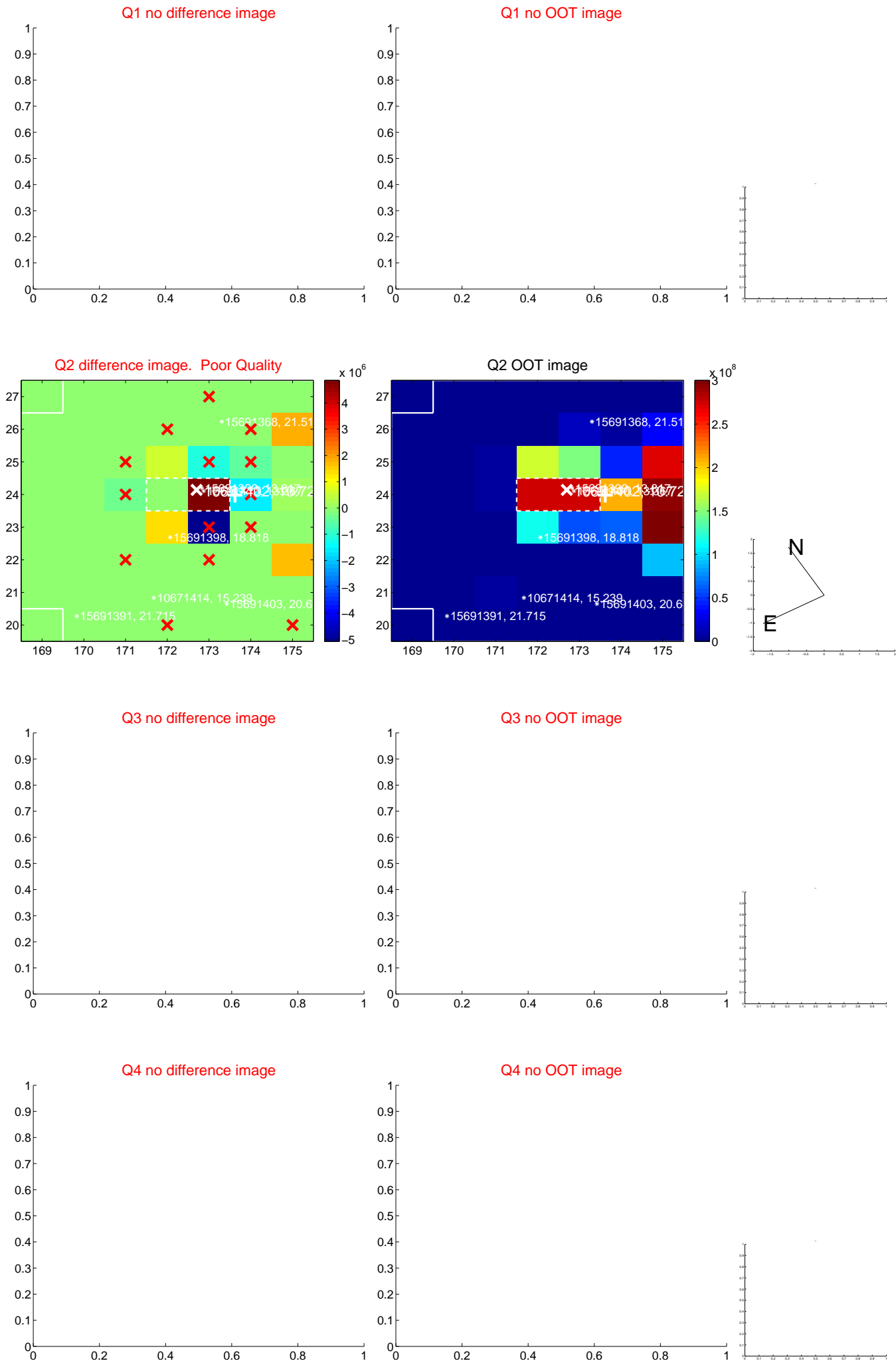
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	<b>1.37 <math>\pm</math> 0.05</b>	<b>25.69</b>	-1.10 $\pm$ 0.06	-0.81 $\pm$ 0.03



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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



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

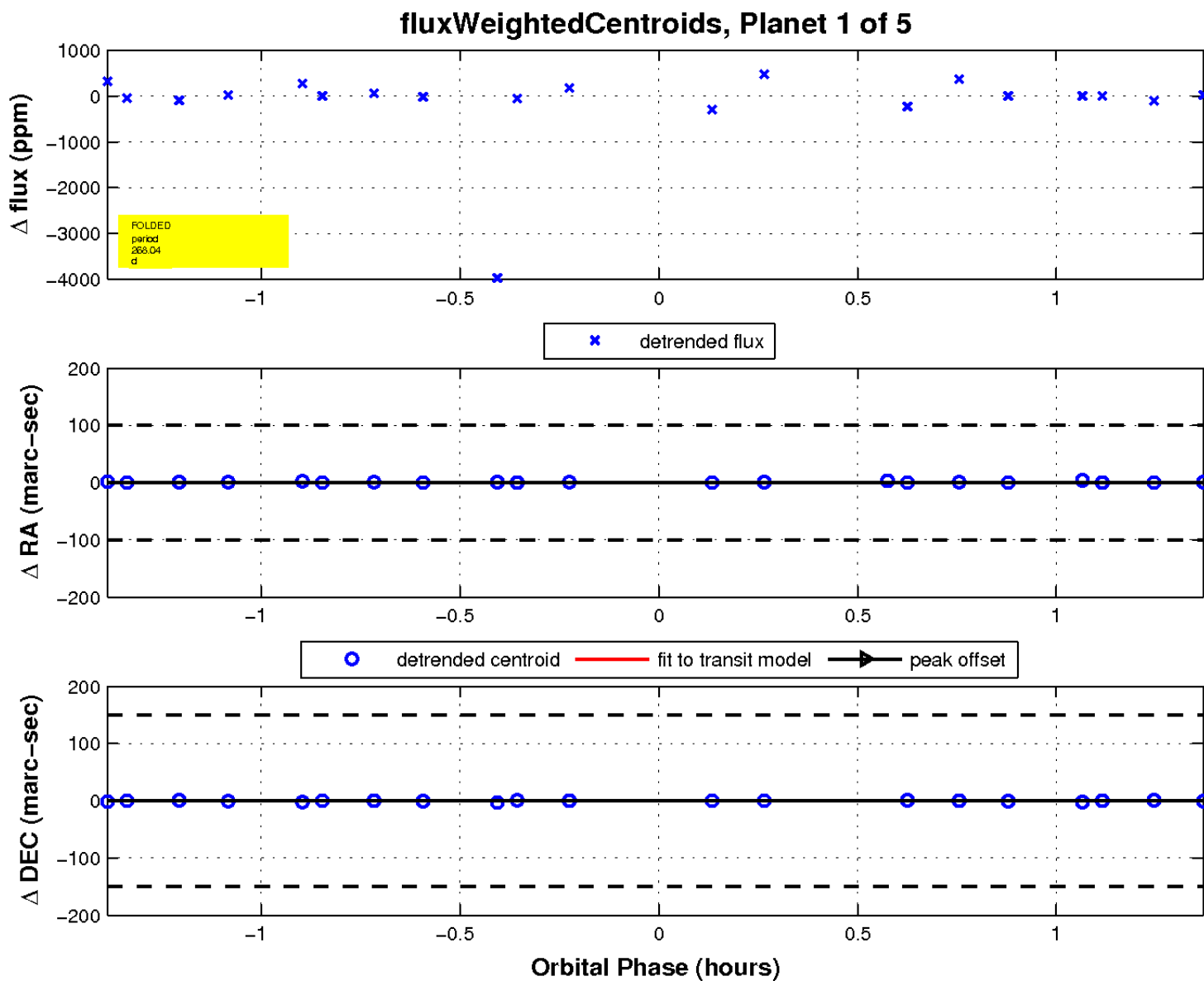
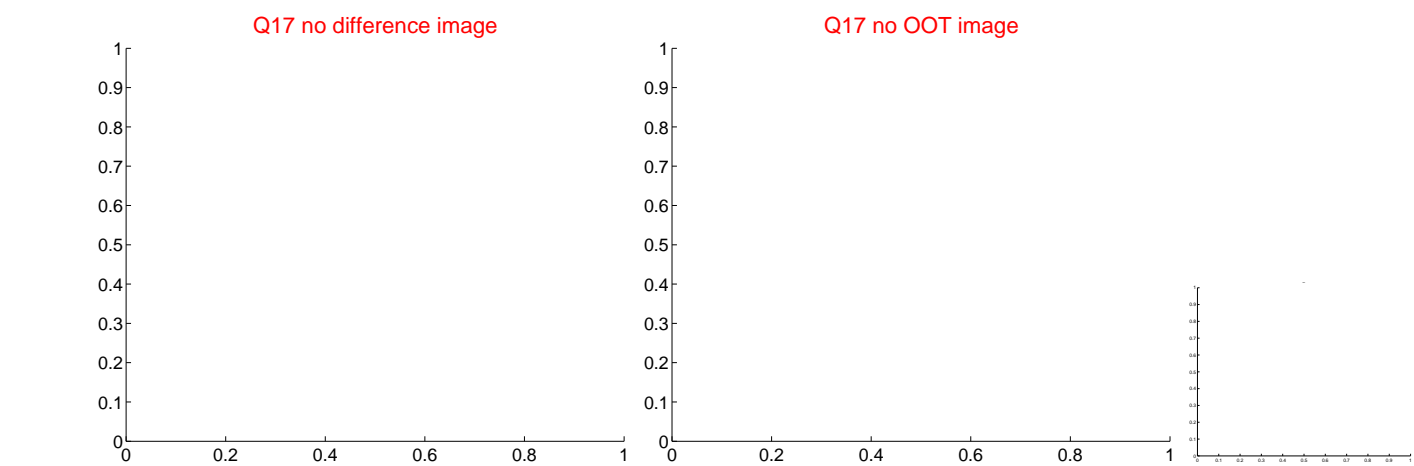


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



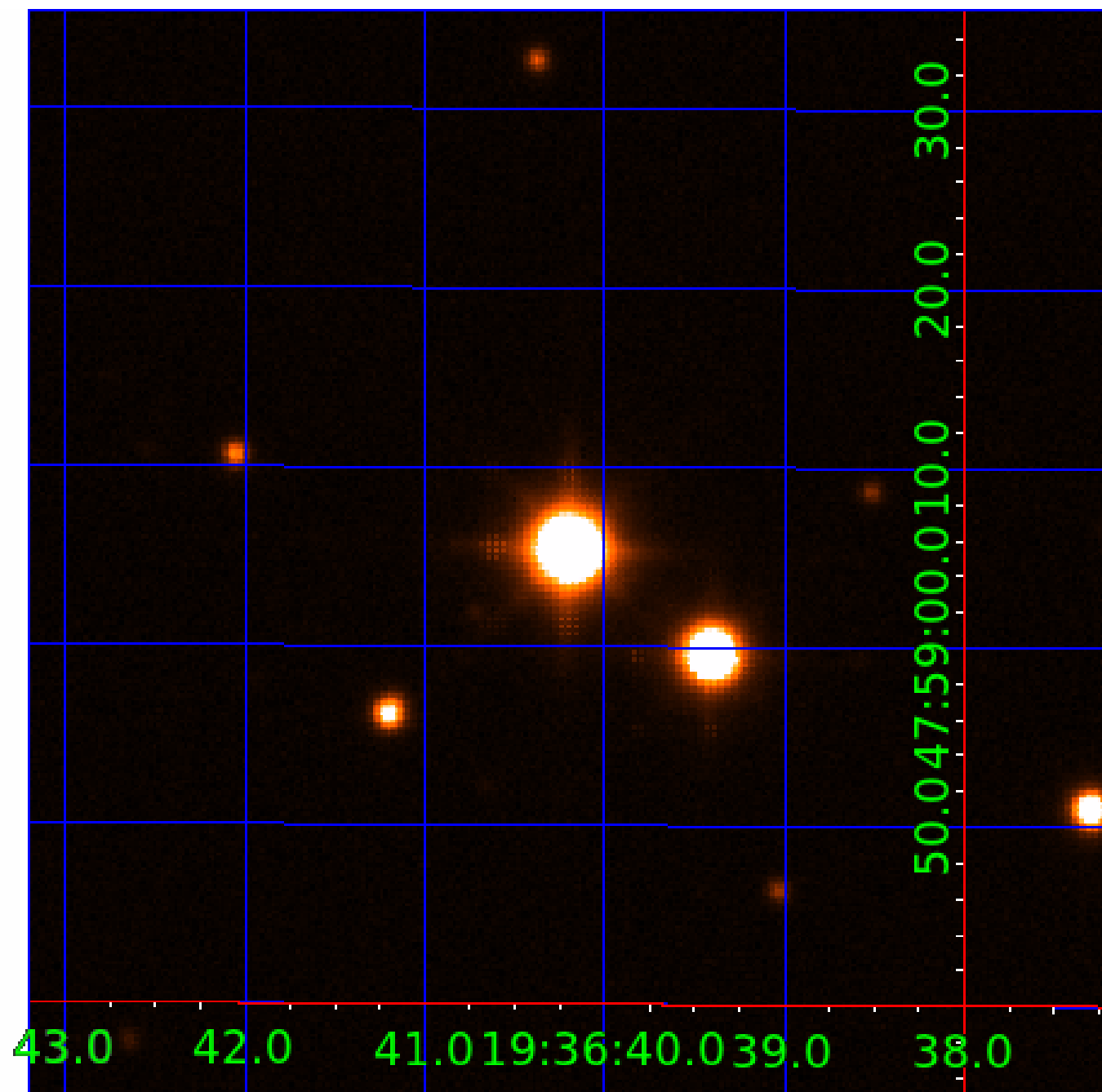


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 010671402

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010671402-01	OBS	No	268.044830	250.925806	6031.4	3.000	270.8	-1.0	5.20	4904	39.33	23.67
010671402-02	OBS	No	362.123502	254.672935	1338.0	15.995	195.3	107.9	5.20	4904	22.85	15.85
010671402-03	OBS	No	464.051556	251.223078	1462.6	2.920	81.9	25.5	5.20	4904	34.76	11.39
010671402-04	OBS	No	361.419317	258.676786	936.9	43.579	44.7	54.3	5.20	4904	21.18	15.89
010671402-05	OBS	No	245.999629	367.845549	279.4	15.000	29.5	-1.0	5.20	4904	8.45	26.54

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010671402-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
010671402-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
010671402-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_SATURATED
010671402-04	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
010671402-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED

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

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

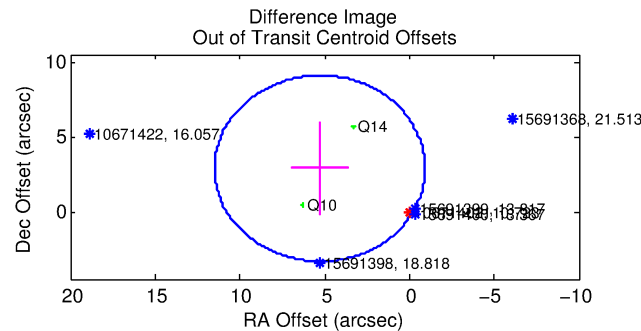
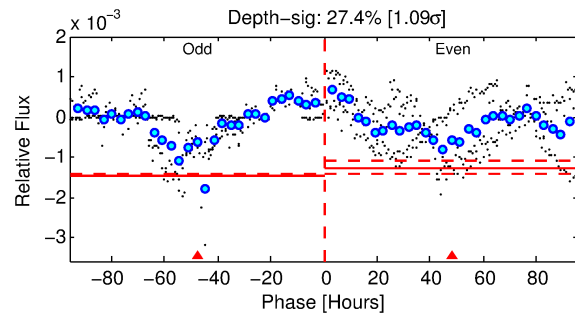
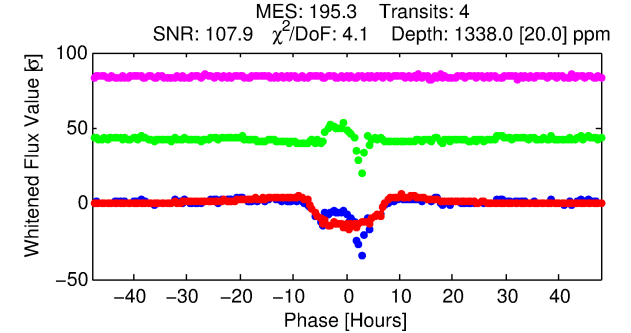
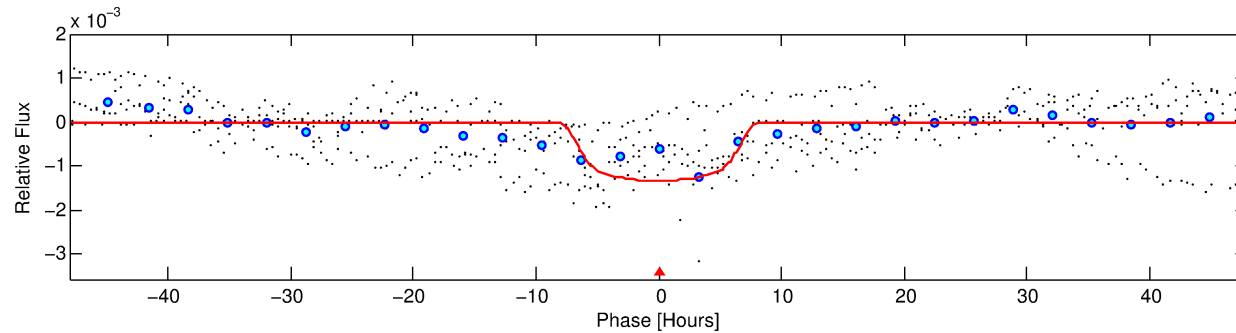
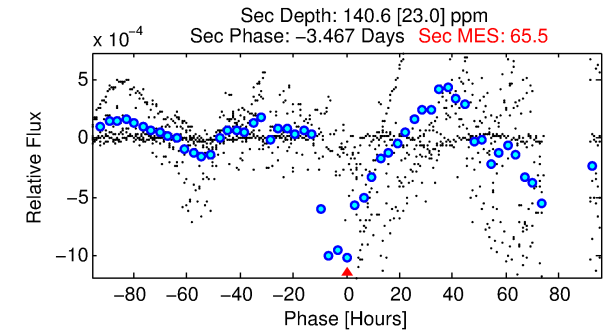
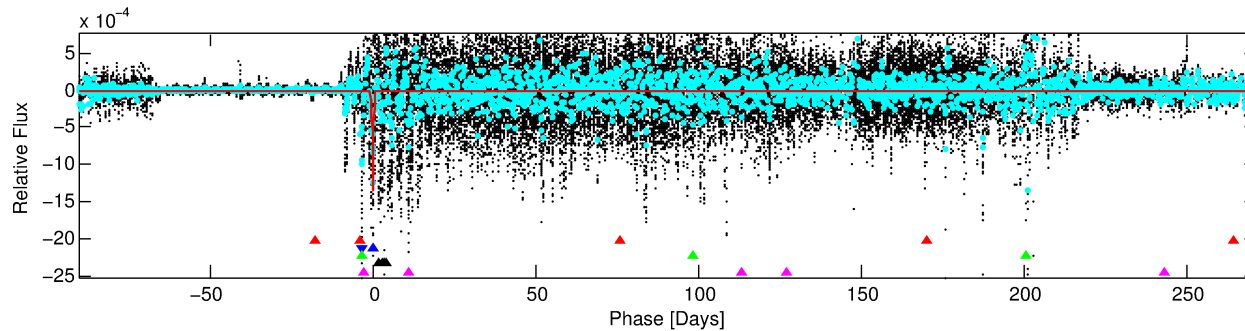
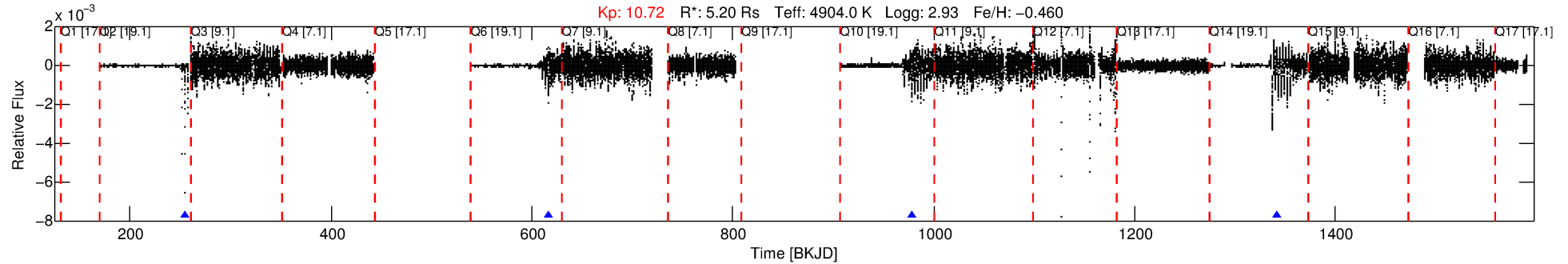
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010671402-02

No Significant Match Found

# DV One-Page Summary

KIC: 10671402 Candidate: 2 of 5 Period: 362.124 d



## DV Fit Results:

Period = 362.12350 [0.00366] d  
Epoch = 254.6729 [0.0025] BKJD  
Rp/R\* = 0.0403 [0.0011]  
a/R\* = 92.89 [8.97]  
b = 0.89 [0.02]  
Seff = 15.85 [6.65]  
Teq = 509 [53] K  
Rp = 22.85 [9.37] Re  
a = 0.9404 [0.2925] AU  
Ag = 130.97 [57.65] [2.25 $\sigma$ ]  
Teffp = 2661 [137] K [14.68 $\sigma$ ]

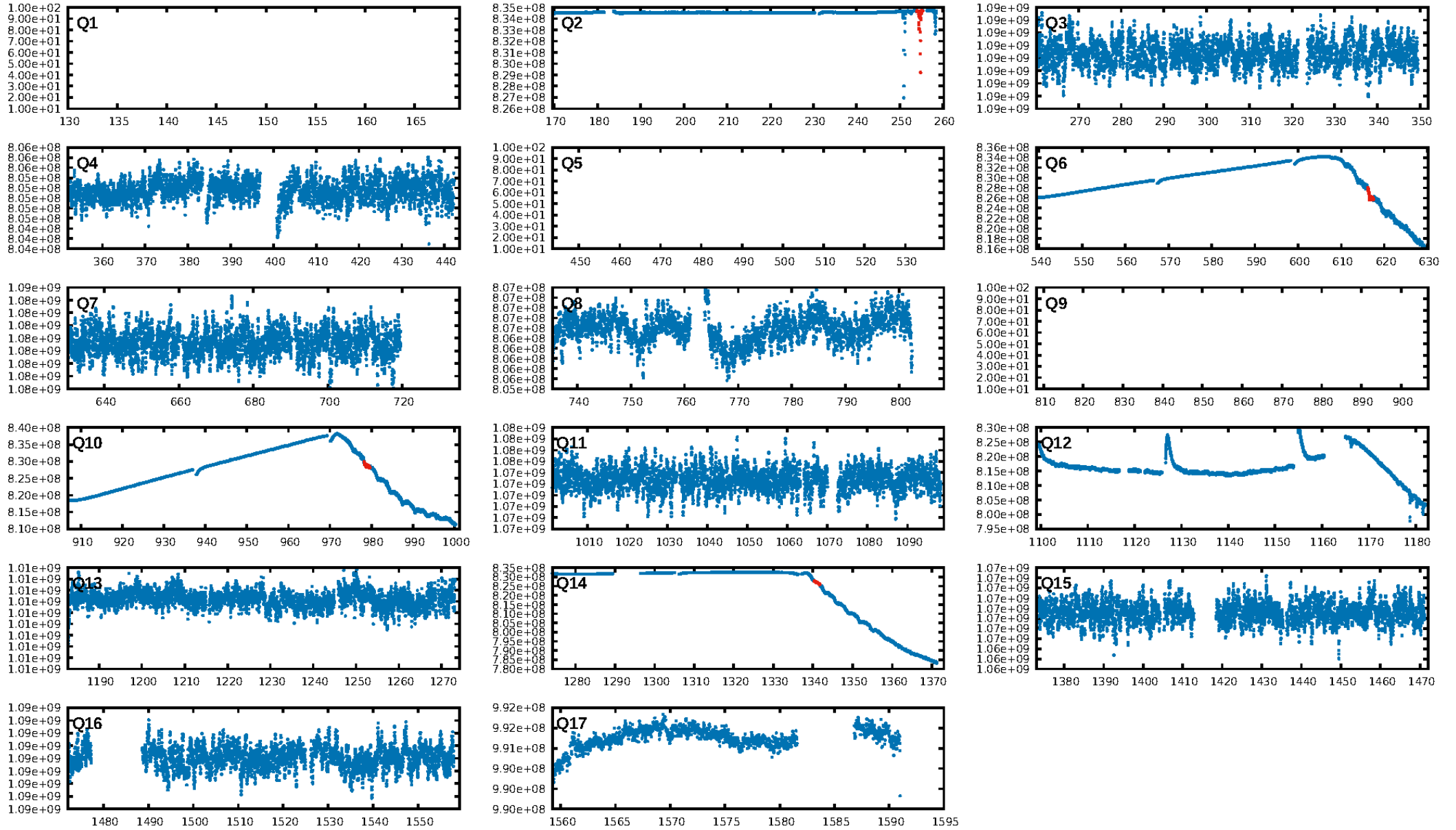
## DV Diagnostic Results:

ShortPeriod-sig: 28.4% [0.36 $\sigma$ ]  
LongPeriod-sig: 100.0% [150.45 $\sigma$ ]  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 0.0%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: -9.174  
Centroid-sig: 0.2%  
Centroid-so: 1.841 arcsec [4.27 $\sigma$ ]  
OotOffset-rm: 6.017 arcsec [2.91 $\sigma$ ]  
KicOffset-rm: 2.505 arcsec [1.40 $\sigma$ ]  
OotOffset-st: 2/0/0/0 [2]  
KicOffset-st: 2/0/0/0 [2]  
DiffImageQuality-fgm: 0.00 [0/2]  
DiffImageOverlap-fno: 0.67 [2/3]

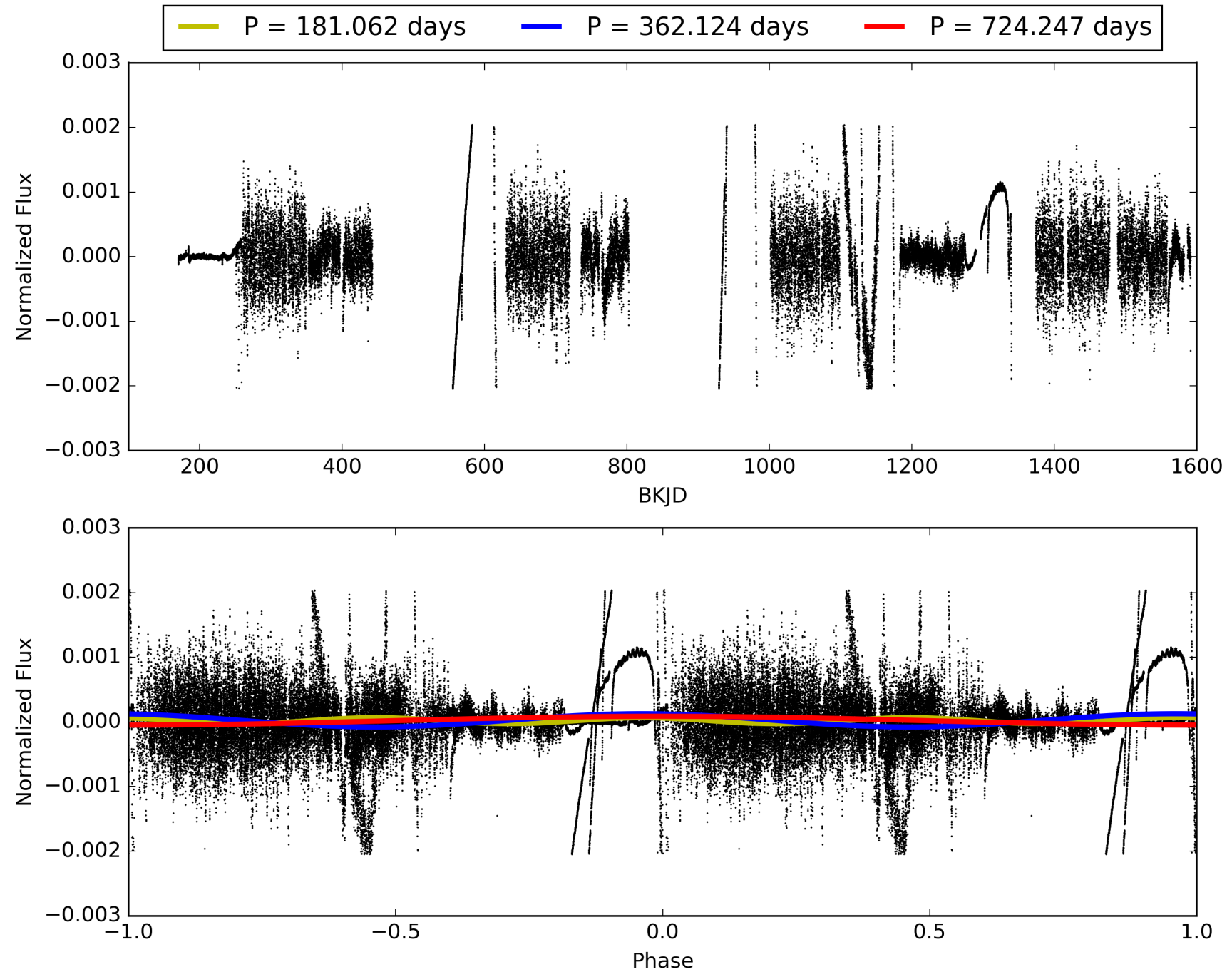
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:47:01 Z

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

# TCE 010671402-02, PDC Light Curves

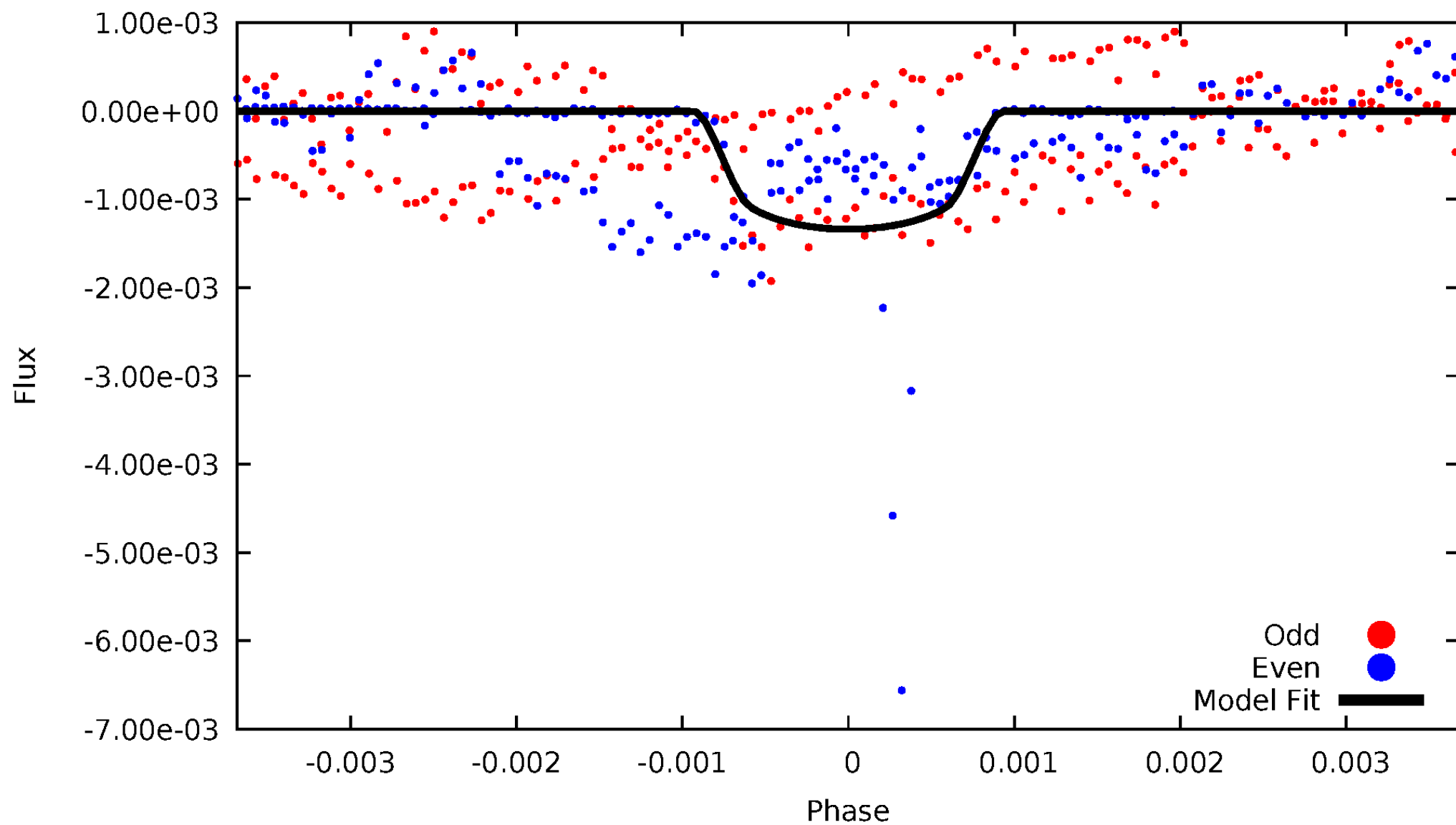


# TCE 010671402-02



# DV Odd/Even

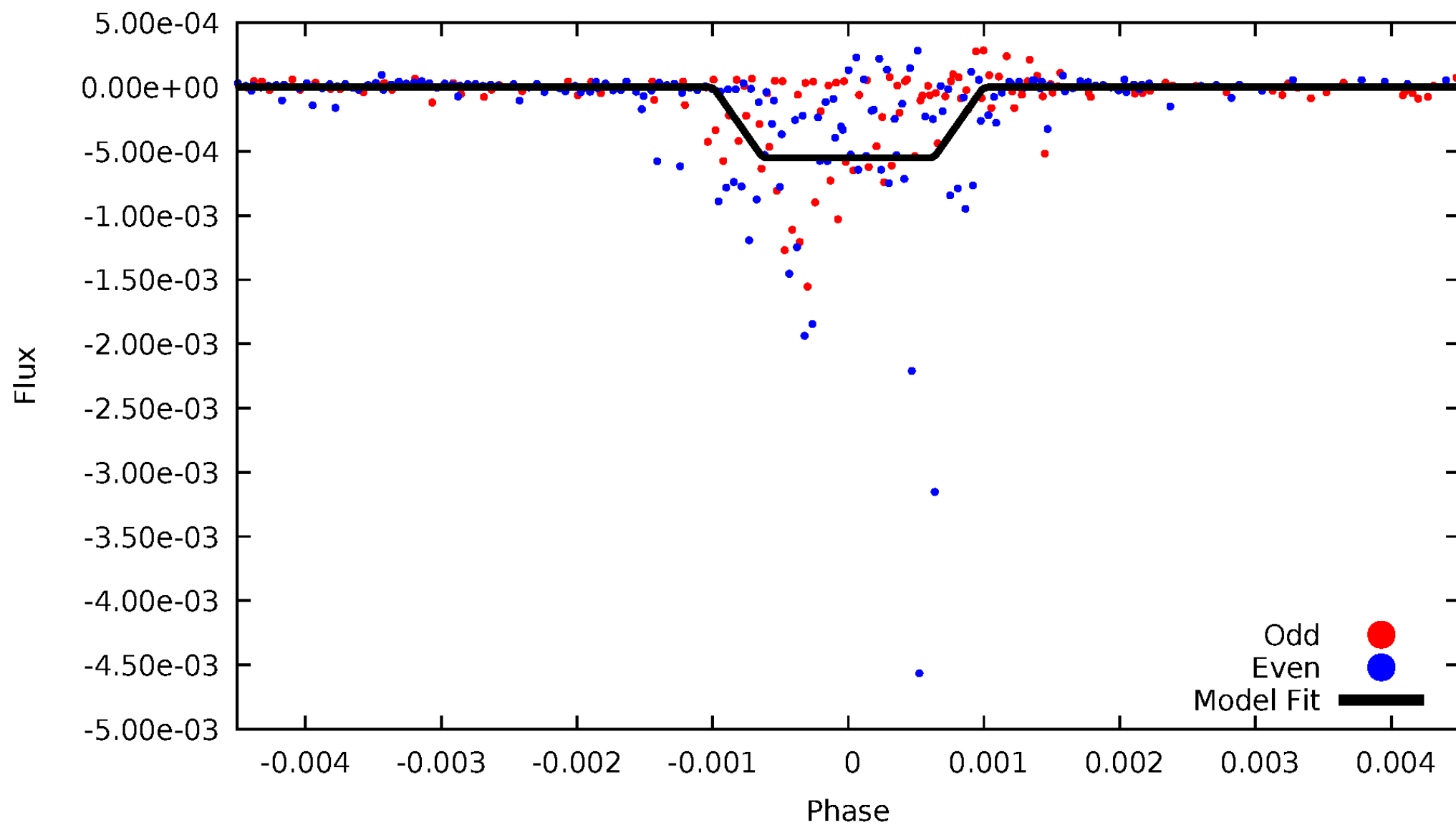
TCE 010671402-02





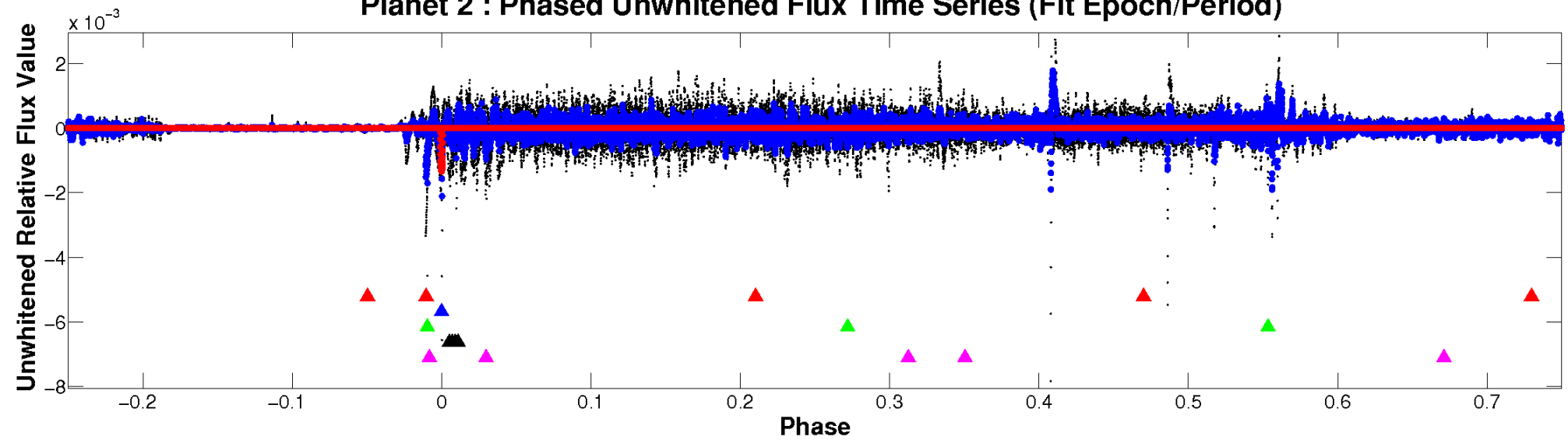
# ALT Odd/Even

TCE 010671402-02

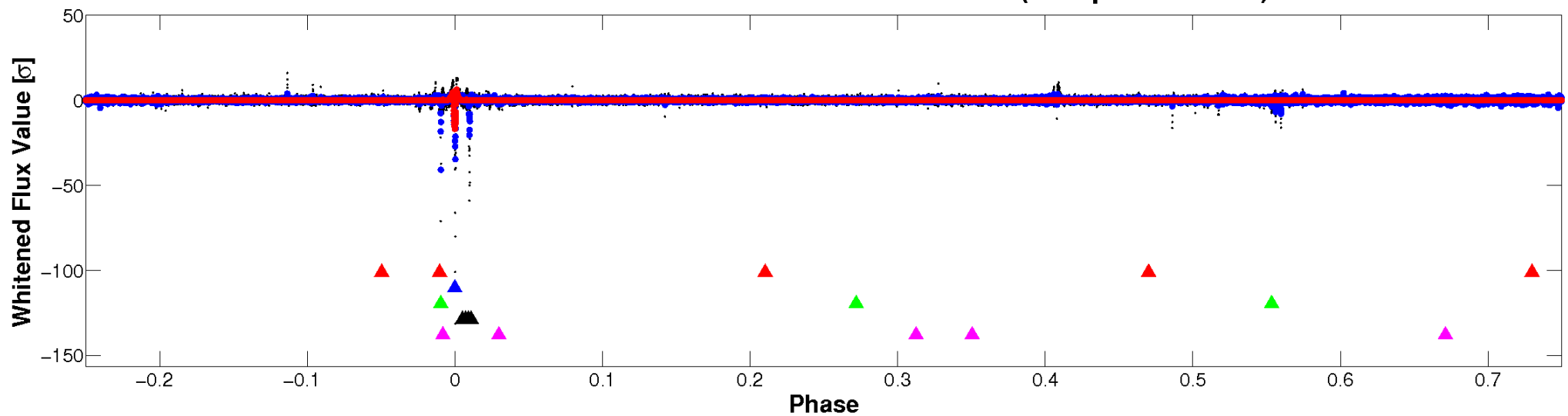


# Non-Whitened Vs. Whitened Light Curve

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

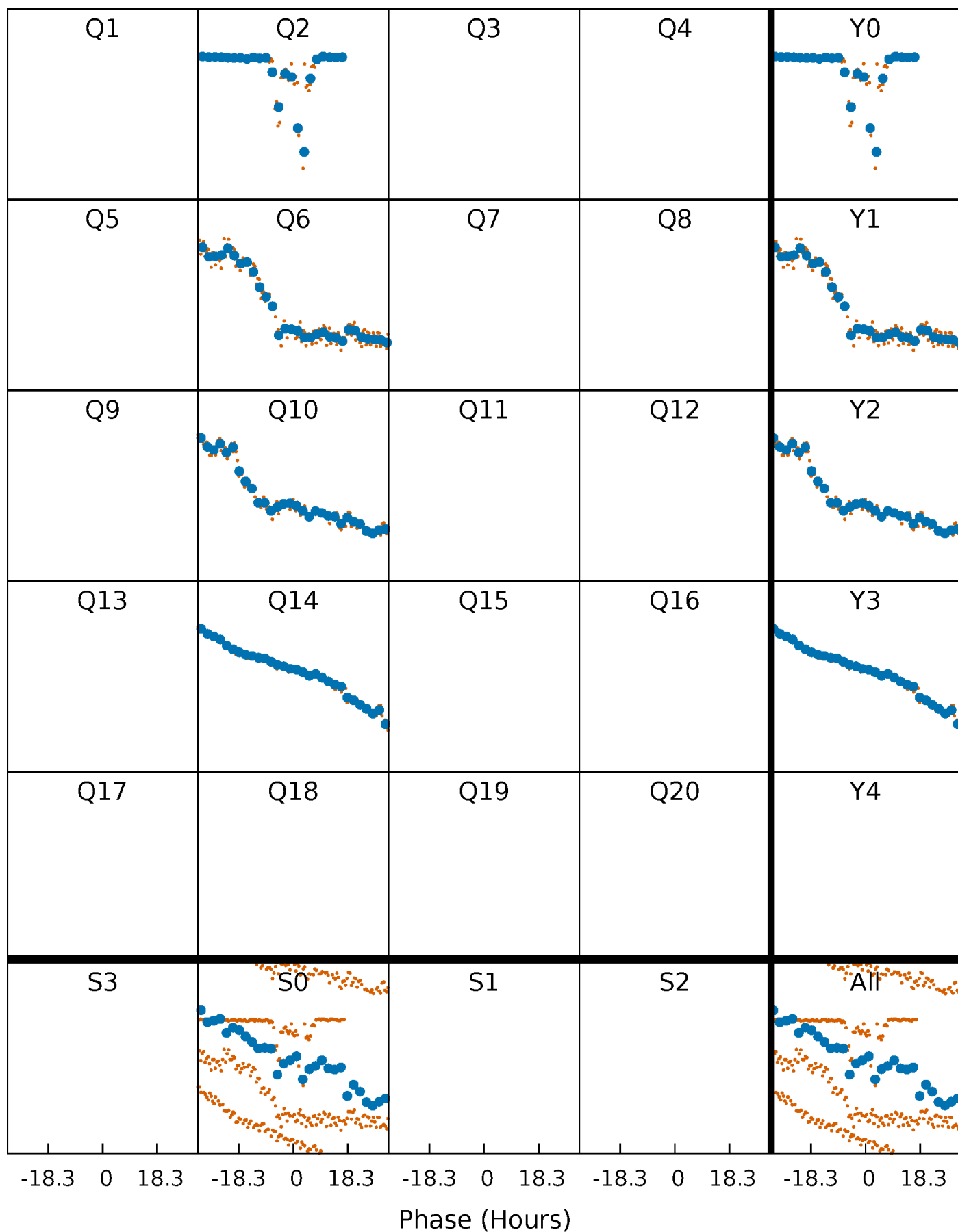


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



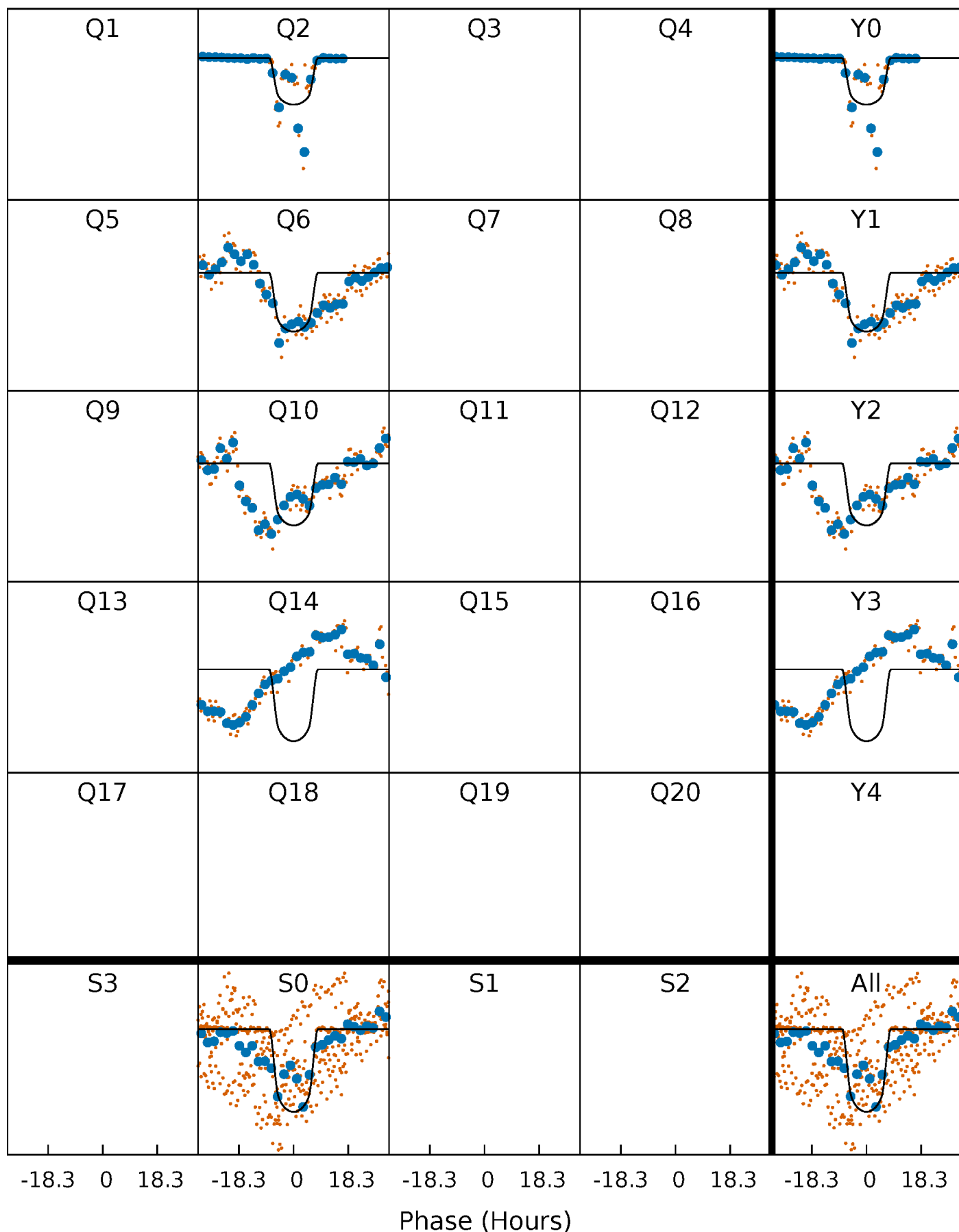
# PDC Quarter-Phased Transit Curves

TCE 010671402-02 P=362.123502 Days  $T_0=254.672935$  (BKJD)



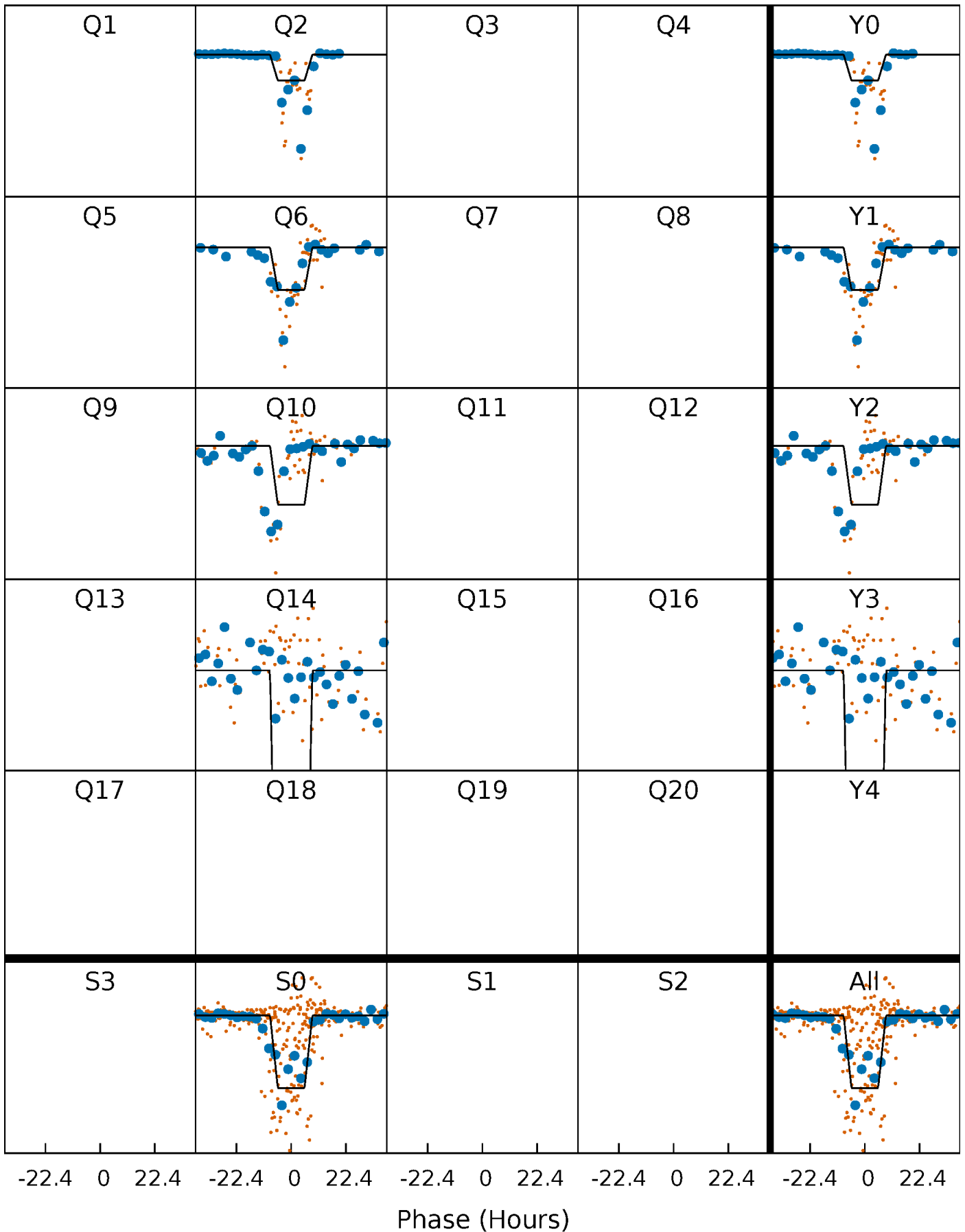
# DV Quarter-Phased Transit Curves

TCE 010671402-02     $P=362.123502$  Days     $T_0=254.672935$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

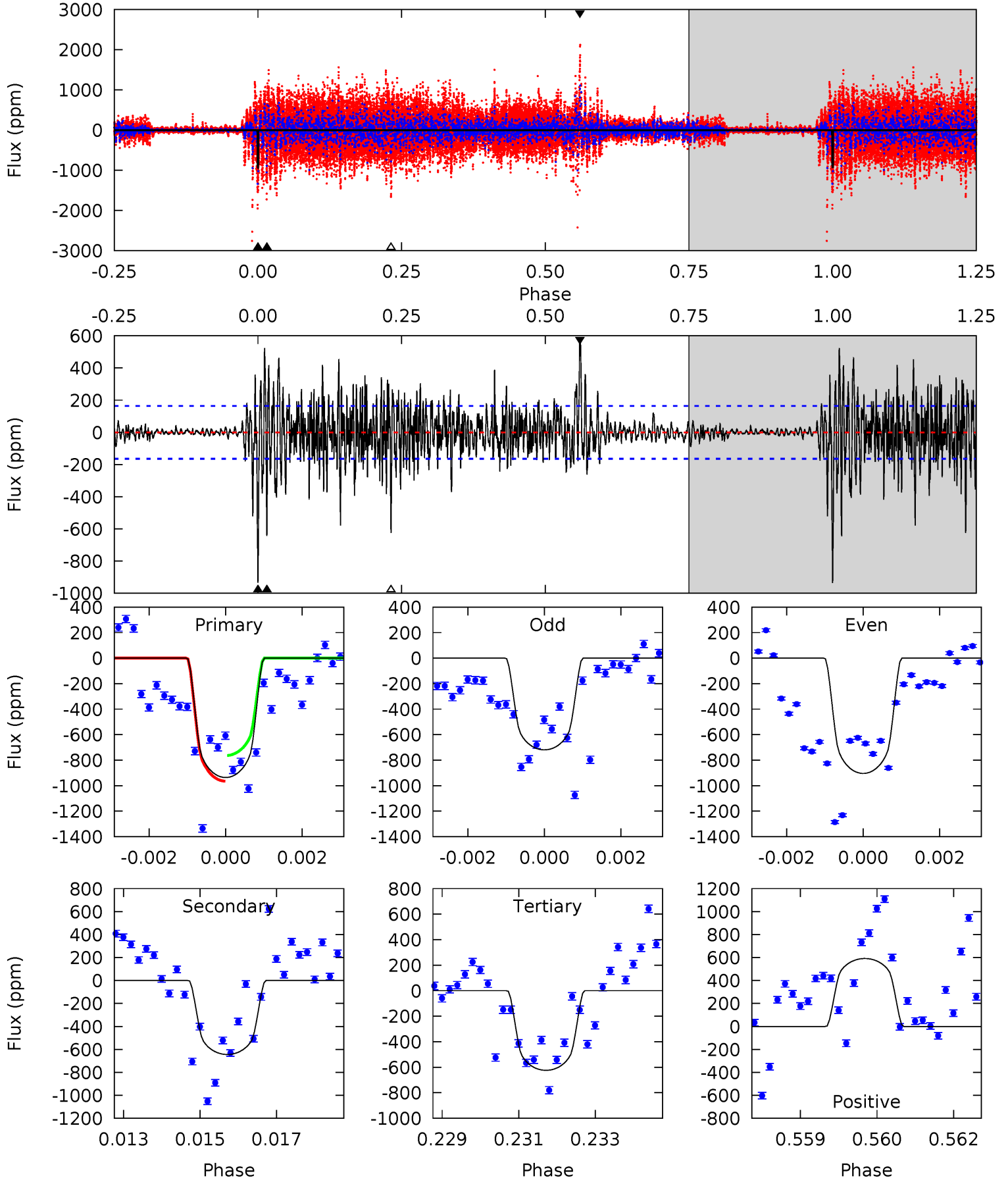
TCE 010671402-02 P=362.157606 Days  $T_0=254.579244$  (BKJD)



# DV Model-Shift Uniqueness Test

010671402-02, P = 362.123502 Days, E = 254.672935 Days

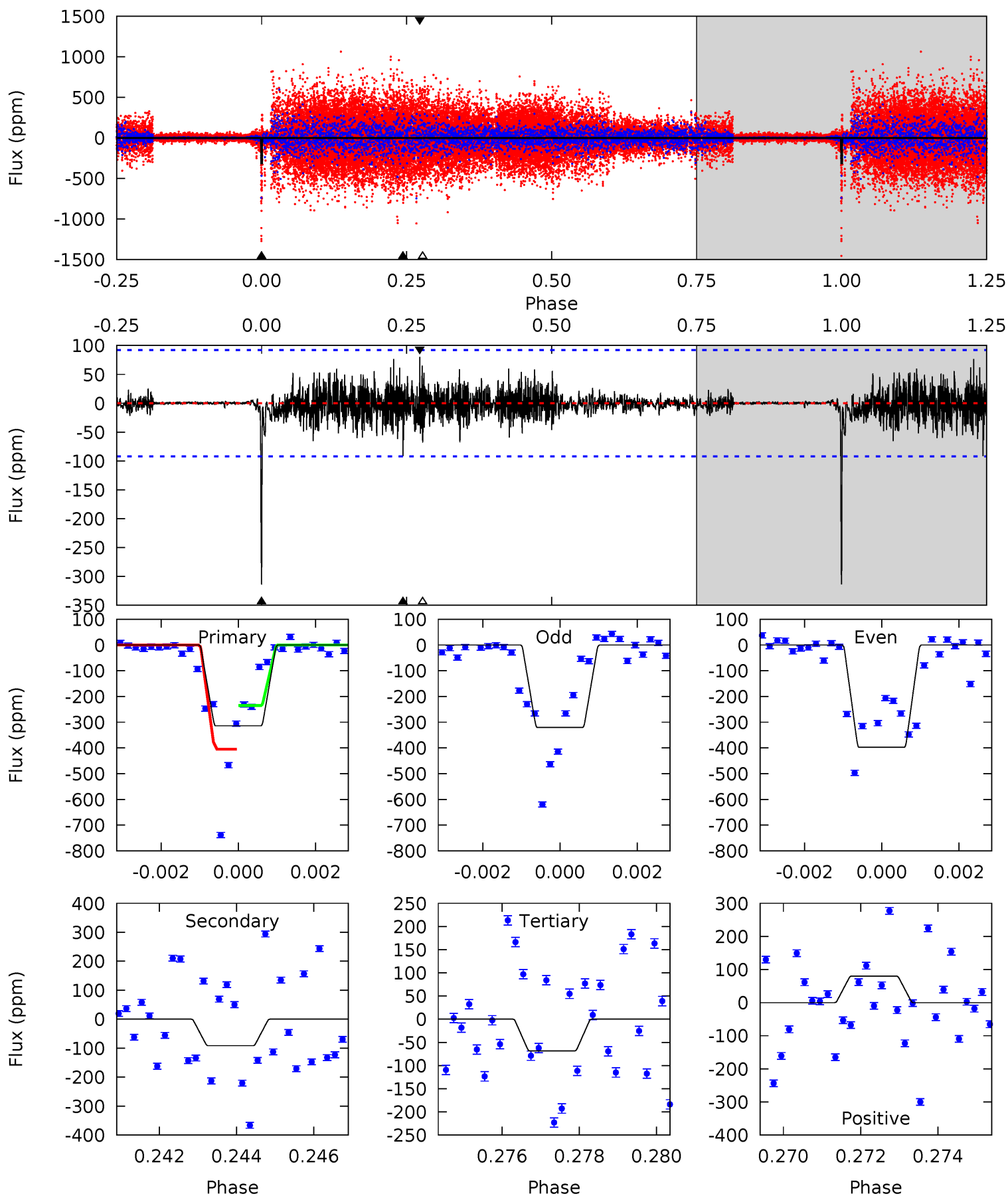
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.4	21.0	20.3	19.2	5.34	3.11	4.03	10.1	11.2	0.66	1.73	2.64	0.78	0.39	0



# Alt Model-Shift Uniqueness Test

010671402-02, P = 362.157606 Days, E = 254.579244 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
18.1	5.27	3.94	4.62	5.32	3.09	0.92	14.2	13.5	1.33	0.65	2.08	1.09	0.20	0





### Stellar Parameters For KIC 010671402

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$4904^{+136}_{-86}$	$2.933^{+0.195}_{-0.195}$	$-0.460^{+0.250}_{-0.200}$	$5.201^{+2.127}_{-1.064}$	$0.846^{+0.435}_{-0.023}$	$0.008^{+0.008}_{-0.004}$
	+3%/-2%	+7%/-7%	+54%/-43%	+41%/-20%	+51%/-3%	+89%/-50%
Source	PHO1	FLK73	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 010671402-02 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-644 \pm 31$	$23.08^{+5.60}_{-2.78}$	$708^{+61}_{-45}$	$4114^{+105}_{-94}$	$613^{+194}_{-168}$
Alt.	$-91 \pm 17$	$13.68^{+3.04}_{-1.75}$	$712^{+63}_{-48}$	$3541^{+140}_{-130}$	$249^{+104}_{-78}$

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

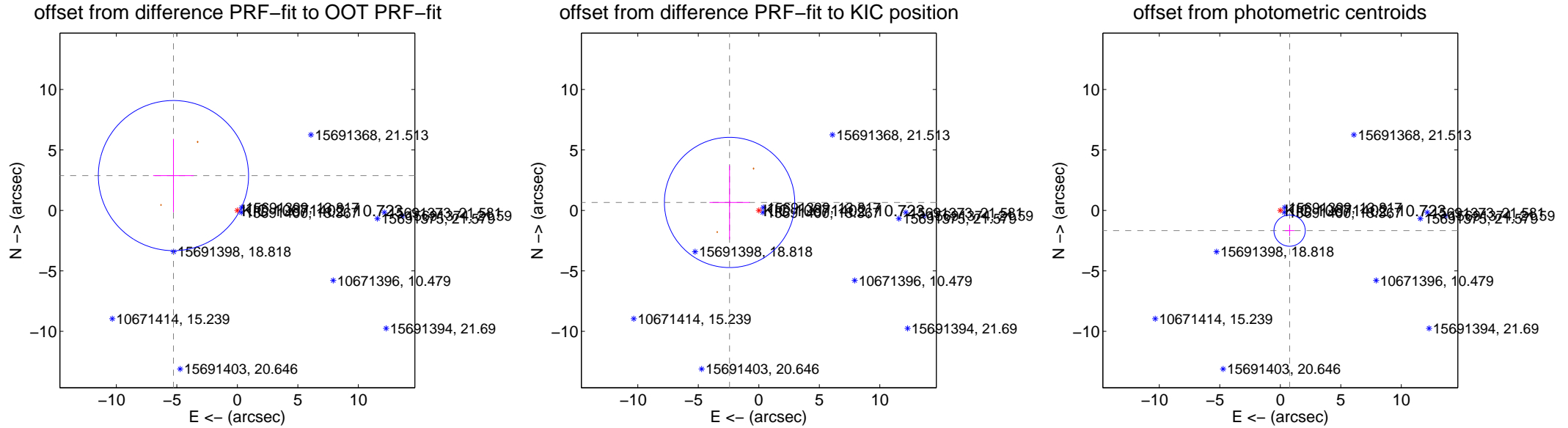
## DV Centroid Data

Supplemental centroid analysis for 010671402-02. **Kepler magnitude: 10.72.** Transit SNR 107.94

There are 0 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 3.60 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$6.017 \pm 2.070$	2.91	$5.283 \pm 1.677$	$2.881 \pm 3.038$
PRF-fit source offset from KIC position	$2.505 \pm 1.796$	1.40	$2.417 \pm 1.664$	$0.659 \pm 3.062$
photometric centroid source offset	$1.84 \pm 0.43$	4.27	$-0.77 \pm 0.40$	$-1.67 \pm 0.44$

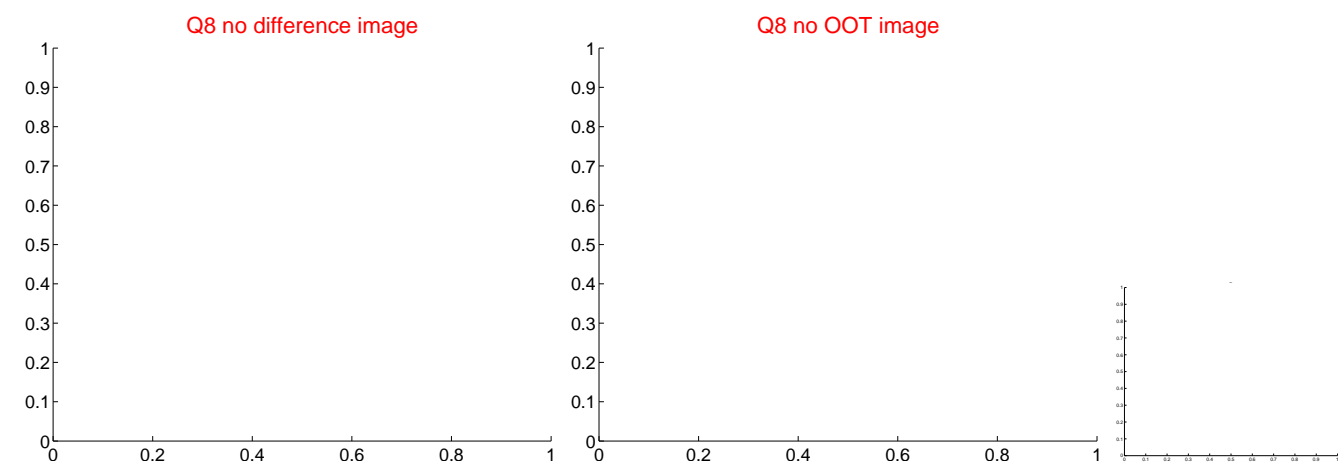
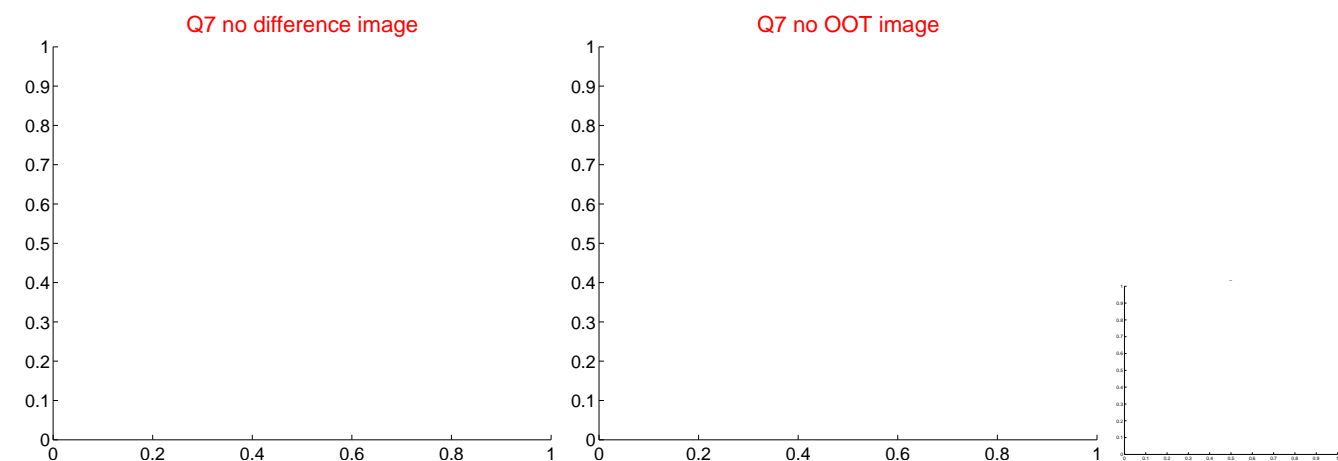
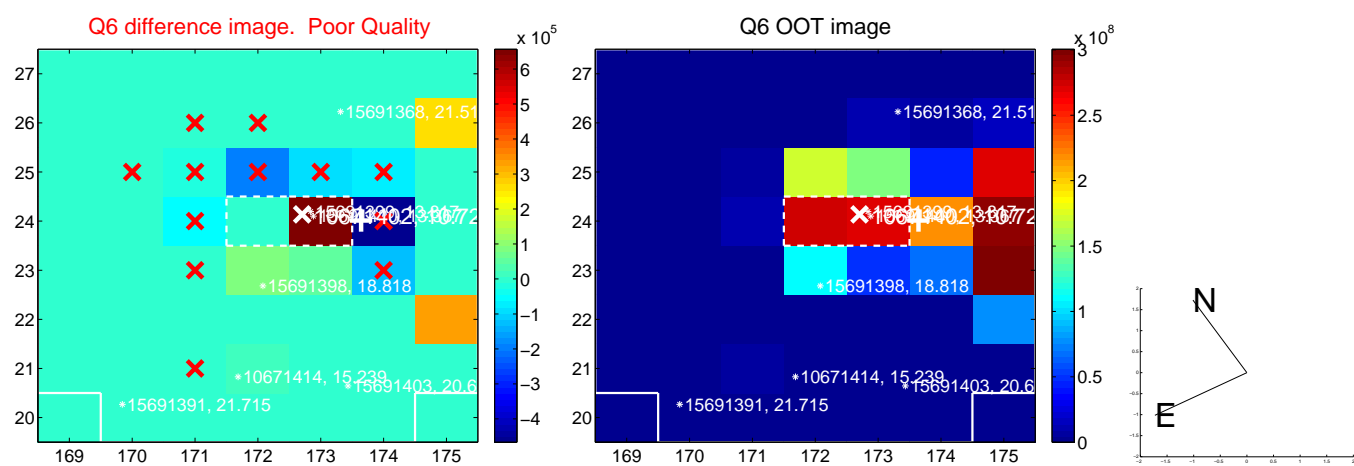
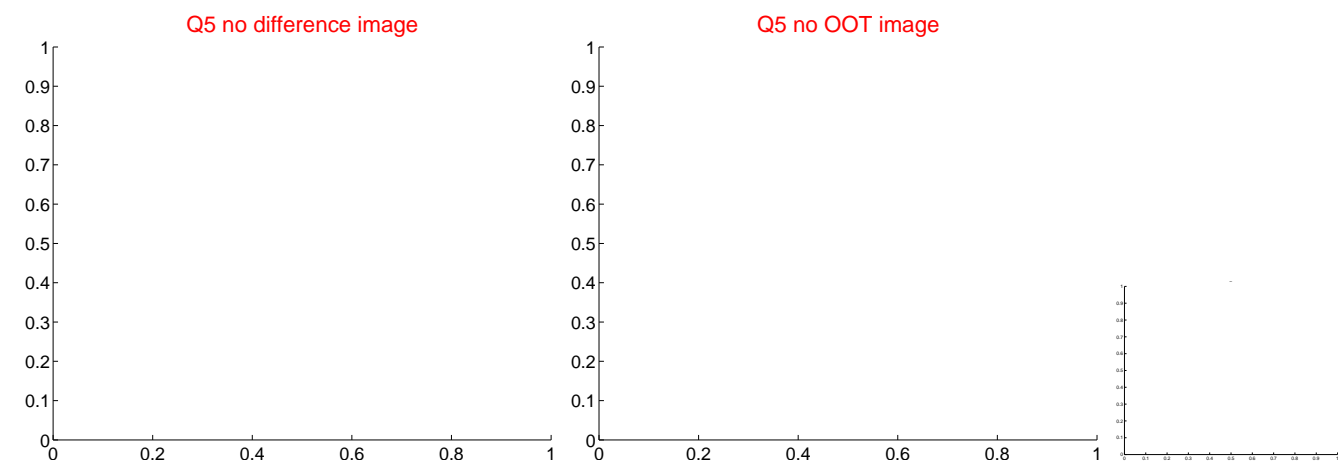


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

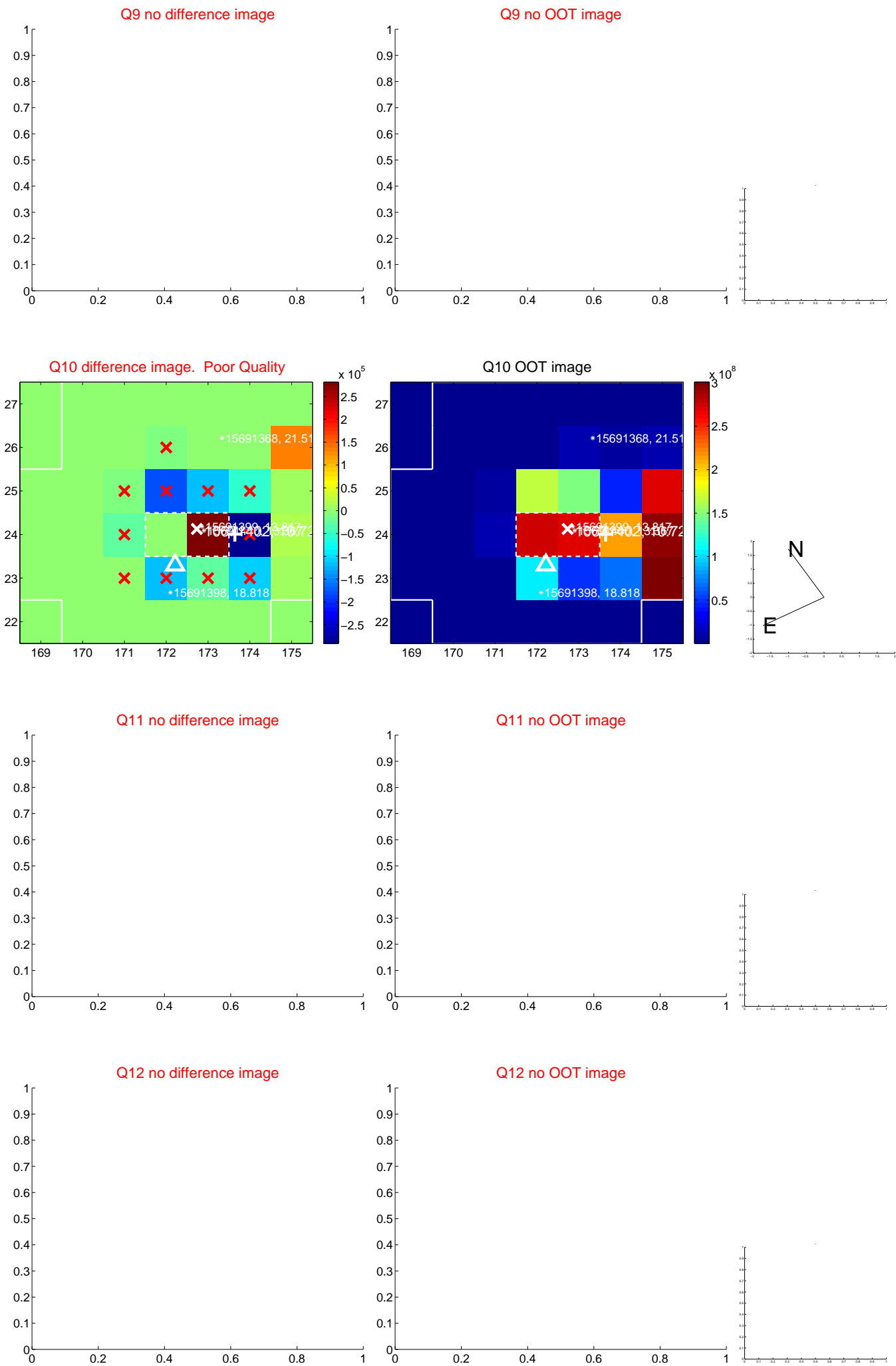
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



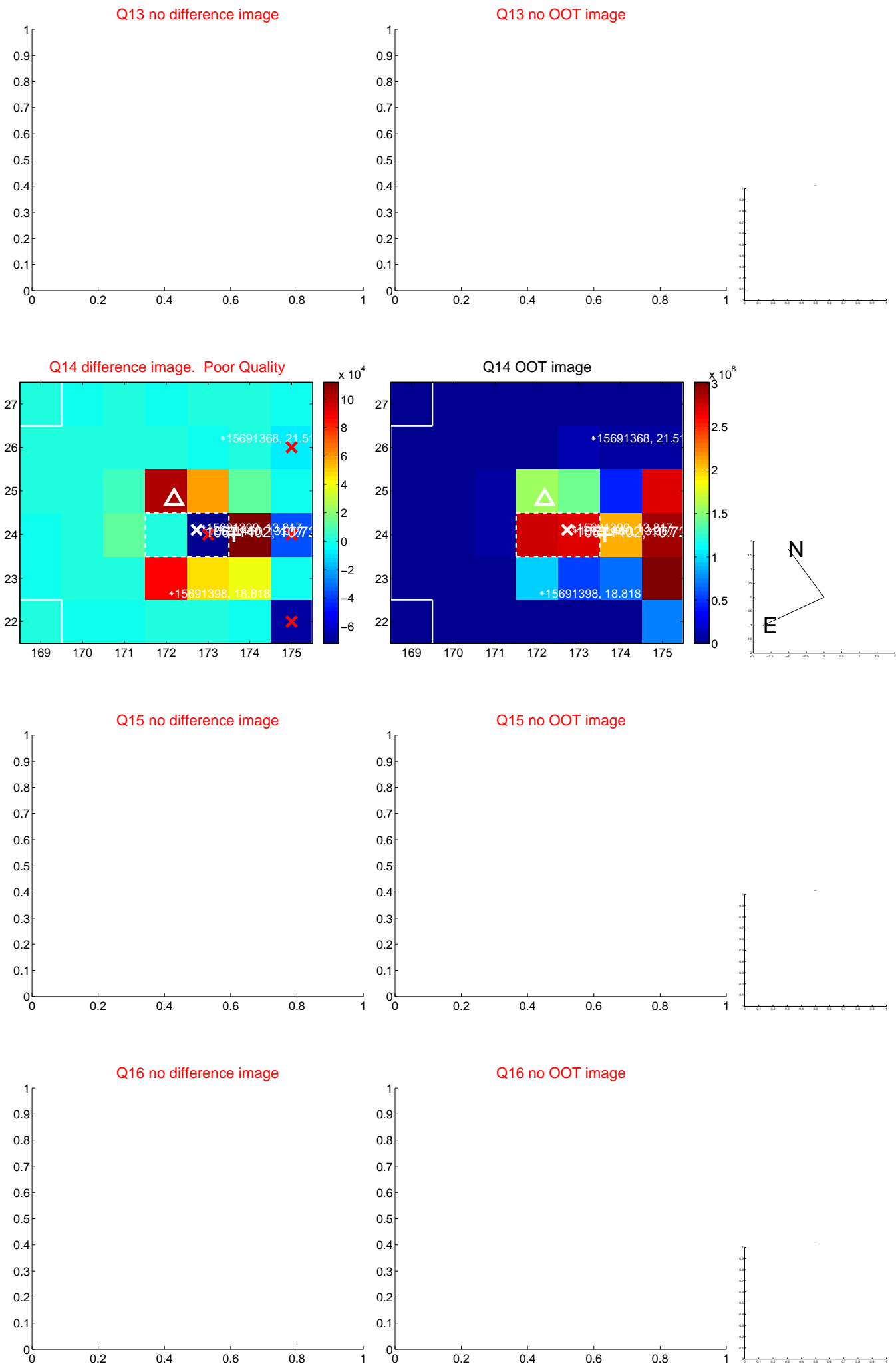
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



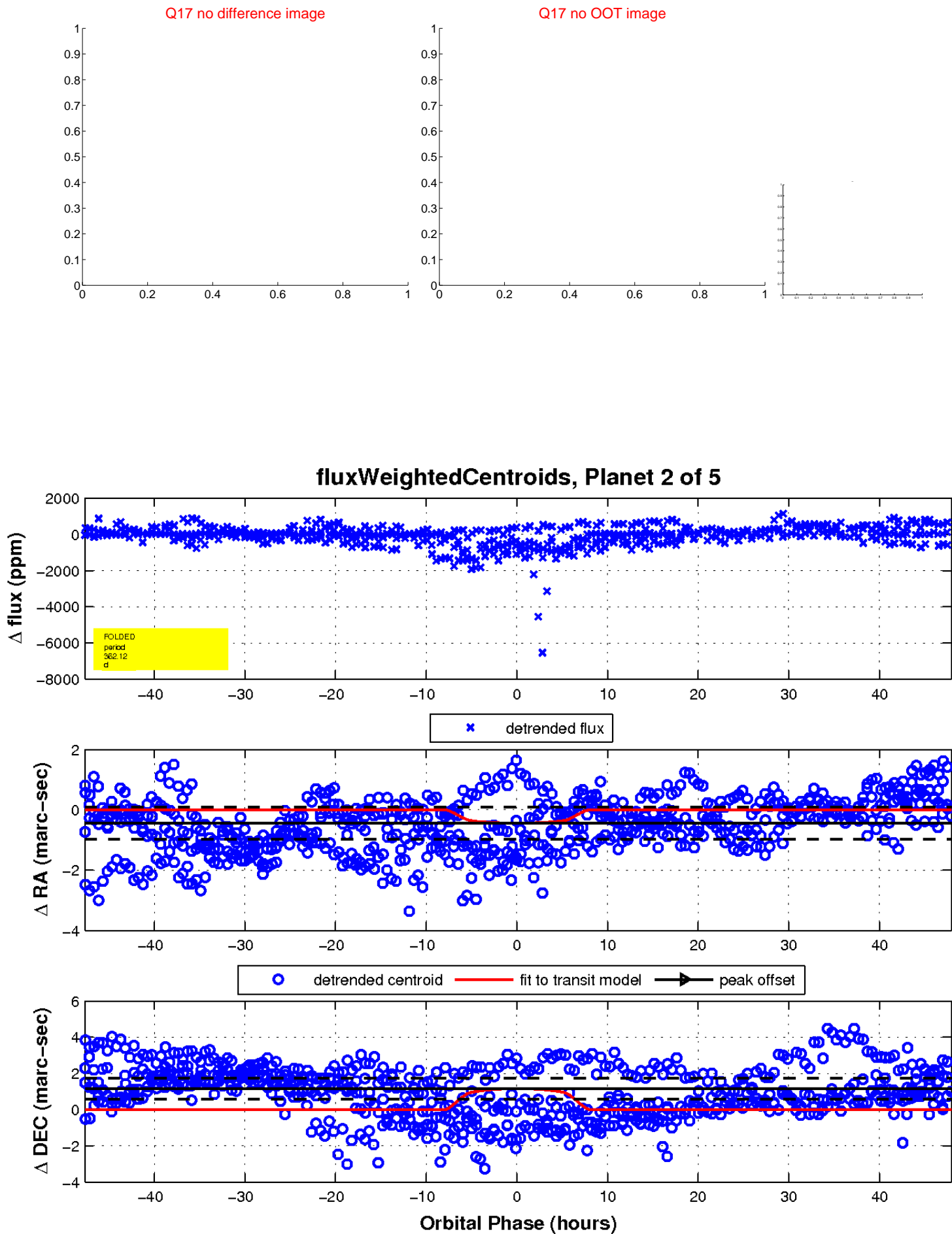
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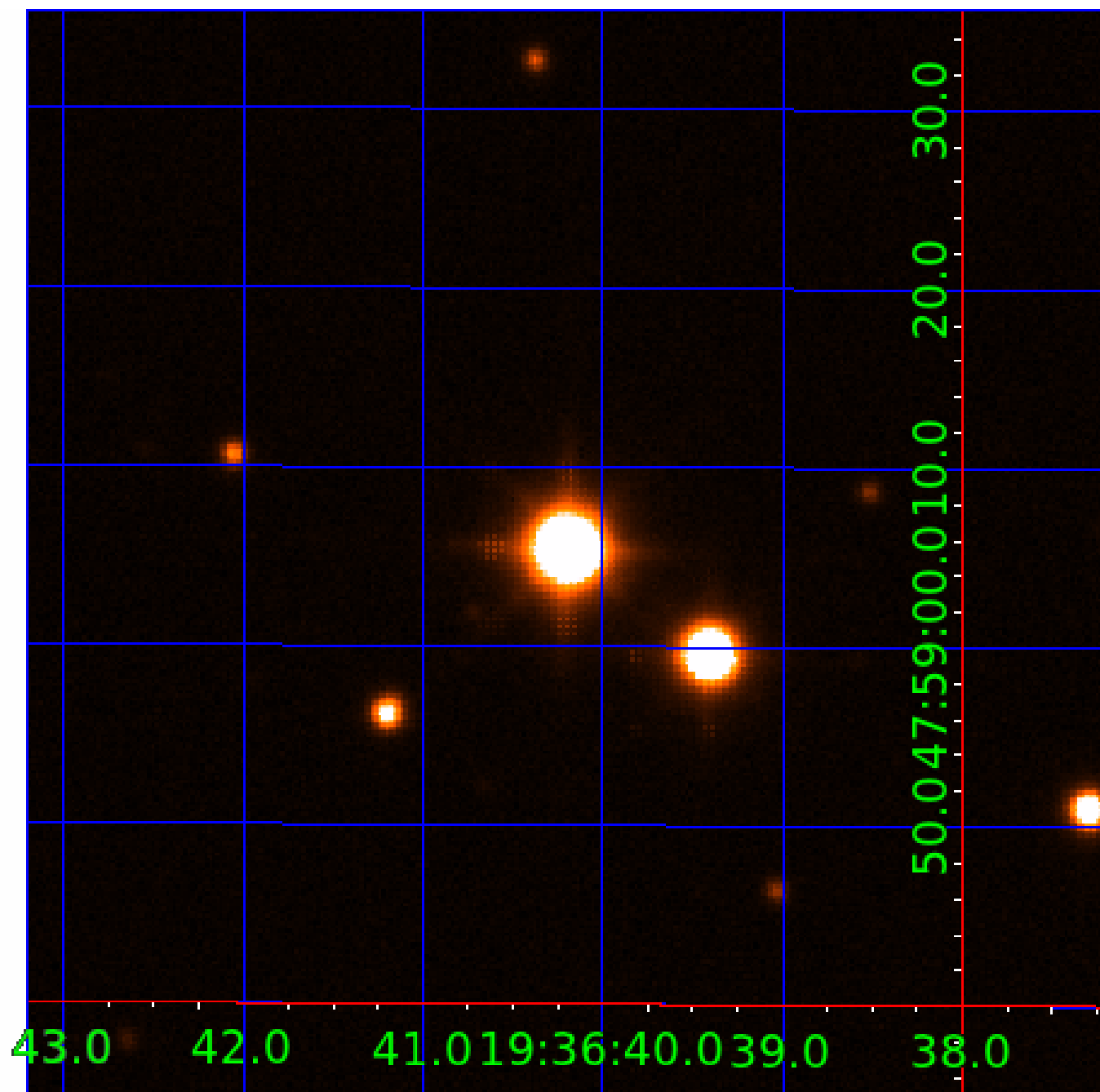


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 010671402

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010671402-01	OBS	No	268.044830	250.925806	6031.4	3.000	270.8	-1.0	5.20	4904	39.33	23.67
010671402-02	OBS	No	362.123502	254.672935	1338.0	15.995	195.3	107.9	5.20	4904	22.85	15.85
010671402-03	OBS	No	464.051556	251.223078	1462.6	2.920	81.9	25.5	5.20	4904	34.76	11.39
010671402-04	OBS	No	361.419317	258.676786	936.9	43.579	44.7	54.3	5.20	4904	21.18	15.89
010671402-05	OBS	No	245.999629	367.845549	279.4	15.000	29.5	-1.0	5.20	4904	8.45	26.54

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010671402-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
010671402-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
010671402-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_SATURATED
010671402-04	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
010671402-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED

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

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

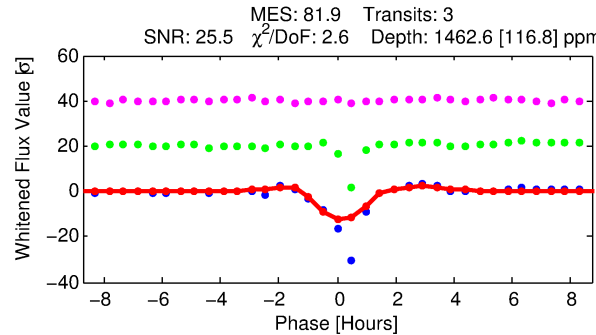
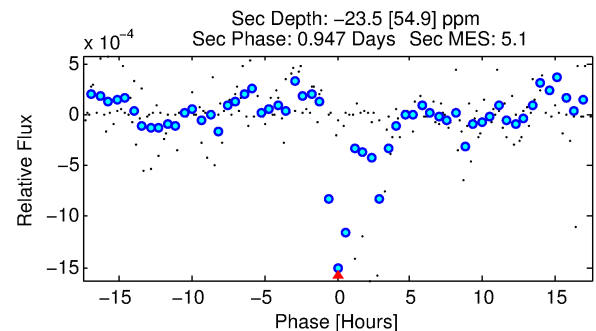
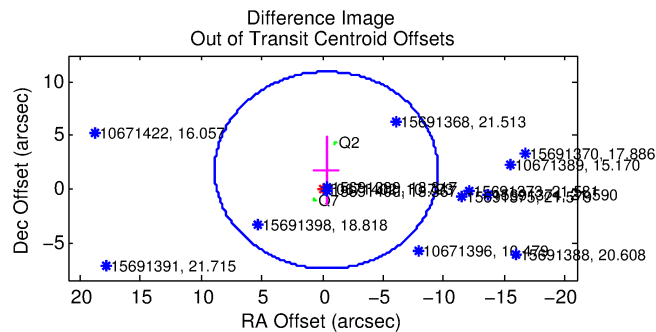
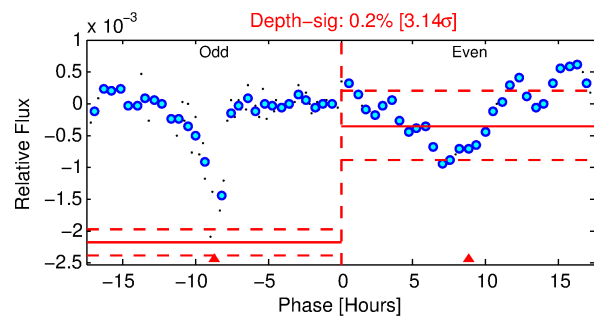
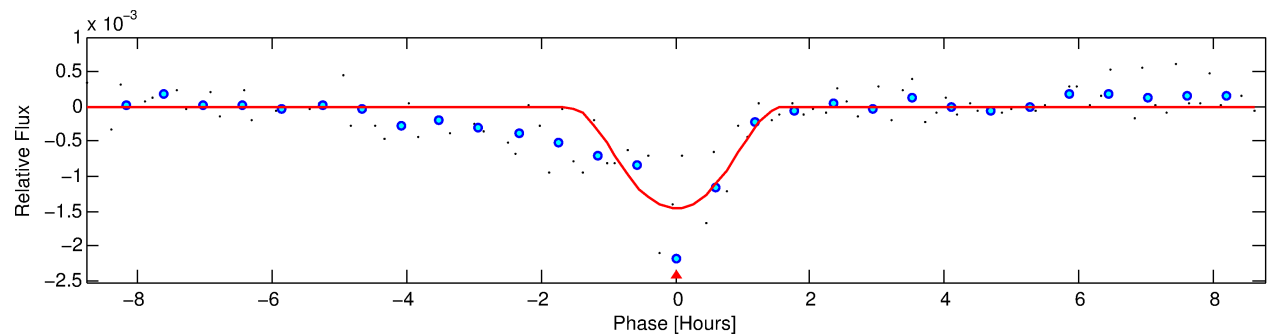
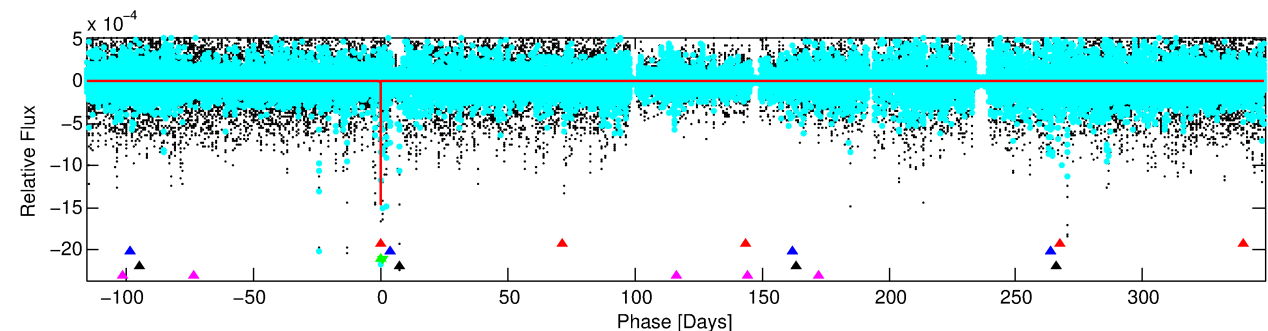
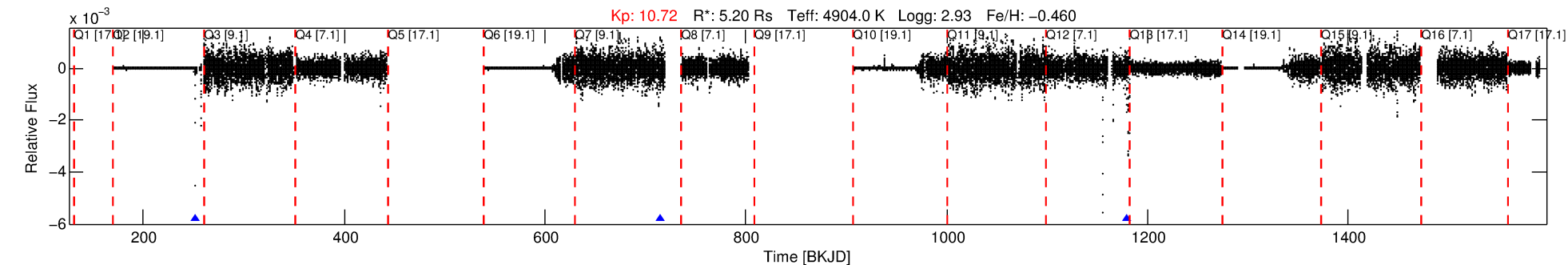
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010671402-03

No Significant Match Found

# DV One-Page Summary

KIC: 10671402 Candidate: 3 of 5 Period: 464.052 d



## DV Fit Results:

Period = 464.05156 [0.00492] d  
Epoch = 251.2231 [0.0026] BKJD  
Rp/R\* = 0.0613 [0.1196]  
a/R\* = 476.39 [257.79]  
b = 0.99 [0.20]  
Seff = 11.39 [4.78]  
Teq = 468 [49] K  
Rp = 34.76 [69.38] Re  
a = 1.1095 [0.3451] AU  
Ag = N/A  
Teffp = N/A

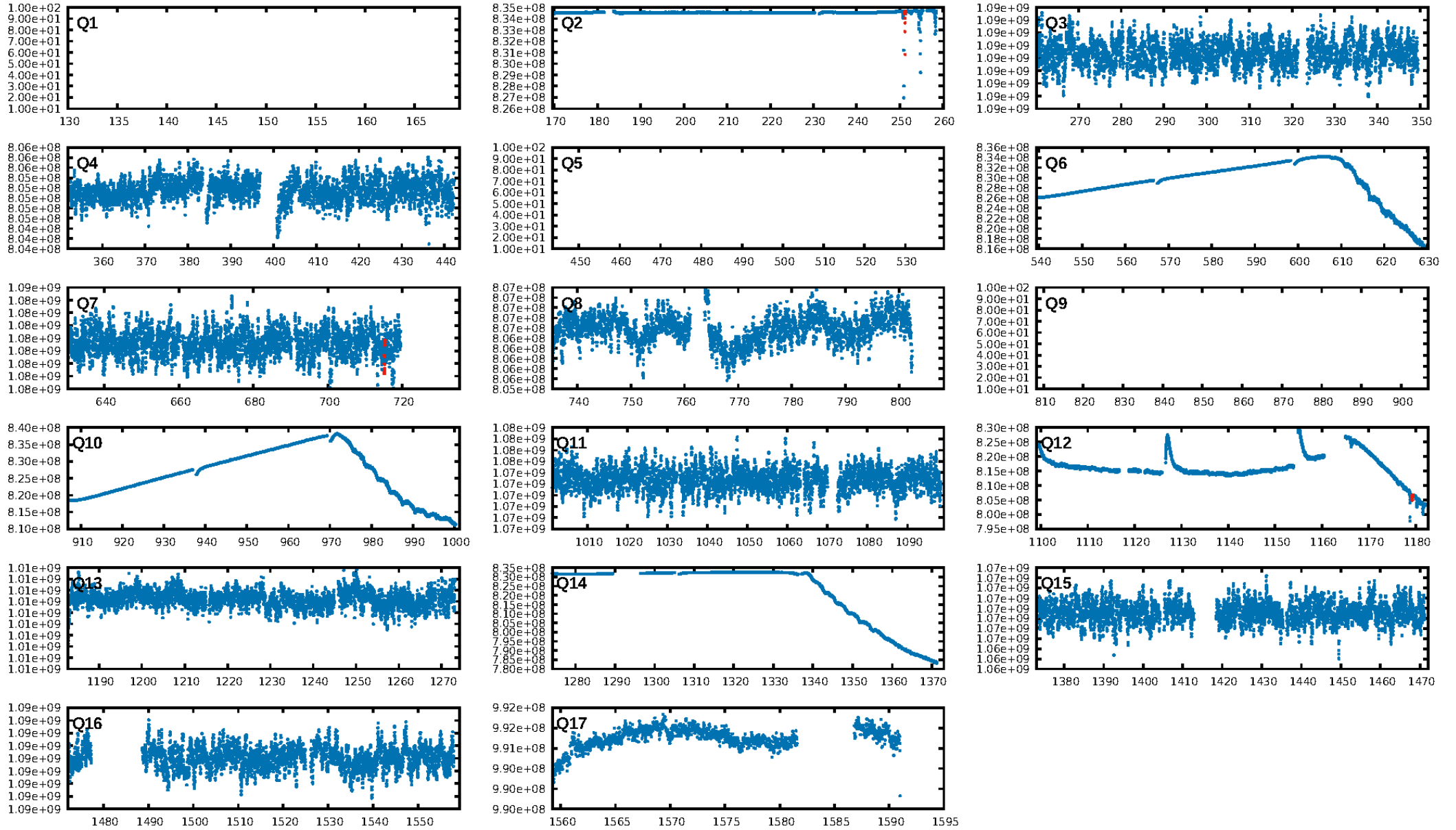
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [150.45 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.8%  
ModelChiSquareGof-sig: 10.4%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 34.41  
Centroid-sig: 15.8%  
Centroid-so: 0.820 arcsec [3.26 $\sigma$ ]  
OotOffset-rm: 1.791 arcsec [0.58 $\sigma$ ]  
KicOffset-rm: 1.941 arcsec [0.74 $\sigma$ ]  
OotOffset-st: 1/1/0/0 [2]  
KicOffset-st: 1/1/0/0 [2]  
DiffImageQuality-fgm: 0.50 [1/2]  
DiffImageOverlap-fno: 0.67 [2/3]

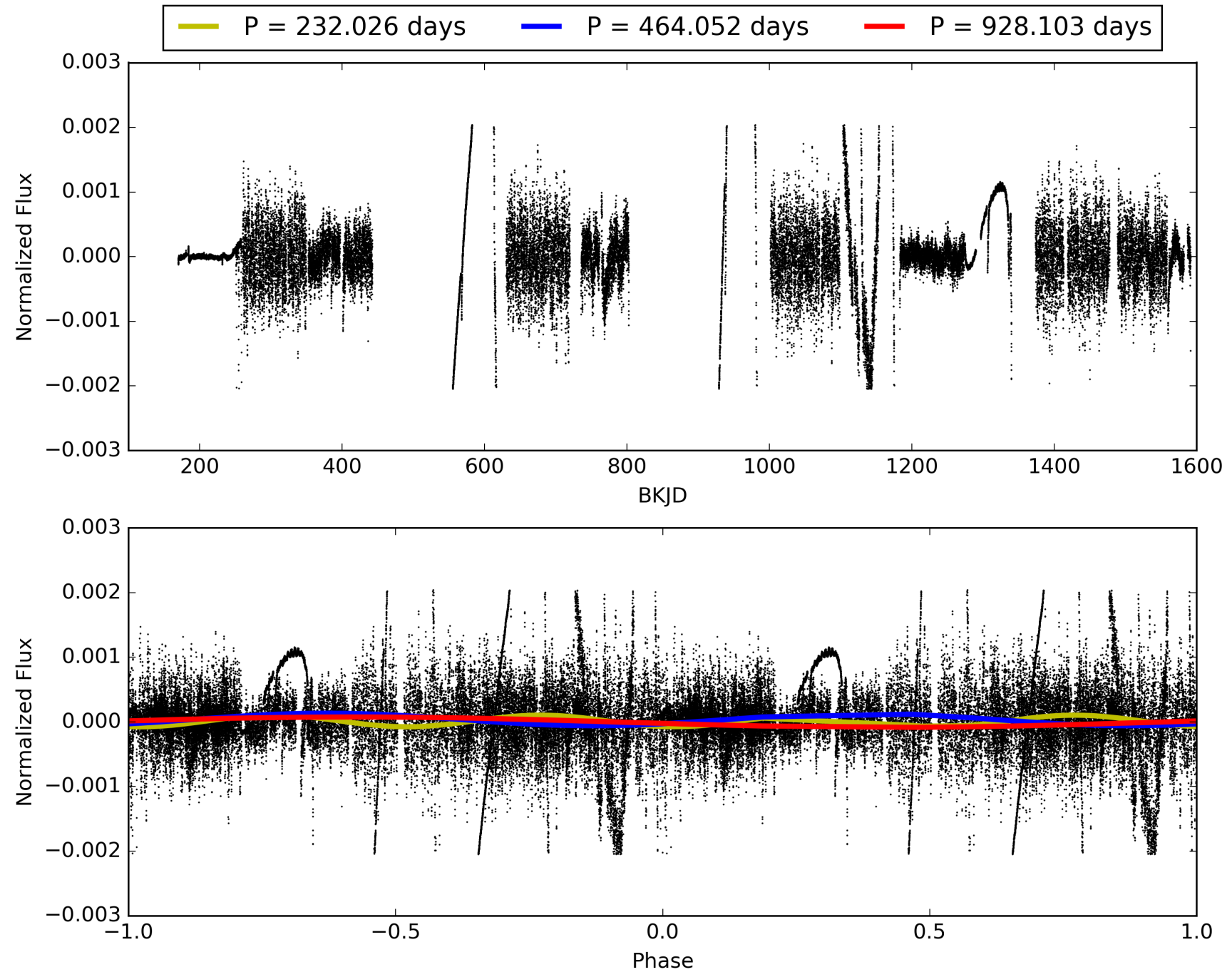
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:47:18 Z

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

# TCE 010671402-03, PDC Light Curves

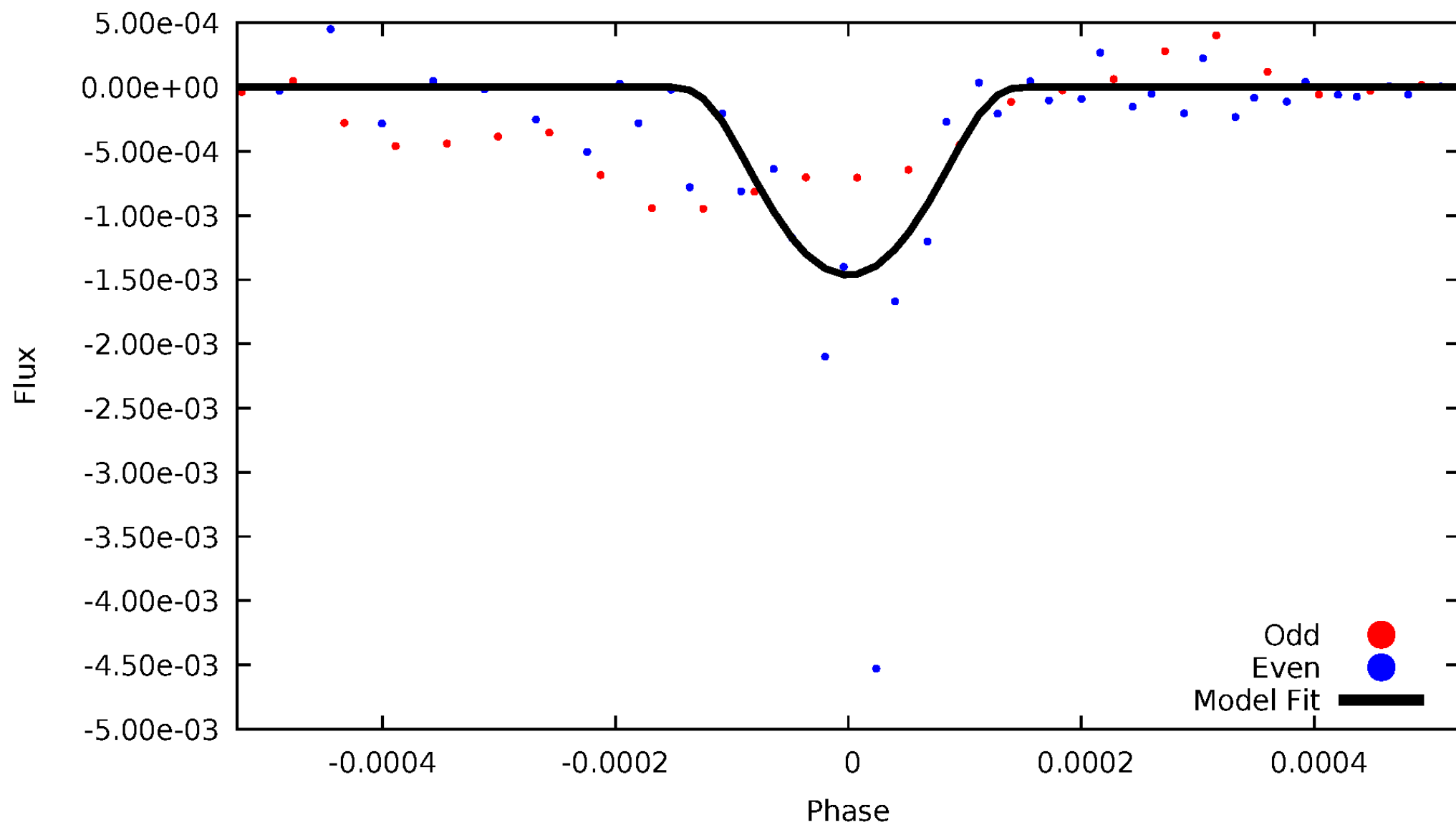


# TCE 010671402-03



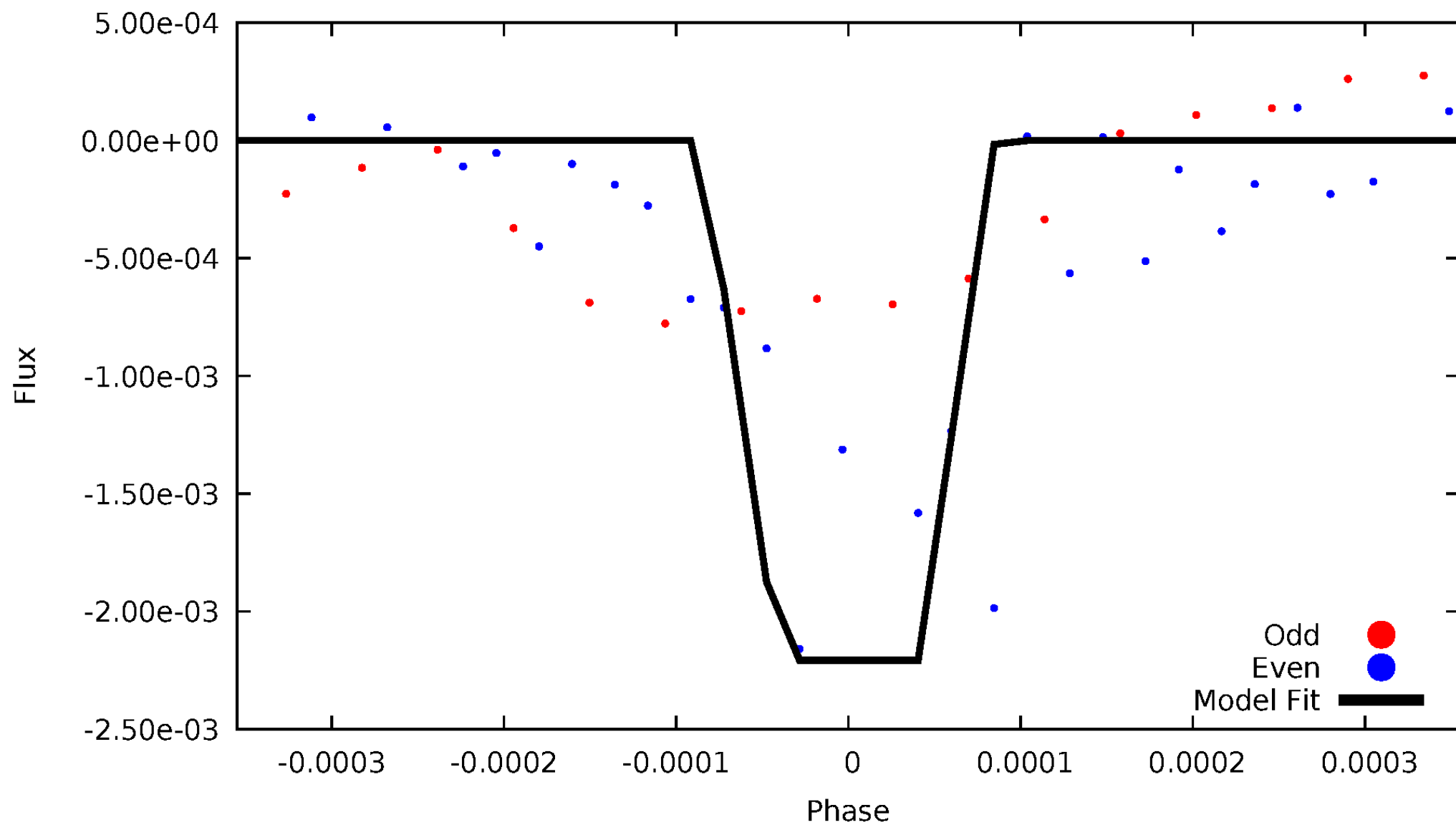
# DV Odd/Even

TCE 010671402-03

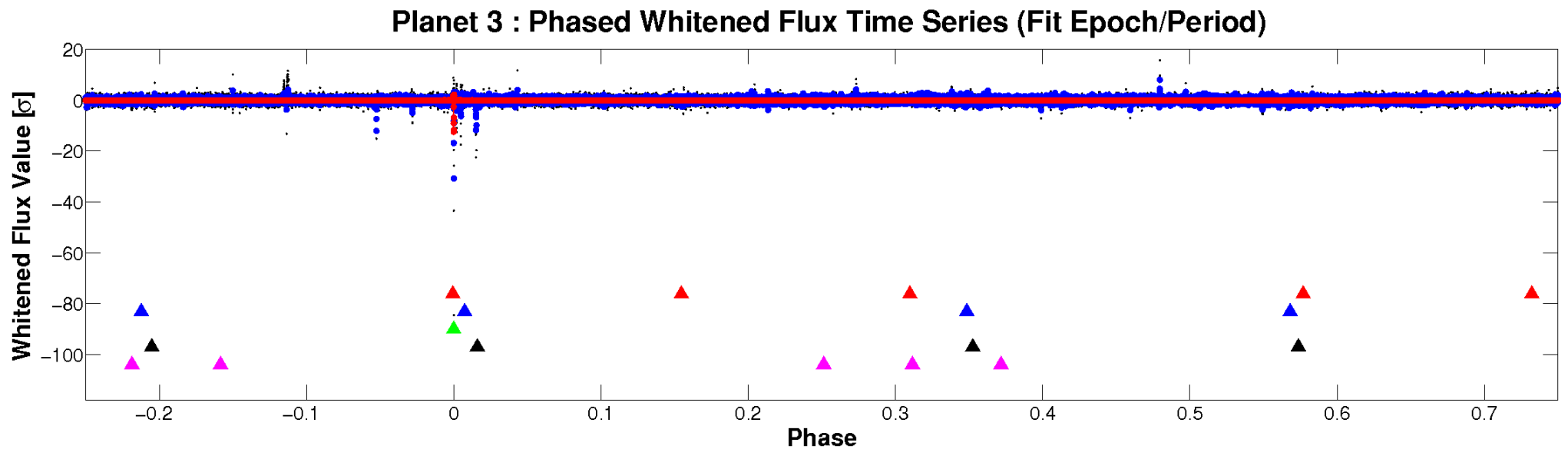
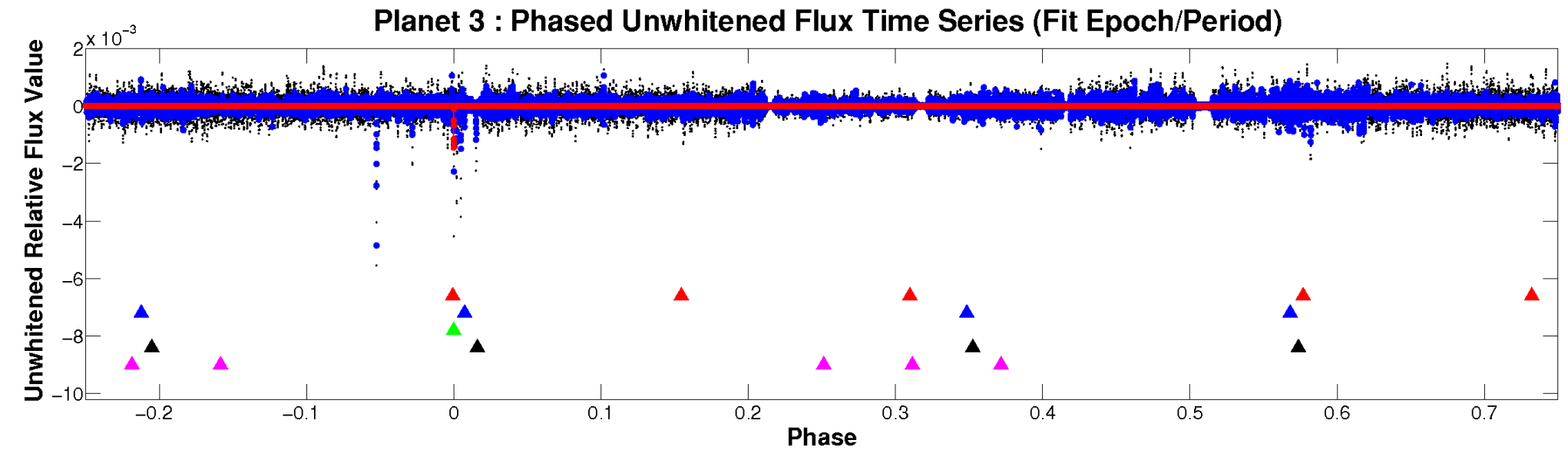


# ALT Odd/Even

TCE 010671402-03

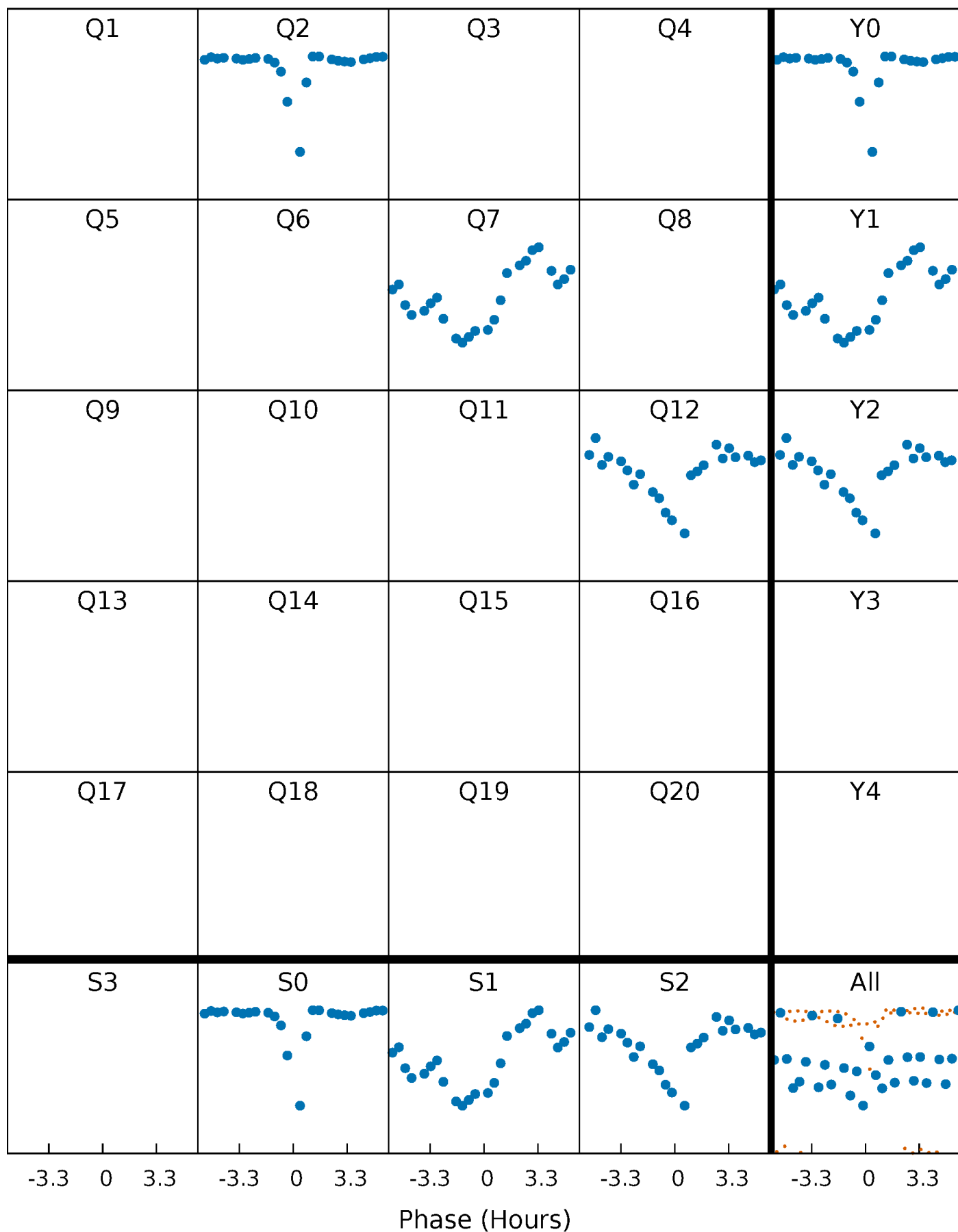


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

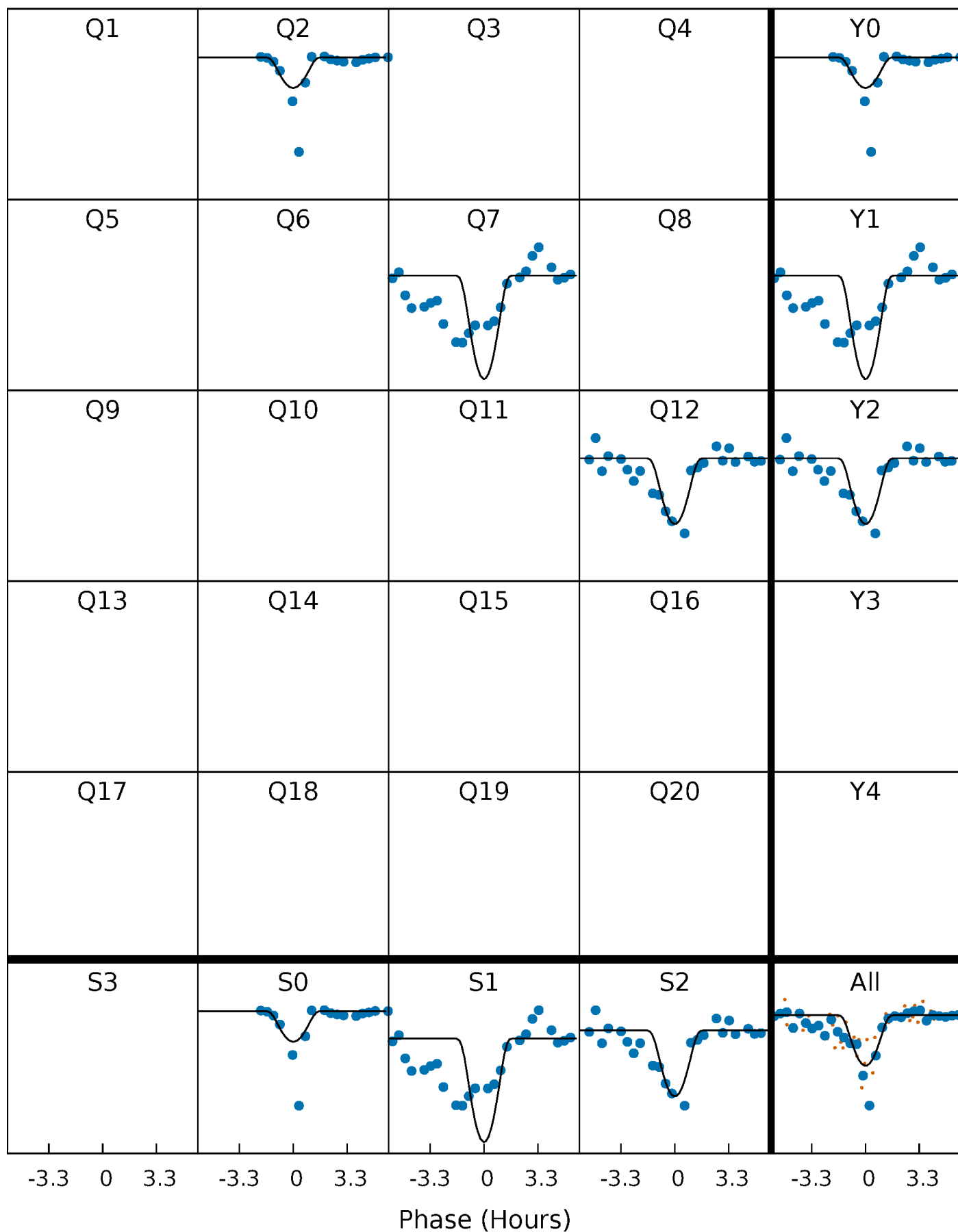
TCE 010671402-03 P=464.051556 Days  $T_0=251.223078$  (BKJD)





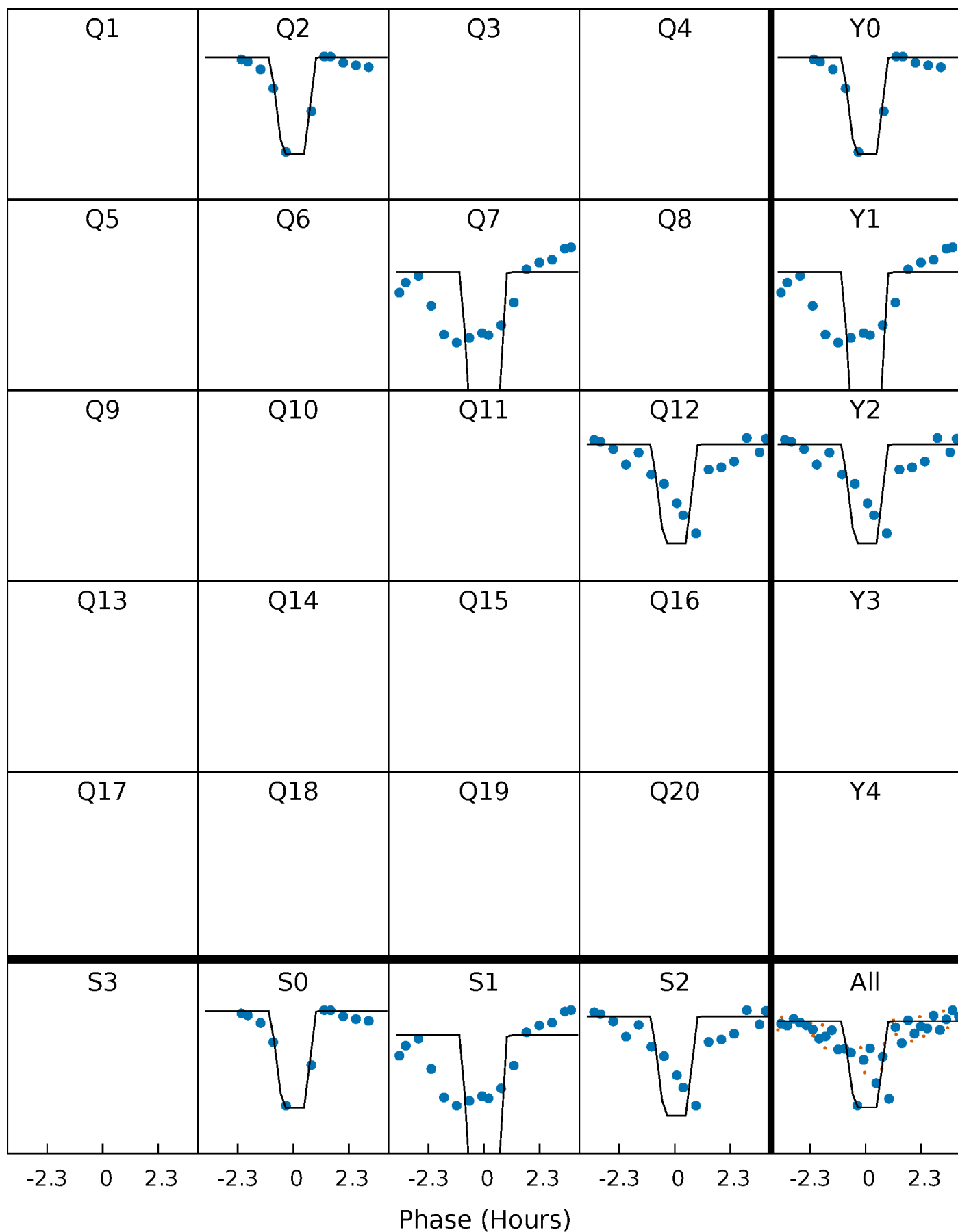
# DV Quarter-Phased Transit Curves

TCE 010671402-03     $P=464.051556$  Days     $T_0=251.223078$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

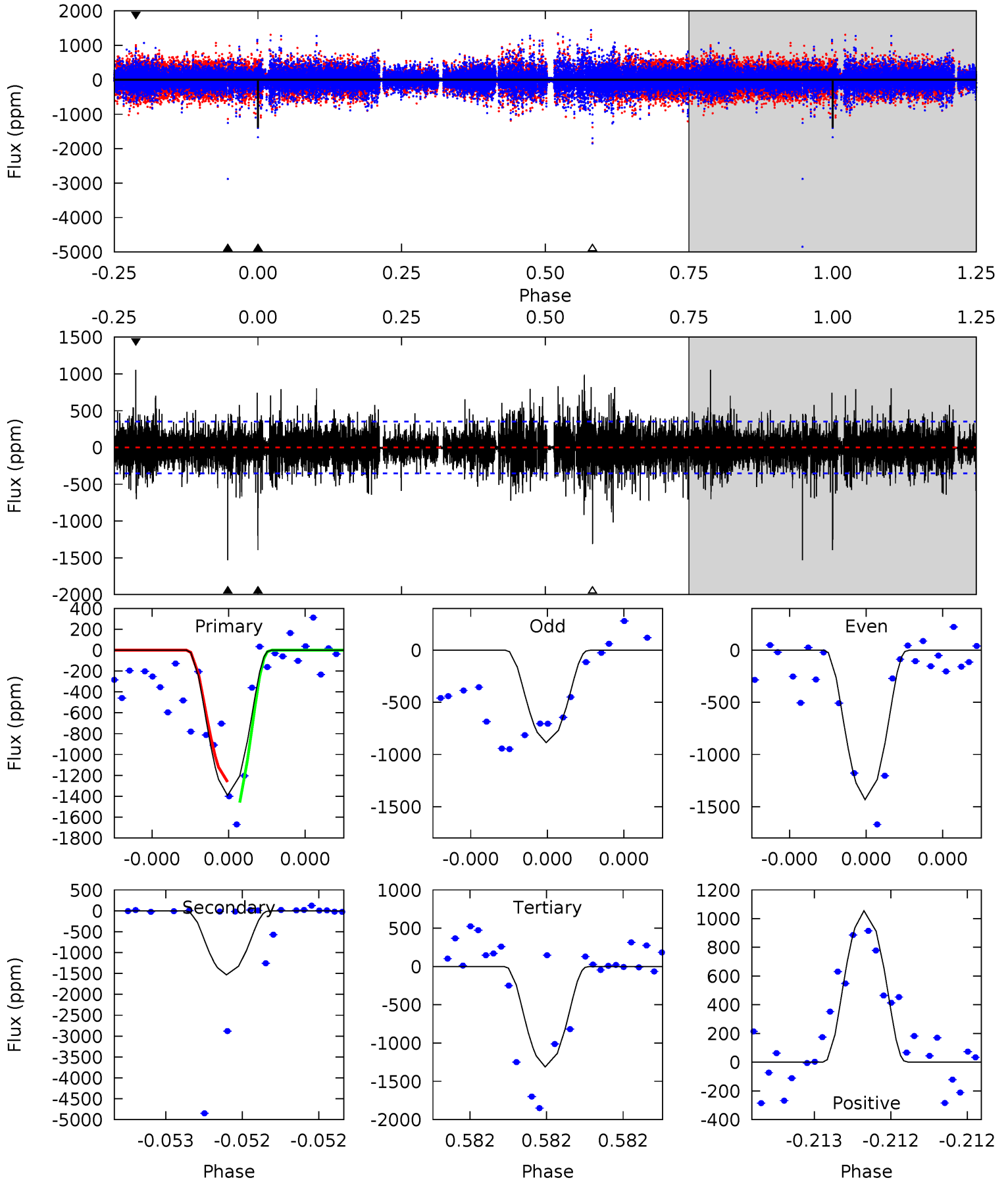
TCE 010671402-03     $P=464.039336$  Days     $T_0=251.226874$  (BKJD)



# DV Model-Shift Uniqueness Test

010671402-03, P = 464.051556 Days, E = 251.223078 Days

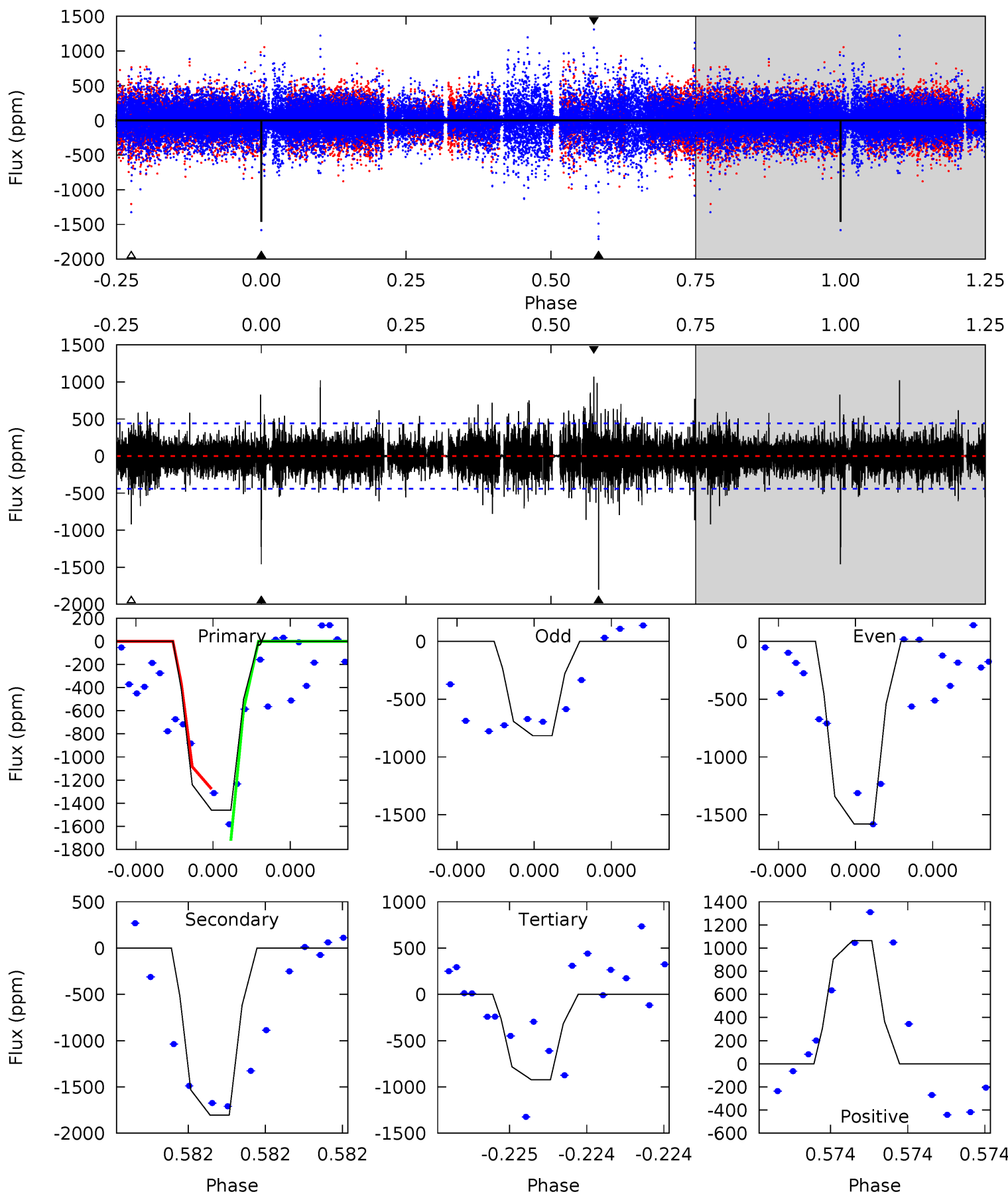
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.4	24.7	21.1	17.0	5.68	3.64	2.78	1.30	5.44	3.54	7.69	4.11	1.12	0.41	1.61



# Alt Model-Shift Uniqueness Test

010671402-03, P = 464.039336 Days, E = 251.226874 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
19.0	23.5	12.0	13.9	5.75	3.75	1.90	7.02	5.16	11.5	9.64	4.97	1.08	0.37	2.95



### Stellar Parameters For KIC 010671402

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$4904^{+136}_{-86}$	$2.933^{+0.195}_{-0.195}$	$-0.460^{+0.250}_{-0.200}$	$5.201^{+2.127}_{-1.064}$	$0.846^{+0.435}_{-0.023}$	$0.008^{+0.008}_{-0.004}$
	+3%/-2%	+7%/-7%	+54%/-43%	+41%/-20%	+51%/-3%	+89%/-50%
Source	PHO1	FLK73	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 010671402-03 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-1532 \pm 62$	$62.33^{+66.76}_{-40.55}$	$657^{+55}_{-47}$	$3432^{+1618}_{-637}$	$288^{+2049}_{-219}$
Alt.	$-1804 \pm 77$	$58.66^{+54.90}_{-40.86}$	$656^{+63}_{-48}$	$3646^{+1971}_{-688}$	$385^{+4002}_{-281}$

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

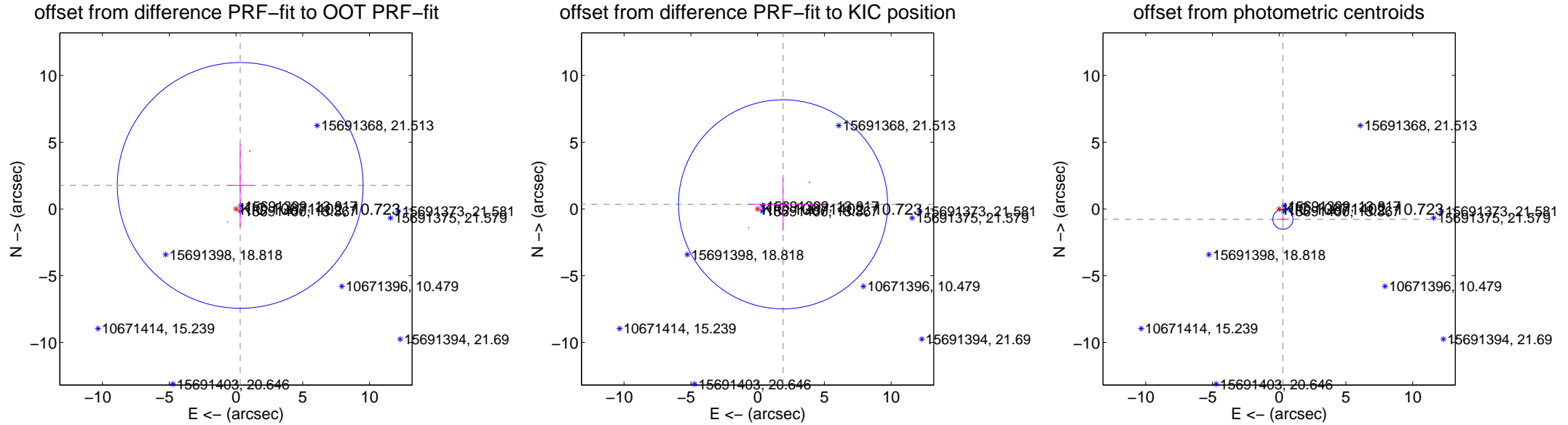
## DV Centroid Data

Supplemental centroid analysis for 010671402-03. **Kepler magnitude: 10.72.** Transit SNR 25.50

**There are 1 quarters with good PRF difference image offsets**

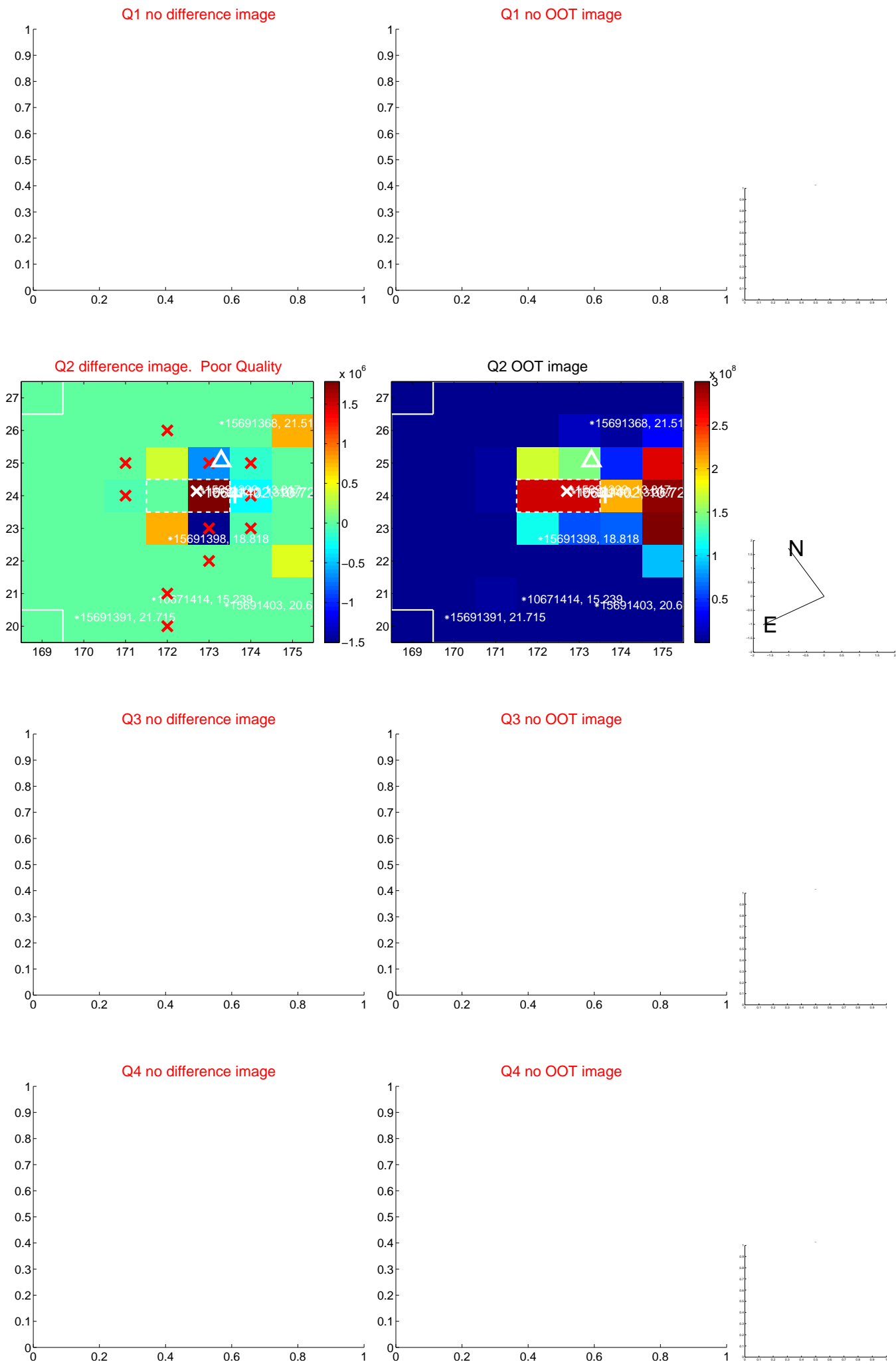
The direct PRF centroid is offset from the target star catalog position by about 0.42 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.791 \pm 3.069$	0.58	$-0.315 \pm 0.961$	$1.763 \pm 3.113$
PRF-fit source offset from KIC position	$1.941 \pm 2.611$	0.74	$-1.910 \pm 2.629$	$0.346 \pm 1.979$
photometric centroid source offset	<b><math>0.82 \pm 0.25</math></b>	<b>3.26</b>	$-0.28 \pm 0.44$	$-0.77 \pm 0.21$

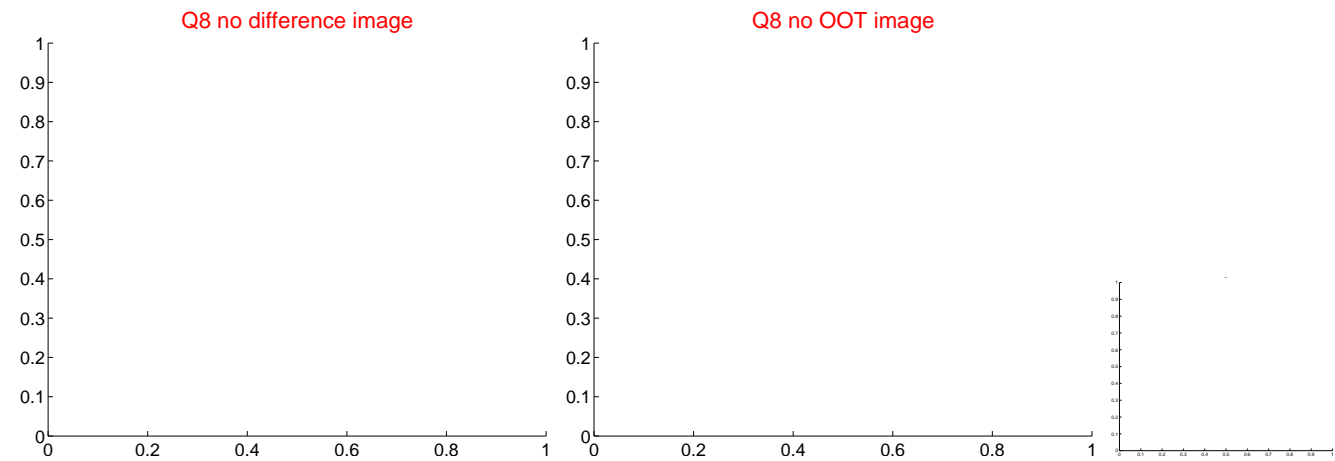
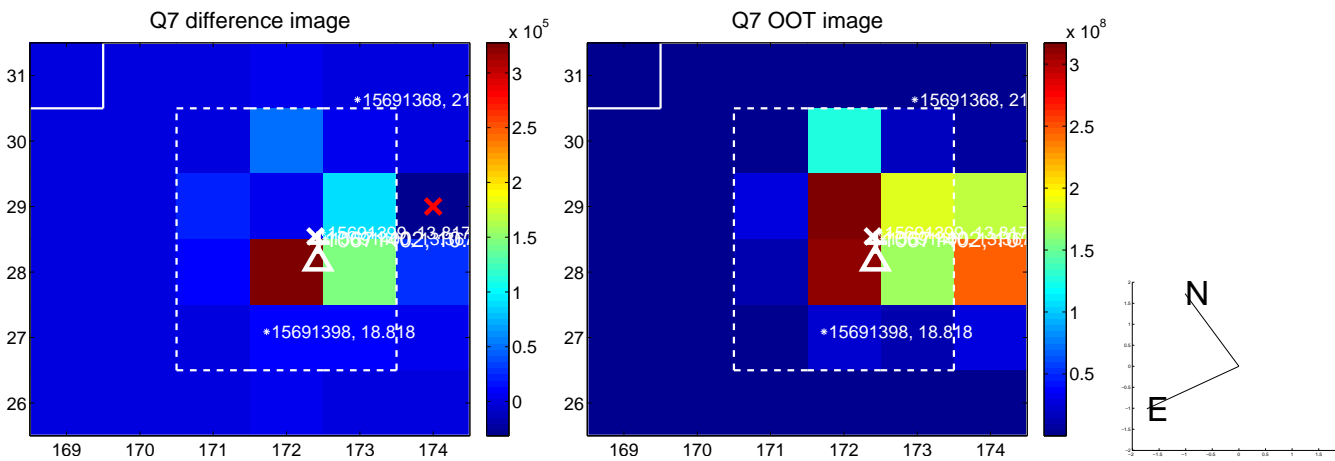
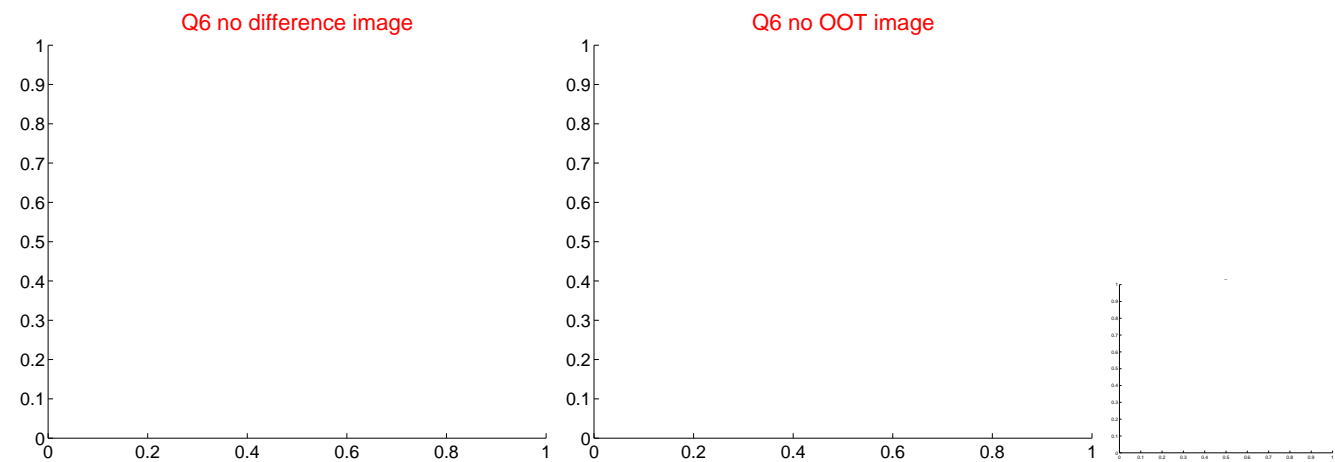
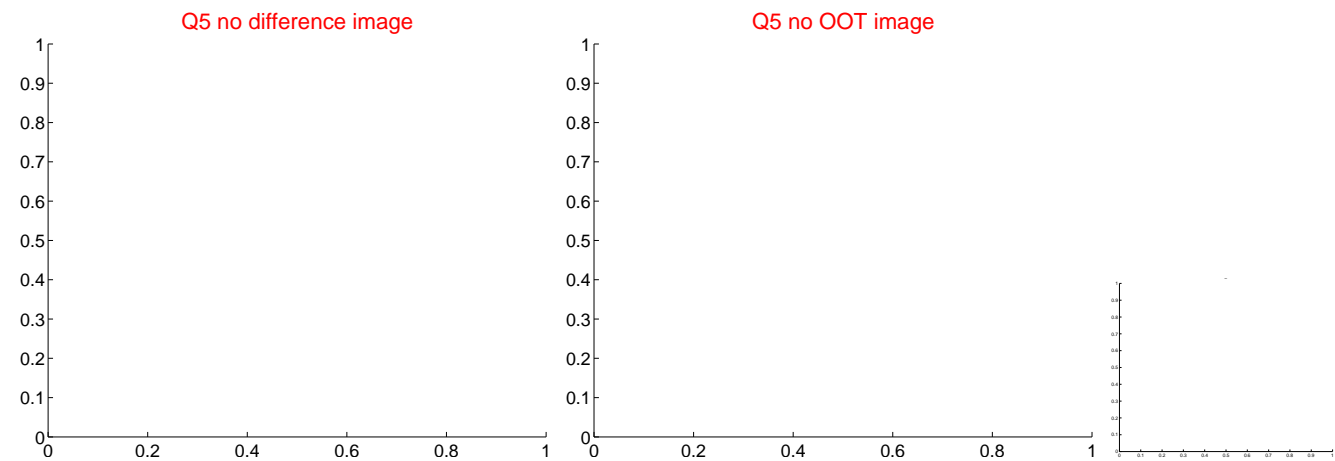


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

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

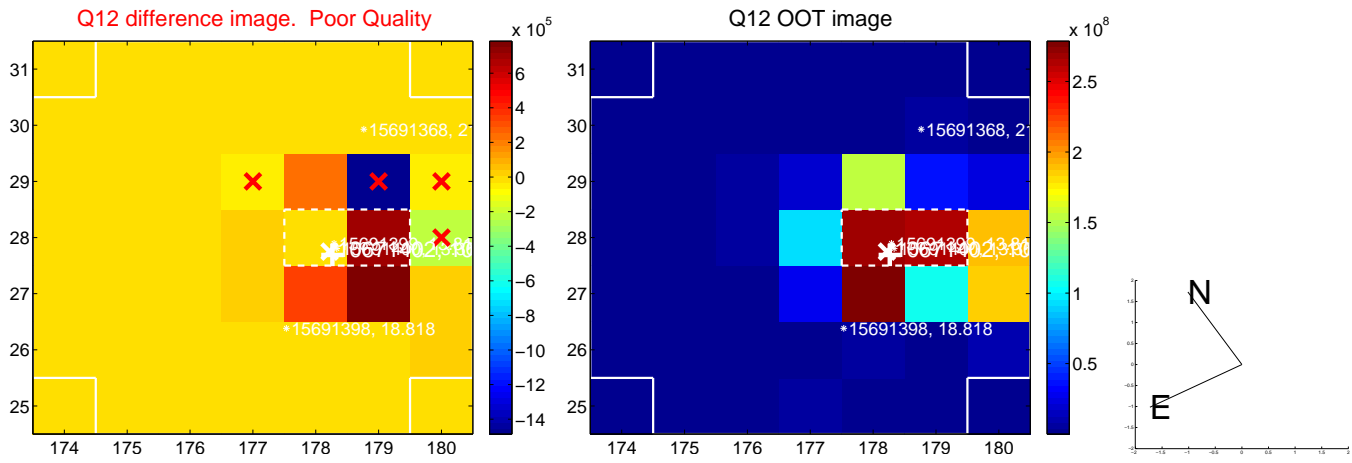
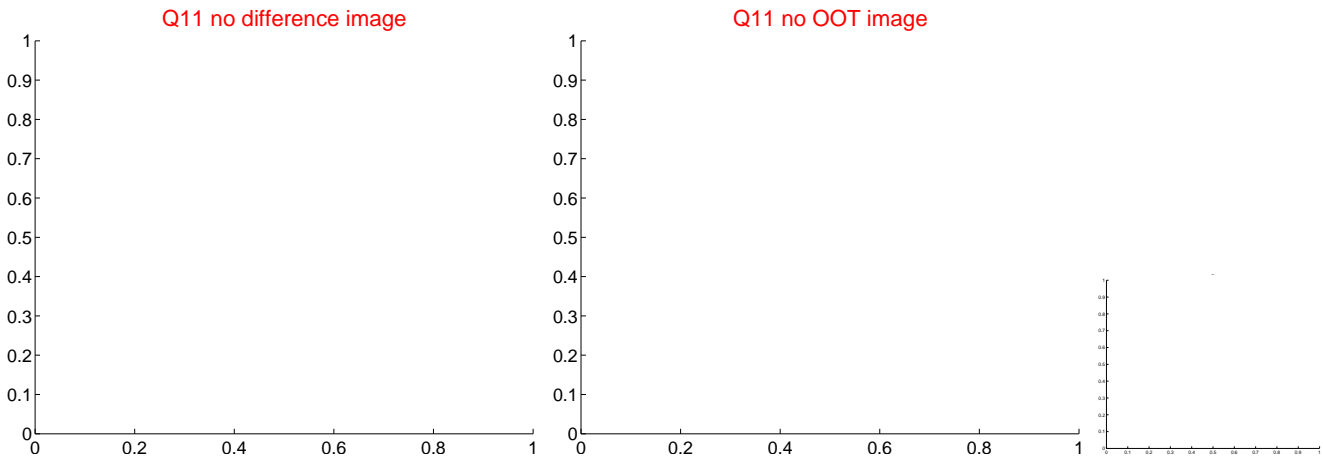
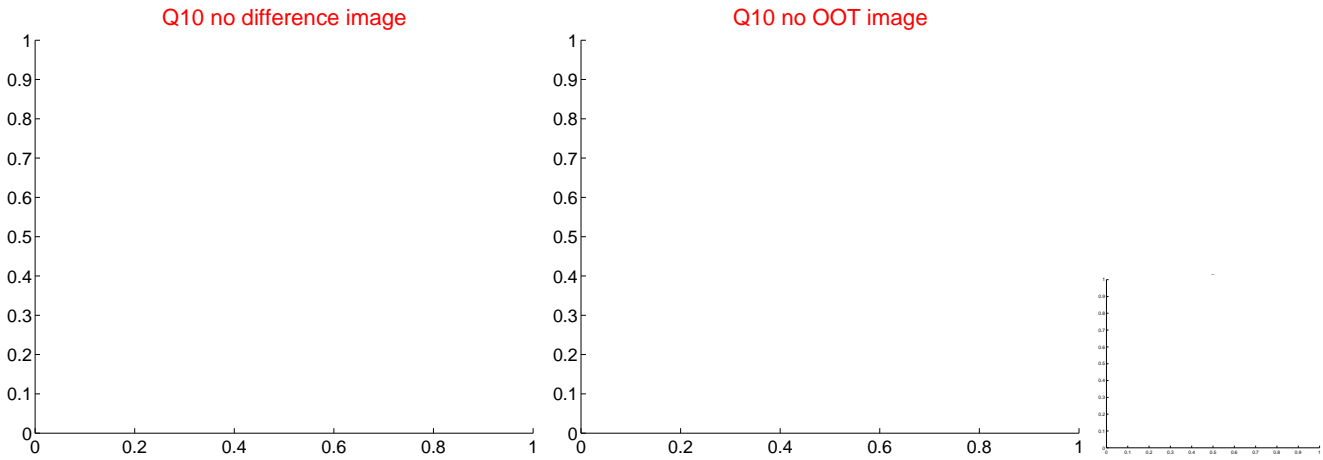
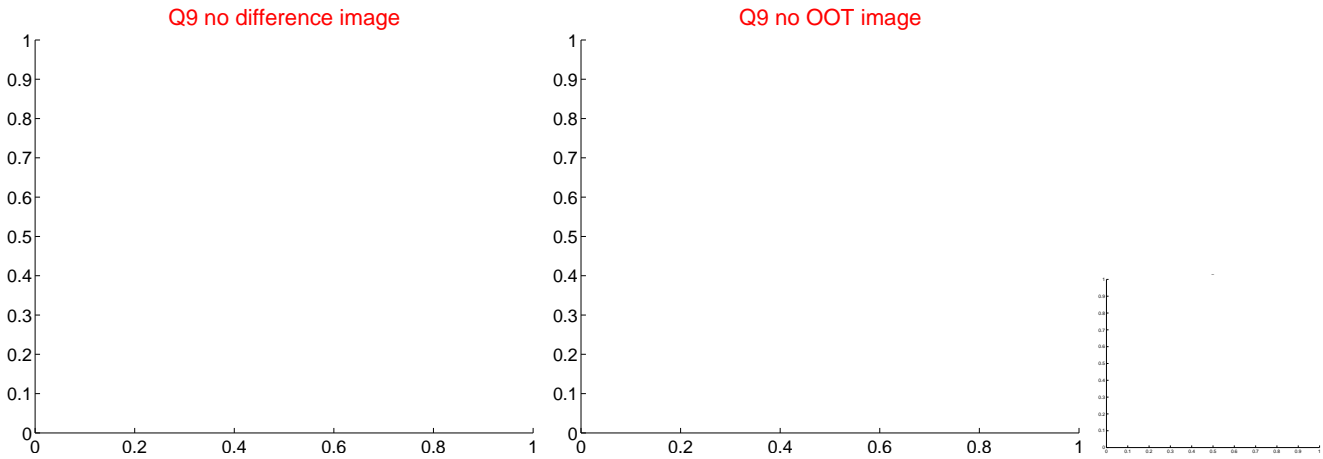


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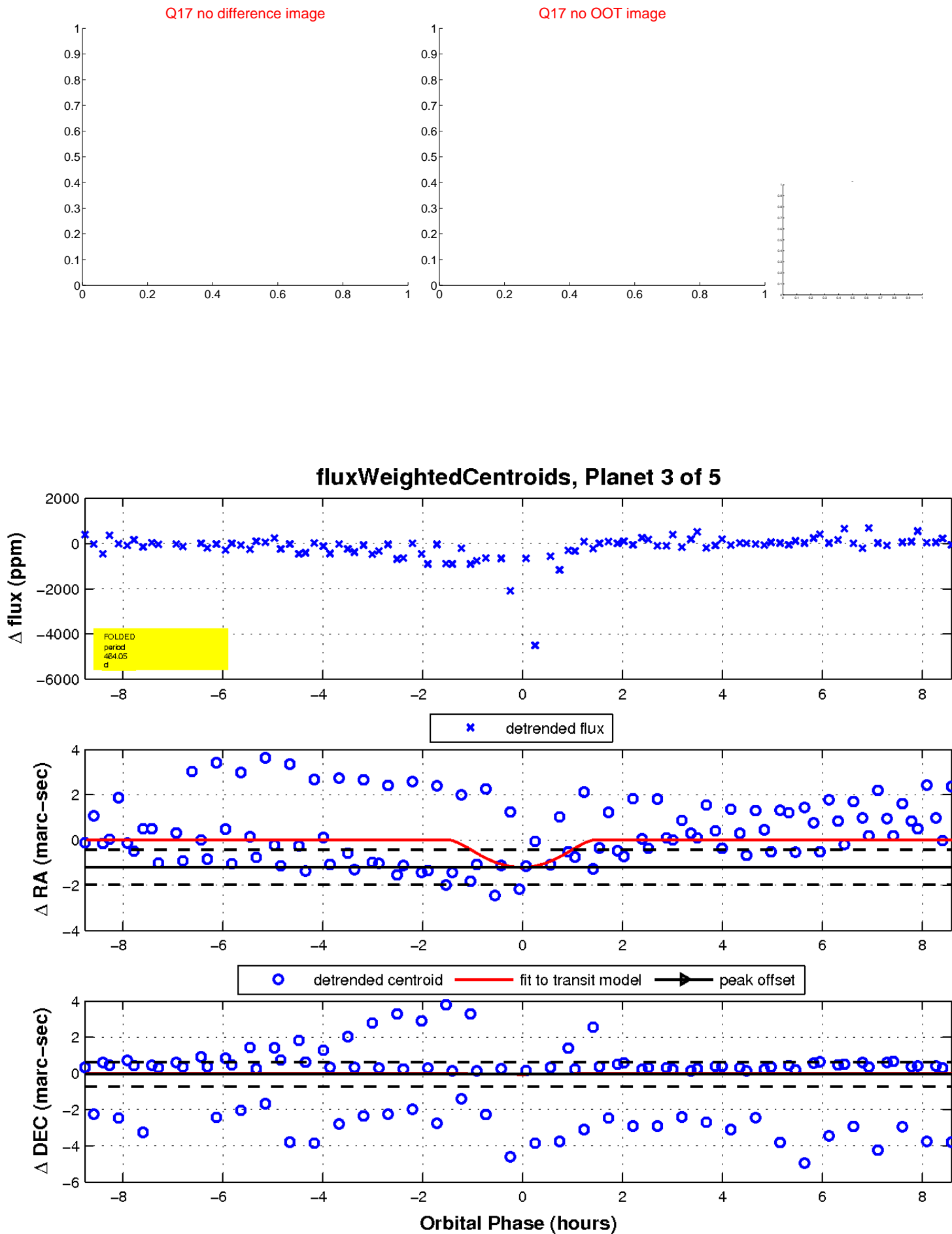
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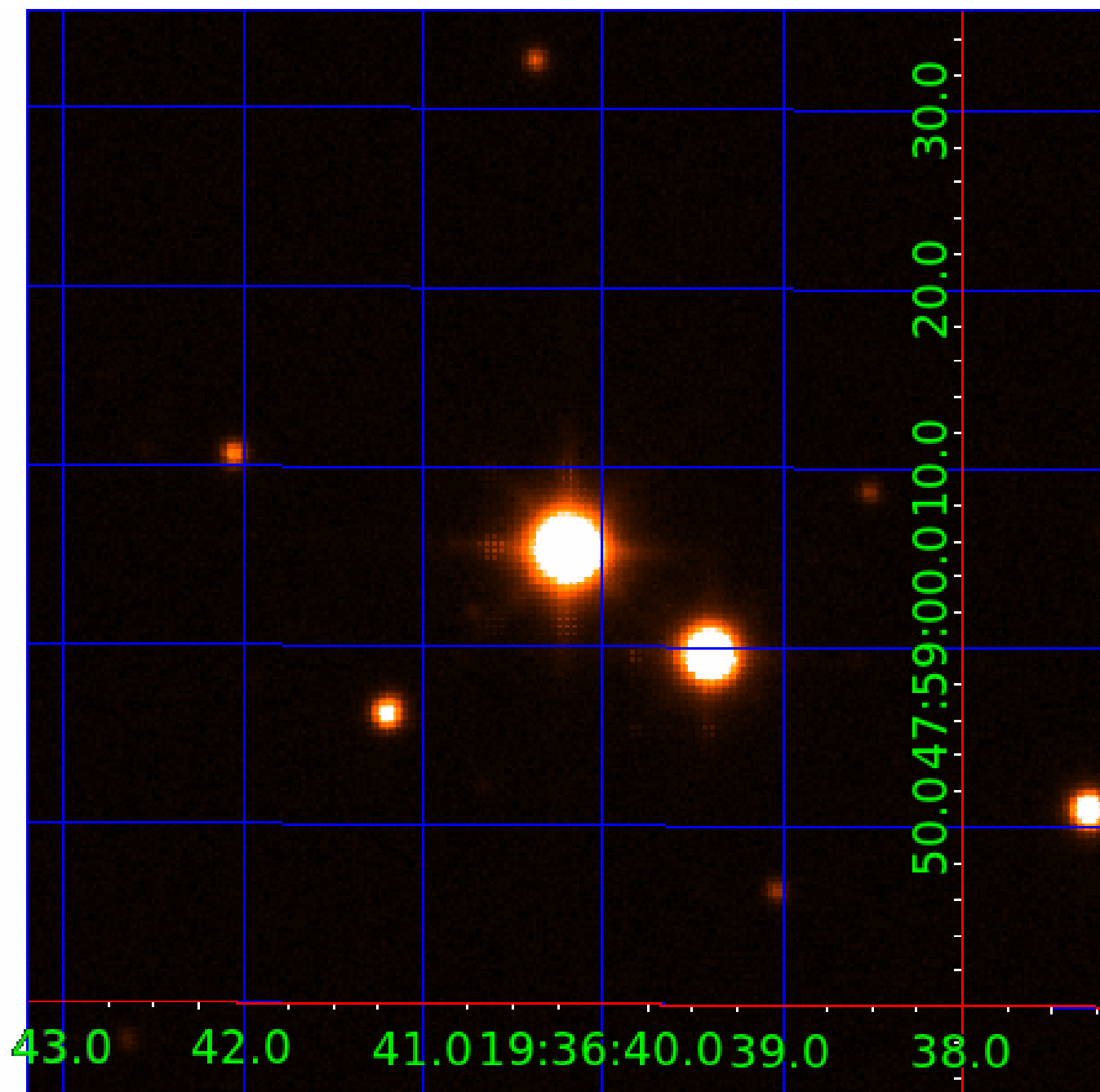


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 010671402

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010671402-01	OBS	No	268.044830	250.925806	6031.4	3.000	270.8	-1.0	5.20	4904	39.33	23.67
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010671402-05	OBS	No	245.999629	367.845549	279.4	15.000	29.5	-1.0	5.20	4904	8.45	26.54

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010671402-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
010671402-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
010671402-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_SATURATED
010671402-04	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
010671402-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED

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

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

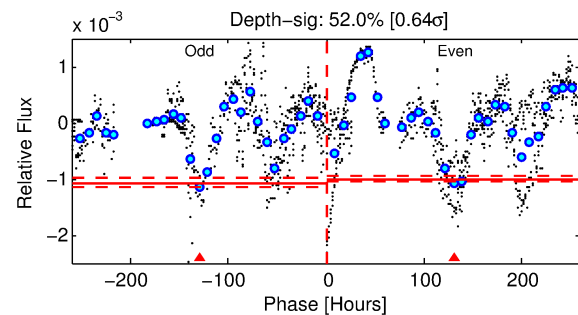
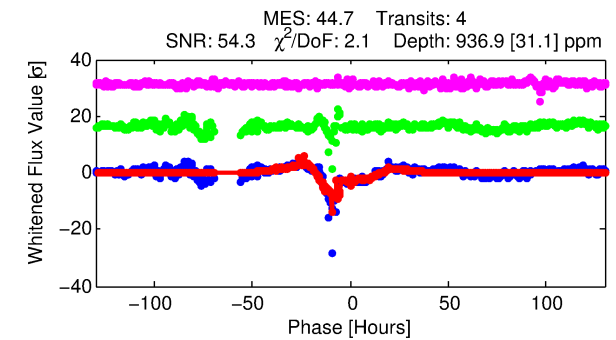
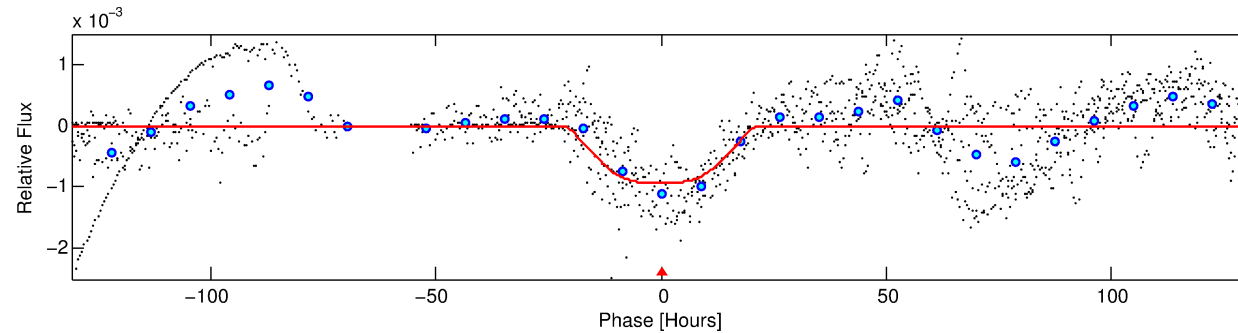
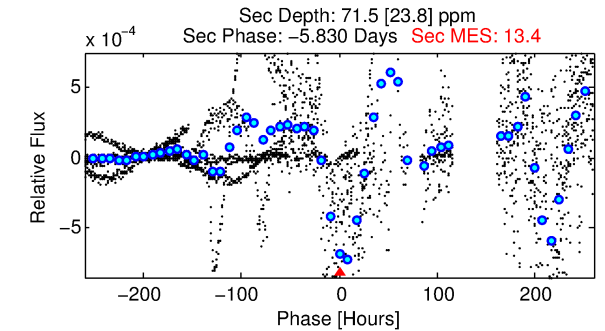
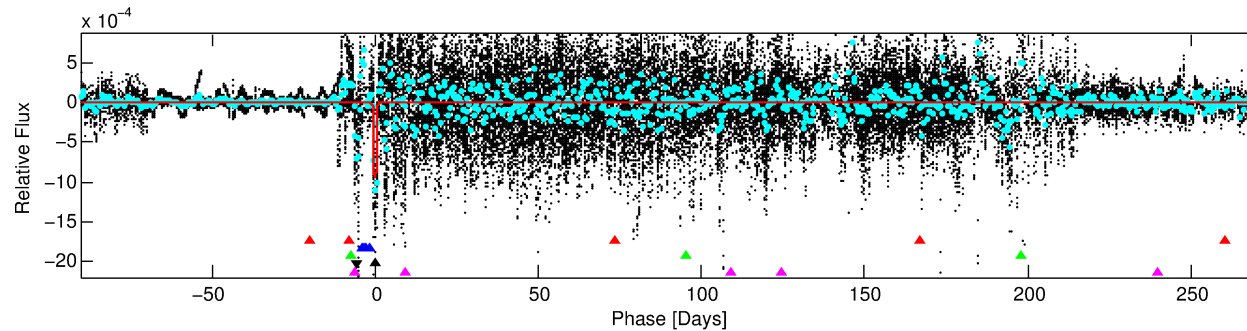
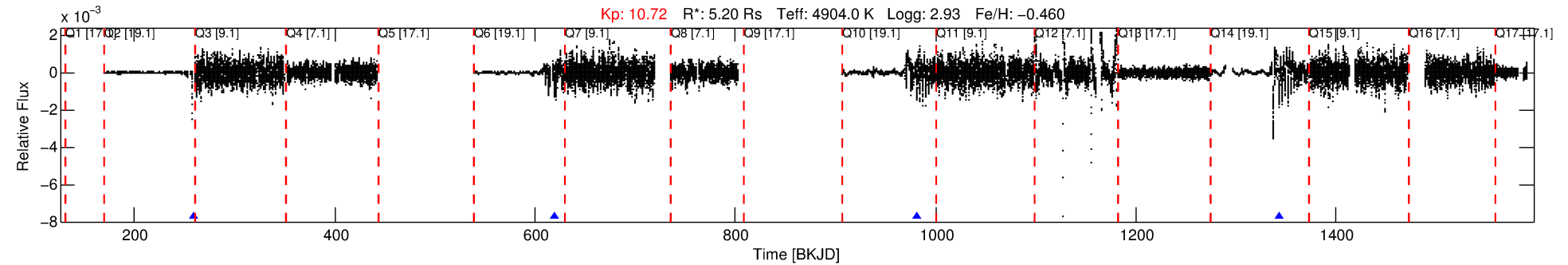
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010671402-04

No Significant Match Found

# DV One-Page Summary

KIC: 10671402 Candidate: 4 of 5 Period: 361.419 d



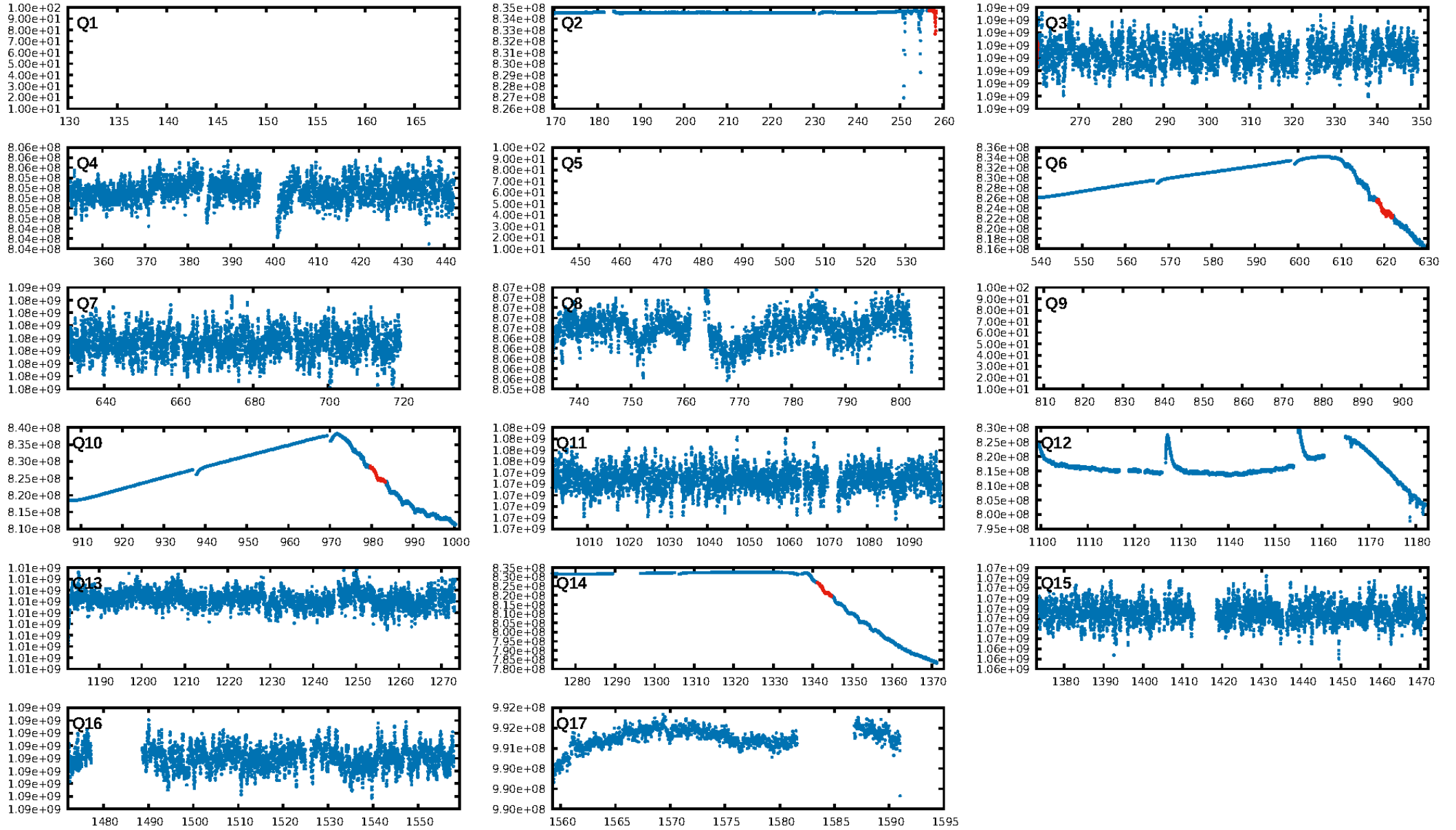
## DV Fit Results:

Period = 361.41932 [0.01767] d  
Epoch = 258.6768 [0.0214] BKJD  
Rp/R\* = 0.0373 [0.0009]  
a/R\* = 25.65 [0.89]  
b = 0.96 [0.00]  
Seff = 15.89 [6.67]  
Teq = 509 [53] K  
Rp = 21.18 [8.68] Re  
a = 0.9392 [0.2921] AU  
Ag = 77.35 [40.70] [1.88σ]  
Teffp = 2334 [206] K [8.56σ]

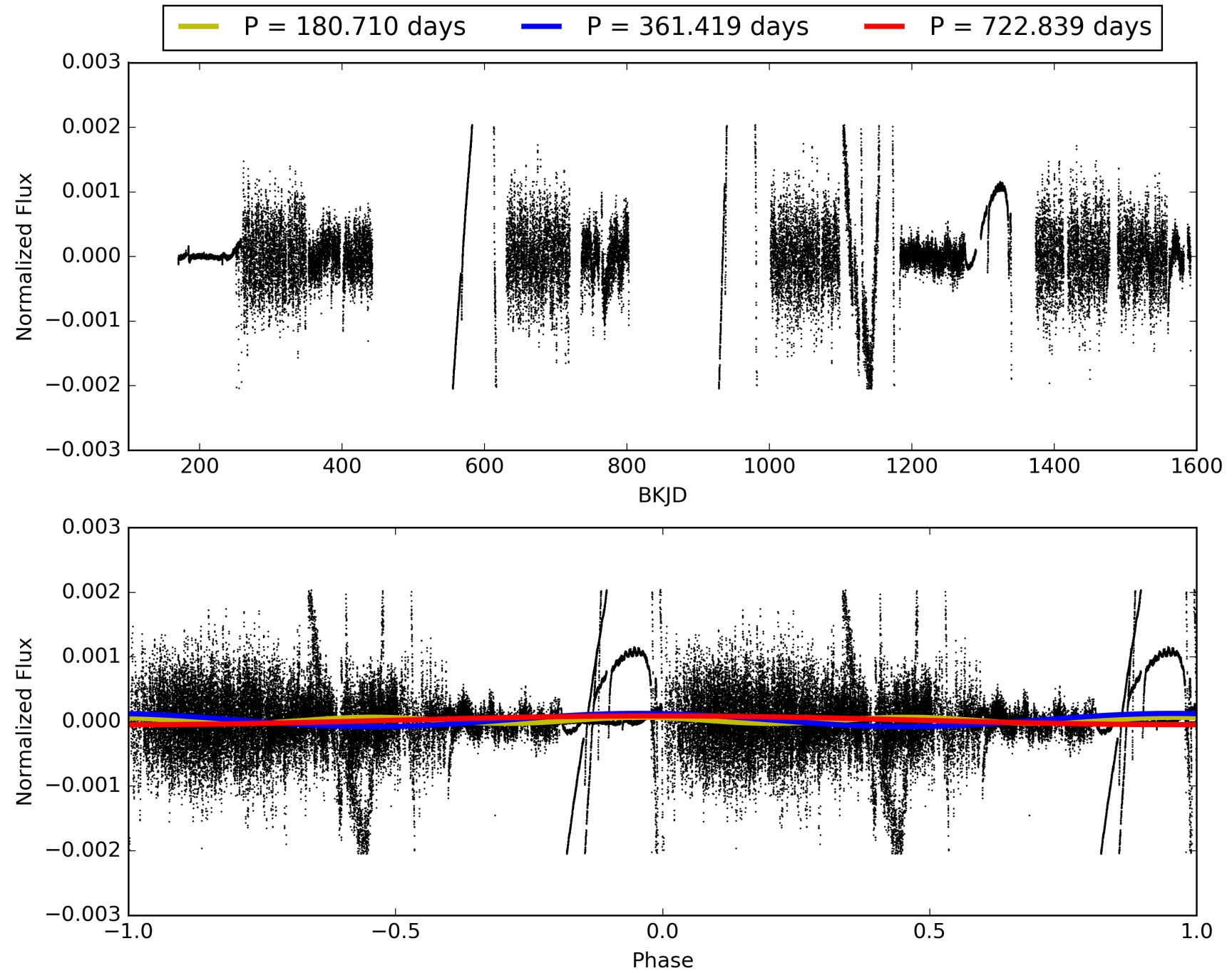
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [51.30σ]  
LongPeriod-sig: 28.4% [0.36σ]  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 0.0%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 0.7008  
Centroid-sig: 0.0%  
Centroid-so: 3.119 arcsec [2.86σ]  
OotOffset-rm: N/A  
OotOffset-st: 0/0/0 [0]  
KicOffset-rm: N/A  
KicOffset-st: 0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 0.33 [1/3]

# TCE 010671402-04, PDC Light Curves



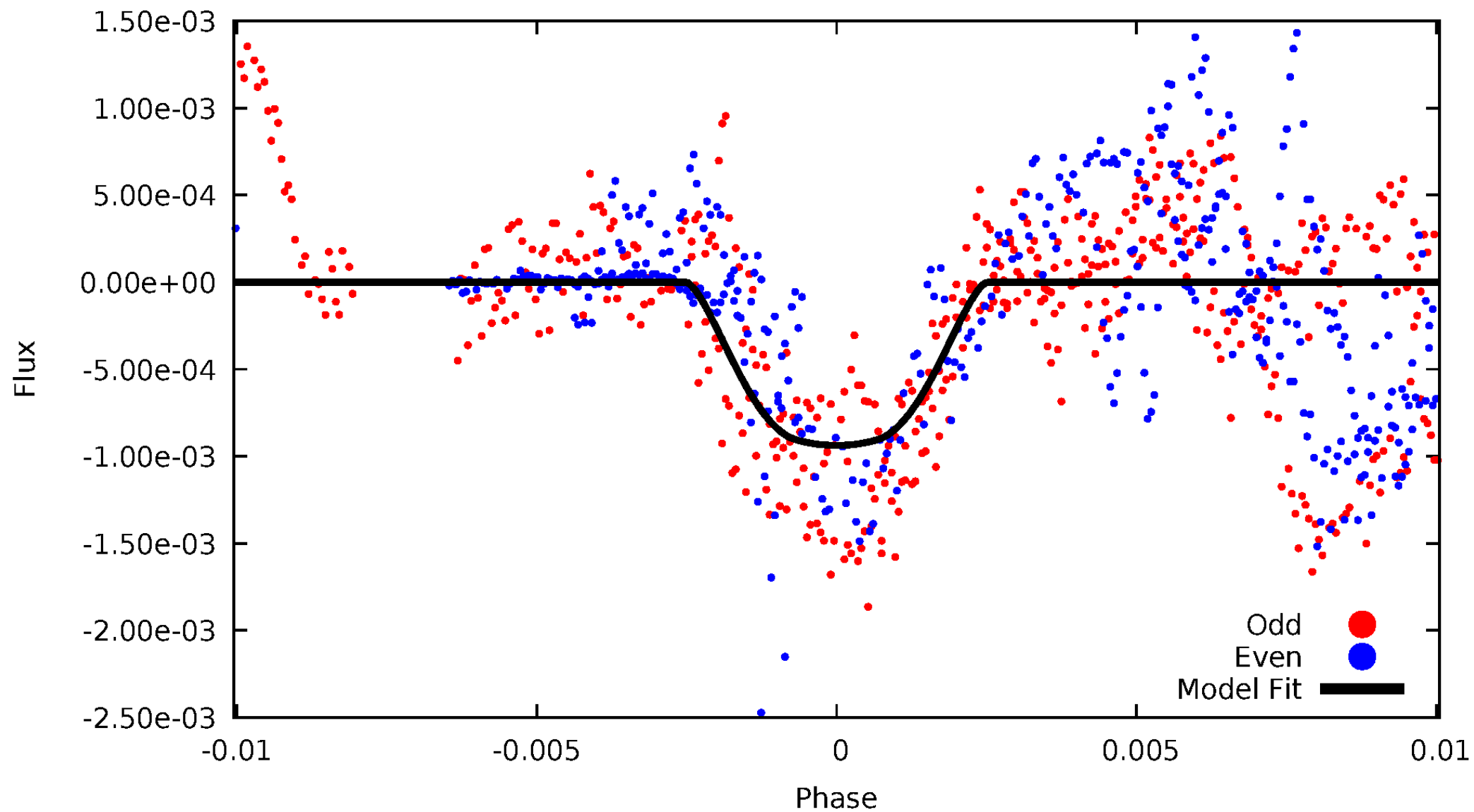
TCE 010671402-04





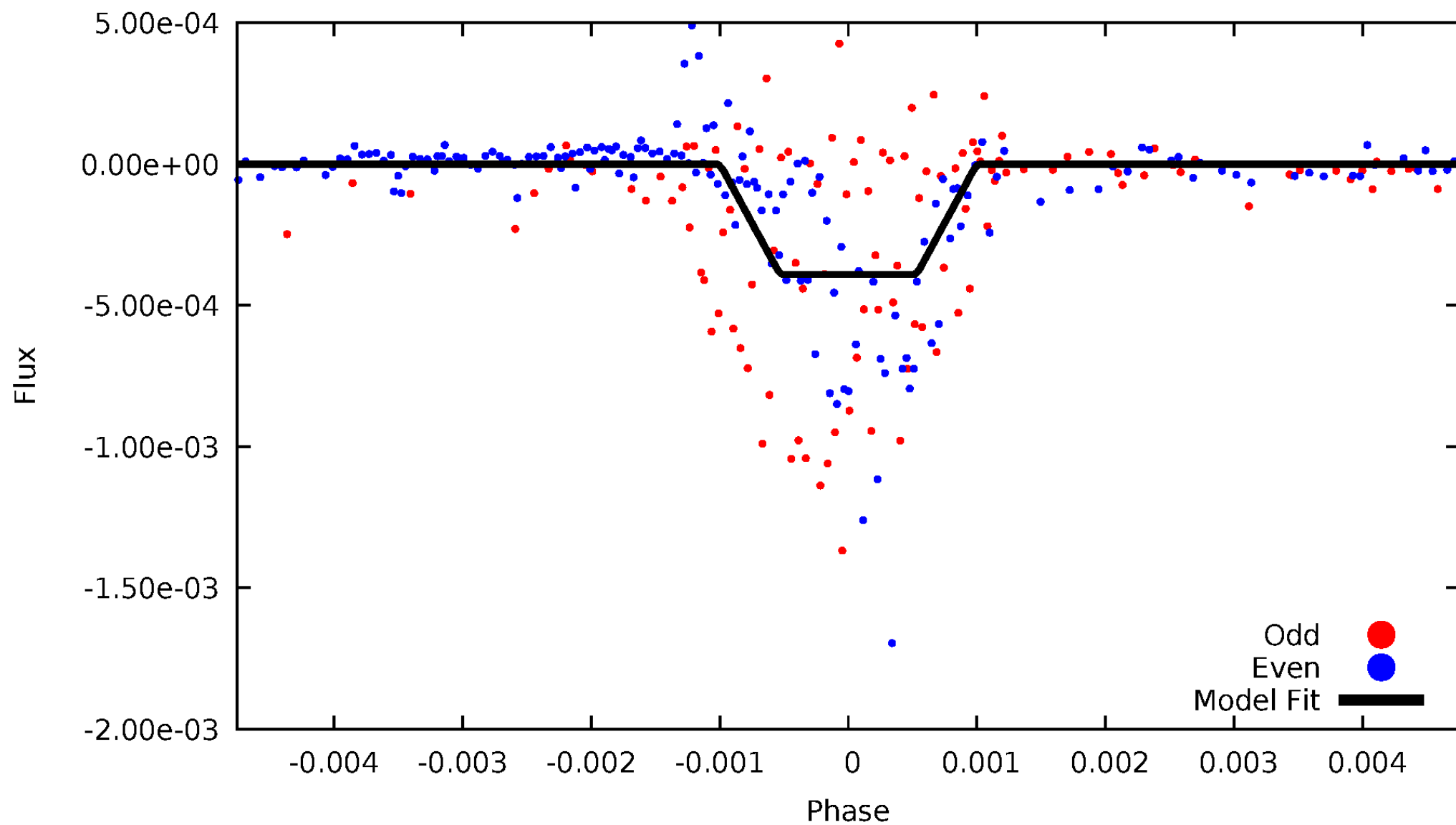
# DV Odd/Even

TCE 010671402-04



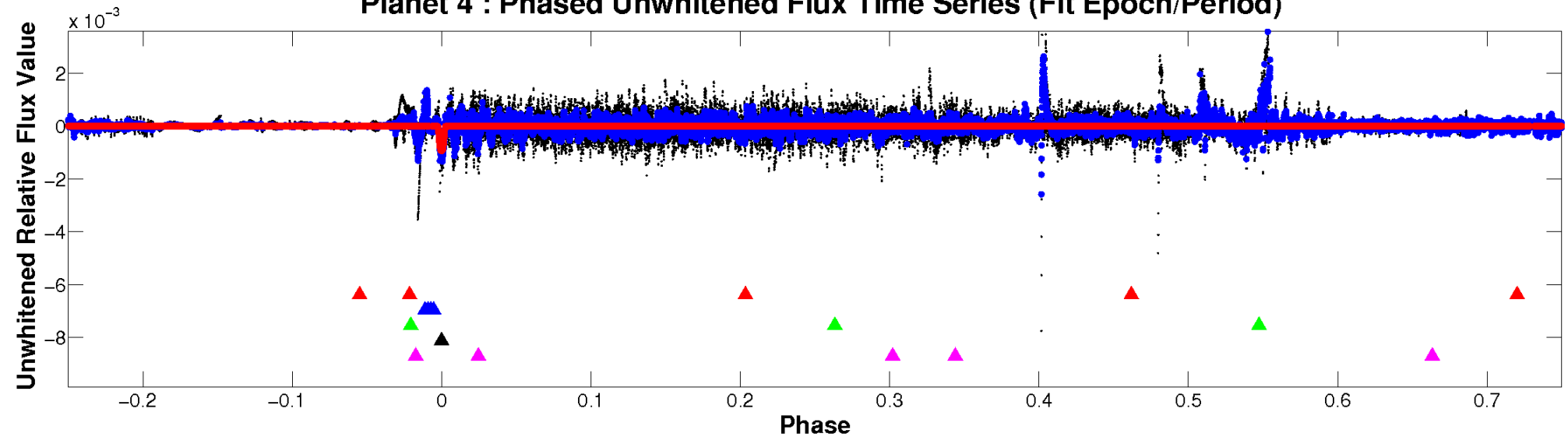
# ALT Odd/Even

TCE 010671402-04

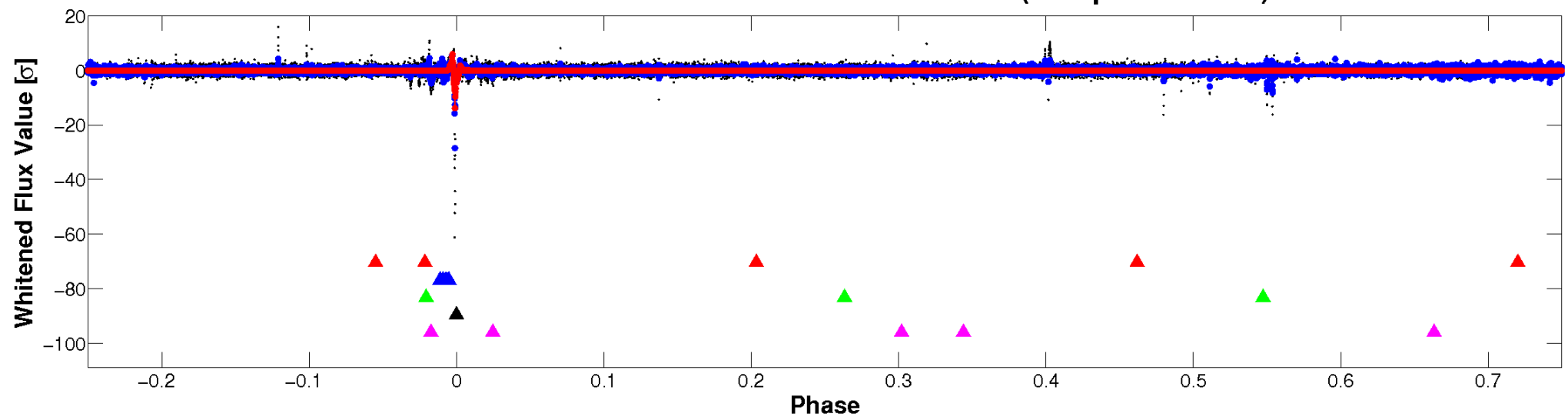


# Non-Whitened Vs. Whitened Light Curve

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

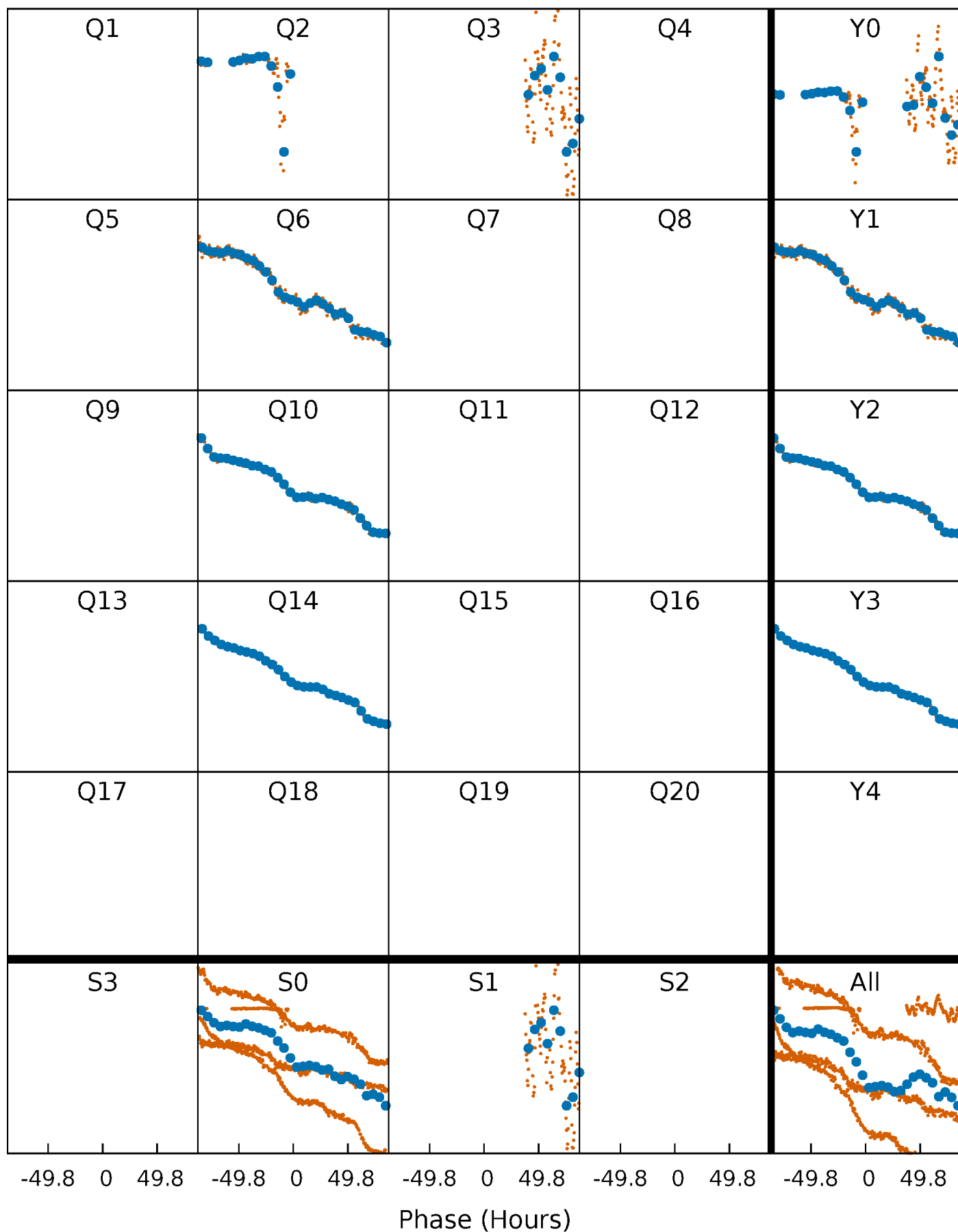


## Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



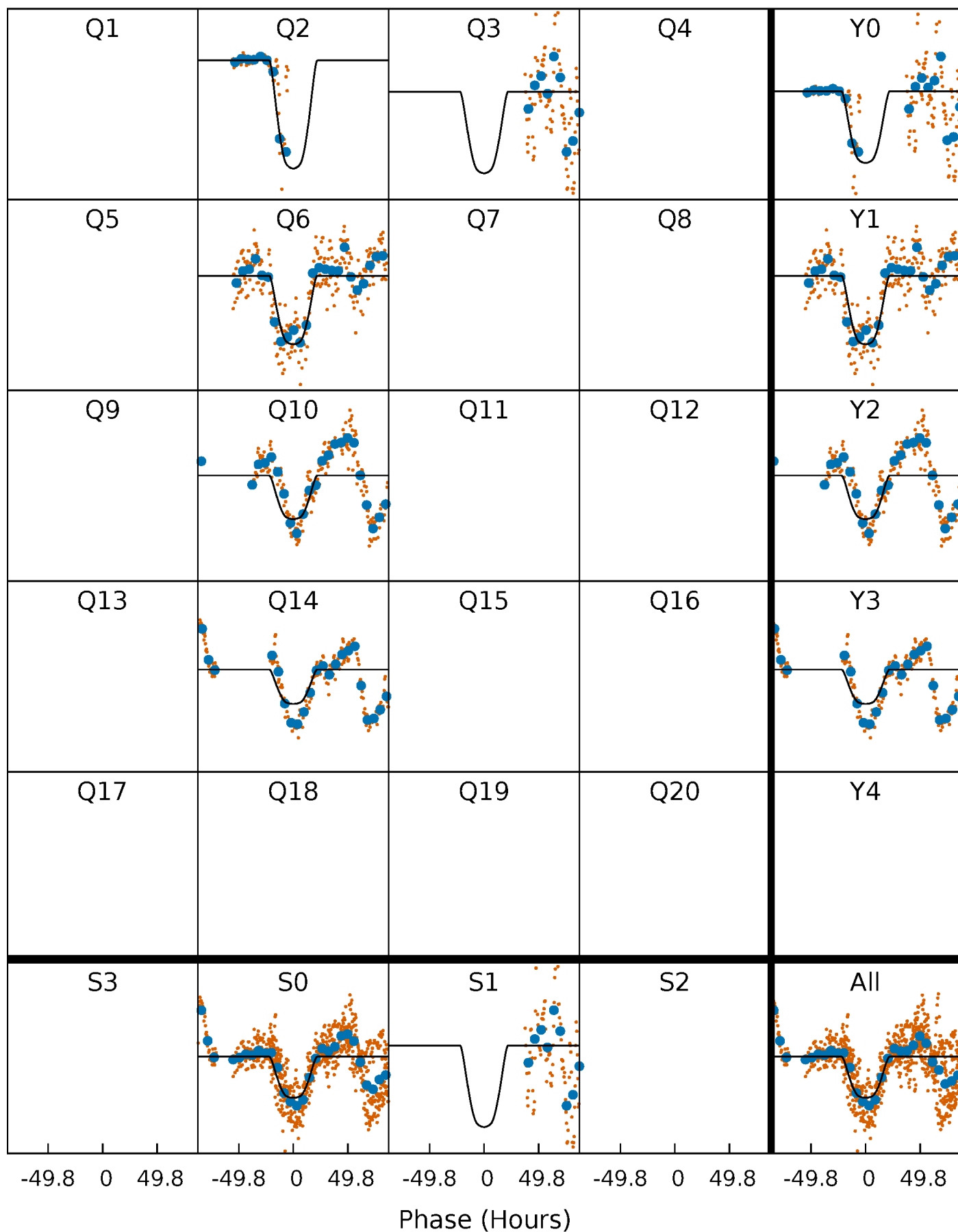
# PDC Quarter-Phased Transit Curves

TCE 010671402-04     $P=361.419317$  Days     $T_0=258.676786$  (BKJD)



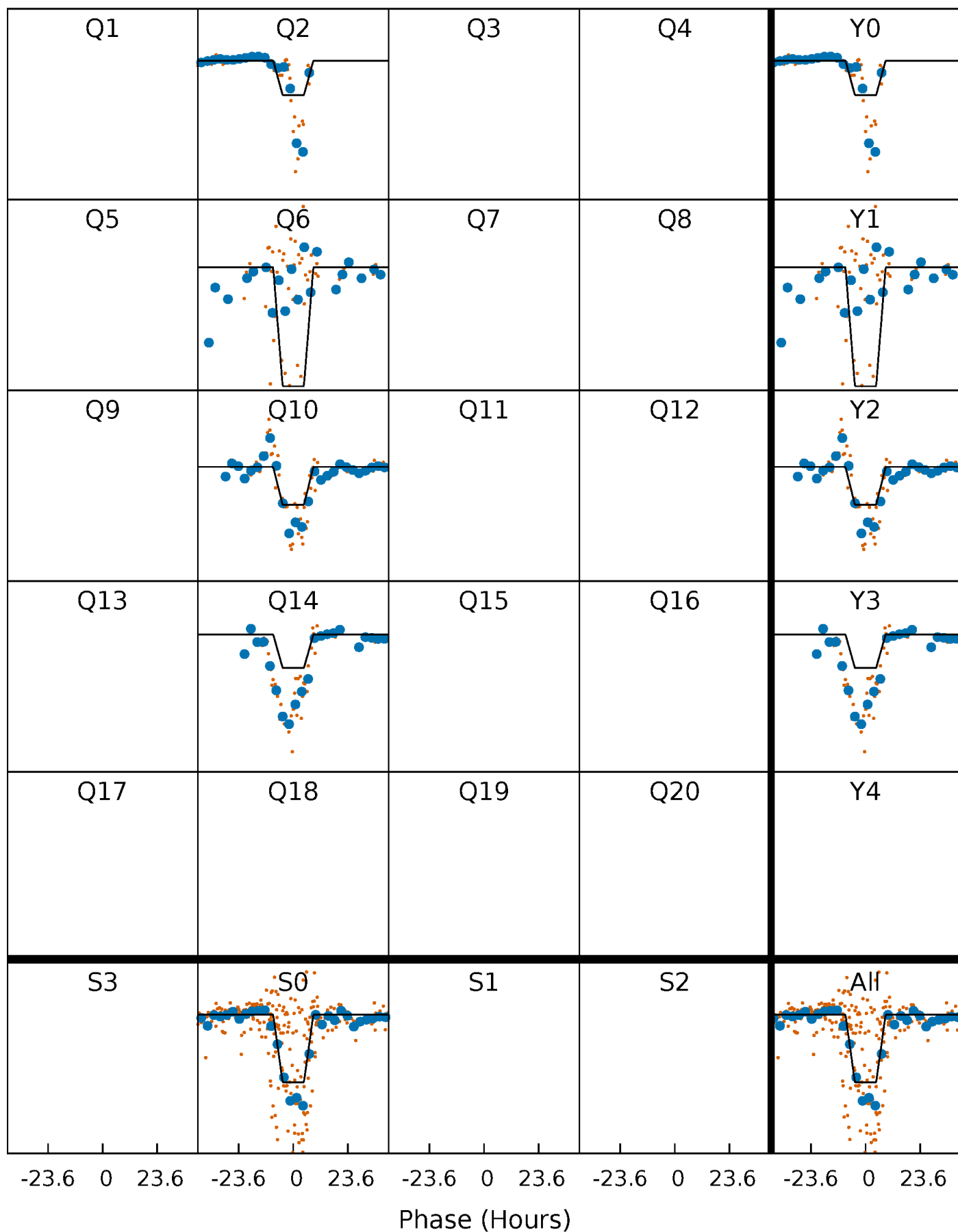
# DV Quarter-Phased Transit Curves

TCE 010671402-04     $P=361.419317$  Days     $T_0=258.676786$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

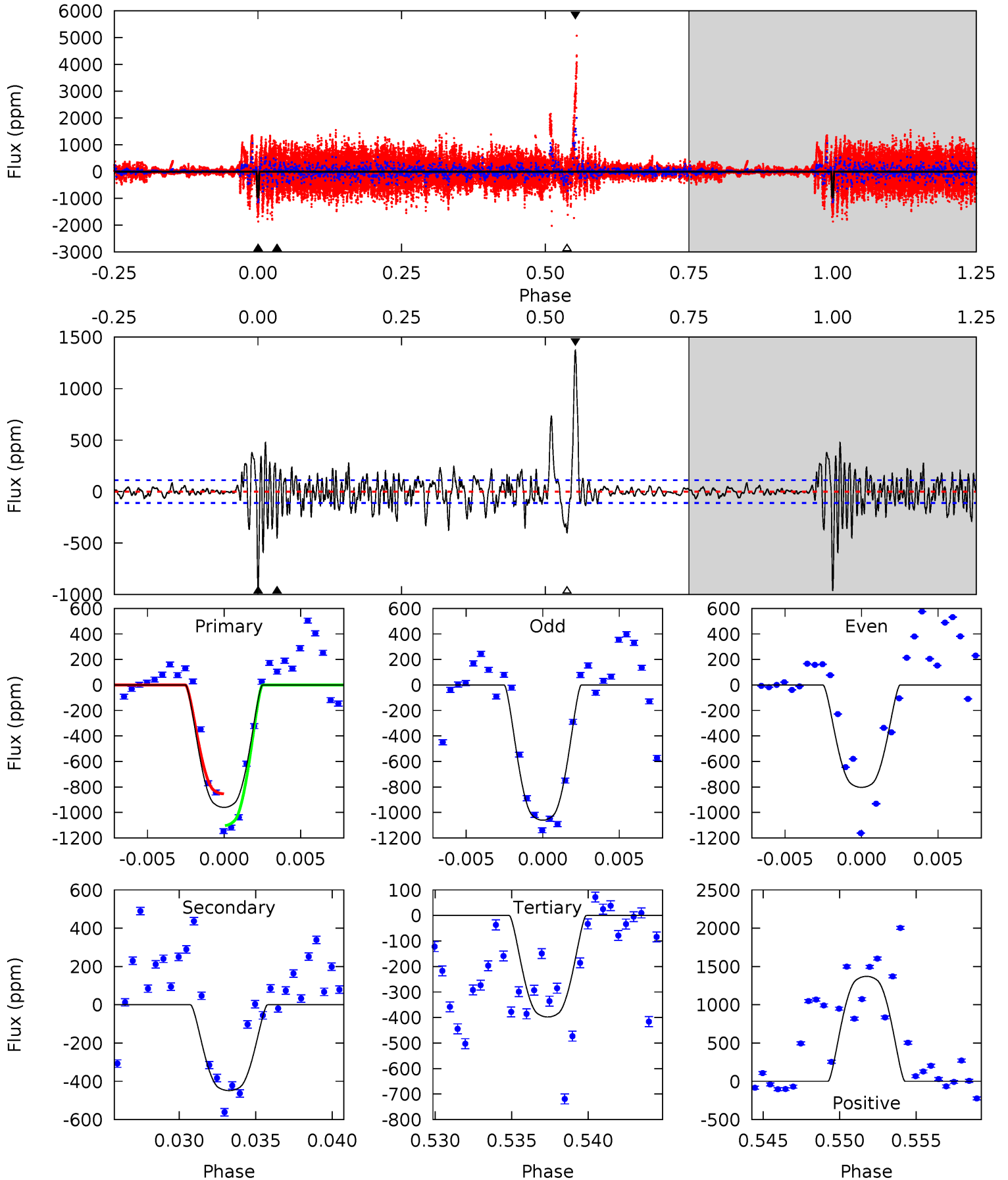
TCE 010671402-04 P=361.660390 Days  $T_0=258.160373$  (BKJD)



# DV Model-Shift Uniqueness Test

010671402-04, P = 361.419317 Days, E = 258.676786 Days

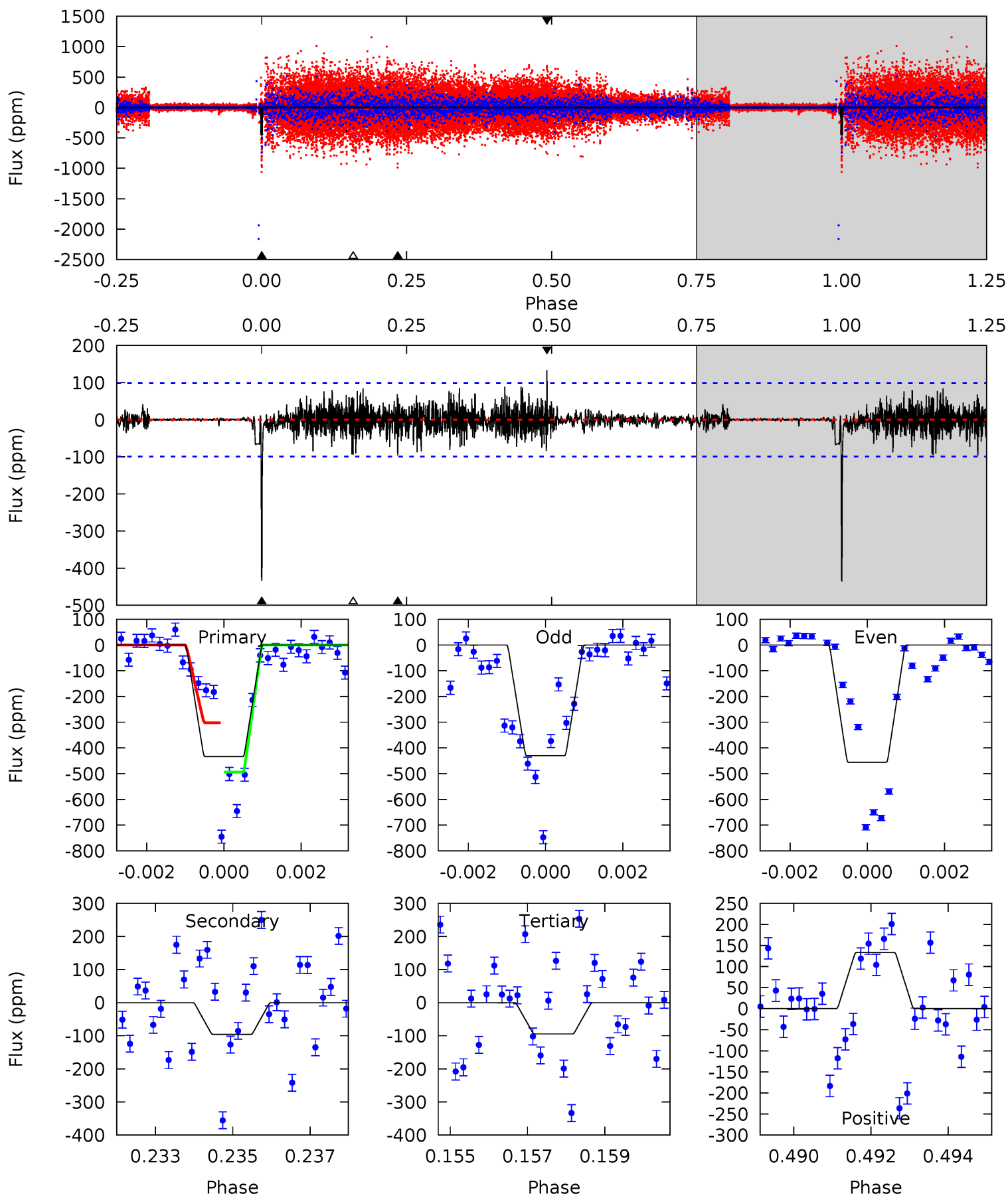
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
44.9	21.0	18.6	64.1	5.16	2.81	6.63	26.3	-19.2	2.36	-43.2	4.91	1.05	0.59	5.42



# Alt Model-Shift Uniqueness Test

010671402-04, P = 361.660390 Days, E = 258.160373 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
23.3	5.16	5.08	7.15	5.32	3.08	1.16	18.2	16.1	0.08	-1.99	0.67	0.97	0.23	0





### Stellar Parameters For KIC 010671402

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$4904^{+136}_{-86}$	$2.933^{+0.195}_{-0.195}$	$-0.460^{+0.250}_{-0.200}$	$5.201^{+2.127}_{-1.064}$	$0.846^{+0.435}_{-0.023}$	$0.008^{+0.008}_{-0.004}$
	+3%/-2%	+7%/-7%	+54%/-43%	+41%/-20%	+51%/-3%	+89%/-50%
Source	PHO1	FLK73	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 010671402-04 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-448 \pm 21$	$21.69^{+4.95}_{-2.80}$	$714^{+56}_{-51}$	$3954^{+99}_{-77}$	$485^{+164}_{-129}$
Alt.	$-96 \pm 19$	$11.66^{+2.53}_{-1.62}$	$716^{+60}_{-48}$	$3773^{+155}_{-140}$	$358^{+143}_{-108}$

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

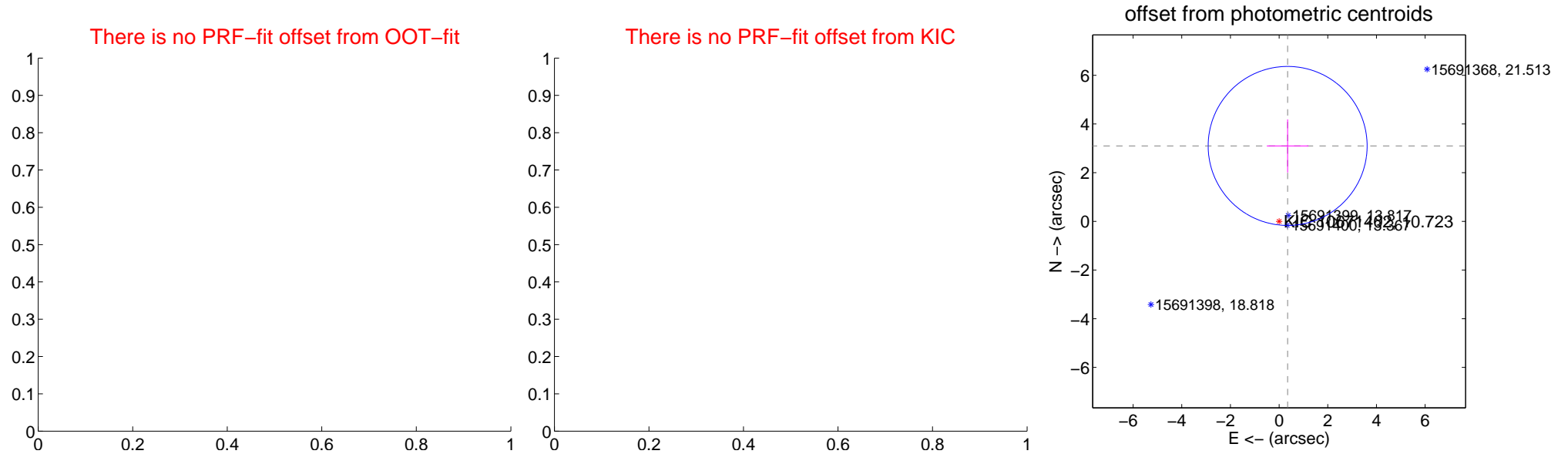
## DV Centroid Data

Supplemental centroid analysis for 010671402-04. **Kepler magnitude: 10.72.** Transit SNR 54.26

**There are 0 quarters with good PRF difference image offsets**

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

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	$3.12 \pm 1.09$	2.86	$-0.35 \pm 0.86$	$3.10 \pm 1.09$

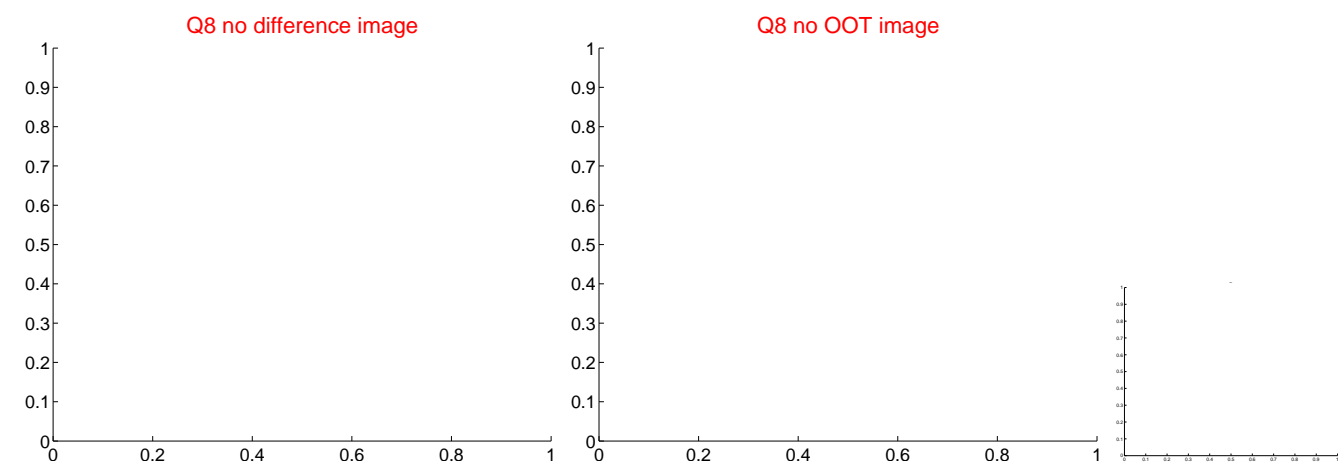
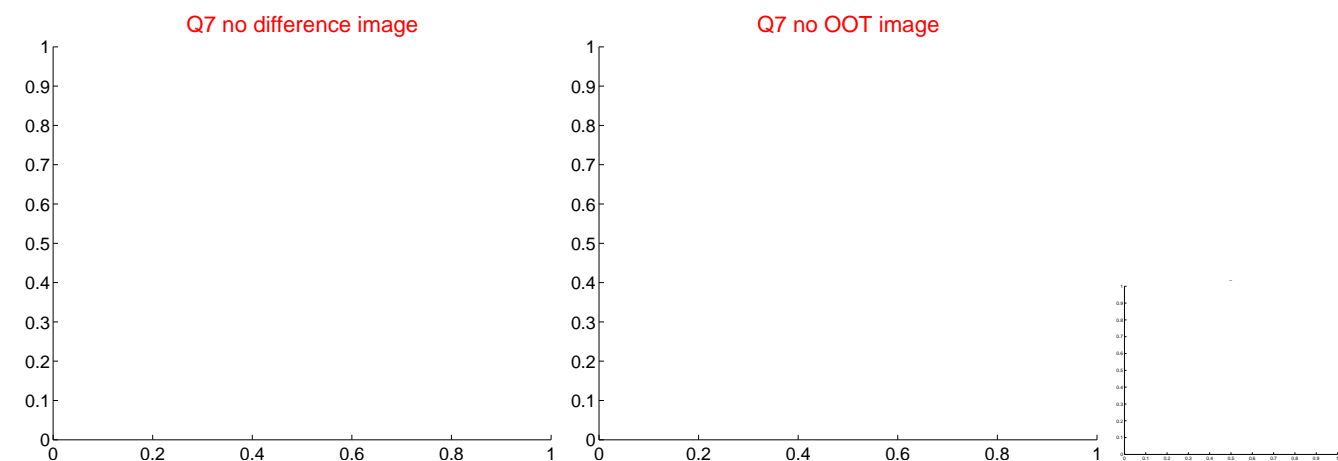
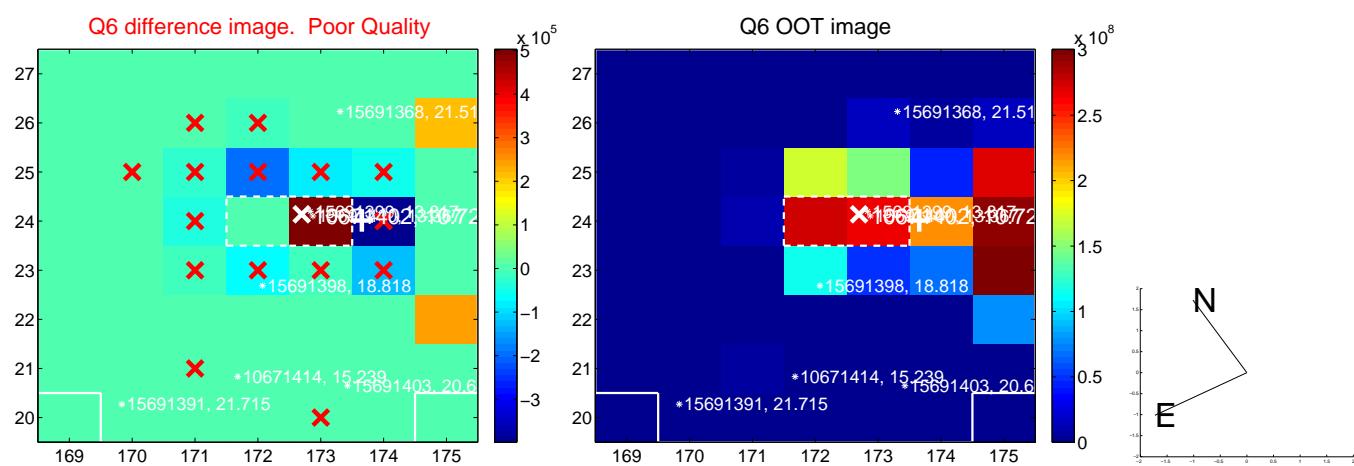
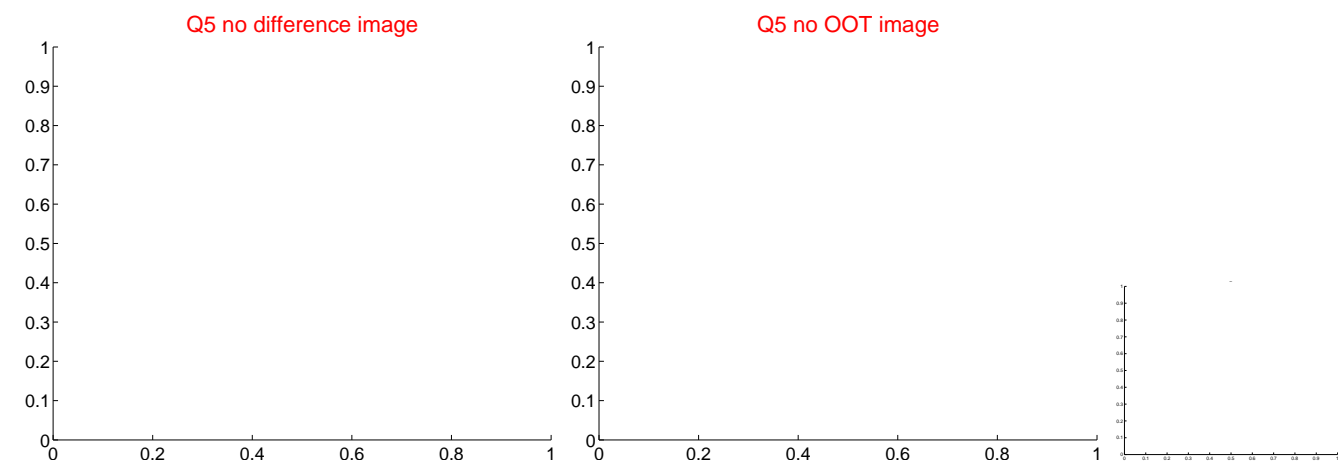


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

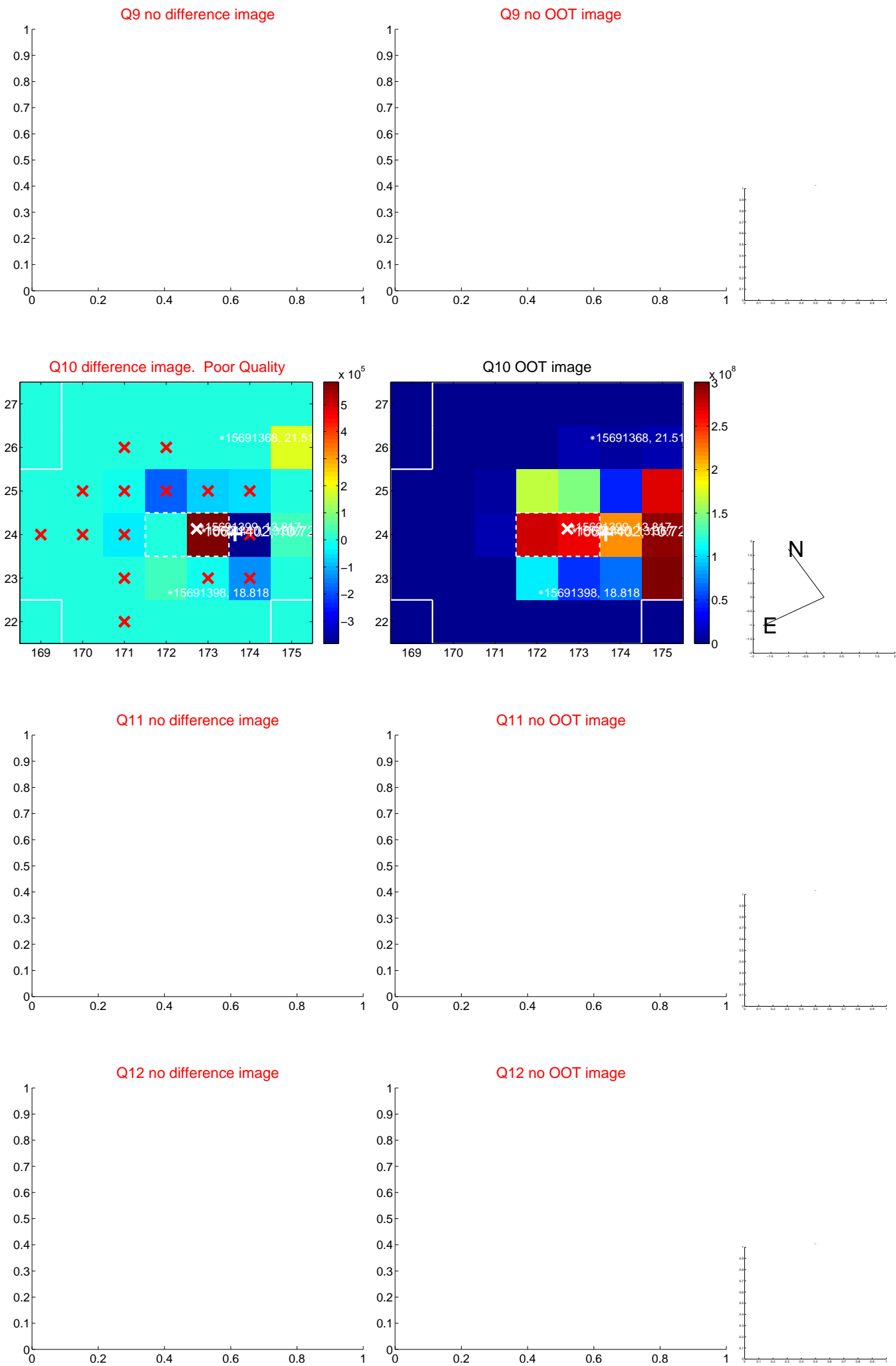
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



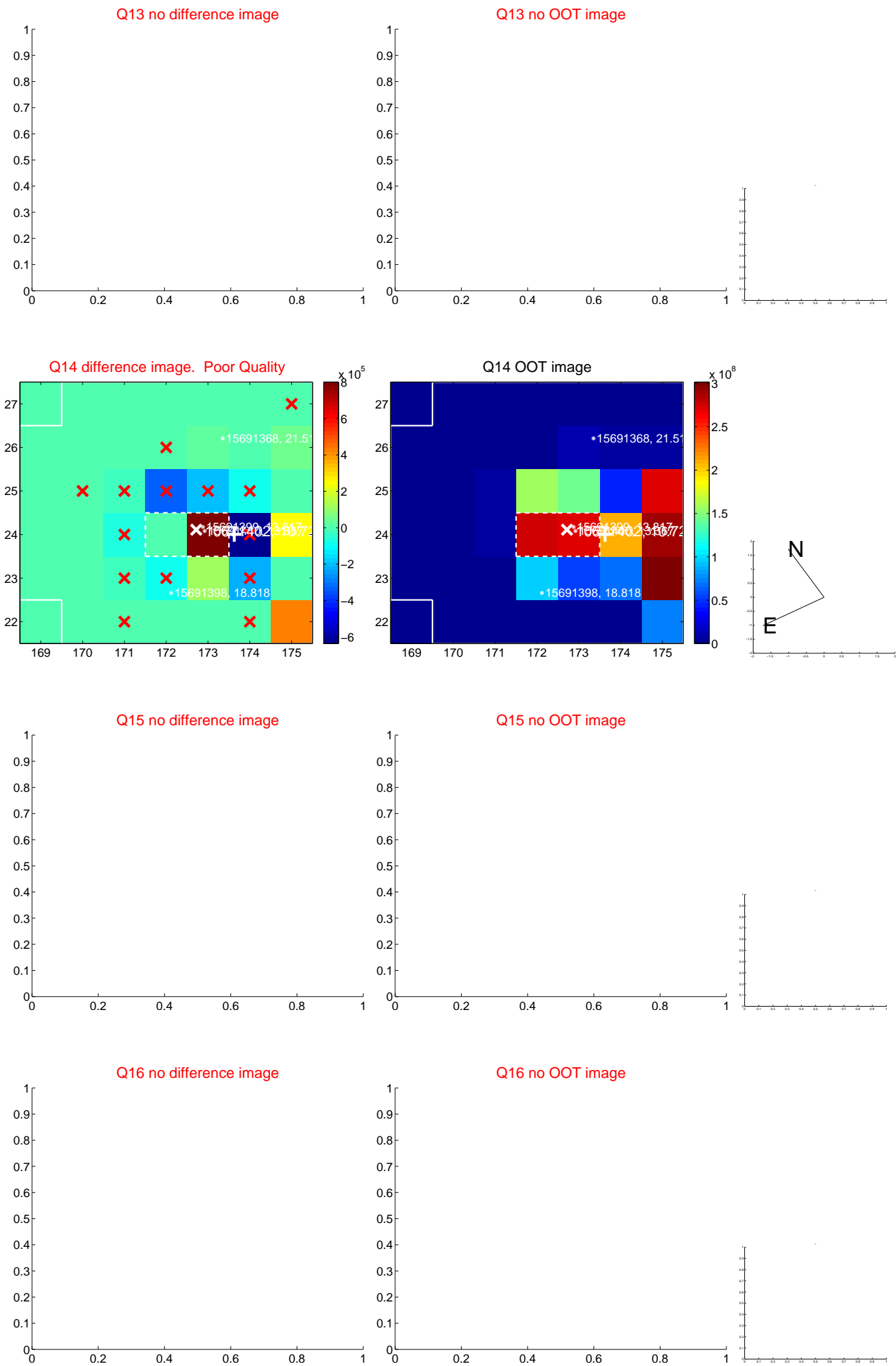
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



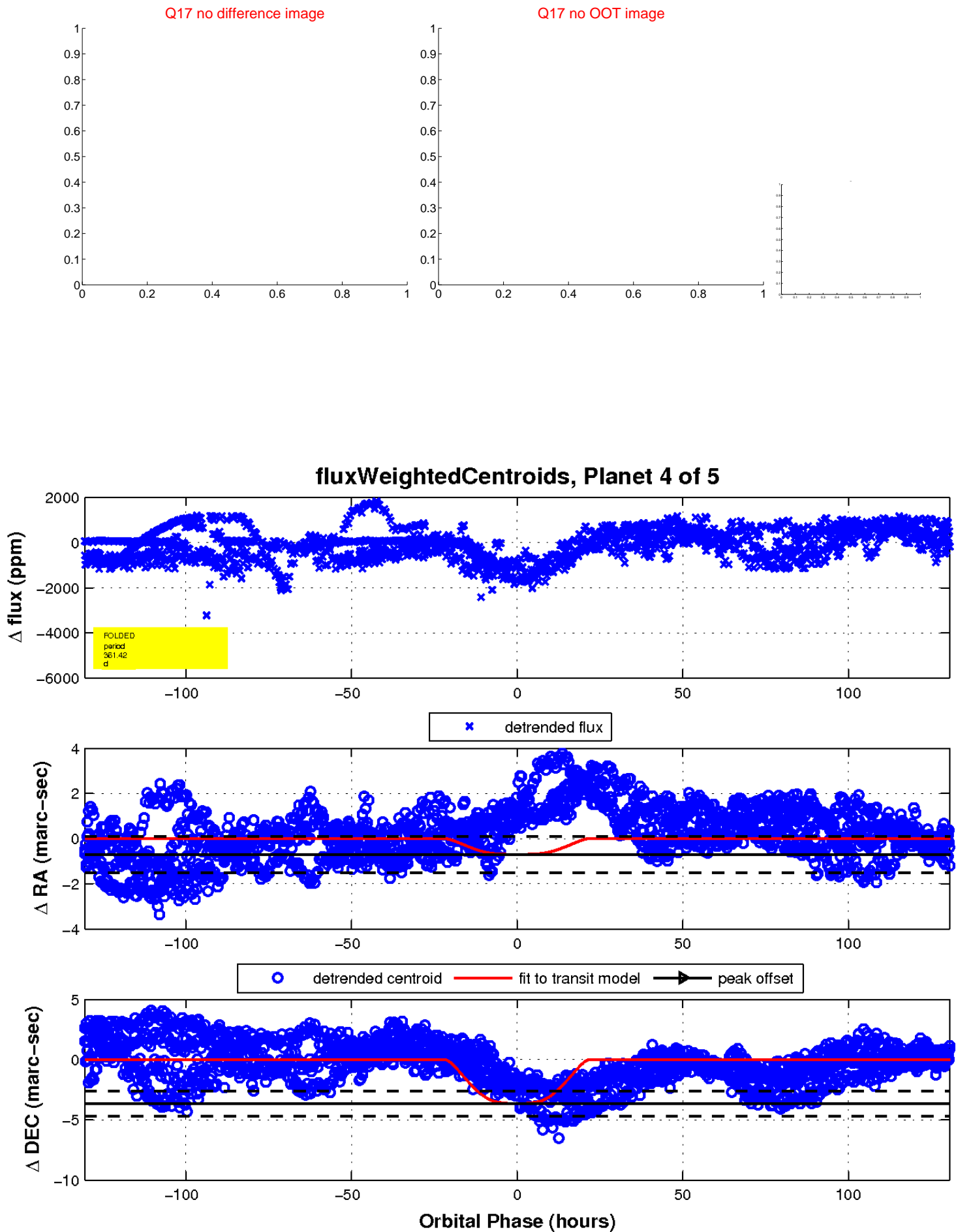
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

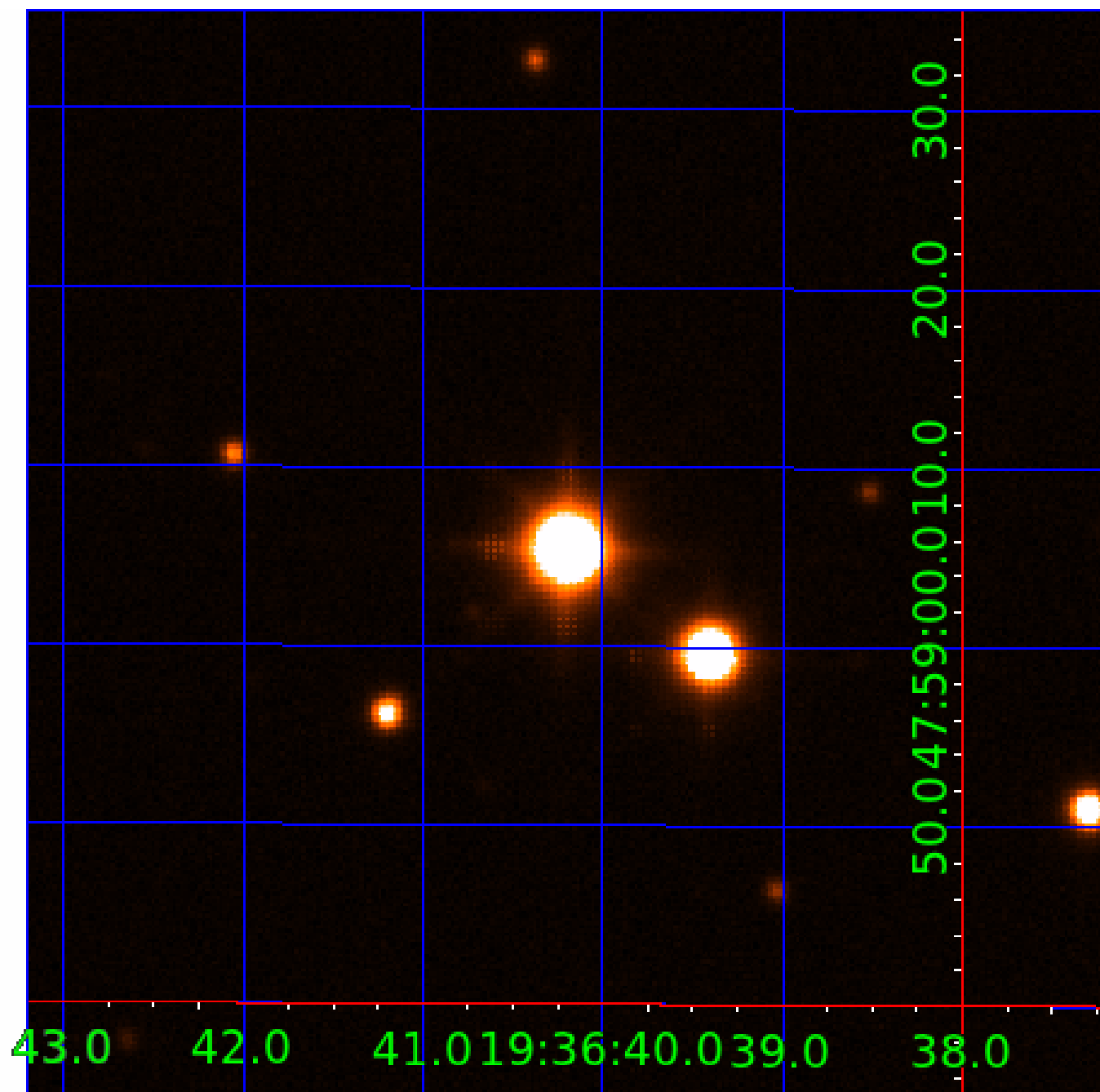


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 010671402

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010671402-01	OBS	No	268.044830	250.925806	6031.4	3.000	270.8	-1.0	5.20	4904	39.33	23.67
010671402-02	OBS	No	362.123502	254.672935	1338.0	15.995	195.3	107.9	5.20	4904	22.85	15.85
010671402-03	OBS	No	464.051556	251.223078	1462.6	2.920	81.9	25.5	5.20	4904	34.76	11.39
010671402-04	OBS	No	361.419317	258.676786	936.9	43.579	44.7	54.3	5.20	4904	21.18	15.89
010671402-05	OBS	No	245.999629	367.845549	279.4	15.000	29.5	-1.0	5.20	4904	8.45	26.54

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010671402-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
010671402-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_ZUMA—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED
010671402-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—MOD_TER_DV—INCONSISTENT_TRANS—CENT_SATURATED
010671402-04	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED
010671402-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_SATURATED

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

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

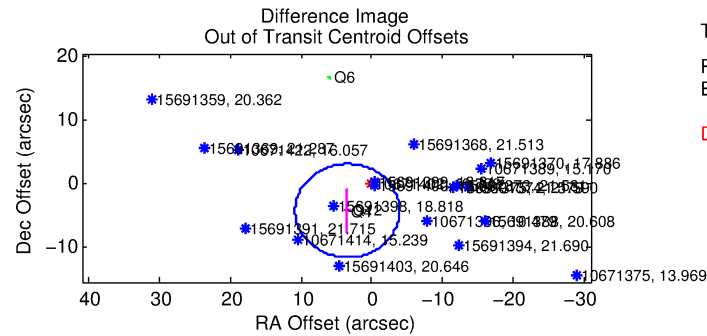
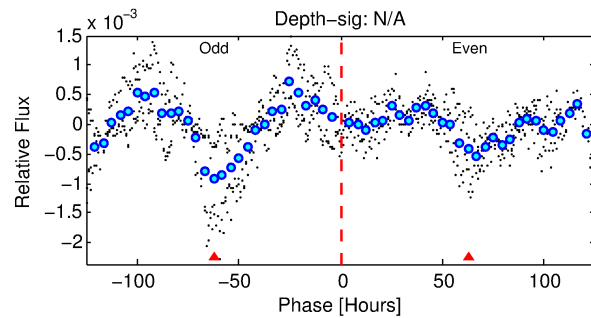
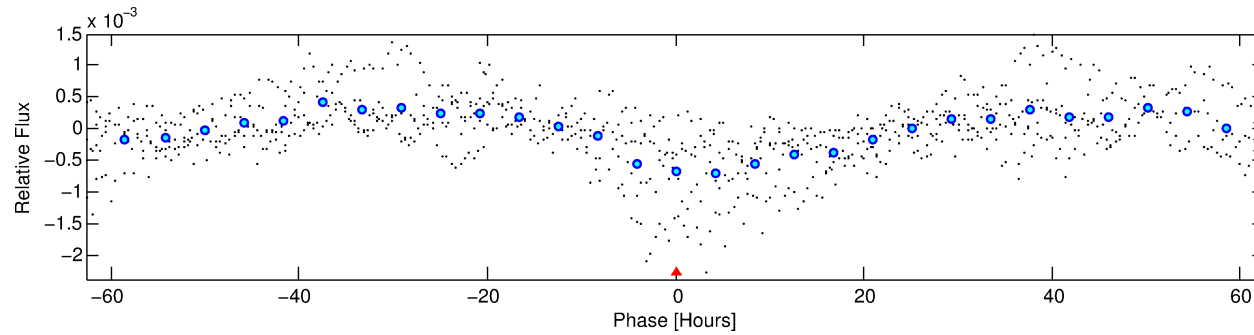
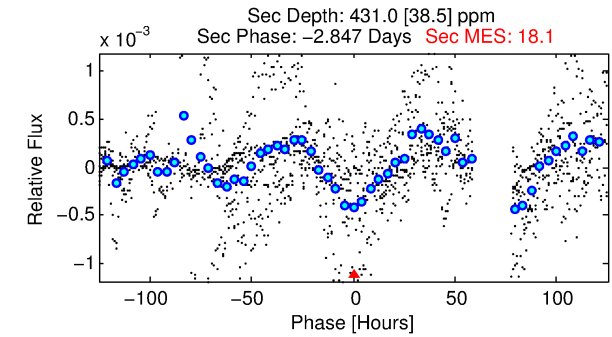
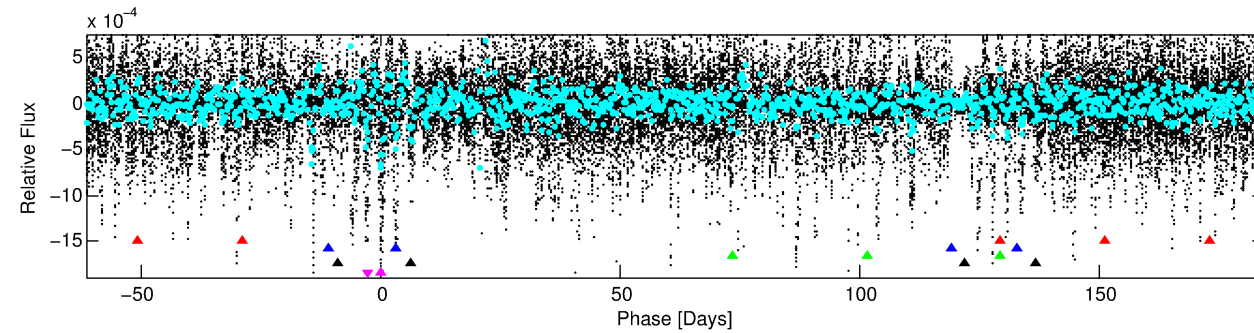
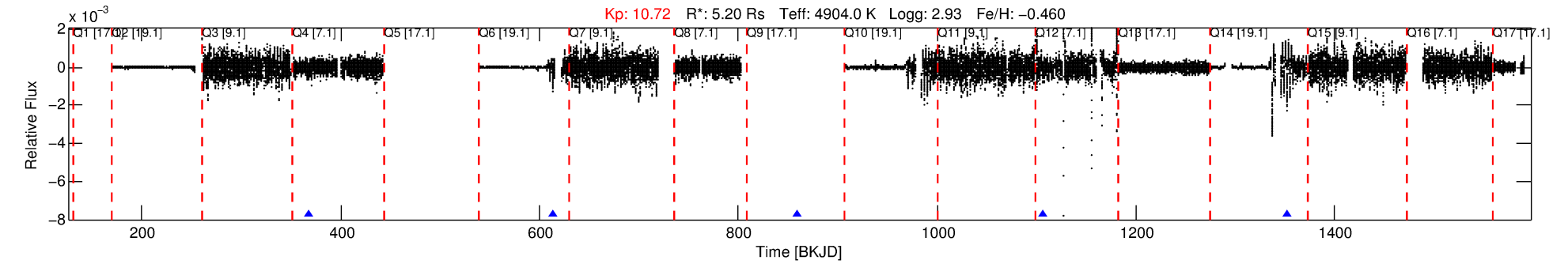
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 010671402-05

No Significant Match Found

# DV One-Page Summary

KIC: 10671402 Candidate: 5 of 5 Period: 246.000 d



## TPS TCE Results:

Period = 245.99963 d  
Epoch = 367.8455 BKJD

DV fit results are unavailable

## DV Diagnostic Results:

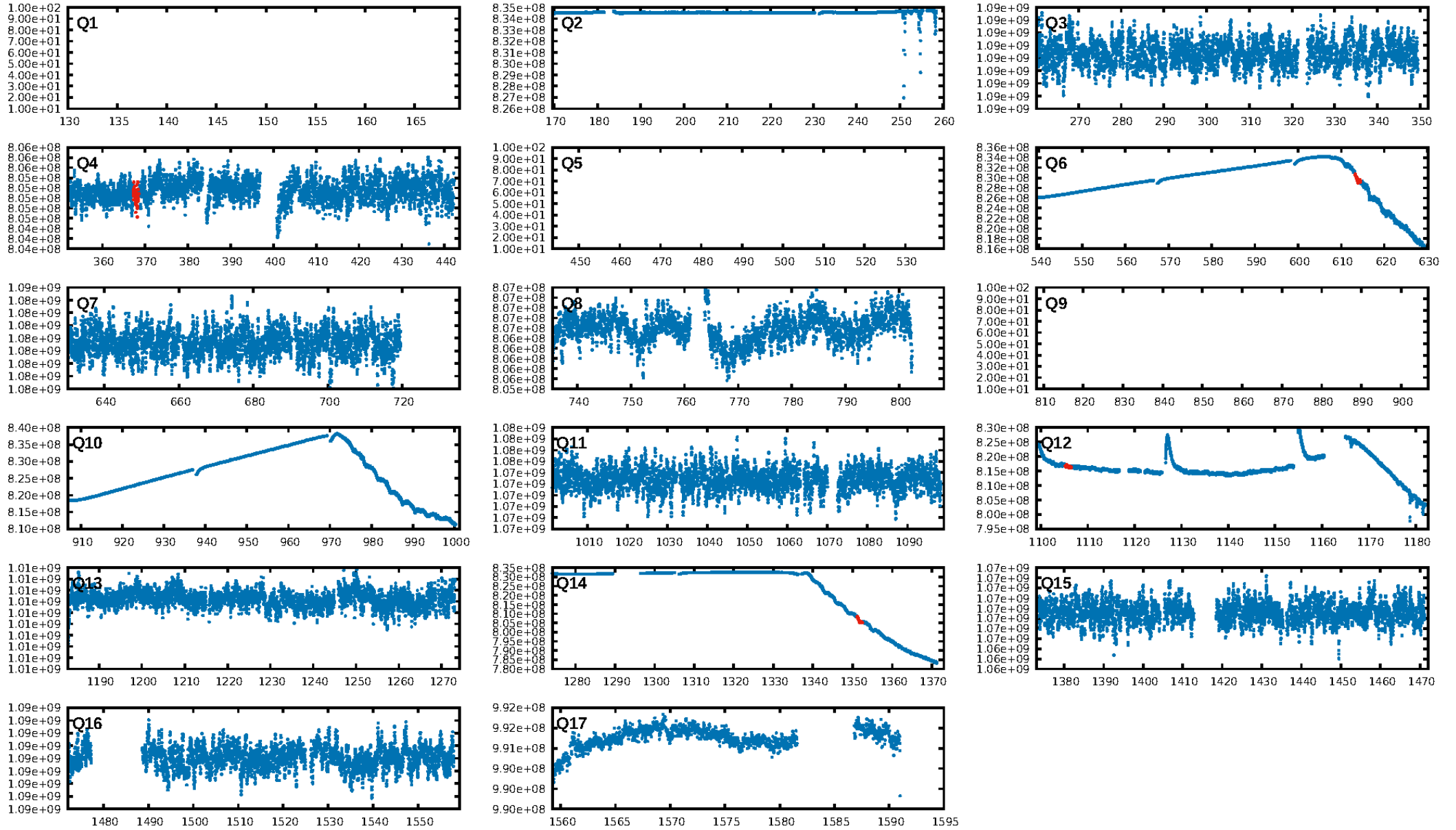
ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [34.59]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: 0.5218

Centroid-sig: 9.1%  
Centroid-so: 1.014 arcsec [2.01]  
OotOffset-rm: 5.504 arcsec [2.24]  
KicOffset-rm: 6.132 arcsec [1.57]  
OotOffset-st: 1/0/2/0 [3]  
KicOffset-st: 1/0/2/0 [3]  
DiffImageQuality-fgm: 0.00 [0/3]  
DiffImageOverlap-fno: 1.00 [4/4]

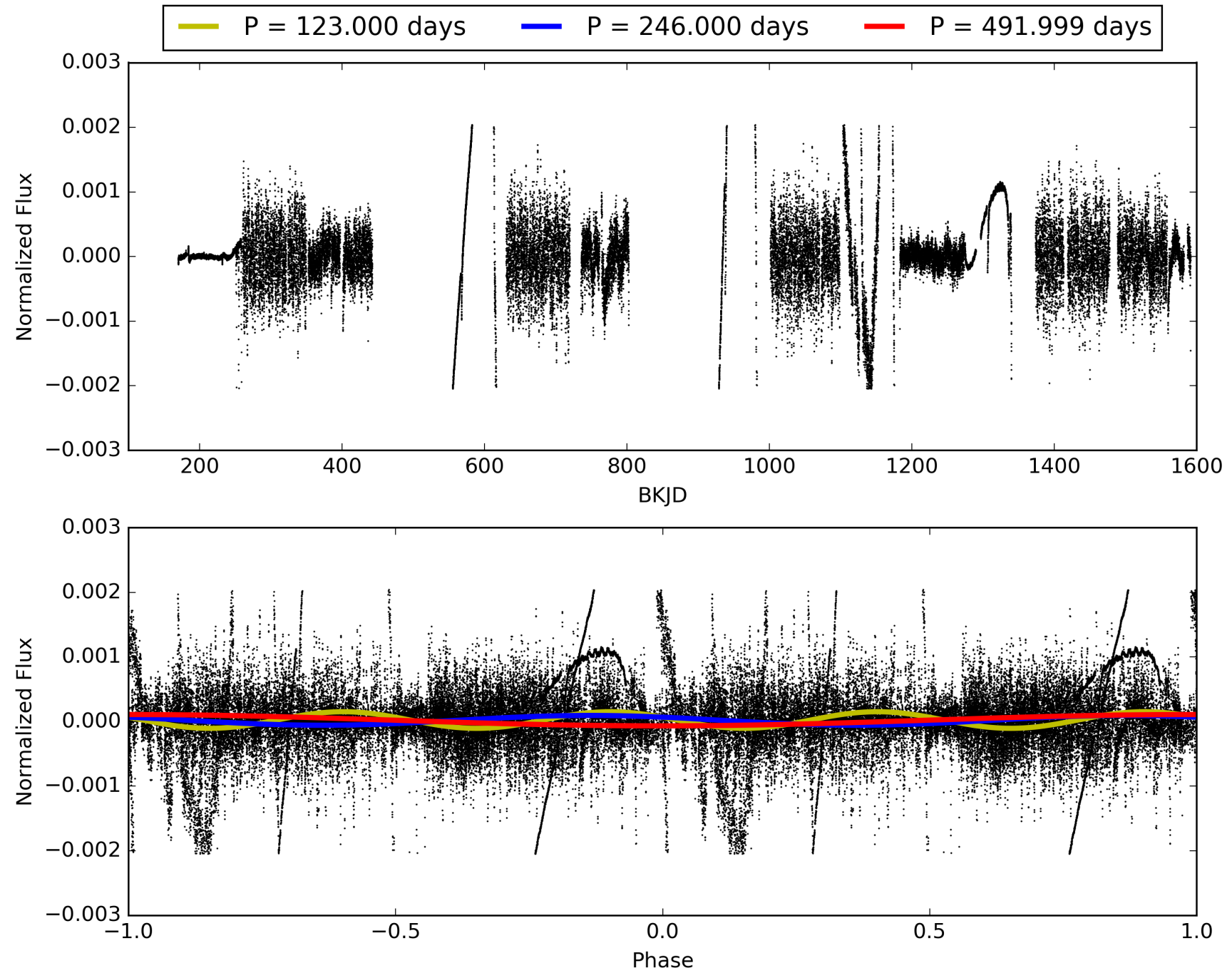
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:47:32 Z

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

# TCE 010671402-05, PDC Light Curves

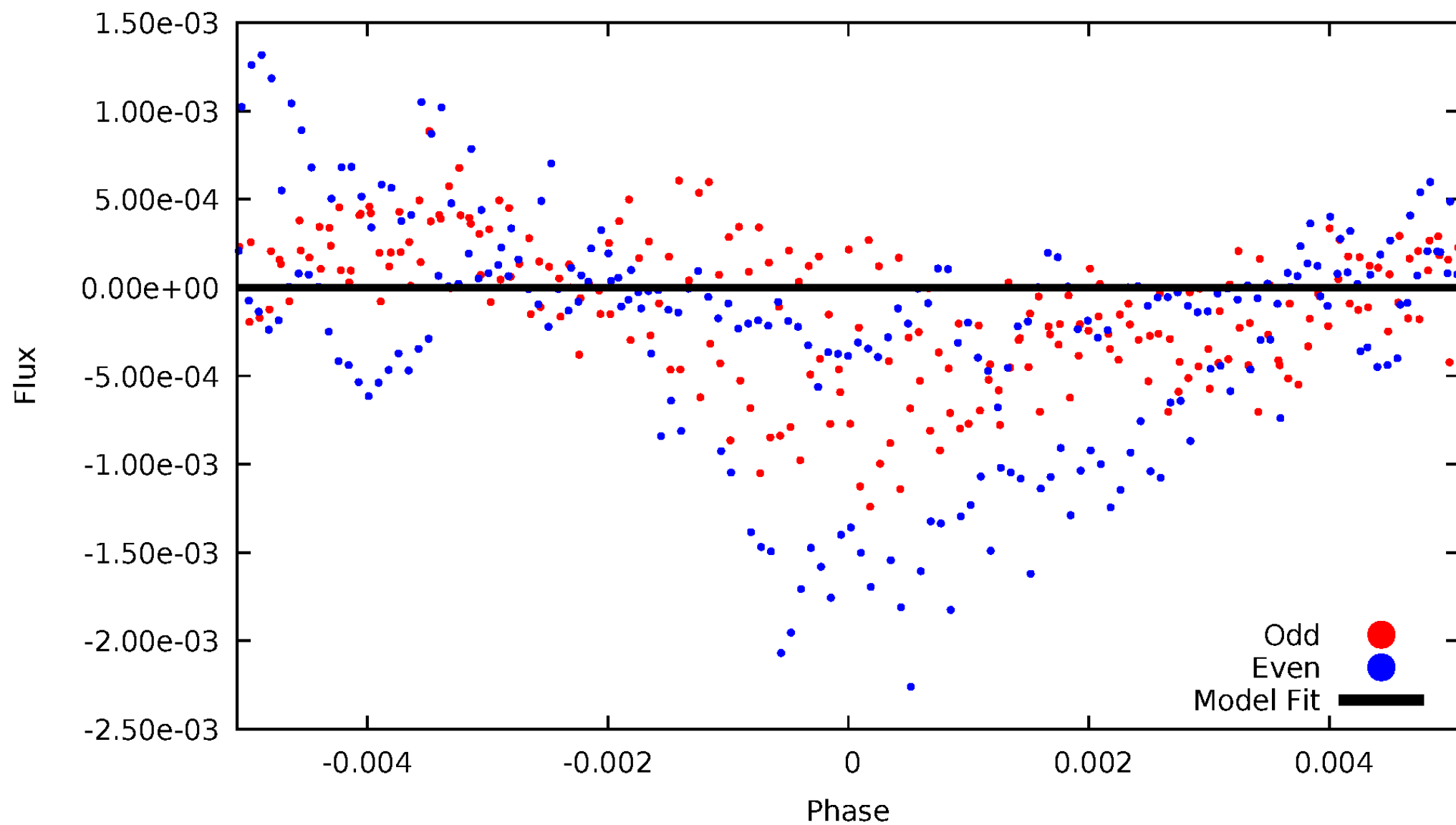


# TCE 010671402-05



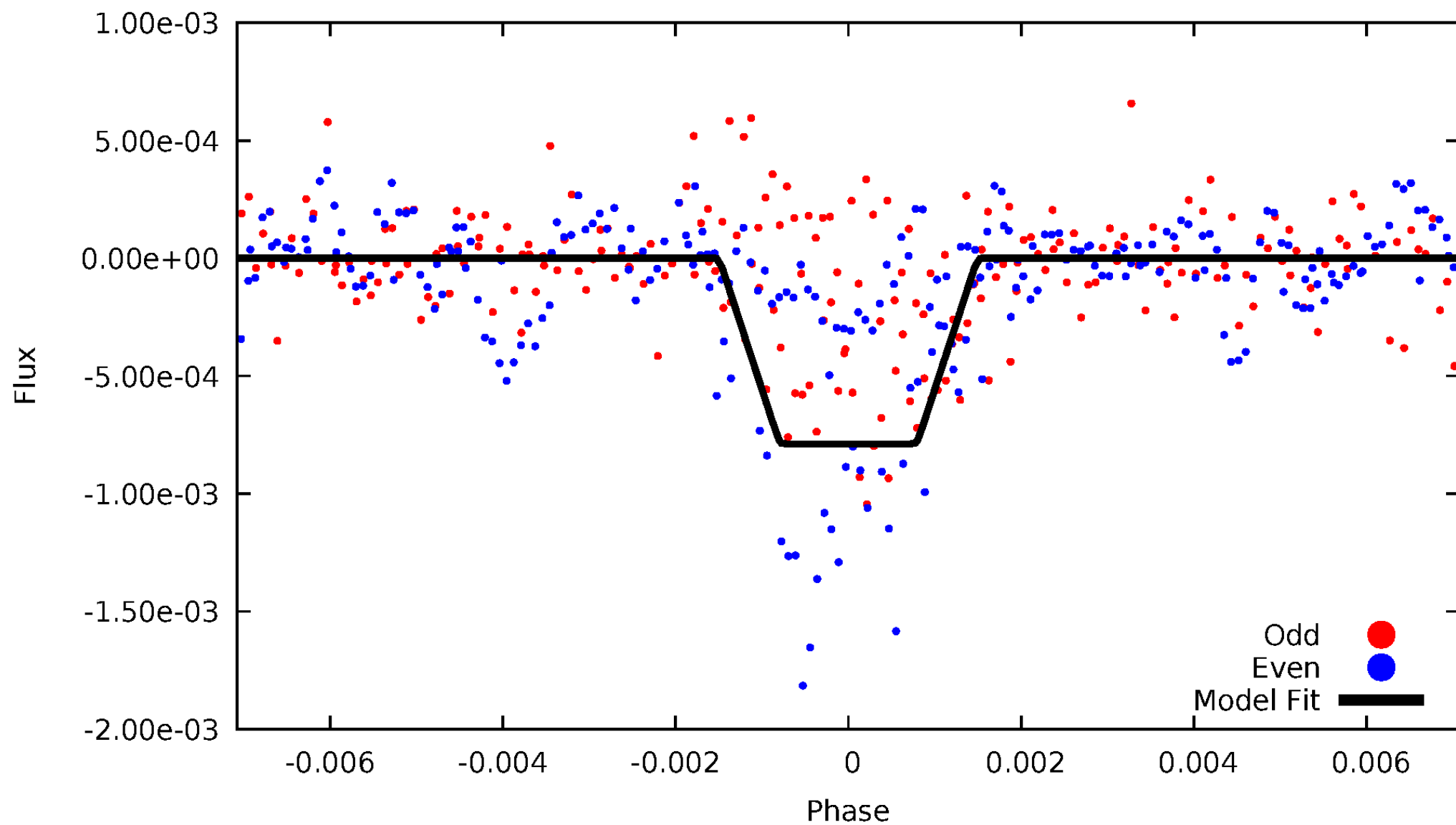
# DV Odd/Even

TCE 010671402-05

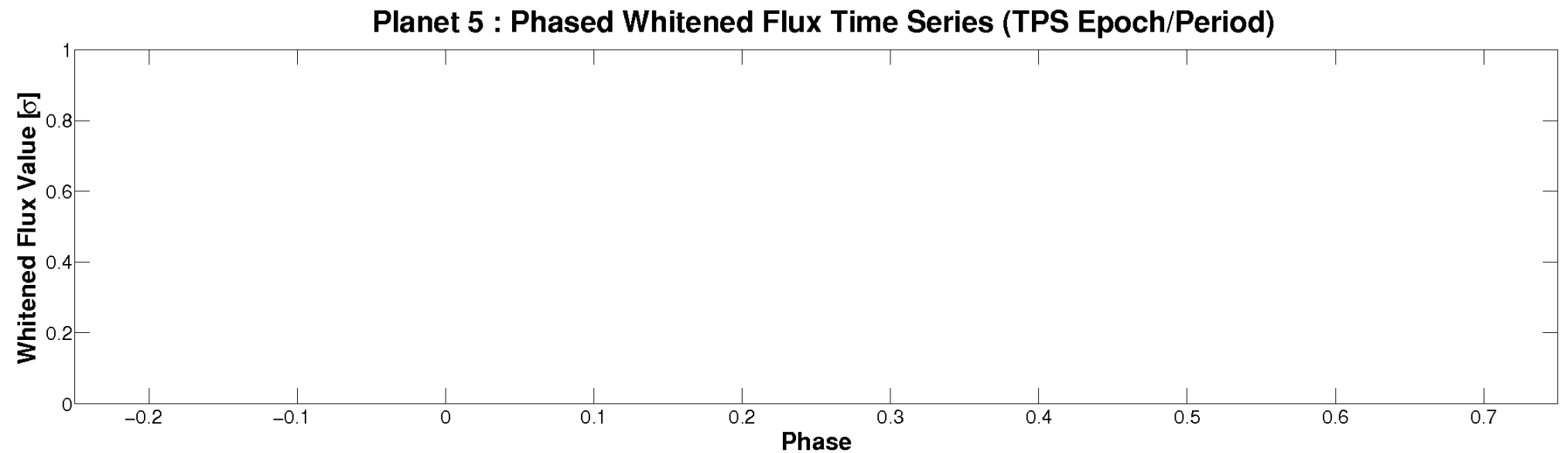
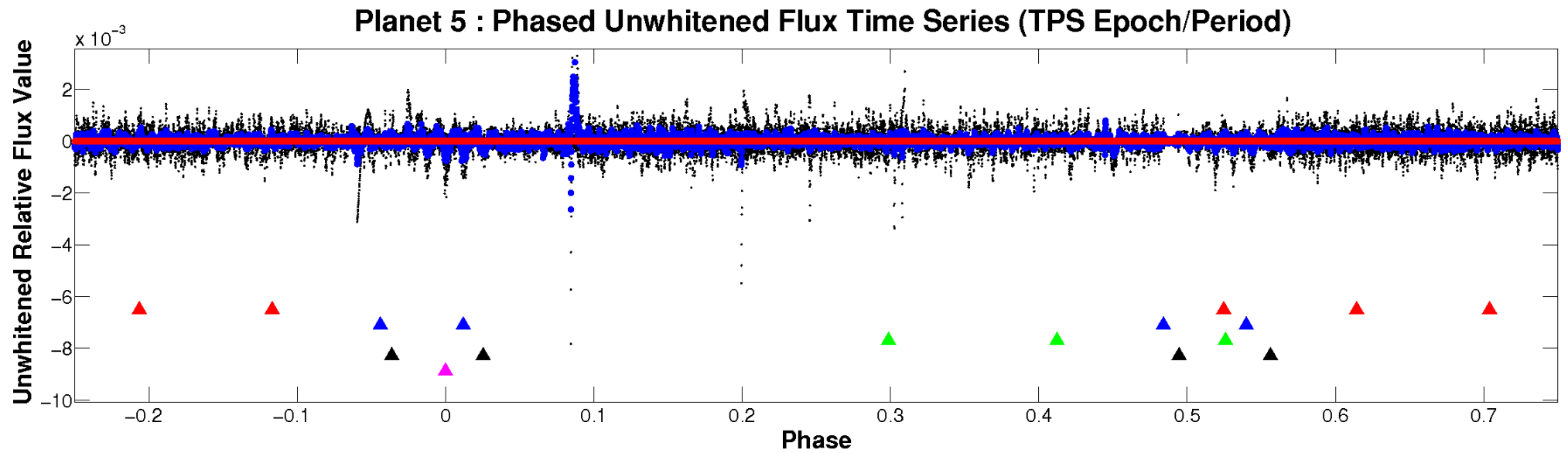


# ALT Odd/Even

TCE 010671402-05

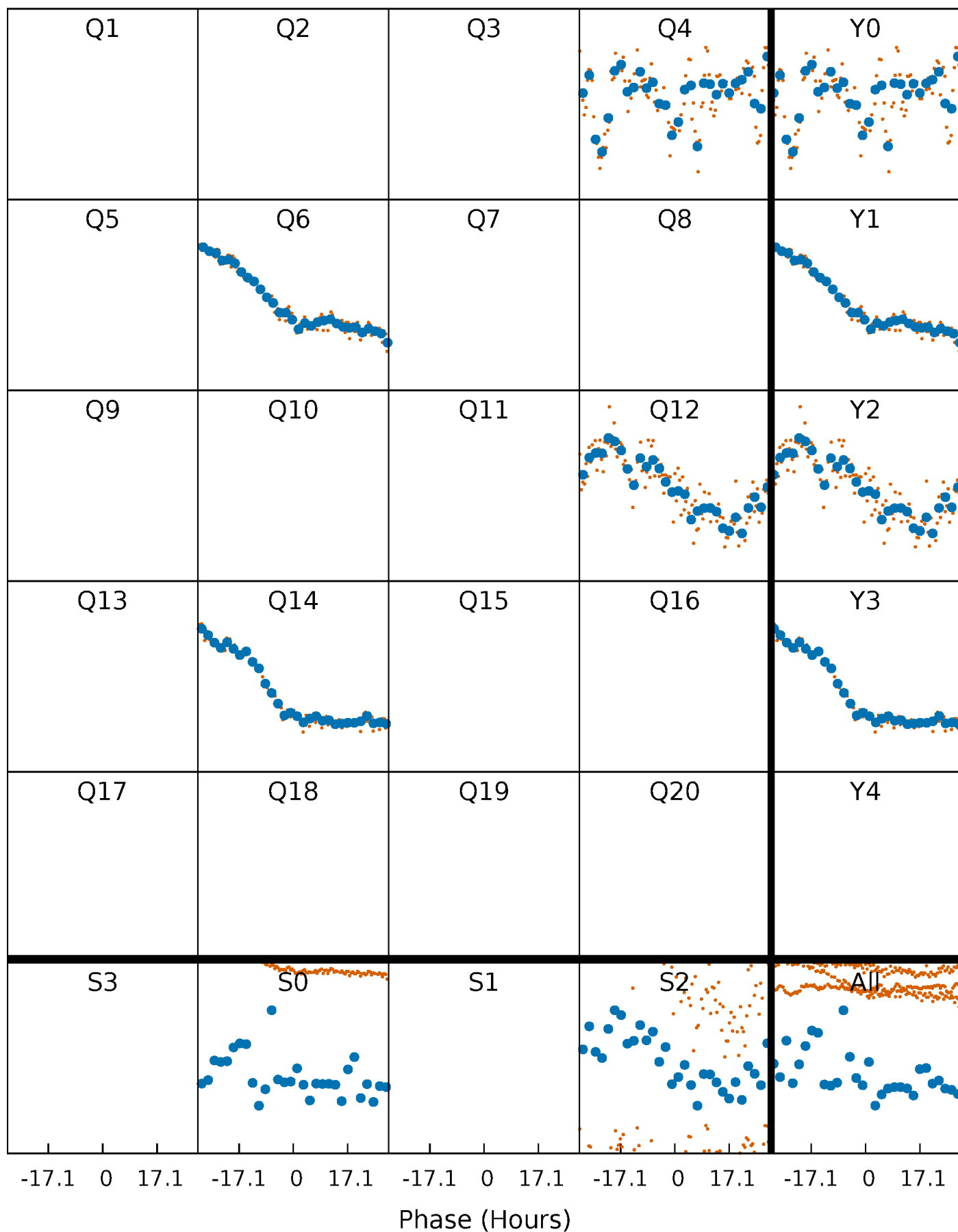


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

TCE 010671402-05     $P=245.999629$  Days     $T_0=367.845549$  (BKJD)





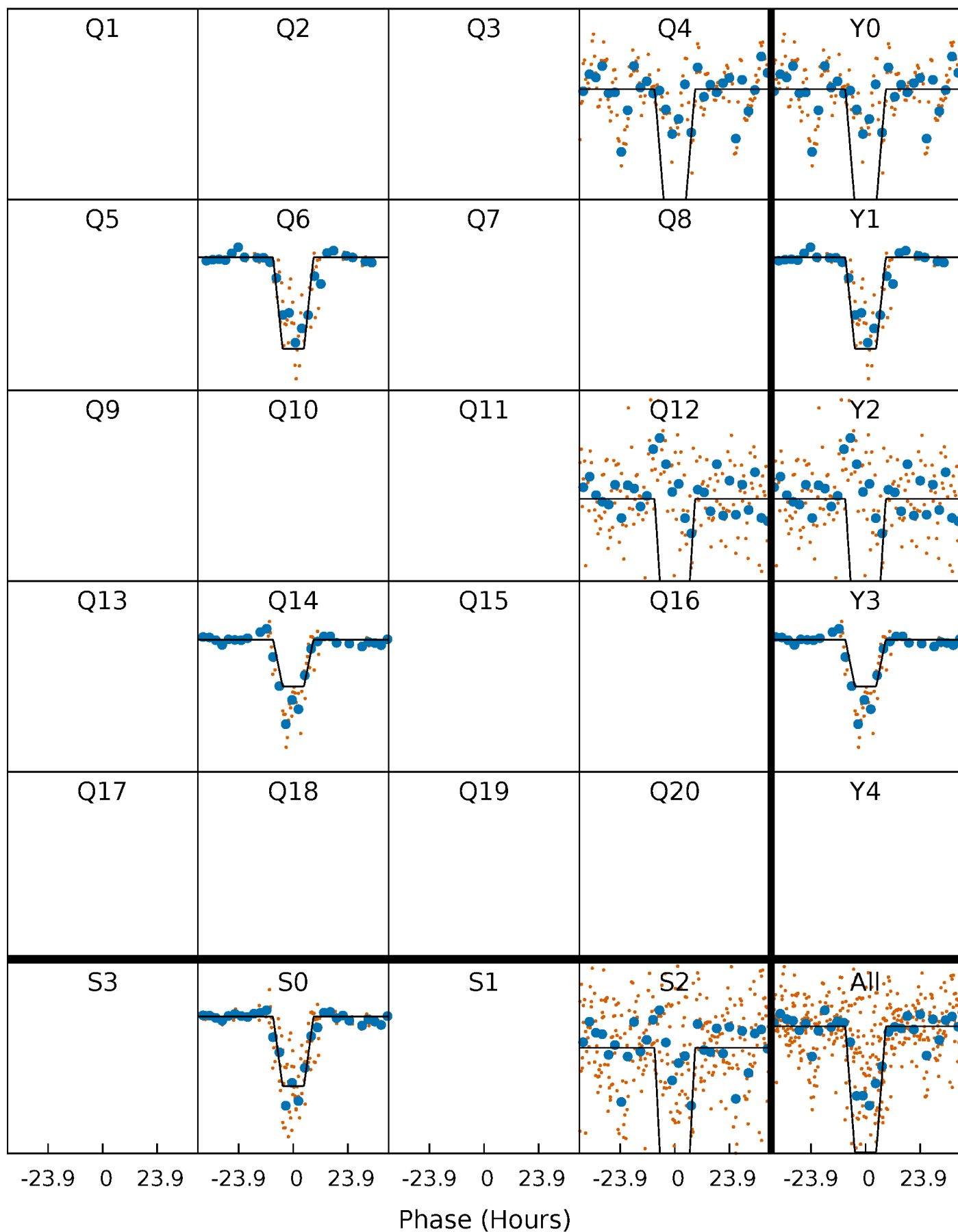
# DV Quarter-Phased Transit Curves

TCE 010671402-05     $P=245.999629$  Days     $T_0=367.845549$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

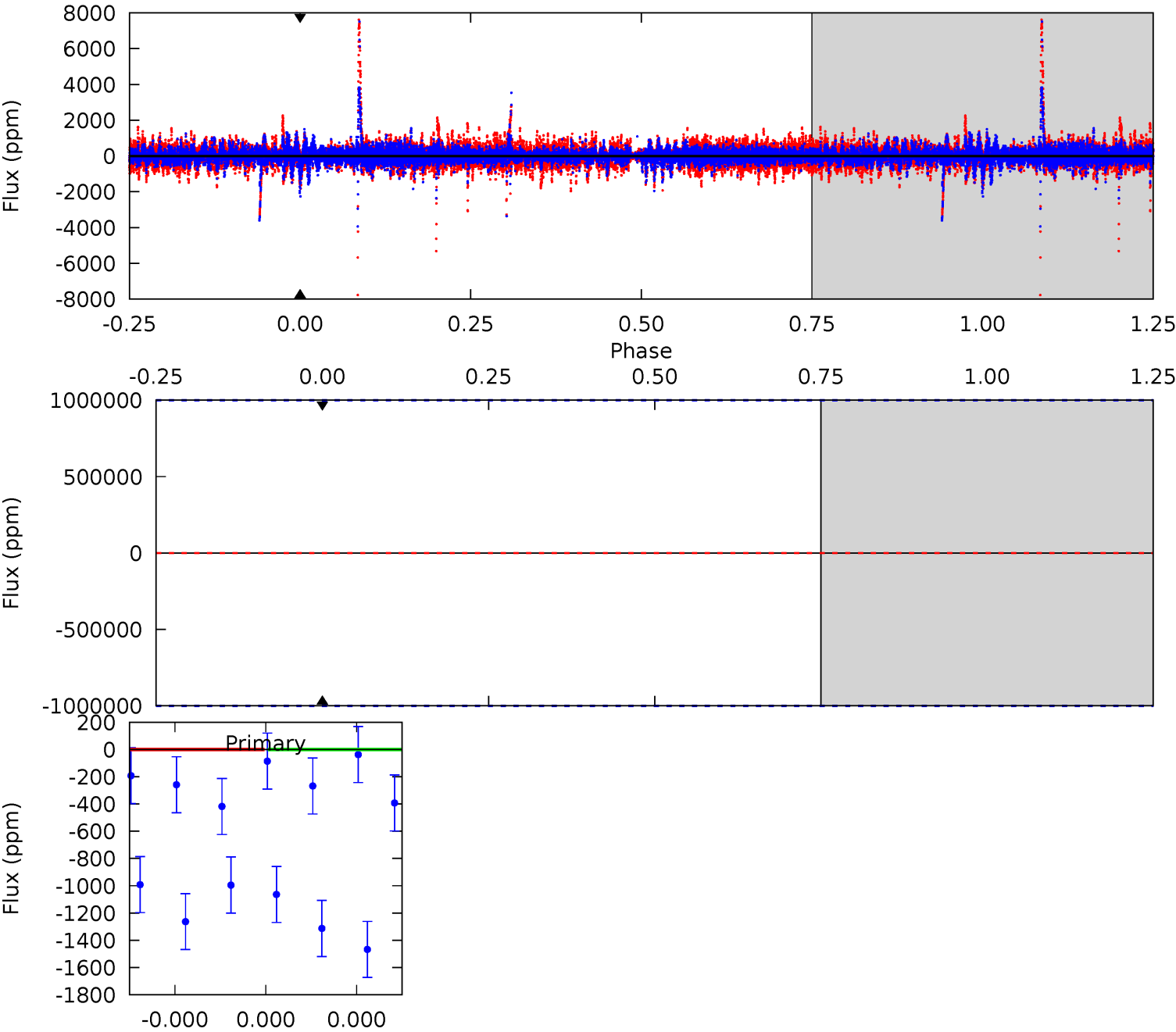
TCE 010671402-05     $P=245.999629$  Days     $T_0=367.837371$  (BKJD)



DV Model-Shift Uniqueness Test

010671402-05, P = 245.999629 Days, E = 121.845920 Days

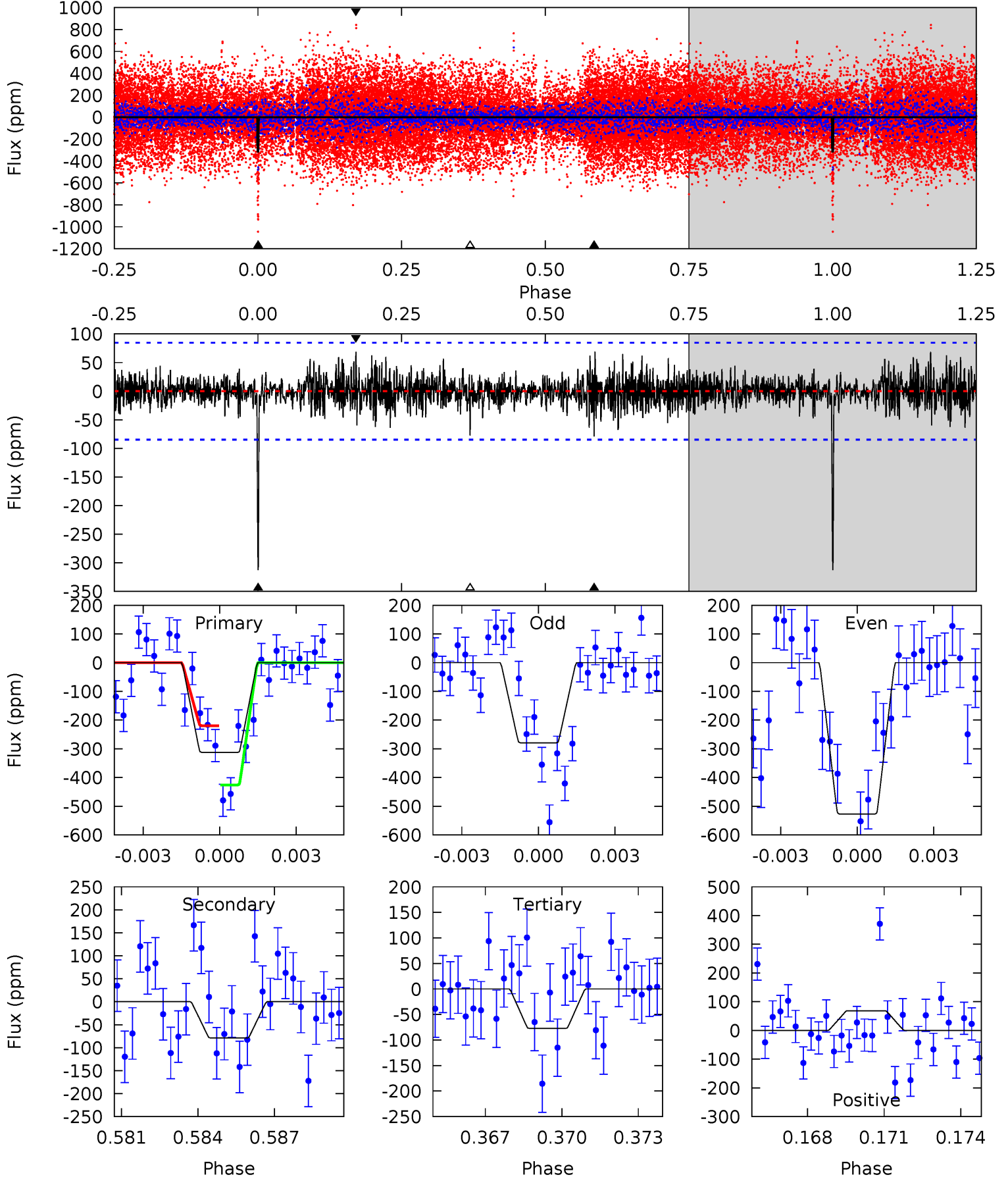
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



# Alt Model-Shift Uniqueness Test

010671402-05,  $P = 245.999629$  Days,  $E = 121.837742$  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
19.4	4.89	4.79	4.26	5.25	2.96	1.11	14.6	15.1	0.10	0.63	7.41	1.17	0.18	6.41



### Stellar Parameters For KIC 010671402

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$4904^{+136}_{-86}$	$2.933^{+0.195}_{-0.195}$	$-0.460^{+0.250}_{-0.200}$	$5.201^{+2.127}_{-1.064}$	$0.846^{+0.435}_{-0.023}$	$0.008^{+0.008}_{-0.004}$
	+3%/-2%	+7%/-7%	+54%/-43%	+41%/-20%	+51%/-3%	+89%/-50%
Source	PHO1	FLK73	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 010671402-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$0 \pm 1000000$	$42.16^{+49.22}_{-29.18}$	$811^{+73}_{-51}$	$2698^{+12166}_{-16713}$	$18^{+33812}_{-30871}$
Alt.	$-79 \pm 16$	$46.96^{+48.52}_{-32.55}$	$811^{+67}_{-54}$	$2469^{+950}_{-397}$	$11^{+106}_{-9}$

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

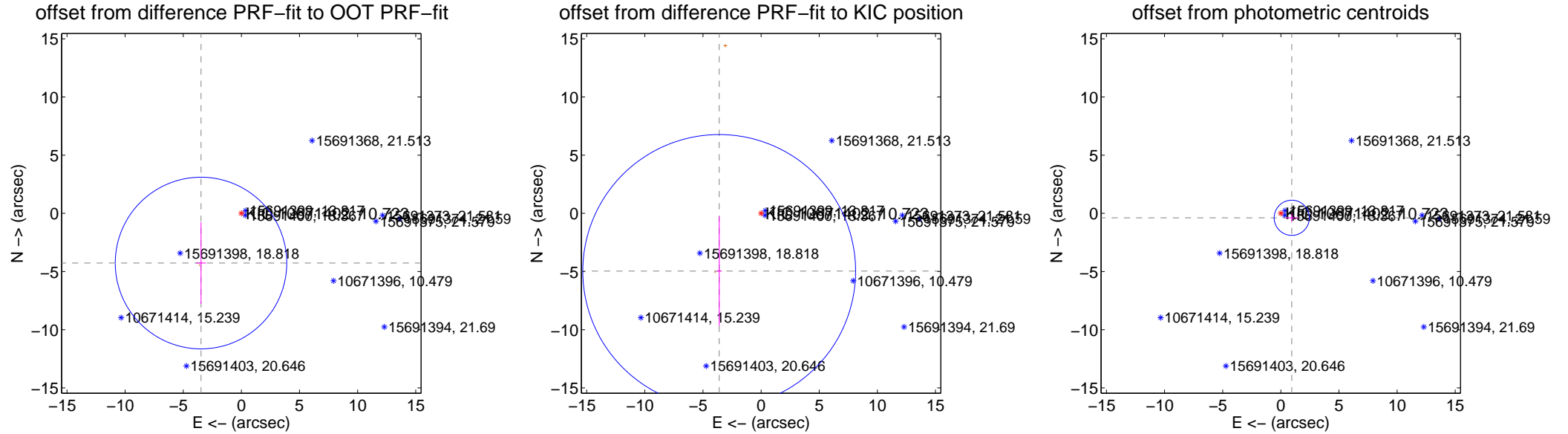
## DV Centroid Data

Supplemental centroid analysis for 010671402-05. **Kepler magnitude: 10.72**. Transit SNR -1.00

**There are 0 quarters with good PRF difference image offsets**

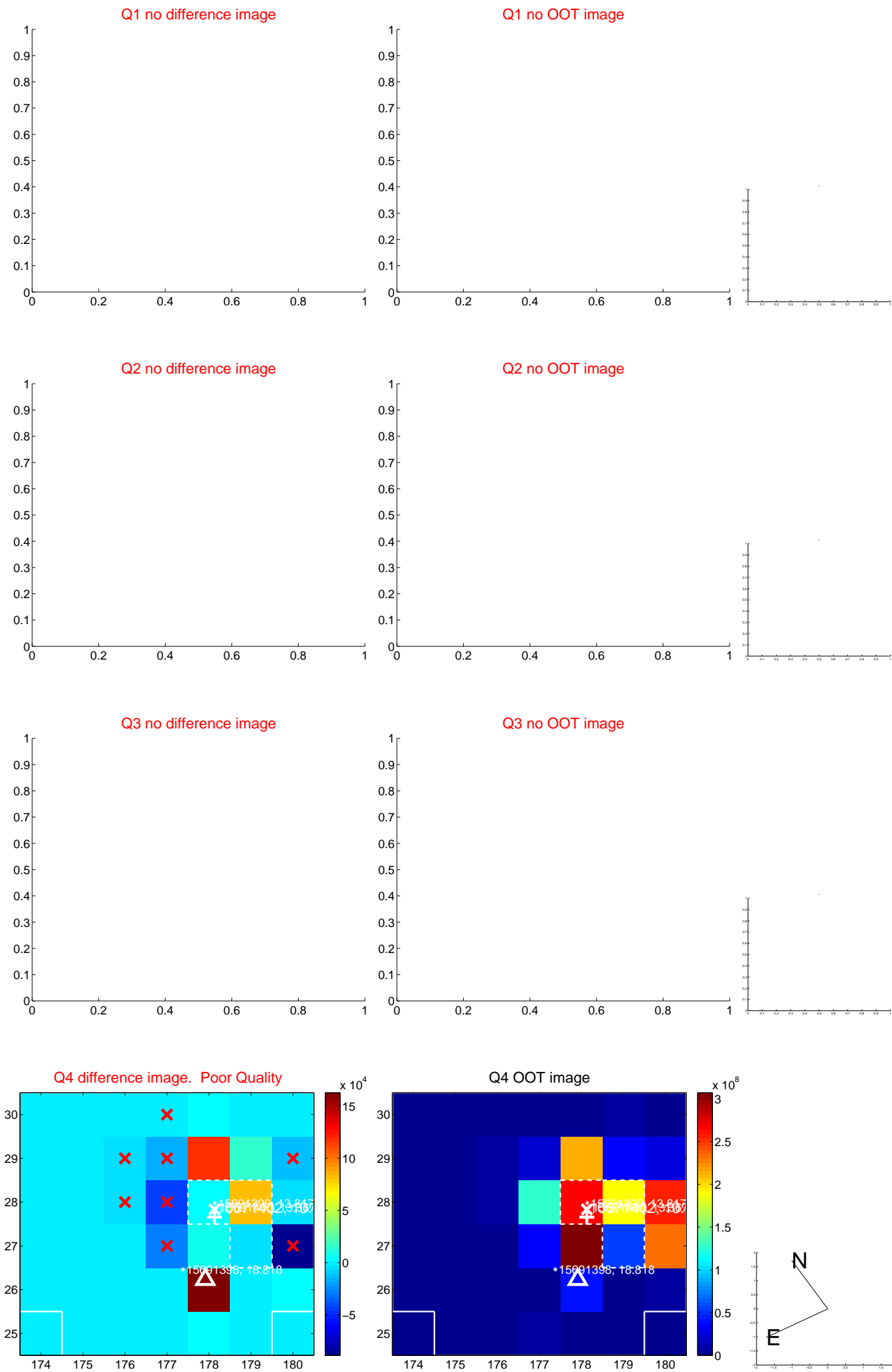
The direct PRF centroid is offset from the target star catalog position by about 0.73 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$5.504 \pm 2.459$	2.24	$3.472 \pm 0.422$	$-4.271 \pm 3.505$
PRF-fit source offset from KIC position	$6.132 \pm 3.911$	1.57	$3.605 \pm 0.232$	$-4.961 \pm 4.703$
photometric centroid source offset	$1.01 \pm 0.50$	2.01	$-0.94 \pm 0.52$	$-0.38 \pm 0.36$

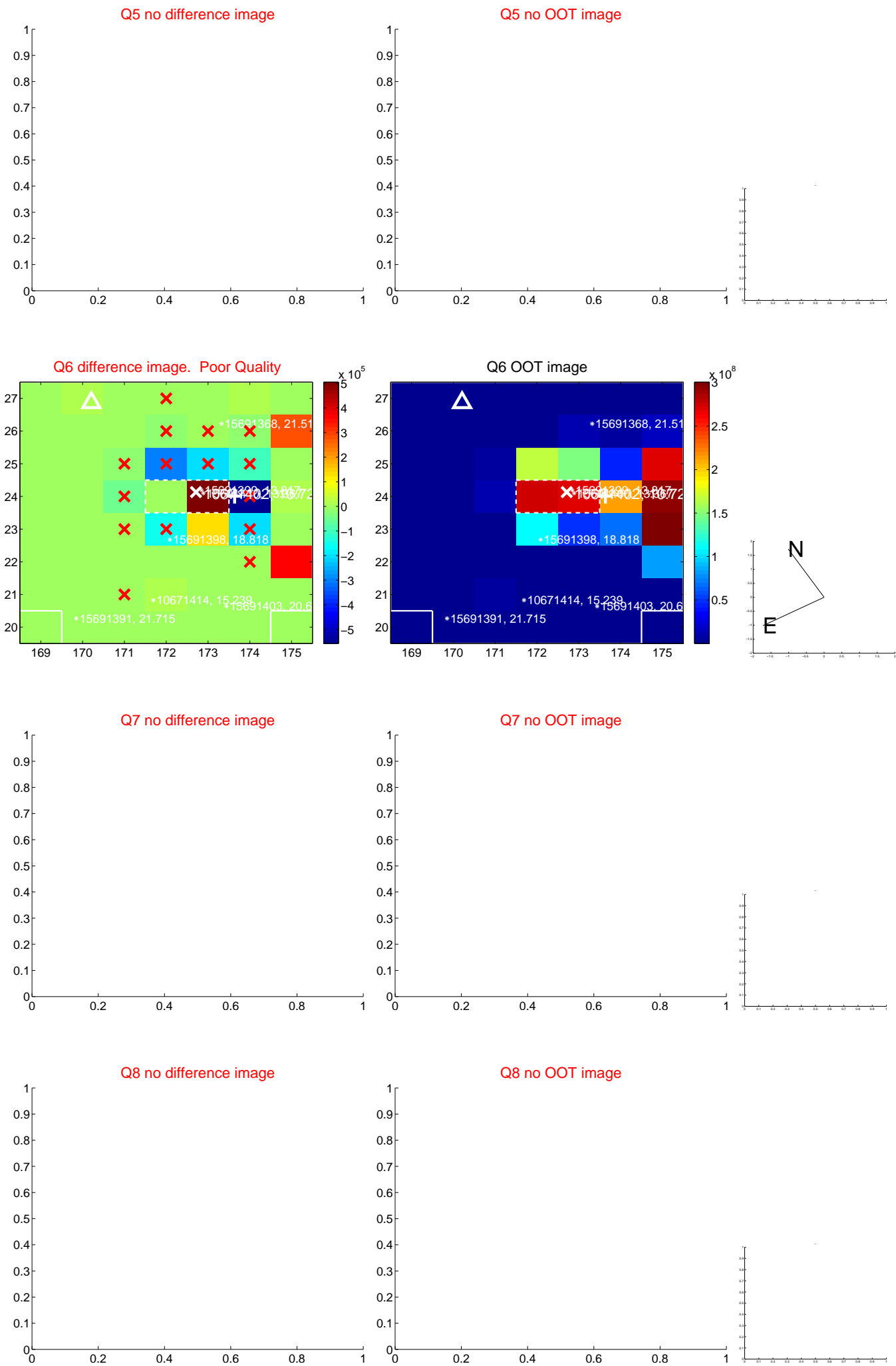


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

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

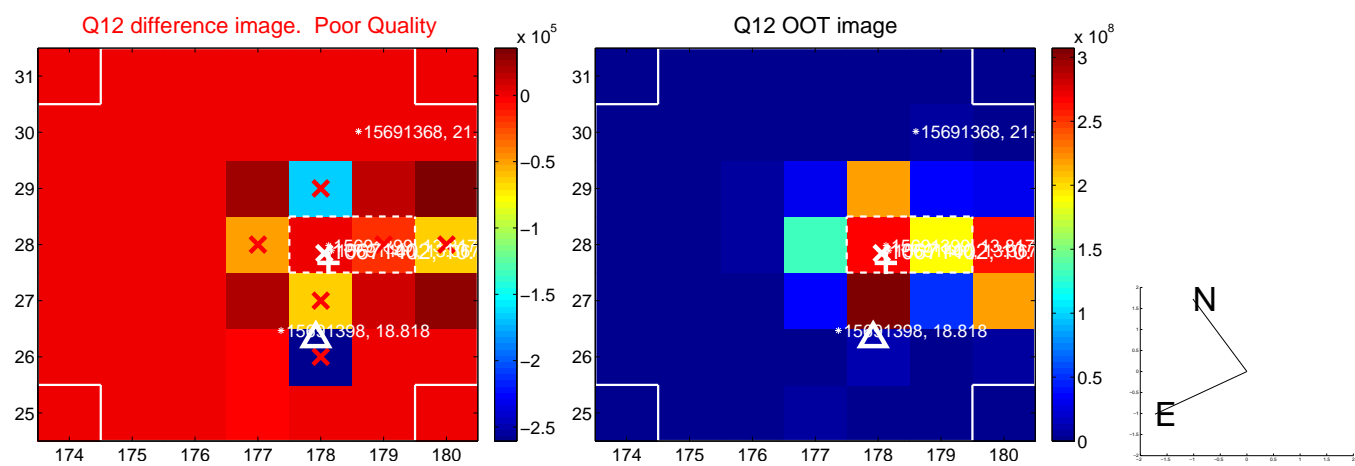
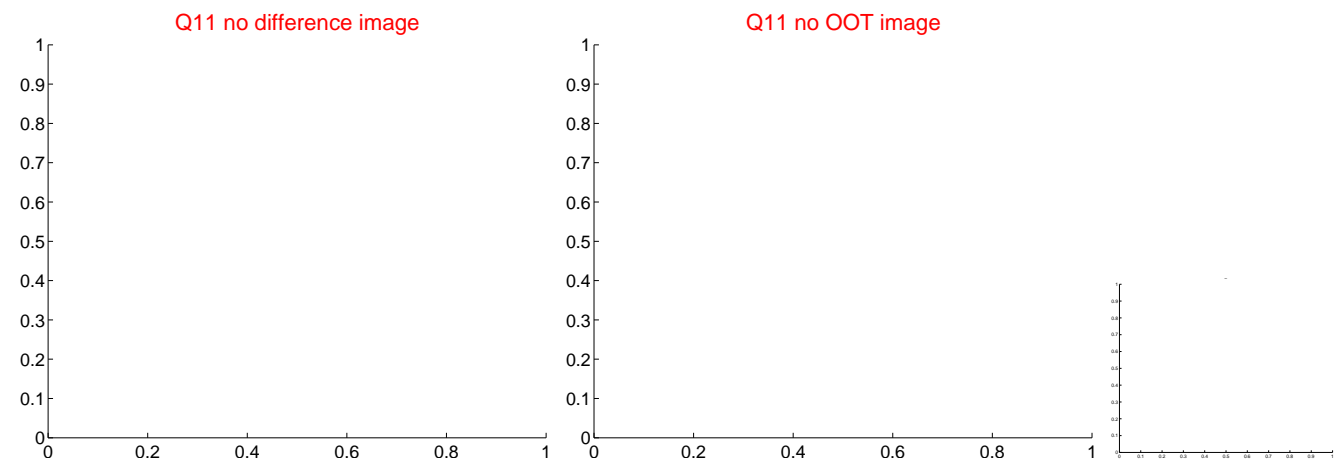
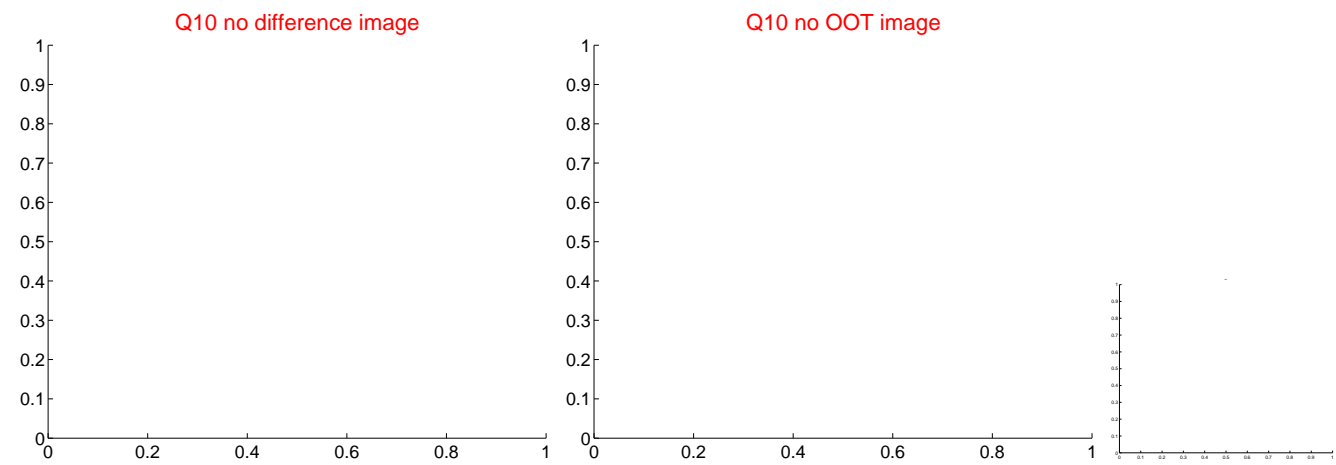
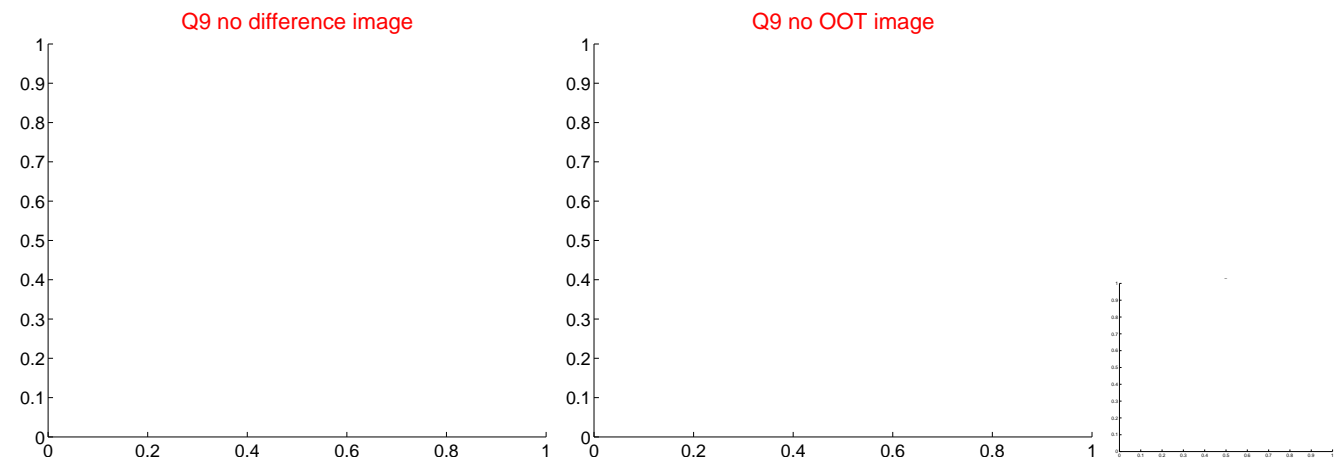


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

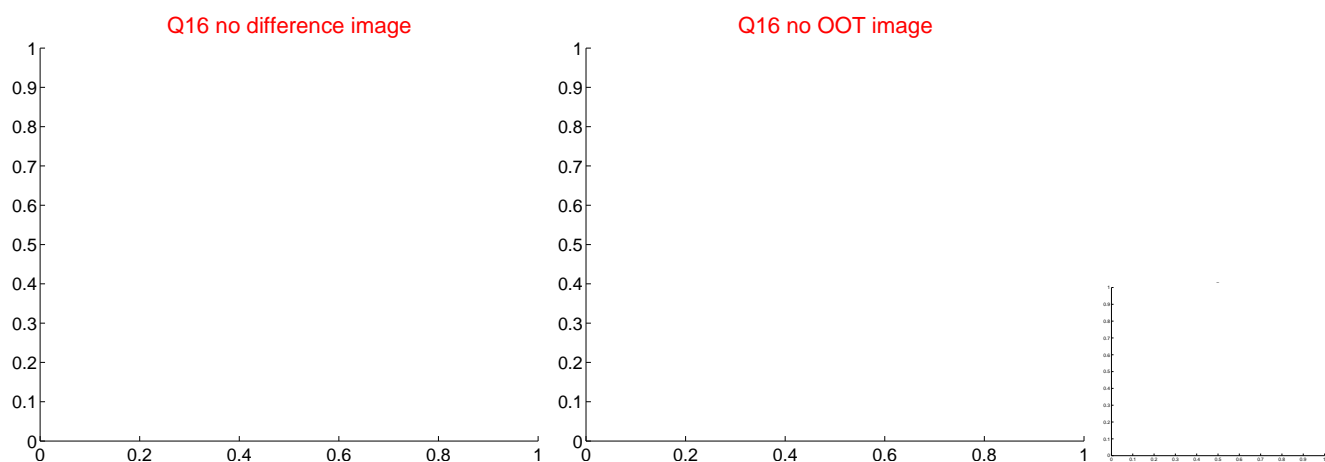
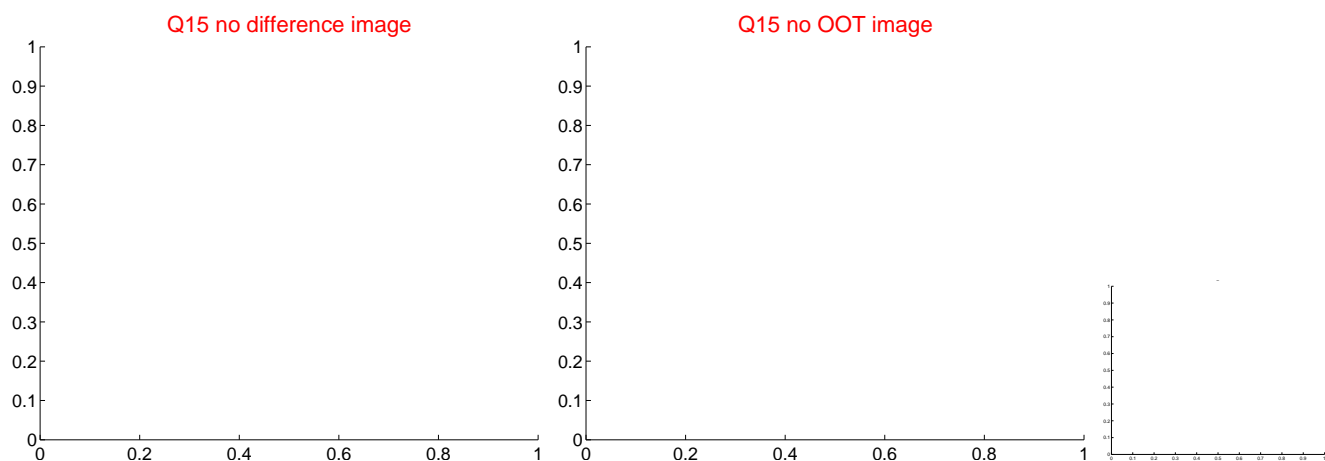
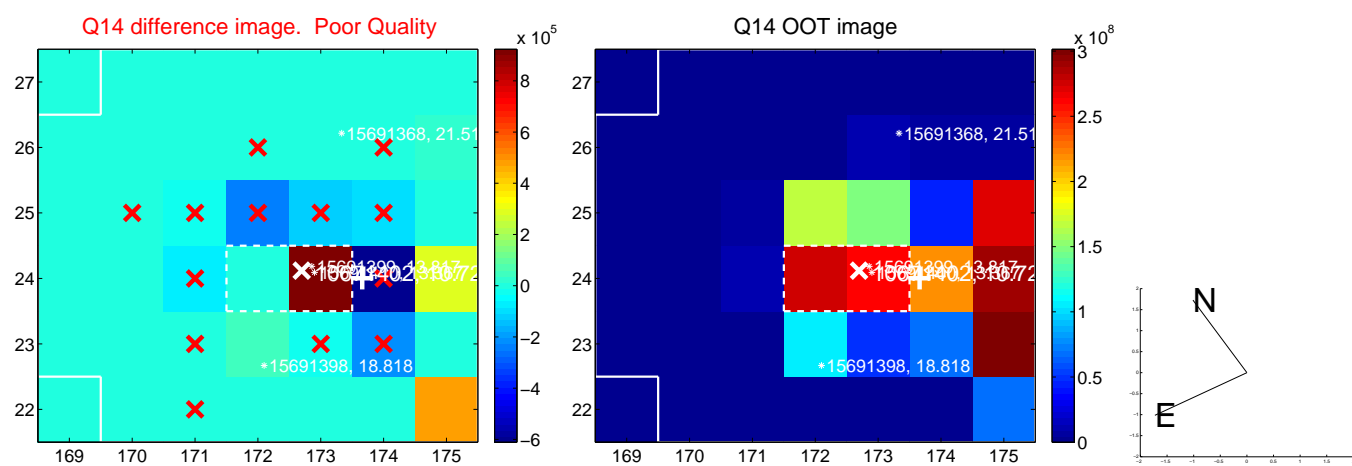
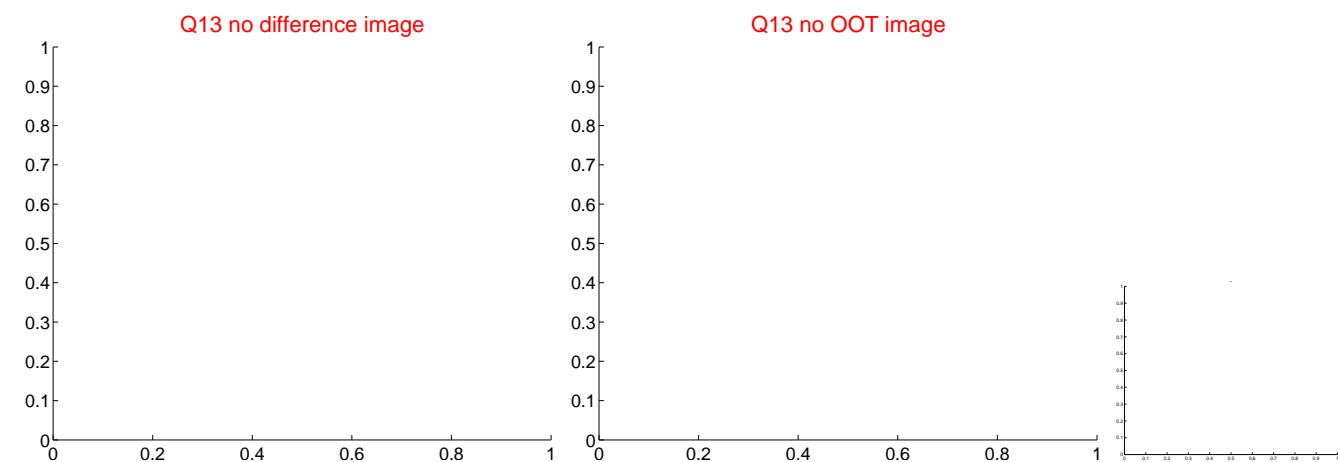




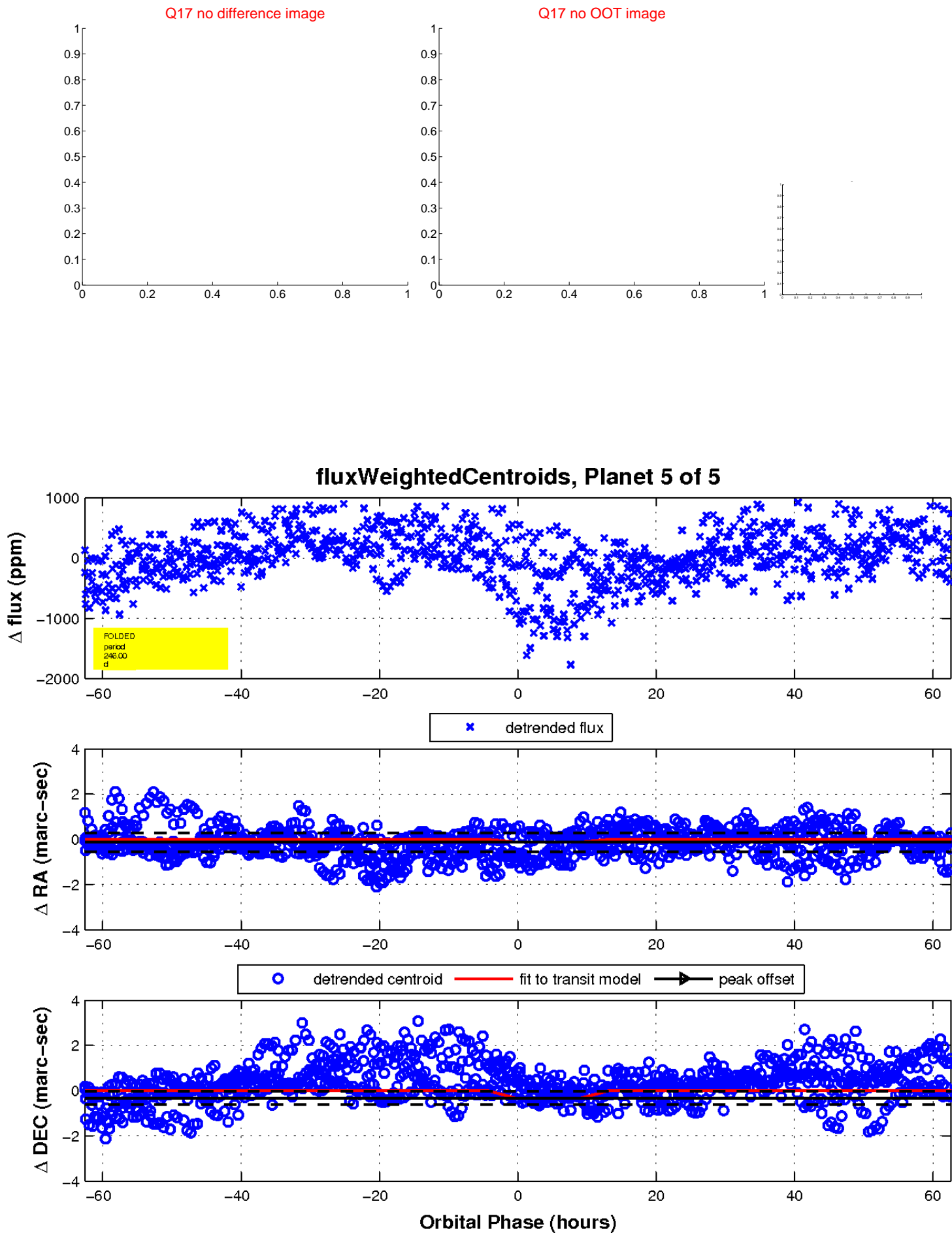
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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



UKIRT Image

Declination

