

# KIC 007798924

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007798924-01	OBS	No	4.676320	131.712515	76.9	9.105	9.1	7.1	1.52	7219	1.55	1525.45
007798924-02	OBS	No	4.676657	133.712078	128.9	17.594	10.3	13.0	1.52	7219	2.19	1525.30
007798924-03	OBS	No	100.431930	195.719802	3891.8	8.961	32.1	17.7	1.52	7219	11.93	25.55
007798924-04	OBS	No	228.234004	203.503932	2760.8	8.777	17.4	11.5	1.52	7219	11.98	8.55
007798924-05	OBS	No	148.284619	167.797069	744.4	13.977	13.2	5.3	1.52	7219	4.64	15.20

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007798924-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_ALT—MOD_POS_ALT
007798924-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD
007798924-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
007798924-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007798924-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

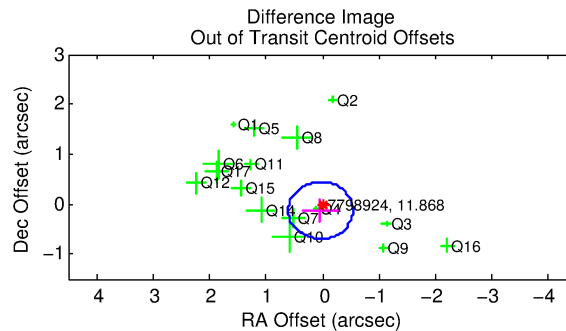
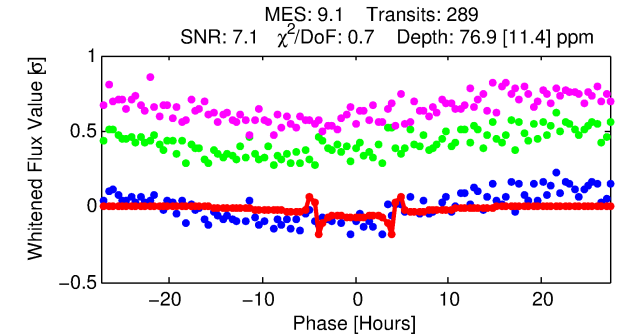
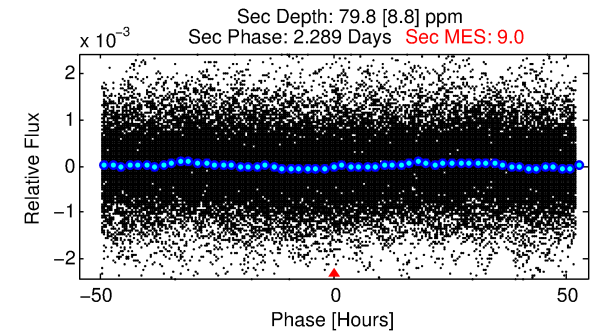
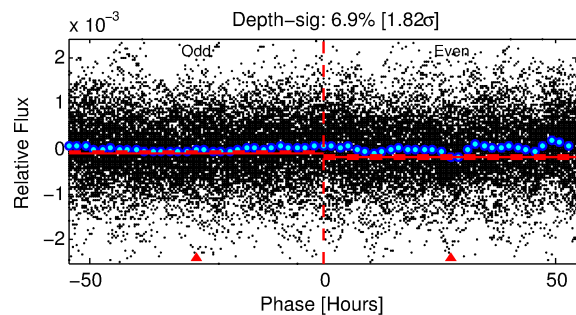
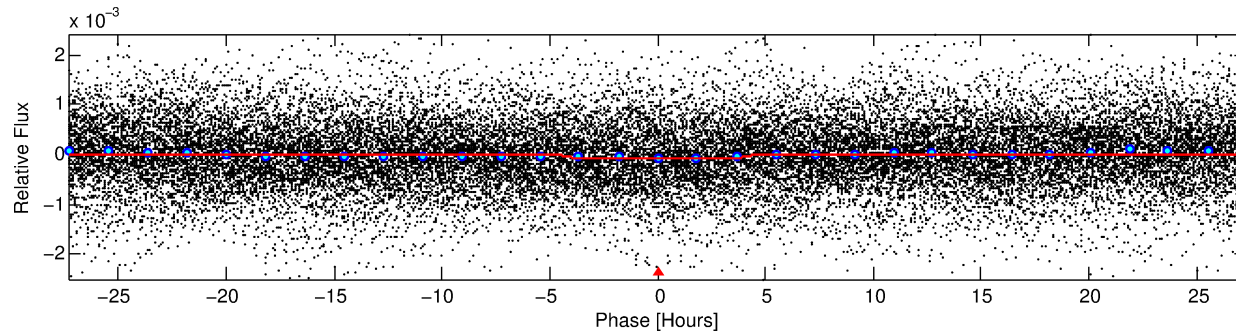
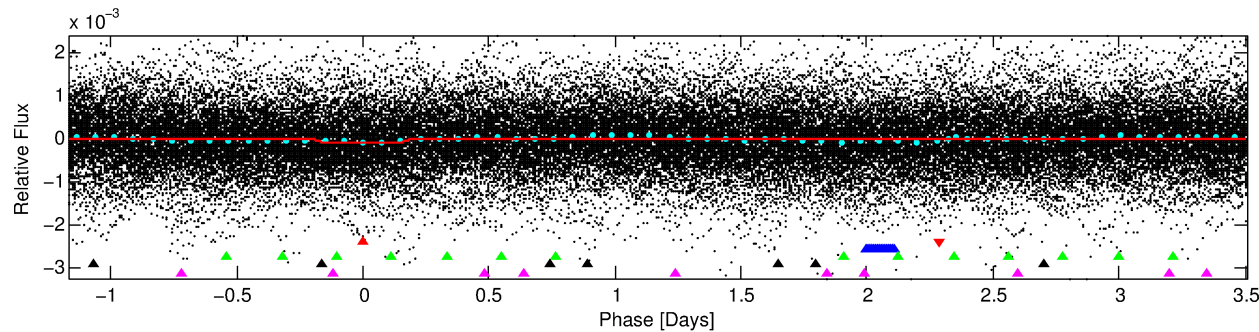
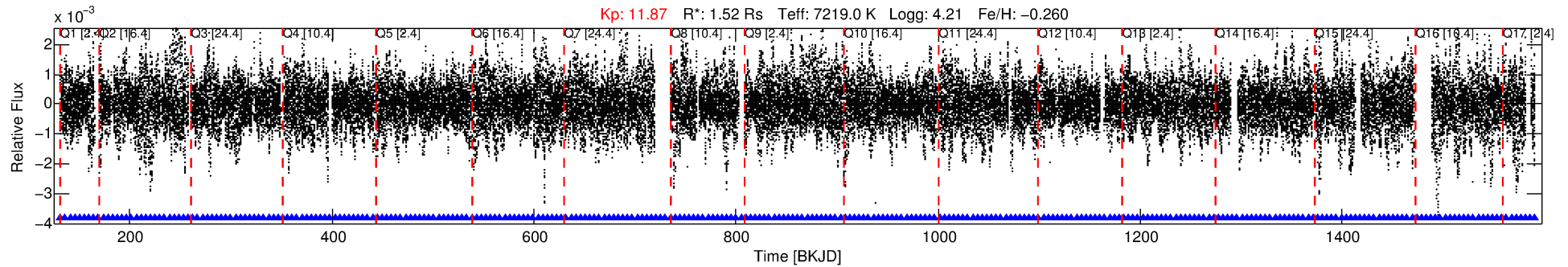
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007798924-01

No Significant Match Found

# DV One-Page Summary

KIC: 7798924 Candidate: 1 of 5 Period: 4.676 d



## DV Fit Results:

Period = 4.67632 [0.00002] d  
Epoch = 131.7125 [0.0028] BKJD  
Rp/R\* = 0.0093 [0.0009]  
a/R\* = 2.02 [0.47]  
b = 0.90 [0.07]  
Seff = 1525.45 [610.02]  
Teq = 1594 [159] K  
Rp = 1.55 [0.52] Re  
a = 0.0608 [0.0160] AU  
Ag = 67.84 [29.27] [2.28 $\sigma$ ]  
Teffp = 7071 [479] K [10.86 $\sigma$ ]

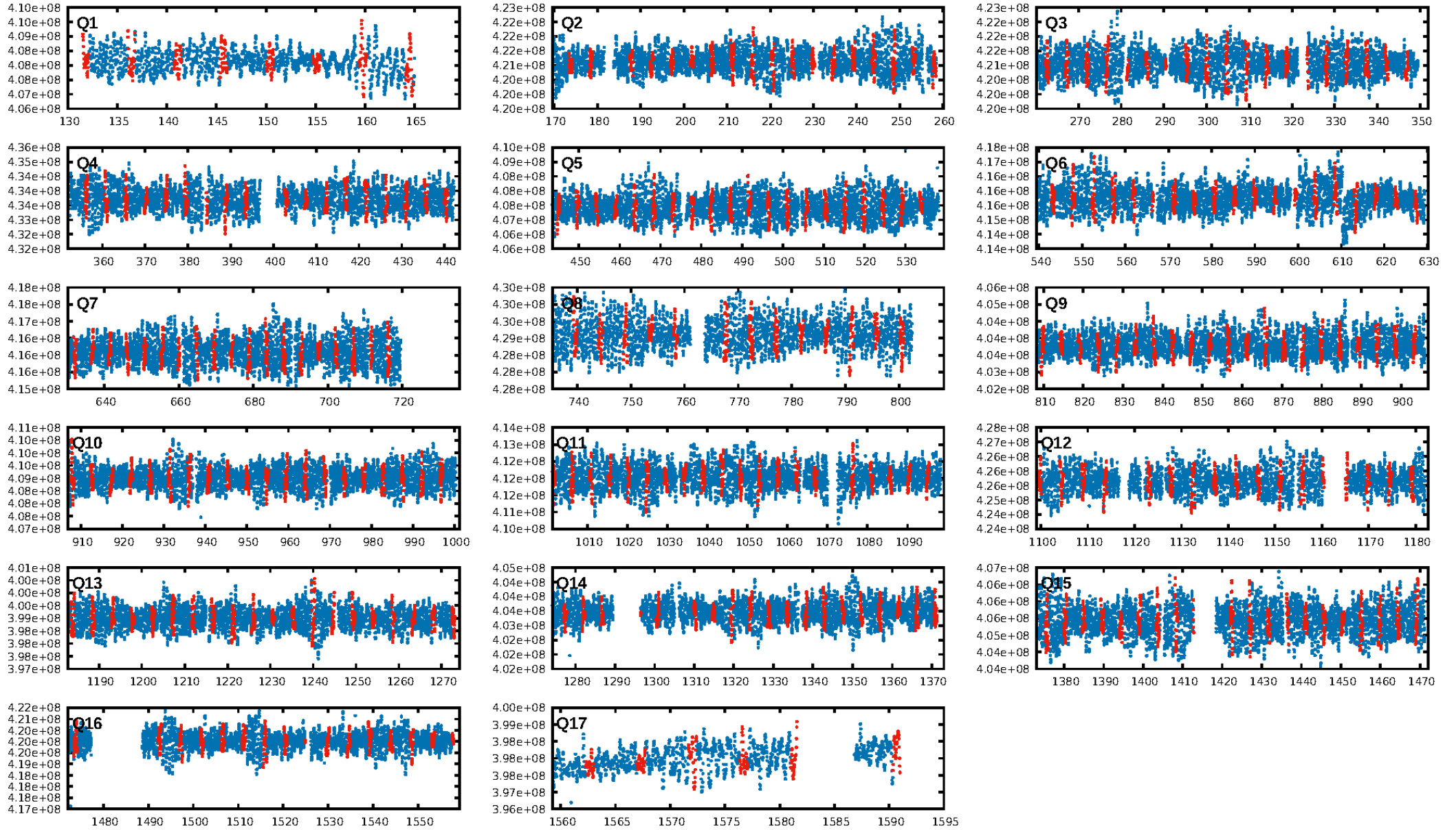
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 0.0% [0.00 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 4.56e-25  
RollingBand-fgt: 1.00 [275/275]  
GhostDiagnostic-chr: 0.797  
Centroid-sig: 1.7%  
Centroid-so: 0.501 arcsec [1.56 $\sigma$ ]  
OotOffset-rm: 0.132 arcsec [0.69 $\sigma$ ]  
KicOffset-rm: 0.166 arcsec [0.86 $\sigma$ ]  
OotOffset-st: 4/4/4/4 [16]  
KicOffset-st: 4/4/4/4 [16]  
DiffImageQuality-fgm: 0.81 [13/16]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 03:56:17 Z

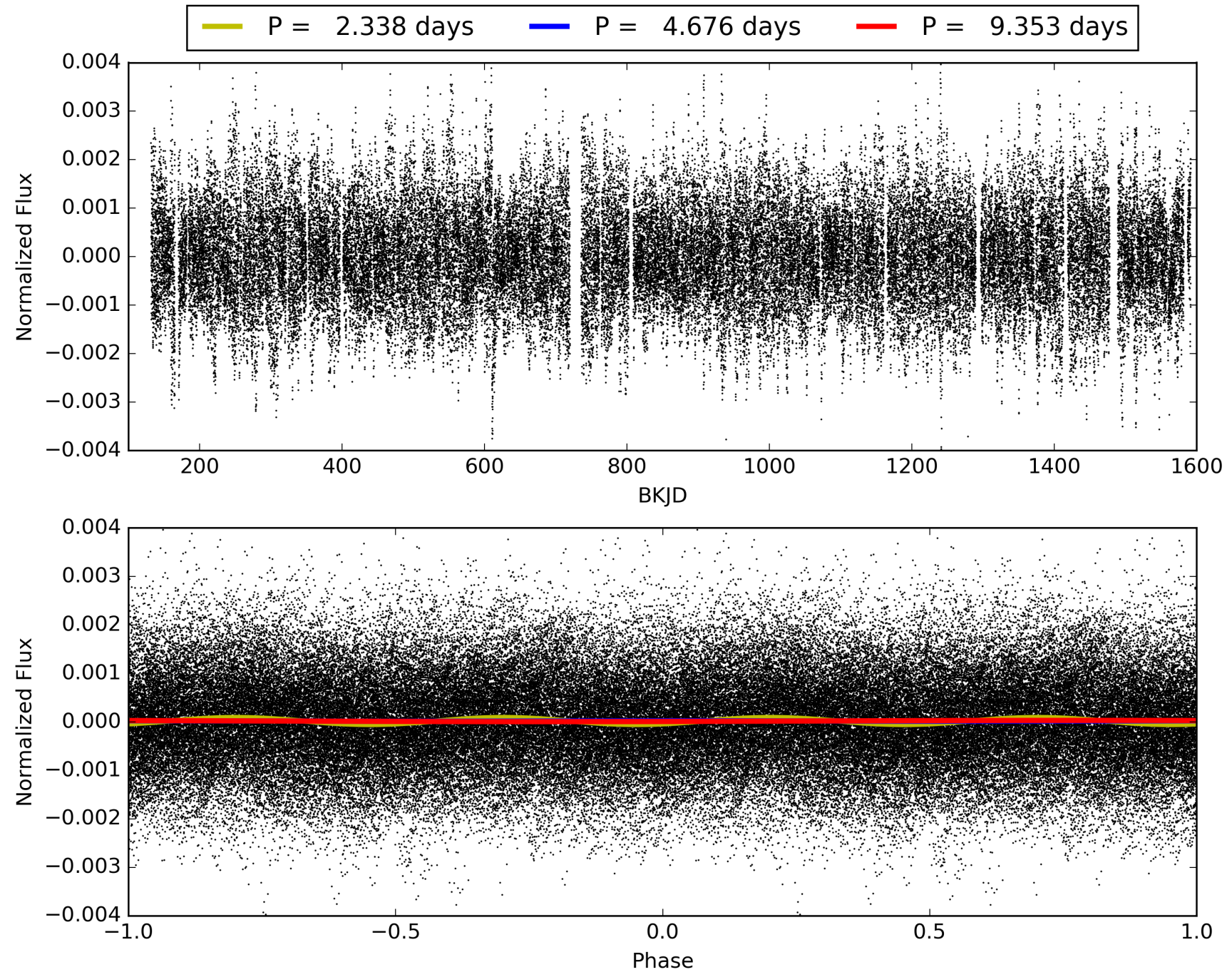
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 007798924-01, PDC Light Curves





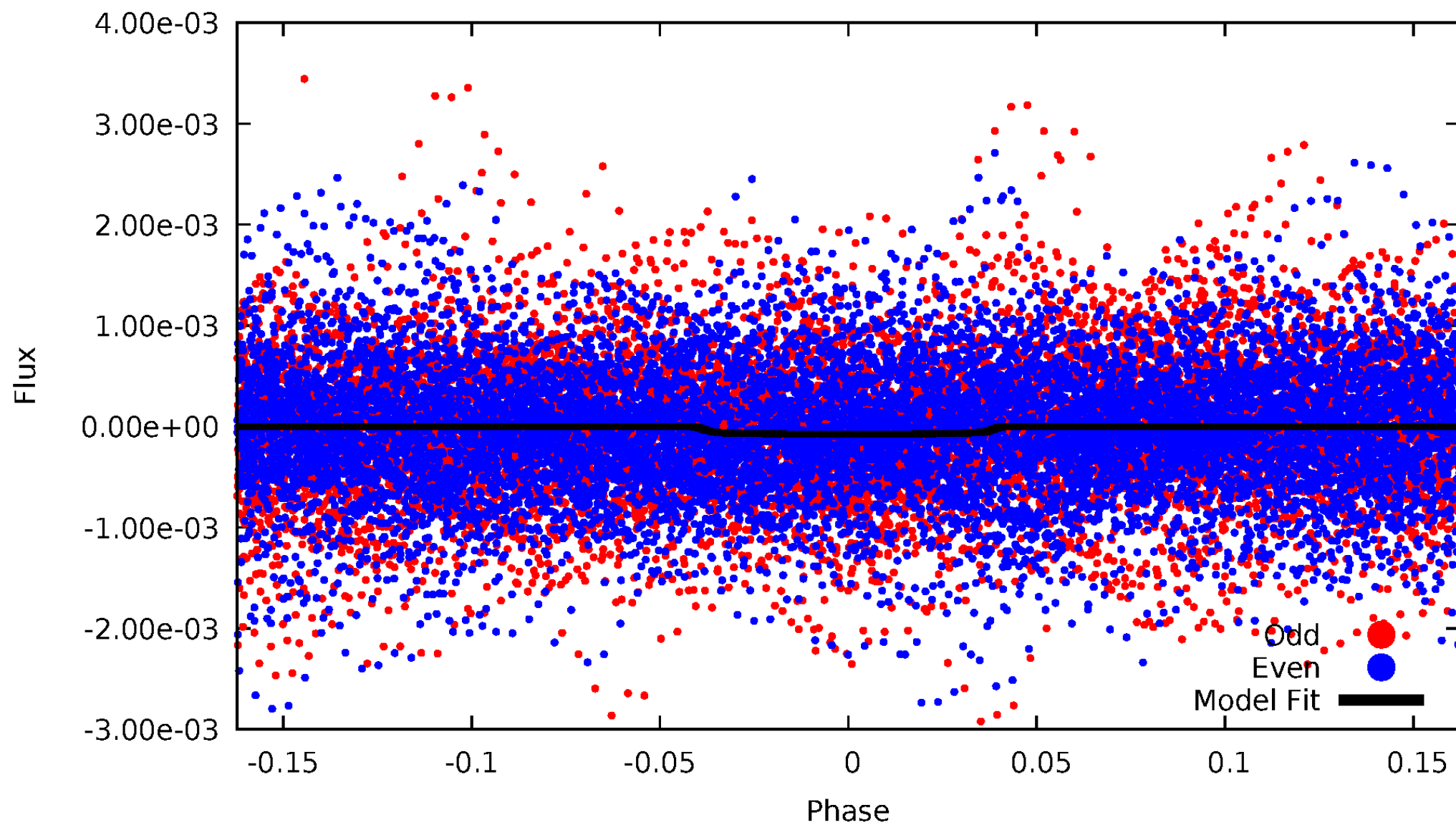
TCE 007798924-01





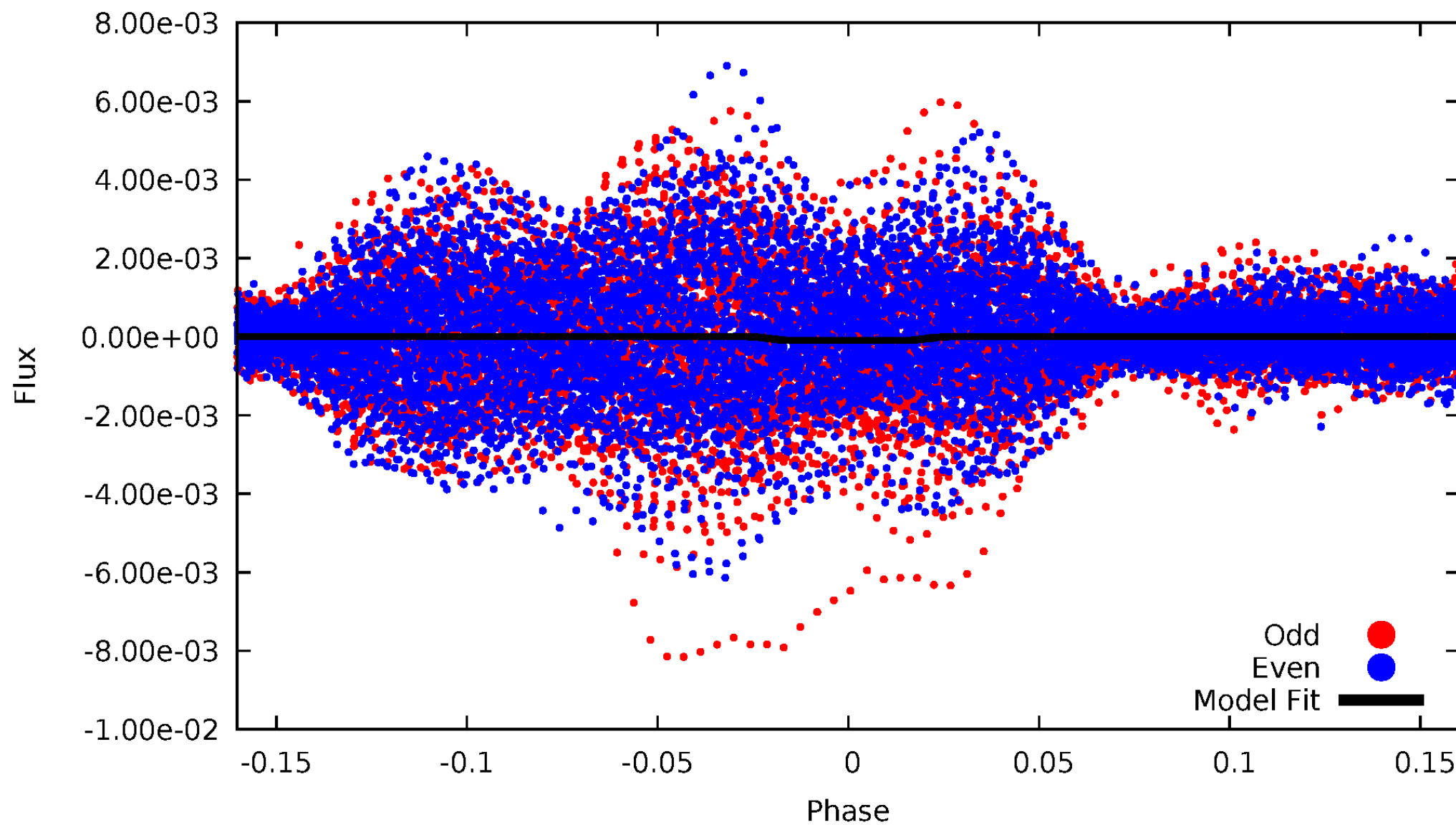
# DV Odd/Even

TCE 007798924-01

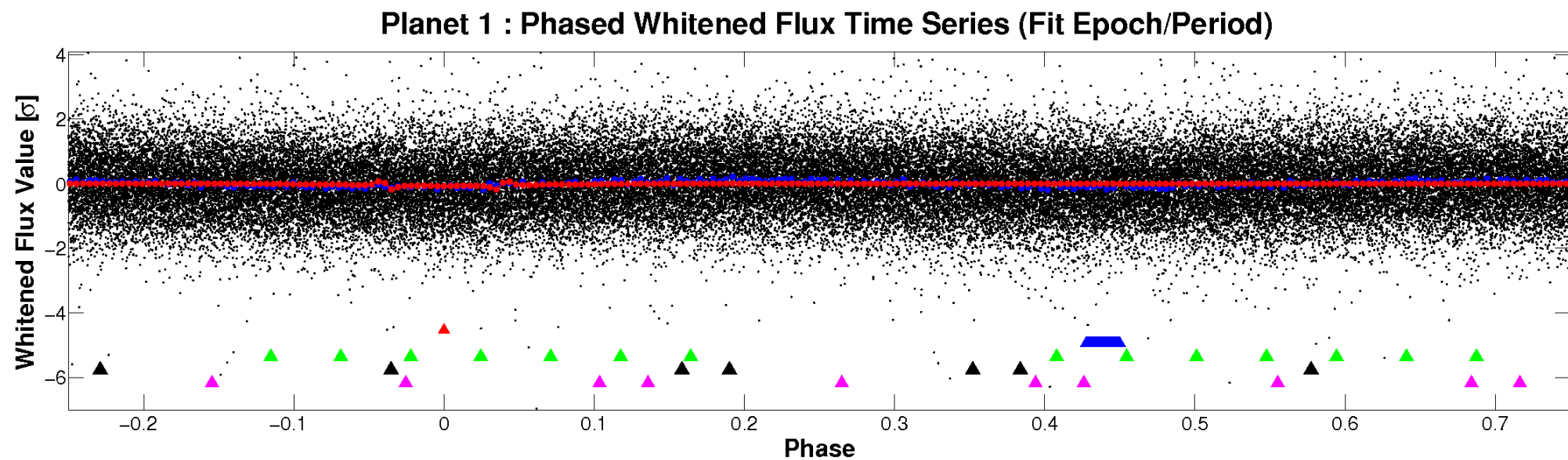
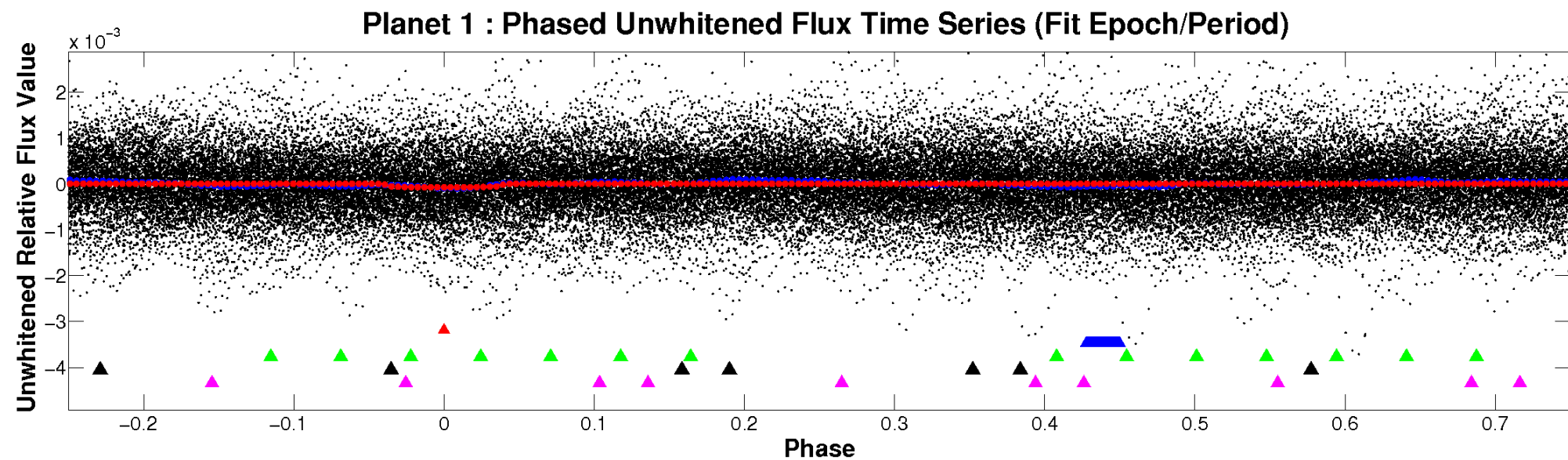


# ALT Odd/Even

TCE 007798924-01



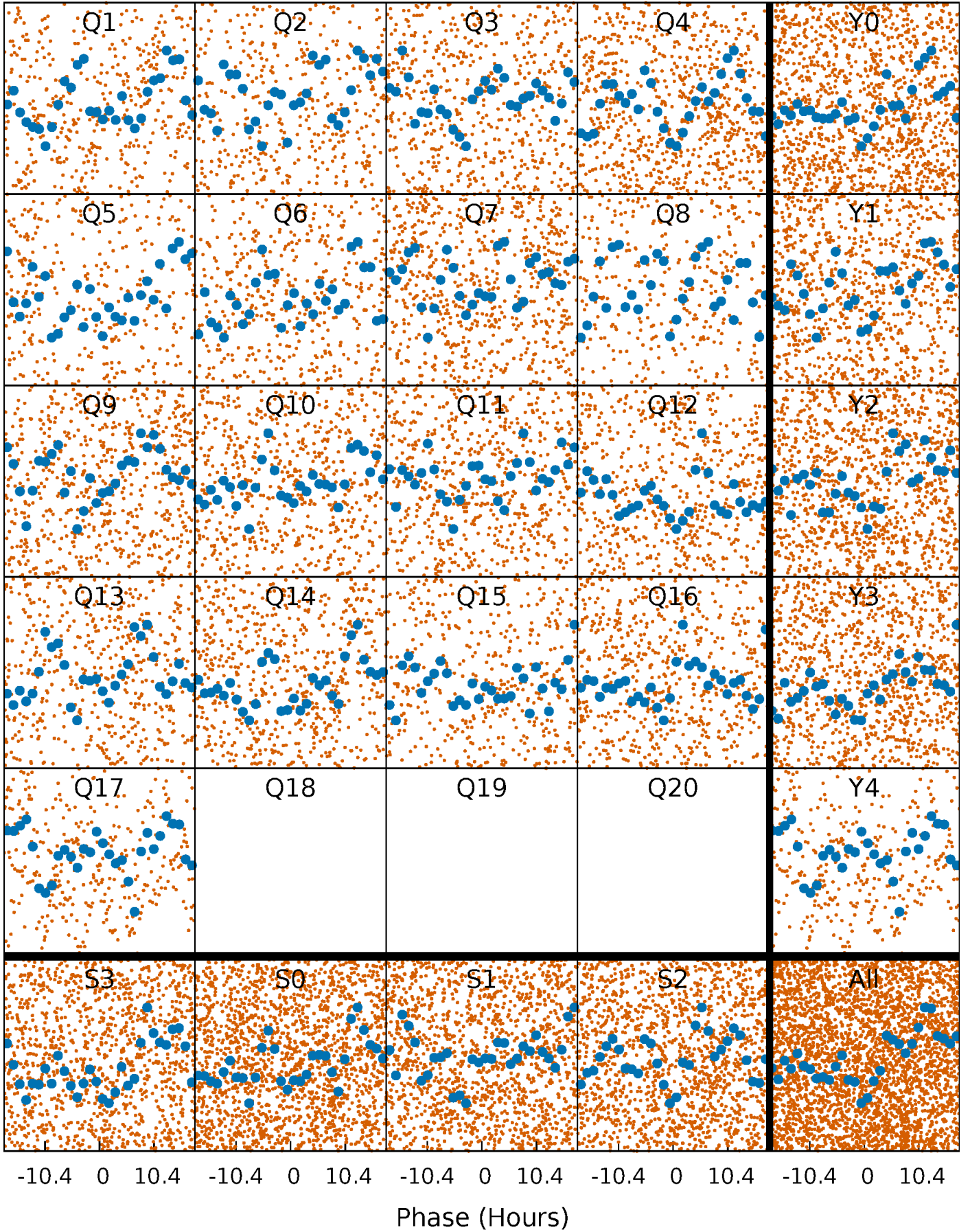
# Non-Whitened Vs. Whitened Light Curve





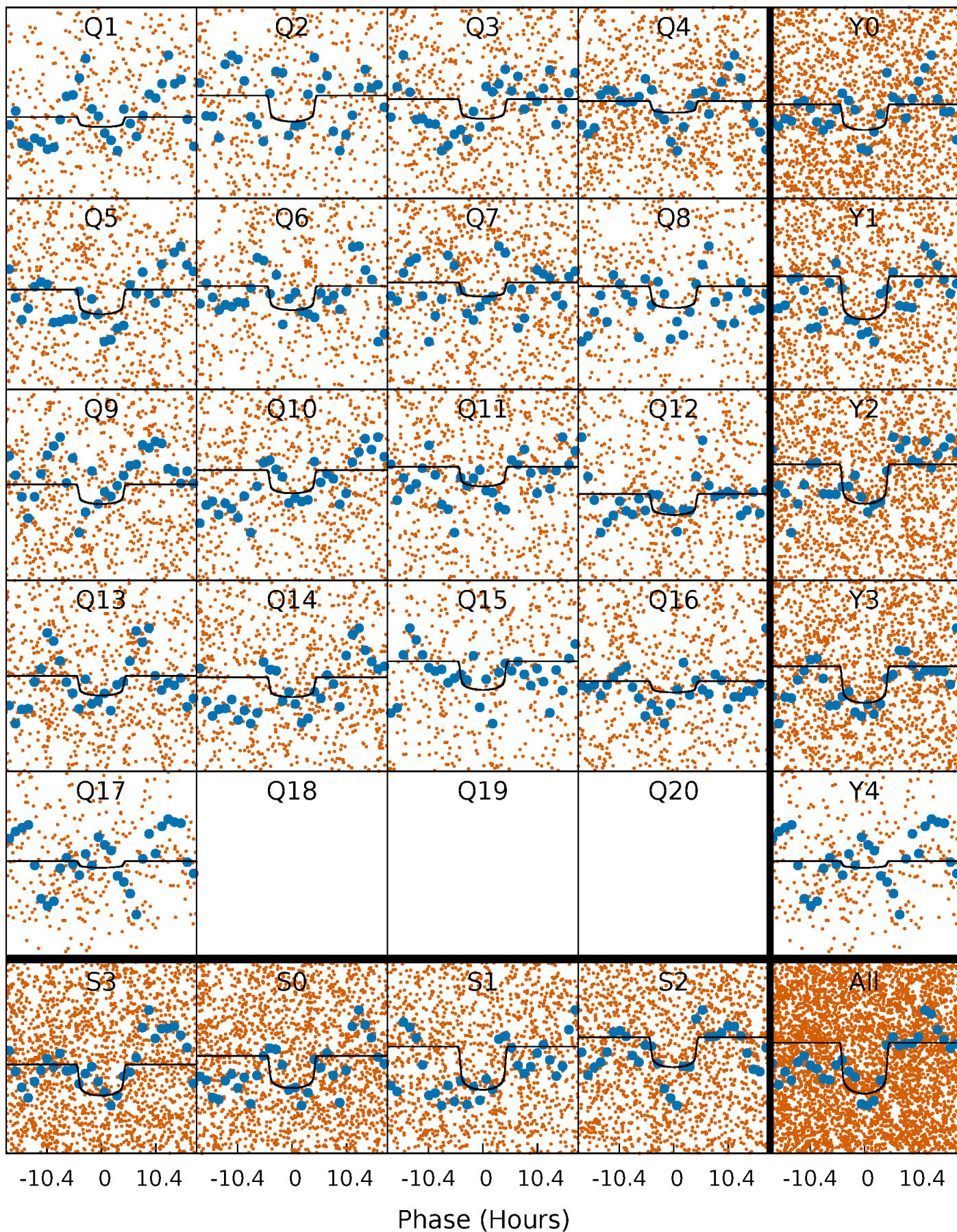
# PDC Quarter-Phased Transit Curves

TCE 007798924-01 P= 4.676320 Days  $T_0=131.712514$  (BKJD)



# DV Quarter-Phased Transit Curves

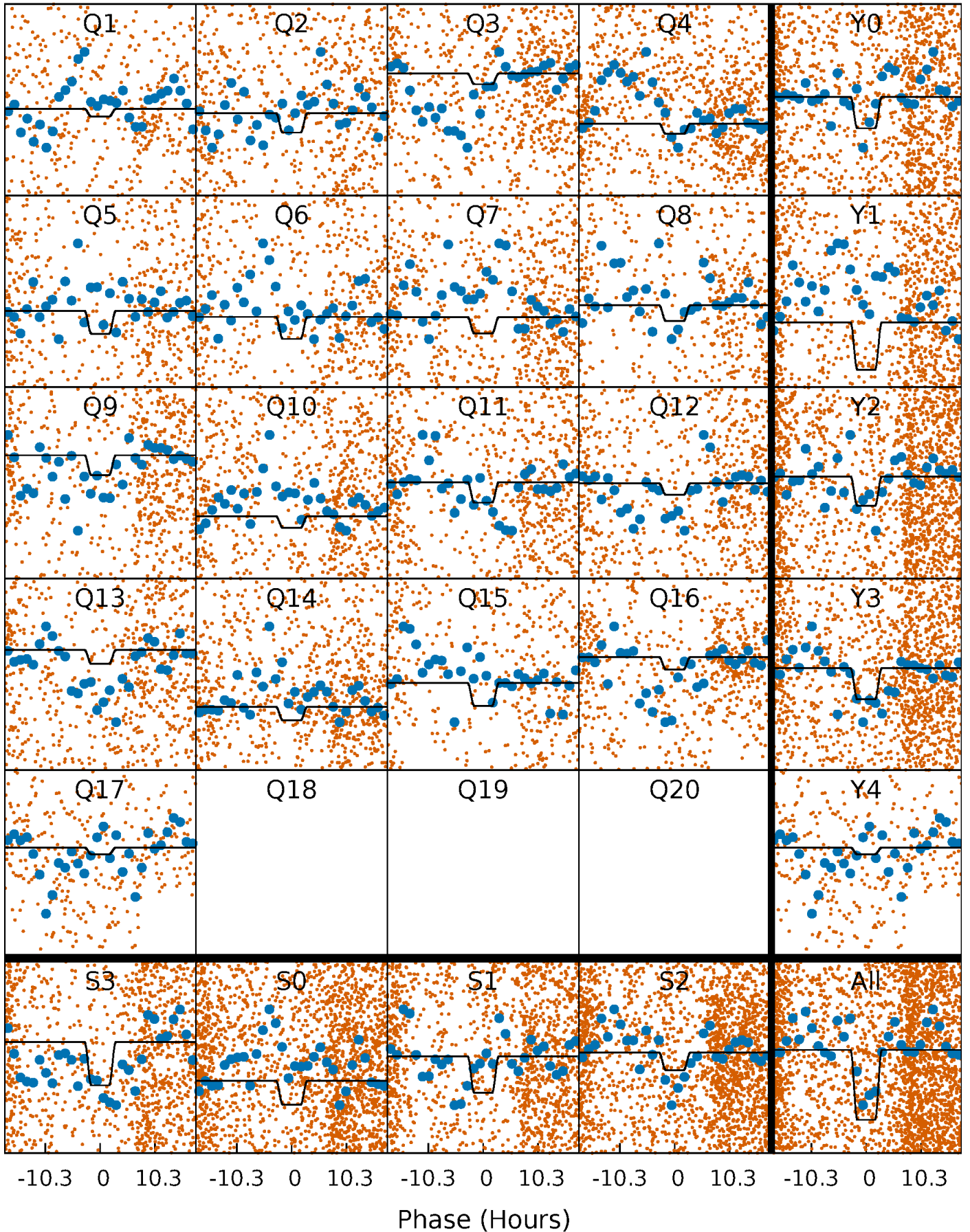
TCE 007798924-01 P= 4.676320 Days  $T_0=131.712514$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

TCE 007798924-01 P= 4.676280 Days  $T_0=131.713762$  (BKJD)

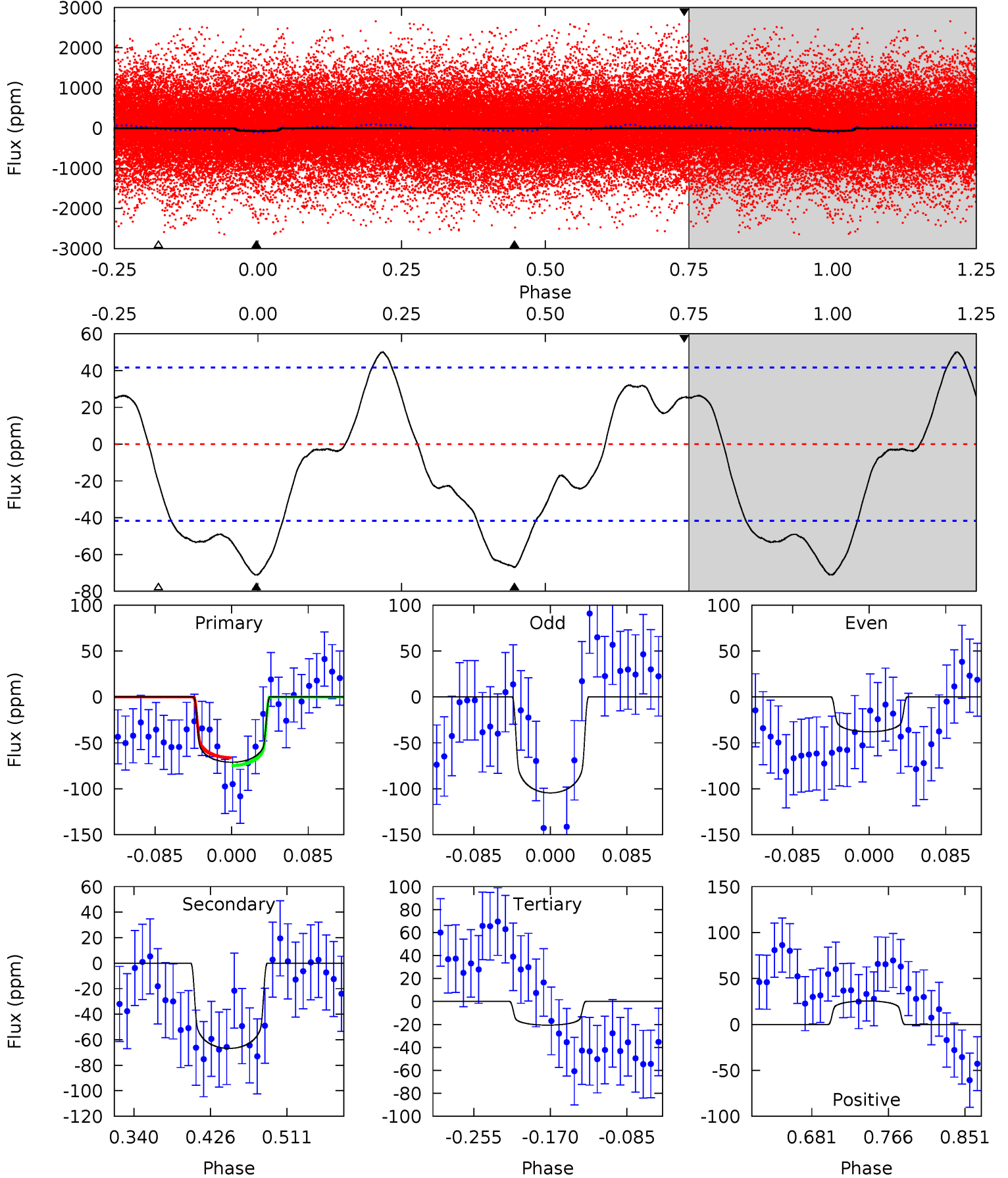




# DV Model-Shift Uniqueness Test

007798924-01, P = 4.676320 Days, E = 127.036194 Days

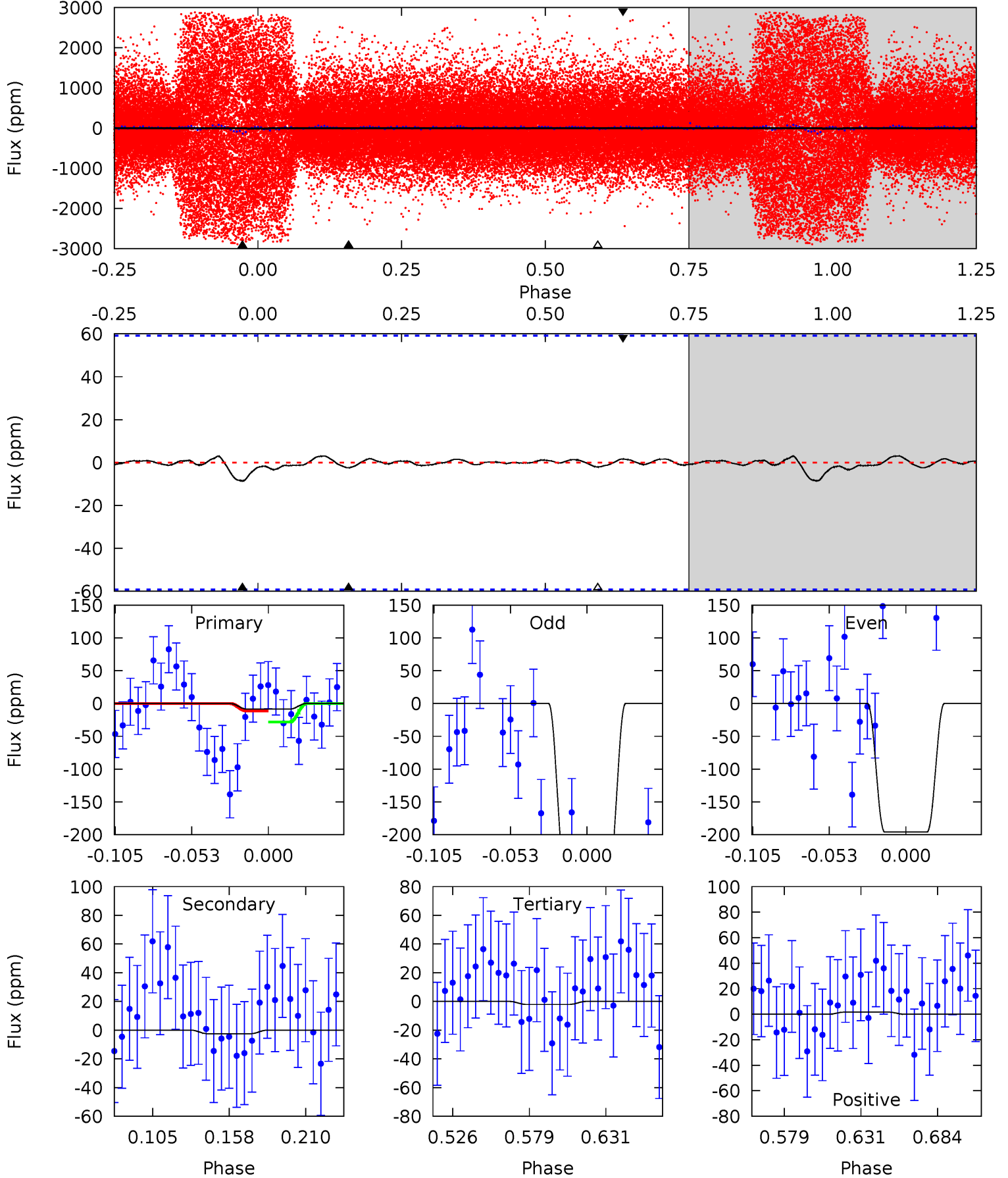
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.85	7.38	2.28	2.82	4.60	1.72	3.04	5.57	5.03	5.10	4.56	3.71	1.12	0.41	0.48



# Alt Model-Shift Uniqueness Test

007798924-01, P = 4.676280 Days, E = 127.037482 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
0.68	0.20	0.17	0.13	4.70	1.94	0.08	0.51	0.54	0.03	0.06	3.04	-0.55	0.27	0.67



### Stellar Parameters For KIC 007798924

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7219^{+176}_{-277}$	$4.210^{+0.105}_{-0.195}$	$-0.260^{+0.250}_{-0.350}$	$1.523^{+0.494}_{-0.304}$	$1.377^{+0.222}_{-0.202}$	$0.549^{+0.320}_{-0.270}$
	+2%/-4%	+2%/-5%	+96%/-135%	+32%/-20%	+16%/-15%	+58%/-49%
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 007798924-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-67 \pm 9$	$1.59^{+0.31}_{-0.21}$	$2253^{+170}_{-132}$	$6663^{+494}_{-459}$	$52^{+21}_{-15}$
Alt.	$-2 \pm 13$	$1.69^{+0.30}_{-0.25}$	$2249^{+167}_{-131}$	$3300^{+1321}_{-7662}$	$1.624^{+9.442}_{-9.104}$

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



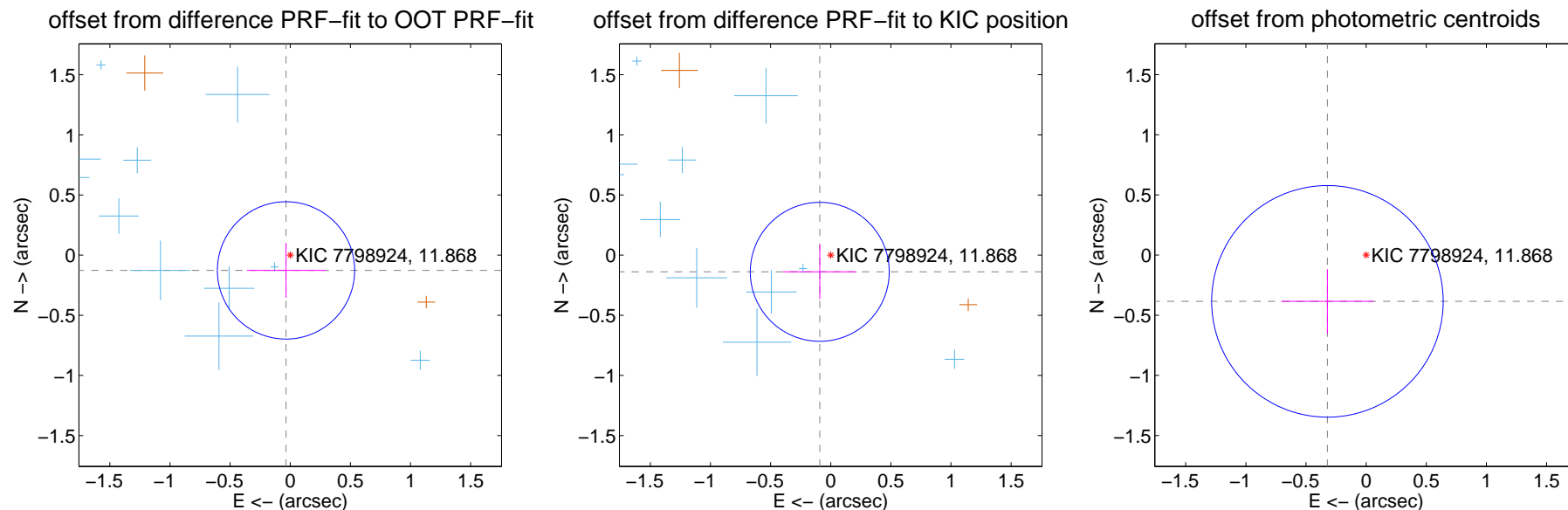
## DV Centroid Data

Supplemental centroid analysis for 007798924-01. **Kepler magnitude: 11.87.** Transit SNR 7.10

There are 13 quarters with good PRF difference image offsets

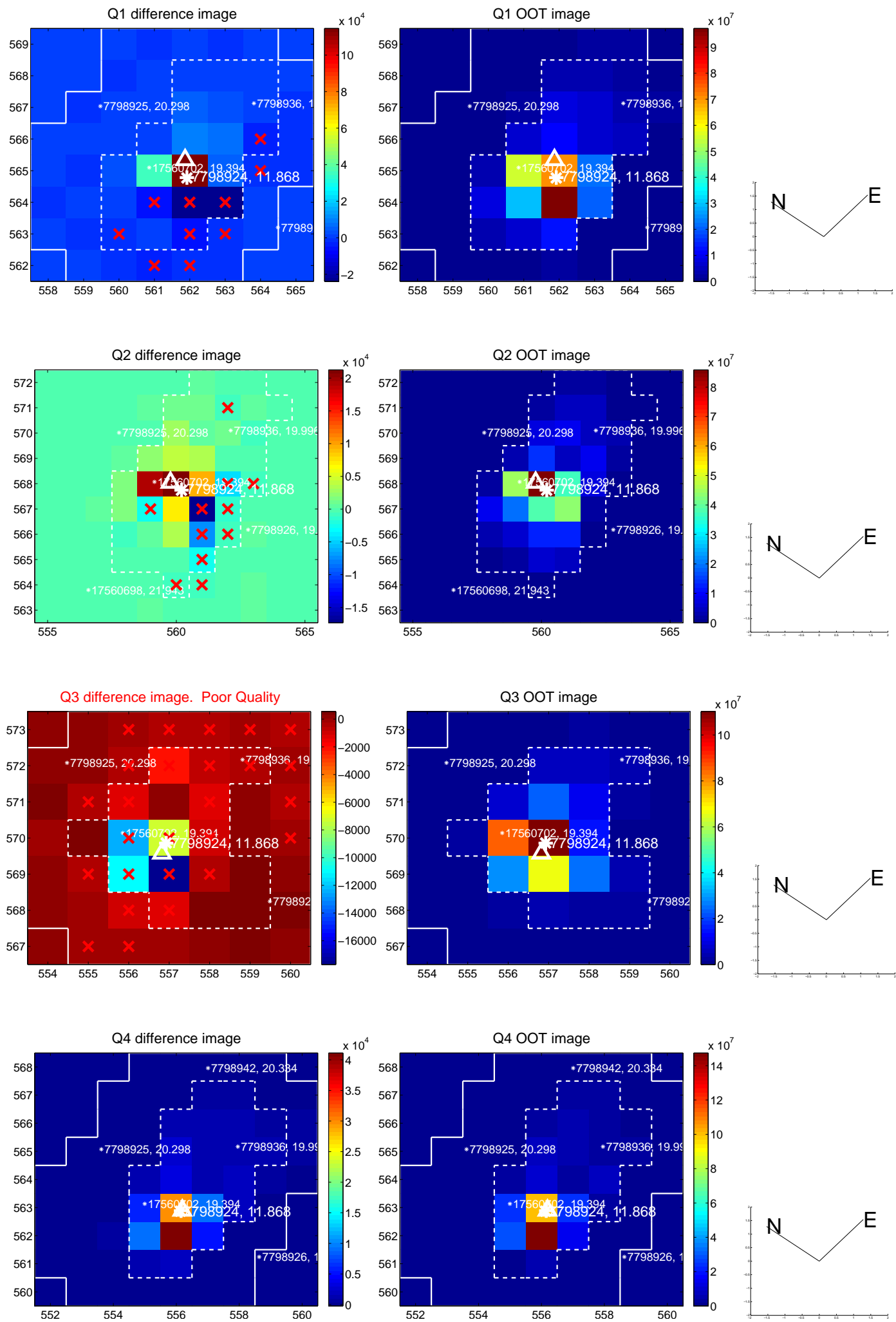
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.132 \pm 0.190$	0.69	$0.035 \pm 0.325$	$-0.127 \pm 0.228$
PRF-fit source offset from KIC position	$0.166 \pm 0.193$	0.86	$0.091 \pm 0.306$	$-0.139 \pm 0.226$
photometric centroid source offset	$0.50 \pm 0.32$	1.56	$0.32 \pm 0.38$	$-0.38 \pm 0.27$

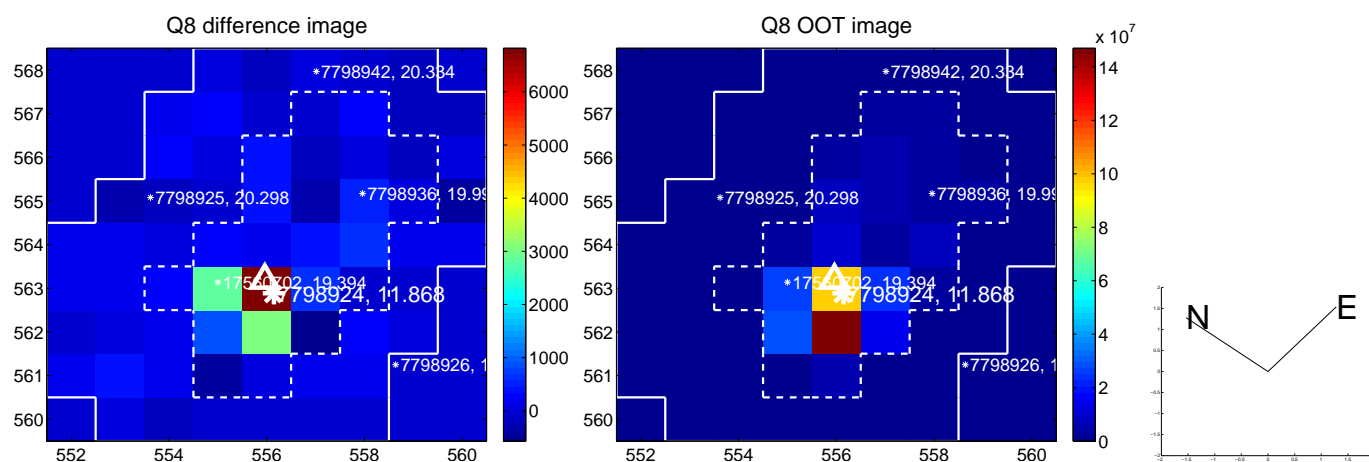
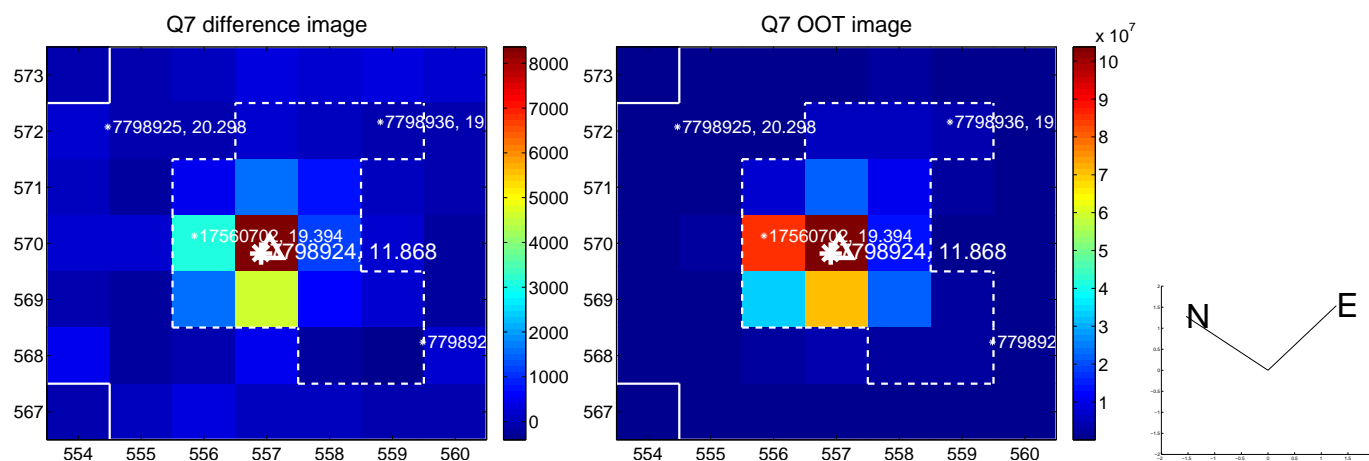
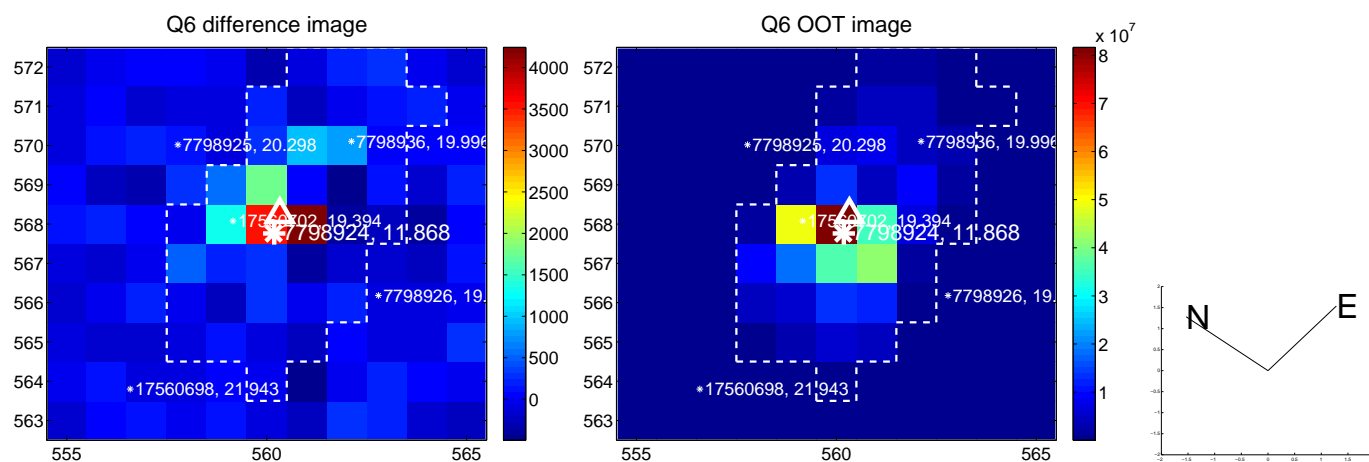
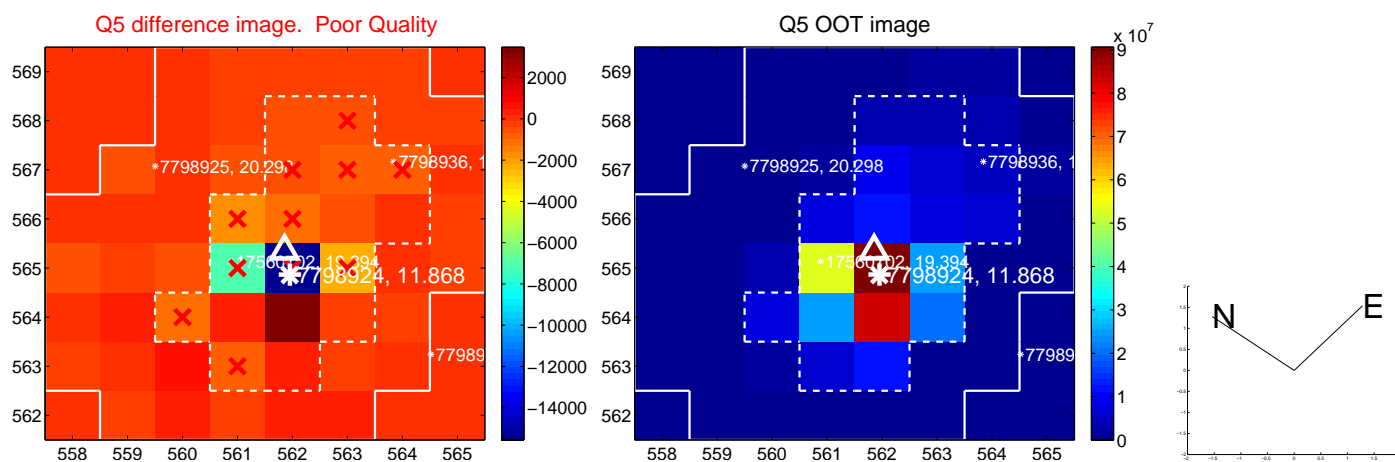


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

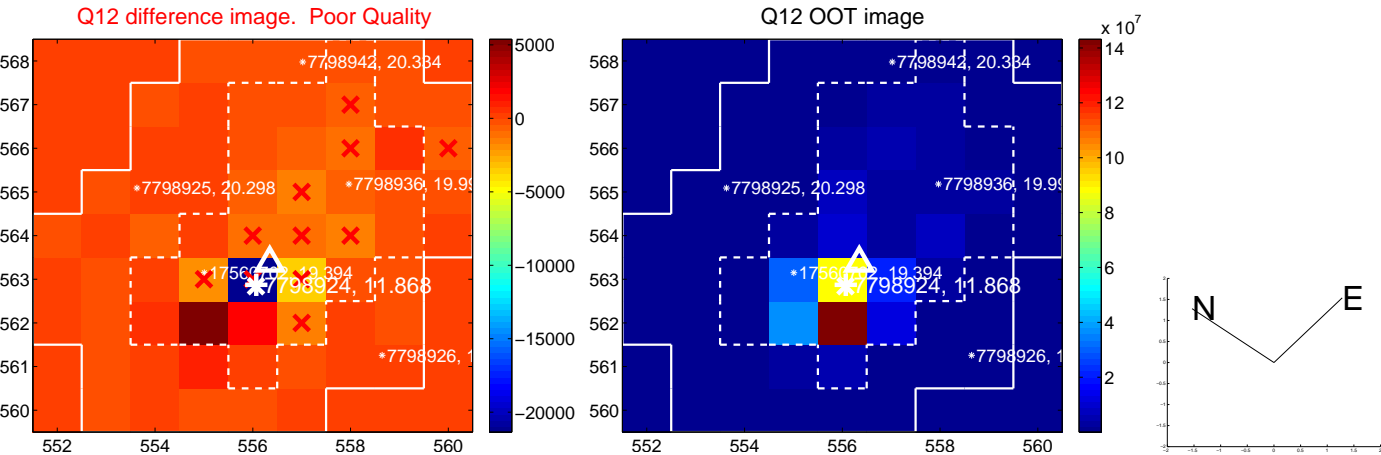
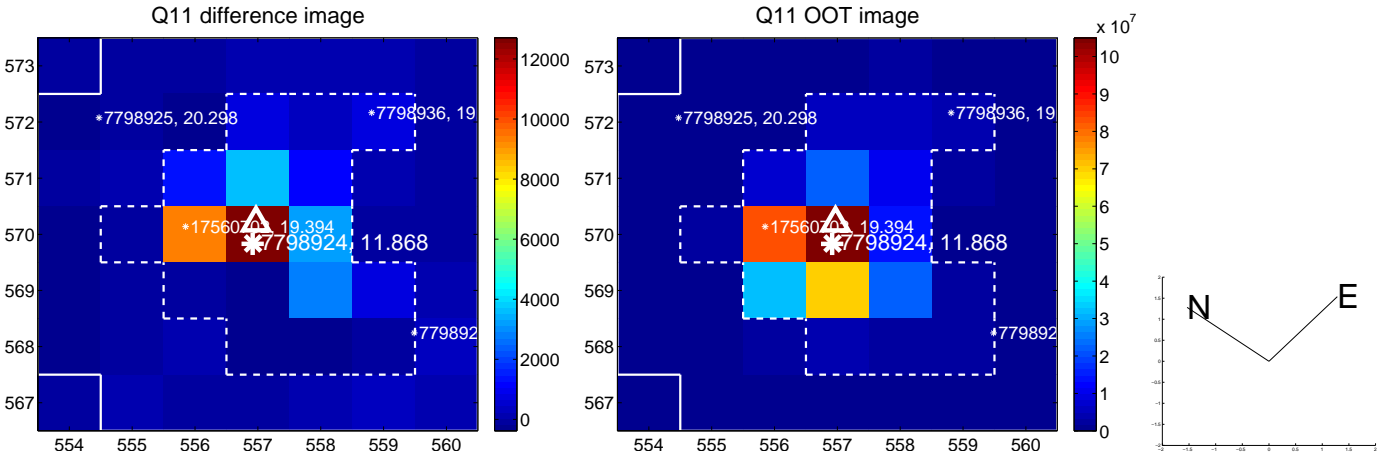
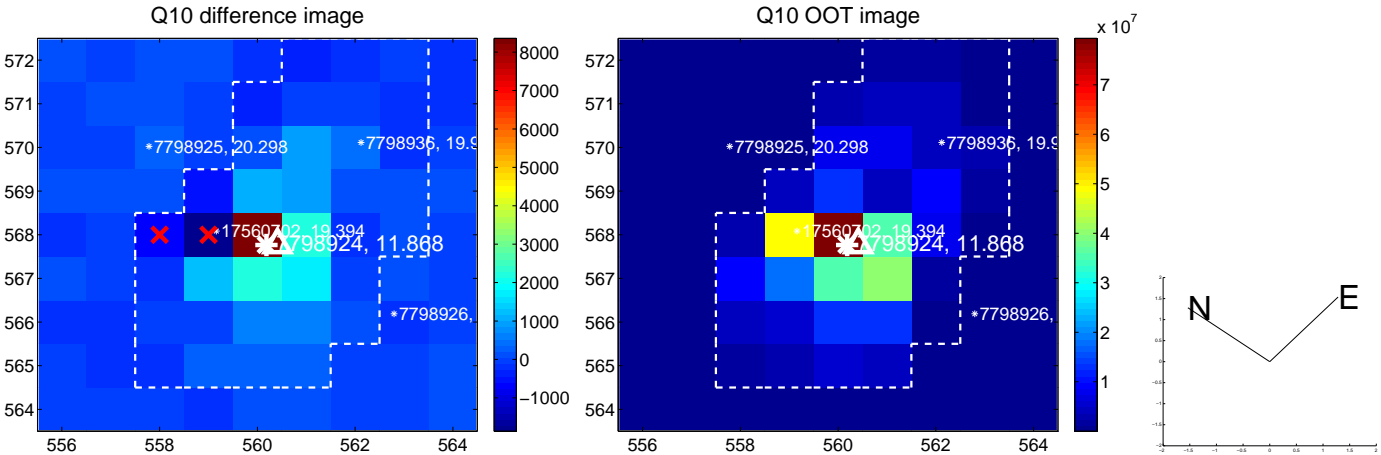
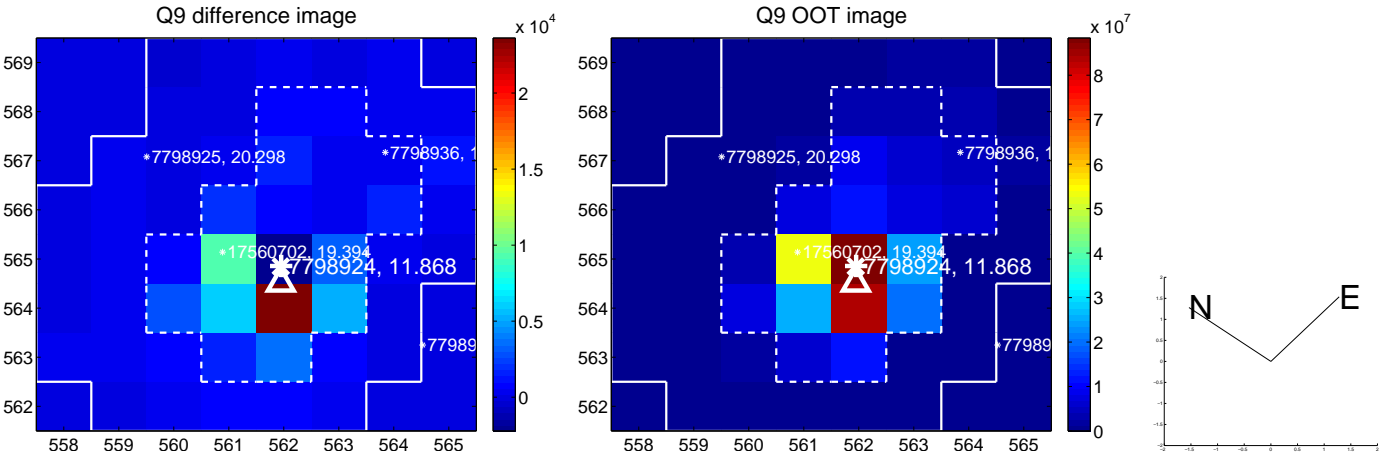


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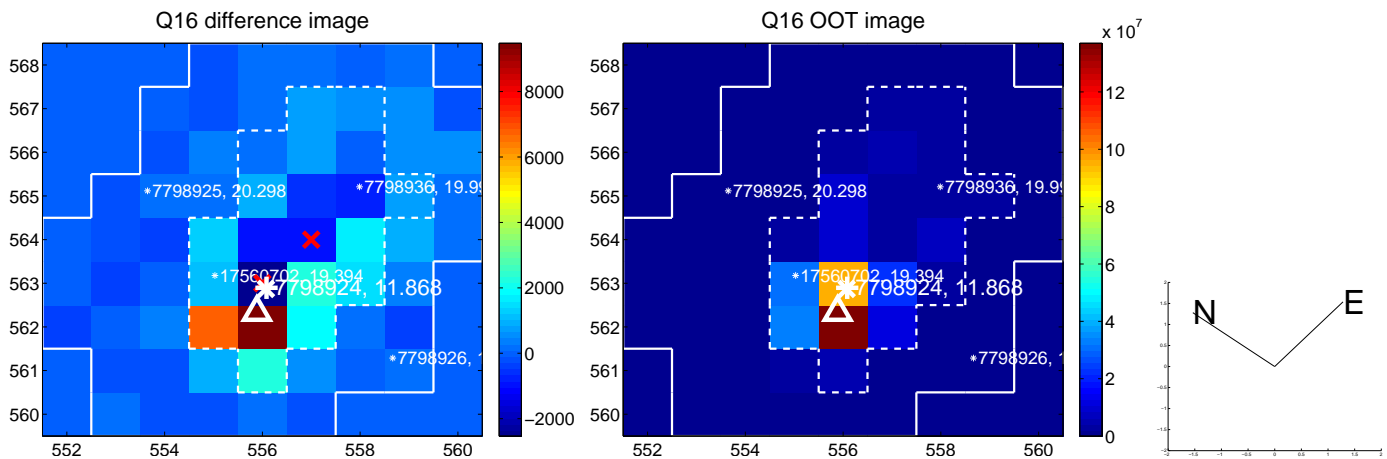
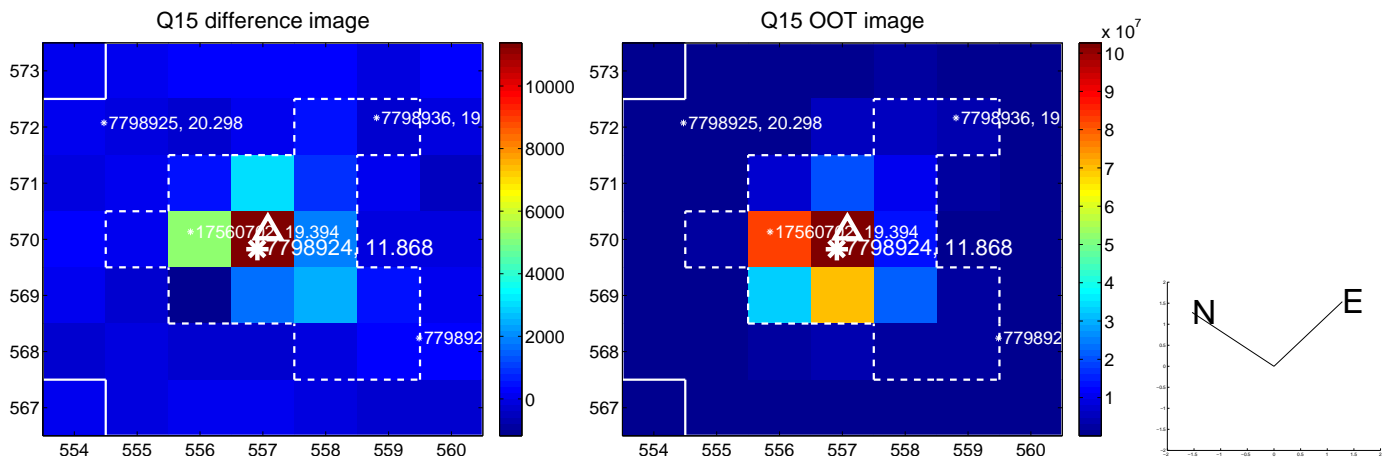
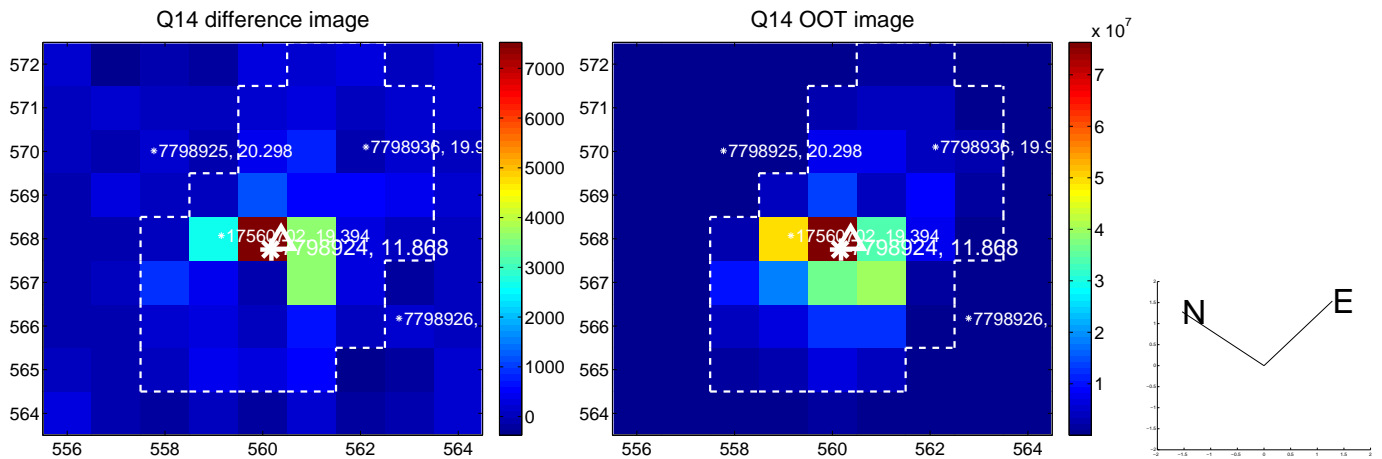
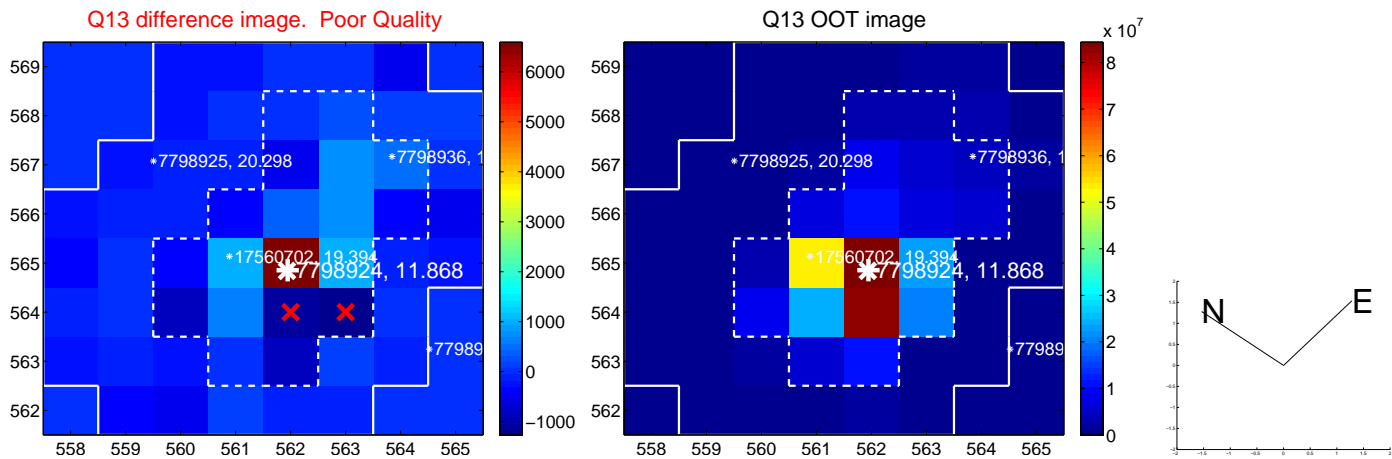




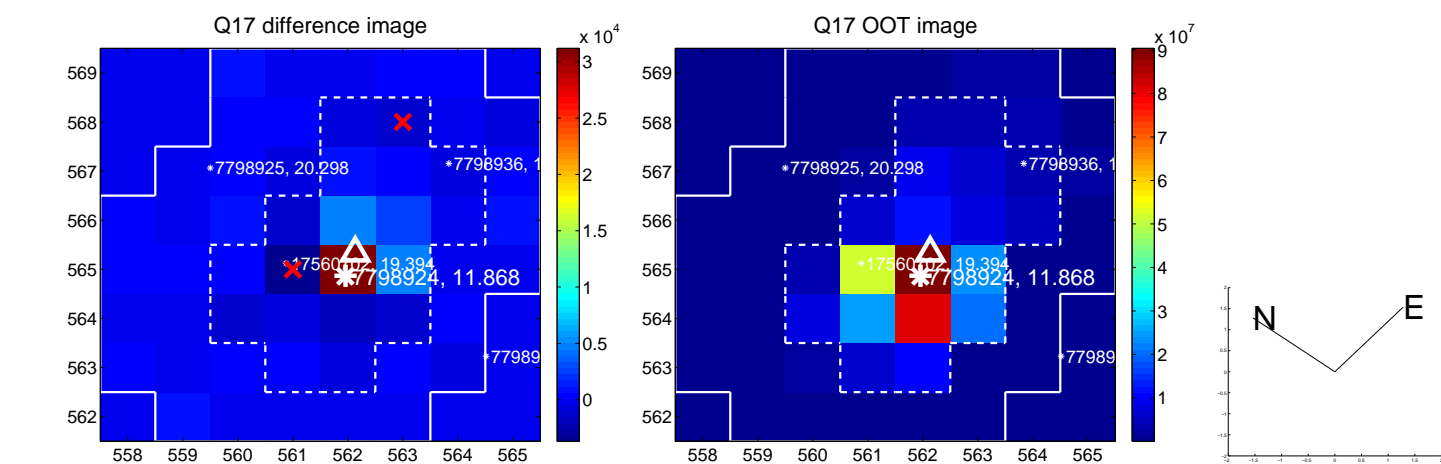
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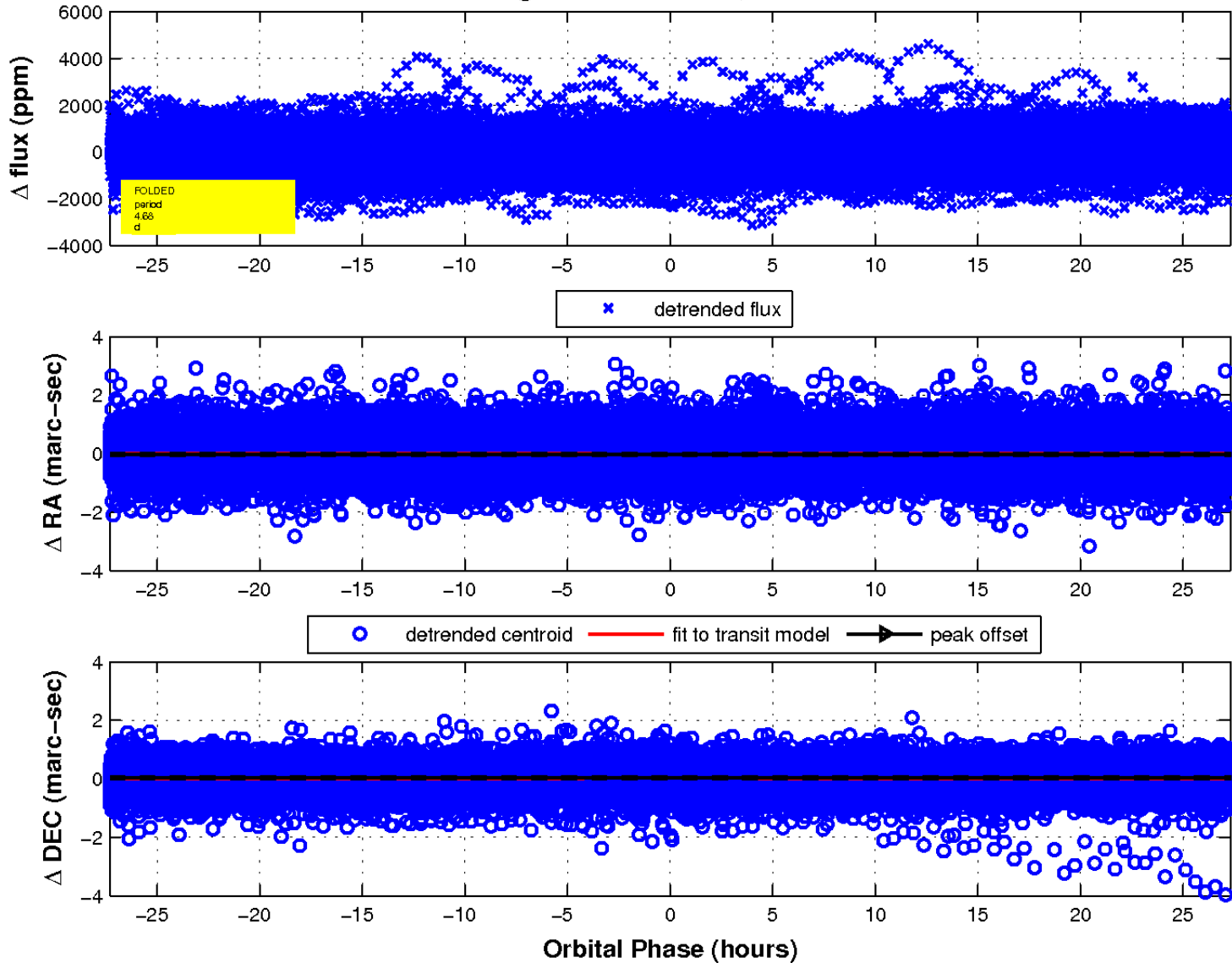
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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

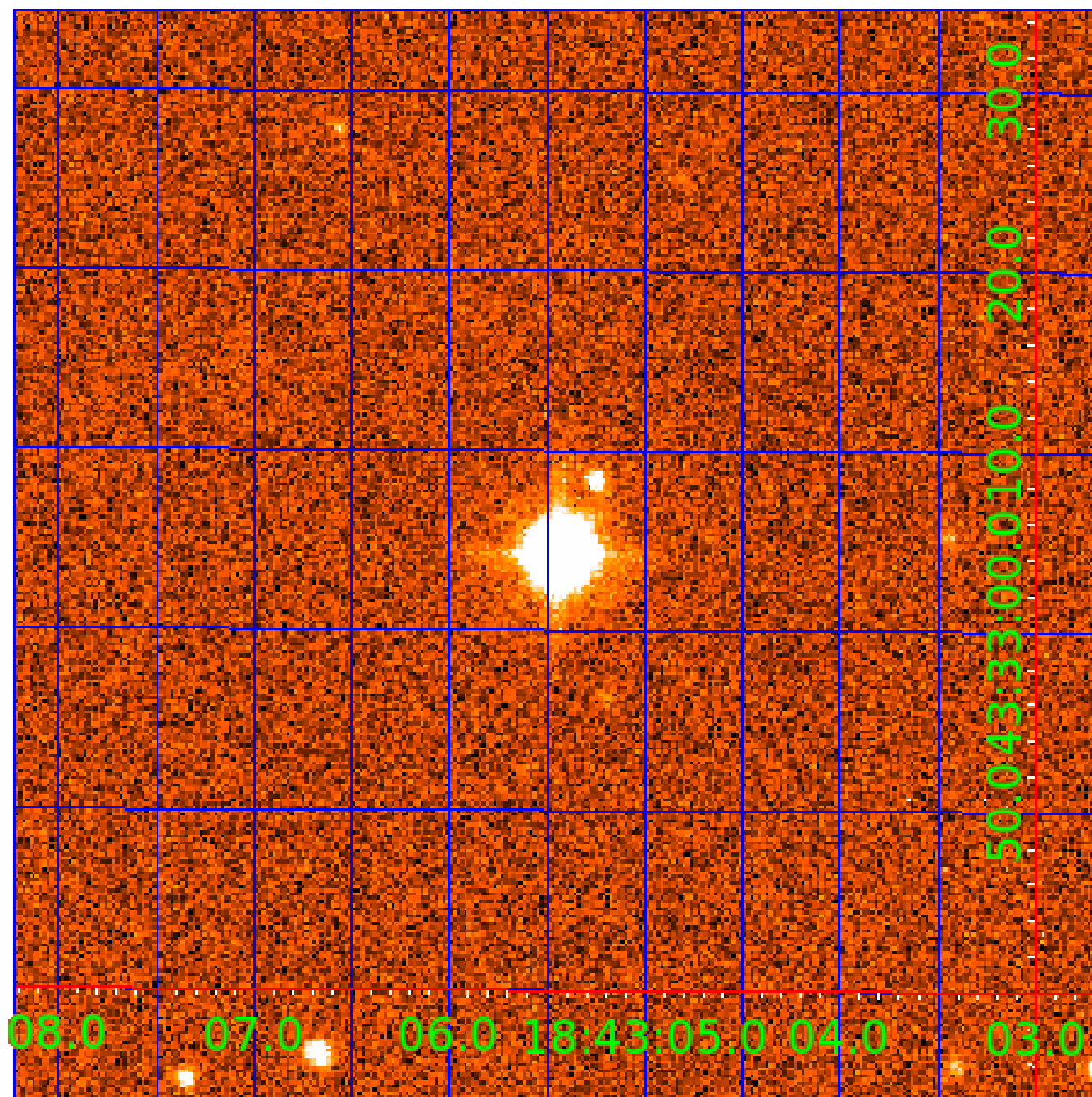


fluxWeightedCentroids, Planet 1 of 5



UKIRT Image

Declination





# KIC 007798924

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007798924-01	OBS	No	4.676320	131.712515	76.9	9.105	9.1	7.1	1.52	7219	1.55	1525.45
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007798924-04	OBS	No	228.234004	203.503932	2760.8	8.777	17.4	11.5	1.52	7219	11.98	8.55
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## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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007798924-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD
007798924-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
007798924-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007798924-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

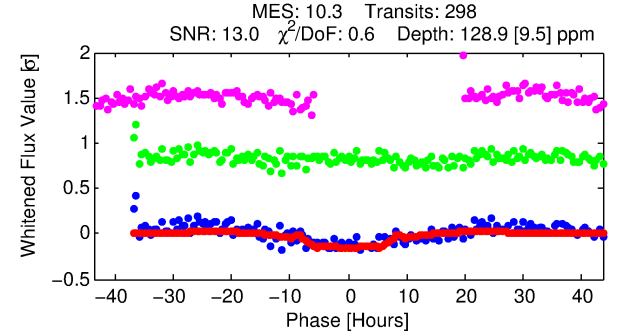
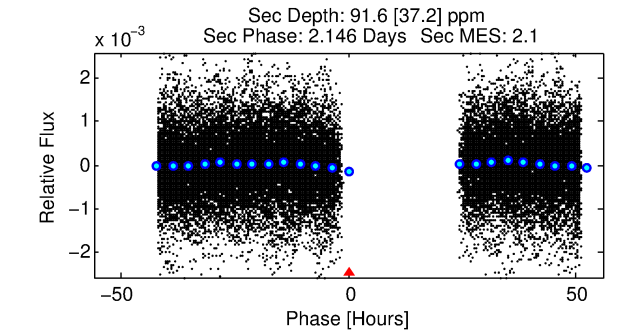
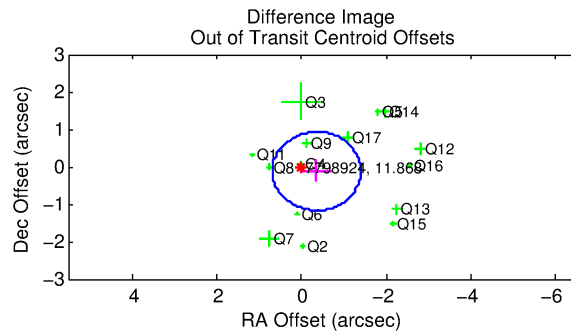
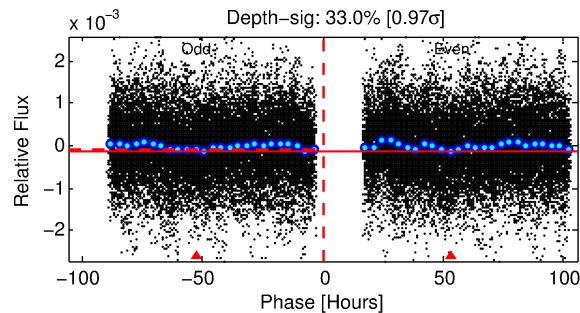
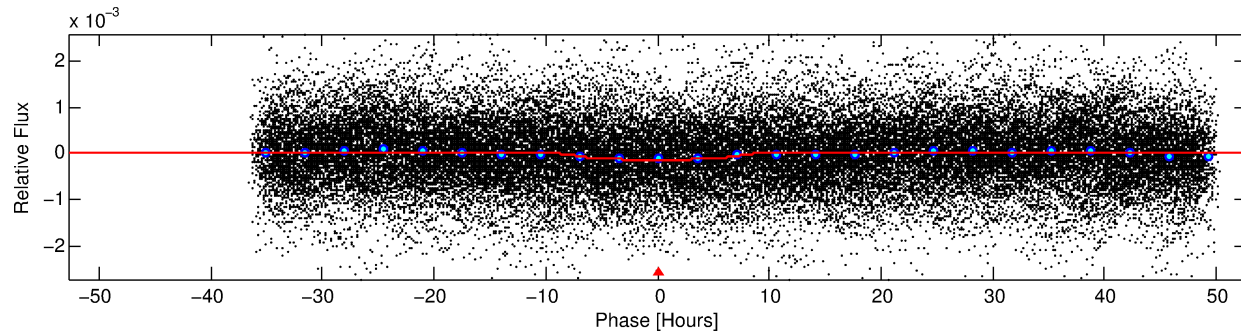
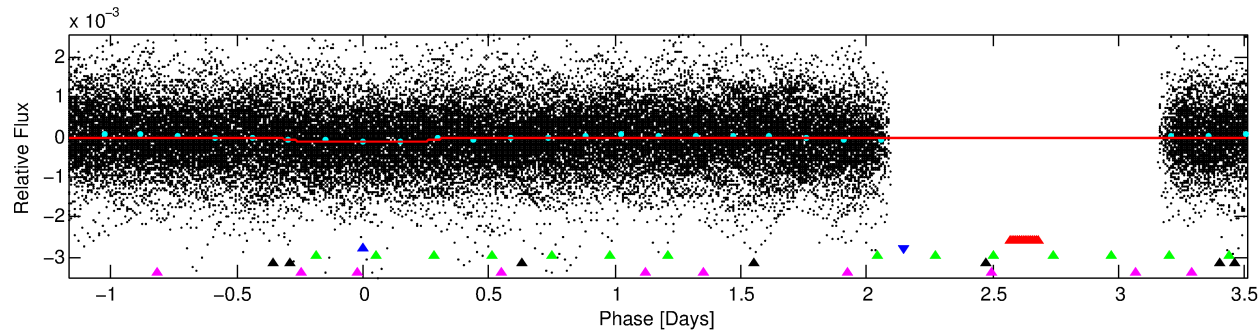
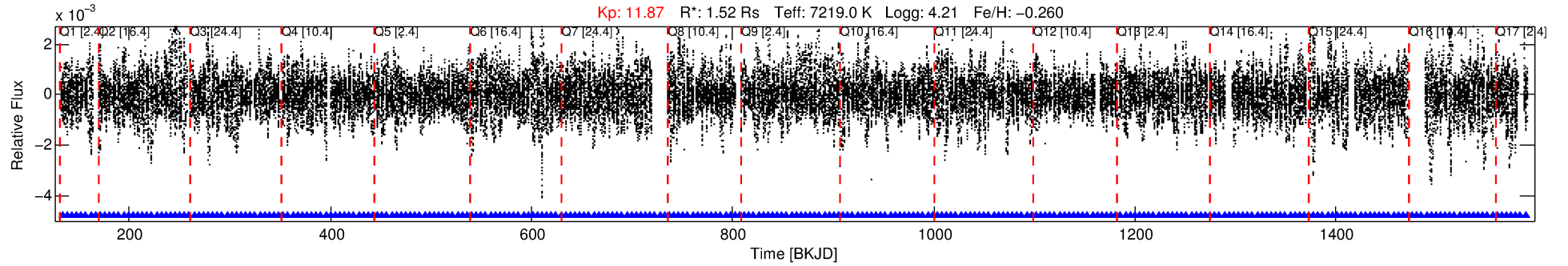
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007798924-02

No Significant Match Found

# DV One-Page Summary

KIC: 7798924 Candidate: 2 of 5 Period: 4.677 d



## DV Fit Results:

Period = 4.67666 [0.00011] d  
Epoch = 133.7121 [0.0183] BKJD  
Rp/R\* = 0.0132 [0.0005]  
a/R\* = 1.15 [0.02]  
b = 0.97 [0.01]  
Seff = 1525.30 [609.97]  
Teq = 1594 [159] K  
Rp = 2.19 [0.72] Re  
a = 0.0608 [0.0160] AU  
Ag = 38.93 [21.62] [1.75 sigma]  
Teffp = 6154 [680] K [6.53 sigma]

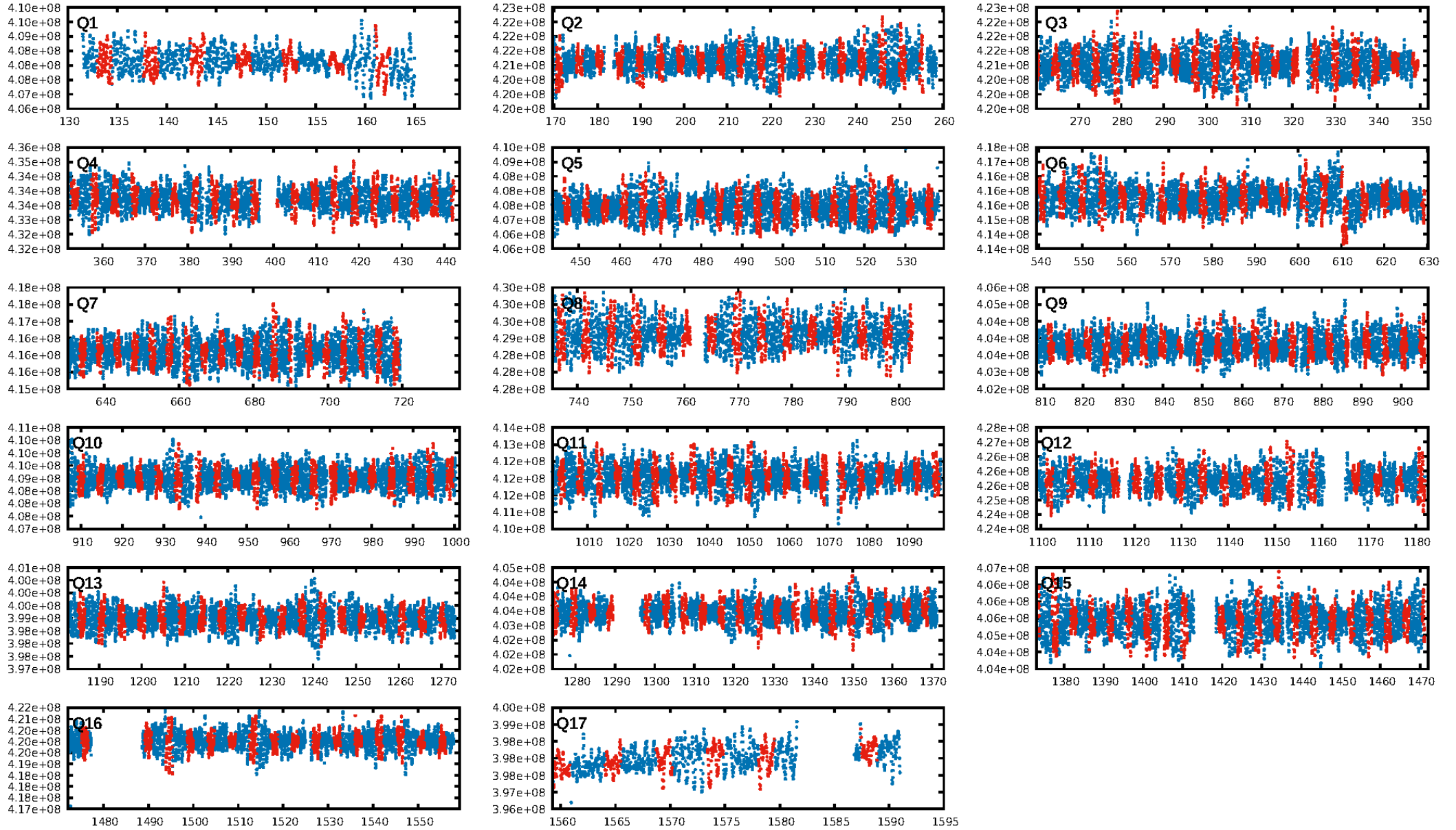
## DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 sigma]  
LongPeriod-sig: 100.0% [116.39 sigma]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 5.37e-31  
RollingBand-fgt: 1.00 [285/285]  
GhostDiagnostic-chr: 13.23  
Centroid-sig: 46.1%  
Centroid-so: 0.084 arcsec [0.60 sigma]  
OotOffset-rm: 0.378 arcsec [1.08 sigma]  
KicOffset-rm: 0.330 arcsec [0.95 sigma]  
OotOffset-st: 3/4/4/4 [15]  
KicOffset-st: 3/4/4/4 [15]  
DiffImageQuality-fgm: 0.73 [11/15]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 03:56:29 Z

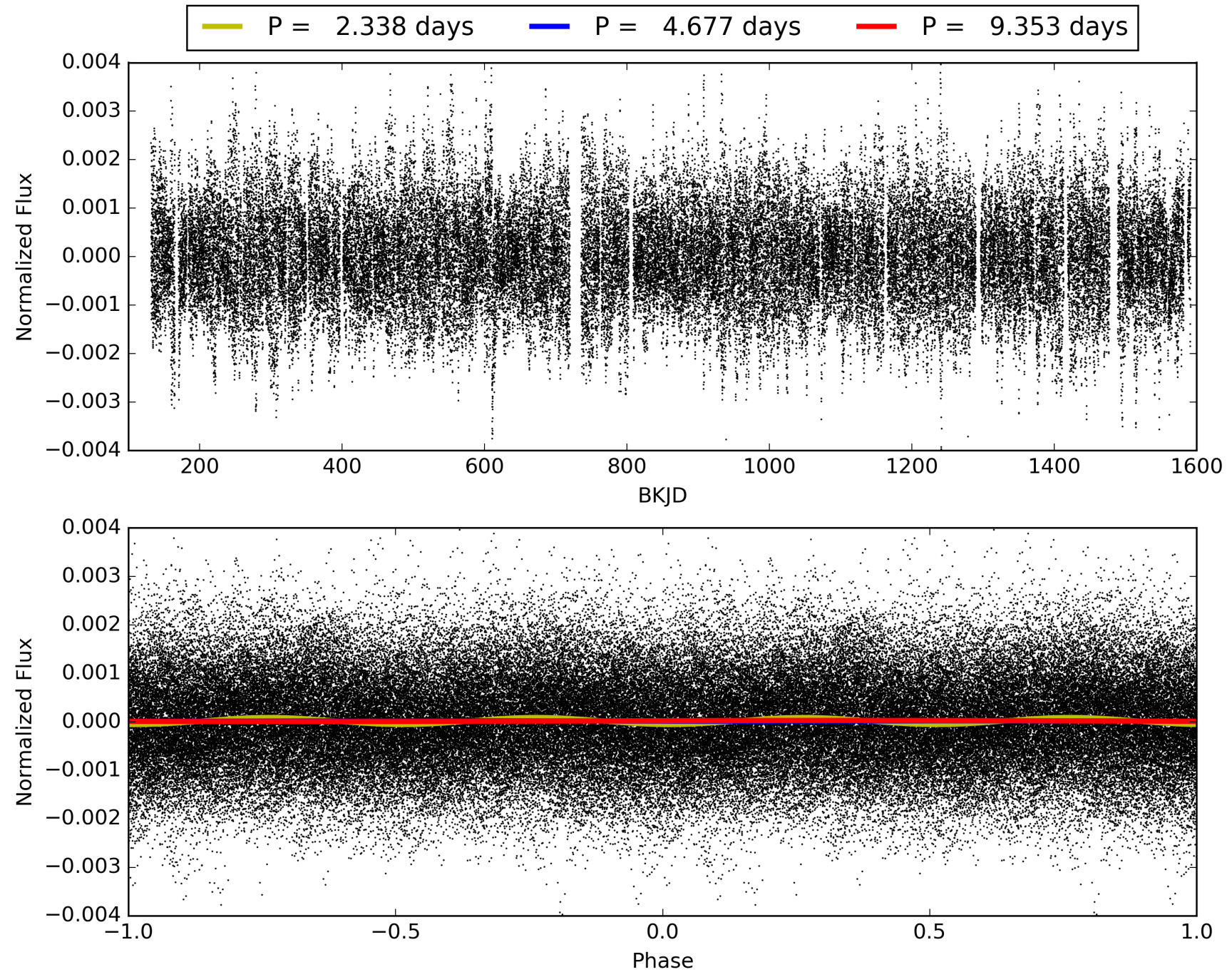
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 007798924-02, PDC Light Curves





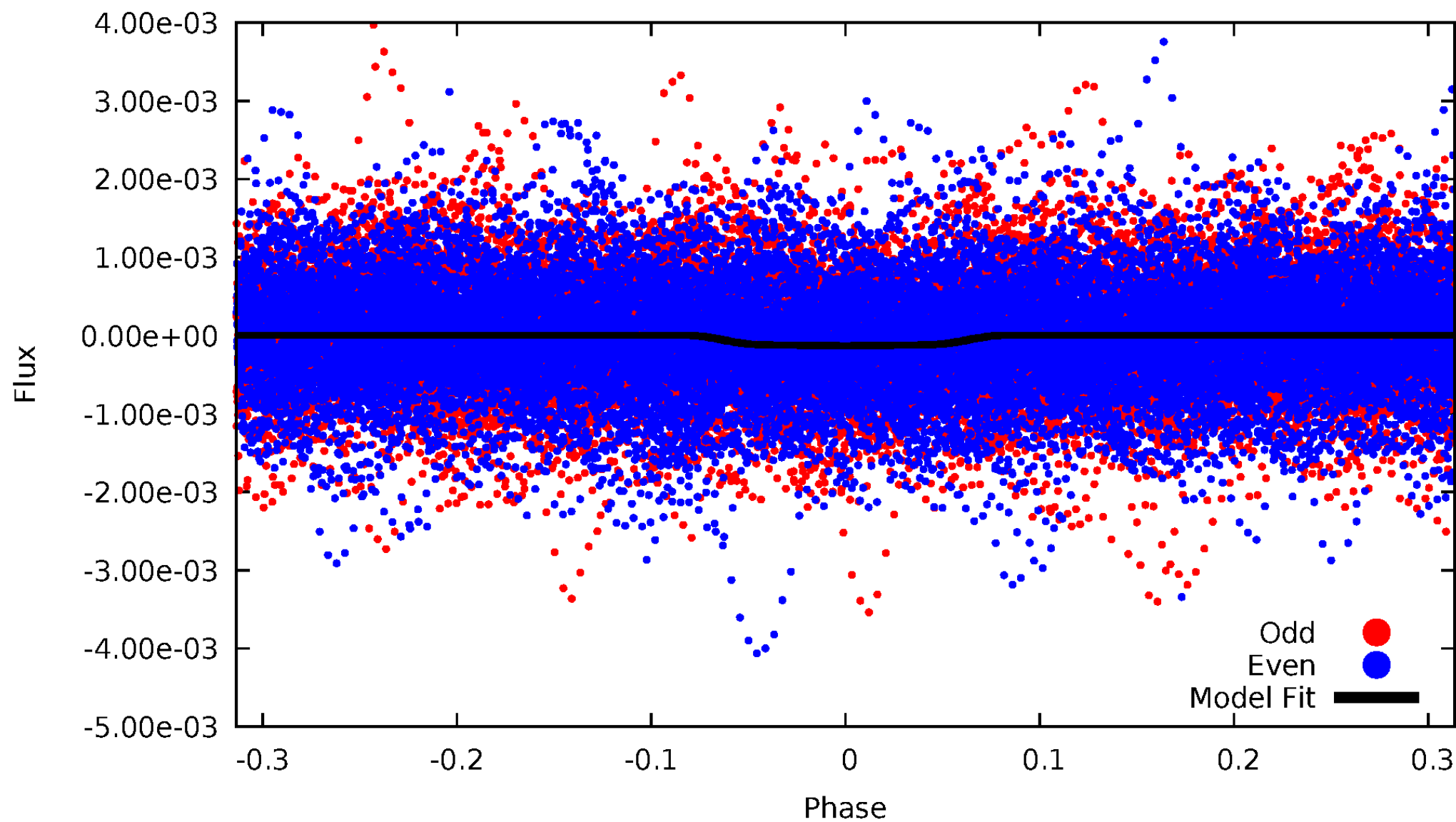
TCE 007798924-02





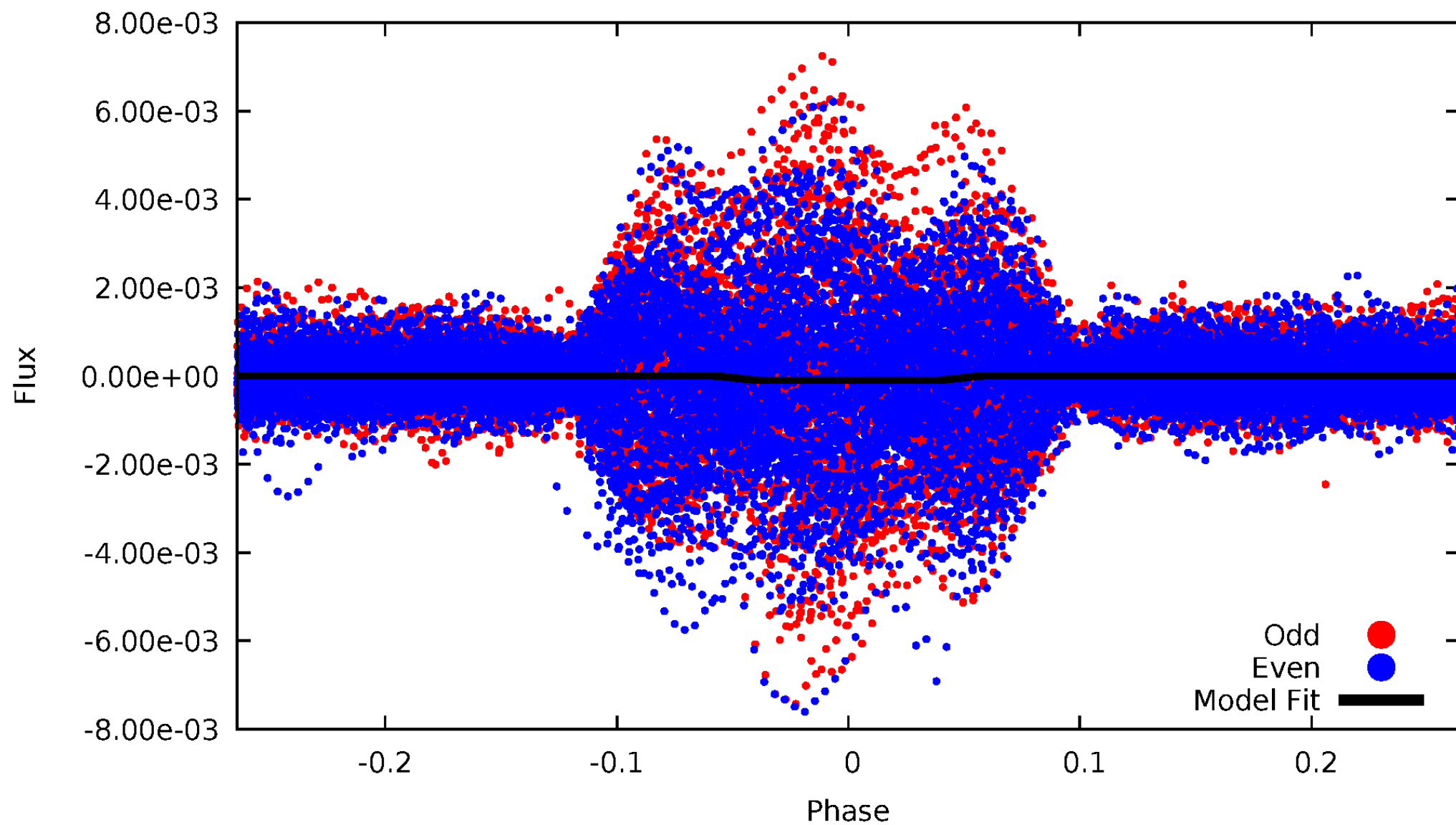
DV Odd/Even

TCE 007798924-02



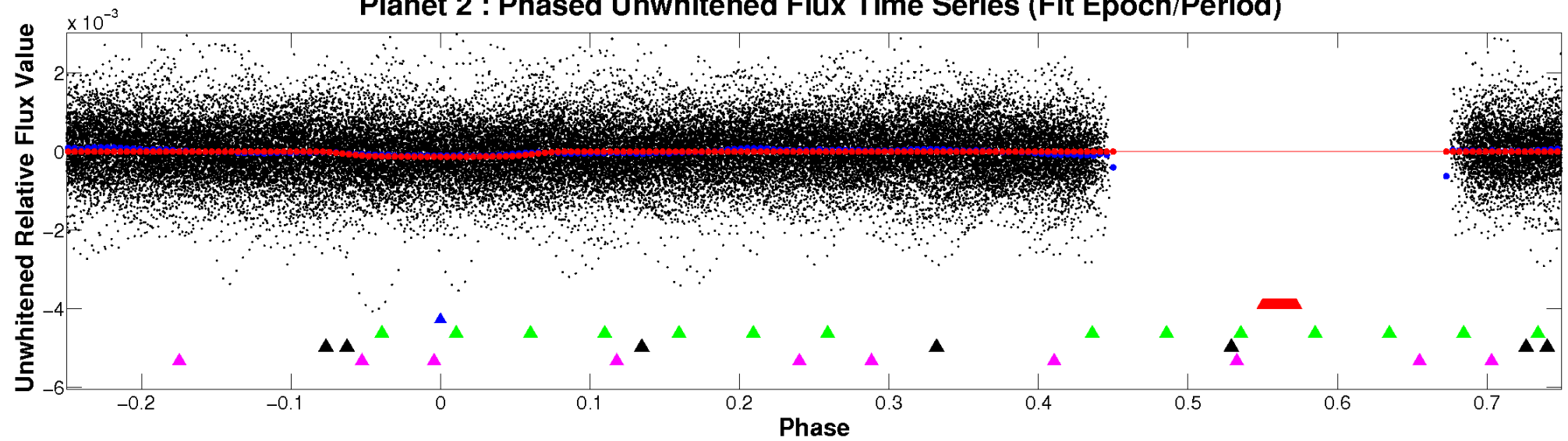
# ALT Odd/Even

TCE 007798924-02

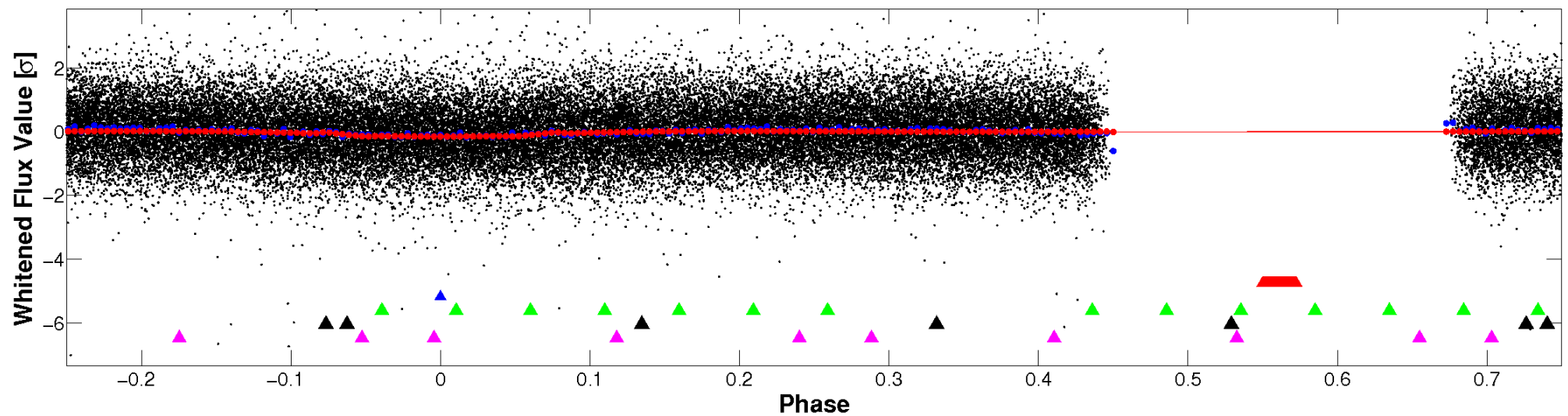


# Non-Whitened Vs. Whitened Light Curve

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

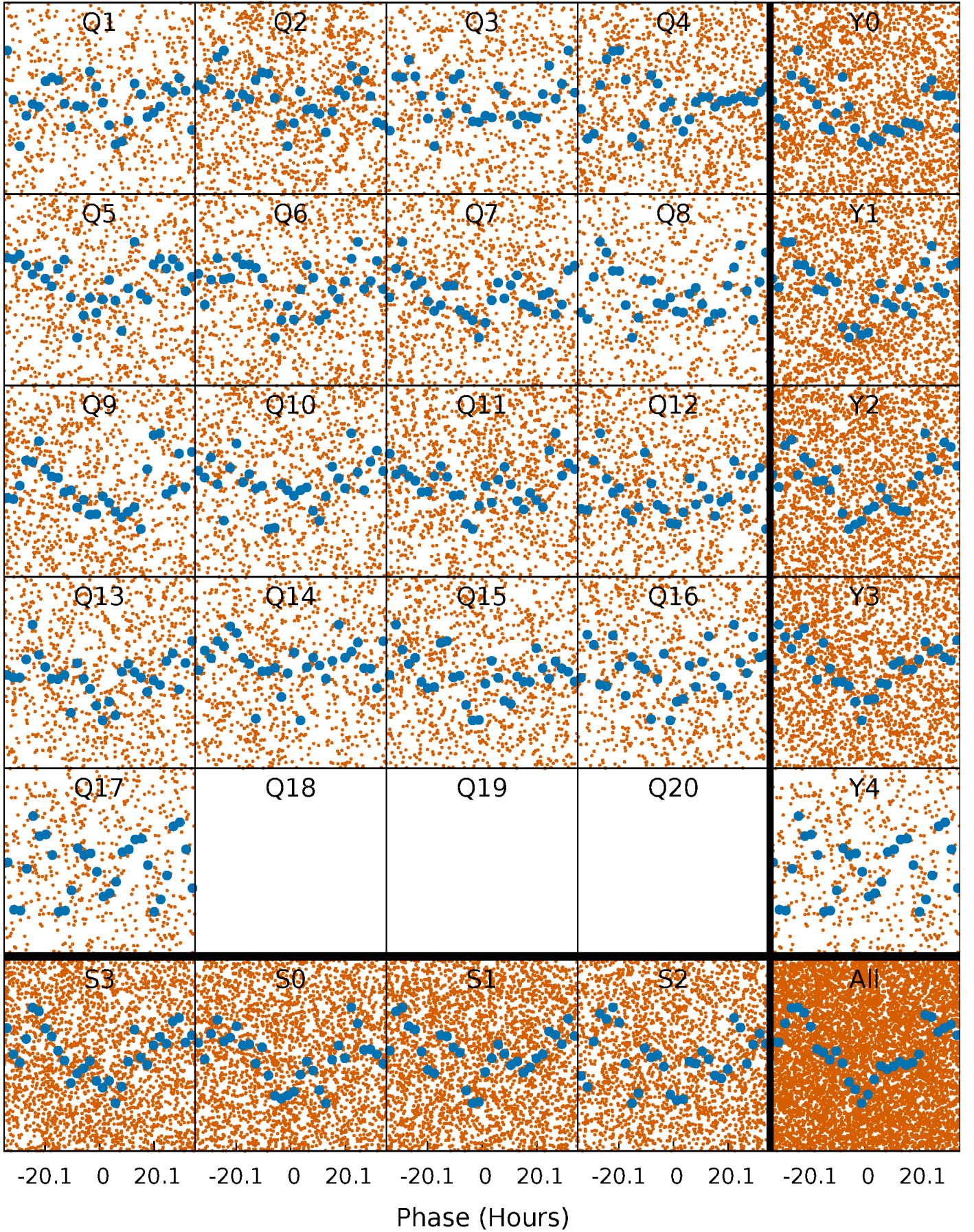


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



# PDC Quarter-Phased Transit Curves

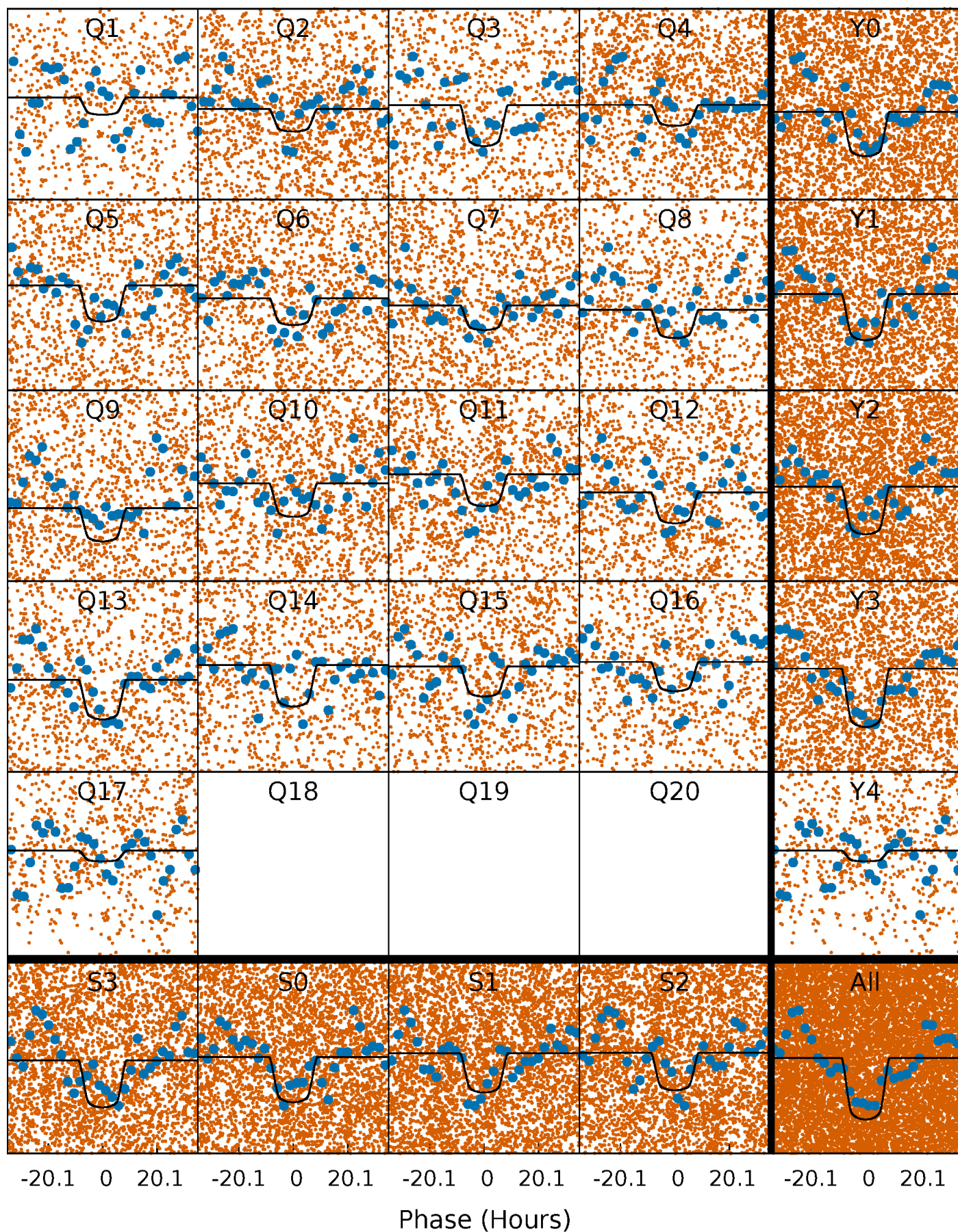
TCE 007798924-02   P= 4.676657 Days    $T_0=133.712078$  (BKJD)





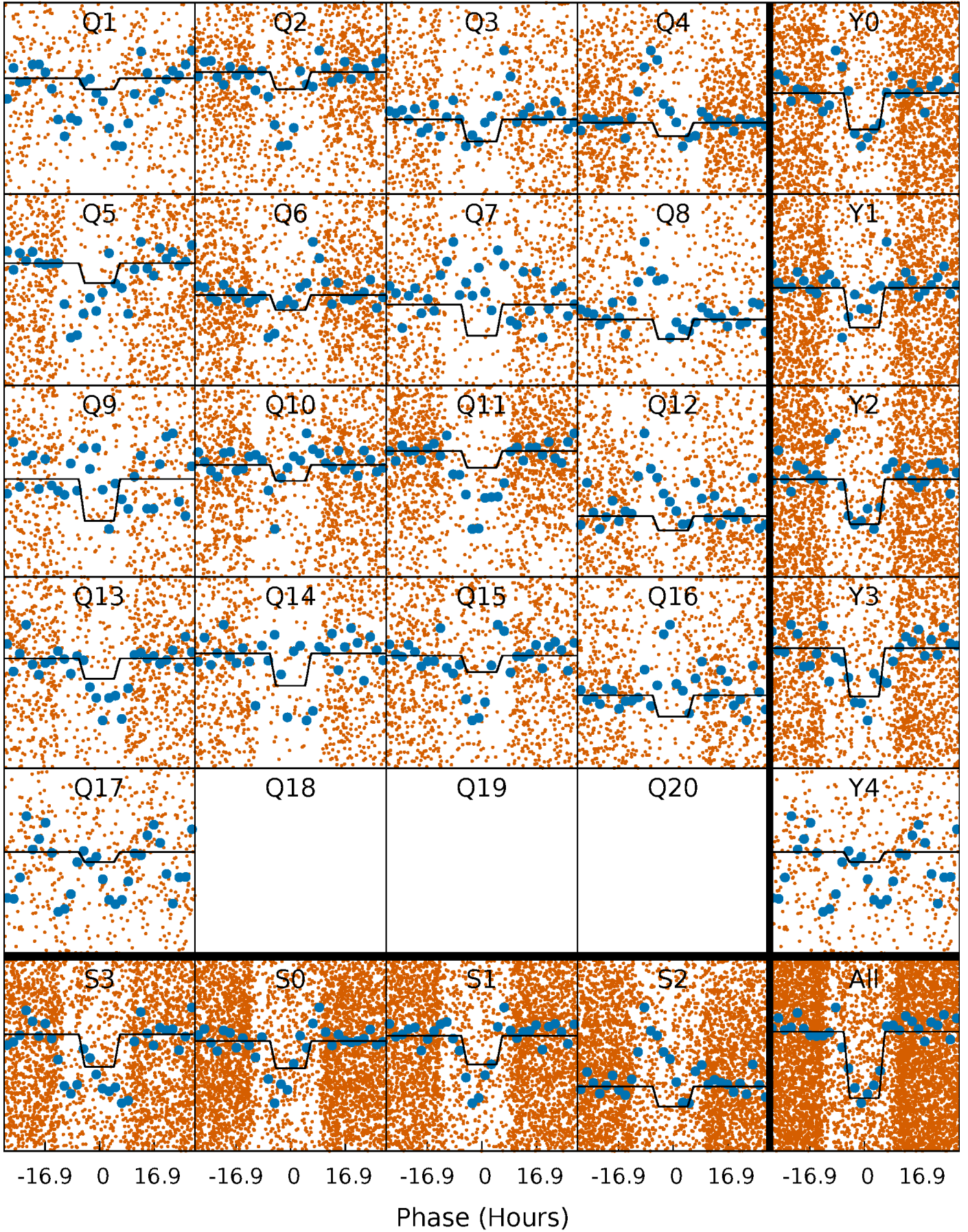
# DV Quarter-Phased Transit Curves

TCE 007798924-02 P= 4.676657 Days  $T_0=133.712078$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 007798924-02   P= 4.676280 Days    $T_0=133.734833$  (BKJD)

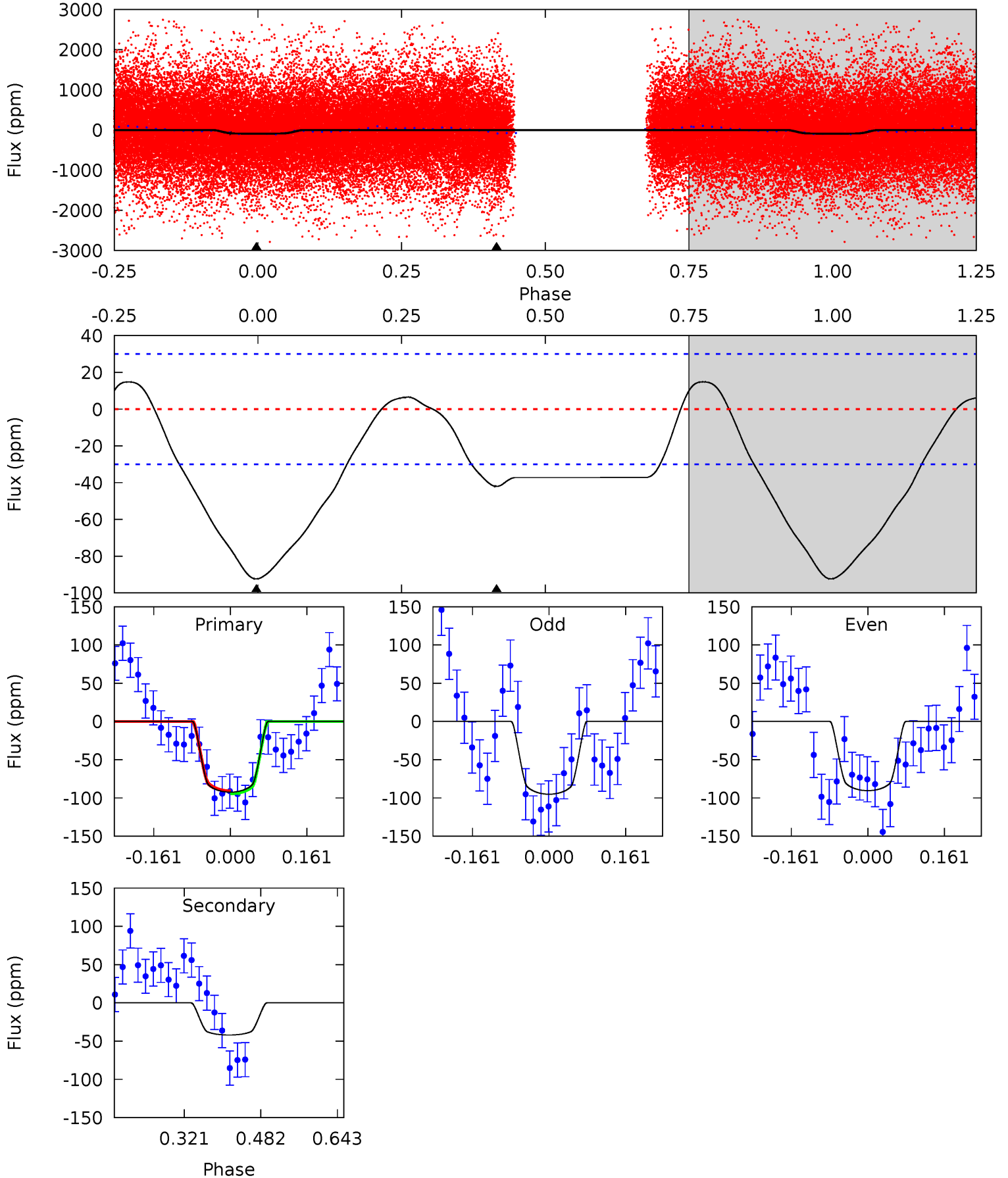




# DV Model-Shift Uniqueness Test

007798924-02, P = 4.676657 Days, E = 129.035421 Days

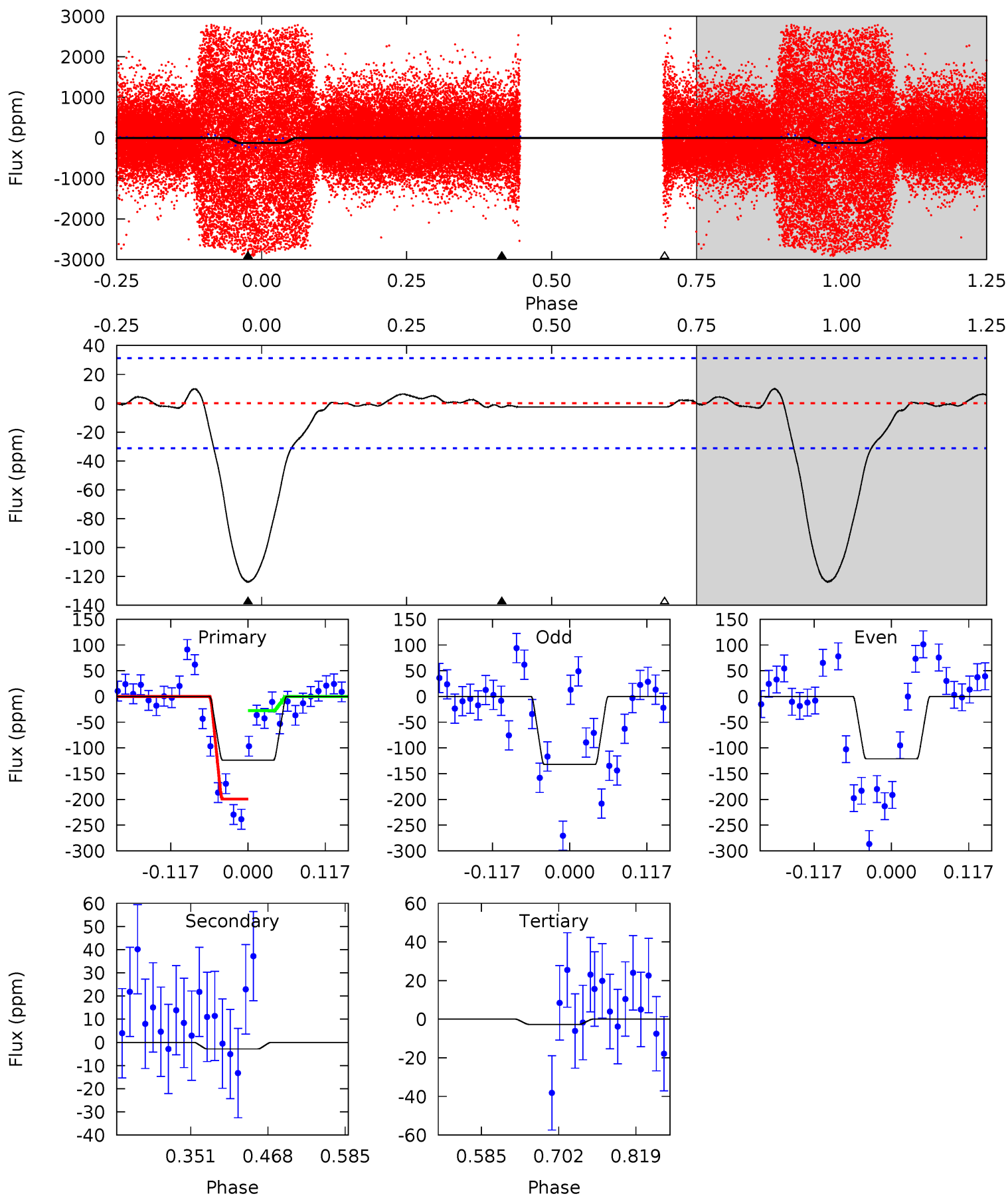
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	6.26	0	0	4.46	1.40	2.15	13.7	13.7	6.26	6.26	0.35	1.25	0.14	0.27



# Alt Model-Shift Uniqueness Test

007798924-02, P = 4.676280 Days, E = 129.058553 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
18.0	0.41	0.39	0	4.53	1.57	0.42	17.6	18.0	0.02	0.41	0.79	0.45	0.07	0





### Stellar Parameters For KIC 007798924

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7219^{+176}_{-277}$	$4.210^{+0.105}_{-0.195}$	$-0.260^{+0.250}_{-0.350}$	$1.523^{+0.494}_{-0.304}$	$1.377^{+0.222}_{-0.202}$	$0.549^{+0.320}_{-0.270}$
	+2%/-4%	+2%/-5%	+96%/-135%	+32%/-20%	+16%/-15%	+58%/-49%
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 007798924-02 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-42 \pm 7$	$2.24^{+0.40}_{-0.26}$	$2252^{+175}_{-137}$	$5048^{+231}_{-243}$	$16^{+6}_{-5}$
Alt.	$-3 \pm 7$	$1.65^{+0.31}_{-0.20}$	$2247^{+167}_{-138}$	$3451^{+783}_{-7181}$	$2.187^{+5.331}_{-5.089}$

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

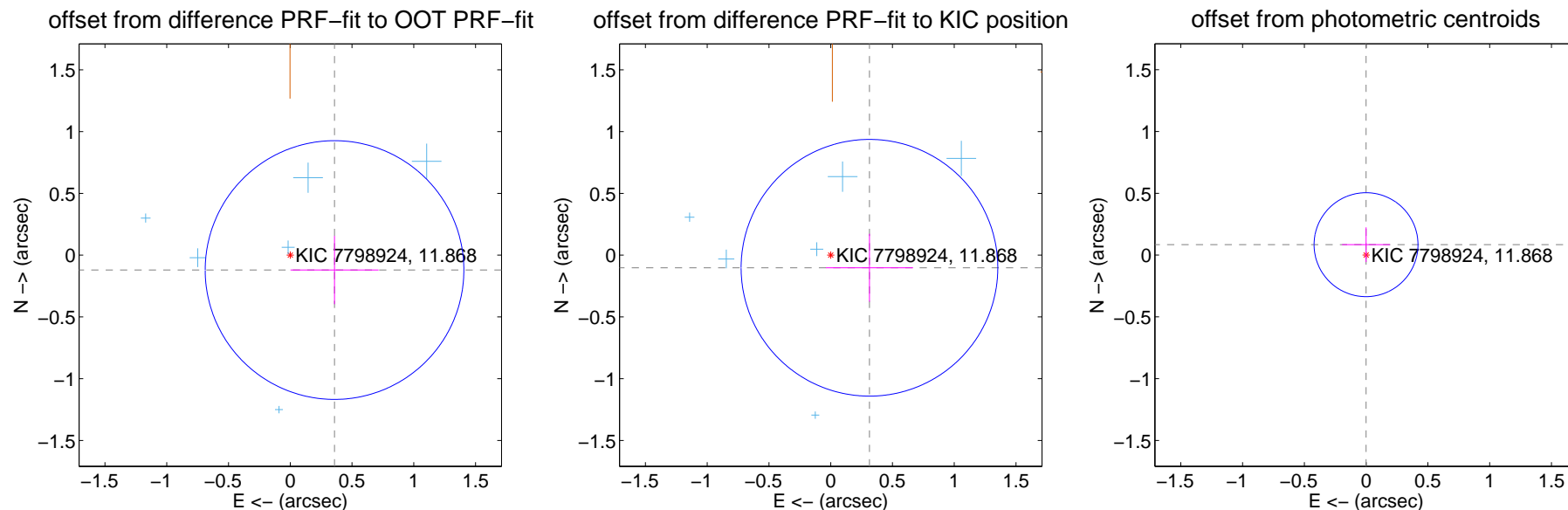
## DV Centroid Data

Supplemental centroid analysis for 007798924-02. **Kepler magnitude: 11.87.** Transit SNR 13.02

There are 11 quarters with good PRF difference image offsets

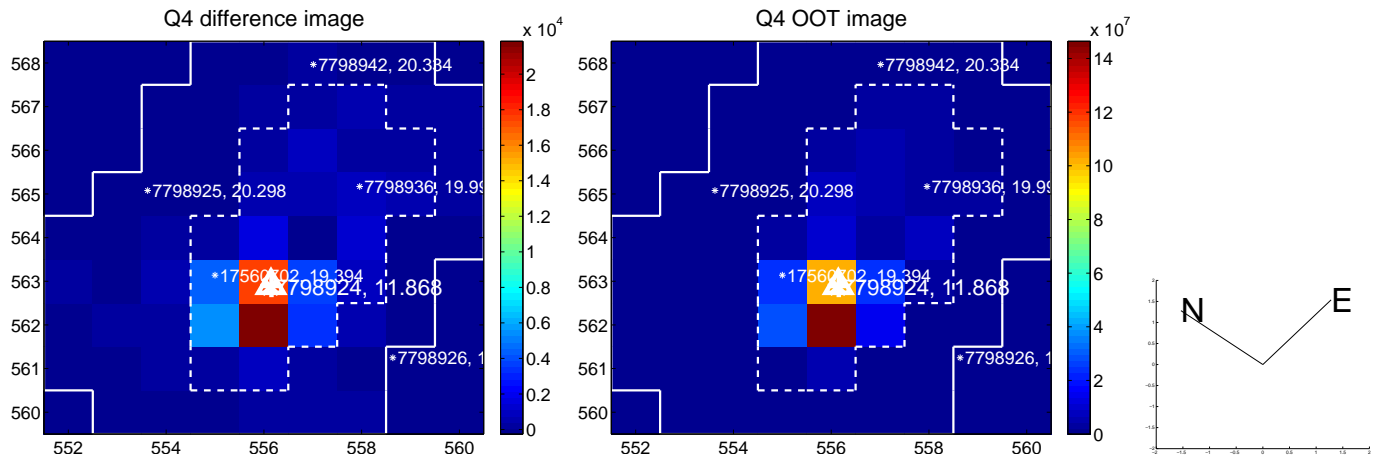
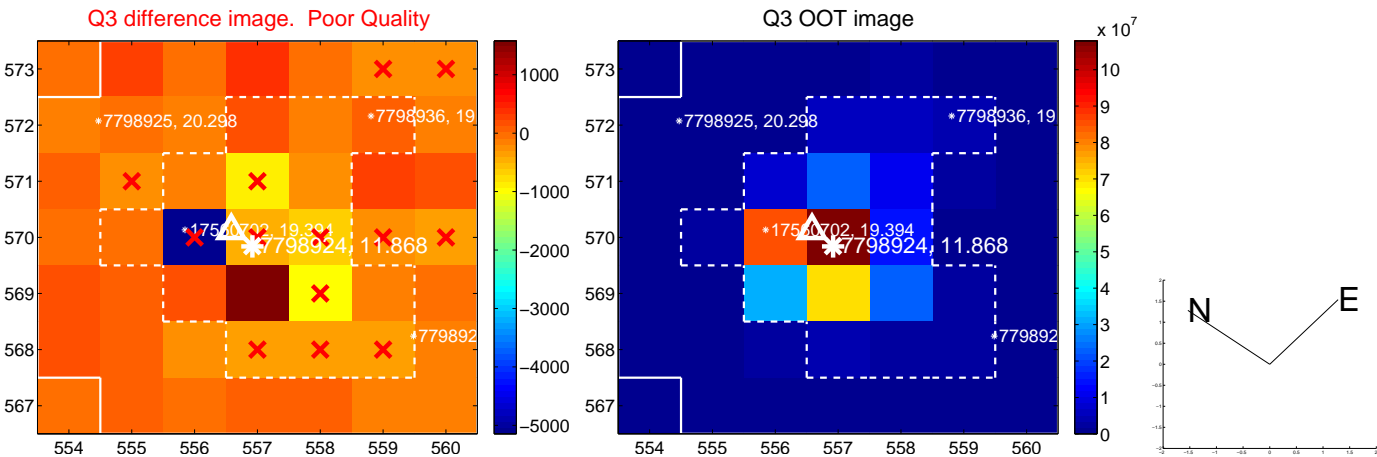
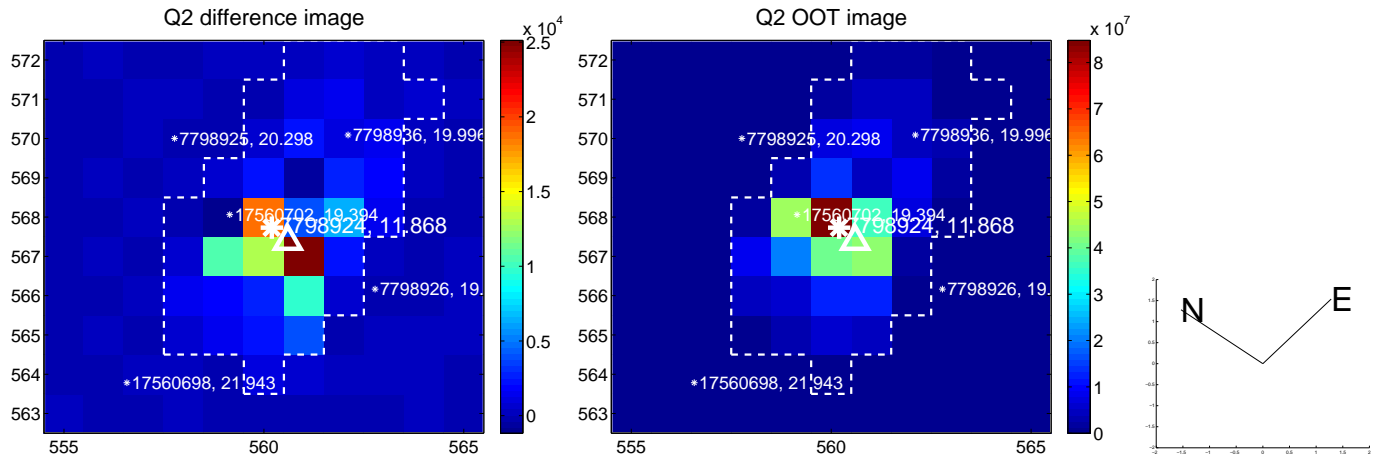
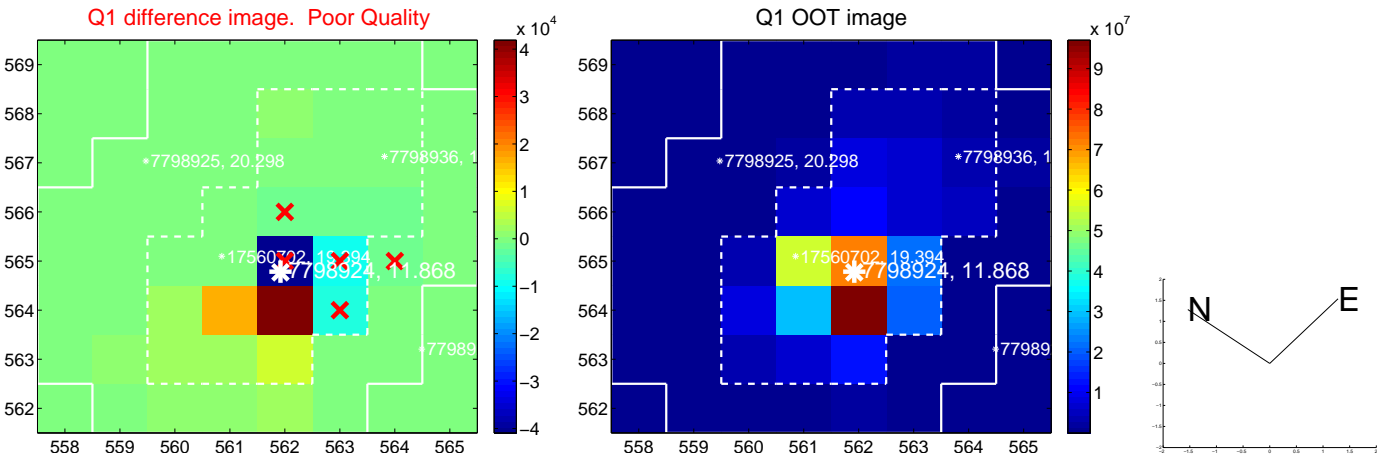
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.378 \pm 0.349$	1.08	$-0.358 \pm 0.356$	$-0.121 \pm 0.276$
PRF-fit source offset from KIC position	$0.330 \pm 0.346$	0.95	$-0.314 \pm 0.353$	$-0.102 \pm 0.275$
photometric centroid source offset	$0.08 \pm 0.14$	0.60	$0.00 \pm 0.19$	$0.08 \pm 0.14$

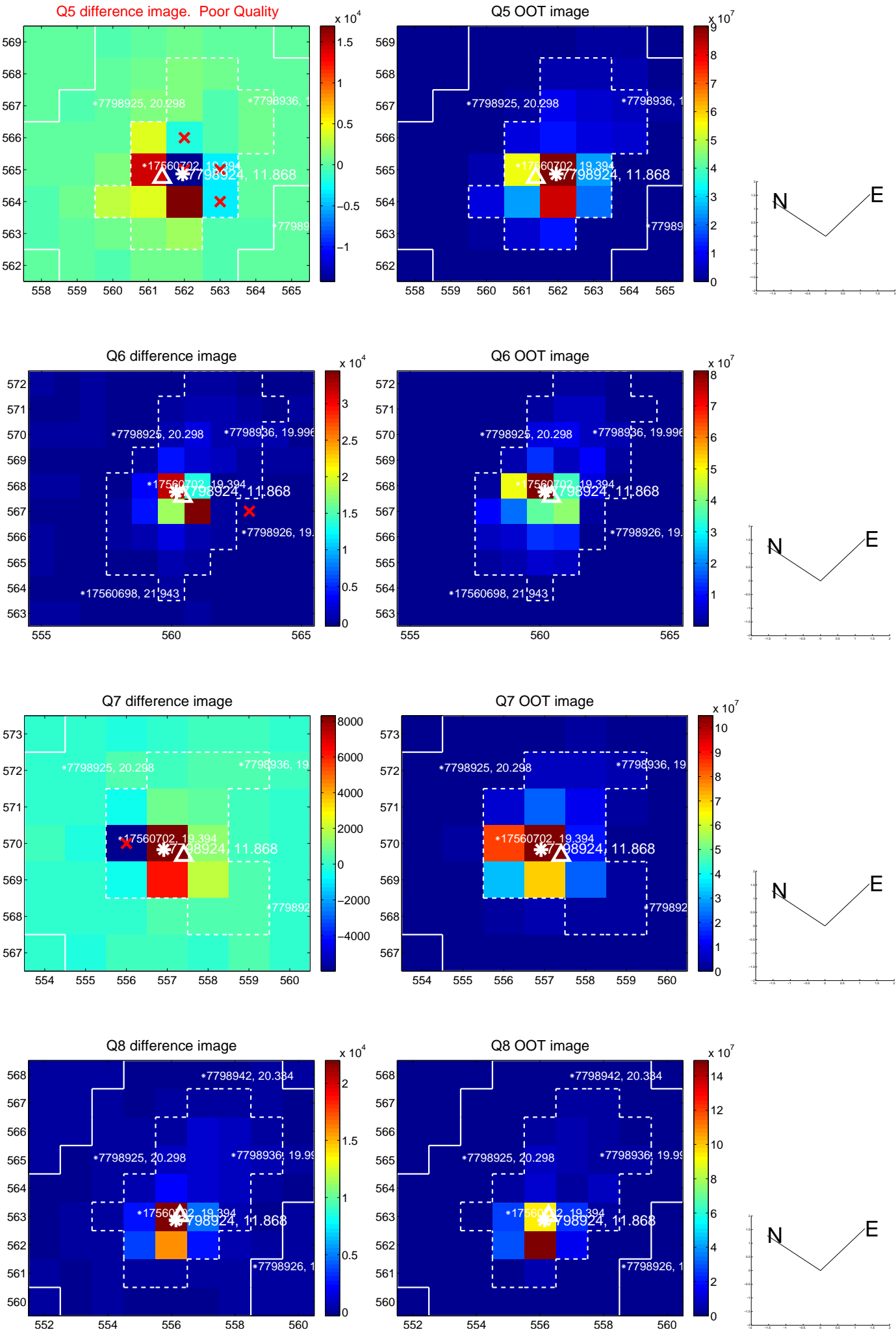


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

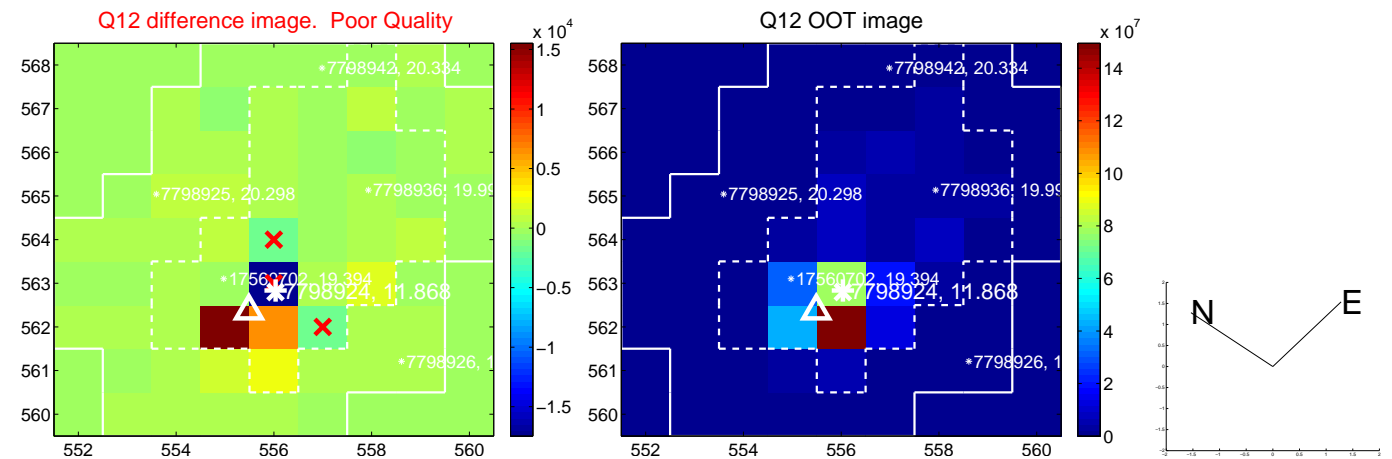
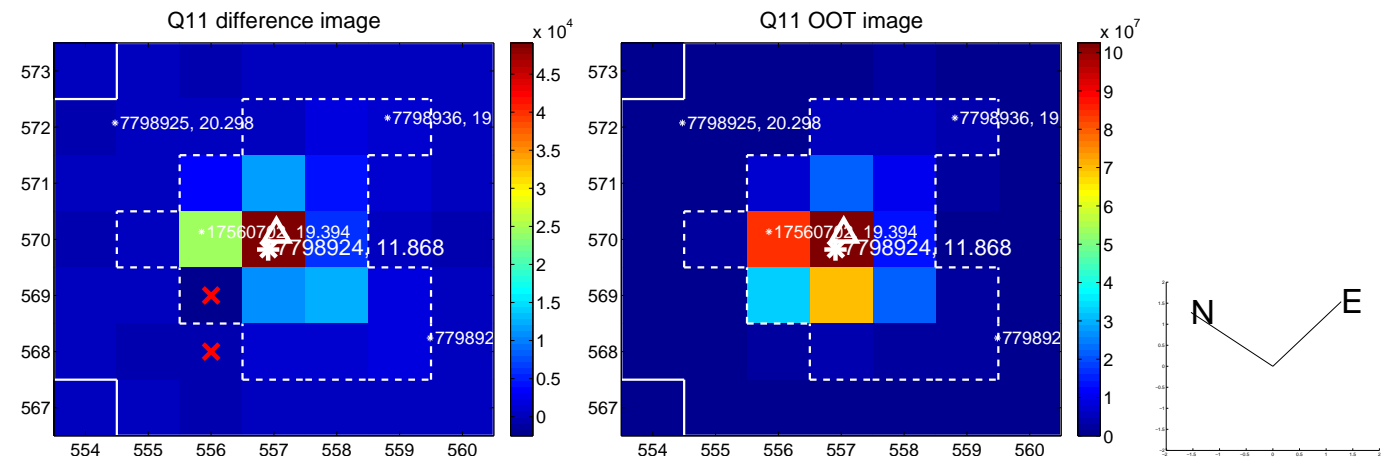
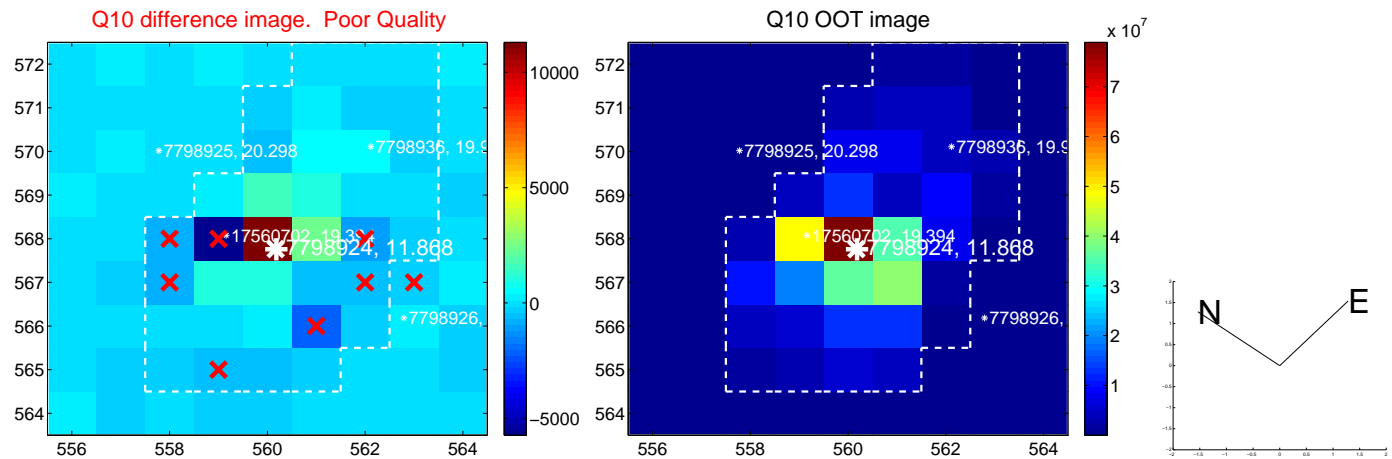
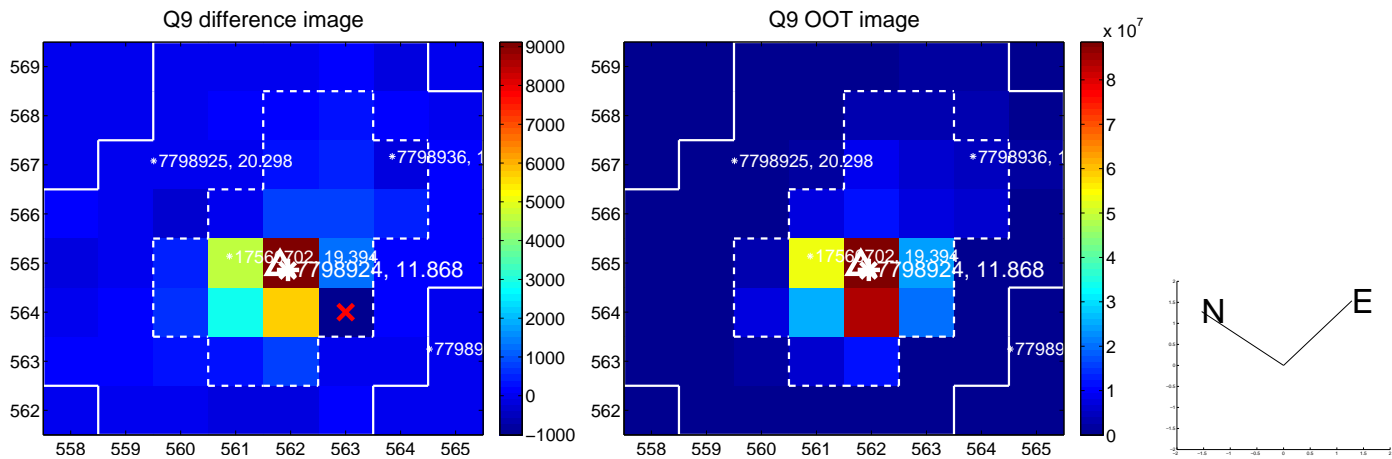
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

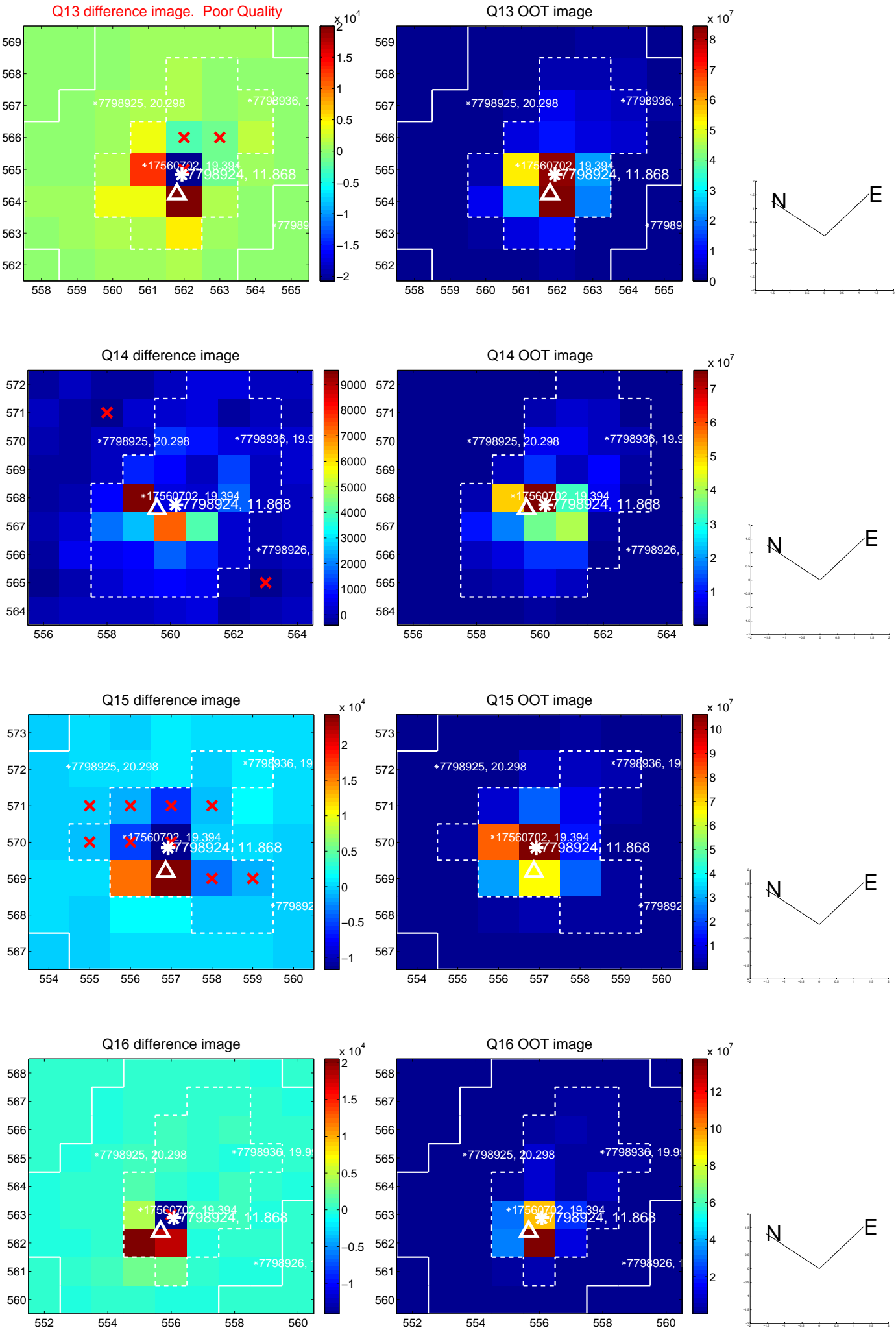


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

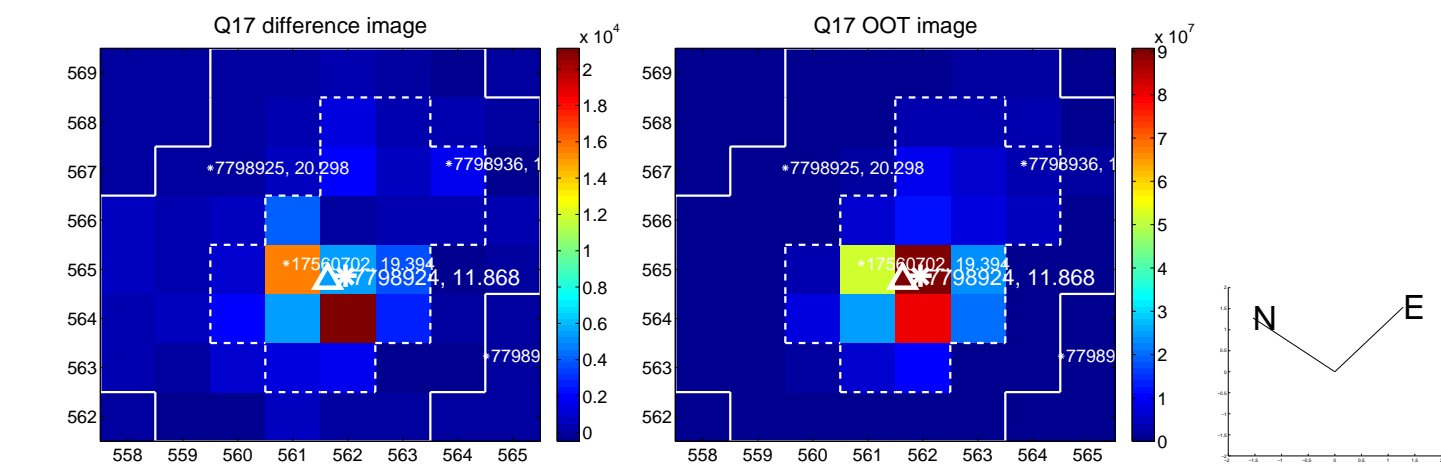




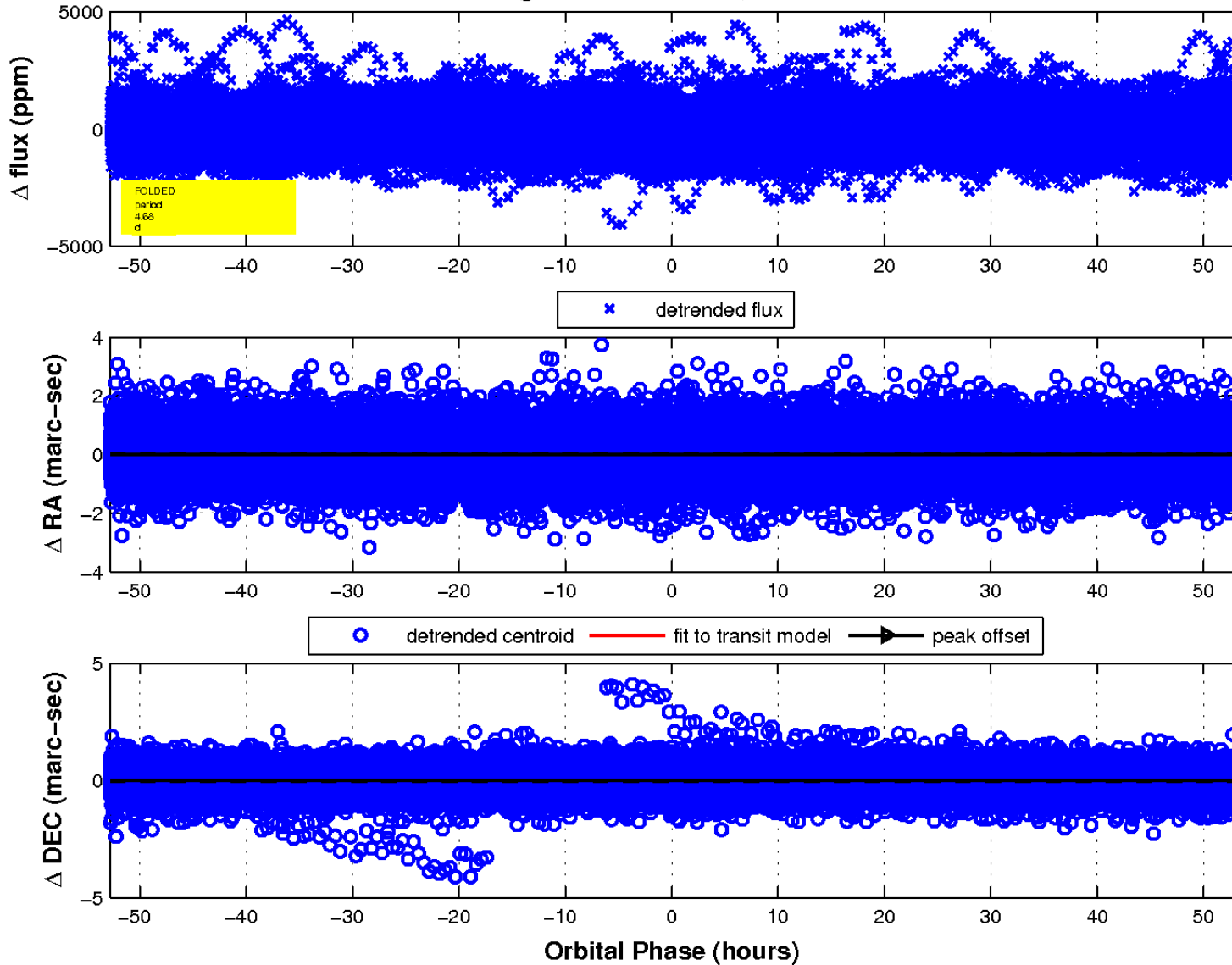
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

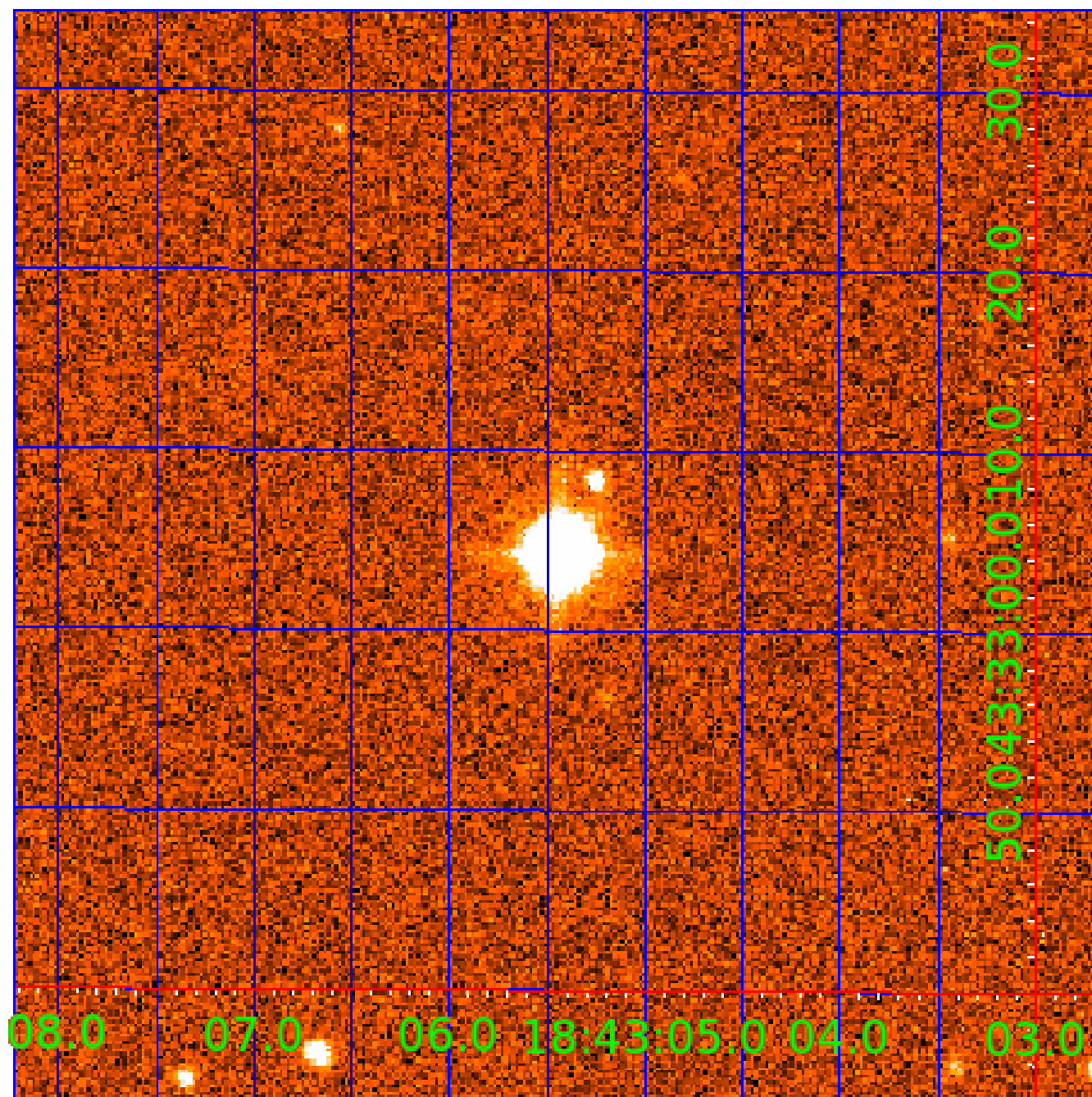


fluxWeightedCentroids, Planet 2 of 5



UKIRT Image

Declination



# KIC 007798924

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007798924-01	OBS	No	4.676320	131.712515	76.9	9.105	9.1	7.1	1.52	7219	1.55	1525.45
007798924-02	OBS	No	4.676657	133.712078	128.9	17.594	10.3	13.0	1.52	7219	2.19	1525.30
007798924-03	OBS	No	100.431930	195.719802	3891.8	8.961	32.1	17.7	1.52	7219	11.93	25.55
007798924-04	OBS	No	228.234004	203.503932	2760.8	8.777	17.4	11.5	1.52	7219	11.98	8.55
007798924-05	OBS	No	148.284619	167.797069	744.4	13.977	13.2	5.3	1.52	7219	4.64	15.20

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007798924-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_ALT—MOD_POS_ALT
007798924-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD
007798924-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
007798924-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007798924-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

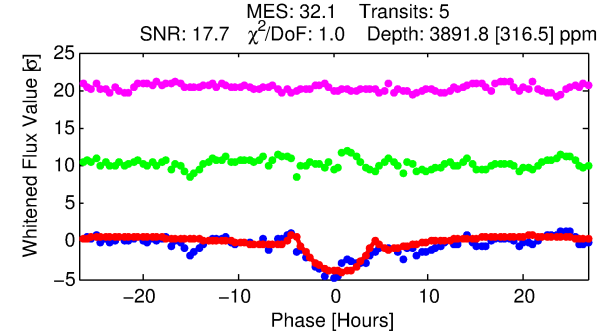
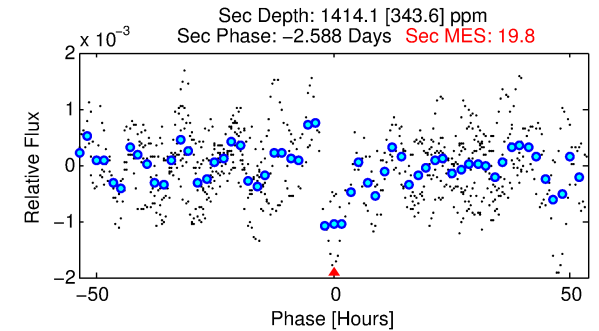
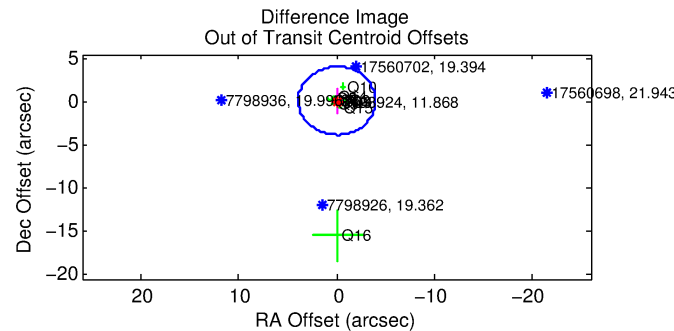
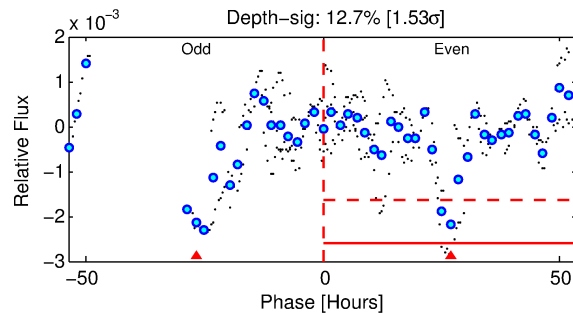
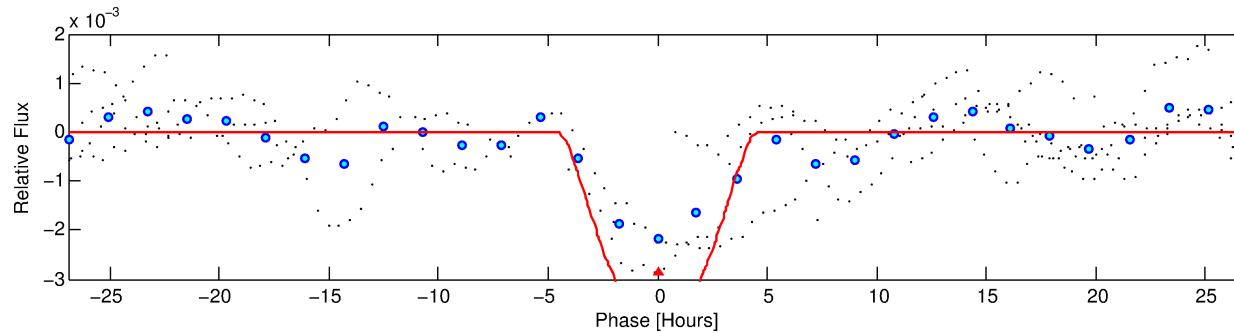
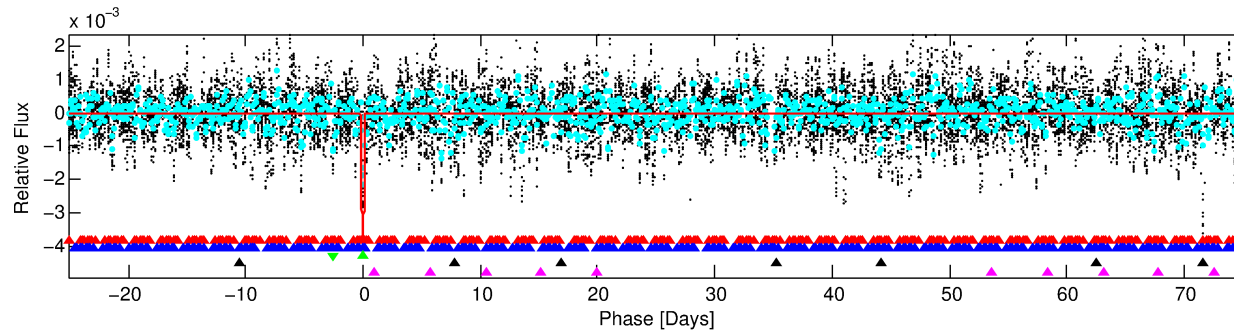
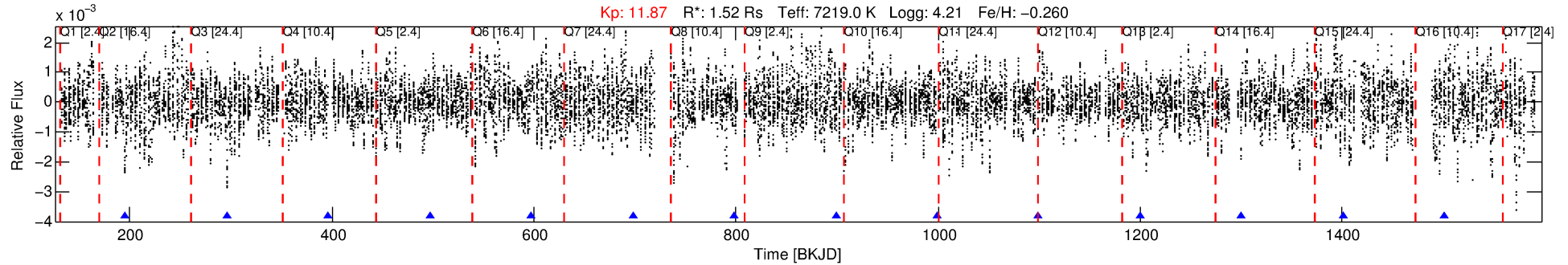
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007798924-03

No Significant Match Found

# DV One-Page Summary

KIC: 7798924 Candidate: 3 of 5 Period: 100.432 d



## DV Fit Results:

Period = 100.43193 [0.00142] d  
Epoch = 195.7198 [0.0077] BKJD  
Rp/R\* = 0.0718 [0.0096]  
a/R\* = 43.60 [3.00]  
b = 0.94 [0.02]  
Seff = 25.55 [10.22]  
Teq = 573 [57] K  
Rp = 11.93 [4.18] Re  
a = 0.4700 [0.1236] AU  
Ag = 1207.99 [623.81] [1.93 $\sigma$ ]  
Teff = 5226 [512] K [9.02 $\sigma$ ]

## DV Diagnostic Results:

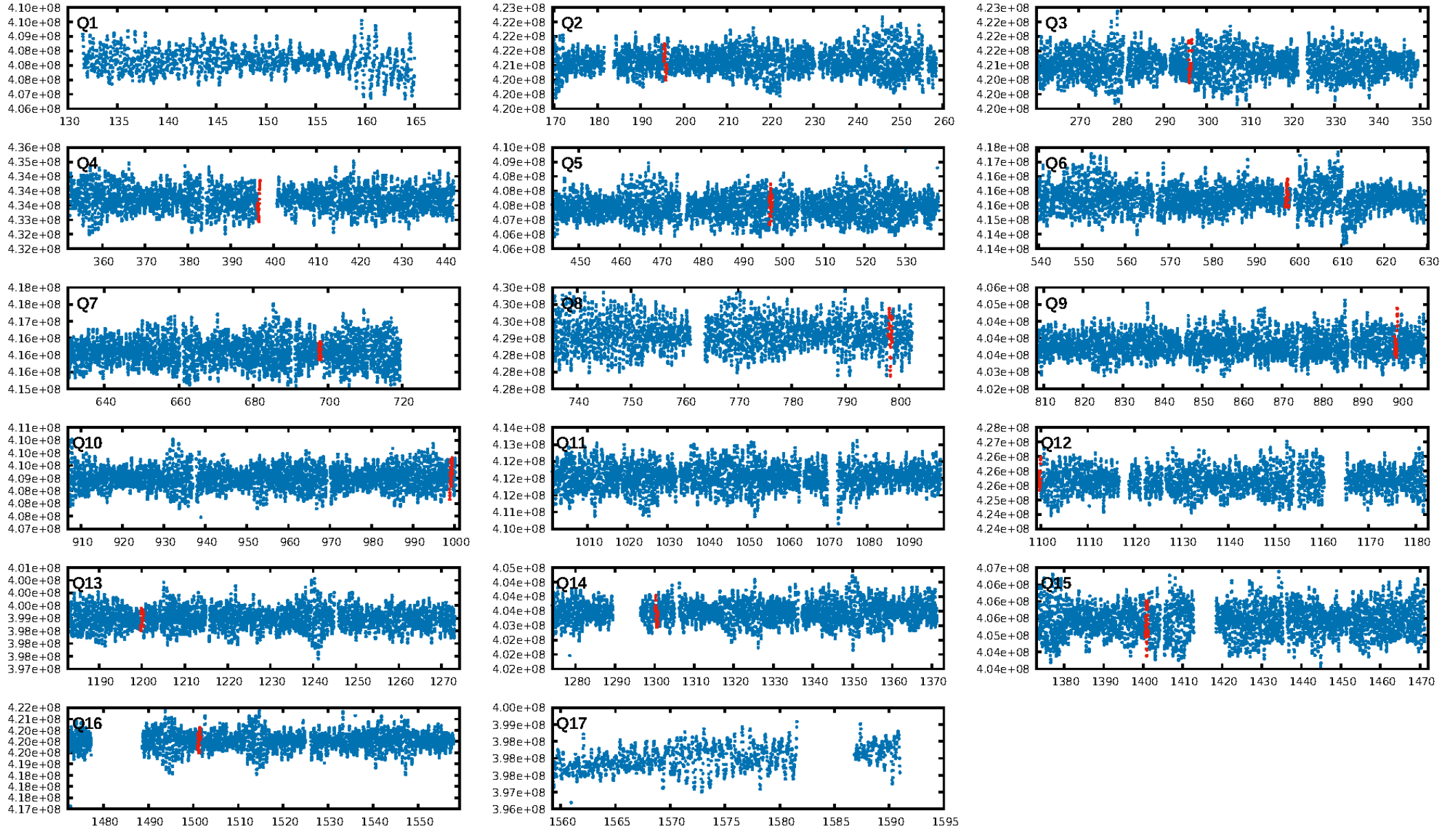
ShortPeriod-sig: 100.0% [116.39 $\sigma$ ]  
LongPeriod-sig: 100.0% [69.17 $\sigma$ ]  
ModelChiSquare2-sig: 0.8%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 2.12e-63  
RollingBand-fgt: 1.00 [5/5]  
GhostDiagnostic-chr: -4.737  
Centroid-sig: 2.2%  
Centroid-so: 0.115 arcsec [2.58 $\sigma$ ]  
OotOffset-rm: 0.130 arcsec [0.10 $\sigma$ ]  
OotOffset-st: 4/3/2/2 [11]  
KicOffset-rm: 0.132 arcsec [0.10 $\sigma$ ]  
KicOffset-st: 4/3/2/2 [11]  
DiffImageQuality-fgm: 0.55 [6/11]  
DiffImageOverlap-fno: 0.09 [1/11]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 03:56:38 Z

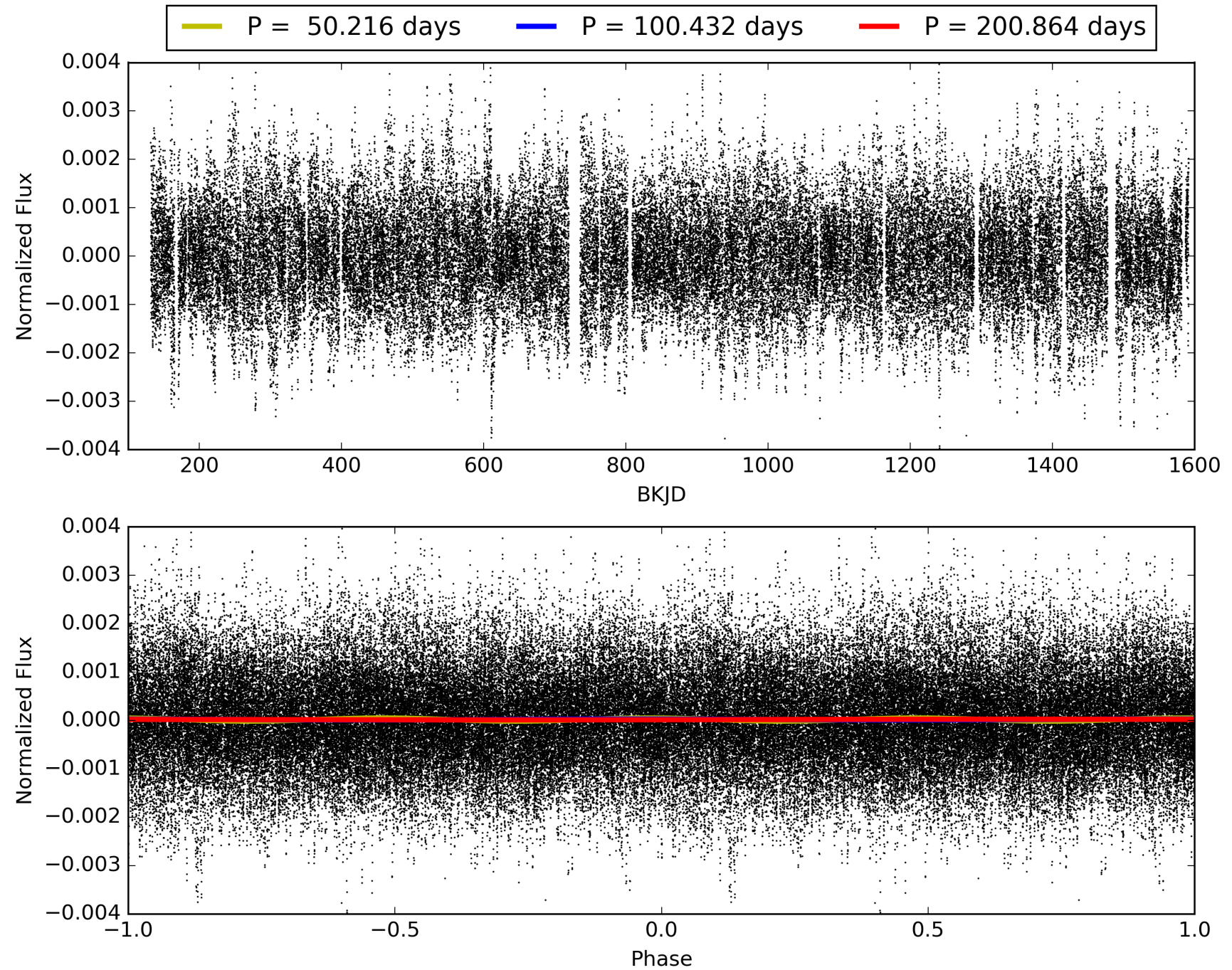
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center



# TCE 007798924-03, PDC Light Curves

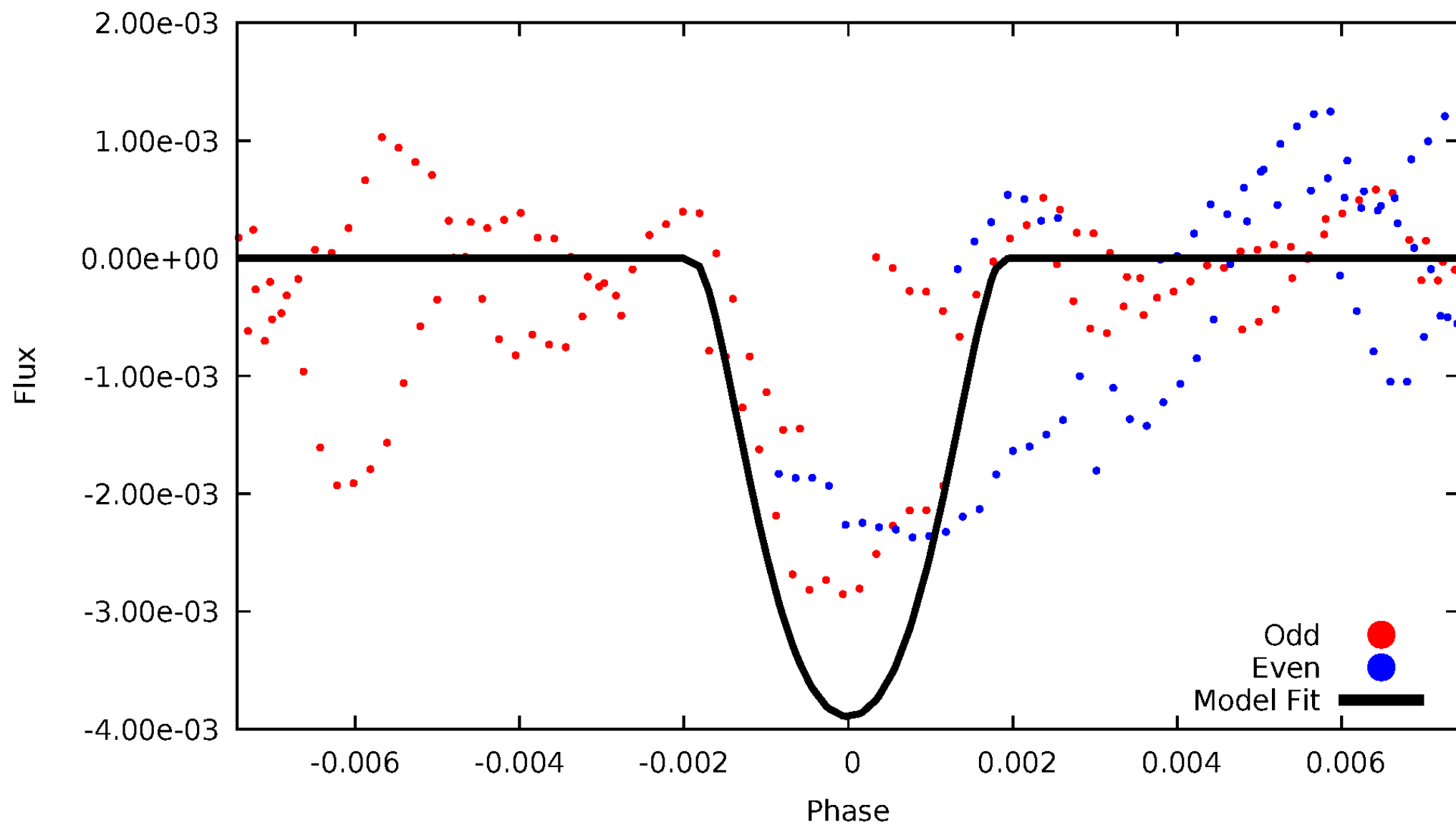


# TCE 007798924-03



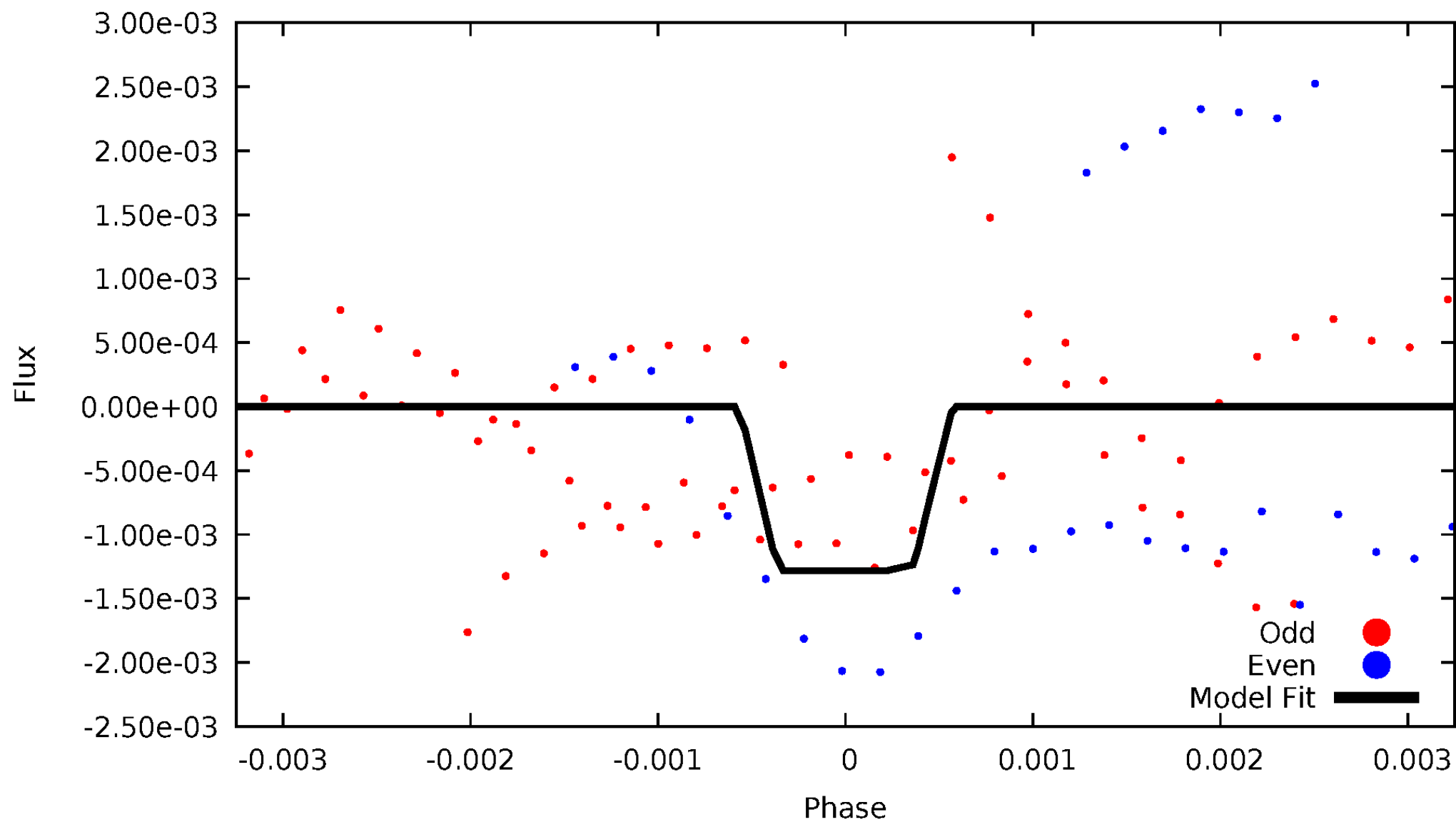
# DV Odd/Even

TCE 007798924-03



# ALT Odd/Even

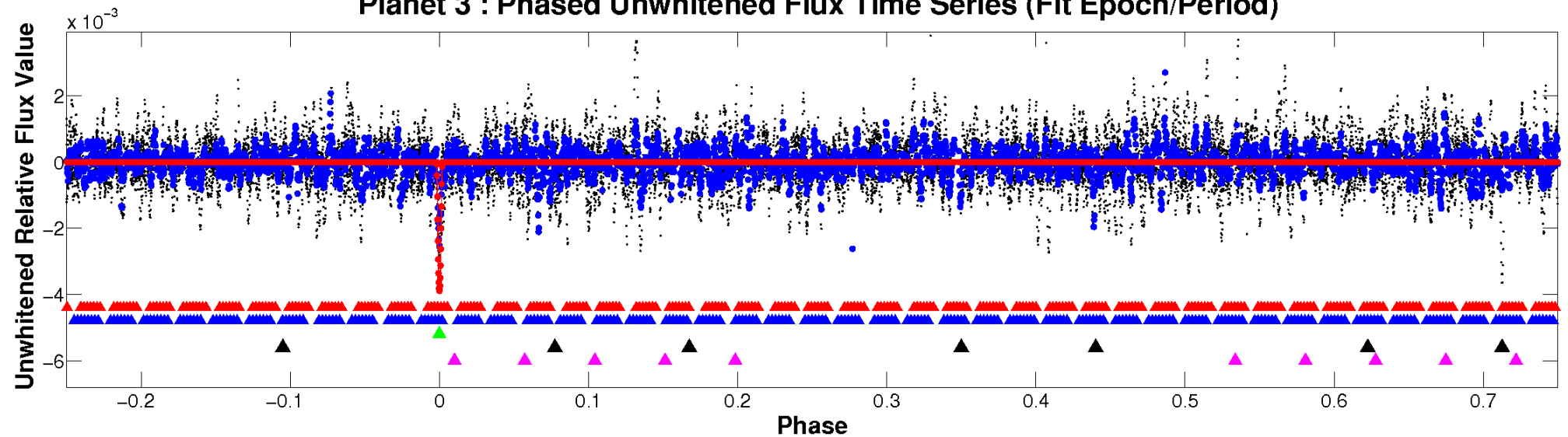
TCE 007798924-03



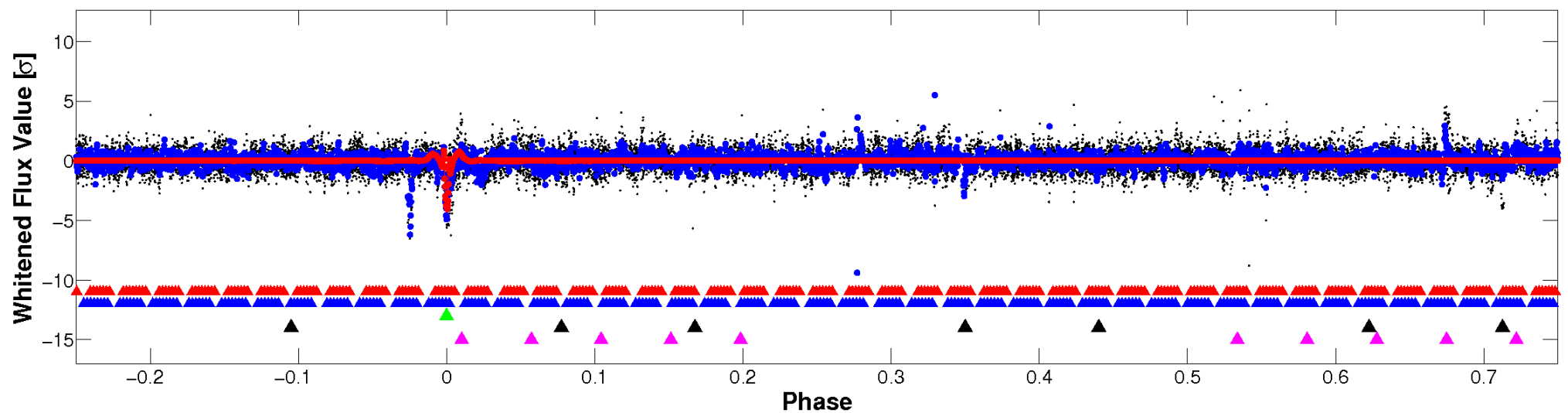


# Non-Whitened Vs. Whitened Light Curve

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

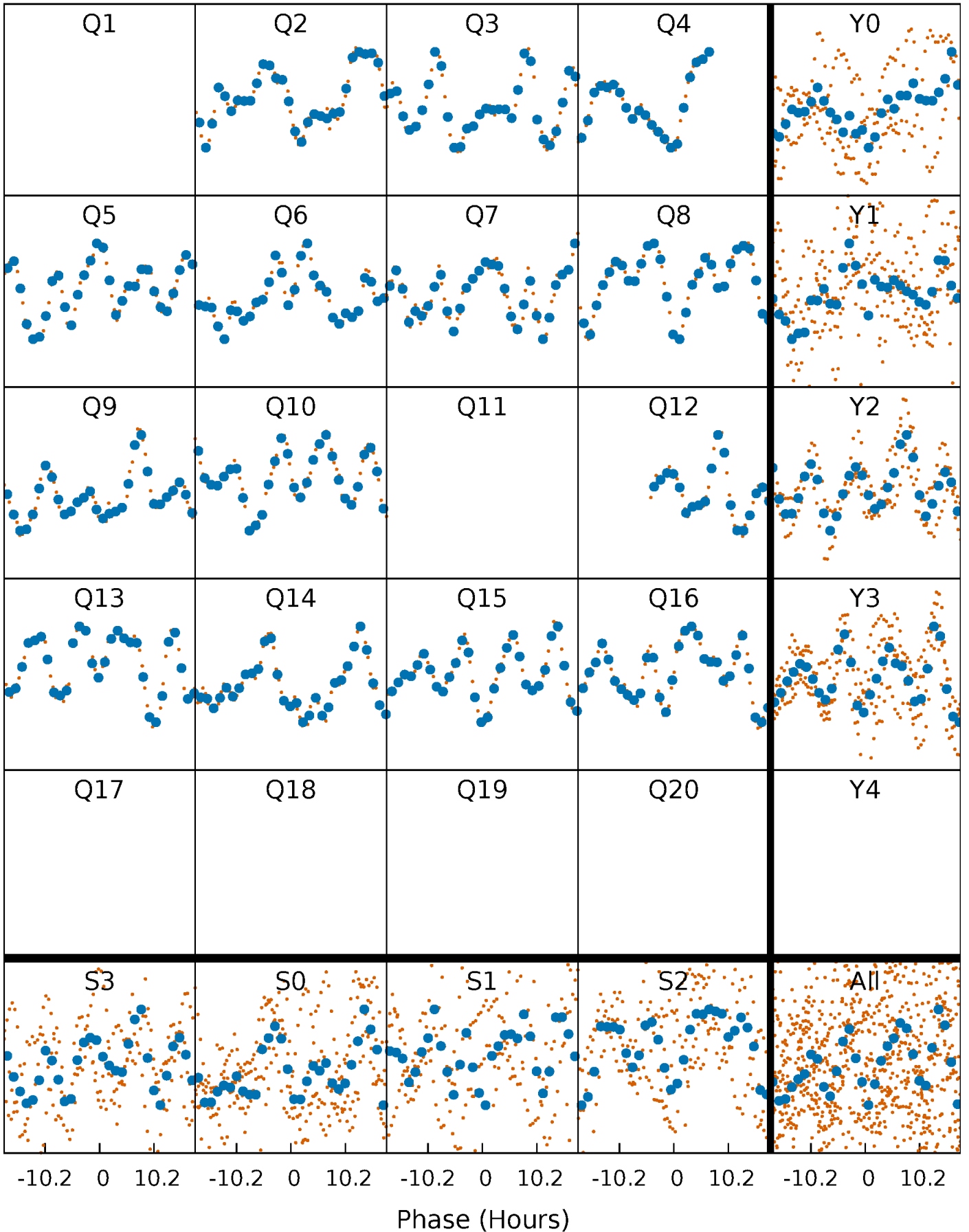


## Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



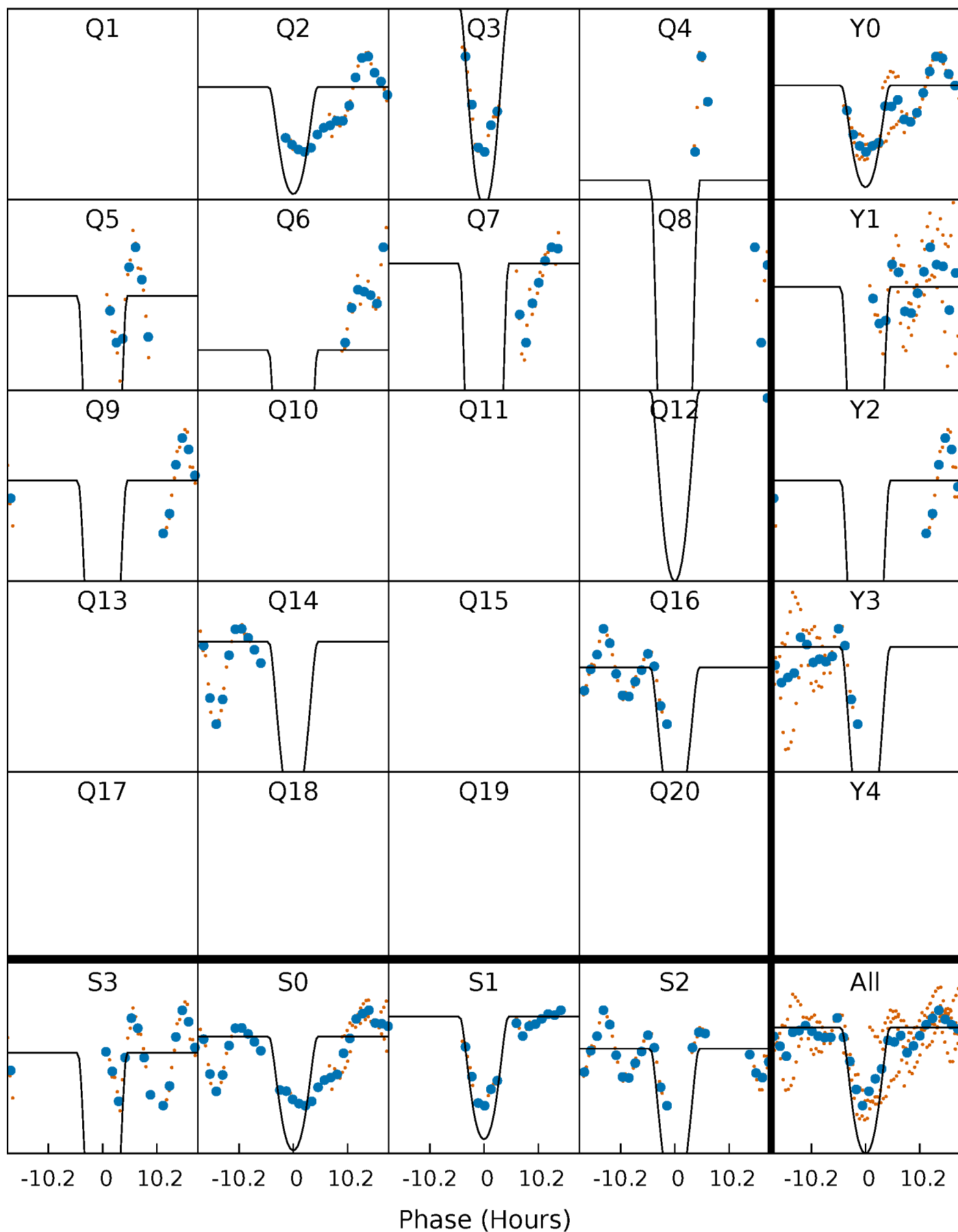
# PDC Quarter-Phased Transit Curves

TCE 007798924-03 P=100.431930 Days  $T_0=195.719802$  (BKJD)



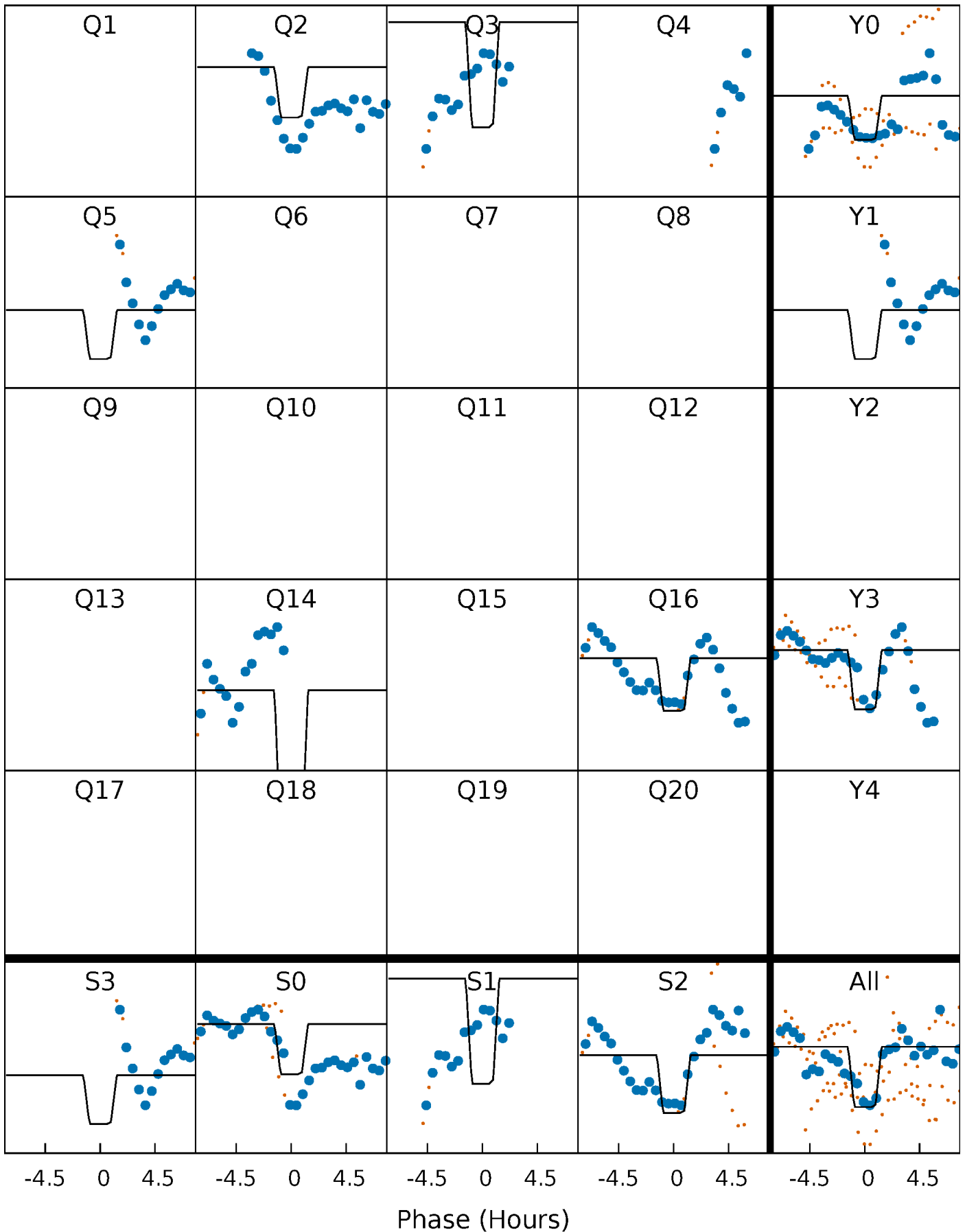
# DV Quarter-Phased Transit Curves

TCE 007798924-03 P=100.431930 Days  $T_0=195.719802$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 007798924-03 P=100.404279 Days  $T_0=195.779629$  (BKJD)

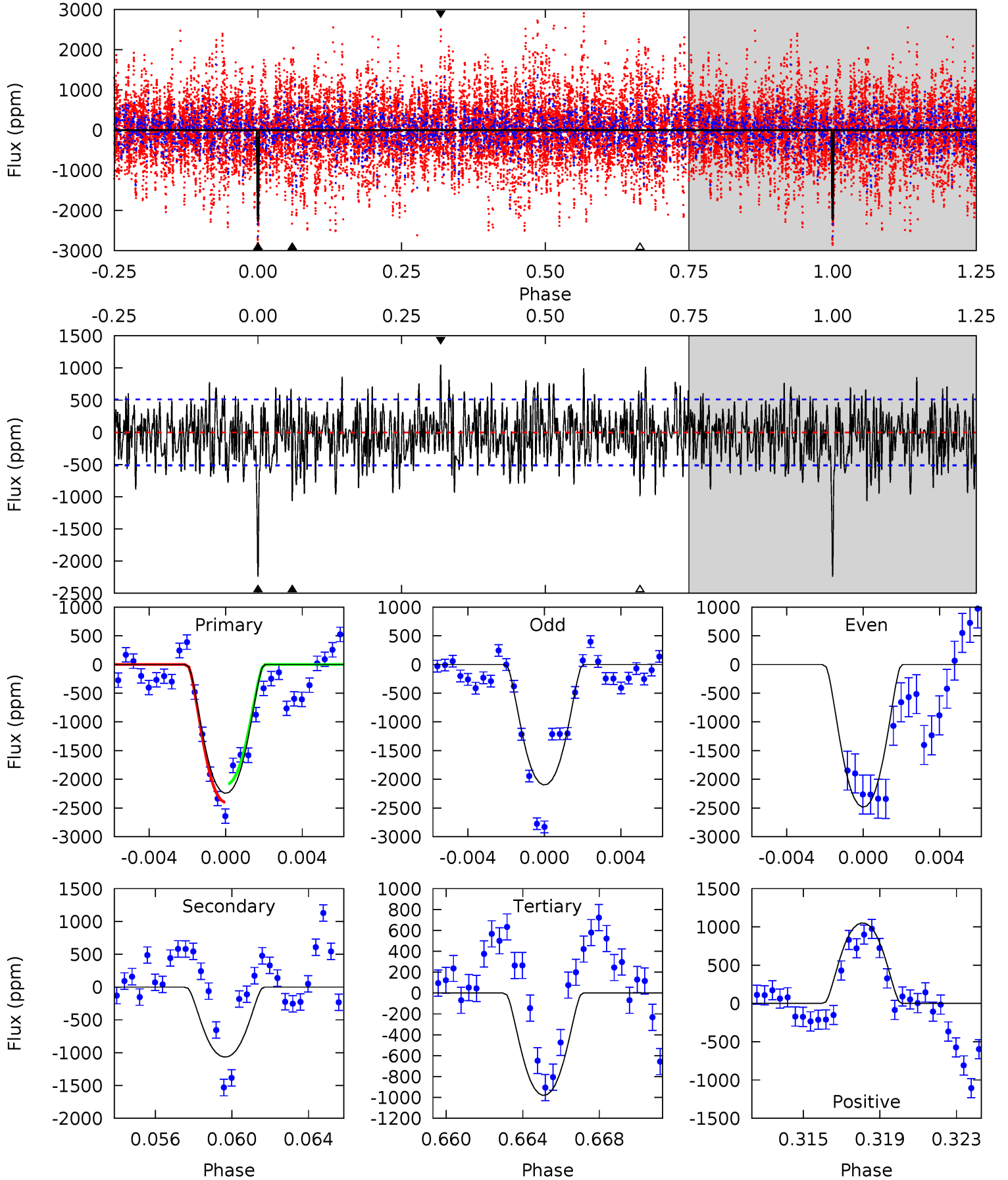




# DV Model-Shift Uniqueness Test

007798924-03, P = 100.431930 Days, E = 95.287872 Days

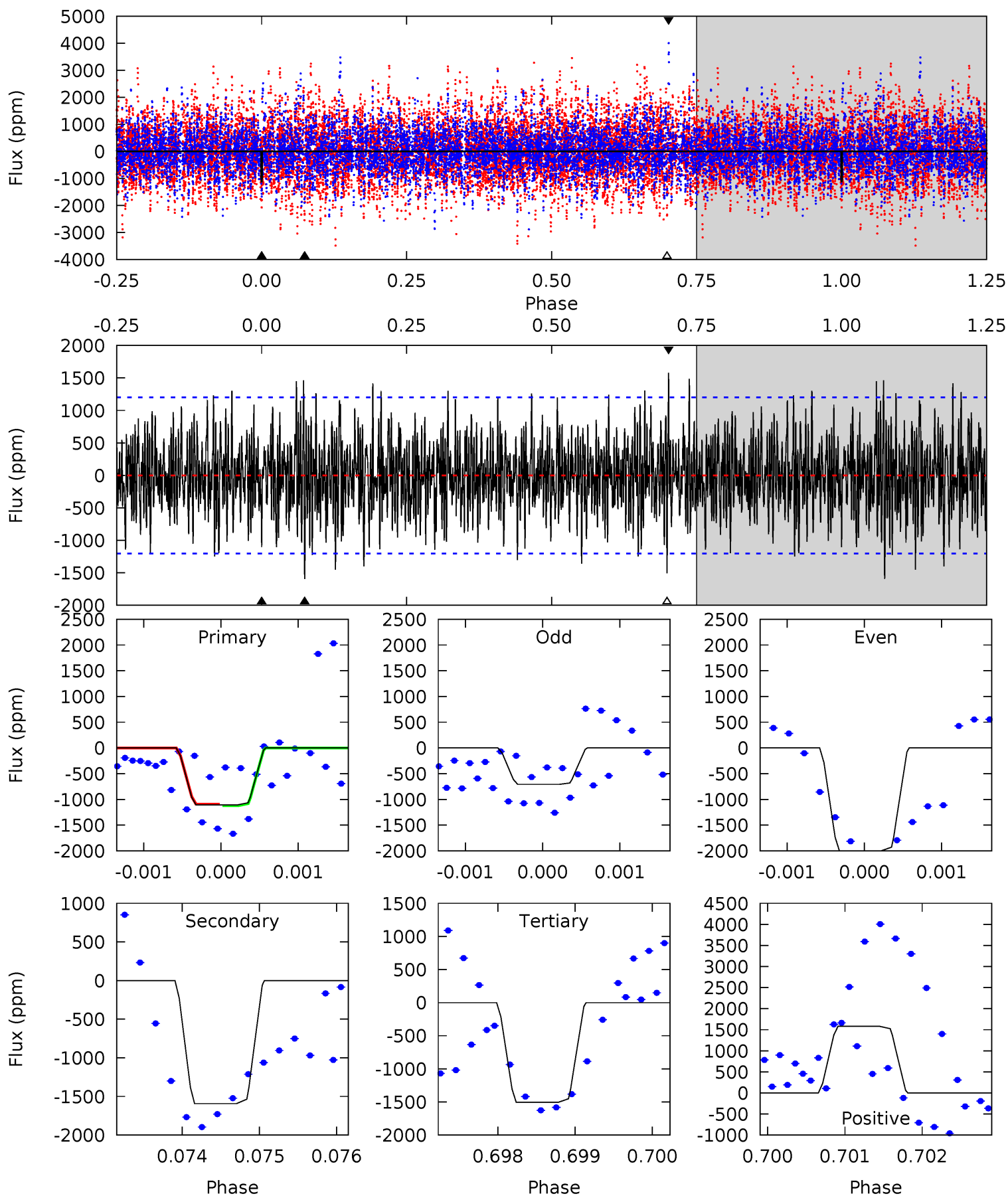
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.8	10.9	9.98	10.7	5.21	2.90	3.34	12.9	12.1	0.88	0.16	1.89	0.87	0.32	1.61



# Alt Model-Shift Uniqueness Test

007798924-03, P = 100.404279 Days, E = 95.375350 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.01	7.22	6.82	7.16	5.45	3.28	2.09	-1.81	-2.15	0.39	0.06	2.72	0.97	0.50	0.07



### Stellar Parameters For KIC 007798924

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7219^{+176}_{-277}$	$4.210^{+0.105}_{-0.195}$	$-0.260^{+0.250}_{-0.350}$	$1.523^{+0.494}_{-0.304}$	$1.377^{+0.222}_{-0.202}$	$0.549^{+0.320}_{-0.270}$
	+2%/-4%	+2%/-5%	+96%/-135%	+32%/-20%	+16%/-15%	+58%/-49%
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 007798924-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-1066 \pm 98$	$12.17^{+2.70}_{-2.09}$	$810^{+61}_{-50}$	$4914^{+364}_{-278}$	$859^{+387}_{-259}$
Alt.	$-1593 \pm 221$	$6.04^{+1.85}_{-1.74}$	$808^{+58}_{-50}$	$7686^{+1743}_{-1024}$	$5402^{+4862}_{-2387}$

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

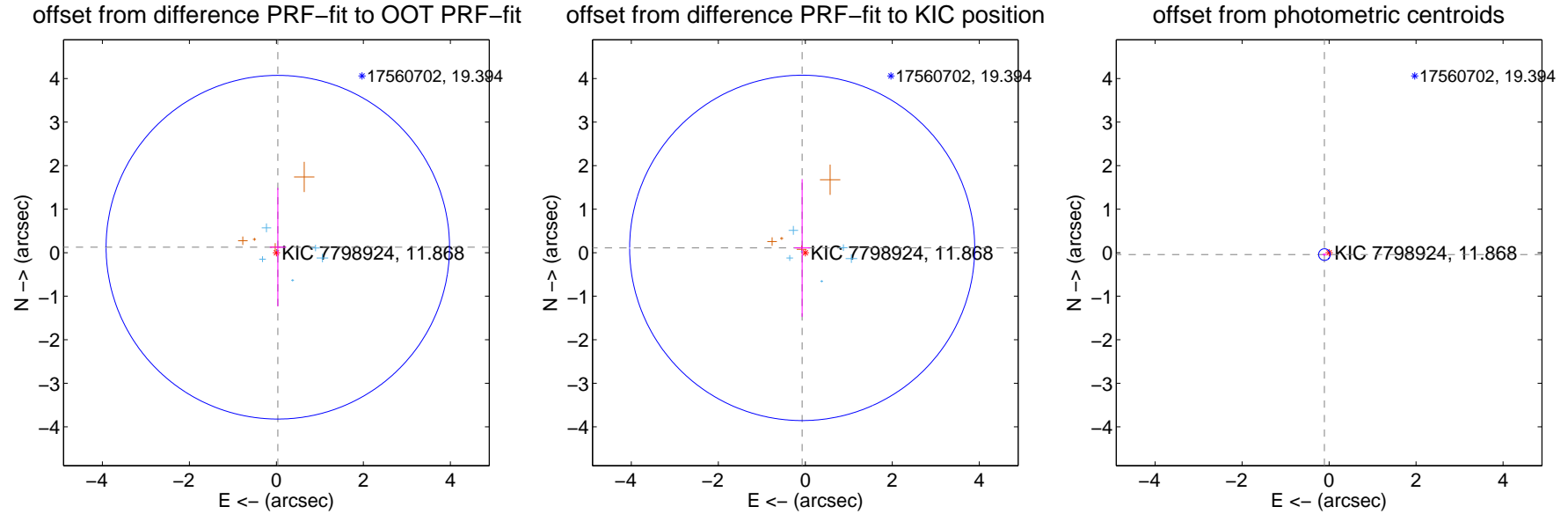
## DV Centroid Data

Supplemental centroid analysis for 007798924-03. **Kepler magnitude: 11.87.** Transit SNR 17.73

There are 6 quarters with good PRF difference image offsets

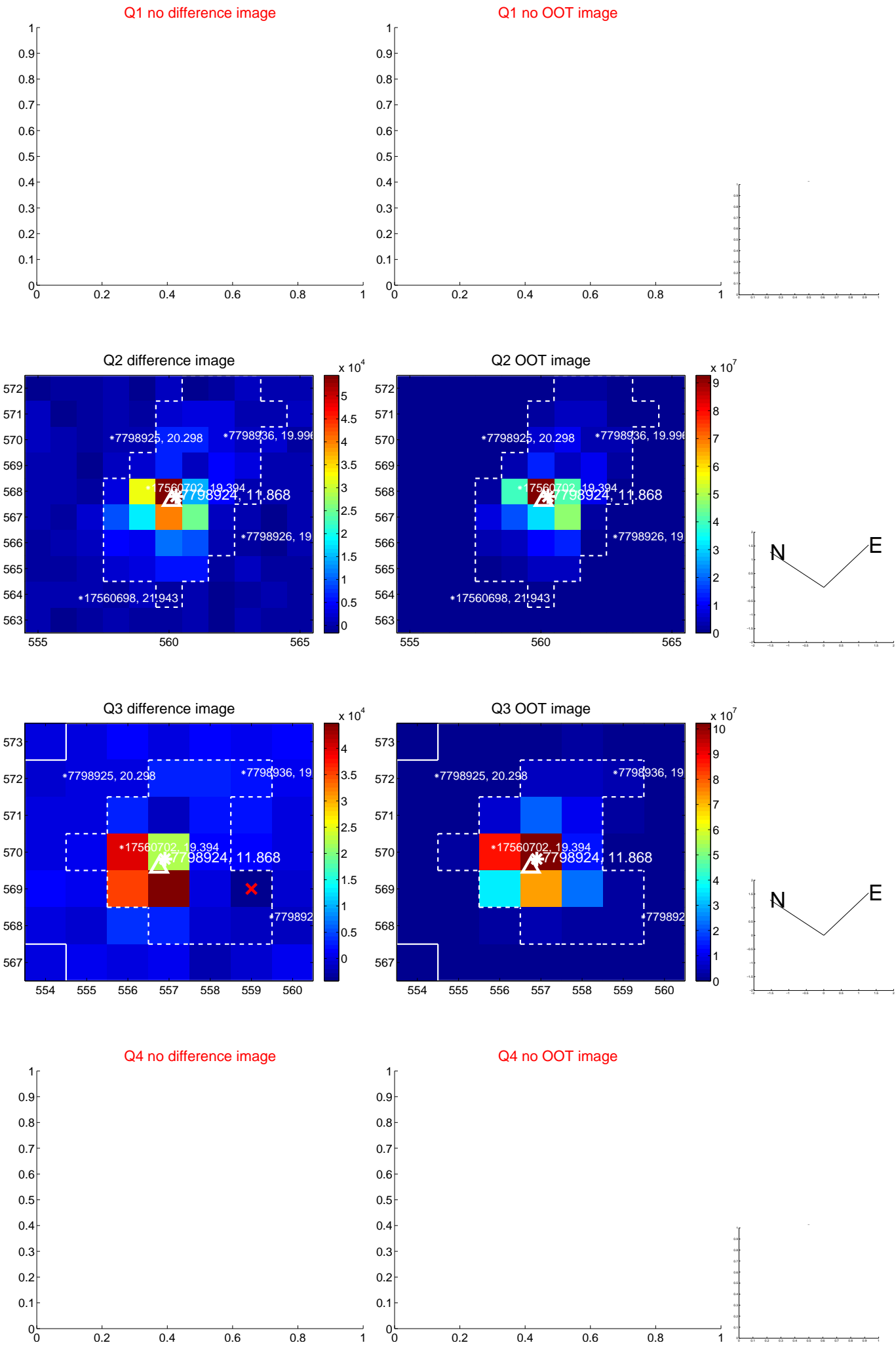
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.130 \pm 1.316$	0.10	$-0.033 \pm 0.185$	$0.126 \pm 1.361$
PRF-fit source offset from KIC position	$0.132 \pm 1.322$	0.10	$0.072 \pm 0.180$	$0.110 \pm 1.581$
photometric centroid source offset	$0.12 \pm 0.04$	2.58	$0.11 \pm 0.05$	$-0.04 \pm 0.03$



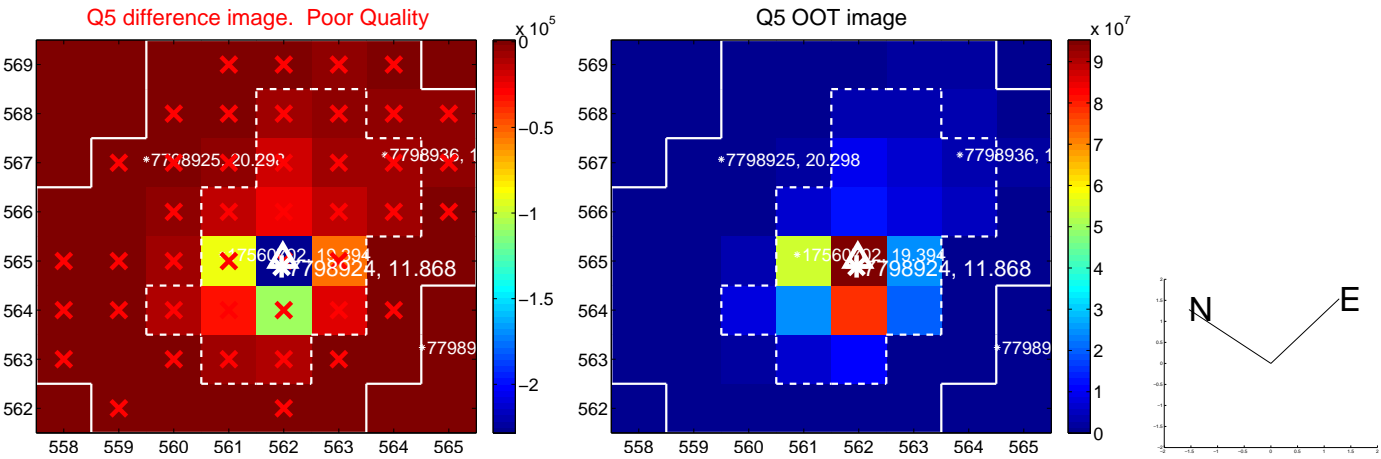
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: 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  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

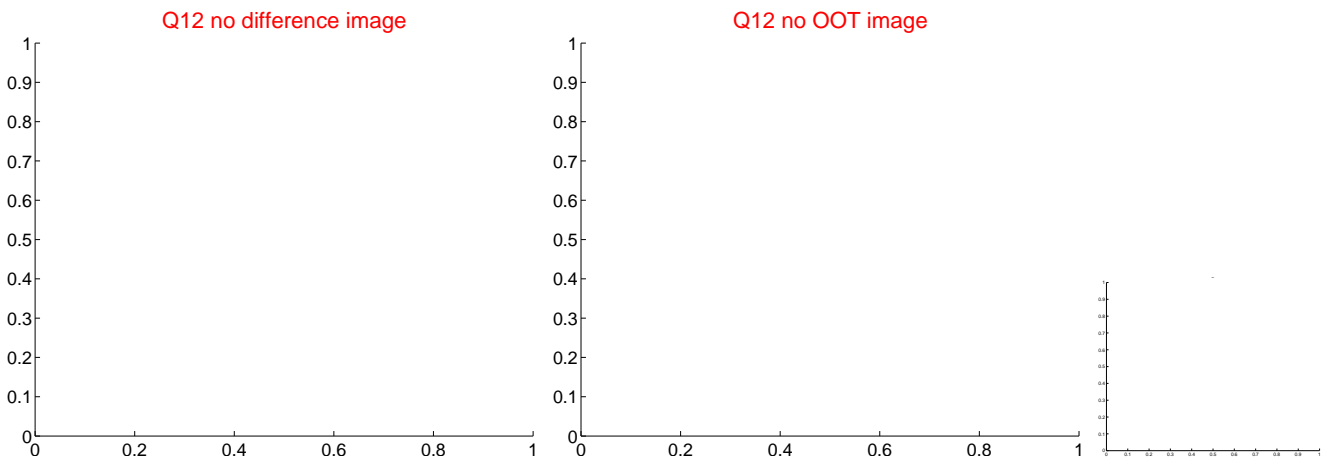
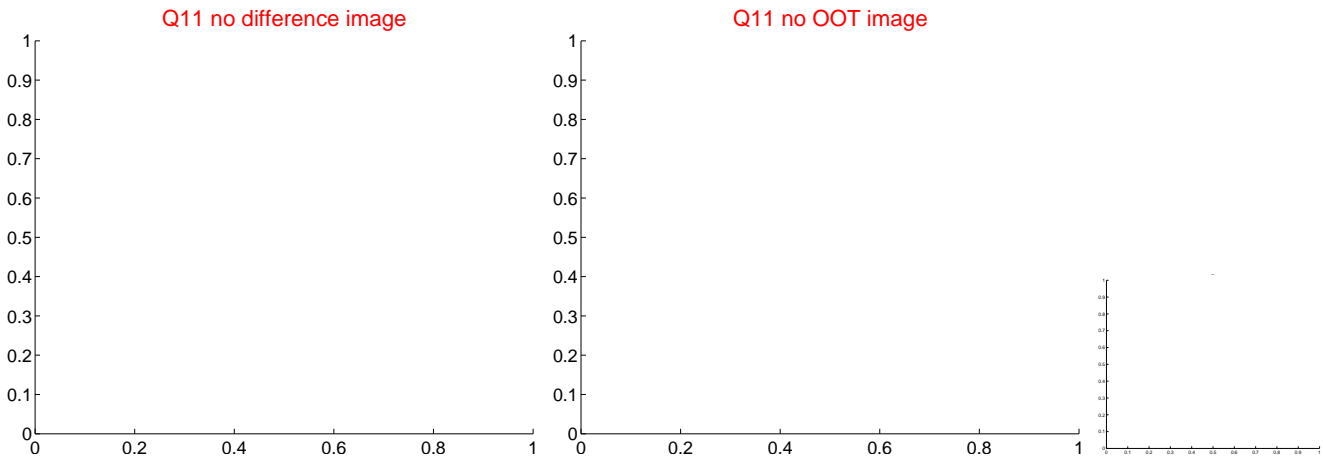
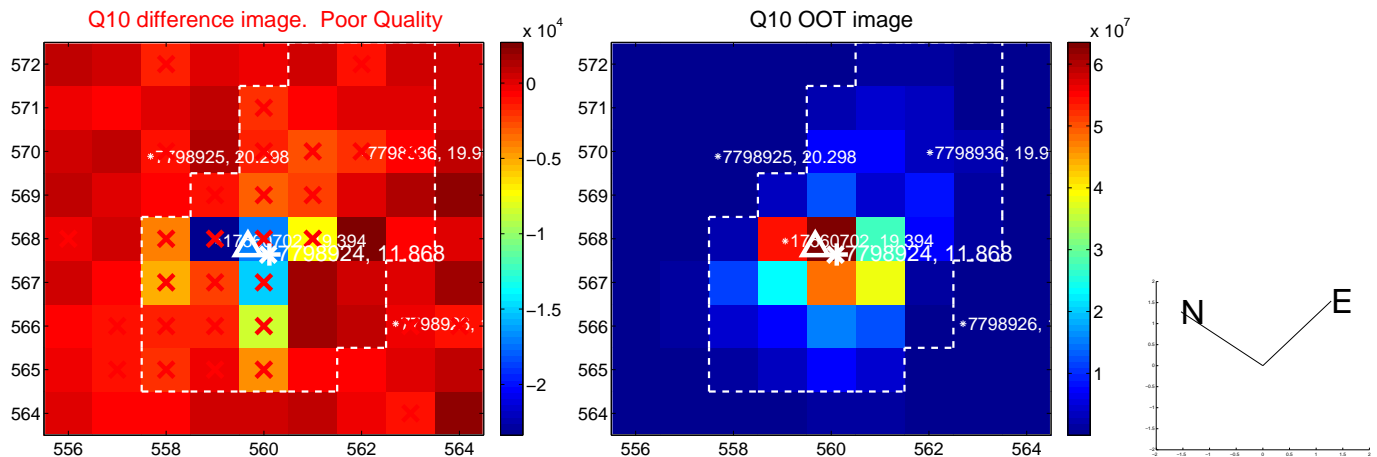
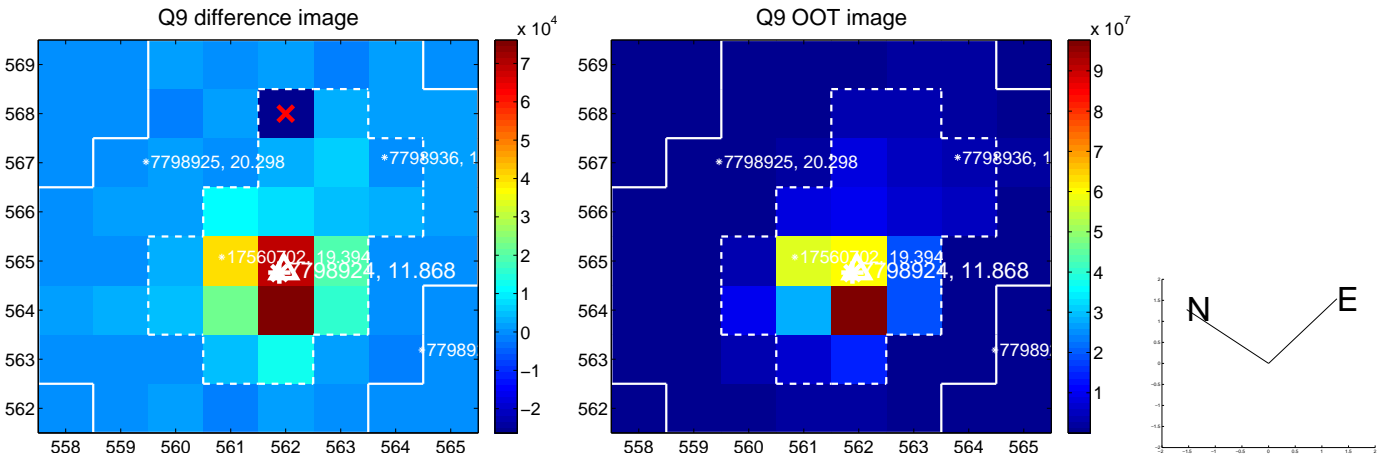




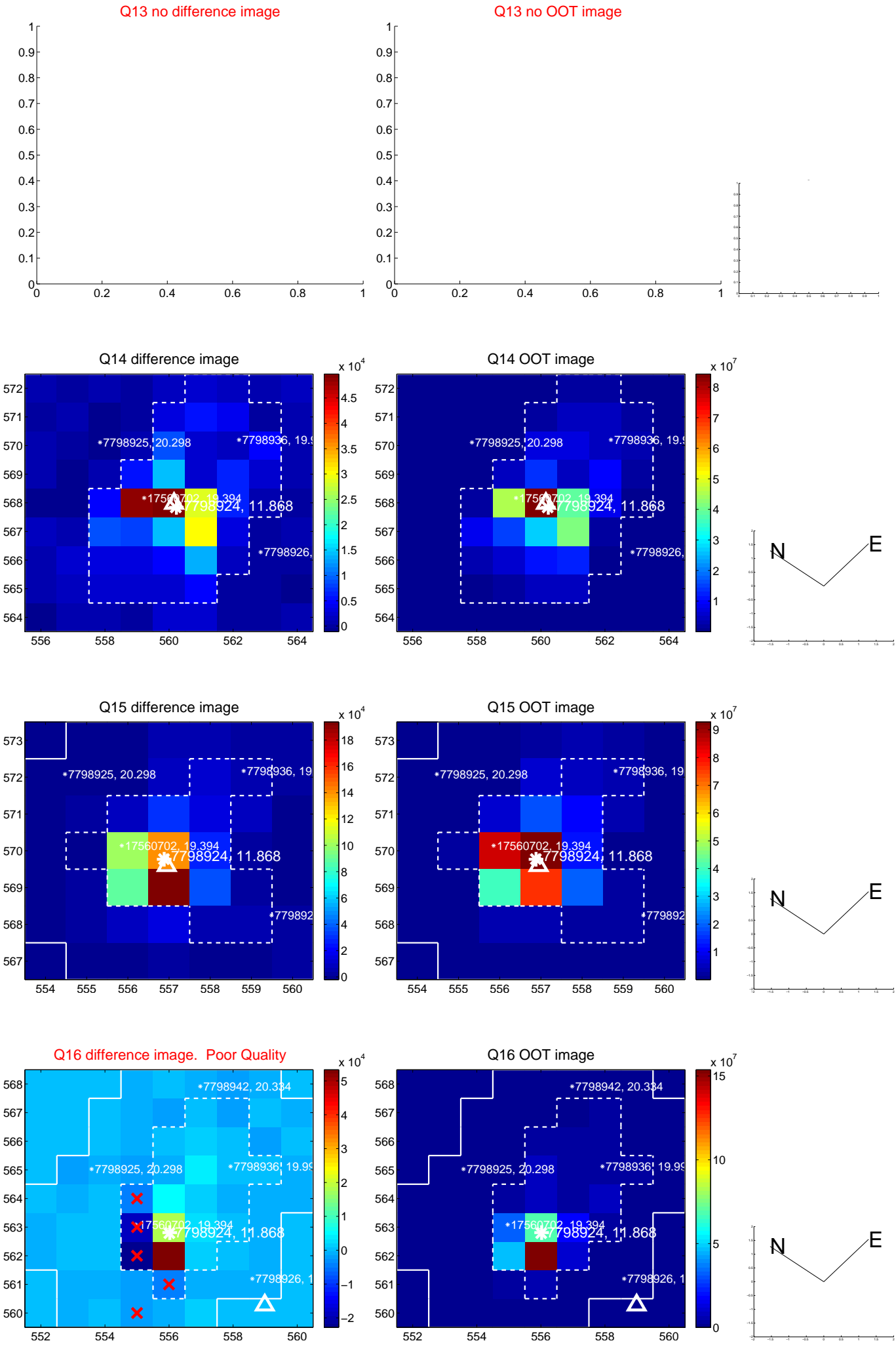
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



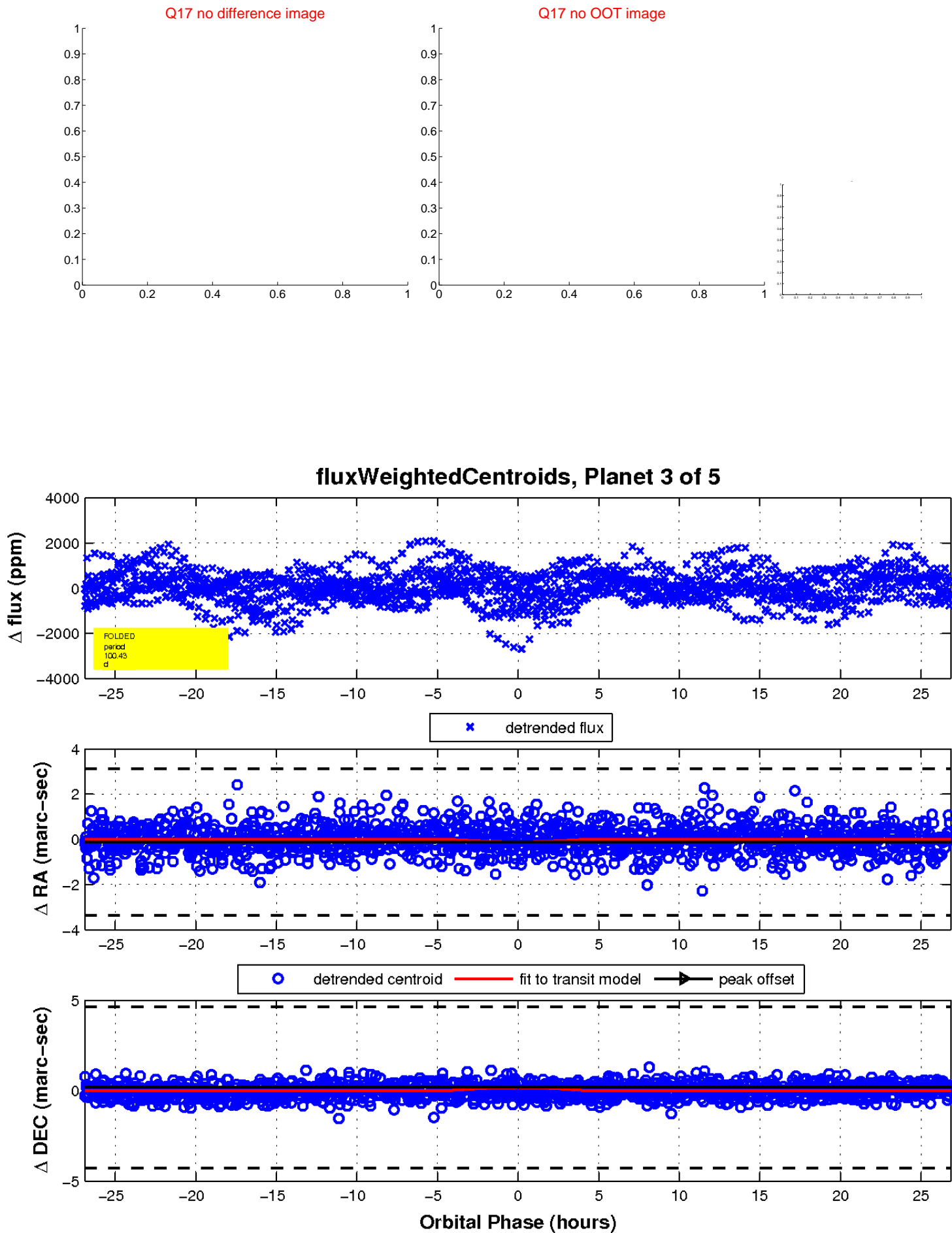
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

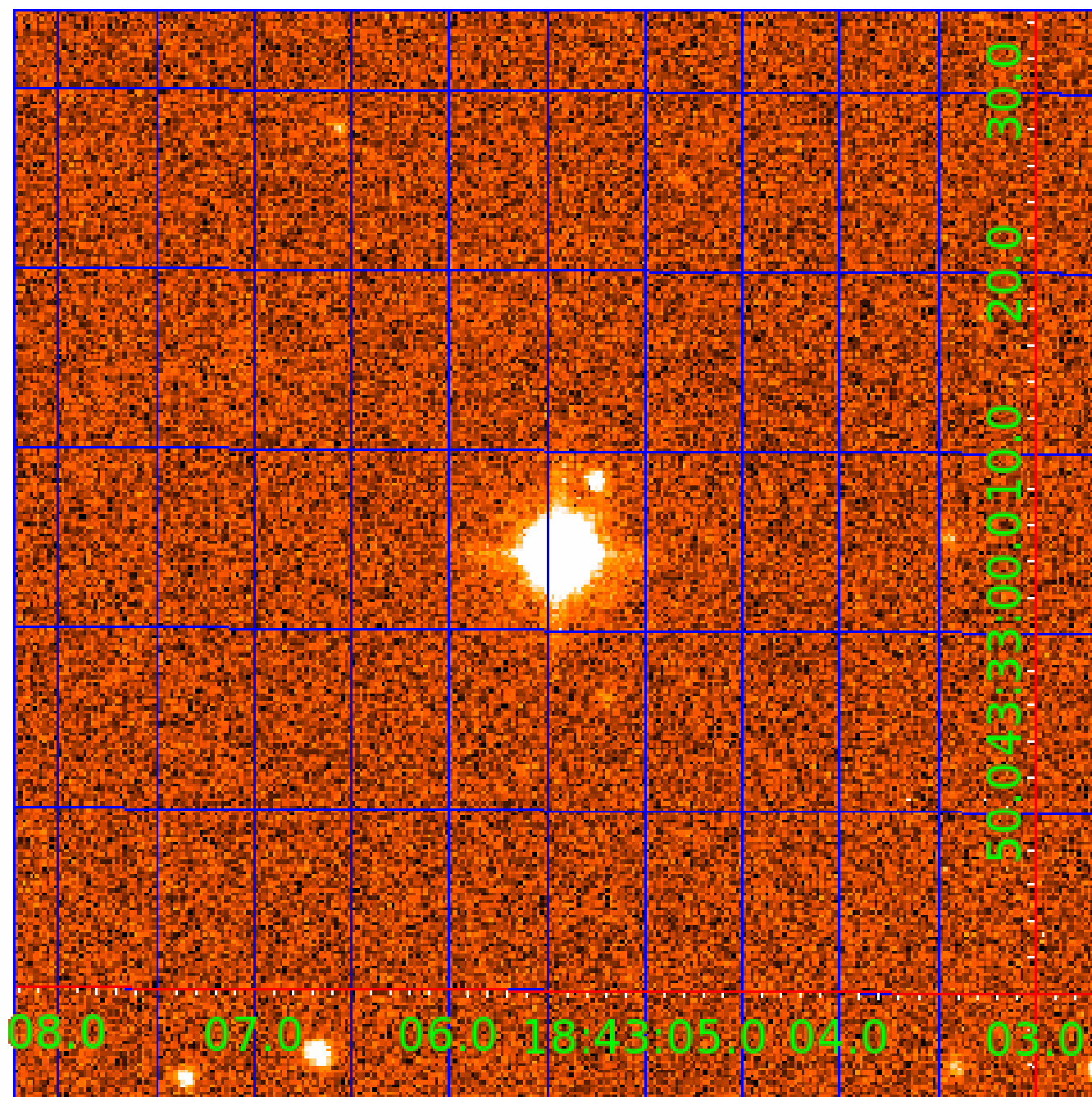


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



# UKIRT Image

Declination





# KIC 007798924

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007798924-01	OBS	No	4.676320	131.712515	76.9	9.105	9.1	7.1	1.52	7219	1.55	1525.45
007798924-02	OBS	No	4.676657	133.712078	128.9	17.594	10.3	13.0	1.52	7219	2.19	1525.30
007798924-03	OBS	No	100.431930	195.719802	3891.8	8.961	32.1	17.7	1.52	7219	11.93	25.55
007798924-04	OBS	No	228.234004	203.503932	2760.8	8.777	17.4	11.5	1.52	7219	11.98	8.55
007798924-05	OBS	No	148.284619	167.797069	744.4	13.977	13.2	5.3	1.52	7219	4.64	15.20

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007798924-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_ALT—MOD_POS_ALT
007798924-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD
007798924-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
007798924-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007798924-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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

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

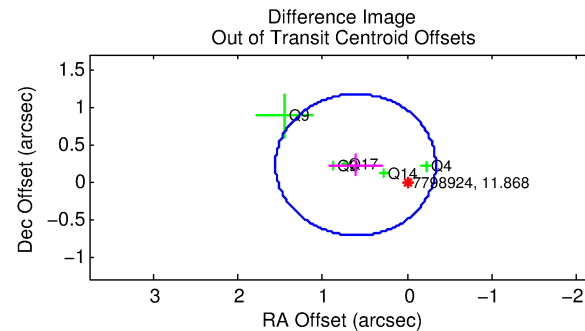
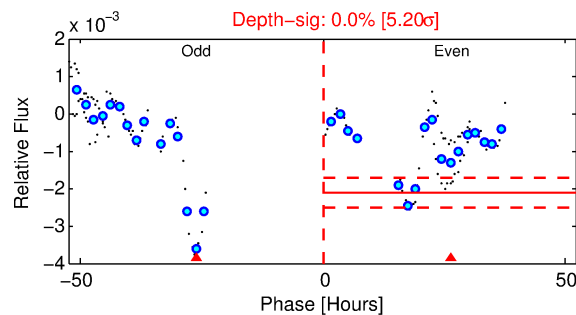
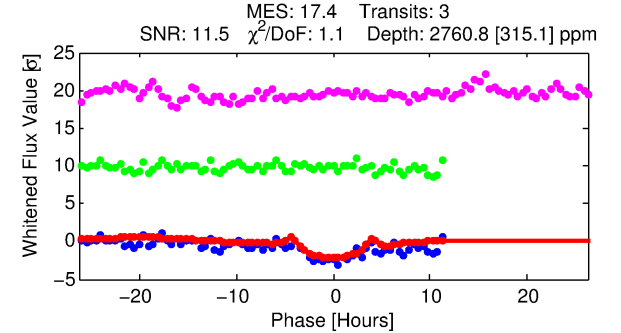
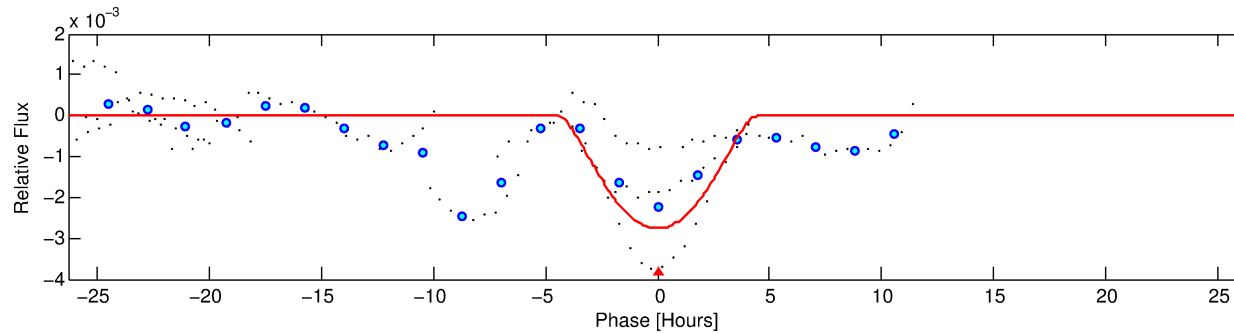
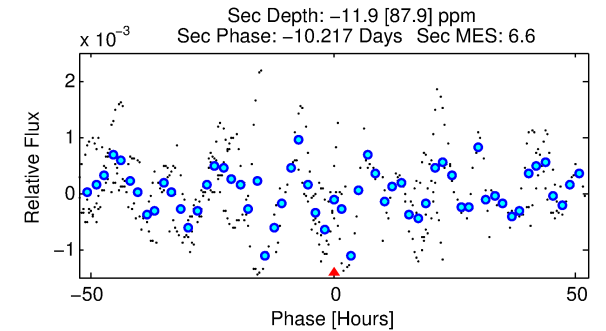
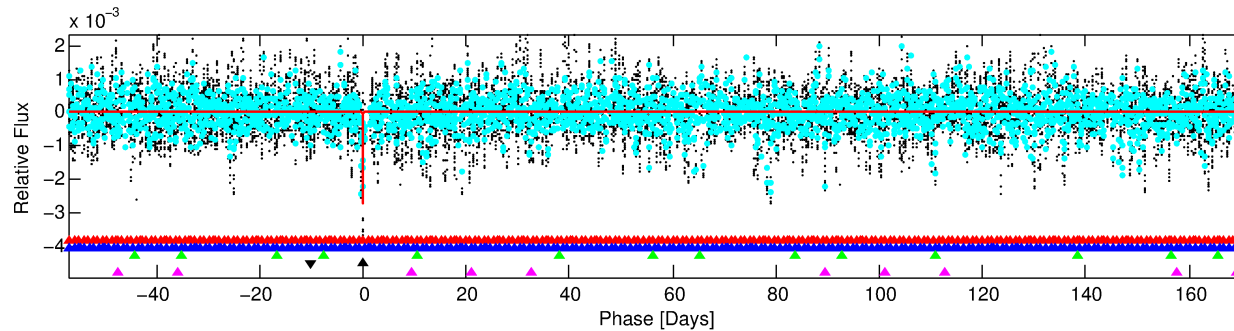
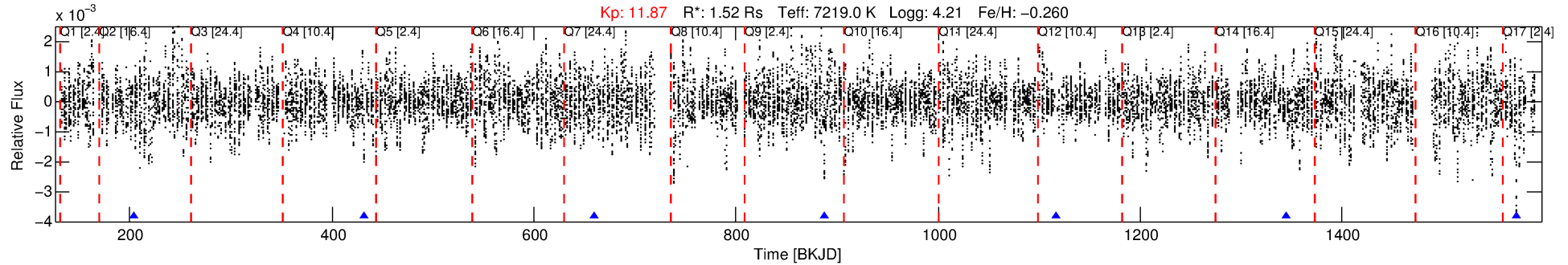
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007798924-04

No Significant Match Found

# DV One-Page Summary

KIC: 7798924 Candidate: 4 of 5 Period: 228.234 d



## DV Fit Results:

Period = 228.23400 [0.00480] d  
Epoch = 203.5039 [0.0142] BKJD  
Rp/R\* = 0.0721 [0.0453]  
a/R\* = 88.10 [15.06]  
b = 0.98 [0.08]  
Seff = 8.55 [3.42]  
Teq = 436 [44] K  
Rp = 11.98 [8.47] Re  
a = 0.8124 [0.2136] AU  
Ag = N/A  
Teffp = N/A

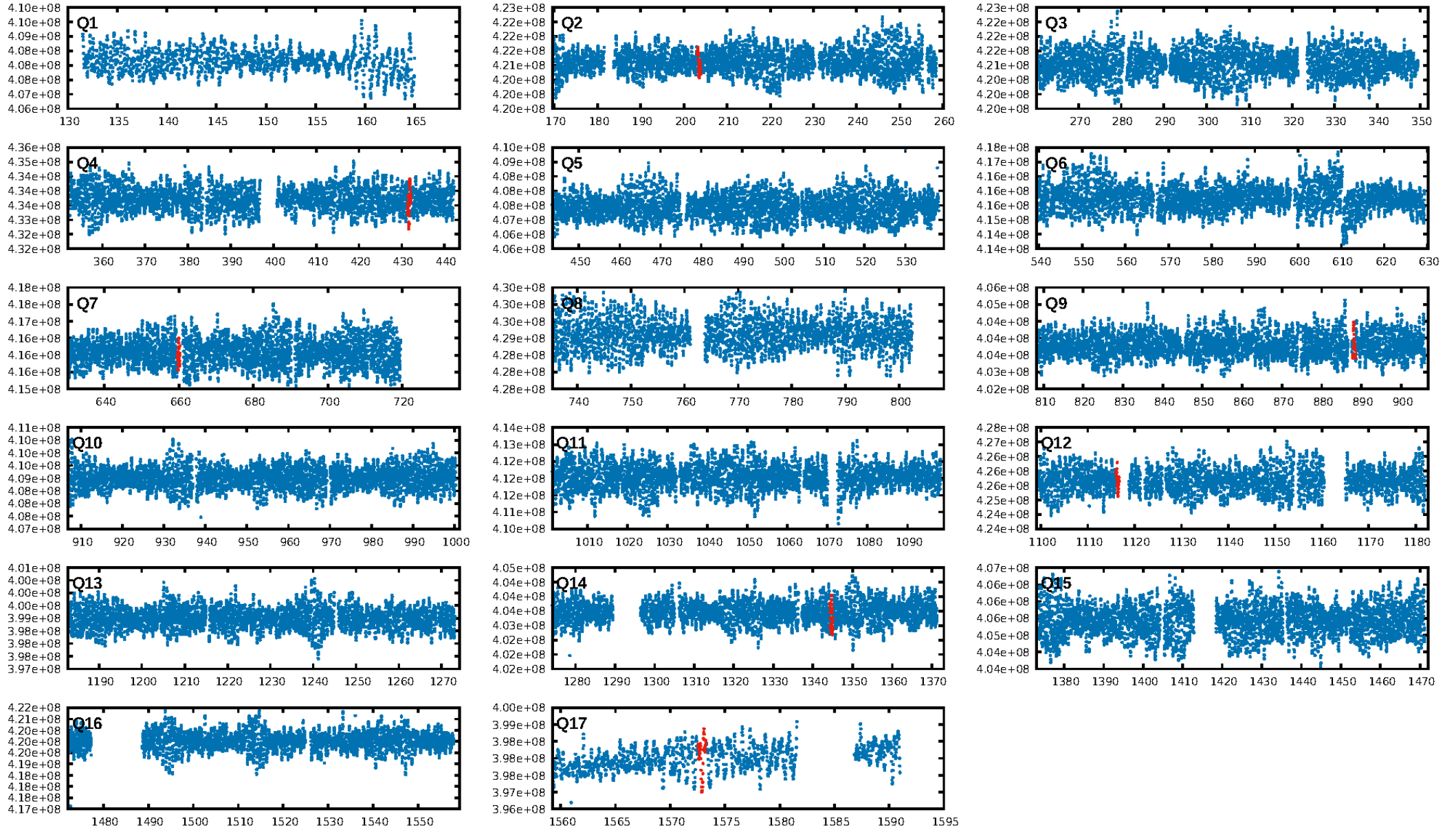
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [116.26σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 71.5%  
Bootstrap-pfa: 9.00e-44  
RollingBand-fgt: 1.00 [2/2]  
GhostDiagnostic-chr: 0.4397  
Centroid-sig: 31.5%  
Centroid-so: 0.023 arcsec [0.27σ]  
OotOffset-rm: 0.647 arcsec [2.05σ]  
KicOffset-rm: 0.696 arcsec [2.81σ]  
OotOffset-st: 2/0/1/2 [5]  
KicOffset-st: 2/0/1/2 [5]  
DiffImageQuality-fgm: 0.60 [3/5]  
DiffImageOverlap-fno: 0.40 [2/5]

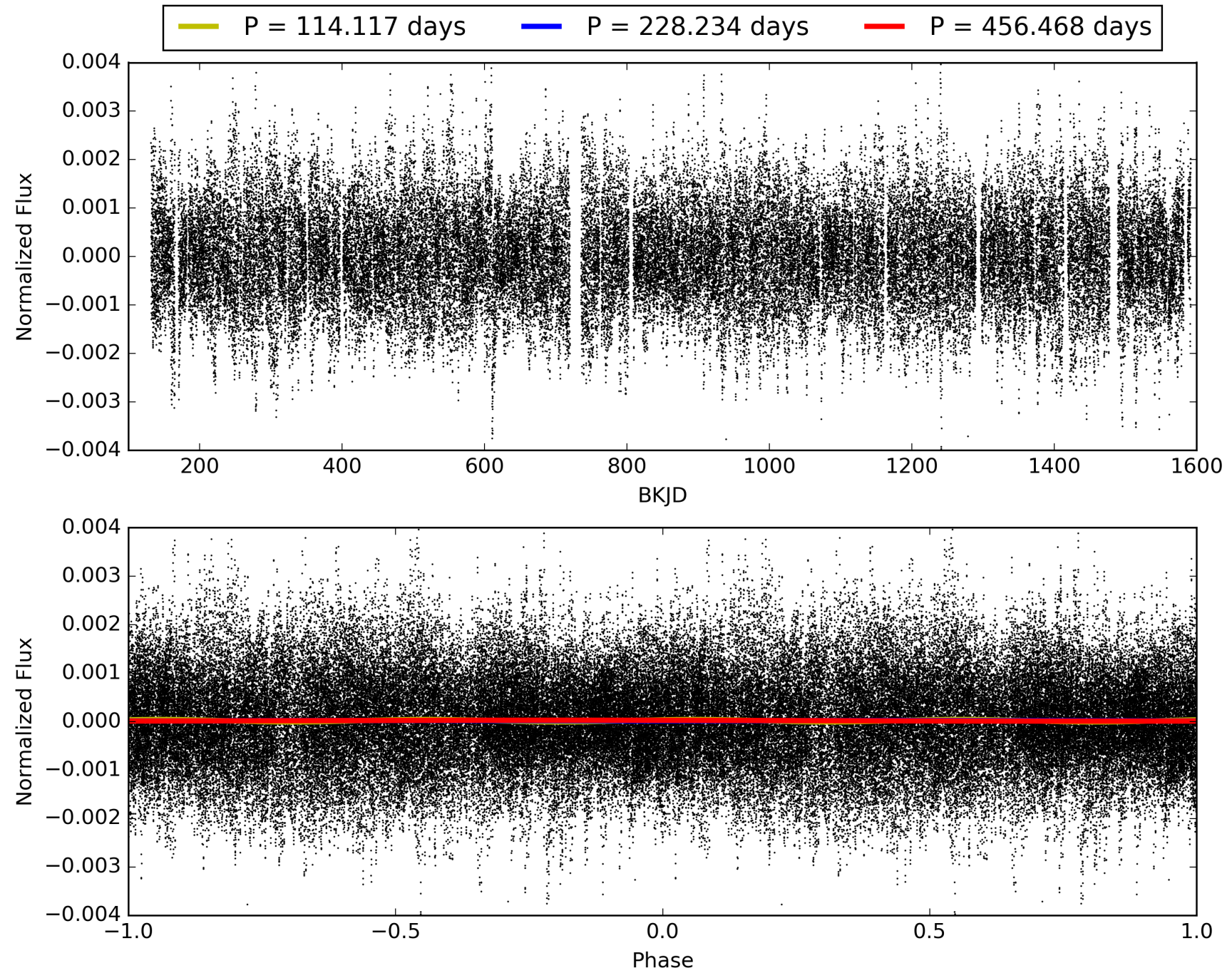
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 03:56:43 Z

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

# TCE 007798924-04, PDC Light Curves

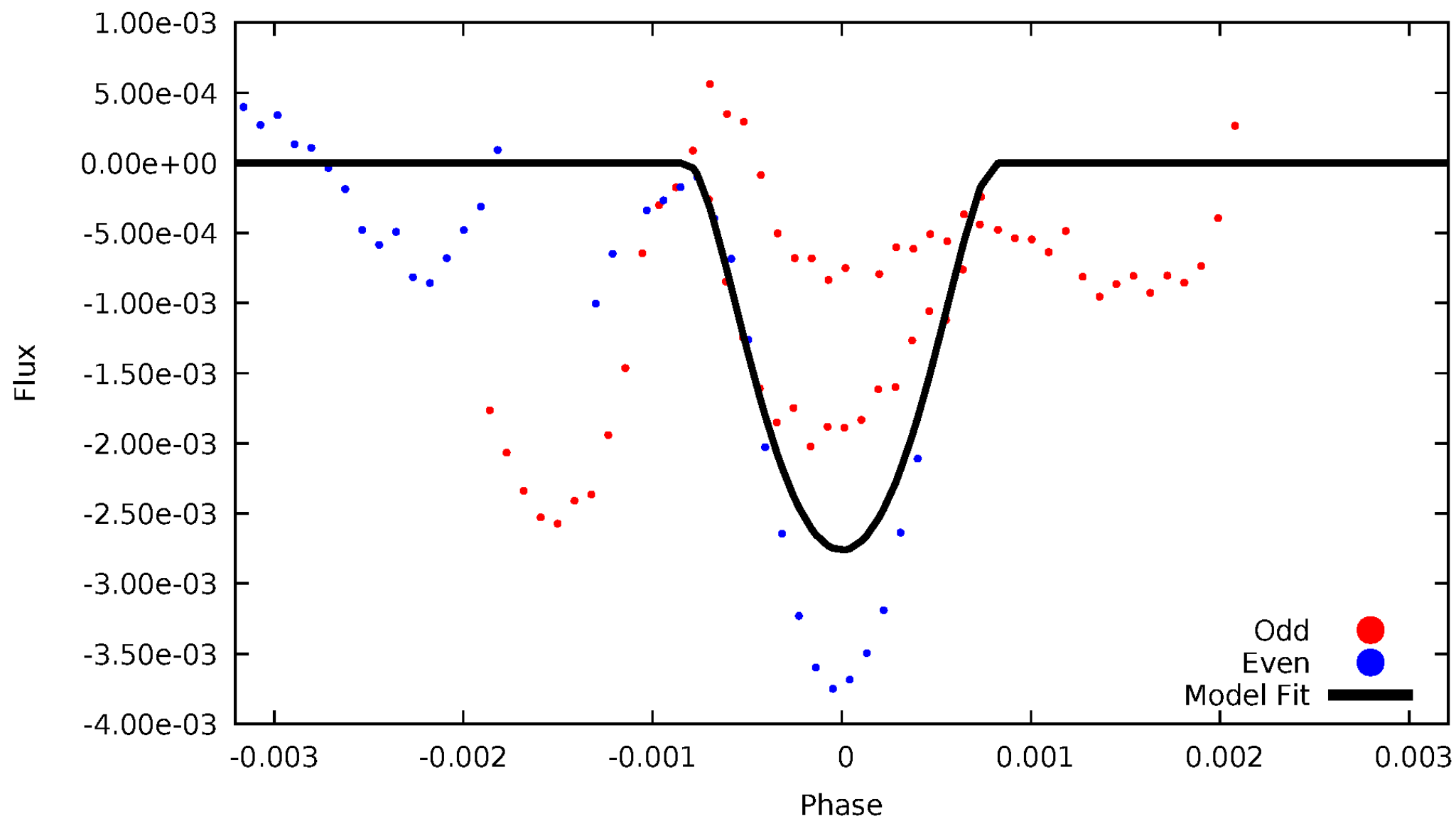


TCE 007798924-04



# DV Odd/Even

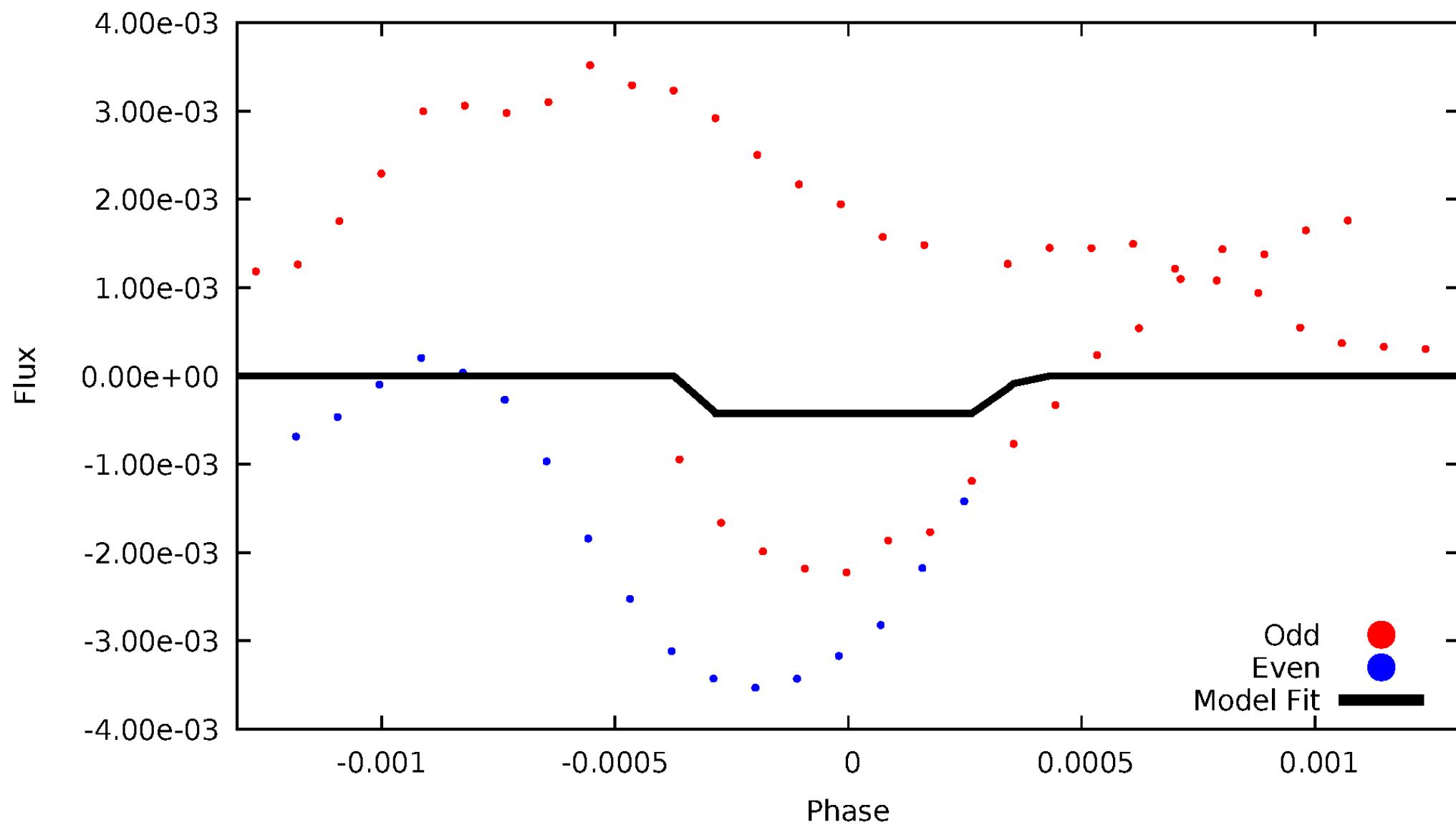
TCE 007798924-04





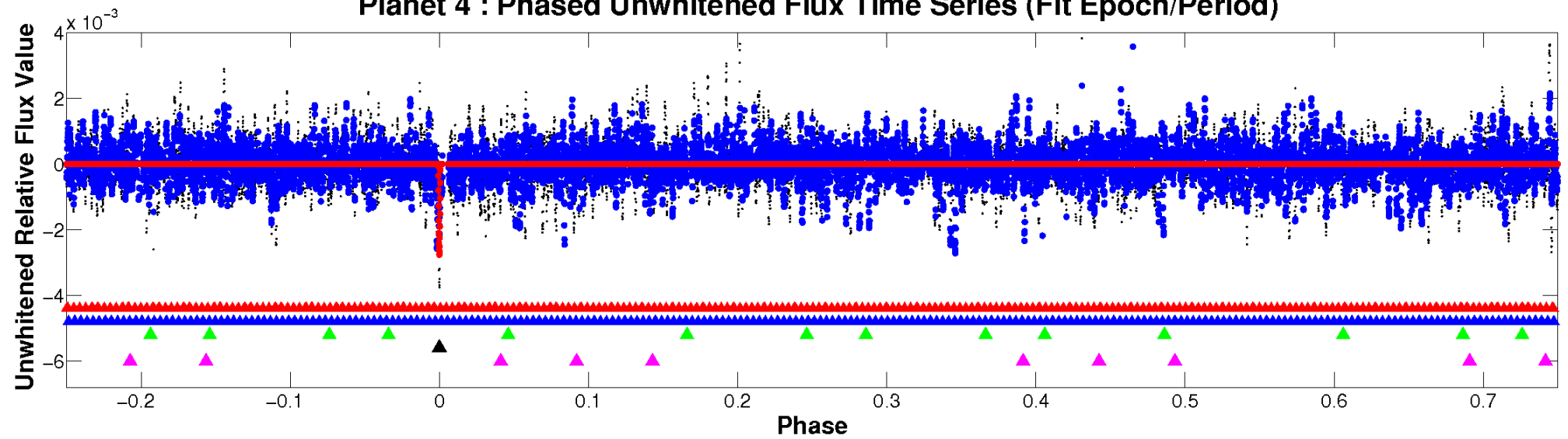
# ALT Odd/Even

TCE 007798924-04

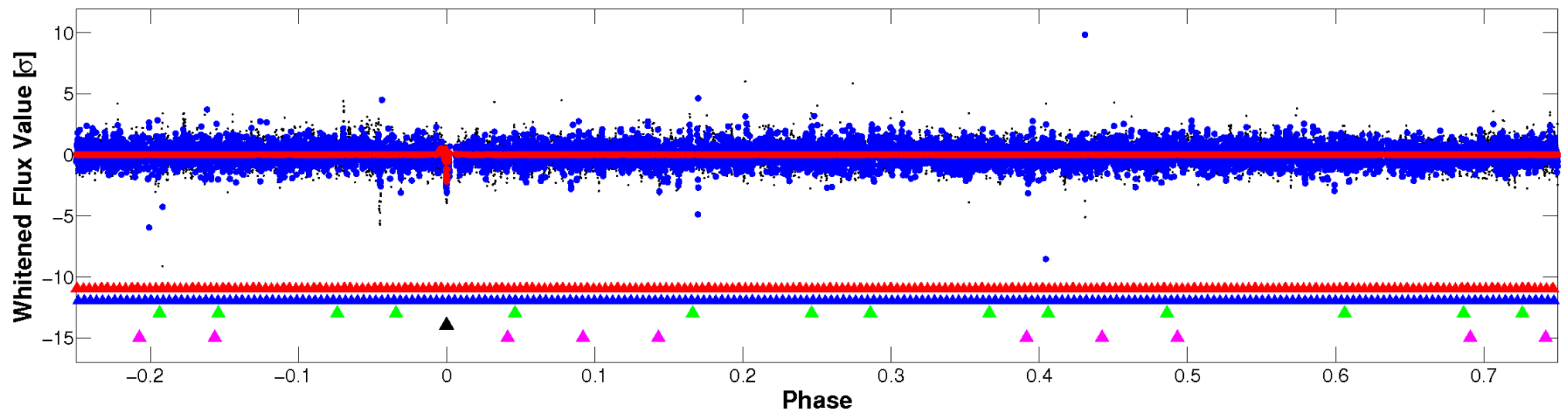


# Non-Whitened Vs. Whitened Light Curve

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

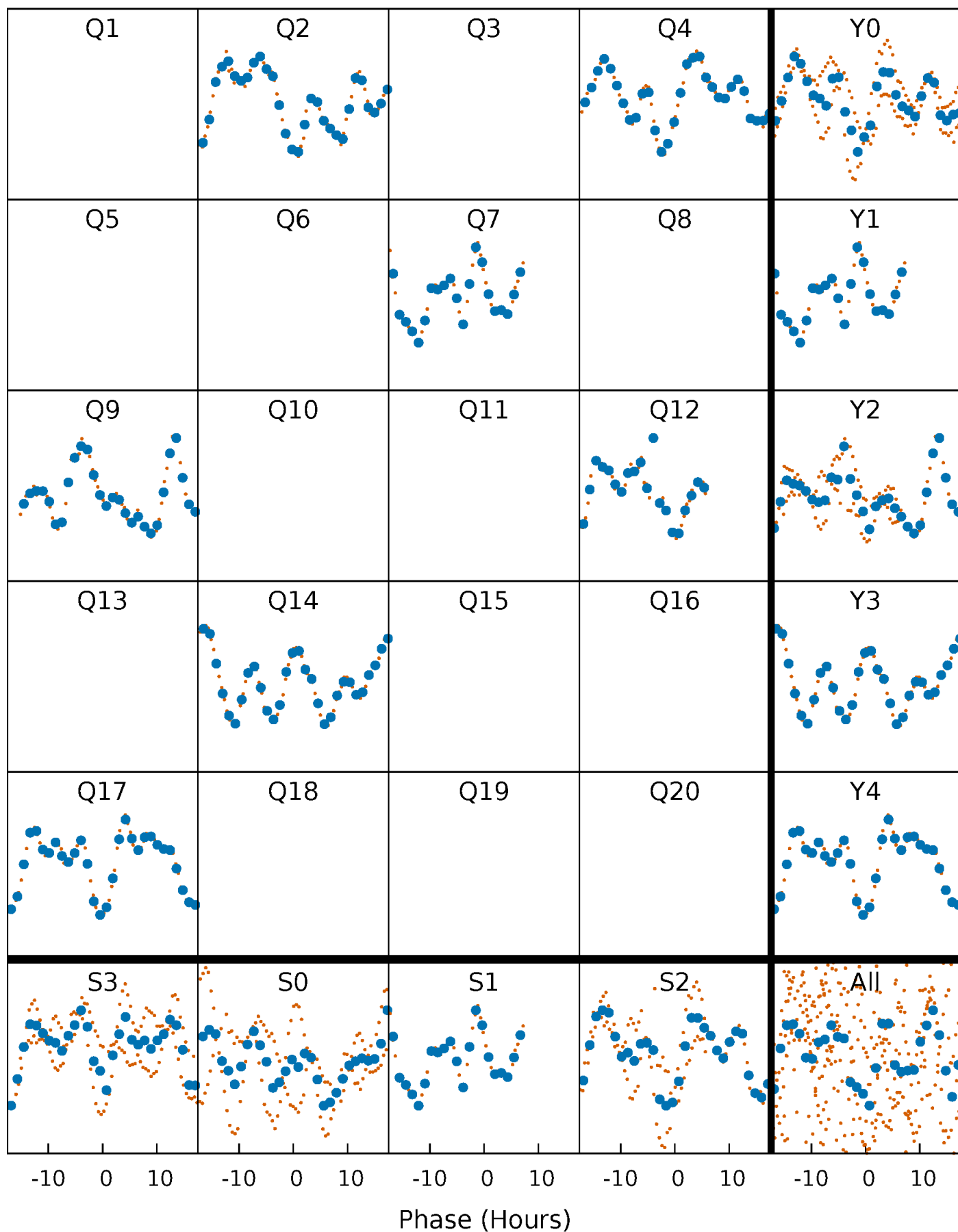


## Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



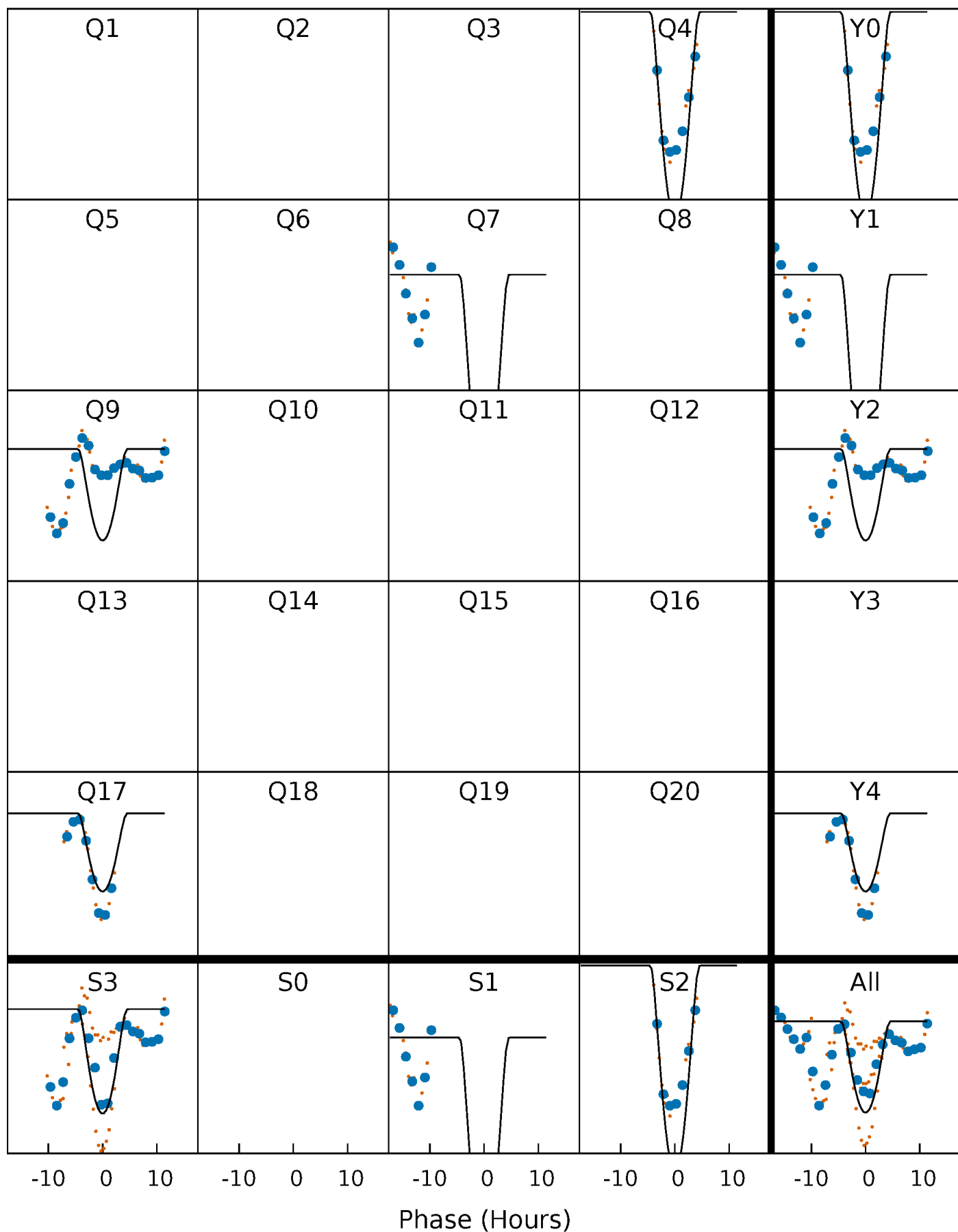
# PDC Quarter-Phased Transit Curves

TCE 007798924-04   P=228.234004 Days    $T_0=203.503931$  (BKJD)



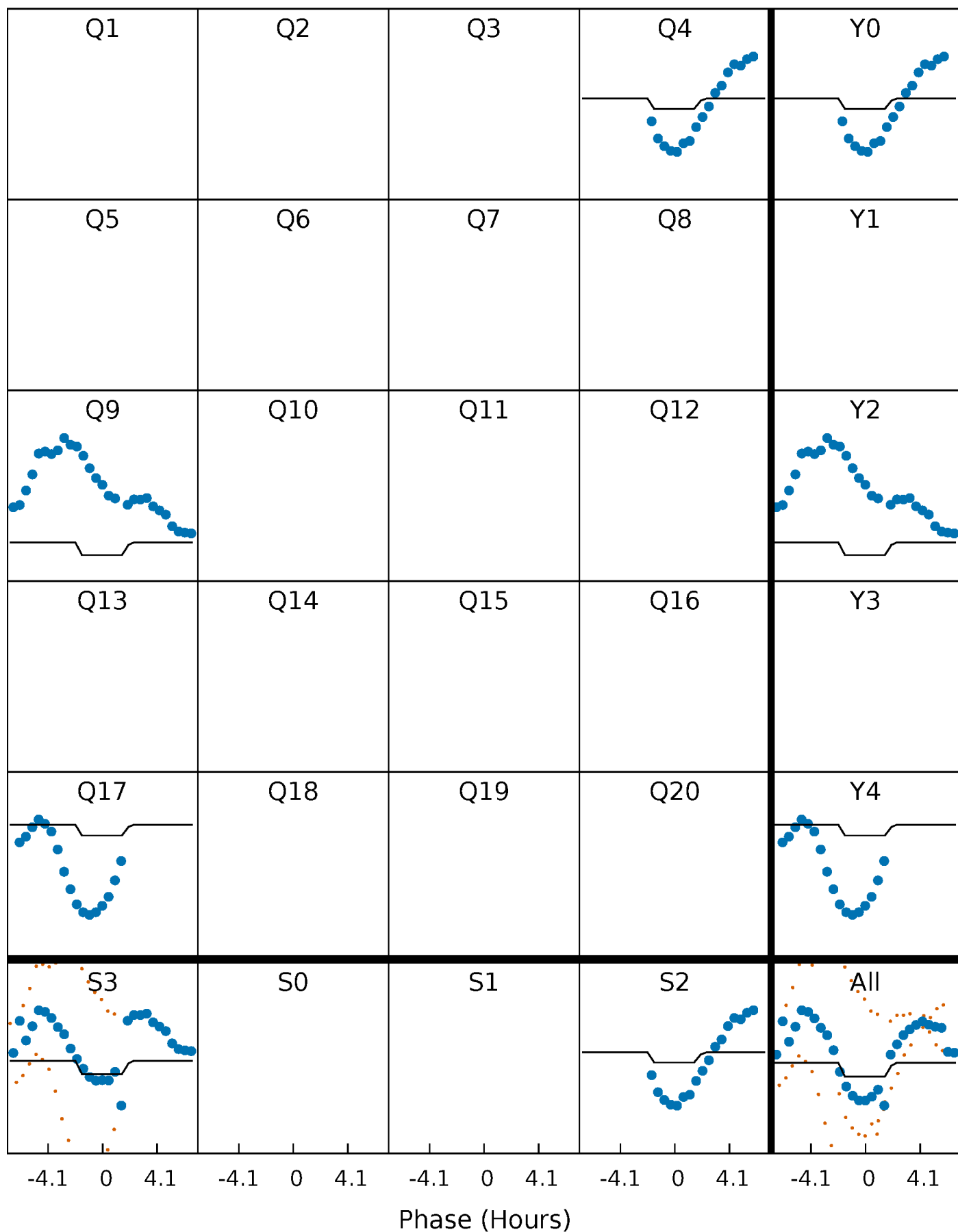
# DV Quarter-Phased Transit Curves

TCE 007798924-04     $P=228.234004$  Days     $T_0=203.503931$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 007798924-04 P=228.256488 Days  $T_0=203.403877$  (BKJD)

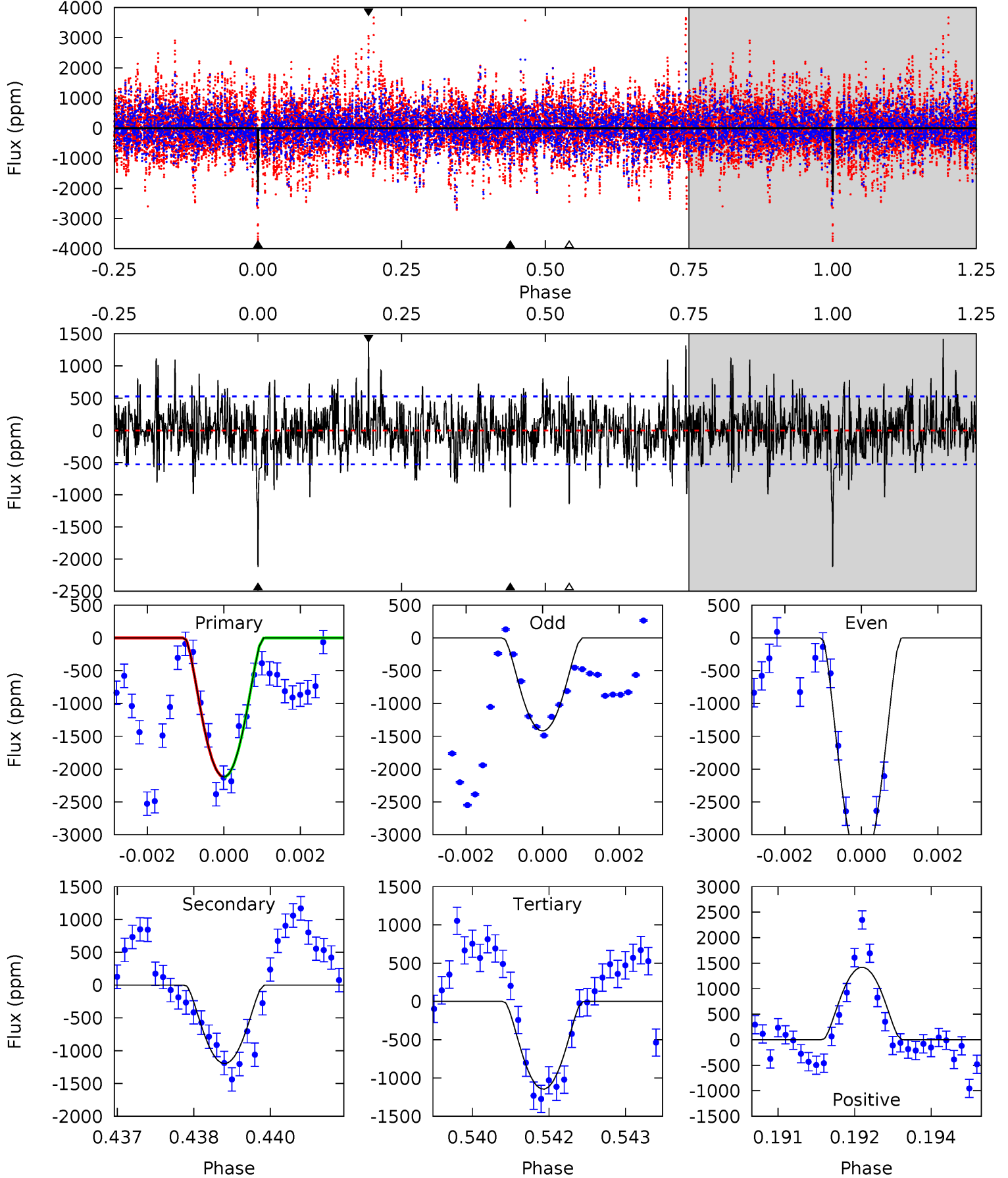




# DV Model-Shift Uniqueness Test

007798924-04, P = 228.234004 Days, E = 203.503931 Days

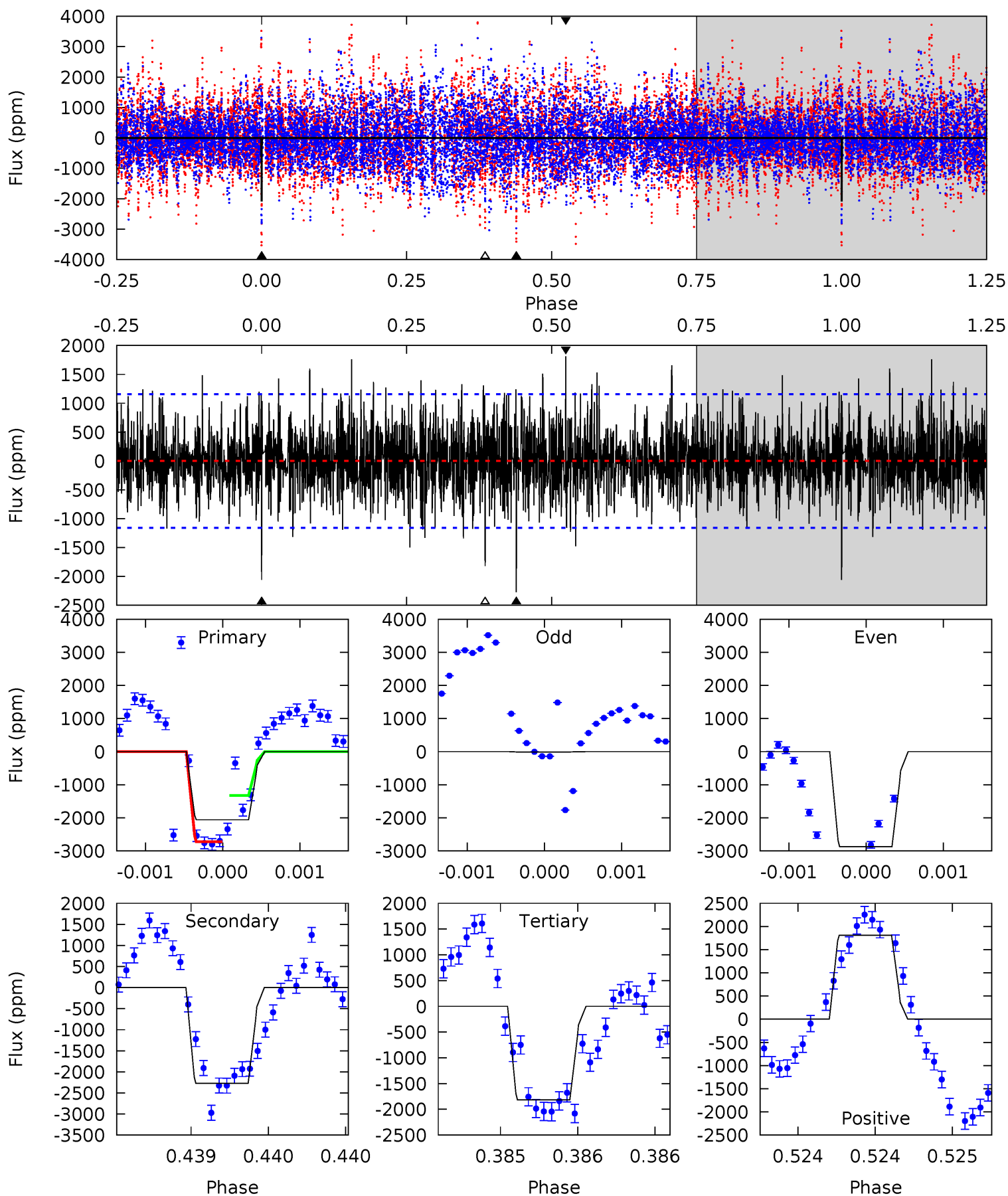
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.5	12.2	11.6	14.4	5.37	3.16	3.22	9.91	7.12	0.52	-2.27	9.30	1.02	0.40	0.06



# Alt Model-Shift Uniqueness Test

007798924-04, P = 228.256488 Days, E = 203.403877 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.77	10.8	8.62	8.59	5.49	3.36	2.14	1.15	1.18	2.16	2.19	7.23	0.47	0.44	3.32



### Stellar Parameters For KIC 007798924

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7219^{+176}_{-277}$	$4.210^{+0.105}_{-0.195}$	$-0.260^{+0.250}_{-0.350}$	$1.523^{+0.494}_{-0.304}$	$1.377^{+0.222}_{-0.202}$	$0.549^{+0.320}_{-0.270}$
	+2%/-4%	+2%/-5%	+96%/-135%	+32%/-20%	+16%/-15%	+58%/-49%
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 007798924-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-1196 \pm 98$	$13.01^{+8.20}_{-7.08}$	$613^{+46}_{-36}$	$4904^{+2250}_{-809}$	$2524^{+9287}_{-1561}$
Alt.	$-2273 \pm 211$	$6.81^{+7.02}_{-4.67}$	$618^{+45}_{-39}$	$8029^{+13746}_{-2467}$	$18007^{+165072}_{-13708}$

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

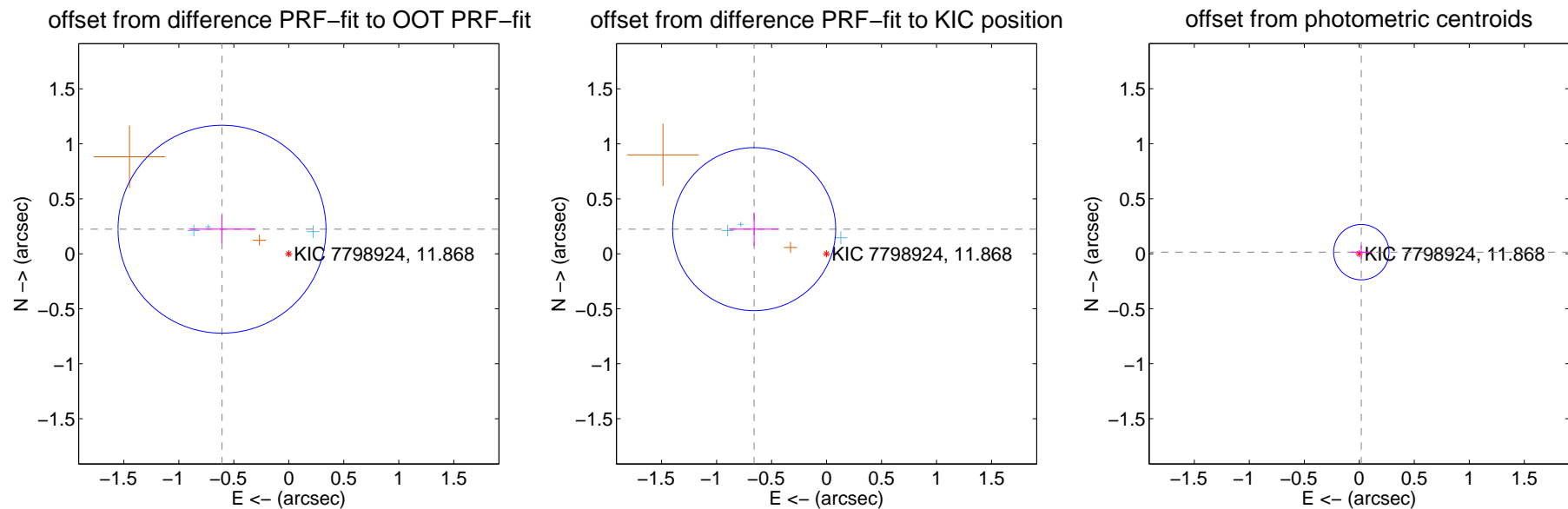
## DV Centroid Data

Supplemental centroid analysis for 007798924-04. **Kepler magnitude: 11.87.** Transit SNR 11.46

**There are 3 quarters with good PRF difference image offsets**

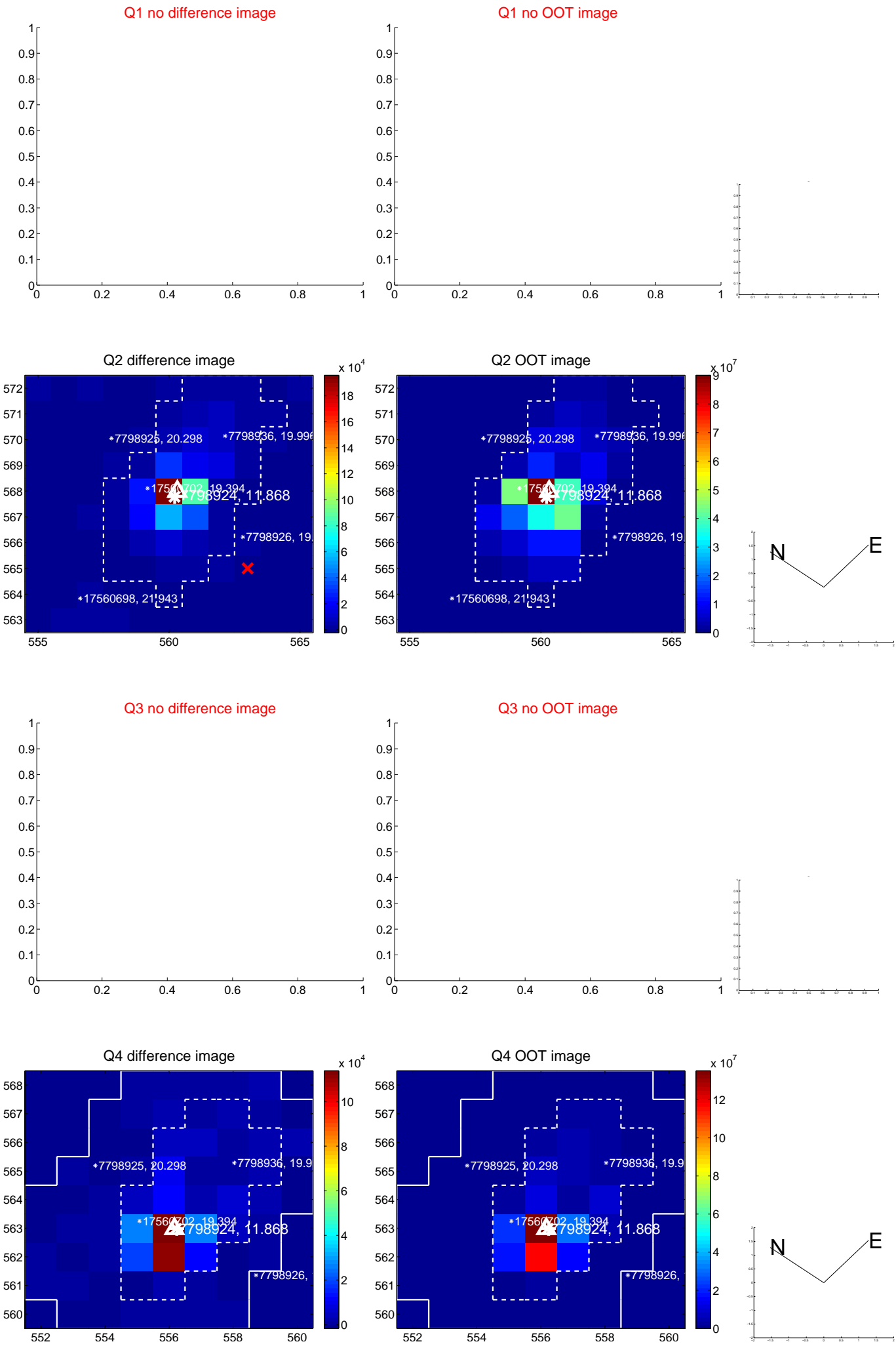
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.647 \pm 0.315$	2.05	$0.608 \pm 0.301$	$0.223 \pm 0.130$
PRF-fit source offset from KIC position	$0.696 \pm 0.247$	2.81	$0.659 \pm 0.223$	$0.224 \pm 0.151$
photometric centroid source offset	$0.02 \pm 0.08$	0.27	$-0.02 \pm 0.09$	$0.01 \pm 0.06$



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.

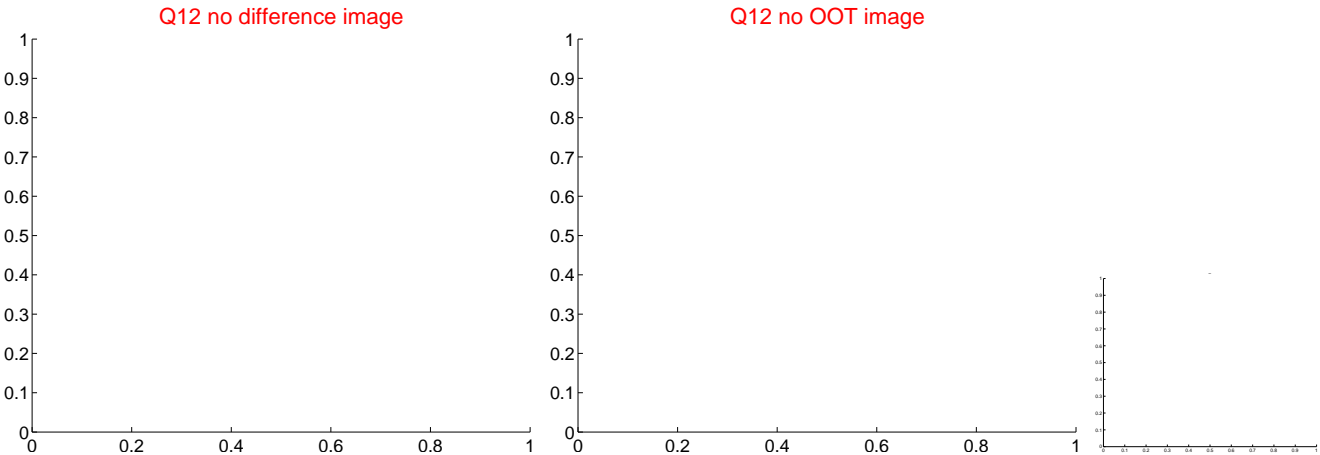
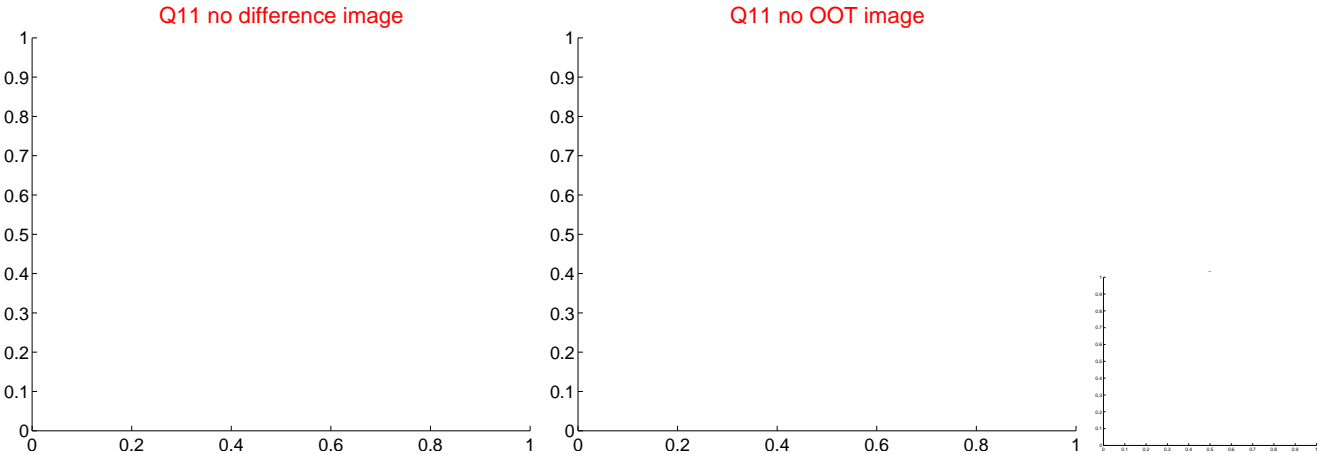
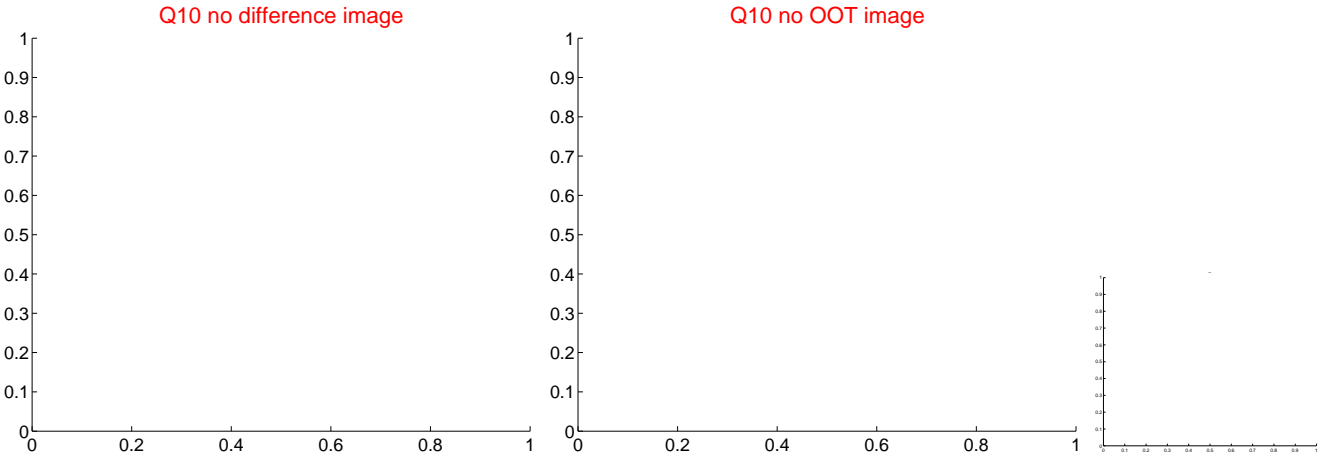
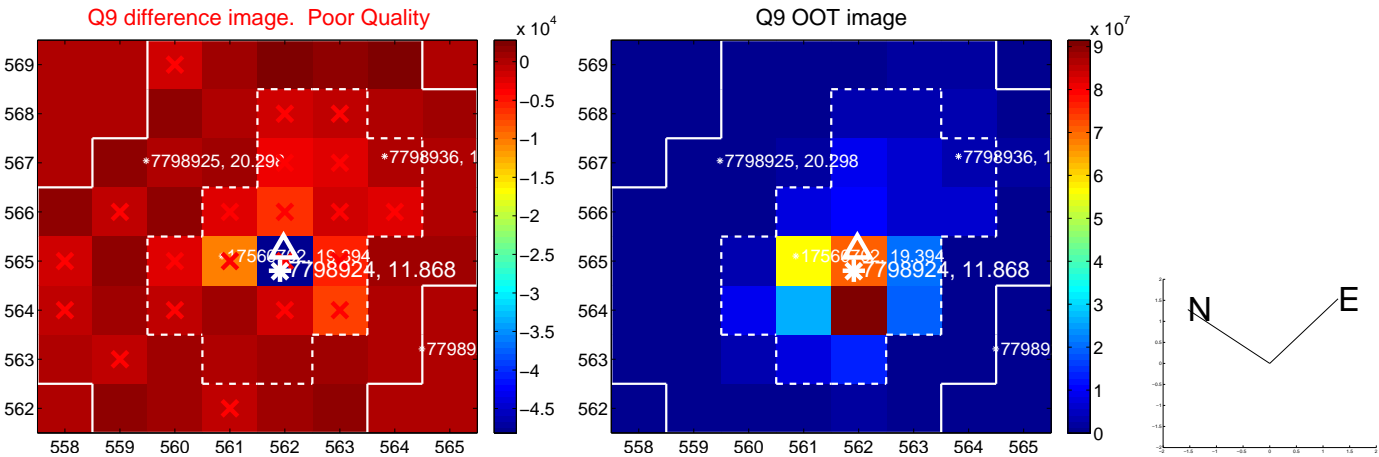




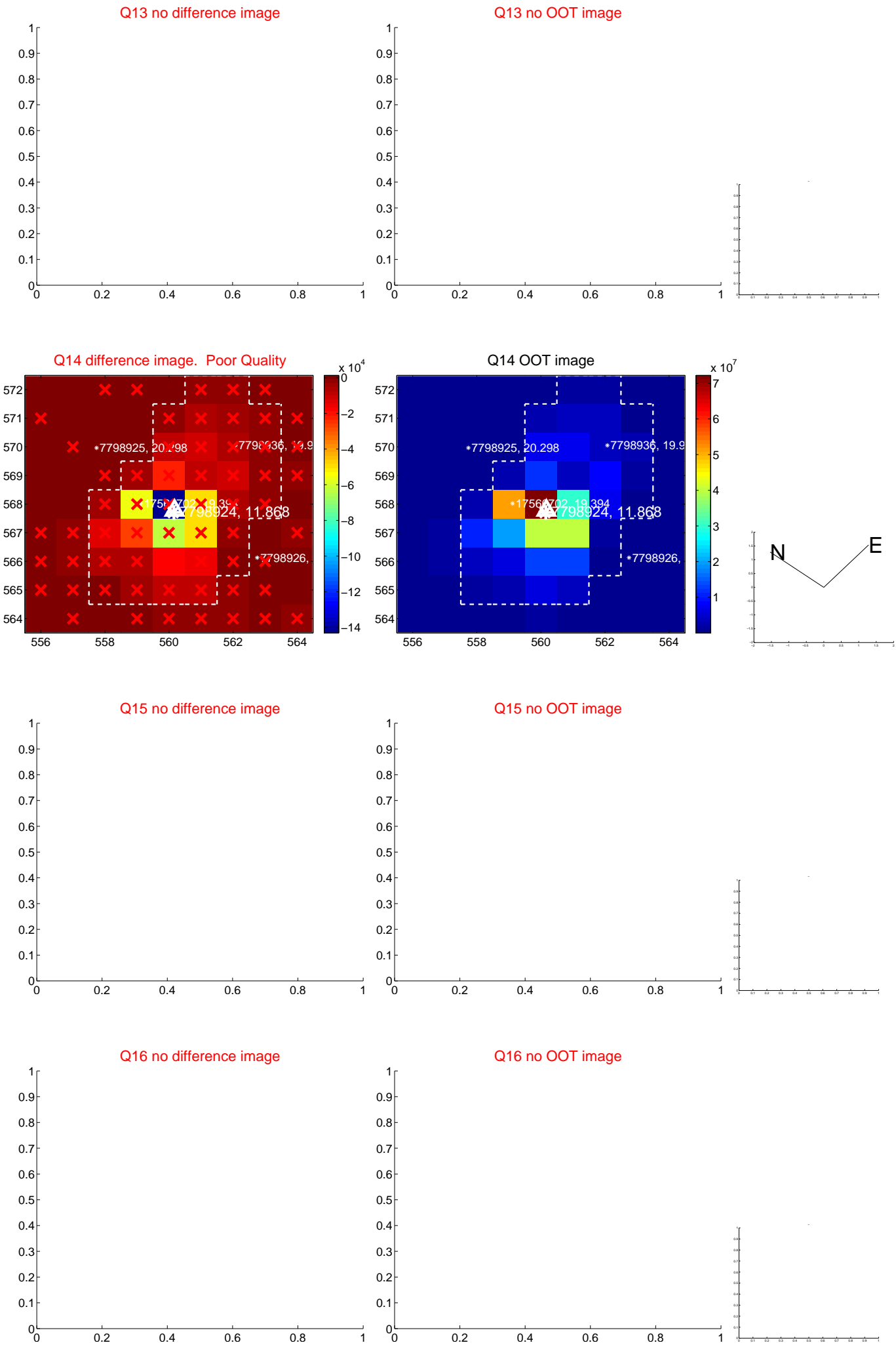
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



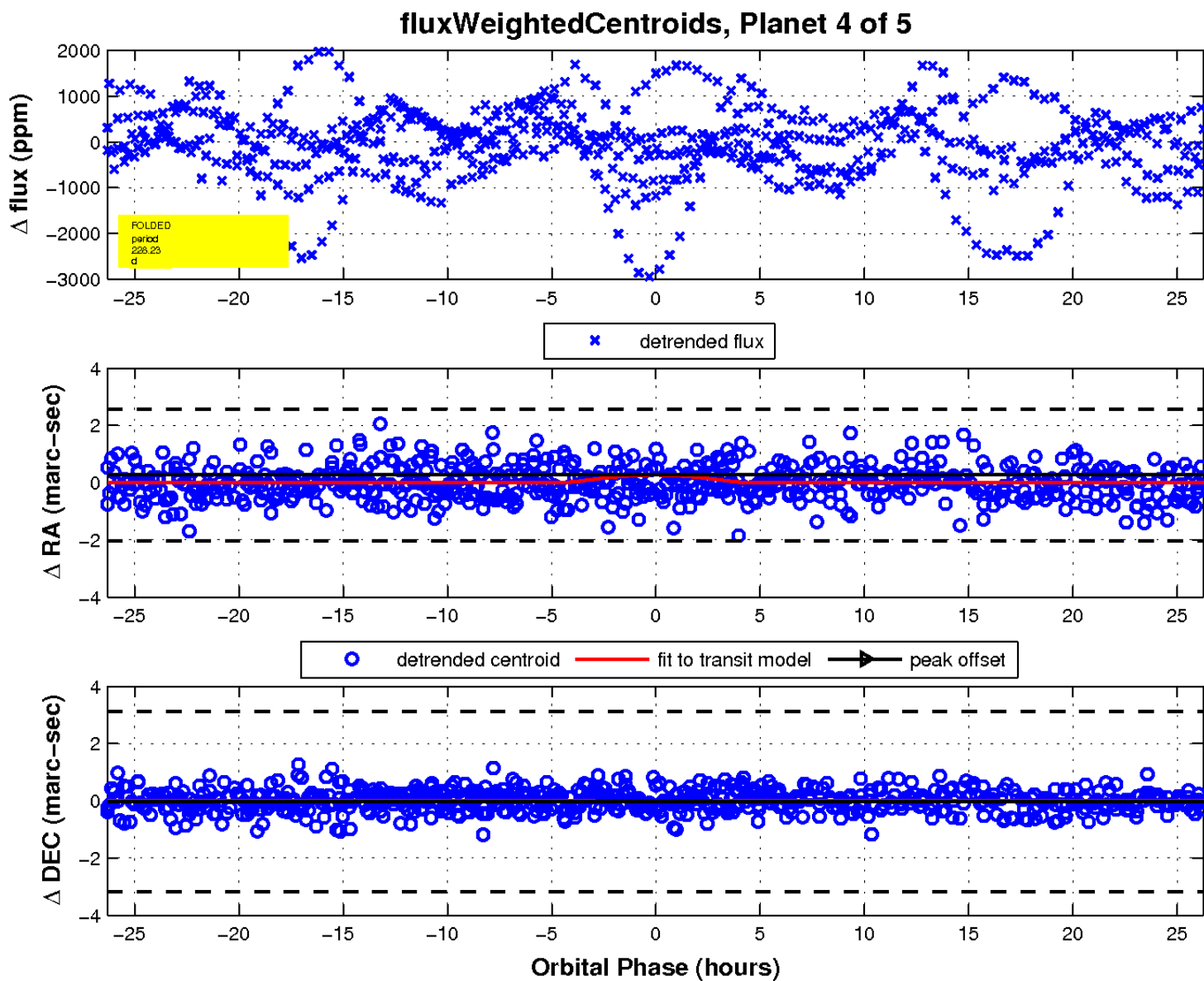
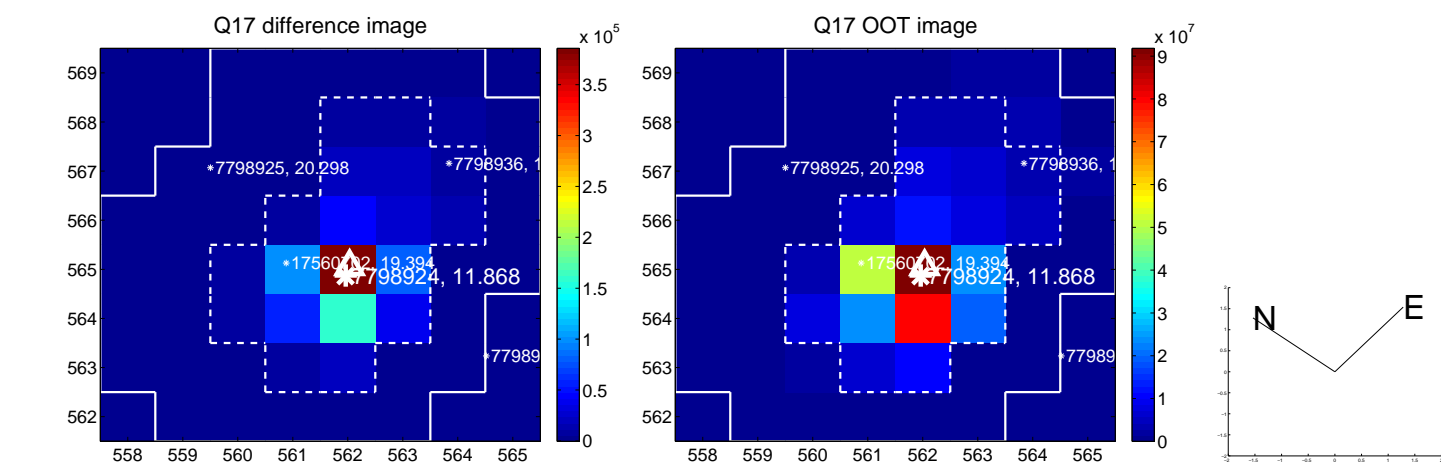
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

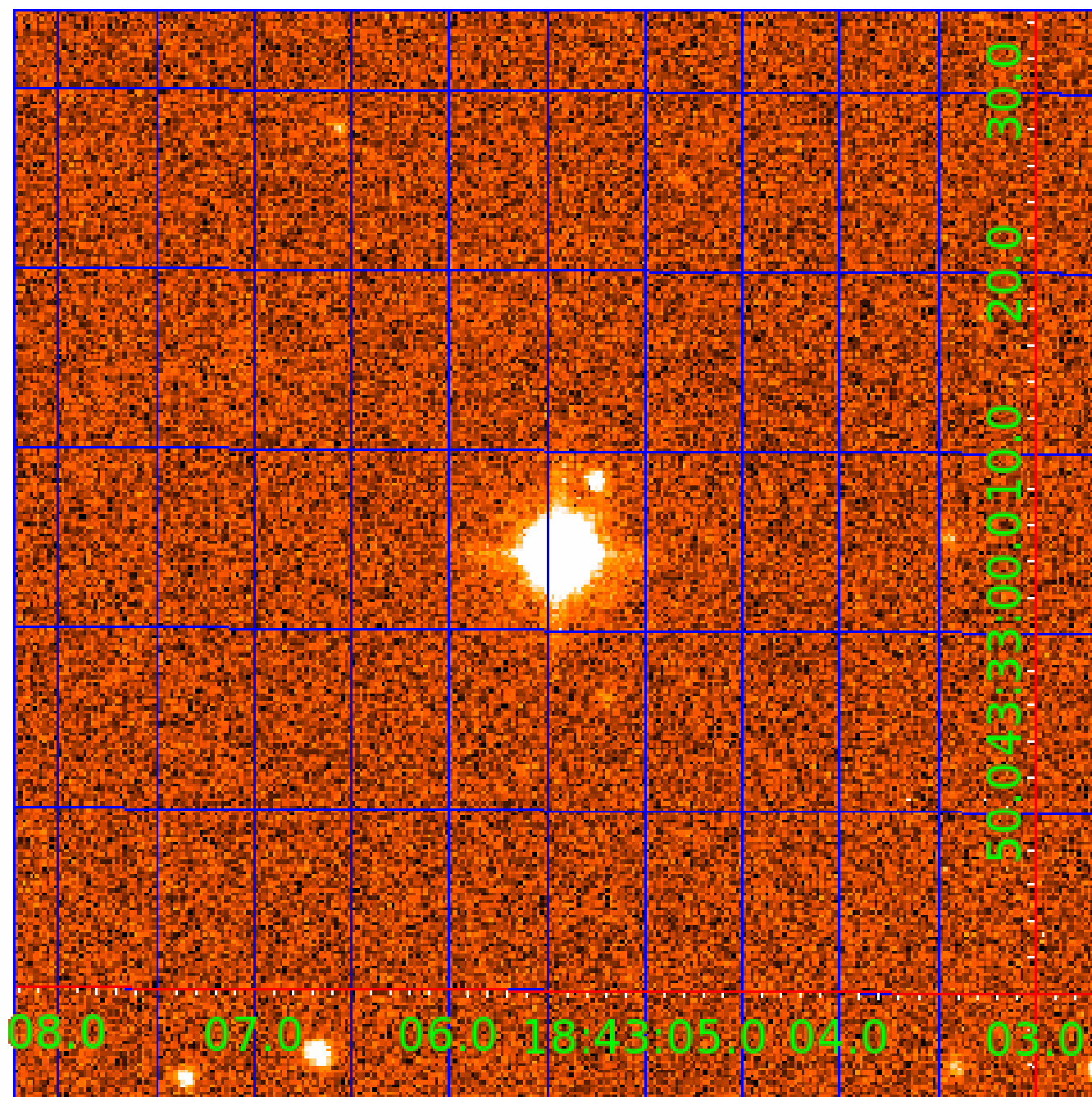


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



# UKIRT Image

Declination



# KIC 007798924

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007798924-01	OBS	No	4.676320	131.712515	76.9	9.105	9.1	7.1	1.52	7219	1.55	1525.45
007798924-02	OBS	No	4.676657	133.712078	128.9	17.594	10.3	13.0	1.52	7219	2.19	1525.30
007798924-03	OBS	No	100.431930	195.719802	3891.8	8.961	32.1	17.7	1.52	7219	11.93	25.55
007798924-04	OBS	No	228.234004	203.503932	2760.8	8.777	17.4	11.5	1.52	7219	11.98	8.55
007798924-05	OBS	No	148.284619	167.797069	744.4	13.977	13.2	5.3	1.52	7219	4.64	15.20

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007798924-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_ALT—MOD_POS_ALT
007798924-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD
007798924-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
007798924-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007798924-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_TRACKER—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

**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.

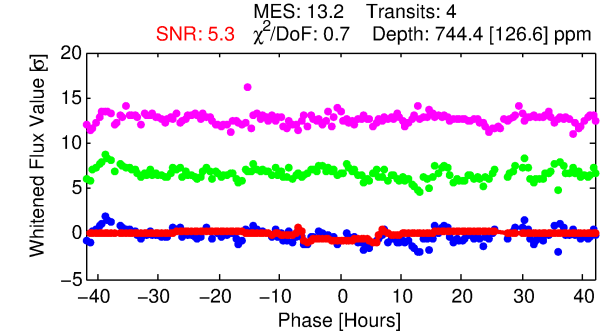
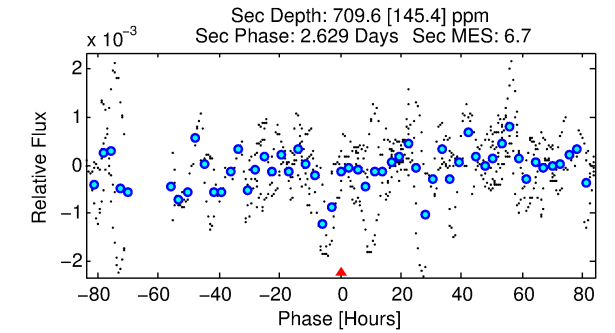
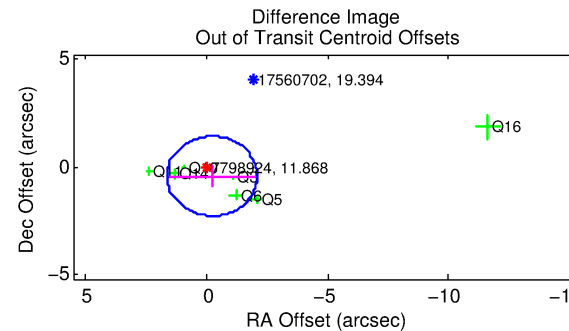
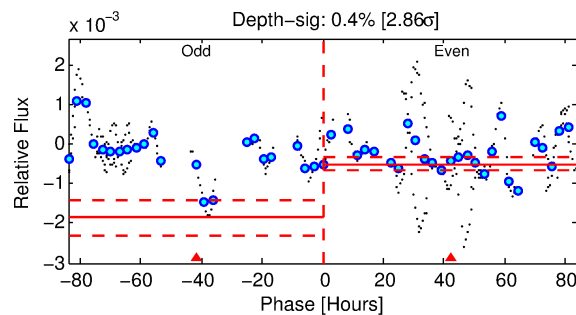
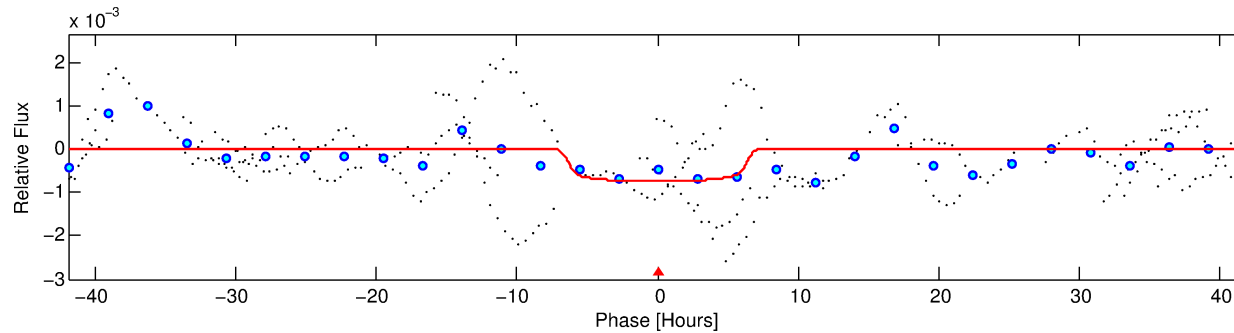
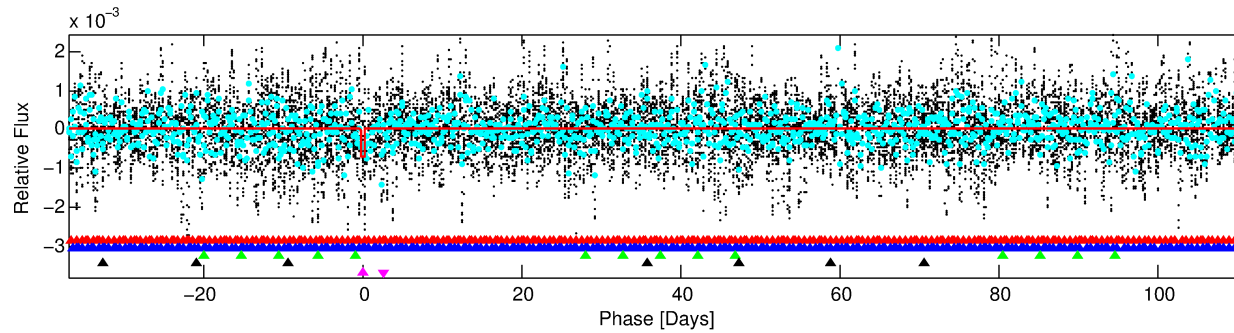
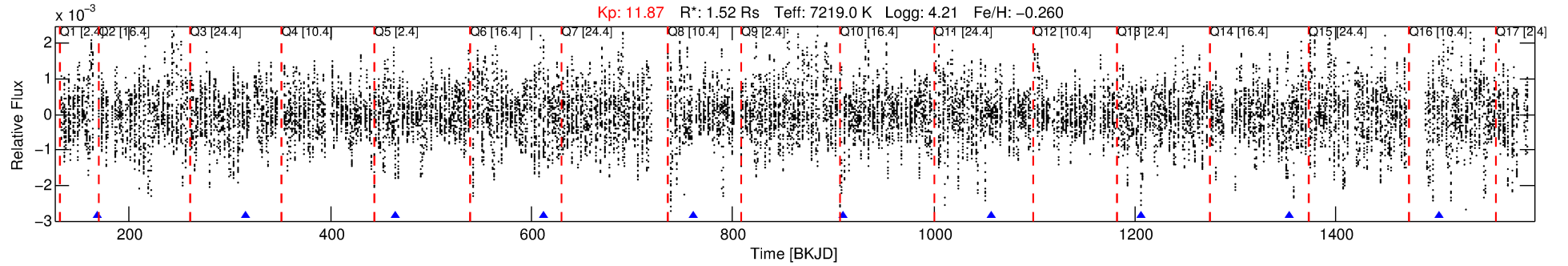
Ephemeris Match Information For 007798924-05

No Significant Match Found



# DV One-Page Summary

KIC: 7798924 Candidate: 5 of 5 Period: 148.285 d

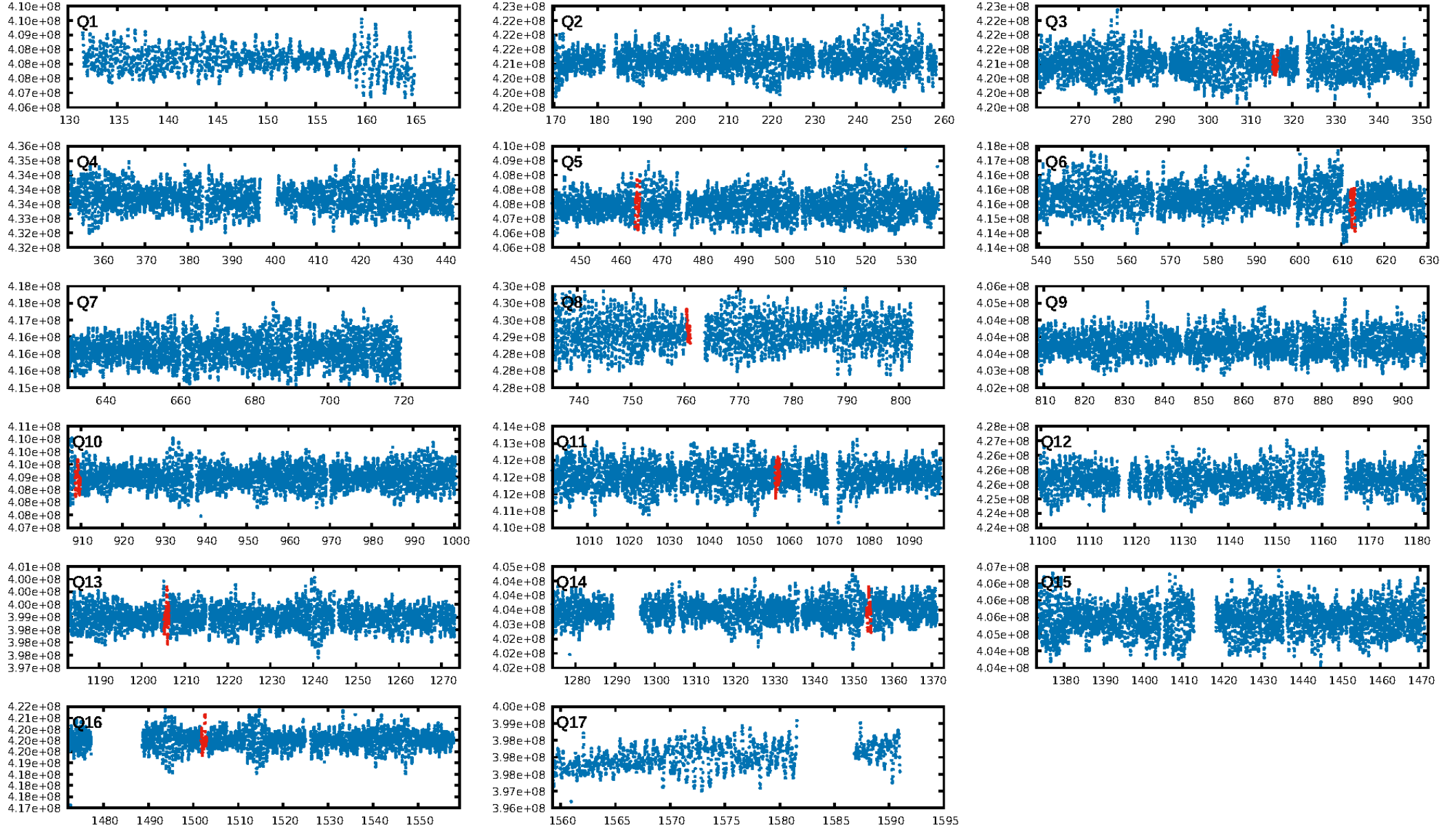


DV Fit Results:	DV Diagnostic Results:
Period = 148.28462 [0.00328] d	ShortPeriod-sig: 100.0% [69.17 $\sigma$ ]
Epoch = 167.7971 [0.0158] BKJD	LongPeriod-sig: 100.0% [116.26 $\sigma$ ]
Rp/R* = 0.0279 [0.0027]	ModelChiSquare2-sig: 5.9%
a/R* = 48.72 [12.11]	ModelChiSquareGof-sig: 100.0%
b = 0.83 [0.09]	Bootstrap-pfa: 2.81e-28
Seff = 15.20 [6.08]	RollingBand-fgt: 1.00 [4/4]
Teq = 503 [50] K	GhostDiagnostic-chr: -3.151
Rp = 4.64 [1.57] Re	Centroid-sig: 91.3%
a = 0.6094 [0.1603] AU	Centroid-so: 0.081 arcsec [0.40 $\sigma$ ]
Ag = 6731.93 [3136.43] [2.15 $\sigma$ ]	OotOffset-rm: 0.497 arcsec [0.80 $\sigma$ ]
Teffp = 7051 [569] K [11.46 $\sigma$ ]	KicOffset-rm: 0.505 arcsec [0.89 $\sigma$ ]
	OotOffset-st: 3/2/1/1 [7]
	KicOffset-st: 3/2/1/1 [7]
	DiffImageQuality-fgm: 0.14 [1/7]
	DiffImageOverlap-fno: 0.00 [0/7]

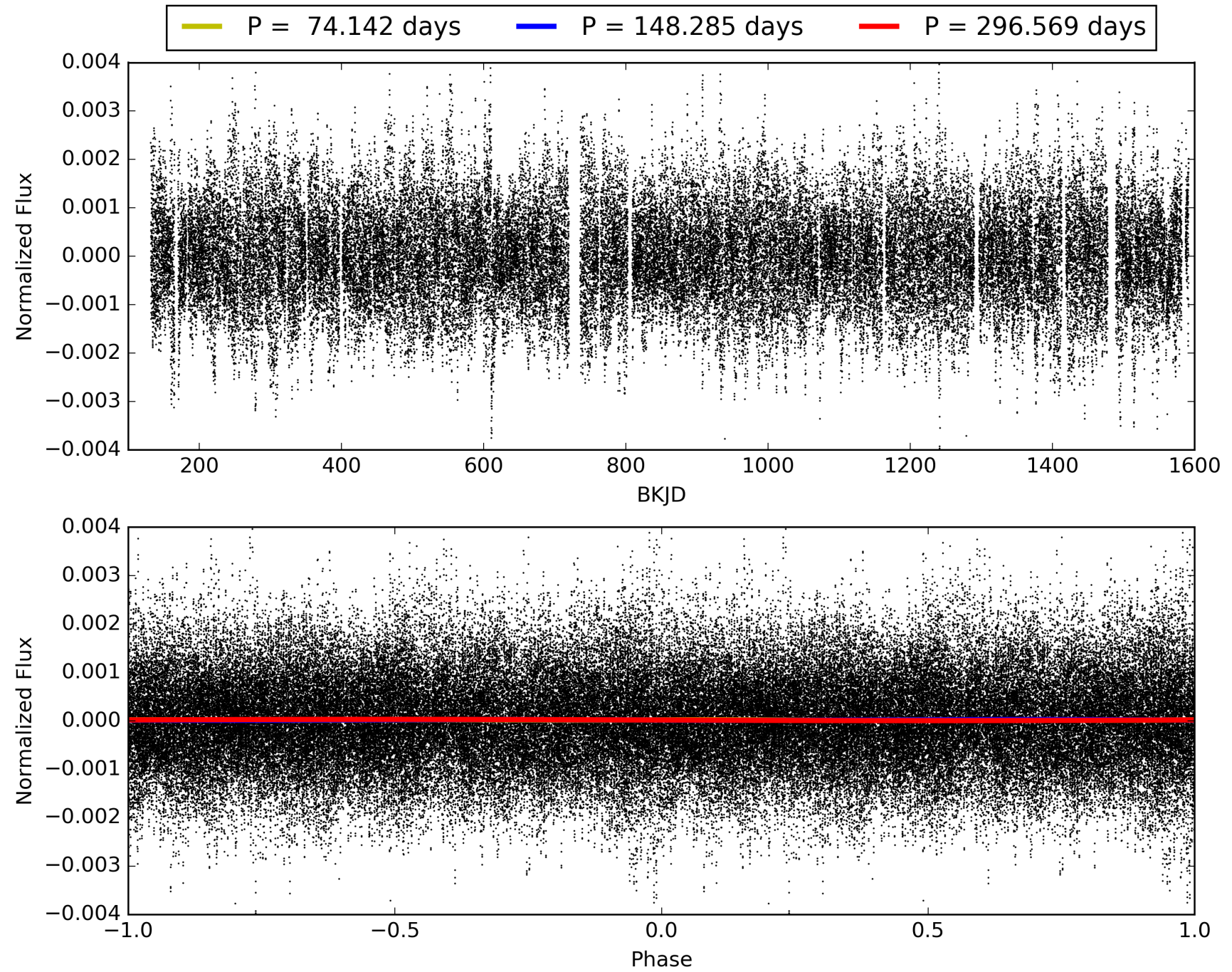
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 03:56:47 Z

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

# TCE 007798924-05, PDC Light Curves

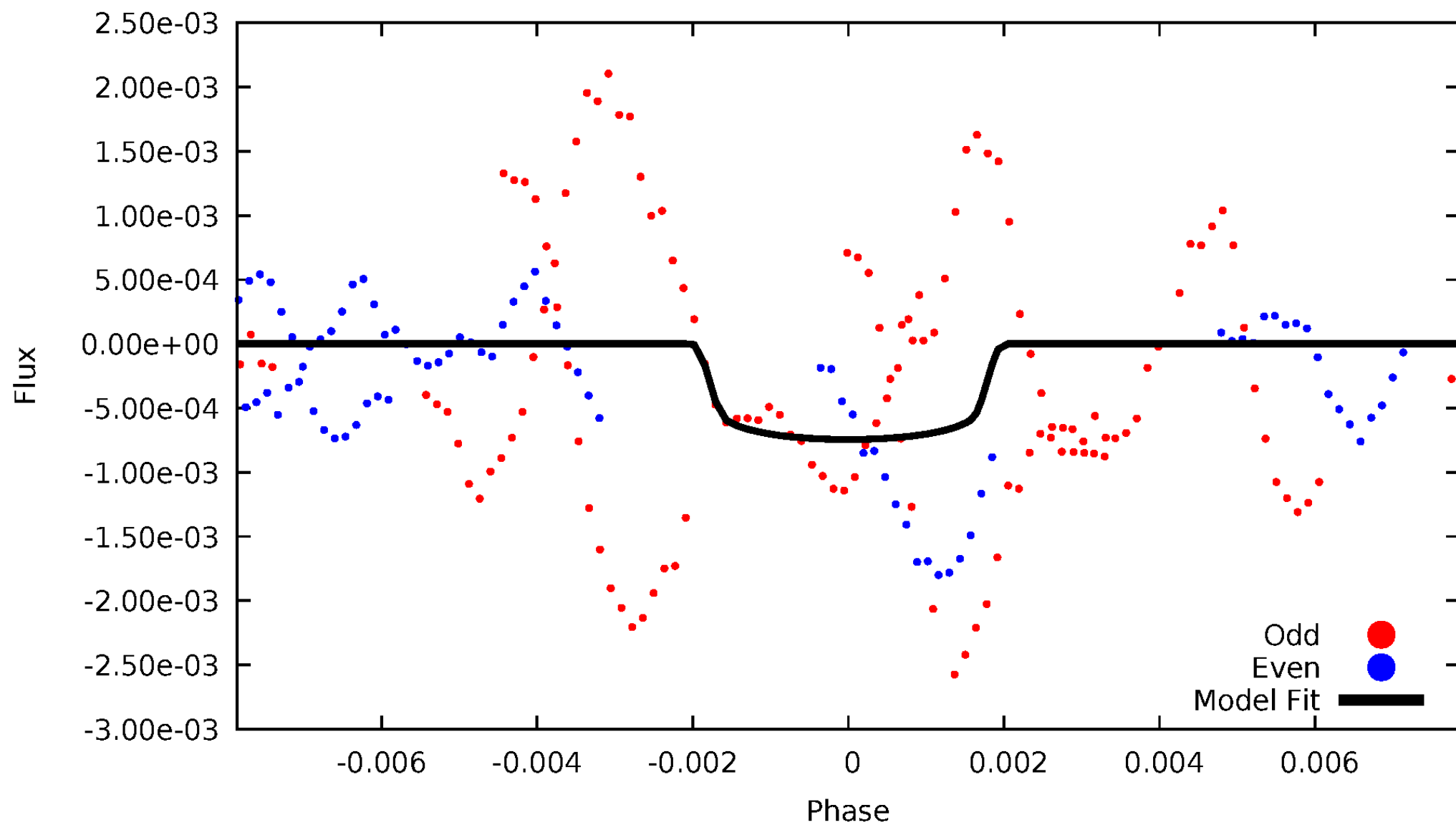


# TCE 007798924-05



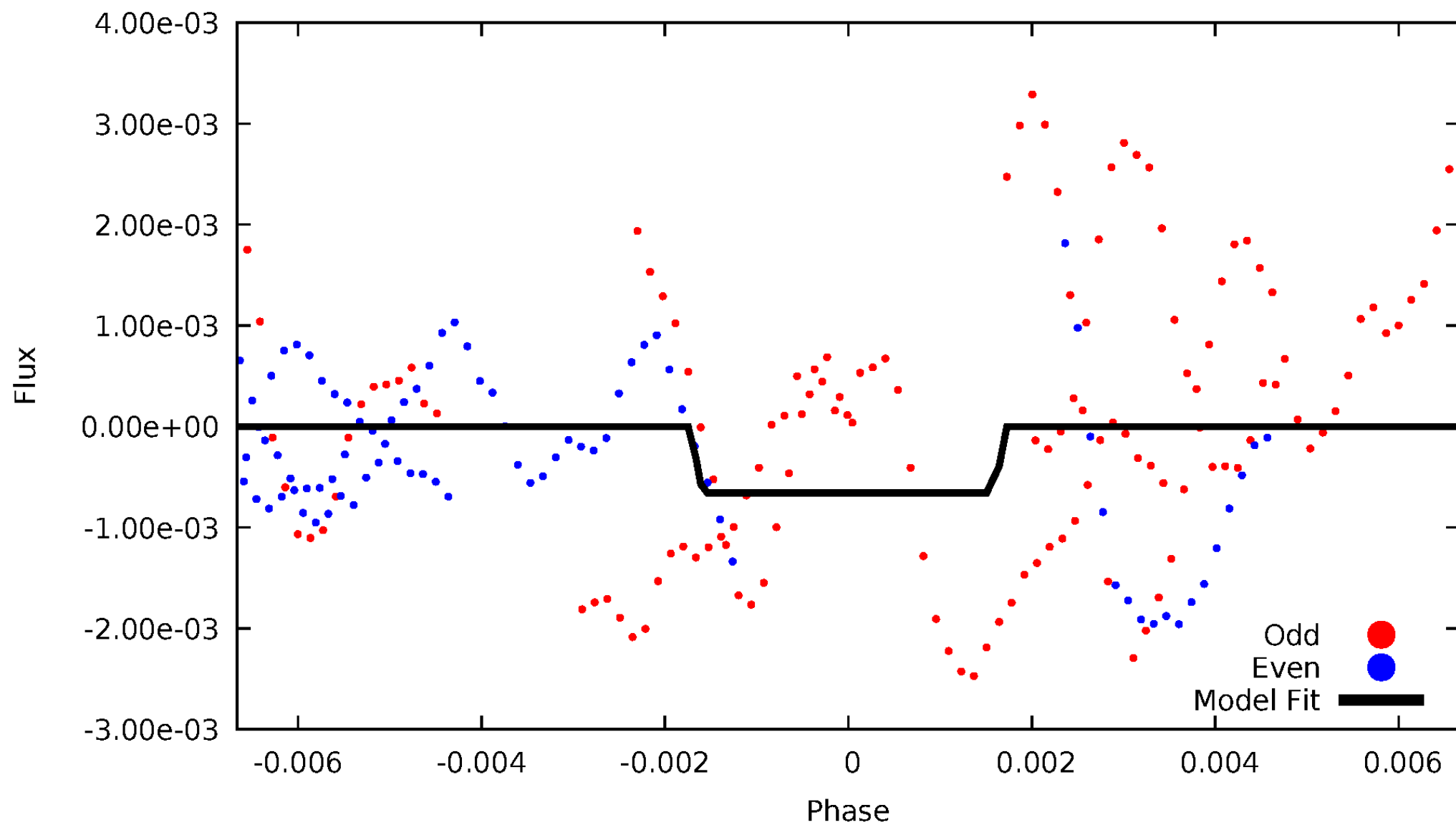
# DV Odd/Even

TCE 007798924-05



# ALT Odd/Even

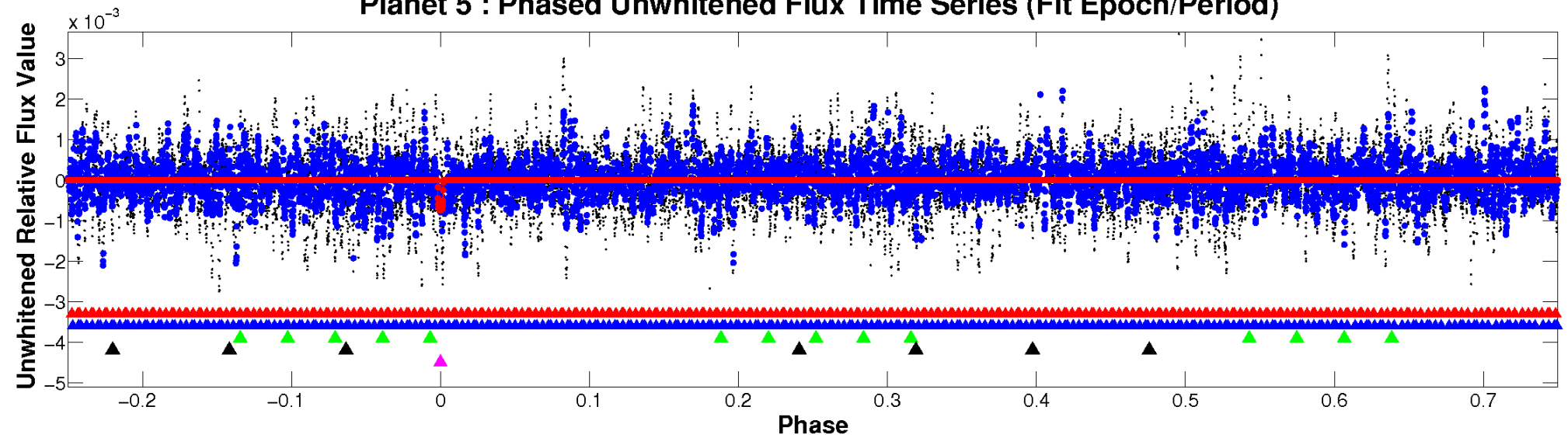
TCE 007798924-05



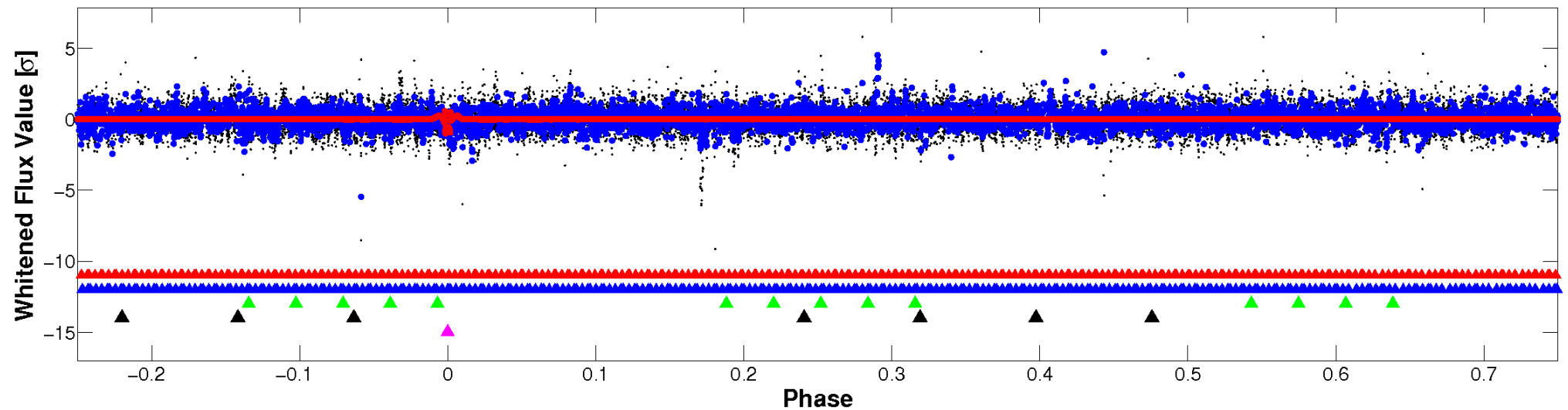


# Non-Whitened Vs. Whitened Light Curve

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



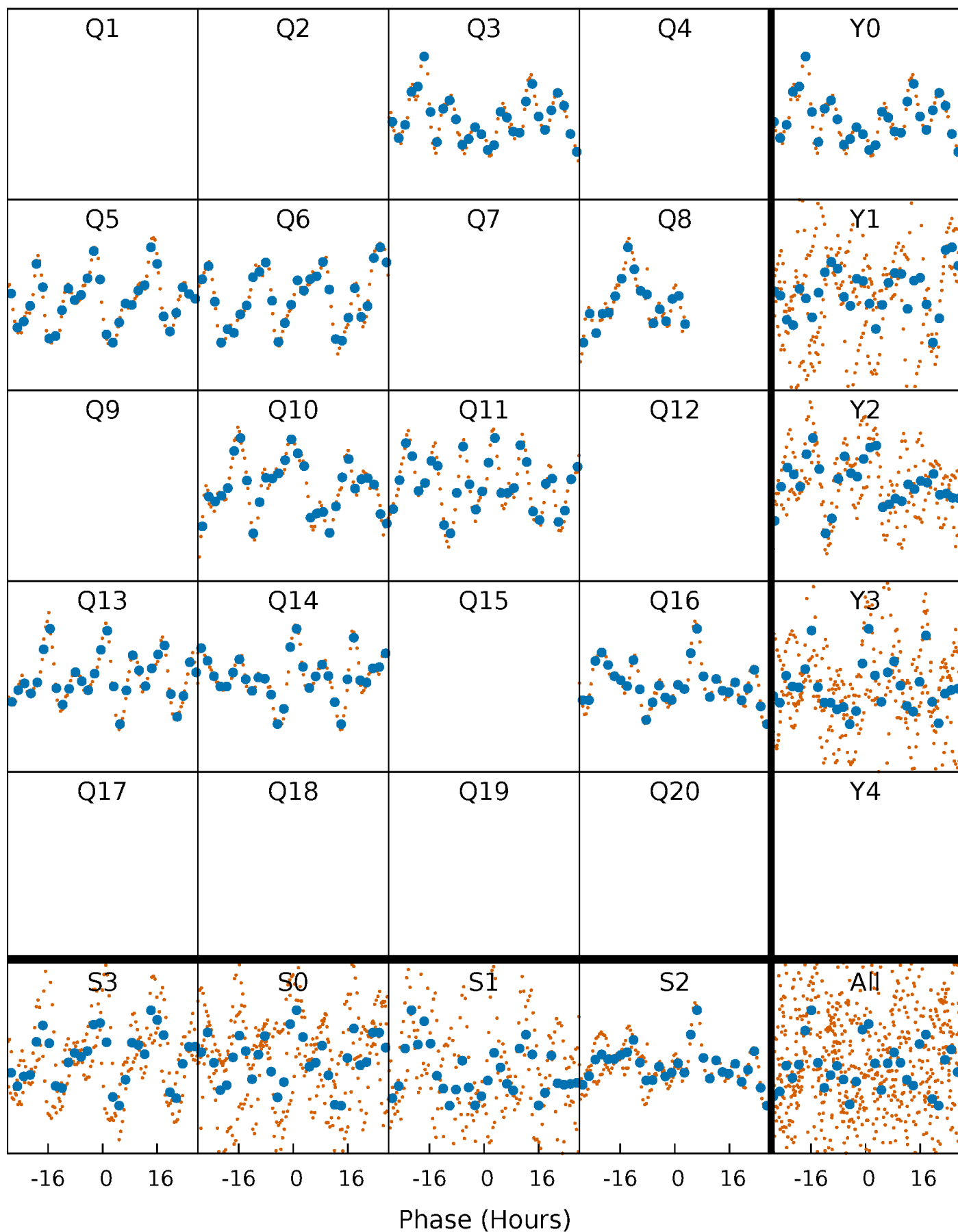
Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)





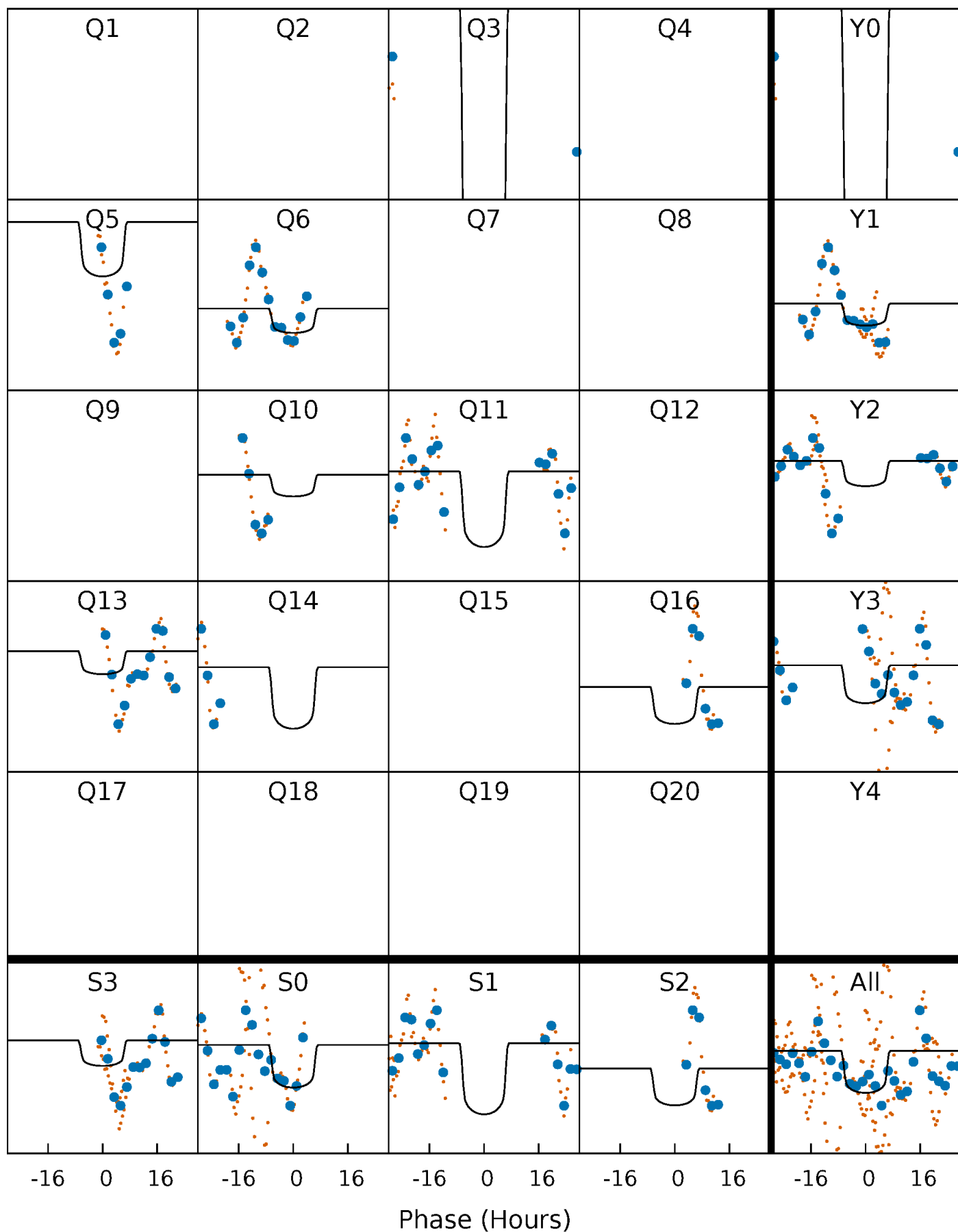
# PDC Quarter-Phased Transit Curves

TCE 007798924-05   P=148.284619 Days    $T_0=167.797069$  (BKJD)



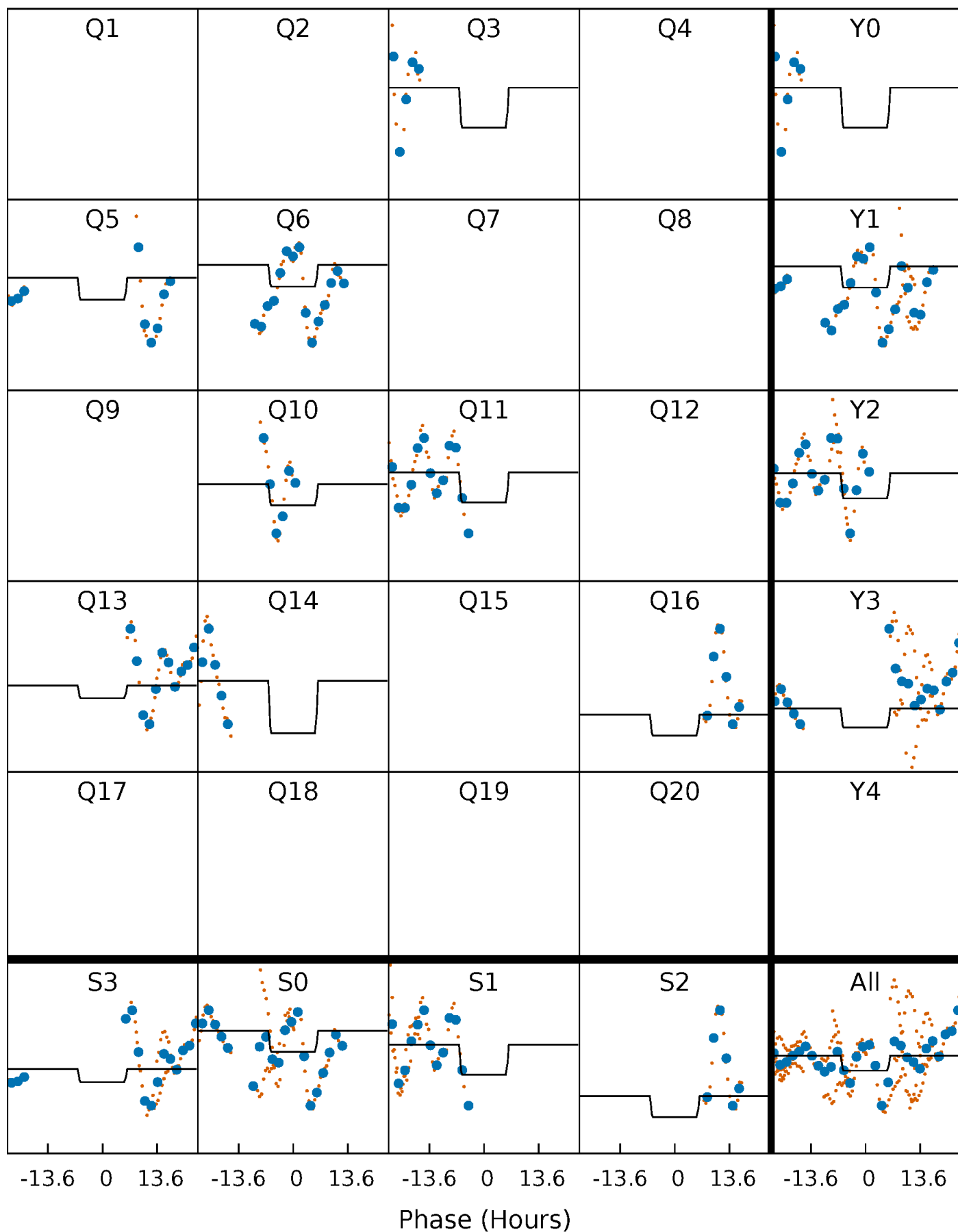
# DV Quarter-Phased Transit Curves

TCE 007798924-05     $P=148.284619$  Days     $T_0=167.797069$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

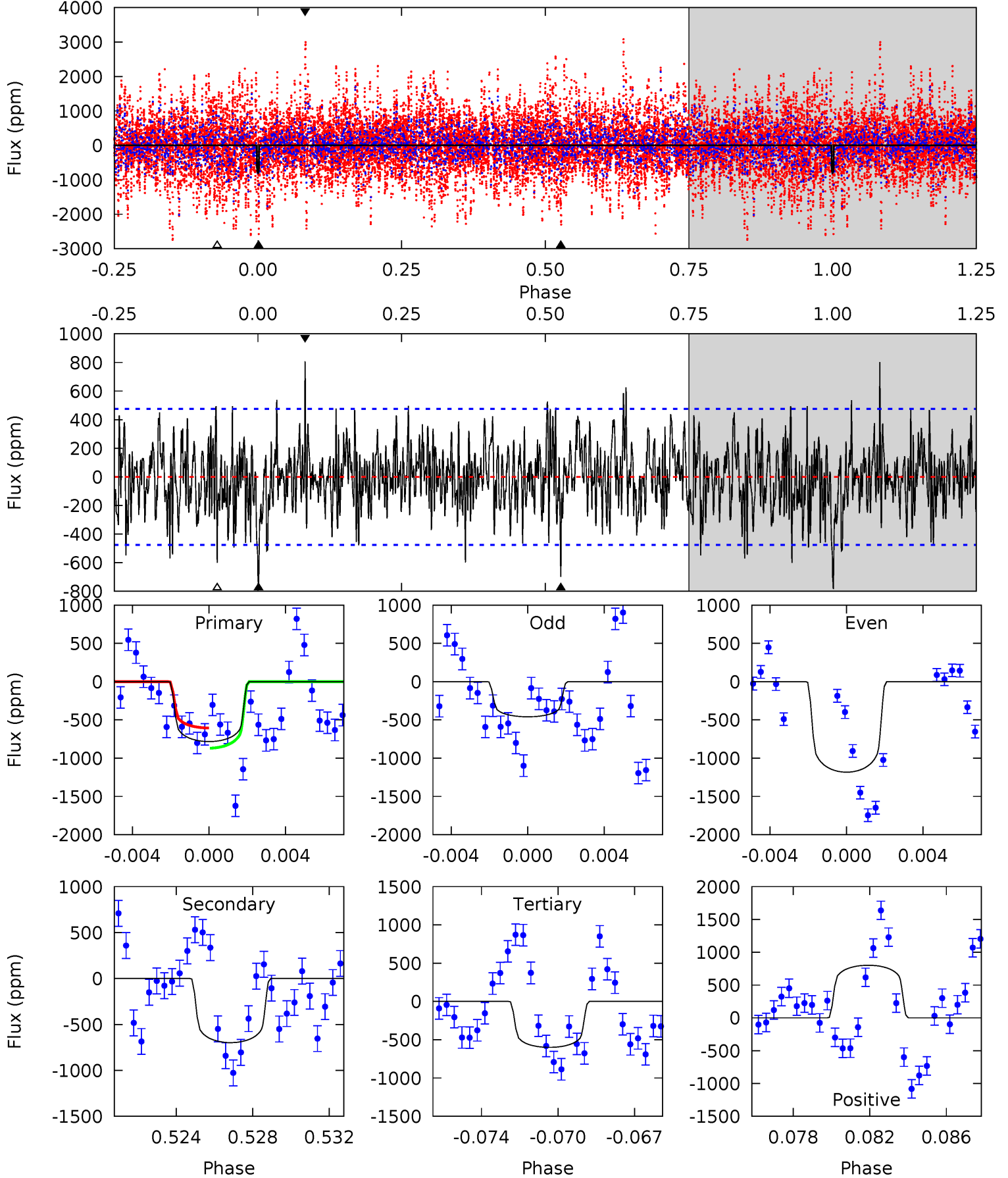
TCE 007798924-05     $P=148.313590$  Days     $T_0=167.335814$  (BKJD)



# DV Model-Shift Uniqueness Test

007798924-05, P = 148.284619 Days, E = 19.512450 Days

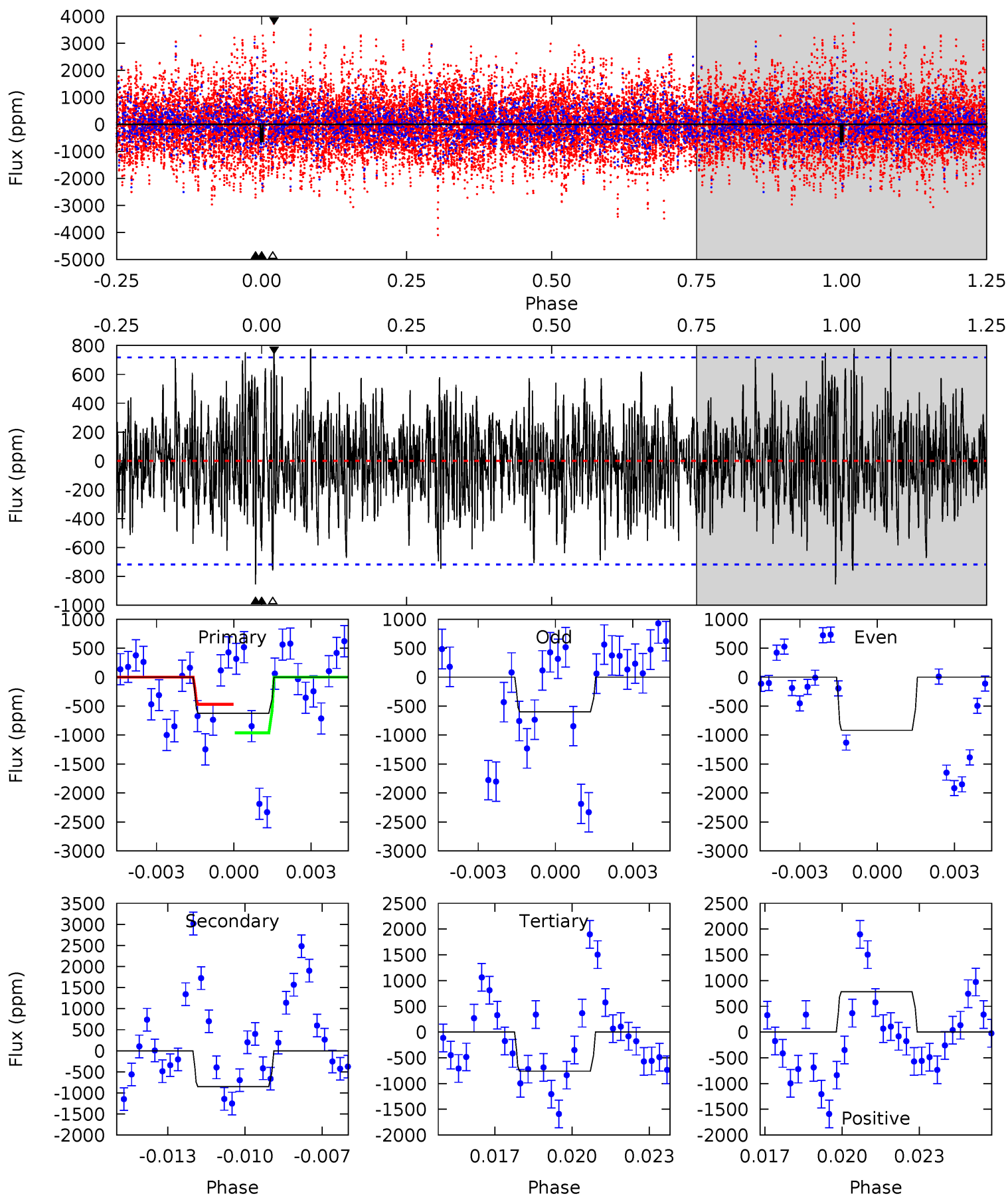
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.58	7.64	6.57	8.78	5.20	2.89	2.11	2.01	-0.20	1.08	-1.13	3.72	0.65	0.51	1.33



# Alt Model-Shift Uniqueness Test

007798924-05,  $P = 148.313590$  Days,  $E = 19.022224$  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
4.55	6.23	5.54	5.70	5.23	2.94	1.74	-0.99	-1.15	0.69	0.53	0.63	1.07	0.48	1.66



### Stellar Parameters For KIC 007798924

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7219^{+176}_{-277}$	$4.210^{+0.105}_{-0.195}$	$-0.260^{+0.250}_{-0.350}$	$1.523^{+0.494}_{-0.304}$	$1.377^{+0.222}_{-0.202}$	$0.549^{+0.320}_{-0.270}$
	+2%/-4%	+2%/-5%	+96%/-135%	+32%/-20%	+16%/-15%	+58%/-49%
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 007798924-05 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-698 \pm 91$	$4.83^{+0.87}_{-0.76}$	$713^{+52}_{-44}$	$6984^{+541}_{-526}$	$6214^{+2347}_{-1880}$
Alt.	$-854 \pm 137$	$4.33^{+0.86}_{-0.61}$	$709^{+51}_{-41}$	$7746^{+716}_{-631}$	$8983^{+3717}_{-2781}$

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



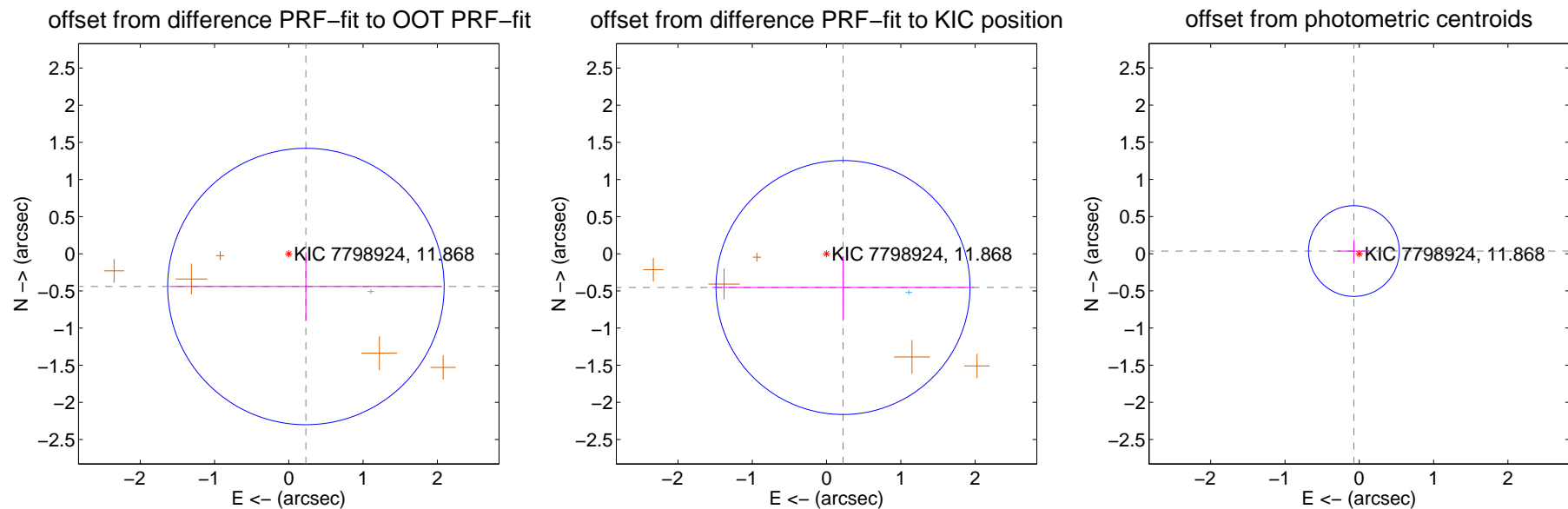
## DV Centroid Data

Supplemental centroid analysis for 007798924-05. **Kepler magnitude: 11.87.** Transit SNR 5.30

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

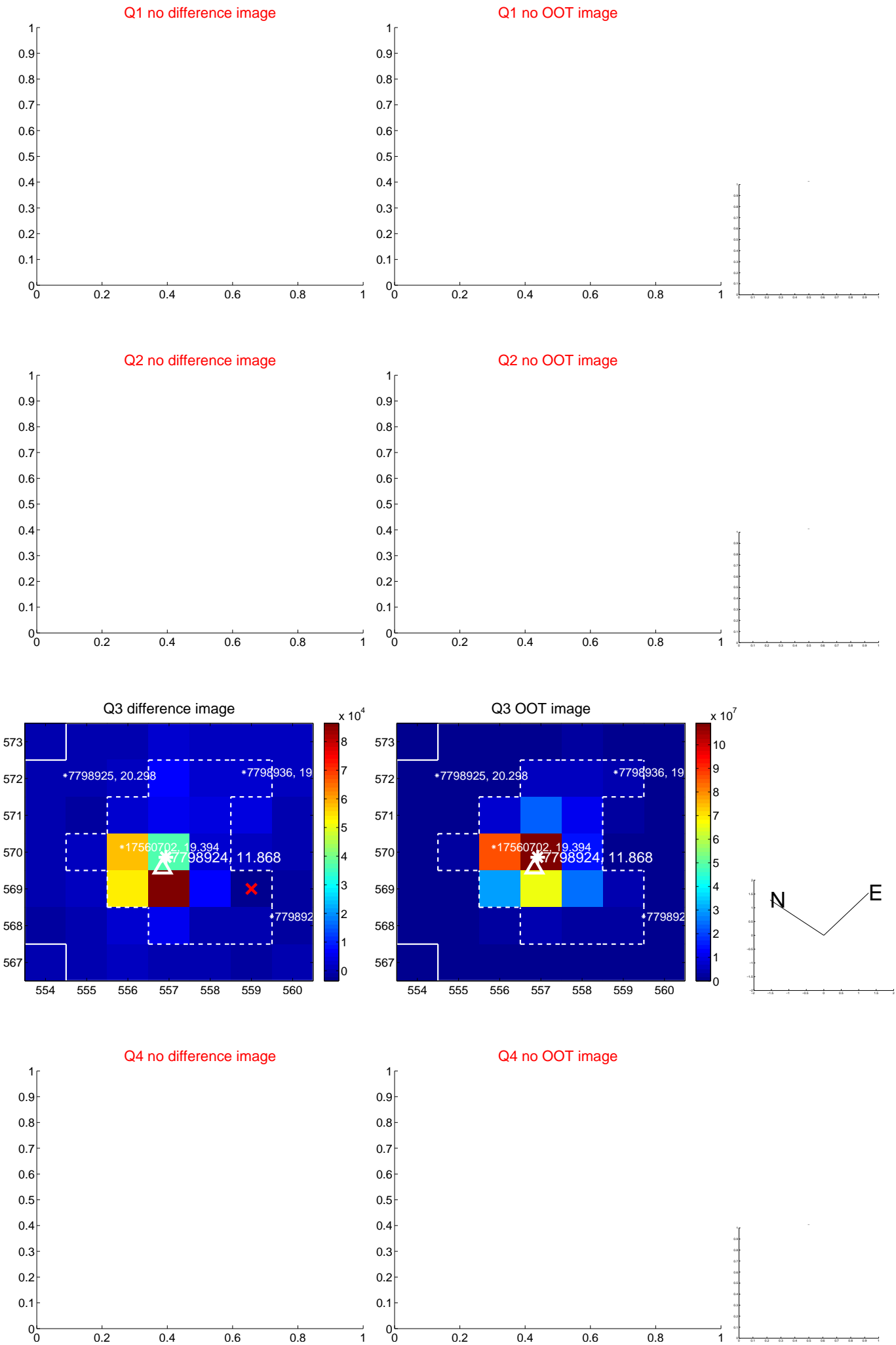
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.497 \pm 0.620$	0.80	$-0.230 \pm 1.828$	$-0.440 \pm 0.461$
PRF-fit source offset from KIC position	$0.505 \pm 0.570$	0.89	$-0.221 \pm 1.761$	$-0.454 \pm 0.418$
photometric centroid source offset	$0.08 \pm 0.20$	0.40	$0.07 \pm 0.21$	$0.04 \pm 0.15$

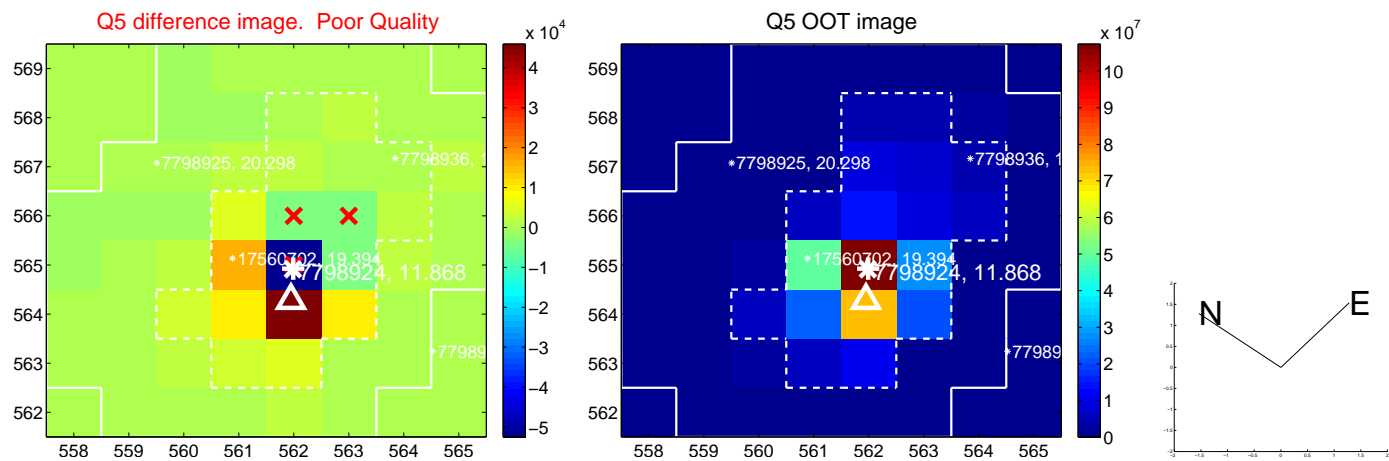


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

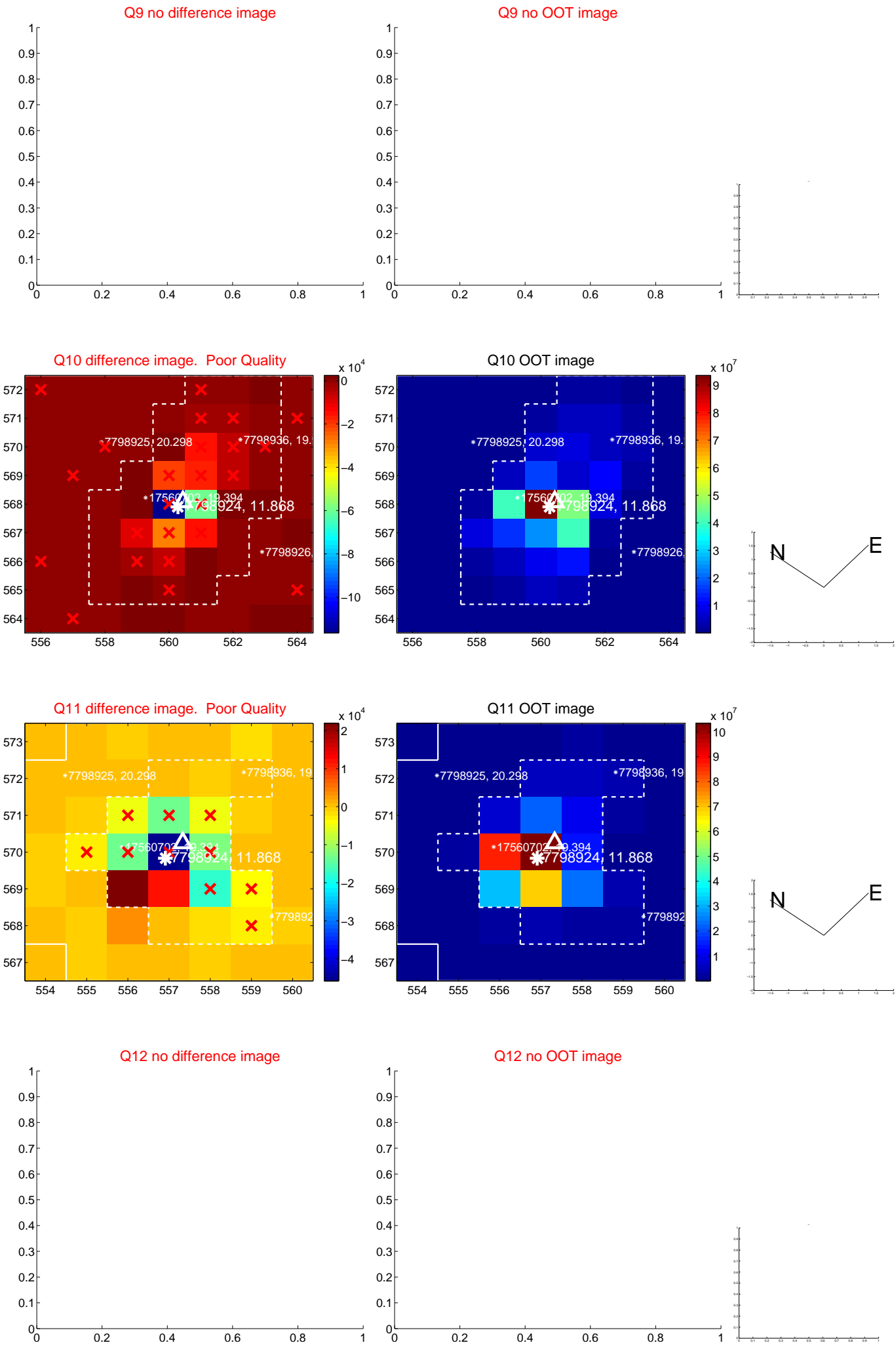
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



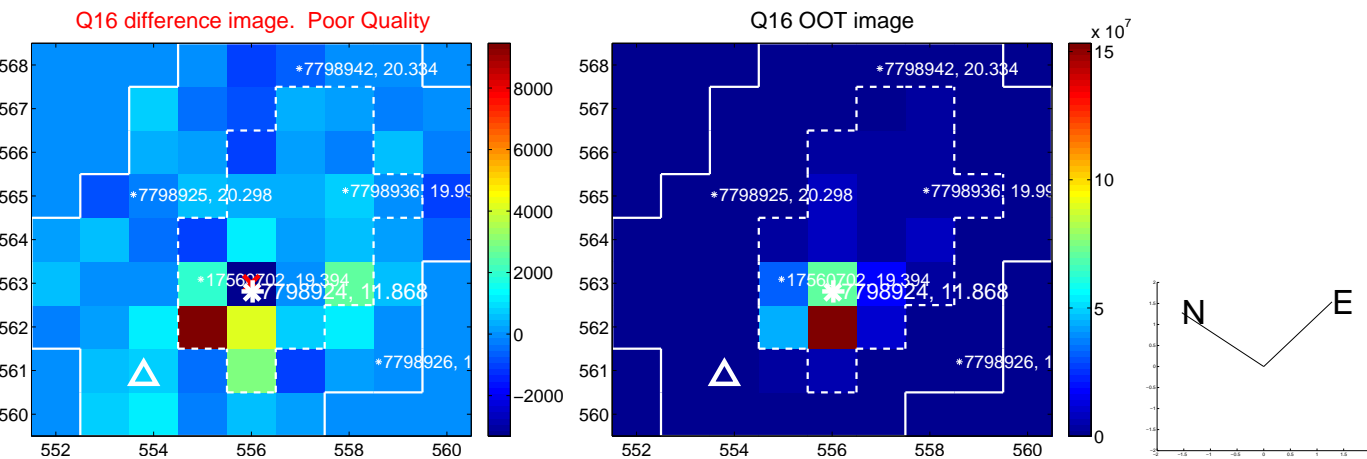
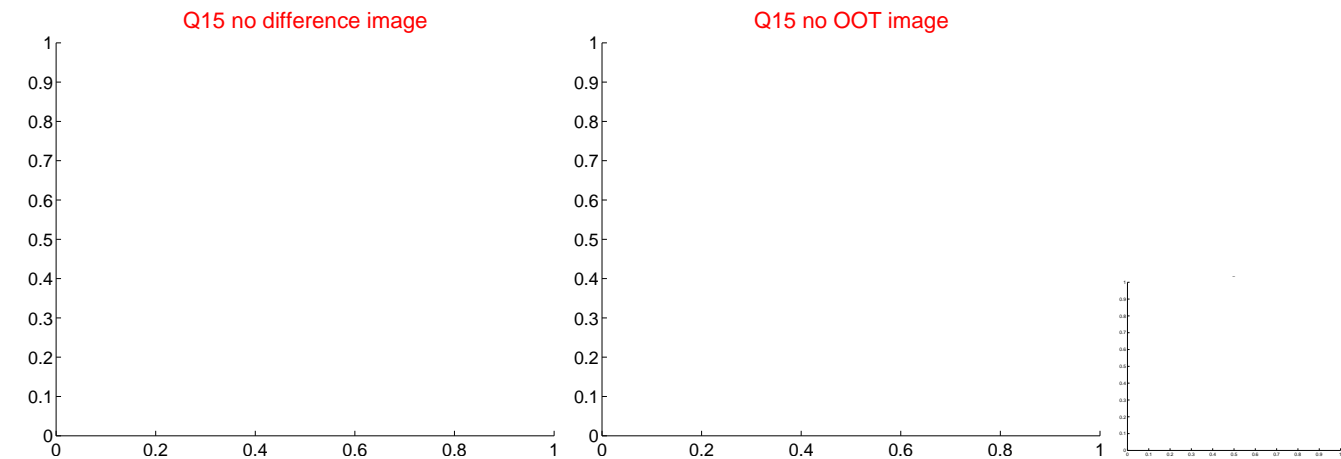
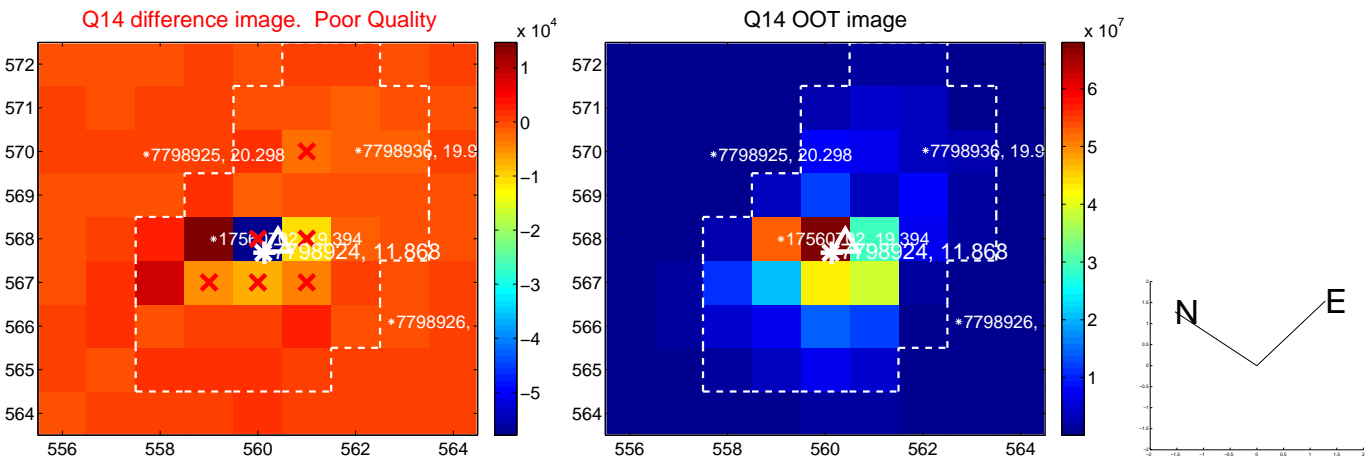
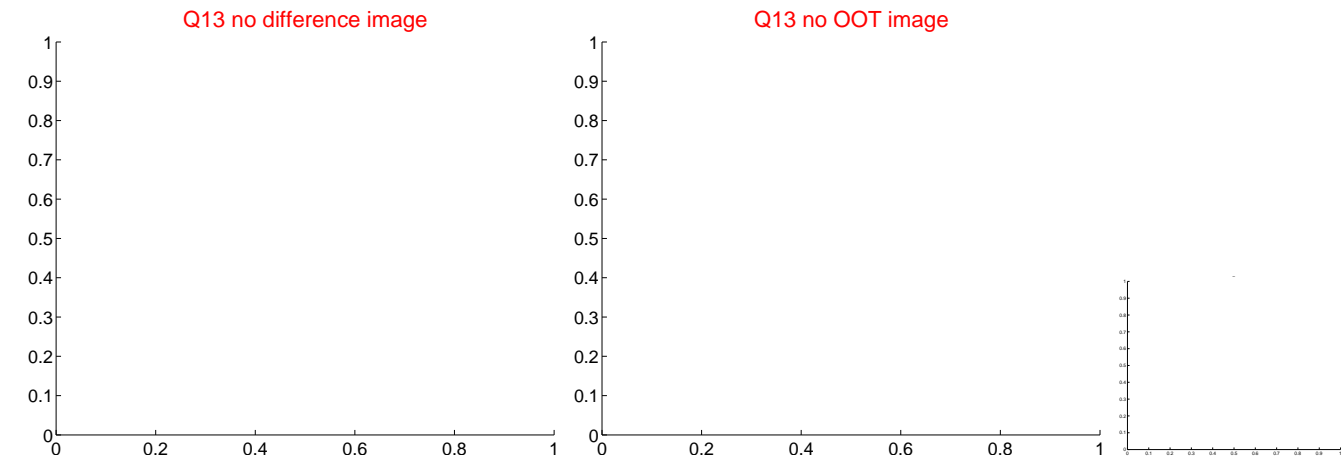
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



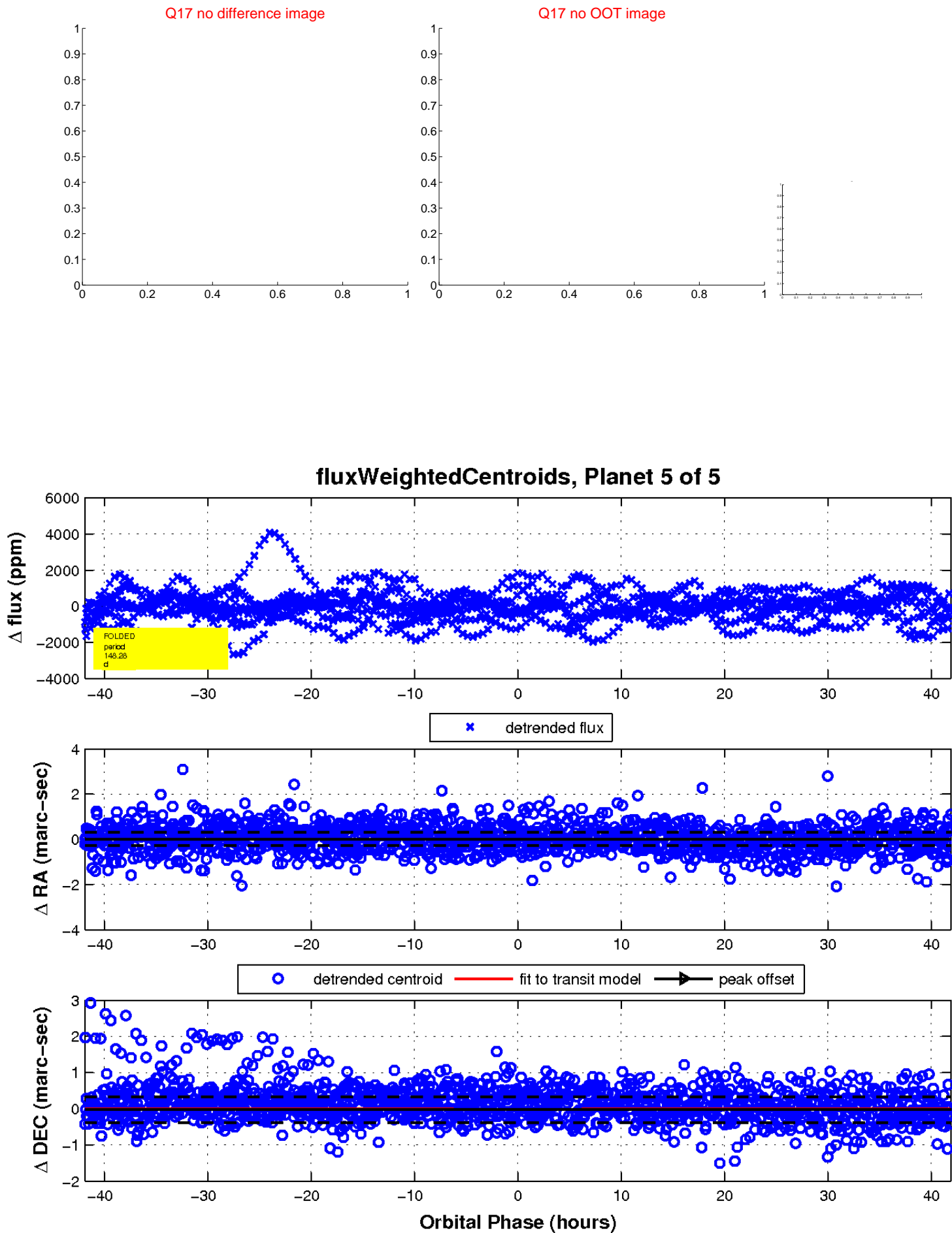
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

