

# KIC 007532880

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007532880-01	OBS	No	344.533473	389.566539	1007.7	3.822	14.7	4.6	0.97	5808	3.06	1.12
007532880-02	OBS	No	505.223059	490.353467	326.9	3.094	14.6	1.7	0.97	5808	2.08	0.67
007532880-03	OBS	No	554.151640	435.743537	2047.7	4.730	13.9	6.9	0.97	5808	4.38	0.60

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007532880-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007532880-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007532880-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—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.

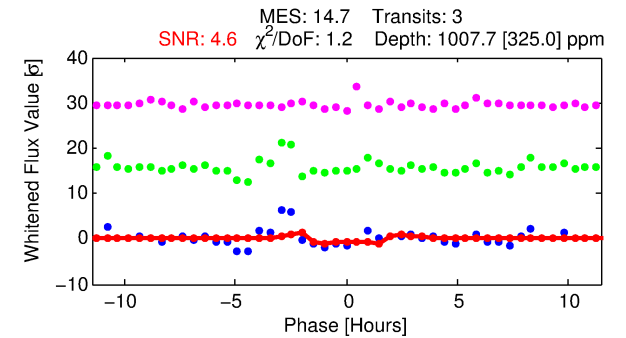
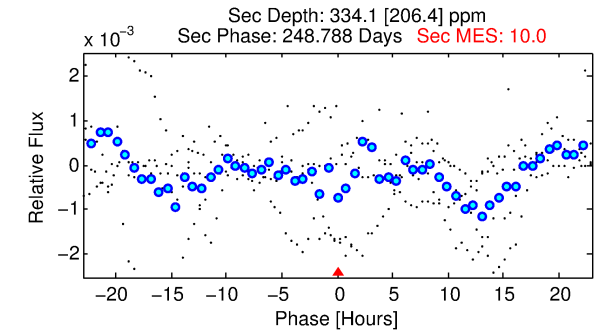
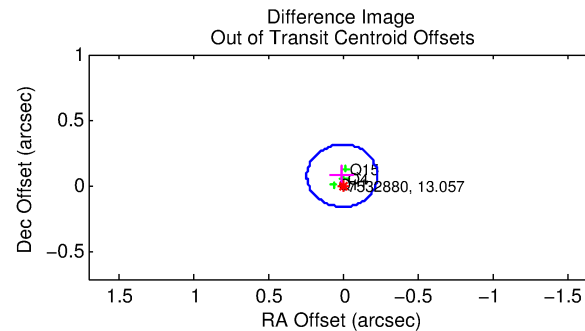
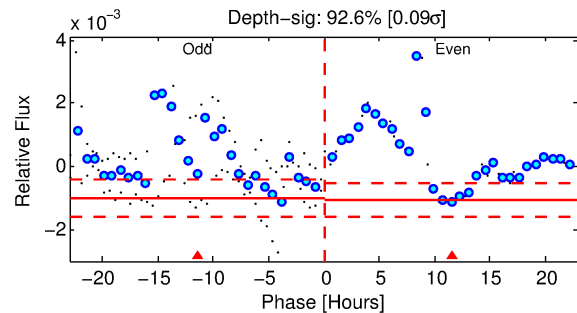
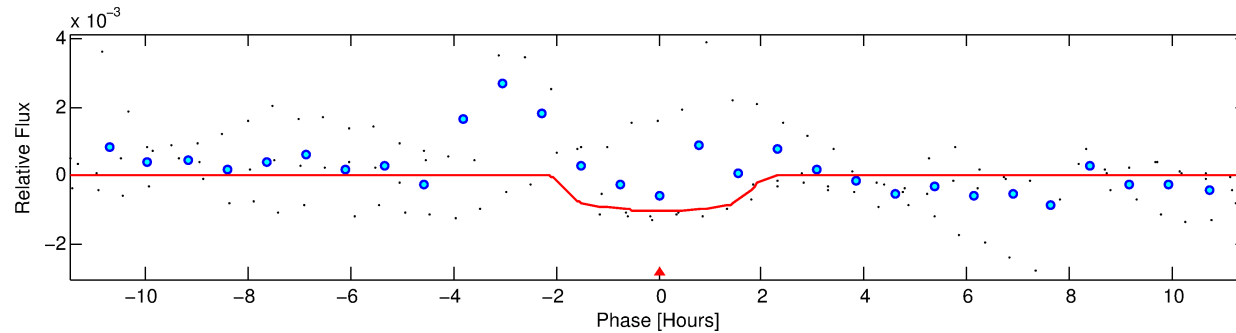
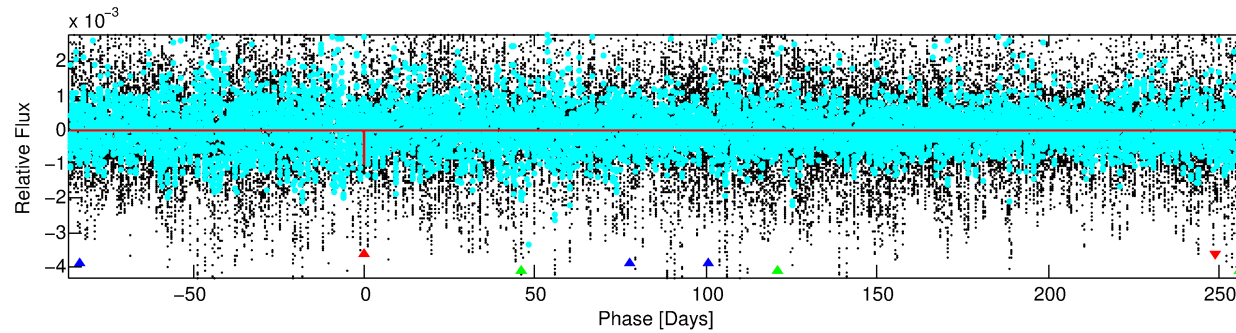
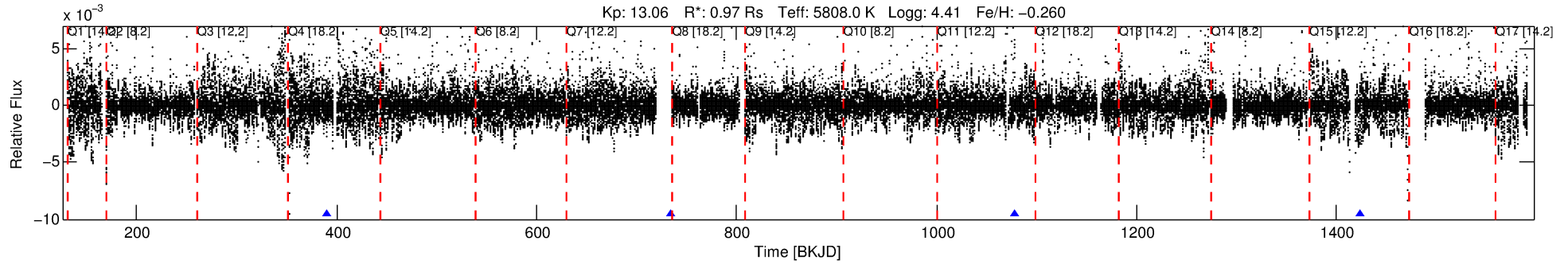
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007532880-01

No Significant Match Found

# DV One-Page Summary

KIC: 7532880 Candidate: 1 of 3 Period: 344.533 d



## DV Fit Results:

Period = 344.53347 [0.00482] d  
Epoch = 389.5665 [0.0129] BKJD  
Rp/R\* = 0.0290 [0.0637]  
a/R\* = 701.64 [6905.94]  
b = 0.14 [67.37]  
Seff = 1.12 [0.40]  
Teq = 262 [24] K  
Rp = 3.06 [6.79] Re  
a = 0.9234 [0.2179] AU  
Ag = 16697.89 [74354.45] [0.22 $\sigma$ ]  
Teffp = 4613 [5122] K [0.85 $\sigma$ ]

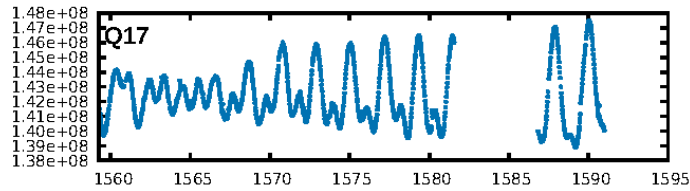
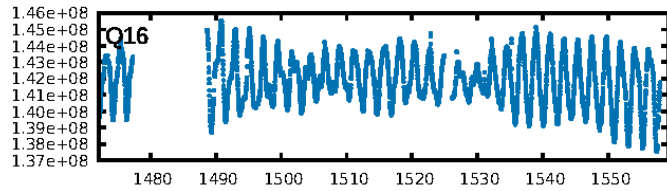
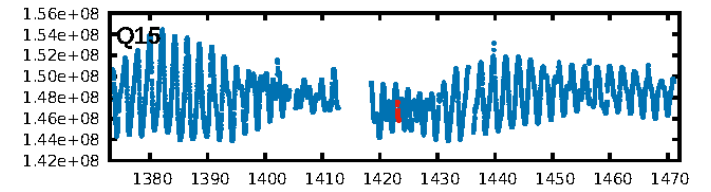
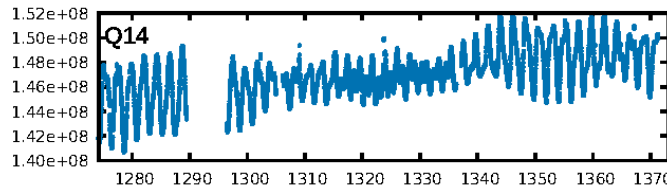
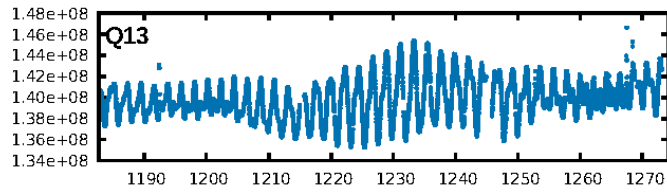
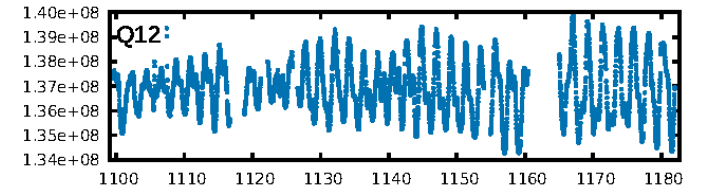
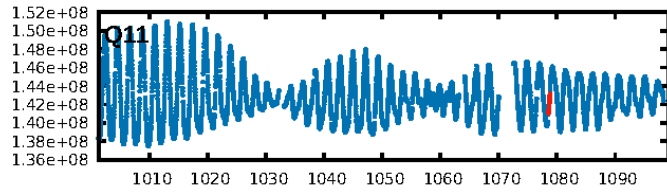
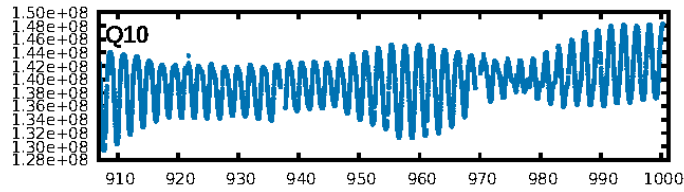
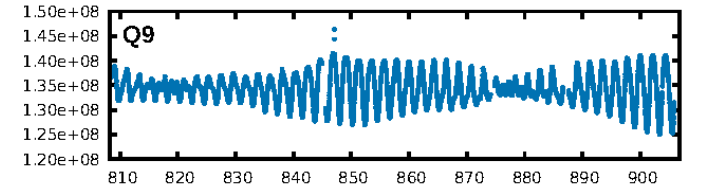
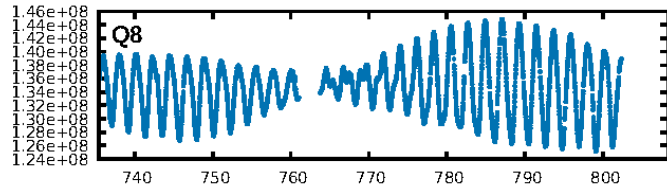
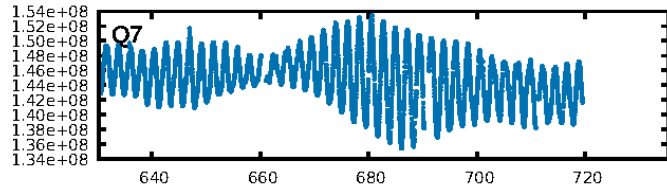
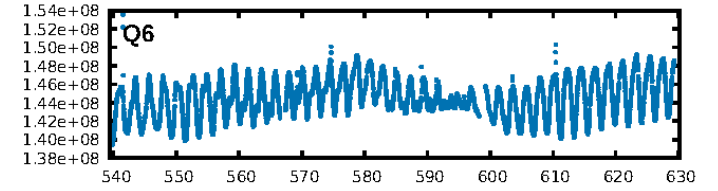
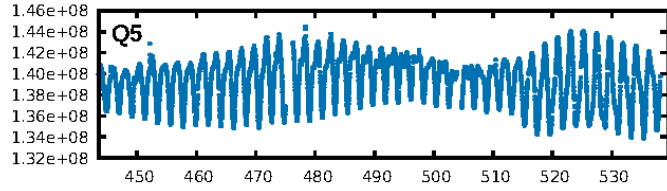
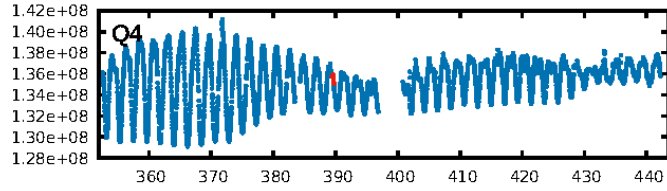
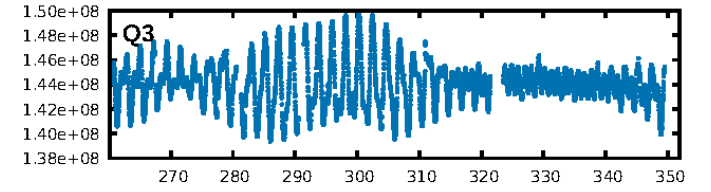
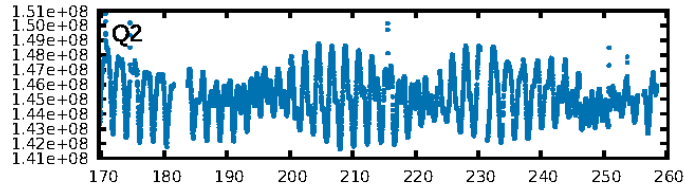
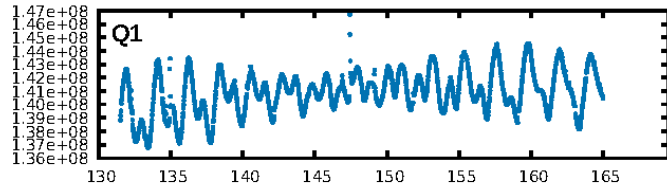
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [784.21 $\sigma$ ]  
ModelChiSquare2-sig: 29.7%  
ModelChiSquareGof-sig: 94.3%  
Bootstrap-pfa: 3.27e-10  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: -0.7853  
Centroid-sig: 23.8%  
Centroid-so: 0.514 arcsec [1.07 $\sigma$ ]  
OotOffset-rm: 0.081 arcsec [1.04 $\sigma$ ]  
OotOffset-st: 0/2/1/0 [3]  
KicOffset-rm: 0.206 arcsec [2.74 $\sigma$ ]  
KicOffset-st: 0/2/1/0 [3]  
DiffImageQuality-fgm: 0.67 [2/3]  
DiffImageOverlap-fno: 1.00 [3/3]

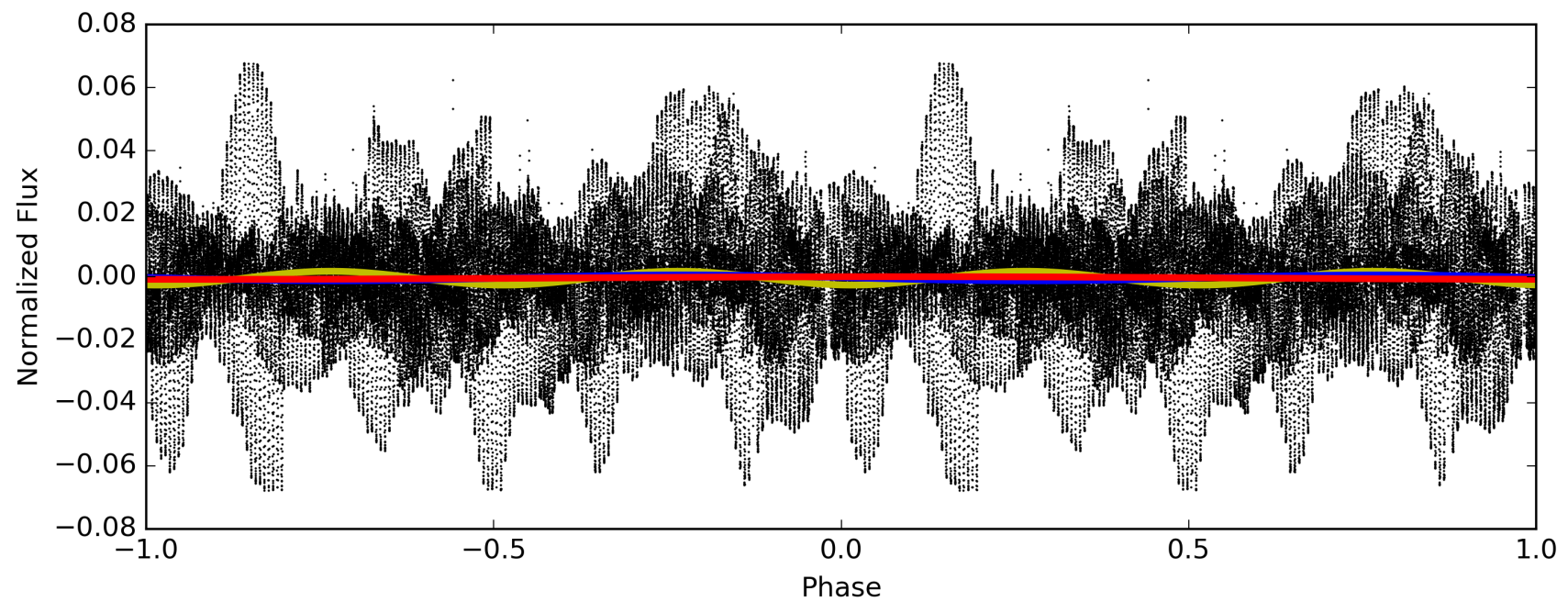
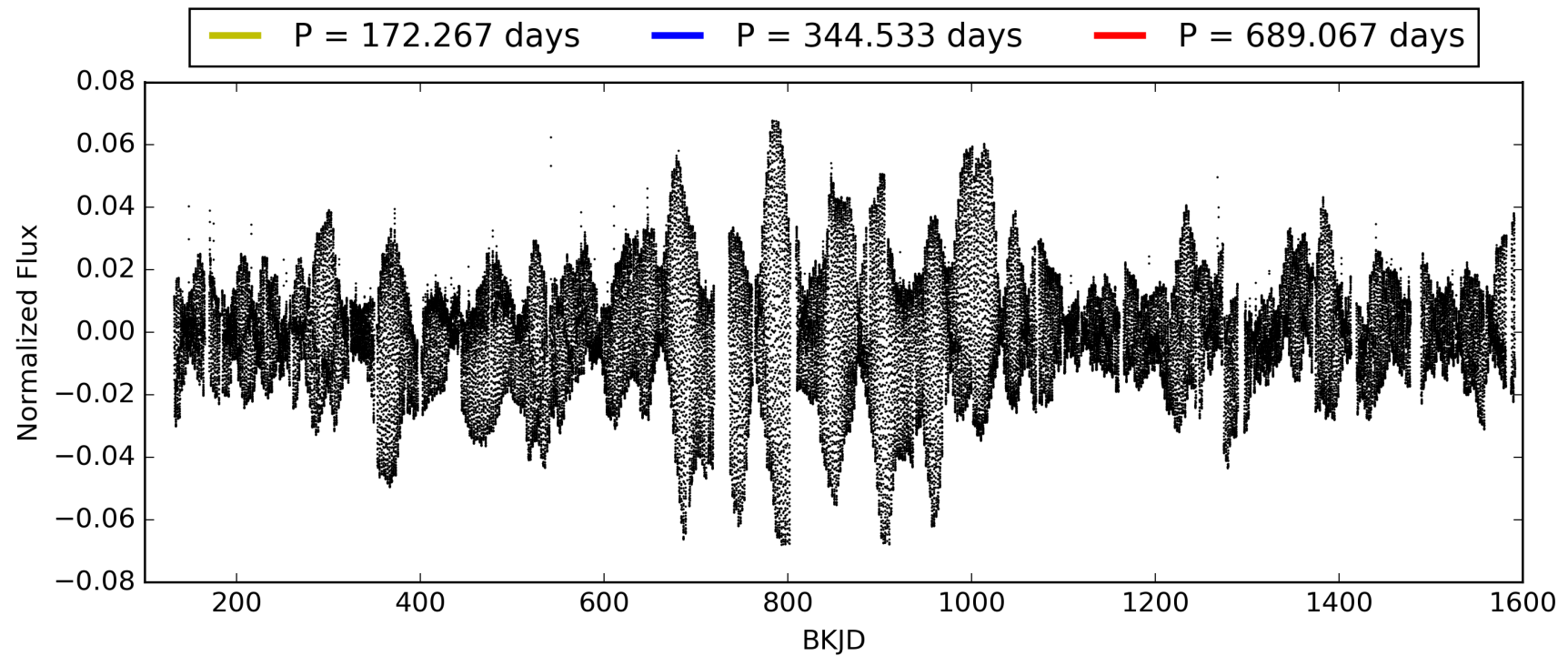
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 10:54:47 Z

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

# TCE 007532880-01, PDC Light Curves

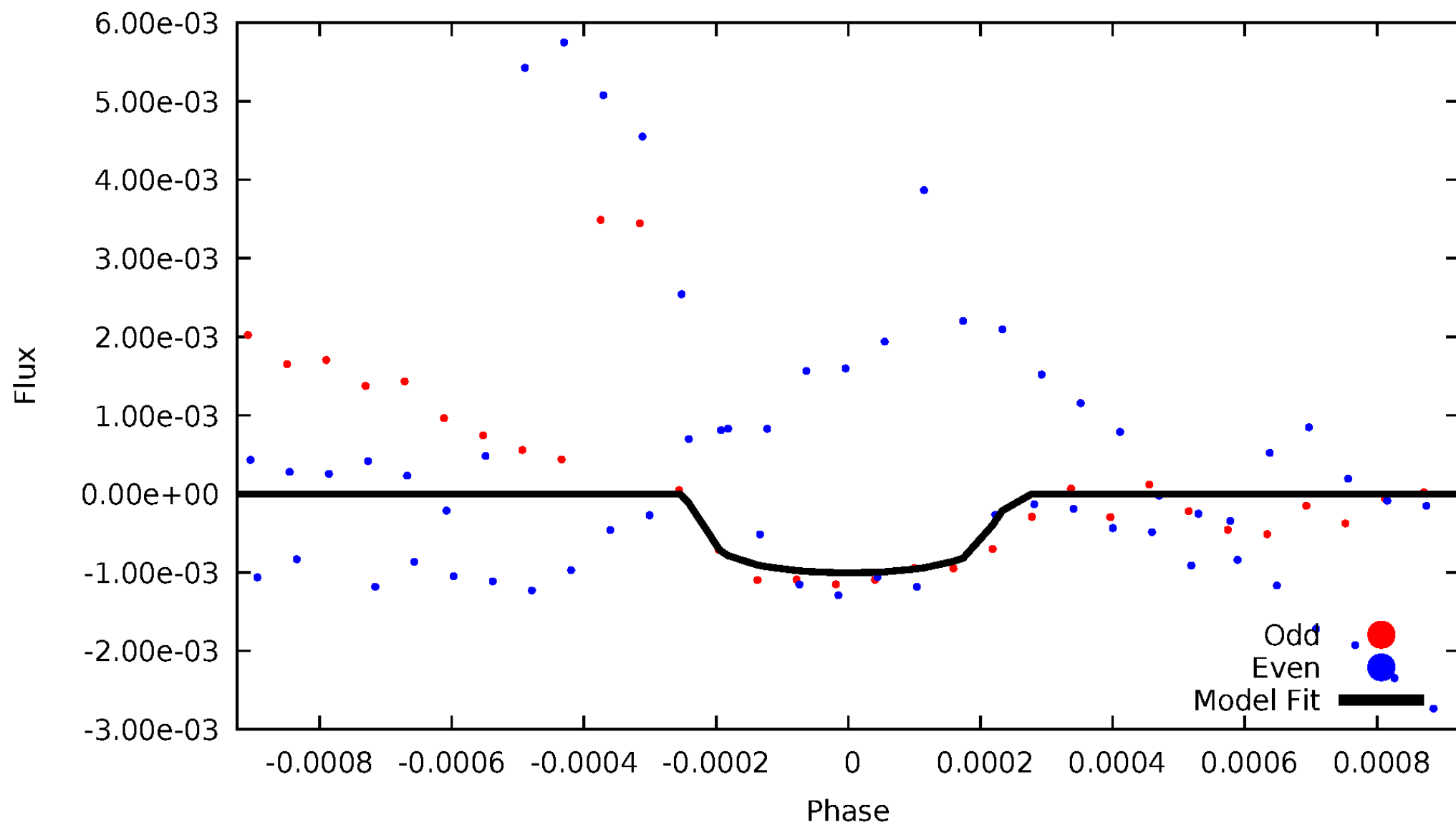


TCE 007532880-01



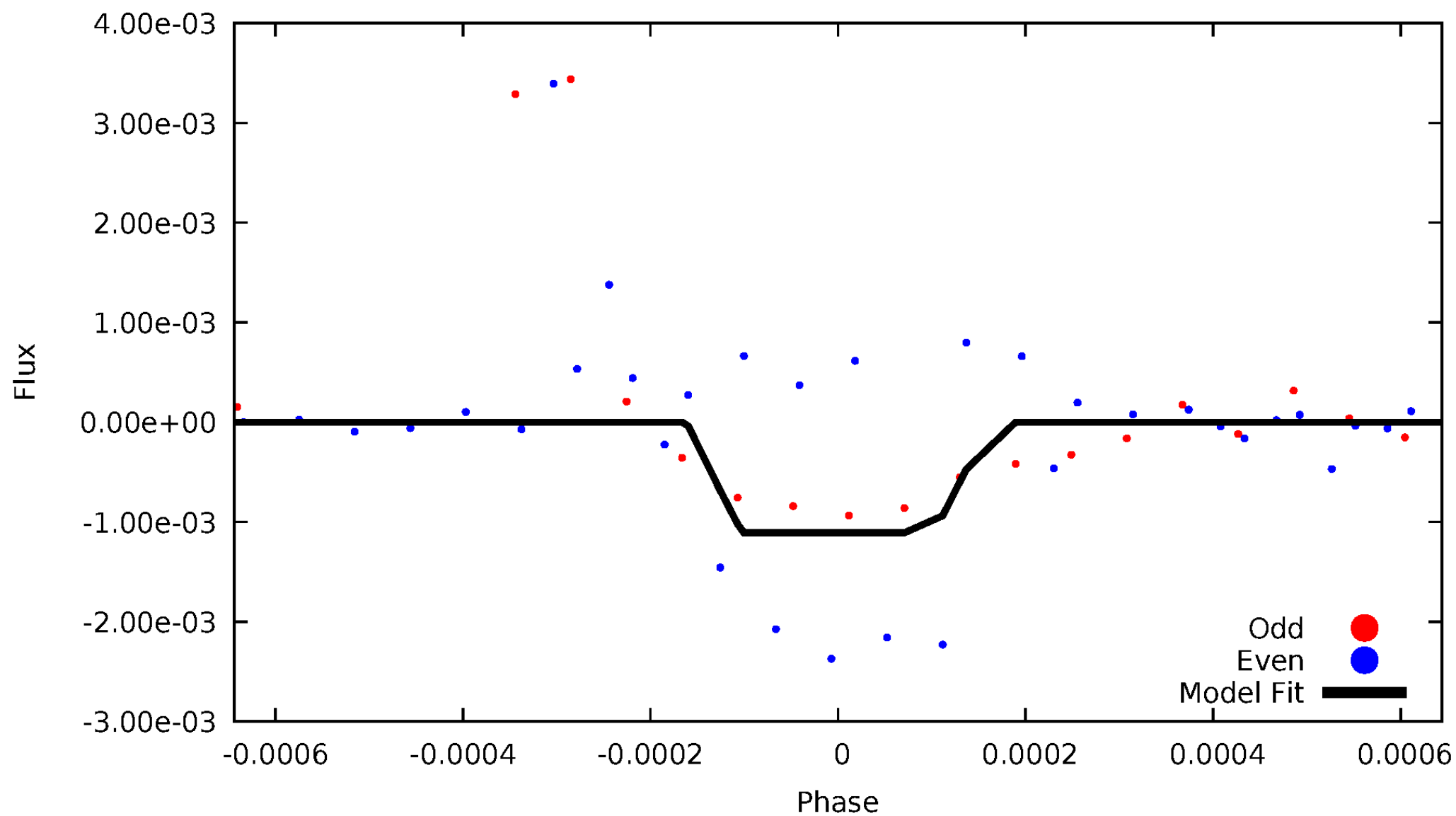
# DV Odd/Even

TCE 007532880-01



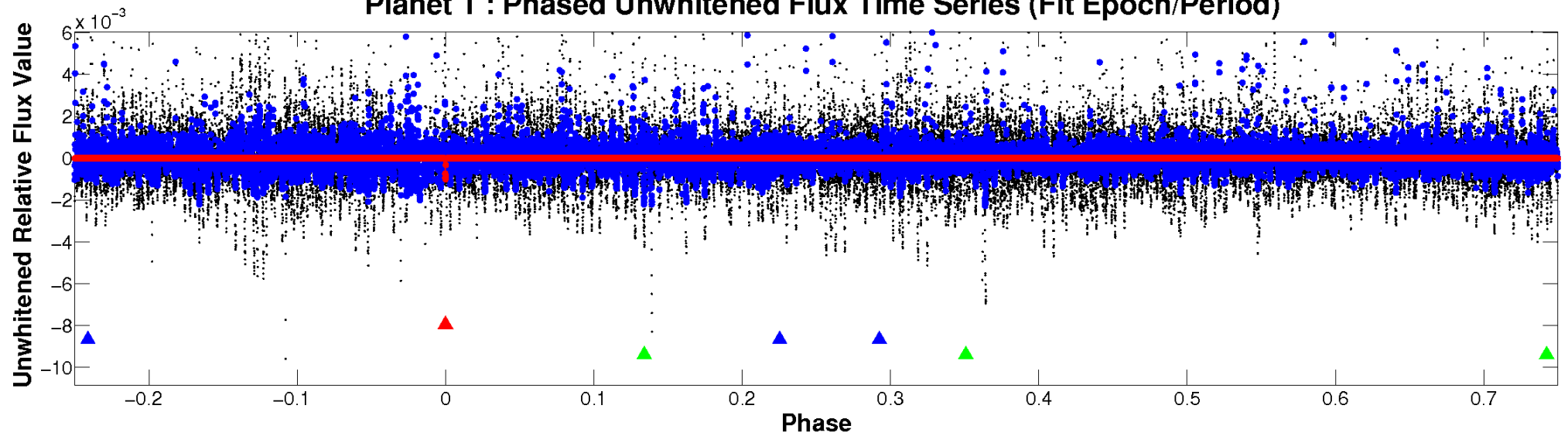
# ALT Odd/Even

TCE 007532880-01

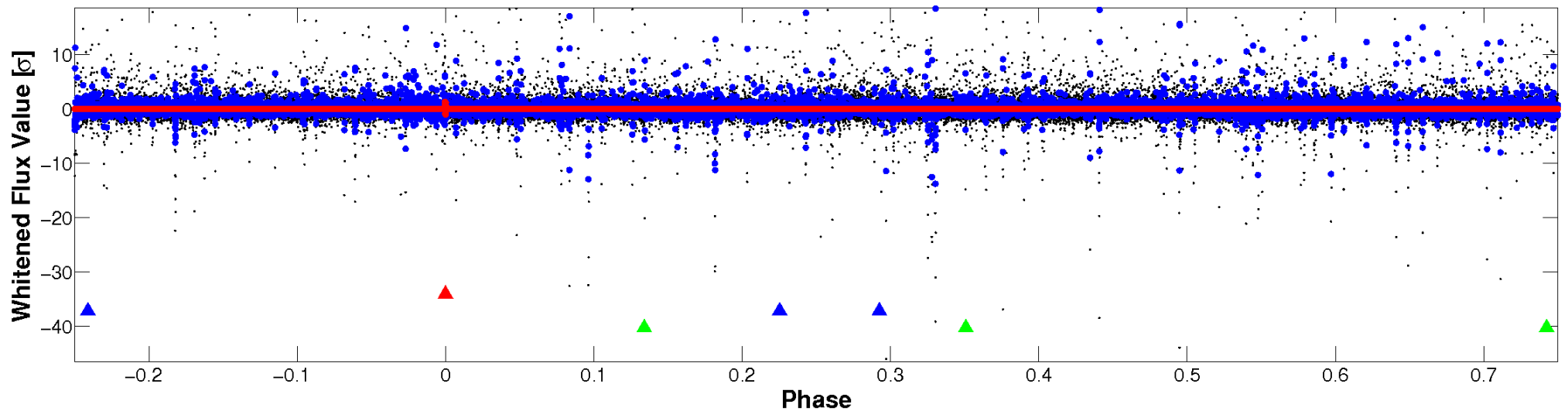


# Non-Whitened Vs. Whitened Light Curve

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



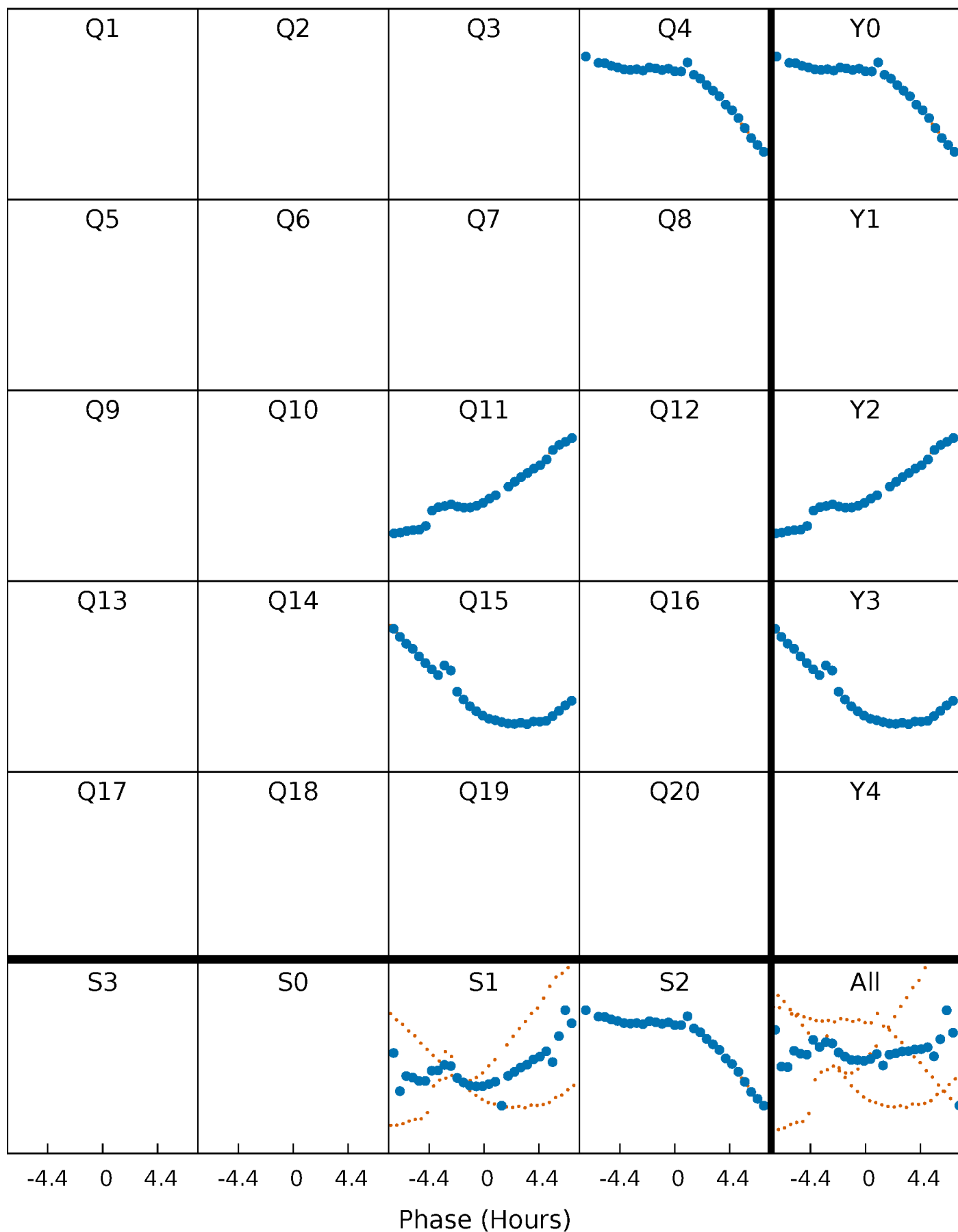
Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)





# PDC Quarter-Phased Transit Curves

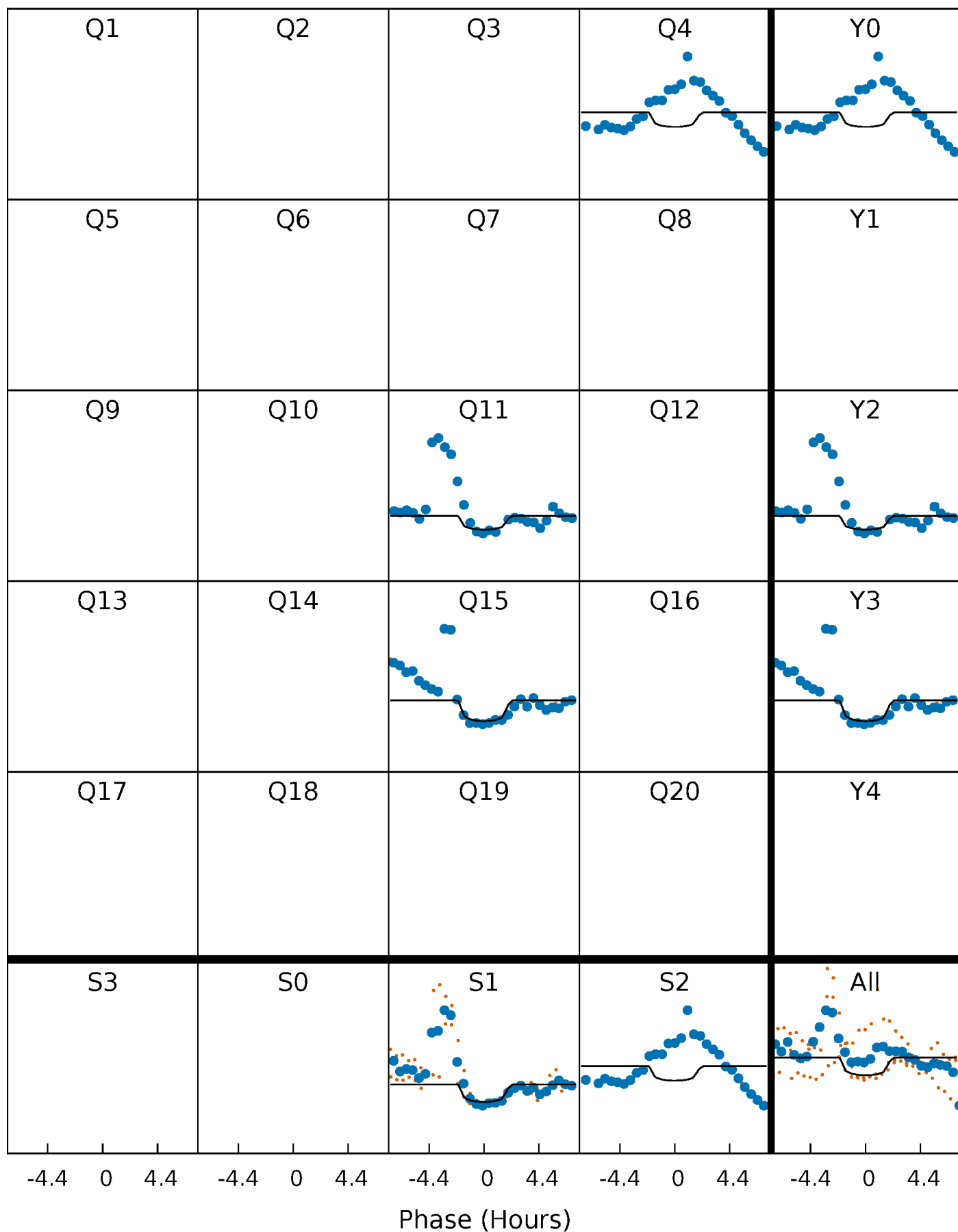
TCE 007532880-01 P=344.533473 Days  $T_0=389.566539$  (BKJD)





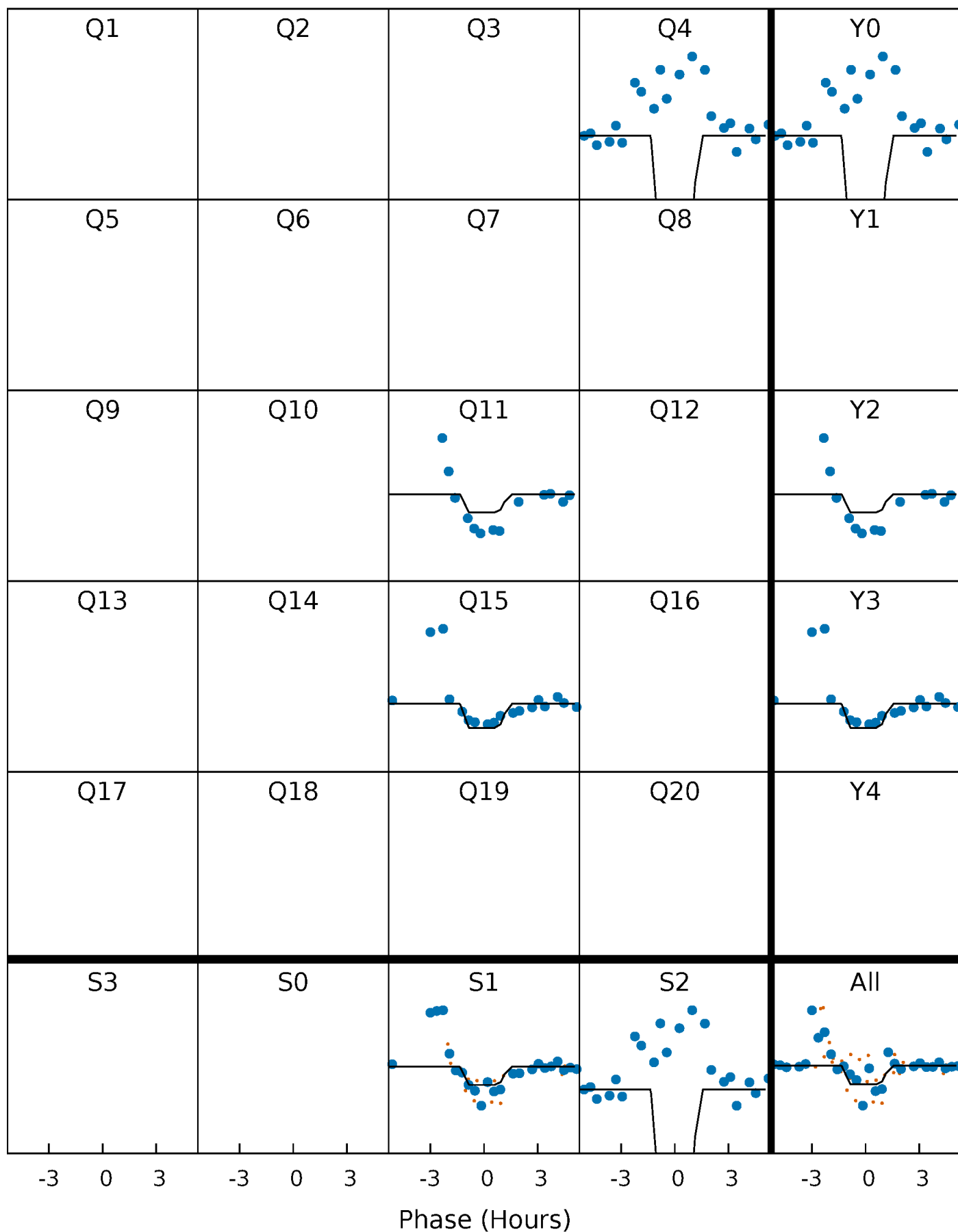
# DV Quarter-Phased Transit Curves

TCE 007532880-01 P=344.533473 Days  $T_0=389.566539$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

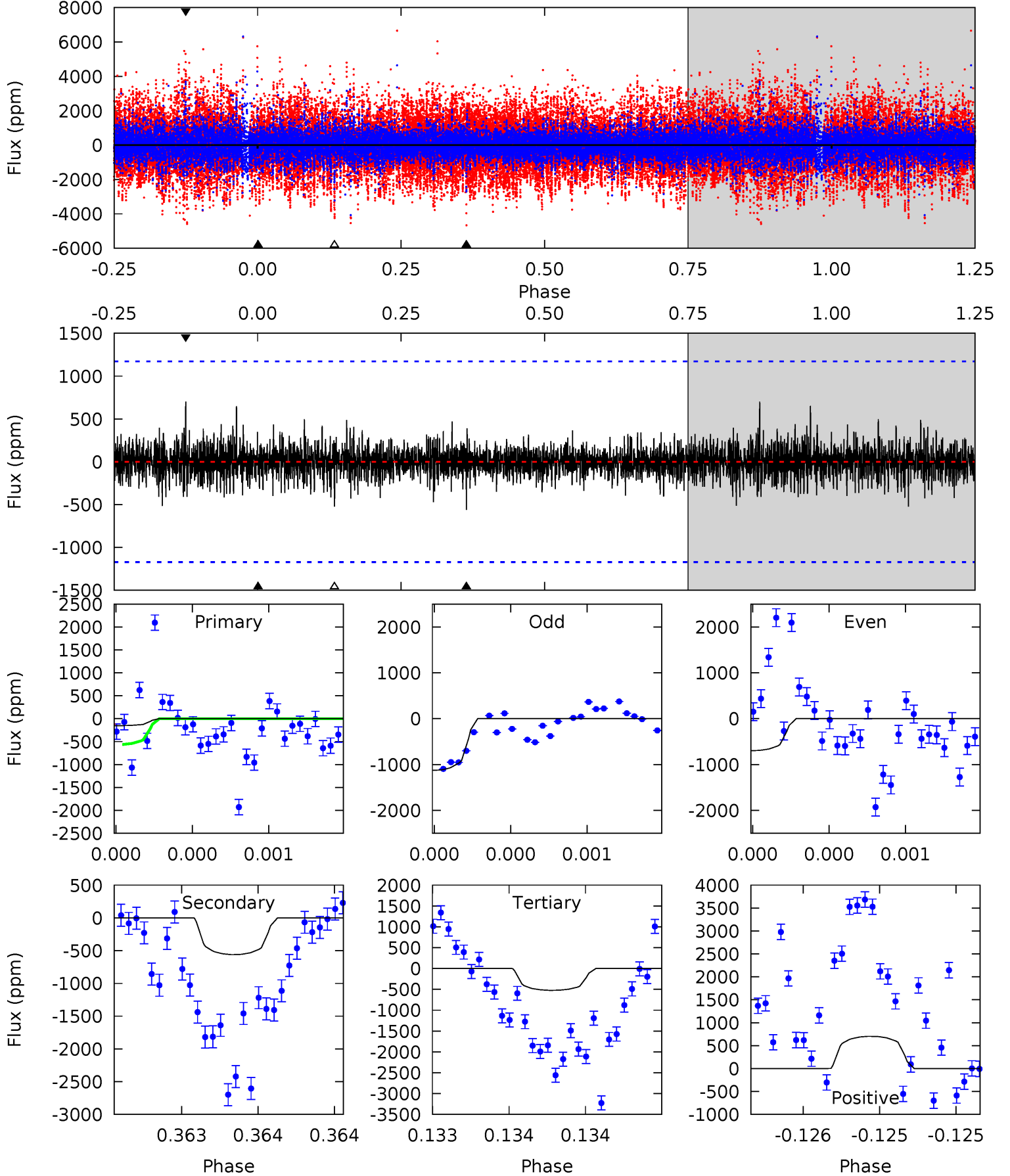
TCE 007532880-01 P=344.525742 Days  $T_0=389.579273$  (BKJD)



# DV Model-Shift Uniqueness Test

007532880-01,  $P = 344.533473$  Days,  $E = 45.033066$  Days

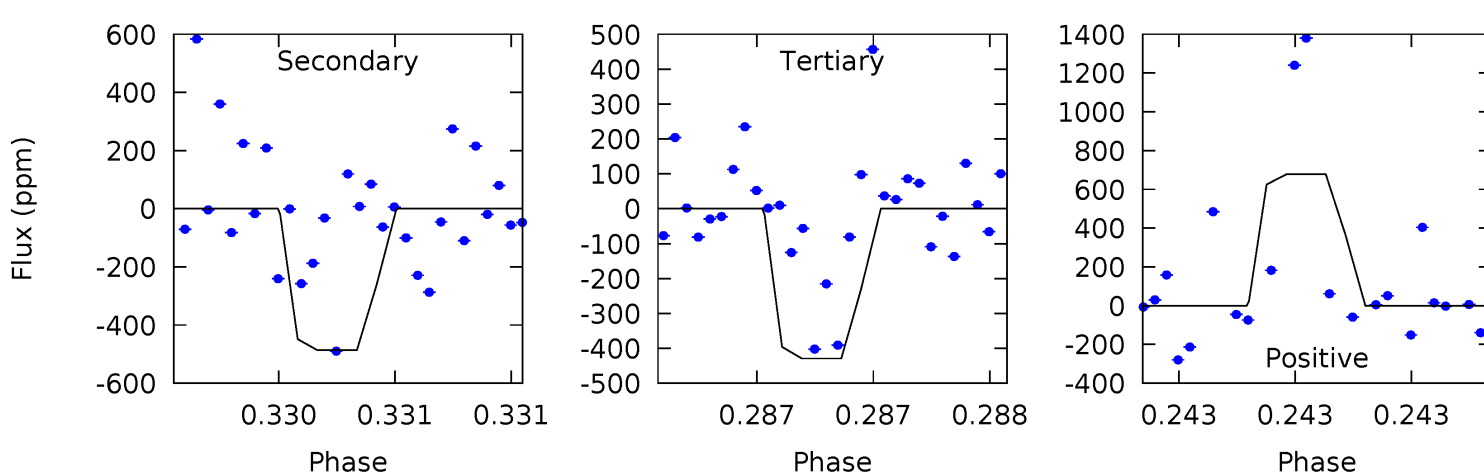
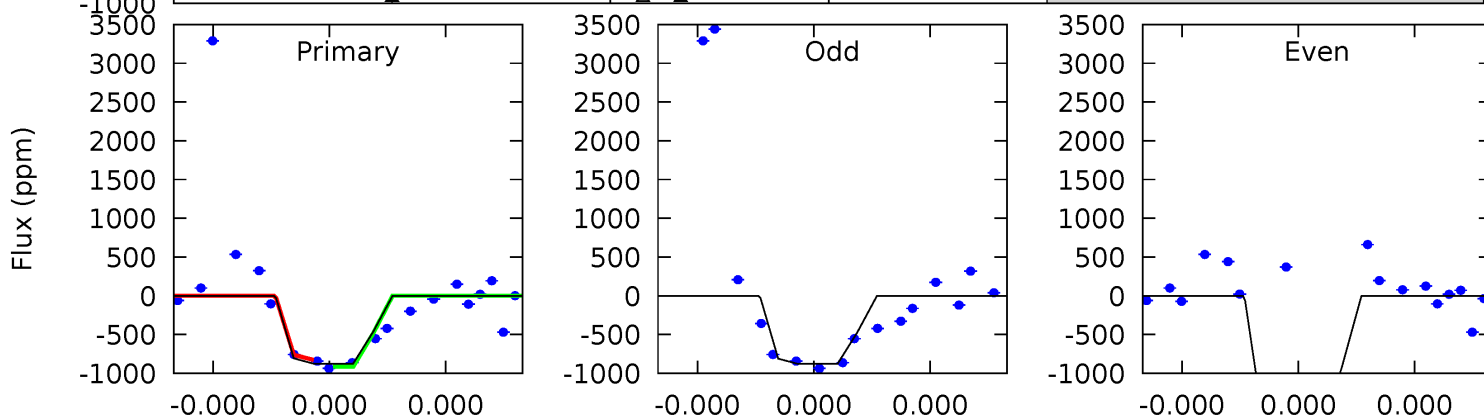
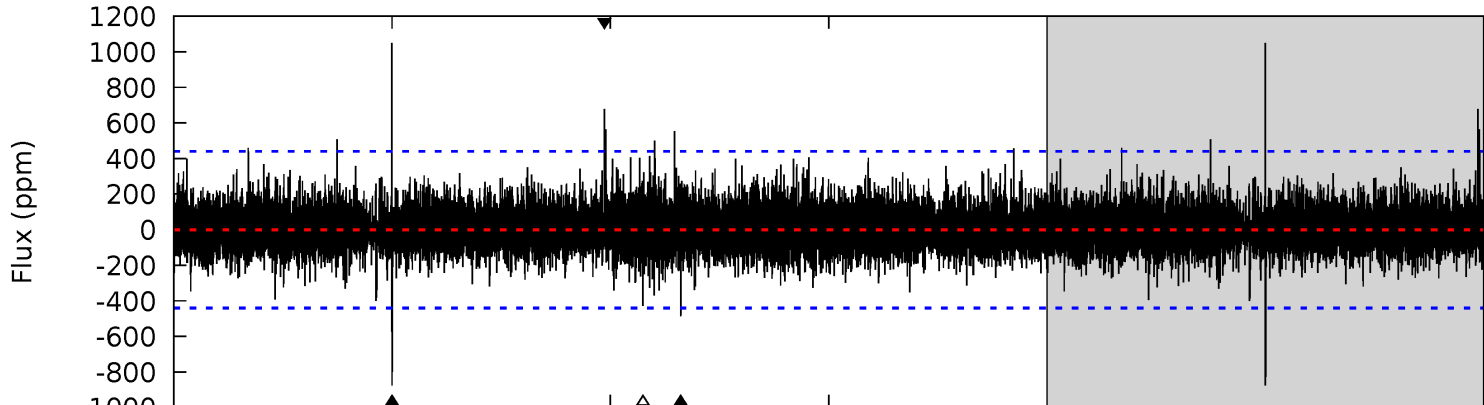
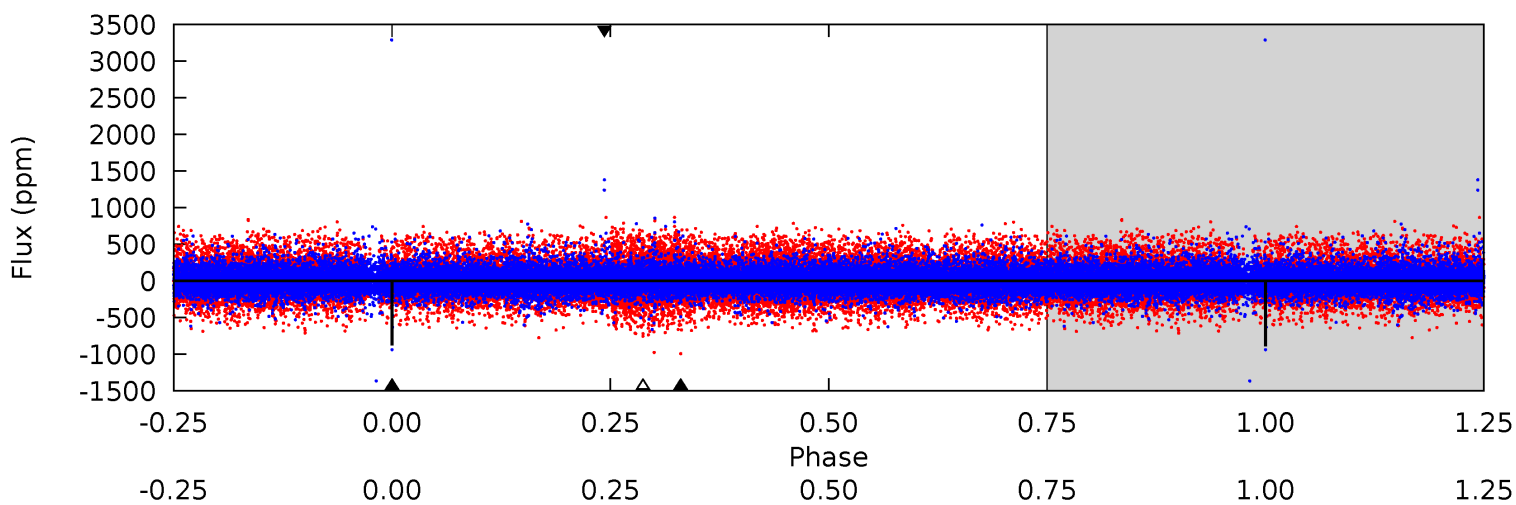
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.73	2.67	2.49	3.35	5.58	3.49	0.62	-1.76	-2.62	0.18	-0.67	0.92	-0.03	0.56	0.98



# Alt Model-Shift Uniqueness Test

007532880-01, P = 344.525742 Days, E = 45.053531 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	6.22	5.49	8.66	5.64	3.58	1.12	5.71	2.53	0.73	-2.44	7.40	0.97	0.55	0



### Stellar Parameters For KIC 007532880

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5808^{+139}_{-156}$	$4.412^{+0.124}_{-0.186}$	$-0.260^{+0.300}_{-0.300}$	$0.969^{+0.273}_{-0.147}$	$0.885^{+0.121}_{-0.081}$	$1.370^{+0.746}_{-0.658}$
	+2%/-3%	+3%/-4%	+115%/-115%	+28%/-15%	+14%/-9%	+54%/-48%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 007532880-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-561 \pm 210$	$6.05^{+5.49}_{-4.07}$	$370^{+27}_{-22}$	$4050^{+2444}_{-836}$	$6847^{+58791}_{-5091}$
Alt.	$-486 \pm 78$	$6.30^{+6.18}_{-4.34}$	$367^{+28}_{-19}$	$3890^{+2514}_{-698}$	$5884^{+55848}_{-4380}$

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

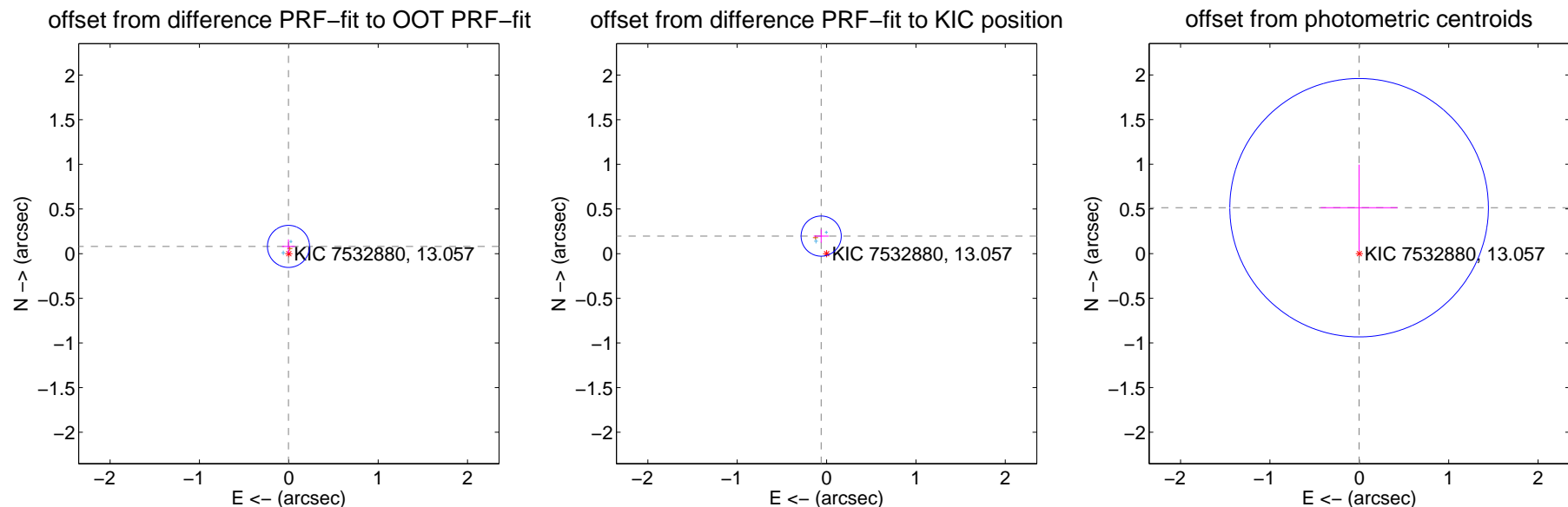
## DV Centroid Data

Supplemental centroid analysis for 007532880-01. Kepler magnitude: 13.06. Transit SNR 4.61

There are 2 quarters with good PRF difference image offsets

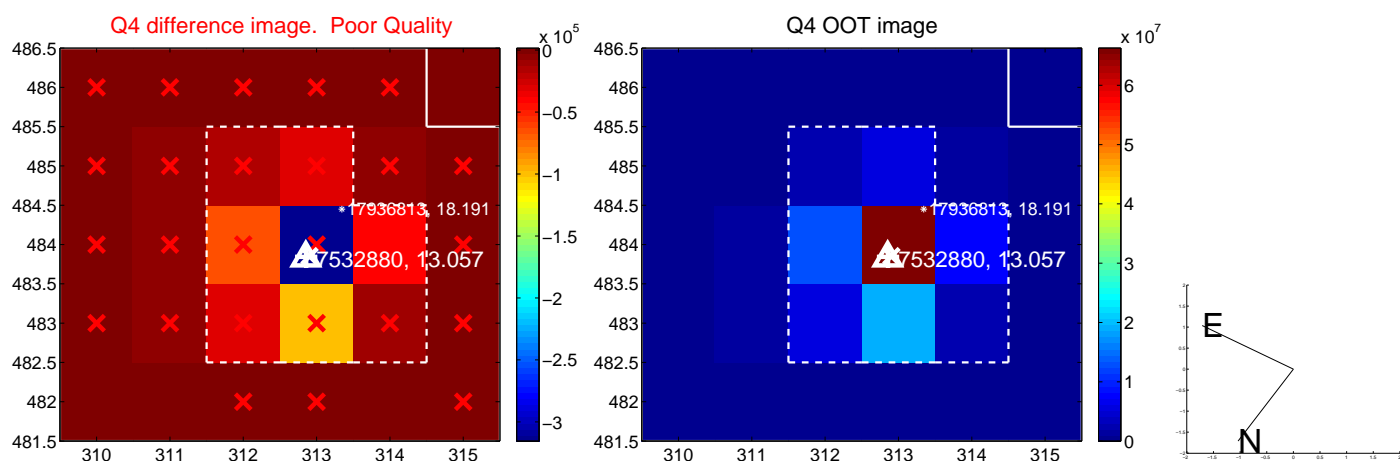
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.081 \pm 0.079$	1.04	$0.004 \pm 0.073$	$0.081 \pm 0.079$
PRF-fit source offset from KIC position	$0.206 \pm 0.075$	2.74	$0.060 \pm 0.083$	$0.197 \pm 0.074$
photometric centroid source offset	$0.51 \pm 0.48$	1.07	$0.00 \pm 0.43$	$0.51 \pm 0.48$



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

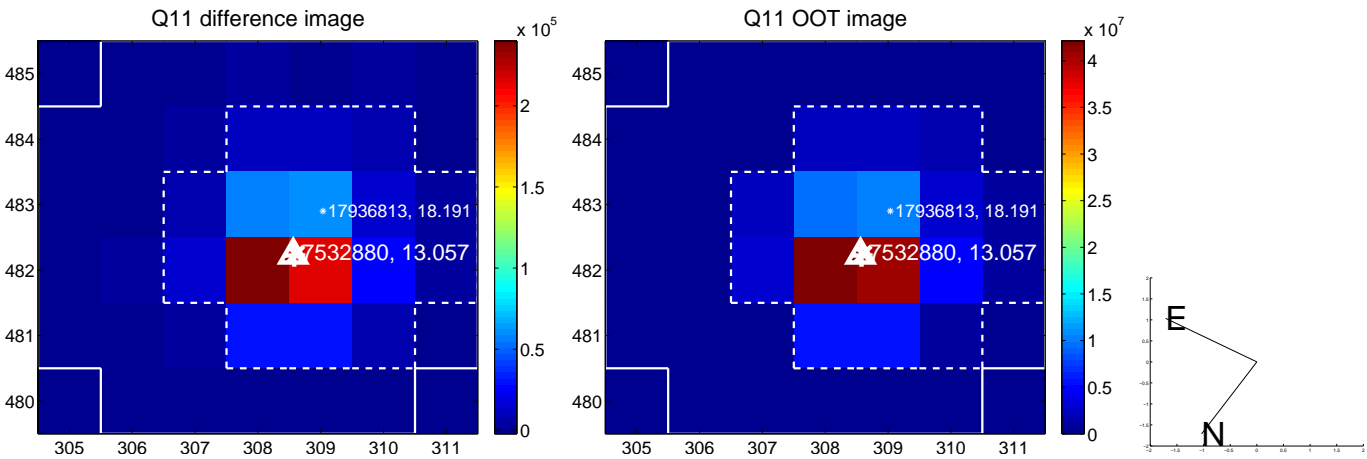




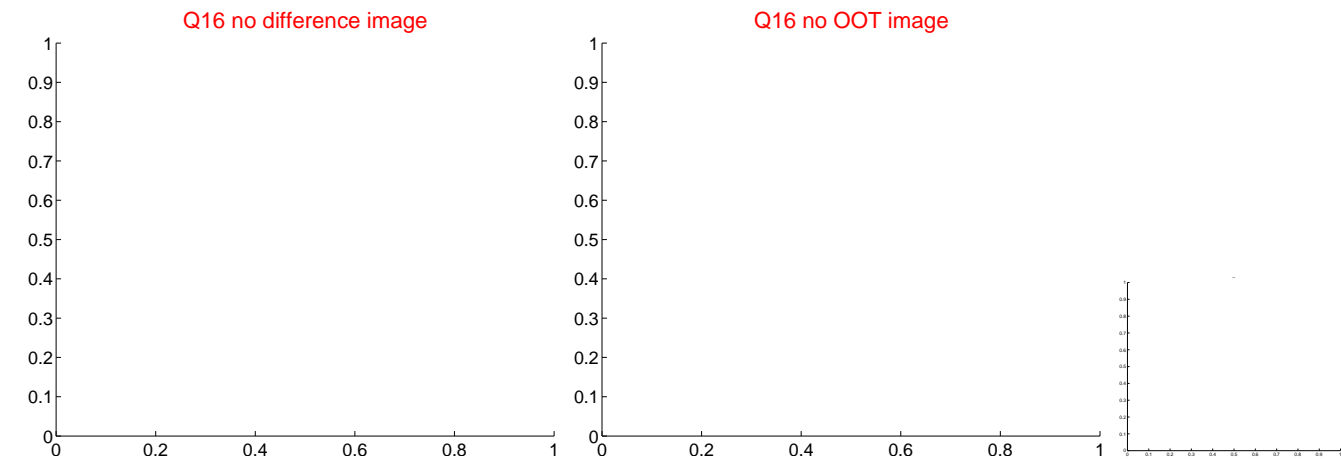
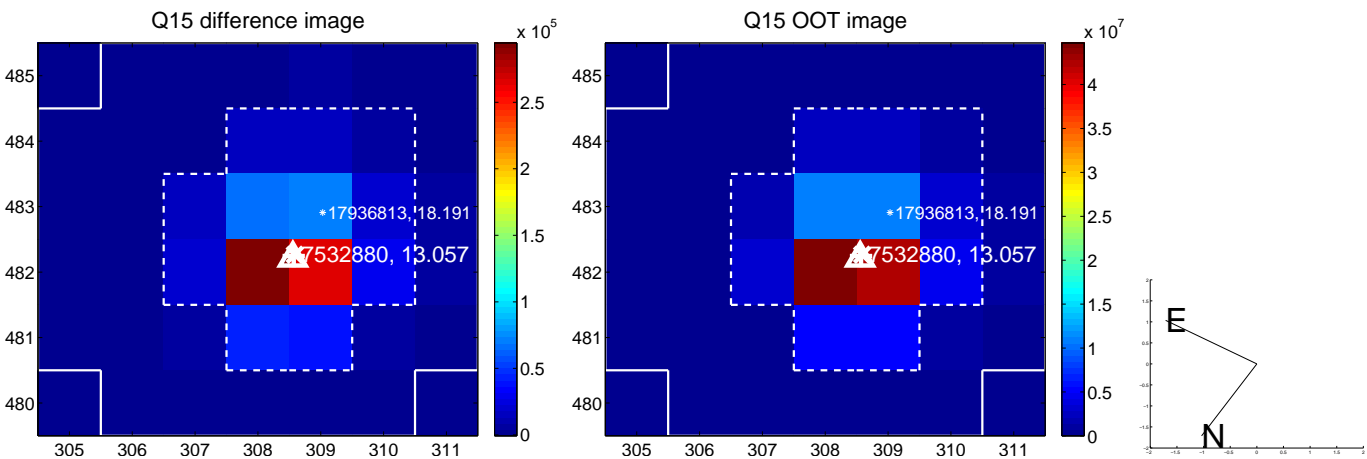
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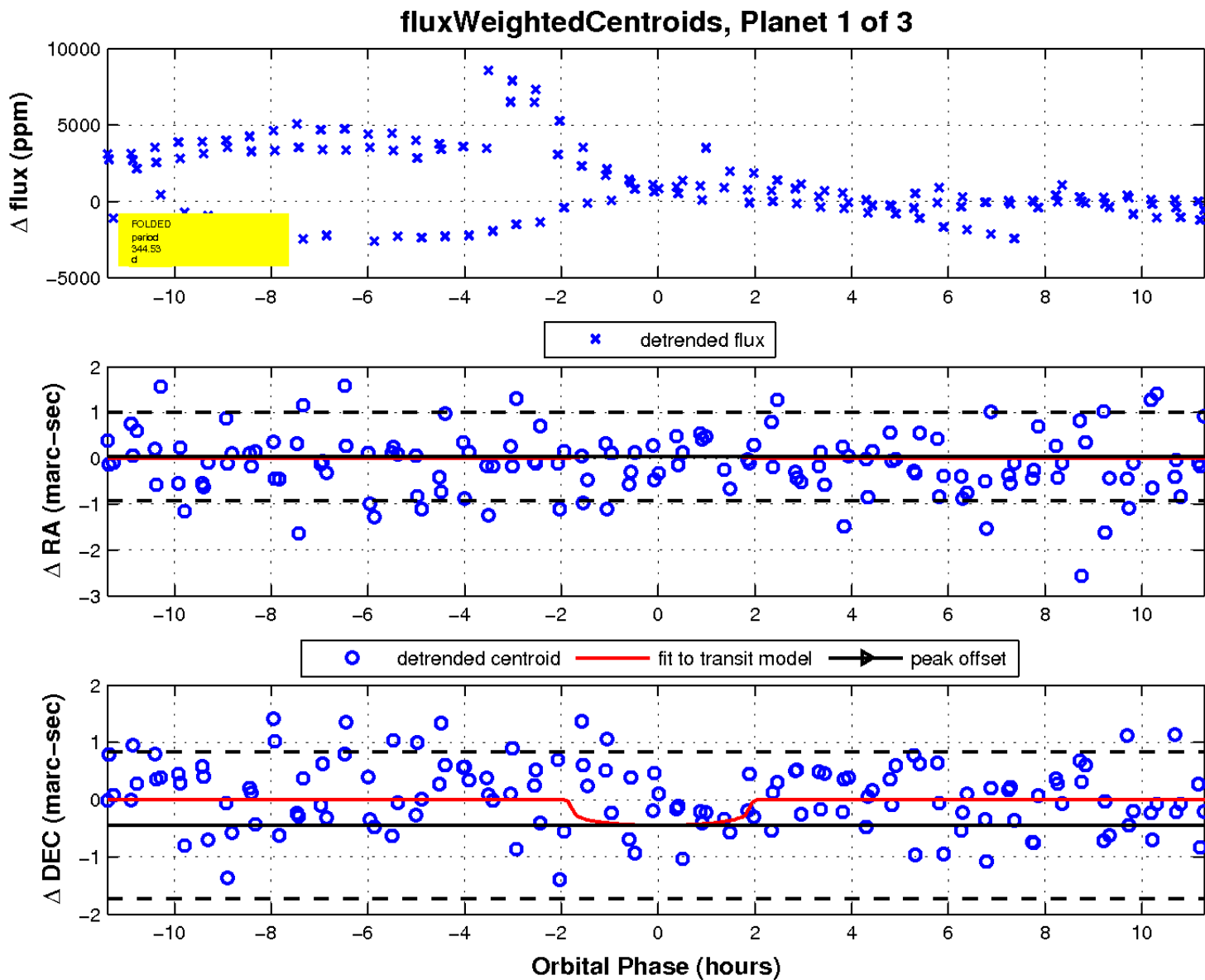
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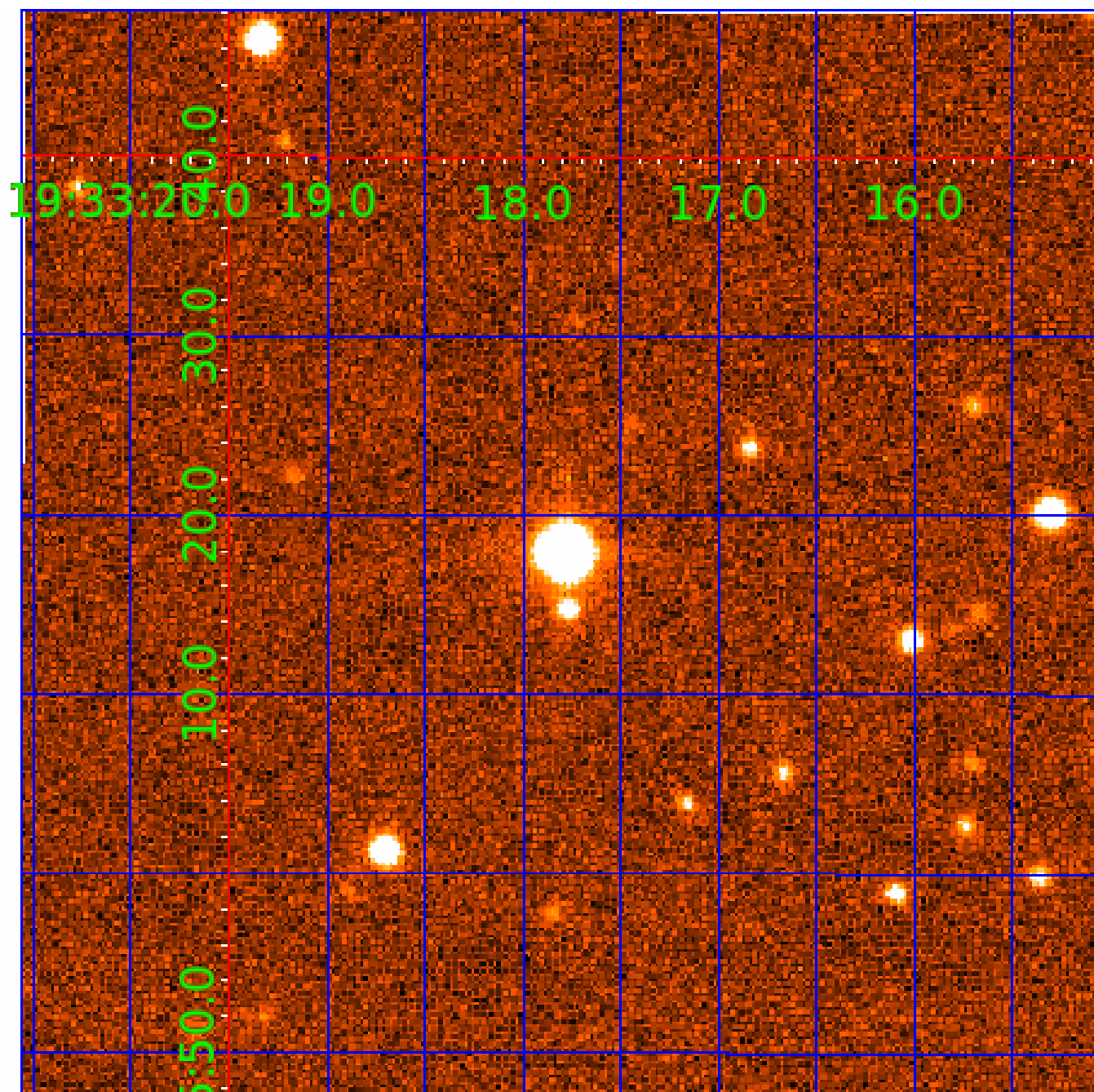


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 007532880

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007532880-01	OBS	No	344.533473	389.566539	1007.7	3.822	14.7	4.6	0.97	5808	3.06	1.12
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## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007532880-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007532880-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007532880-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—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.

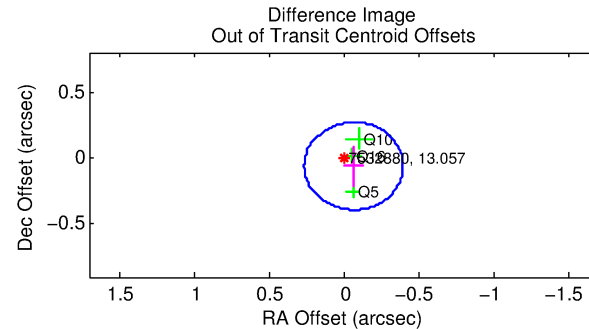
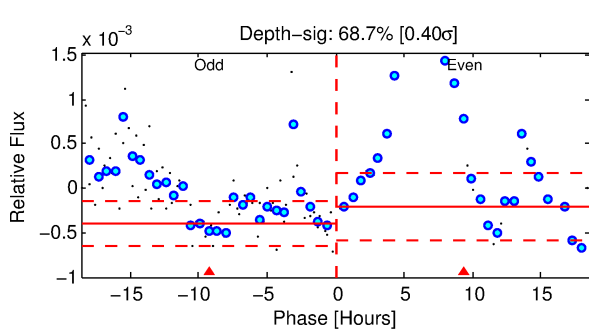
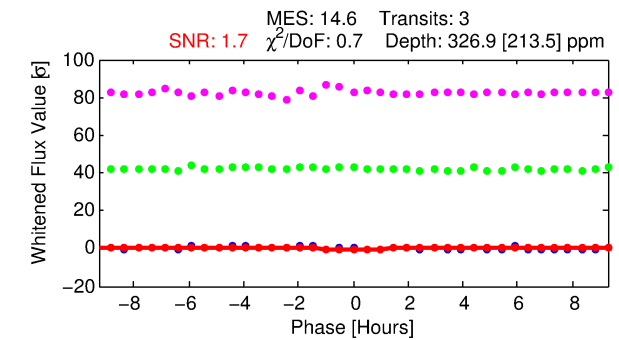
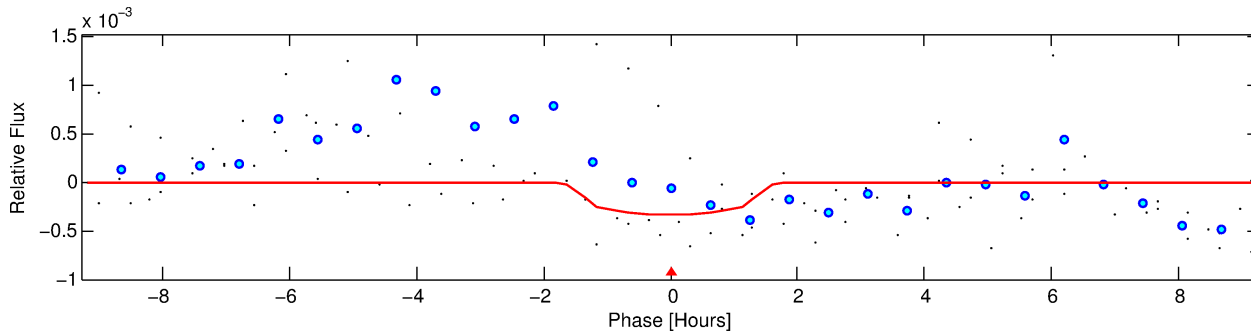
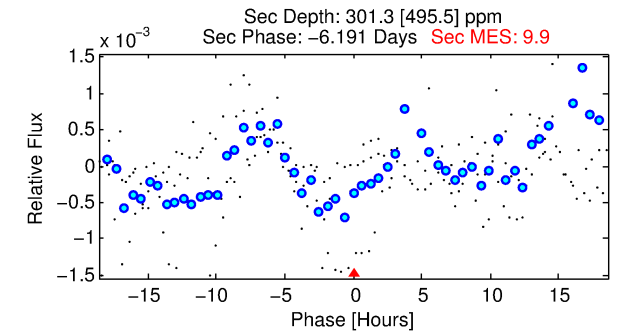
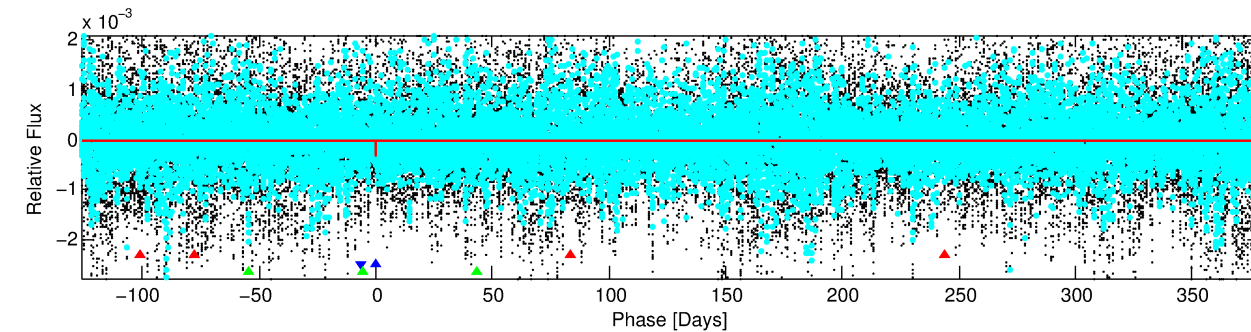
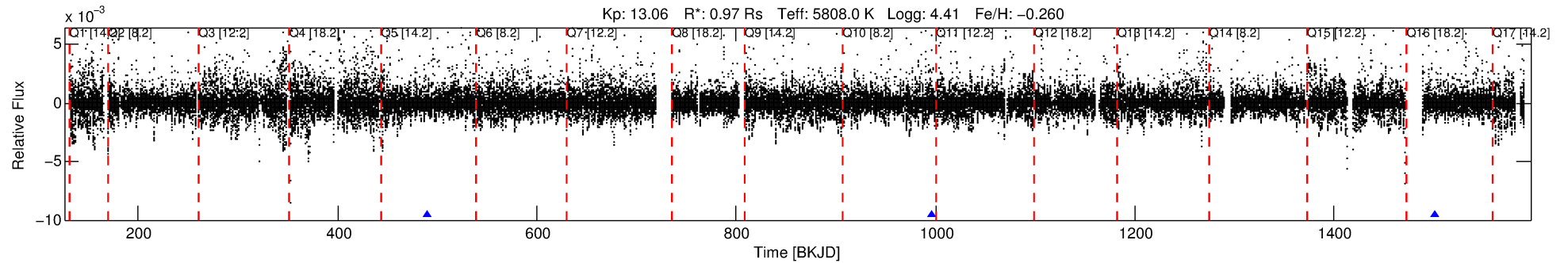
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007532880-02

No Significant Match Found

# DV One-Page Summary

KIC: 7532880 Candidate: 2 of 3 Period: 505.223 d



## DV Fit Results:

Period = 505.22306 [0.01278] d  
Epoch = 490.3535 [0.0180] BKJD  
Rp/R\* = 0.0196 [0.0174]  
a/R\* = 599.45 [2131.45]  
b = 0.90 [0.76]  
Seff = 0.67 [0.24]  
Teq = 231 [21] K  
Rp = 2.08 [1.93] Re  
a = 1.1919 [0.2812] AU  
Ag = 54670.80 [133507.54] [0.41σ]  
Teffp = 5462 [3305] K [1.58σ]

## DV Diagnostic Results:

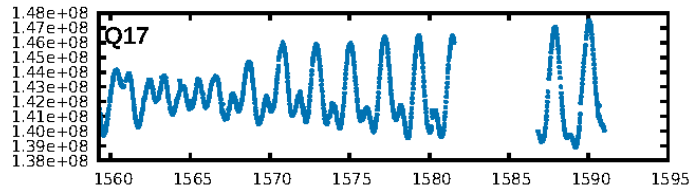
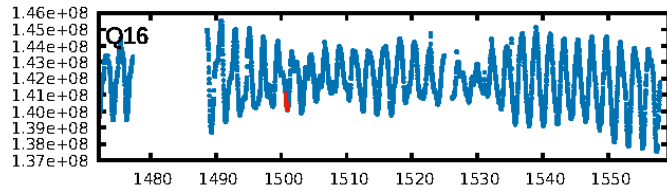
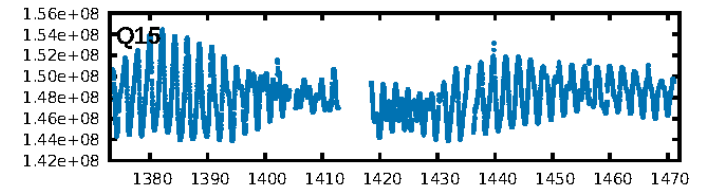
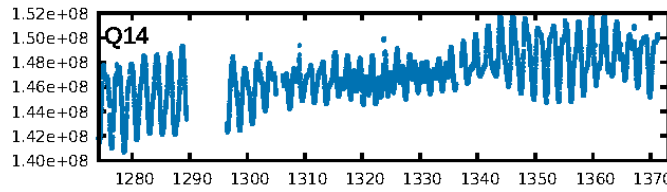
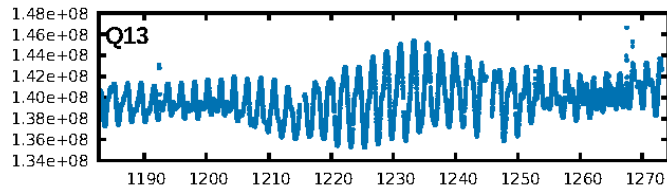
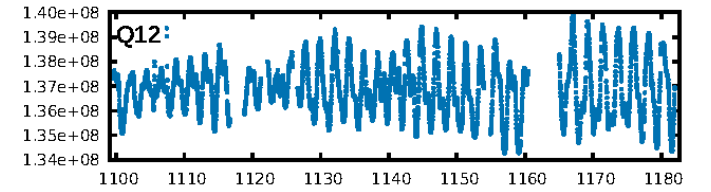
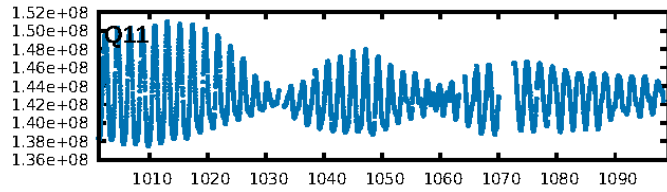
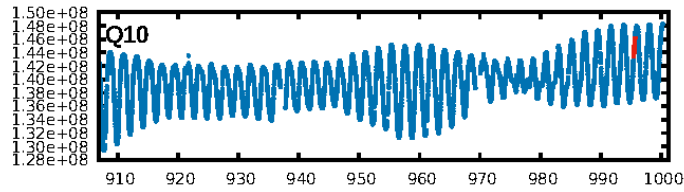
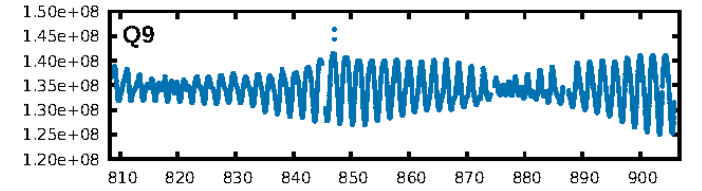
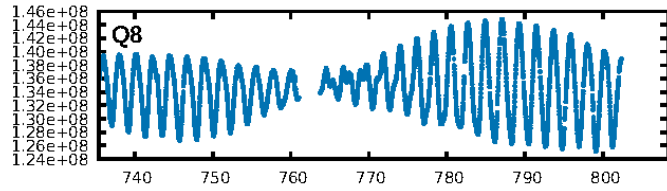
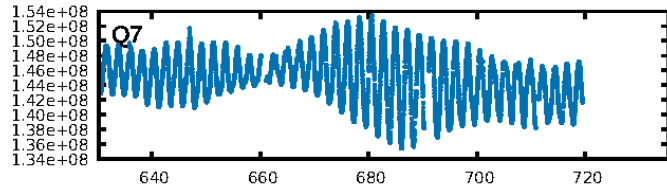
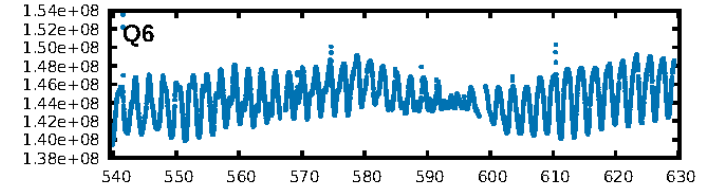
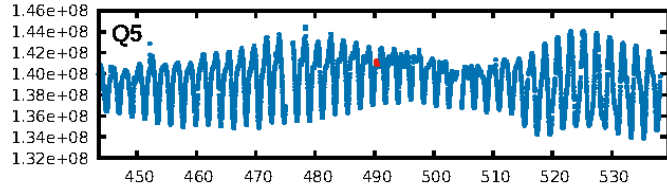
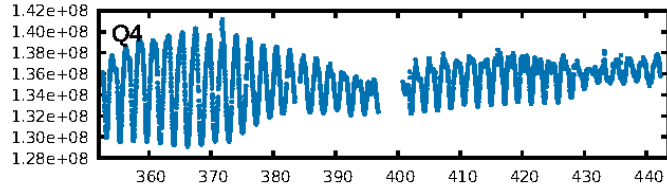
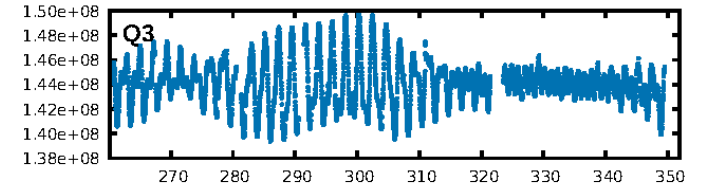
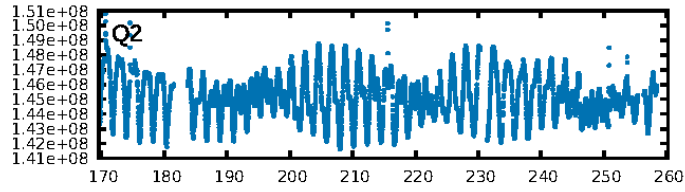
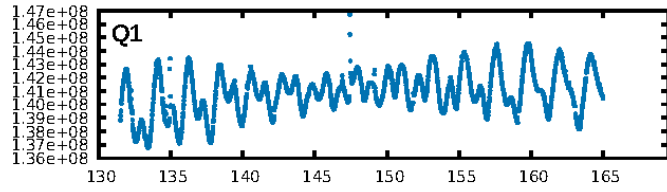
ShortPeriod-sig: 100.0% [784.21σ]  
LongPeriod-sig: 100.0% [207.76σ]  
ModelChiSquare2-sig: 38.5%  
ModelChiSquareGof-sig: 99.3%  
**Bootstrap-pfa: 5.48e-09**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 4.144  
Centroid-sig: 3.8%  
Centroid-so: 1.656 arcsec [1.24σ]  
OotOffset-rm: 0.091 arcsec [0.83σ]  
KicOffset-rm: 0.063 arcsec [0.41σ]  
OotOffset-st: 1/0/1/1 [3]  
KicOffset-st: 1/0/1/1 [3]  
DiffImageQuality-fgm: 0.33 [1/3]  
DiffImageOverlap-fno: 1.00 [3/3]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 10:55:09 Z

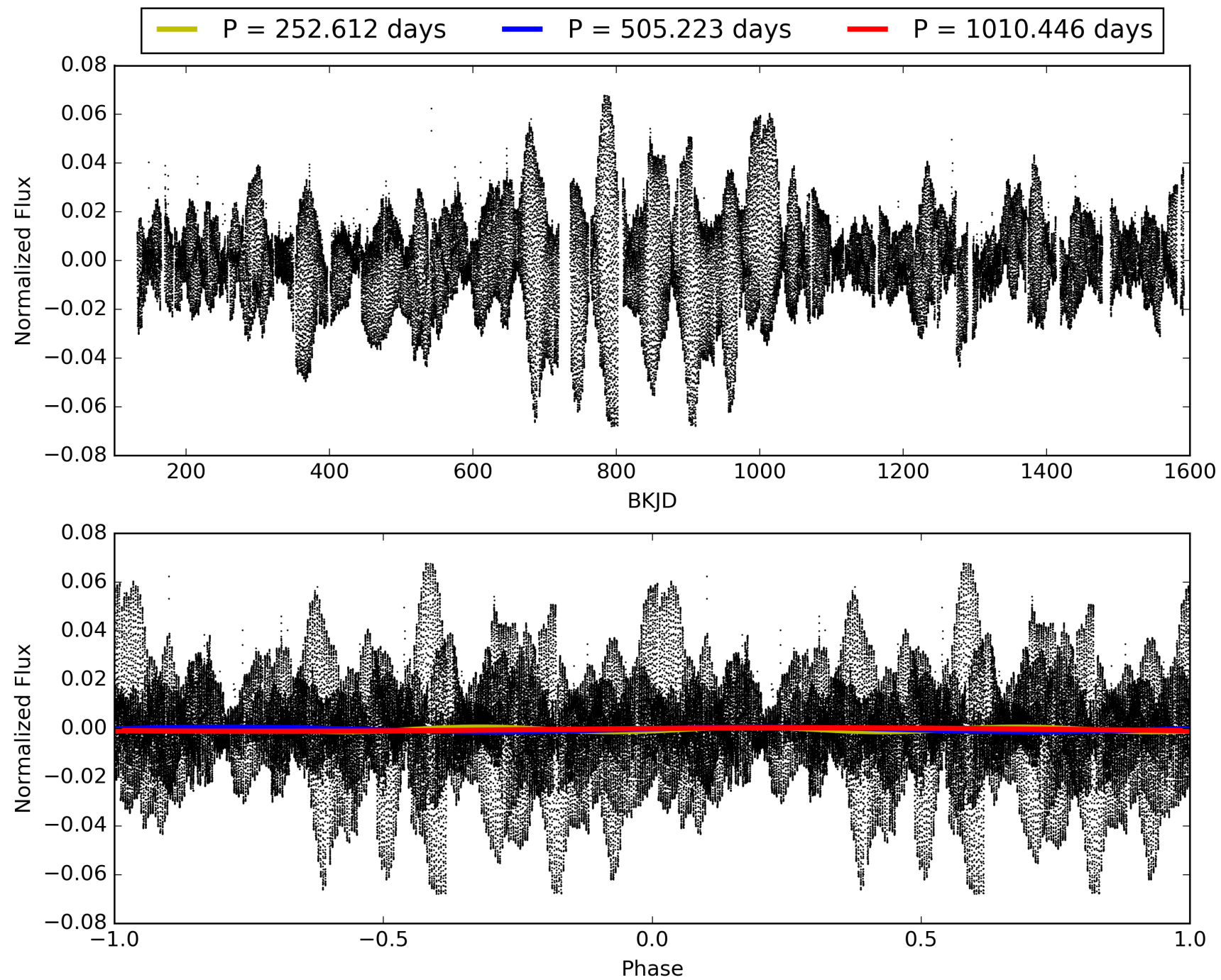
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center



# TCE 007532880-02, PDC Light Curves

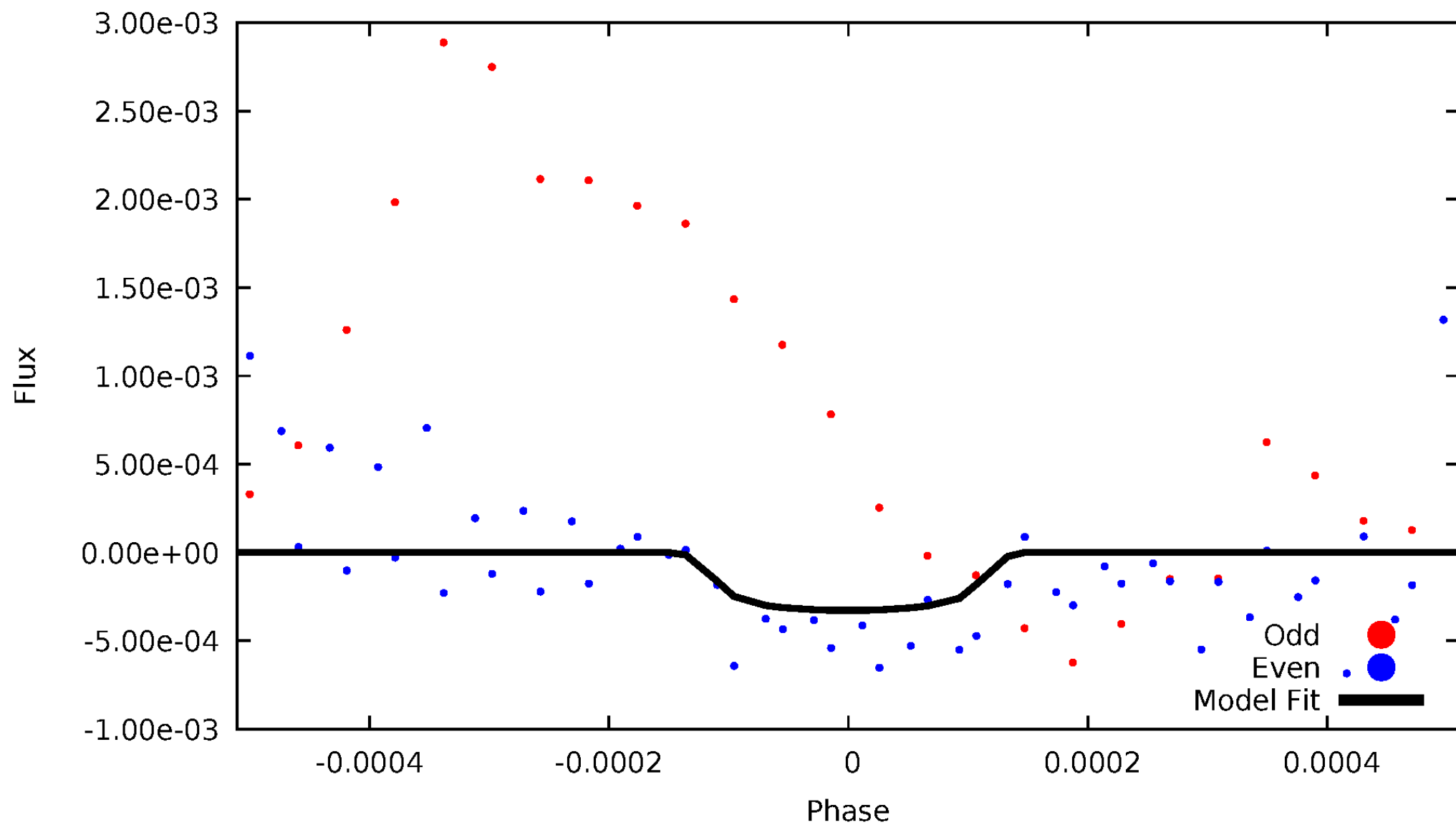


TCE 007532880-02



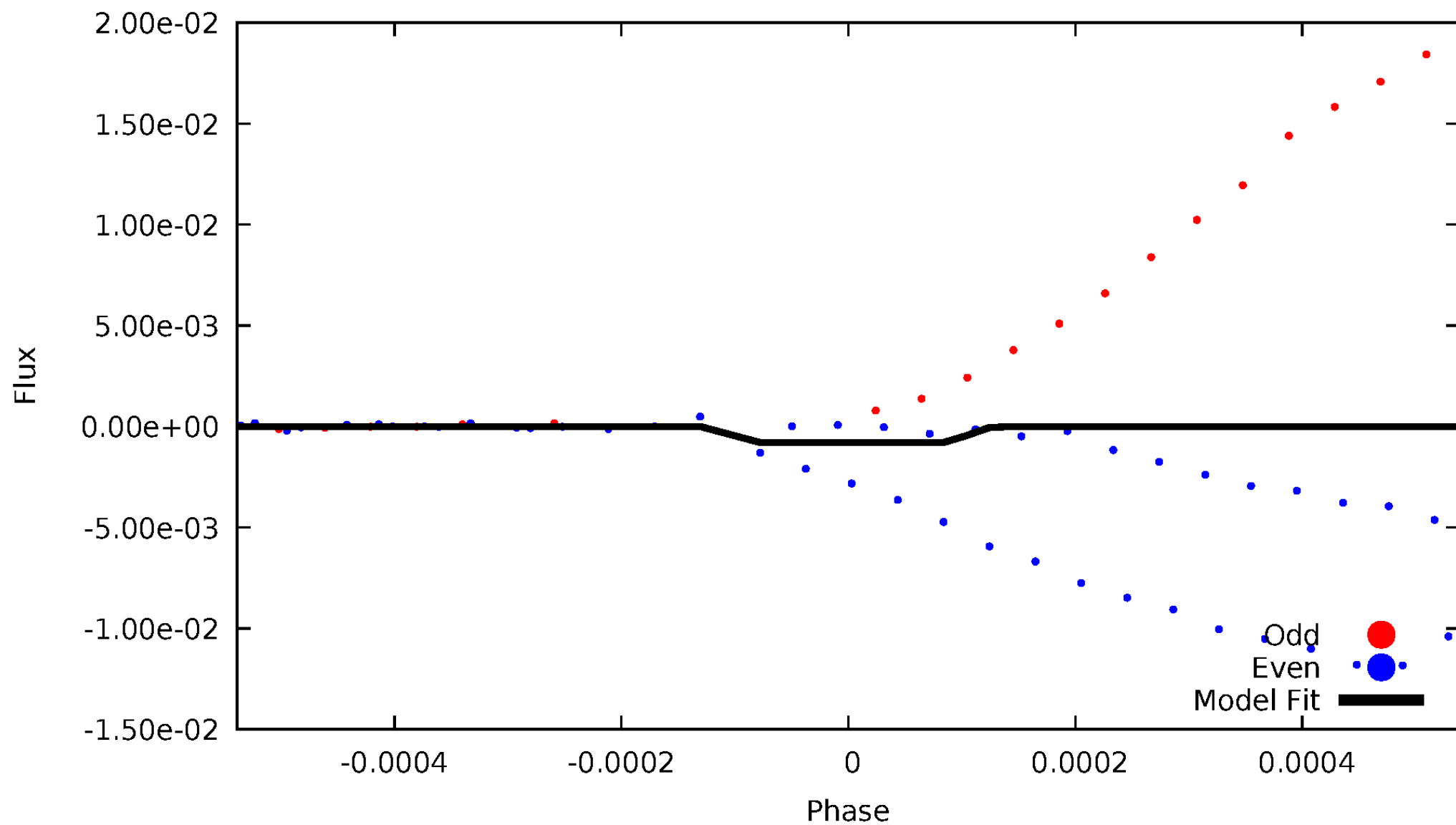
# DV Odd/Even

TCE 007532880-02



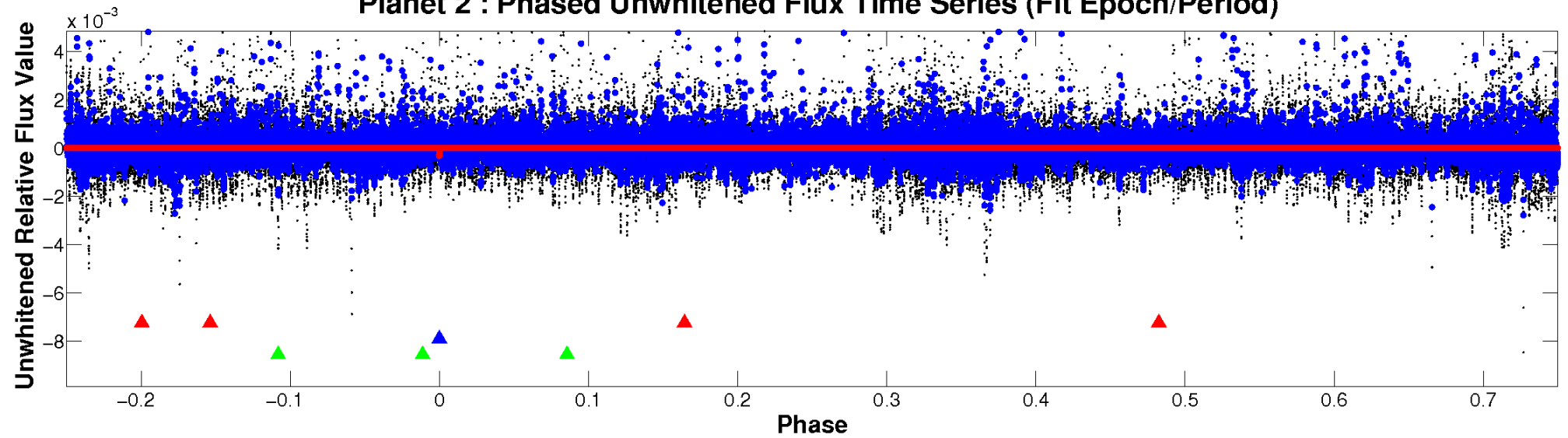
# ALT Odd/Even

TCE 007532880-02

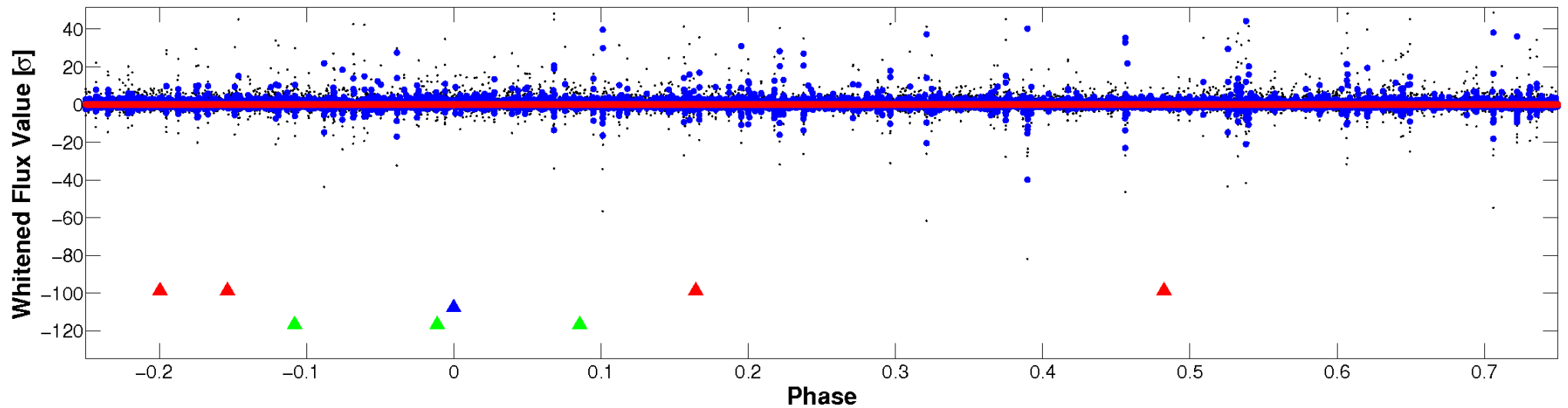


# Non-Whitened Vs. Whitened Light Curve

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

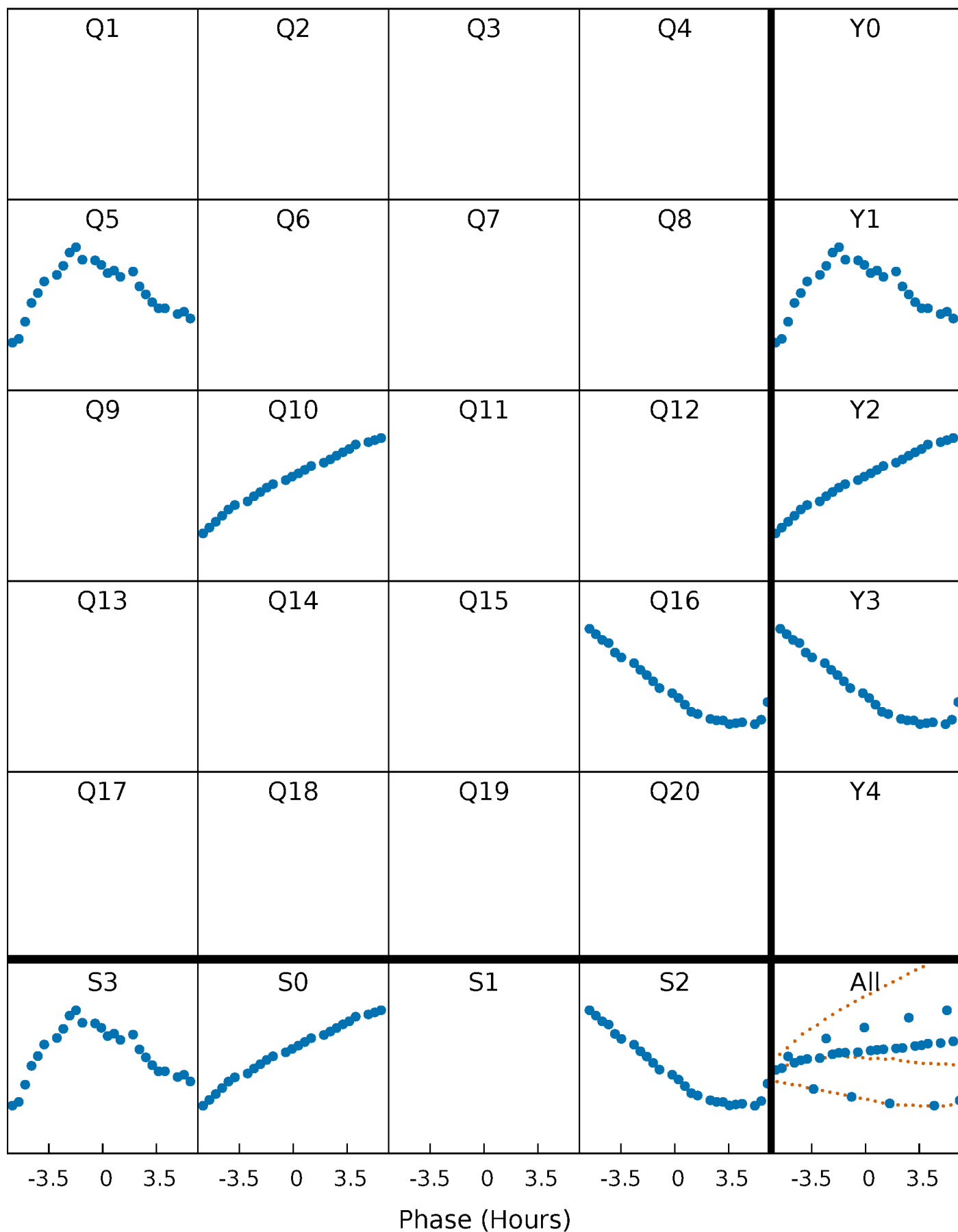


**Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



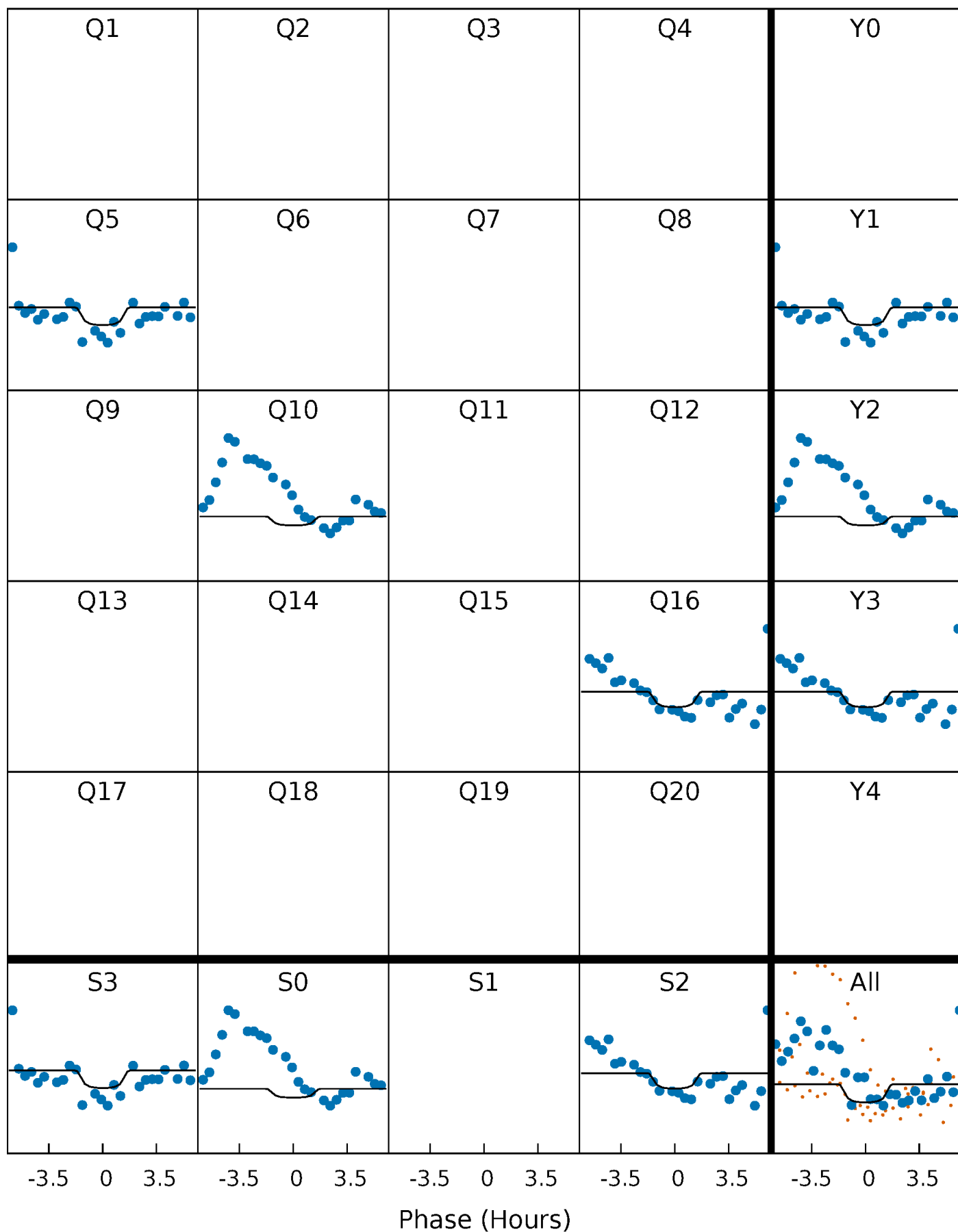
# PDC Quarter-Phased Transit Curves

TCE 007532880-02   P=505.223059 Days    $T_0=490.353467$  (BKJD)



# DV Quarter-Phased Transit Curves

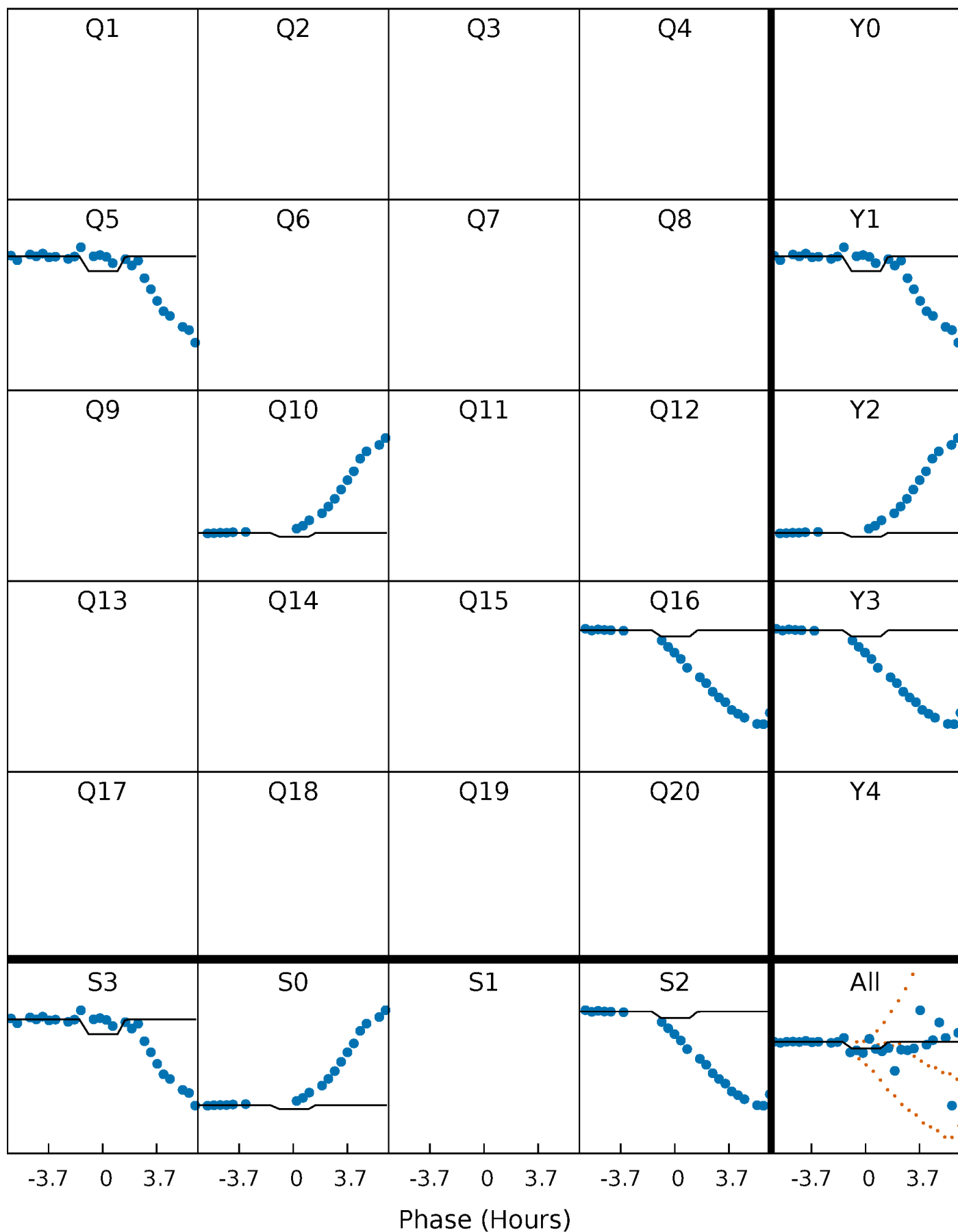
TCE 007532880-02     $P=505.223059$  Days     $T_0=490.353467$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

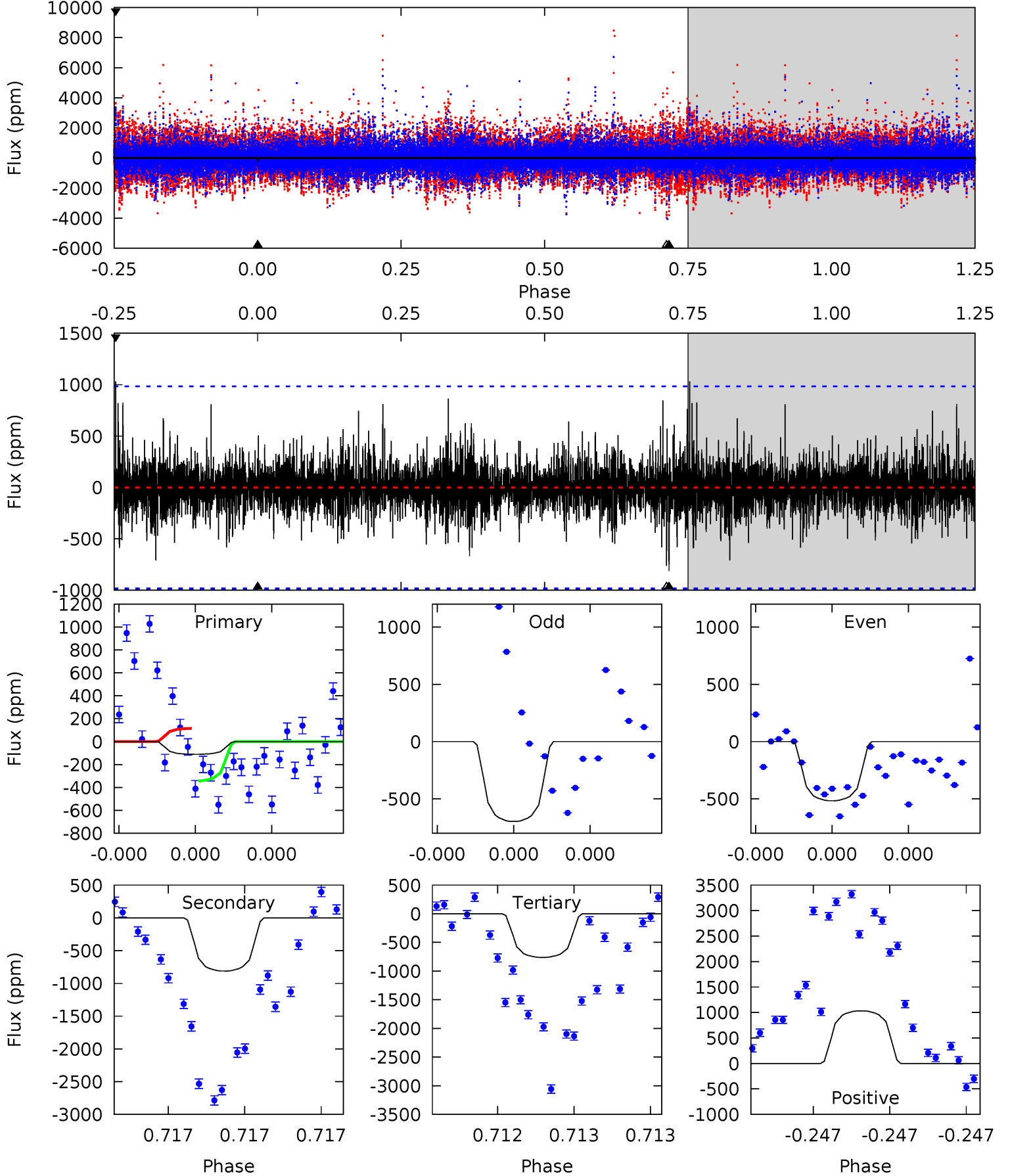
TCE 007532880-02 P=505.226582 Days  $T_0=490.330399$  (BKJD)



# DV Model-Shift Uniqueness Test

007532880-02, P = 505.223059 Days, E = 490.353467 Days

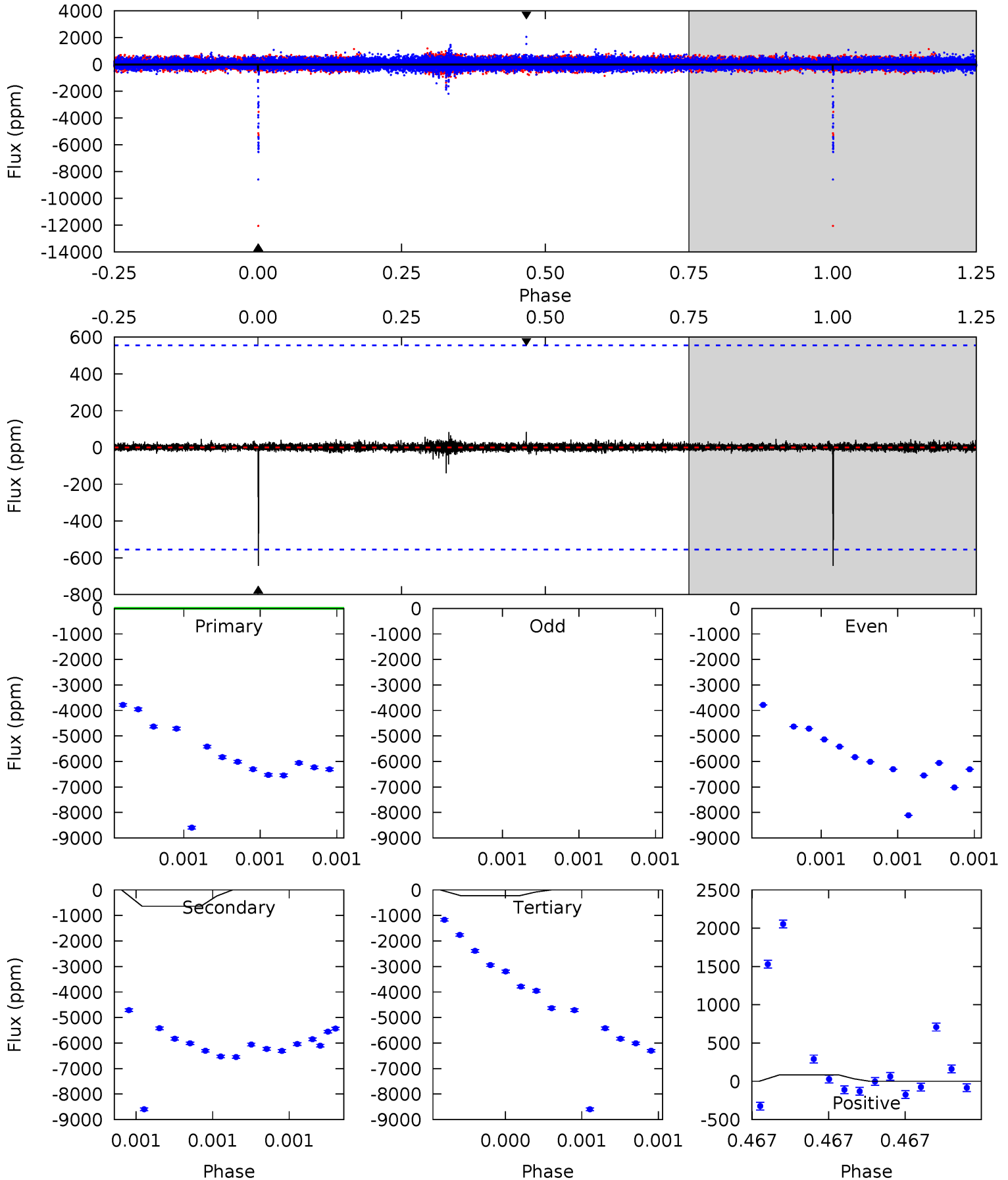
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.64	4.68	4.39	5.95	5.67	3.63	0.95	-3.75	-5.31	0.29	-1.27	0.41	0.24	0.56	0.67



# Alt Model-Shift Uniqueness Test

007532880-02, P = 505.226582 Days, E = 490.330399 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
4.18	6.64	2.33	0.88	5.73	3.73	0.11	1.84	3.29	4.31	5.76	4.44	5.98	0.12	1.87



### Stellar Parameters For KIC 007532880

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5808^{+139}_{-156}$	$4.412^{+0.124}_{-0.186}$	$-0.260^{+0.300}_{-0.300}$	$0.969^{+0.273}_{-0.147}$	$0.885^{+0.121}_{-0.081}$	$1.370^{+0.746}_{-0.658}$
	+2%/-3%	+3%/-4%	+115%/-115%	+28%/-15%	+14%/-9%	+54%/-48%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 007532880-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-812 \pm 173$	$2.37^{+1.75}_{-1.40}$	$324^{+23}_{-18}$	$6574^{+5737}_{-1531}$	$113888^{+546229}_{-77891}$
Alt.	$-643 \pm 97$	$3.02^{+2.02}_{-1.61}$	$324^{+24}_{-17}$	$5510^{+2745}_{-1027}$	$54053^{+196459}_{-34808}$

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

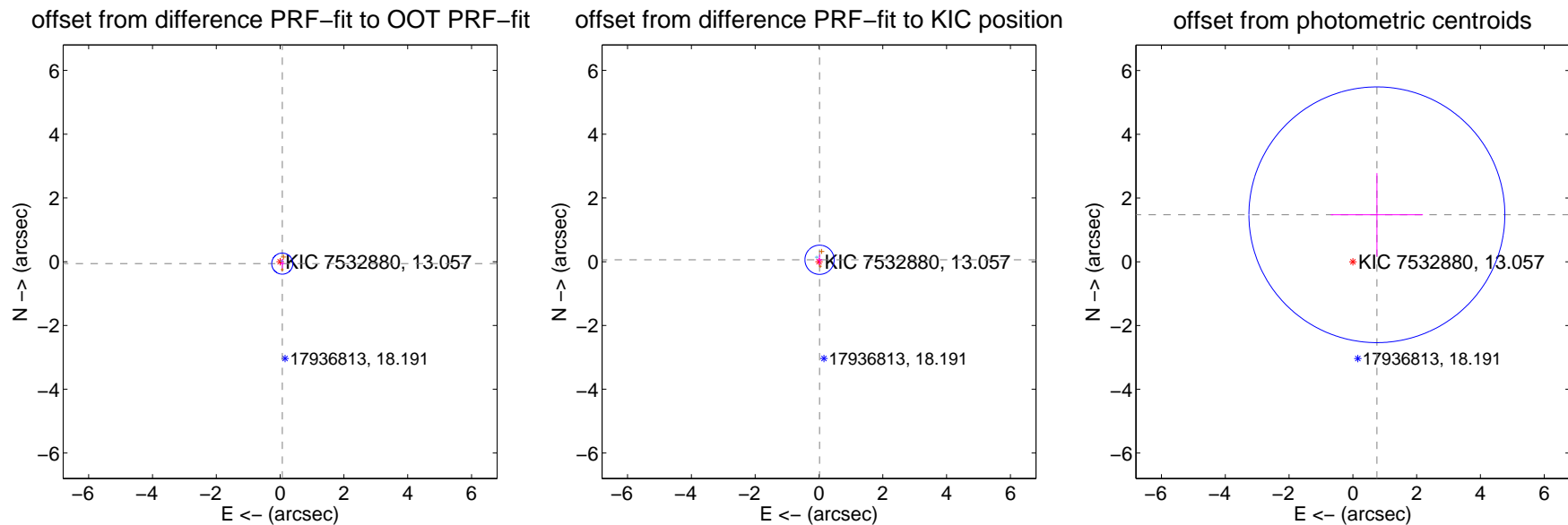
## DV Centroid Data

Supplemental centroid analysis for 007532880-02. Kepler magnitude: 13.06. Transit SNR 1.67

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.091 \pm 0.110$	0.83	$-0.068 \pm 0.068$	$-0.061 \pm 0.147$
PRF-fit source offset from KIC position	$0.063 \pm 0.153$	0.41	$-0.017 \pm 0.083$	$0.060 \pm 0.157$
photometric centroid source offset	$1.66 \pm 1.34$	1.24	$-0.75 \pm 1.44$	$1.47 \pm 1.31$

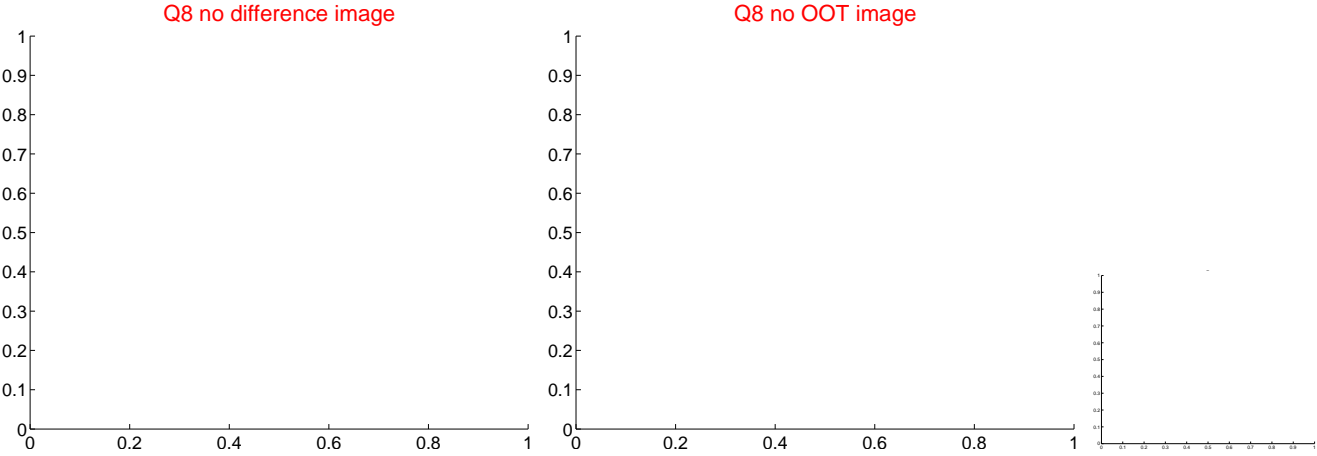
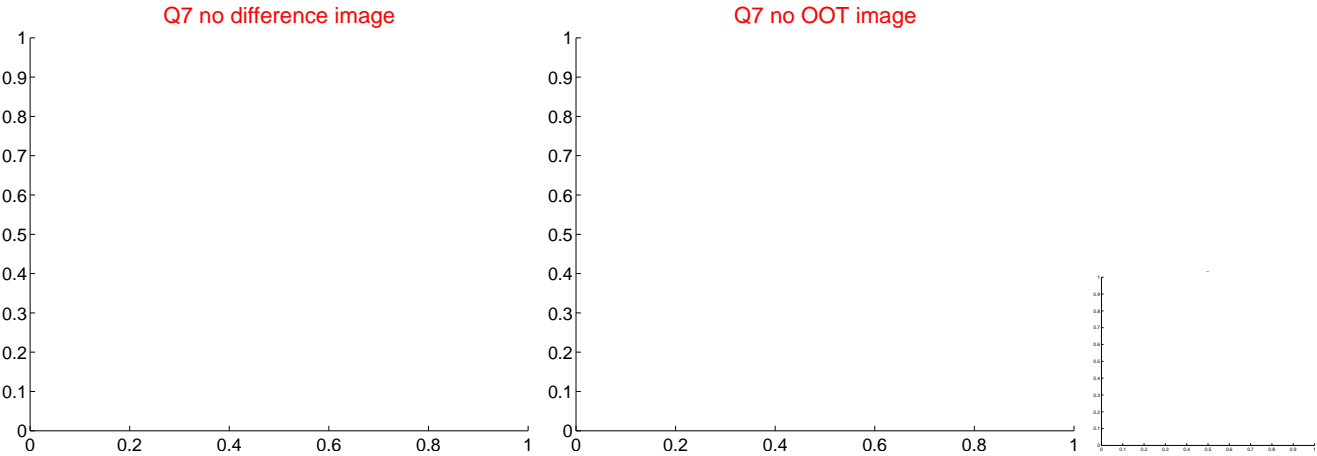
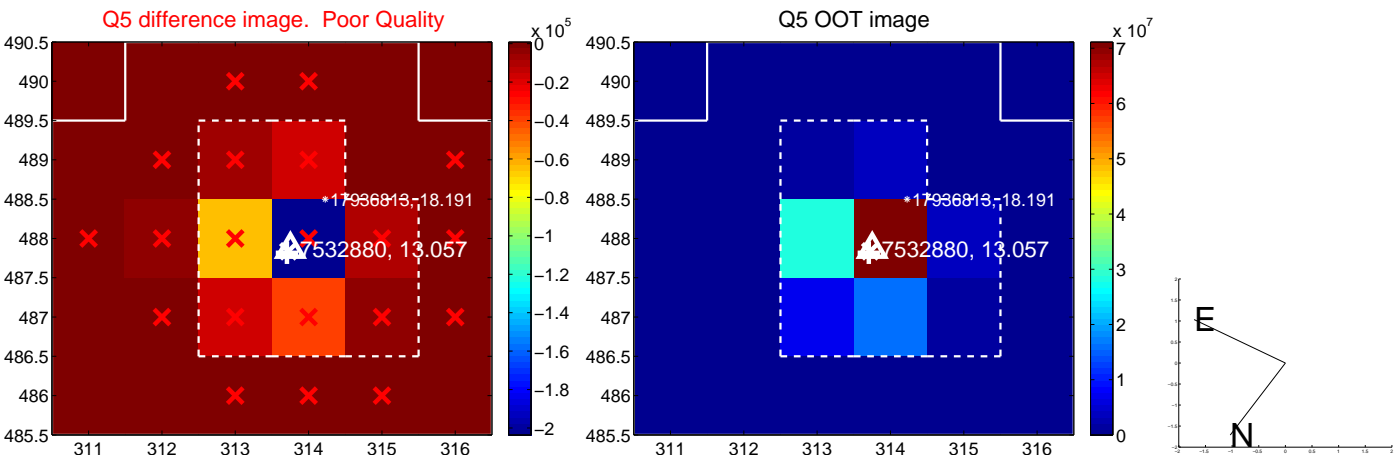


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

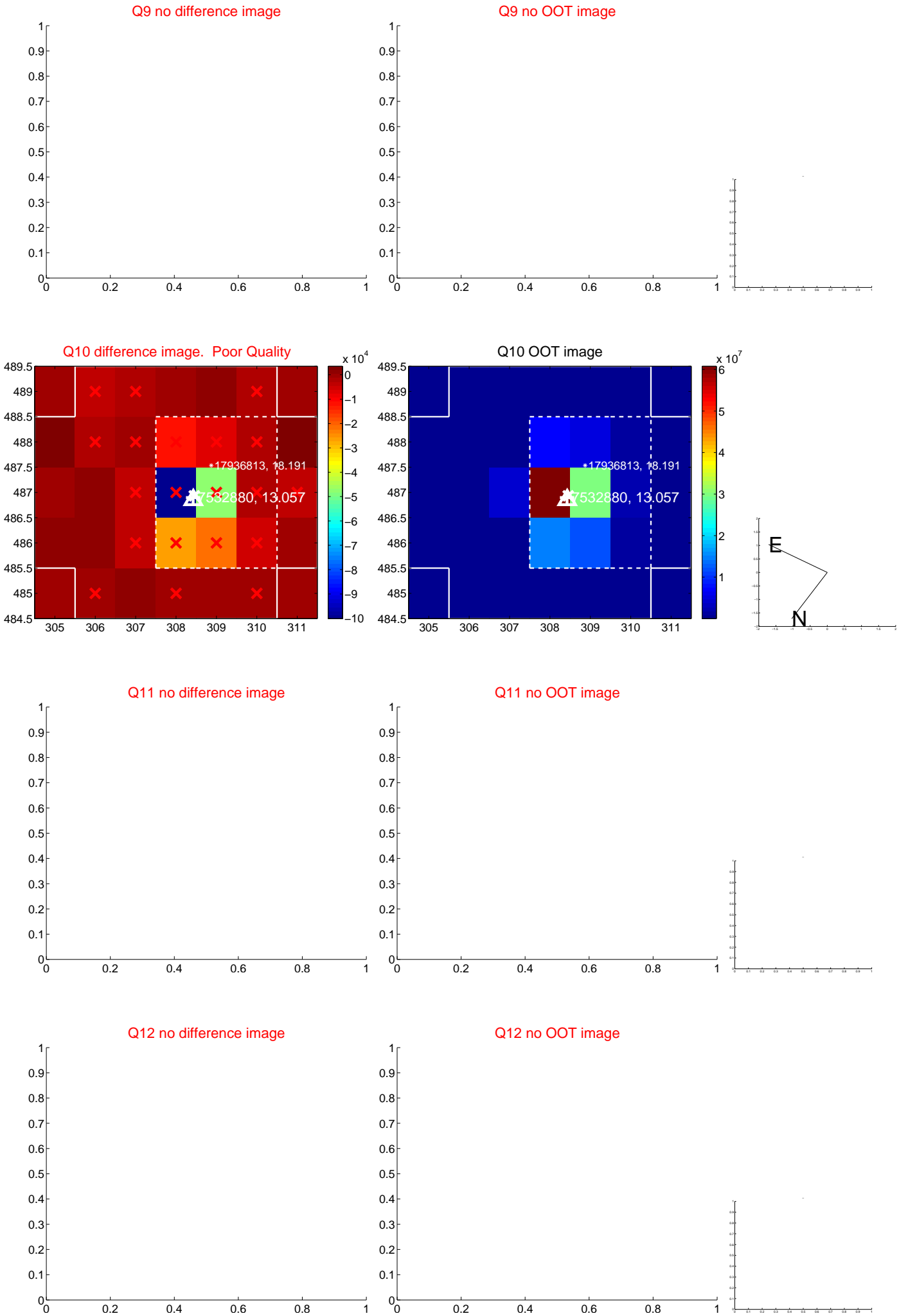


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

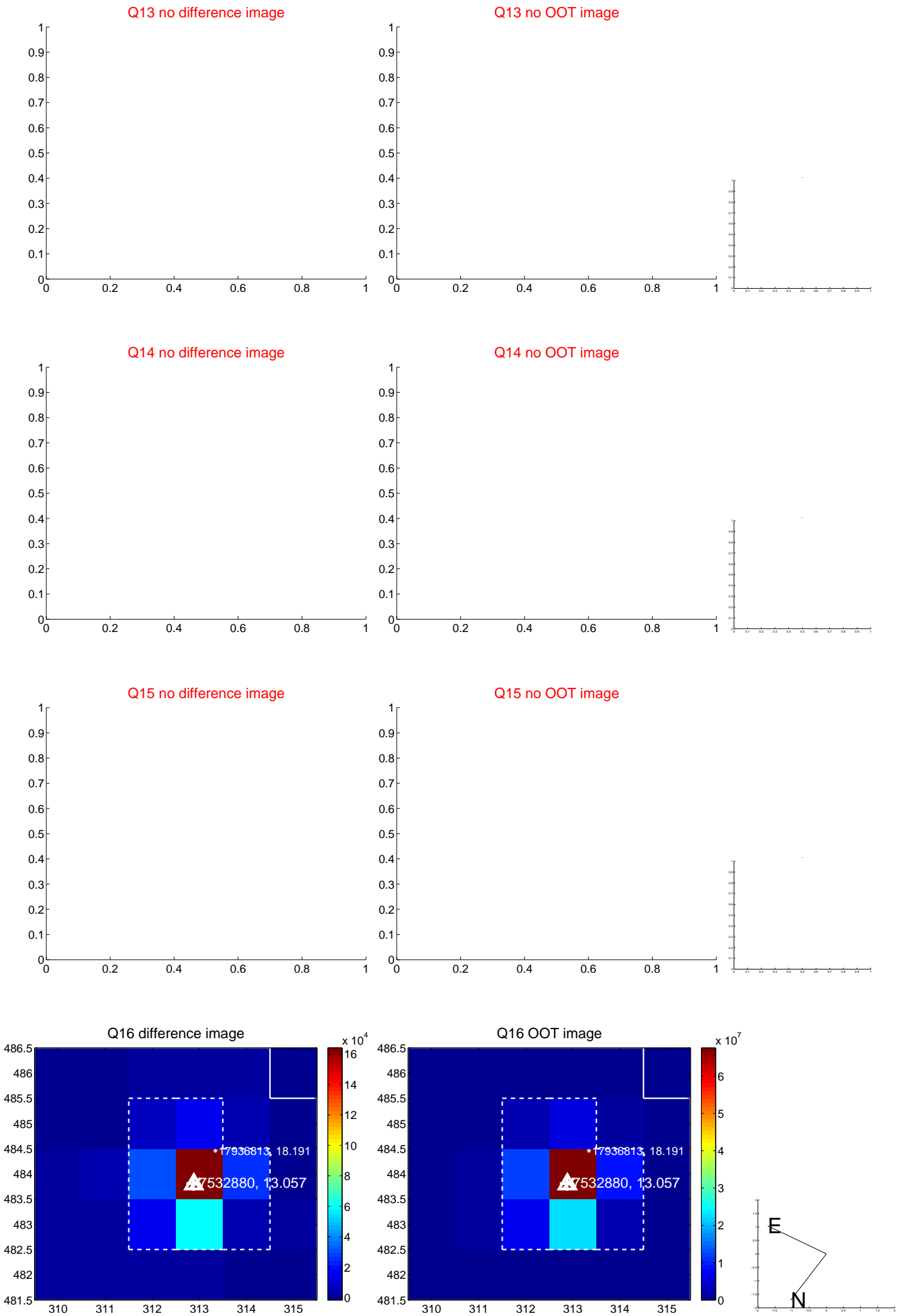




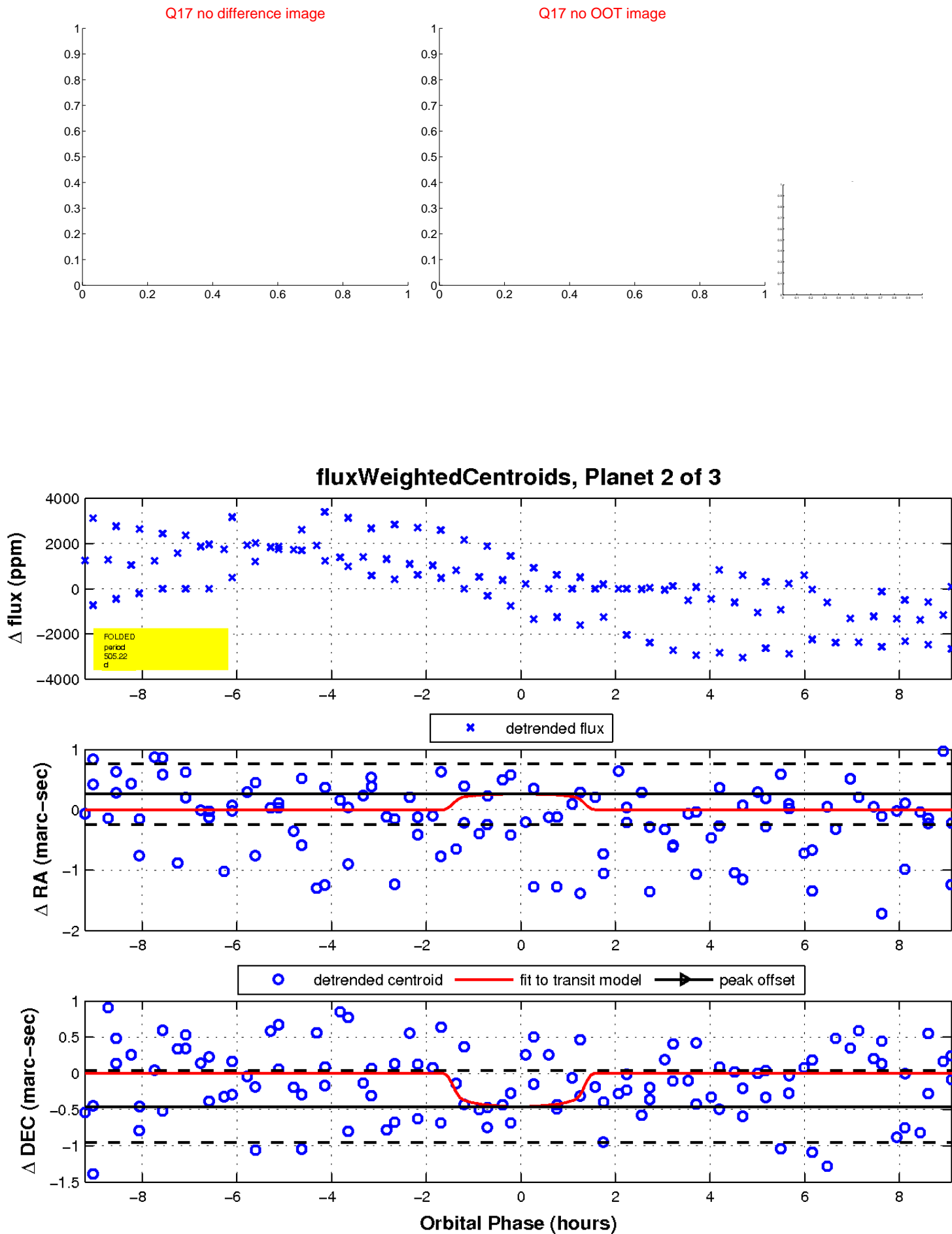
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

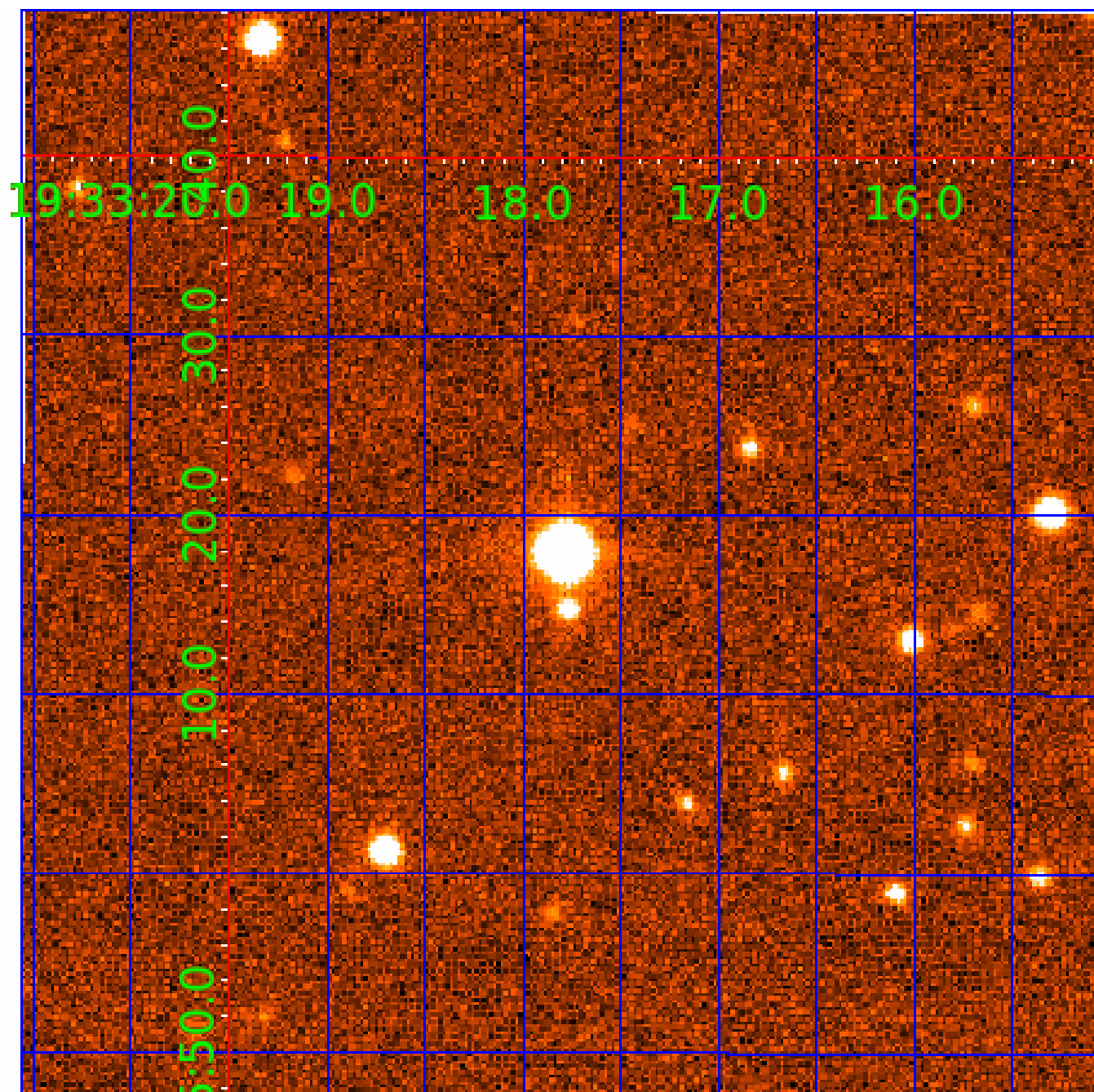


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 007532880

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007532880-01	OBS	No	344.533473	389.566539	1007.7	3.822	14.7	4.6	0.97	5808	3.06	1.12
007532880-02	OBS	No	505.223059	490.353467	326.9	3.094	14.6	1.7	0.97	5808	2.08	0.67
007532880-03	OBS	No	554.151640	435.743537	2047.7	4.730	13.9	6.9	0.97	5808	4.38	0.60

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007532880-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_ZUMA—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007532880-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007532880-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—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.

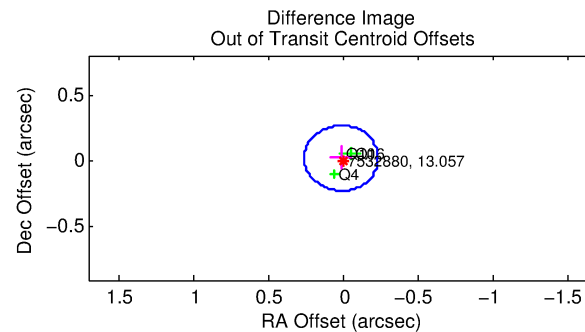
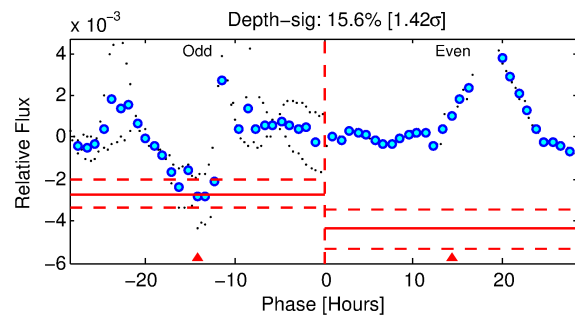
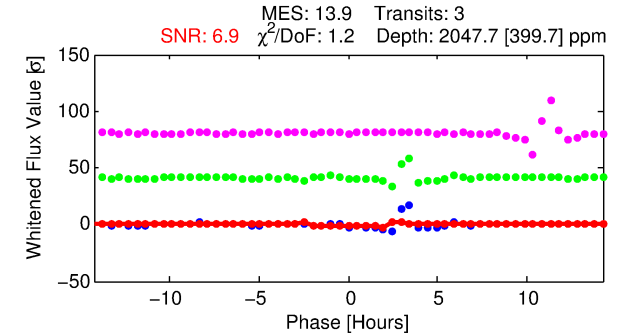
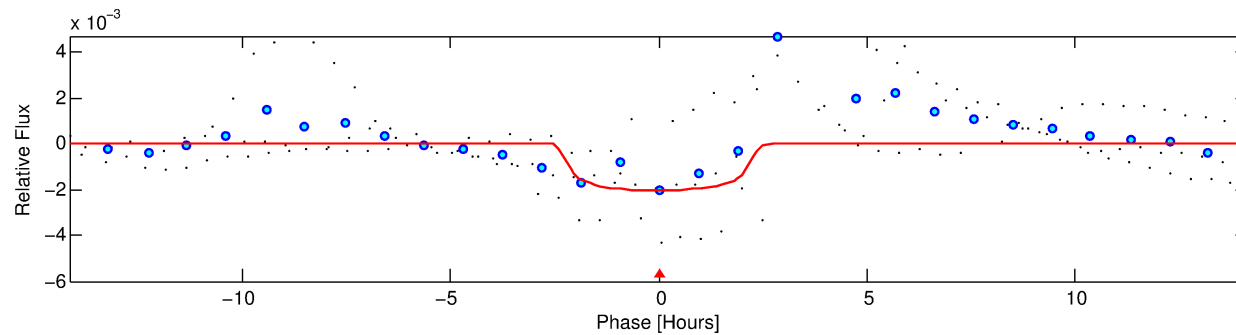
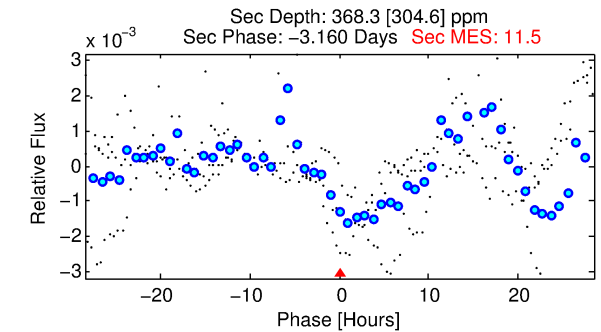
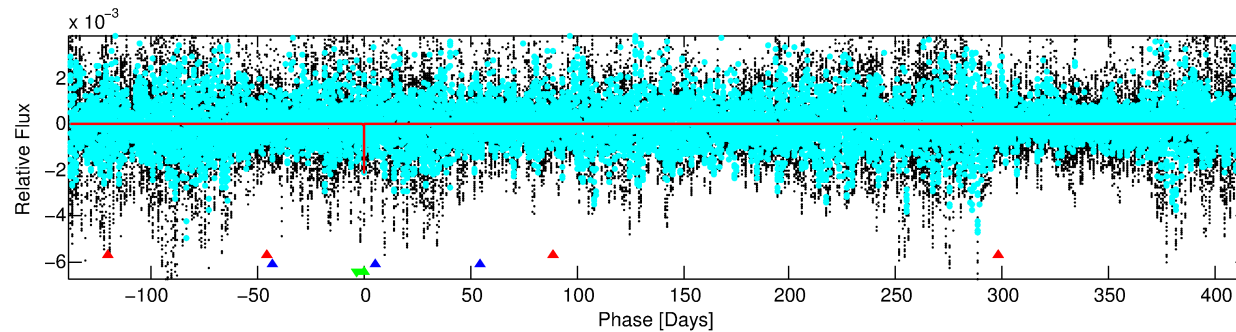
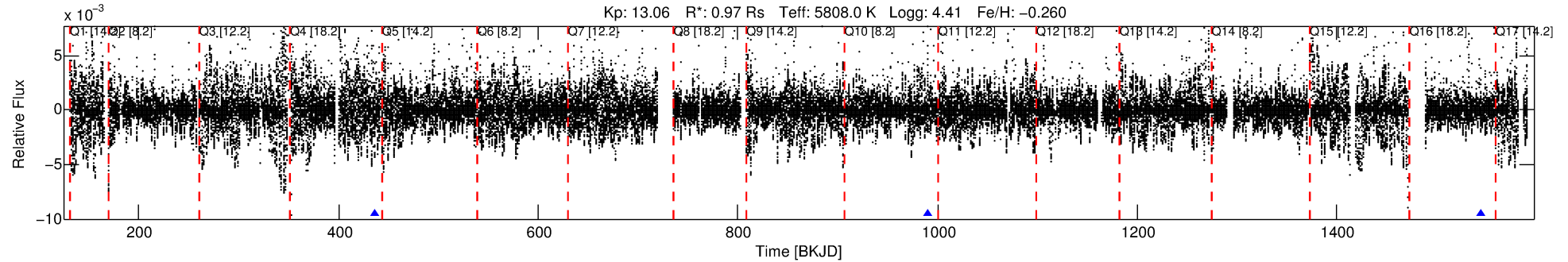
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007532880-03

No Significant Match Found

# DV One-Page Summary

KIC: 7532880 Candidate: 3 of 3 Period: 554.152 d



## DV Fit Results:

Period = 554.15164 [0.00469] d  
Epoch = 435.7435 [0.0065] BKJD  
Rp/R\* = 0.0415 [0.0198]  
a/R\* = 907.90 [1846.30]  
b = 0.24 [8.17]  
Seff = 0.60 [0.21]  
Teq = 224 [20] K  
Rp = 4.38 [2.43] Re  
a = 1.2676 [0.2991] AU  
Ag = 16946.83 [22160.71] [0.76 $\sigma$ ]  
Teffp = 3952 [1252] K [2.98 $\sigma$ ]

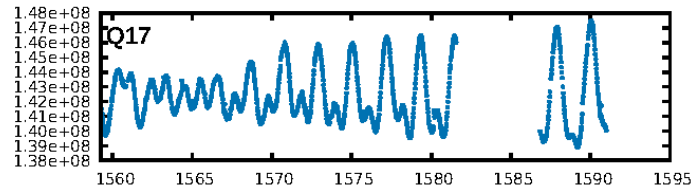
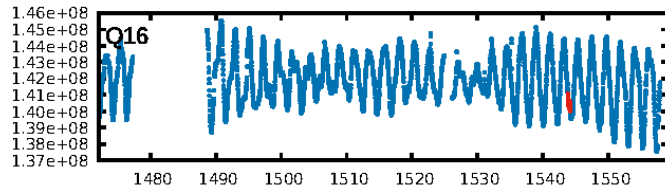
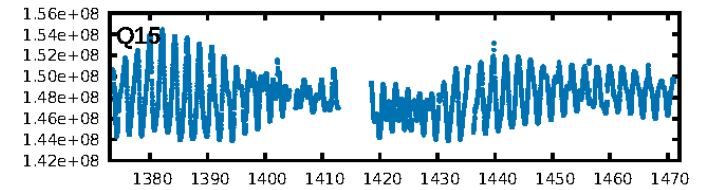
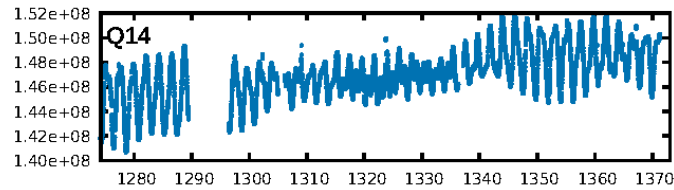
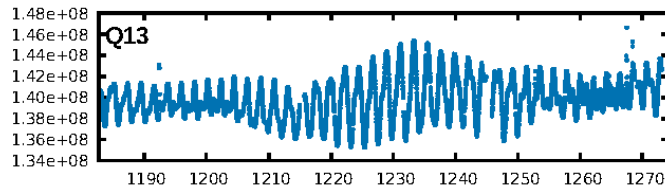
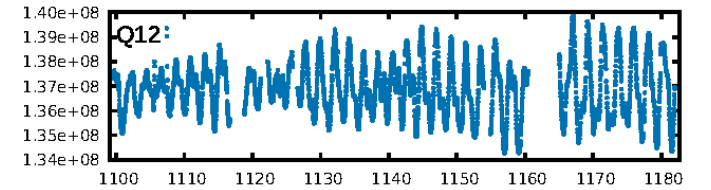
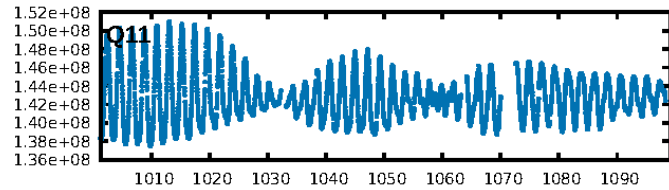
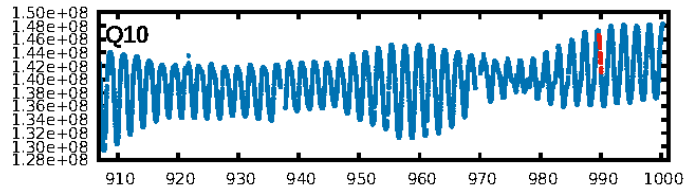
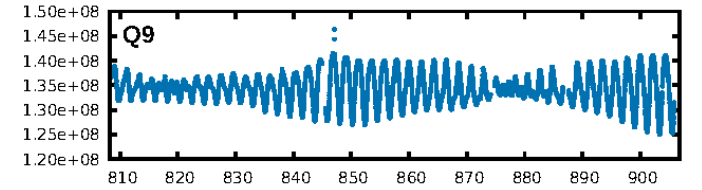
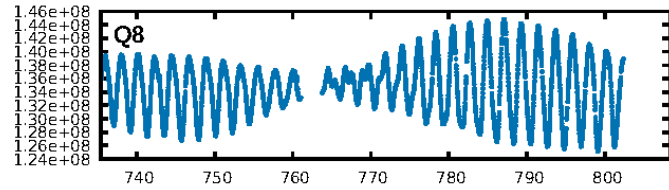
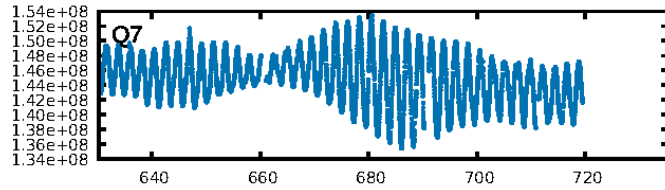
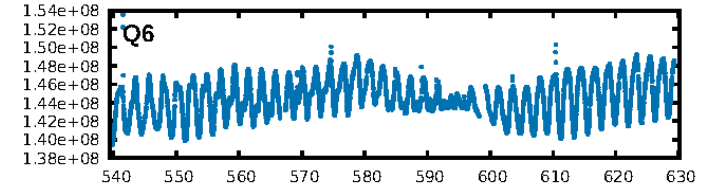
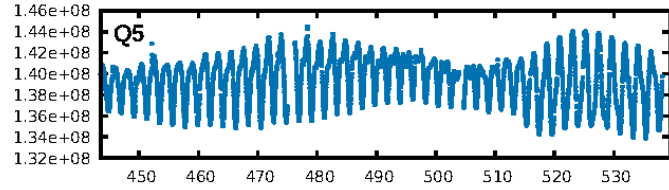
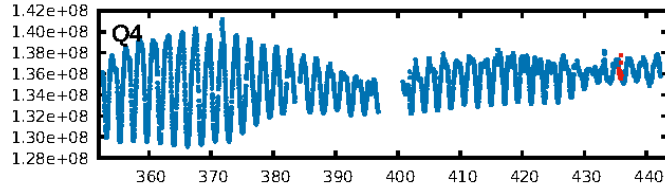
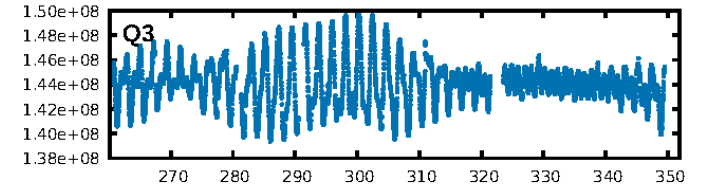
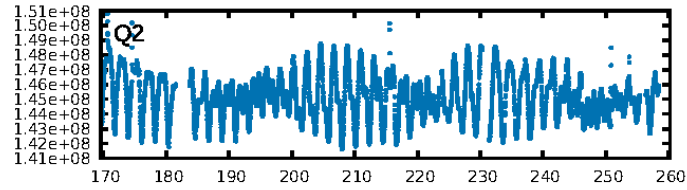
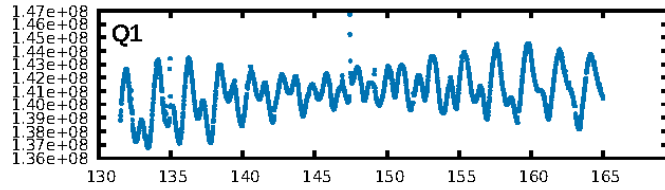
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [207.76 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 12.8%  
ModelChiSquareGof-sig: 54.7%  
**Bootstrap-pfa: 2.92e-08**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 3.035  
Centroid-sig: 81.6%  
Centroid-so: 0.069 arcsec [0.33 $\sigma$ ]  
OotOffset-rm: 0.024 arcsec [0.29 $\sigma$ ]  
OotOffset-st: 1/0/2/0 [3]  
KicOffset-rm: 0.192 arcsec [2.07 $\sigma$ ]  
KicOffset-st: 1/0/2/0 [3]  
DiffImageQuality-fgm: 0.67 [2/3]  
DiffImageOverlap-fno: 1.00 [3/3]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 10:55:27 Z

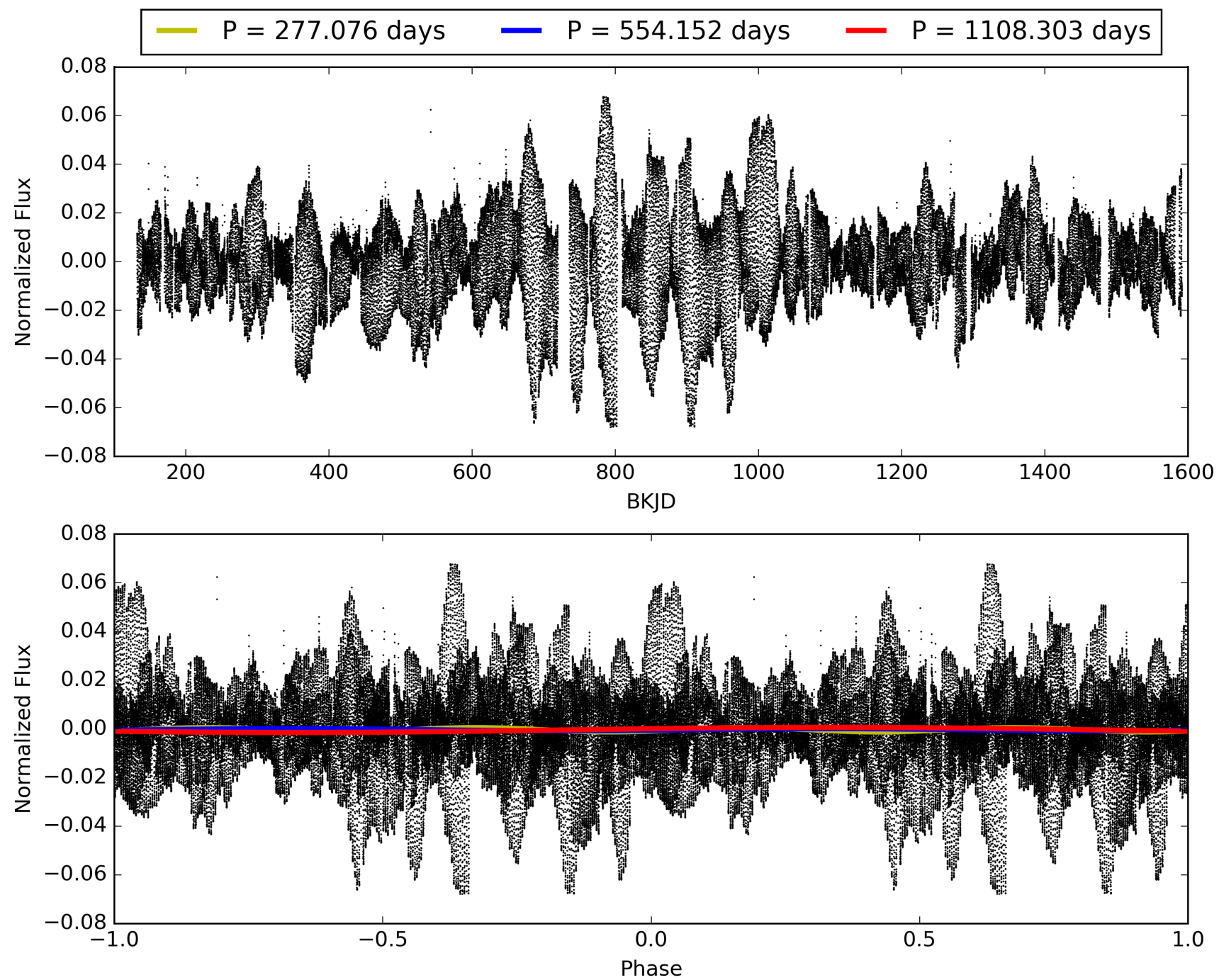
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 007532880-03, PDC Light Curves





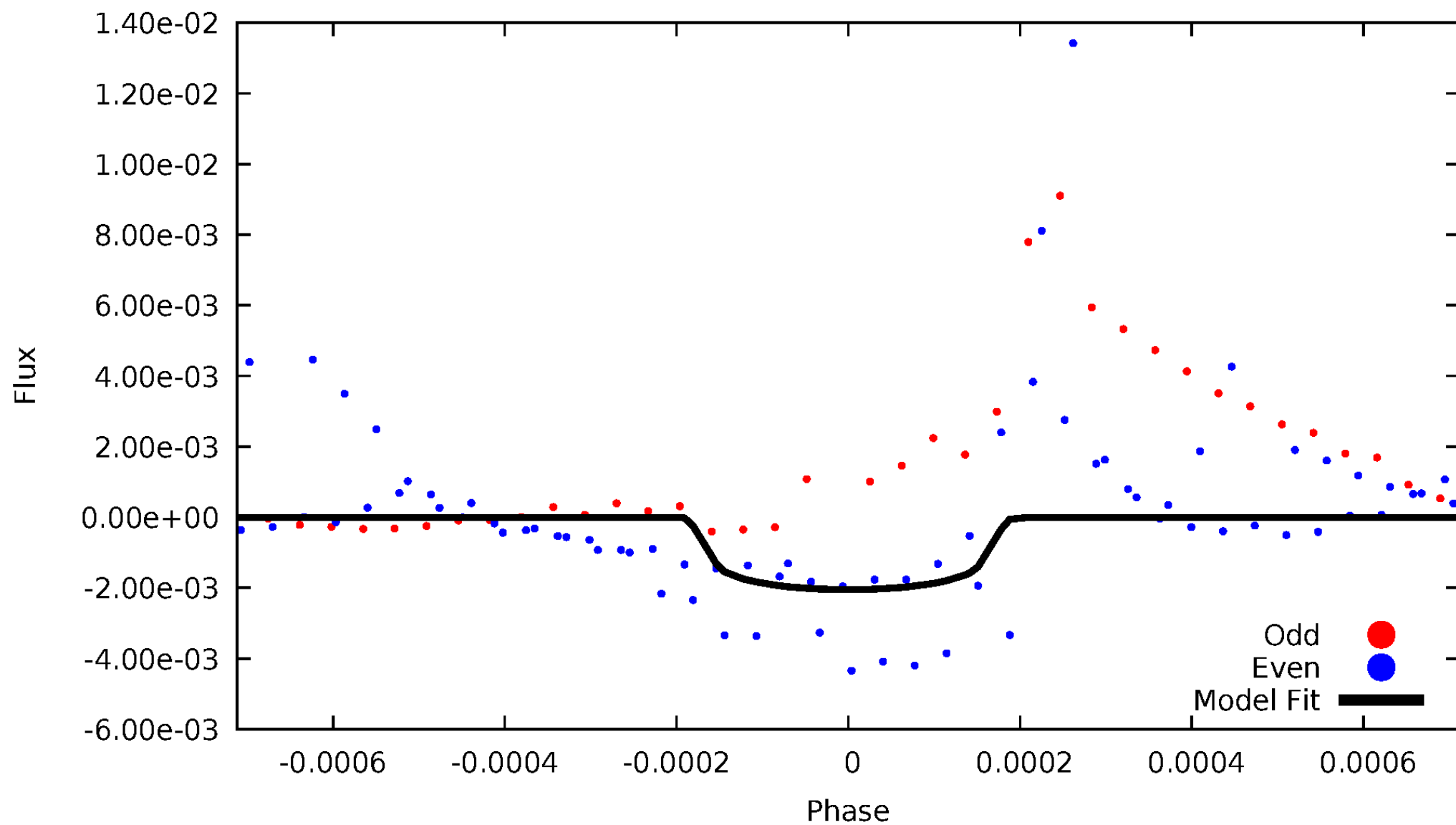
# TCE 007532880-03





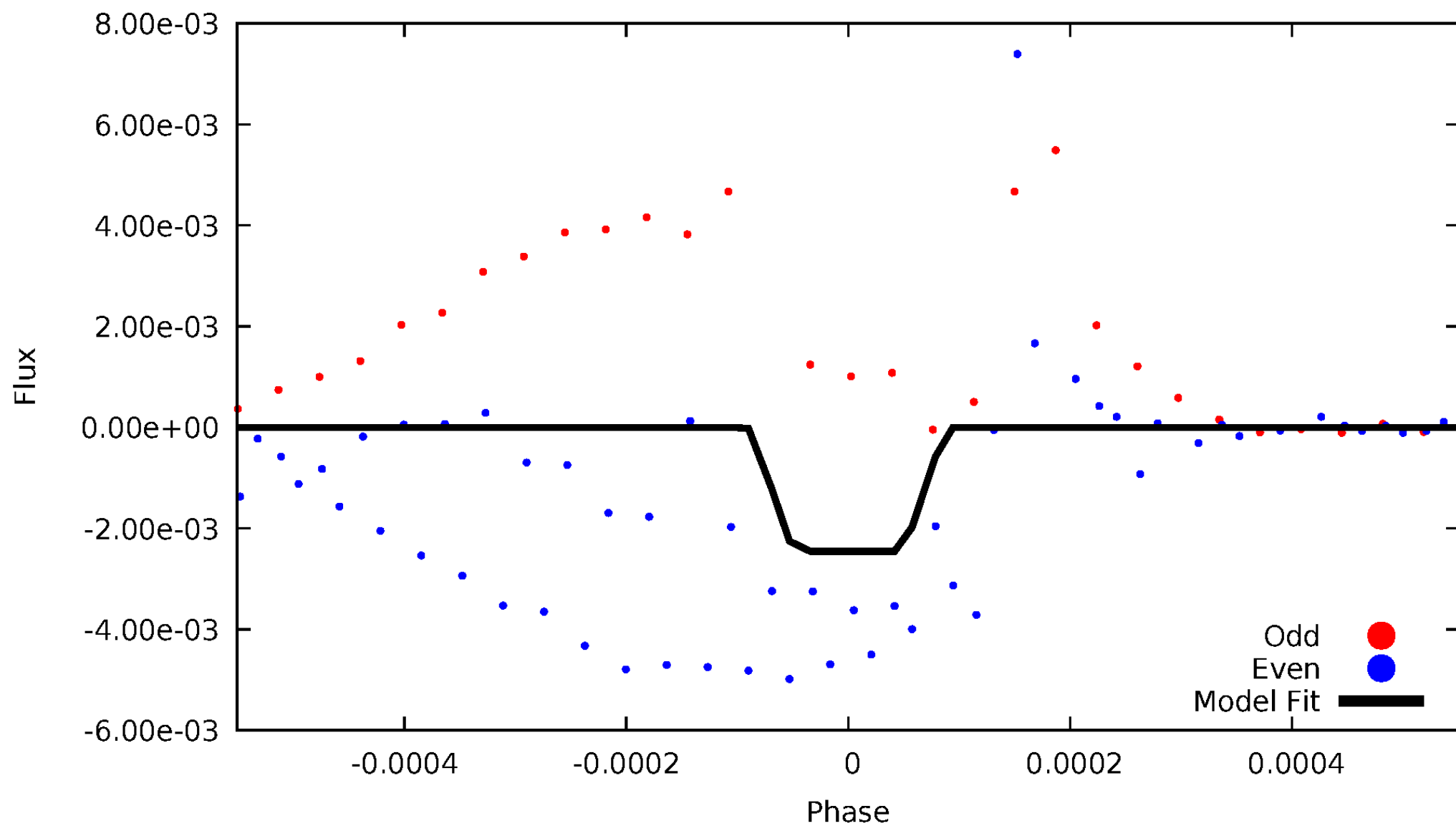
# DV Odd/Even

TCE 007532880-03



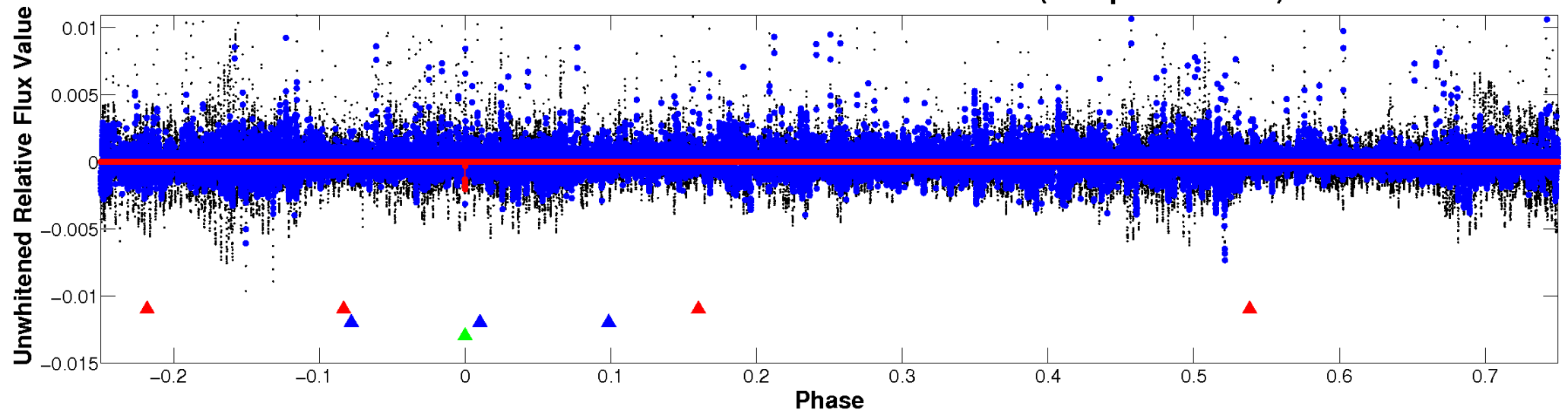
# ALT Odd/Even

TCE 007532880-03

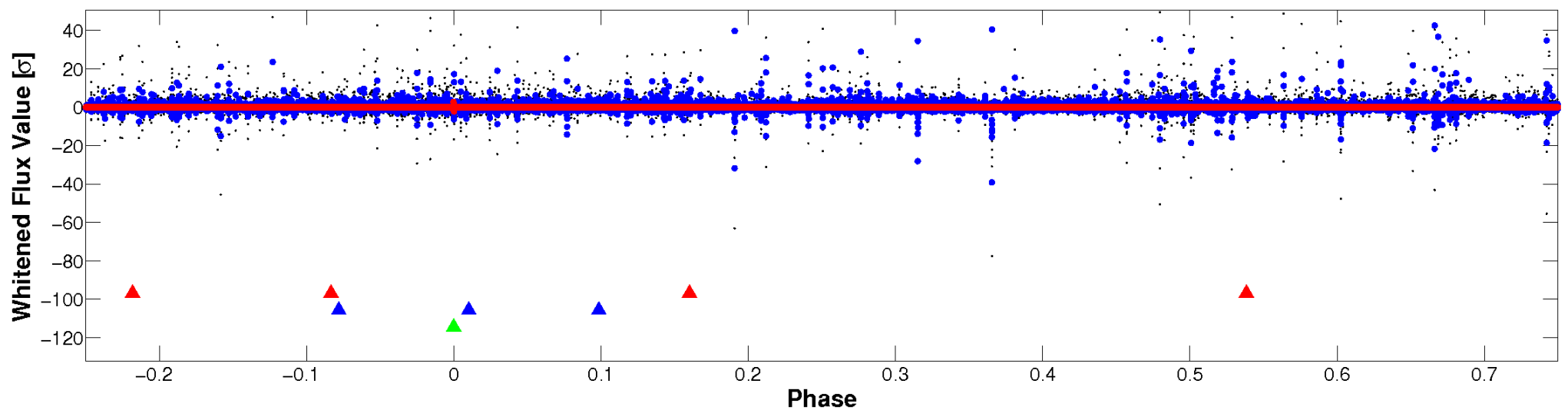


# Non-Whitened Vs. Whitened Light Curve

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

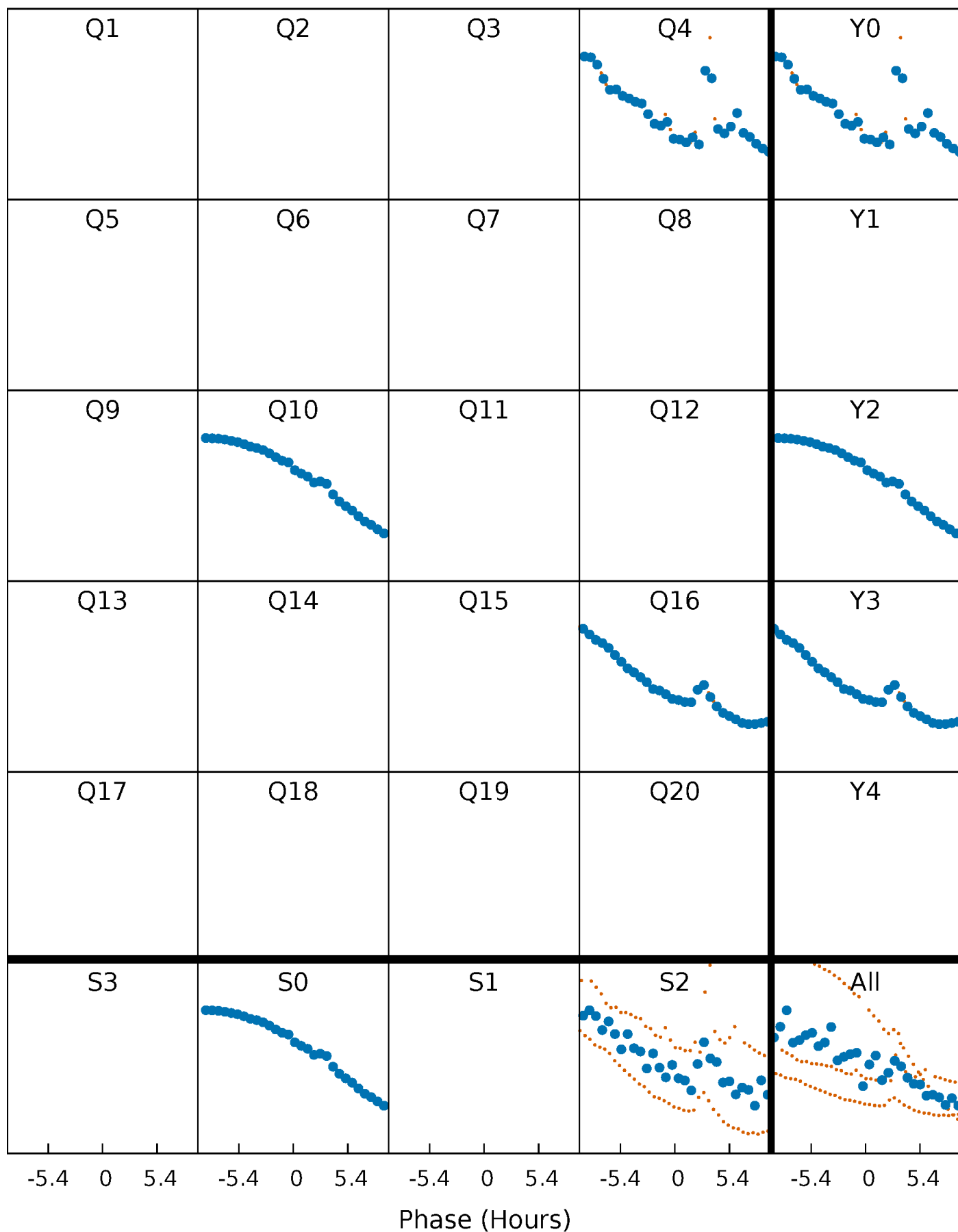


**Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



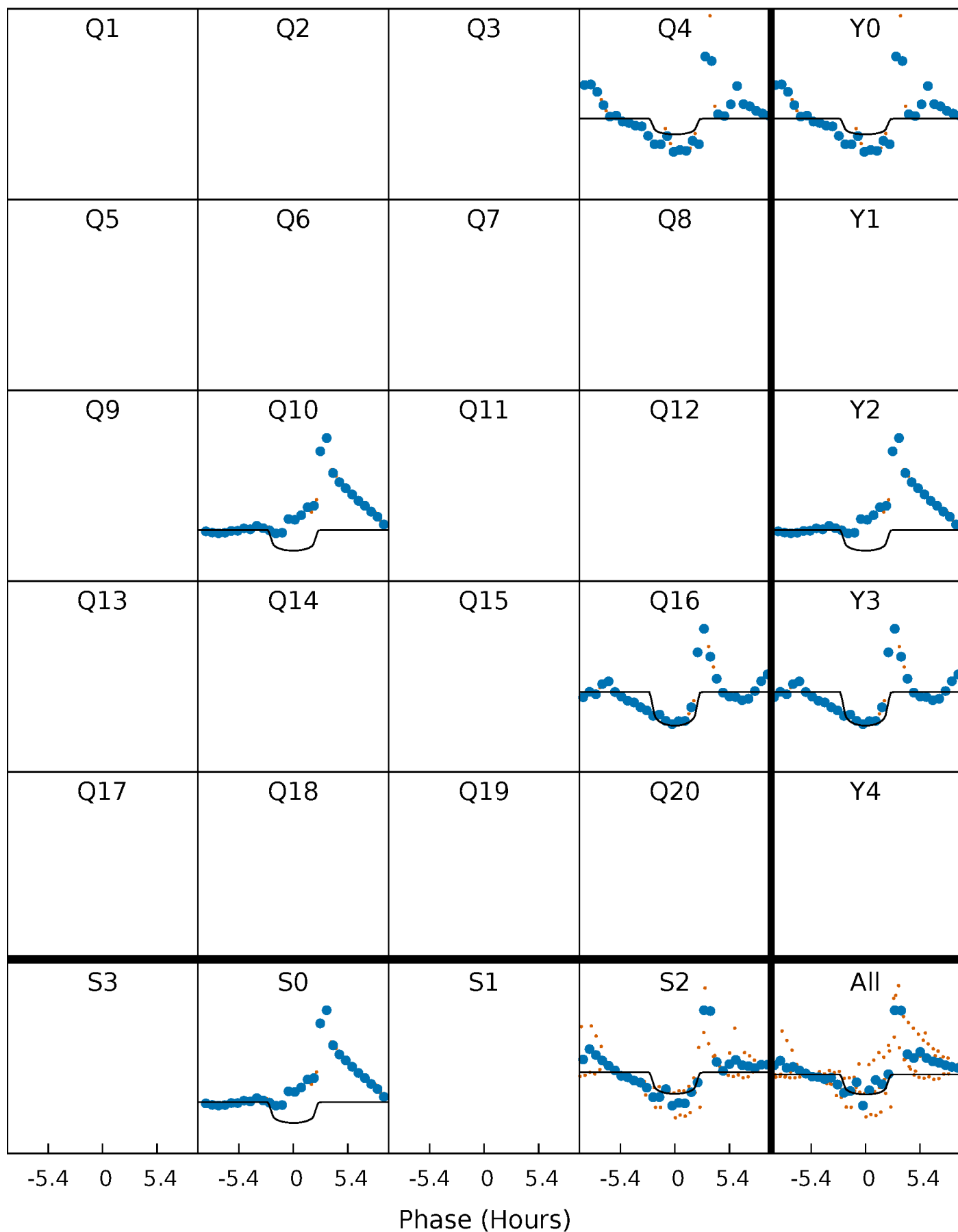
# PDC Quarter-Phased Transit Curves

TCE 007532880-03 P=554.151639 Days  $T_0=435.743537$  (BKJD)



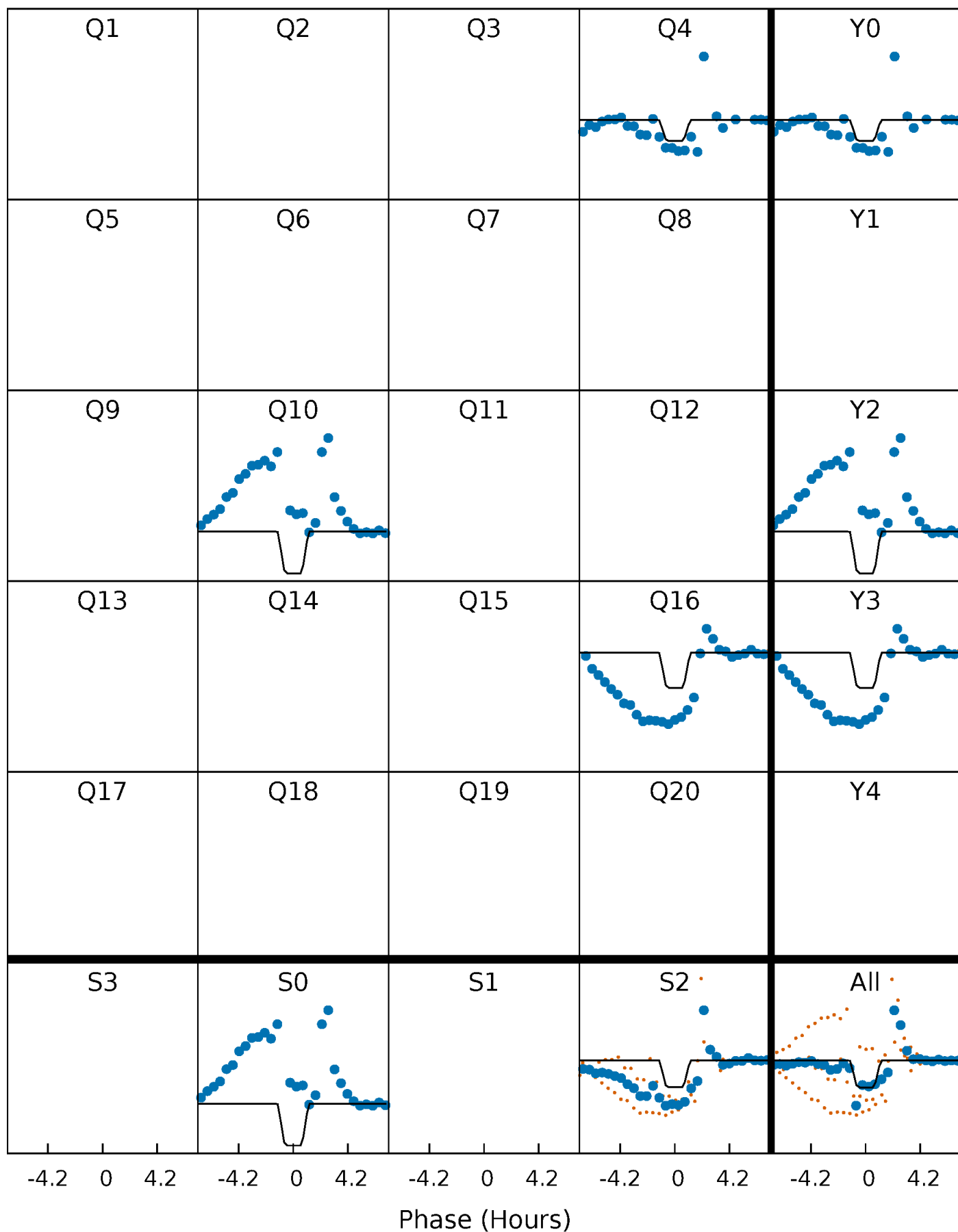
# DV Quarter-Phased Transit Curves

TCE 007532880-03 P=554.151639 Days  $T_0=435.743537$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

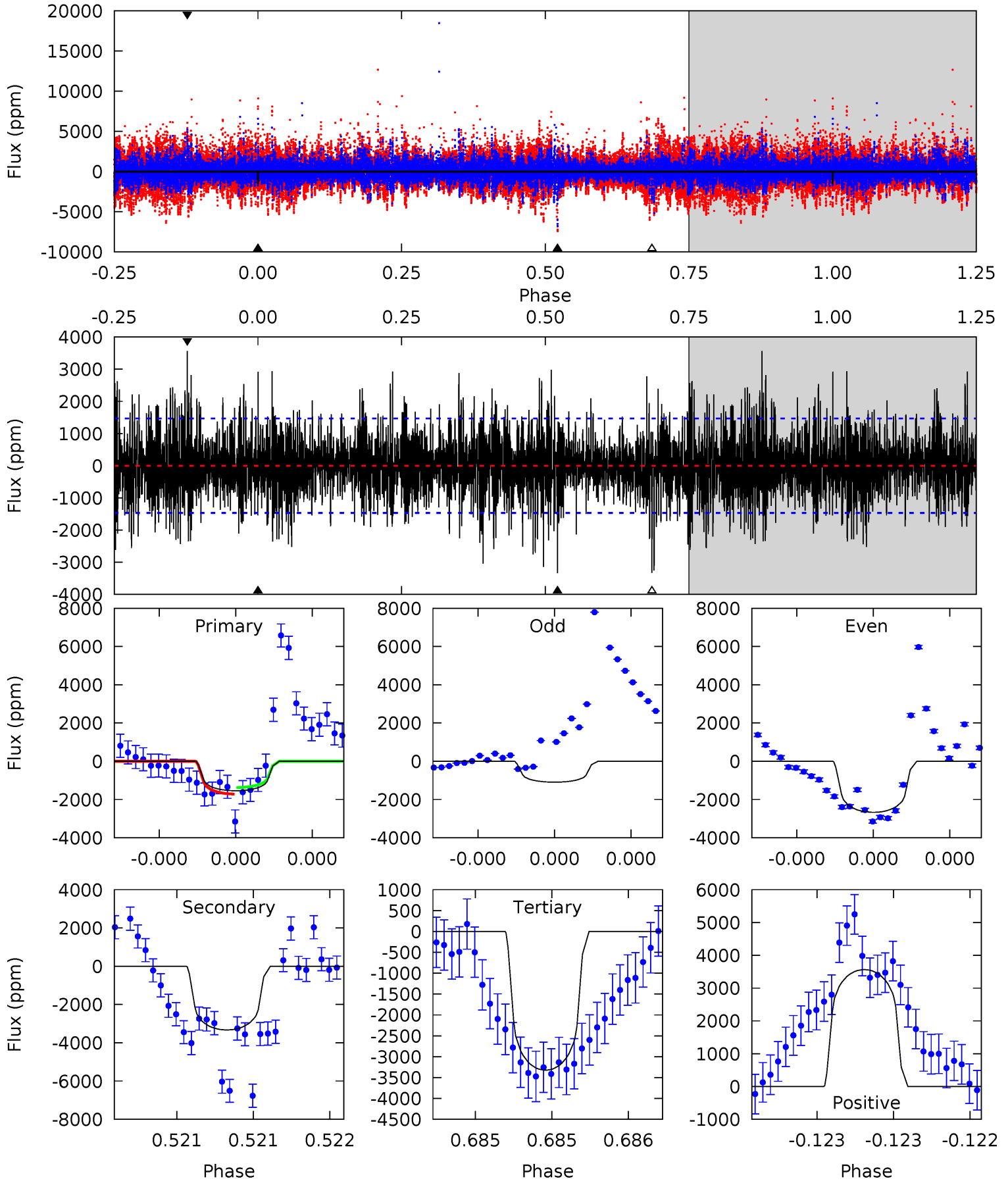
TCE 007532880-03 P=554.144525 Days  $T_0=435.783666$  (BKJD)



# DV Model-Shift Uniqueness Test

007532880-03, P = 554.151639 Days, E = 435.743537 Days

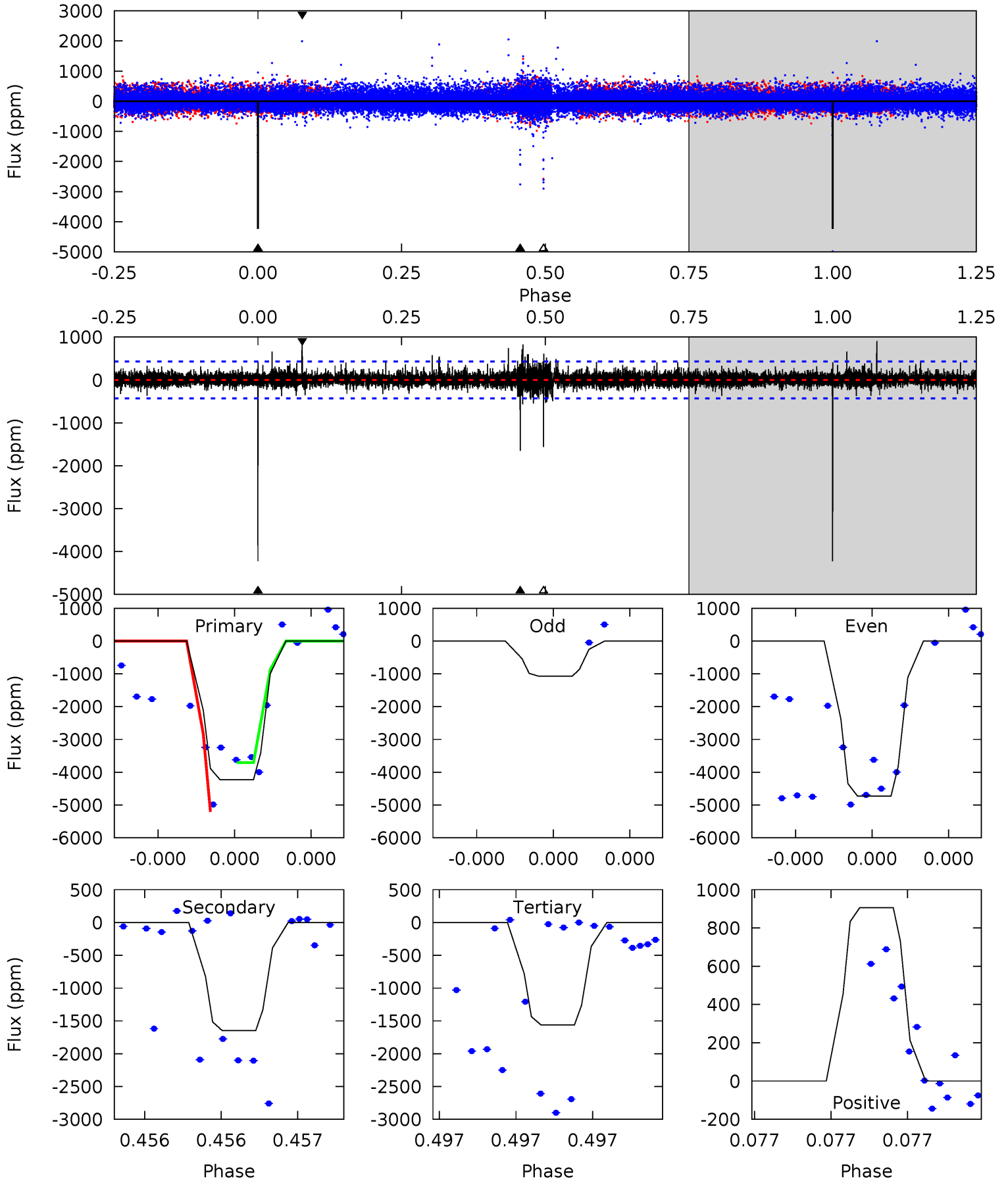
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.90	12.8	12.7	13.6	5.63	3.56	3.02	-6.83	-7.74	0.02	-0.89	2.65	0.86	0.52	0.65



# Alt Model-Shift Uniqueness Test

007532880-03, P = 554.144525 Days, E = 435.783666 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
56.4	22.0	20.8	12.1	5.76	3.76	1.20	35.5	44.3	1.15	9.89	26.6	0.67	0.18	0





### Stellar Parameters For KIC 007532880

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$5808^{+139}_{-156}$	$4.412^{+0.124}_{-0.186}$	$-0.260^{+0.300}_{-0.300}$	$0.969^{+0.273}_{-0.147}$	$0.885^{+0.121}_{-0.081}$	$1.370^{+0.746}_{-0.658}$
	+2%/-3%	+3%/-4%	+115%/-115%	+28%/-15%	+14%/-9%	+54%/-48%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 007532880-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-3331 \pm 261$	$4.52^{+2.35}_{-2.04}$	$317^{+23}_{-18}$	$6910^{+3229}_{-1260}$	$149755^{+325453}_{-87098}$
Alt.	$-1648 \pm 75$	$5.38^{+2.24}_{-2.01}$	$314^{+23}_{-17}$	$5290^{+1300}_{-684}$	$51341^{+77929}_{-25678}$

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

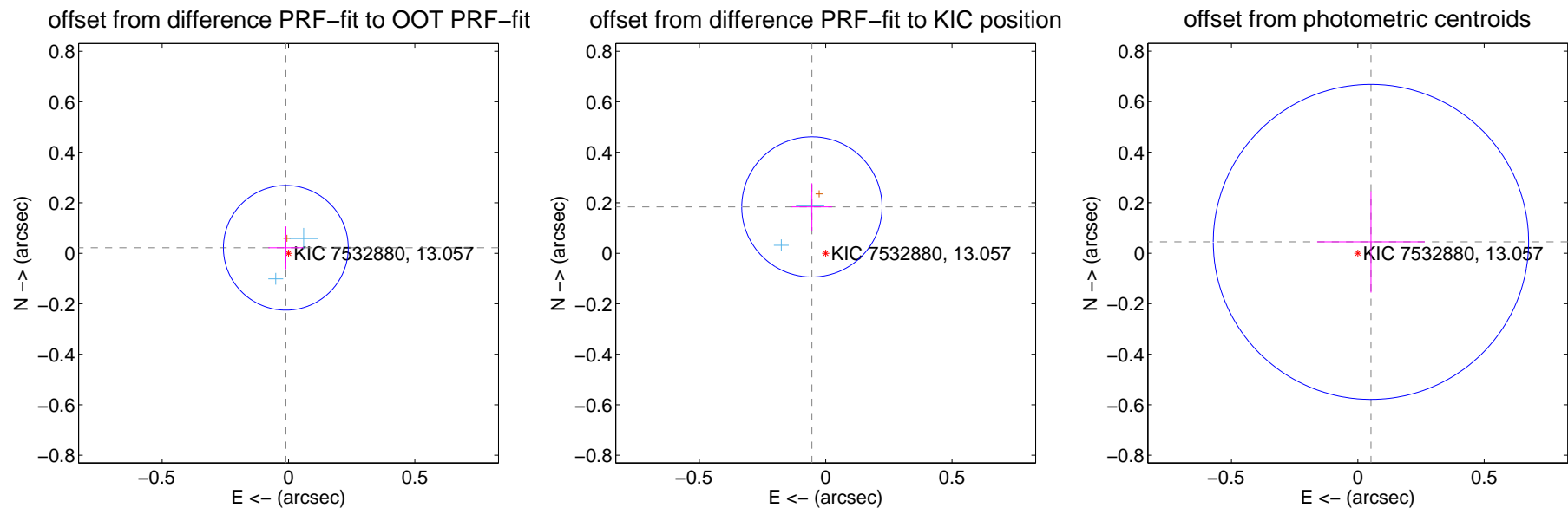
## DV Centroid Data

Supplemental centroid analysis for 007532880-03. Kepler magnitude: 13.06. Transit SNR 6.94

There are 2 quarters with good PRF difference image offsets

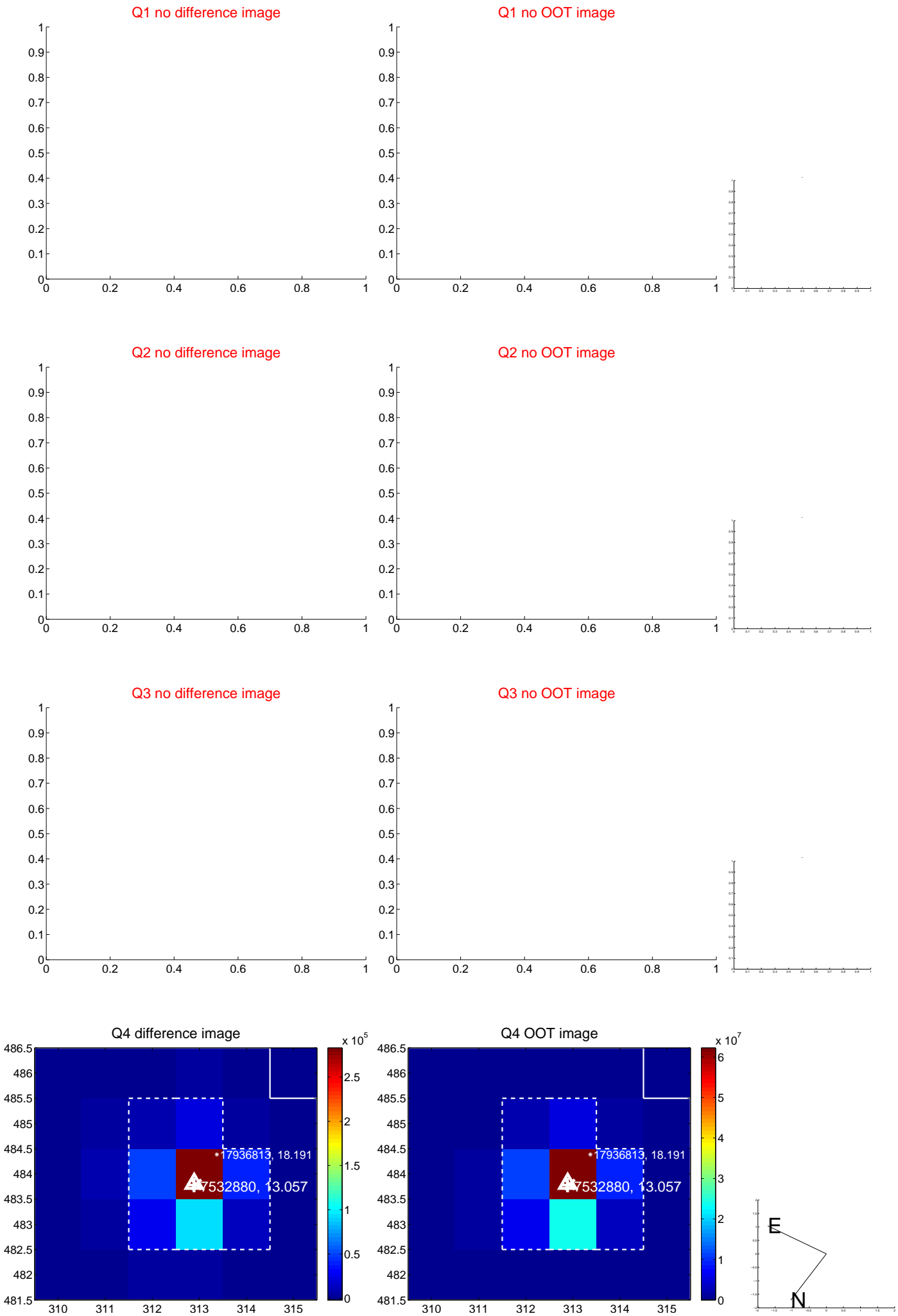
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.024 \pm 0.082$	0.29	$0.010 \pm 0.069$	$0.022 \pm 0.085$
PRF-fit source offset from KIC position	$0.192 \pm 0.093$	2.07	$0.054 \pm 0.080$	$0.184 \pm 0.094$
photometric centroid source offset	$0.07 \pm 0.21$	0.33	$-0.05 \pm 0.21$	$0.04 \pm 0.20$



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

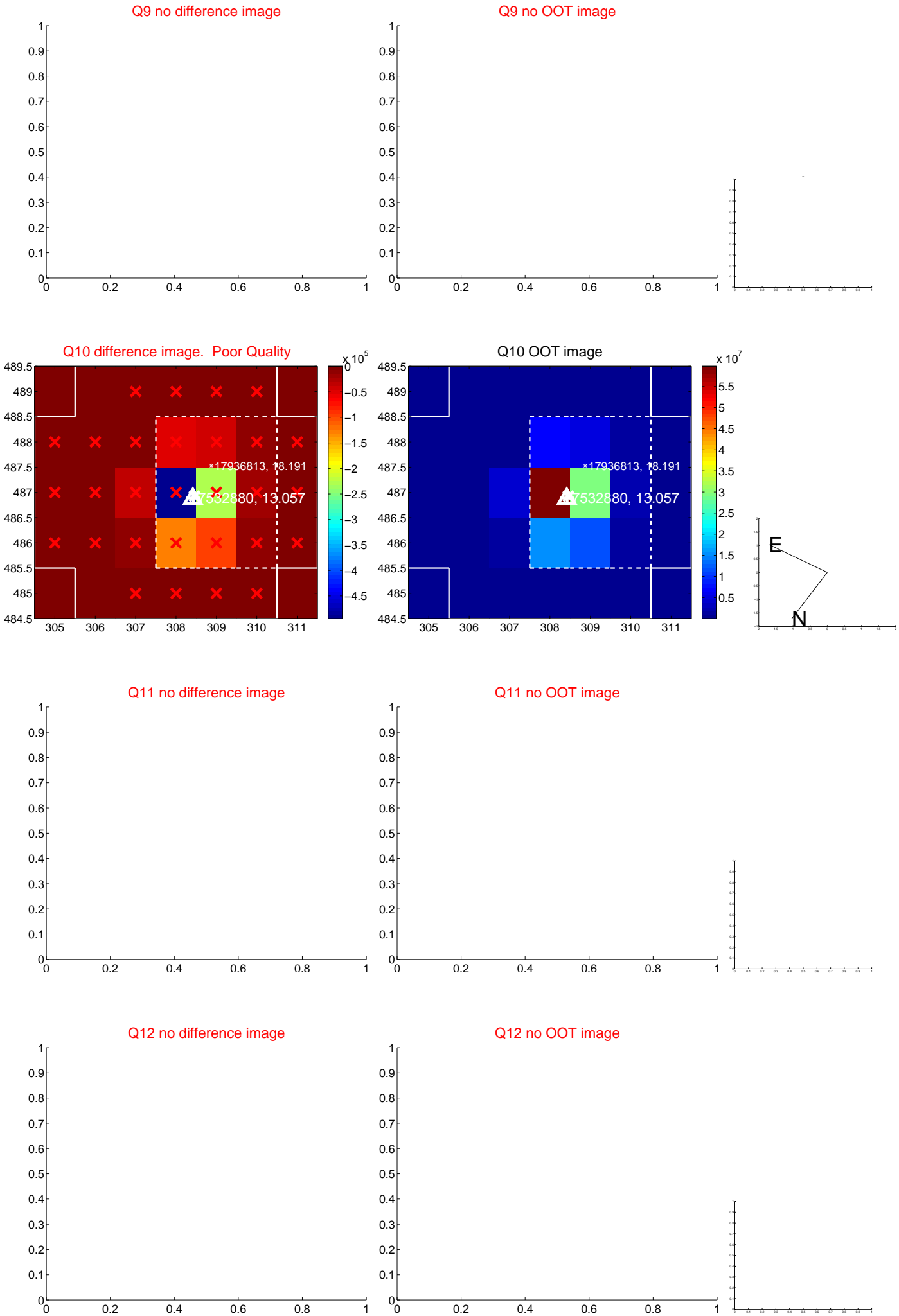
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



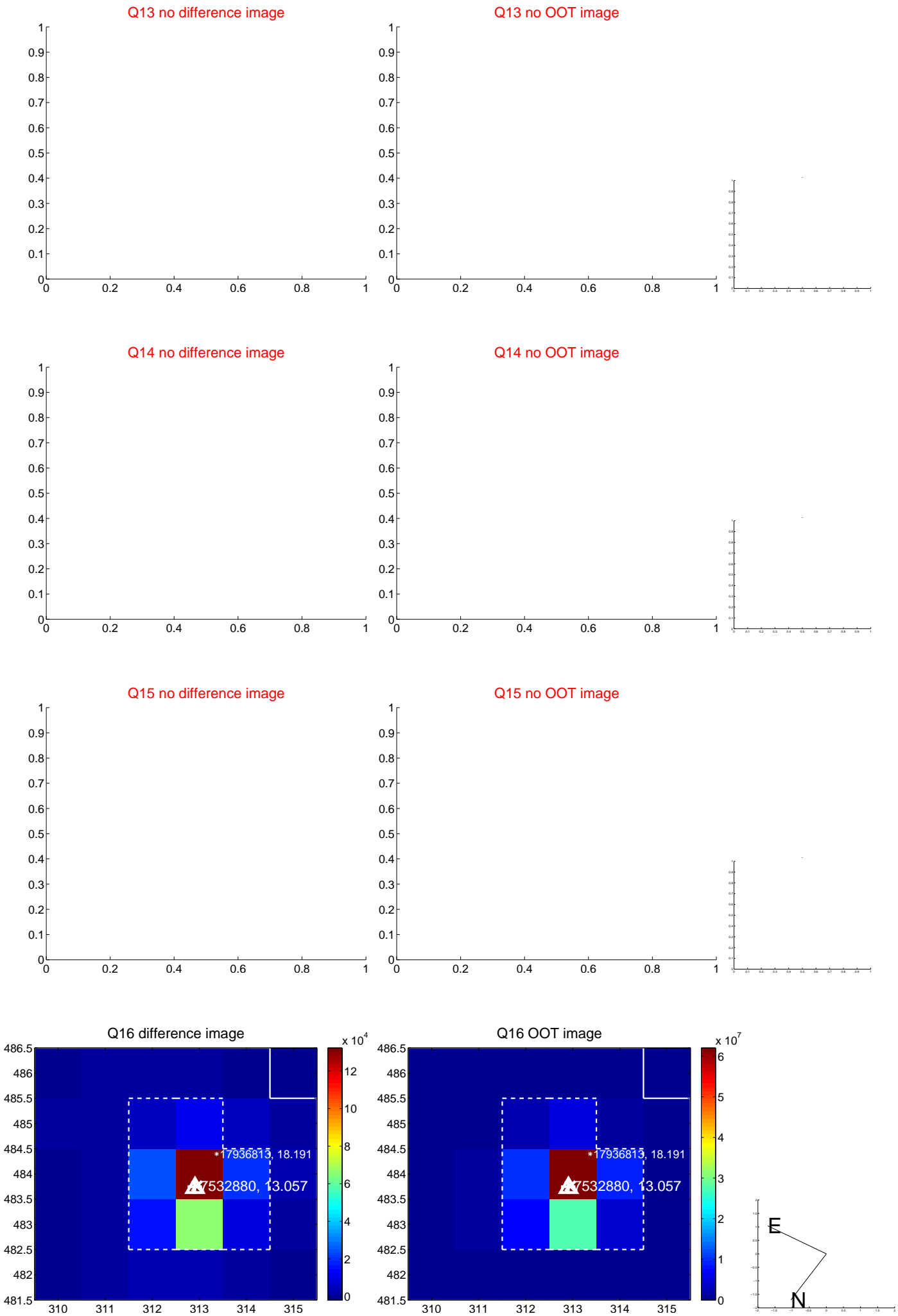
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



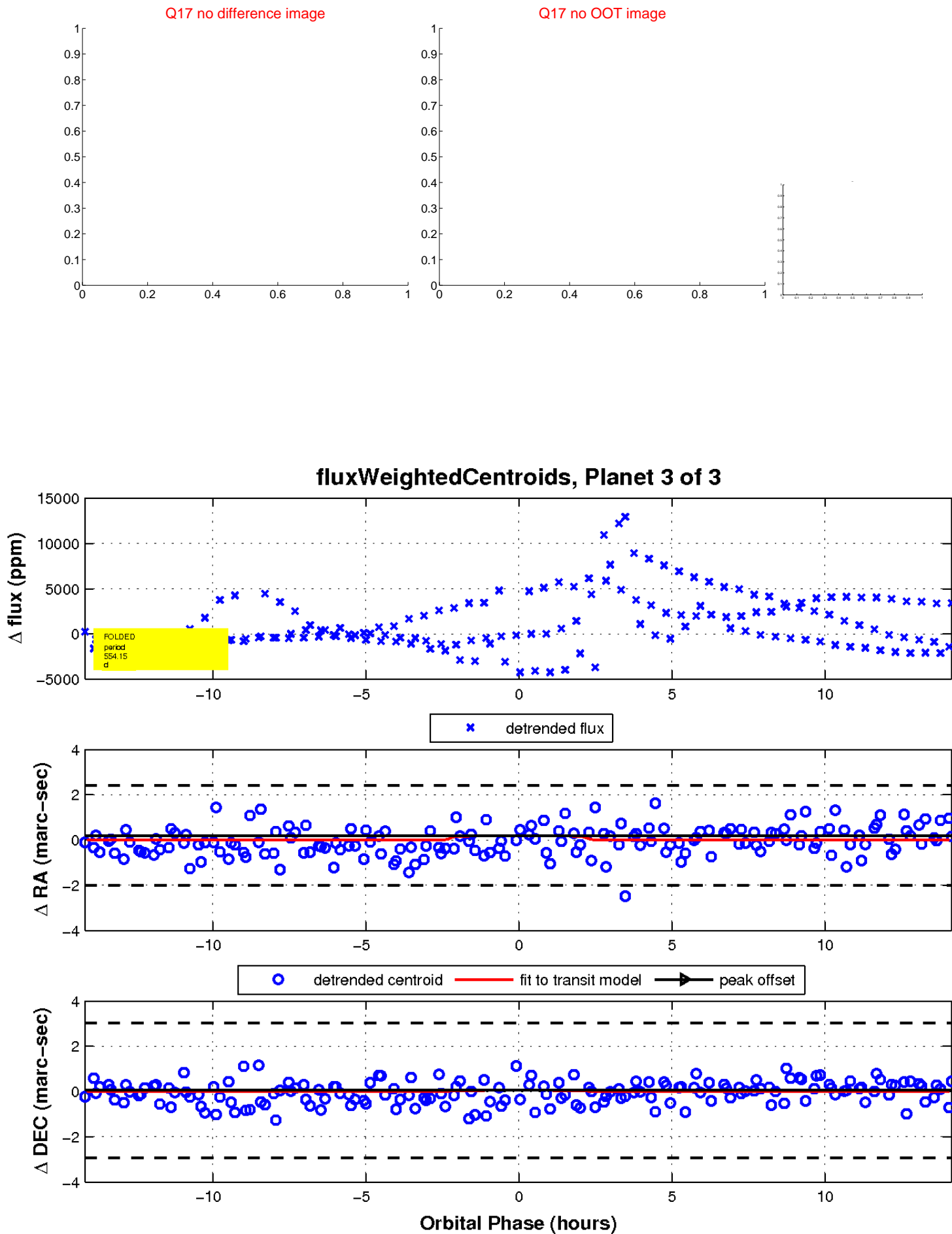
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



white ×: 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.



UKIRT Image

Declination

