

# KIC 005217339

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005217339-01	OBS	No	312.892007	429.459334	471.5	0.779	12.2	2.3	0.78	5397	1.70	0.66
005217339-02	OBS	No	391.282490	358.001523	1986.9	6.441	17.1	7.1	0.78	5397	3.49	0.49
005217339-03	OBS	No	470.386273	247.270819	1029.8	3.360	13.0	4.0	0.78	5397	2.66	0.38

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005217339-01	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_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005217339-02	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005217339-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—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.

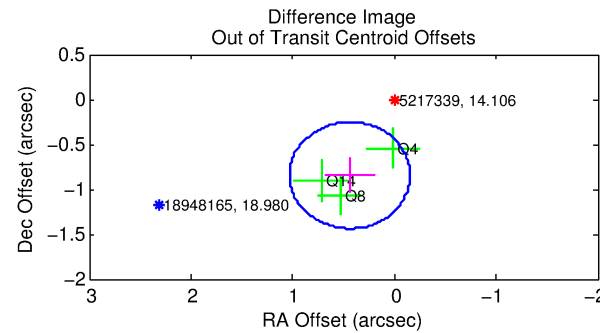
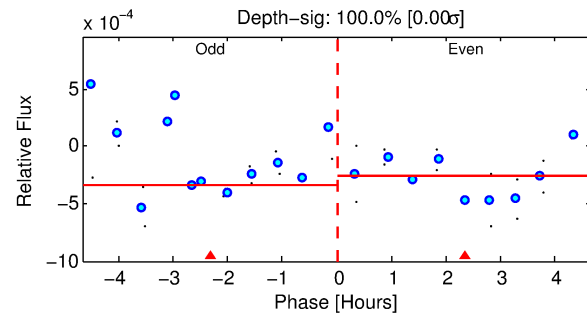
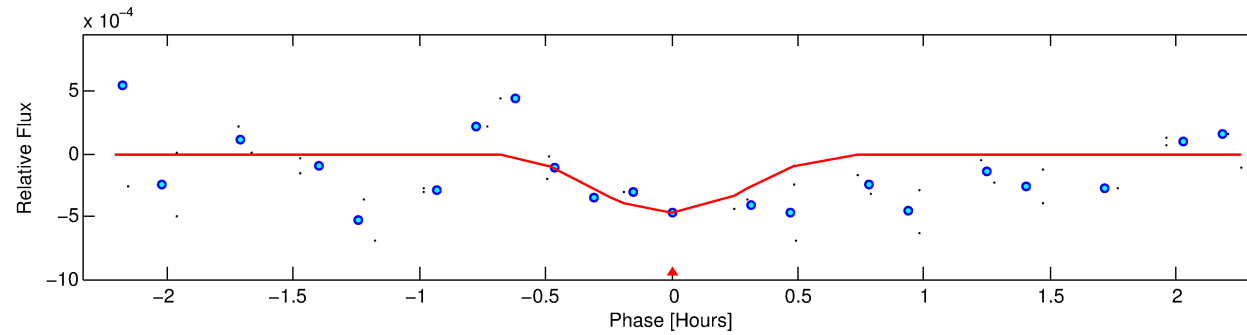
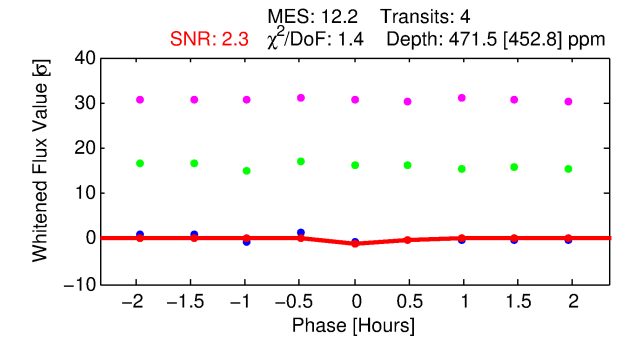
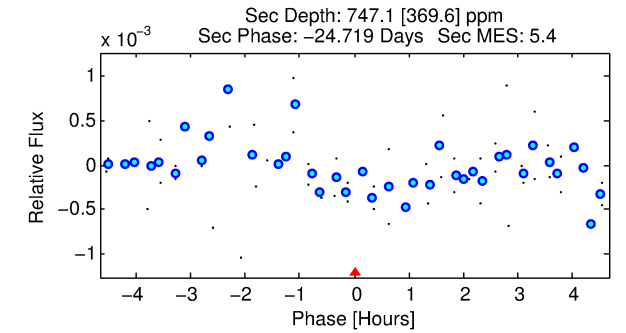
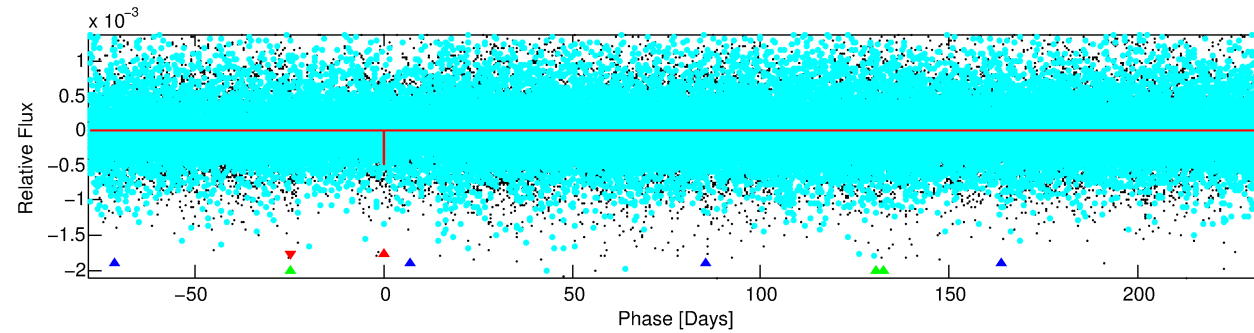
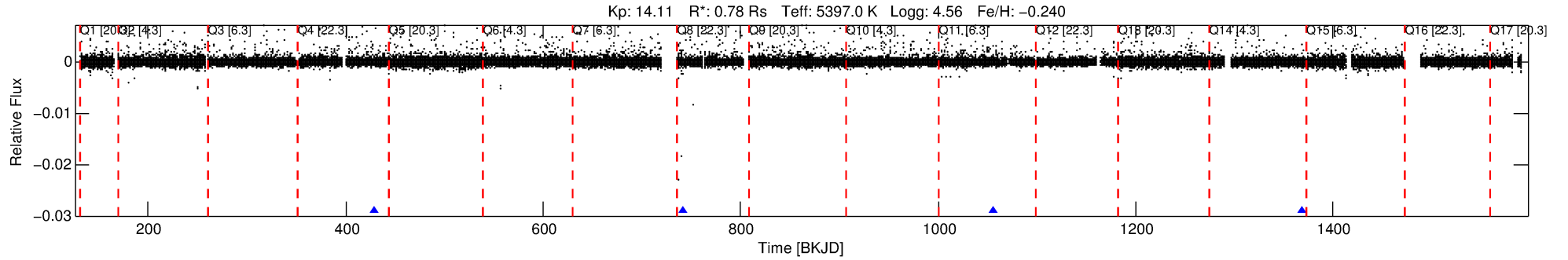
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 005217339-01

No Significant Match Found

# DV One-Page Summary

KIC: 5217339 Candidate: 1 of 3 Period: 312.892 d



## DV Fit Results:

Period = 312.89201 [0.00405] d  
Epoch = 429.4593 [0.0118] BKJD  
Rp/R\* = 0.0199 [0.2272]  
a/R\* = 3120.86 [145826.00]  
b = 0.08 [593.48]  
Seff = 0.65 [0.16]  
Teq = 229 [14] K  
Rp = 1.70 [19.37] Re  
a = 0.8415 [0.1227] AU  
Ag = 100979.26 [2304337.76] [0.04σ]  
Teffp = 6322 [36065] K [0.17σ]

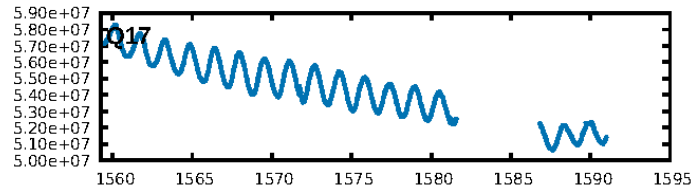
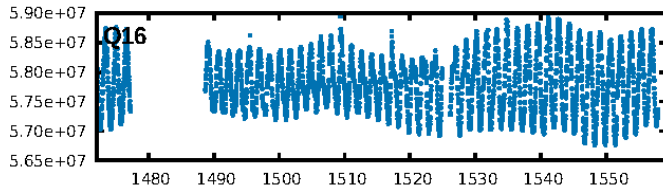
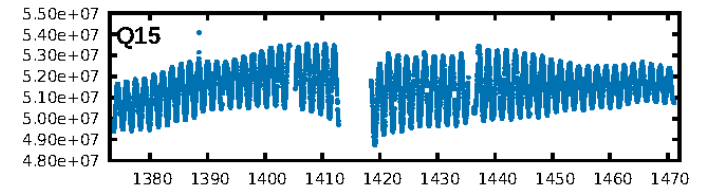
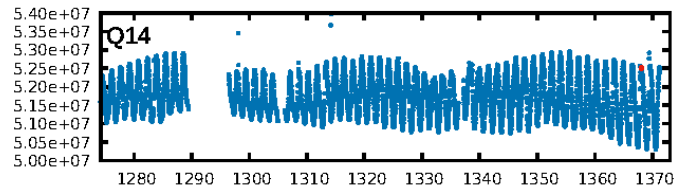
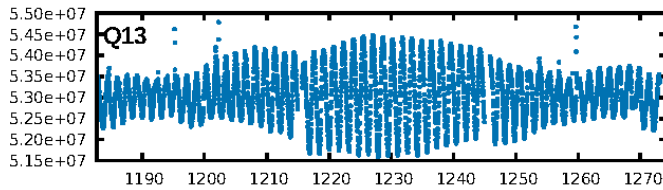
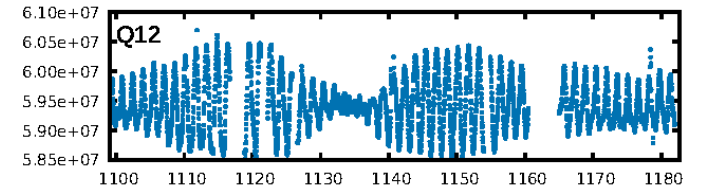
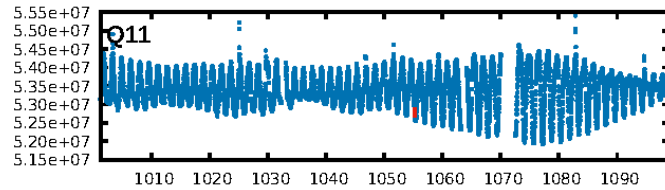
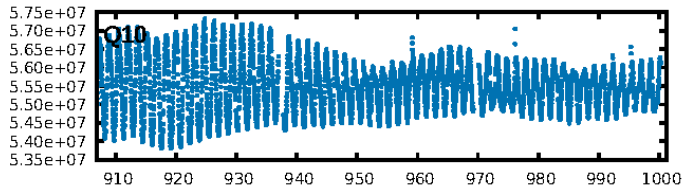
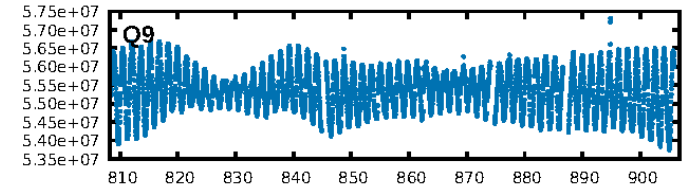
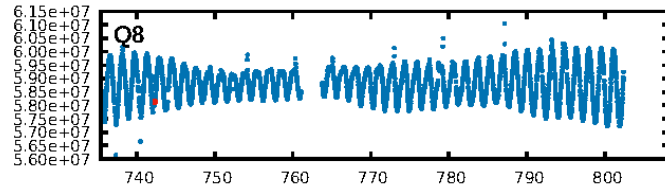
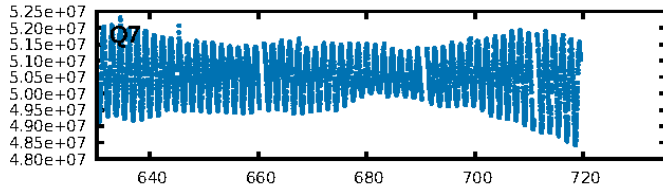
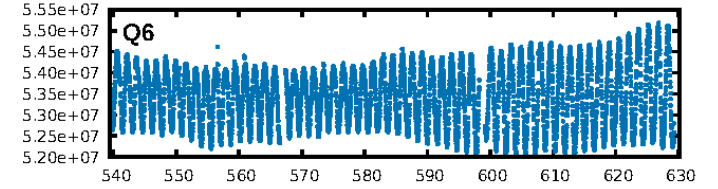
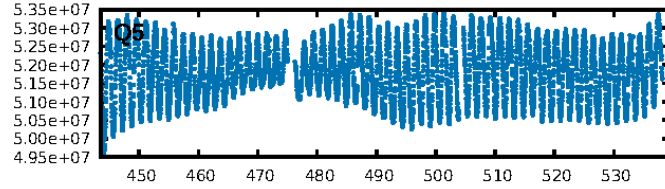
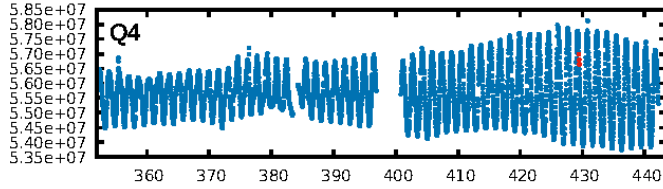
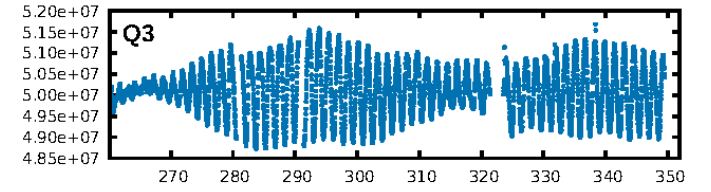
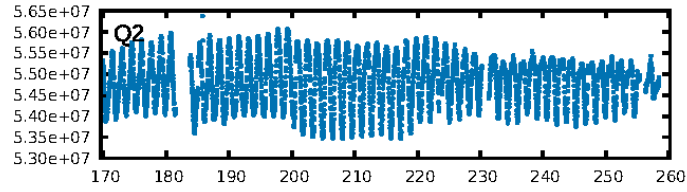
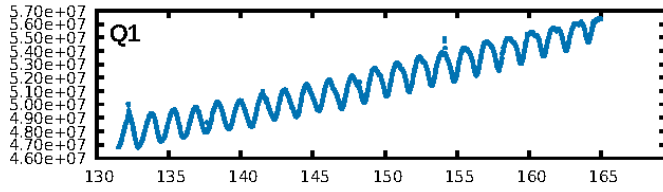
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 100.0% [289.98σ]  
ModelChiSquare2-sig: 92.2%  
ModelChiSquareGof-sig: 92.4%  
Bootstrap-pfa: 1.54e-09  
RollingBand-fgt: 1.00 [4/4]  
GhostDiagnostic-chr: -41.52  
Centroid-sig: 53.1%  
Centroid-so: 2.522 arcsec [0.60σ]  
OotOffset-rm: 0.954 arcsec [4.83σ]  
KicOffset-rm: 0.255 arcsec [1.60σ]  
OotOffset-st: 1/0/2/0 [3]  
KicOffset-st: 1/0/2/0 [3]  
DiffImageQuality-fgm: 0.33 [1/3]  
DiffImageOverlap-fno: 1.00 [3/3]

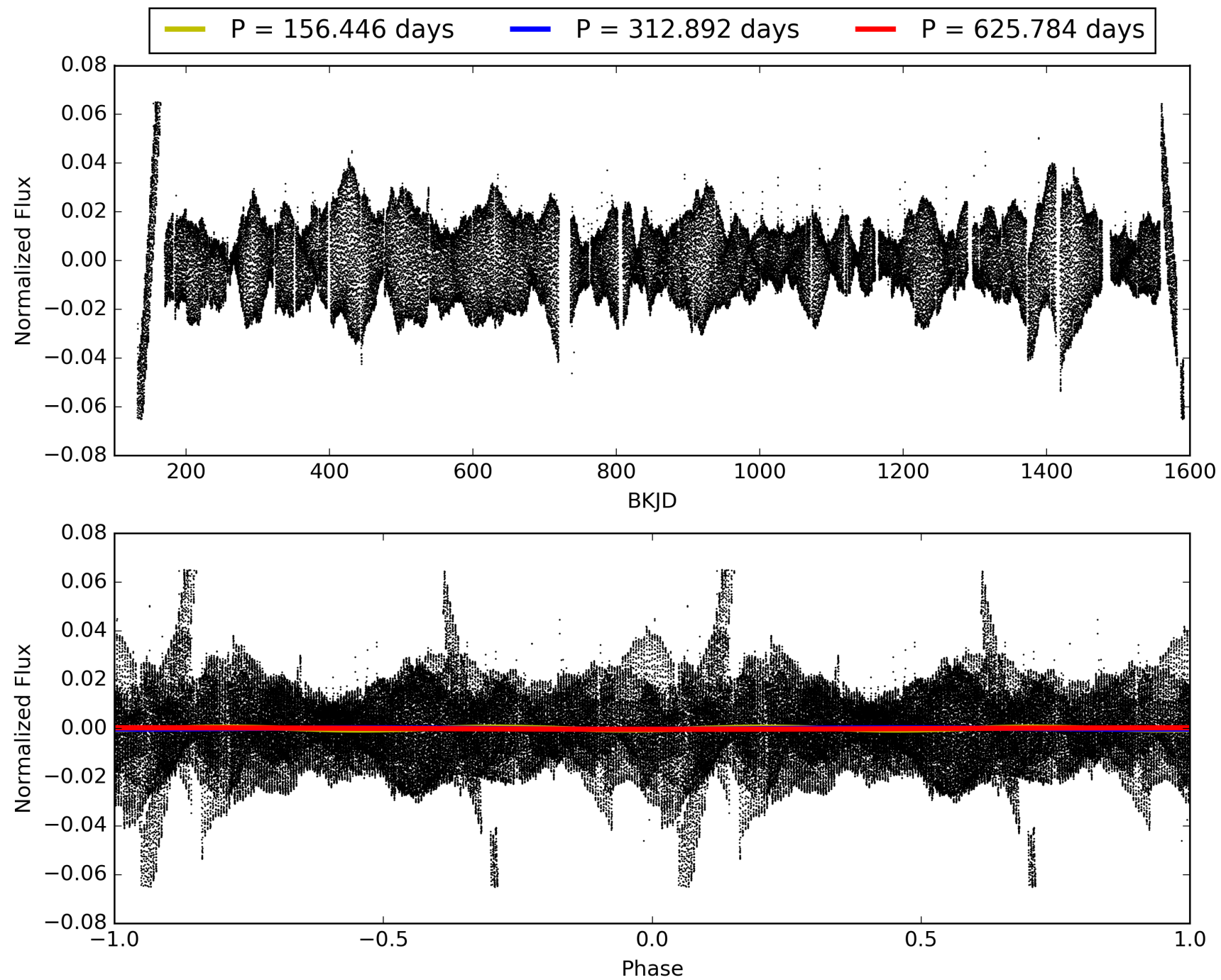
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 005217339-01, PDC Light Curves

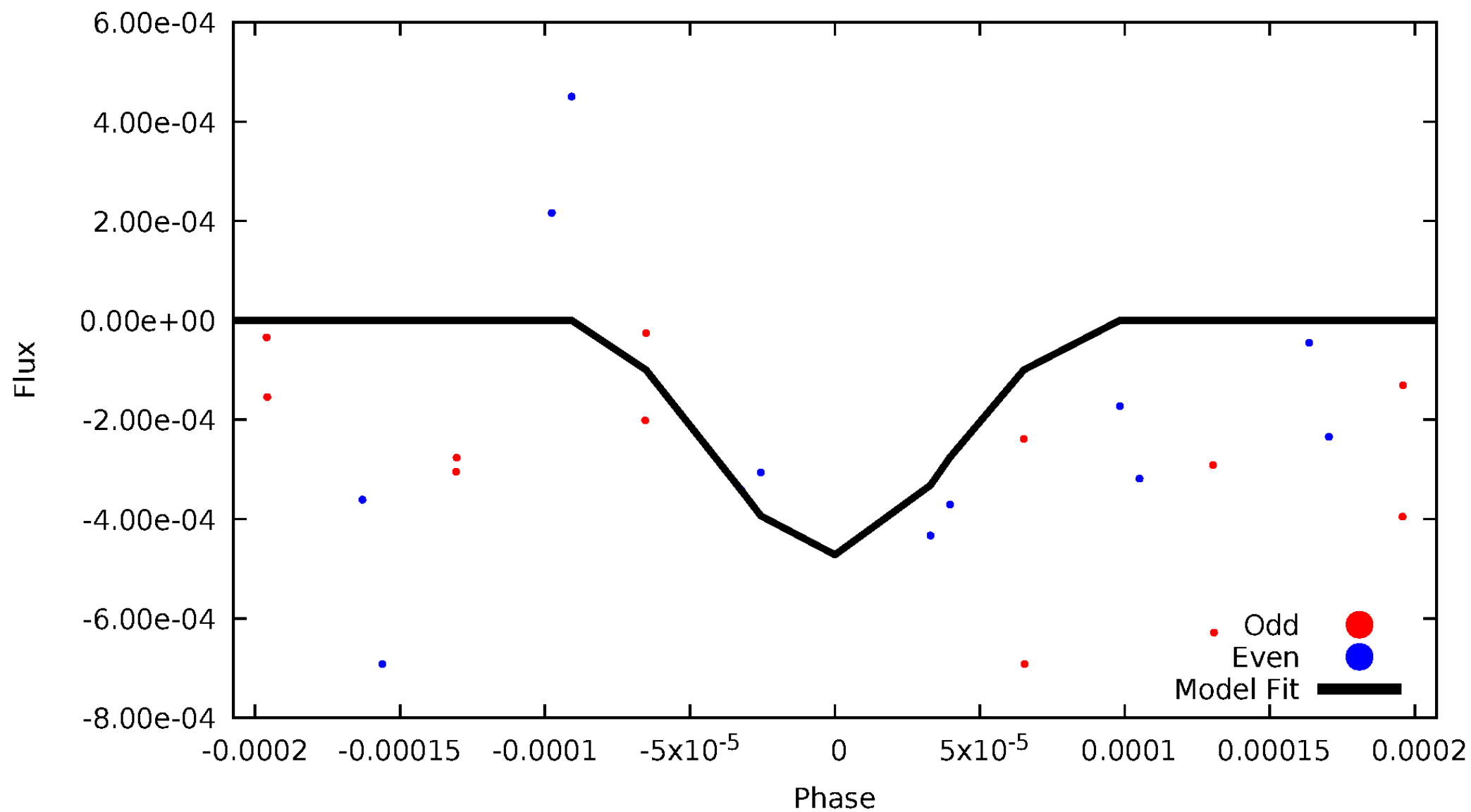


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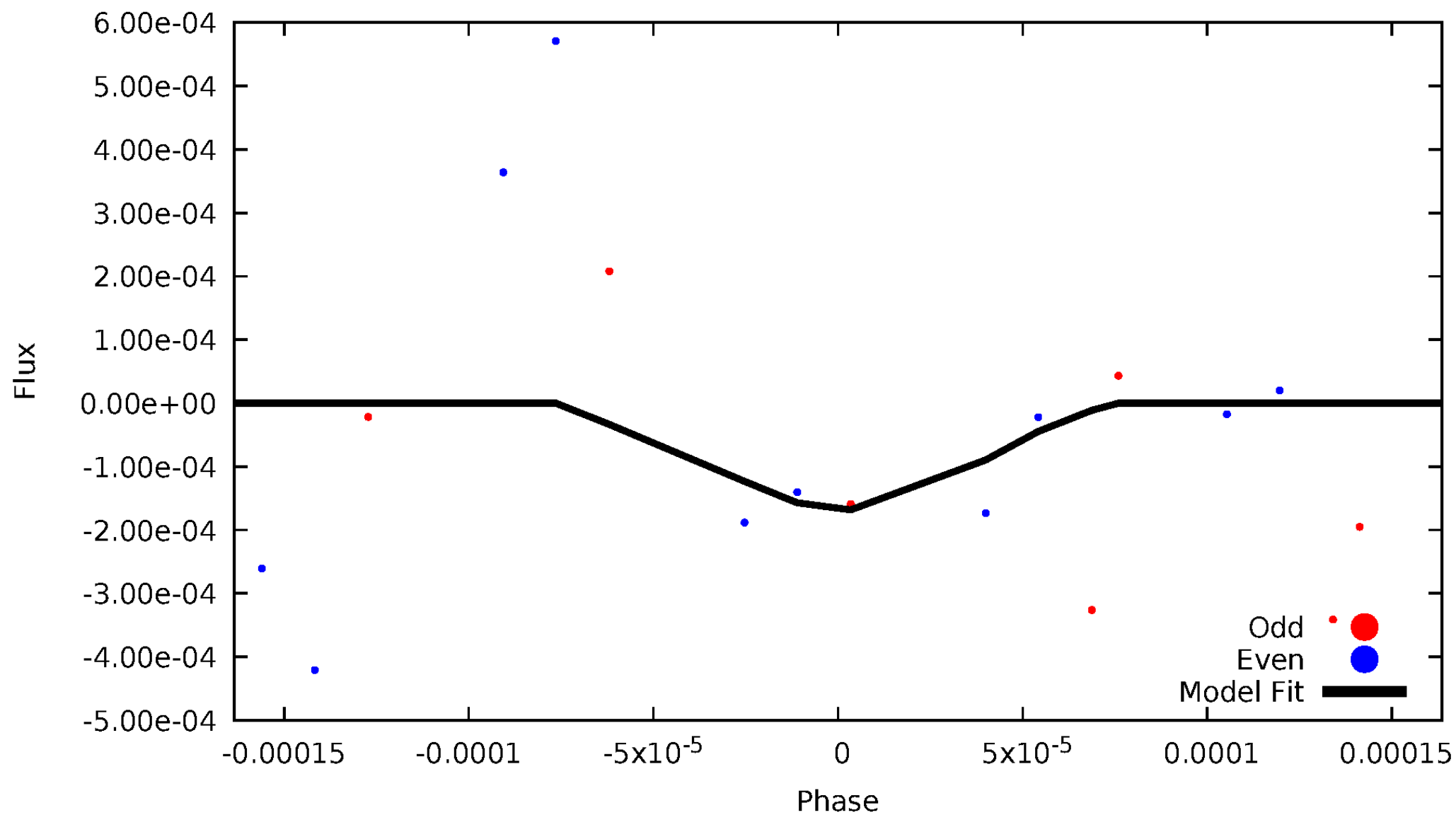
# DV Odd/Even

TCE 005217339-01



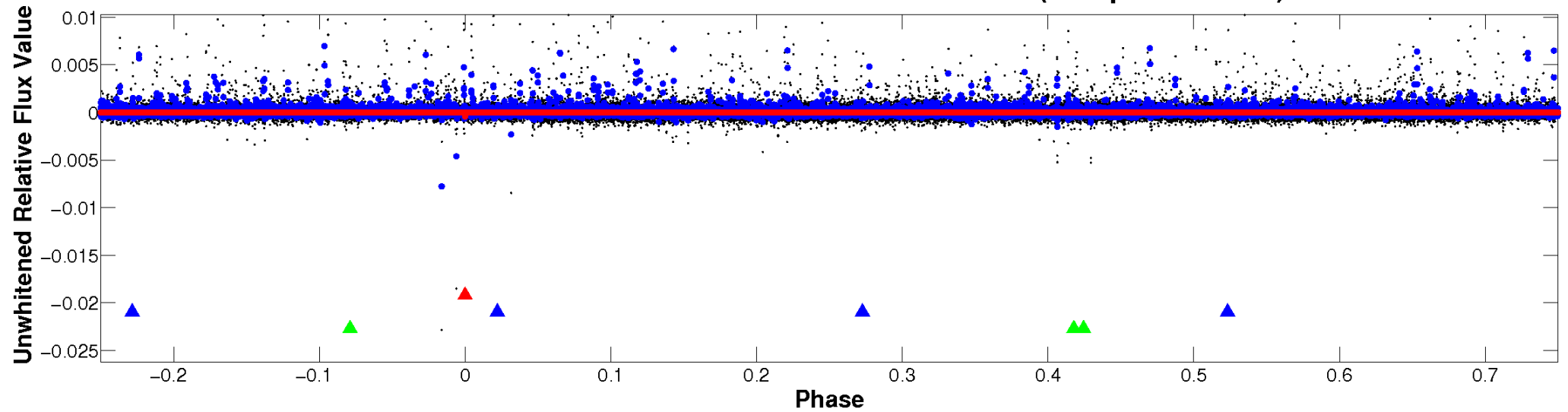
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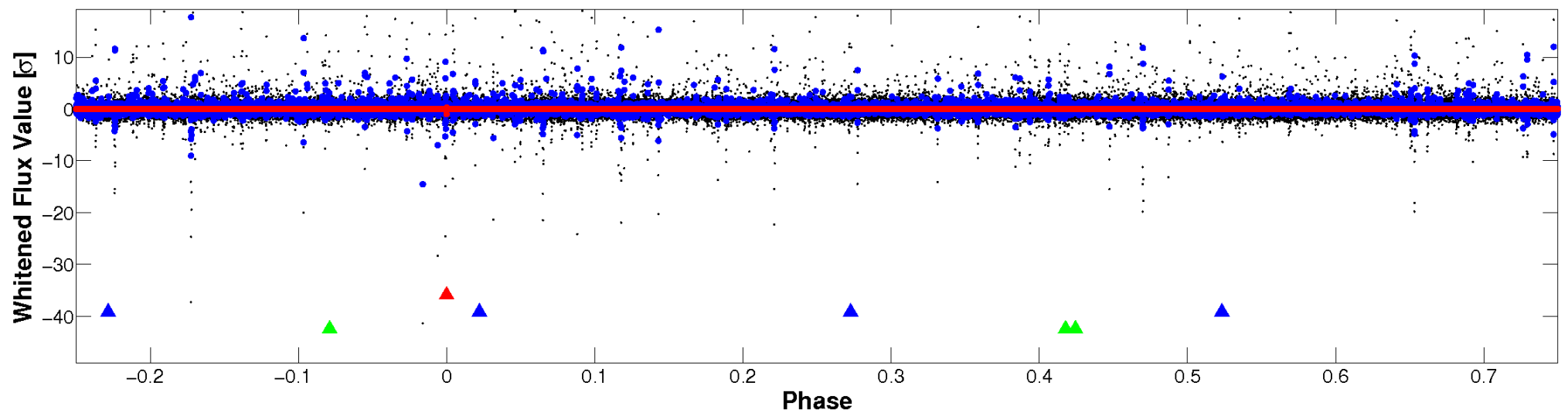


# Non-Whitened Vs. Whitened Light Curve

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

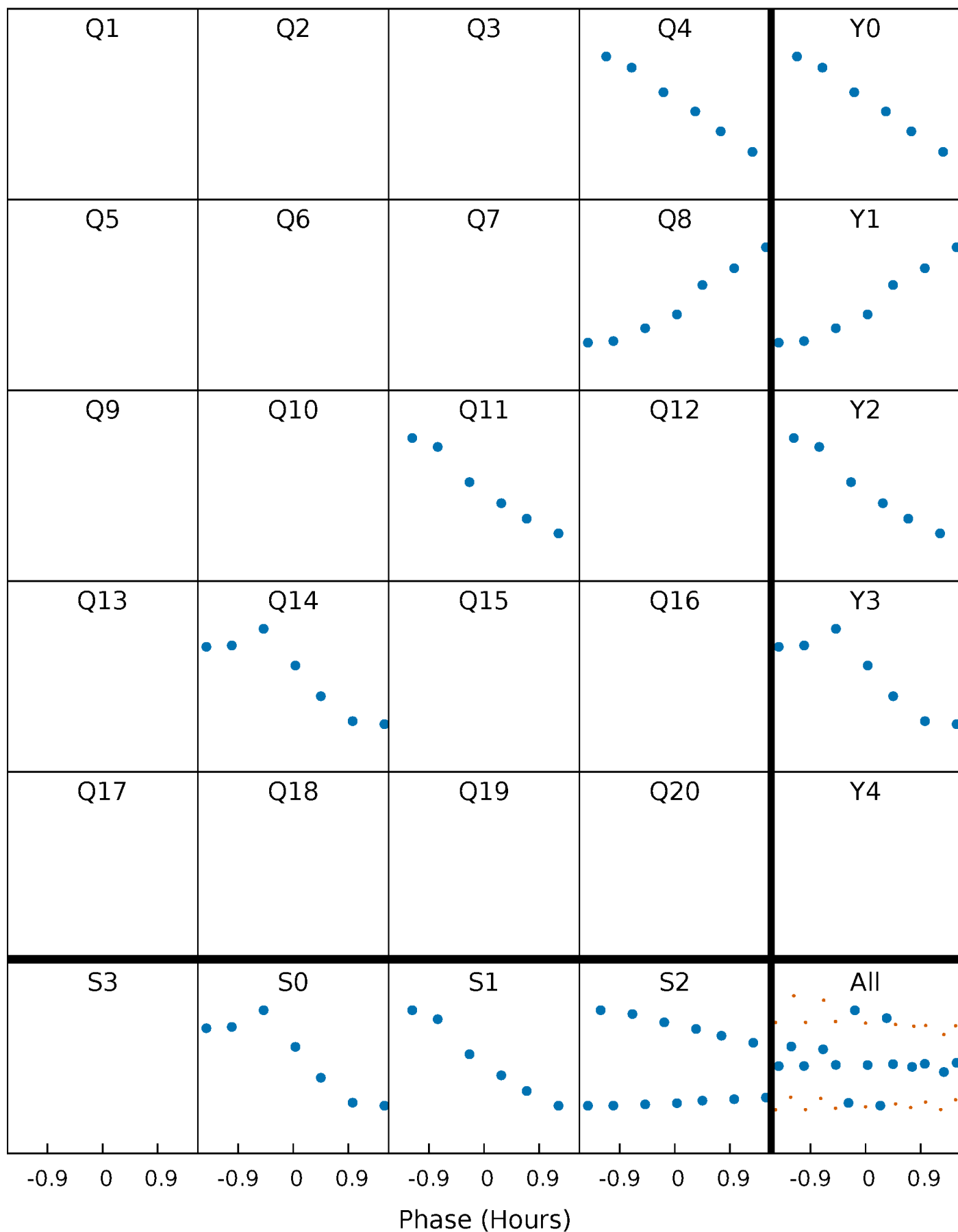


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



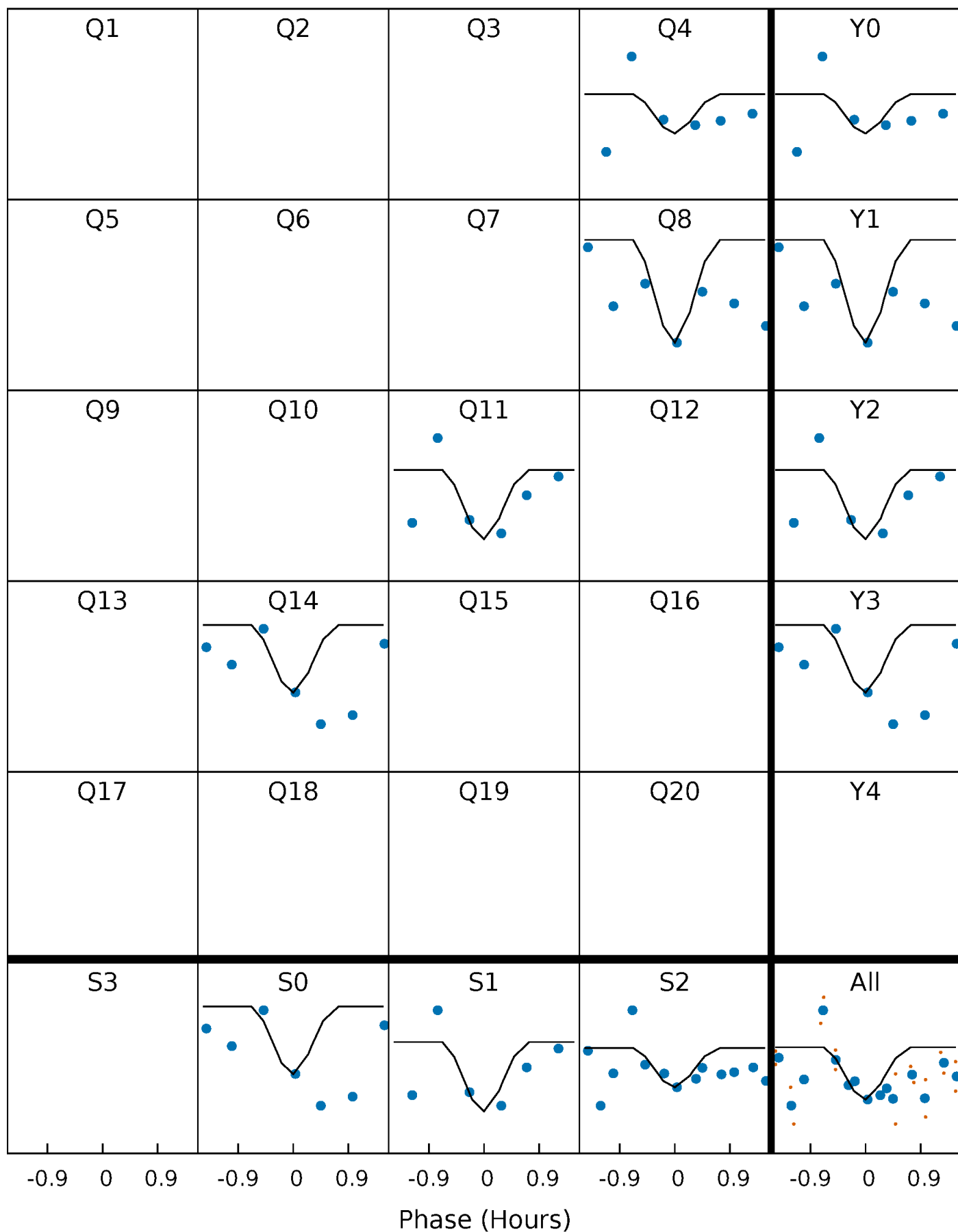
# PDC Quarter-Phased Transit Curves

TCE 005217339-01 P=312.892007 Days  $T_0=429.459334$  (BKJD)



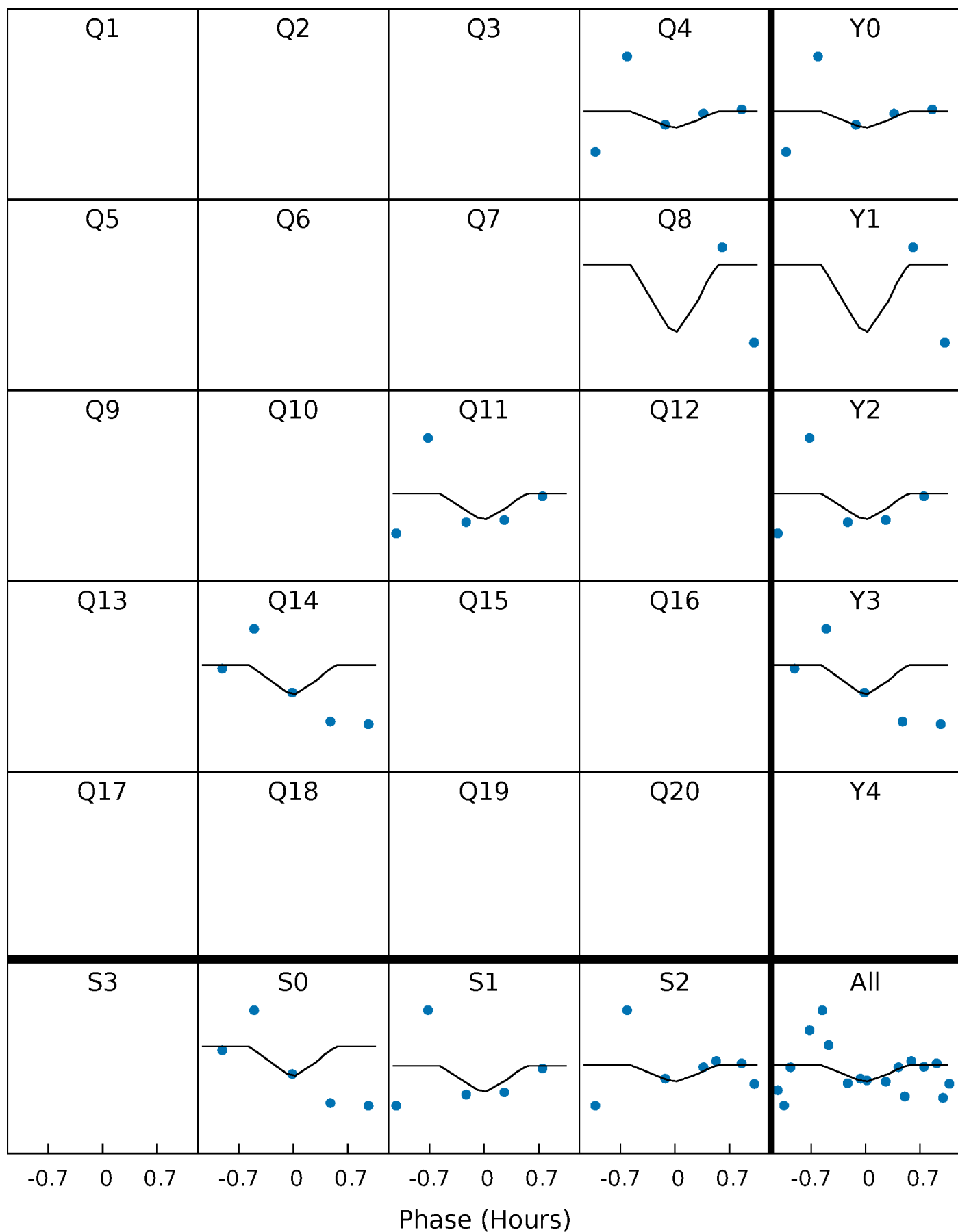
# DV Quarter-Phased Transit Curves

TCE 005217339-01 P=312.892007 Days  $T_0=429.459334$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

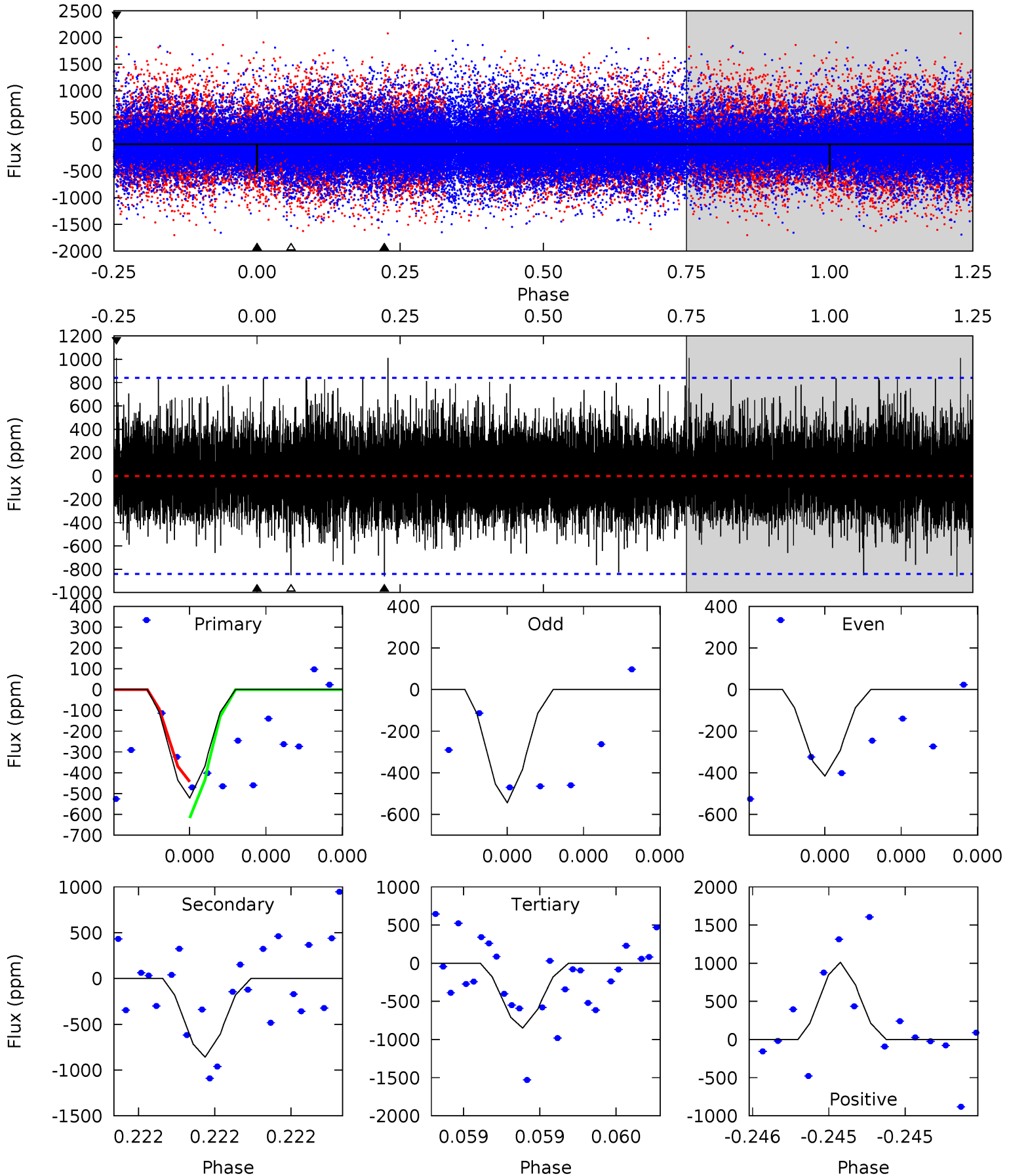
TCE 005217339-01 P=312.893174 Days  $T_0=429.454809$  (BKJD)



# DV Model-Shift Uniqueness Test

005217339-01, P = 312.892007 Days, E = 116.567327 Days

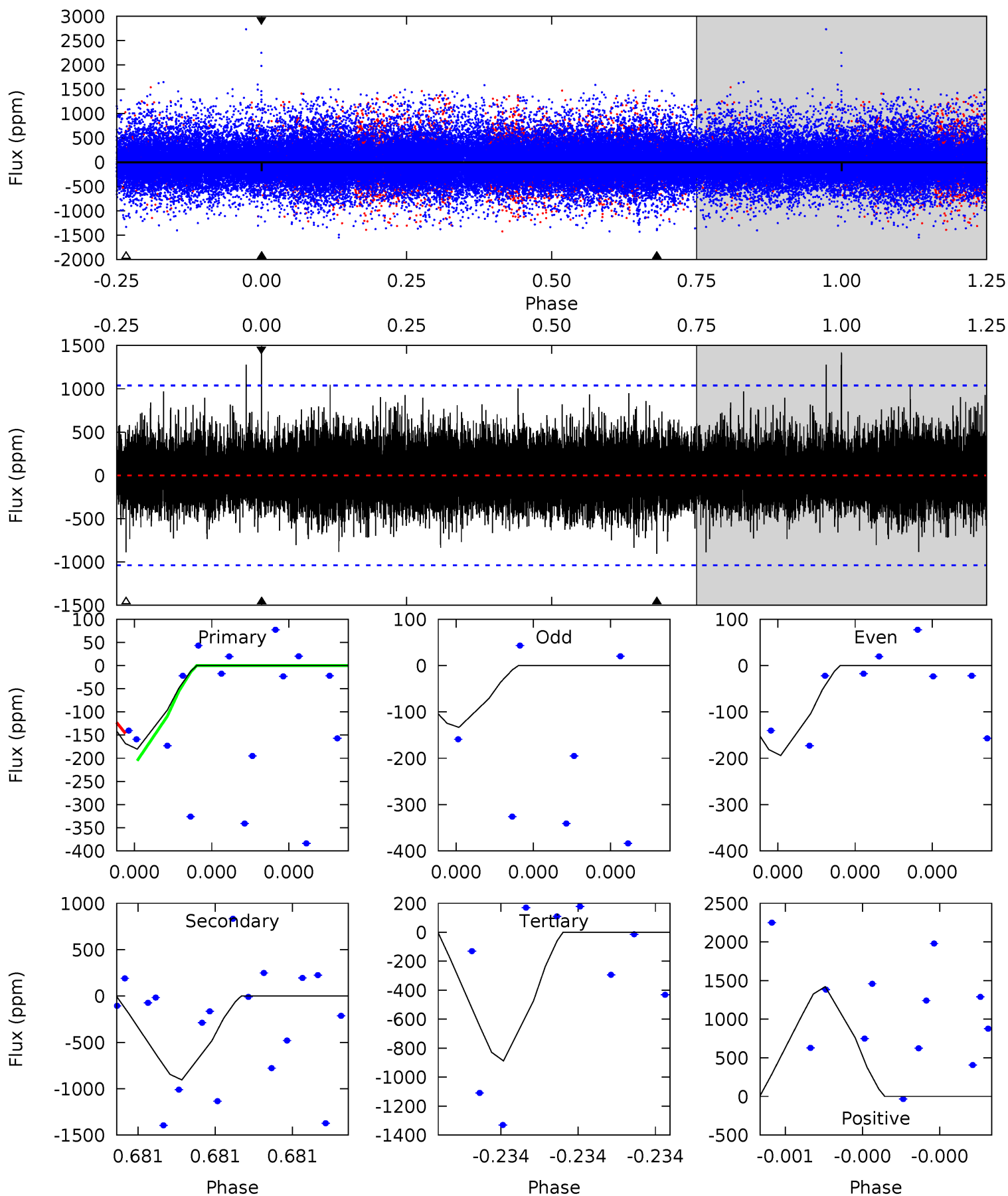
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.58	5.89	5.83	6.94	5.76	3.77	1.32	-2.25	-3.36	0.06	-1.05	0.43	0.98	0.54	0.59



# Alt Model-Shift Uniqueness Test

005217339-01, P = 312.893174 Days, E = 116.561635 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
1.02	5.11	5.01	8.02	5.86	3.91	1.17	-4.00	-7.01	0.10	-2.91	0.15	1.28	0.61	0.15



### Stellar Parameters For KIC 005217339

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5397^{+175}_{-175}$	$4.562^{+0.048}_{-0.104}$	$-0.240^{+0.300}_{-0.300}$	$0.781^{+0.143}_{-0.077}$	$0.814^{+0.096}_{-0.078}$	$2.401^{+0.588}_{-0.804}$
	+3%/-3%	+1%/-2%	+125%/-125%	+18%/-10%	+12%/-10%	+24%/-33%
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 005217339-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-859 \pm 146$	$15.10^{+14.59}_{-10.04}$	$324^{+16}_{-14}$	$2911^{+1232}_{-465}$	$1457^{+11303}_{-1082}$
Alt.	$-905 \pm 177$	$14.50^{+14.57}_{-10.12}$	$325^{+16}_{-13}$	$2957^{+1416}_{-476}$	$1649^{+16259}_{-1222}$

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

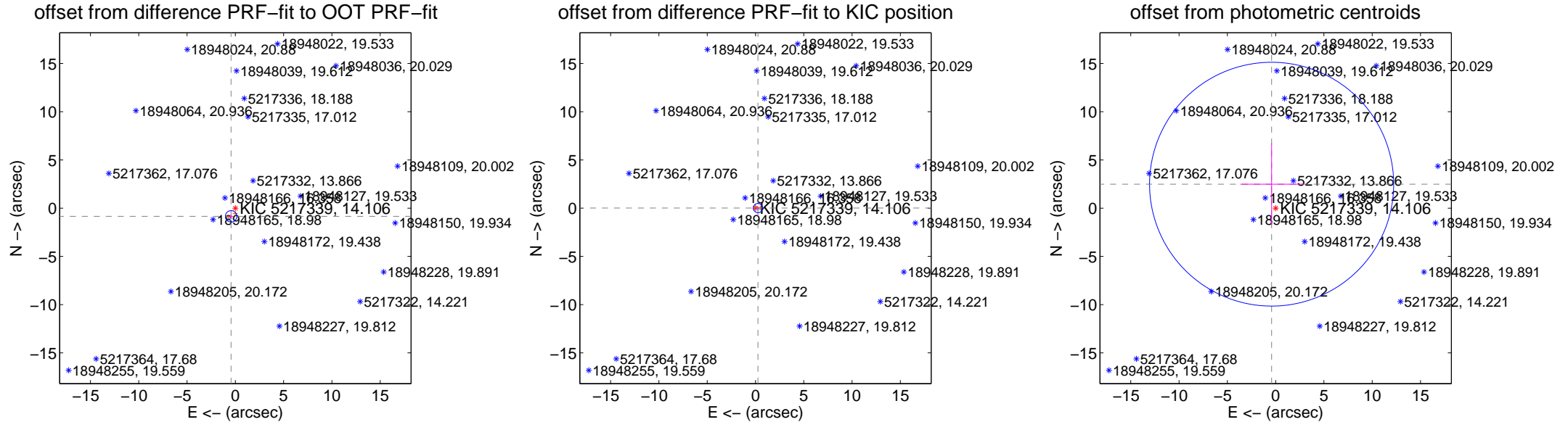
## DV Centroid Data

Supplemental centroid analysis for 005217339-01. Kepler magnitude: 14.11. Transit SNR 2.30

There are 1 quarters with good PRF difference image offsets

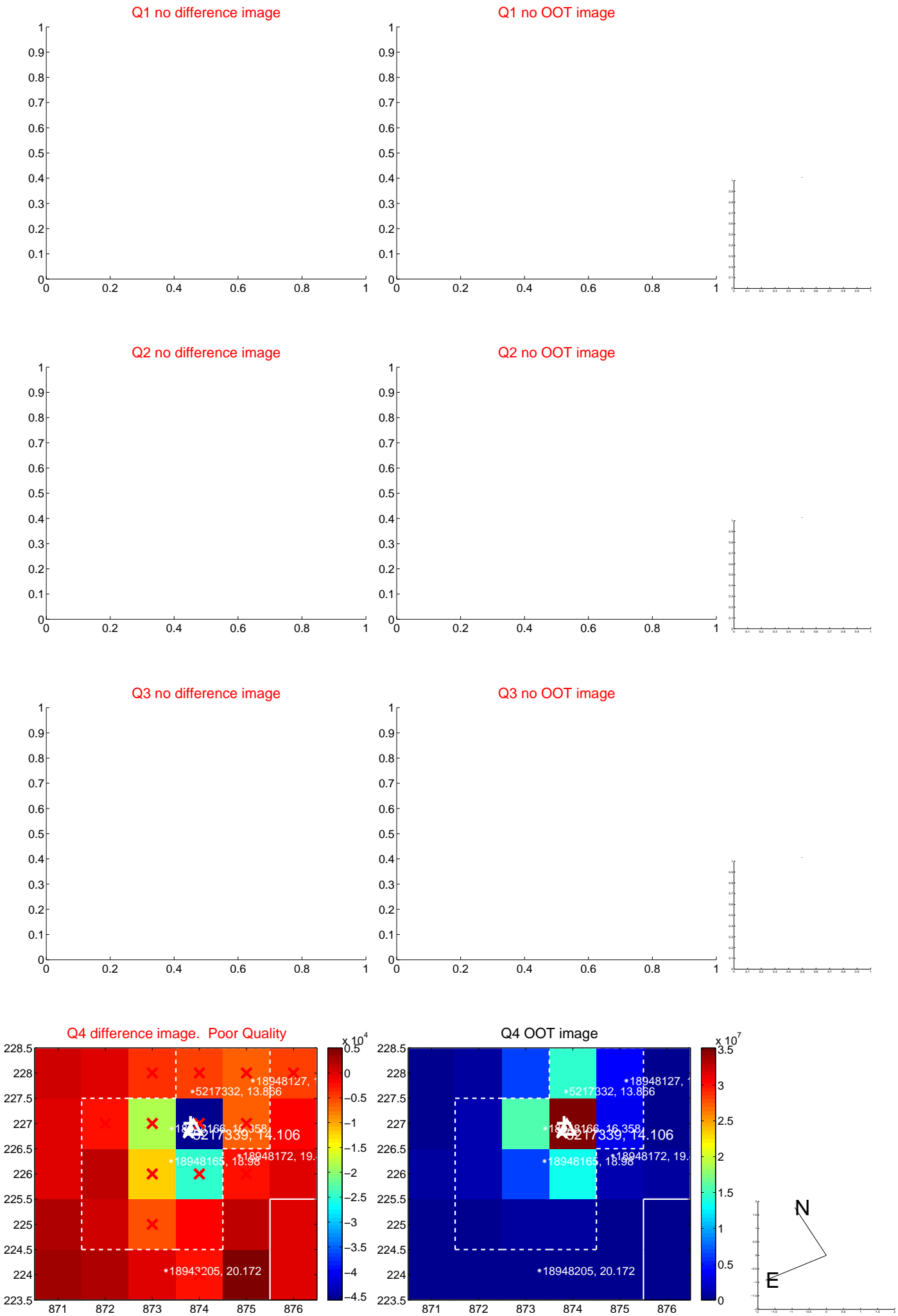
The direct PRF centroid is offset from the target star catalog position by about 1.26 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.954 \pm 0.198$	4.83	$0.440 \pm 0.236$	$-0.847 \pm 0.186$
PRF-fit source offset from KIC position	$0.255 \pm 0.159$	1.60	$-0.255 \pm 0.159$	$0.010 \pm 0.144$
photometric centroid source offset	$2.52 \pm 4.21$	0.60	$0.42 \pm 3.23$	$2.49 \pm 4.24$

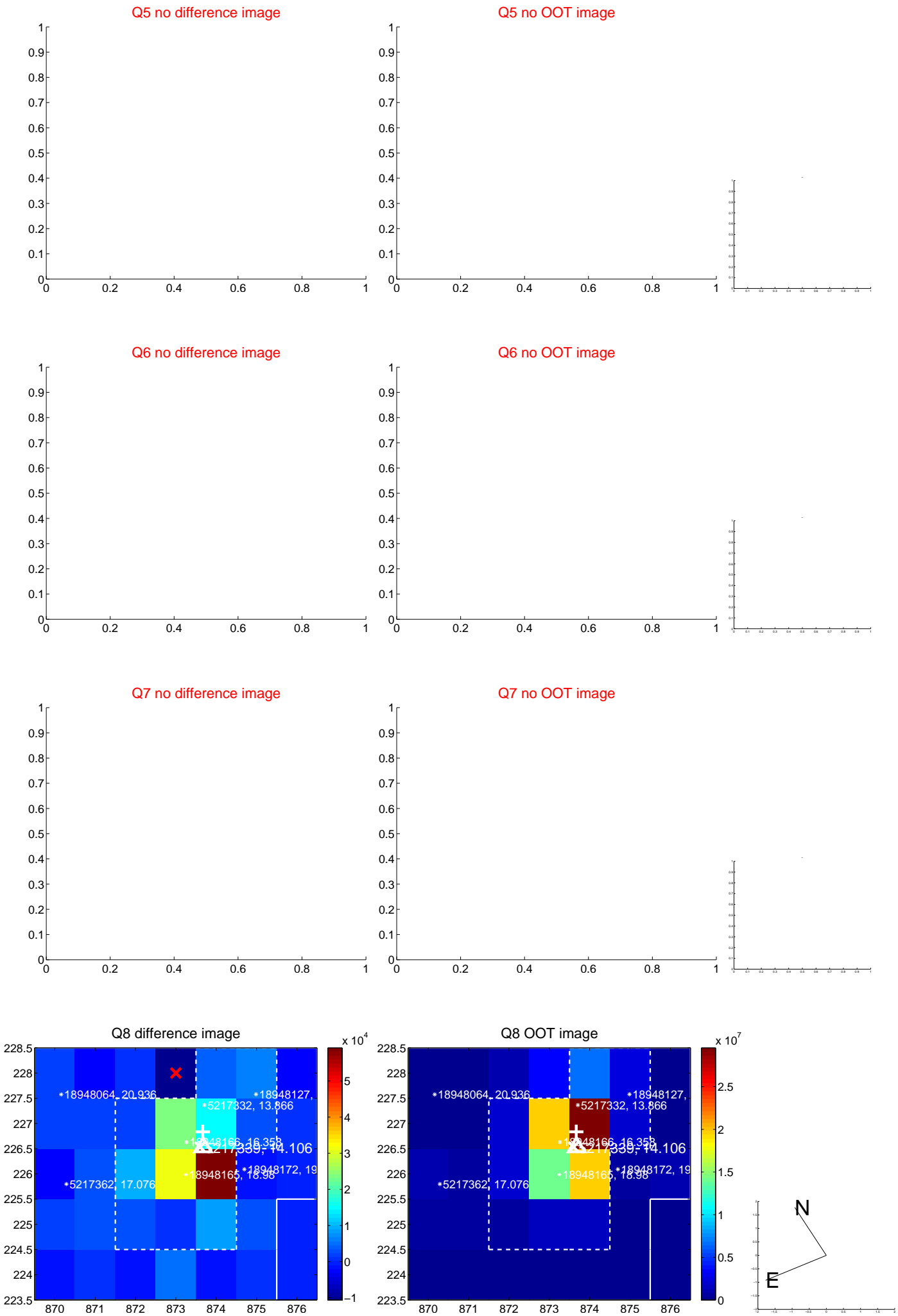


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



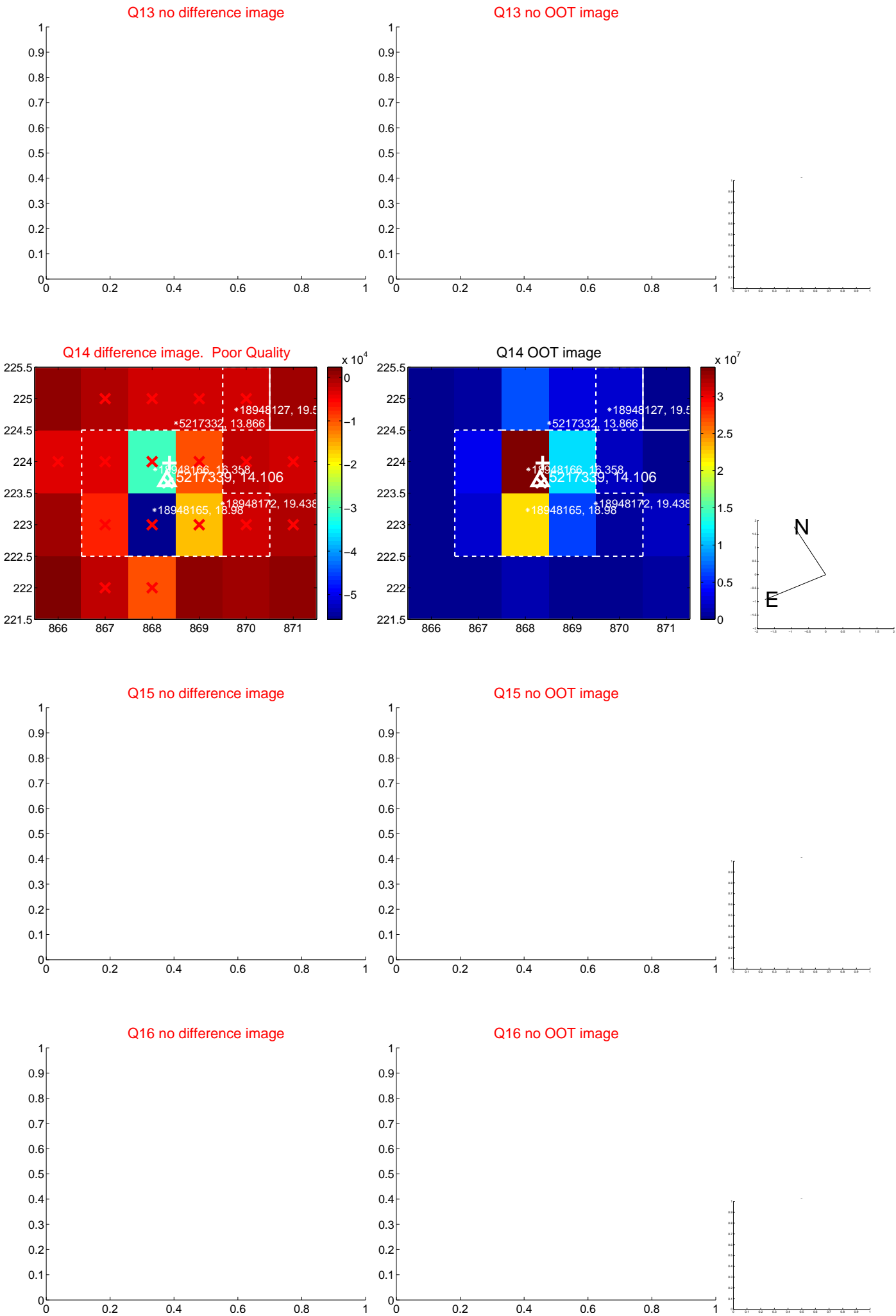
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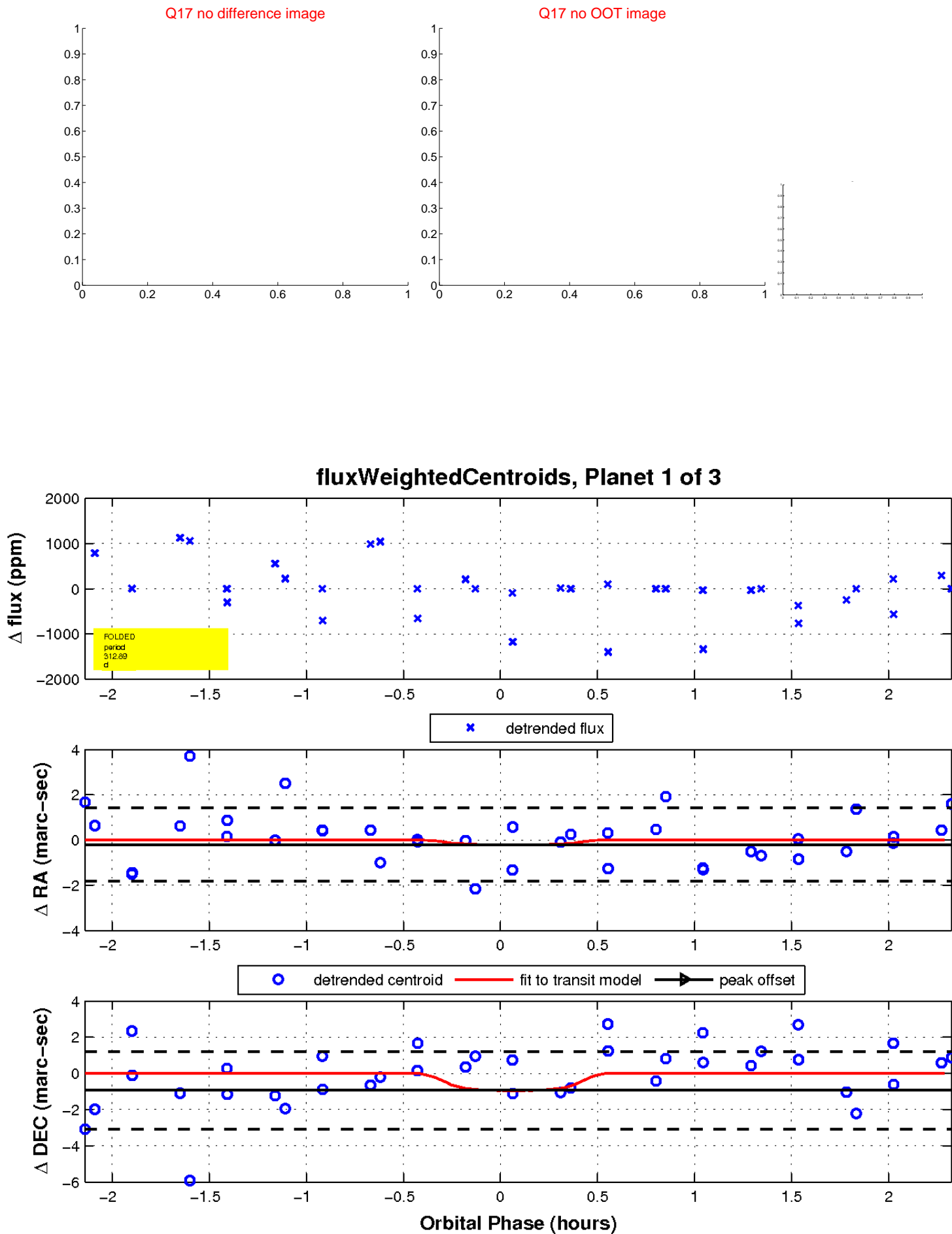
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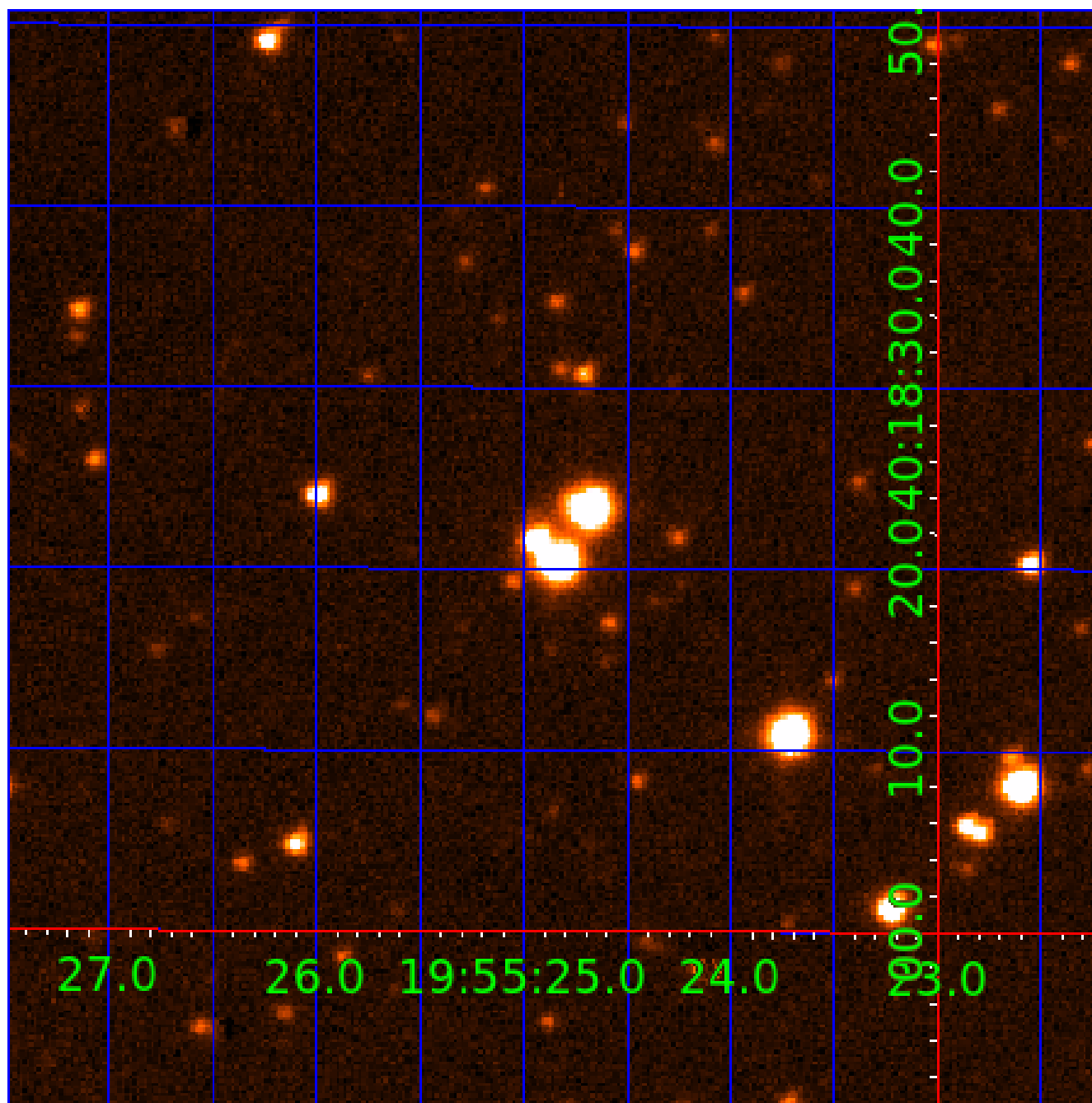


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UKIRT Image

Declination



# KIC 005217339

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005217339-02	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
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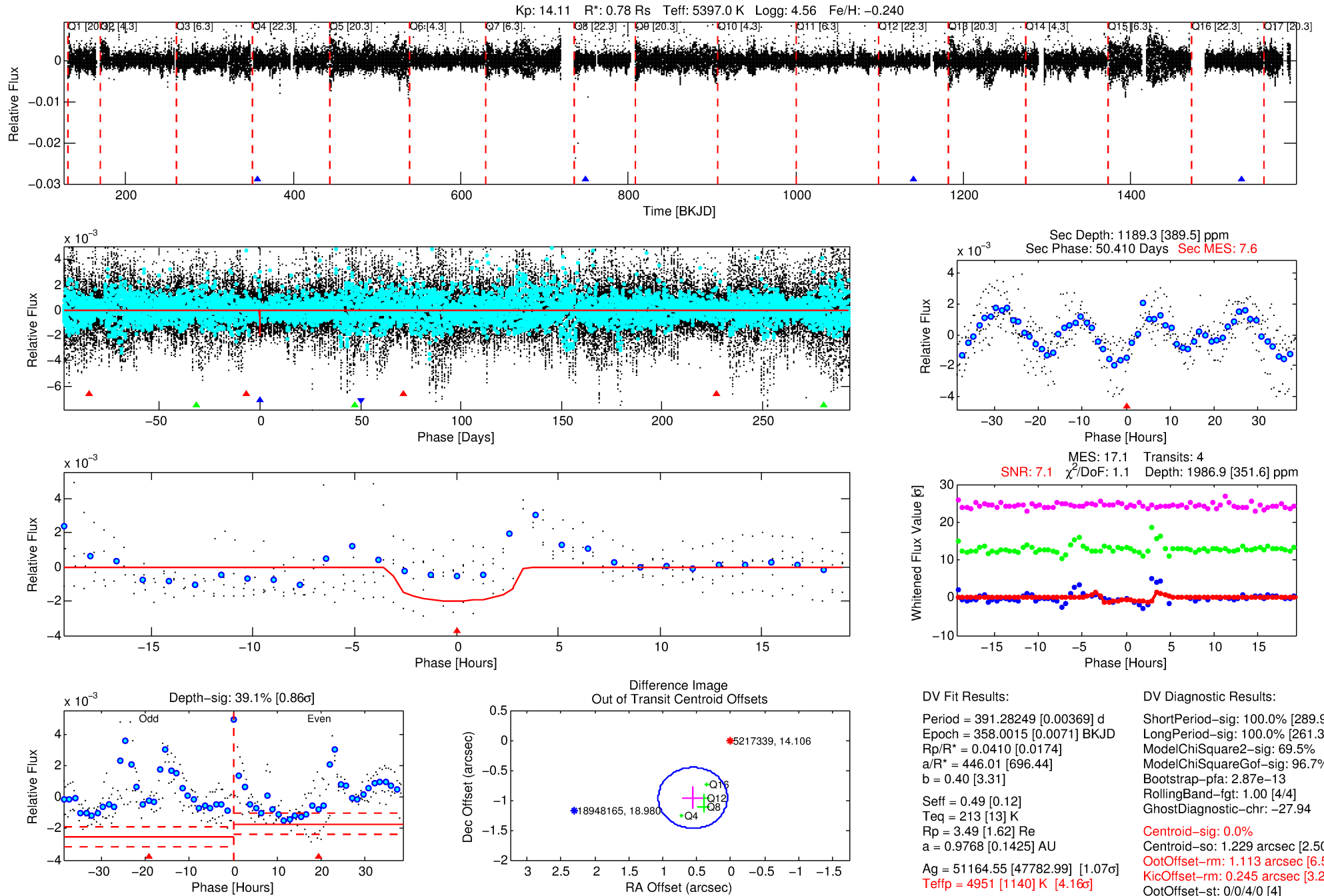
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 005217339-02

No Significant Match Found

# DV One-Page Summary

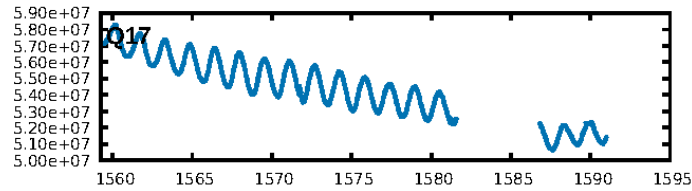
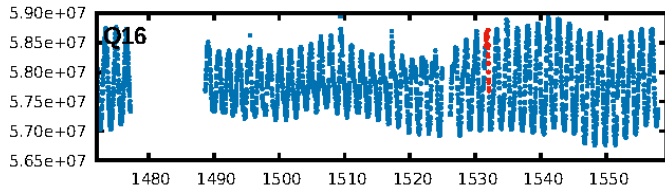
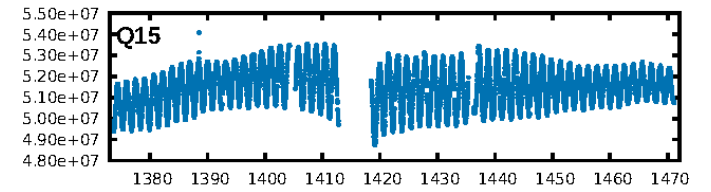
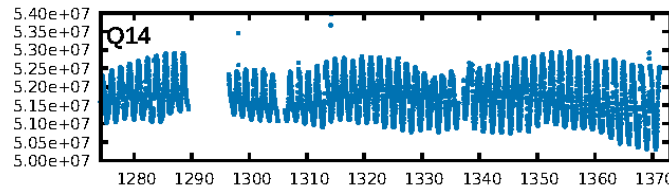
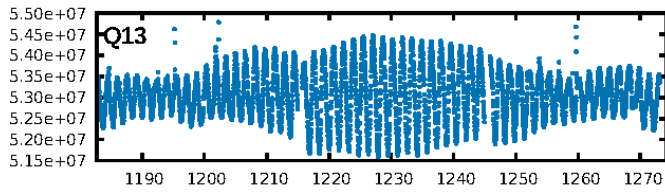
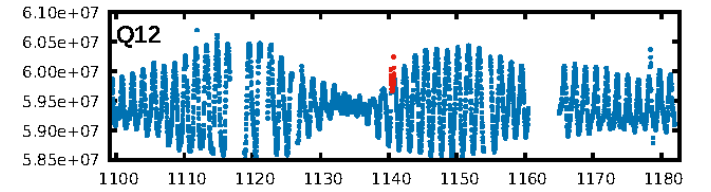
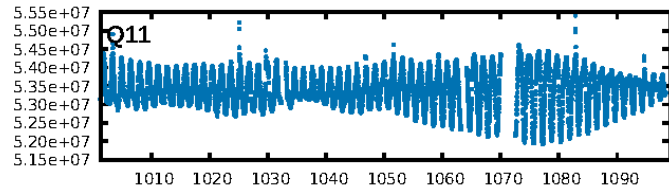
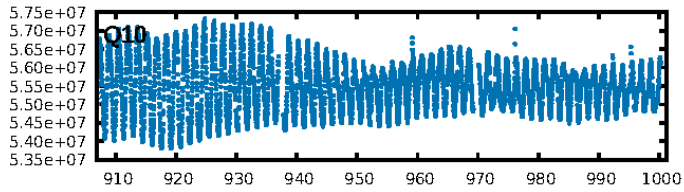
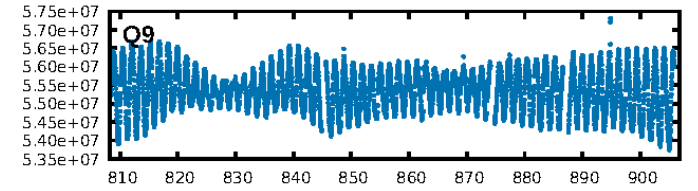
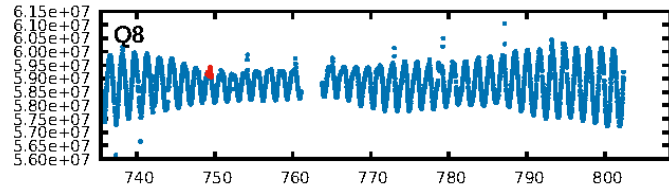
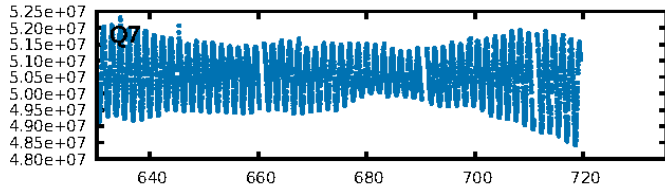
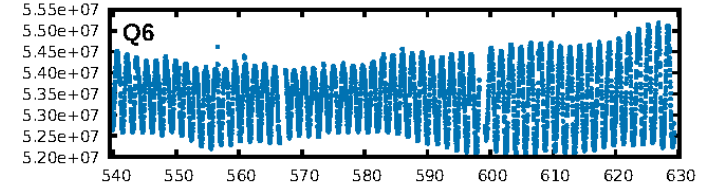
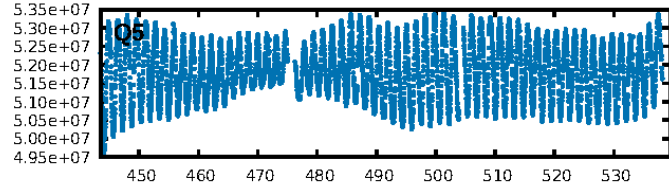
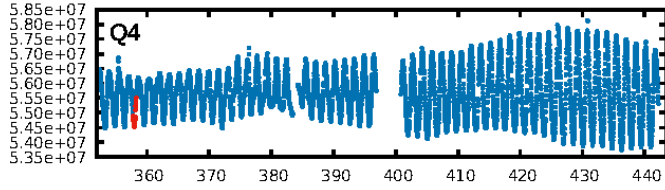
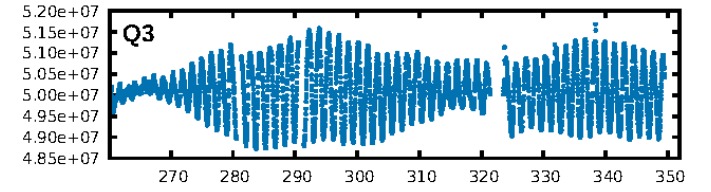
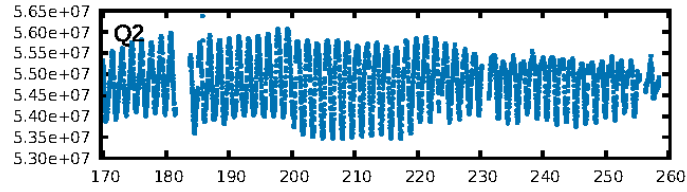
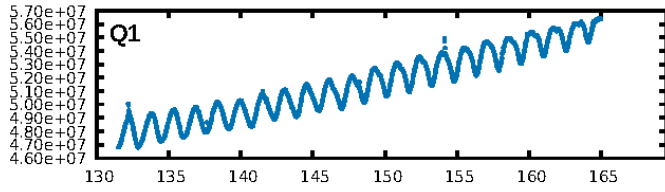
KIC: 5217339 Candidate: 2 of 3 Period: 391.282 d



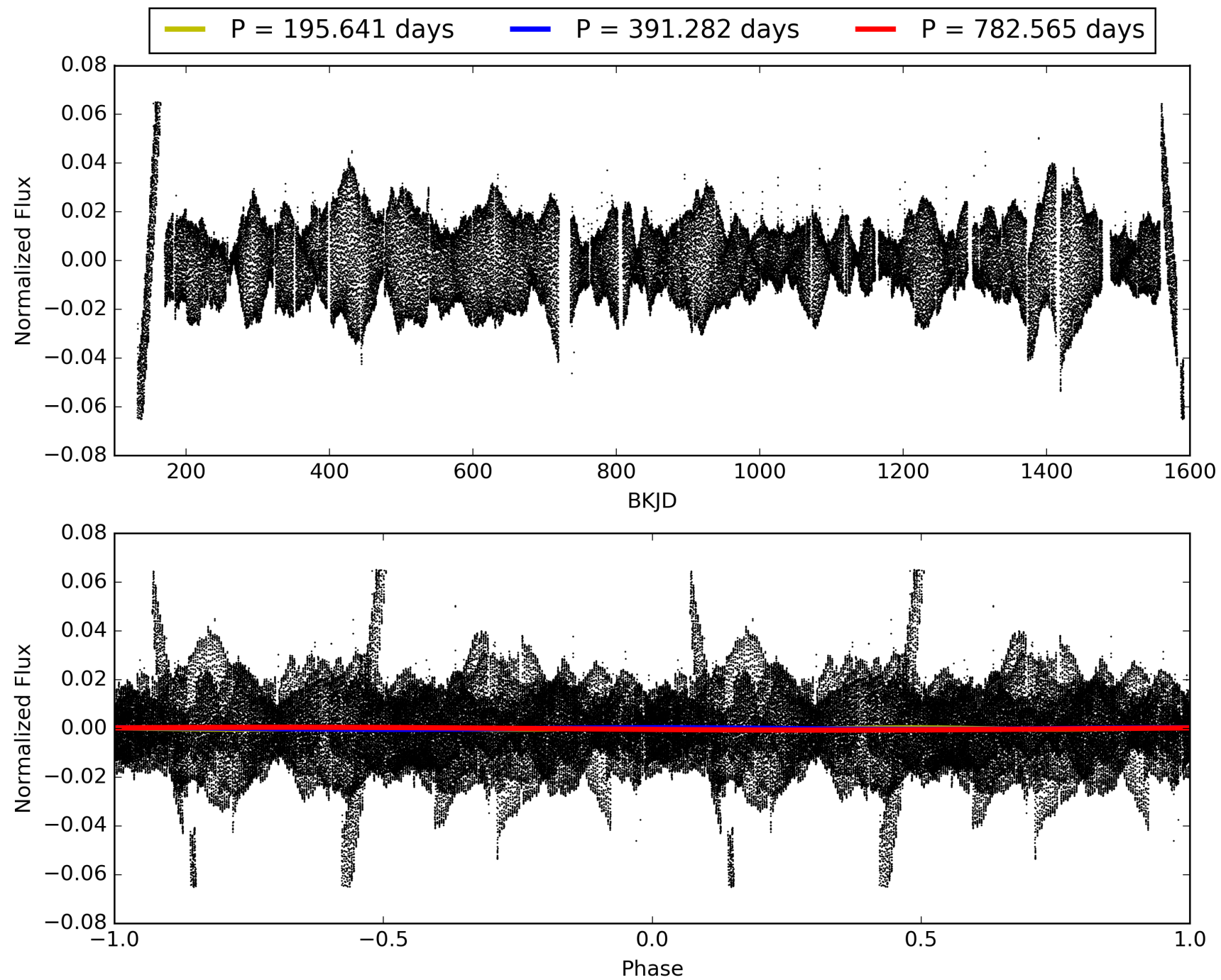
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:24:03 Z

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

# TCE 005217339-02, PDC Light Curves

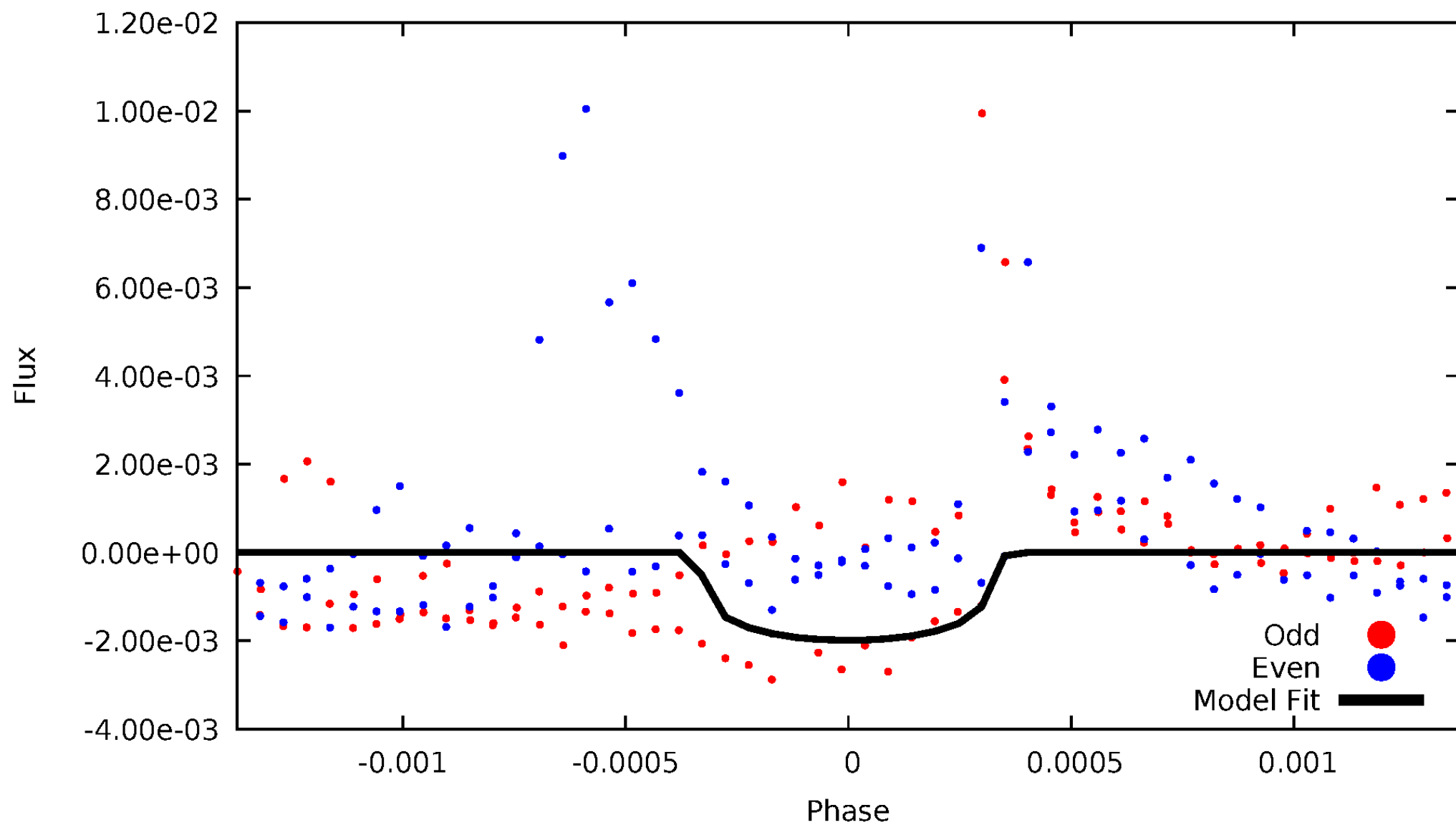


TCE 005217339-02



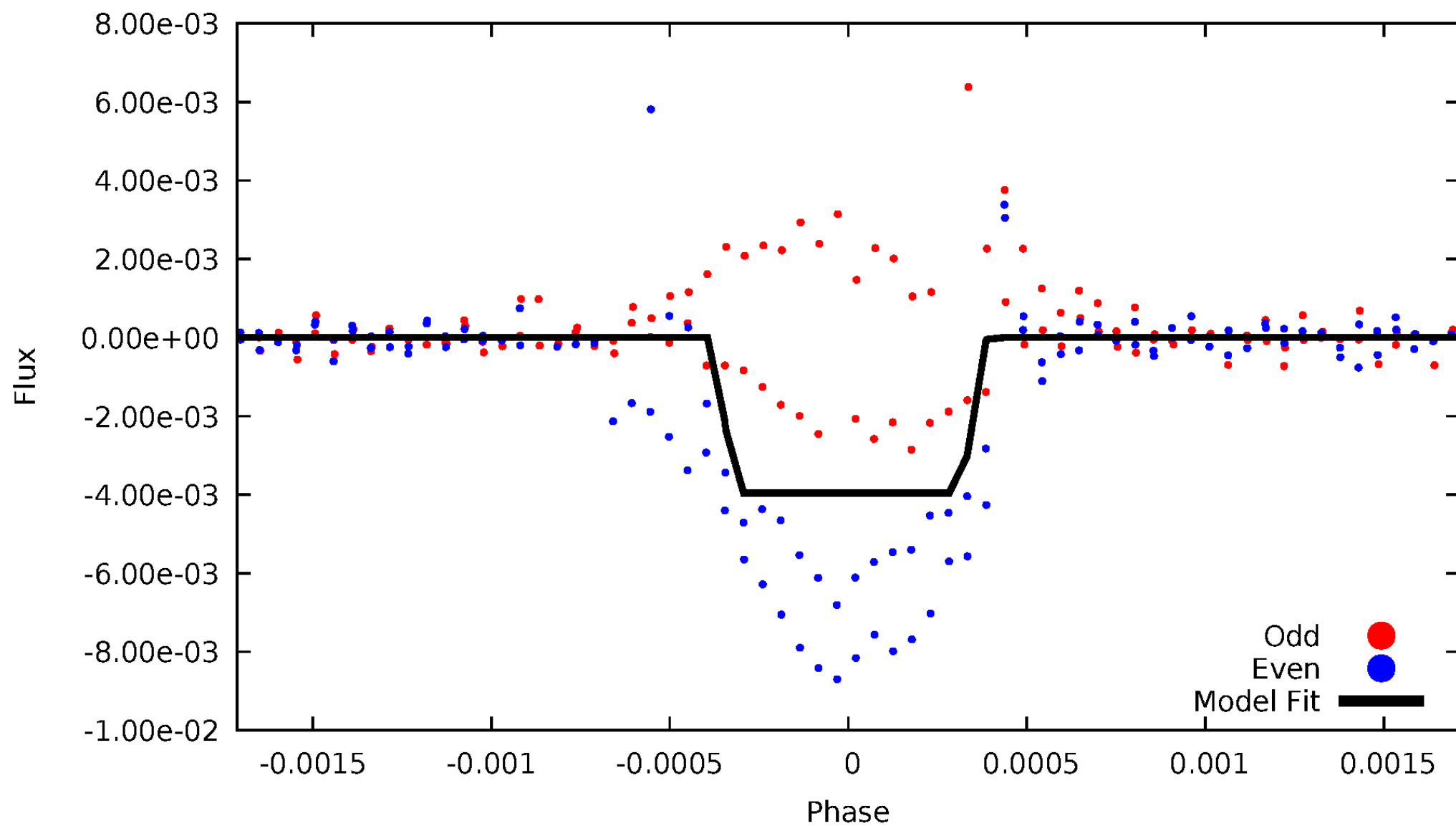
# DV Odd/Even

TCE 005217339-02



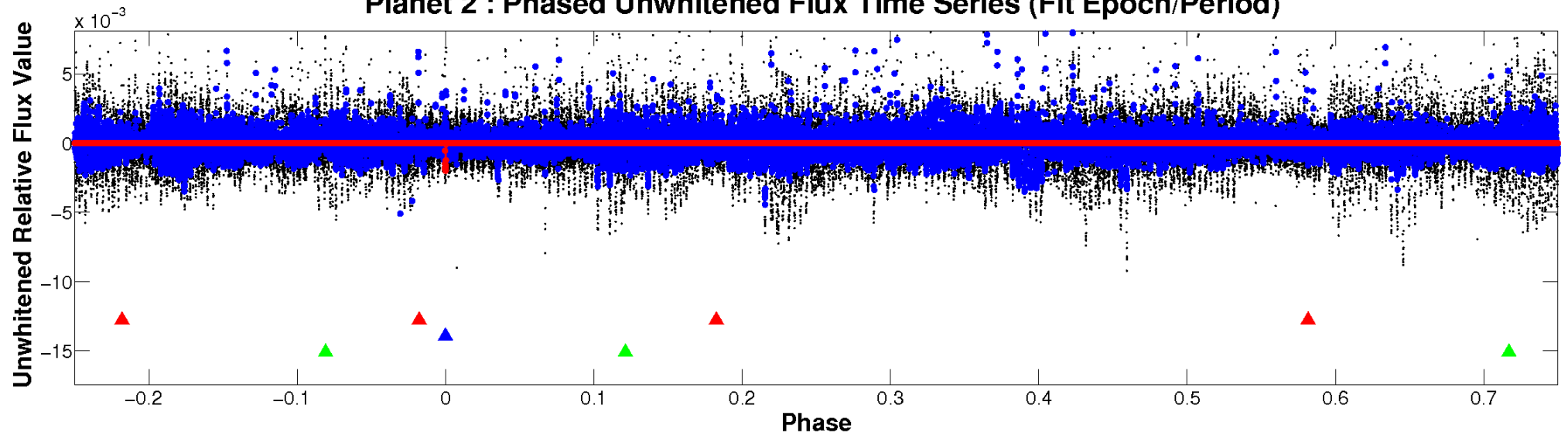
# ALT Odd/Even

TCE 005217339-02

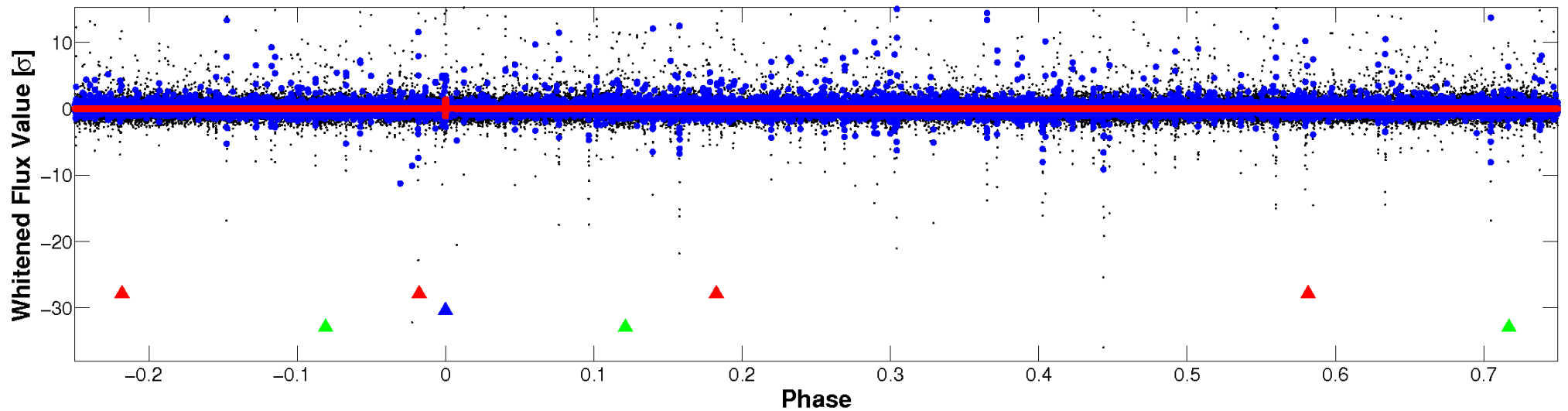


# Non-Whitened Vs. Whitened Light Curve

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

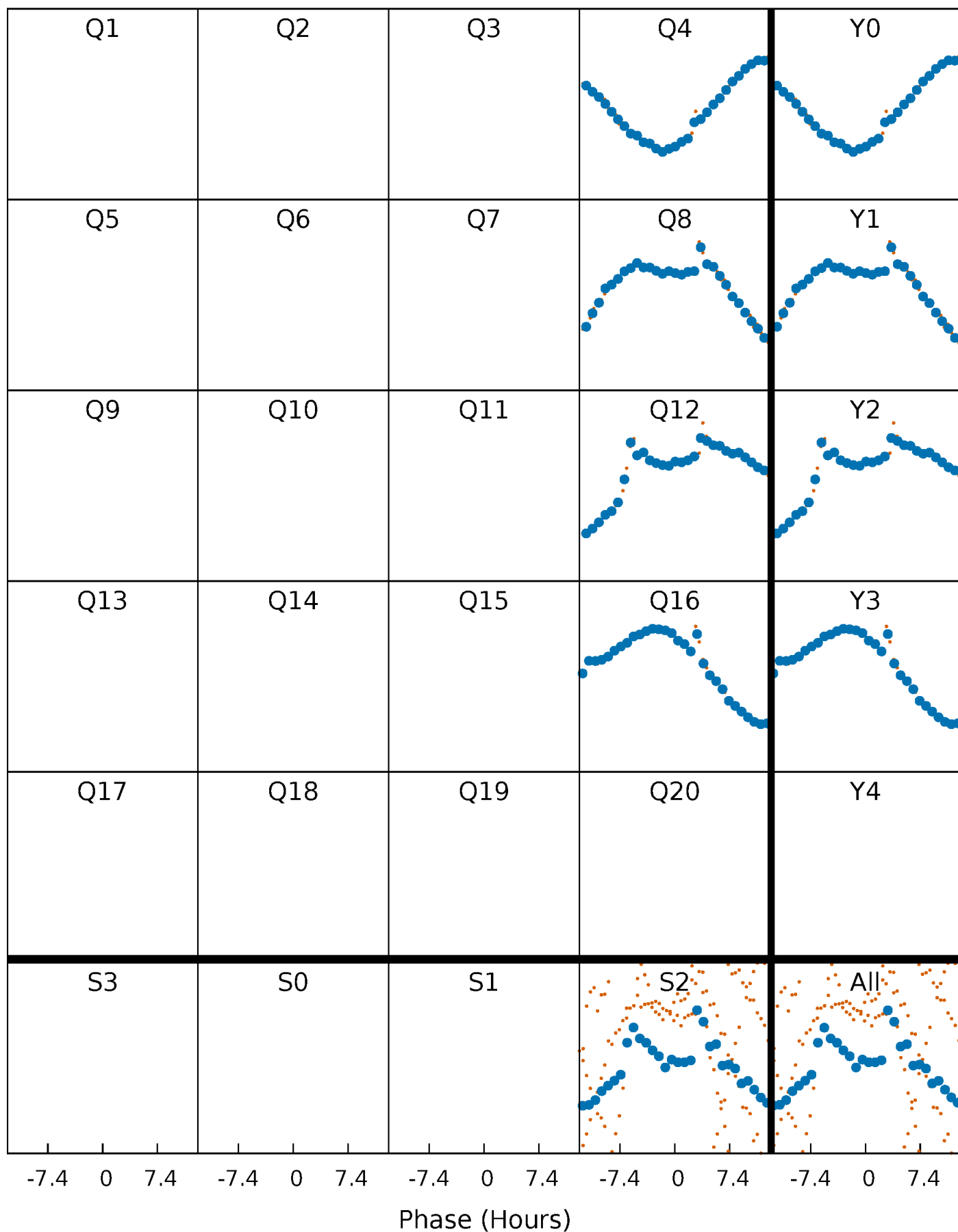


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



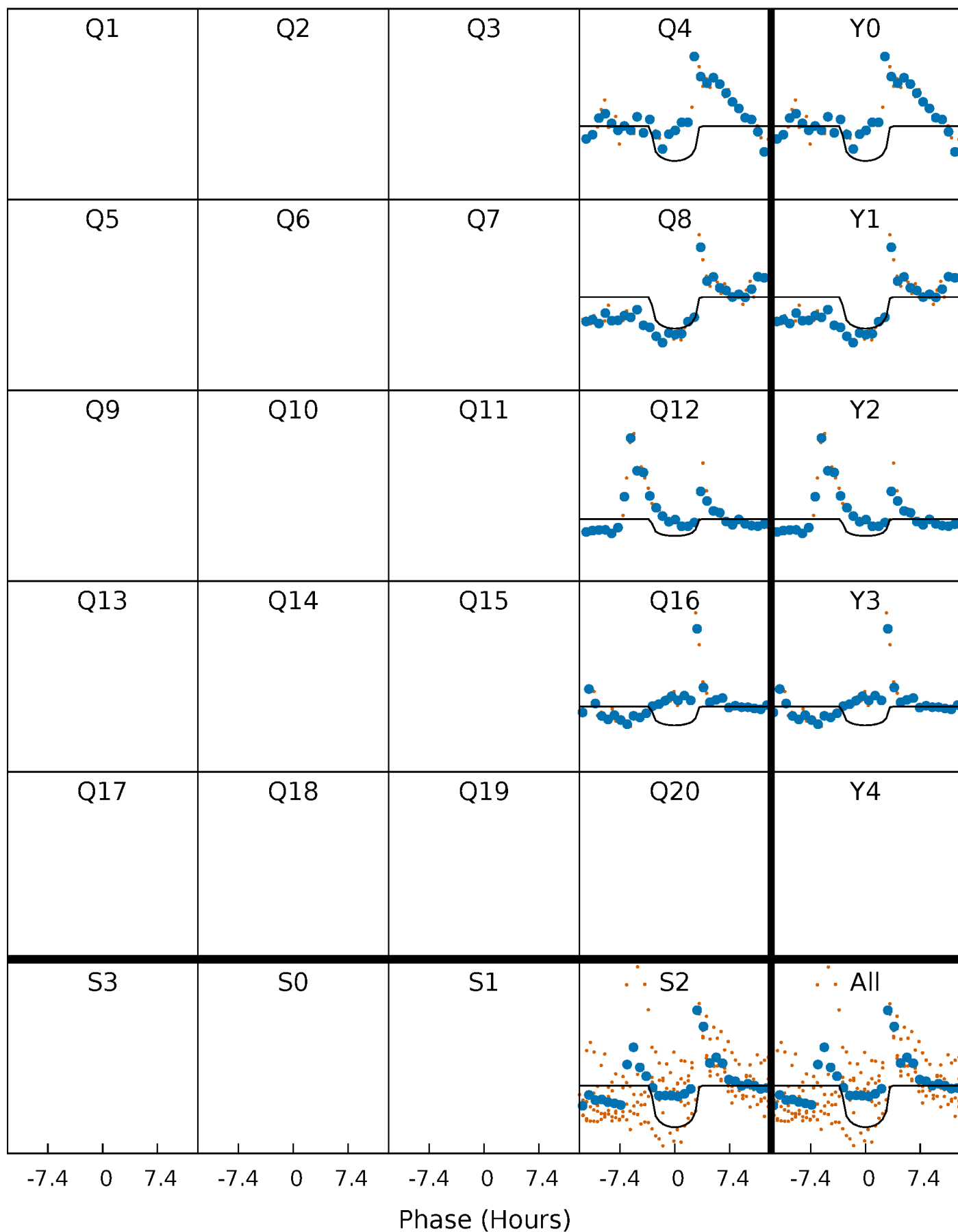
# PDC Quarter-Phased Transit Curves

TCE 005217339-02 P=391.282490 Days  $T_0=358.001523$  (BKJD)



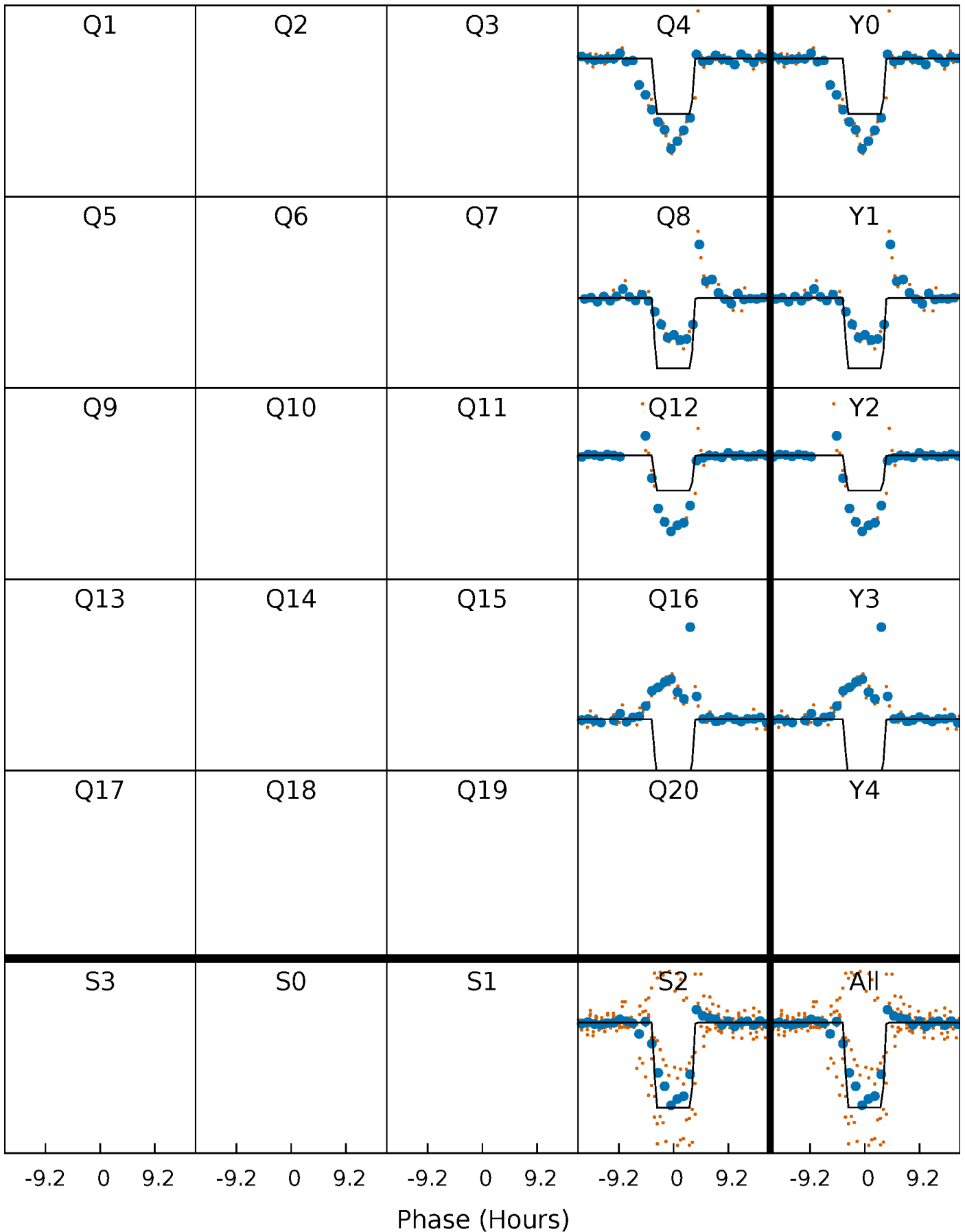
# DV Quarter-Phased Transit Curves

TCE 005217339-02     $P=391.282490$  Days     $T_0=358.001523$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

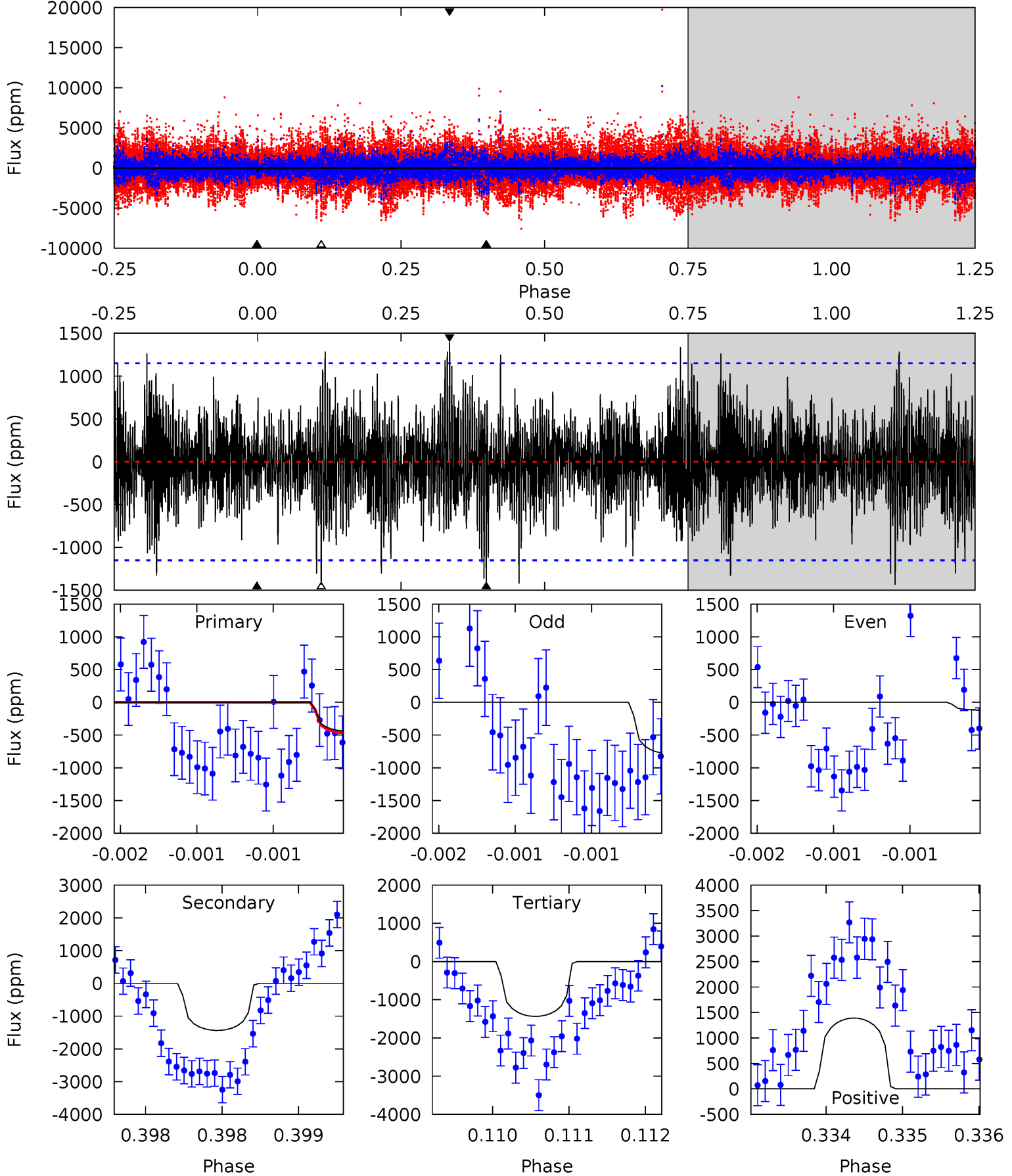
TCE 005217339-02     $P=391.302674$  Days     $T_0=357.947202$  (BKJD)



# DV Model-Shift Uniqueness Test

005217339-02, P = 391.282490 Days, E = 358.001523 Days

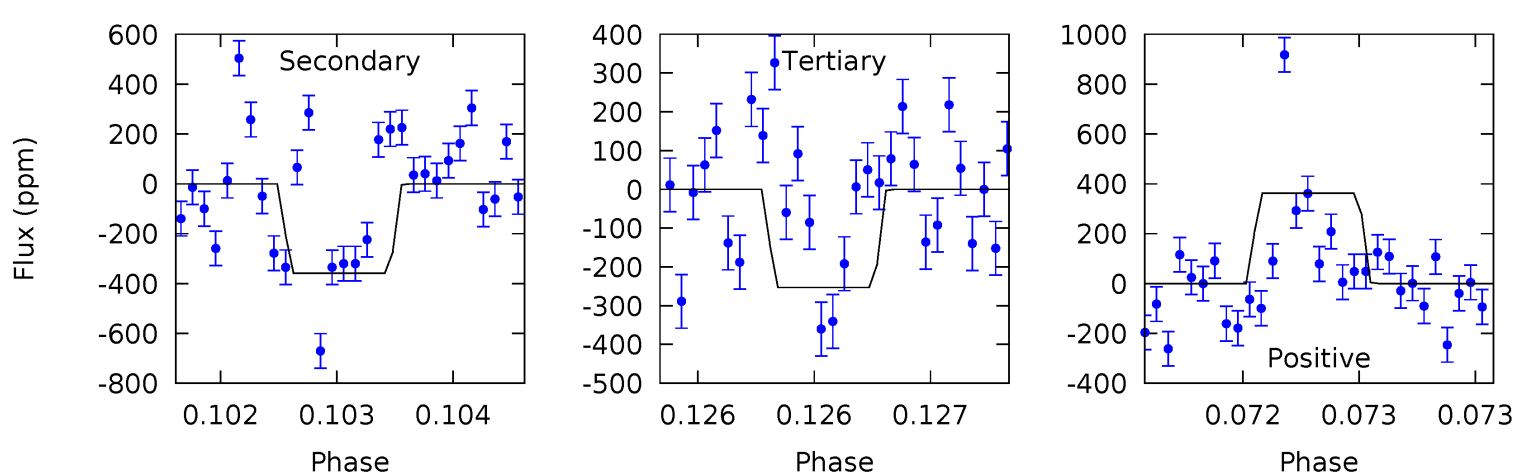
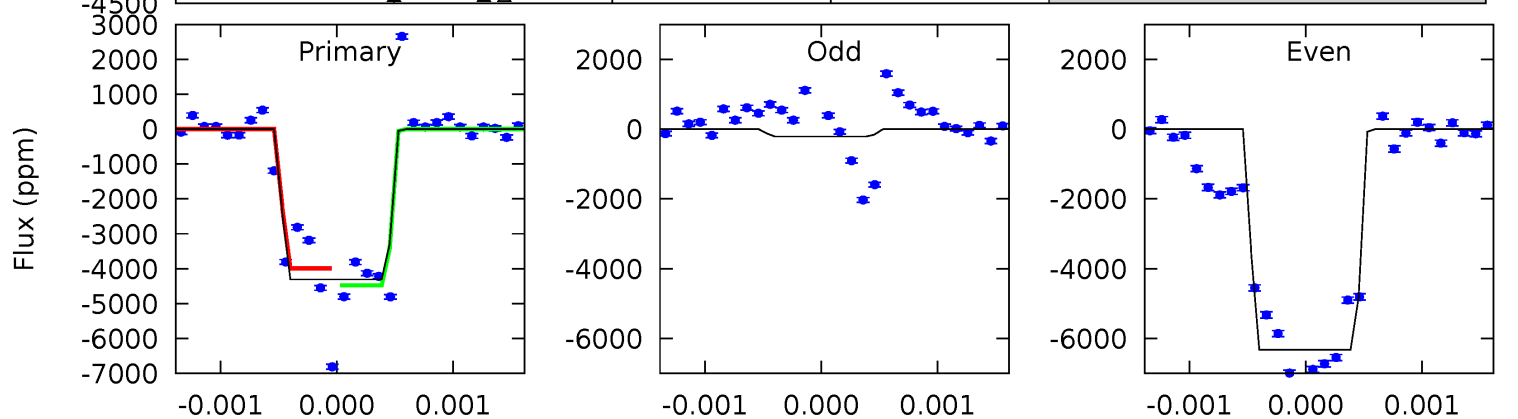
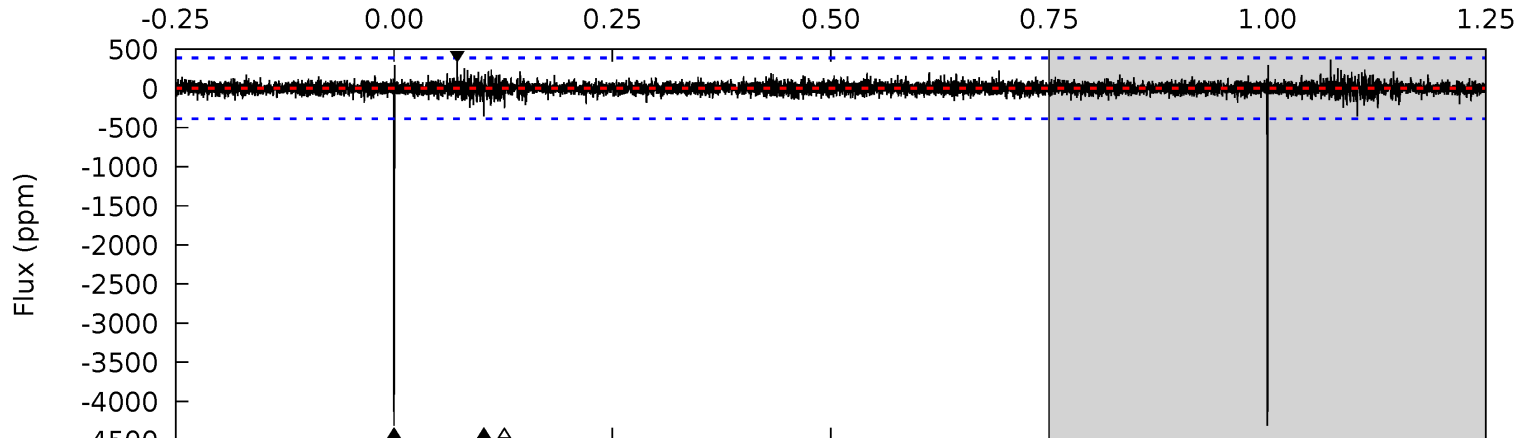
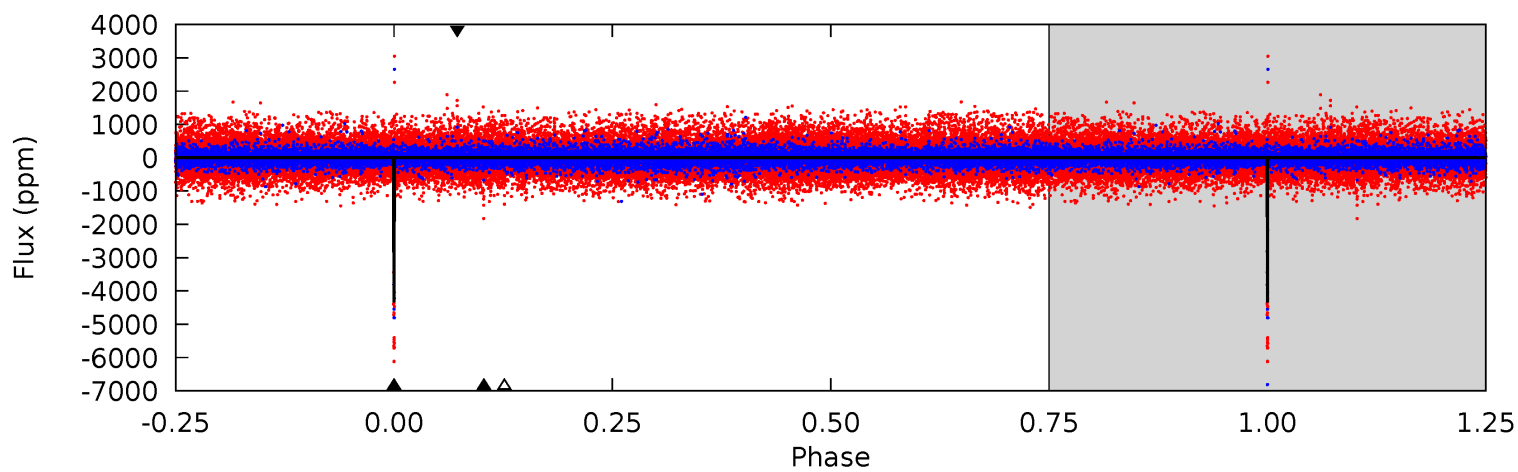
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.12	6.88	6.87	6.66	5.51	3.38	1.76	-4.75	-4.54	0.01	0.22	1.50	-2.24	0.49	0.15



# Alt Model-Shift Uniqueness Test

005217339-02, P = 391.302674 Days, E = 357.947202 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
61.1	5.09	3.59	5.14	5.51	3.38	0.65	57.5	55.9	1.50	-0.05	58.4	0.83	0.08	0



### Stellar Parameters For KIC 005217339

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5397^{+175}_{-175}$	$4.562^{+0.048}_{-0.104}$	$-0.240^{+0.300}_{-0.300}$	$0.781^{+0.143}_{-0.077}$	$0.814^{+0.096}_{-0.078}$	$2.401^{+0.588}_{-0.804}$
	+3%/-3%	+1%/-2%	+125%/-125%	+18%/-10%	+12%/-10%	+24%/-33%
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 005217339-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-1437 \pm 209$	$3.61^{+1.59}_{-1.54}$	$301^{+14}_{-13}$	$5190^{+1609}_{-753}$	$58114^{+110729}_{-31438}$
Alt.	$-359 \pm 71$	$5.46^{+1.67}_{-1.56}$	$300^{+15}_{-13}$	$3440^{+398}_{-274}$	$6223^{+6229}_{-2509}$

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

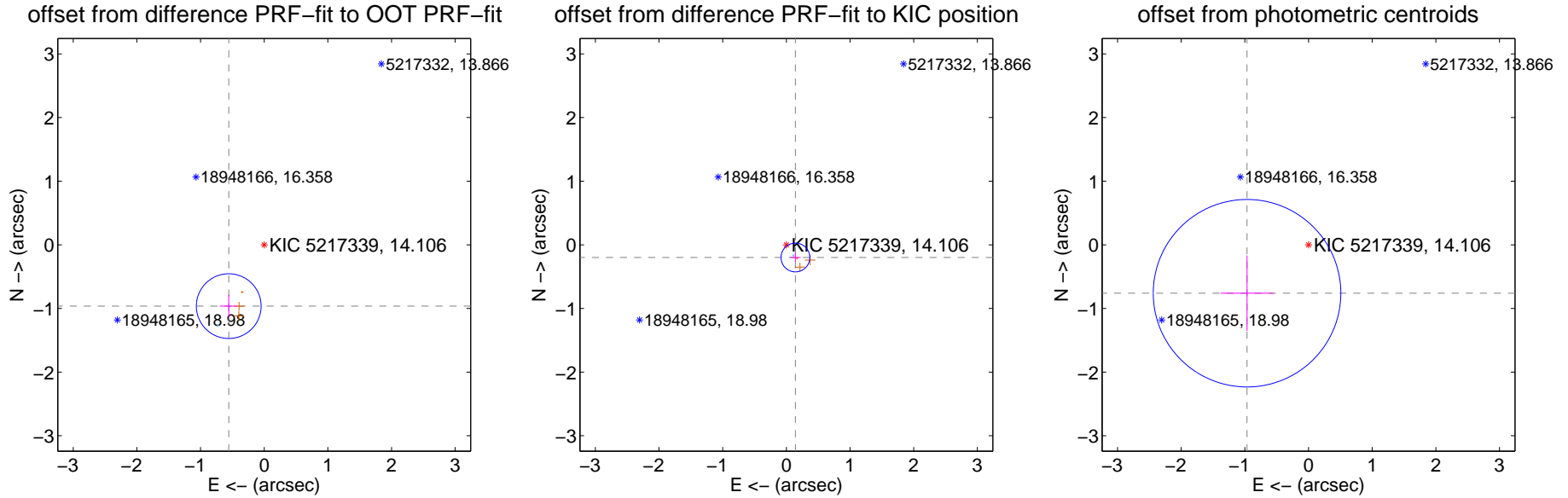
## DV Centroid Data

Supplemental centroid analysis for 005217339-02. Kepler magnitude: 14.11. Transit SNR 7.05

There are 1 quarters with good PRF difference image offsets

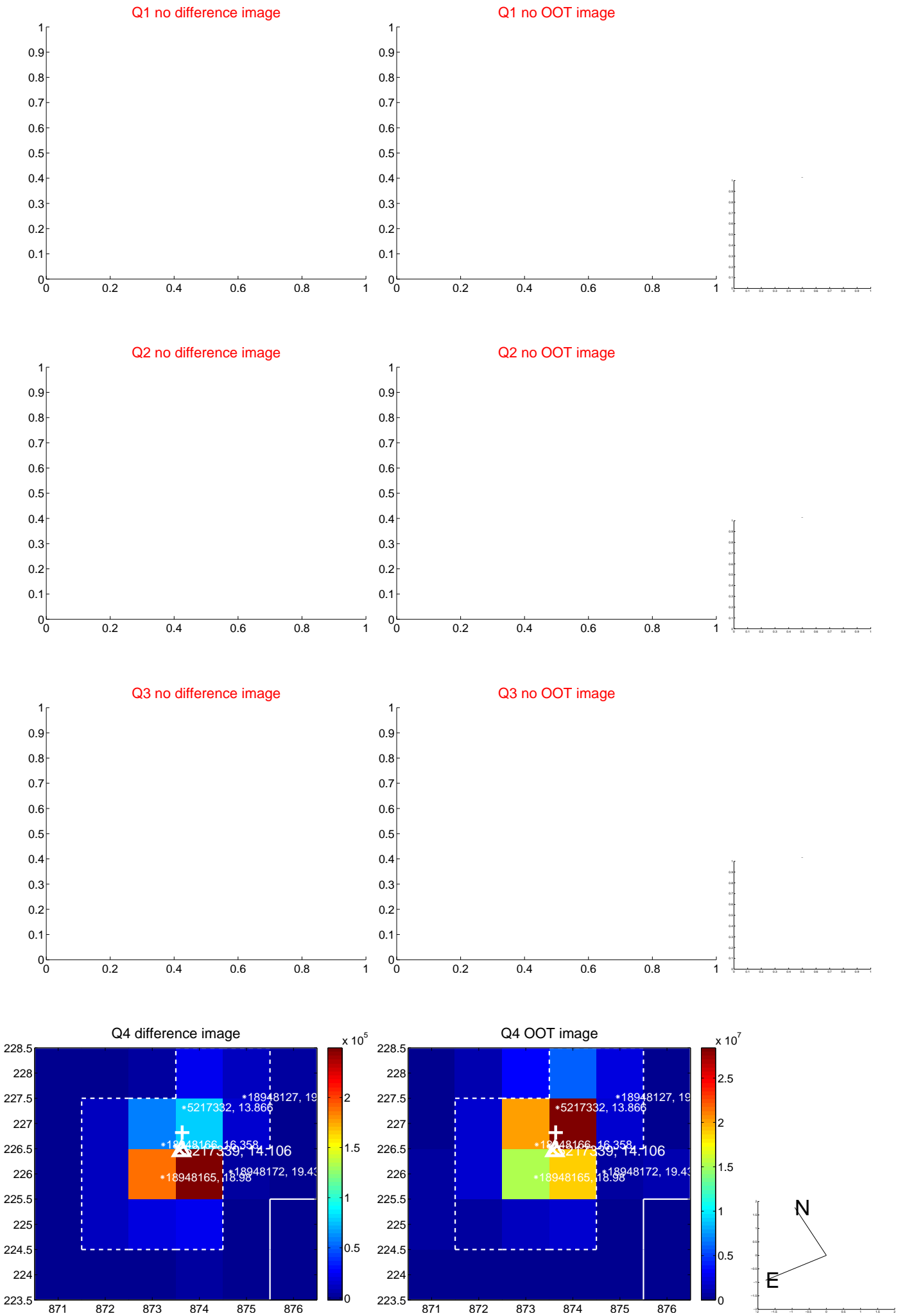
The direct PRF centroid is offset from the target star catalog position by about 0.74 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.113 \pm 0.170$	6.56	$0.557 \pm 0.141$	$-0.963 \pm 0.178$
PRF-fit source offset from KIC position	$0.245 \pm 0.075$	3.25	$-0.142 \pm 0.081$	$-0.199 \pm 0.071$
photometric centroid source offset	$1.23 \pm 0.49$	2.50	$0.97 \pm 0.42$	$-0.76 \pm 0.59$

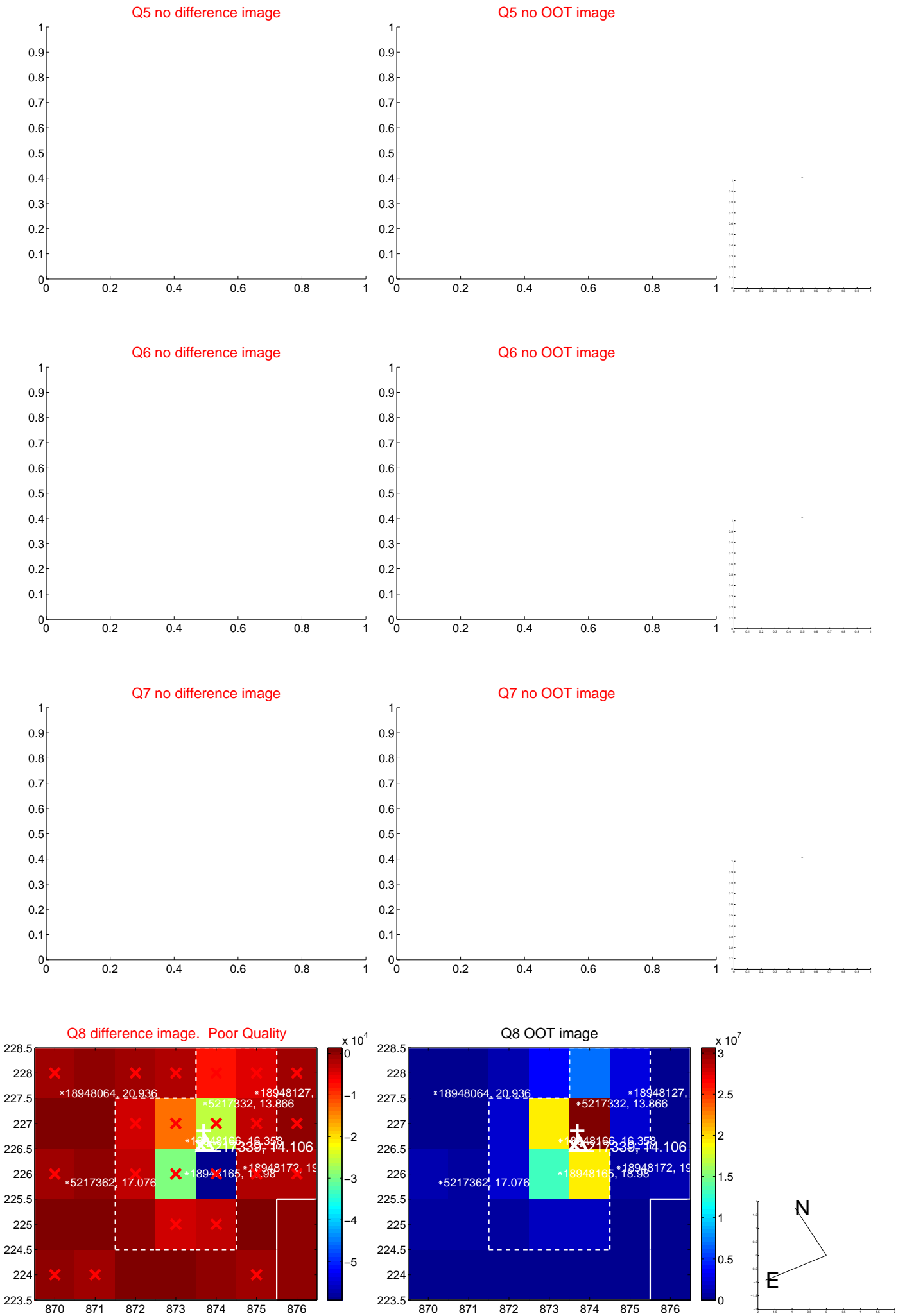


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

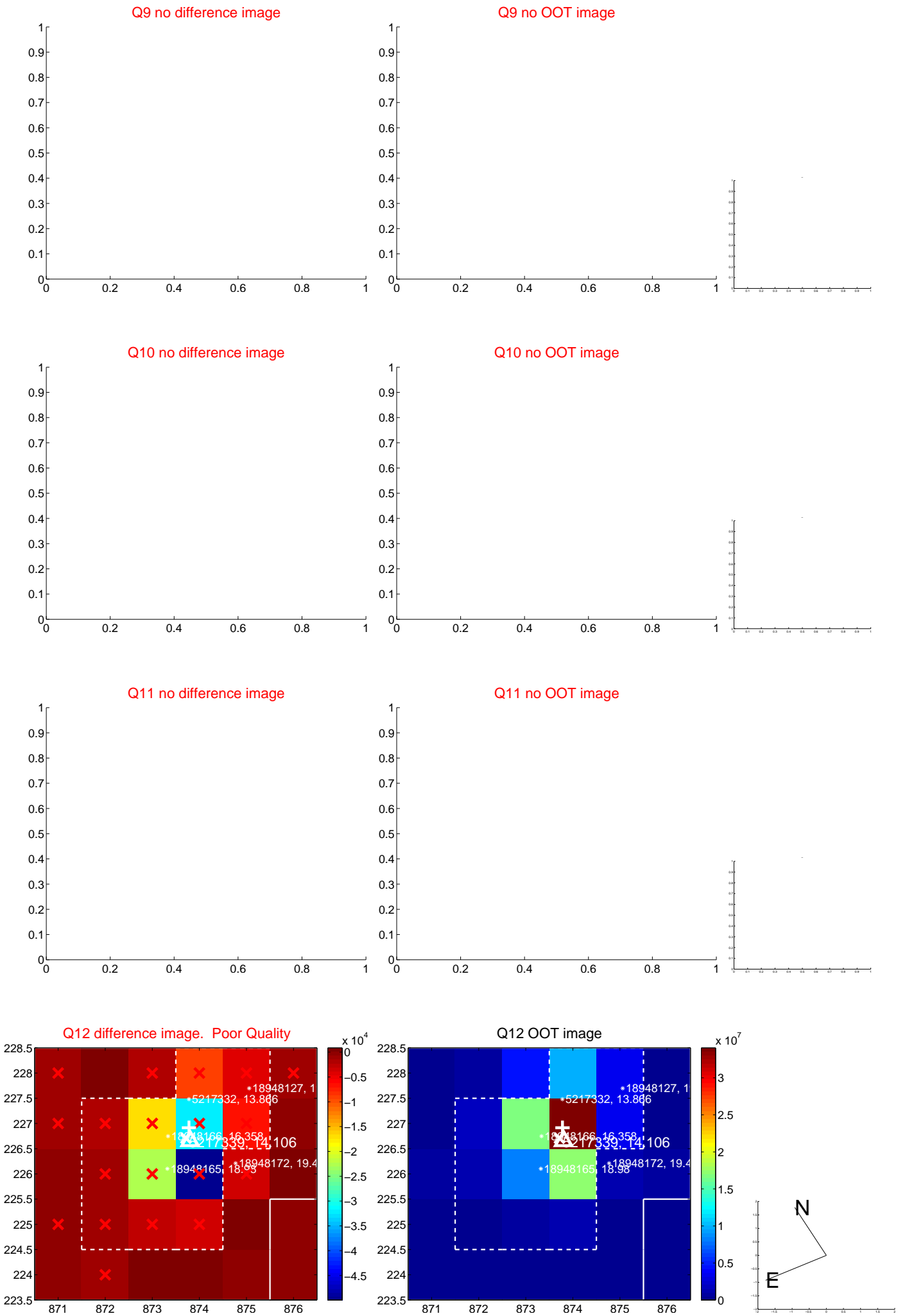
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



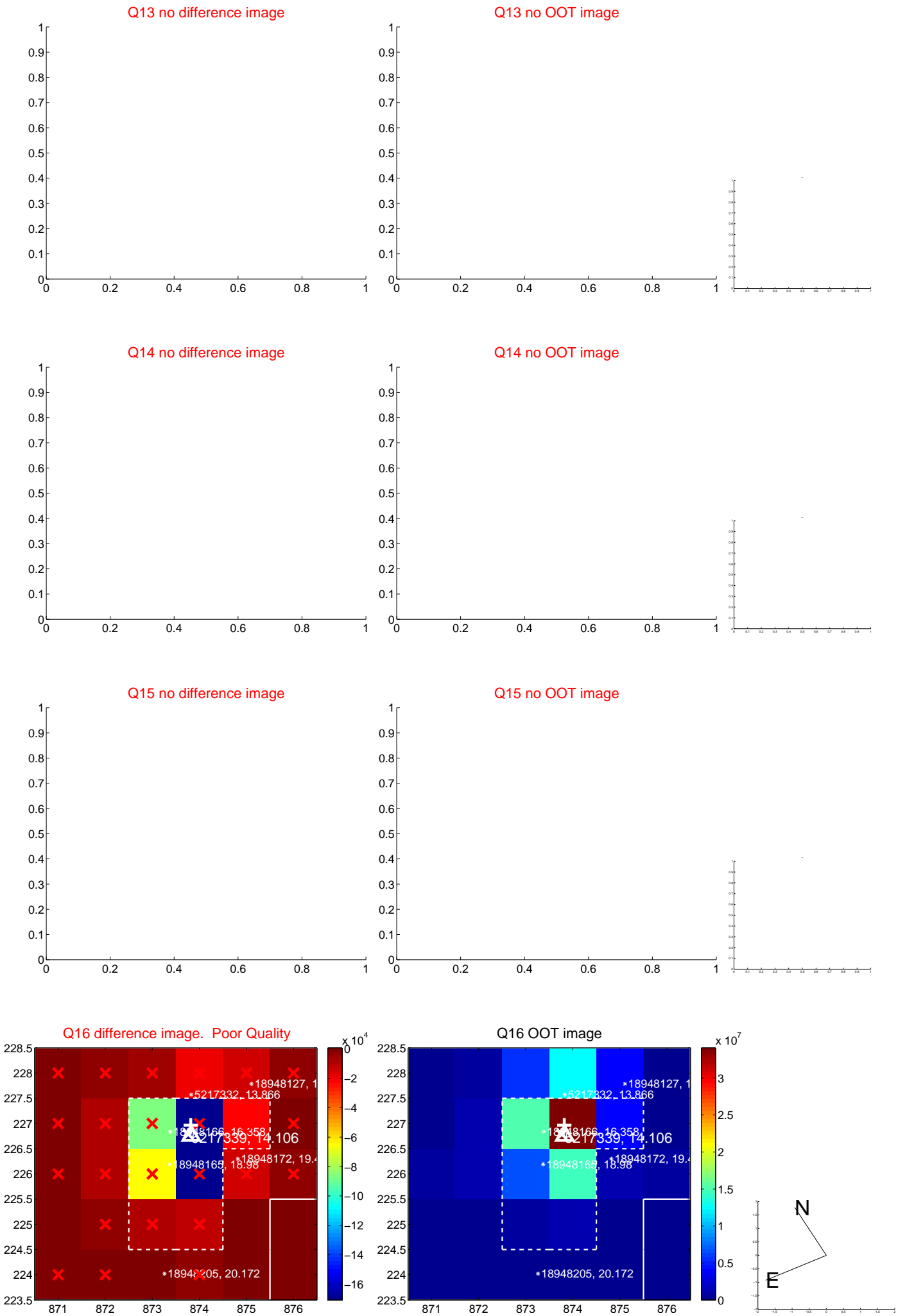
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



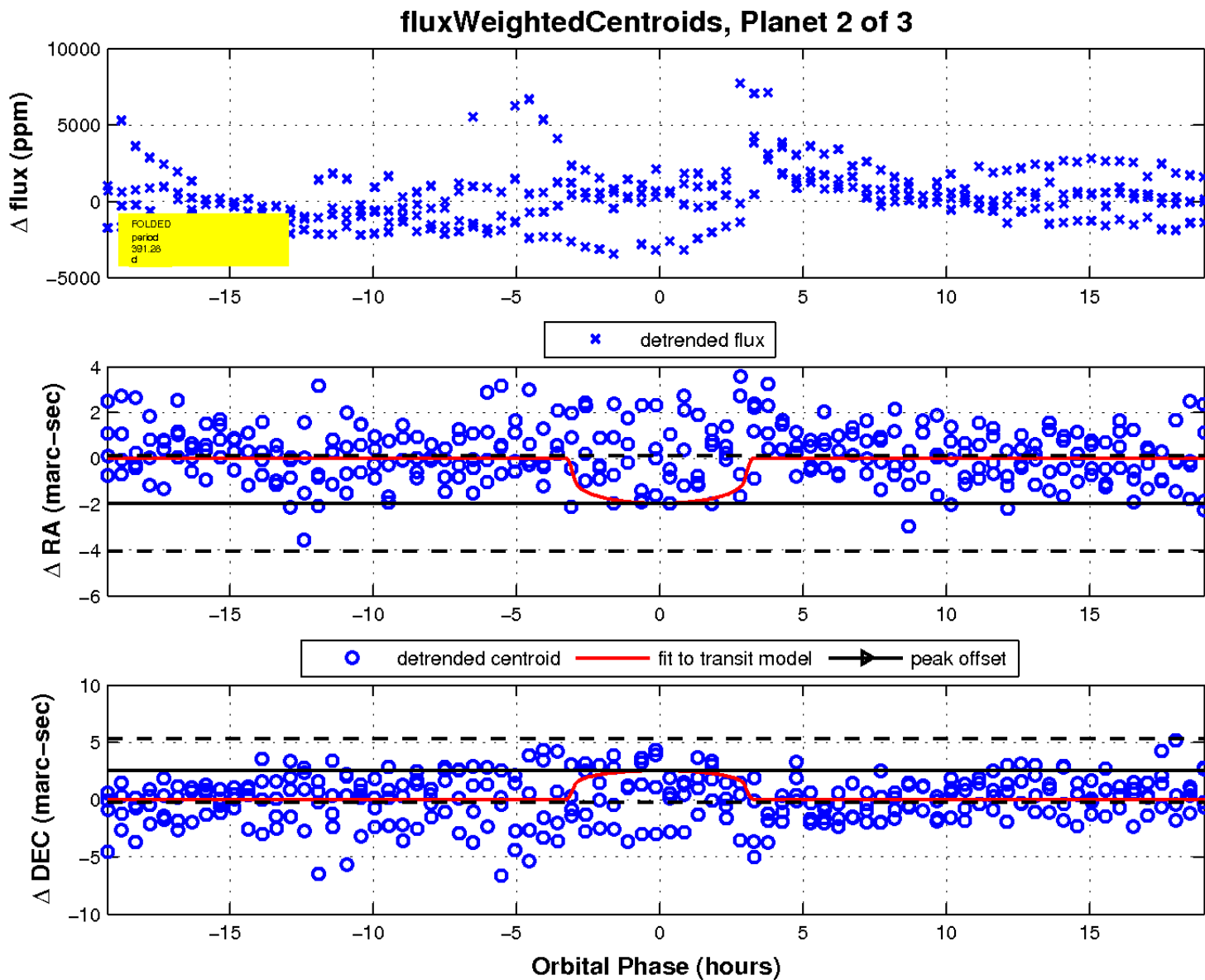
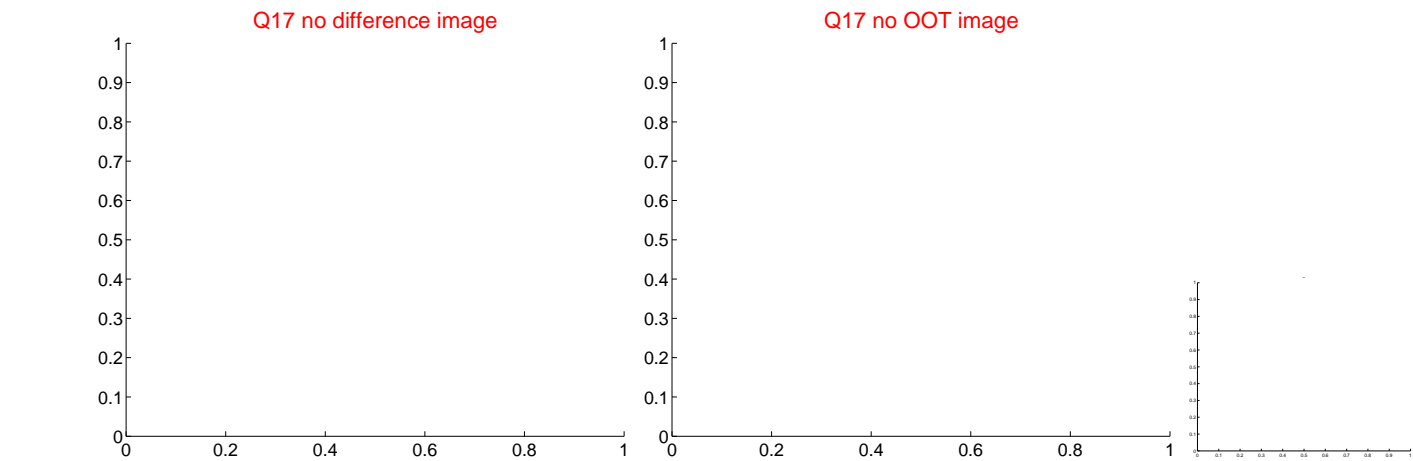
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

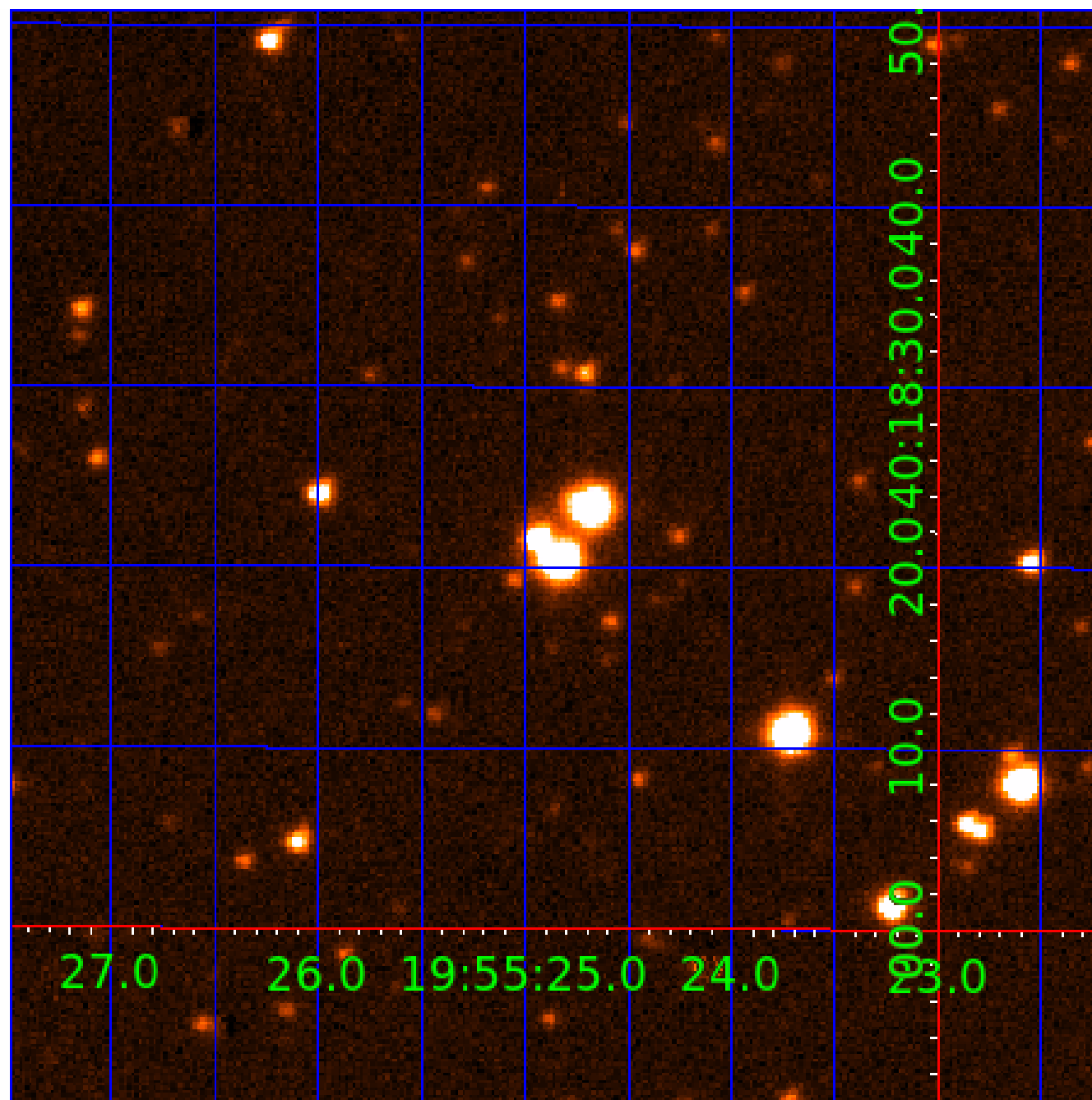


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 005217339

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005217339-01	OBS	No	312.892007	429.459334	471.5	0.779	12.2	2.3	0.78	5397	1.70	0.66
005217339-02	OBS	No	391.282490	358.001523	1986.9	6.441	17.1	7.1	0.78	5397	3.49	0.49
005217339-03	OBS	No	470.386273	247.270819	1029.8	3.360	13.0	4.0	0.78	5397	2.66	0.38

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005217339-01	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_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005217339-02	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
005217339-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—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.

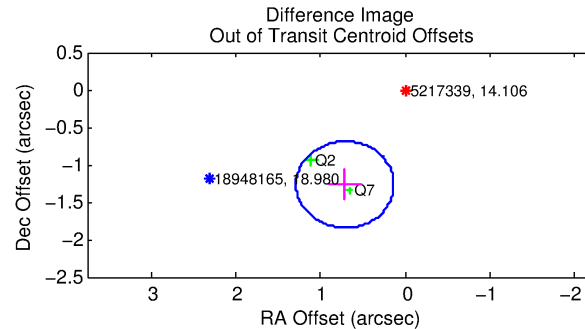
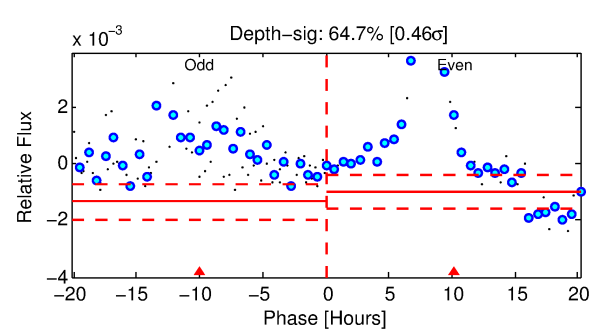
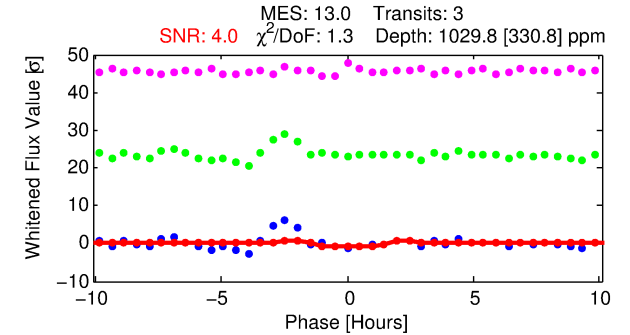
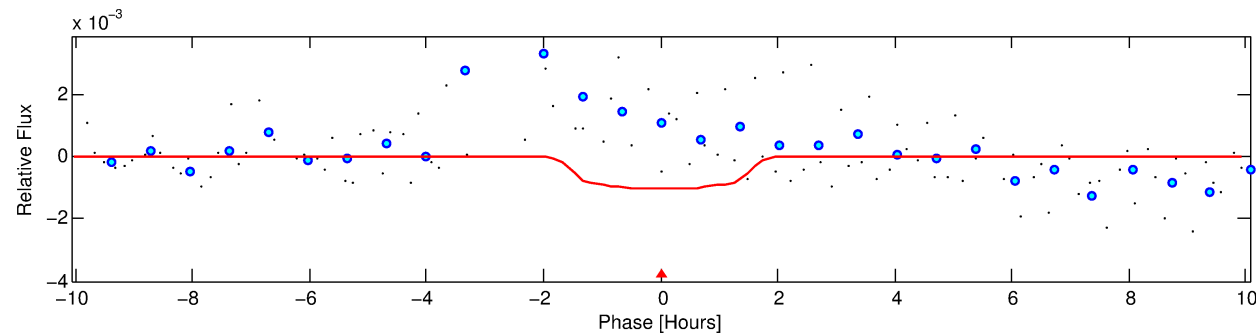
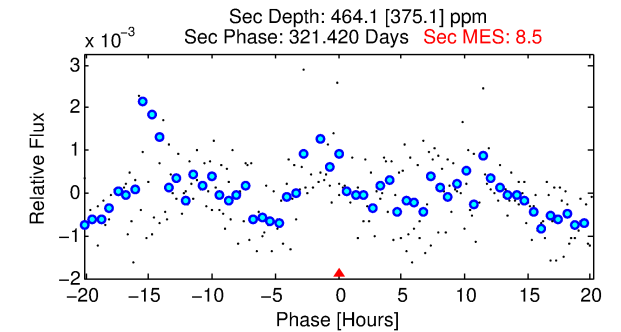
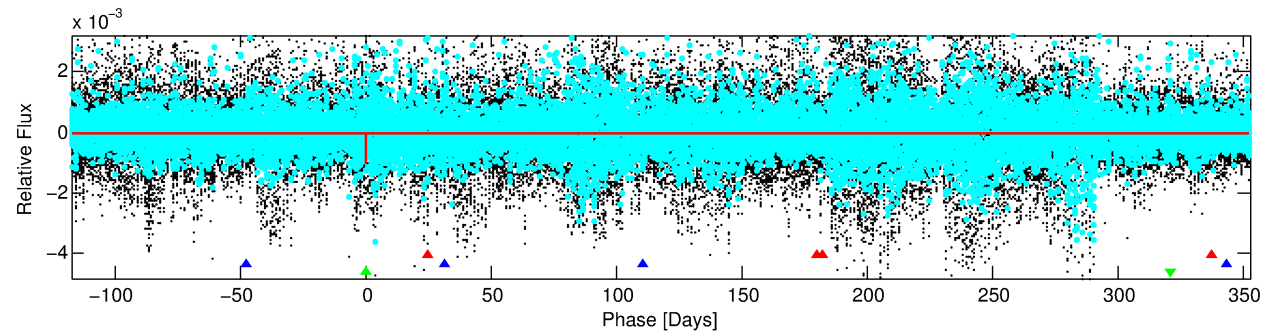
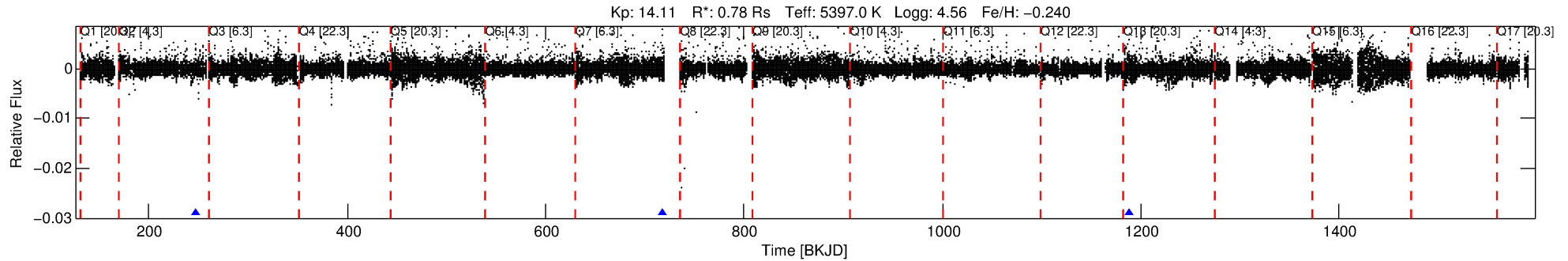
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 005217339-03

No Significant Match Found

# DV One-Page Summary

KIC: 5217339 Candidate: 3 of 3 Period: 470.386 d



## DV Fit Results:

Period = 470.38627 [0.00953] d  
Epoch = 247.2708 [0.0121] BKJD  
Rp/R\* = 0.0312 [0.0550]  
a/R\* = 831.17 [5833.34]  
b = 0.68 [5.67]  
Seff = 0.38 [0.09]  
Teq = 200 [12] K  
Rp = 2.66 [4.71] Re  
a = 1.1043 [0.1611] AU  
Ag = 44118.41 [159957.00] [0.28σ]  
Teffp = 4487 [4063] K [1.05σ]

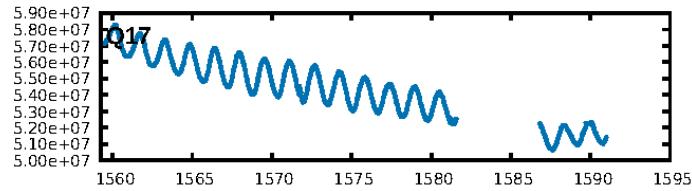
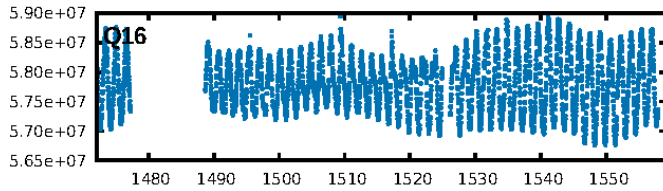
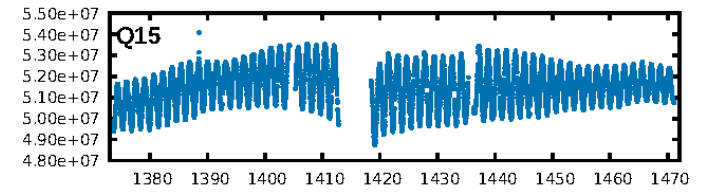
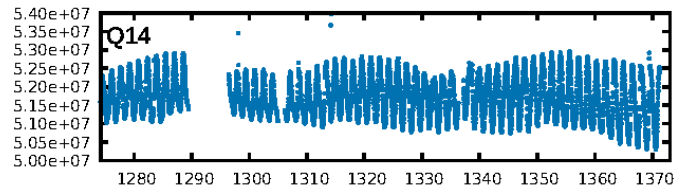
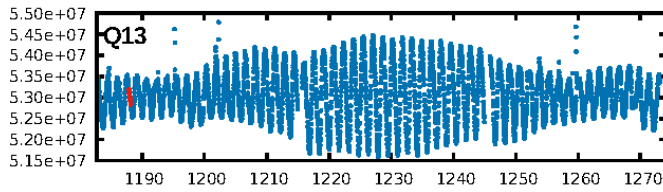
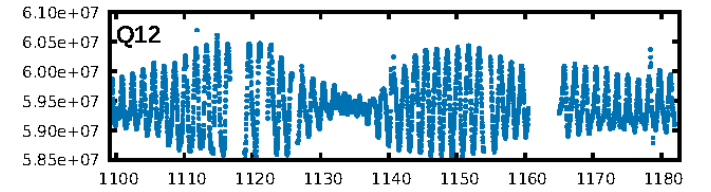
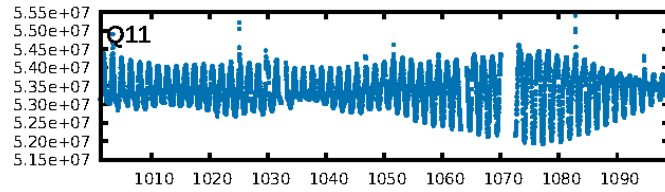
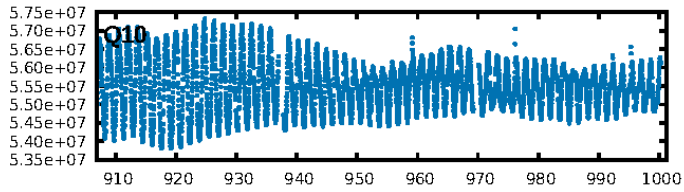
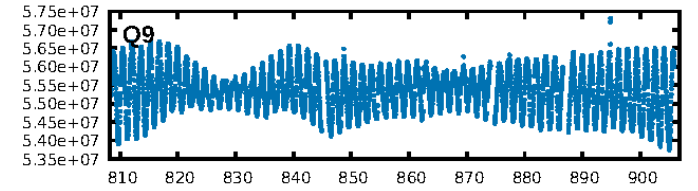
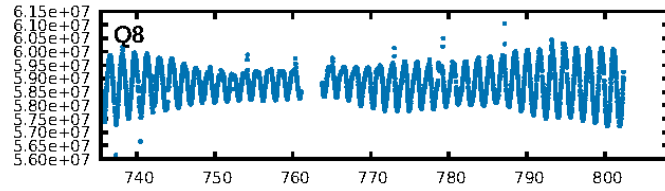
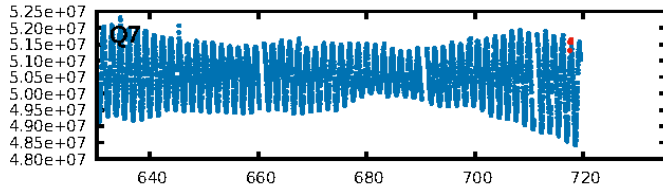
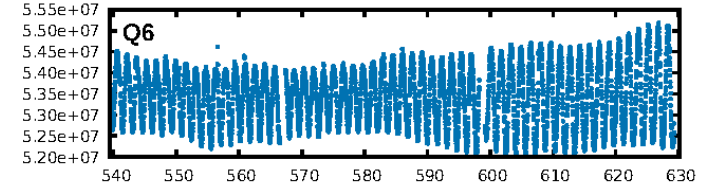
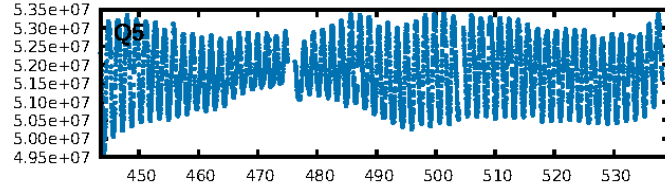
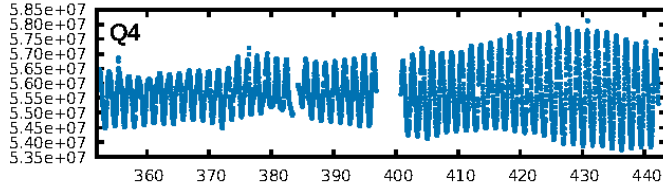
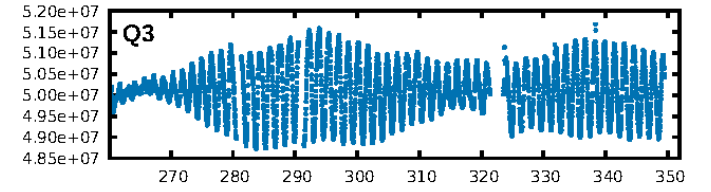
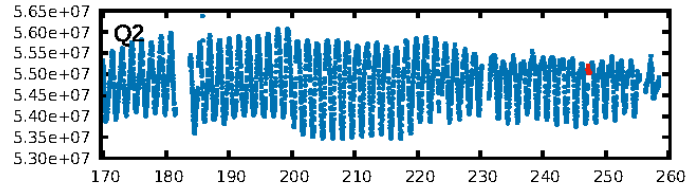
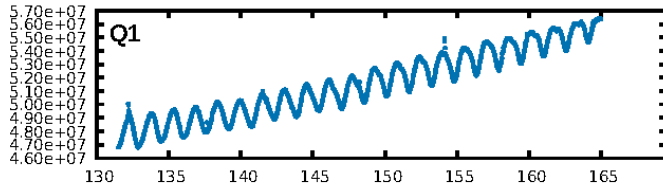
## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [261.34σ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 80.5%  
ModelChiSquareGof-sig: 96.6%  
**Bootstrap-pfa: 1.82e-09**  
RollingBand-fgt: 1.00 [3/3]  
**GhostDiagnostic-chr: 2.858**  
Centroid-sig: 32.4%  
Centroid-so: 0.881 arcsec [0.55σ]  
**OotOffset-rm: 1.451 arcsec [7.55σ]**  
KicOffset-rm: 0.159 arcsec [0.63σ]  
OotOffset-st: 1/1/0/0 [2]  
KicOffset-st: 1/1/0/0 [2]  
DiffImageQuality-fgm: 0.00 [0/2]  
DiffImageOverlap-fno: 1.00 [2/2]

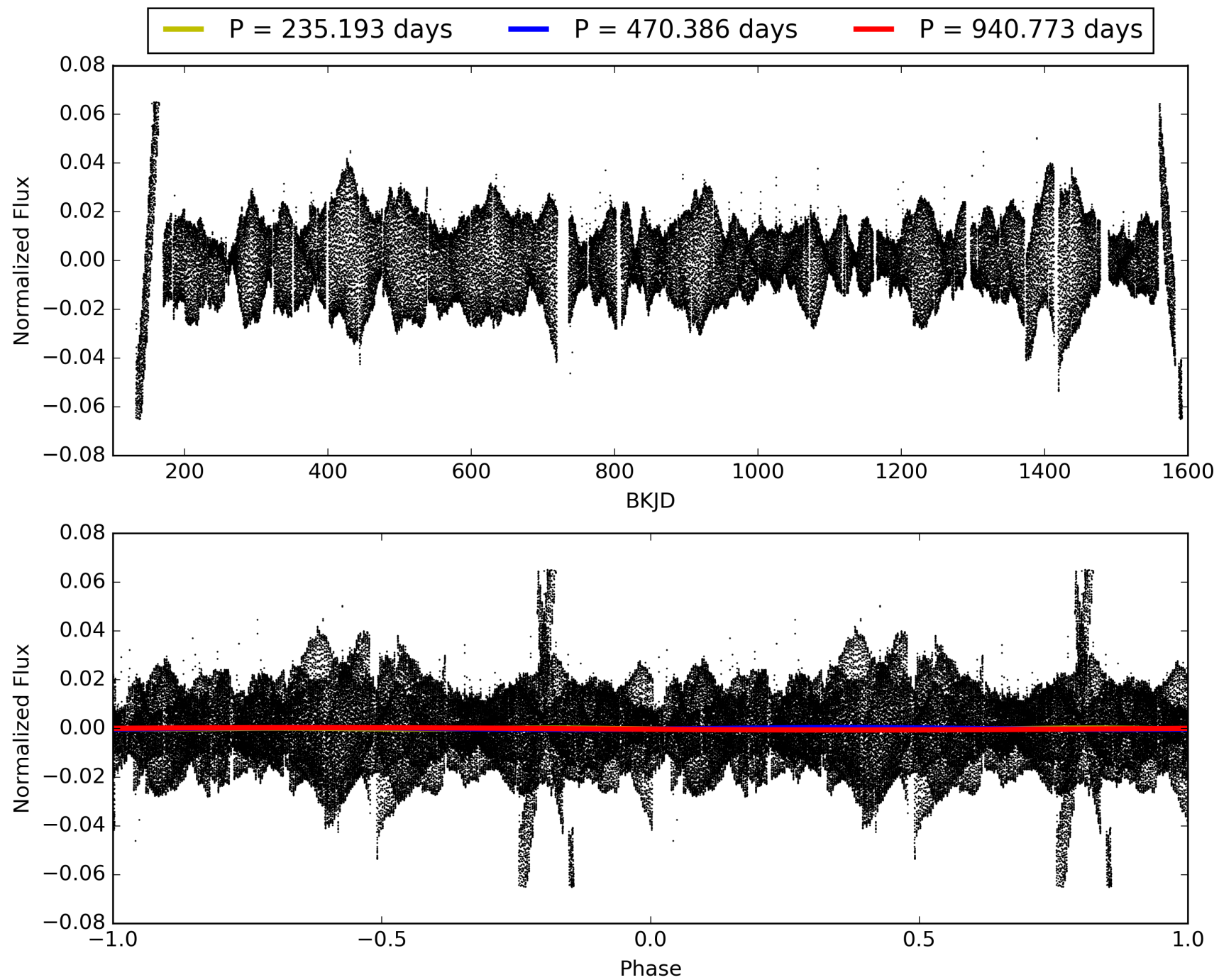
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:24:23 Z

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

# TCE 005217339-03, PDC Light Curves

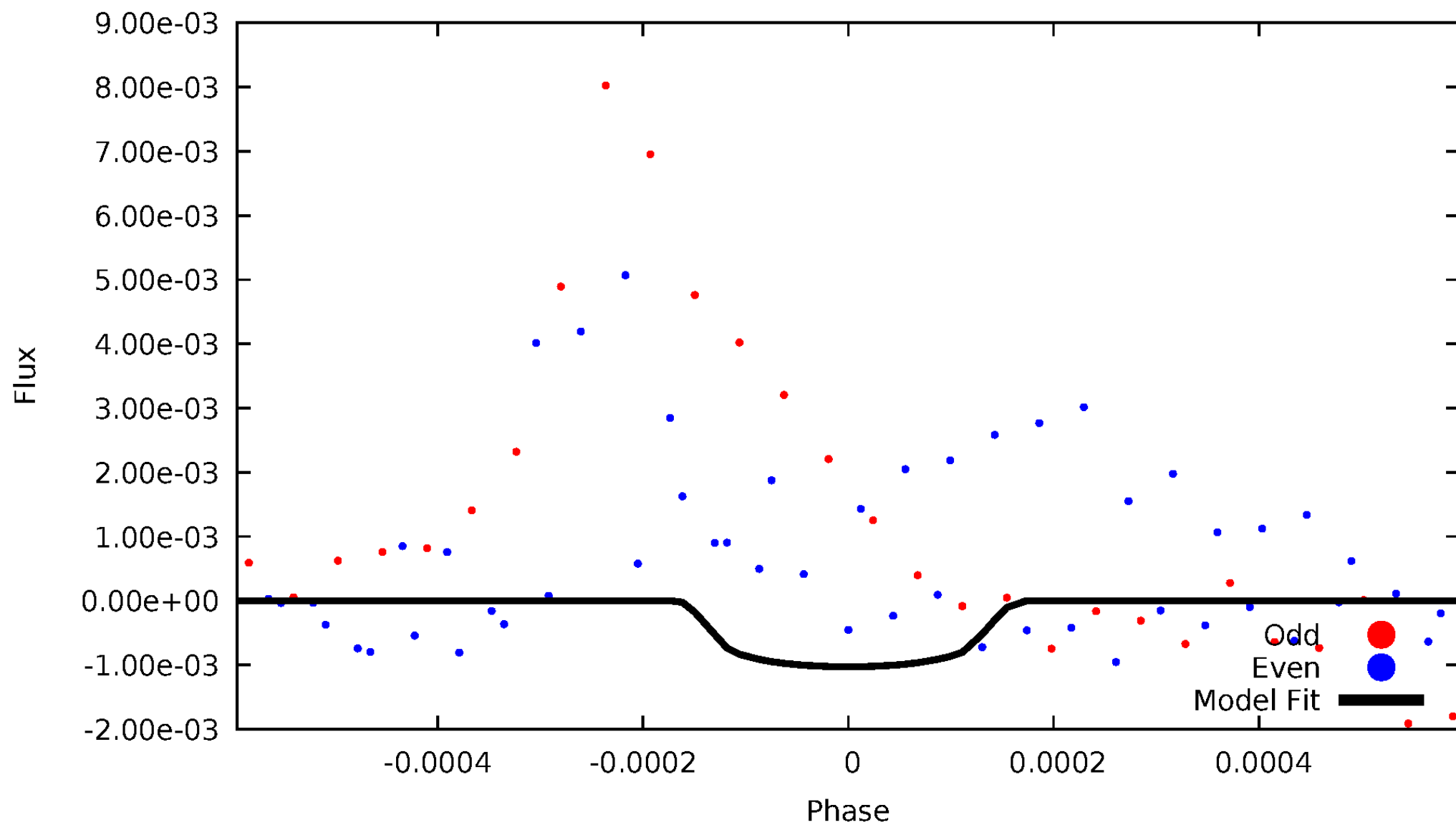


TCE 005217339-03



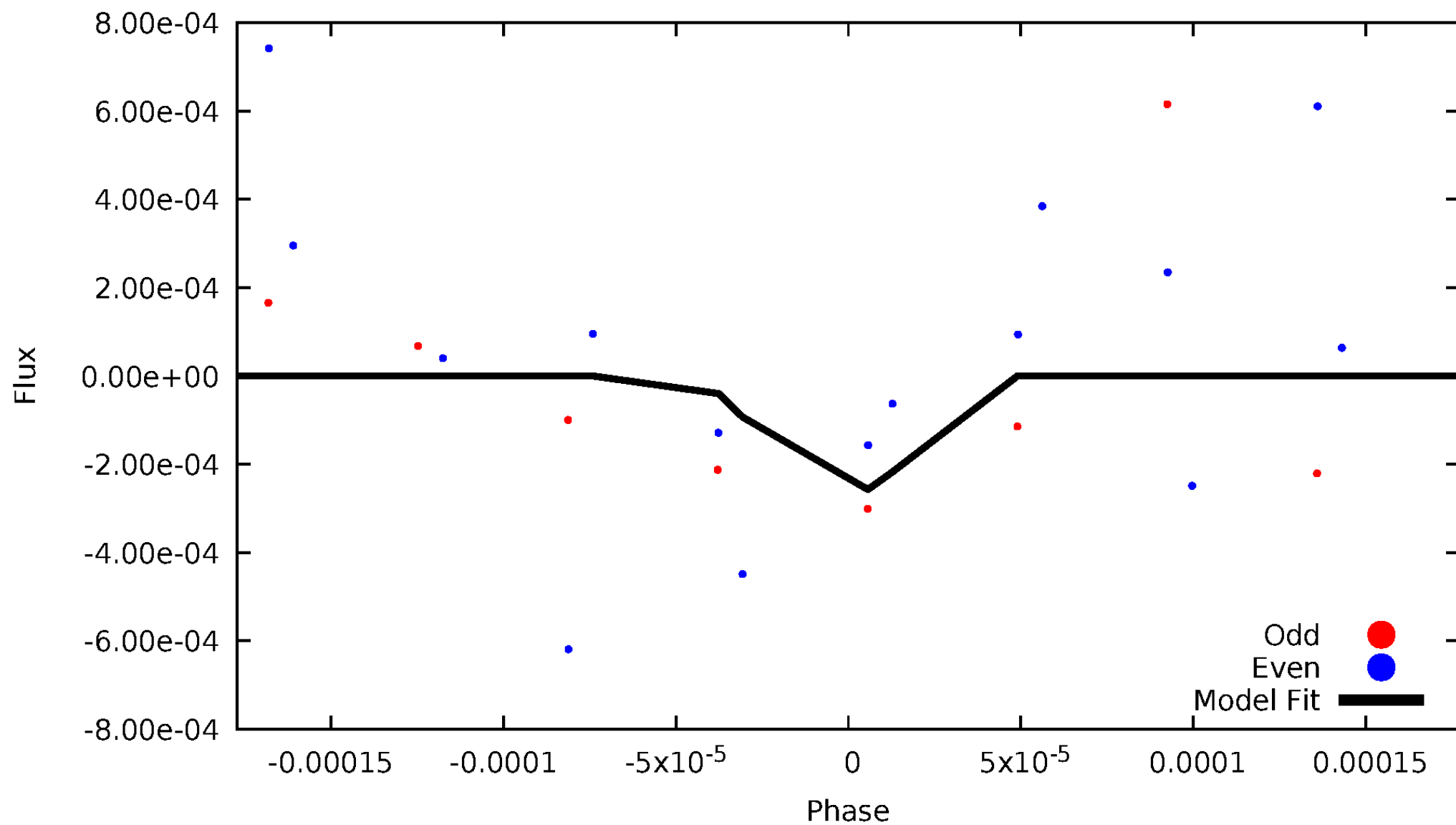
# DV Odd/Even

TCE 005217339-03



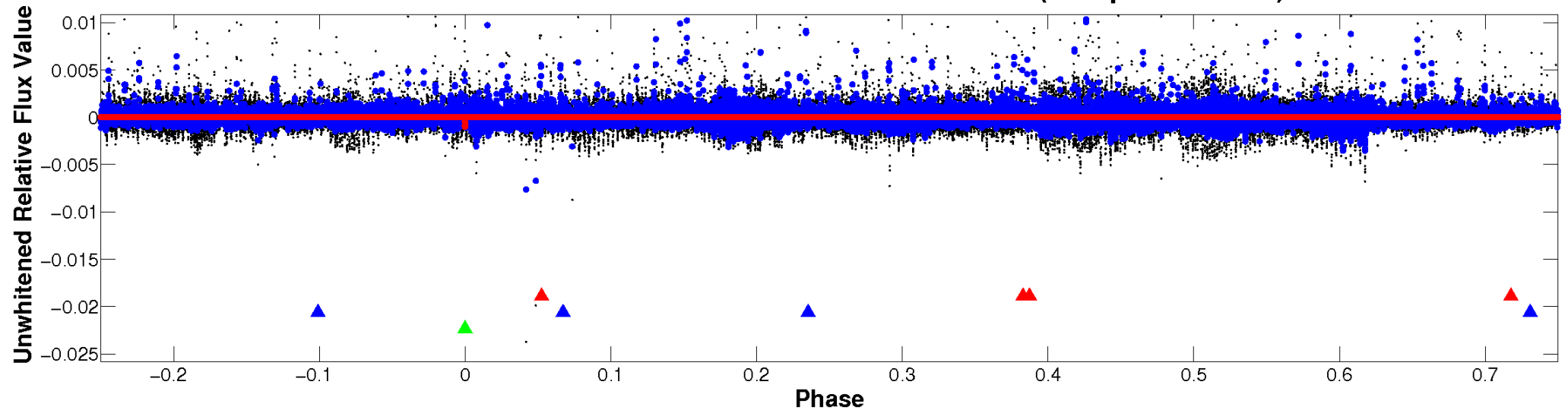
# ALT Odd/Even

TCE 005217339-03

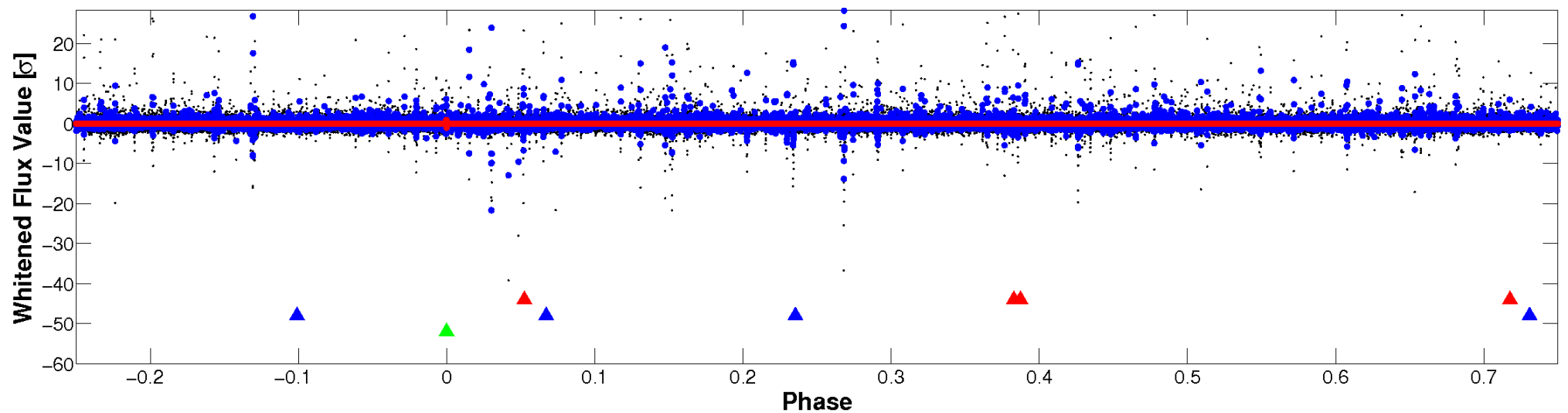


# Non-Whitened Vs. Whitened Light Curve

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

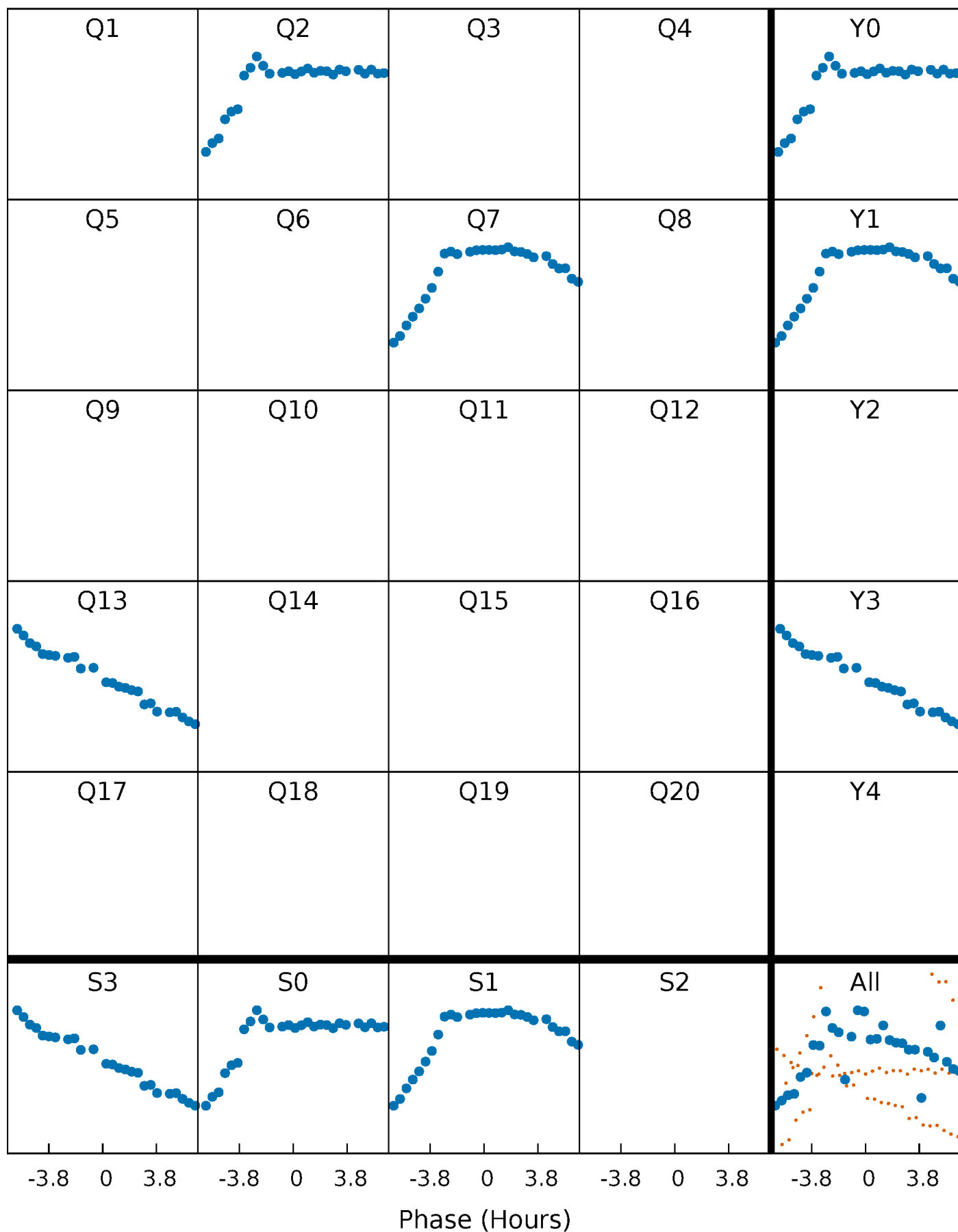


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



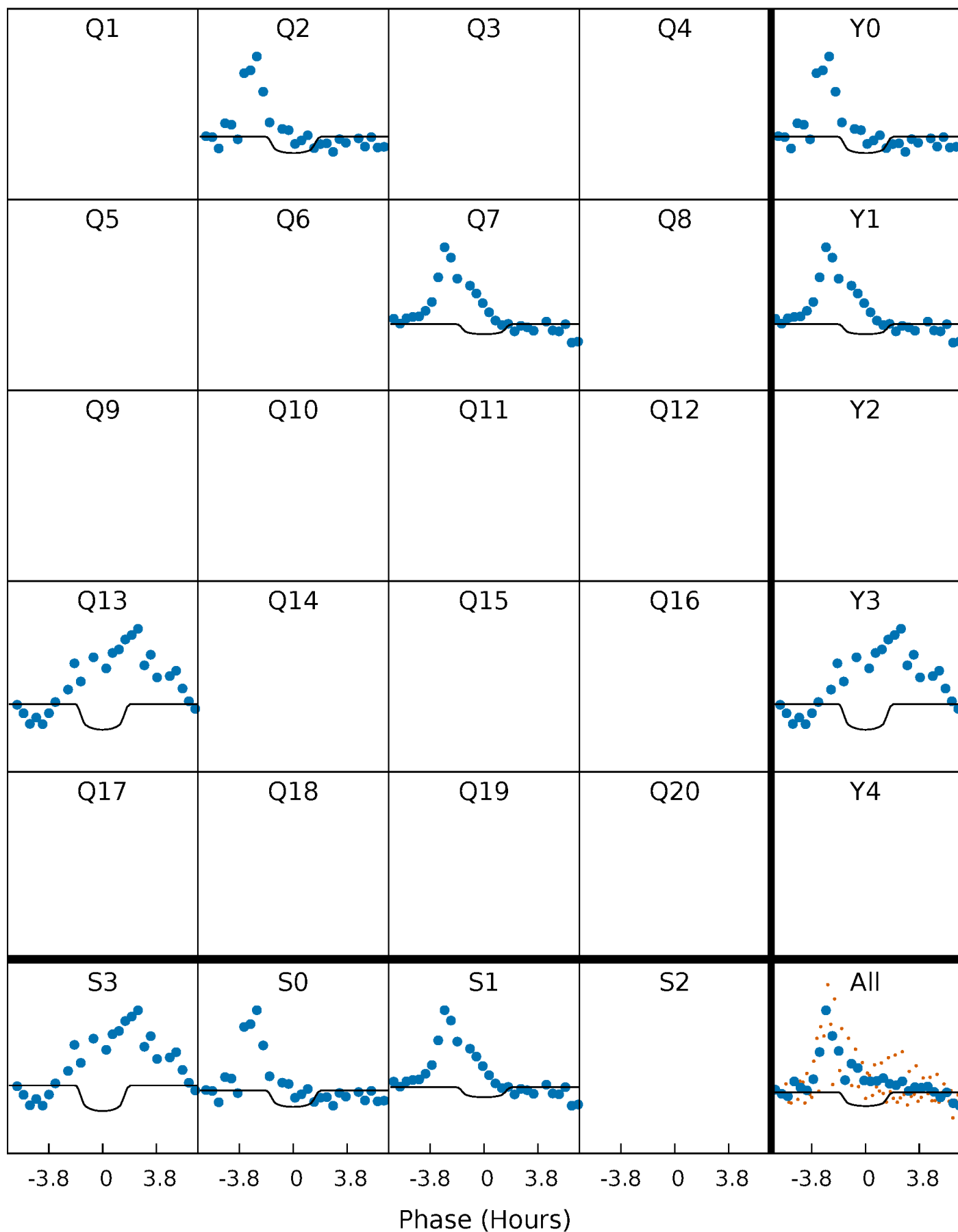
# PDC Quarter-Phased Transit Curves

TCE 005217339-03 P=470.386273 Days  $T_0=247.270819$  (BKJD)



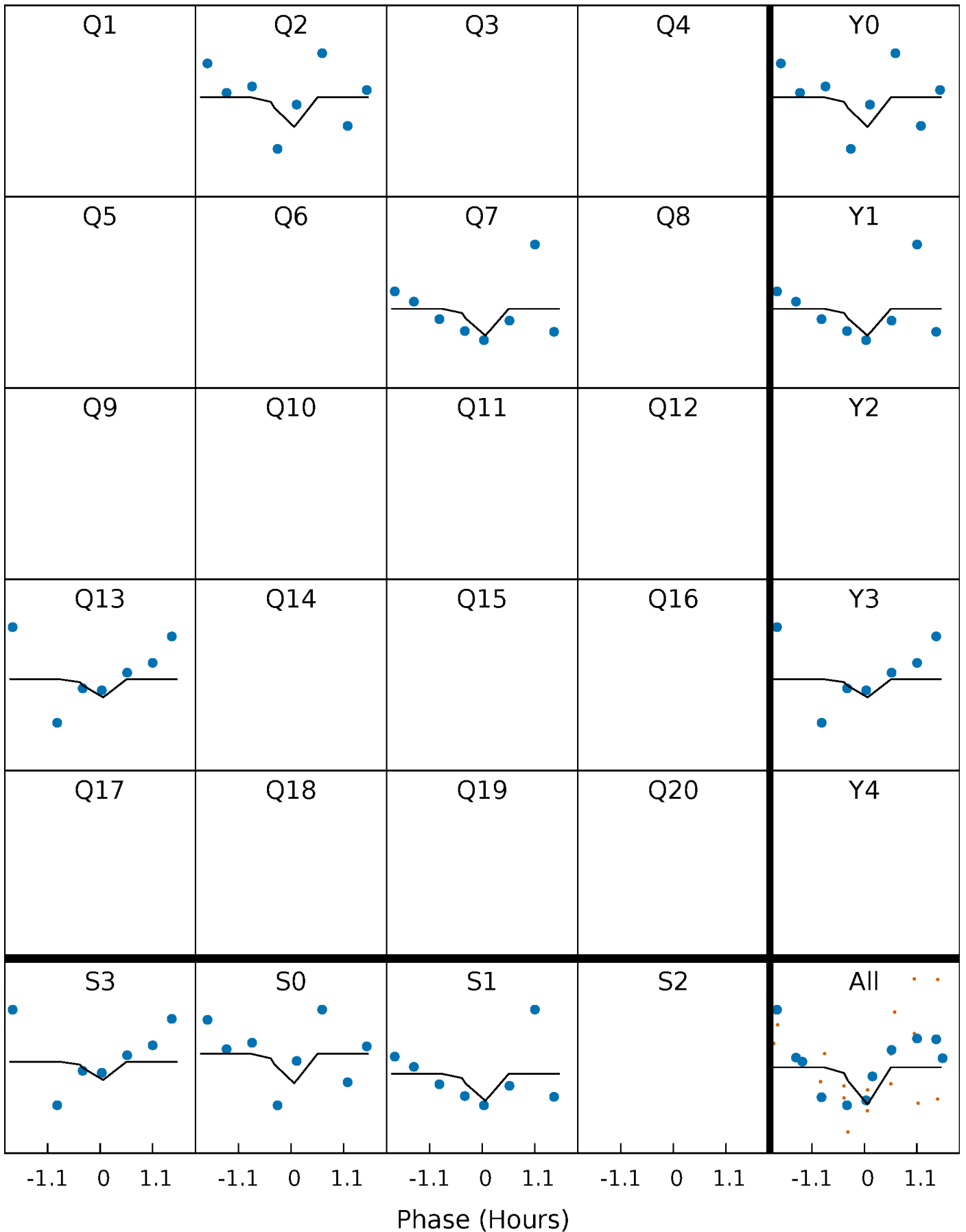
# DV Quarter-Phased Transit Curves

TCE 005217339-03     $P=470.386273$  Days     $T_0=247.270819$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

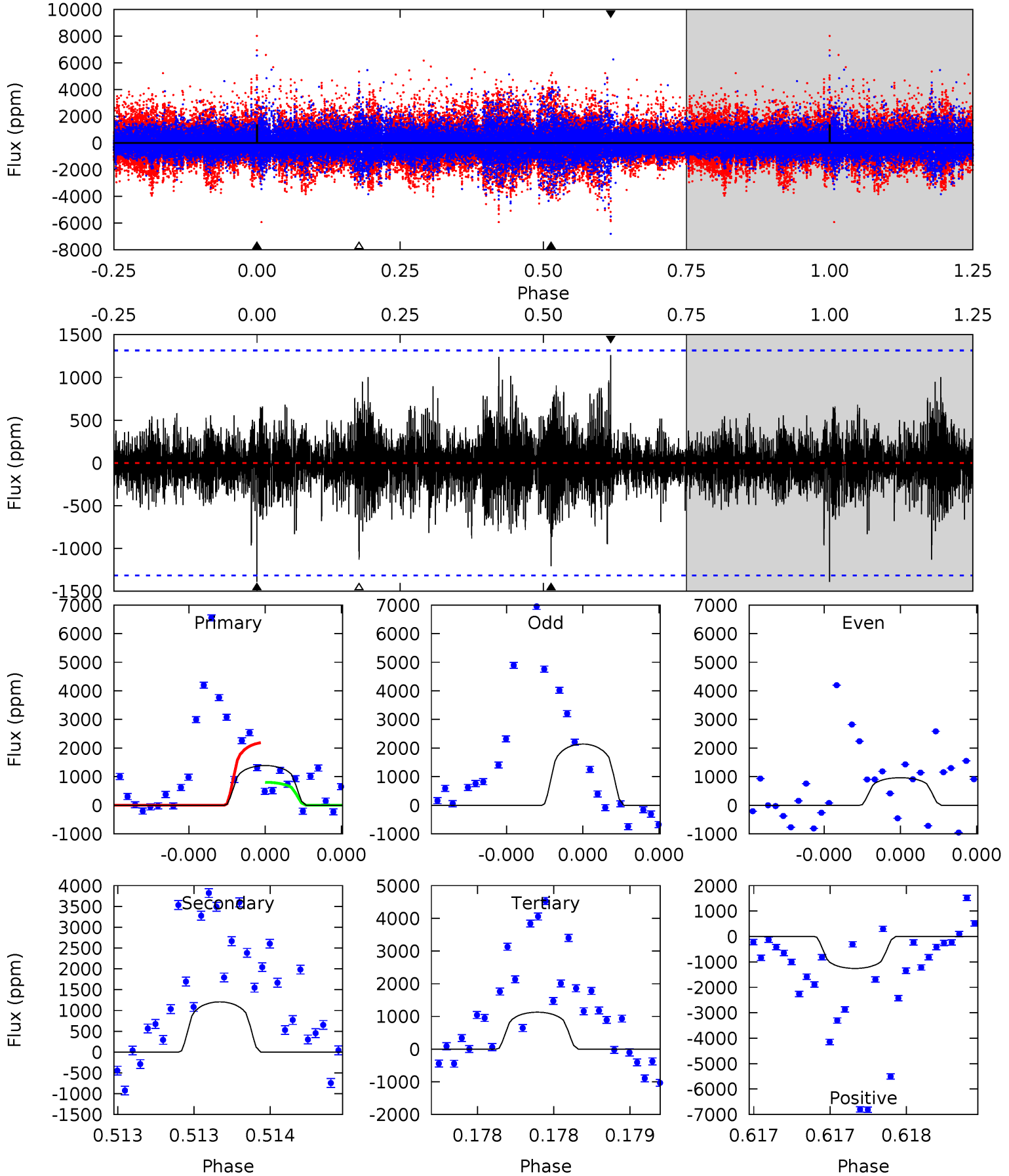
TCE 005217339-03 P=470.400985 Days  $T_0=247.285280$  (BKJD)



# DV Model-Shift Uniqueness Test

005217339-03, P = 470.386273 Days, E = 247.270819 Days

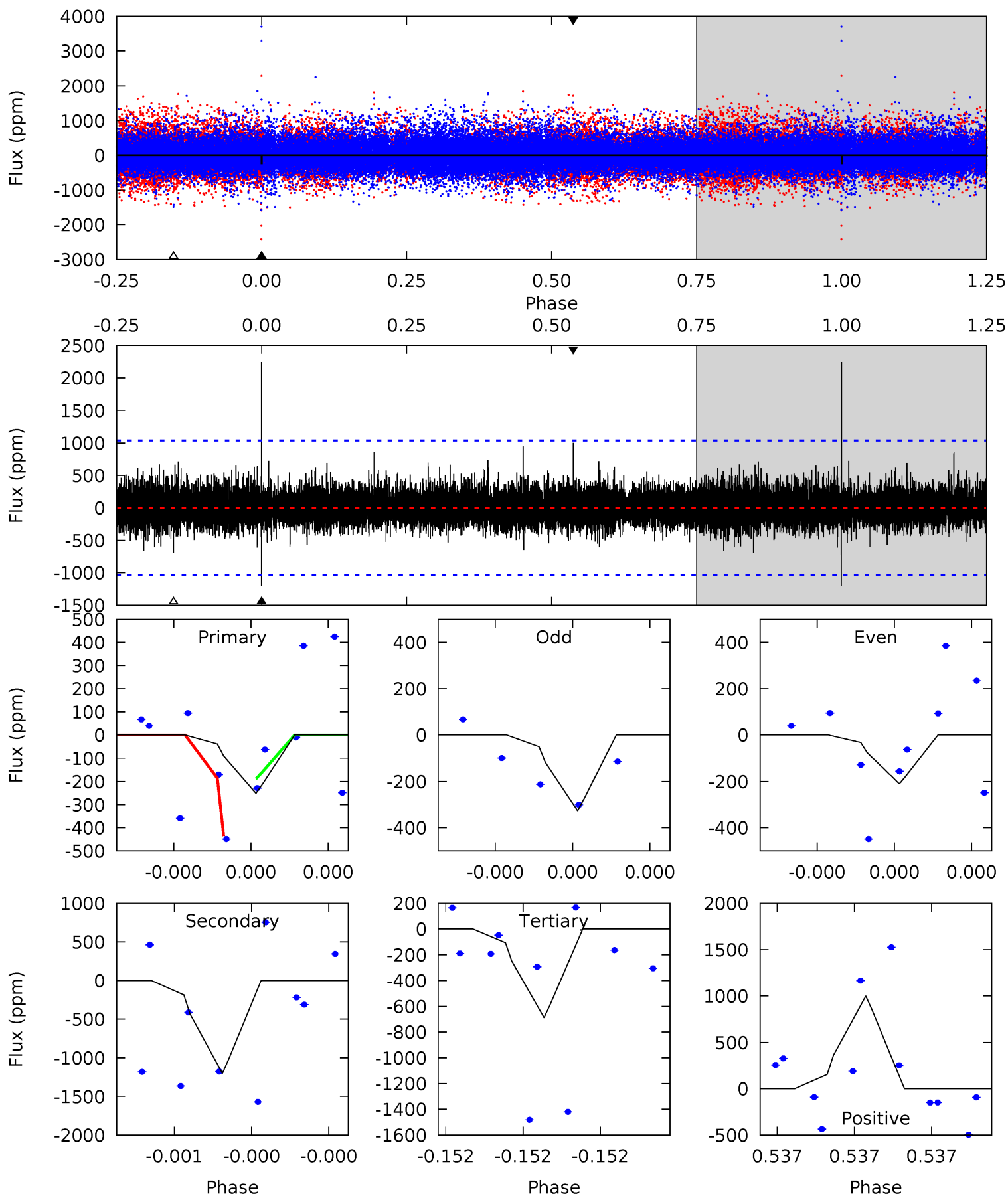
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.97	5.18	4.85	5.41	5.65	3.60	1.03	1.11	0.56	0.33	-0.22	2.16	0.69	0.48	2.96



# Alt Model-Shift Uniqueness Test

005217339-03, P = 470.400985 Days, E = 247.285280 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
1.42	6.79	3.89	5.66	5.87	3.92	0.82	-2.47	-4.24	2.90	1.13	0.27	0.99	0.65	0.61



### Stellar Parameters For KIC 005217339

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5397^{+175}_{-175}$	$4.562^{+0.048}_{-0.104}$	$-0.240^{+0.300}_{-0.300}$	$0.781^{+0.143}_{-0.077}$	$0.814^{+0.096}_{-0.078}$	$2.401^{+0.588}_{-0.804}$
	+3%/-3%	+1%/-2%	+125%/-125%	+18%/-10%	+12%/-10%	+24%/-33%
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 005217339-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-1207 \pm 233$	$4.37^{+4.17}_{-2.93}$	$283^{+14}_{-12}$	$4616^{+3204}_{-975}$	$41397^{+342968}_{-30533}$
Alt.	$-1200 \pm 177$	$3.84^{+3.66}_{-2.83}$	$283^{+13}_{-12}$	$4922^{+4671}_{-1152}$	$57464^{+677879}_{-44123}$

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

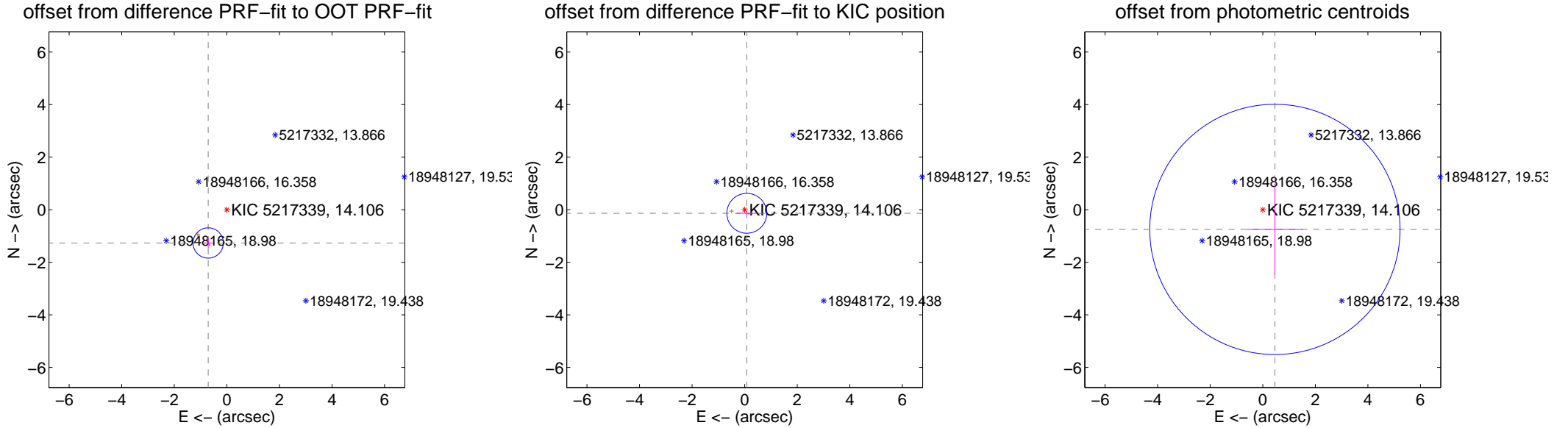
## DV Centroid Data

Supplemental centroid analysis for 005217339-03. Kepler magnitude: 14.11. Transit SNR 4.01

There are 0 quarters with good PRF difference image offsets

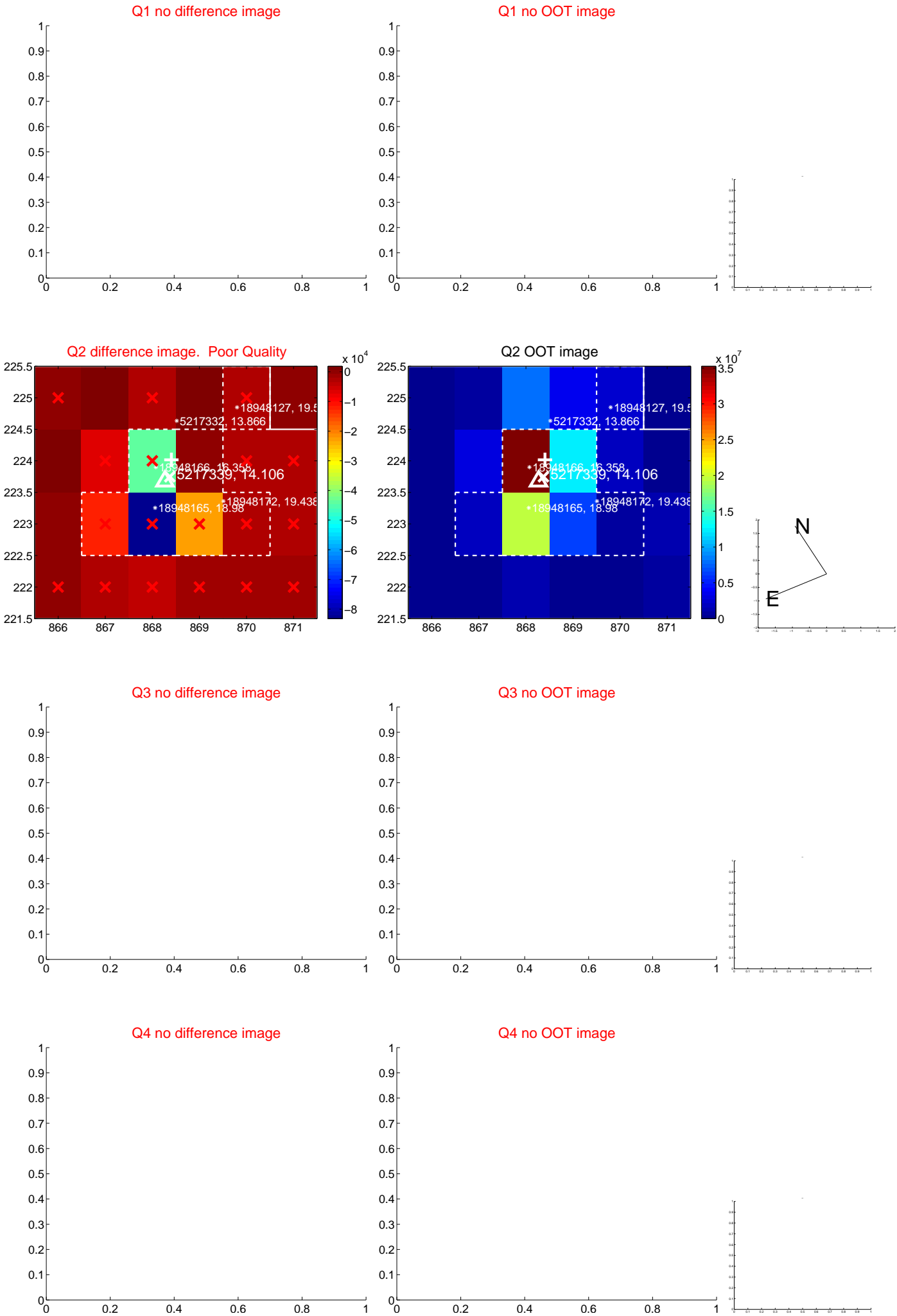
The direct PRF centroid is offset from the target star catalog position by about 1.44 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.451 \pm 0.192$	7.55	$0.710 \pm 0.188$	$-1.266 \pm 0.193$
PRF-fit source offset from KIC position	$0.159 \pm 0.253$	0.63	$-0.081 \pm 0.389$	$-0.136 \pm 0.087$
photometric centroid source offset	$0.88 \pm 1.59$	0.55	$-0.46 \pm 1.07$	$-0.75 \pm 1.74$



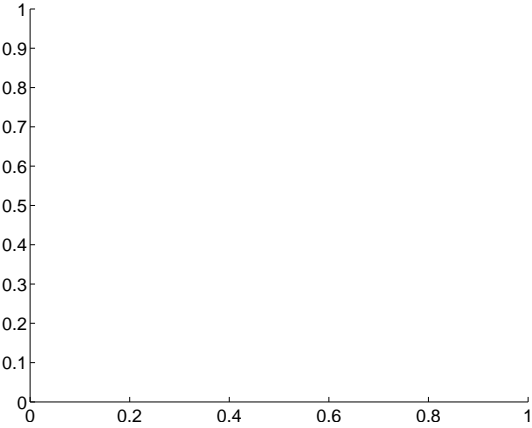
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

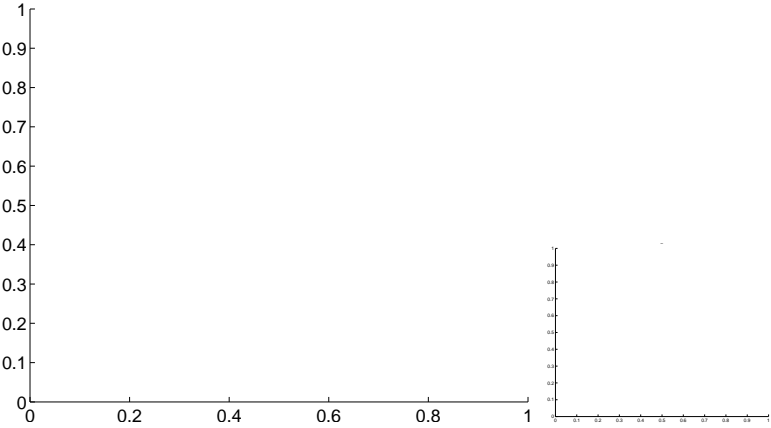


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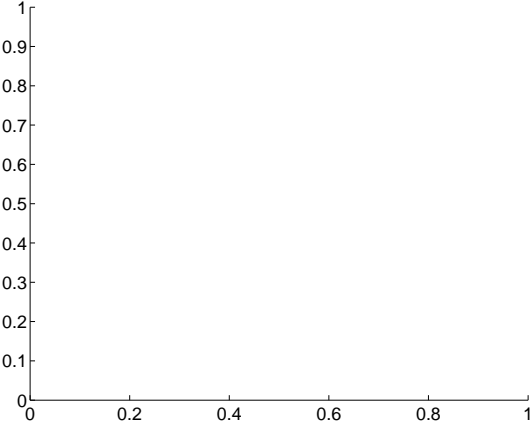
Q5 no difference image



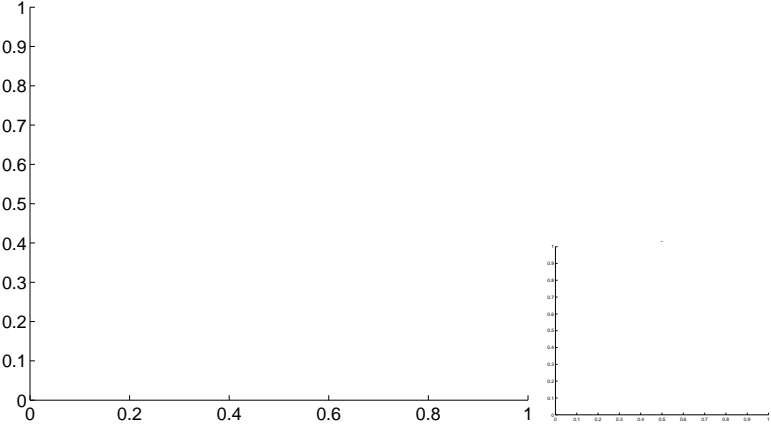
Q5 no OOT image



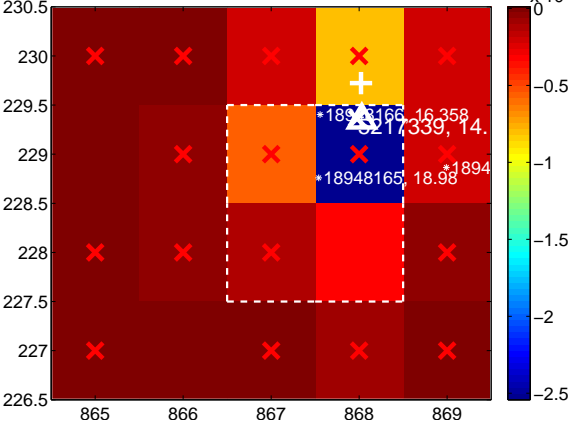
Q6 no difference image



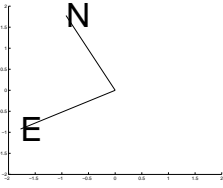
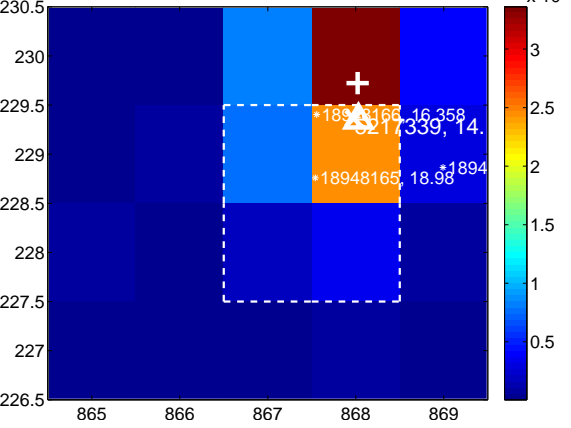
Q6 no OOT image



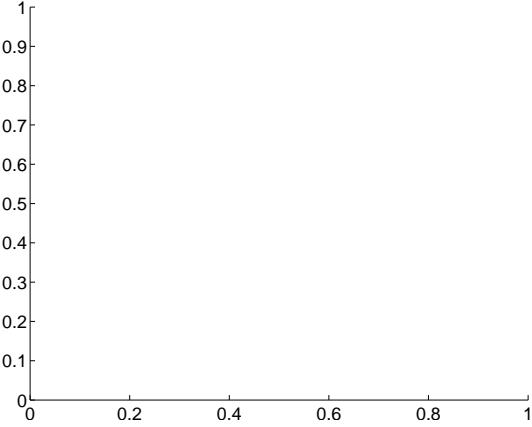
Q7 difference image. Poor Quality



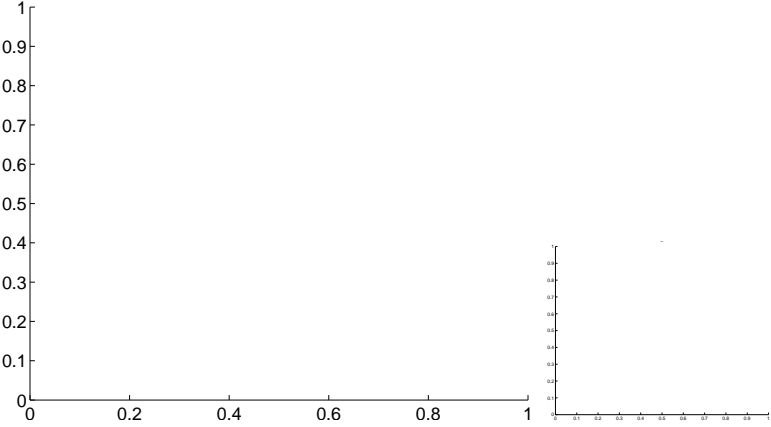
Q7 OOT image



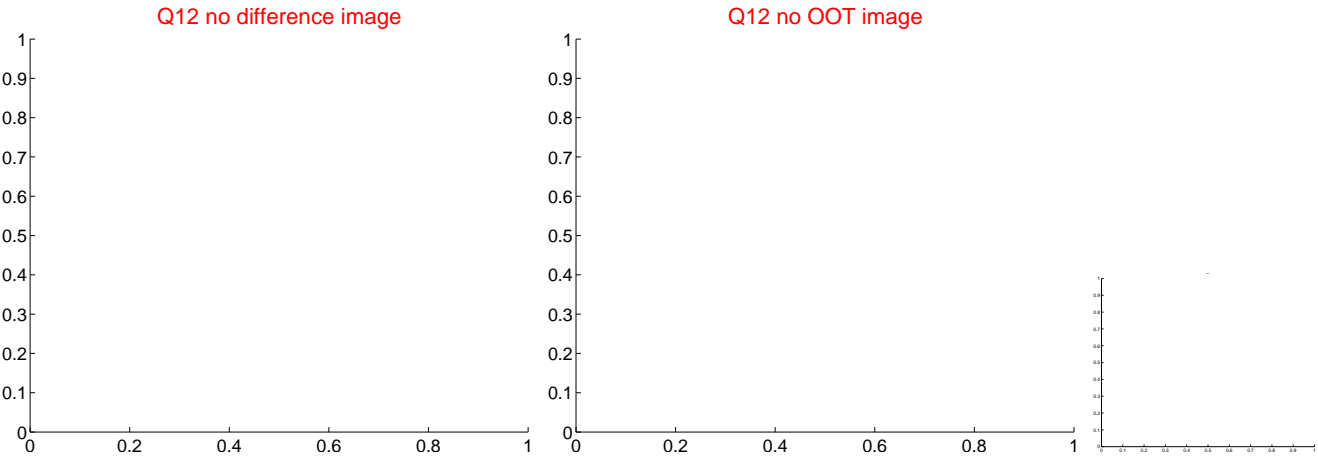
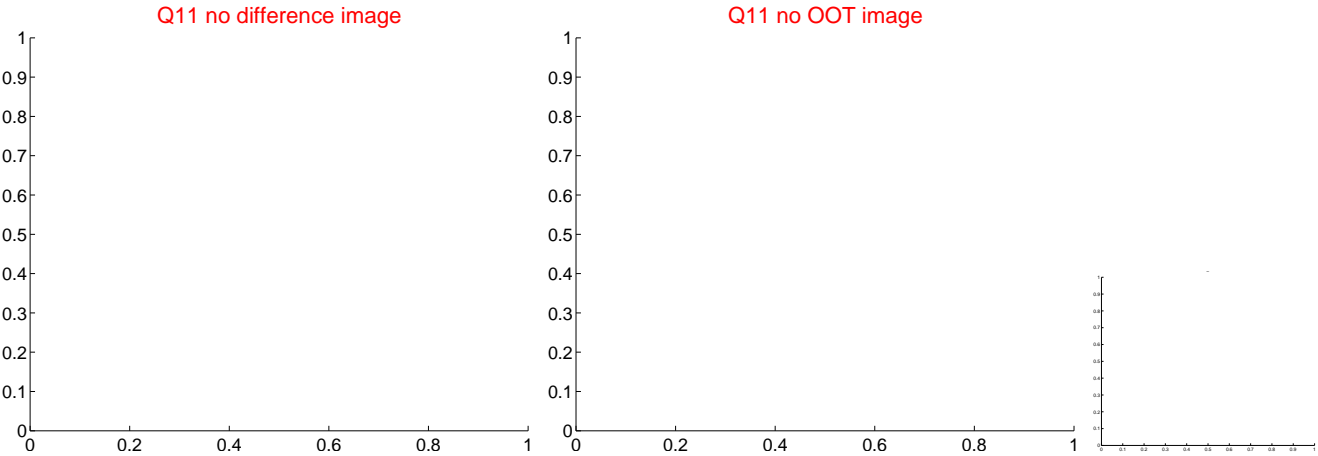
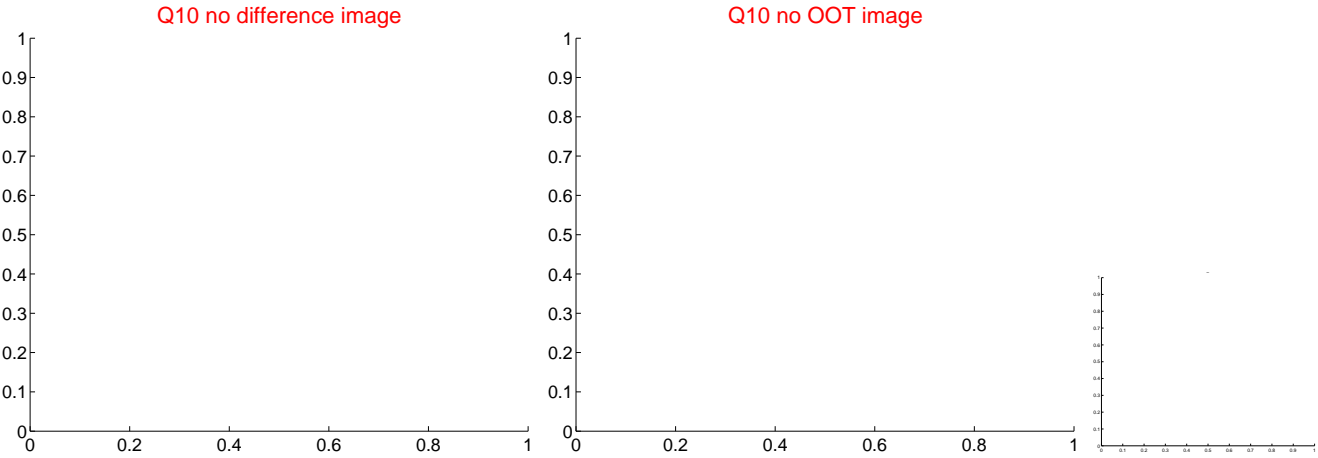
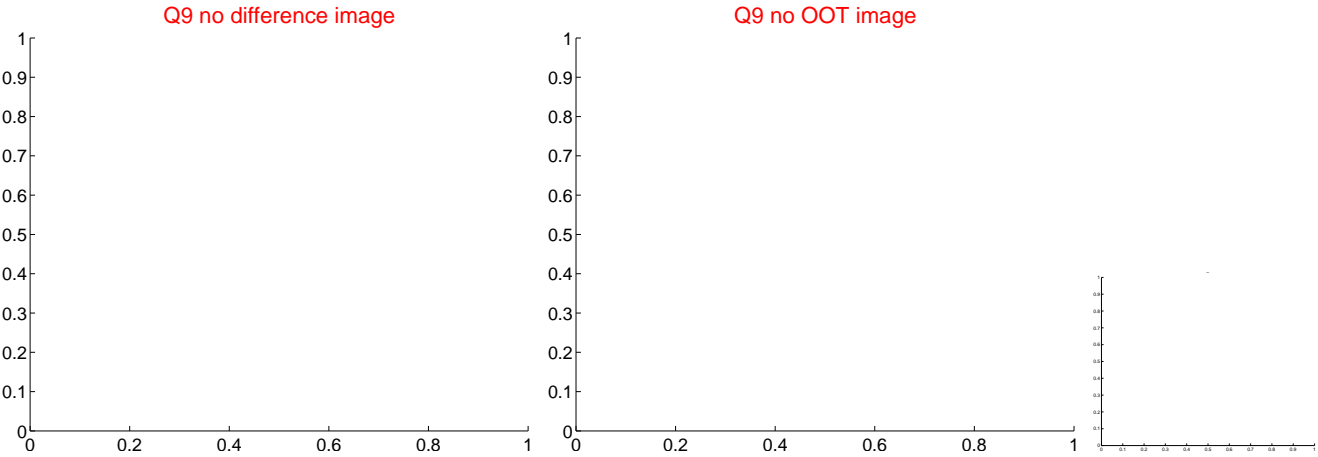
Q8 no difference image



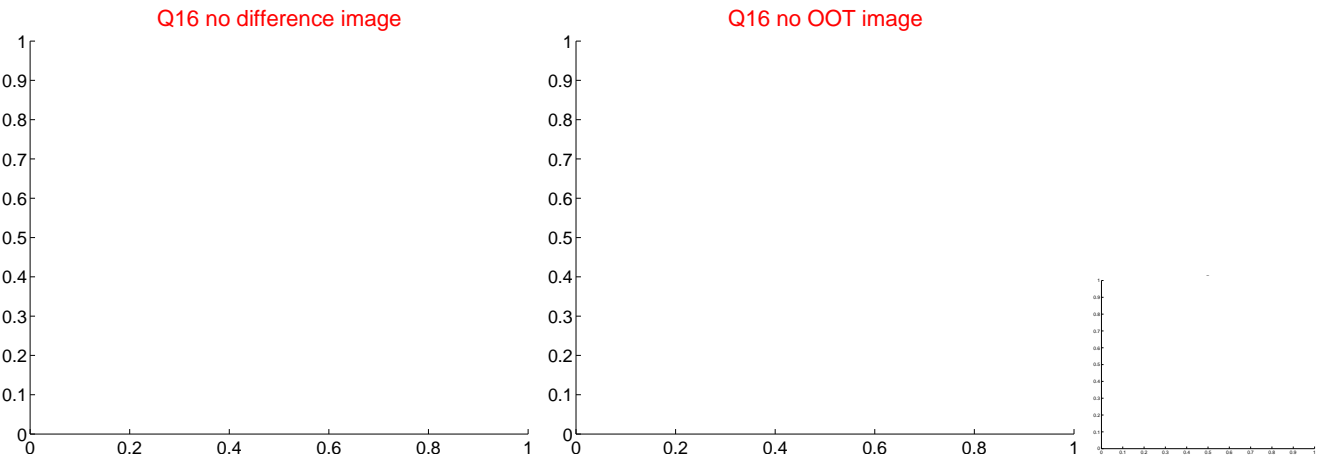
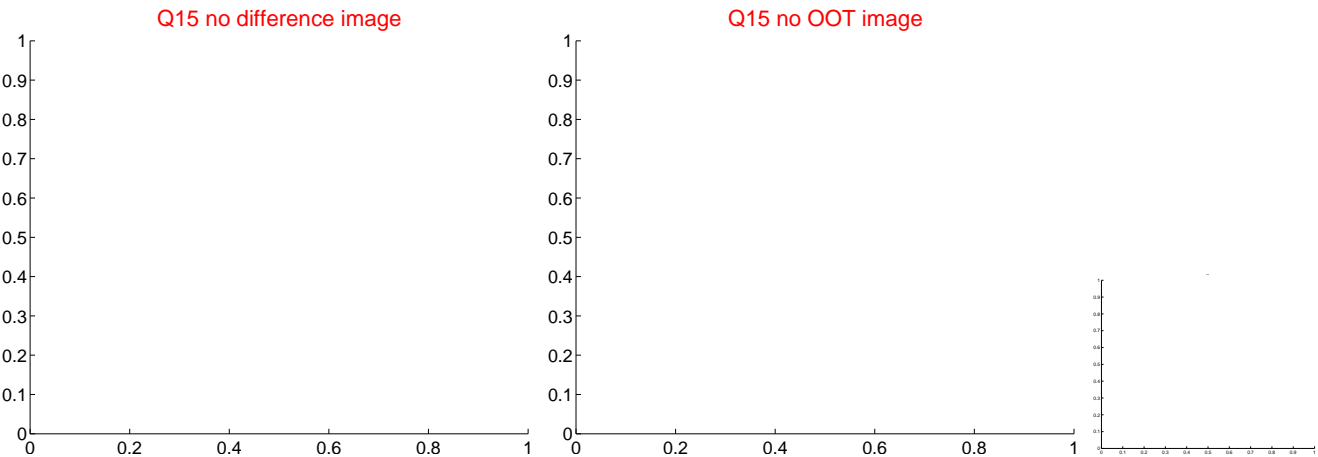
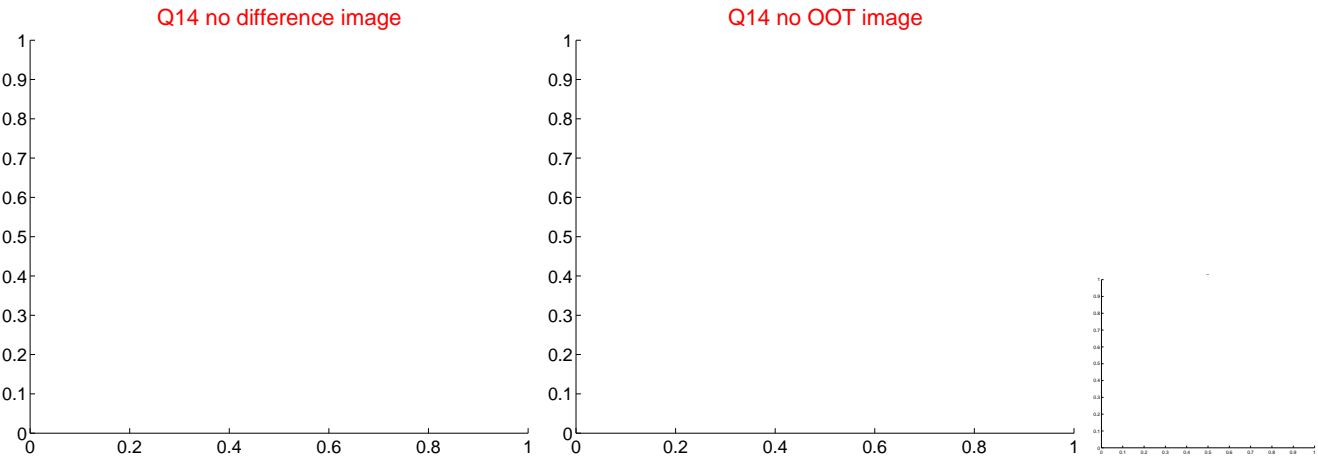
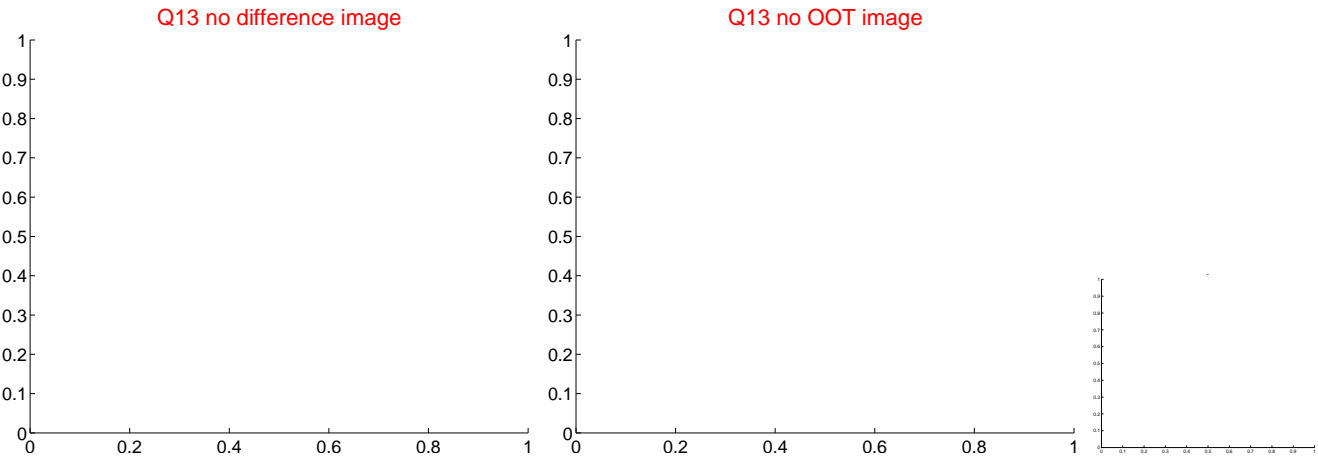
Q8 no OOT image



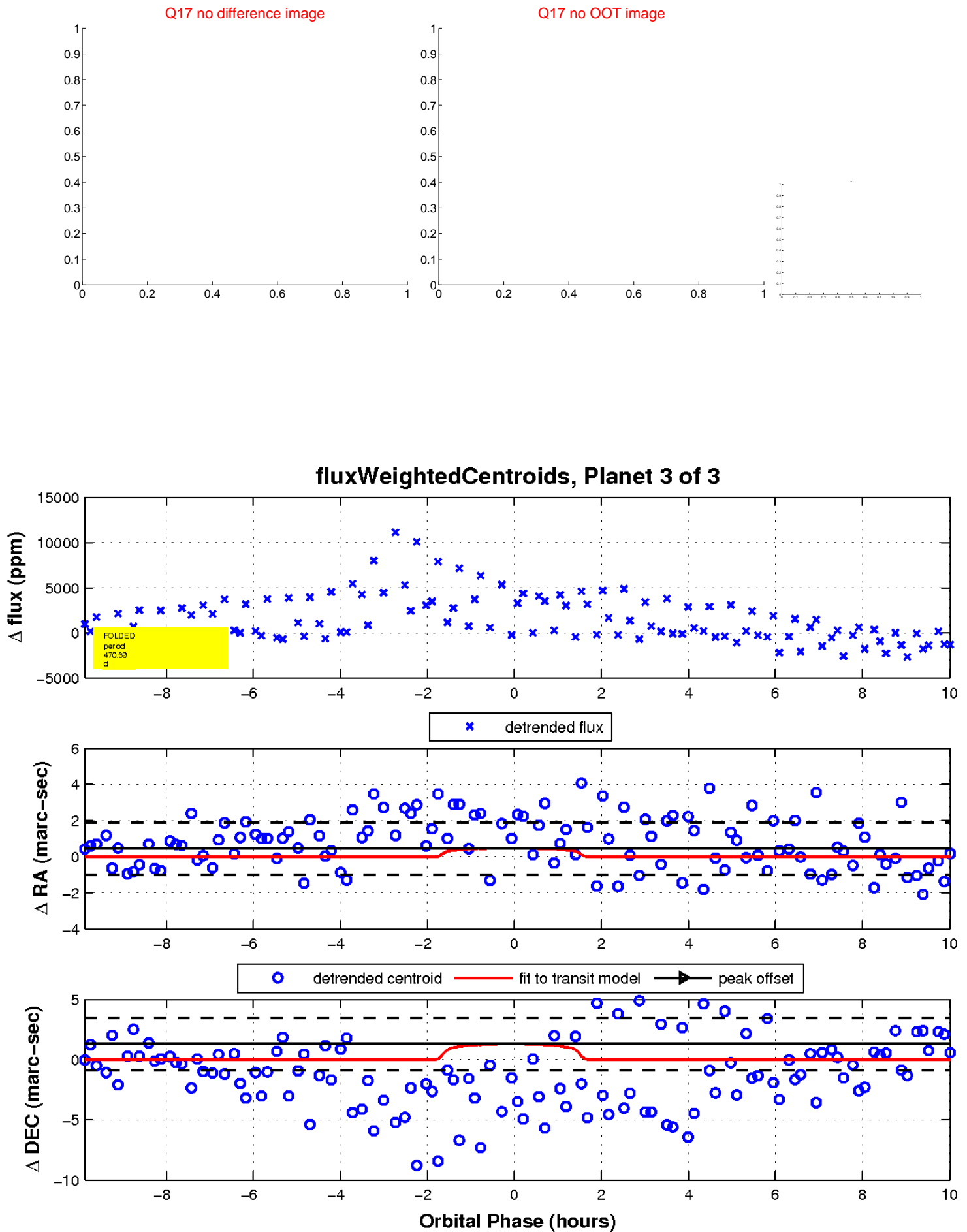
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UKIRT Image

Declination

