

# KIC 010934556

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010934556-01	OBS	No	1.686468	132.648706	10.6	13.111	7.8	8.2	1.90	8203	0.63	12372.01
010934556-02	OBS	No	4.734618	132.455633	177.3	1.109	22.1	23.4	1.90	8203	2.58	3123.90
010934556-03	OBS	No	2.709786	132.909552	90.8	1.013	21.2	13.4	1.90	8203	2.13	6574.02
010934556-04	OBS	No	2.452341	133.728537	105.1	1.563	16.7	15.8	1.90	8203	1.99	7509.94
010934556-05	OBS	No	4.529155	132.342444	555.0	2.000	14.7	-1.0	1.90	8203	4.55	3314.27

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010934556-01	OBS	FP	0.00	1	0	0	0	LPP_DV
010934556-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
010934556-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS
010934556-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
010934556-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS

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

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

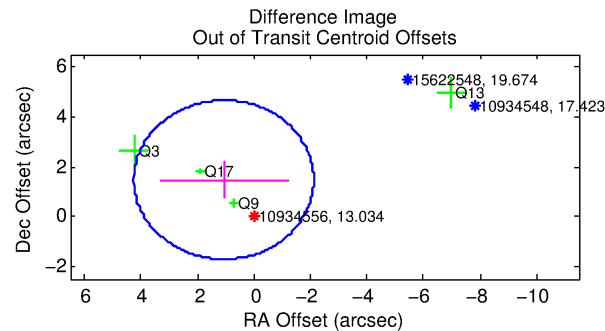
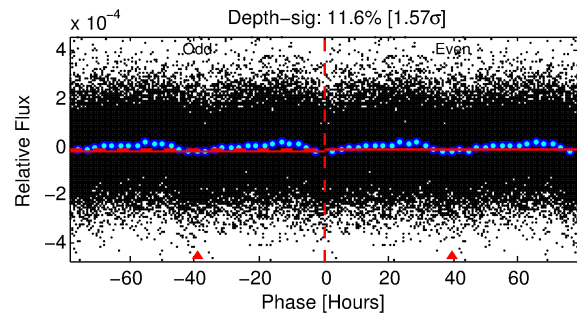
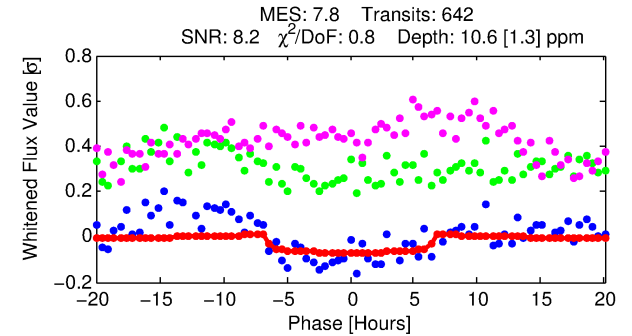
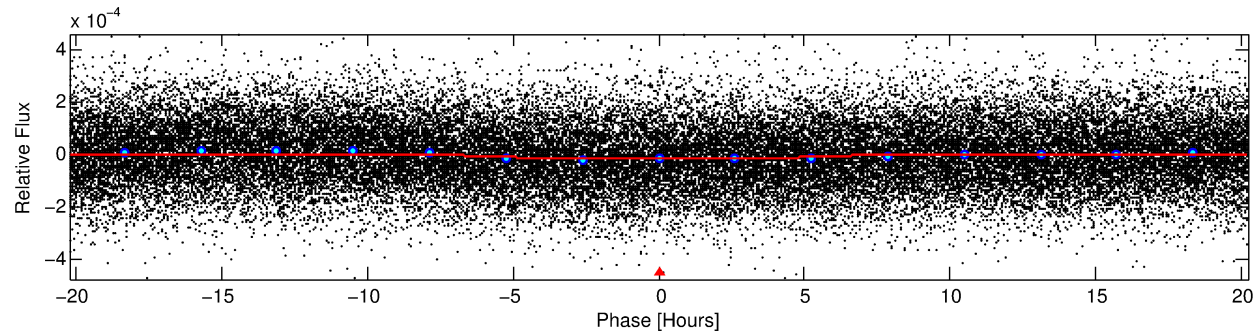
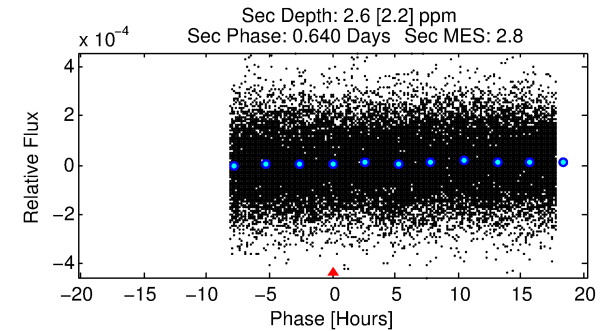
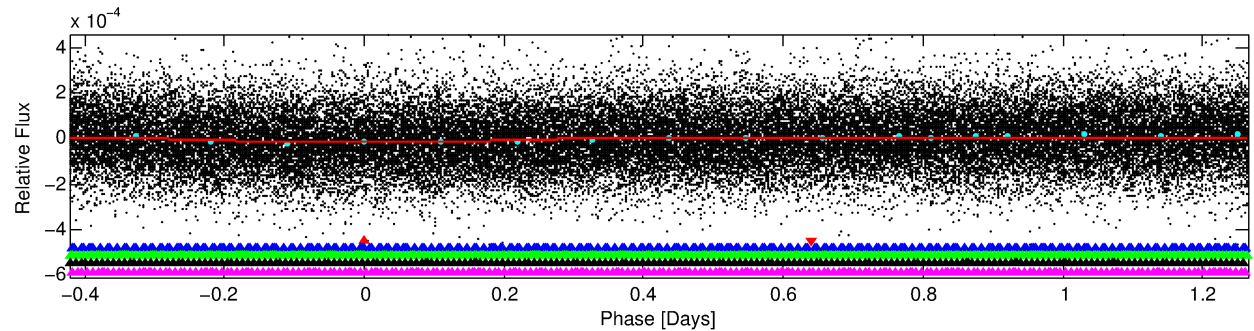
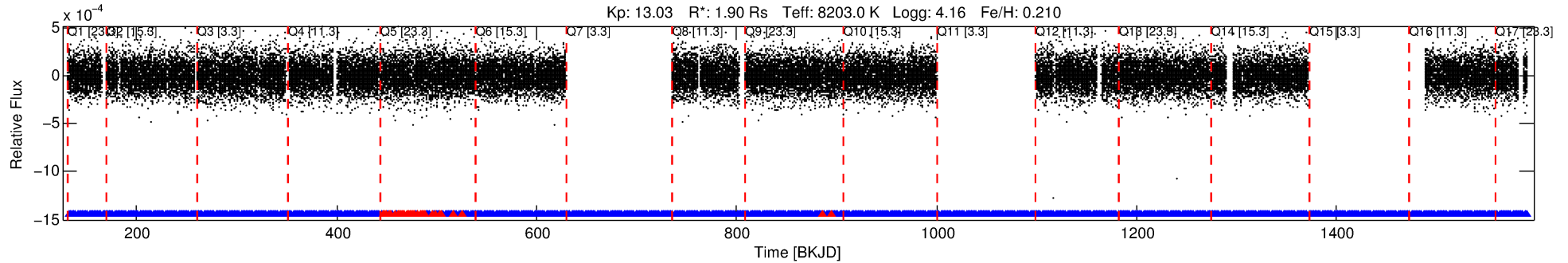
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 010934556-01

No Significant Match Found

# DV One-Page Summary

KIC: 10934556 Candidate: 1 of 5 Period: 1.686 d



## DV Fit Results:

Period = 1.68647 [0.00004] d  
Epoch = 132.6487 [0.0120] BKJD  
Rp/R\* = 0.0030 [0.0041]  
a/R\* = 1.18 [2.65]  
b = 0.02 [328.47]  
Seff = 12372.01 [4590.84]  
Teq = 2689 [249] K  
Rp = 0.63 [0.86] Re  
a = 0.0345 [0.0080] AU  
Ag = 4.37 [12.42] [0.27σ]  
Teffp = 6011 [4253] K [0.78σ]

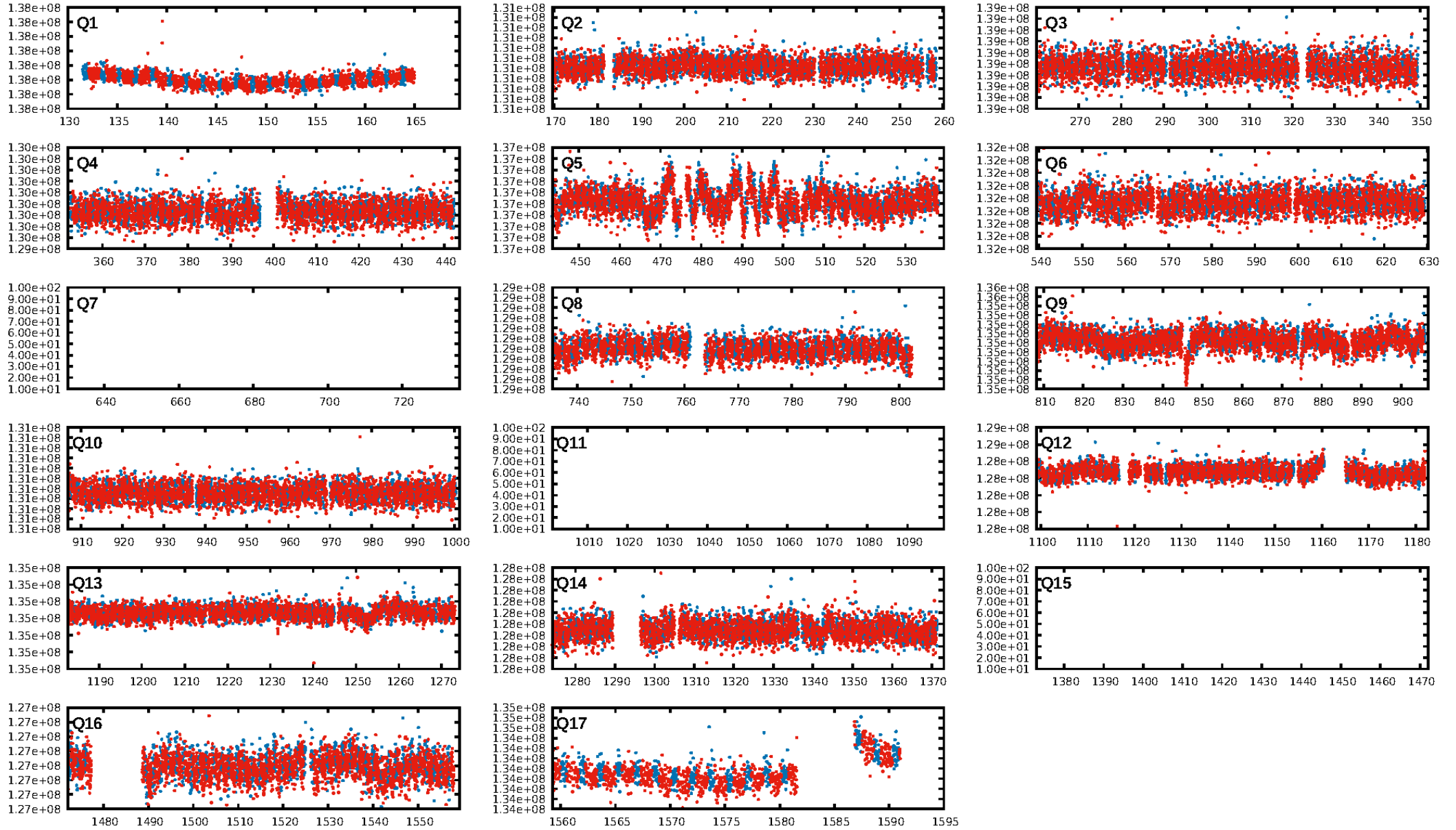
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: 83.6% [1.39σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.92e-287  
RollingBand-fgt: 0.95 [576/606]  
GhostDiagnostic-chr: 7.469  
Centroid-sig: 13.1%  
Centroid-so: 1.935 arcsec [1.21σ]  
OotOffset-rm: 1.822 arcsec [1.72σ]  
KicOffset-rm: 1.684 arcsec [2.06σ]  
OotOffset-st: 0/1/0/3 [4]  
KicOffset-st: 0/1/0/3 [4]  
DiffImageQuality-fgm: 0.50 [2/4]  
DiffImageOverlap-fno: 0.57 [8/14]

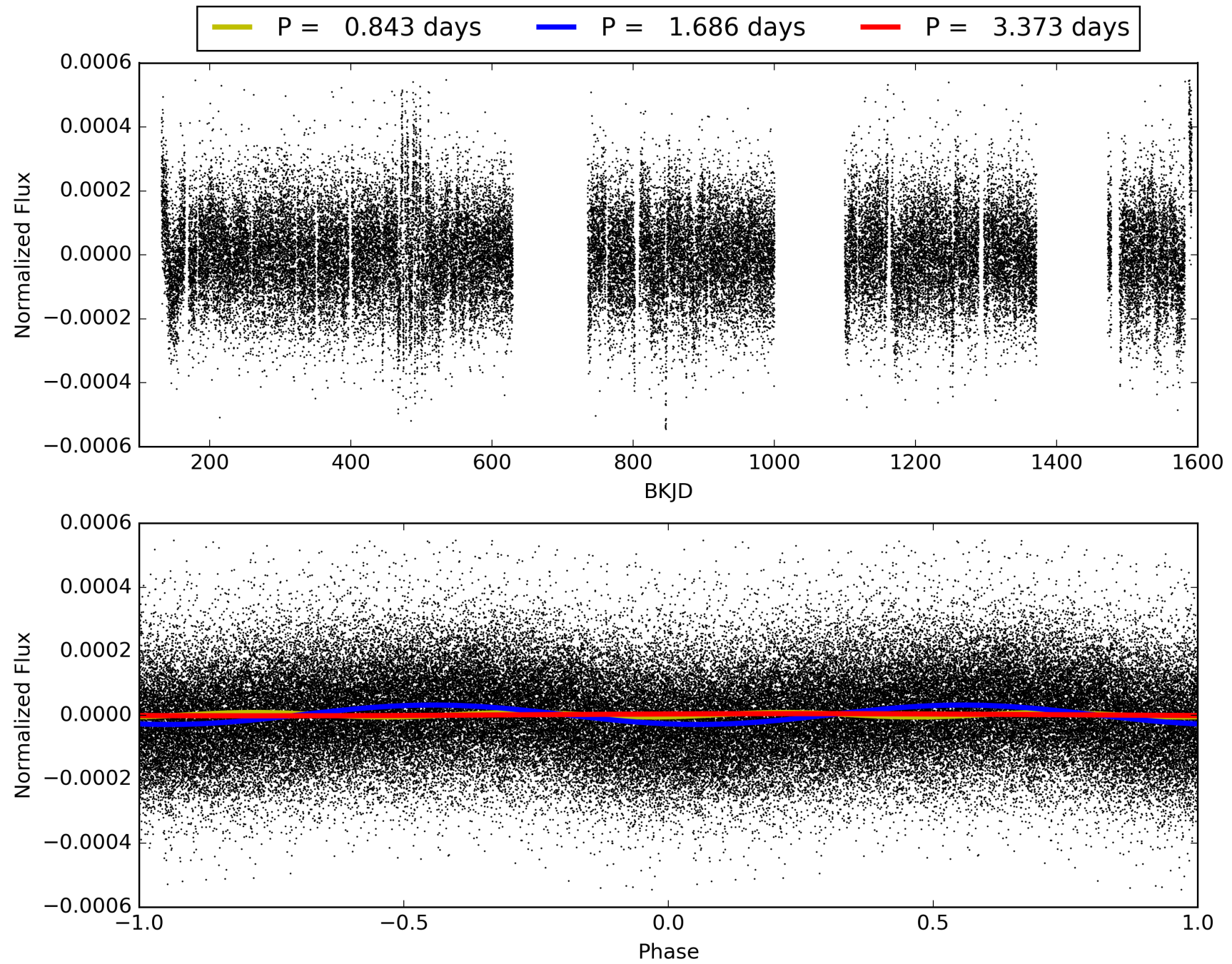
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 07:29:20 Z

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

# TCE 010934556-01, PDC Light Curves



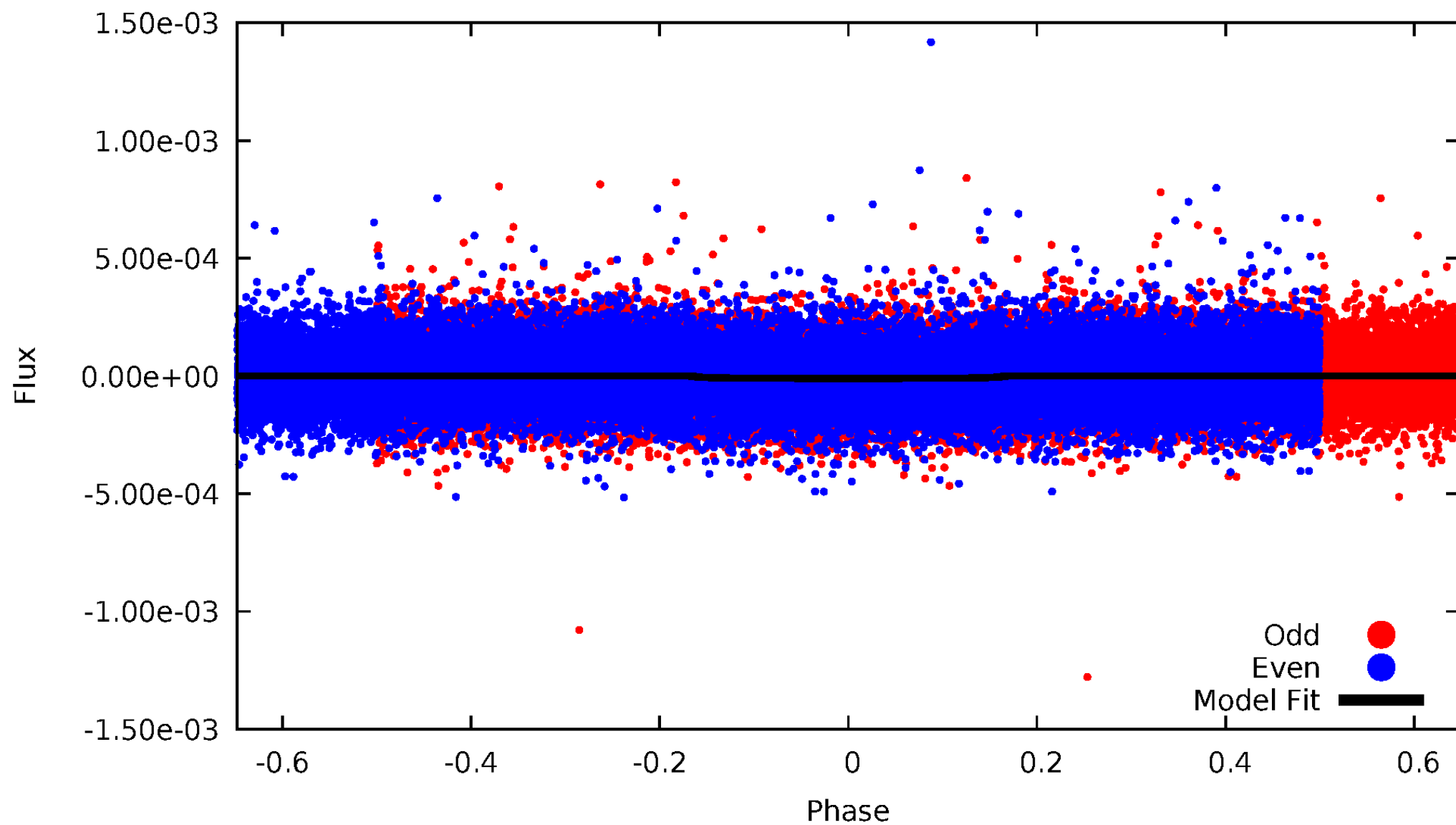
TCE 010934556-01





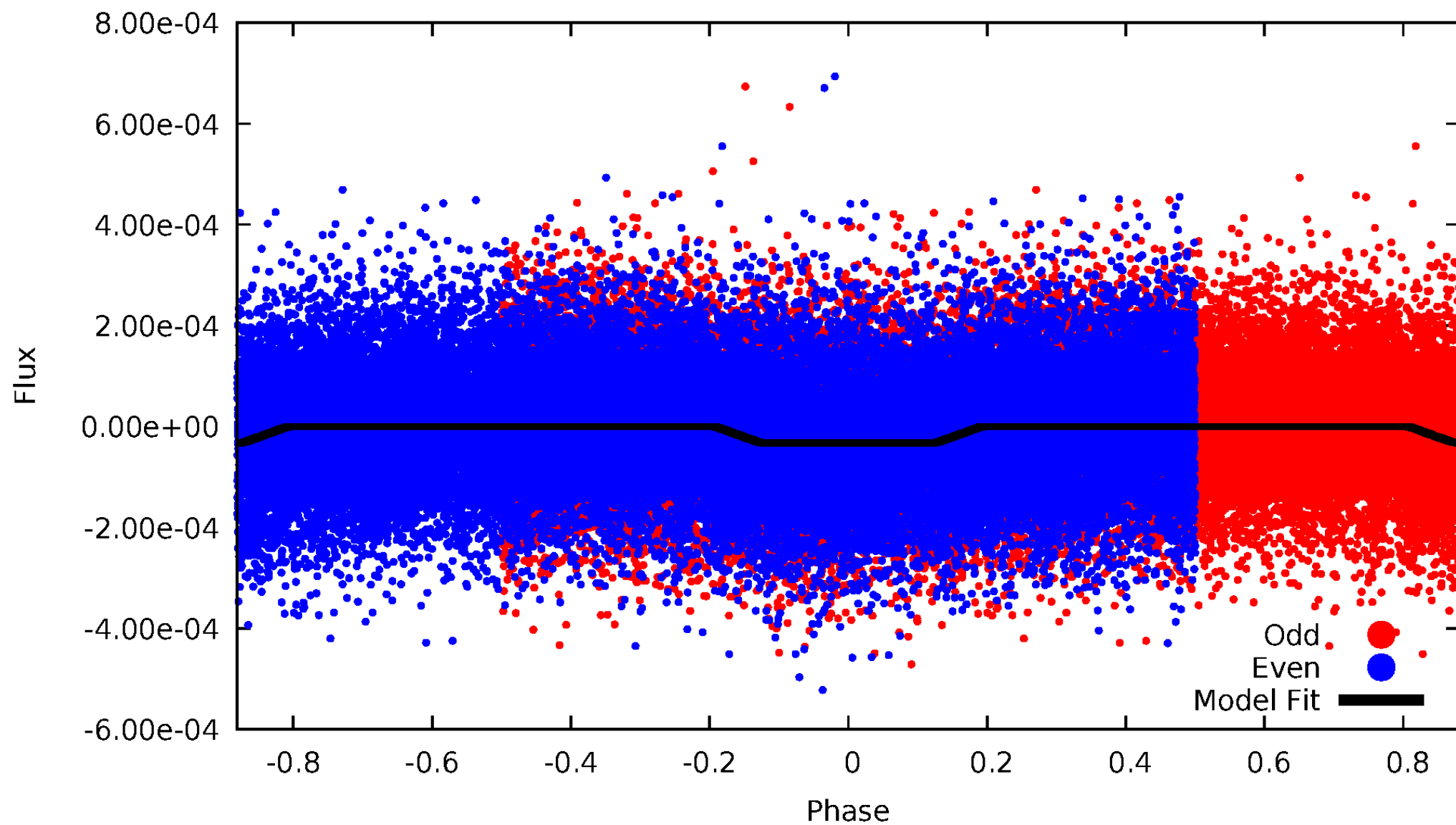
# DV Odd/Even

TCE 010934556-01

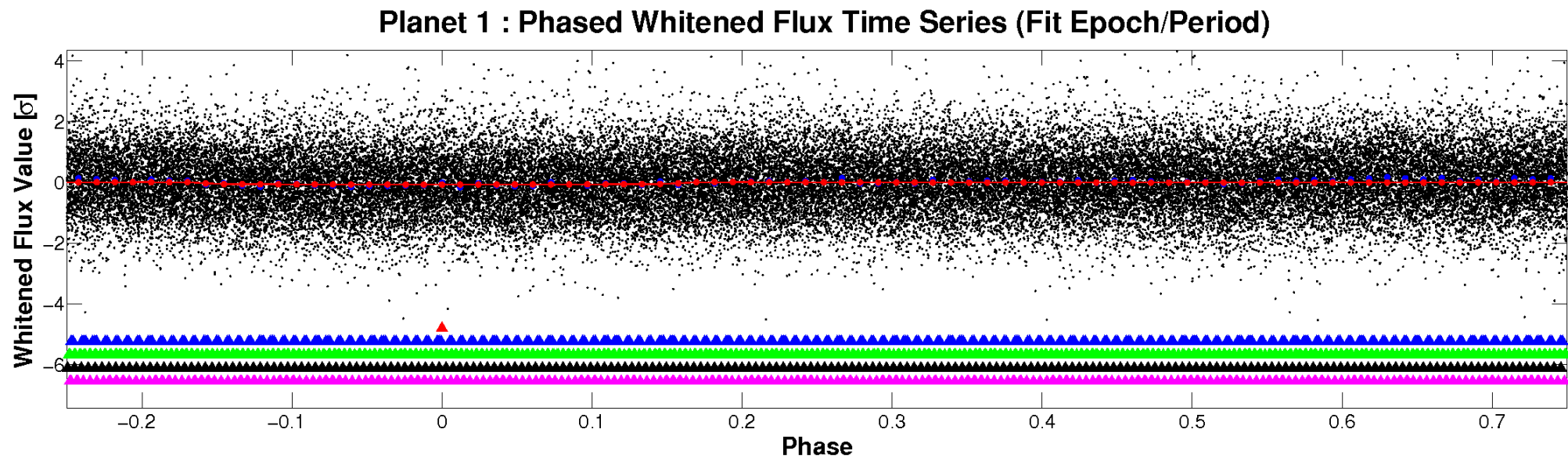
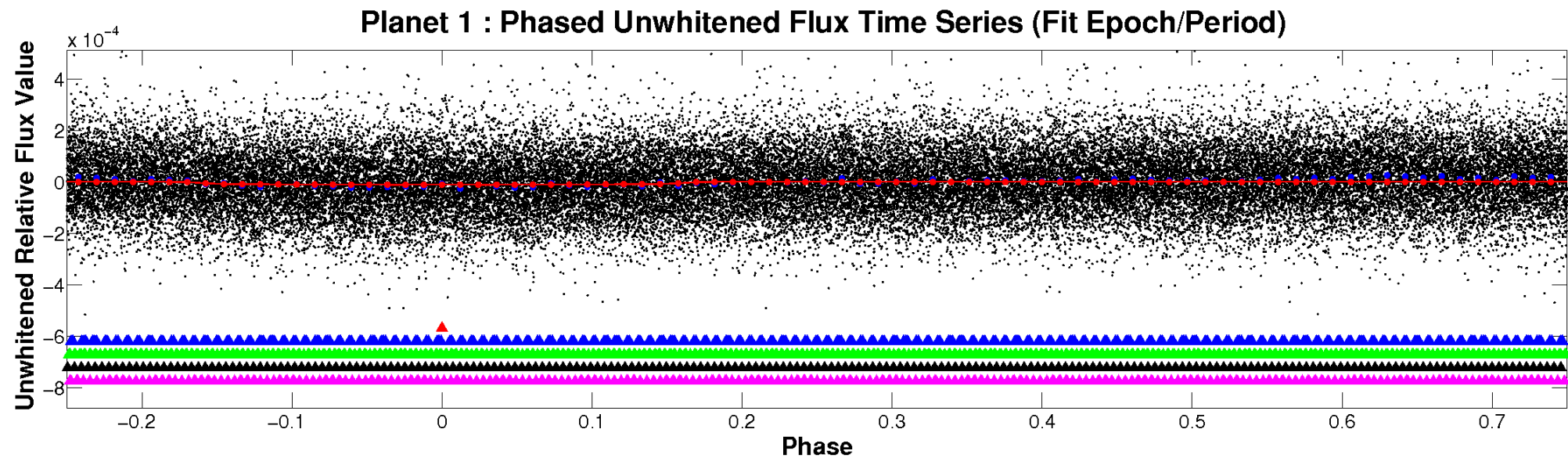


# ALT Odd/Even

TCE 010934556-01

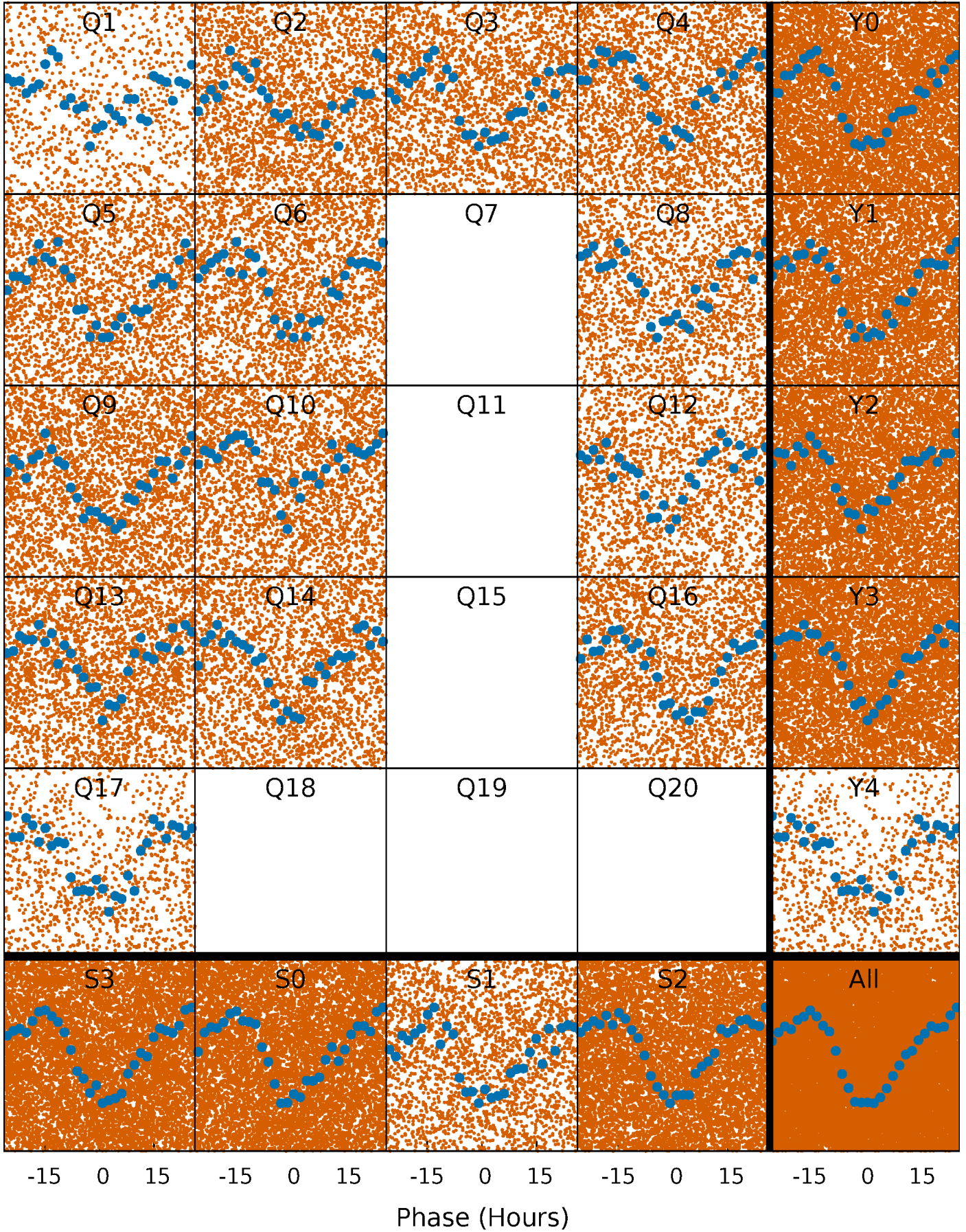


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

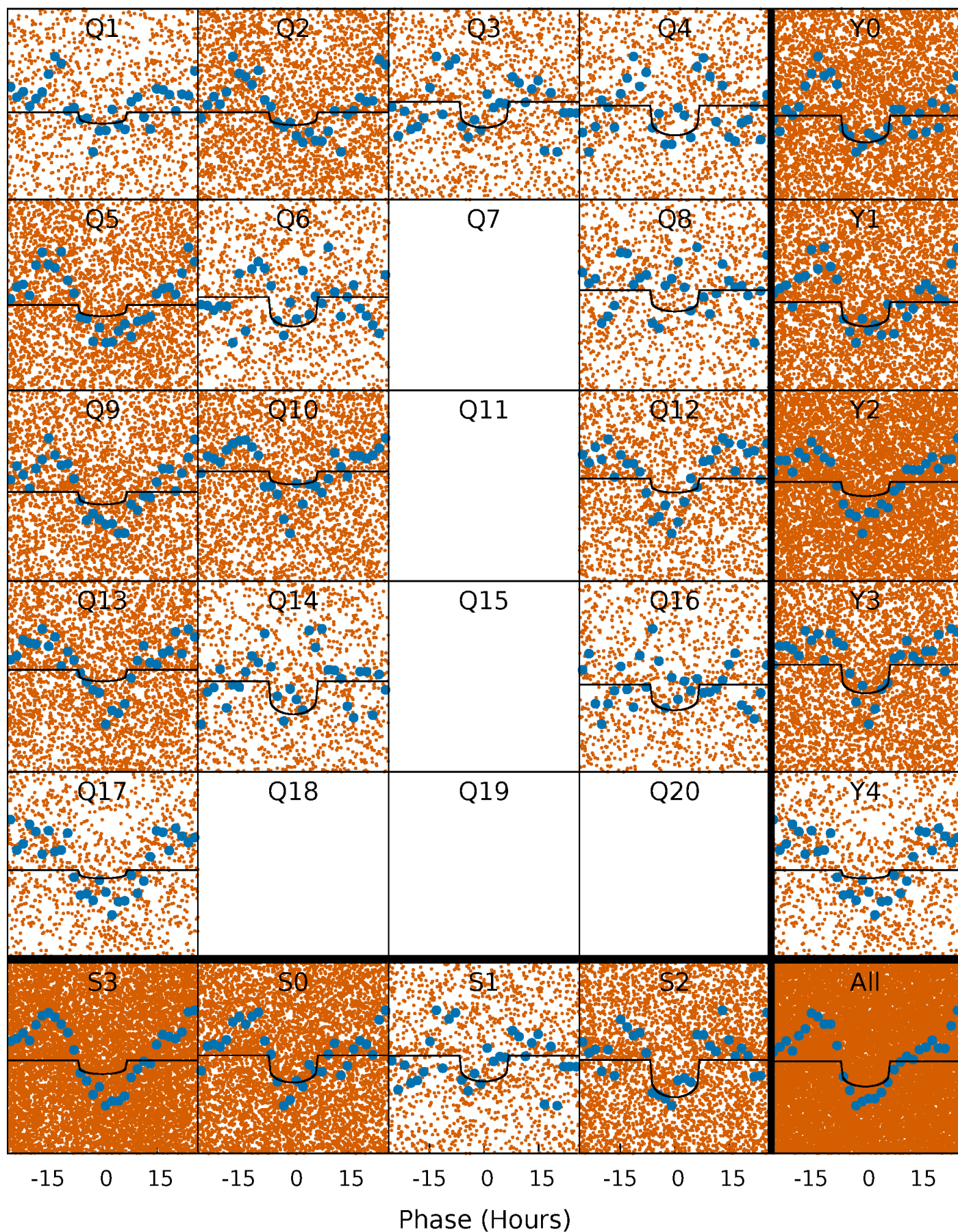
TCE 010934556-01 P= 1.686468 Days  $T_0=132.648706$  (BKJD)





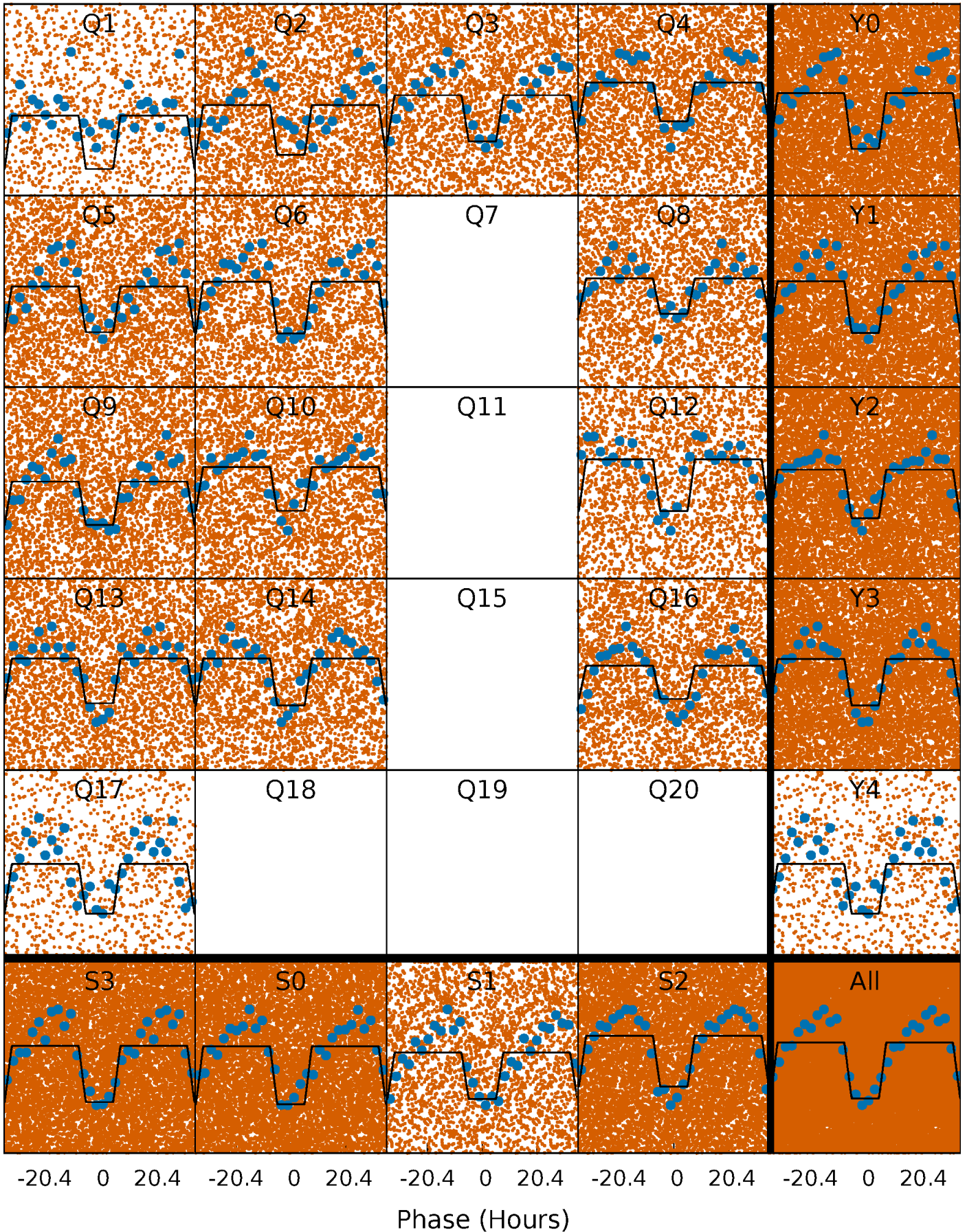
# DV Quarter-Phased Transit Curves

TCE 010934556-01 P= 1.686468 Days  $T_0=132.648706$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 010934556-01 P= 1.686646 Days  $T_0=132.603048$  (BKJD)

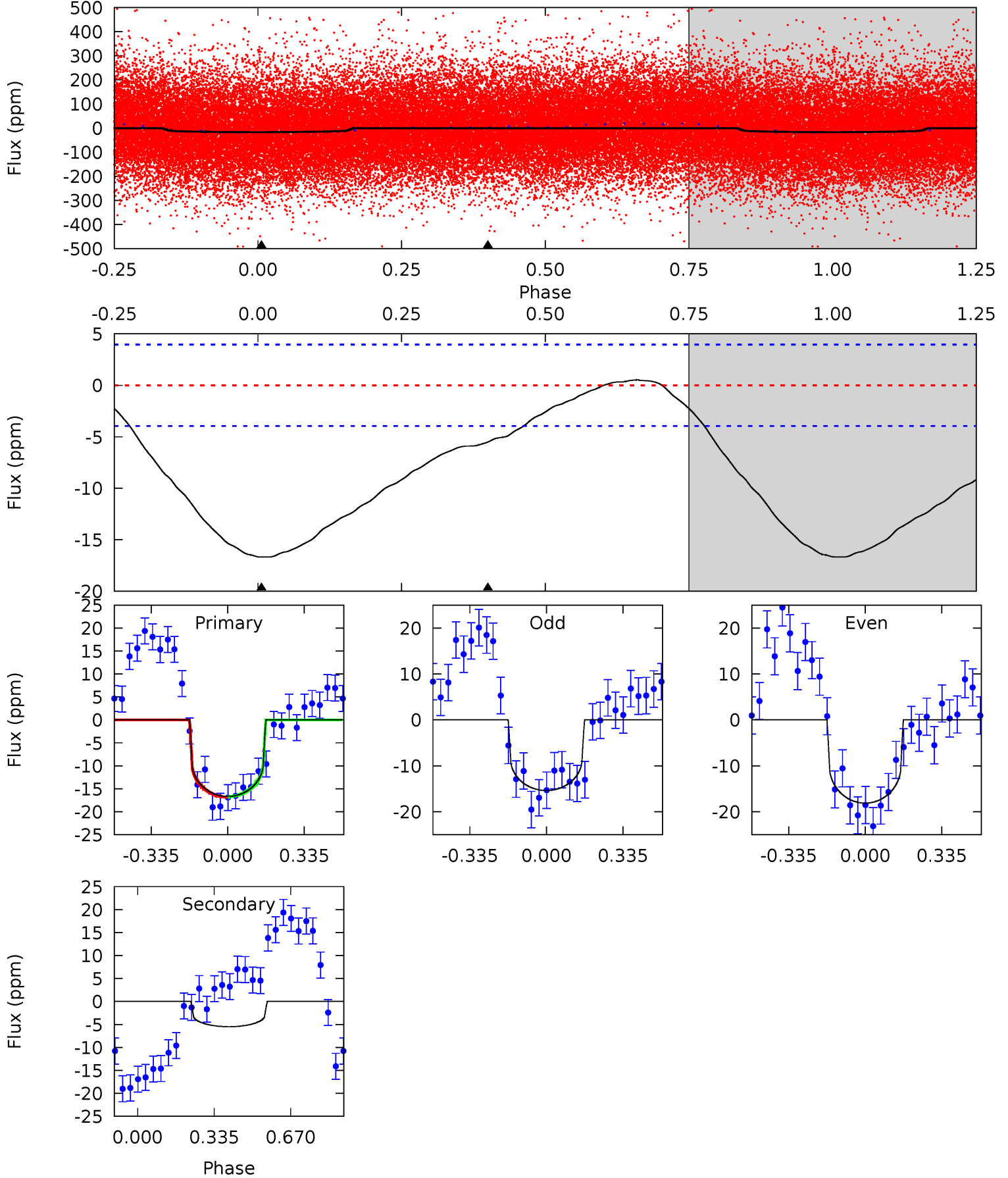




# DV Model-Shift Uniqueness Test

010934556-01, P = 1.686468 Days, E = 130.962238 Days

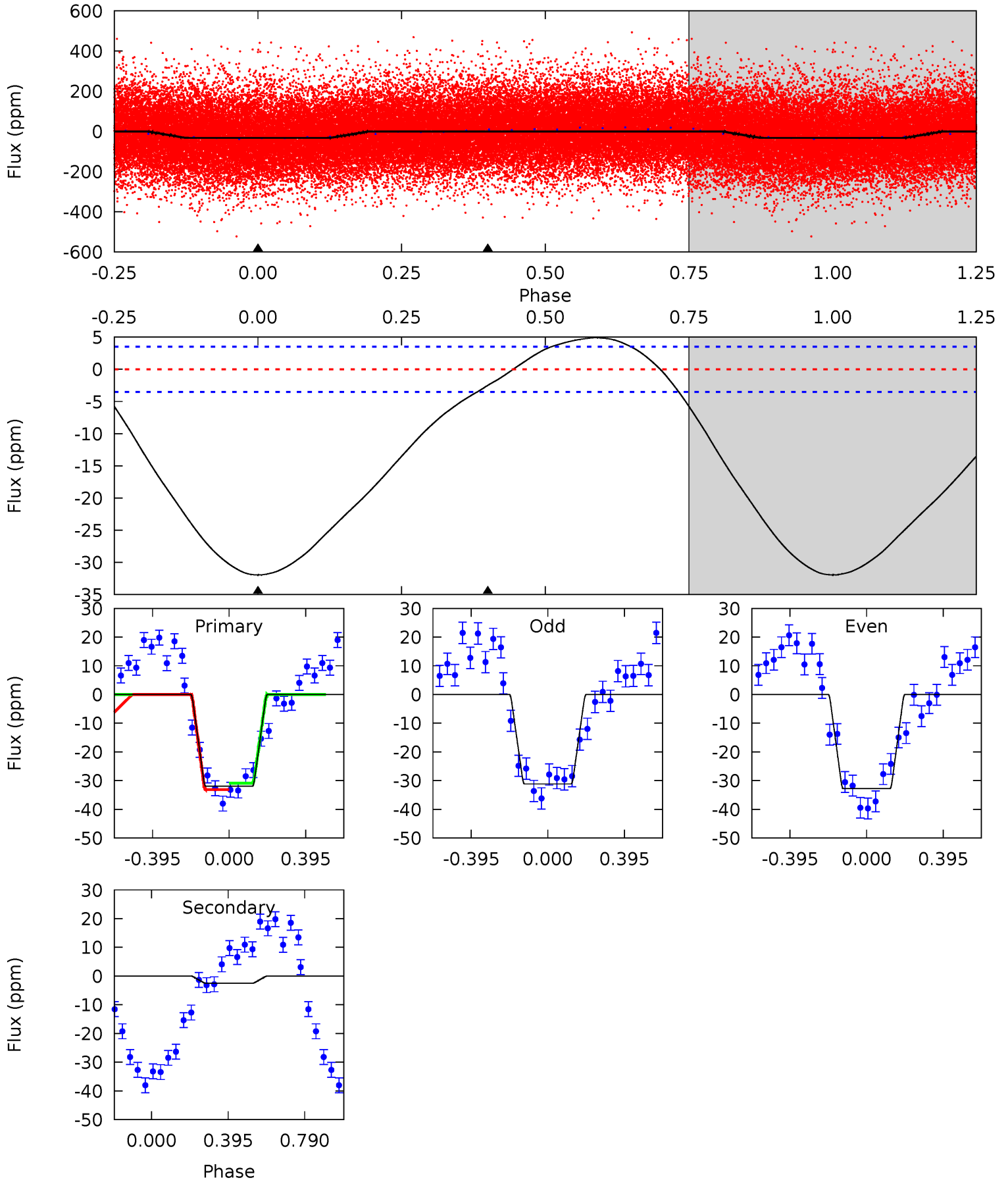
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.1	5.99	0	0	4.30	0.96	1.06	18.1	18.1	5.99	5.99	1.50	1.08	0.03	0.06



# Alt Model-Shift Uniqueness Test

010934556-01, P = 1.686646 Days, E = 130.916402 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
38.9	3.03	0	0	4.27	0.85	3.36	38.9	38.9	3.03	3.03	1.00	0.94	0.13	1.35





### Stellar Parameters For KIC 010934556

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8203^{+226}_{-356}$	$4.162^{+0.081}_{-0.175}$	$0.210^{+0.150}_{-0.550}$	$1.903^{+0.537}_{-0.289}$	$1.918^{+0.288}_{-0.352}$	$0.392^{+0.164}_{-0.186}$
	+3%/-4%	+2%/-4%	+71%/-262%	+28%/-15%	+15%/-18%	+42%/-47%
Source	KIC0	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 010934556-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-6 \pm 1$	$0.89^{+0.79}_{-0.59}$	$3814^{+258}_{-222}$	$5901^{+5701}_{-1663}$	$4.547^{+34.052}_{-3.365}$
Alt.	$-2 \pm 1$	$1.33^{+0.82}_{-0.78}$	$3794^{+256}_{-231}$	$3956^{+2132}_{-1532}$	$0.895^{+3.899}_{-0.571}$

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

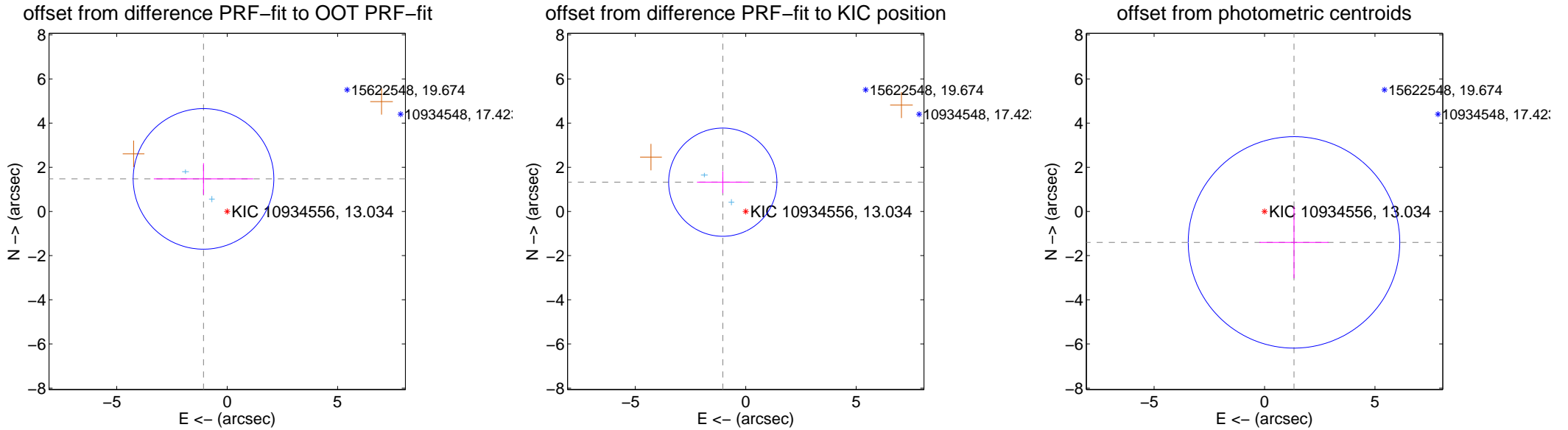
## DV Centroid Data

Supplemental centroid analysis for 010934556-01. Kepler magnitude: 13.03. Transit SNR 8.22

There are 2 quarters with good PRF difference image offsets

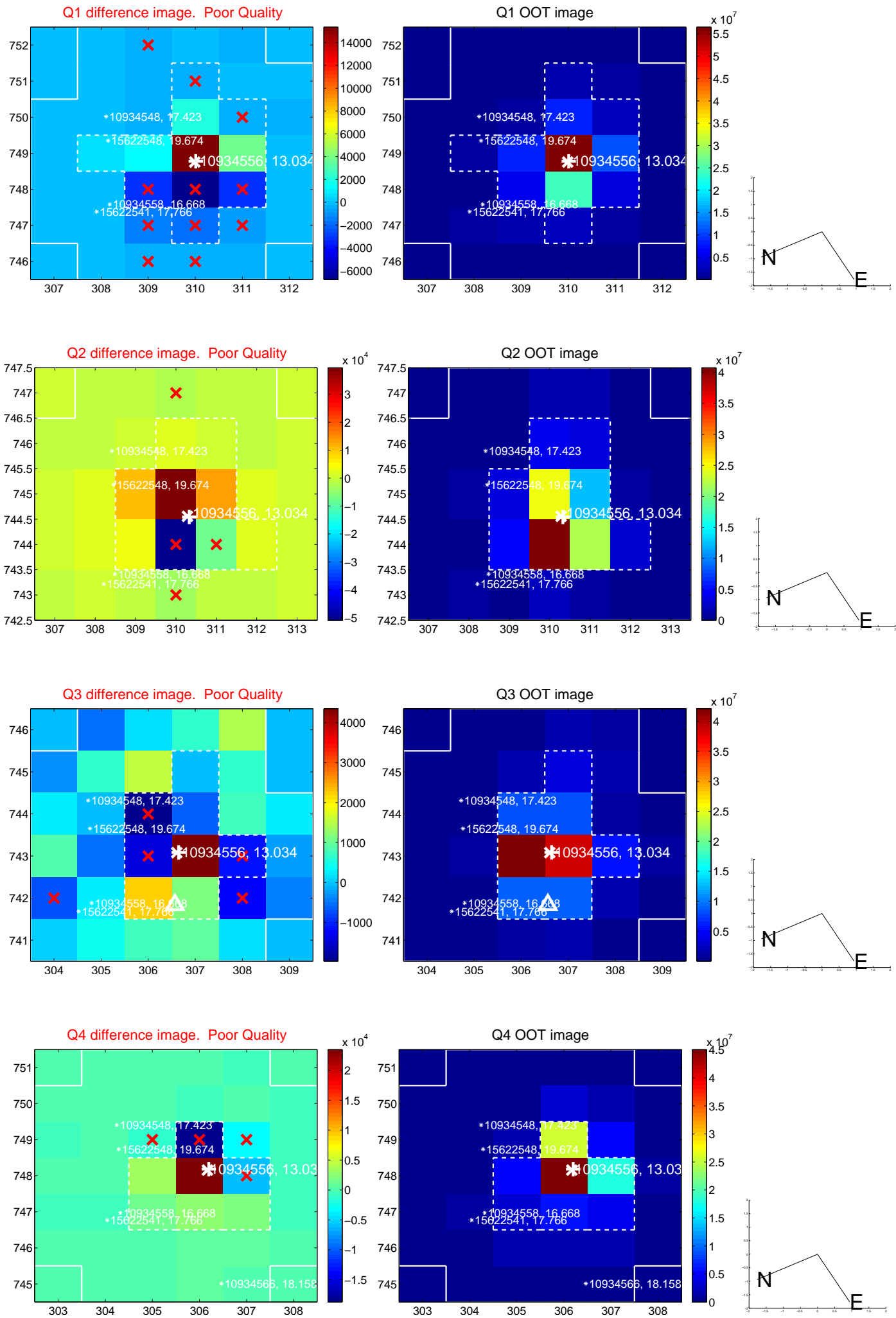
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.822 \pm 1.061$	1.72	$1.071 \pm 2.250$	$1.474 \pm 0.711$
PRF-fit source offset from KIC position	$1.684 \pm 0.817$	2.06	$1.038 \pm 1.165$	$1.326 \pm 0.494$
photometric centroid source offset	$1.93 \pm 1.60$	1.21	$-1.33 \pm 1.56$	$-1.40 \pm 1.62$

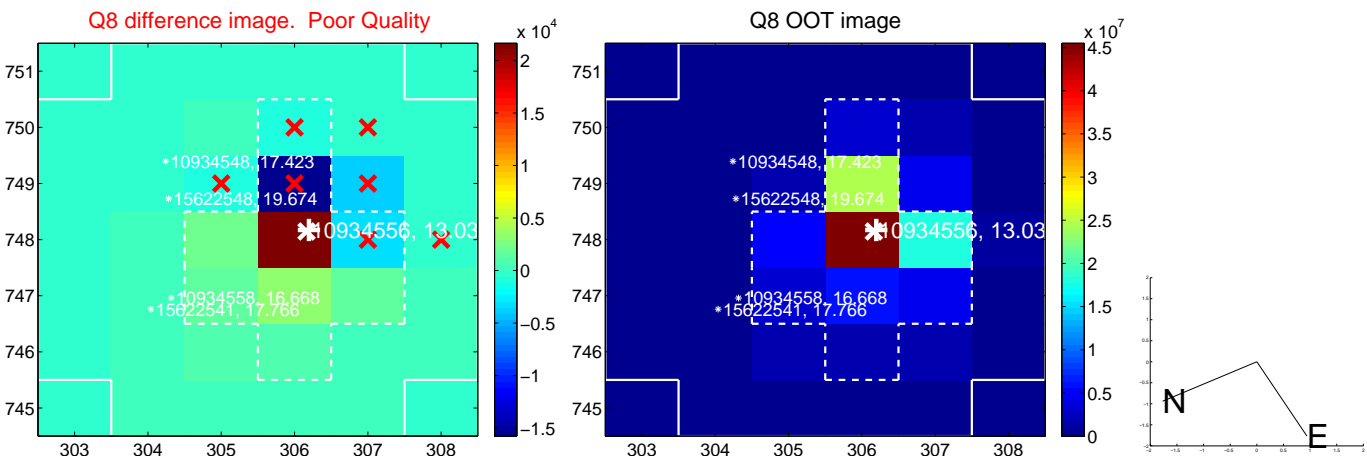
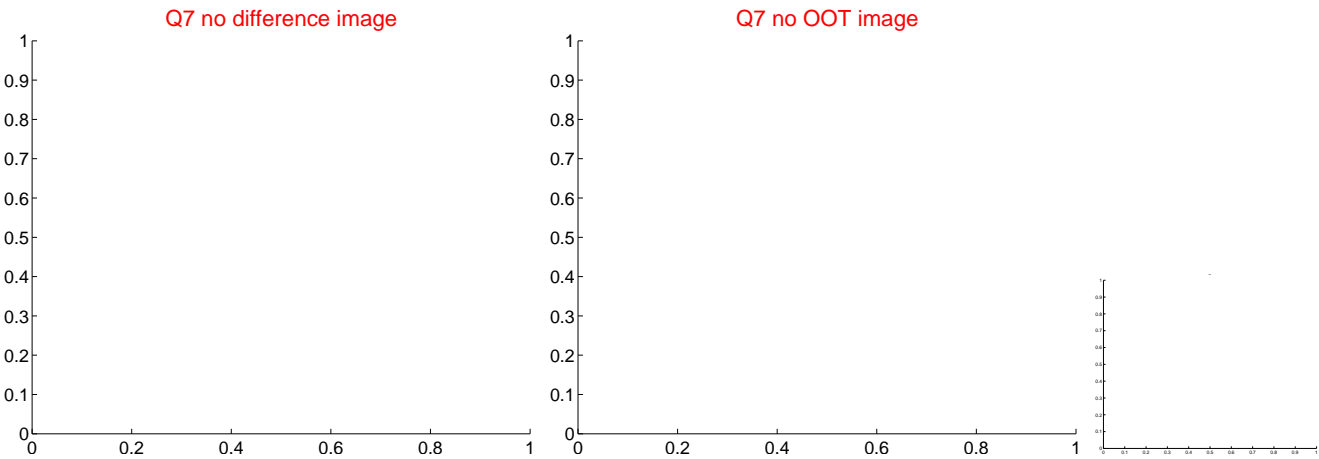
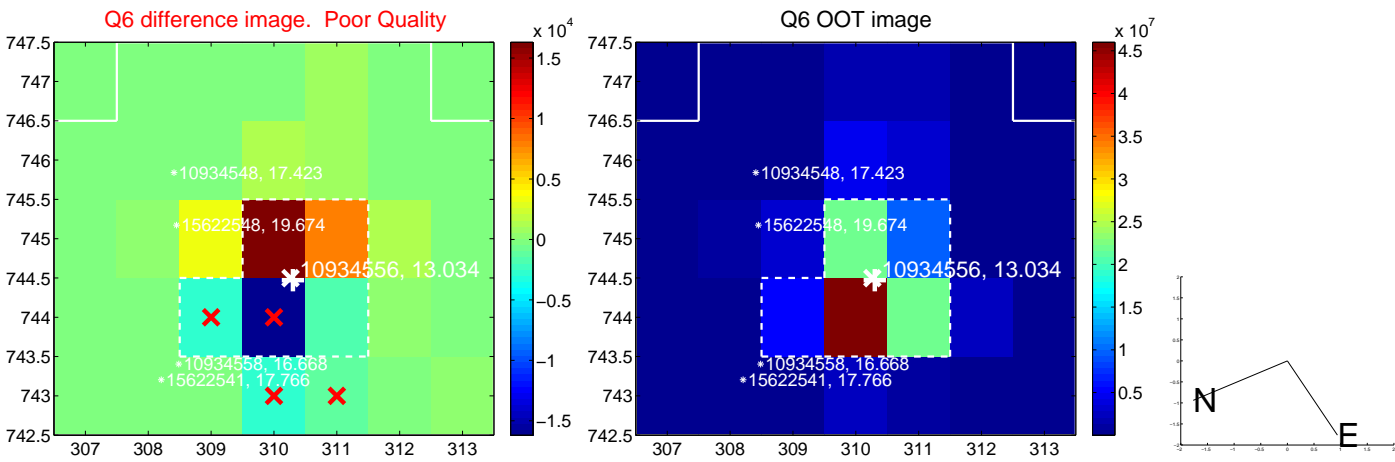
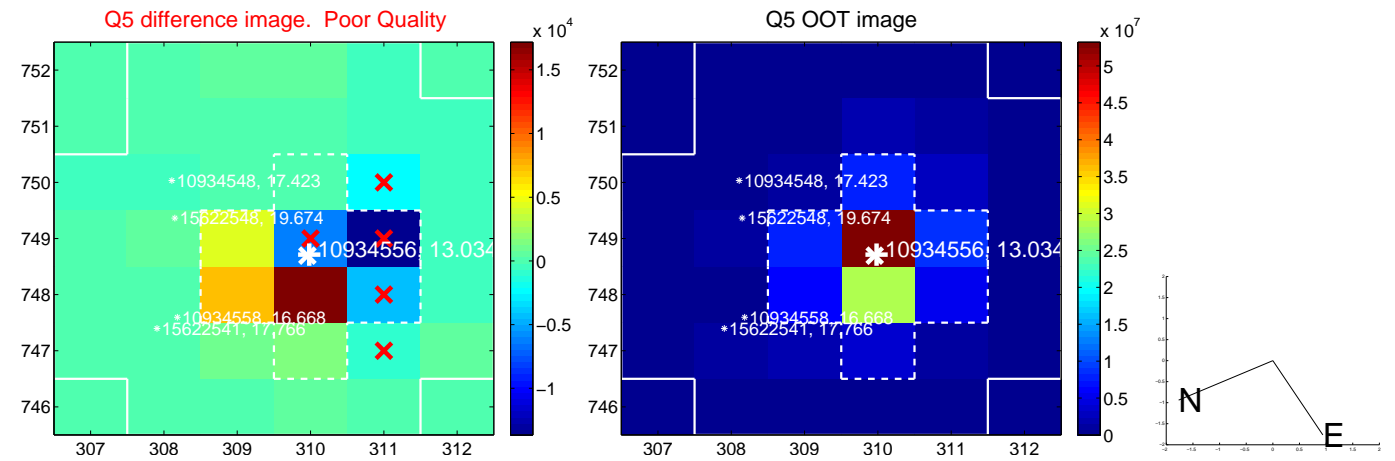


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

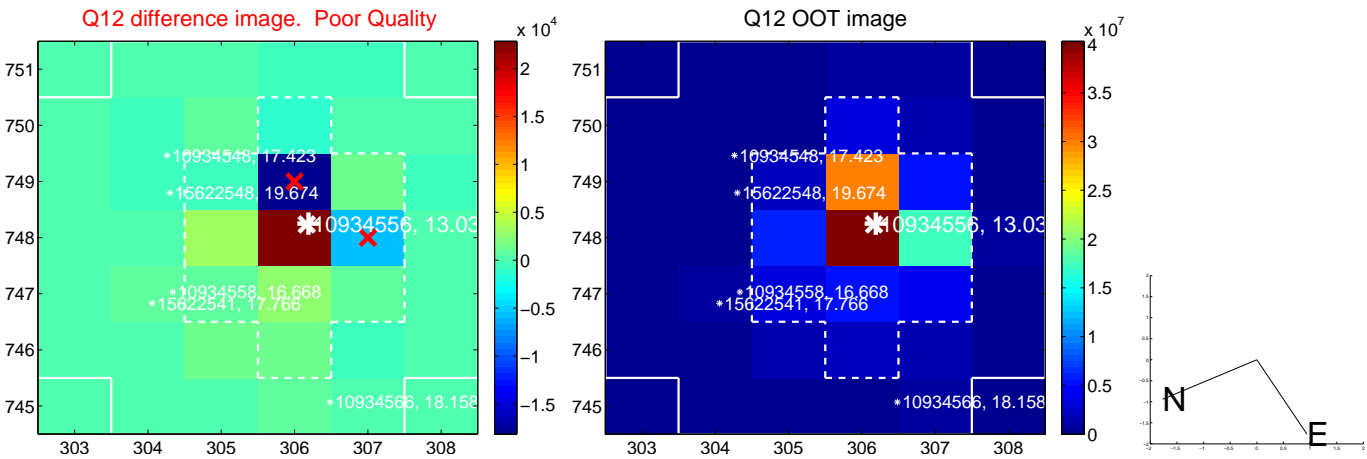
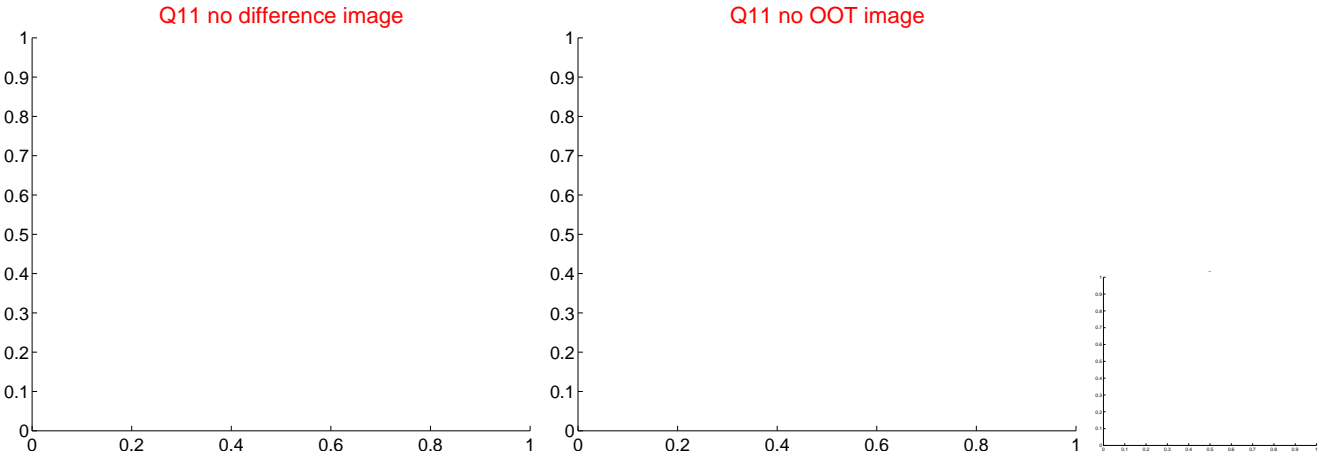
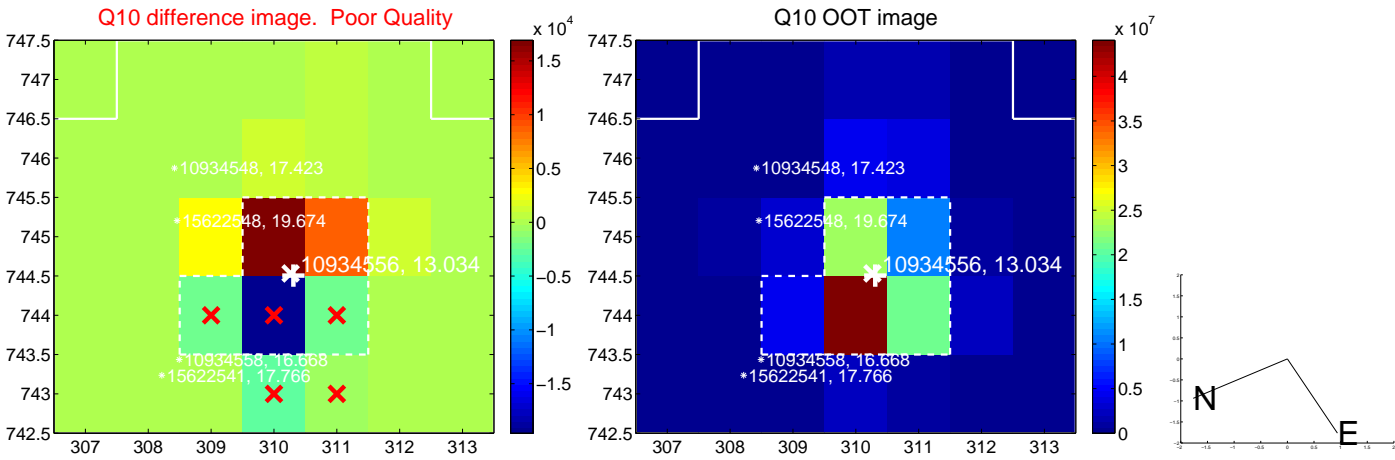
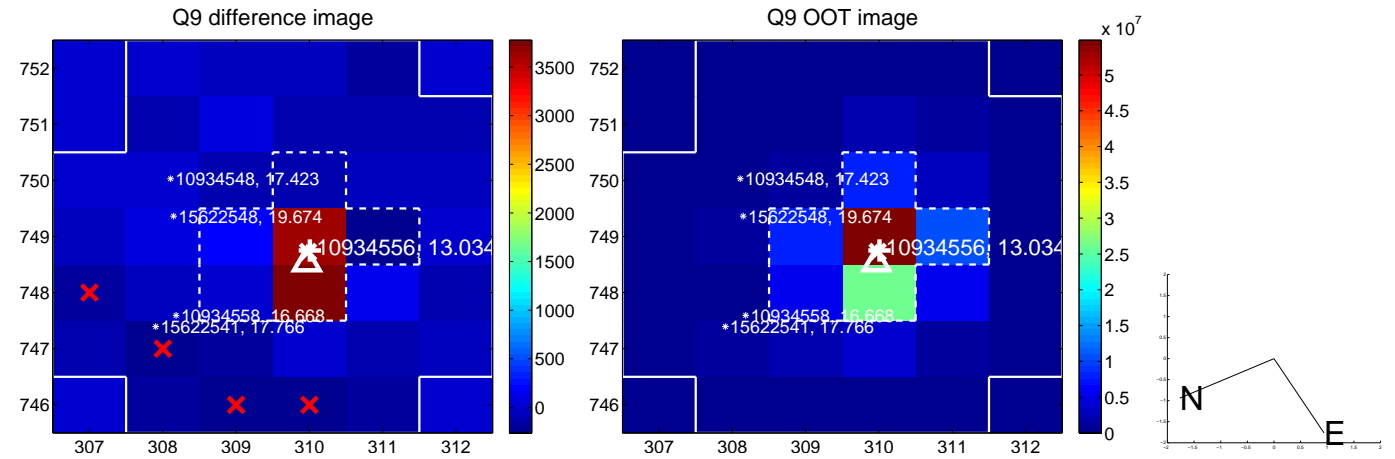


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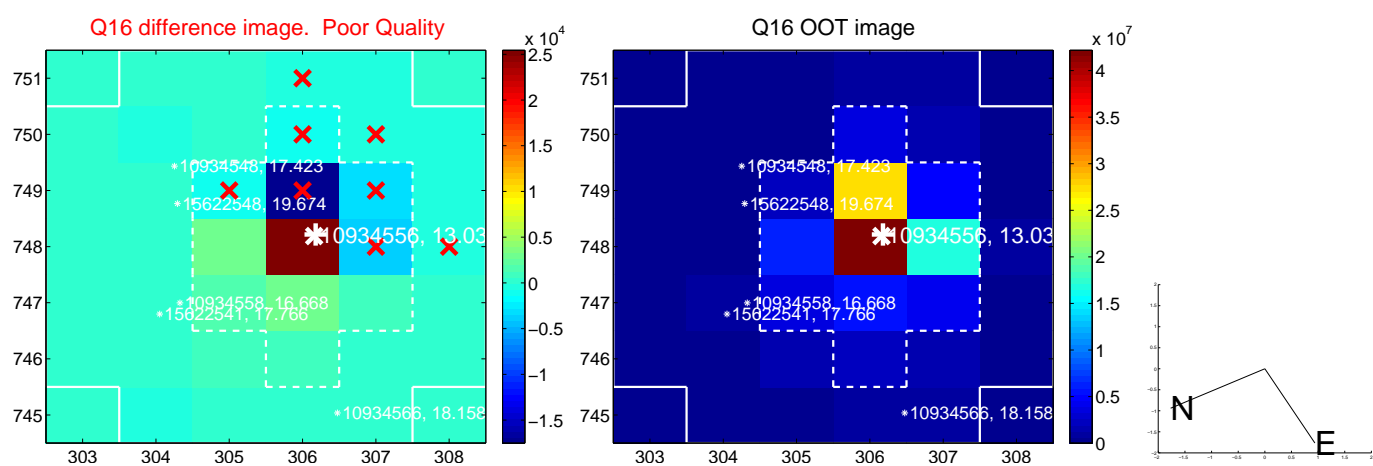
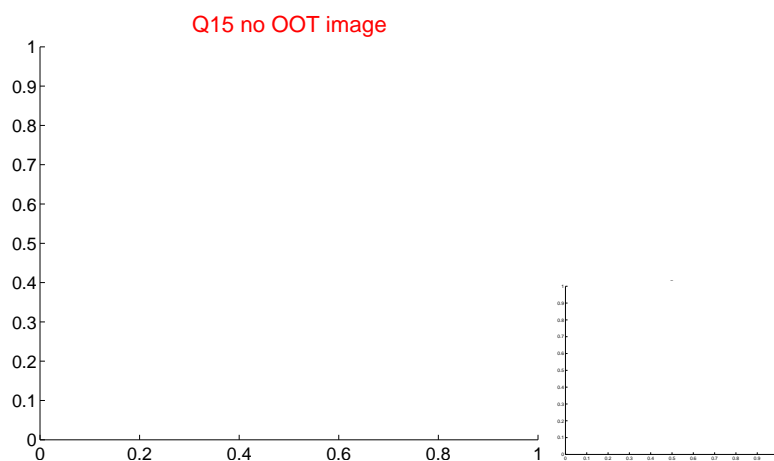
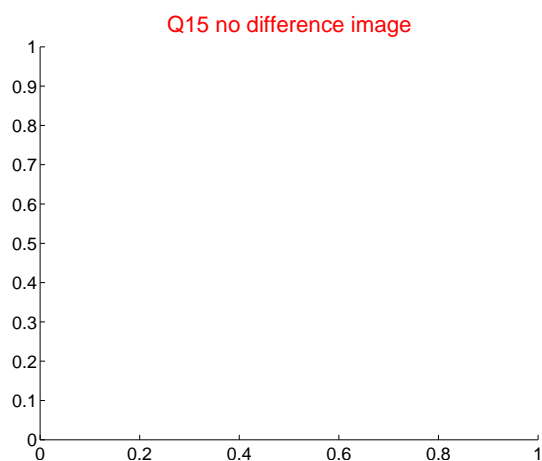
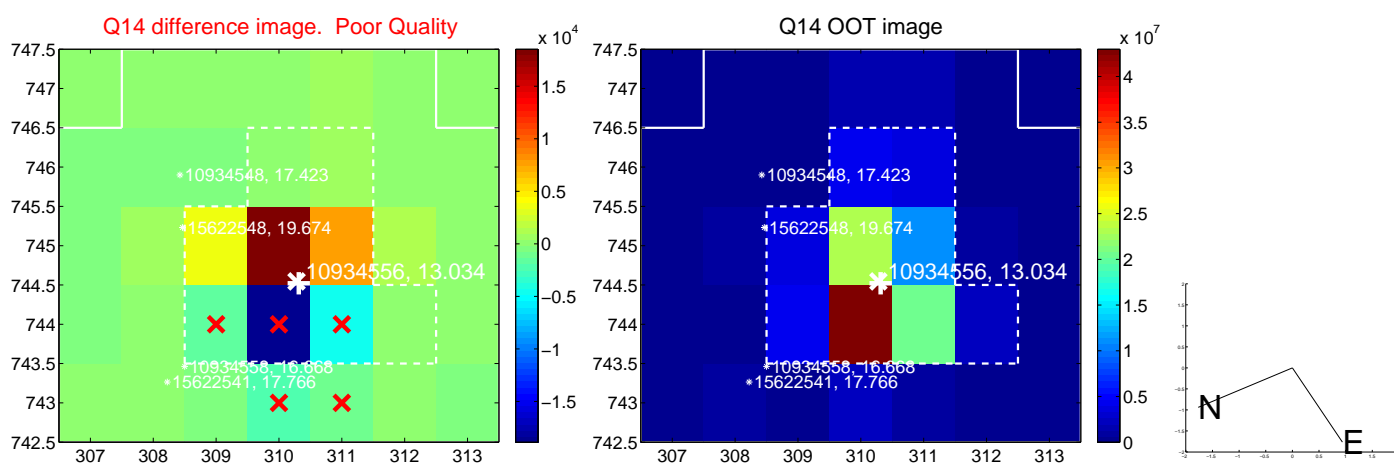
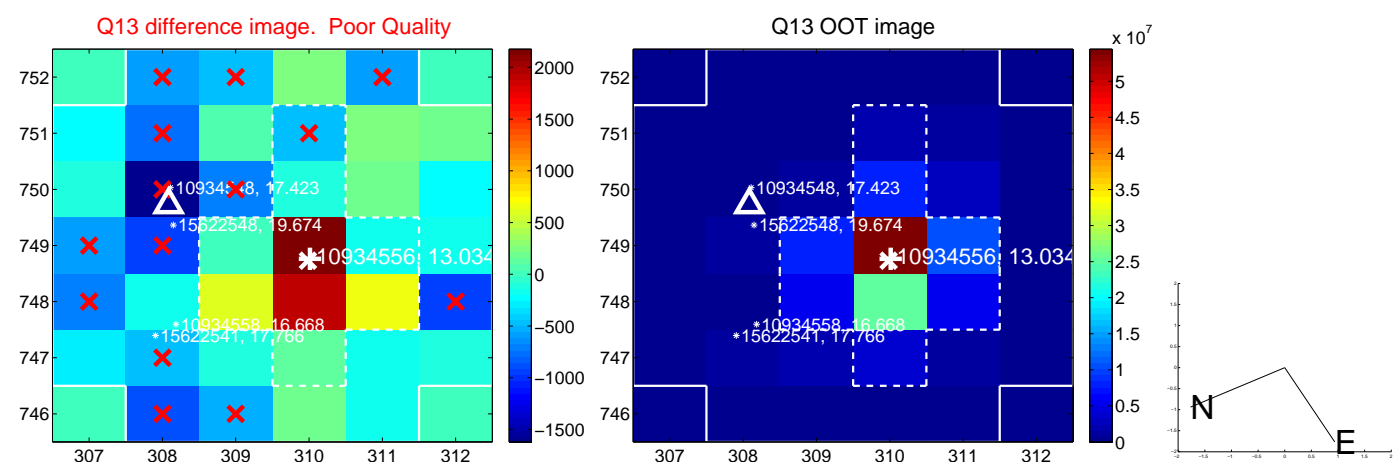




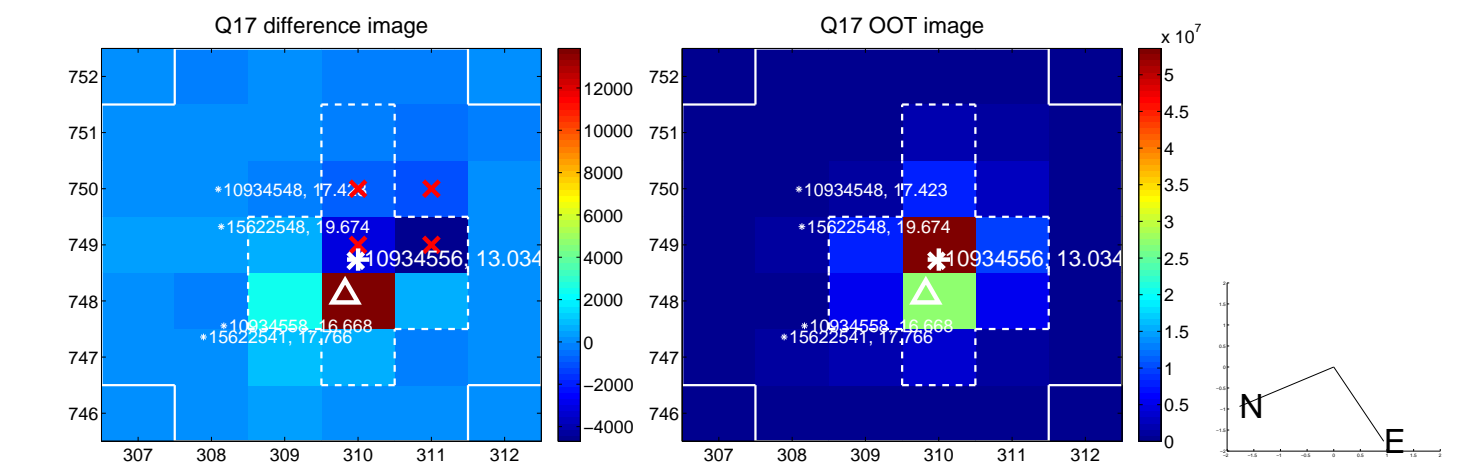
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



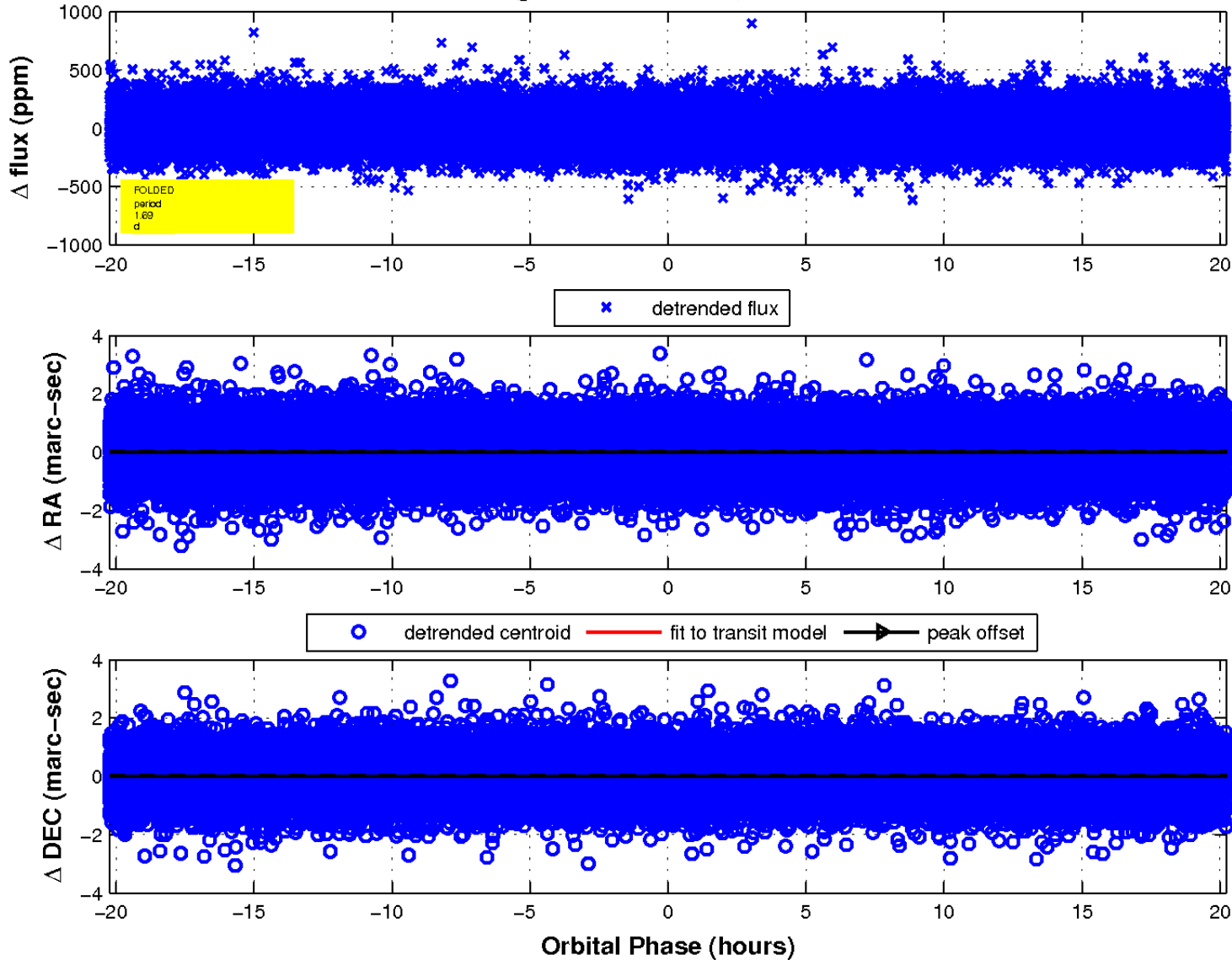
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

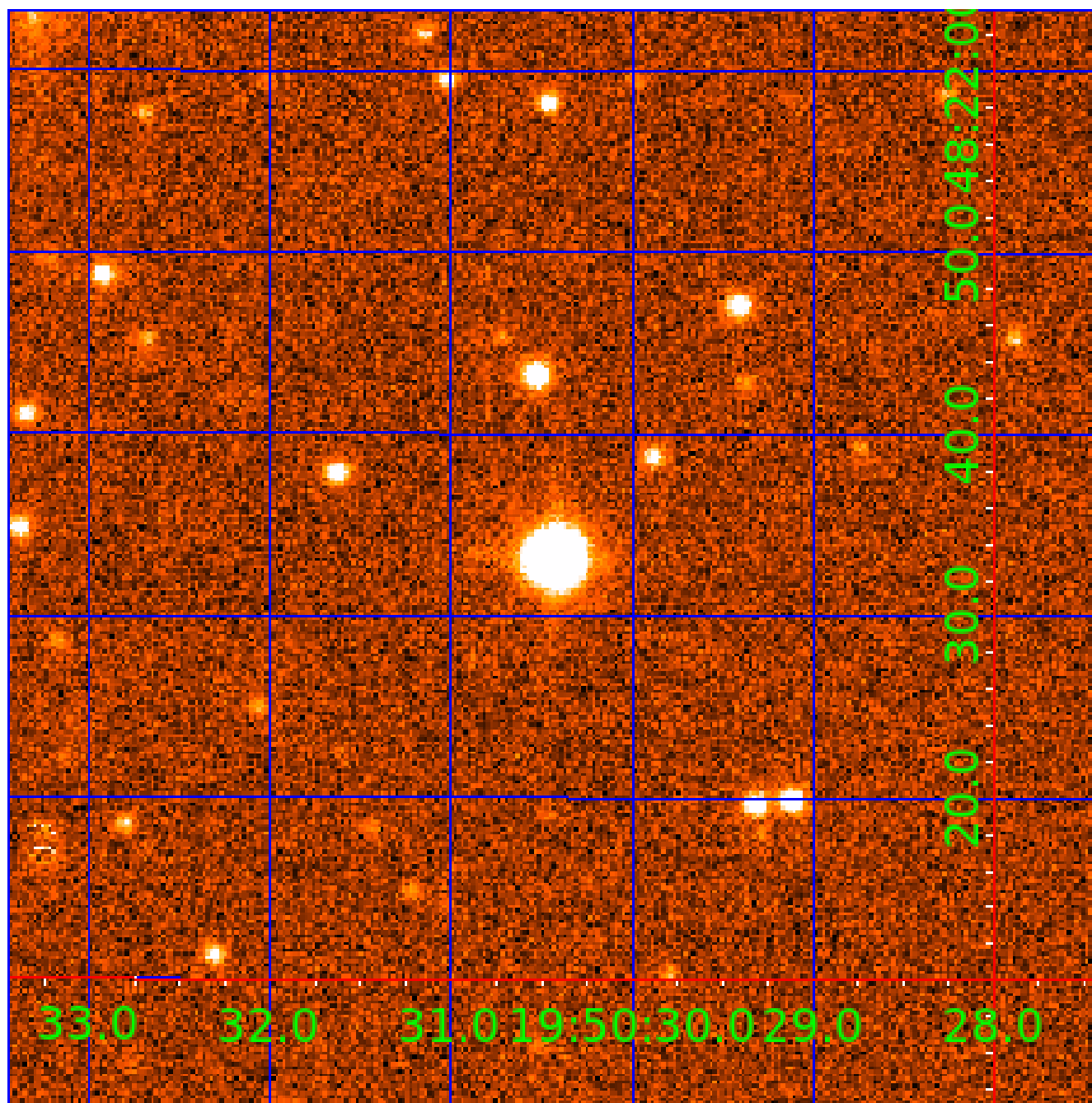


fluxWeightedCentroids, Planet 1 of 5



UKIRT Image

Declination





# KIC 010934556

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010934556-01	OBS	No	1.686468	132.648706	10.6	13.111	7.8	8.2	1.90	8203	0.63	12372.01
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010934556-04	OBS	No	2.452341	133.728537	105.1	1.563	16.7	15.8	1.90	8203	1.99	7509.94
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## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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010934556-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
010934556-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS
010934556-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
010934556-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS

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

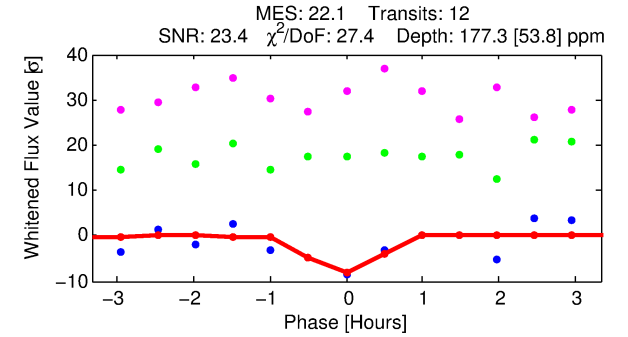
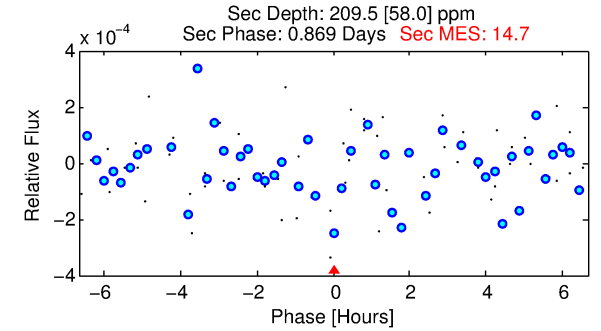
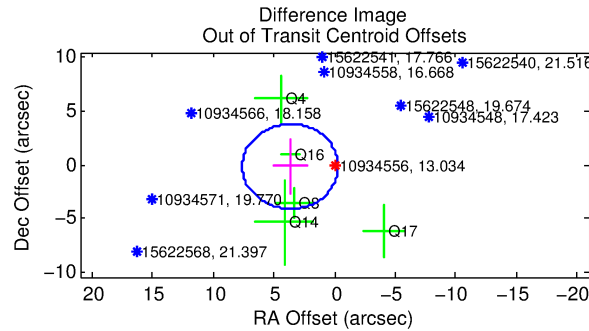
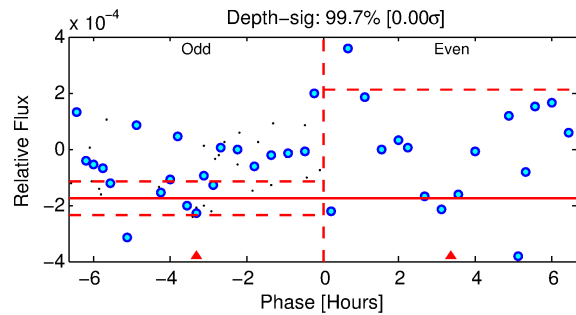
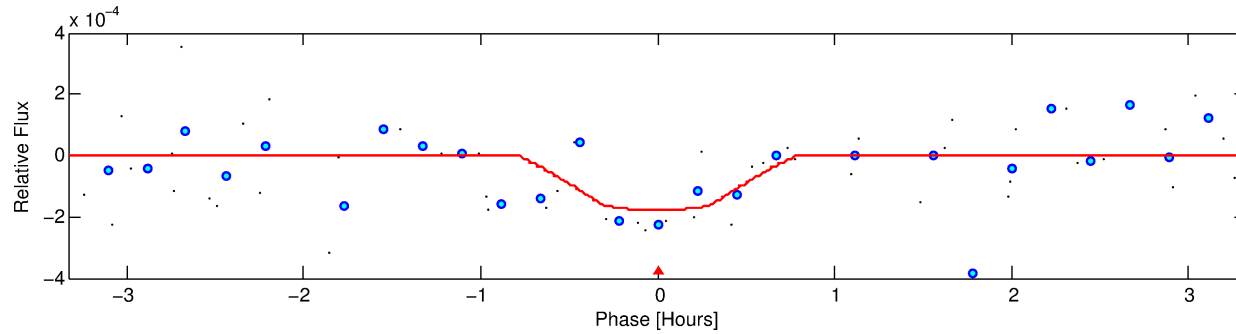
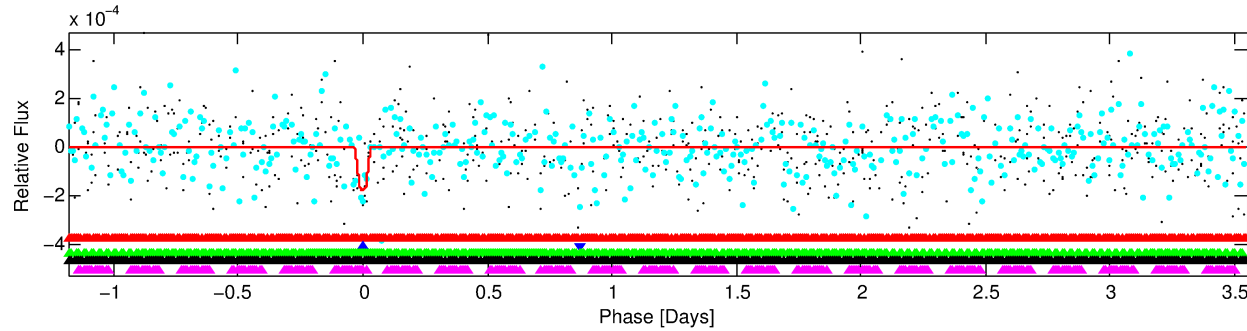
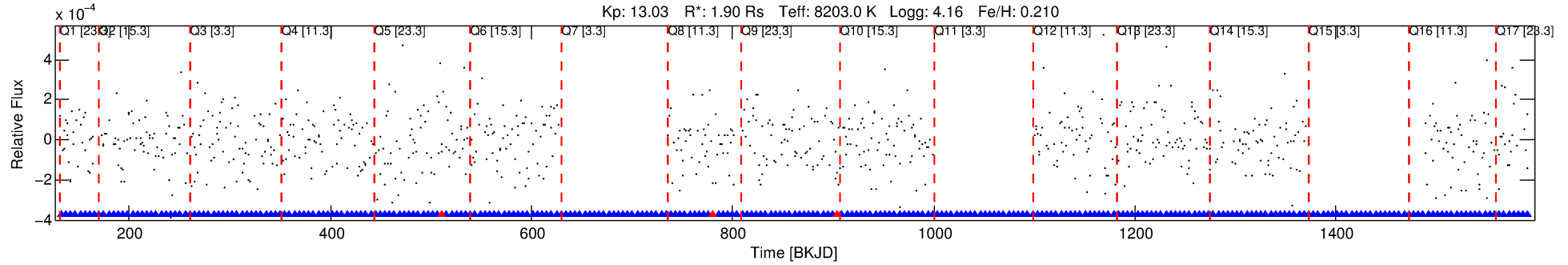
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## Ephemeris Match Information For 010934556-02

No Significant Match Found

# DV One-Page Summary

KIC: 10934556 Candidate: 2 of 5 Period: 4.735 d



## DV Fit Results:

Period = 4.73462 [0.00007] d  
Epoch = 132.4556 [0.0070] BKJD  
Rp/R\* = 0.0124 [0.1969]  
a/R\* = 32.90 [3034.88]  
b = 0.09 [1076.96]  
Seff = 3123.90 [1159.18]  
Teq = 1906 [177] K  
Rp = 2.58 [40.90] Re  
a = 0.0686 [0.0159] AU  
Ag = 81.30 [2574.95] [0.03σ]  
Teffp = 8850 [70077] K [0.10σ]

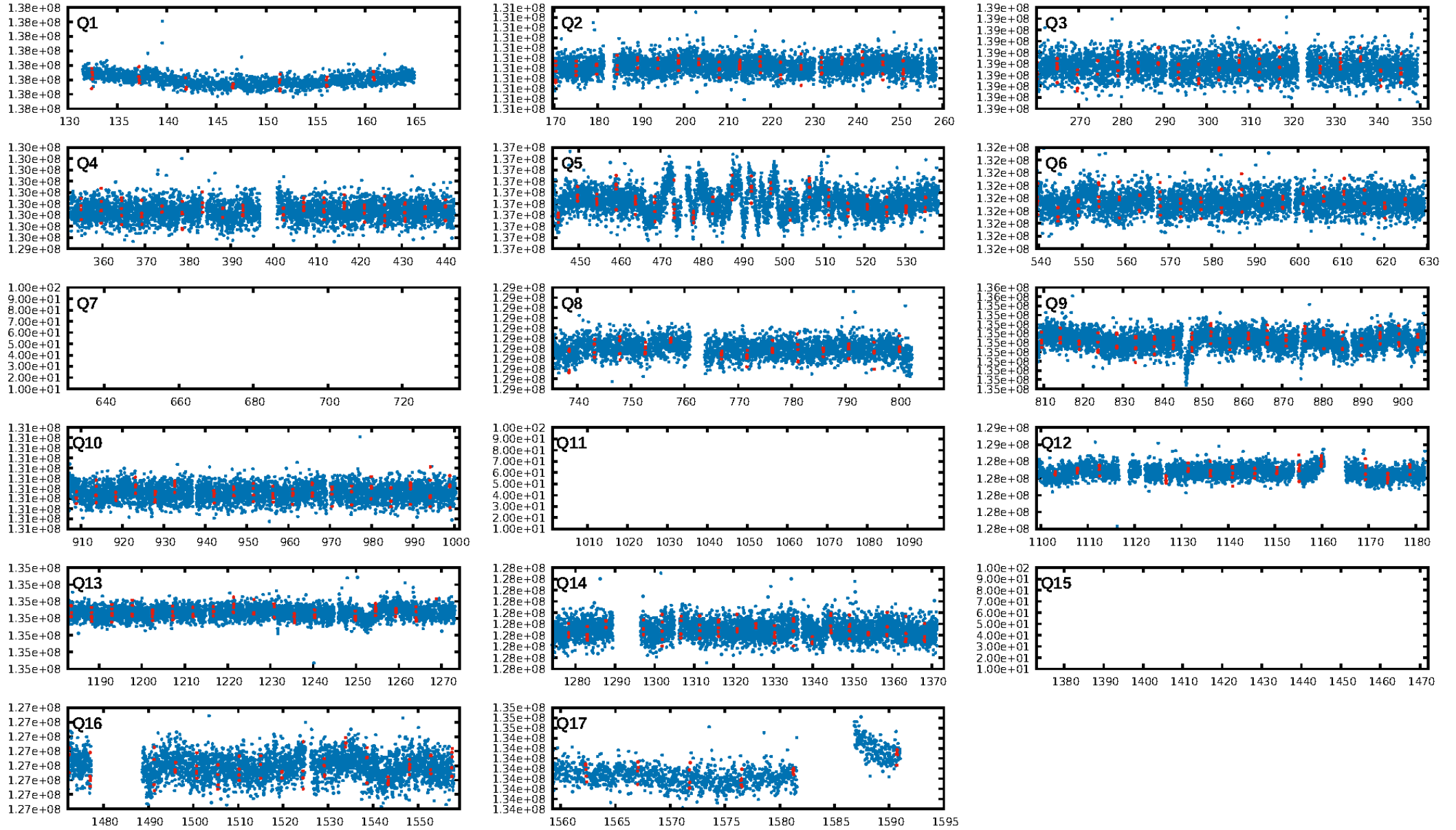
## DV Diagnostic Results:

ShortPeriod-sig: 96.9% [2.16σ]  
LongPeriod-sig: N/A  
**ModelChiSquare2-sig: 0.0%**  
**ModelChiSquareGof-sig: 0.0%**  
Bootstrap-pfa: 3.88e-250  
**RollingBand-fgt: 0.73 [8/11]**  
GhostDiagnostic-chr: -42.99  
Centroid-sig: 55.3%  
Centroid-so: 0.318 arcsec [0.64σ]  
OotOffset-rm: 3.661 arcsec [2.78σ]  
OotOffset-st: 1/0/3/1 [5]  
**KicOffset-rm: 3.598 arcsec [3.03σ]**  
KicOffset-st: 1/0/3/1 [5]  
DiffImageQuality-fgm: 0.00 [0/5]  
DiffImageOverlap-fno: 1.00 [14/14]

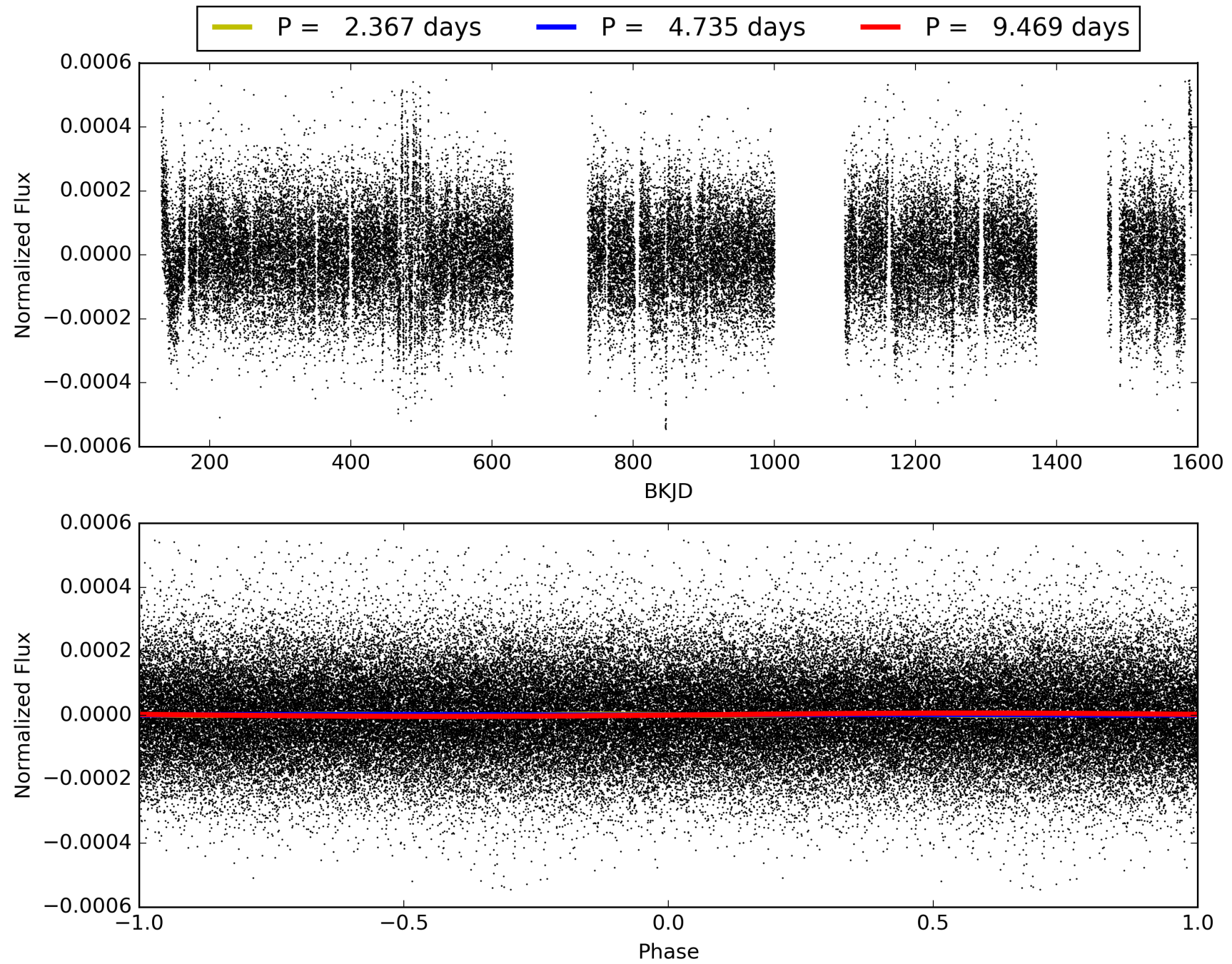
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 07:29:30 Z

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

# TCE 010934556-02, PDC Light Curves

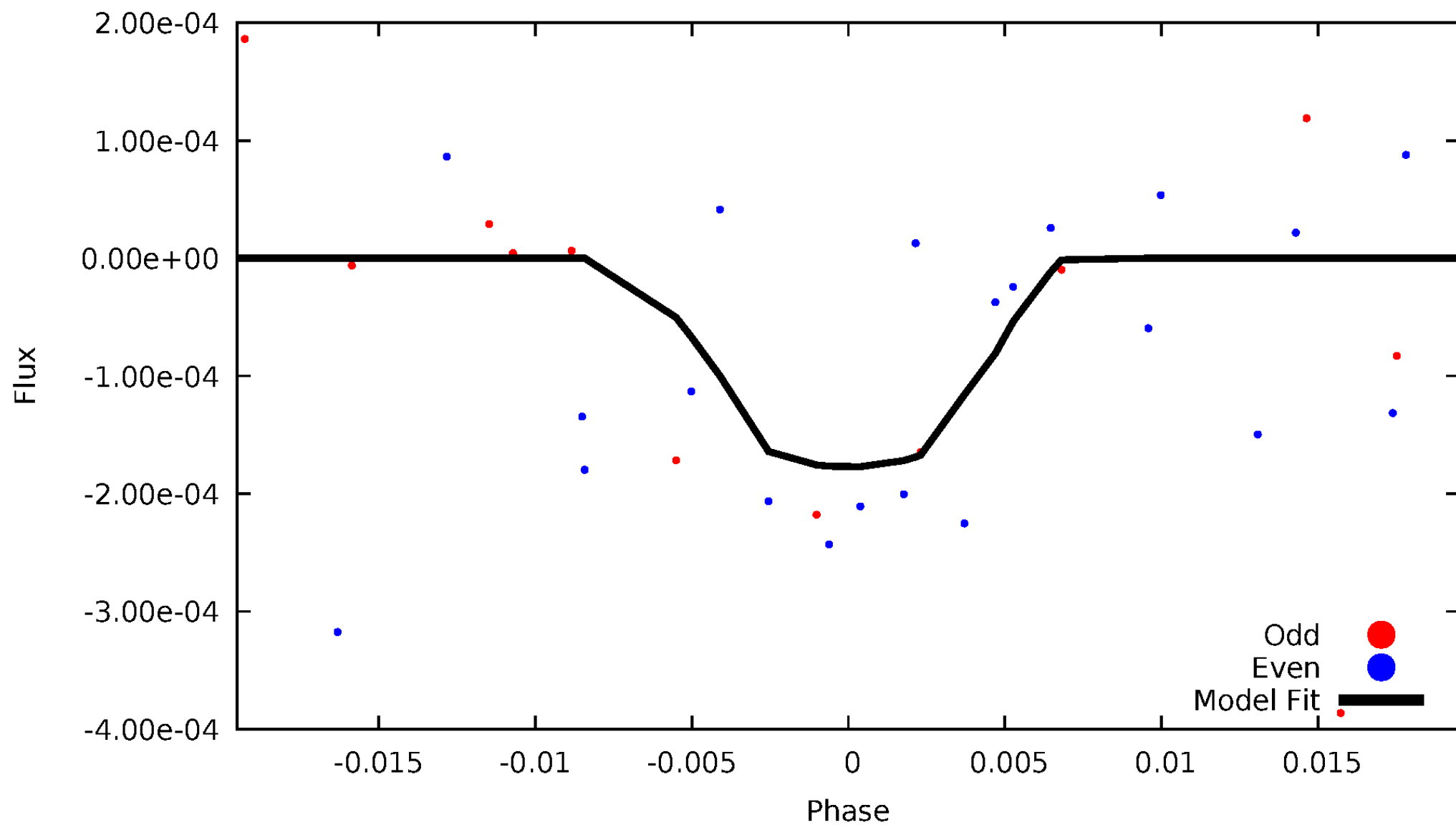


TCE 010934556-02



# DV Odd/Even

TCE 010934556-02





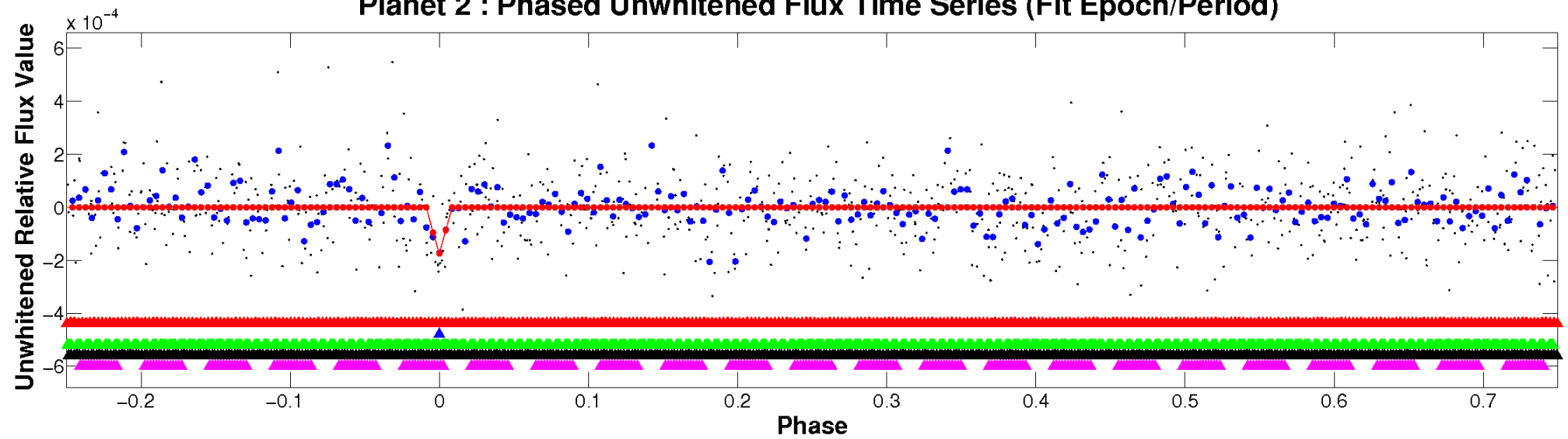


ALT Odd/Even

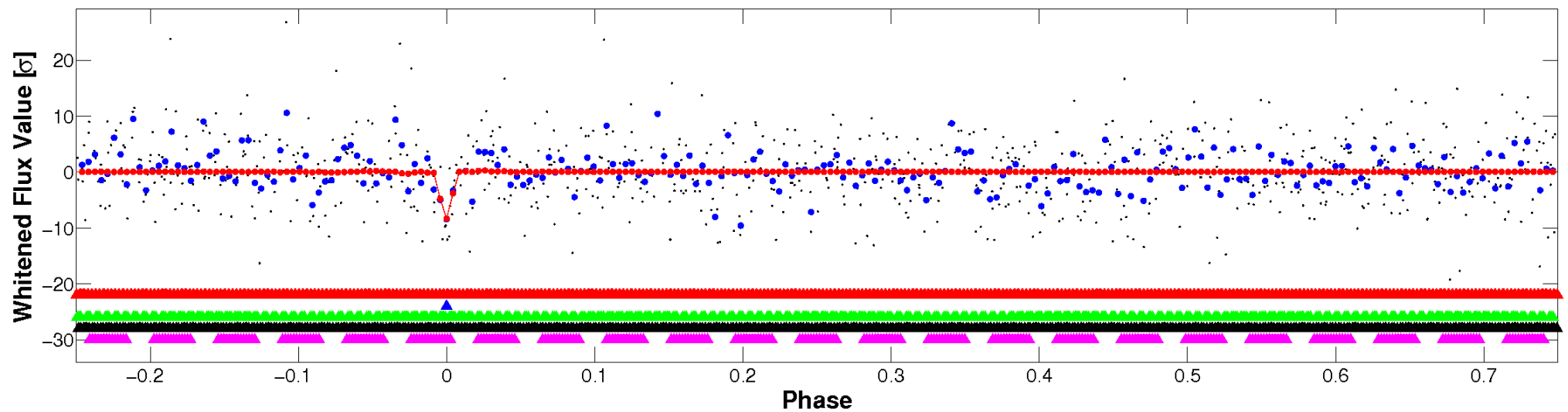
This plot does not exist for this TCE.

# Non-Whitened Vs. Whitened Light Curve

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

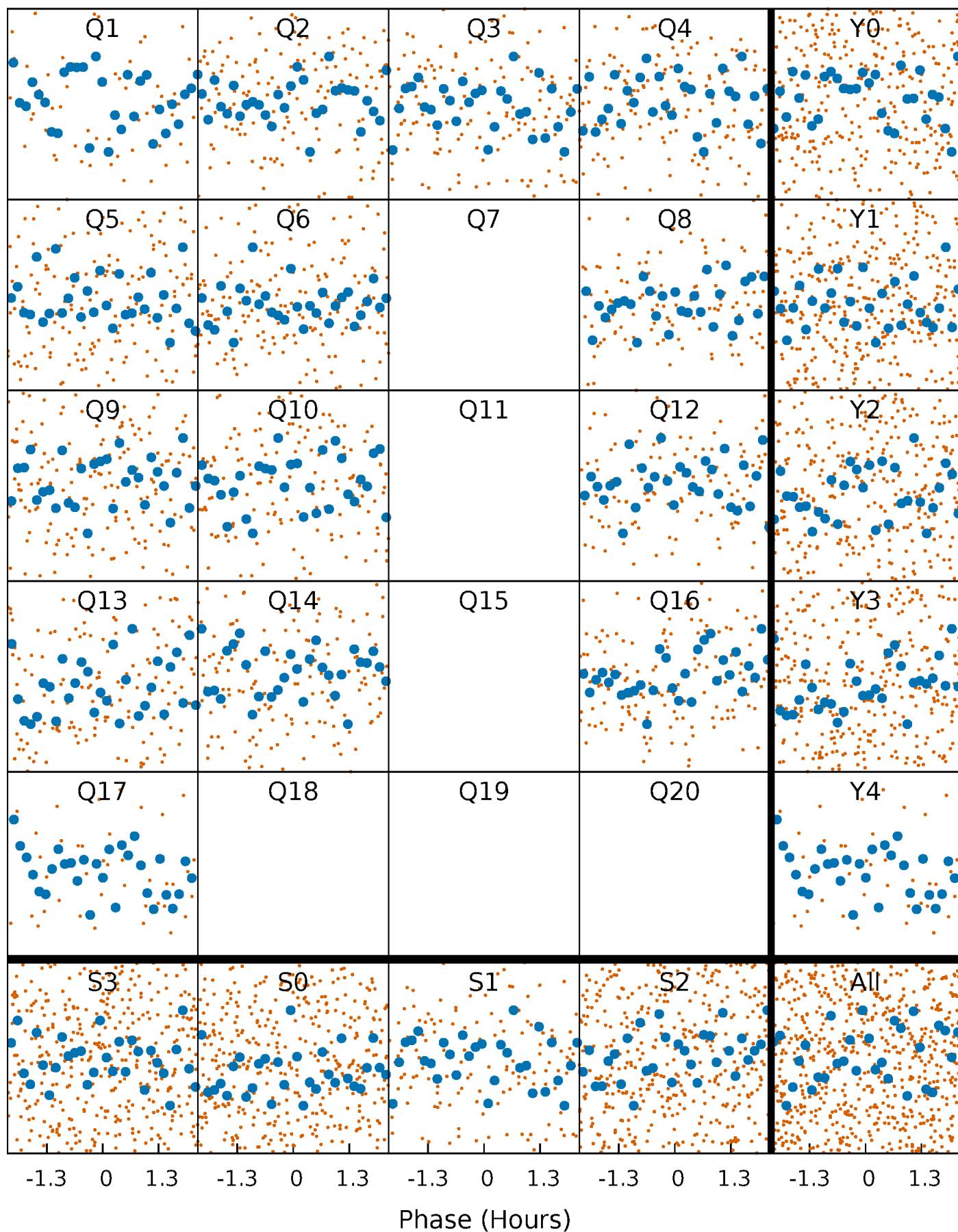


## Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



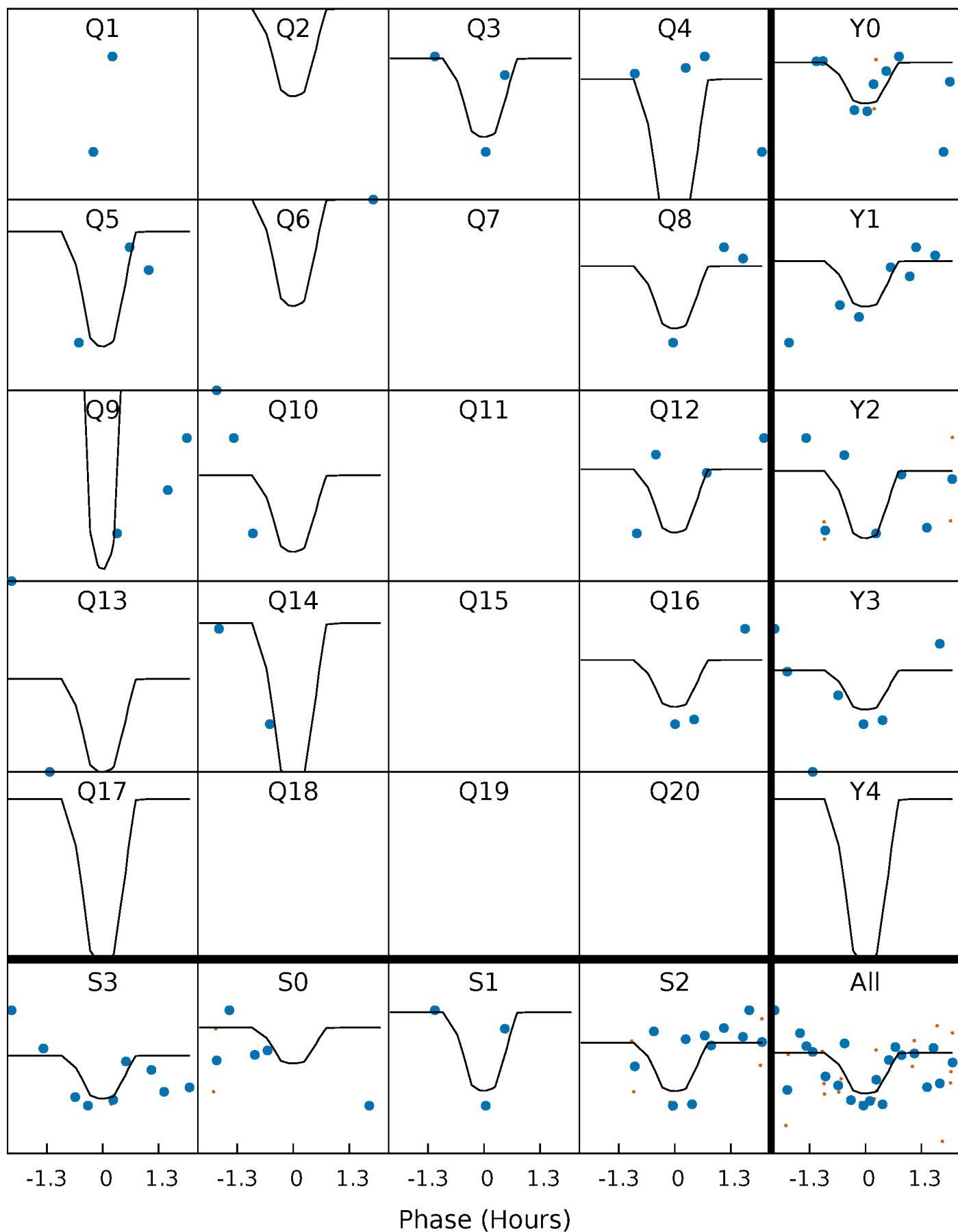
# PDC Quarter-Phased Transit Curves

TCE 010934556-02 P= 4.734619 Days  $T_0=132.455633$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 010934556-02 P= 4.734619 Days  $T_0=132.455633$  (BKJD)



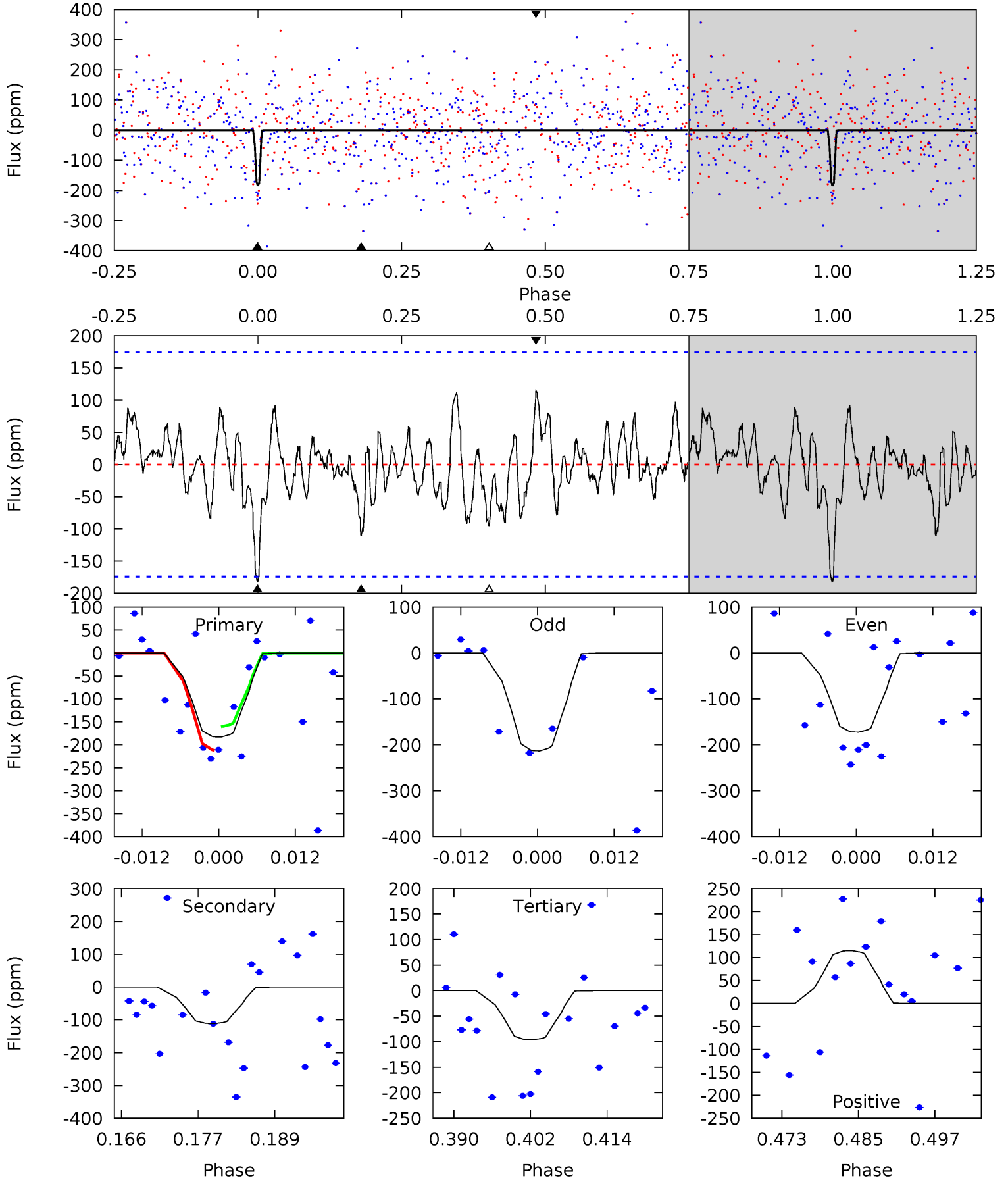
This plot does not exist for this TCE.



# DV Model-Shift Uniqueness Test

010934556-02, P = 4.734619 Days, E = 127.721014 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
5.24	3.18	2.76	3.29	4.99	2.52	1.21	2.48	1.95	0.43	-0.11	0.42	0.82	0.39	0.71



## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 010934556

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$8203^{+226}_{-356}$	$4.162^{+0.081}_{-0.175}$	$0.210^{+0.150}_{-0.550}$	$1.903^{+0.537}_{-0.289}$	$1.918^{+0.288}_{-0.352}$	$0.392^{+0.164}_{-0.186}$
	+3%/-4%	+2%/-4%	+71%/-262%	+28%/-15%	+15%/-18%	+42%/-47%
Source	KIC0	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 010934556-02 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-111 \pm 35$	$28.92^{+32.00}_{-20.08}$	$2679^{+176}_{-137}$	$2143^{+2025}_{-4896}$	$0.326^{+3.354}_{-0.256}$
Alt.	N/A	N/A	N/A	N/A	N/A

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

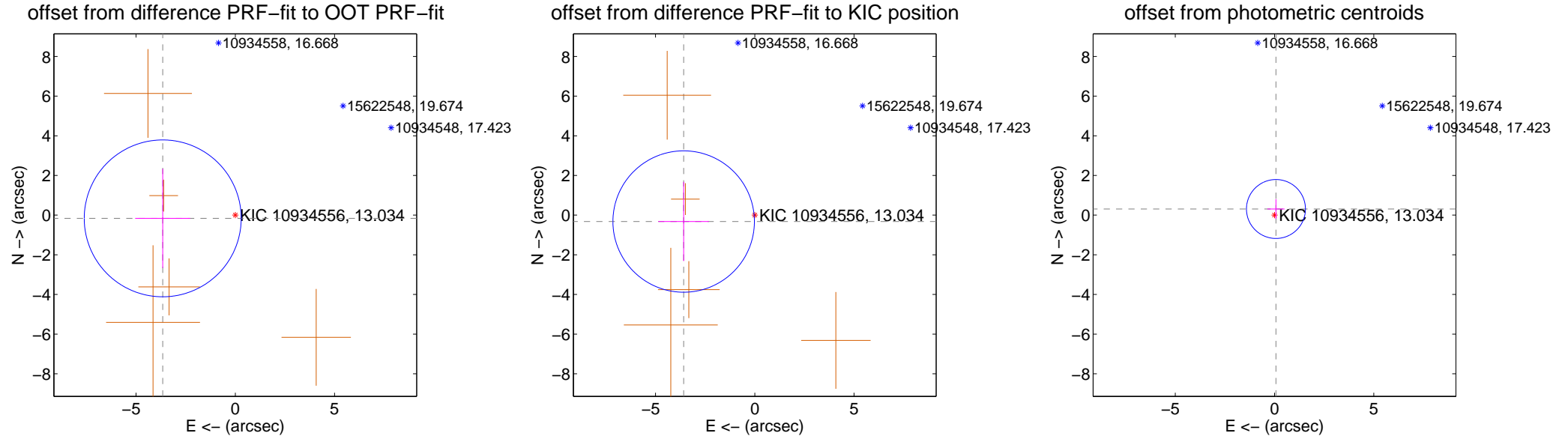
## DV Centroid Data

Supplemental centroid analysis for 010934556-02. Kepler magnitude: 13.03. Transit SNR 23.43

There are 0 quarters with good PRF difference image offsets

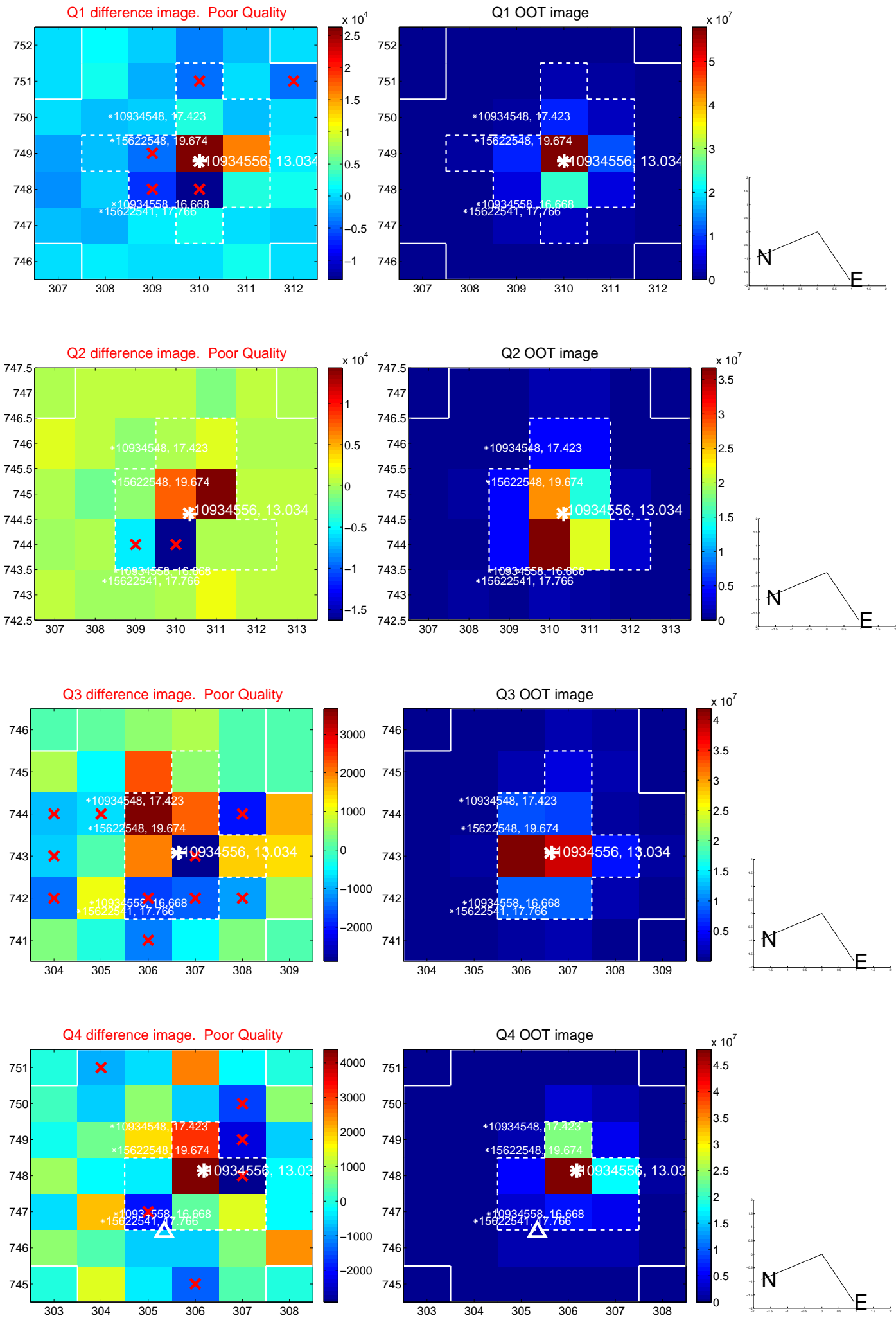
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$3.661 \pm 1.318$	2.78	$3.658 \pm 1.386$	$-0.163 \pm 2.501$
PRF-fit source offset from KIC position	$3.598 \pm 1.188$	3.03	$3.584 \pm 1.273$	$-0.323 \pm 1.994$
photometric centroid source offset	$0.32 \pm 0.50$	0.64	$-0.07 \pm 0.43$	$0.31 \pm 0.50$



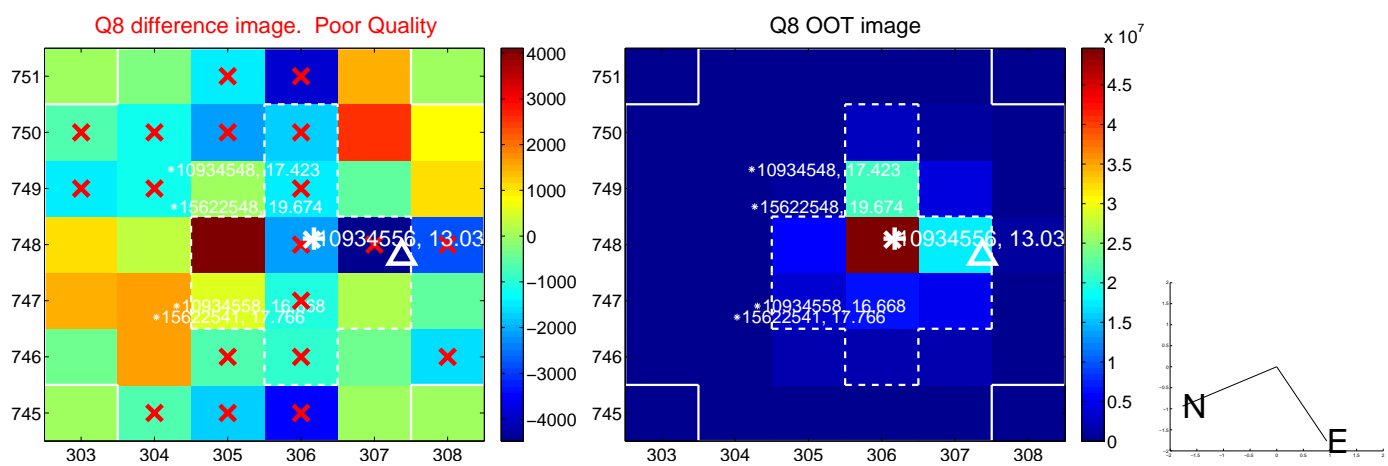
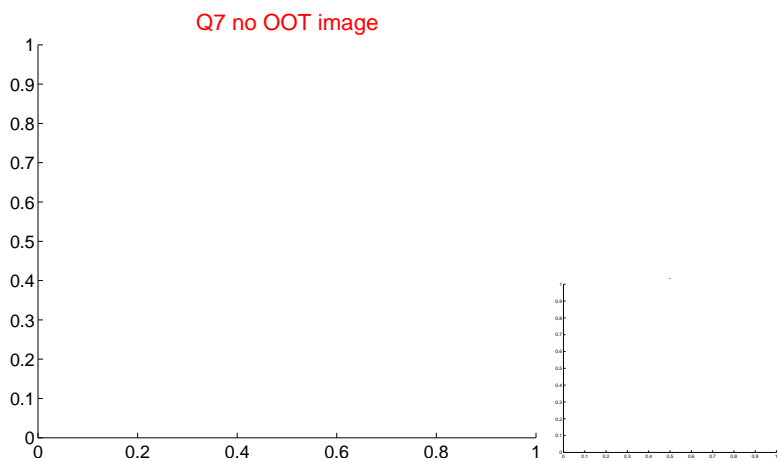
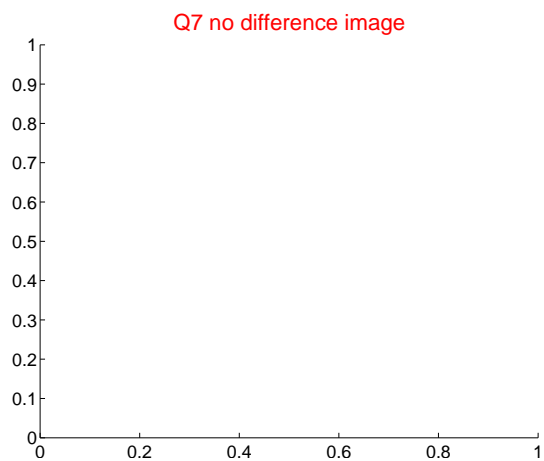
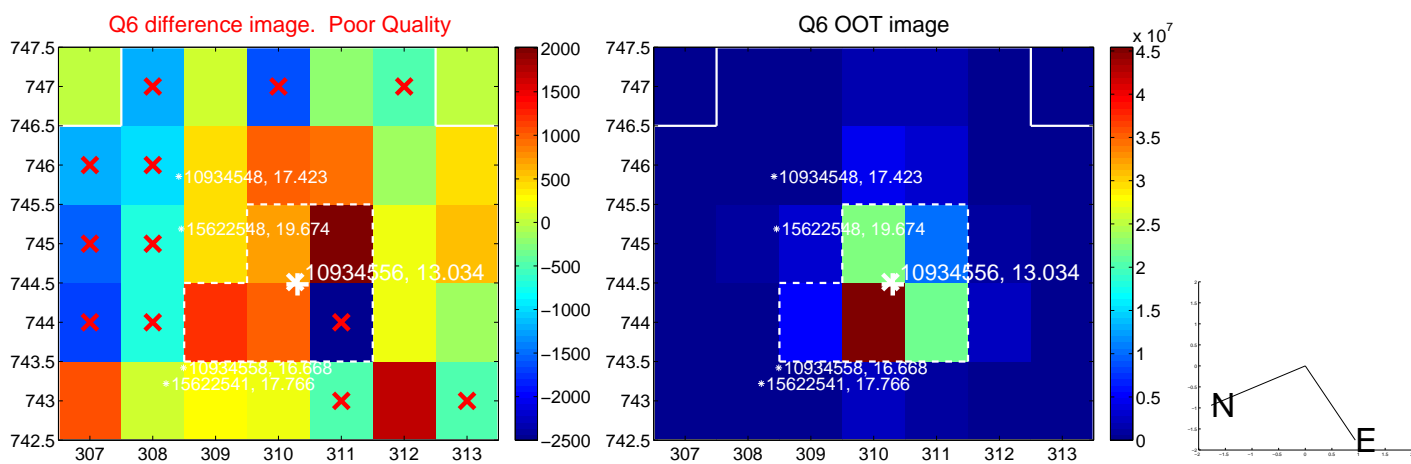
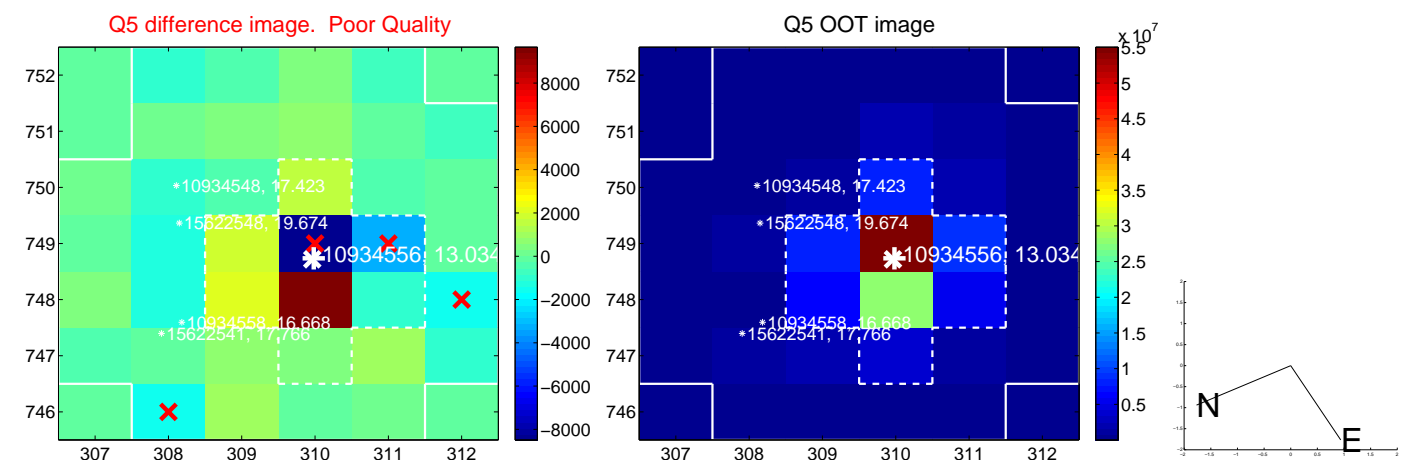
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

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

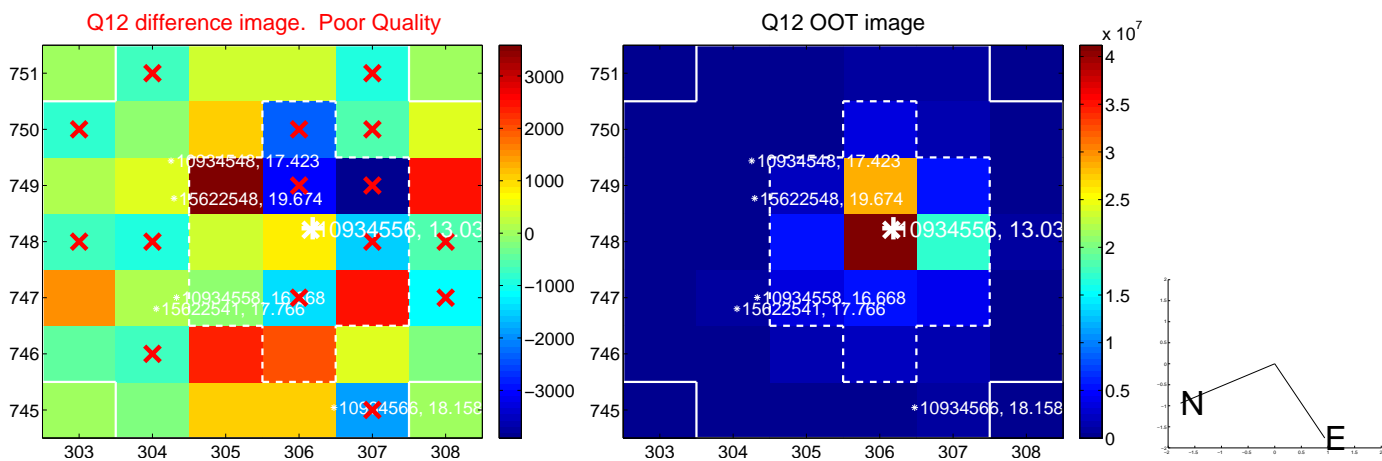
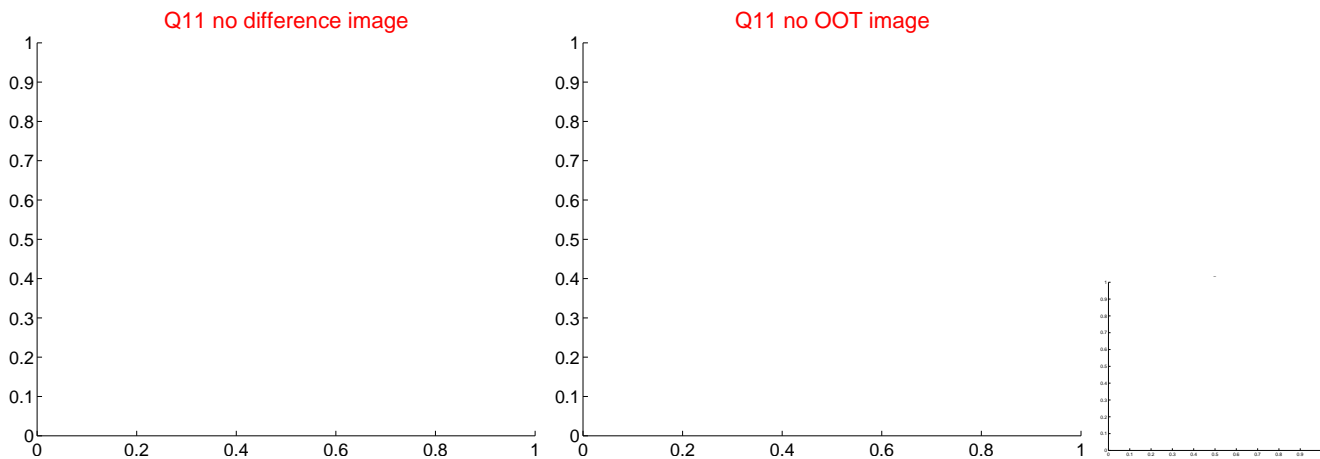
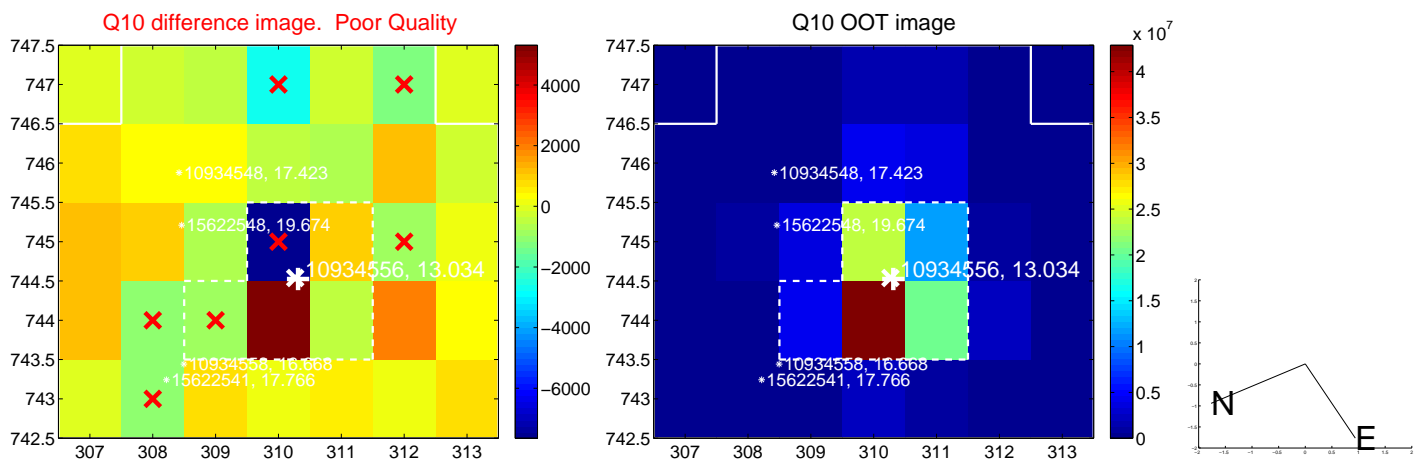
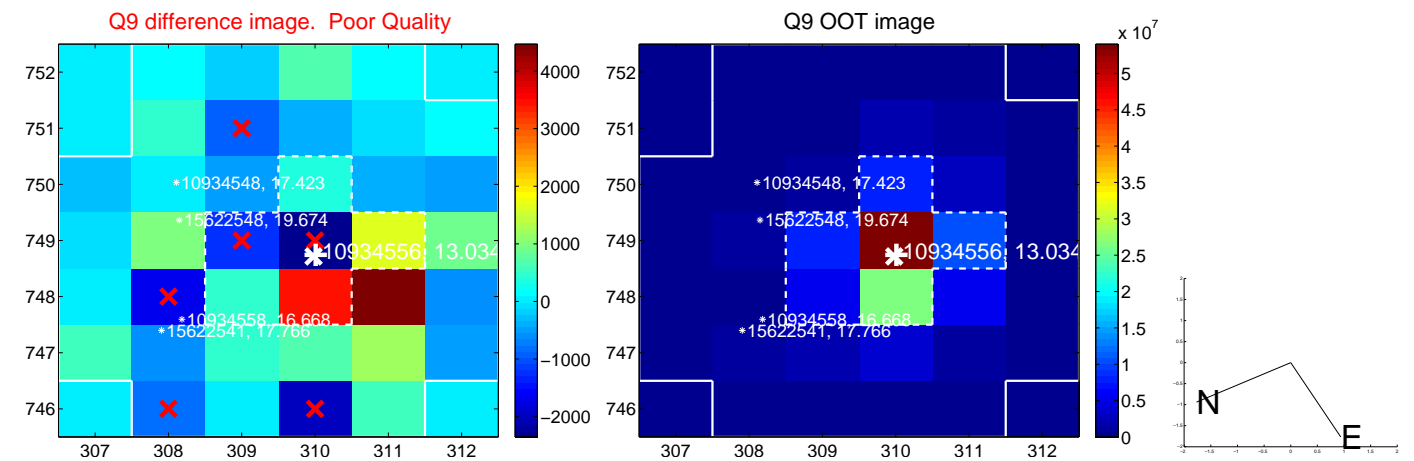




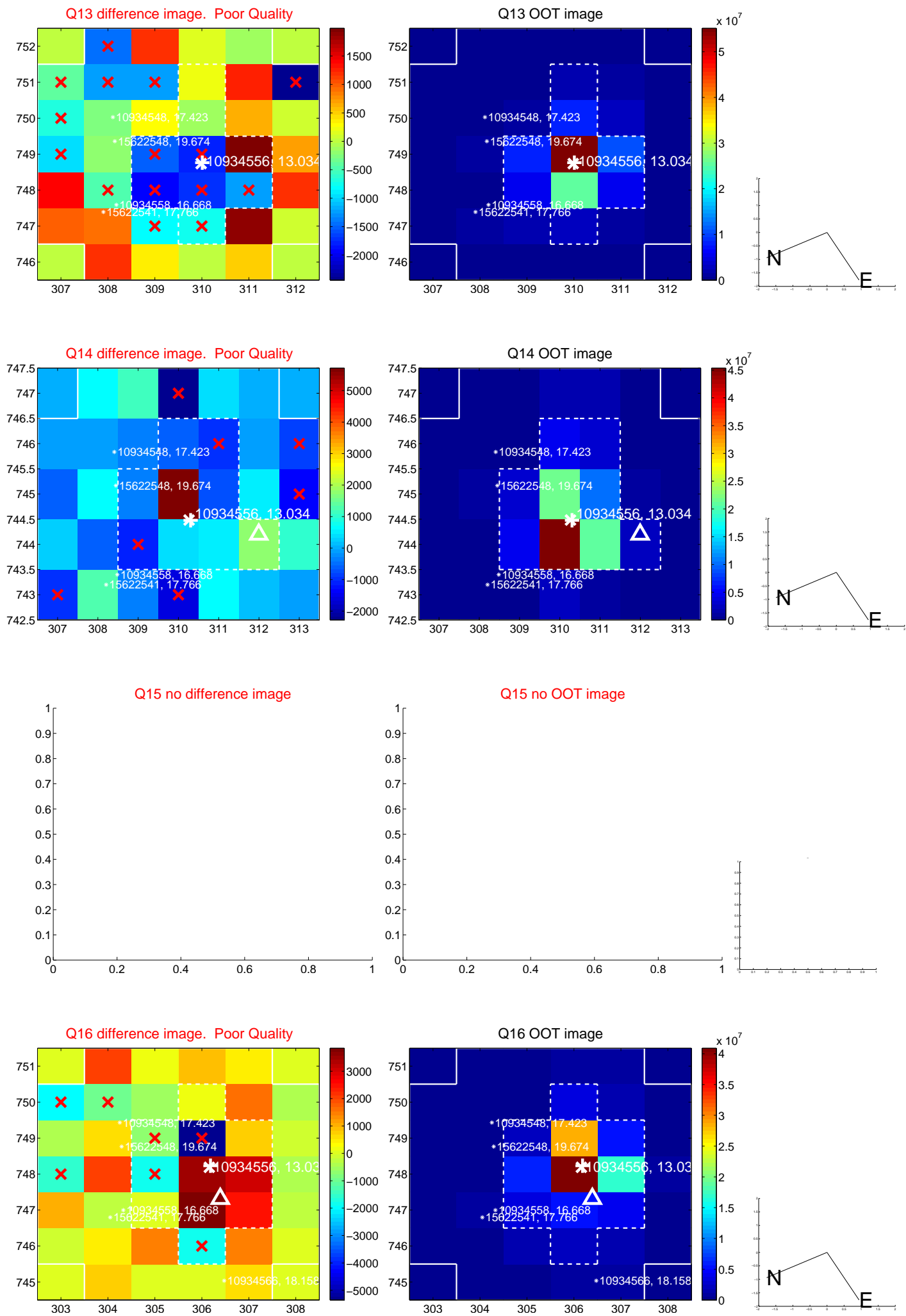
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



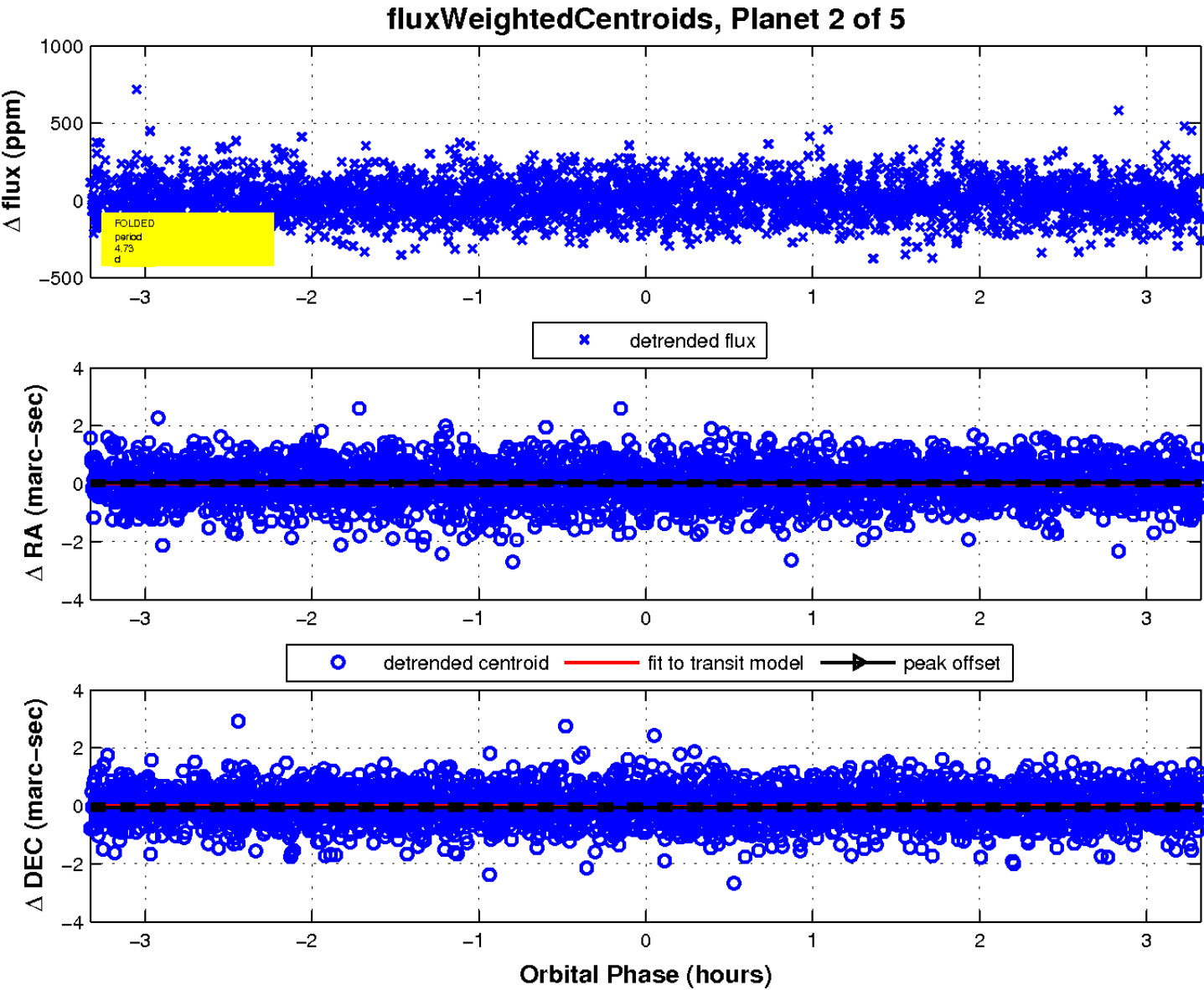
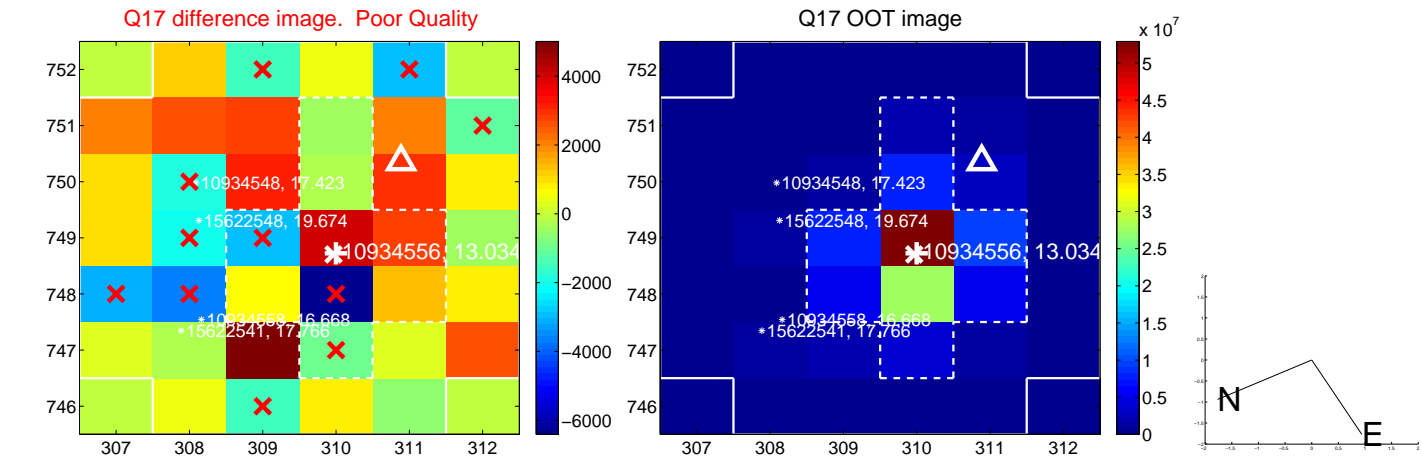
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

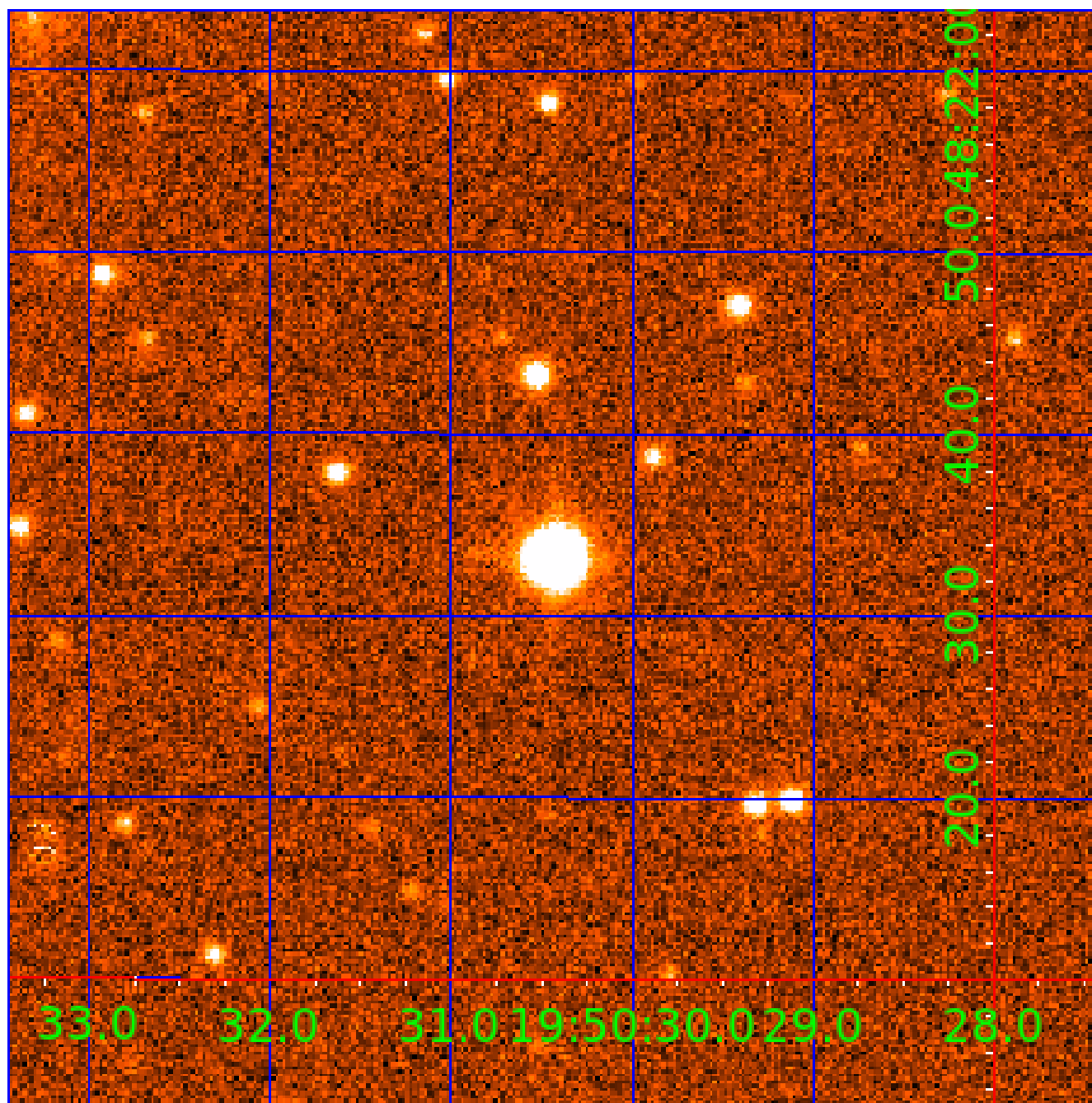


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 010934556

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010934556-01	OBS	No	1.686468	132.648706	10.6	13.111	7.8	8.2	1.90	8203	0.63	12372.01
010934556-02	OBS	No	4.734618	132.455633	177.3	1.109	22.1	23.4	1.90	8203	2.58	3123.90
010934556-03	OBS	No	2.709786	132.909552	90.8	1.013	21.2	13.4	1.90	8203	2.13	6574.02
010934556-04	OBS	No	2.452341	133.728537	105.1	1.563	16.7	15.8	1.90	8203	1.99	7509.94
010934556-05	OBS	No	4.529155	132.342444	555.0	2.000	14.7	-1.0	1.90	8203	4.55	3314.27

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010934556-01	OBS	FP	0.00	1	0	0	0	LPP_DV
010934556-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
010934556-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS
010934556-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
010934556-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS

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

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

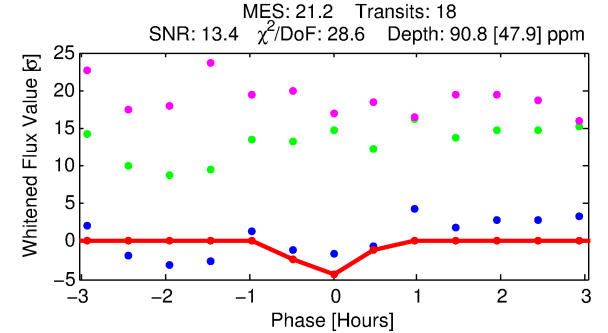
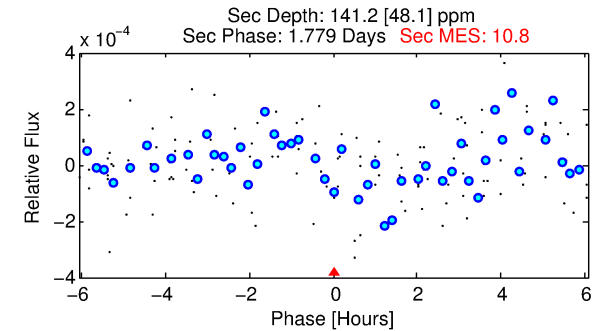
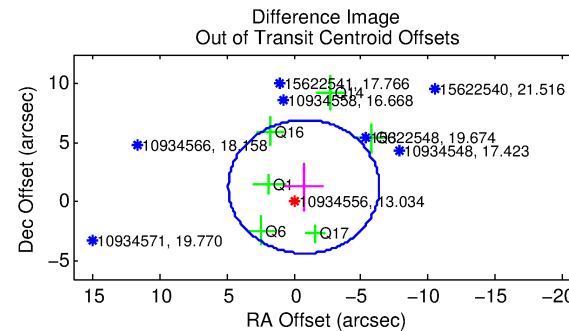
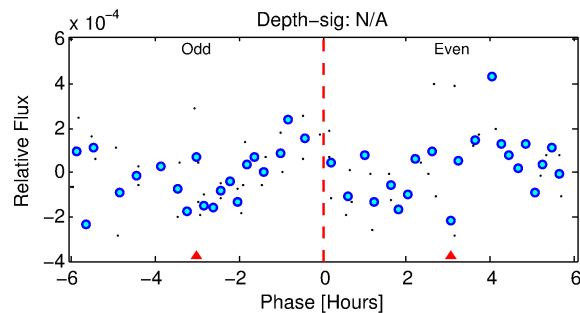
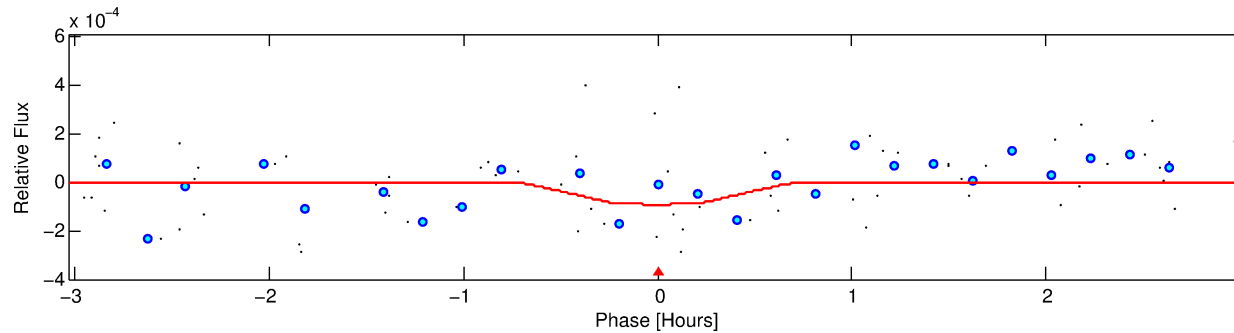
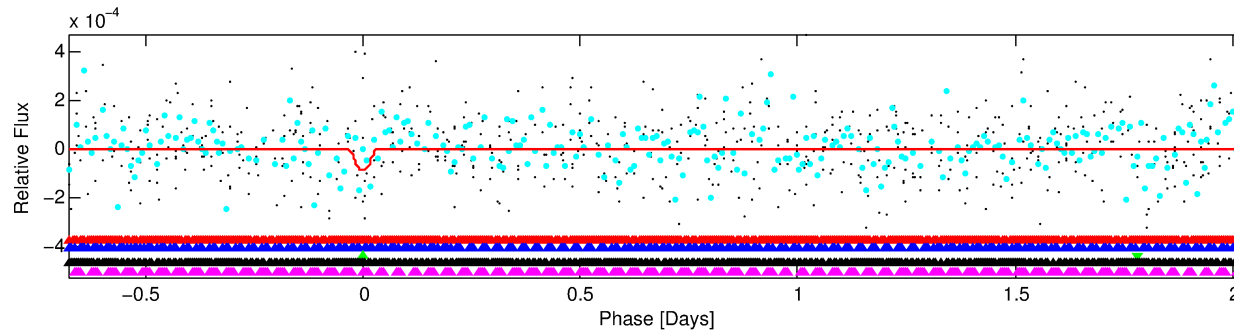
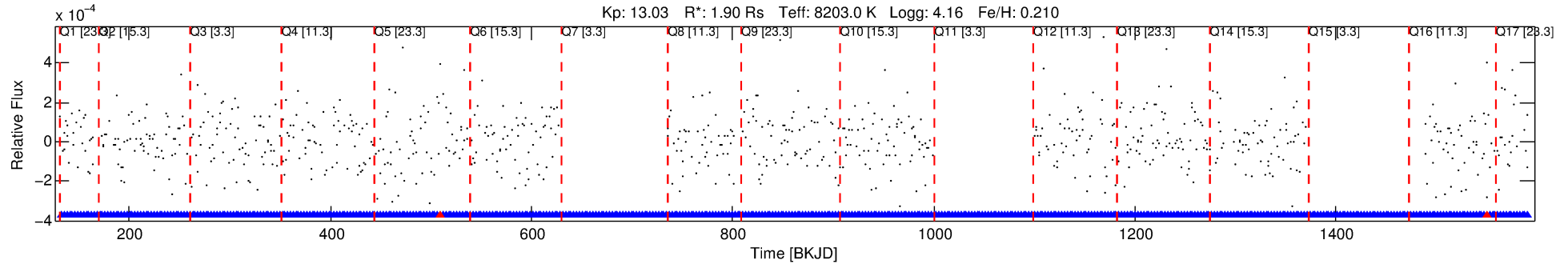
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 010934556-03

No Significant Match Found

# DV One-Page Summary

KIC: 10934556 Candidate: 3 of 5 Period: 2.710 d



## DV Fit Results:

Period = 2.70979 [0.00007] d  
Epoch = 132.9096 [0.0110] BKJD  
Rp/R\* = 0.0103 [0.0219]  
a/R\* = 9.14 [123.65]  
b = 0.91 [2.72]  
Seff = 6574.02 [2439.40]  
Teq = 2296 [213] K  
Rp = 2.13 [4.60] Re  
a = 0.0473 [0.0109] AU  
Ag = 38.27 [164.73] [0.23σ]  
Teffp = 8830 [9481] K [0.69σ]

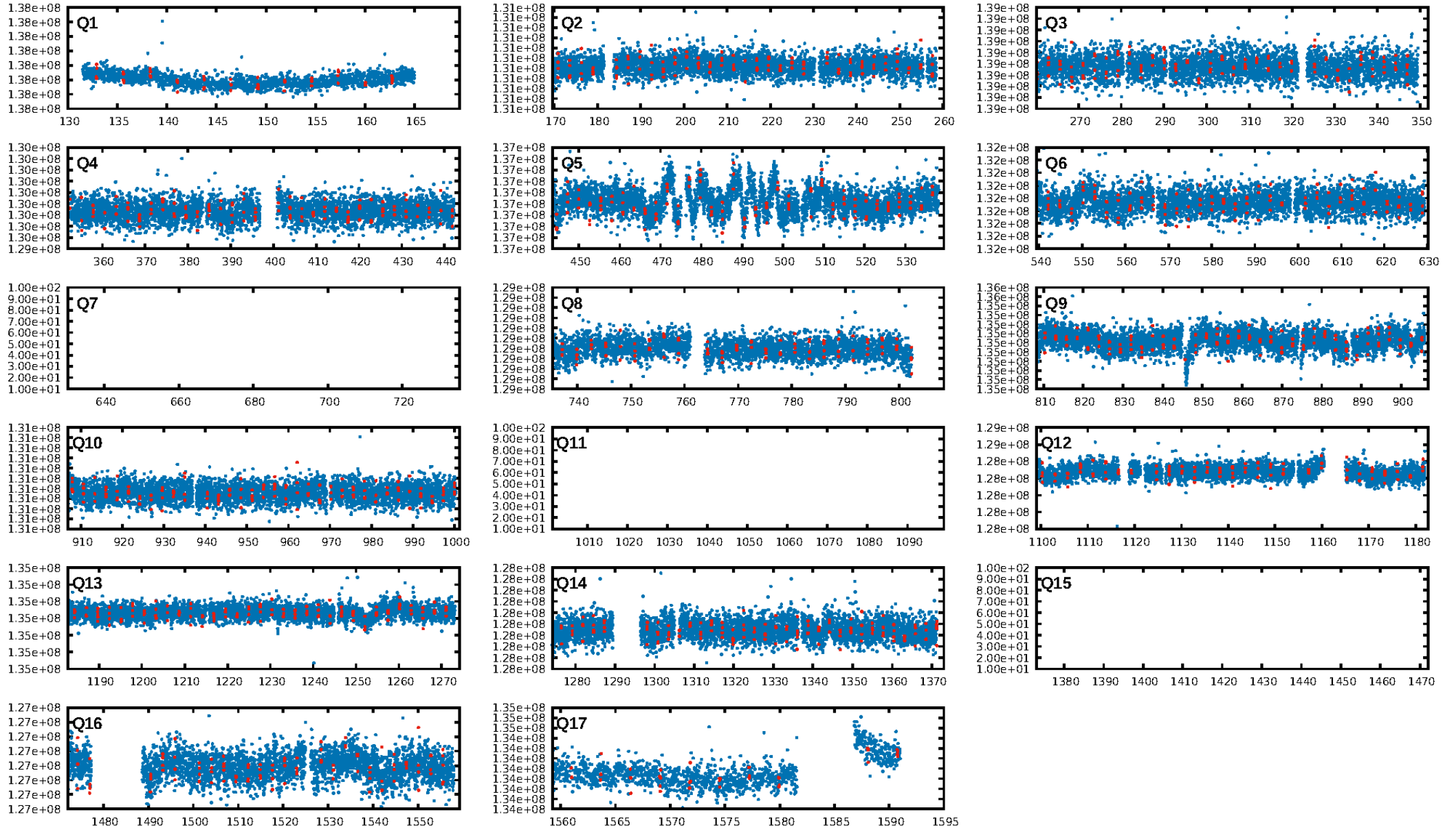
## DV Diagnostic Results:

ShortPeriod-sig: 99.9% [3.32σ]  
LongPeriod-sig: 100.0% [19.48σ]  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 0.0%  
Bootstrap-pfa: 1.42e-226  
RollingBand-fgt: 0.89 [16/18]  
GhostDiagnostic-chr: -0.4765  
Centroid-sig: 31.7%  
Centroid-so: 0.991 arcsec [1.45σ]  
OotOffset-rm: 1.488 arcsec [0.79σ]  
OotOffset-st: 2/1/1/2 [6]  
KicOffset-rm: 1.363 arcsec [0.73σ]  
KicOffset-st: 2/1/1/2 [6]  
DiffImageQuality-fgm: 0.17 [1/6]  
DiffImageOverlap-fno: 1.00 [14/14]

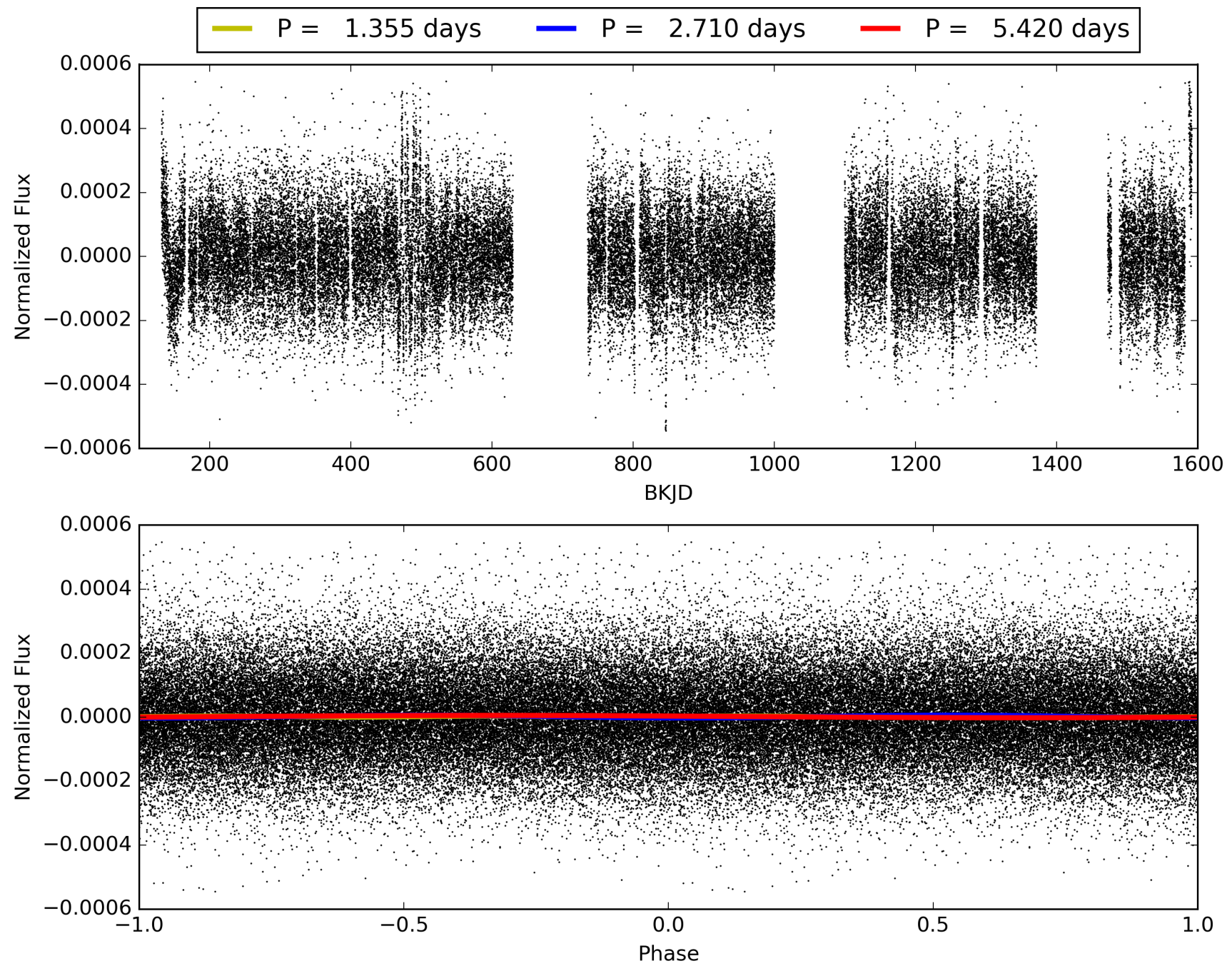
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 07:29:33 Z

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# TCE 010934556-03, PDC Light Curves

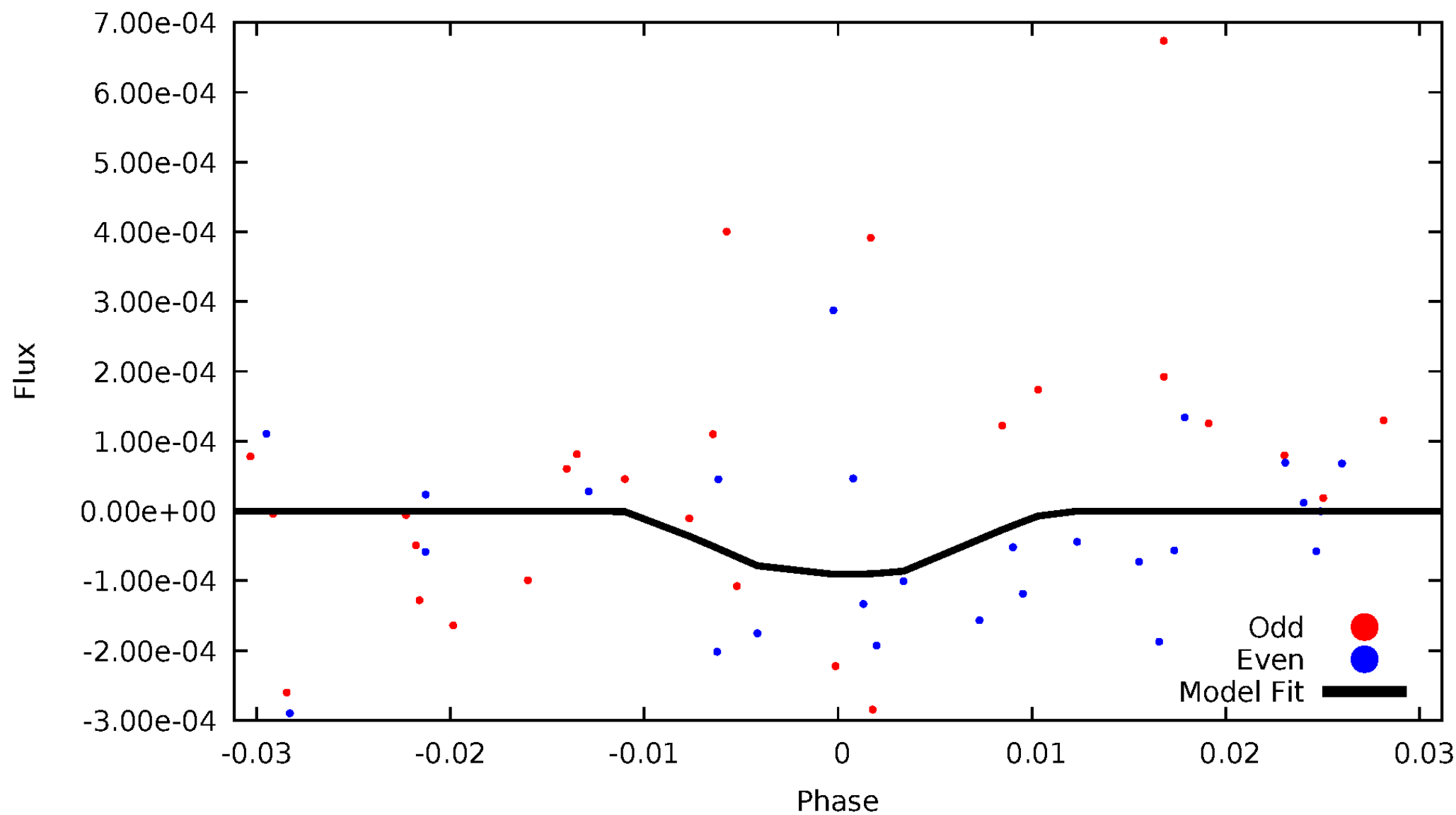


TCE 010934556-03



# DV Odd/Even

TCE 010934556-03





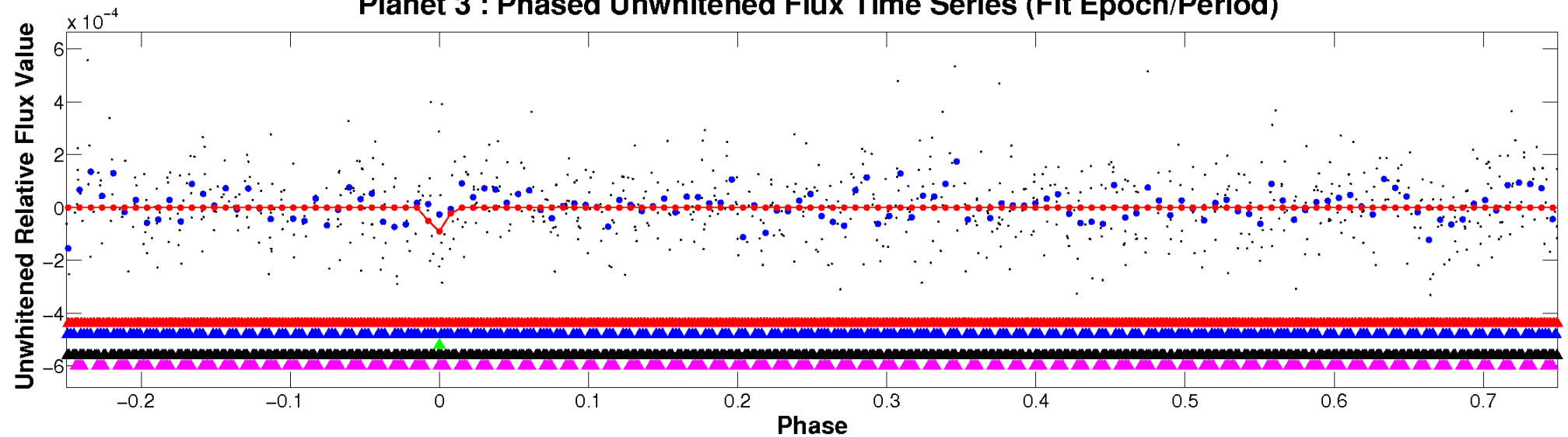
ALT Odd/Even

This plot does not exist for this TCE.

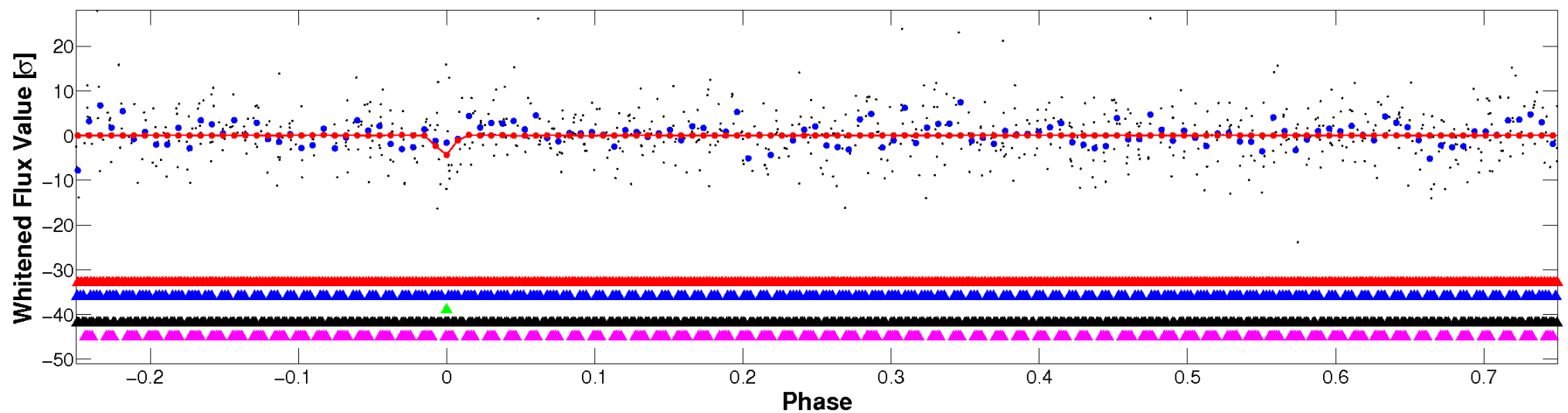


# Non-Whitened Vs. Whitened Light Curve

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

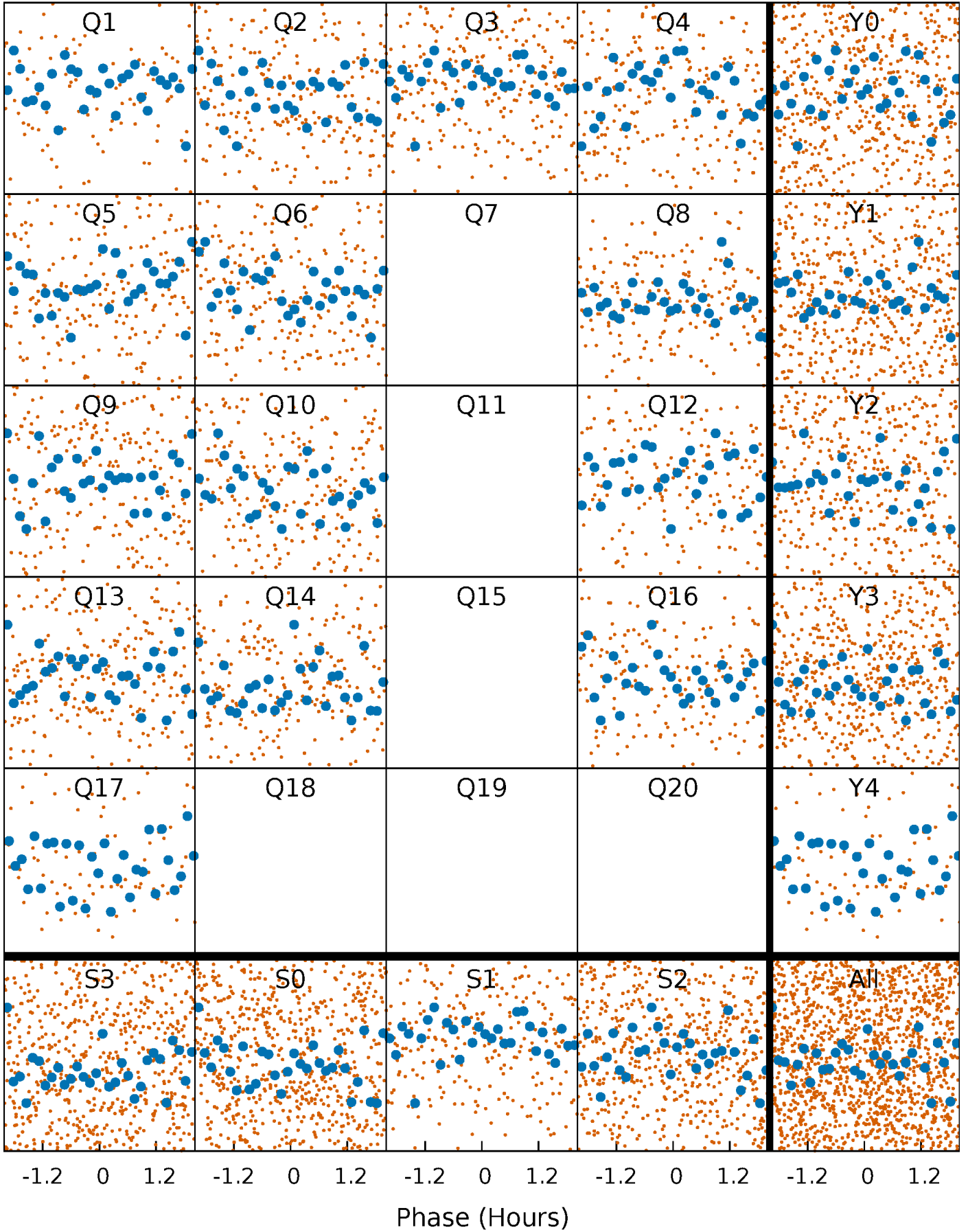


## Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



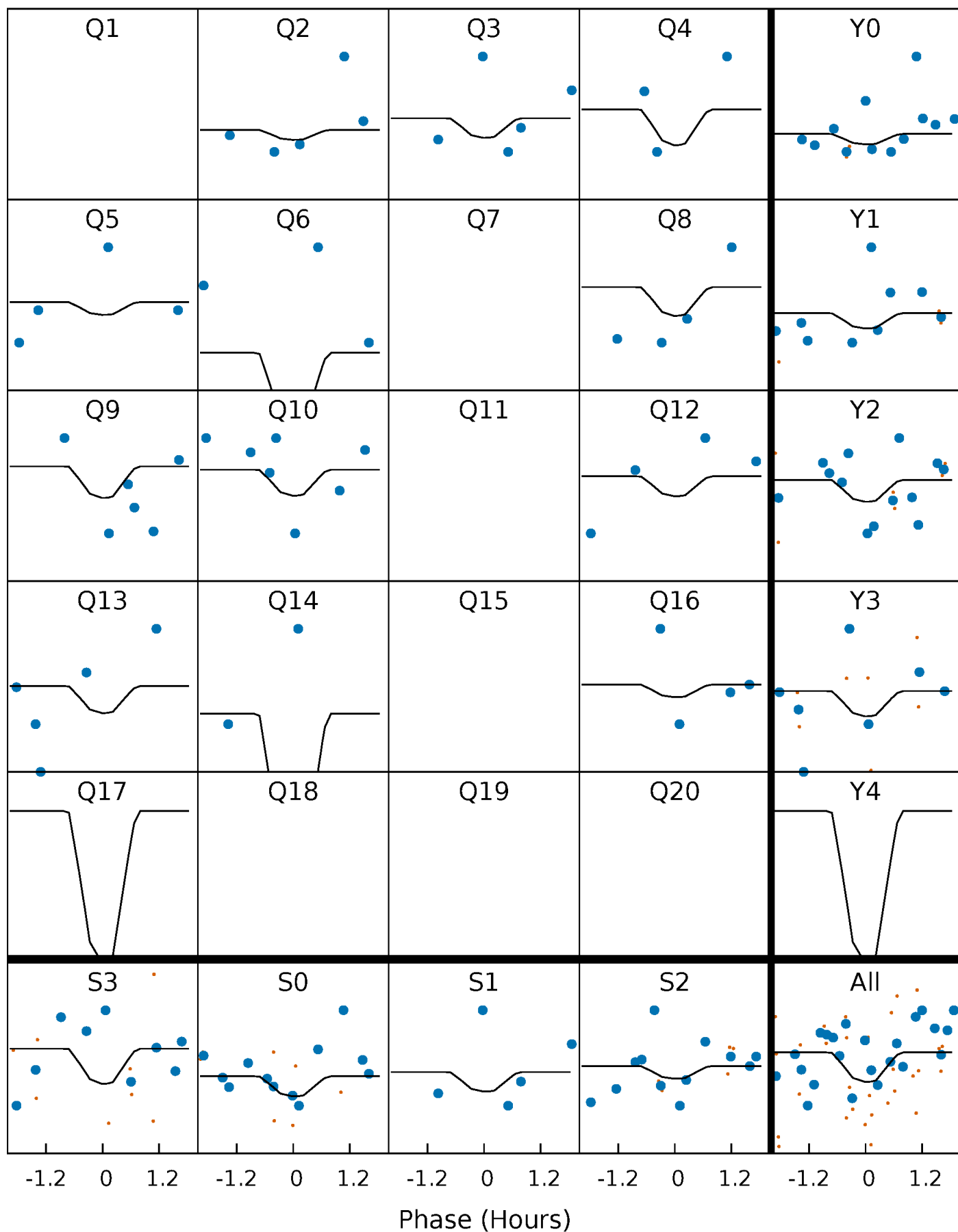
# PDC Quarter-Phased Transit Curves

TCE 010934556-03 P= 2.709786 Days  $T_0=132.909552$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 010934556-03 P= 2.709786 Days  $T_0=132.909552$  (BKJD)

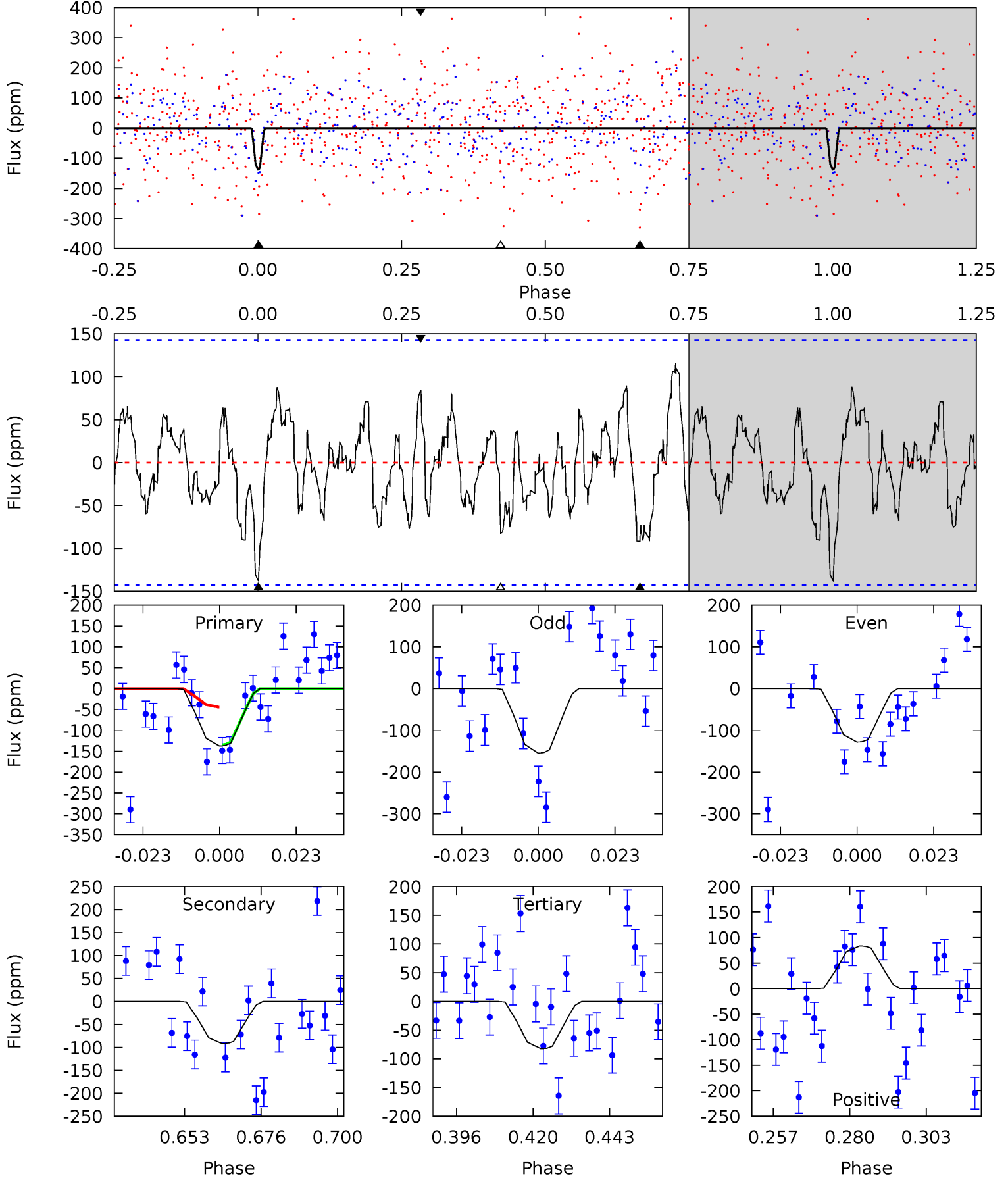


This plot does not exist for this TCE.

# DV Model-Shift Uniqueness Test

010934556-03, P = 2.709786 Days, E = 130.199766 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
4.68	3.12	2.80	2.85	4.86	2.27	1.39	1.88	1.83	0.32	0.27	0.45	0.57	0.46	1.57



## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 010934556

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8203^{+226}_{-356}$	$4.162^{+0.081}_{-0.175}$	$0.210^{+0.150}_{-0.550}$	$1.903^{+0.537}_{-0.289}$	$1.918^{+0.288}_{-0.352}$	$0.392^{+0.164}_{-0.186}$
	+3%/-4%	+2%/-4%	+71%/-262%	+28%/-15%	+15%/-18%	+42%/-47%
Source	KIC0	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 010934556-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-92 \pm 29$	$4.14^{+3.92}_{-2.74}$	$3258^{+228}_{-203}$	$5520^{+5093}_{-1450}$	$6.271^{+53.703}_{-4.648}$
Alt.	N/A	N/A	N/A	N/A	N/A

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



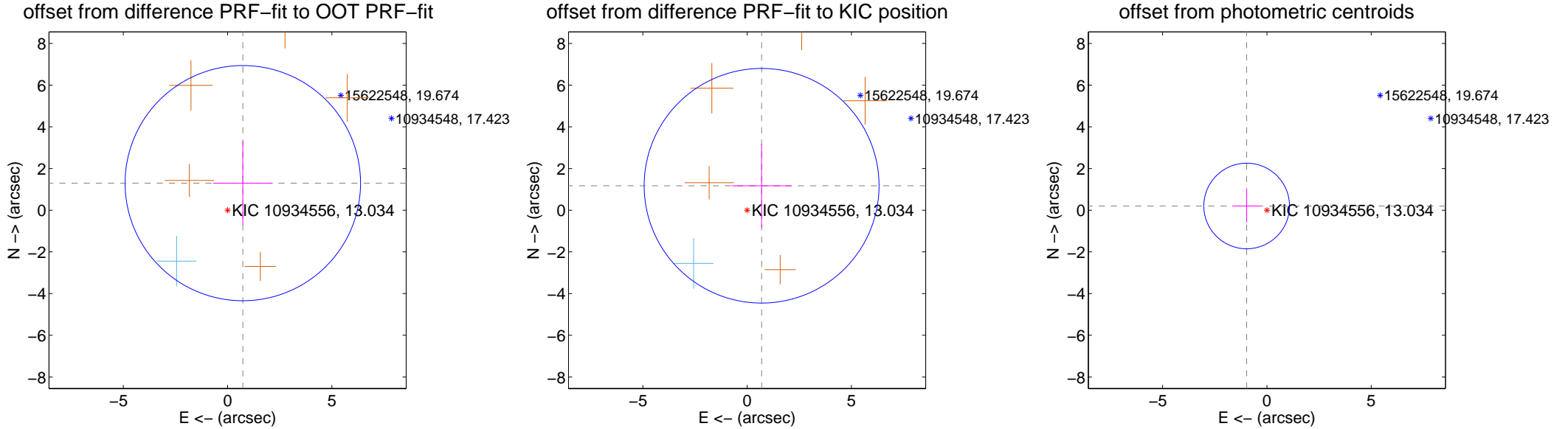
## DV Centroid Data

Supplemental centroid analysis for 010934556-03. Kepler magnitude: 13.03. Transit SNR 13.38

There are 1 quarters with good PRF difference image offsets

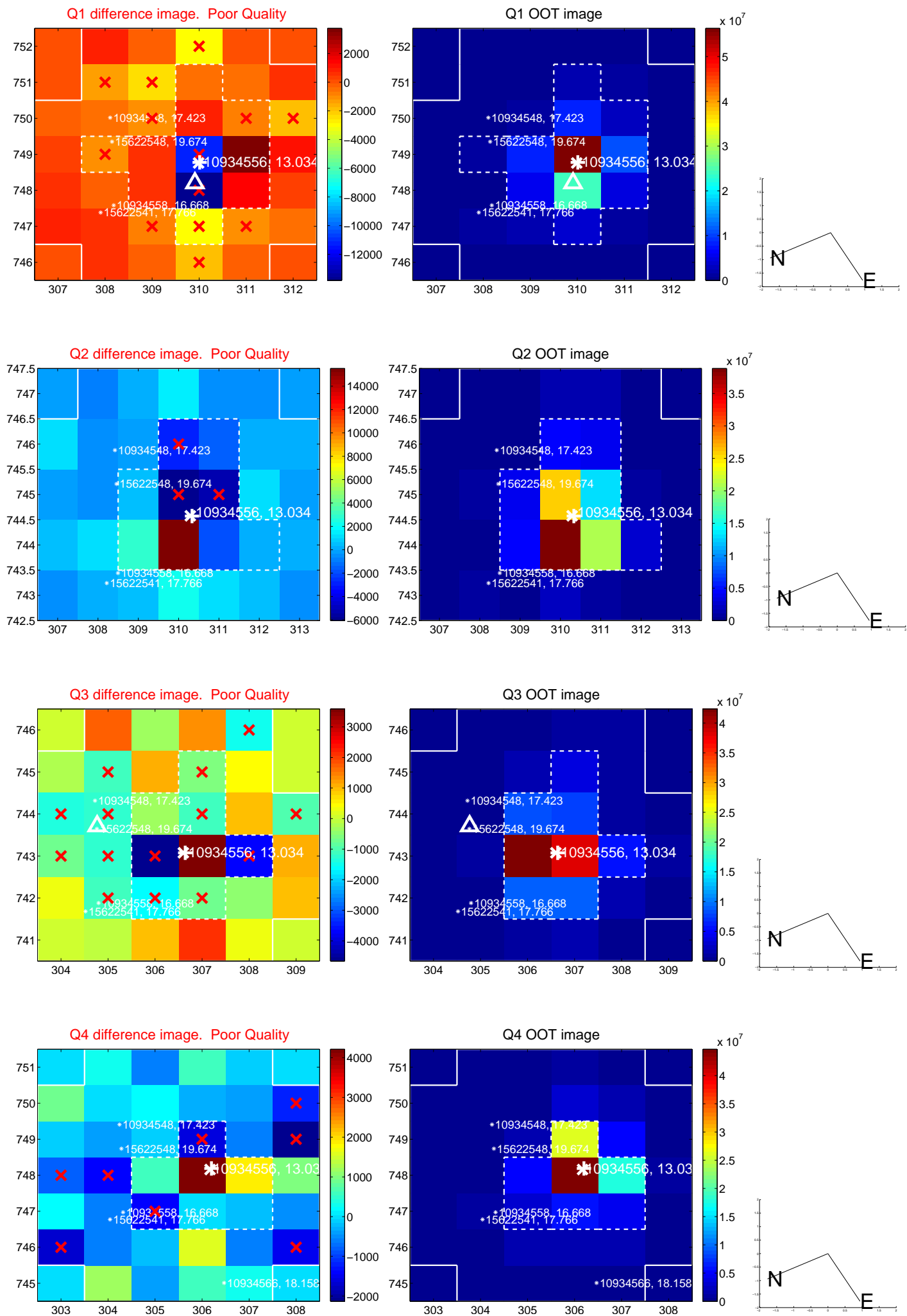
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.488 \pm 1.880$	0.79	$-0.729 \pm 1.429$	$1.298 \pm 2.002$
PRF-fit source offset from KIC position	$1.363 \pm 1.876$	0.73	$-0.694 \pm 1.430$	$1.173 \pm 2.009$
photometric centroid source offset	$0.99 \pm 0.68$	1.45	$0.97 \pm 0.68$	$0.20 \pm 0.78$

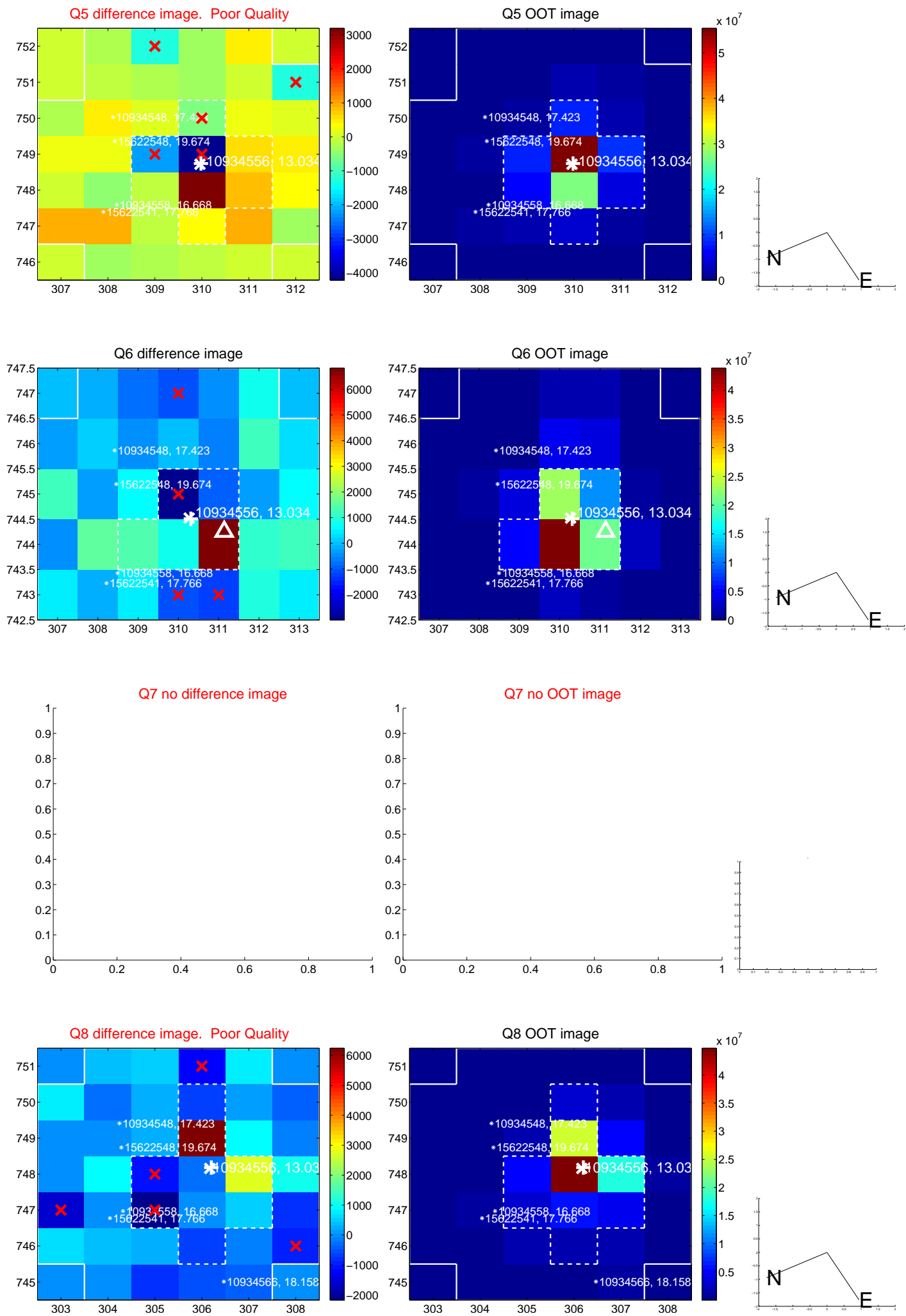


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

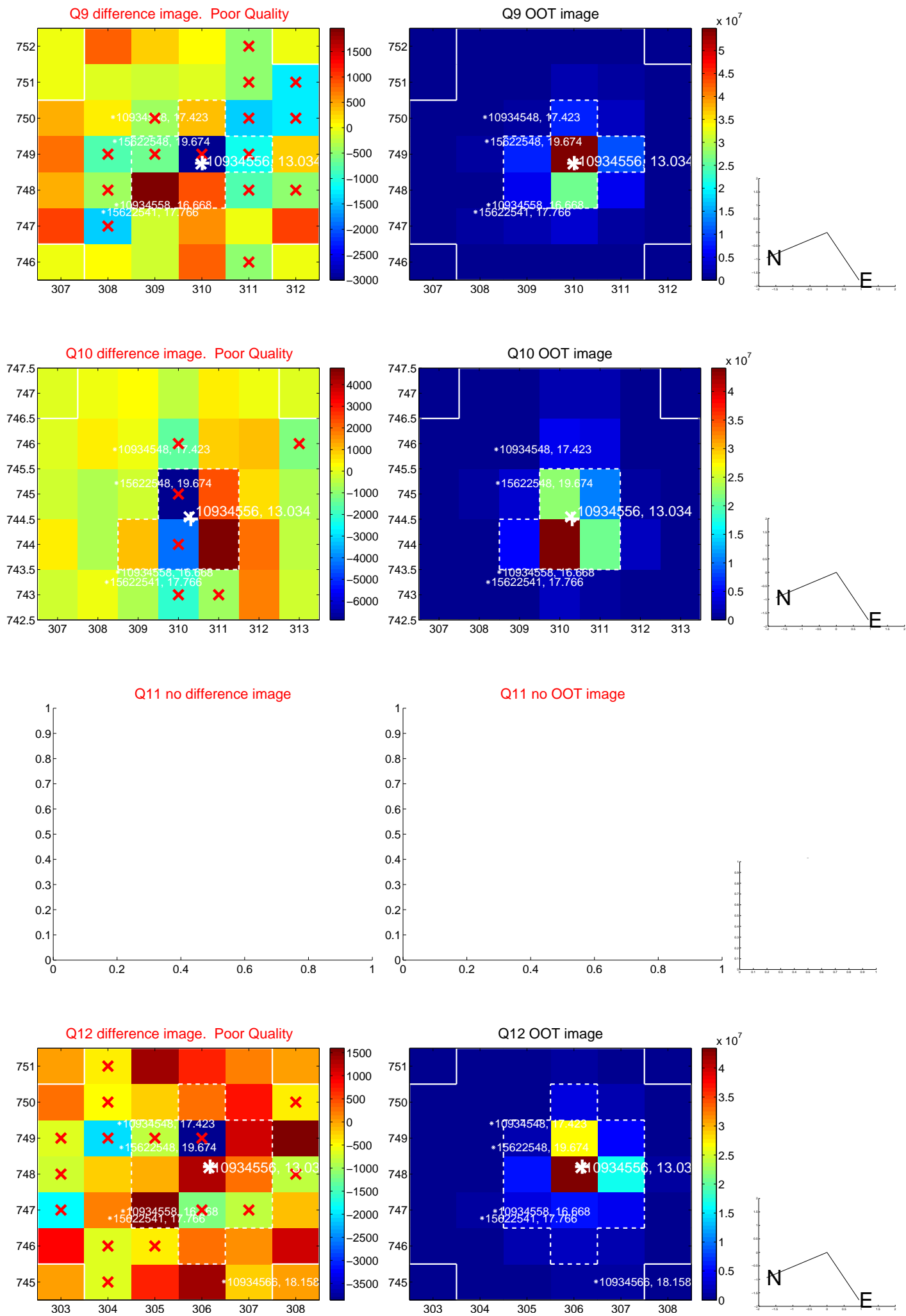
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



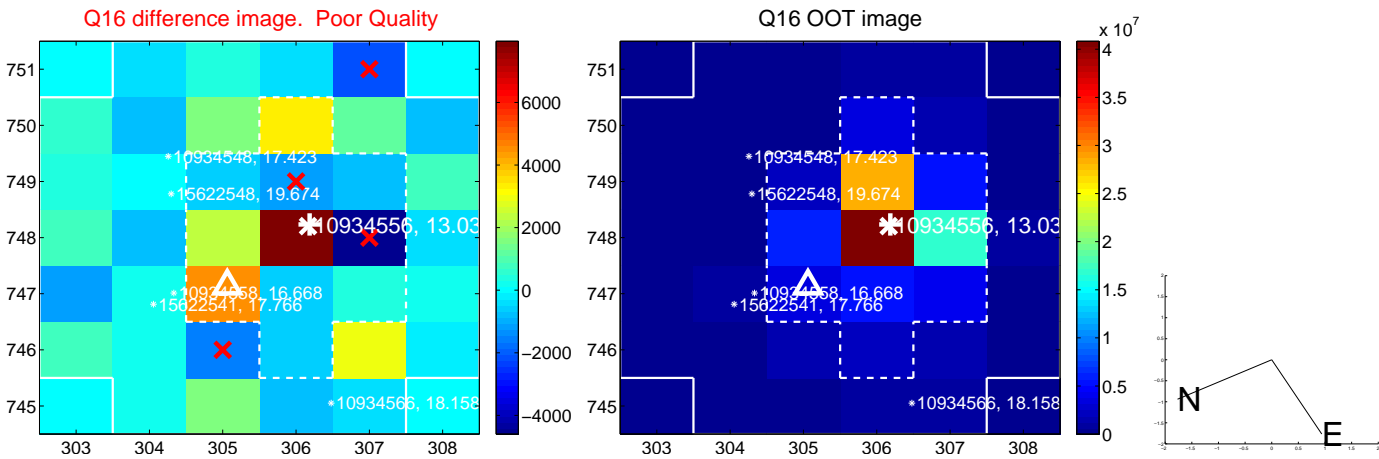
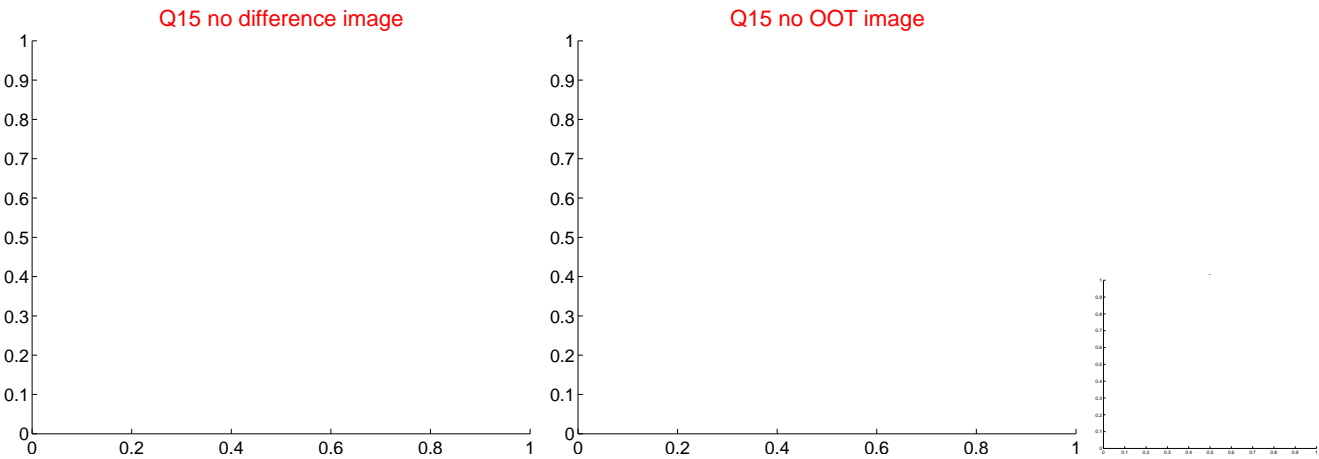
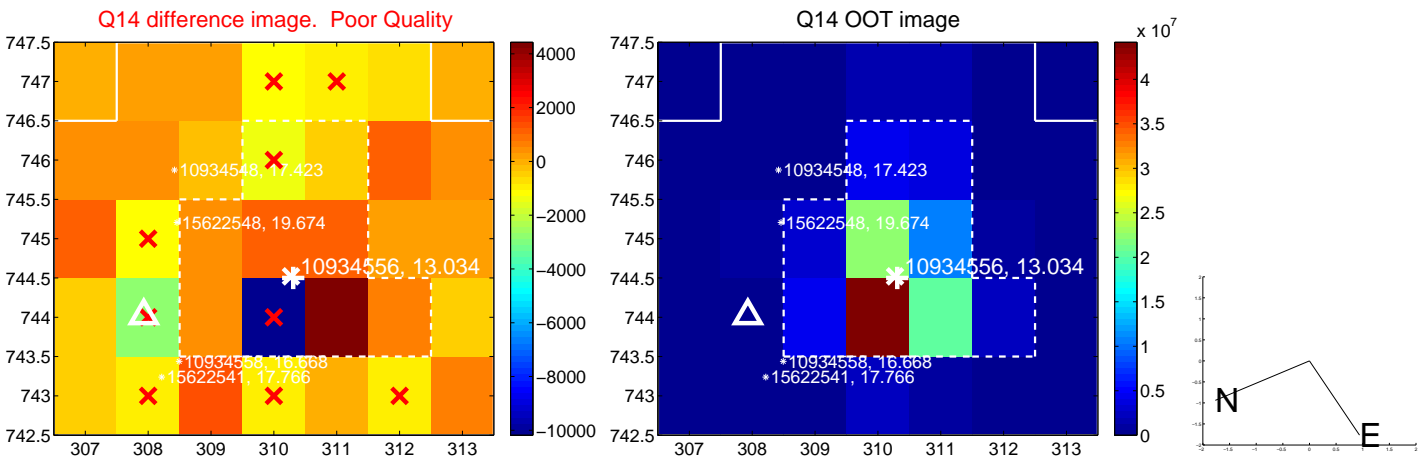
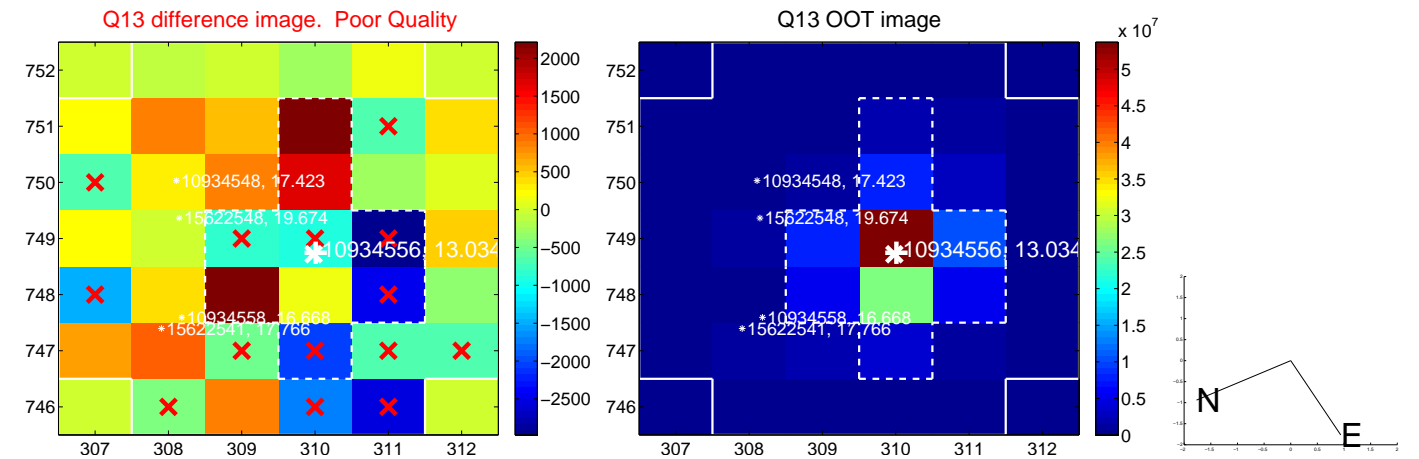
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



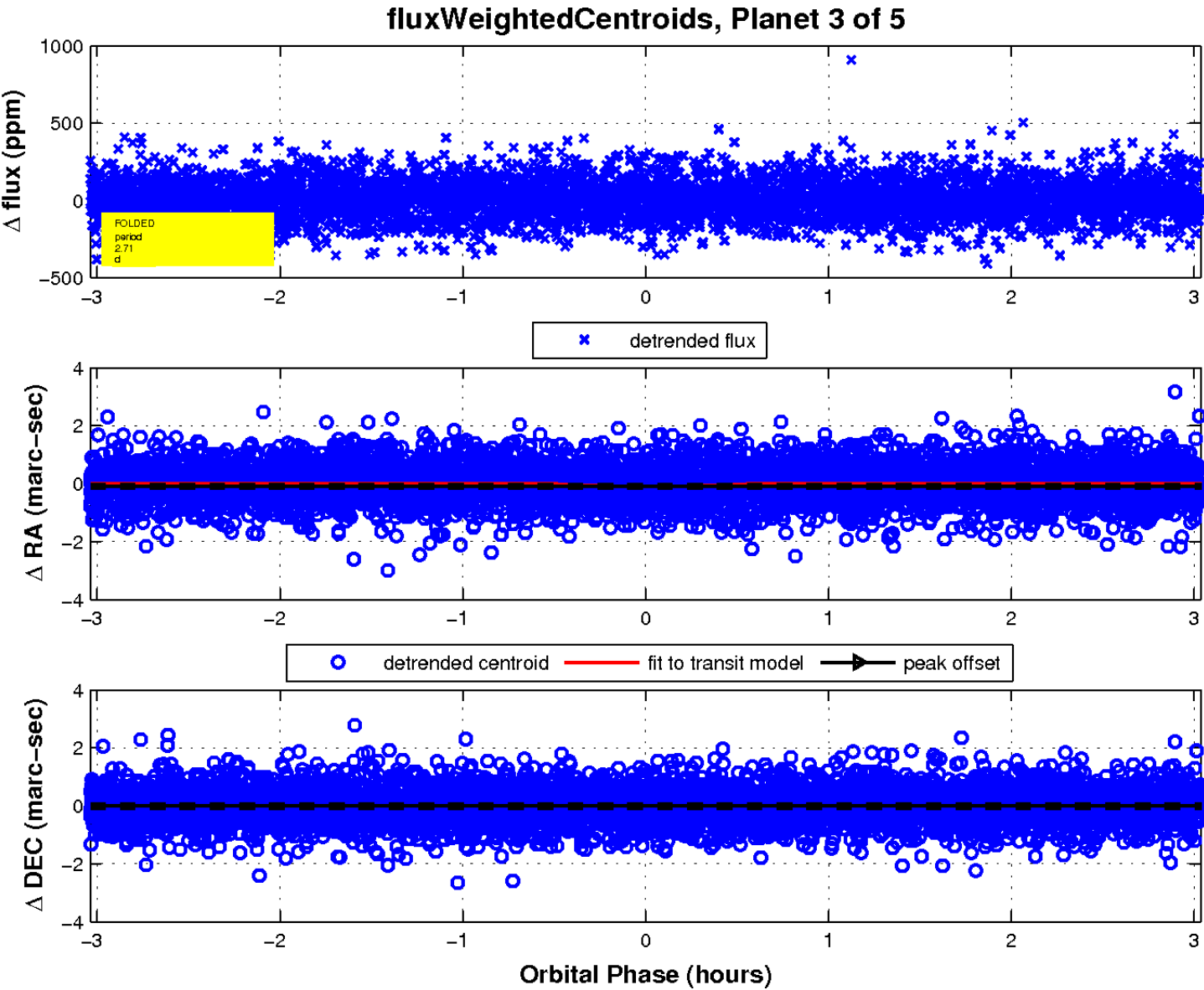
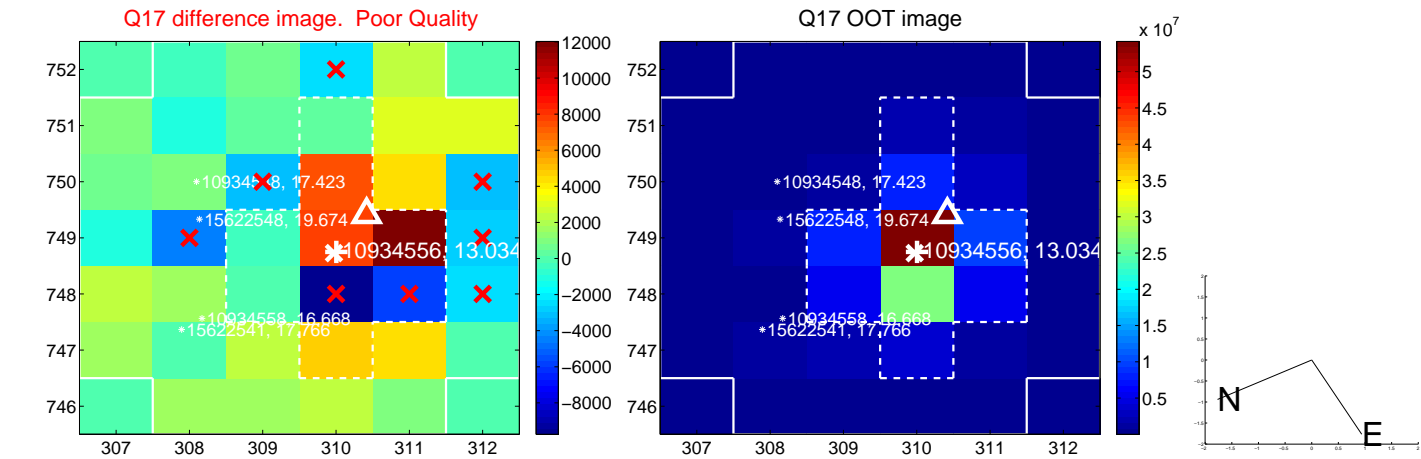
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

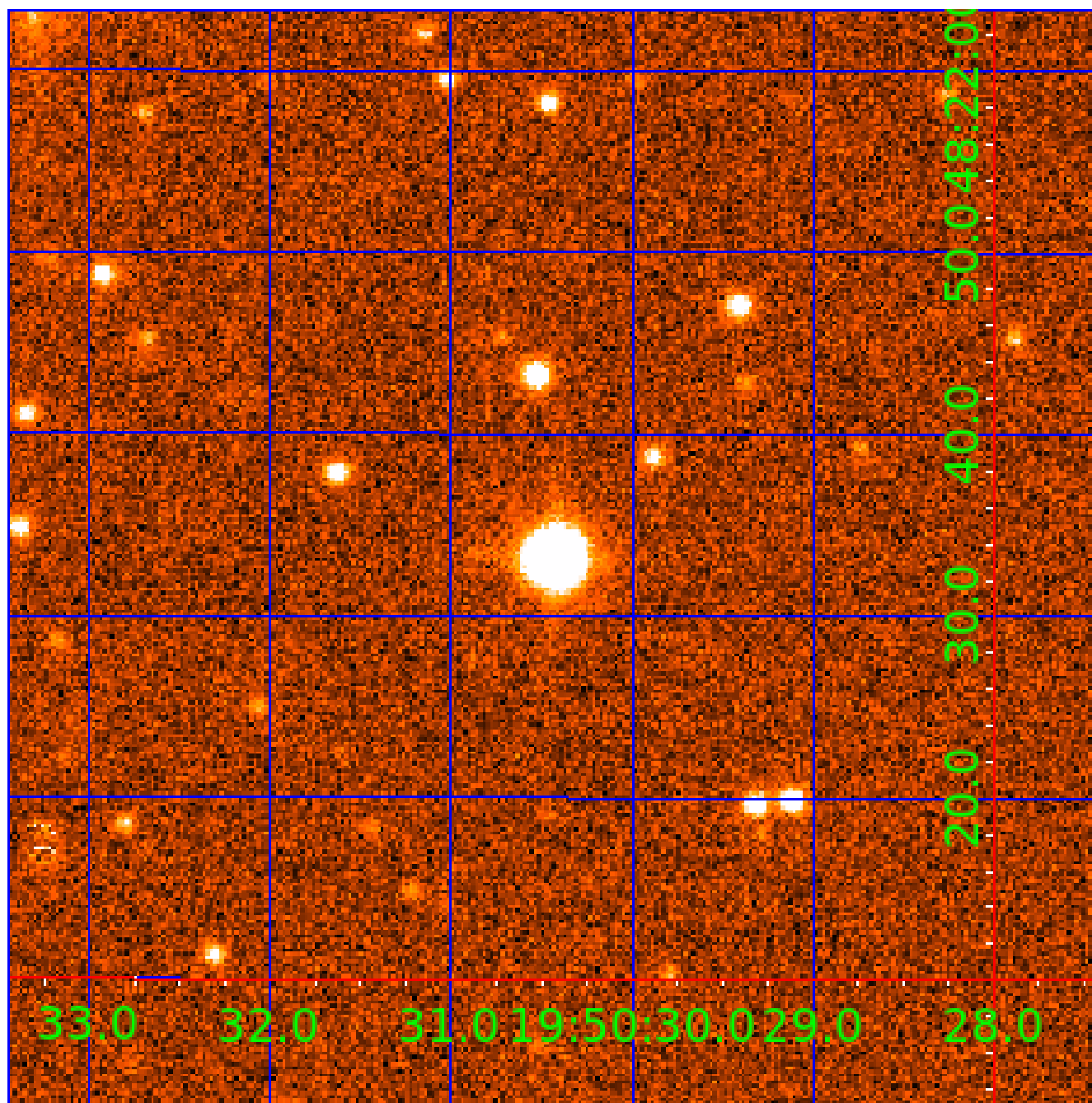


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination





# KIC 010934556

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010934556-01	OBS	No	1.686468	132.648706	10.6	13.111	7.8	8.2	1.90	8203	0.63	12372.01
010934556-02	OBS	No	4.734618	132.455633	177.3	1.109	22.1	23.4	1.90	8203	2.58	3123.90
010934556-03	OBS	No	2.709786	132.909552	90.8	1.013	21.2	13.4	1.90	8203	2.13	6574.02
010934556-04	OBS	No	2.452341	133.728537	105.1	1.563	16.7	15.8	1.90	8203	1.99	7509.94
010934556-05	OBS	No	4.529155	132.342444	555.0	2.000	14.7	-1.0	1.90	8203	4.55	3314.27

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010934556-01	OBS	FP	0.00	1	0	0	0	LPP_DV
010934556-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
010934556-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS
010934556-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
010934556-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS

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

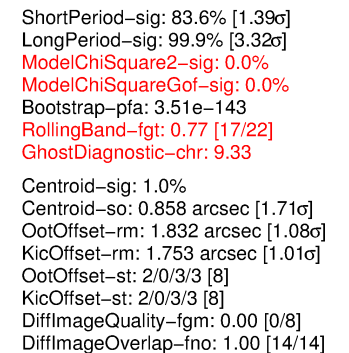
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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 010934556-04

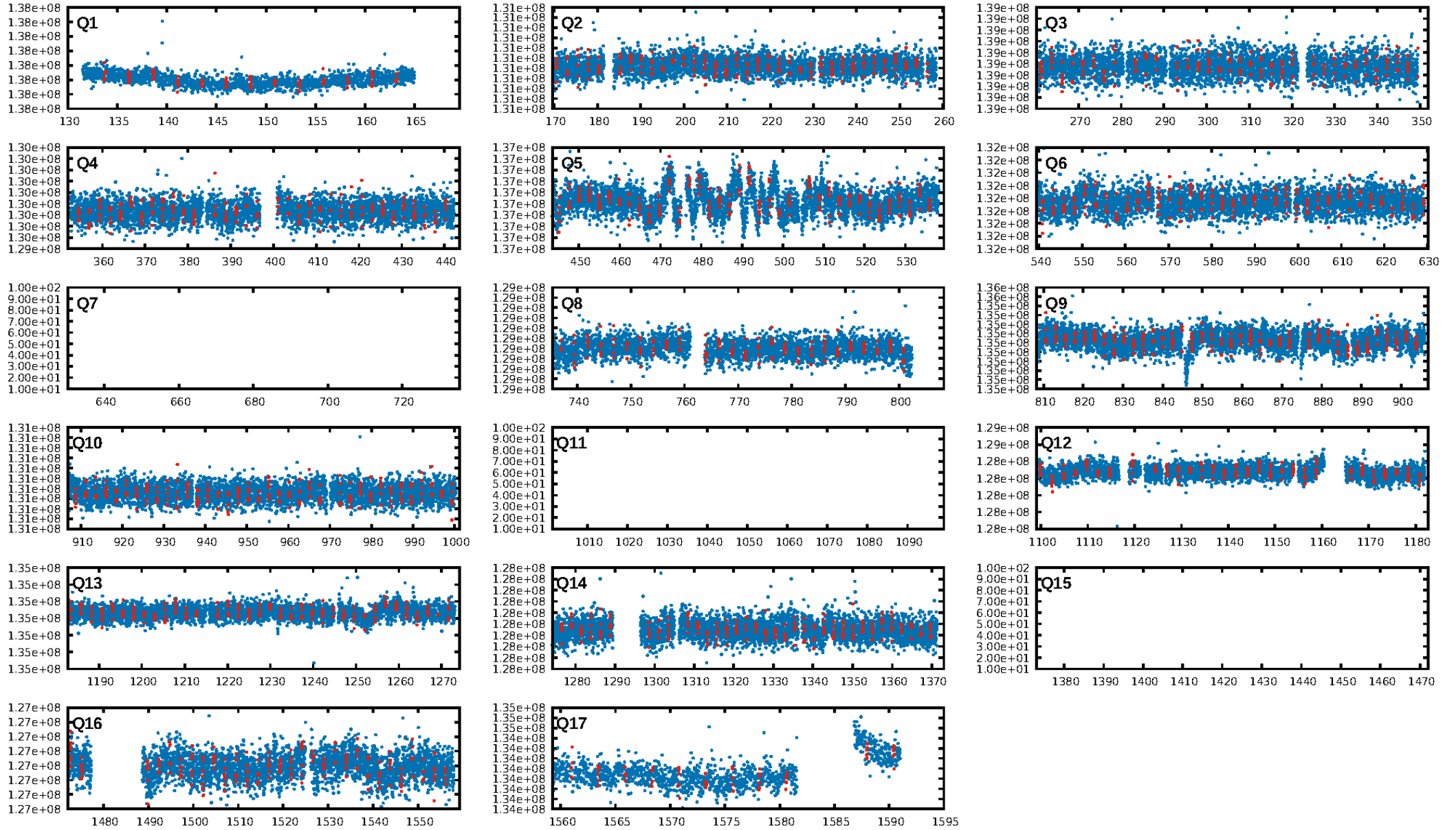
No Significant Match Found

## KIC: 10934556    Candidate: 4 of 5    Period: 2.452 d

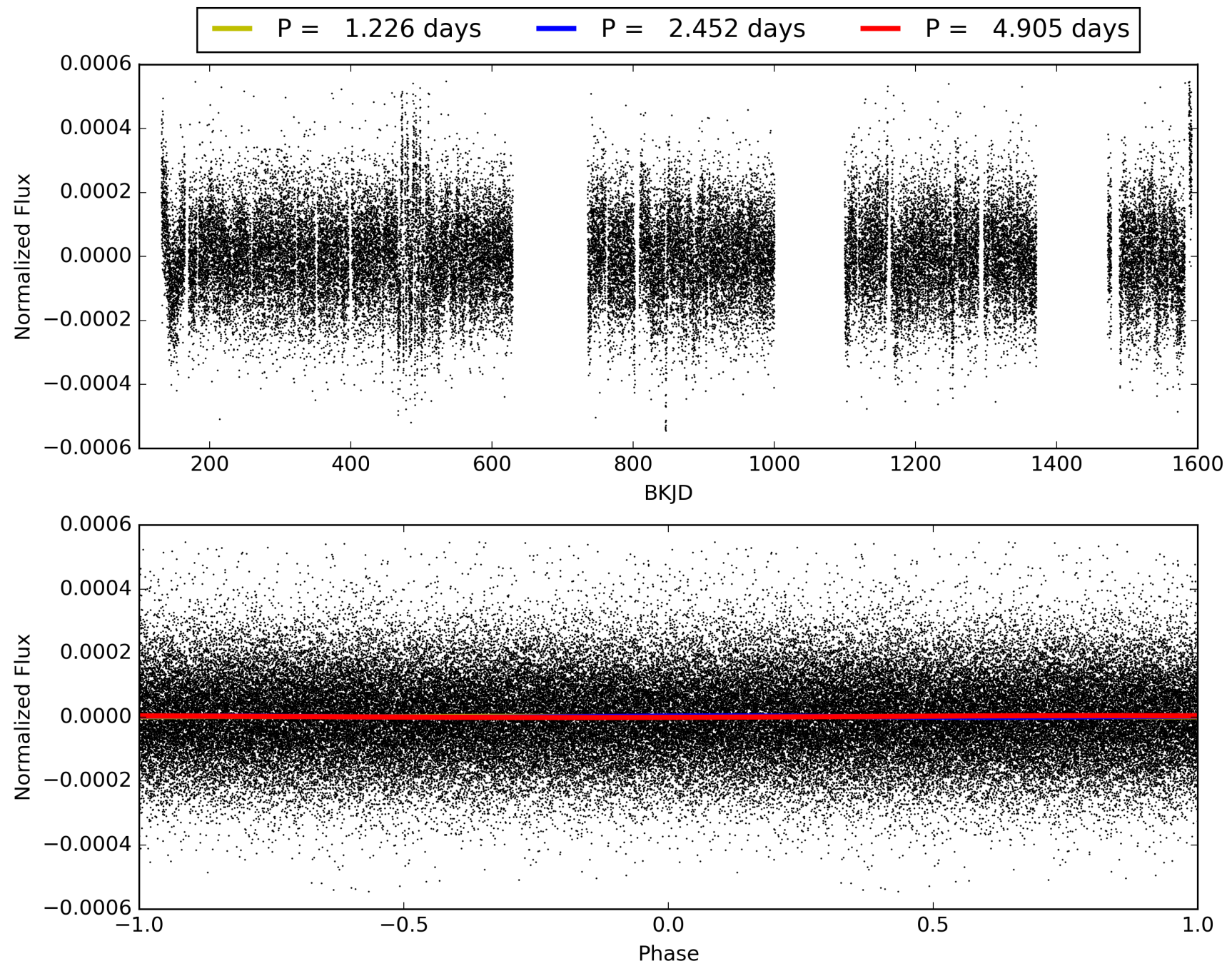


This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 010934556-04, PDC Light Curves

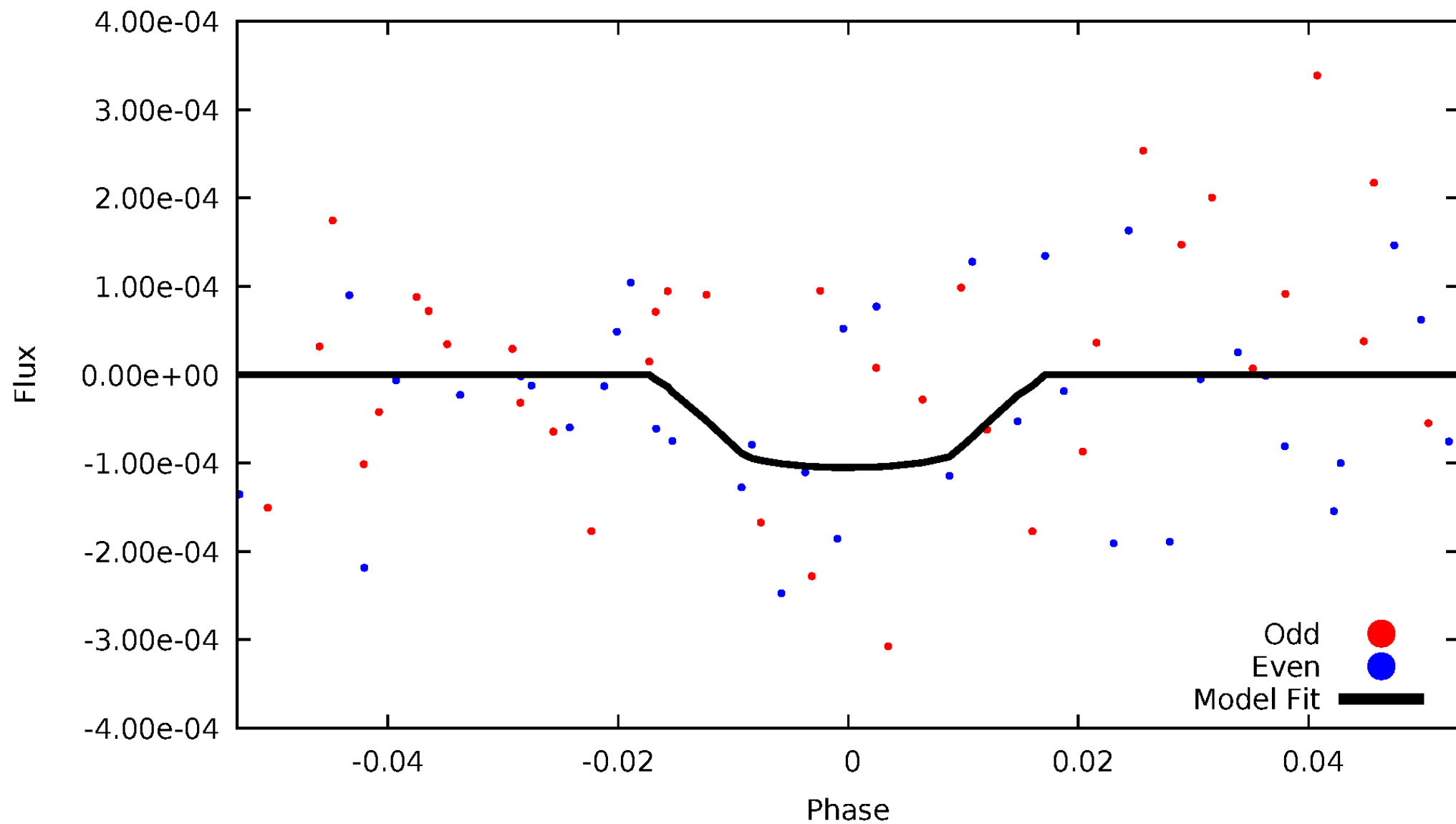


TCE 010934556-04



# DV Odd/Even

TCE 010934556-04





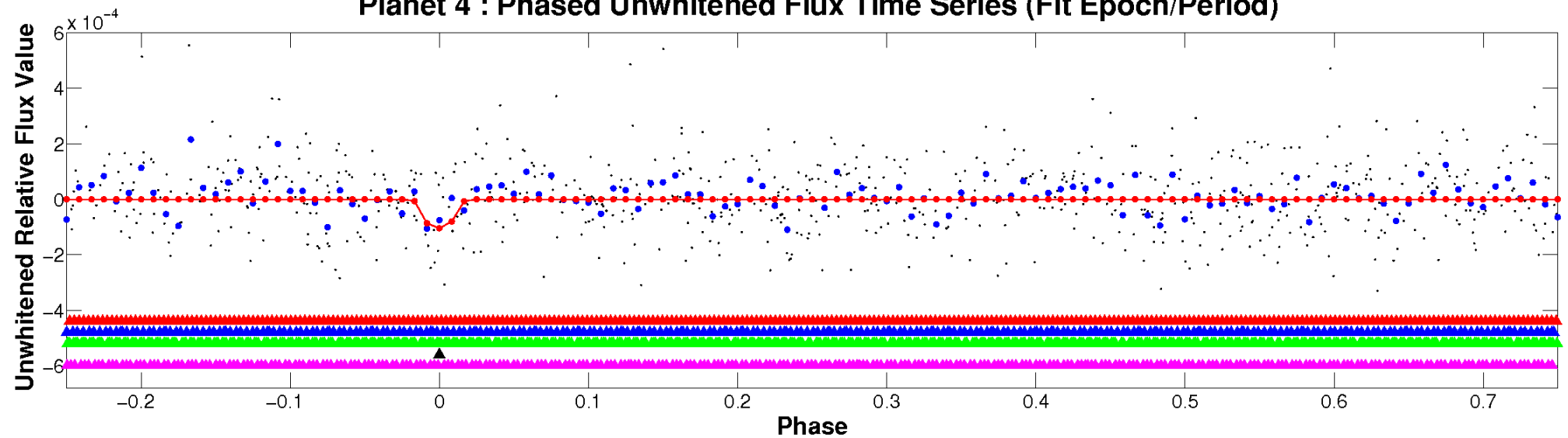
ALT Odd/Even

This plot does not exist for this TCE.

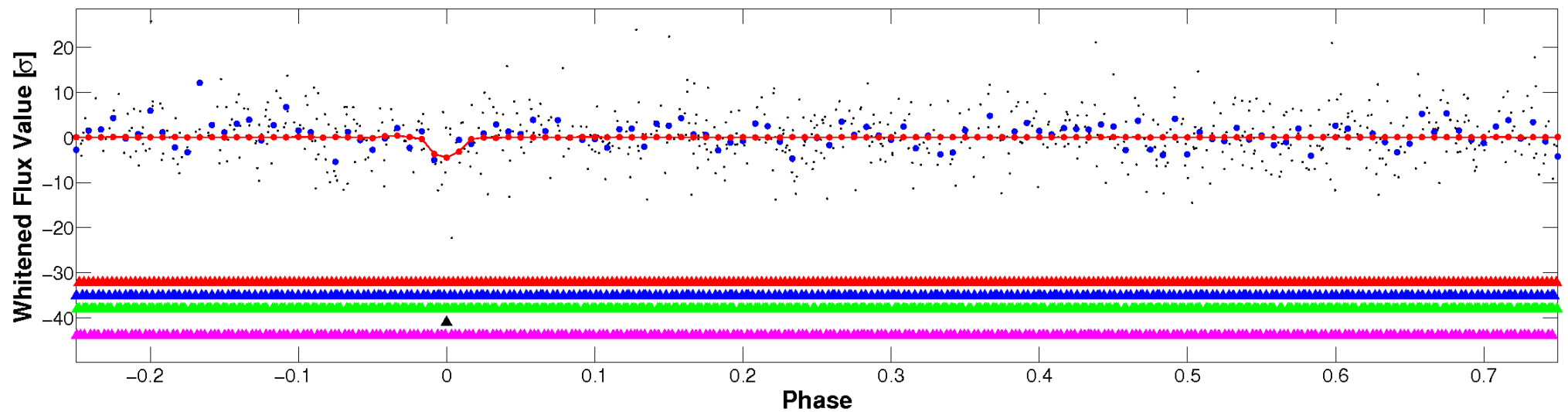


# Non-Whitened Vs. Whitened Light Curve

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

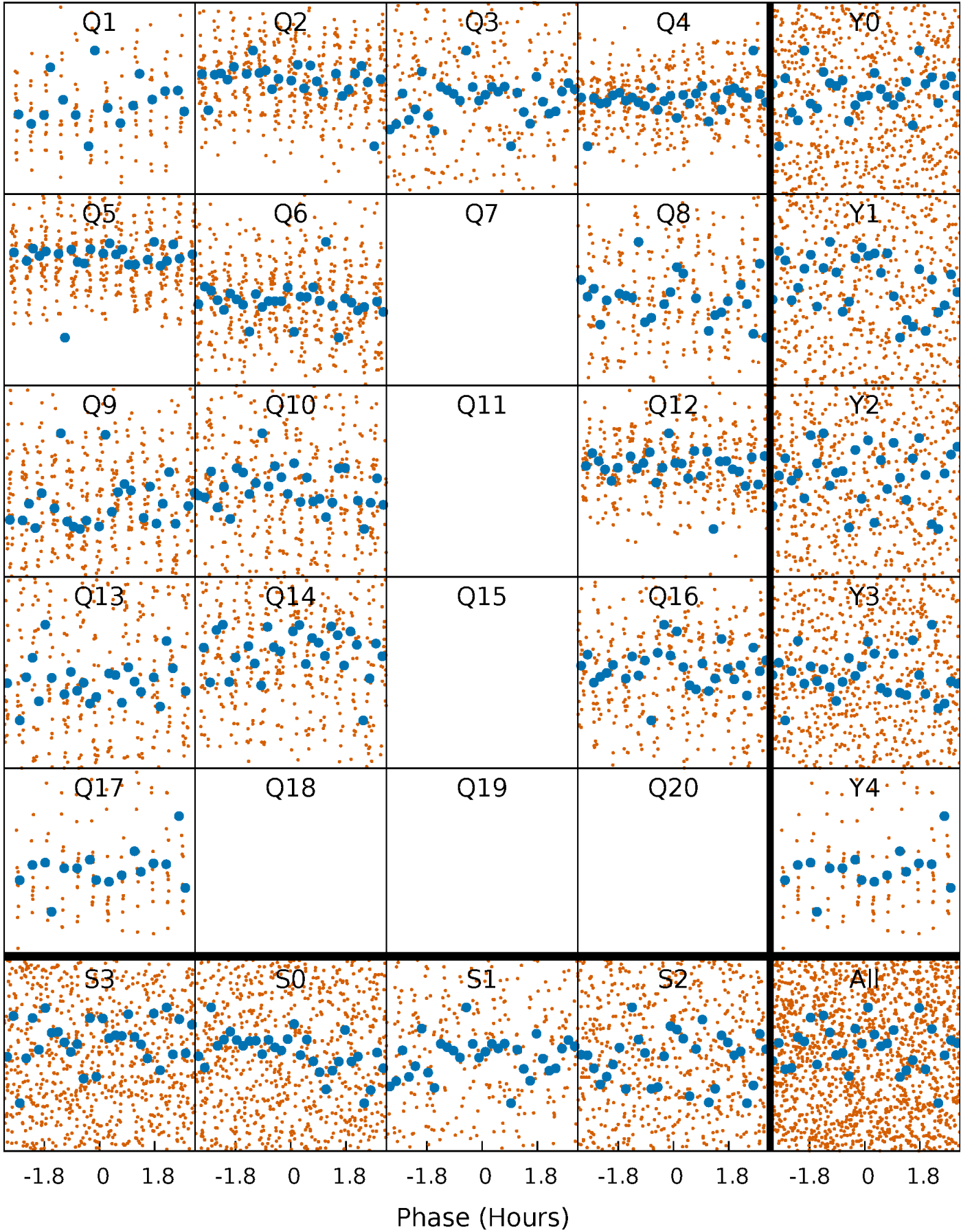


## Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



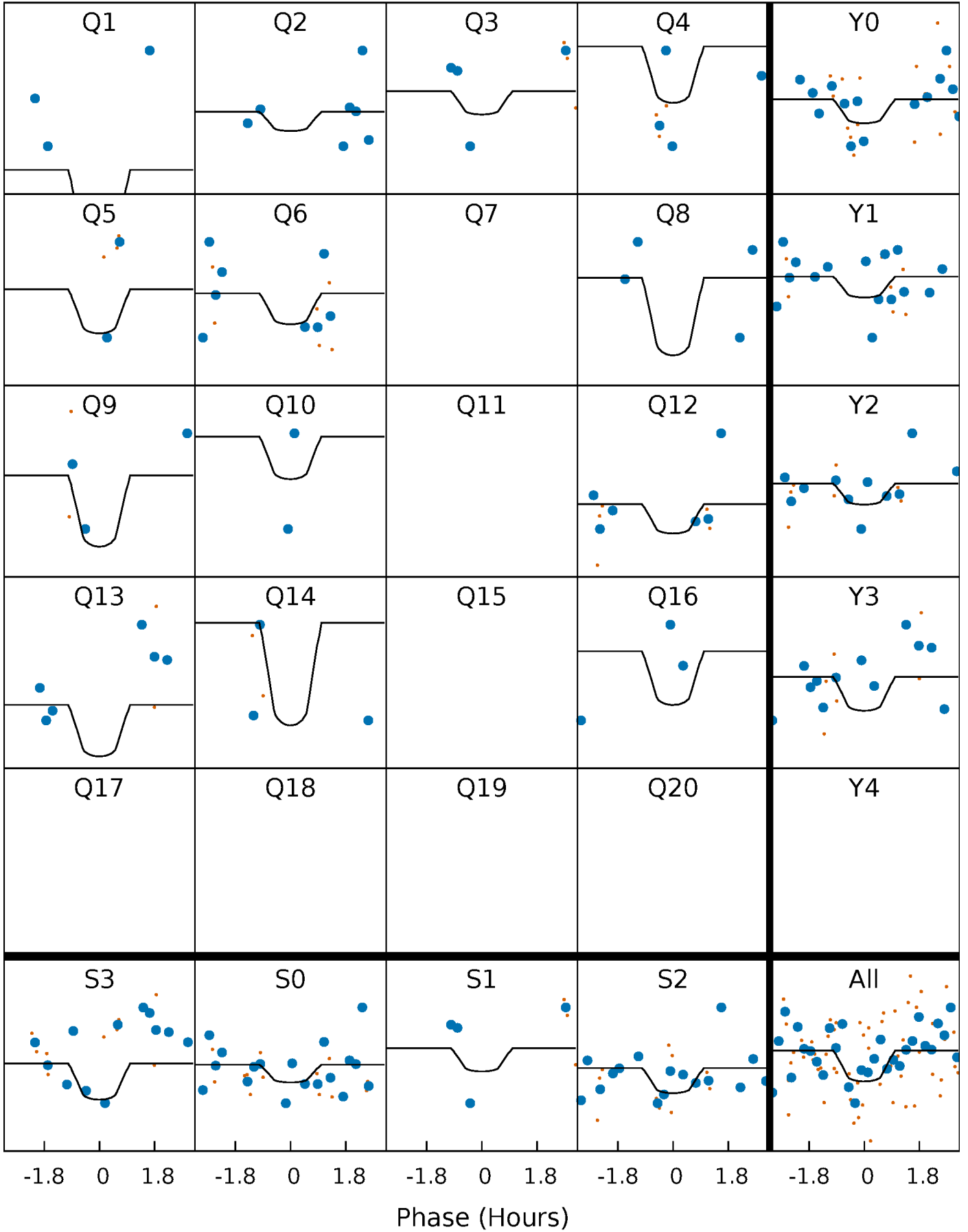
# PDC Quarter-Phased Transit Curves

TCE 010934556-04    P= 2.452341 Days     $T_0=133.728537$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 010934556-04 P= 2.452341 Days  $T_0=133.728537$  (BKJD)

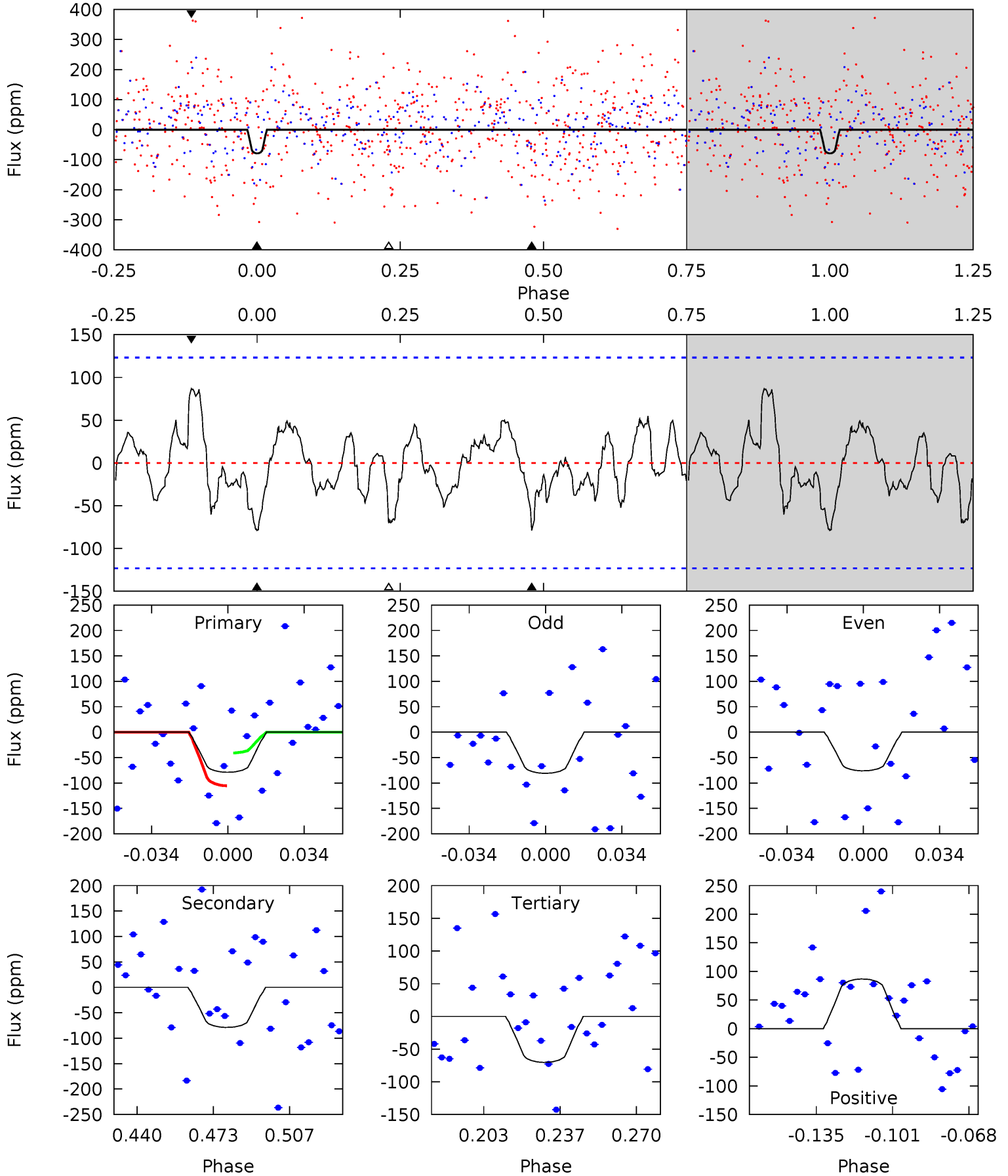


This plot does not exist for this TCE.

# DV Model-Shift Uniqueness Test

010934556-04, P = 2.452341 Days, E = 131.276196 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
3.07	3.06	2.73	3.37	4.79	2.12	1.22	0.33	-0.31	0.33	-0.31	0.10	0.55	0.52	1.26



## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 010934556

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$8203^{+226}_{-356}$	$4.162^{+0.081}_{-0.175}$	$0.210^{+0.150}_{-0.550}$	$1.903^{+0.537}_{-0.289}$	$1.918^{+0.288}_{-0.352}$	$0.392^{+0.164}_{-0.186}$
	+3%/-4%	+2%/-4%	+71%/-262%	+28%/-15%	+15%/-18%	+42%/-47%
Source	KIC0	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 010934556-04 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-79 \pm 26$	$6.92^{+7.33}_{-4.94}$	$3357^{+228}_{-199}$	$4159^{+3306}_{-1470}$	$1.652^{+16.246}_{-1.275}$
Alt.	N/A	N/A	N/A	N/A	N/A

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

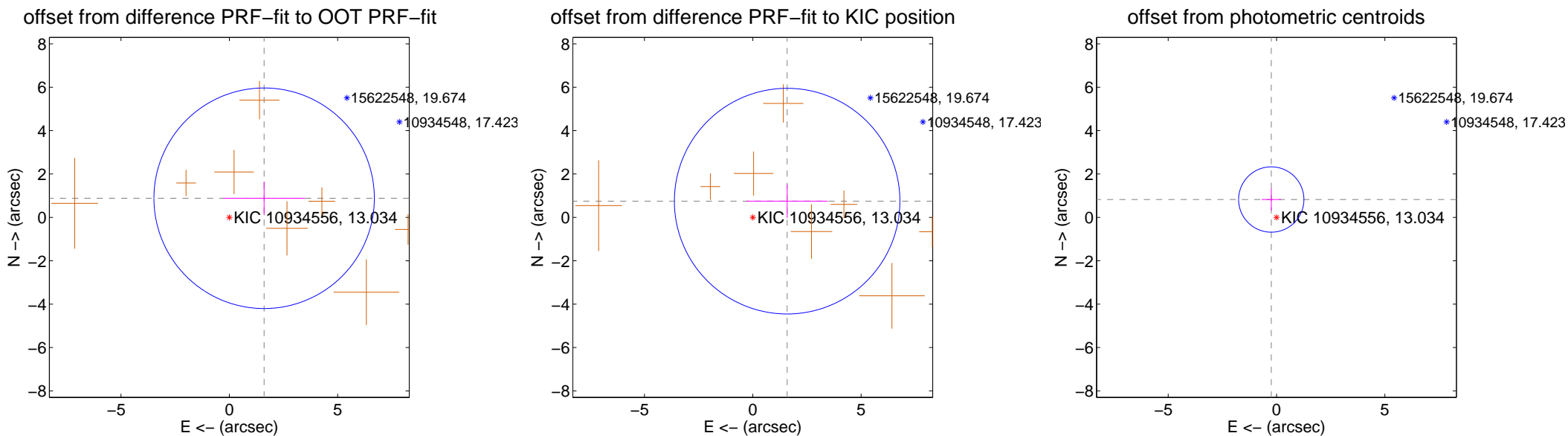
## DV Centroid Data

Supplemental centroid analysis for 010934556-04. Kepler magnitude: 13.03. Transit SNR 15.84

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

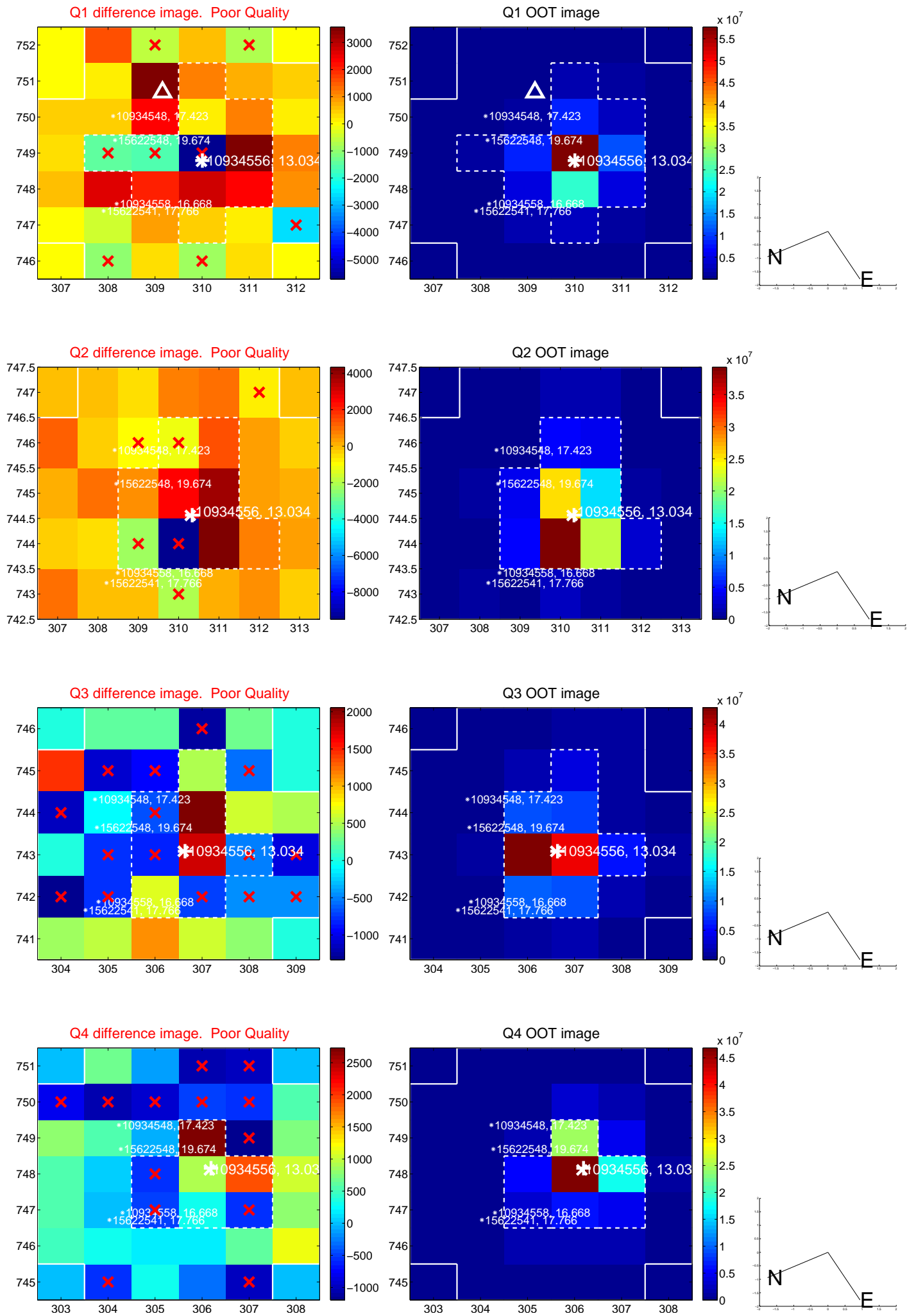
	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.832 \pm 1.695$	1.08	$-1.606 \pm 1.887$	$0.881 \pm 0.771$
PRF-fit source offset from KIC position	$1.753 \pm 1.734$	1.01	$-1.585 \pm 1.883$	$0.749 \pm 0.771$
photometric centroid source offset	$0.86 \pm 0.50$	1.71	$0.24 \pm 0.44$	$0.82 \pm 0.51$



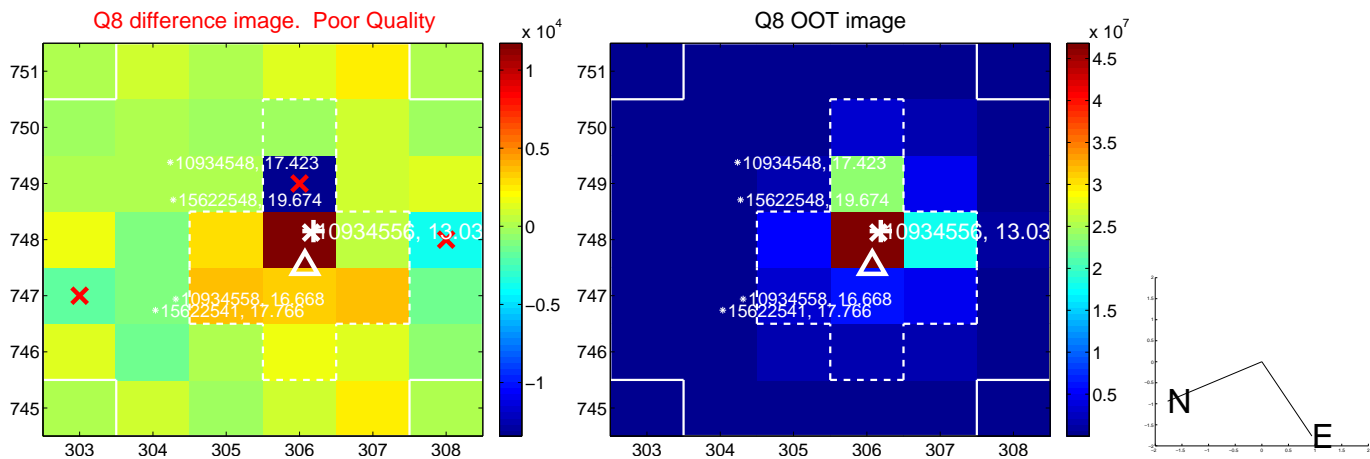
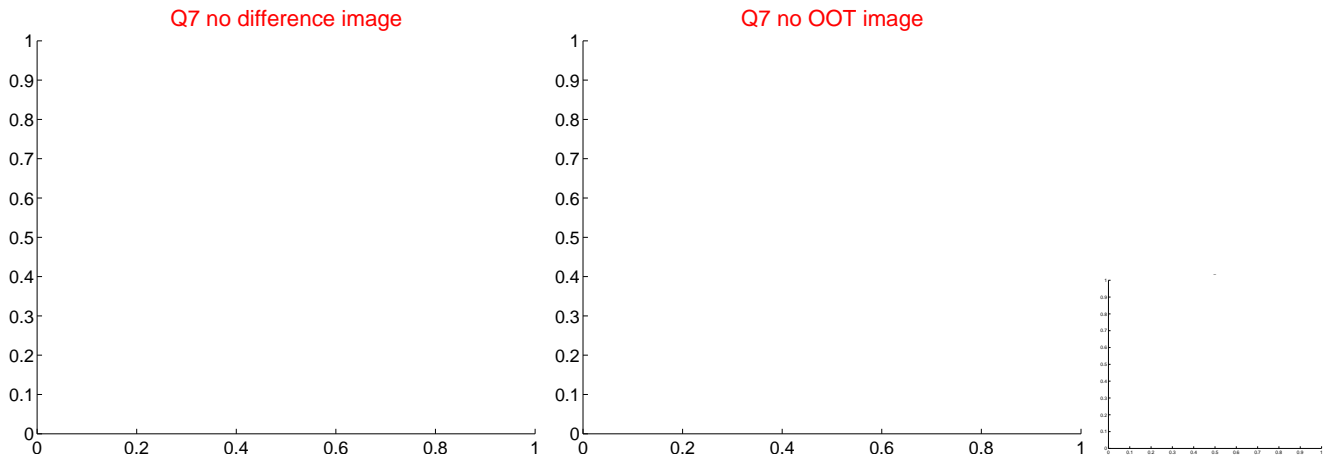
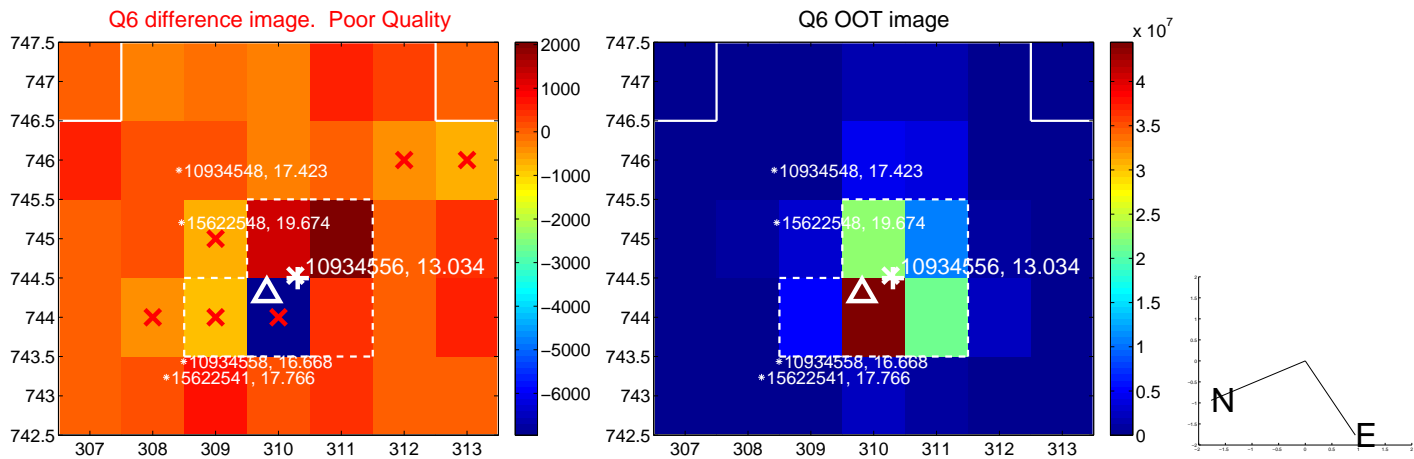
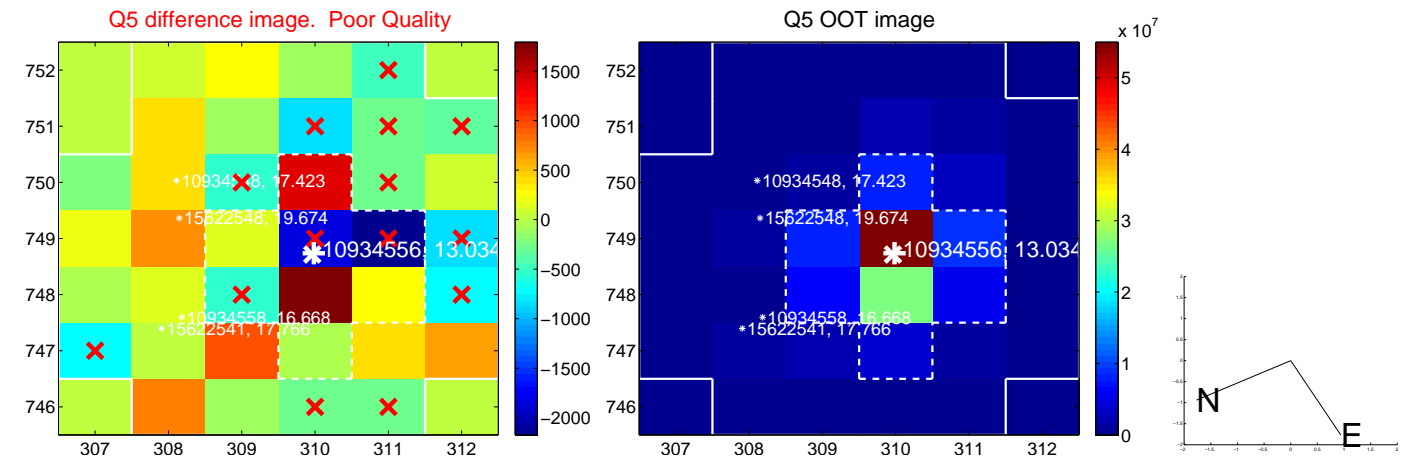
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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



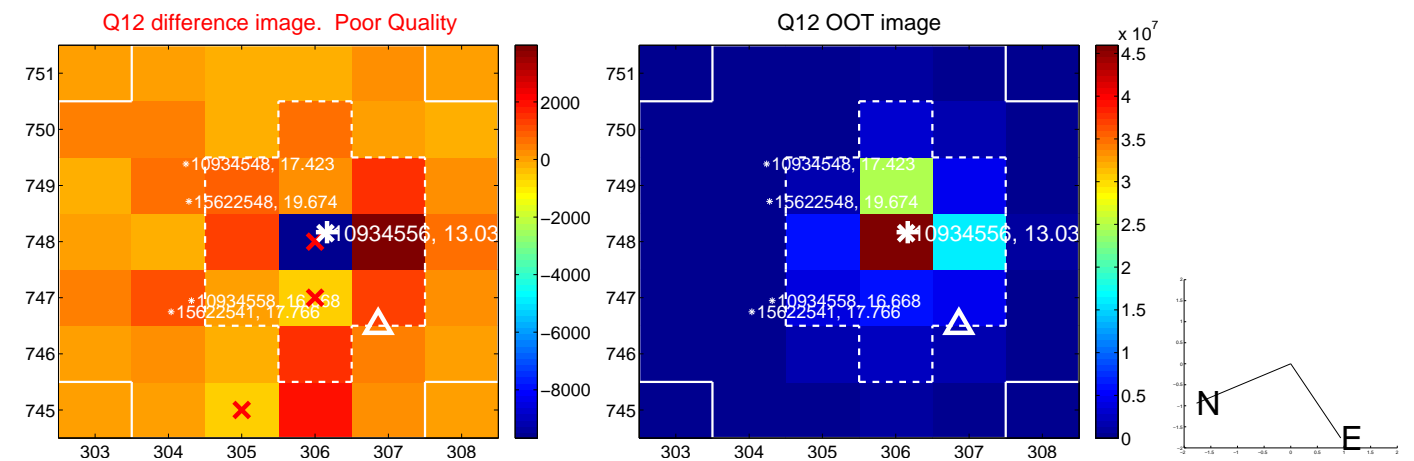
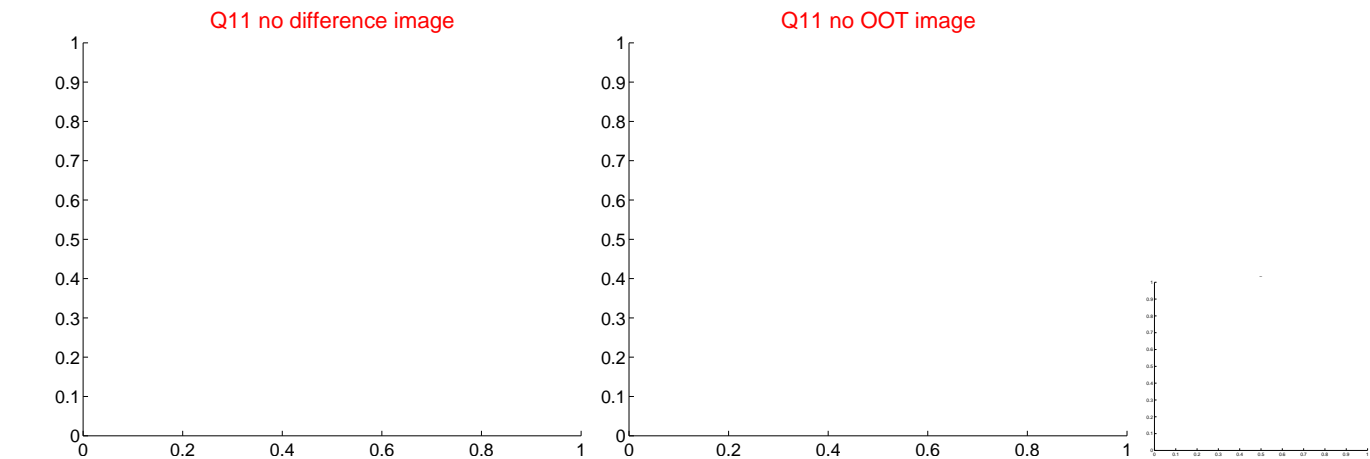
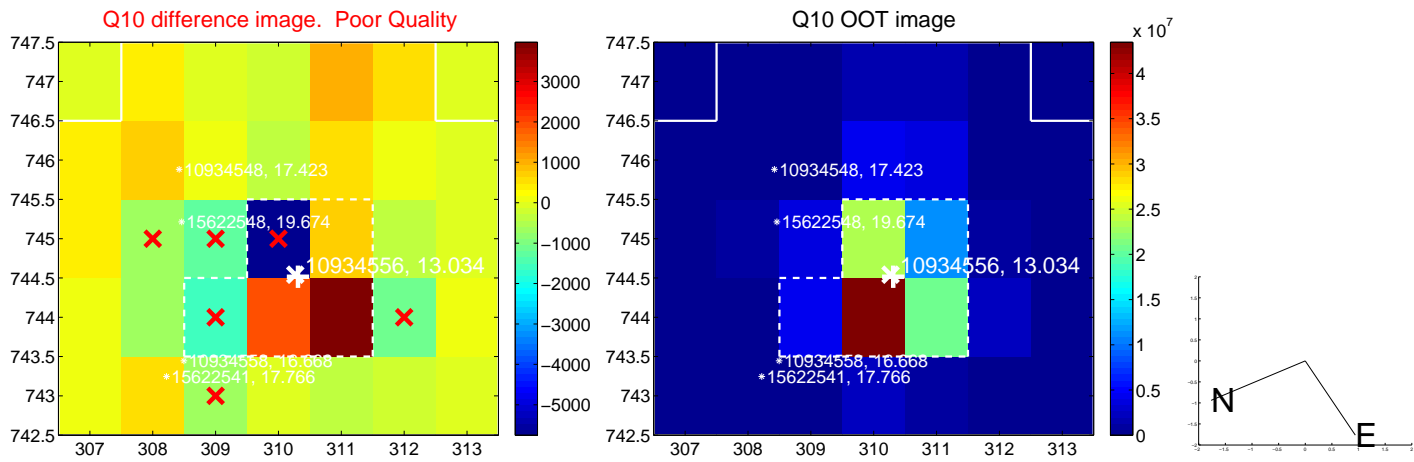
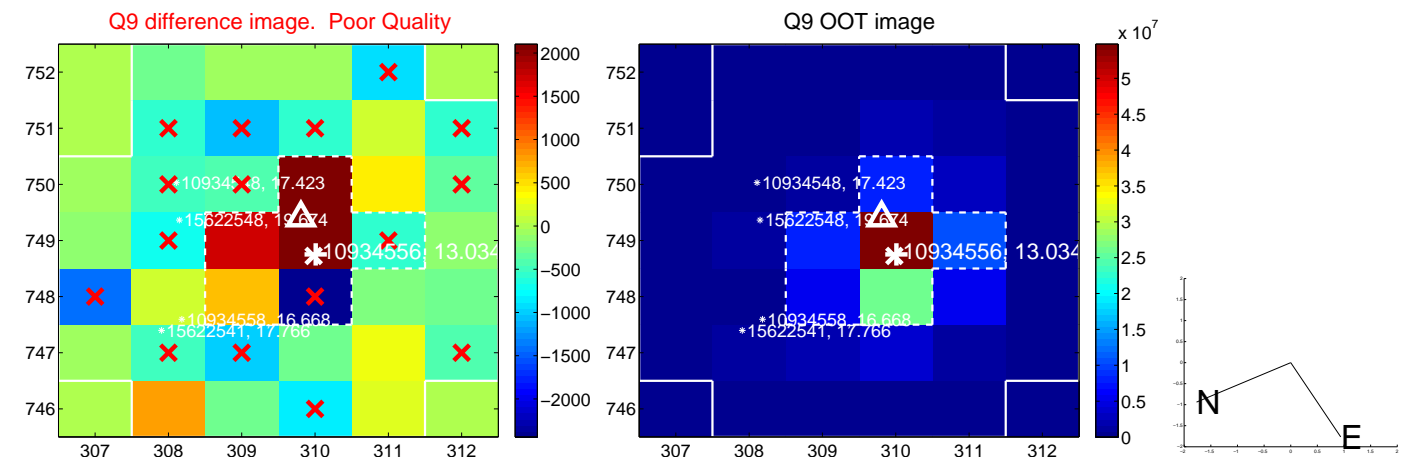
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



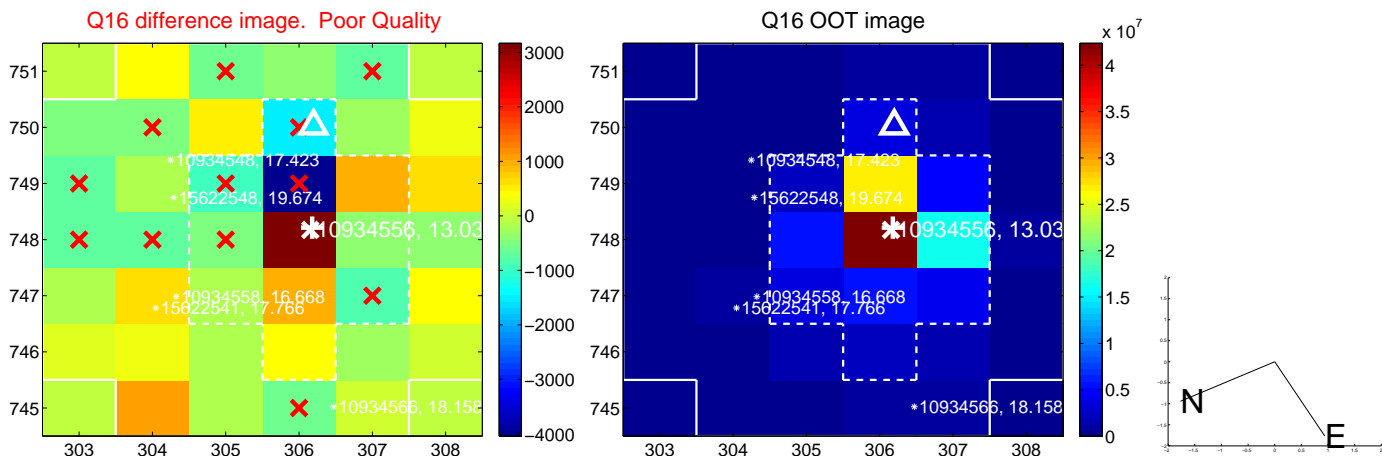
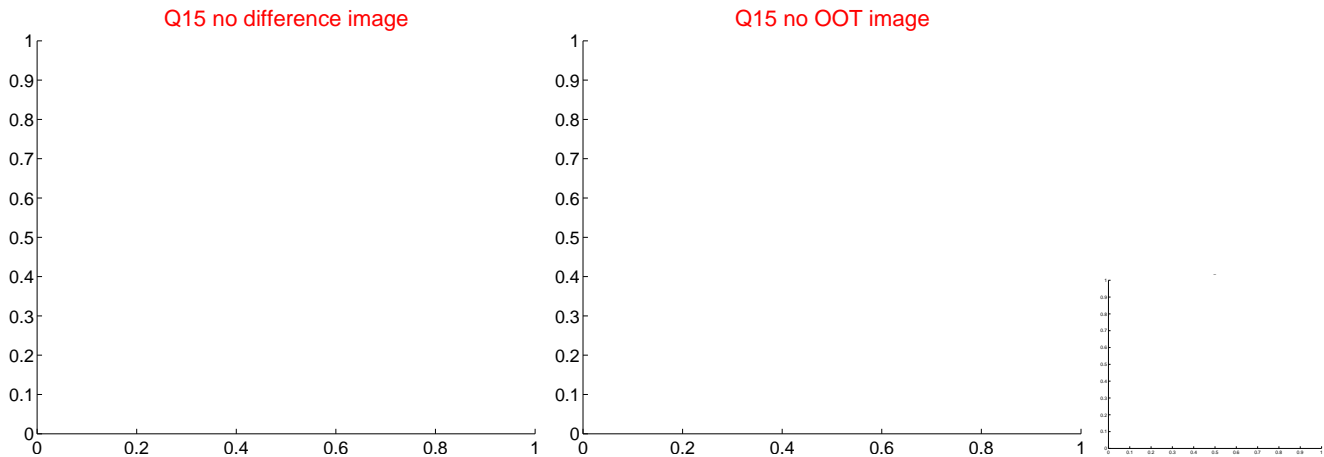
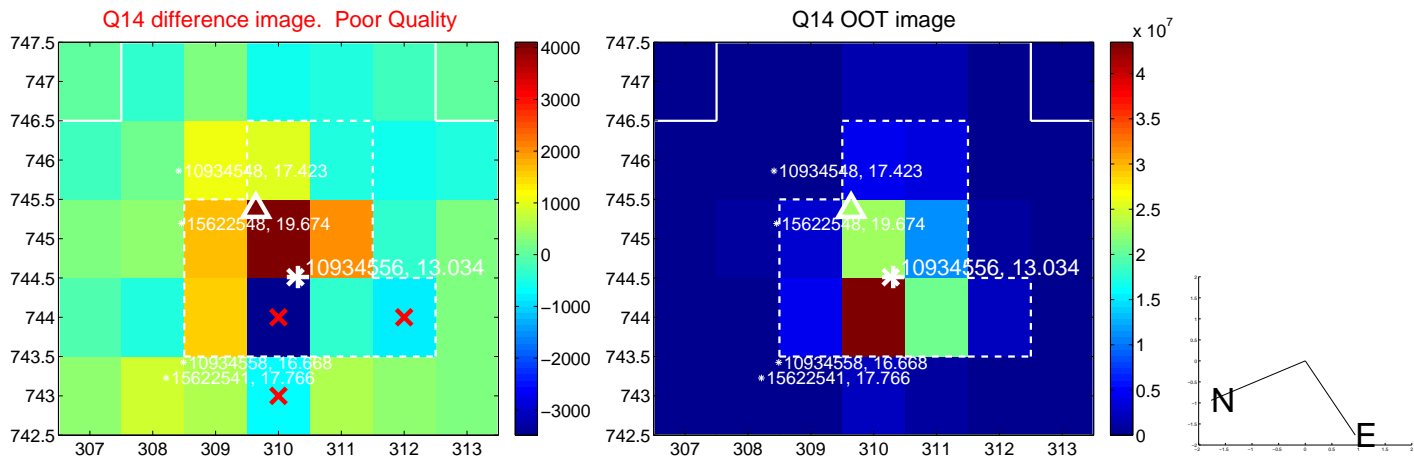
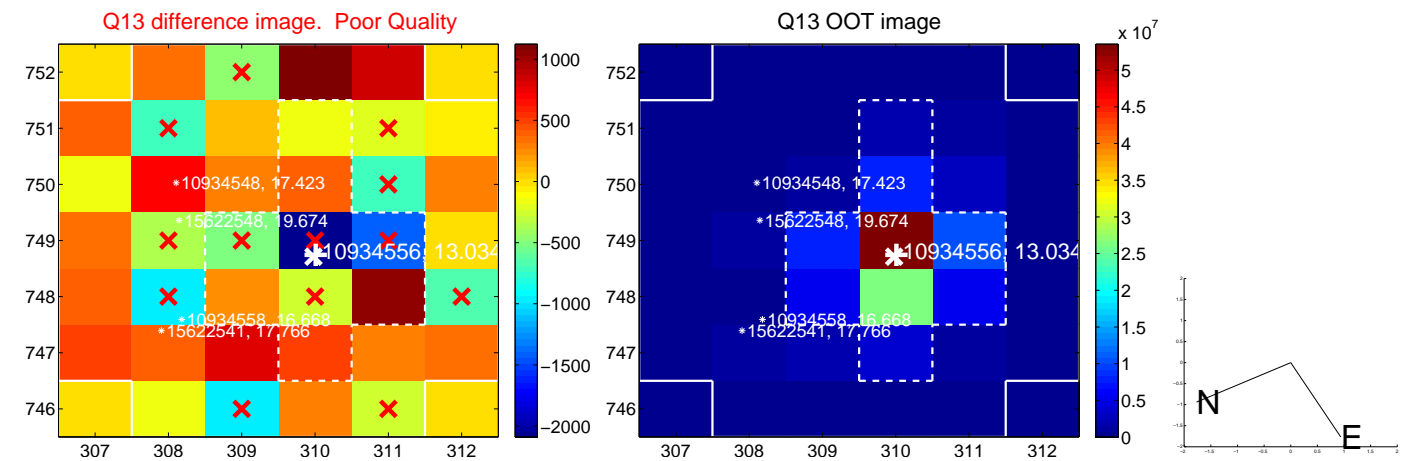
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



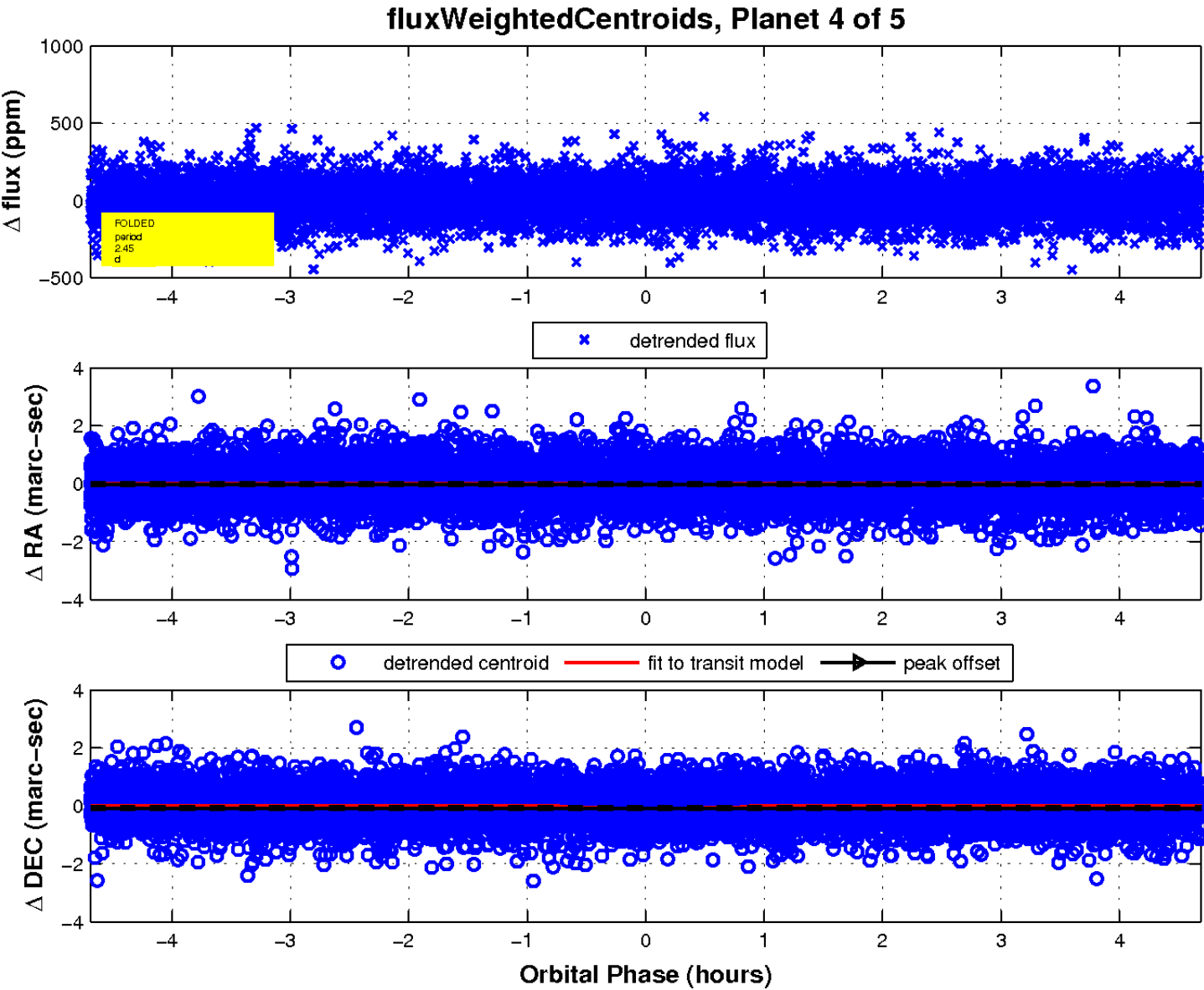
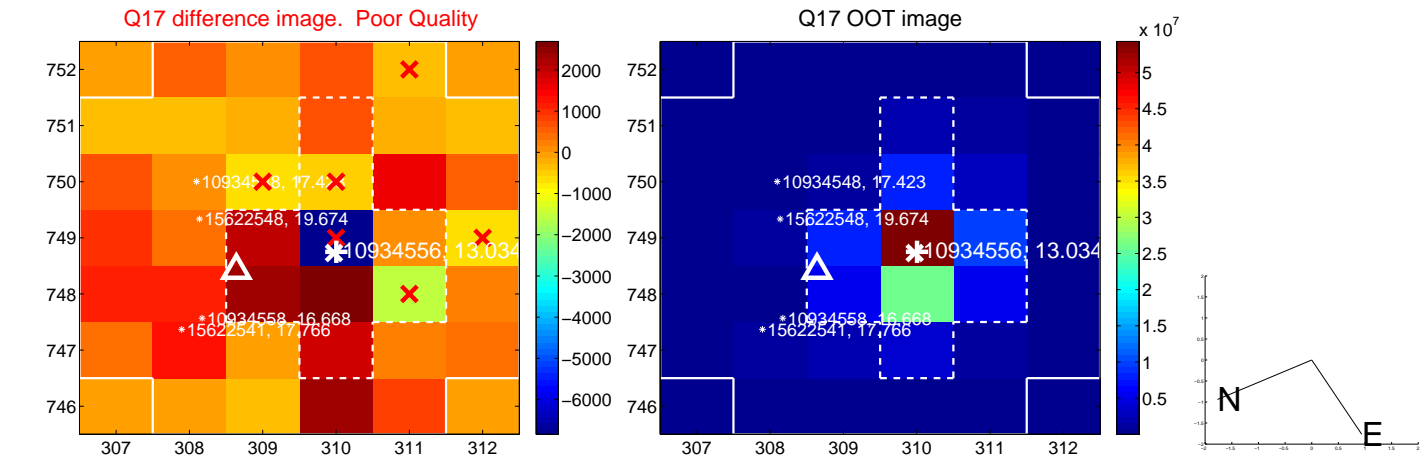
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

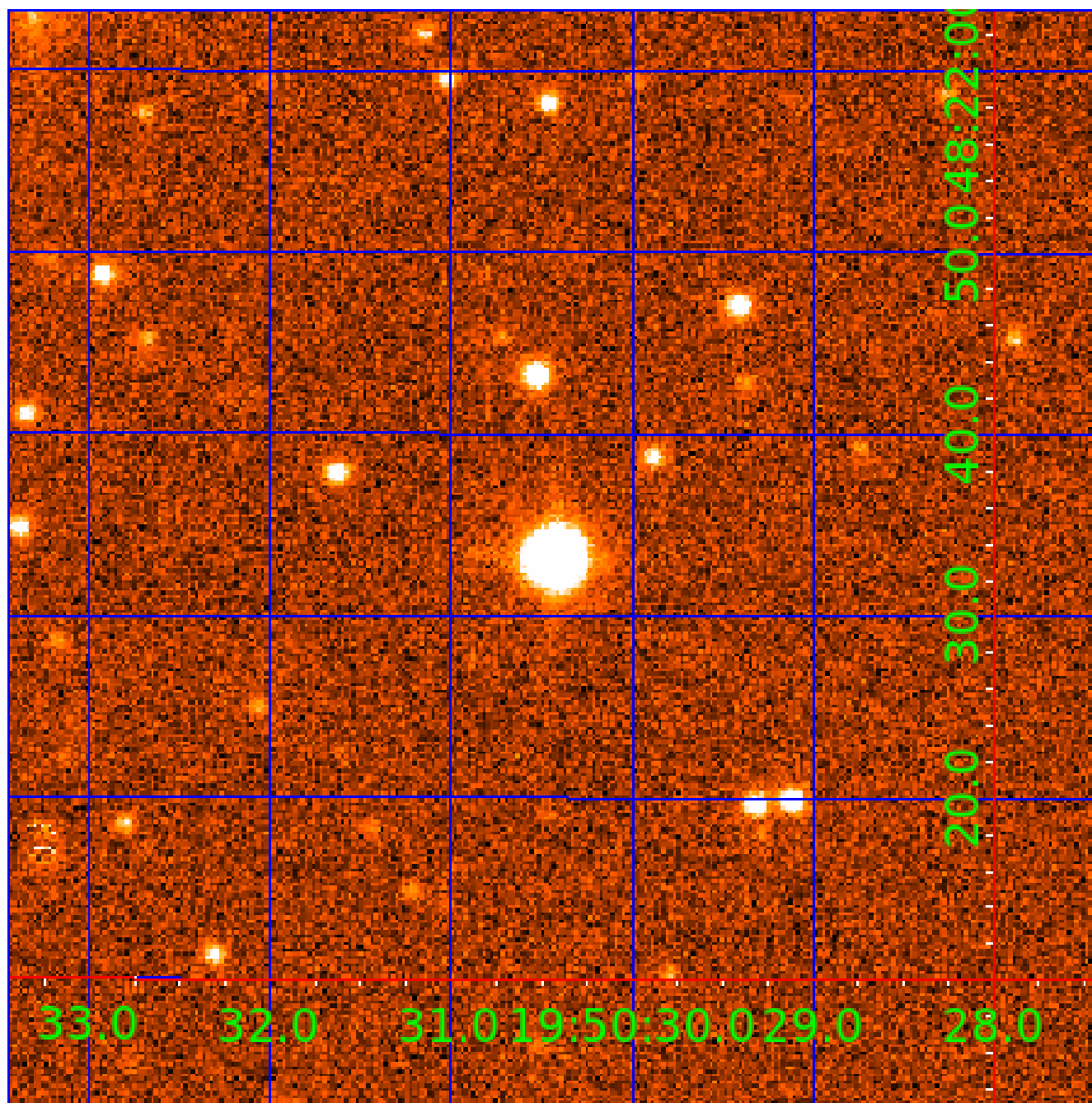


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination



# KIC 010934556

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010934556-01	OBS	No	1.686468	132.648706	10.6	13.111	7.8	8.2	1.90	8203	0.63	12372.01
010934556-02	OBS	No	4.734618	132.455633	177.3	1.109	22.1	23.4	1.90	8203	2.58	3123.90
010934556-03	OBS	No	2.709786	132.909552	90.8	1.013	21.2	13.4	1.90	8203	2.13	6574.02
010934556-04	OBS	No	2.452341	133.728537	105.1	1.563	16.7	15.8	1.90	8203	1.99	7509.94
010934556-05	OBS	No	4.529155	132.342444	555.0	2.000	14.7	-1.0	1.90	8203	4.55	3314.27

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010934556-01	OBS	FP	0.00	1	0	0	0	LPP_DV
010934556-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
010934556-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS
010934556-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
010934556-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS

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

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

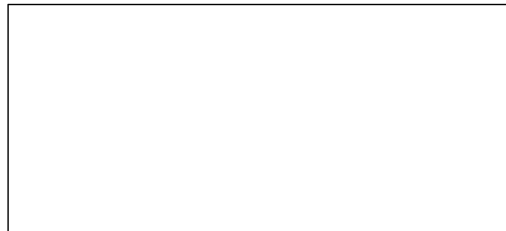
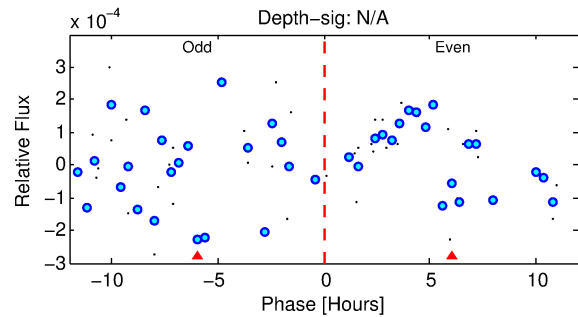
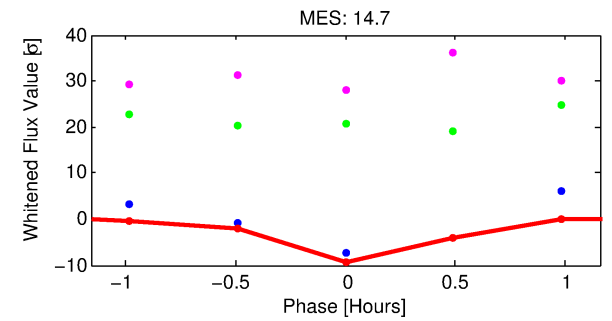
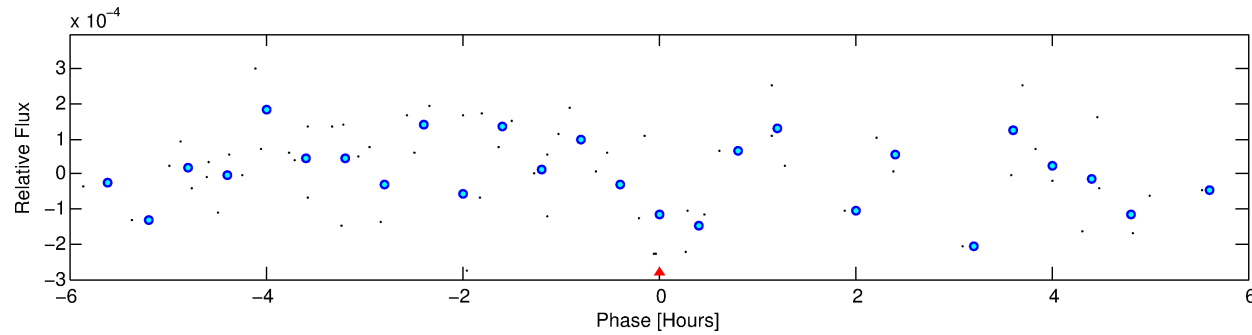
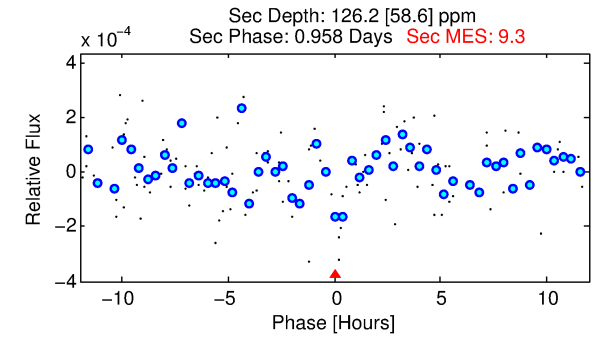
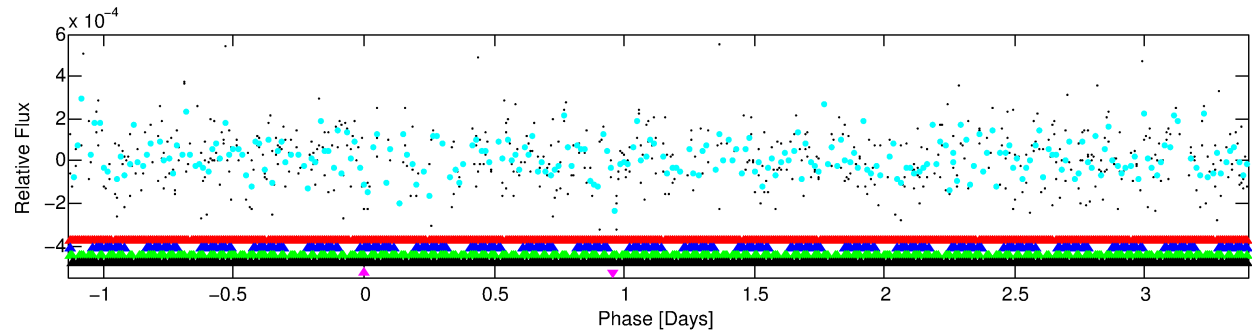
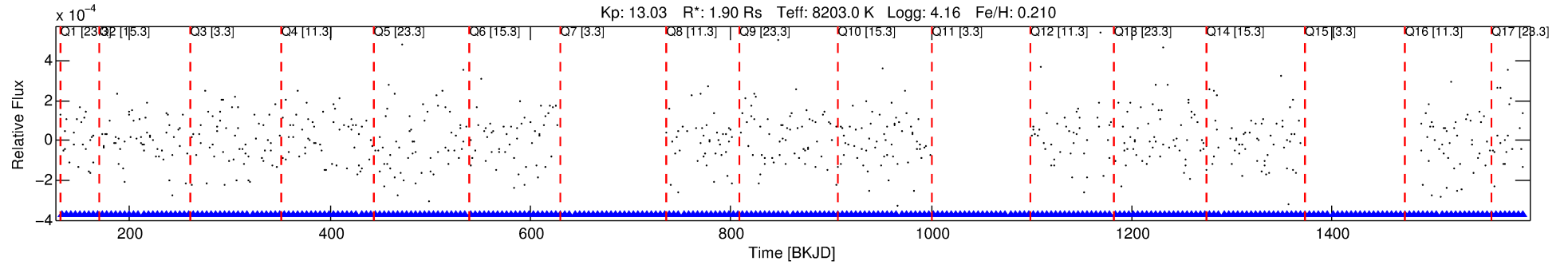
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

Ephemeris Match Information For 010934556-05

No Significant Match Found

# DV One-Page Summary

KIC: 10934556 Candidate: 5 of 5 Period: 4.529 d



## TPS TCE Results:

Period = 4.52916 d  
Epoch = 132.3424 BKJD

DV fit results are unavailable

## DV Diagnostic Results:

ShortPeriod-sig: 100.0% [19.48σ]  
LongPeriod-sig: 96.9% [2.16σ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGoF-sig: N/A  
Bootstrap-pfa: 1.80e-194  
RollingBand-fgt: N/A  
GhostDiagnostic-chr: N/A

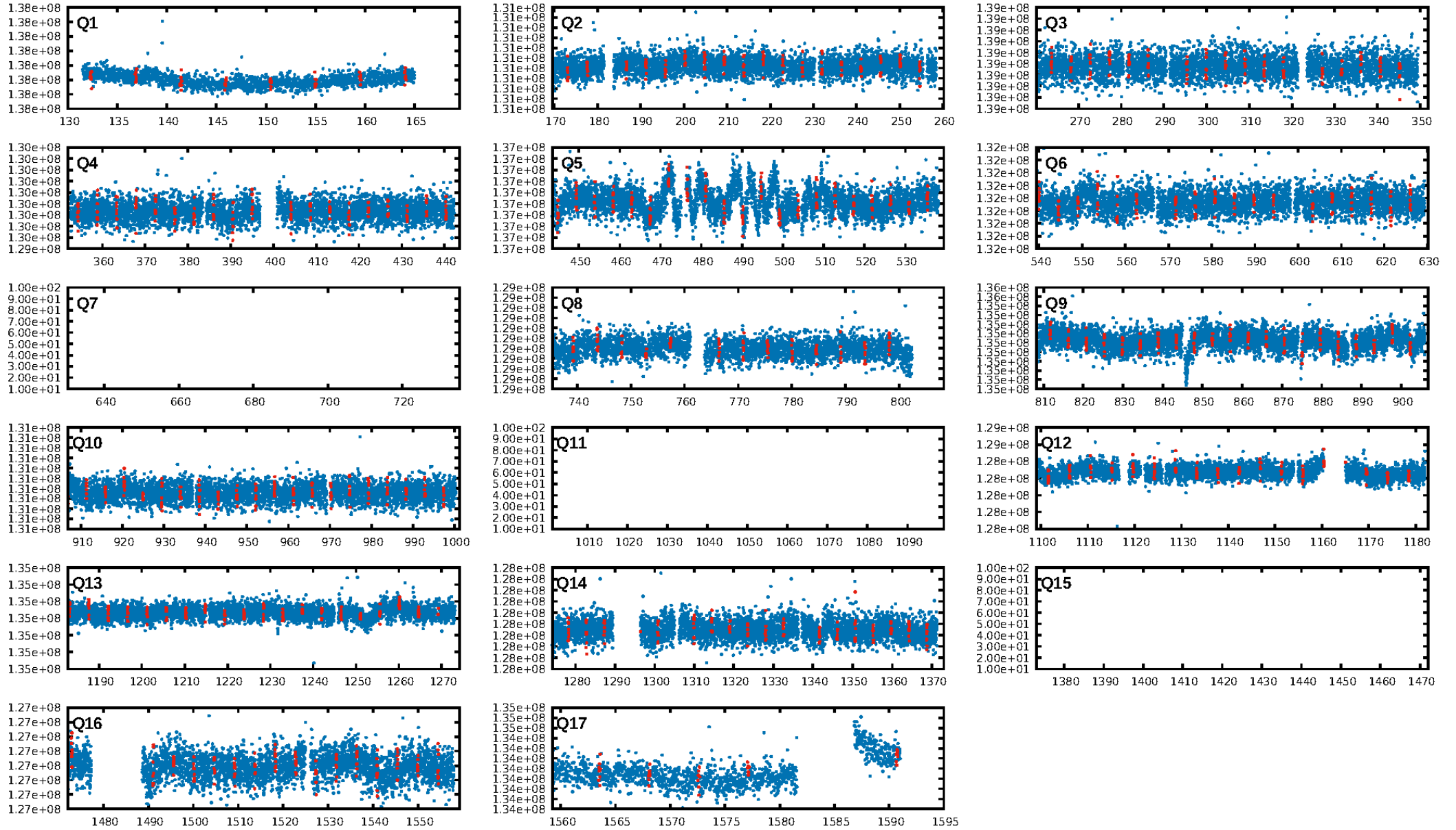
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: N/A

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 07:29:38 Z

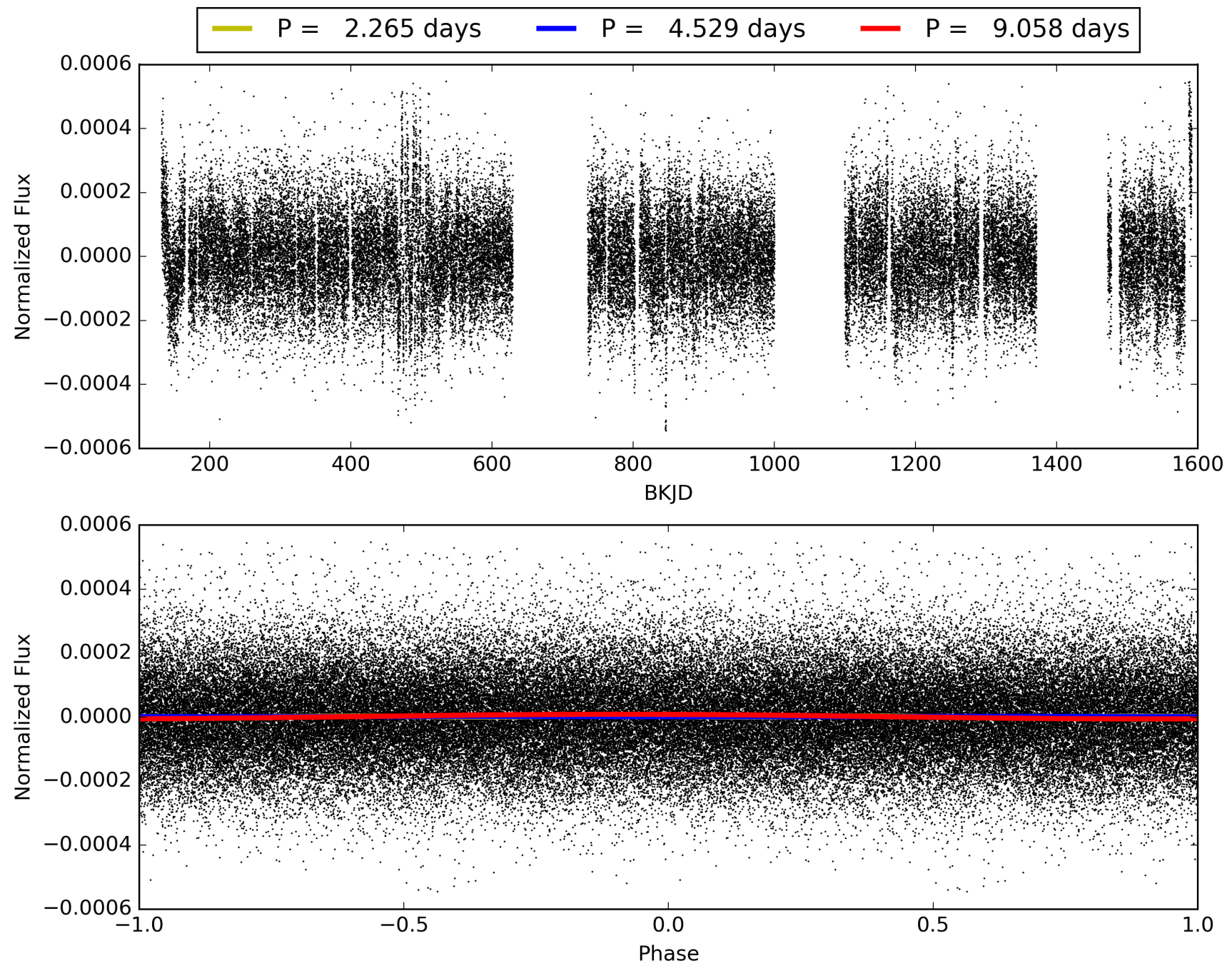
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center



# TCE 010934556-05, PDC Light Curves

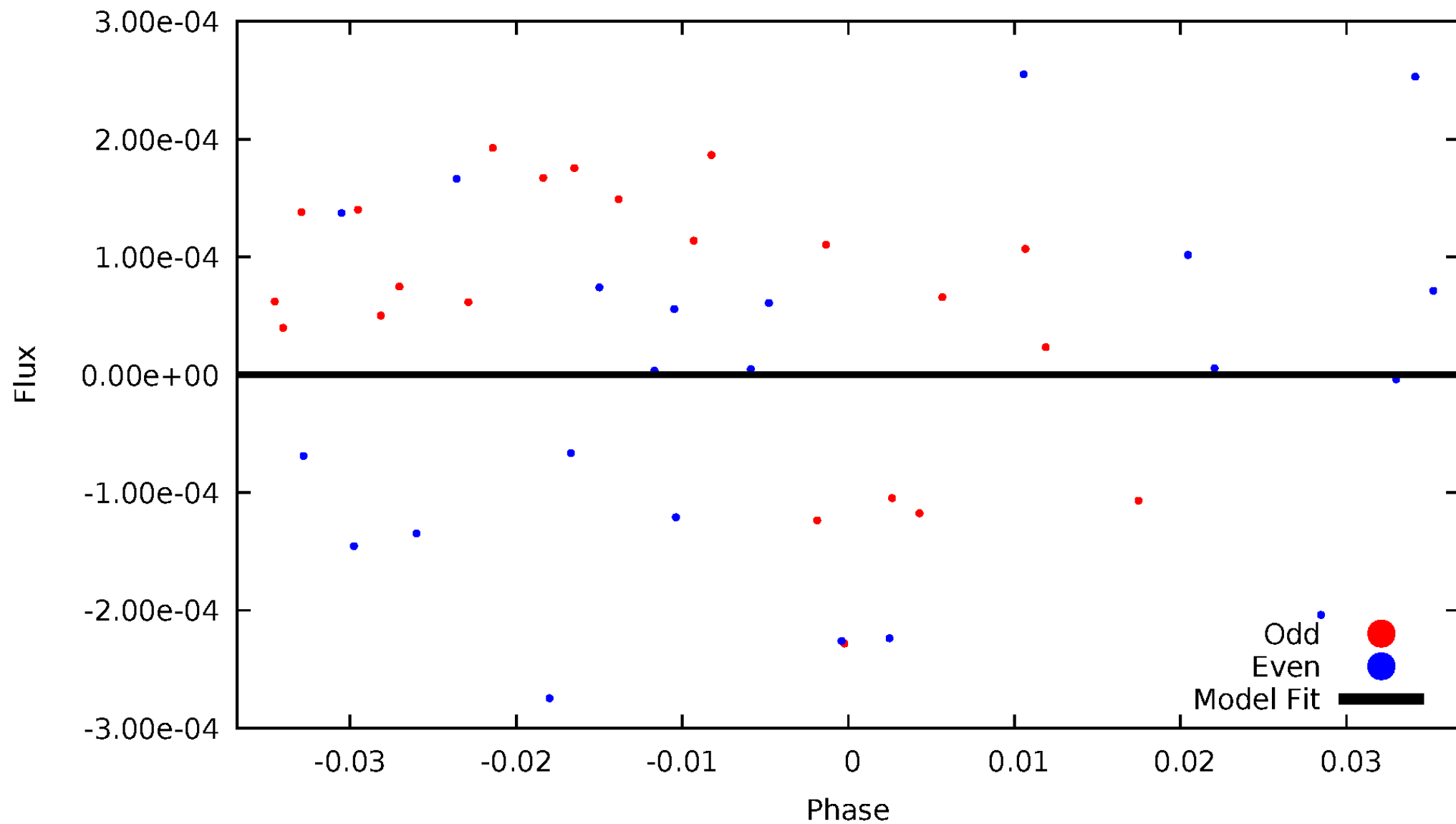


TCE 010934556-05



# DV Odd/Even

TCE 010934556-05



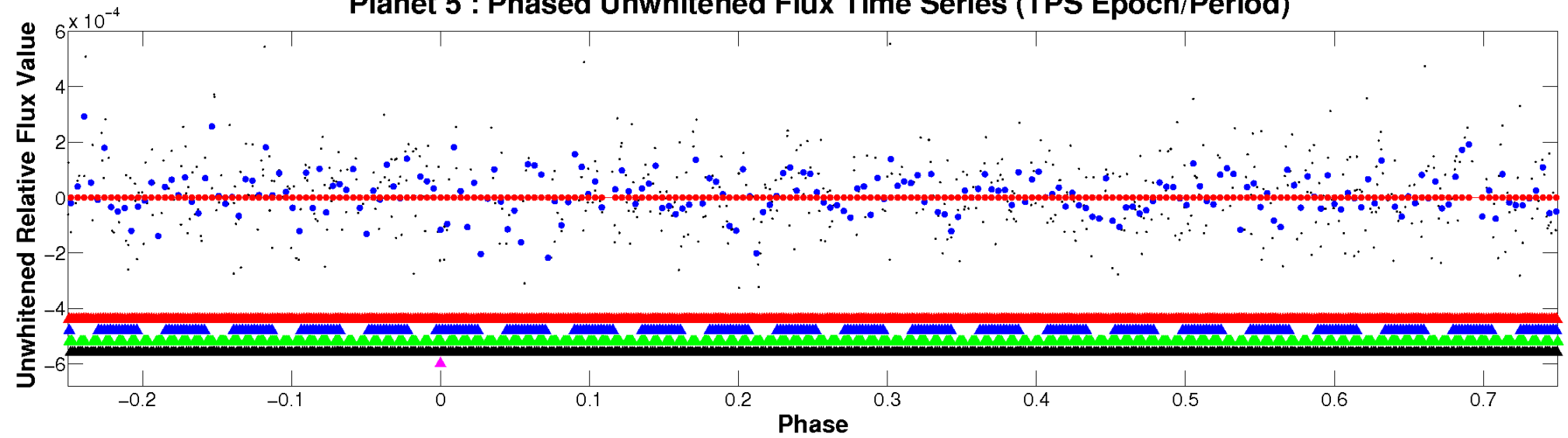


ALT Odd/Even

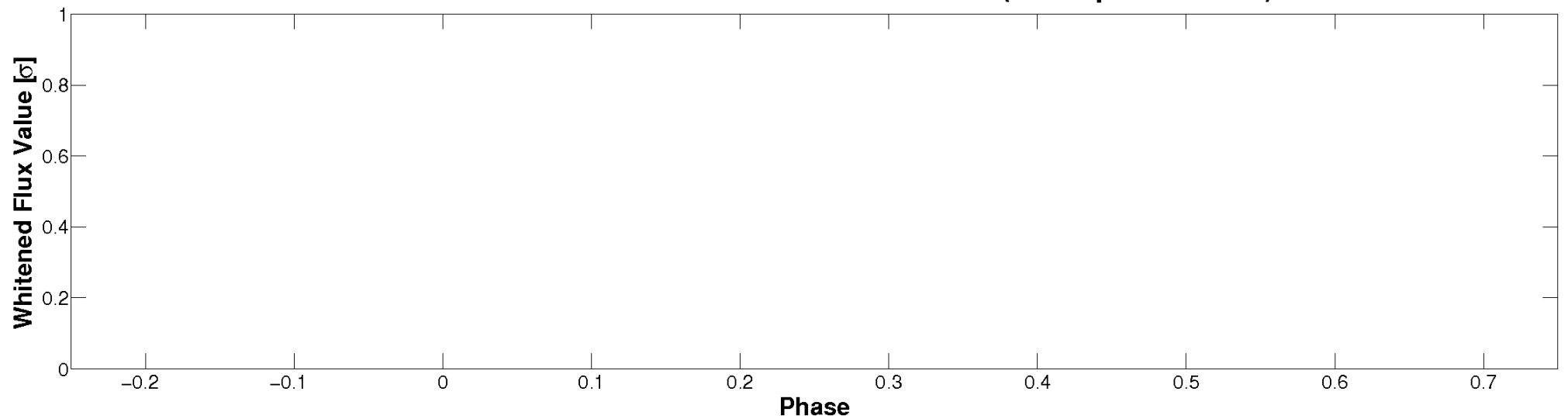
This plot does not exist for this TCE.

# Non-Whitened Vs. Whitened Light Curve

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

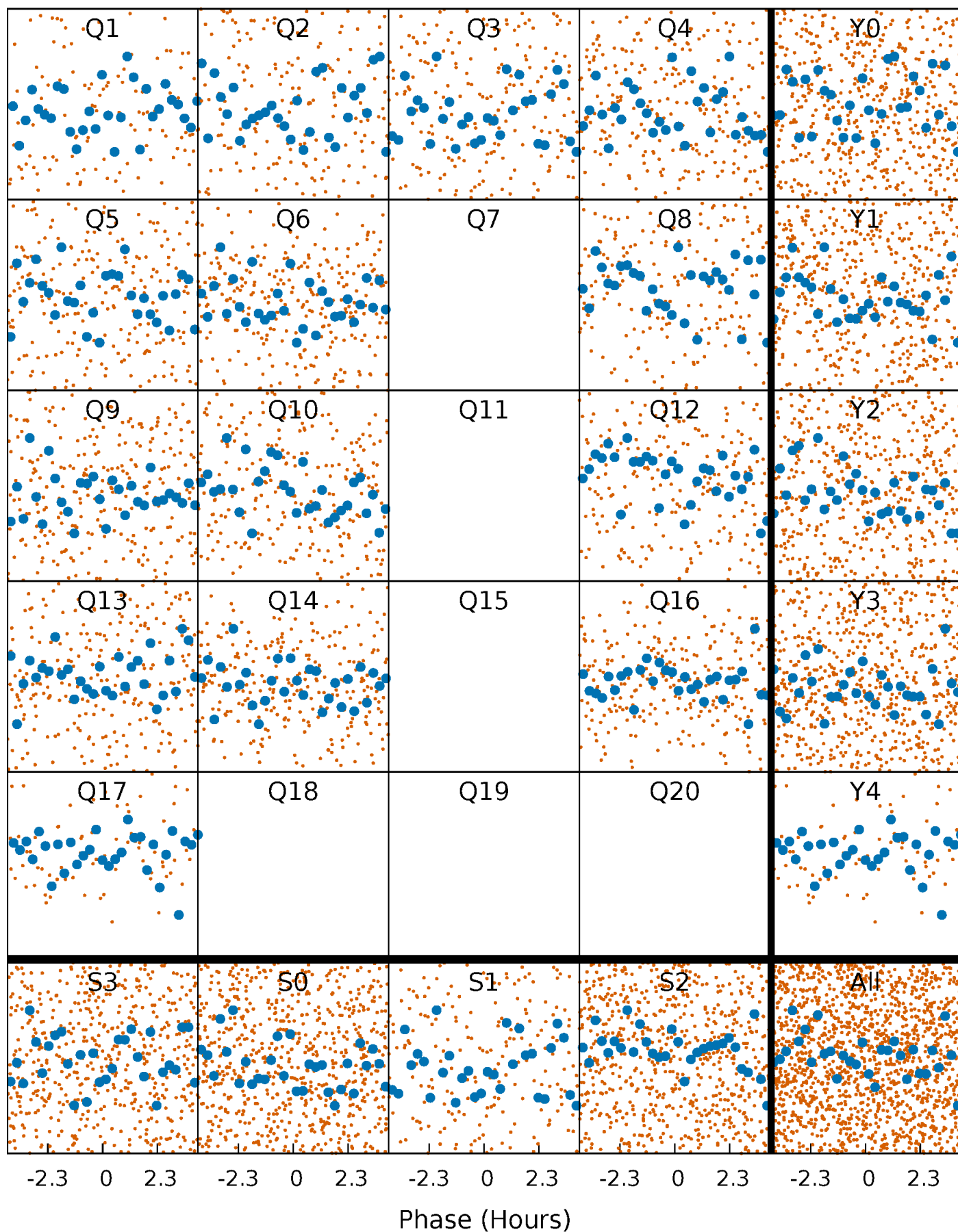


**Planet 5 : Phased Whitened Flux Time Series (TPS Epoch/Period)**



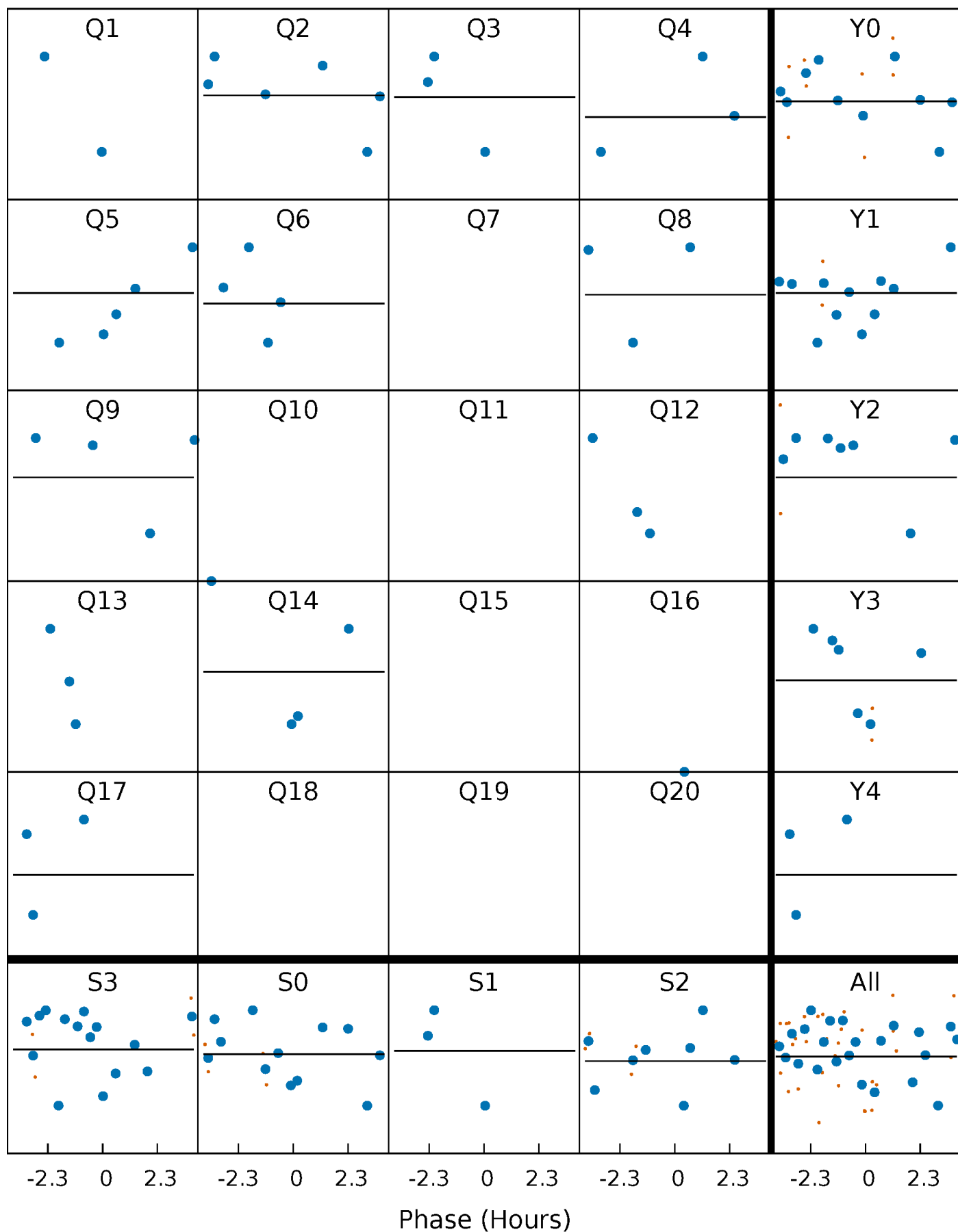
# PDC Quarter-Phased Transit Curves

TCE 010934556-05     $P = 4.529155$  Days     $T_0 = 132.342444$  (BKJD)



# DV Quarter-Phased Transit Curves

TCE 010934556-05     $P = 4.529155$  Days     $T_0 = 132.342444$  (BKJD)



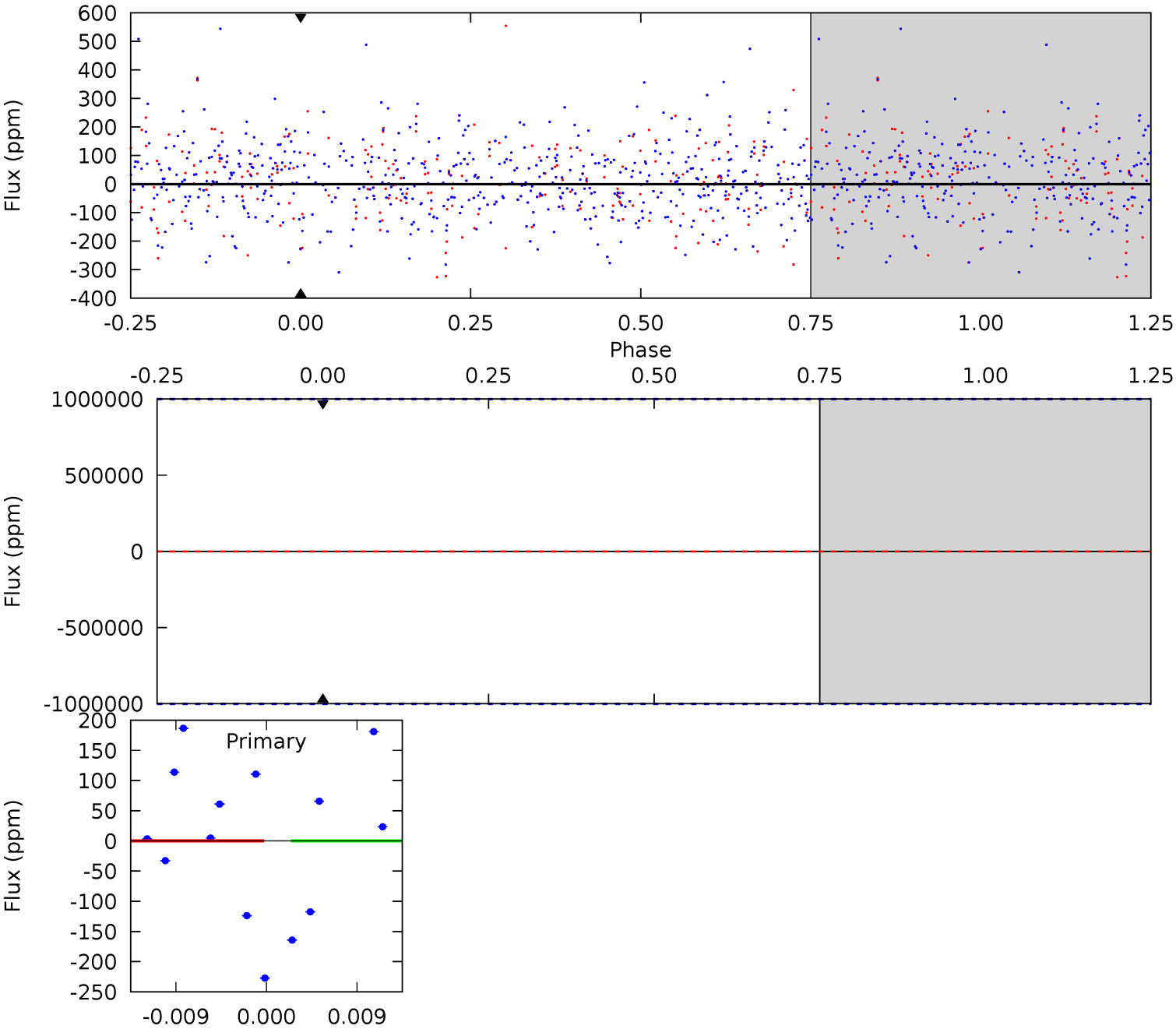


This plot does not exist for this TCE.

# DV Model-Shift Uniqueness Test

010934556-05, P = 4.529155 Days, E = 127.813289 Days

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



## Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

### Stellar Parameters For KIC 010934556

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$8203^{+226}_{-356}$	$4.162^{+0.081}_{-0.175}$	$0.210^{+0.150}_{-0.550}$	$1.903^{+0.537}_{-0.289}$	$1.918^{+0.288}_{-0.352}$	$0.392^{+0.164}_{-0.186}$
	+3%/-4%	+2%/-4%	+71%/-262%	+28%/-15%	+15%/-18%	+42%/-47%
Source	KIC0	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 010934556-05 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$0 \pm 1000000$	$16.35^{+17.12}_{-11.26}$	$2731^{+193}_{-152}$	$-6661^{+48720}_{-31006}$	$-21.026^{+1407.654}_{-1269.451}$
Alt.	N/A	N/A	N/A	N/A	N/A

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

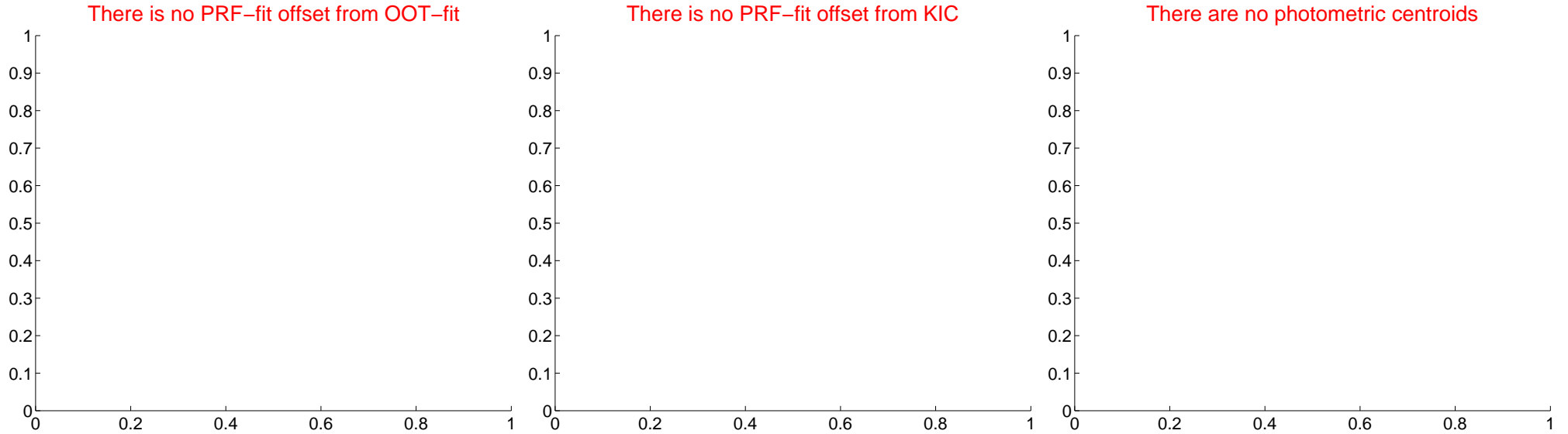
## DV Centroid Data

Supplemental centroid analysis for 010934556-05. Kepler magnitude: 13.03. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

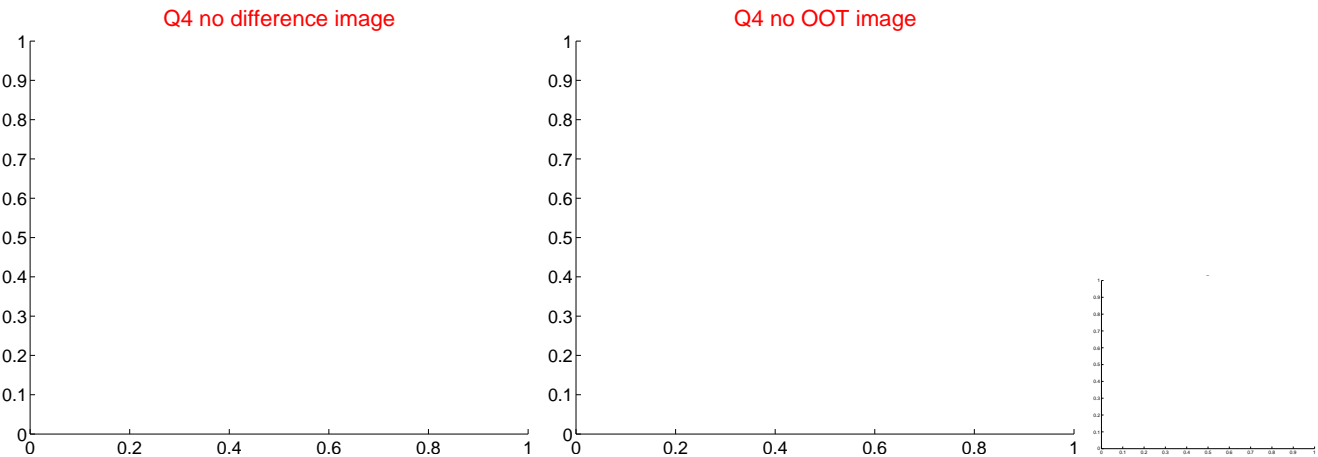
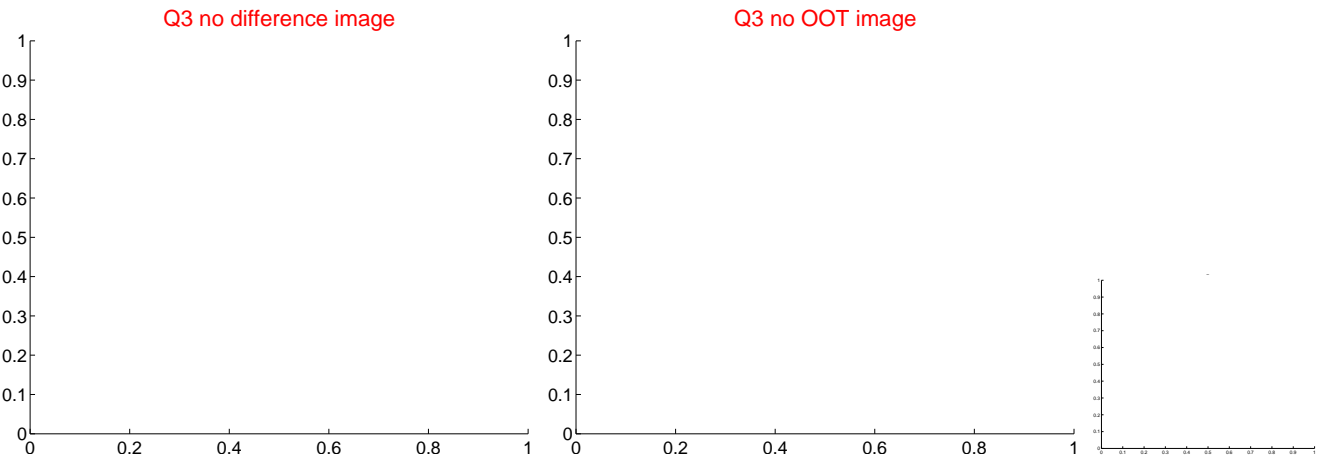
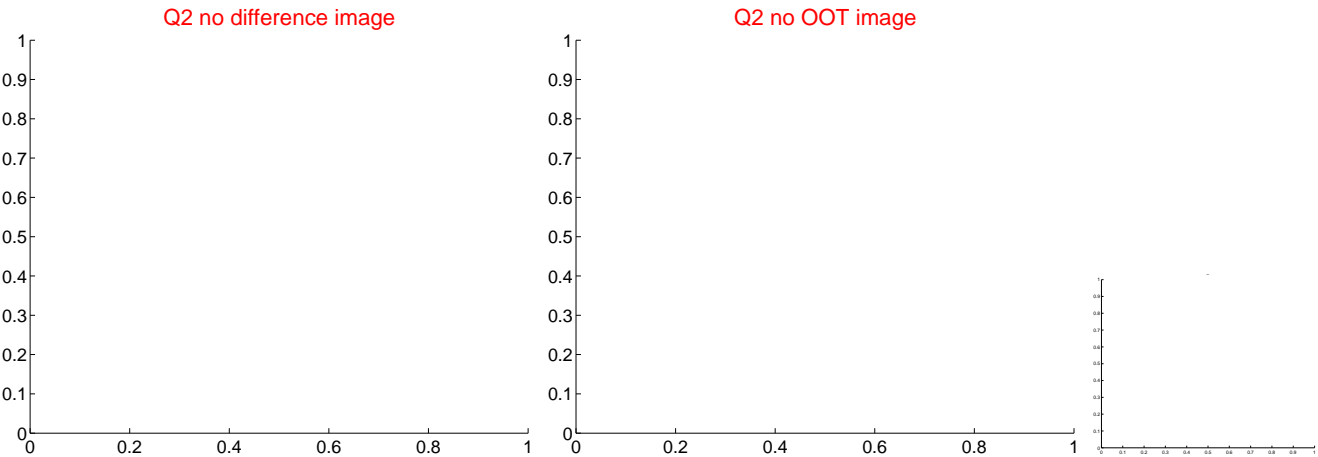
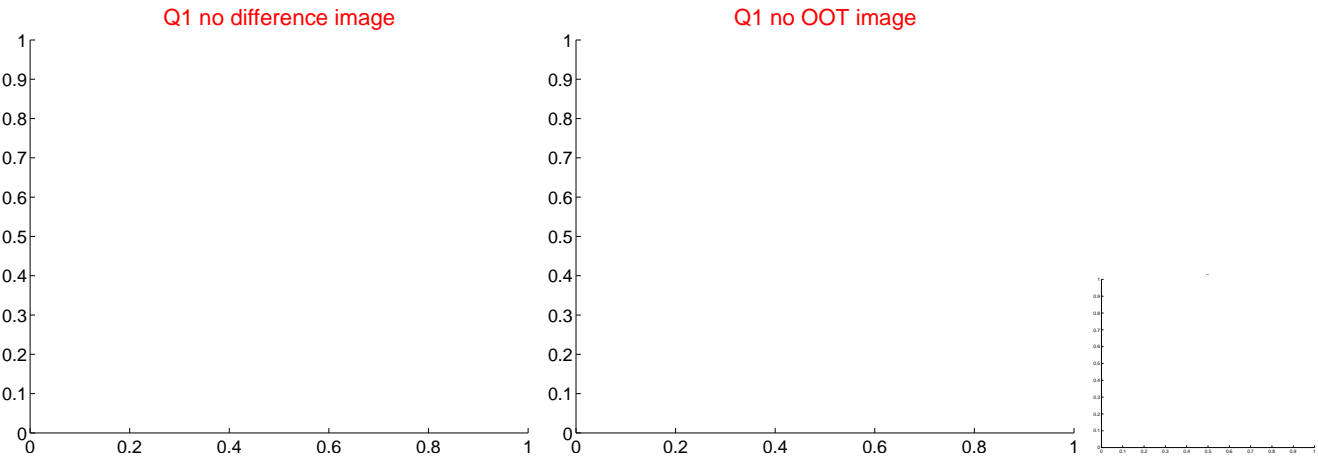
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	—	—	—	—

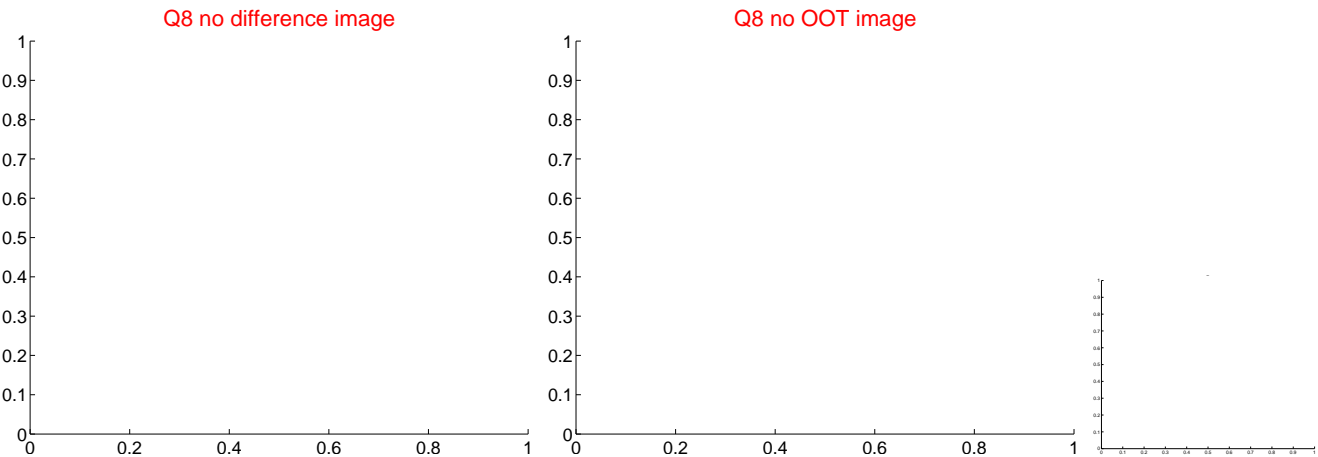
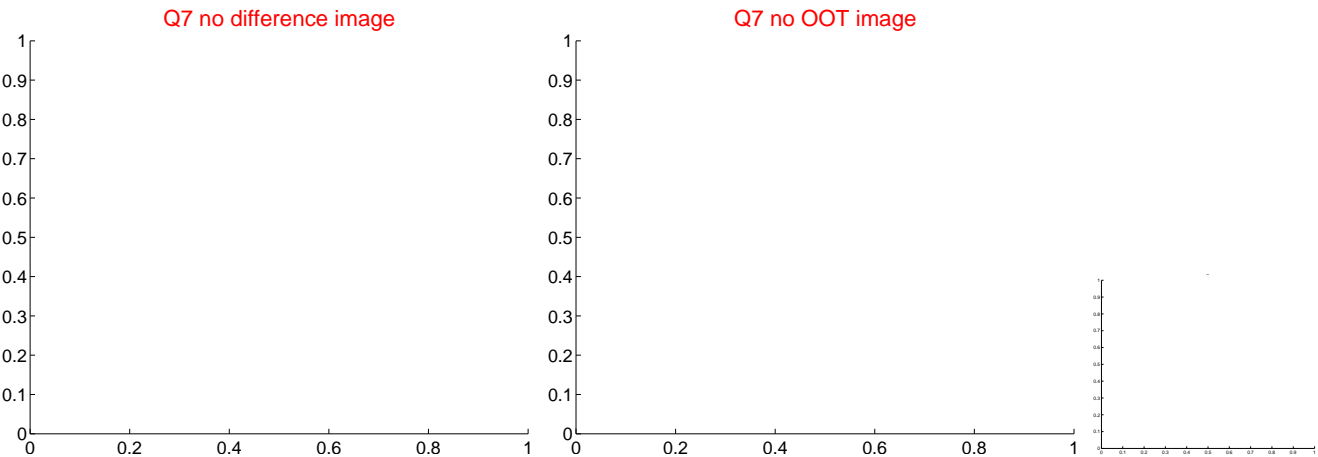
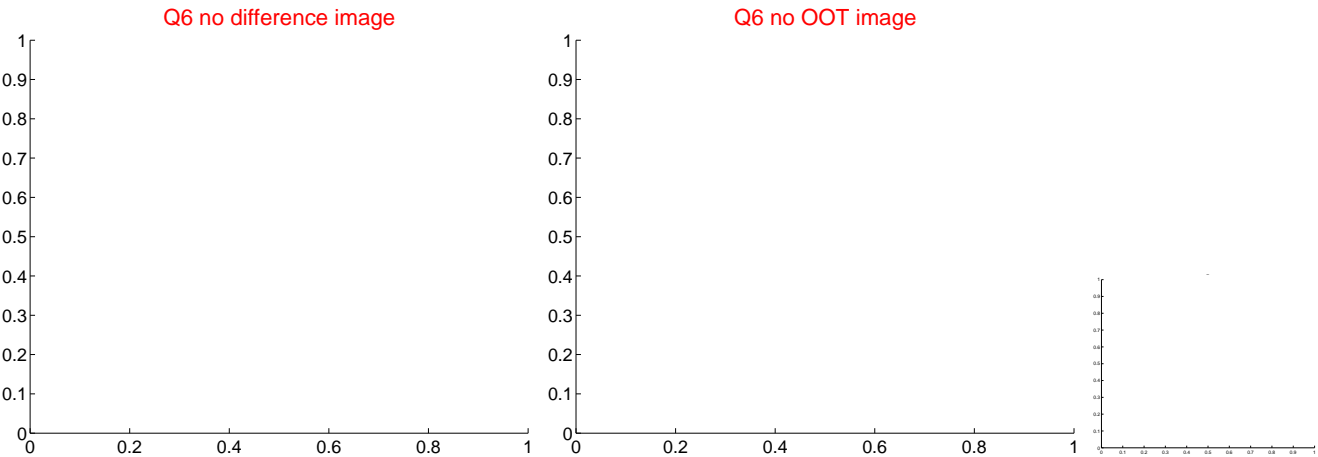
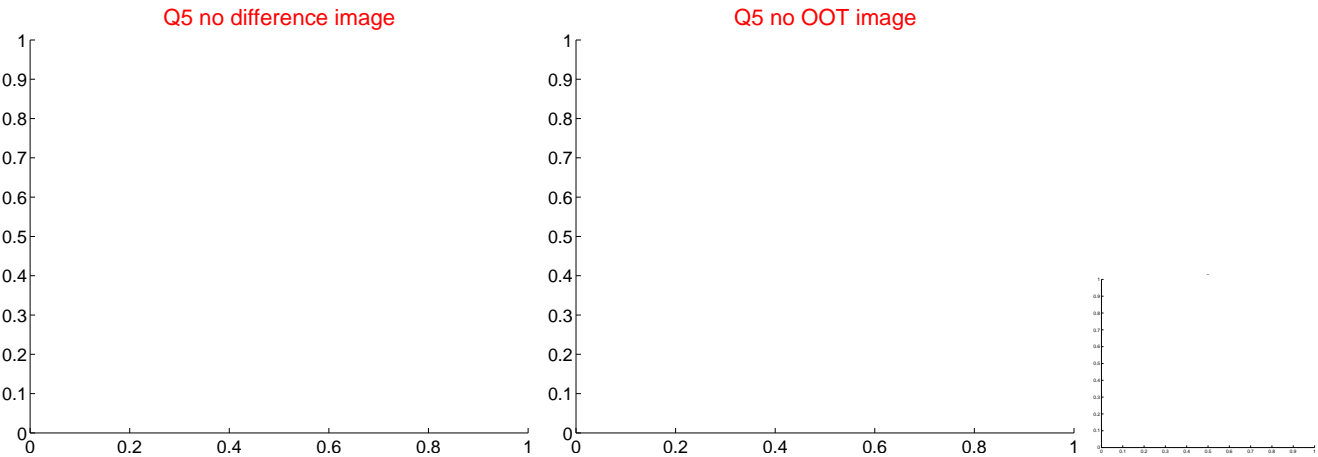


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

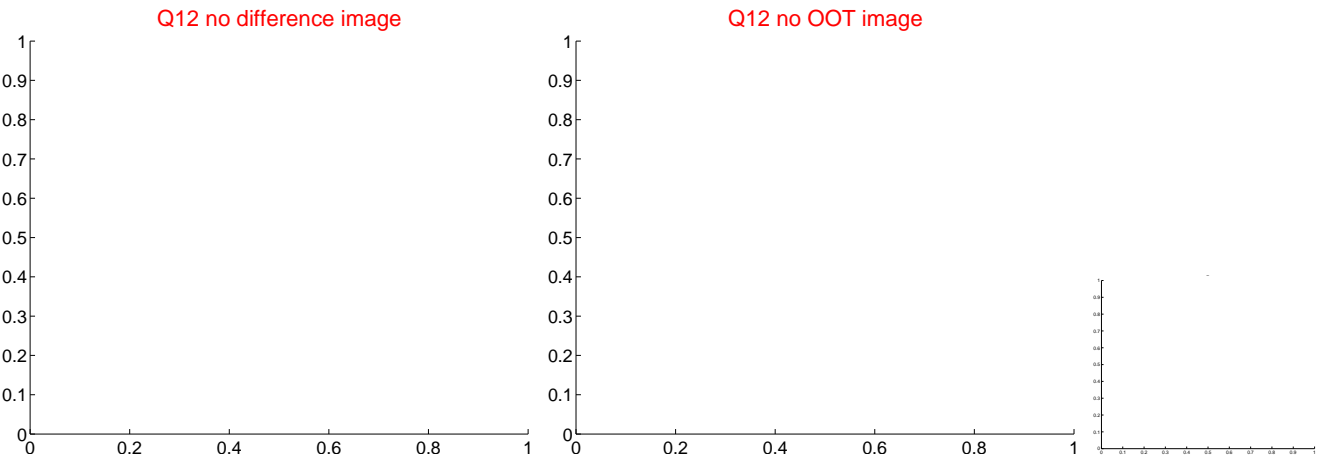
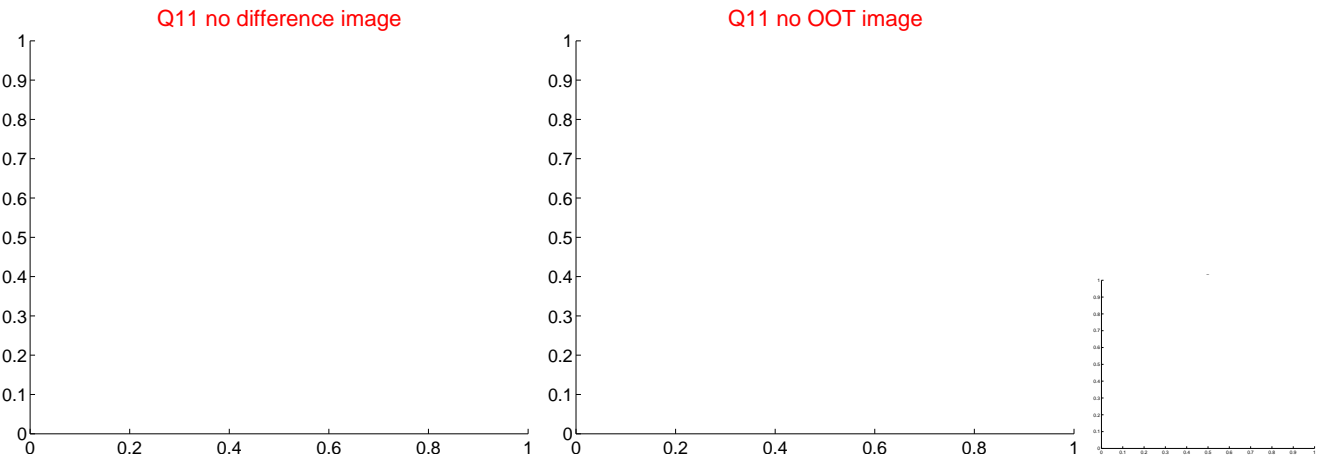
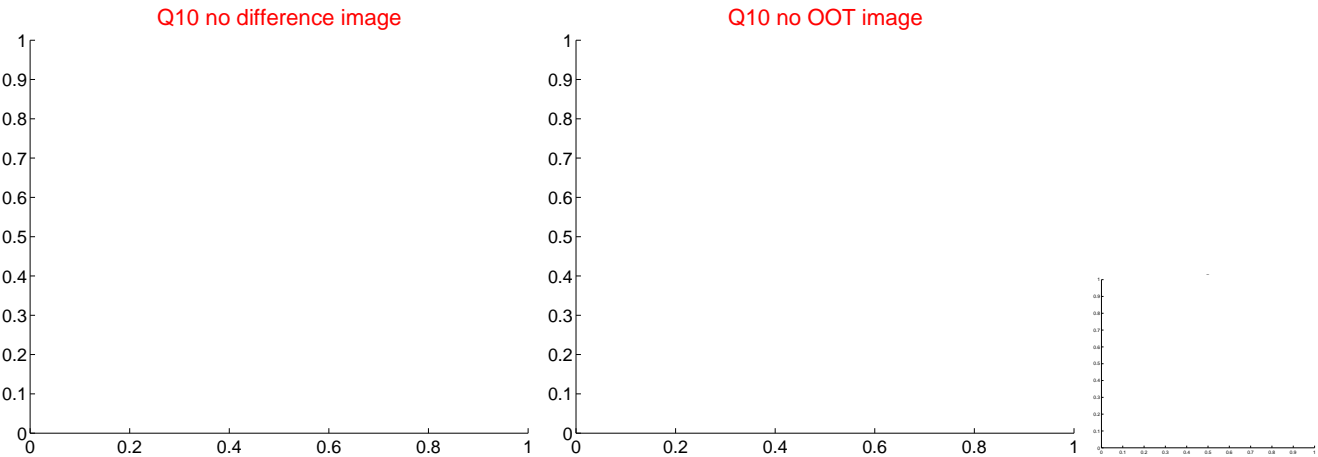
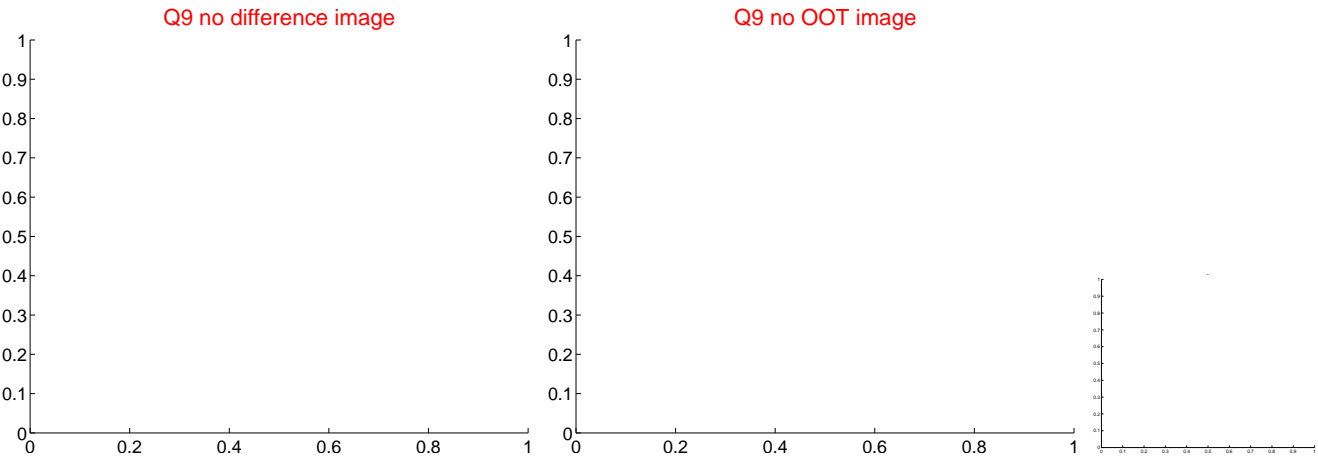
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

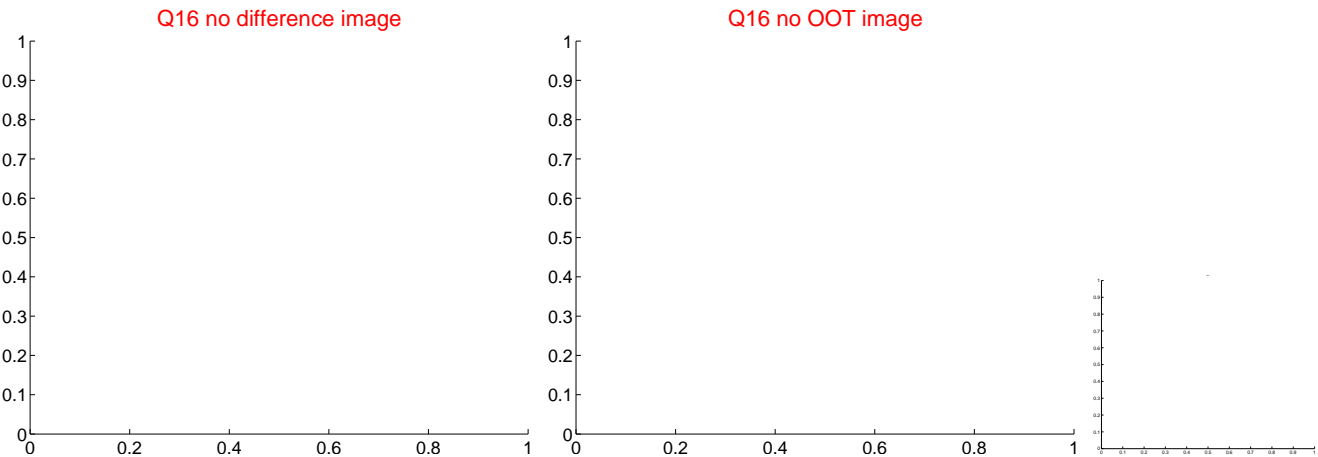
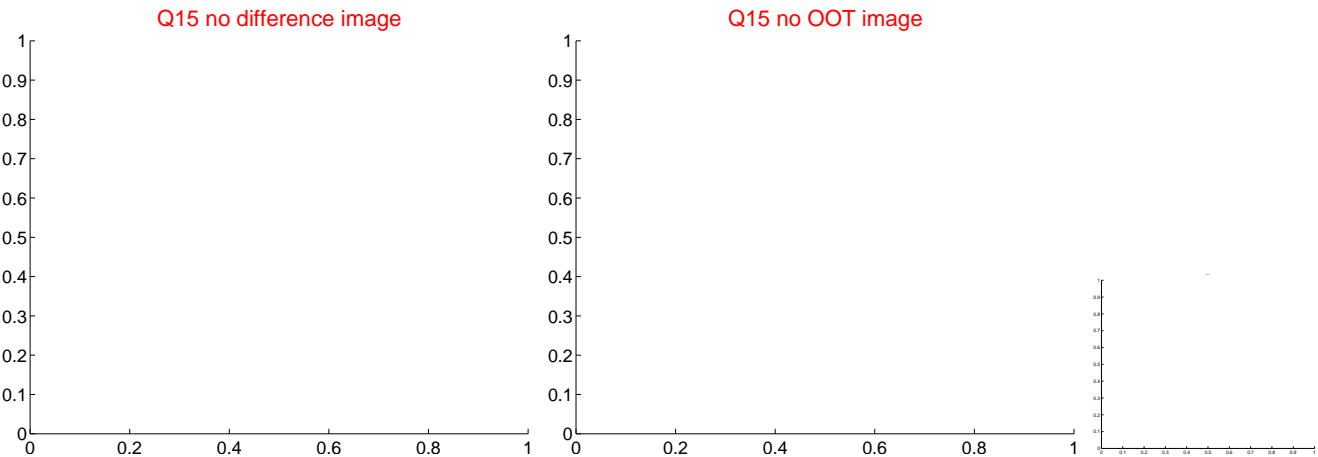
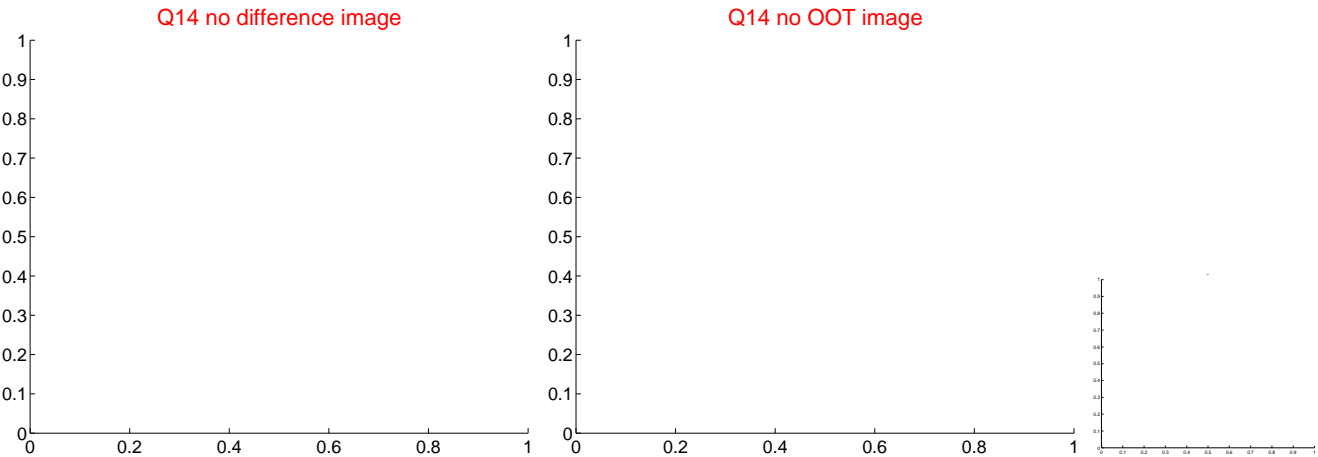
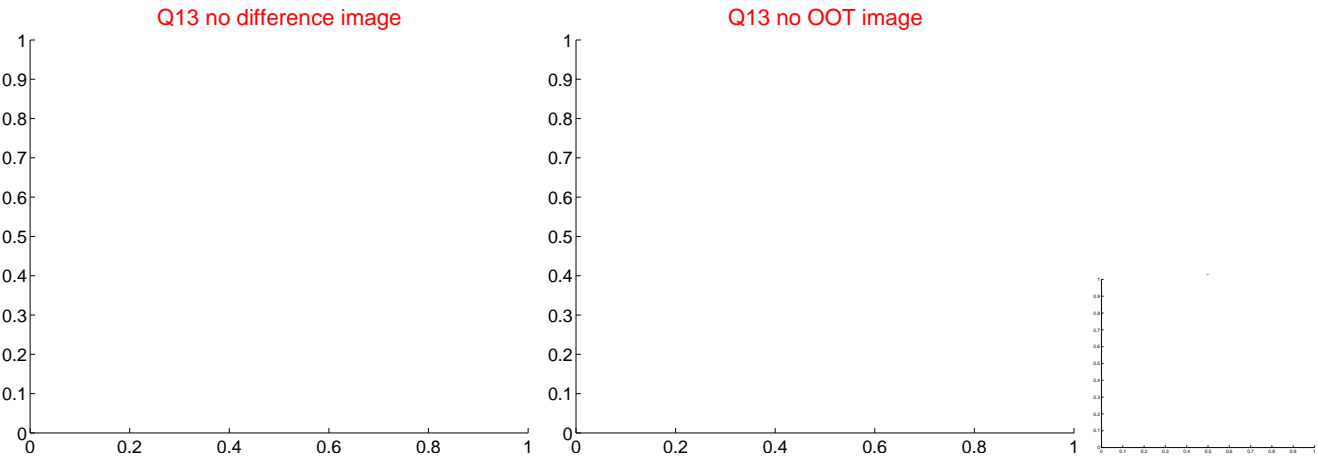


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

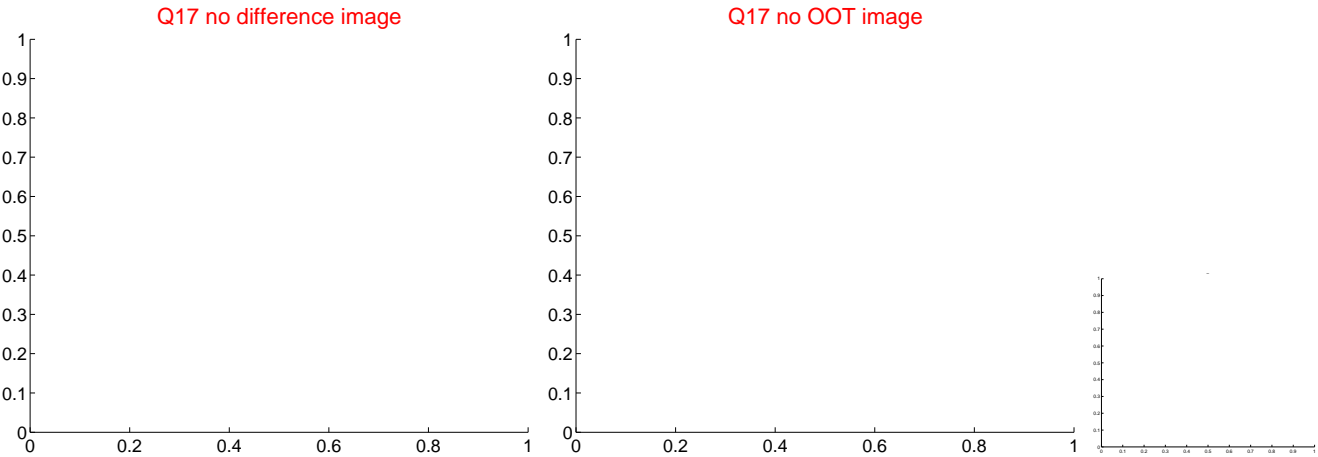




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



folded centroid time series figure for this object.

UKIRT Image

Declination

