

KIC 006311382

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})
006311382-01	OBS	No	1.133076	131.796895	14.5	3.844	9.0	7.7	3.48	6293	1.55	29266.19
006311382-02	OBS	No	199.958152	203.506467	115.7	8.652	7.3	4.6	3.48	6293	4.10	29.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006311382-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006311382-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS

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

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

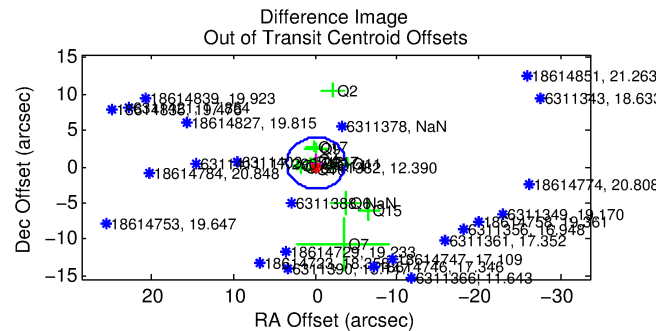
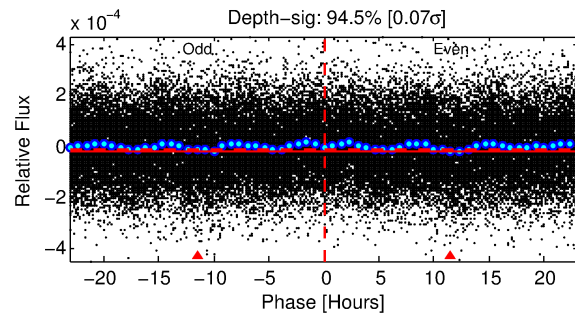
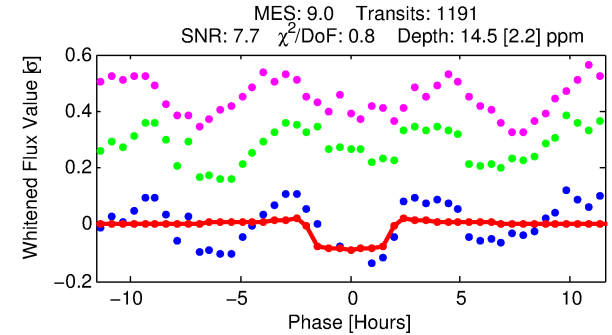
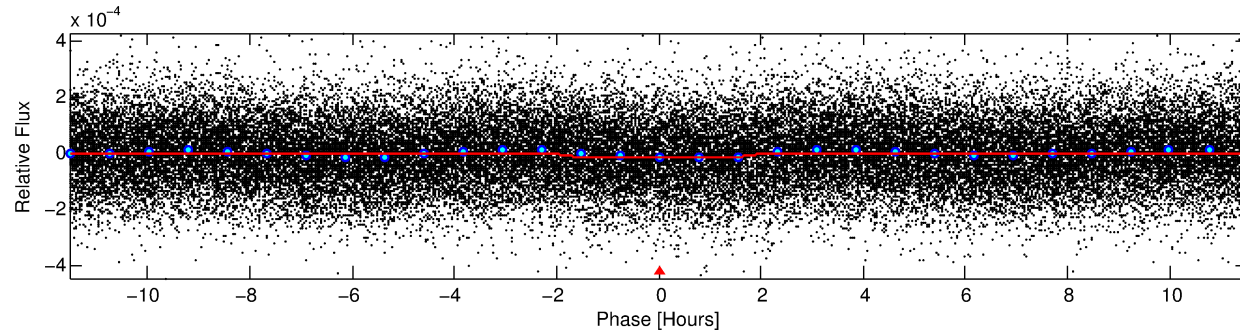
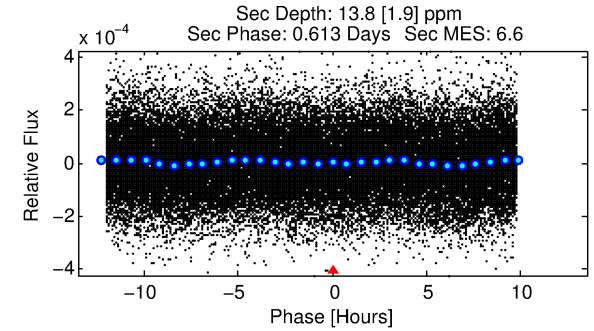
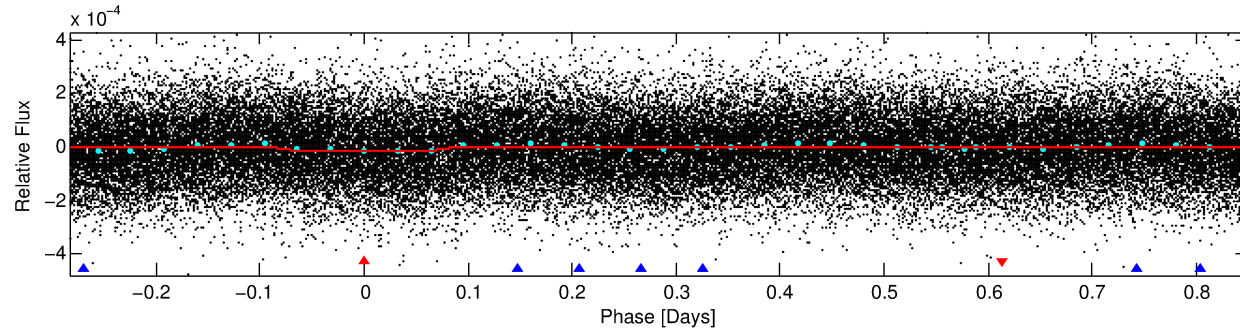
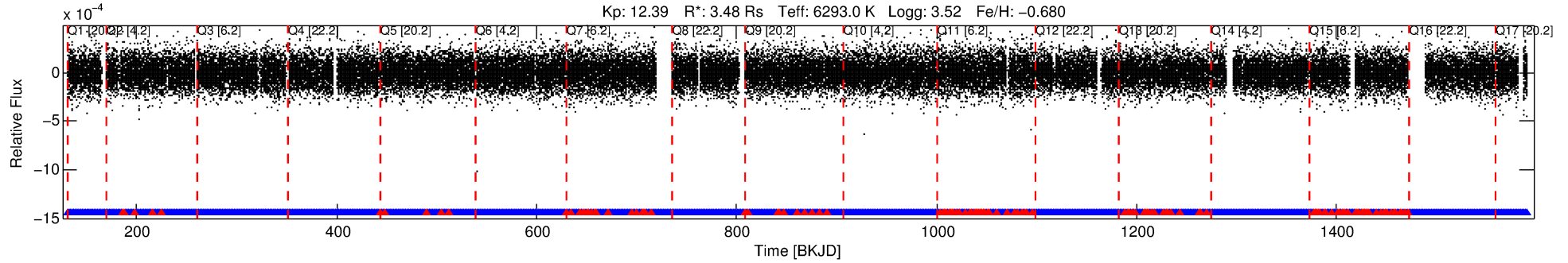
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006311382-01

No Significant Match Found

DV One-Page Summary

KIC: 6311382 Candidate: 1 of 2 Period: 1.133 d



DV Fit Results:

Period = 1.13308 [0.00002] d
Epoch = 131.7969 [0.0044] BKJD
Rp/R* = 0.0041 [0.0011]
a/R* = 1.37 [0.97]
b = 0.90 [0.32]
Seff = 29266.19 [18448.36]
Teq = 3335 [526] K
Rp = 1.55 [0.82] Re
a = 0.0241 [0.0098] AU
Ag = 1.84 [1.54] [0.55σ]
Teffp = 6009 [849] K [2.68σ]

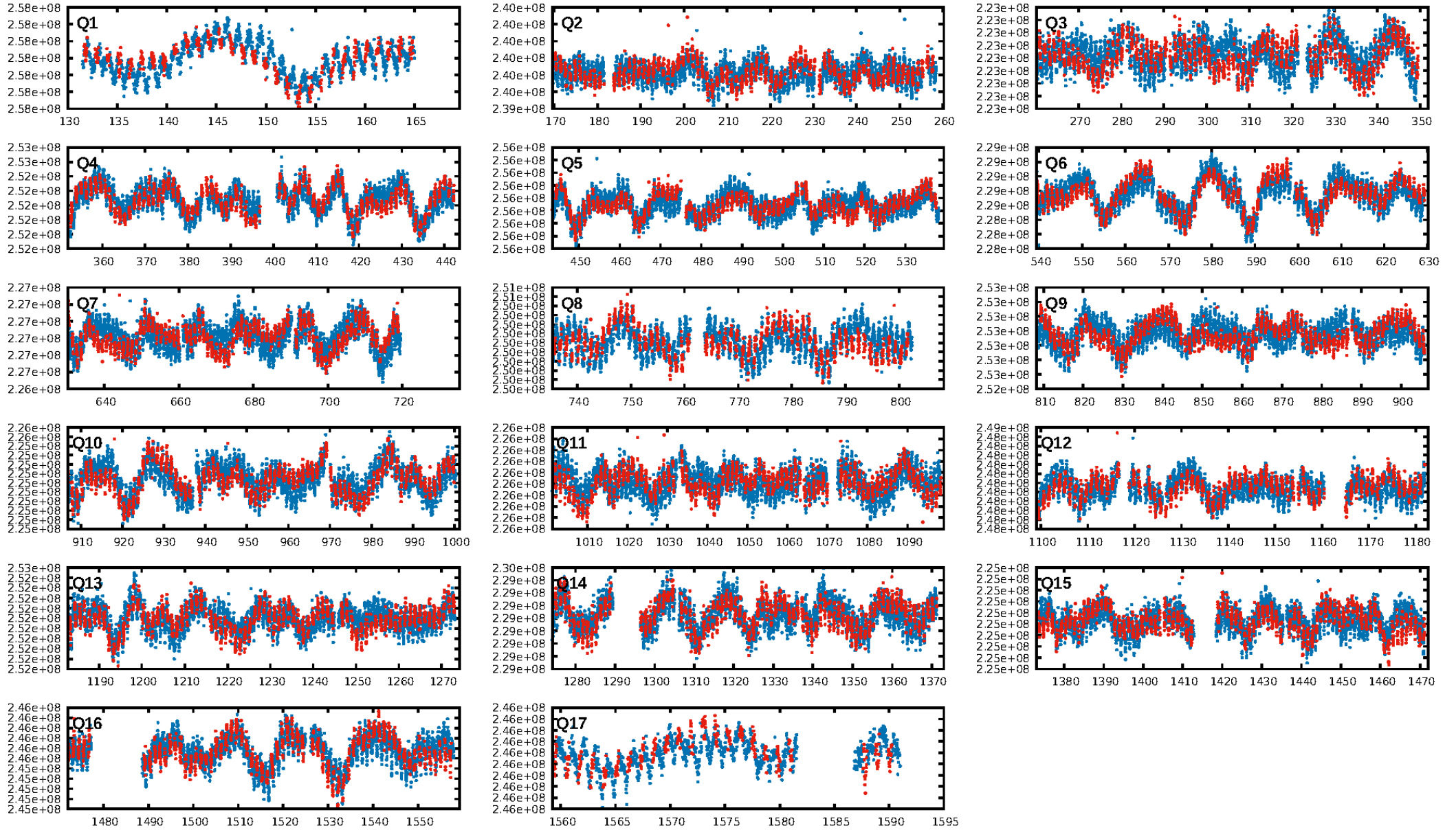
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [504.03σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.06e-17
RollingBand-fgt: 0.88 [1005/1138]
GhostDiagnostic-chr: 1.763
Centroid-sig: 14.1%
Centroid-so: 1.636 arcsec [1.48σ]
OotOffset-rm: 0.494 arcsec [0.42σ]
KicOffset-rm: 0.511 arcsec [0.41σ]
OotOffset-st: 3/4/4/3 [14]
KicOffset-st: 3/4/4/3 [14]
DiffImageQuality-fgm: 0.36 [5/14]
DiffImageOverlap-fno: 1.00 [17/17]

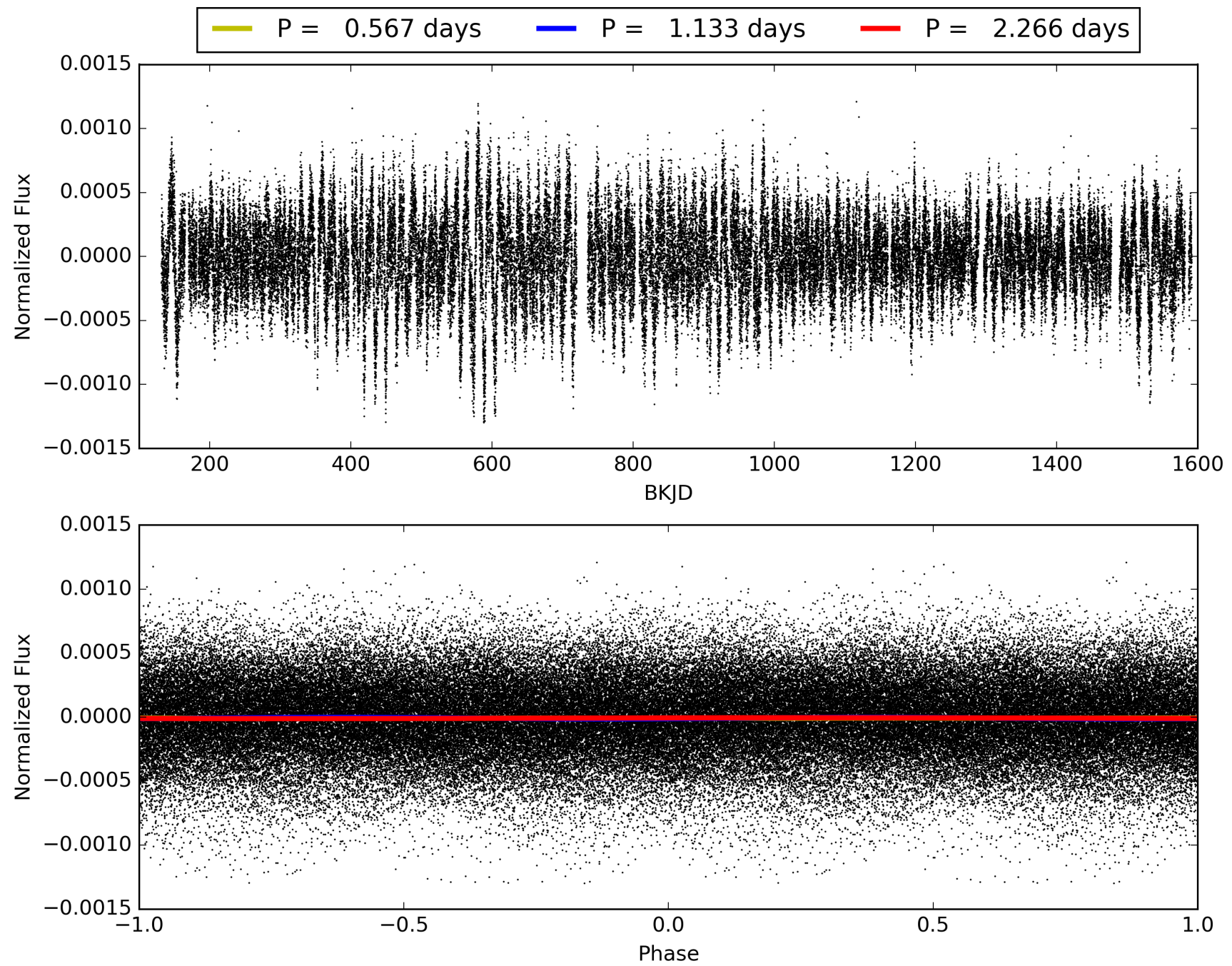
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 08:31:24 Z

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

TCE 006311382-01, PDC Light Curves

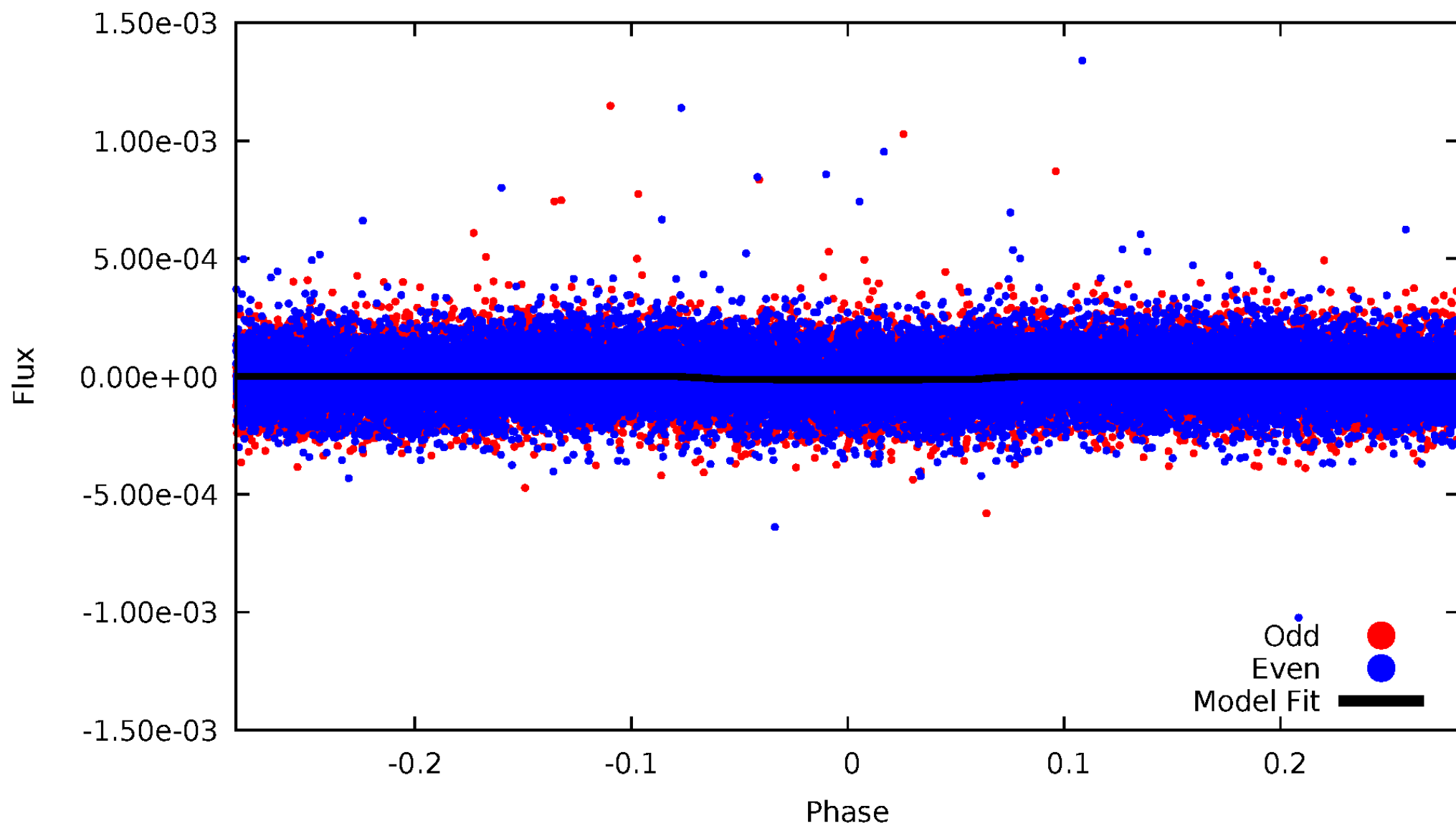


TCE 006311382-01



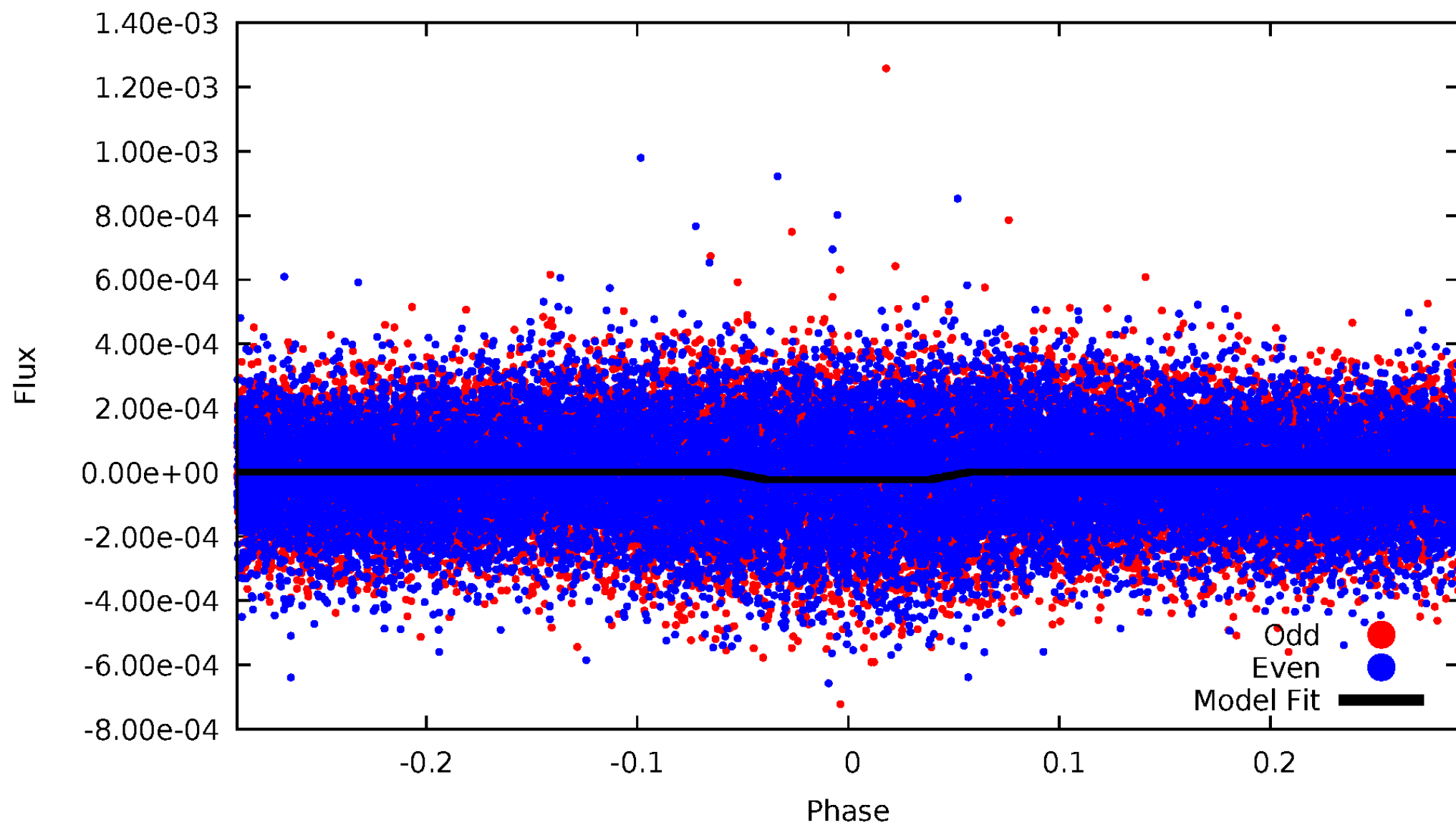
DV Odd/Even

TCE 006311382-01



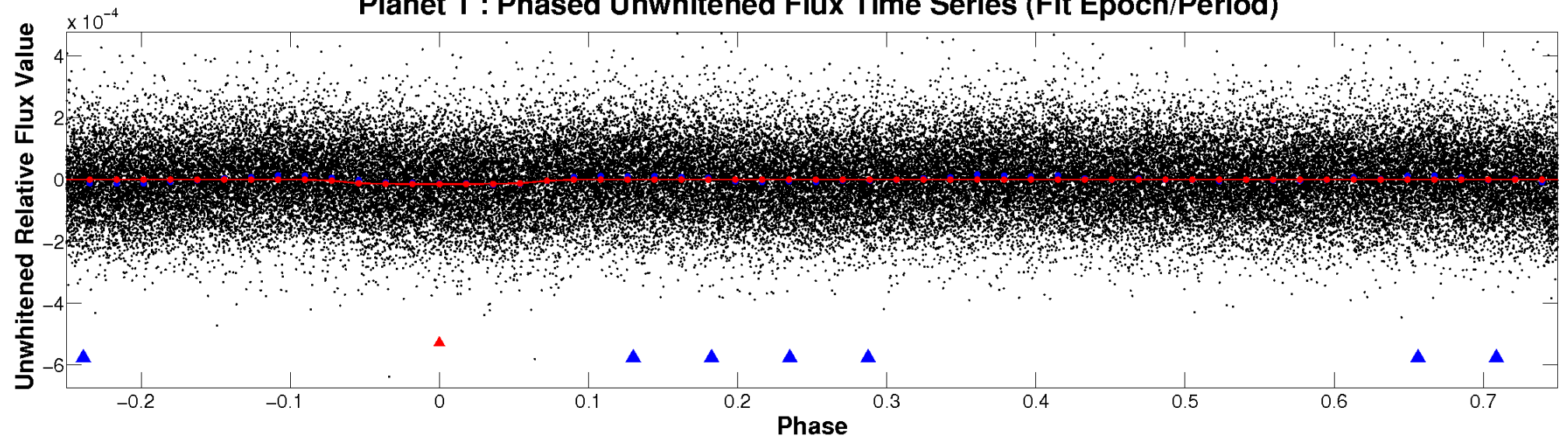
ALT Odd/Even

TCE 006311382-01

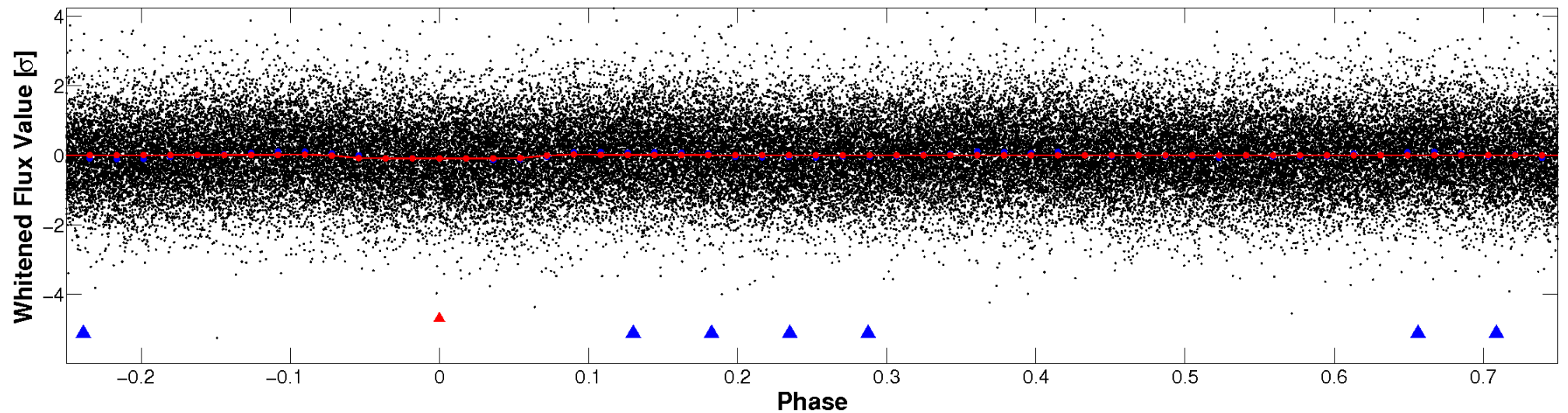


Non-Whitened Vs. Whitened Light Curve

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

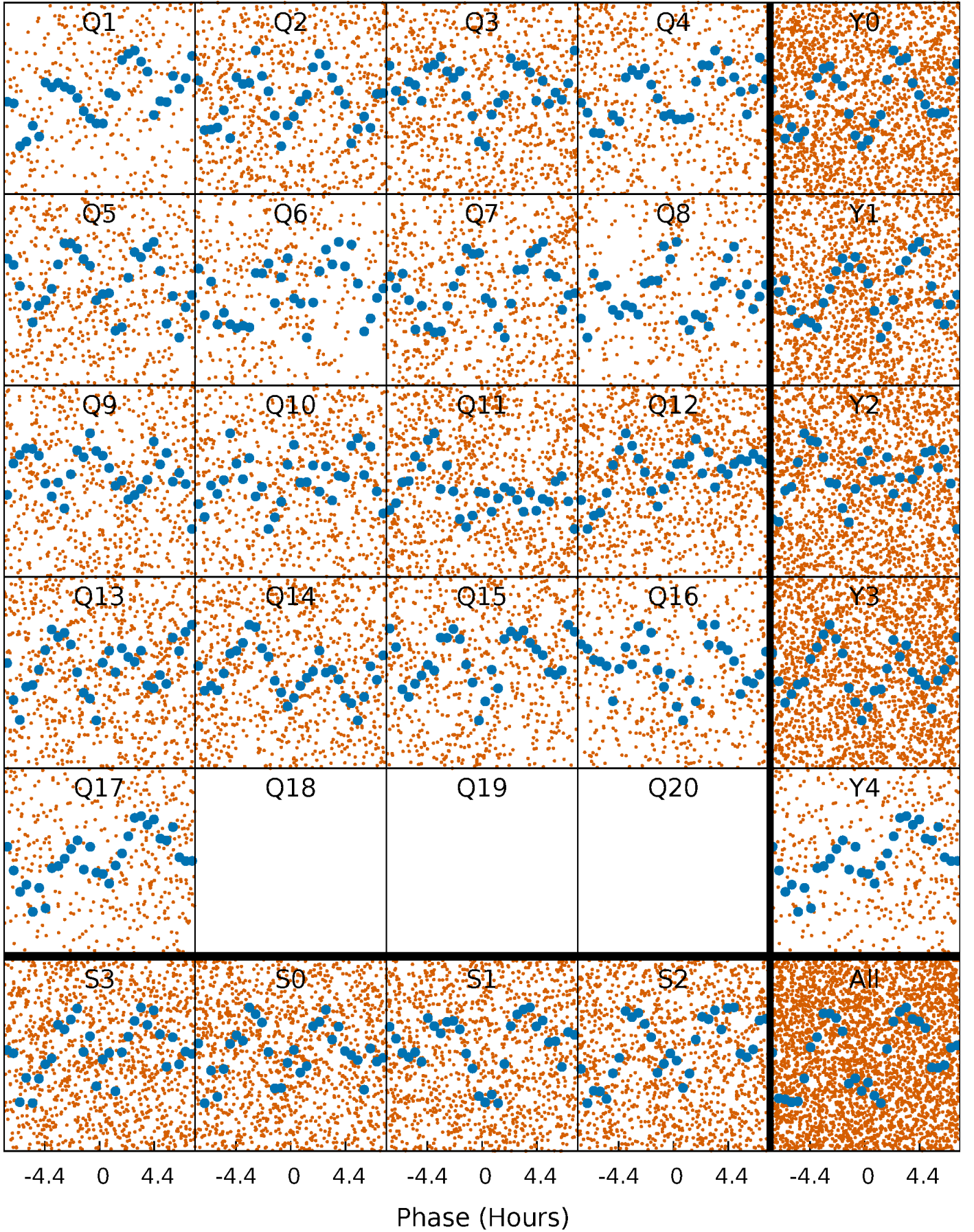


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



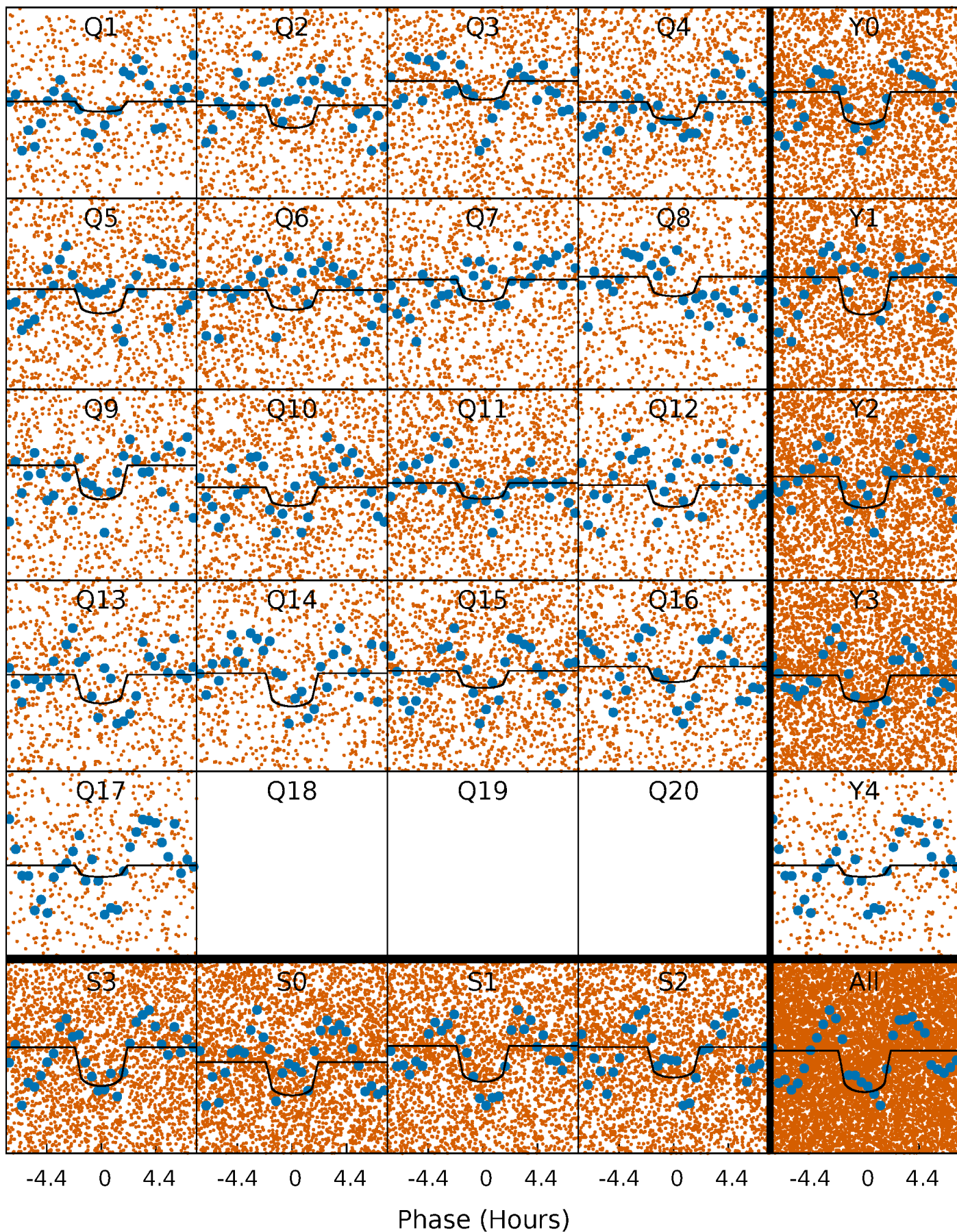
PDC Quarter-Phased Transit Curves

TCE 006311382-01 P= 1.133076 Days $T_0=131.796895$ (BKJD)



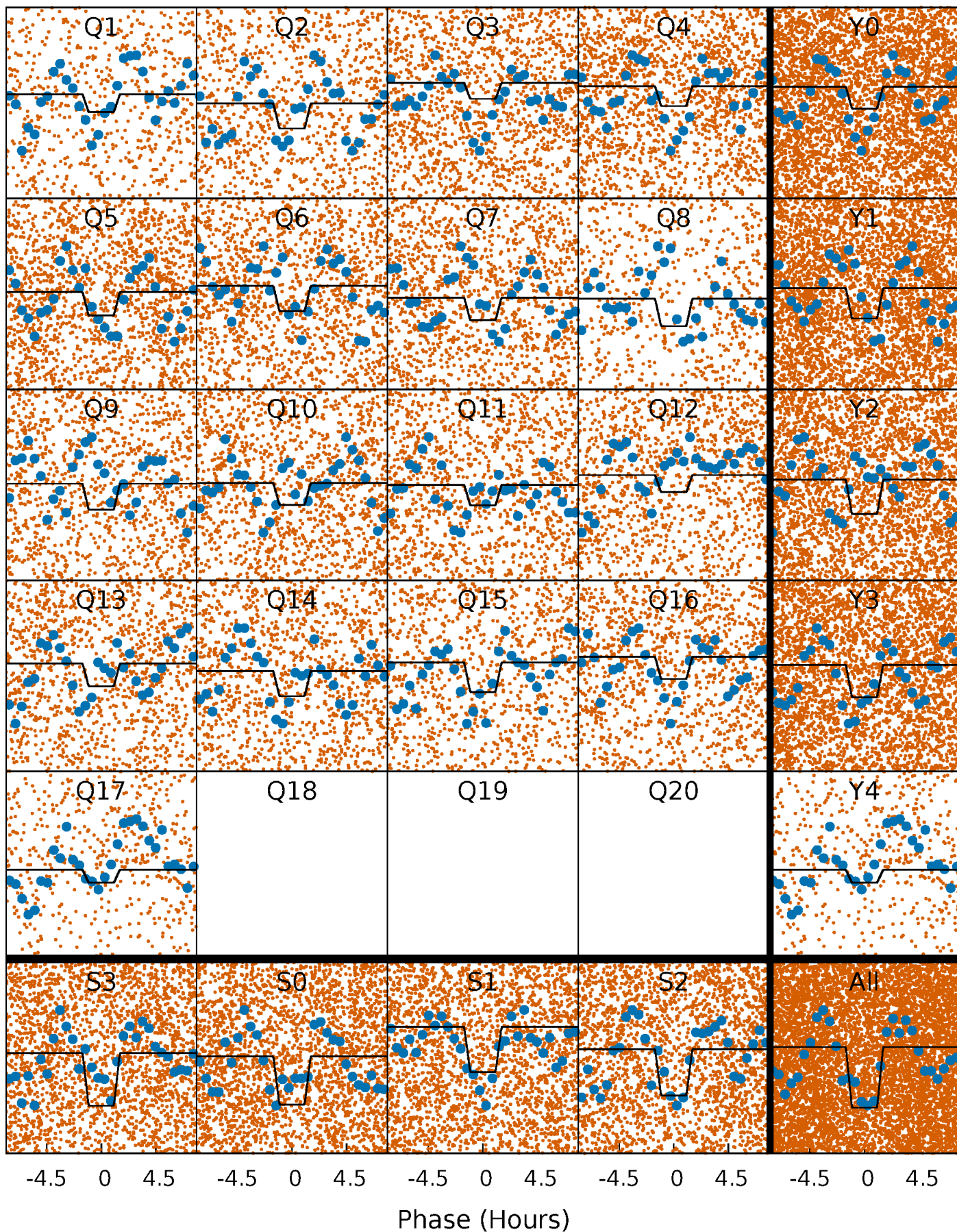
DV Quarter-Phased Transit Curves

TCE 006311382-01 P= 1.133076 Days $T_0=131.796895$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

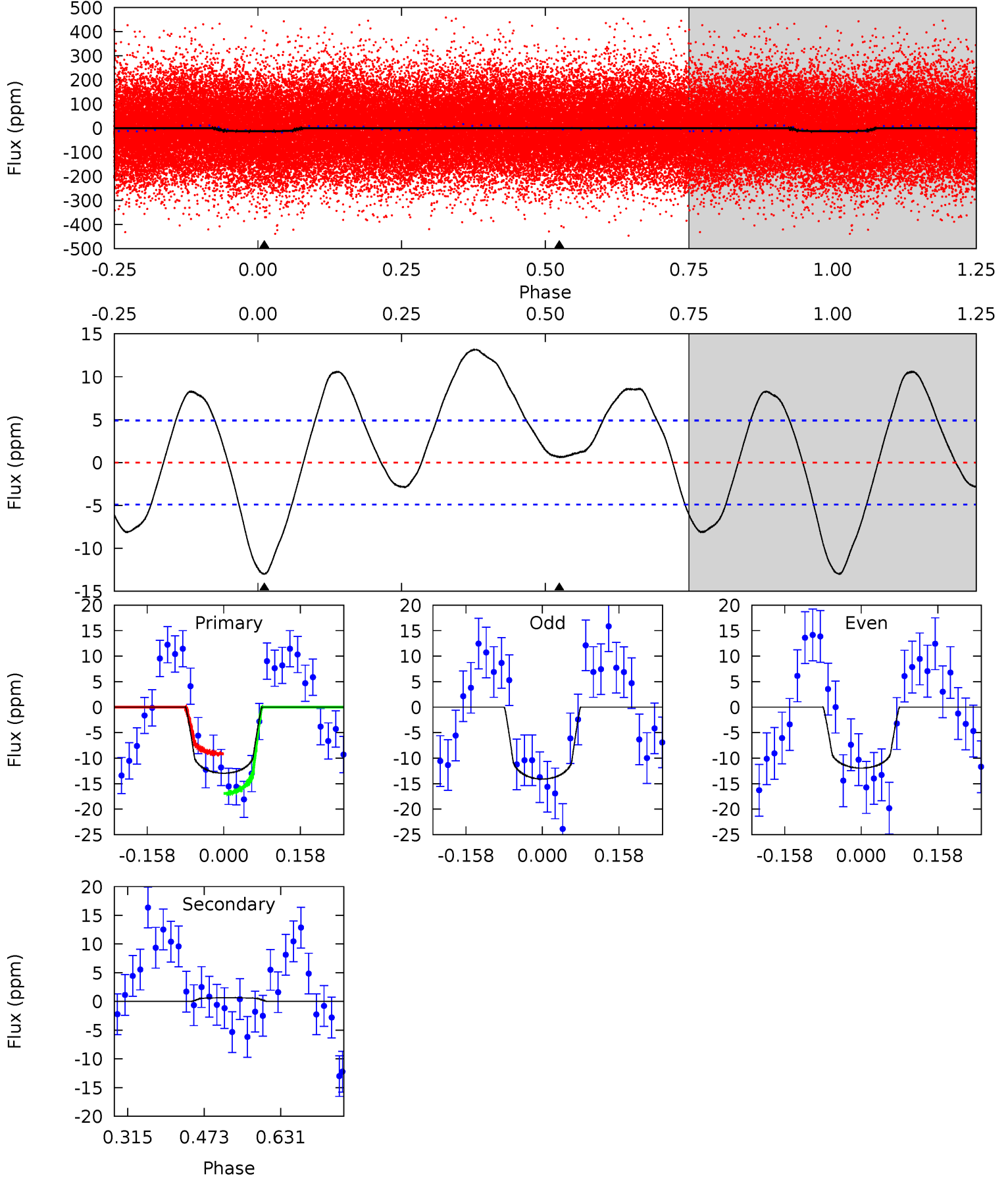
TCE 006311382-01 P= 1.133100 Days $T_0=131.804451$ (BKJD)



DV Model-Shift Uniqueness Test

006311382-01, P = 1.133076 Days, E = 130.663819 Days

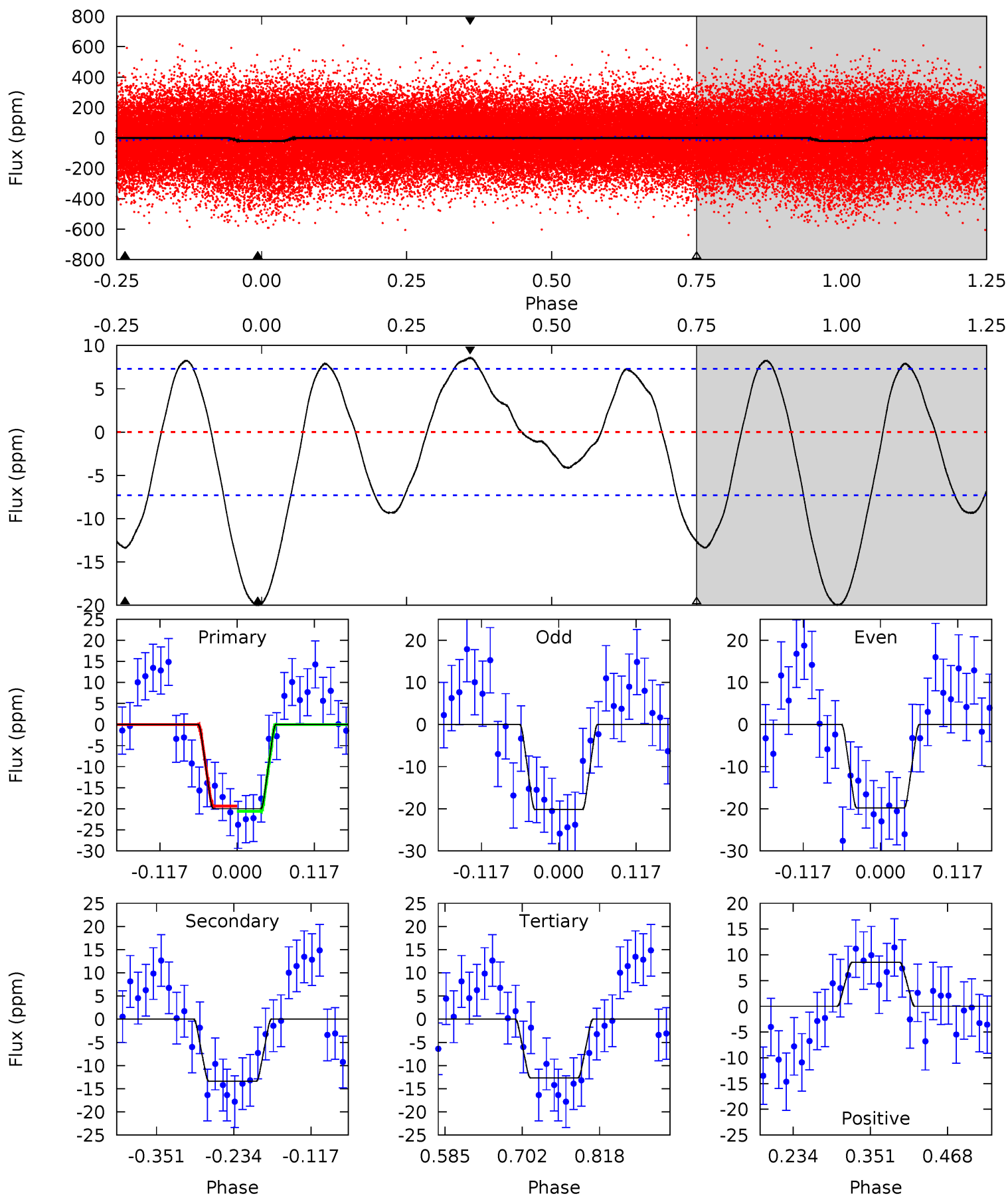
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	-0.59	0	0	4.47	1.41	5.02	11.8	11.8	-0.59	-0.59	0.97	1.07	0.50	3.53



Alt Model-Shift Uniqueness Test

006311382-01, P = 1.133100 Days, E = 130.671351 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	8.29	7.84	5.31	4.53	1.57	3.45	4.54	7.08	0.45	2.98	0.12	2.58	0.30	0.37



Stellar Parameters For KIC 006311382

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6293^{+170}_{-170}	$3.518^{+0.352}_{-0.117}$	$-0.680^{+0.350}_{-0.300}$	$3.480^{+0.639}_{-1.598}$	$1.455^{+0.183}_{-0.397}$	$0.049^{+0.157}_{-0.015}$
	+3%/-3%	+10%/-3%	+51%/-44%	+18%/-46%	+13%/-27%	+323%/-30%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006311382-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	1 ± 1	$1.45^{+0.50}_{-0.49}$	4590^{+297}_{-478}	-4263^{+477}_{-438}	$-0.094^{+0.153}_{-0.268}$
Alt.	-13 ± 2	$1.71^{+0.50}_{-0.52}$	4592^{+301}_{-456}	5240^{+820}_{-623}	$1.445^{+1.418}_{-0.588}$

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

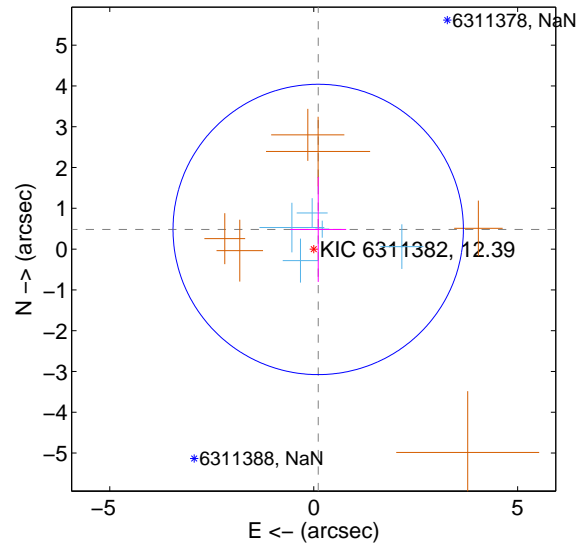
Supplemental centroid analysis for 006311382-01. Kepler magnitude: 12.39. Transit SNR 7.67

There are 5 quarters with good PRF difference image offsets

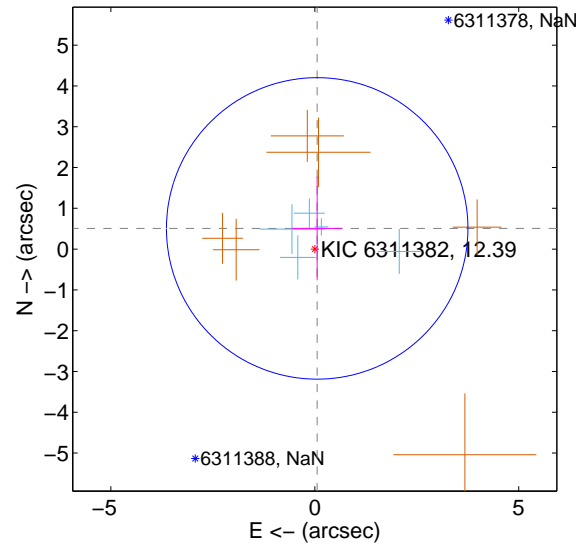
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.494 ± 1.187	0.42	-0.110 ± 0.687	0.482 ± 1.287
PRF-fit source offset from KIC position	0.511 ± 1.232	0.41	-0.059 ± 0.615	0.507 ± 1.271
photometric centroid source offset	1.64 ± 1.10	1.48	1.61 ± 1.10	-0.27 ± 1.11

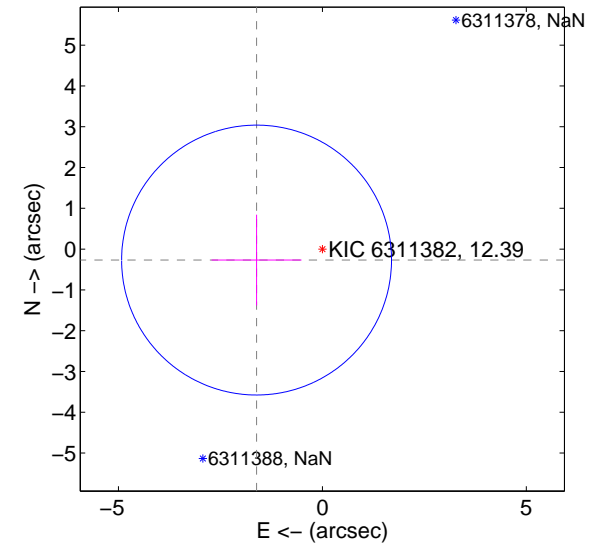
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

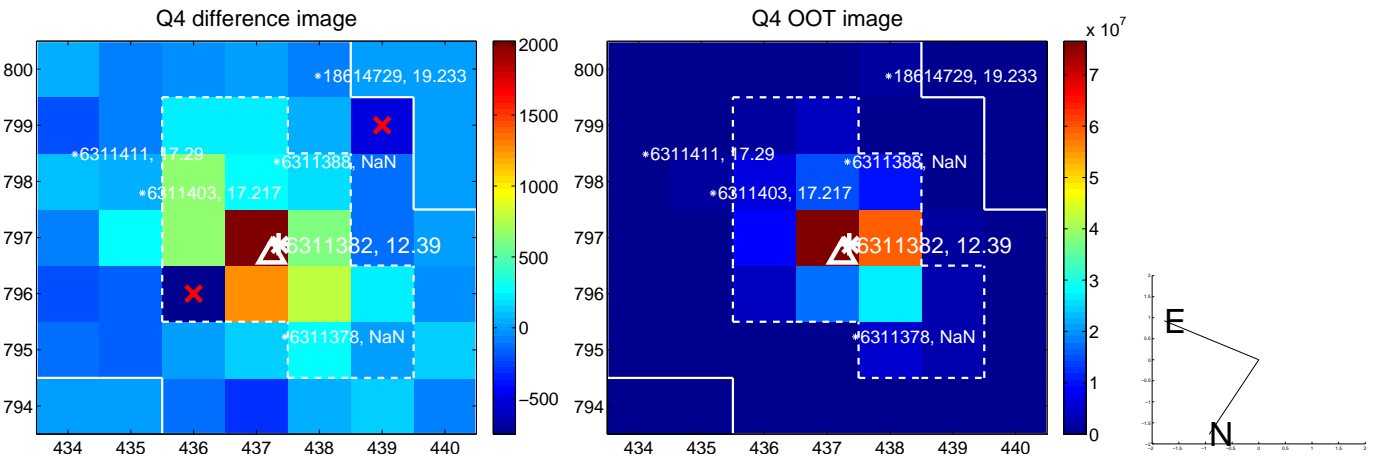
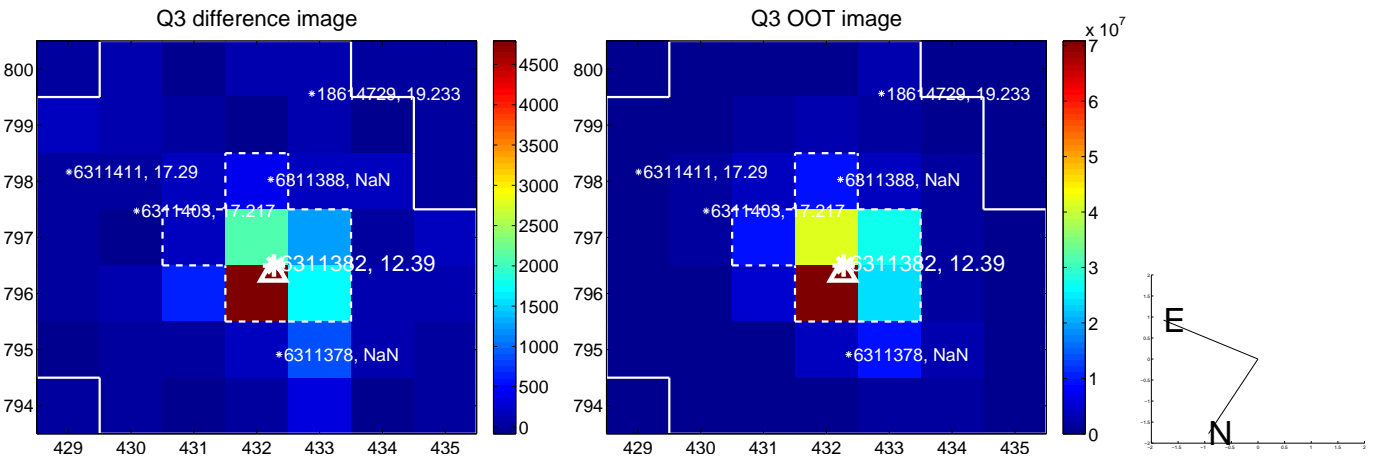
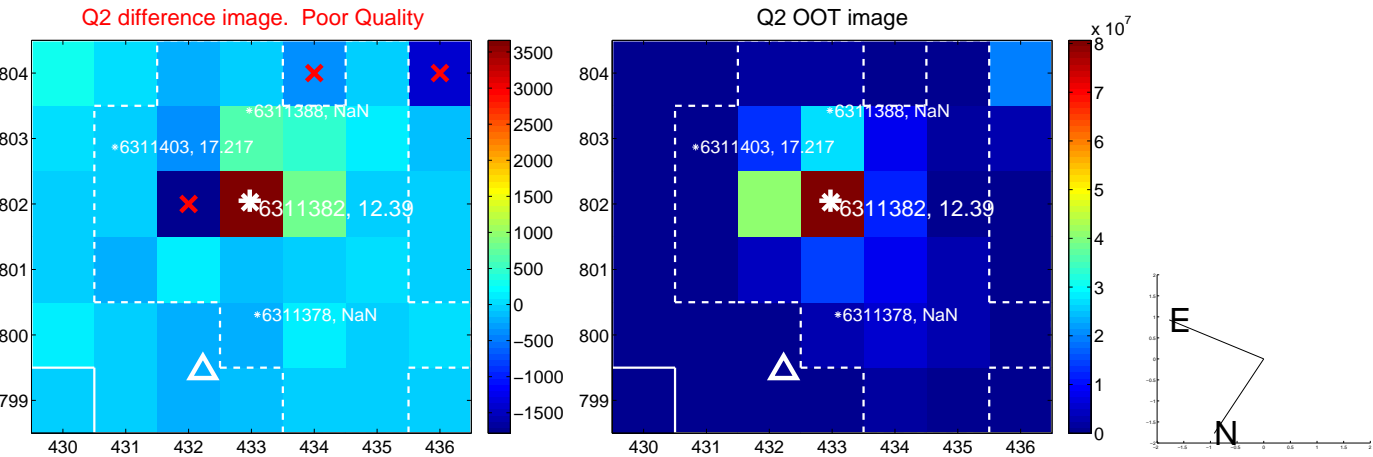
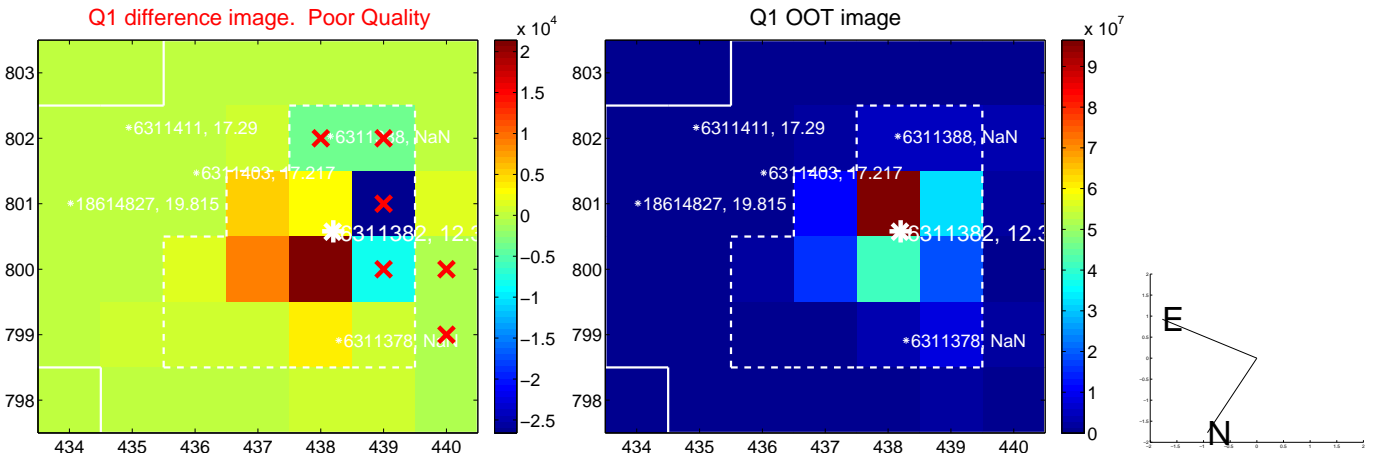


offset from photometric centroids

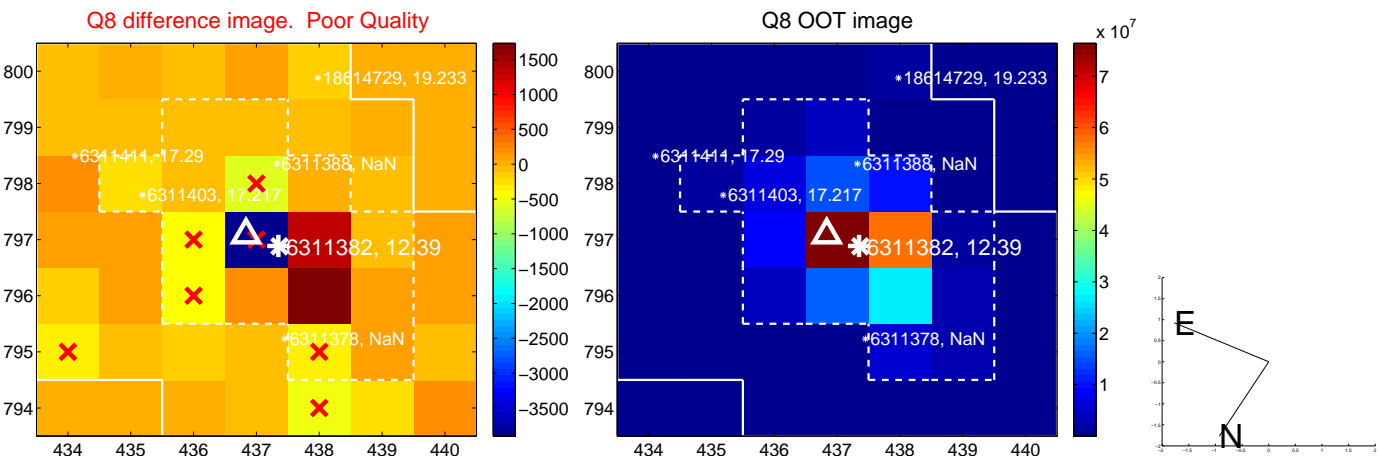
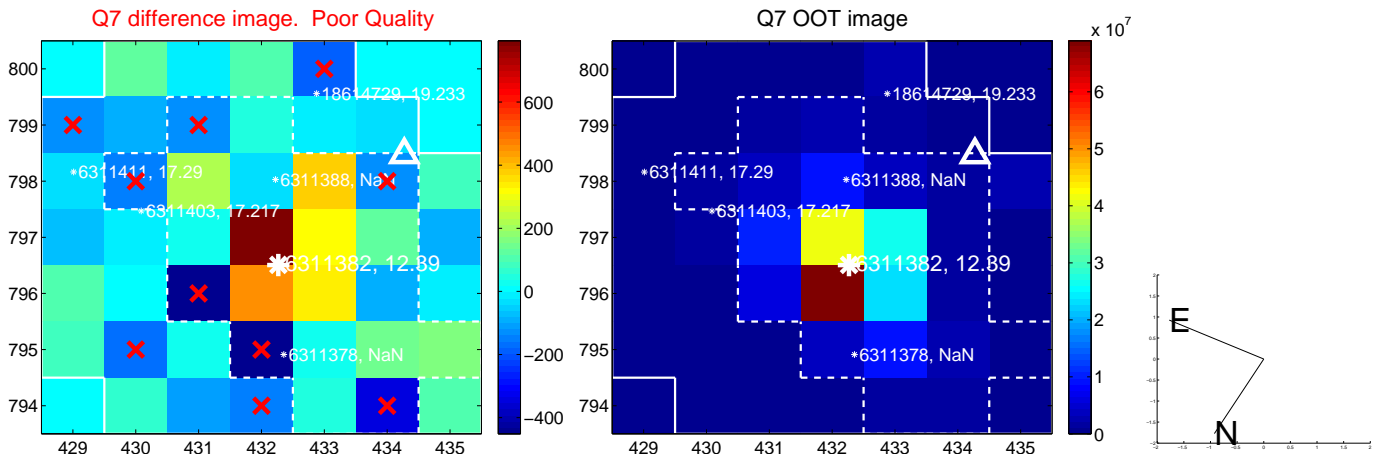
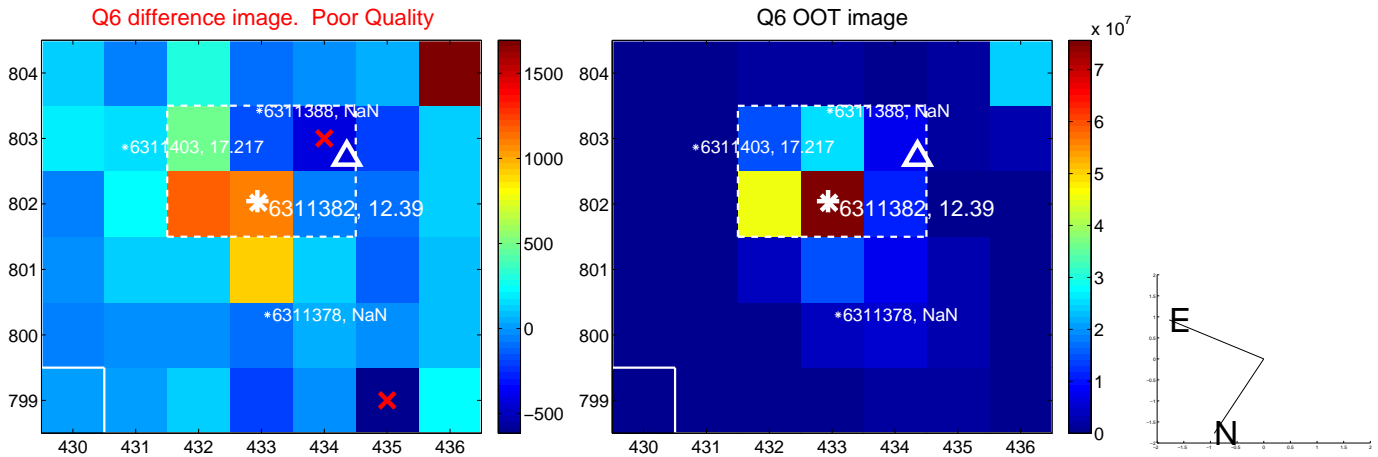
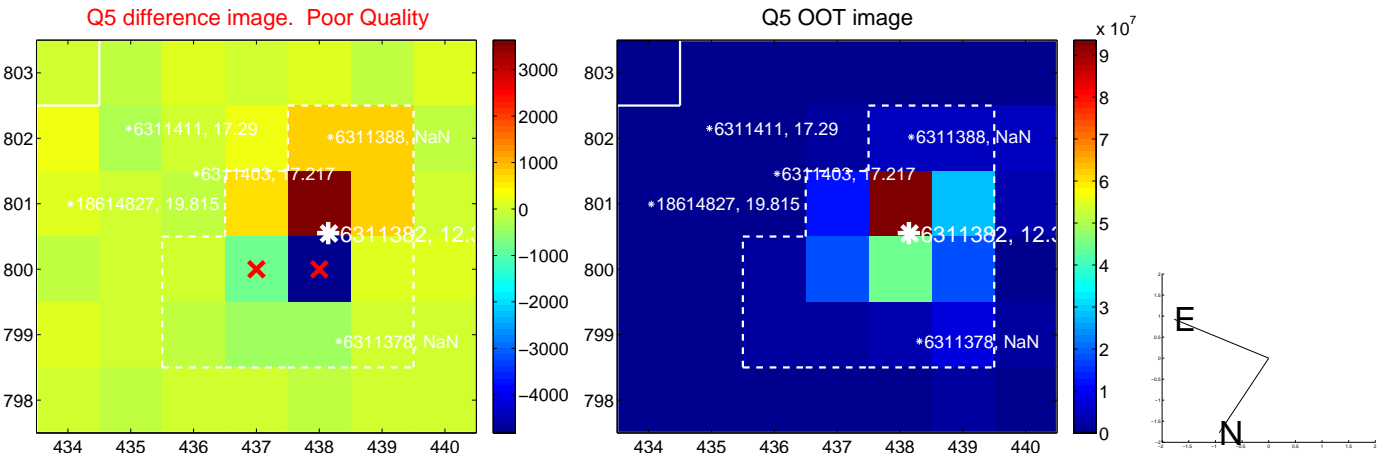


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

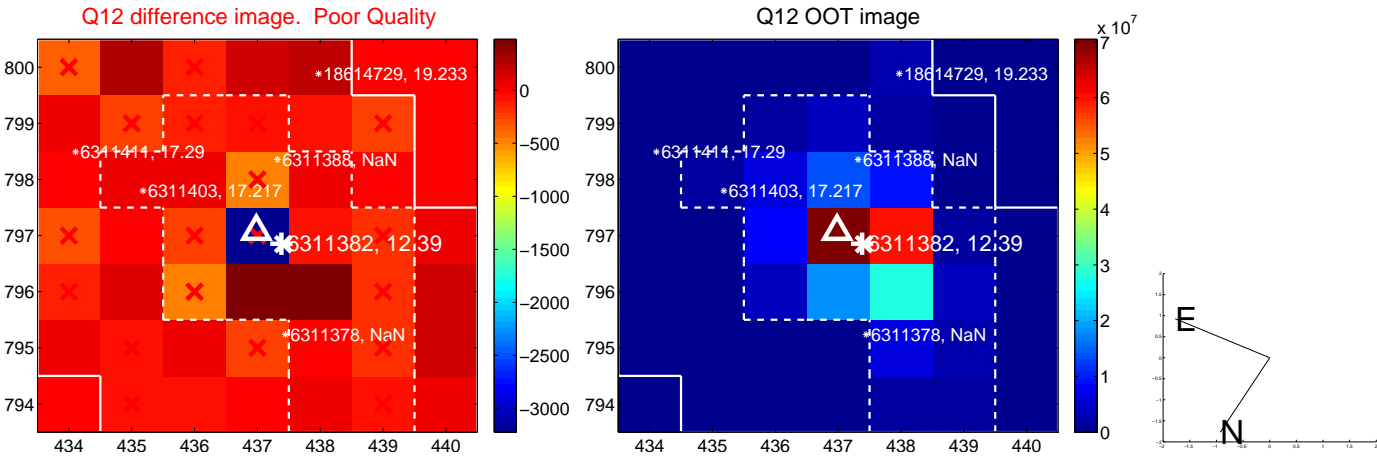
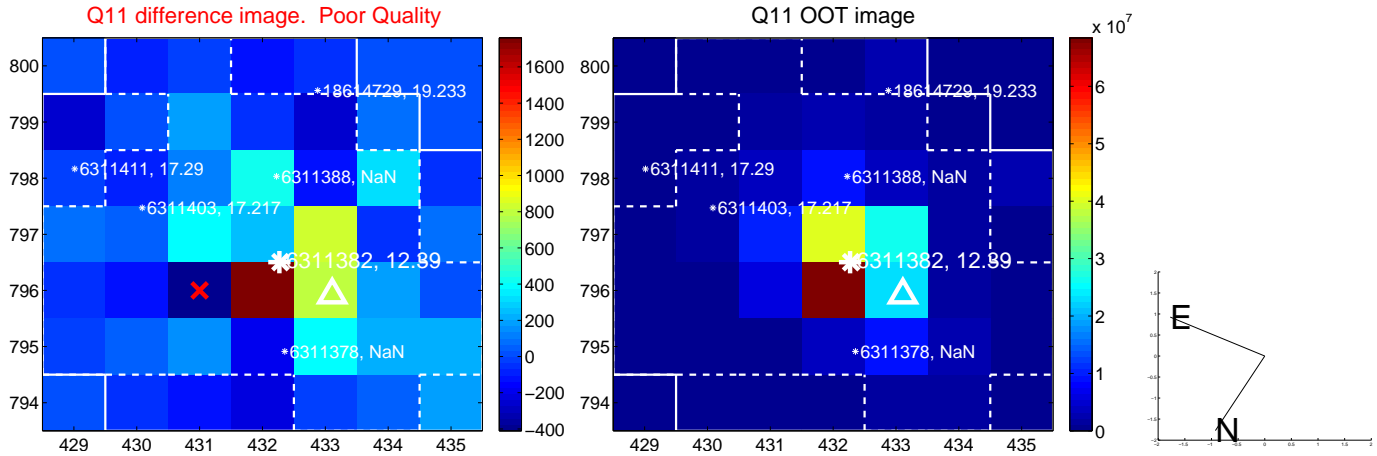
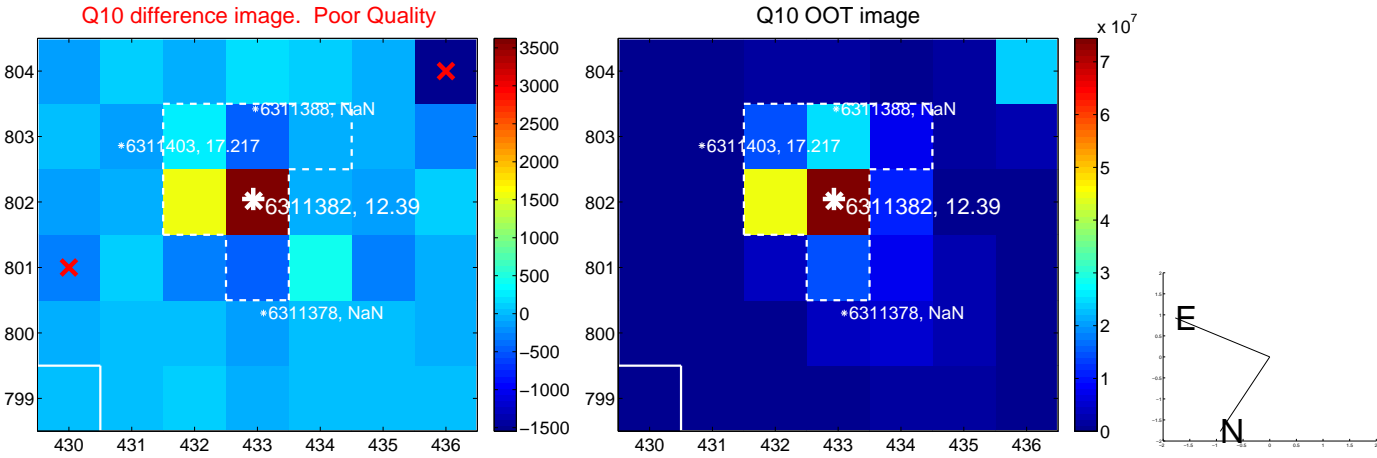
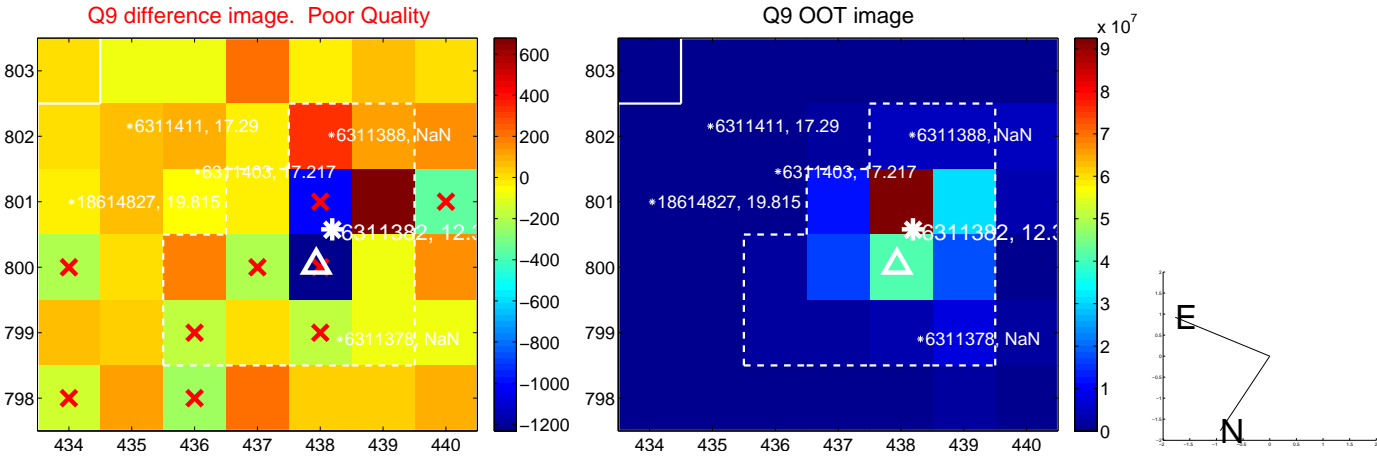
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



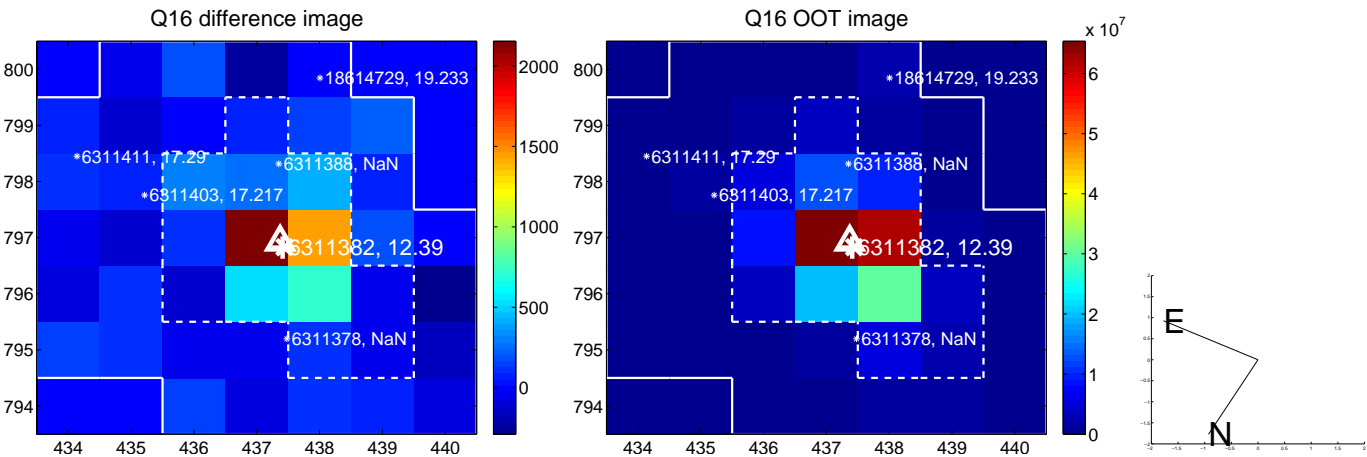
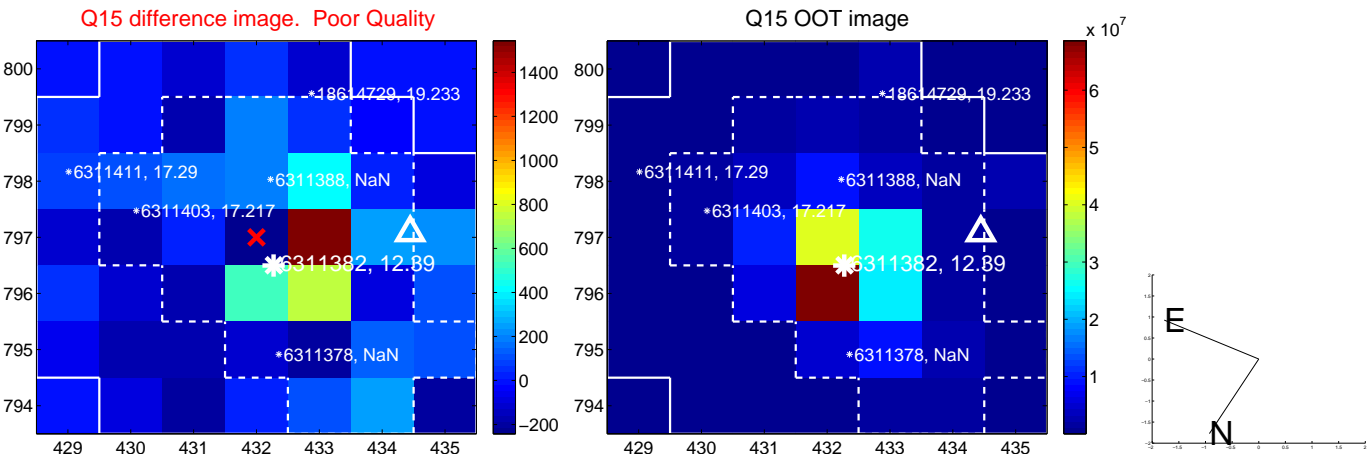
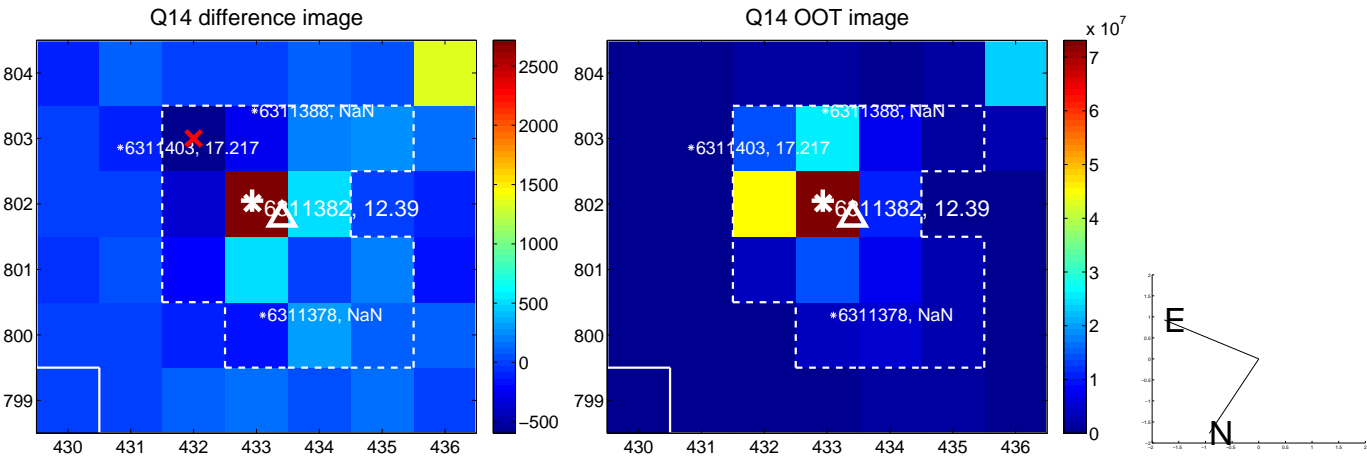
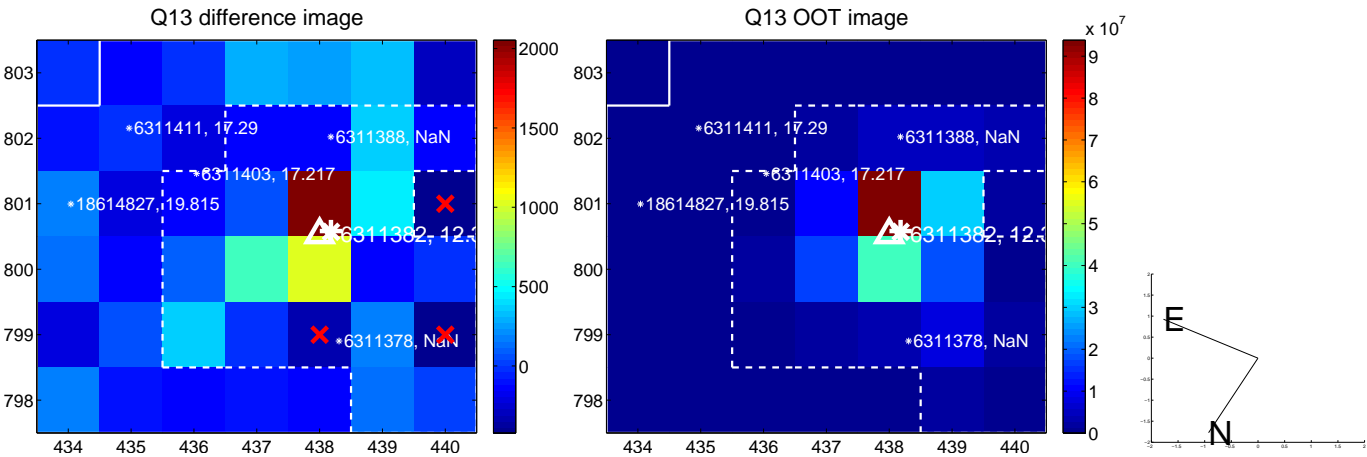
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



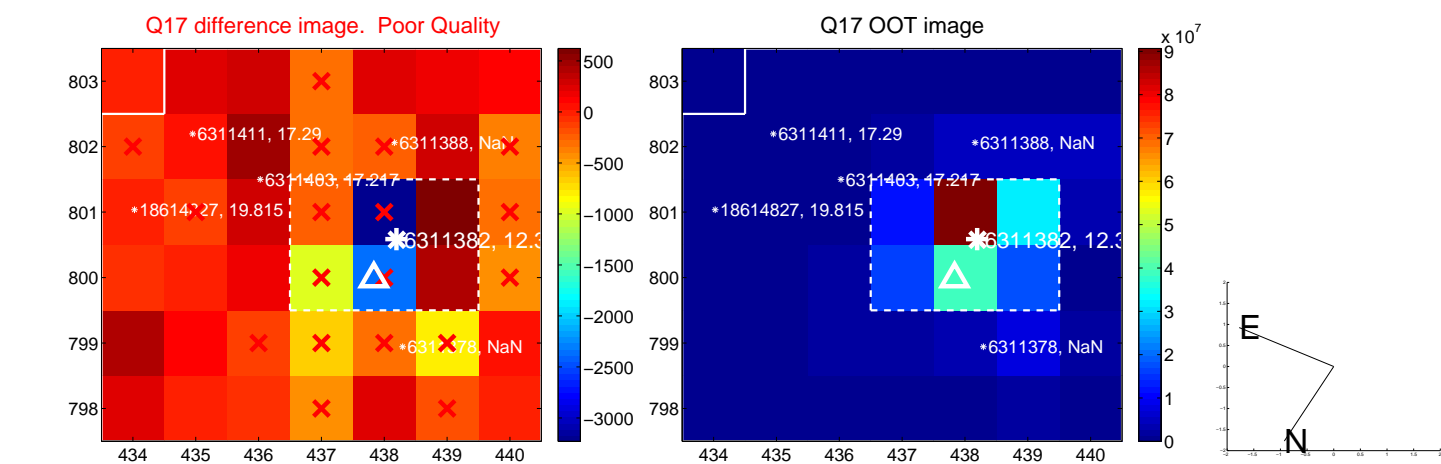
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



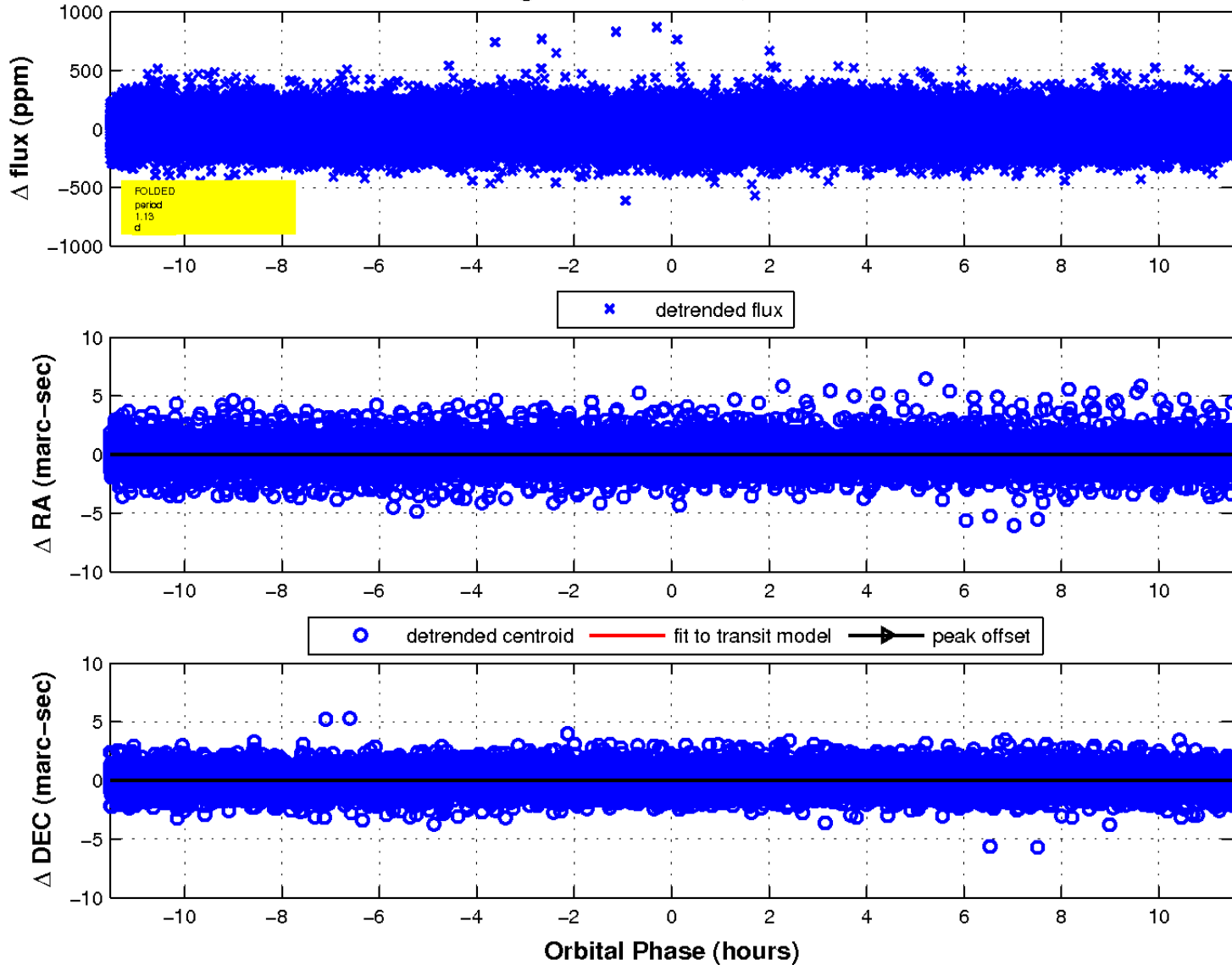
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 2



This astronomical image shows a field of stars against a dark background. A blue grid is overlaid on the image. Green text labels provide coordinates: '38.0', '37.0', '19:54:36.0', and '35.0' are positioned along the top edge, while '50.041:39:00.0', '40.0', '30.0', '20.0', and '38:10.0' are positioned along the right edge. A horizontal red line is visible across the middle of the image.

This astronomical image shows a field of stars against a dark background. A blue grid is overlaid on the image. Green text labels provide coordinates: '38.0', '37.0', '19:54:36.0', and '35.0' are positioned horizontally across the middle, while '50.041:39:00.0', '40.0', '30.0', '20.0', and '38:10.0' are positioned vertically along the right edge. A red horizontal line is visible near the top of the grid.

KIC 006311382

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})
006311382-01	OBS	No	1.133076	131.796895	14.5	3.844	9.0	7.7	3.48	6293	1.55	29266.19
006311382-02	OBS	No	199.958152	203.506467	115.7	8.652	7.3	4.6	3.48	6293	4.10	29.57

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006311382-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006311382-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS

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

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

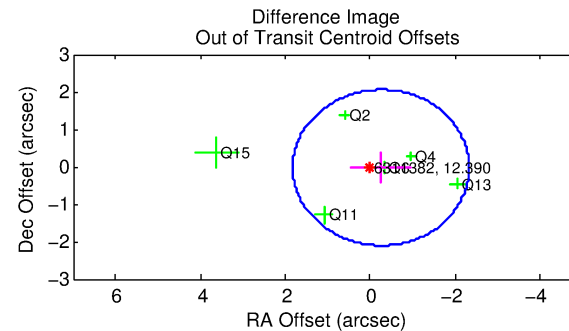
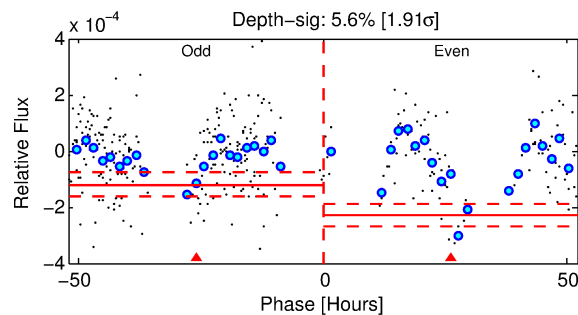
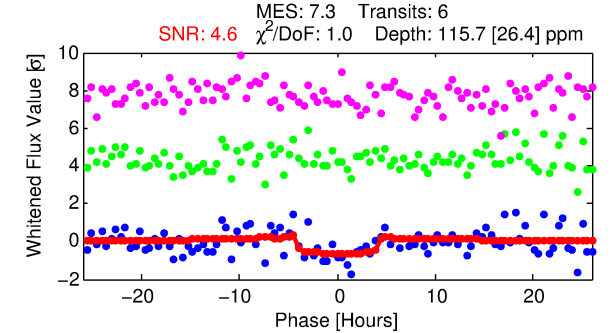
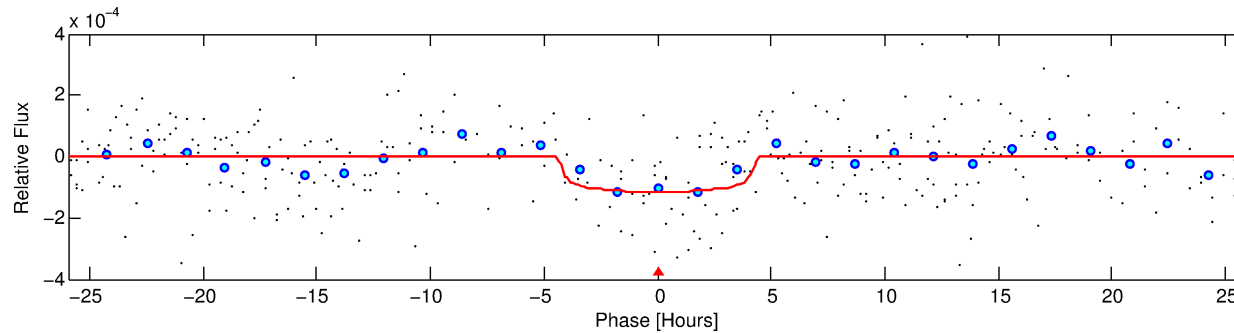
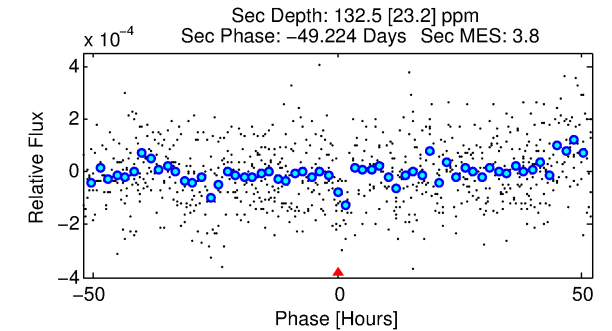
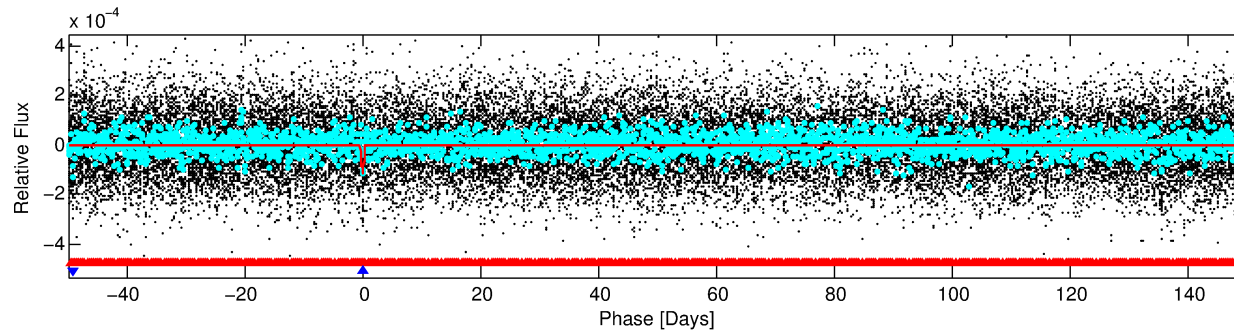
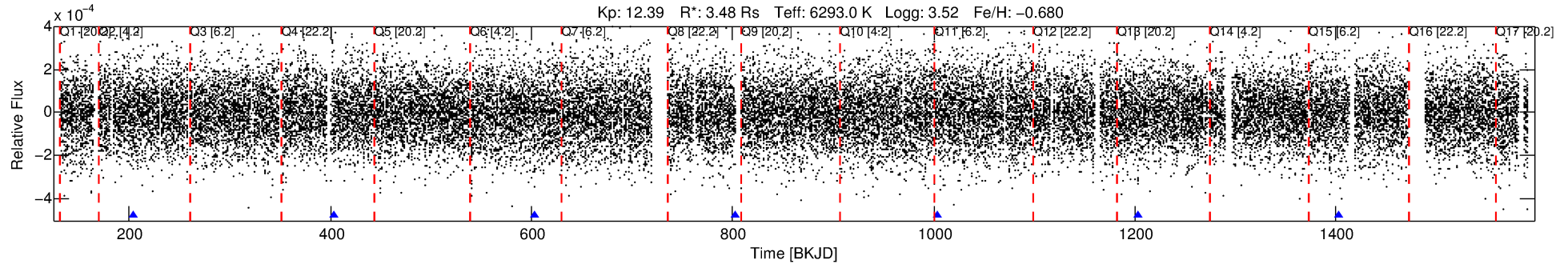
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006311382-02

No Significant Match Found

DV One-Page Summary

KIC: 6311382 Candidate: 2 of 2 Period: 199.958 d



DV Fit Results:

Period = 199.95815 [0.00574] d
Epoch = 203.5065 [0.0222] BKJD
Rp/R* = 0.0108 [0.0131]
a/R* = 114.43 [775.00]
b = 0.78 [3.48]
Seff = 29.57 [18.64]
Teq = 595 [94] K
Rp = 4.10 [5.33] Re
a = 0.7587 [0.3098] AU
Ag = 2498.26 [6291.88] [0.40σ]
Teffp = 6499 [3970] K [1.49σ]

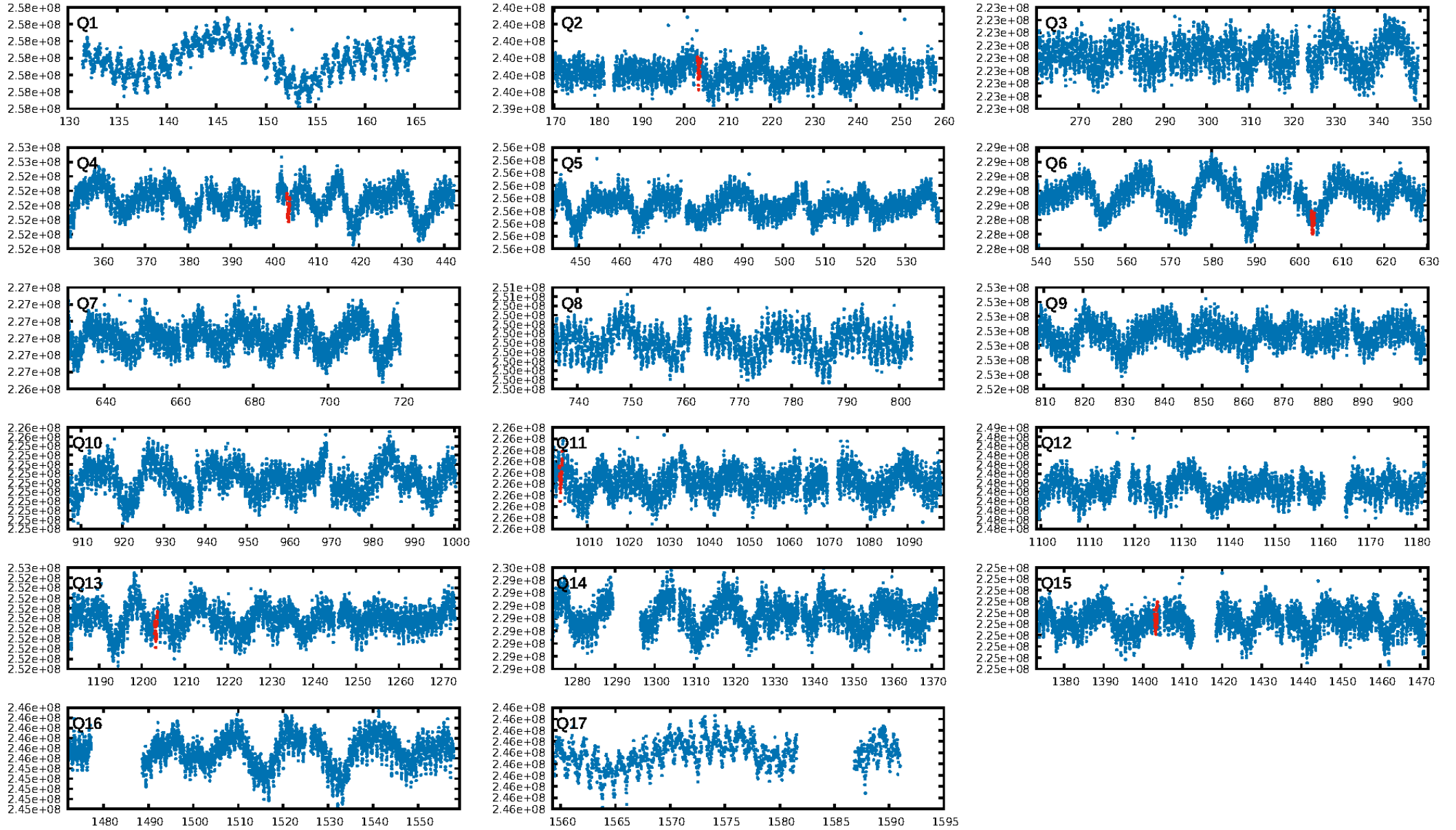
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [504.03σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 72.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.10e-11
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -18.46
Centroid-sig: 0.0%
Centroid-so: 3.612 arcsec [2.07σ]
OotOffset-rm: 0.262 arcsec [0.38σ]
KicOffset-rm: 0.205 arcsec [0.38σ]
OotOffset-st: 2/2/1/1 [6]
KicOffset-st: 2/2/1/1 [6]
DiffImageQuality-fgm: 0.67 [4/6]
DiffImageOverlap-fno: 0.00 [0/6]

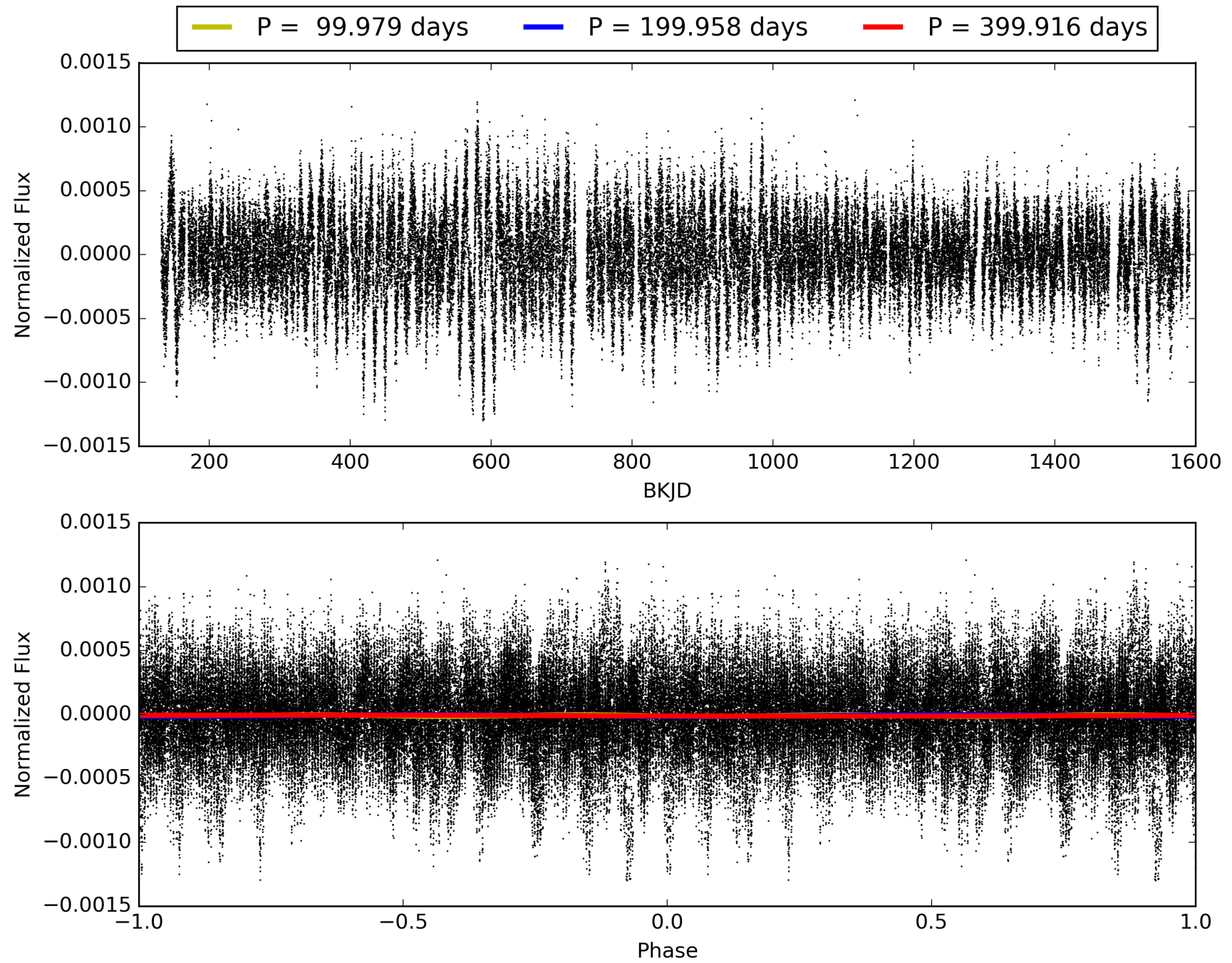
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 08:31:35 Z

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

TCE 006311382-02, PDC Light Curves

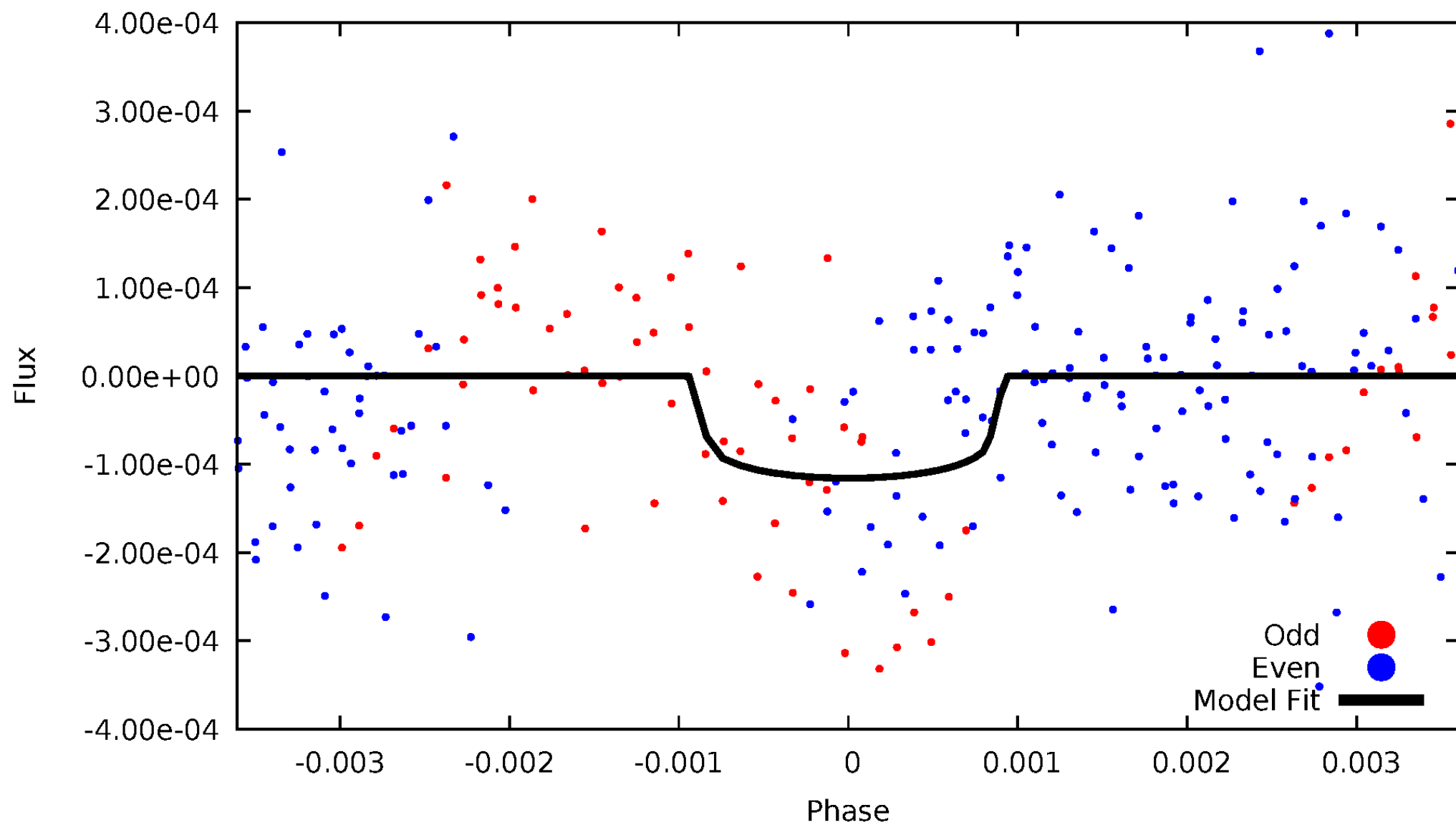


TCE 006311382-02



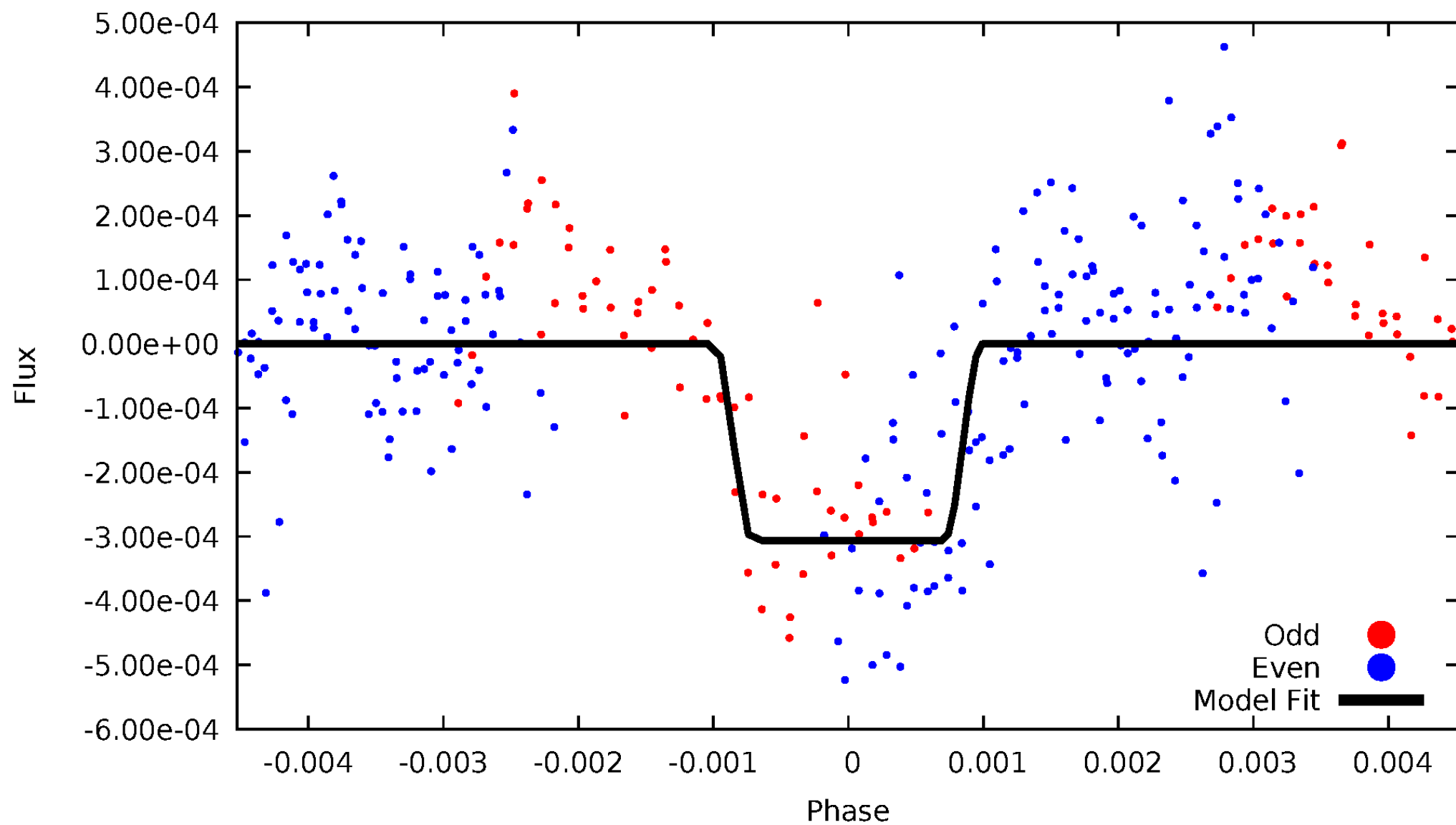
DV Odd/Even

TCE 006311382-02



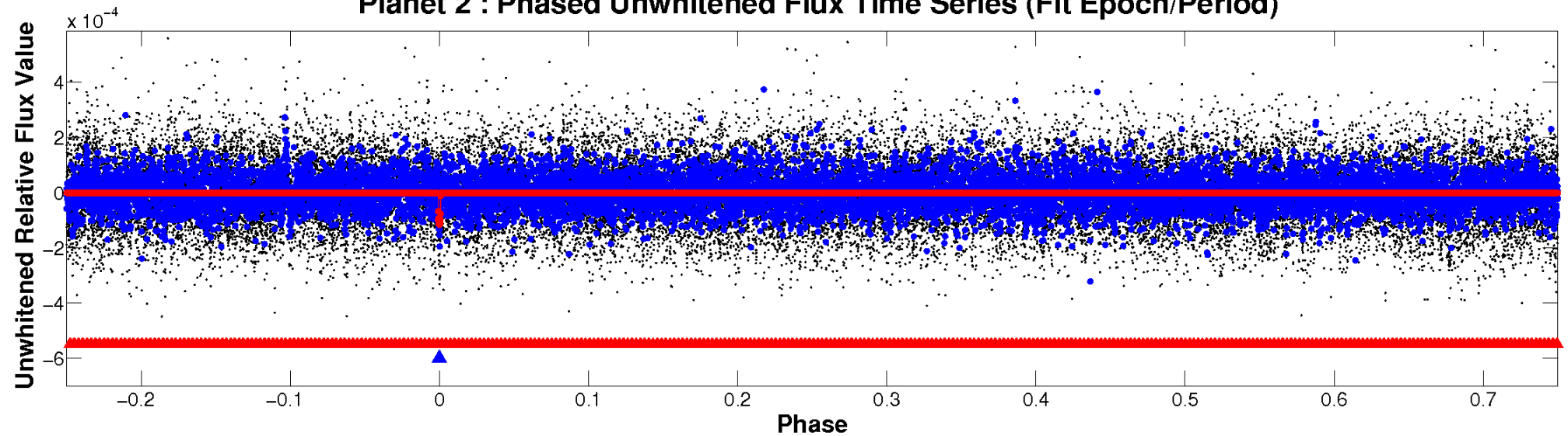
ALT Odd/Even

TCE 006311382-02

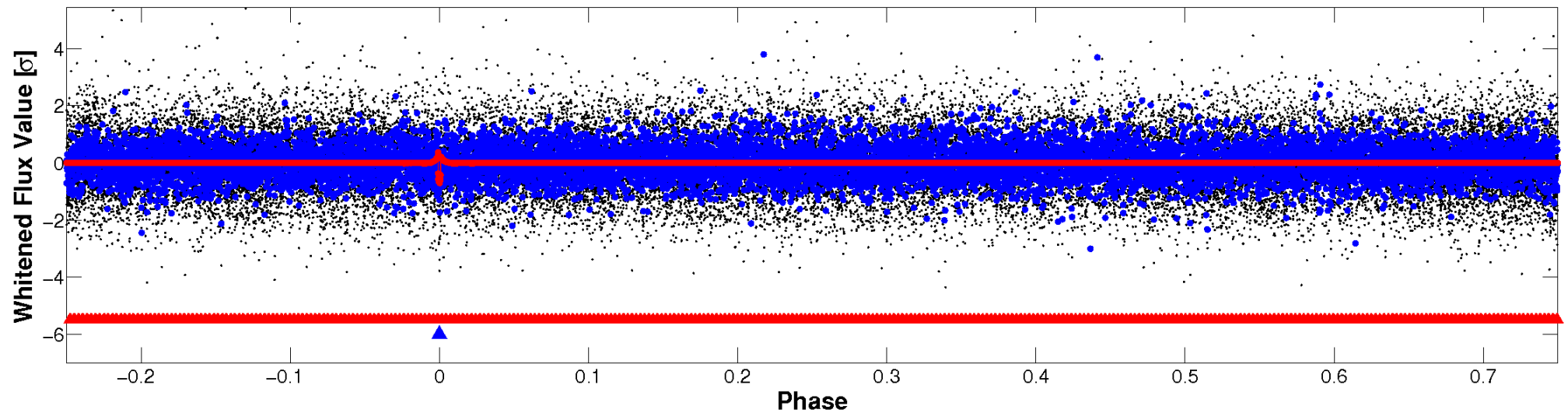


Non-Whitened Vs. Whitened Light Curve

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

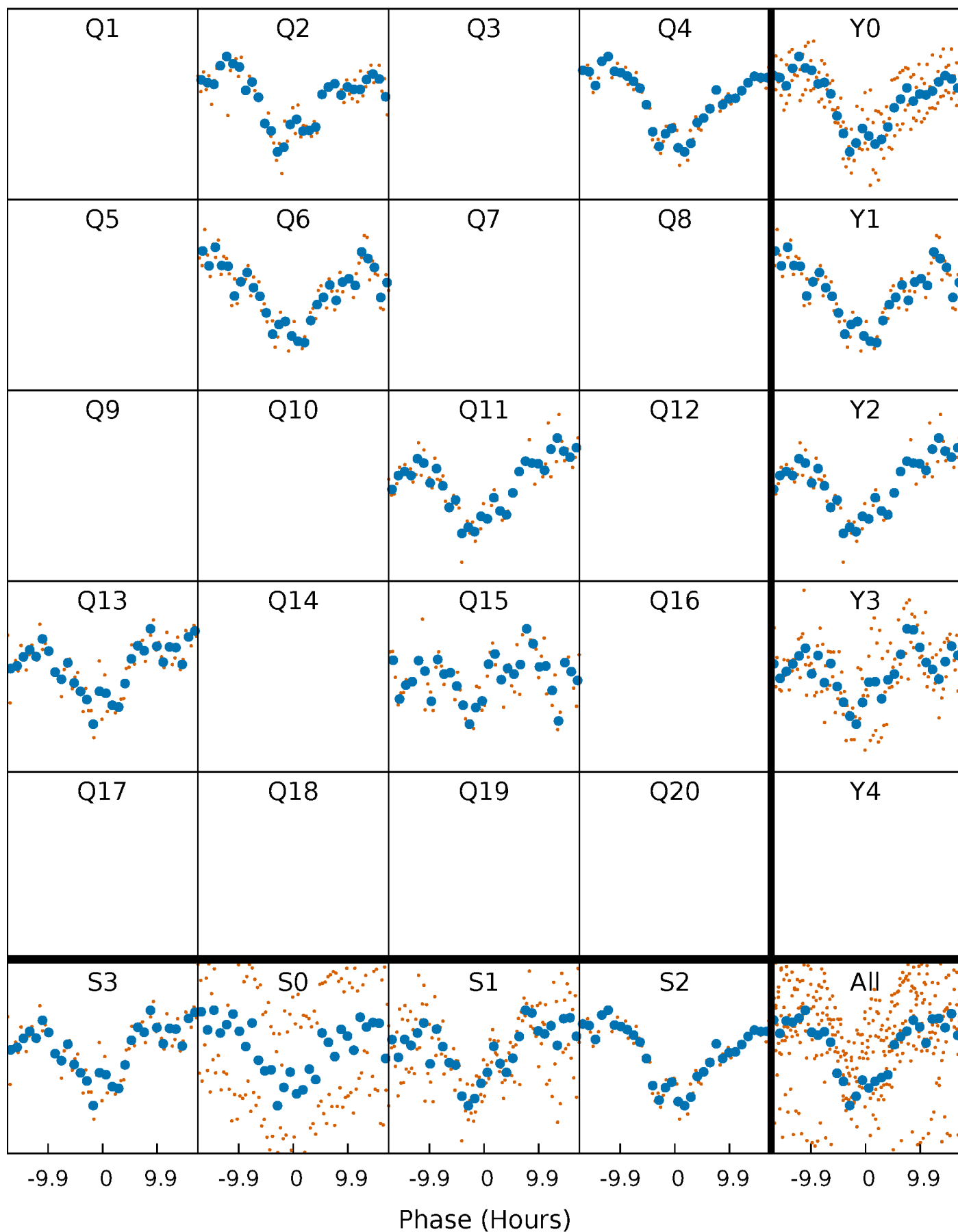


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



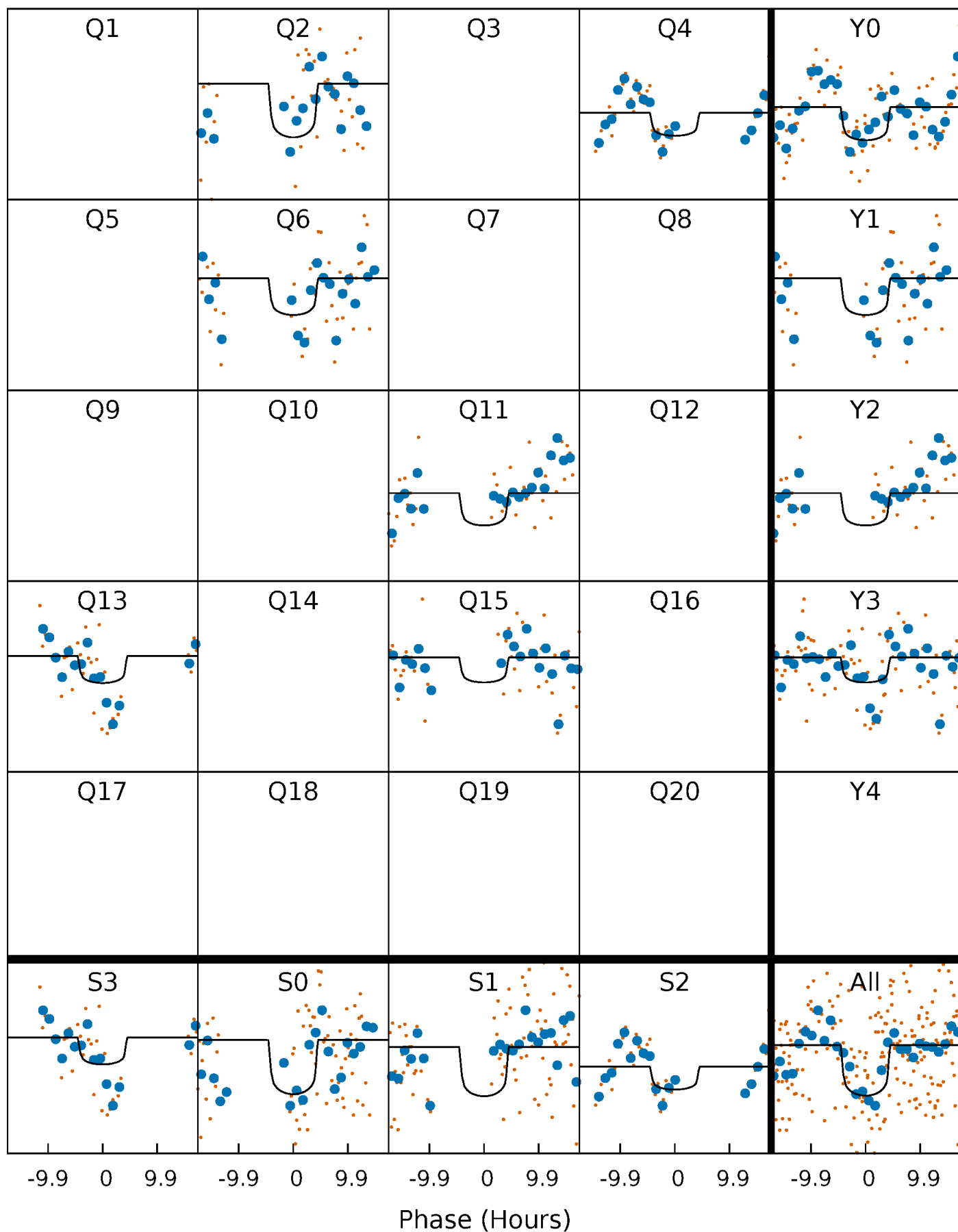
PDC Quarter-Phased Transit Curves

TCE 006311382-02 P=199.958152 Days $T_0=203.506467$ (BKJD)



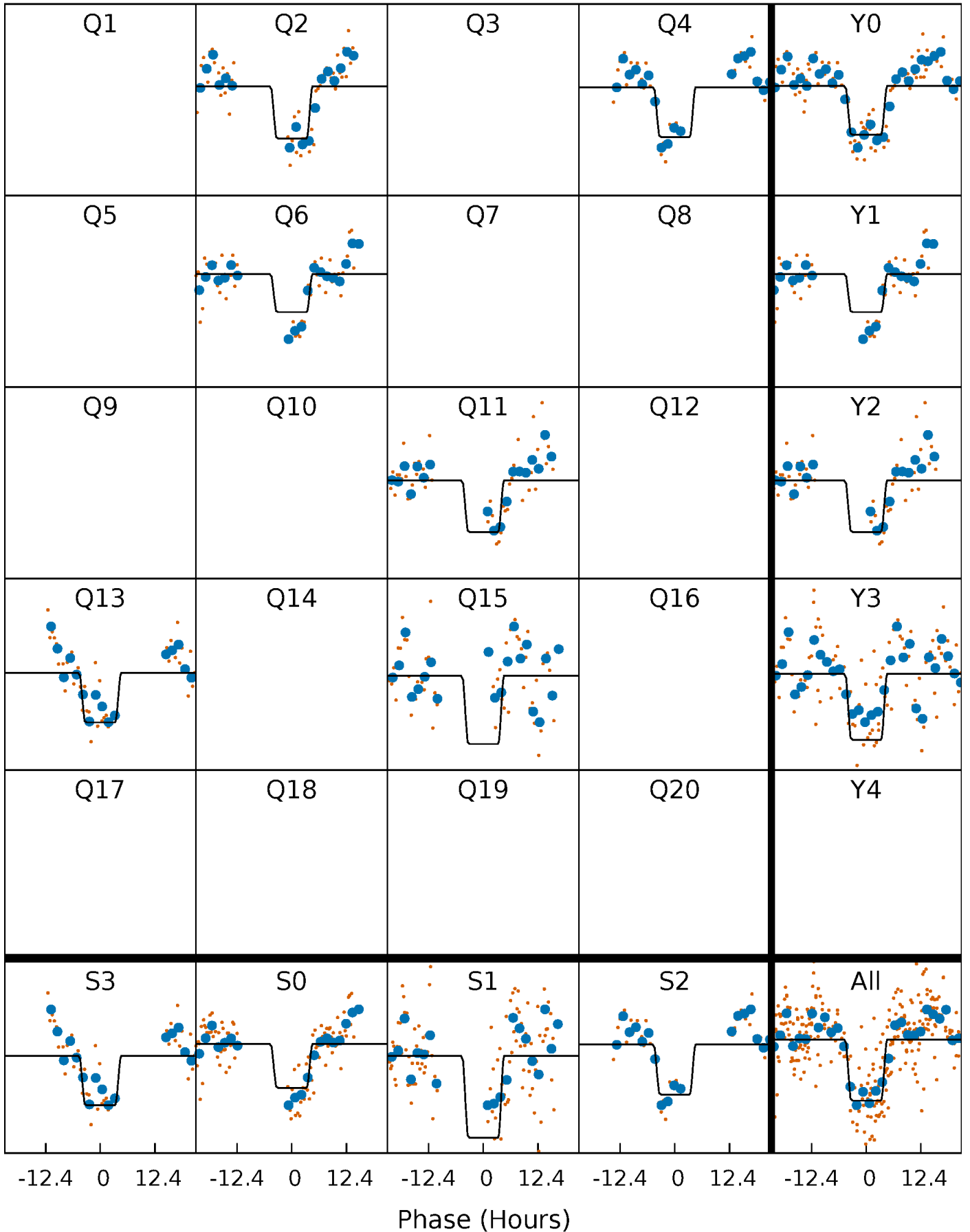
DV Quarter-Phased Transit Curves

TCE 006311382-02 P=199.958152 Days $T_0=203.506467$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

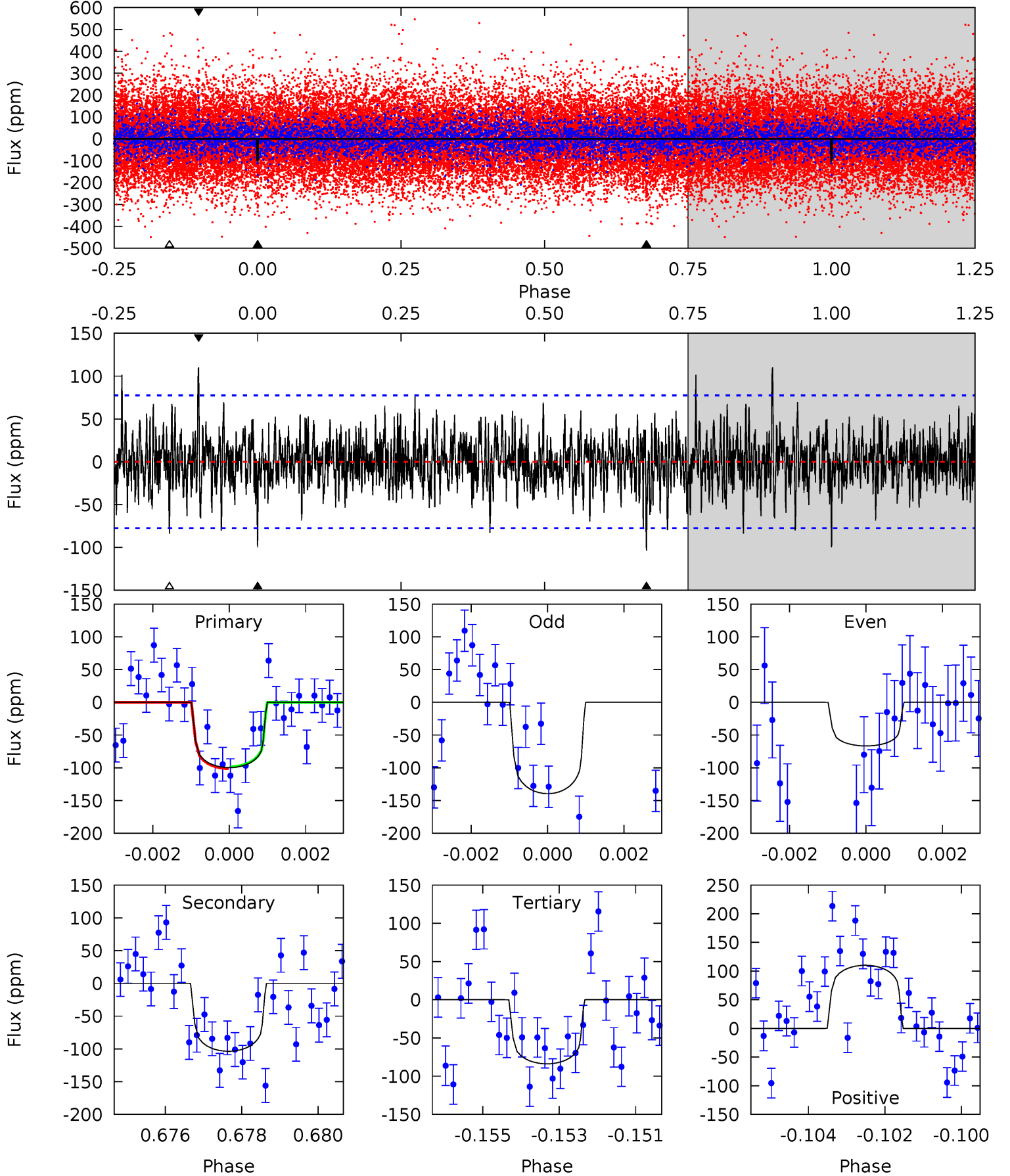
TCE 006311382-02 P=199.968312 Days $T_0=203.476430$ (BKJD)



DV Model-Shift Uniqueness Test

006311382-02, P = 199.958152 Days, E = 3.548315 Days

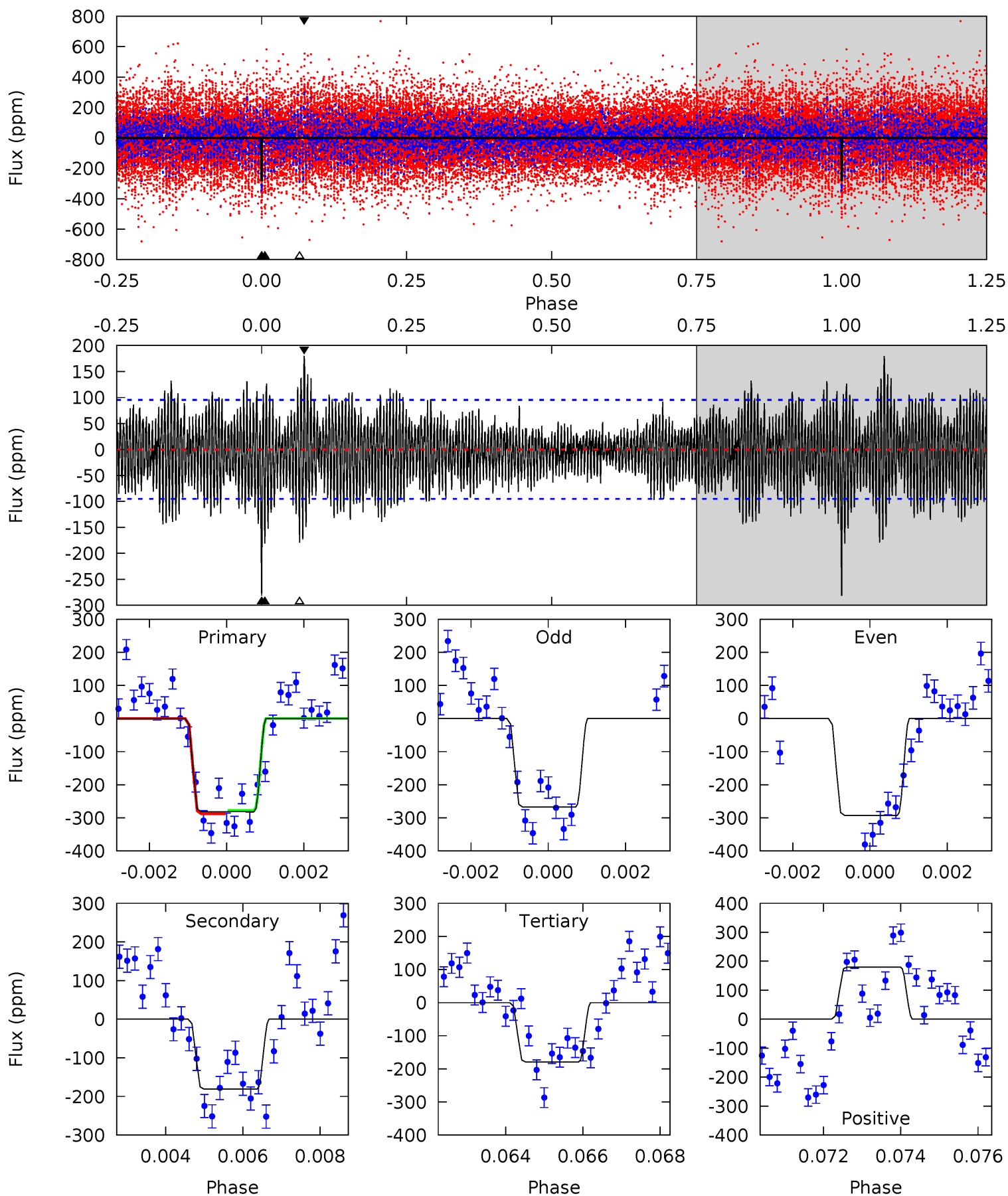
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.86	7.14	5.77	7.58	5.34	3.11	1.67	1.09	-0.72	1.37	-0.45	2.49	0.88	0.52	0.09



Alt Model-Shift Uniqueness Test

006311382-02, P = 199.968312 Days, E = 3.508118 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.7	10.1	10.0	10.1	5.33	3.10	2.87	5.72	5.68	0.10	0.06	0.69	0.88	0.39	0.24



Stellar Parameters For KIC 006311382

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6293^{+170}_{-170}	$3.518^{+0.352}_{-0.117}$	$-0.680^{+0.350}_{-0.300}$	$3.480^{+0.639}_{-1.598}$	$1.455^{+0.183}_{-0.397}$	$0.049^{+0.157}_{-0.015}$
	+3%/-3%	+10%/-3%	+51%/-44%	+18%/-46%	+13%/-27%	+323%/-30%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006311382-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-104 ± 15	$4.75^{+4.58}_{-3.03}$	816^{+56}_{-92}	5393^{+4233}_{-1245}	1364^{+9519}_{-996}
Alt.	-181 ± 18	$6.89^{+4.78}_{-4.08}$	816^{+56}_{-82}	5298^{+3247}_{-984}	1215^{+6221}_{-797}

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

DV Centroid Data

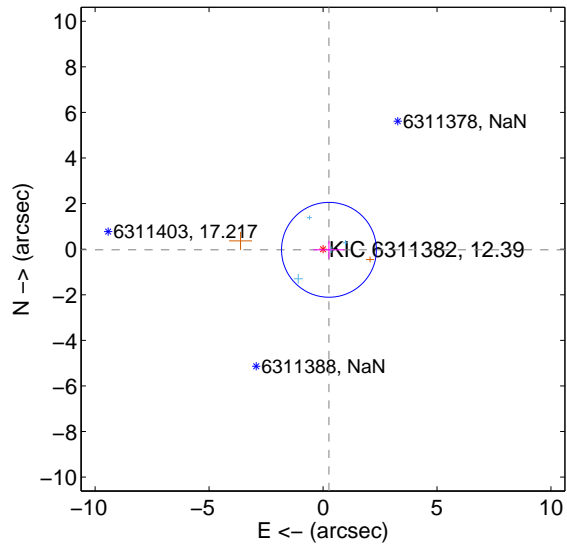
Supplemental centroid analysis for 006311382-02. Kepler magnitude: 12.39. Transit SNR 4.58

There are 4 quarters with good PRF difference image offsets

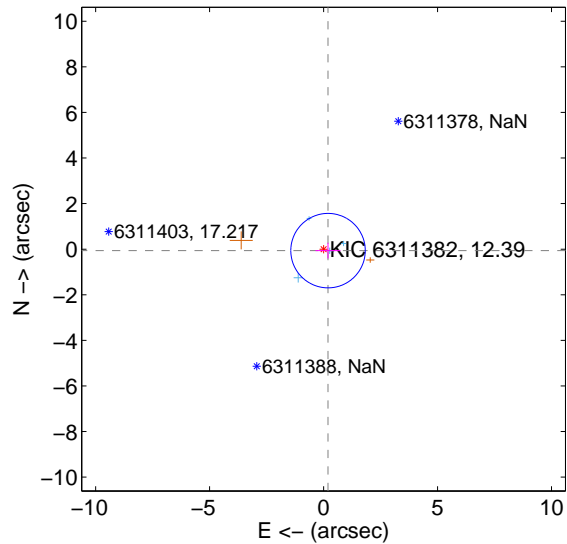
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.262 ± 0.694	0.38	-0.260 ± 0.689	-0.028 ± 0.390
PRF-fit source offset from KIC position	0.205 ± 0.544	0.38	-0.195 ± 0.547	-0.064 ± 0.346
photometric centroid source offset	3.61 ± 1.74	2.07	-0.34 ± 1.57	3.60 ± 1.75

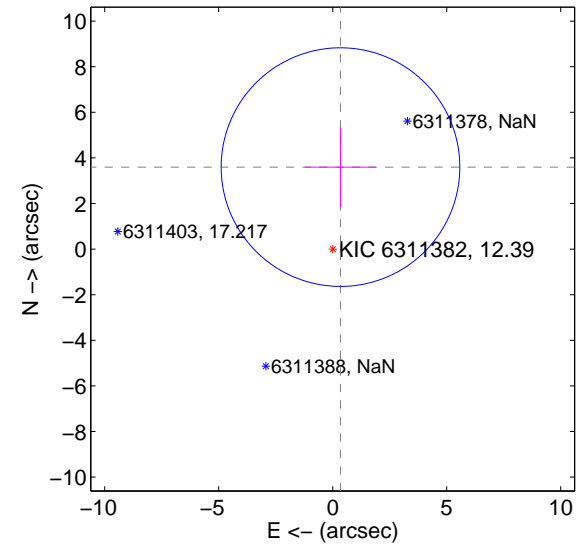
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

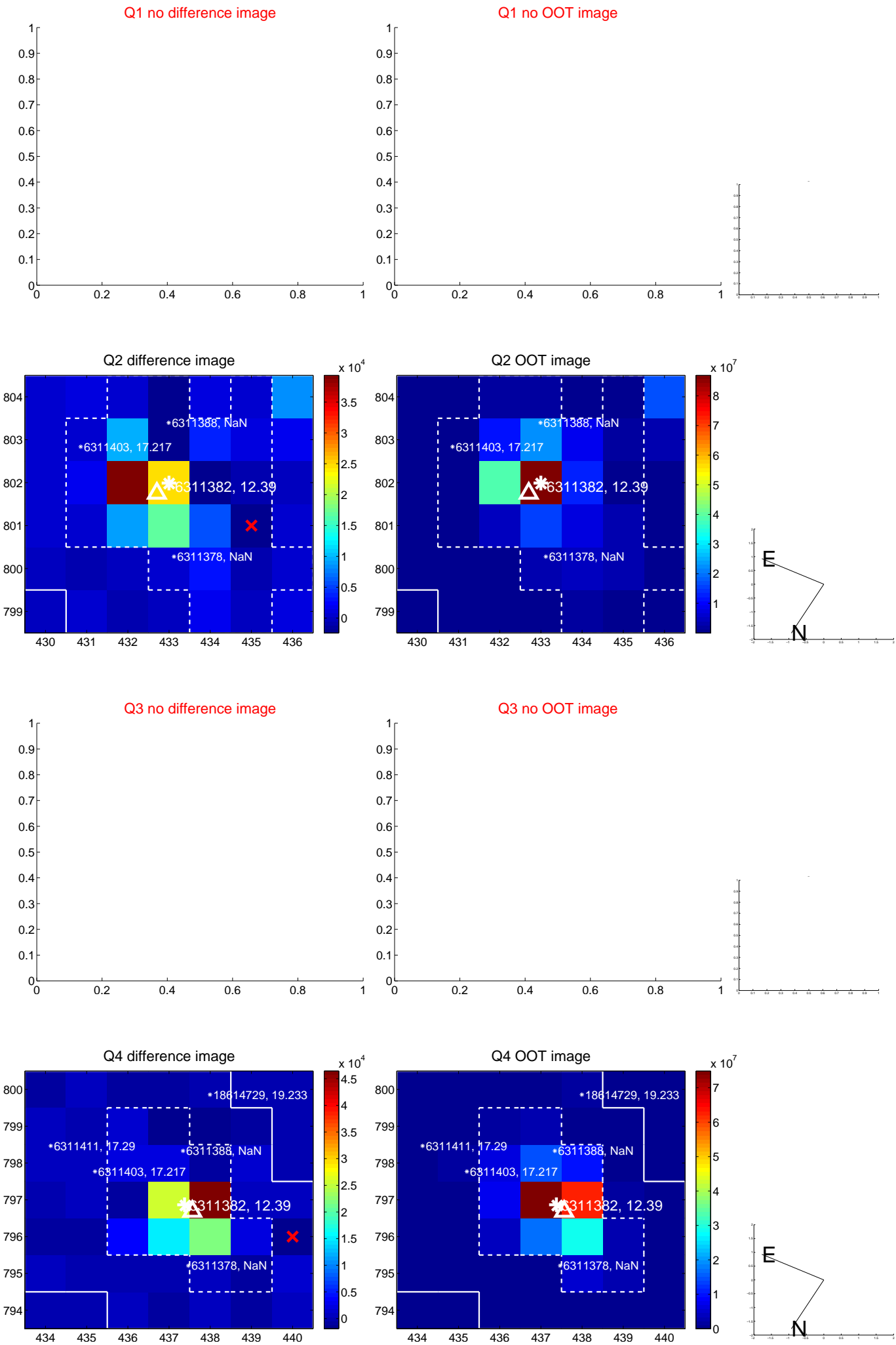


offset from photometric centroids

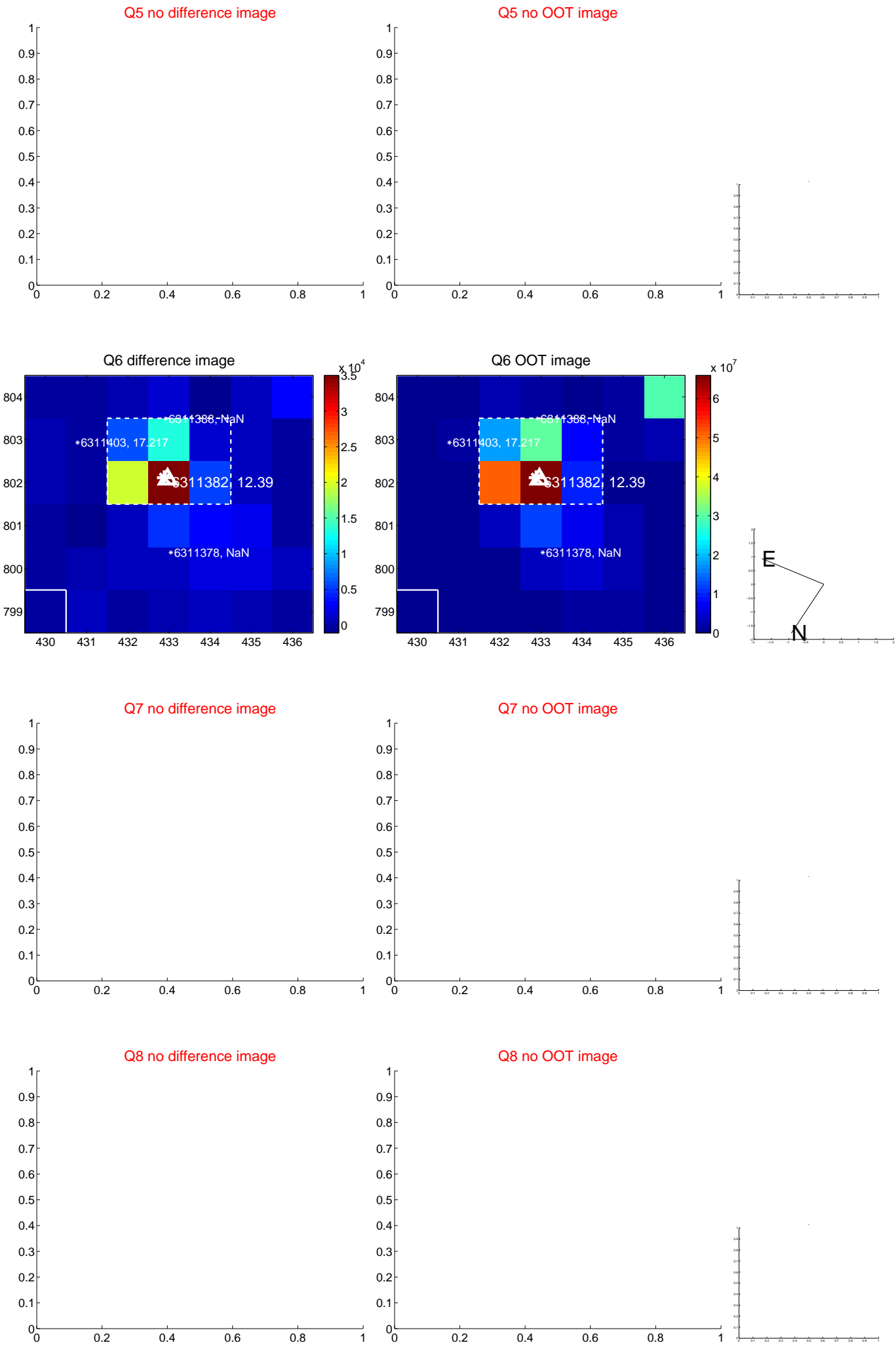


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

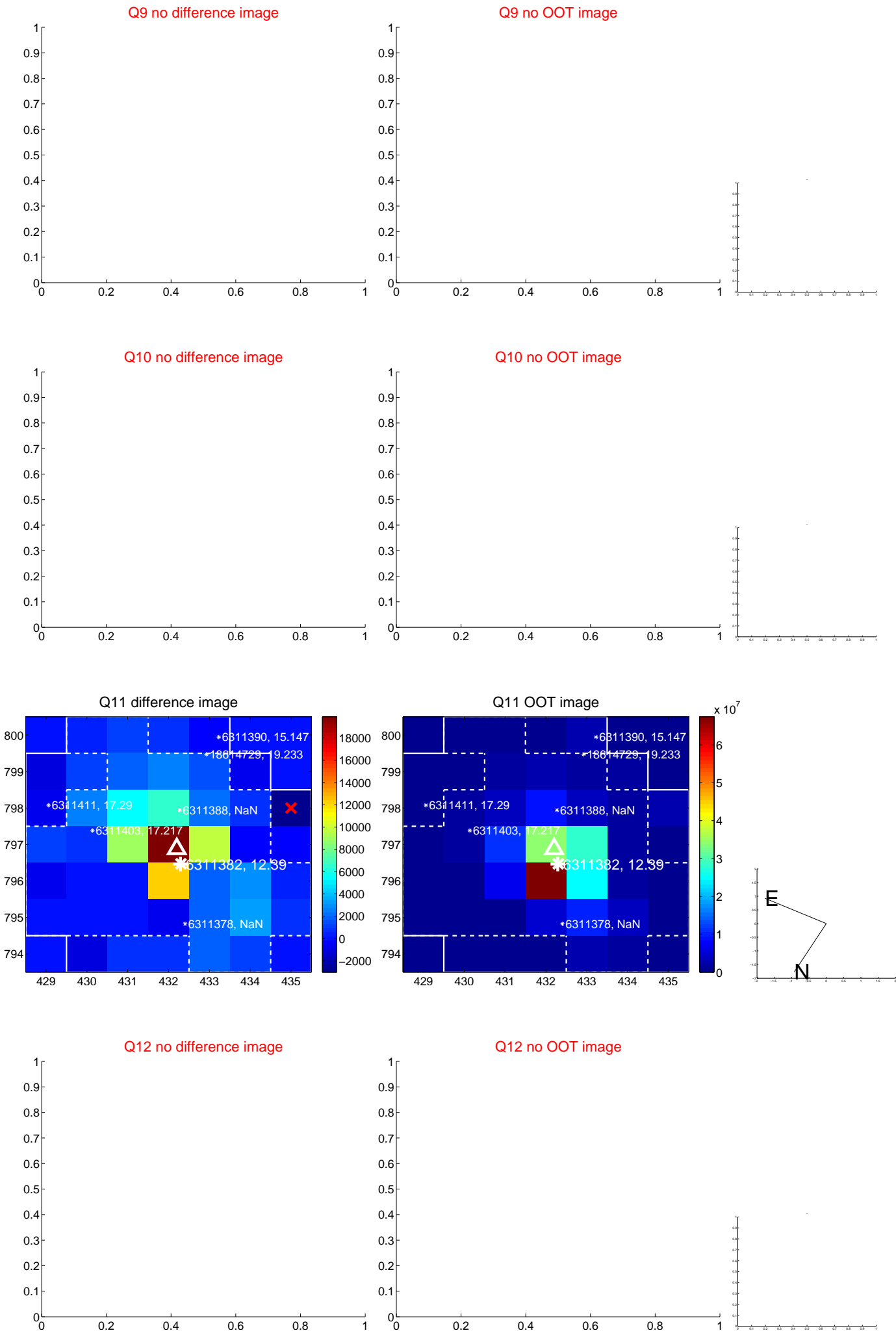
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



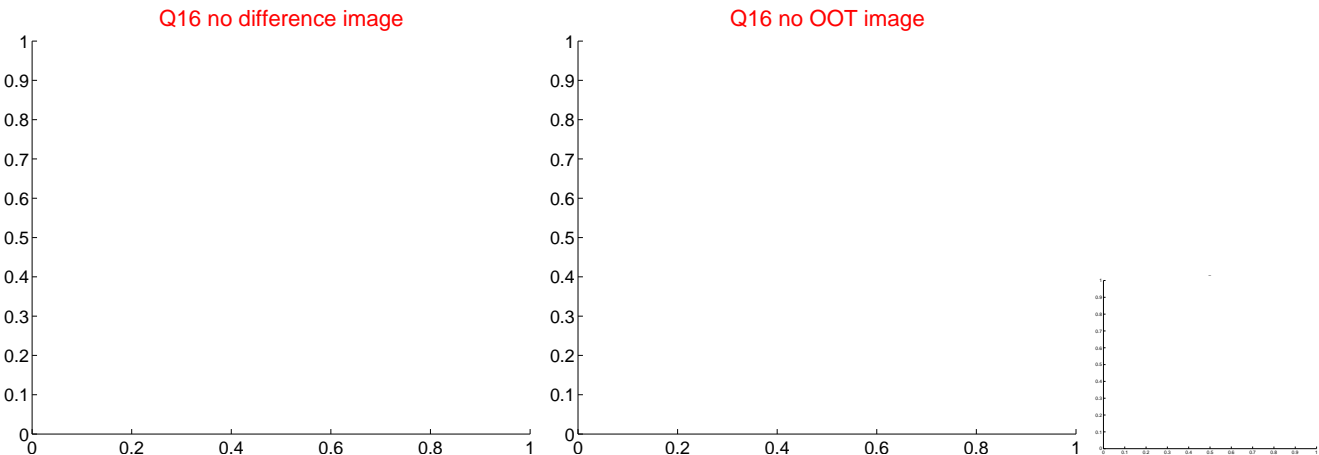
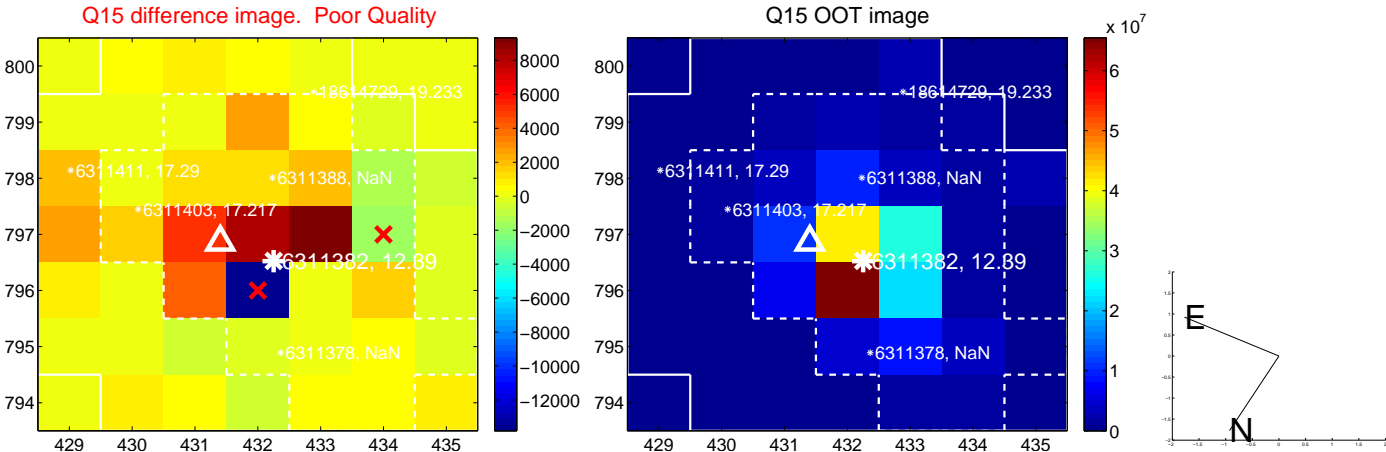
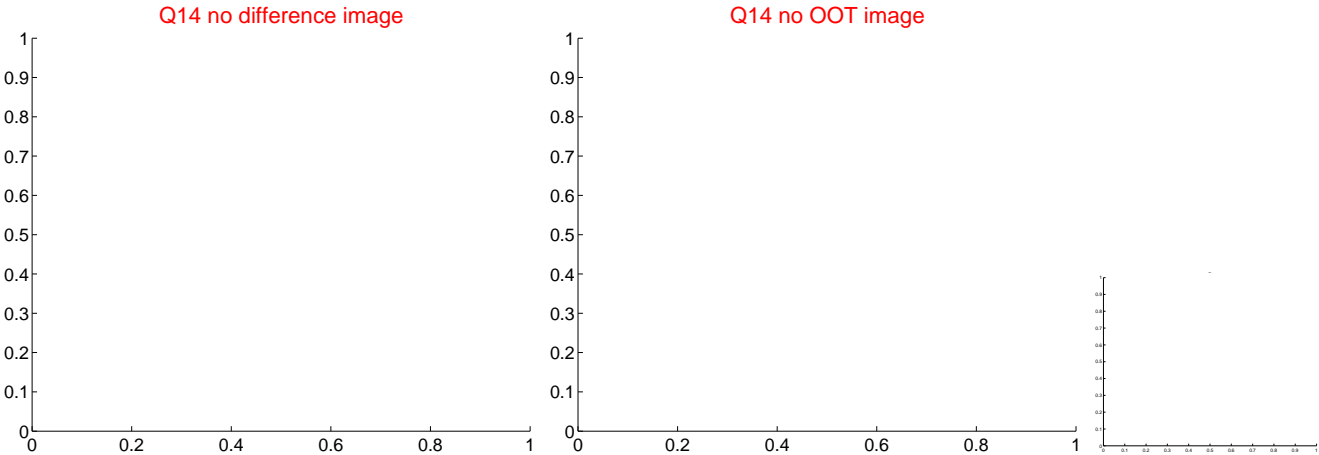
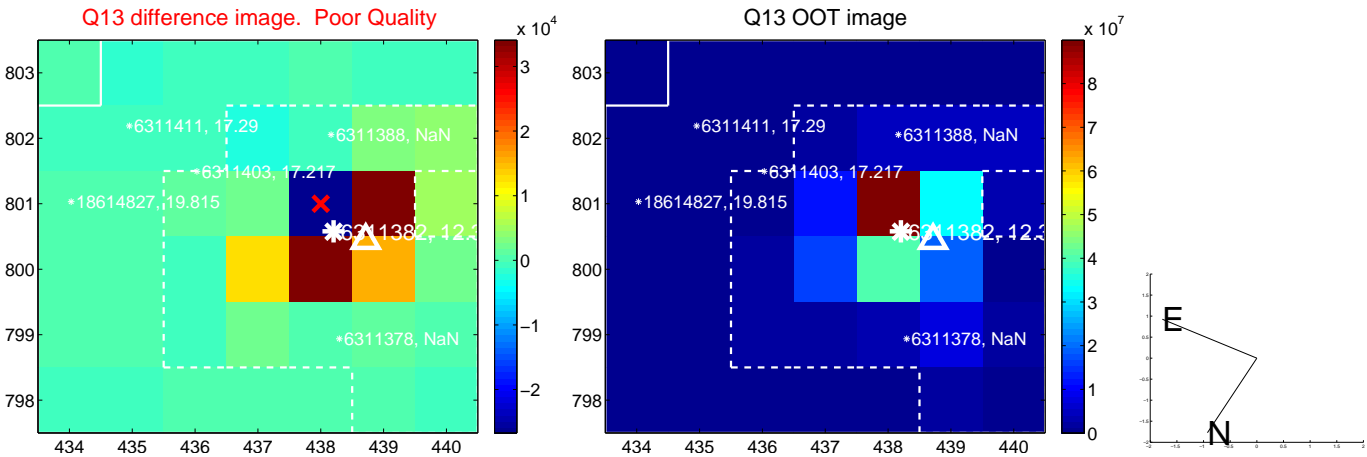
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



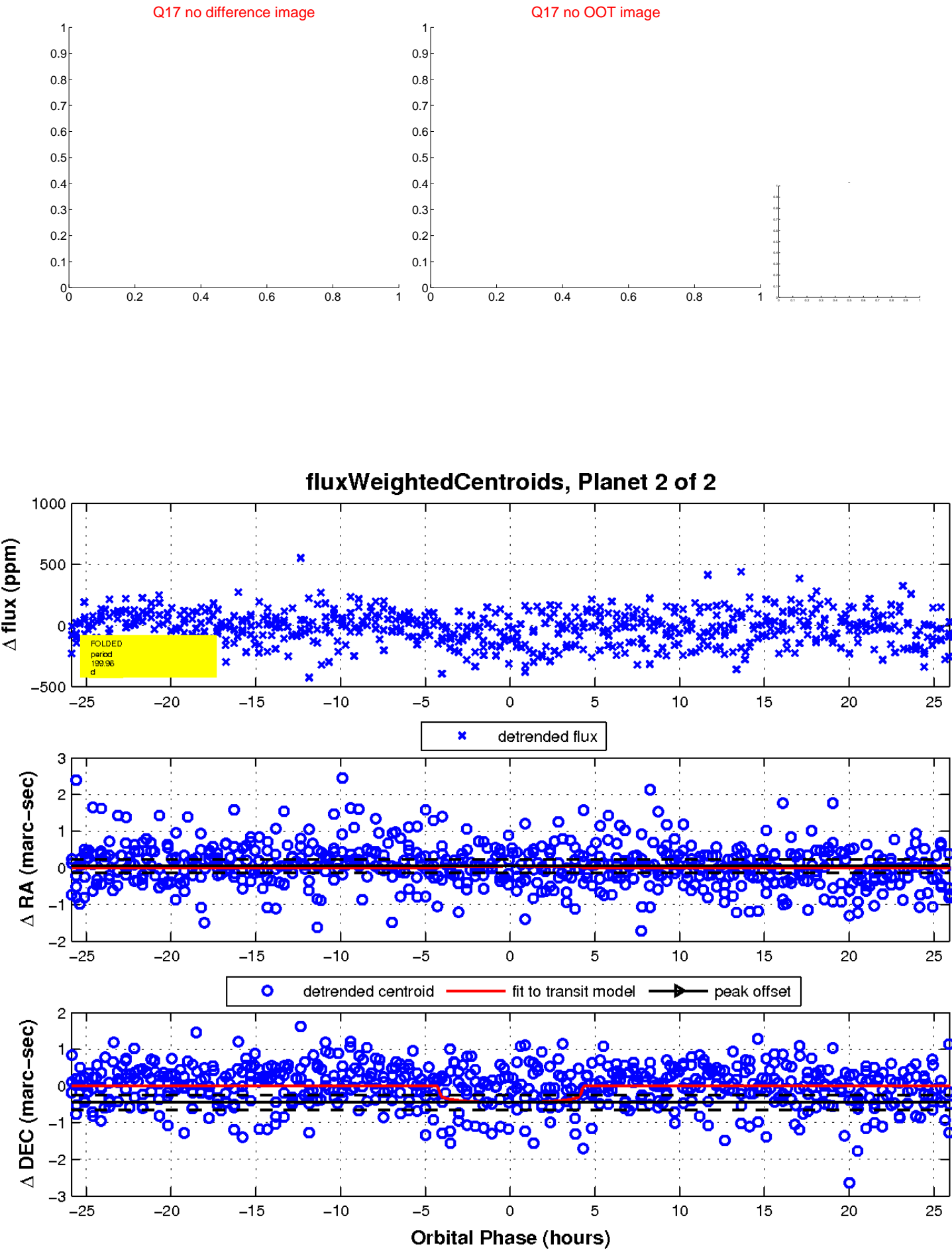
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



This astronomical image shows a field of stars against a dark background. A blue grid is overlaid on the image. Green text labels provide coordinates: '38.0', '37.0', '19:54:36.0', and '35.0' are positioned horizontally across the middle, while '50.041:39:00.0', '40.0', '30.0', '20.0', and '38:10.0' are positioned vertically along the right edge. A red horizontal line is visible near the top of the grid.

This astronomical image shows a field of stars against a dark background. A blue grid is overlaid on the image. Green text labels provide coordinates: '38.0', '37.0', '19:54:36.0', and '35.0' are positioned along the top edge, while '50.041:39:00.0', '40.0', '30.0', '20.0', and '38:10.0' are positioned along the right edge. A horizontal red line is visible across the middle of the image.