

KIC 007906739

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})
007906739-01	OBS	2165.01	14.029425	136.856571	208.6	4.208	23.8	24.8	0.87	5912	2.35	69.84
007906739-02	OBS	No	7.014705	136.936255	169.8	4.378	19.1	20.5	0.87	5912	1.85	175.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007906739-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET
007906739-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET

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.

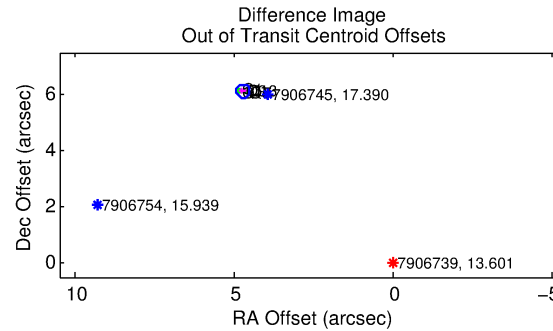
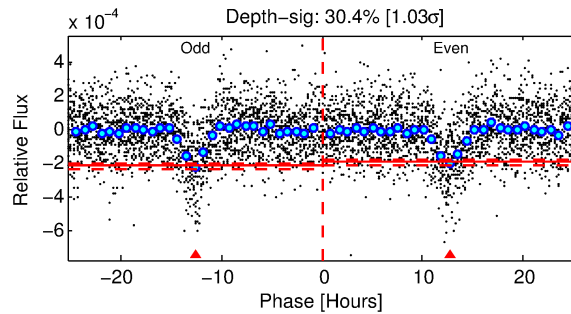
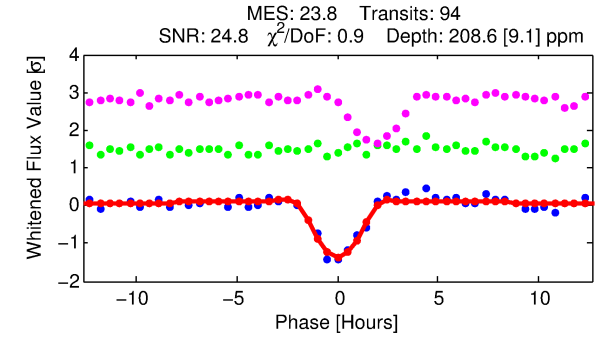
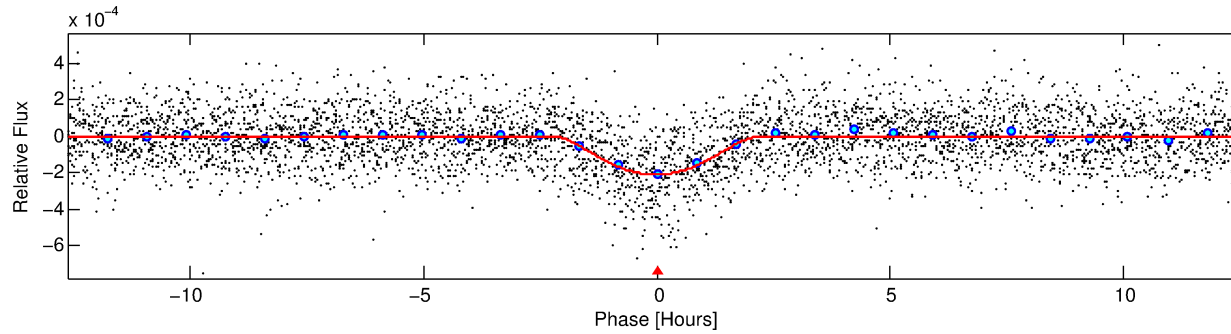
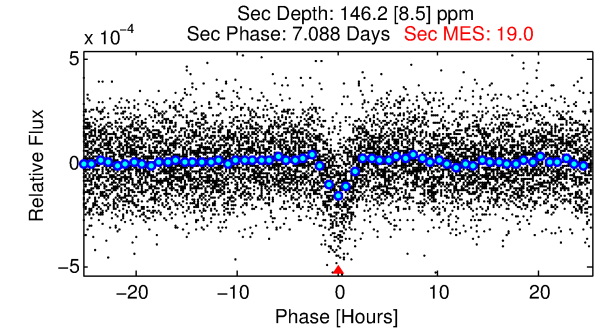
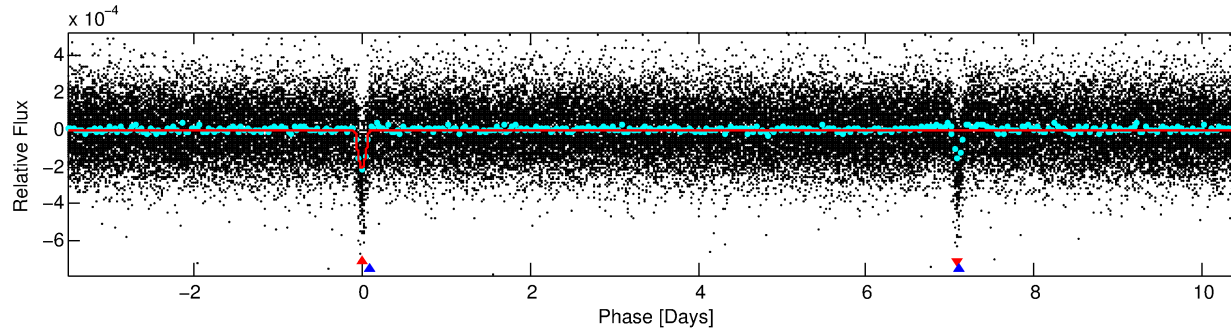
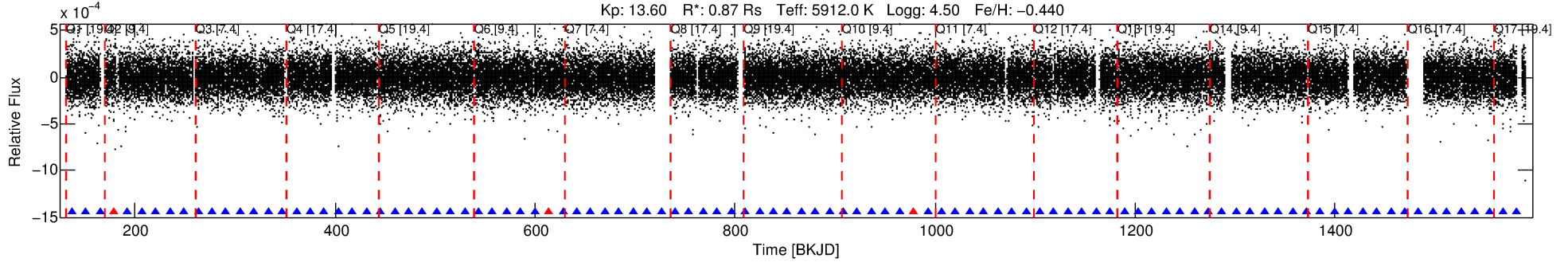
Ephemeris Match Information For 007906739-01

No Significant Match Found

DV One-Page Summary

KIC: 7906739 Candidate: 1 of 2 Period: 14.029 d
KOI: K02165 Corr: No Ephemeris Match

Kp: 13.60 R*: 0.87 Rs Teff: 5912.0 K Logg: 4.50 Fe/H: -0.440



DV Fit Results:

Period = 14.02942 [0.00007] d
Epoch = 136.8566 [0.0038] BKJD
Rp/R* = 0.0248 [0.0277]
a/R* = 6.11 [1.97]
b = 1.00 [0.04]
Seff = 69.84 [23.55]
Teq = 737 [62] K
Rp = 2.35 [2.70] Re
a = 0.1089 [0.0239] AU
Ag = 172.28 [389.75] [0.44σ]
Teff = 4129 [2315] K [1.46σ]

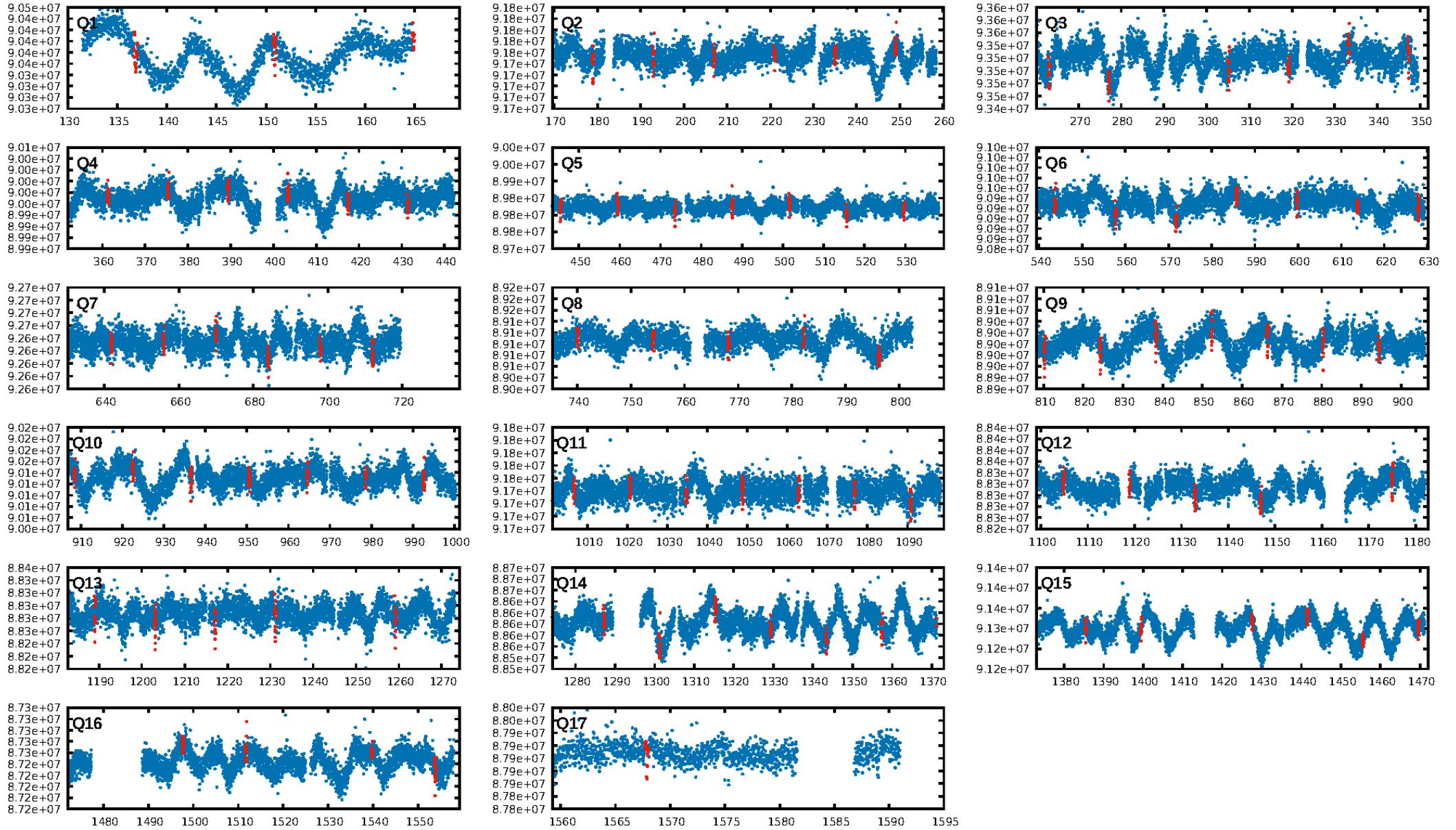
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [27.72σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.35e-125
RollingBand-fgt: 0.97 [87/90]
GhostDiagnostic-chr: -0.5028
Centroid-sig: N/A
Centroid-so: 26.757 arcsec [54.53σ]
OotOffset-rm: 7.740 arcsec [99.82σ]
KicOffset-rm: 7.552 arcsec [104.12σ]
OotOffset-st: 0/0/0/5 [5]
KicOffset-st: 0/0/0/5 [5]
DiffImageQuality-fgm: 1.00 [5/5]
DiffImageOverlap-fno: 0.00 [0/17]

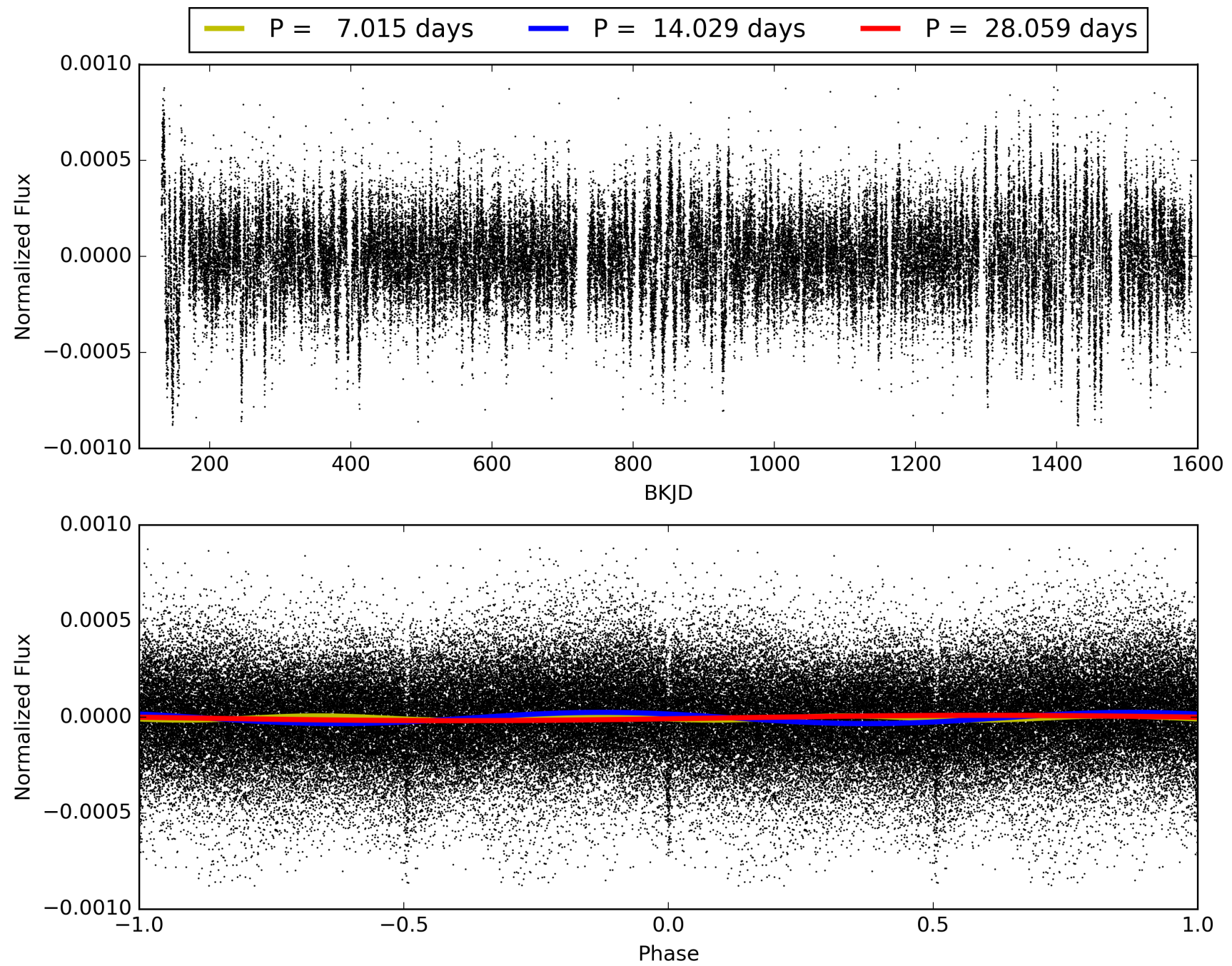
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 007906739-01, PDC Light Curves

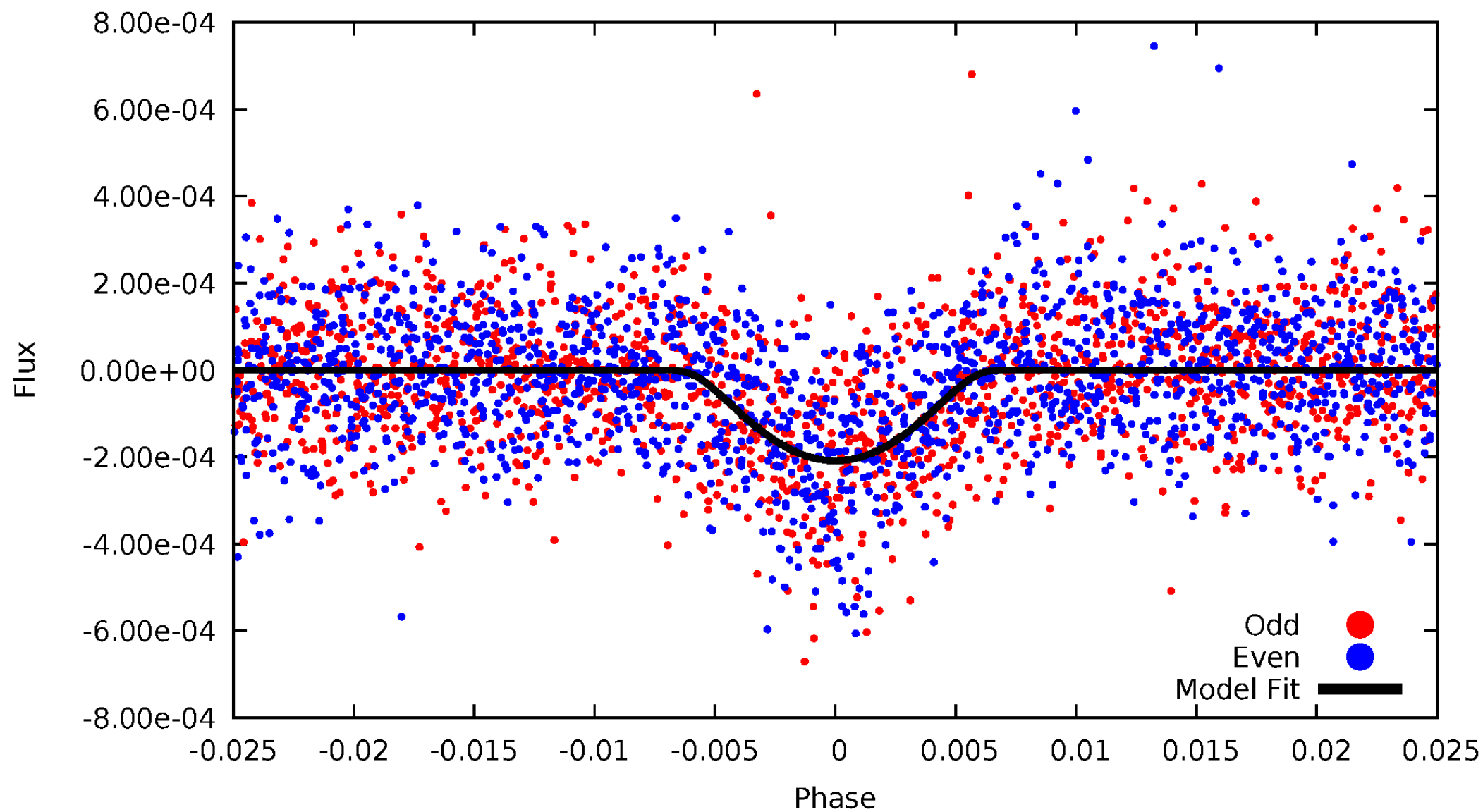


TCE 007906739-01



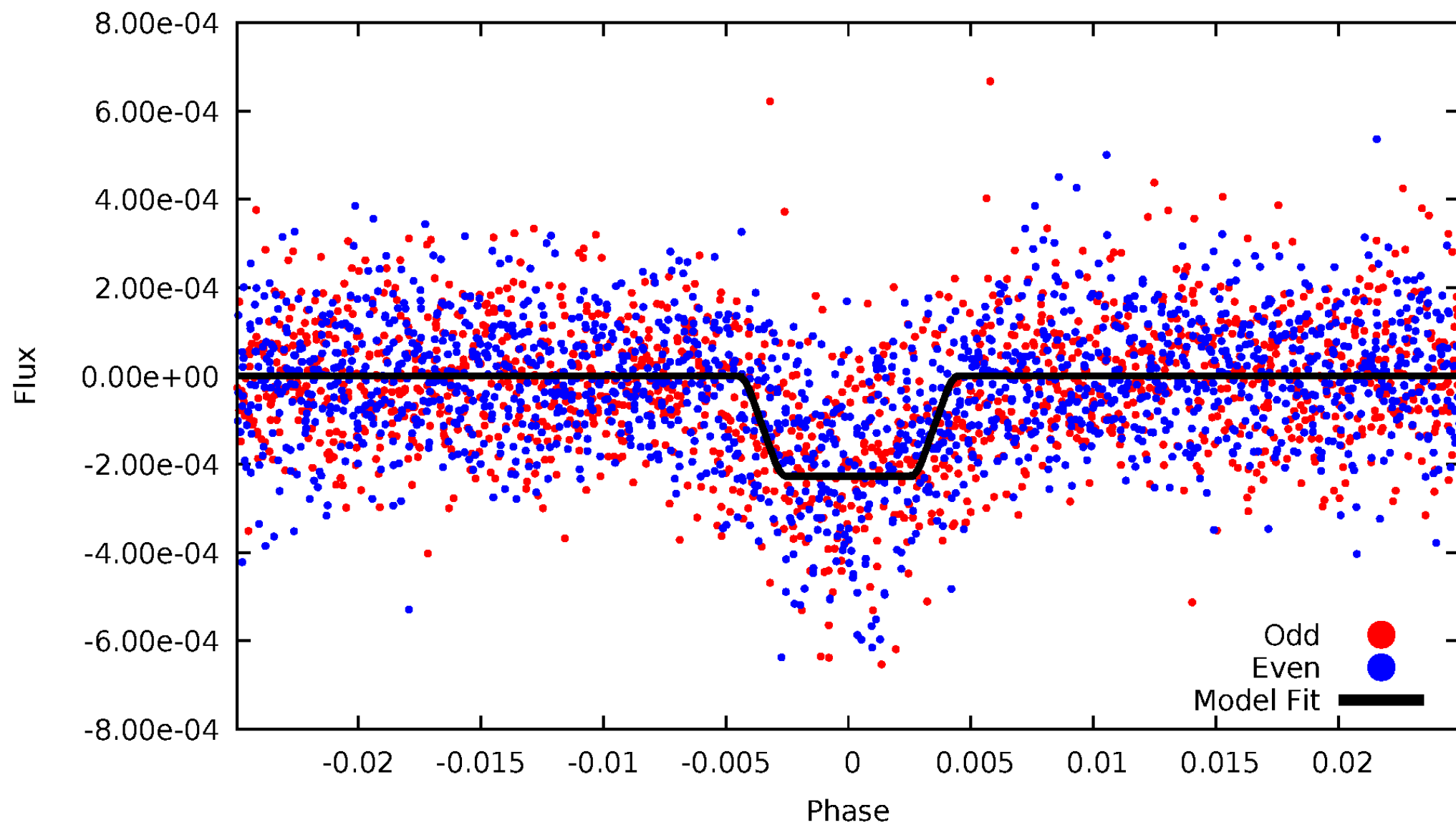
DV Odd/Even

TCE 007906739-01

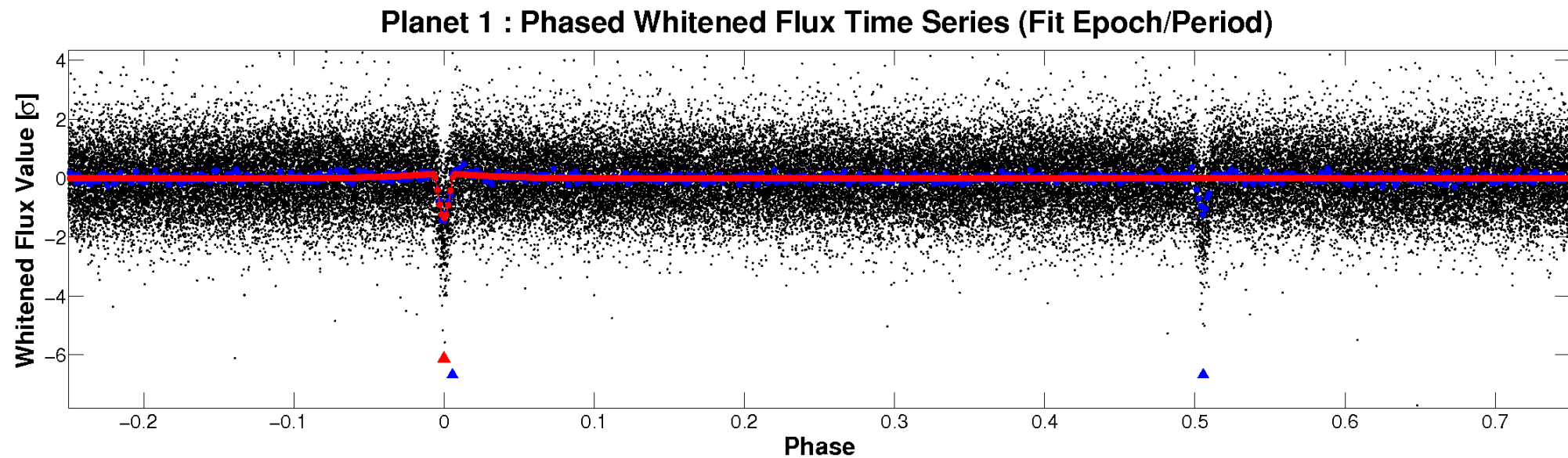
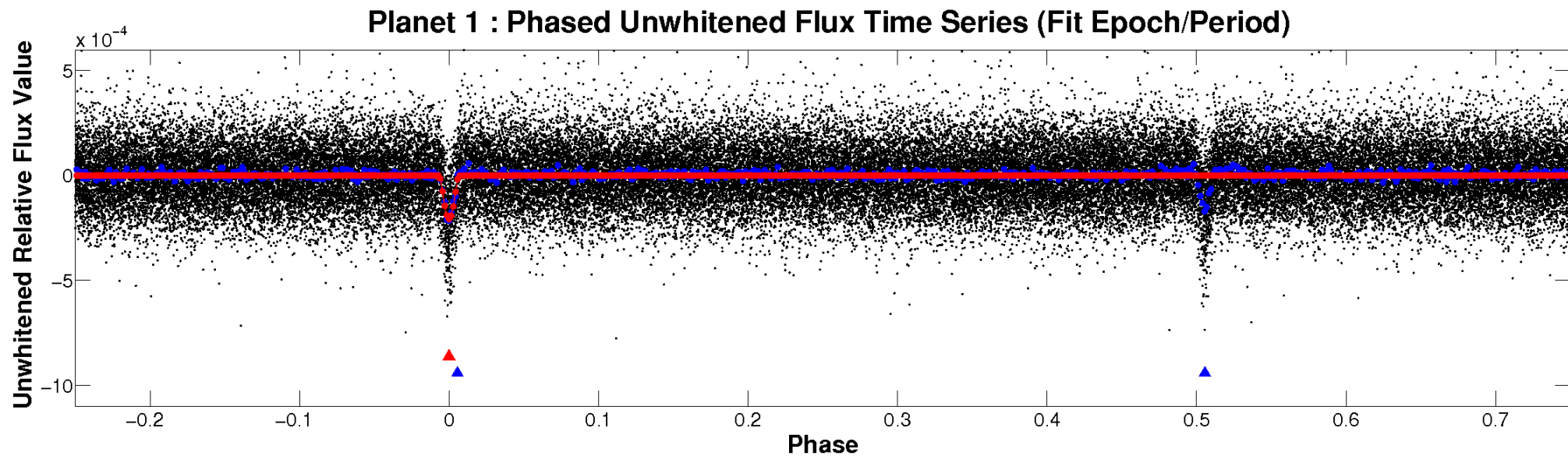


ALT Odd/Even

TCE 007906739-01

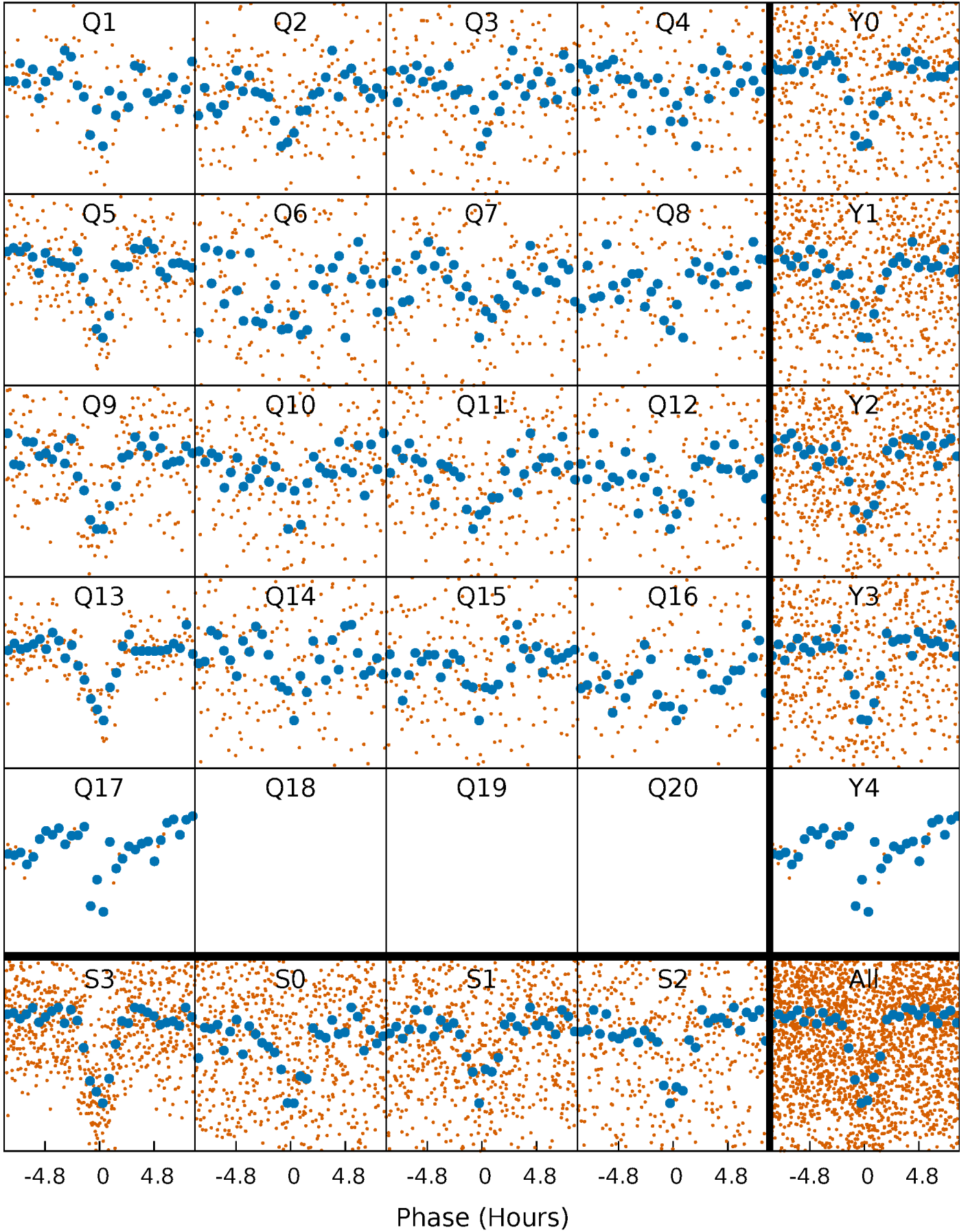


Non-Whitened Vs. Whitened Light Curve



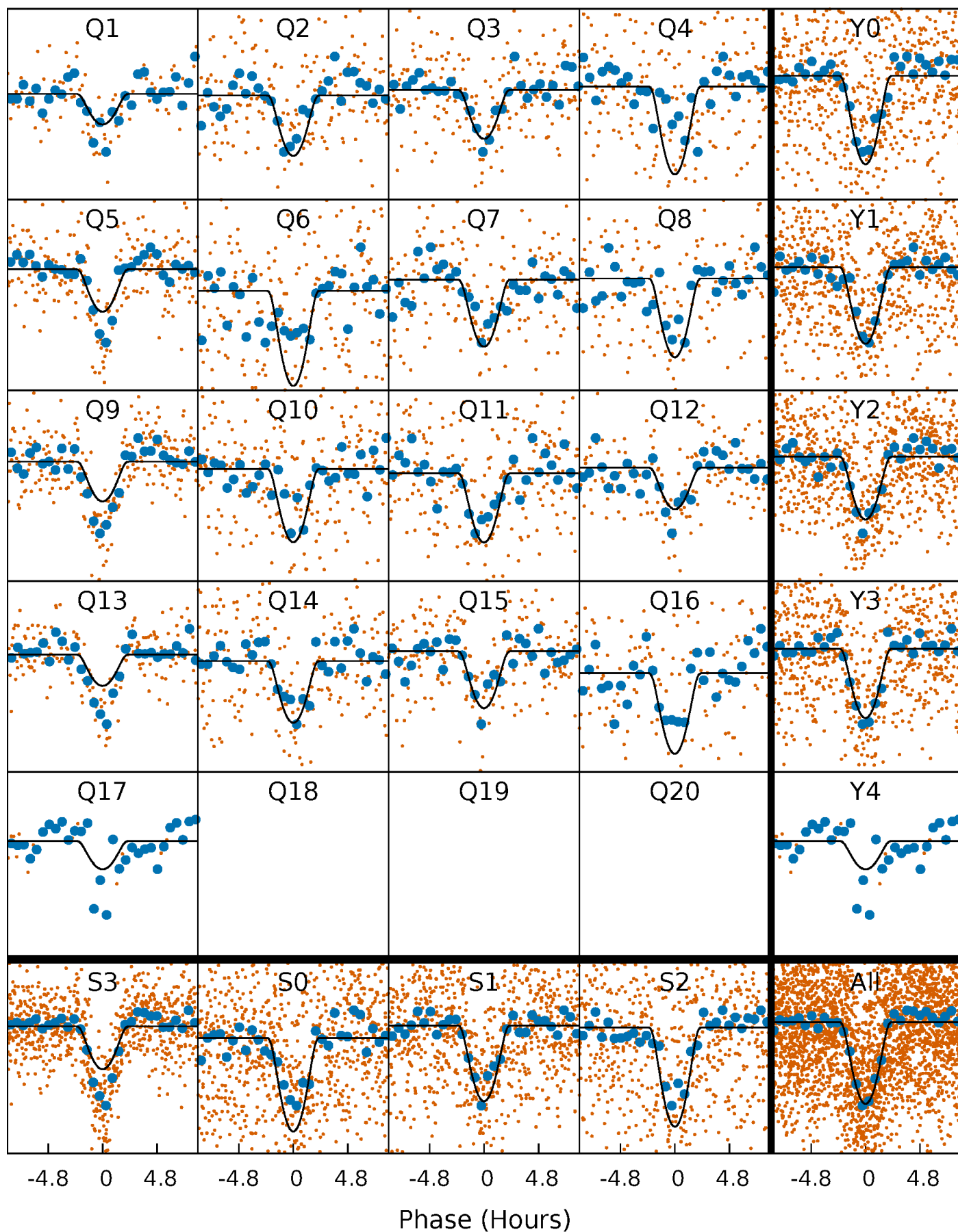
PDC Quarter-Phased Transit Curves

TCE 007906739-01 P= 14.029425 Days $T_0=136.856571$ (BKJD)



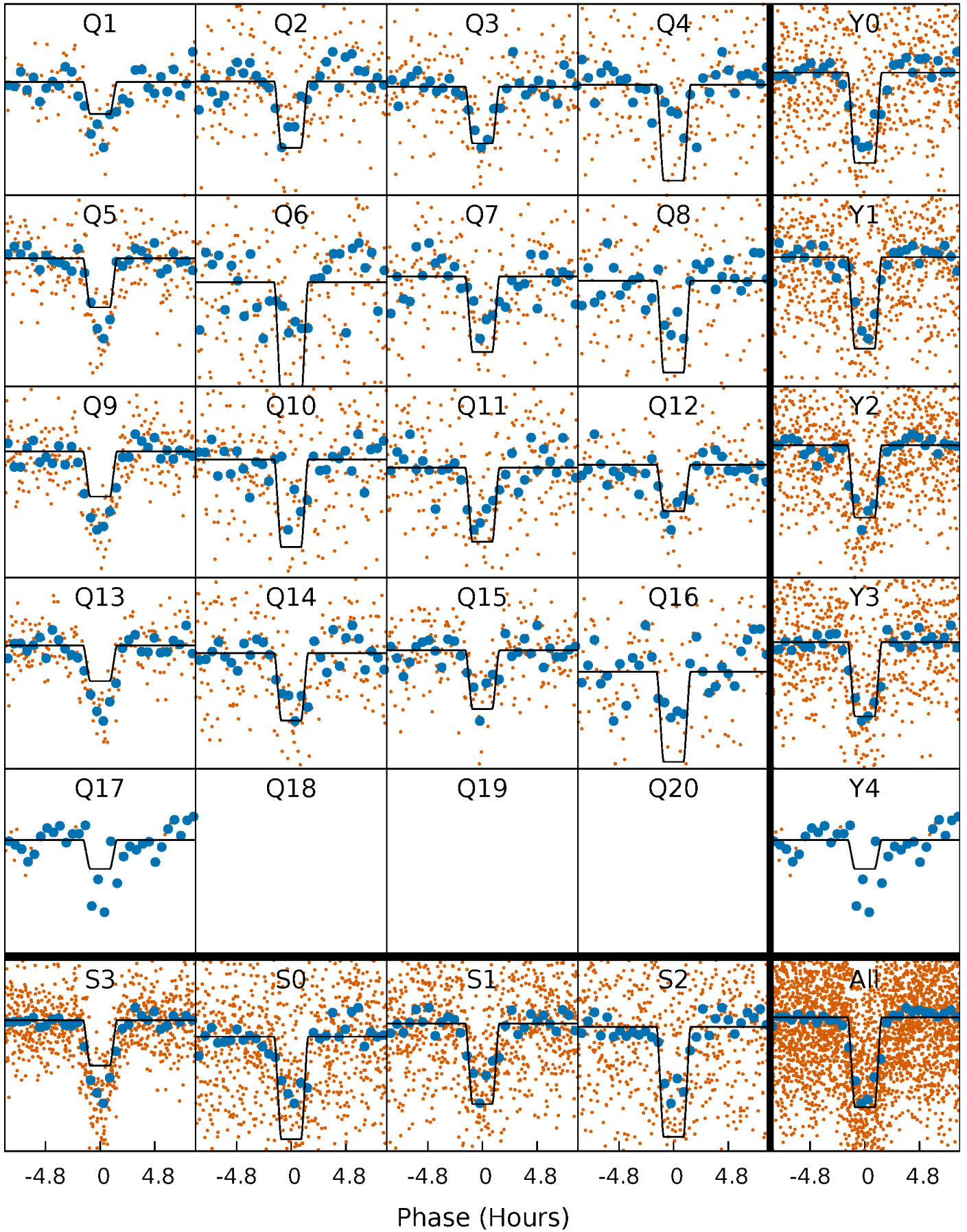
DV Quarter-Phased Transit Curves

TCE 007906739-01 P= 14.029425 Days $T_0=136.856571$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

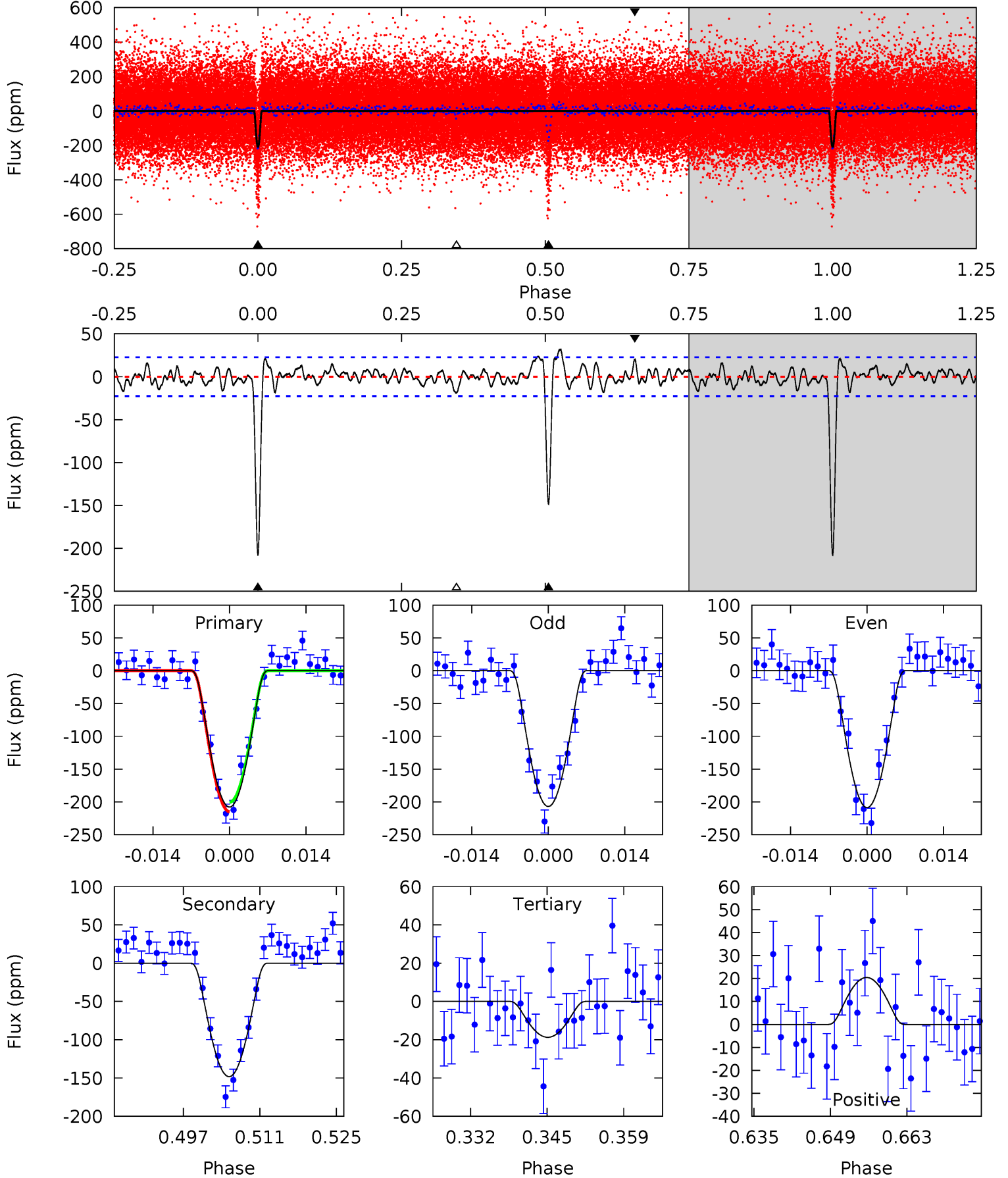
TCE 007906739-01 P= 14.029413 Days $T_0=136.855829$ (BKJD)



DV Model-Shift Uniqueness Test

007906739-01, $P = 14.029425$ Days, $E = 122.827146$ Days

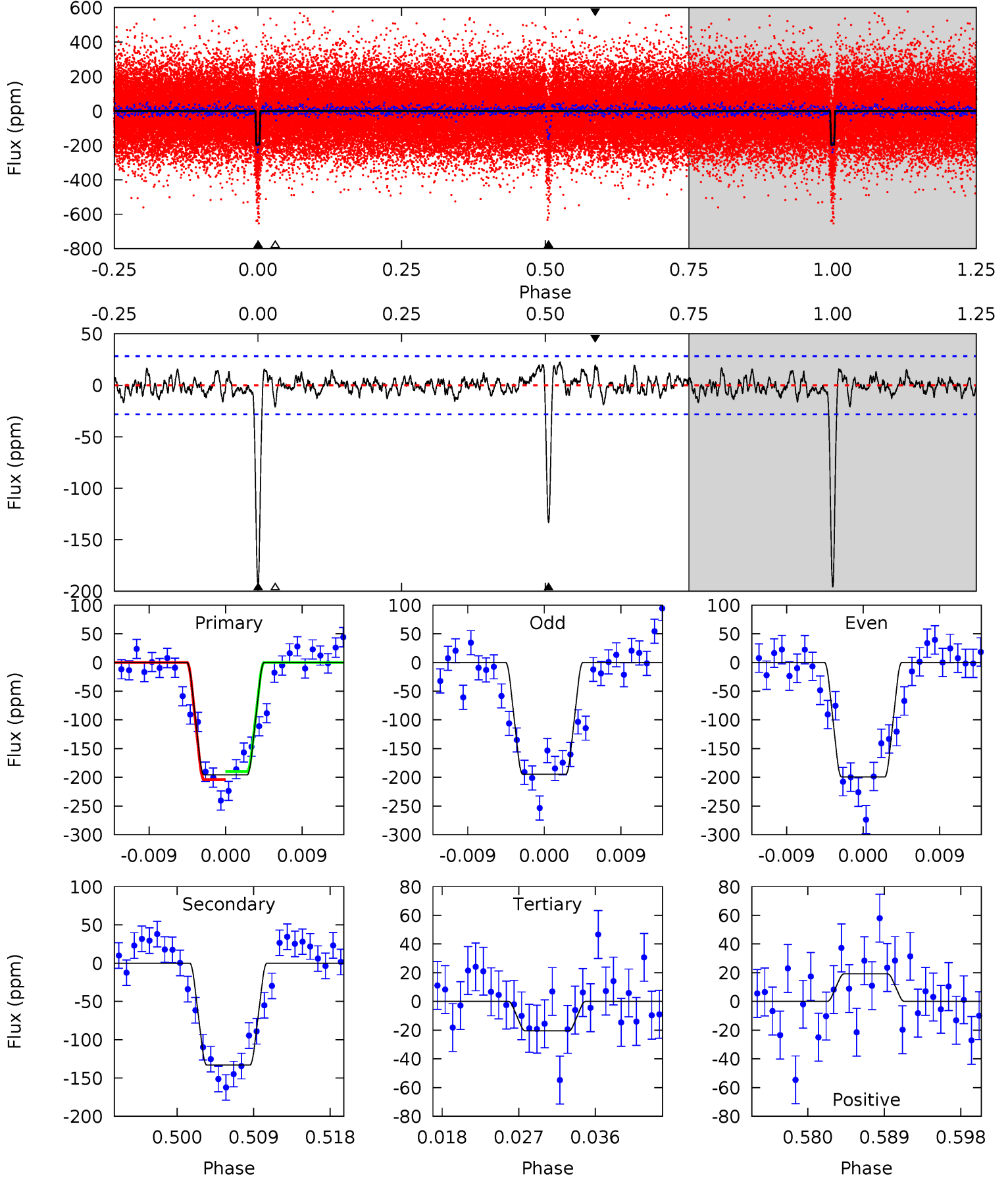
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
45.6	32.5	4.11	4.48	4.96	2.46	1.73	41.5	41.1	28.4	28.0	0.19	1.10	0.13	1.57



Alt Model-Shift Uniqueness Test

007906739-01, P = 14.029413 Days, E = 122.826416 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.0	23.7	3.67	3.44	5.05	2.61	1.25	31.3	31.5	20.1	20.3	0.43	1.08	0.10	1.25



Stellar Parameters For KIC 007906739

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5912^{+159}_{-159}	$4.501^{+0.075}_{-0.175}$	$-0.440^{+0.300}_{-0.300}$	$0.870^{+0.226}_{-0.097}$	$0.875^{+0.096}_{-0.087}$	$1.869^{+0.588}_{-0.878}$
	+3%/-3%	+2%/-4%	+68%/-68%	+26%/-11%	+11%/-10%	+31%/-47%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007906739-01 / KOI 2165.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-148 ± 5	$3.02^{+2.59}_{-1.96}$	1042^{+63}_{-51}	4028^{+2276}_{-740}	104^{+768}_{-73}
Alt.	-133 ± 6	$2.48^{+2.57}_{-1.74}$	1045^{+65}_{-48}	4234^{+3281}_{-877}	138^{+1438}_{-103}

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 $A_{\text{obs}} \gg 1.0$

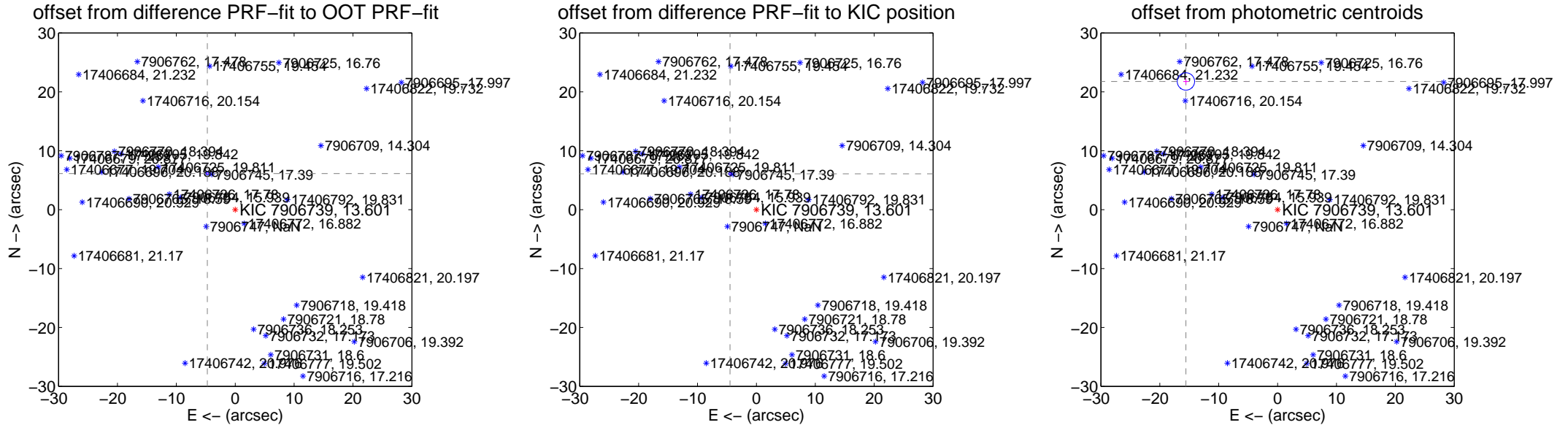
DV Centroid Data

Supplemental centroid analysis for 007906739-01. Kepler magnitude: 13.60. Transit SNR 24.76

There are 5 quarters with good PRF difference image offsets

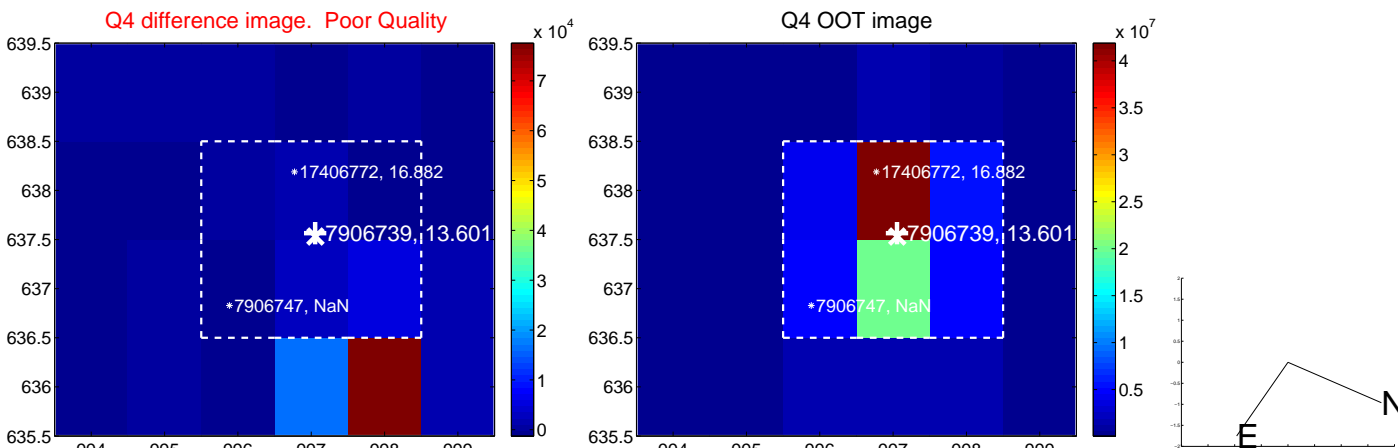
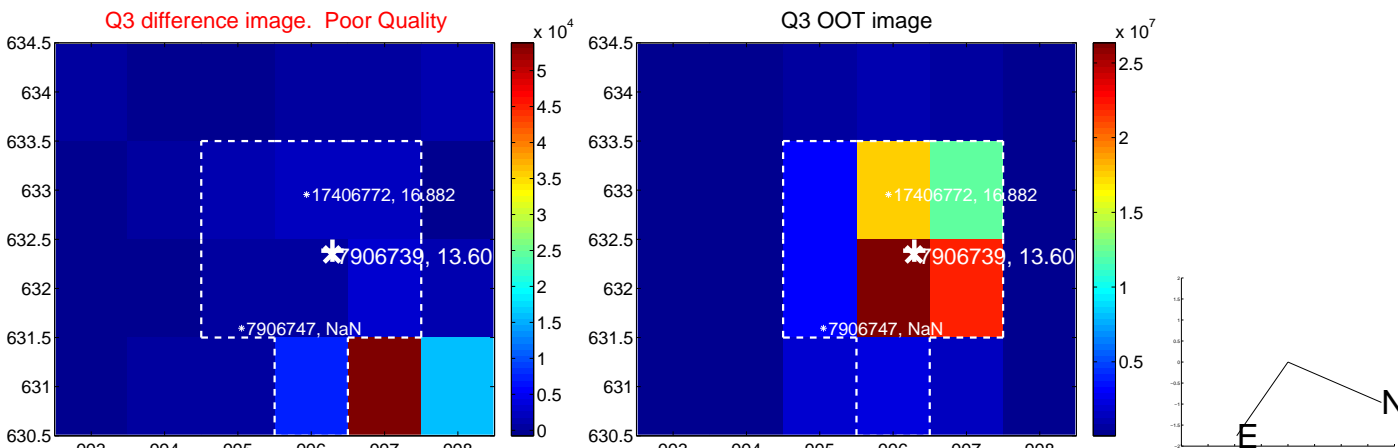
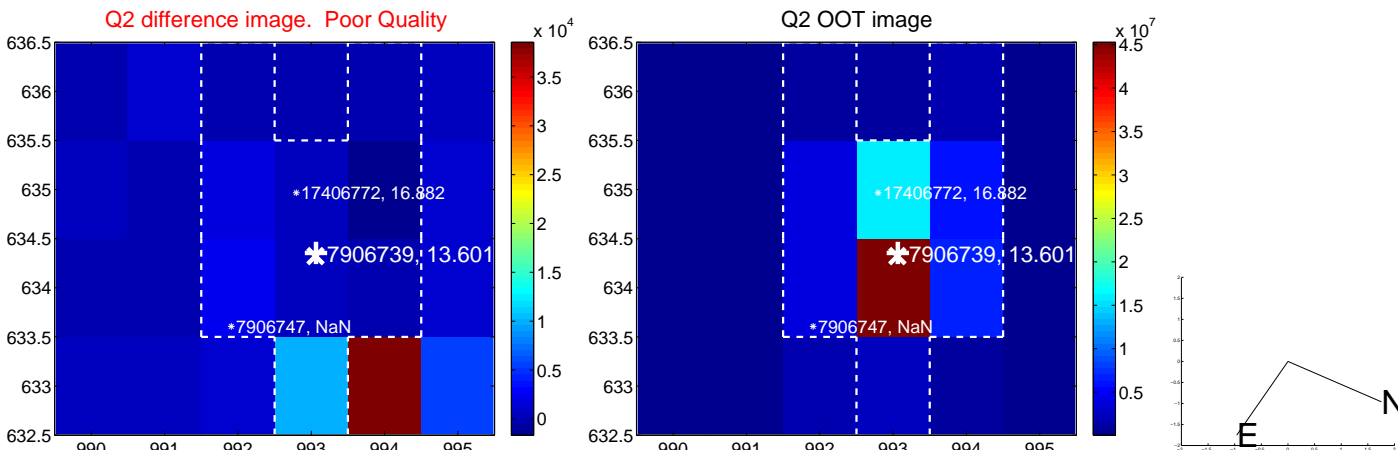
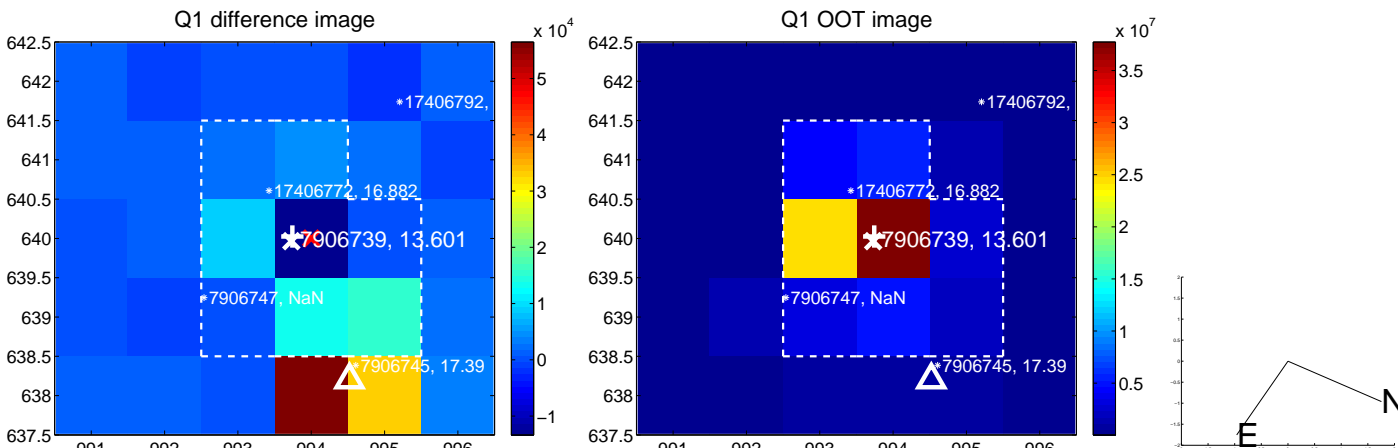
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.740 \pm 0.078	99.82	4.737 \pm 0.078	6.121 \pm 0.071
PRF-fit source offset from KIC position	7.552 \pm 0.073	104.12	4.479 \pm 0.077	6.080 \pm 0.070
photometric centroid source offset	26.76 \pm 0.49	54.53	15.57 \pm 0.45	21.76 \pm 0.51

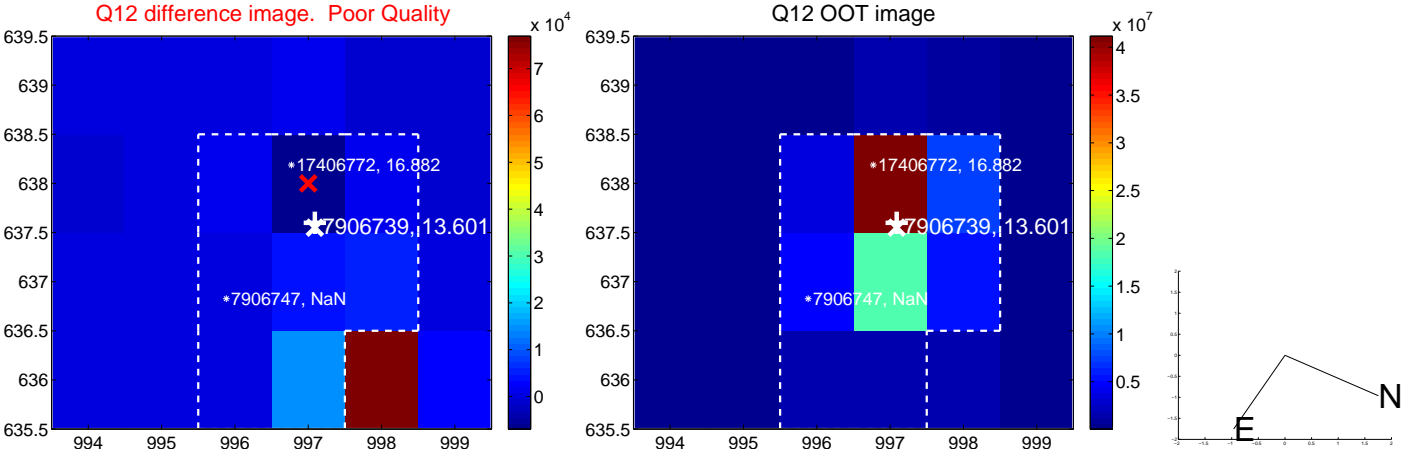
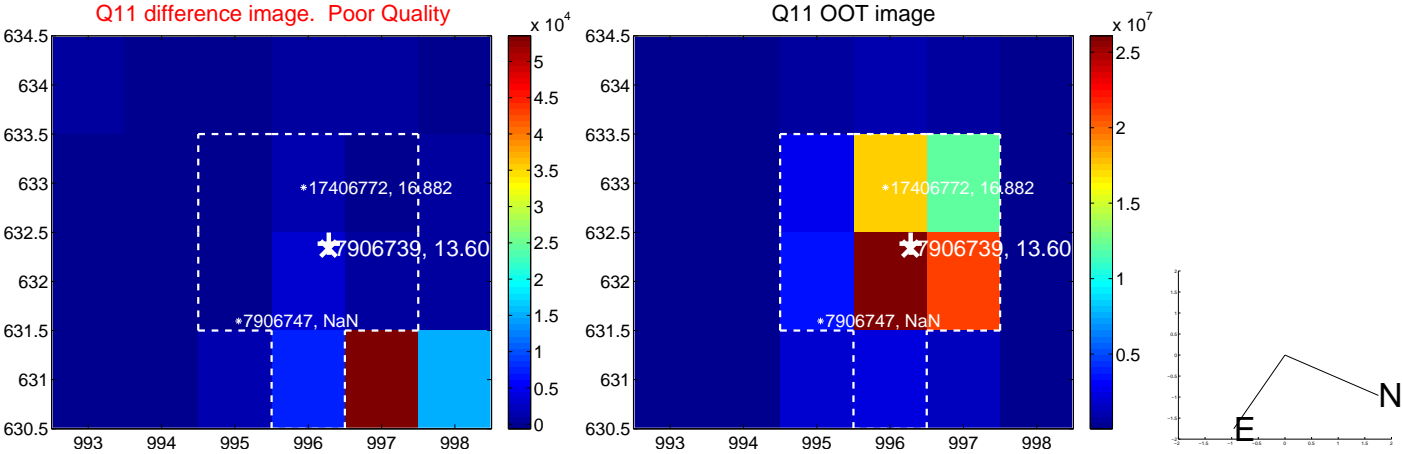
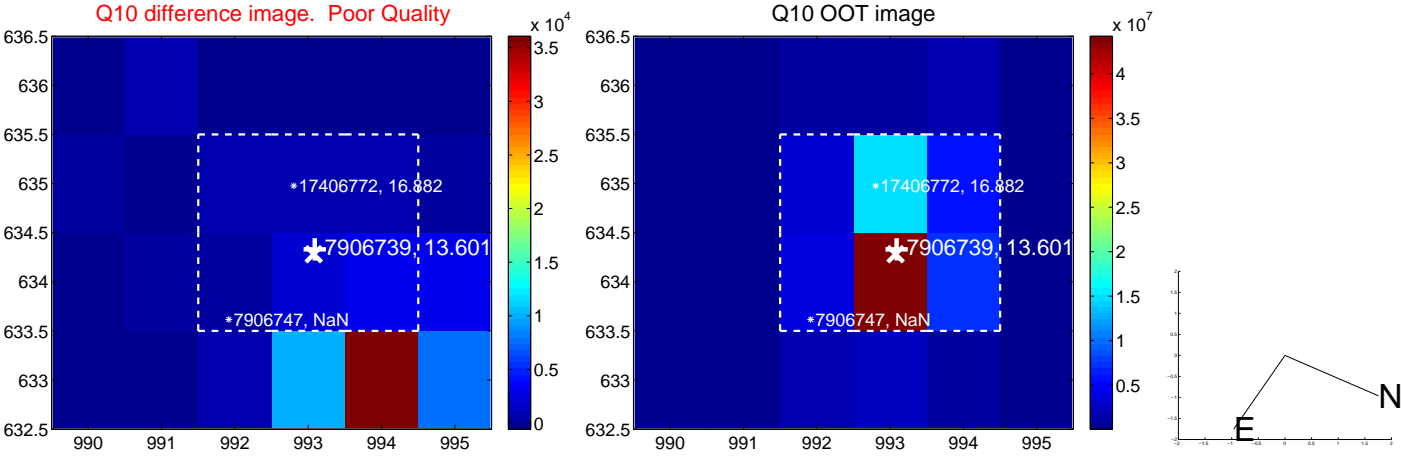
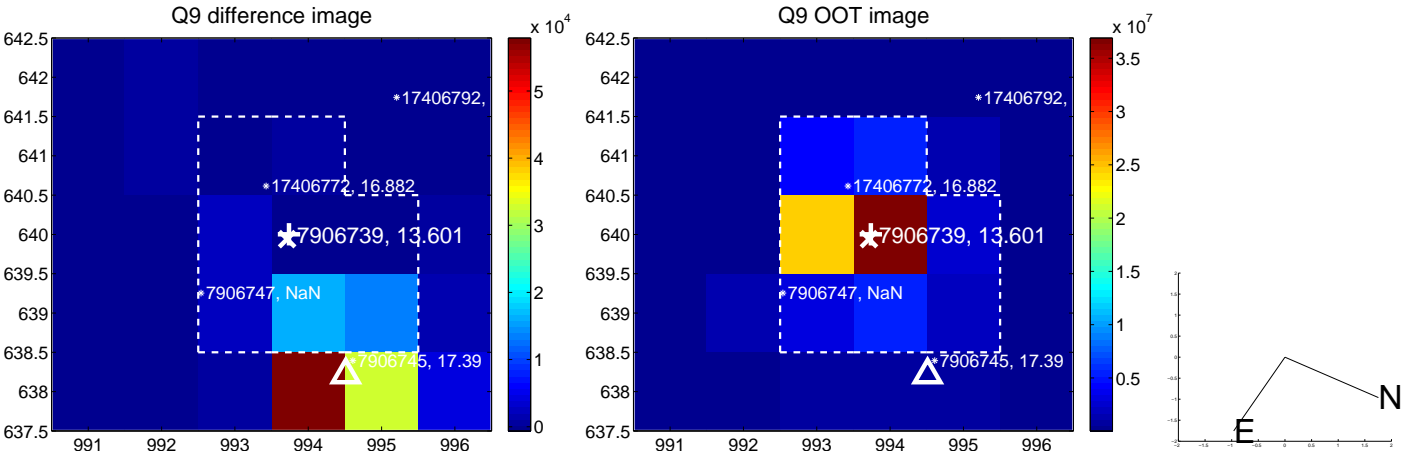


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

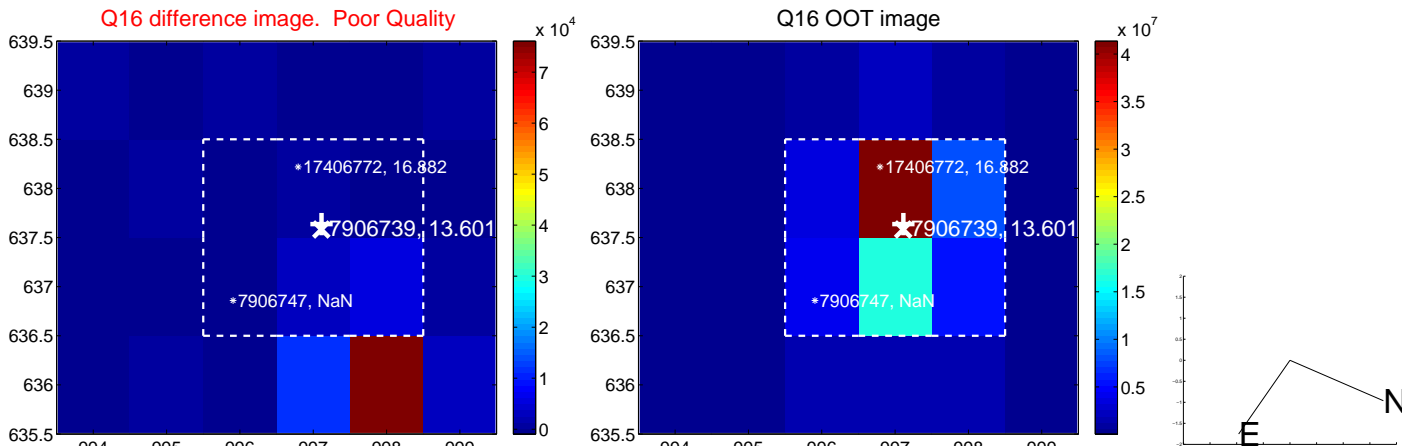
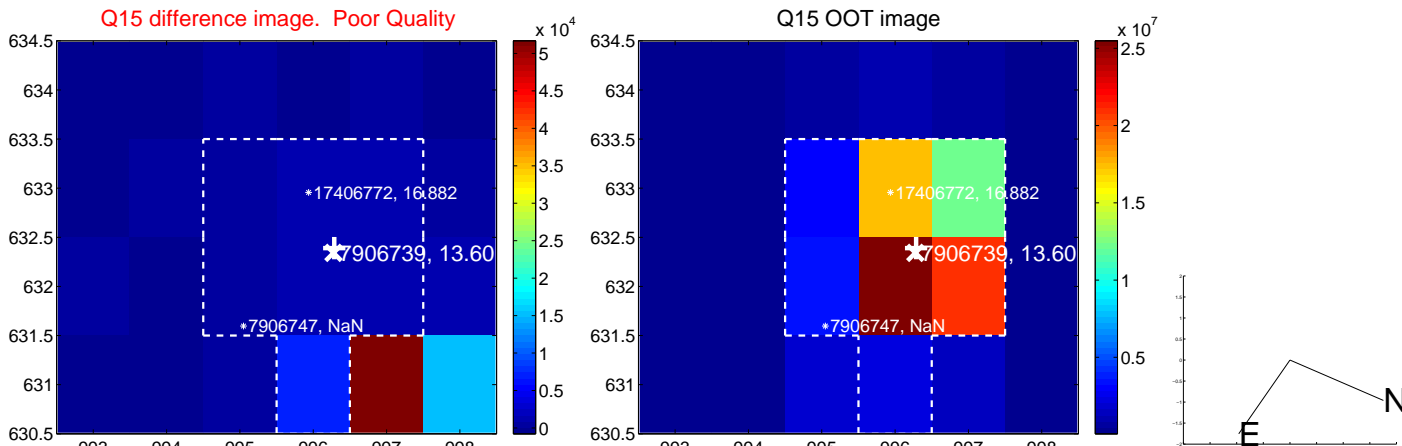
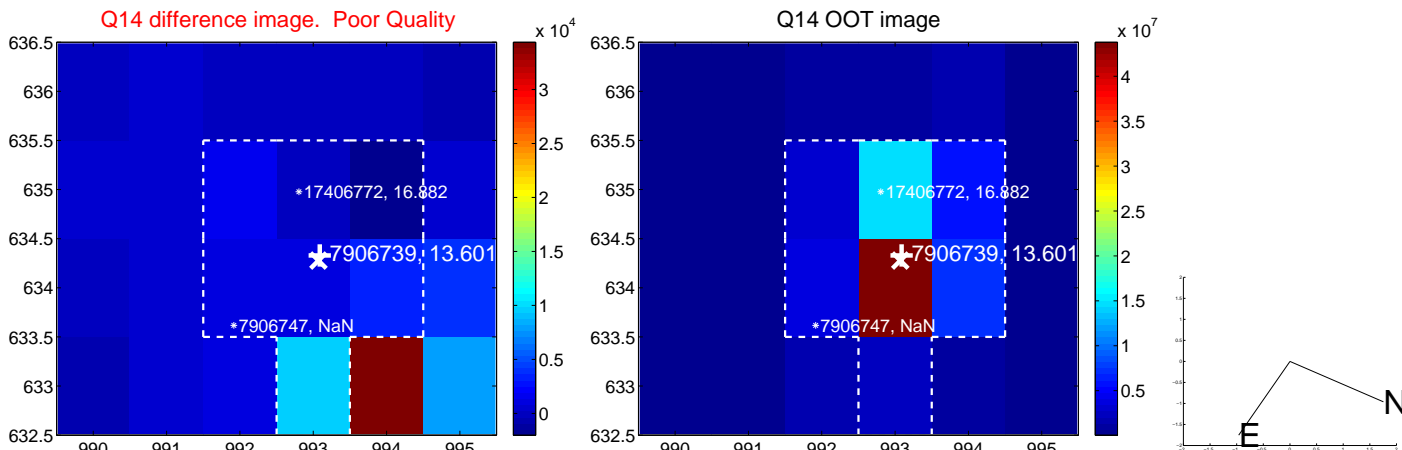
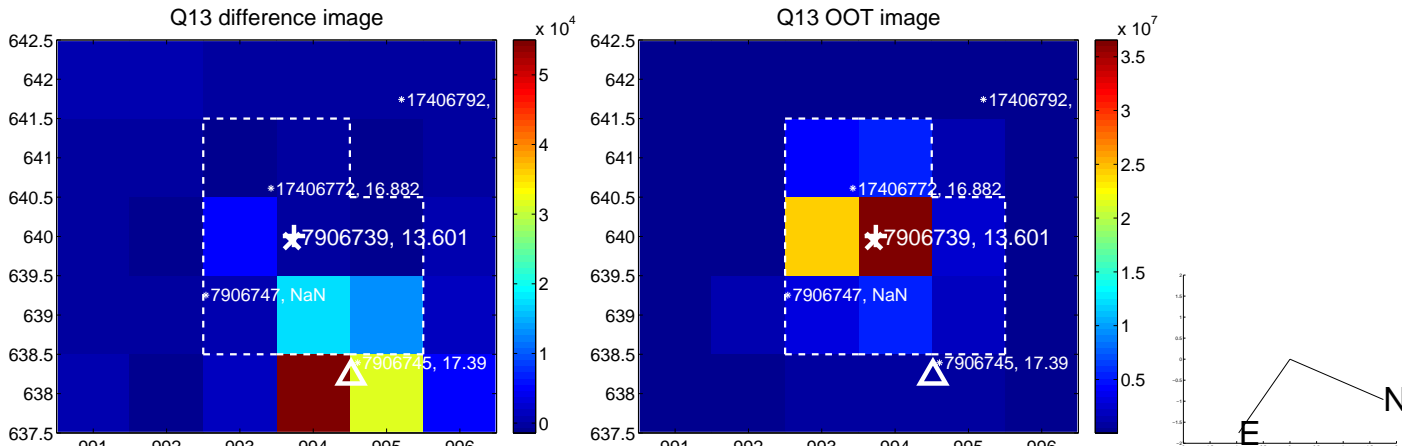
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



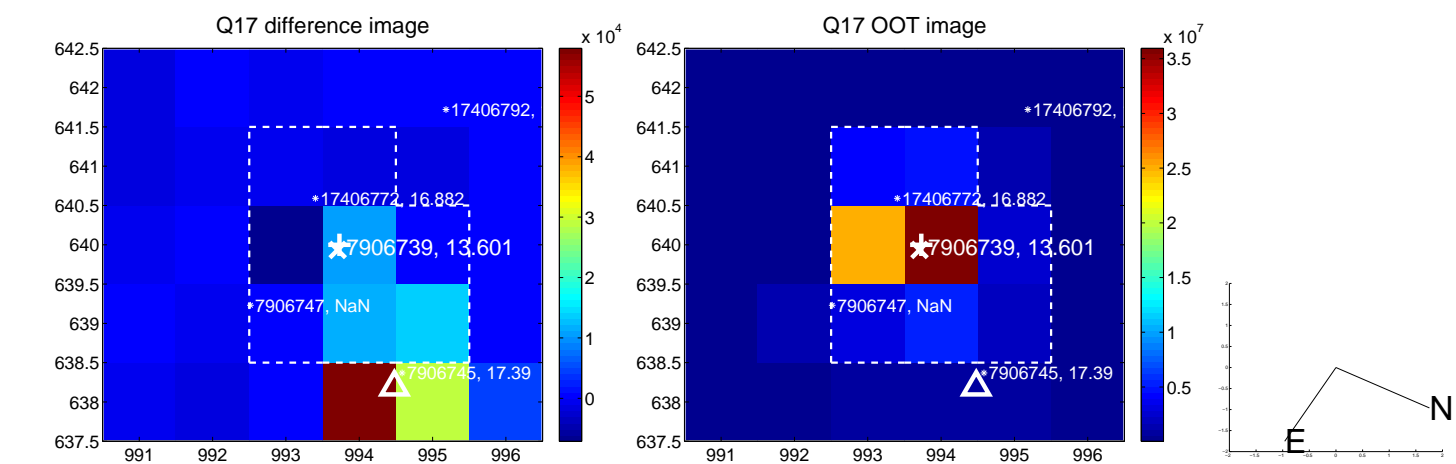
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



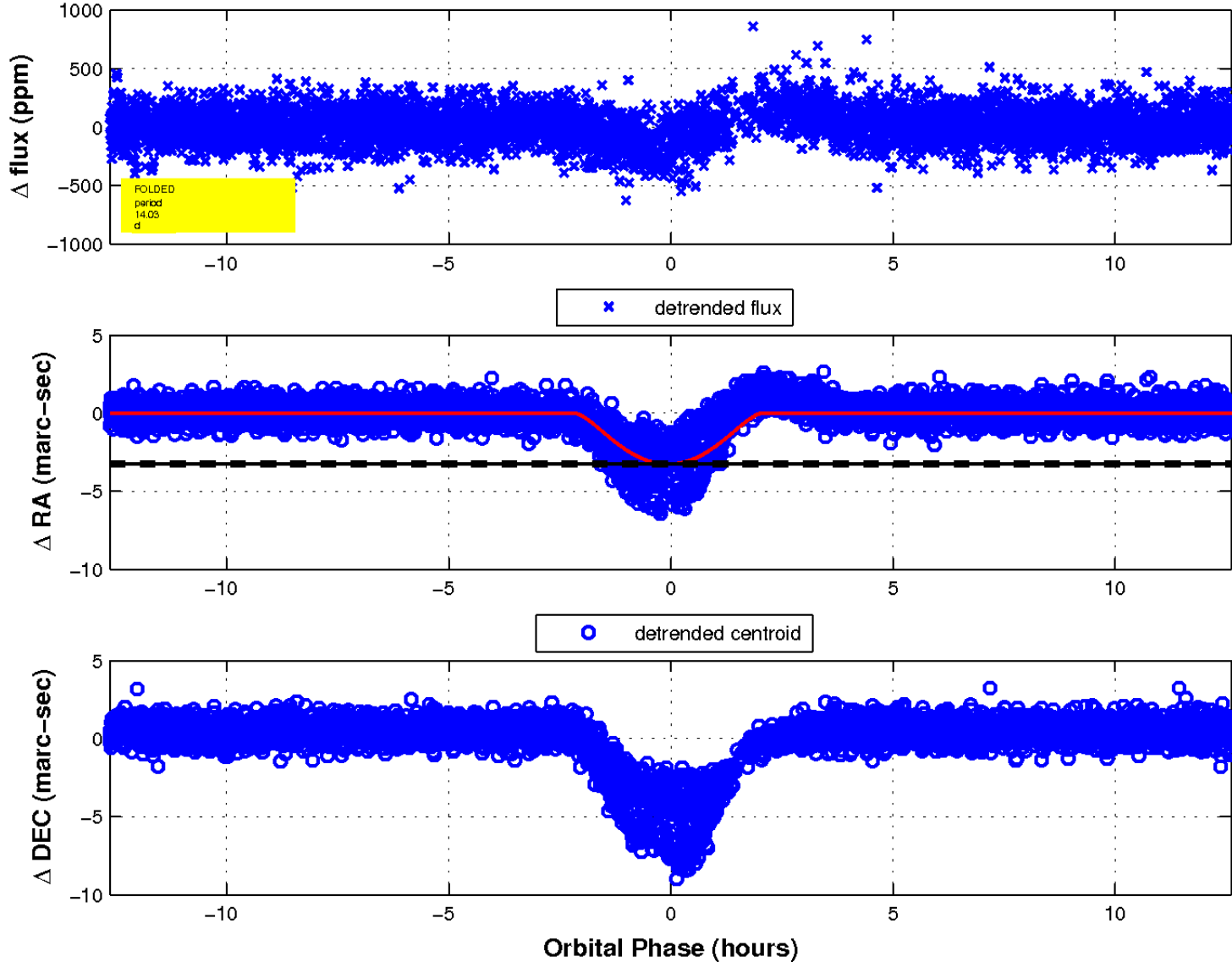
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

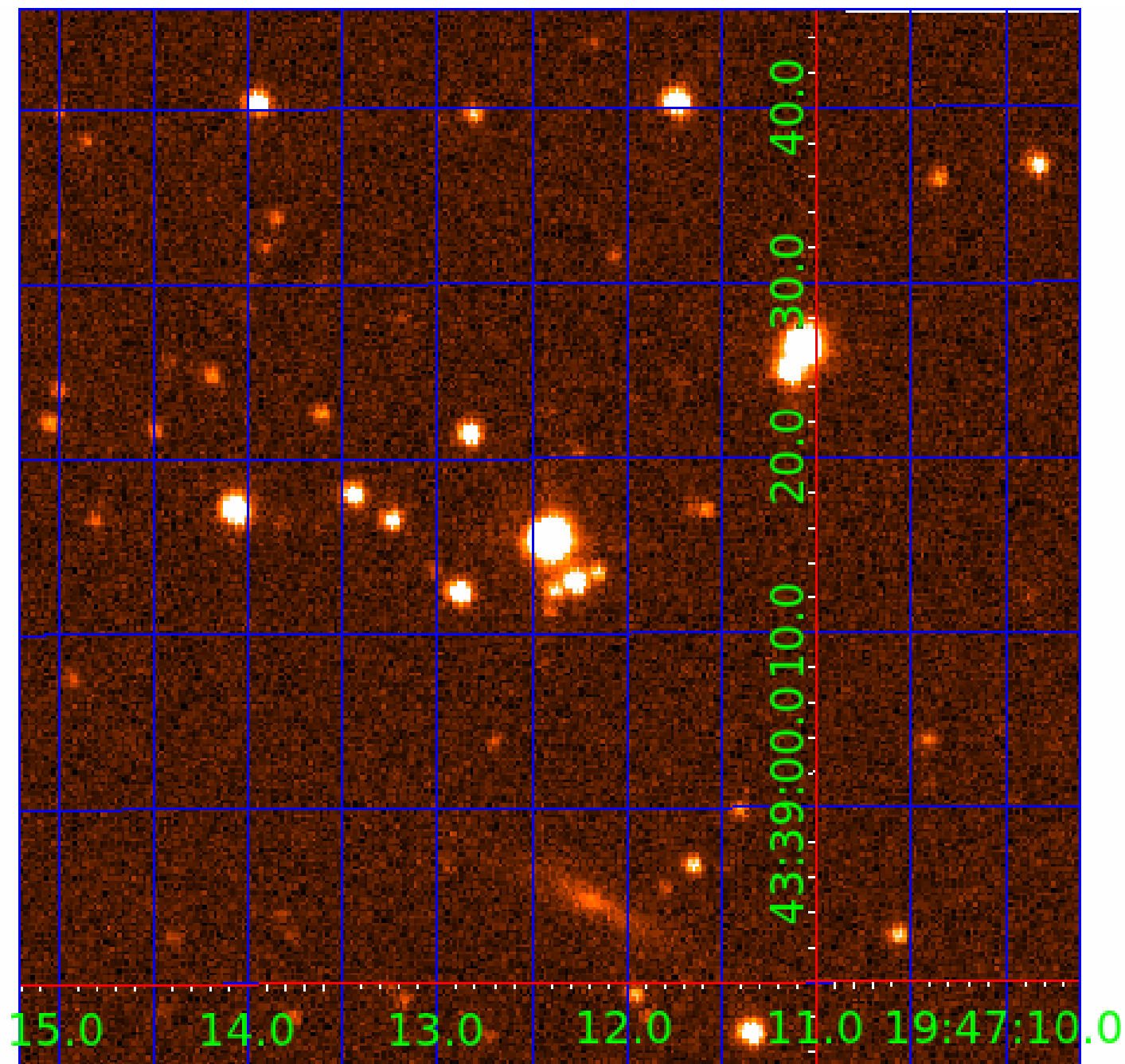


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 007906739

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})
007906739-01	OBS	2165.01	14.029425	136.856571	208.6	4.208	23.8	24.8	0.87	5912	2.35	69.84
007906739-02	OBS	No	7.014705	136.936255	169.8	4.378	19.1	20.5	0.87	5912	1.85	175.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007906739-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET
007906739-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_RESOLVED_OFFSET

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.

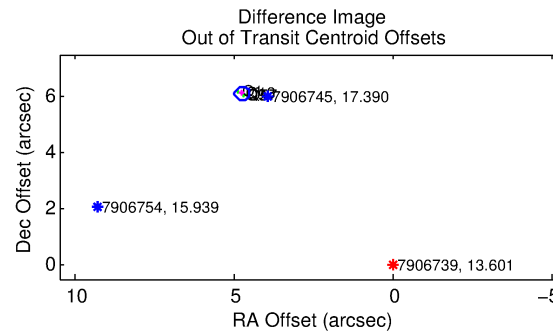
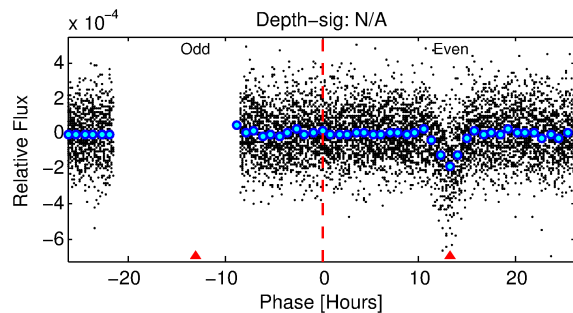
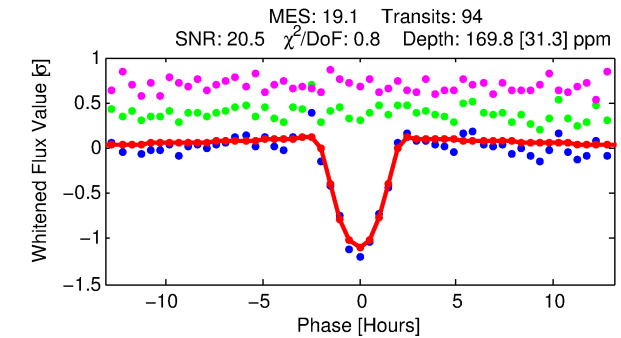
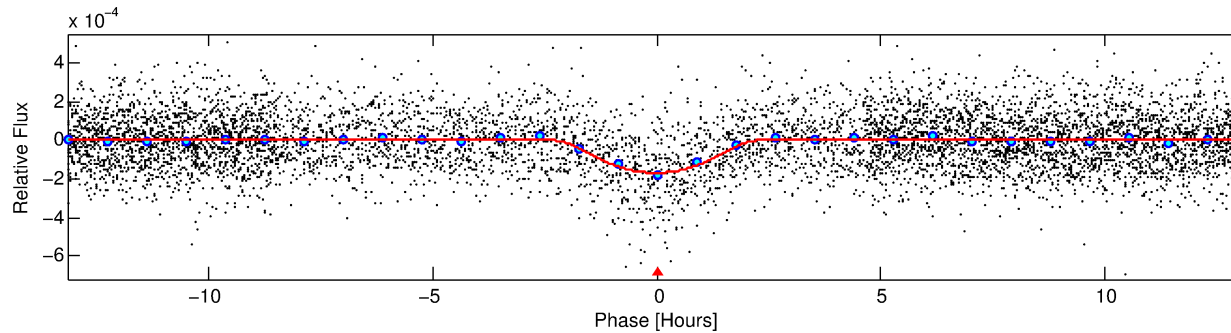
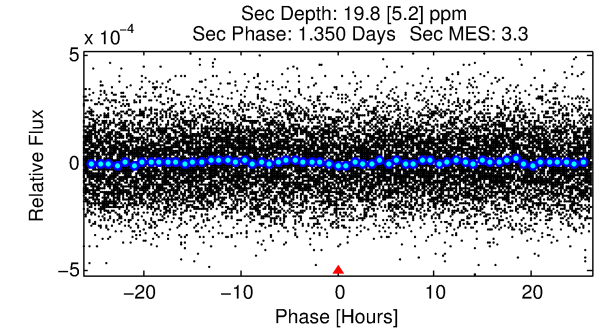
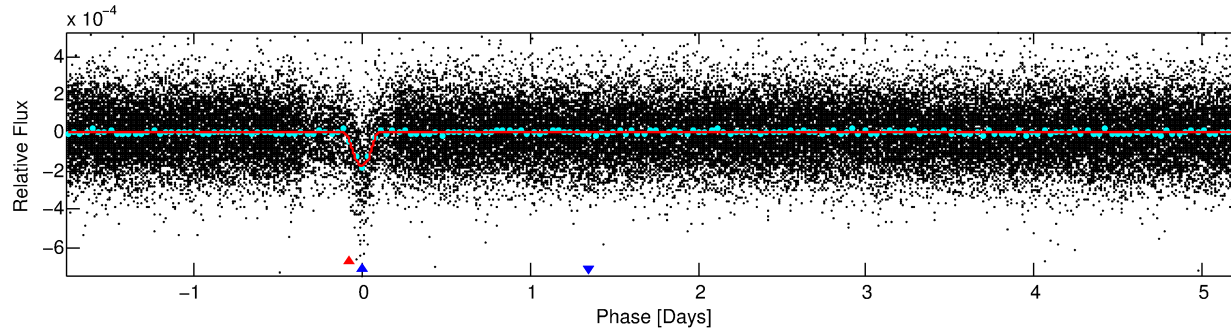
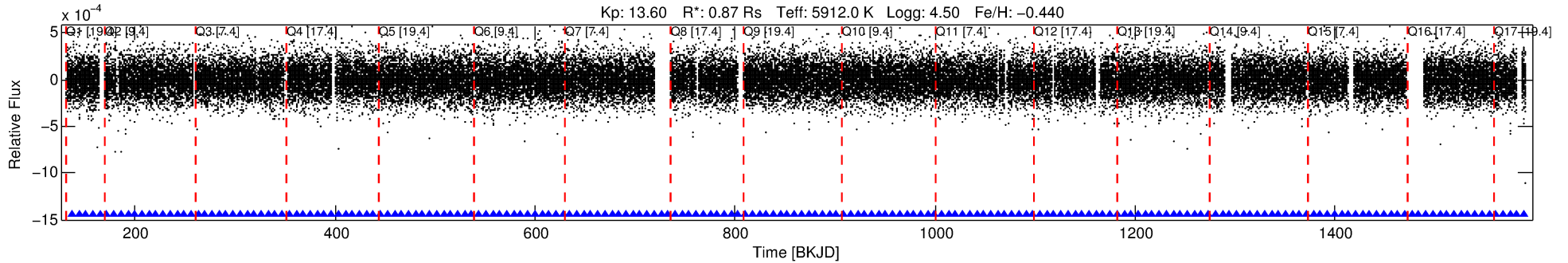
Ephemeris Match Information For 007906739-02

No Significant Match Found

DV One-Page Summary

KIC: 7906739 Candidate: 2 of 2 Period: 7.015 d
KOI: K02165 Corr: No Ephemeris Match

Kp: 13.60 R*: 0.87 Rs Teff: 5912.0 K Logg: 4.50 Fe/H: -0.440



DV Fit Results:

Period = 7.01471 [0.00004] d
Epoch = 136.9363 [0.0047] BKJD
Rp/R* = 0.0195 [0.0131]
a/R* = 3.05 [0.75]
b = 0.99 [0.03]
Seff = 175.99 [59.35]
Teq = 929 [78] K
Rp = 1.85 [1.33] Re
a = 0.0686 [0.0150] AU
Ag = 15.00 [21.09] [0.66σ]
Teff = 2826 [970] K [1.95σ]

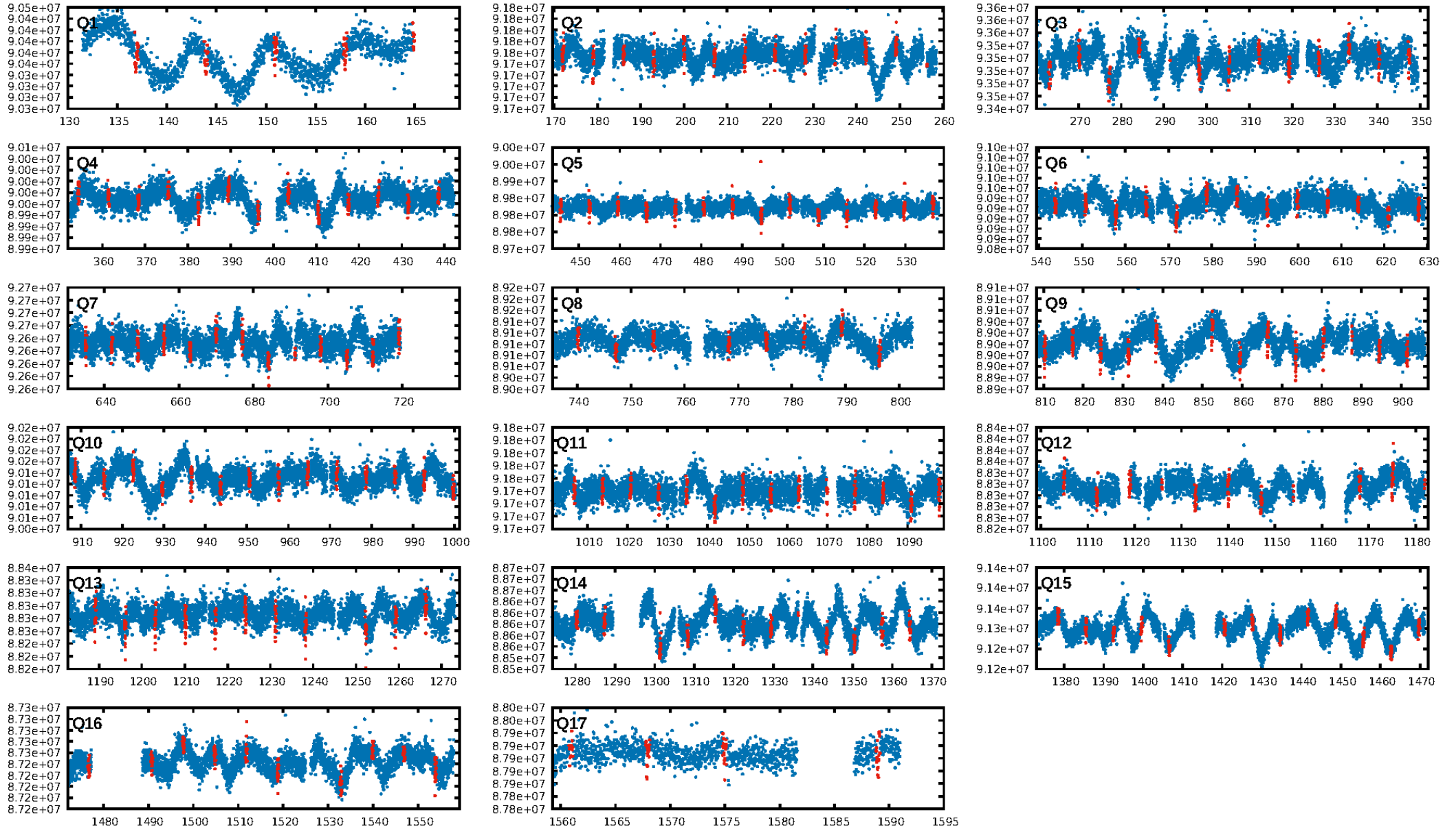
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [27.72σ]
ModelChiSquare2-sig: 0.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.18e-81
RollingBand-fgt: 1.00 [89/89]
GhostDiagnostic-chr: -0.2808
Centroid-sig: N/A
Centroid-so: 22.215 arcsec [52.16σ]
OotOffset-rm: 7.739 arcsec [97.51σ]
KicOffset-rm: 7.547 arcsec [105.84σ]
OotOffset-st: 0/0/0/5 [5]
KicOffset-st: 0/0/0/5 [5]
DiffImageQuality-fgm: 1.00 [5/5]
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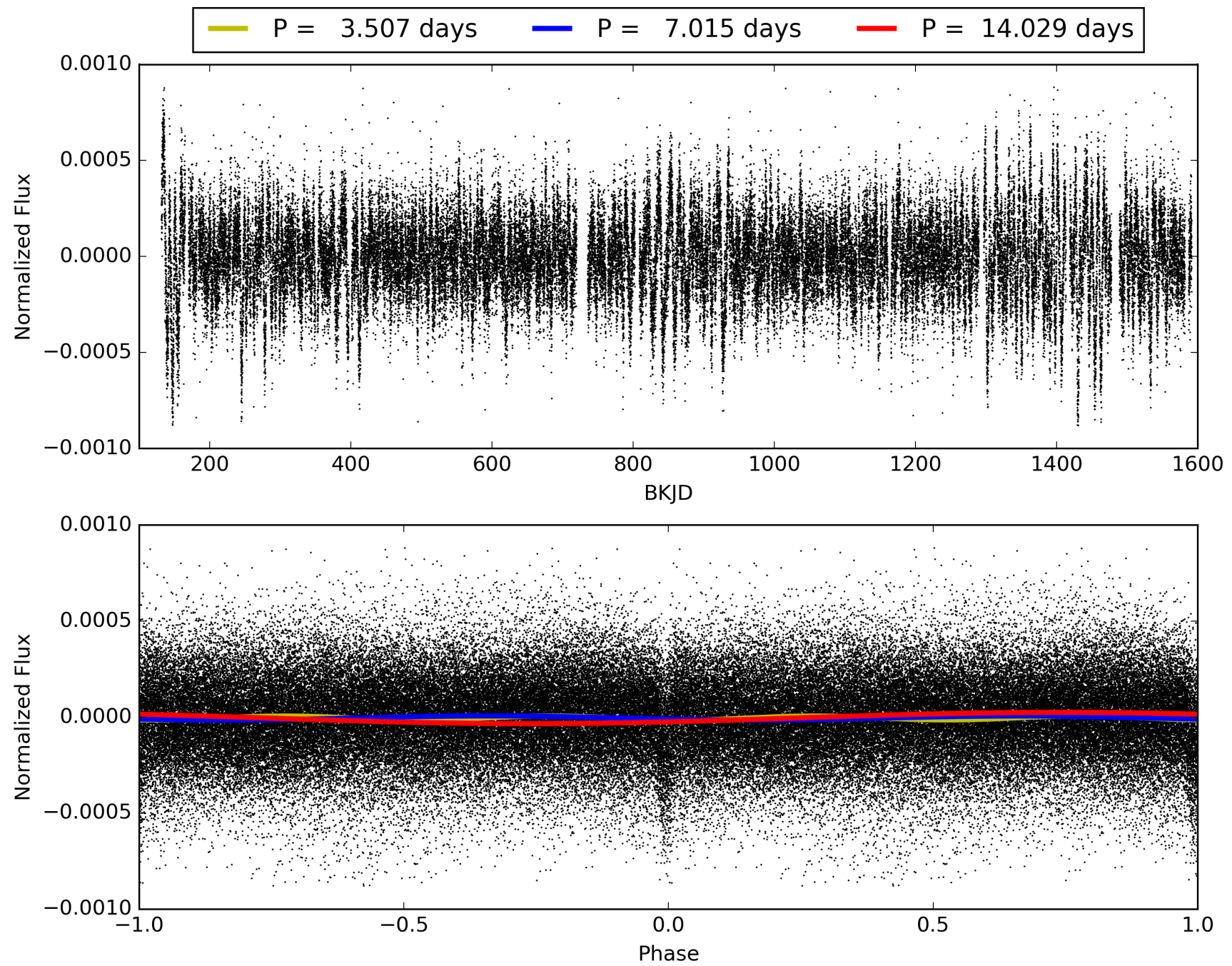
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:51:21 Z

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

TCE 007906739-02, PDC Light Curves

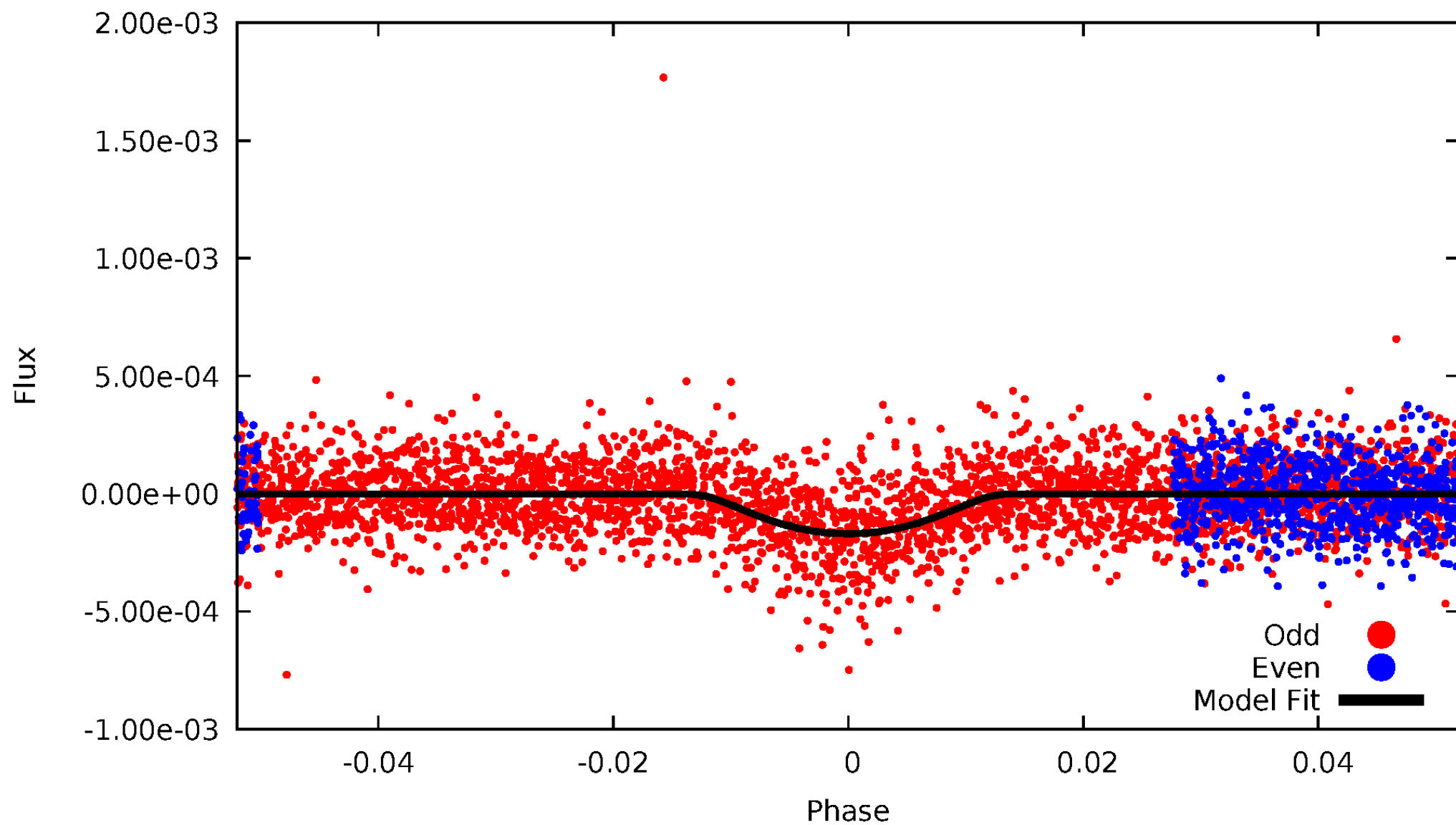


TCE 007906739-02



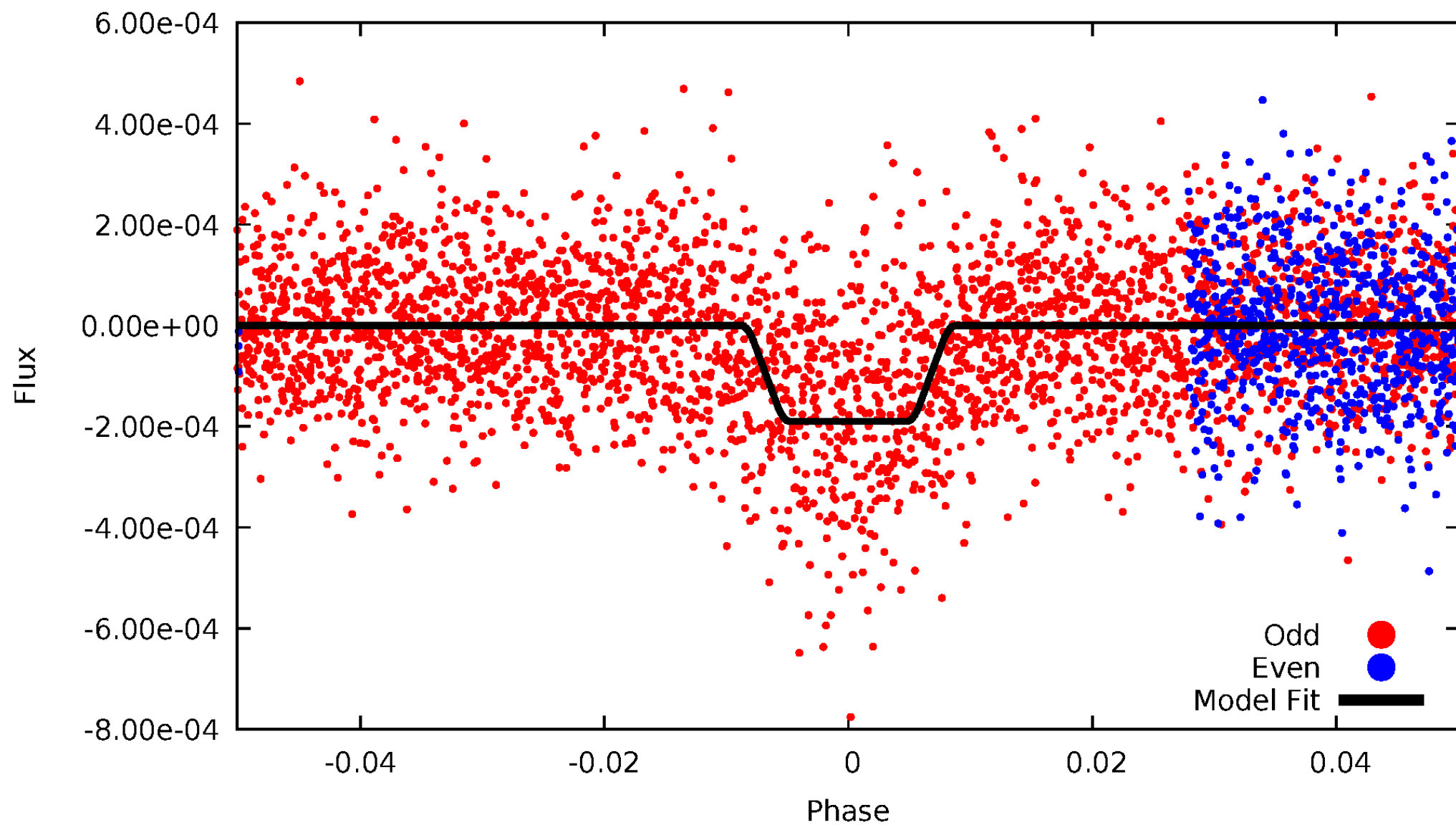
DV Odd/Even

TCE 007906739-02



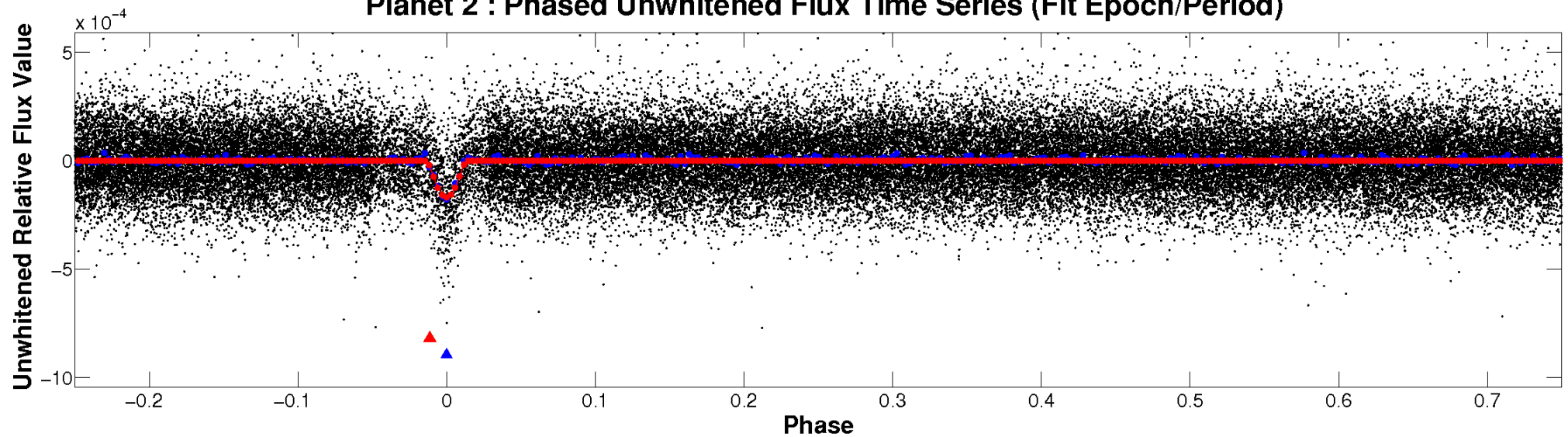
ALT Odd/Even

TCE 007906739-02

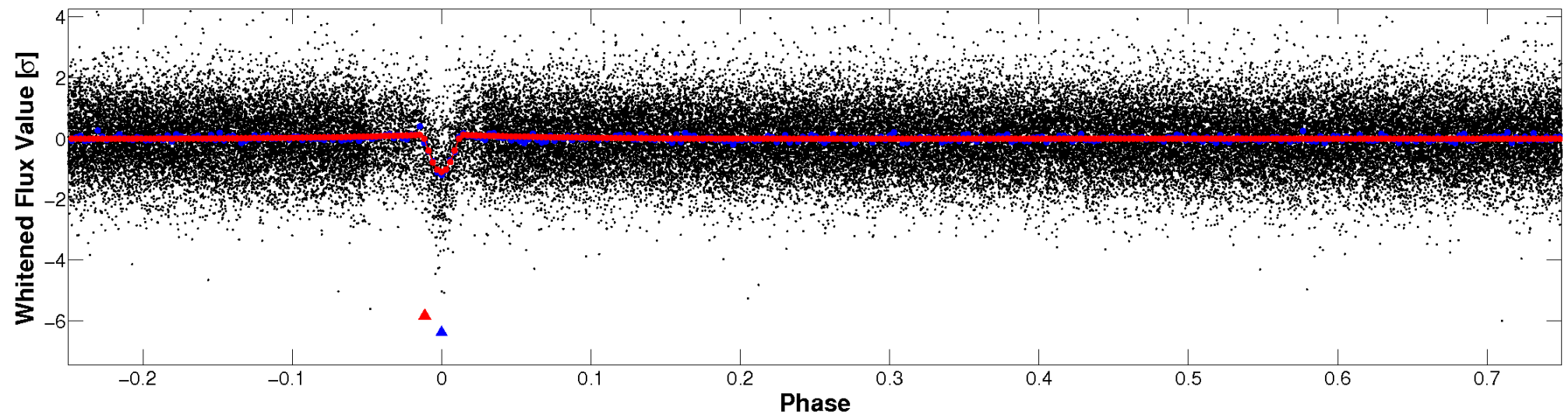


Non-Whitened Vs. Whitened Light Curve

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

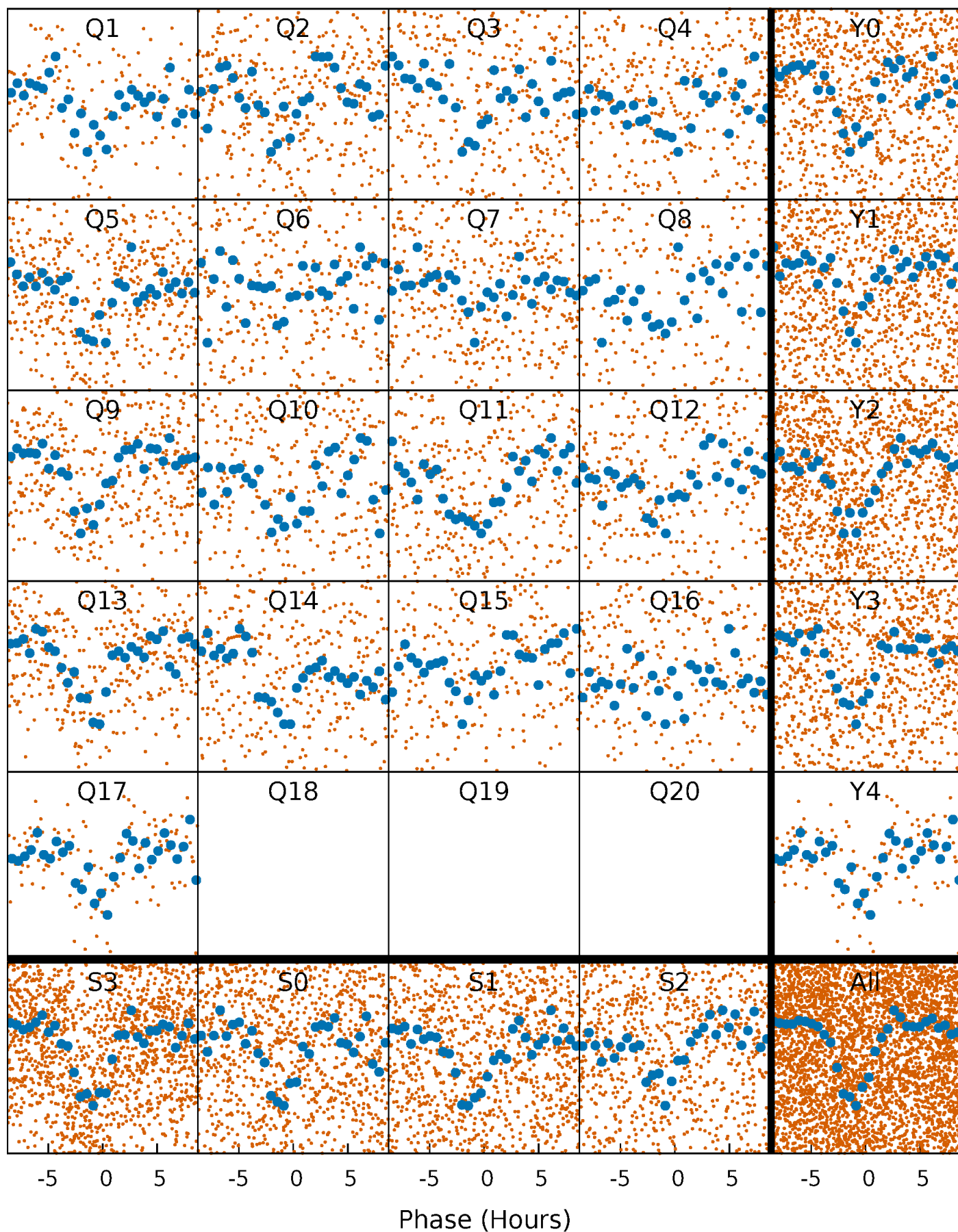


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



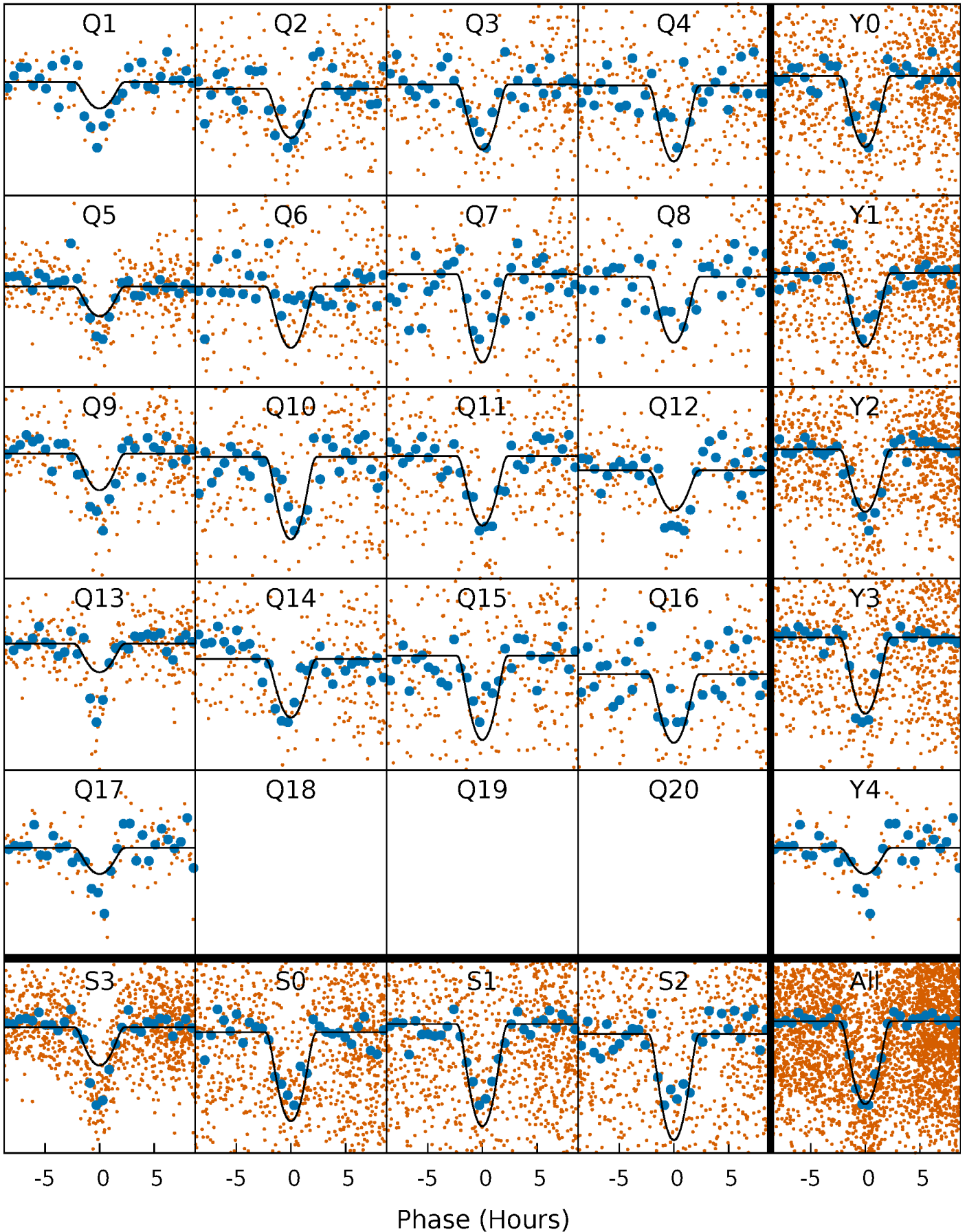
PDC Quarter-Phased Transit Curves

TCE 007906739-02 P= 7.014705 Days $T_0=136.936255$ (BKJD)



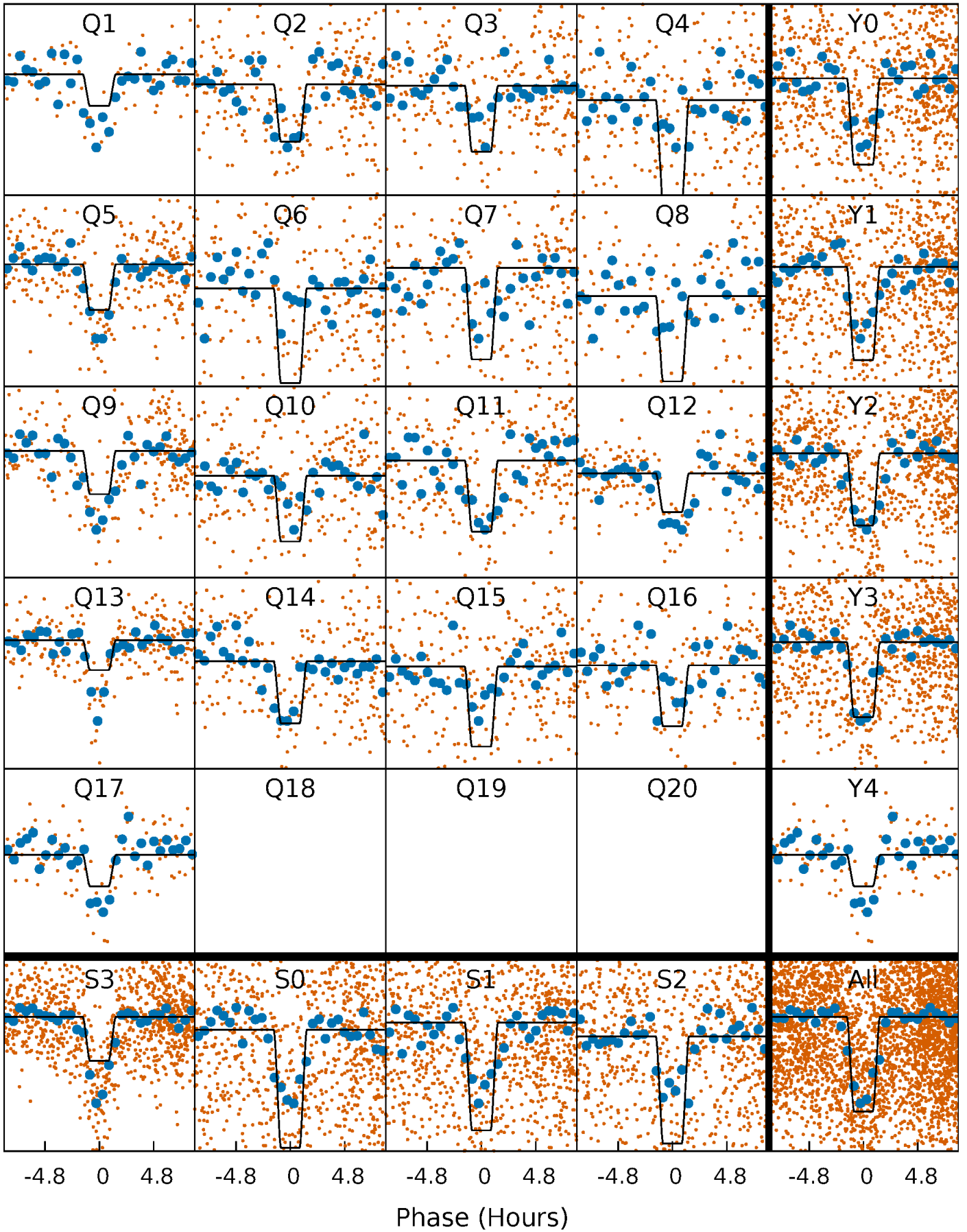
DV Quarter-Phased Transit Curves

TCE 007906739-02 P= 7.014705 Days $T_0=136.936255$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

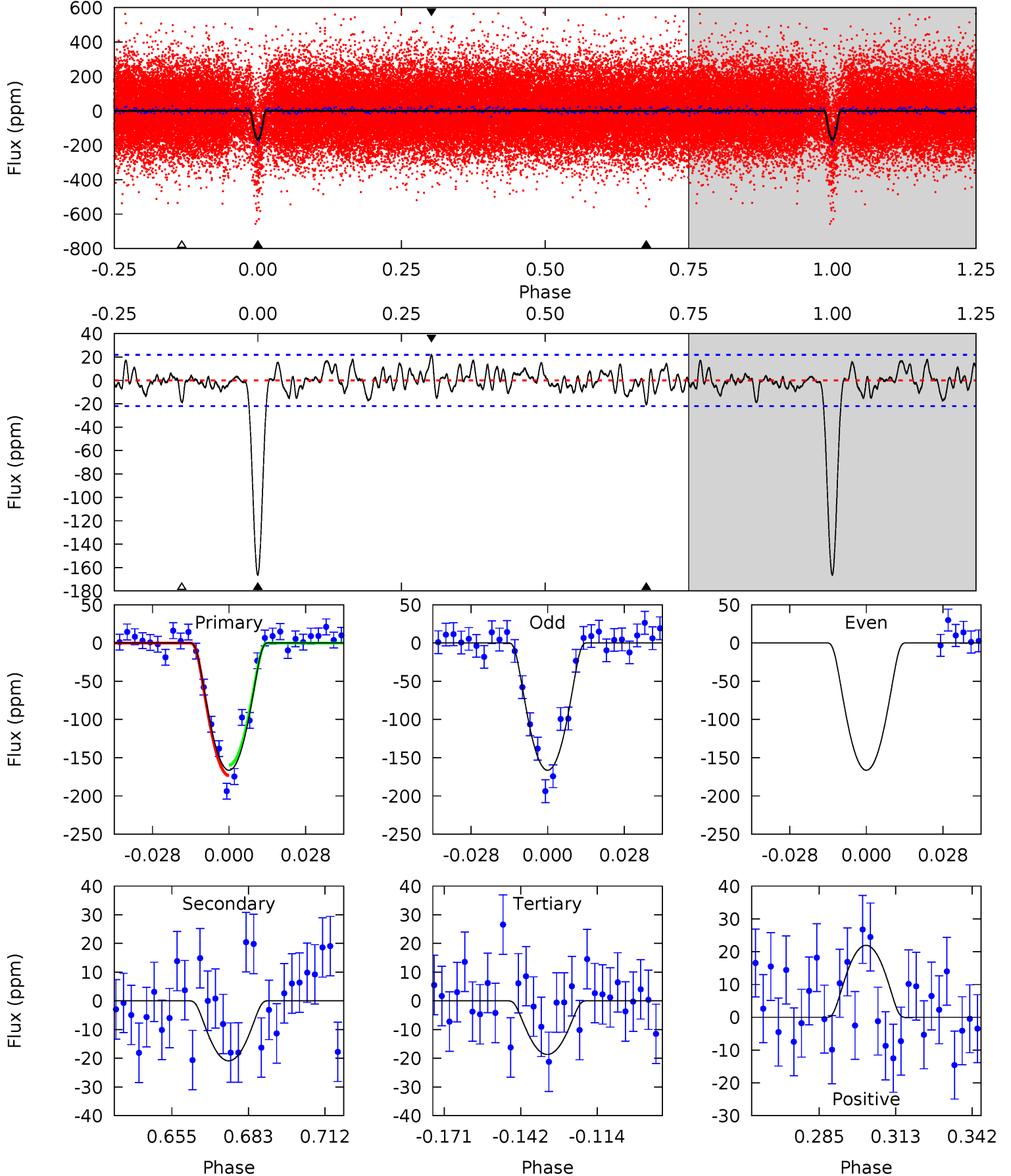
TCE 007906739-02 P= 7.014714 Days $T_0=136.933922$ (BKJD)



DV Model-Shift Uniqueness Test

007906739-02, P = 7.014705 Days, E = 129.921550 Days

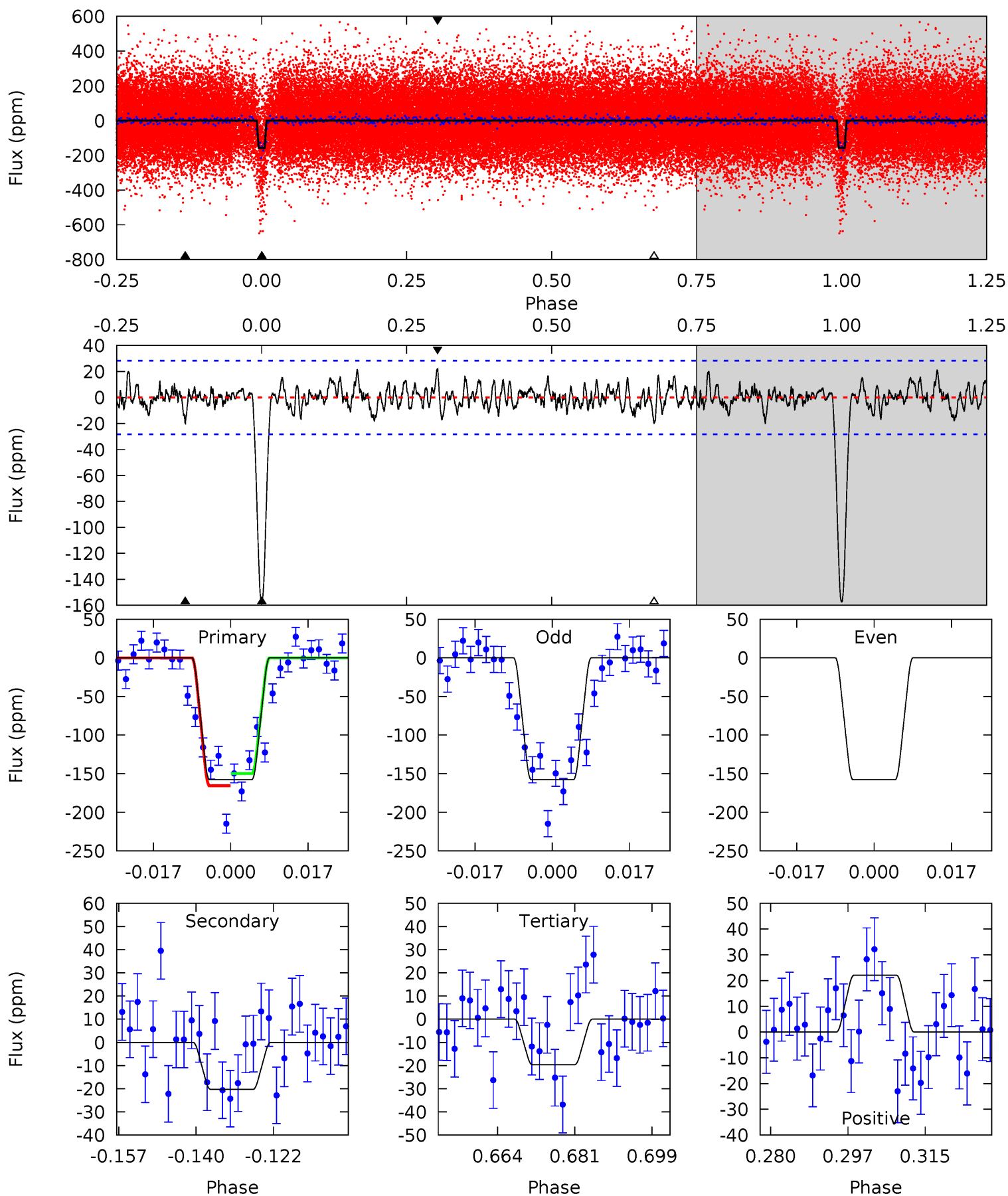
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.6	4.59	4.11	4.82	4.82	2.19	1.58	32.5	31.8	0.49	-0.23	0	1.10	0.12	1.50



Alt Model-Shift Uniqueness Test

007906739-02, P = 7.014714 Days, E = 129.919208 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.4	3.52	3.40	3.83	4.92	2.38	1.21	24.0	23.5	0.12	-0.31	0	1.16	0.12	1.36



Stellar Parameters For KIC 007906739

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5912^{+159}_{-159}	$4.501^{+0.075}_{-0.175}$	$-0.440^{+0.300}_{-0.300}$	$0.870^{+0.226}_{-0.097}$	$0.875^{+0.096}_{-0.087}$	$1.869^{+0.588}_{-0.878}$
	+3%/-3%	+2%/-4%	+68%/-68%	+26%/-11%	+11%/-10%	+31%/-47%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007906739-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-21 ± 5	$2.05^{+1.24}_{-1.11}$	1312^{+89}_{-60}	3266^{+1043}_{-418}	12^{+47}_{-8}
Alt.	-20 ± 6	$1.62^{+1.11}_{-1.04}$	1313^{+86}_{-61}	3545^{+1626}_{-574}	19^{+120}_{-13}

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

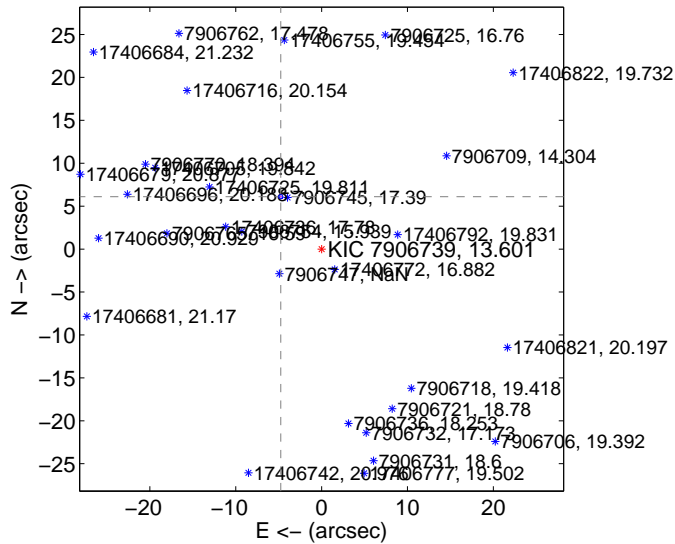
Supplemental centroid analysis for 007906739-02. Kepler magnitude: 13.60. Transit SNR 20.48

There are 5 quarters with good PRF difference image offsets

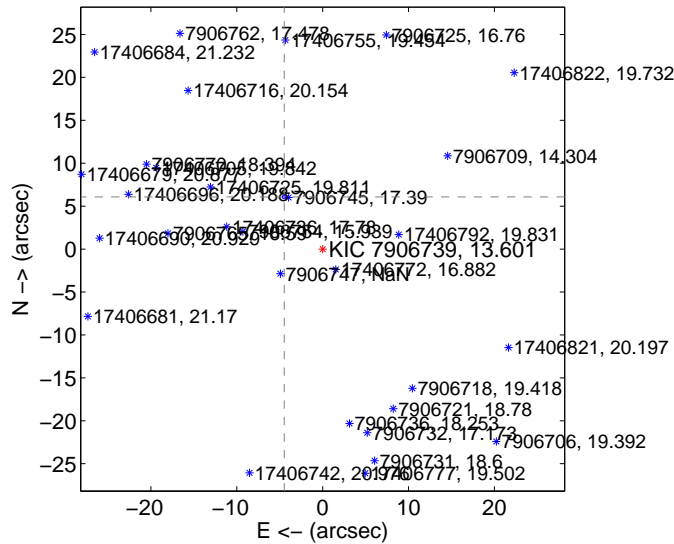
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.739 ± 0.079	97.51	4.756 ± 0.077	6.106 ± 0.072
PRF-fit source offset from KIC position	7.547 ± 0.071	105.84	4.482 ± 0.071	6.072 ± 0.069
photometric centroid source offset	22.21 ± 0.43	52.16	6.82 ± 0.38	21.14 ± 0.43

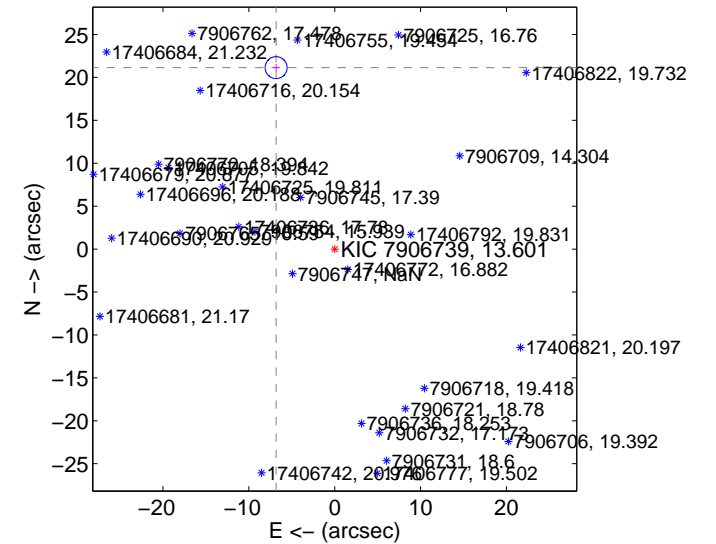
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

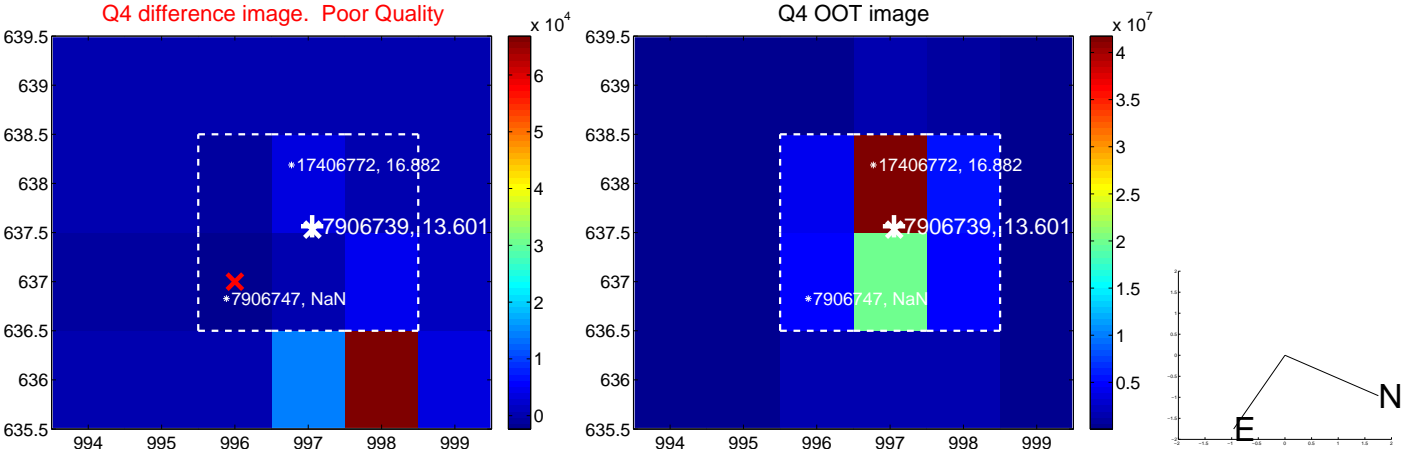
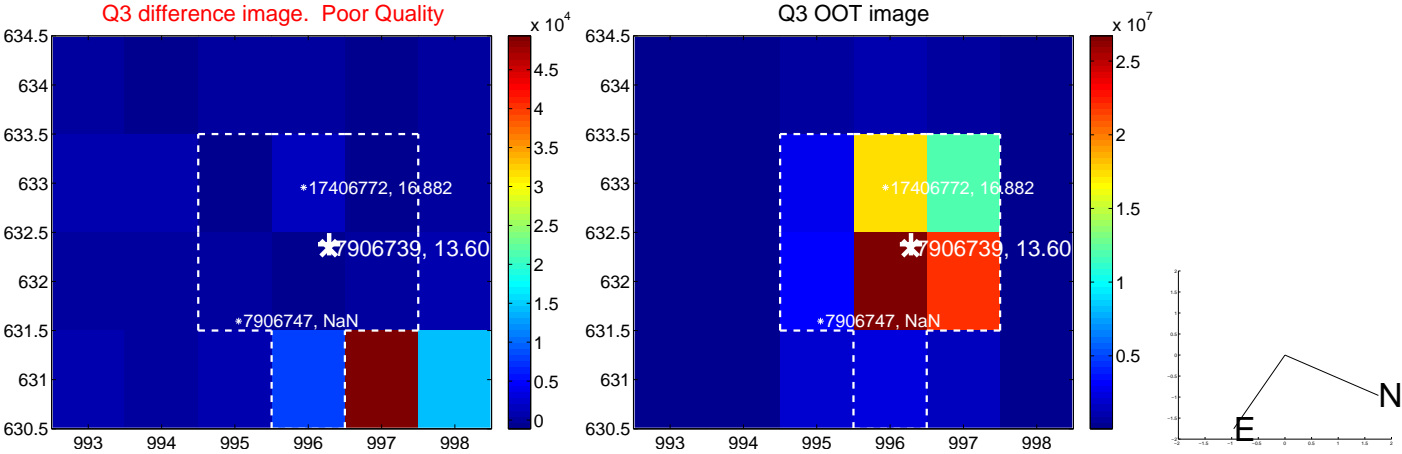
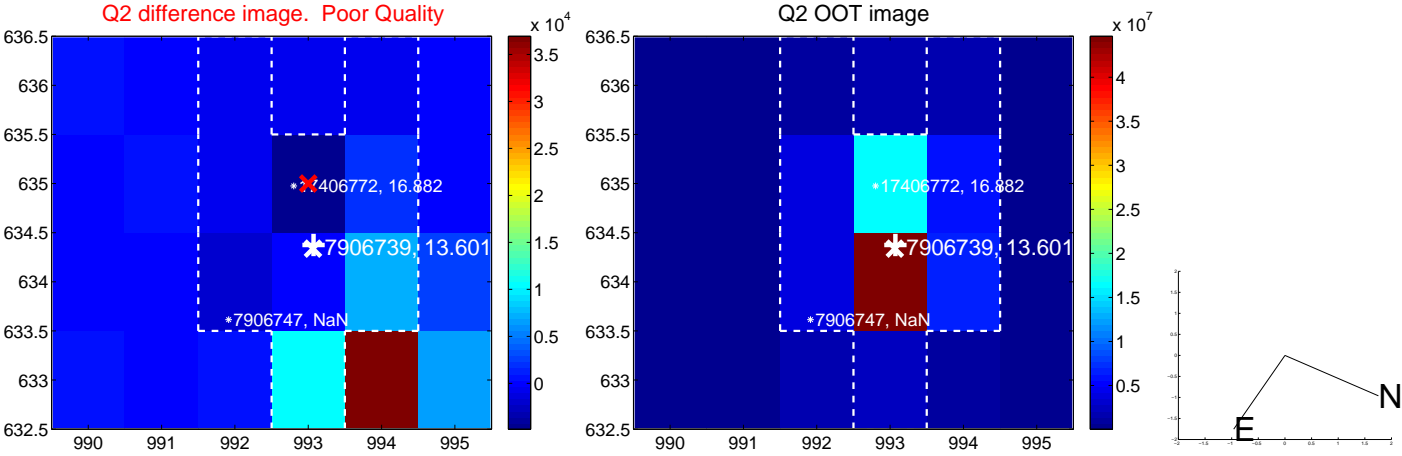
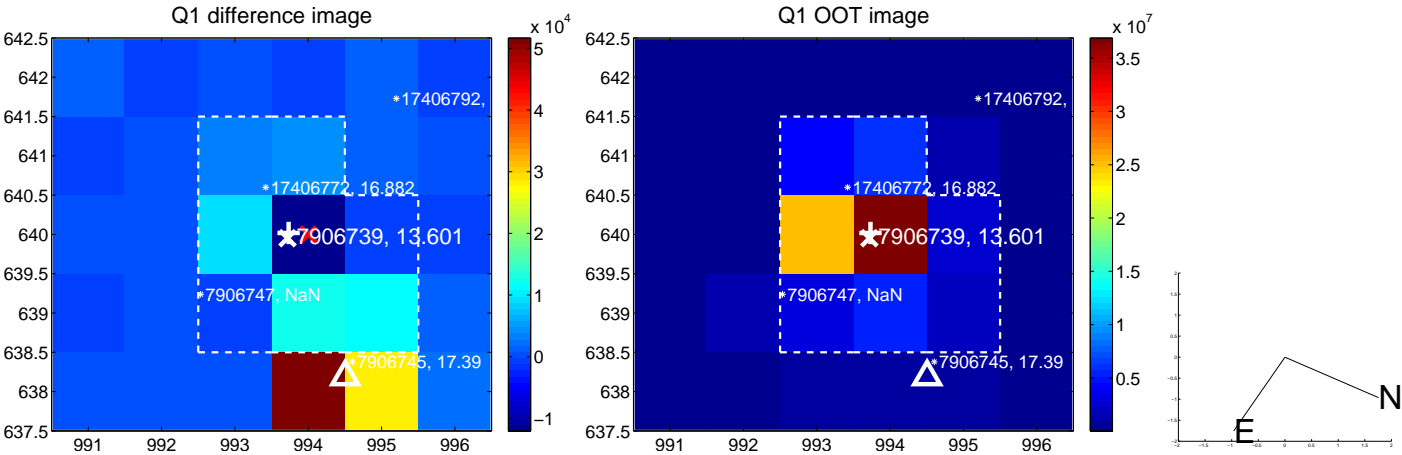


offset from photometric centroids

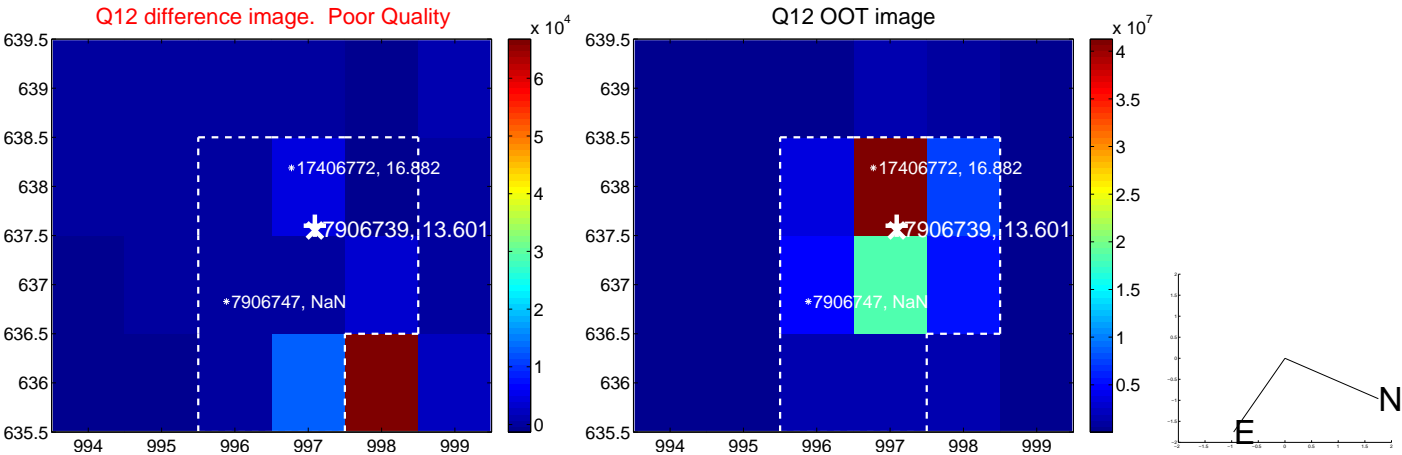
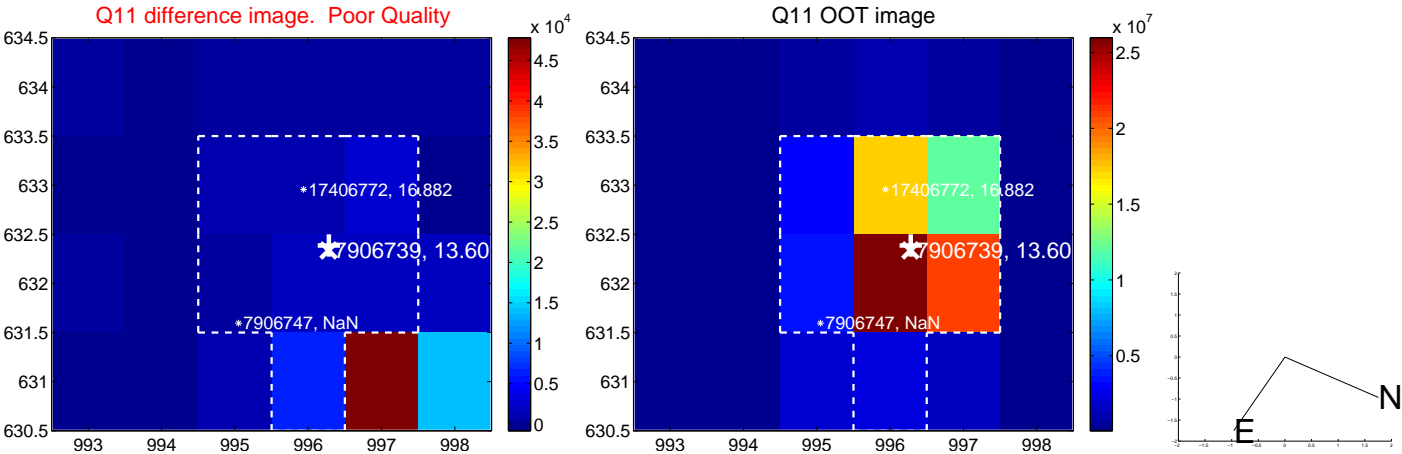
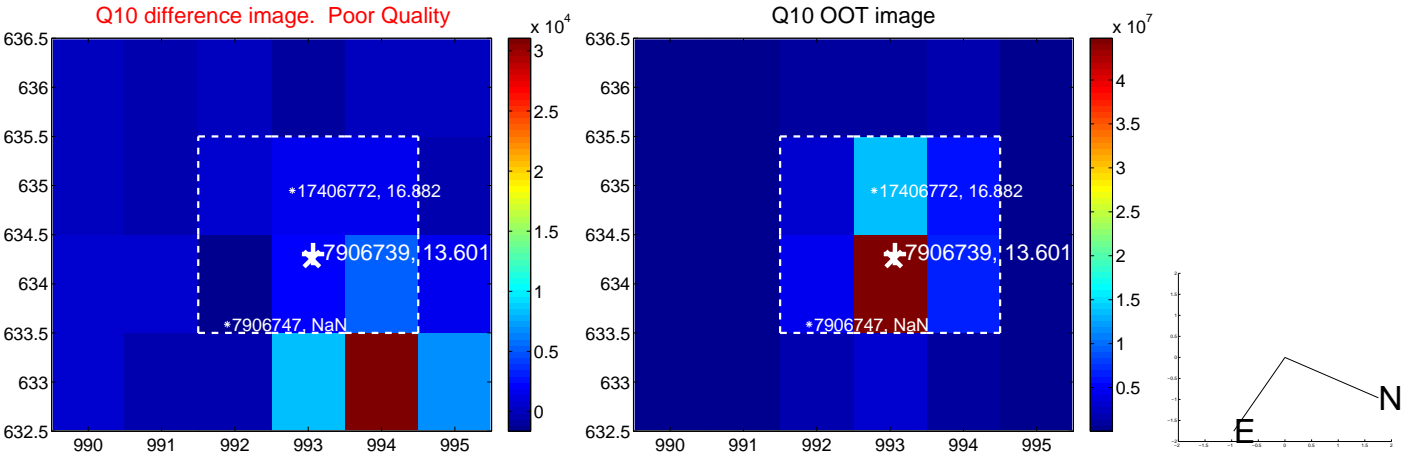
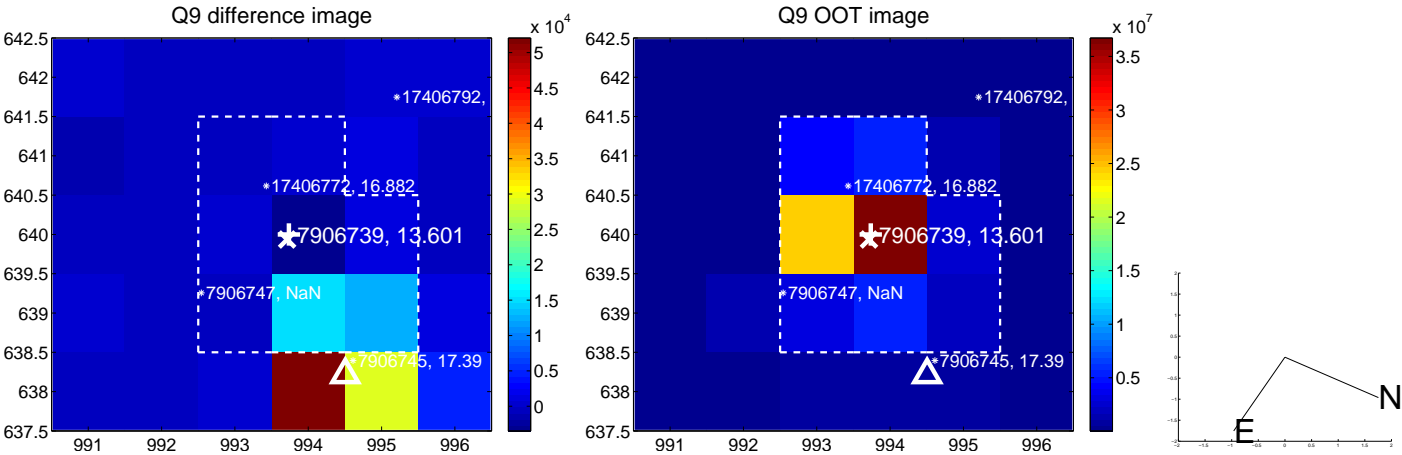


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

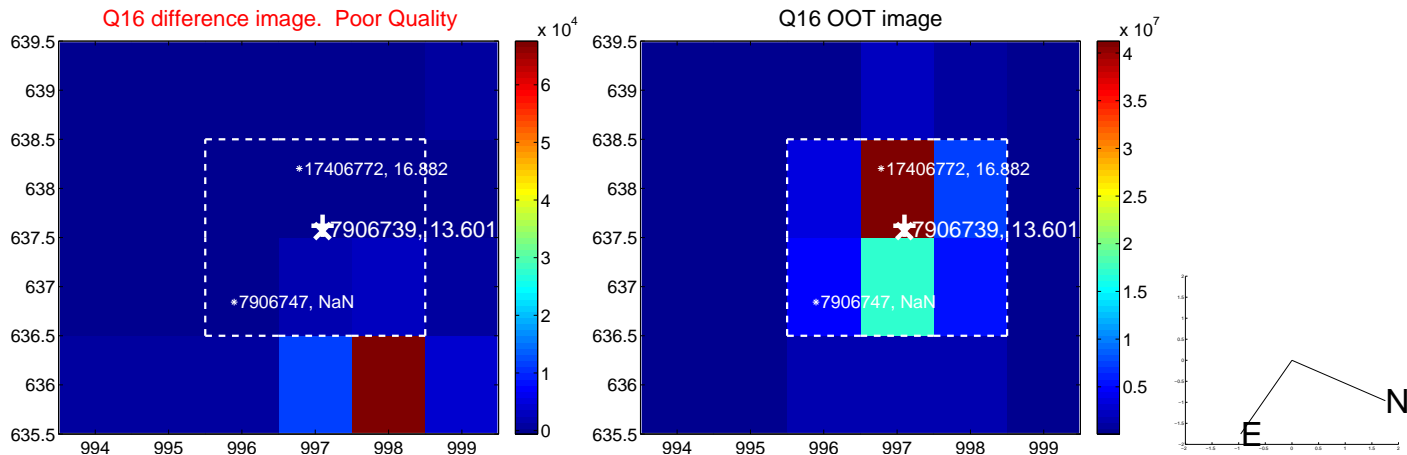
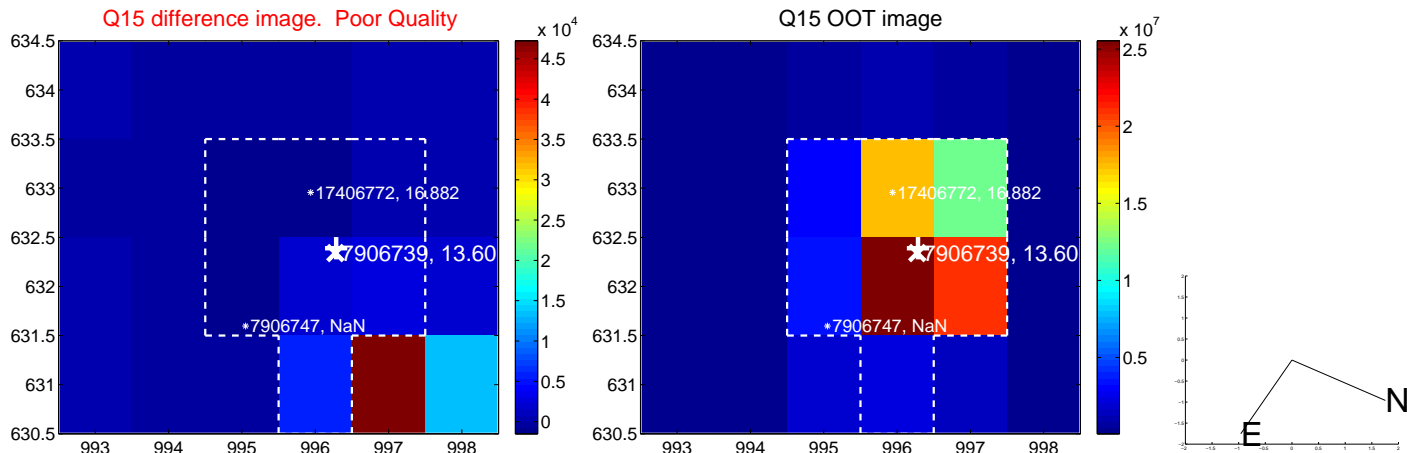
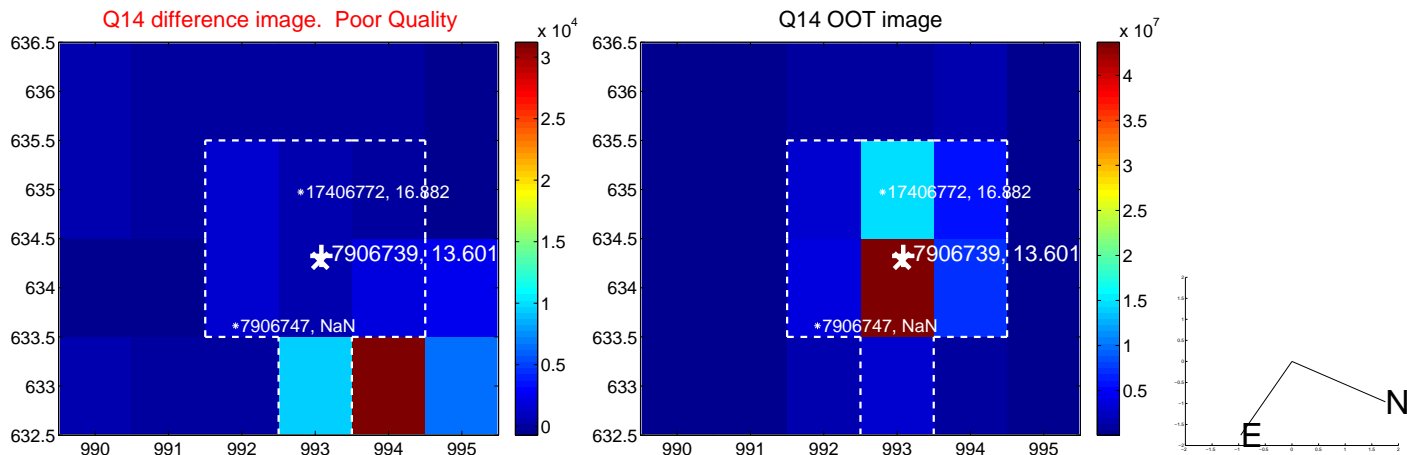
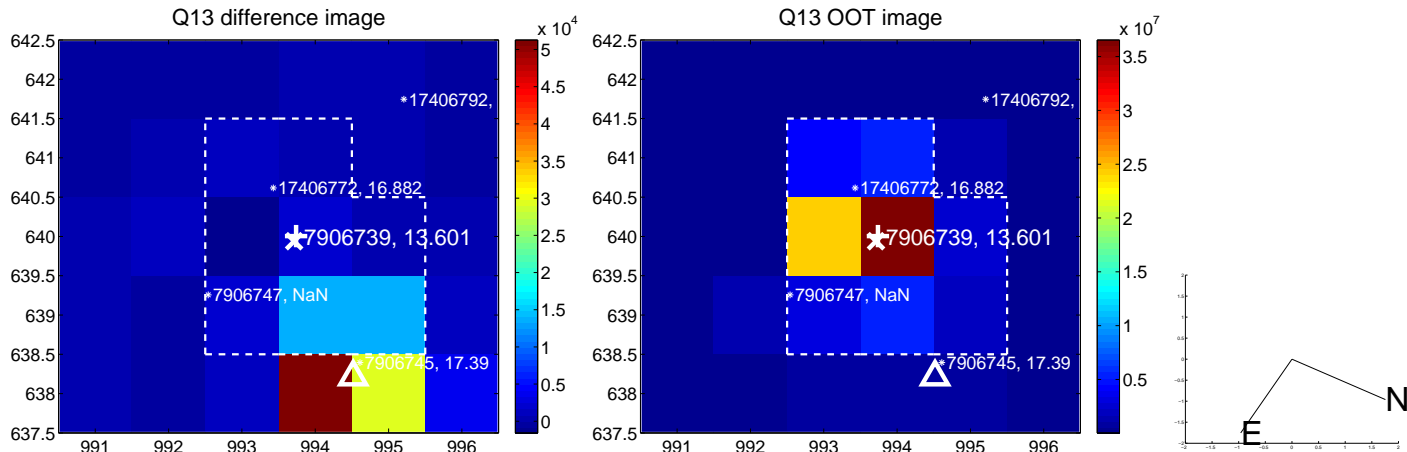
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



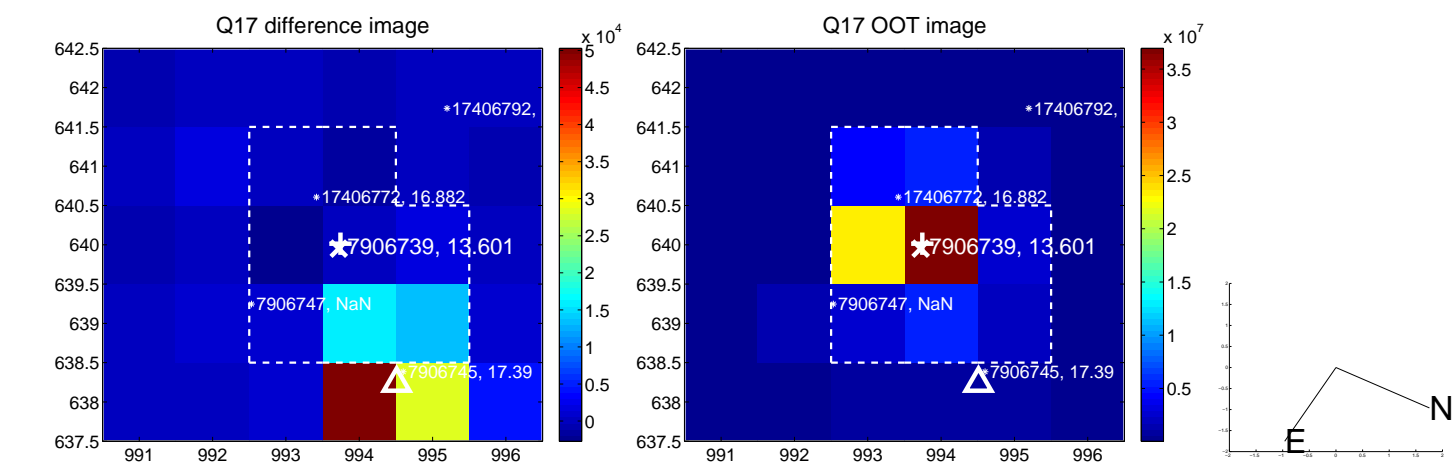
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



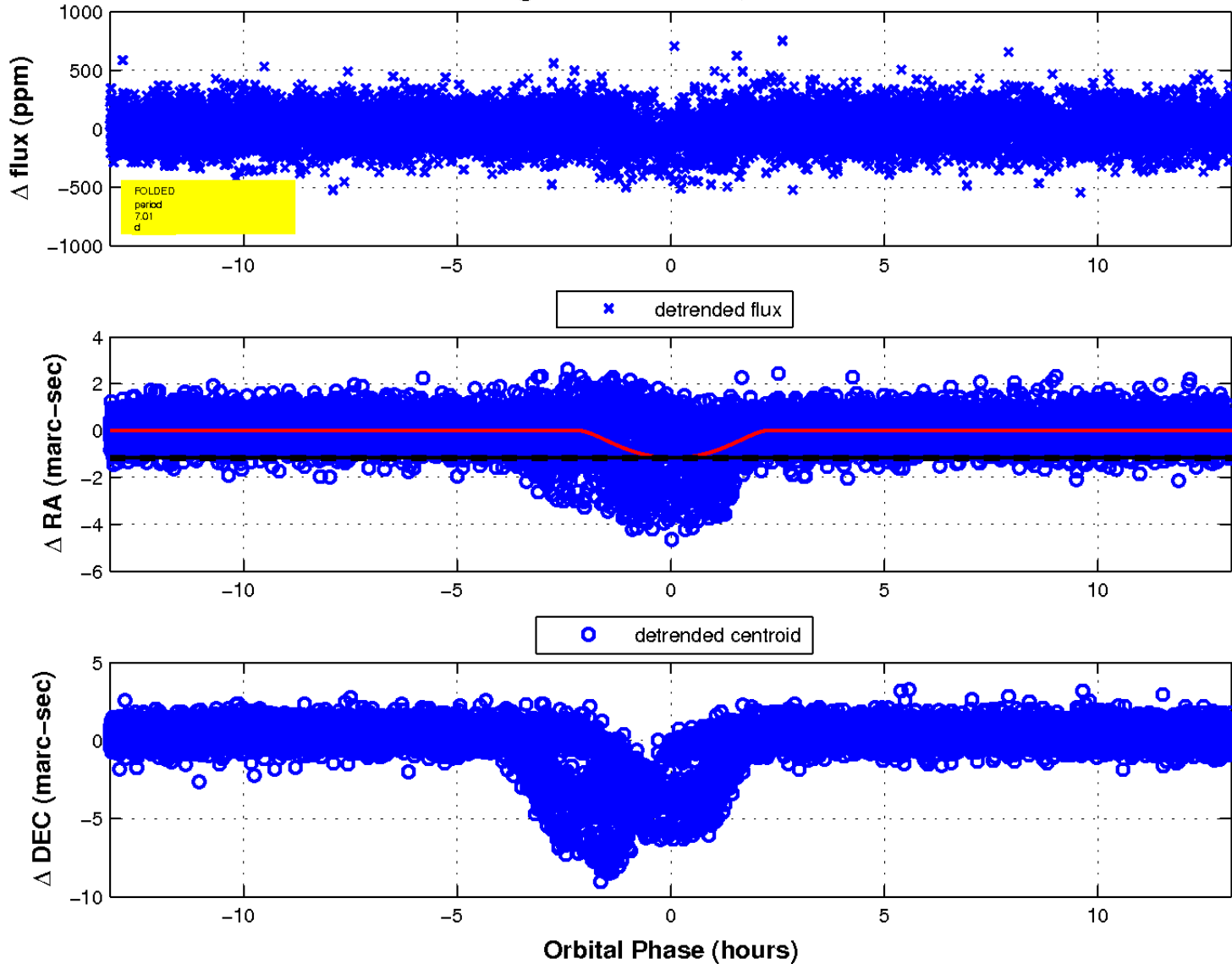
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

