

KIC 003866709

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})
003866709-01	OBS	No	0.941413	132.023494	42049.8	1.500	177.7	-1.0	2.97	8659	62.32	79528.31
003866709-02	OBS	No	0.941406	131.531827	48361.5	2.500	343.4	-1.0	2.97	8659	66.65	79529.07
003866709-03	OBS	No	13.181508	132.892244	6334.7	1.500	13.1	-1.0	2.97	8659	24.13	2356.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003866709-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—CENT_NOFITS
003866709-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS
003866709-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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 for comment definitions.

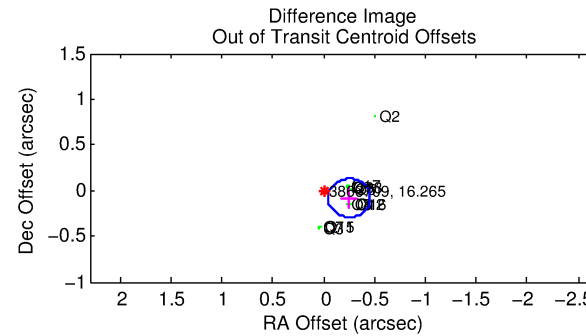
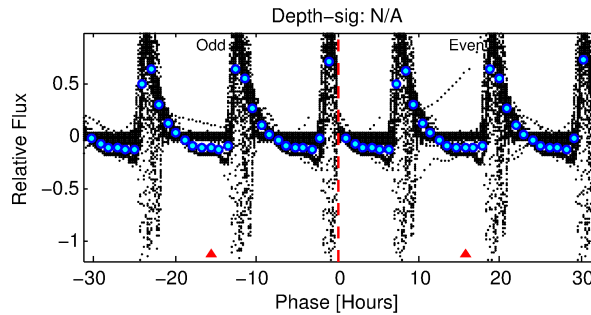
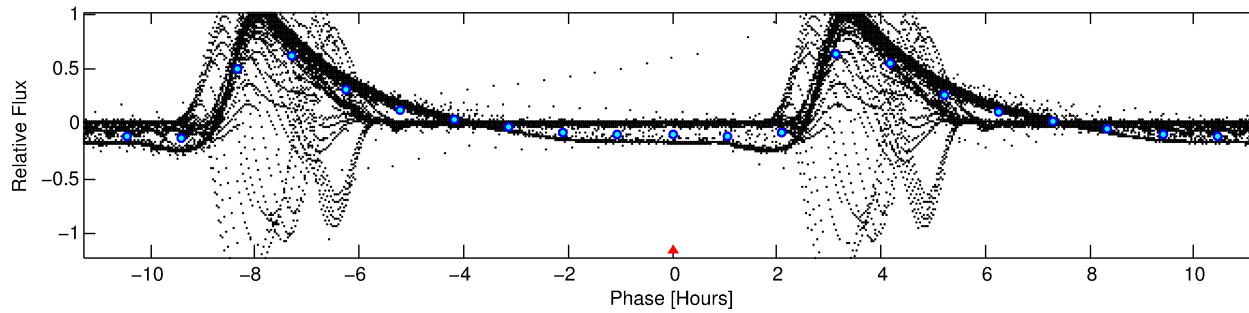
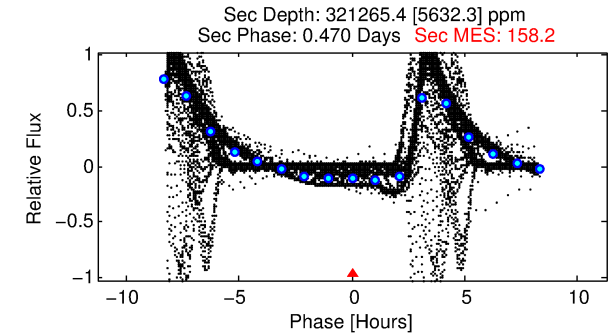
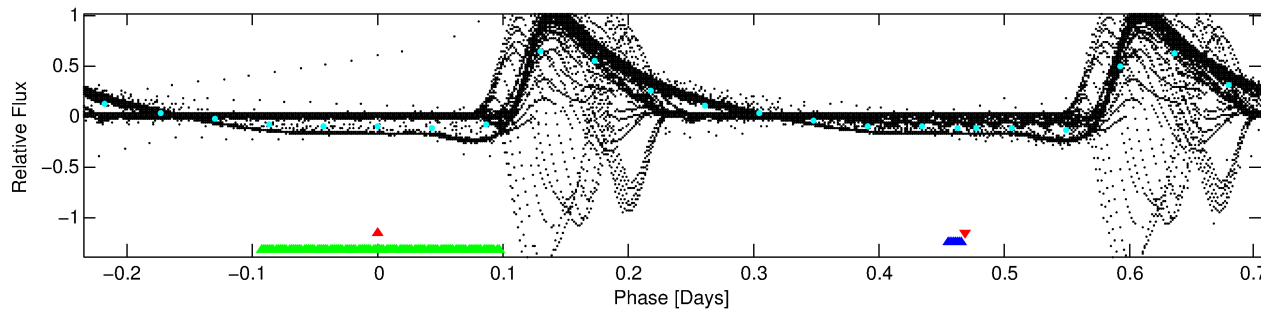
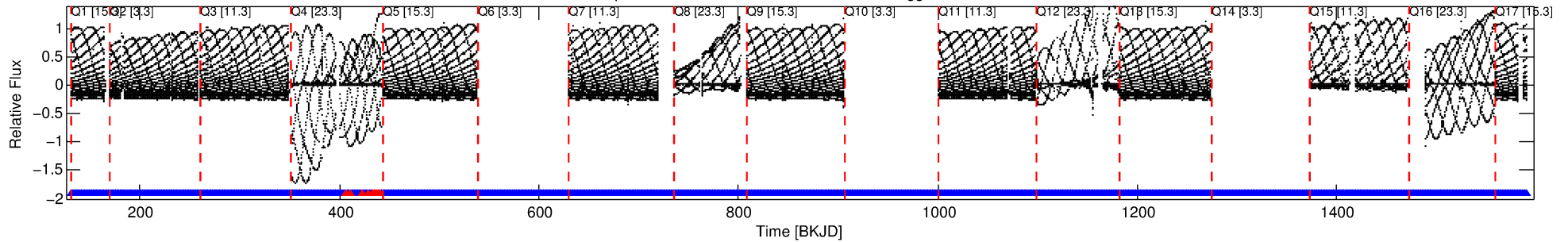
Ephemeris Match Information For 003866709-01

No Significant Match Found

DV One-Page Summary

KIC: 3866709 Candidate: 1 of 3 Period: 0.941 d

Kp: 16.26 R*: 2.97 Rs Teff: 8659.0 K Logg: 3.79 Fe/H: -0.240



TPS TCE Results:

Period = 0.94141 d
Epoch = 132.0235 BKJD

DV fit results are unavailable

DV Diagnostic Results:

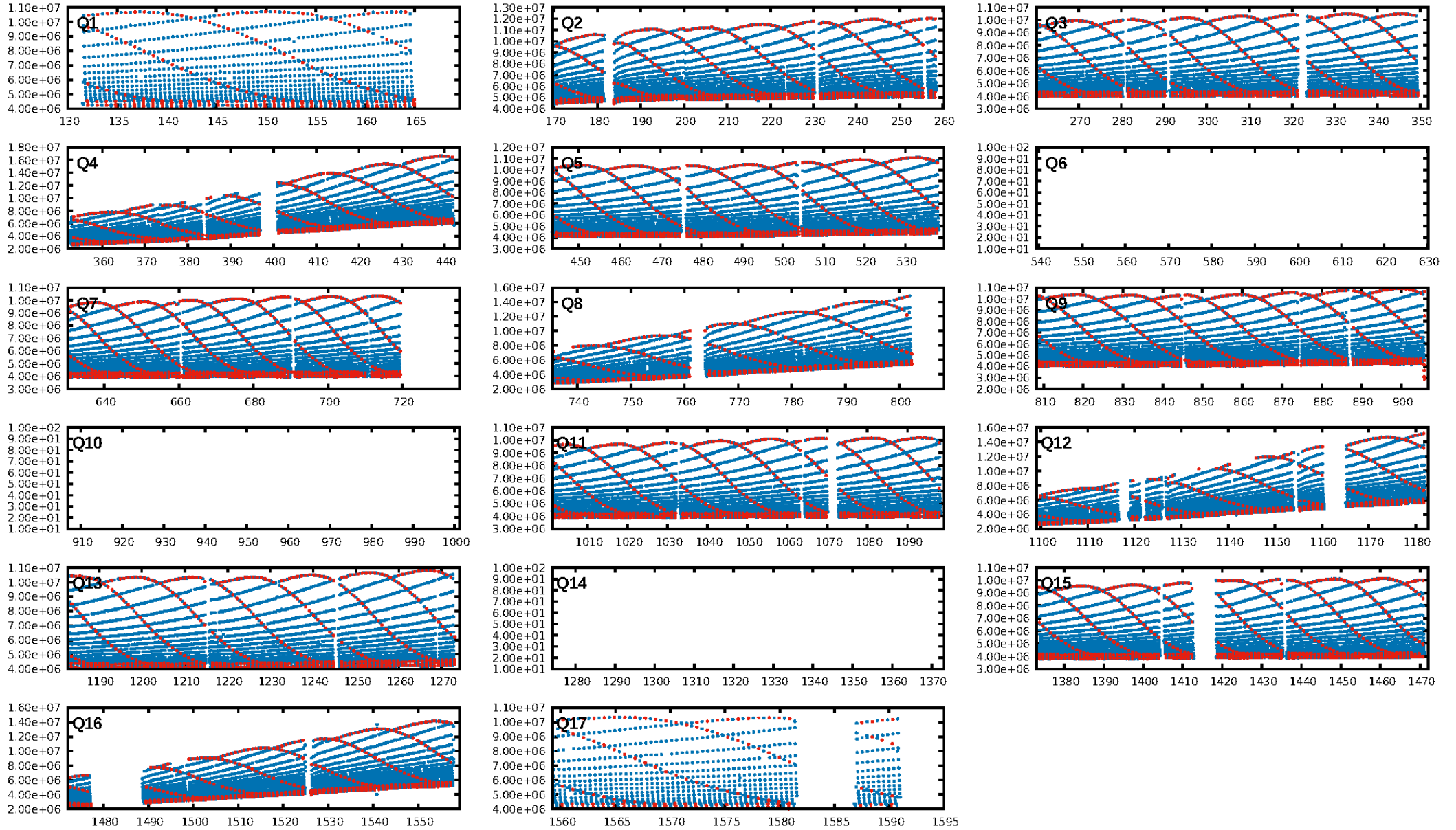
ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: 100.0% [138.48 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.99 [1067/1078]
GhostDiagnostic-chr: 0.8163

Centroid-sig: 0.0%
Centroid-so: 0.416 arcsec [207.06 σ]
OotOffset-rm: 0.259 arcsec [3.69 σ]
KicOffset-rm: 0.130 arcsec [1.91 σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 0.00 [0/14]

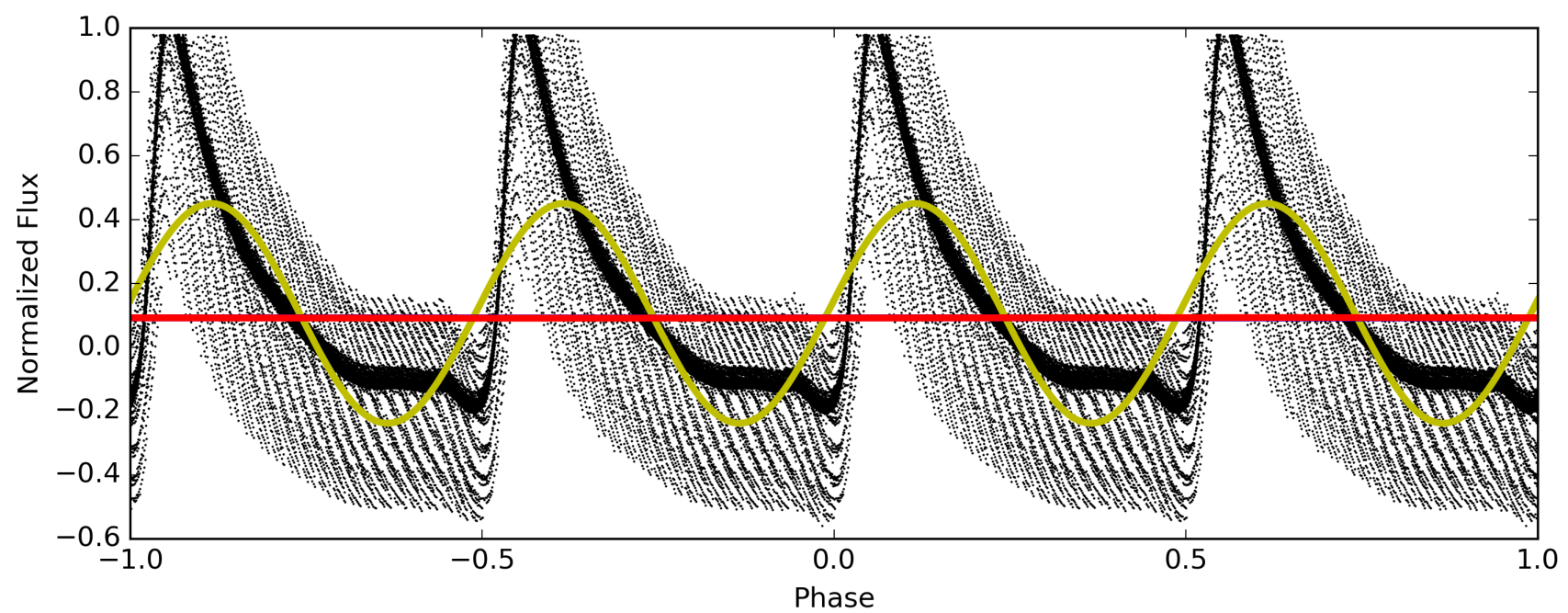
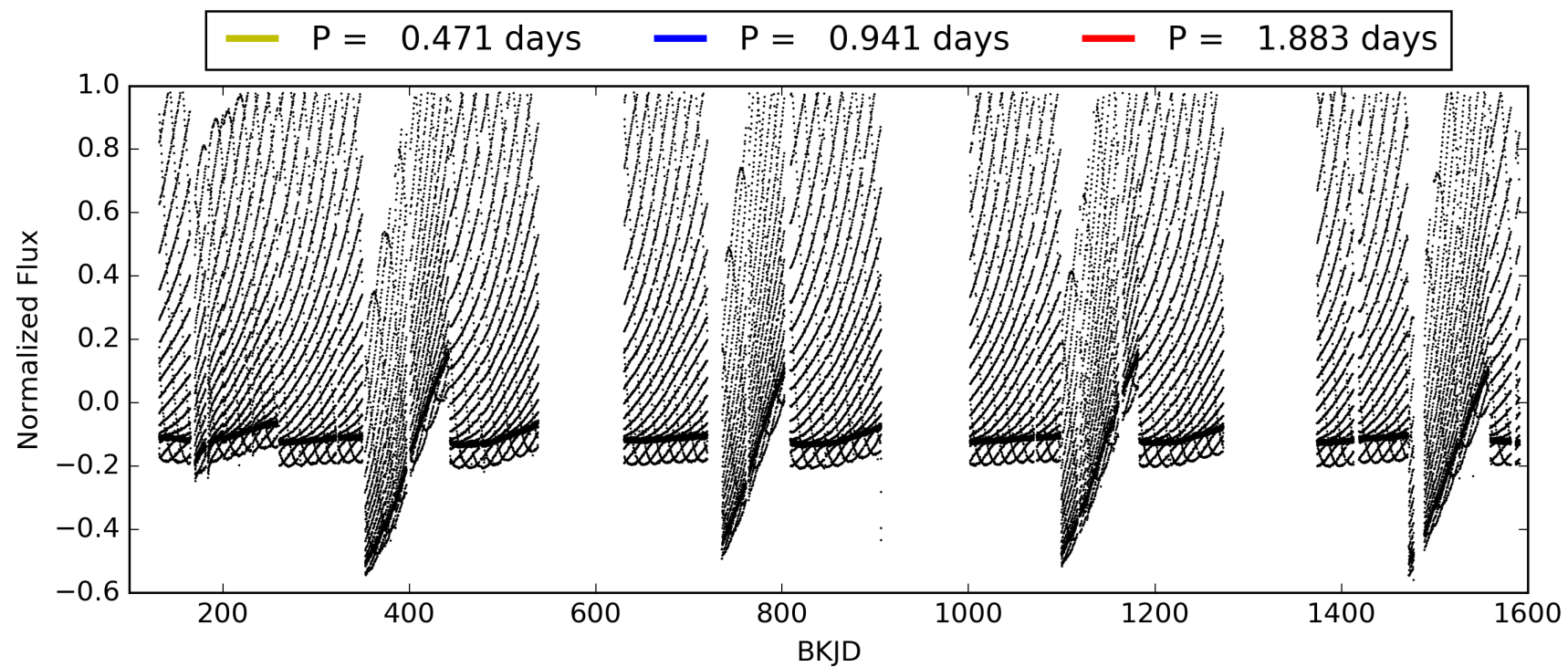
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 003866709-01, PDC Light Curves

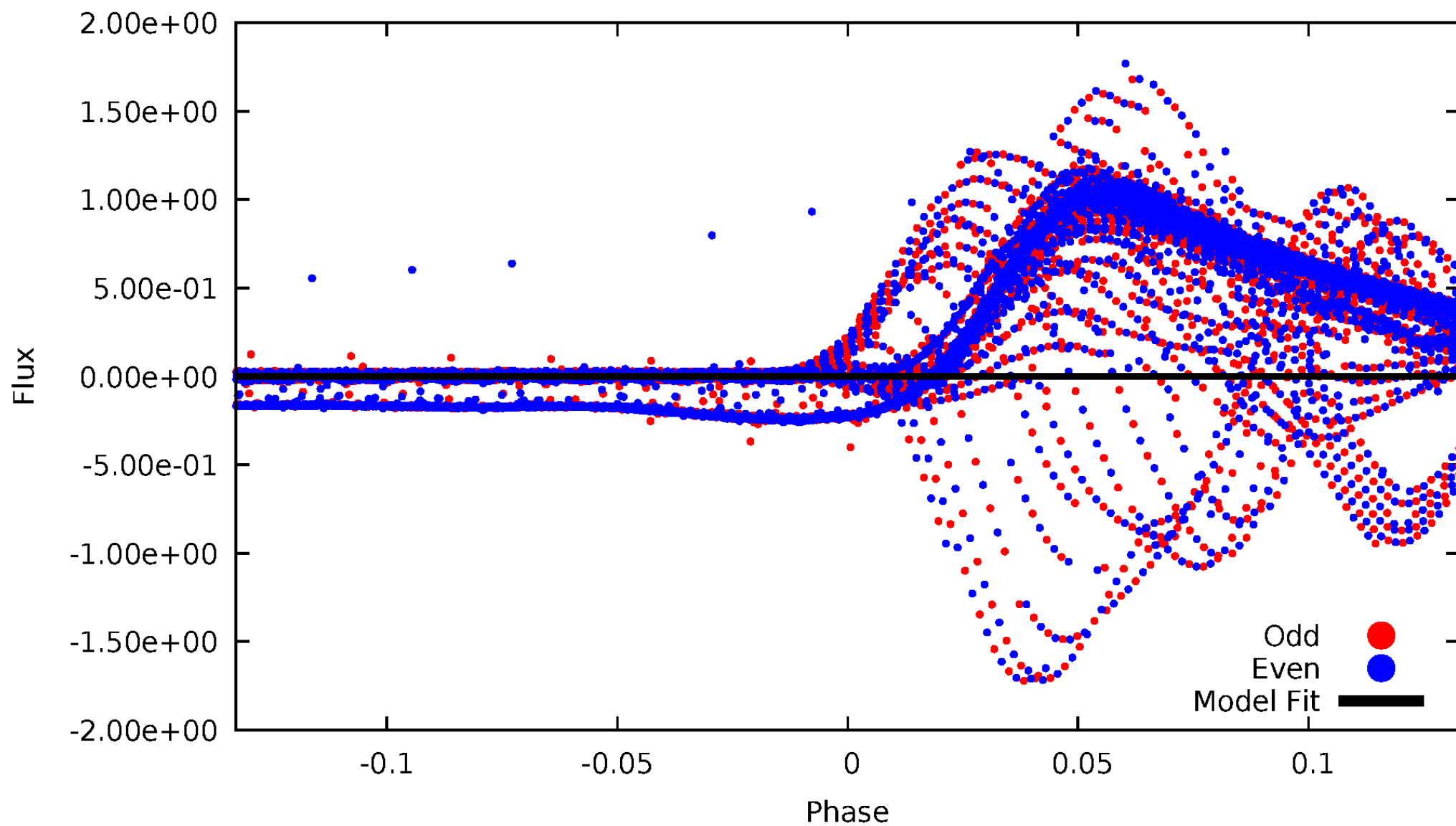


TCE 003866709-01



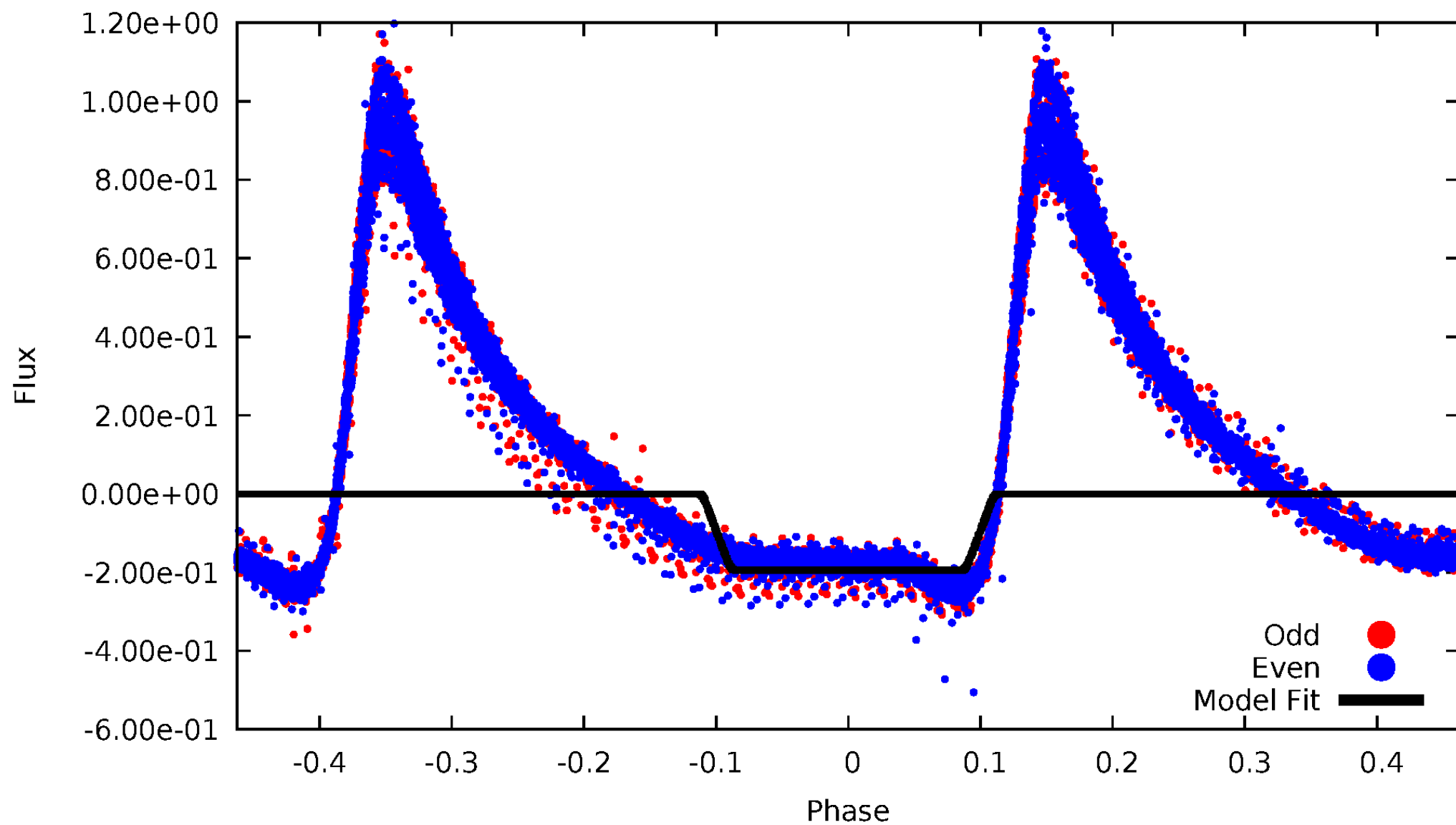
DV Odd/Even

TCE 003866709-01



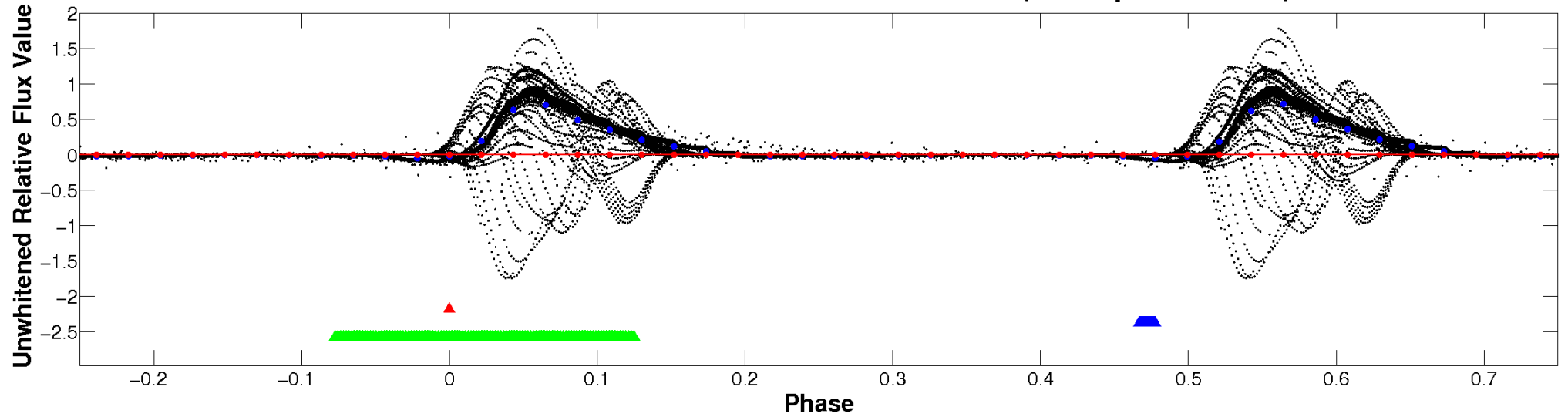
ALT Odd/Even

TCE 003866709-01

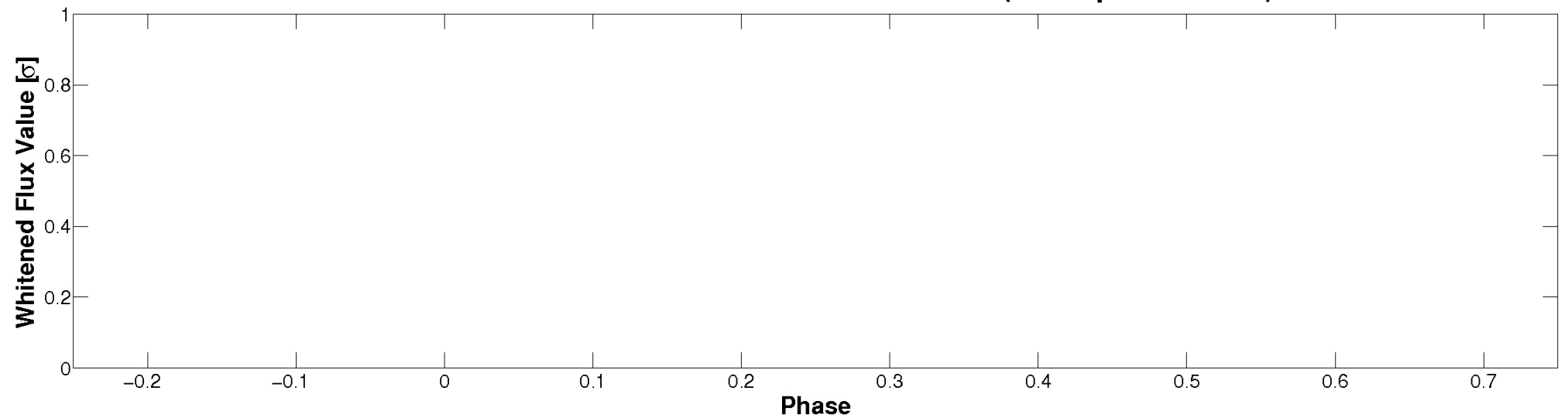


Non-Whitened Vs. Whitened Light Curve

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

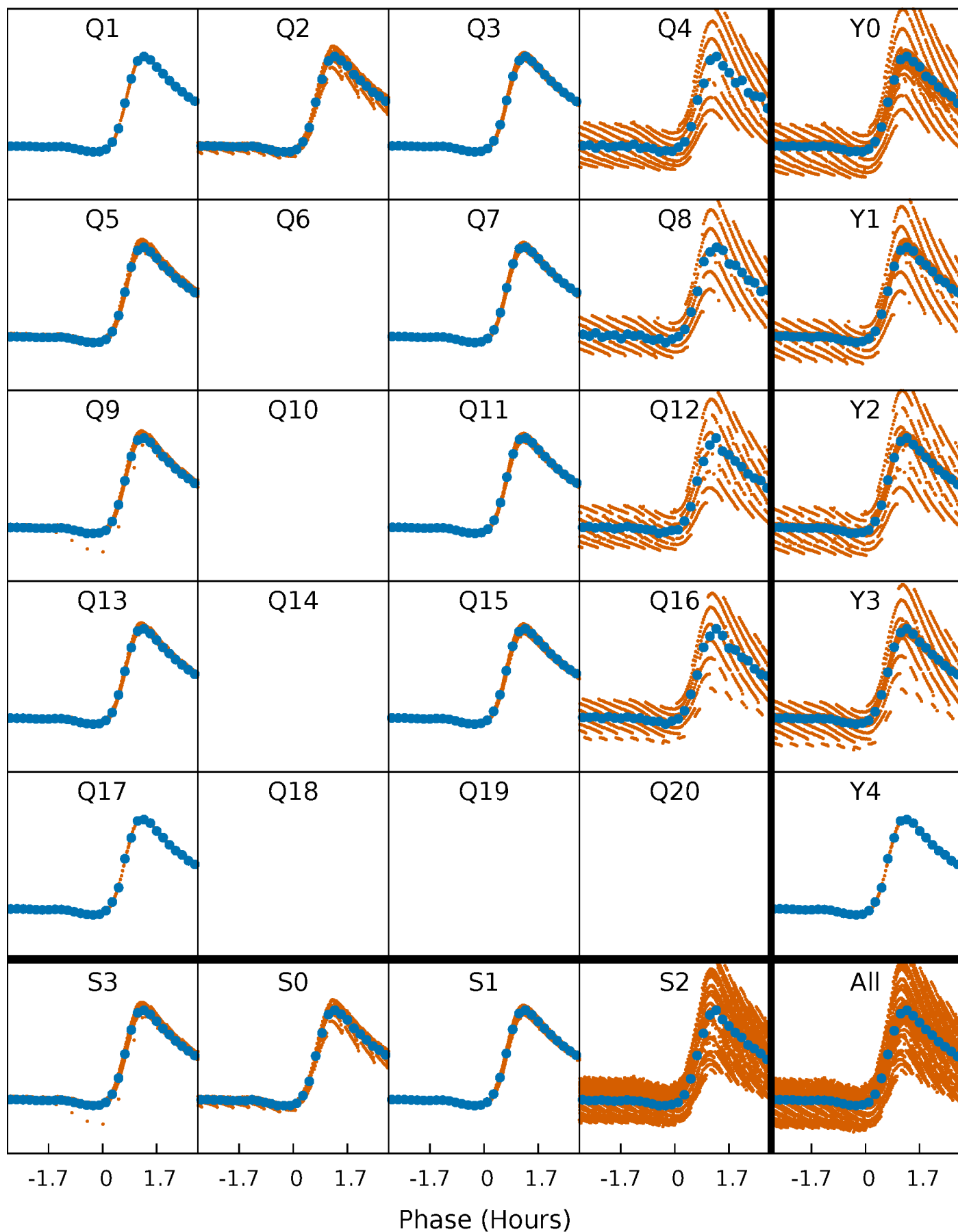


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



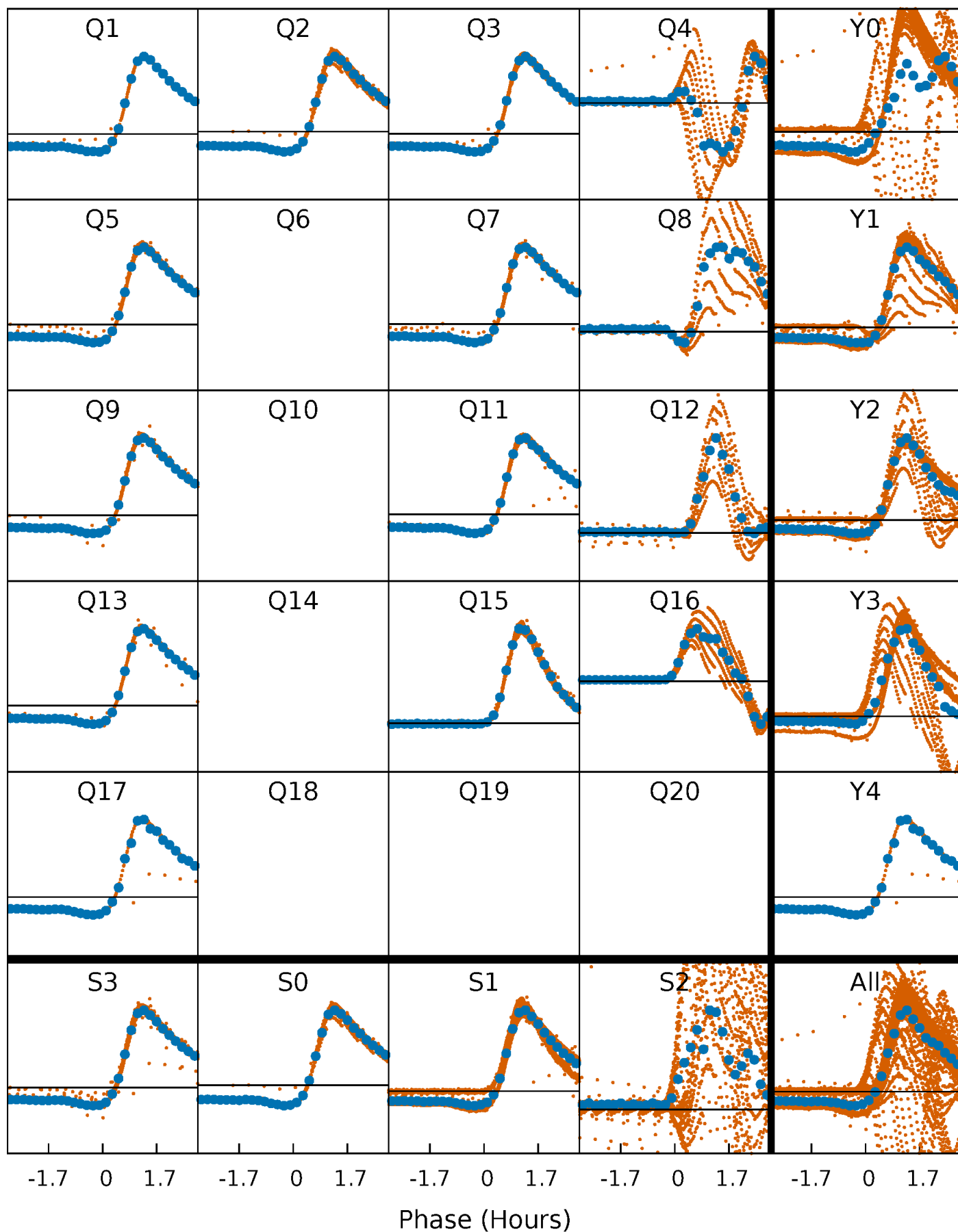
PDC Quarter-Phased Transit Curves

TCE 003866709-01 P= 0.941413 Days $T_0=132.023494$ (BKJD)



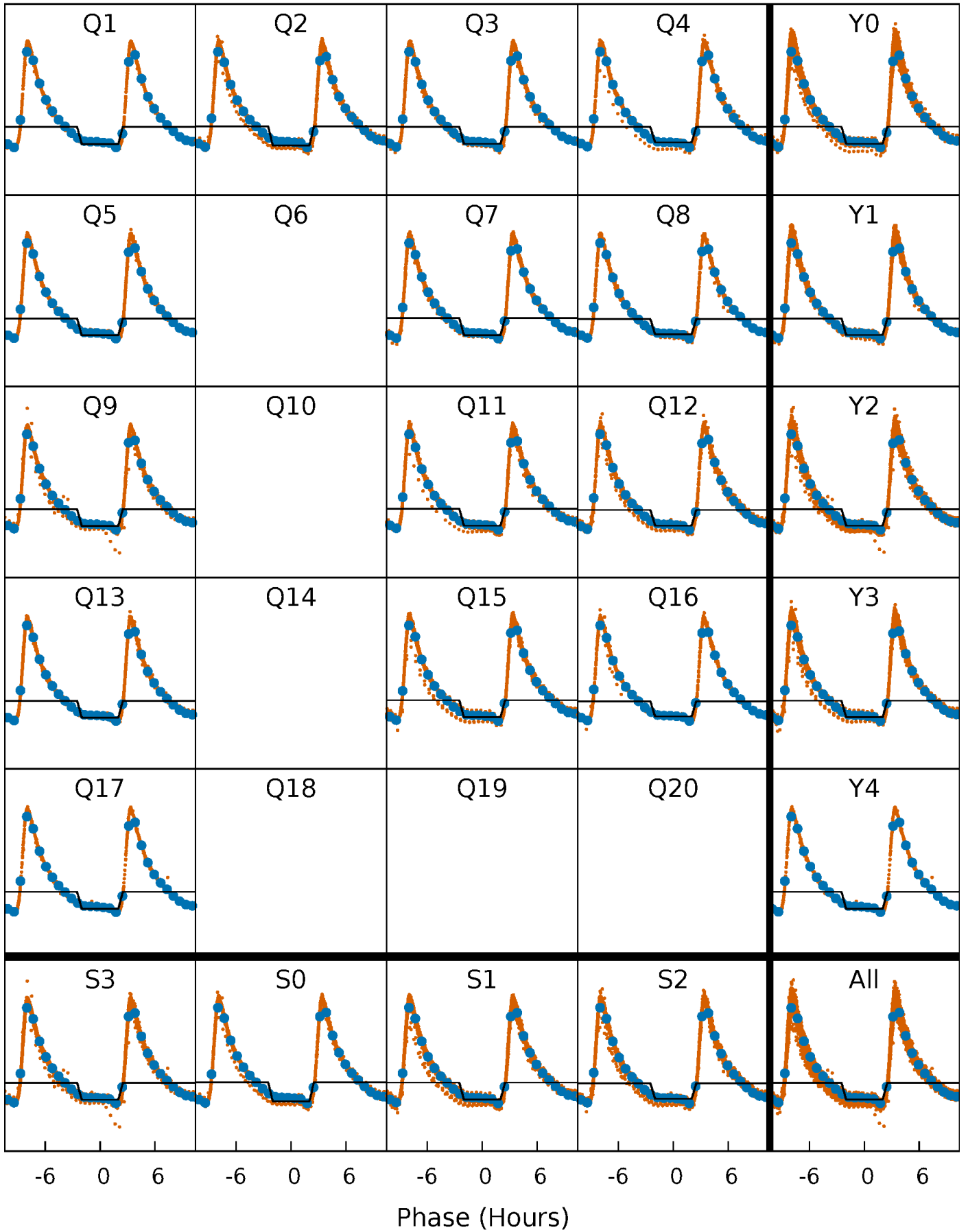
DV Quarter-Phased Transit Curves

TCE 003866709-01 P= 0.941413 Days $T_0=132.023494$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

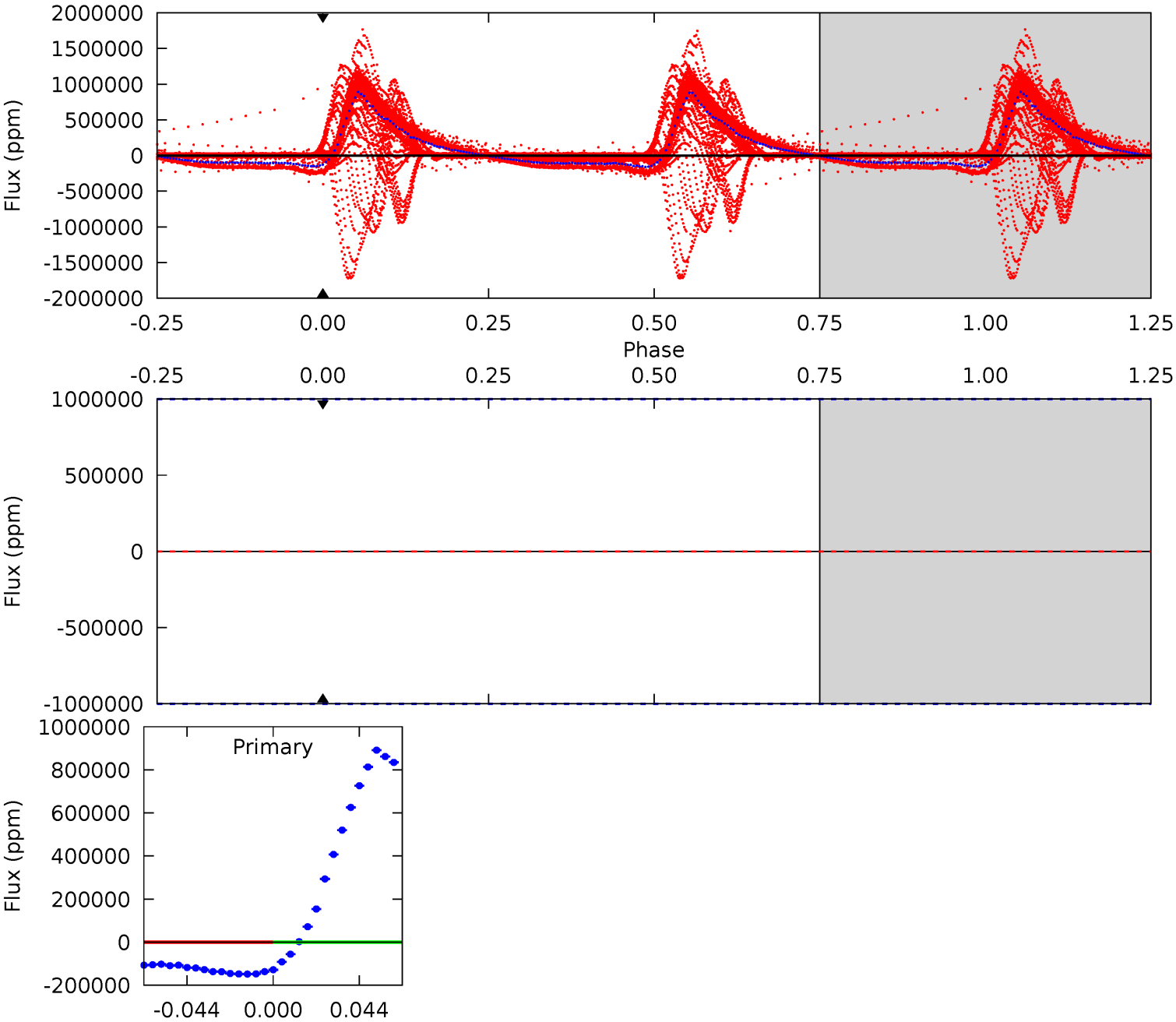
TCE 003866709-01 P= 0.941413 Days $T_0=131.934871$ (BKJD)



DV Model-Shift Uniqueness Test

003866709-01, P = 0.941413 Days, E = 131.082081 Days

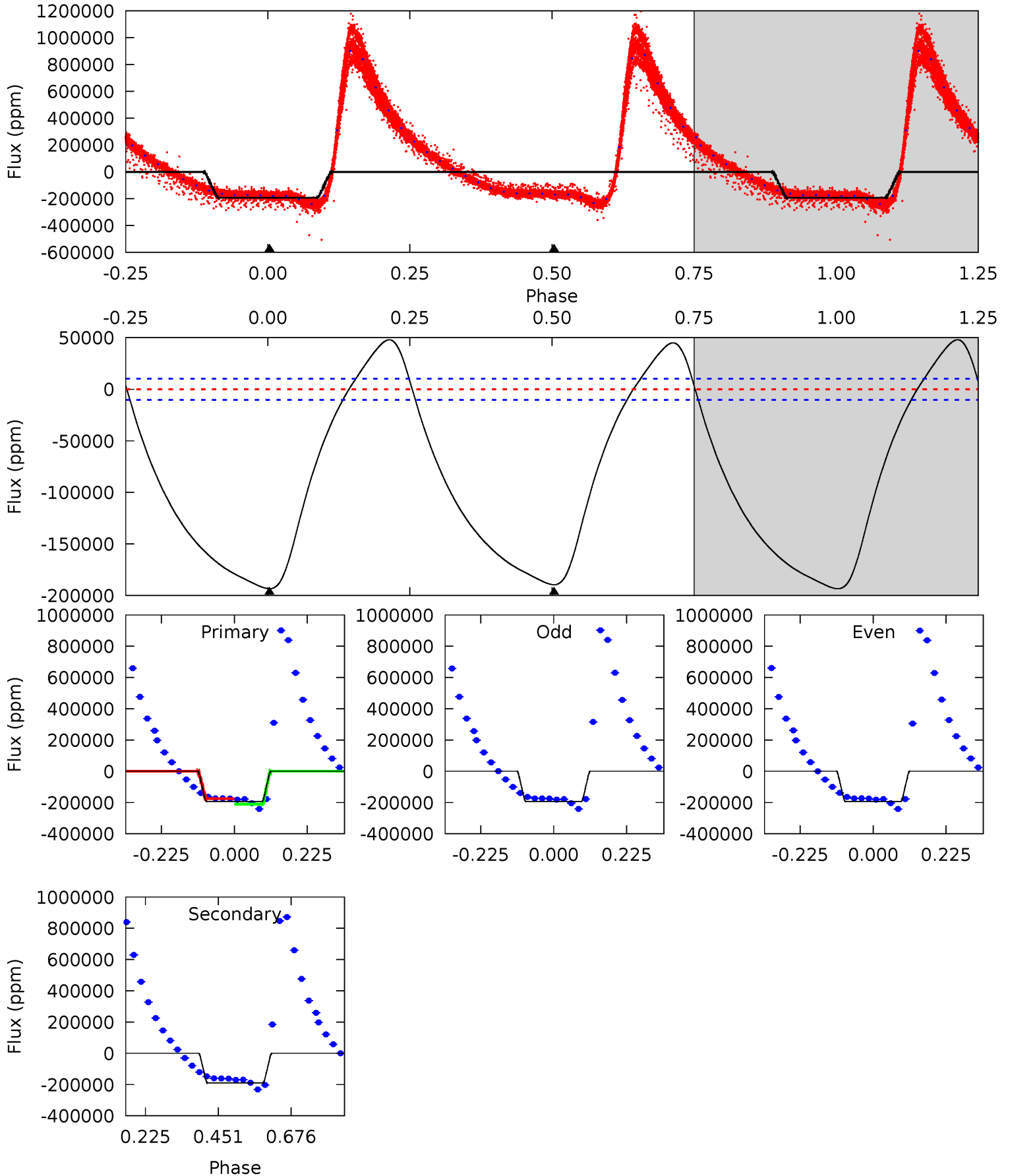
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

003866709-01, P = 0.941413 Days, E = 130.993458 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
82.8	81.1	0	0	4.39	1.21	11.2	82.8	82.8	81.1	81.1	0.03	1.01	0.20	9.58



Stellar Parameters For KIC 003866709

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8659^{+239}_{-376}	$3.791^{+0.405}_{-0.108}$	$-0.240^{+0.350}_{-0.350}$	$2.973^{+0.737}_{-1.370}$	$1.994^{+0.368}_{-0.450}$	$0.107^{+0.392}_{-0.043}$
	+3%/-4%	+11%/-3%	+146%/-146%	+25%/-46%	+18%/-23%	+367%/-40%
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 003866709-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$57.16^{+35.10}_{-29.12}$	5798^{+441}_{-662}	-5055^{+19453}_{-7980}	$-0.188^{+13.037}_{-9.778}$
Alt.	-189499 ± 2335	$130.01^{+42.20}_{-38.94}$	5733^{+469}_{-592}	8944^{+1991}_{-1265}	$4.304^{+4.494}_{-1.796}$

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

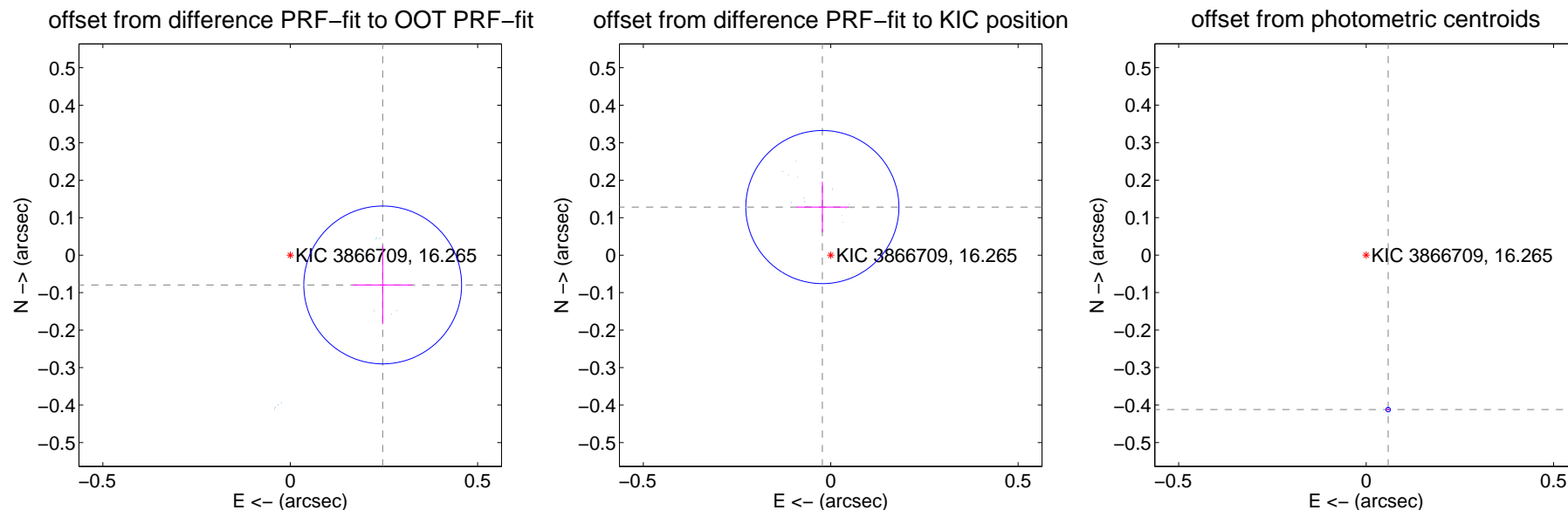
DV Centroid Data

Supplemental centroid analysis for 003866709-01. Kepler magnitude: 16.27. Transit SNR -1.00

There are 14 quarters with good PRF difference image offsets

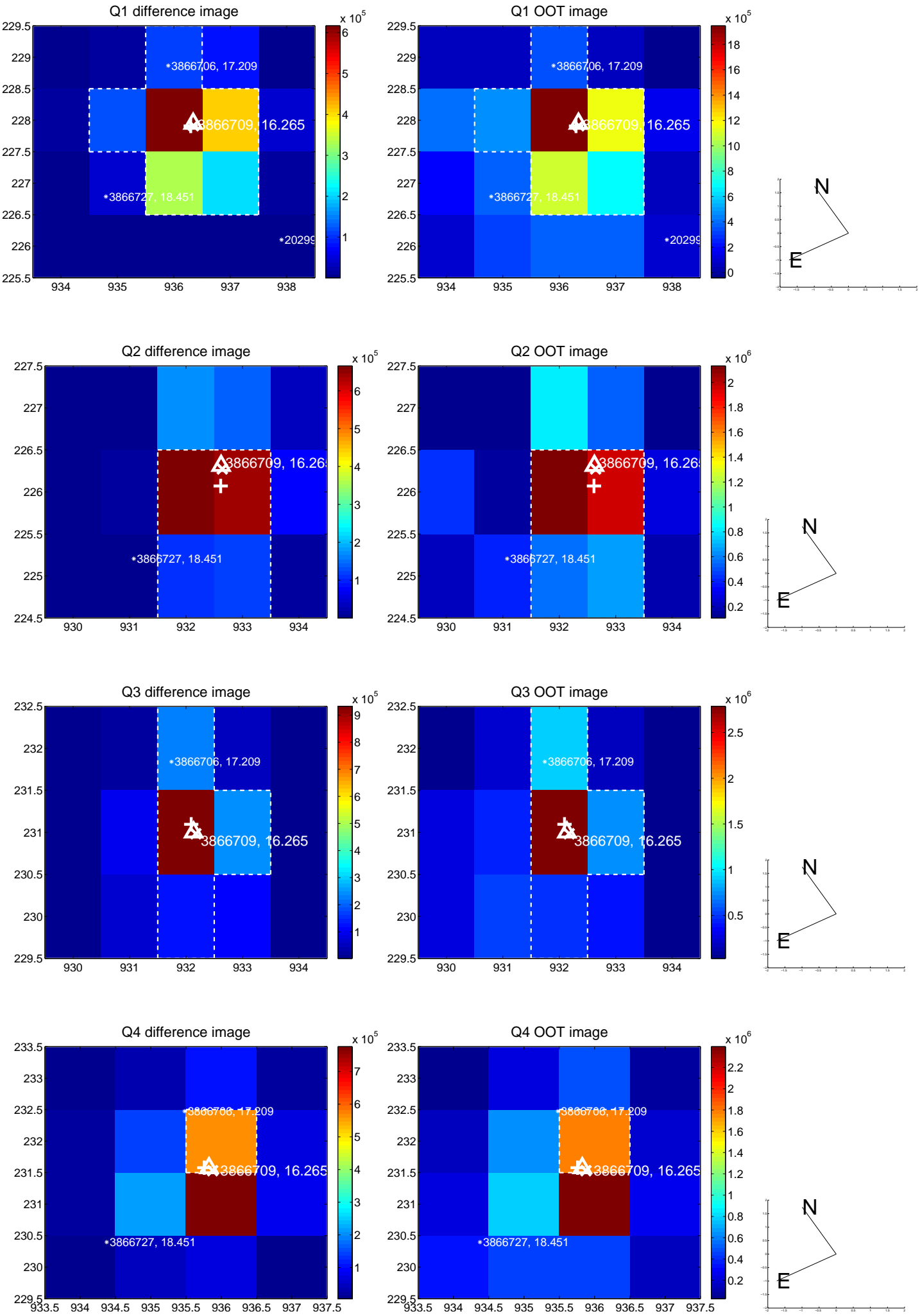
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.259 ± 0.070	3.69	-0.247 ± 0.079	-0.079 ± 0.104
PRF-fit source offset from KIC position	0.130 ± 0.068	1.91	0.022 ± 0.069	0.128 ± 0.068
photometric centroid source offset	0.42 ± 0.00	207.06	-0.06 ± 0.00	-0.41 ± 0.00

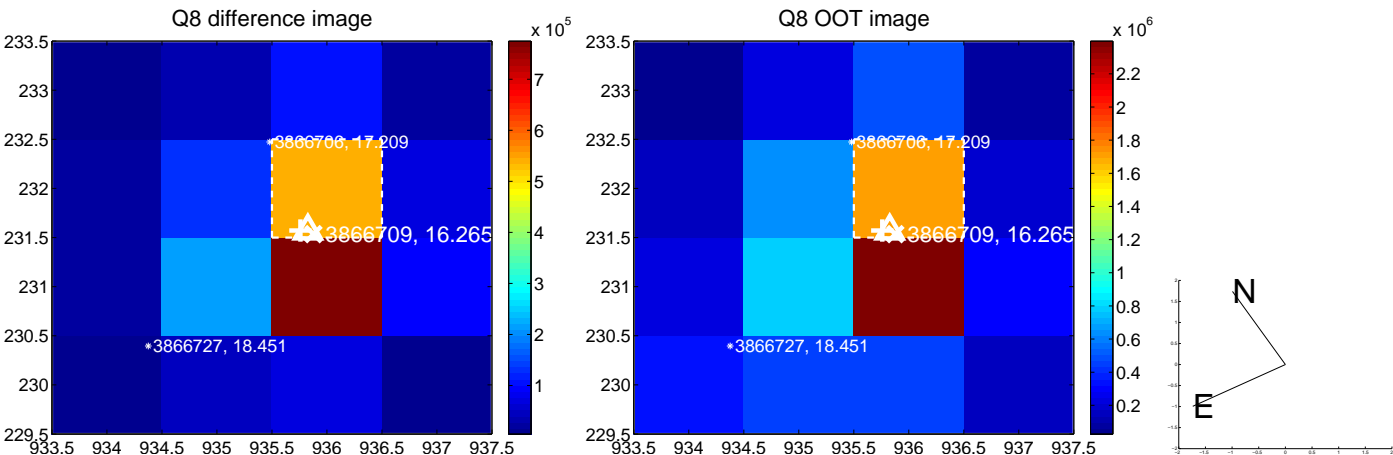
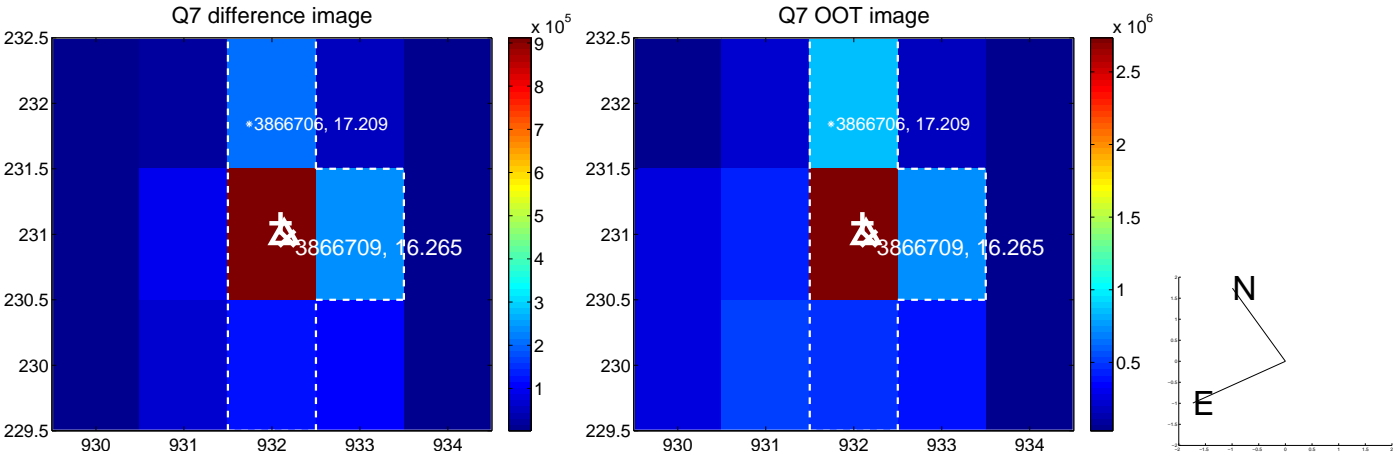
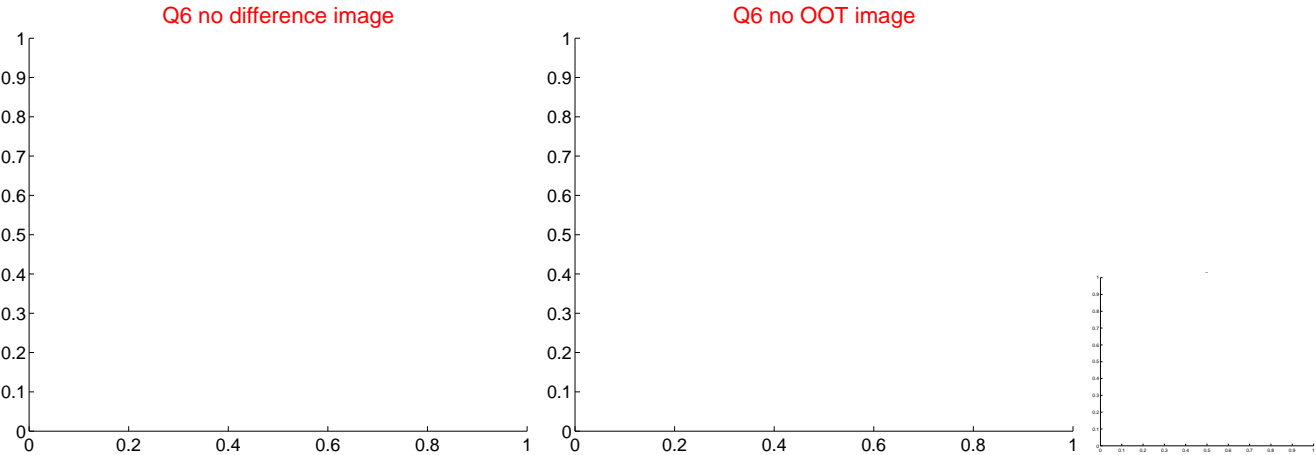
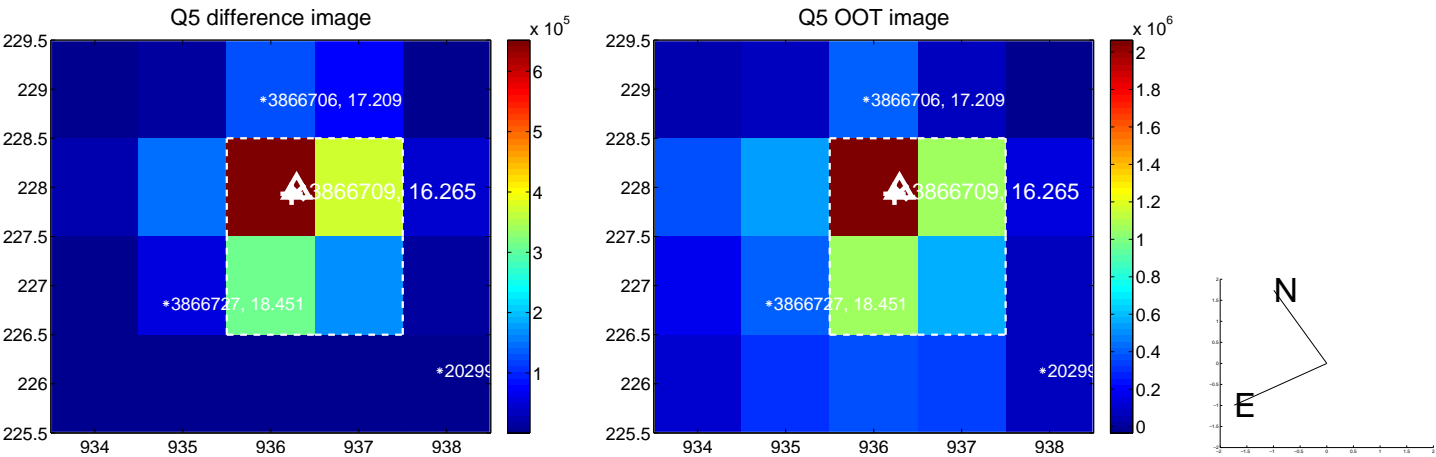


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

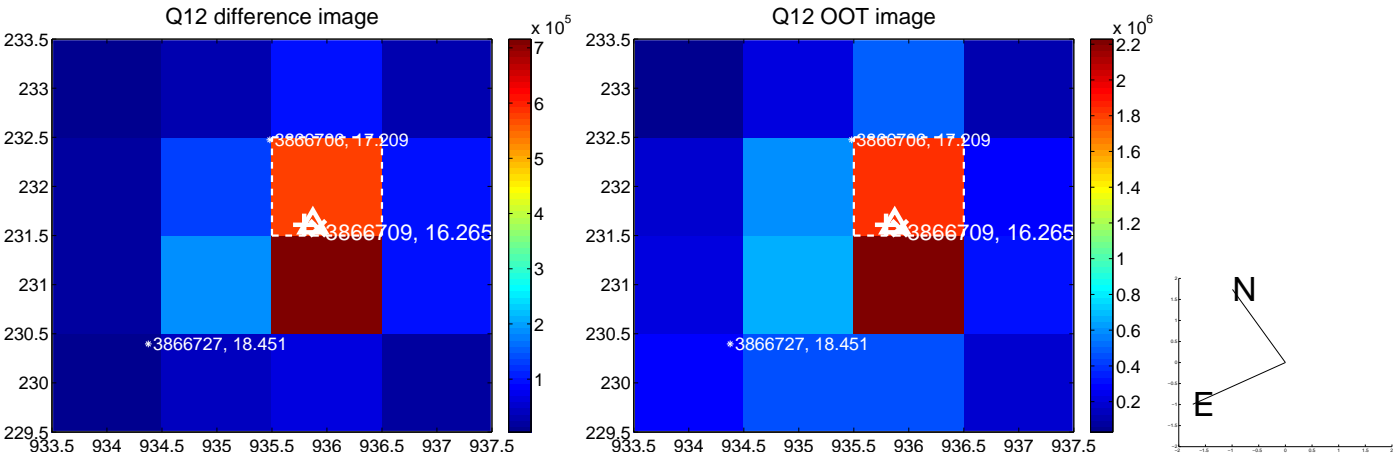
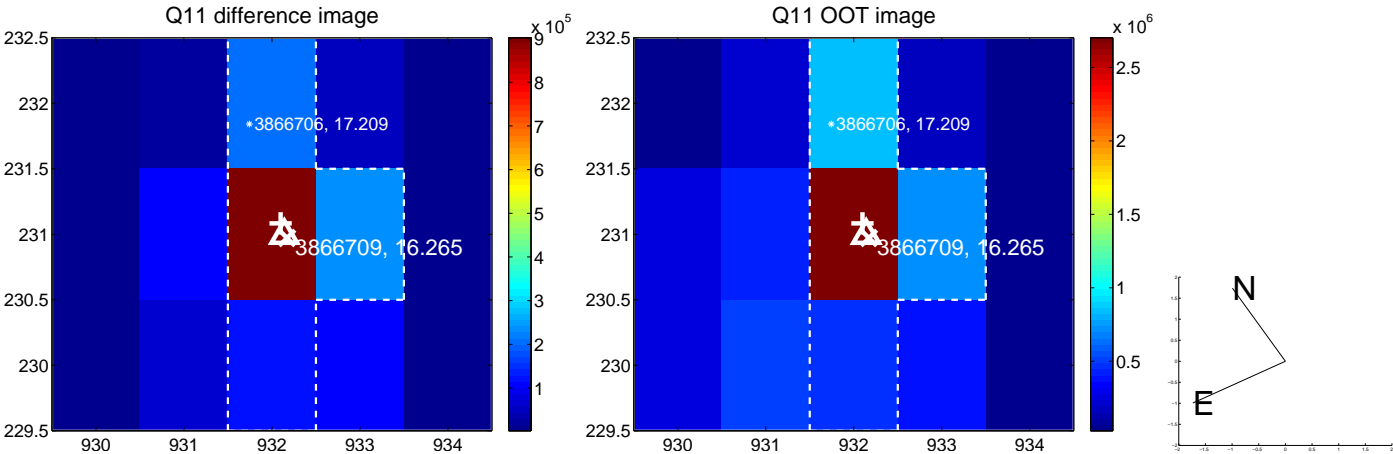
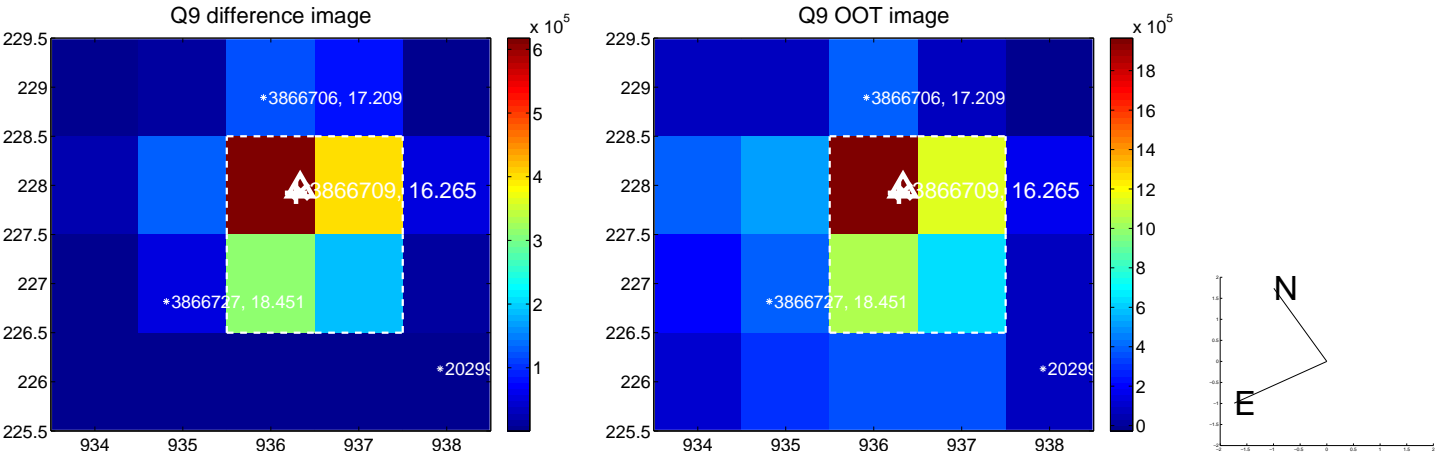
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



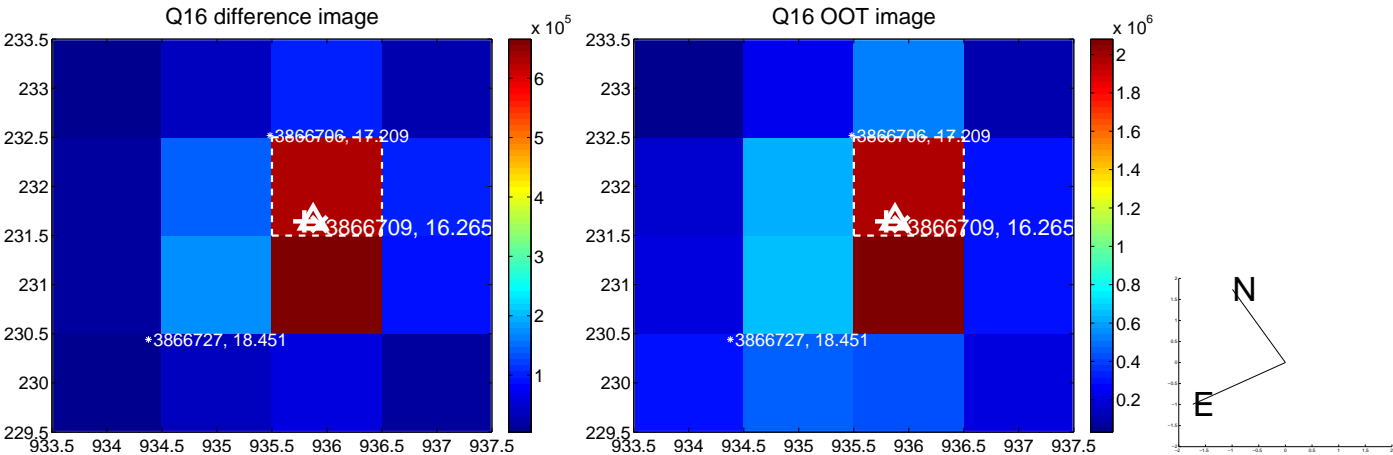
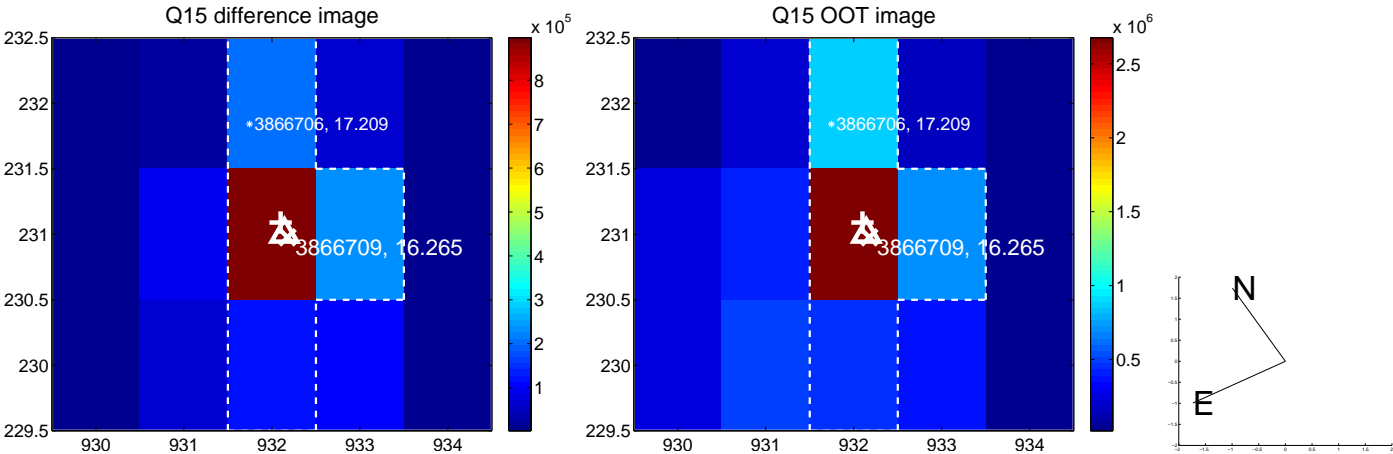
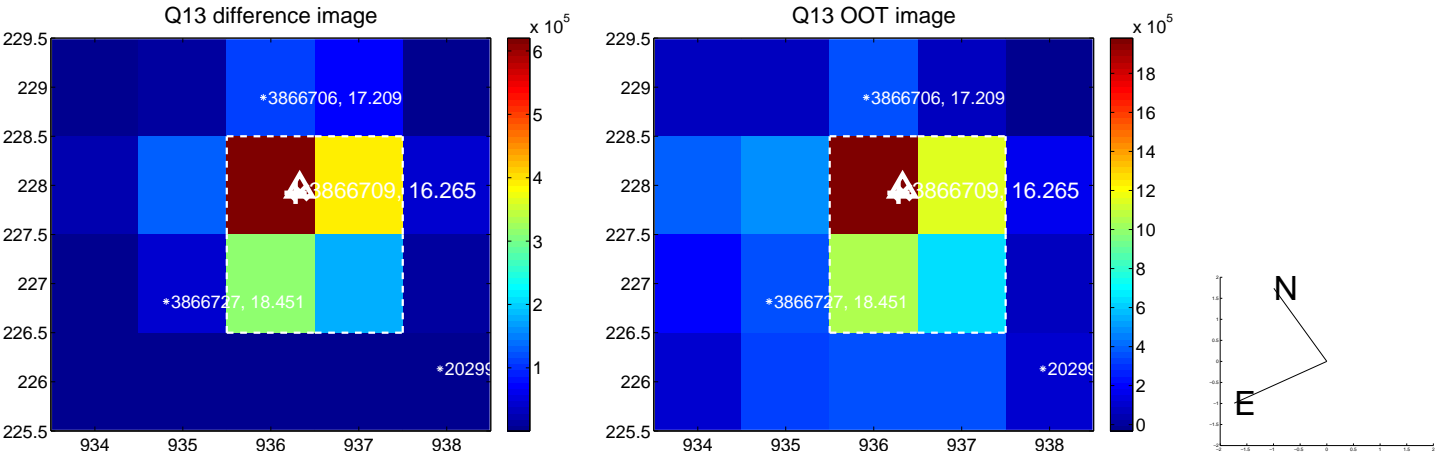
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



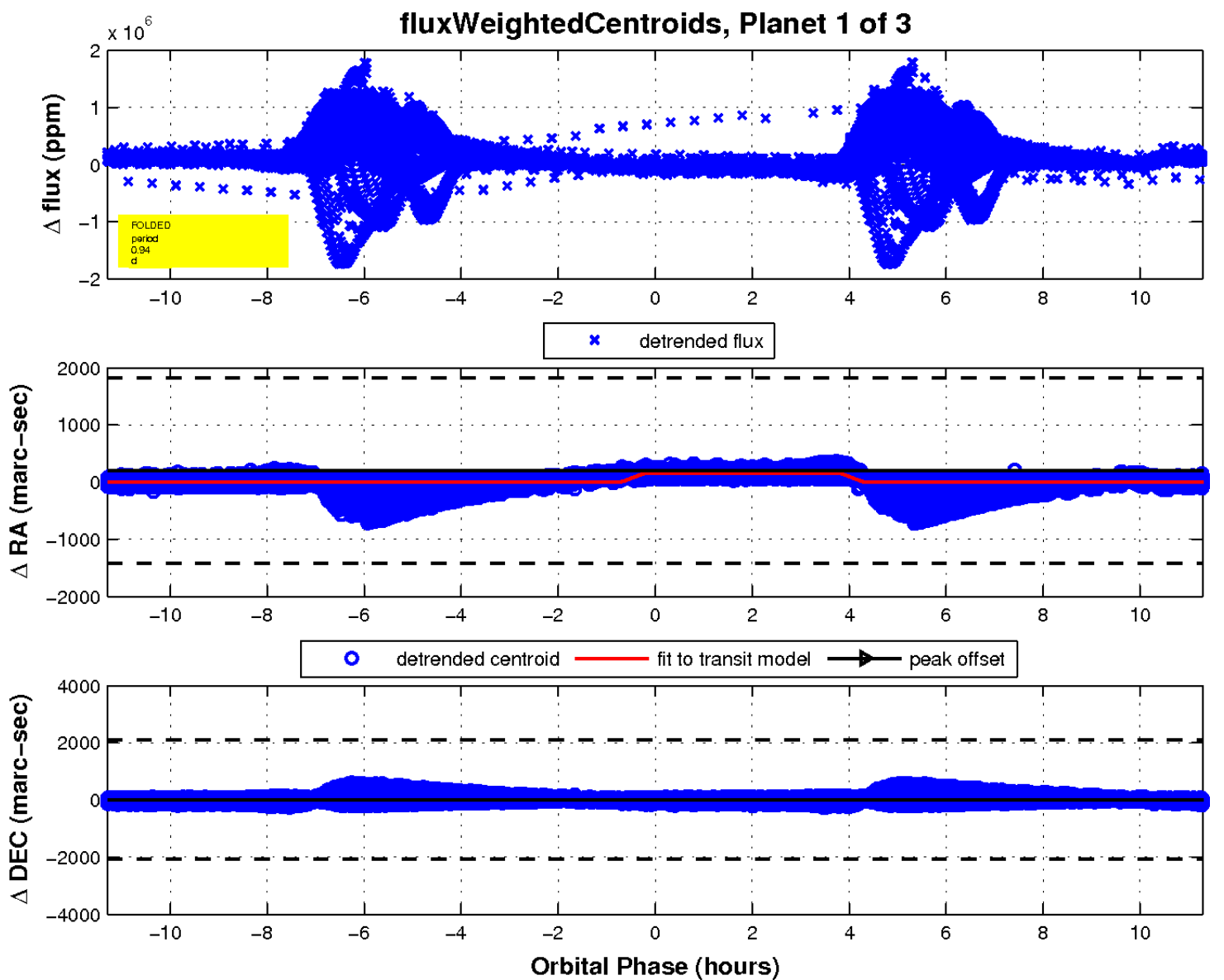
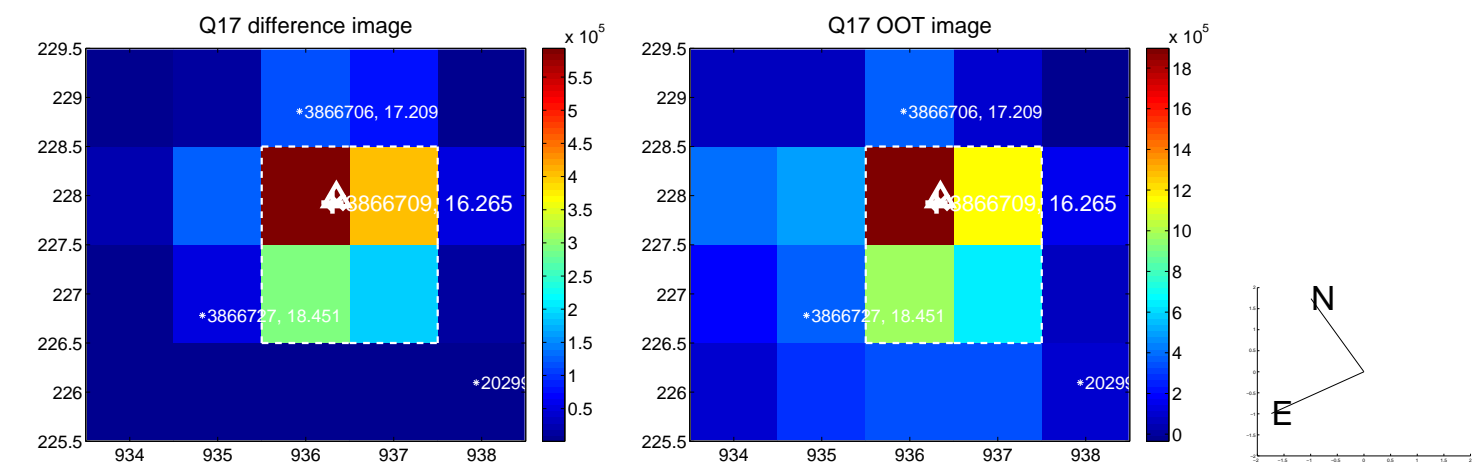
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



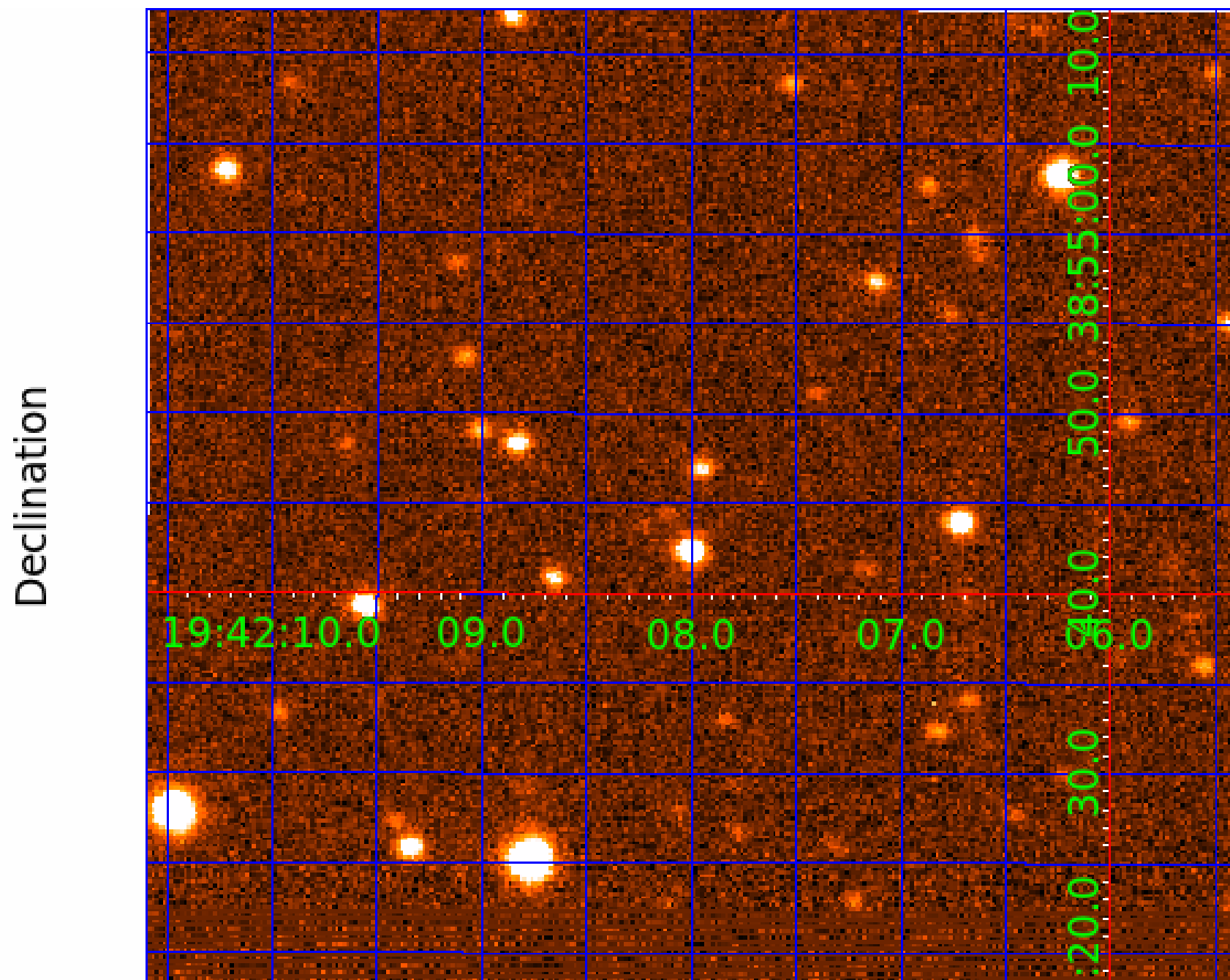
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 003866709

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})
003866709-01	OBS	No	0.941413	132.023494	42049.8	1.500	177.7	-1.0	2.97	8659	62.32	79528.31
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003866709-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—CENT_NOFITS
003866709-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS
003866709-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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 for comment definitions.

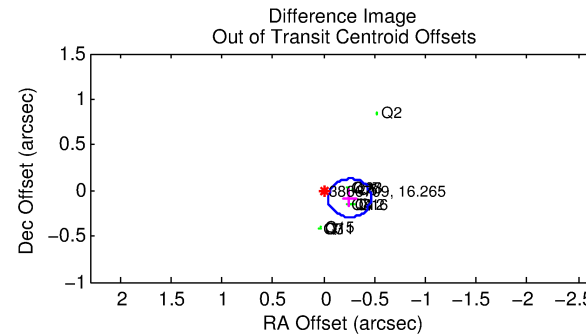
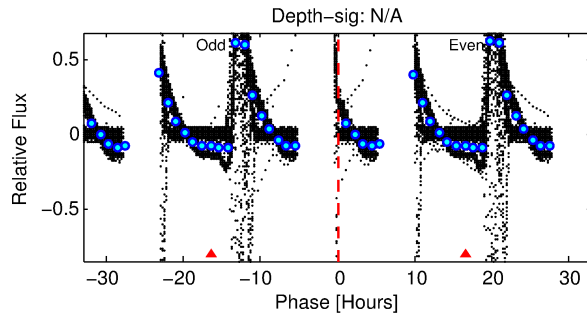
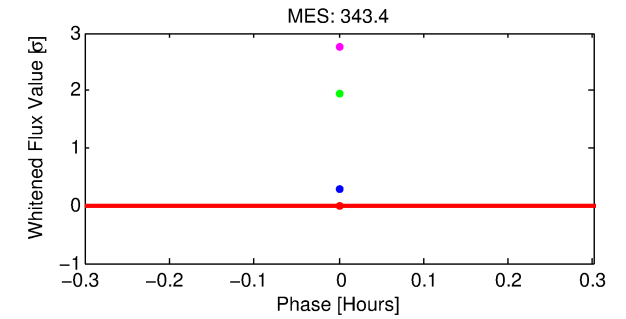
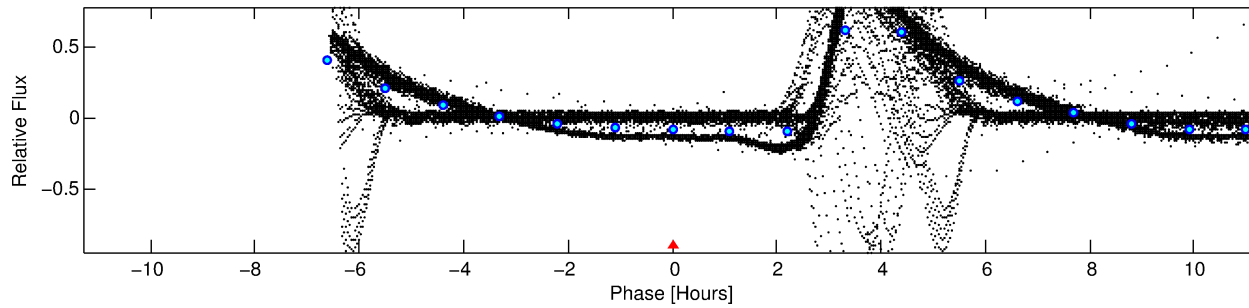
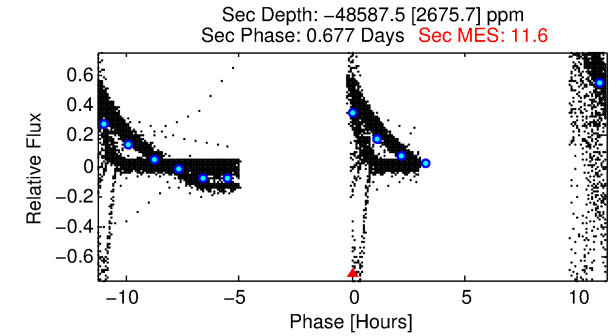
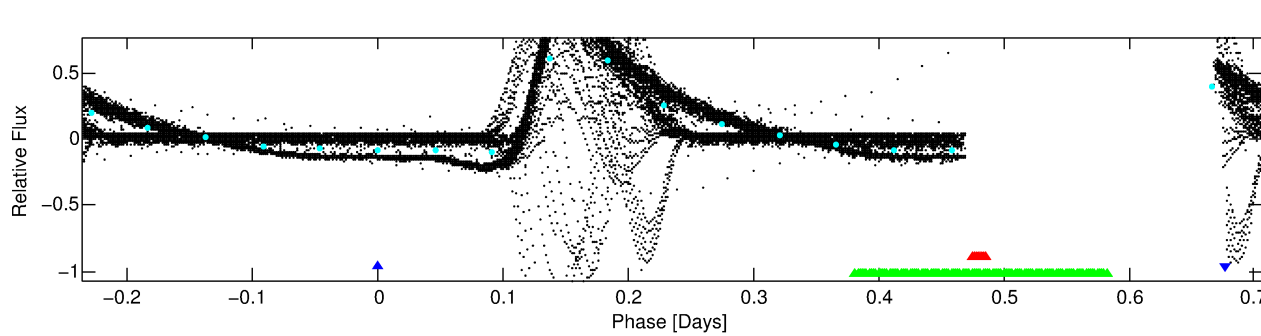
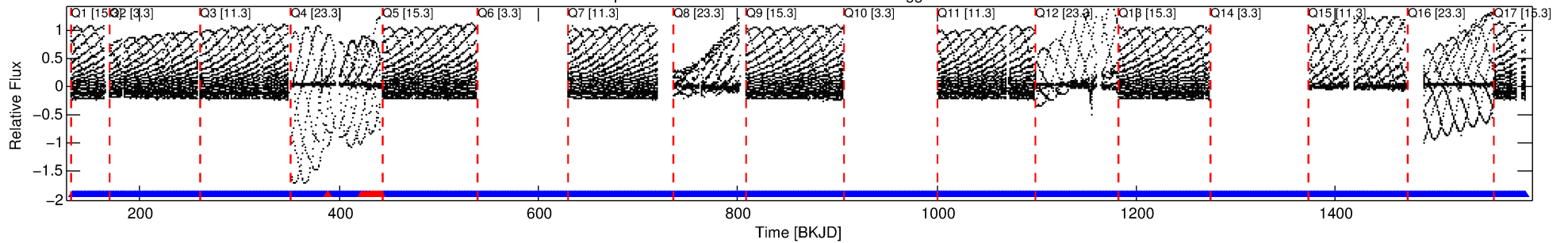
Ephemeris Match Information For 003866709-02

No Significant Match Found

DV One-Page Summary

KIC: 3866709 Candidate: 2 of 3 Period: 0.941 d

Kp: 16.26 R*: 2.97 Rs Teff: 8659.0 K Logg: 3.79 Fe/H: -0.240



TPS TCE Results:

Period = 0.94141 d
Epoch = 131.5318 BKJD

DV fit results are unavailable

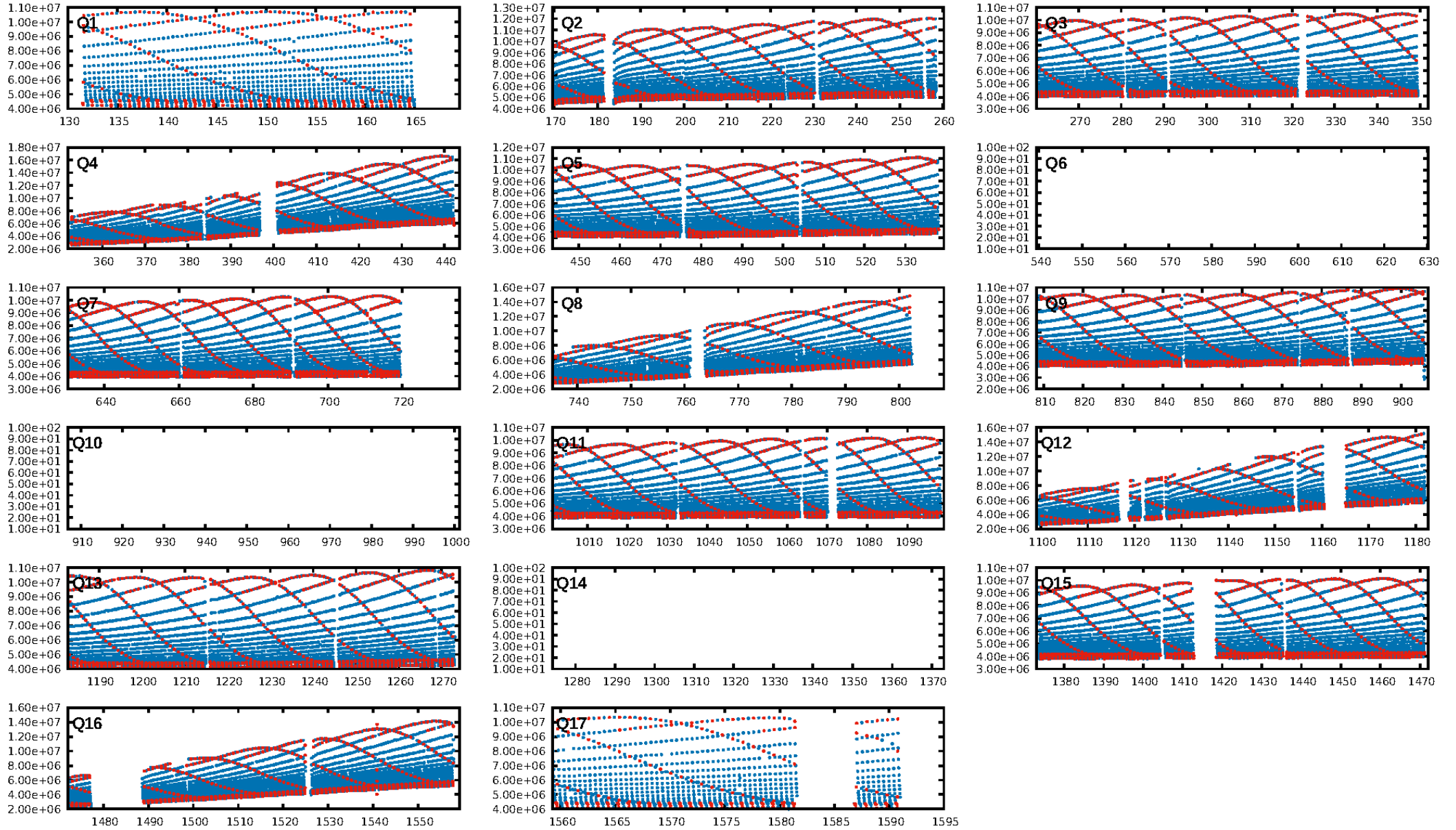
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.99 [1068/1082]
GhostDiagnostic-chr: 0.8299
Centroid-sig: 0.0%
Centroid-so: 0.442 arcsec [193.70σ]
OotOffset-rm: 0.266 arcsec [3.79σ]
KicOffset-rm: 0.160 arcsec [2.32σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 0.00 [0/14]

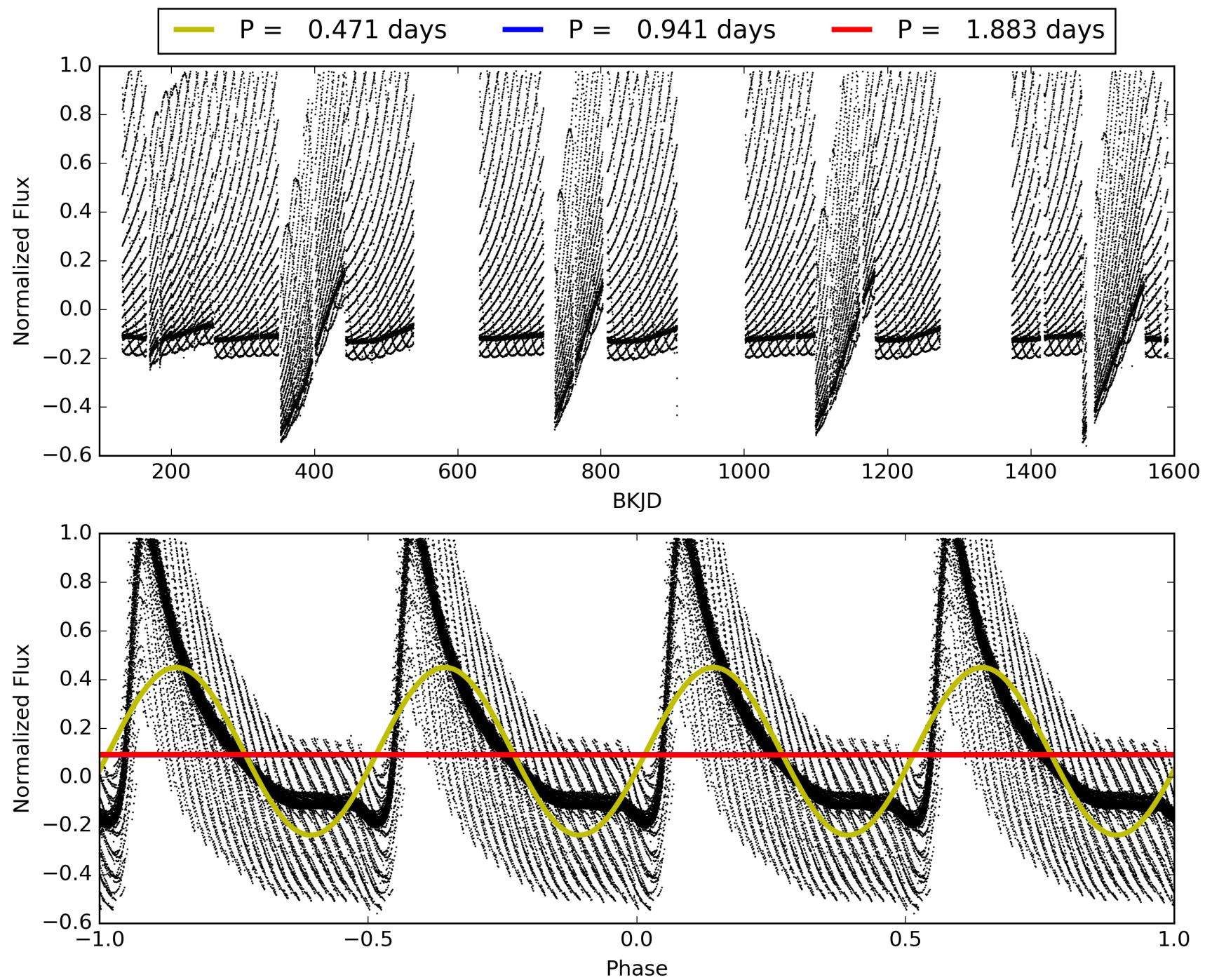
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 003866709-02, PDC Light Curves

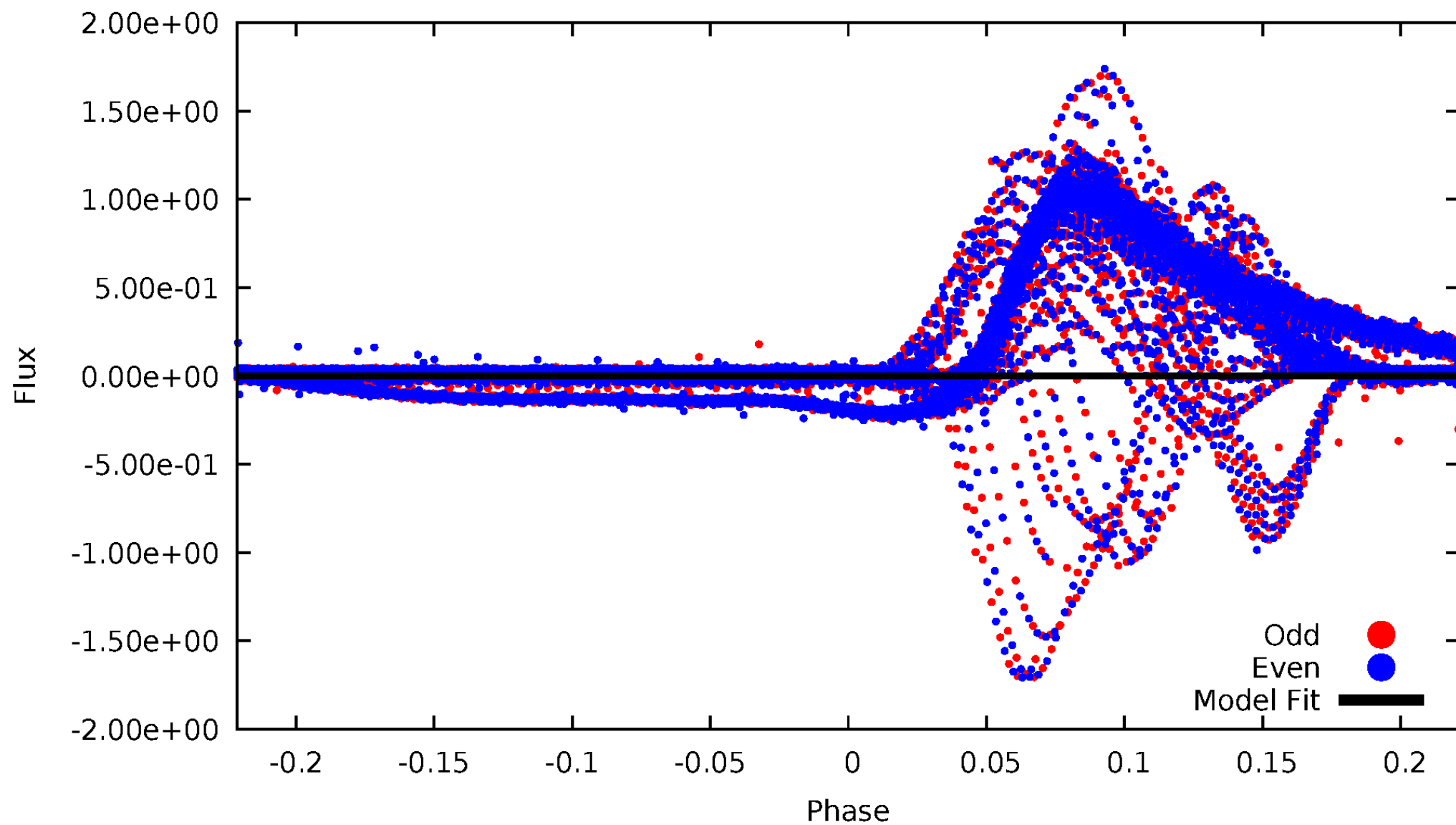


TCE 003866709-02



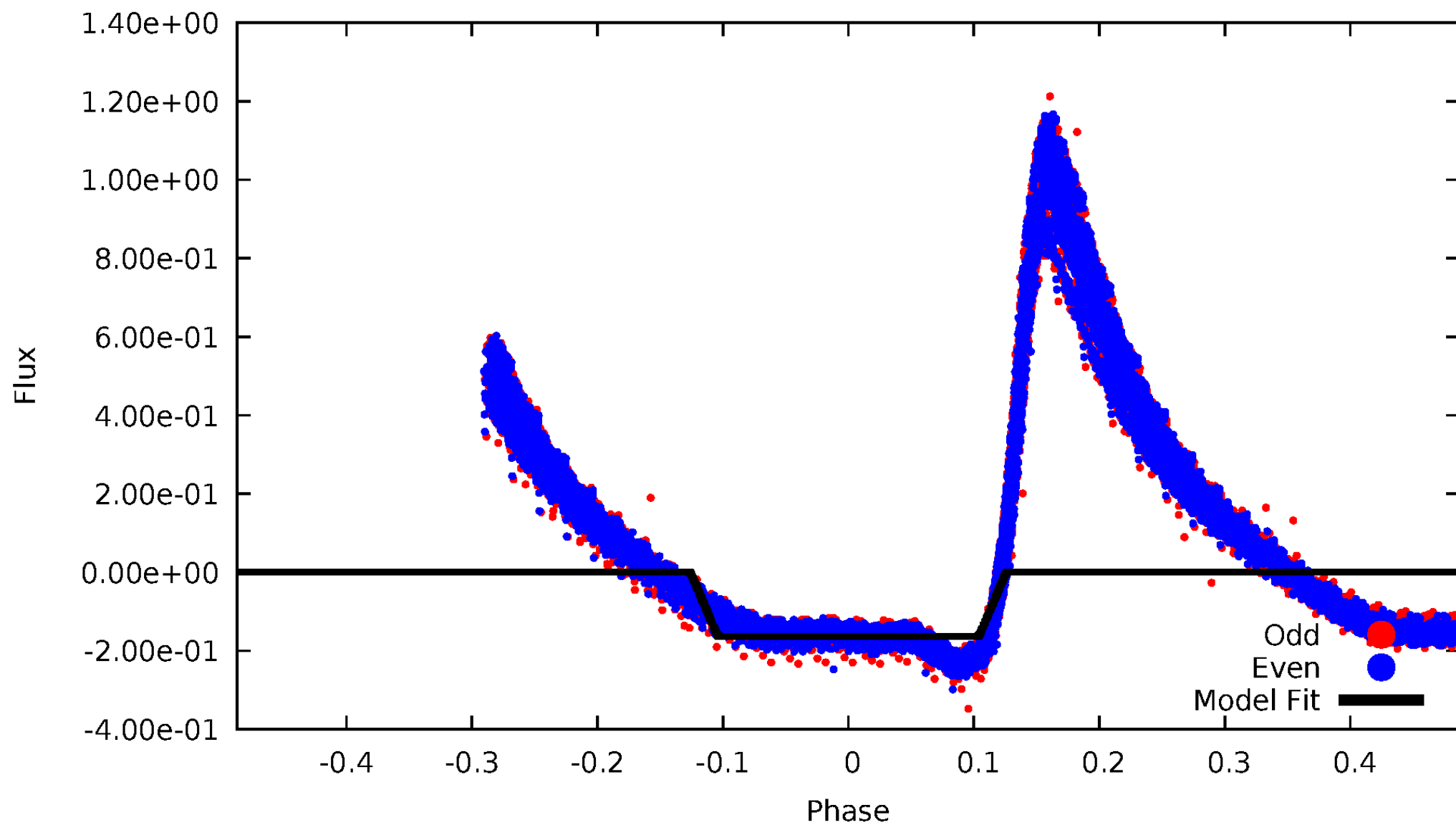
DV Odd/Even

TCE 003866709-02



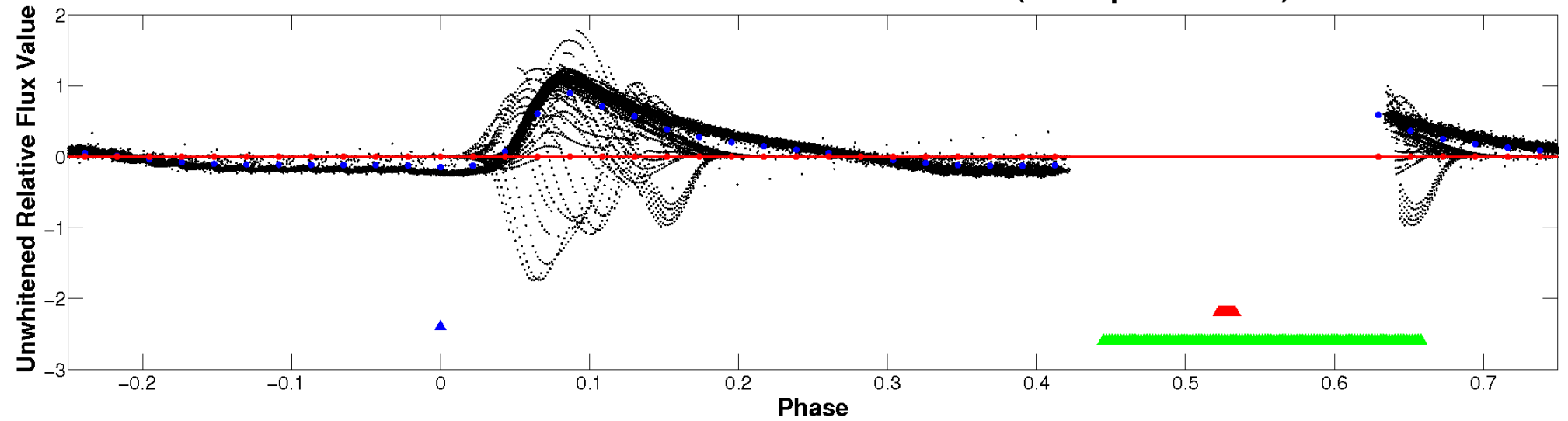
ALT Odd/Even

TCE 003866709-02



Non-Whitened Vs. Whitened Light Curve

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

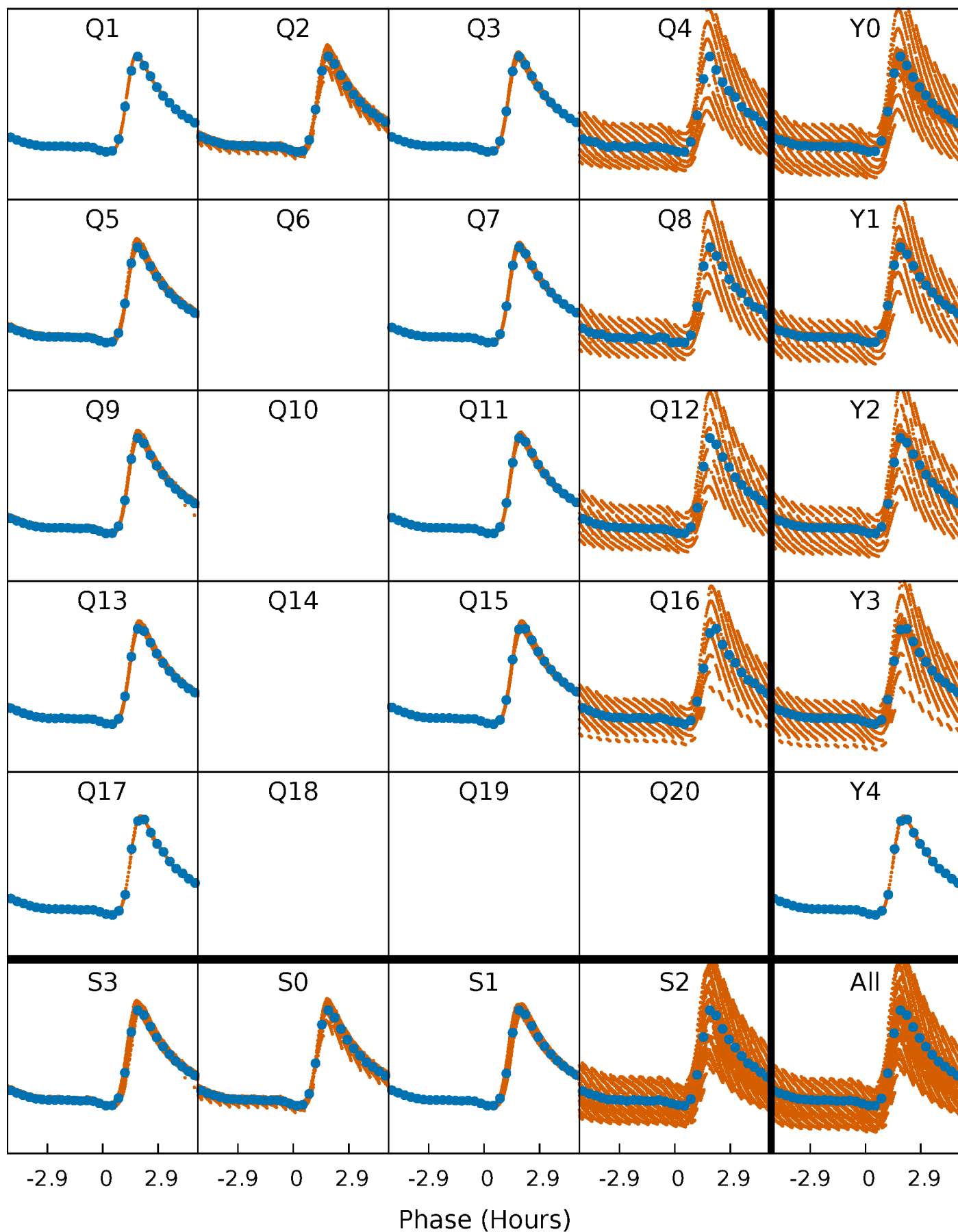


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



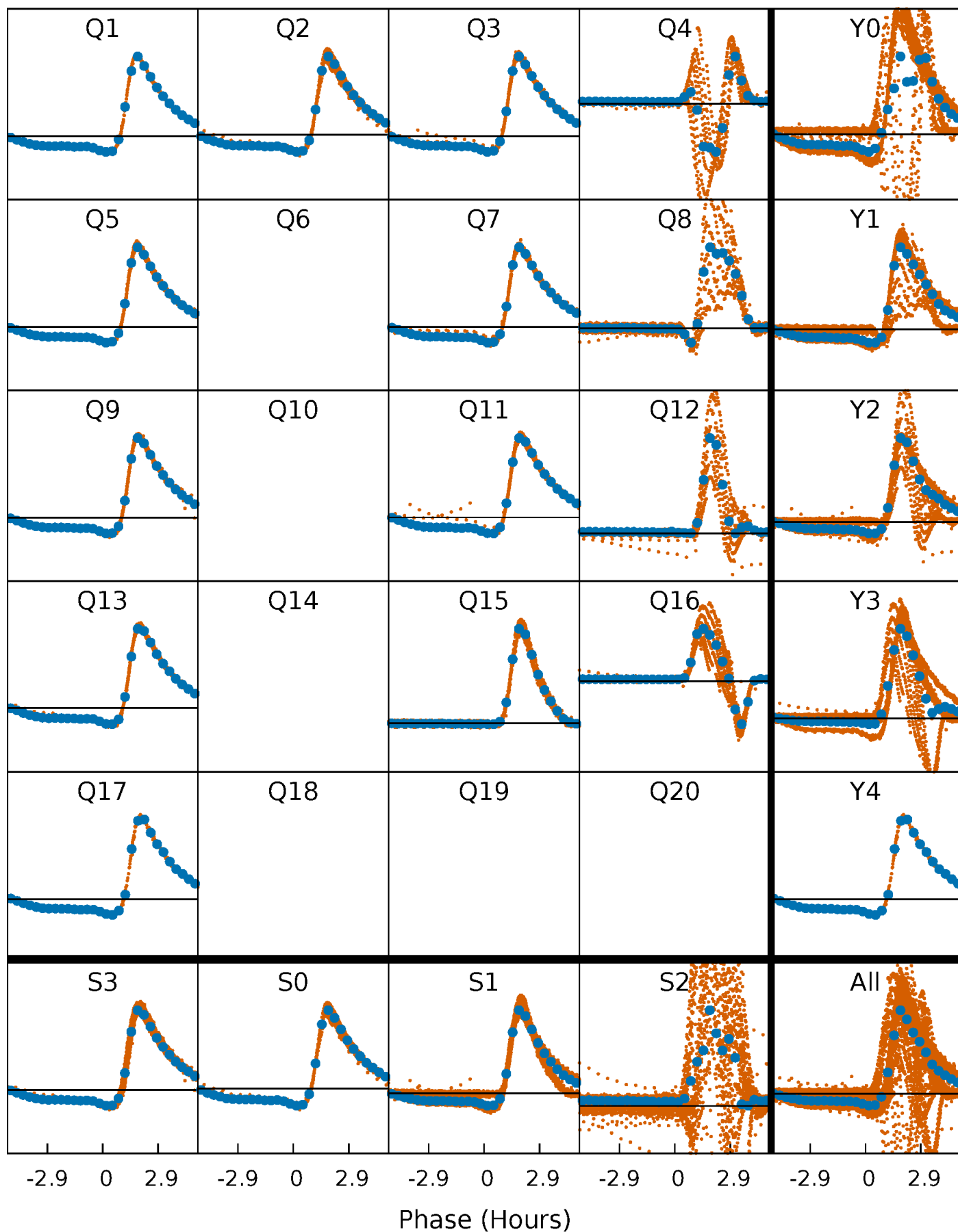
PDC Quarter-Phased Transit Curves

TCE 003866709-02 P= 0.941406 Days $T_0=131.531827$ (BKJD)



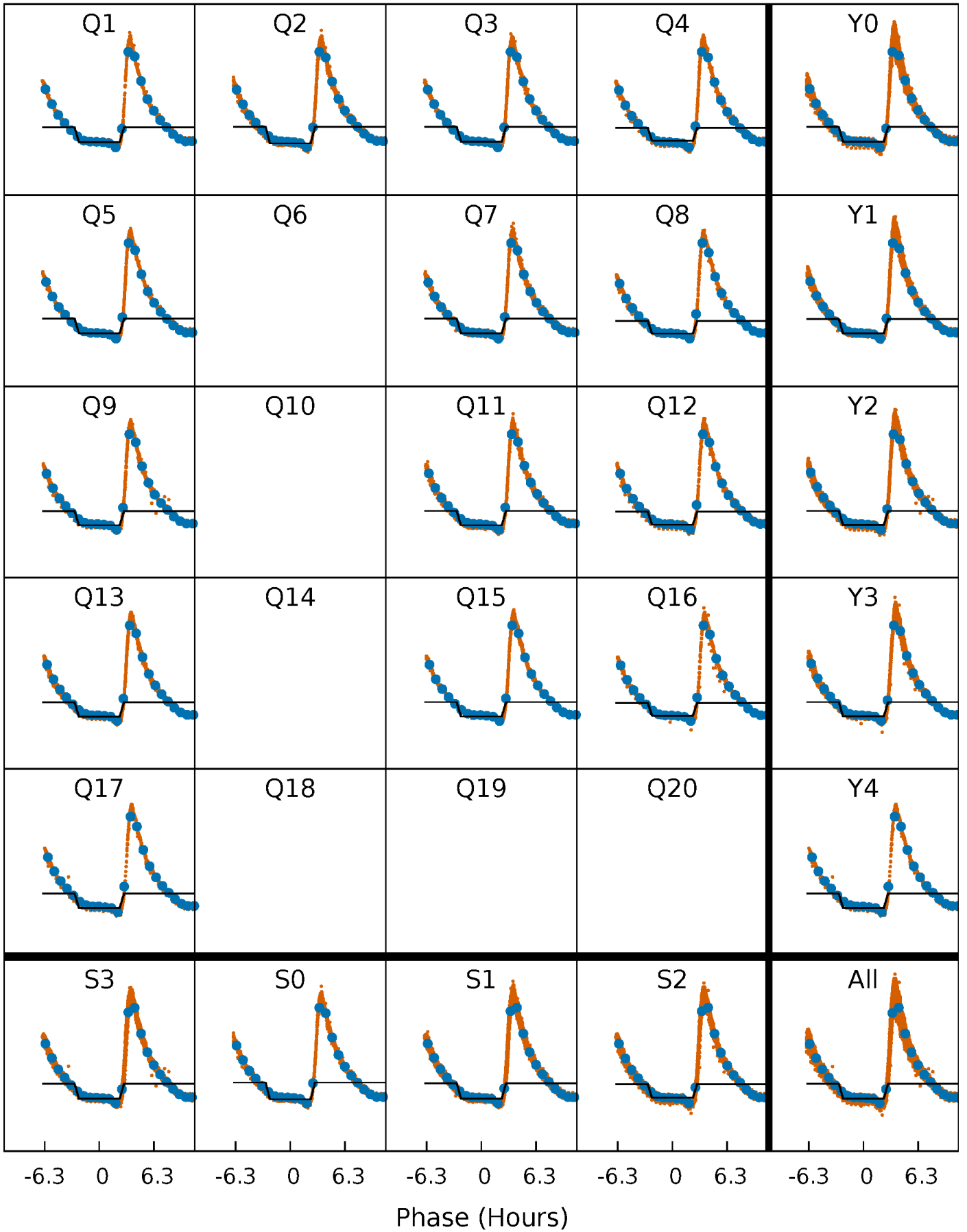
DV Quarter-Phased Transit Curves

TCE 003866709-02 P= 0.941406 Days $T_0=131.531827$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

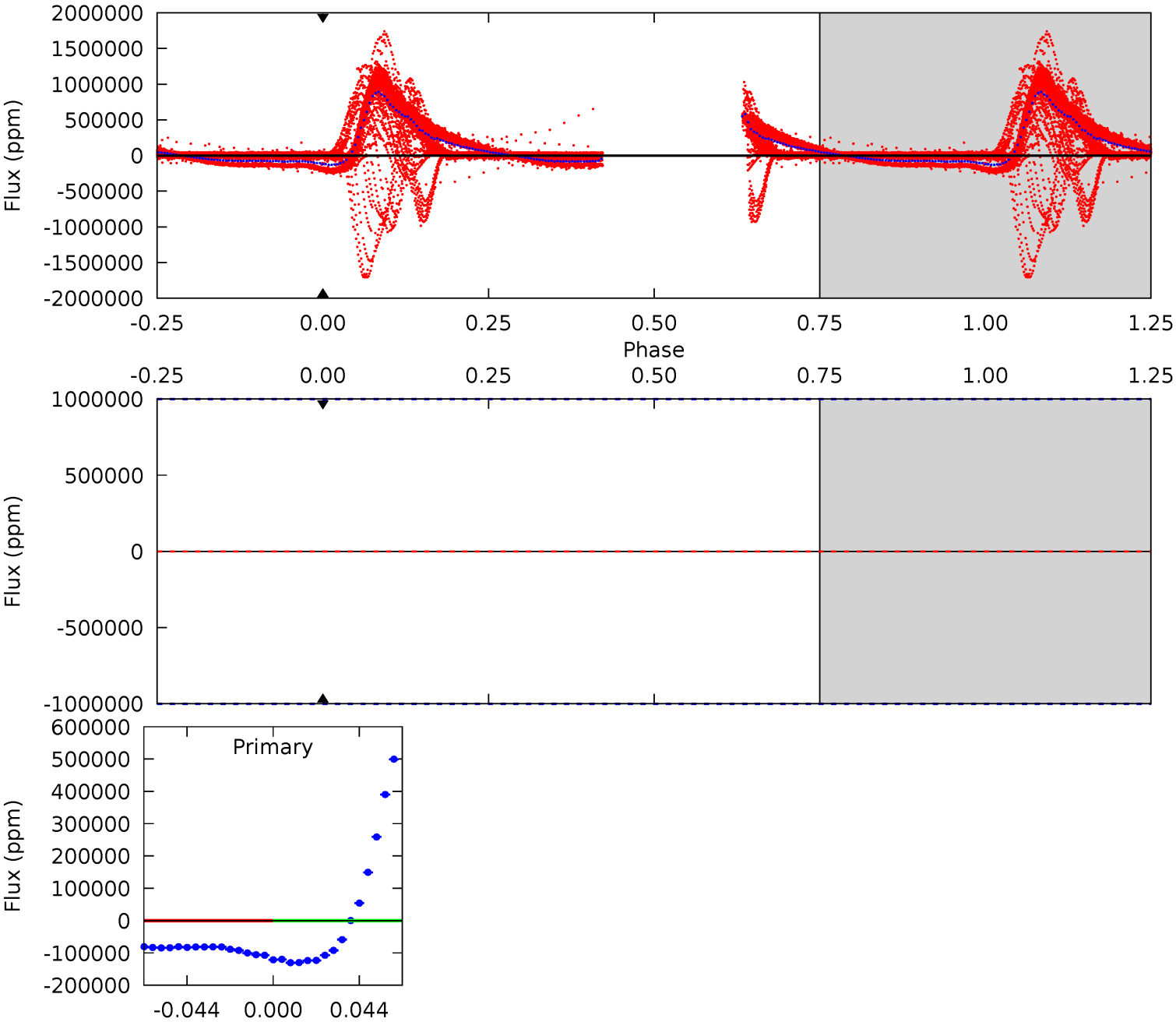
TCE 003866709-02 P= 0.941406 Days $T_0=132.401401$ (BKJD)



DV Model-Shift Uniqueness Test

003866709-02, P = 0.941406 Days, E = 130.590421 Days

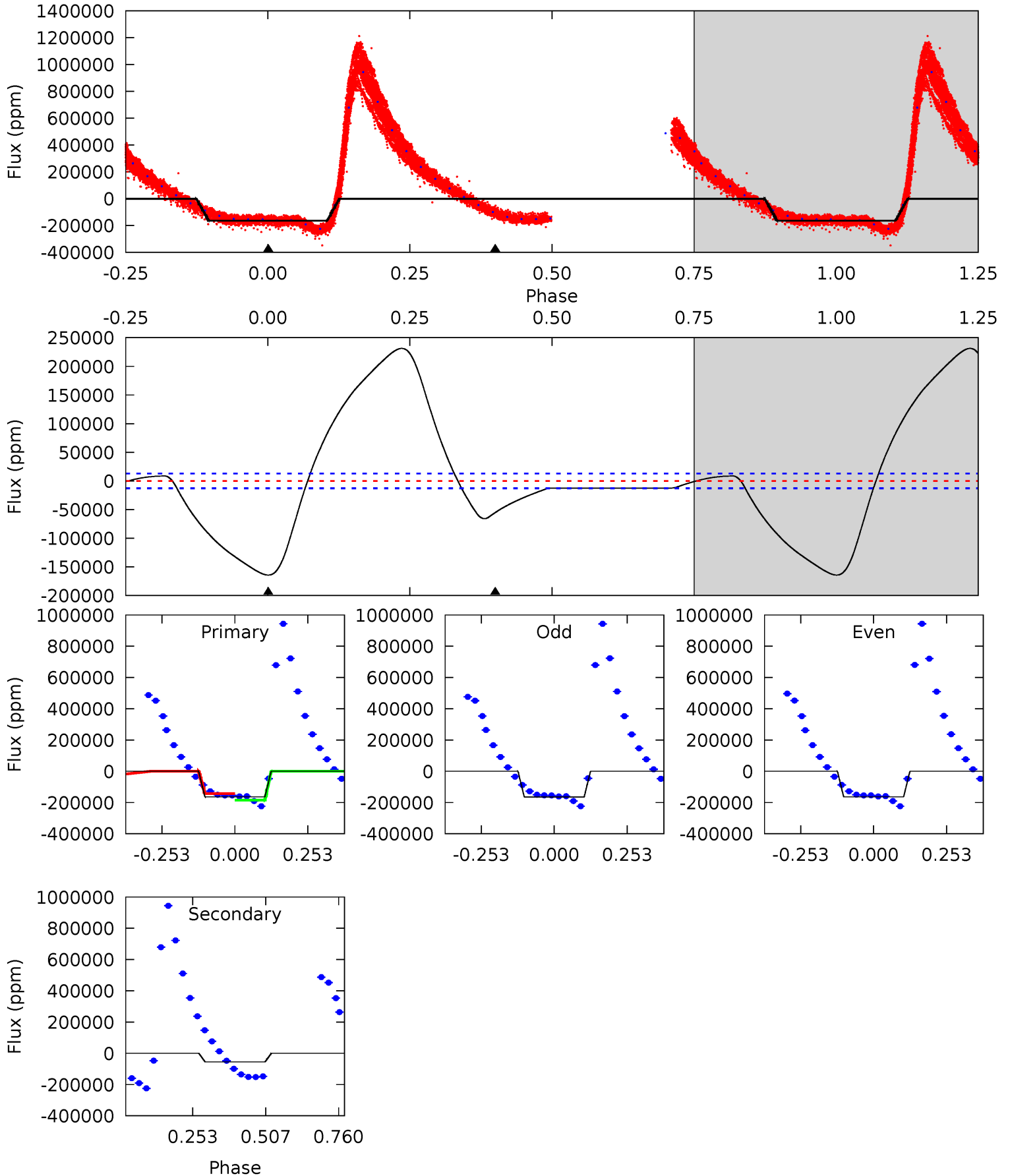
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

003866709-02, P = 0.941406 Days, E = 131.459995 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
56.0	18.8	0	0	4.37	1.14	2.00	56.0	56.0	18.8	18.8	0.06	1.01	0.58	5.23



Stellar Parameters For KIC 003866709

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8659^{+239}_{-376}	$3.791^{+0.405}_{-0.108}$	$-0.240^{+0.350}_{-0.350}$	$2.973^{+0.737}_{-1.370}$	$1.994^{+0.368}_{-0.450}$	$0.107^{+0.392}_{-0.043}$
	+3%/-4%	+11%/-3%	+146%/-146%	+25%/-46%	+18%/-23%	+367%/-40%
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 003866709-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$61.00^{+34.13}_{-30.59}$	5765^{+455}_{-627}	3877^{+11370}_{-16332}	$0.391^{+13.818}_{-9.697}$
Alt.	-55268 ± 2934	$118.94^{+42.49}_{-37.49}$	5809^{+392}_{-654}	5914^{+1309}_{-781}	$1.265^{+1.290}_{-0.549}$

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

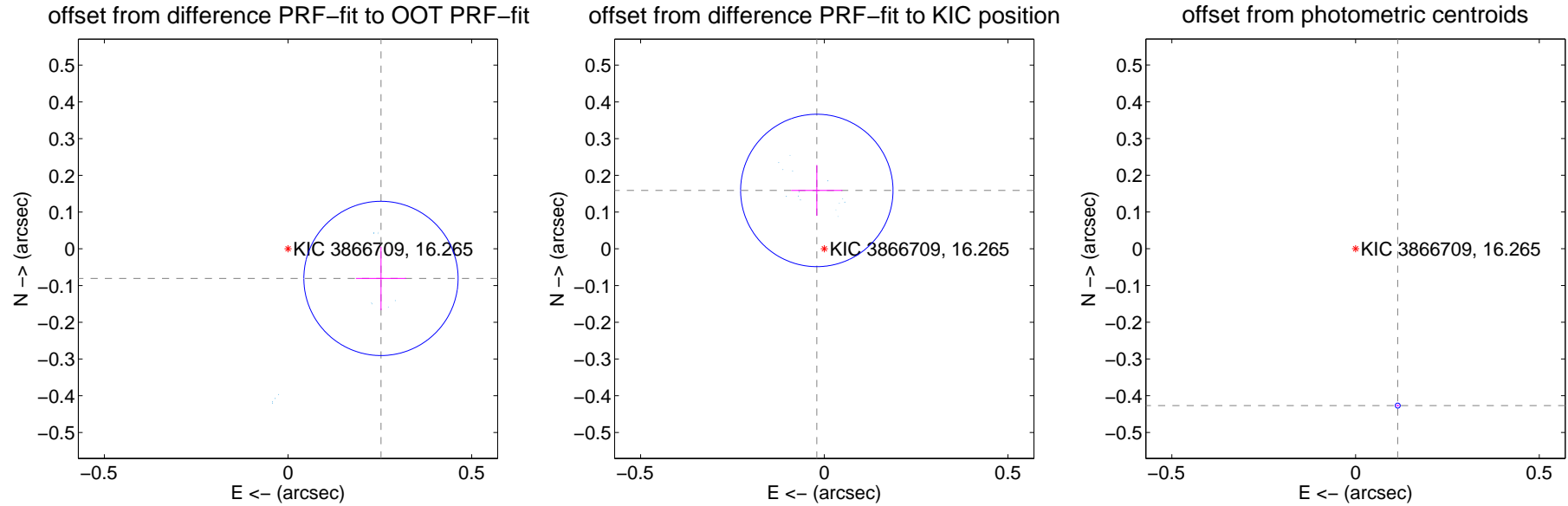
DV Centroid Data

Supplemental centroid analysis for 003866709-02. Kepler magnitude: 16.27. Transit SNR -1.00

There are 14 quarters with good PRF difference image offsets

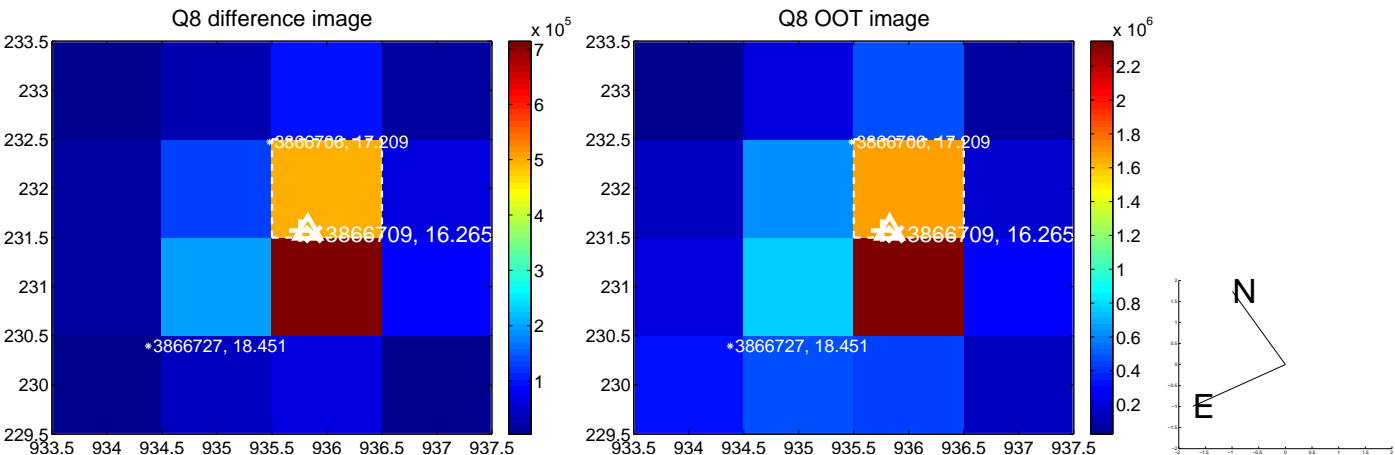
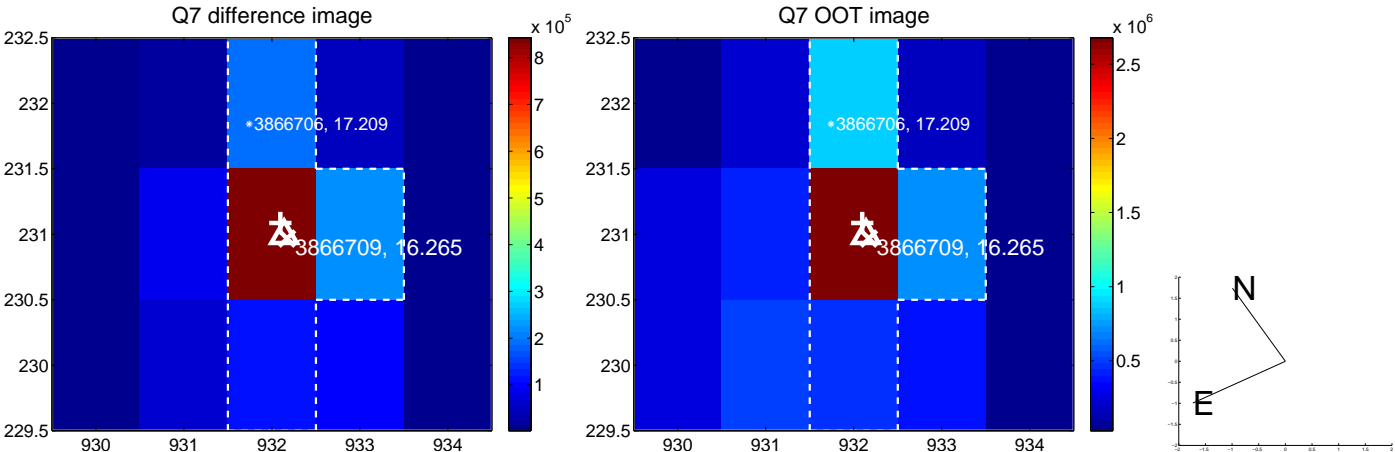
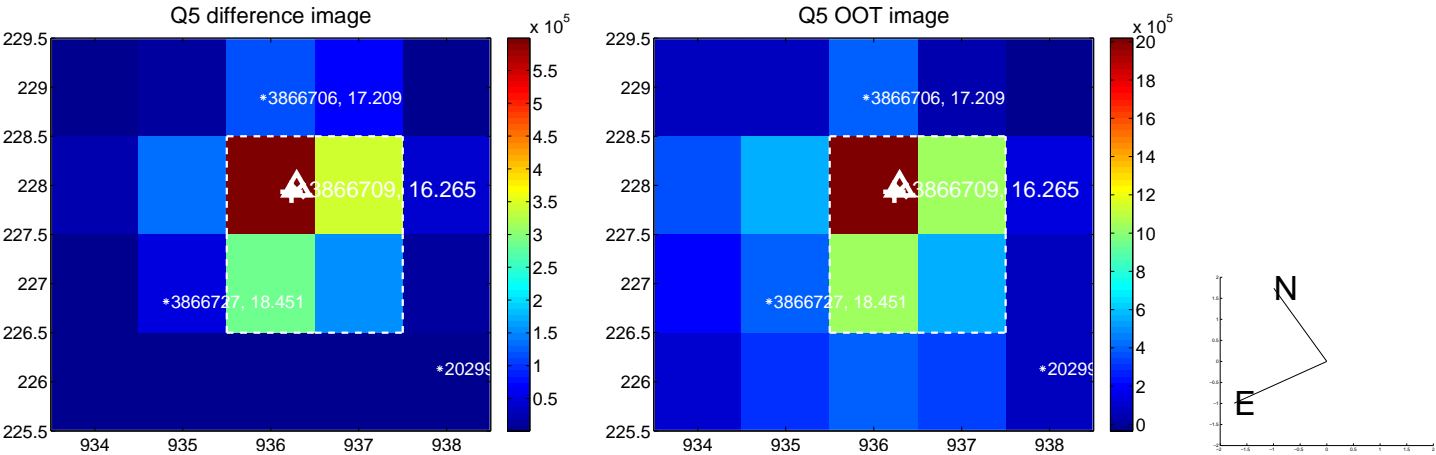
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.266 ± 0.070	3.79	-0.253 ± 0.068	-0.081 ± 0.086
PRF-fit source offset from KIC position	0.160 ± 0.069	2.32	0.020 ± 0.070	0.159 ± 0.069
photometric centroid source offset	0.44 ± 0.00	193.70	-0.11 ± 0.00	-0.43 ± 0.00

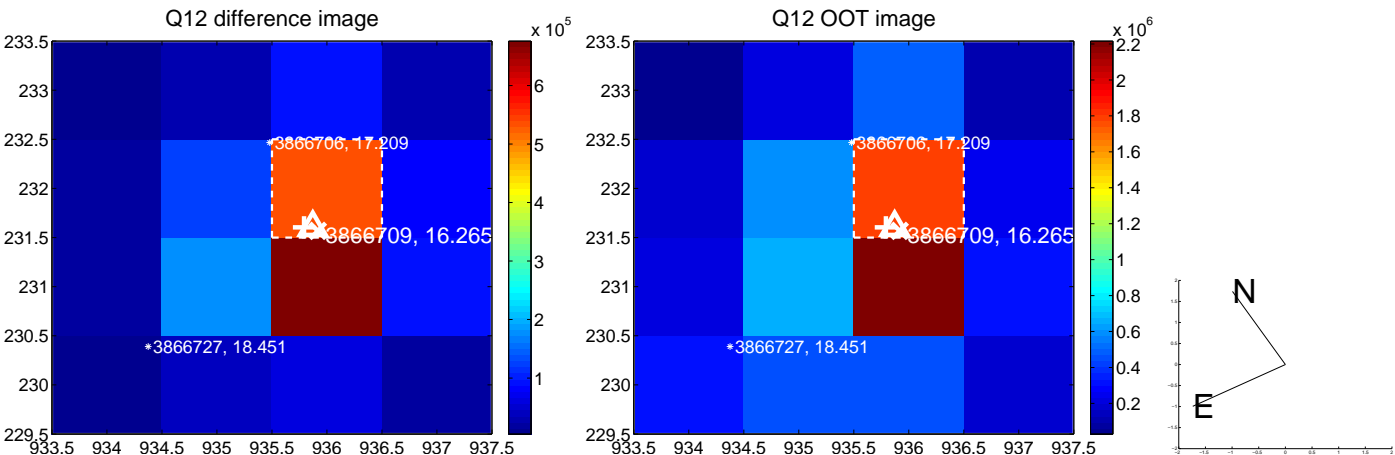
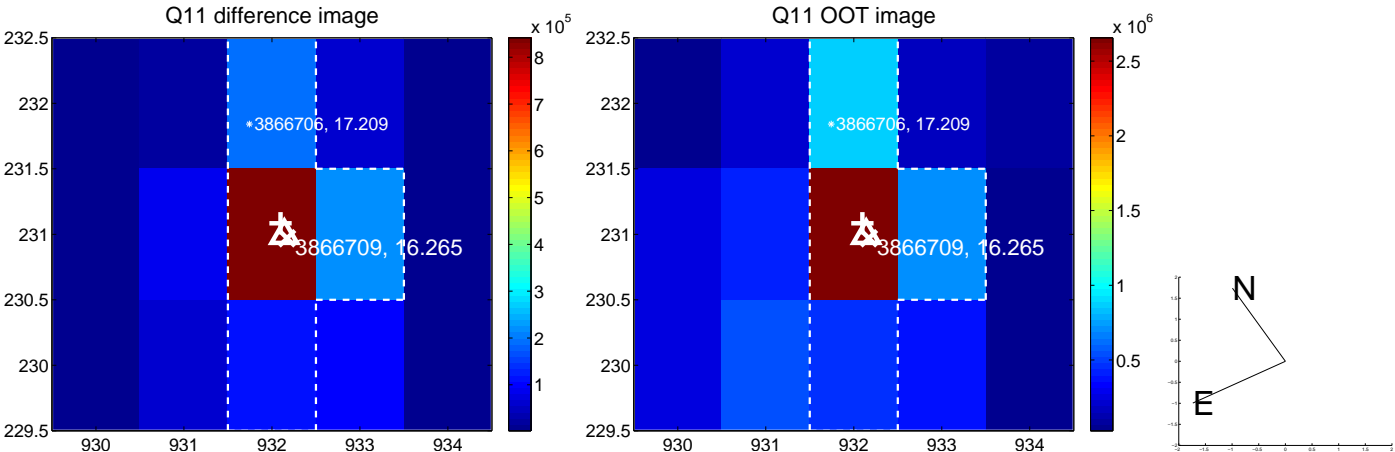
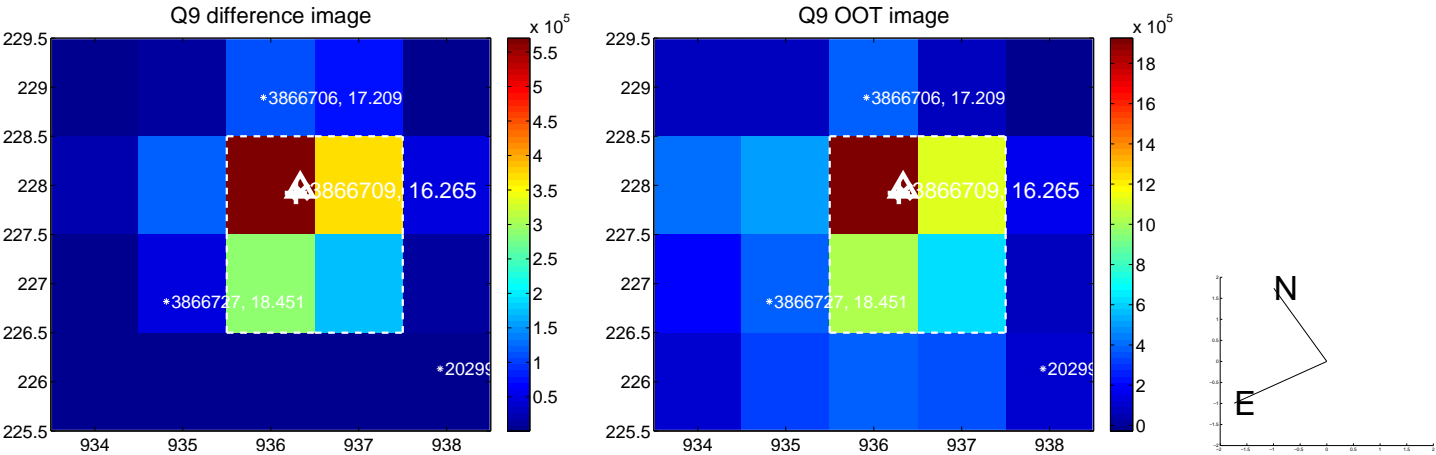


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

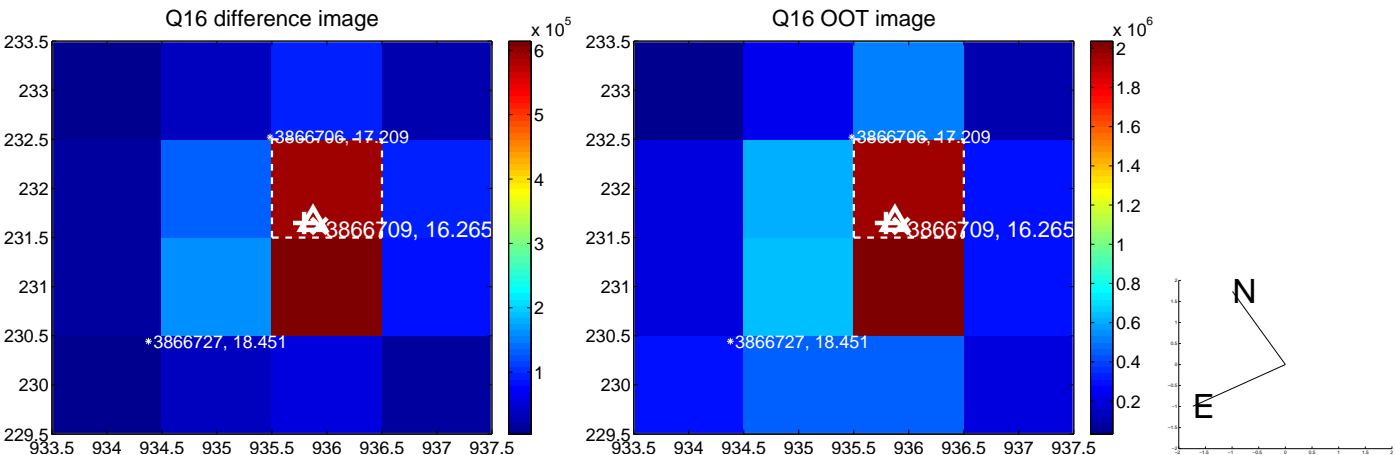
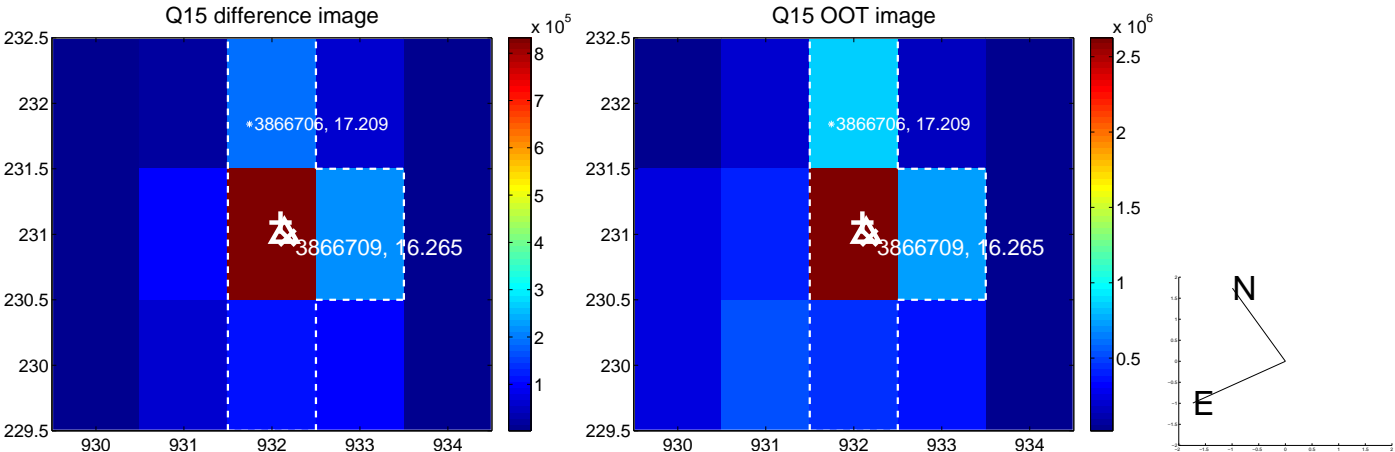
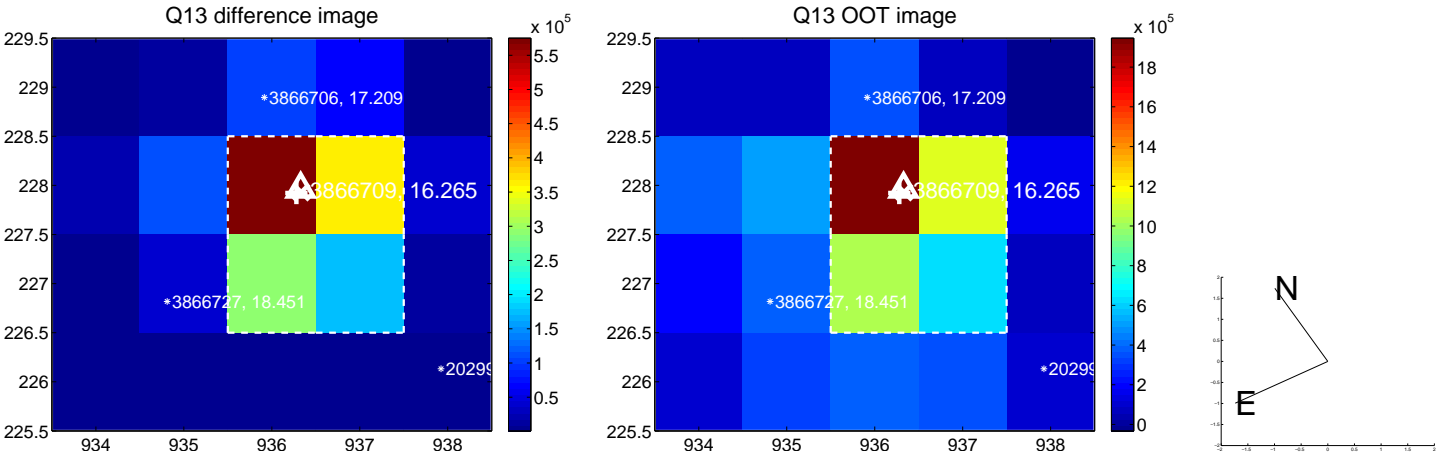
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



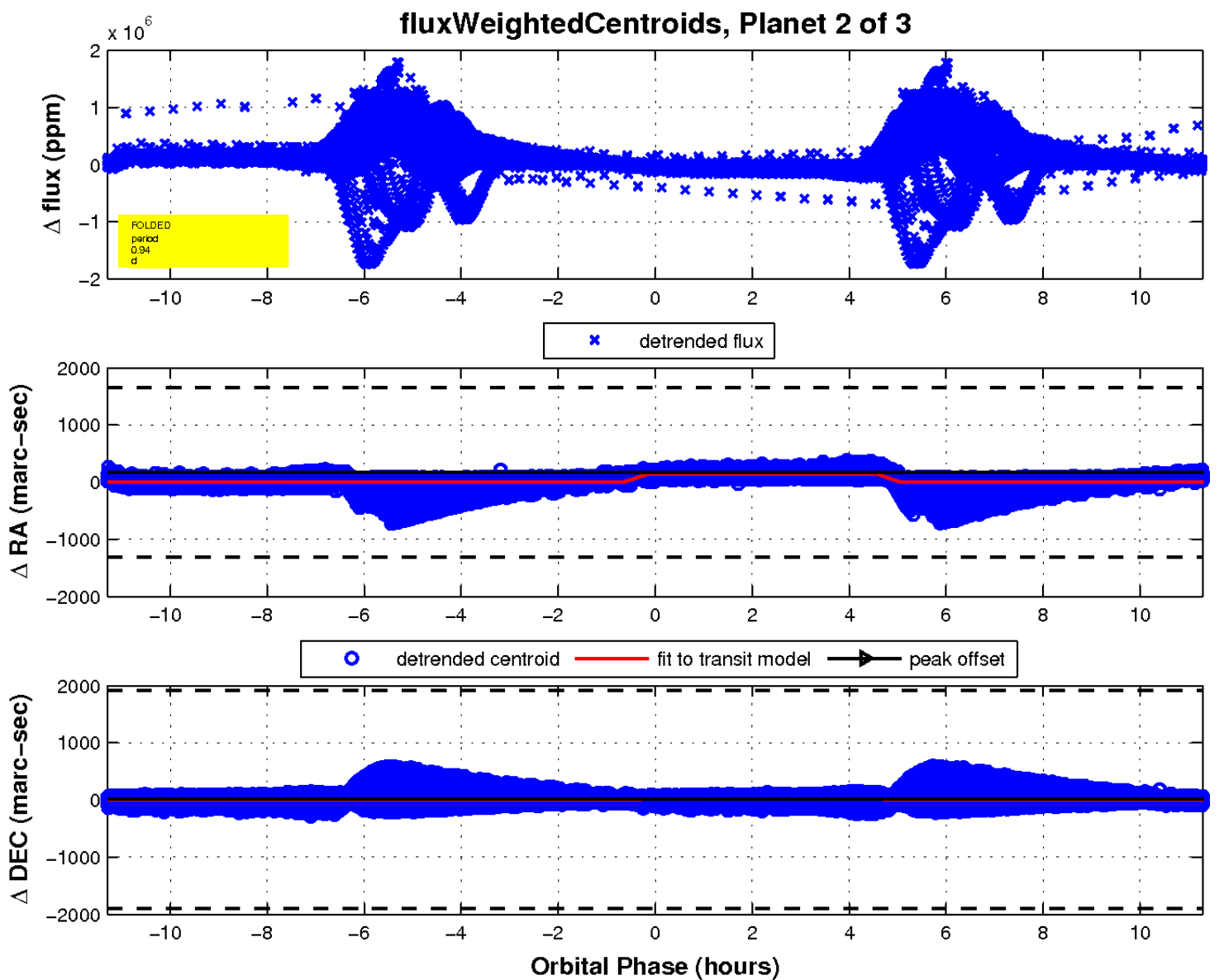
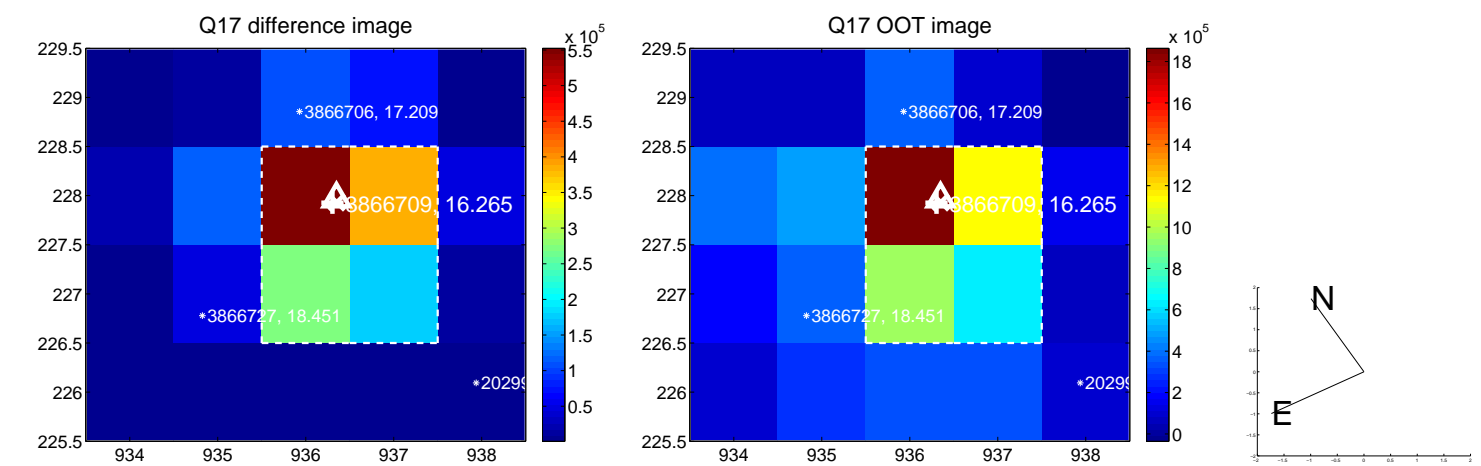
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



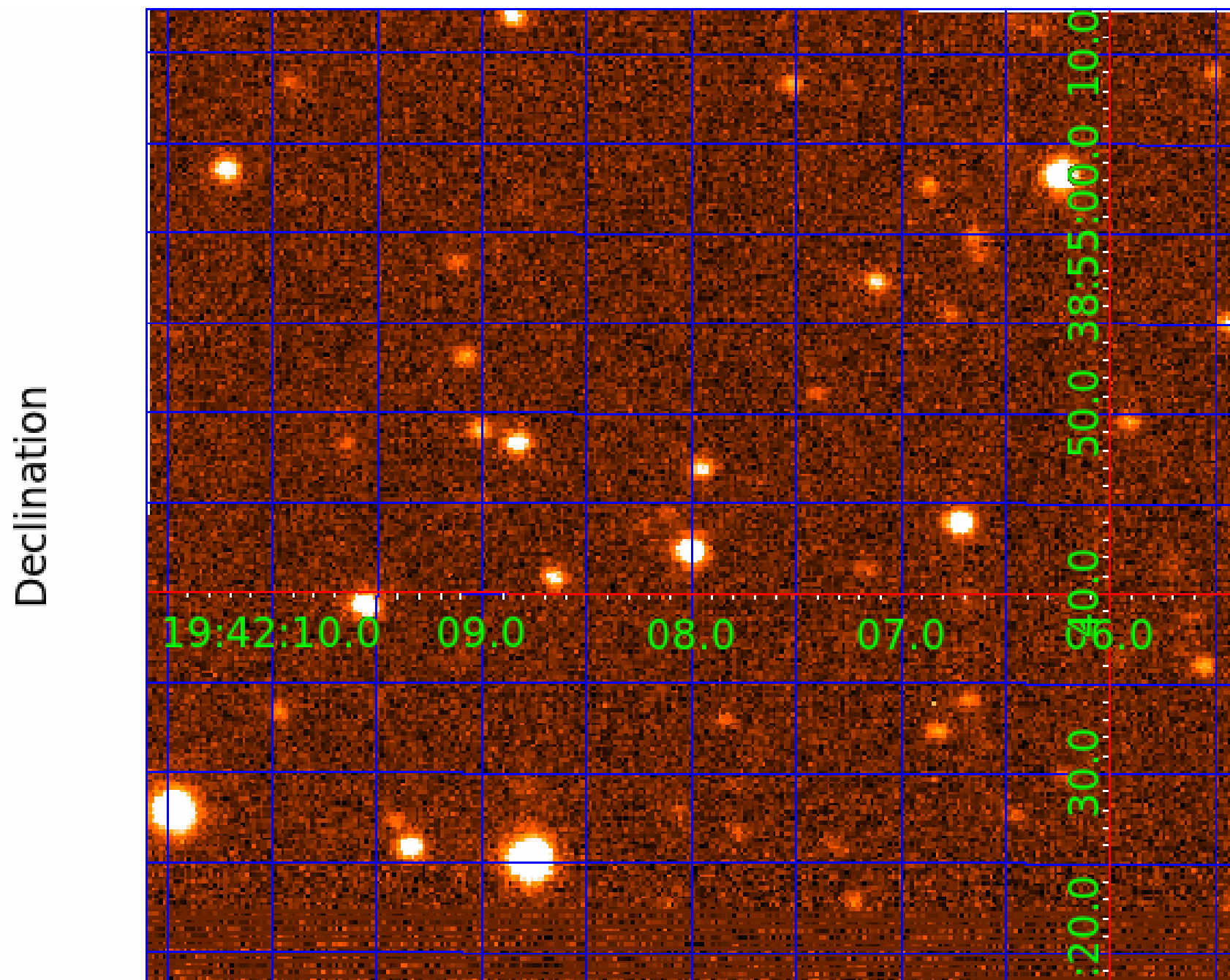
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 003866709

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})
003866709-01	OBS	No	0.941413	132.023494	42049.8	1.500	177.7	-1.0	2.97	8659	62.32	79528.31
003866709-02	OBS	No	0.941406	131.531827	48361.5	2.500	343.4	-1.0	2.97	8659	66.65	79529.07
003866709-03	OBS	No	13.181508	132.892244	6334.7	1.500	13.1	-1.0	2.97	8659	24.13	2356.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003866709-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—CENT_NOFITS
003866709-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_NOFITS
003866709-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

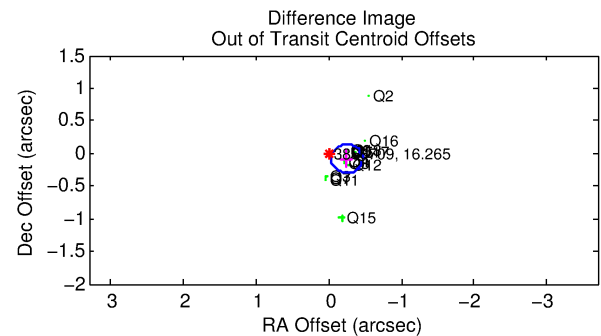
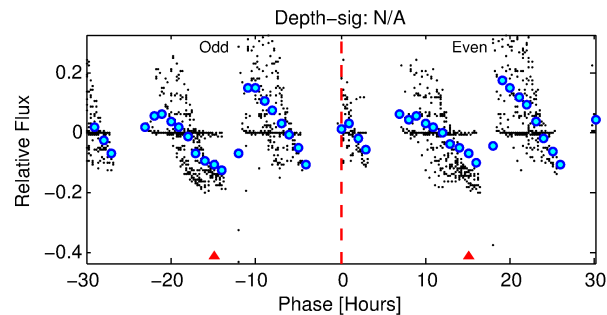
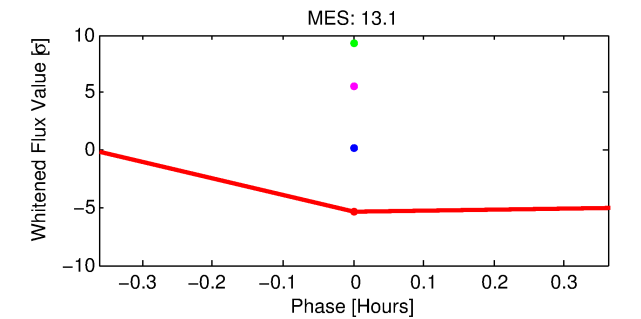
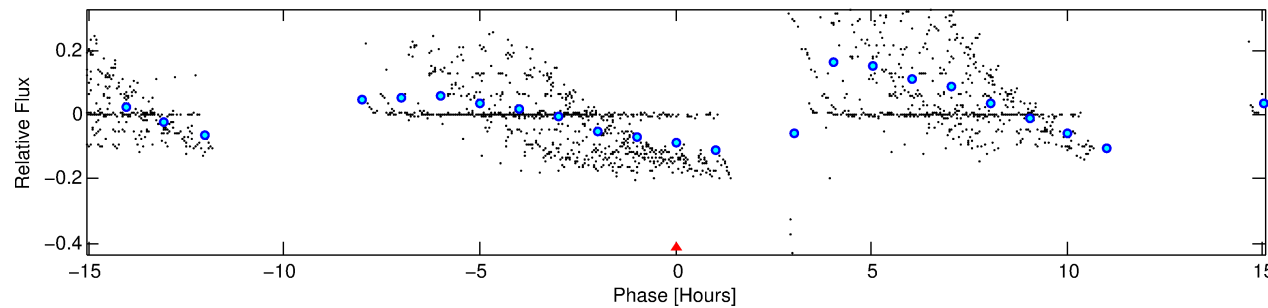
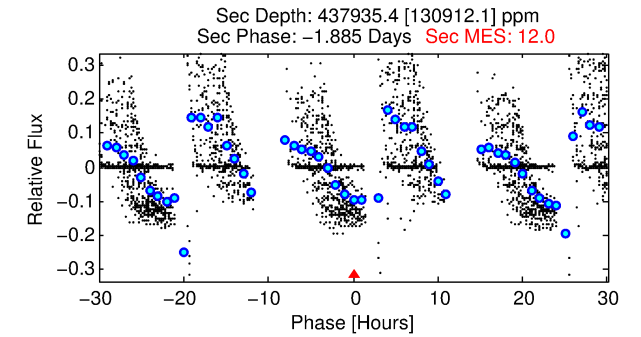
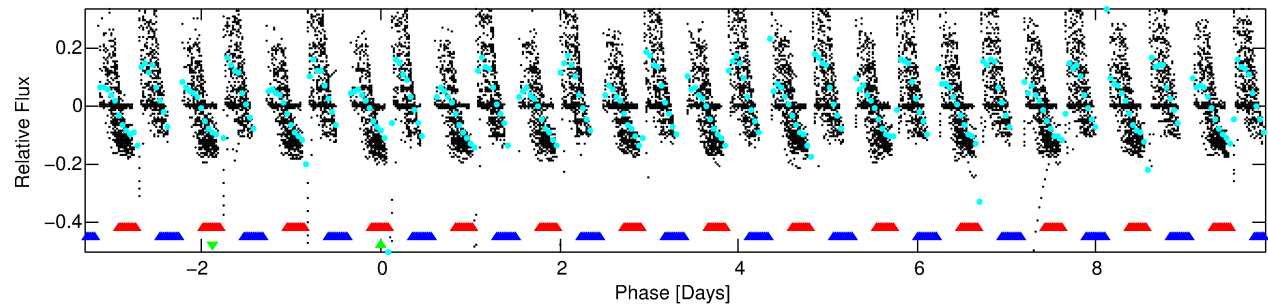
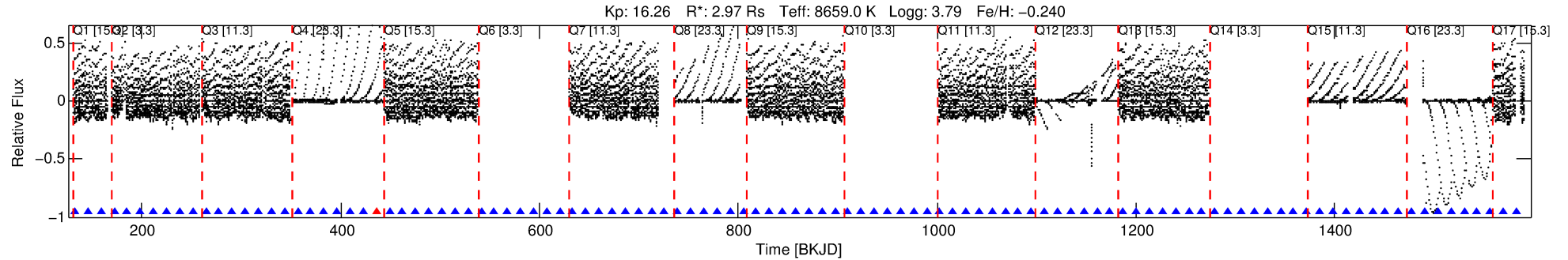
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003866709-03

No Significant Match Found

DV One-Page Summary

KIC: 3866709 Candidate: 3 of 3 Period: 13.182 d



TPS TCE Results:

Period = 13.18151 d
Epoch = 132.8922 BKJD

DV fit results are unavailable

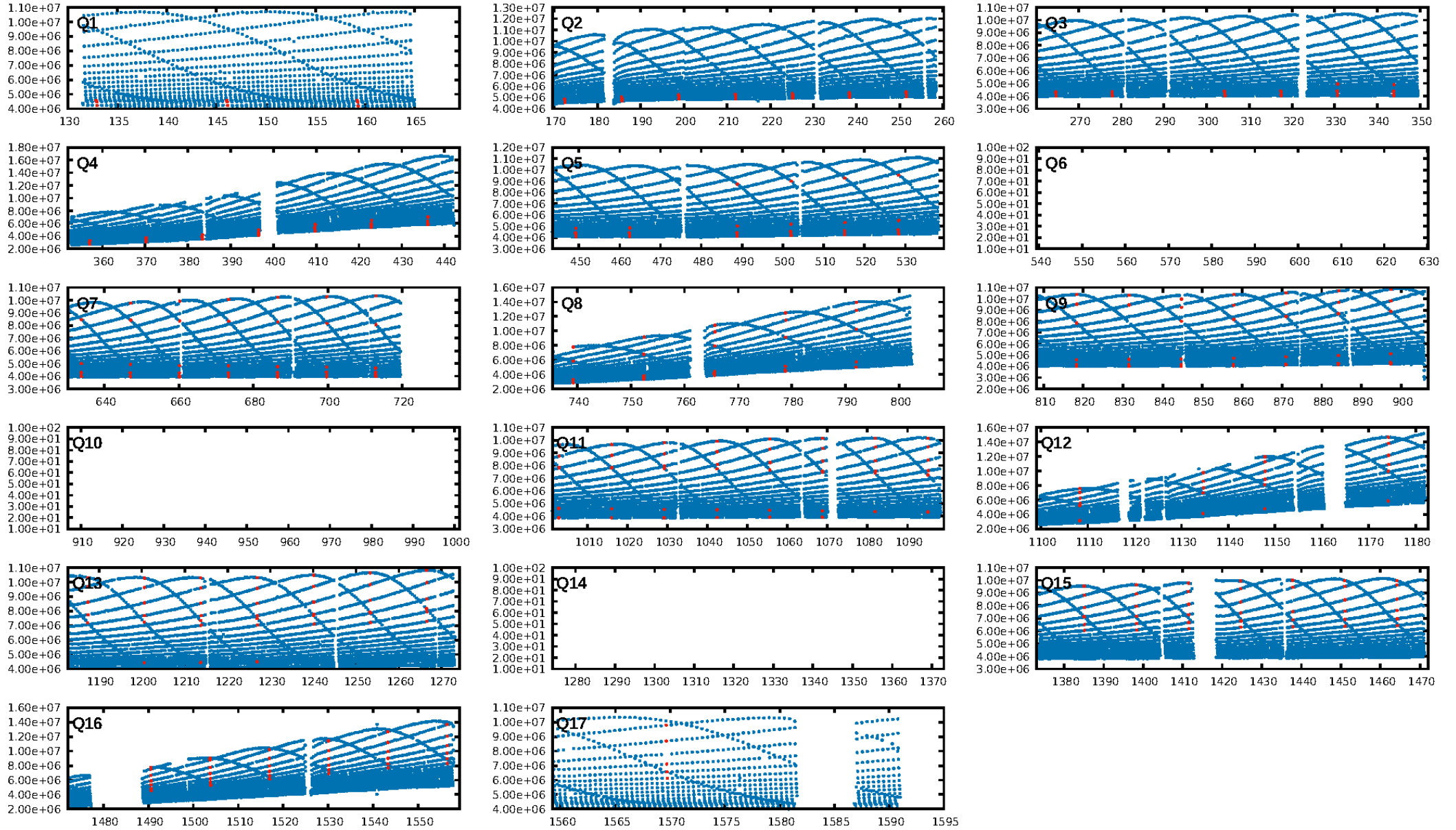
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [138.48σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.96e-266
RollingBand-fgt: 0.99 [76/77]
GhostDiagnostic-chr: 3.073
Centroid-sig: 0.0%
Centroid-so: 0.844 arcsec [35.65σ]
OotOffset-rm: 0.255 arcsec [3.48σ]
KicOffset-rm: 0.148 arcsec [1.73σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.86 [12/14]
DiffImageOverlap-fno: 0.00 [0/14]

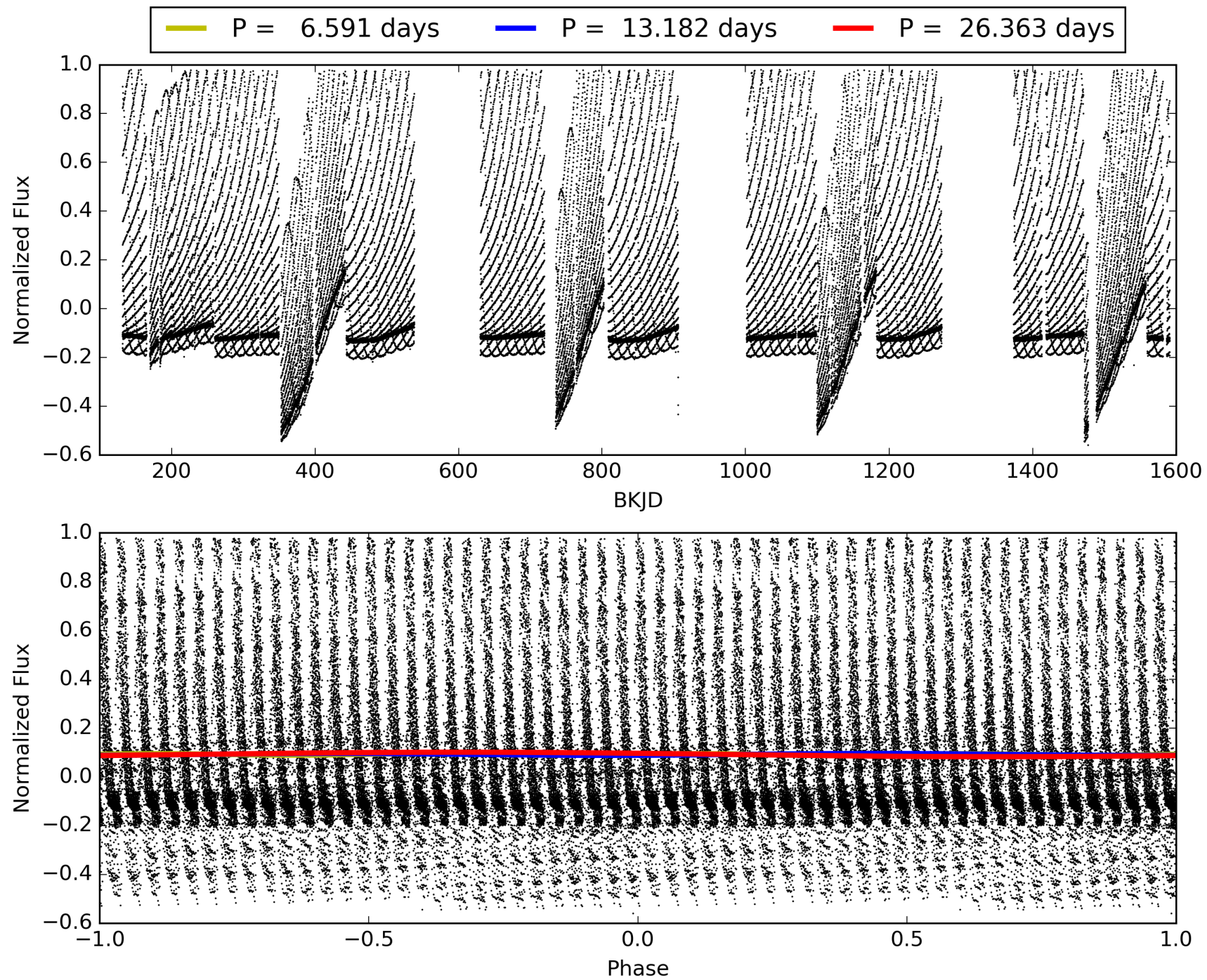
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:32:26 Z

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

TCE 003866709-03, PDC Light Curves

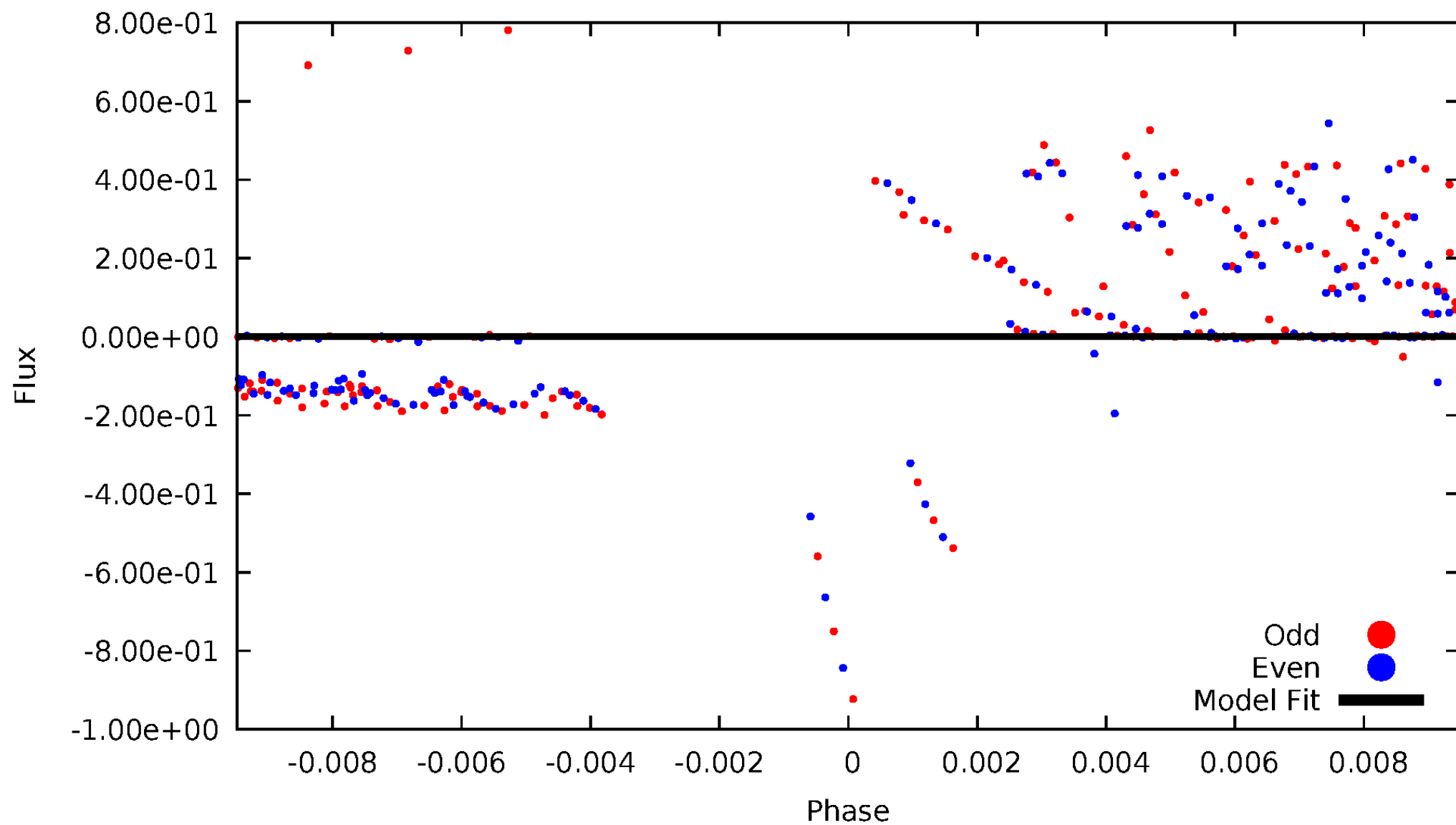


TCE 003866709-03



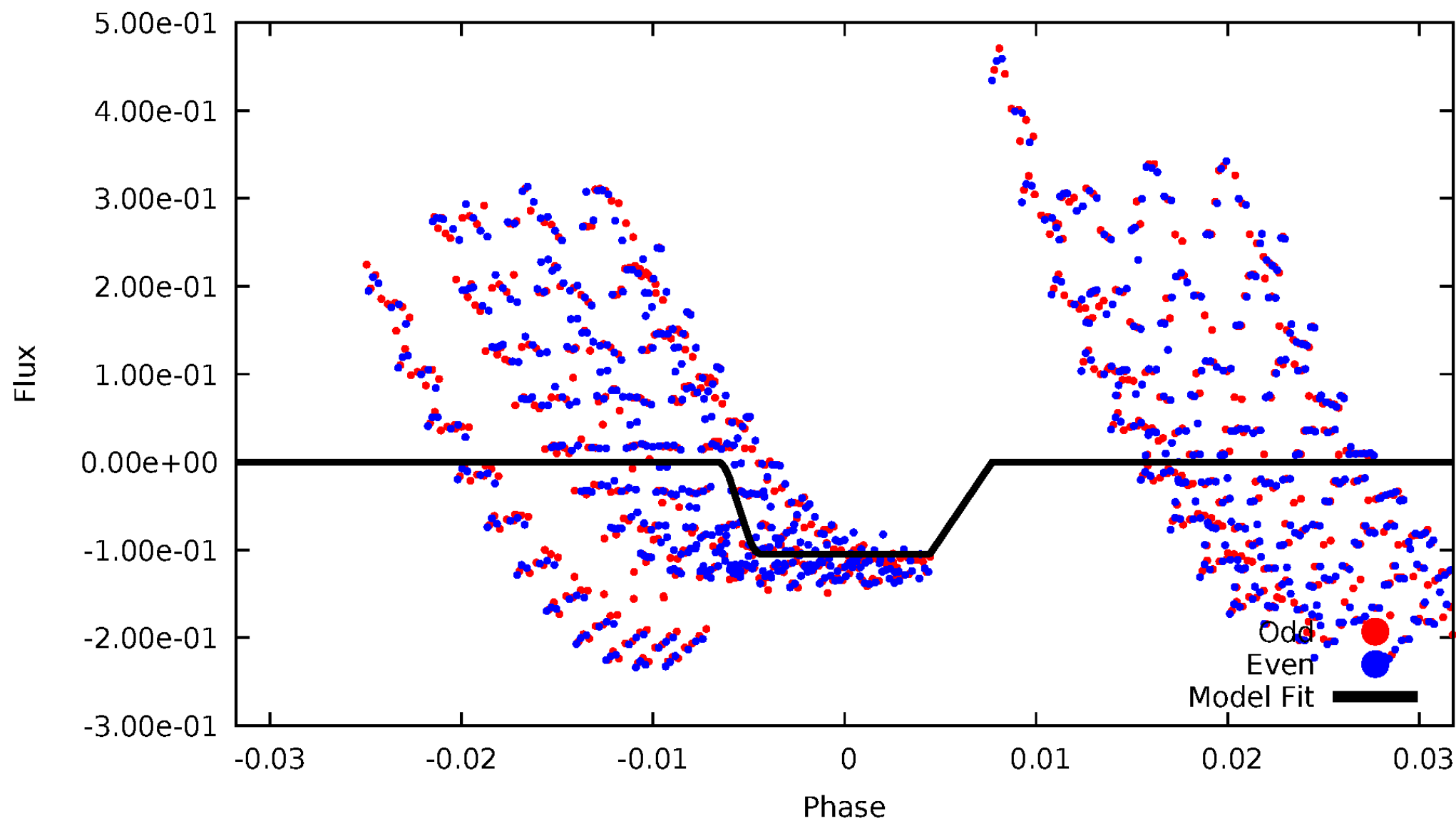
DV Odd/Even

TCE 003866709-03



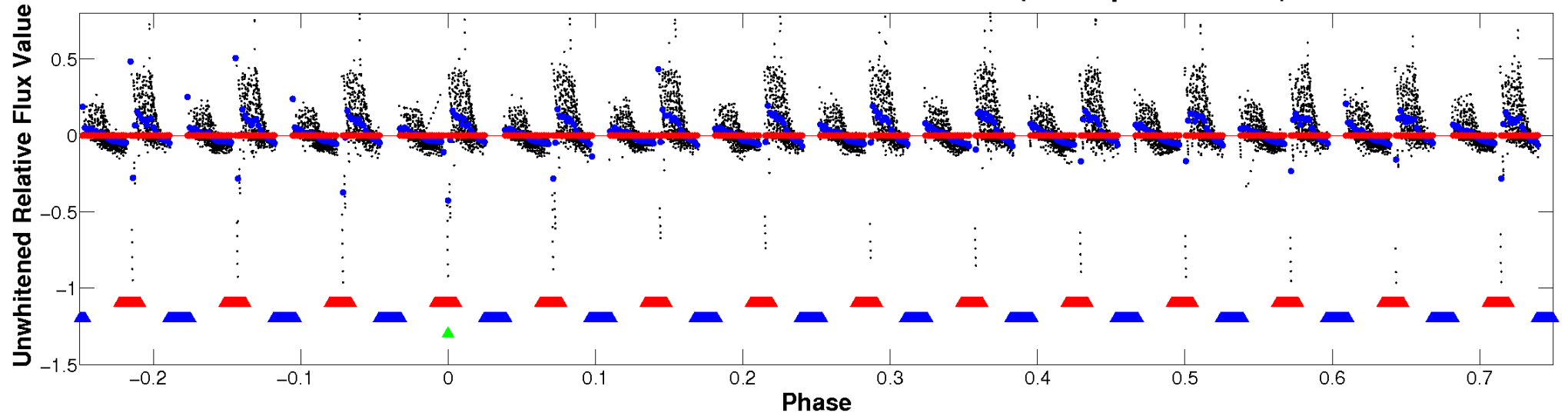
ALT Odd/Even

TCE 003866709-03

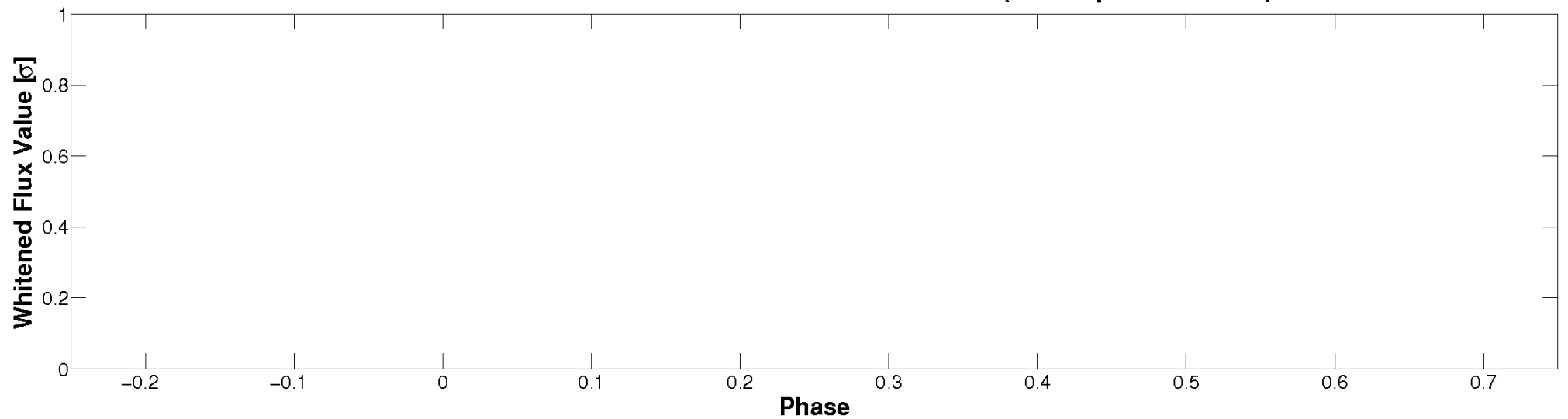


Non-Whitened Vs. Whitened Light Curve

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

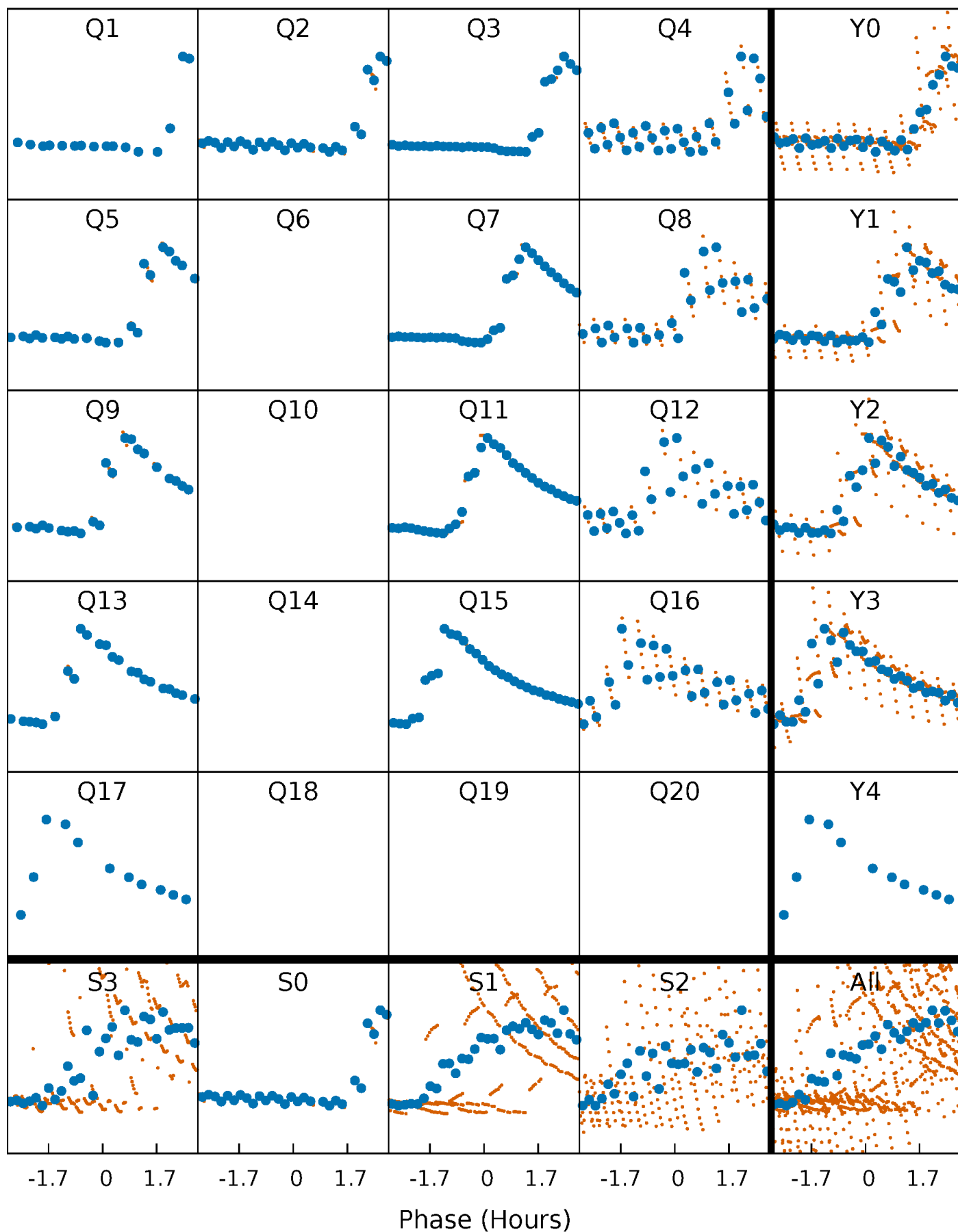


Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)



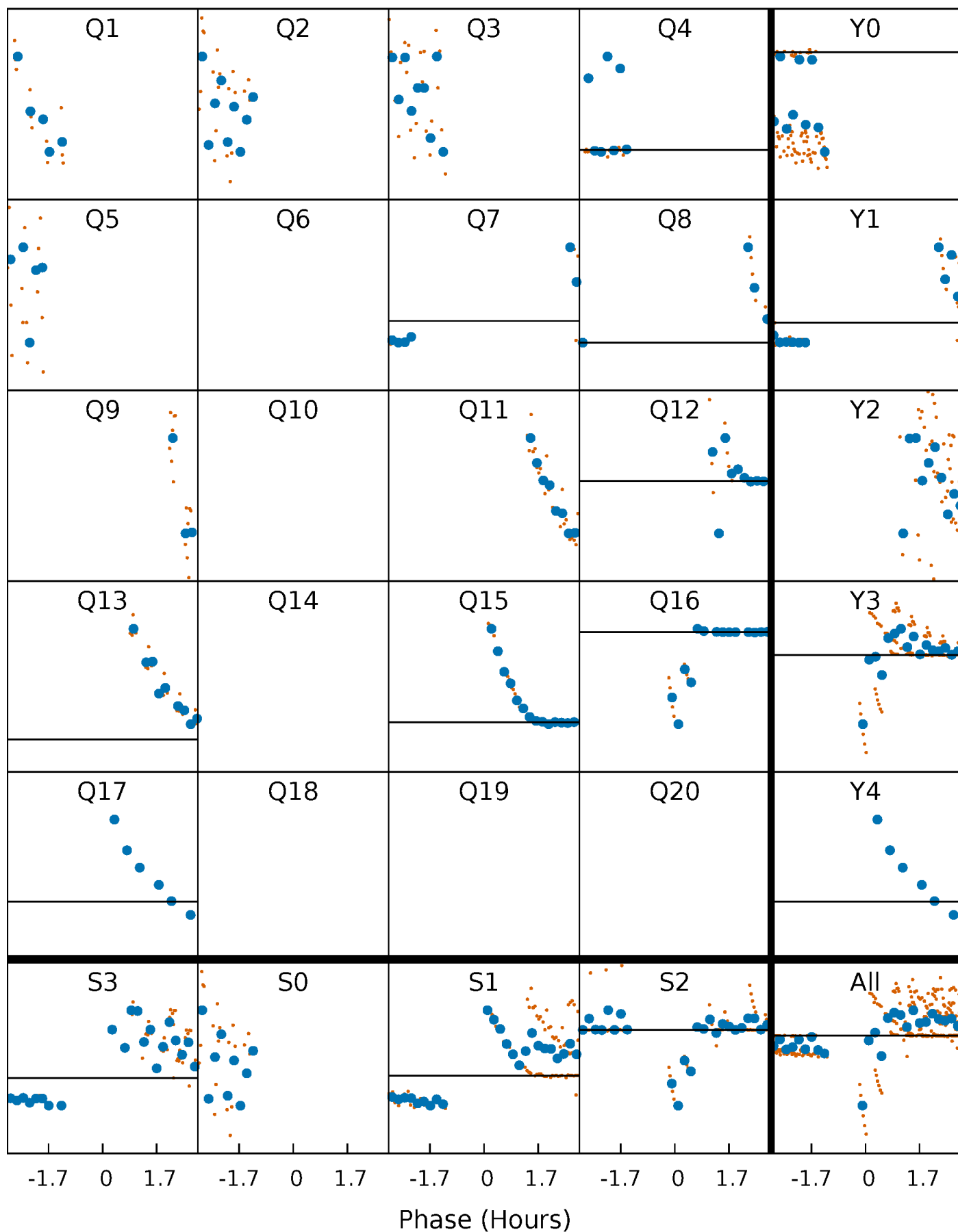
PDC Quarter-Phased Transit Curves

TCE 003866709-03 P= 13.181508 Days $T_0=132.892244$ (BKJD)



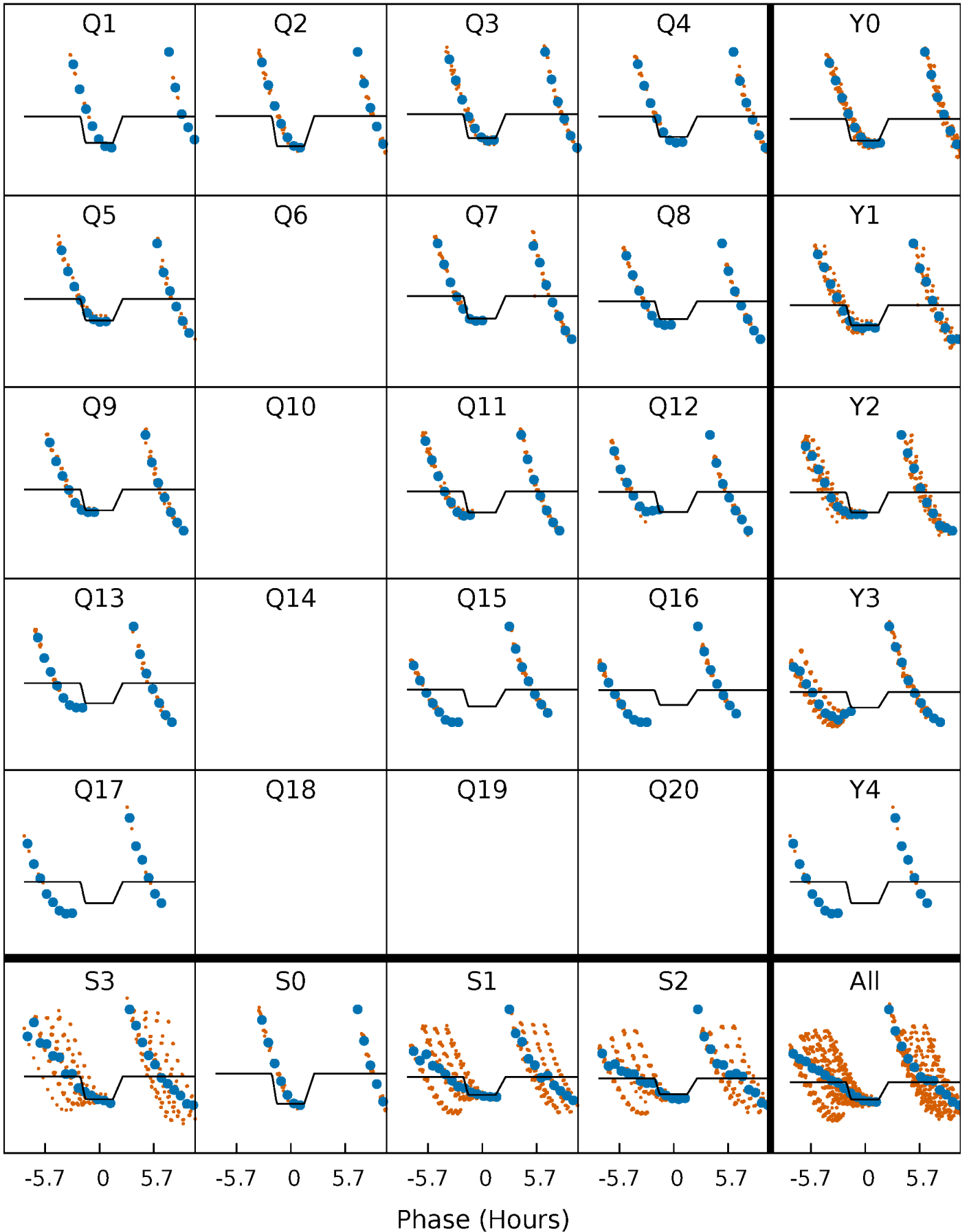
DV Quarter-Phased Transit Curves

TCE 003866709-03 $P = 13.181508$ Days $T_0 = 132.892244$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

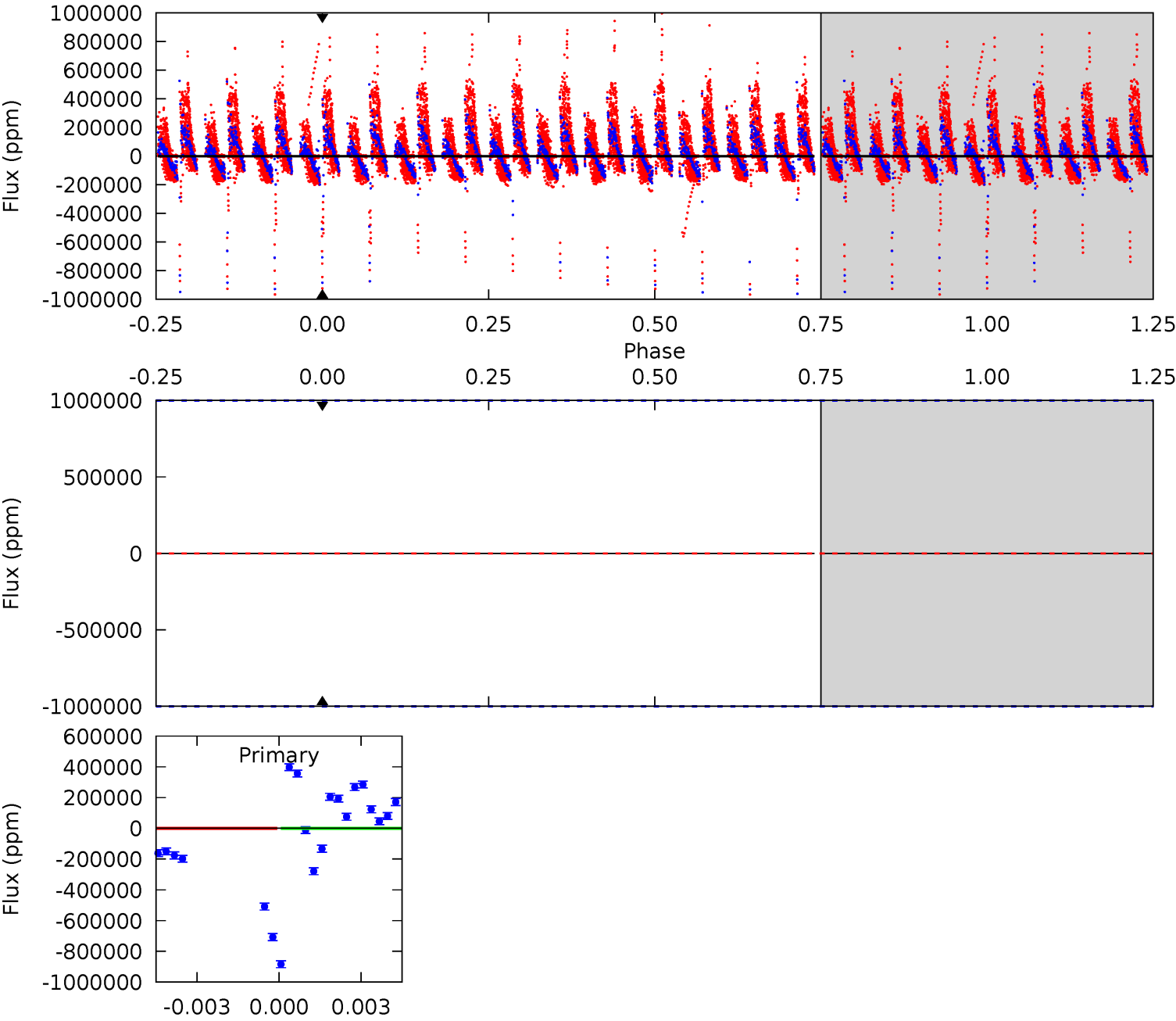
TCE 003866709-03 P= 13.181508 Days $T_0=132.782893$ (BKJD)



DV Model-Shift Uniqueness Test

003866709-03, P = 13.181508 Days, E = 119.710736 Days

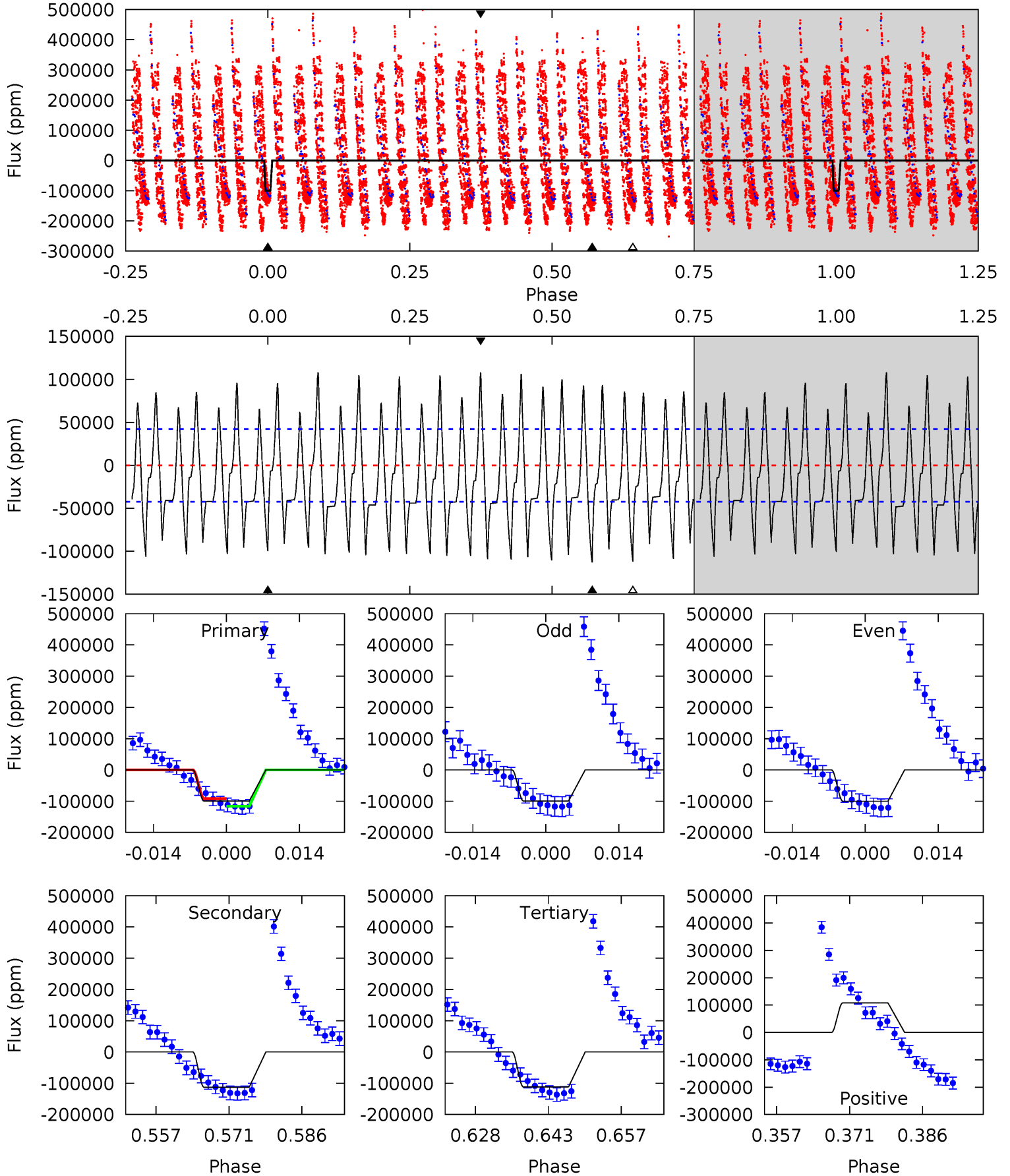
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

003866709-03, P = 13.181508 Days, E = 119.601385 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	13.2	13.1	12.7	4.96	2.45	6.53	-1.42	-0.99	0.13	0.55	0.03	1.01	0.49	1.26



Stellar Parameters For KIC 003866709

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8659^{+239}_{-376}	$3.791^{+0.405}_{-0.108}$	$-0.240^{+0.350}_{-0.350}$	$2.973^{+0.737}_{-1.370}$	$1.994^{+0.368}_{-0.450}$	$0.107^{+0.392}_{-0.043}$
	+3%/-4%	+11%/-3%	+146%/-146%	+25%/-46%	+18%/-23%	+367%/-40%
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 003866709-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$30.02^{+25.14}_{-20.24}$	2391^{+189}_{-249}	5441^{+28089}_{-37770}	18^{+1799}_{-1981}
Alt.	-112836 ± 8528	$97.19^{+38.80}_{-34.26}$	2391^{+219}_{-274}	9123^{+2900}_{-1420}	143^{+197}_{-70}

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

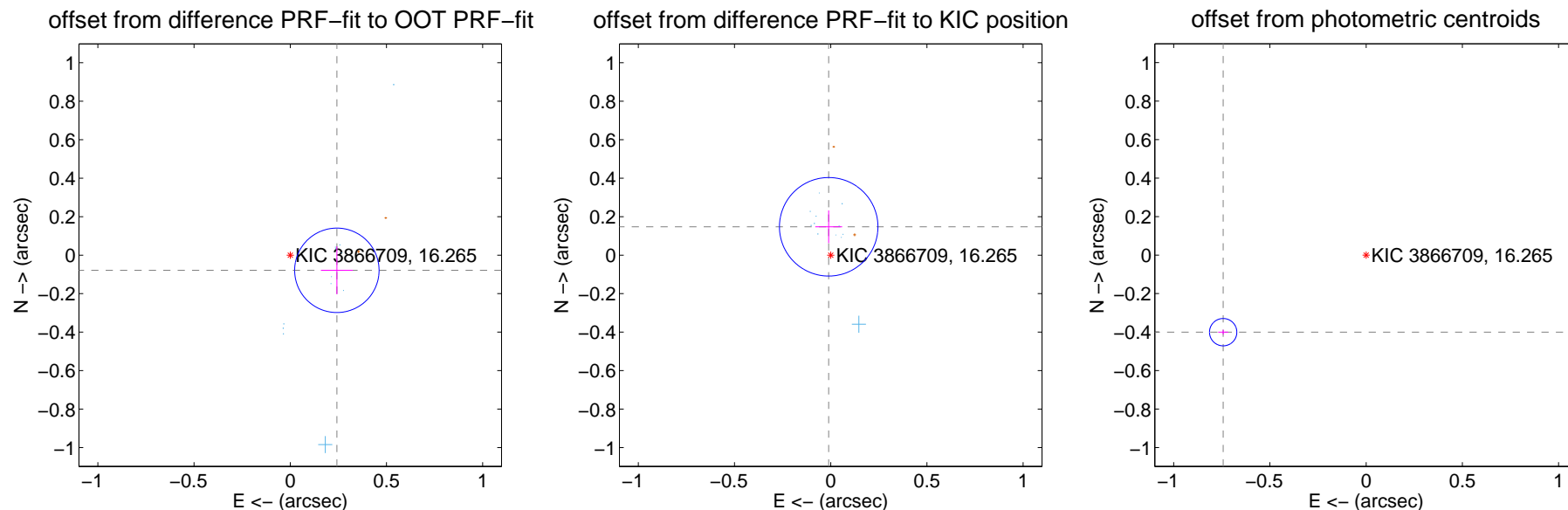
DV Centroid Data

Supplemental centroid analysis for 003866709-03. Kepler magnitude: 16.27. Transit SNR -1.00

There are 12 quarters with good PRF difference image offsets

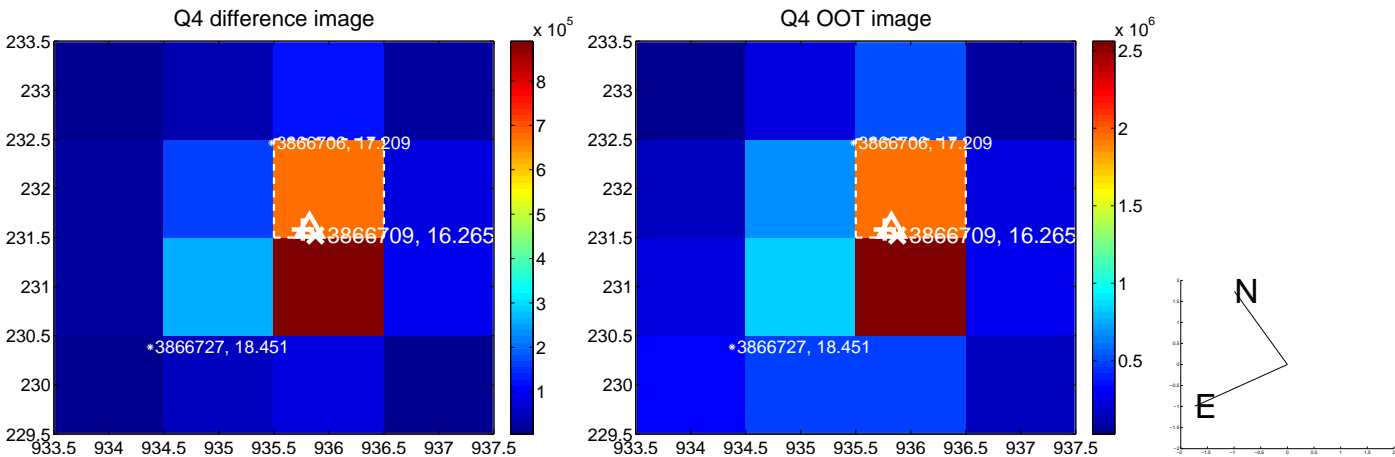
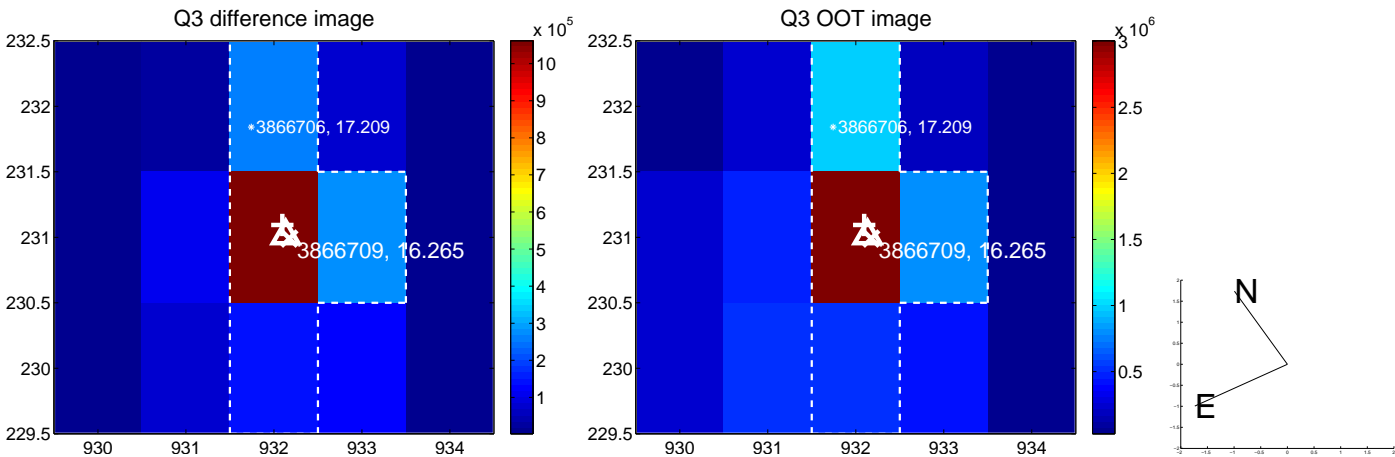
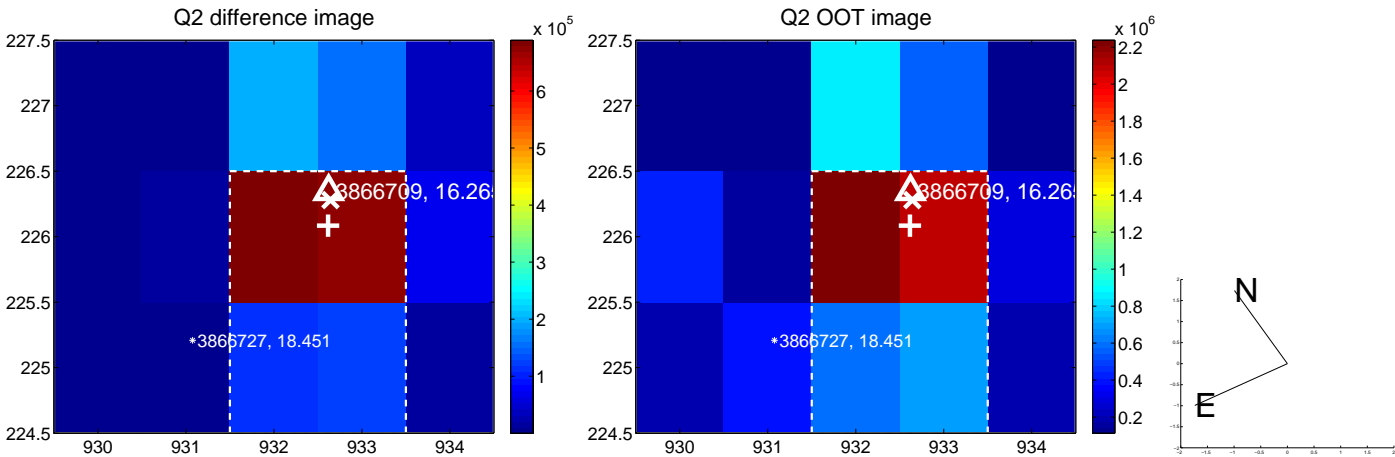
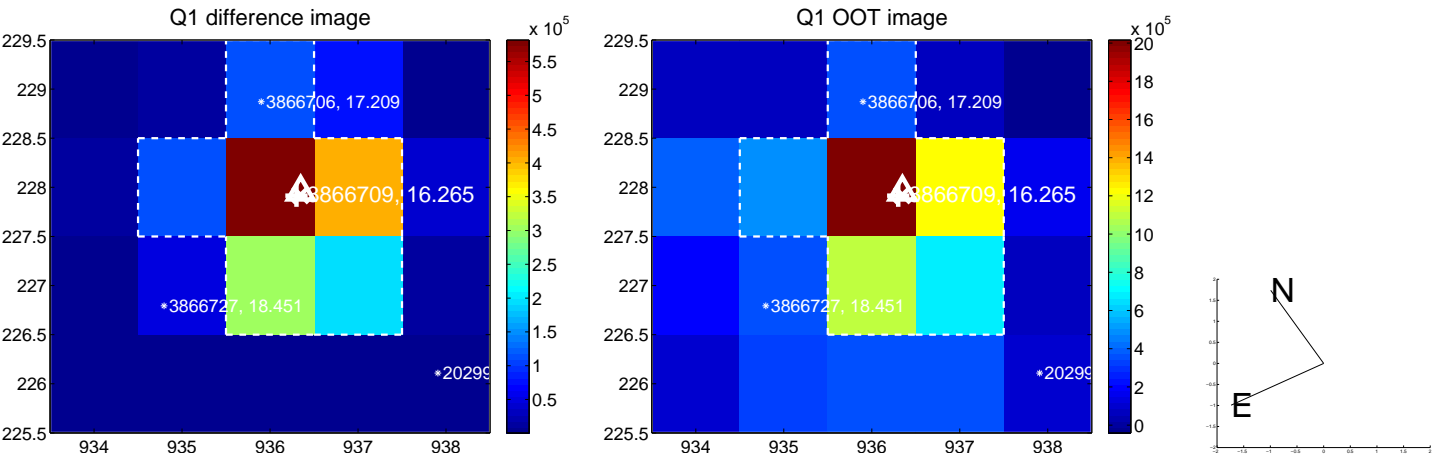
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.255 ± 0.073	3.48	-0.242 ± 0.083	-0.079 ± 0.124
PRF-fit source offset from KIC position	0.148 ± 0.085	1.73	0.011 ± 0.070	0.147 ± 0.085
photometric centroid source offset	0.84 ± 0.02	35.65	0.74 ± 0.03	-0.40 ± 0.01

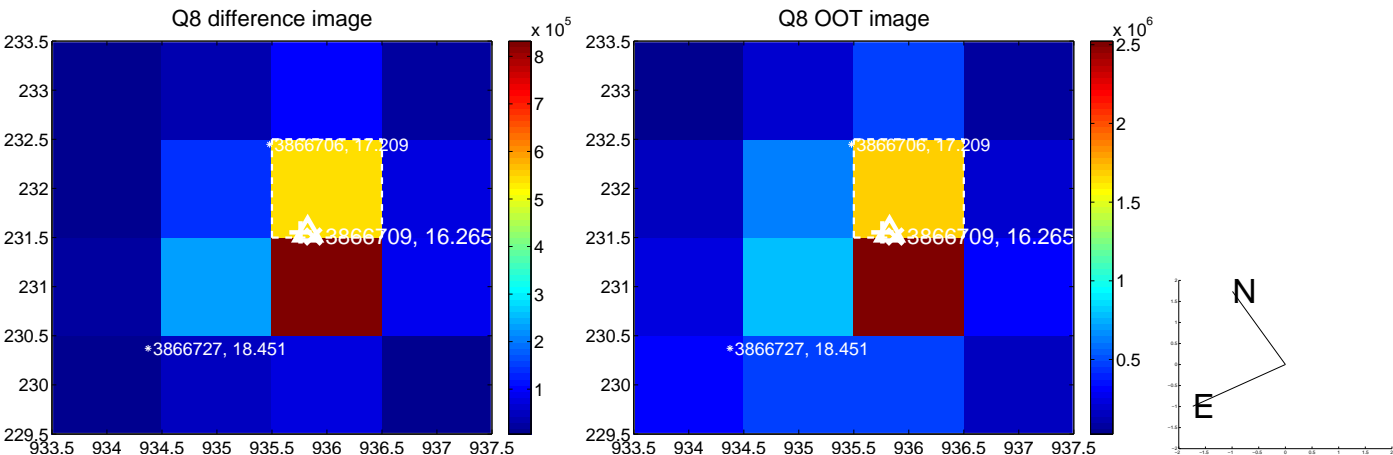
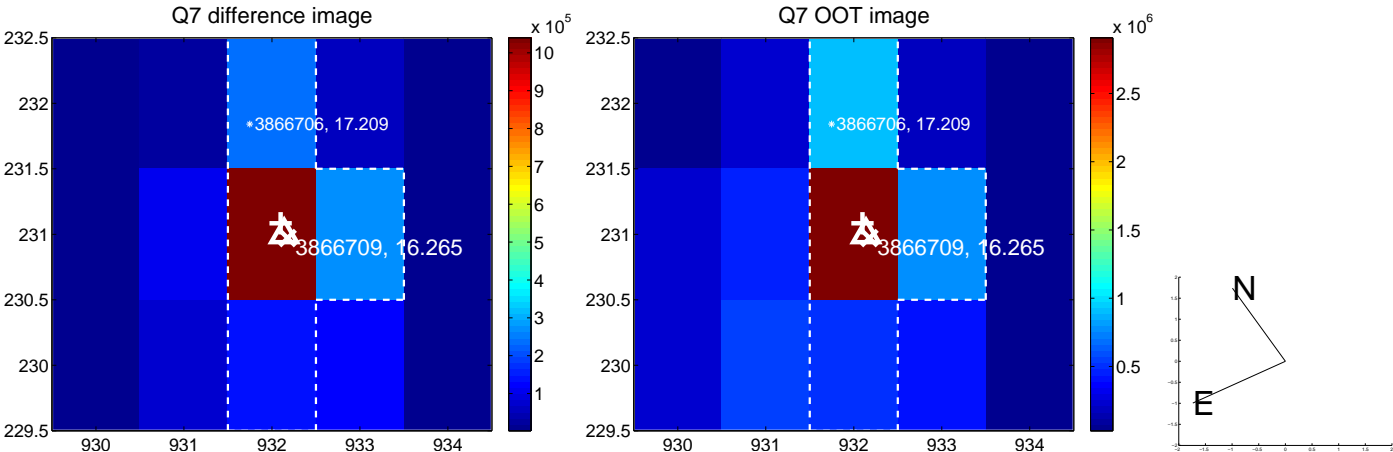
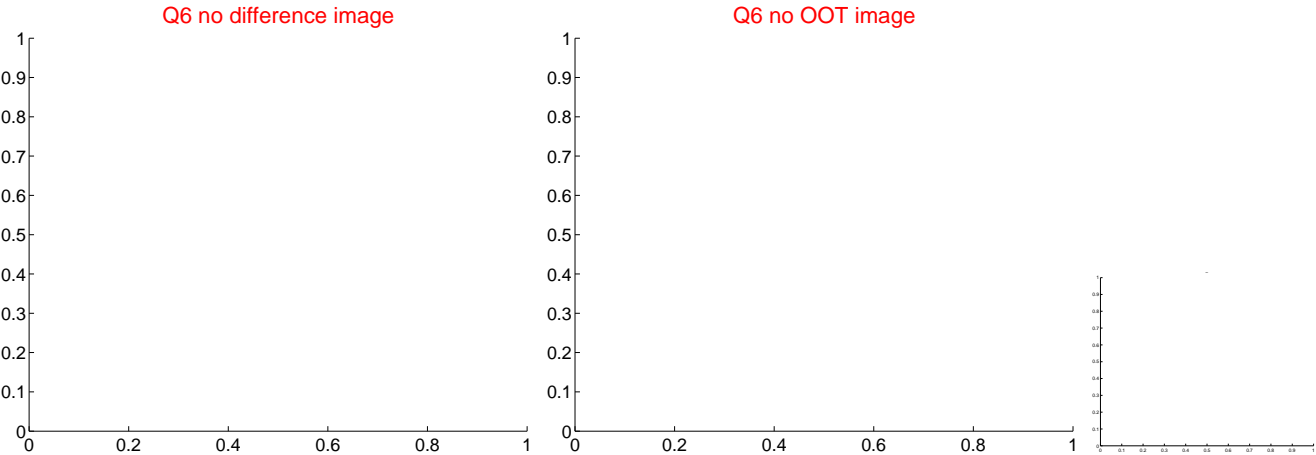
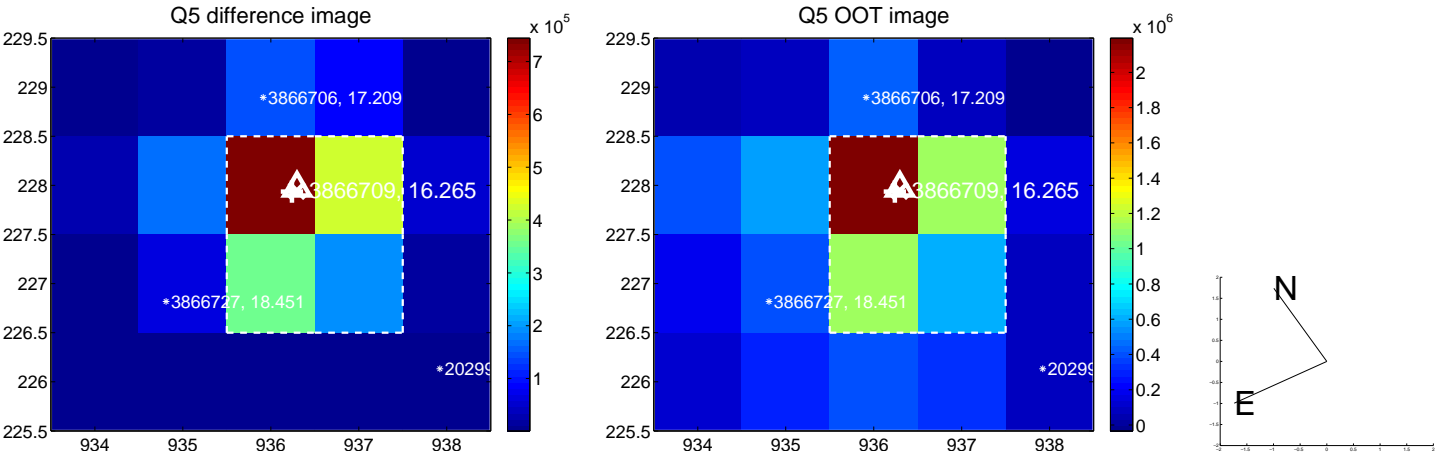


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

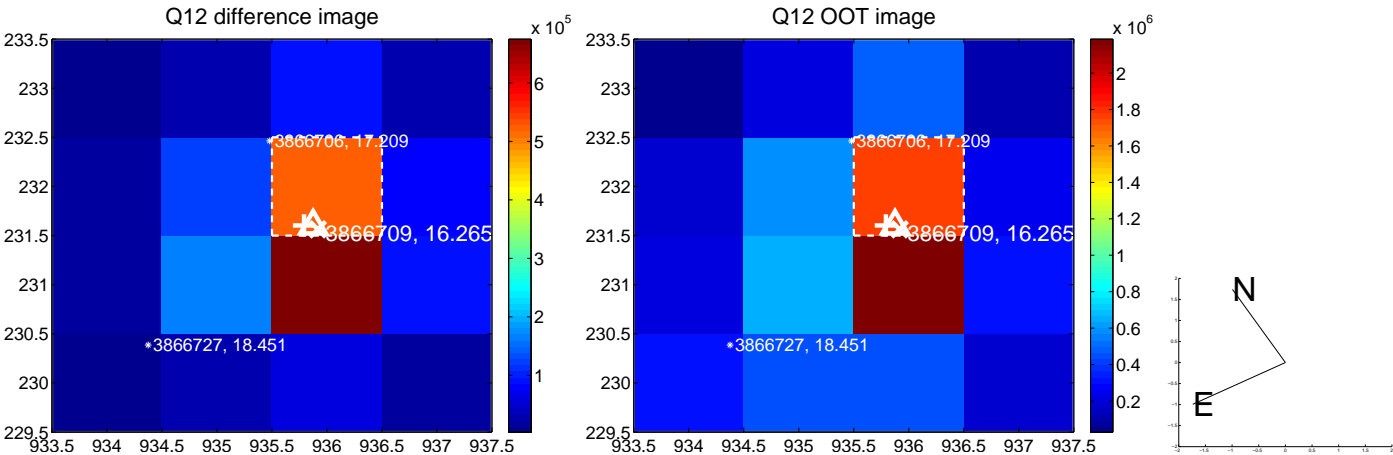
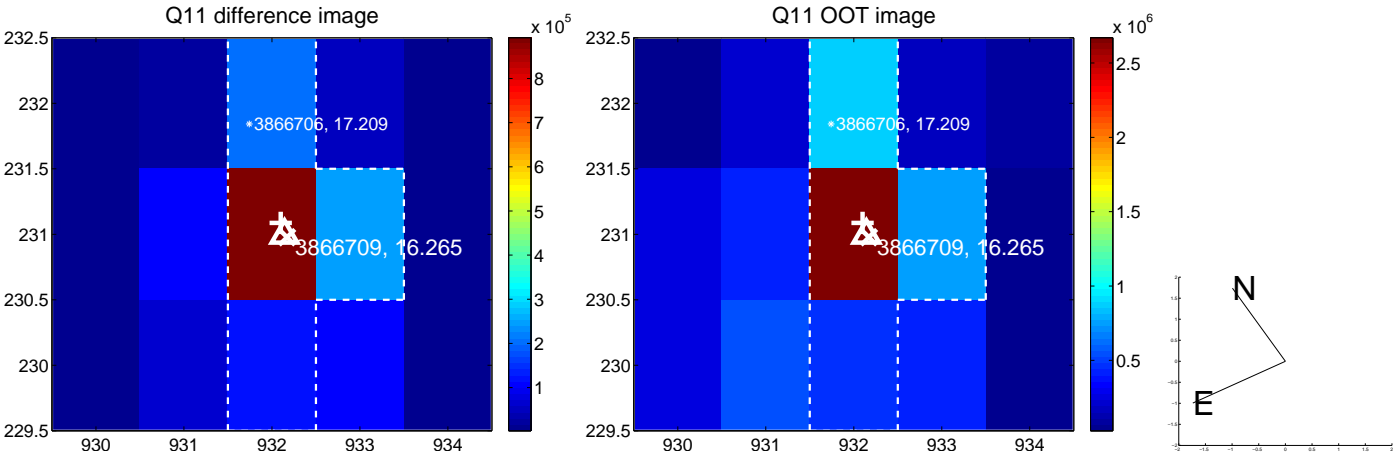
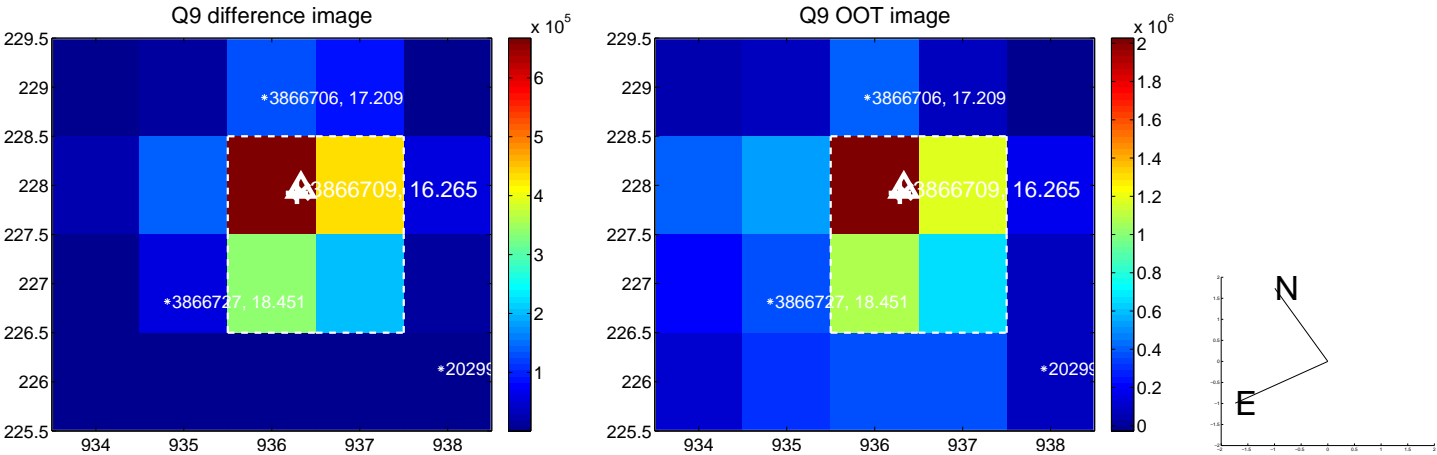
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



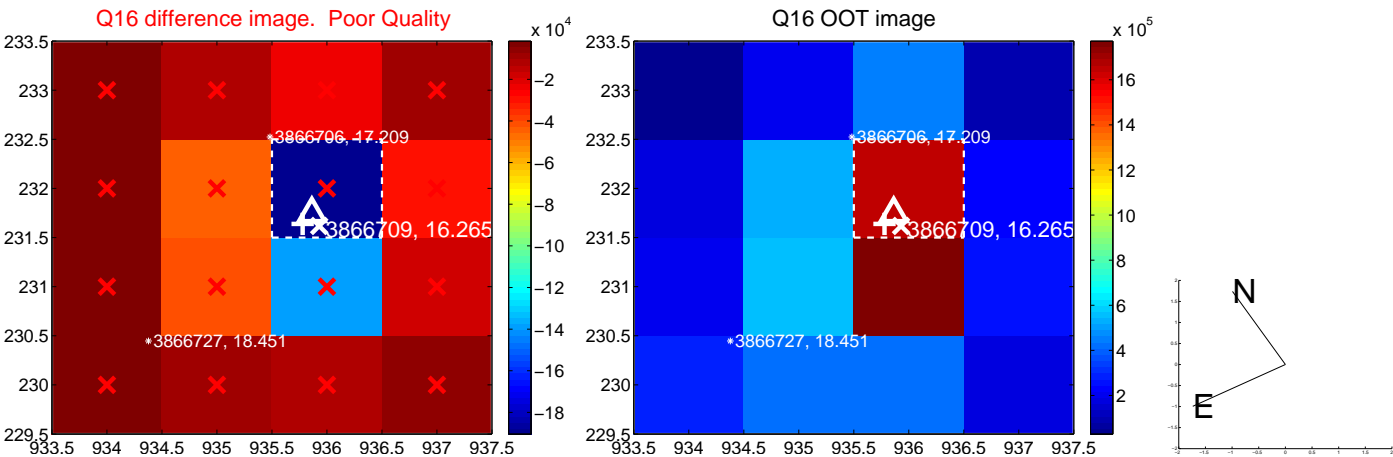
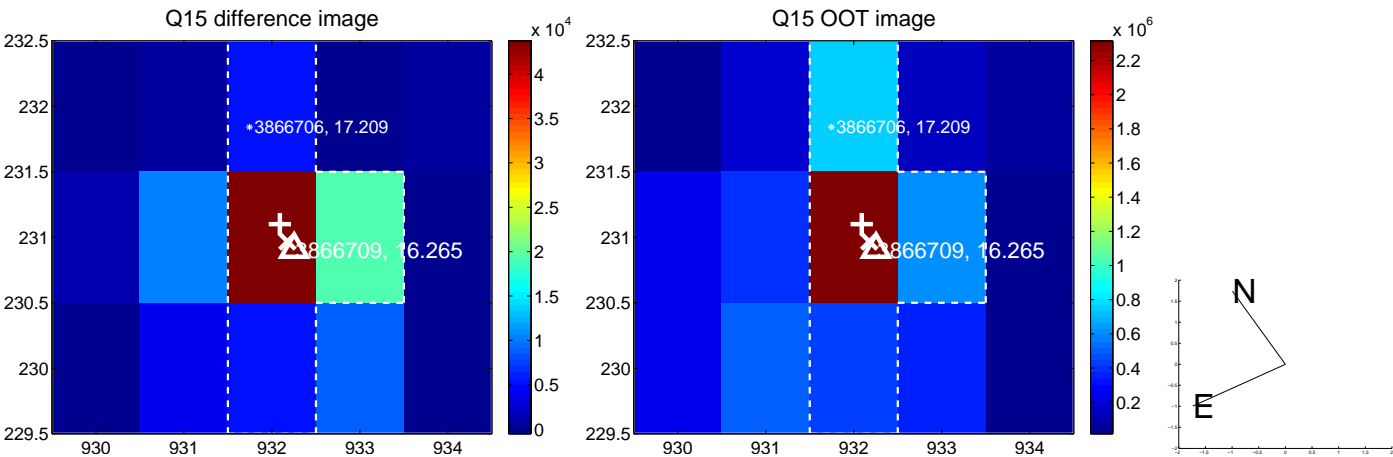
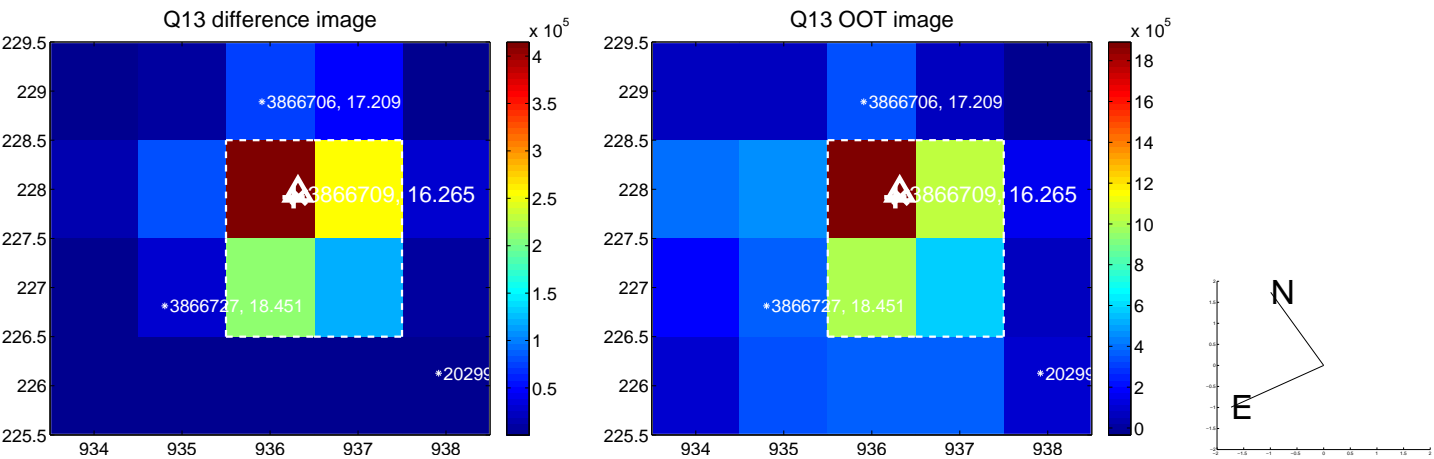
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



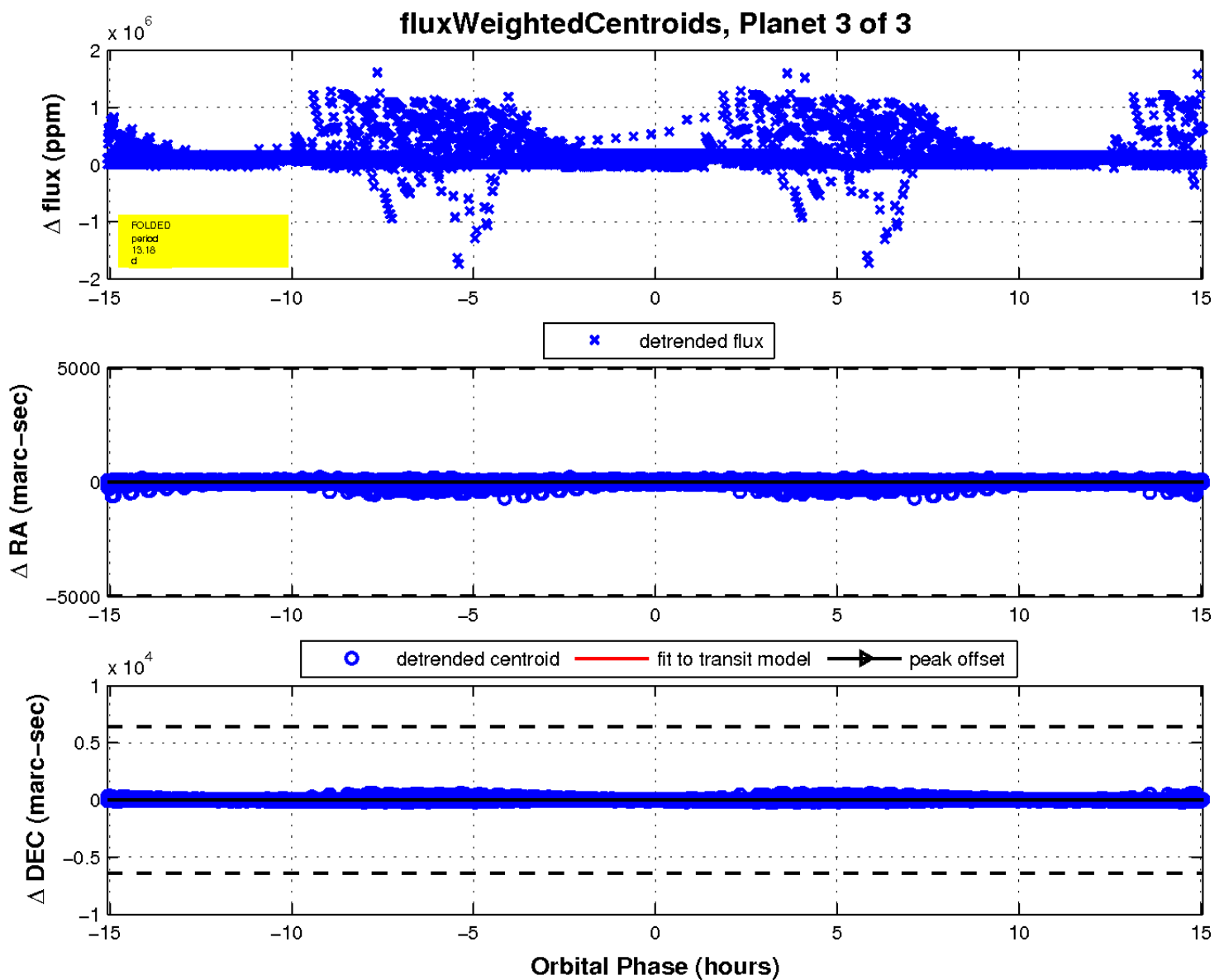
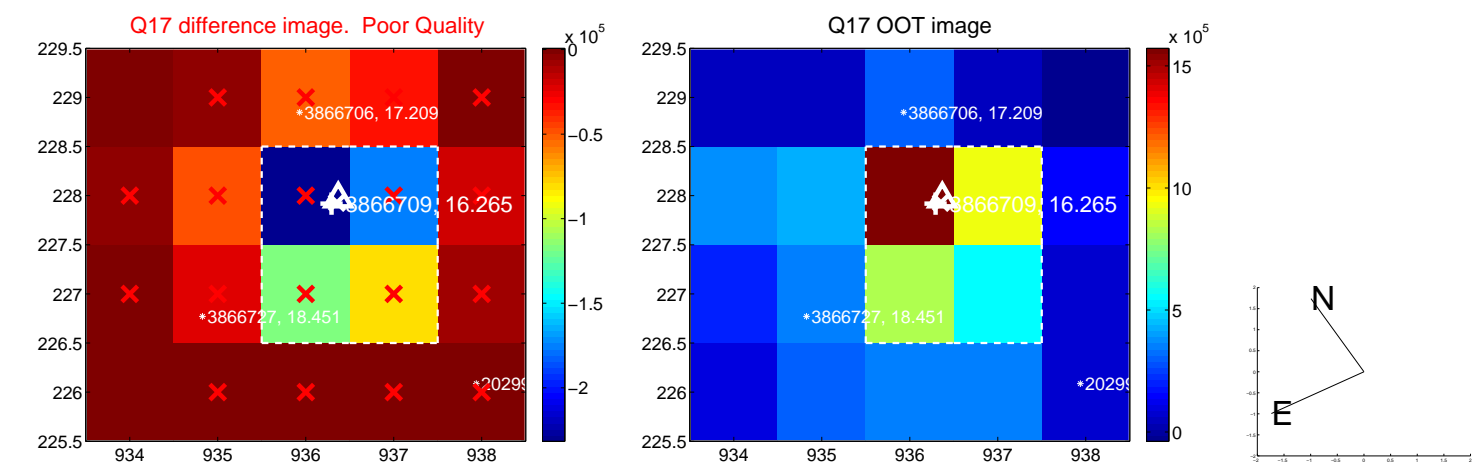
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

