

KIC 003766353

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})
003766353-01	OBS	6359.01	2.666969	133.718317	6693.6	2.101	414.0	482.8	0.97	6609	10.94	1104.38
003766353-02	OBS	No	2.666935	132.838609	372.2	1.567	30.8	33.5	0.97	6609	2.20	1104.40
003766353-03	OBS	No	2.669225	132.810430	174.3	4.776	18.6	17.4	0.97	6609	1.58	1103.14
003766353-04	OBS	No	2.667160	132.873231	310.6	7.500	11.5	-1.0	0.97	6609	1.73	1104.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003766353-01	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED—HAS_SEC_TCE
003766353-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
003766353-03	OBS	FP	0.00	1	0	0	0	LPP_DV
003766353-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—SAME_NTL_PERIOD—CENT_NOFITS

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

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

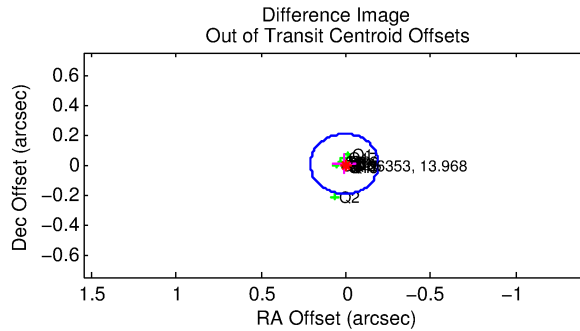
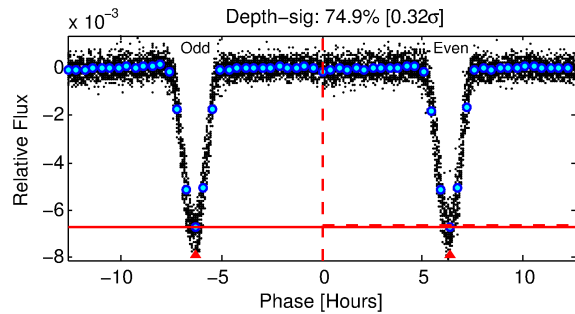
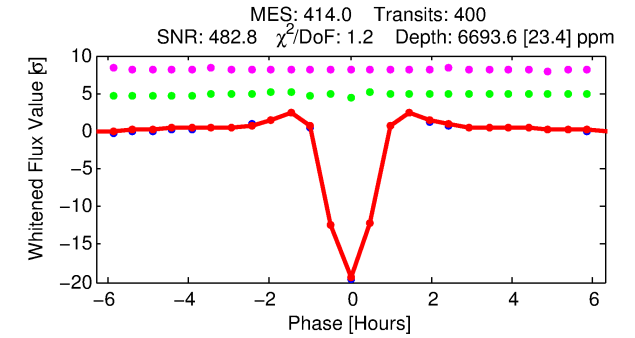
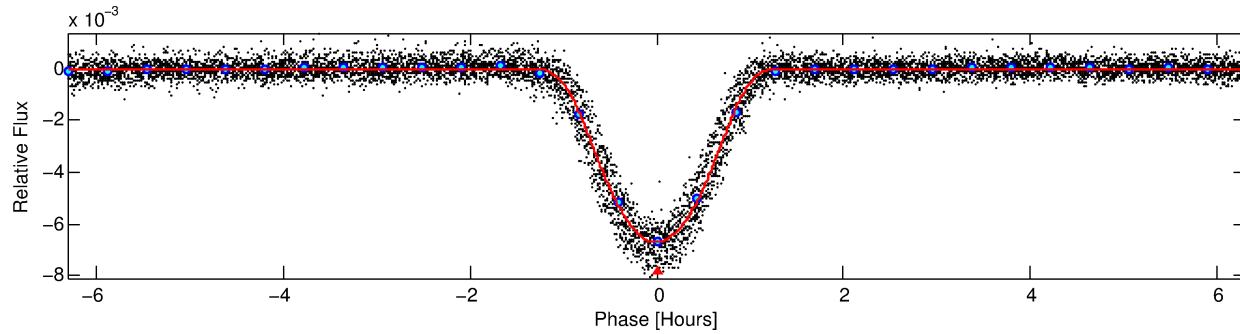
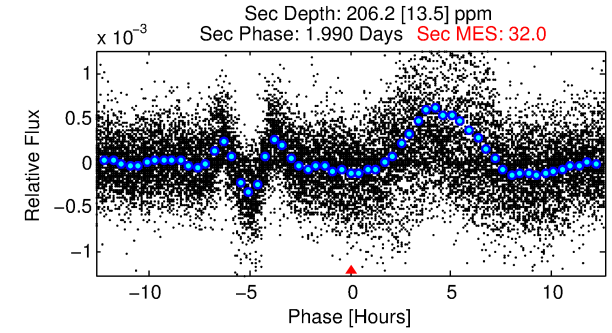
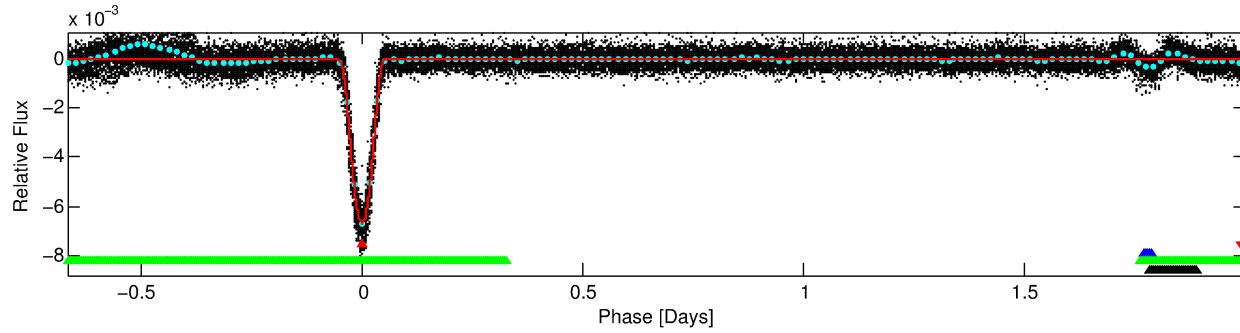
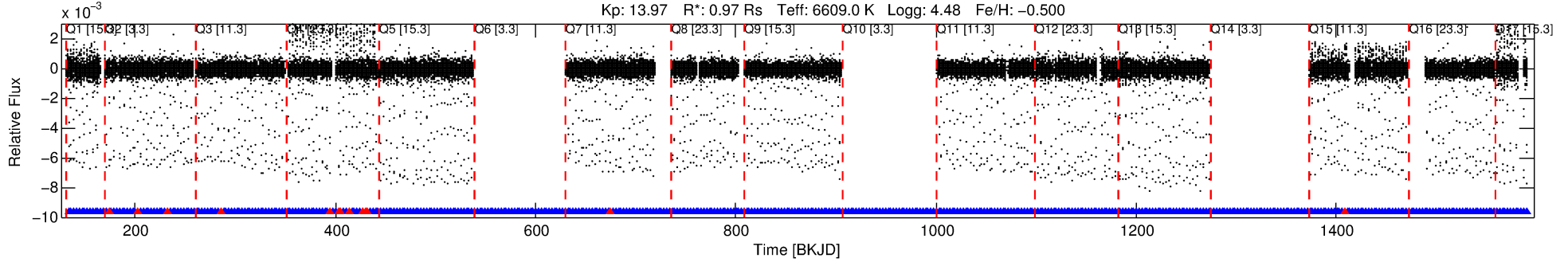
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003766353-01

No Significant Match Found

DV One-Page Summary

KIC: 3766353 Candidate: 1 of 4 Period: 2.667 d
KOI: K06359.01 Corr: 0.944



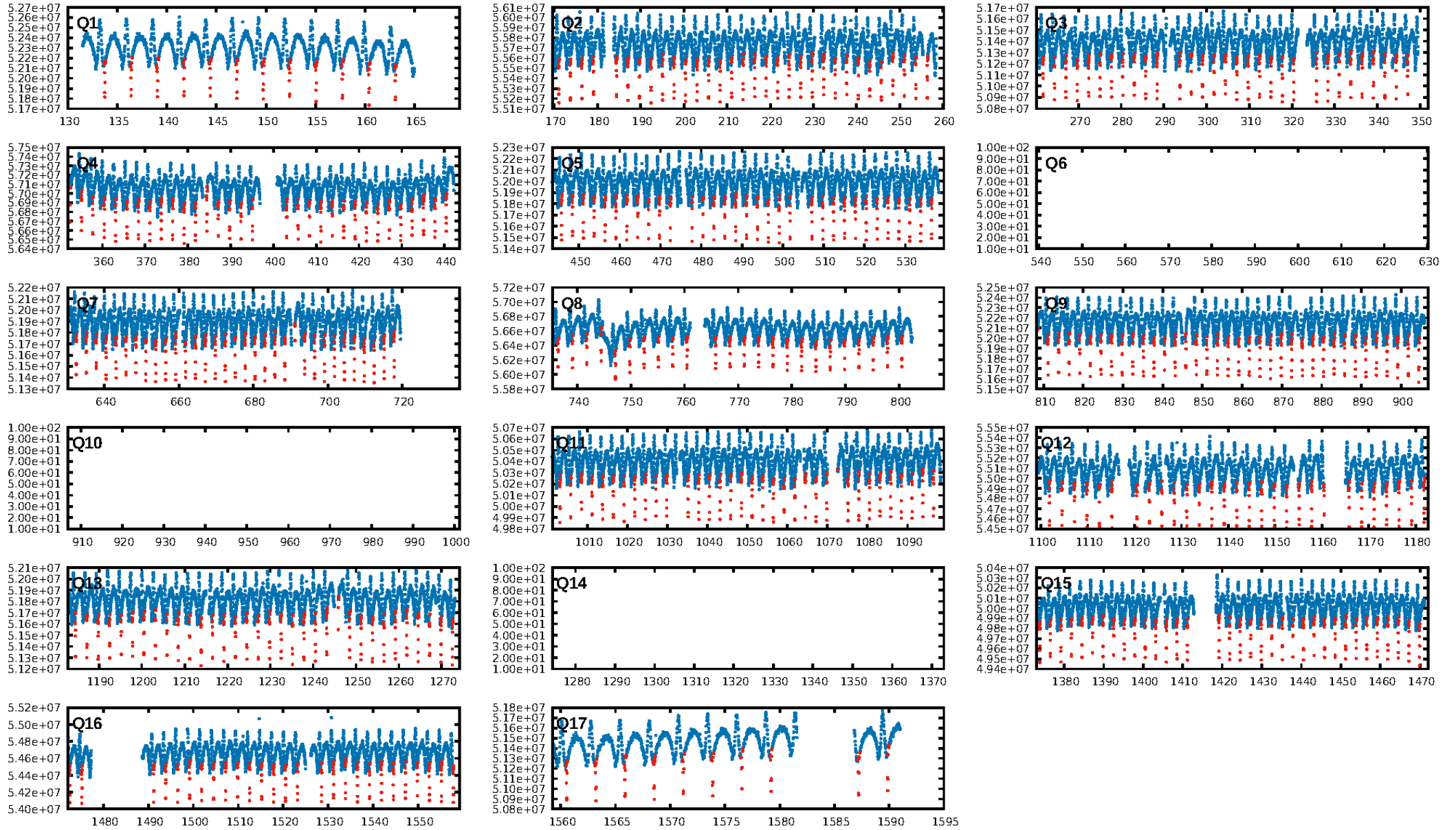
DV Fit Results:

Period = 2.66697 [0.00000] d
Epoch = 133.7183 [0.0001] BKJD
Rp/R* = 0.1029 [0.0033]
a/R* = 5.57 [0.07]
b = 0.95 [0.01]
Seff = 1104.38 [494.77]
Teq = 1470 [165] K
Rp = 10.94 [4.04] Re
a = 0.0383 [0.0116] AU
Ag = 1.39 [0.61] [0.64 σ]
Teffp = 2469 [99] K [5.20 σ]

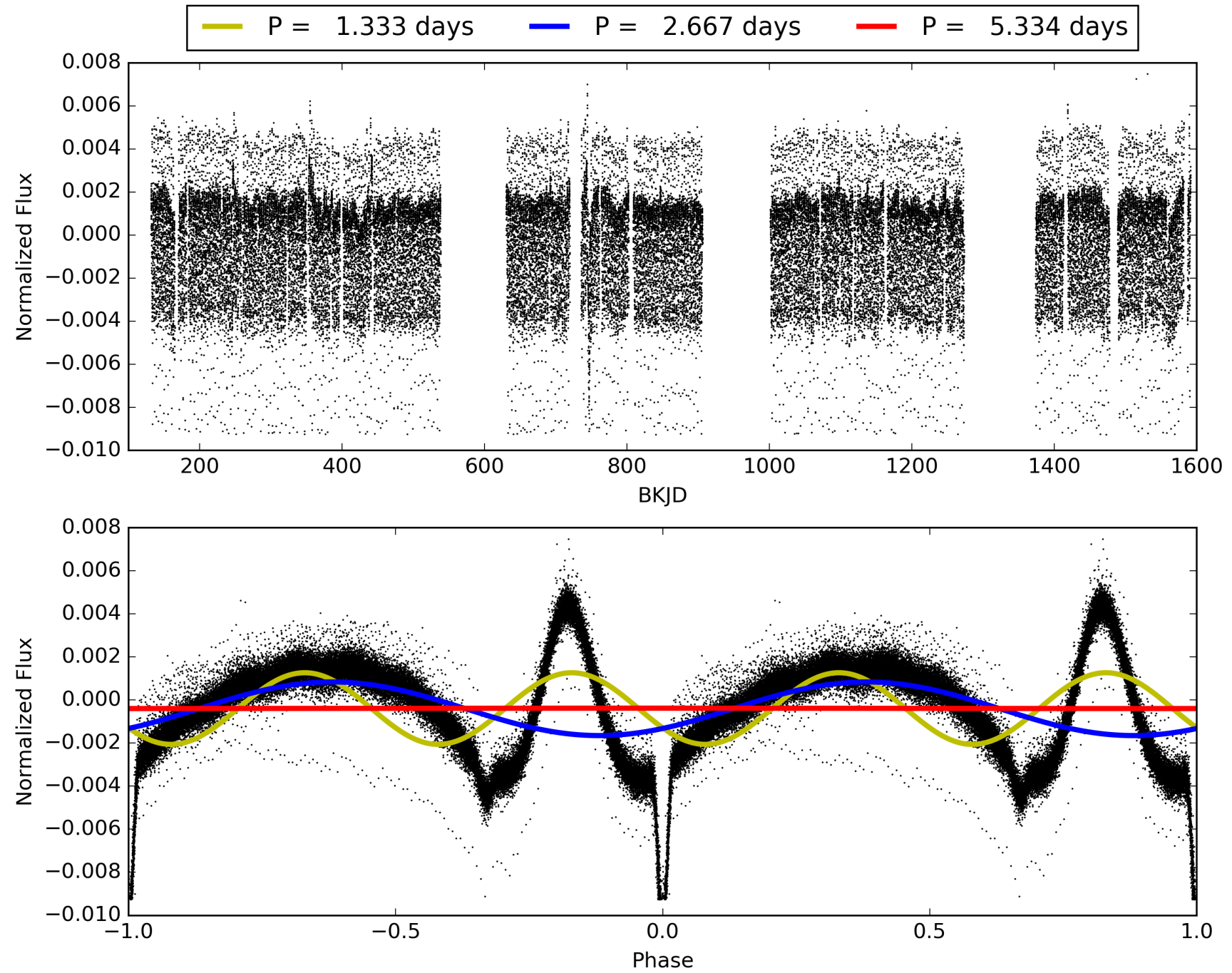
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.97 [365/378]
GhostDiagnostic-chr: 4.426
Centroid-sig: 0.0%
Centroid-so: 0.415 arcsec [19.50 σ]
OotOffset-rm: 0.012 arcsec [0.18 σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-rm: 0.208 arcsec [2.96 σ]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 0.50 [7/14]

TCE 003766353-01, PDC Light Curves

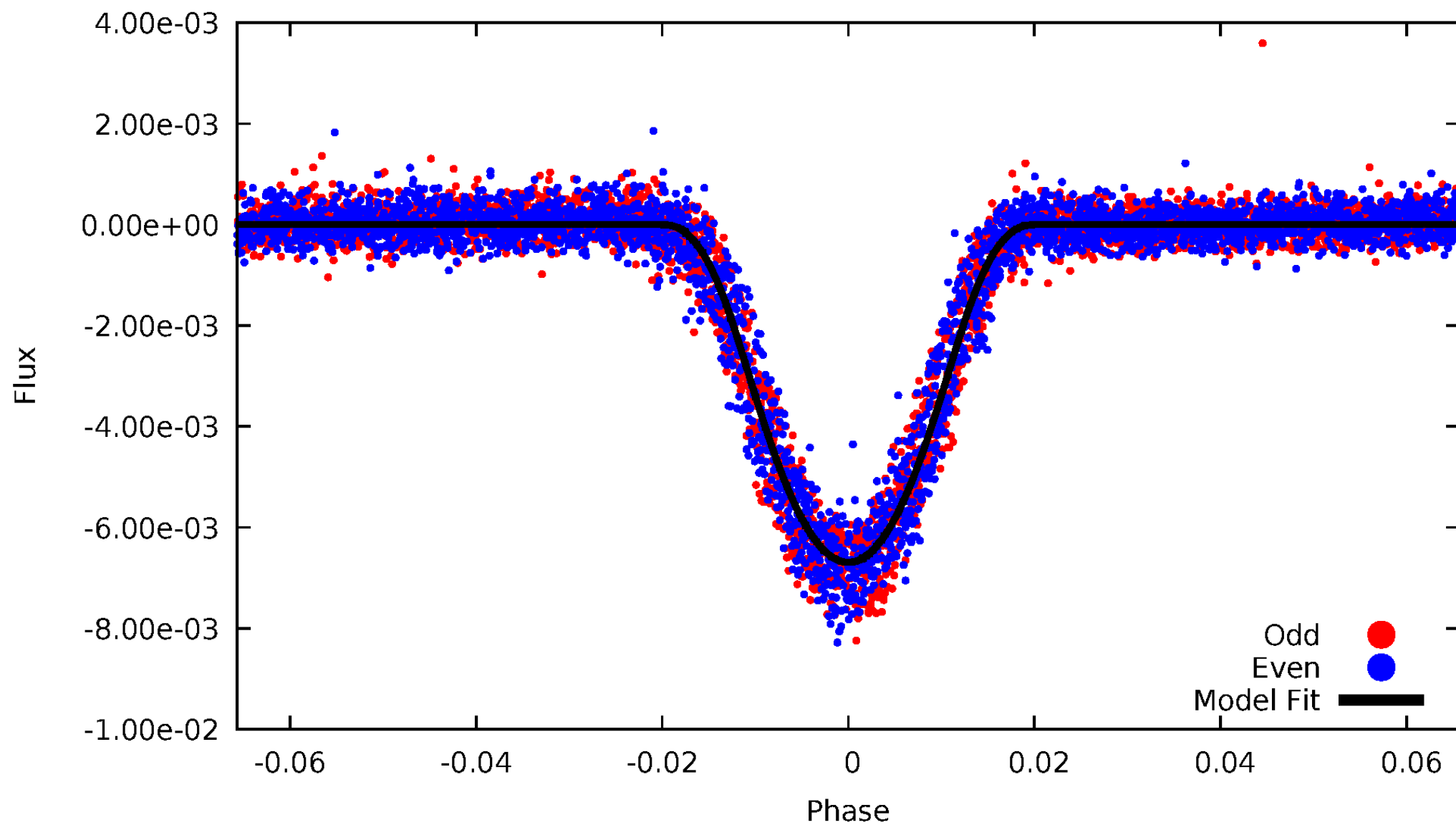


TCE 003766353-01



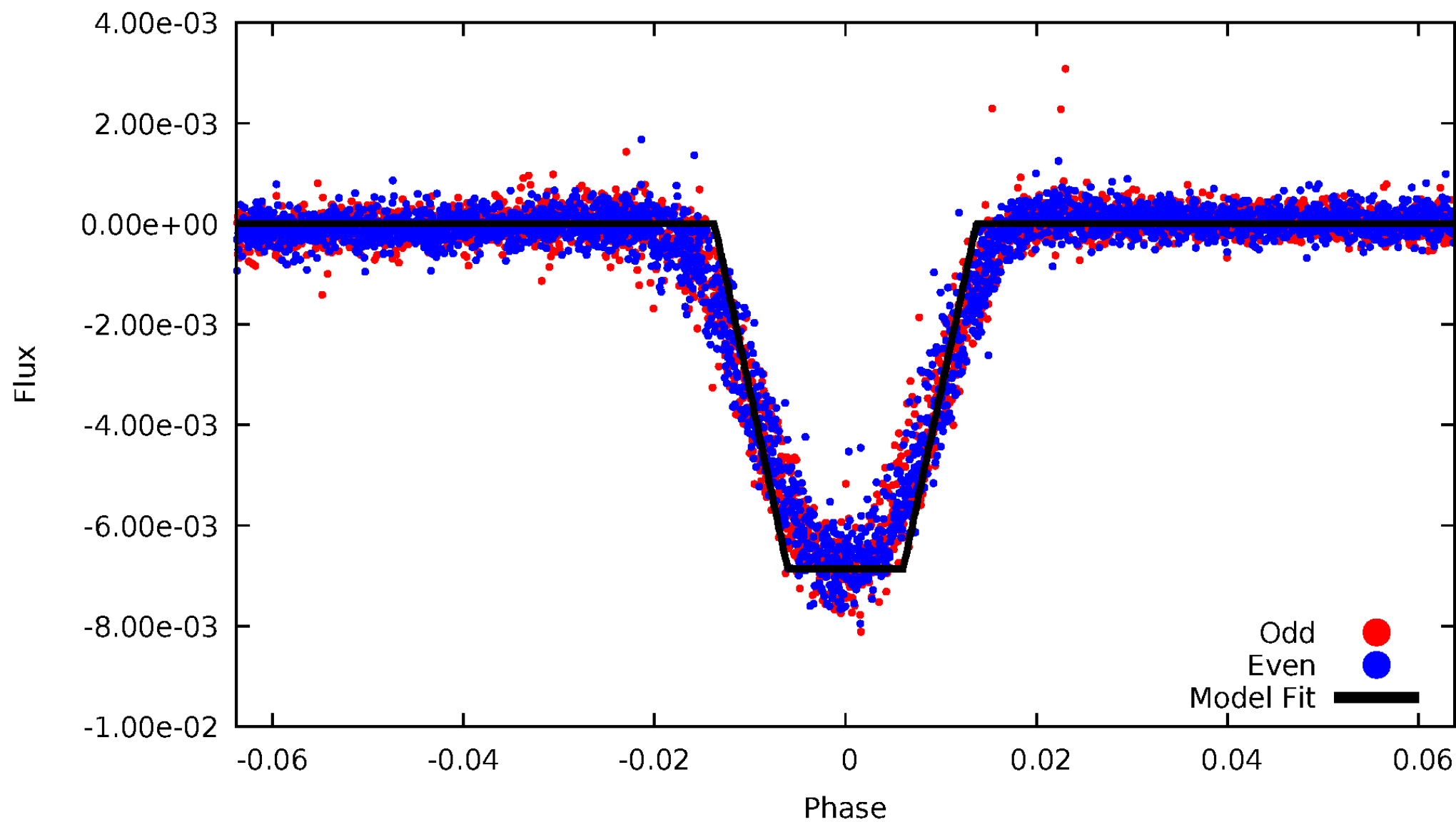
DV Odd/Even

TCE 003766353-01

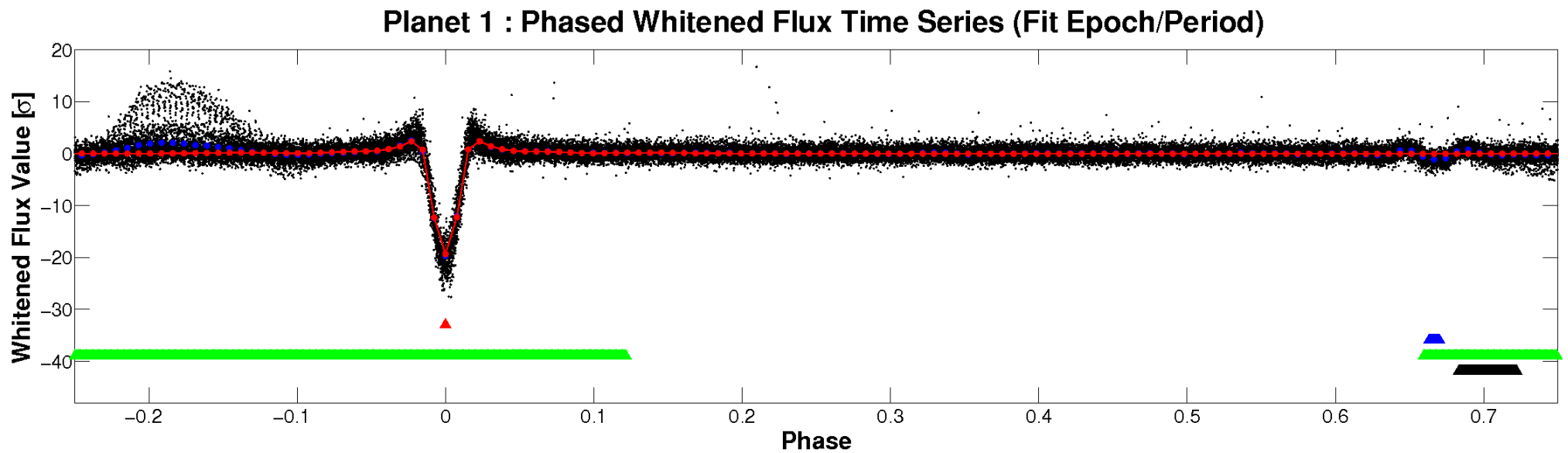
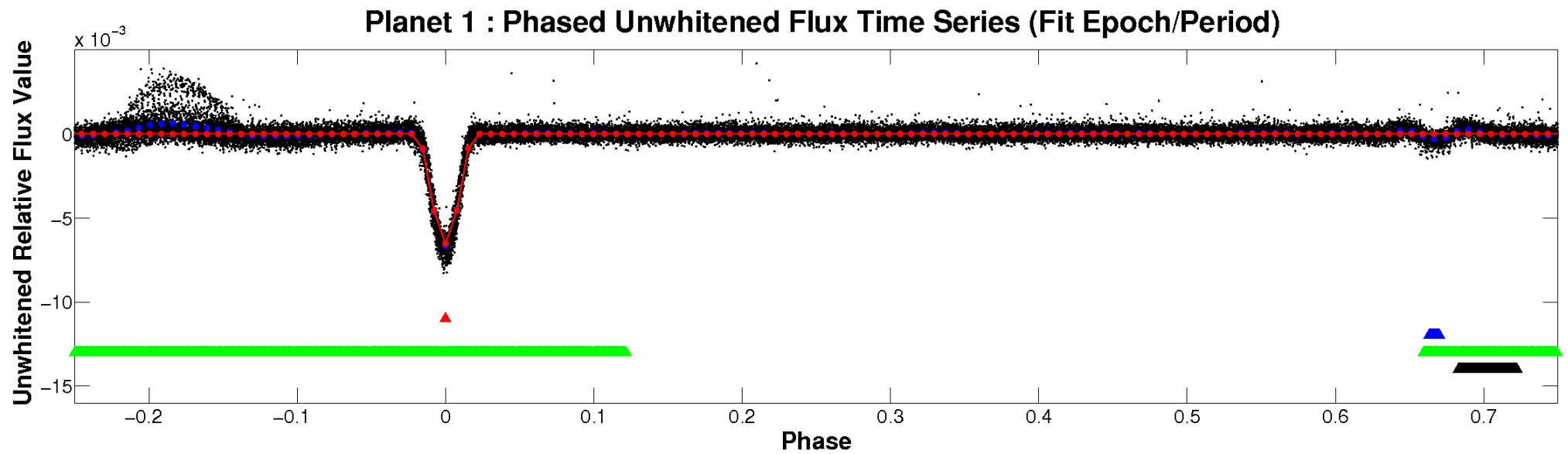


ALT Odd/Even

TCE 003766353-01

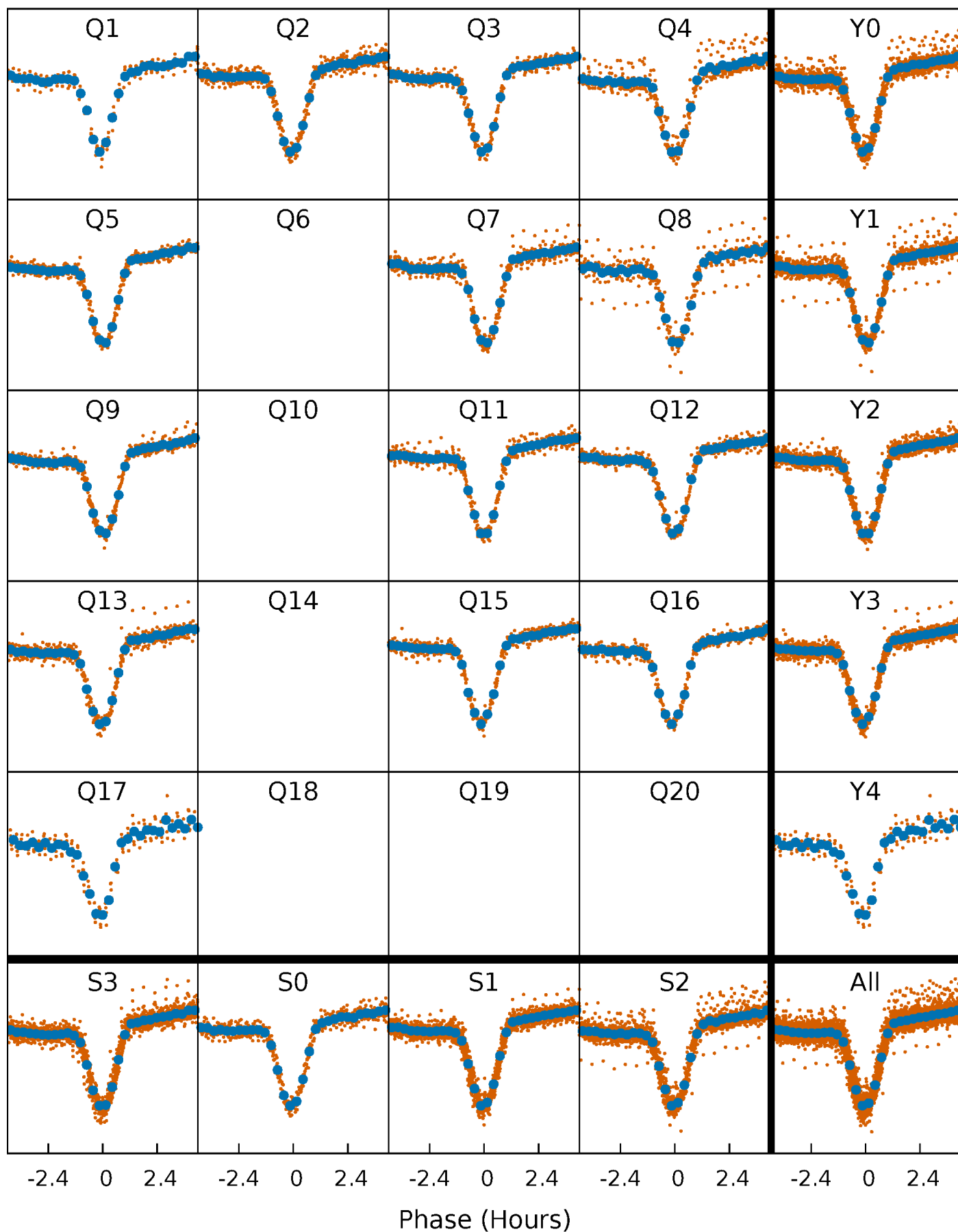


Non-Whitened Vs. Whitened Light Curve



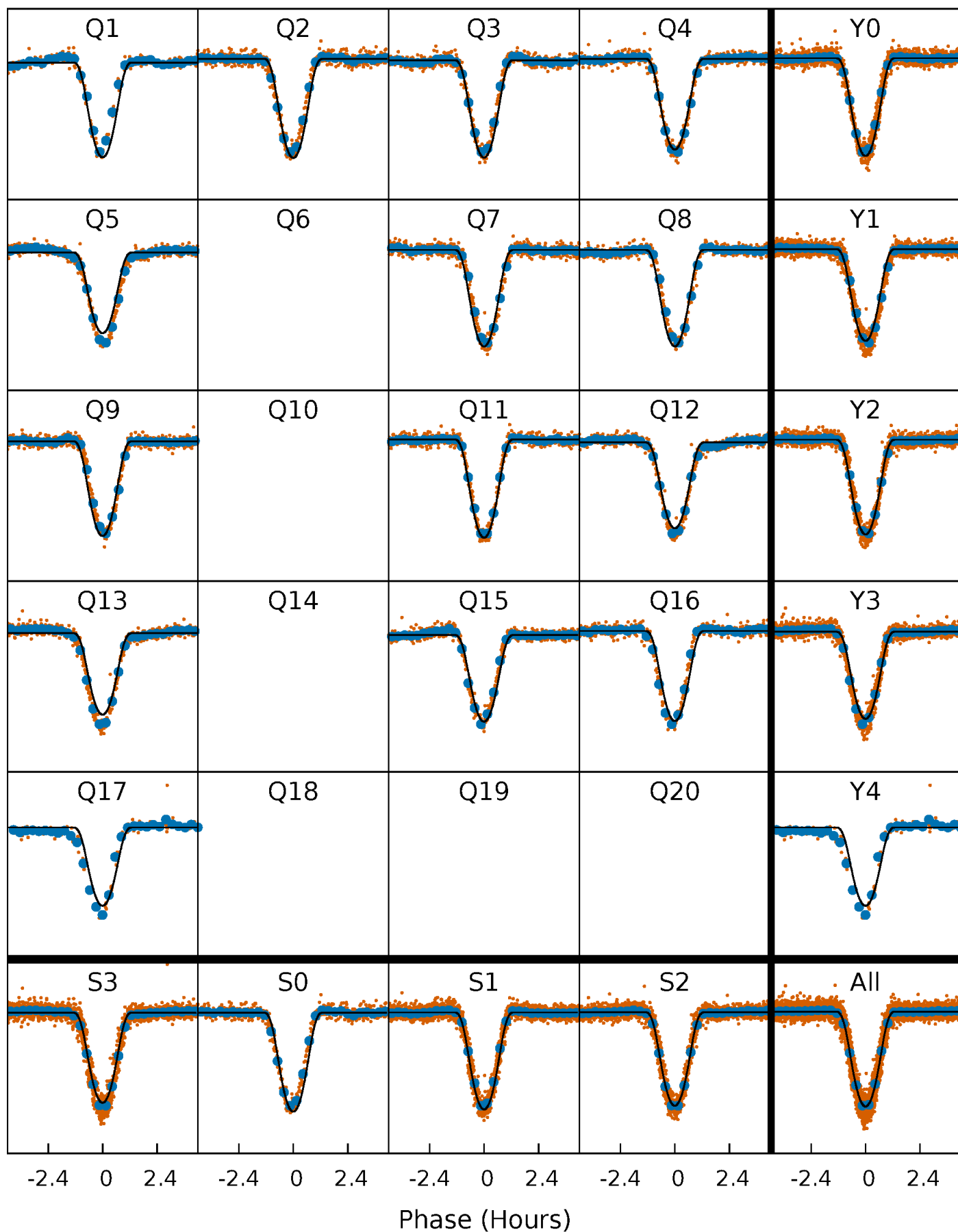
PDC Quarter-Phased Transit Curves

TCE 003766353-01 P= 2.666969 Days $T_0=133.718317$ (BKJD)



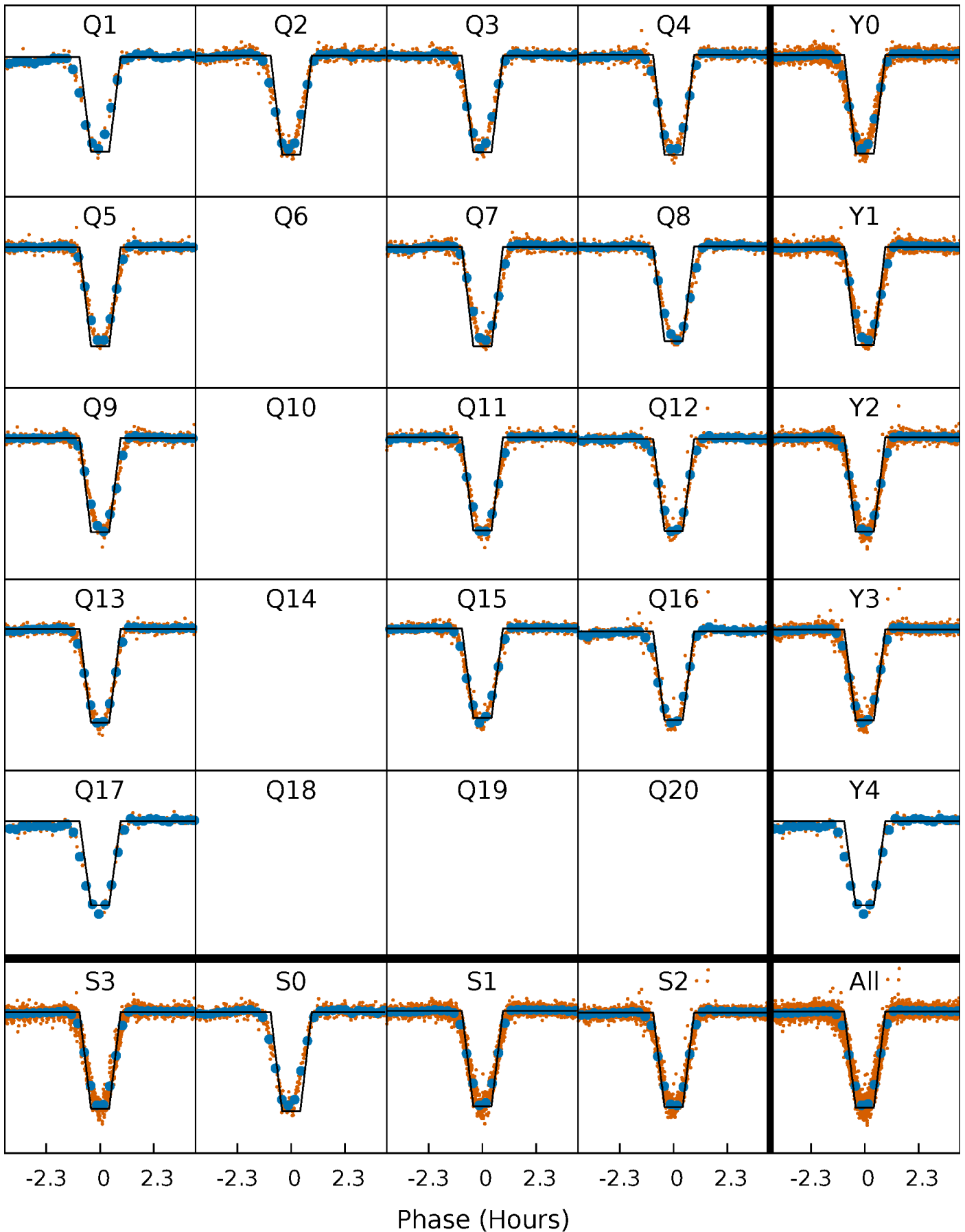
DV Quarter-Phased Transit Curves

TCE 003766353-01 P= 2.666969 Days $T_0=133.718317$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

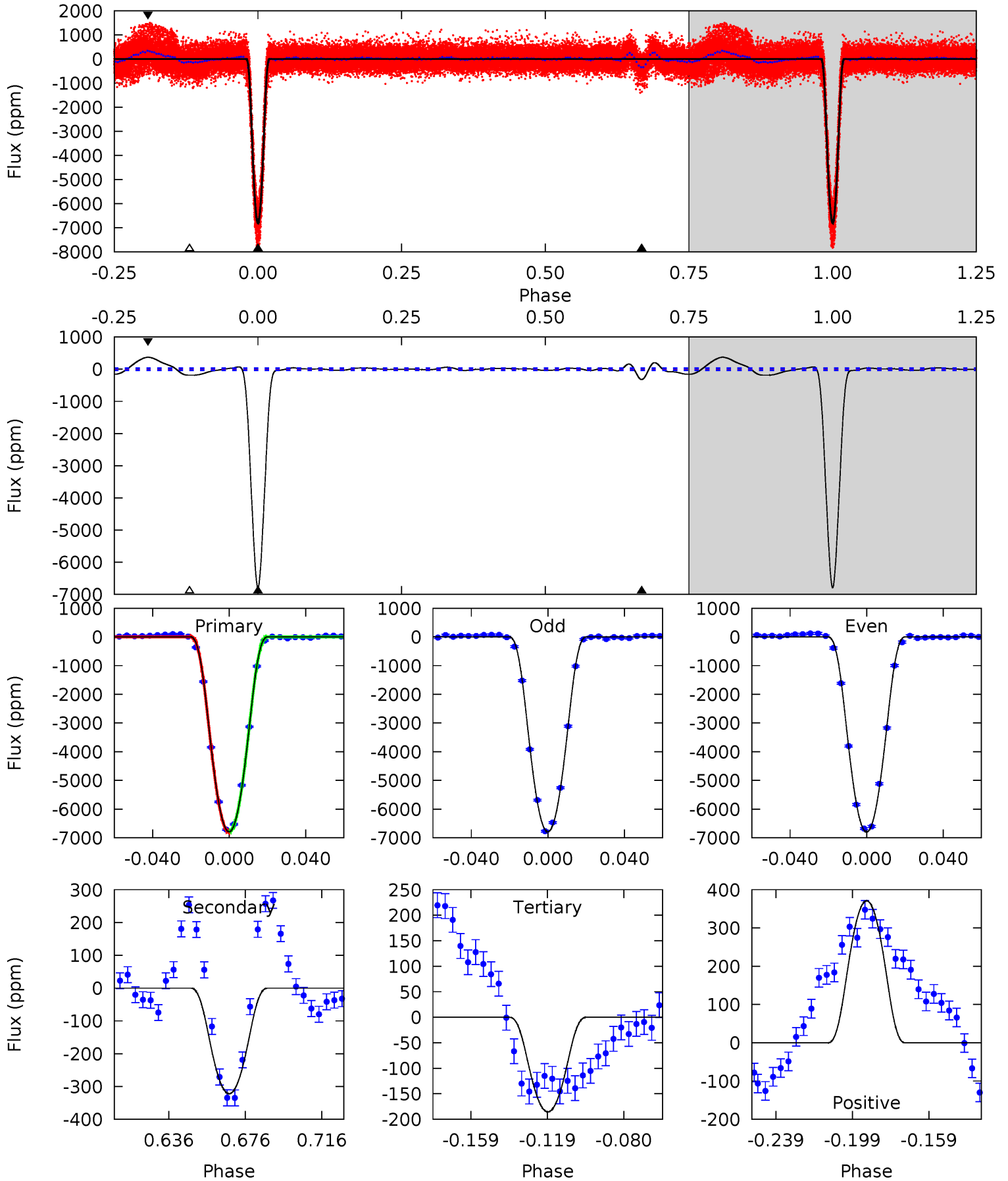
TCE 003766353-01 P= 2.666959 Days $T_0=133.720478$ (BKJD)



DV Model-Shift Uniqueness Test

003766353-01, P = 2.666969 Days, E = 131.051348 Days

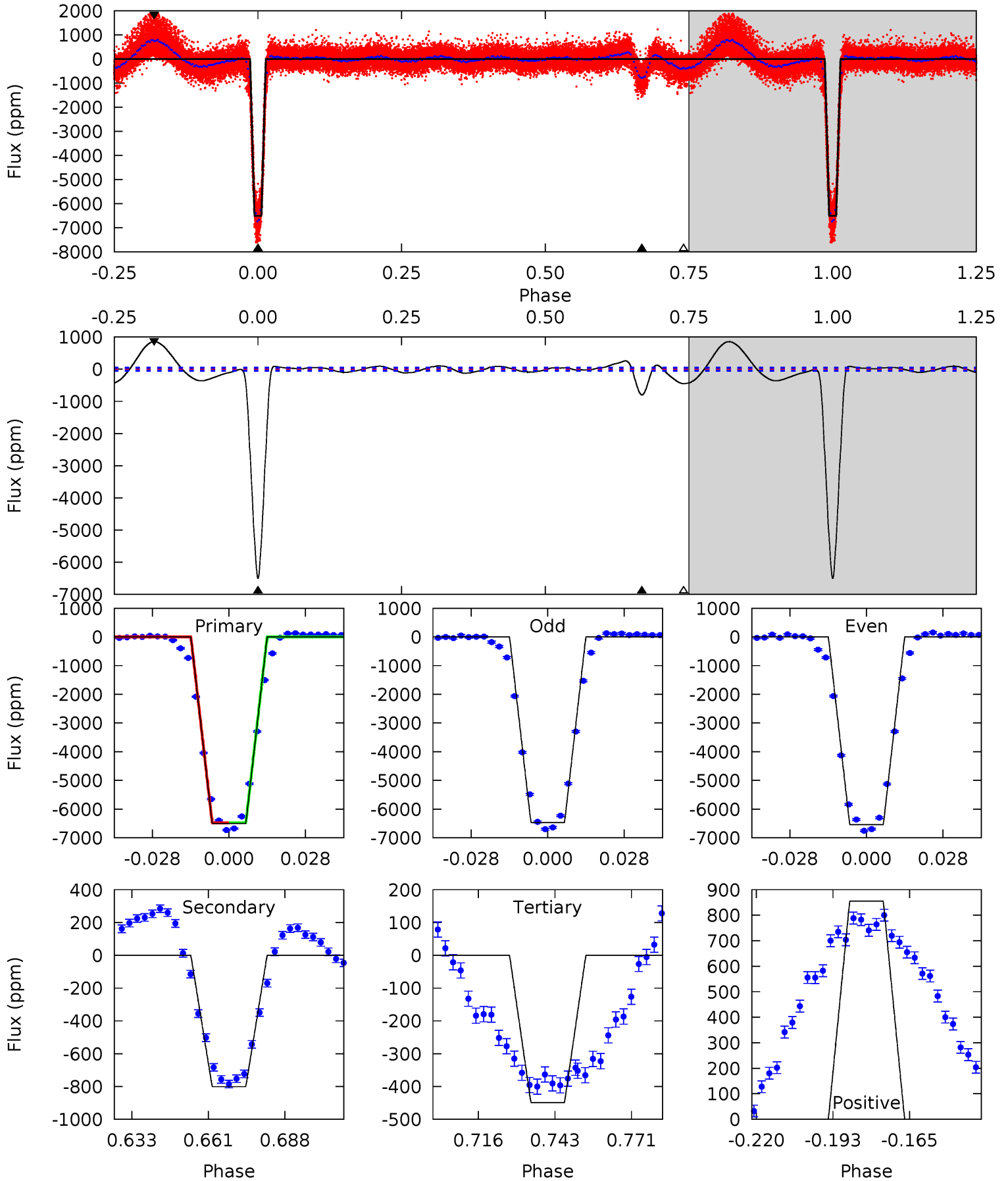
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
991.7	47.0	27.1	54.2	4.75	2.06	13.3	964.7	937.6	20.0	-7.14	0.39	1.02	0.05	1.68



Alt Model-Shift Uniqueness Test

003766353-01, P = 2.666959 Days, E = 131.053519 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
702.4	86.5	48.5	92.4	4.83	2.20	24.1	653.9	610.0	38.0	-5.90	4.12	1.00	0.12	0.26



Stellar Parameters For KIC 003766353

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6609^{+157}_{-216}	$4.484^{+0.040}_{-0.229}$	$-0.500^{+0.300}_{-0.300}$	$0.974^{+0.358}_{-0.084}$	$1.073^{+0.149}_{-0.122}$	$1.638^{+0.264}_{-0.938}$
	+2%/-3%	+1%/-5%	+60%/-60%	+37%/-9%	+14%/-11%	+16%/-57%
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 003766353-01 / KOI 6359.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-322 ± 7	$11.48^{+1.83}_{-1.06}$	2105^{+148}_{-99}	3219^{+67}_{-79}	$1.973^{+0.319}_{-0.506}$
Alt.	-801 ± 9	$9.20^{+1.83}_{-0.89}$	2103^{+184}_{-102}	4104^{+90}_{-107}	$7.552^{+1.456}_{-2.086}$

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 $A_{obs} \gg 1.0$

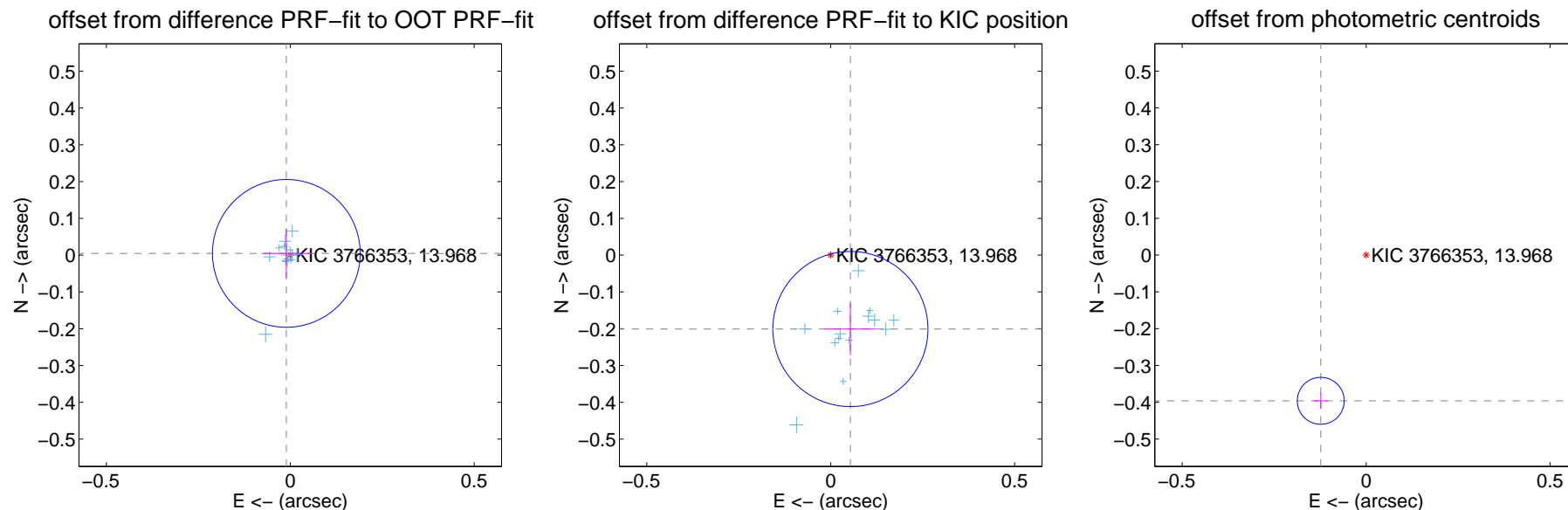
DV Centroid Data

Supplemental centroid analysis for 003766353-01. Kepler magnitude: 13.97. Transit SNR 482.84

There are 14 quarters with good PRF difference image offsets

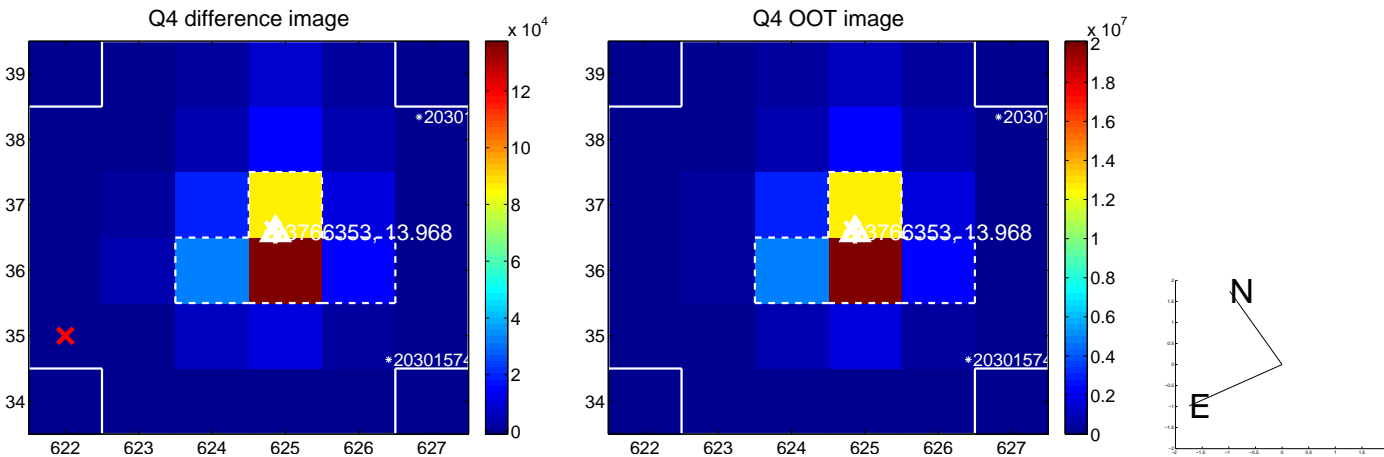
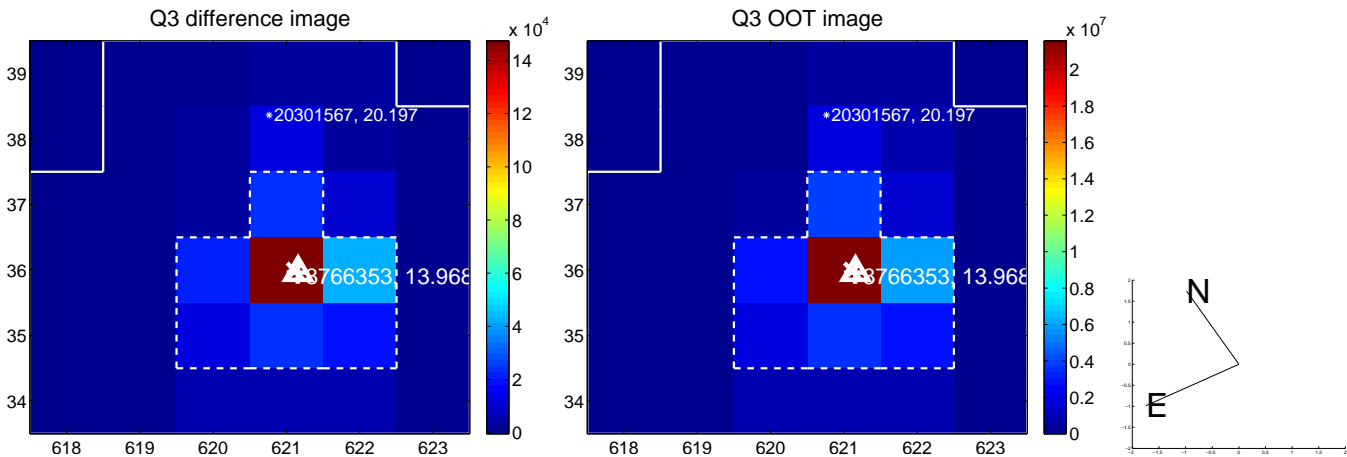
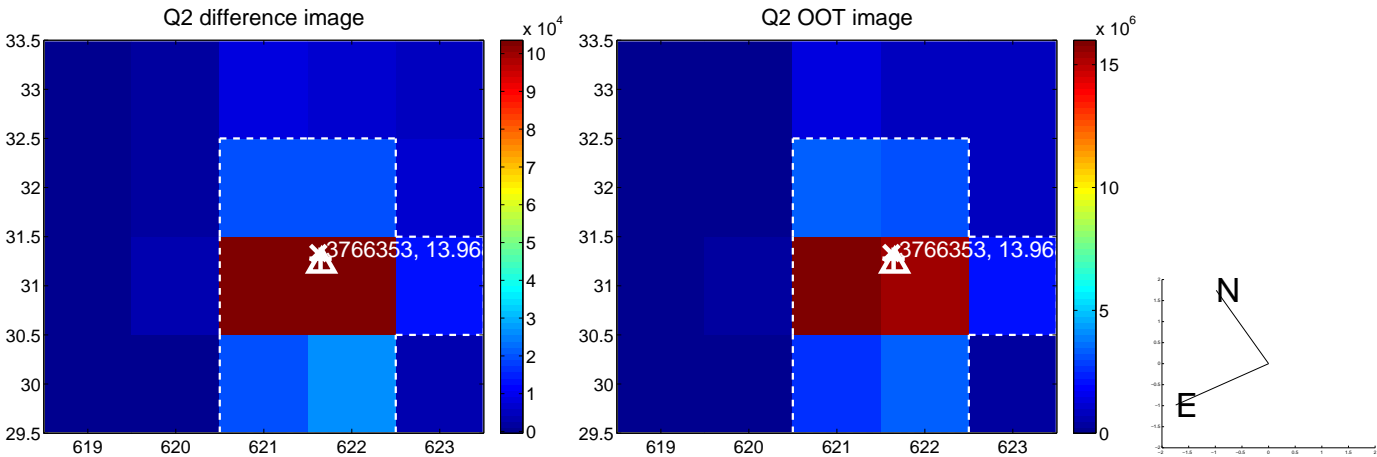
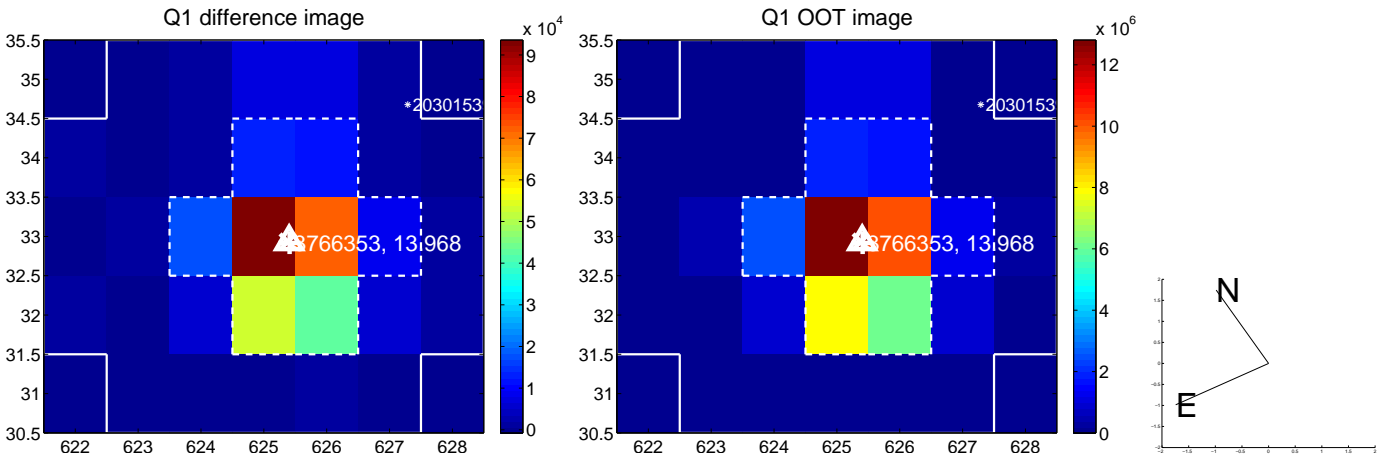
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.012 ± 0.067	0.18	0.011 ± 0.067	0.005 ± 0.067
PRF-fit source offset from KIC position	0.208 ± 0.070	2.96	-0.054 ± 0.070	-0.201 ± 0.071
photometric centroid source offset	0.41 ± 0.02	19.50	0.12 ± 0.02	-0.40 ± 0.02

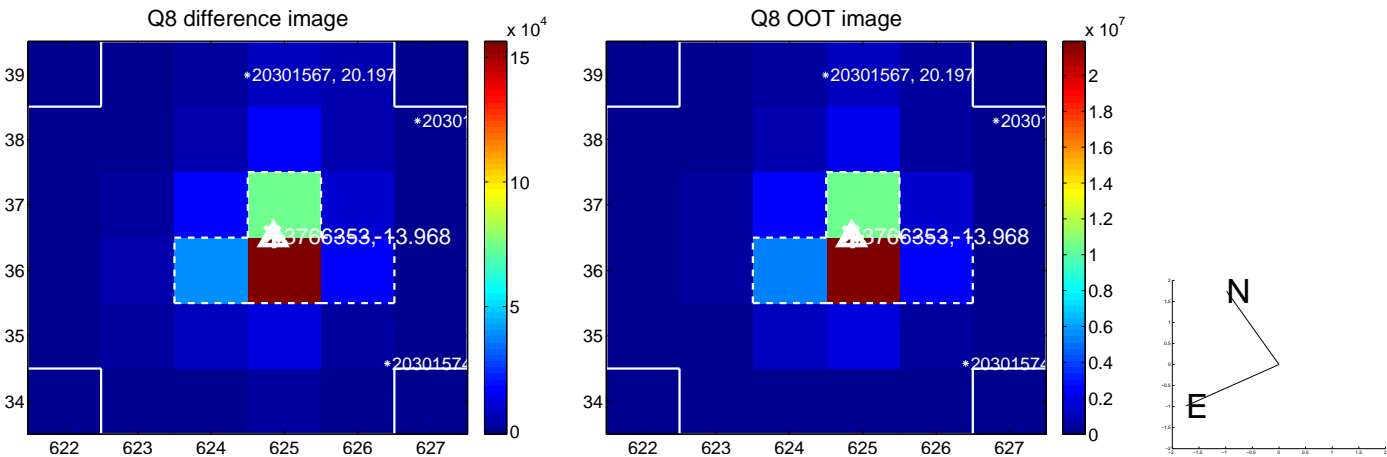
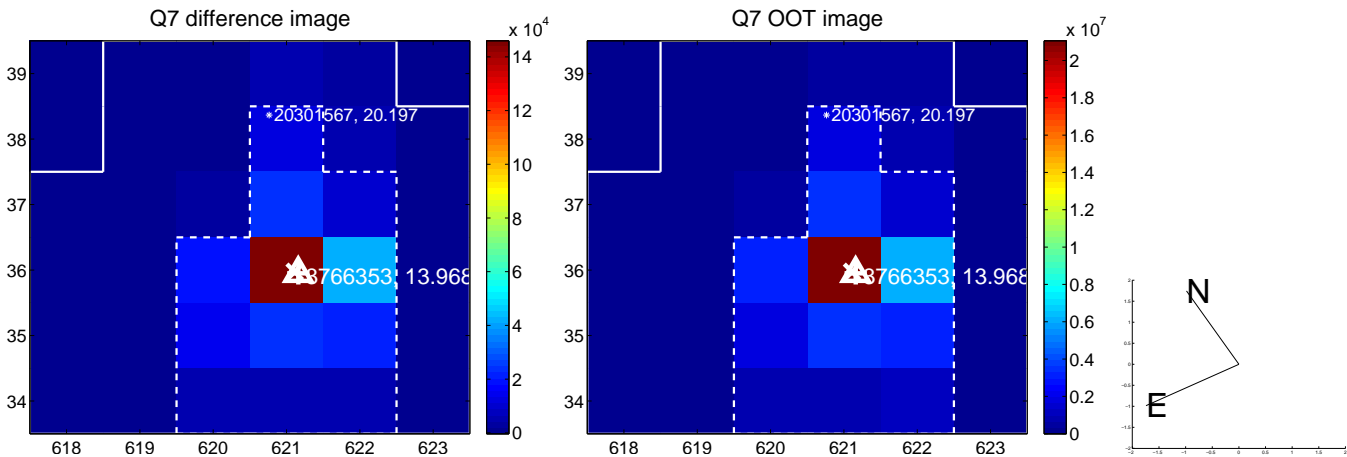
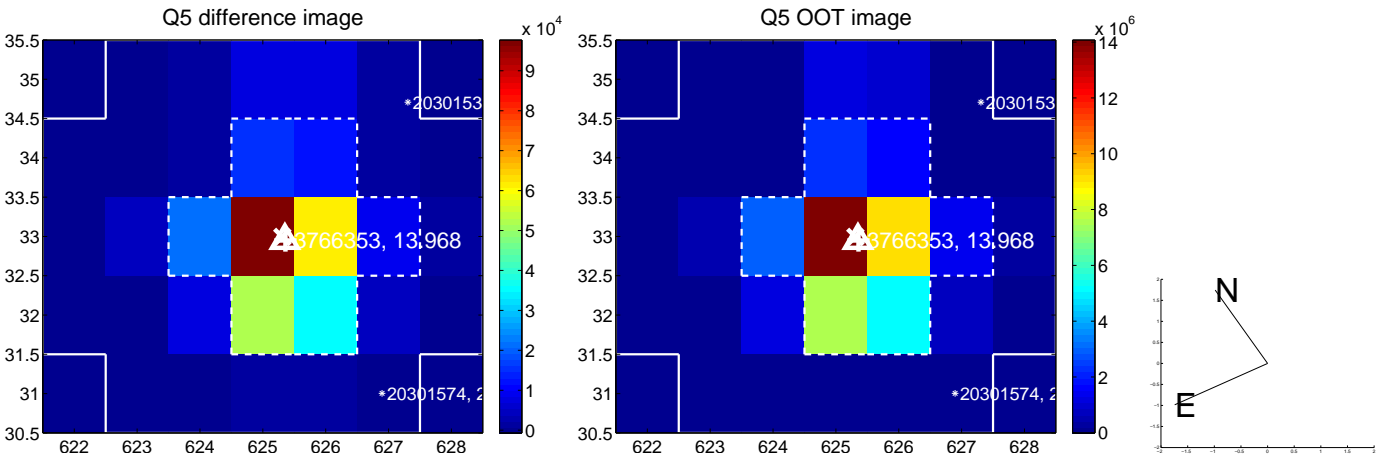


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

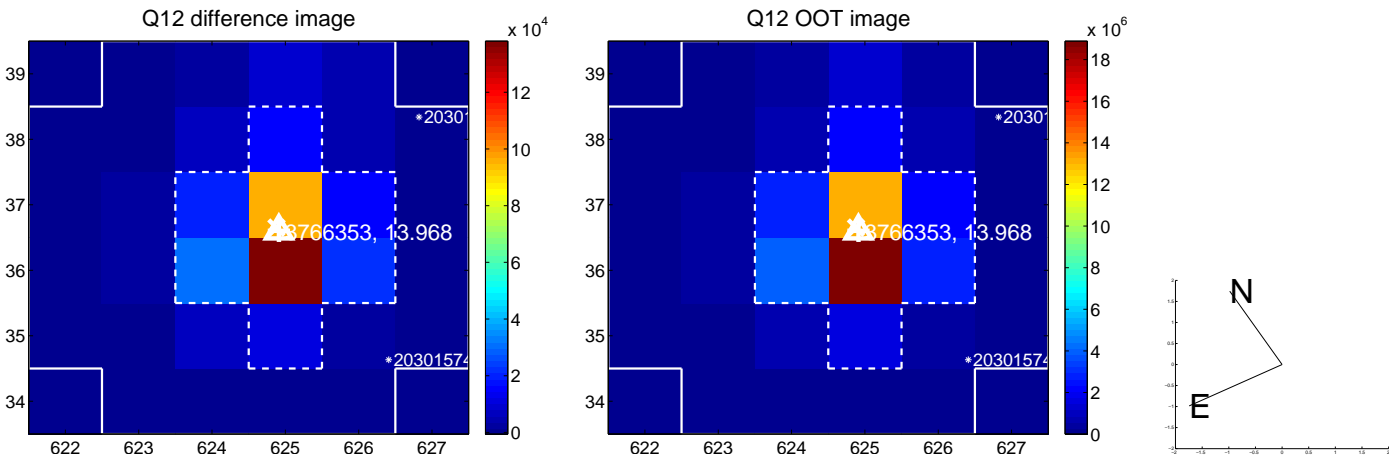
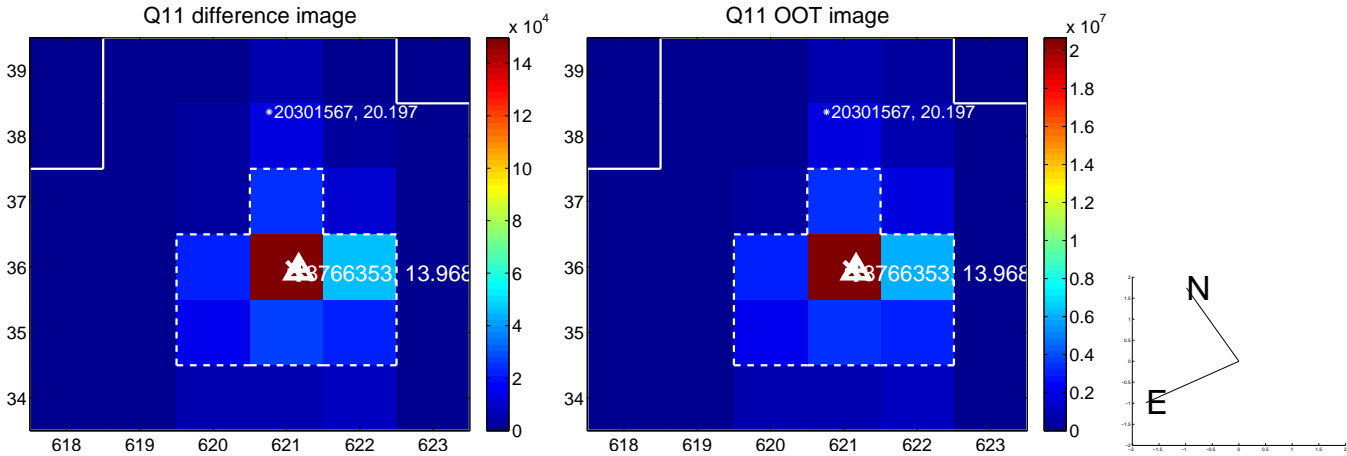
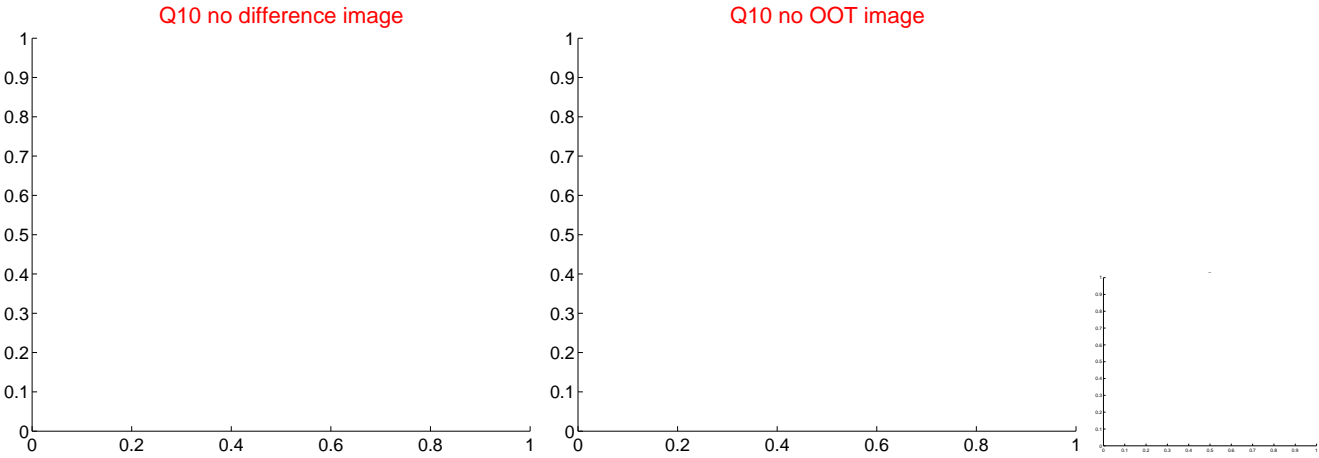
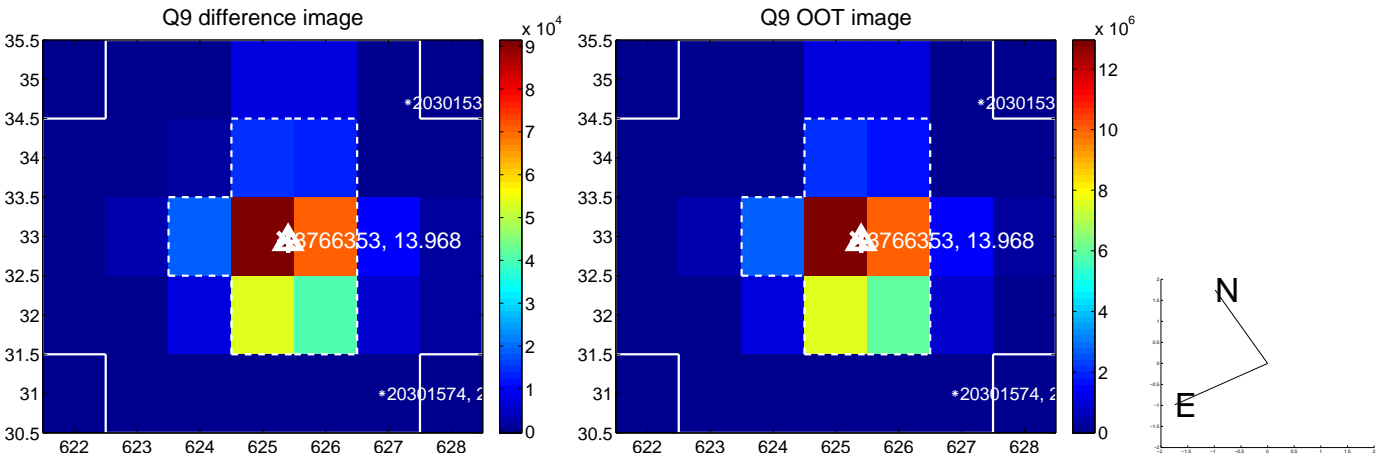
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



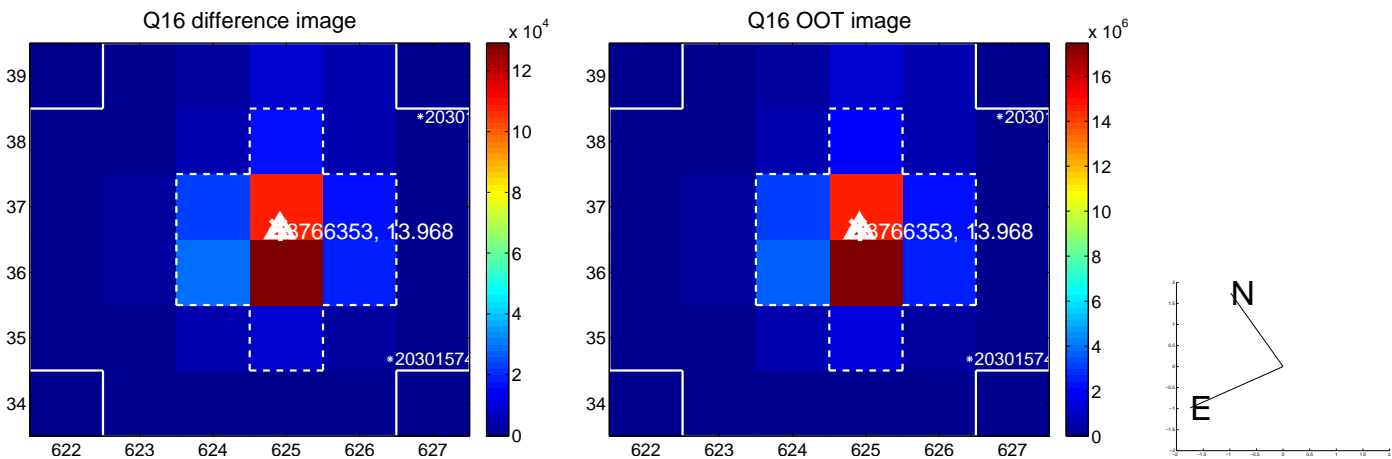
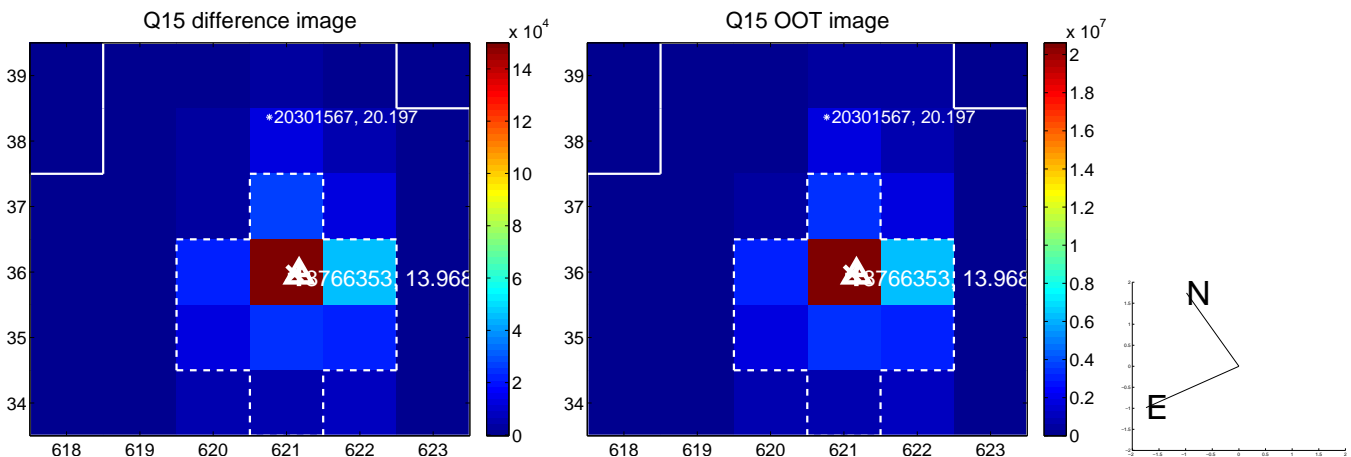
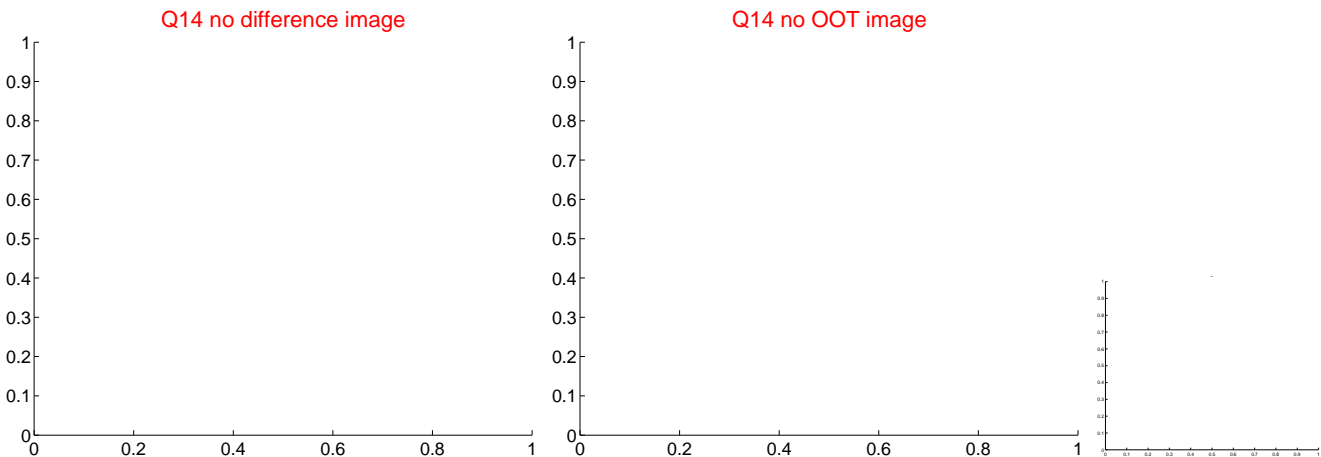
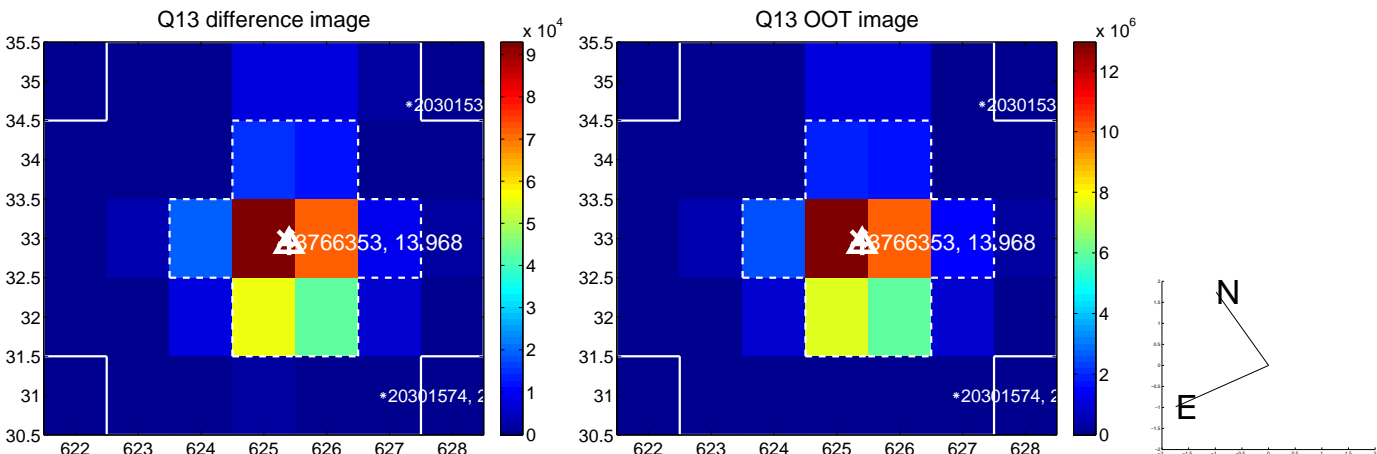
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



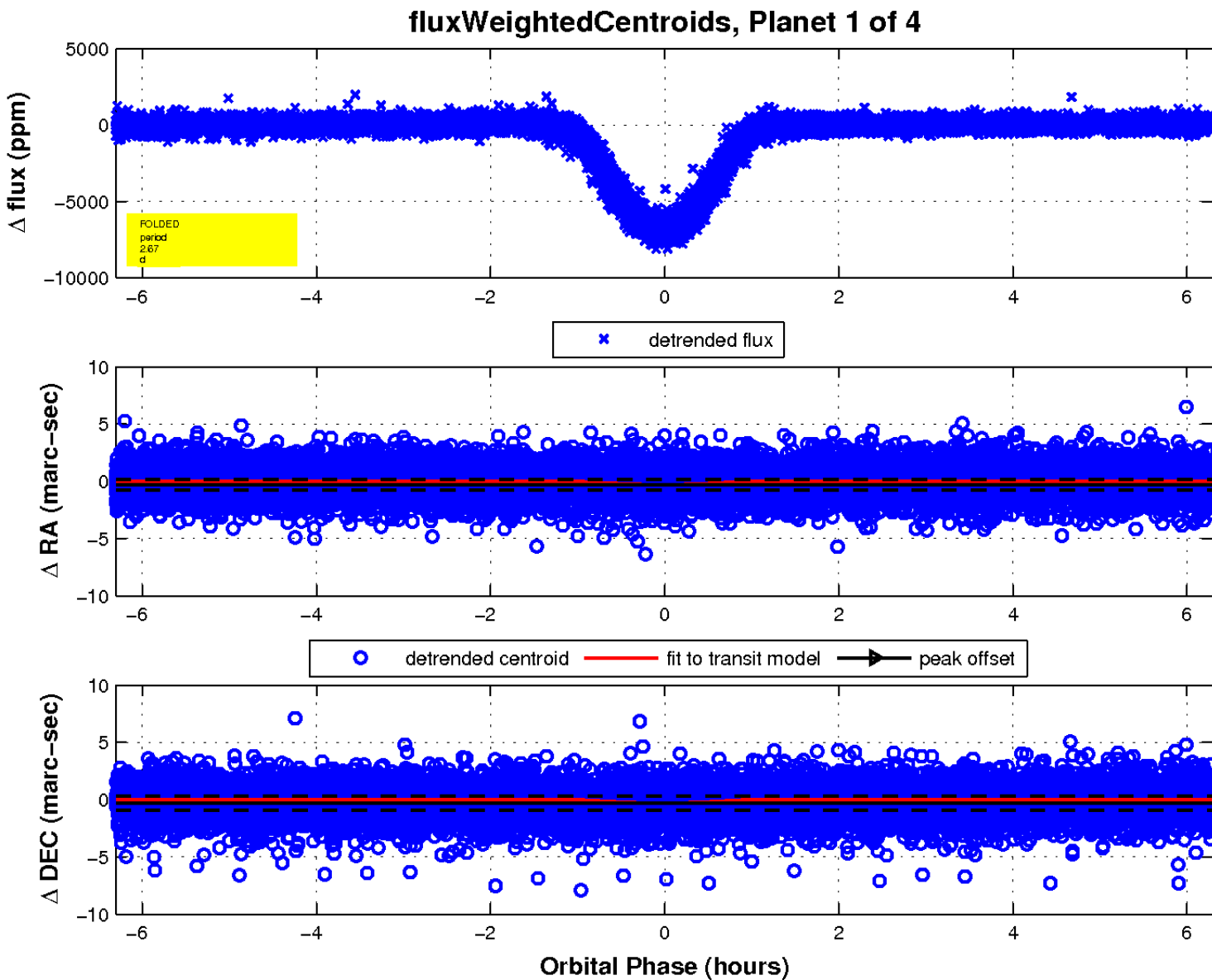
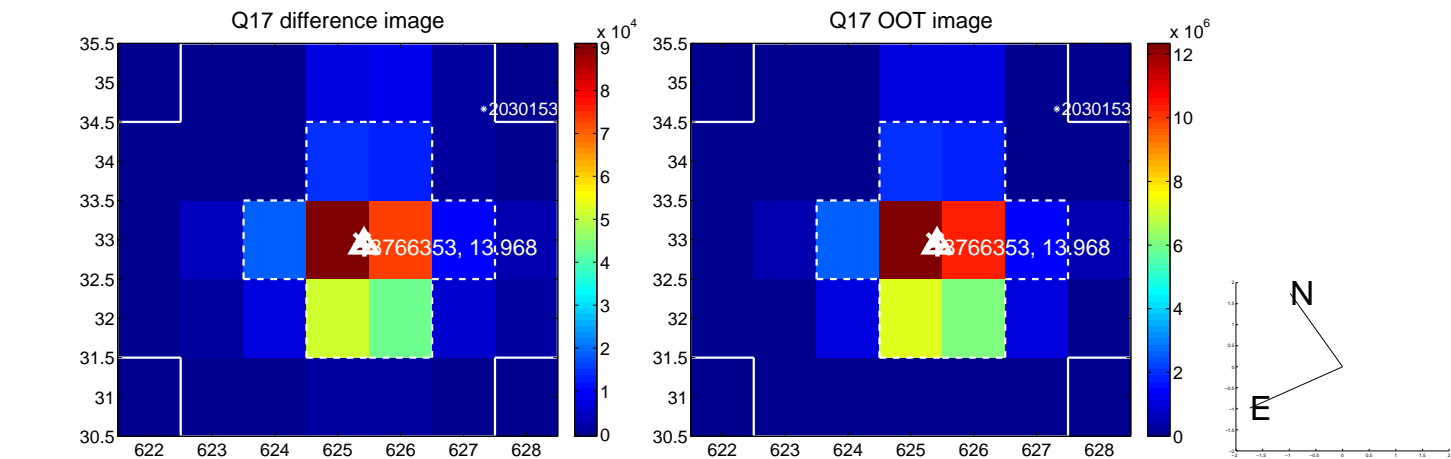
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

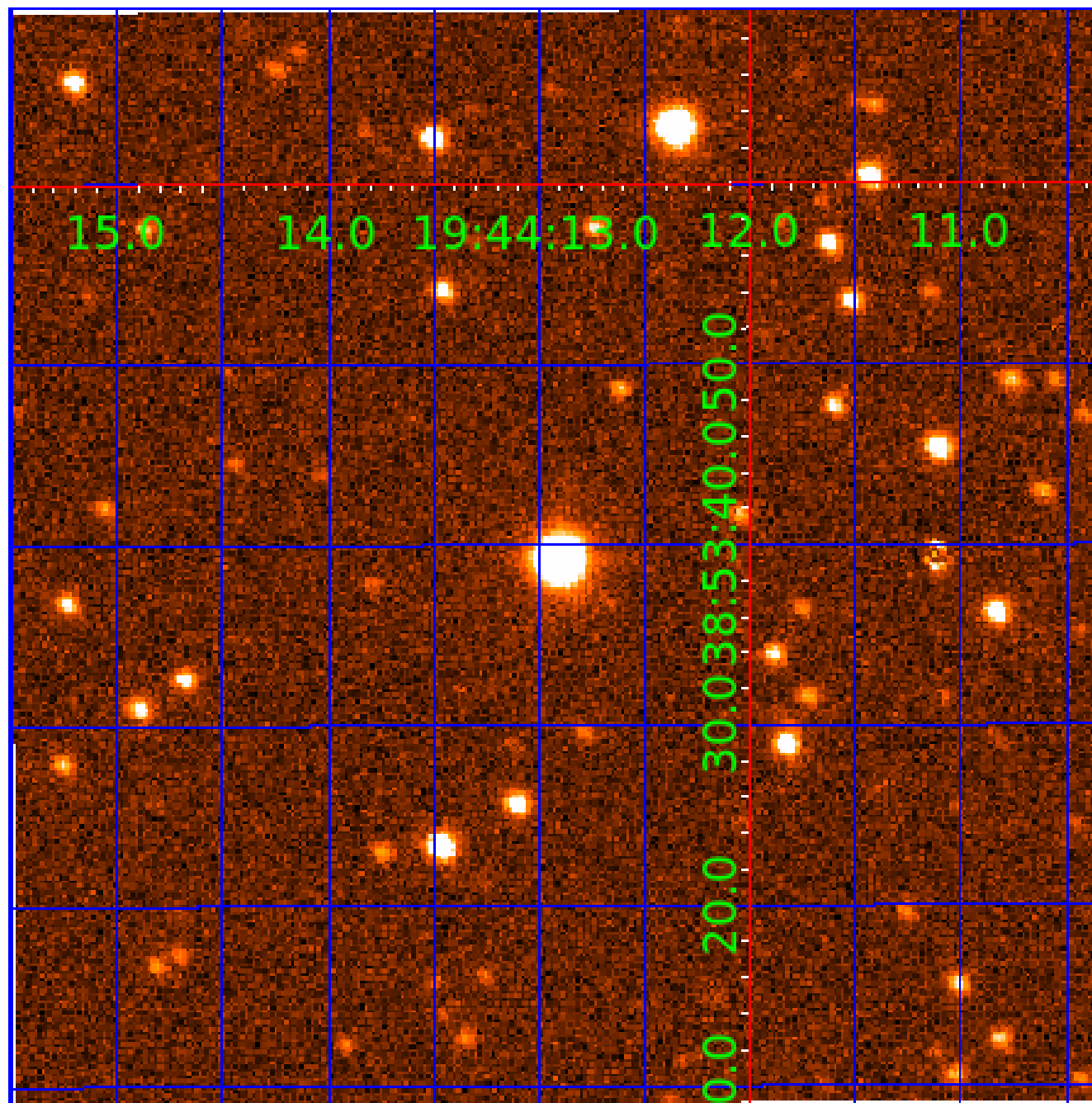


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003766353

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})
003766353-01	OBS	6359.01	2.666969	133.718317	6693.6	2.101	414.0	482.8	0.97	6609	10.94	1104.38
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003766353-03	OBS	No	2.669225	132.810430	174.3	4.776	18.6	17.4	0.97	6609	1.58	1103.14
003766353-04	OBS	No	2.667160	132.873231	310.6	7.500	11.5	-1.0	0.97	6609	1.73	1104.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003766353-01	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED—HAS_SEC_TCE
003766353-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
003766353-03	OBS	FP	0.00	1	0	0	0	LPP_DV
003766353-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—SAME_NTL_PERIOD—CENT_NOFITS

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

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

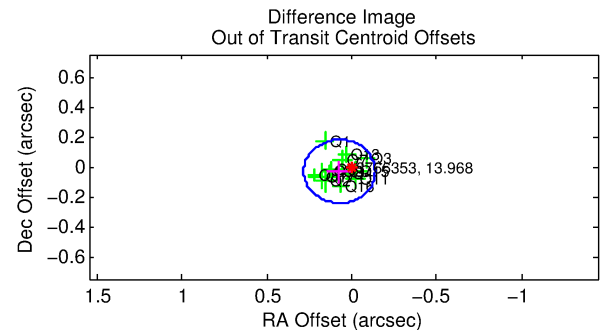
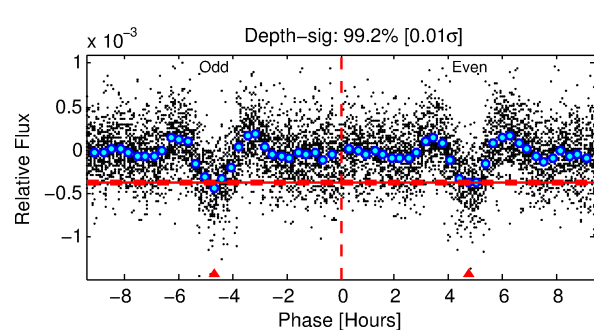
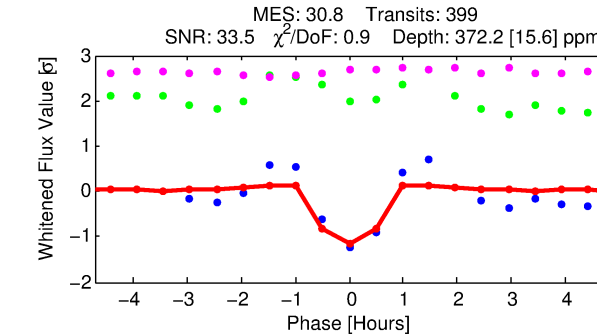
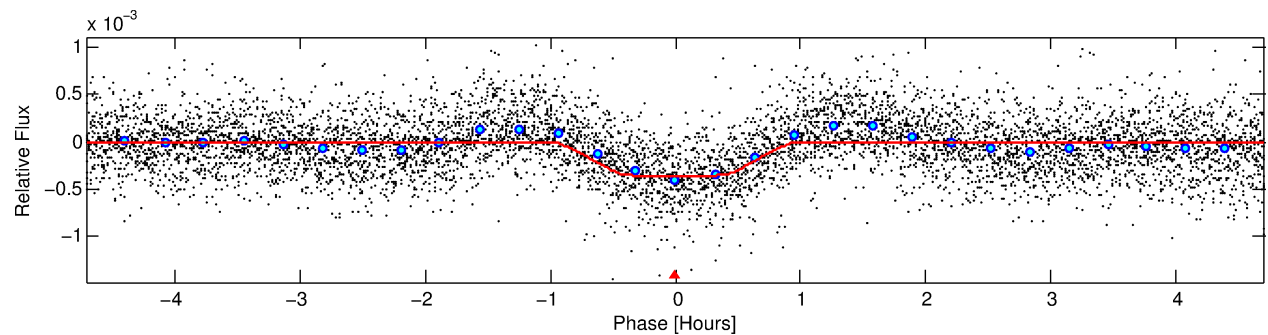
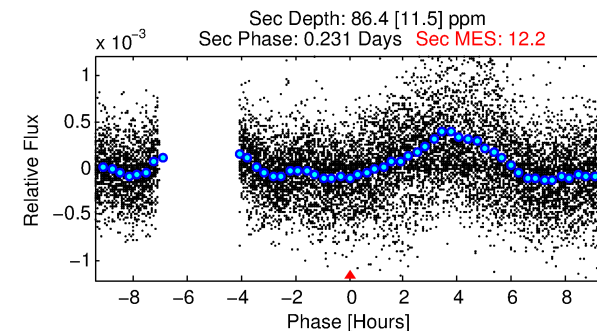
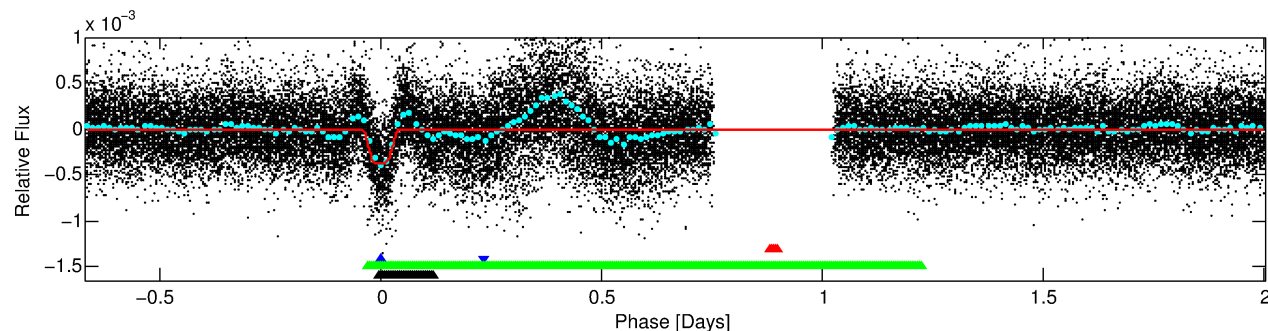
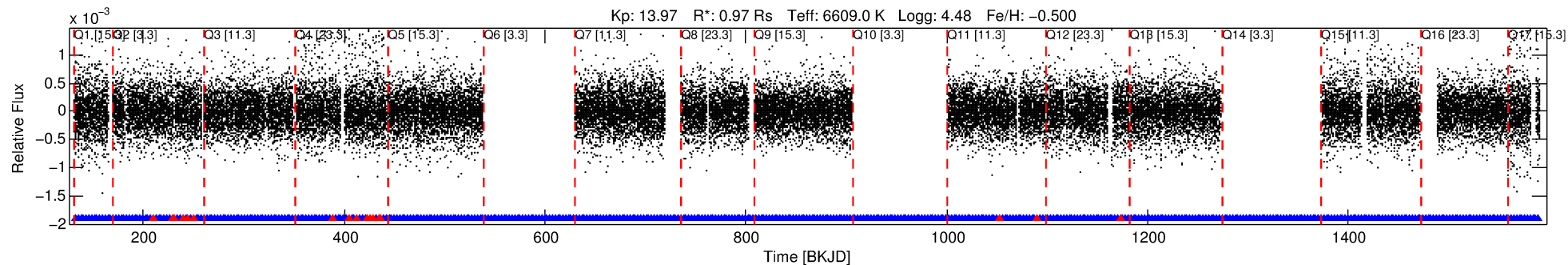
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003766353-02

No Significant Match Found

DV One-Page Summary

KIC: 3766353 Candidate: 2 of 4 Period: 2.667 d
KOI: K06359 Corr: No Ephemeris Match



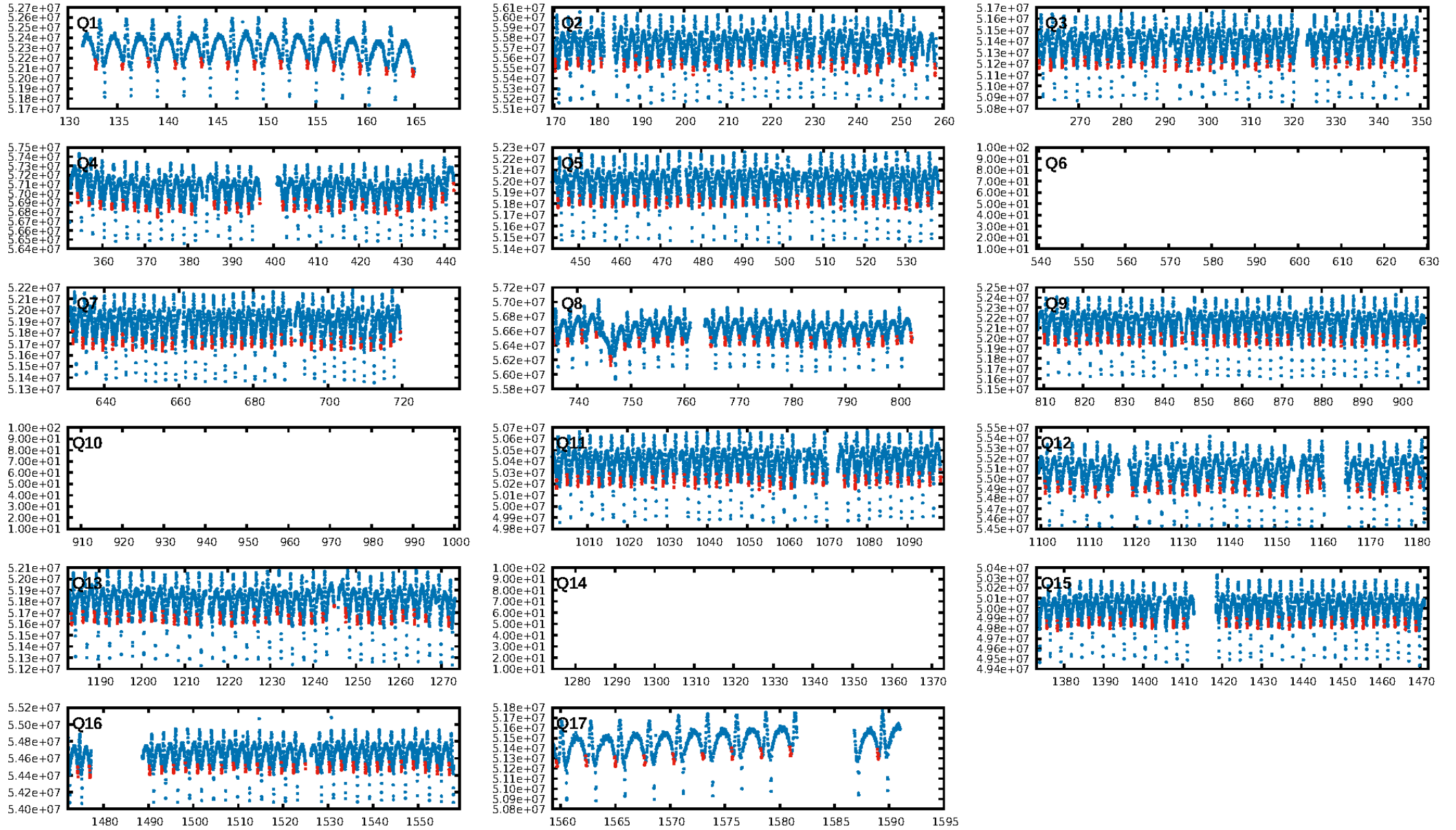
DV Fit Results:

Period = 2.66693 [0.00000] d
Epoch = 132.8386 [0.0007] BKJD
Rp/R* = 0.0207 [0.0027]
a/R* = 6.23 [4.41]
b = 0.90 [0.15]
Seff = 1104.40 [494.77]
Teq = 1470 [165] K
Rp = 2.20 [0.86] Re
a = 0.0383 [0.0116] AU
Ag = 14.37 [7.42] [1.80 σ]
Teffp = 4425 [350] K [7.63 σ]

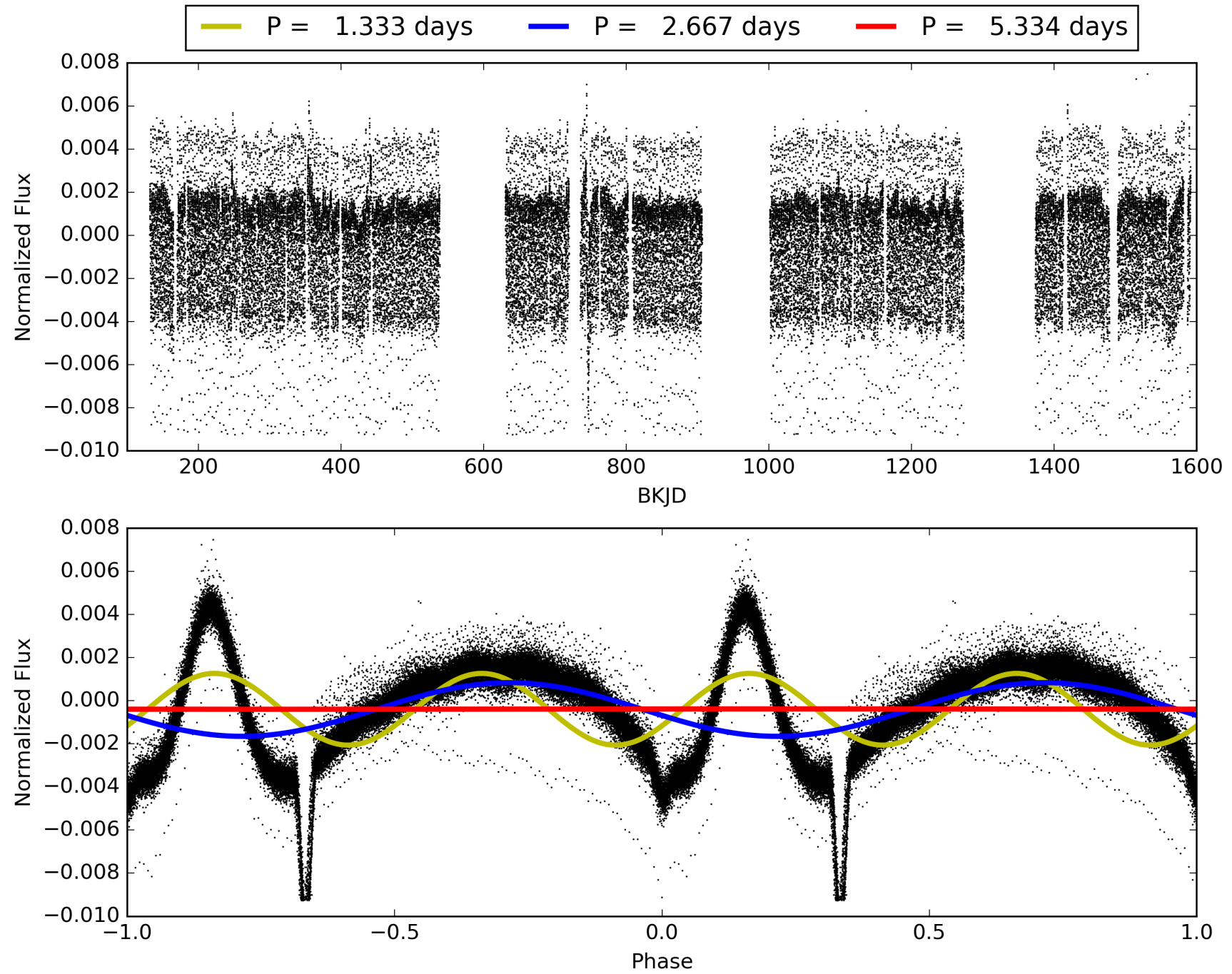
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.95 [359/376]
GhostDiagnostic-chr: 5.226
Centroid-sig: 73.0%
Centroid-so: 0.341 arcsec [0.86 σ]
OotOffset-rm: 0.081 arcsec [1.14 σ]
KicOffset-rm: 0.248 arcsec [3.50 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]

TCE 003766353-02, PDC Light Curves

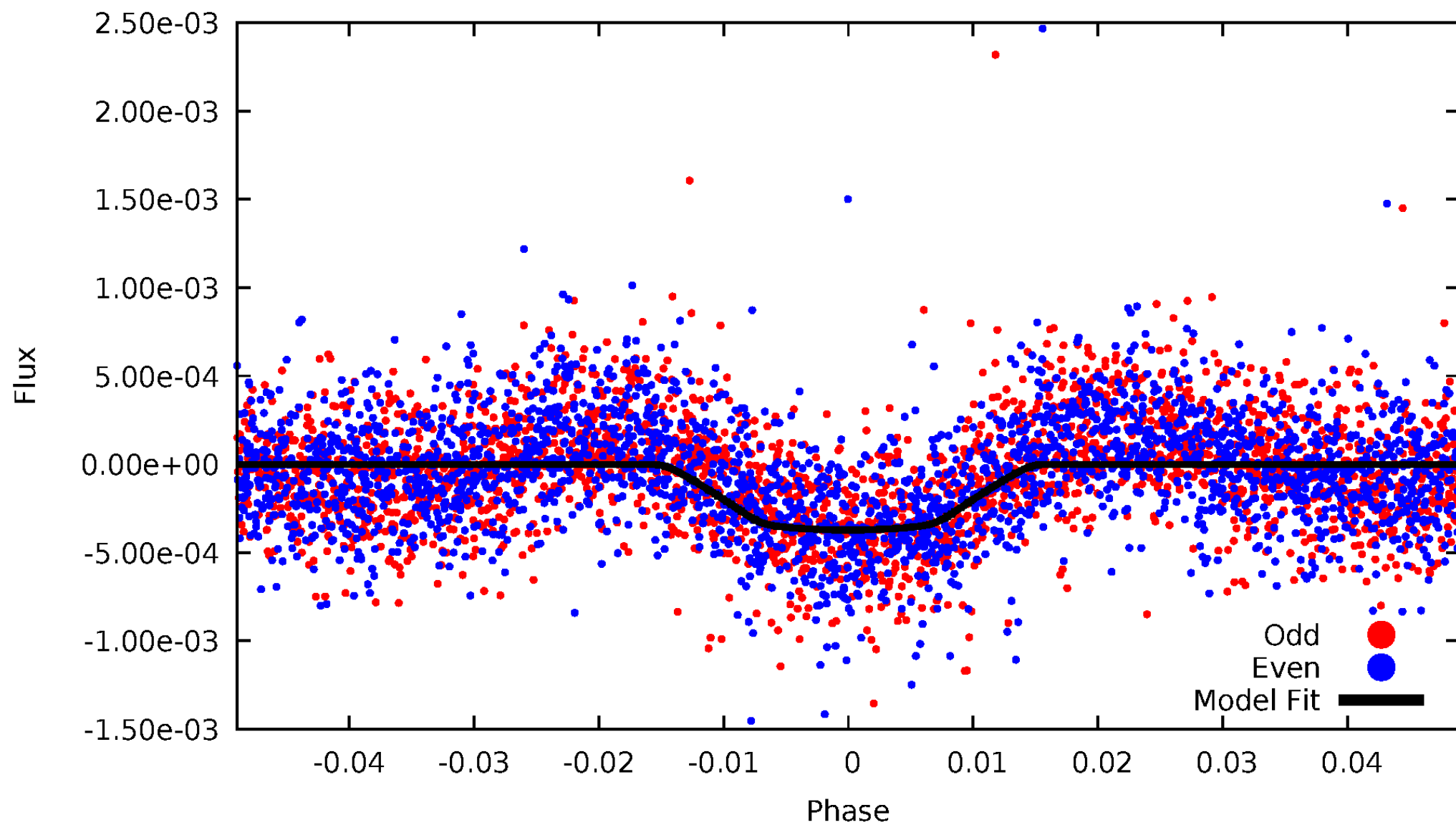


TCE 003766353-02



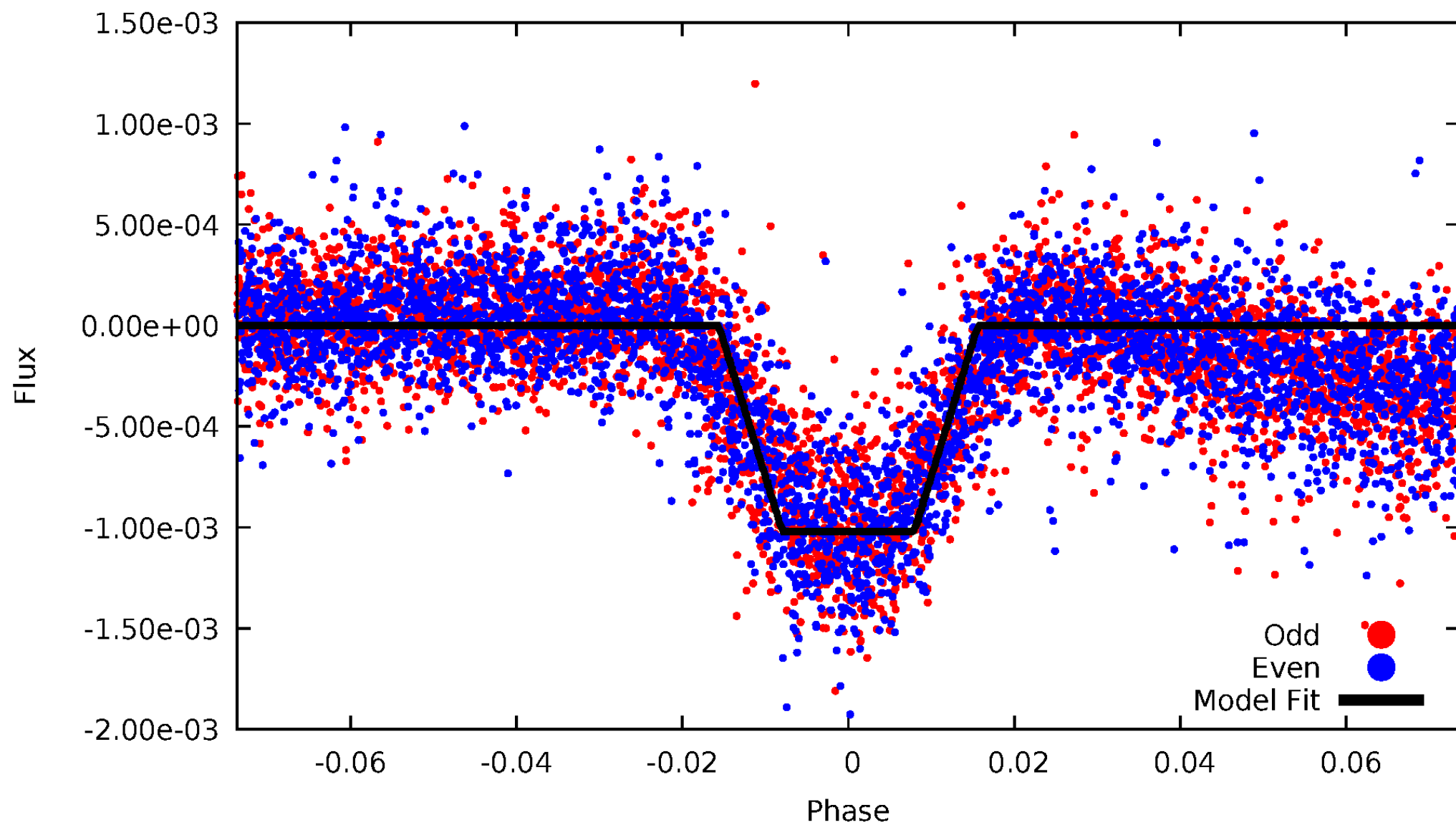
DV Odd/Even

TCE 003766353-02



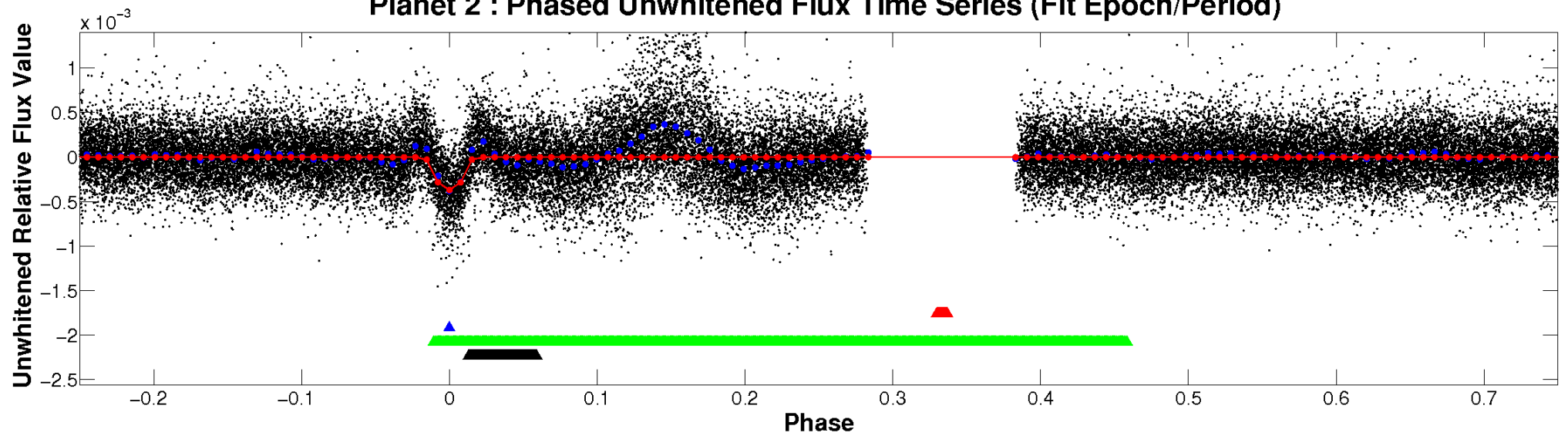
ALT Odd/Even

TCE 003766353-02

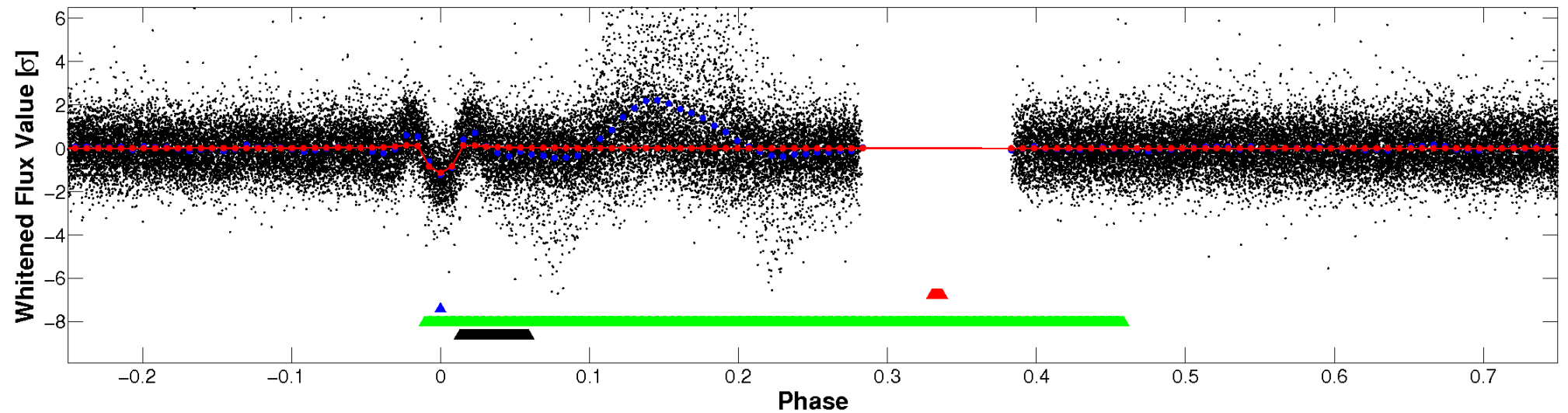


Non-Whitened Vs. Whitened Light Curve

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

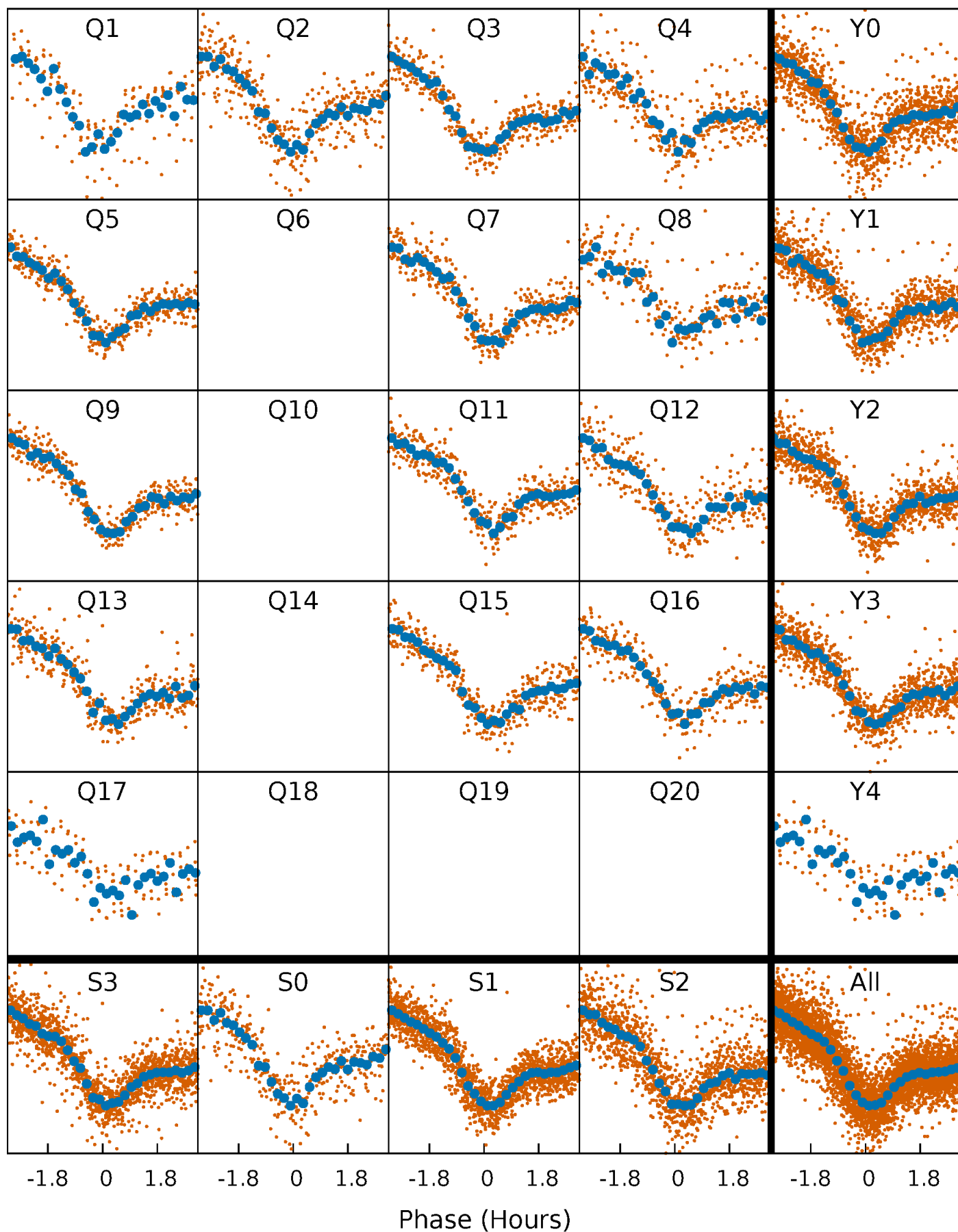


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



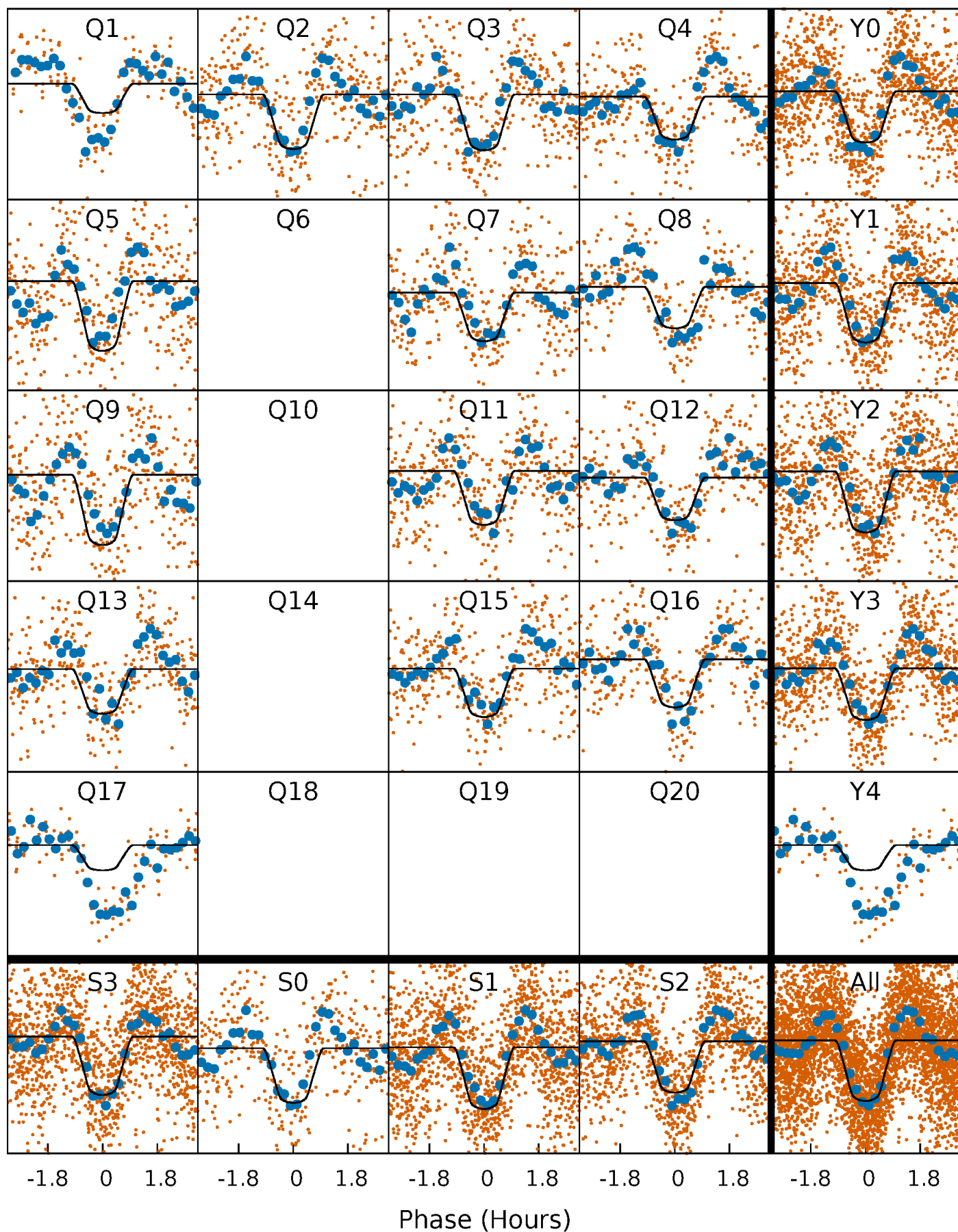
PDC Quarter-Phased Transit Curves

TCE 003766353-02 P= 2.666935 Days $T_0=132.838609$ (BKJD)



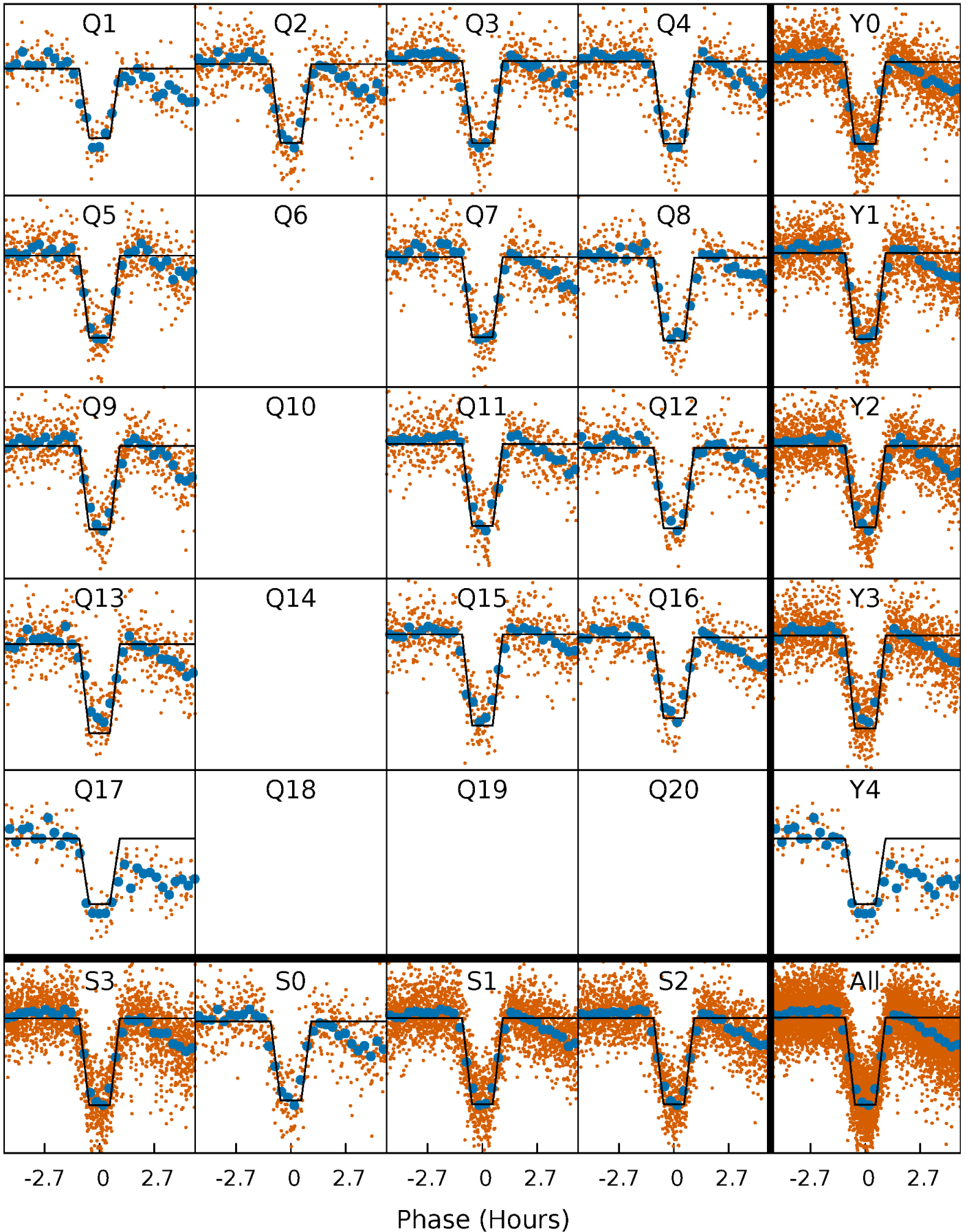
DV Quarter-Phased Transit Curves

TCE 003766353-02 P= 2.666935 Days $T_0=132.838609$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

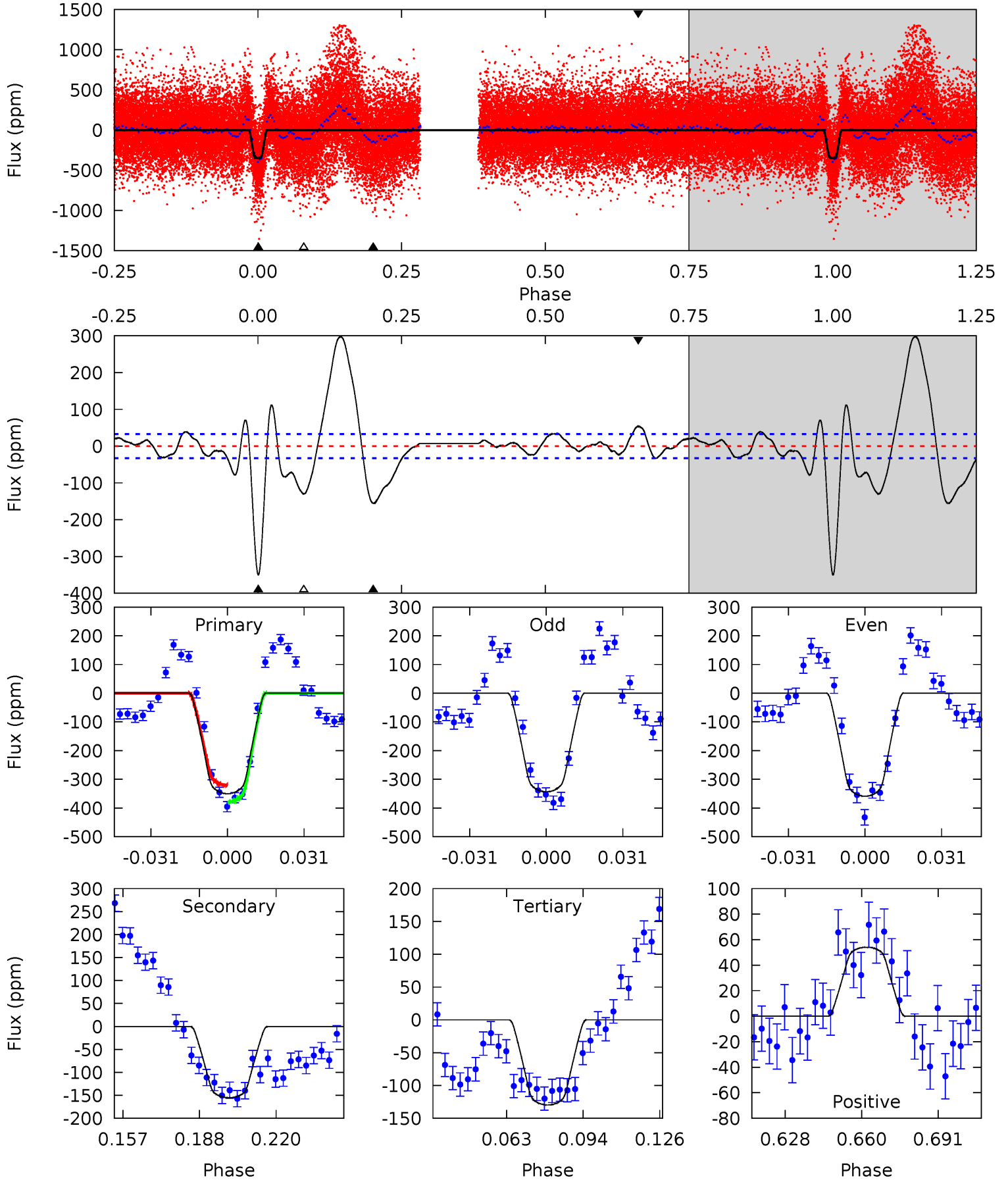
TCE 003766353-02 P= 2.666963 Days $T_0=132.834022$ (BKJD)



DV Model-Shift Uniqueness Test

003766353-02, P = 2.666935 Days, E = 130.171674 Days

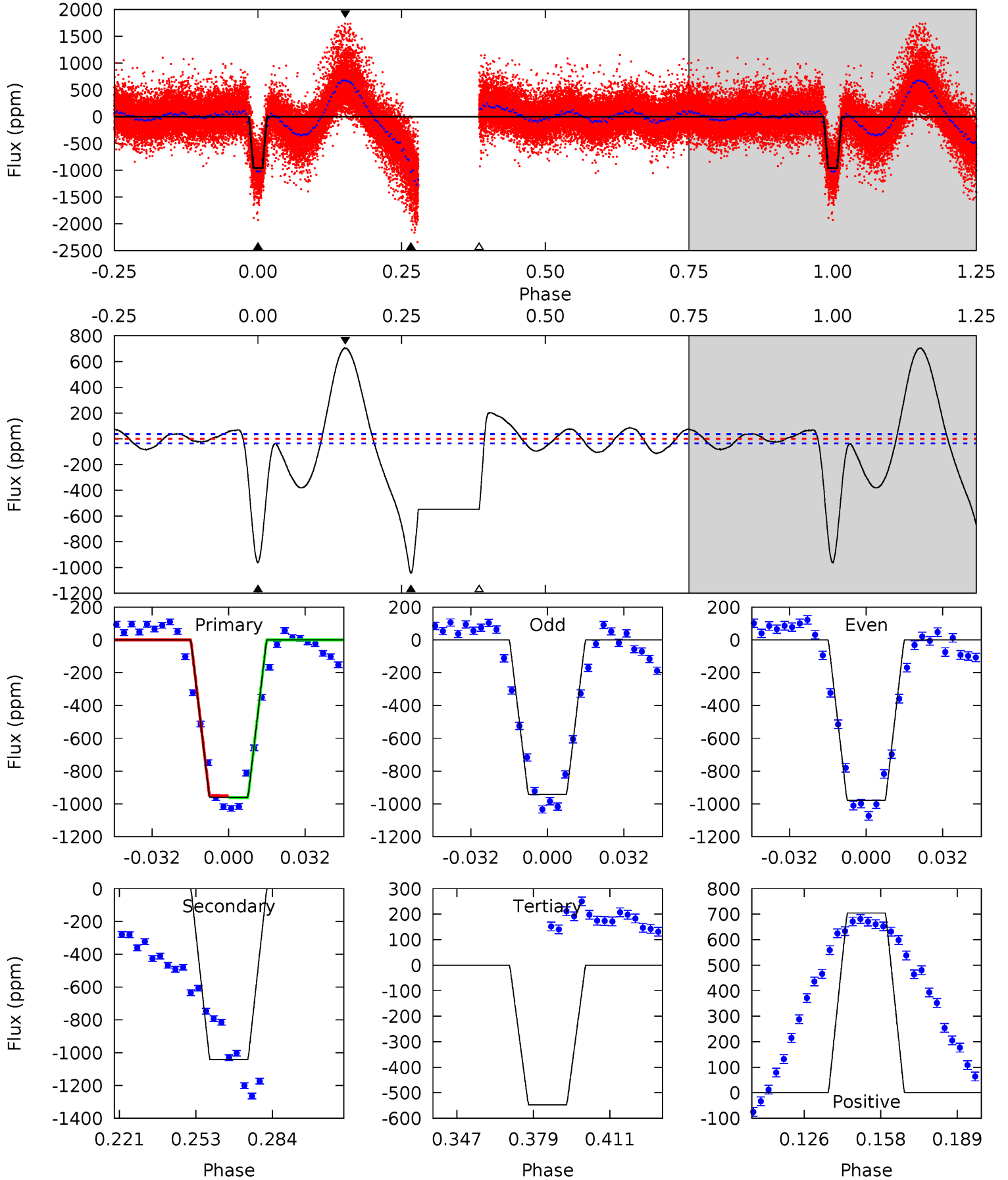
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
51.0	22.6	18.9	7.87	4.80	2.15	10.0	32.1	43.1	3.70	14.7	1.12	1.04	0.46	4.05



Alt Model-Shift Uniqueness Test

003766353-02, P = 2.666963 Days, E = 130.167059 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
126.2	136.9	71.9	92.6	4.80	2.15	26.1	54.3	33.6	65.1	44.4	2.37	1.01	0.40	0.63



Stellar Parameters For KIC 003766353

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6609^{+157}_{-216}	$4.484^{+0.040}_{-0.229}$	$-0.500^{+0.300}_{-0.300}$	$0.974^{+0.358}_{-0.084}$	$1.073^{+0.149}_{-0.122}$	$1.638^{+0.264}_{-0.938}$
	+2%/-3%	+1%/-5%	+60%/-60%	+37%/-9%	+14%/-11%	+16%/-57%
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 003766353-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-155 ± 7	$2.35^{+0.47}_{-0.37}$	2106^{+153}_{-96}	5147^{+351}_{-284}	23^{+9}_{-7}
Alt.	-1042 ± 8	$3.55^{+0.71}_{-0.43}$	2100^{+163}_{-95}	6608^{+392}_{-292}	66^{+18}_{-19}

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

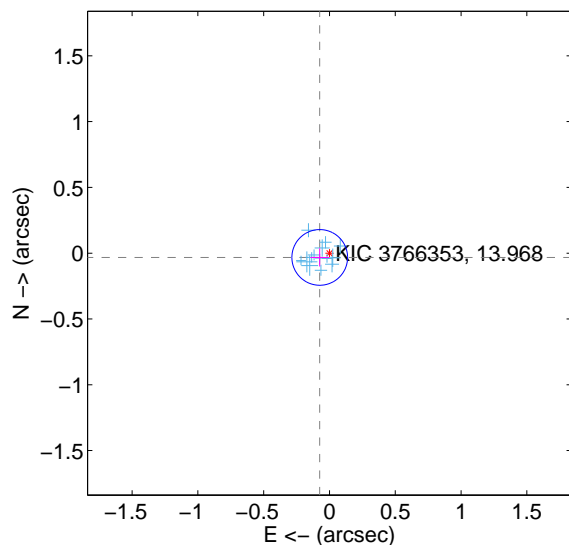
Supplemental centroid analysis for 003766353-02. Kepler magnitude: 13.97. Transit SNR 33.49

There are 14 quarters with good PRF difference image offsets

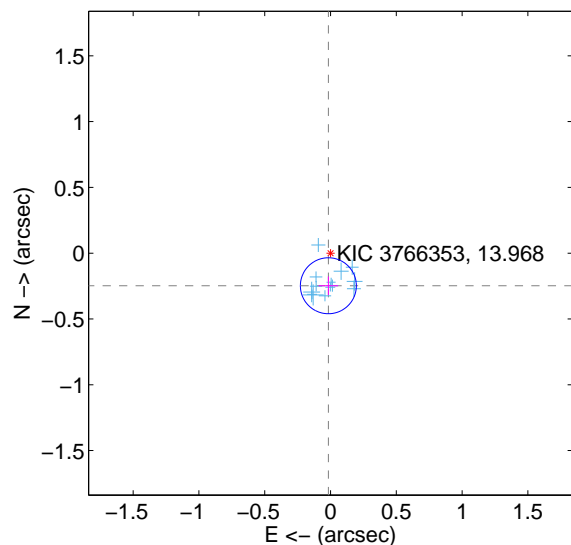
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.081 ± 0.071	1.14	0.074 ± 0.071	-0.032 ± 0.069
PRF-fit source offset from KIC position	0.248 ± 0.071	3.50	0.016 ± 0.074	-0.248 ± 0.071
photometric centroid source offset	0.34 ± 0.40	0.86	0.14 ± 0.37	-0.31 ± 0.40

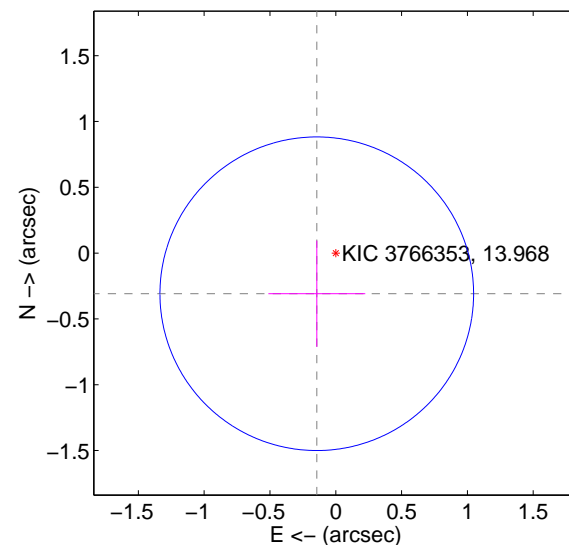
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

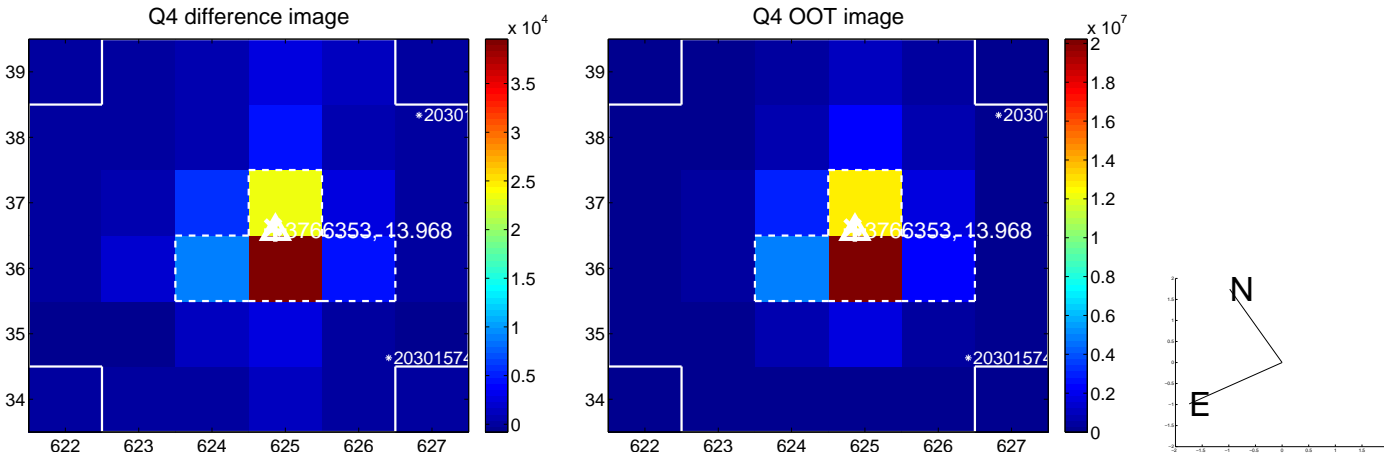
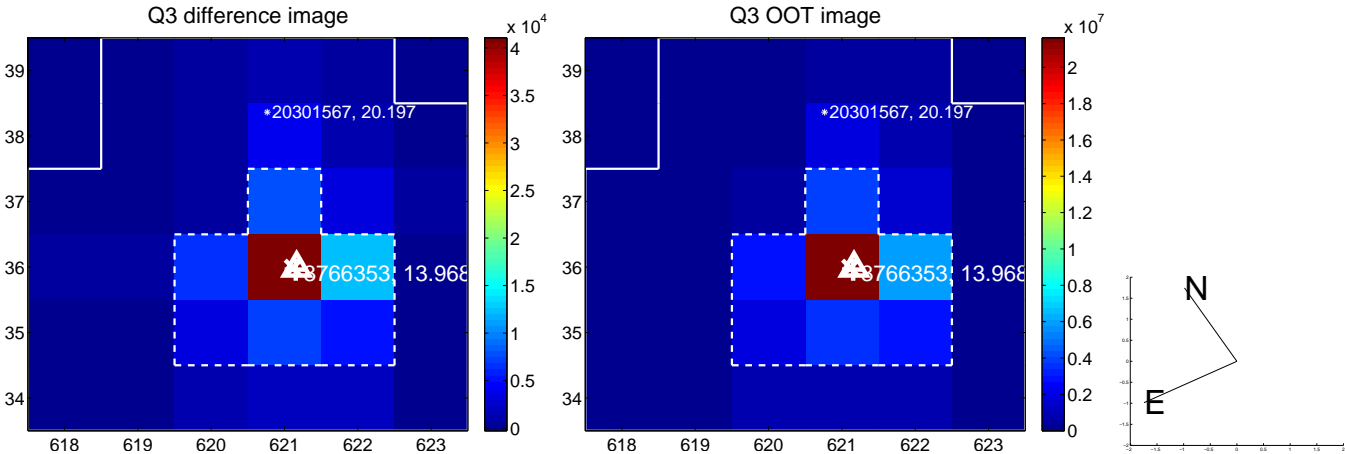
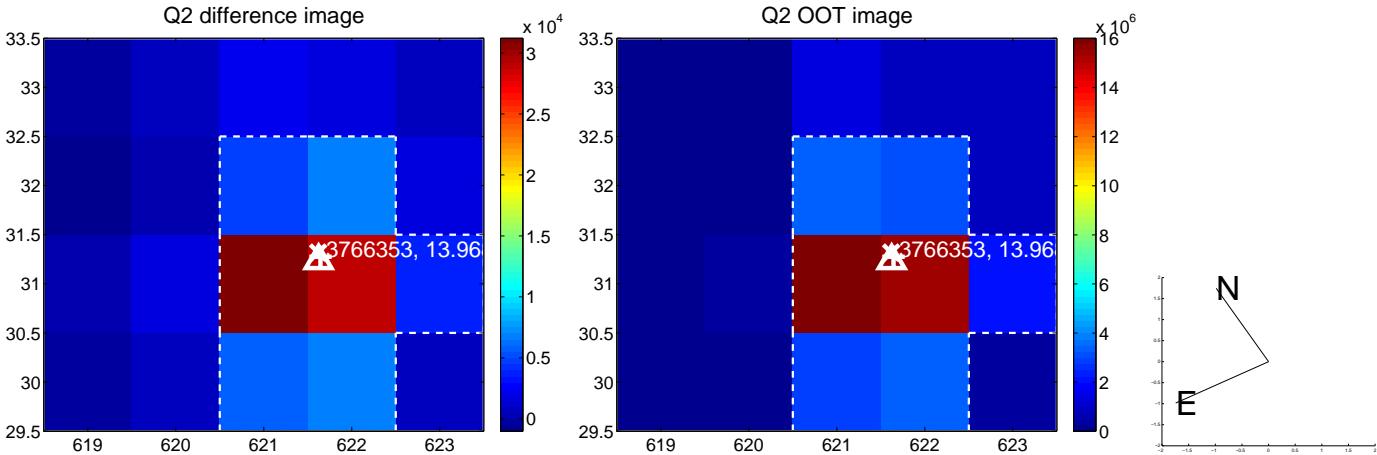
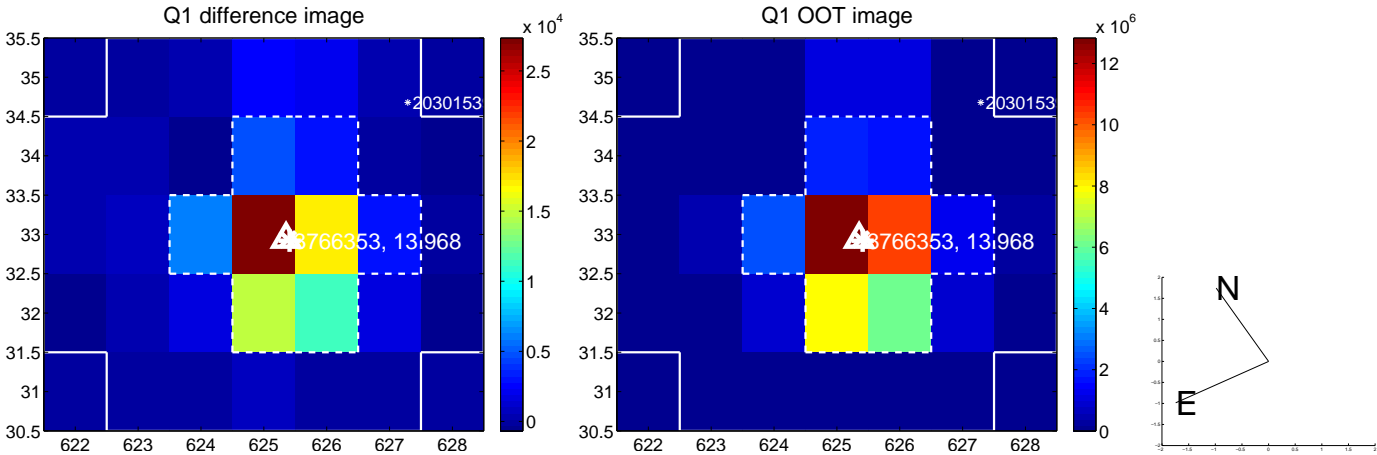


offset from photometric centroids

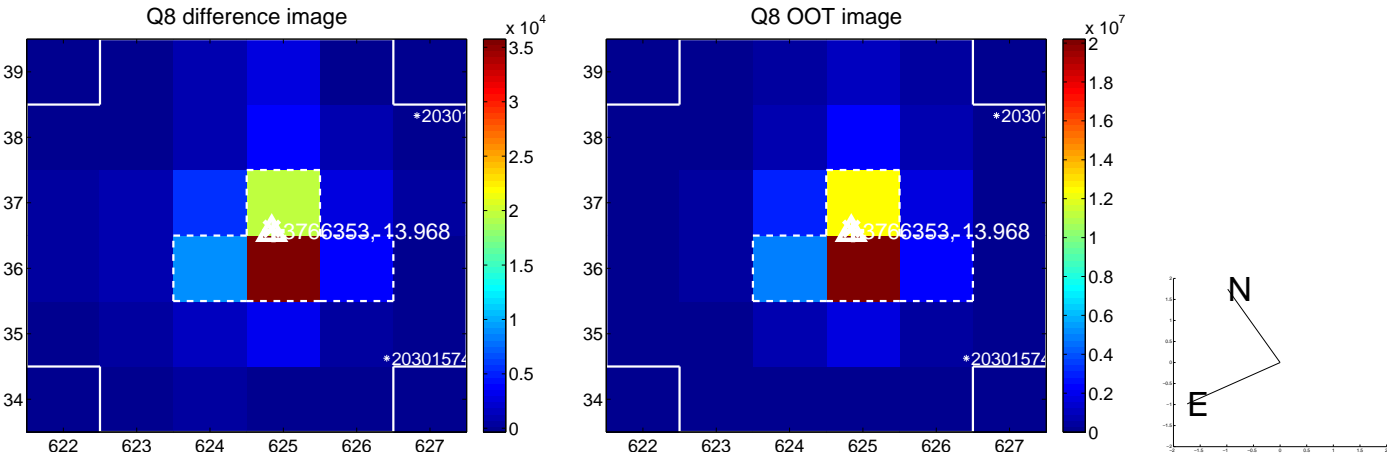
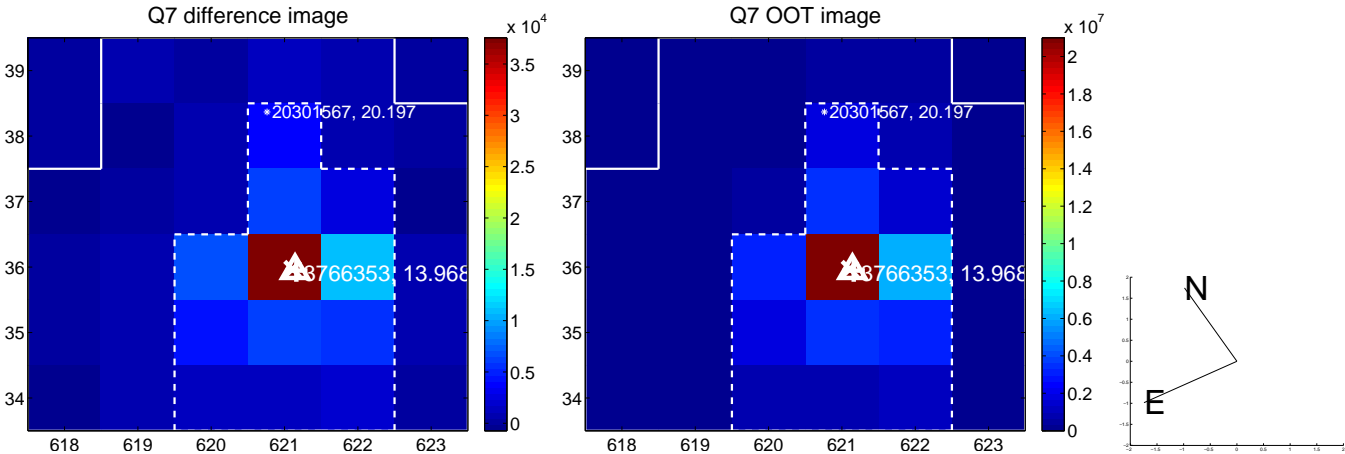
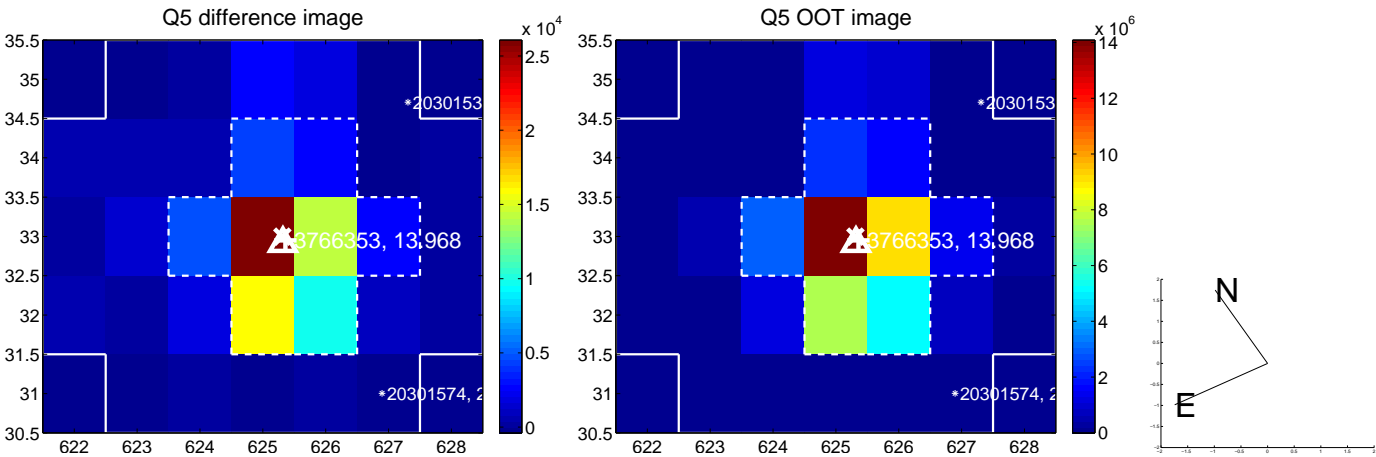


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

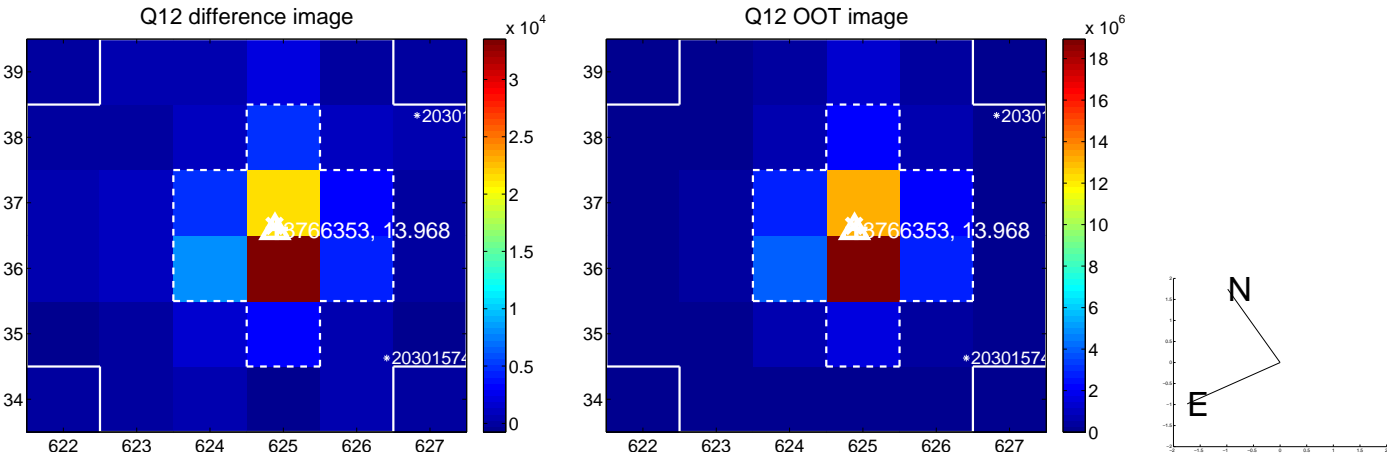
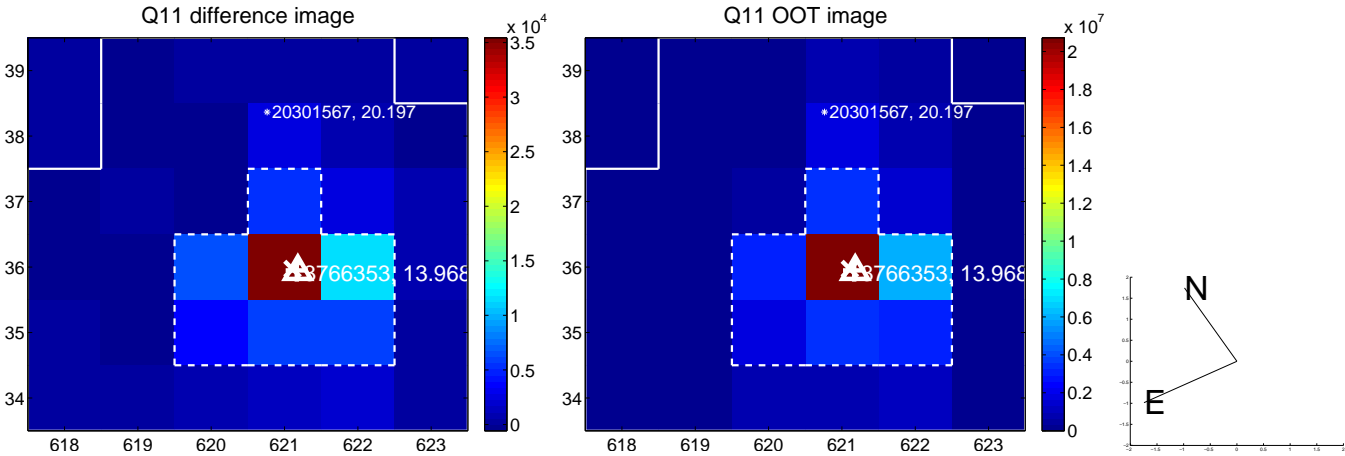
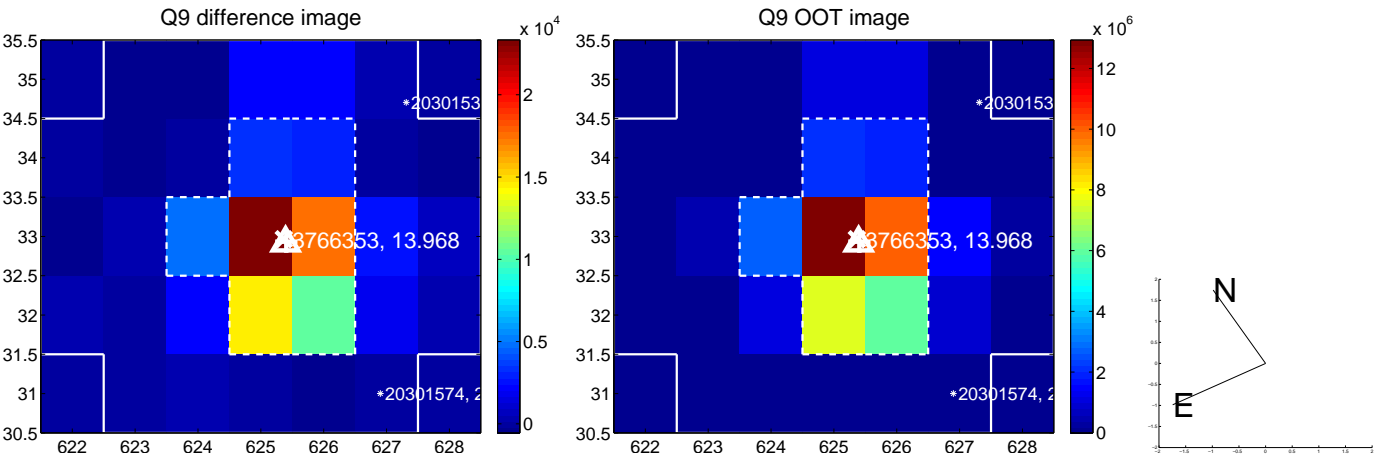
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



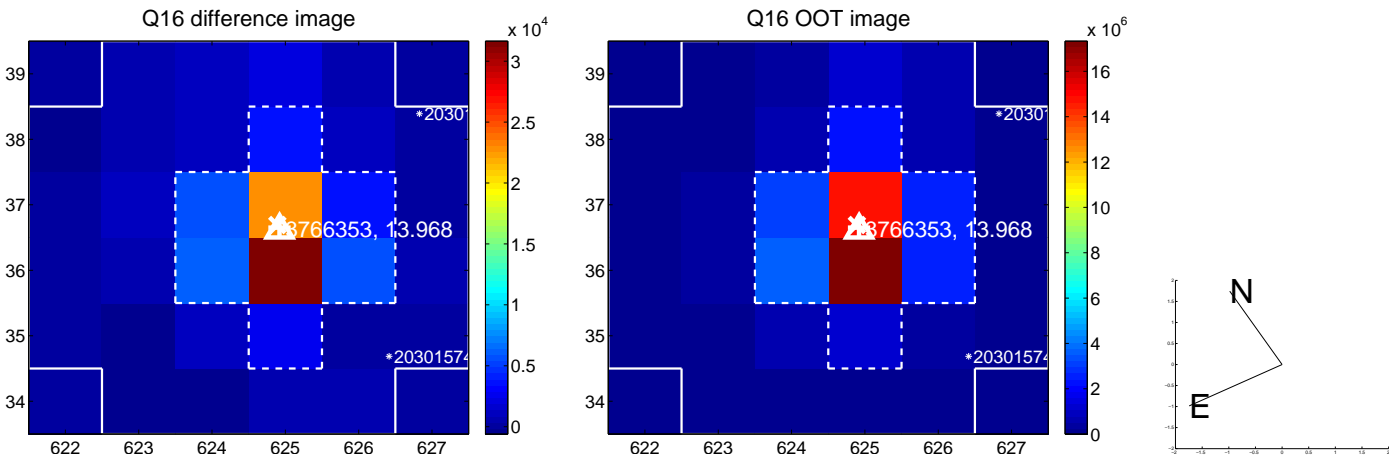
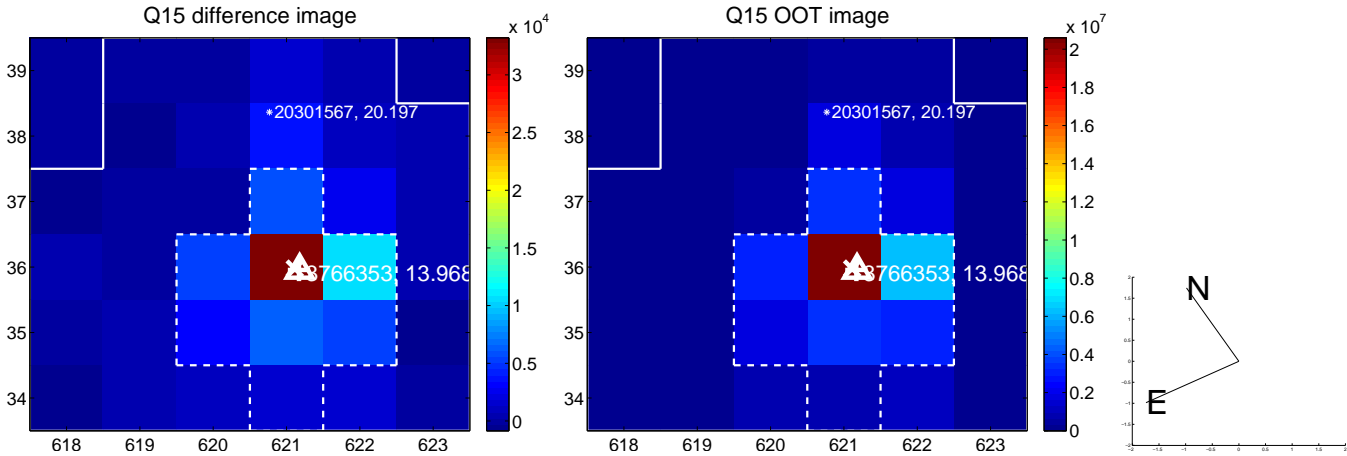
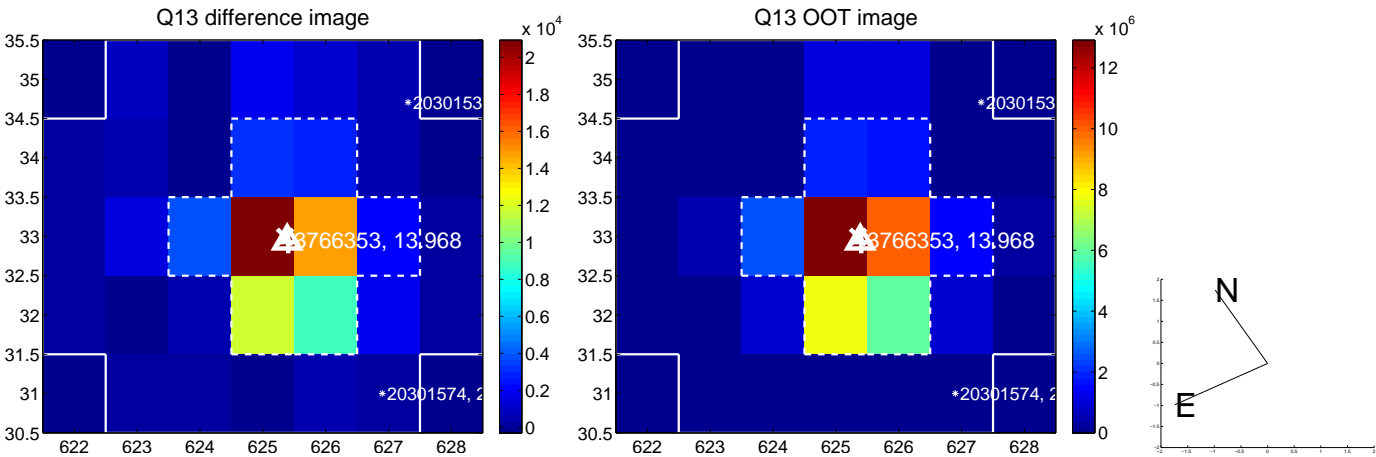
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



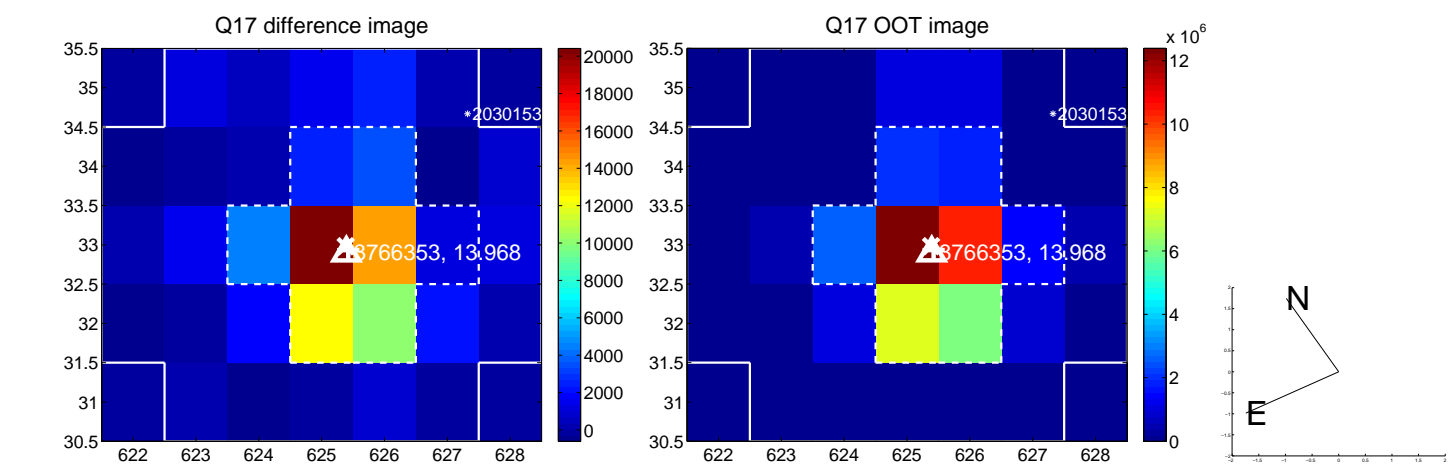
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



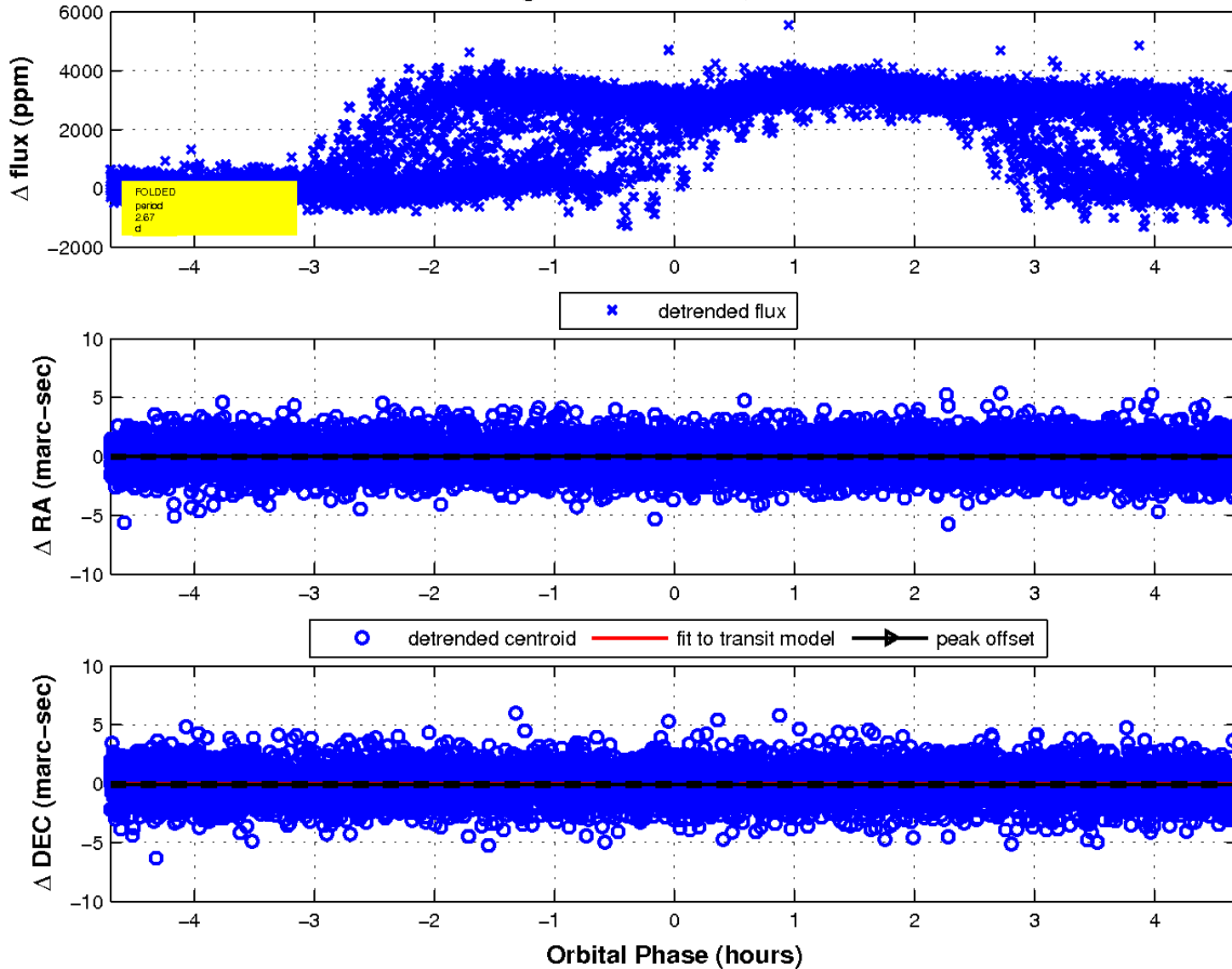
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

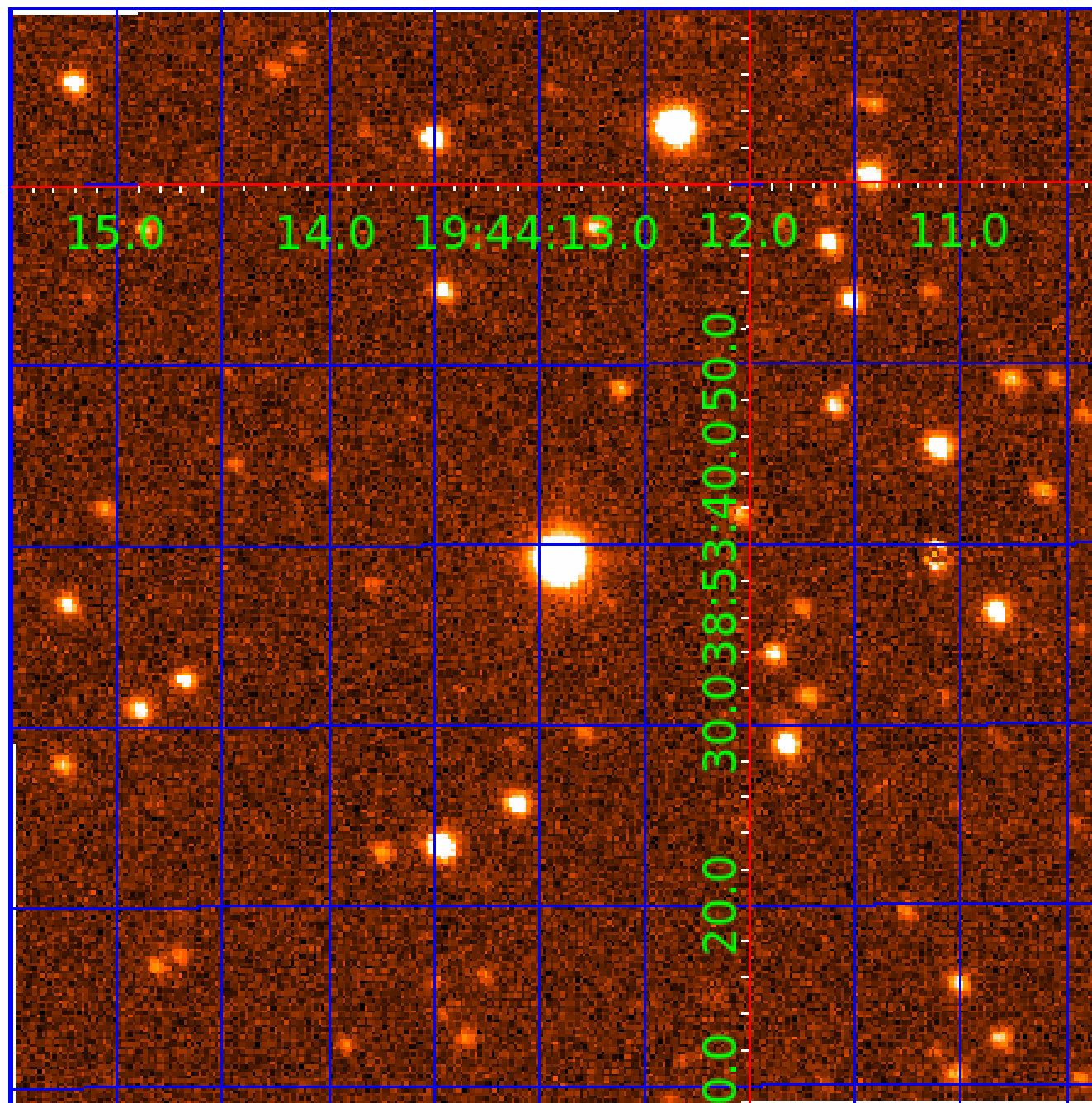


fluxWeightedCentroids, Planet 2 of 4



UKIRT Image

Declination



KIC 003766353

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})
003766353-01	OBS	6359.01	2.666969	133.718317	6693.6	2.101	414.0	482.8	0.97	6609	10.94	1104.38
003766353-02	OBS	No	2.666935	132.838609	372.2	1.567	30.8	33.5	0.97	6609	2.20	1104.40
003766353-03	OBS	No	2.669225	132.810430	174.3	4.776	18.6	17.4	0.97	6609	1.58	1103.14
003766353-04	OBS	No	2.667160	132.873231	310.6	7.500	11.5	-1.0	0.97	6609	1.73	1104.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003766353-01	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED—HAS_SEC_TCE
003766353-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
003766353-03	OBS	FP	0.00	1	0	0	0	LPP_DV
003766353-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—SAME_NTL_PERIOD—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 003766353-03

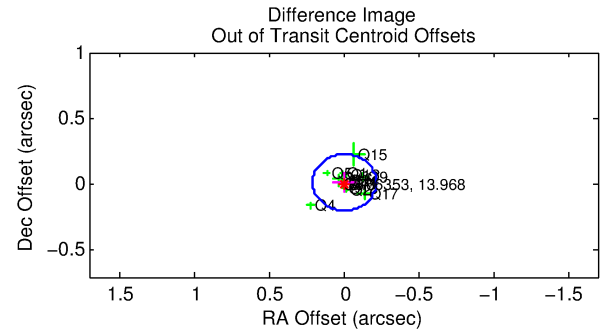
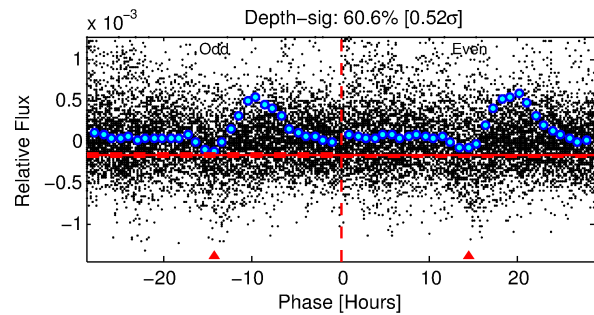
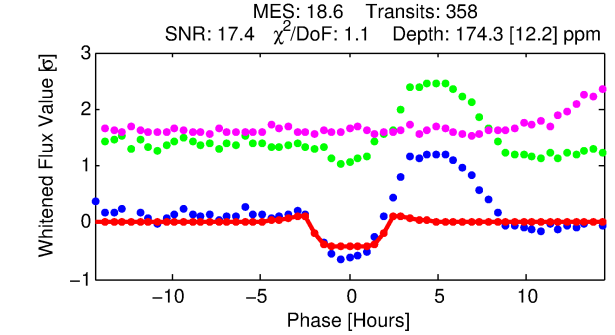
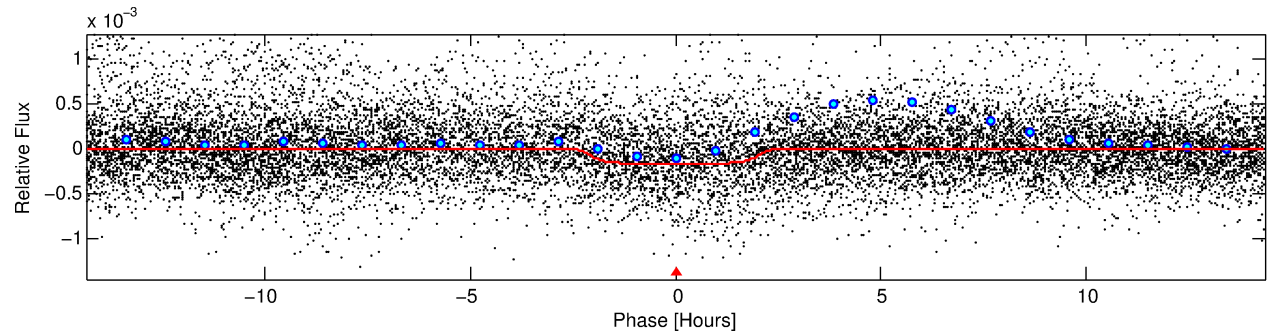
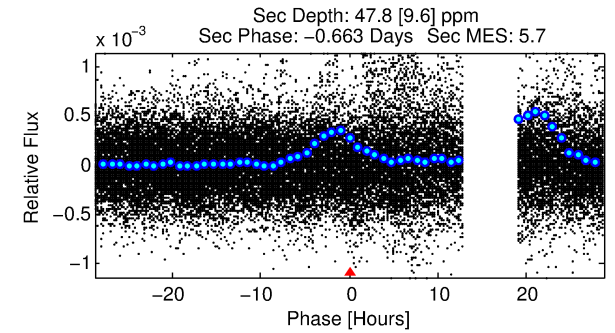
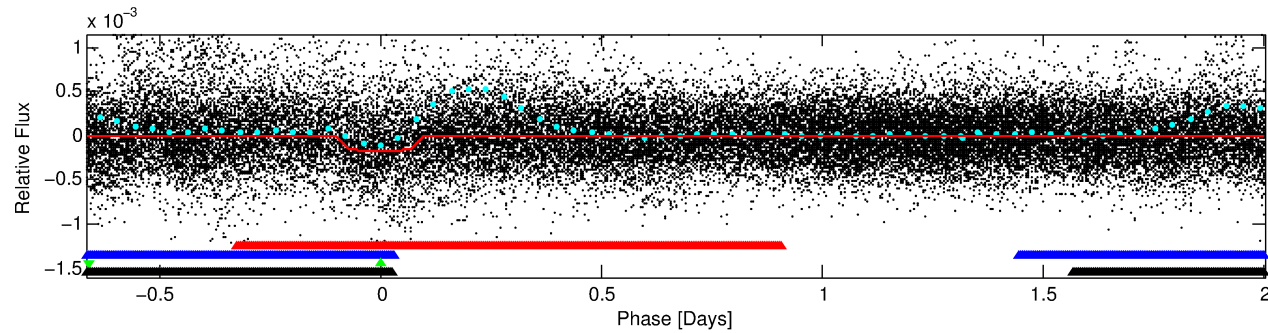
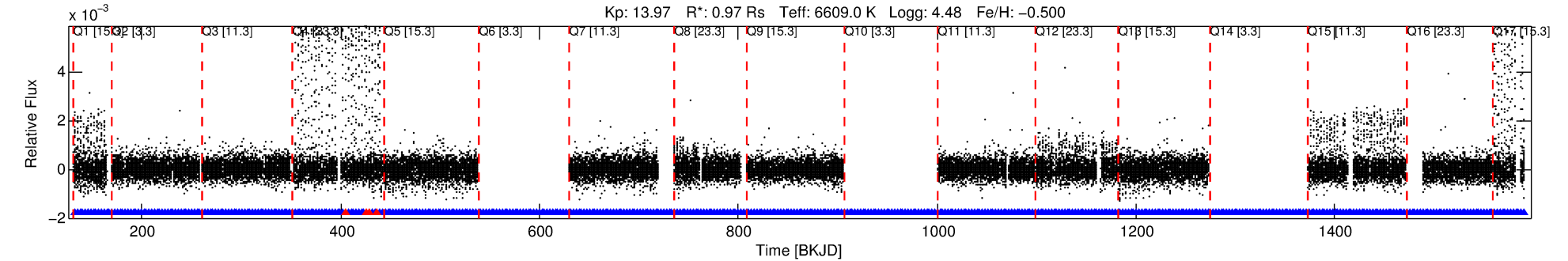
No Significant Match Found

DV One-Page Summary

KIC: 3766353 Candidate: 3 of 4 Period: 2.669 d

KOI: K06359 Corr: No Ephemeris Match

Kp: 13.97 R*: 0.97 Rs Teff: 6609.0 K Logg: 4.48 Fe/H: -0.500



DV Fit Results:

Period = 2.66923 [0.00001] d
Epoch = 132.8104 [0.0032] BKJD
Rp/R* = 0.0149 [0.0009]
a/R* = 1.81 [0.38]
b = 0.95 [0.03]
Seff = 1103.14 [494.21]
Teff = 1470 [165] K
Rp = 1.58 [0.59] Re
a = 0.0383 [0.0116] AU
Ag = 15.46 [7.58] [1.91σ]
Teffp = 4506 [305] K [8.75σ]

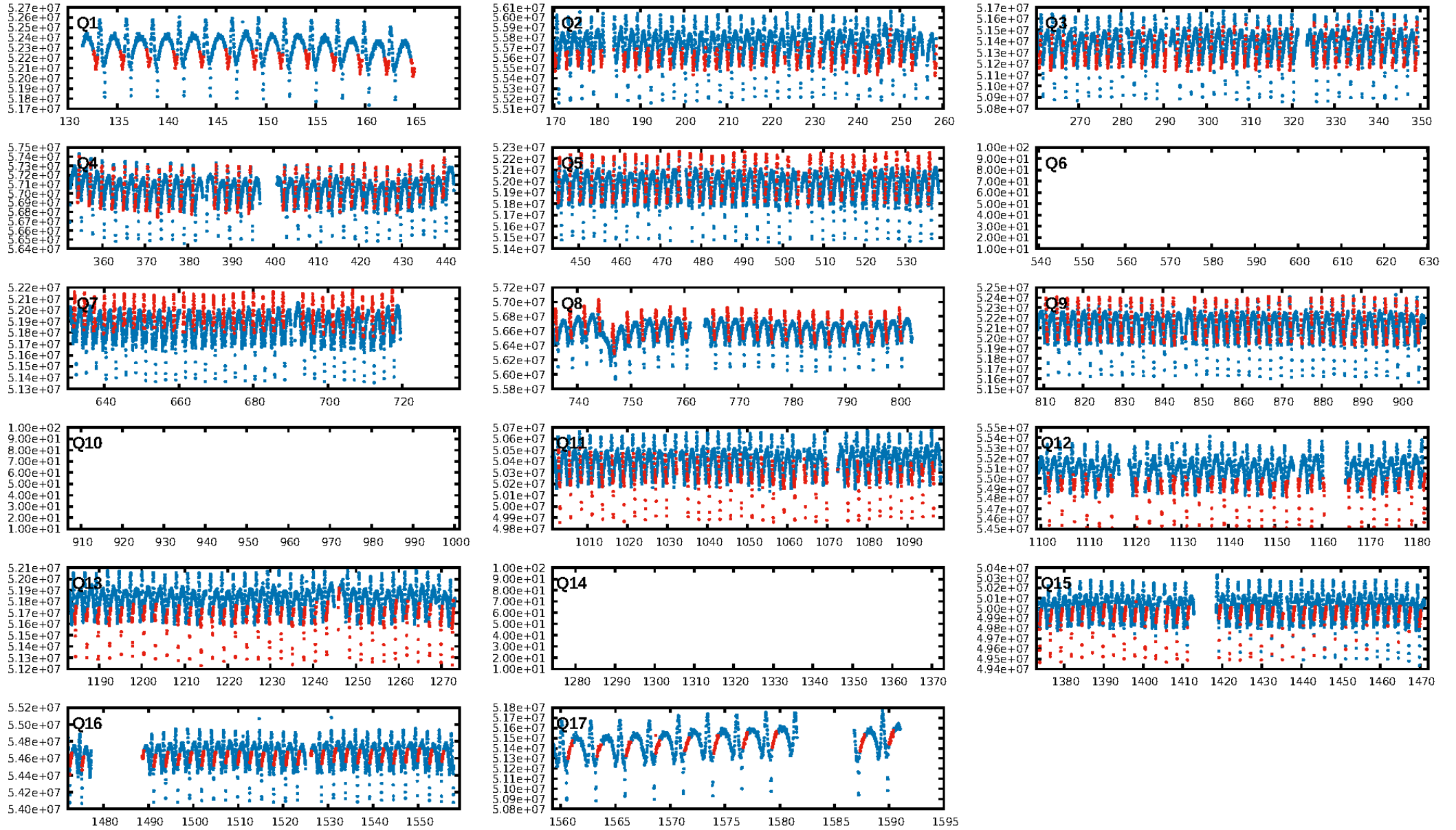
DV Diagnostic Results:

ShortPeriod-sig: 0.4% [0.01σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [335/339]
GhostDiagnostic-chr: -1.426
Centroid-sig: 36.2%
Centroid-so: 0.664 arcsec [1.51σ]
OotOffset-rm: 0.016 arcsec [0.23σ]
KicOffset-rm: 0.177 arcsec [2.48σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.50 [7/14]
DiffImageOverlap-fno: 0.00 [0/14]

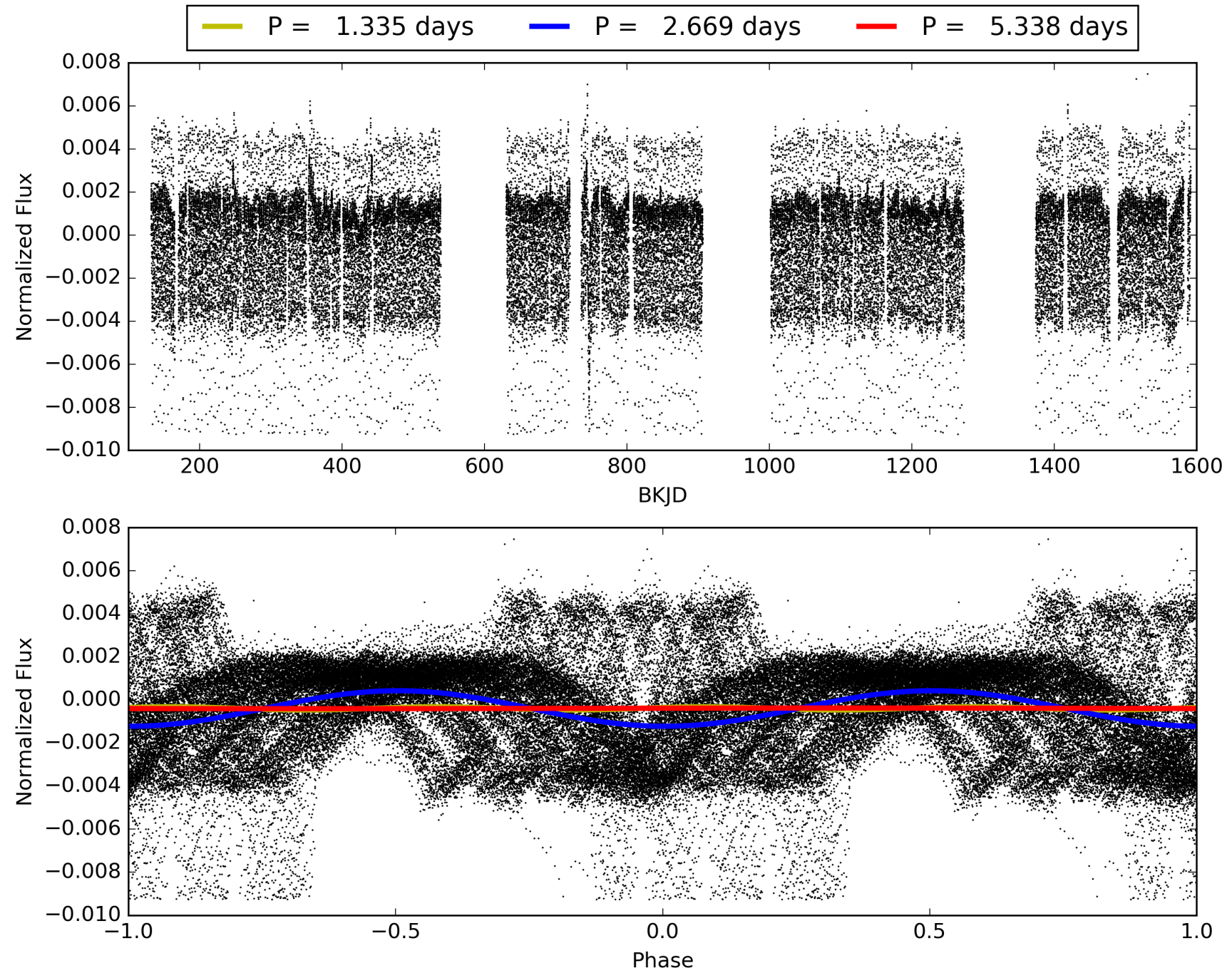
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:48:29 Z

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

TCE 003766353-03, PDC Light Curves

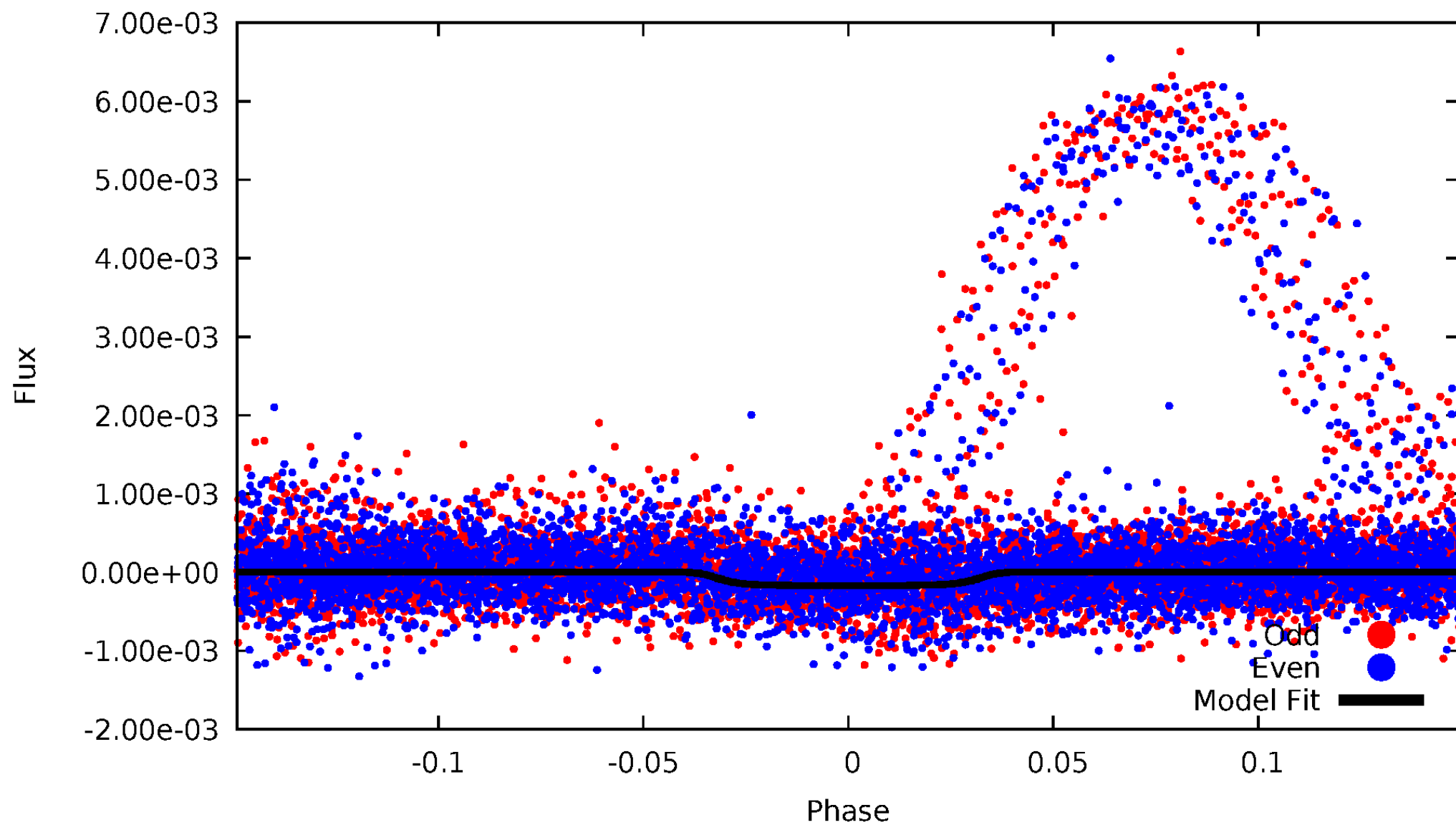


TCE 003766353-03



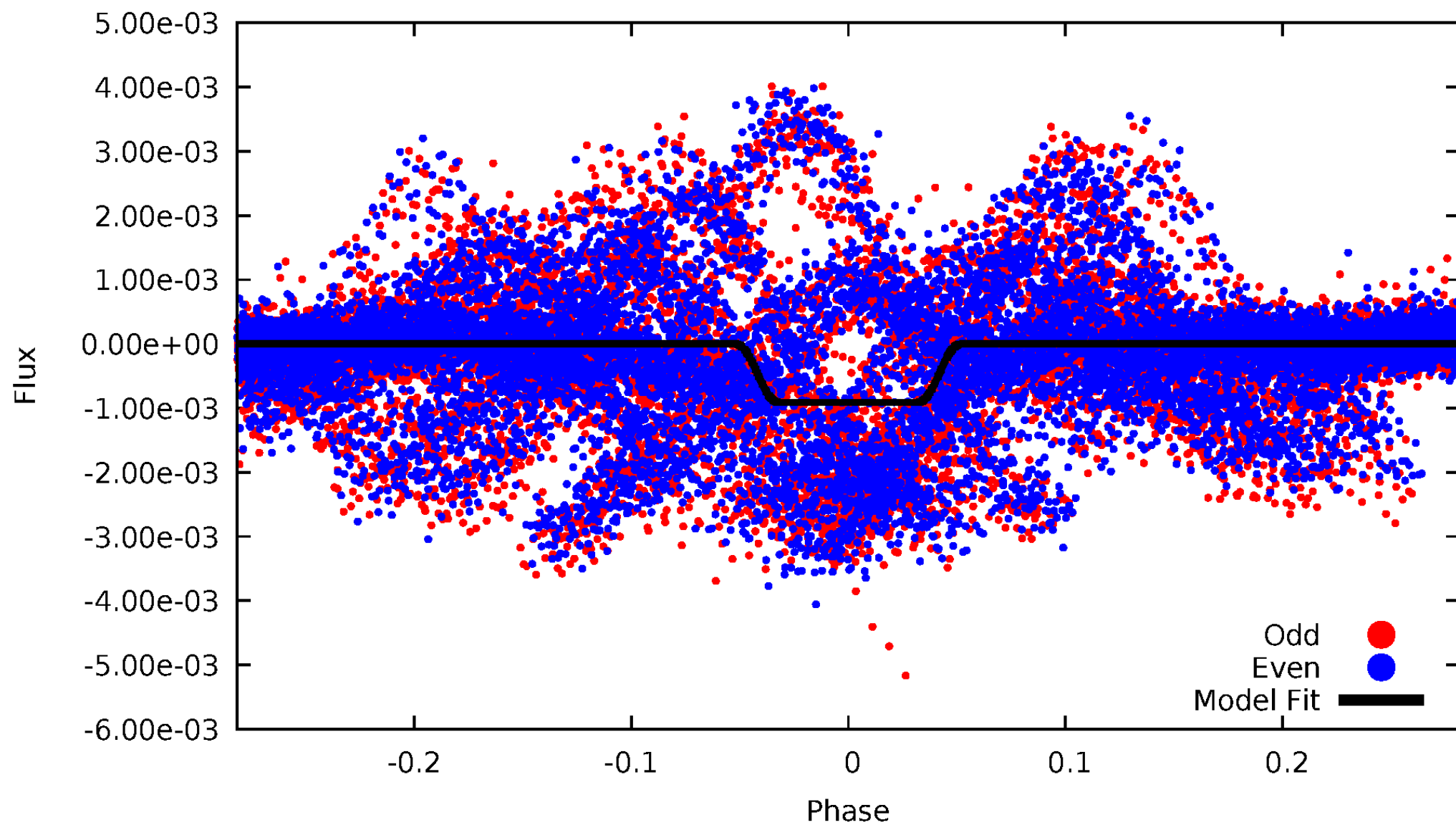
DV Odd/Even

TCE 003766353-03



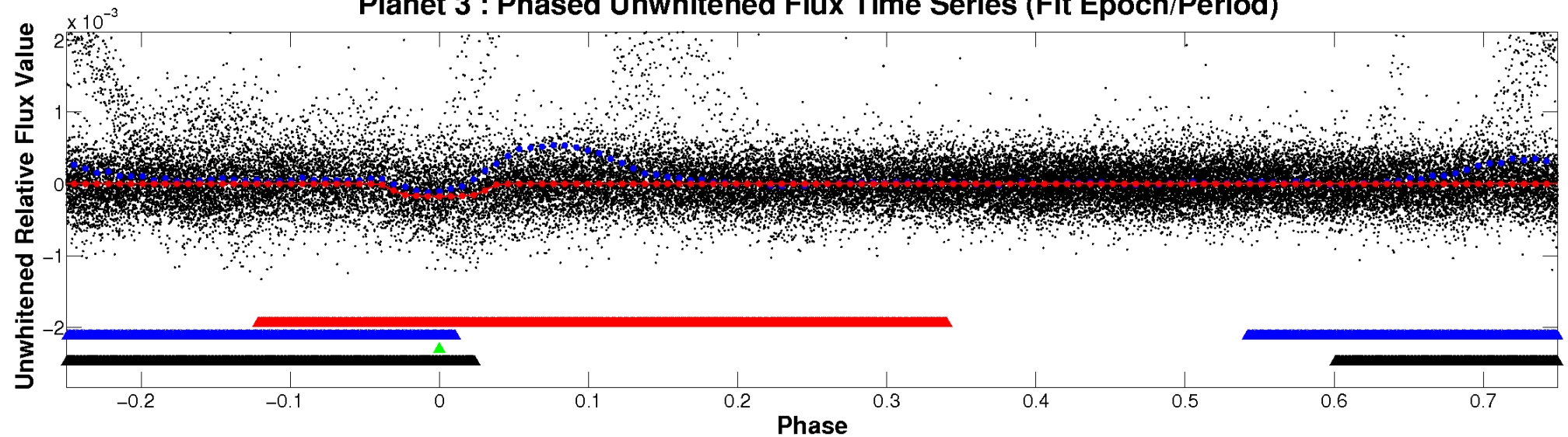
ALT Odd/Even

TCE 003766353-03

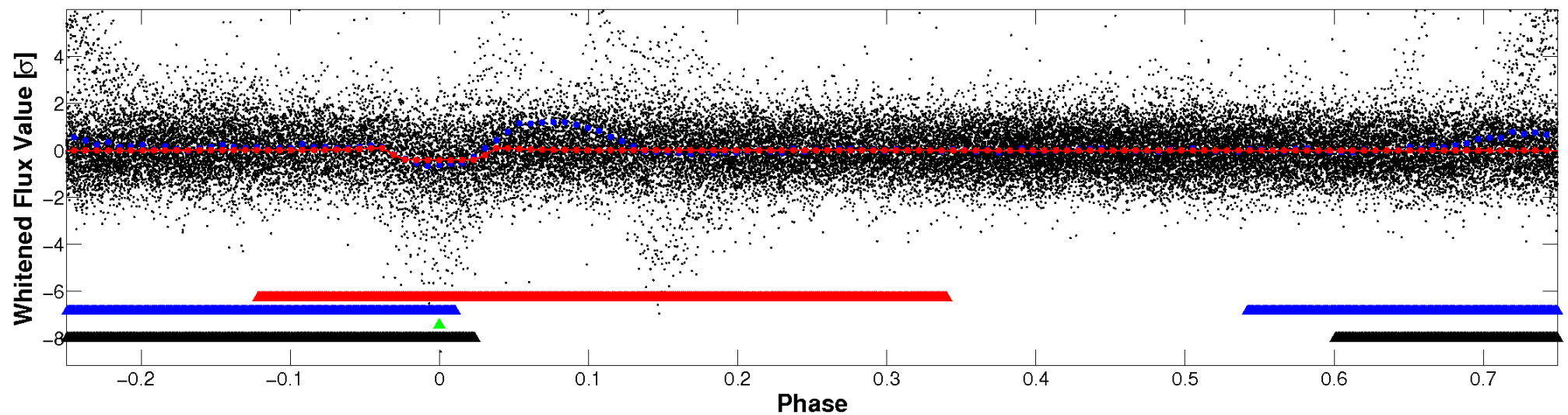


Non-Whitened Vs. Whitened Light Curve

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

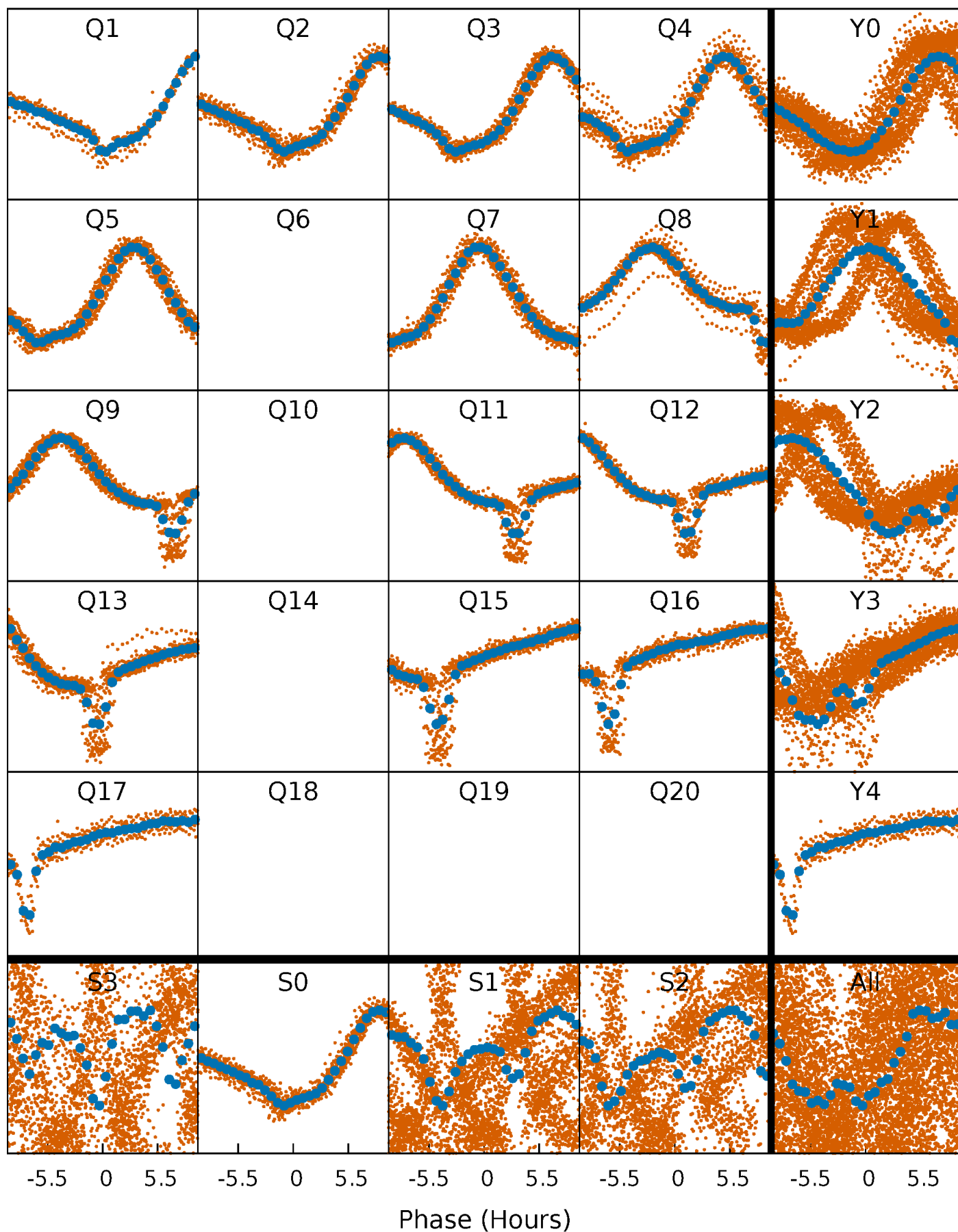


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



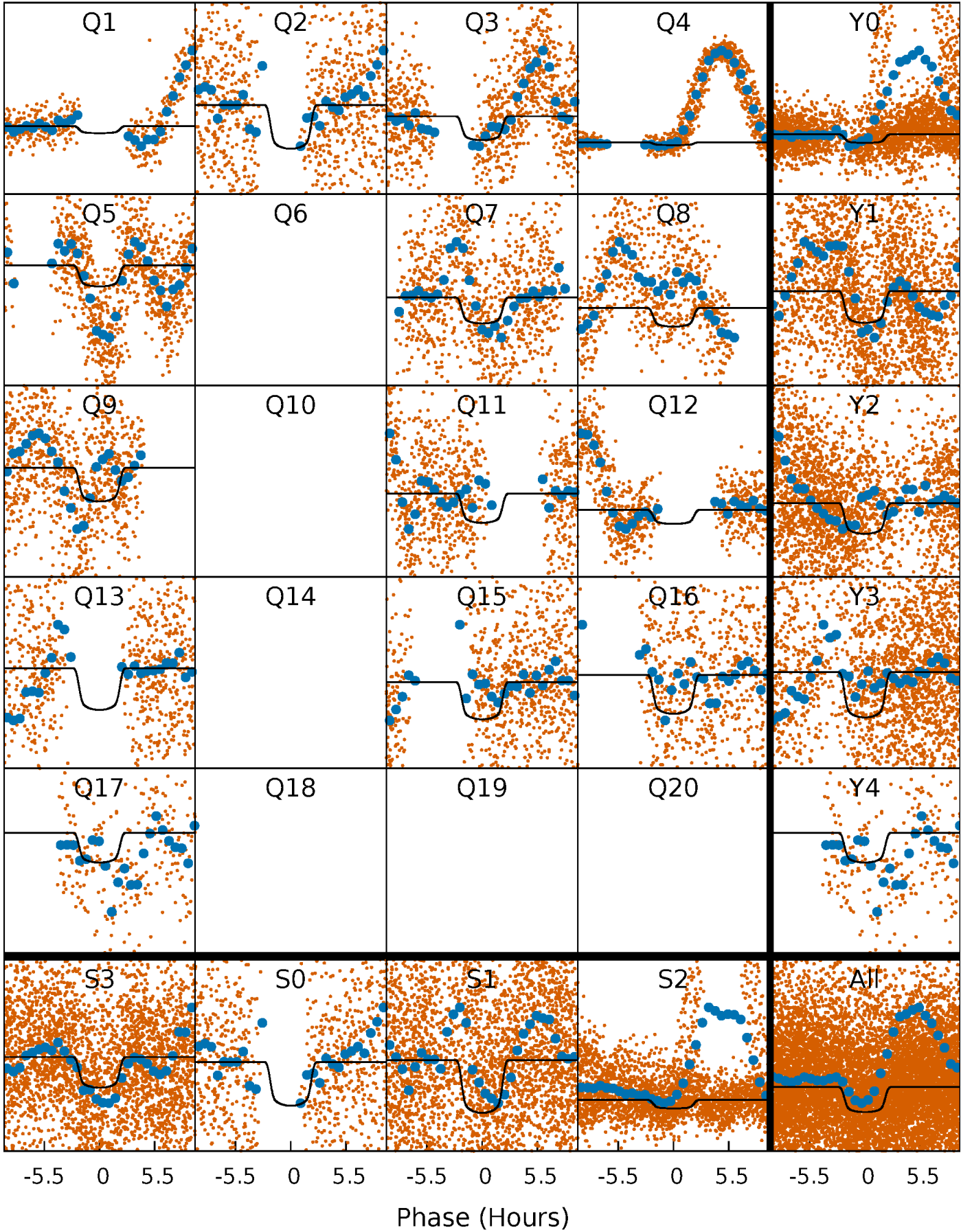
PDC Quarter-Phased Transit Curves

TCE 003766353-03 P= 2.669225 Days $T_0=132.810430$ (BKJD)



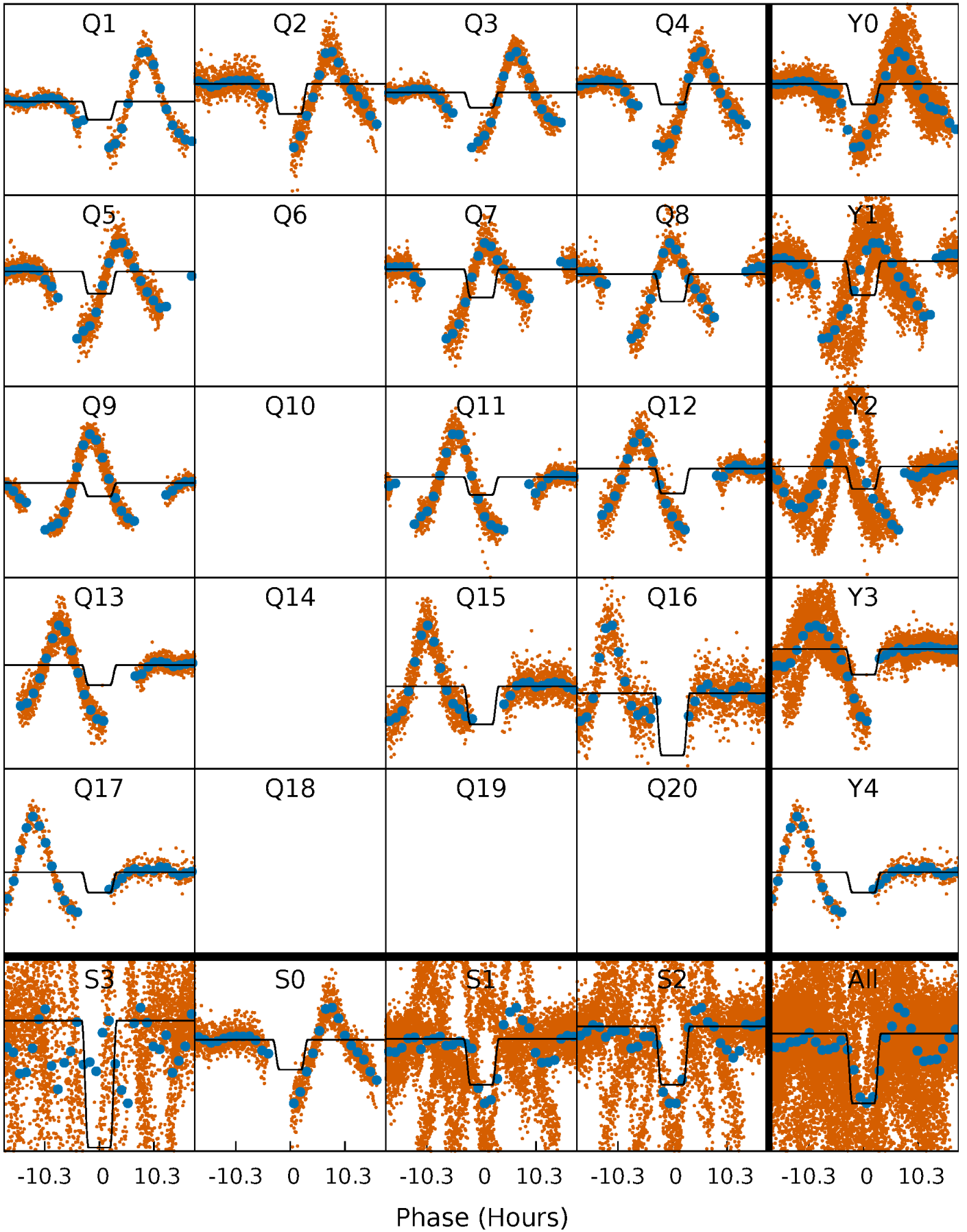
DV Quarter-Phased Transit Curves

TCE 003766353-03 P= 2.669225 Days $T_0=132.810430$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

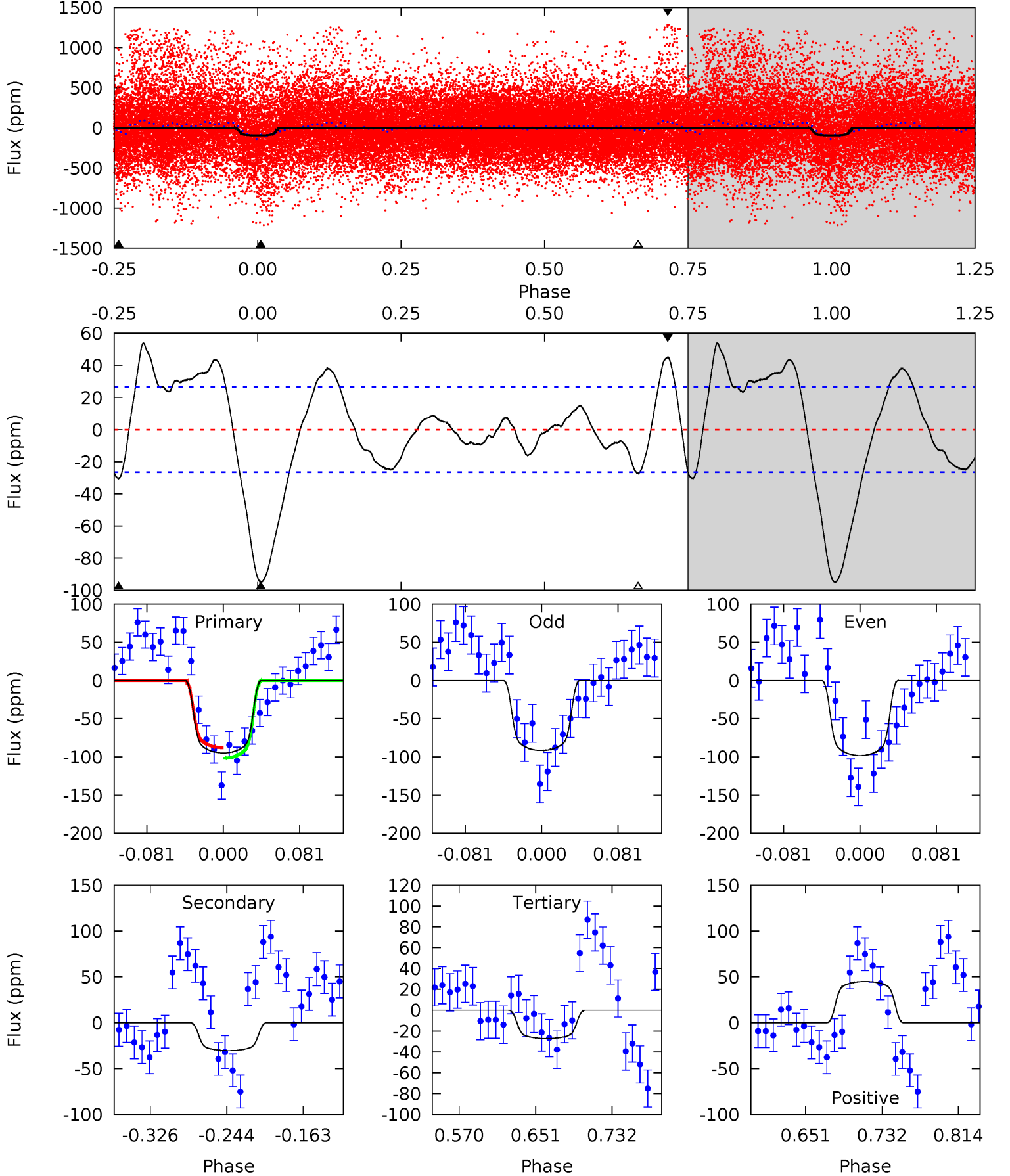
TCE 003766353-03 P= 2.668620 Days $T_0=132.871172$ (BKJD)



DV Model-Shift Uniqueness Test

003766353-03, P = 2.669225 Days, E = 130.141205 Days

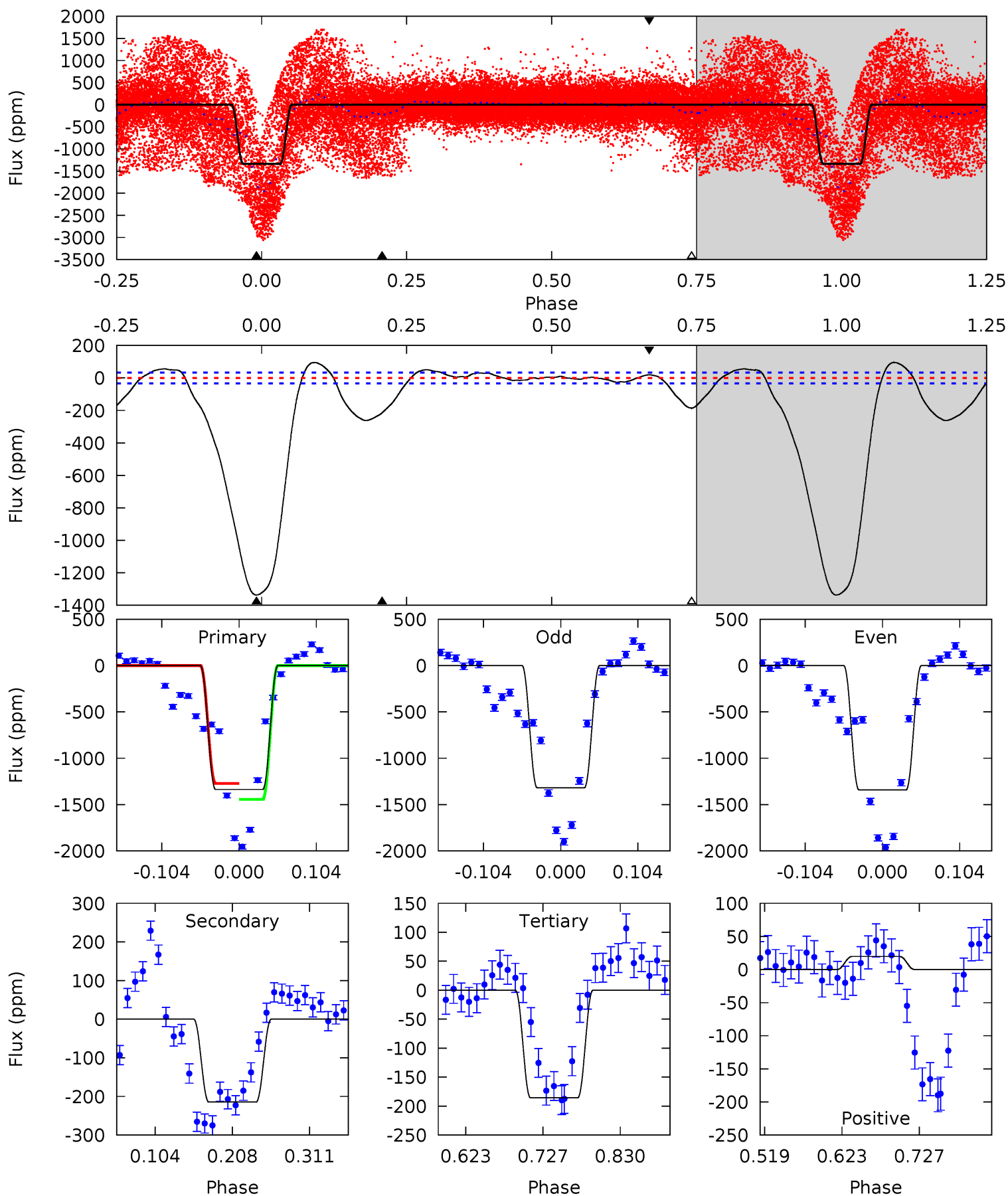
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.5	5.29	4.74	7.81	4.61	1.74	3.11	11.8	8.71	0.55	-2.52	0.57	0.47	0.36	1.14



Alt Model-Shift Uniqueness Test

003766353-03, P = 2.668620 Days, E = 130.202552 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
183.6	29.5	25.5	2.71	4.56	1.63	7.06	158.1	180.9	3.96	26.8	1.56	0.75	0.07	9.39



Stellar Parameters For KIC 003766353

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6609^{+157}_{-216}	$4.484^{+0.040}_{-0.229}$	$-0.500^{+0.300}_{-0.300}$	$0.974^{+0.358}_{-0.084}$	$1.073^{+0.149}_{-0.122}$	$1.638^{+0.264}_{-0.938}$
	+2%/-3%	+1%/-5%	+60%/-60%	+37%/-9%	+14%/-11%	+16%/-57%
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 003766353-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-30 ± 6	$1.65^{+0.30}_{-0.17}$	2089^{+169}_{-82}	4221^{+199}_{-204}	$8.774^{+2.605}_{-2.733}$
Alt.	-215 ± 7	$3.38^{+0.66}_{-0.31}$	2105^{+174}_{-101}	4702^{+120}_{-131}	15^{+3}_{-4}

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

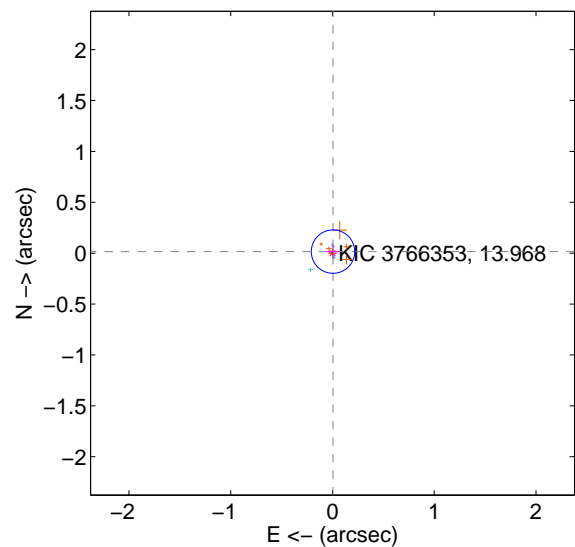
Supplemental centroid analysis for 003766353-03. Kepler magnitude: 13.97. Transit SNR 17.42

There are 7 quarters with good PRF difference image offsets

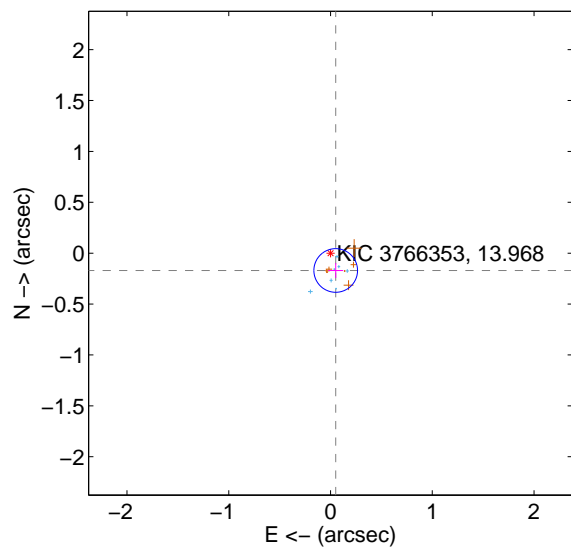
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.016 ± 0.071	0.23	-0.005 ± 0.071	0.015 ± 0.070
PRF-fit source offset from KIC position	0.177 ± 0.071	2.48	-0.051 ± 0.073	-0.170 ± 0.073
photometric centroid source offset	0.66 ± 0.44	1.51	0.49 ± 0.41	-0.44 ± 0.47

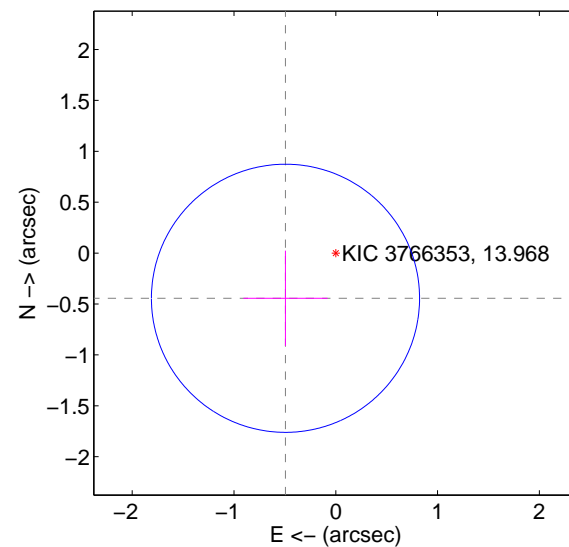
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

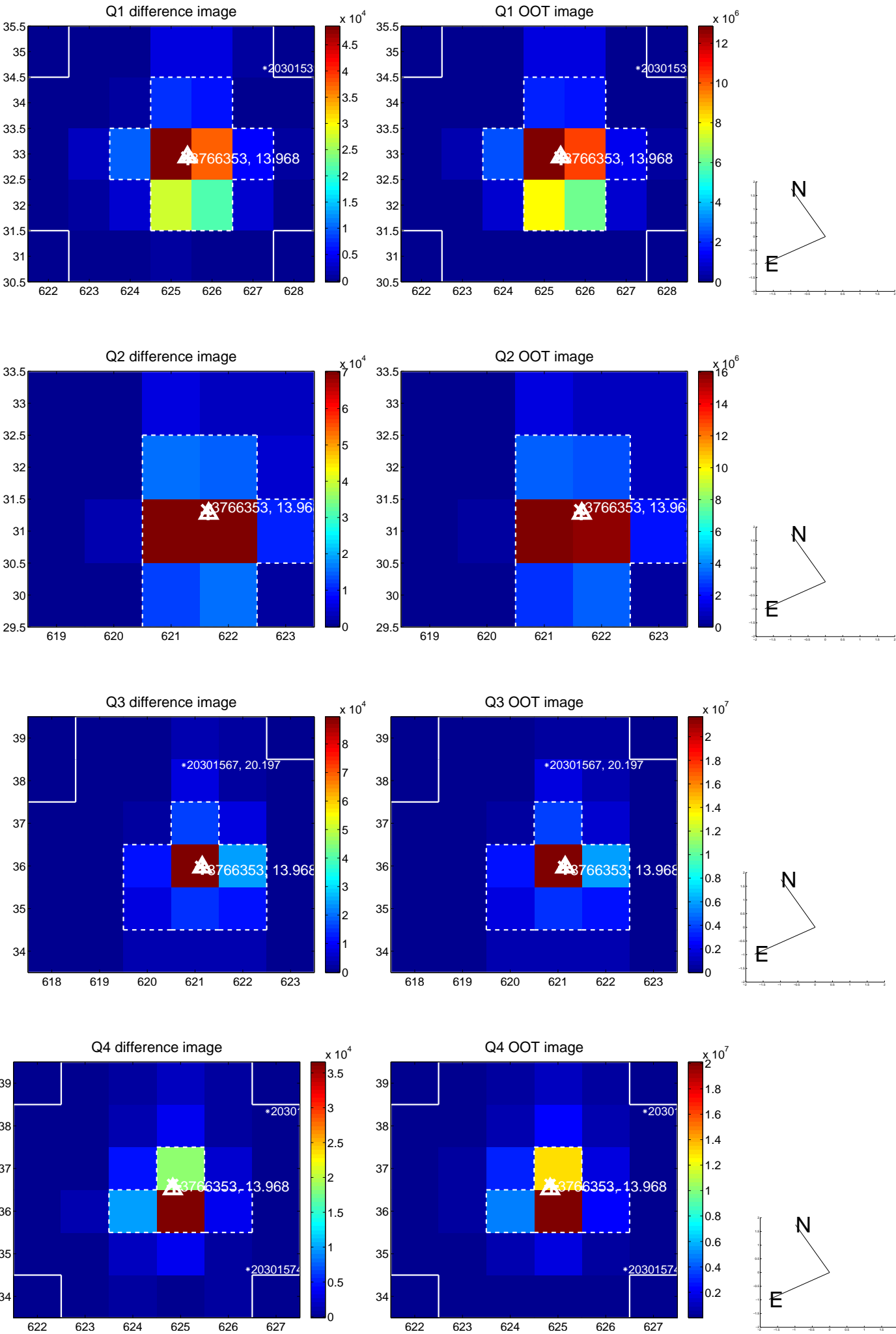


offset from photometric centroids

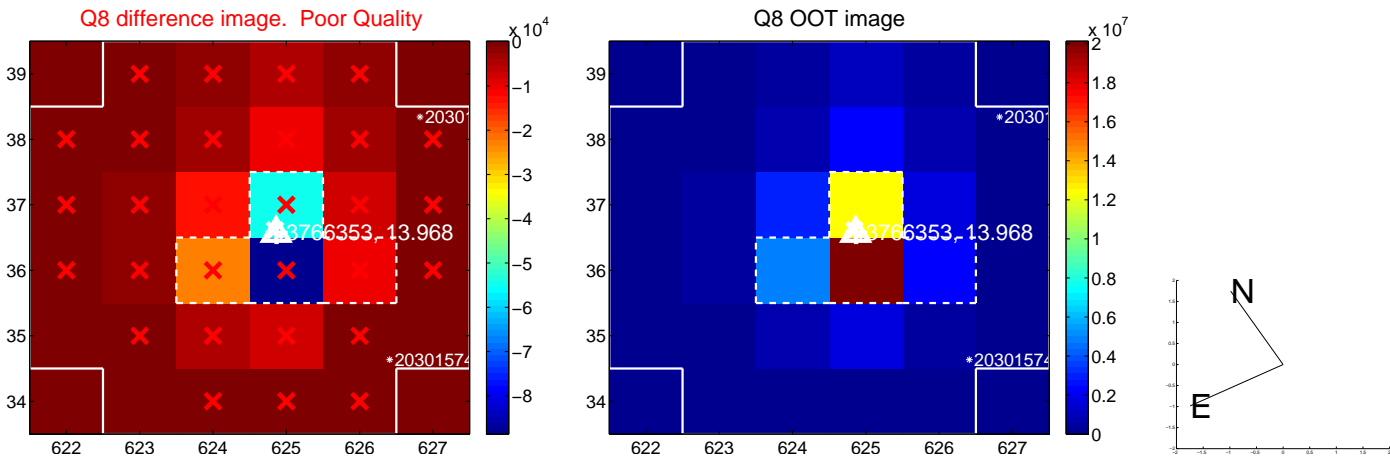
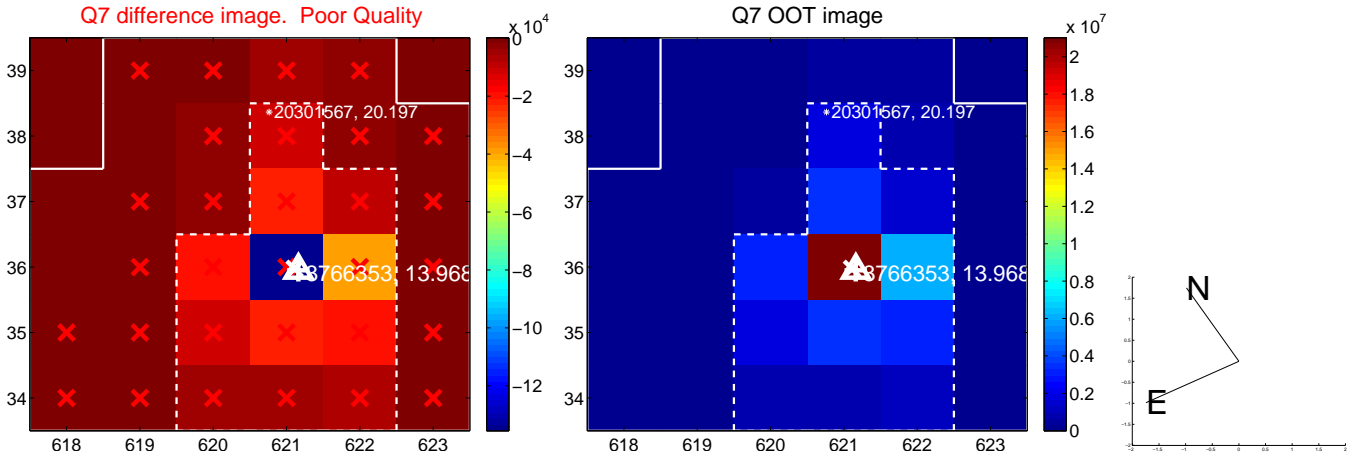
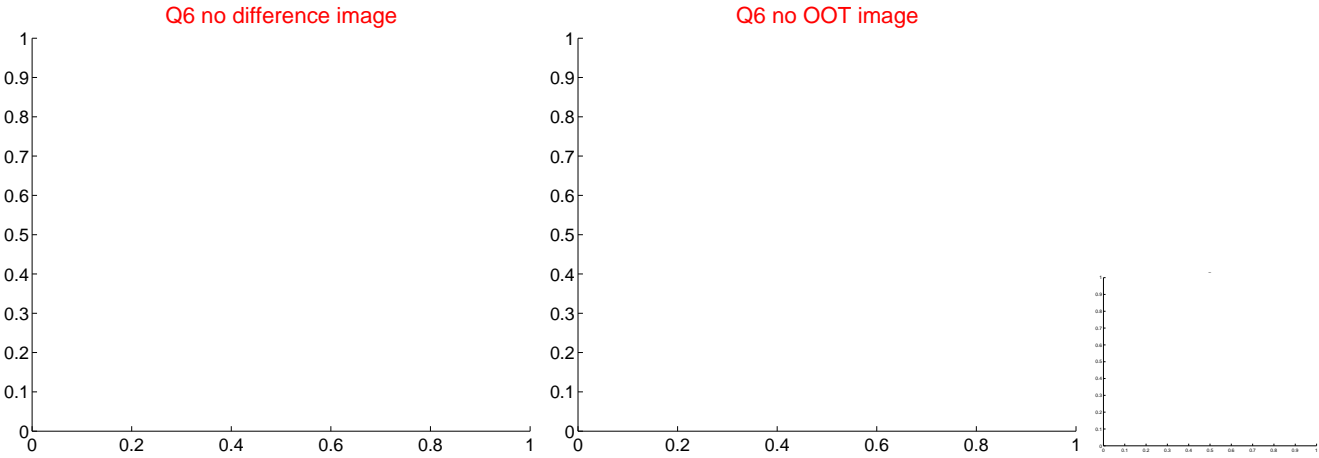
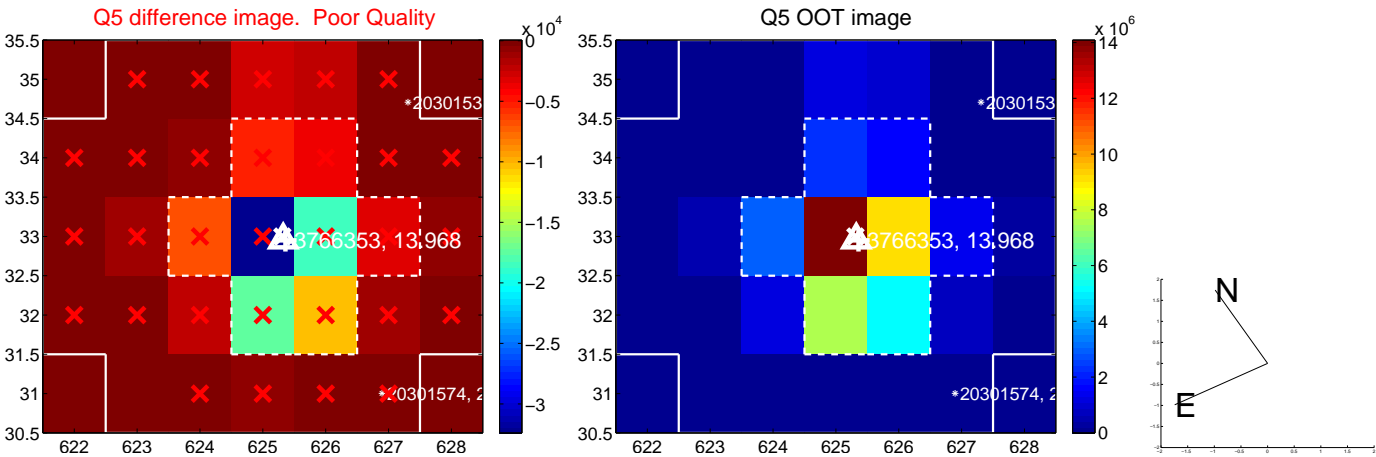


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

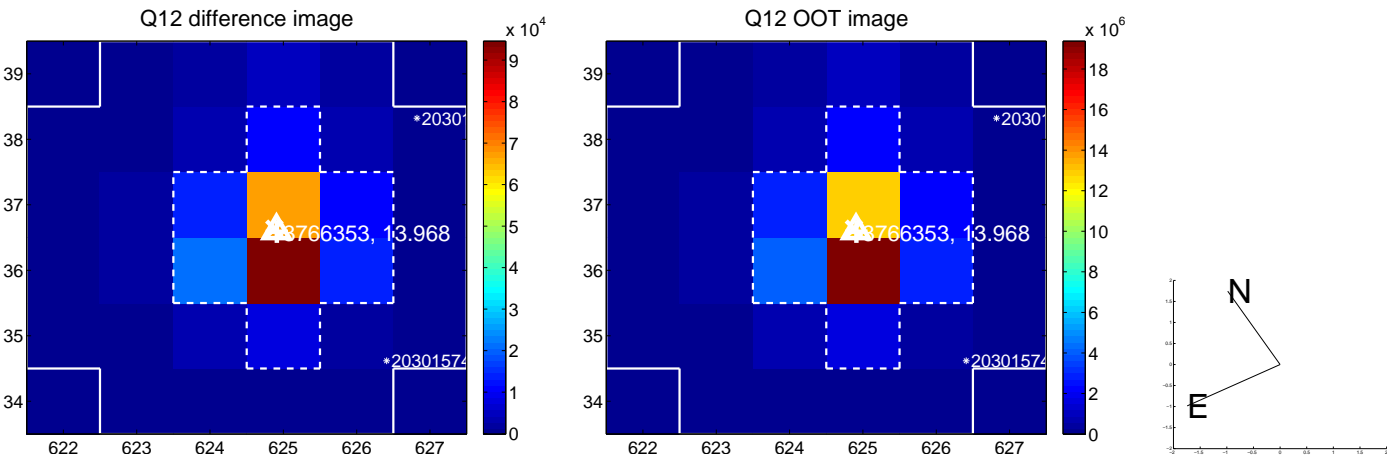
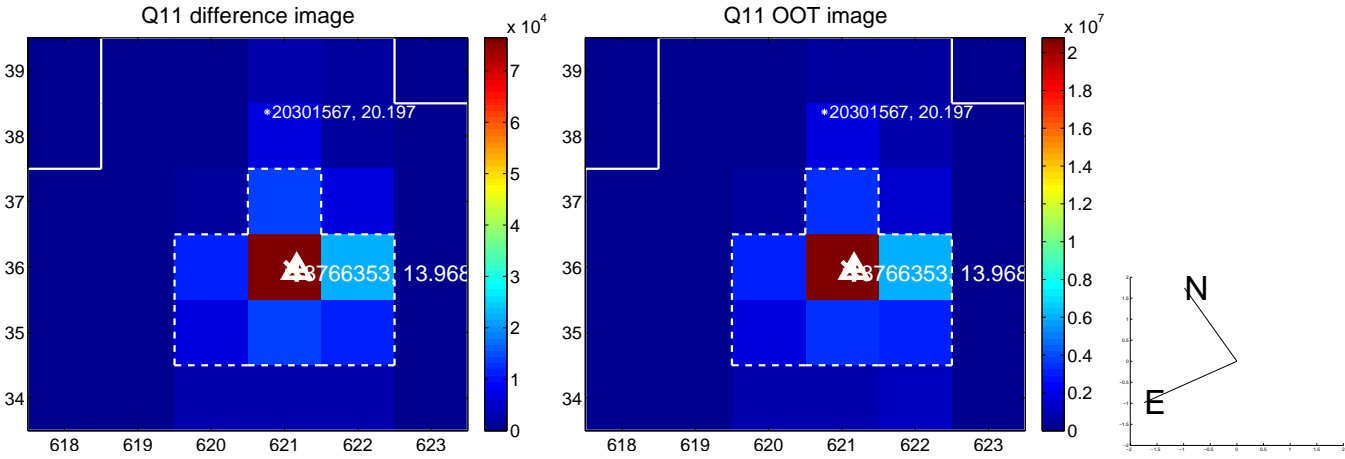
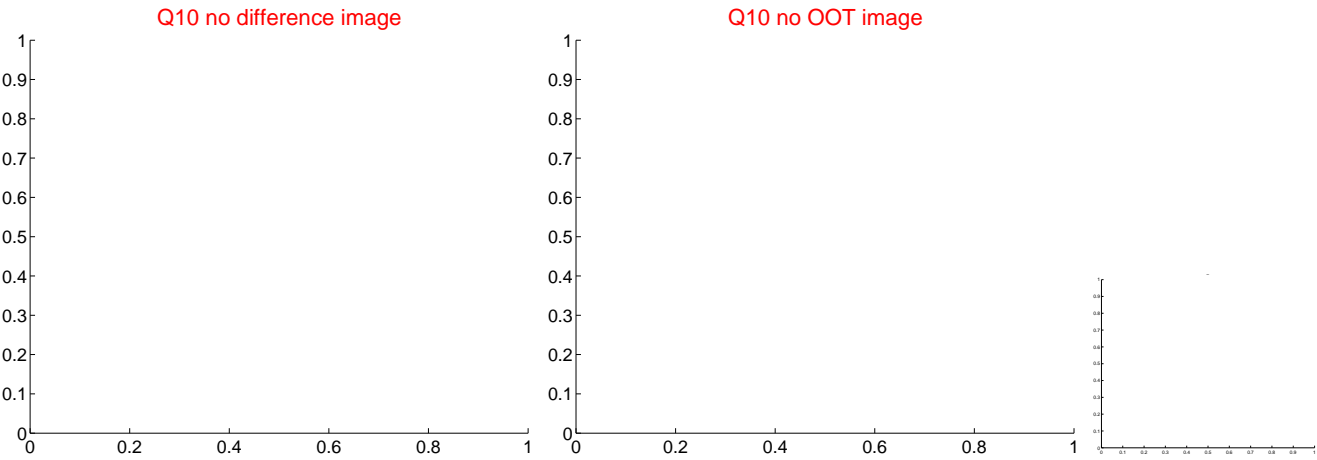
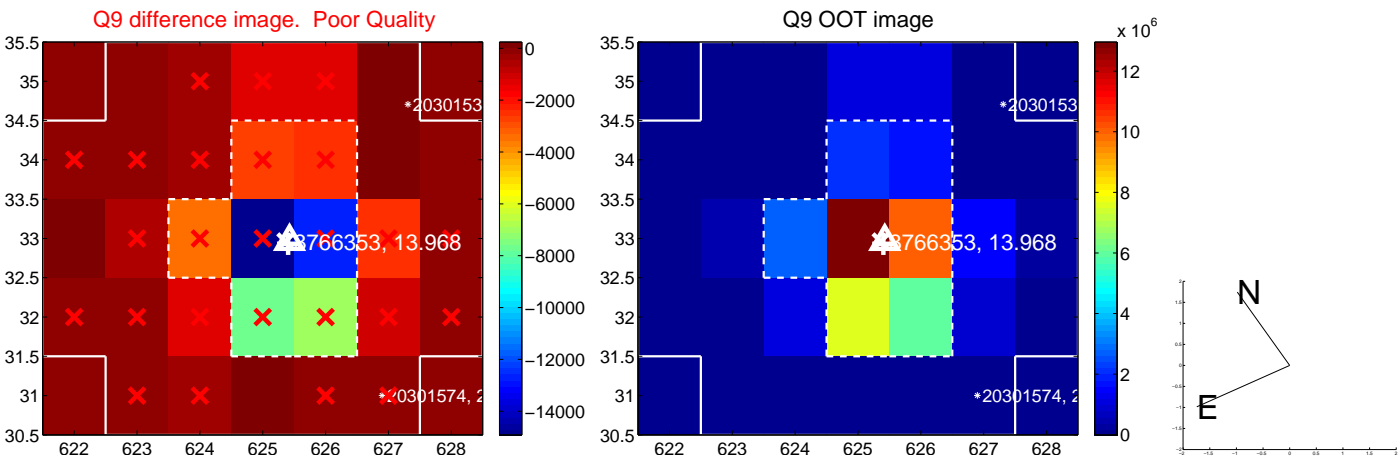
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



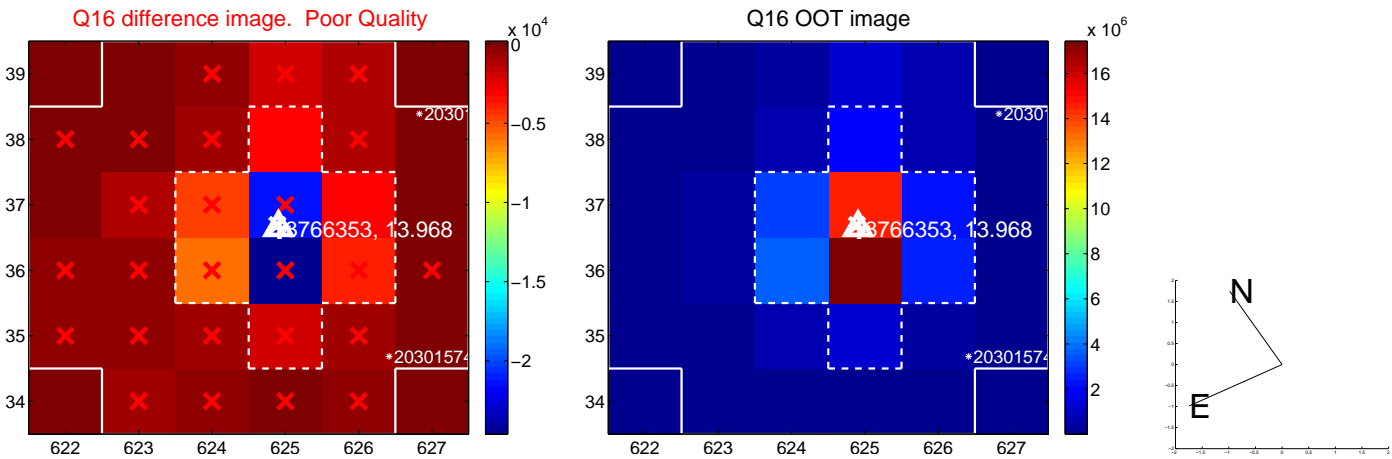
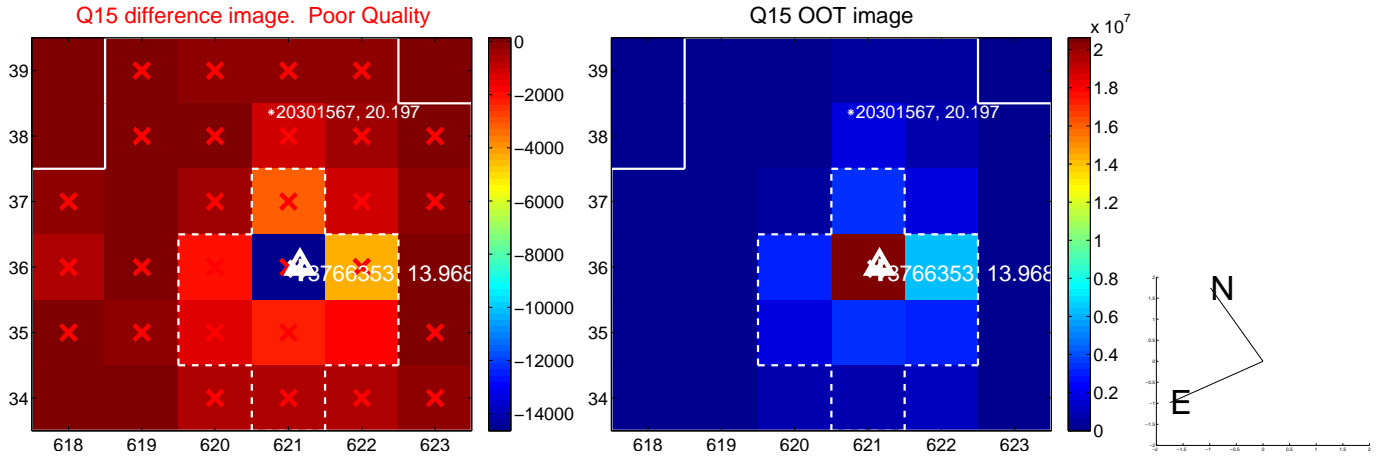
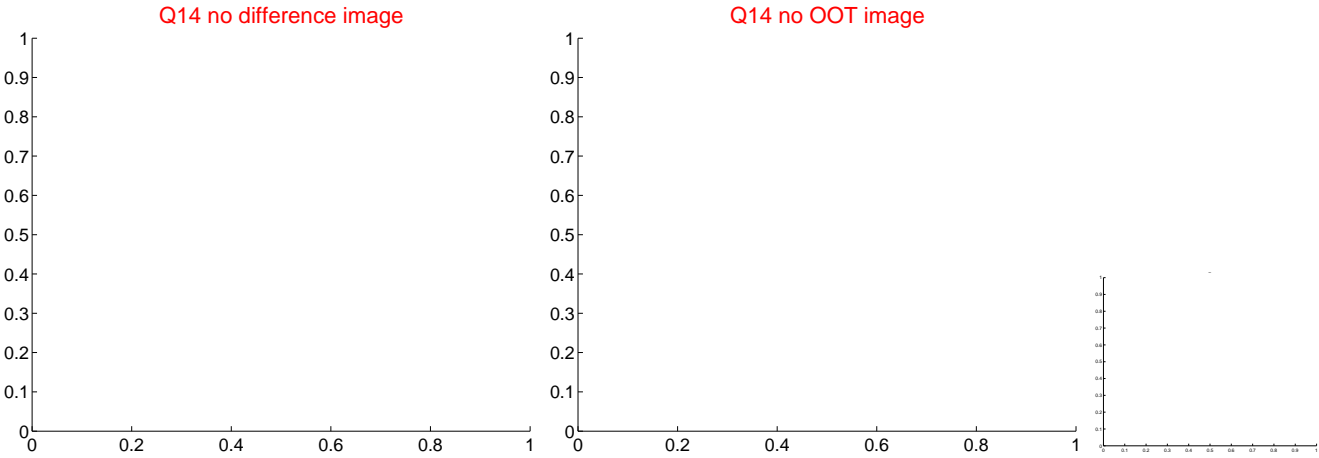
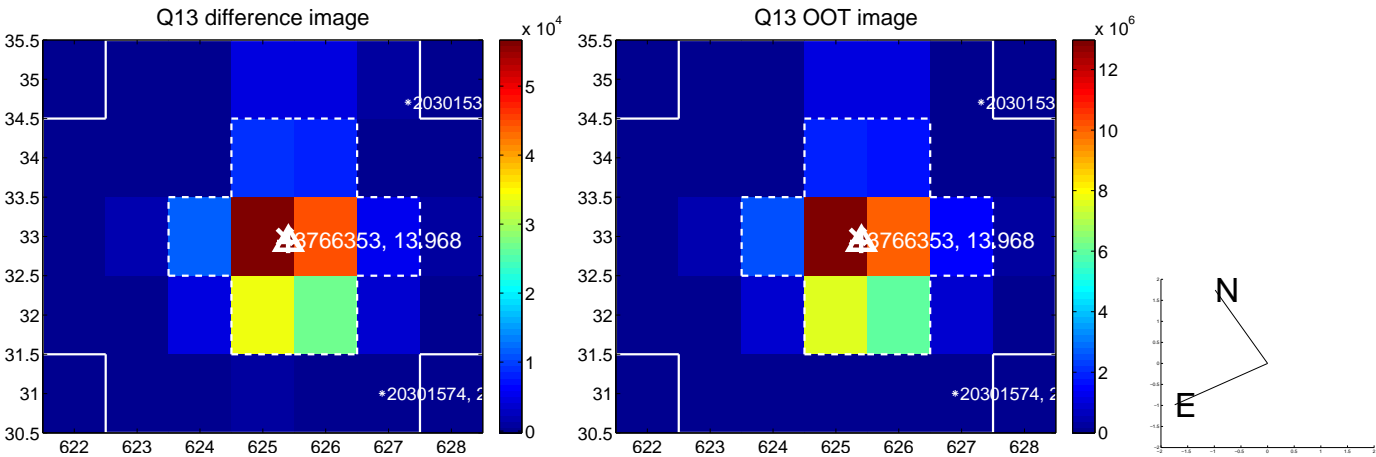
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



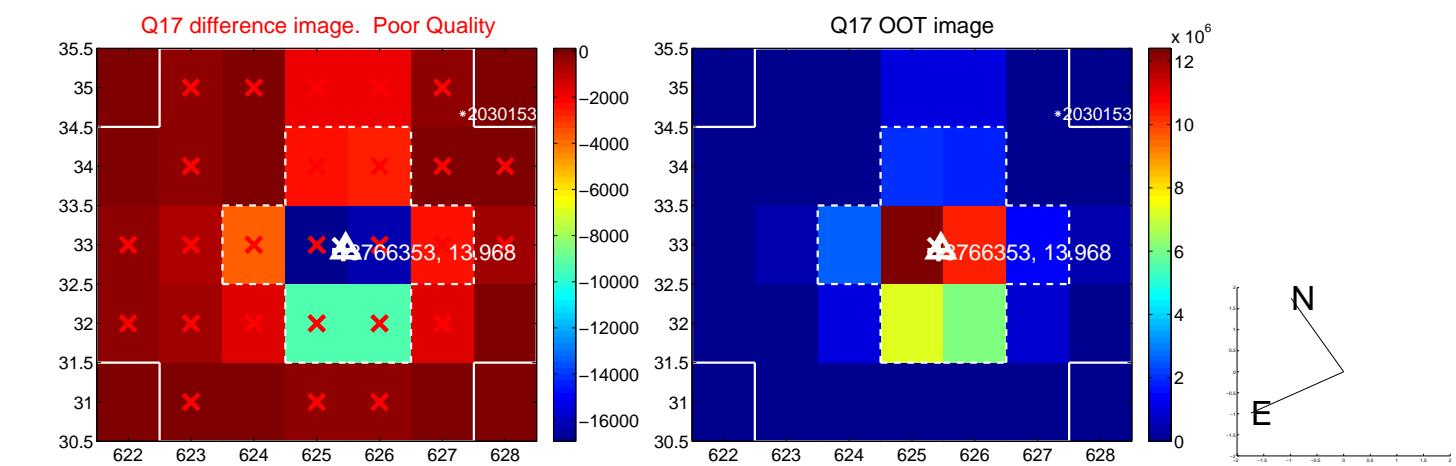
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



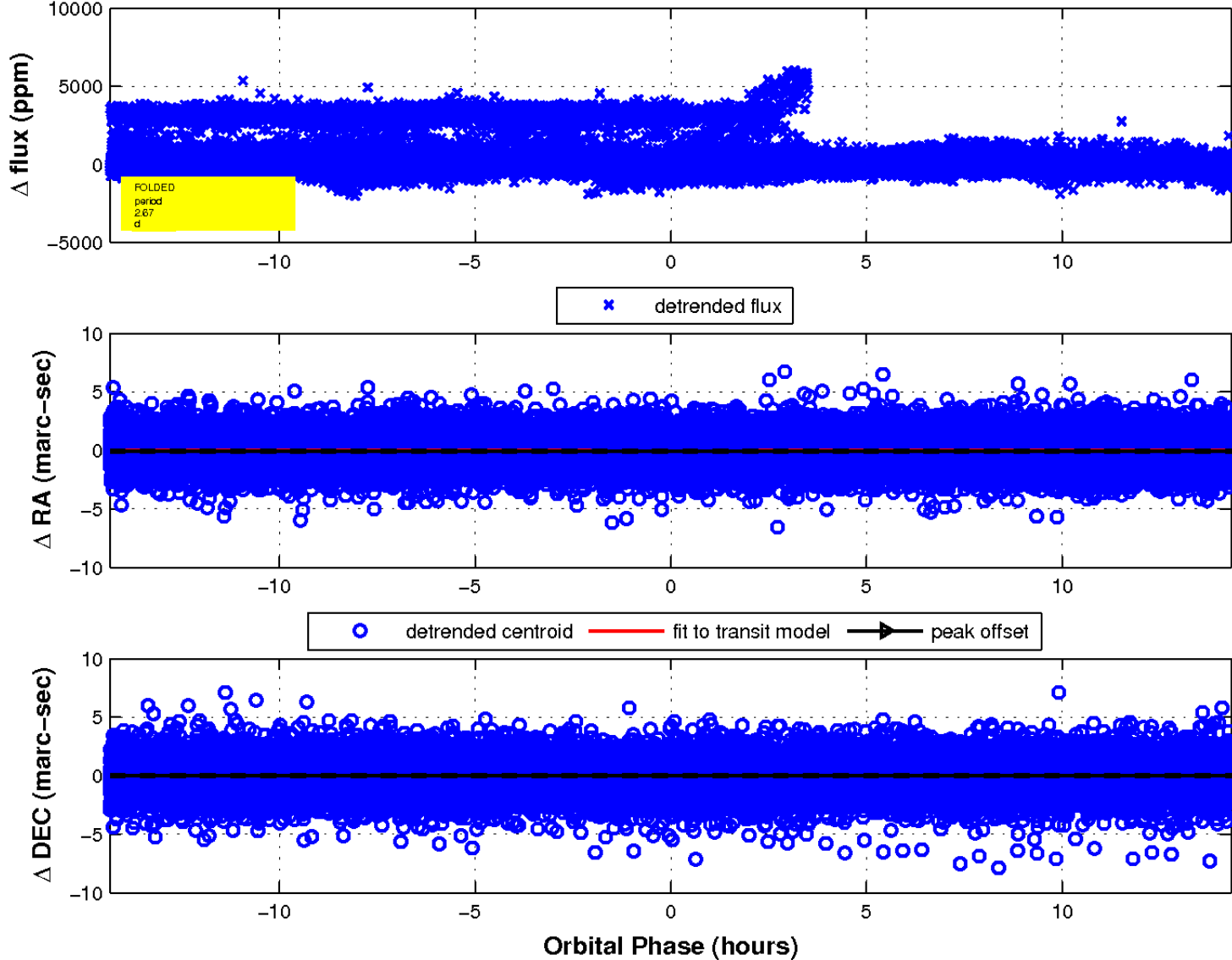
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

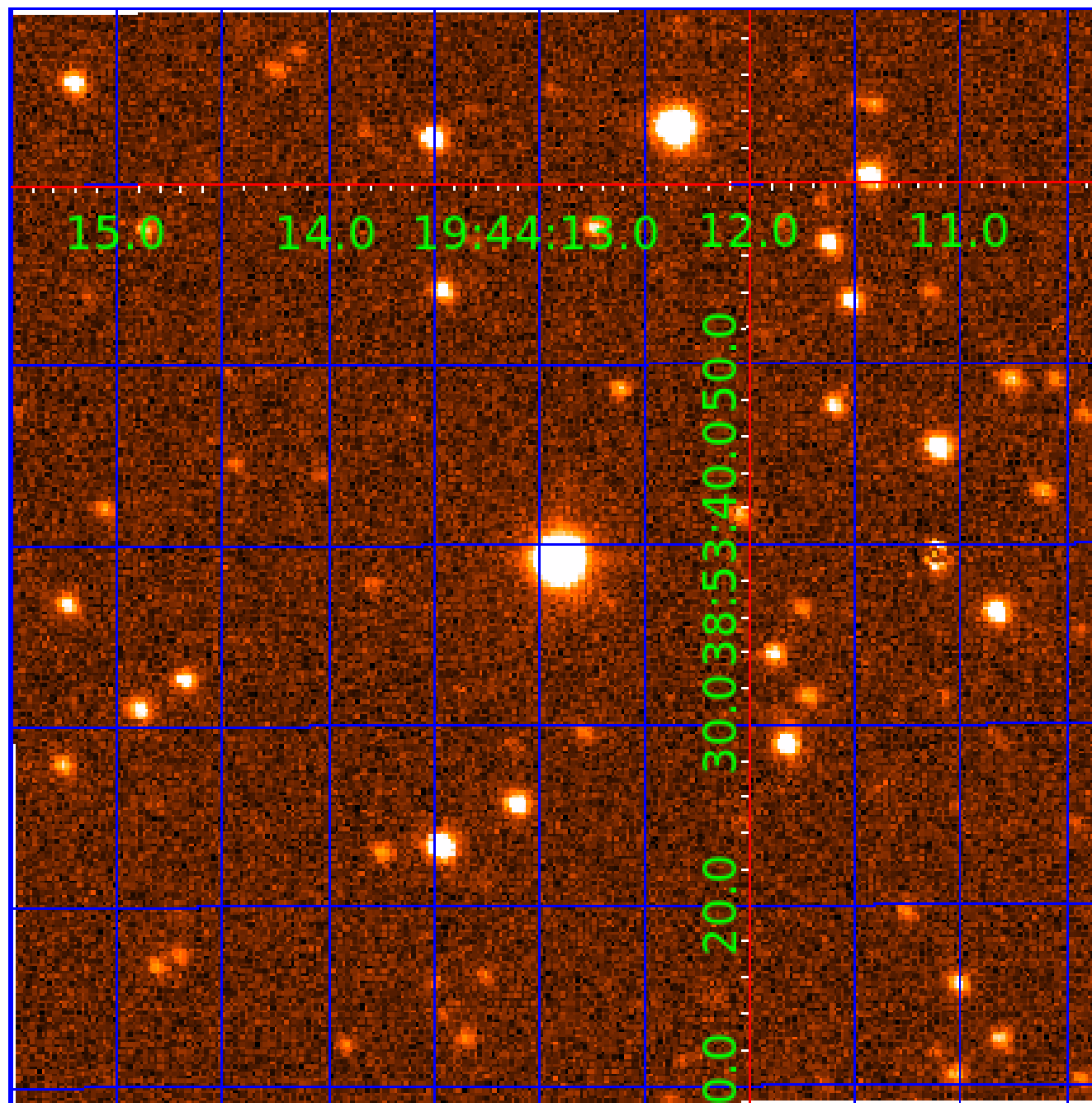


fluxWeightedCentroids, Planet 3 of 4



UKIRT Image

Declination



KIC 003766353

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})
003766353-01	OBS	6359.01	2.666969	133.718317	6693.6	2.101	414.0	482.8	0.97	6609	10.94	1104.38
003766353-02	OBS	No	2.666935	132.838609	372.2	1.567	30.8	33.5	0.97	6609	2.20	1104.40
003766353-03	OBS	No	2.669225	132.810430	174.3	4.776	18.6	17.4	0.97	6609	1.58	1103.14
003766353-04	OBS	No	2.667160	132.873231	310.6	7.500	11.5	-1.0	0.97	6609	1.73	1104.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003766353-01	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED—HAS_SEC_TCE
003766353-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE
003766353-03	OBS	FP	0.00	1	0	0	0	LPP_DV
003766353-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—SAME_NTL_PERIOD—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 003766353-04

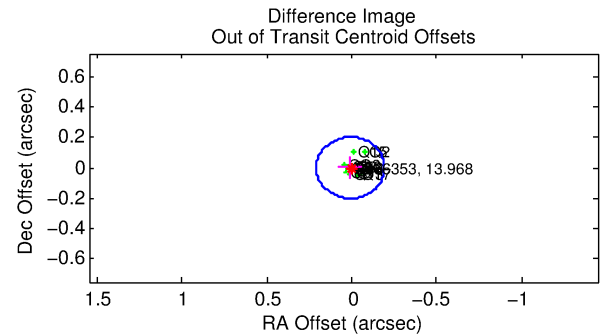
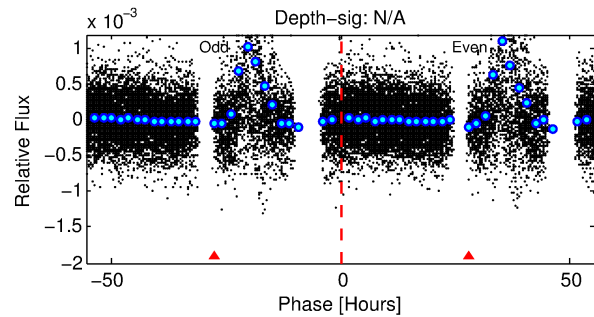
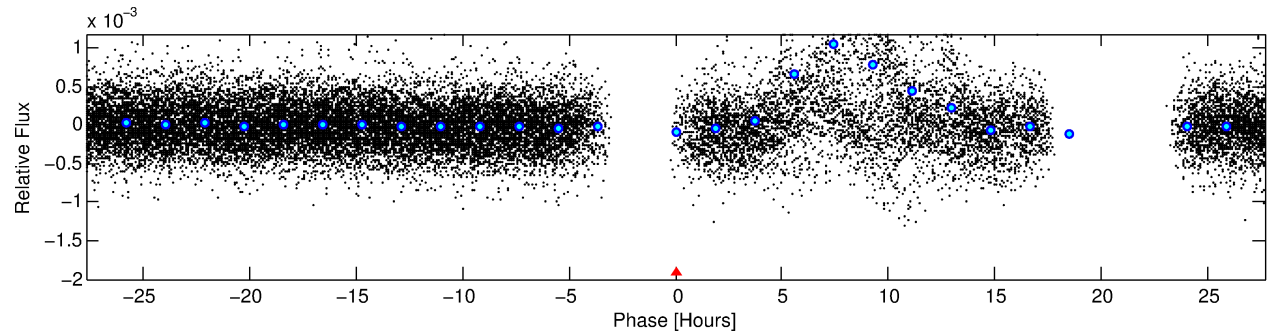
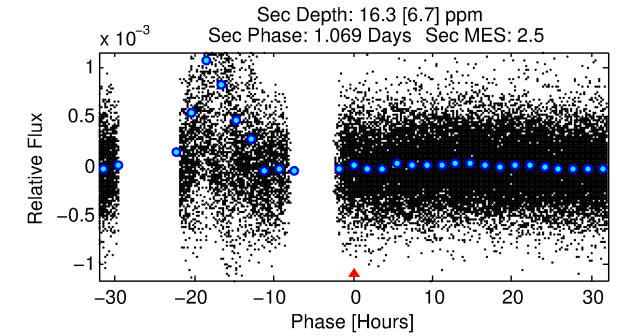
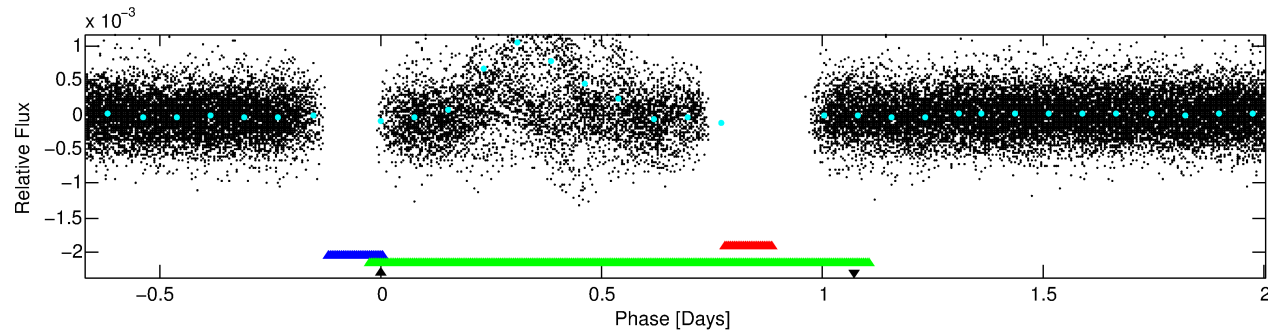
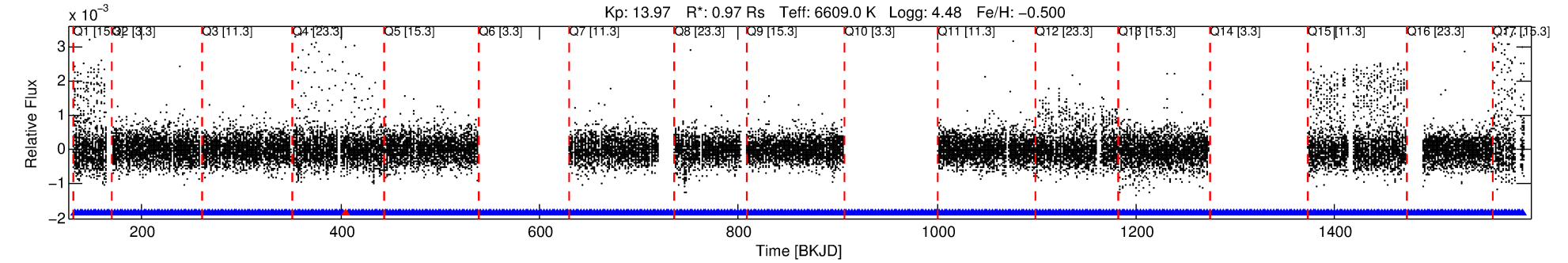
No Significant Match Found

DV One-Page Summary

KIC: 3766353 Candidate: 4 of 4 Period: 2.667 d

KOI: K06359 Corr: No Ephemeris Match

Kp: 13.97 R*: 0.97 Rs Teff: 6609.0 K Logg: 4.48 Fe/H: -0.500



TPS TCE Results:

Period = 2.66716 d
Epoch = 132.8732 BKJD

DV fit results are unavailable

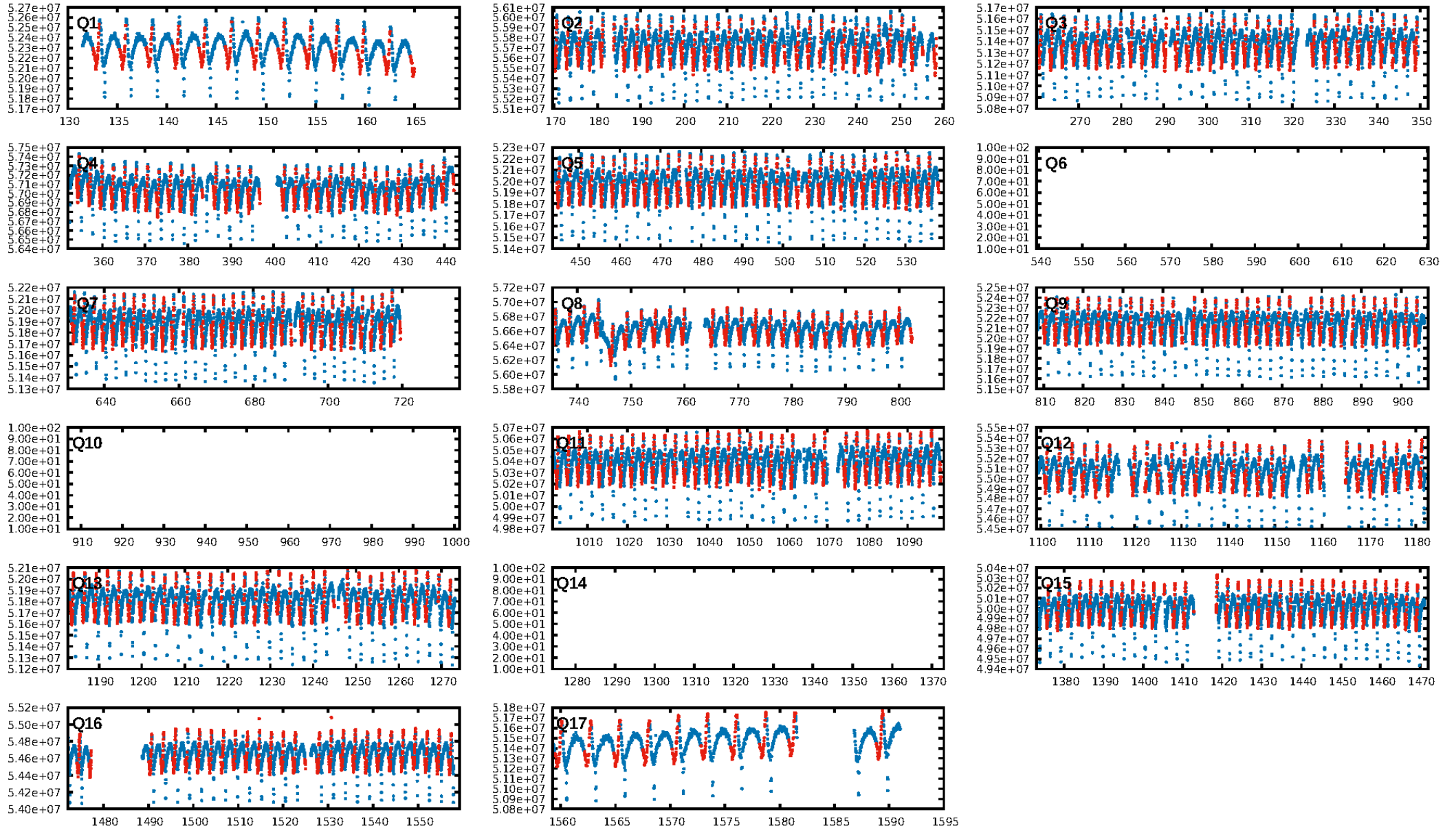
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 0.4% [0.01σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [326/327]
GhostDiagnostic-chr: 4.518
Centroid-sig: 0.0%
Centroid-so: 0.408 arcsec [16.65σ]
OotOffset-rm: 0.011 arcsec [0.16σ]
KicOffset-rm: 0.211 arcsec [3.06σ]
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]

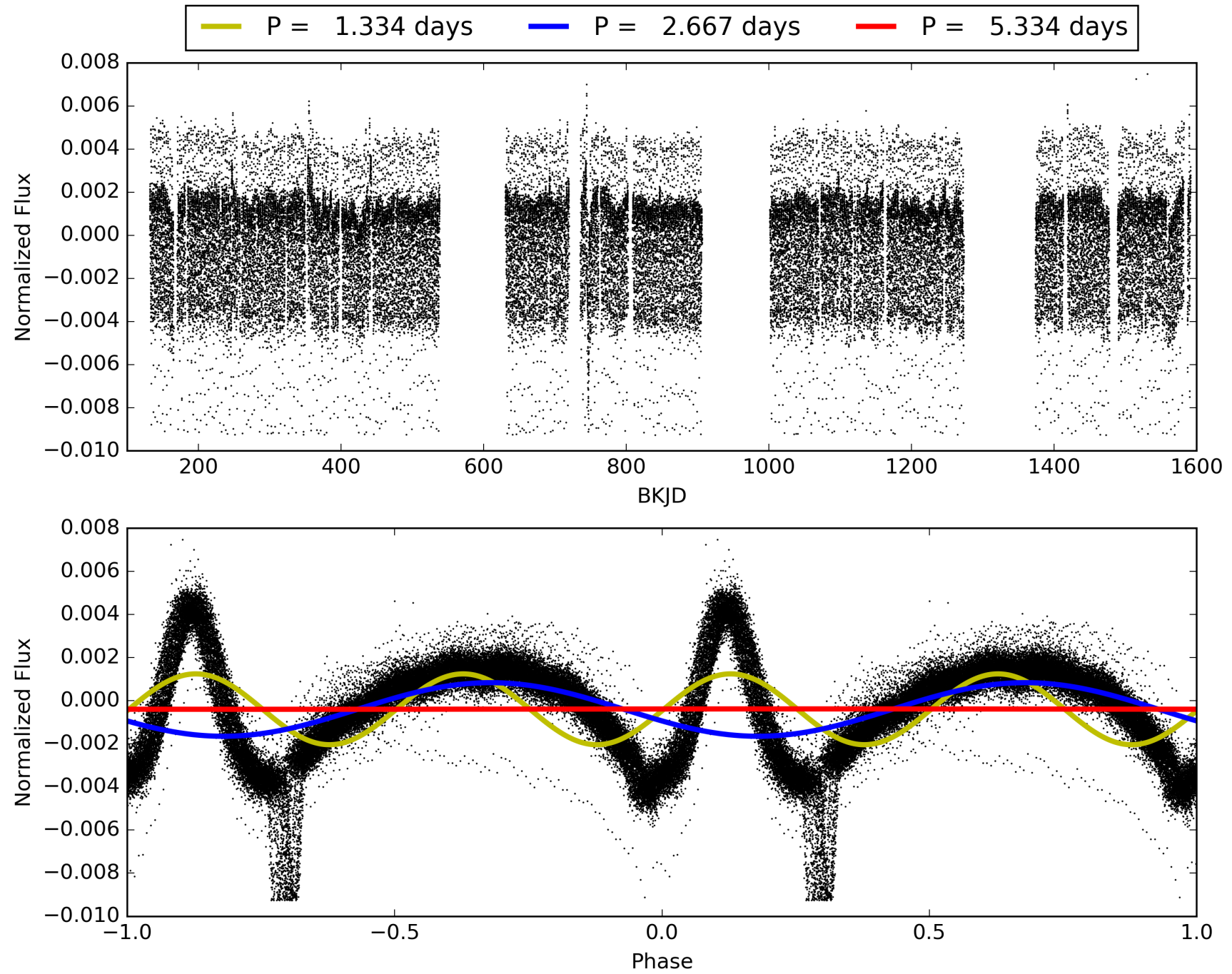
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:48:37 Z

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

TCE 003766353-04, PDC Light Curves

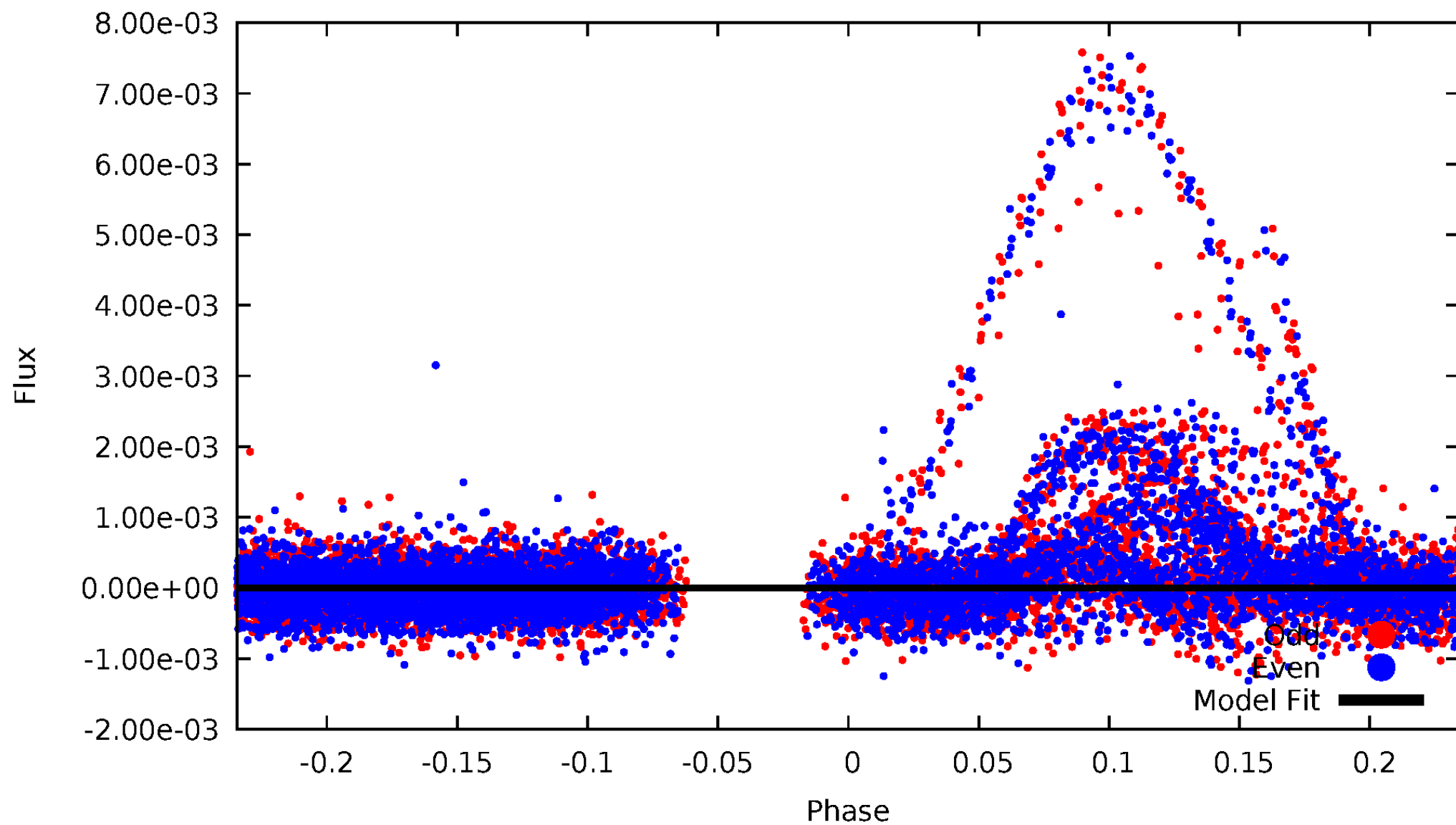


TCE 003766353-04



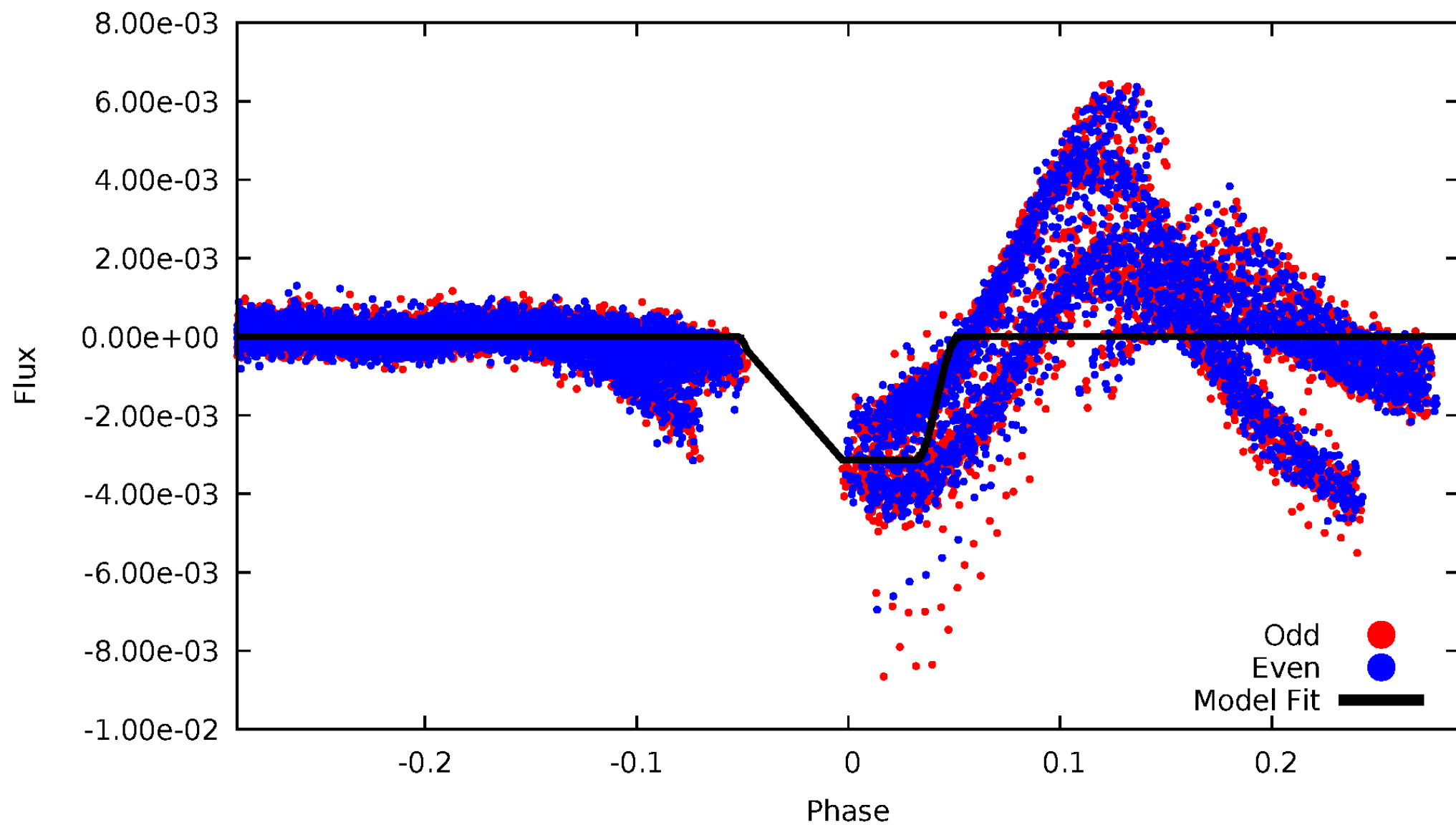
DV Odd/Even

TCE 003766353-04



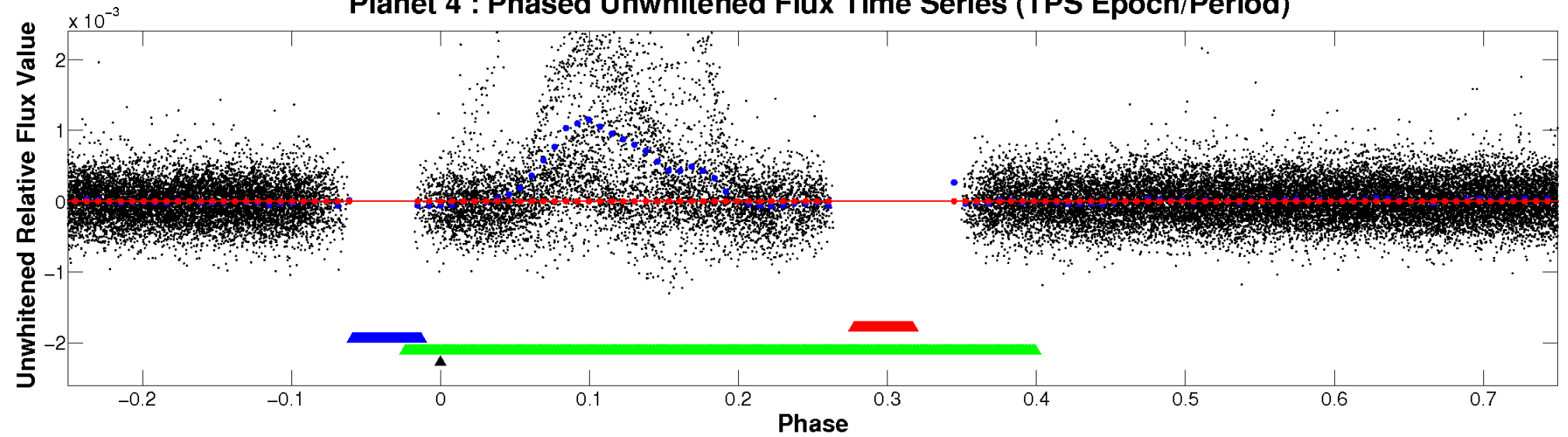
ALT Odd/Even

TCE 003766353-04



Non-Whitened Vs. Whitened Light Curve

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

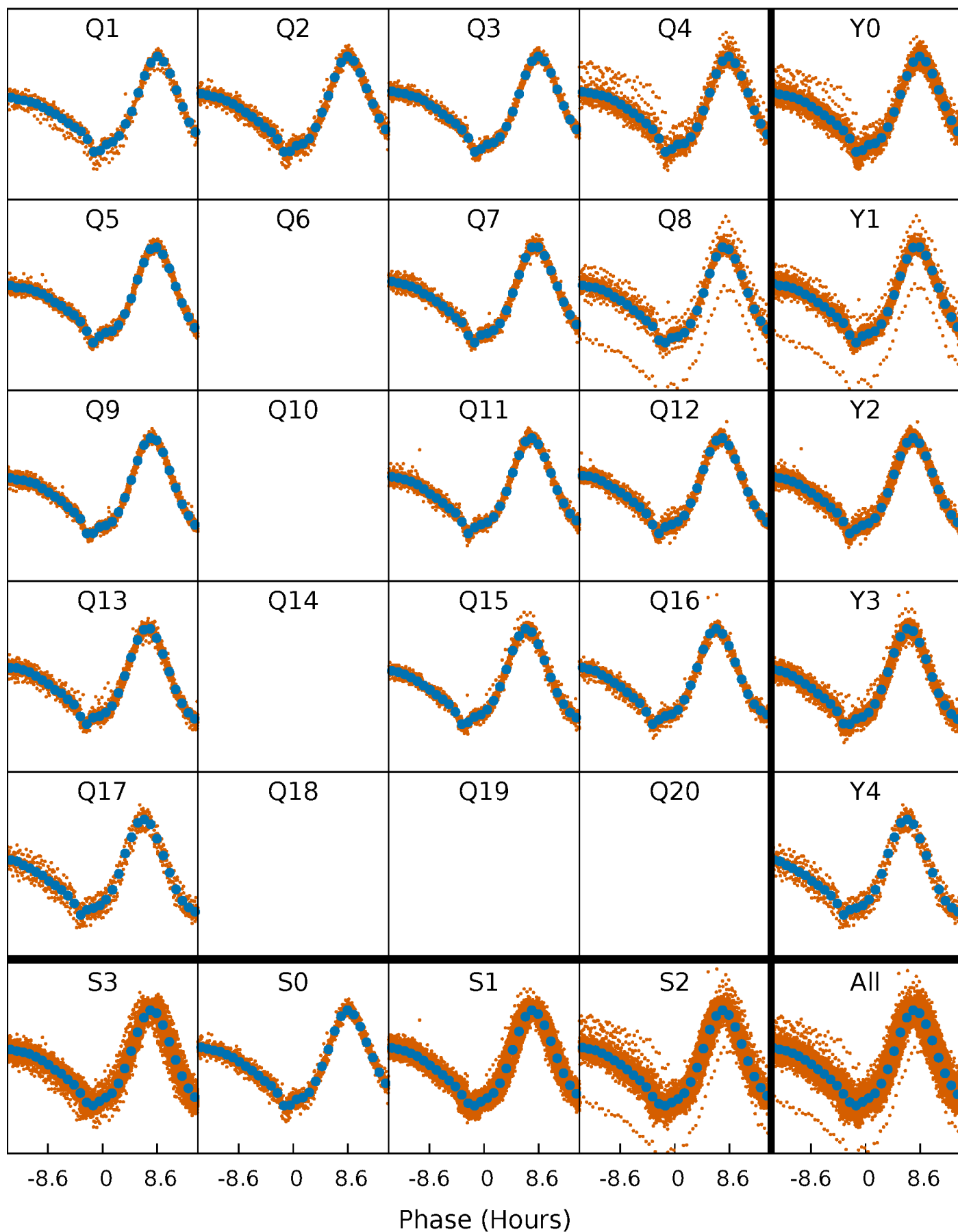


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



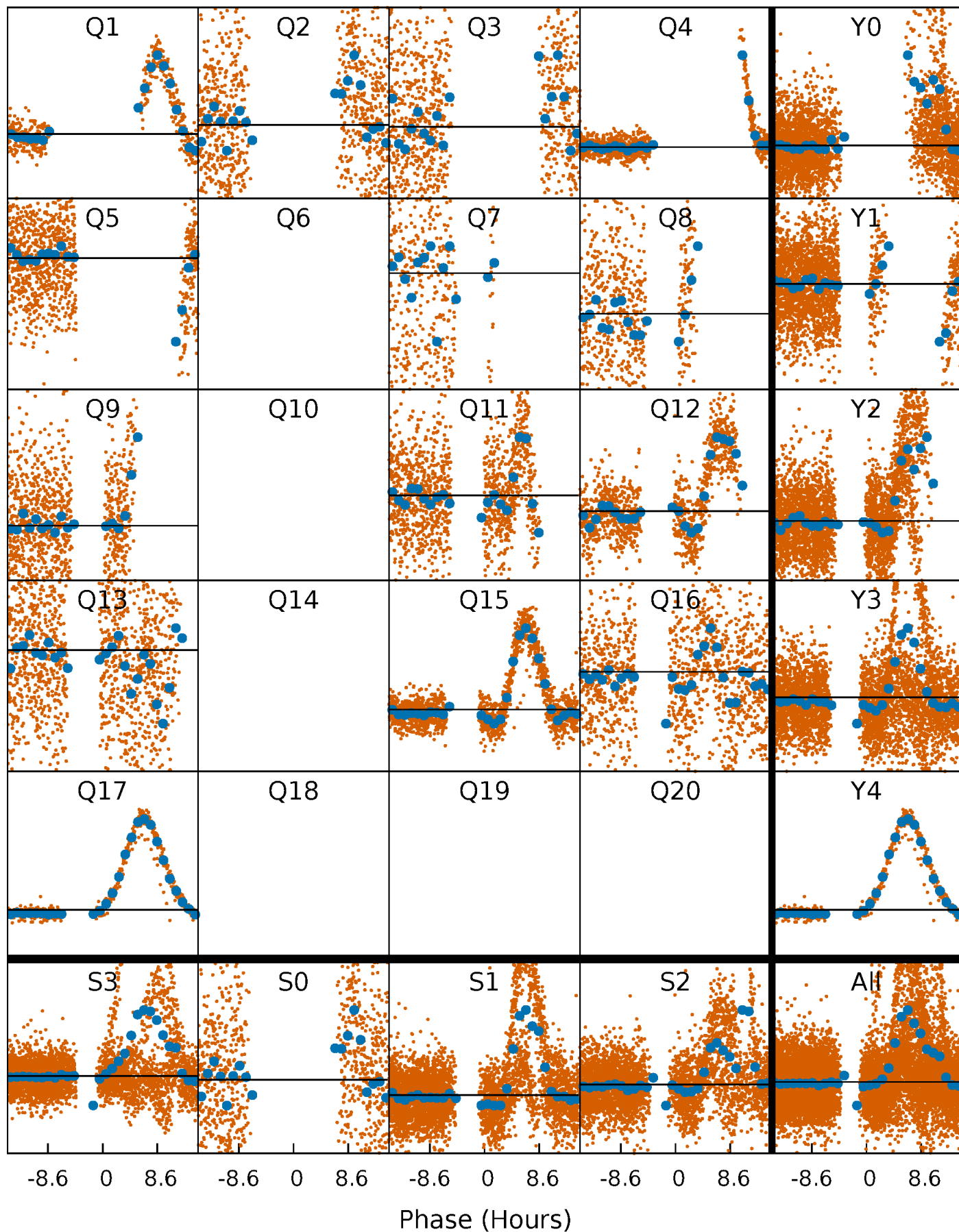
PDC Quarter-Phased Transit Curves

TCE 003766353-04 P= 2.667160 Days $T_0=132.873231$ (BKJD)



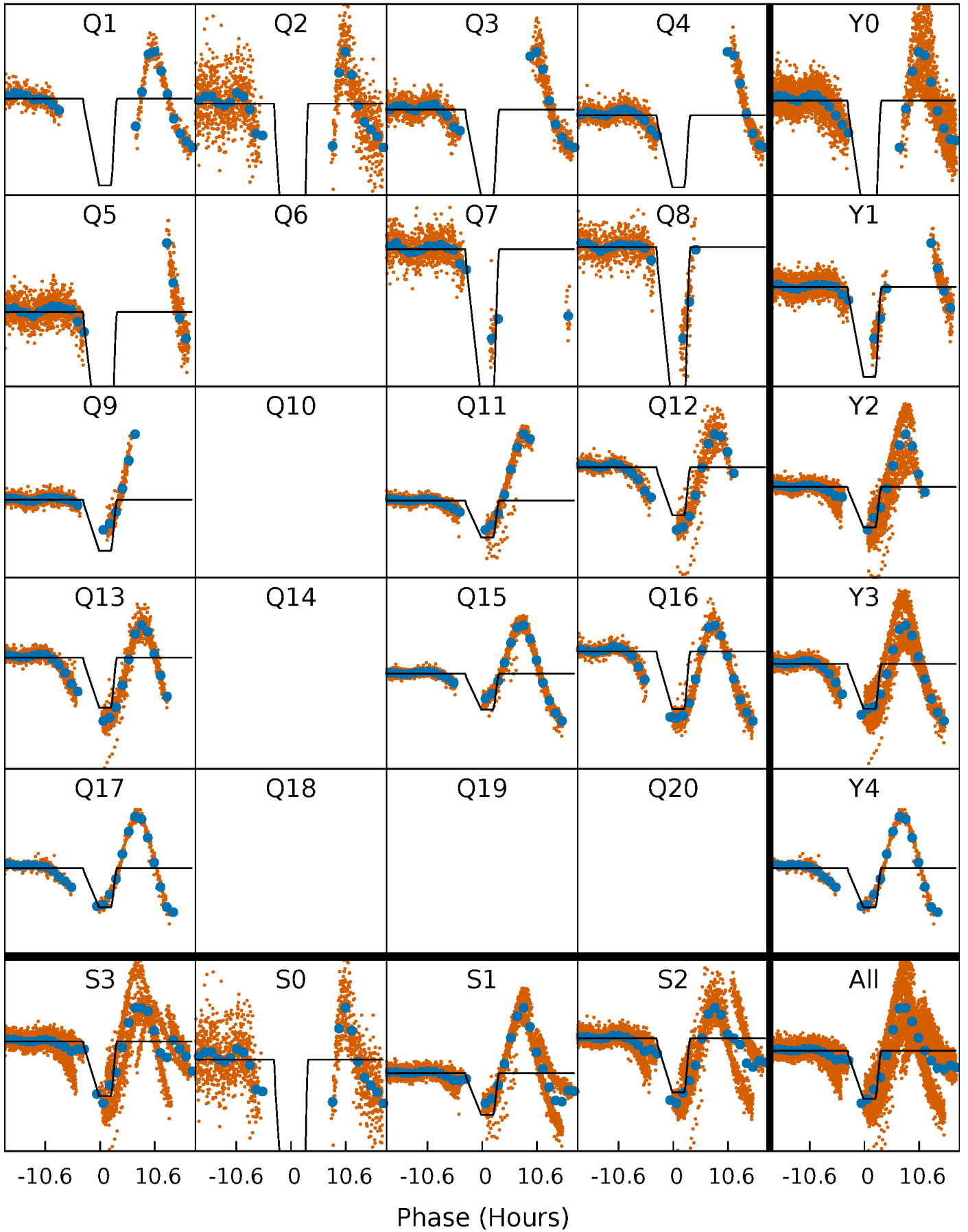
DV Quarter-Phased Transit Curves

TCE 003766353-04 P= 2.667160 Days $T_0=132.873231$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

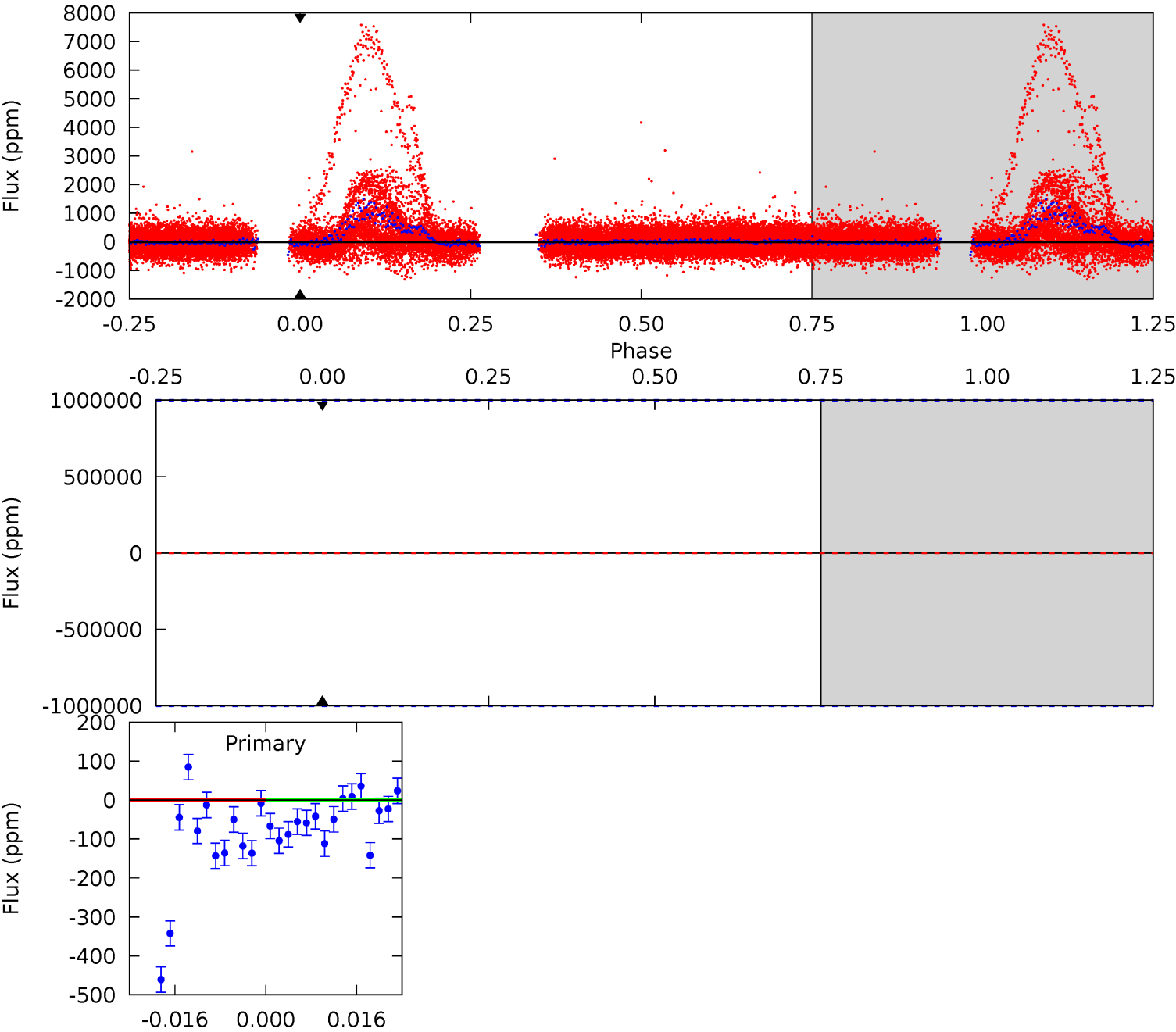
TCE 003766353-04 P= 2.667160 Days $T_0=132.834683$ (BKJD)



DV Model-Shift Uniqueness Test

003766353-04, P = 2.667160 Days, E = 130.206071 Days

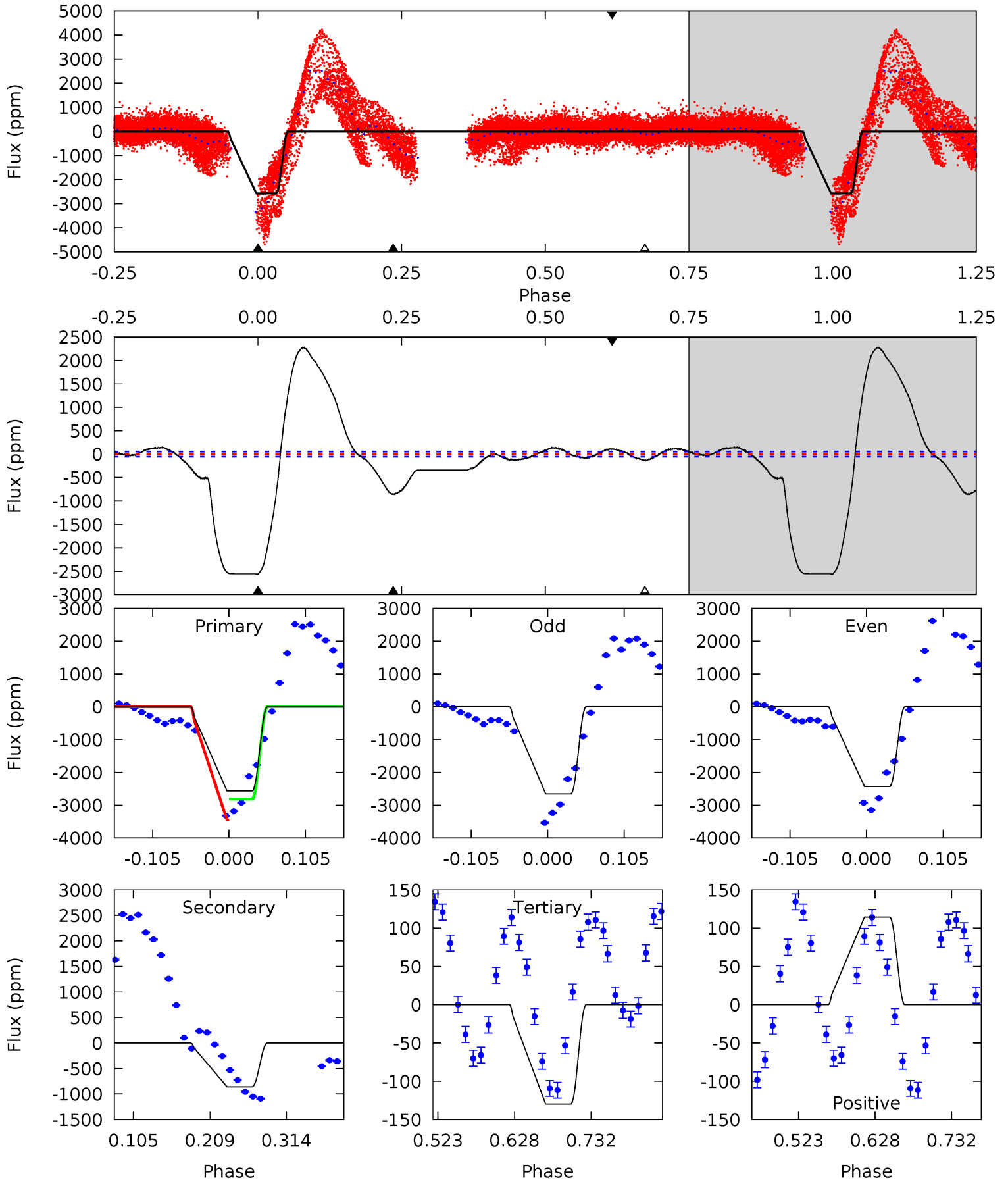
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

003766353-04, P = 2.667160 Days, E = 130.167523 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
214.9	71.6	10.9	9.59	4.56	1.62	16.0	204.1	205.3	60.8	62.0	9.25	1.23	0.47	9.39



Stellar Parameters For KIC 003766353

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6609^{+157}_{-216}	$4.484^{+0.040}_{-0.229}$	$-0.500^{+0.300}_{-0.300}$	$0.974^{+0.358}_{-0.084}$	$1.073^{+0.149}_{-0.122}$	$1.638^{+0.264}_{-0.938}$
	+2%/-3%	+1%/-5%	+60%/-60%	+37%/-9%	+14%/-11%	+16%/-57%
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 003766353-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$8.24^{+9.20}_{-5.70}$	2111^{+168}_{-101}	4668^{+29581}_{-29705}	14^{+2312}_{-1574}
Alt.	-856 ± 12	$10.57^{+8.94}_{-7.12}$	2110^{+161}_{-108}	3981^{+2583}_{-773}	$6.219^{+51.979}_{-4.364}$

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

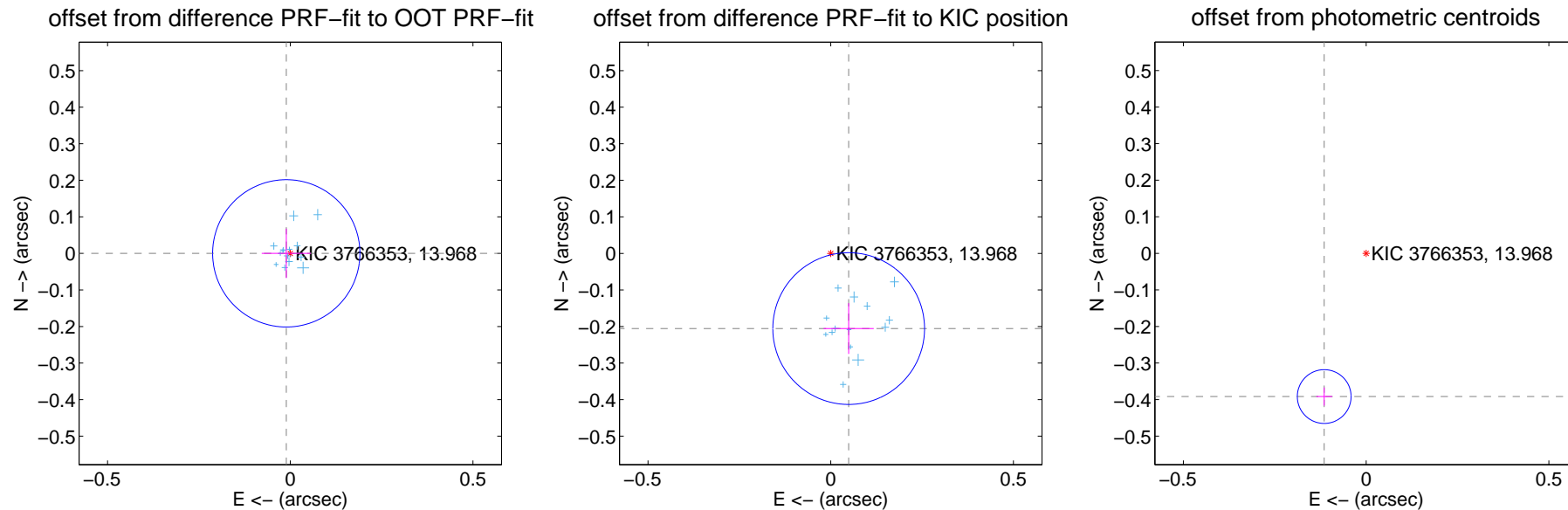
DV Centroid Data

Supplemental centroid analysis for 003766353-04. Kepler magnitude: 13.97. Transit SNR -1.00

There are 14 quarters with good PRF difference image offsets

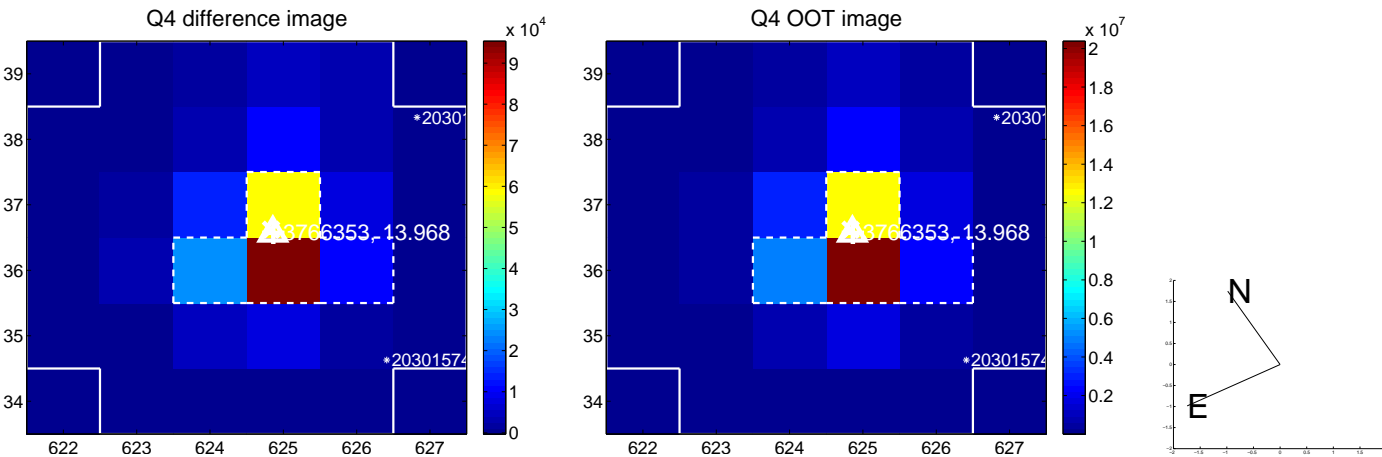
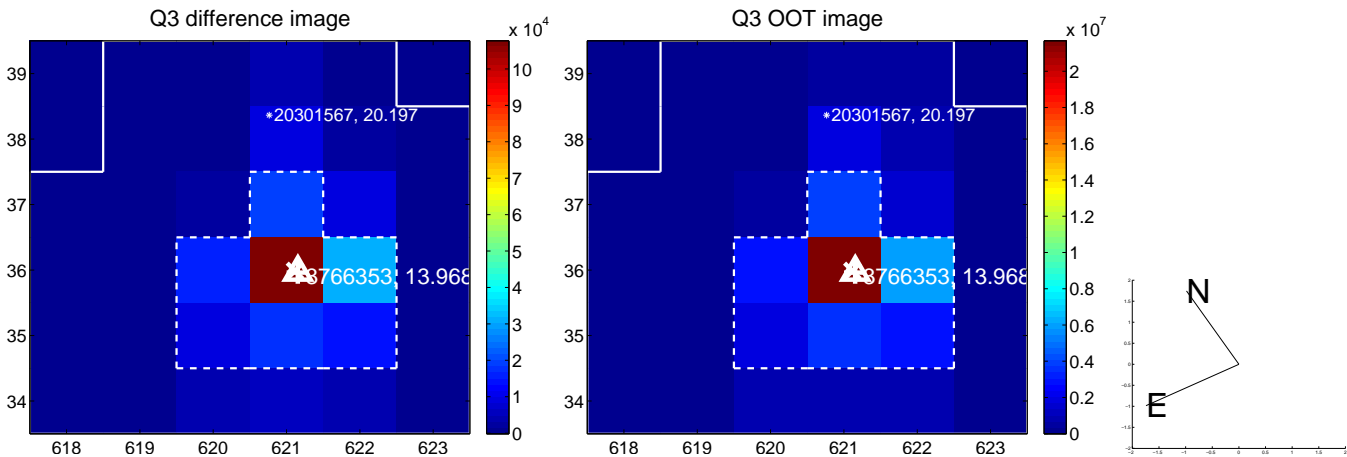
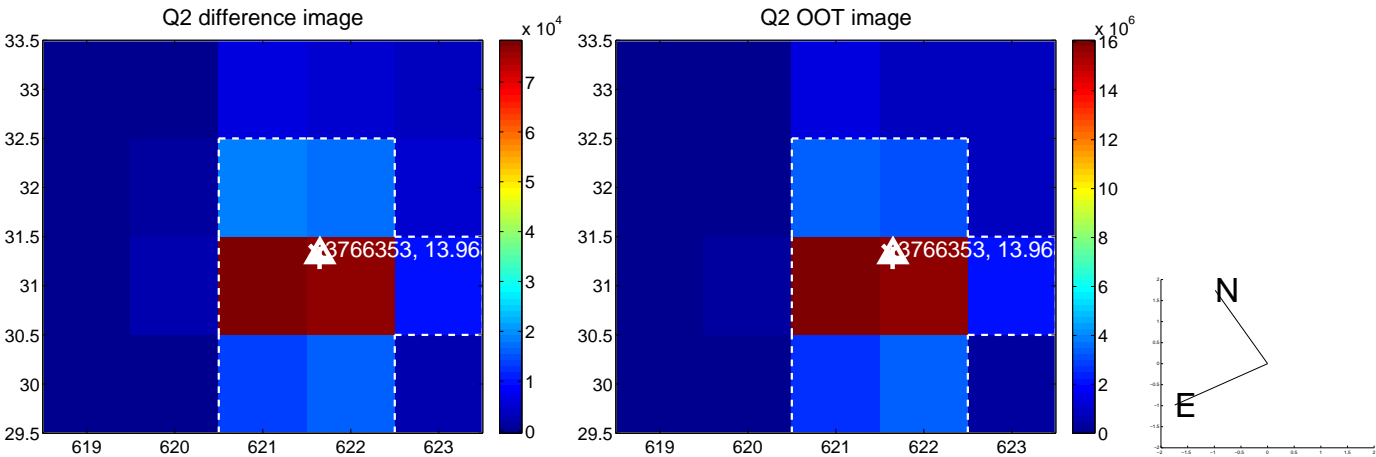
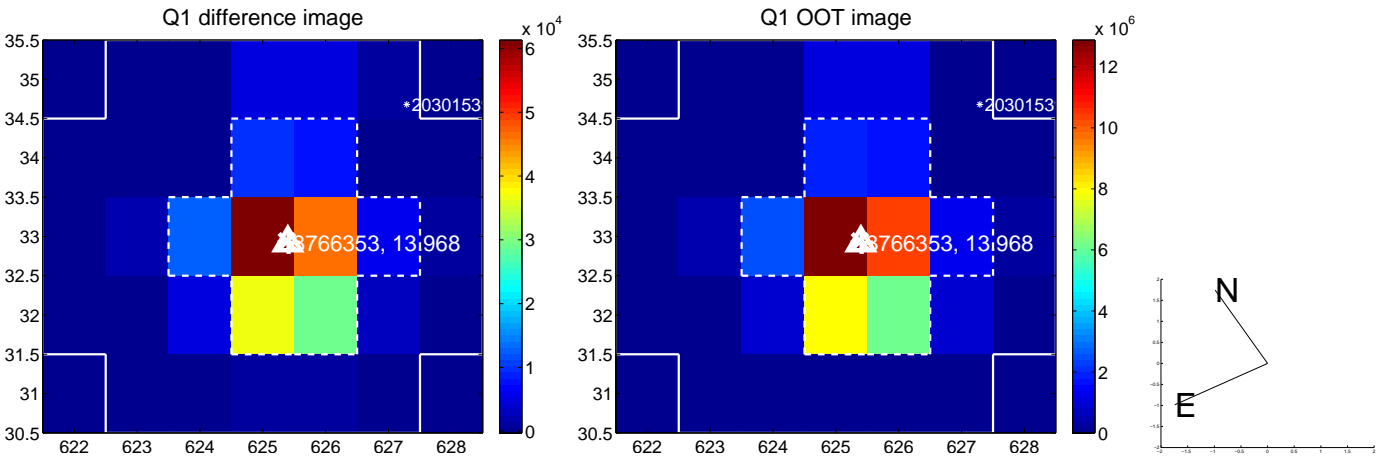
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.011 ± 0.067	0.16	0.011 ± 0.067	0.000 ± 0.068
PRF-fit source offset from KIC position	0.211 ± 0.069	3.06	-0.049 ± 0.069	-0.206 ± 0.070
photometric centroid source offset	0.41 ± 0.02	16.65	0.11 ± 0.02	-0.39 ± 0.02

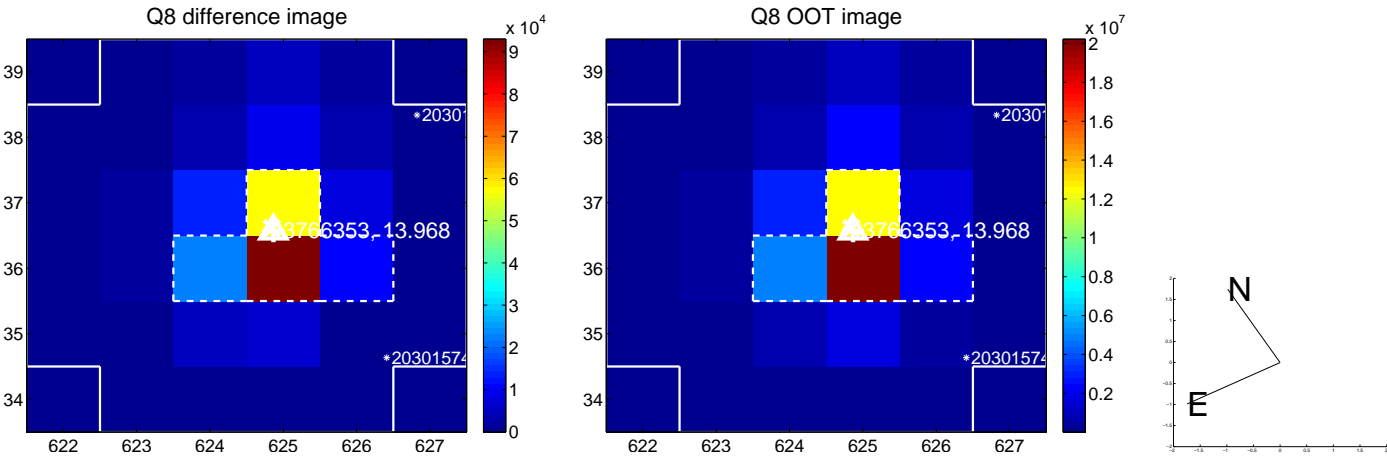
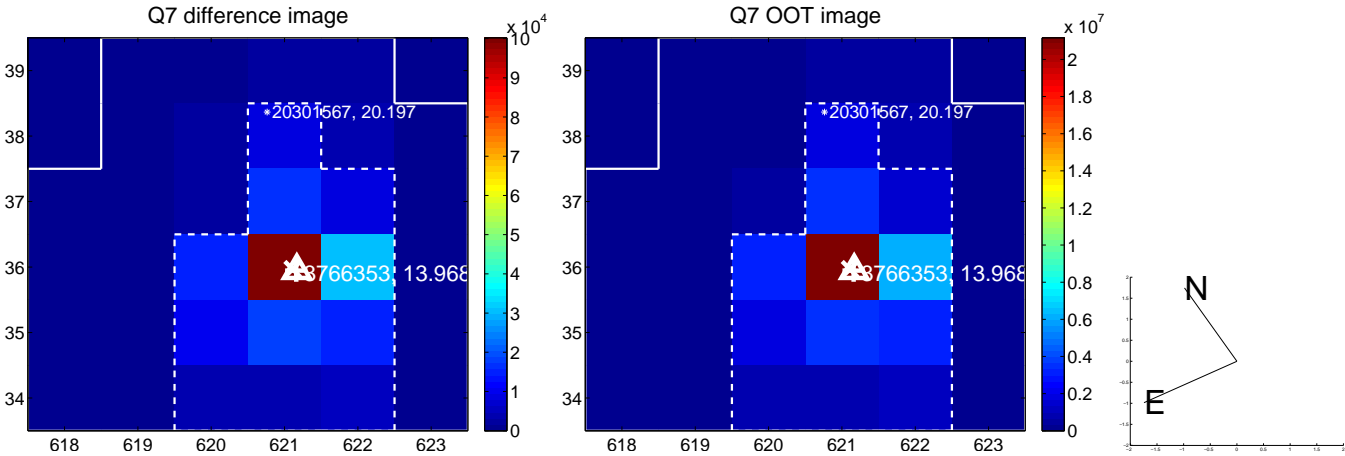
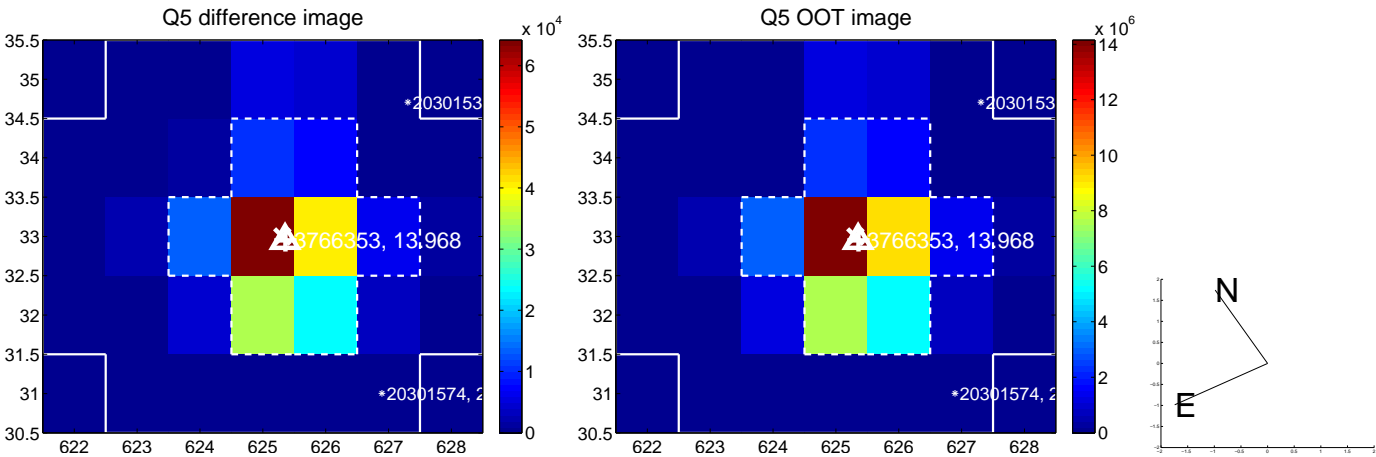


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

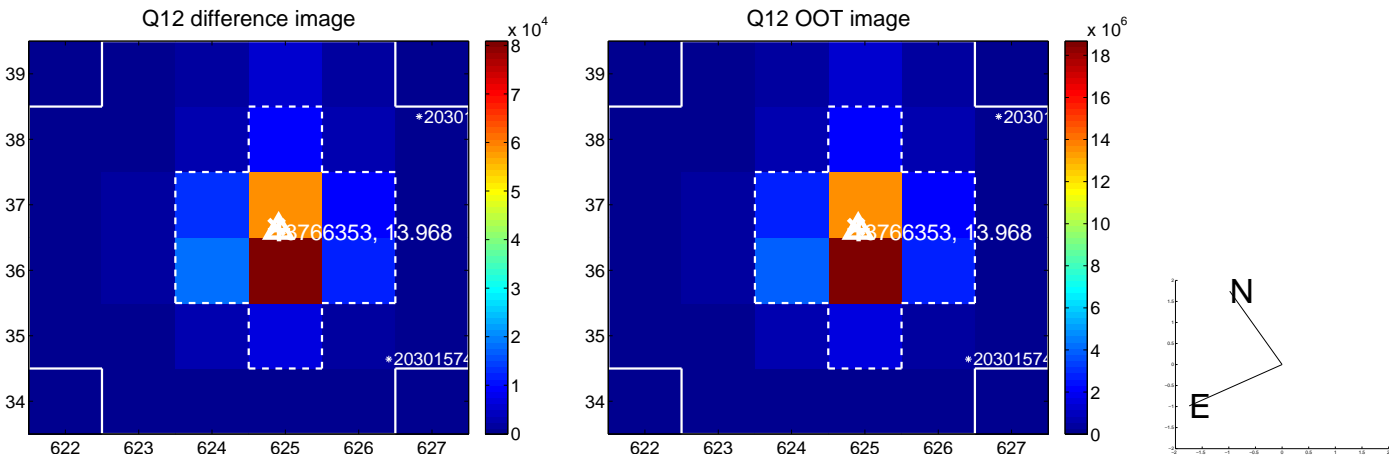
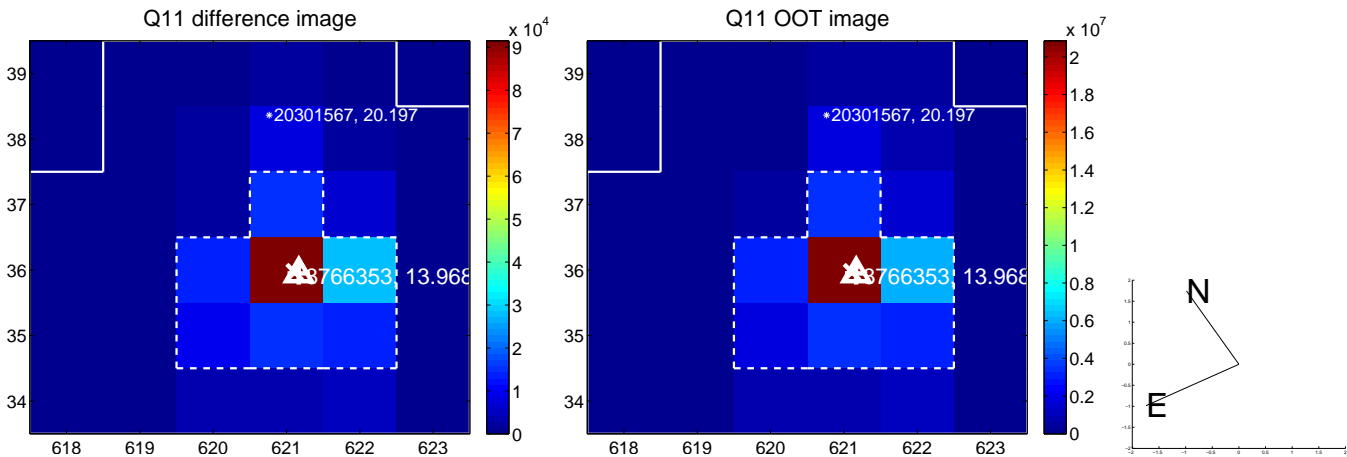
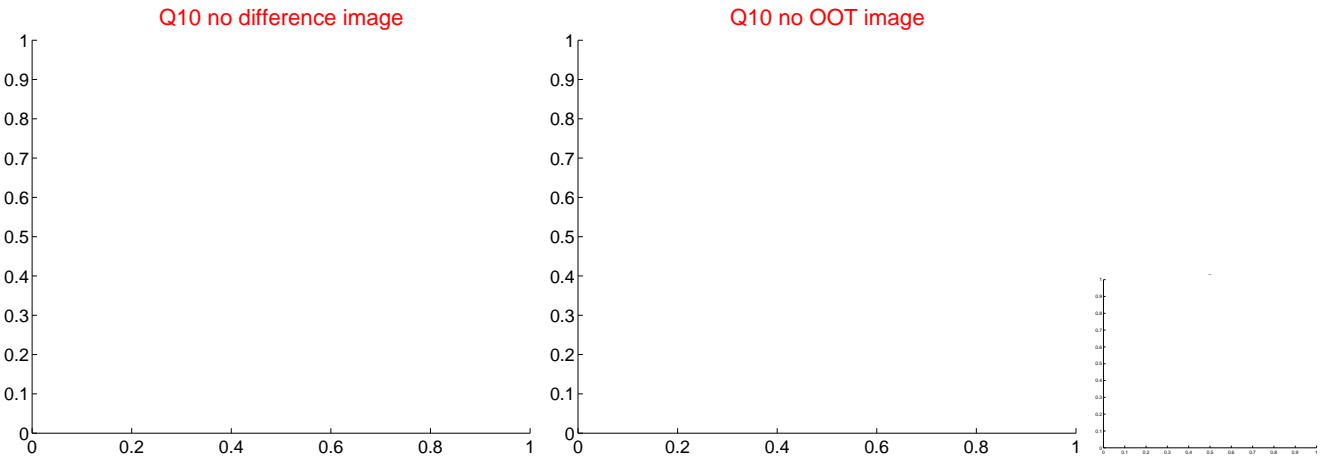
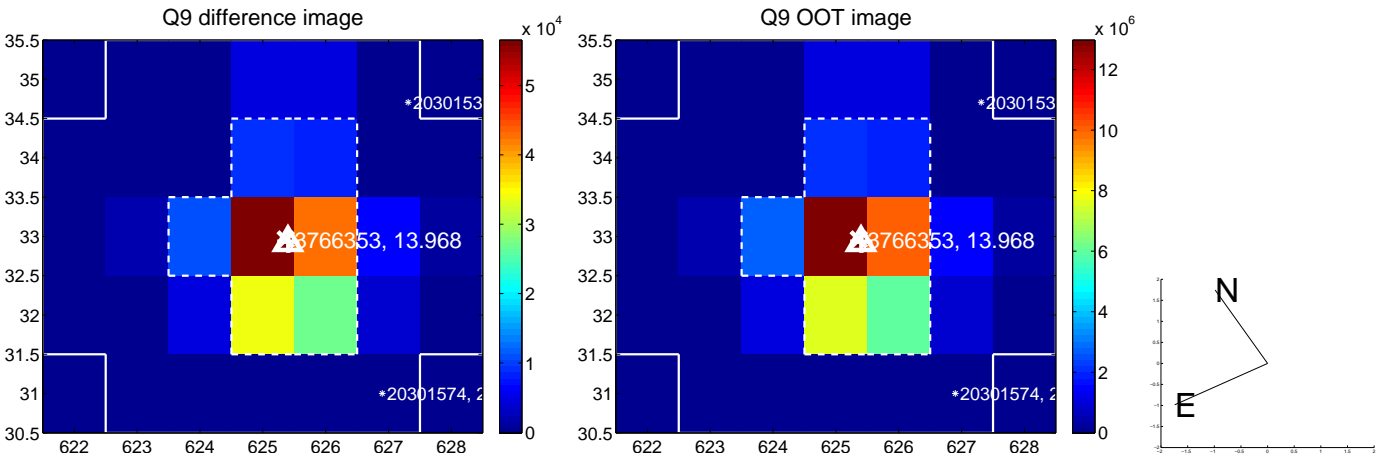
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



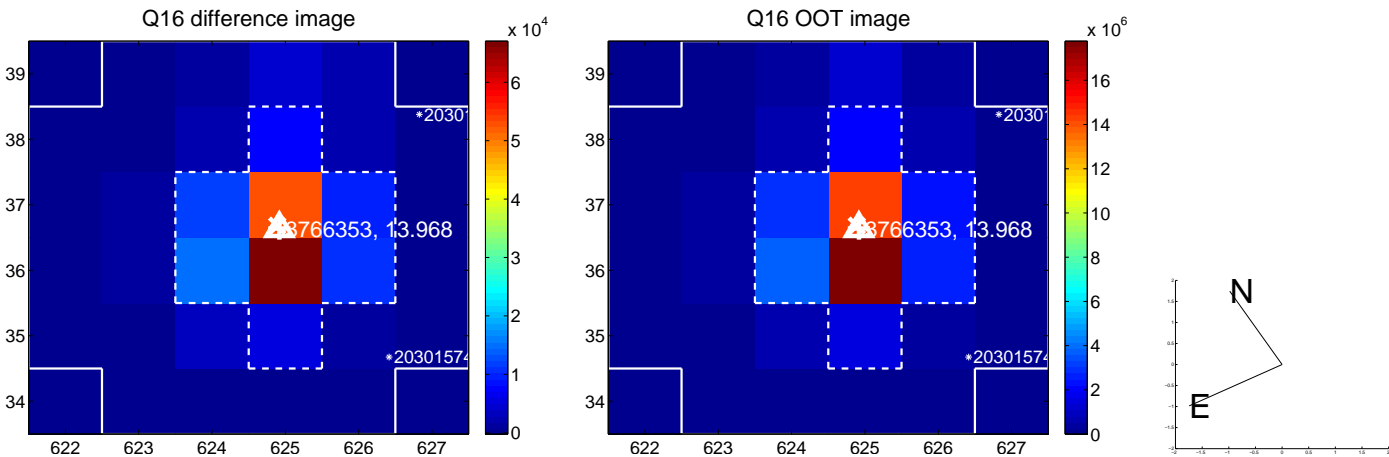
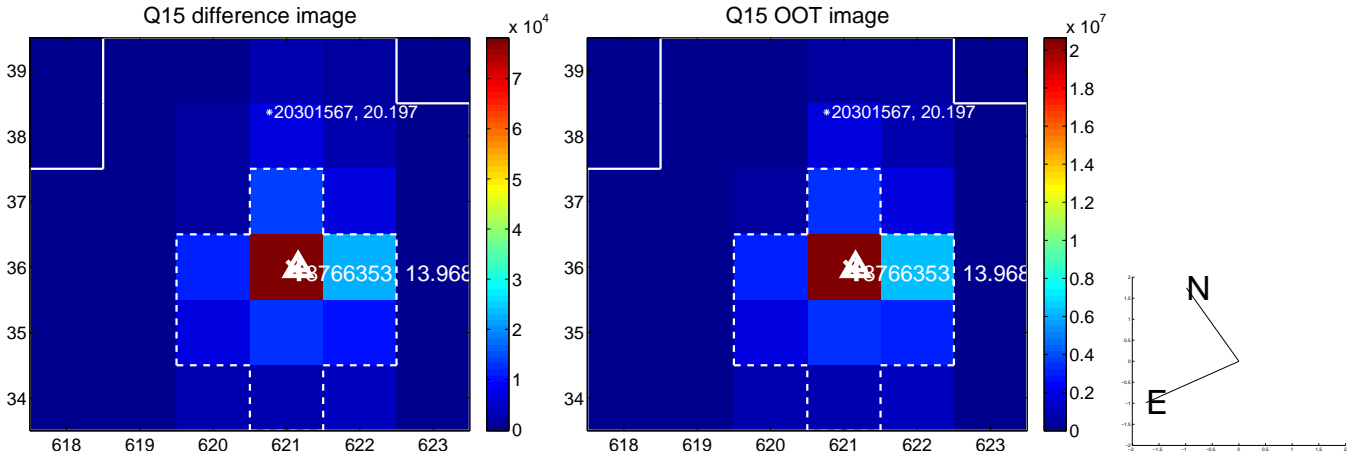
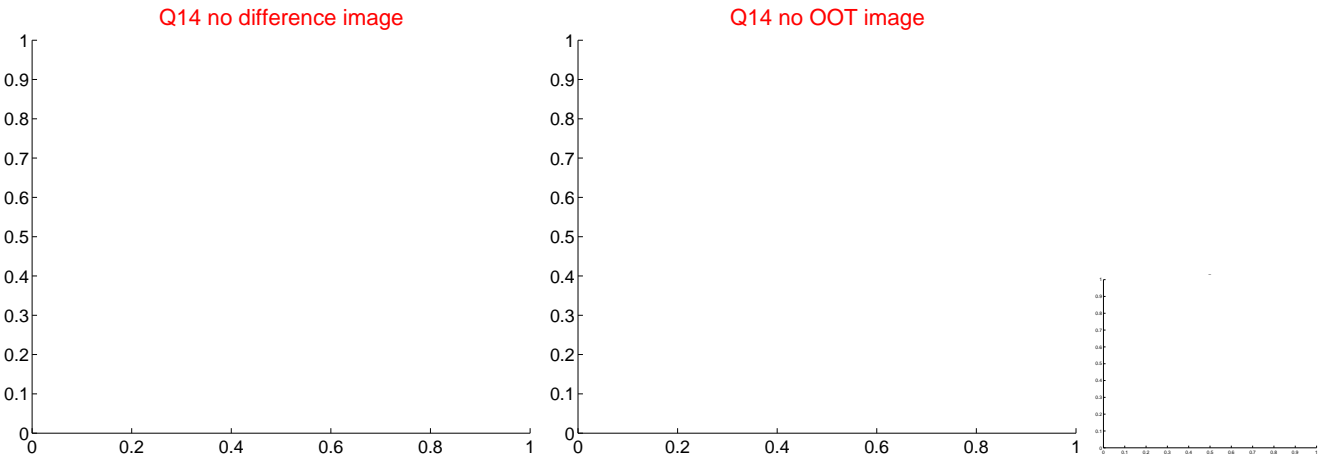
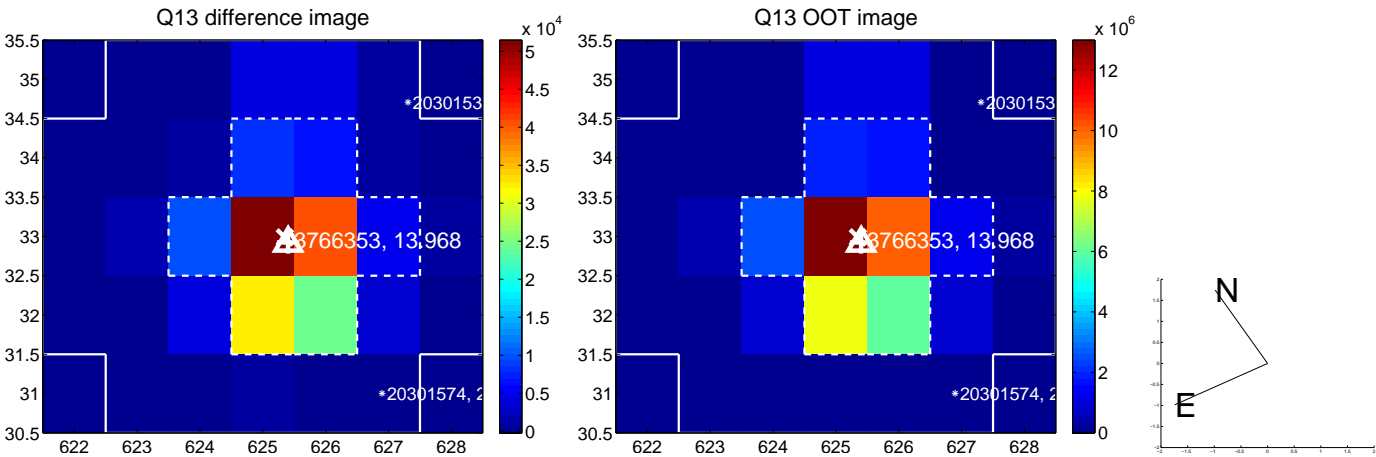
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



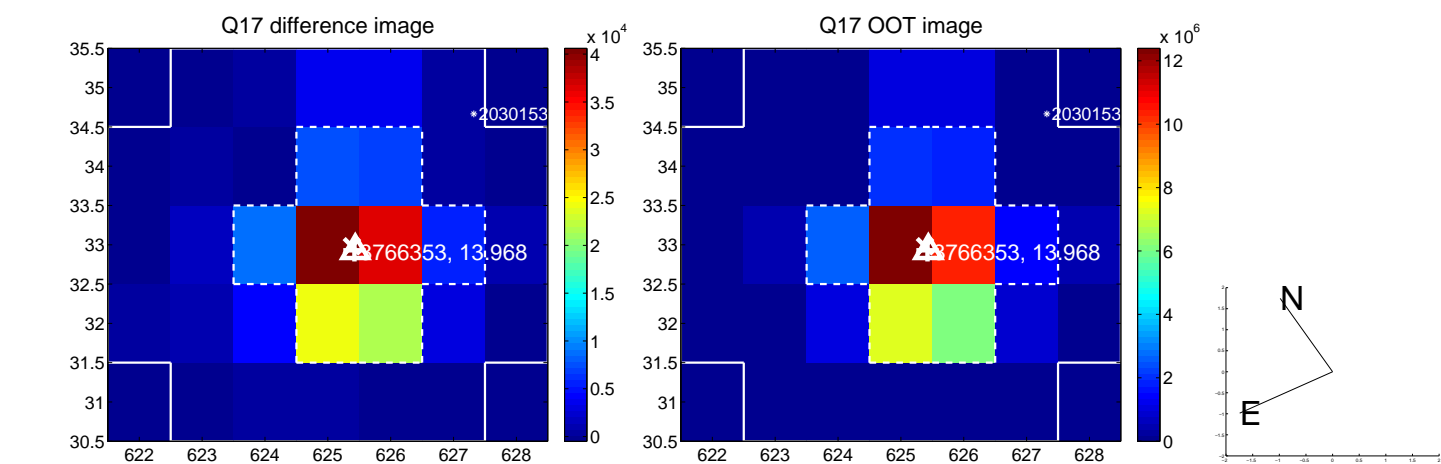
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



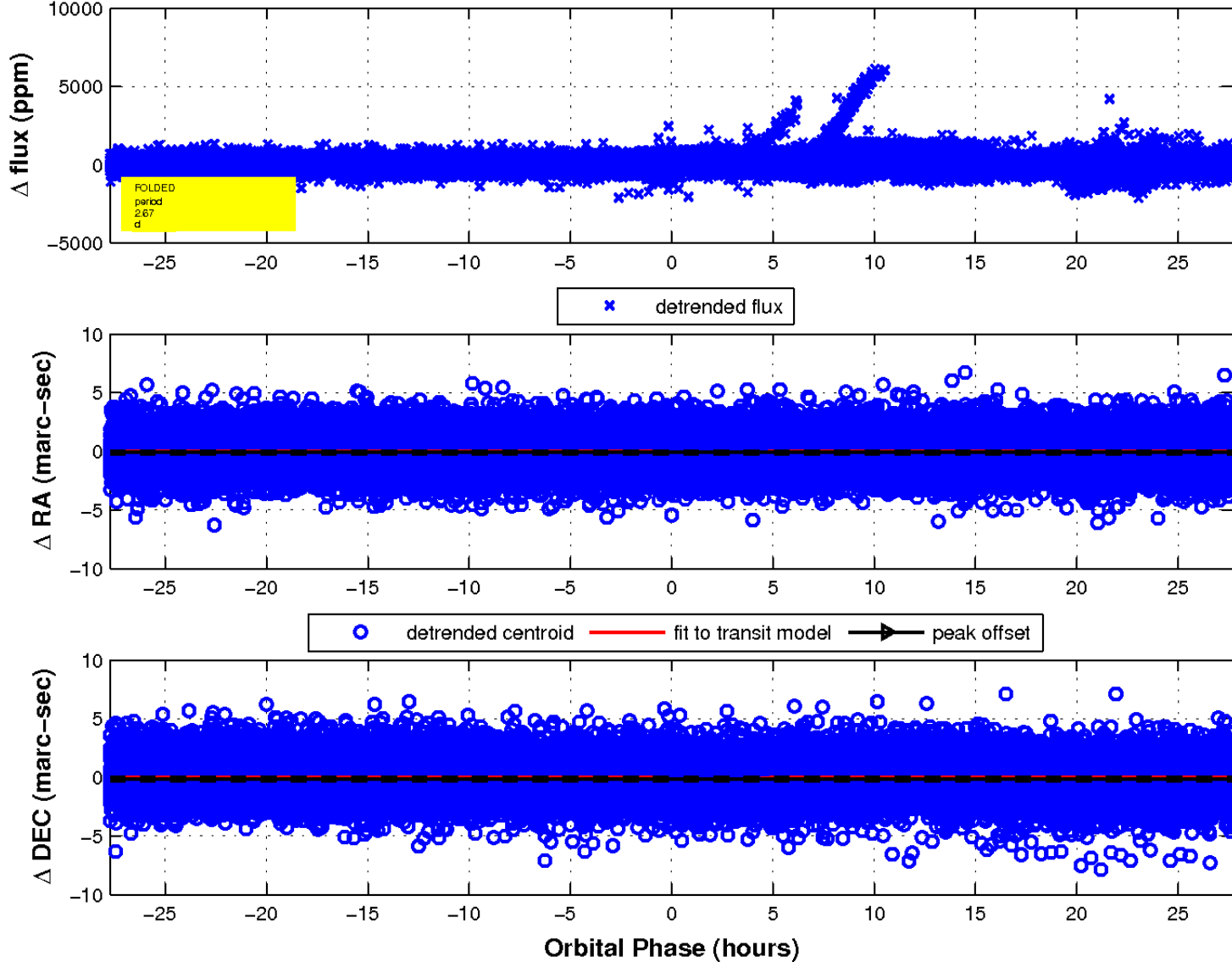
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 4 of 4



UKIRT Image

Declination

