

KIC 009761199

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})
009761199-01	OBS	1459.01	1.384049	131.723347	2210.4	0.858	29.7	91.8	0.50	3752	2.89	117.30
009761199-02	OBS	No	1.384039	132.420626	1026.4	0.507	15.5	42.5	0.50	3752	2.19	117.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009761199-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_KIC_POS
009761199-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS

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 009761199-01

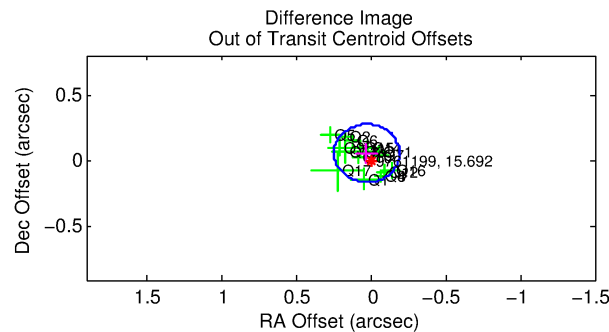
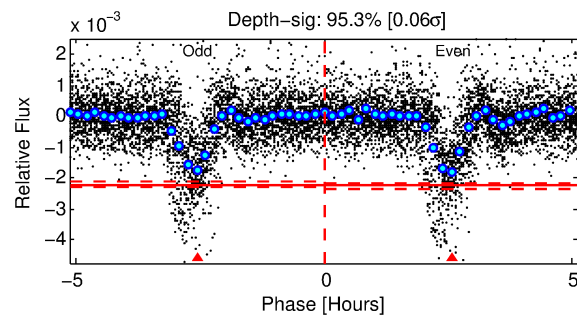
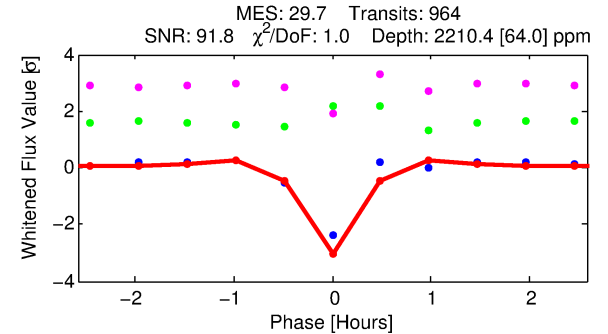
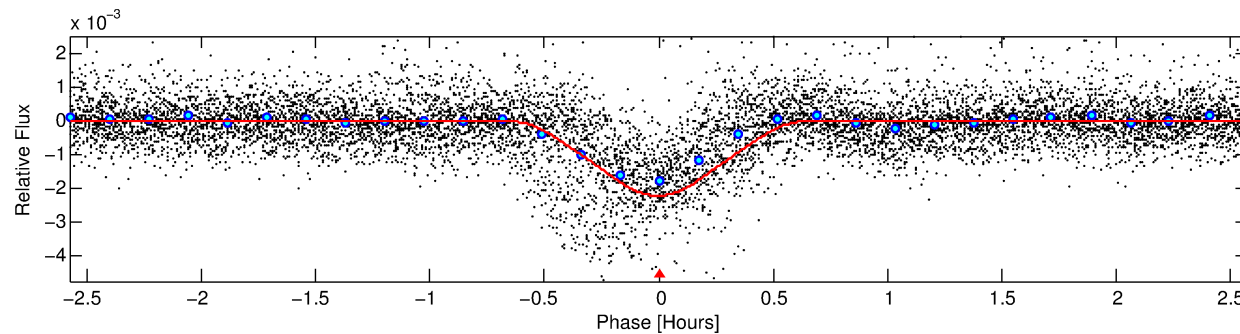
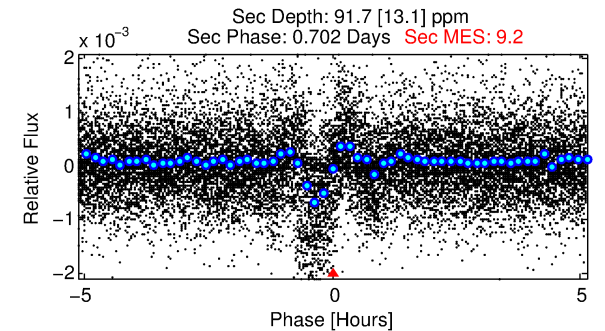
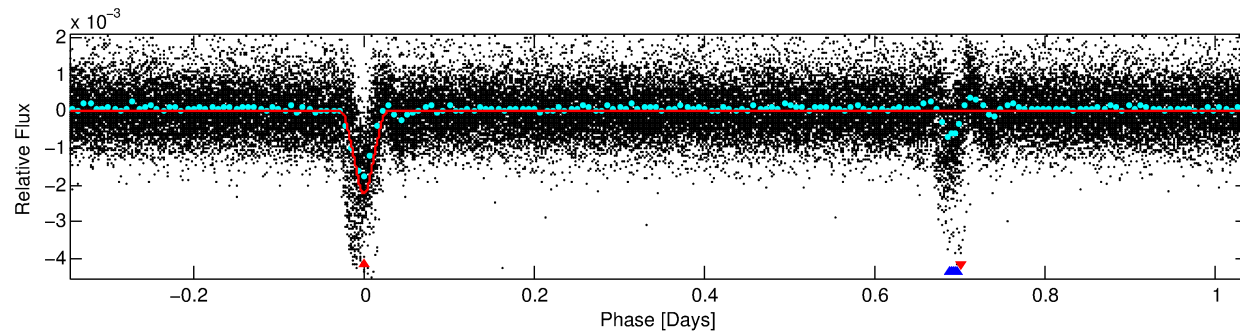
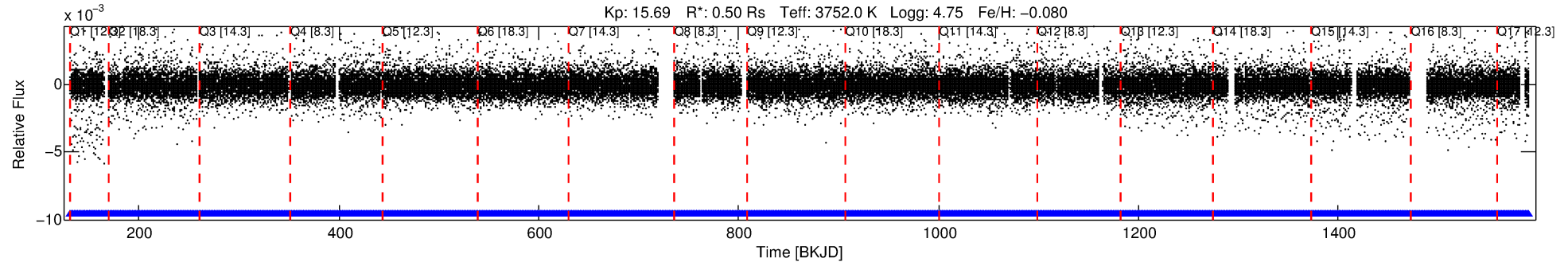
No Significant Match Found

DV One-Page Summary

KIC: 9761199 Candidate: 1 of 2 Period: 1.384 d

KOI: K01459 Corr: No Ephemeris Match

Kp: 15.69 R*: 0.50 Rs Teff: 3752.0 K Logg: 4.75 Fe/H: -0.080



DV Fit Results:

Period = 1.38405 [0.00000] d
Epoch = 131.7233 [0.0001] BKJD
Rp/R* = 0.0532 [0.0036]
a/R* = 6.61 [1.36]
b = 0.91 [0.04]
Seff = 117.30 [16.55]
Teq = 839 [30] K
Rp = 2.89 [0.36] Re
a = 0.0193 [0.0016] AU
Ag = 2.26 [0.51] [2.47σ]
Teffp = 1591 [86] K [8.28σ]

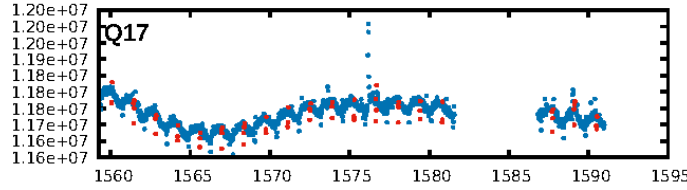
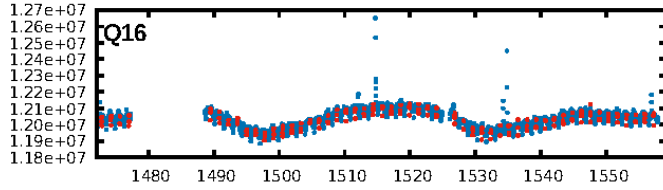
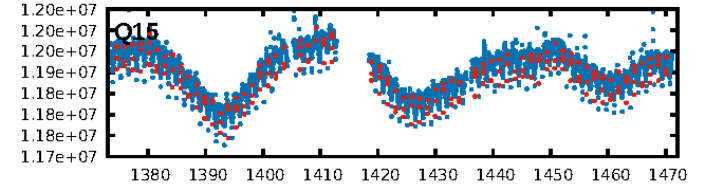
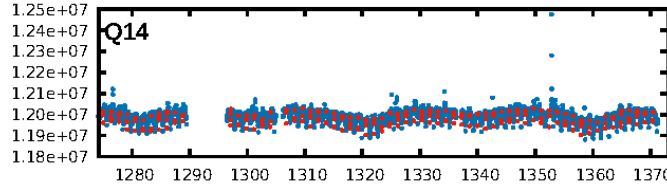
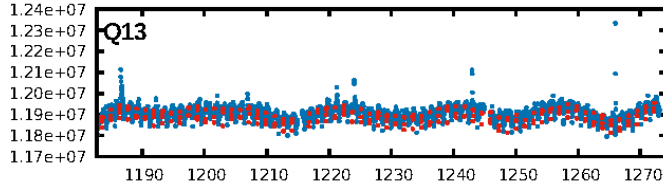
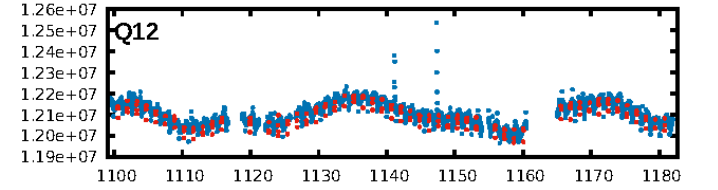
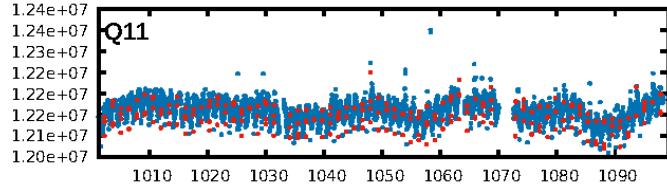
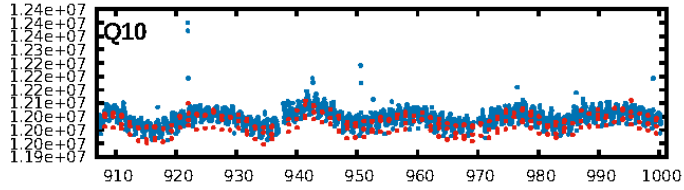
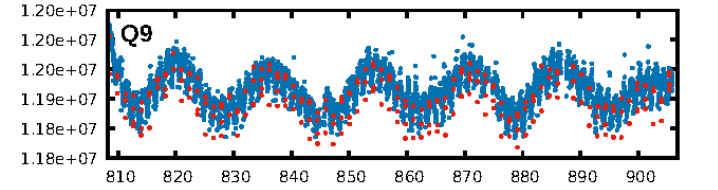
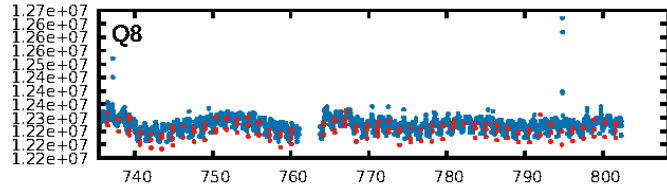
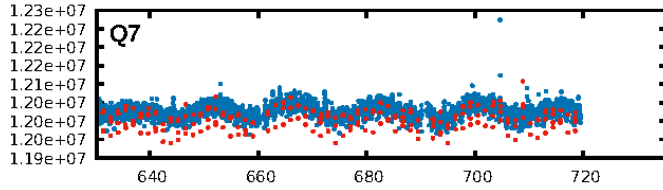
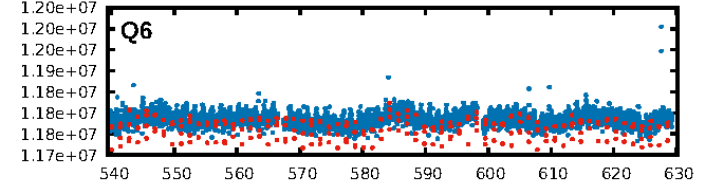
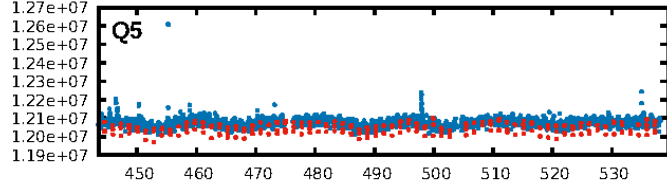
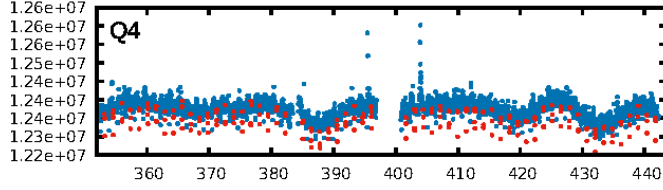
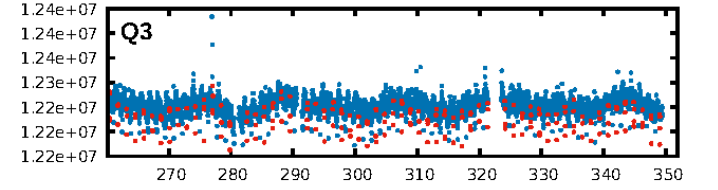
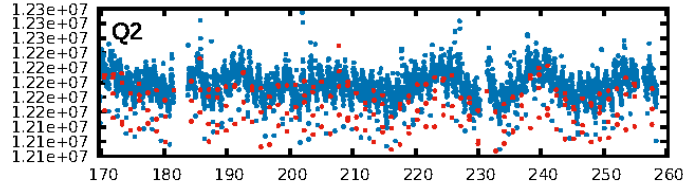
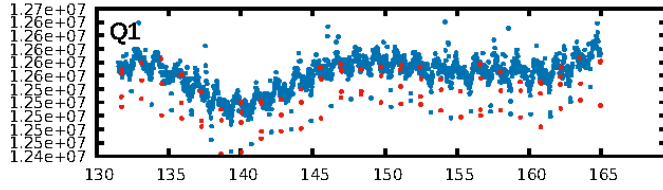
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.74e-135
RollingBand-fgt: 1.00 [920/920]
GhostDiagnostic-chr: 1.41
Centroid-sig: 0.0%
Centroid-so: 0.106 arcsec [1.07σ]
OotOffset-rm: 0.065 arcsec [0.88σ]
KicOffset-rm: 0.458 arcsec [6.11σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

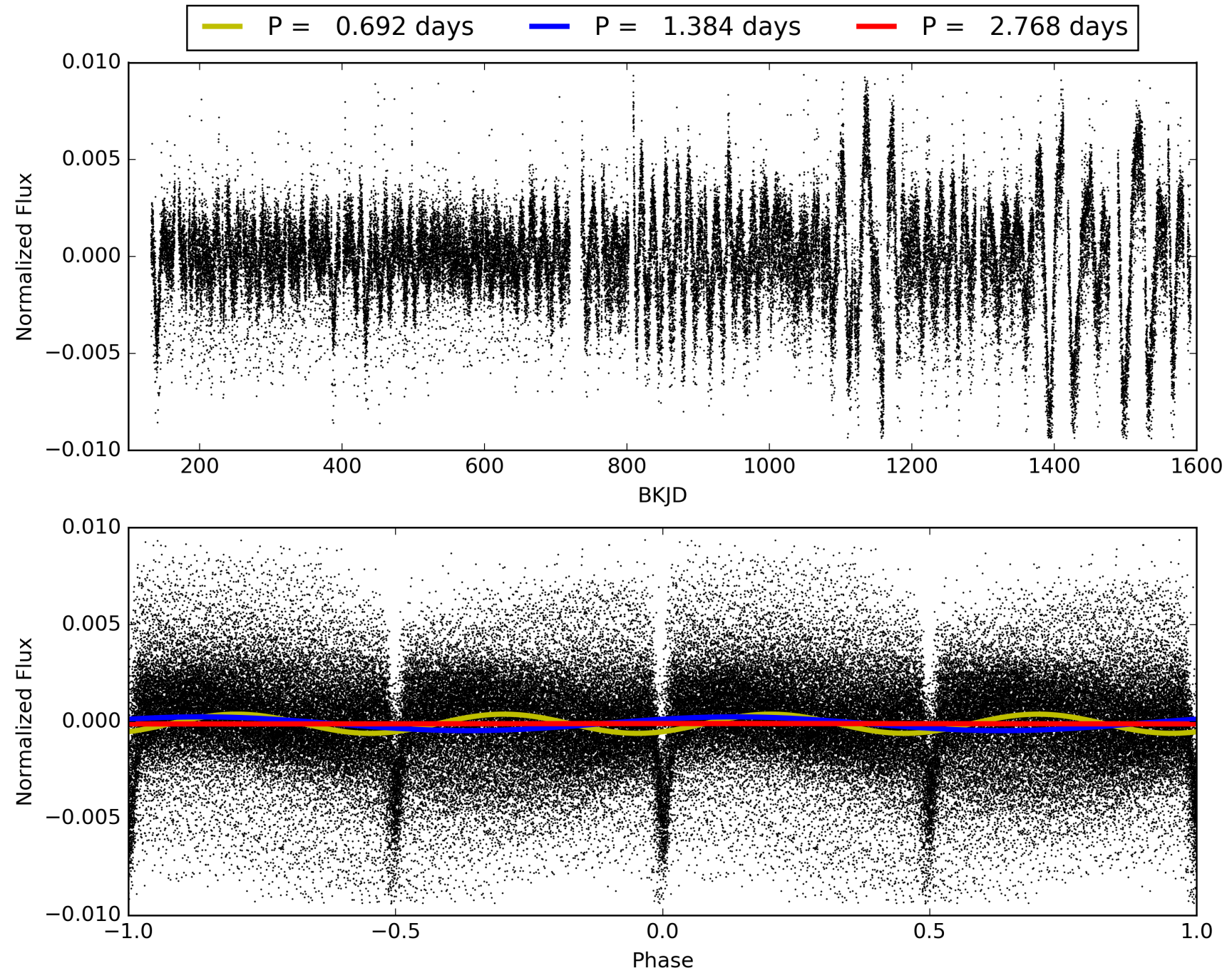
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009761199-01, PDC Light Curves

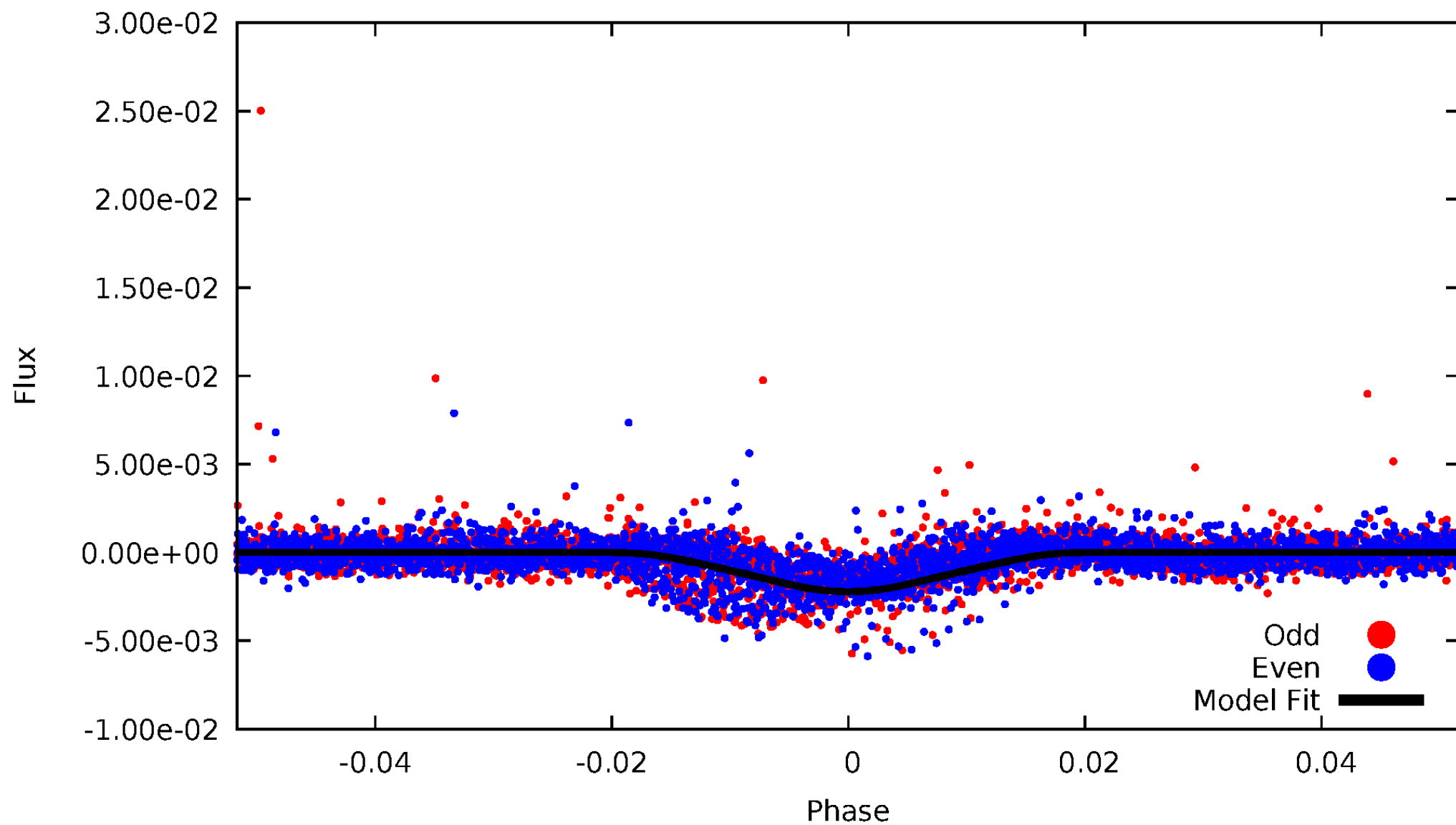


TCE 009761199-01



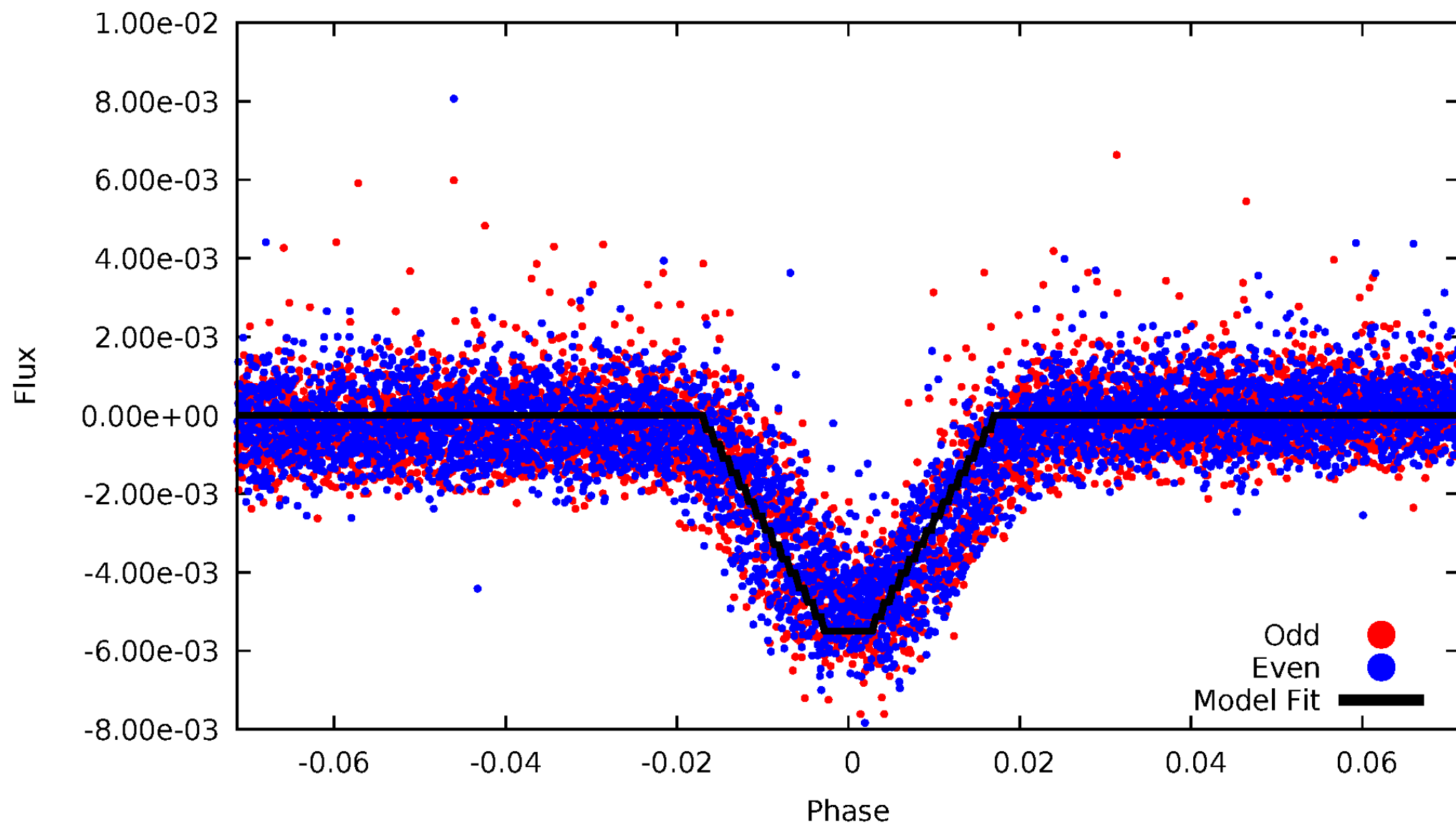
DV Odd/Even

TCE 009761199-01



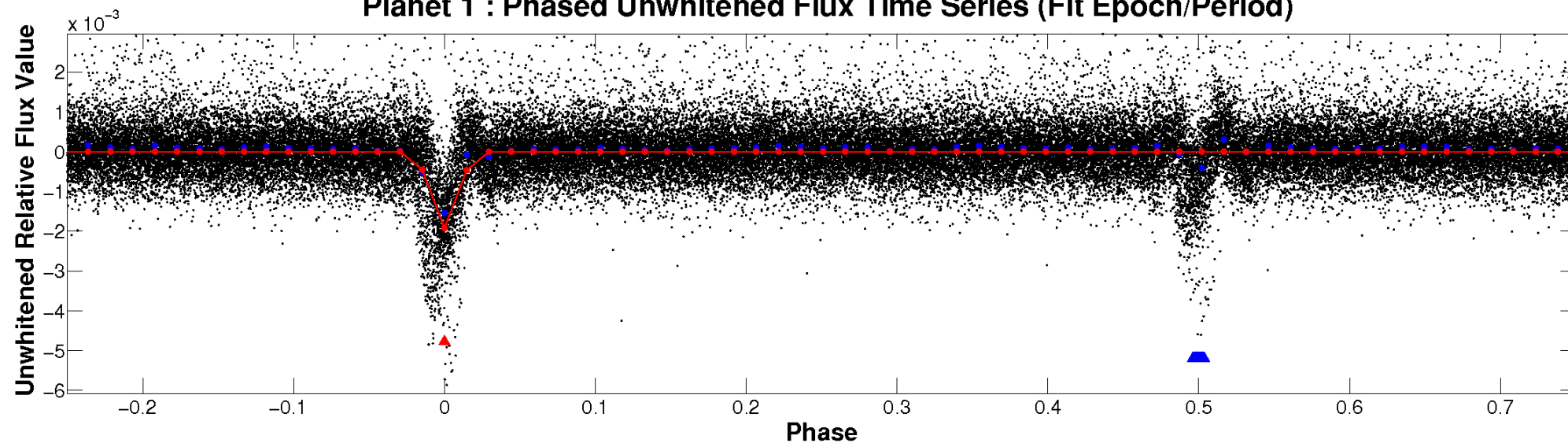
ALT Odd/Even

TCE 009761199-01

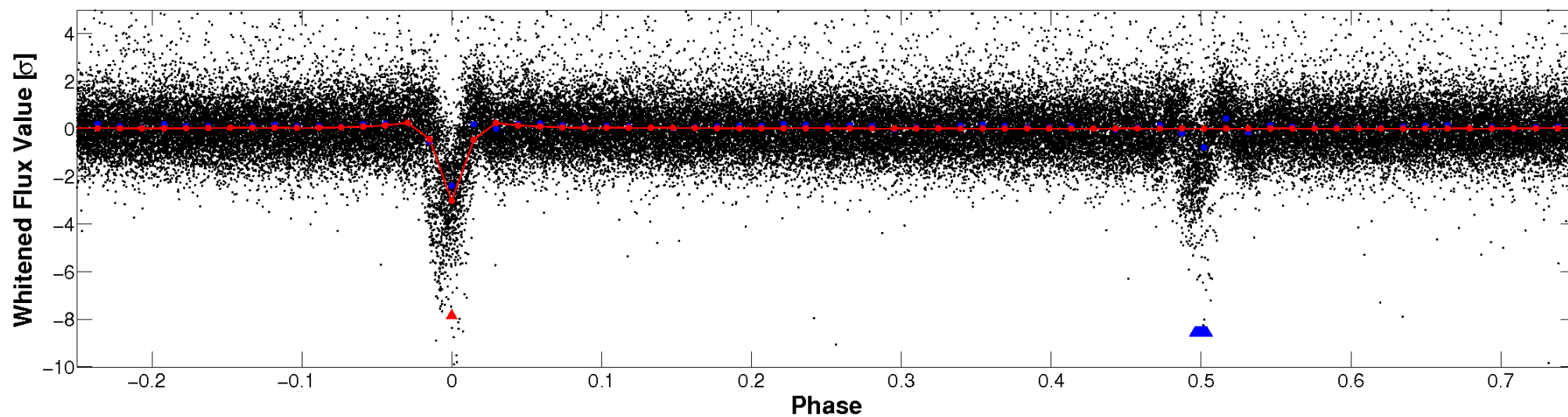


Non-Whitened Vs. Whitened Light Curve

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

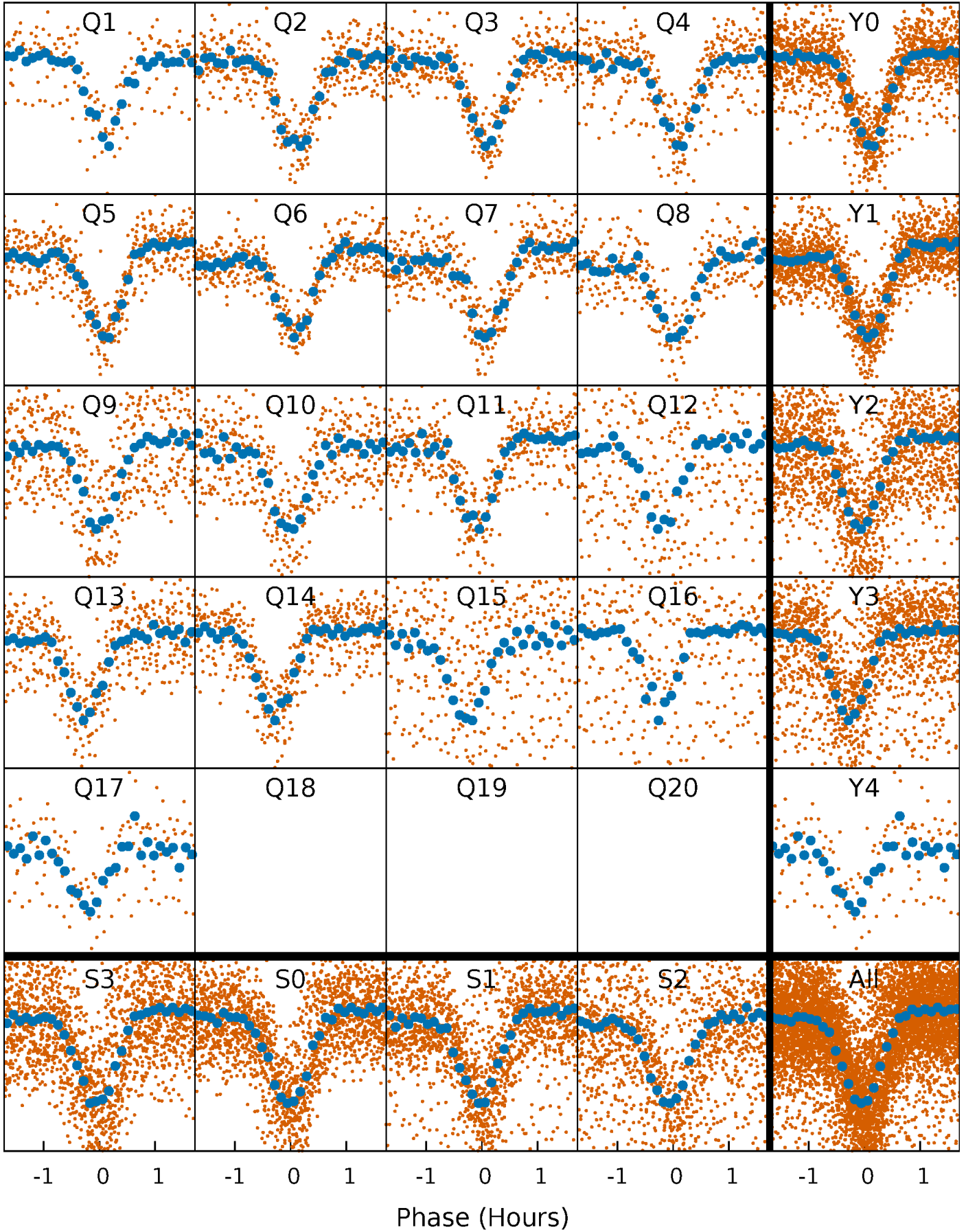


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



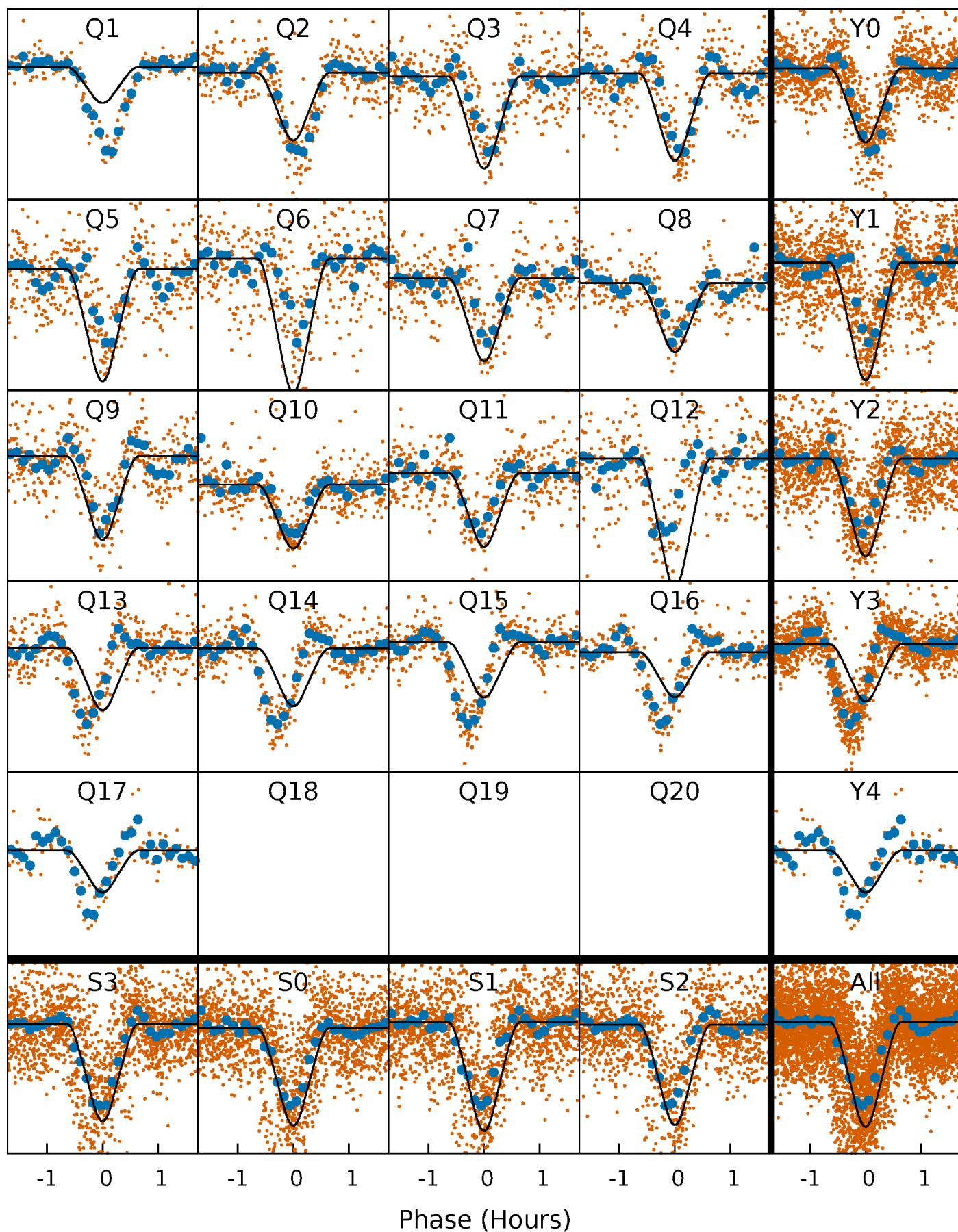
PDC Quarter-Phased Transit Curves

TCE 009761199-01 P= 1.384049 Days $T_0=131.723347$ (BKJD)



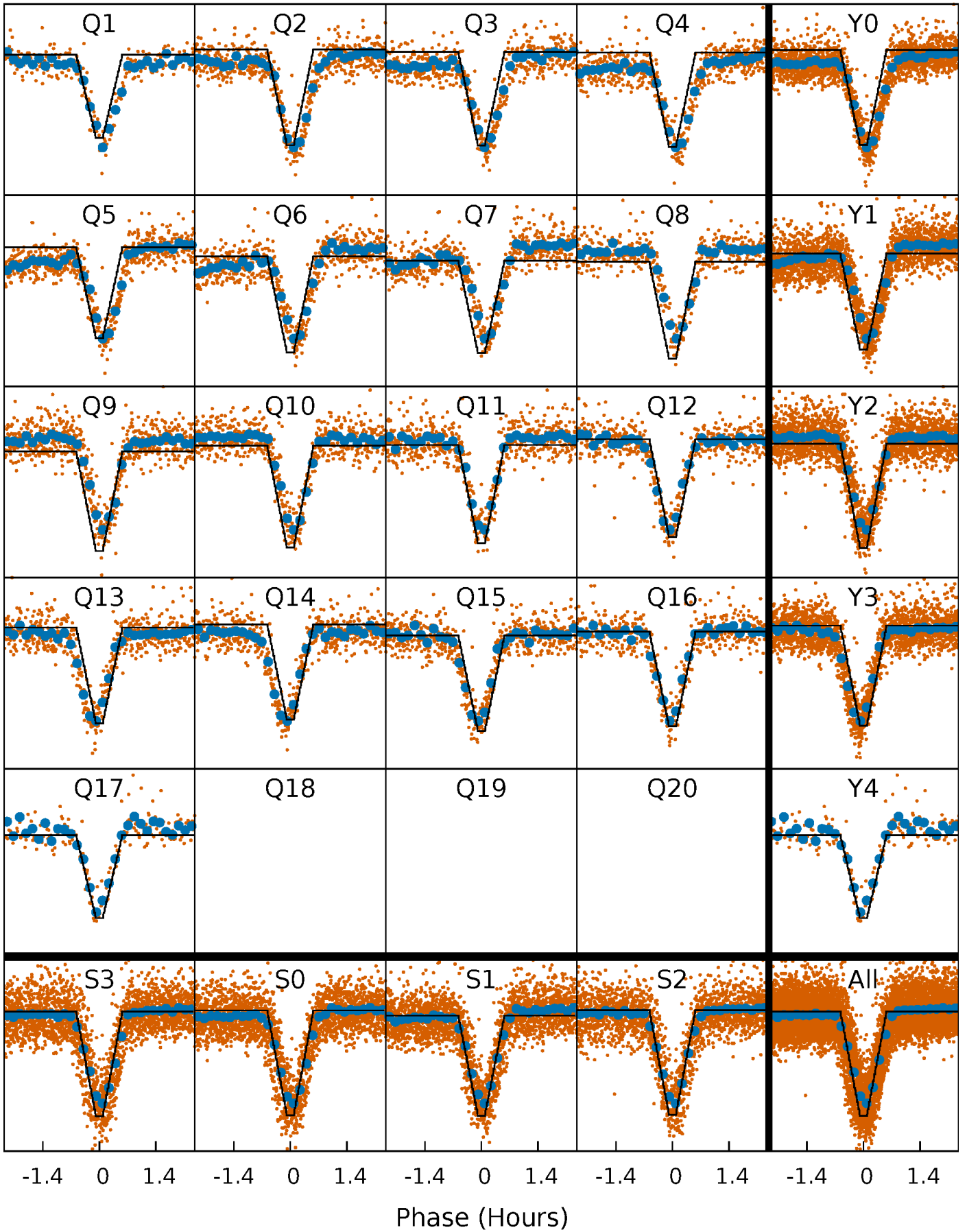
DV Quarter-Phased Transit Curves

TCE 009761199-01 P= 1.384049 Days $T_0=131.723347$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

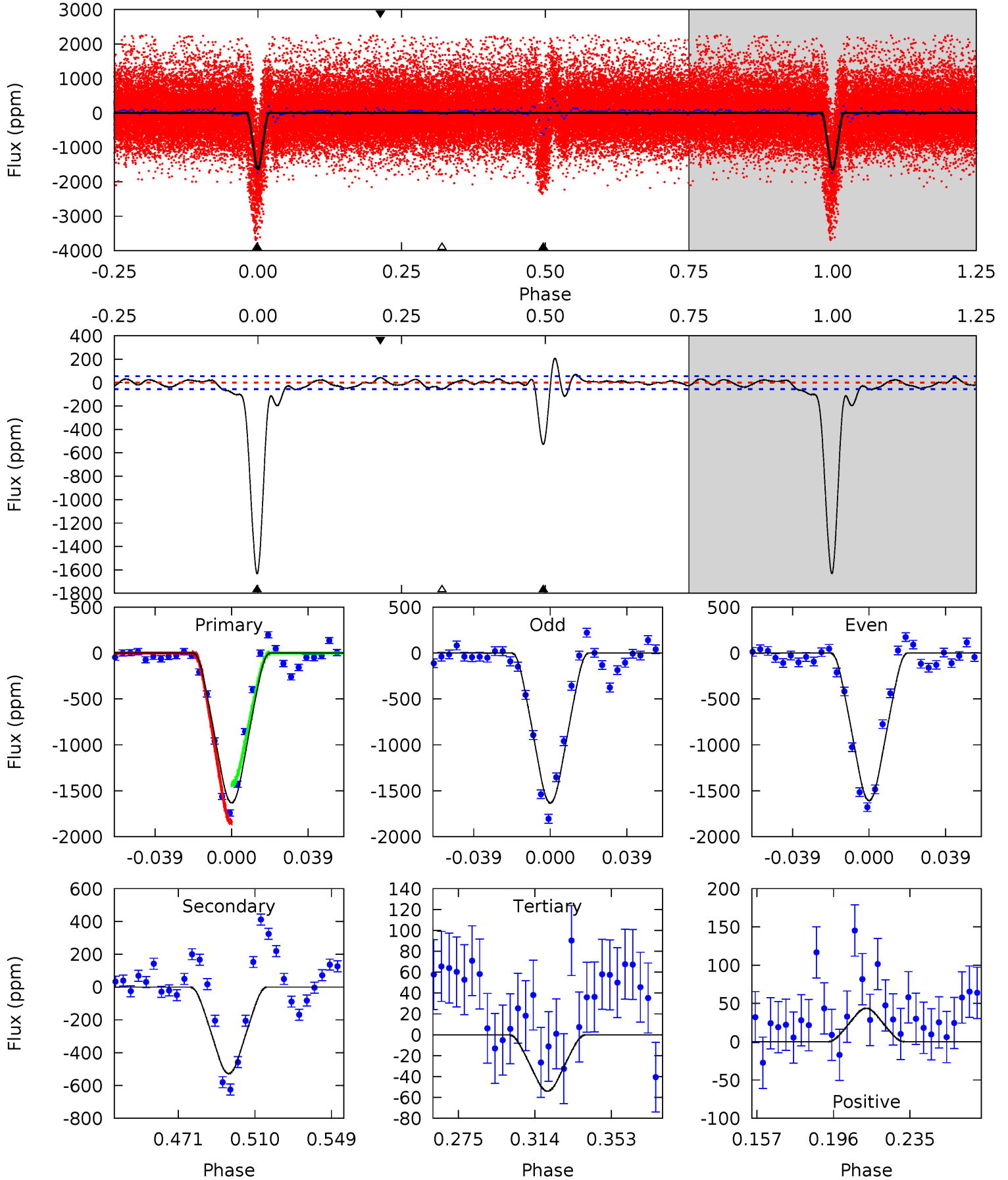
TCE 009761199-01 P= 1.384042 Days $T_0=131.723107$ (BKJD)



DV Model-Shift Uniqueness Test

009761199-01, P = 1.384049 Days, E = 130.339298 Days

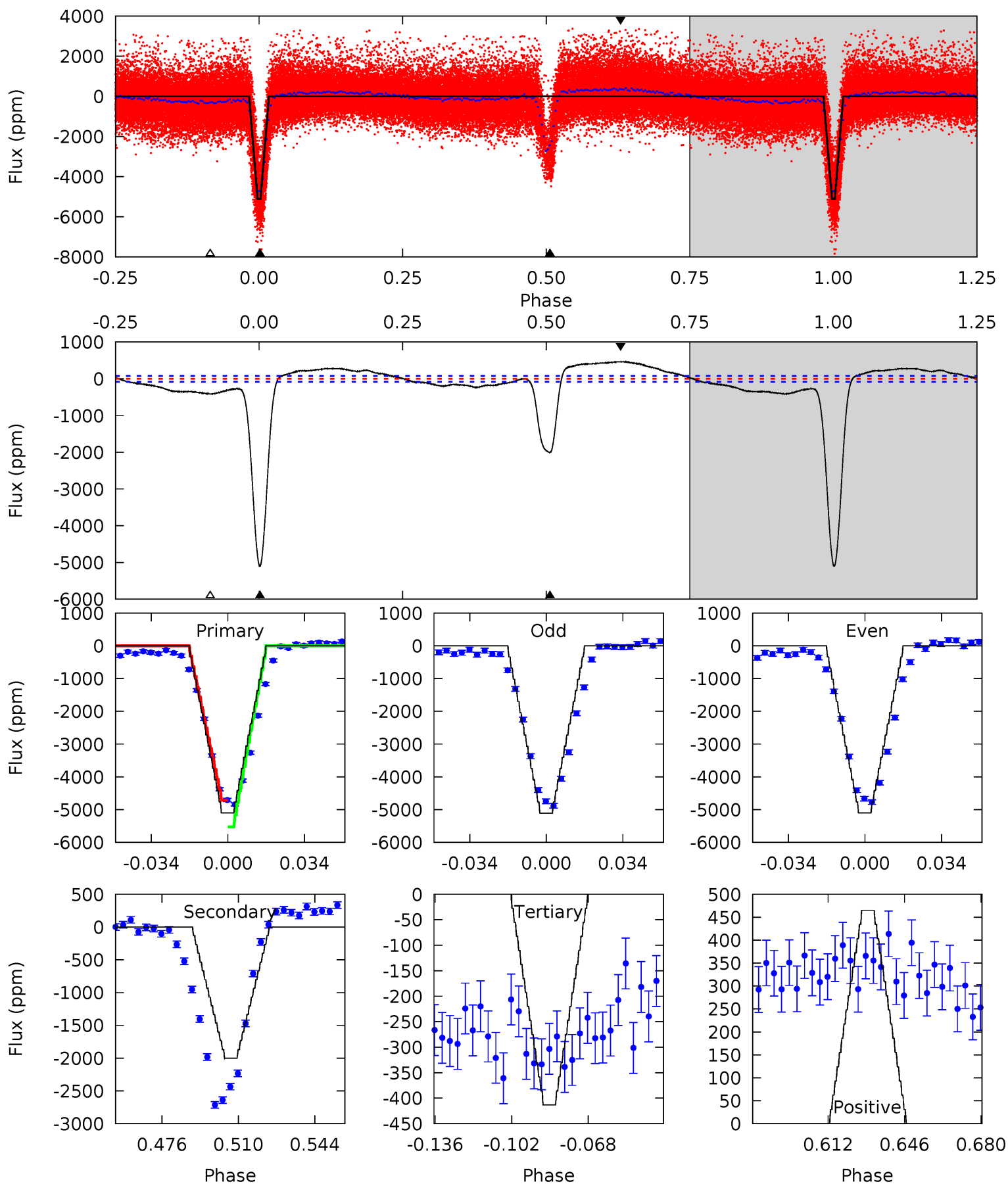
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
139.8	45.2	4.62	3.74	4.76	2.06	2.45	135.1	136.0	40.6	41.5	1.10	1.00	0.11	17.8



Alt Model-Shift Uniqueness Test

009761199-01, P = 1.384042 Days, E = 130.339065 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
303.3	119.0	24.5	27.6	4.79	2.12	15.3	278.8	275.7	94.5	91.4	0.16	0.99	0.08	24.3



Stellar Parameters For KIC 009761199

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	3752^{+74}_{-82}	$4.747^{+0.056}_{-0.024}$	$-0.080^{+0.150}_{-0.150}$	$0.497^{+0.031}_{-0.052}$	$0.503^{+0.037}_{-0.045}$	$5.774^{+1.458}_{-0.659}$
	+2%/-2%	+1%/-1%	+188%/-188%	+6%/-10%	+7%/-9%	+25%/-11%
Source	SPE70	SPE60	SPE70	DSEP		

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

Secondary Eclipse Parameters for KIC 009761199-01 / KOI 1459.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-528 ± 12	$2.85^{+0.23}_{-0.23}$	1165^{+32}_{-31}	2901^{+76}_{-72}	13^{+2}_{-2}
Alt.	-2002 ± 17	$3.98^{+0.25}_{-0.28}$	1165^{+31}_{-32}	3199^{+75}_{-75}	26^{+3}_{-3}

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

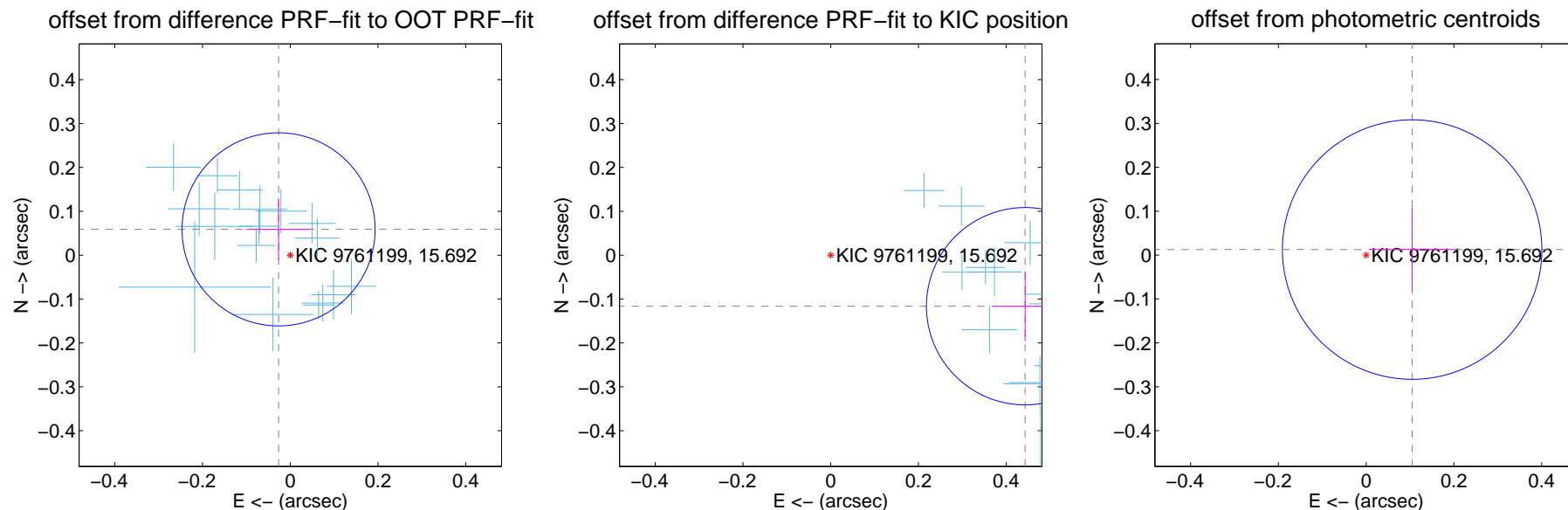
DV Centroid Data

Supplemental centroid analysis for 009761199-01. Kepler magnitude: 15.69. Transit SNR 91.83

There are 17 quarters with good PRF difference image offsets

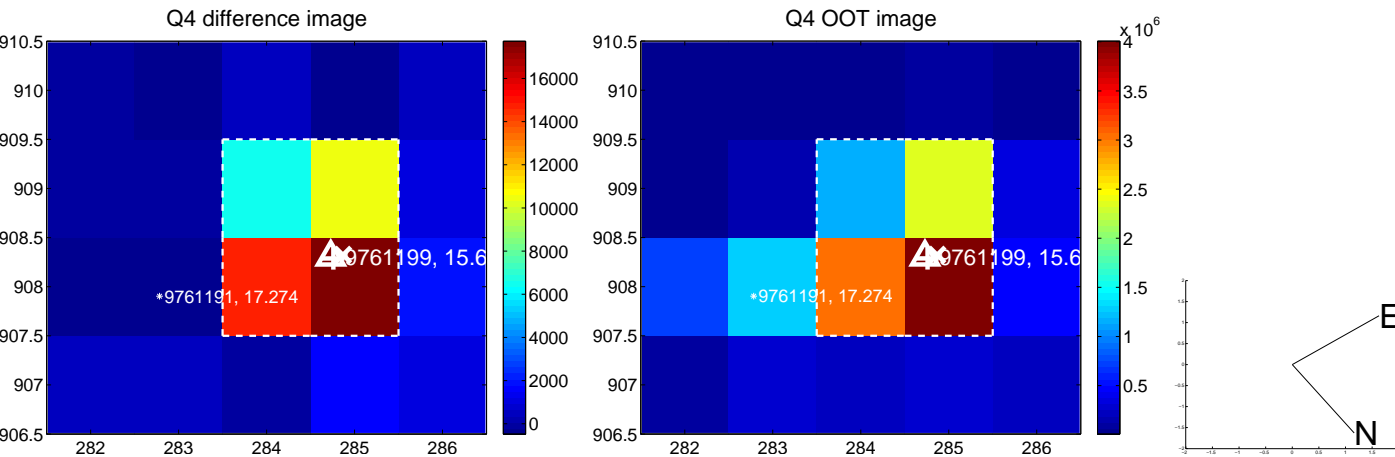
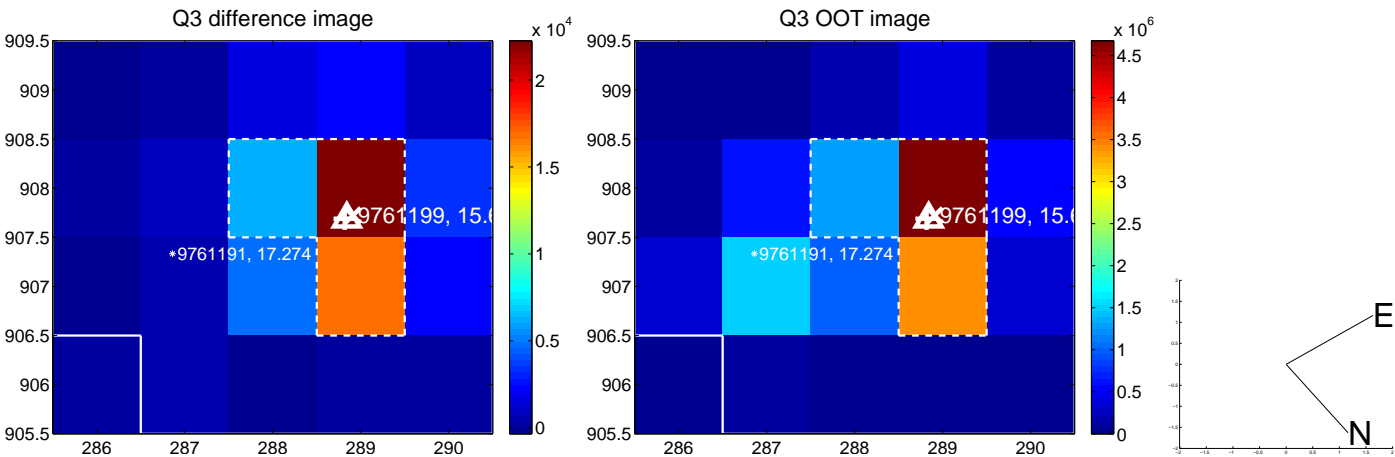
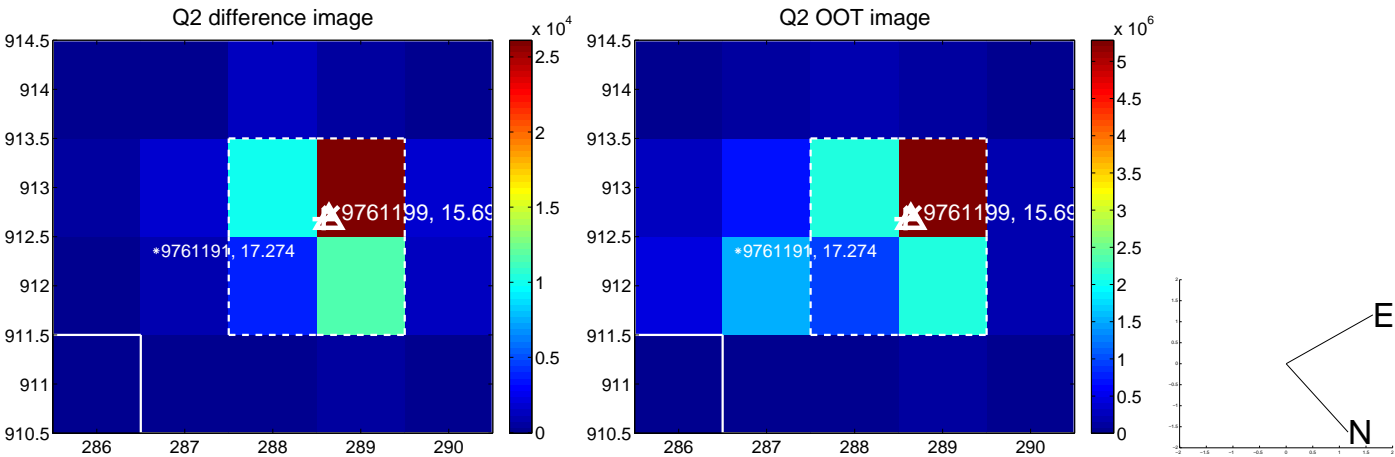
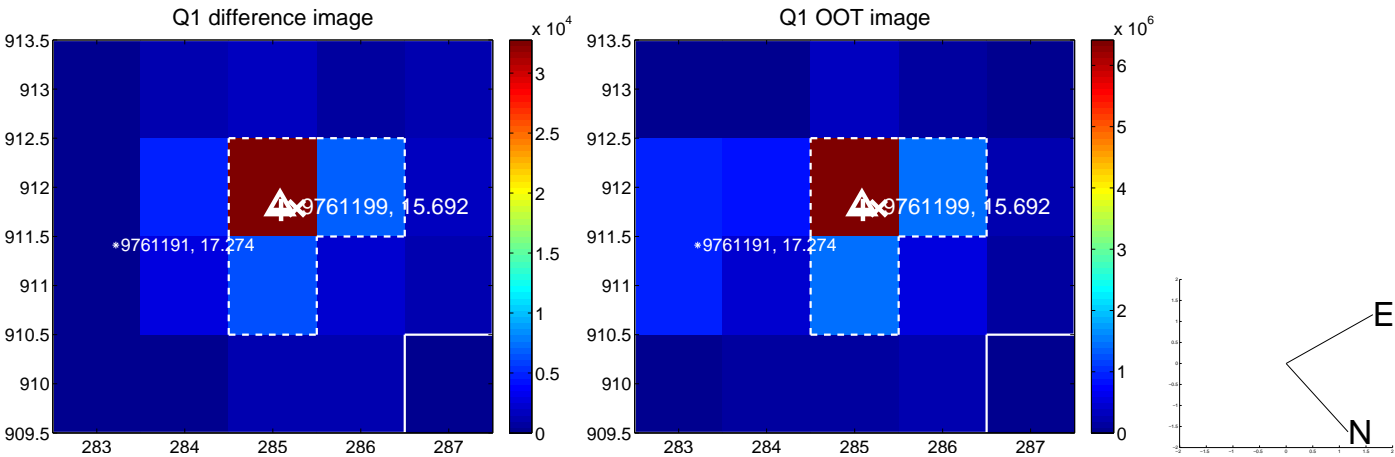
The direct PRF centroid is offset from the target star catalog position by about 0.82 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.065 ± 0.073	0.88	0.027 ± 0.073	0.059 ± 0.071
PRF-fit source offset from KIC position	0.458 ± 0.075	6.11	-0.443 ± 0.072	-0.116 ± 0.079
photometric centroid source offset	0.11 ± 0.10	1.07	-0.10 ± 0.10	0.01 ± 0.10

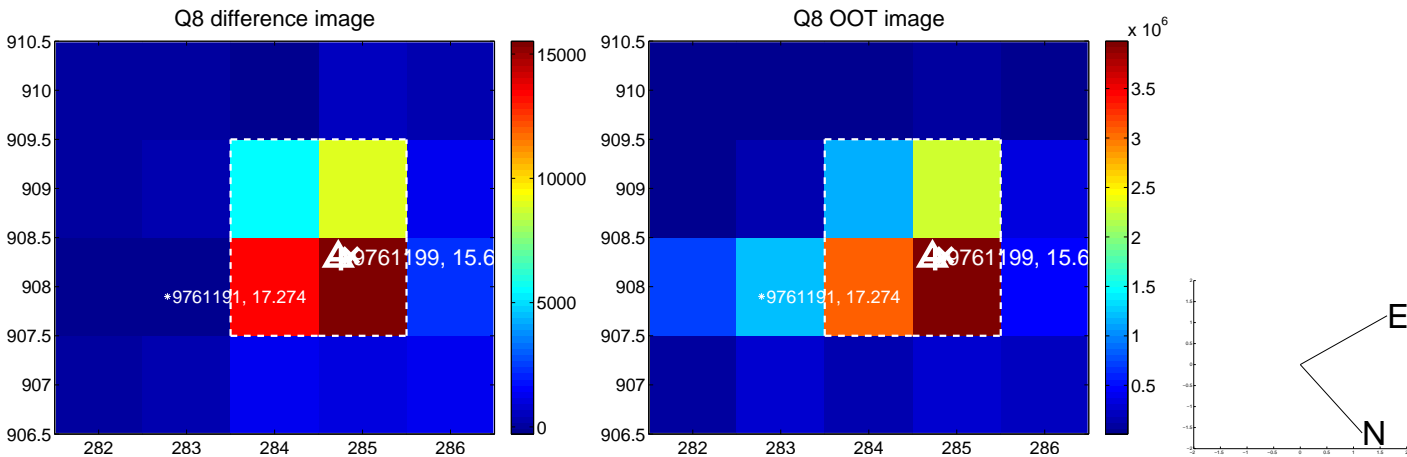
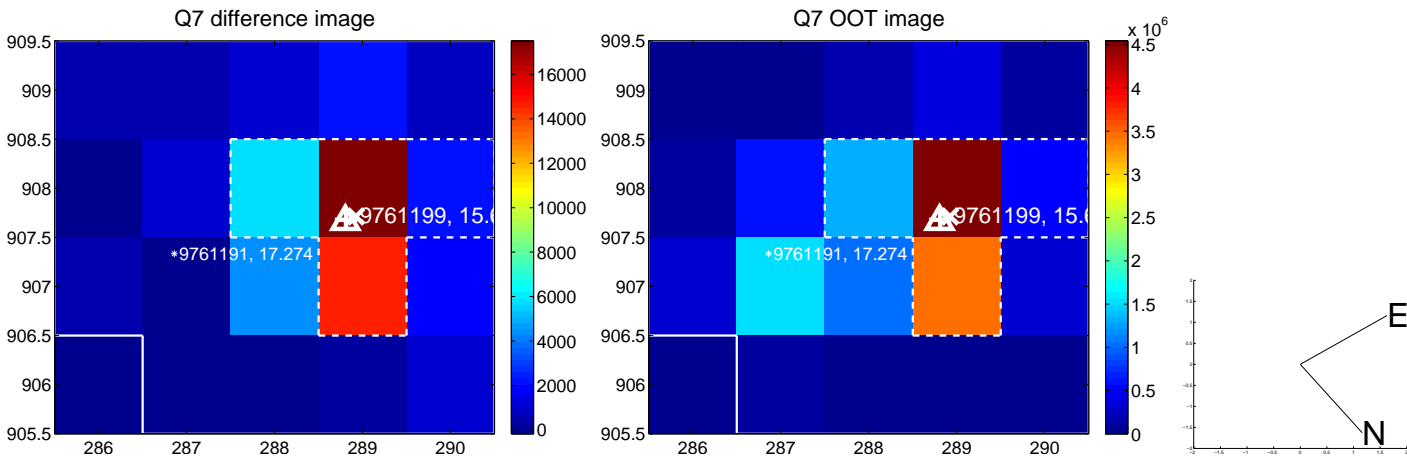
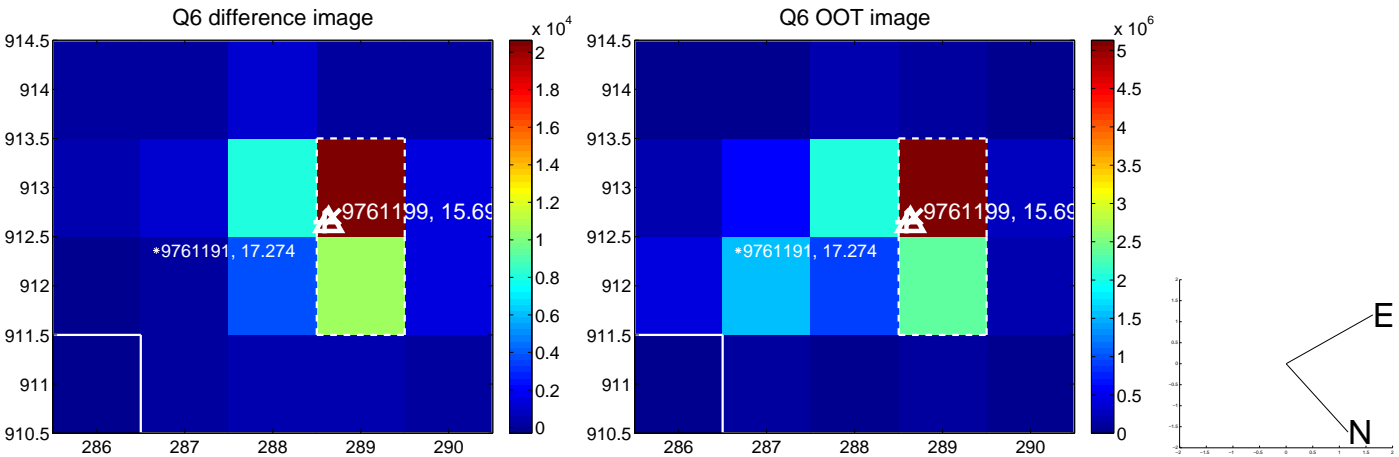
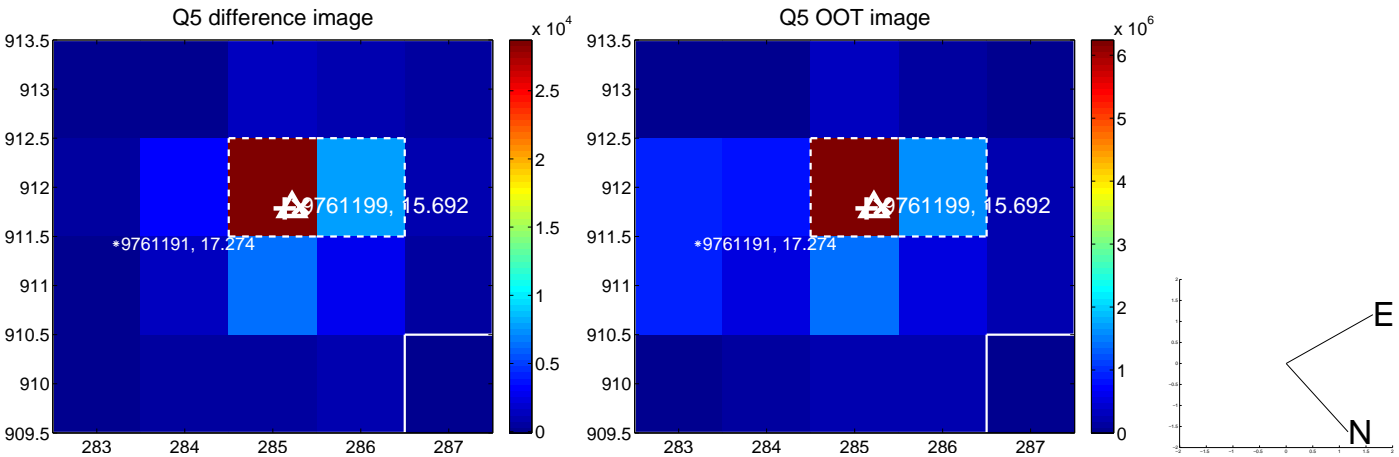


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

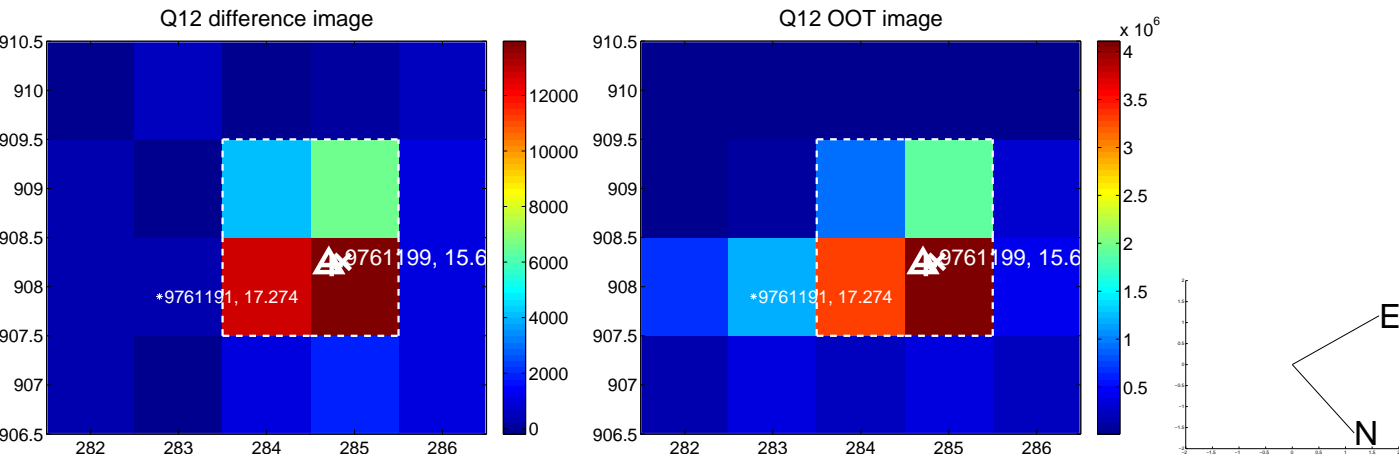
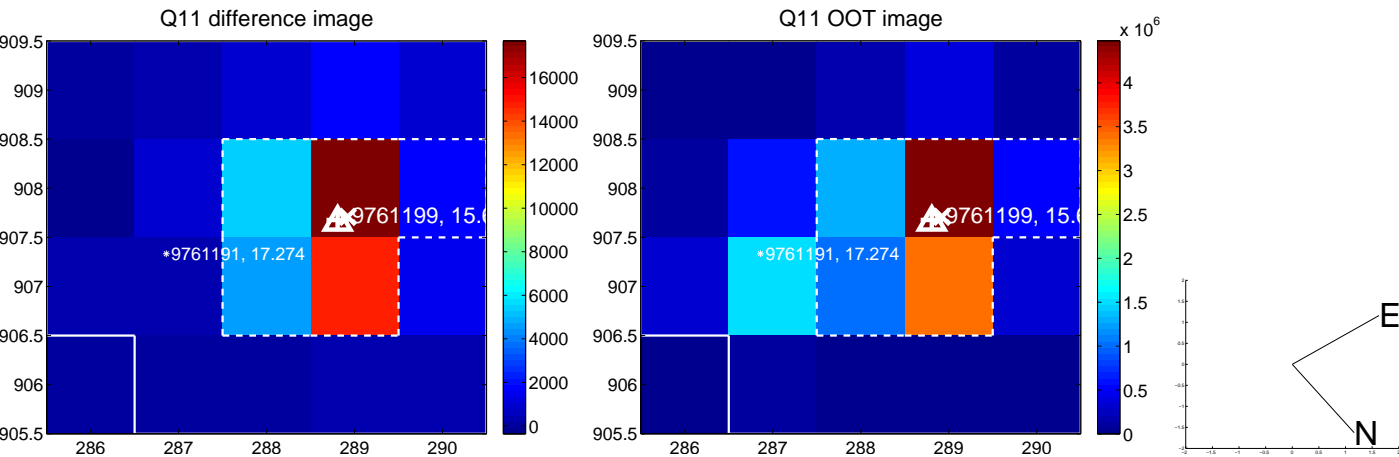
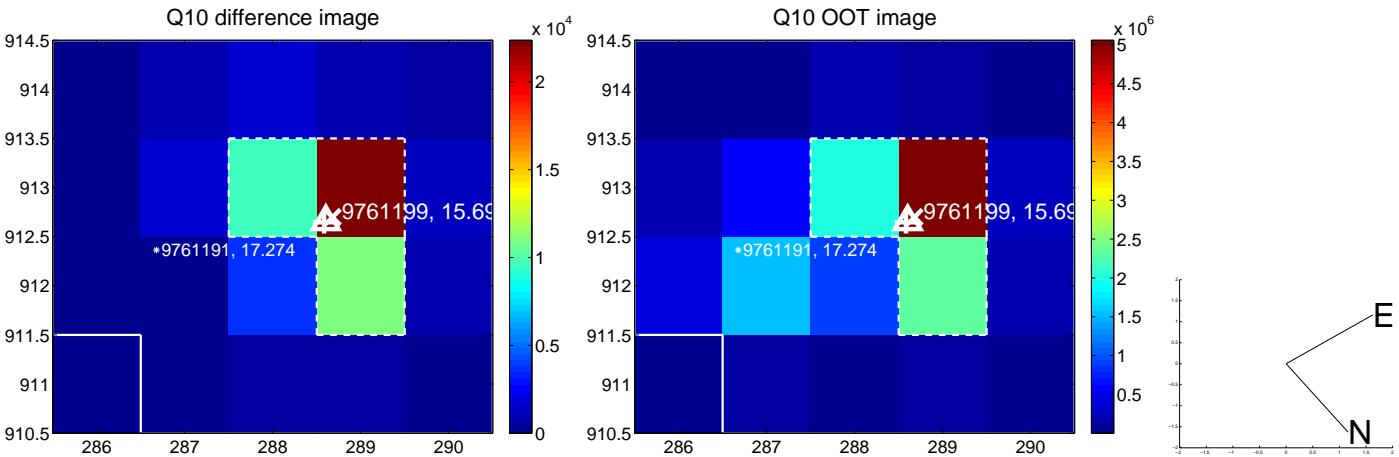
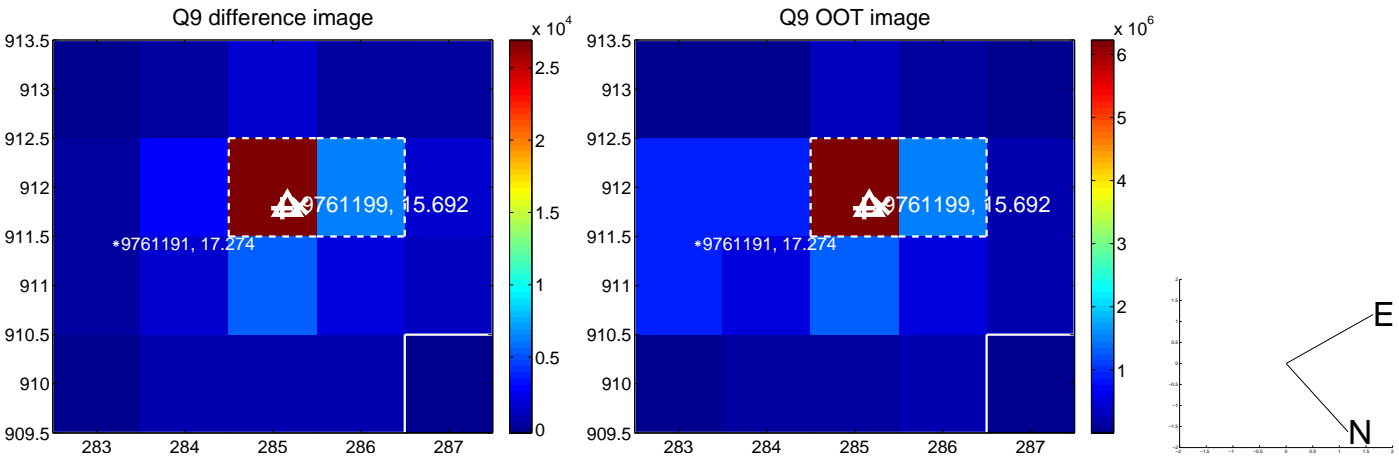
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



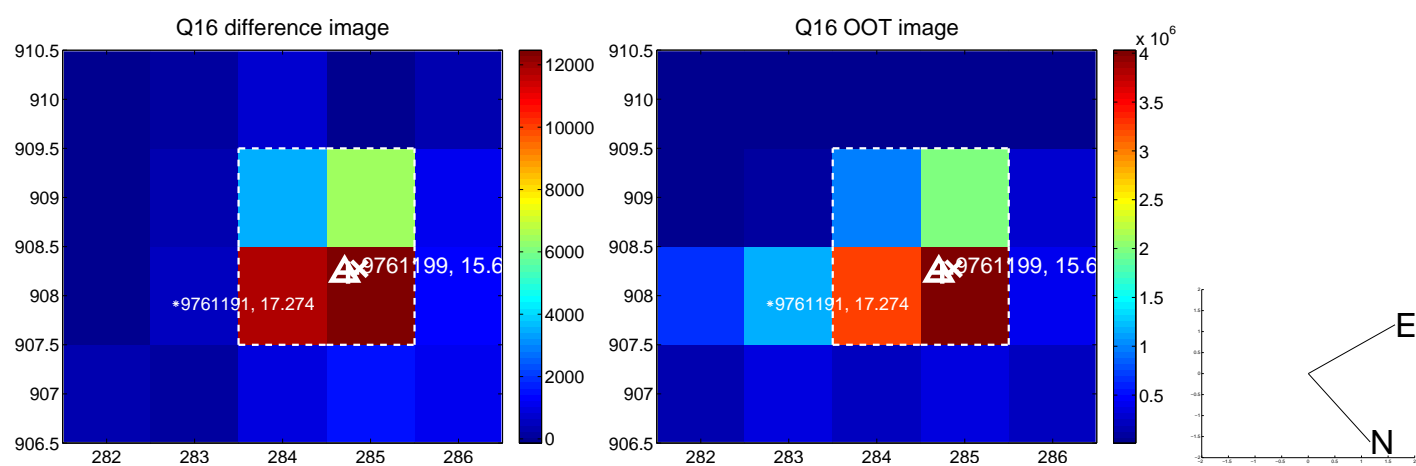
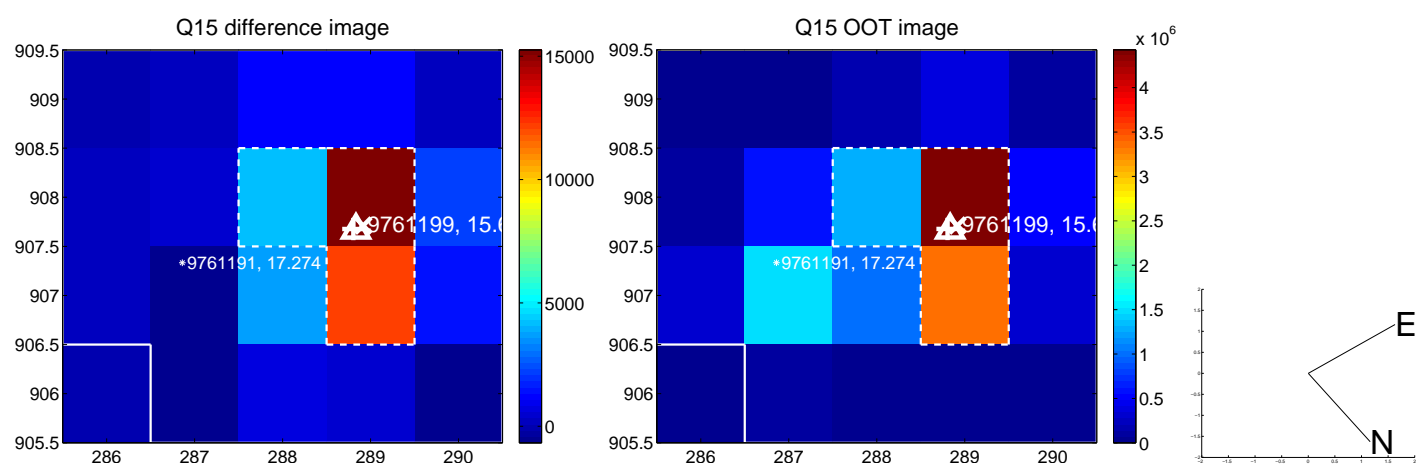
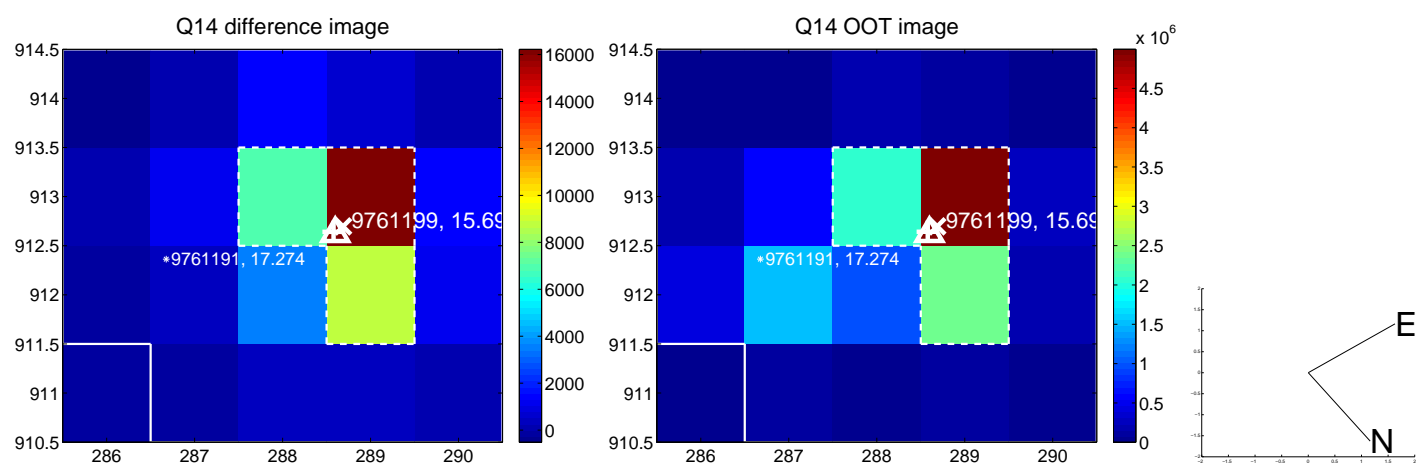
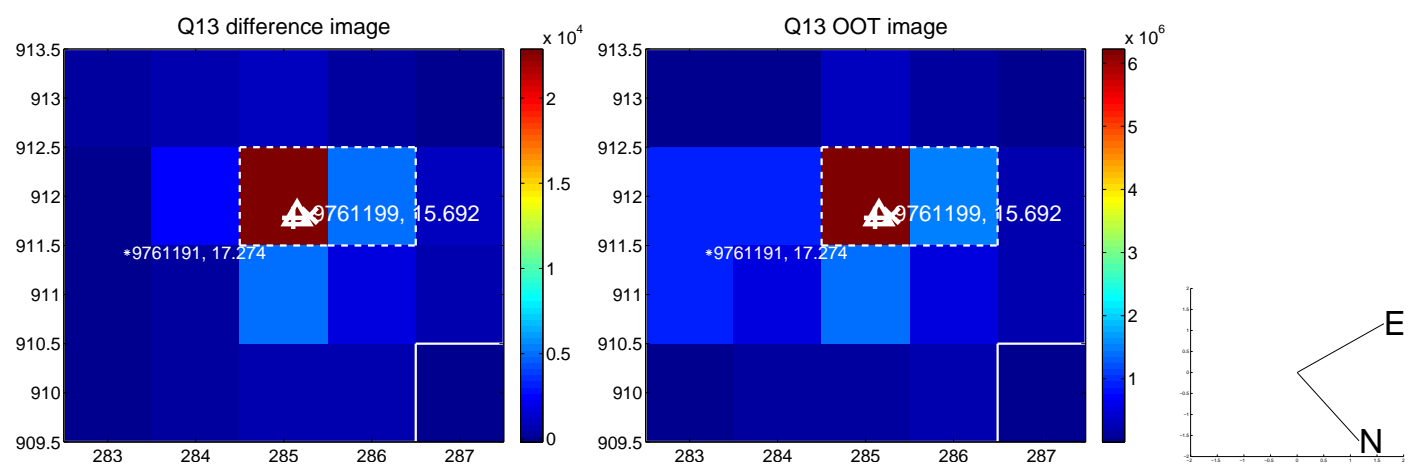
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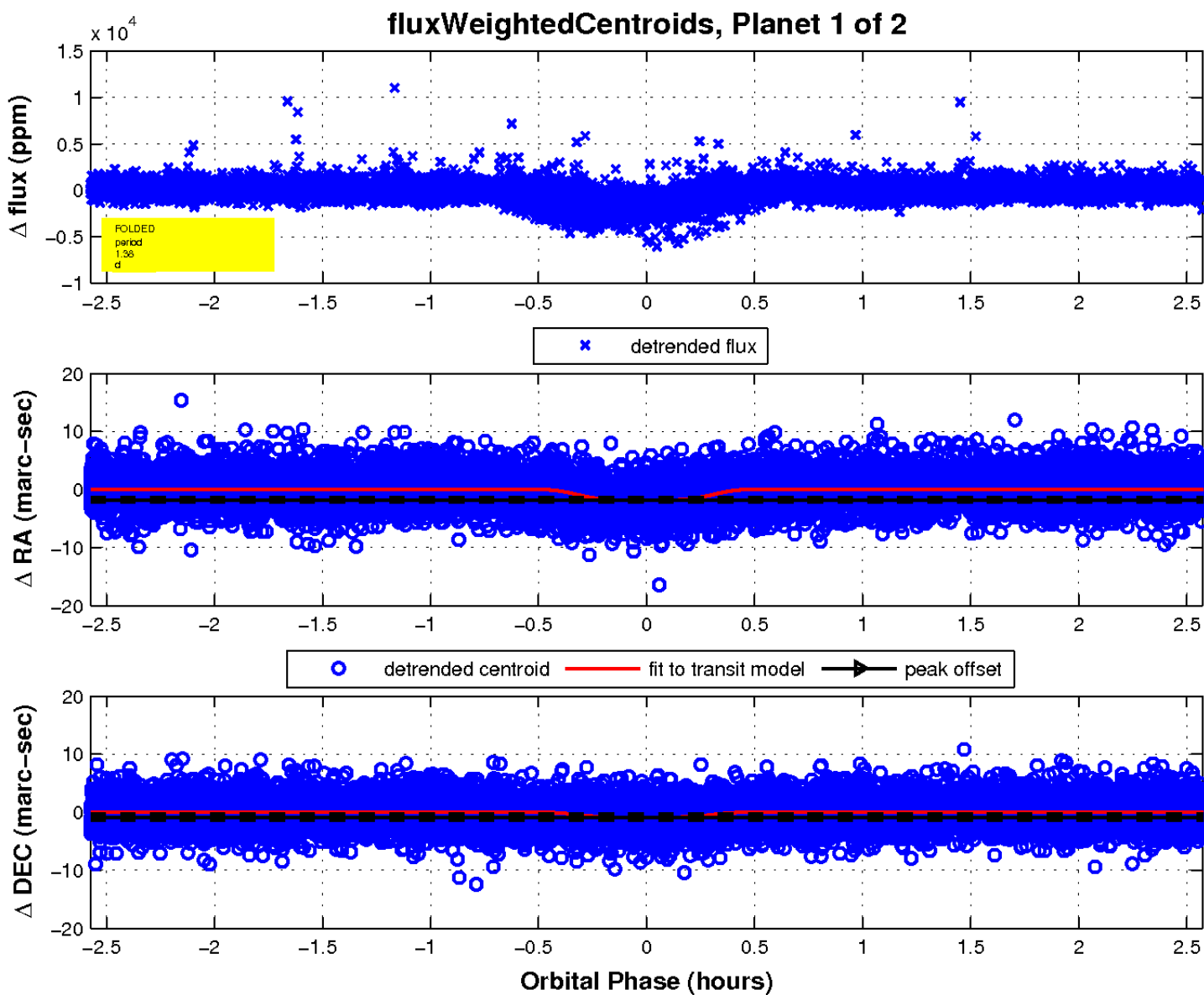
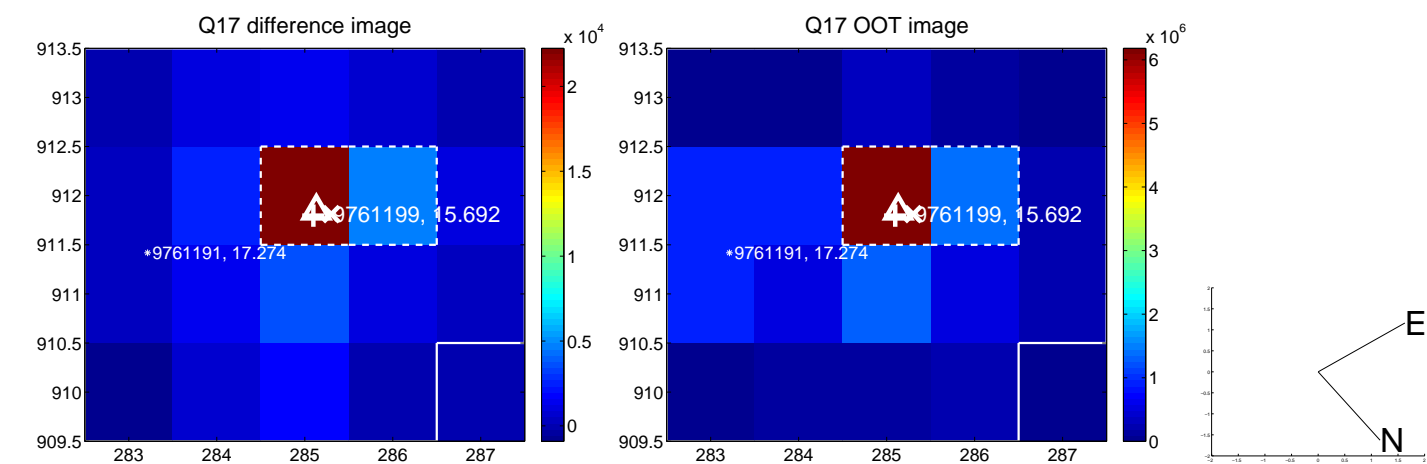
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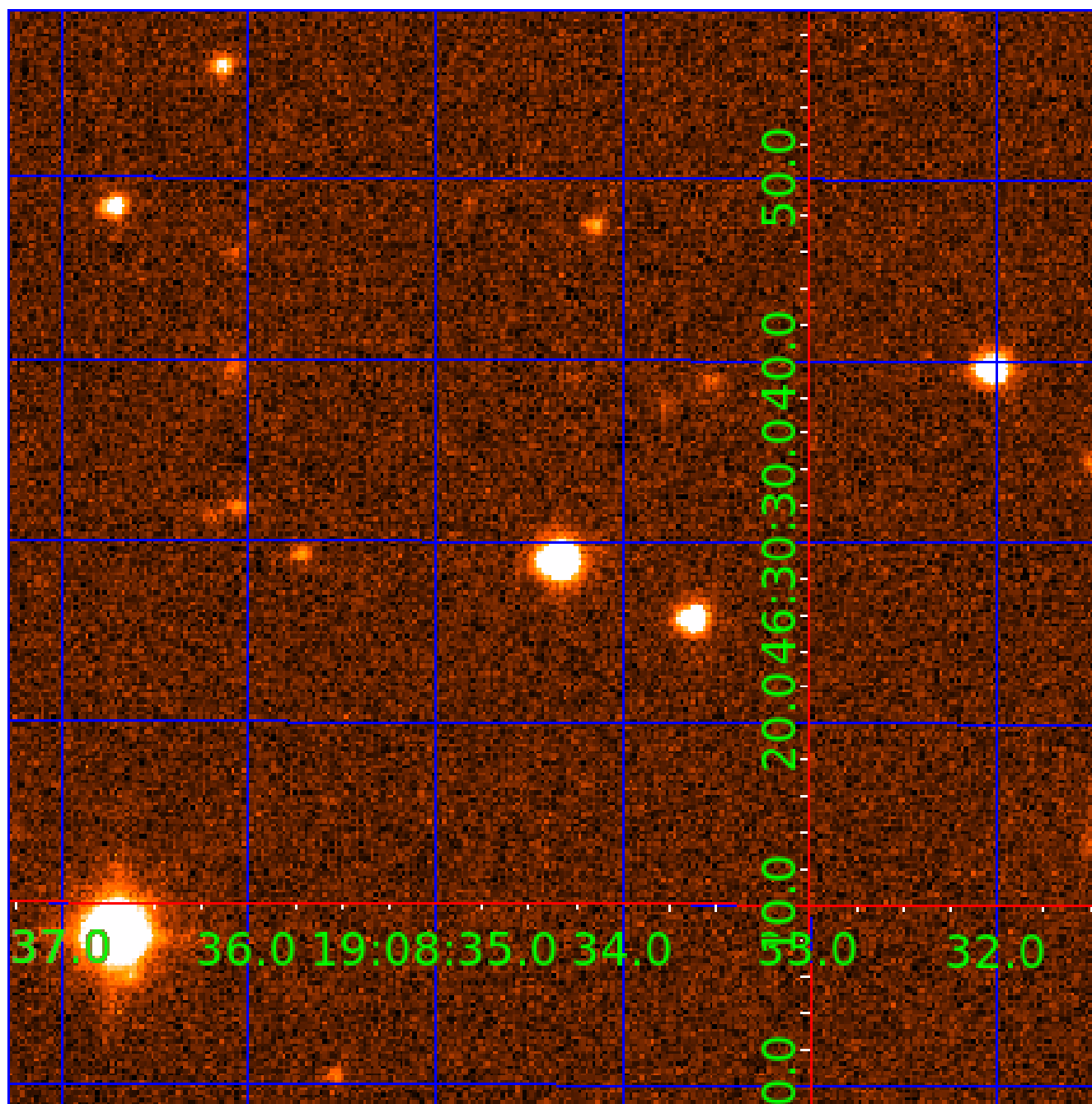


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009761199

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})
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009761199-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_KIC_POS
009761199-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_KIC_POS

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.

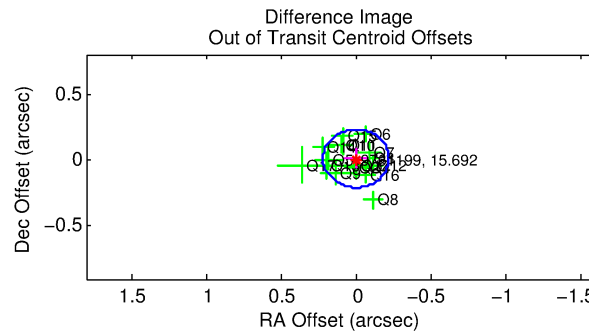
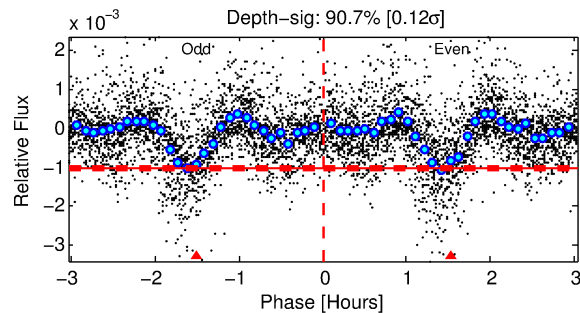
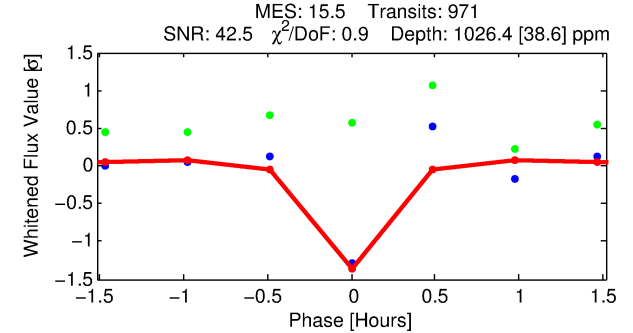
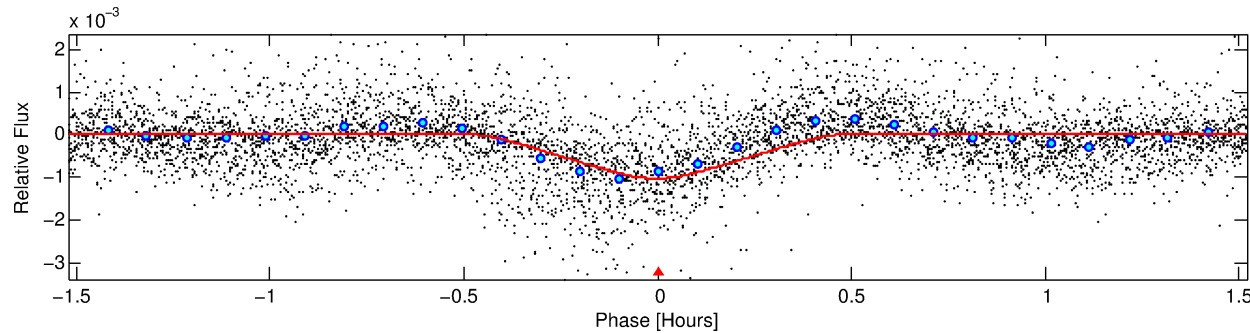
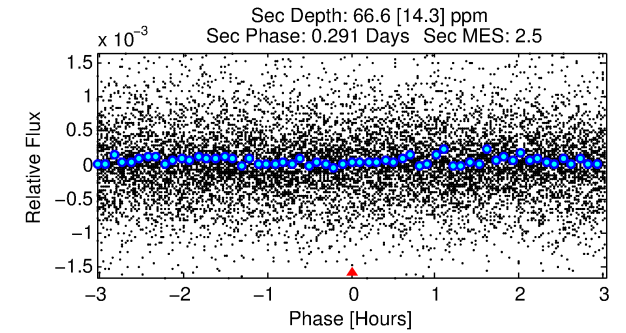
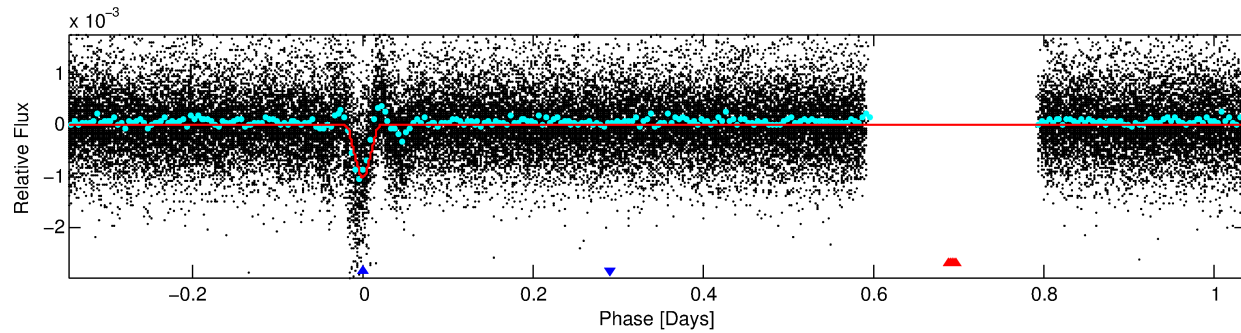
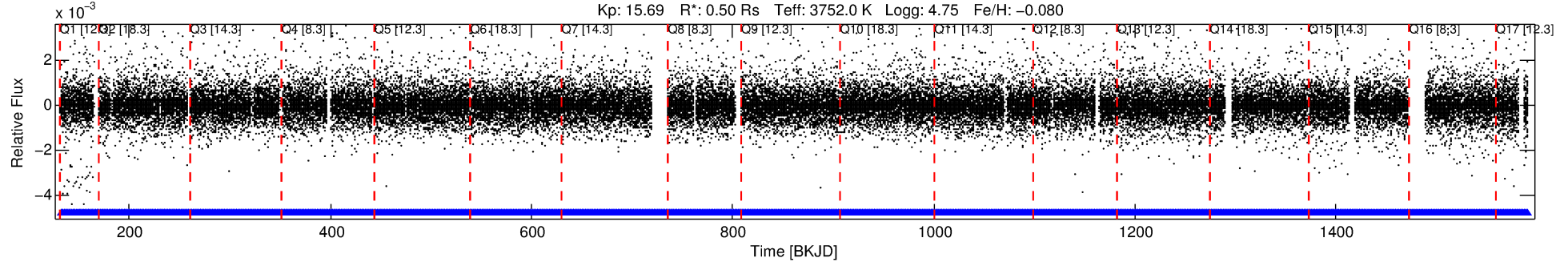
Ephemeris Match Information For 009761199-02

No Significant Match Found

DV One-Page Summary

KIC: 9761199 Candidate: 2 of 2 Period: 1.384 d
KOI: K01459 Corr: No Ephemeris Match

Kp: 15.69 R*: 0.50 Rs Teff: 3752.0 K Logg: 4.75 Fe/H: -0.080



DV Fit Results:

Period = 1.38404 [0.00000] d
Epoch = 132.4206 [0.0003] BKJD
Rp/R* = 0.0404 [0.0054]
a/R* = 10.60 [5.26]
b = 0.91 [0.10]
Seff = 117.31 [16.55]
Teq = 839 [30] K
Rp = 2.19 [0.37] Re
a = 0.0193 [0.0016] AU
Ag = 2.85 [1.03] [1.80σ]
Teff = 1686 [150] K [5.55σ]

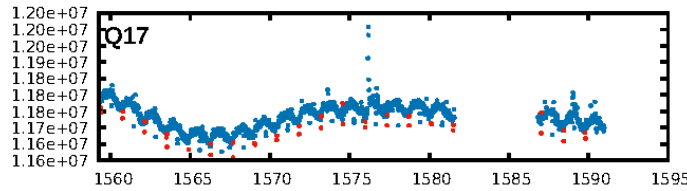
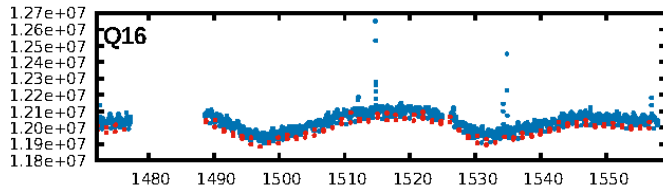
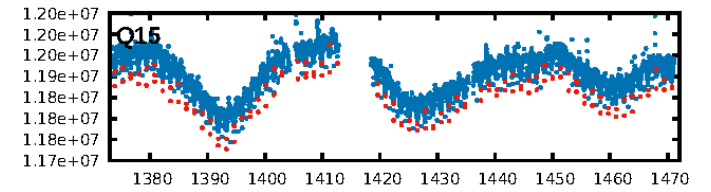
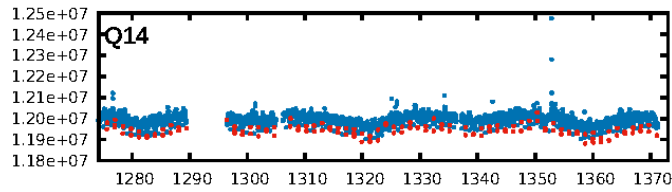
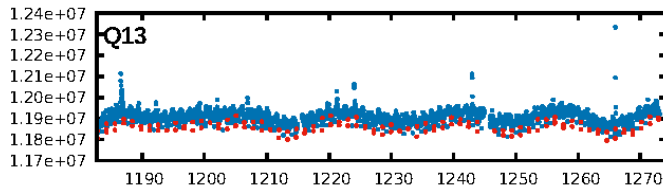
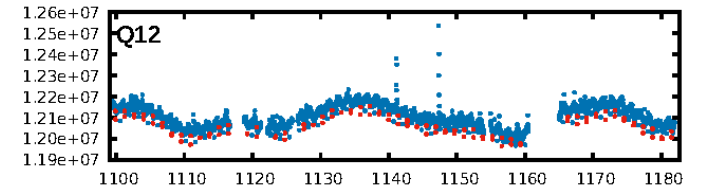
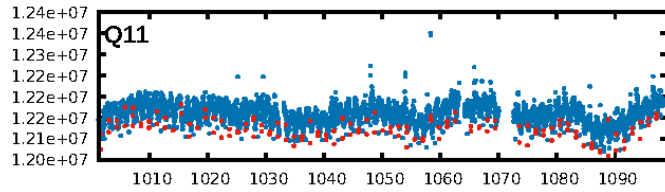
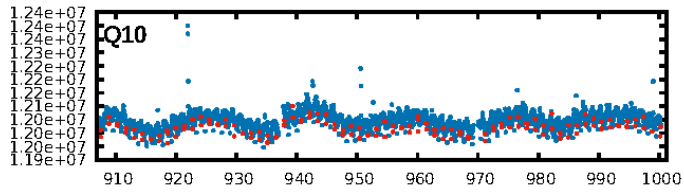
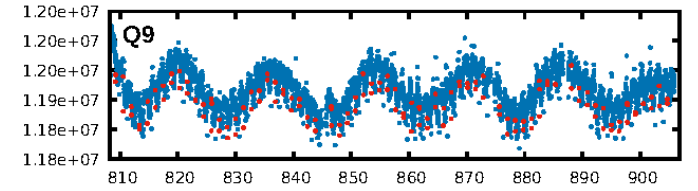
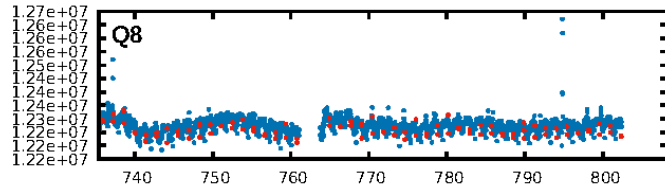
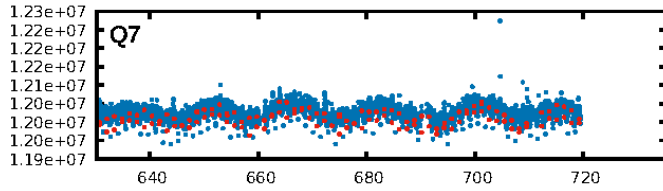
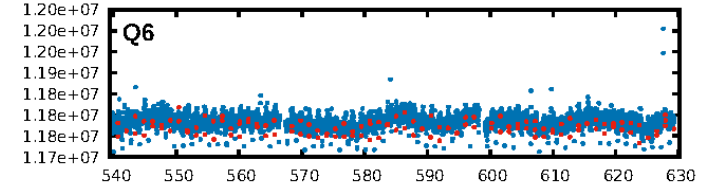
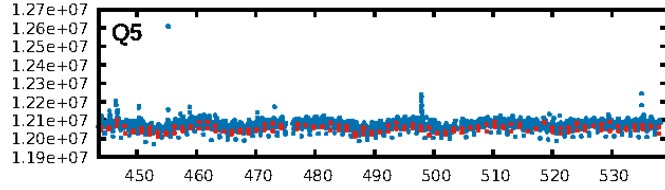
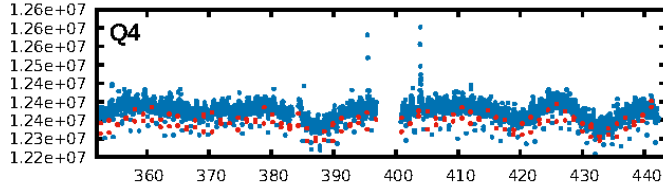
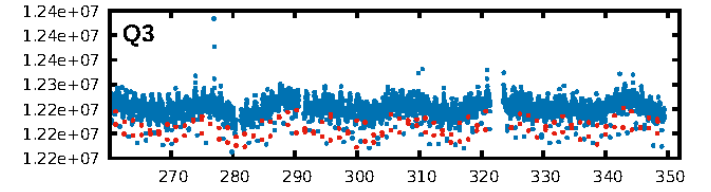
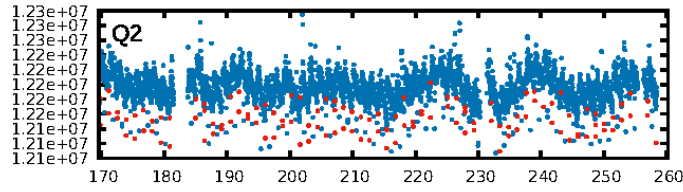
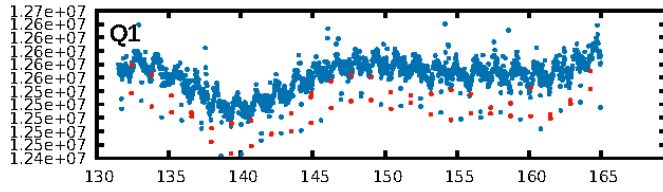
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.55e-41
RollingBand-fgt: 1.00 [927/927]
GhostDiagnostic-chr: 0.3588
Centroid-sig: 0.0%
Centroid-so: 1.379 arcsec [5.96σ]
OotOffset-rm: 0.012 arcsec [0.16σ]
KicOffset-rm: 0.482 arcsec [6.46σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

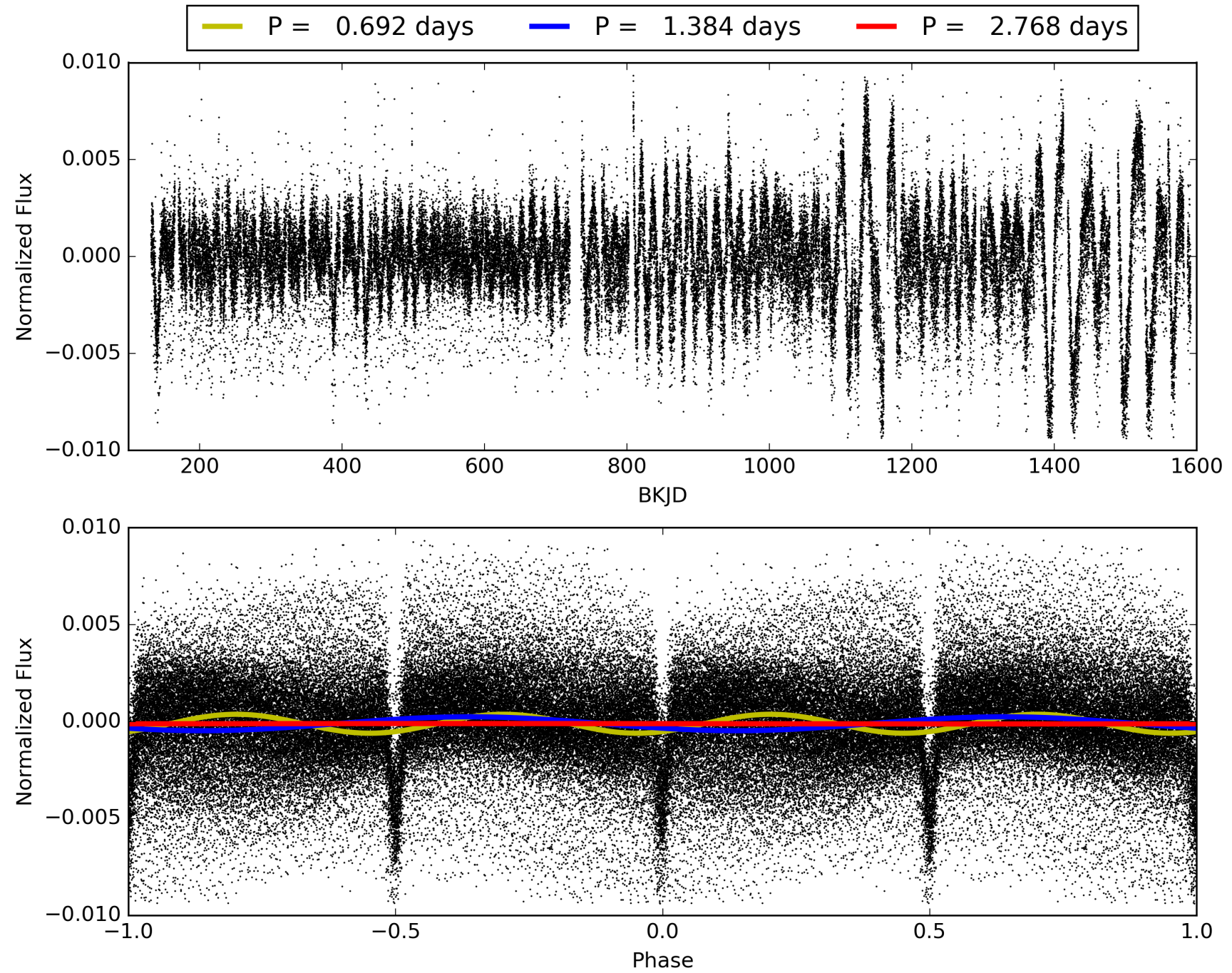
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:18:33 Z

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

TCE 009761199-02, PDC Light Curves

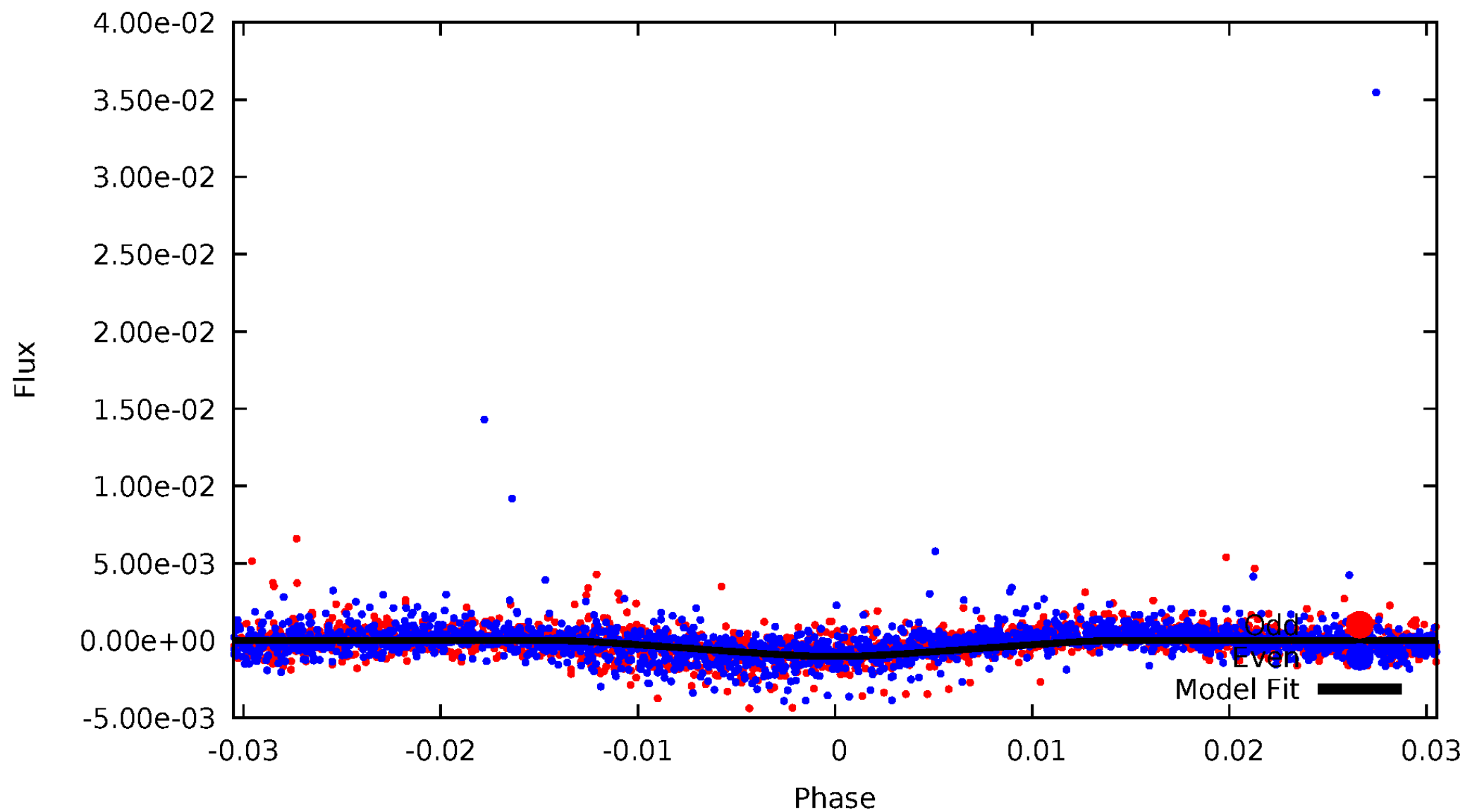


TCE 009761199-02



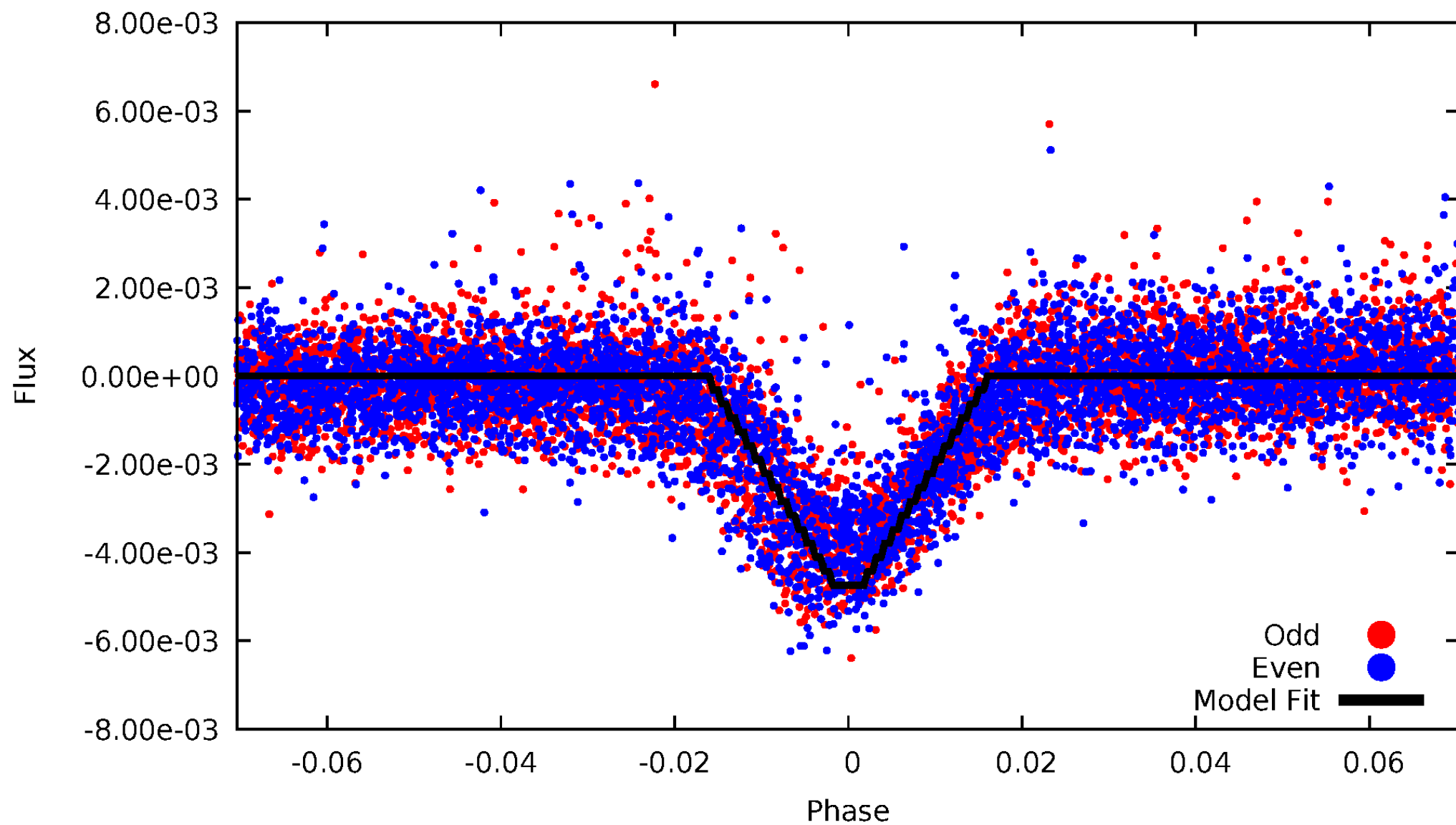
DV Odd/Even

TCE 009761199-02



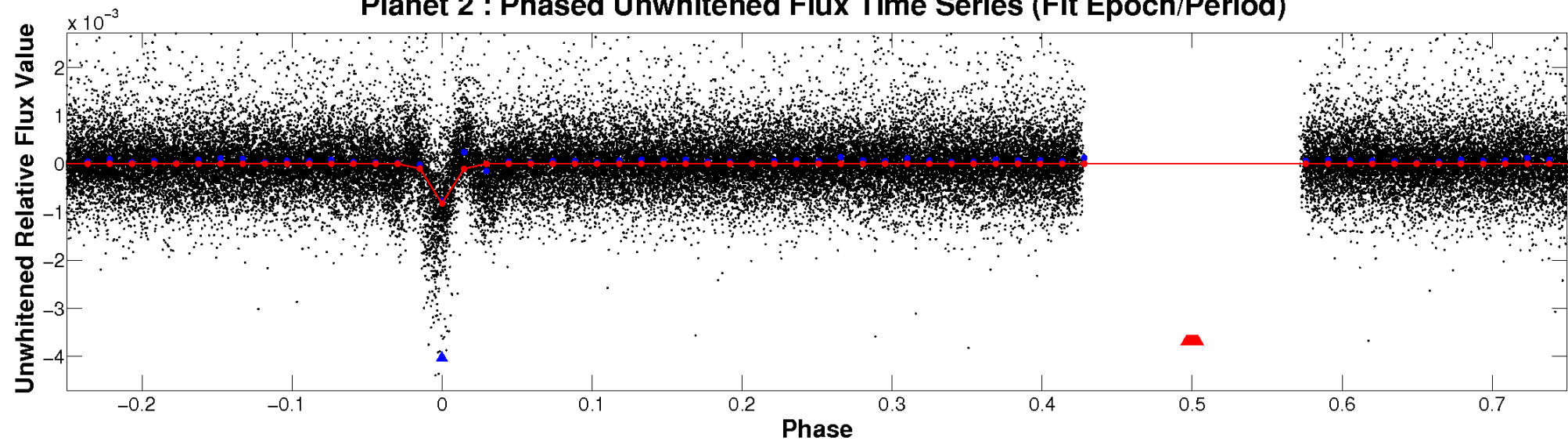
ALT Odd/Even

TCE 009761199-02

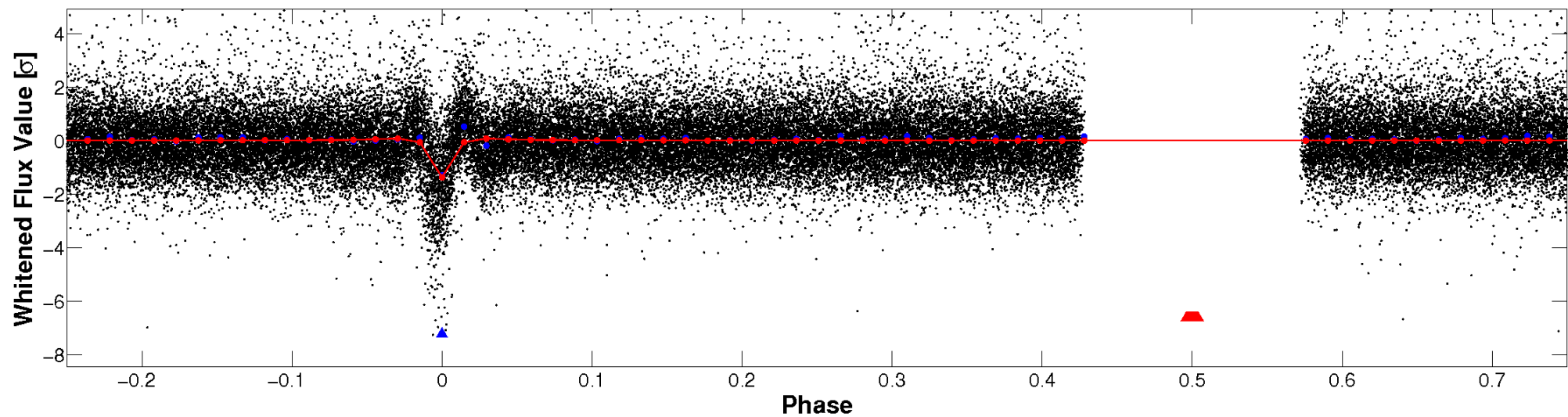


Non-Whitened Vs. Whitened Light Curve

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

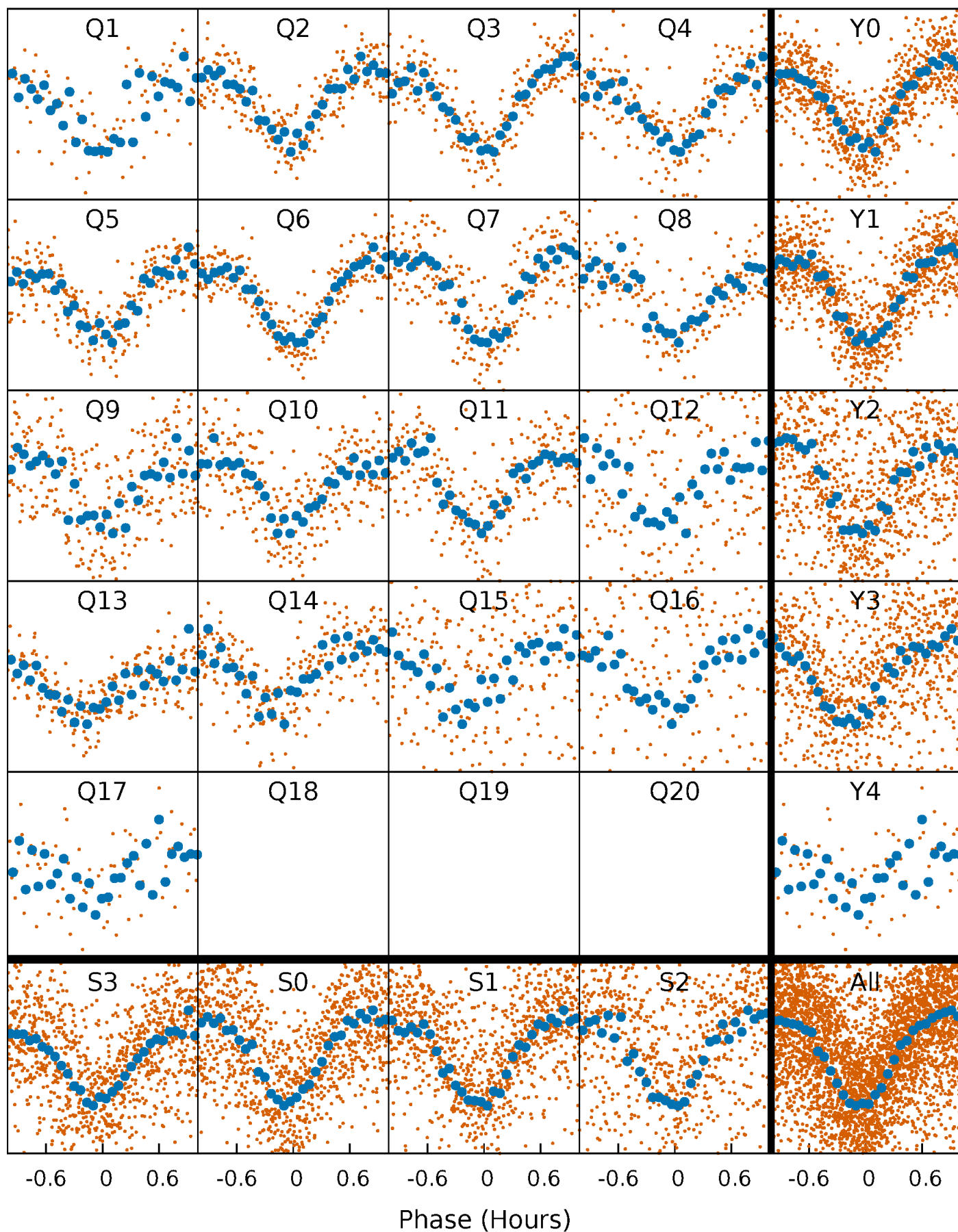


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



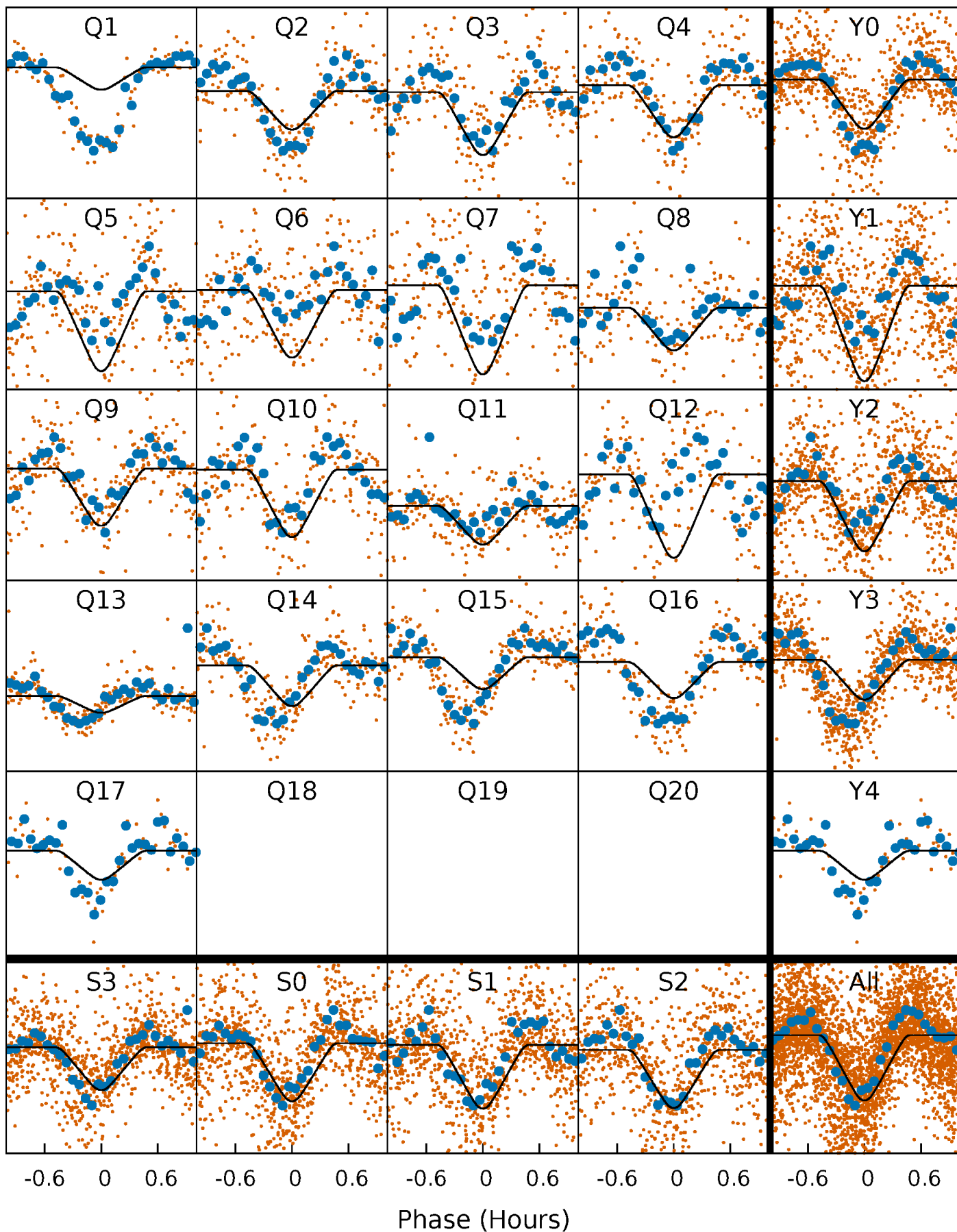
PDC Quarter-Phased Transit Curves

TCE 009761199-02 P= 1.384039 Days $T_0=132.420626$ (BKJD)



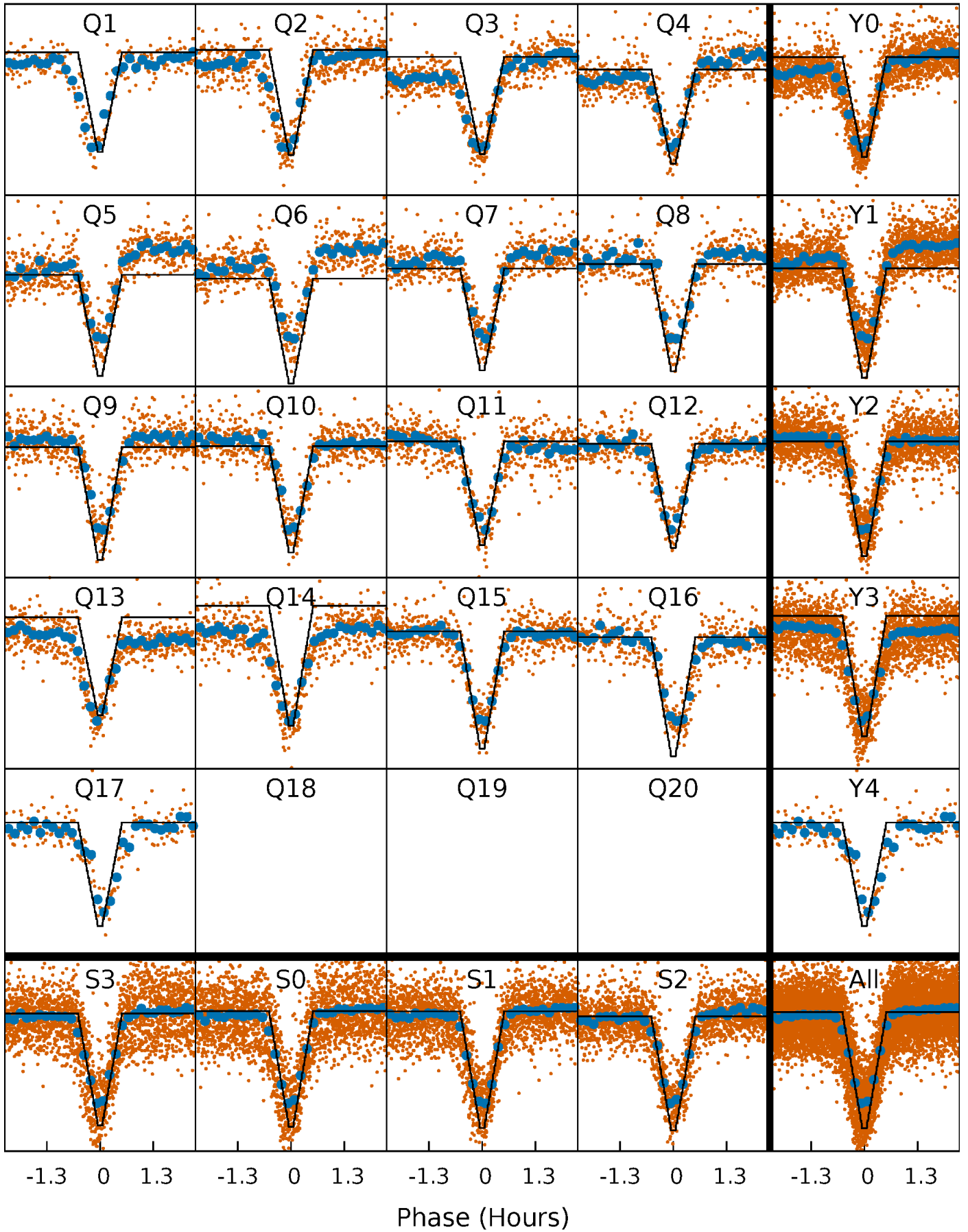
DV Quarter-Phased Transit Curves

TCE 009761199-02 P= 1.384039 Days $T_0=132.420626$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

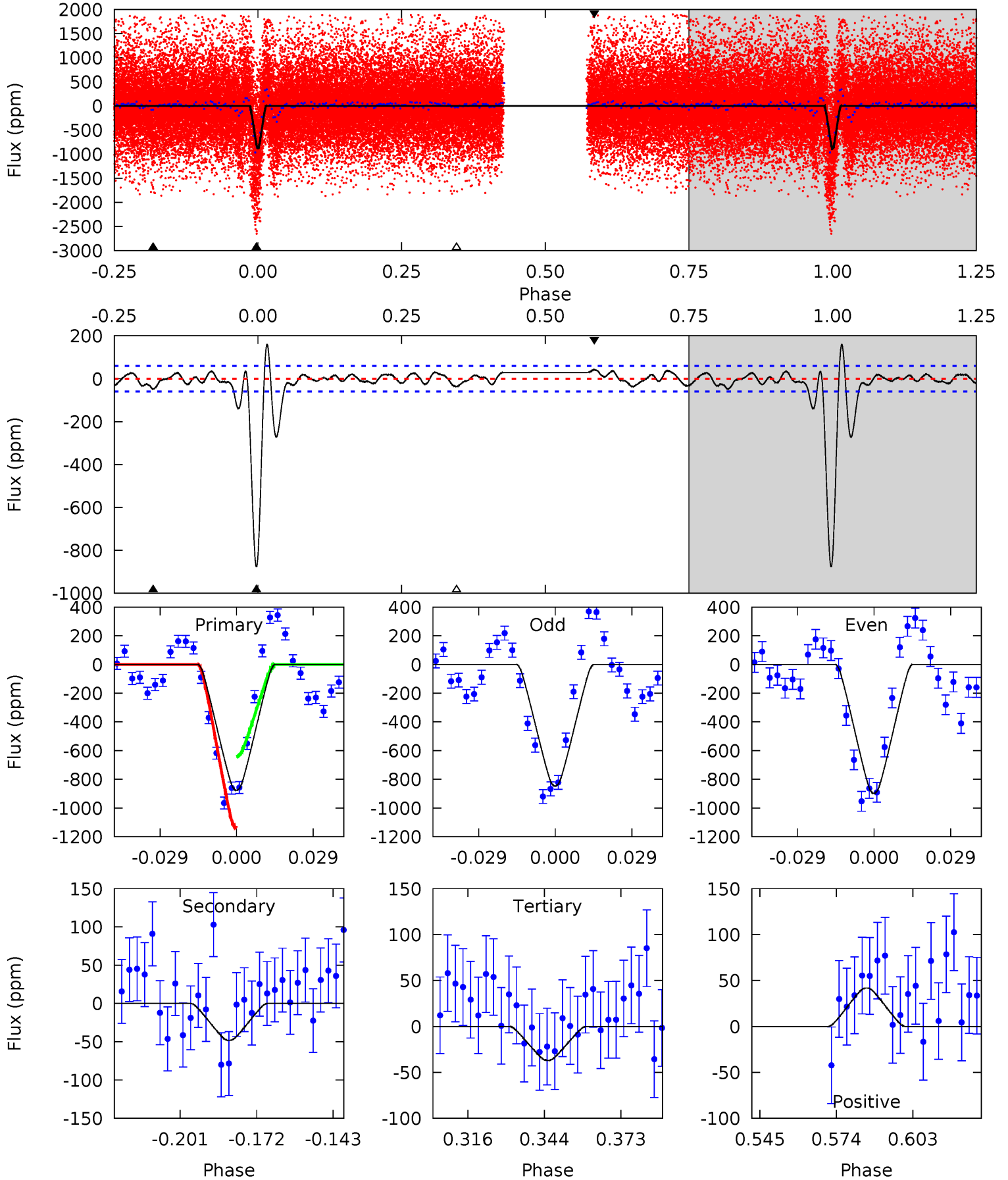
TCE 009761199-02 P= 1.384027 Days $T_0=132.424581$ (BKJD)



DV Model-Shift Uniqueness Test

009761199-02, P = 1.384039 Days, E = 131.036587 Days

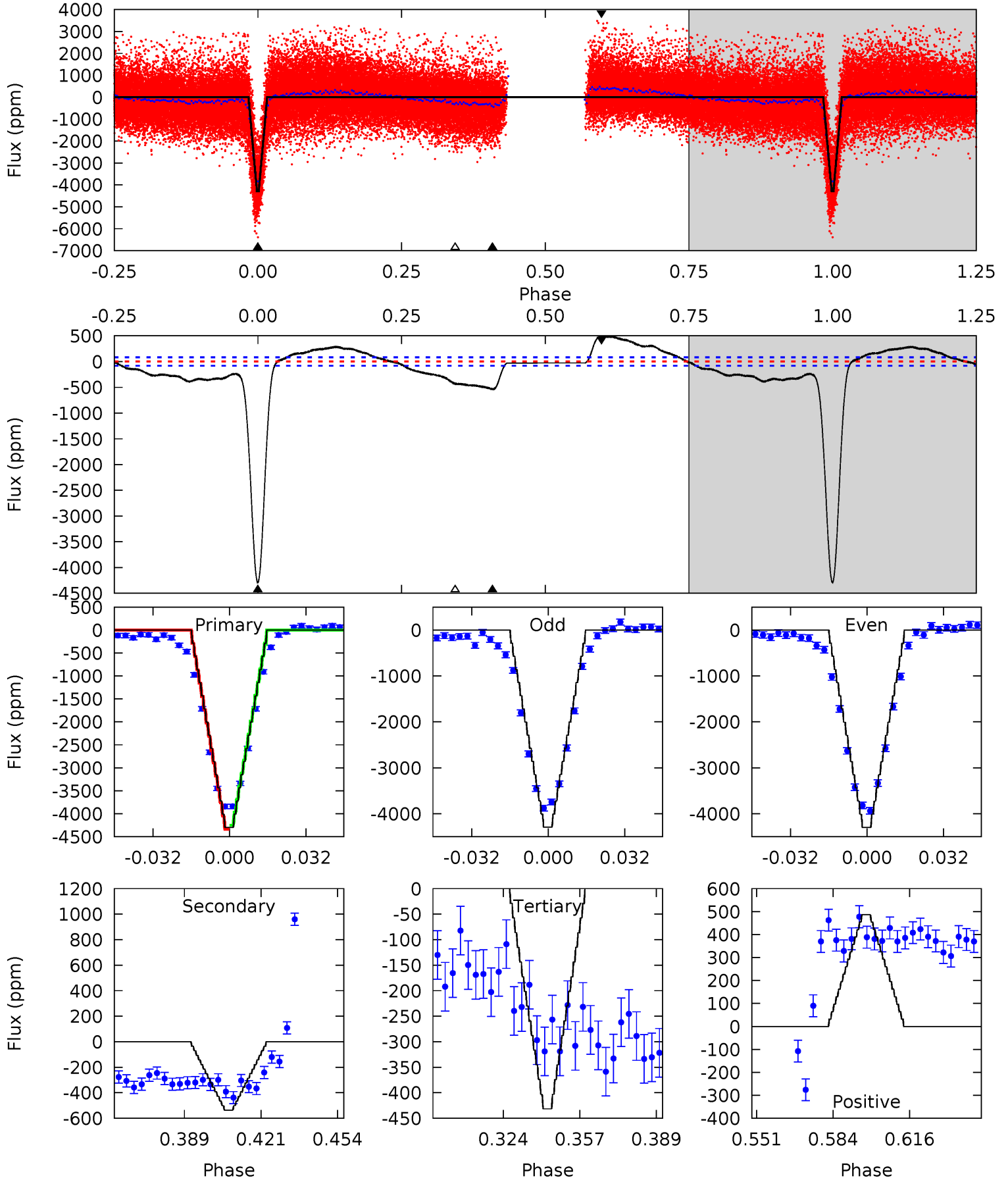
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
70.6	3.89	2.99	3.37	4.82	2.19	3.28	67.6	67.3	0.90	0.52	2.08	1.00	0.15	20.0



Alt Model-Shift Uniqueness Test

009761199-02, P = 1.384027 Days, E = 131.040554 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
249.6	31.1	25.1	28.3	4.80	2.14	15.9	224.6	221.4	6.05	2.87	0.16	0.99	0.10	2.69



Stellar Parameters For KIC 009761199

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	3752^{+74}_{-82}	$4.747^{+0.056}_{-0.024}$	$-0.080^{+0.150}_{-0.150}$	$0.497^{+0.031}_{-0.052}$	$0.503^{+0.037}_{-0.045}$	$5.774^{+1.458}_{-0.659}$
	+2%/-2%	+1%/-1%	+188%/-188%	+6%/-10%	+7%/-9%	+25%/-11%
Source	SPE70	SPE60	SPE70	DSEP		

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

Secondary Eclipse Parameters for KIC 009761199-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-48 ± 12	$2.17^{+0.33}_{-0.31}$	1167^{+29}_{-34}	2270^{+111}_{-118}	$2.123^{+0.957}_{-0.688}$
Alt.	-536 ± 17	$3.69^{+0.34}_{-0.33}$	1163^{+32}_{-34}	2706^{+78}_{-72}	$8.151^{+1.581}_{-1.216}$

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

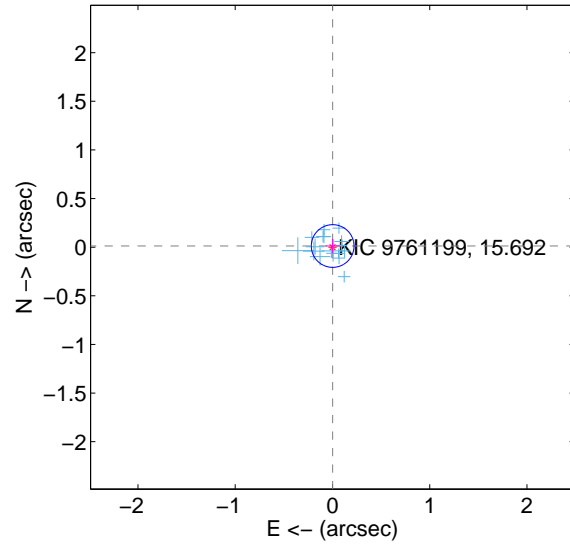
Supplemental centroid analysis for 009761199-02. Kepler magnitude: 15.69. Transit SNR 42.47

There are 17 quarters with good PRF difference image offsets

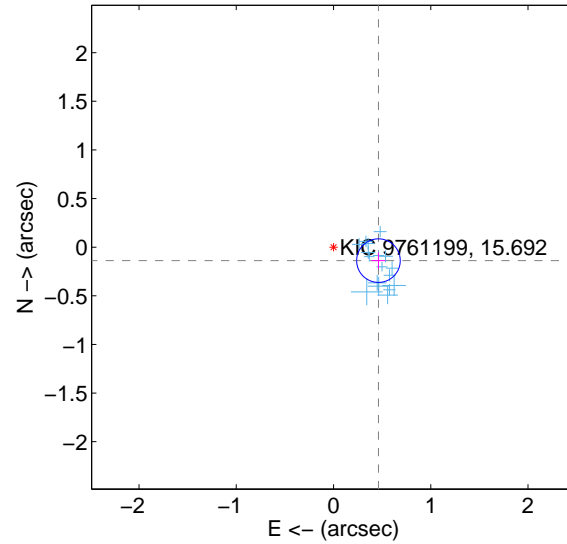
The direct PRF centroid is offset from the target star catalog position by about 0.82 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.012 ± 0.073	0.16	-0.002 ± 0.073	0.012 ± 0.073
PRF-fit source offset from KIC position	0.482 ± 0.075	6.46	-0.462 ± 0.071	-0.138 ± 0.085
photometric centroid source offset	1.38 ± 0.23	5.96	1.30 ± 0.23	0.47 ± 0.22

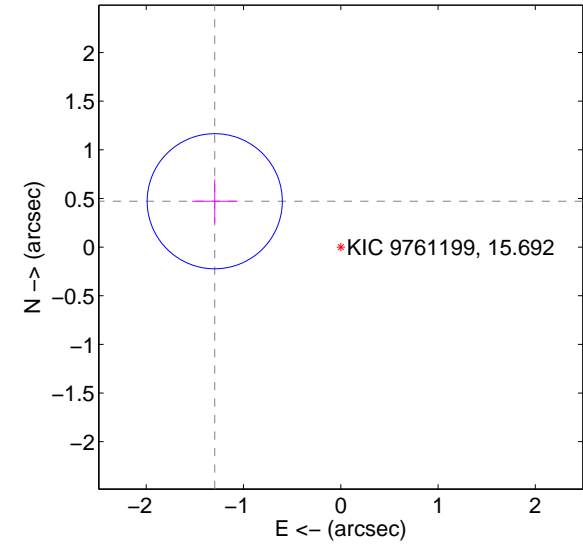
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

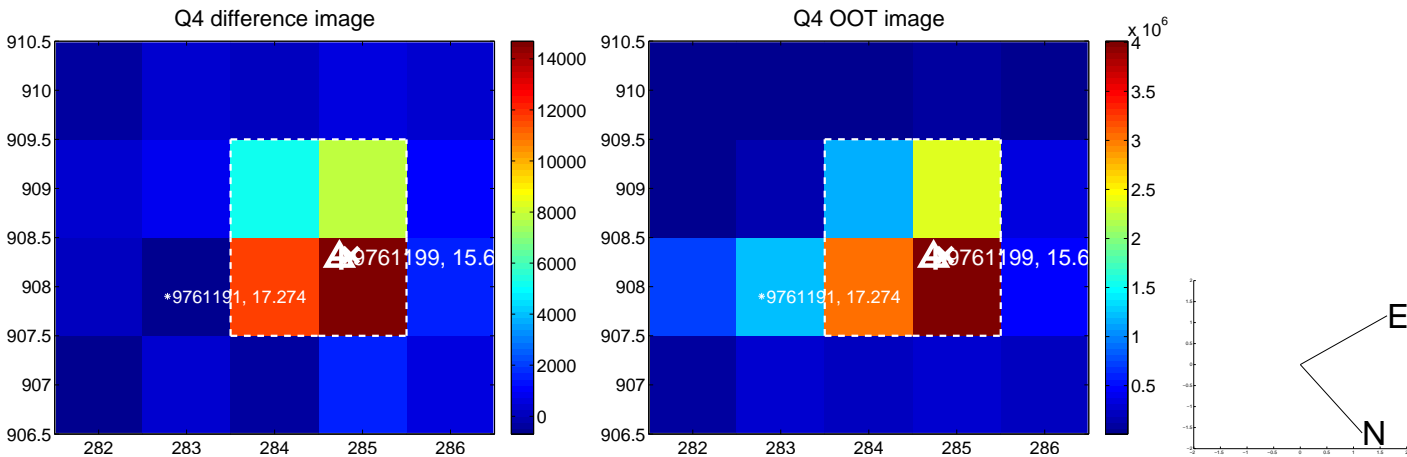
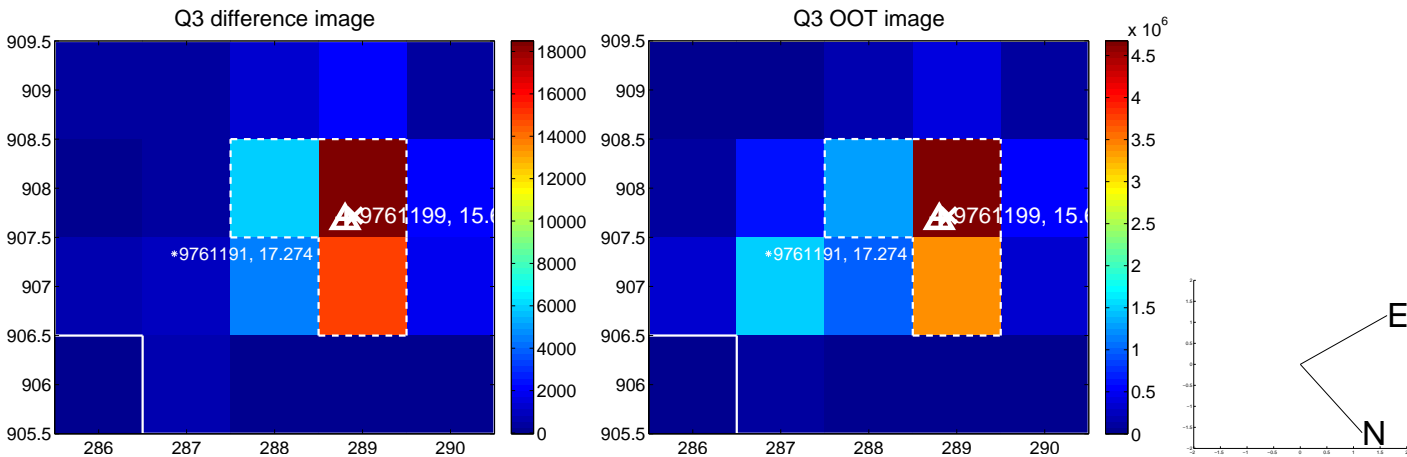
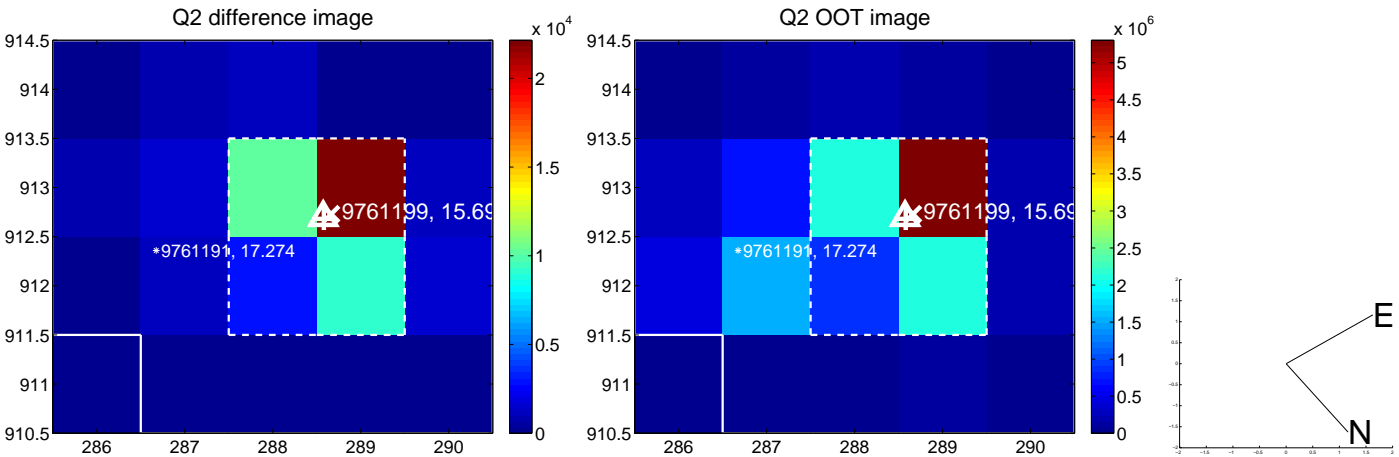
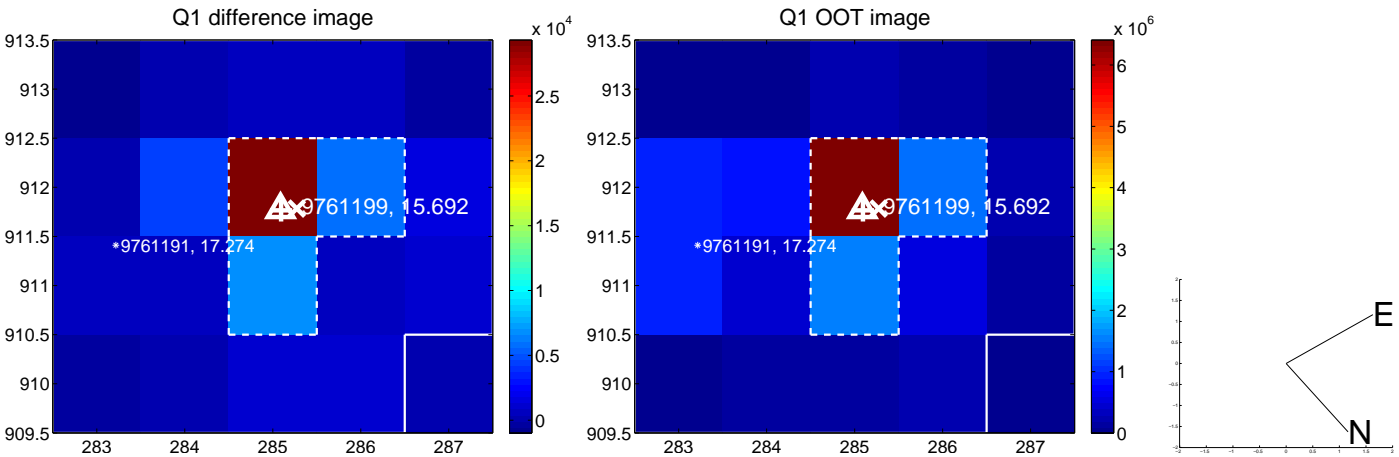


offset from photometric centroids

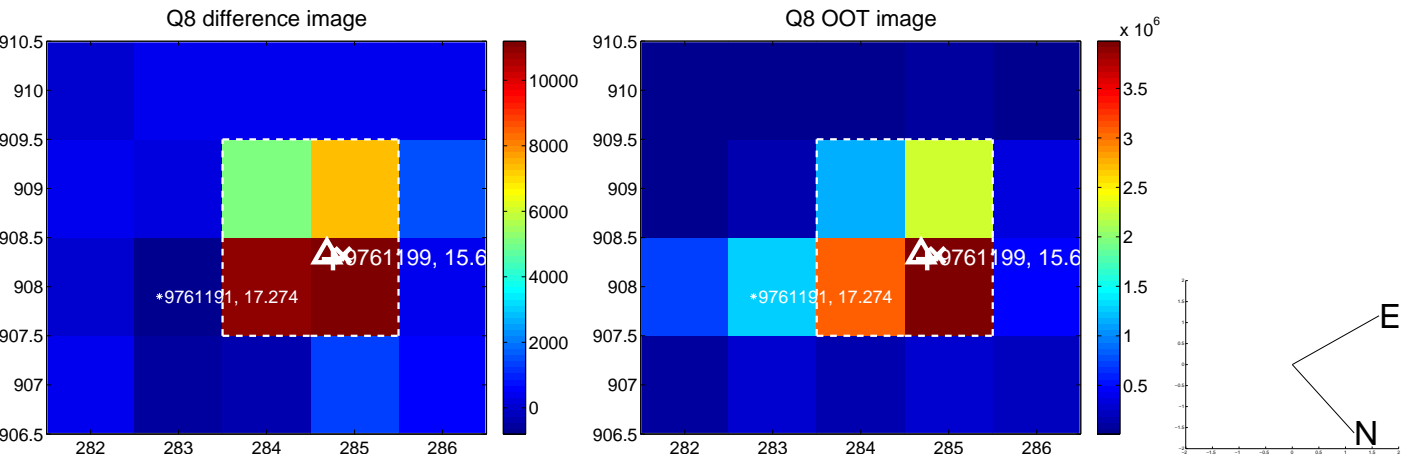
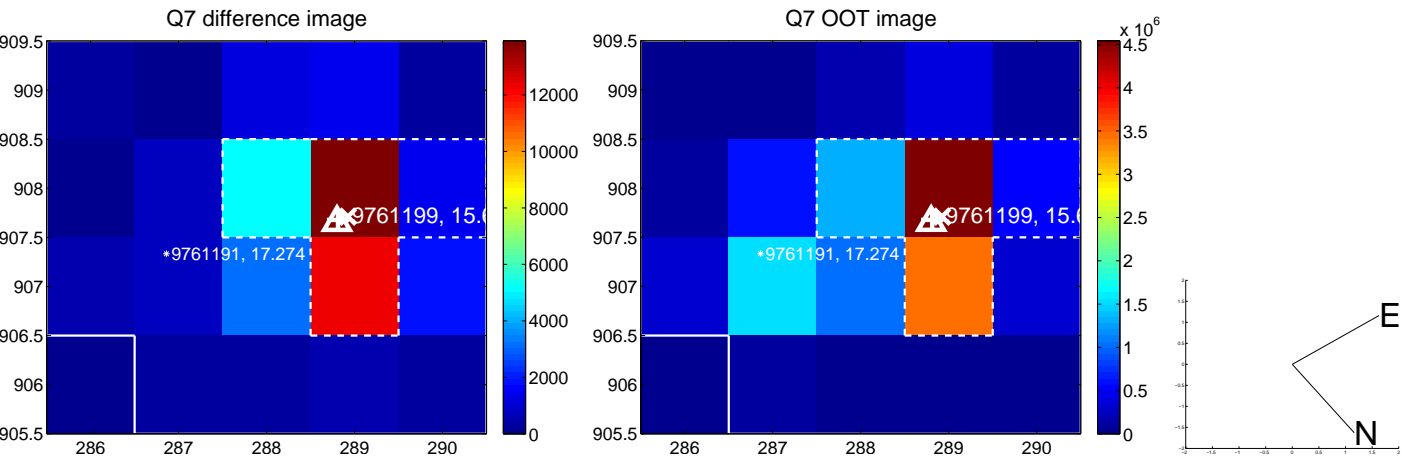
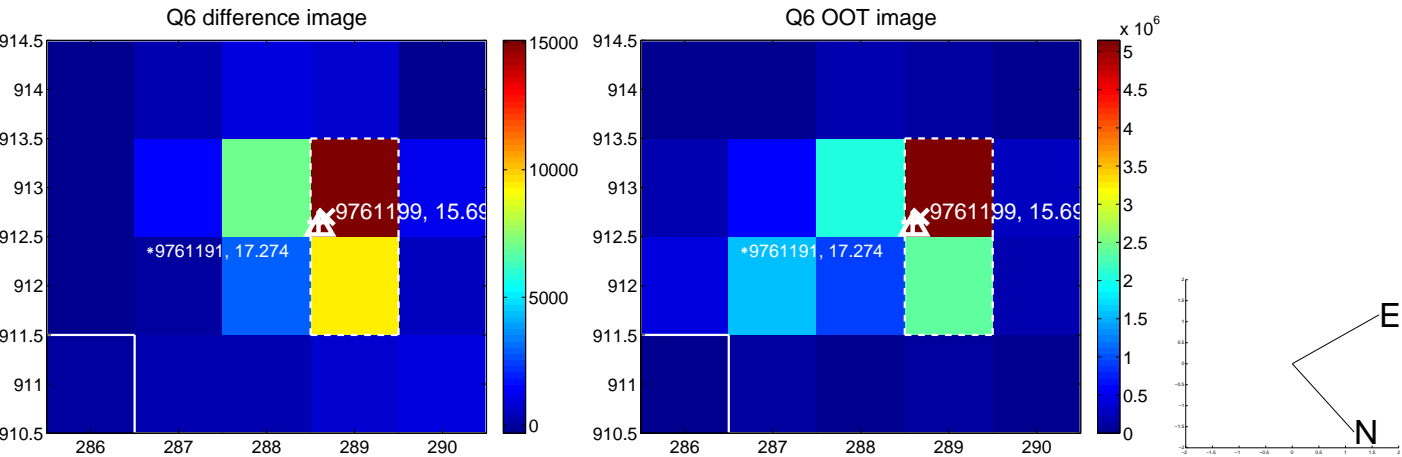
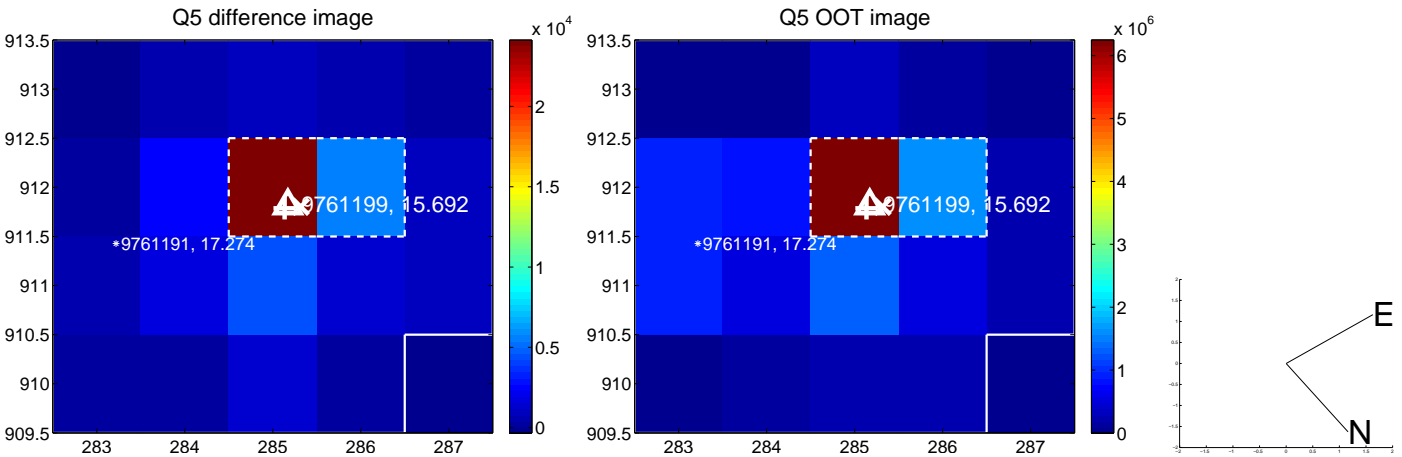


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

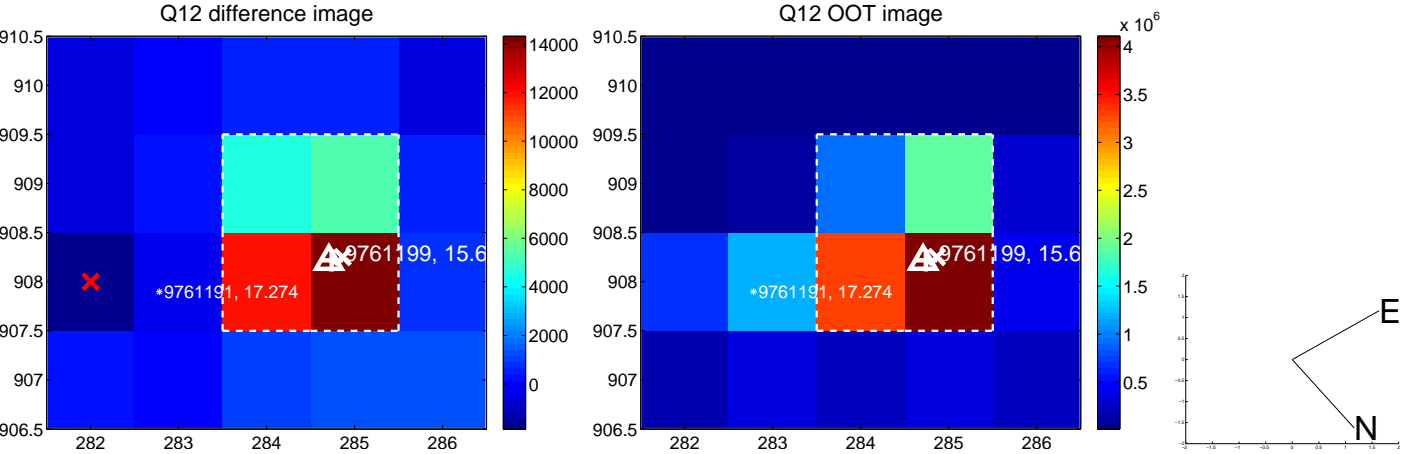
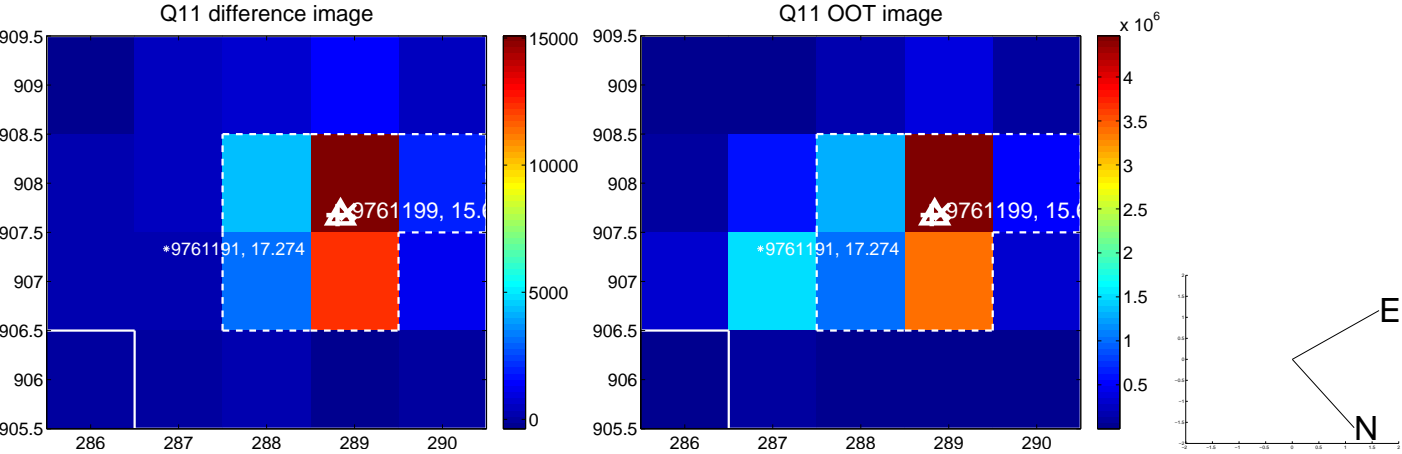
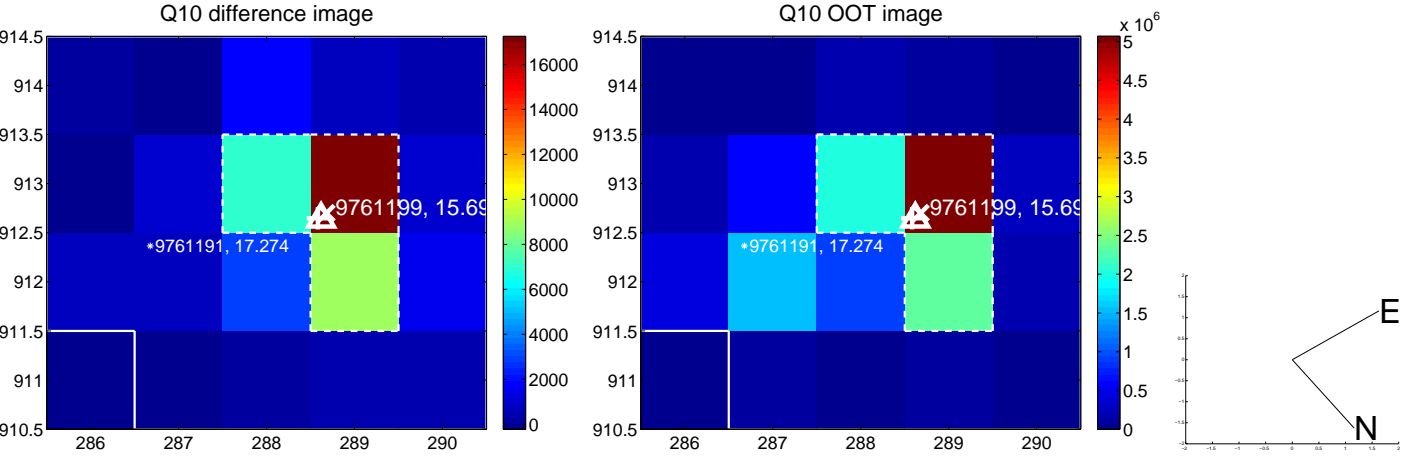
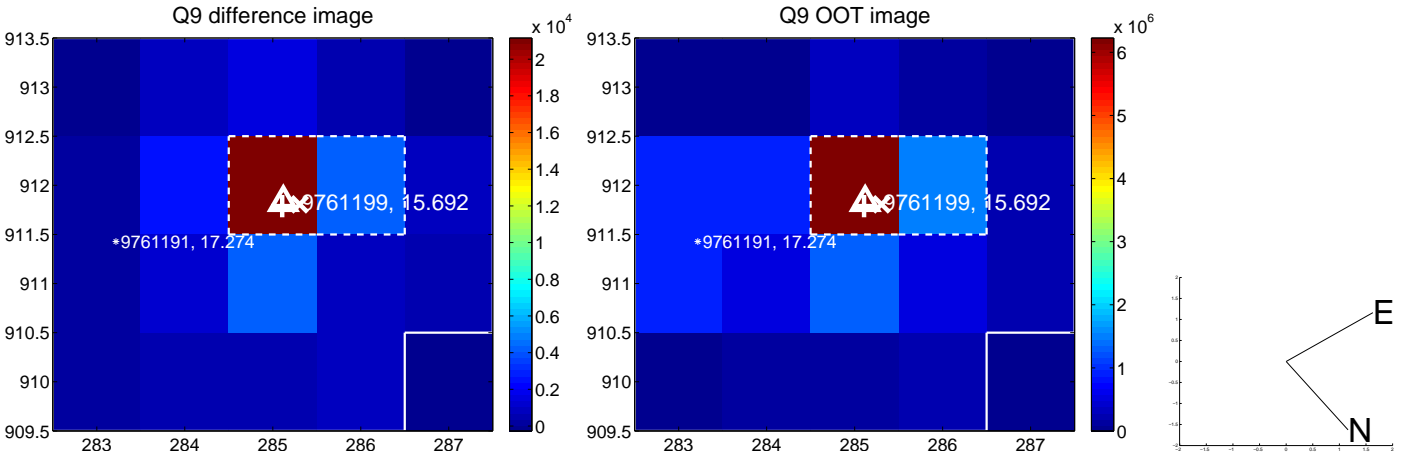
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



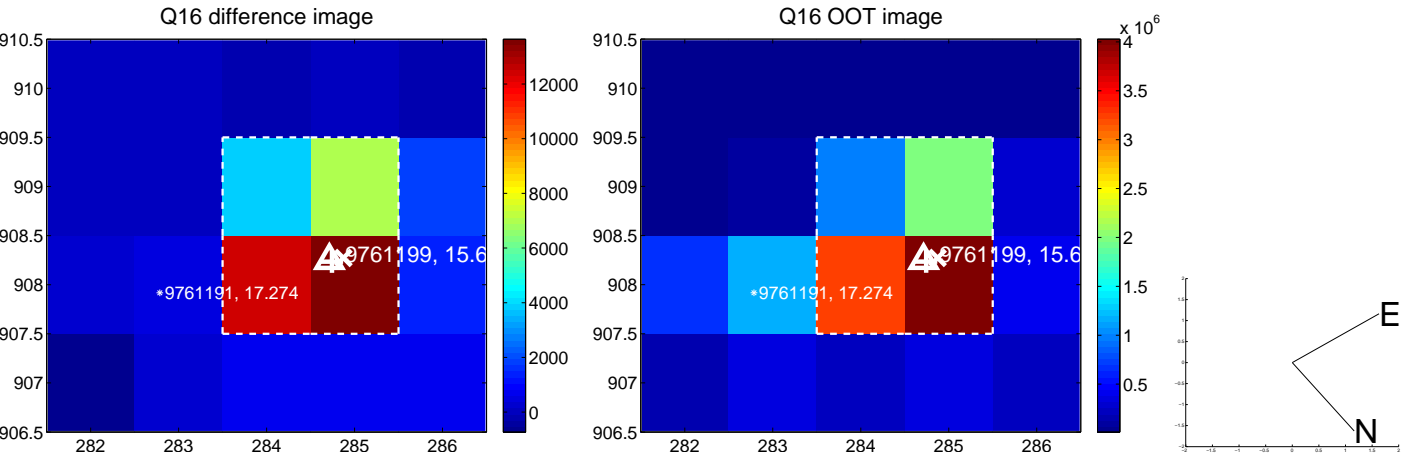
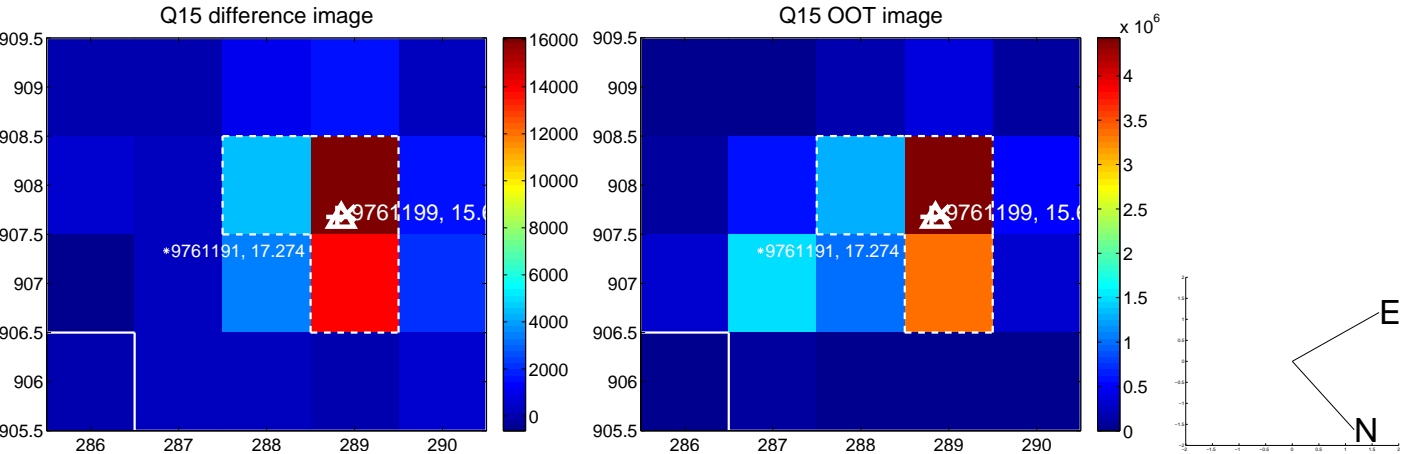
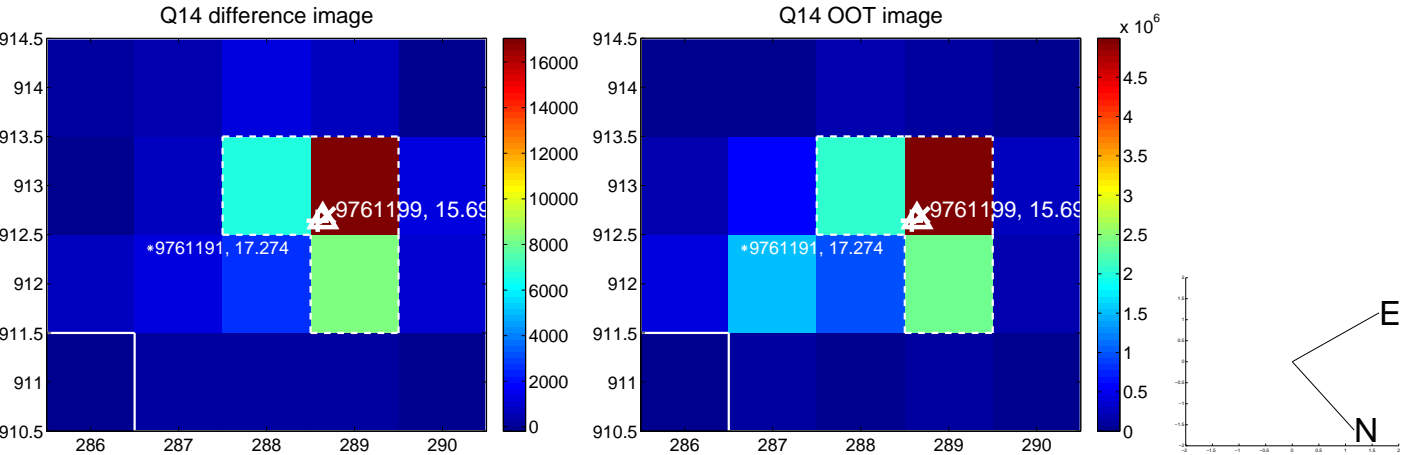
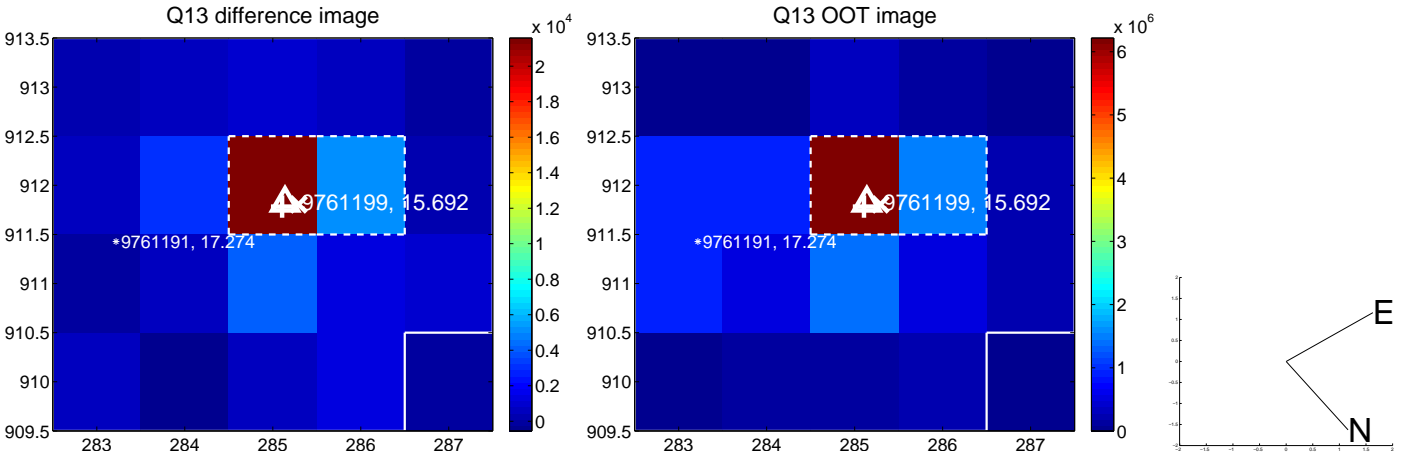
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



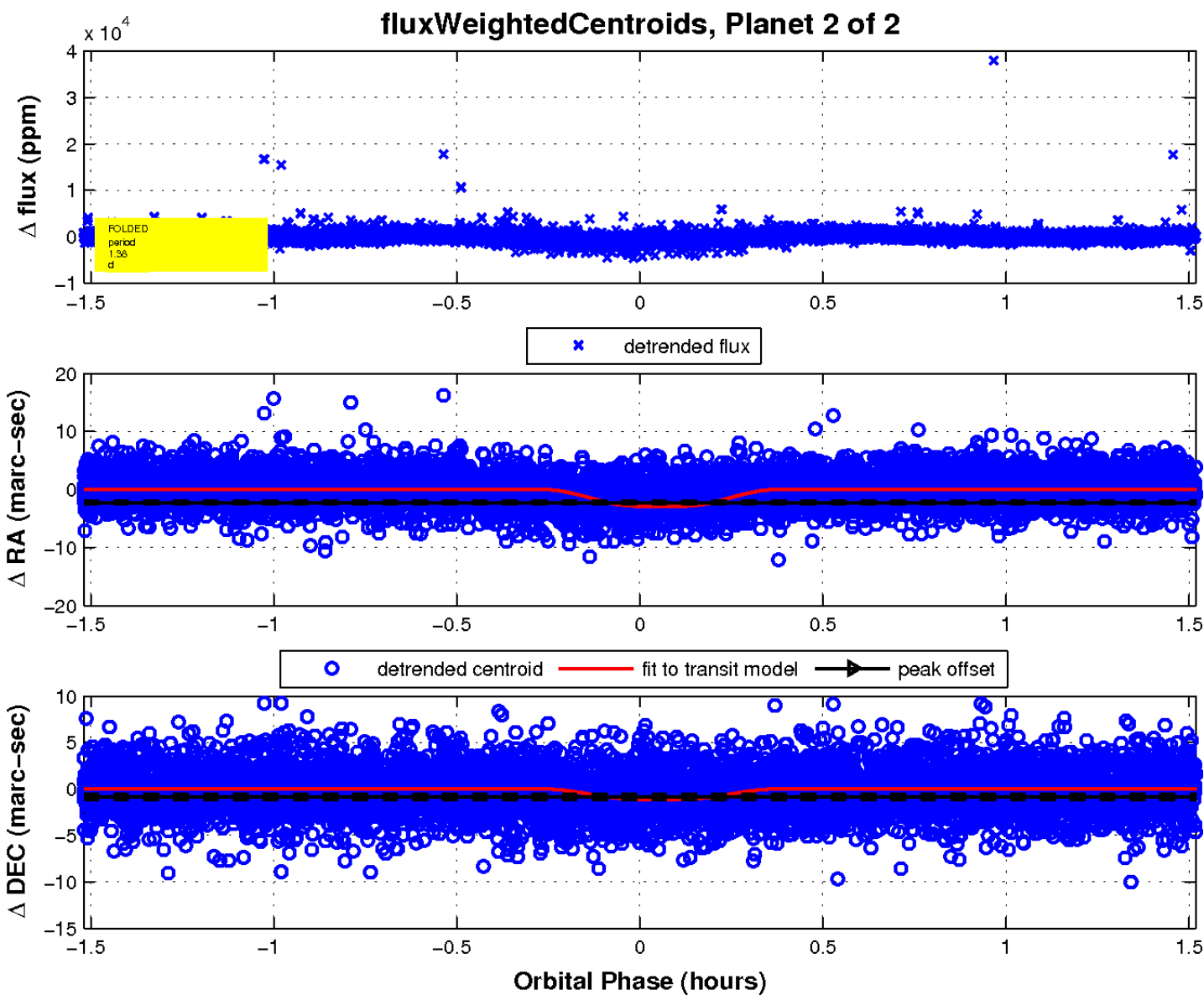
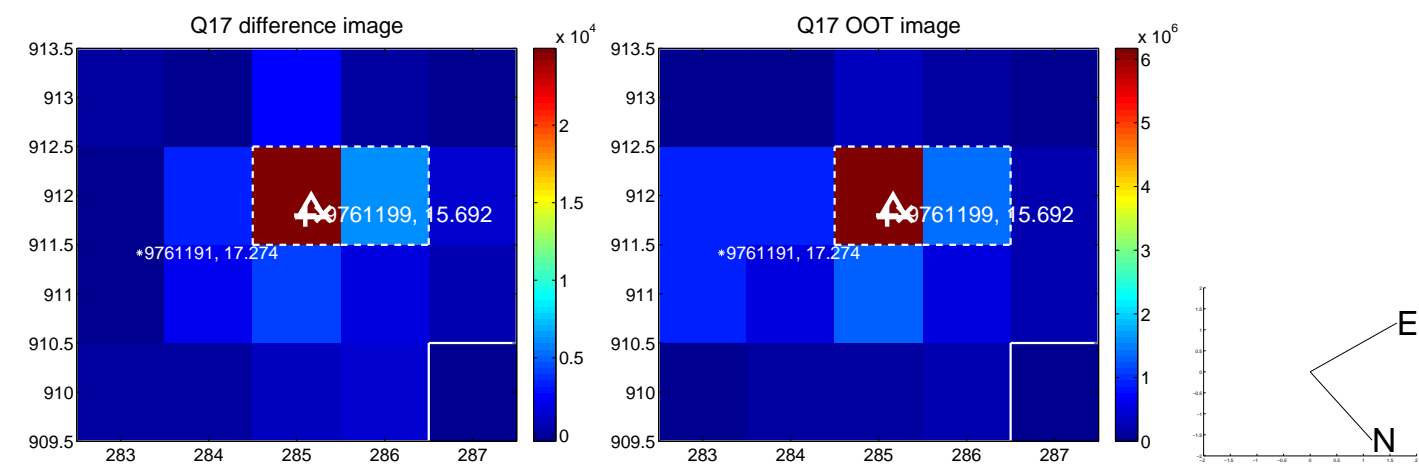
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

