

KIC 011761199

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})
011761199-01	OBS	2669.01	213.603620	141.659052	111711.9	10.759	1372.7	682.5	0.84	5931	41.17	1.70
011761199-02	OBS	No	213.553218	257.961146	9564.9	11.191	123.0	117.3	0.84	5931	13.28	1.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011761199-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
011761199-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

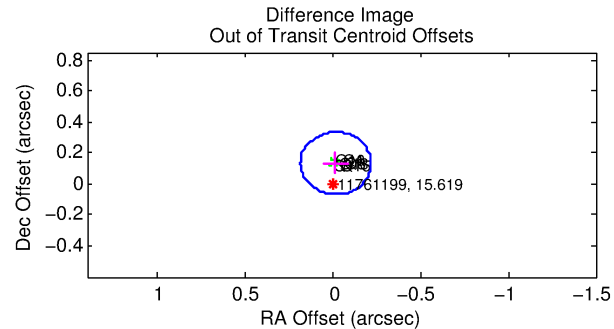
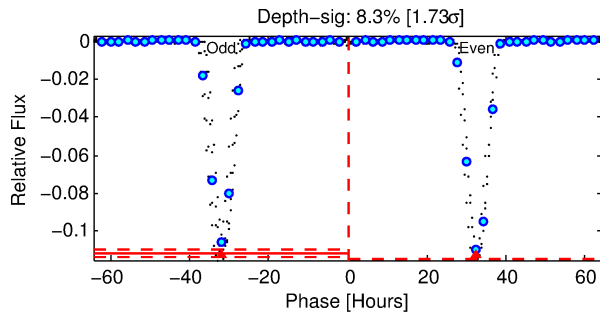
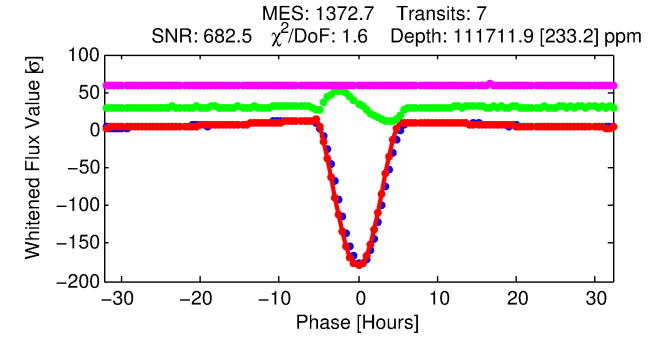
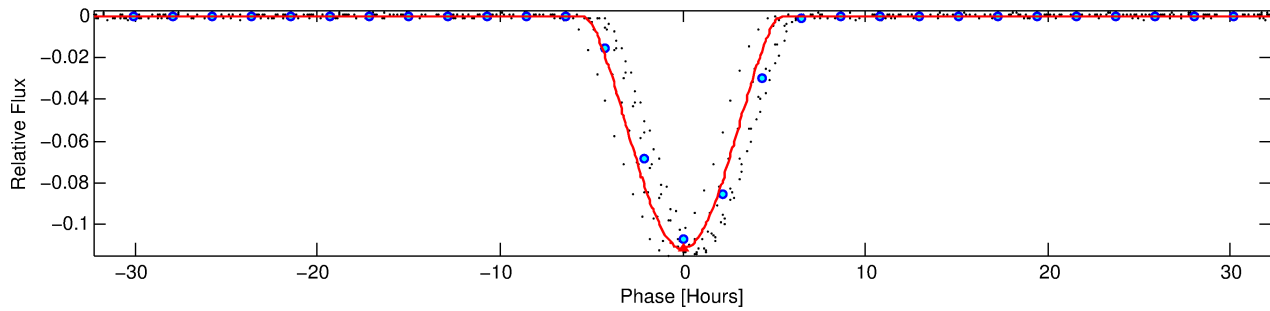
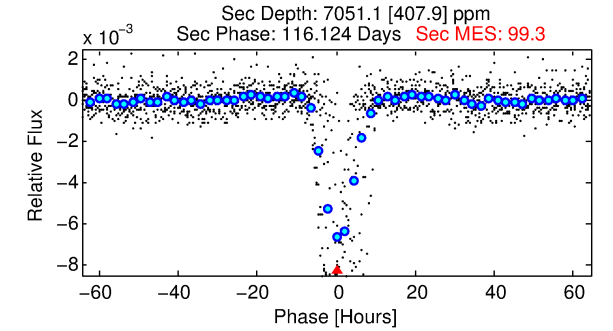
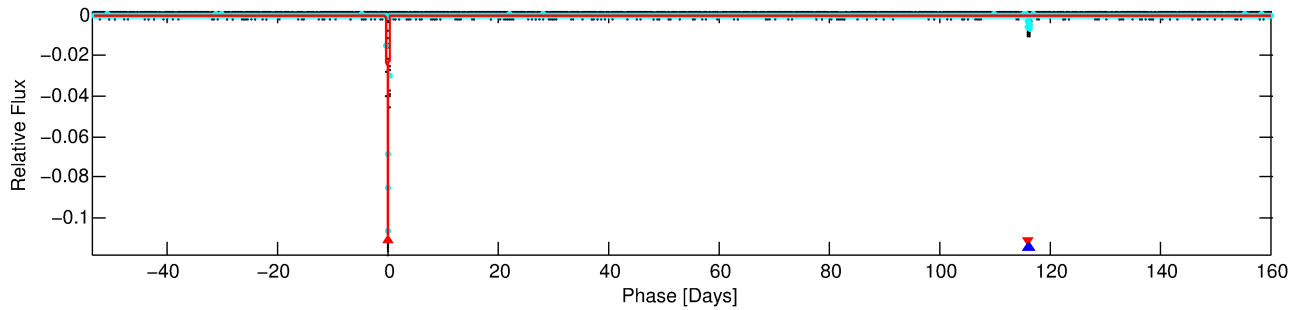
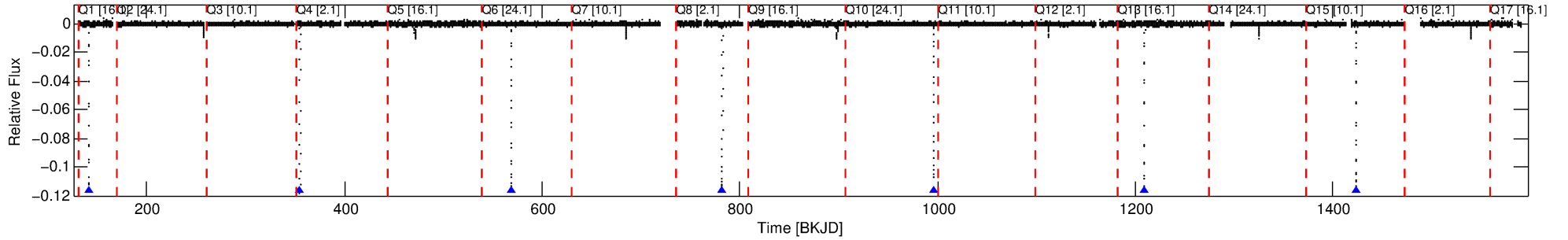
Ephemeris Match Information For 011761199-01

No Significant Match Found

DV One-Page Summary

KIC: 11761199 Candidate: 1 of 2 Period: 213.604 d
KOI: K02669.01 Corr: 0.959

Kp: 15.62 R*: 0.84 Rs Teff: 5931.0 K Logg: 4.55 Fe/H: -0.340



DV Fit Results:

Period = 213.60362 [0.00010] d
Epoch = 141.6591 [0.0004] BKJD
Rp/R* = 0.4465 [0.0922]
a/R* = 171.72 [1.41]
b = 0.90 [0.13]
Seff = 1.69 [0.57]
Teq = 291 [25] K
Rp = 41.17 [13.26] Re
a = 0.6834 [0.1457] AU
Ag = 1068.89 [559.47] [1.91σ]
Teffp = 2572 [279] K [8.15σ]

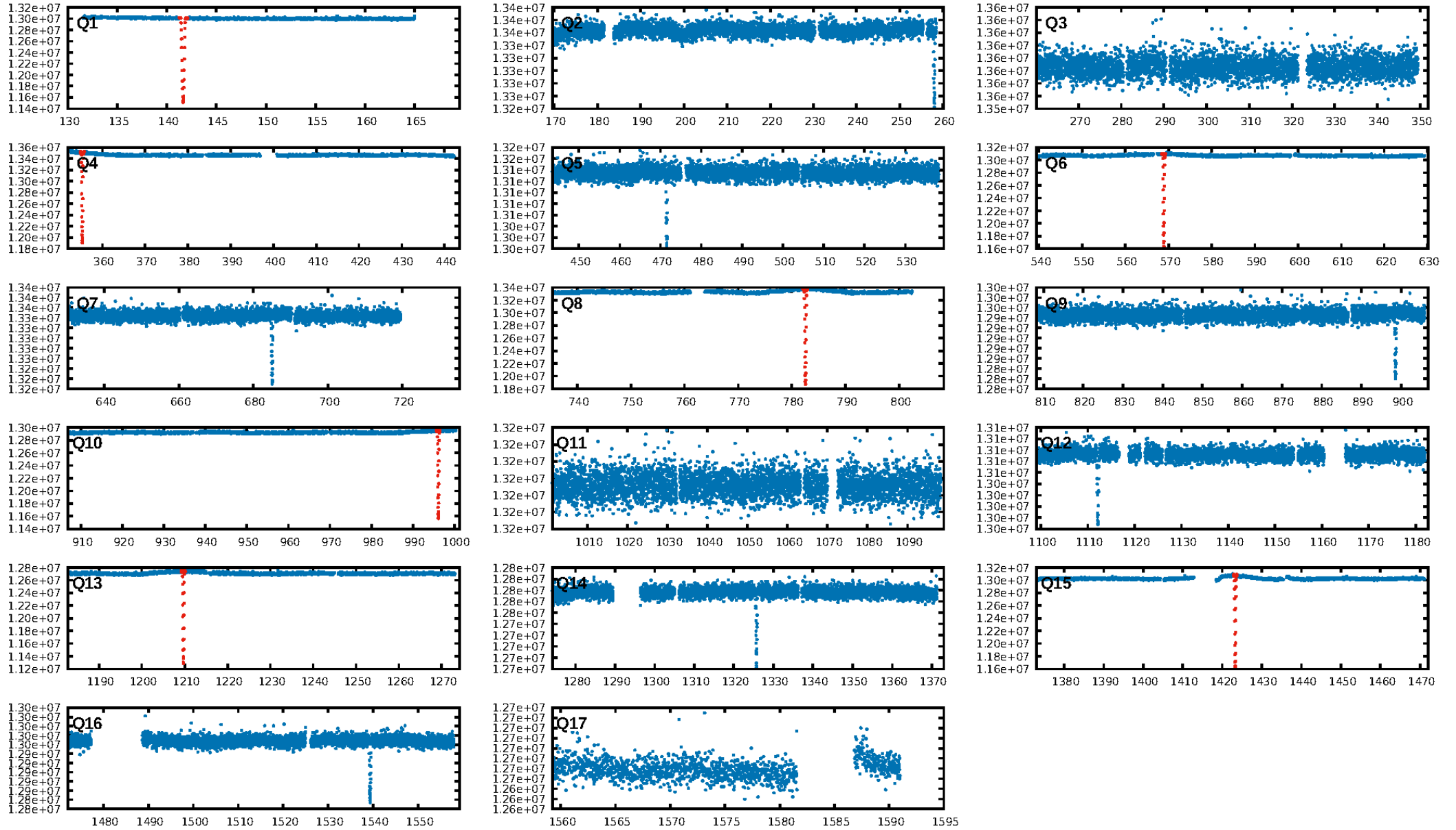
DV Diagnostic Results:

ShortPeriod-sig: 6.2% [0.08σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 2.661
Centroid-sig: 0.0%
Centroid-so: 0.125 arcsec [11.30σ]
OotOffset-rm: 0.134 arcsec [2.00σ]
OotOffset-st: 1/1/2/2 [6]
KicOffset-rm: 0.068 arcsec [1.00σ]
KicOffset-st: 1/1/2/2 [6]
DiffImageQuality-fgm: 1.00 [6/6]
DiffImageOverlap-fno: 1.00 [6/6]

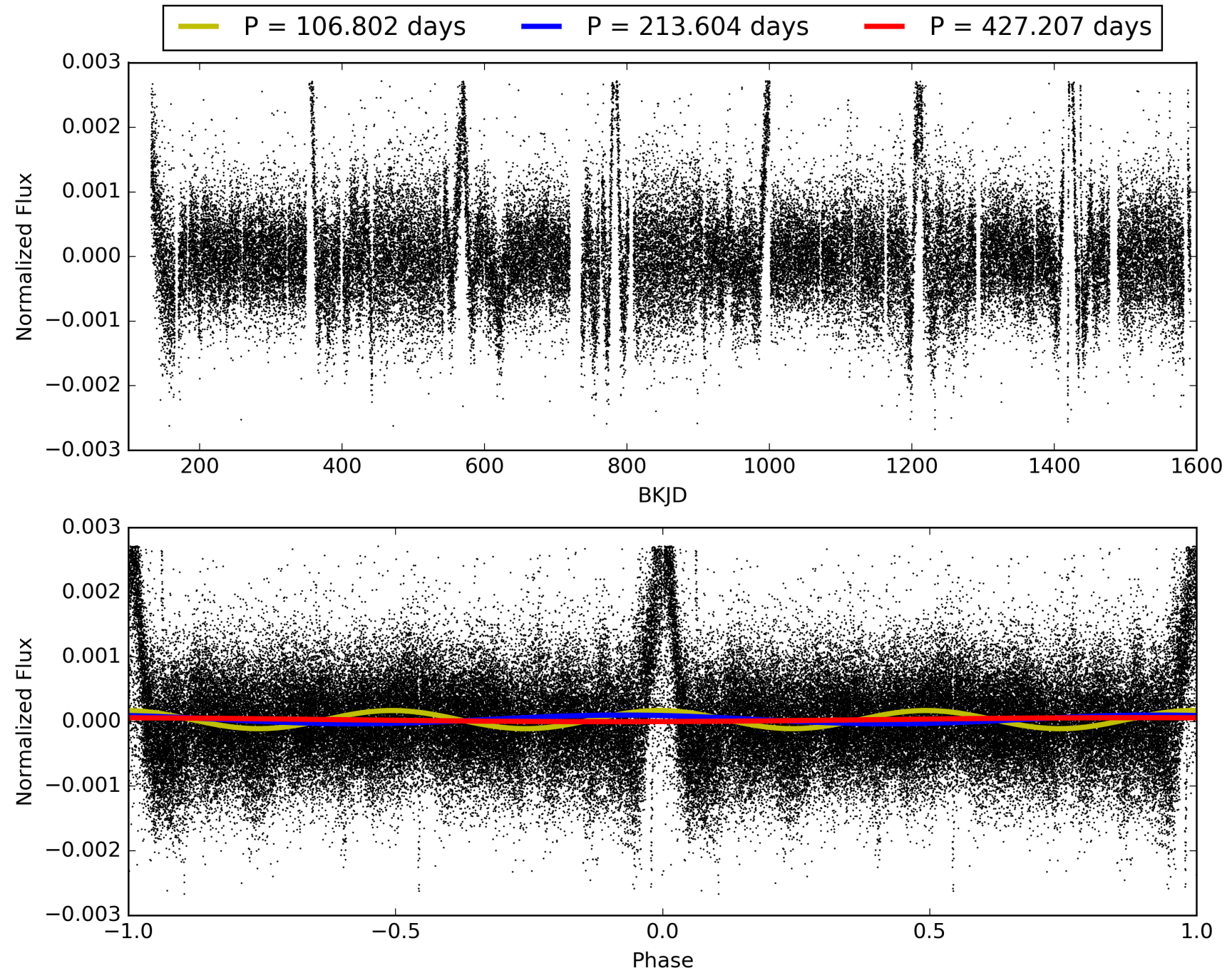
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:06:21 Z

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

TCE 011761199-01, PDC Light Curves

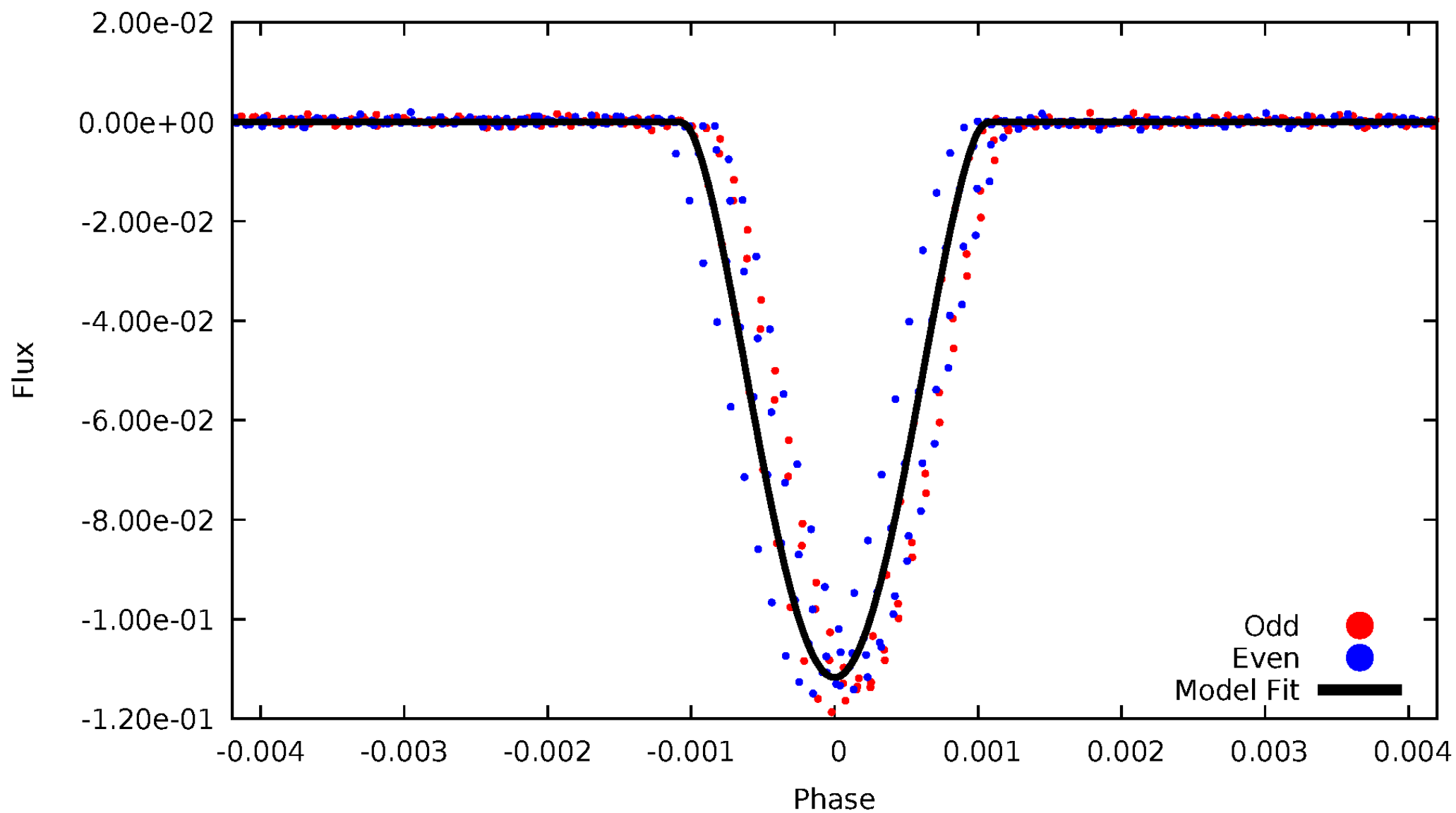


TCE 011761199-01



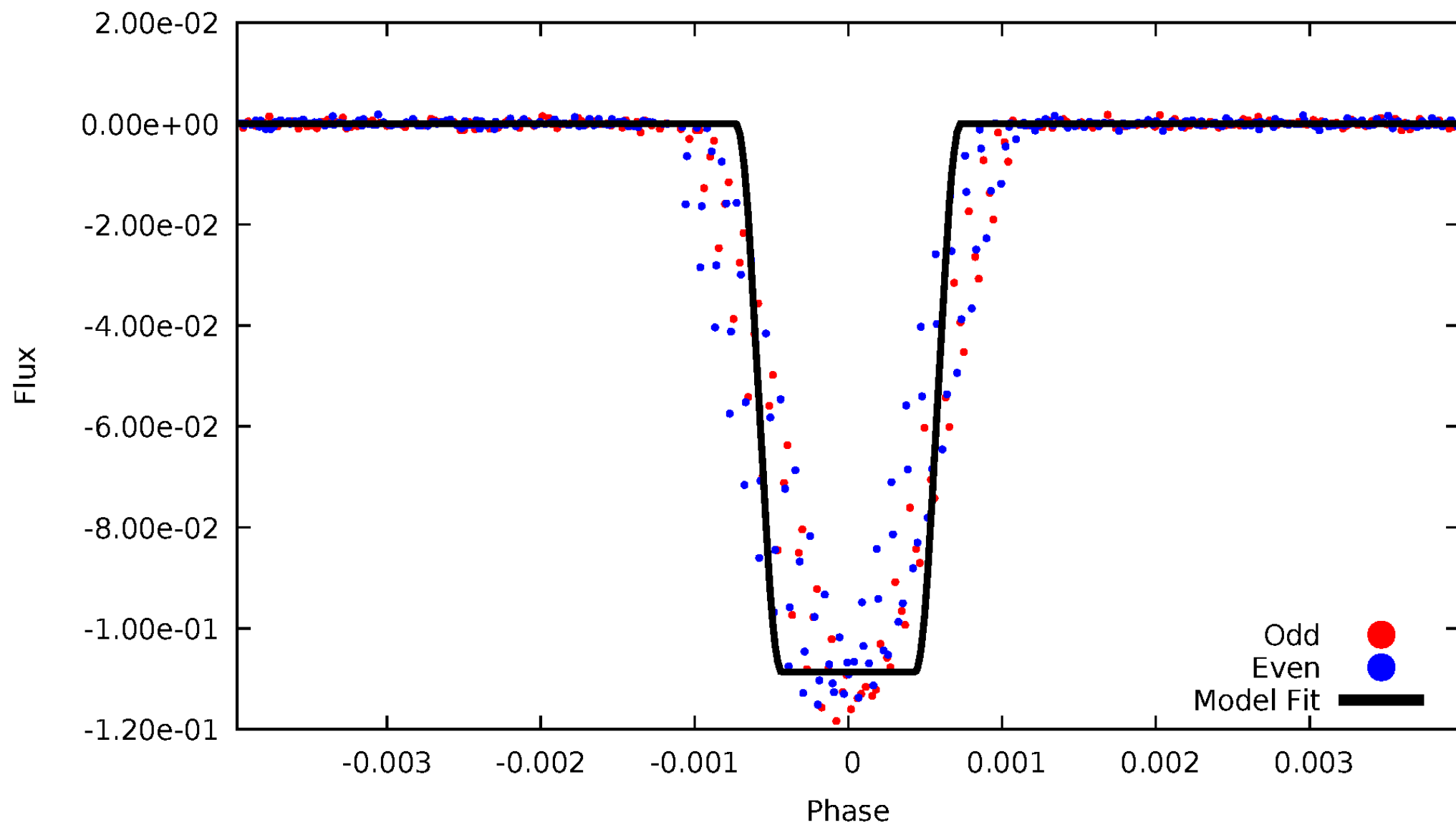
DV Odd/Even

TCE 011761199-01



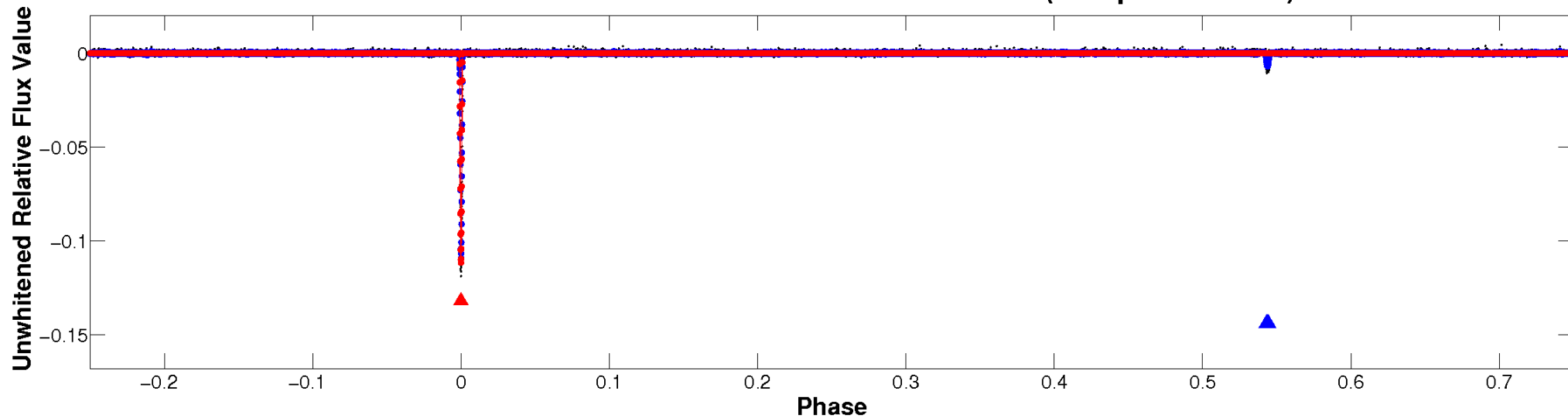
ALT Odd/Even

TCE 011761199-01

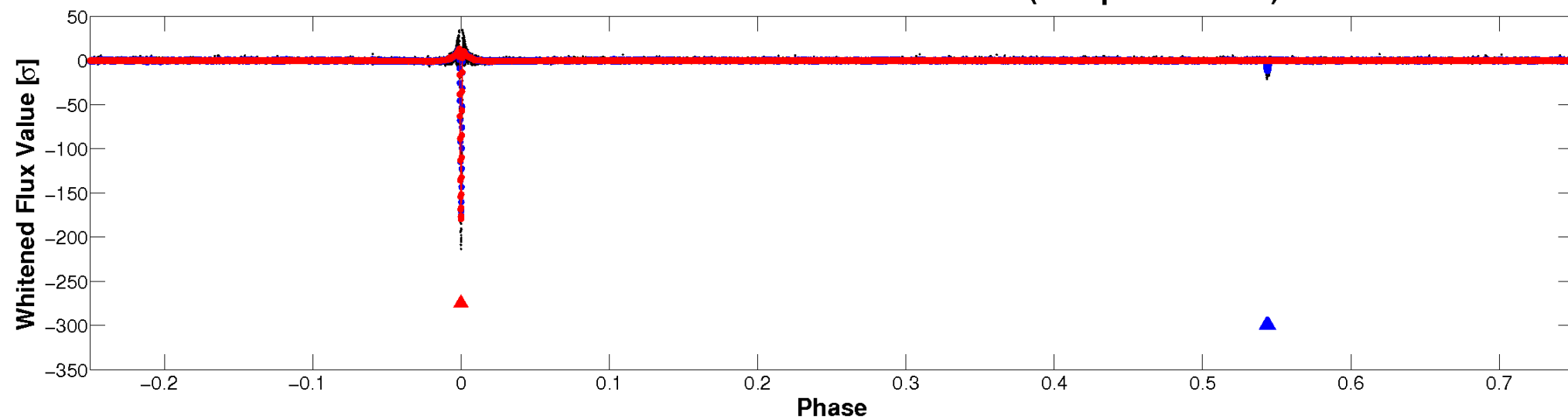


Non-Whitened Vs. Whitened Light Curve

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

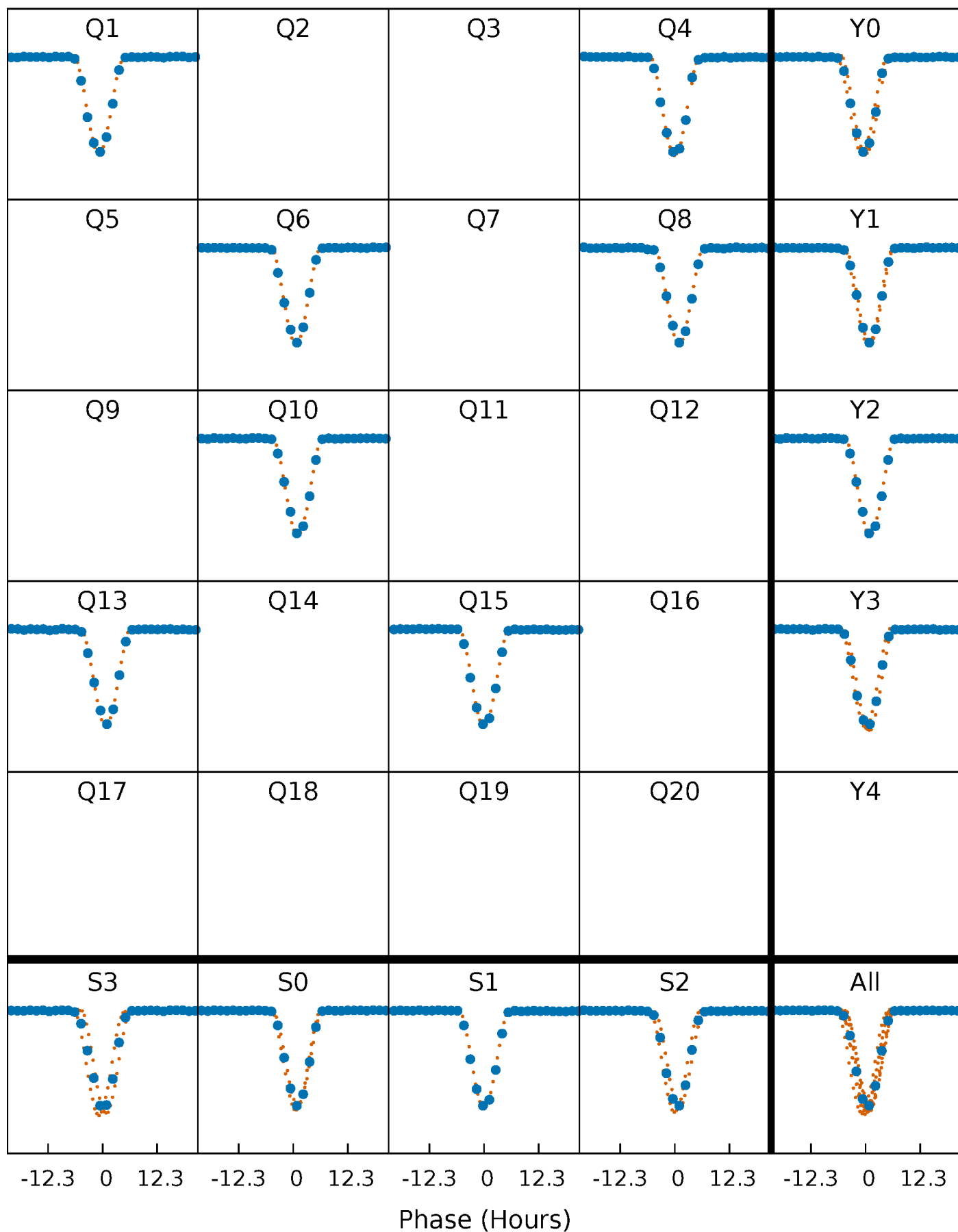


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



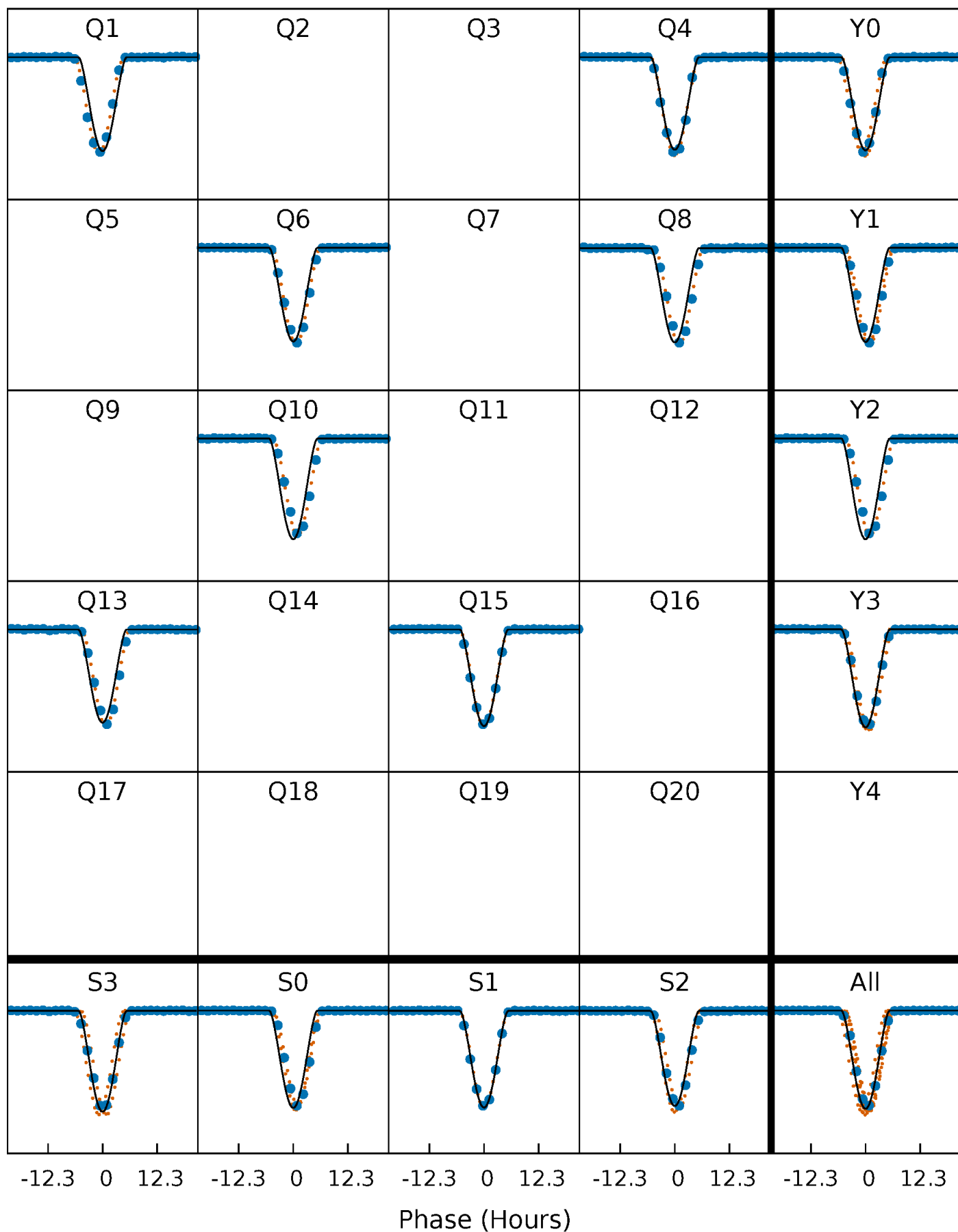
PDC Quarter-Phased Transit Curves

TCE 011761199-01 P=213.603620 Days $T_0=141.659052$ (BKJD)



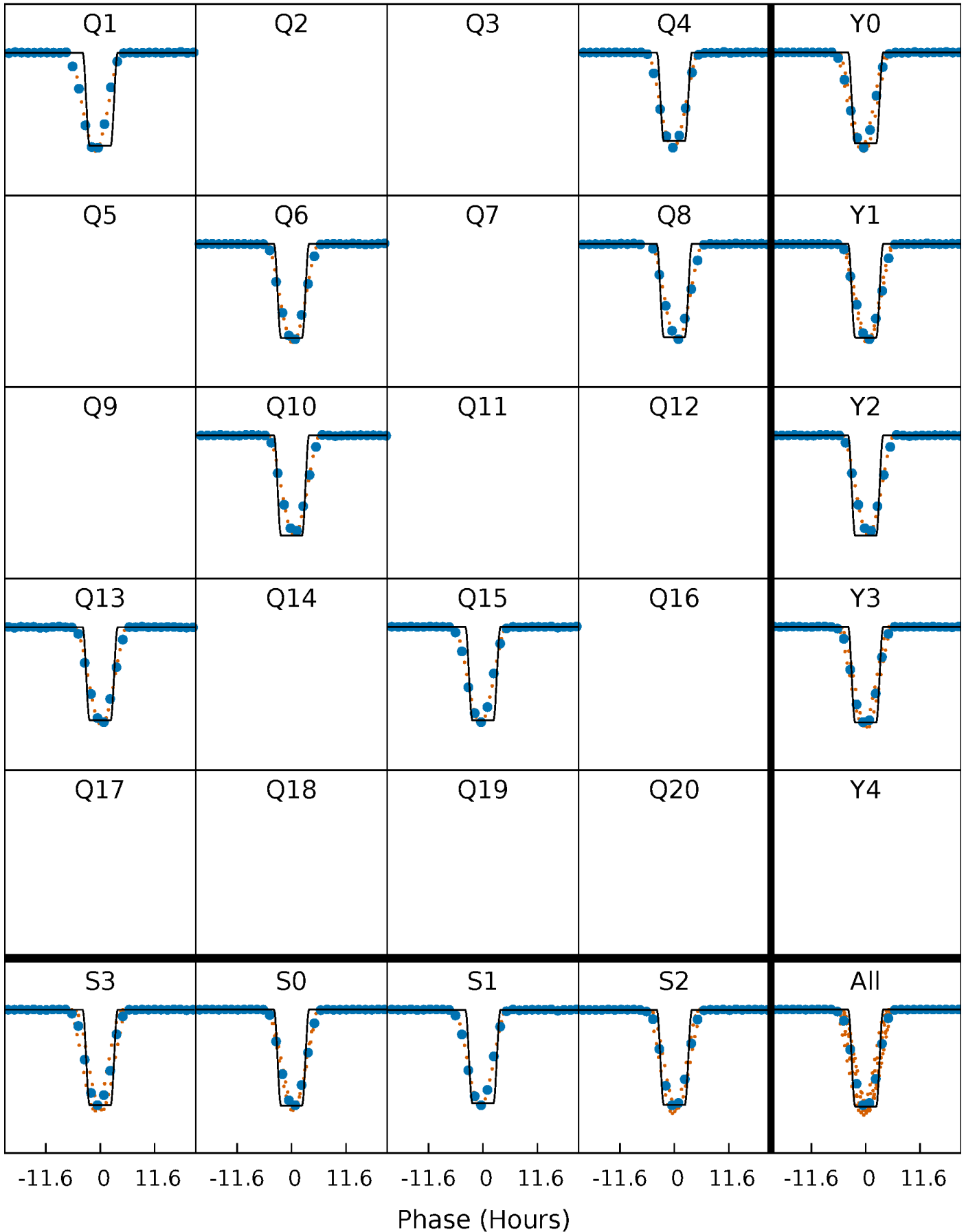
DV Quarter-Phased Transit Curves

TCE 011761199-01 P=213.603620 Days $T_0=141.659052$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

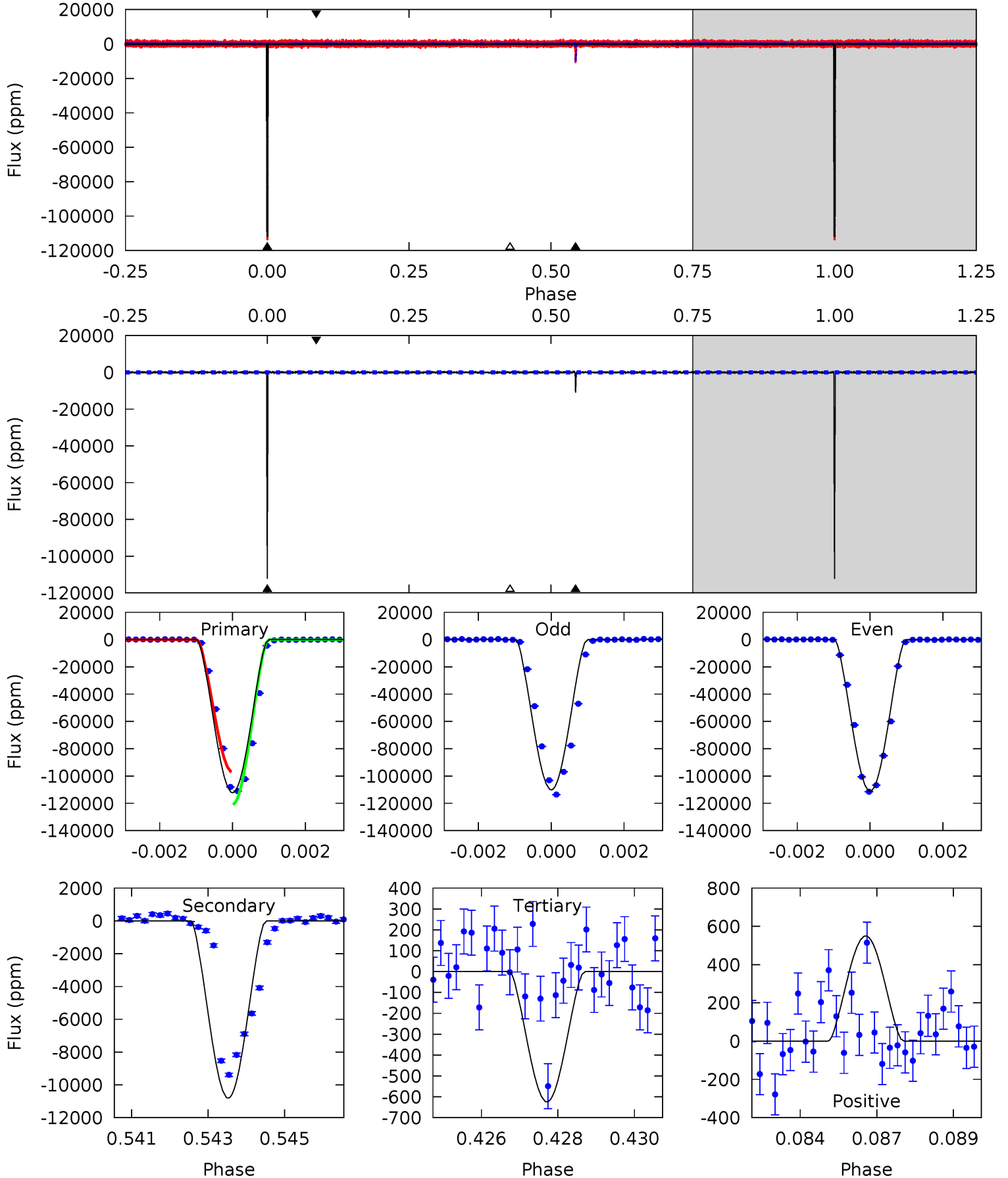
TCE 011761199-01 P=213.605625 Days $T_0=141.669258$ (BKJD)



DV Model-Shift Uniqueness Test

011761199-01, P = 213.603620 Days, E = 141.659052 Days

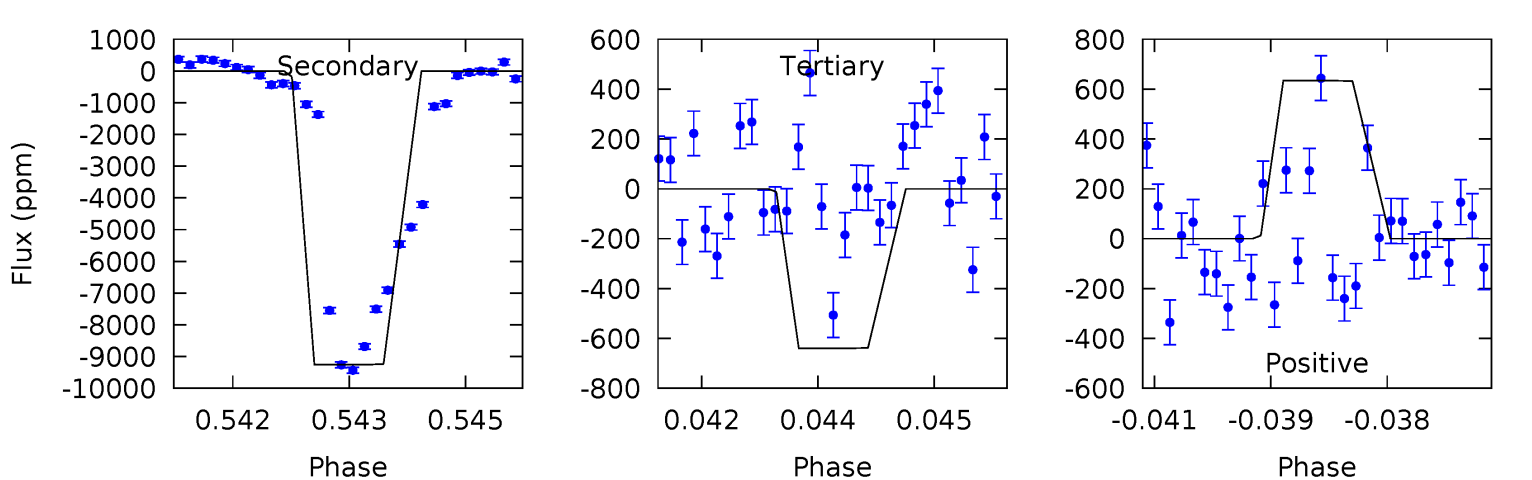
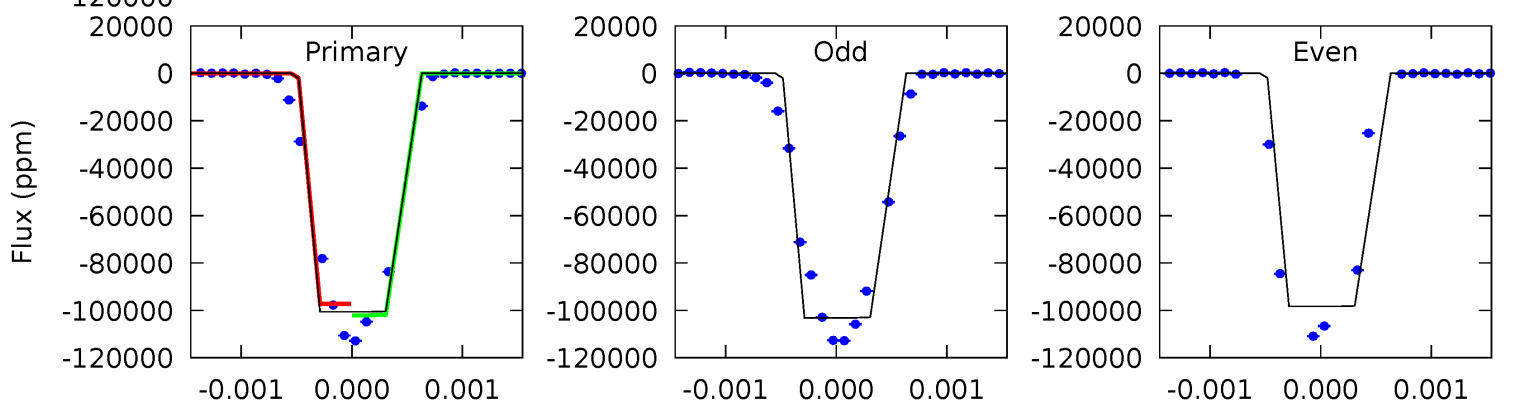
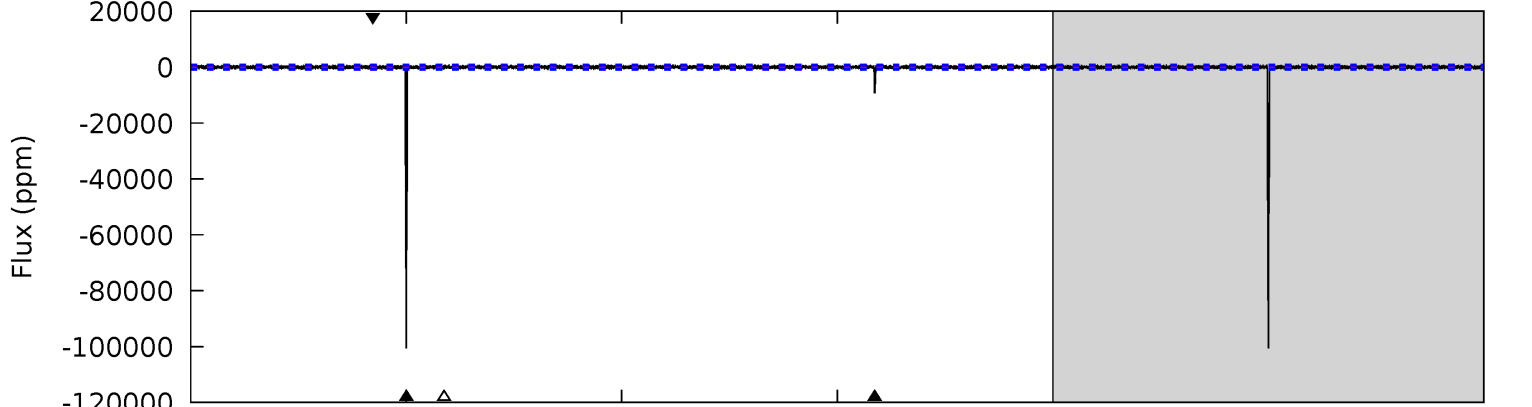
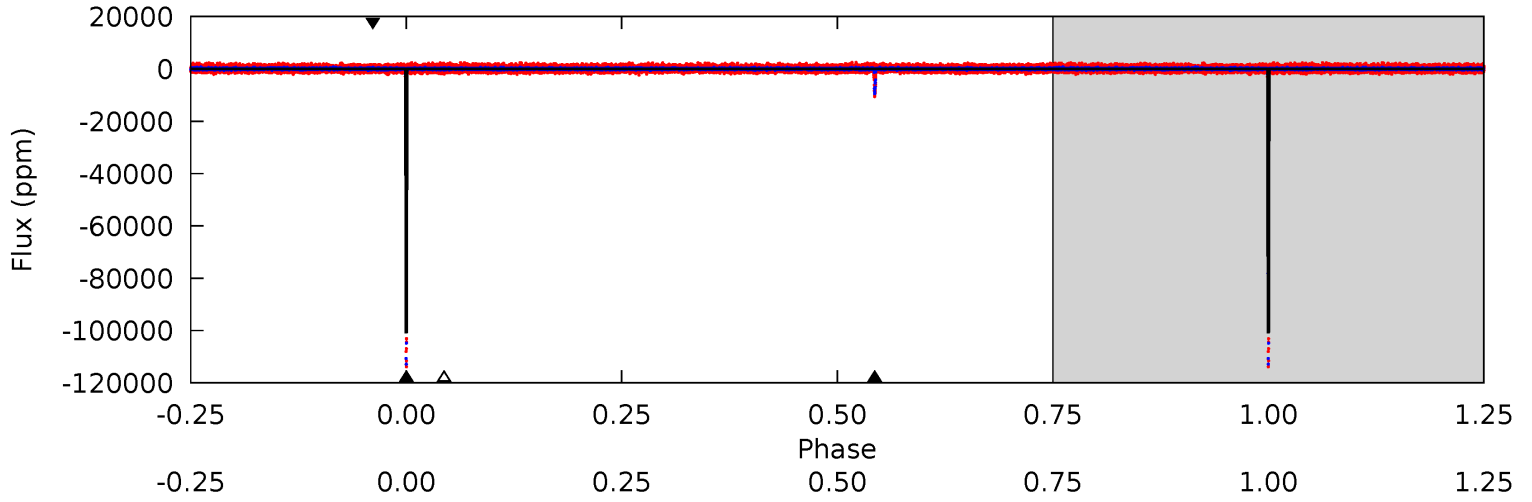
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1125	108.3	6.26	5.51	5.31	3.07	1.46	1119	1119	102.1	102.8	6.53	0.99	0.00	0



Alt Model-Shift Uniqueness Test

011761199-01, P = 213.605625 Days, E = 141.669258 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
723.4	66.6	4.60	4.56	5.38	3.18	1.06	718.8	718.9	62.0	62.0	18.4	1.01	0.01	0



Stellar Parameters For KIC 011761199

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5931^{+160}_{-178}	$4.554^{+0.033}_{-0.176}$	$-0.340^{+0.300}_{-0.300}$	$0.845^{+0.209}_{-0.075}$	$0.933^{+0.098}_{-0.109}$	$2.182^{+0.477}_{-0.970}$
	+3%/-3%	+1%/-4%	+88%/-88%	+25%/-9%	+11%/-12%	+22%/-44%
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 011761199-01 / KOI 2669.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-10807 ± 100	$42.57^{+10.42}_{-9.20}$	417^{+24}_{-19}	3396^{+283}_{-206}	1508^{+928}_{-521}
Alt.	-9258 ± 139	$31.85^{+10.09}_{-9.37}$	415^{+23}_{-17}	3644^{+448}_{-301}	2300^{+2309}_{-969}

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 $A_{obs} \gg 1.0$

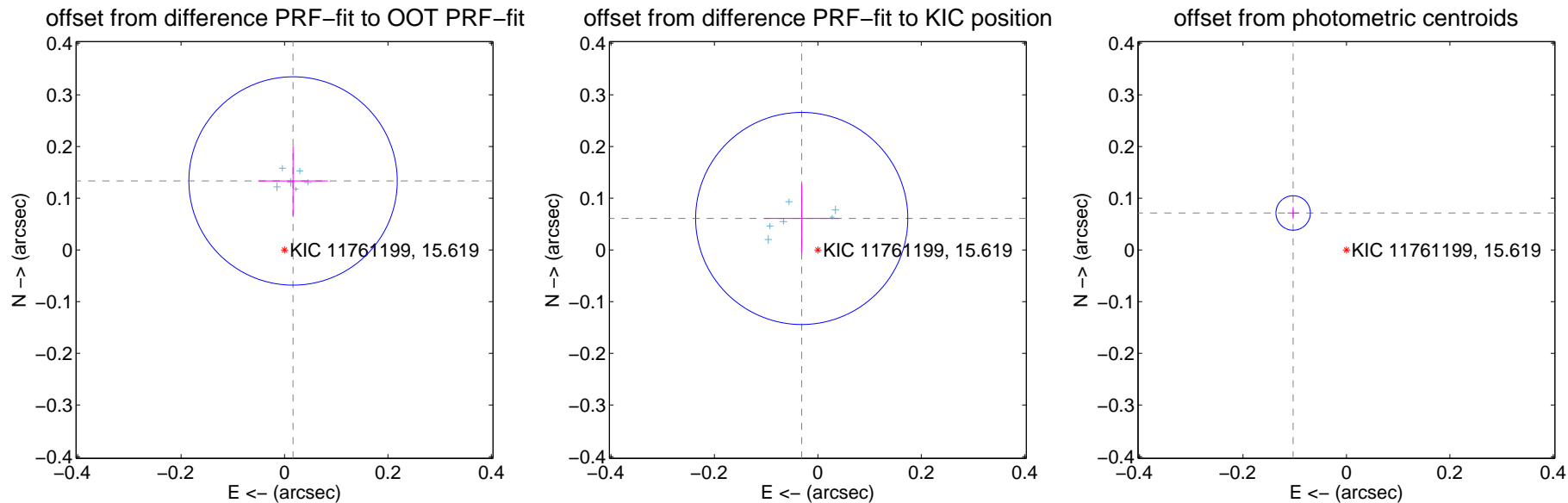
DV Centroid Data

Supplemental centroid analysis for 011761199-01. Kepler magnitude: 15.62. Transit SNR 682.47

There are 6 quarters with good PRF difference image offsets

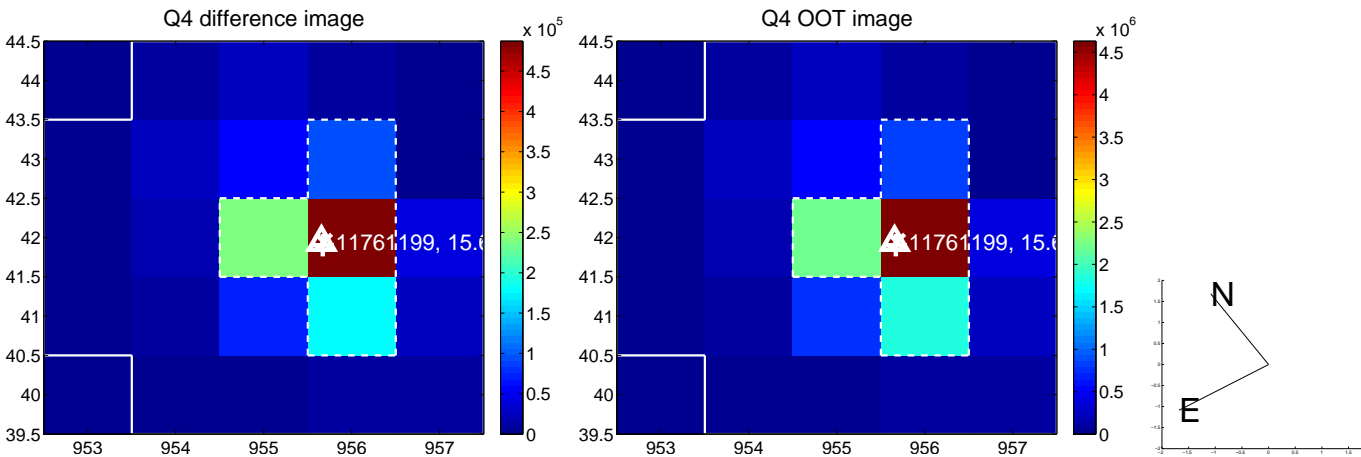
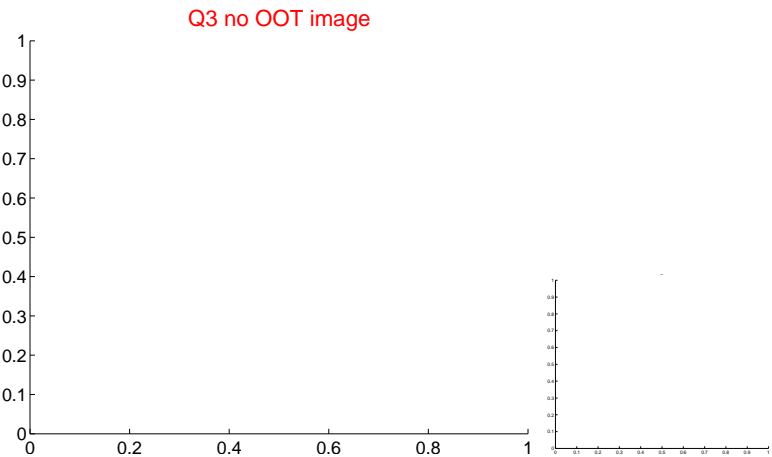
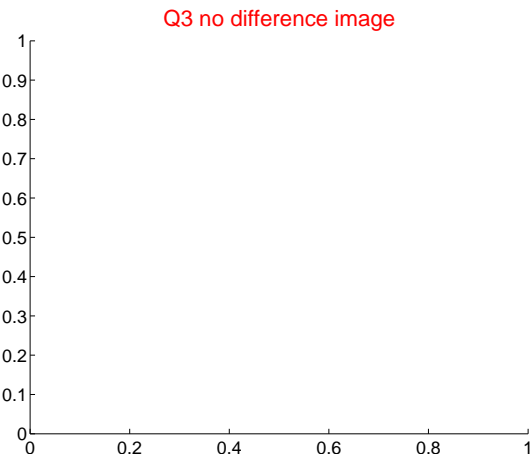
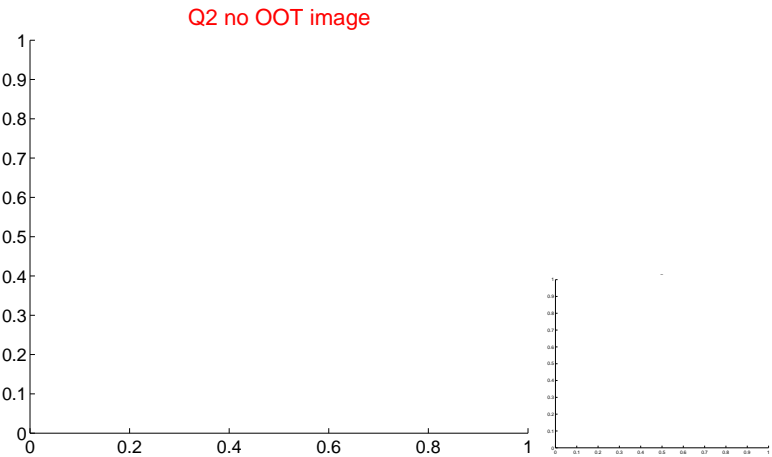
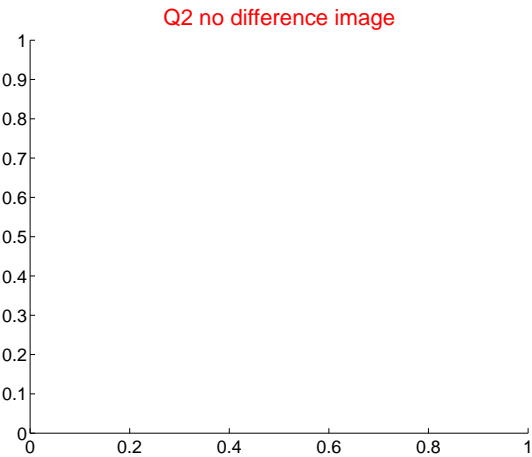
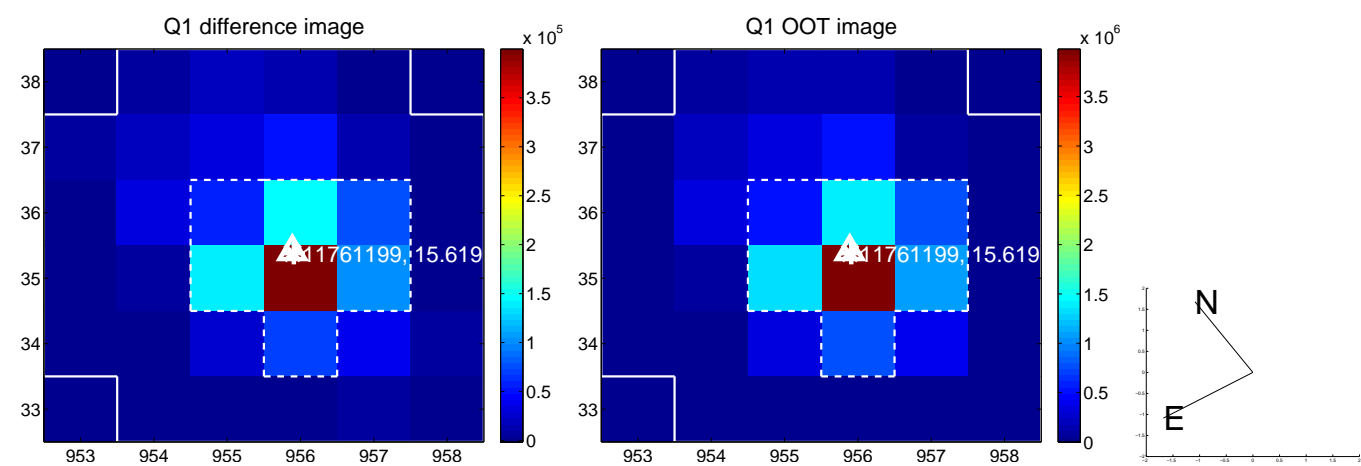
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.134 ± 0.067	2.00	-0.017 ± 0.067	0.133 ± 0.067
PRF-fit source offset from KIC position	0.068 ± 0.068	1.00	0.031 ± 0.072	0.061 ± 0.067
photometric centroid source offset	0.13 ± 0.01	11.30	0.10 ± 0.01	0.07 ± 0.01

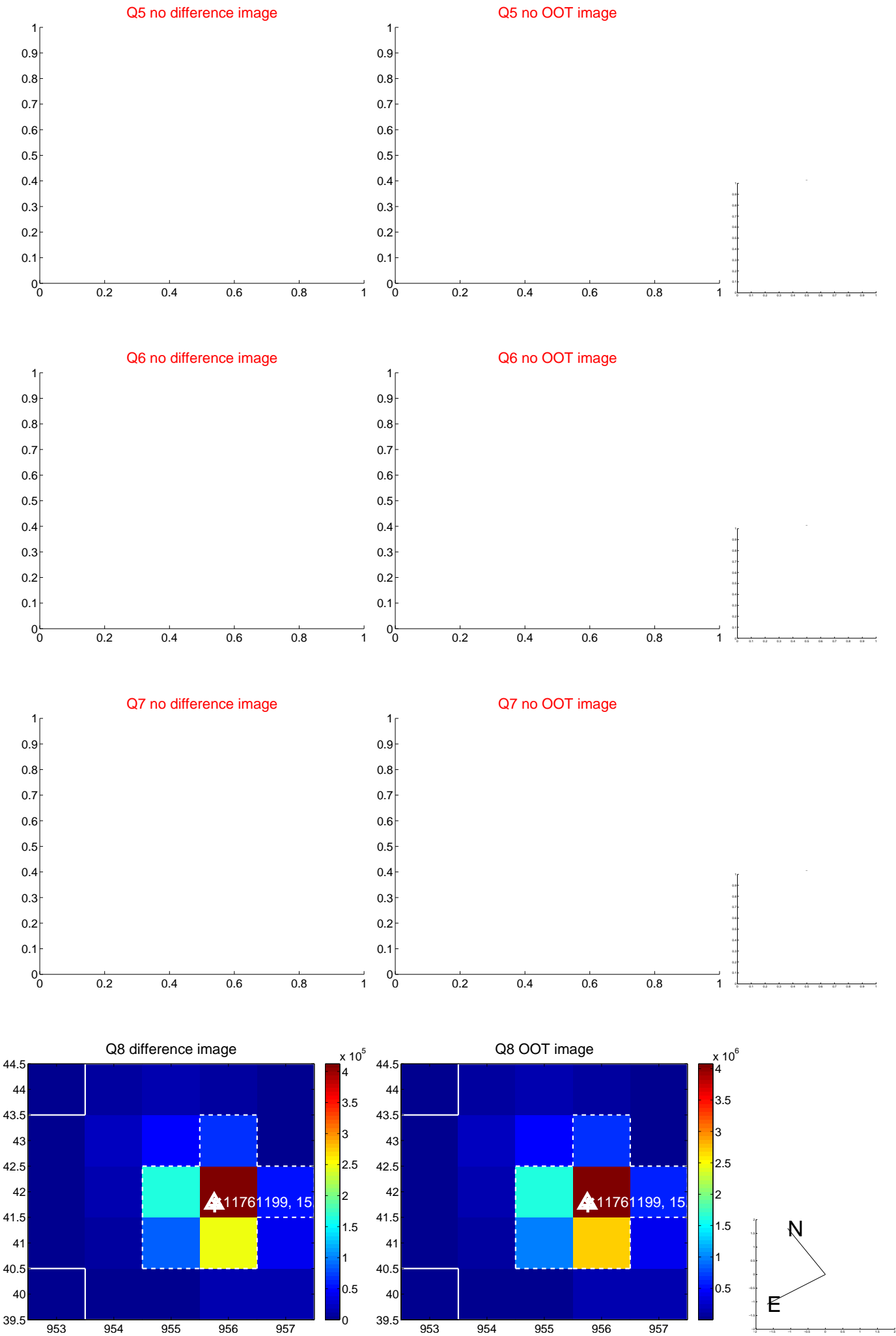


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

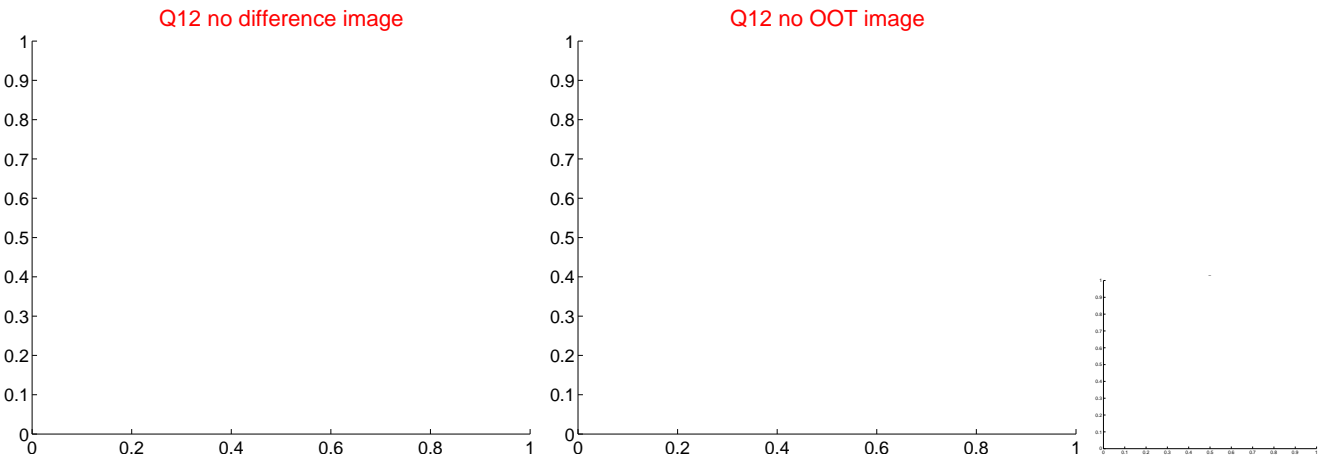
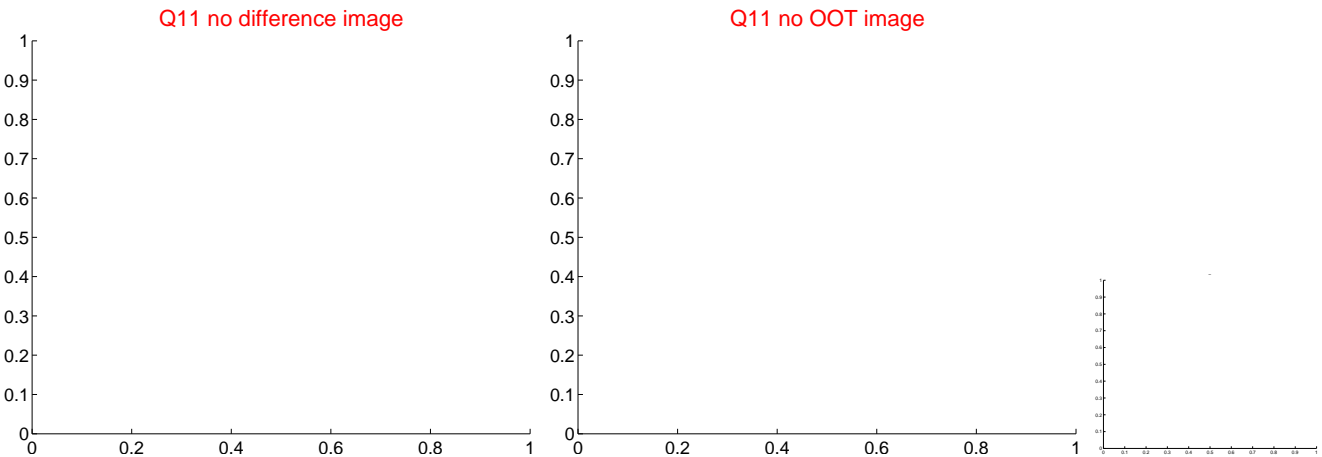
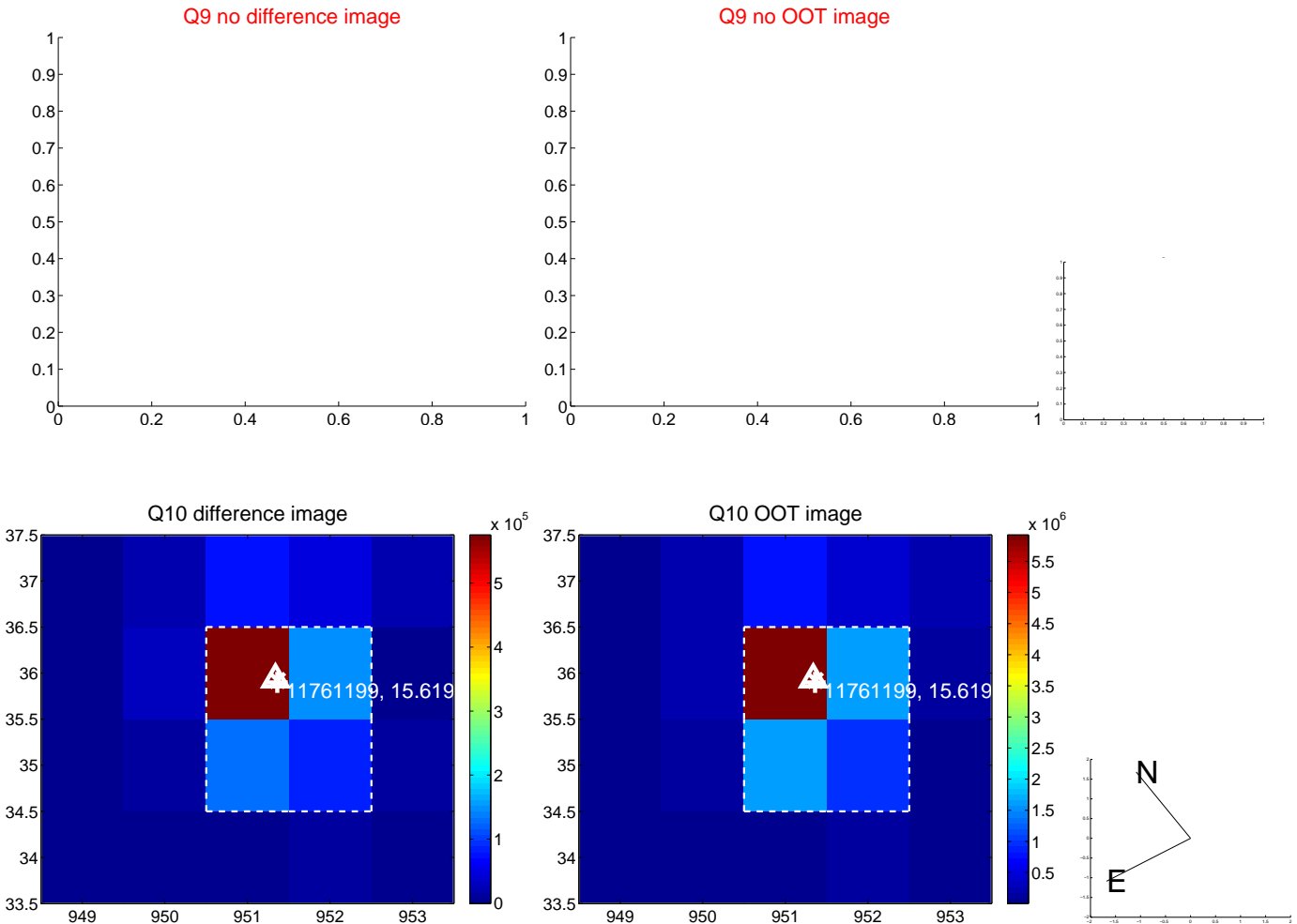
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



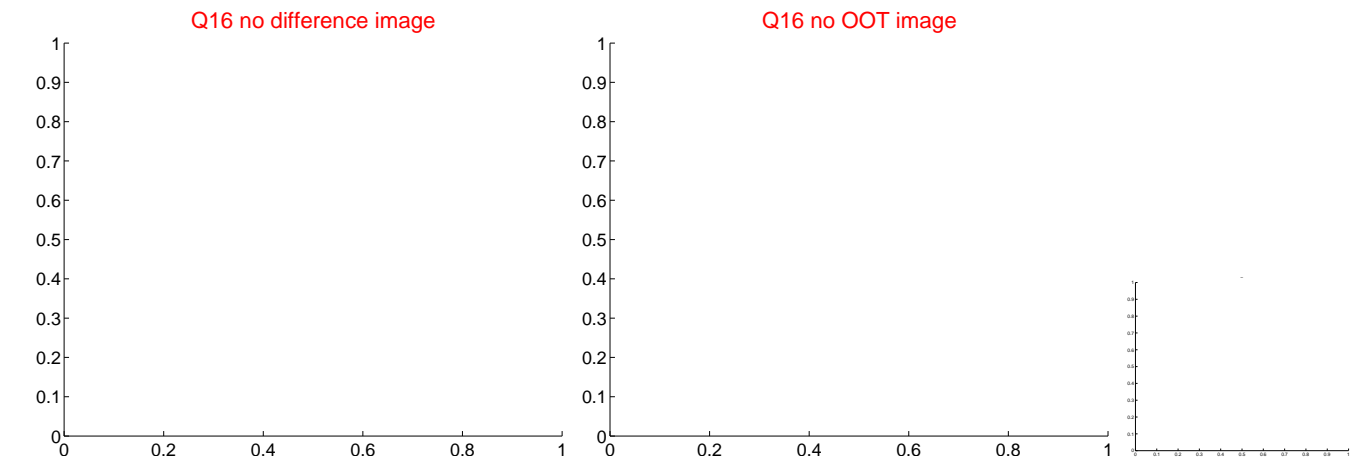
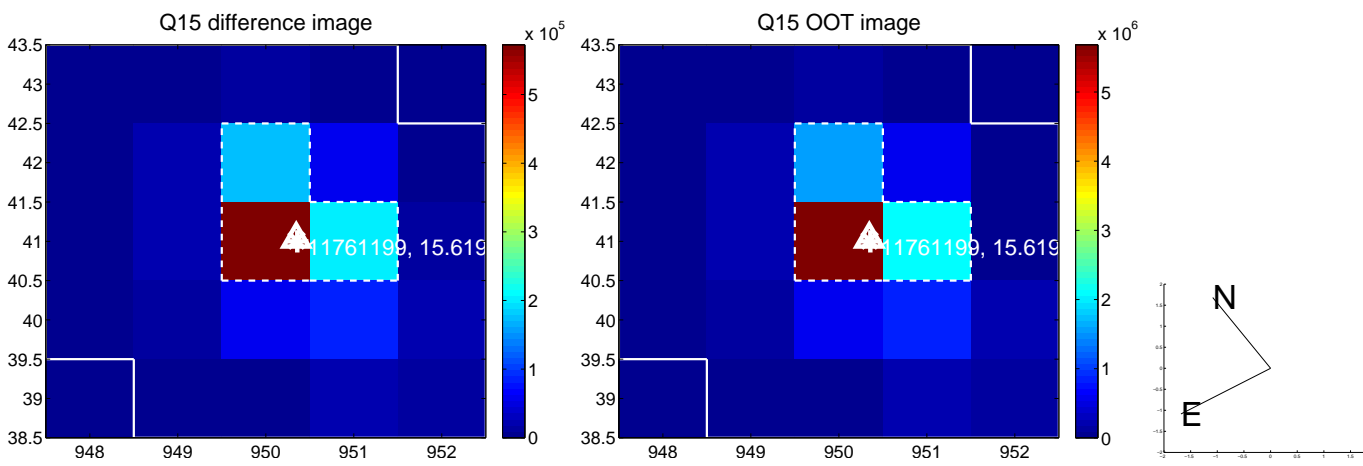
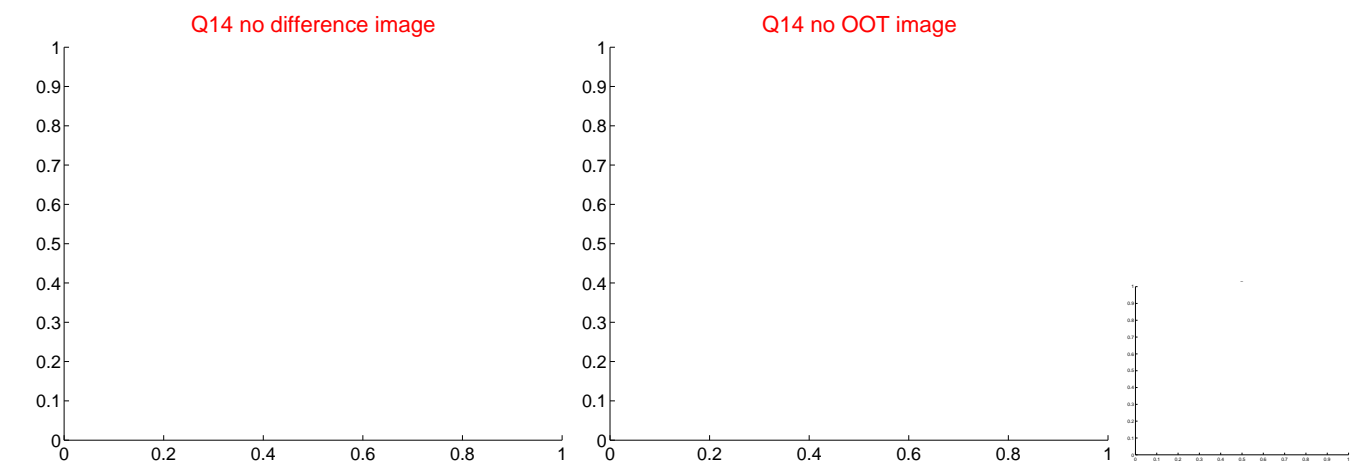
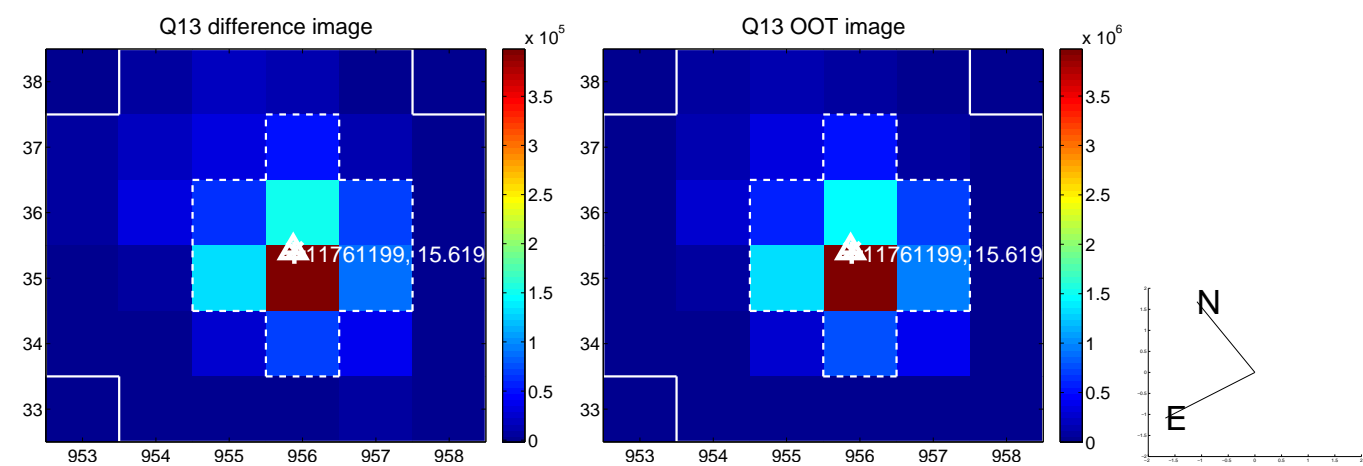
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



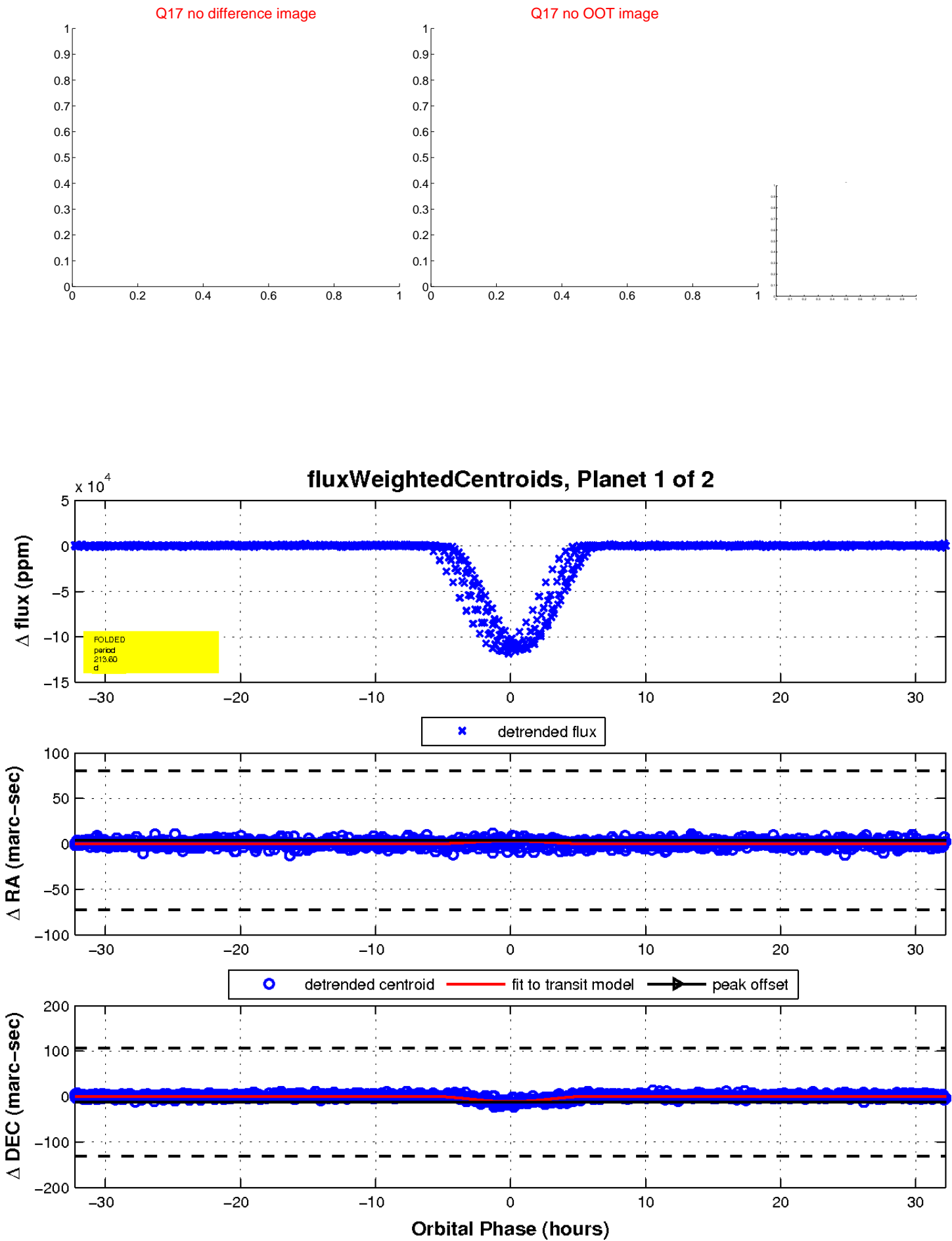
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

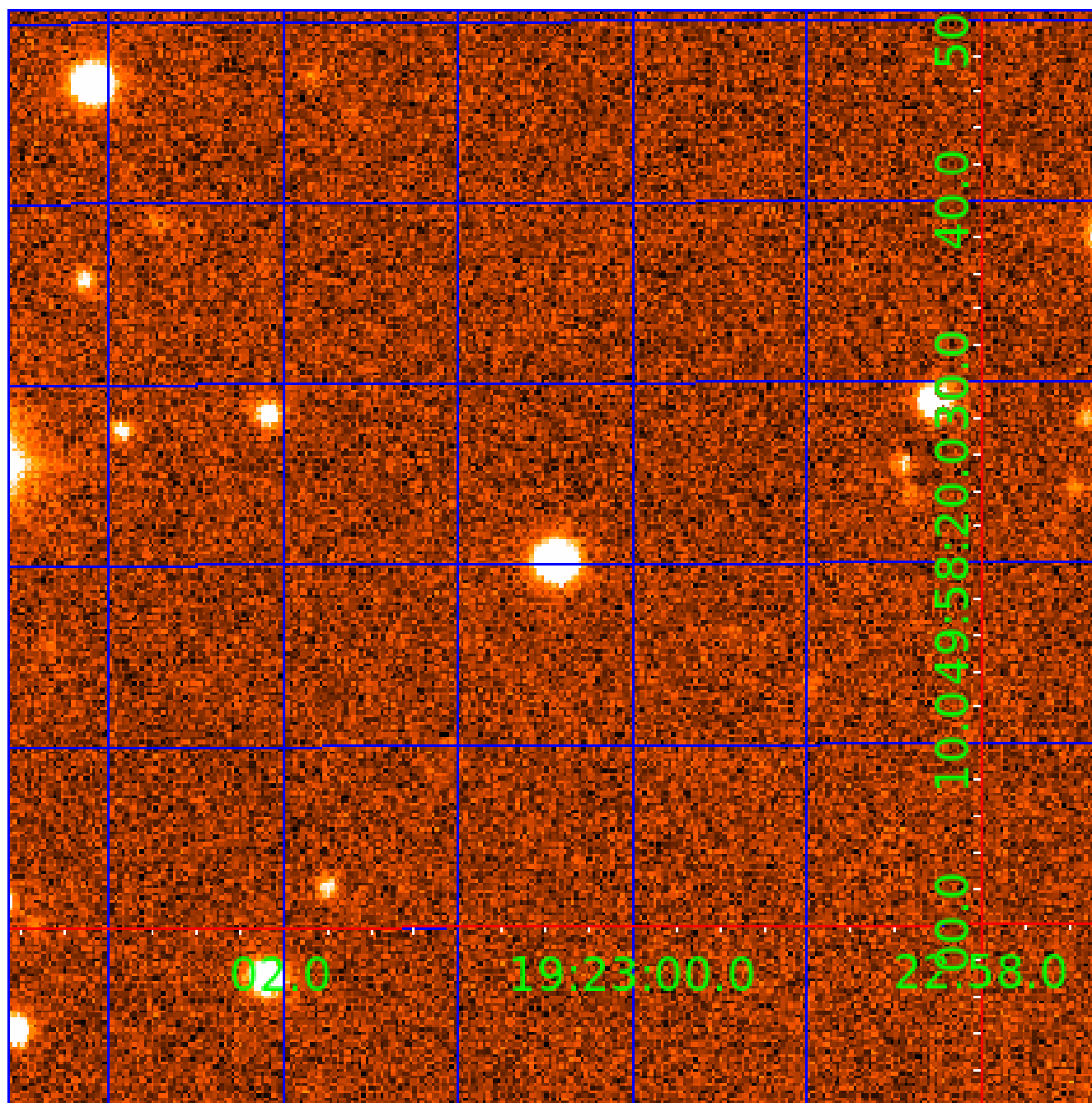


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011761199

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})
011761199-01	OBS	2669.01	213.603620	141.659052	111711.9	10.759	1372.7	682.5	0.84	5931	41.17	1.70
011761199-02	OBS	No	213.553218	257.961146	9564.9	11.191	123.0	117.3	0.84	5931	13.28	1.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011761199-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
011761199-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

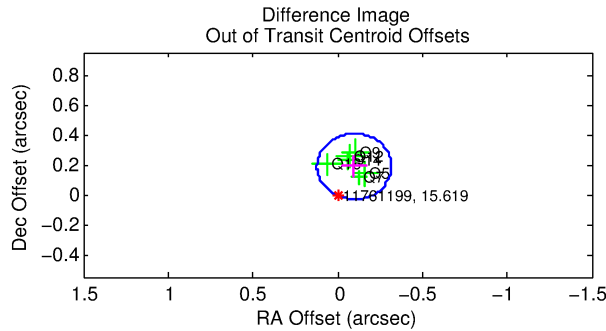
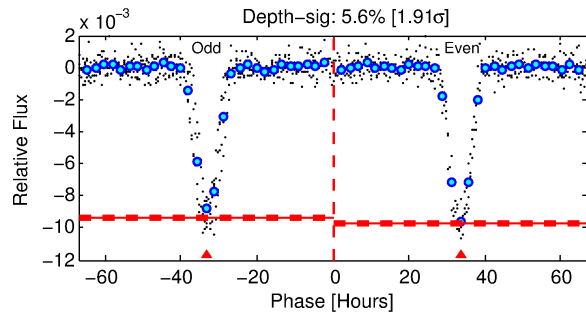
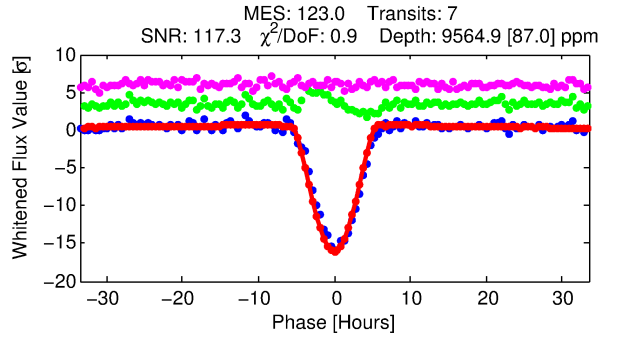
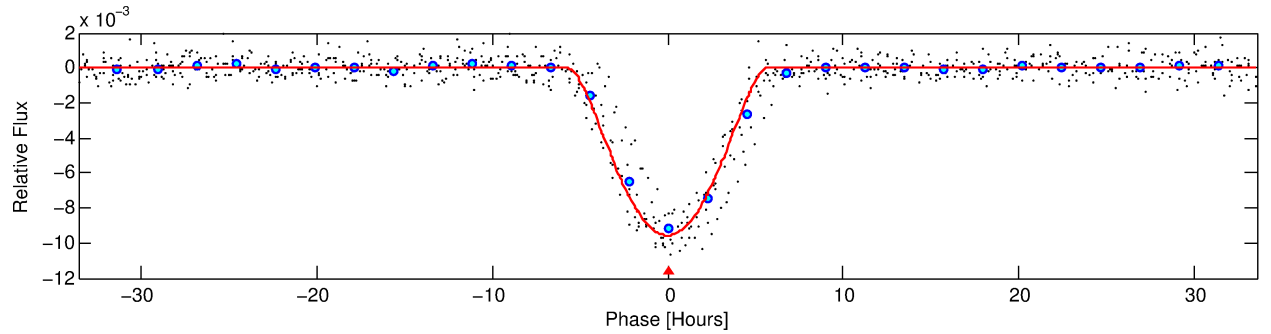
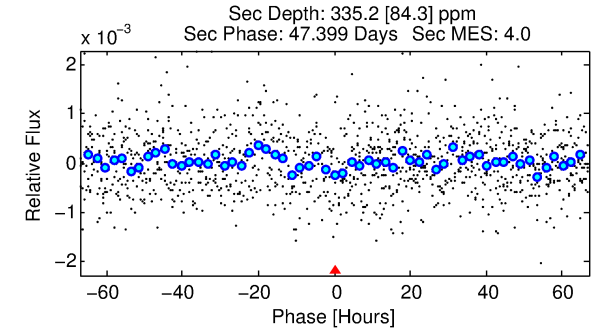
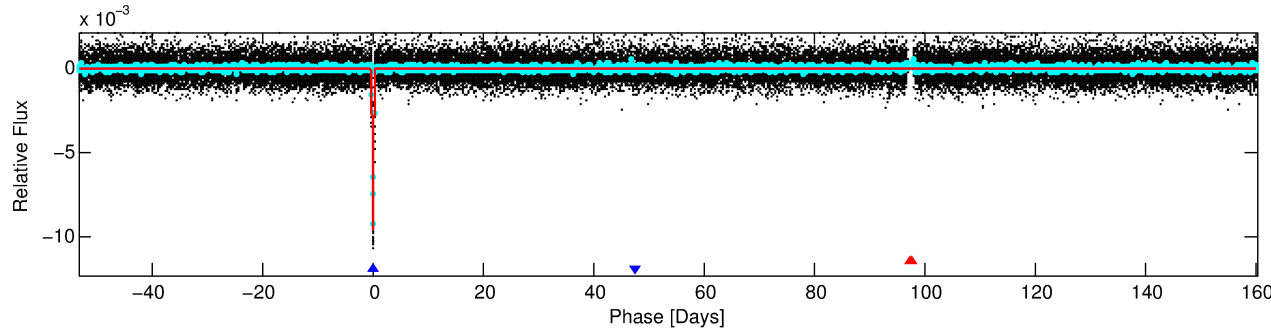
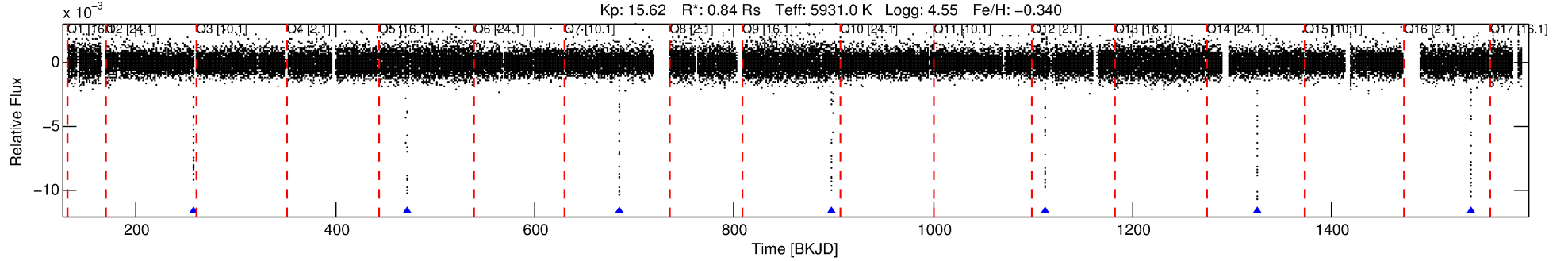
Ephemeris Match Information For 011761199-02

No Significant Match Found

DV One-Page Summary

KIC: 11761199 Candidate: 2 of 2 Period: 213.553 d
KOI: K02669 Corr: No Ephemeris Match

Kp: 15.62 R*: 0.84 Rs Teff: 5931.0 K Logg: 4.55 Fe/H: -0.340



DV Fit Results:

Period = 213.55322 [0.00054] d
Epoch = 257.9611 [0.0019] BKJD
Rp/R* = 0.1440 [0.0401]
a/R* = 87.06 [4.74]
b = 0.98 [0.06]
Seff = 1.70 [0.57]
Teq = 291 [25] K
Rp = 13.28 [4.95] Re
a = 0.6833 [0.1457] AU
Ag = 488.43 [336.32] [1.45σ]
Teffp = 2115 [330] K [5.52σ]

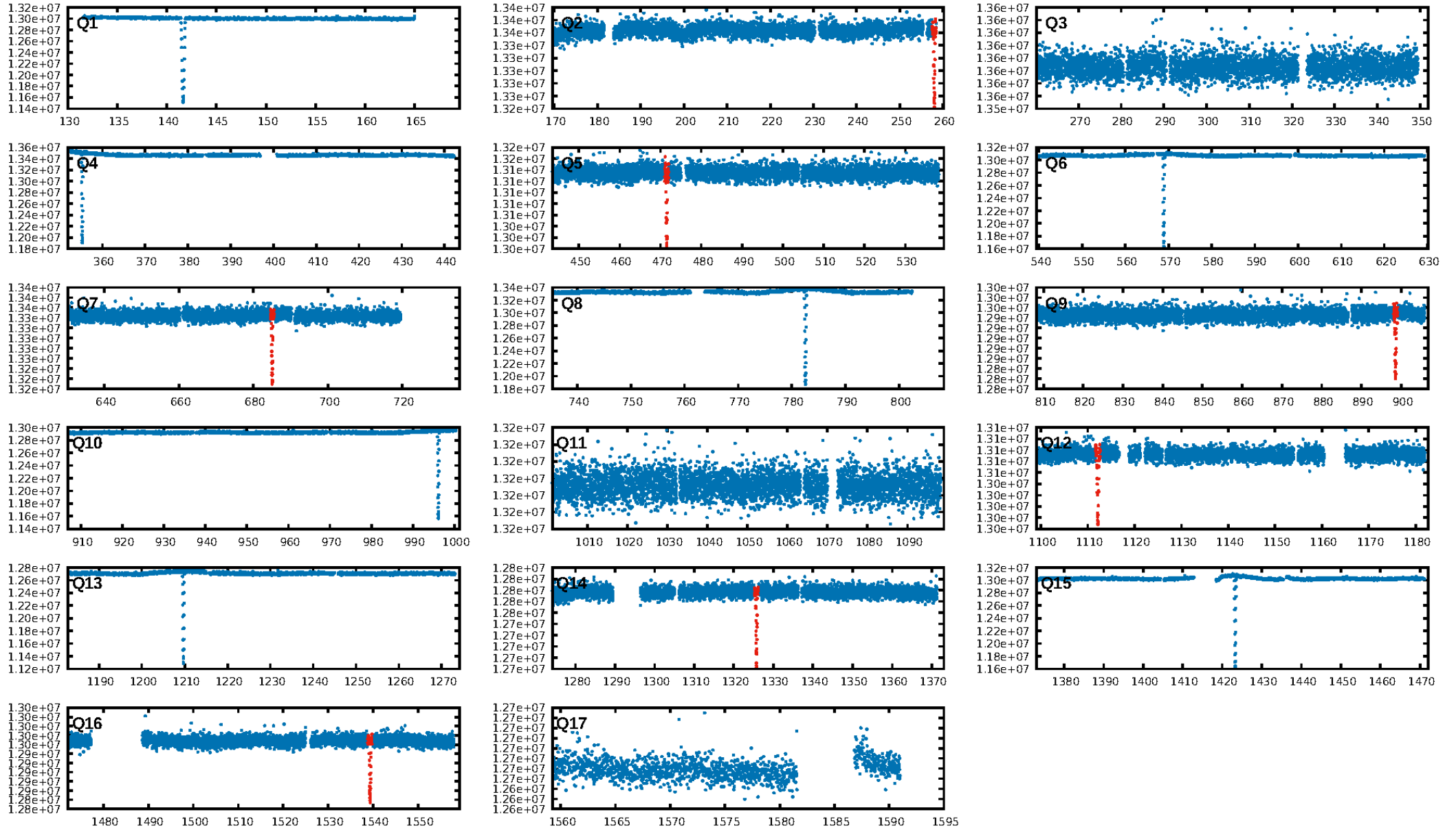
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 6.2% [0.08σ]
ModelChiSquare2-sig: 5.6%
ModelChiSquareGof-sig: 93.5%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 4.527
Centroid-sig: 25.8%
Centroid-so: 0.219 arcsec [1.81σ]
OotOffset-rm: 0.212 arcsec [2.89σ]
OotOffset-st: 1/1/2/2 [6]
KicOffset-rm: 0.160 arcsec [2.04σ]
KicOffset-st: 1/1/2/2 [6]
DiffImageQuality-fgm: 1.00 [6/6]
DiffImageOverlap-fno: 1.00 [6/6]

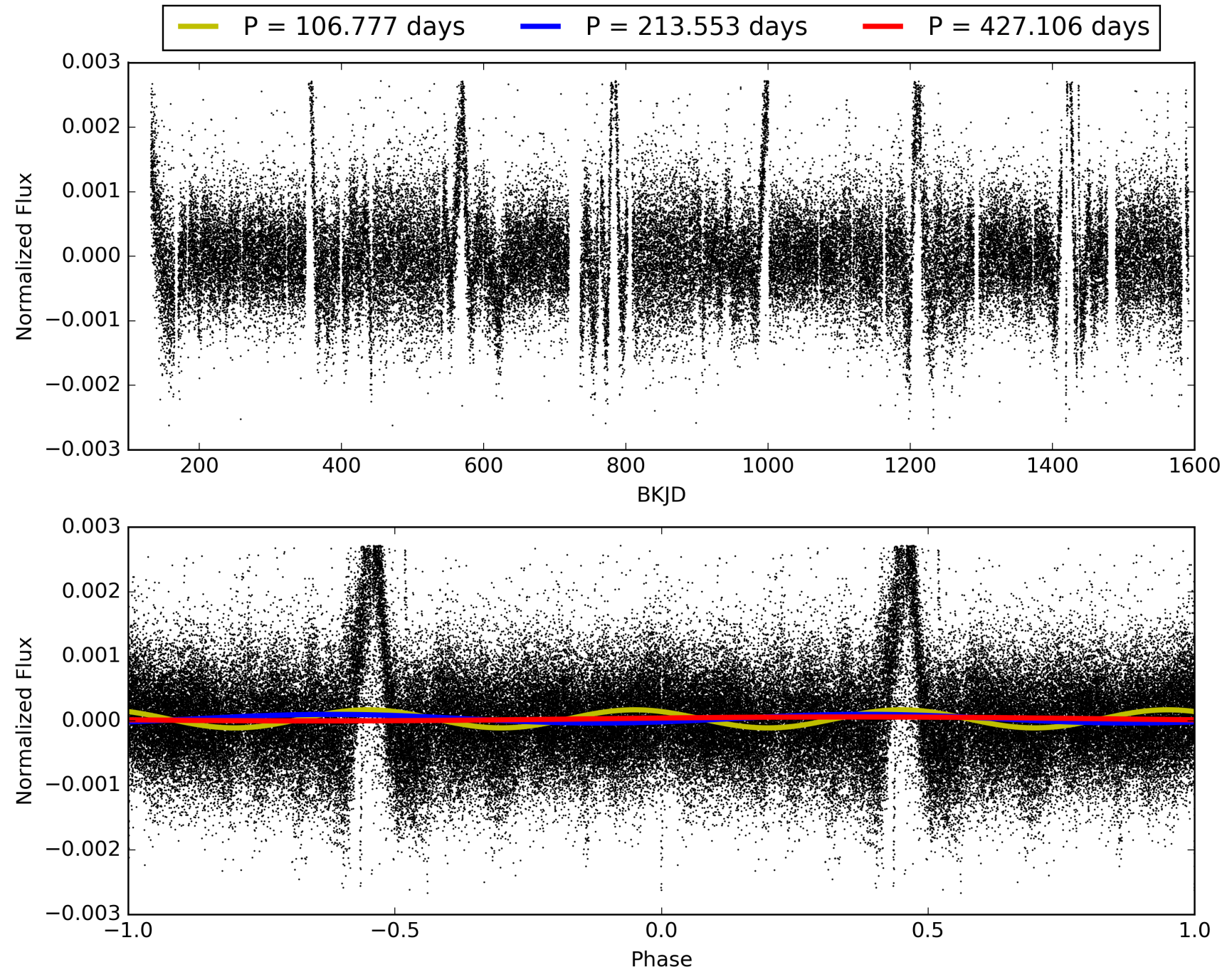
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:06:27 Z

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

TCE 011761199-02, PDC Light Curves

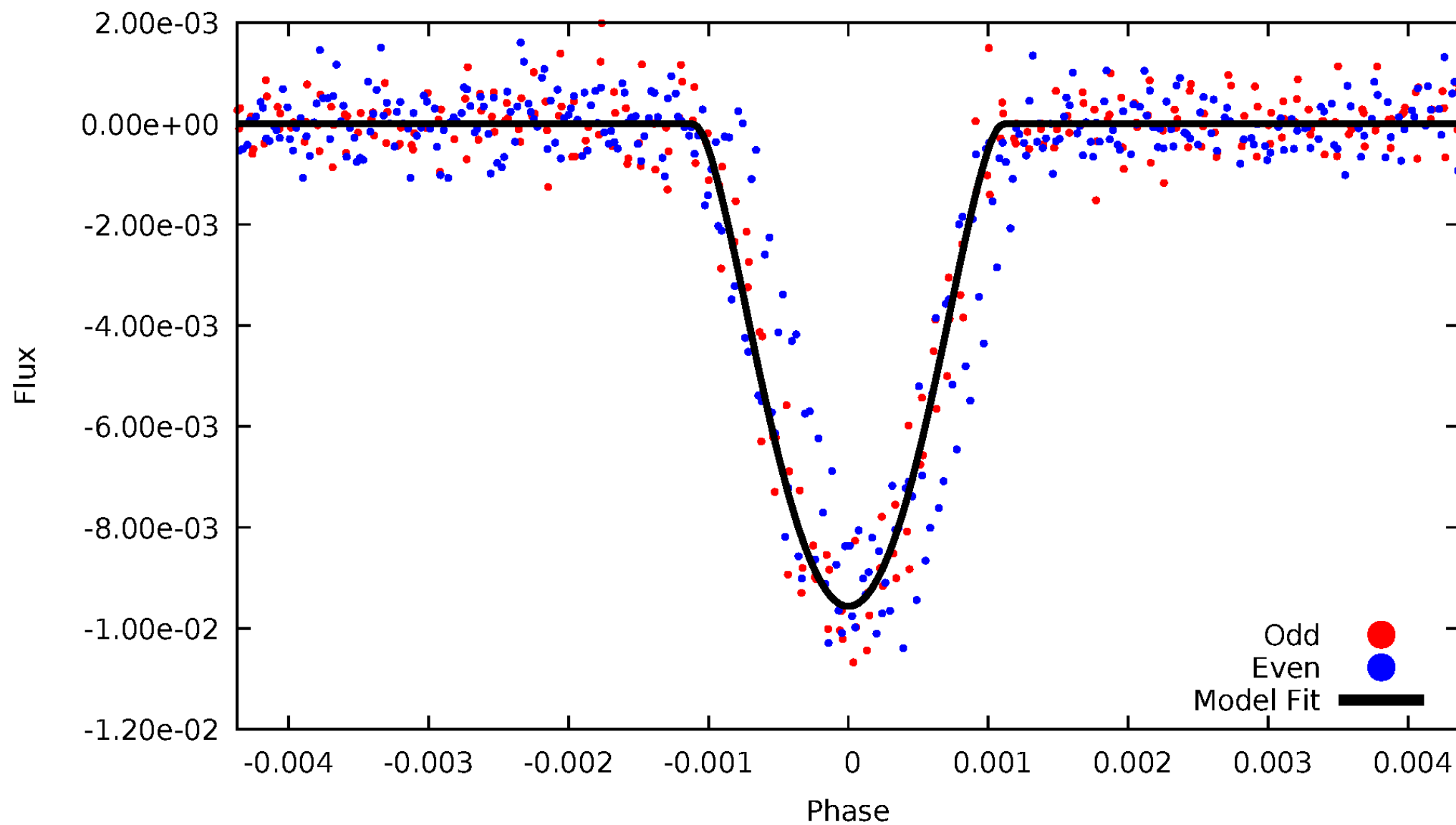


TCE 011761199-02



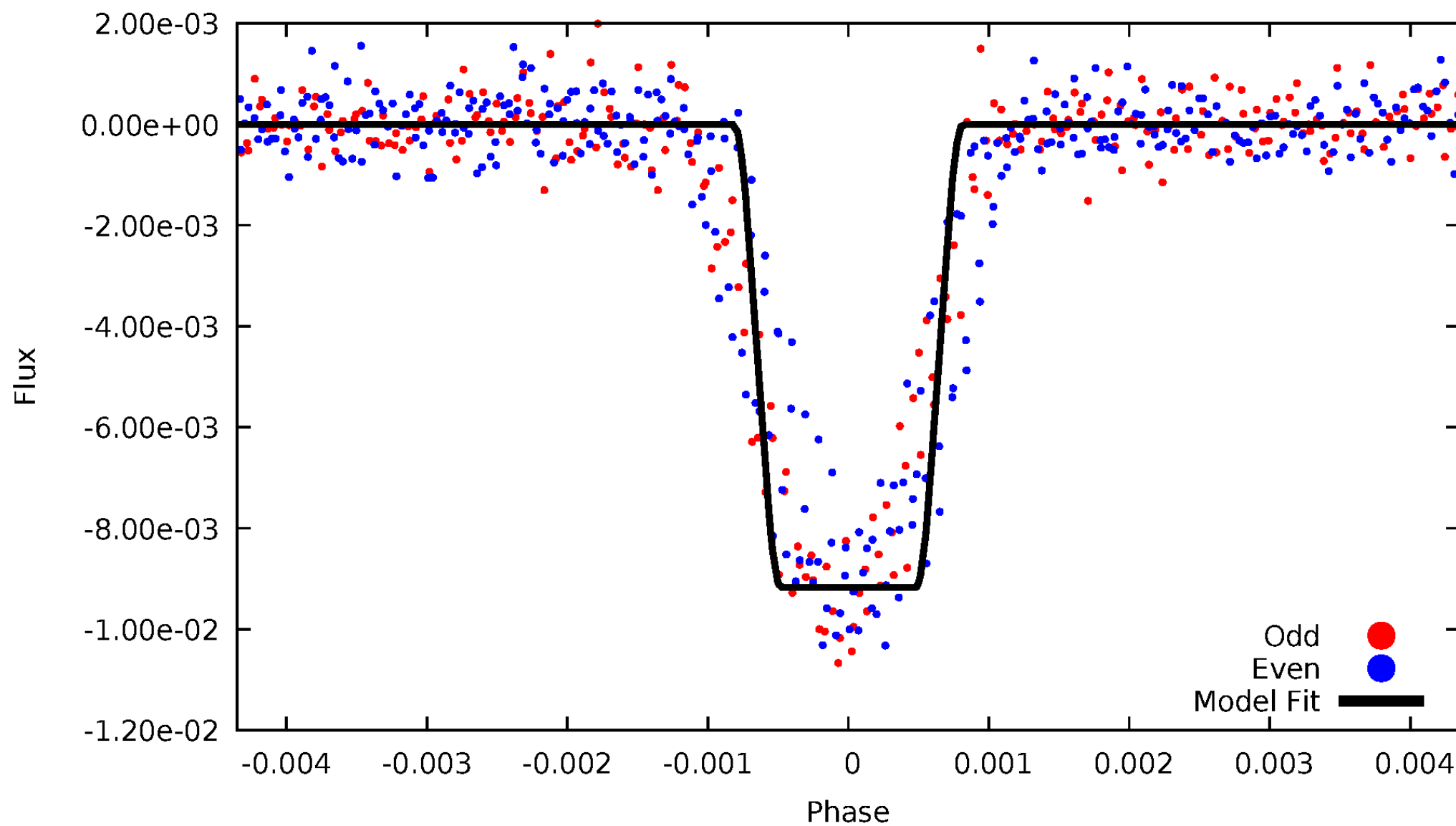
DV Odd/Even

TCE 011761199-02



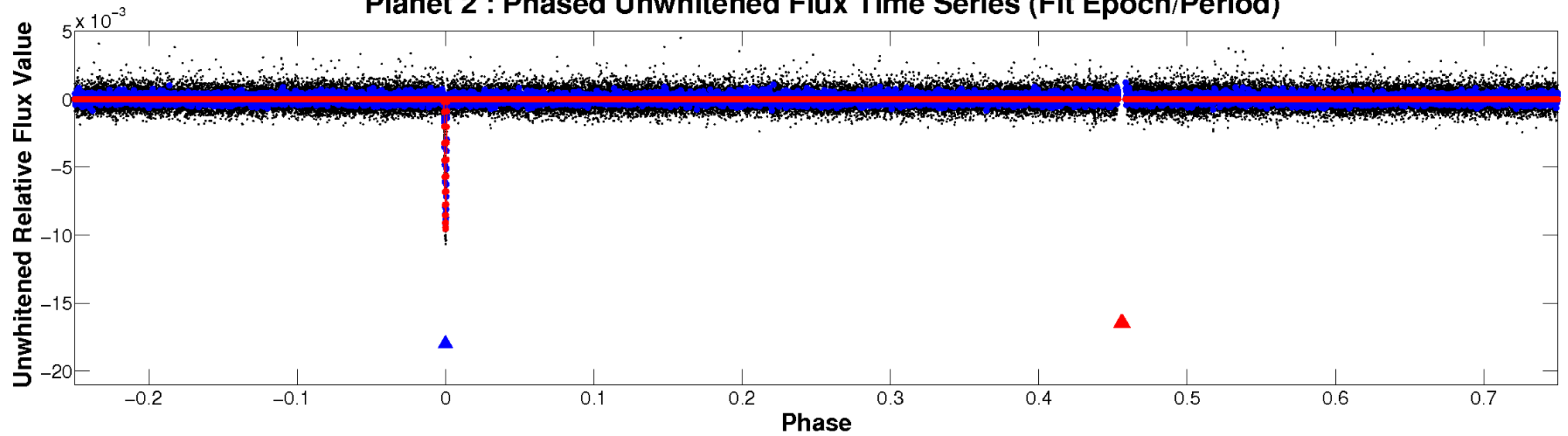
ALT Odd/Even

TCE 011761199-02

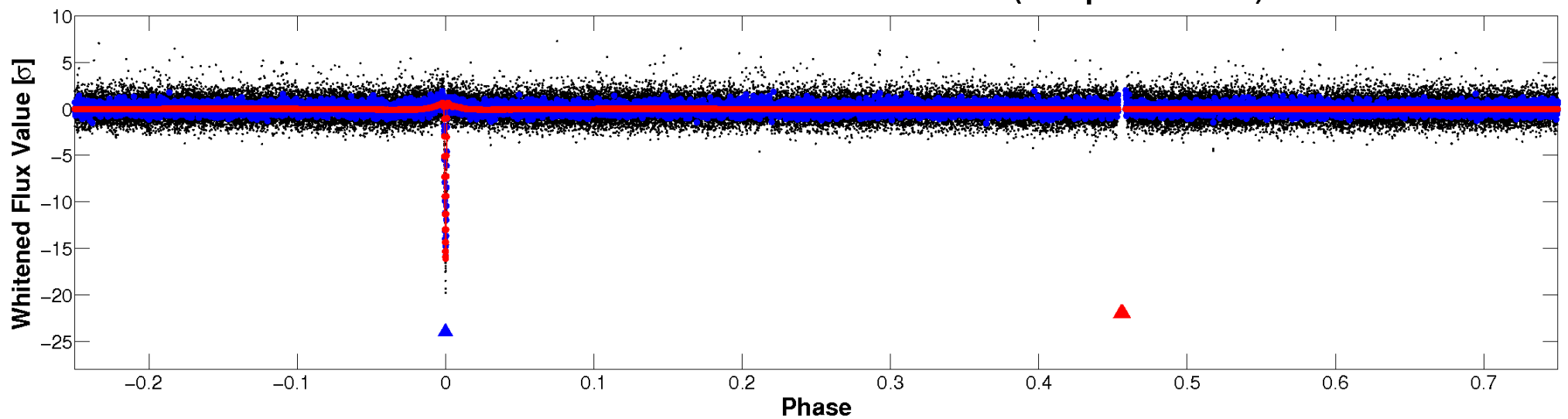


Non-Whitened Vs. Whitened Light Curve

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

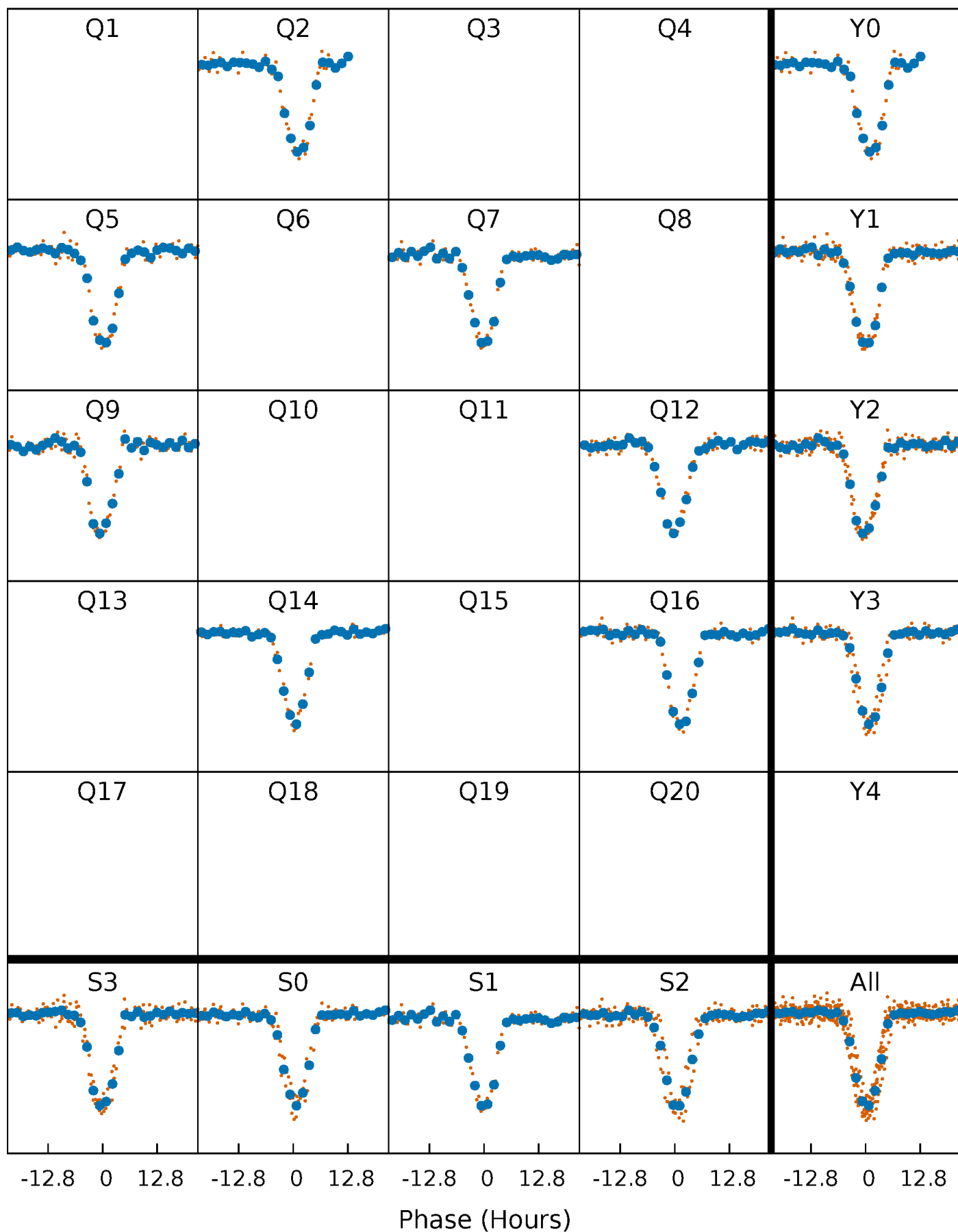


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



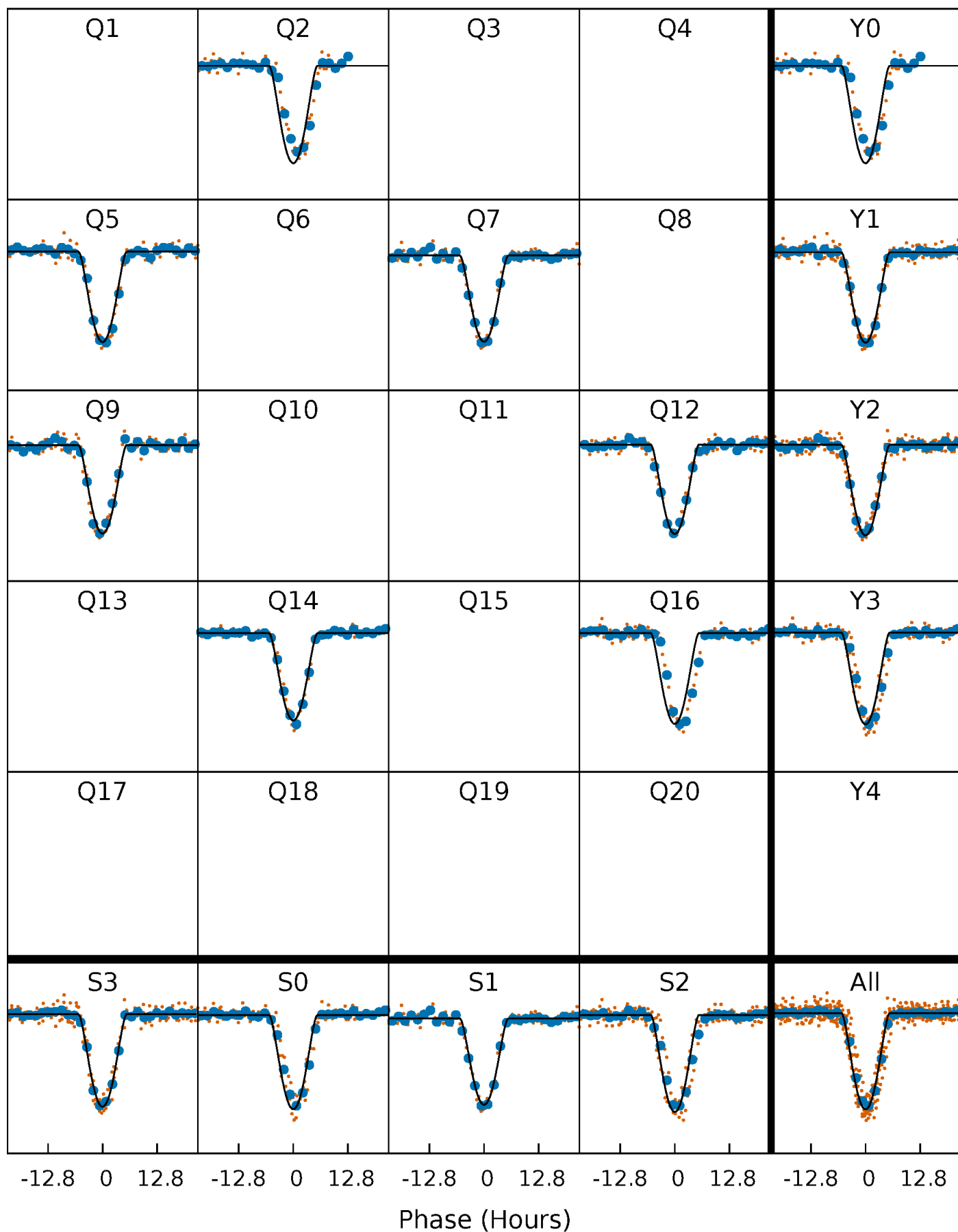
PDC Quarter-Phased Transit Curves

TCE 011761199-02 P=213.553218 Days $T_0=257.961146$ (BKJD)



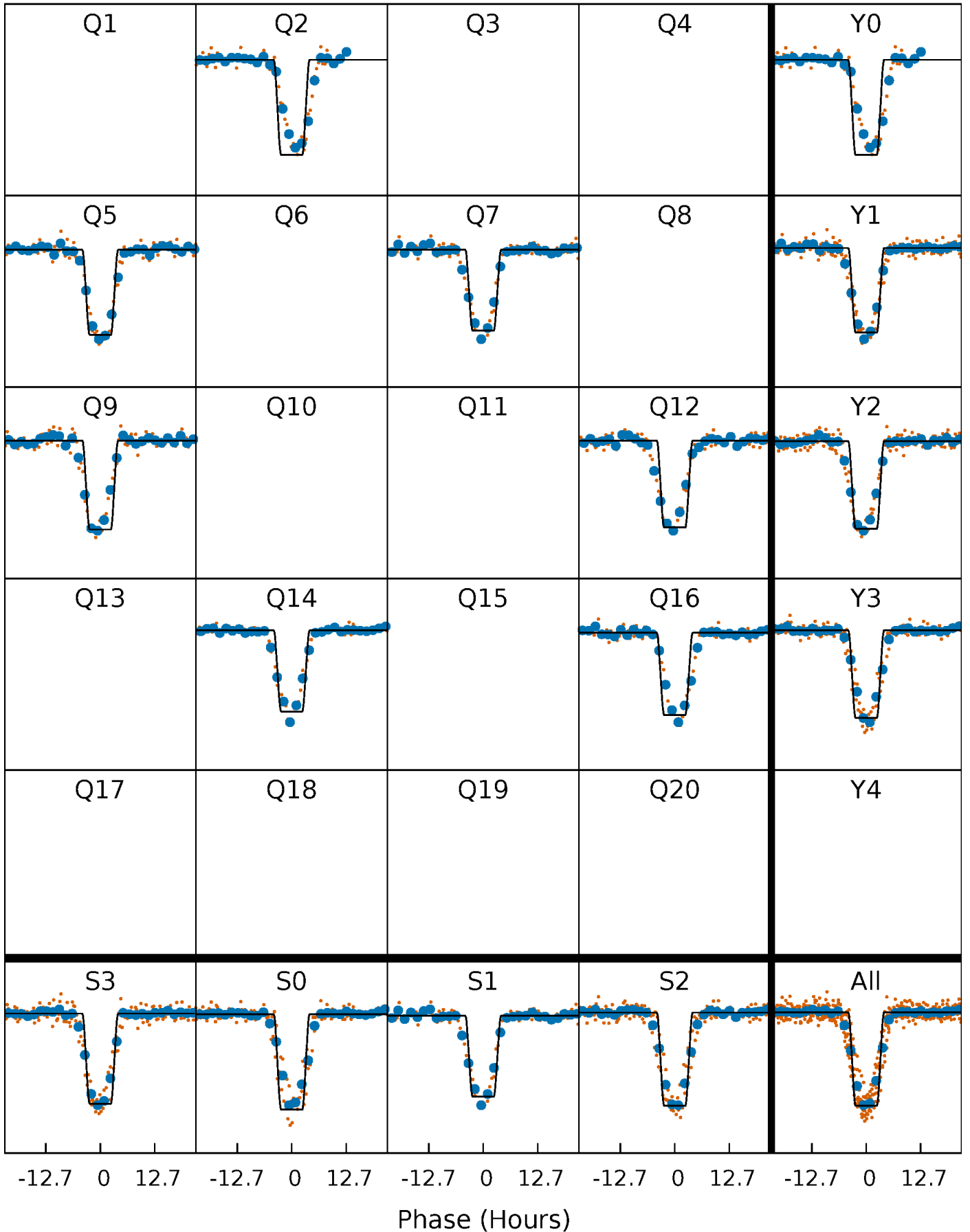
DV Quarter-Phased Transit Curves

TCE 011761199-02 $P=213.553218$ Days $T_0=257.961146$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

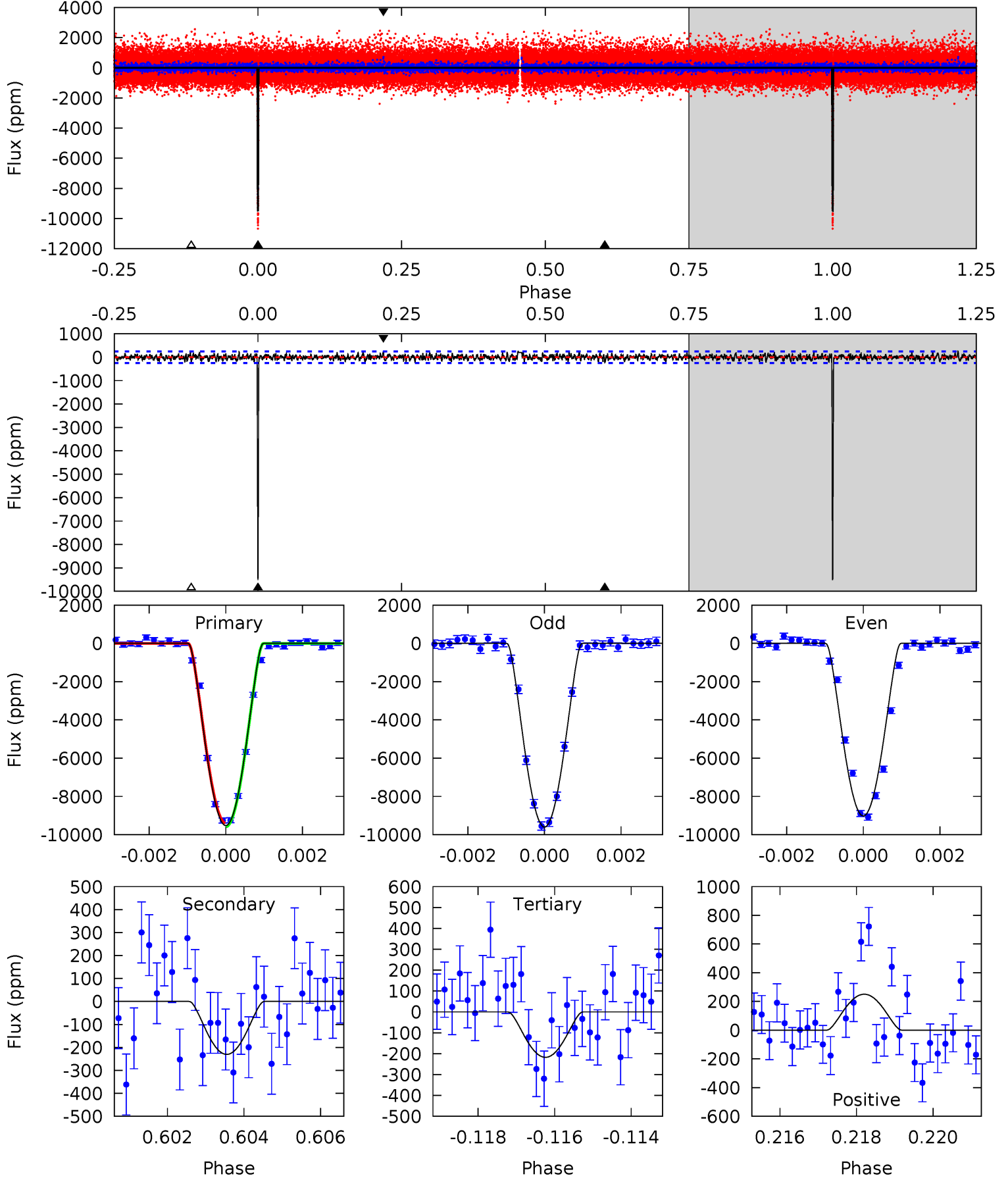
TCE 011761199-02 P=213.557947 Days $T_0=257.960549$ (BKJD)



DV Model-Shift Uniqueness Test

011761199-02, P = 213.553218 Days, E = 44.407928 Days

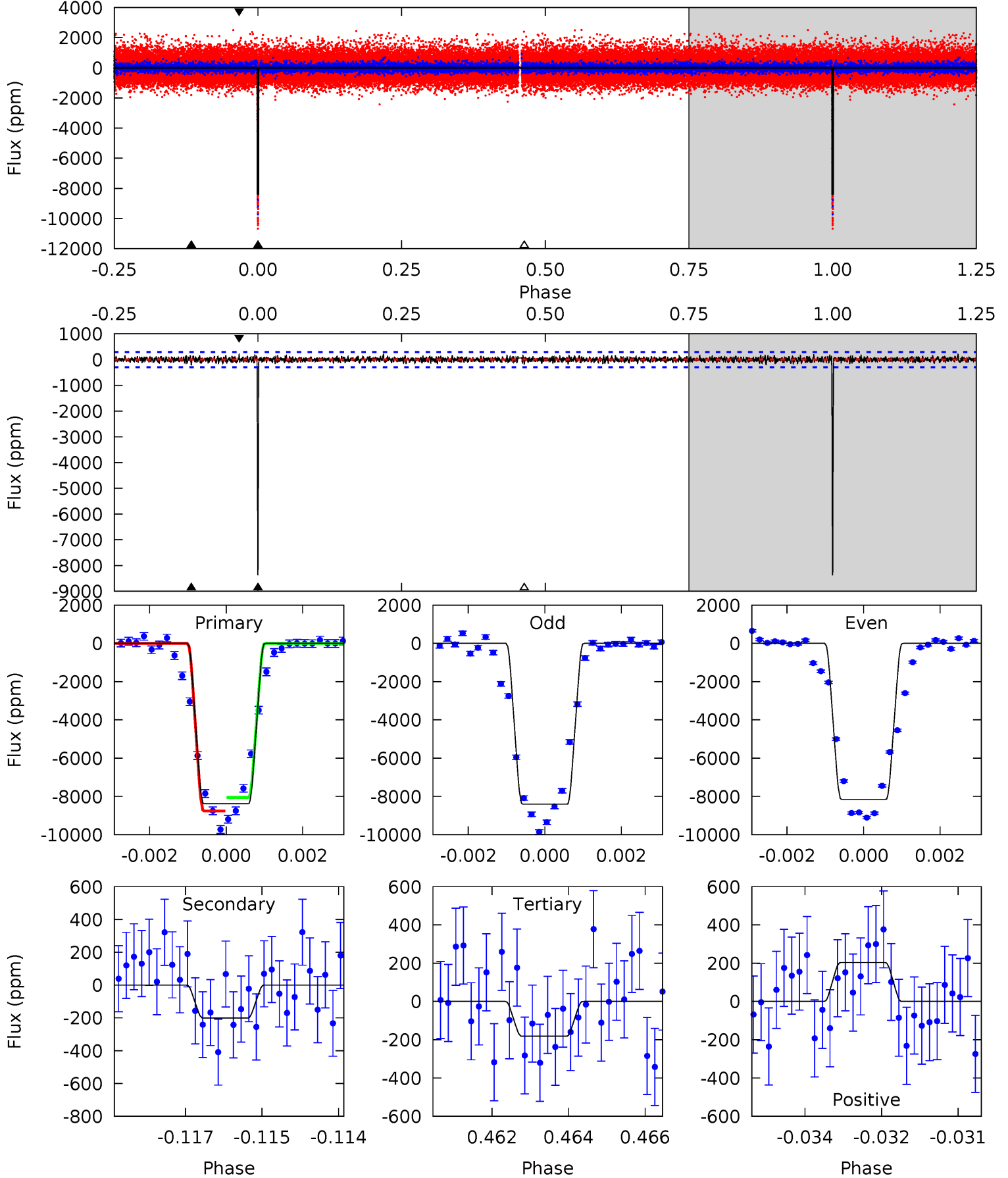
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
204.4	4.95	4.67	5.37	5.30	3.05	1.55	199.7	199.0	0.28	-0.43	6.41	0.98	0.03	1.98



Alt Model-Shift Uniqueness Test

011761199-02, P = 213.557947 Days, E = 44.402602 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
153.6	3.69	3.33	3.73	5.36	3.15	0.98	150.3	149.9	0.36	-0.03	2.34	1.00	0.02	6.48



Stellar Parameters For KIC 011761199

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5931^{+160}_{-178}	$4.554^{+0.033}_{-0.176}$	$-0.340^{+0.300}_{-0.300}$	$0.845^{+0.209}_{-0.075}$	$0.933^{+0.098}_{-0.109}$	$2.182^{+0.477}_{-0.970}$
	+3%/-3%	+1%/-4%	+88%/-88%	+25%/-9%	+11%/-12%	+22%/-44%
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 011761199-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-230 ± 47	$13.92^{+4.22}_{-4.07}$	417^{+22}_{-18}	2699^{+271}_{-186}	293^{+313}_{-127}
Alt.	-201 ± 55	$9.23^{+3.99}_{-4.19}$	414^{+26}_{-17}	2974^{+535}_{-304}	611^{+1241}_{-343}

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

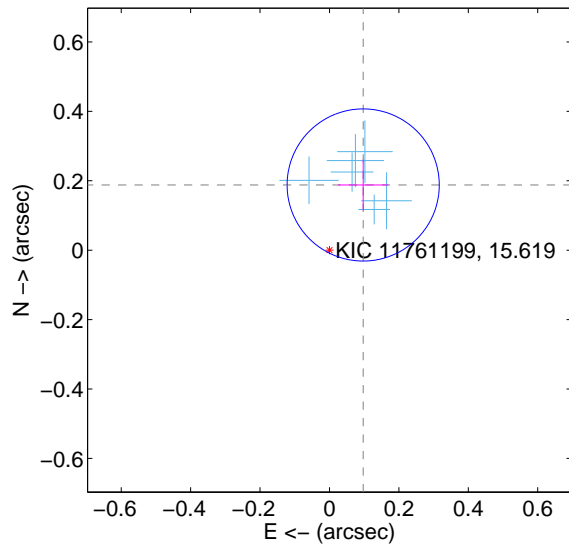
Supplemental centroid analysis for 011761199-02. Kepler magnitude: 15.62. Transit SNR 117.30

There are 6 quarters with good PRF difference image offsets

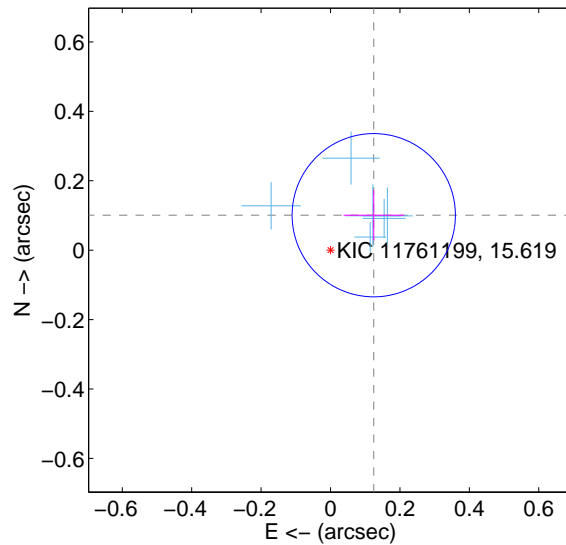
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.212 ± 0.073	2.89	-0.097 ± 0.073	0.188 ± 0.073
PRF-fit source offset from KIC position	0.160 ± 0.078	2.04	-0.125 ± 0.087	0.101 ± 0.072
photometric centroid source offset	0.22 ± 0.12	1.81	0.21 ± 0.12	0.07 ± 0.12

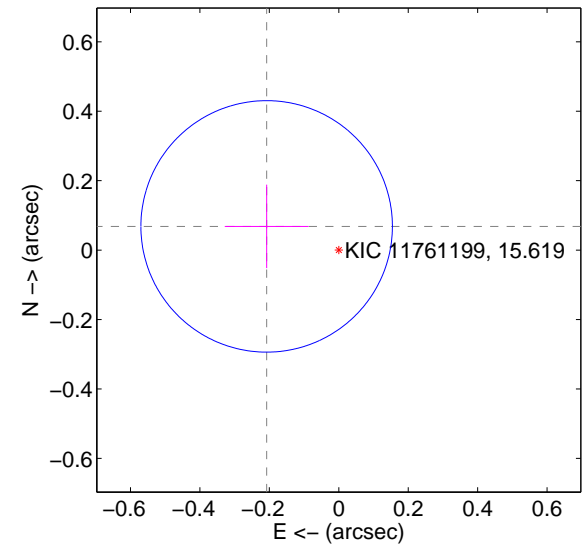
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

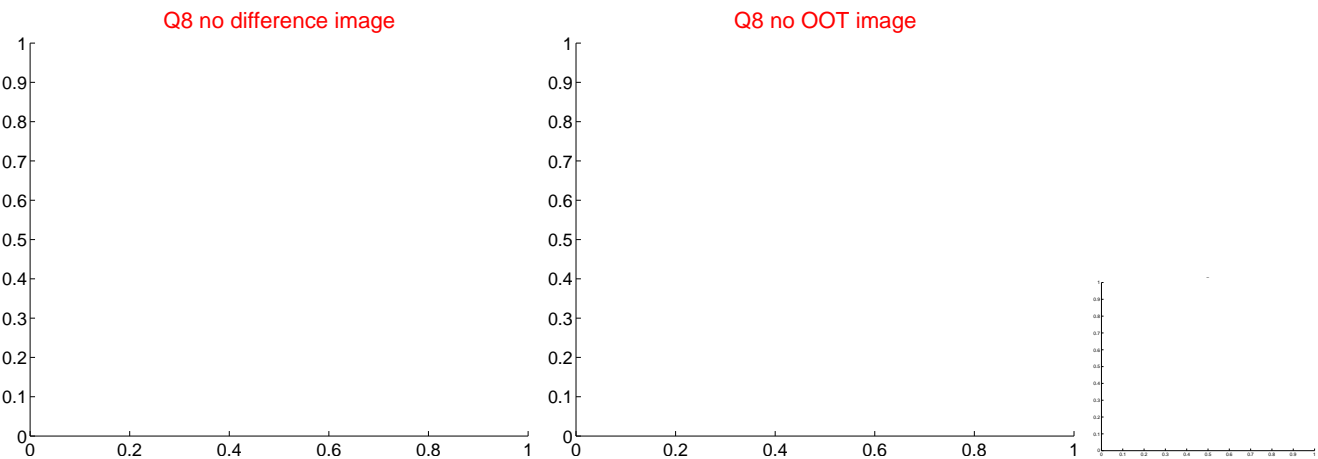
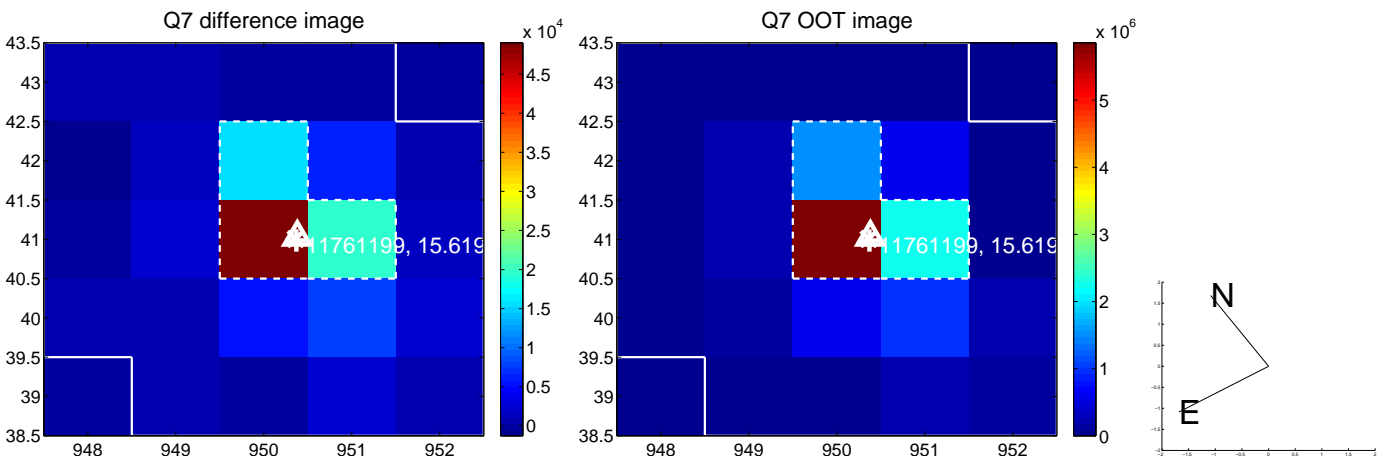
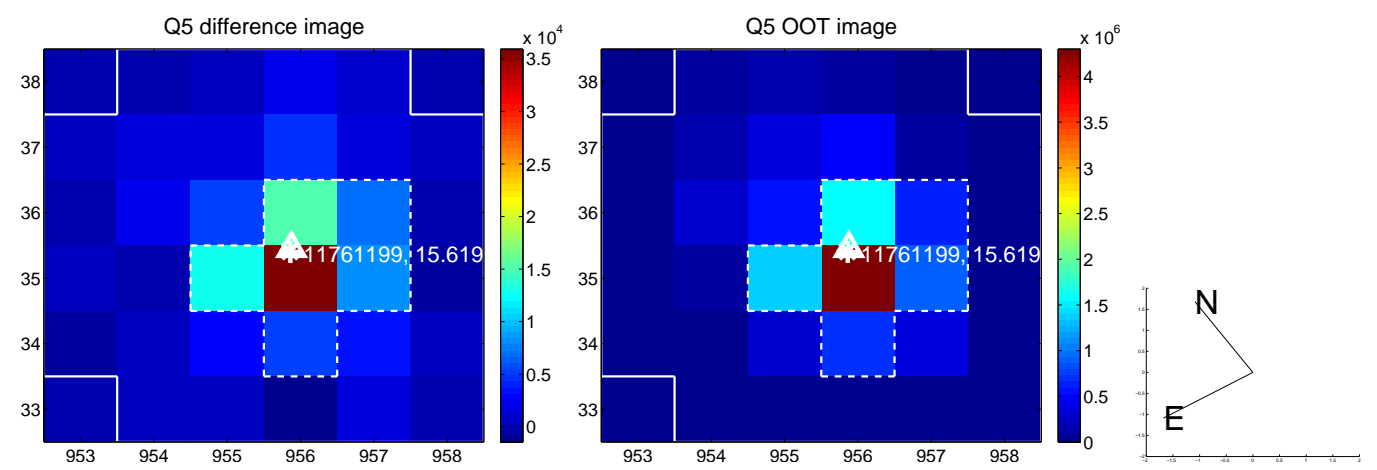


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

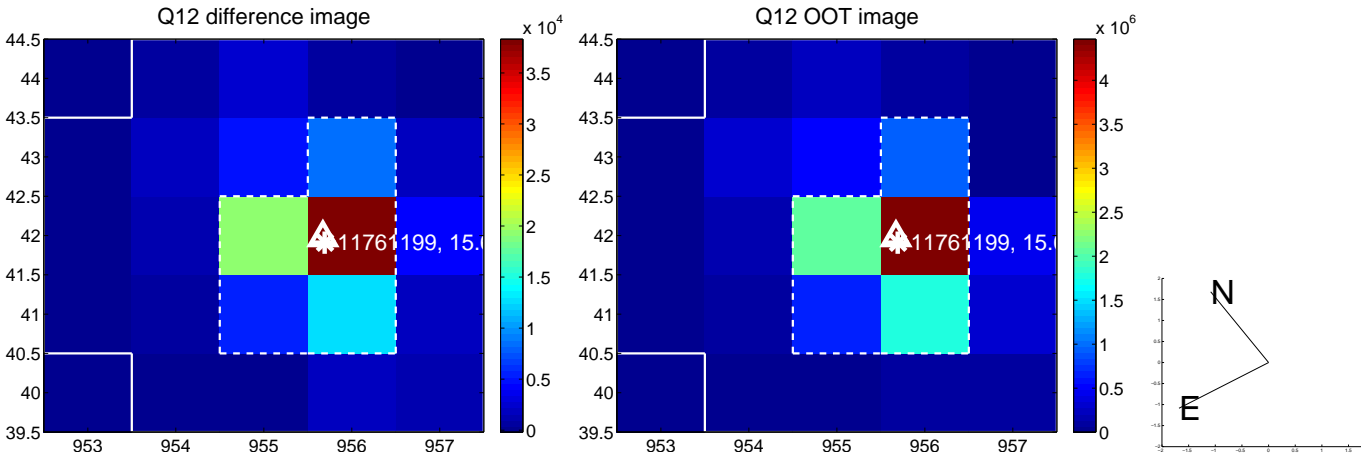
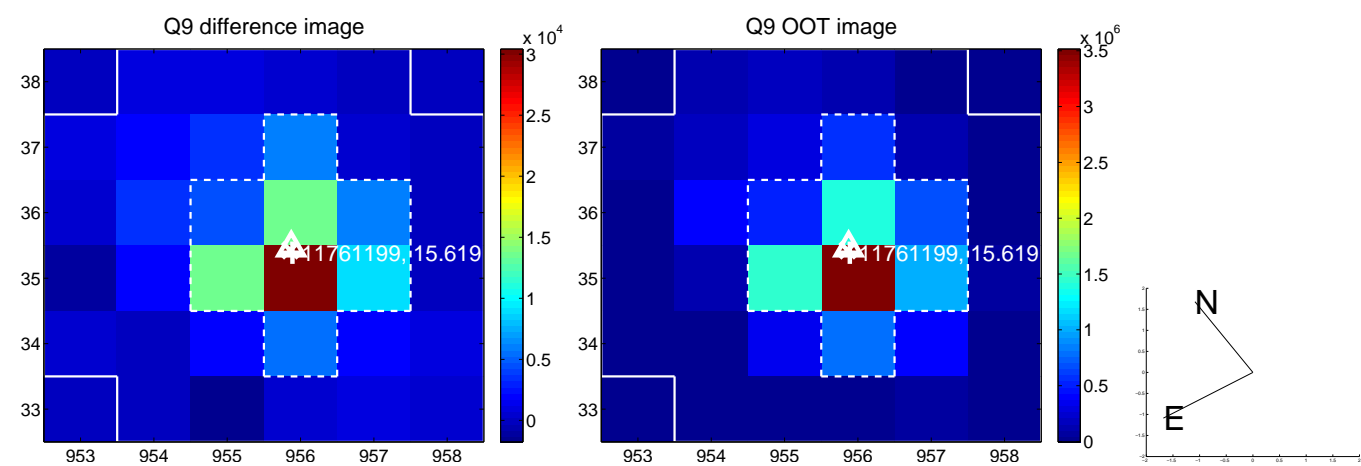
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

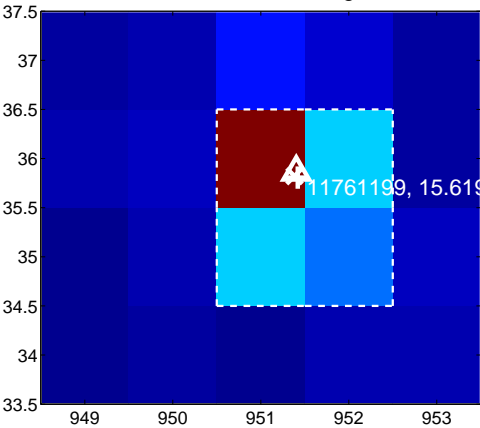
Q13 no difference image



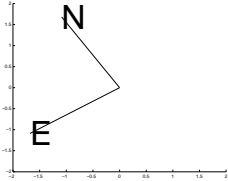
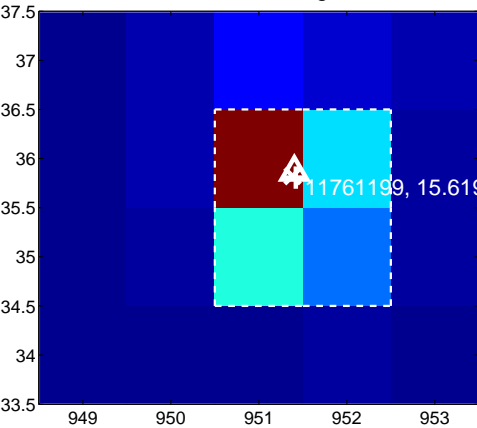
Q13 no OOT image



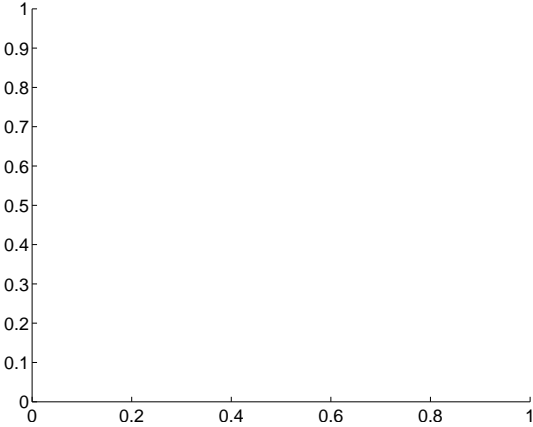
Q14 difference image



Q14 OOT image



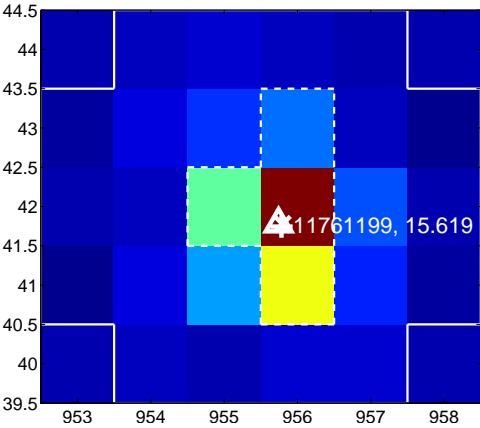
Q15 no difference image



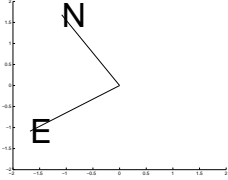
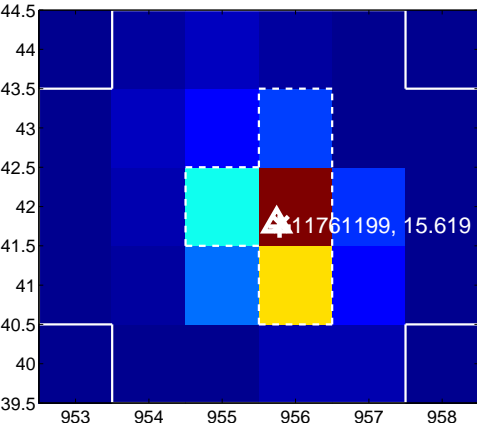
Q15 no OOT image



Q16 difference image



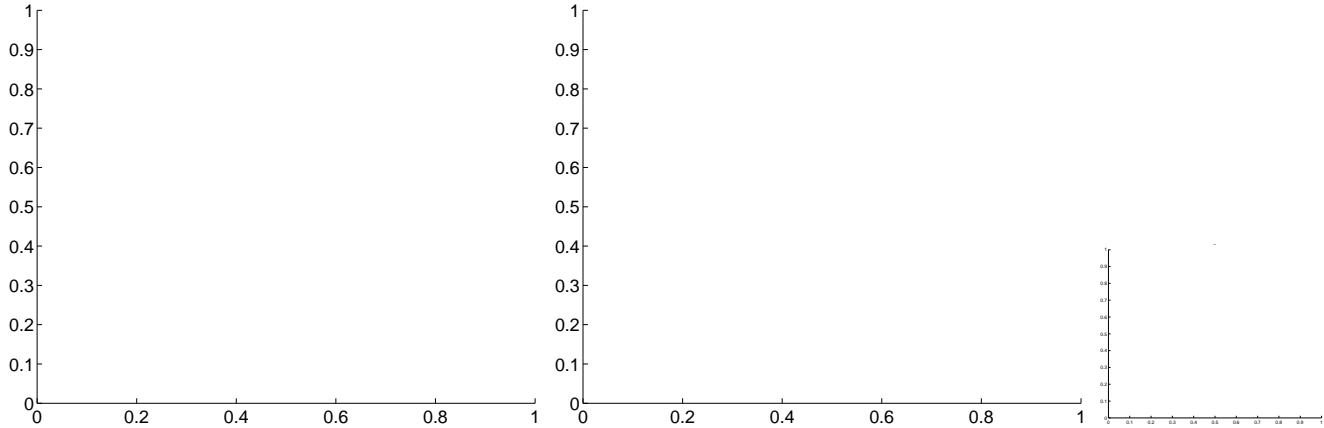
Q16 OOT image



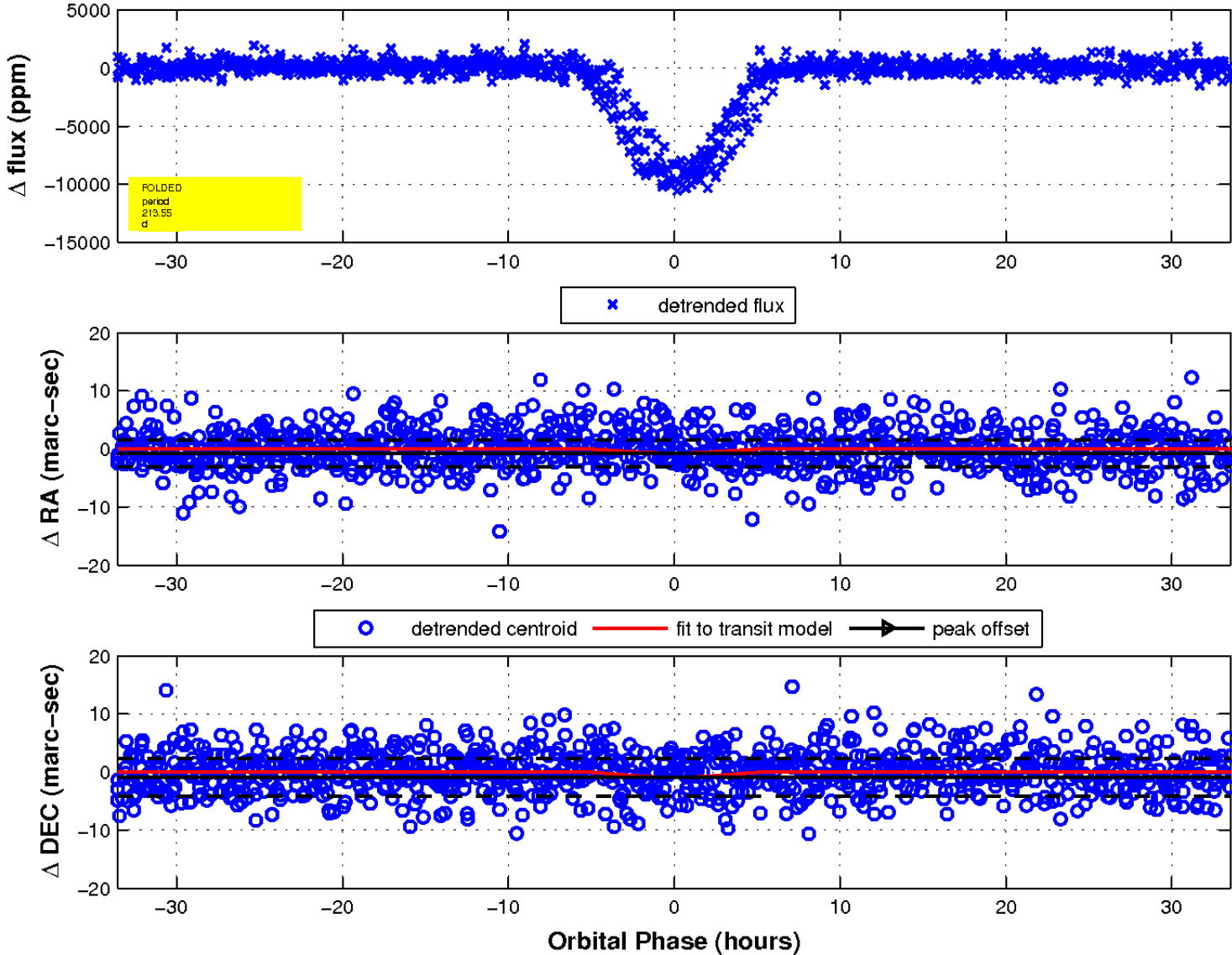
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q17 no difference image

Q17 no OOT image



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

