

KIC 008257779

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})
008257779-01	OBS	No	373.635447	347.040689	6567.1	3.675	15.1	9.9	0.51	4789	7.58	0.18
008257779-02	OBS	No	340.550980	450.047471	2916.1	3.581	12.1	7.1	0.51	4789	2.76	0.21
008257779-03	OBS	No	1.433902	131.810865	523.0	8.095	9.2	14.9	0.51	4789	2.26	303.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008257779-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
008257779-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008257779-03	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

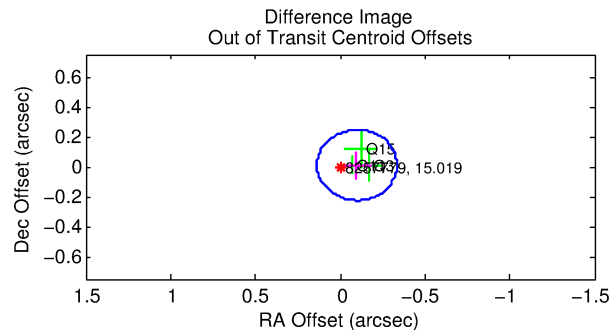
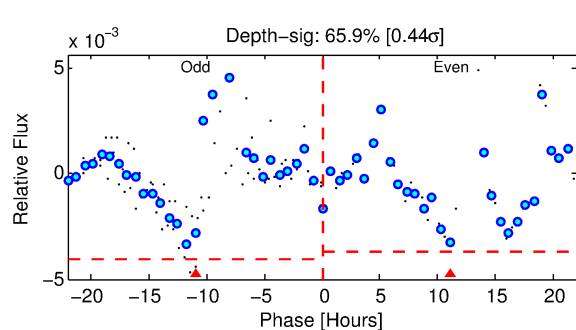
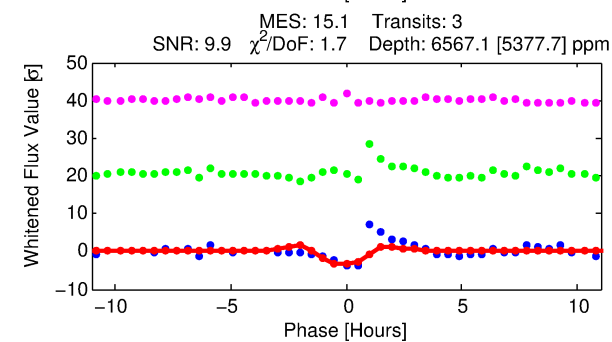
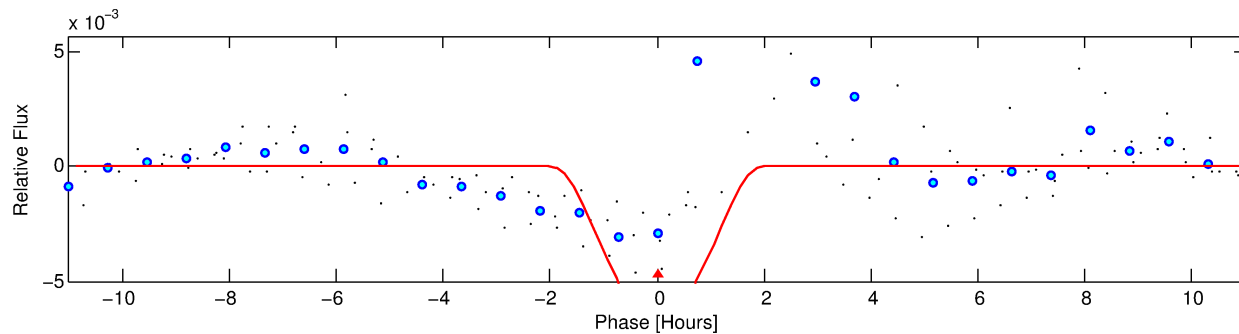
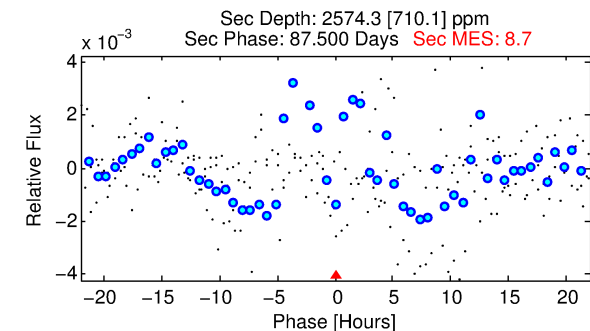
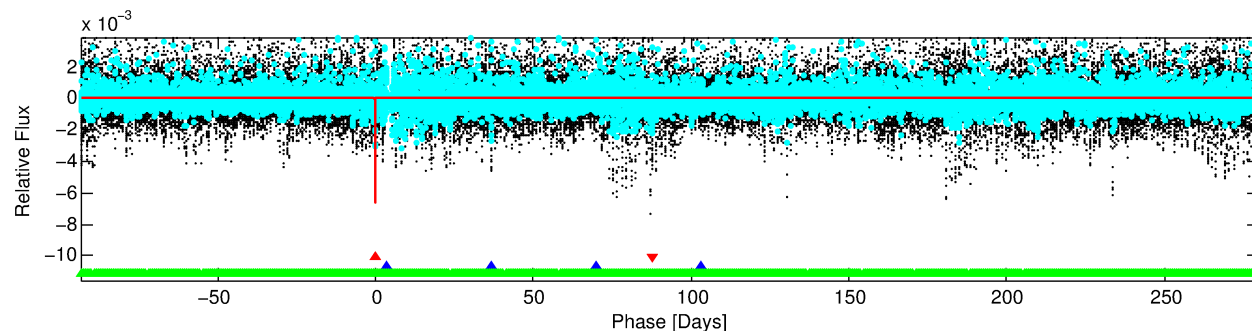
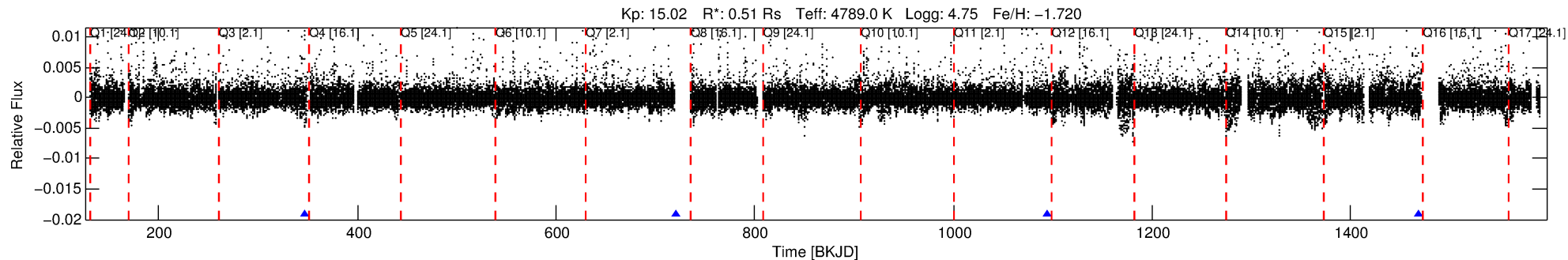
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008257779-01

No Significant Match Found

DV One-Page Summary

KIC: 8257779 Candidate: 1 of 3 Period: 373.635 d



DV Fit Results:

Period = 373.63545 [0.00362] d
Epoch = 347.0407 [0.0069] BKJD
Rp/R* = 0.1360 [0.5322]
a/R* = 418.66 [275.92]
b = 1.00 [0.67]
Seff = 0.18 [0.03]
Teq = 167 [6] K
Rp = 7.58 [29.68] Re
a = 0.8215 [0.0396] AU
Ag = 16620.92 [130175.15] [0.13σ]
Teffp = 2925 [5728] K [0.48σ]

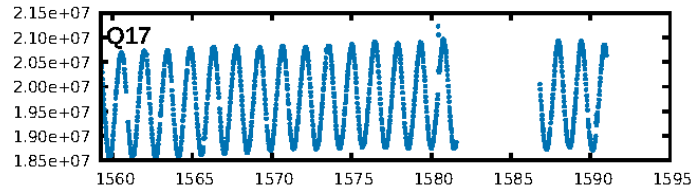
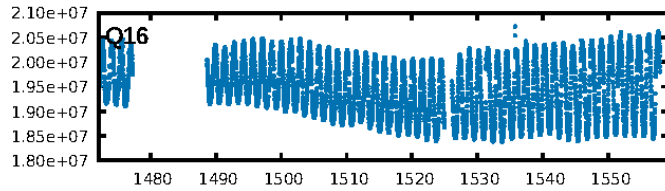
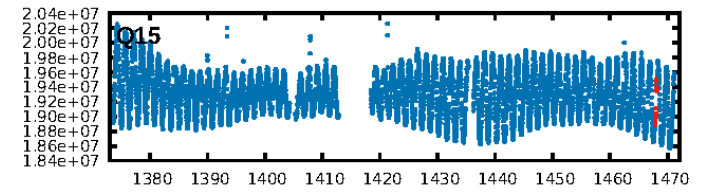
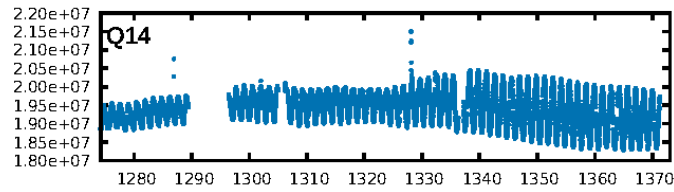
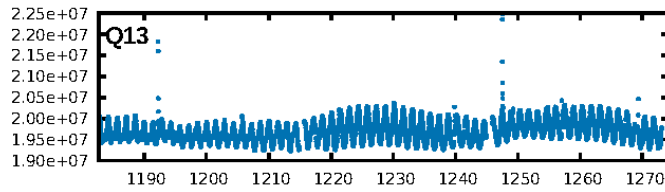
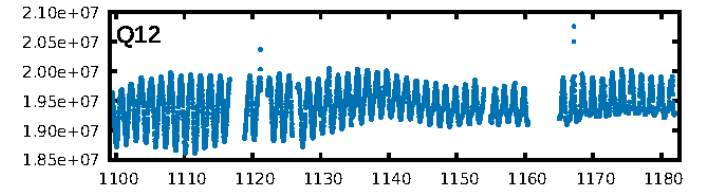
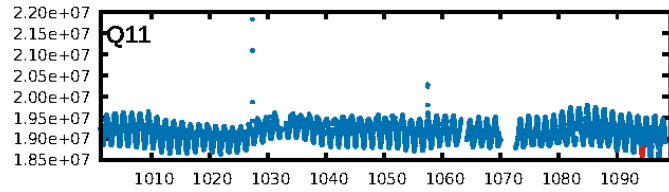
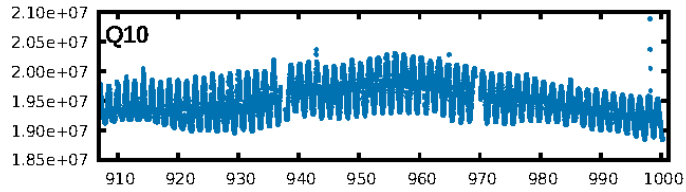
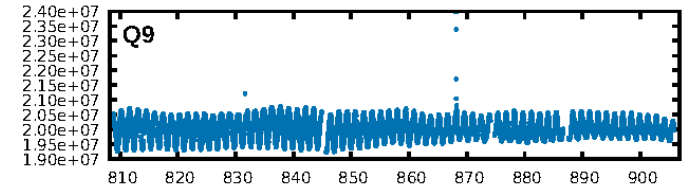
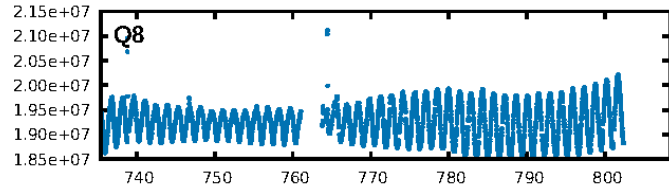
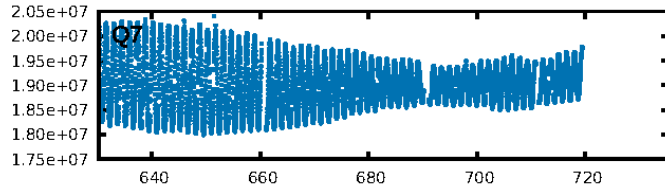
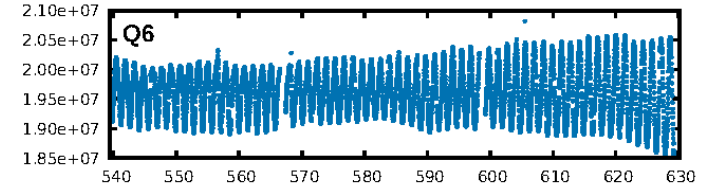
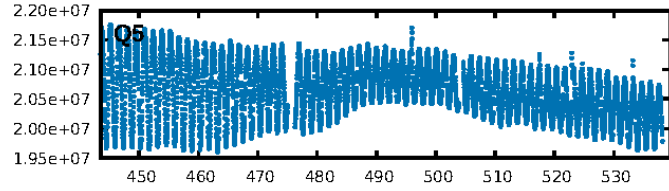
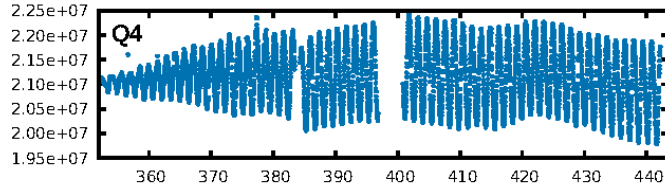
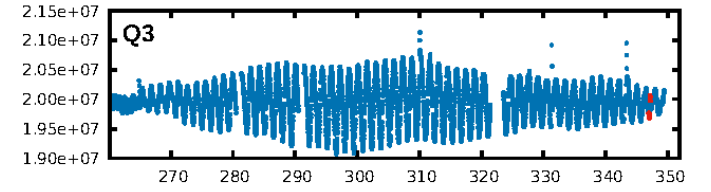
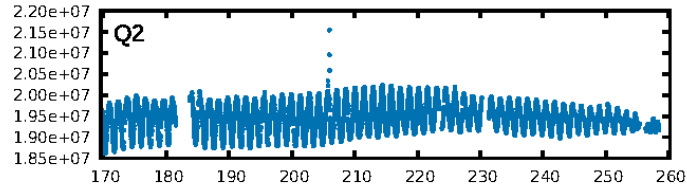
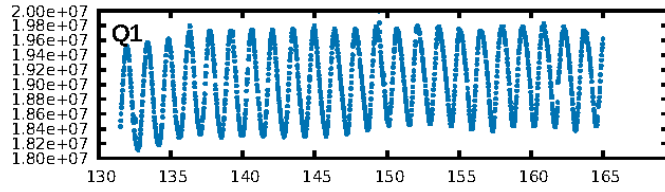
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [154.75σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 3.2%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 19.73
Centroid-sig: 55.3%
Centroid-so: 0.213 arcsec [0.61σ]
OotOffset-rm: 0.099 arcsec [1.26σ]
KicOffset-st: 0/3/0/0 [3]
KicOffset-st: 0/3/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.00 [0/3]

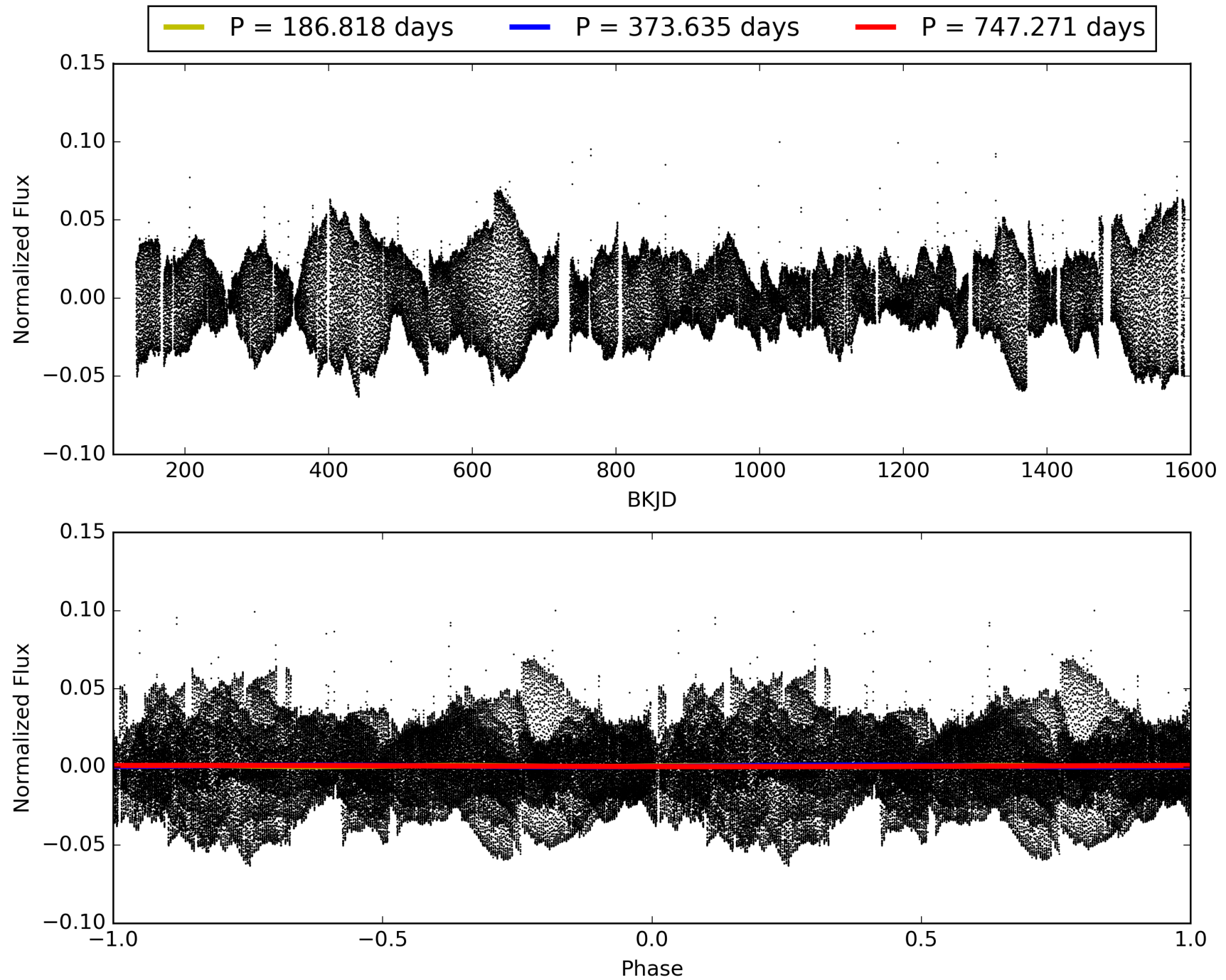
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:38:56 Z

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

TCE 008257779-01, PDC Light Curves

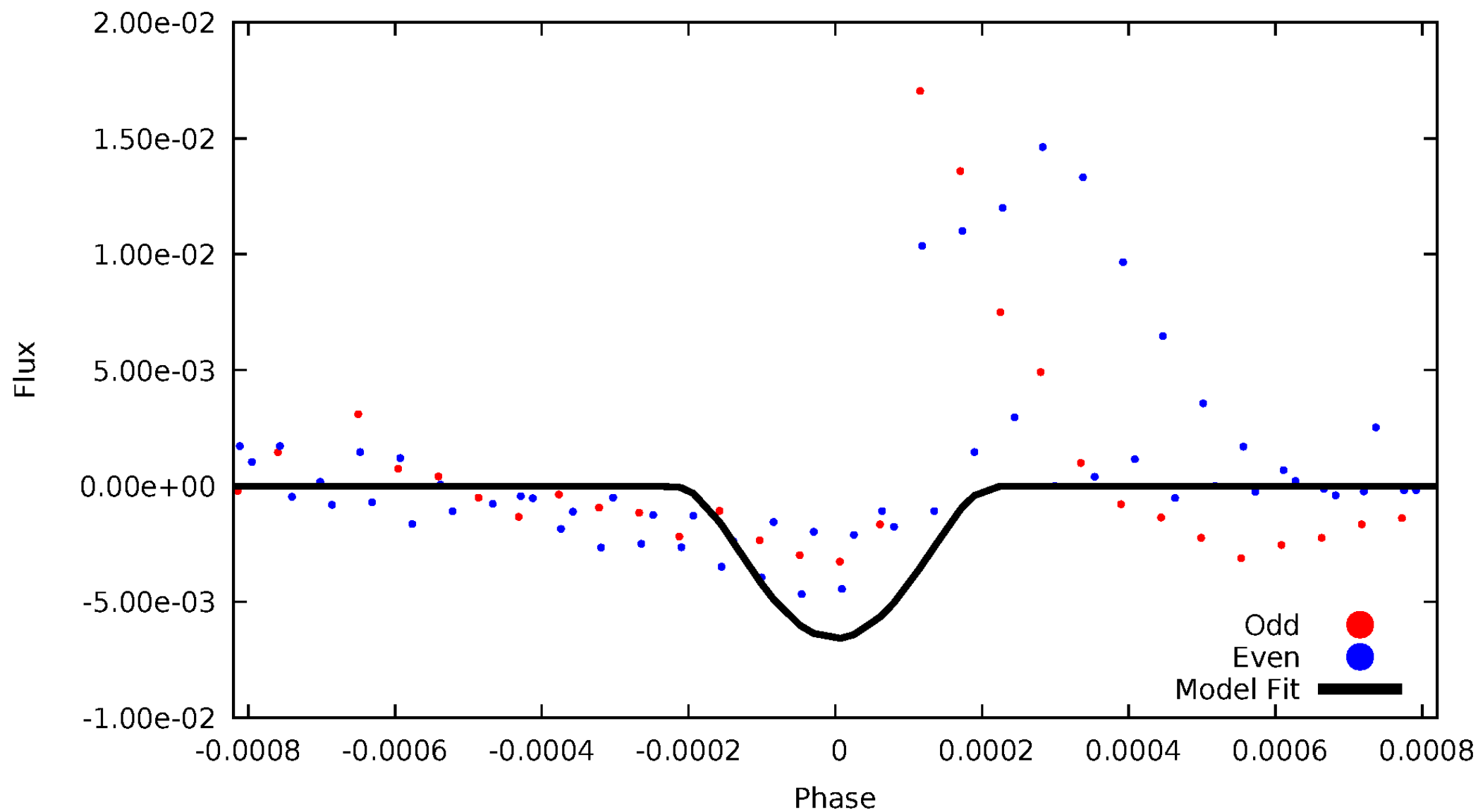


TCE 008257779-01



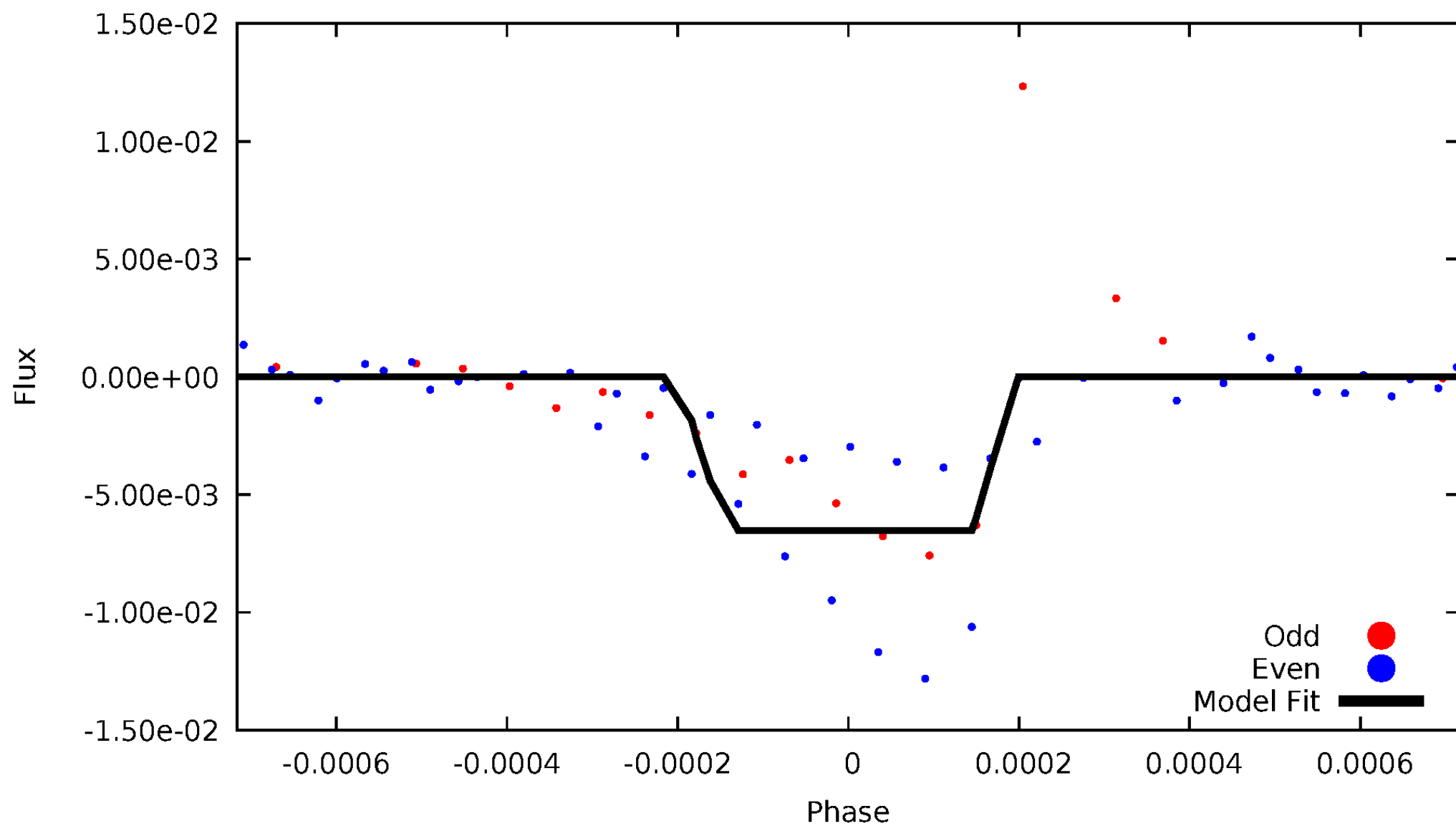
DV Odd/Even

TCE 008257779-01



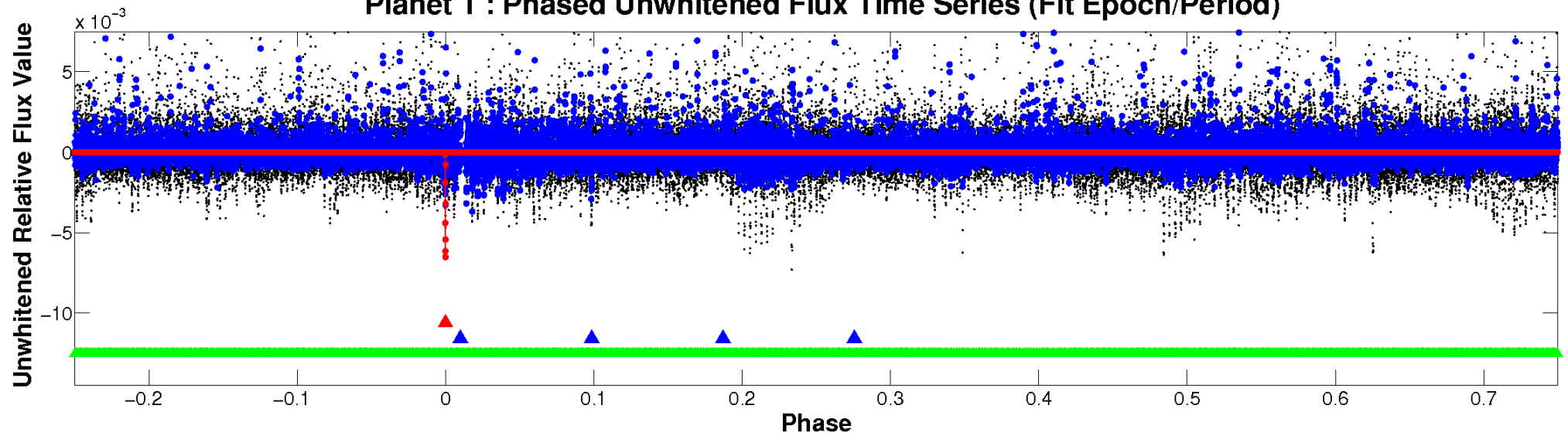
ALT Odd/Even

TCE 008257779-01

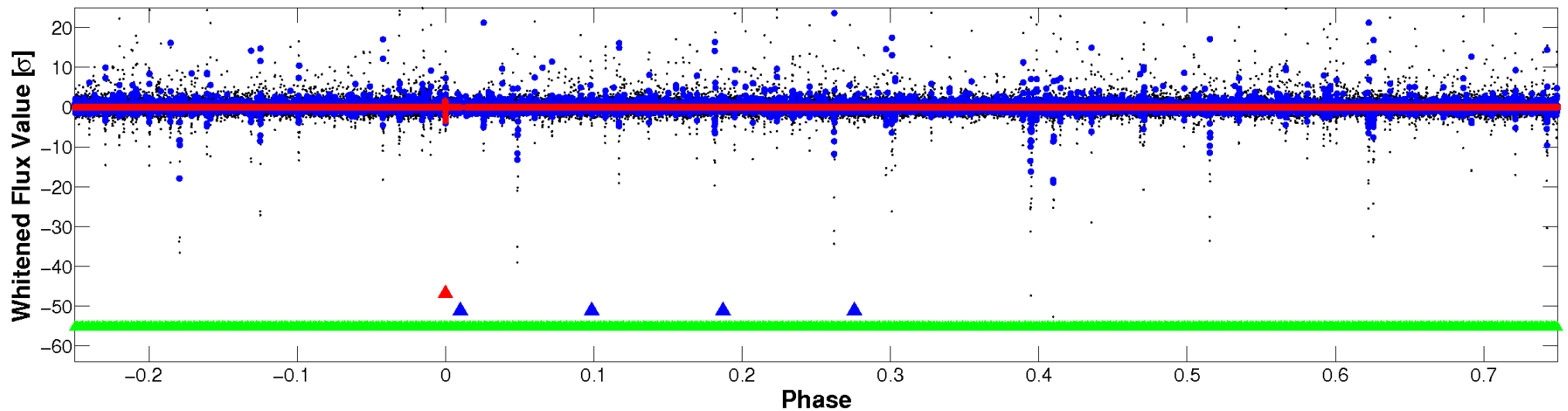


Non-Whitened Vs. Whitened Light Curve

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

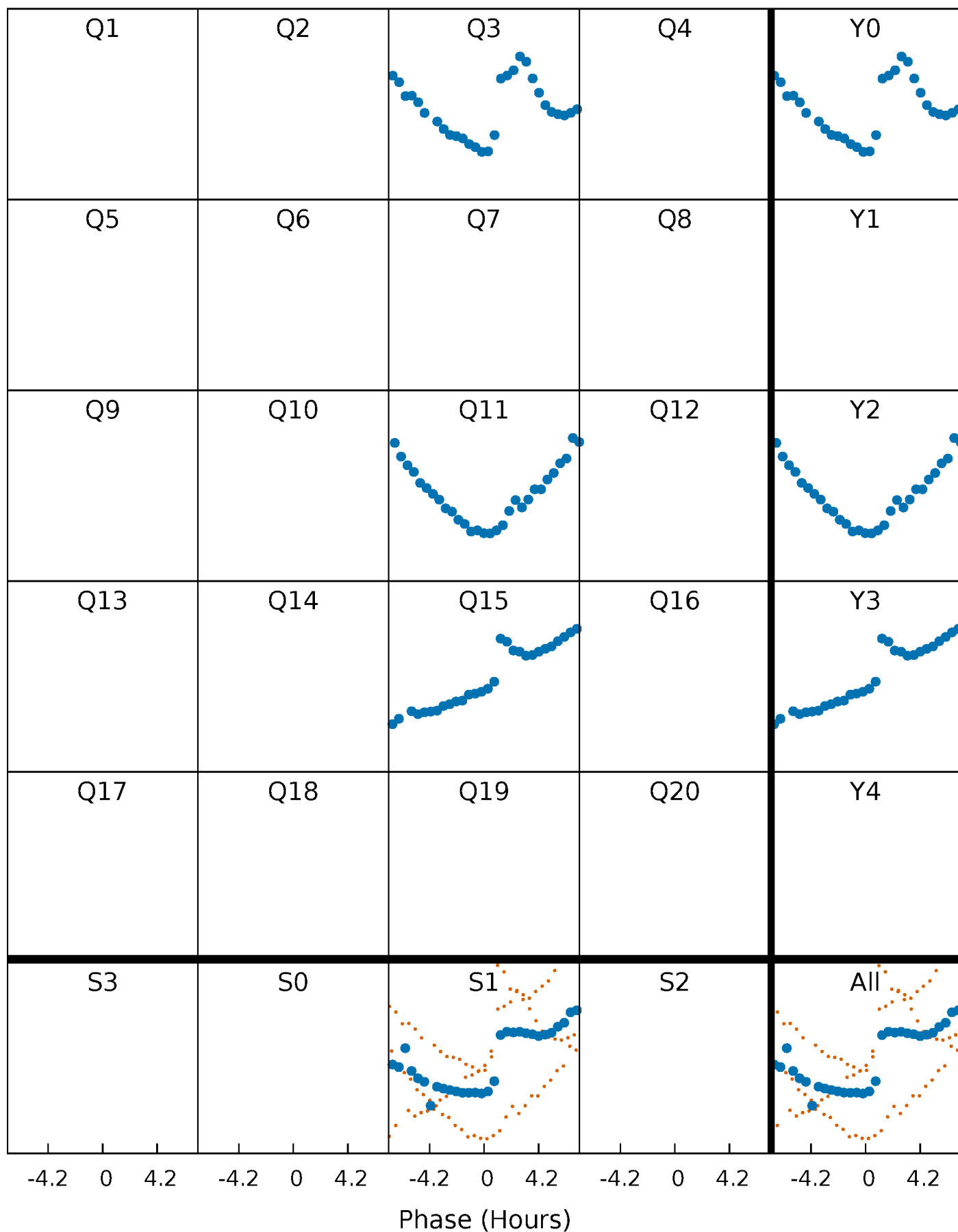


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



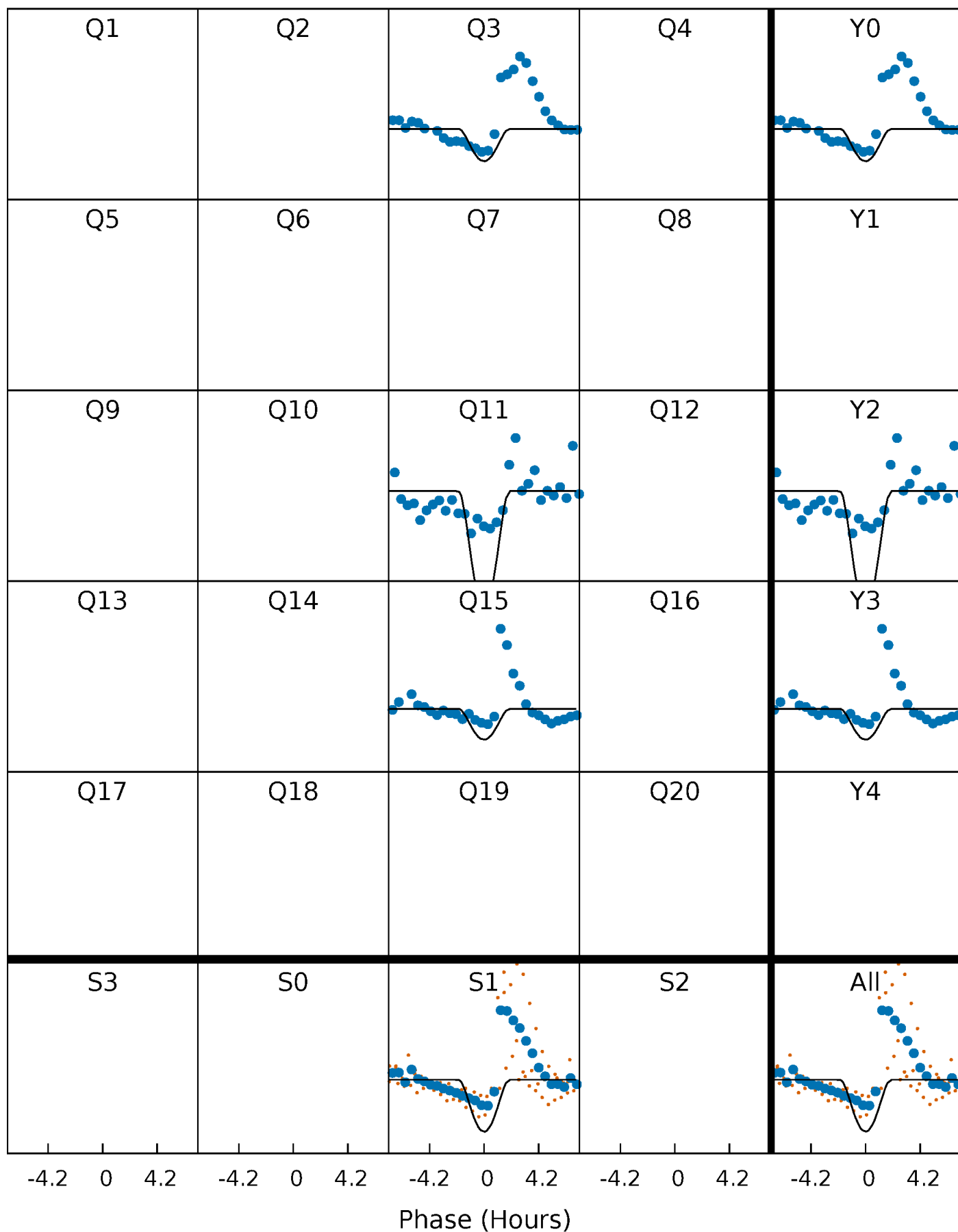
PDC Quarter-Phased Transit Curves

TCE 008257779-01 P=373.635447 Days $T_0=347.040689$ (BKJD)



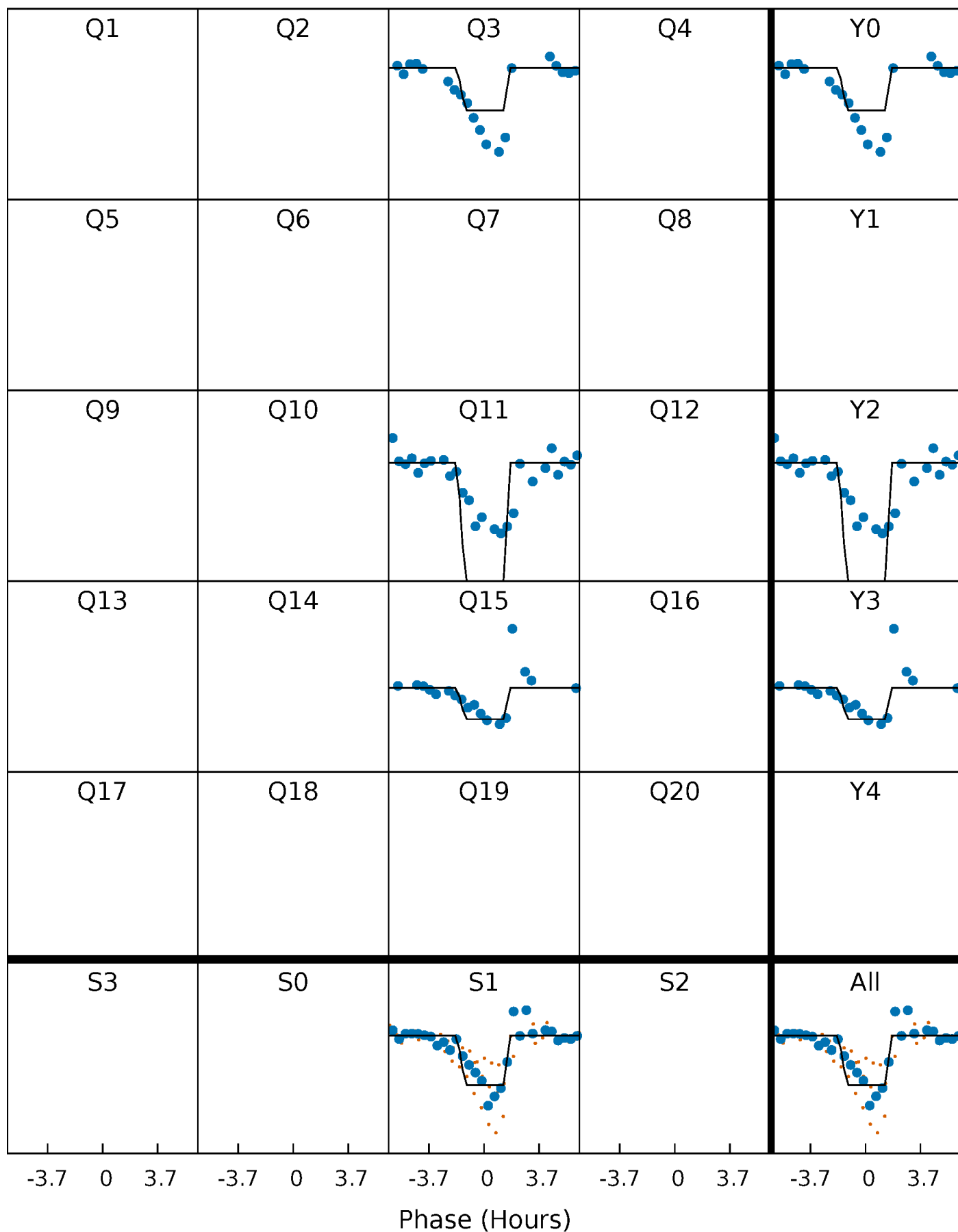
DV Quarter-Phased Transit Curves

TCE 008257779-01 P=373.635447 Days $T_0=347.040689$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

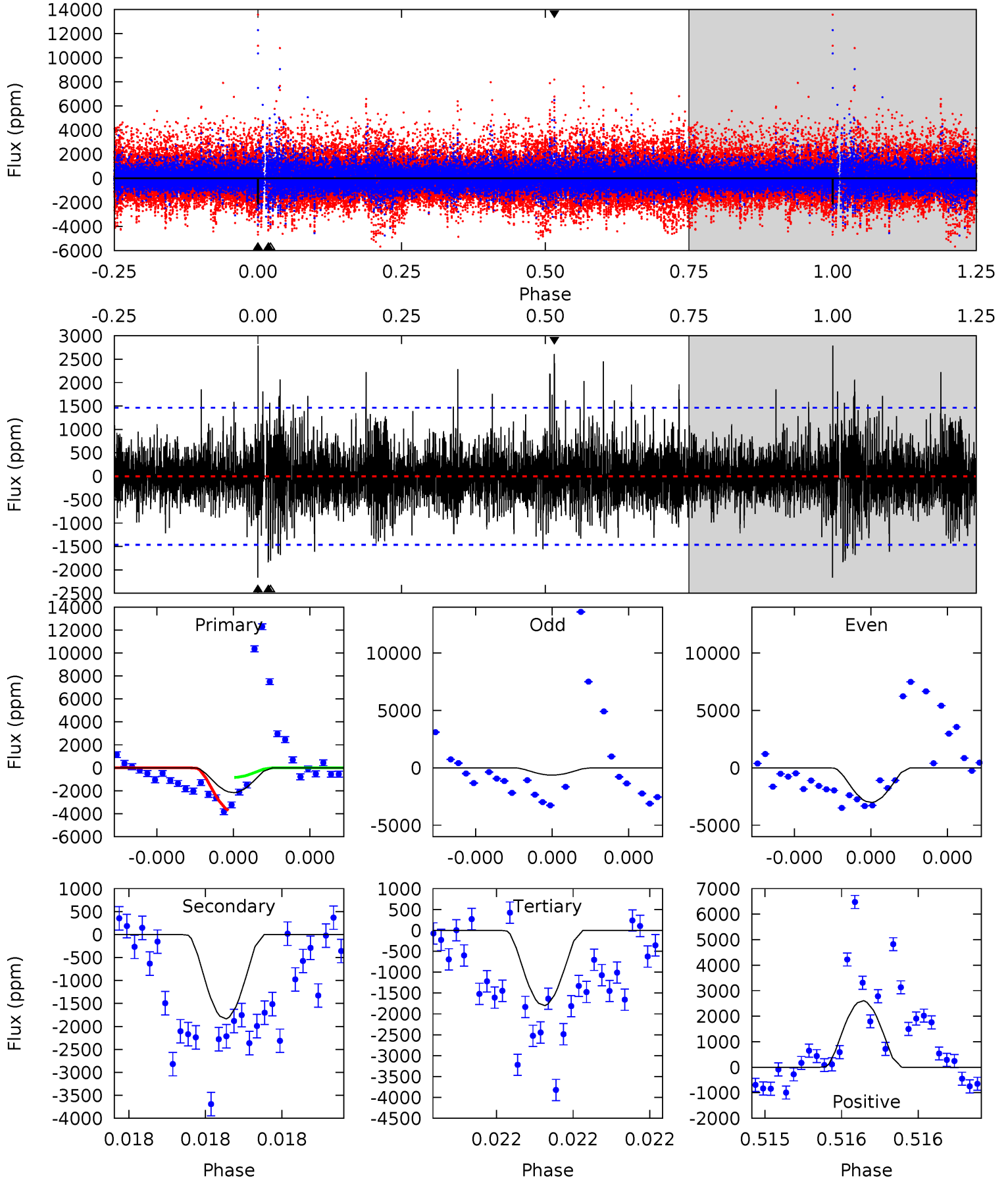
TCE 008257779-01 P=373.634439 Days $T_0=347.010508$ (BKJD)



DV Model-Shift Uniqueness Test

008257779-01, P = 373.635447 Days, E = 347.040689 Days

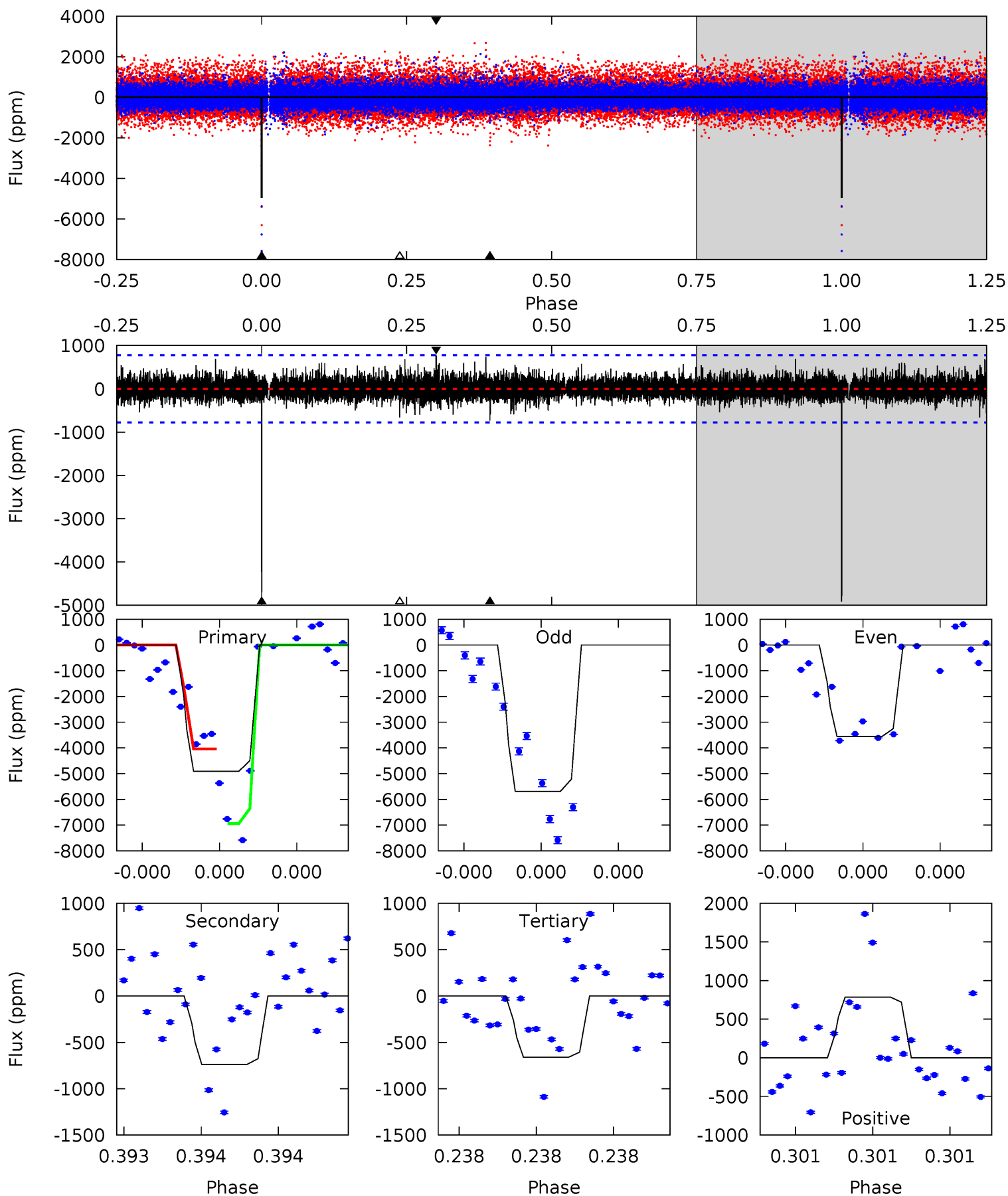
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.29	7.02	6.89	9.97	5.60	3.51	1.66	1.40	-1.69	0.13	-2.95	3.78	0.64	0.56	5.51



Alt Model-Shift Uniqueness Test

008257779-01, P = 373.634439 Days, E = 347.010508 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.4	5.32	4.77	5.67	5.62	3.55	1.01	30.6	29.7	0.56	-0.35	8.17	1.09	0.14	9.44



Stellar Parameters For KIC 008257779

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4789^{+155}_{-155}	$4.745^{+0.039}_{-0.025}$	$-1.720^{+0.300}_{-0.150}$	$0.511^{+0.023}_{-0.029}$	$0.529^{+0.035}_{-0.019}$	$5.598^{+0.825}_{-0.490}$
	+3%/-3%	+1%/-1%	+17%/-9%	+5%/-6%	+7%/-4%	+15%/-9%
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 008257779-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1835 ± 261	$22.05^{+23.74}_{-15.29}$	232^{+8}_{-8}	2444^{+867}_{-390}	1502^{+13782}_{-1175}
Alt.	-738 ± 139	$21.16^{+20.96}_{-14.53}$	233^{+8}_{-8}	2204^{+734}_{-304}	614^{+5904}_{-461}

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 $A_{obs} \gg 1.0$

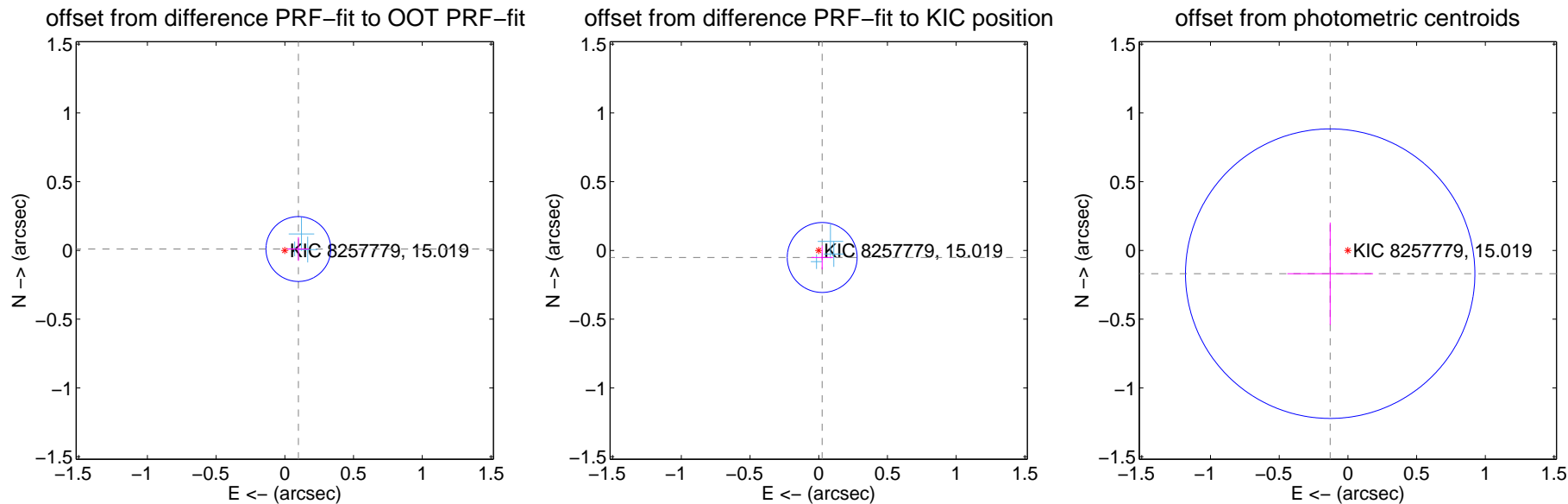
DV Centroid Data

Supplemental centroid analysis for 008257779-01. Kepler magnitude: 15.02. Transit SNR 9.91

There are 3 quarters with good PRF difference image offsets

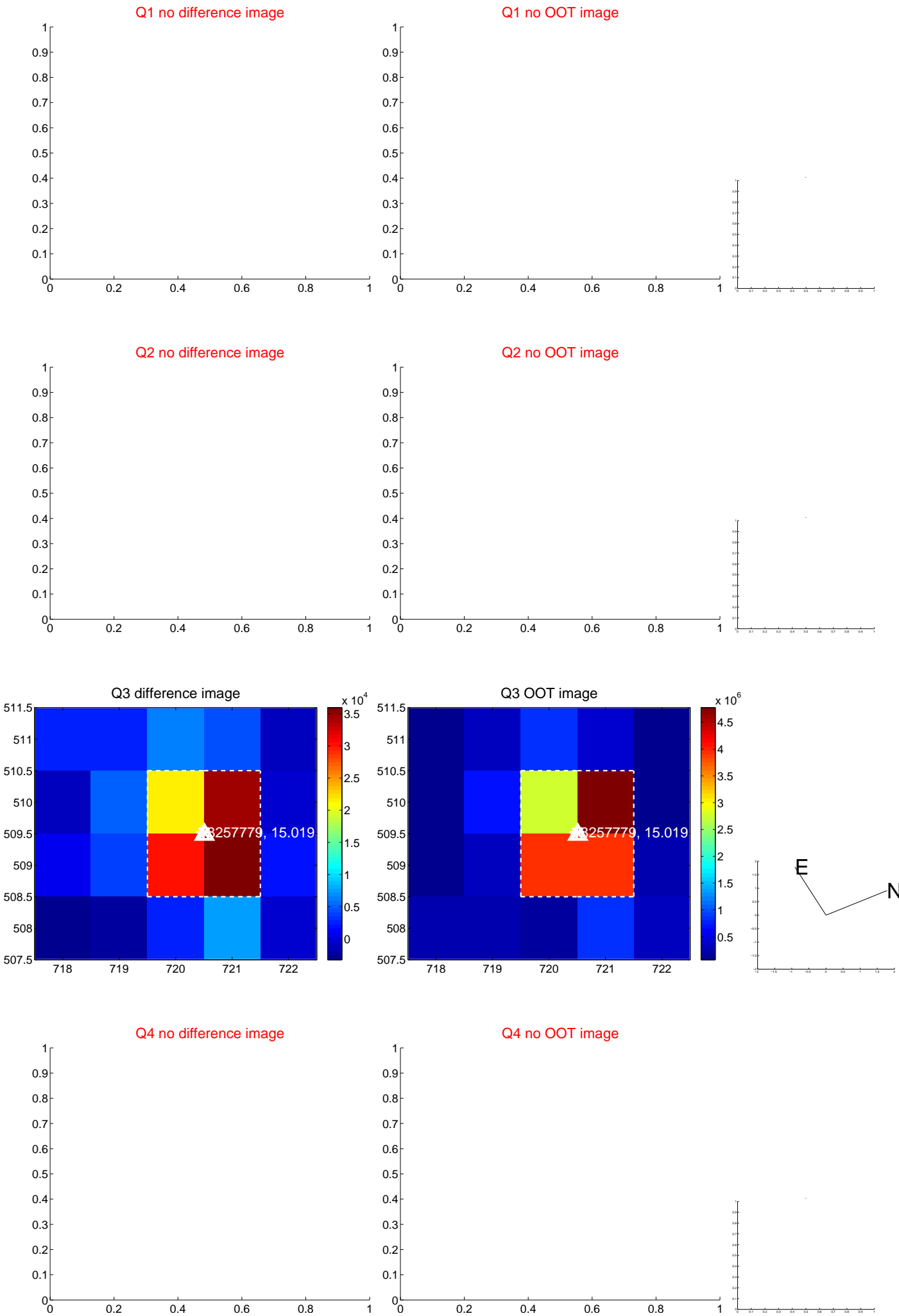
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.099 ± 0.079	1.26	-0.099 ± 0.079	0.010 ± 0.086
PRF-fit source offset from KIC position	0.057 ± 0.085	0.67	-0.025 ± 0.079	-0.051 ± 0.086
photometric centroid source offset	0.21 ± 0.35	0.61	0.13 ± 0.31	-0.17 ± 0.37



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.

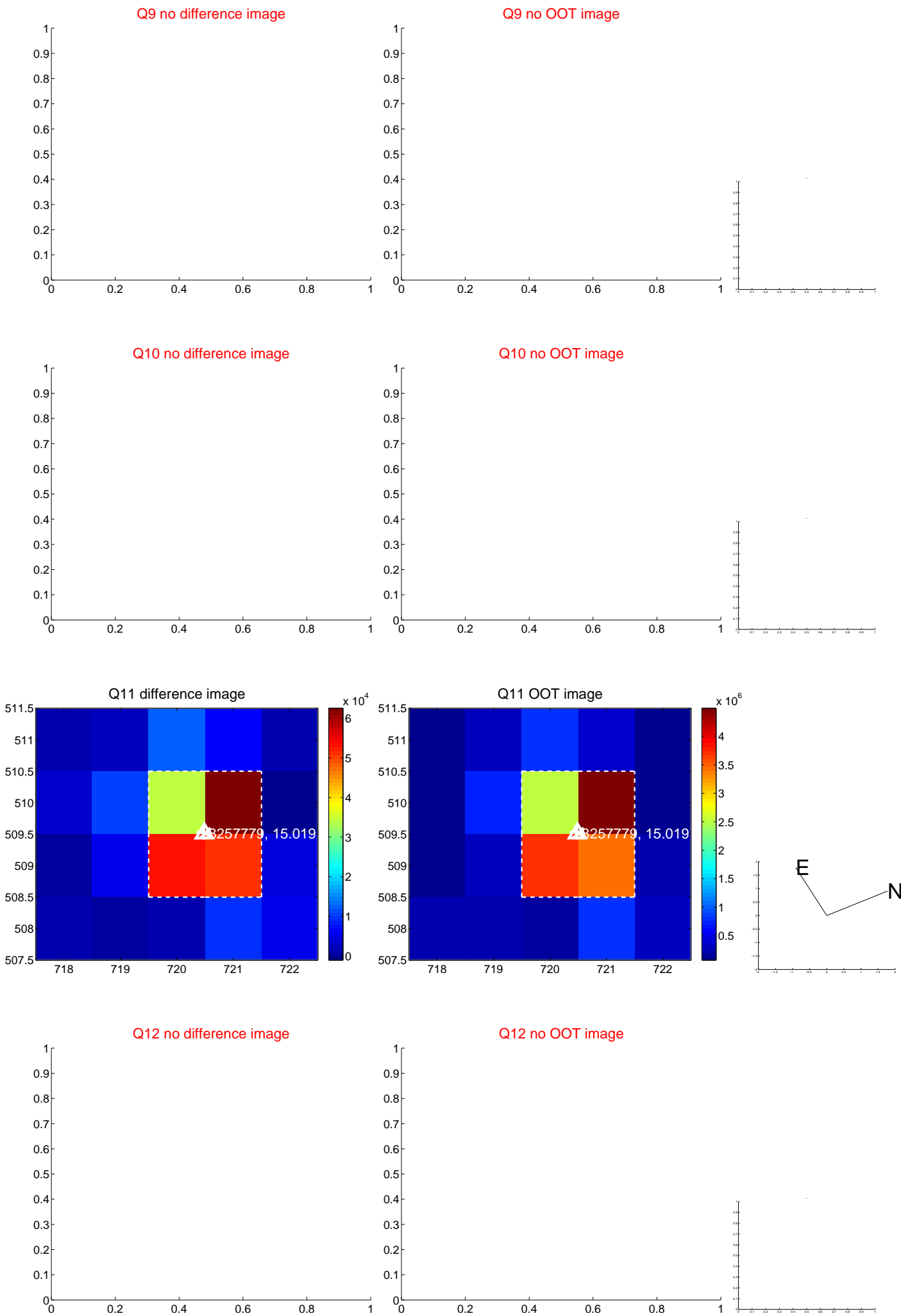
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



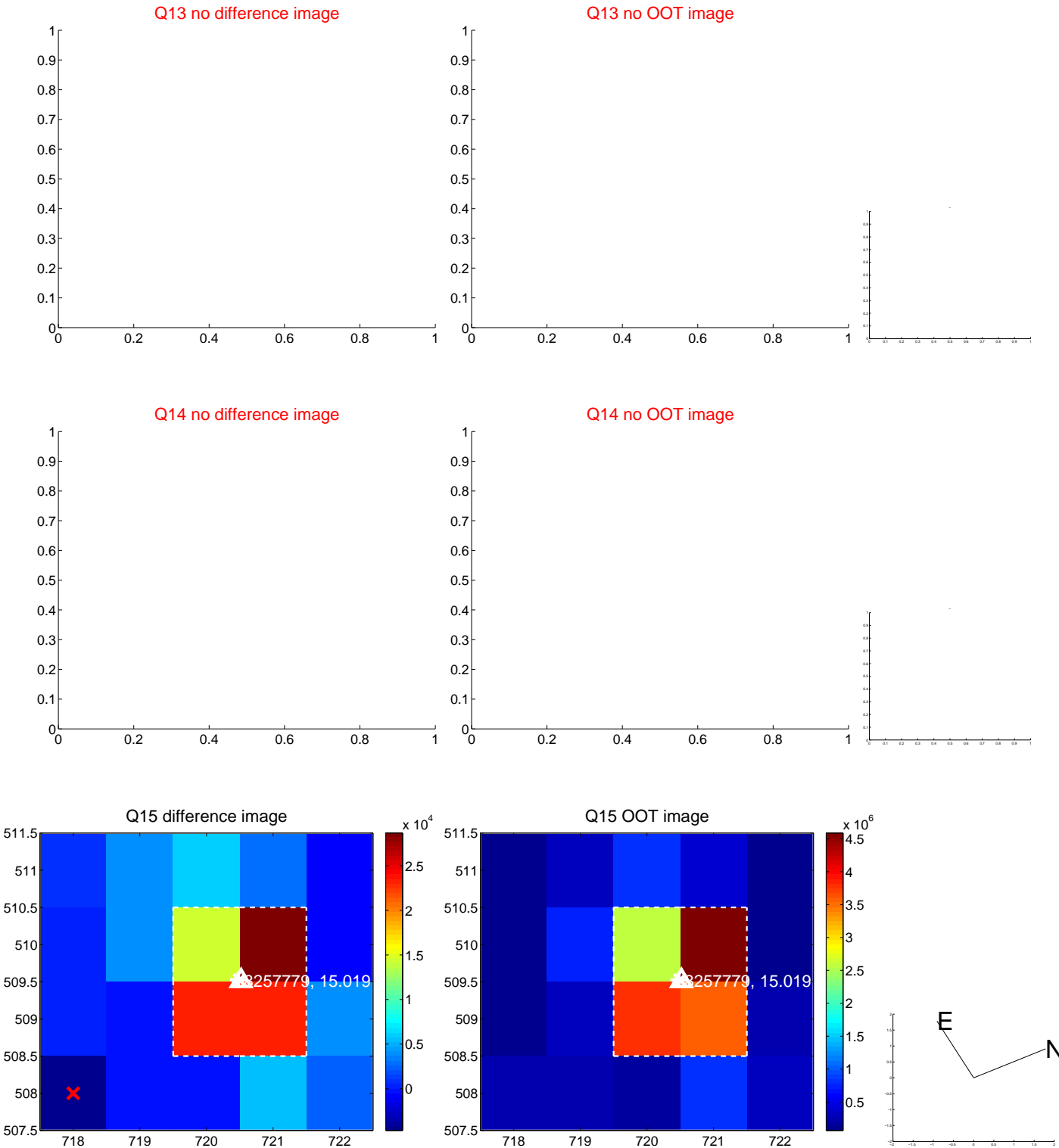
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



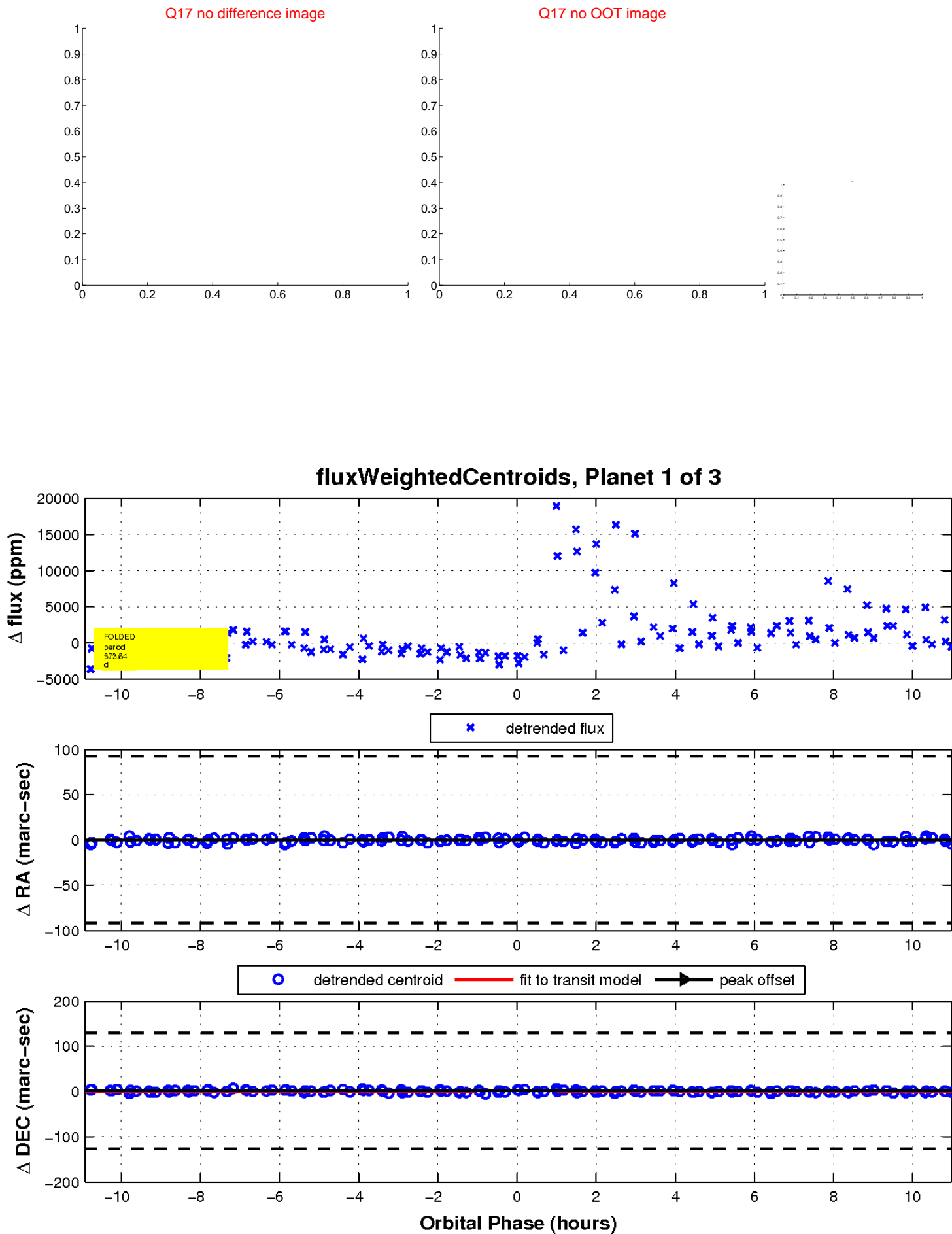
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

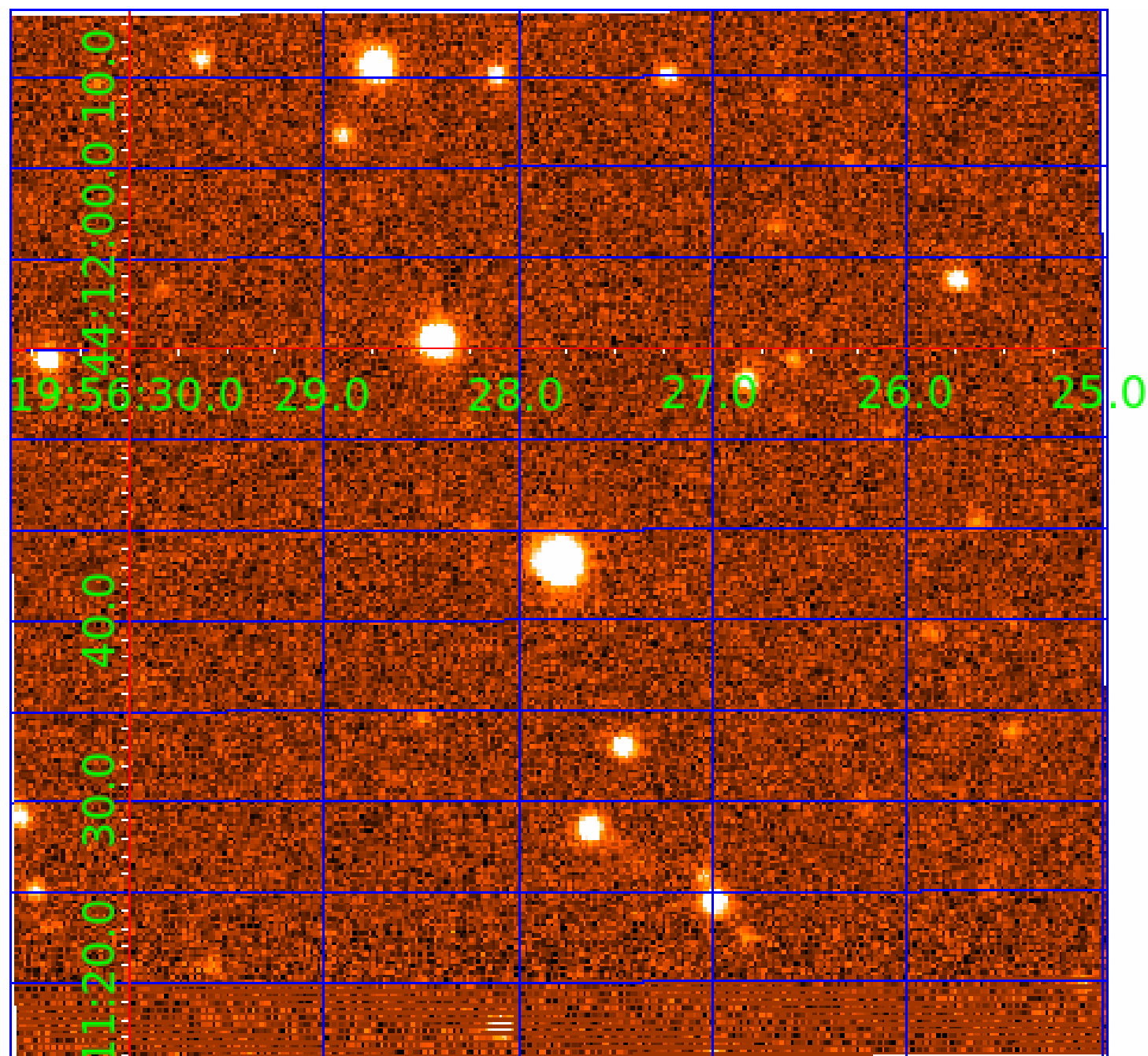


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008257779

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

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008257779-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008257779-03	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

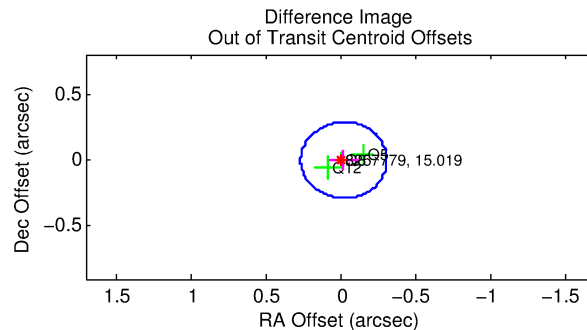
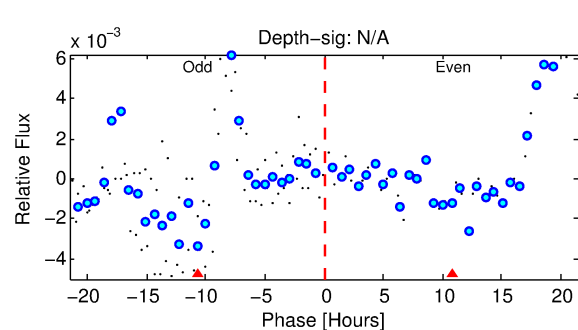
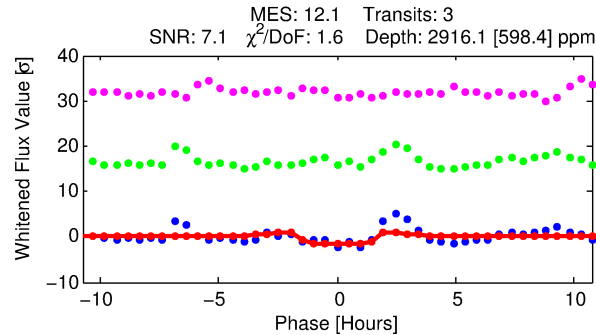
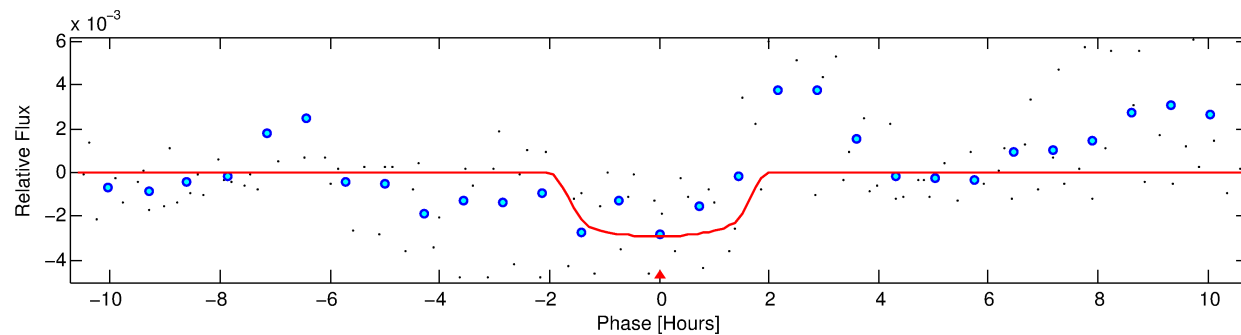
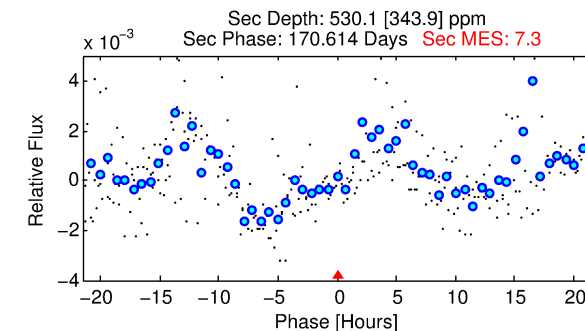
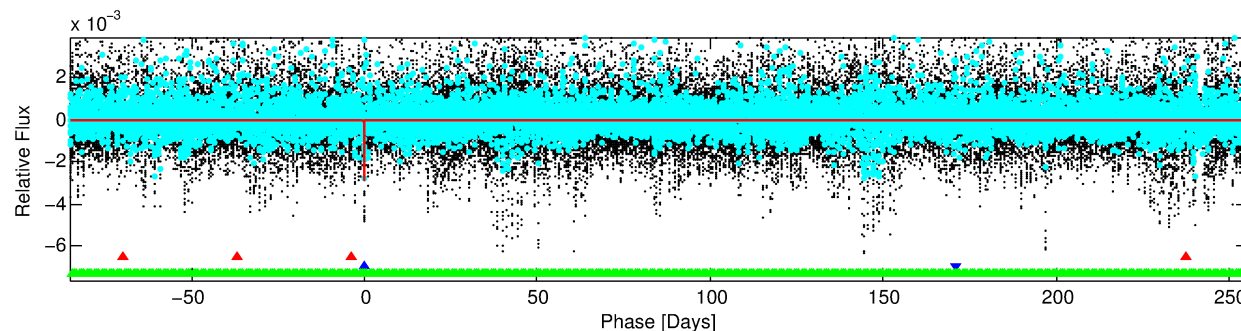
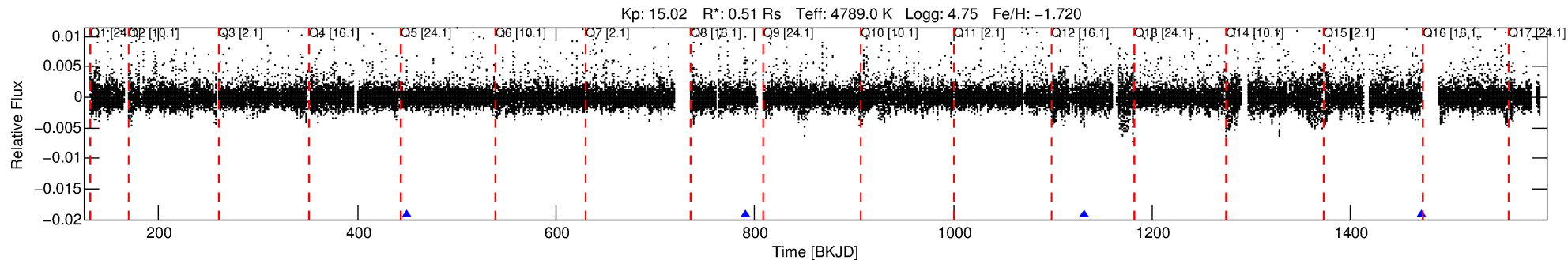
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008257779-02

No Significant Match Found

DV One-Page Summary

KIC: 8257779 Candidate: 2 of 3 Period: 340.551 d



DV Fit Results:

Period = 340.55098 [0.00670] d
Epoch = 450.0475 [0.0077] BKJD
Rp/R* = 0.0495 [0.0787]
a/R* = 744.17 [5499.30]
b = 0.23 [30.69]
Seff = 0.21 [0.03]
Teq = 172 [6] K
Rp = 2.76 [4.39] Re
a = 0.7723 [0.0373] AU
Ag = 22799.67 [73989.13] [0.31σ]
Teff = 3265 [2650] K [1.17σ]

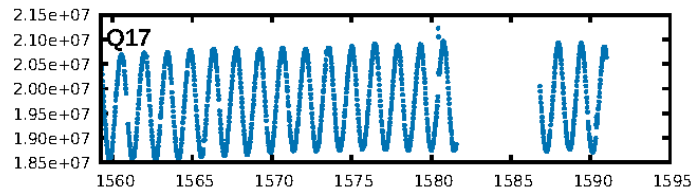
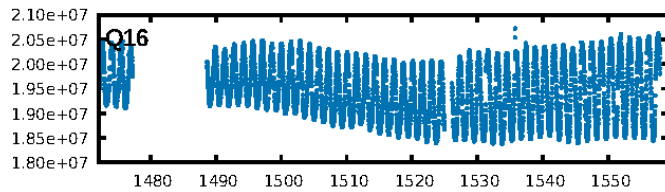
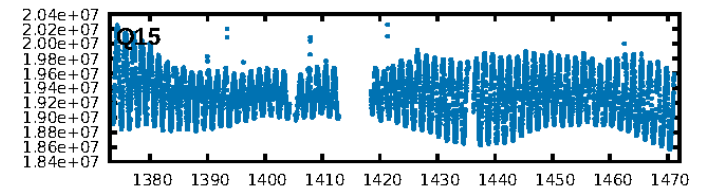
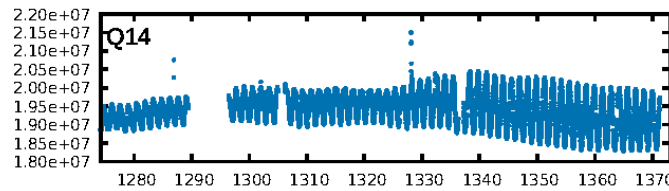
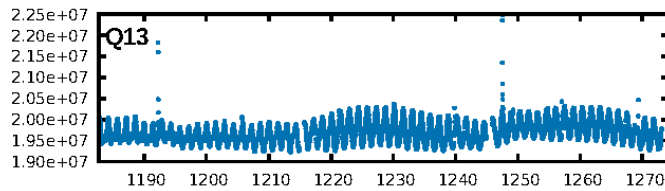
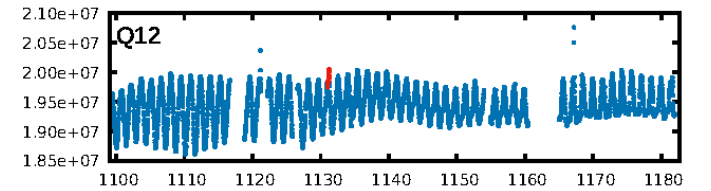
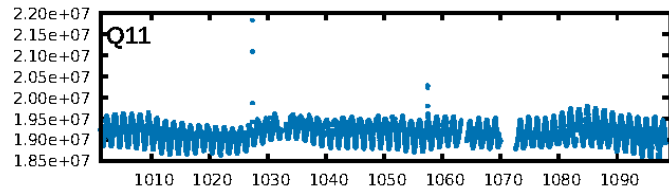
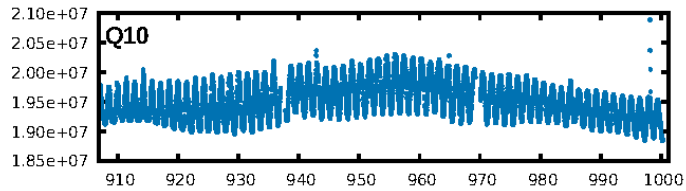
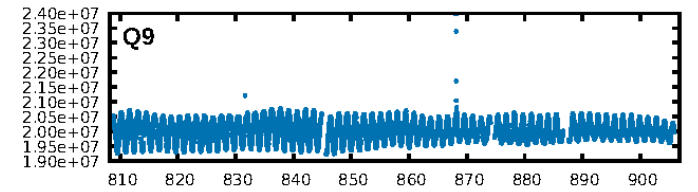
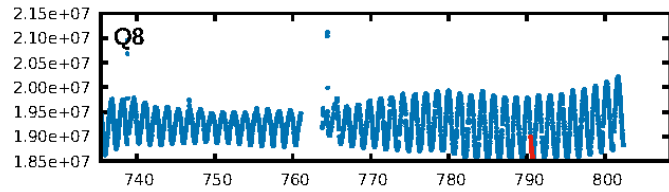
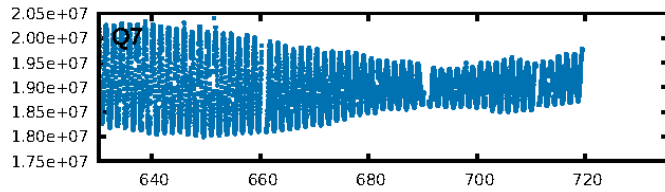
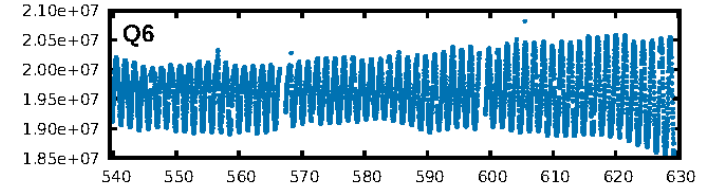
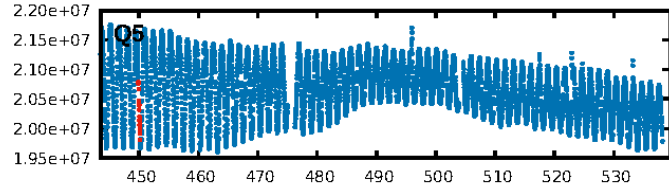
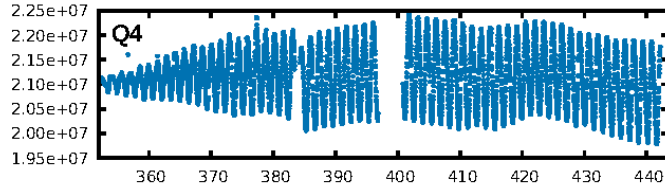
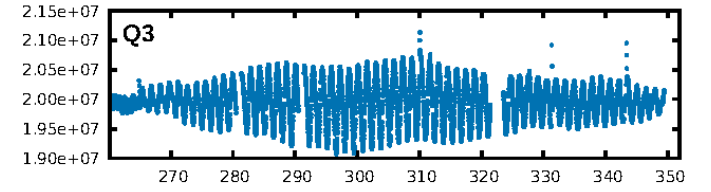
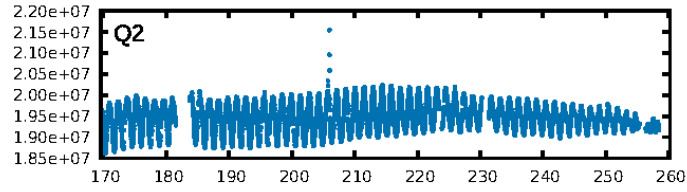
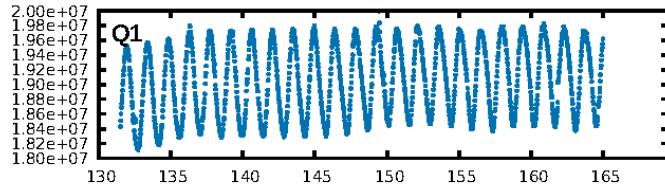
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [919.44σ]
LongPeriod-sig: 100.0% [154.75σ]
ModelChiSquare2-sig: 1.9%
ModelChiSquareGof-sig: 32.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 4.146
Centroid-sig: 15.0%
Centroid-so: 0.831 arcsec [1.20σ]
OotOffset-rm: 0.024 arcsec [0.25σ]
KicOffset-rm: 0.045 arcsec [0.58σ]
OotOffset-st: 0/0/2/1 [3]
KicOffset-st: 0/0/2/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.33 [1/3]

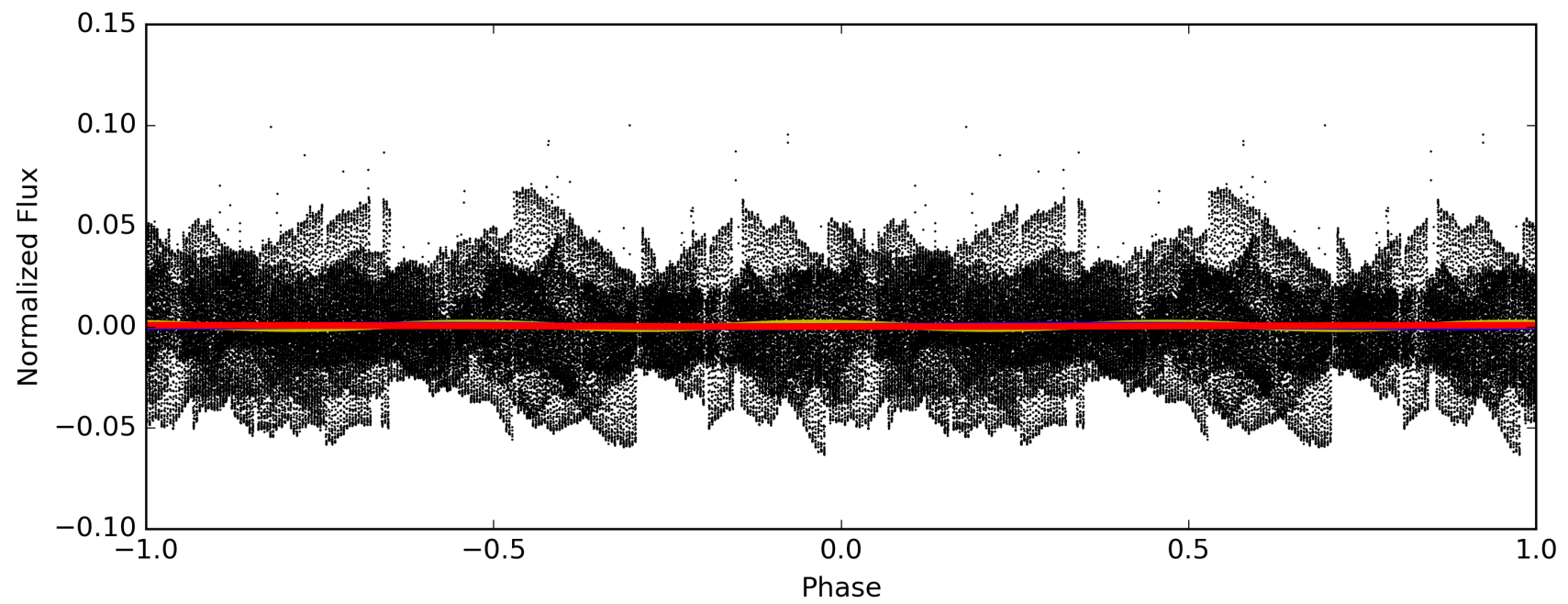
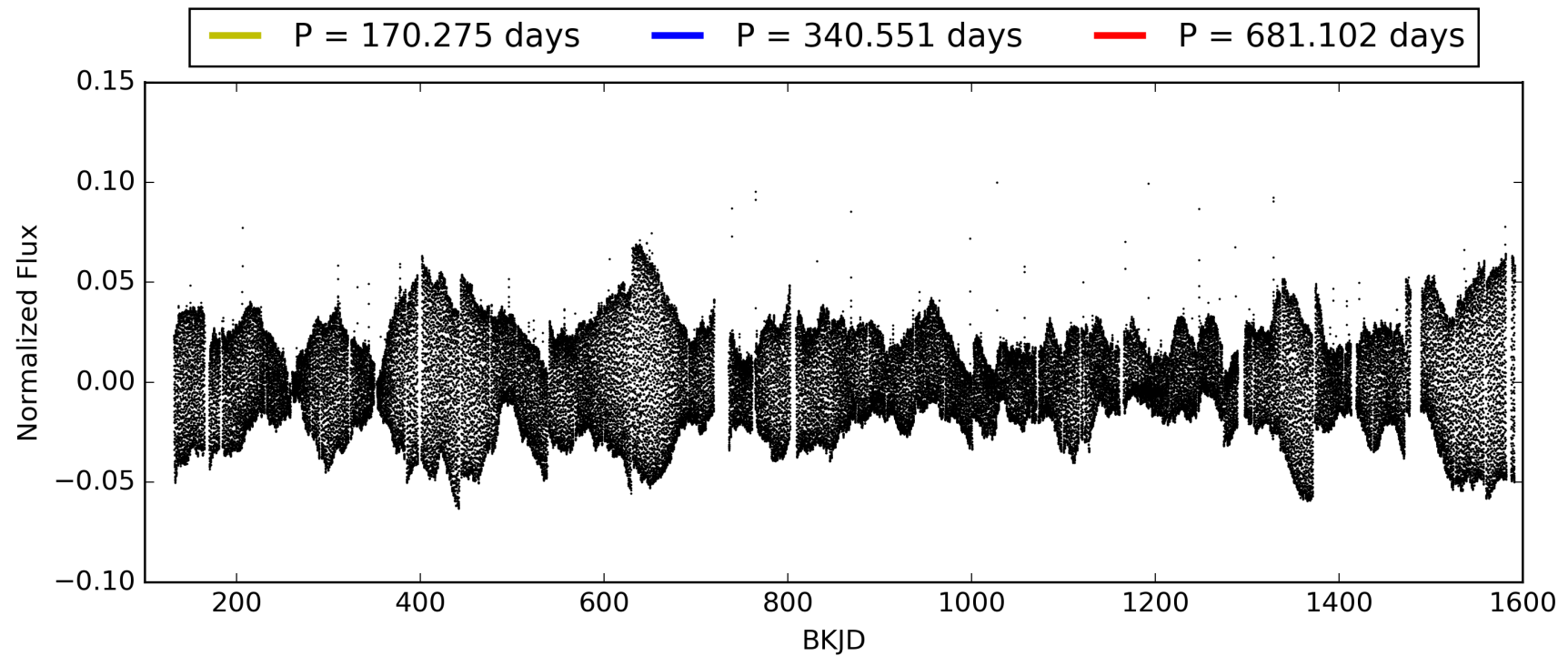
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:39:12 Z

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

TCE 008257779-02, PDC Light Curves

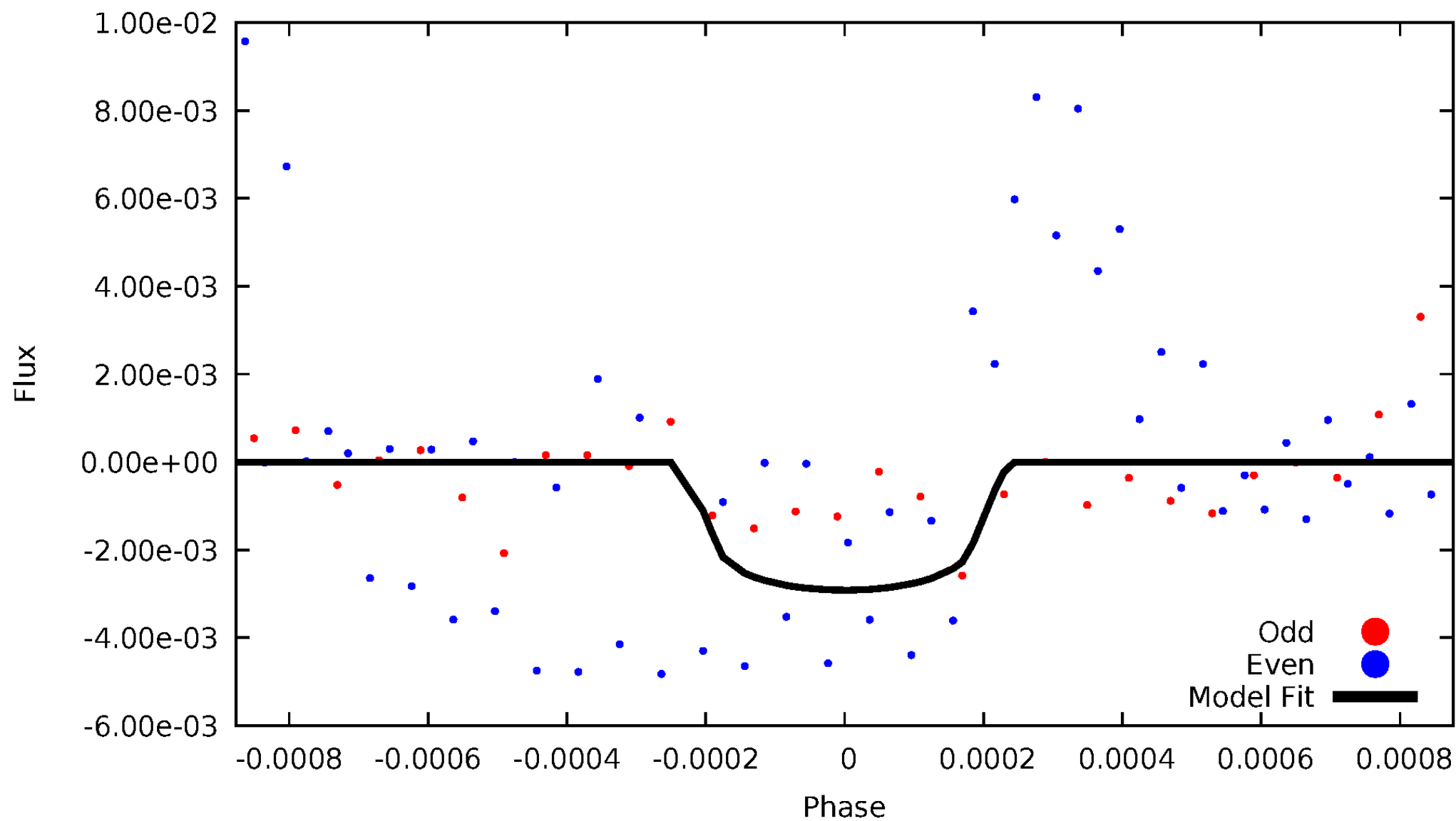


TCE 008257779-02



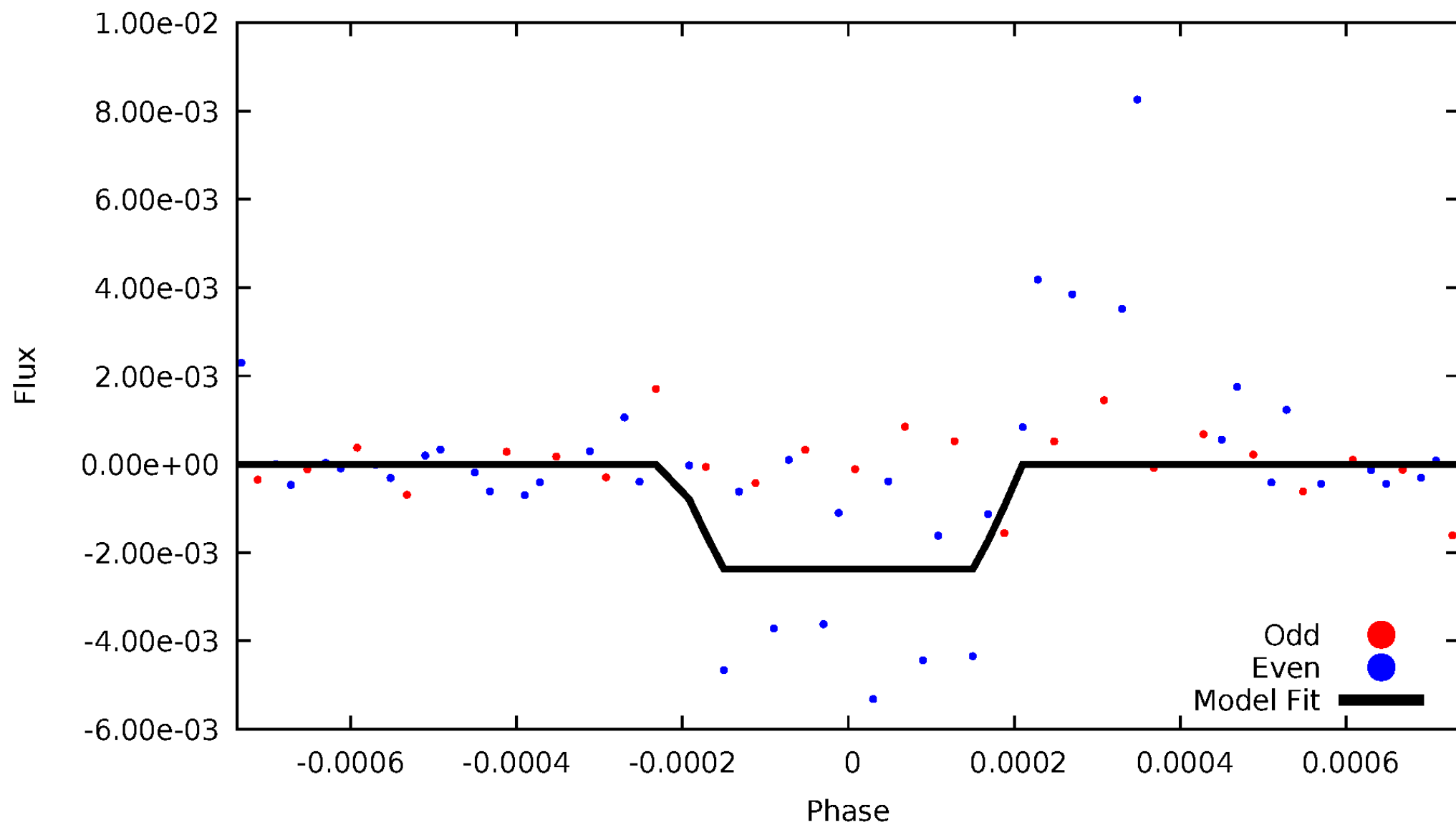
DV Odd/Even

TCE 008257779-02



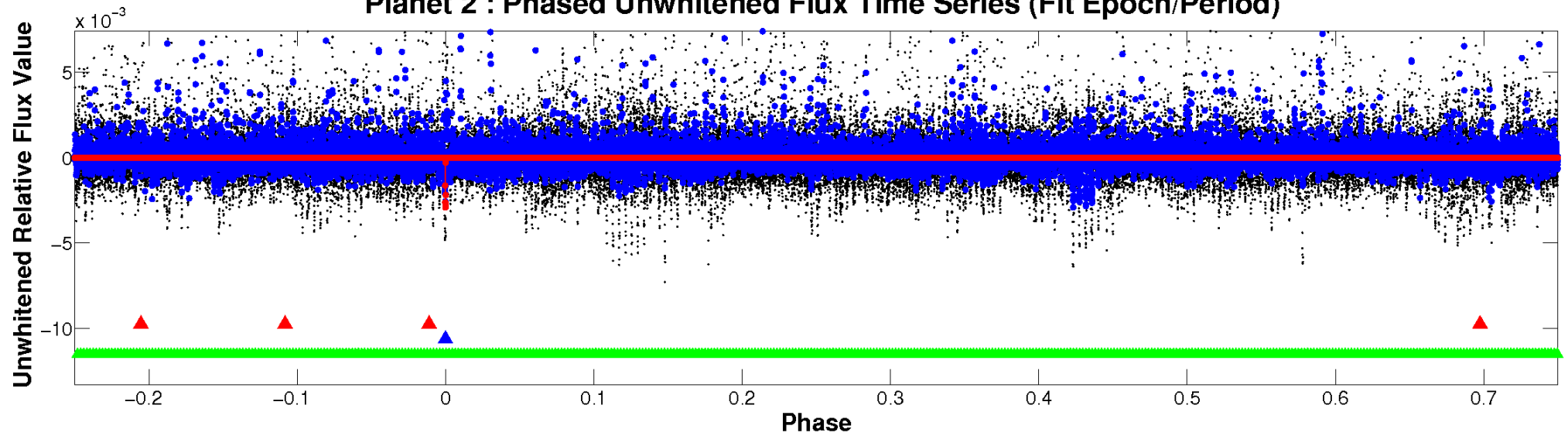
ALT Odd/Even

TCE 008257779-02

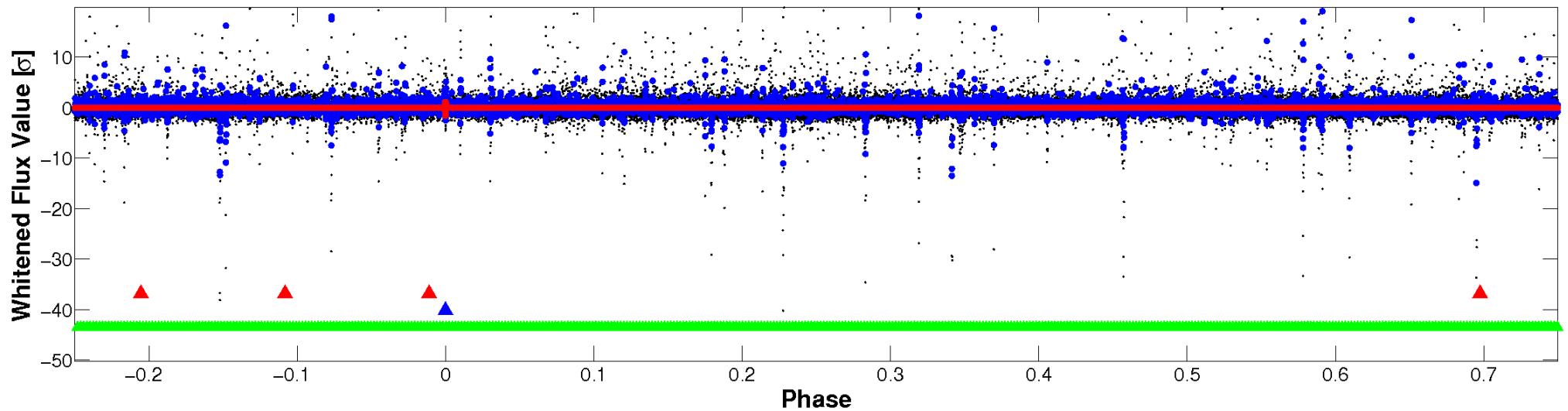


Non-Whitened Vs. Whitened Light Curve

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

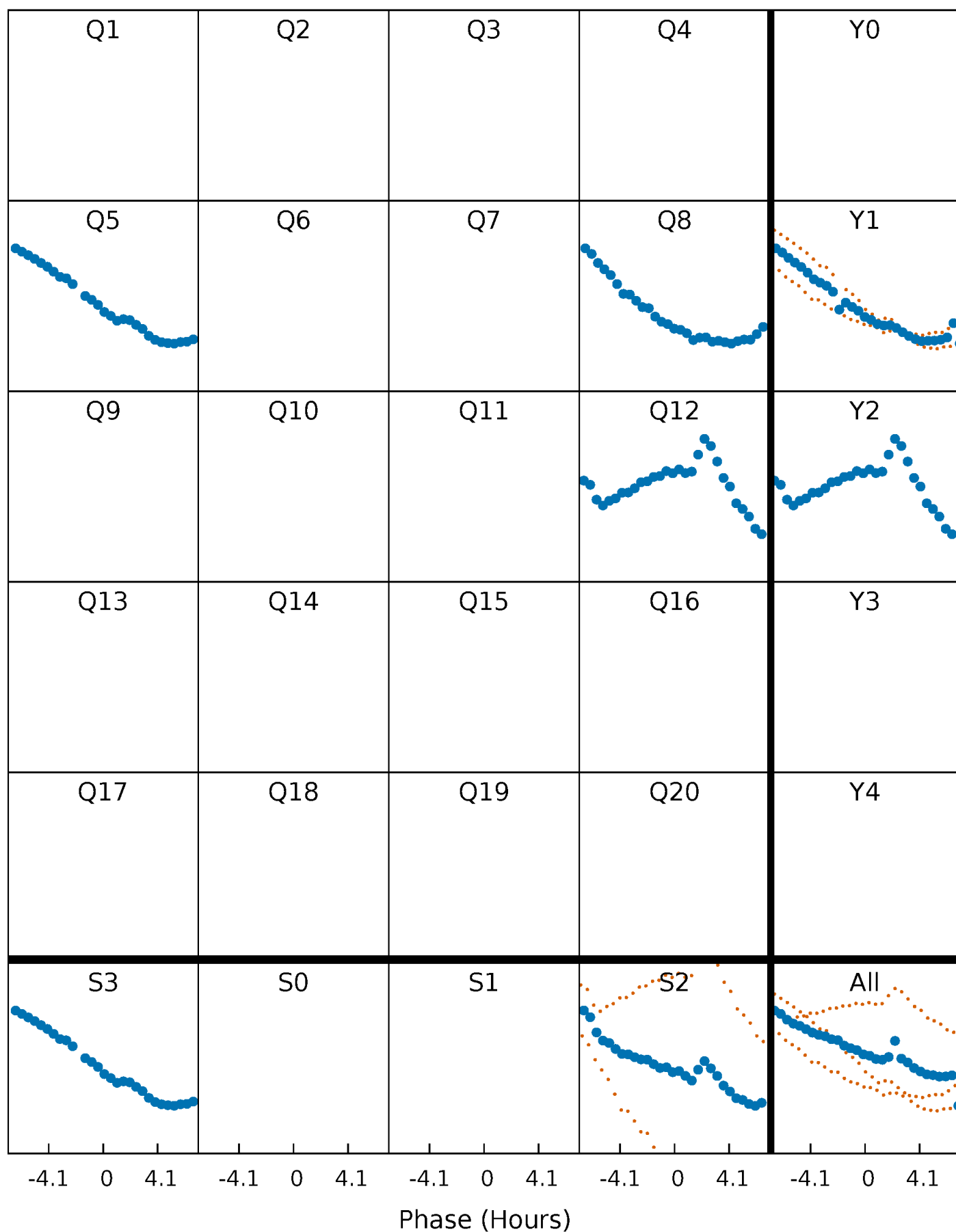


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



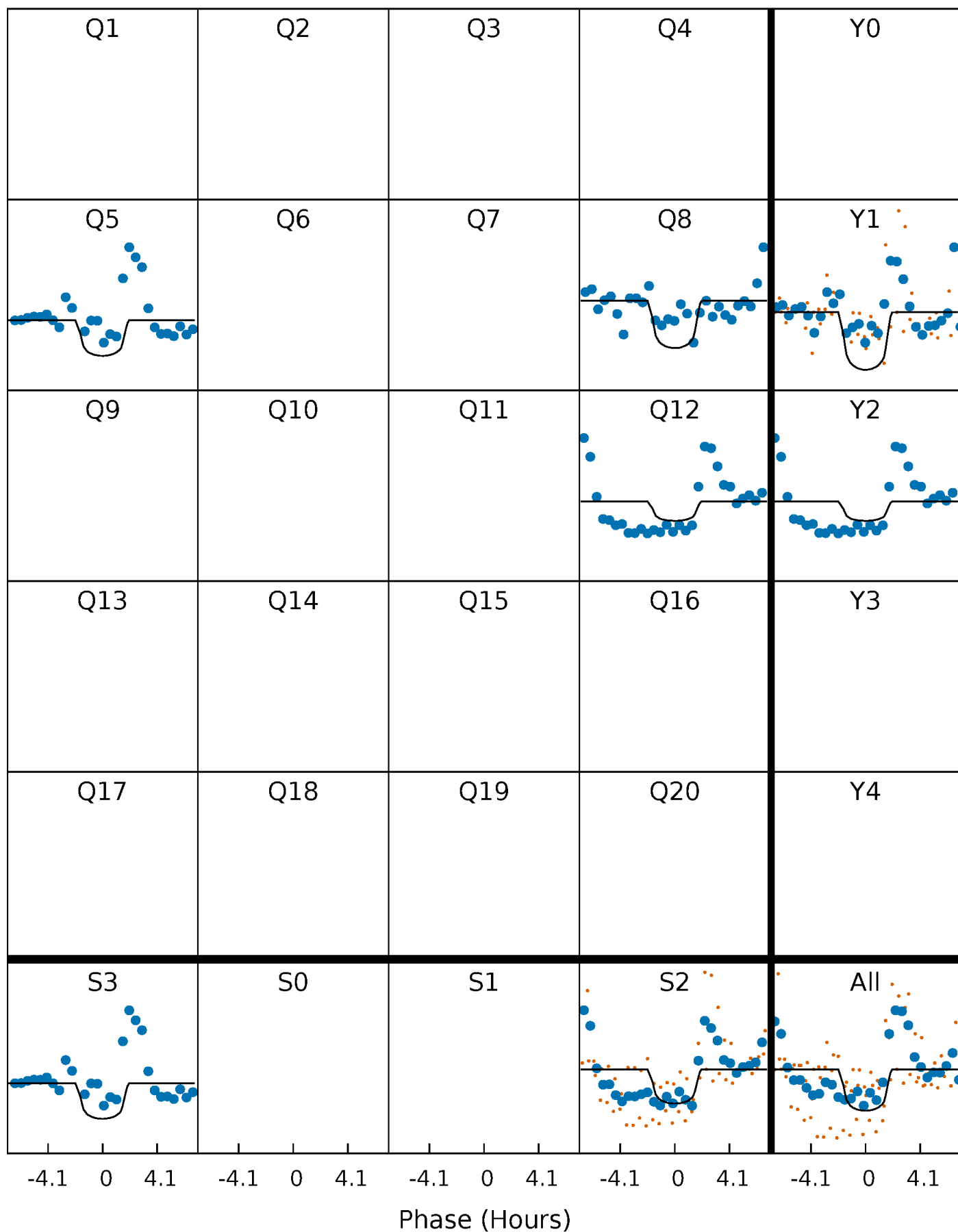
PDC Quarter-Phased Transit Curves

TCE 008257779-02 P=340.550980 Days $T_0=450.047471$ (BKJD)



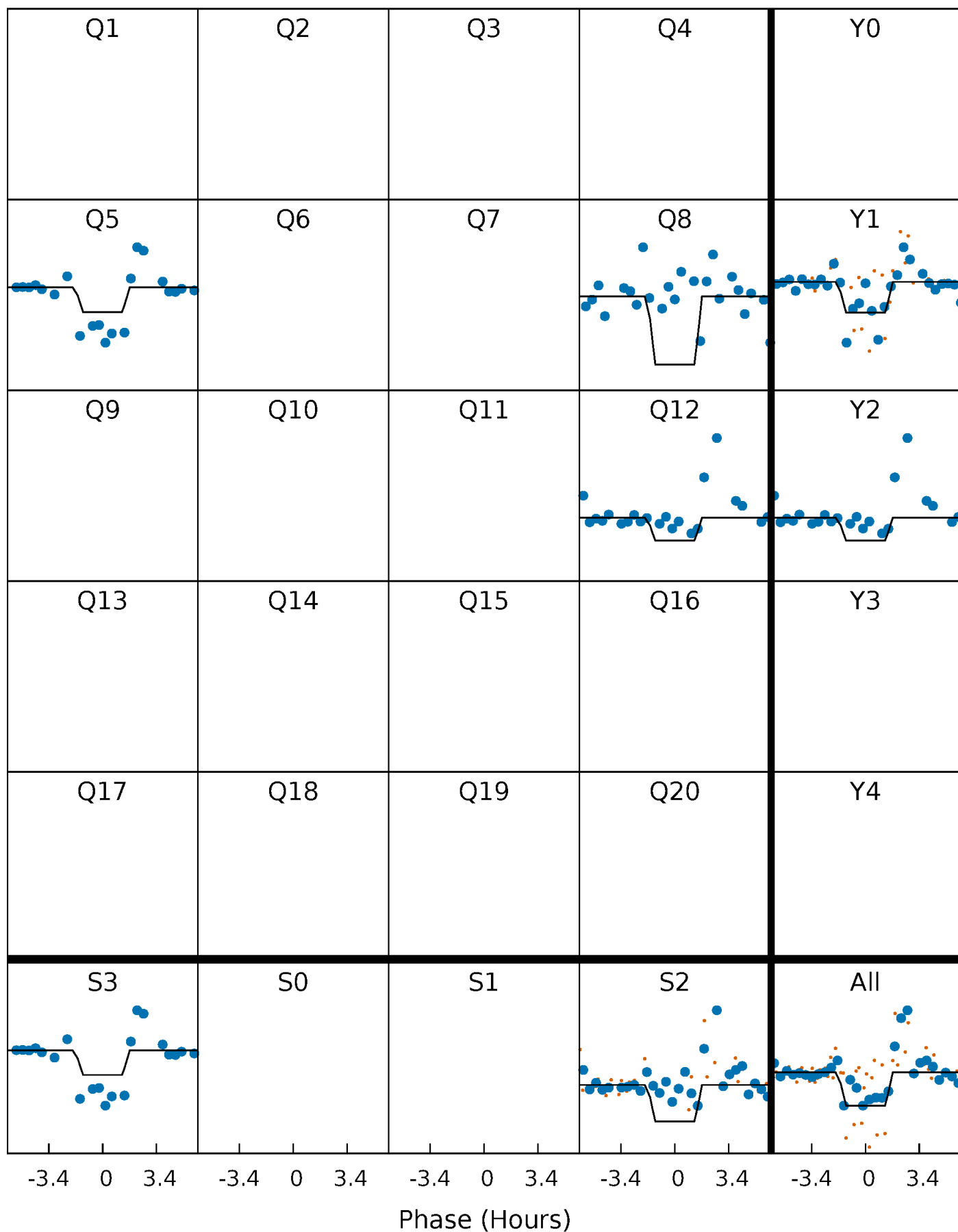
DV Quarter-Phased Transit Curves

TCE 008257779-02 P=340.550980 Days $T_0=450.047471$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

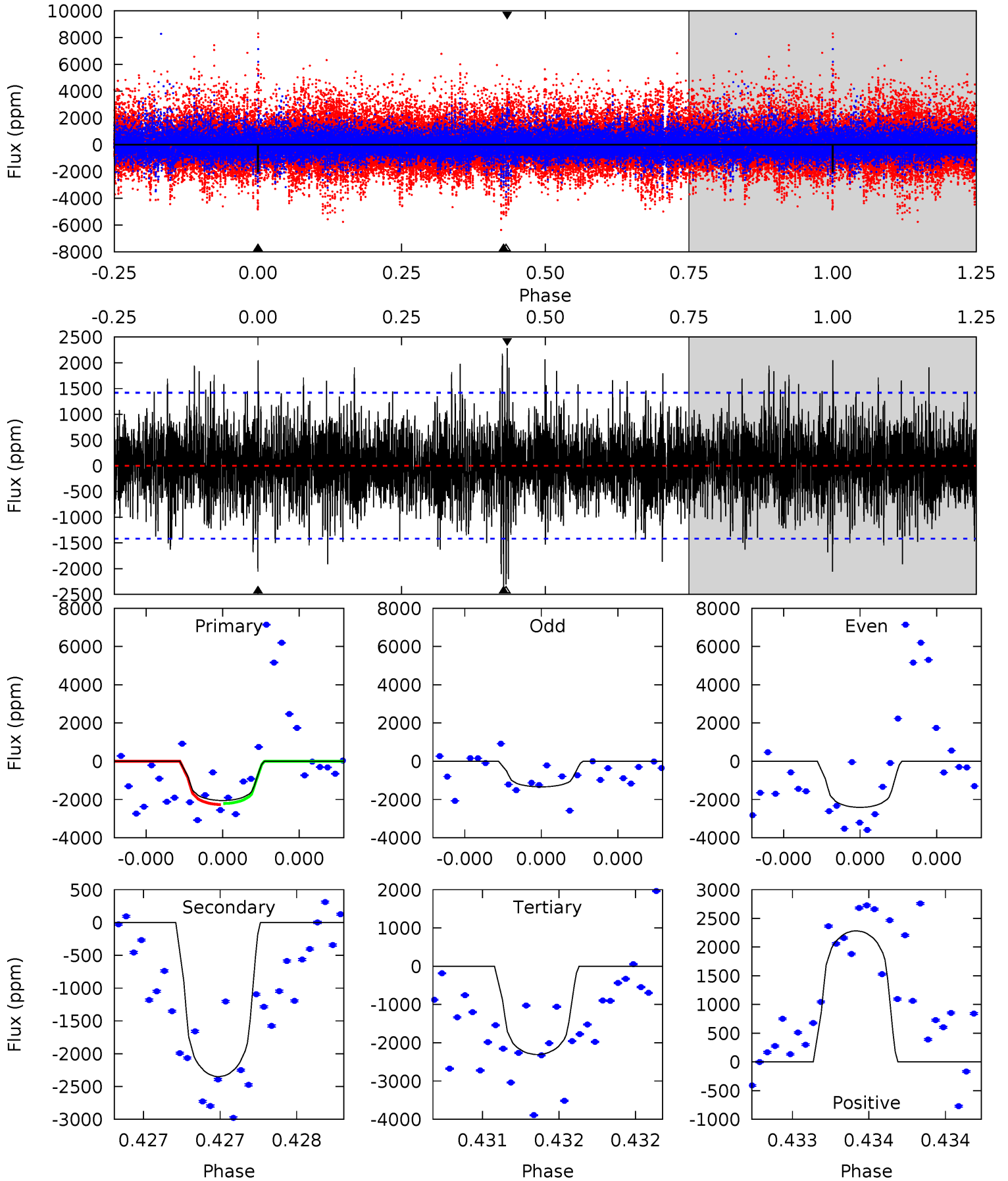
TCE 008257779-02 P=340.553241 Days $T_0=450.038885$ (BKJD)



DV Model-Shift Uniqueness Test

008257779-02, P = 340.550980 Days, E = 109.496491 Days

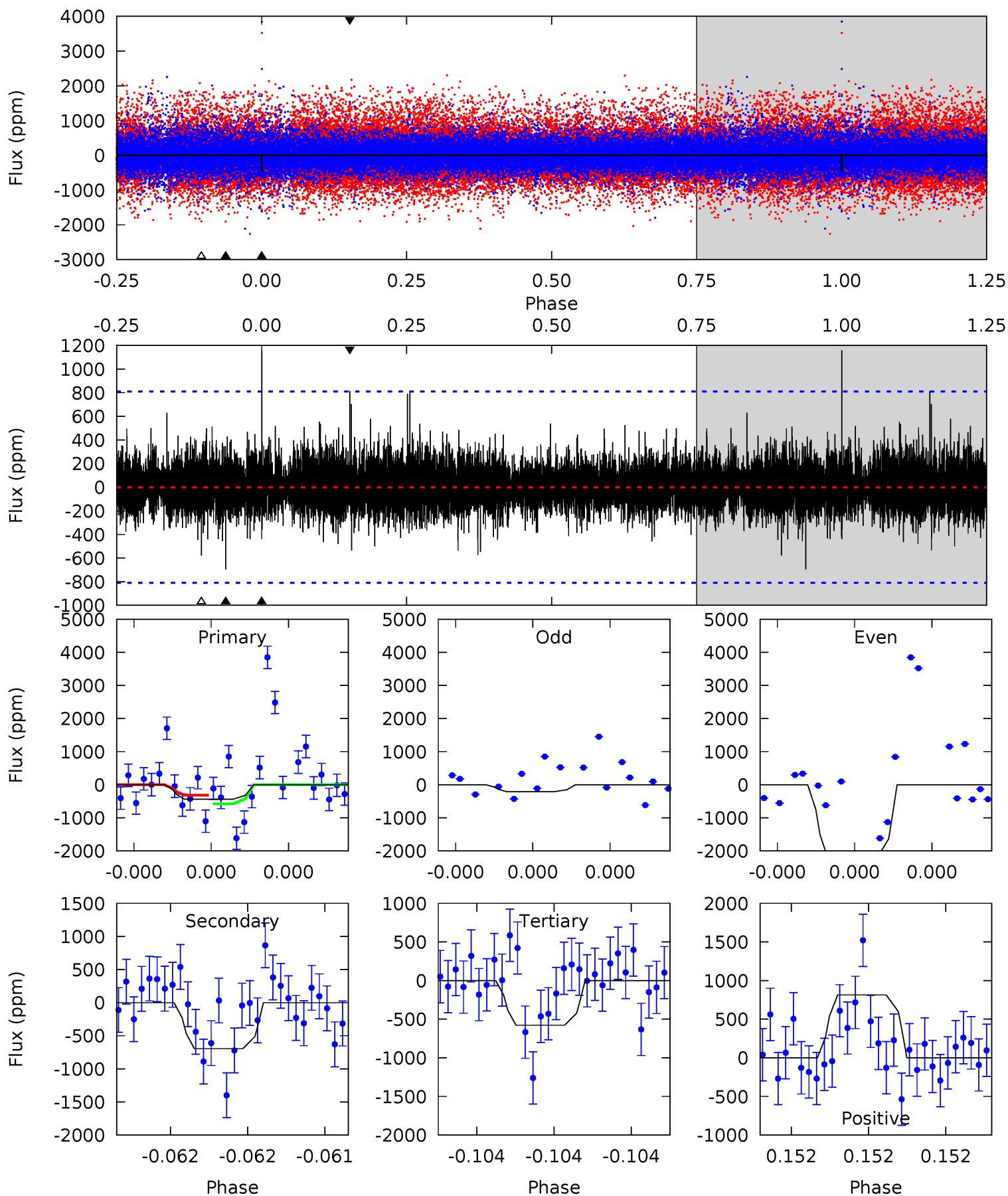
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.10	9.27	9.10	9.01	5.59	3.51	2.01	-1.00	-0.90	0.17	0.26	1.86	1.55	0.49	0.11



Alt Model-Shift Uniqueness Test

008257779-02, P = 340.553241 Days, E = 109.485644 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.04	4.82	4.01	5.65	5.62	3.55	0.90	-0.97	-2.61	0.81	-0.83	7.68	2.13	0.63	0.90



Stellar Parameters For KIC 008257779

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4789^{+155}_{-155}	$4.745^{+0.039}_{-0.025}$	$-1.720^{+0.300}_{-0.150}$	$0.511^{+0.023}_{-0.029}$	$0.529^{+0.035}_{-0.019}$	$5.598^{+0.825}_{-0.490}$
	+3%/-3%	+1%/-1%	+17%/-9%	+5%/-6%	+7%/-4%	+15%/-9%
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 008257779-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2350 ± 254	$4.25^{+4.04}_{-2.77}$	240^{+8}_{-9}	4047^{+2242}_{-815}	$42808^{+315502}_{-31538}$
Alt.	-695 ± 144	$4.28^{+3.45}_{-2.89}$	240^{+8}_{-9}	3291^{+1620}_{-520}	$12334^{+103741}_{-8695}$

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

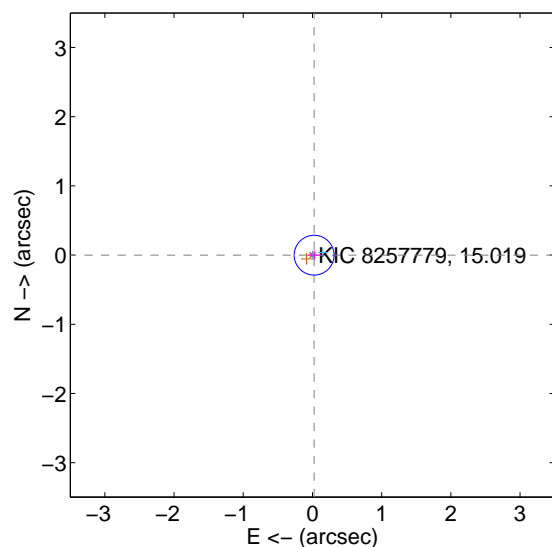
Supplemental centroid analysis for 008257779-02. Kepler magnitude: 15.02. Transit SNR 7.11

There are 2 quarters with good PRF difference image offsets

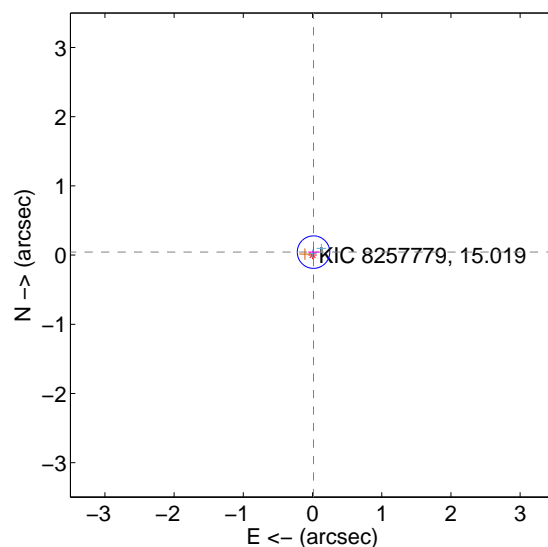
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.024 ± 0.096	0.25	-0.024 ± 0.096	-0.001 ± 0.072
PRF-fit source offset from KIC position	0.045 ± 0.078	0.58	-0.014 ± 0.078	0.043 ± 0.078
photometric centroid source offset	0.83 ± 0.69	1.20	-0.80 ± 0.68	0.21 ± 0.92

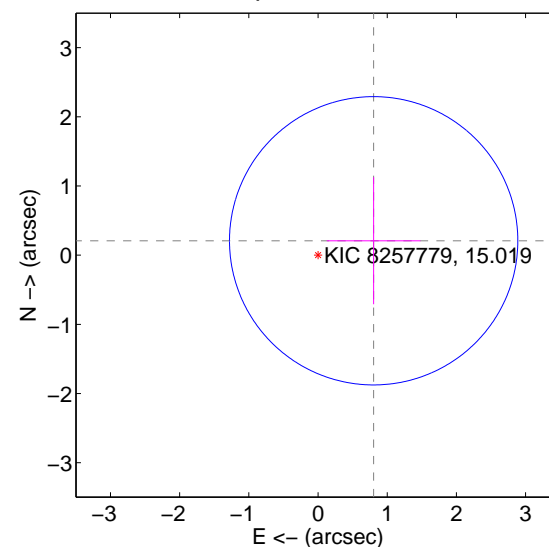
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

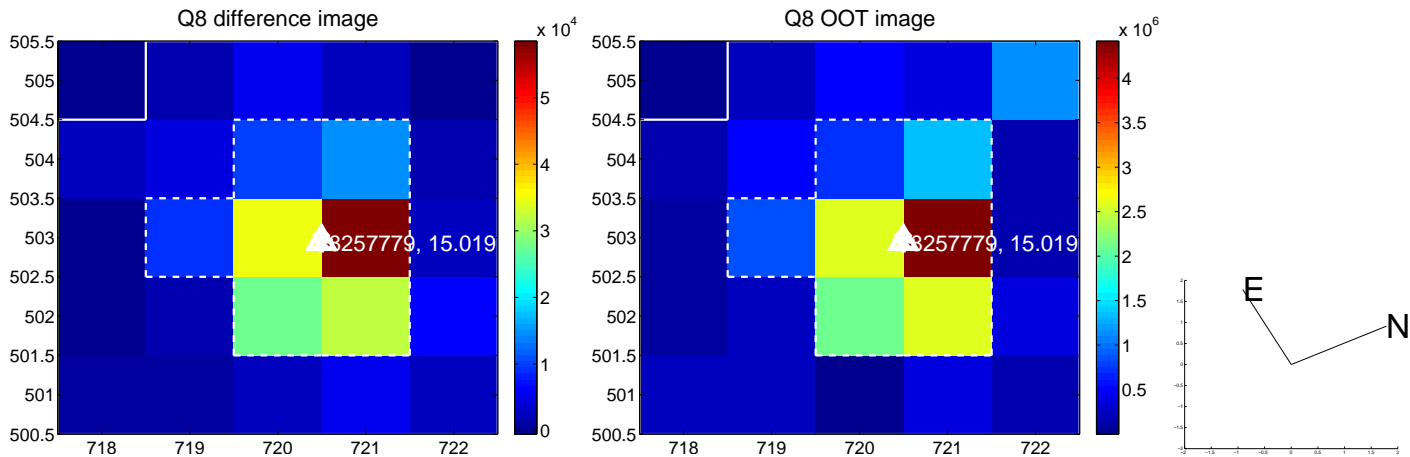
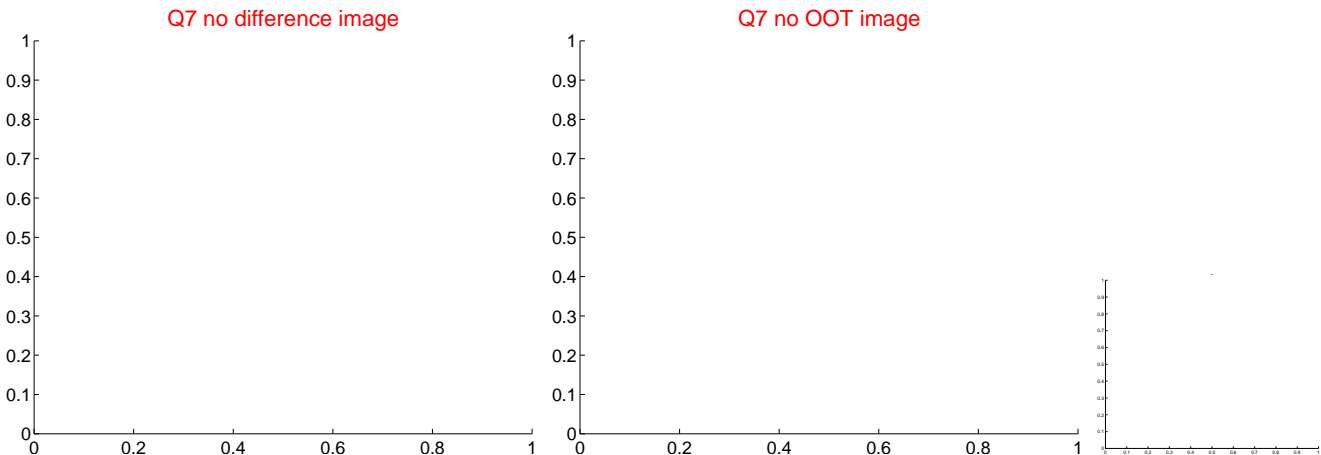
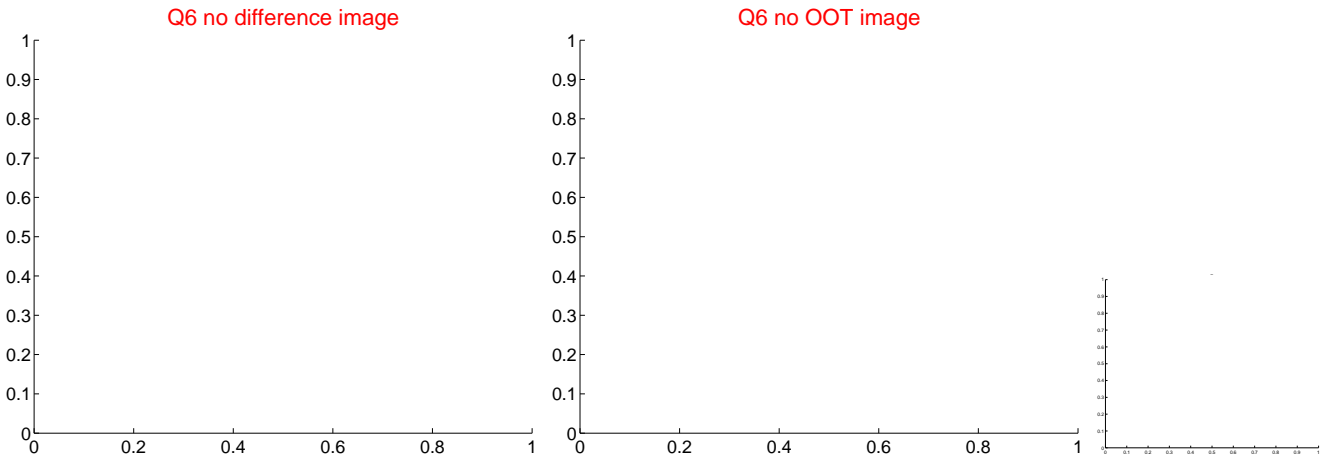
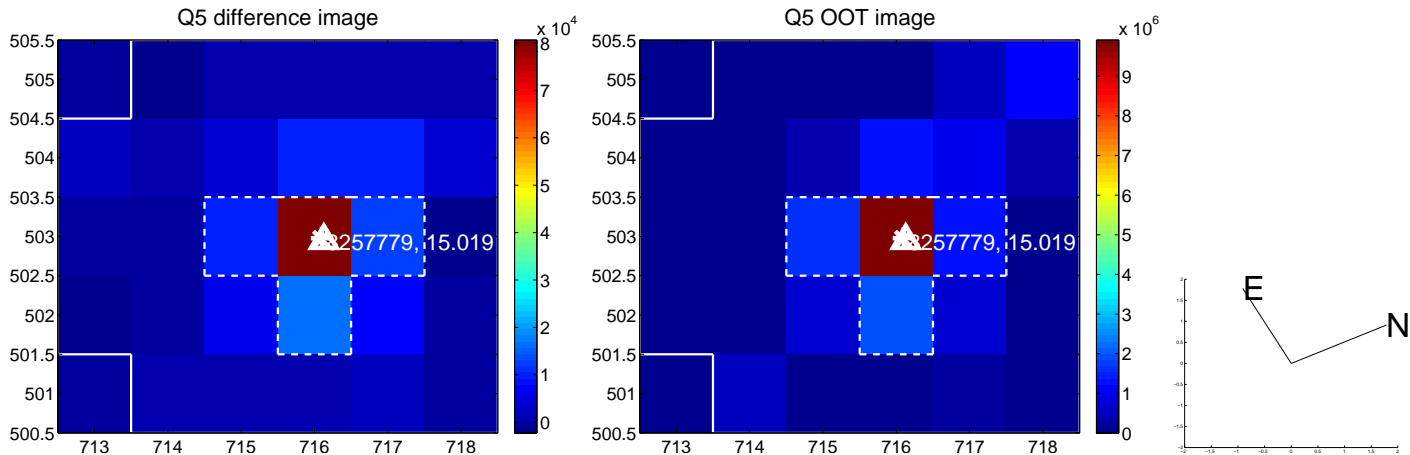


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

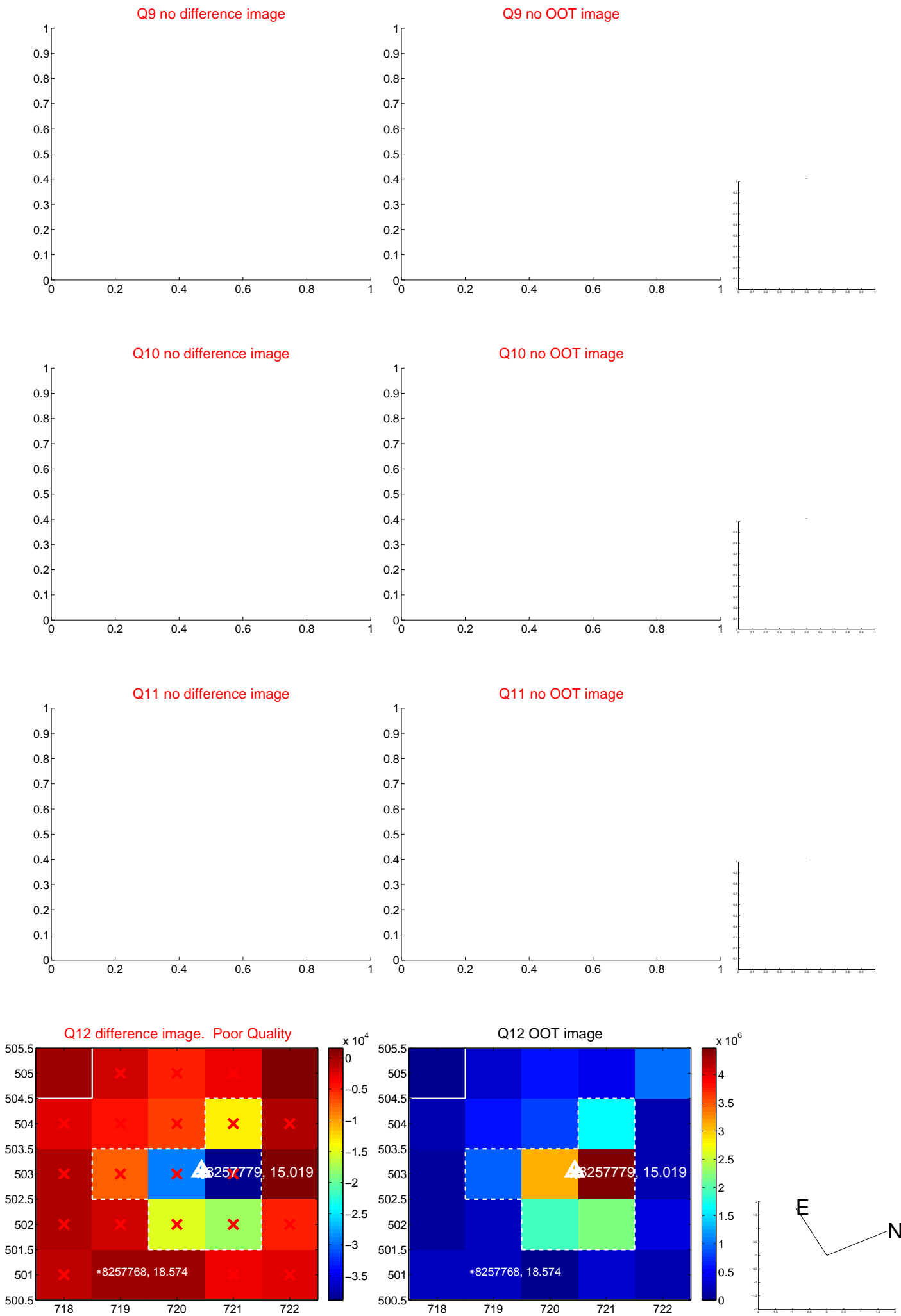
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



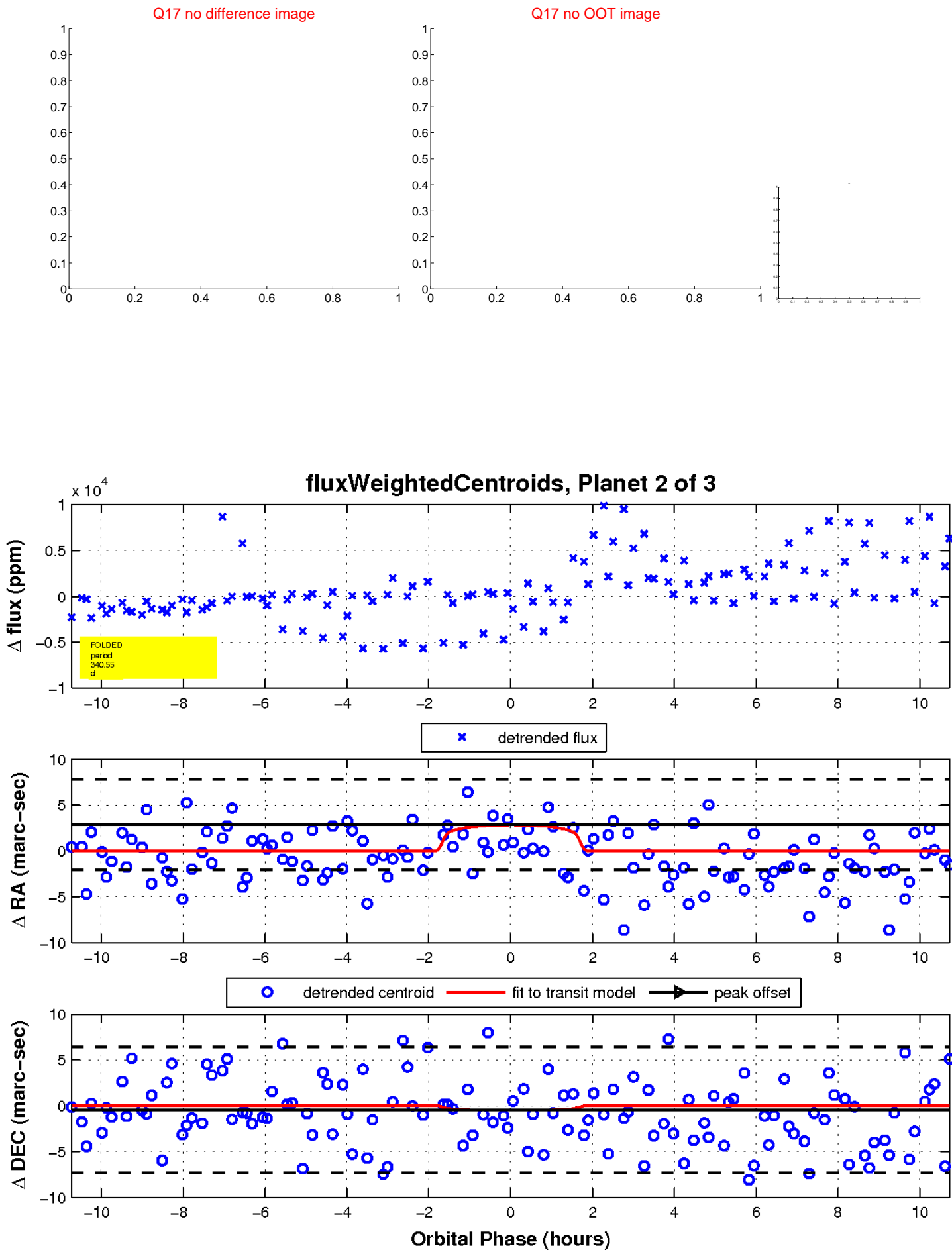
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

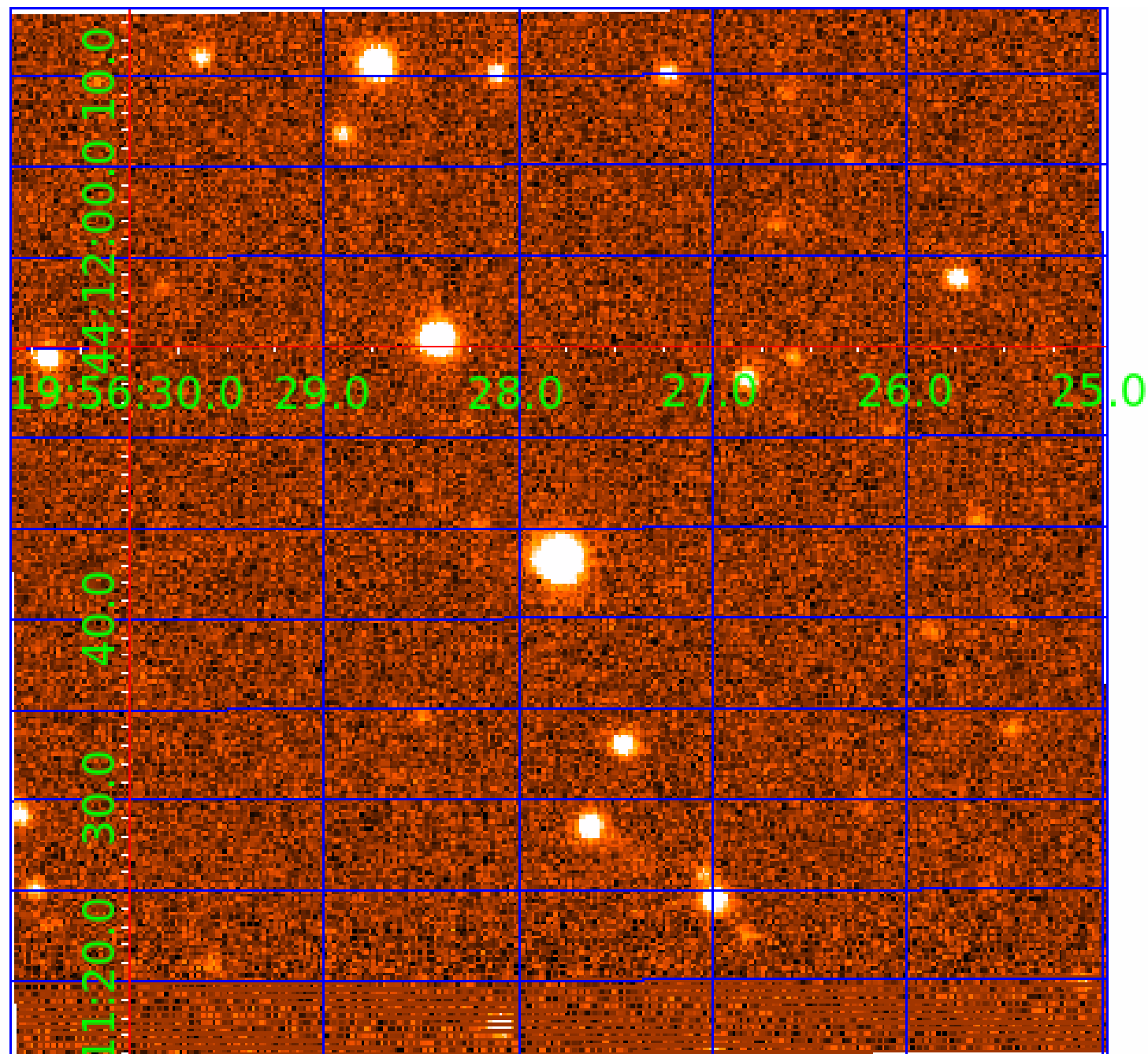


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008257779

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})
008257779-01	OBS	No	373.635447	347.040689	6567.1	3.675	15.1	9.9	0.51	4789	7.58	0.18
008257779-02	OBS	No	340.550980	450.047471	2916.1	3.581	12.1	7.1	0.51	4789	2.76	0.21
008257779-03	OBS	No	1.433902	131.810865	523.0	8.095	9.2	14.9	0.51	4789	2.26	303.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008257779-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
008257779-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008257779-03	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

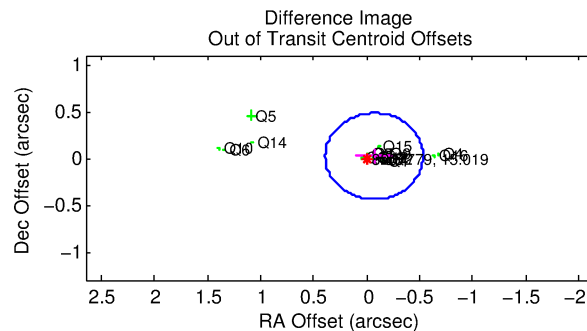
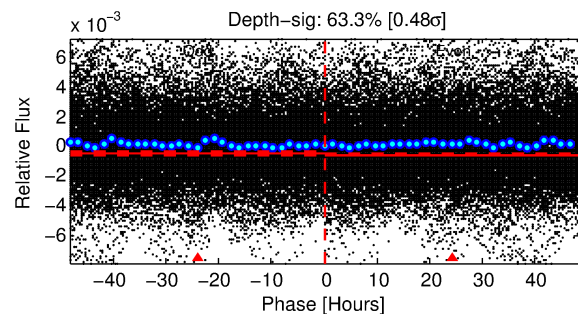
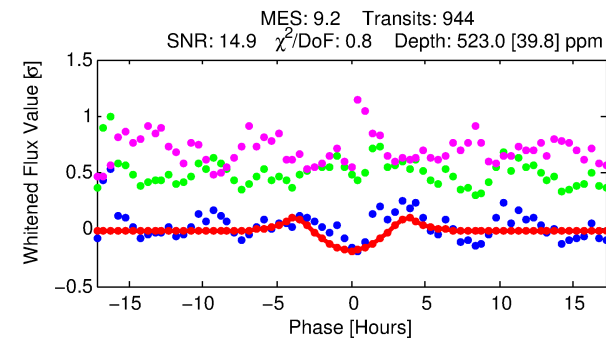
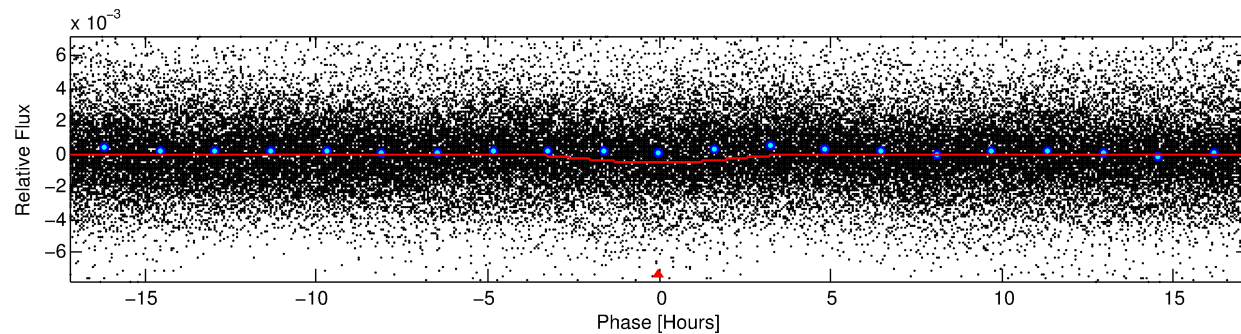
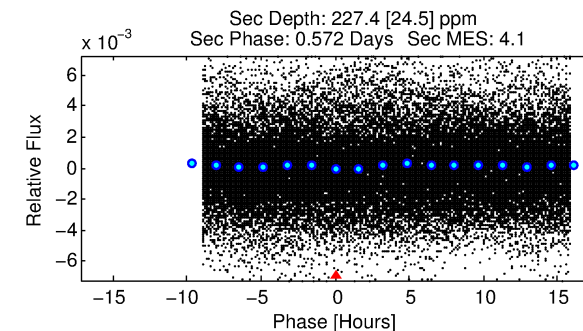
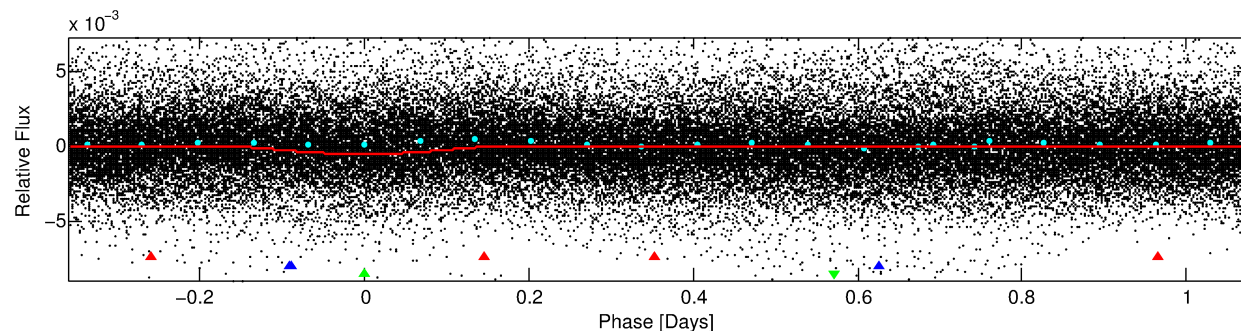
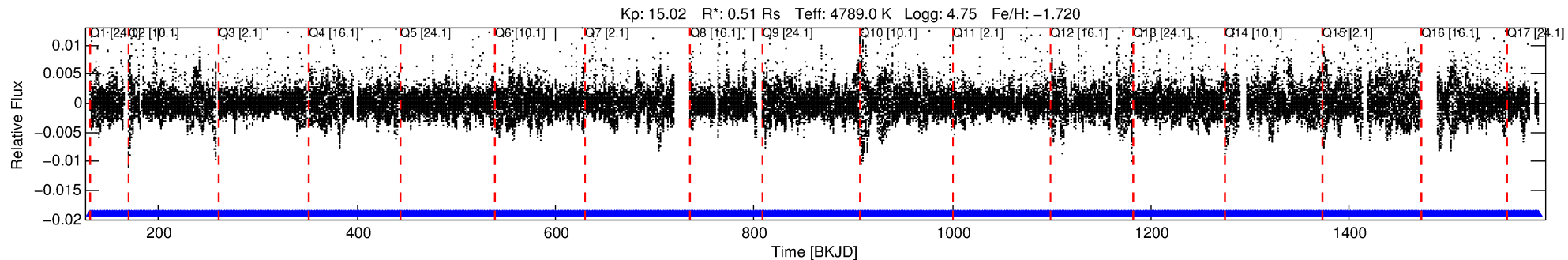
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008257779-03

No Significant Match Found

DV One-Page Summary

KIC: 8257779 Candidate: 3 of 3 Period: 1.434 d



DV Fit Results:

Period = 1.43390 [0.00001] d
Epoch = 131.8109 [0.0053] BKJD
Rp/R* = 0.0406 [0.0271]
a/R* = 1.09 [0.01]
b = 1.00 [0.04]
Seff = 303.48 [44.78]
Teq = 1064 [39] K
Rp = 2.26 [1.52] Re
a = 0.0201 [0.0010] AU
Ag = 9.92 [13.32] [0.67σ]
Teffp = 2920 [984] K [1.88σ]

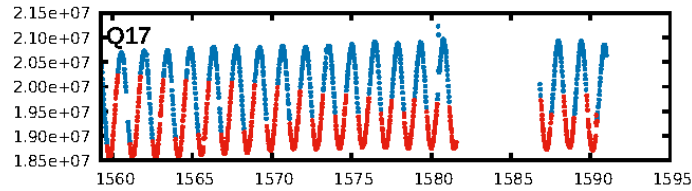
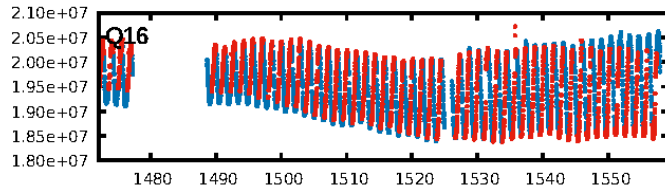
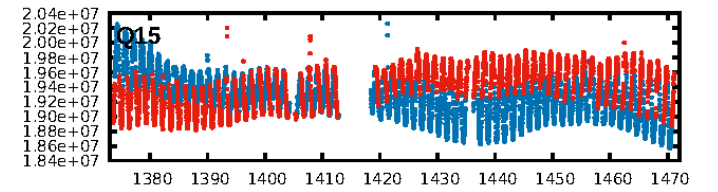
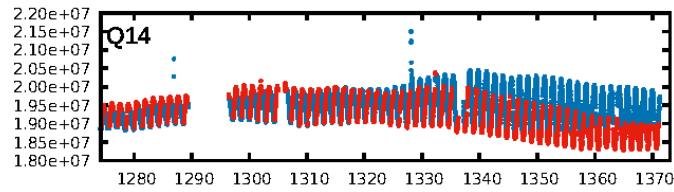
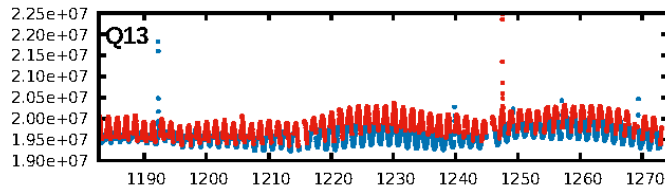
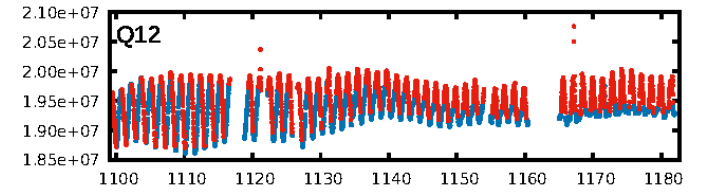
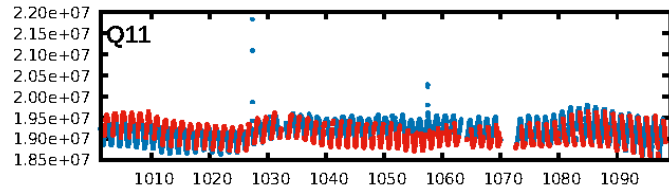
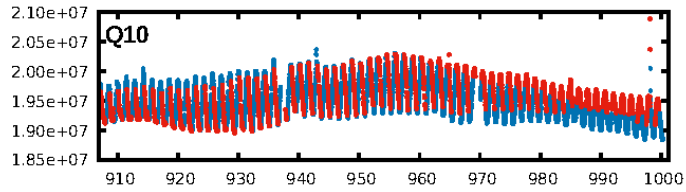
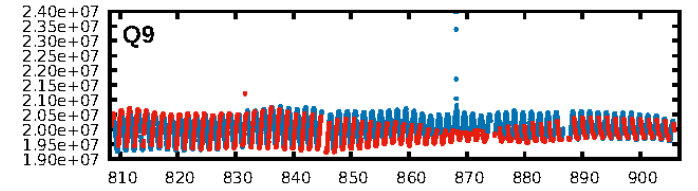
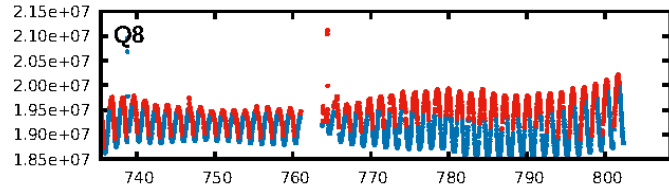
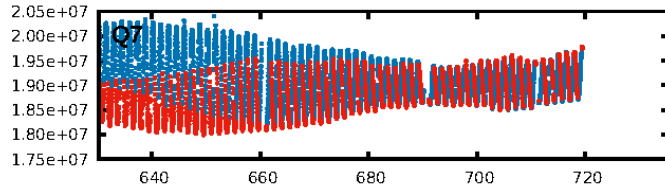
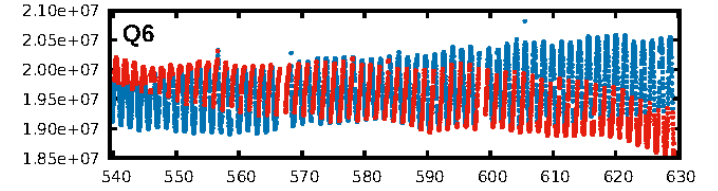
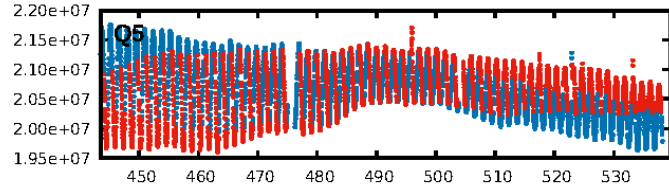
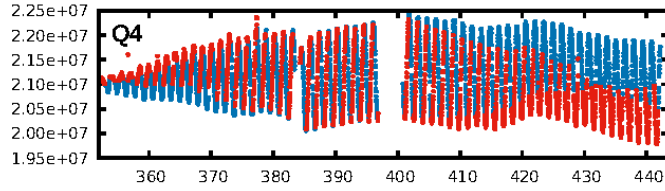
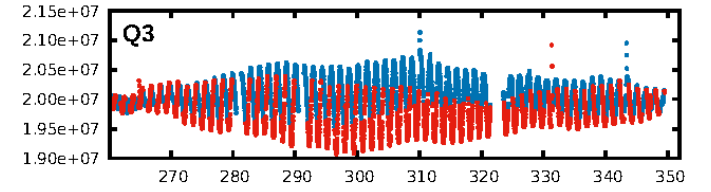
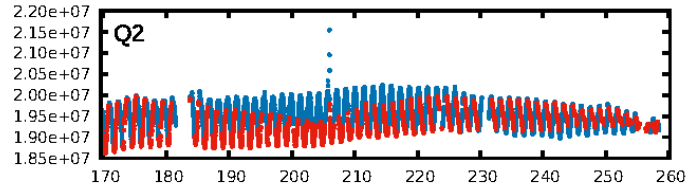
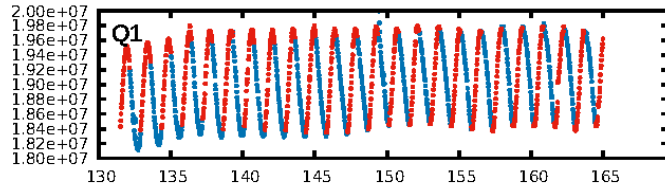
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [919.44σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [901/901]
GhostDiagnostic-chr: 0.6712
Centroid-sig: 5.3%
Centroid-so: 0.274 arcsec [1.26σ]
OotOffset-rm: 0.073 arcsec [0.47σ]
KicOffset-rm: 0.038 arcsec [0.31σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.59 [10/17]
DiffImageOverlap-fno: 1.00 [17/17]

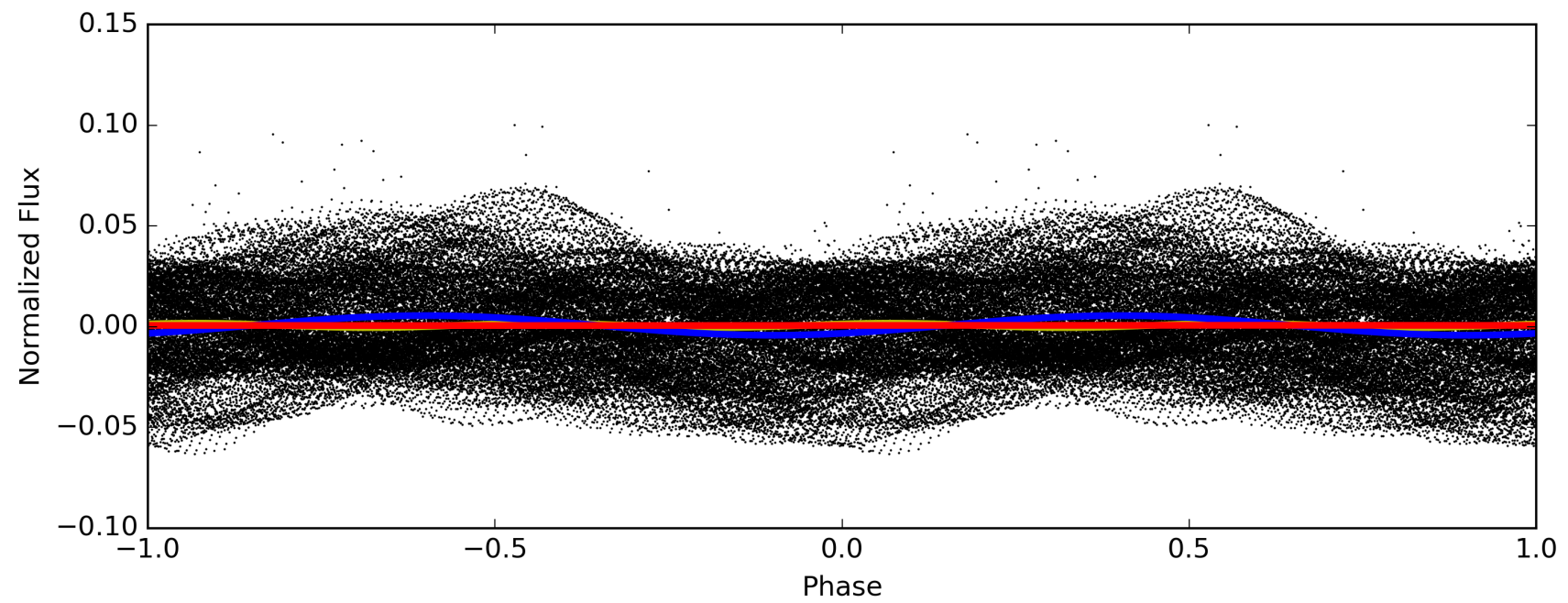
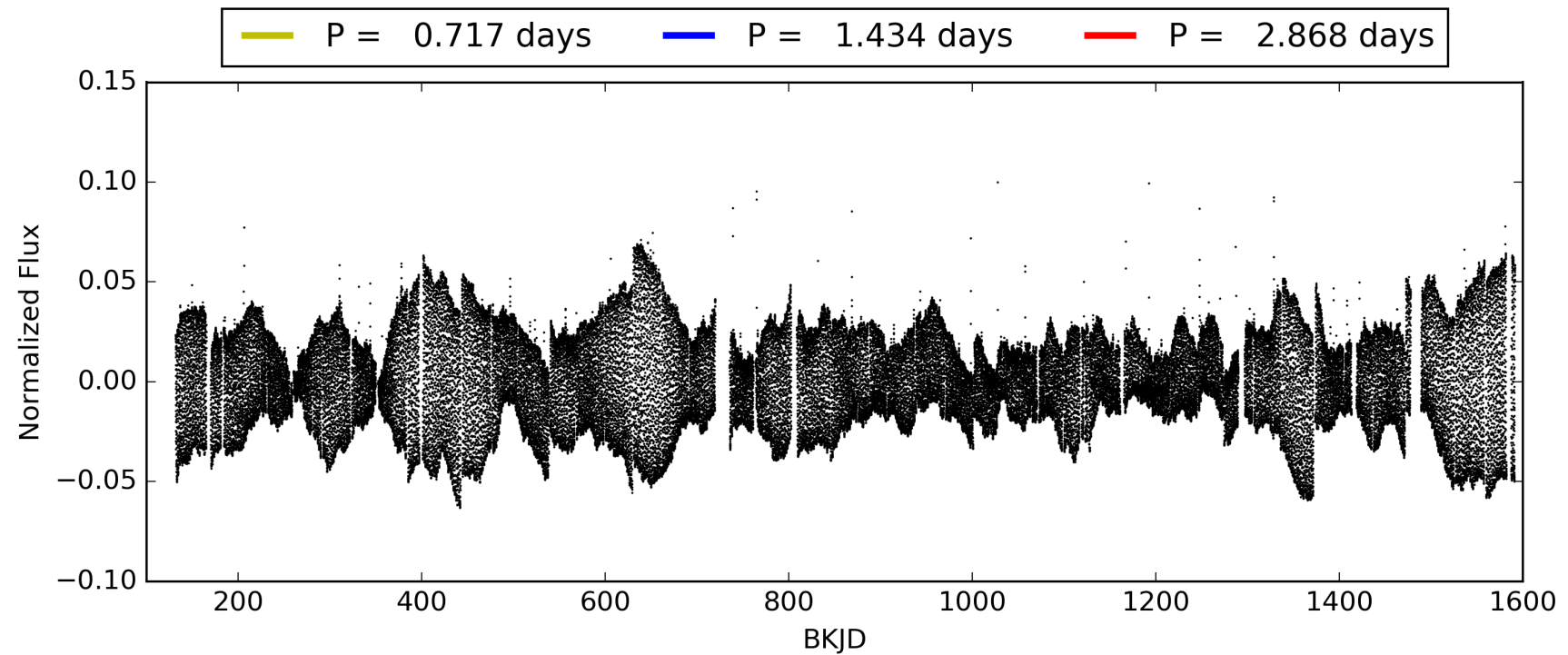
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:39:21 Z

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

TCE 008257779-03, PDC Light Curves

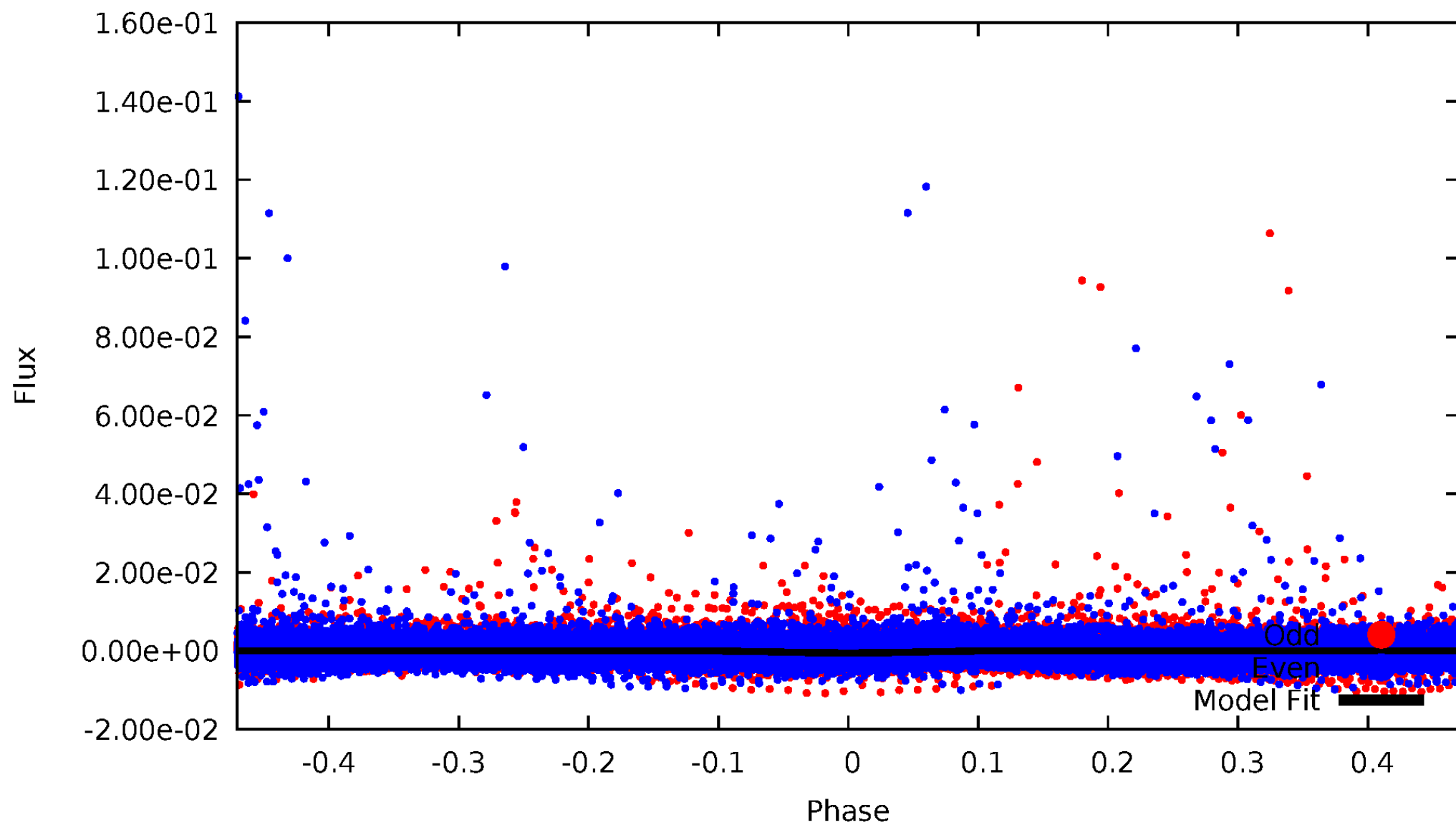


TCE 008257779-03



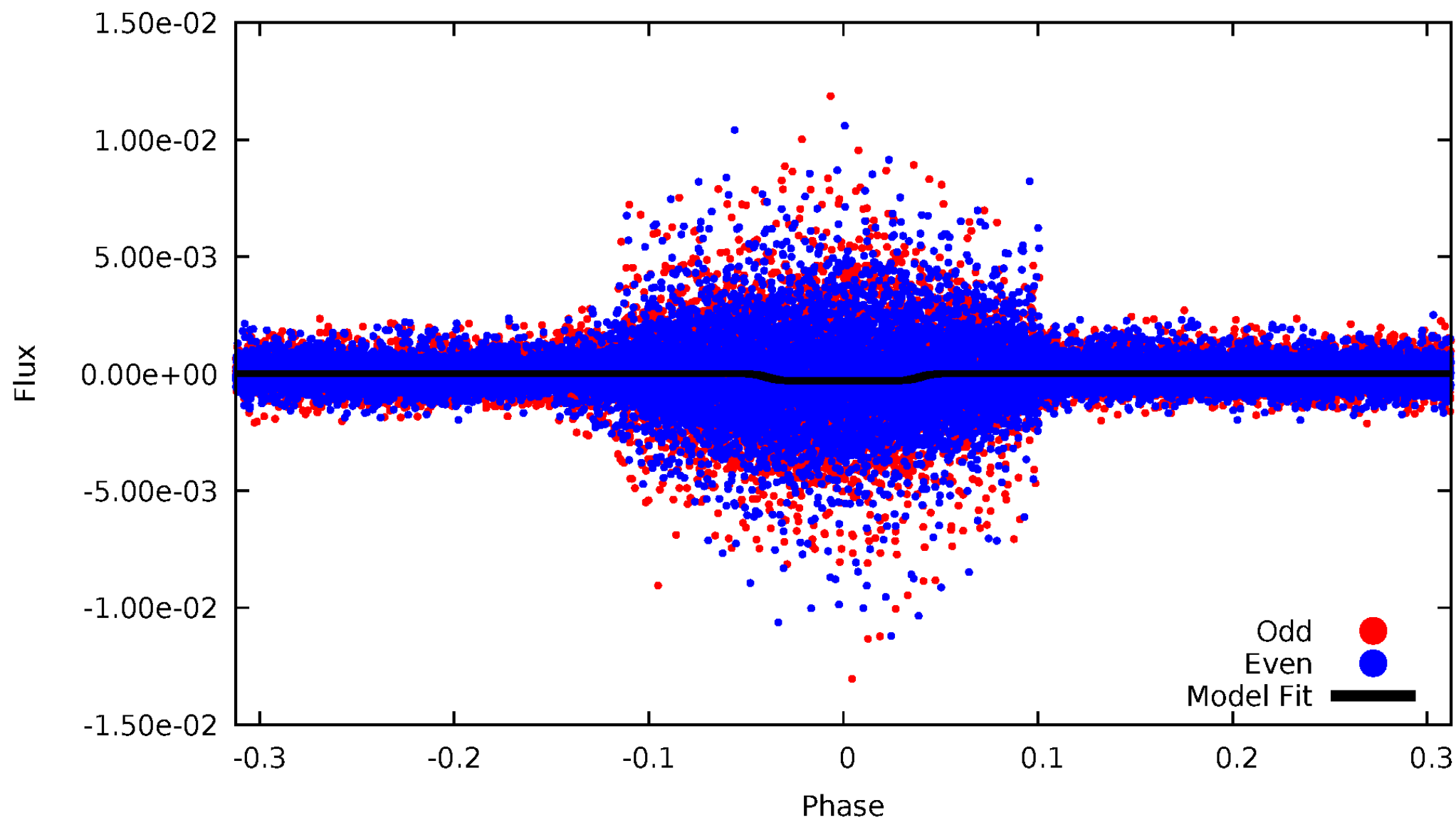
DV Odd/Even

TCE 008257779-03



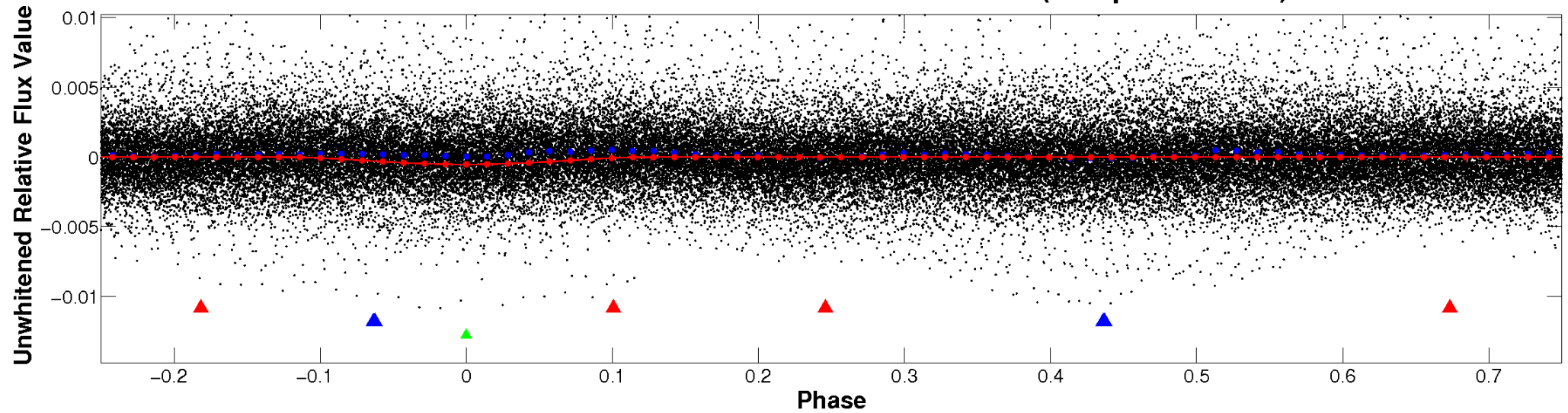
ALT Odd/Even

TCE 008257779-03

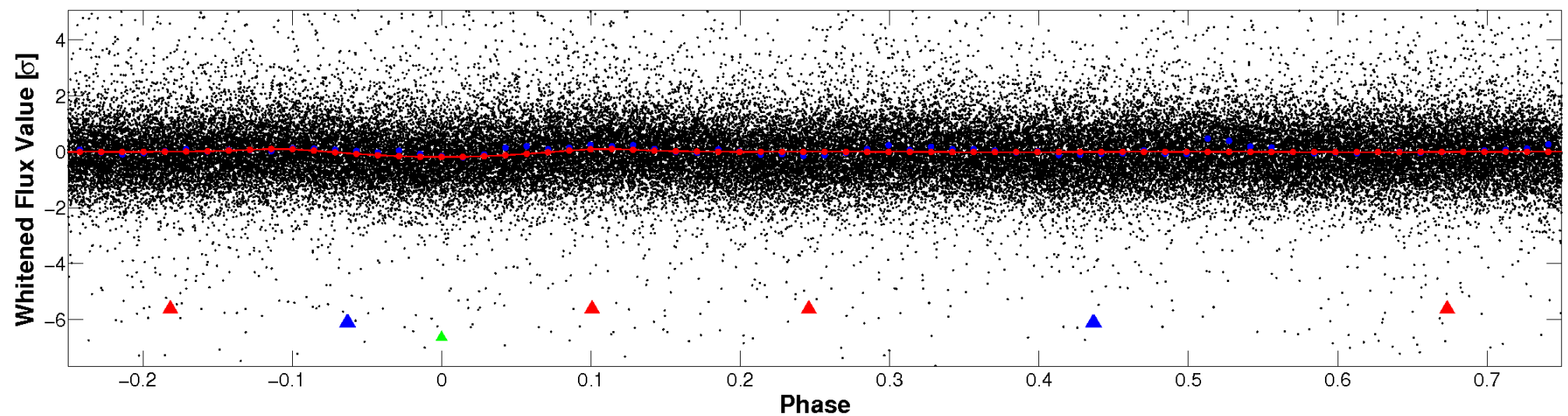


Non-Whitened Vs. Whitened Light Curve

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

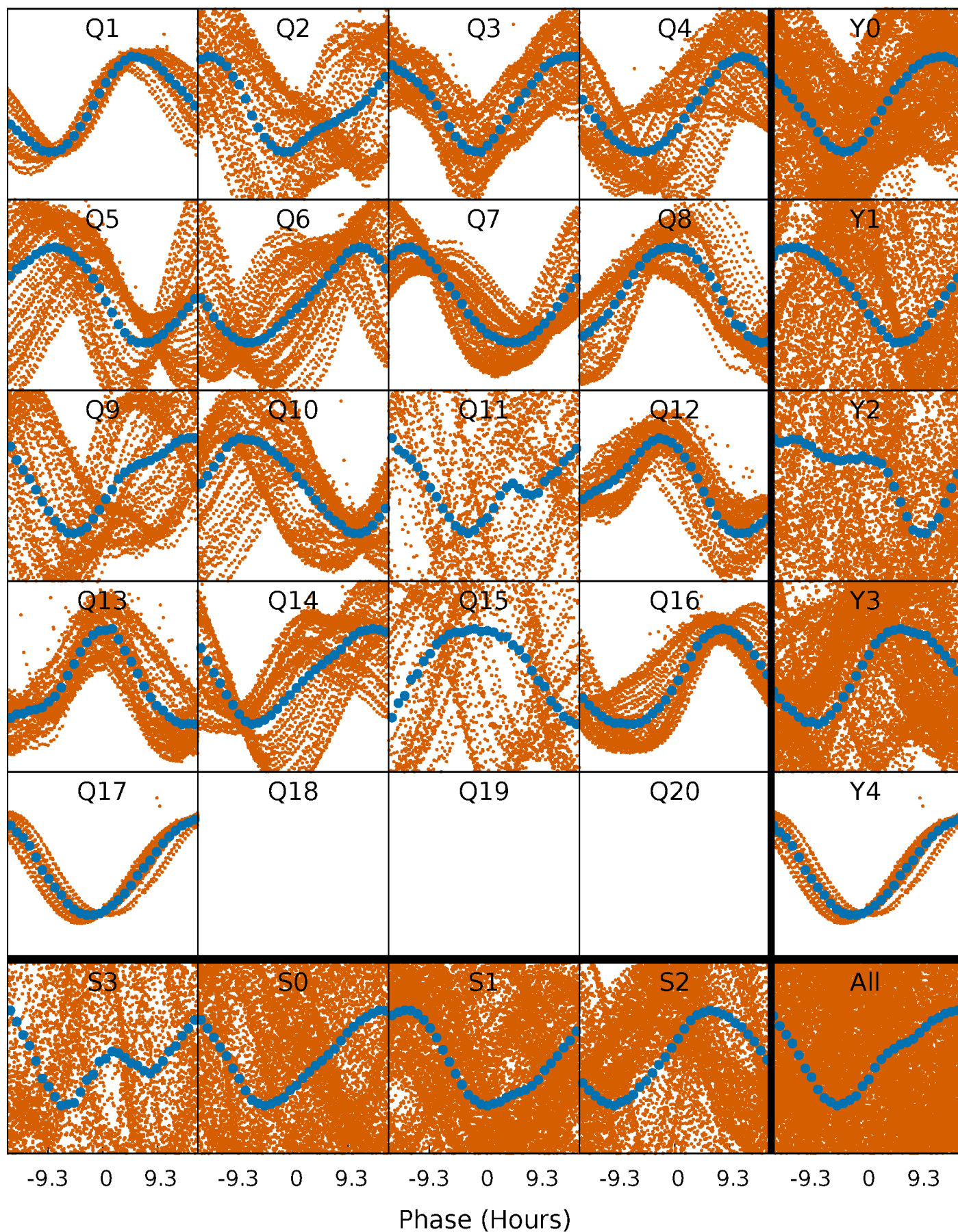


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



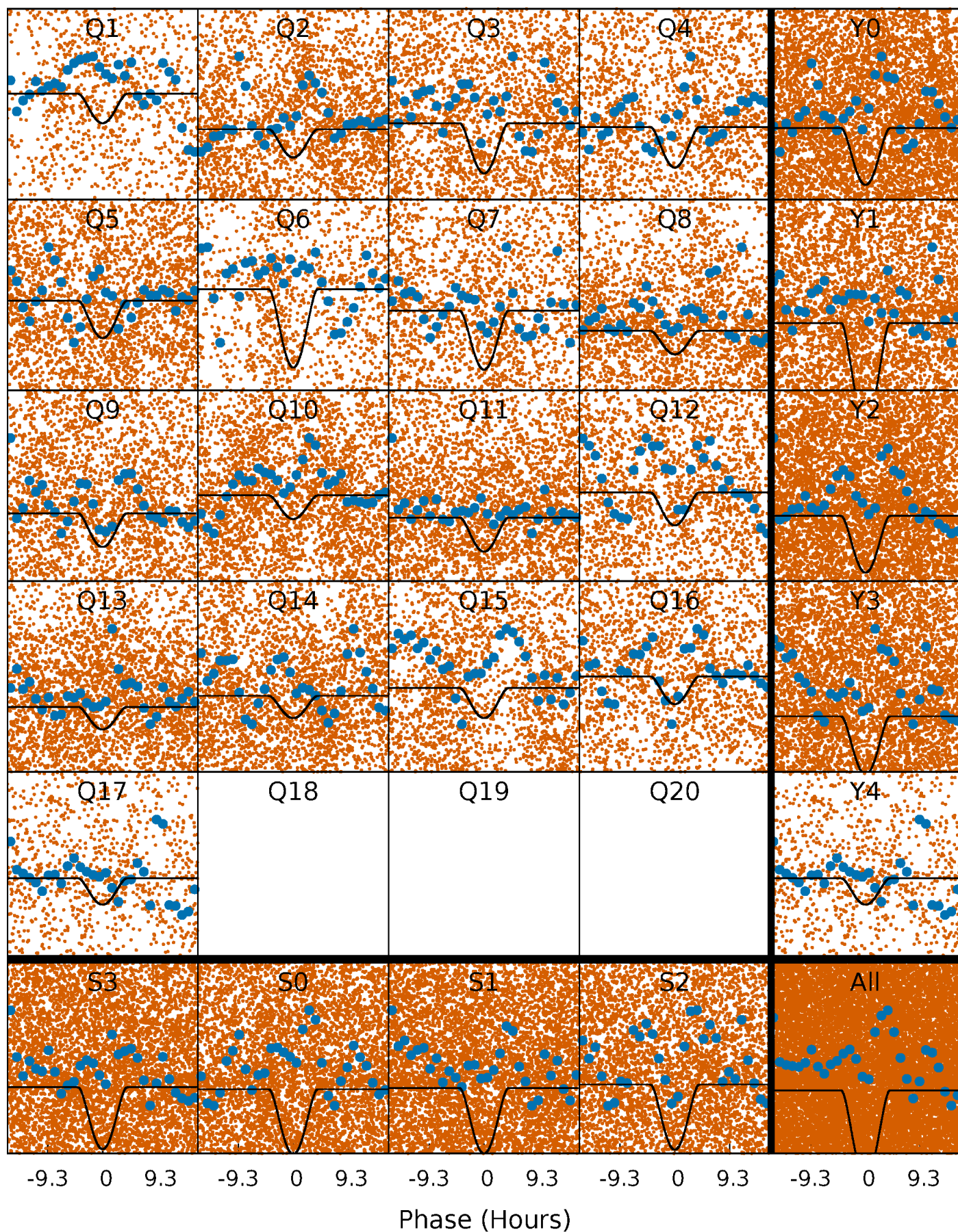
PDC Quarter-Phased Transit Curves

TCE 008257779-03 P= 1.433902 Days $T_0=131.810865$ (BKJD)



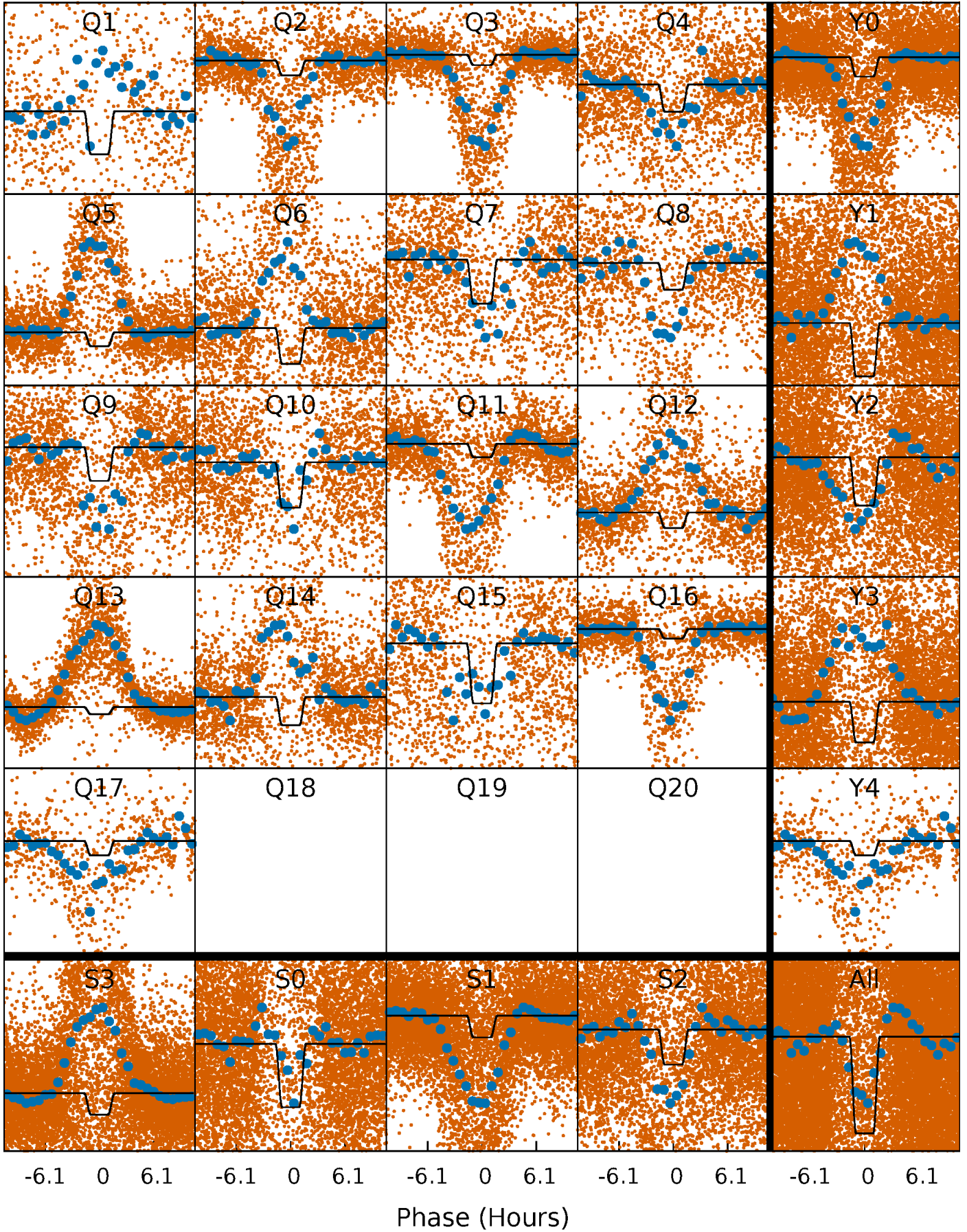
DV Quarter-Phased Transit Curves

TCE 008257779-03 P= 1.433902 Days $T_0=131.810865$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

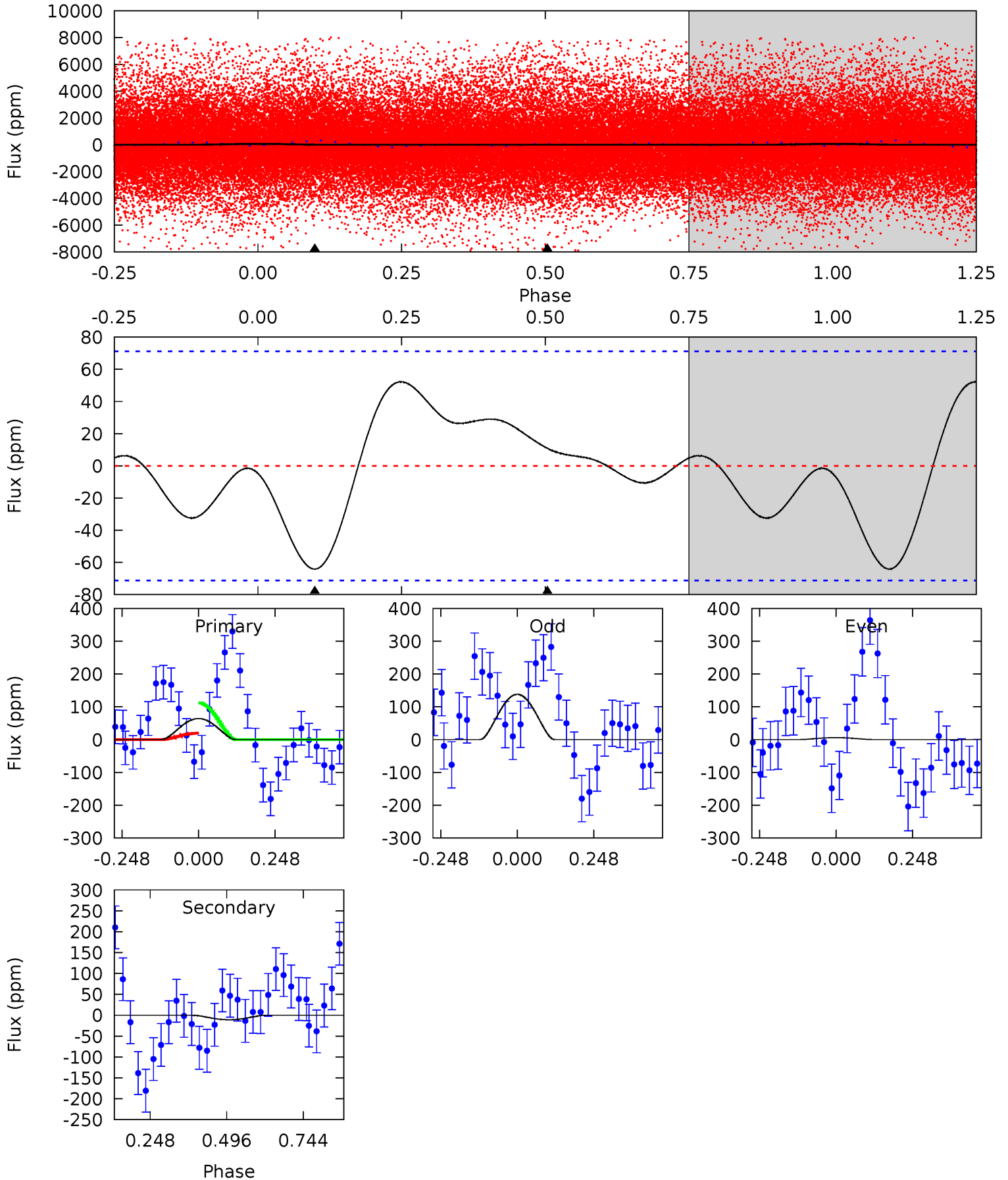
TCE 008257779-03 P= 1.433921 Days $T_0=131.788445$ (BKJD)



DV Model-Shift Uniqueness Test

008257779-03, P = 1.433902 Days, E = 130.376963 Days

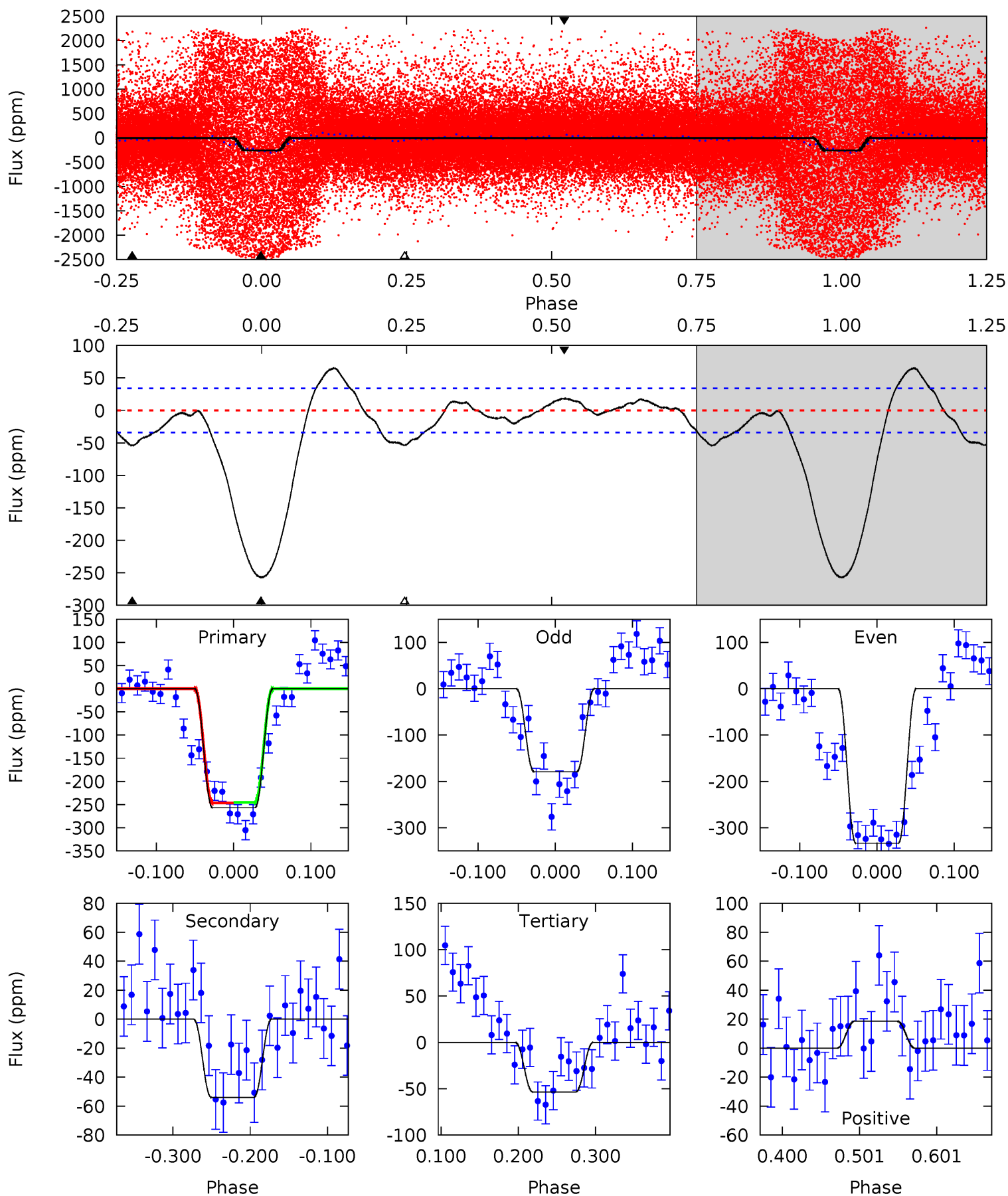
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.94	-0.67	0	0	4.37	1.16	0.61	3.94	3.94	-0.67	-0.67	4.08	1.47	0.45	2.86



Alt Model-Shift Uniqueness Test

008257779-03, P = 1.433921 Days, E = 130.354524 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.4	7.24	7.19	2.49	4.56	1.64	3.32	27.3	32.0	0.05	4.75	10.2	1.05	0.20	0.06



Stellar Parameters For KIC 008257779

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4789^{+155}_{-155}	$4.745^{+0.039}_{-0.025}$	$-1.720^{+0.300}_{-0.150}$	$0.511^{+0.023}_{-0.029}$	$0.529^{+0.035}_{-0.019}$	$5.598^{+0.825}_{-0.490}$
	+3%/-3%	+1%/-1%	+17%/-9%	+5%/-6%	+7%/-4%	+15%/-9%
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 008257779-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	11 ± 16	$2.34^{+1.46}_{-1.16}$	1485^{+54}_{-54}	-2356^{+331}_{-397}	$-0.342^{+0.473}_{-1.708}$
Alt.	-54 ± 7	$1.57^{+1.20}_{-1.03}$	1484^{+52}_{-52}	3001^{+1290}_{-465}	$4.831^{+38.831}_{-3.279}$

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

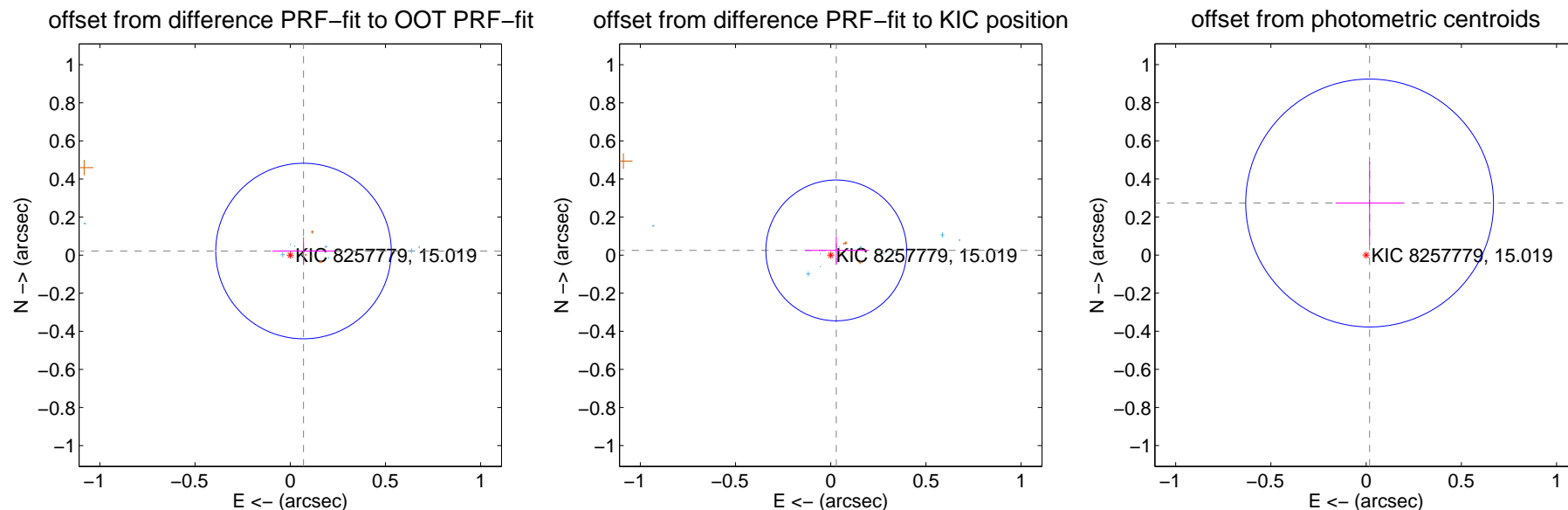
DV Centroid Data

Supplemental centroid analysis for 008257779-03. Kepler magnitude: 15.02. Transit SNR 14.94

There are 10 quarters with good PRF difference image offsets

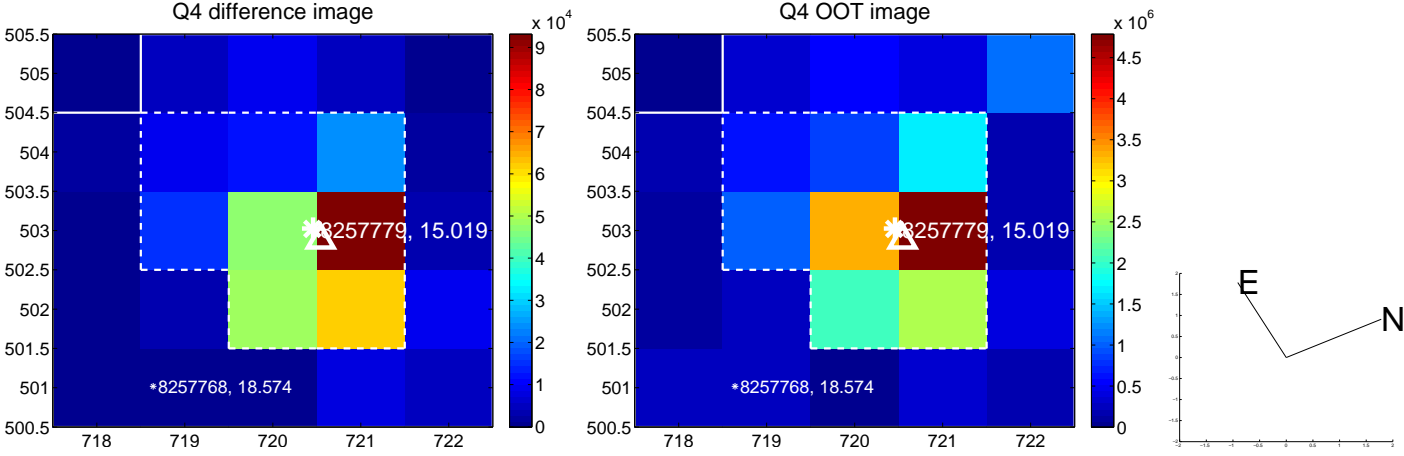
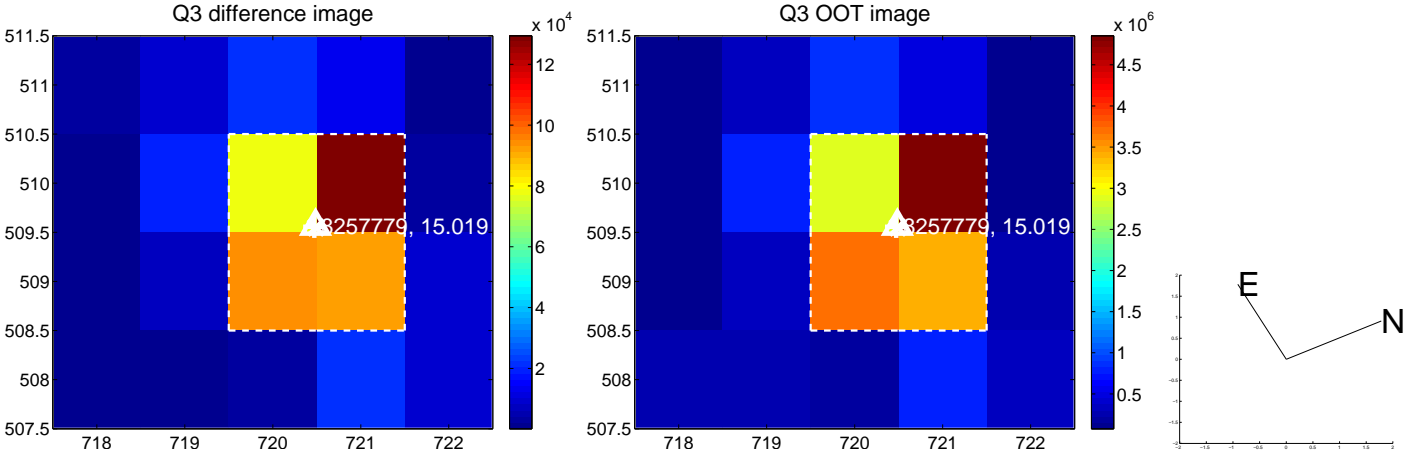
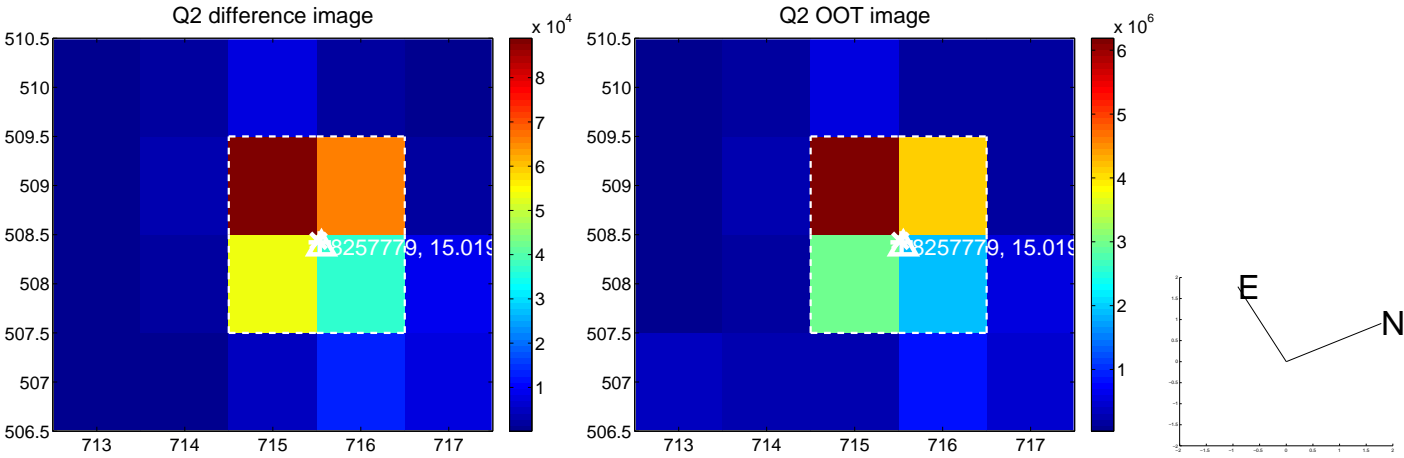
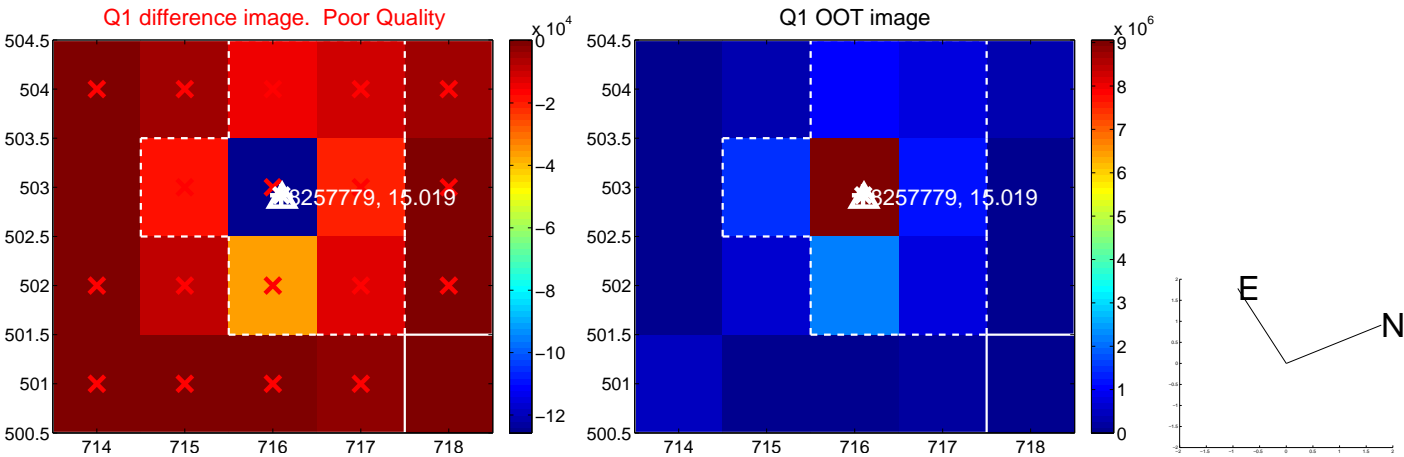
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.073 ± 0.154	0.47	-0.070 ± 0.164	0.022 ± 0.072
PRF-fit source offset from KIC position	0.038 ± 0.123	0.31	-0.029 ± 0.163	0.025 ± 0.073
photometric centroid source offset	0.27 ± 0.22	1.26	-0.02 ± 0.18	0.27 ± 0.22

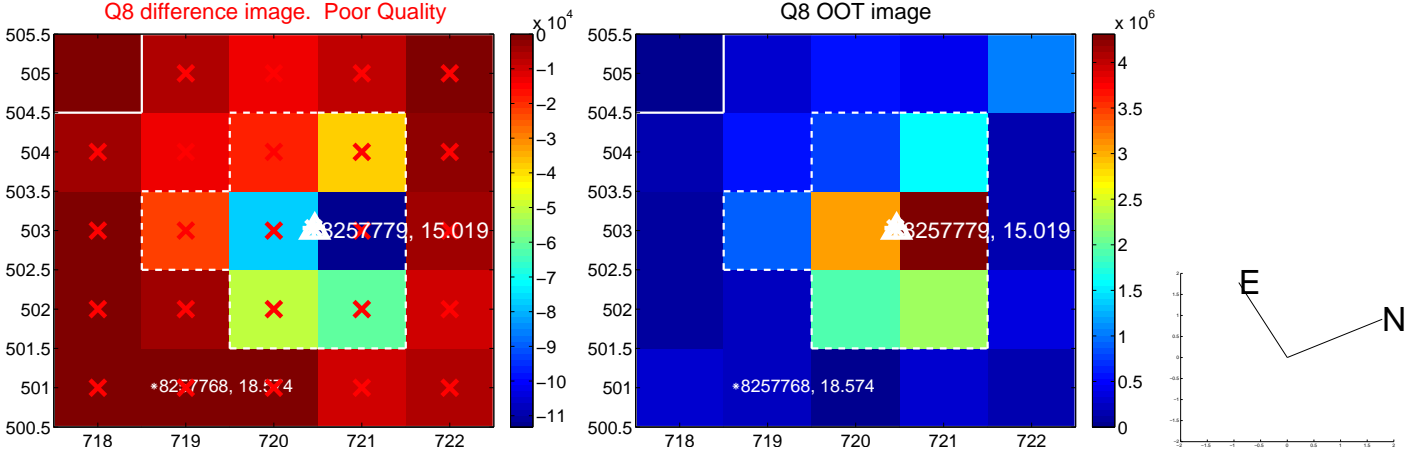
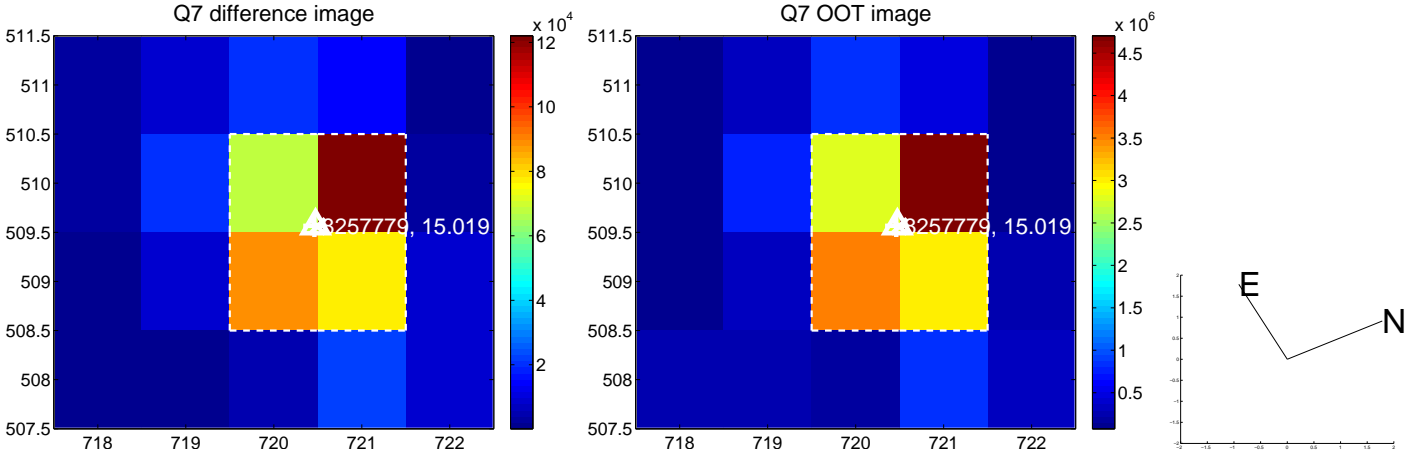
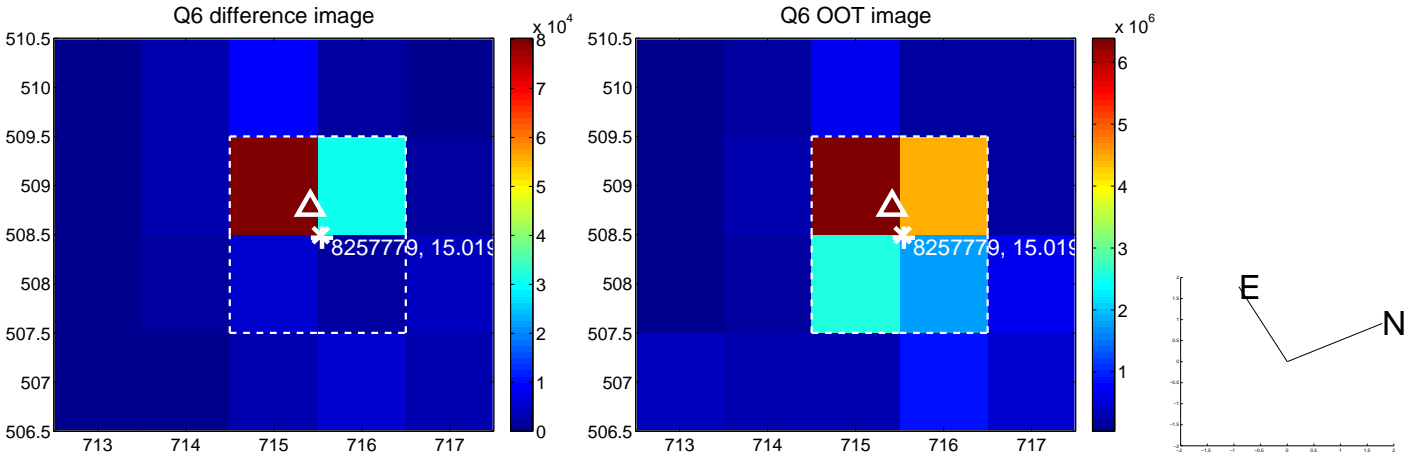
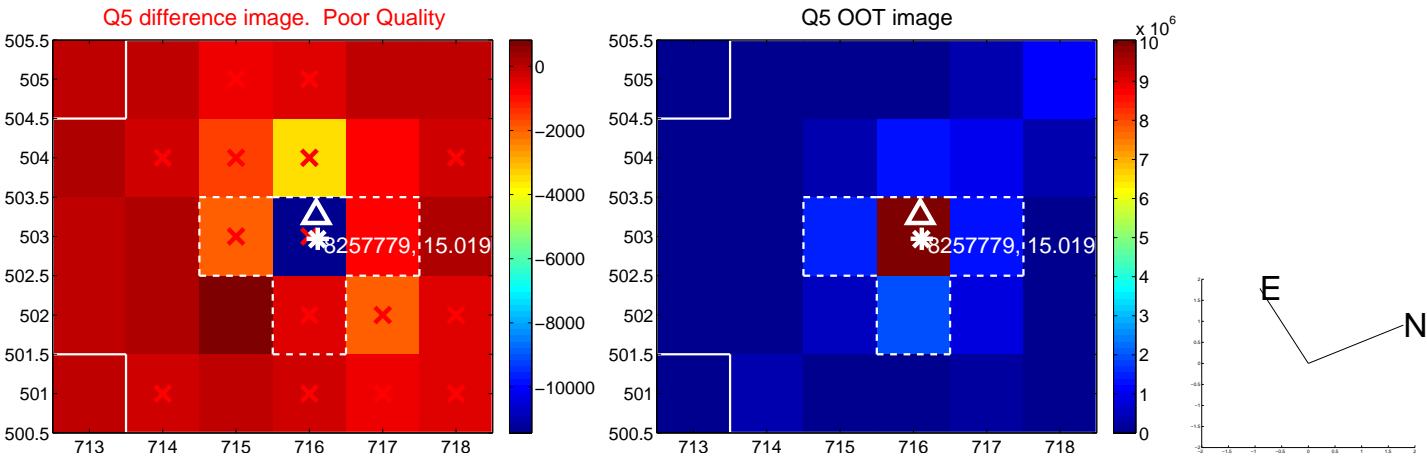


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

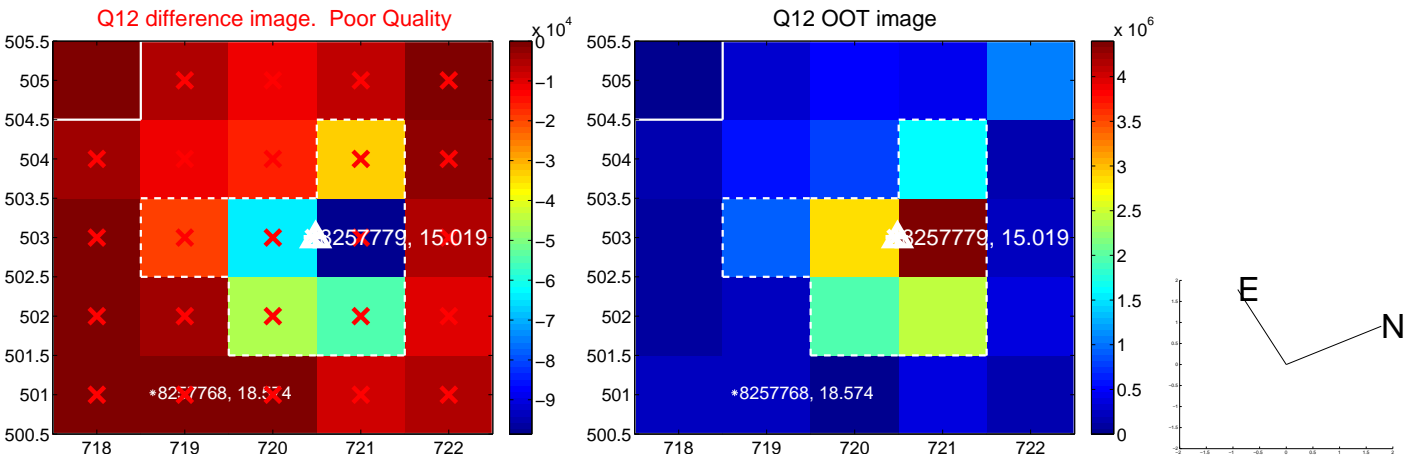
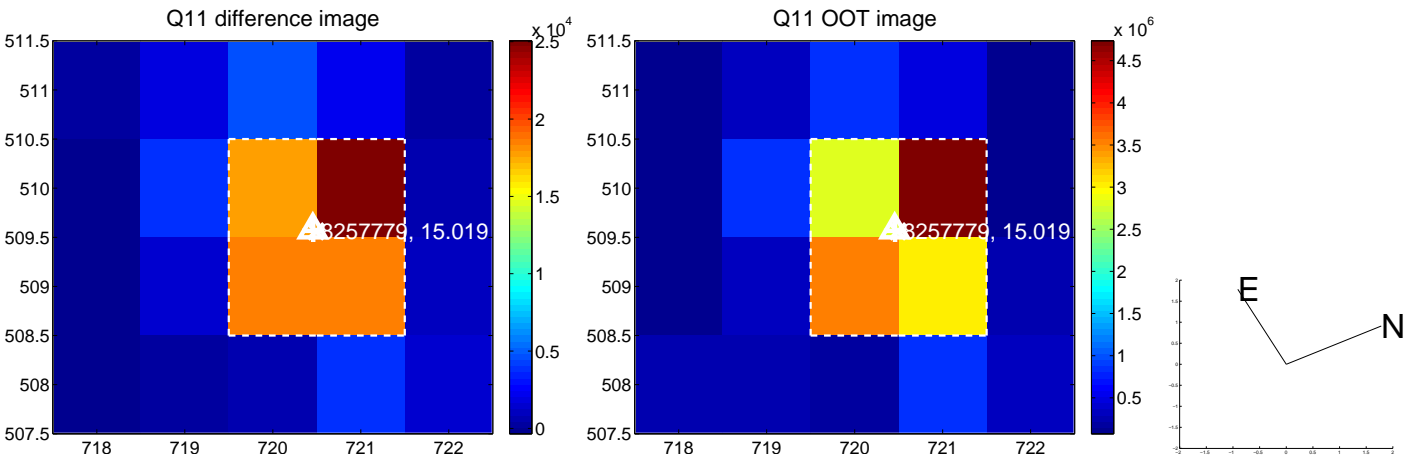
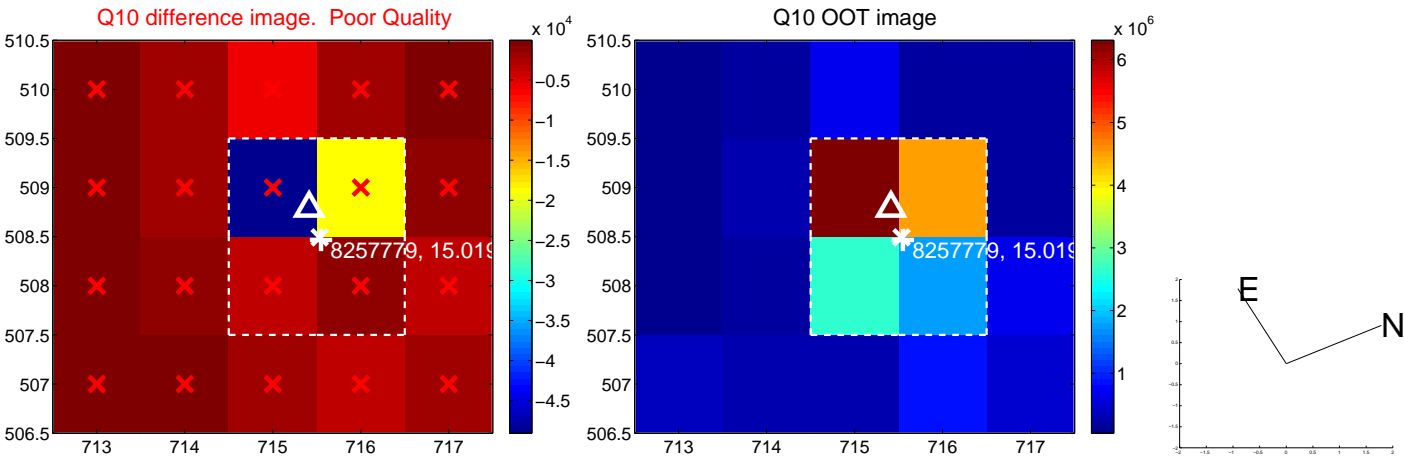
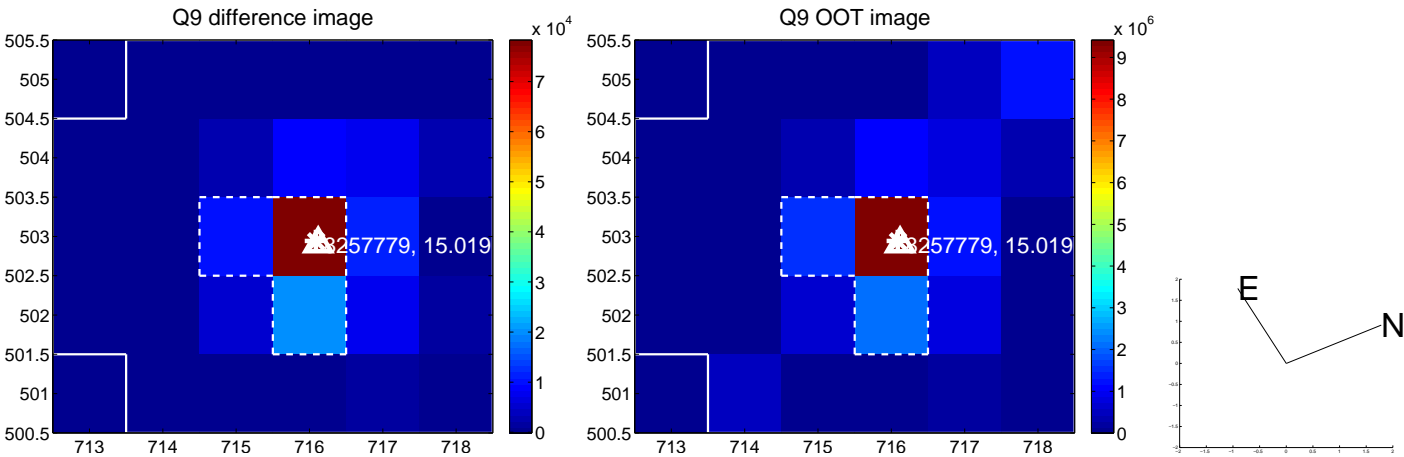
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



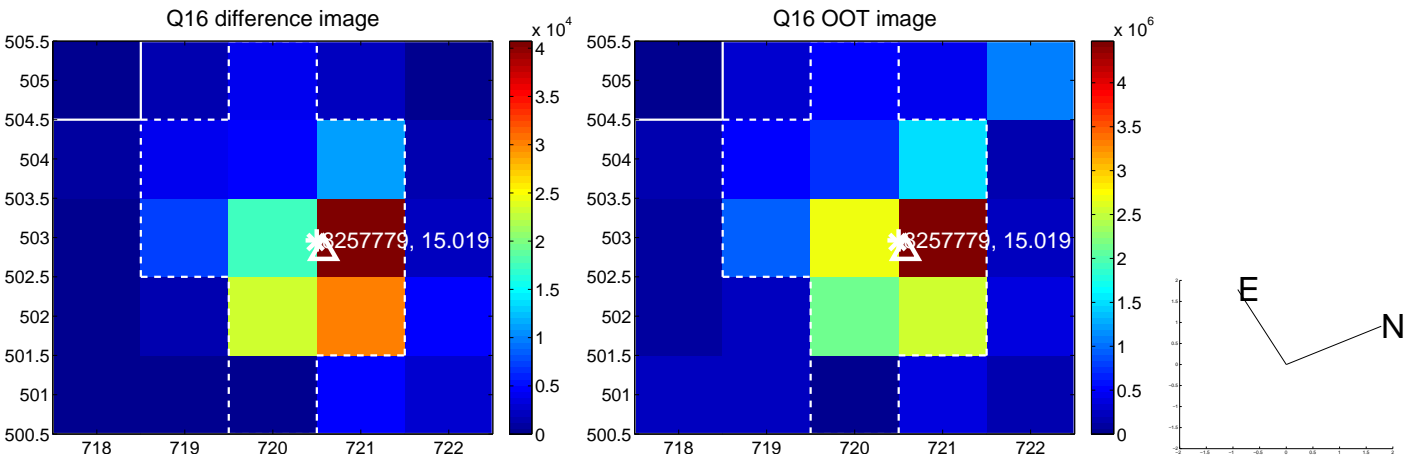
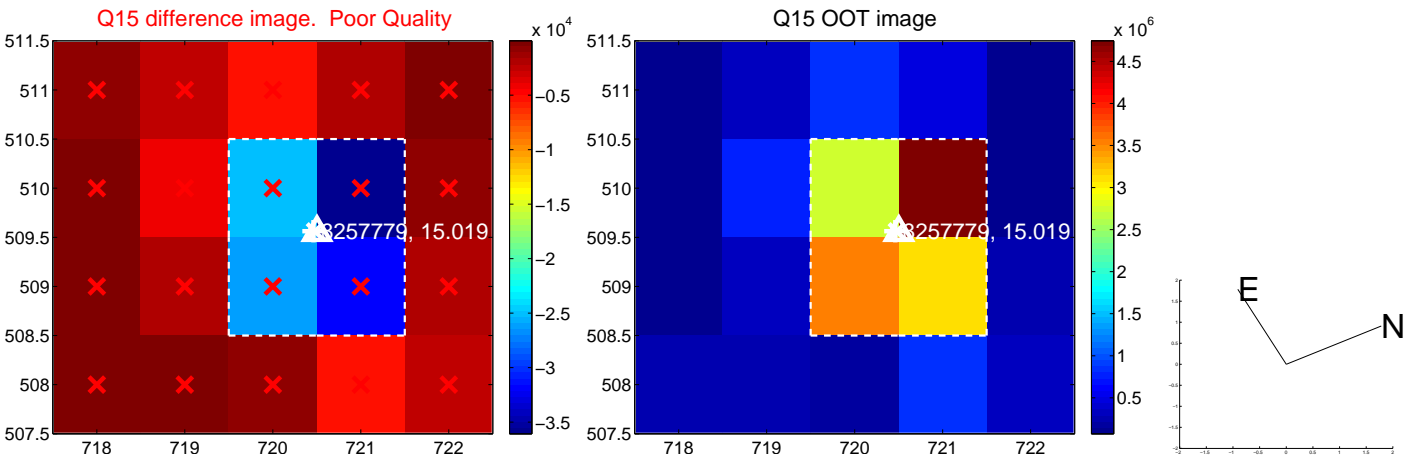
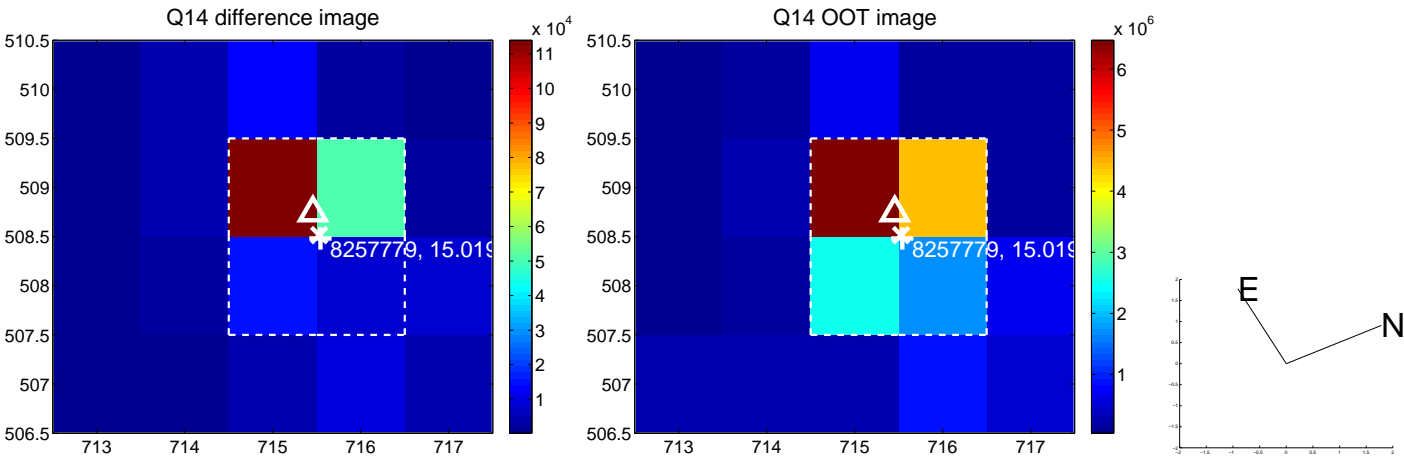
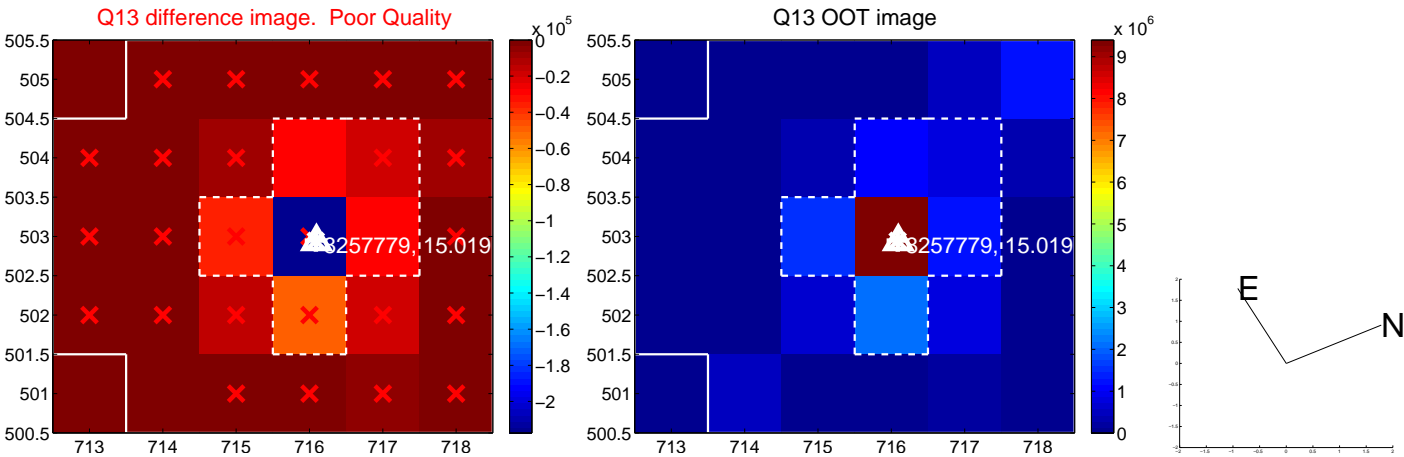
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



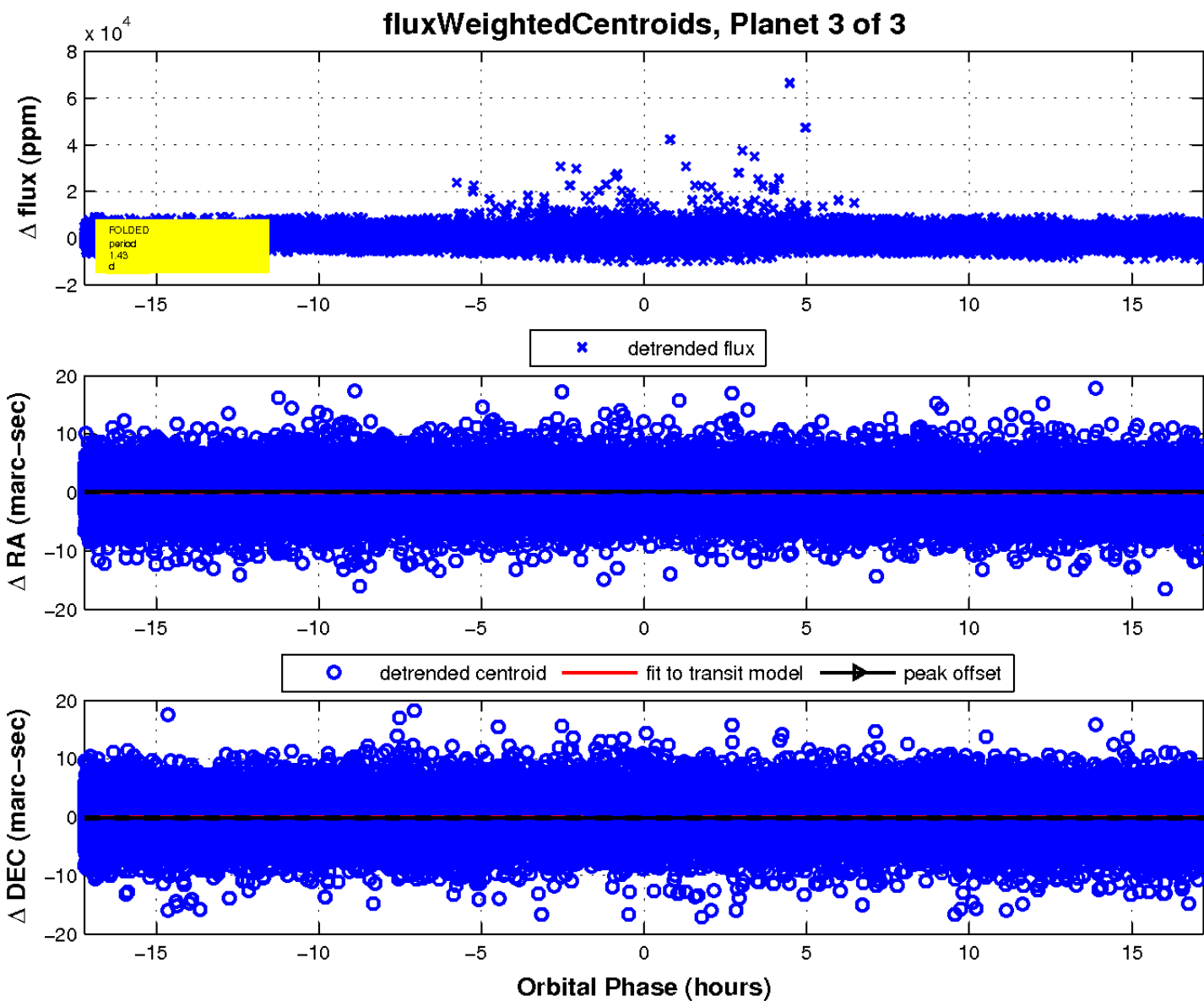
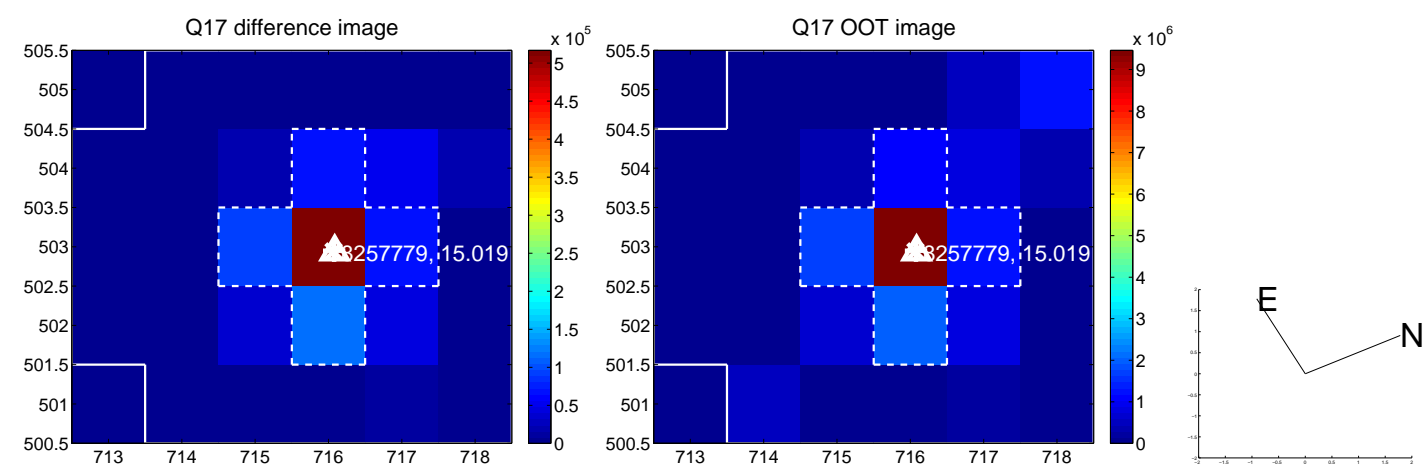
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

