

KIC 007838383

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})
007838383-01	OBS	No	582.366739	365.116018	3162.3	6.524	11.6	5.2	1.40	7077	14.20	1.90
007838383-02	OBS	No	199.738012	169.172753	5307.0	9.981	12.6	9.4	1.40	7077	18.10	7.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007838383-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007838383-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV

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

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

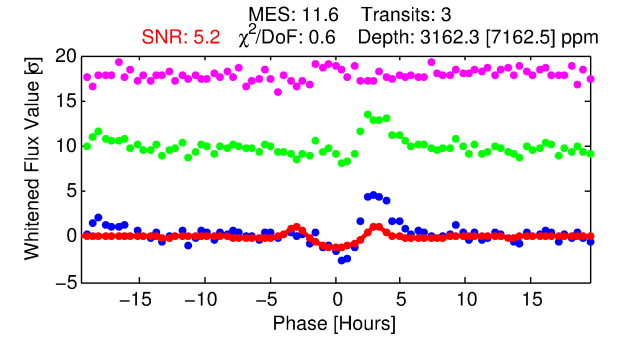
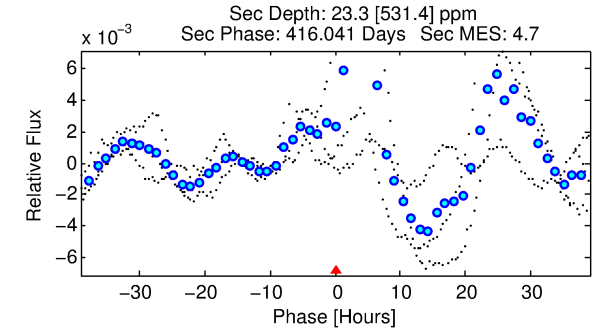
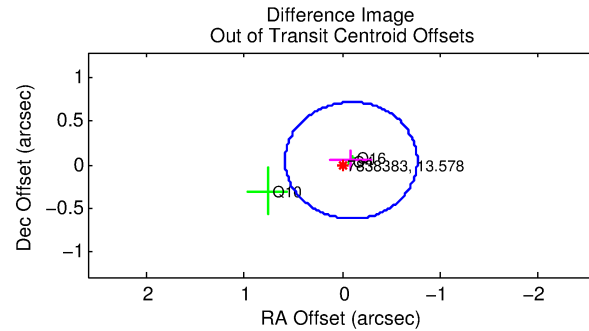
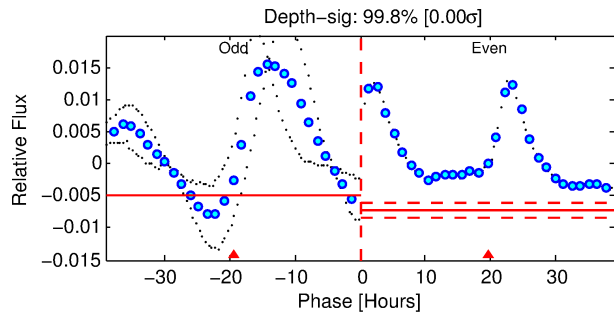
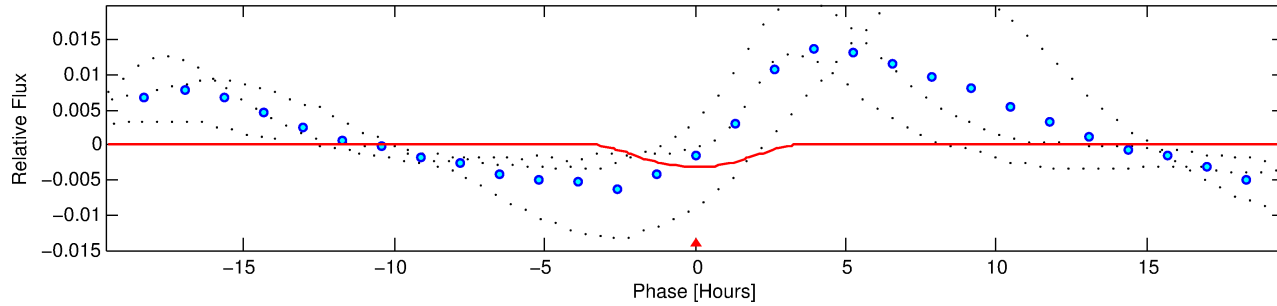
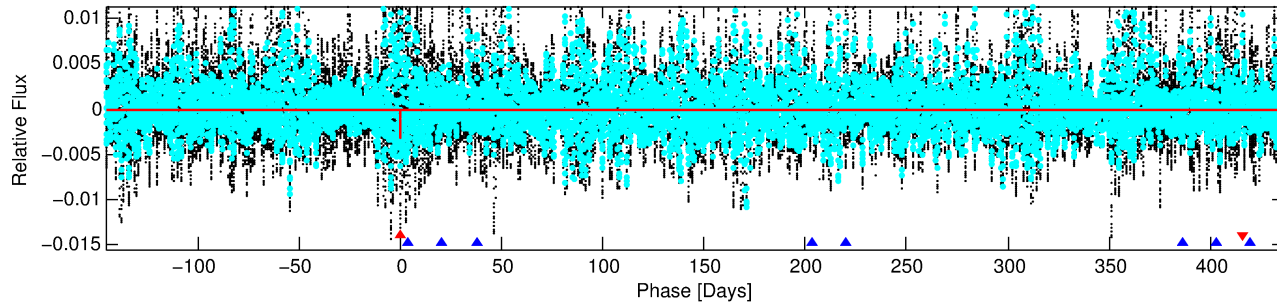
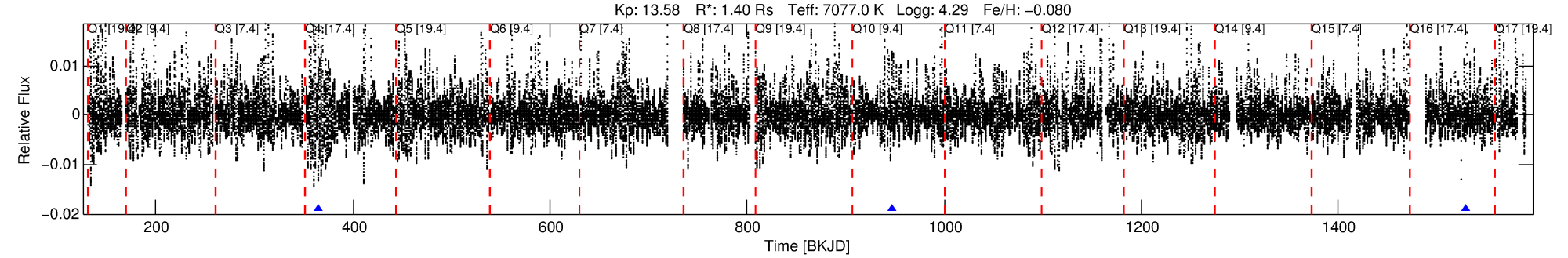
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007838383-01

No Significant Match Found

DV One-Page Summary

KIC: 7838383 Candidate: 1 of 2 Period: 582.367 d



DV Fit Results:

Period = 582.36674 [0.00796] d
Epoch = 365.1160 [0.0114] BKJD
Rp/R* = 0.0932 [0.1186]
a/R* = 301.26 [76.23]
b = 1.00 [0.03]
Seff = 1.90 [0.85]
Teq = 299 [33] K
Rp = 14.20 [18.79] Re
a = 1.5173 [0.4477] AU
Ag = 146.36 [3357.94] [0.04σ]
Teffp = 1610 [9236] K [0.14σ]

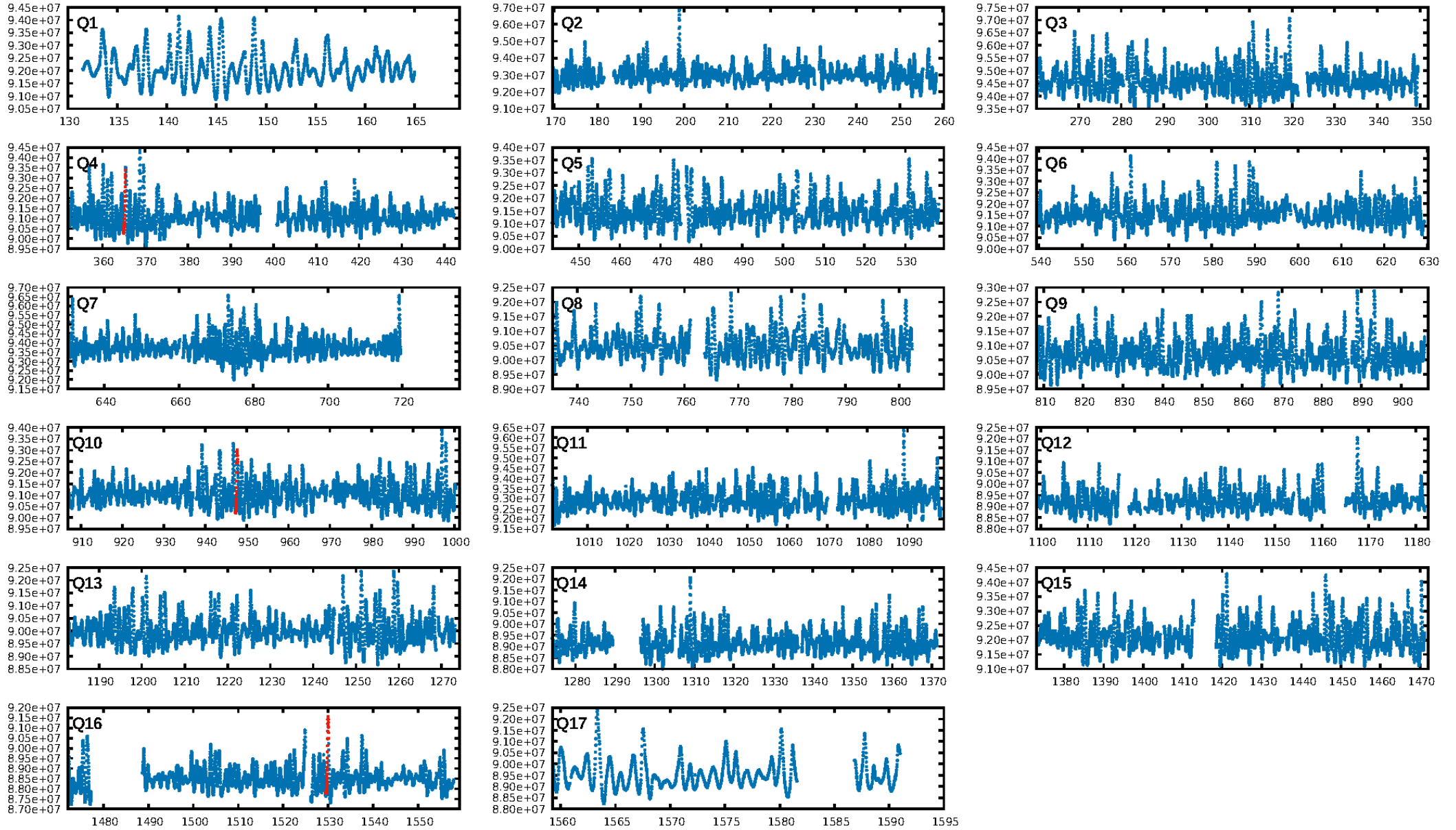
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [770.14σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 21.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.90e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.8394
Centroid-sig: N/A
Centroid-so: 0.157 arcsec [0.95σ]
OotOffset-rm: 0.103 arcsec [0.46σ]
KicOffset-rm: 0.122 arcsec [0.71σ]
OotOffset-st: 1/0/2/0 [3]
KicOffset-st: 1/0/2/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

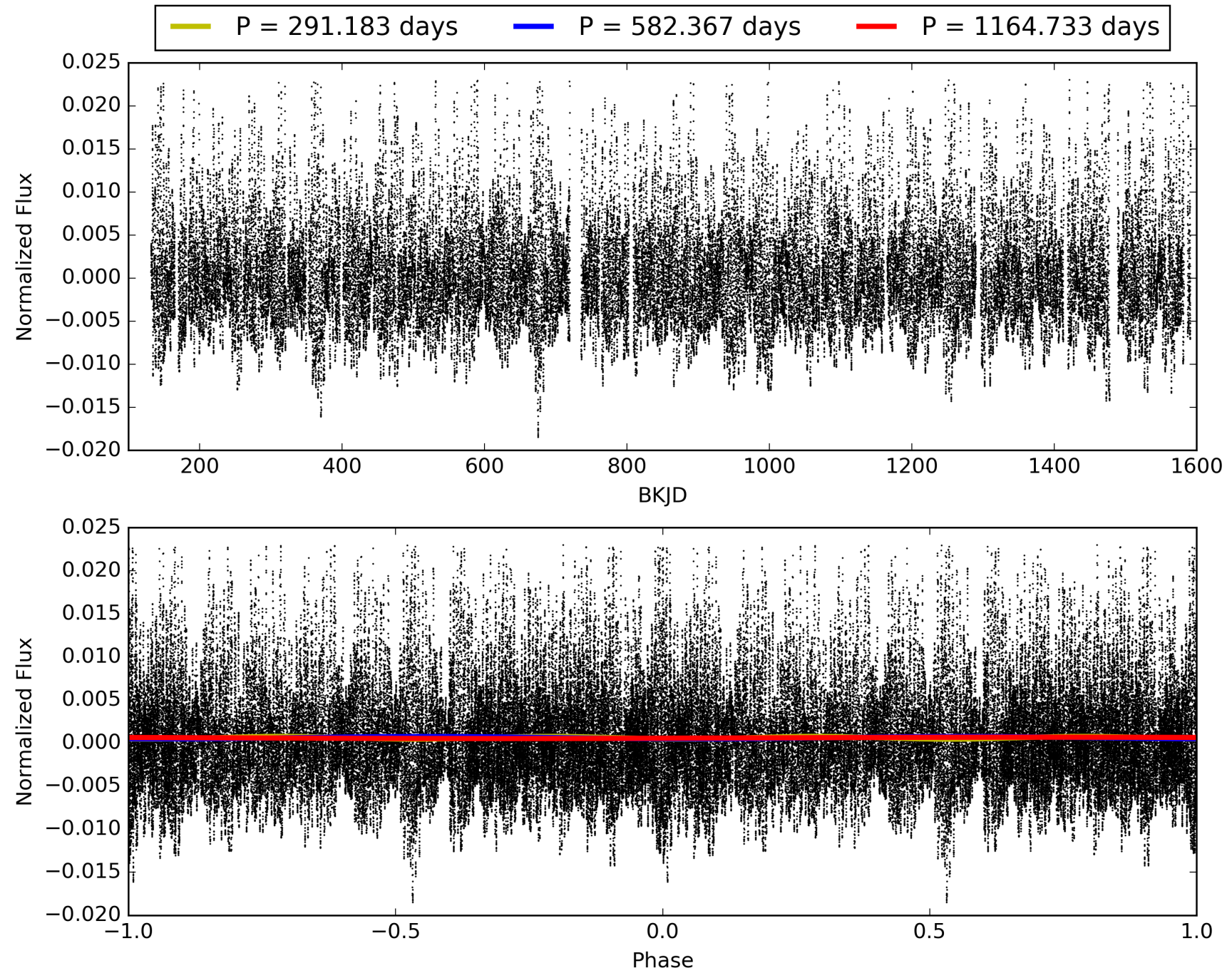
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:52:56 Z

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

TCE 007838383-01, PDC Light Curves

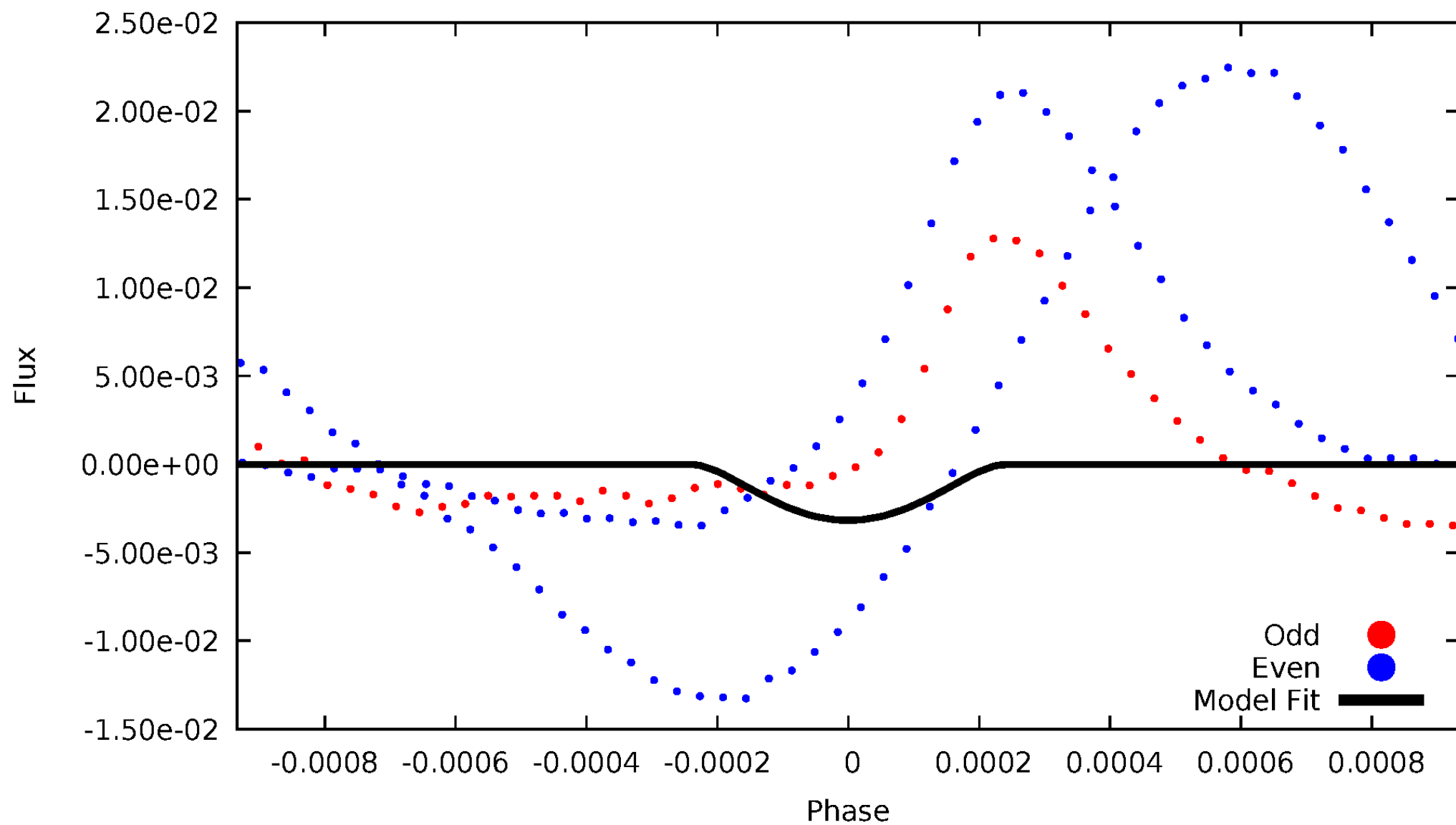


TCE 007838383-01



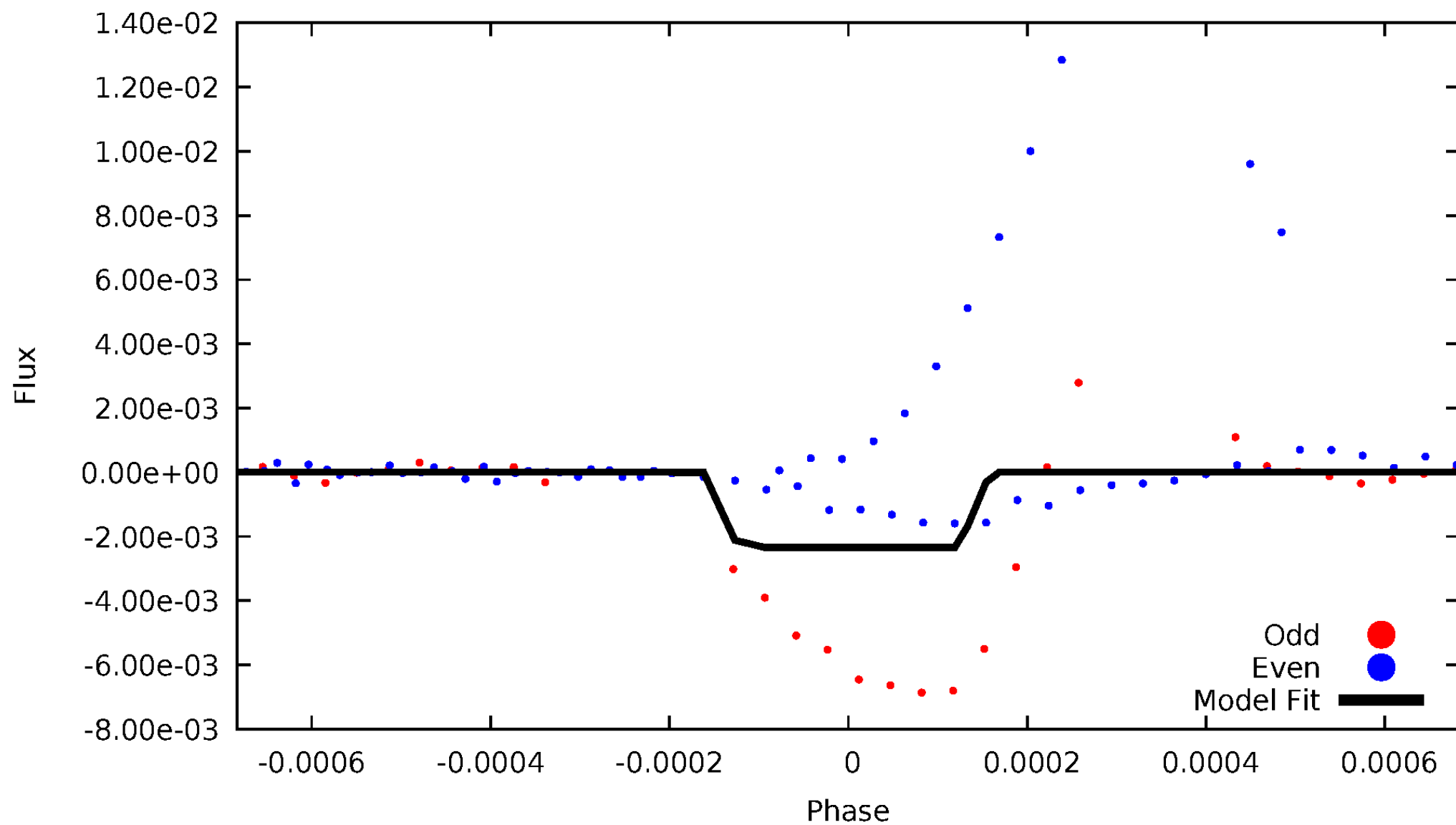
DV Odd/Even

TCE 007838383-01



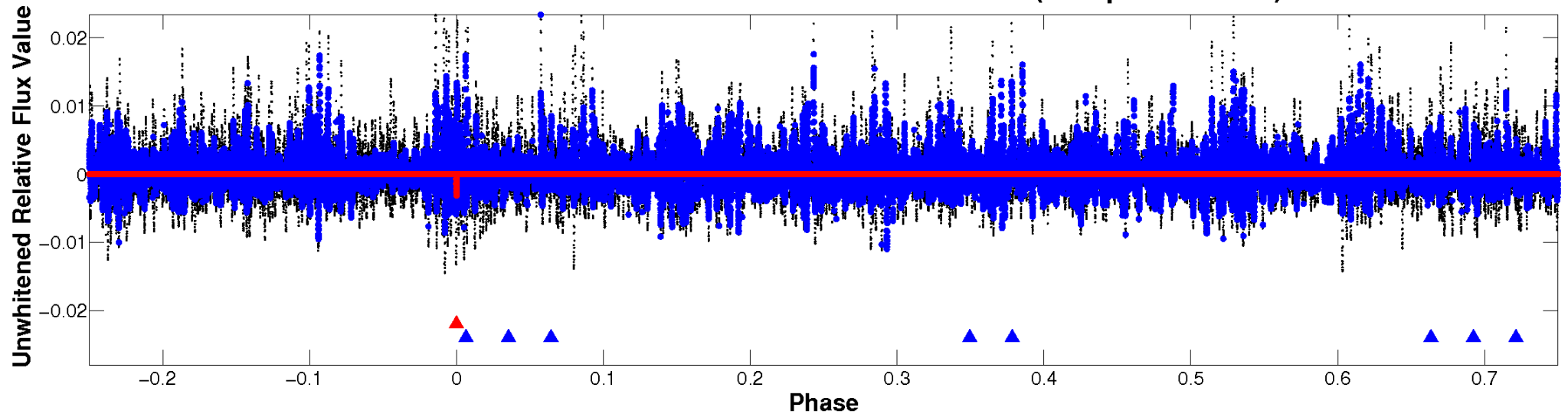
ALT Odd/Even

TCE 007838383-01

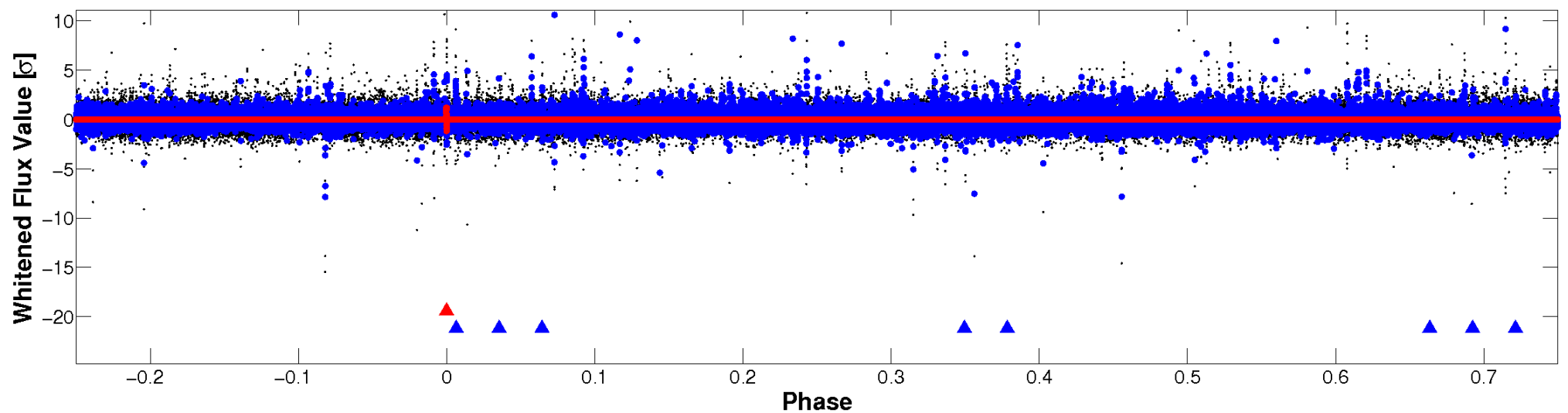


Non-Whitened Vs. Whitened Light Curve

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

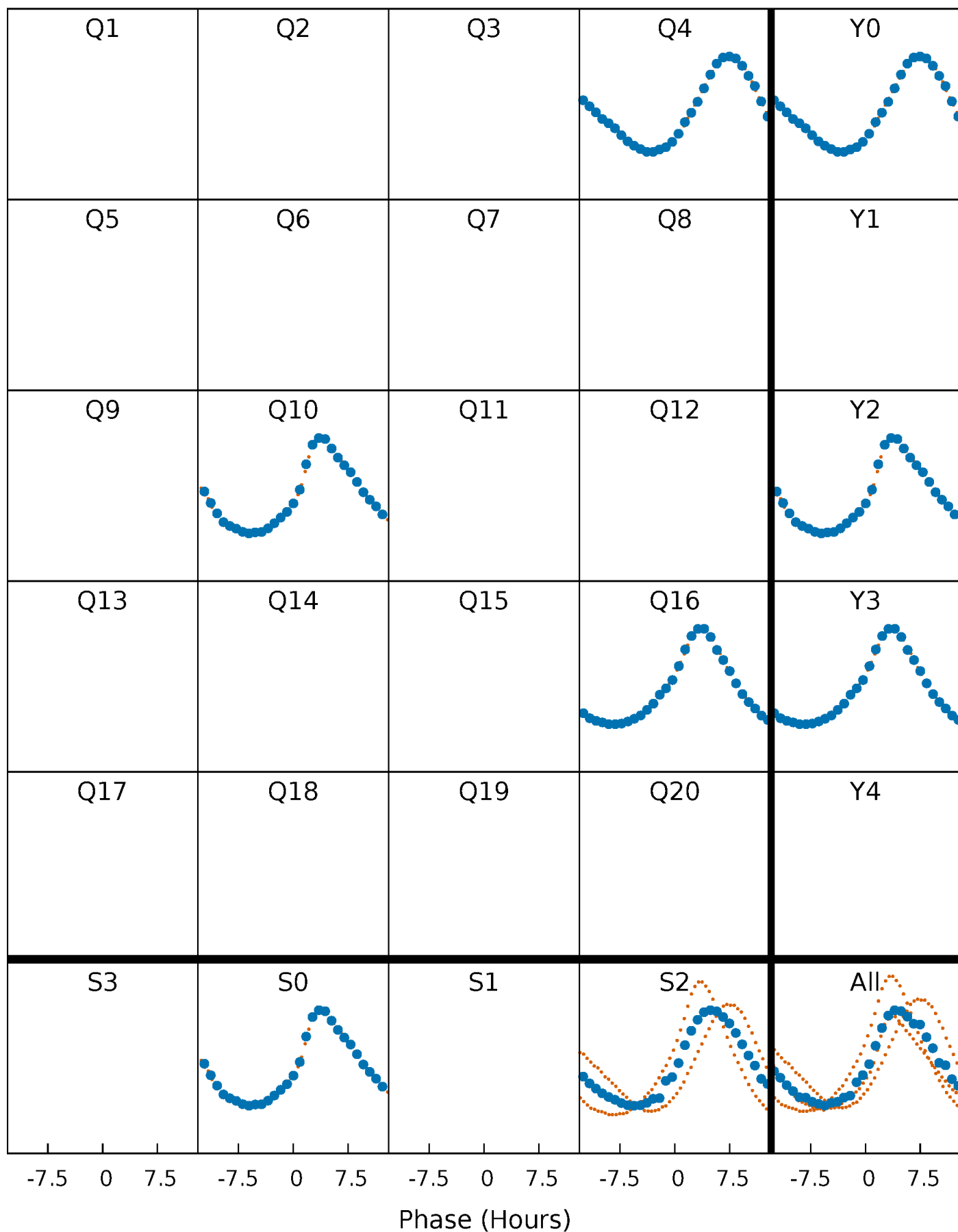


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



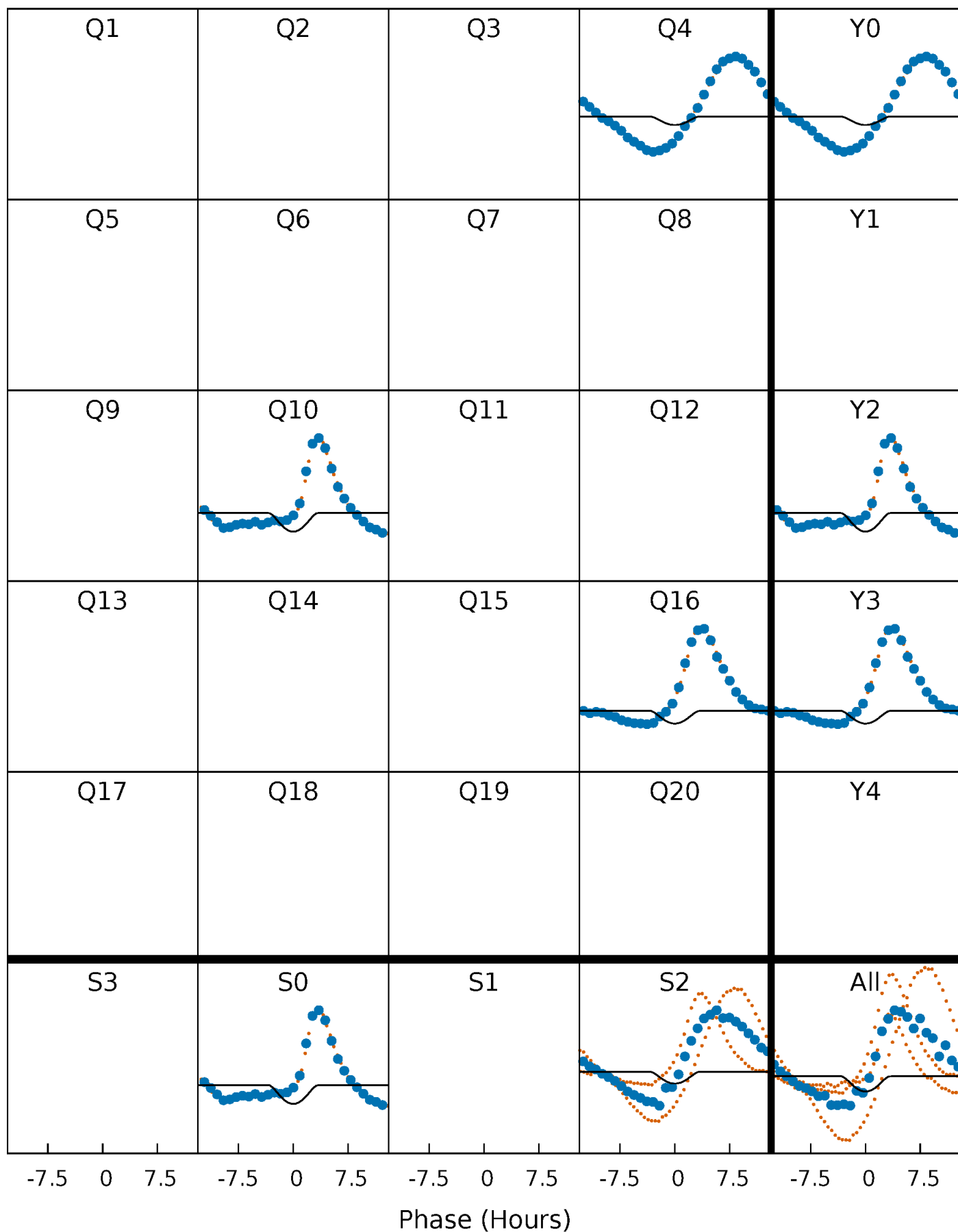
PDC Quarter-Phased Transit Curves

TCE 007838383-01 P=582.366739 Days $T_0=365.116018$ (BKJD)



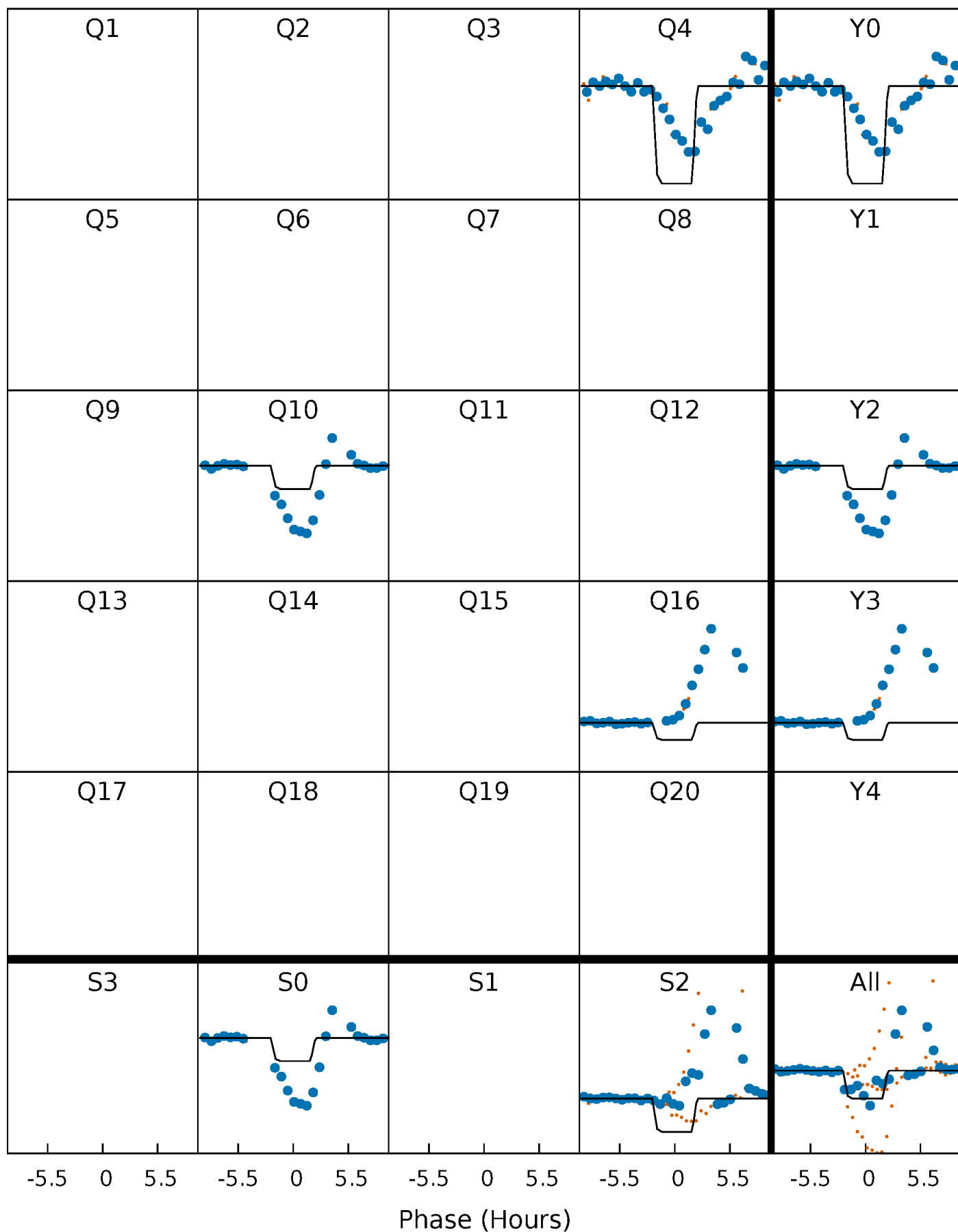
DV Quarter-Phased Transit Curves

TCE 007838383-01 P=582.366739 Days $T_0=365.116018$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

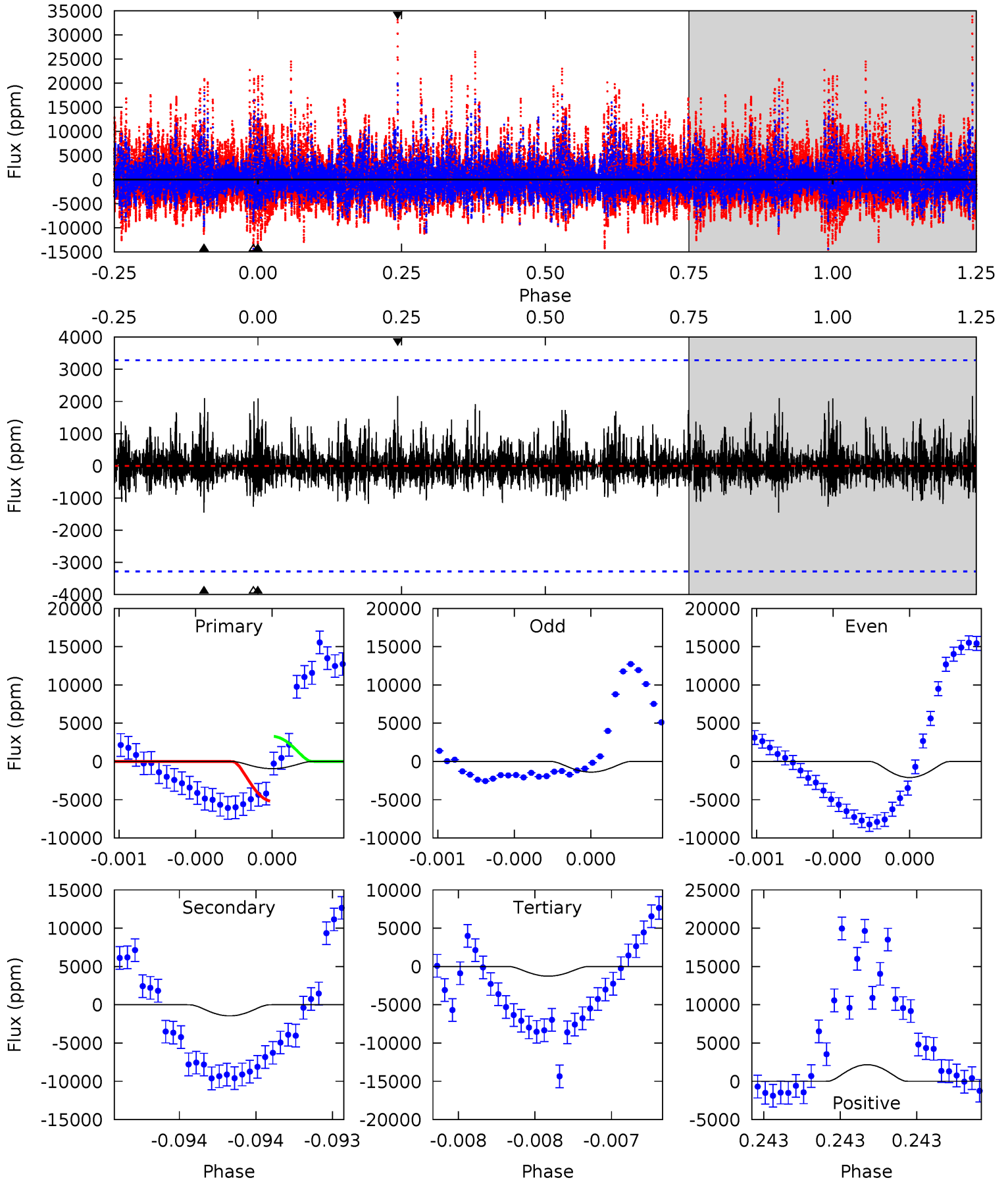
TCE 007838383-01 P=582.363271 Days $T_0=365.078230$ (BKJD)



DV Model-Shift Uniqueness Test

007838383-01, P = 582.366739 Days, E = 365.116018 Days

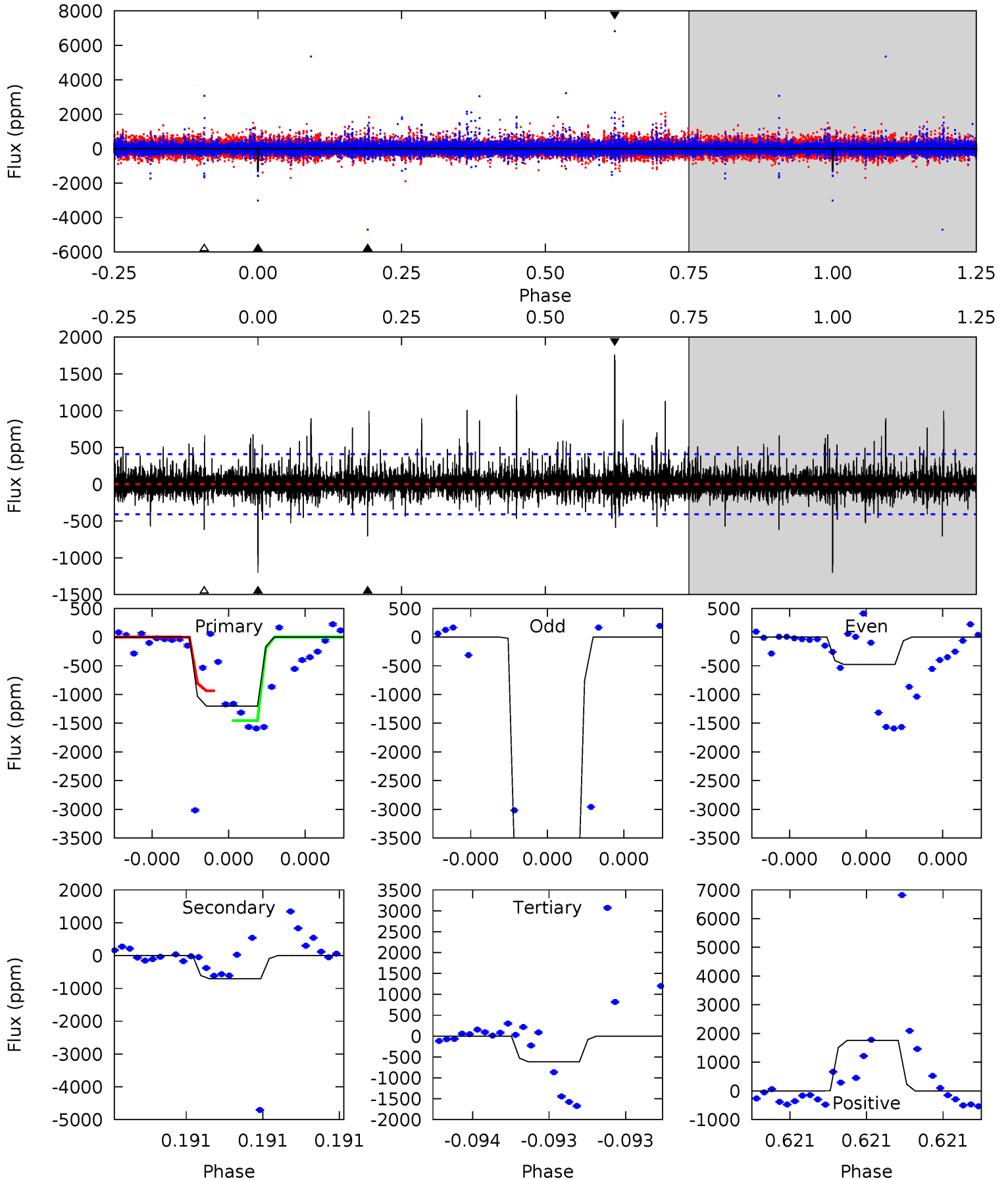
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.60	2.47	2.15	3.69	5.59	3.50	0.70	-0.55	-2.09	0.31	-1.22	0.56	-0.68	0.60	1.63



Alt Model-Shift Uniqueness Test

007838383-01, P = 582.363271 Days, E = 365.078230 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.6	9.81	8.54	24.4	5.65	3.60	1.39	8.10	-7.73	1.26	-14.6	48.9	1.65	0.59	0



Stellar Parameters For KIC 007838383

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7077^{+197}_{-296}	$4.286^{+0.072}_{-0.217}$	$-0.080^{+0.250}_{-0.400}$	$1.396^{+0.510}_{-0.204}$	$1.378^{+0.220}_{-0.198}$	$0.714^{+0.231}_{-0.404}$
	+3%/-4%	+2%/-5%	+312%/-500%	+37%/-15%	+16%/-14%	+32%/-57%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007838383-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1449 ± 587	$20.59^{+17.27}_{-12.66}$	427^{+33}_{-25}	4055^{+2150}_{-781}	4158^{+26260}_{-3102}
Alt.	-708 ± 72	$16.73^{+15.10}_{-11.51}$	428^{+34}_{-26}	3904^{+2552}_{-753}	3173^{+29433}_{-2328}

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

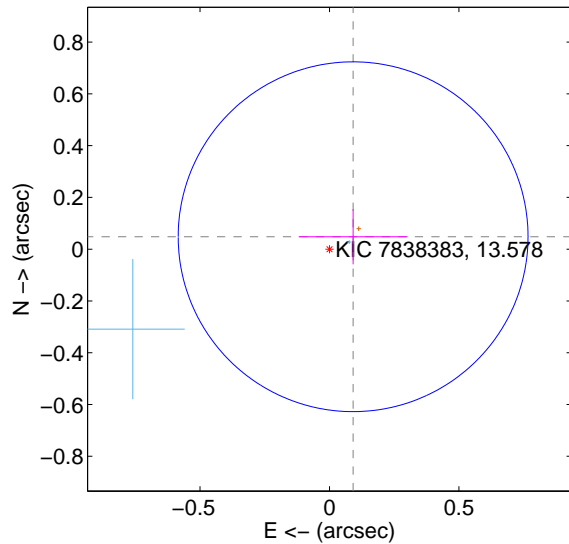
Supplemental centroid analysis for 007838383-01. Kepler magnitude: 13.58. Transit SNR 5.17

There are 2 quarters with good PRF difference image offsets

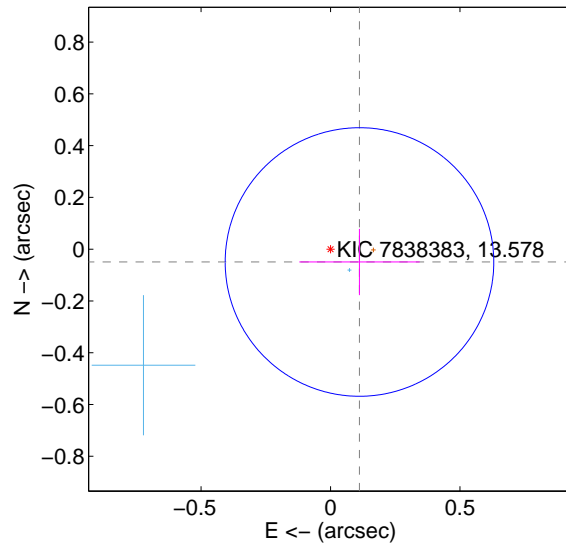
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.103 ± 0.225	0.46	-0.091 ± 0.210	0.048 ± 0.107
PRF-fit source offset from KIC position	0.122 ± 0.173	0.71	-0.112 ± 0.232	-0.050 ± 0.128
photometric centroid source offset	0.16 ± 0.16	0.95	-0.16 ± 0.17	-0.02 ± 0.14

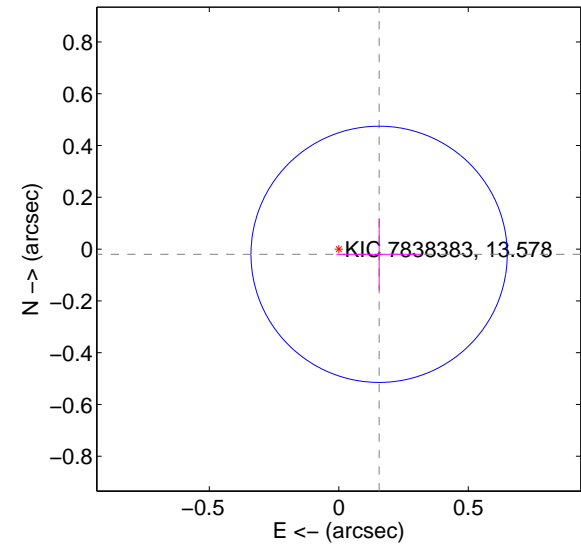
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

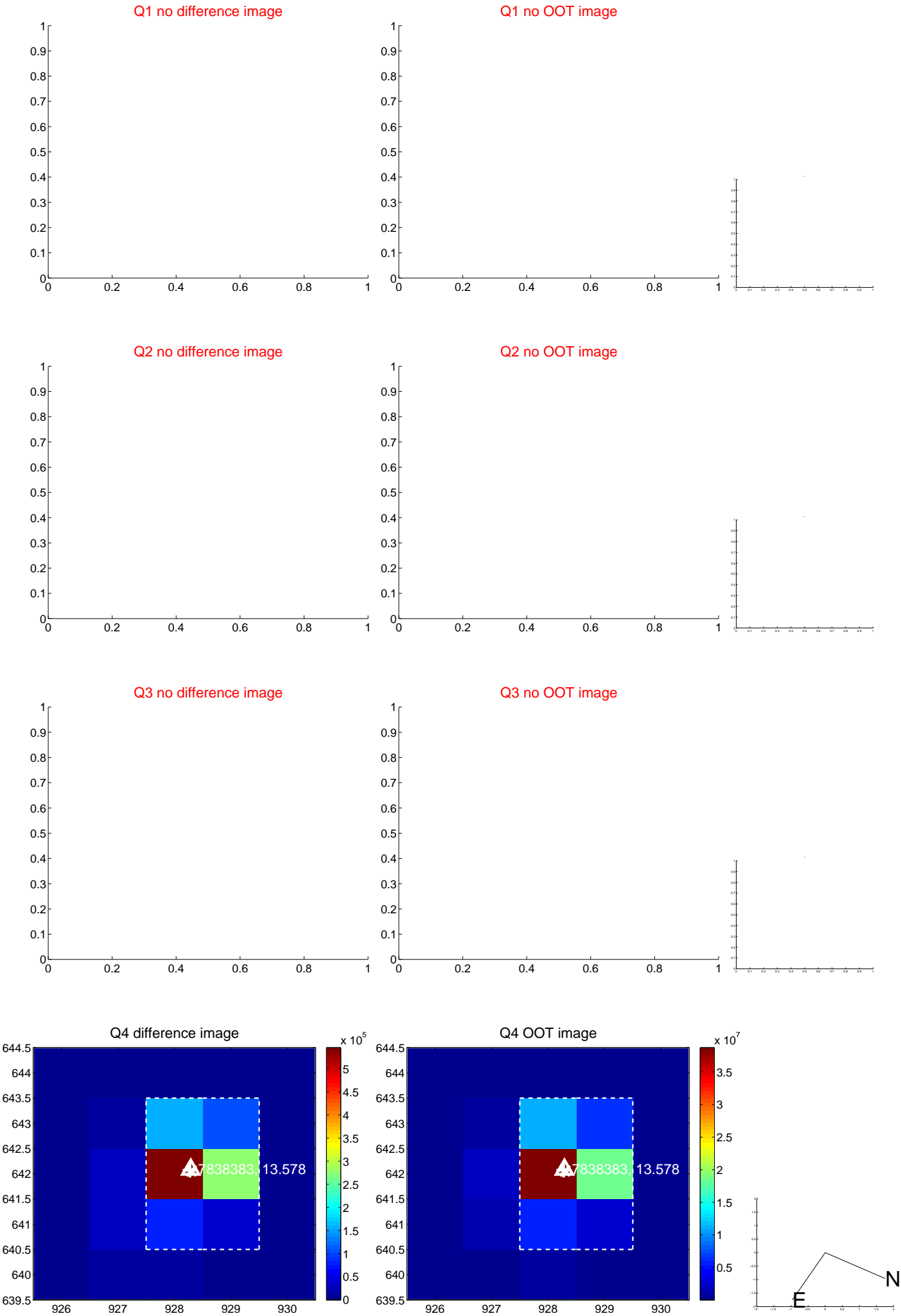


offset from photometric centroids



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.

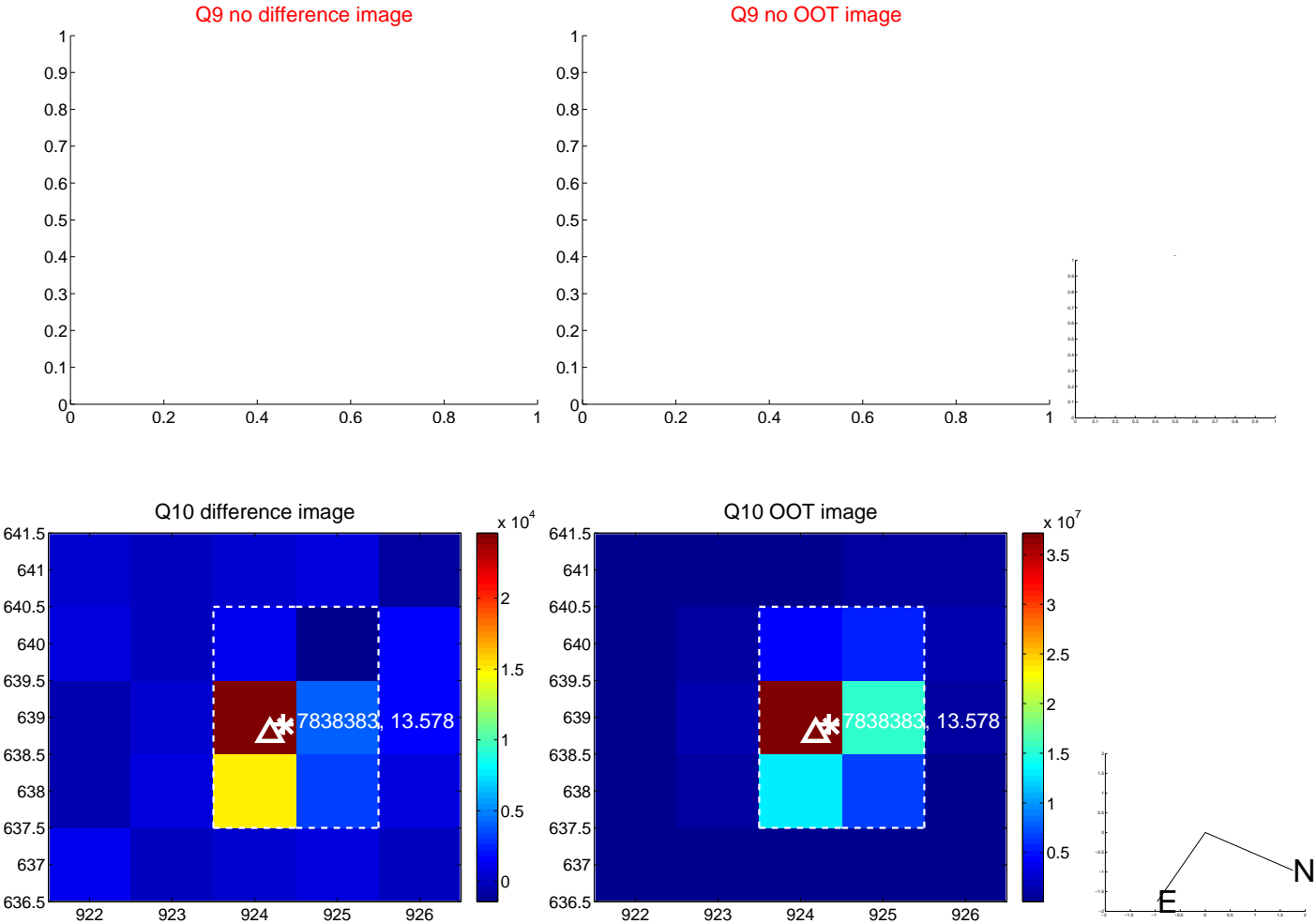
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



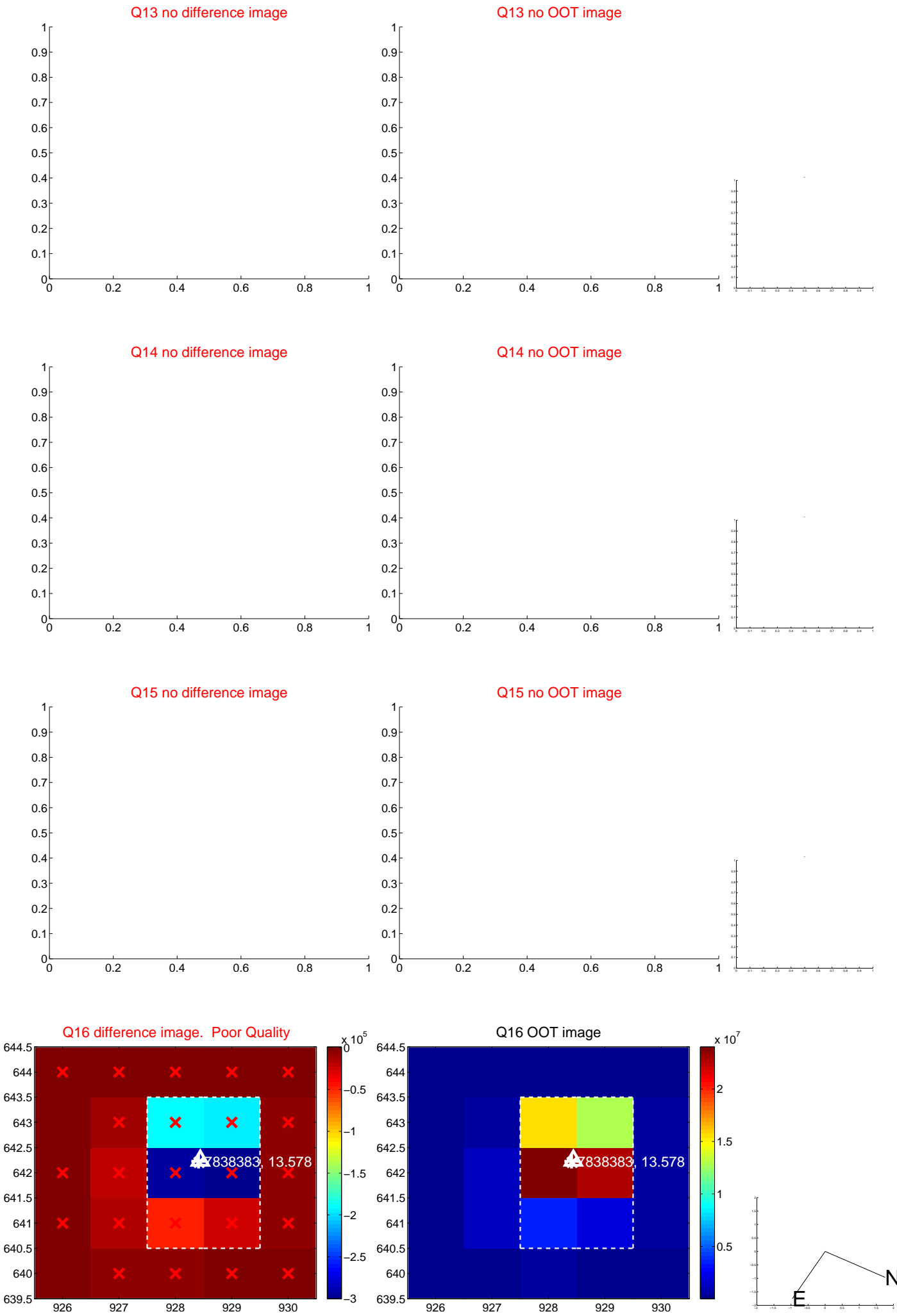
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



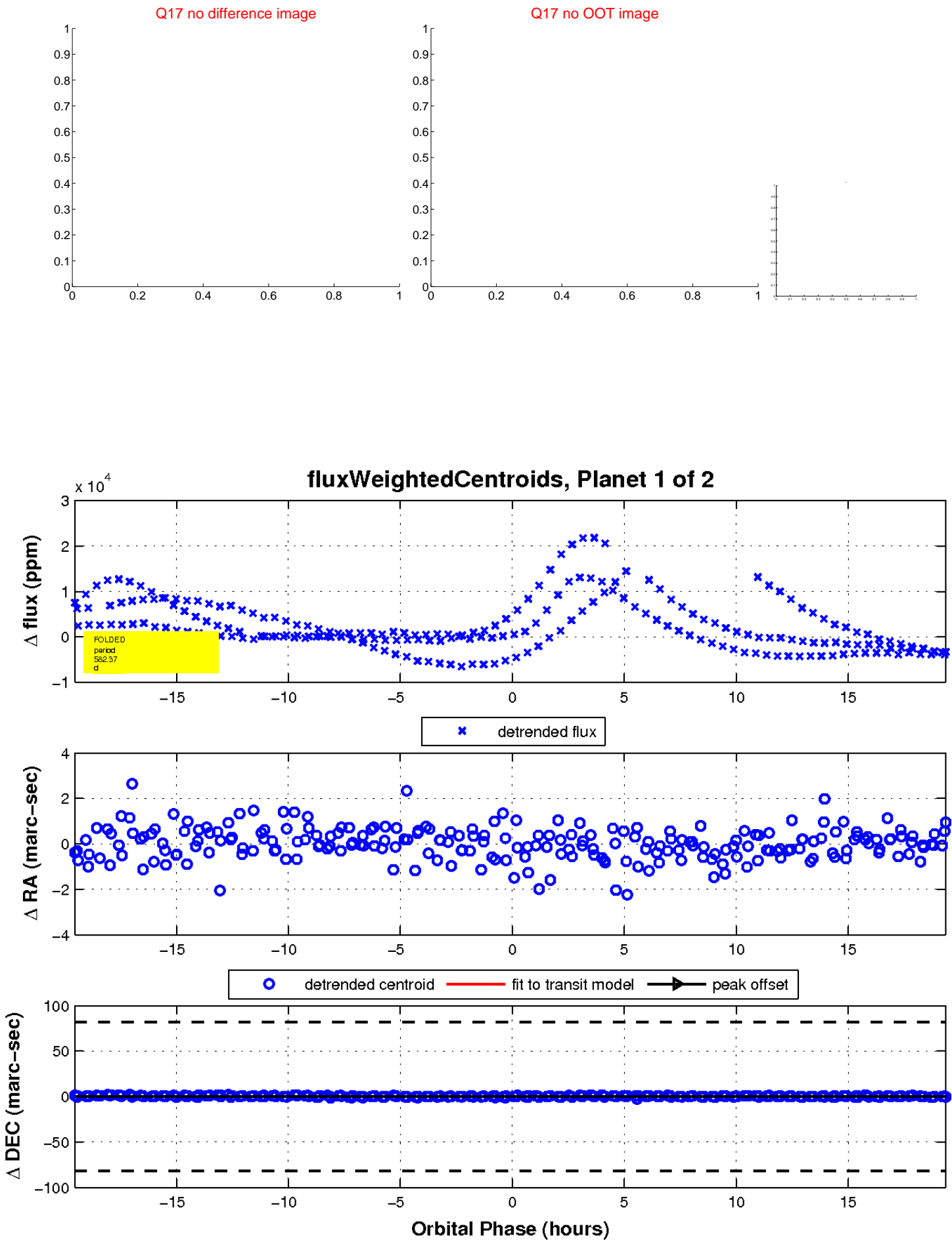
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

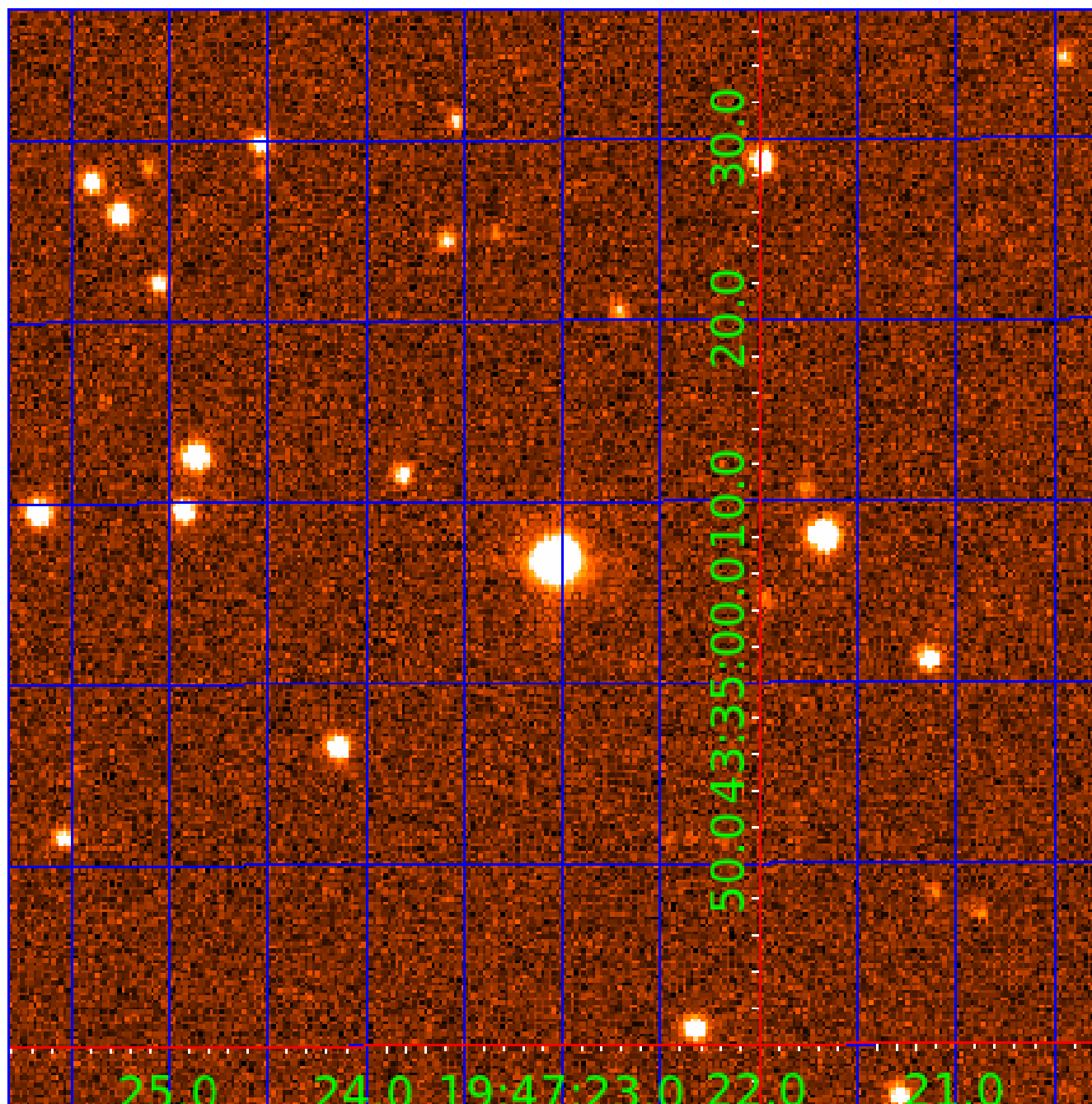


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007838383

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})
007838383-01	OBS	No	582.366739	365.116018	3162.3	6.524	11.6	5.2	1.40	7077	14.20	1.90
007838383-02	OBS	No	199.738012	169.172753	5307.0	9.981	12.6	9.4	1.40	7077	18.10	7.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007838383-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007838383-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV

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

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

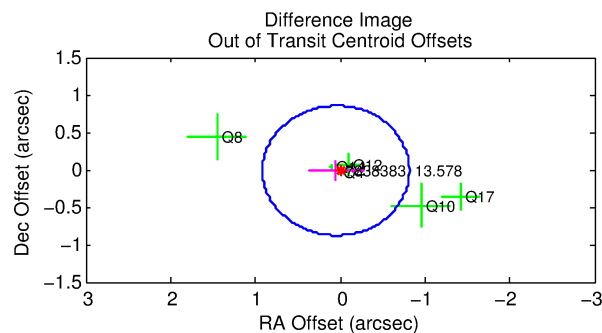
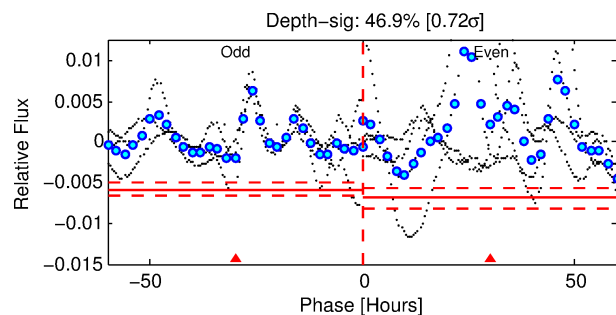
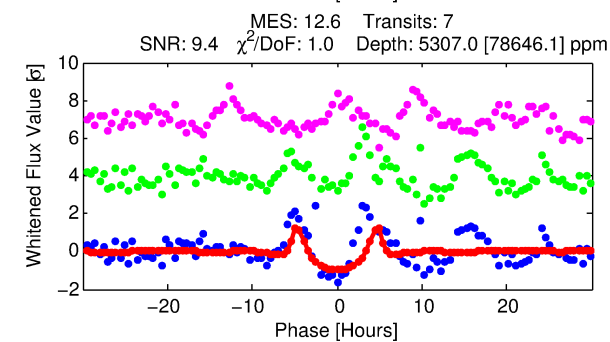
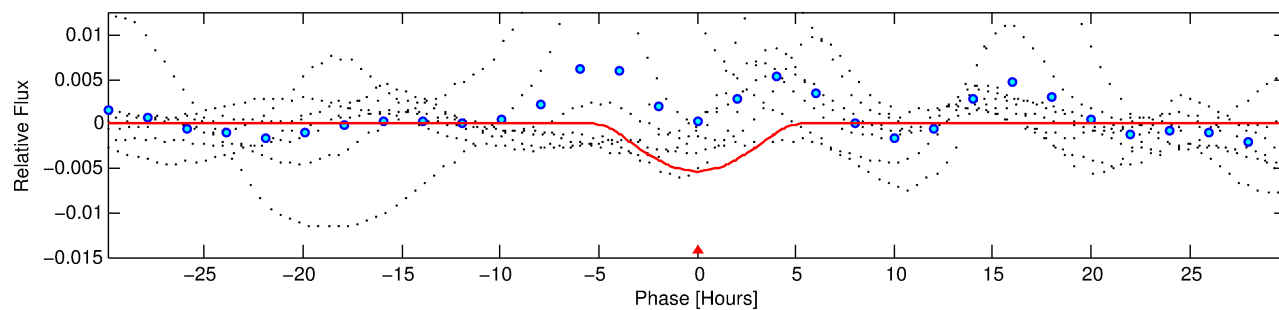
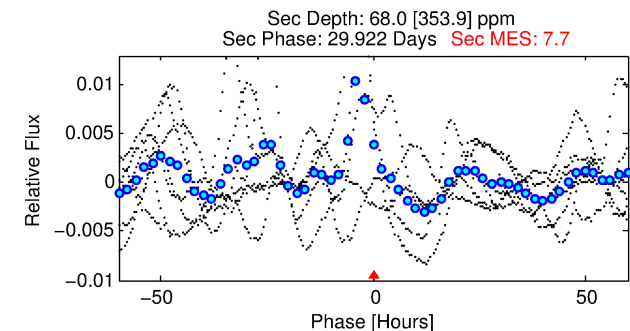
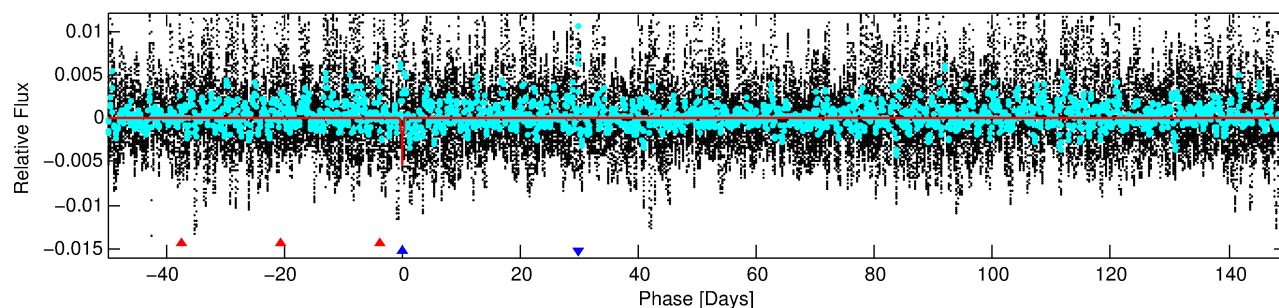
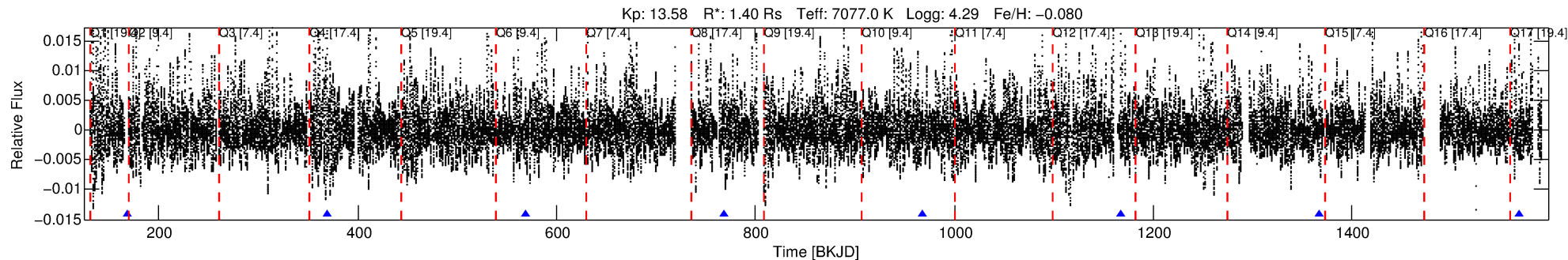
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007838383-02

No Significant Match Found

DV One-Page Summary

KIC: 7838383 Candidate: 2 of 2 Period: 199.738 d



DV Fit Results:

Period = 199.73801 [0.00271] d
Epoch = 169.1728 [0.0123] BKJD
Rp/R* = 0.1188 [0.0839]
a/R* = 76.72 [9.07]
b = 1.00 [1.08]
Seff = 7.92 [3.53]
Teq = 428 [48] K
Rp = 18.10 [14.39] Re
a = 0.7435 [0.2194] AU
Ag = 63.16 [341.34] [0.18σ]
Teffp = 1865 [2513] K [0.57σ]

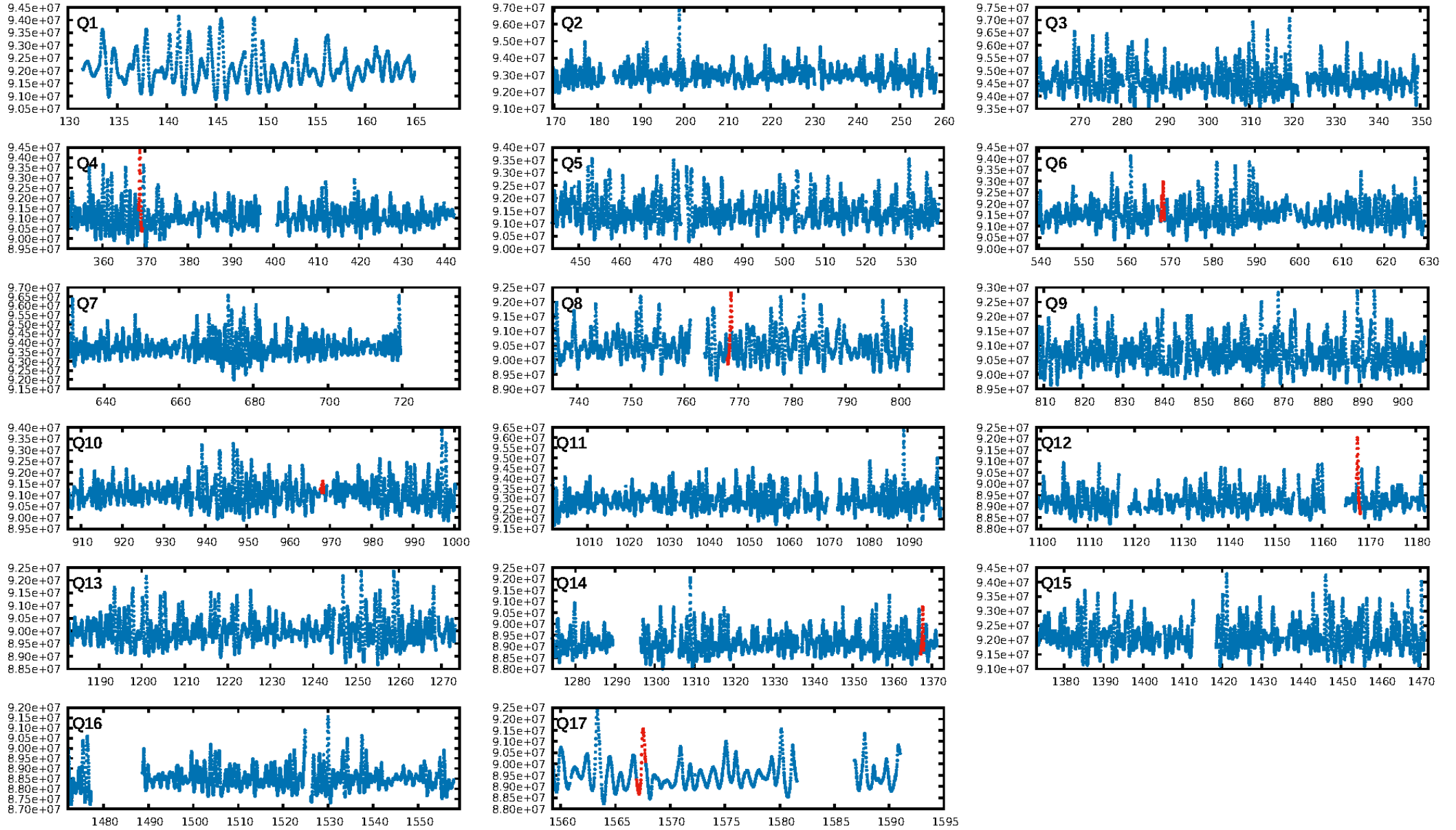
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [770.14σ]
ModelChiSquare2-sig: 43.2%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 7.73e-12
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 0.568
Centroid-sig: N/A
Centroid-so: 0.106 arcsec [1.68σ]
OotOffset-rm: 0.050 arcsec [0.17σ]
KicOffset-rm: 0.123 arcsec [1.19σ]
OotOffset-st: 2/0/3/1 [6]
KicOffset-st: 2/0/3/1 [6]
DiffImageQuality-fgm: 0.50 [3/6]
DiffImageOverlap-fno: 1.00 [6/6]

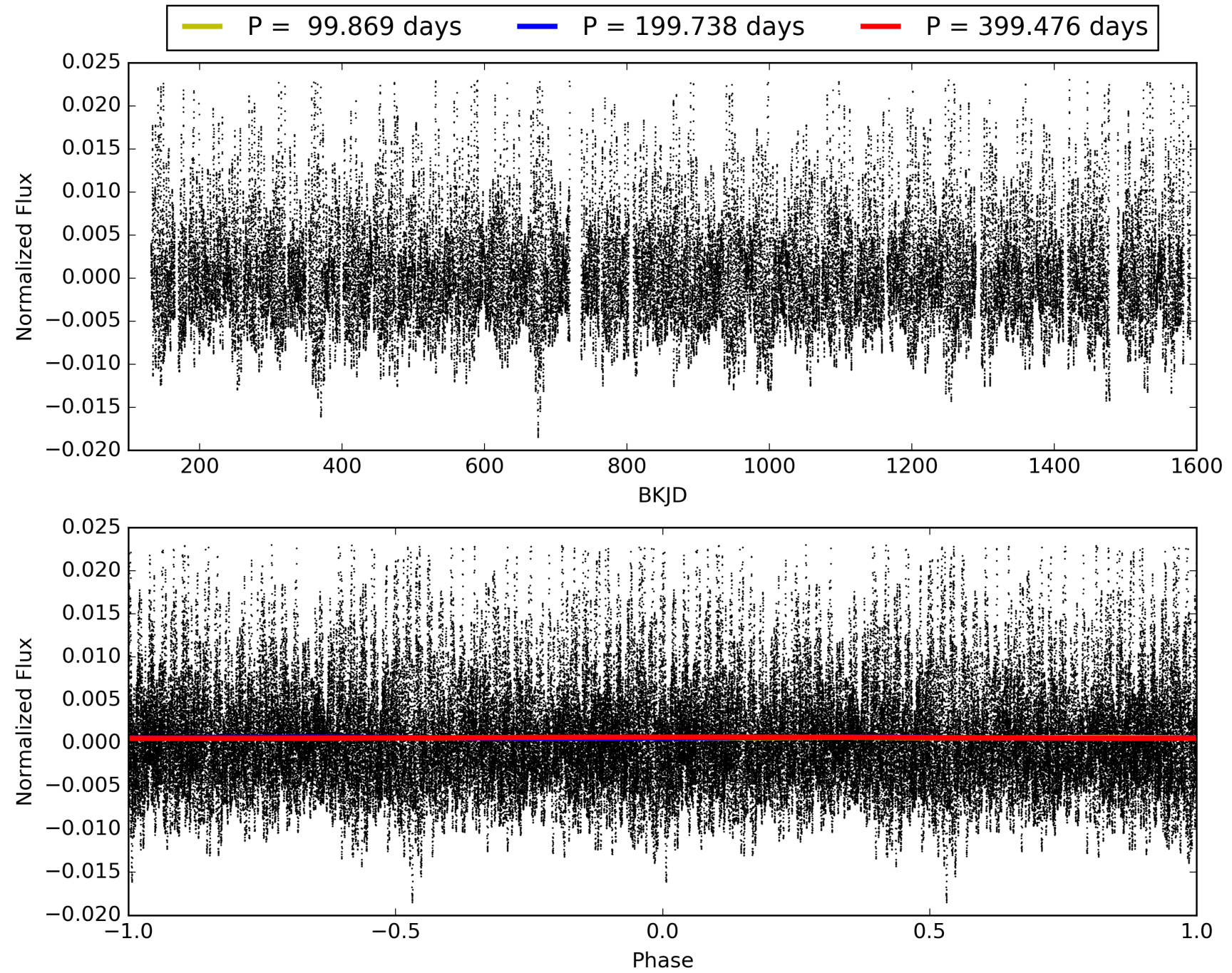
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:53:04 Z

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

TCE 007838383-02, PDC Light Curves

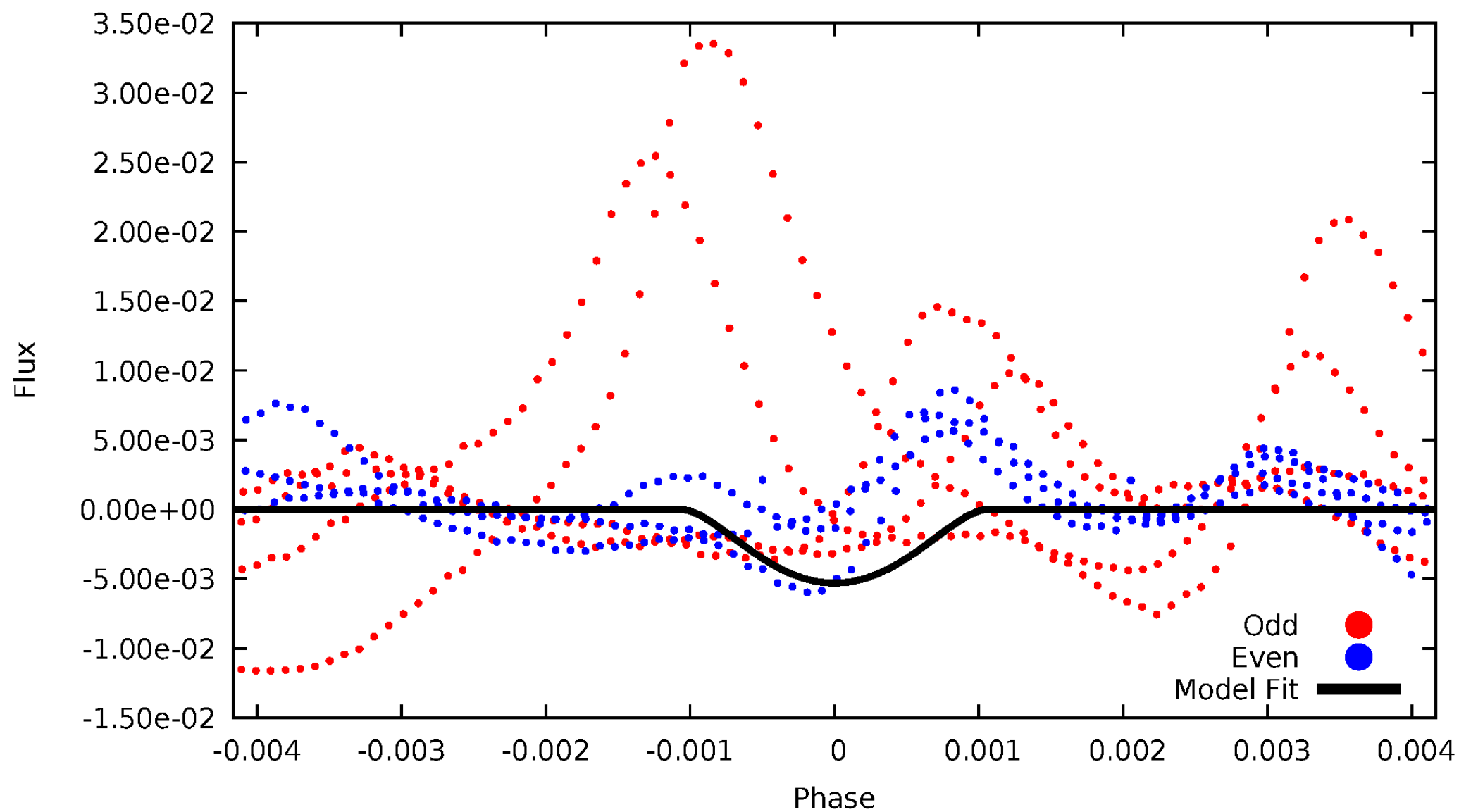


TCE 007838383-02



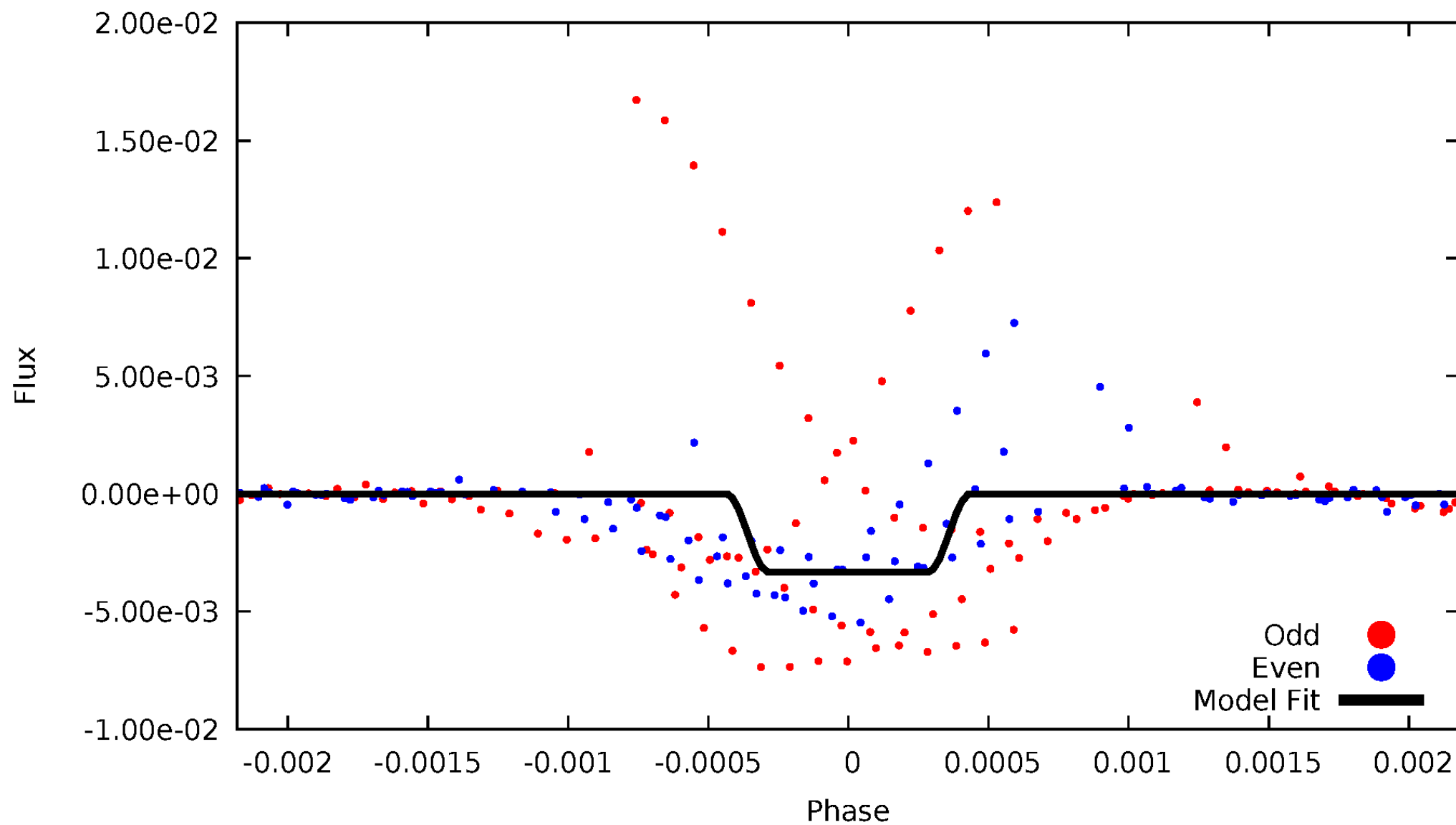
DV Odd/Even

TCE 007838383-02



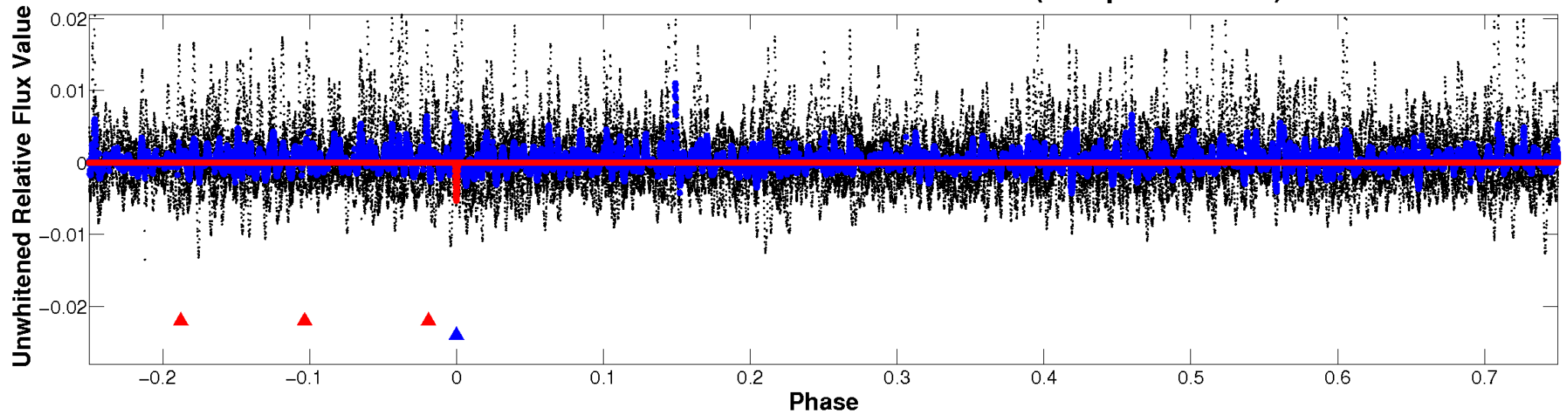
ALT Odd/Even

TCE 007838383-02

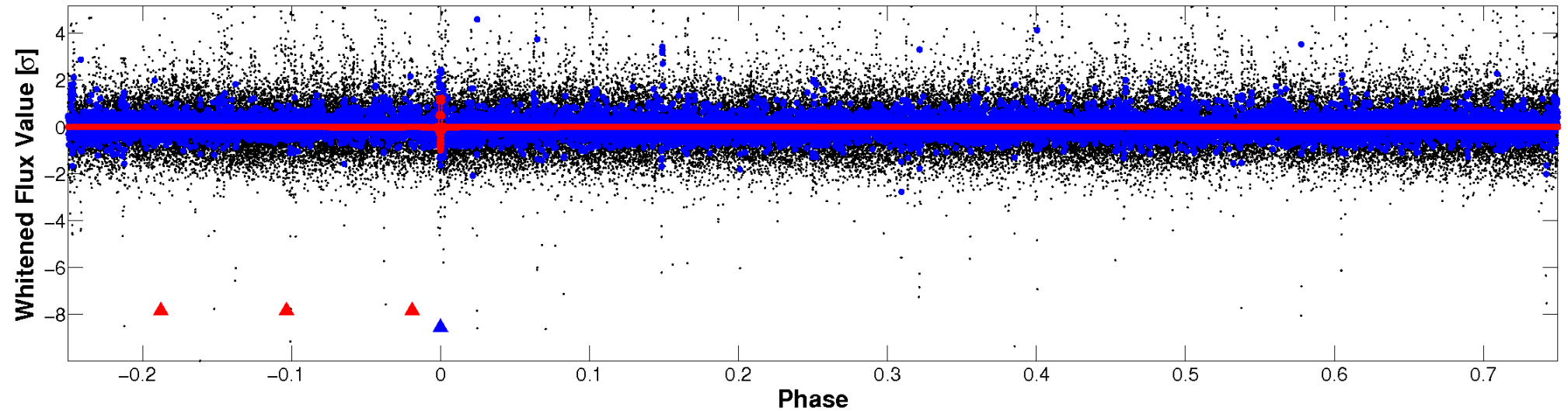


Non-Whitened Vs. Whitened Light Curve

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

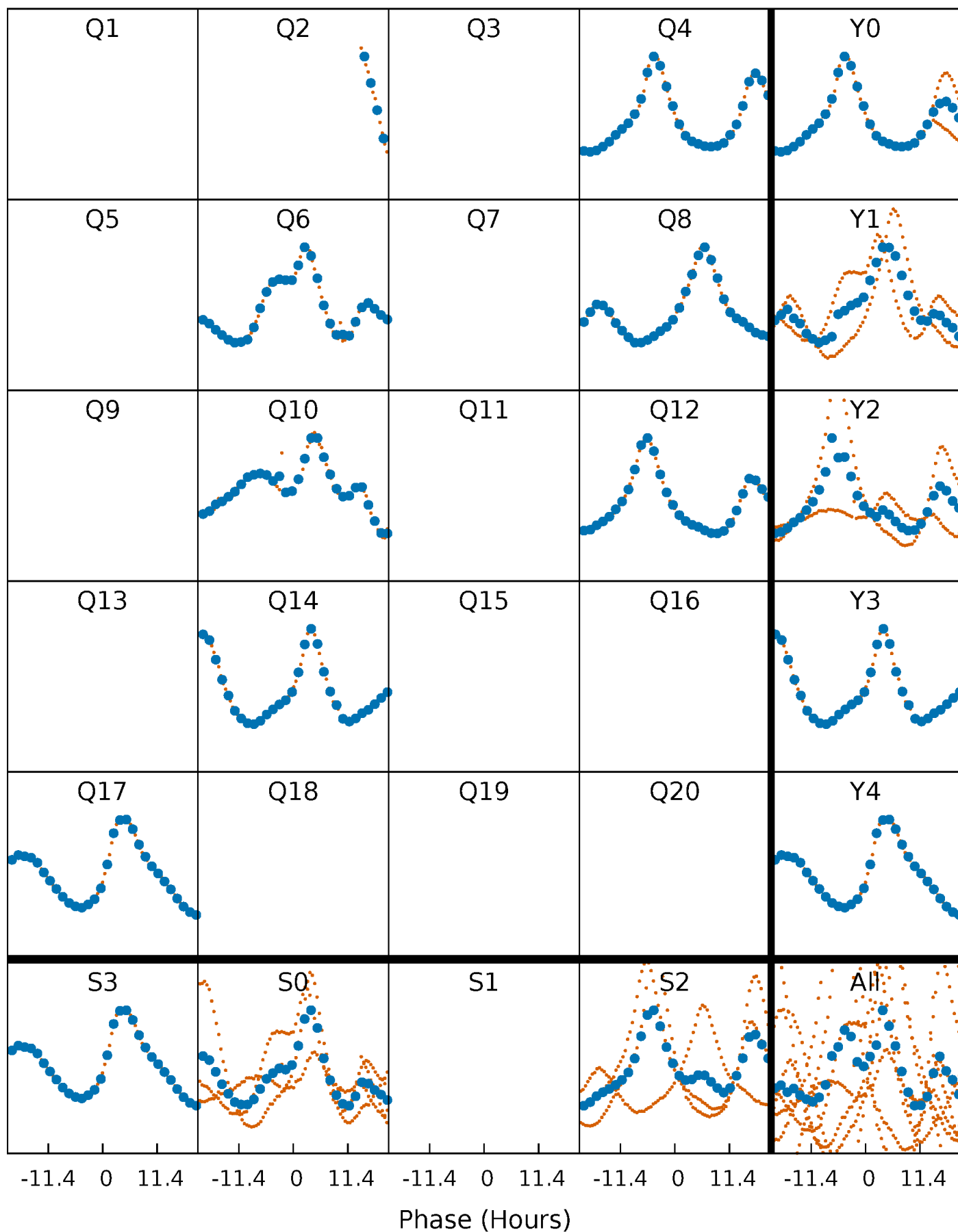


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



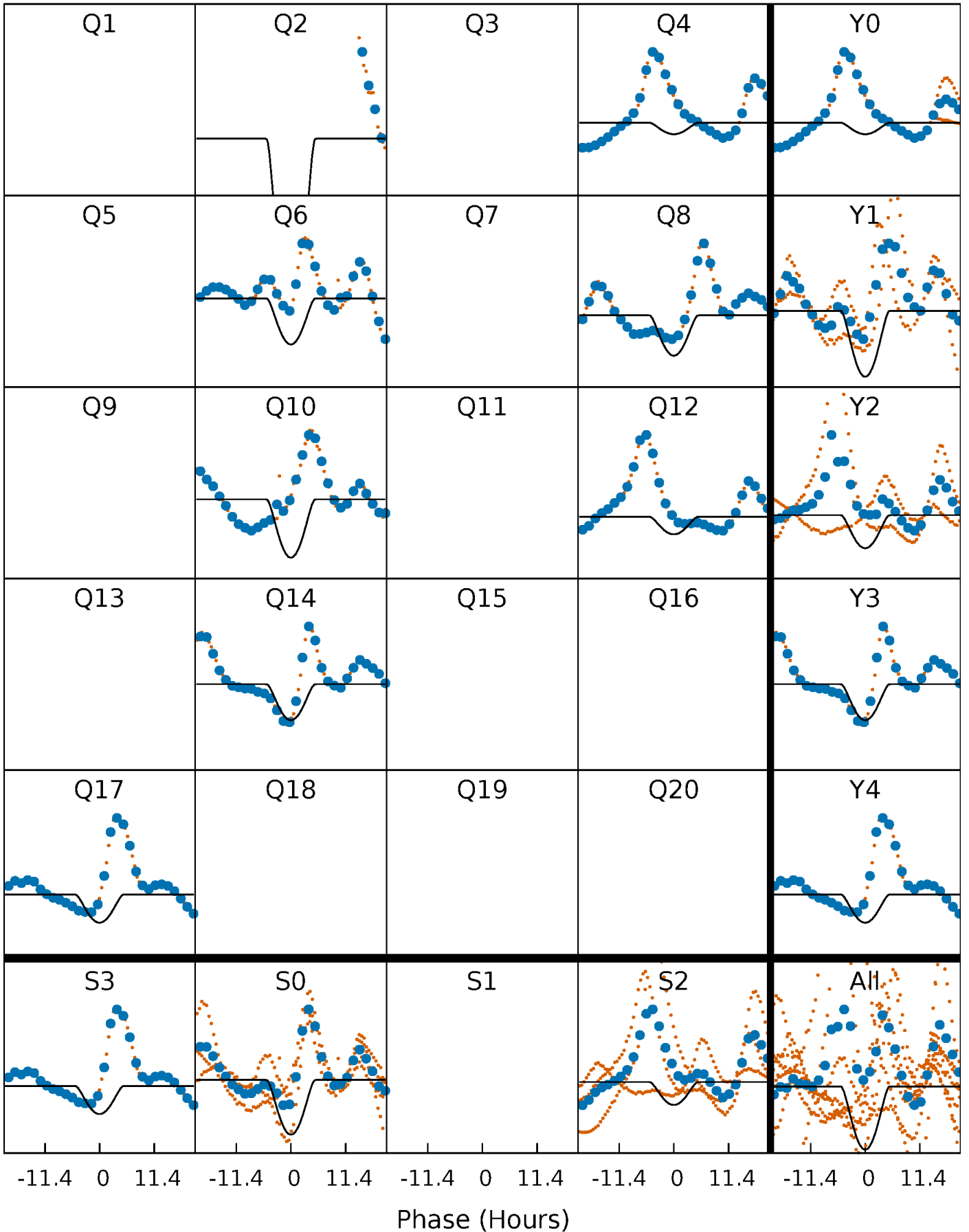
PDC Quarter-Phased Transit Curves

TCE 007838383-02 P=199.738012 Days $T_0=169.172753$ (BKJD)



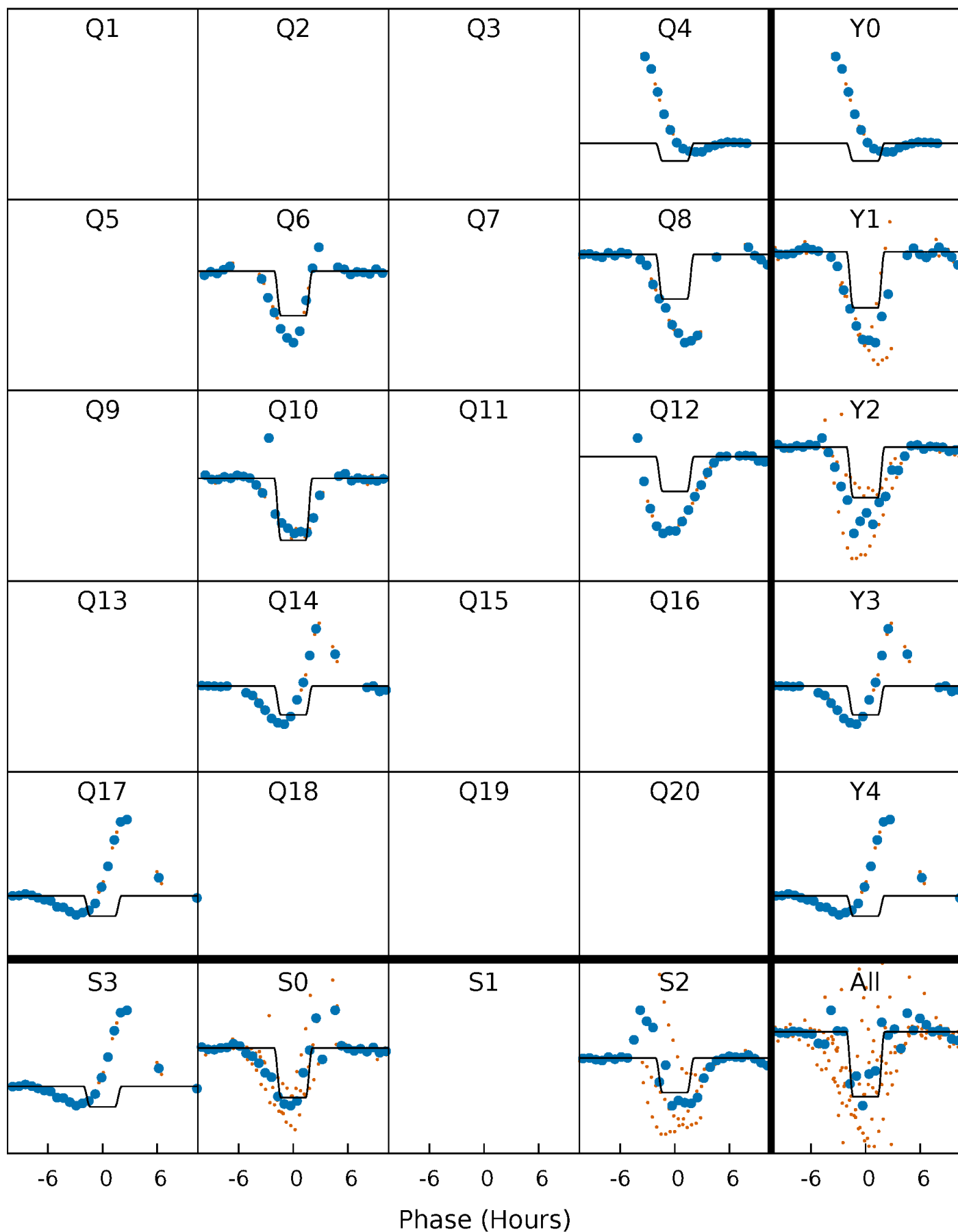
DV Quarter-Phased Transit Curves

TCE 007838383-02 P=199.738012 Days $T_0=169.172753$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

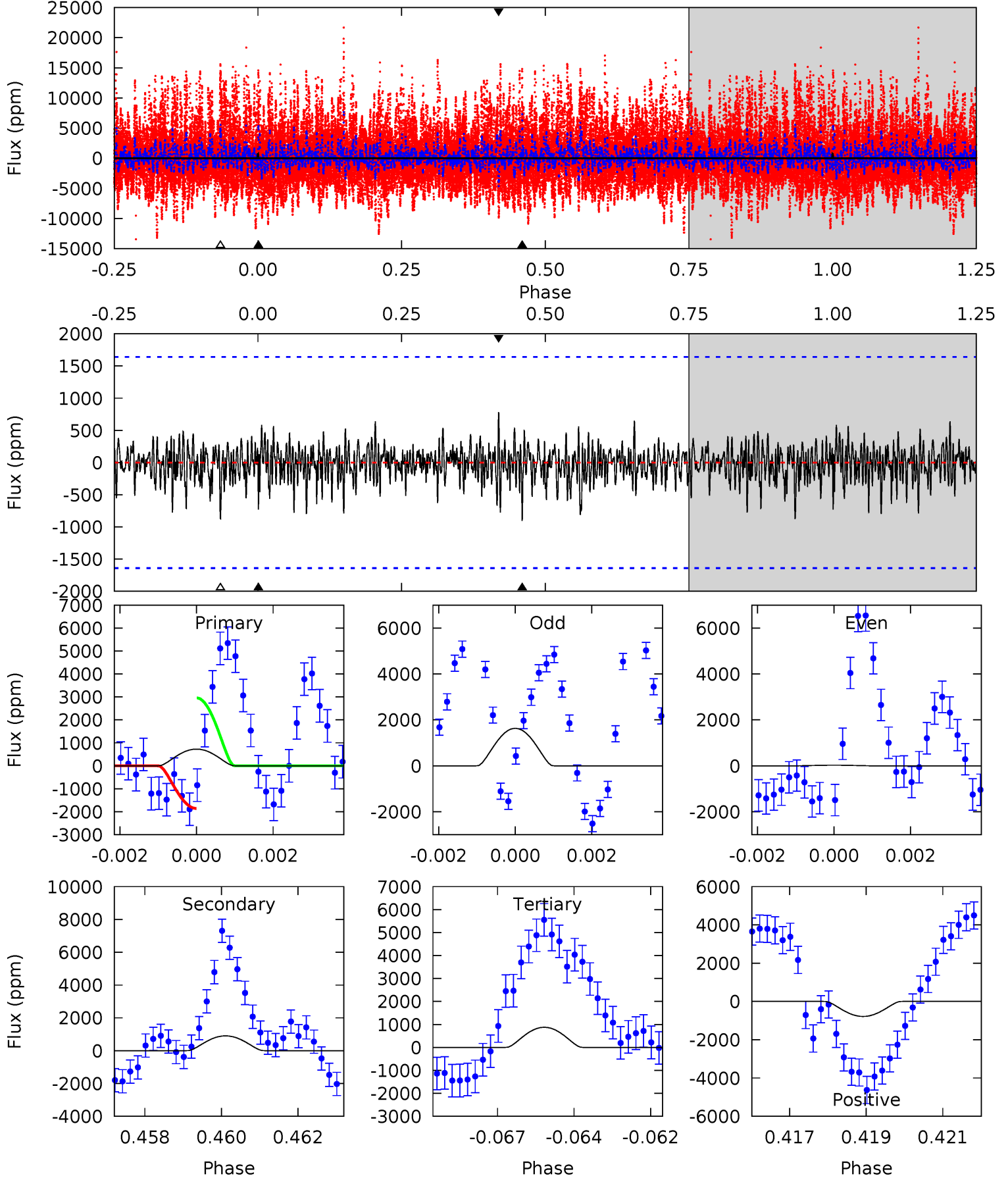
TCE 007838383-02 P=199.746748 Days $T_0=169.148059$ (BKJD)



DV Model-Shift Uniqueness Test

007838383-02, P = 199.738012 Days, E = 169.172753 Days

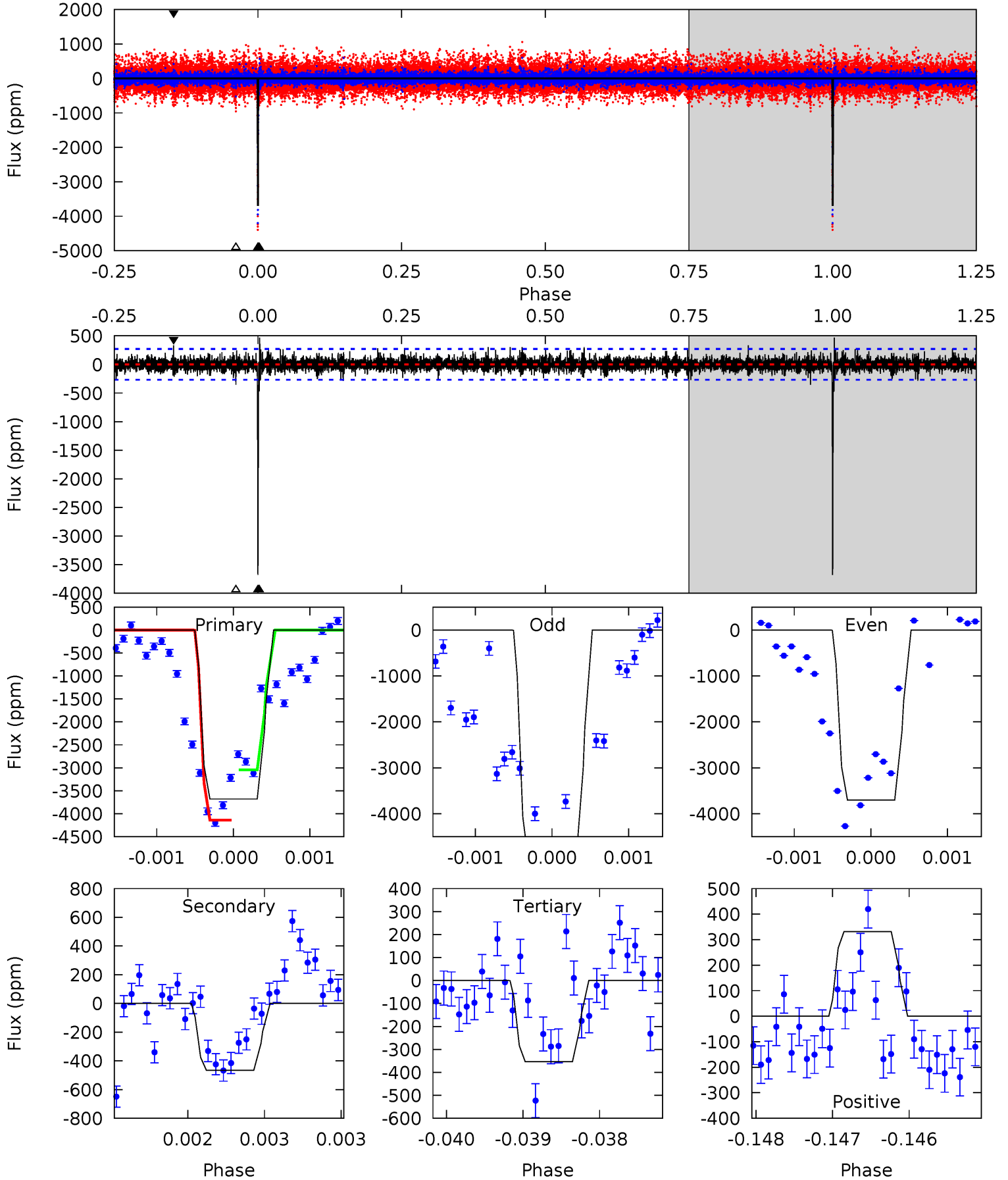
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.36	2.93	2.84	2.54	5.31	3.07	0.74	-0.48	-0.18	0.09	0.39	2.60	1.67	0.46	1.78



Alt Model-Shift Uniqueness Test

007838383-02, P = 199.746748 Days, E = 169.148059 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
74.9	9.50	7.19	6.74	5.48	3.33	1.38	67.7	68.2	2.31	2.76	16.0	0.84	0.11	0



Stellar Parameters For KIC 007838383

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7077^{+197}_{-296}	$4.286^{+0.072}_{-0.217}$	$-0.080^{+0.250}_{-0.400}$	$1.396^{+0.510}_{-0.204}$	$1.378^{+0.220}_{-0.198}$	$0.714^{+0.231}_{-0.404}$
	+3%/-4%	+2%/-5%	+312%/-500%	+37%/-15%	+16%/-14%	+32%/-57%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007838383-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-903 ± 309	$20.74^{+12.97}_{-12.02}$	608^{+50}_{-33}	3781^{+1371}_{-605}	605^{+2755}_{-388}
Alt.	-467 ± 49	$13.77^{+12.75}_{-9.01}$	607^{+51}_{-35}	3895^{+2104}_{-731}	754^{+5602}_{-546}

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

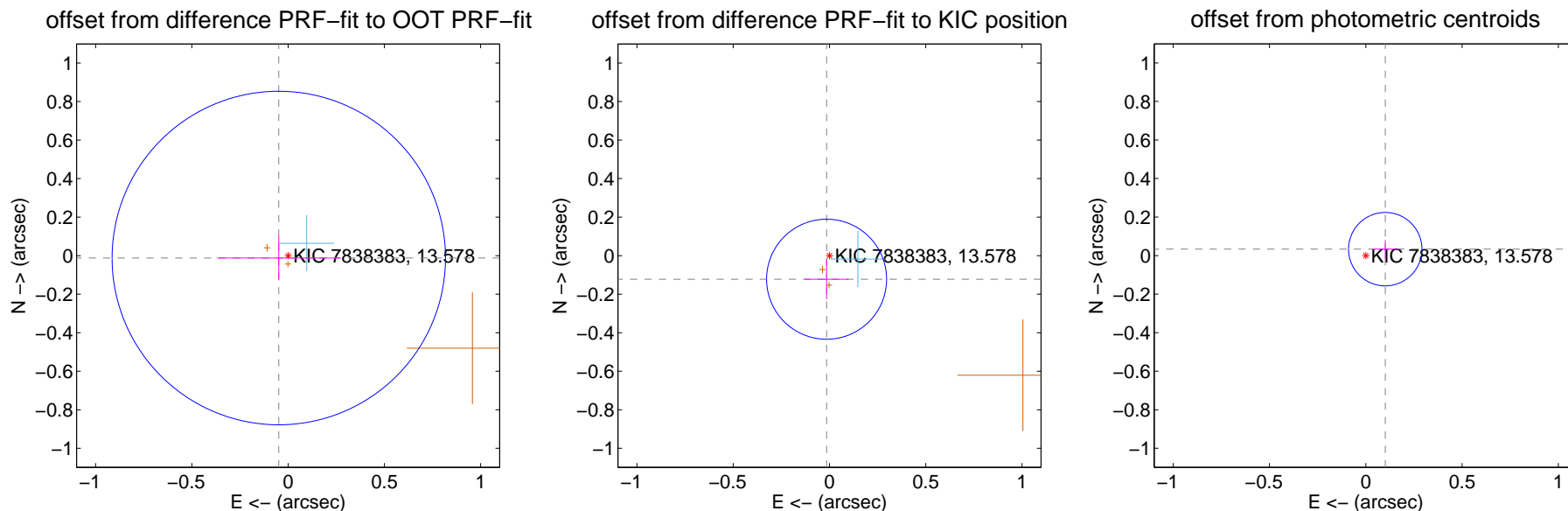
DV Centroid Data

Supplemental centroid analysis for 007838383-02. Kepler magnitude: 13.58. Transit SNR 9.38

There are 3 quarters with good PRF difference image offsets

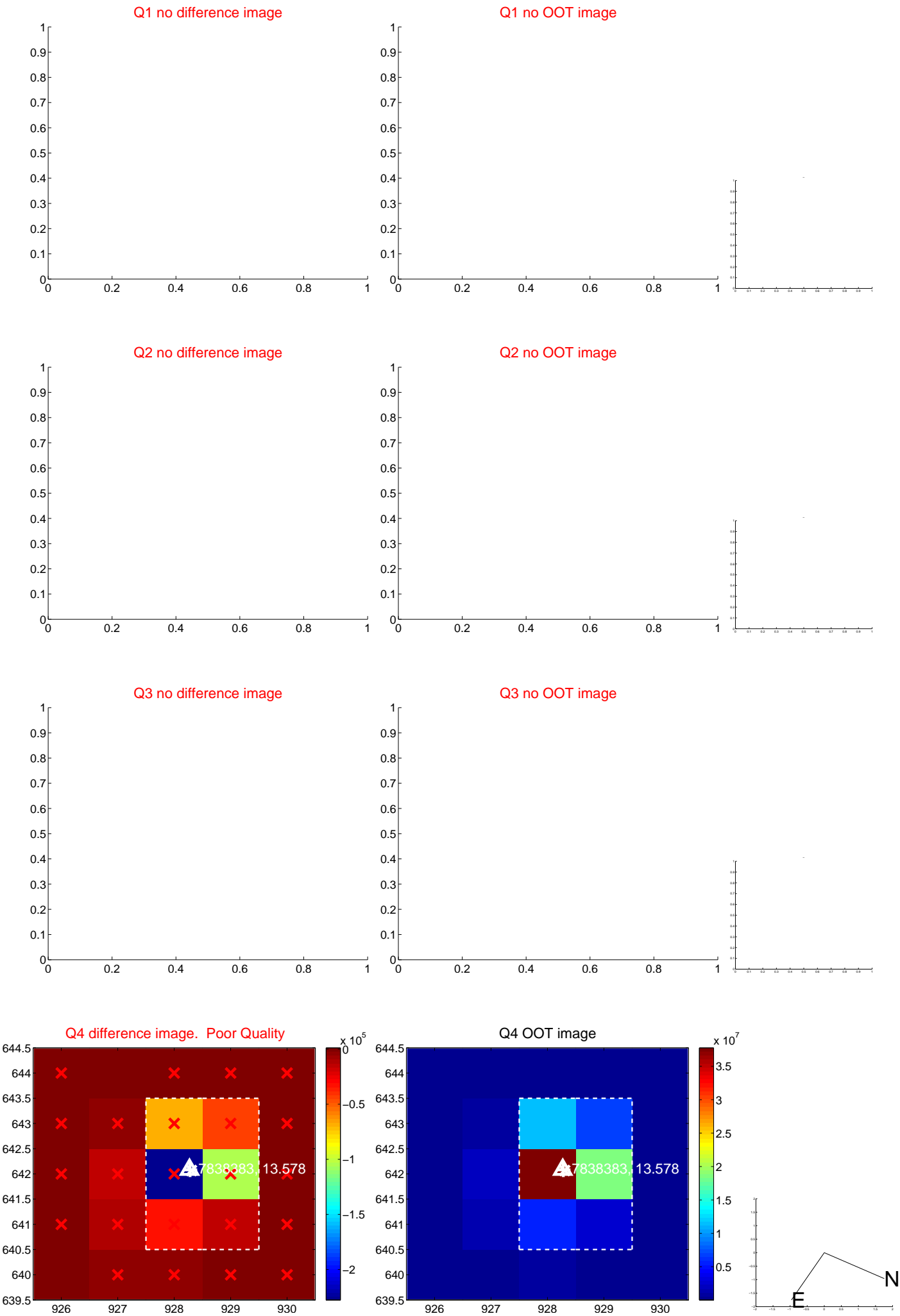
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.050 ± 0.289	0.17	0.049 ± 0.319	-0.012 ± 0.115
PRF-fit source offset from KIC position	0.123 ± 0.104	1.19	0.015 ± 0.114	-0.122 ± 0.104
photometric centroid source offset	0.11 ± 0.06	1.68	-0.10 ± 0.07	0.03 ± 0.05

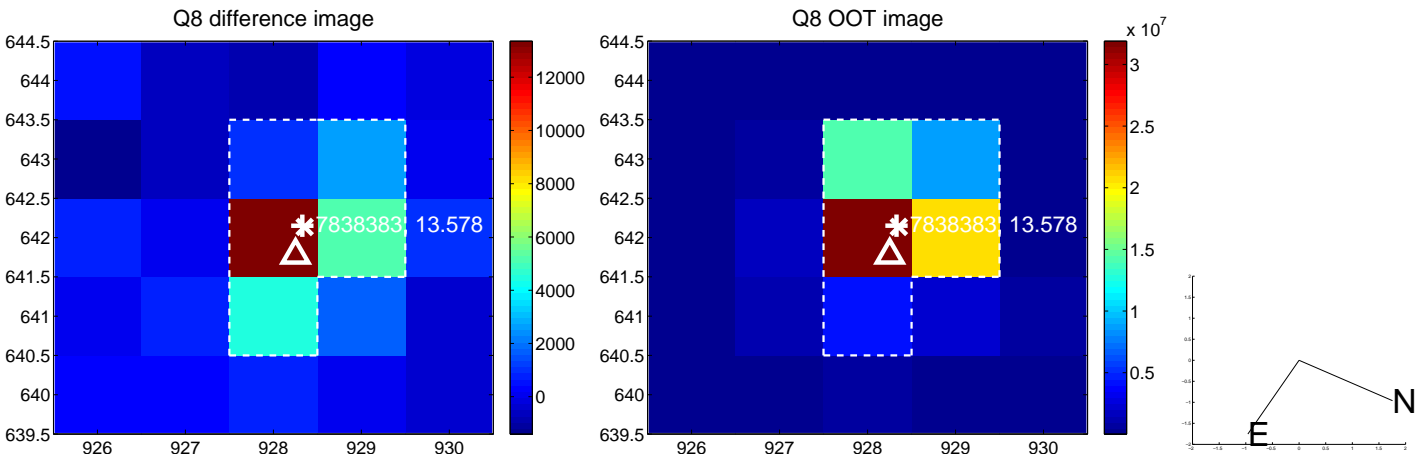


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

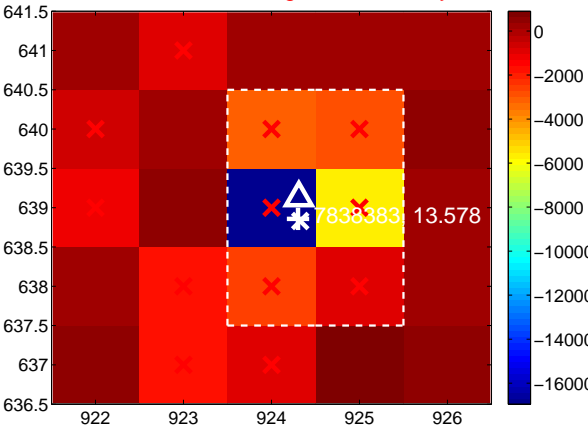
Q9 no difference image



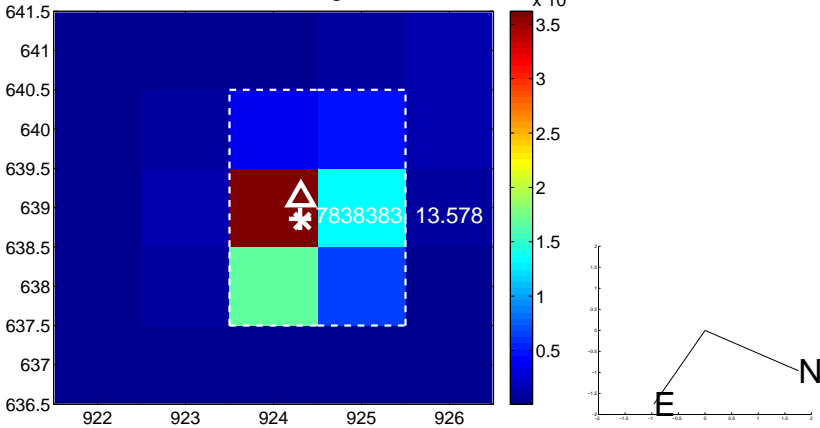
Q9 no OOT image



Q10 difference image. Poor Quality



Q10 OOT image



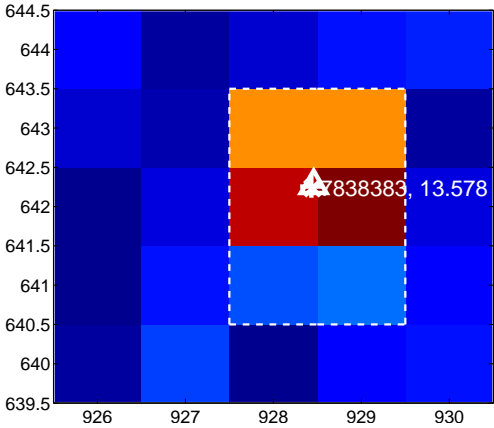
Q11 no difference image



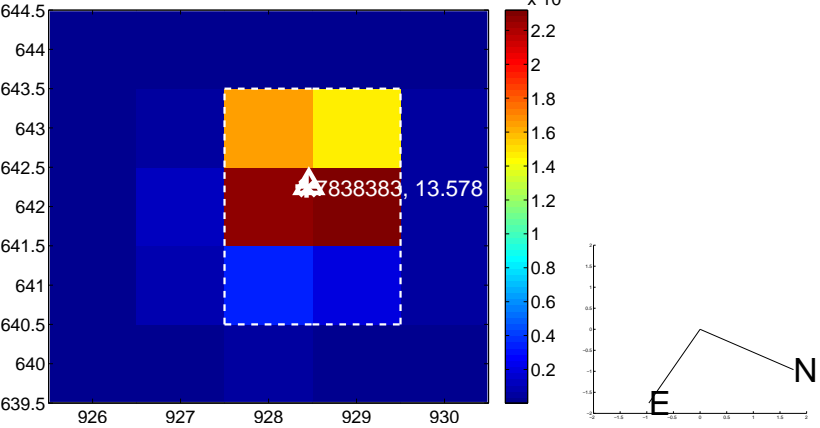
Q11 no OOT image



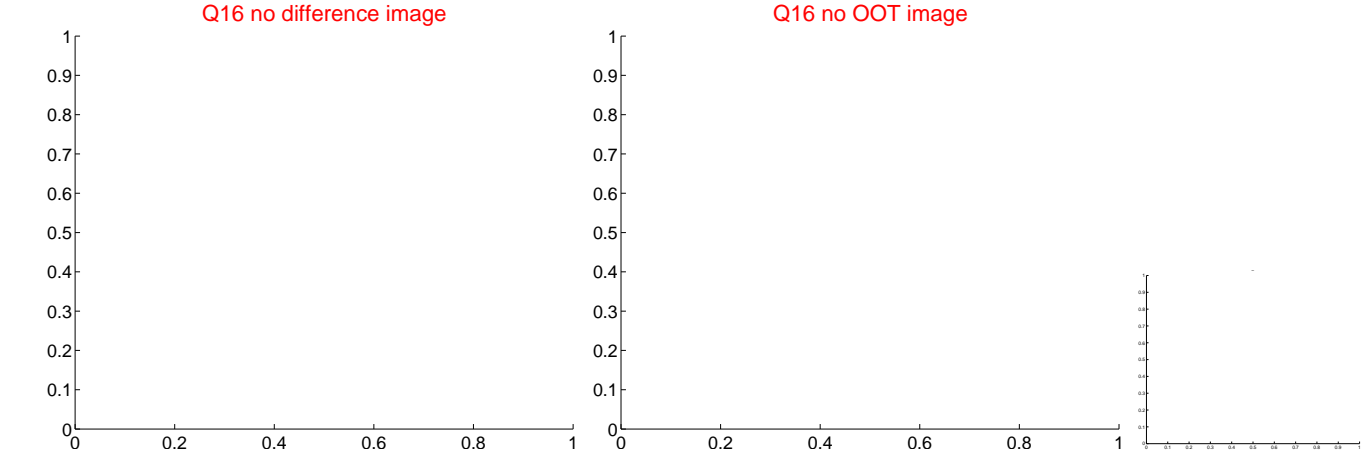
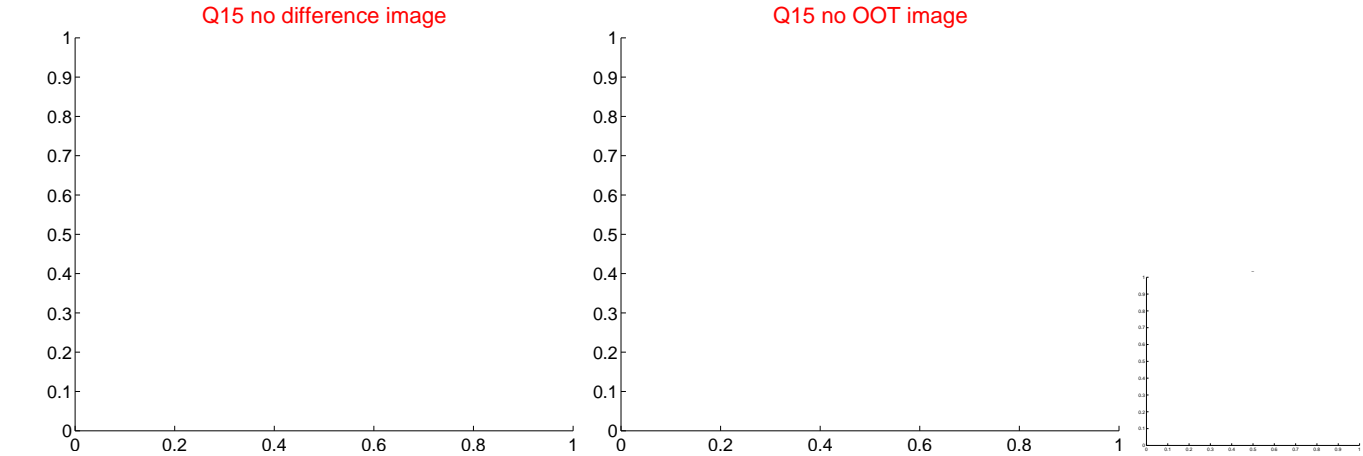
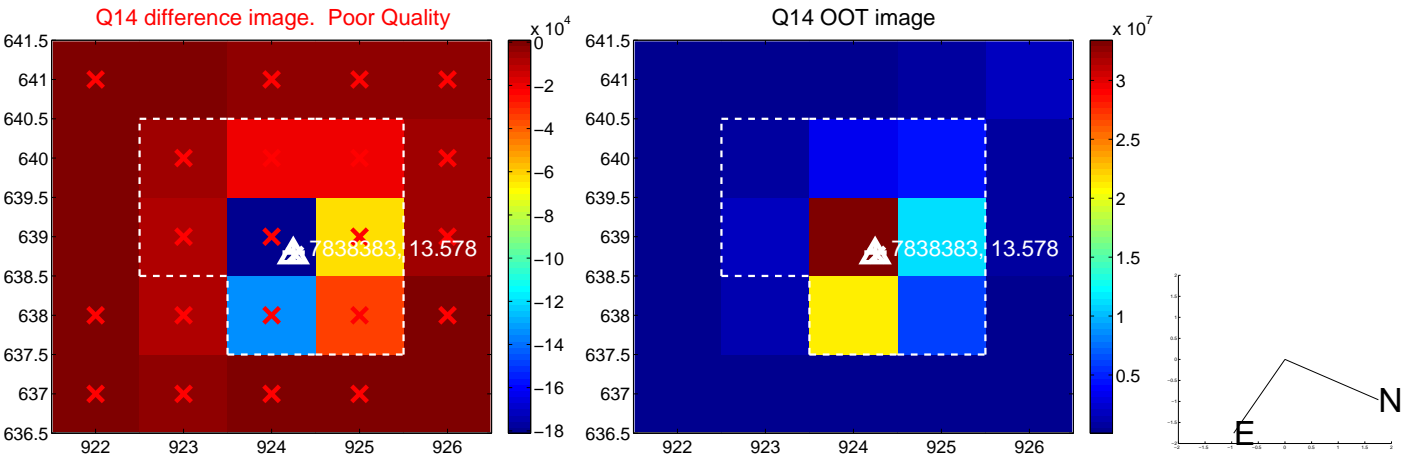
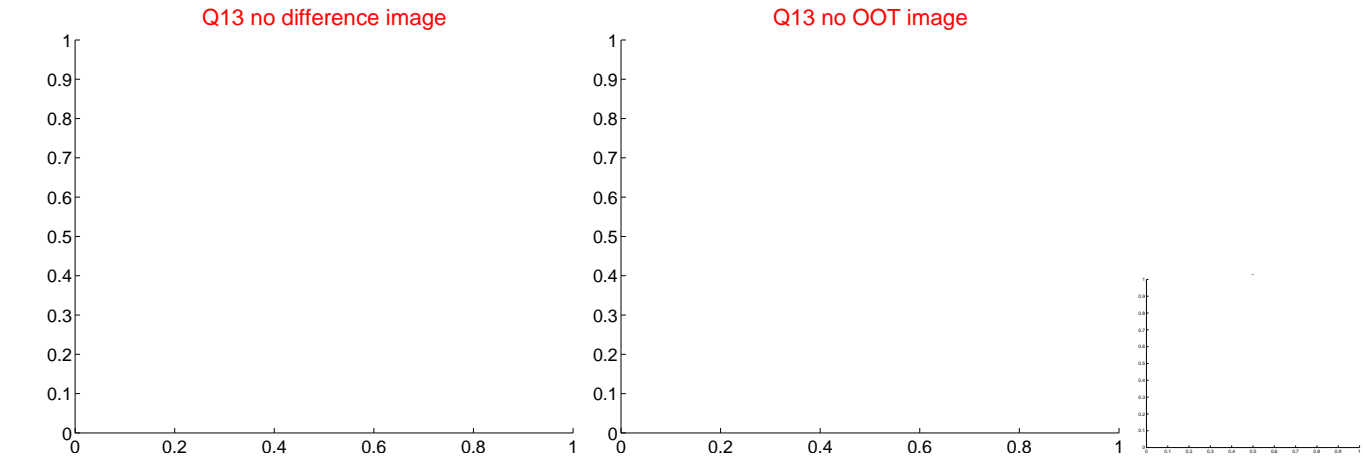
Q12 difference image



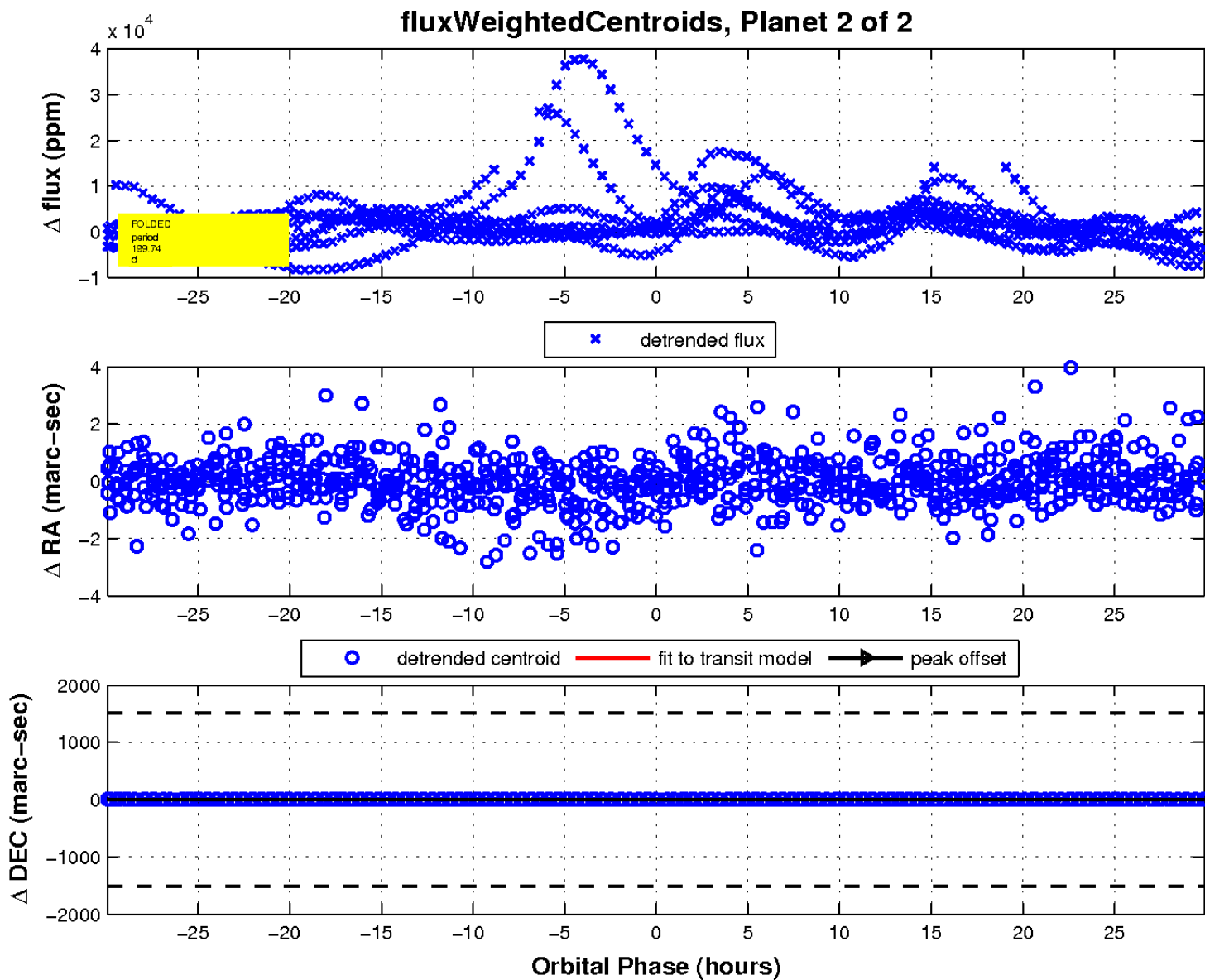
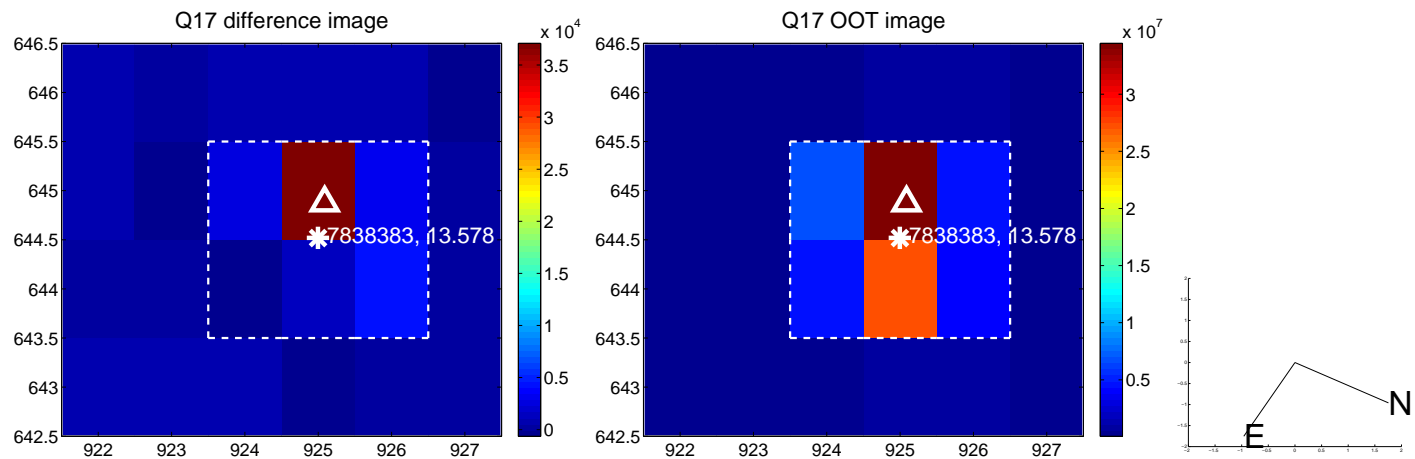
Q12 OOT image



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

