

KIC 008981233

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})
008981233-01	OBS	No	1.260965	132.164868	185.8	4.500	8.4	-1.0	2.14	6328	2.92	11017.68
008981233-02	OBS	No	370.258959	452.124732	700.7	6.401	8.0	5.6	2.14	6328	6.08	5.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008981233-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
008981233-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS

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

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

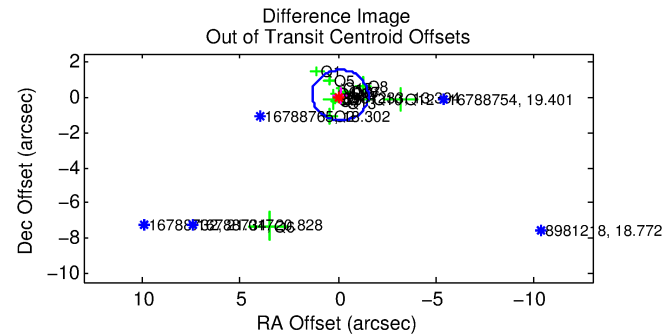
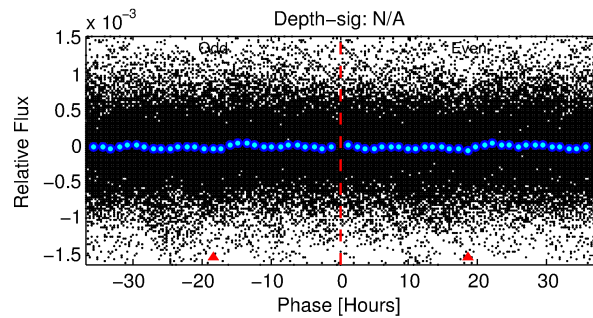
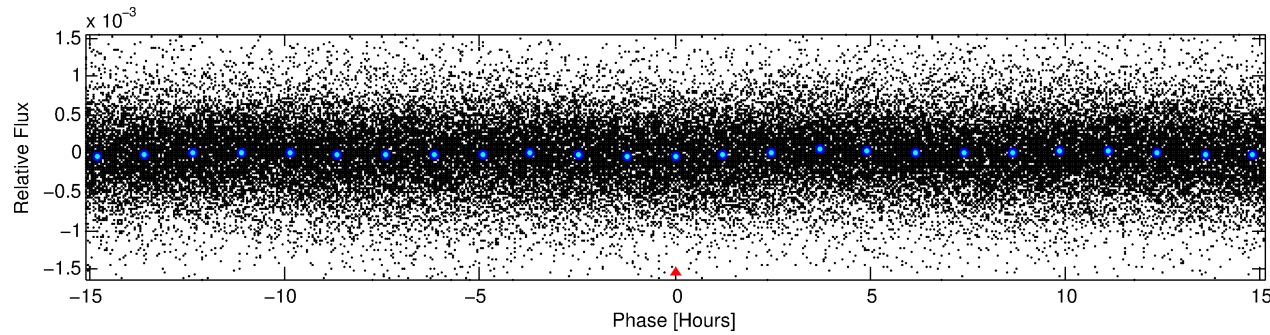
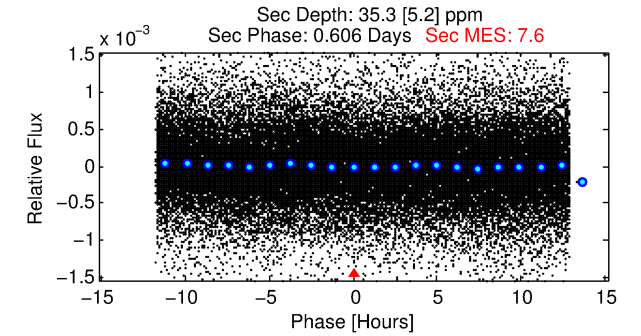
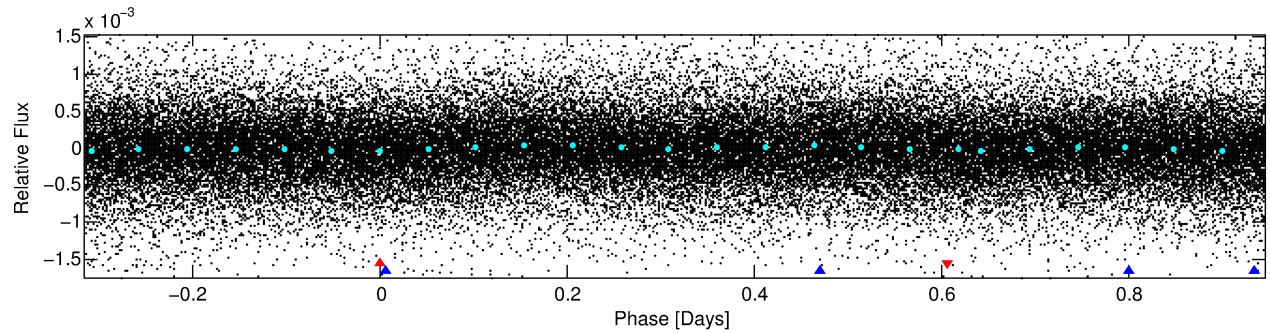
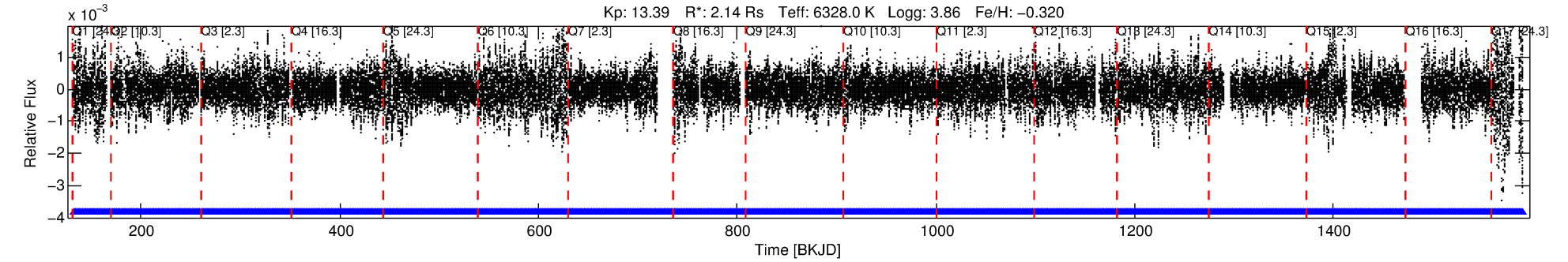
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008981233-01

No Significant Match Found

DV One-Page Summary

KIC: 8981233 Candidate: 1 of 2 Period: 1.261 d



TPS TCE Results:

Period = 1.26097 d
Epoch = 132.1649 BKJD

DV fit results are unavailable

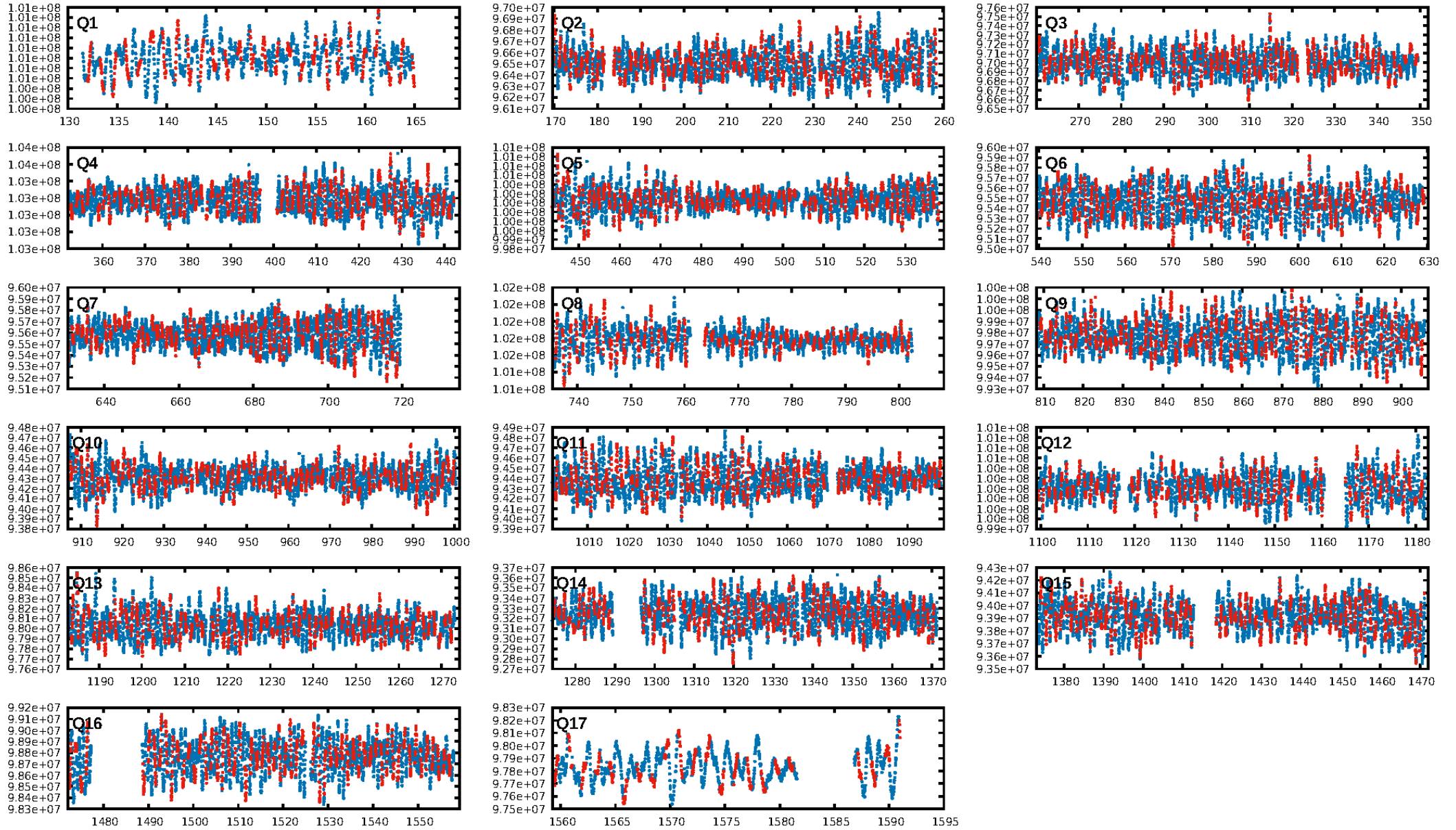
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [1131.88]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.26e-14
RollingBand-fgt: 1.00 [1017/1017]
GhostDiagnostic-chr: 0.5497
Centroid-sig: 77.9%
Centroid-so: 0.213 arcsec [0.59]
OotOffset-rm: 0.167 arcsec [0.35]
KicOffset-rm: 0.151 arcsec [0.32]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.65 [11/17]
DiffImageOverlap-fno: 1.00 [17/17]

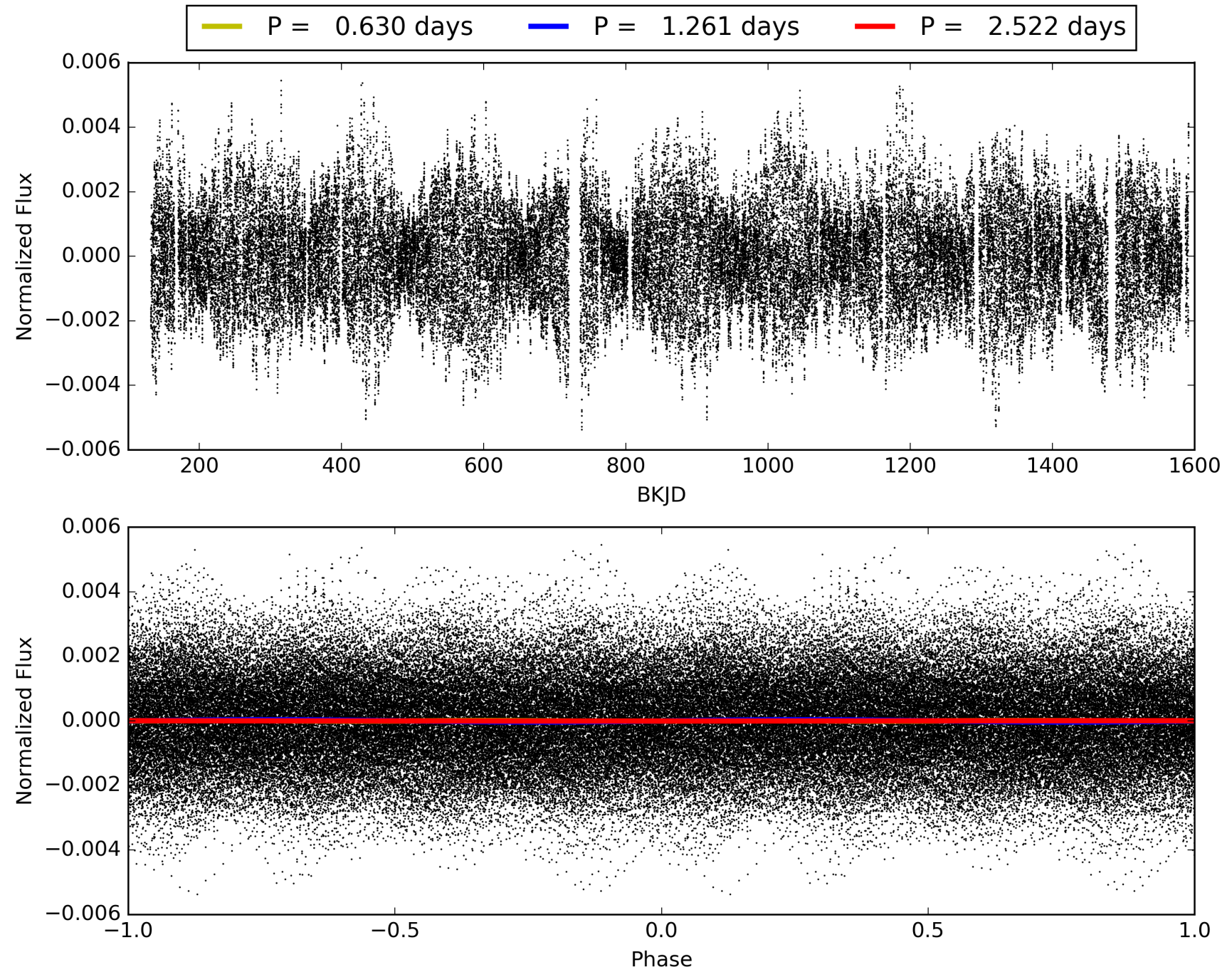
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:04:02 Z

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

TCE 008981233-01, PDC Light Curves

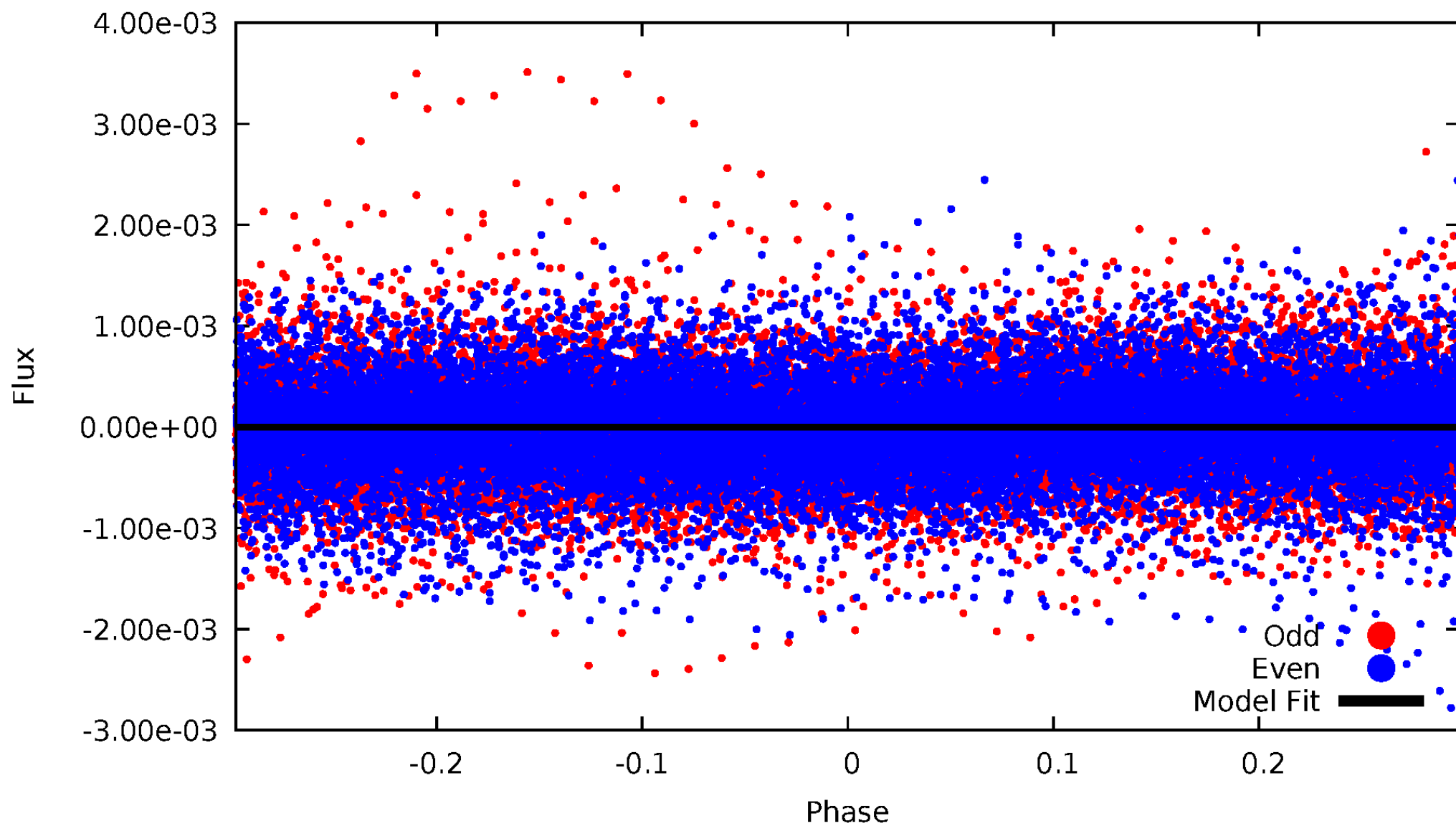


TCE 008981233-01



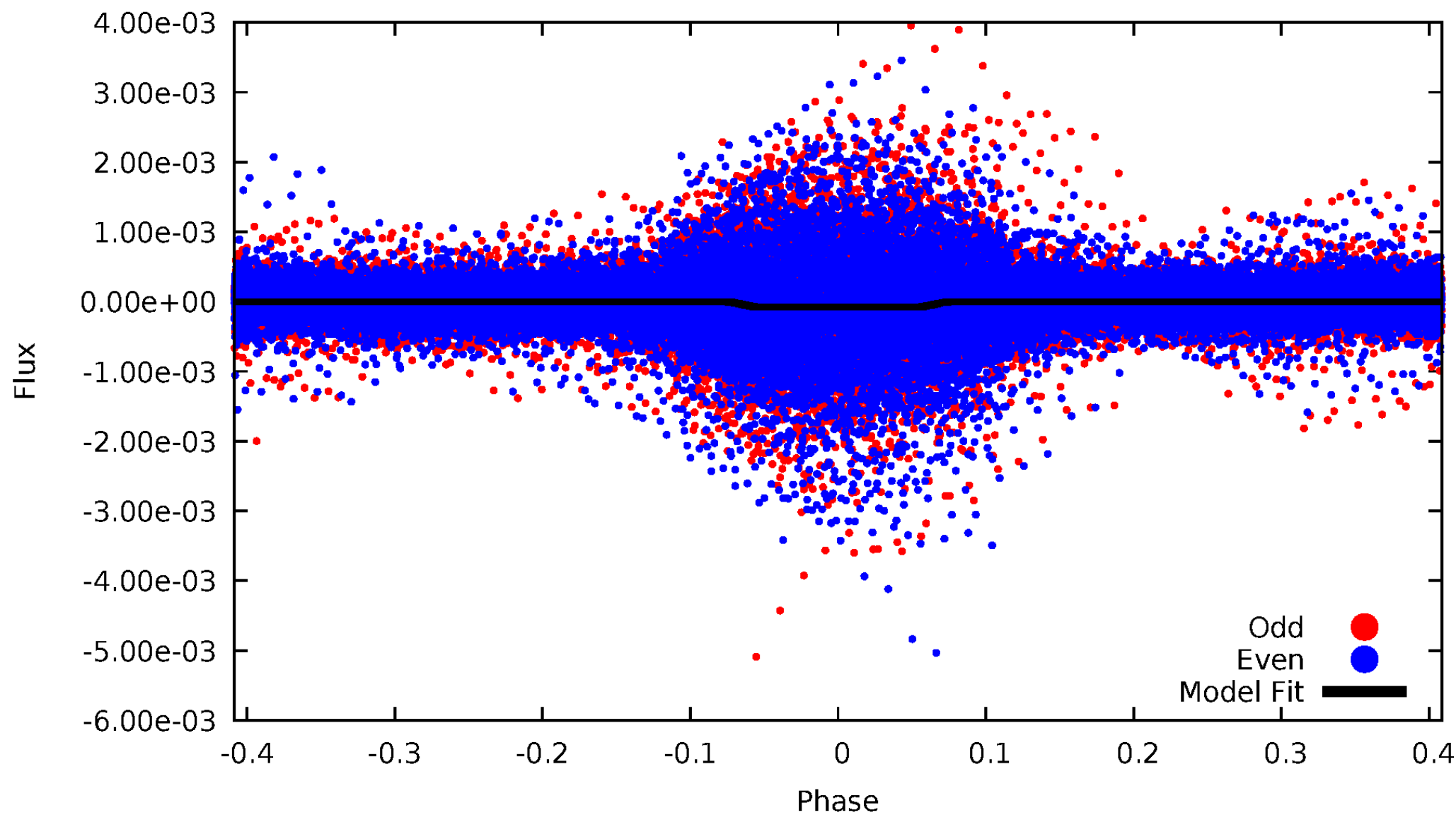
DV Odd/Even

TCE 008981233-01

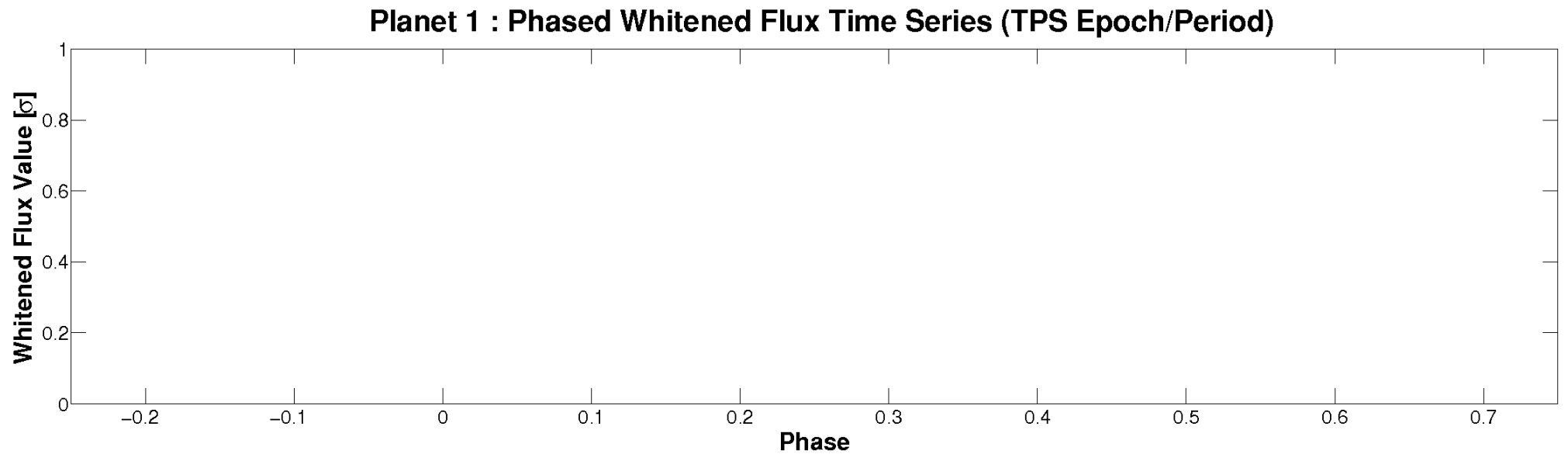
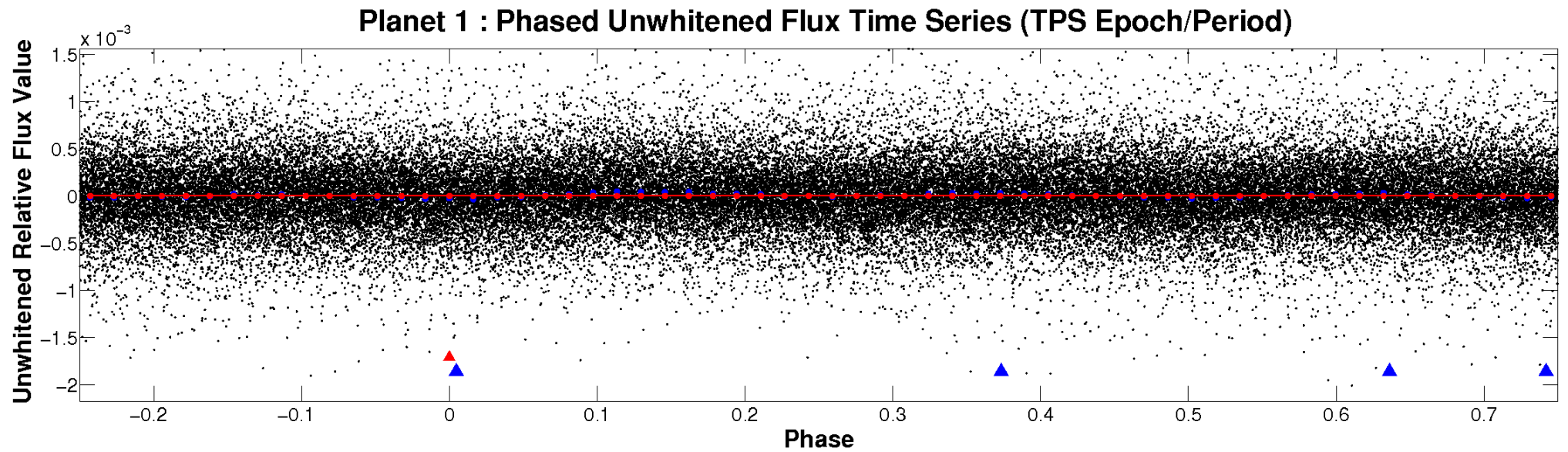


ALT Odd/Even

TCE 008981233-01

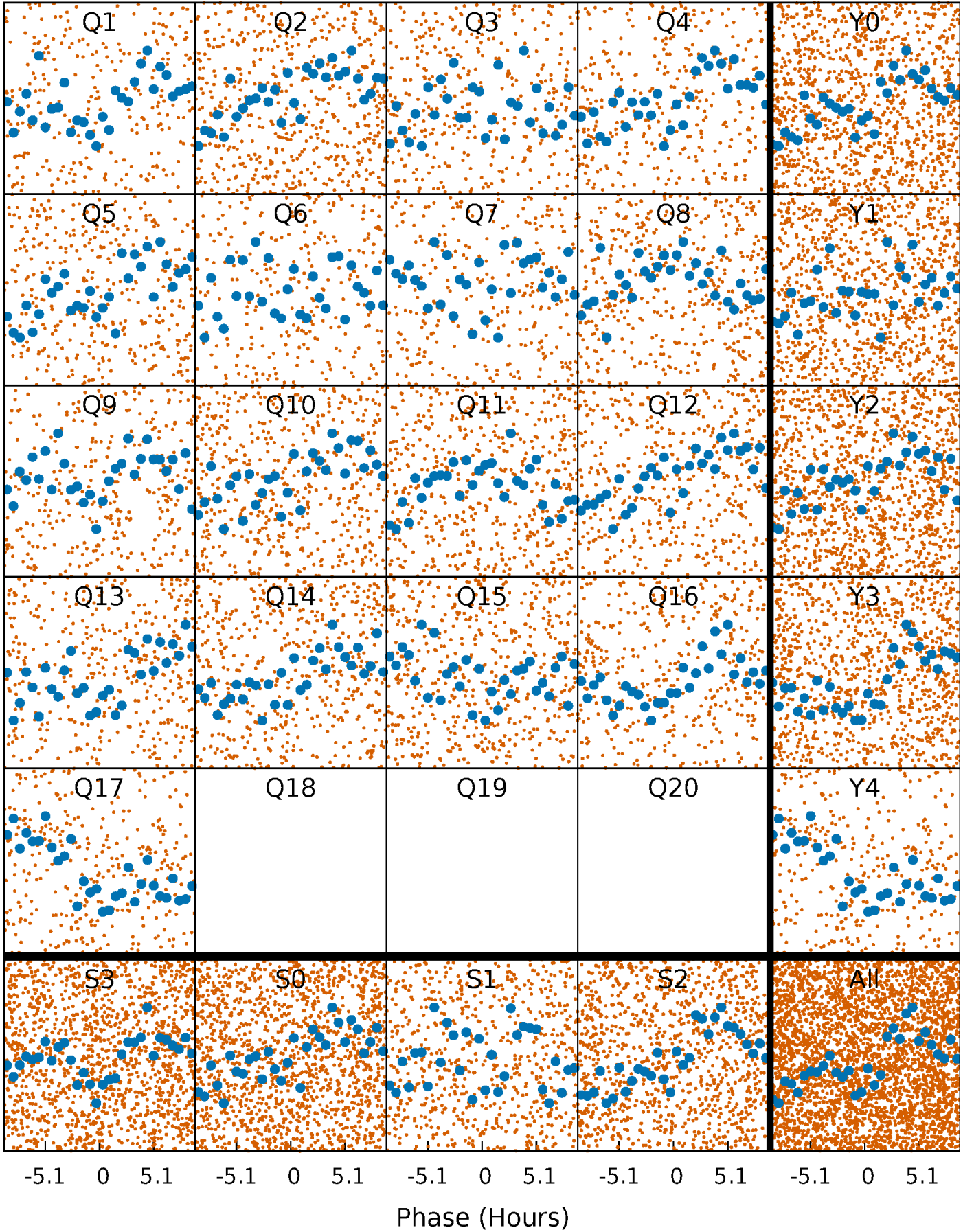


Non-Whitened Vs. Whitened Light Curve



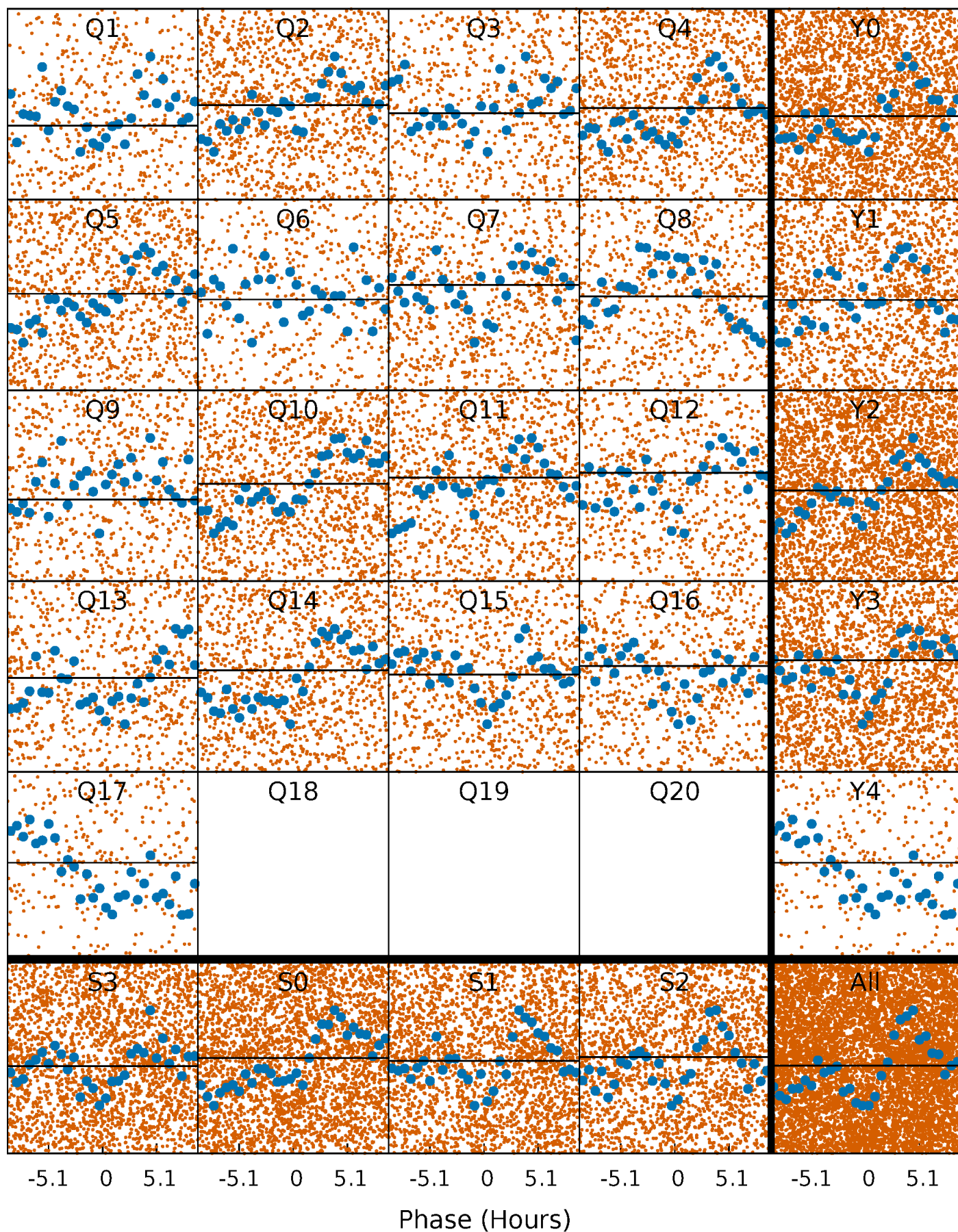
PDC Quarter-Phased Transit Curves

TCE 008981233-01 P= 1.260965 Days $T_0=132.164868$ (BKJD)



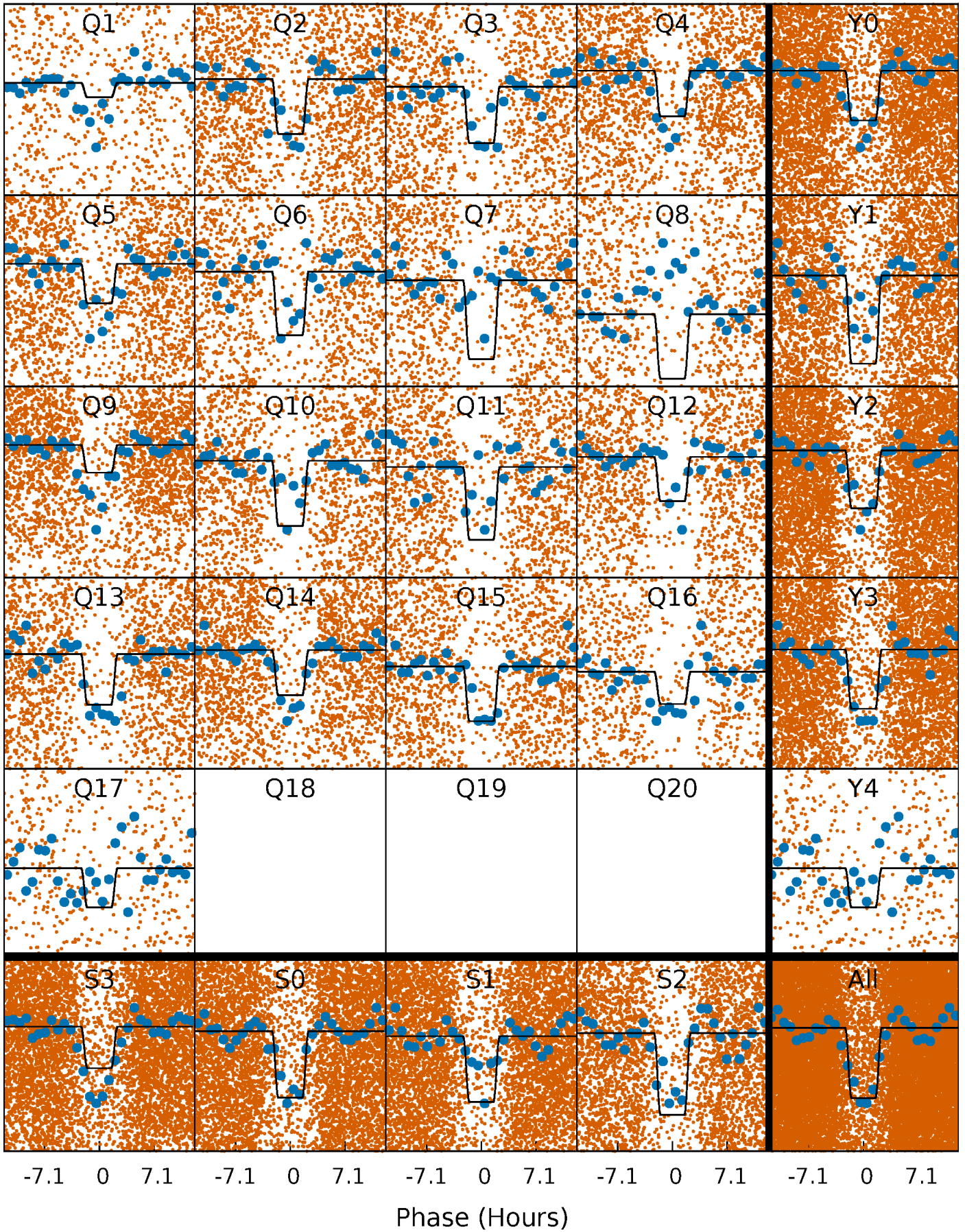
DV Quarter-Phased Transit Curves

TCE 008981233-01 P= 1.260965 Days $T_0=132.164868$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

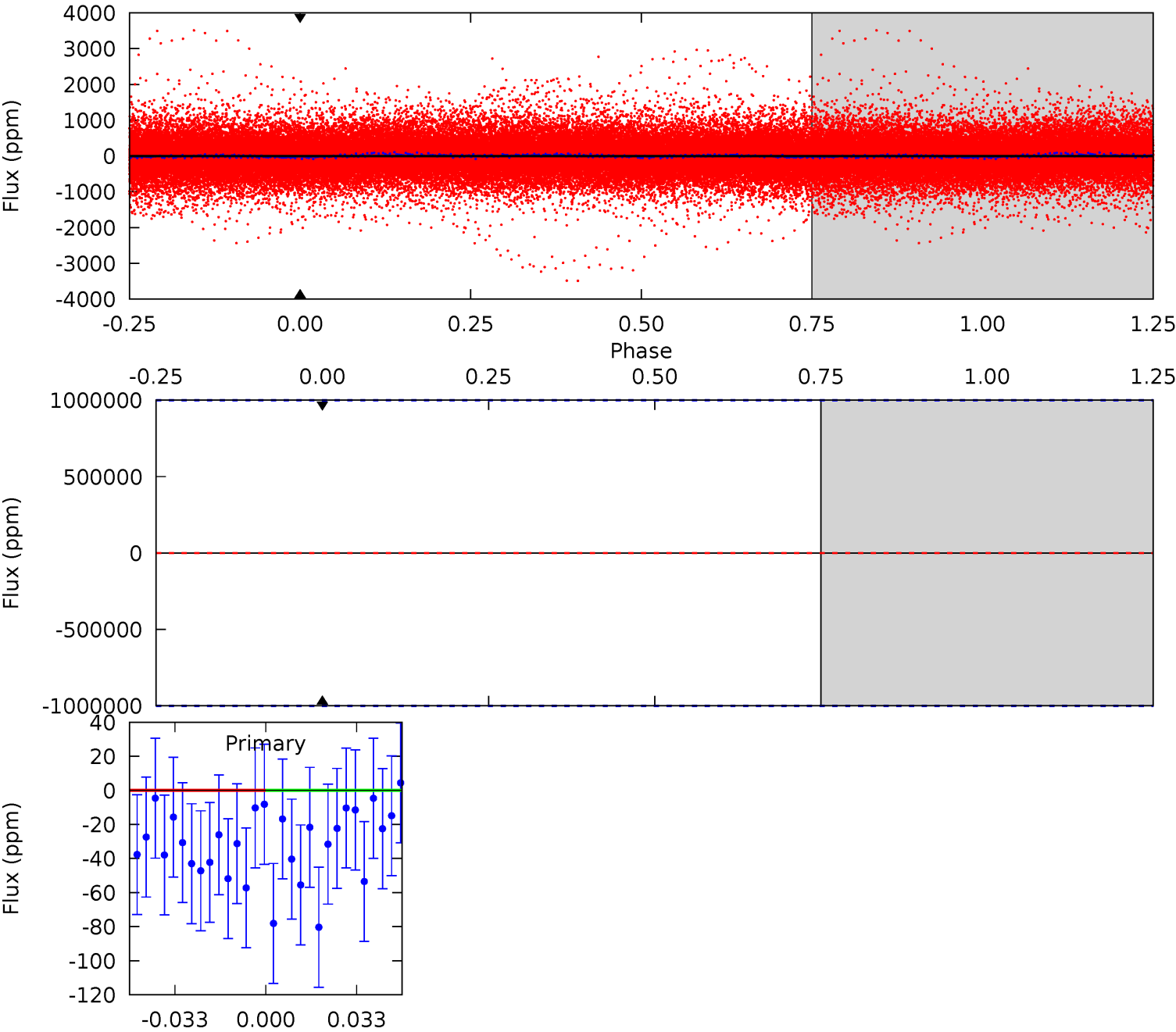
TCE 008981233-01 P= 1.260965 Days $T_0=132.165628$ (BKJD)



DV Model-Shift Uniqueness Test

008981233-01, P = 1.260965 Days, E = 130.903903 Days

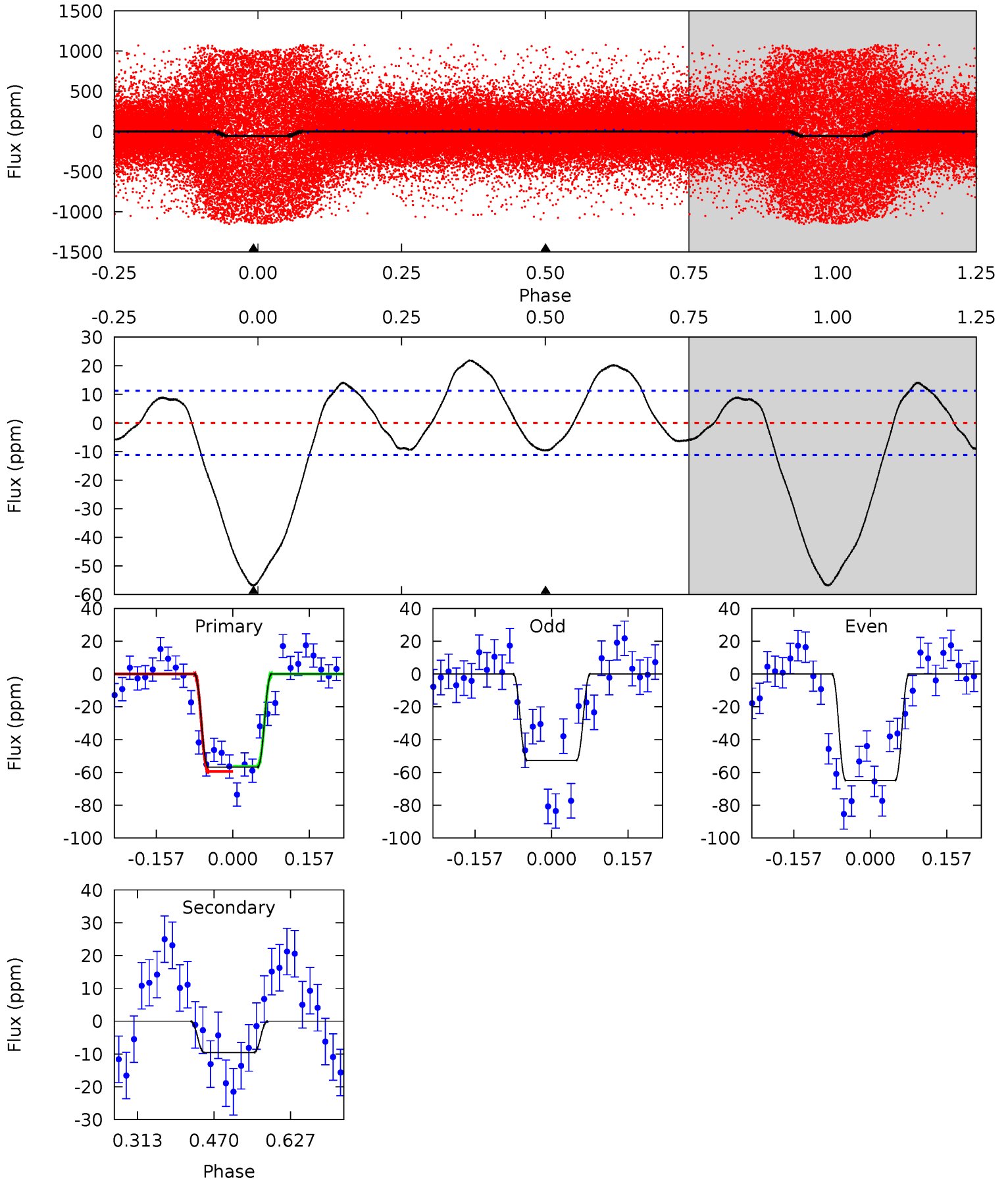
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008981233-01, P = 1.260965 Days, E = 130.904663 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.6	3.81	0	0	4.47	1.42	2.88	22.6	22.6	3.81	3.81	2.42	1.03	0.28	0.64



Stellar Parameters For KIC 008981233

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6328^{+194}_{-214}	$3.864^{+0.472}_{-0.118}$	$-0.320^{+0.300}_{-0.300}$	$2.136^{+0.525}_{-1.049}$	$1.215^{+0.193}_{-0.236}$	$0.175^{+0.765}_{-0.064}$
	+3%/-3%	+12%/-3%	+94%/-94%	+25%/-49%	+16%/-19%	+436%/-37%
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 008981233-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$15.24^{+16.94}_{-10.44}$	3556^{+285}_{-447}	-5989^{+30754}_{-18381}	$-5.397^{+221.428}_{-233.984}$
Alt.	-10 ± 3	$14.68^{+17.14}_{-10.36}$	3541^{+282}_{-457}	-3326^{+550}_{-217}	$0.014^{+0.136}_{-0.011}$

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 $A_{obs} \gg 1.0$

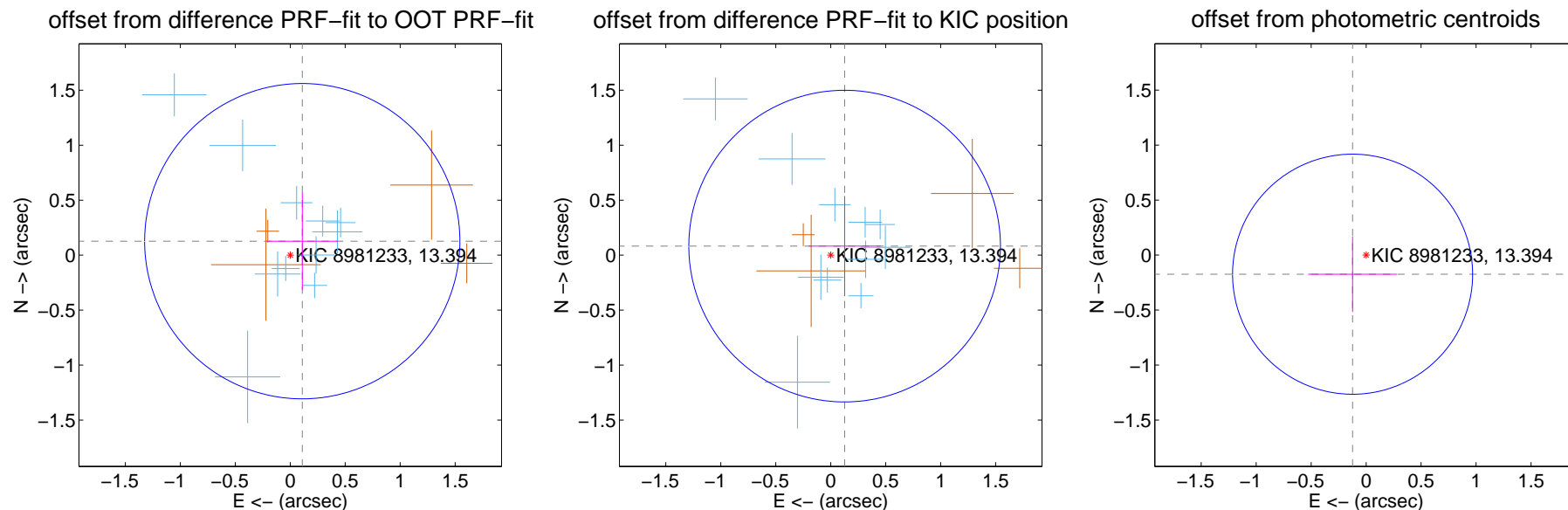
DV Centroid Data

Supplemental centroid analysis for 008981233-01. Kepler magnitude: 13.39. Transit SNR -1.00

There are 11 quarters with good PRF difference image offsets

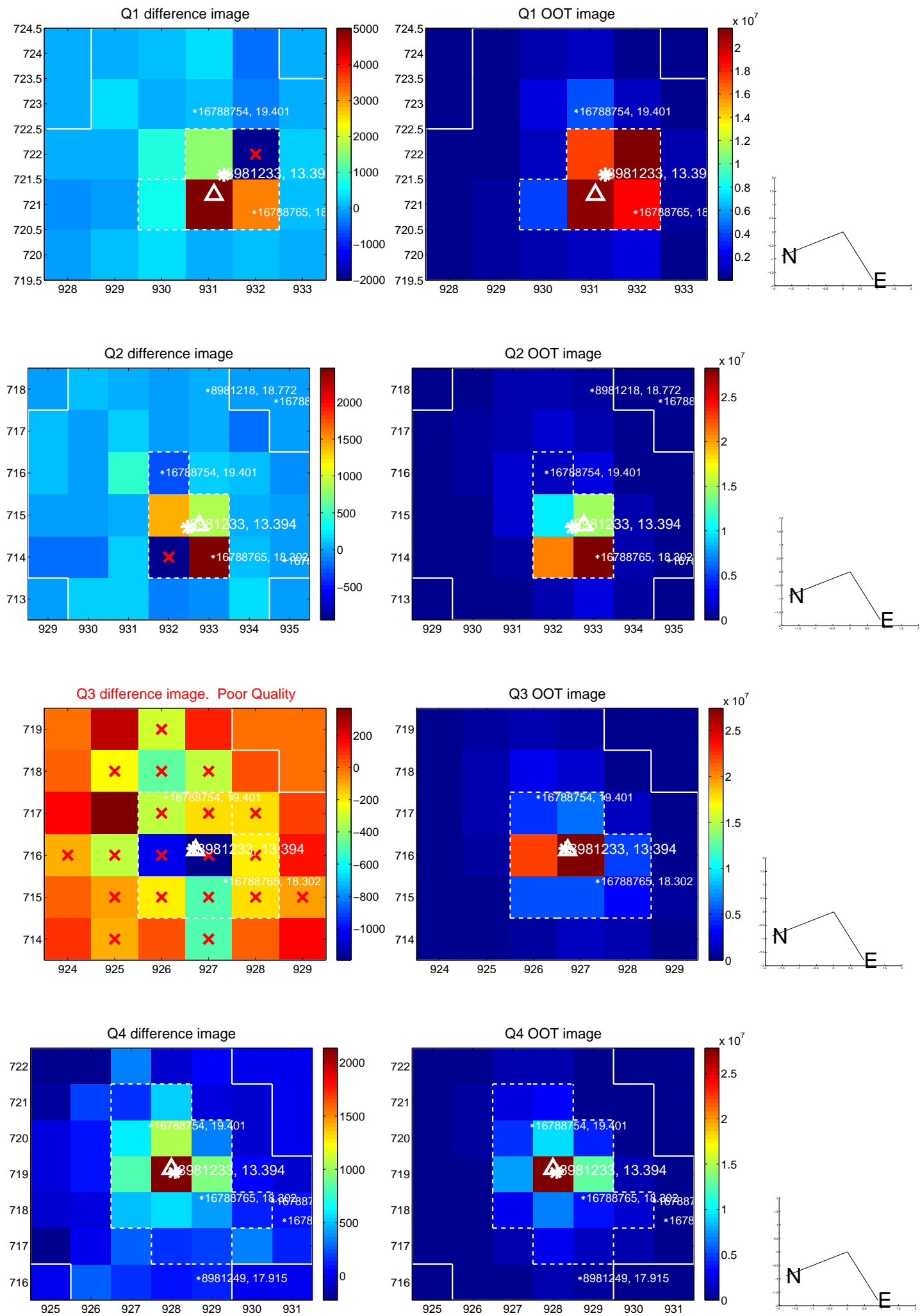
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.167 ± 0.478	0.35	-0.109 ± 0.322	0.127 ± 0.440
PRF-fit source offset from KIC position	0.151 ± 0.472	0.32	-0.126 ± 0.326	0.082 ± 0.455
photometric centroid source offset	0.21 ± 0.36	0.59	0.12 ± 0.40	-0.17 ± 0.34

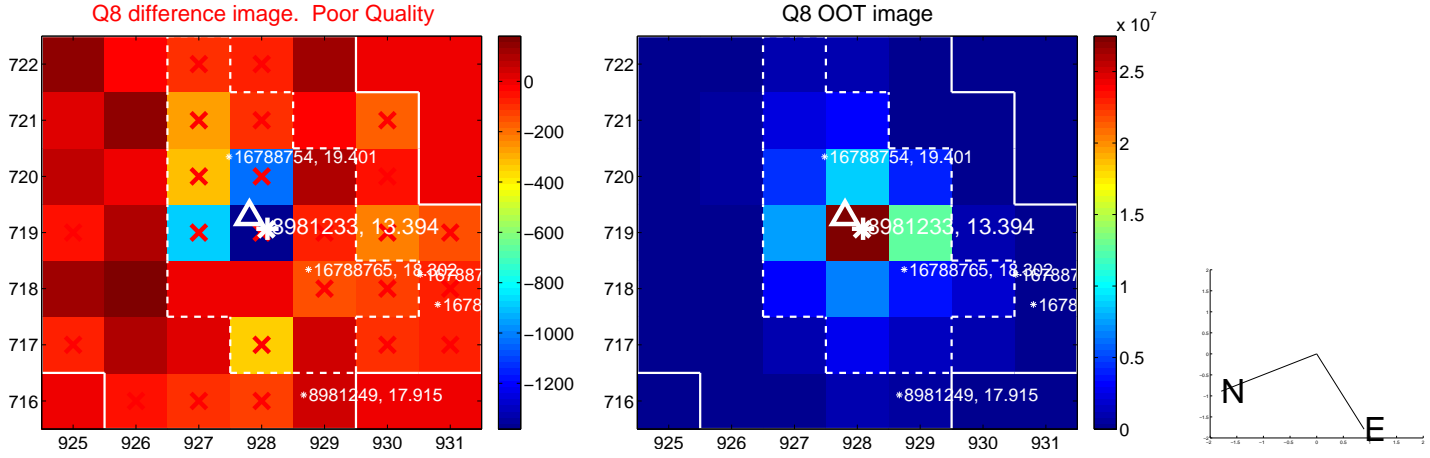
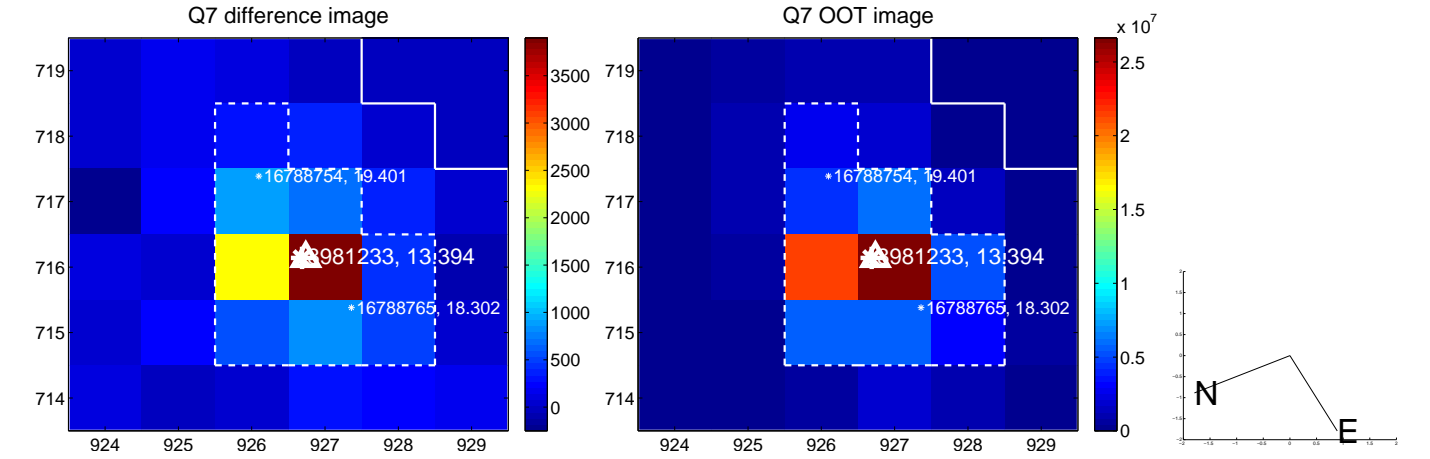
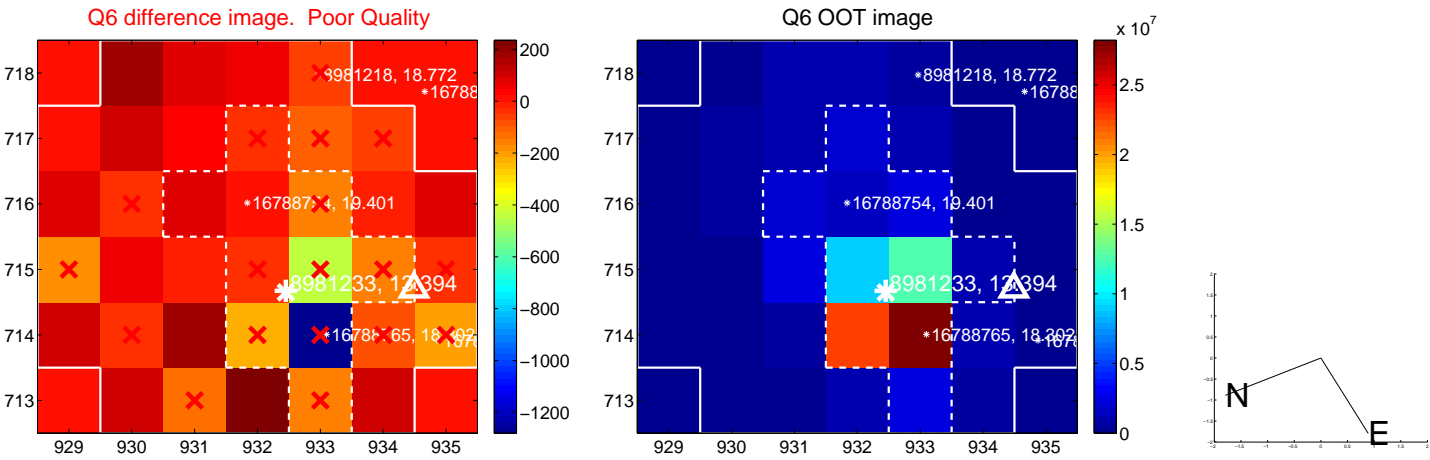
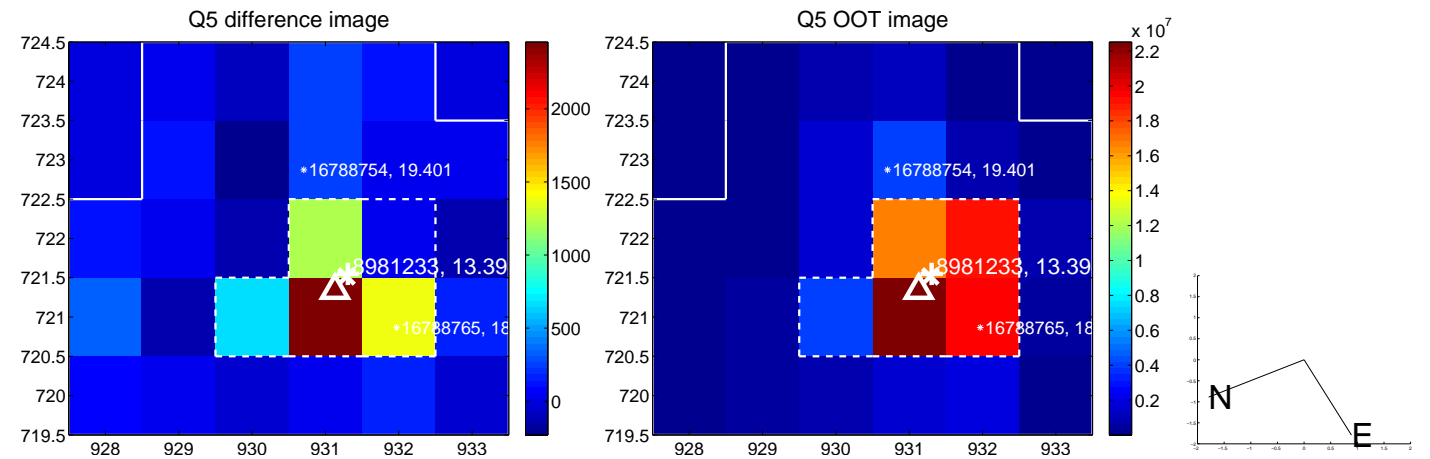


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

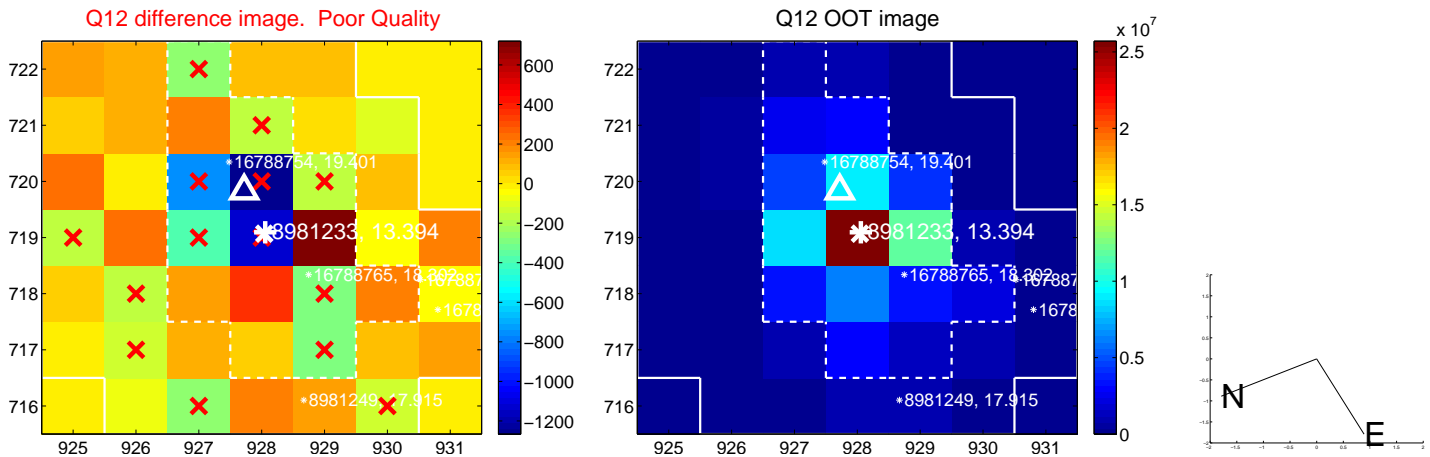
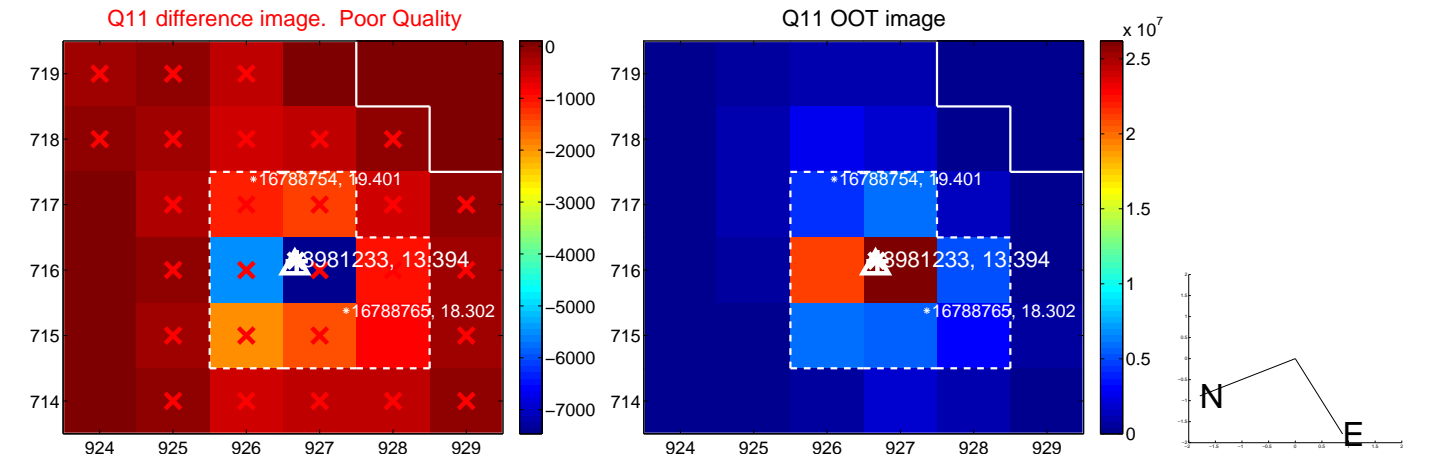
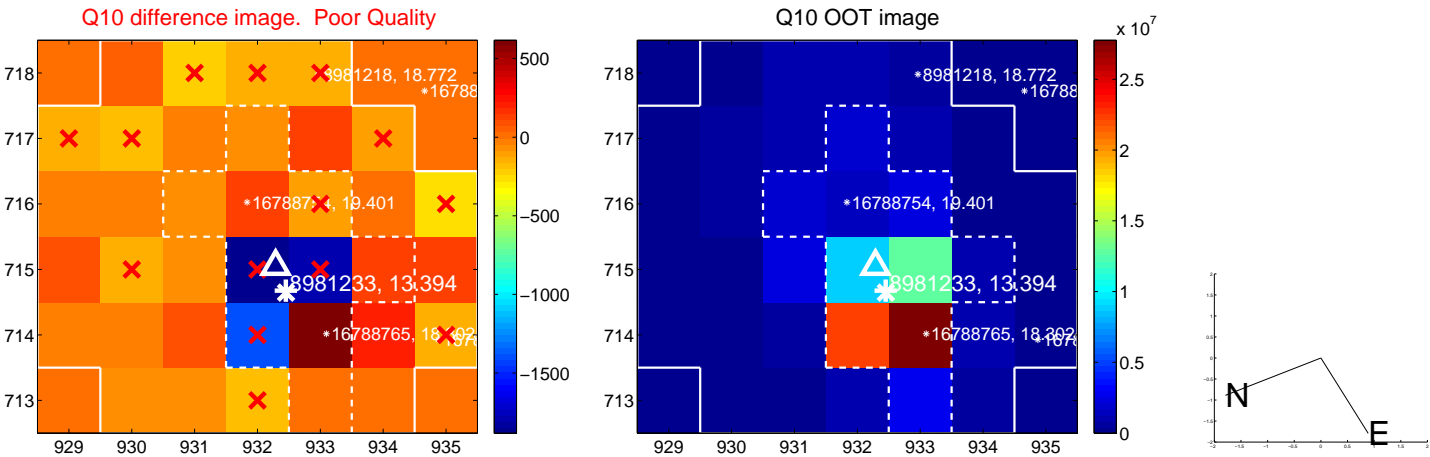
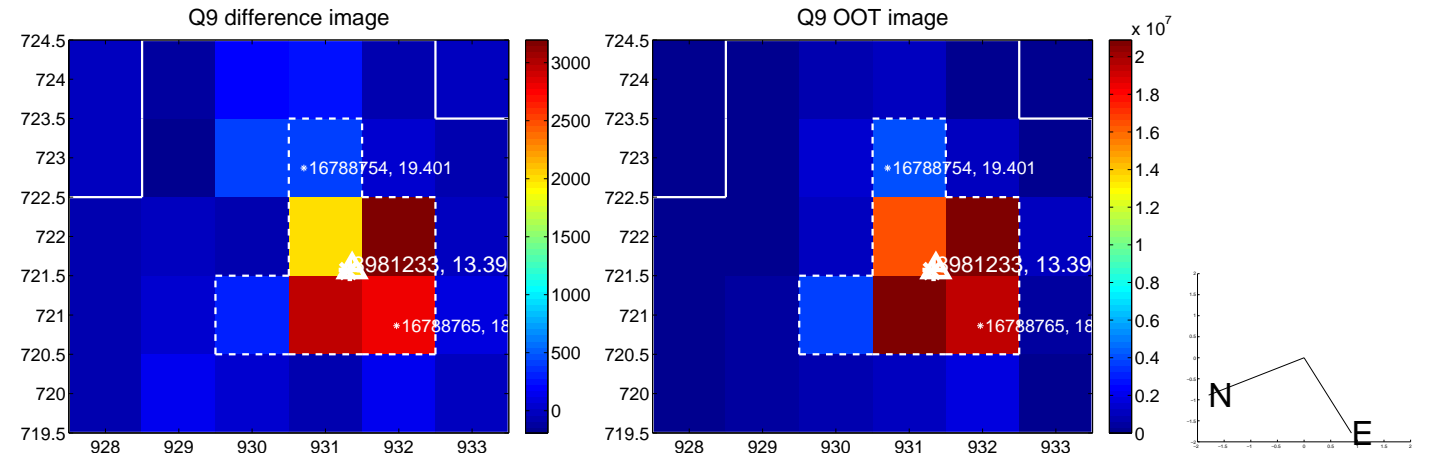
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



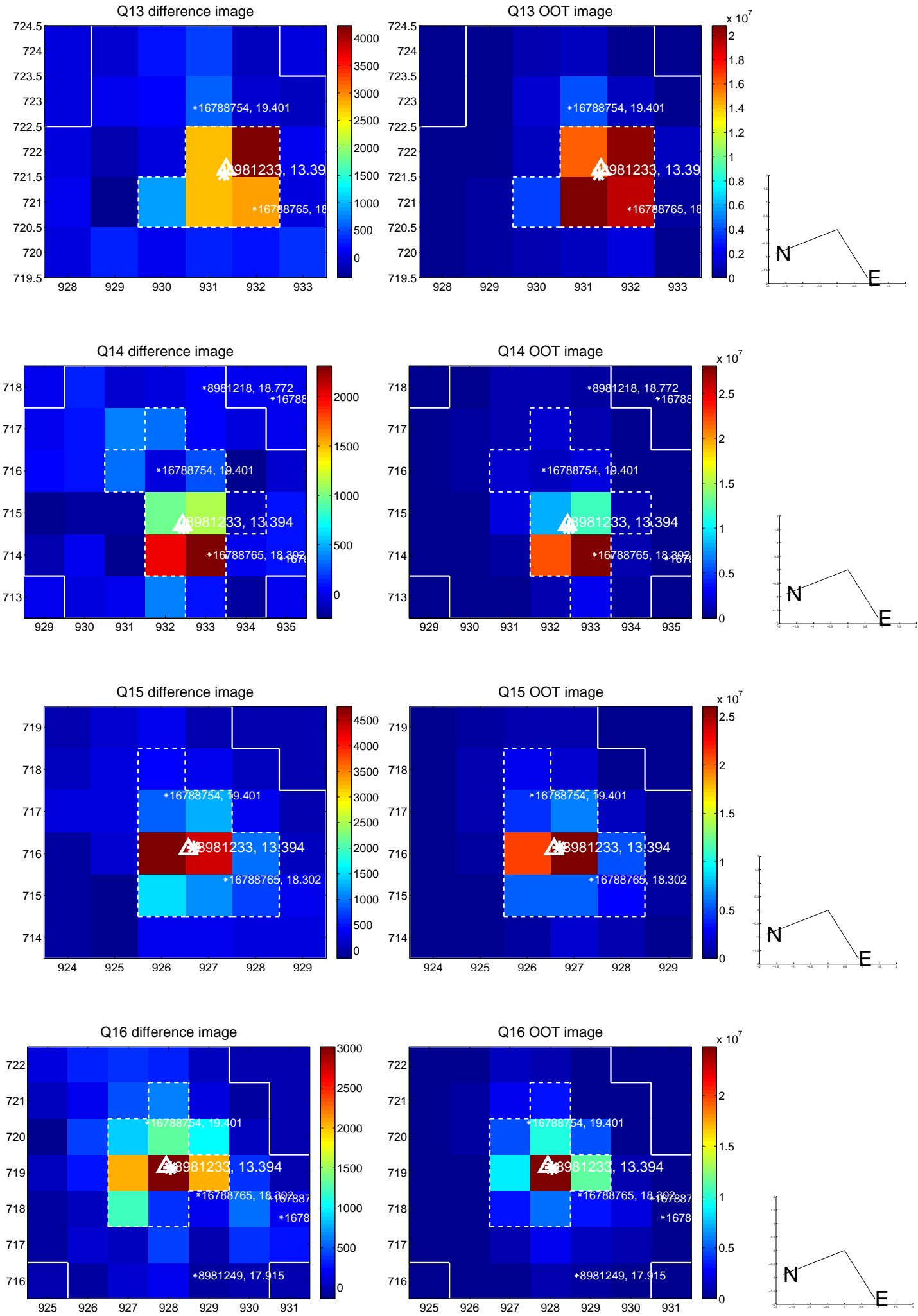
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

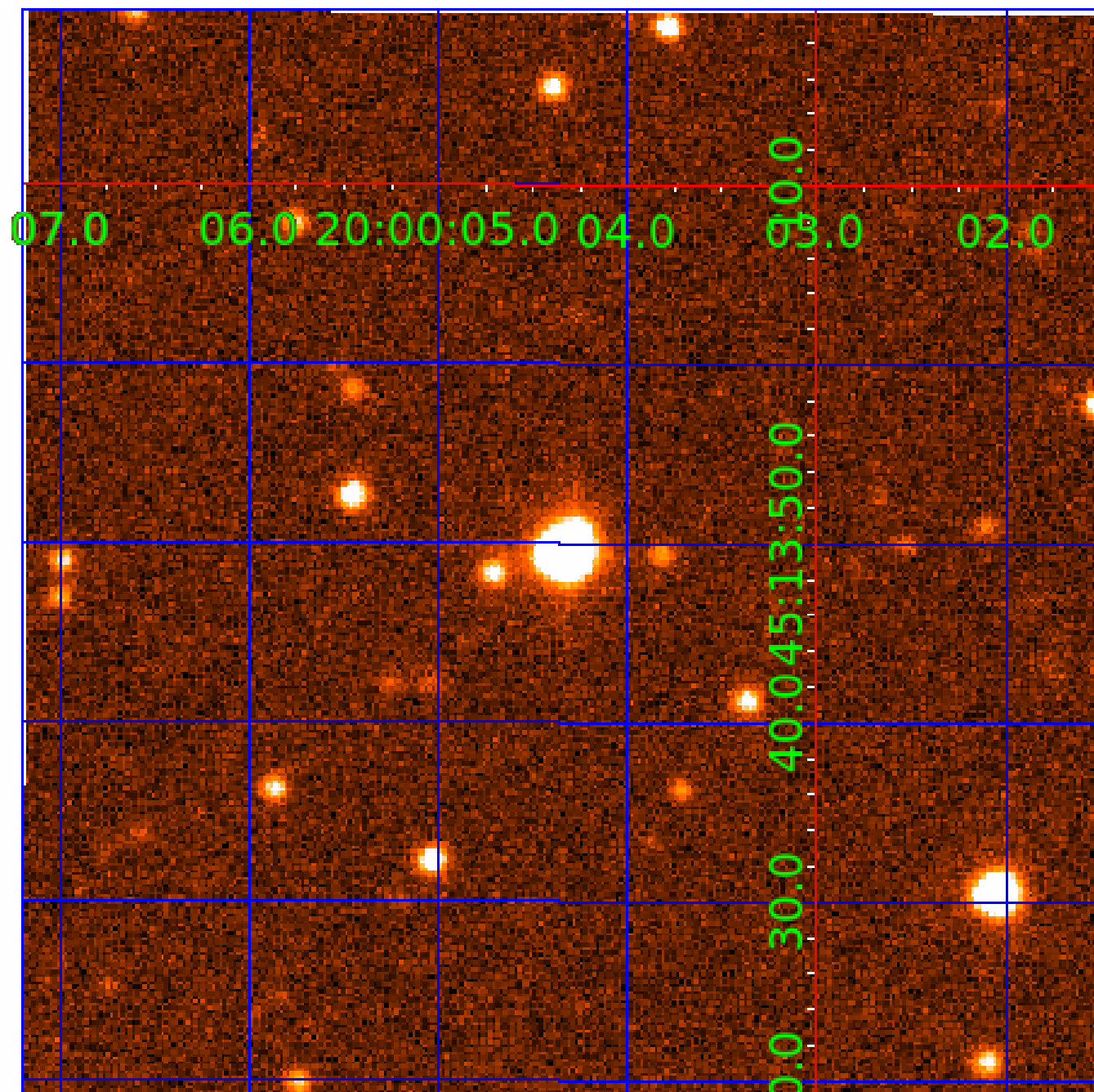


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008981233

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})
008981233-01	OBS	No	1.260965	132.164868	185.8	4.500	8.4	-1.0	2.14	6328	2.92	11017.68
008981233-02	OBS	No	370.258959	452.124732	700.7	6.401	8.0	5.6	2.14	6328	6.08	5.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008981233-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_NOFITS
008981233-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS

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

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

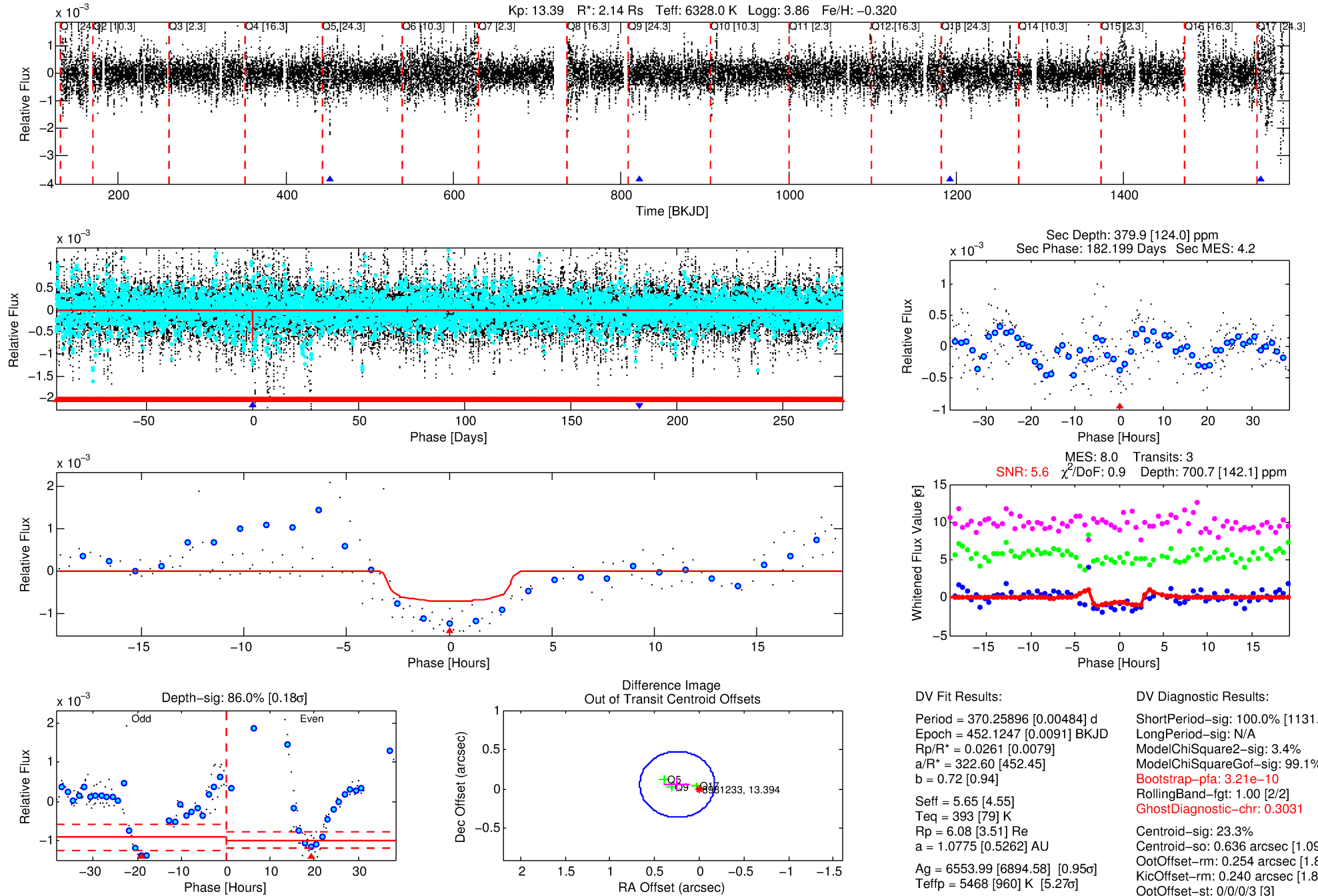
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008981233-02

No Significant Match Found

DV One-Page Summary

KIC: 8981233 Candidate: 2 of 2 Period: 370.259 d



DV Fit Results:

Period = 370.25896 [0.00484] d
Epoch = 452.1247 [0.0091] BKJD
Rp/R* = 0.0261 [0.0079]
a/R* = 322.60 [452.45]
b = 0.72 [0.94]
Seff = 5.65 [4.55]
Teq = 393 [79] K
Rp = 6.08 [3.51] Re
a = 1.0775 [0.5262] AU
Ag = 6553.99 [6894.58] [0.95 σ]
Teffp = 5468 [960] K [5.27 σ]

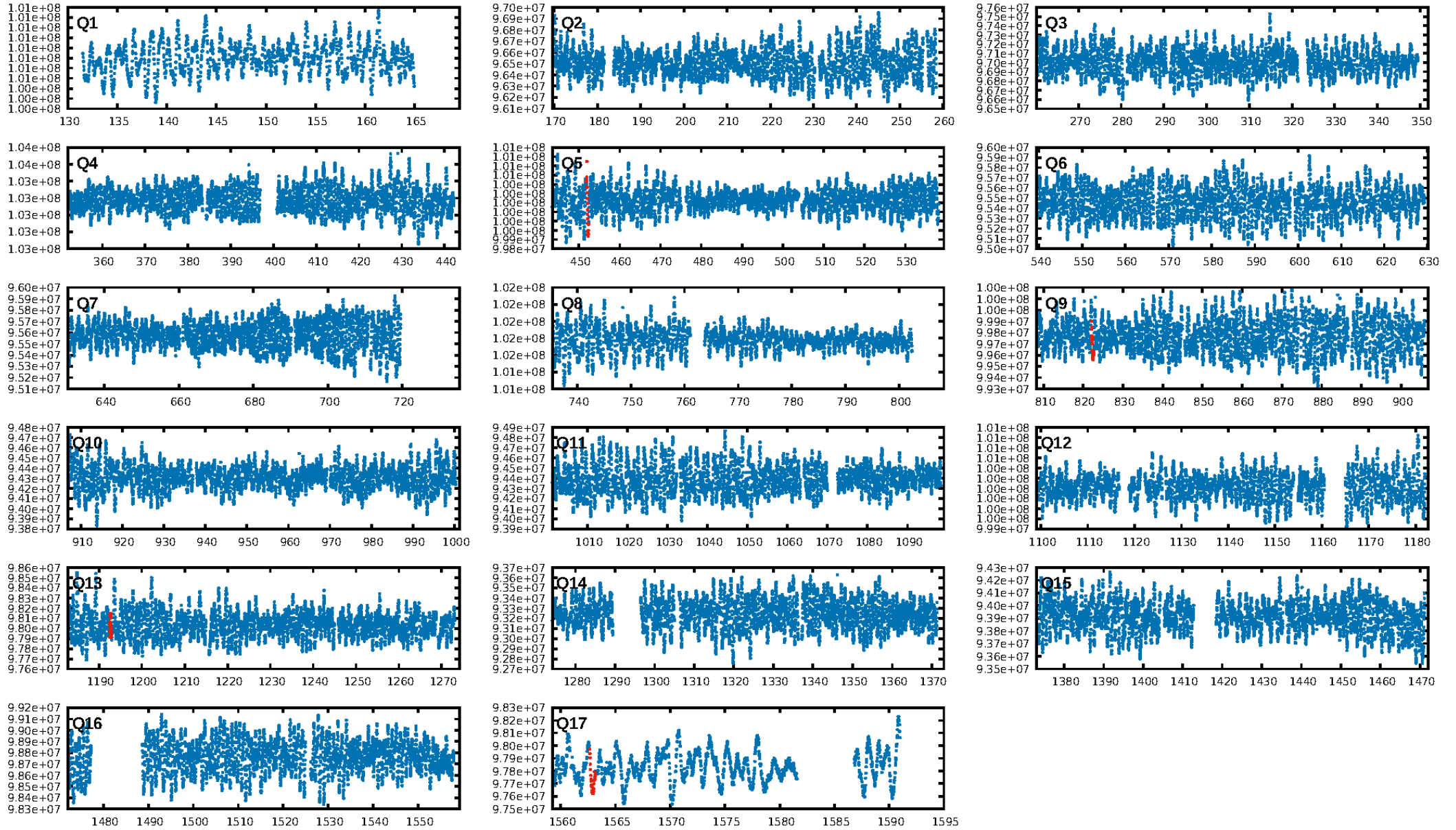
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1131.88 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 3.4%
ModelChiSquareGof-sig: 99.1%
Bootstrap-pfa: 3.21e-10
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 0.3031
Centroid-sig: 23.3%
Centroid-so: 0.636 arcsec [1.09 σ]
OotOffset-rm: 0.254 arcsec [1.82 σ]
KicOffset-rm: 0.240 arcsec [1.80 σ]
OotOffset-st: 0/0/0/3 [3]
KicOffset-st: 0/0/0/3 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.00 [0/3]

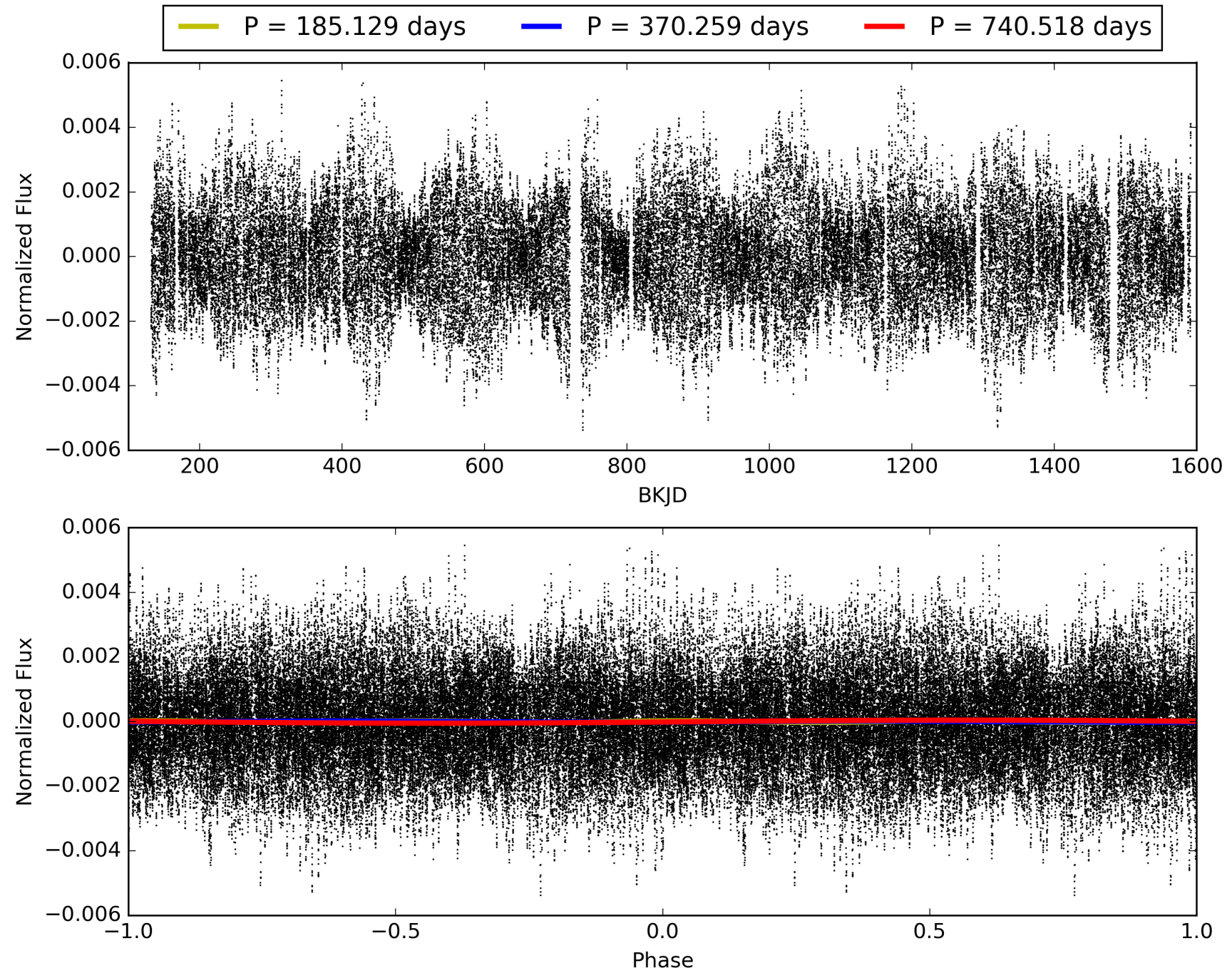
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:04:16 Z

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

TCE 008981233-02, PDC Light Curves

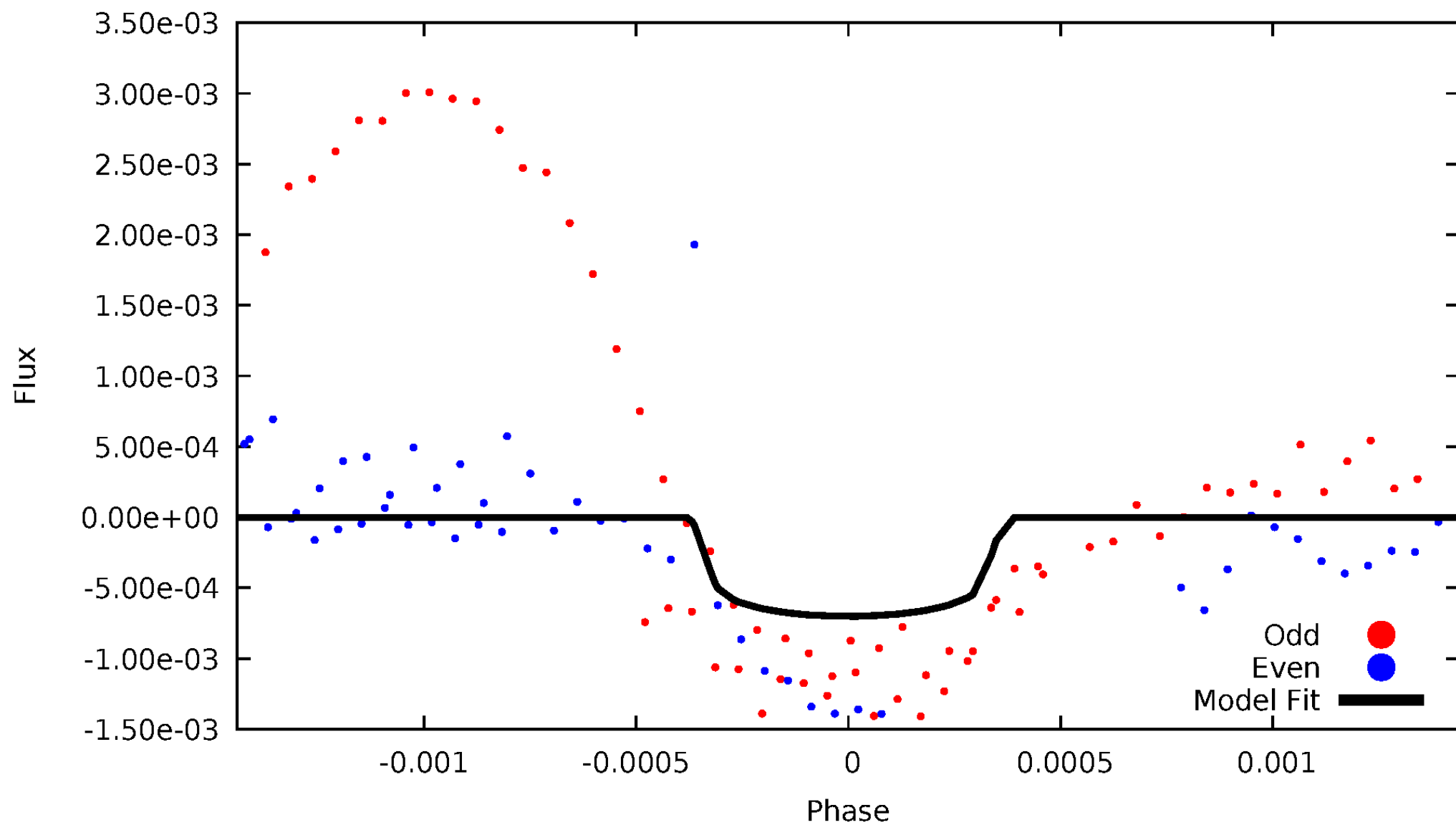


TCE 008981233-02



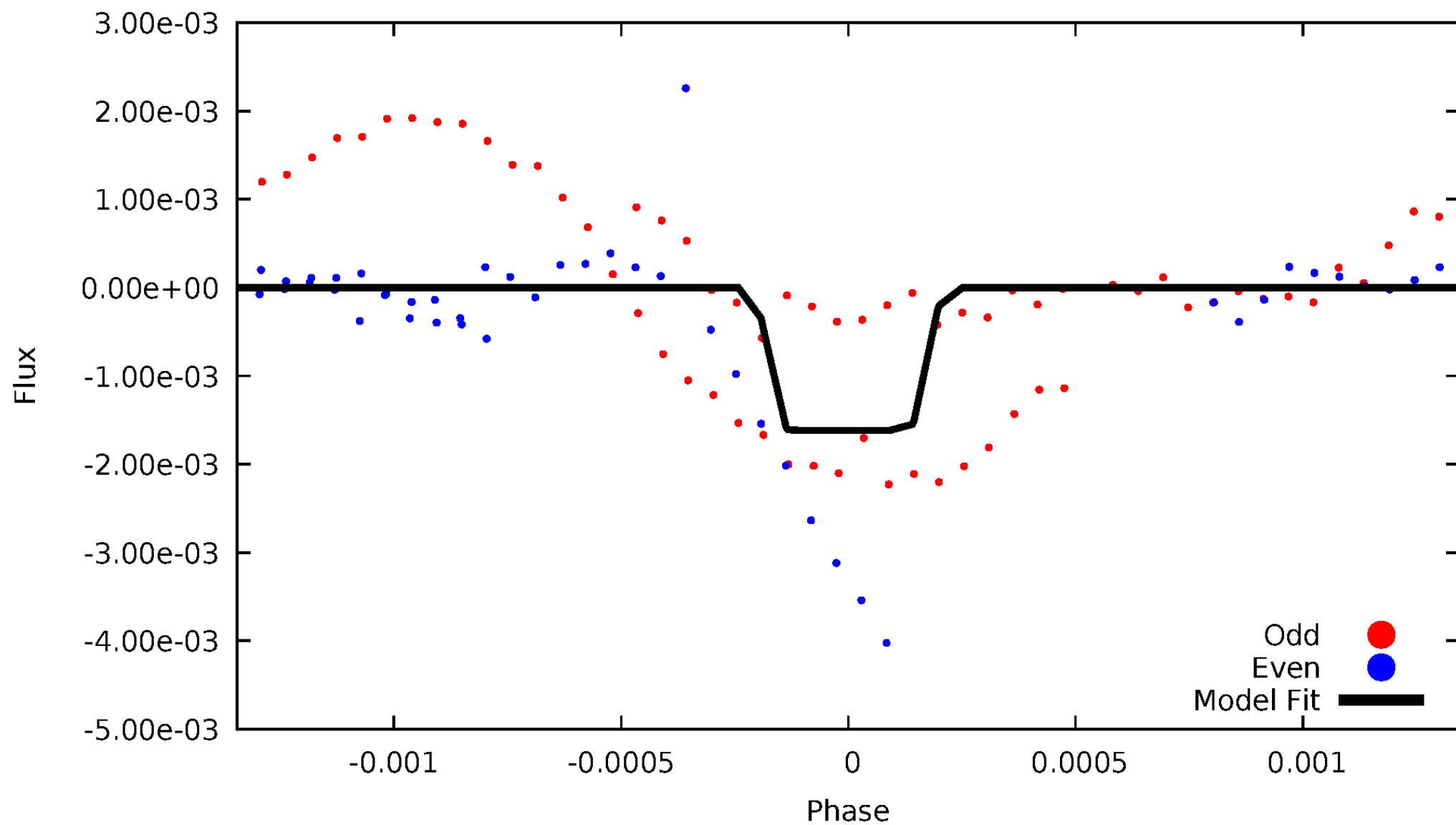
DV Odd/Even

TCE 008981233-02



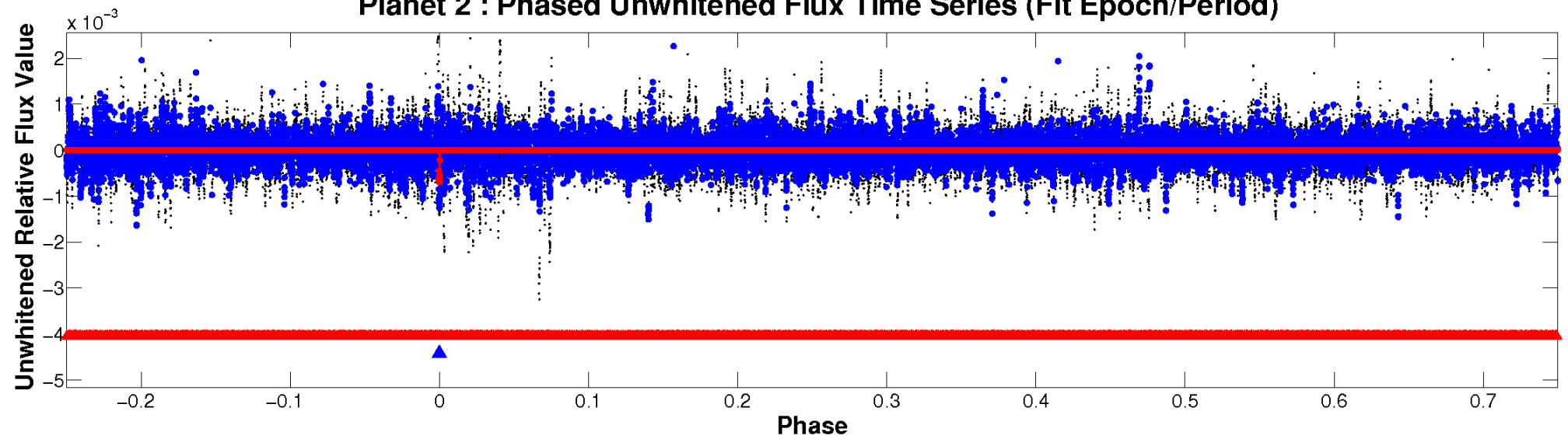
ALT Odd/Even

TCE 008981233-02

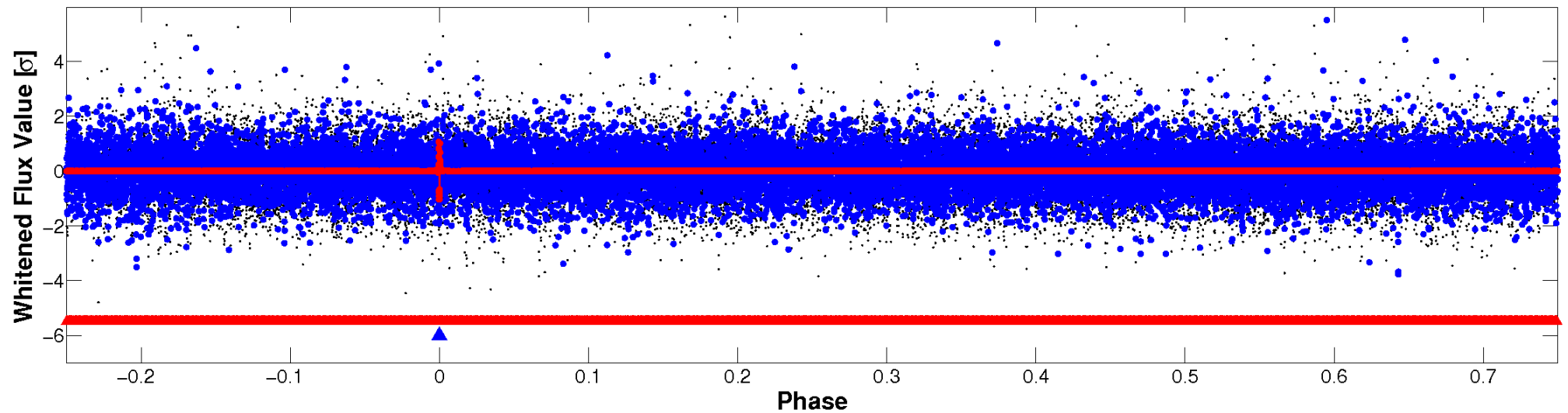


Non-Whitened Vs. Whitened Light Curve

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

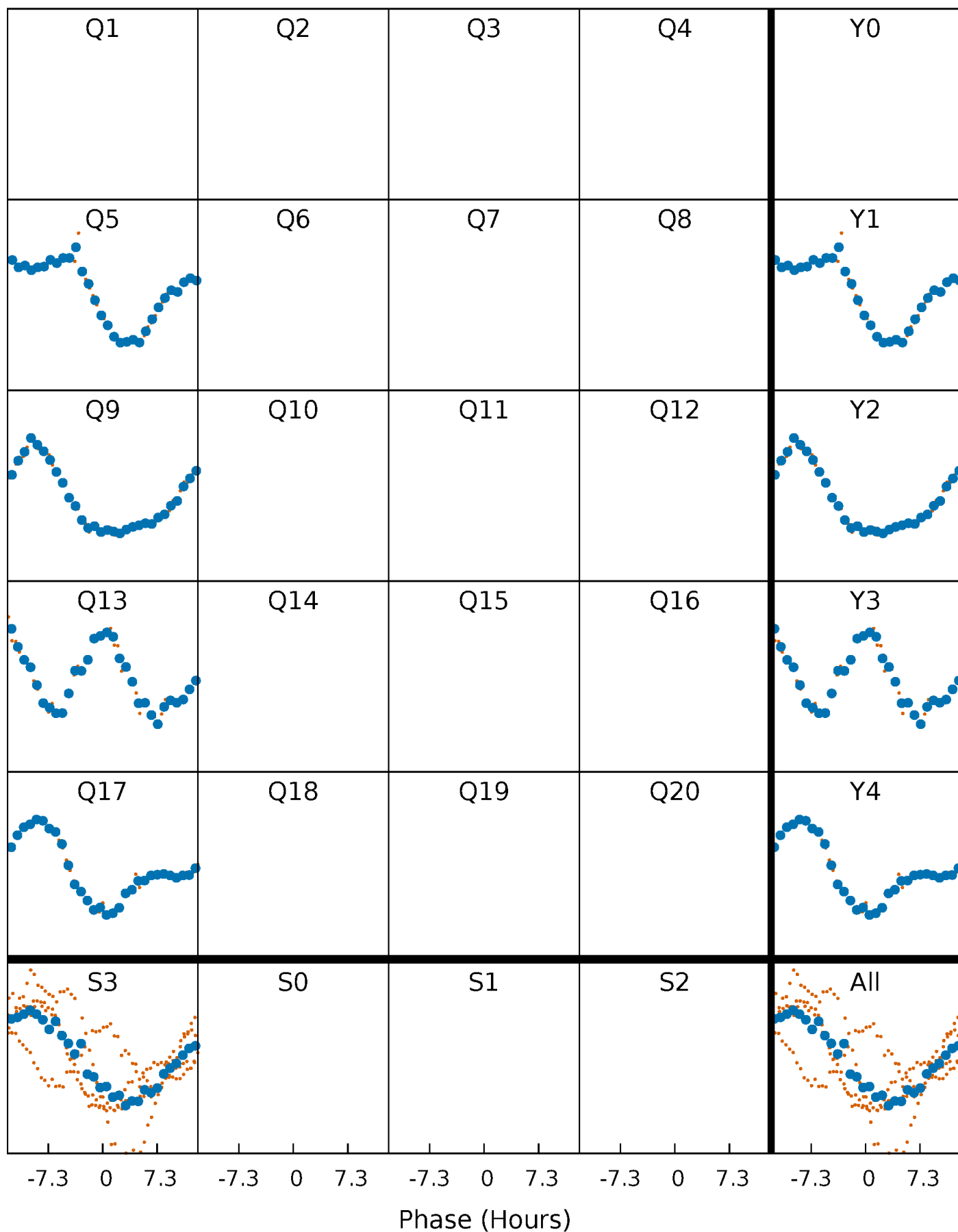


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



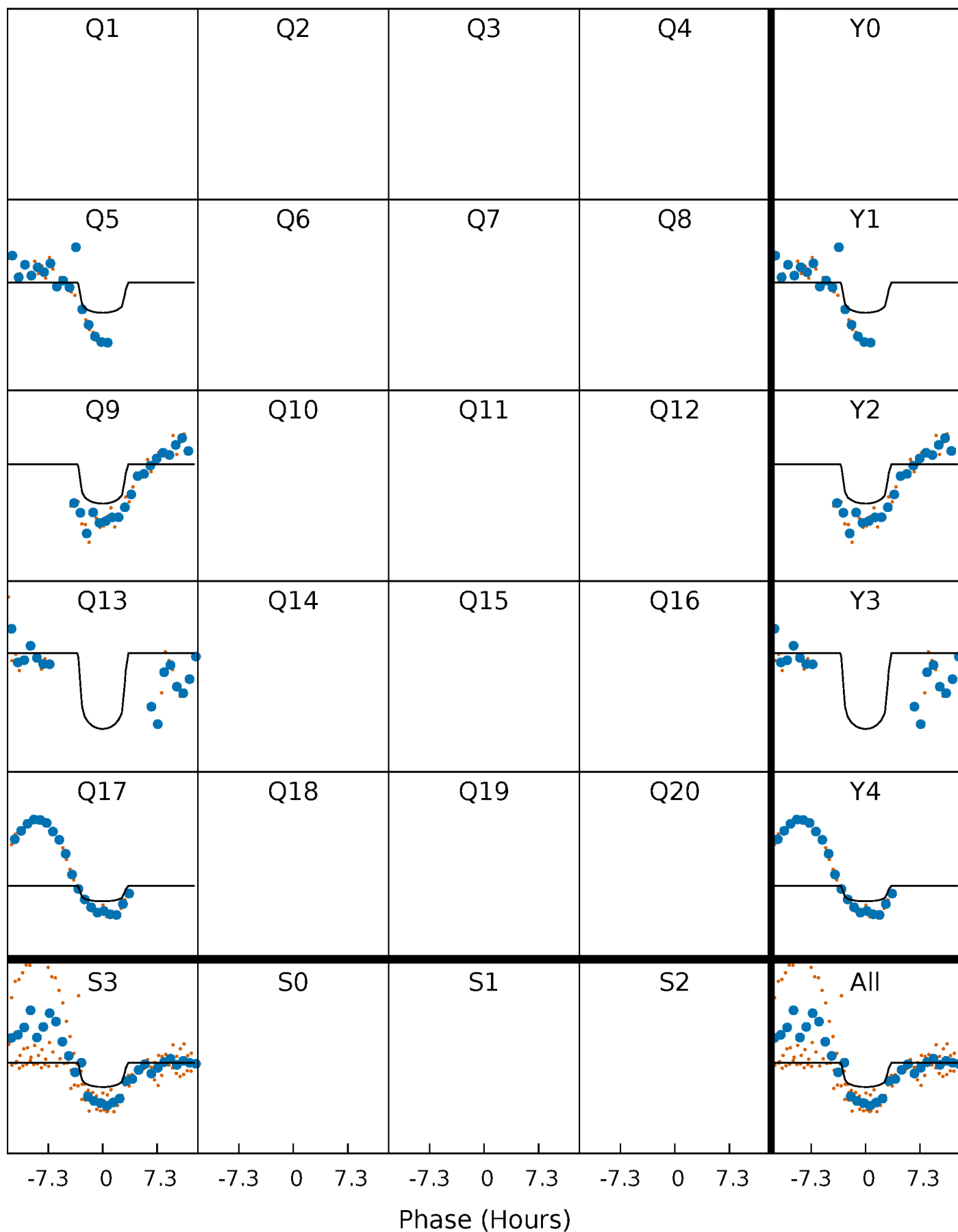
PDC Quarter-Phased Transit Curves

TCE 008981233-02 $P=370.258959$ Days $T_0=452.124732$ (BKJD)



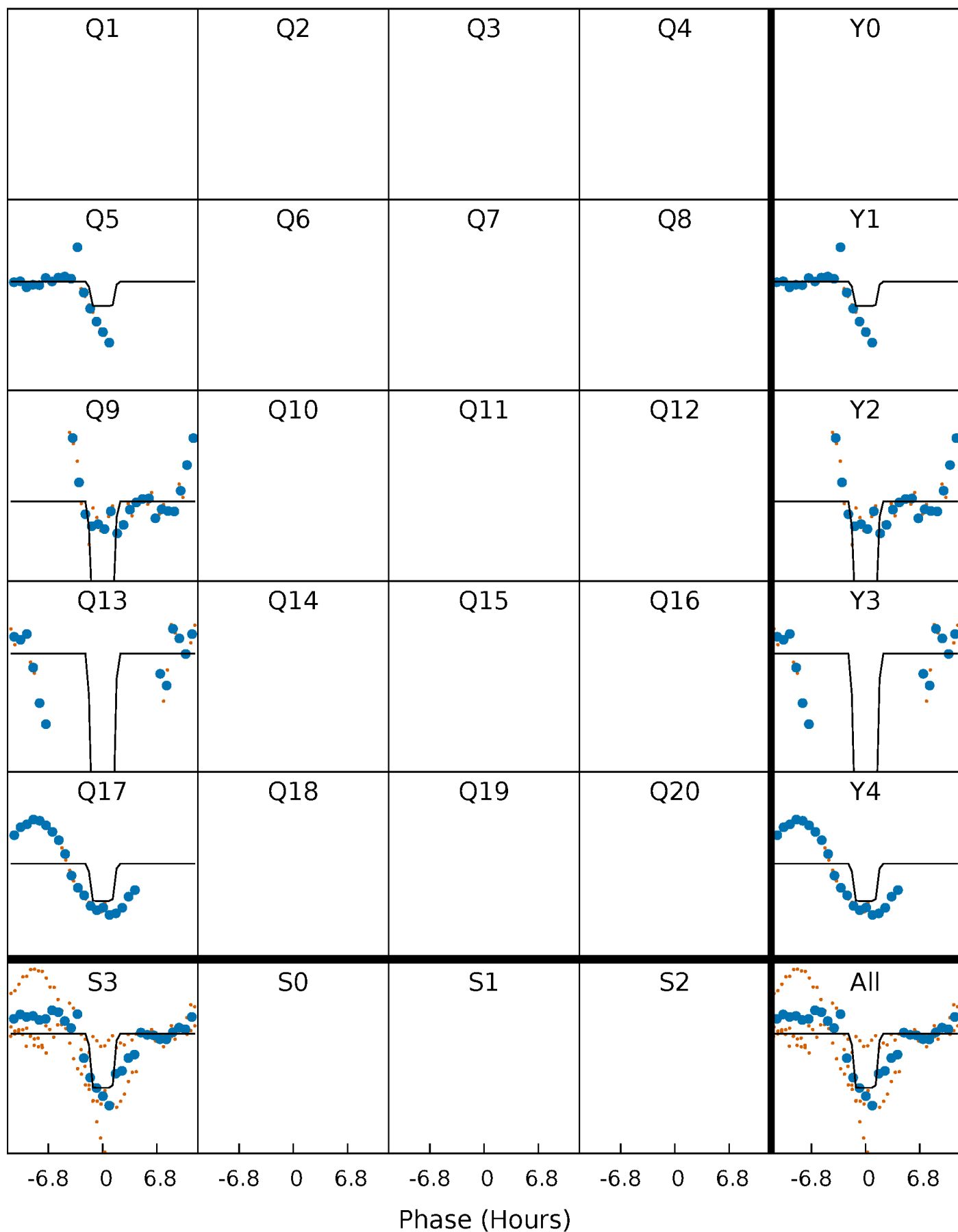
DV Quarter-Phased Transit Curves

TCE 008981233-02 P=370.258959 Days $T_0=452.124732$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

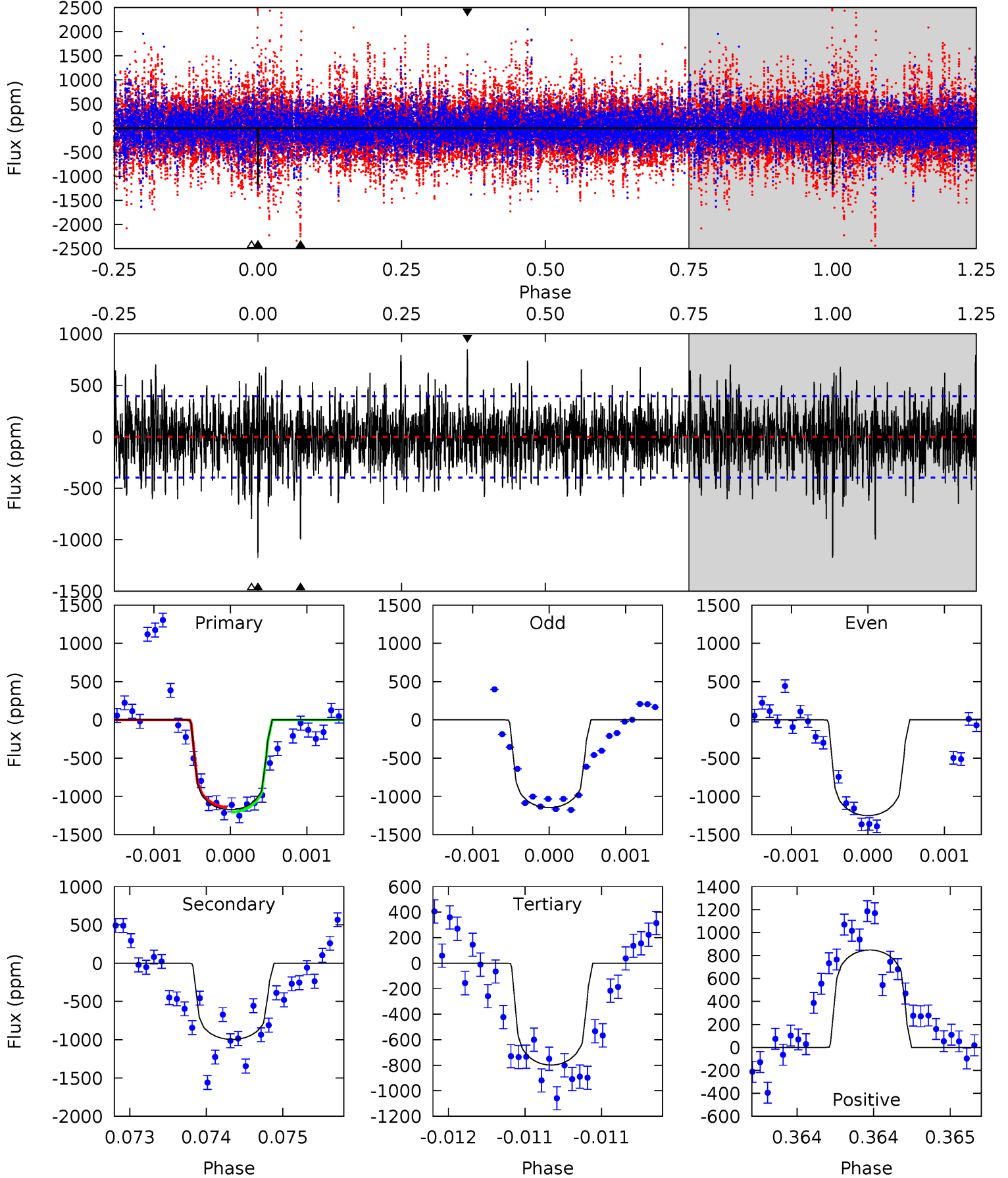
TCE 008981233-02 P=370.256107 Days $T_0=452.122777$ (BKJD)



DV Model-Shift Uniqueness Test

008981233-02, P = 370.258959 Days, E = 81.865773 Days

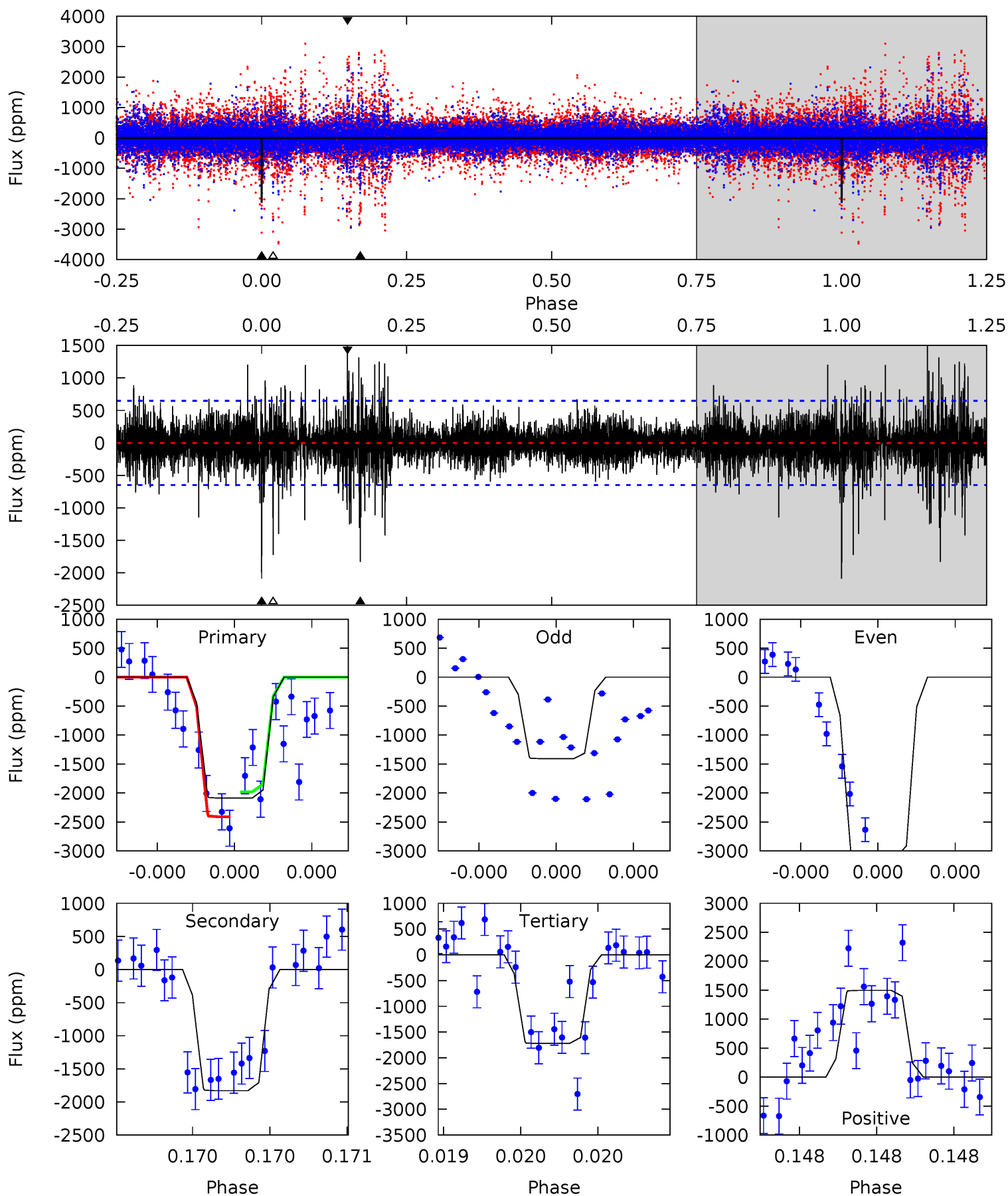
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.3	13.8	11.1	11.8	5.51	3.38	2.93	5.21	4.51	2.75	2.05	0.62	1.00	0.42	0.44



Alt Model-Shift Uniqueness Test

008981233-02, P = 370.256107 Days, E = 81.866670 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.1	15.9	14.9	13.0	5.62	3.55	2.00	3.18	5.12	0.94	2.89	8.27	0.86	0.42	1.90



Stellar Parameters For KIC 008981233

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6328^{+194}_{-214}	$3.864^{+0.472}_{-0.118}$	$-0.320^{+0.300}_{-0.300}$	$2.136^{+0.525}_{-1.049}$	$1.215^{+0.193}_{-0.236}$	$0.175^{+0.765}_{-0.064}$
	+3%/-3%	+12%/-3%	+94%/-94%	+25%/-49%	+16%/-19%	+436%/-37%
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 008981233-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-996 ± 72	$5.47^{+2.43}_{-2.10}$	534^{+45}_{-70}	7056^{+1909}_{-1000}	21886^{+33501}_{-11389}
Alt.	-1830 ± 115	$8.53^{+2.63}_{-2.67}$	533^{+41}_{-71}	6599^{+810}_{-664}	16359^{+16910}_{-6696}

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

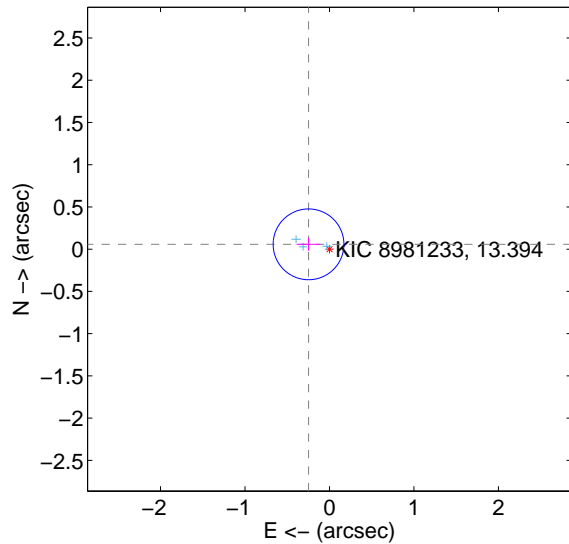
Supplemental centroid analysis for 008981233-02. Kepler magnitude: 13.39. Transit SNR 5.57

There are 3 quarters with good PRF difference image offsets

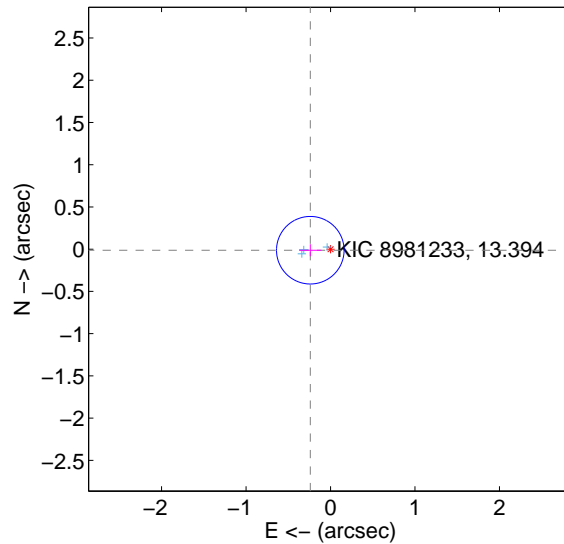
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.254 ± 0.140	1.82	0.248 ± 0.142	0.057 ± 0.076
PRF-fit source offset from KIC position	0.240 ± 0.133	1.80	0.239 ± 0.133	-0.012 ± 0.071
photometric centroid source offset	0.64 ± 0.58	1.09	0.24 ± 0.55	-0.59 ± 0.59

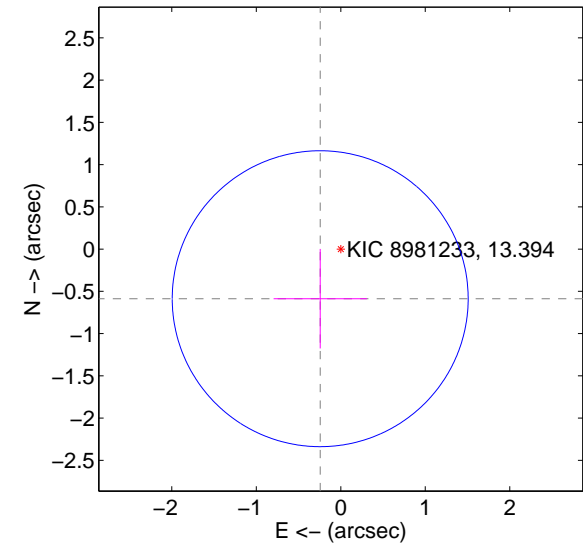
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

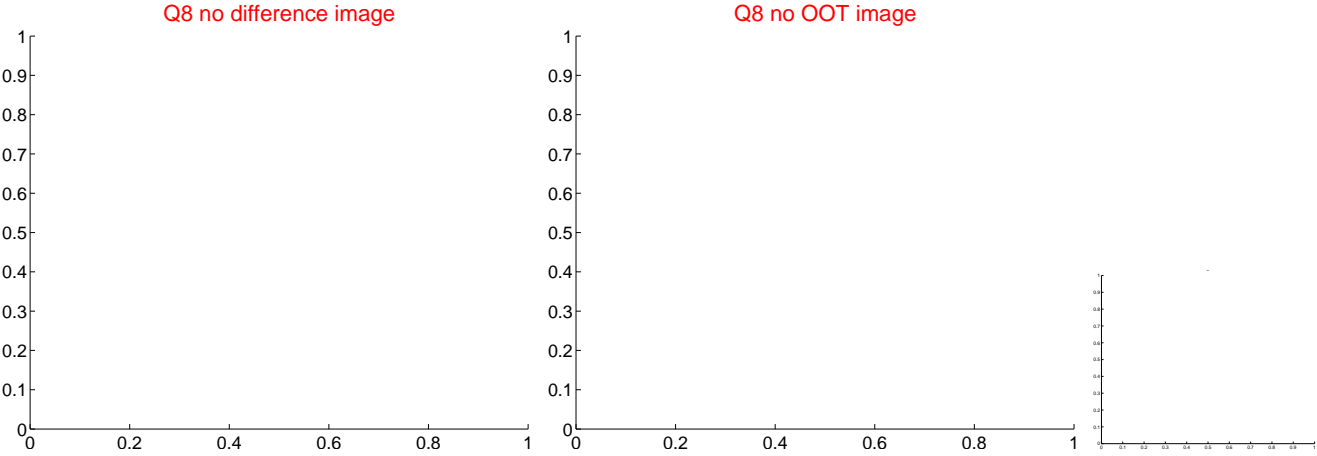
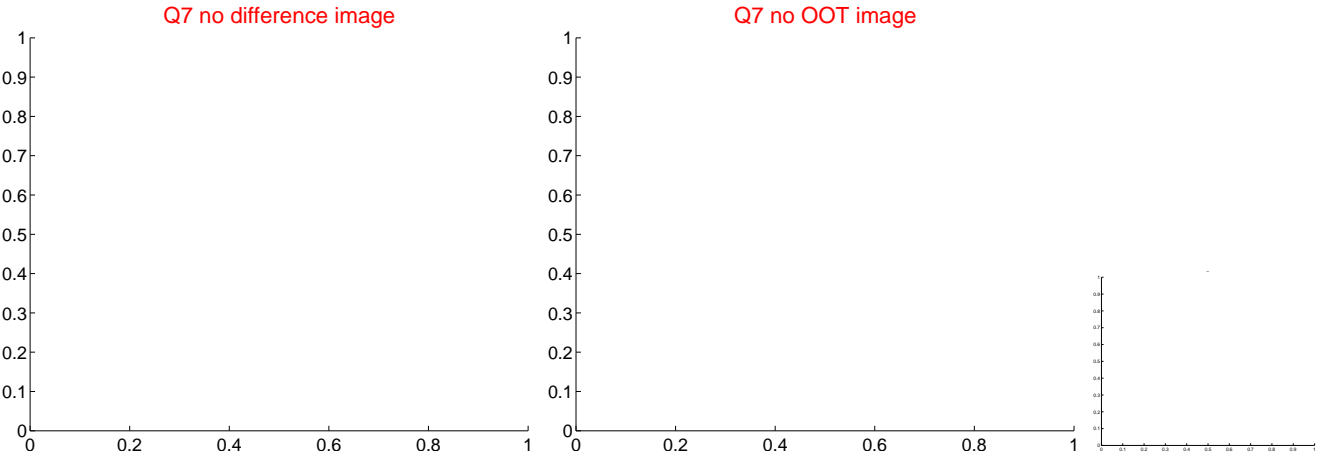
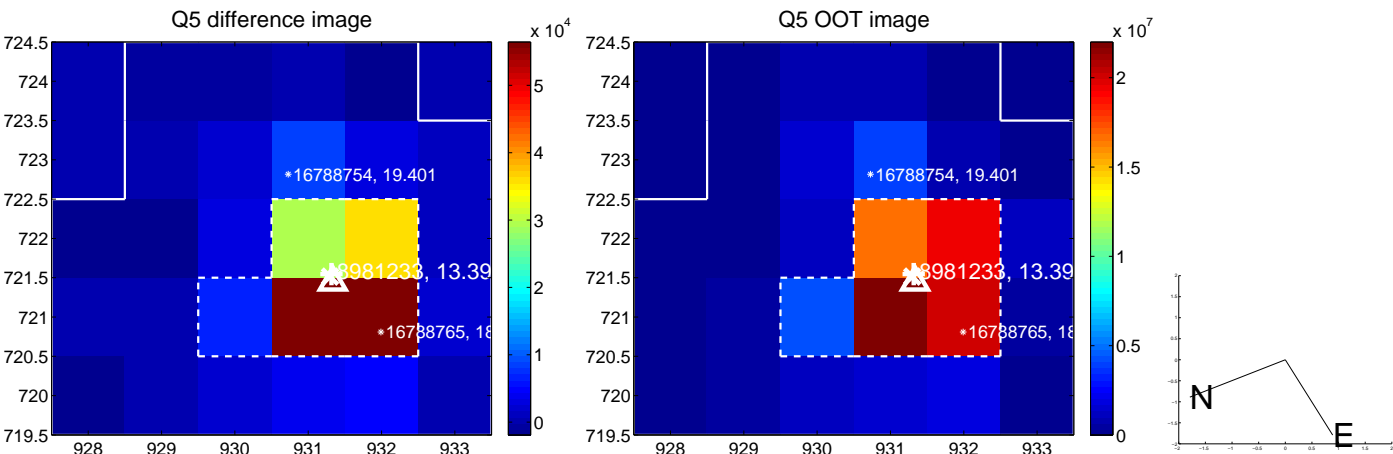


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

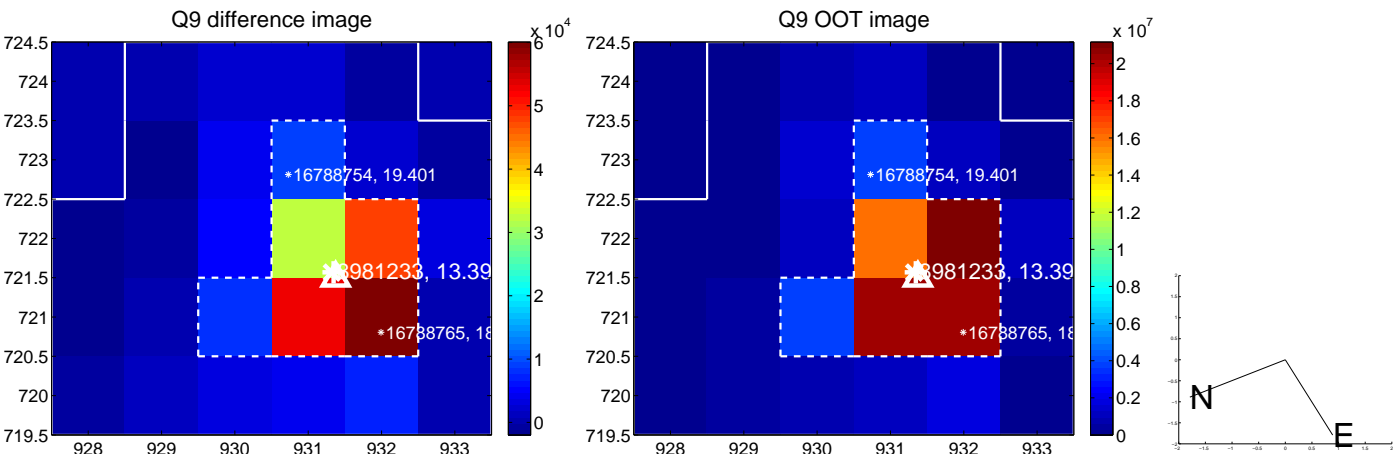
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



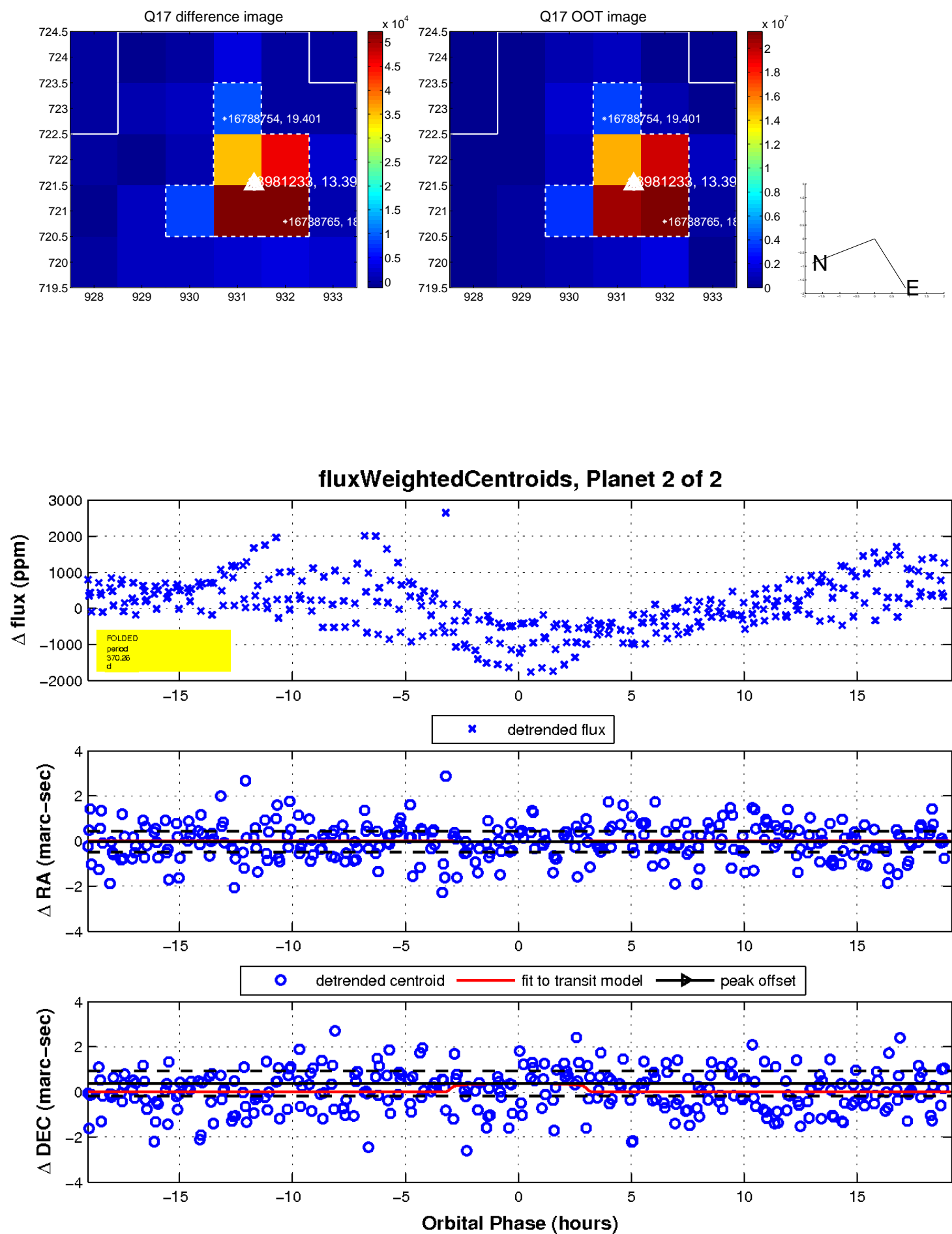
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

