

KIC 008430978

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})
008430978-01	OBS	No	389.383932	157.175400	91.4	18.980	8.1	7.1	2.58	7732	2.77	12.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008430978-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

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

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

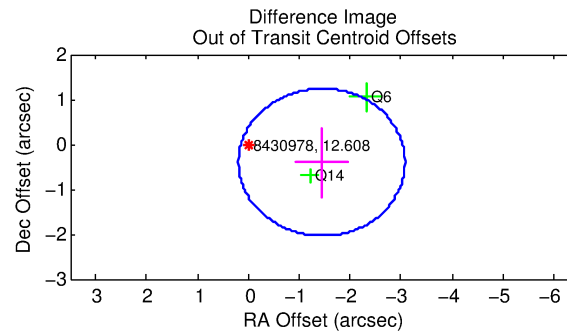
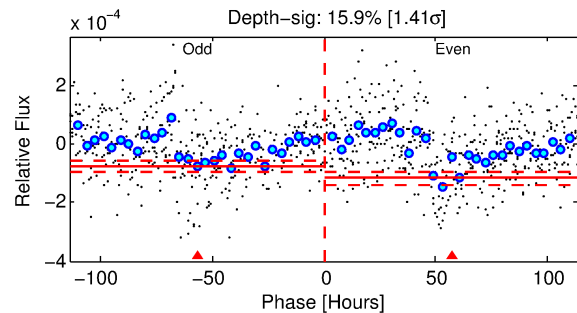
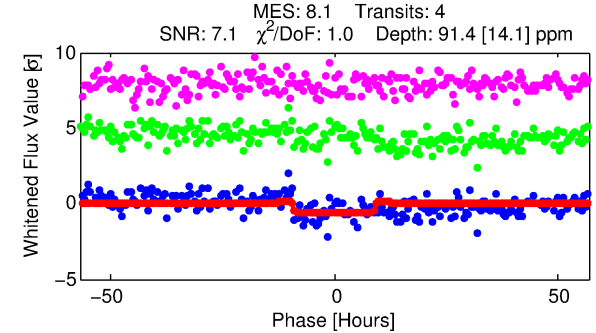
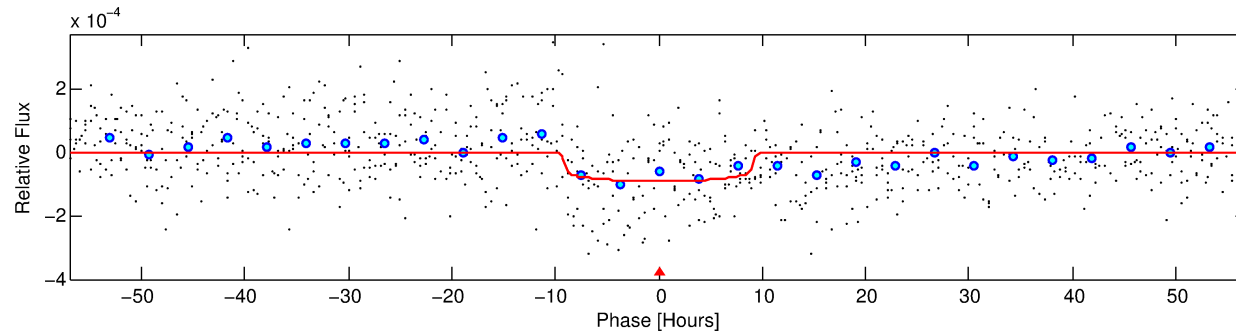
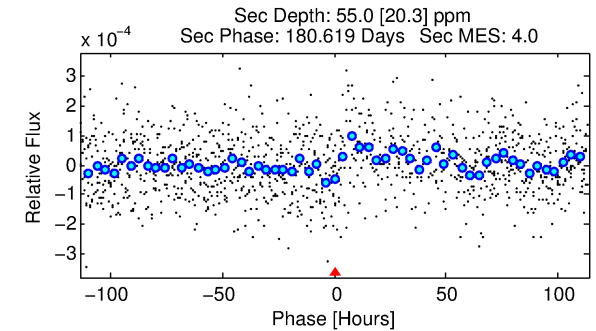
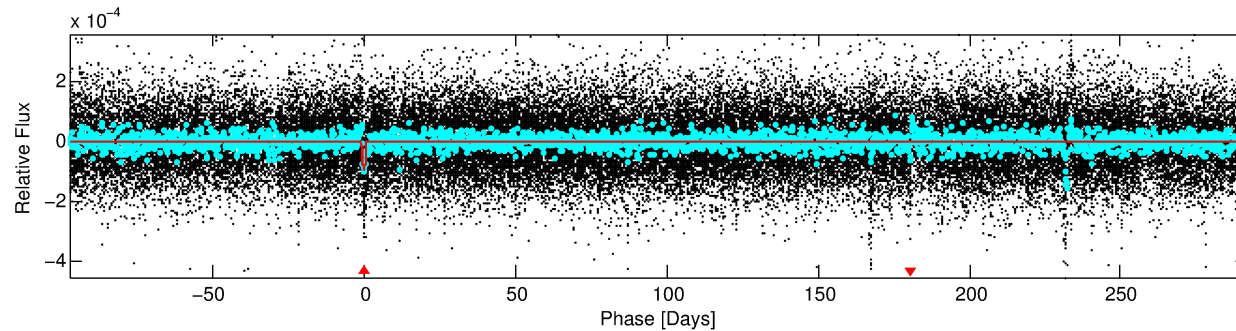
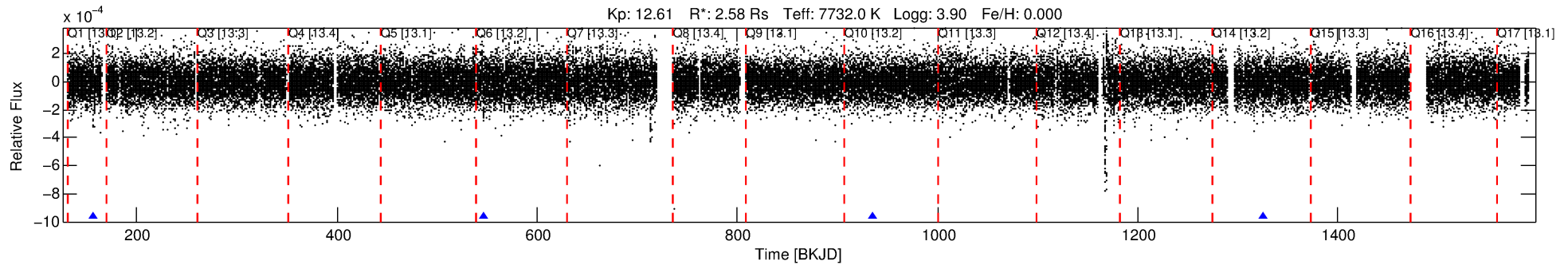
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008430978-01

No Significant Match Found

DV One-Page Summary

KIC: 8430978 Candidate: 1 of 1 Period: 389.384 d



DV Fit Results:

Period = 389.38393 [0.01327] d
Epoch = 157.1754 [0.0261] BKJD
Rp/R* = 0.0098 [0.0017]
a/R* = 86.70 [79.17]
b = 0.84 [0.32]
Seff = 12.70 [6.51]
Teq = 481 [62] K
Rp = 2.77 [1.12] Re
a = 1.2973 [0.4171] AU
Ag = 6623.52 [4634.56] [1.43σ]
Teffp = 6714 [892] K [6.97σ]

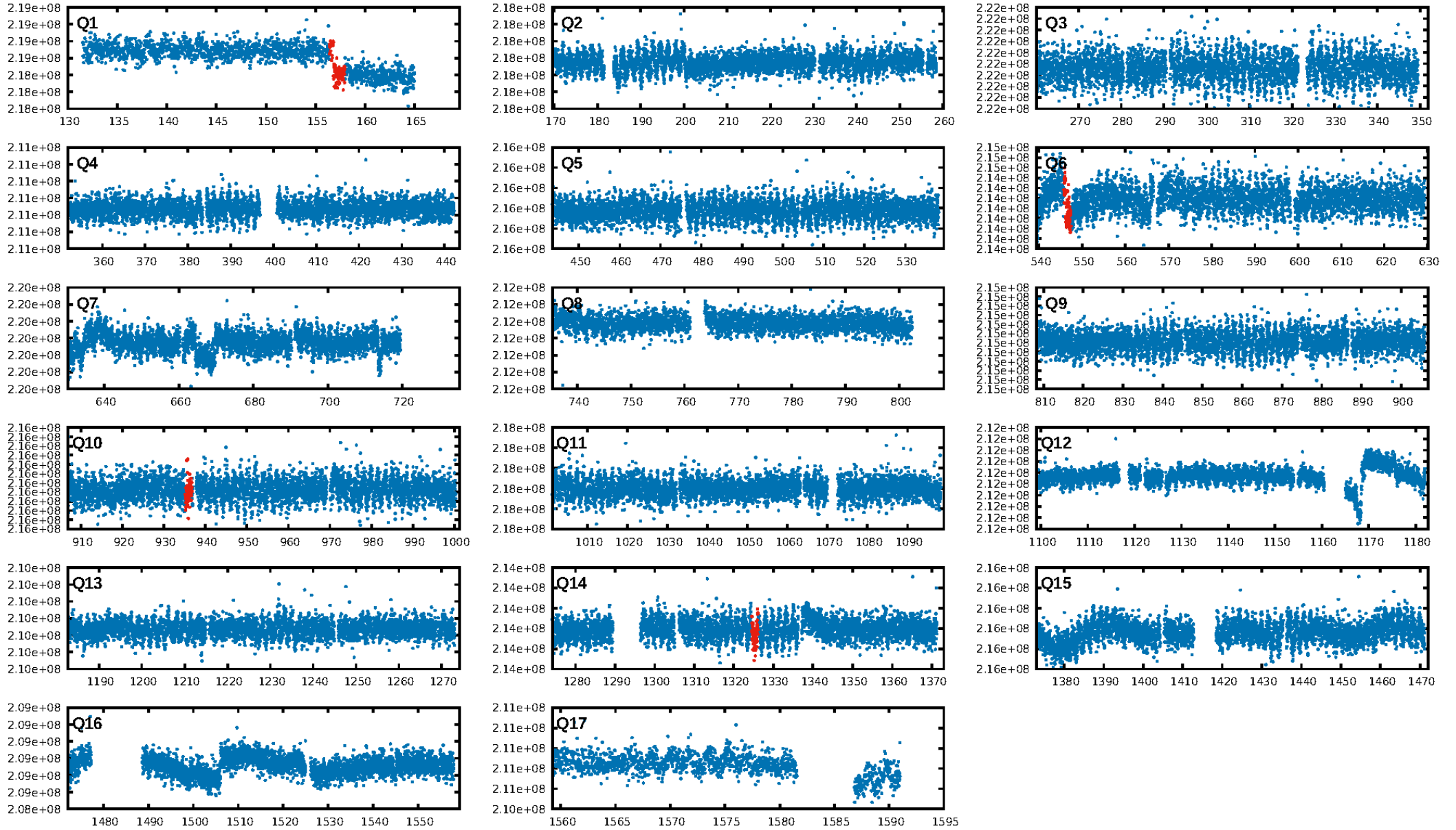
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.3%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 1.28e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 16.65
Centroid-sig: 68.3%
Centroid-so: 0.828 arcsec [0.53σ]
OotOffset-rm: 1.500 arcsec [2.75σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-rm: 1.488 arcsec [2.77σ]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

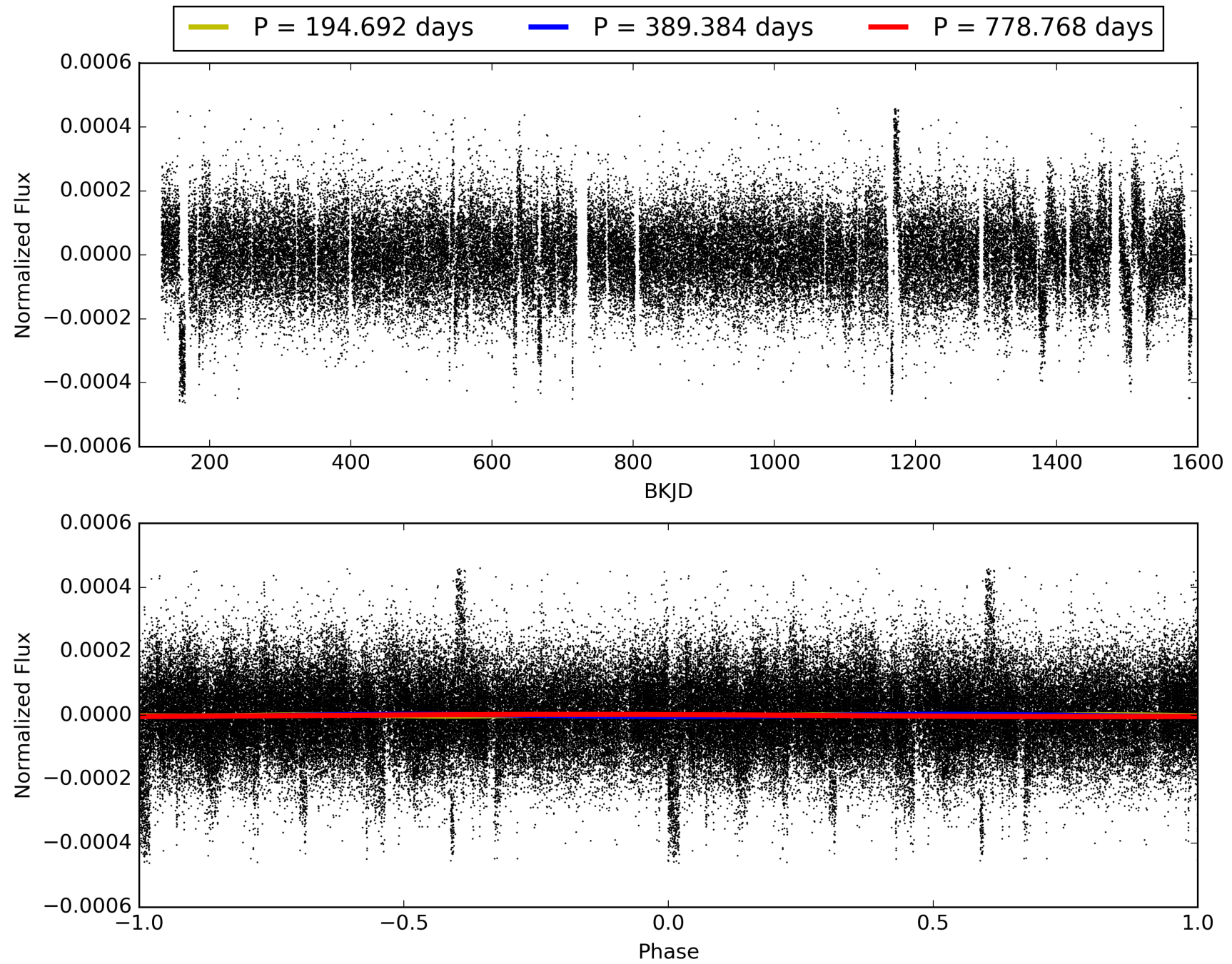
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:34:36 Z

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

TCE 008430978-01, PDC Light Curves

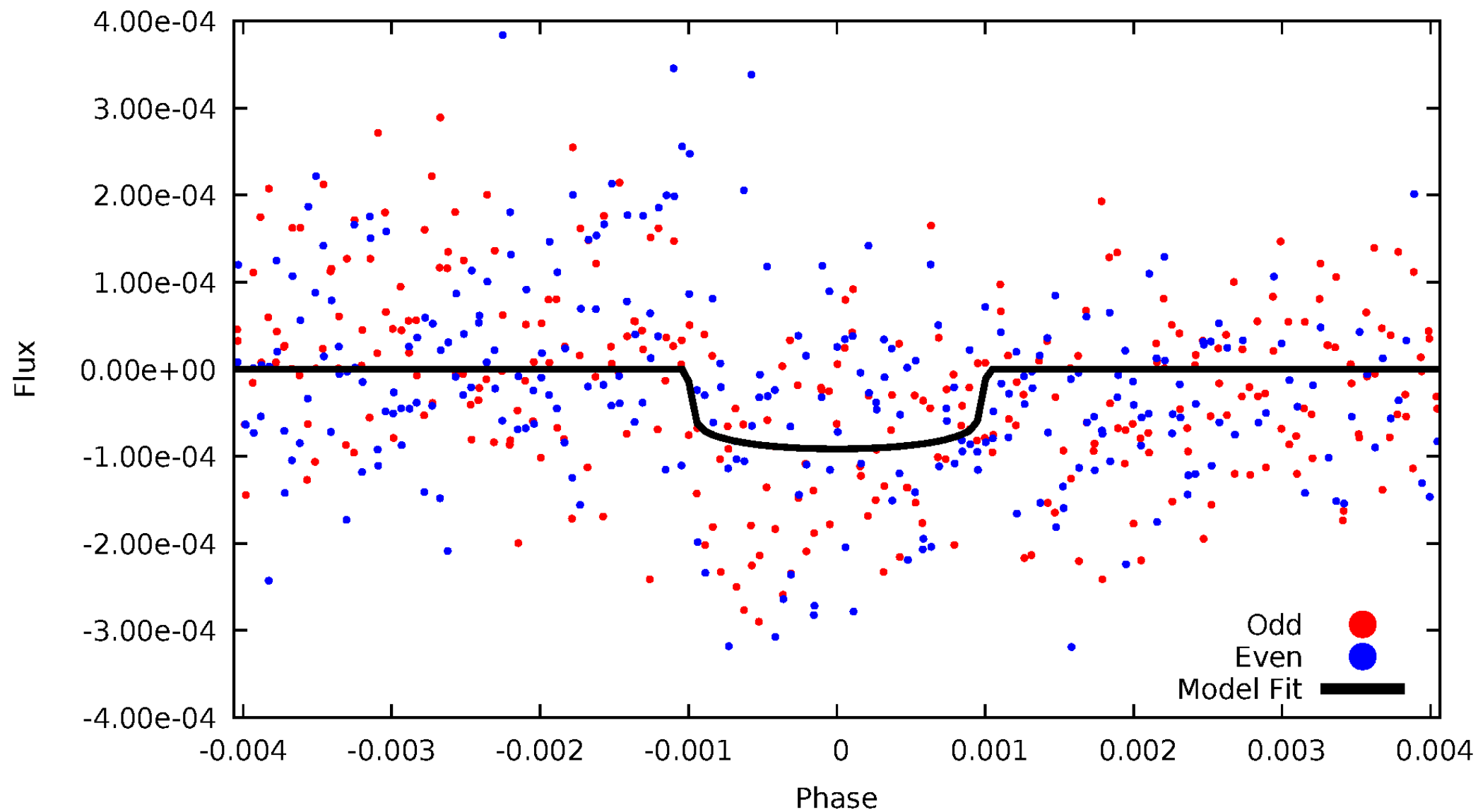


TCE 008430978-01



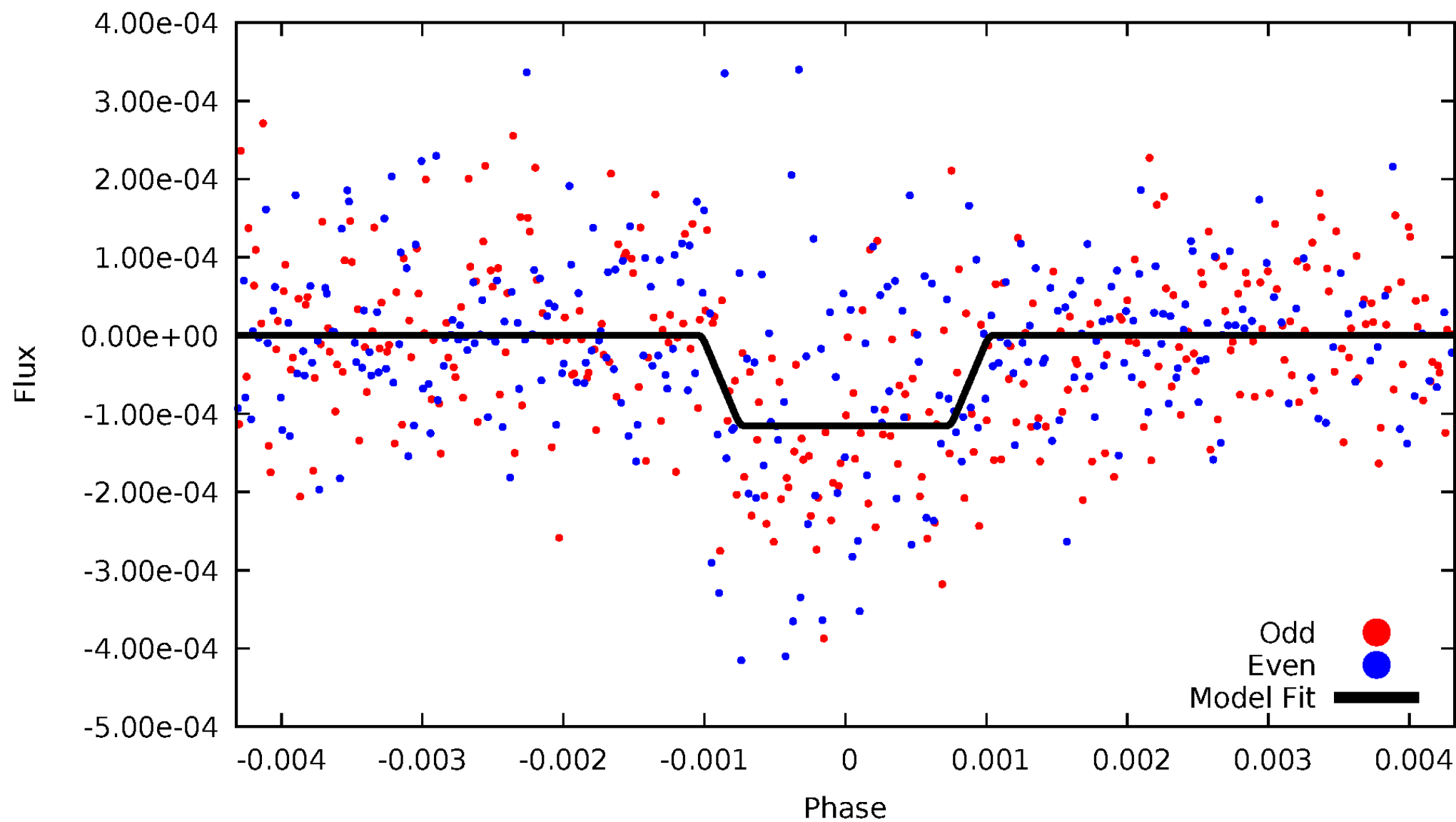
DV Odd/Even

TCE 008430978-01



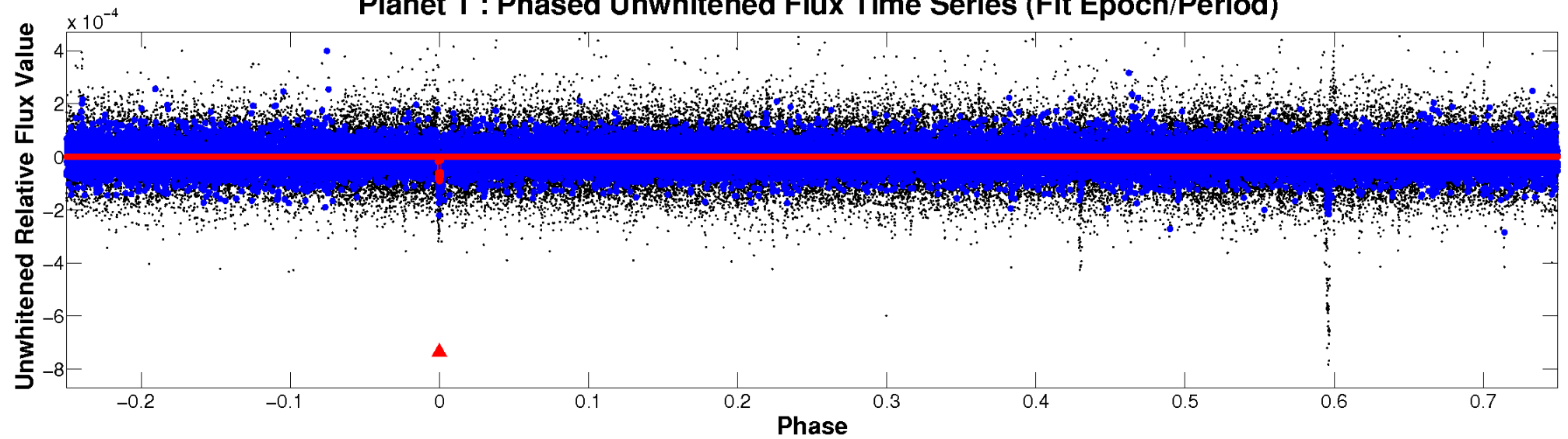
ALT Odd/Even

TCE 008430978-01

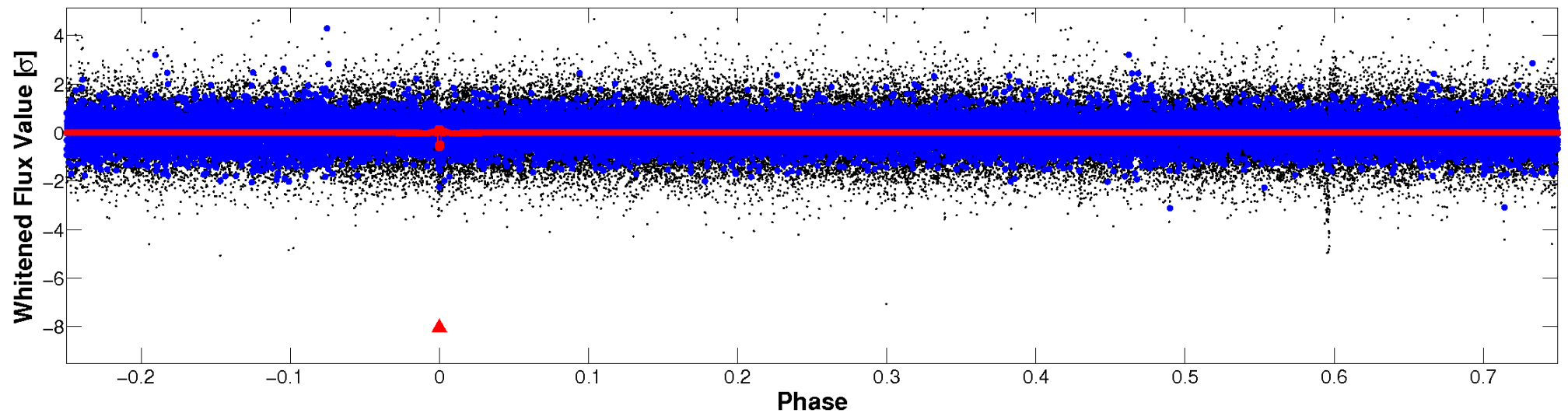


Non-Whitened Vs. Whitened Light Curve

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

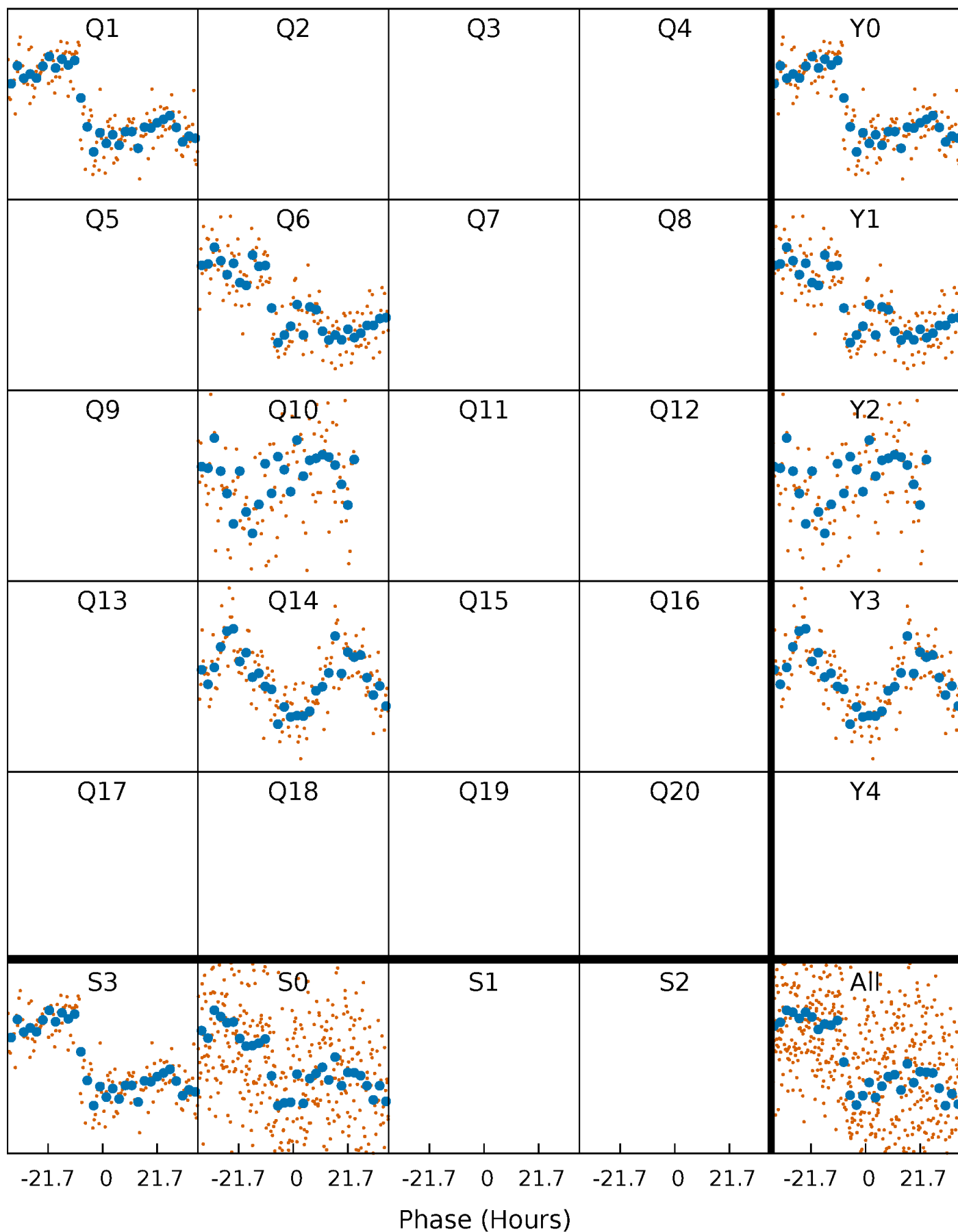


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 008430978-01 P=389.383933 Days $T_0=157.175400$ (BKJD)



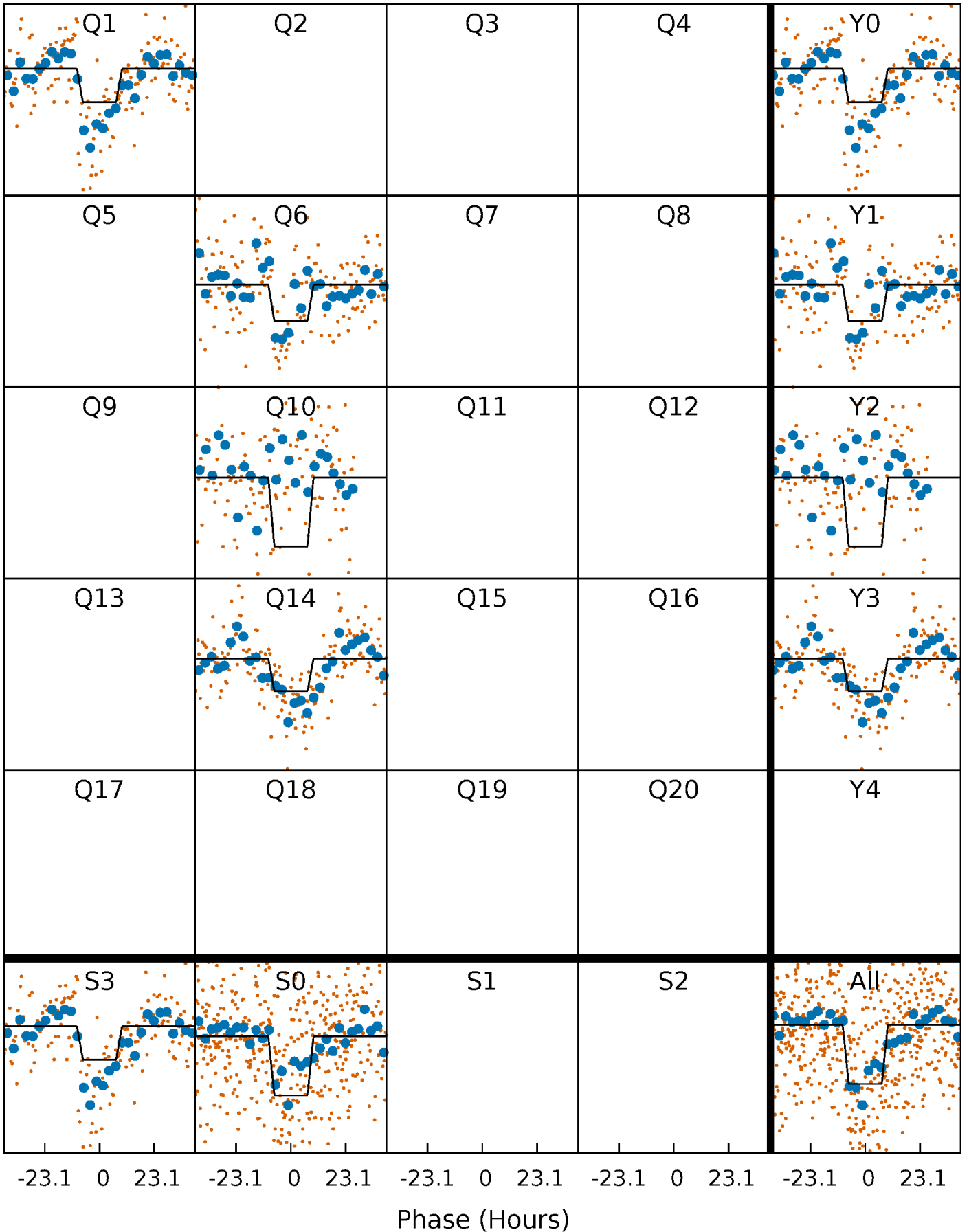
DV Quarter-Phased Transit Curves

TCE 008430978-01 P=389.383933 Days $T_0=157.175400$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

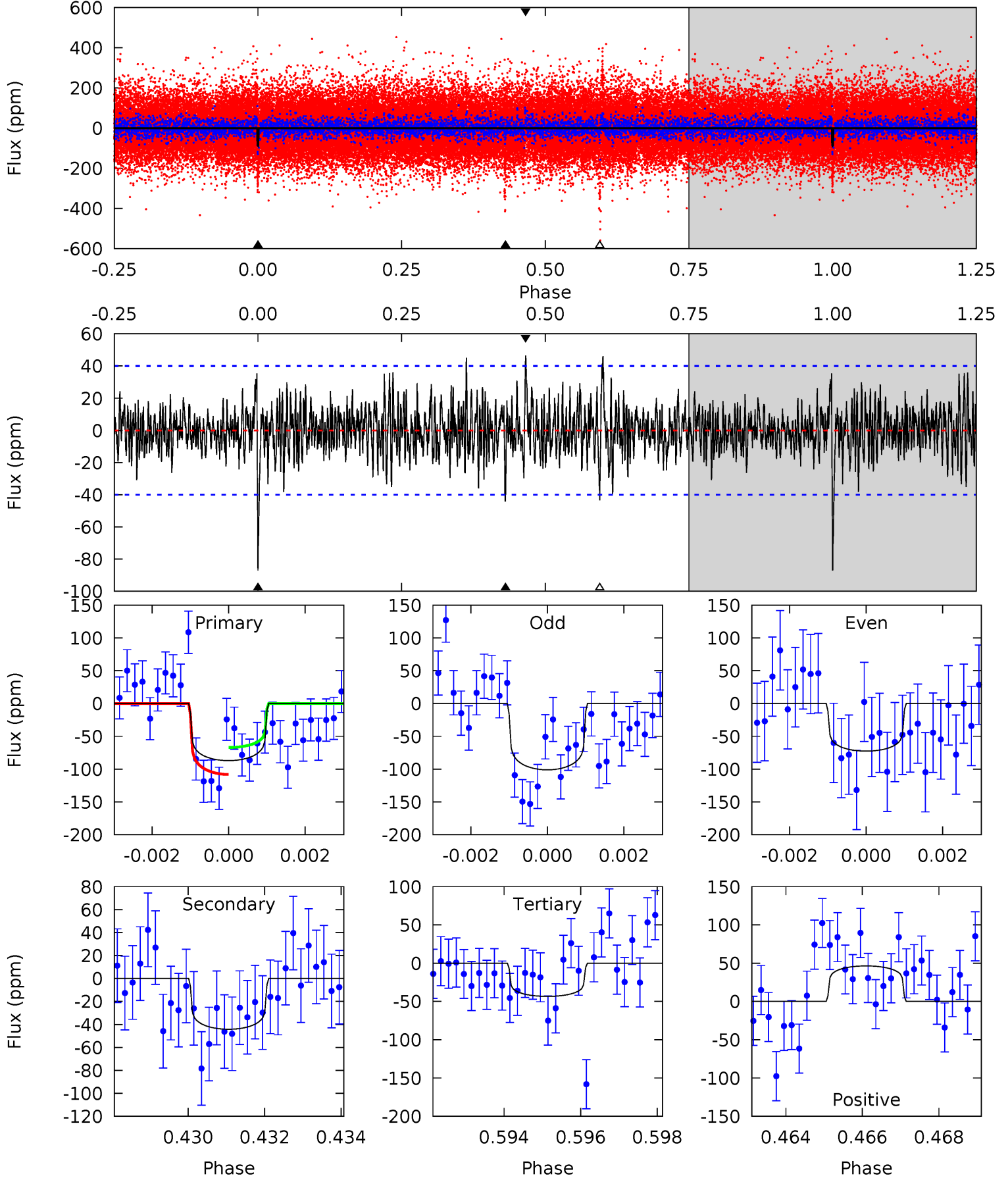
TCE 008430978-01 P=389.334241 Days $T_0=157.179447$ (BKJD)



DV Model-Shift Uniqueness Test

008430978-01, P = 389.383933 Days, E = 157.175400 Days

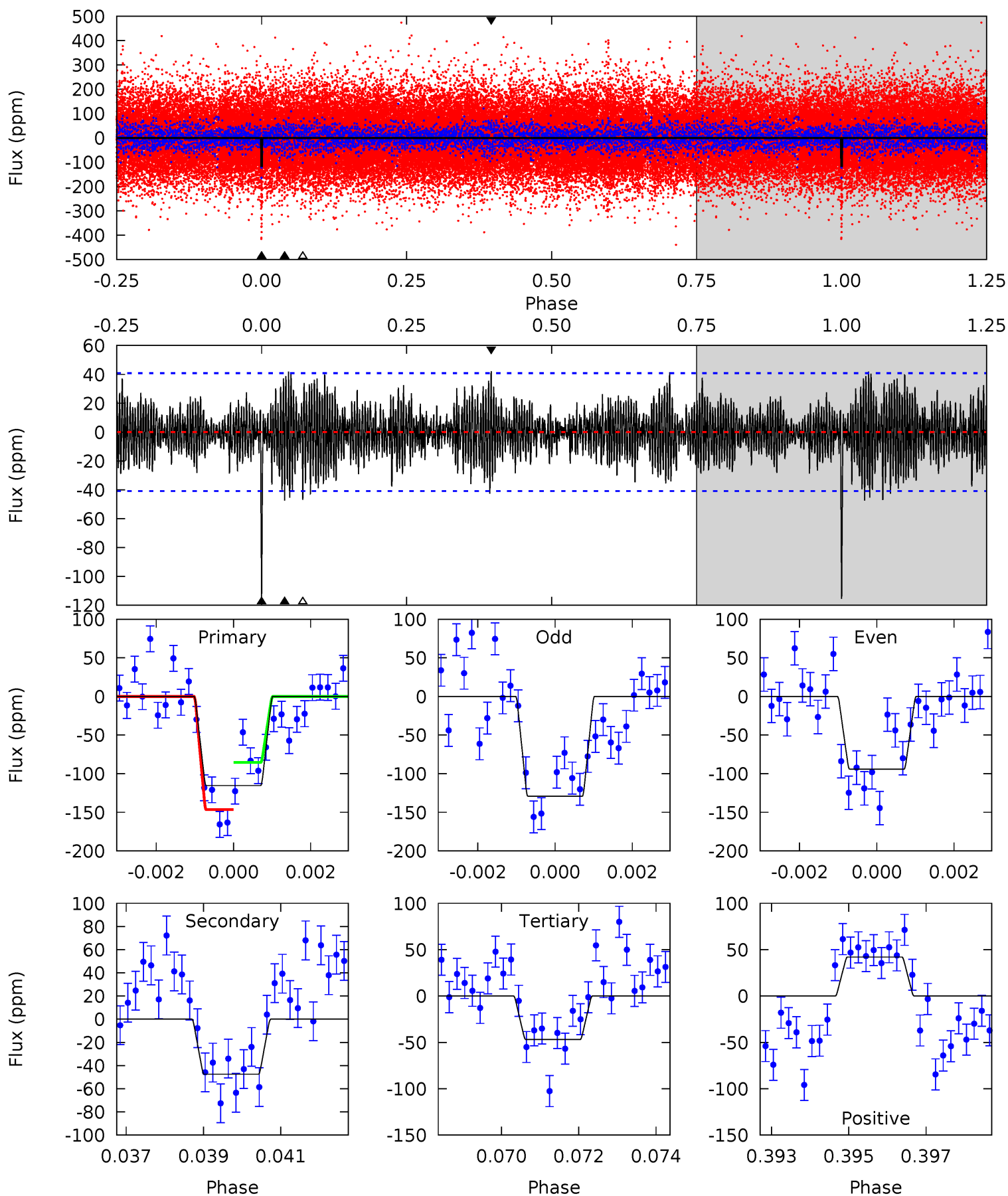
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	5.88	5.77	6.18	5.33	3.09	1.62	5.82	5.41	0.11	-0.30	1.90	0.82	0.35	2.73



Alt Model-Shift Uniqueness Test

008430978-01, P = 389.334241 Days, E = 157.179447 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.0	6.18	6.11	5.48	5.32	3.08	1.84	8.92	9.55	0.07	0.70	2.30	0.84	0.27	3.98



Stellar Parameters For KIC 008430978

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7732^{+214}_{-322}	$3.897^{+0.273}_{-0.117}$	$0.000^{+0.200}_{-0.350}$	$2.583^{+0.472}_{-0.945}$	$1.919^{+0.103}_{-0.439}$	$0.157^{+0.301}_{-0.058}$
	+3%/-4%	+7%/-3%	+inf%/-inf%	+18%/-37%	+5%/-23%	+192%/-37%
Source	KIC0	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 008430978-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-44 ± 8	$2.62^{+0.62}_{-0.65}$	661^{+43}_{-59}	6214^{+769}_{-598}	5697^{+4267}_{-2016}
Alt.	-47 ± 8	$2.85^{+0.71}_{-0.60}$	661^{+46}_{-63}	6022^{+618}_{-475}	5228^{+3210}_{-1904}

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 $A_{obs} \gg 1.0$

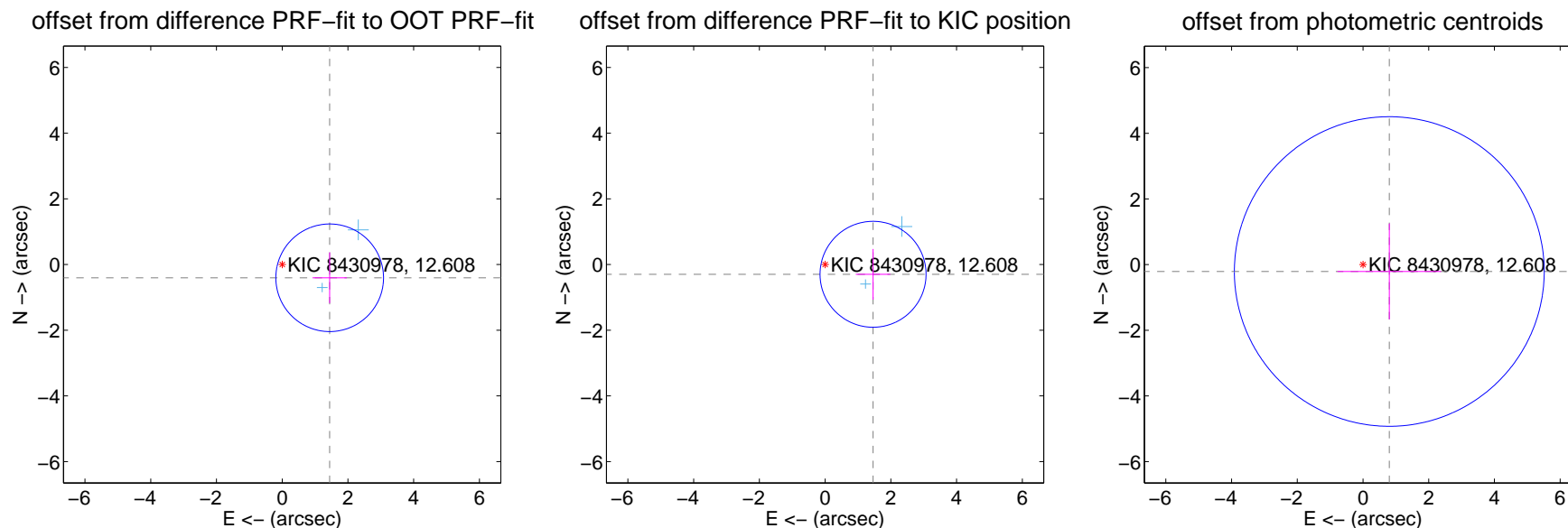
DV Centroid Data

Supplemental centroid analysis for 008430978-01. Kepler magnitude: 12.61. Transit SNR 7.10

There are 2 quarters with good PRF difference image offsets

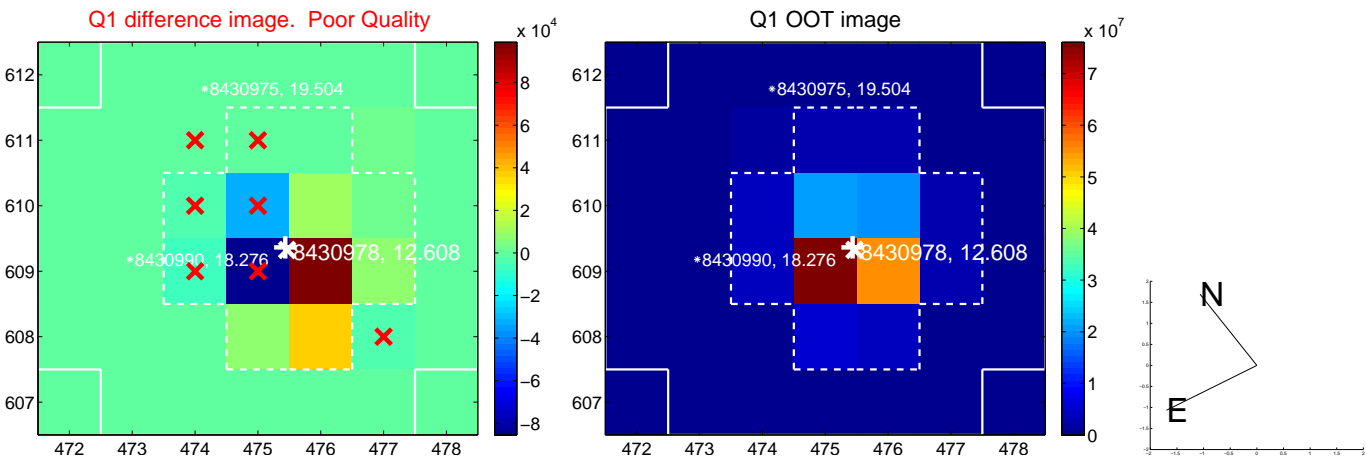
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.500 ± 0.546	2.75	-1.444 ± 0.524	-0.403 ± 0.774
PRF-fit source offset from KIC position	1.488 ± 0.538	2.77	-1.458 ± 0.526	-0.297 ± 0.771
photometric centroid source offset	0.83 ± 1.57	0.53	-0.80 ± 1.58	-0.21 ± 1.46

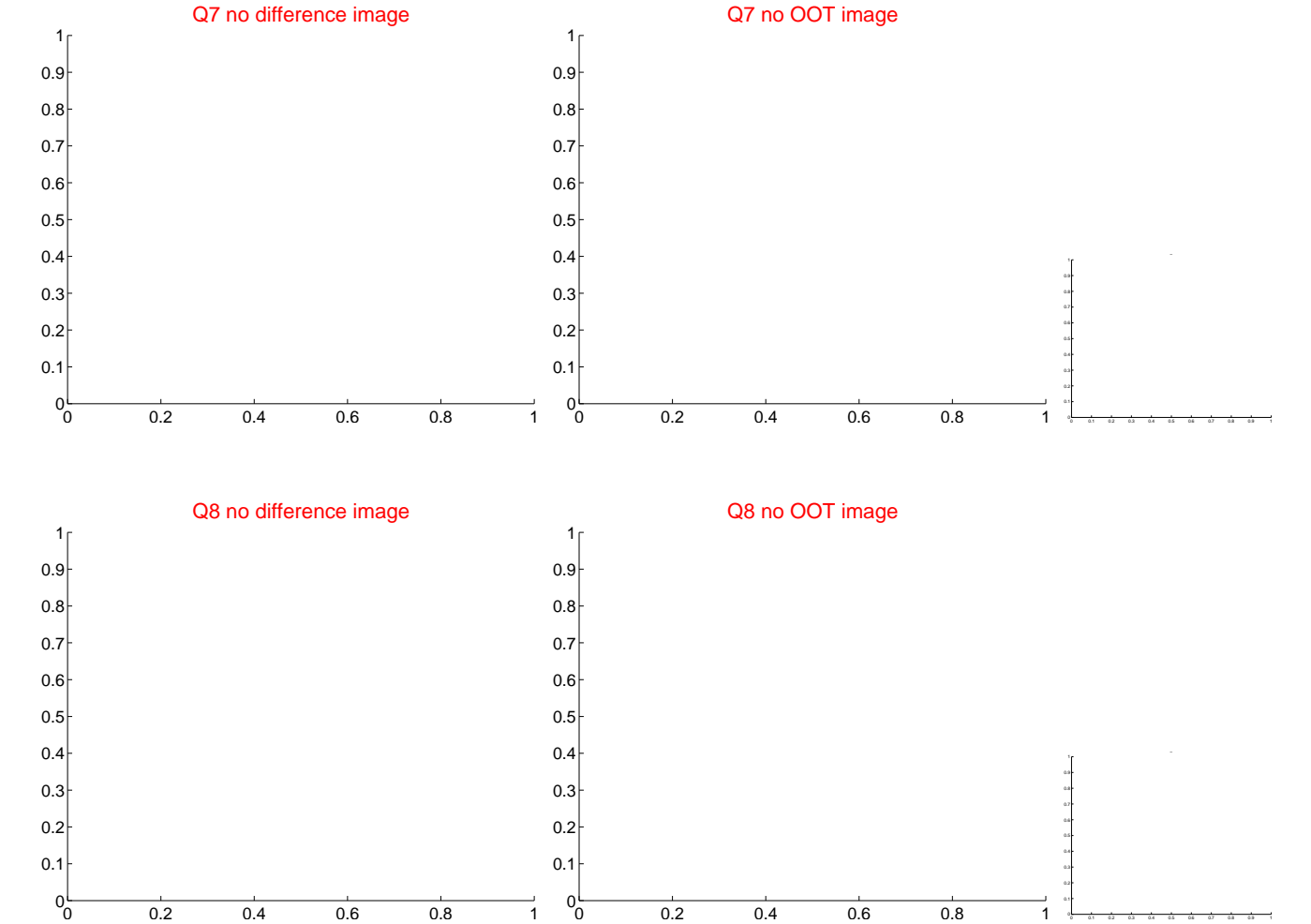
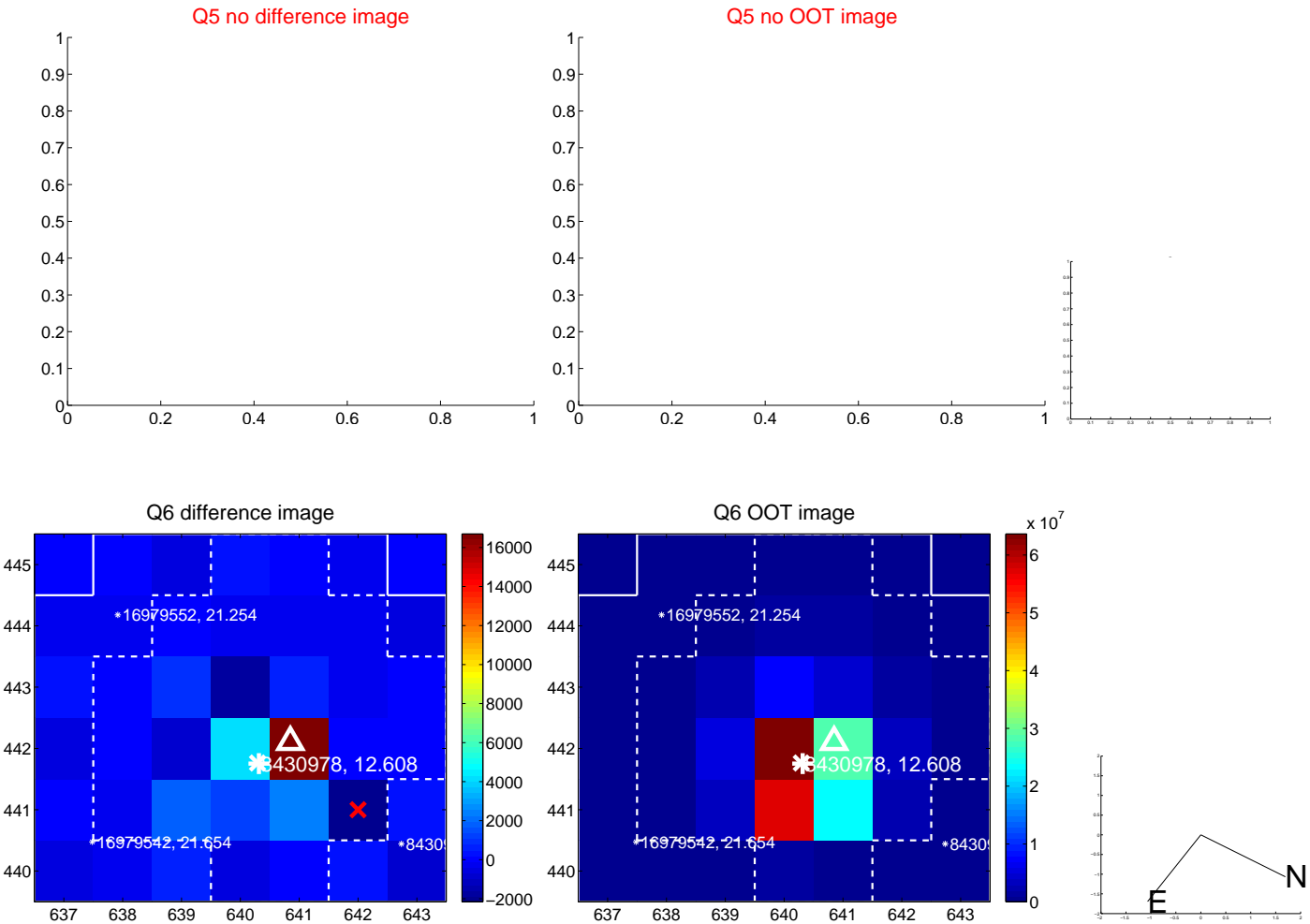


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



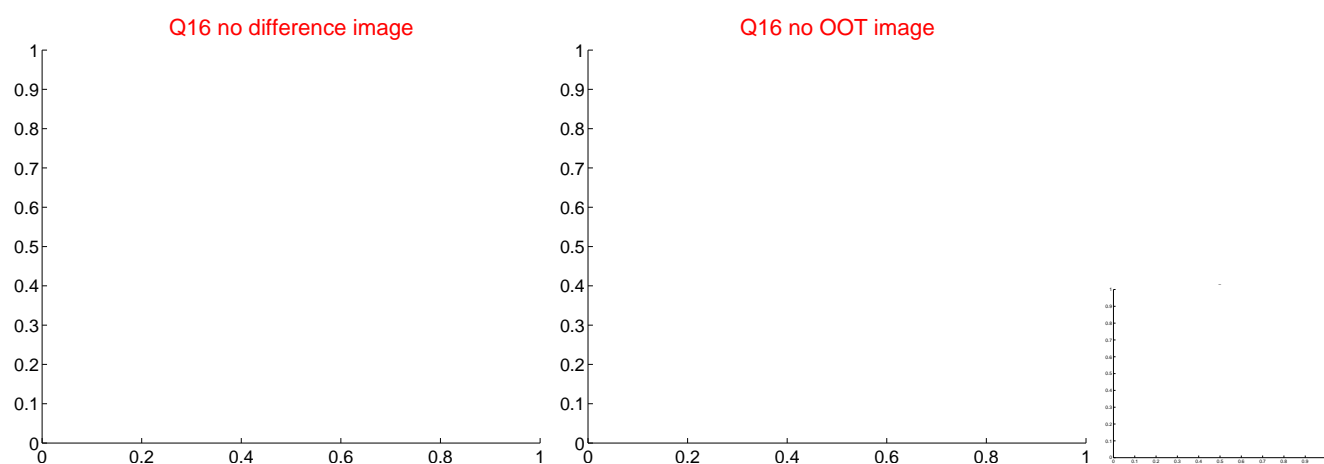
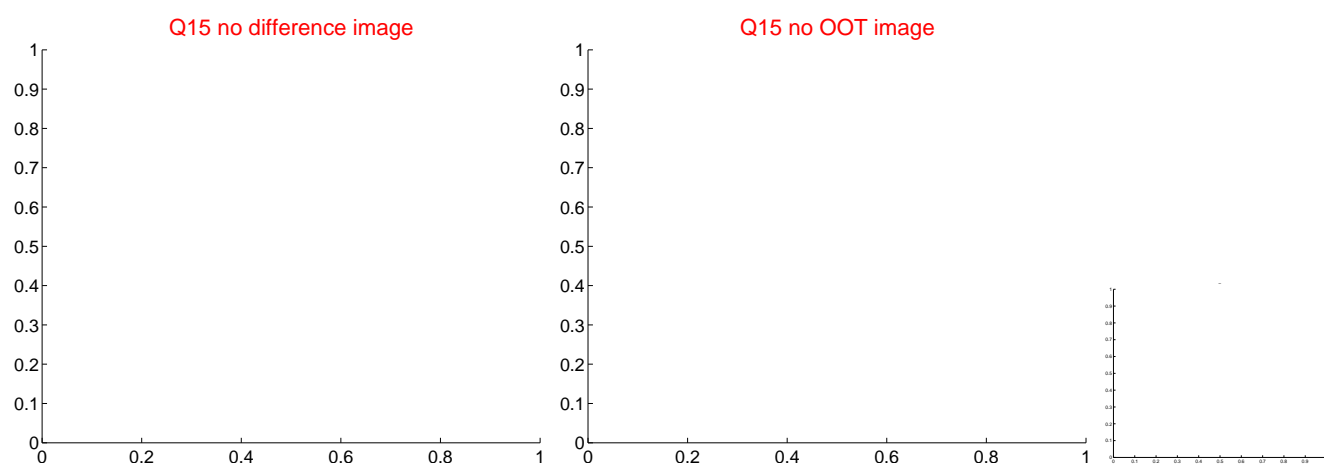
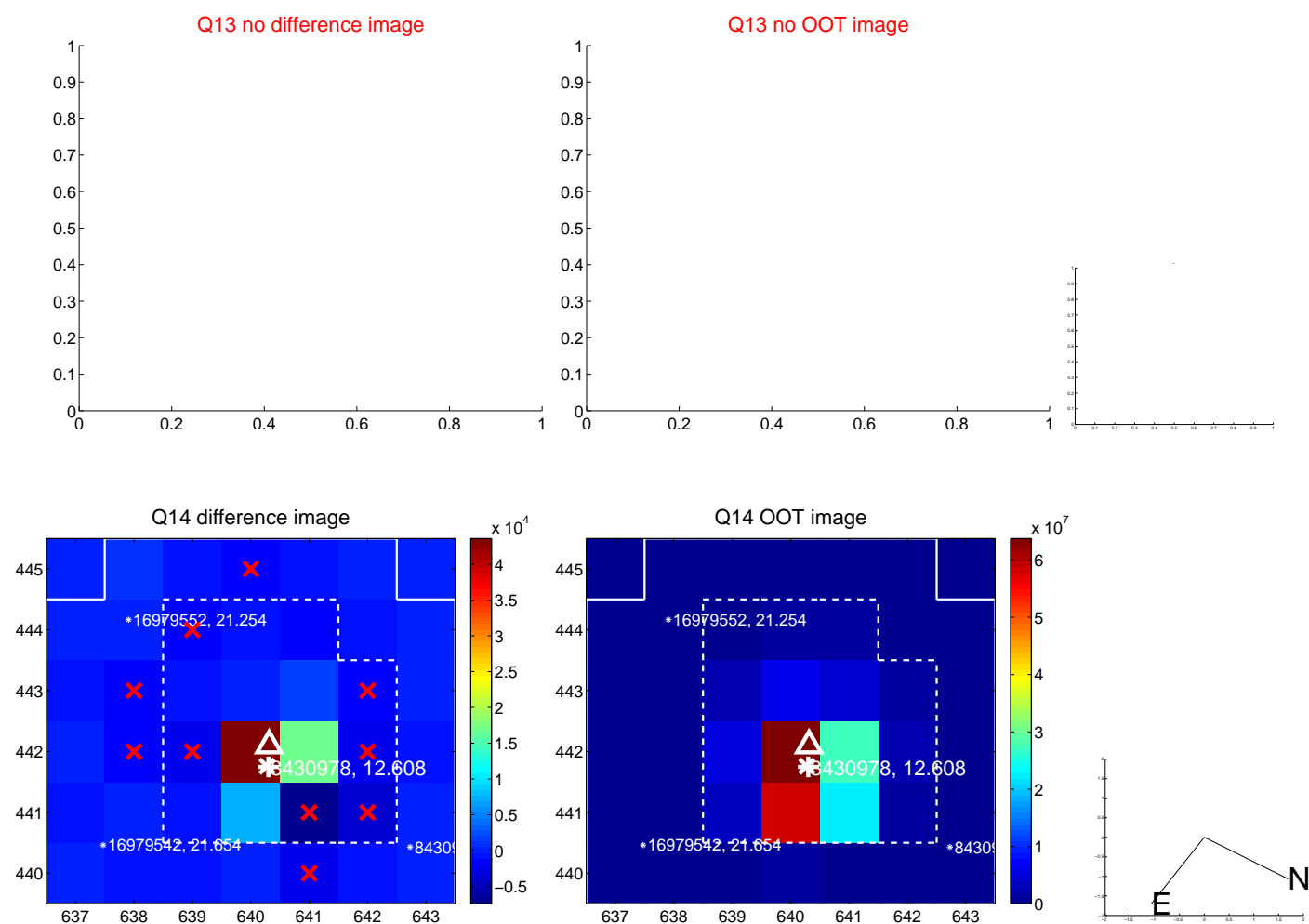
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



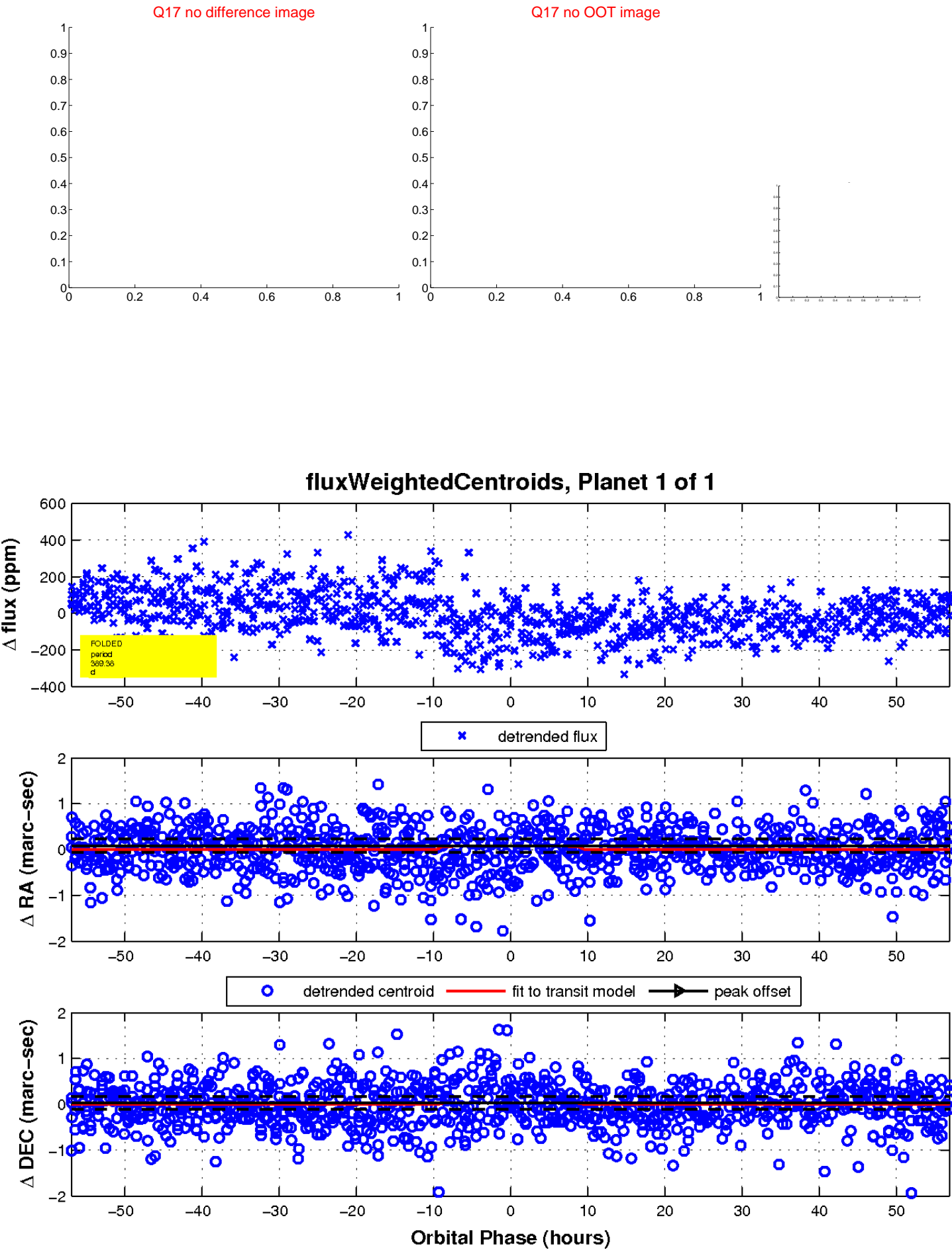
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

