

KIC 007830609

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})
007830609-01	OBS	No	542.663782	370.595428	597.0	16.410	8.4	8.5	1.11	6355	2.81	0.96

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007830609-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—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.

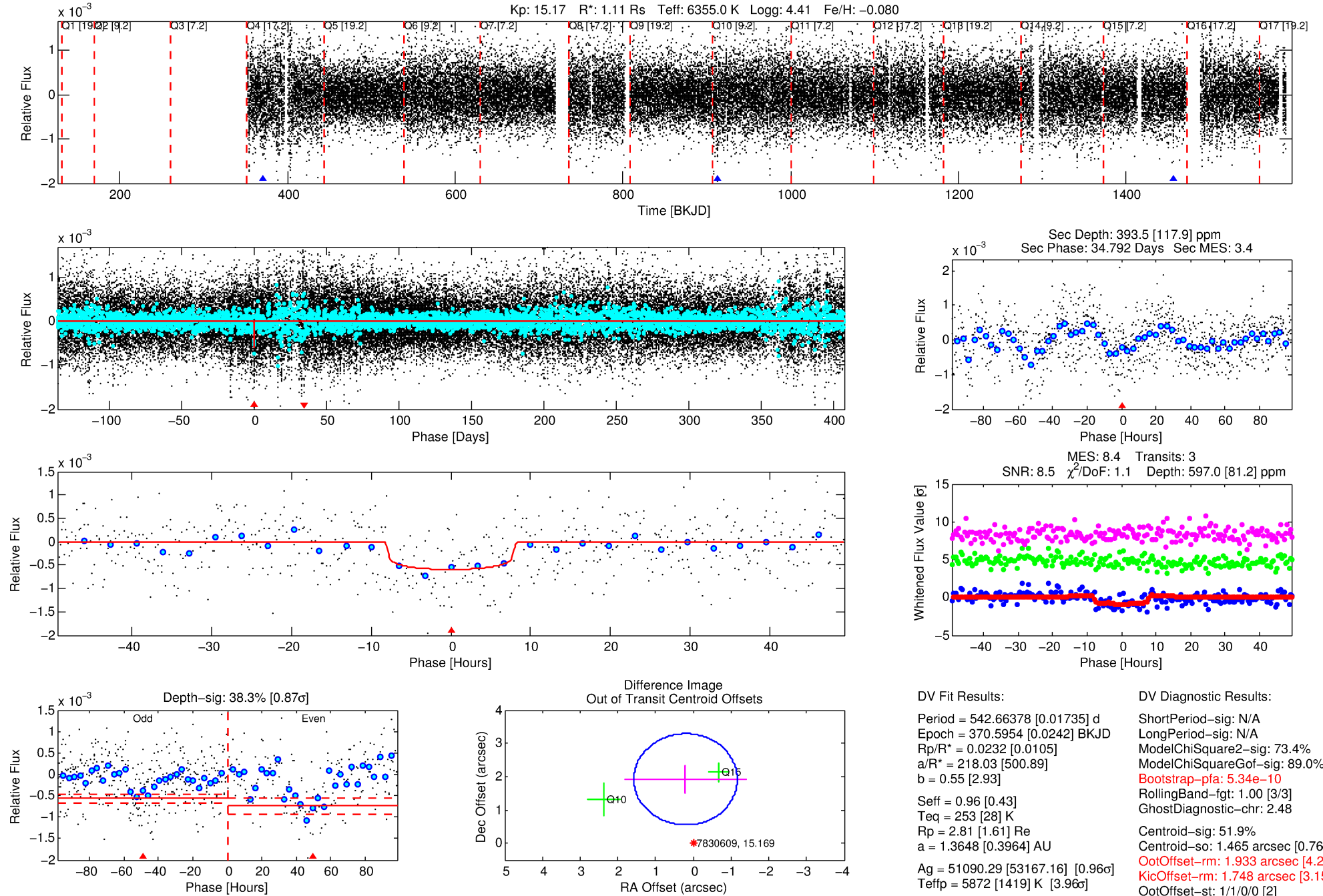
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007830609-01

No Significant Match Found

DV One-Page Summary

KIC: 7830609 Candidate: 1 of 1 Period: 542.664 d



DV Fit Results:

Period = 542.66378 [0.01735] d
Epoch = 370.5954 [0.0242] BKJD
Rp/R* = 0.0232 [0.0105]
a/R* = 218.03 [500.89]
b = 0.55 [2.93]
Seff = 0.96 [0.43]
Teq = 253 [28] K
Rp = 2.81 [1.61] Re
a = 1.3648 [0.3964] AU
Ag = 51090.29 [53167.16] [0.96 σ]
Teff = 5872 [1419] K [3.96 σ]

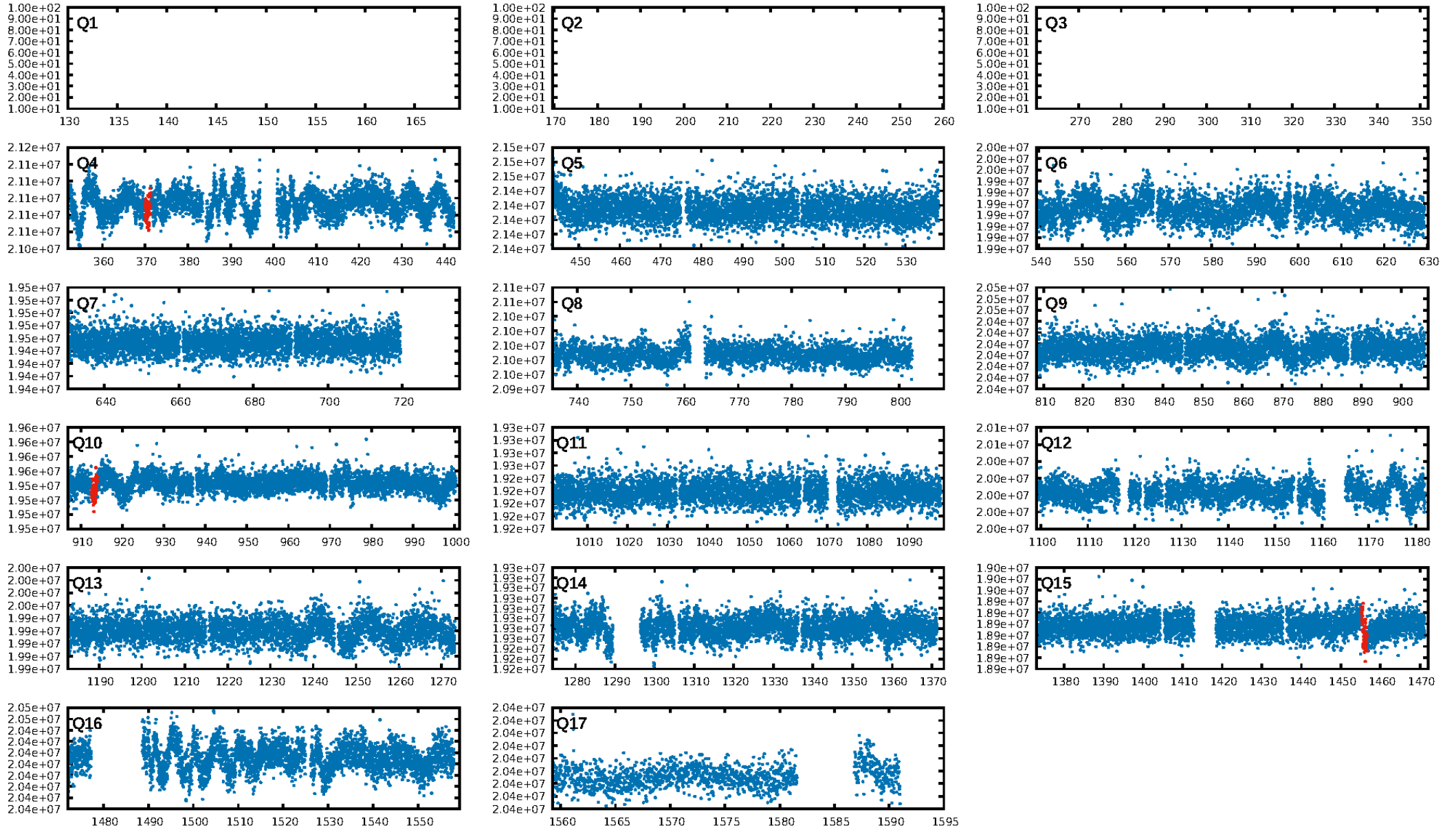
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 73.4%
ModelChiSquareGof-sig: 89.0%
Bootstrap-pfa: 5.34e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.48
Centroid-sig: 51.9%
Centroid-so: 1.465 arcsec [0.76 σ]
OotOffset-rm: 1.933 arcsec [4.23 σ]
KicOffset-rm: 1.748 arcsec [3.15 σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

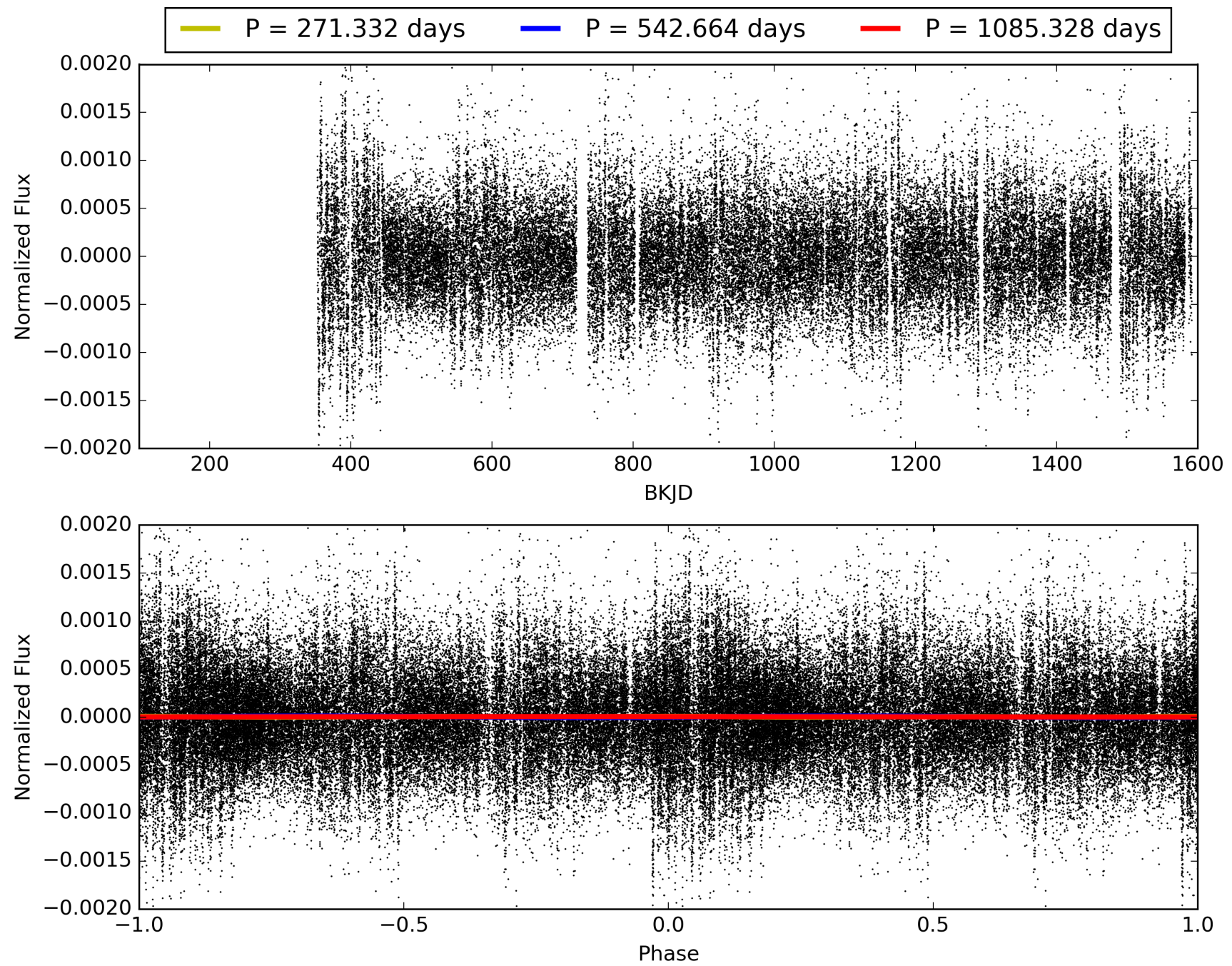
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 23:49:35 Z

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

TCE 007830609-01, PDC Light Curves

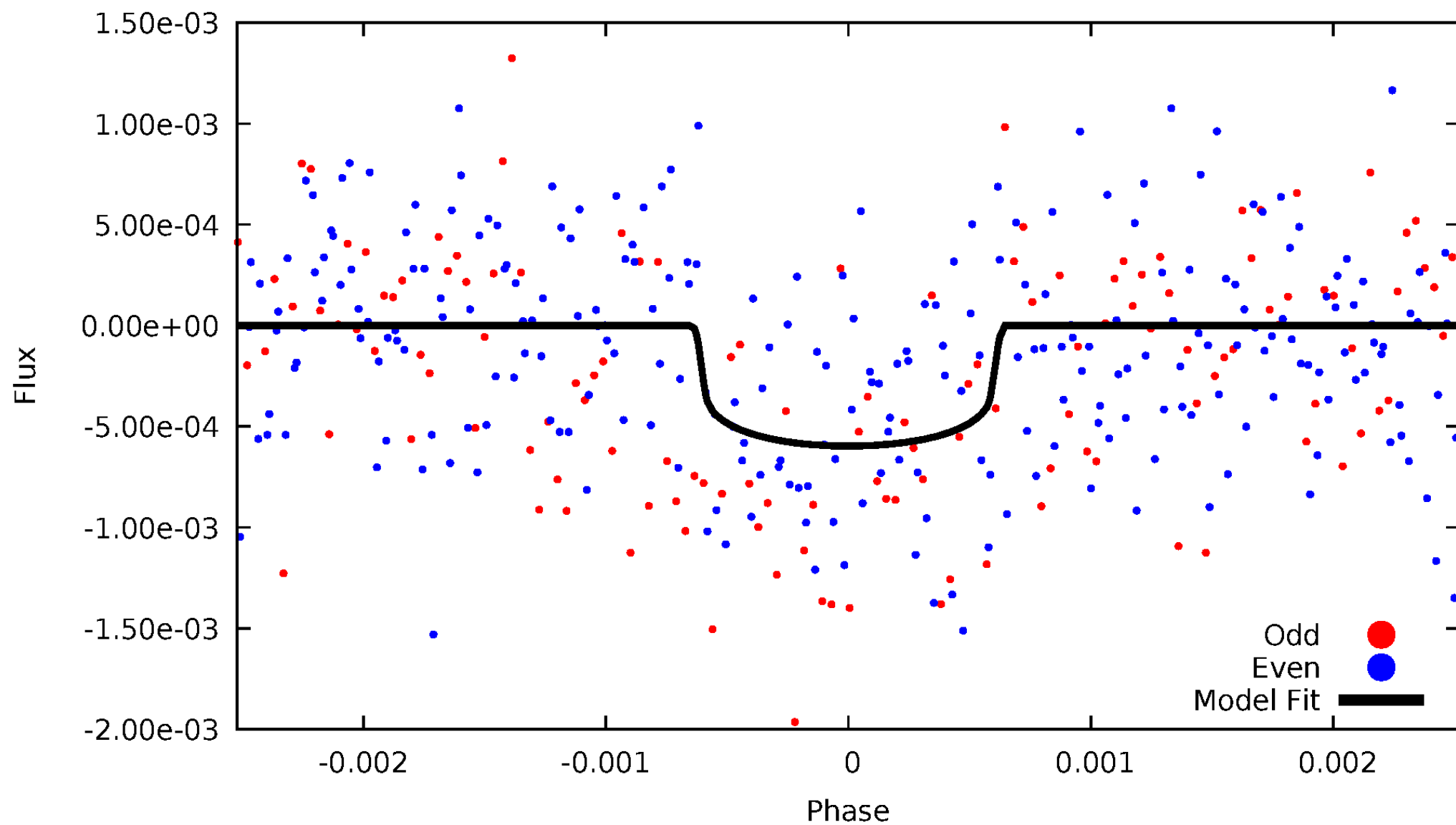


TCE 007830609-01



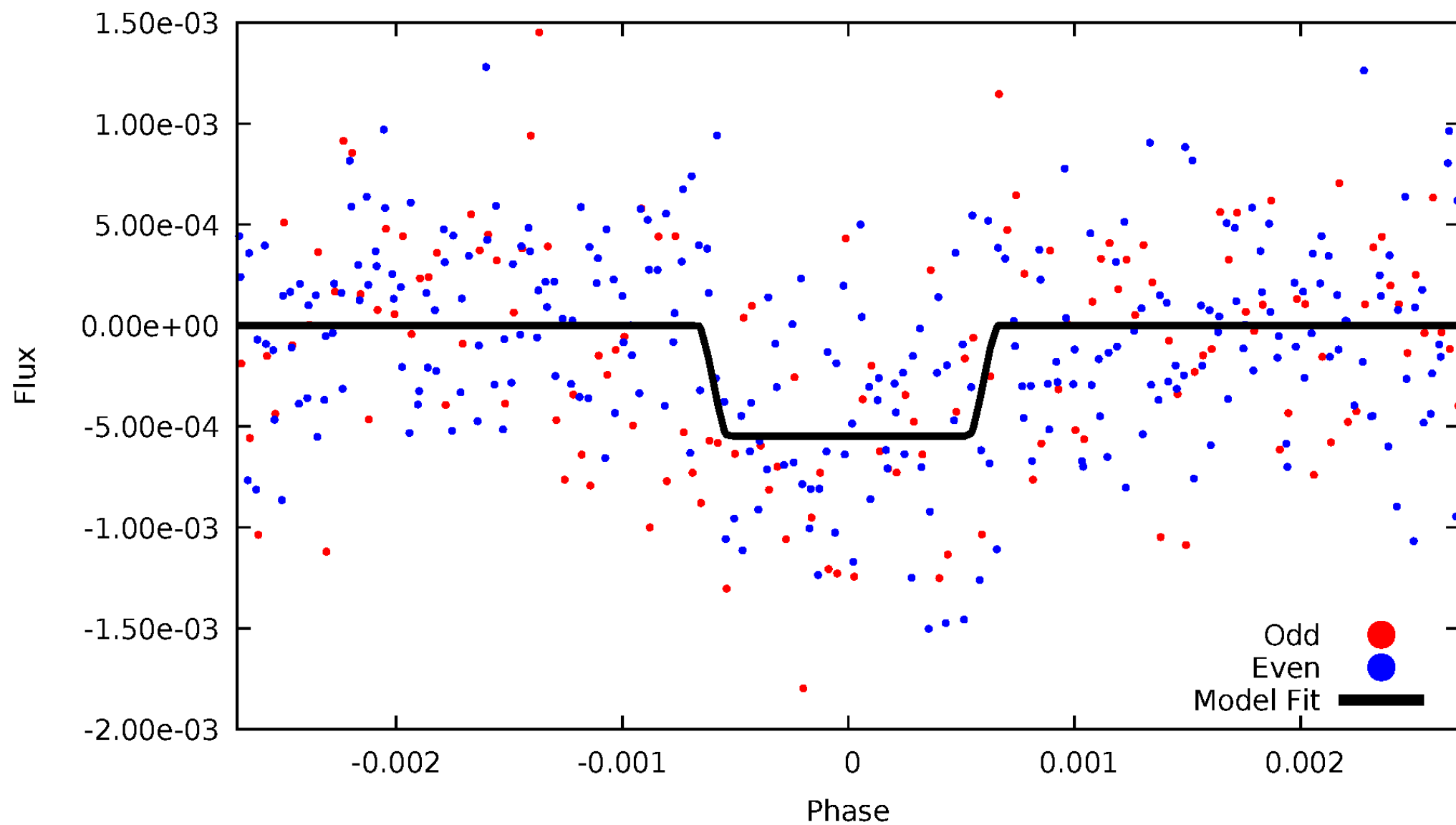
DV Odd/Even

TCE 007830609-01



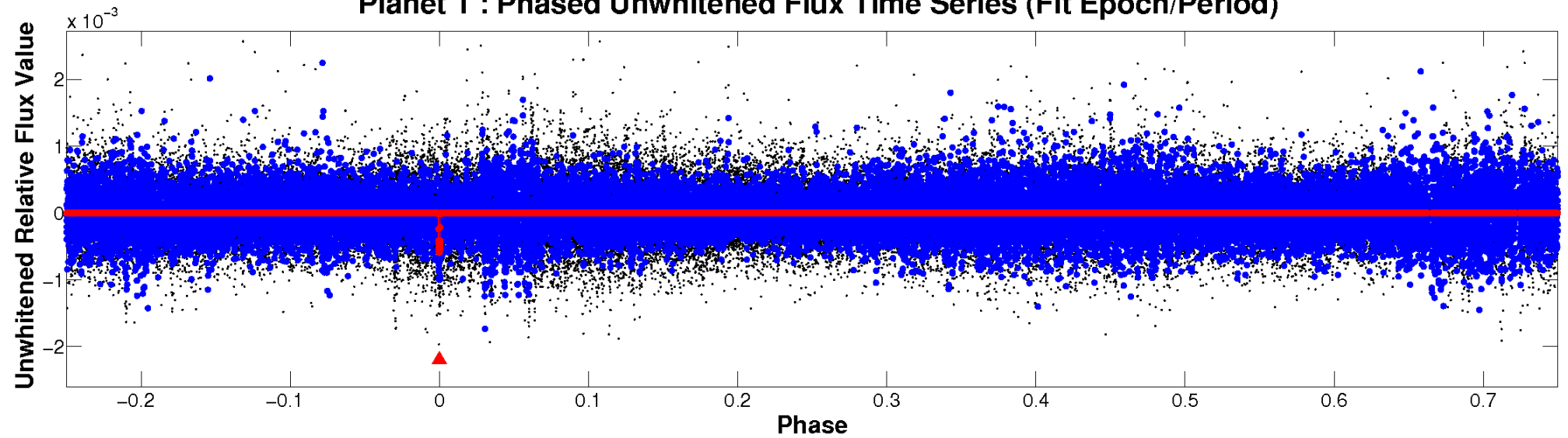
ALT Odd/Even

TCE 007830609-01

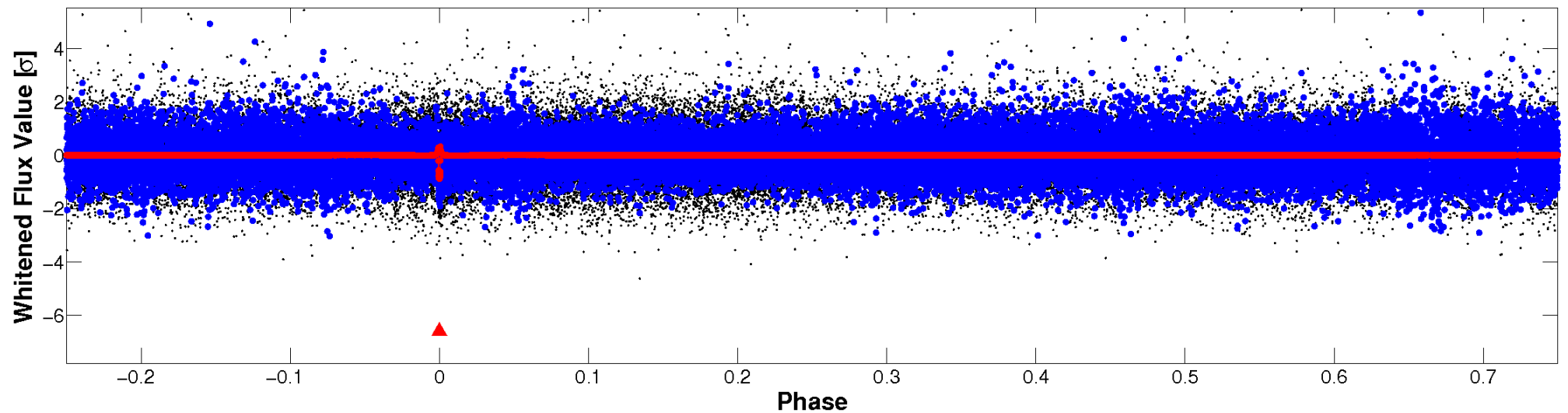


Non-Whitened Vs. Whitened Light Curve

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

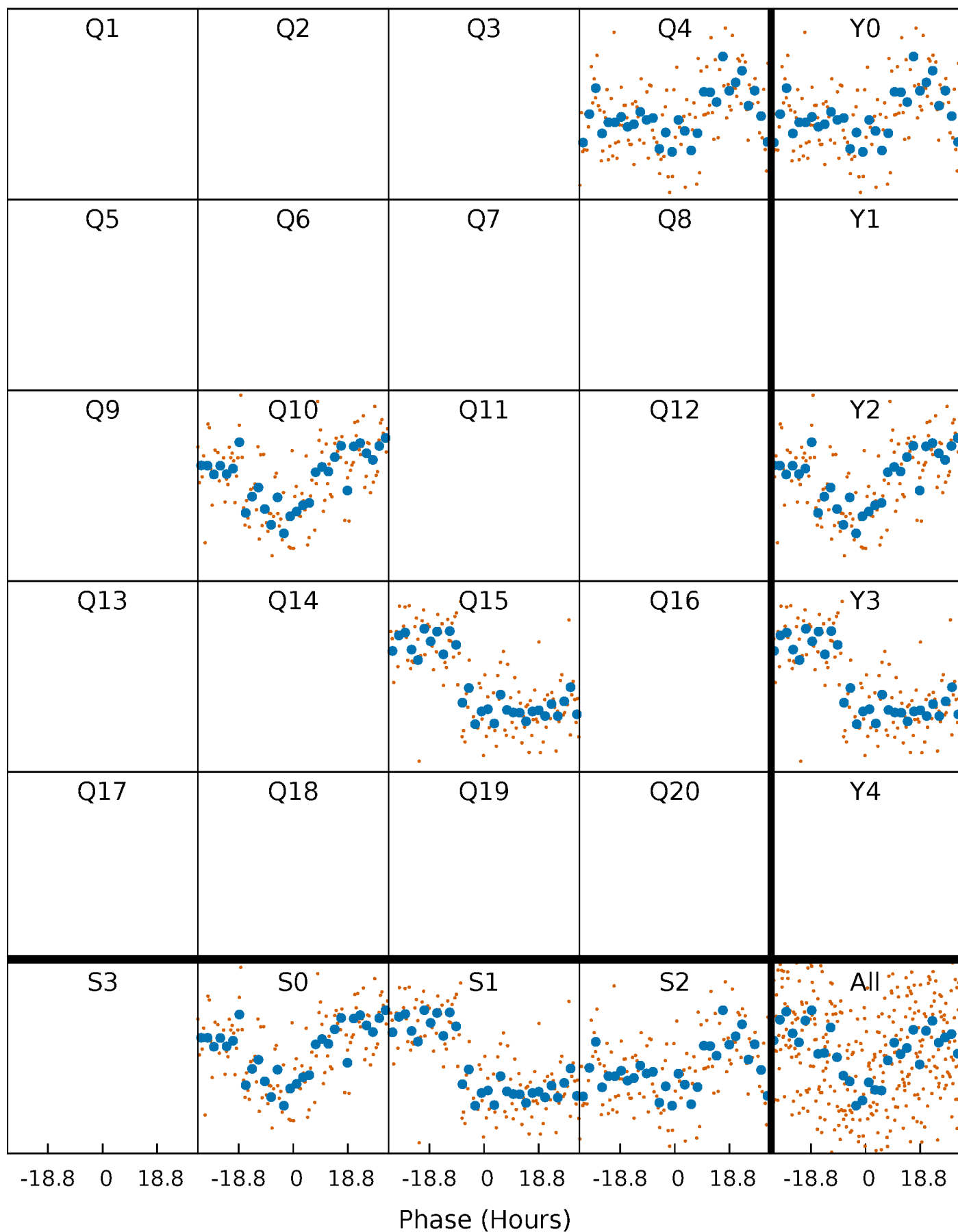


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 007830609-01 P=542.663782 Days $T_0=370.595428$ (BKJD)



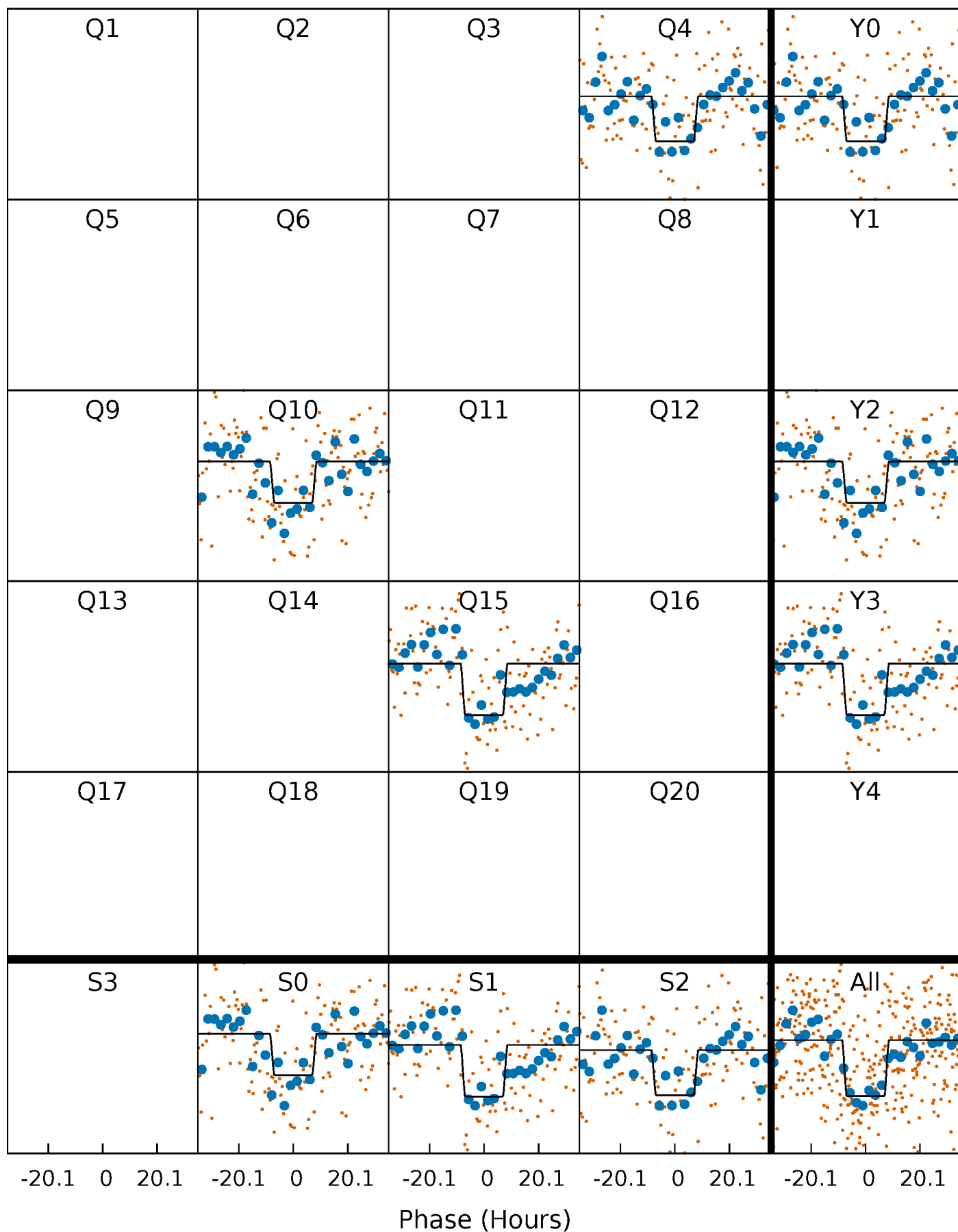
DV Quarter-Phased Transit Curves

TCE 007830609-01 P=542.663782 Days $T_0=370.595428$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

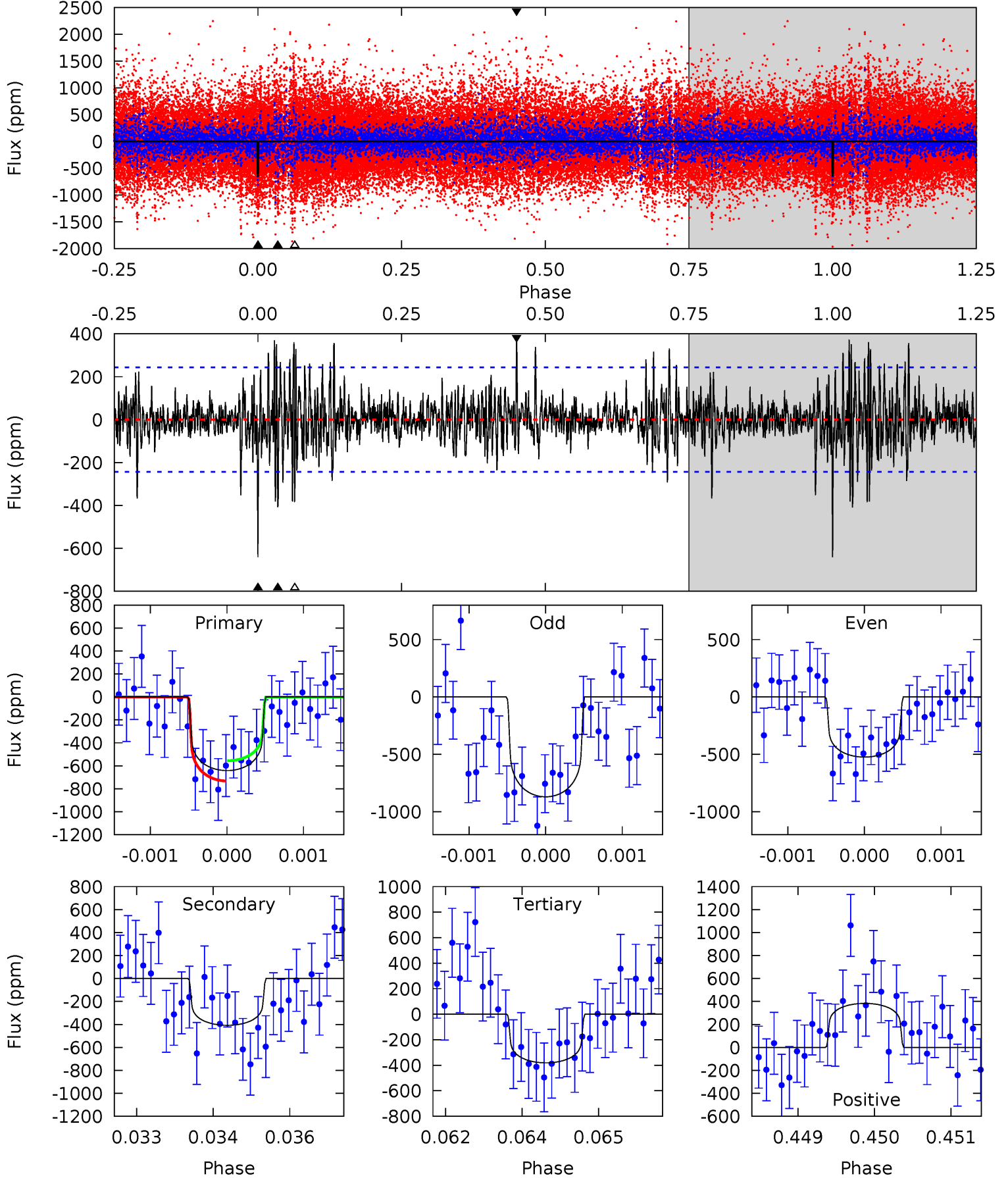
TCE 007830609-01 P=542.654053 Days $T_0=370.594181$ (BKJD)



DV Model-Shift Uniqueness Test

007830609-01, P = 542.663782 Days, E = 370.595428 Days

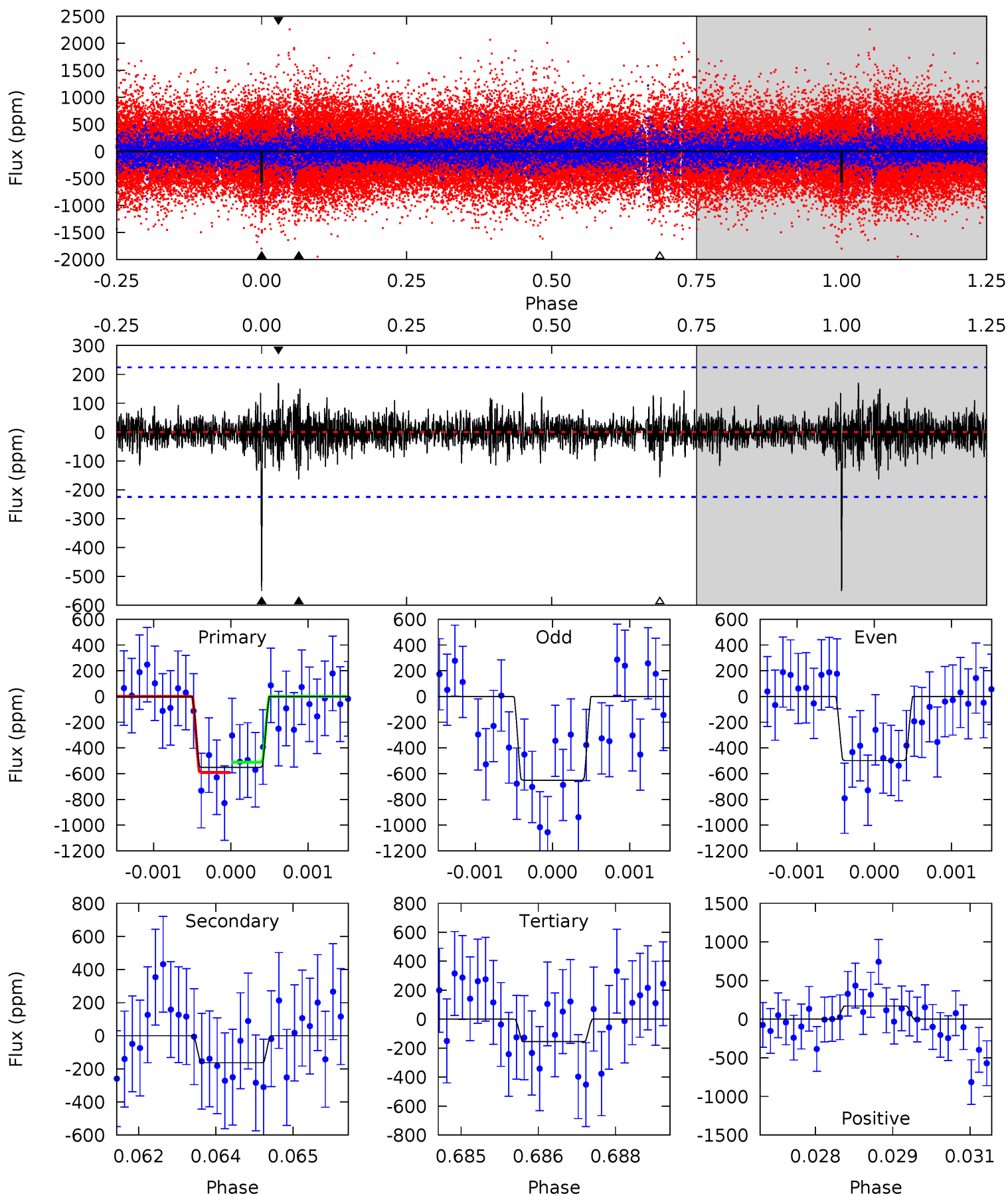
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	9.05	8.46	8.50	5.41	3.22	1.98	5.78	5.74	0.60	0.55	3.64	1.14	0.37	1.96



Alt Model-Shift Uniqueness Test

007830609-01, P = 542.654053 Days, E = 370.594181 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.2	3.92	3.74	4.10	5.40	3.21	0.84	9.50	9.14	0.19	-0.17	1.72	1.08	0.24	0.95



Stellar Parameters For KIC 007830609

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6355^{+179}_{-246}	$4.410^{+0.056}_{-0.224}$	$-0.080^{+0.250}_{-0.300}$	$1.108^{+0.389}_{-0.130}$	$1.151^{+0.172}_{-0.157}$	$1.191^{+0.368}_{-0.666}$
	+3%/-4%	+1%/-5%	+312%/-375%	+35%/-12%	+15%/-14%	+31%/-56%
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 007830609-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-408 ± 45	$2.94^{+1.40}_{-1.25}$	360^{+29}_{-20}	5989^{+1977}_{-989}	47281^{+96226}_{-26070}
Alt.	-163 ± 42	$3.02^{+1.34}_{-1.45}$	361^{+28}_{-20}	4791^{+1628}_{-696}	18090^{+47113}_{-10286}

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

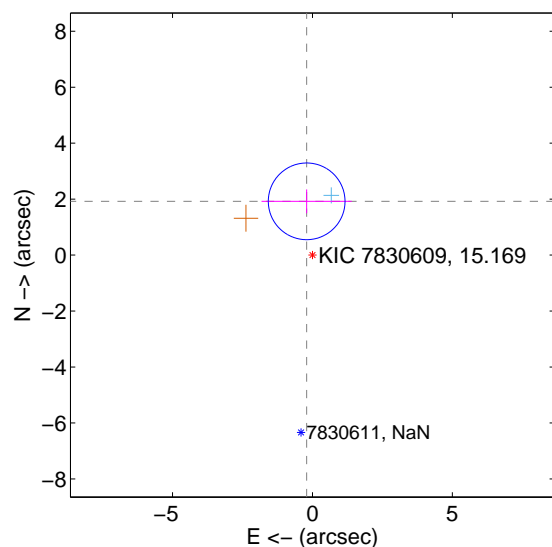
Supplemental centroid analysis for 007830609-01. Kepler magnitude: 15.17. Transit SNR 8.52

There are 1 quarters with good PRF difference image offsets

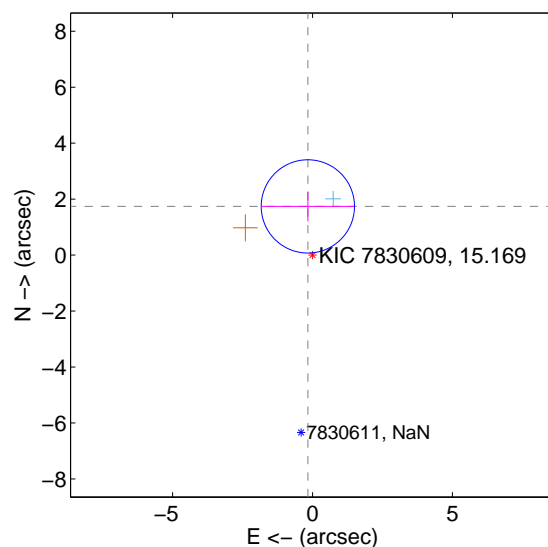
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.933 ± 0.457	4.23	0.207 ± 1.615	1.922 ± 0.425
PRF-fit source offset from KIC position	1.748 ± 0.556	3.15	0.167 ± 1.663	1.740 ± 0.535
photometric centroid source offset	1.46 ± 1.91	0.76	-1.43 ± 1.91	-0.32 ± 1.97

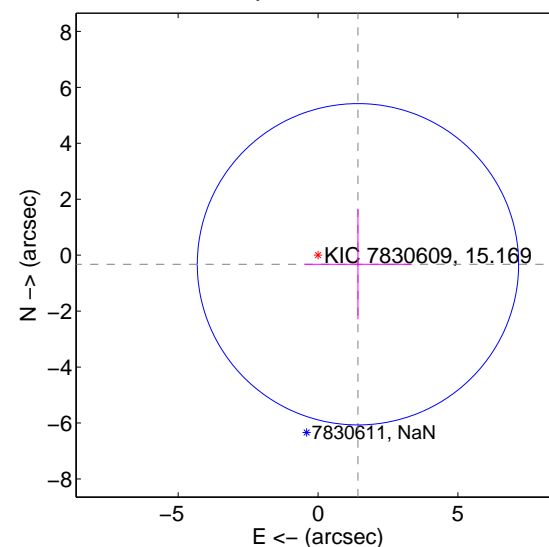
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

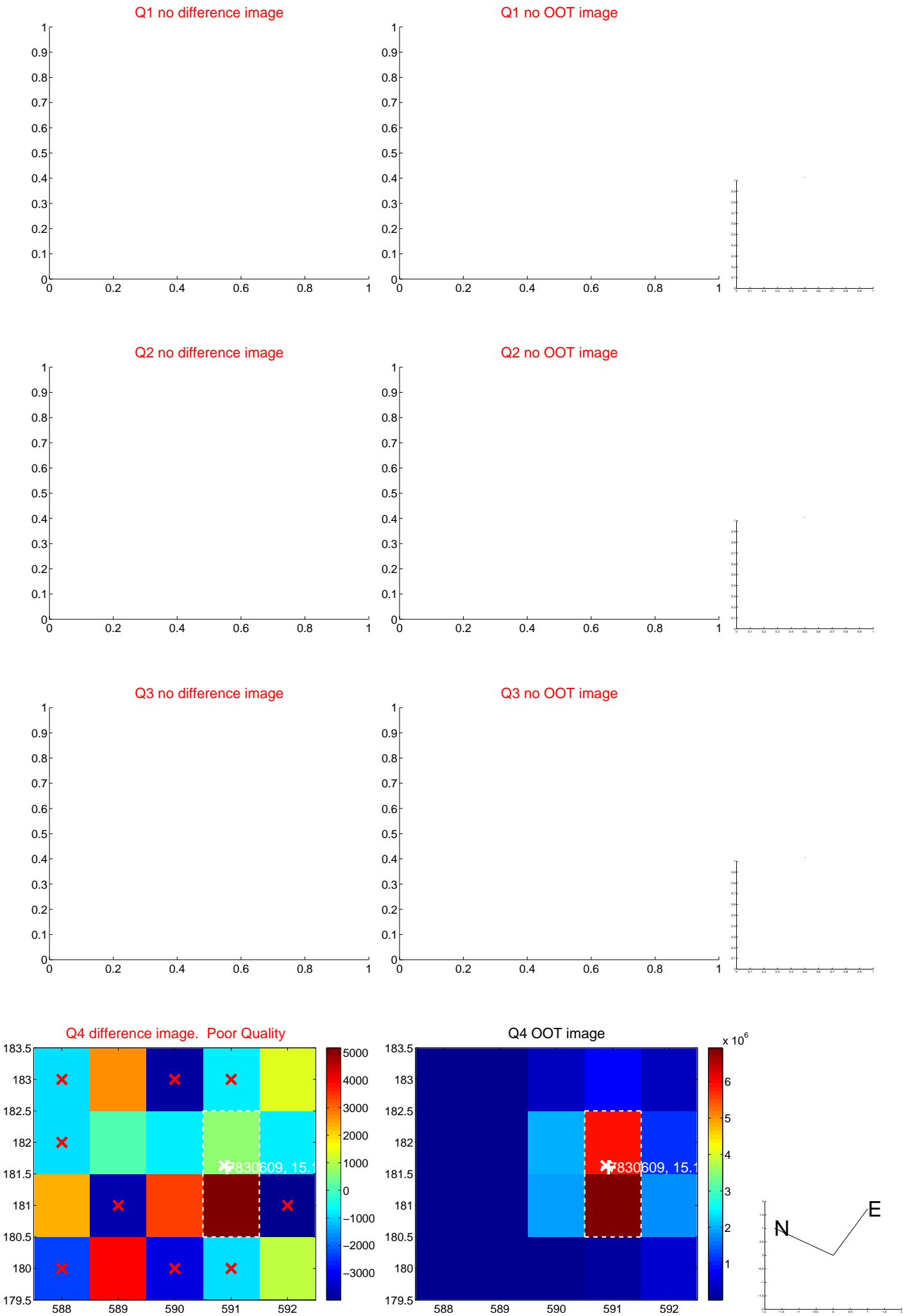


offset from photometric centroids



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.

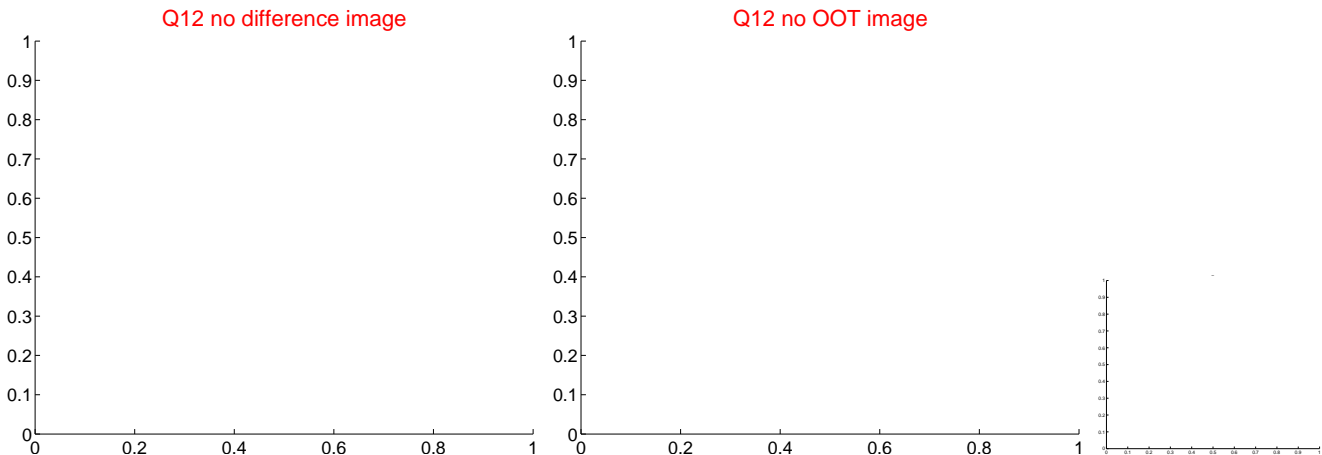
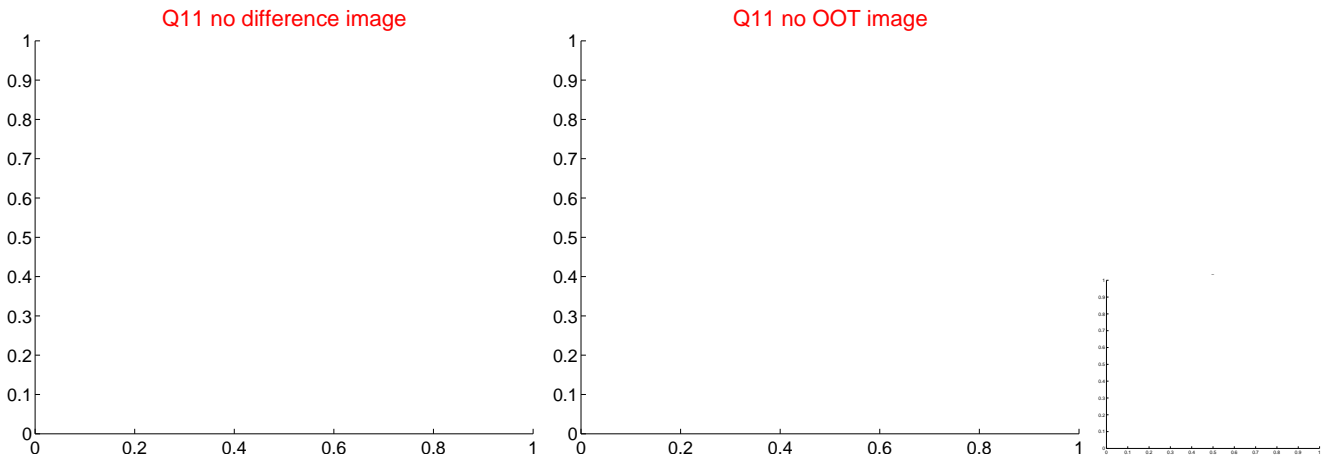
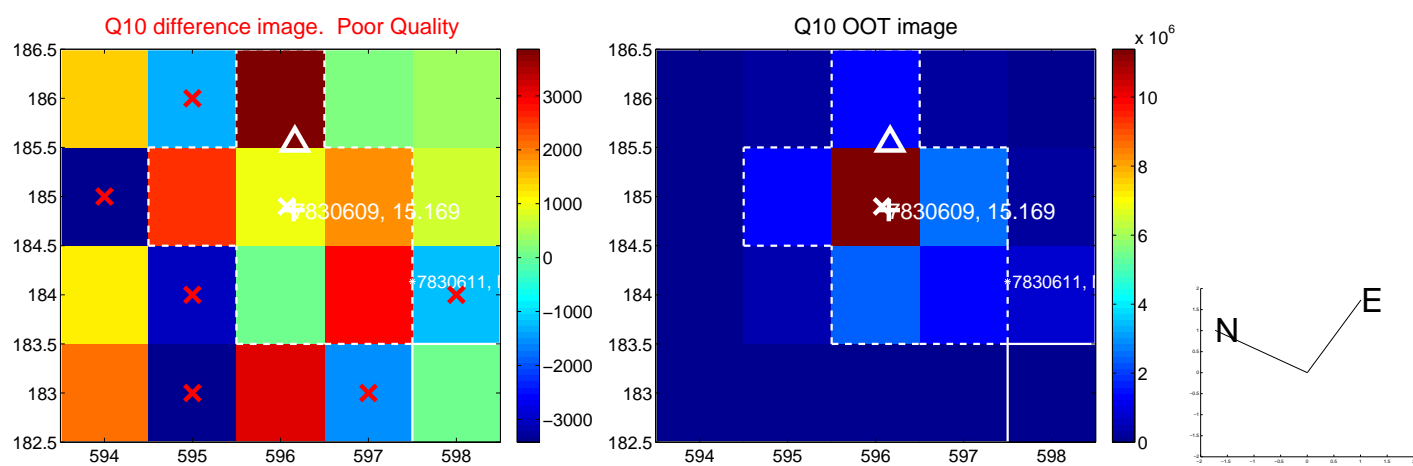
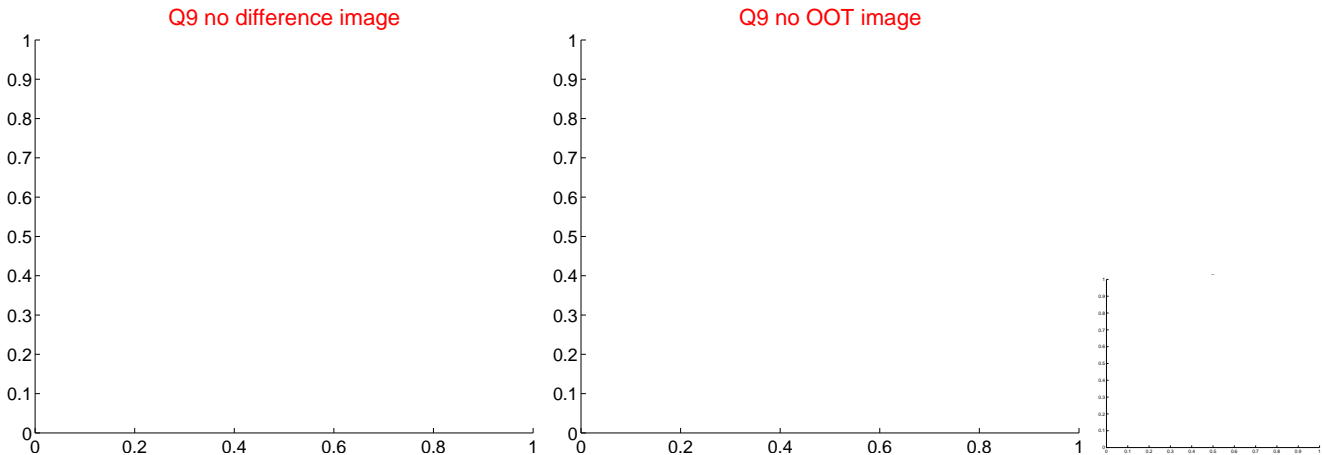
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



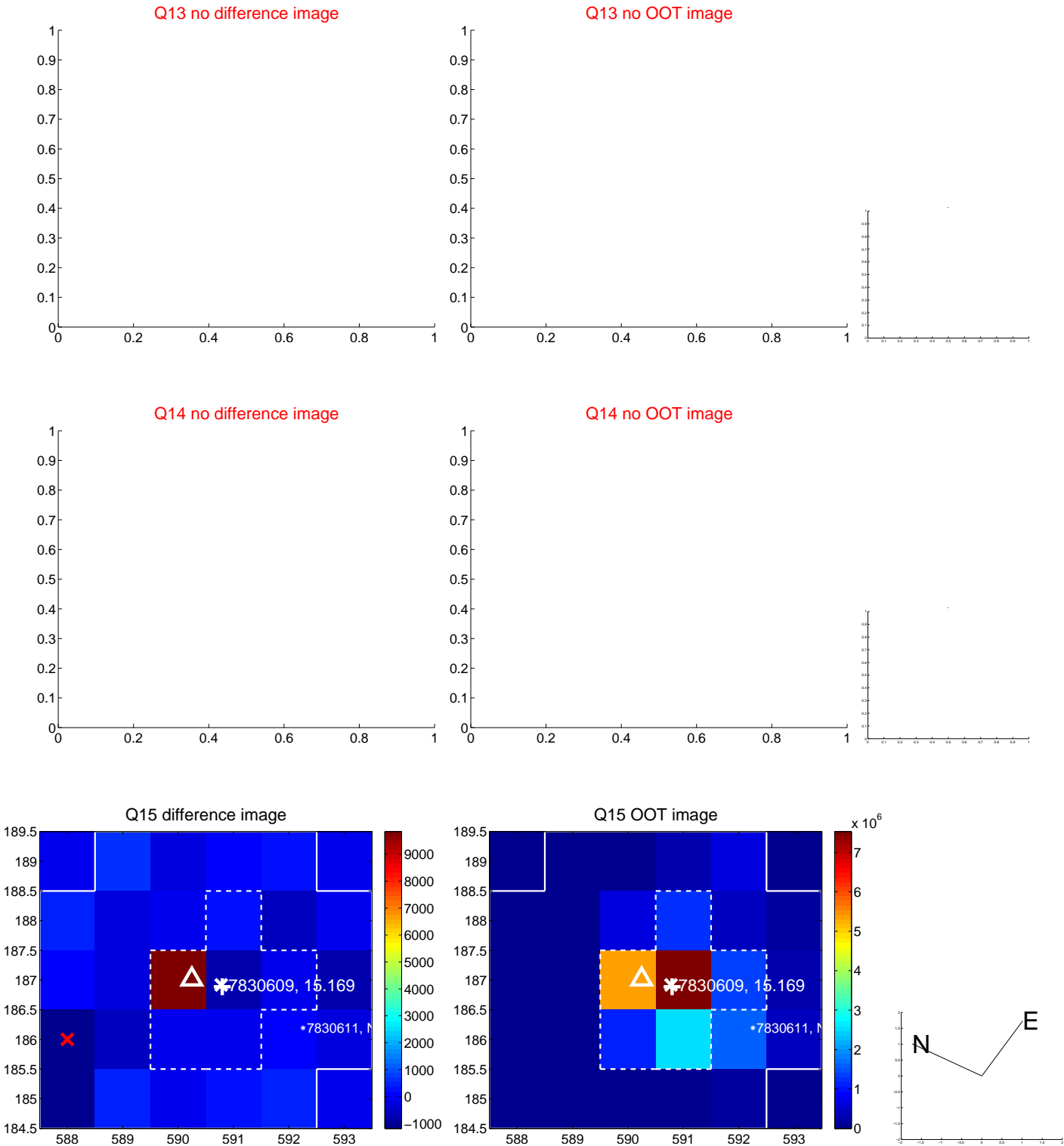
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



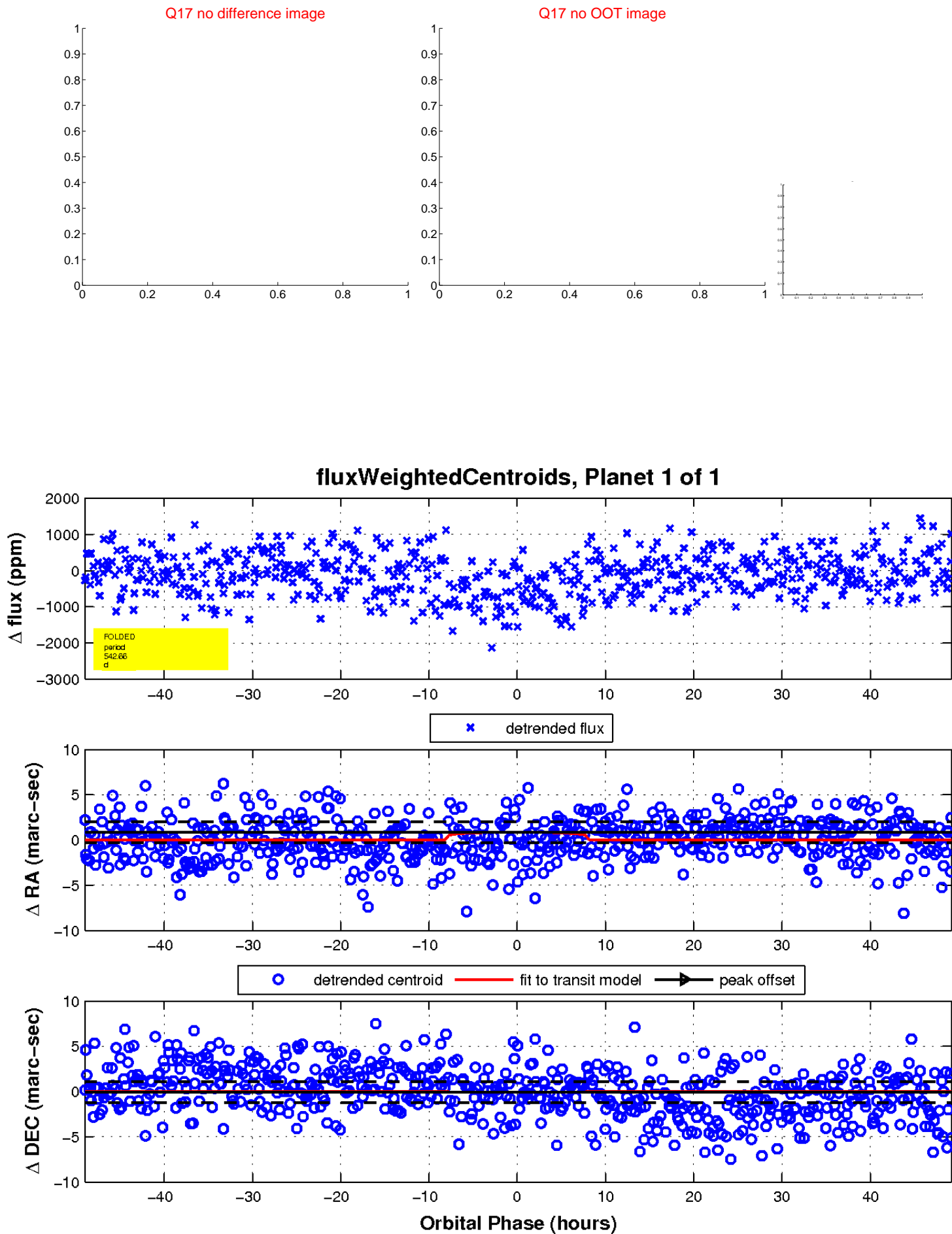
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



UKIRT Image

Declination

