

KIC 004742188

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})
004742188-01	OBS	7703.01	413.521894	374.355654	321.0	10.433	7.4	6.9	0.99	6031	1.89	0.98

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004742188-01	OBS	PC	0.26	0	0	0	0	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.

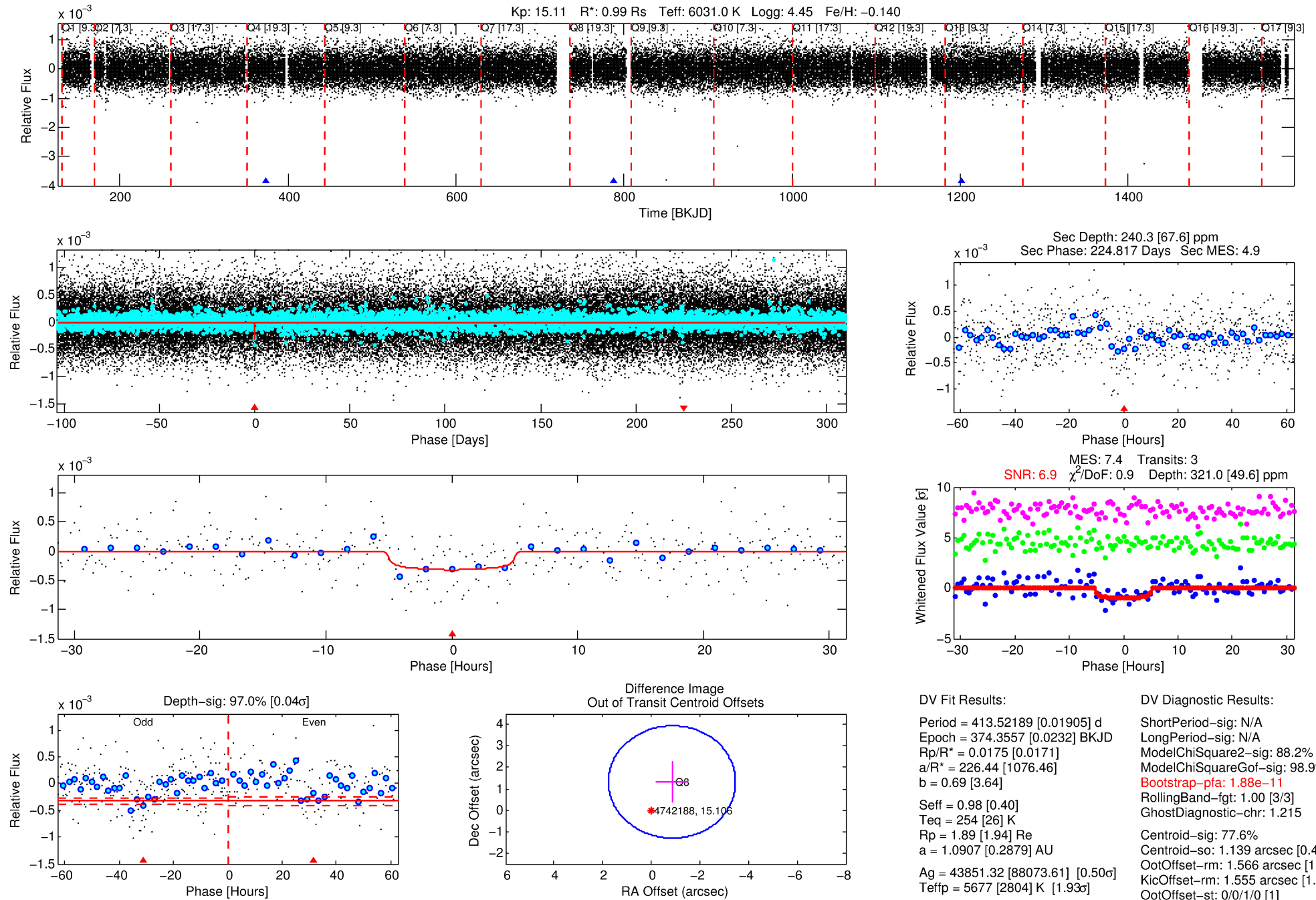
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004742188-01

No Significant Match Found

DV One-Page Summary

KIC: 4742188 Candidate: 1 of 1 Period: 413.522 d



DV Fit Results:

Period = 413.52189 [0.01905] d
Epoch = 374.3557 [0.0232] BKJD
Rp/R* = 0.0175 [0.0171]
a/R* = 226.44 [1076.46]
b = 0.69 [3.64]
Seff = 0.98 [0.40]
Teq = 254 [26] K
Rp = 1.89 [1.94] Re
a = 1.0907 [0.2879] AU
Ag = 43851.32 [88073.61] [0.50 σ]
Teffp = 5677 [2804] K [1.93 σ]

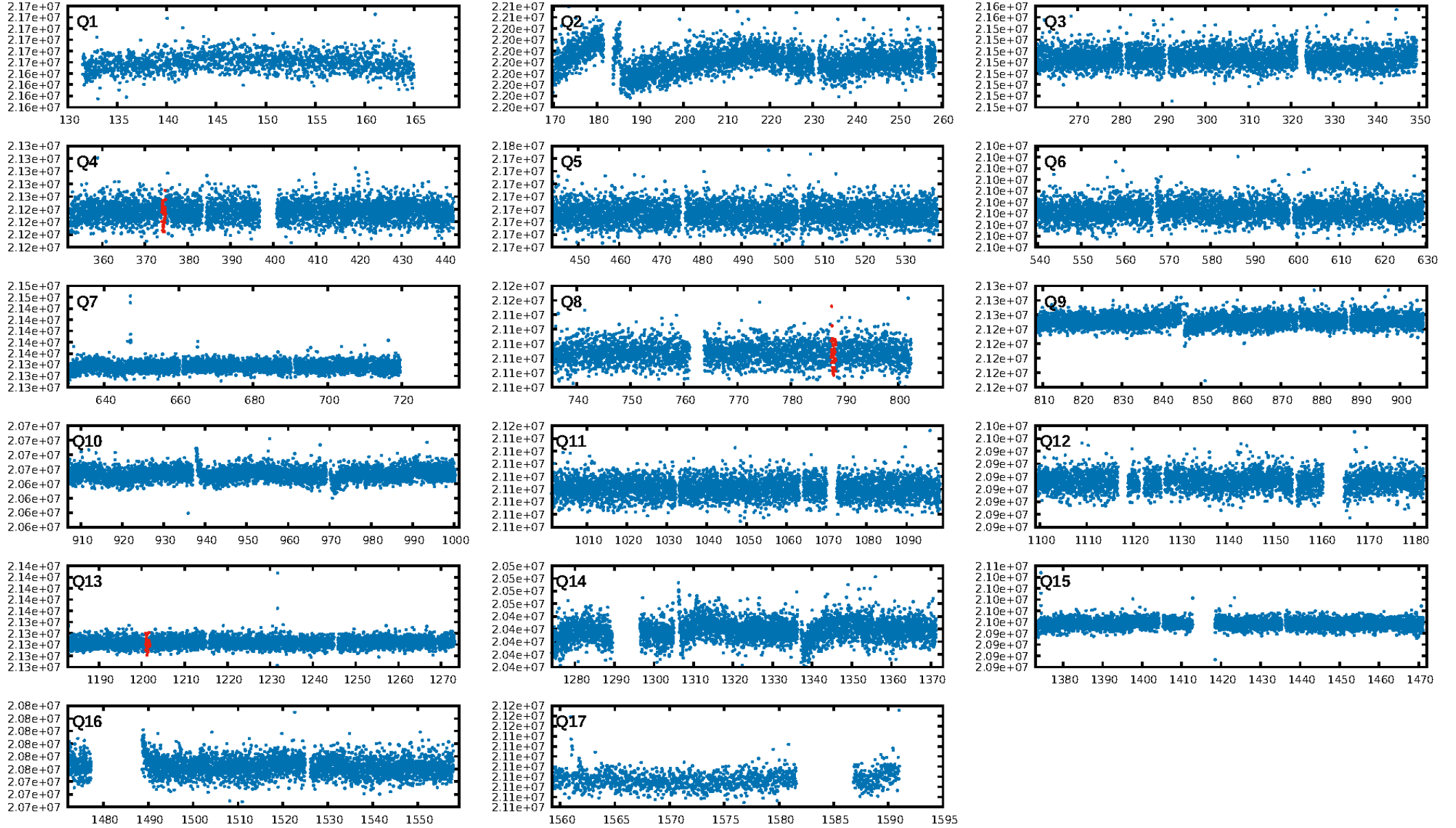
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 88.2%
ModelChiSquareGof-sig: 98.9%
Bootstrap-pfa: 1.88e-11
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.215
Centroid-sig: 77.6%
Centroid-so: 1.139 arcsec [0.44 σ]
OotOffset-rm: 1.566 arcsec [1.79 σ]
KicOffset-rm: 1.555 arcsec [1.88 σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [2/2]

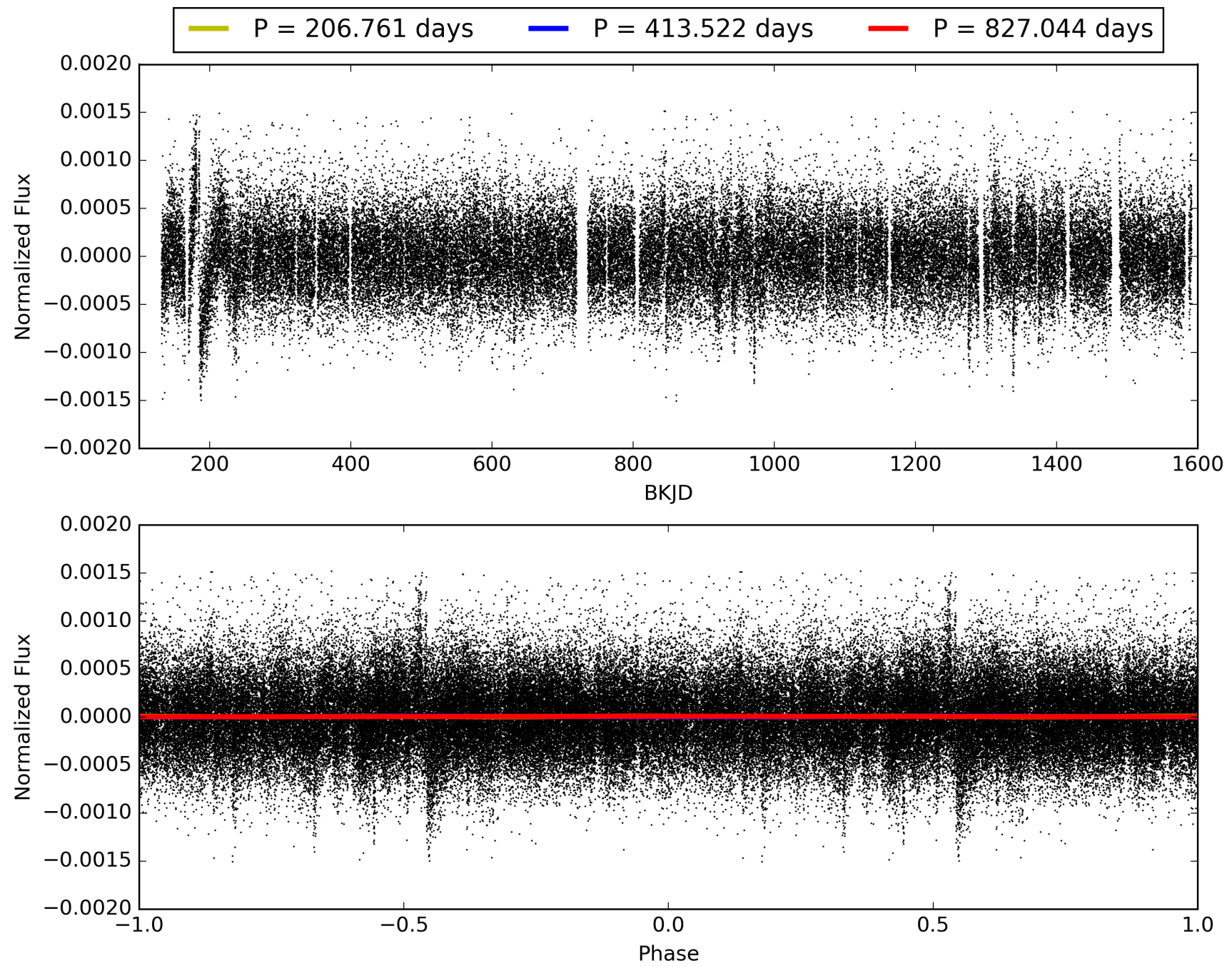
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:37:46 Z

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

TCE 004742188-01, PDC Light Curves

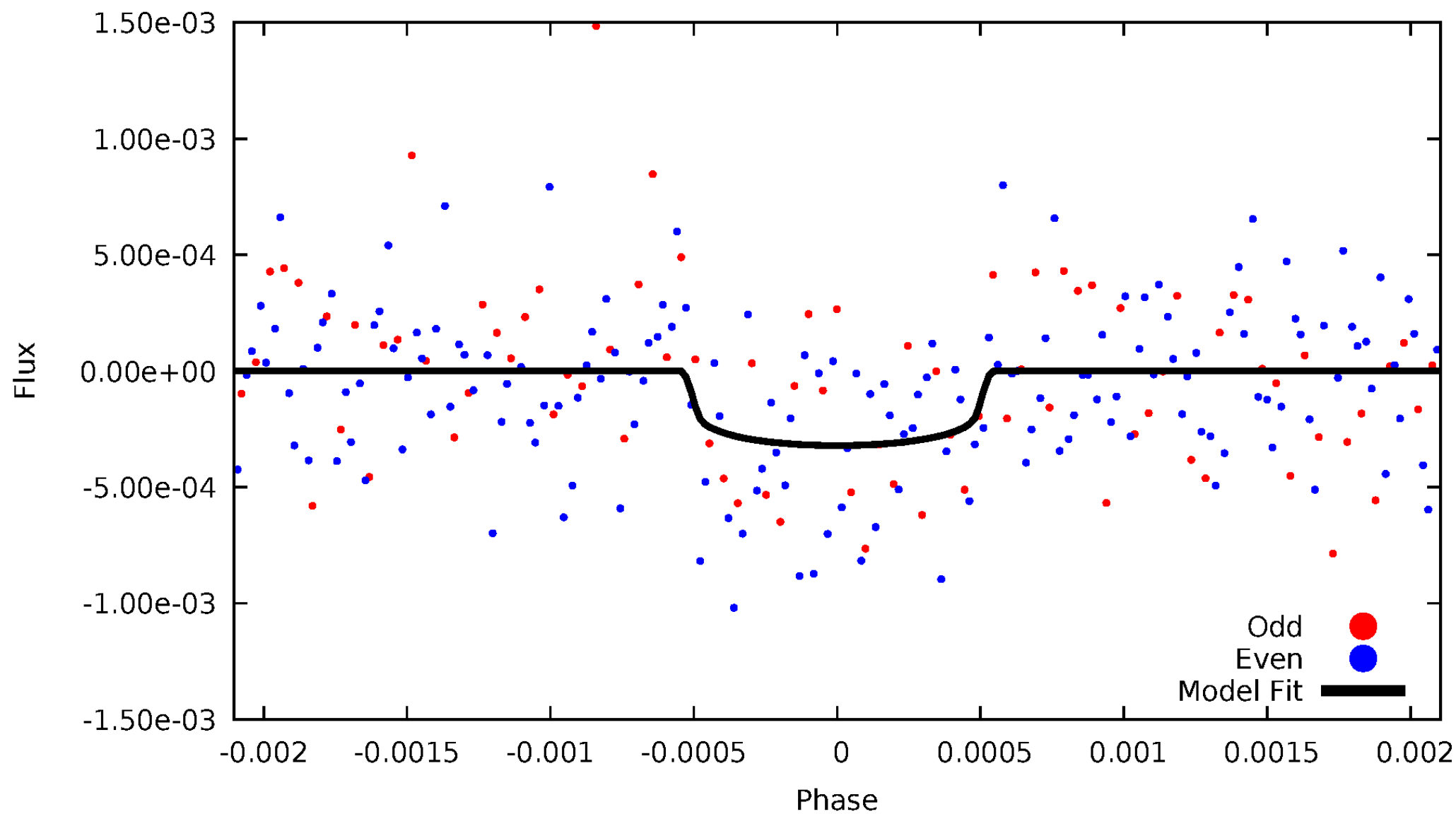


TCE 004742188-01



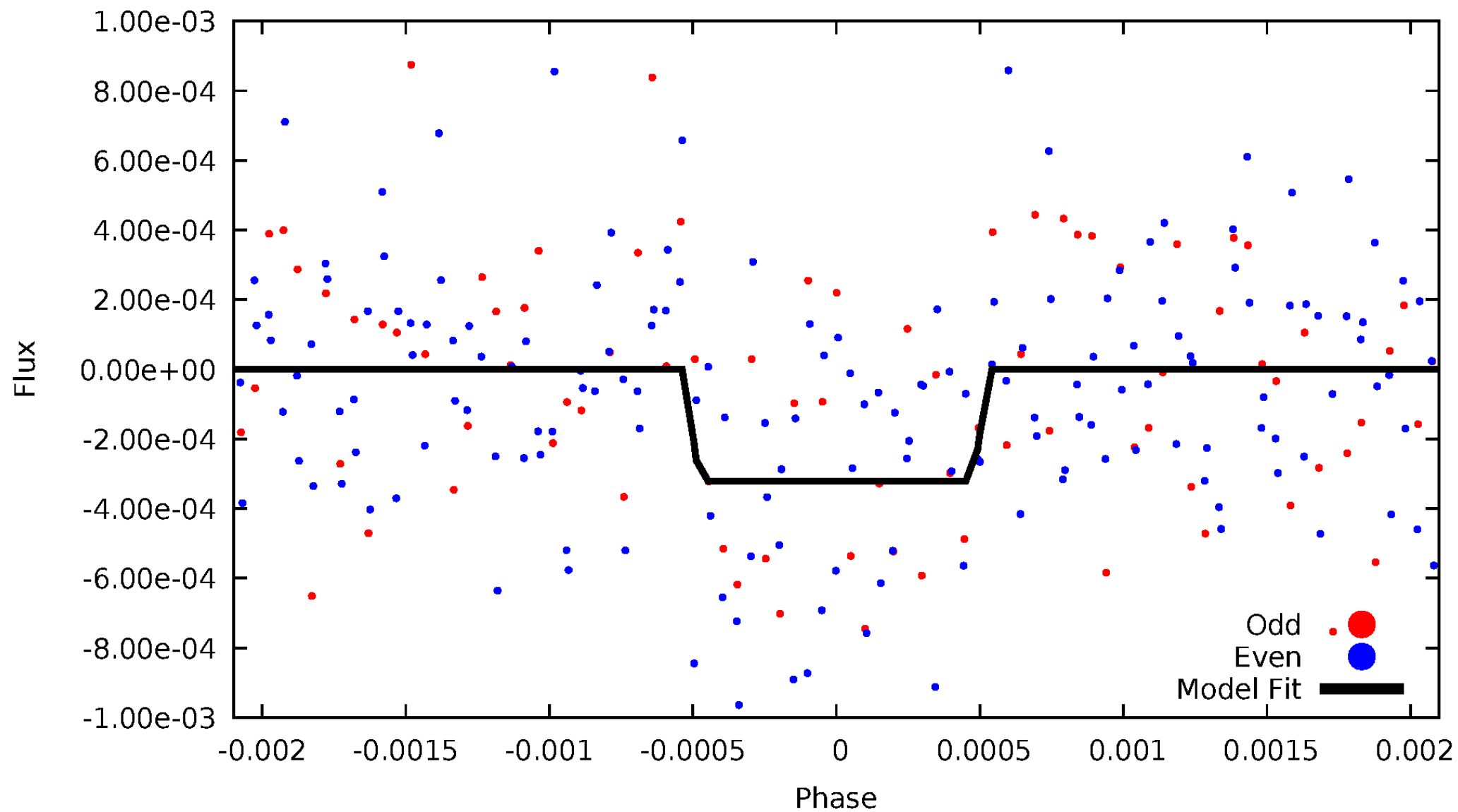
DV Odd/Even

TCE 004742188-01



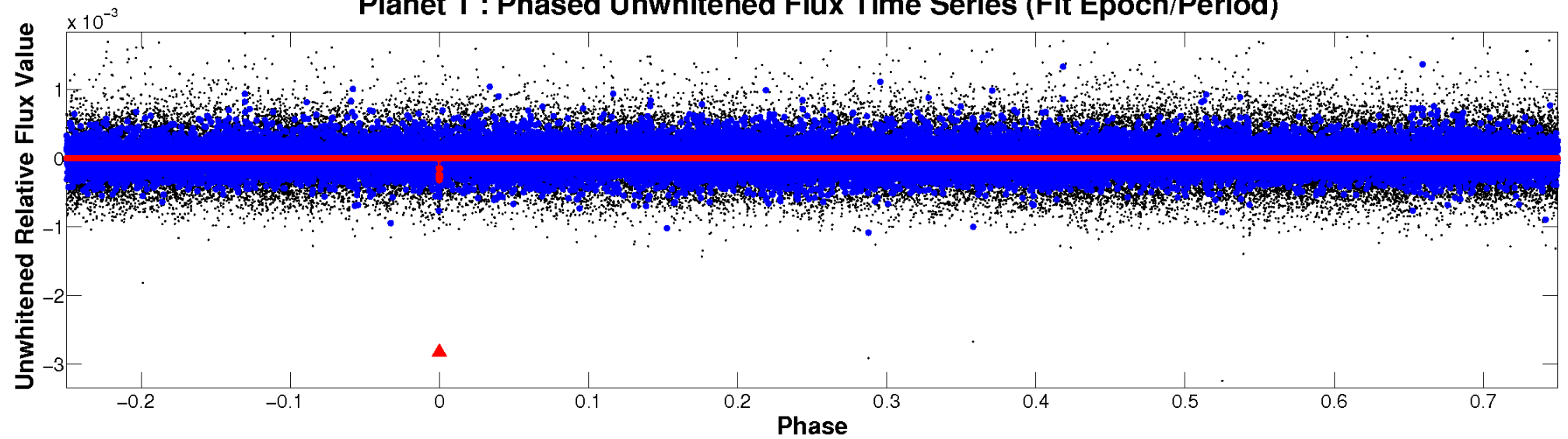
ALT Odd/Even

TCE 004742188-01

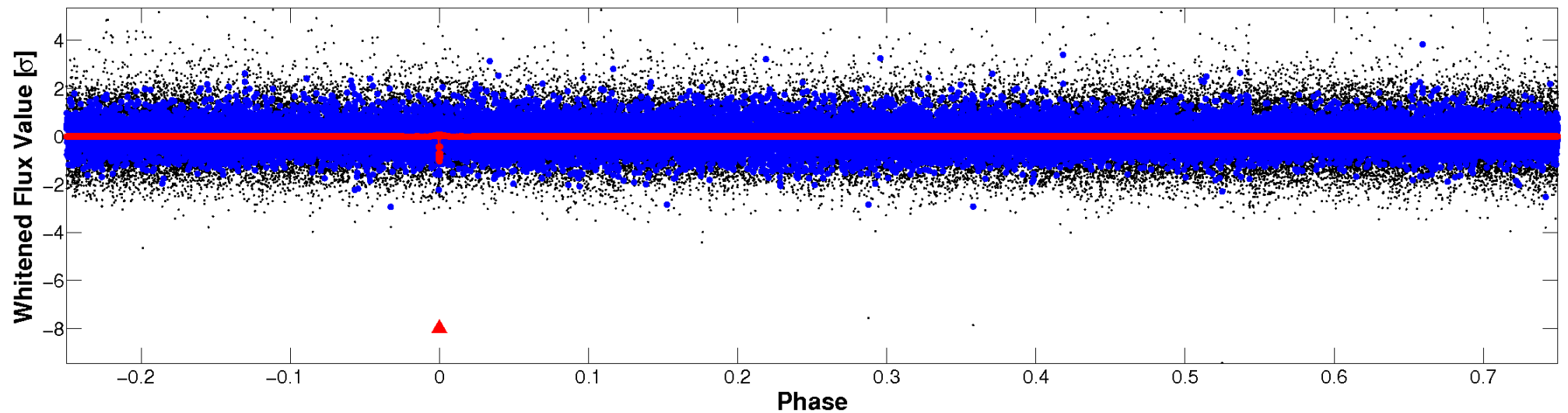


Non-Whitened Vs. Whitened Light Curve

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



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



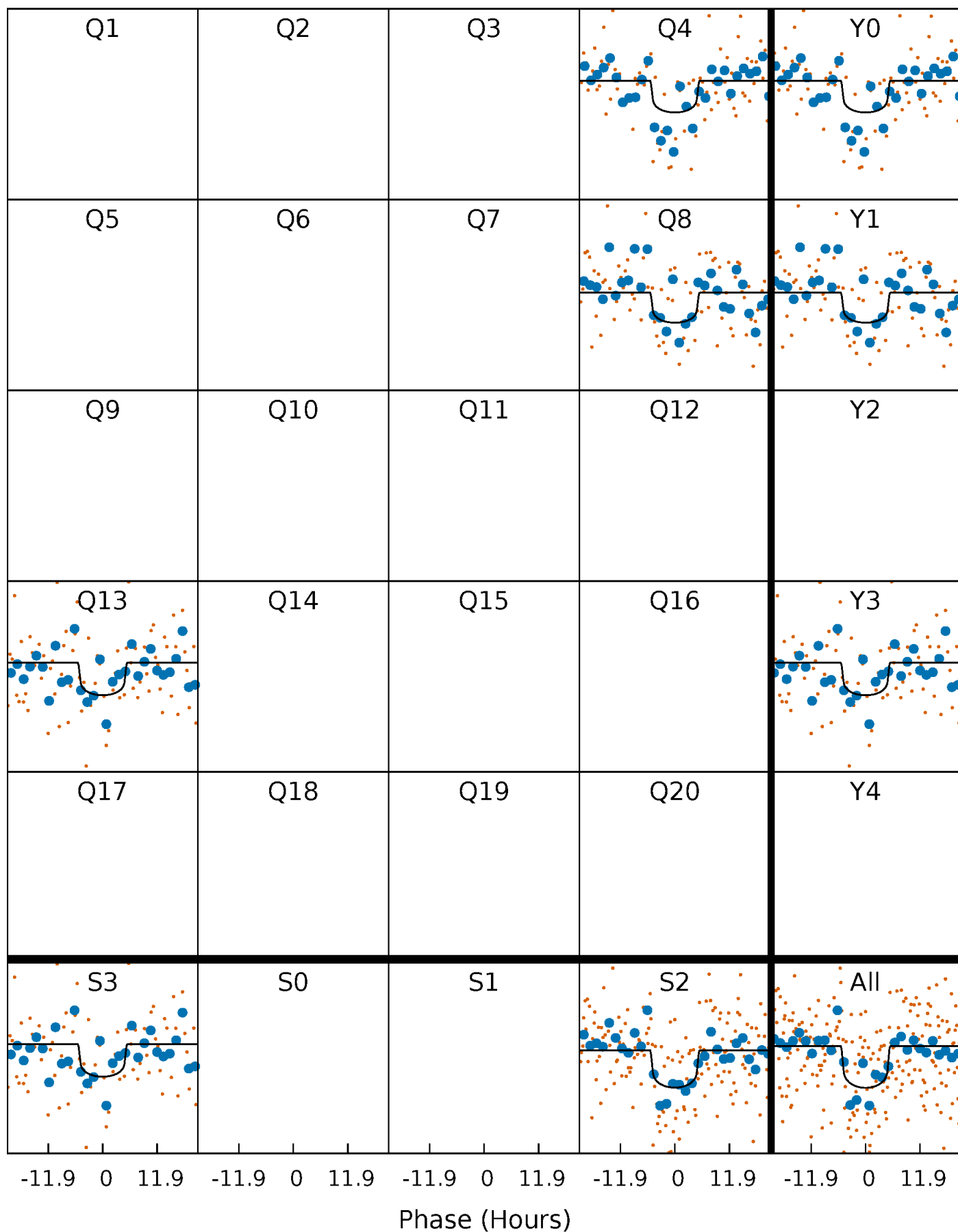
PDC Quarter-Phased Transit Curves

TCE 004742188-01 P=413.521894 Days $T_0=374.355654$ (BKJD)



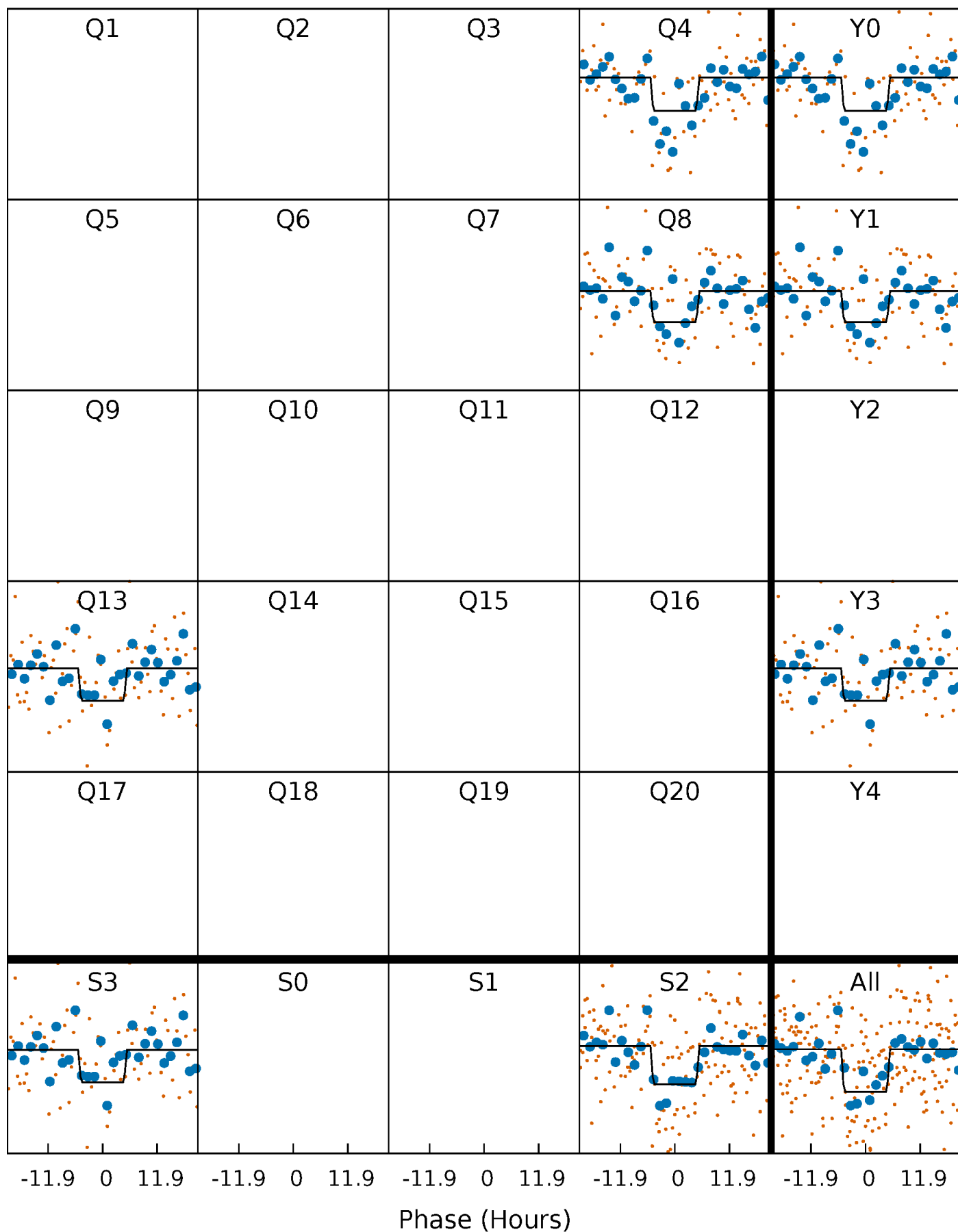
DV Quarter-Phased Transit Curves

TCE 004742188-01 $P=413.521894$ Days $T_0=374.355654$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

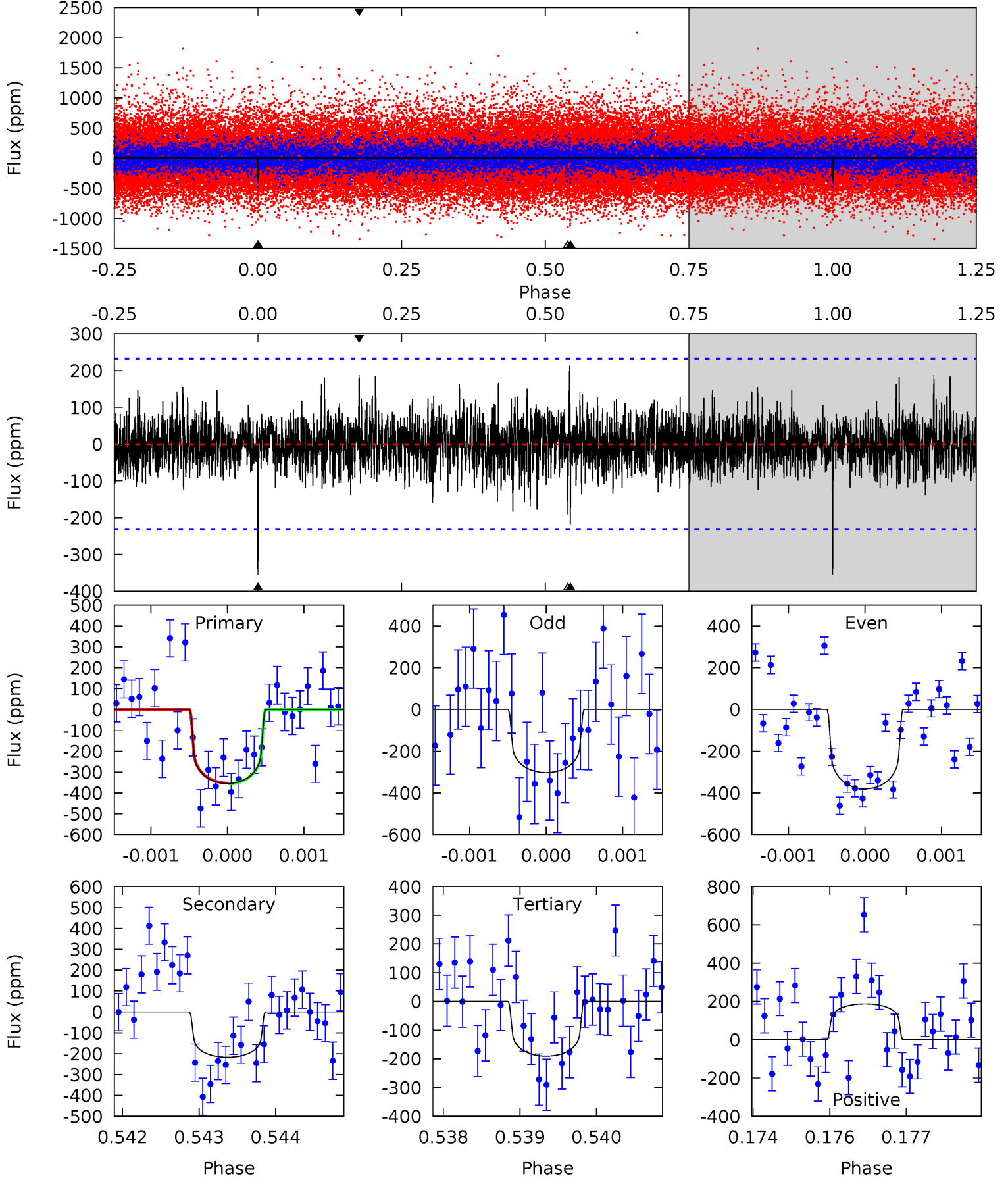
TCE 004742188-01 P=413.513954 Days $T_0=374.362902$ (BKJD)



DV Model-Shift Uniqueness Test

004742188-01, P = 413.521894 Days, E = 374.355654 Days

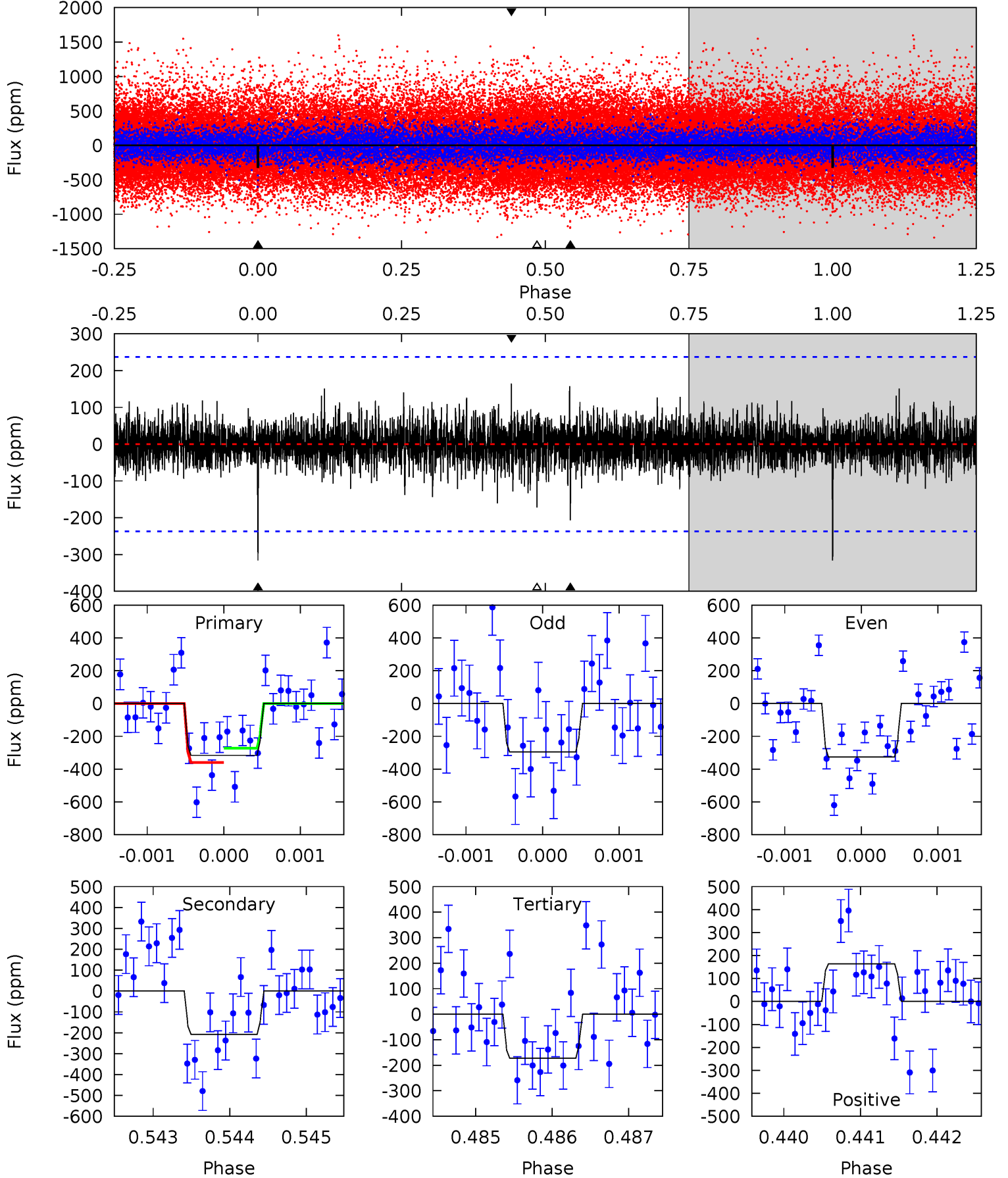
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.30	5.09	4.46	4.39	5.43	3.26	1.13	3.84	3.91	0.63	0.70	0.86	1.17	0.38	0.05



Alt Model-Shift Uniqueness Test

004742188-01, P = 413.513954 Days, E = 374.362902 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.25	4.76	3.96	3.77	5.44	3.28	0.87	3.30	3.48	0.80	0.99	0.34	1.07	0.34	1.00



Stellar Parameters For KIC 004742188

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6031^{+180}_{-198}	$4.450^{+0.070}_{-0.210}$	$-0.140^{+0.300}_{-0.300}$	$0.992^{+0.311}_{-0.111}$	$1.012^{+0.144}_{-0.131}$	$1.459^{+0.537}_{-0.759}$
	+3%/-3%	+2%/-5%	+214%/-214%	+31%/-11%	+14%/-13%	+37%/-52%
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 004742188-01 / KOI 7703.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-217 ± 43	$2.25^{+1.92}_{-1.37}$	360^{+26}_{-18}	5201^{+3749}_{-1113}	$26486^{+167442}_{-18832}$
Alt.	-207 ± 44	$2.41^{+1.84}_{-1.47}$	361^{+27}_{-19}	5045^{+2911}_{-1006}	$22845^{+117821}_{-15439}$

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

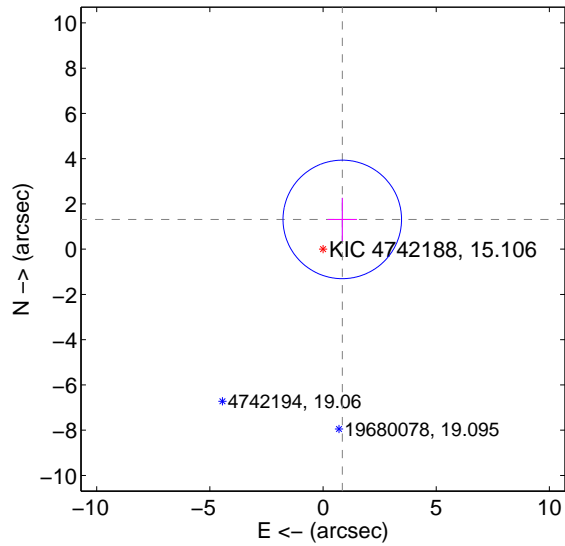
Supplemental centroid analysis for 004742188-01. Kepler magnitude: 15.11. Transit SNR 6.89

There are 1 quarters with good PRF difference image offsets

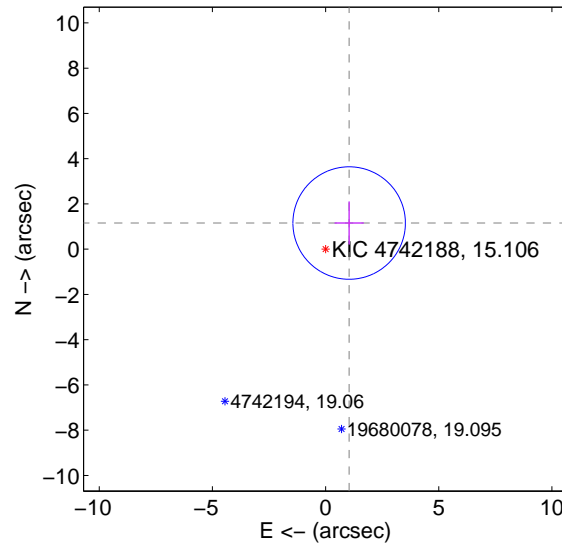
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.566 ± 0.873	1.79	-0.850 ± 0.644	1.315 ± 0.952
PRF-fit source offset from KIC position	1.555 ± 0.828	1.88	-1.042 ± 0.644	1.155 ± 0.952
photometric centroid source offset	1.14 ± 2.59	0.44	-0.05 ± 2.29	-1.14 ± 2.59

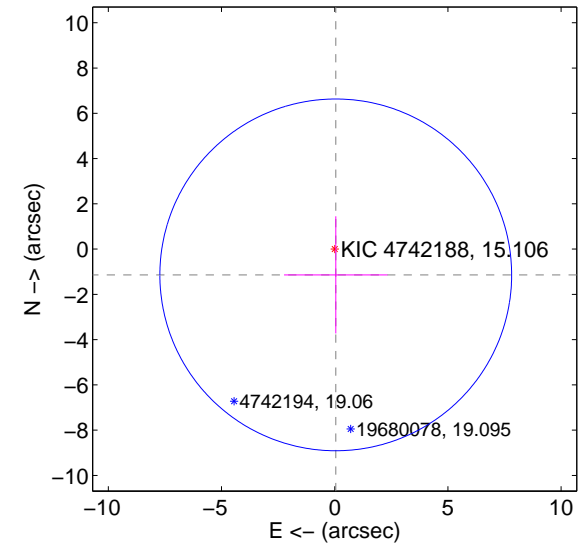
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

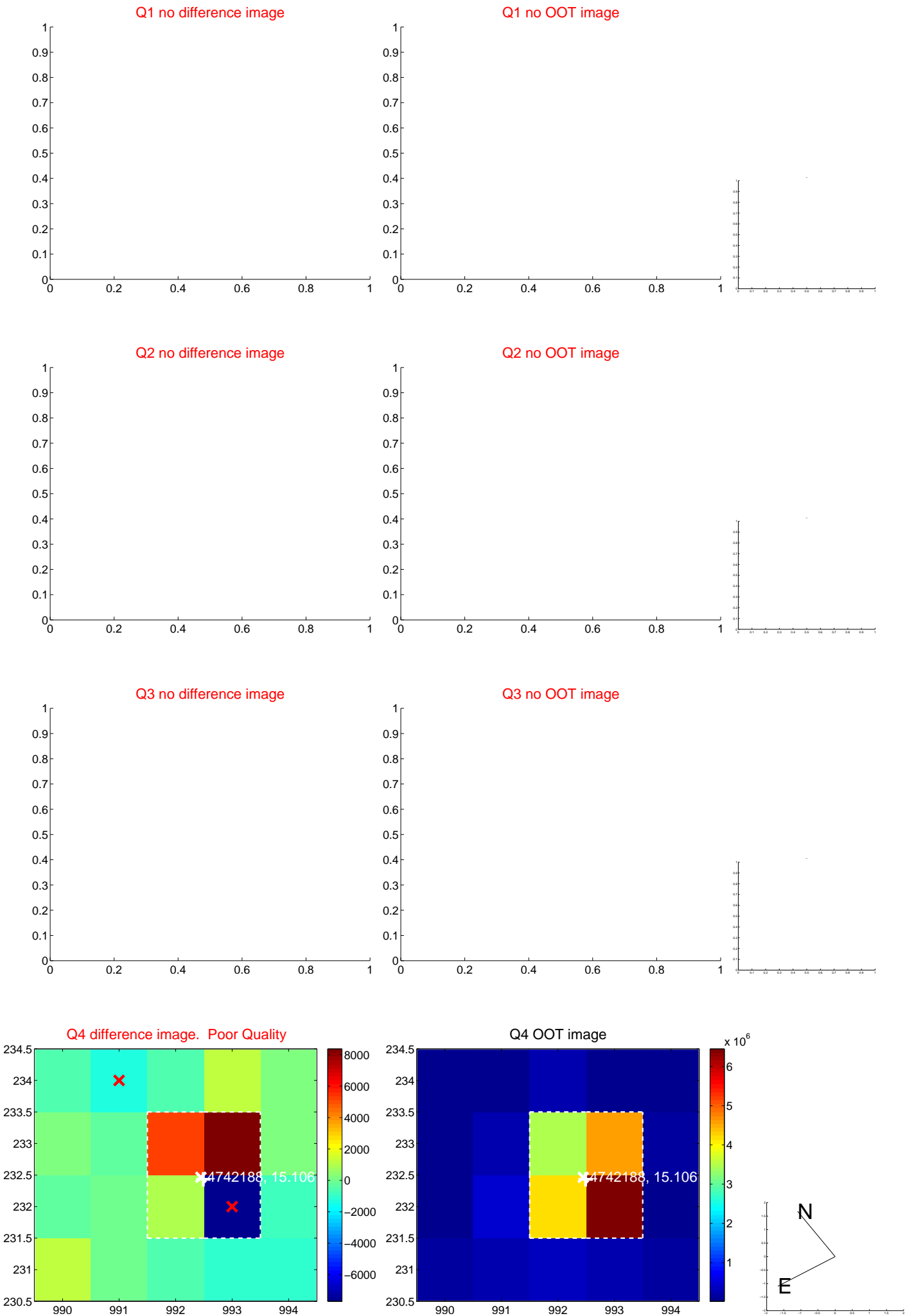


offset from photometric centroids

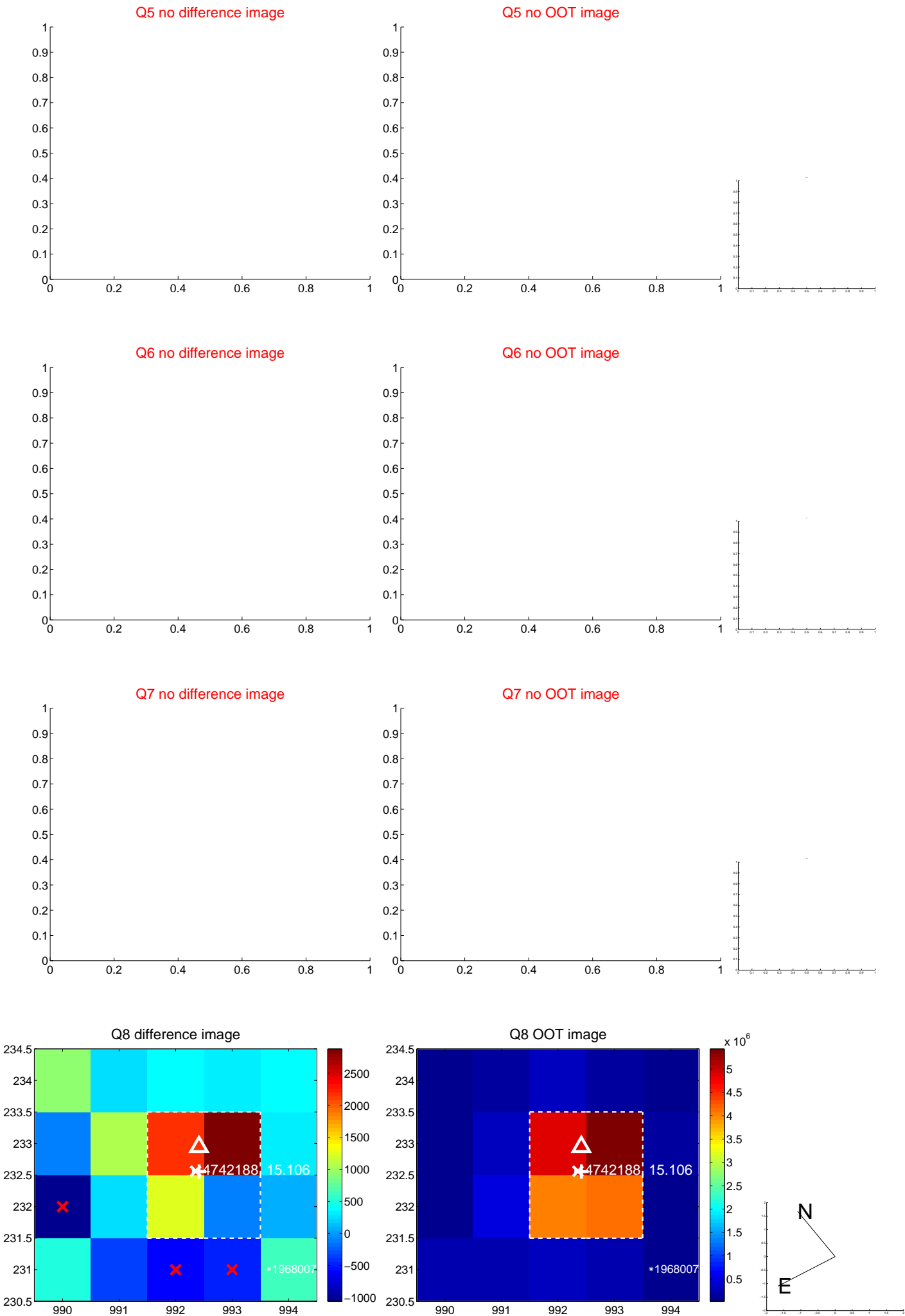


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



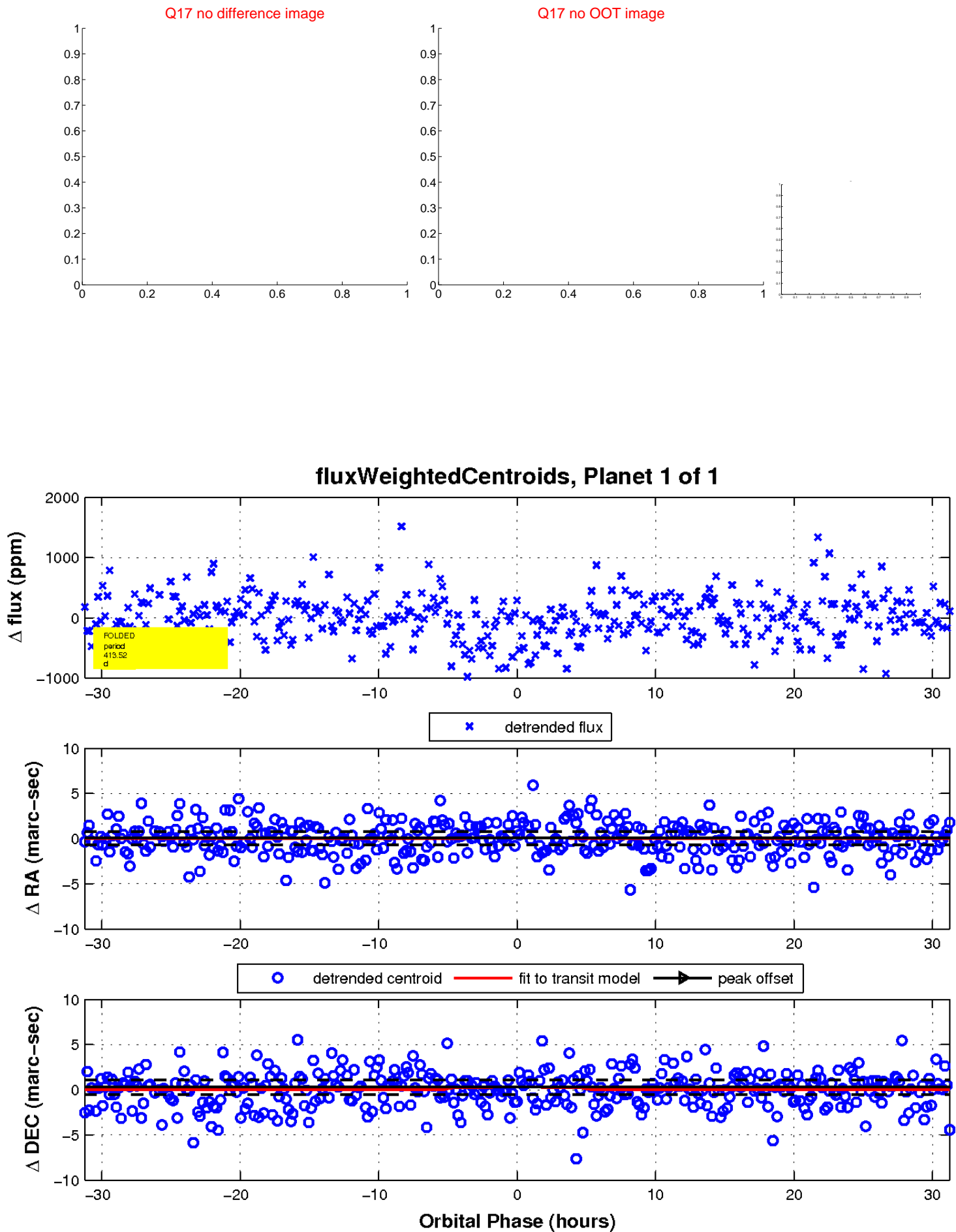
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

