

KIC 008167391

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})
008167391-01	OBS	No	498.442252	432.263489	156.1	12.902	8.0	7.8	1.50	5759	2.08	1.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008167391-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—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.

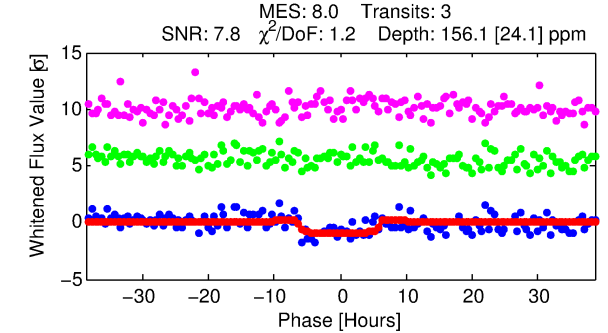
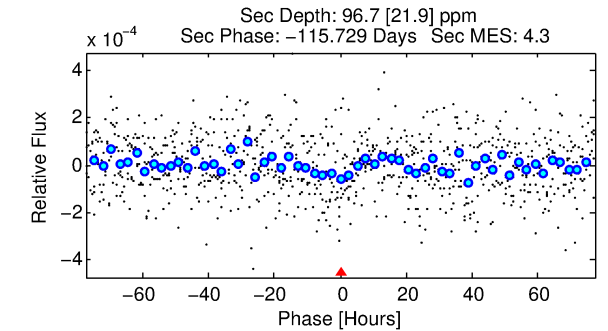
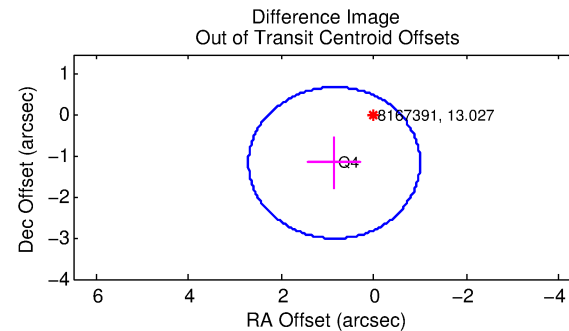
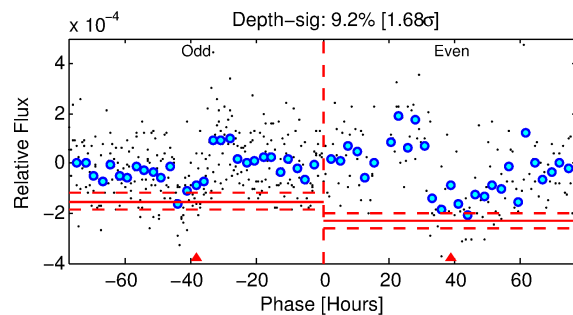
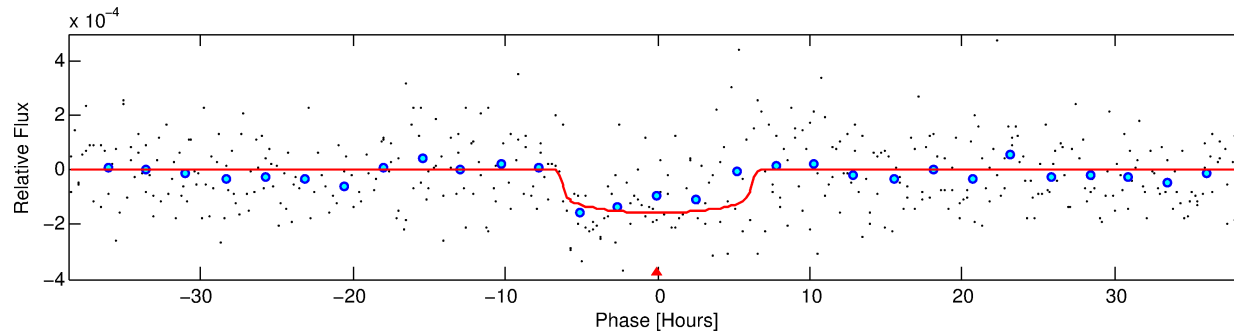
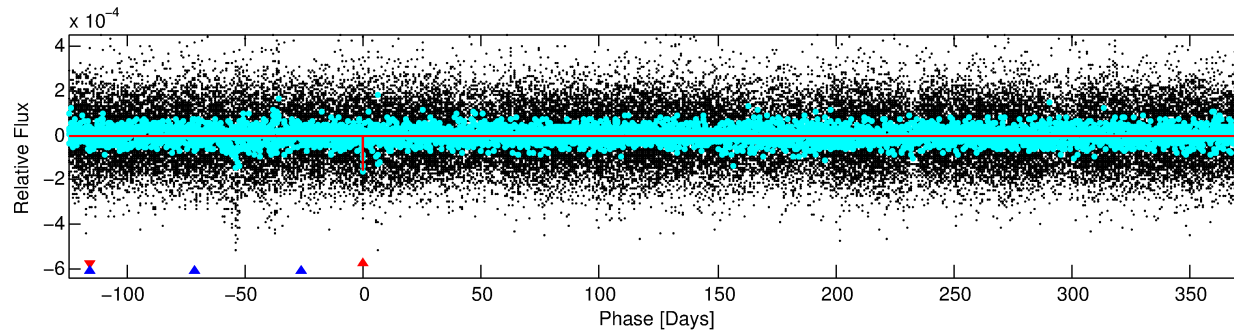
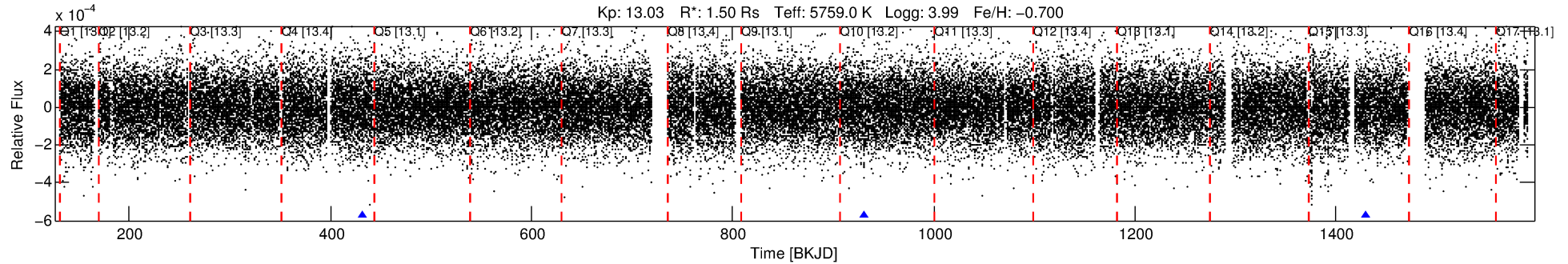
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008167391-01

No Significant Match Found

DV One-Page Summary

KIC: 8167391 Candidate: 1 of 2 Period: 498.442 d



DV Fit Results:

Period = 498.44225 [0.01634] d
Epoch = 432.2635 [0.0203] BKJD
Rp/R* = 0.0127 [0.0049]
a/R* = 182.37 [346.67]
b = 0.80 [0.85]
Seff = 1.70 [1.24]
Teq = 291 [53] K
Rp = 2.08 [1.13] Re
a = 1.1440 [0.4803] AU
Ag = 16090.53 [17339.83] [0.93σ]
Teffp = 5071 [1036] K [4.61σ]

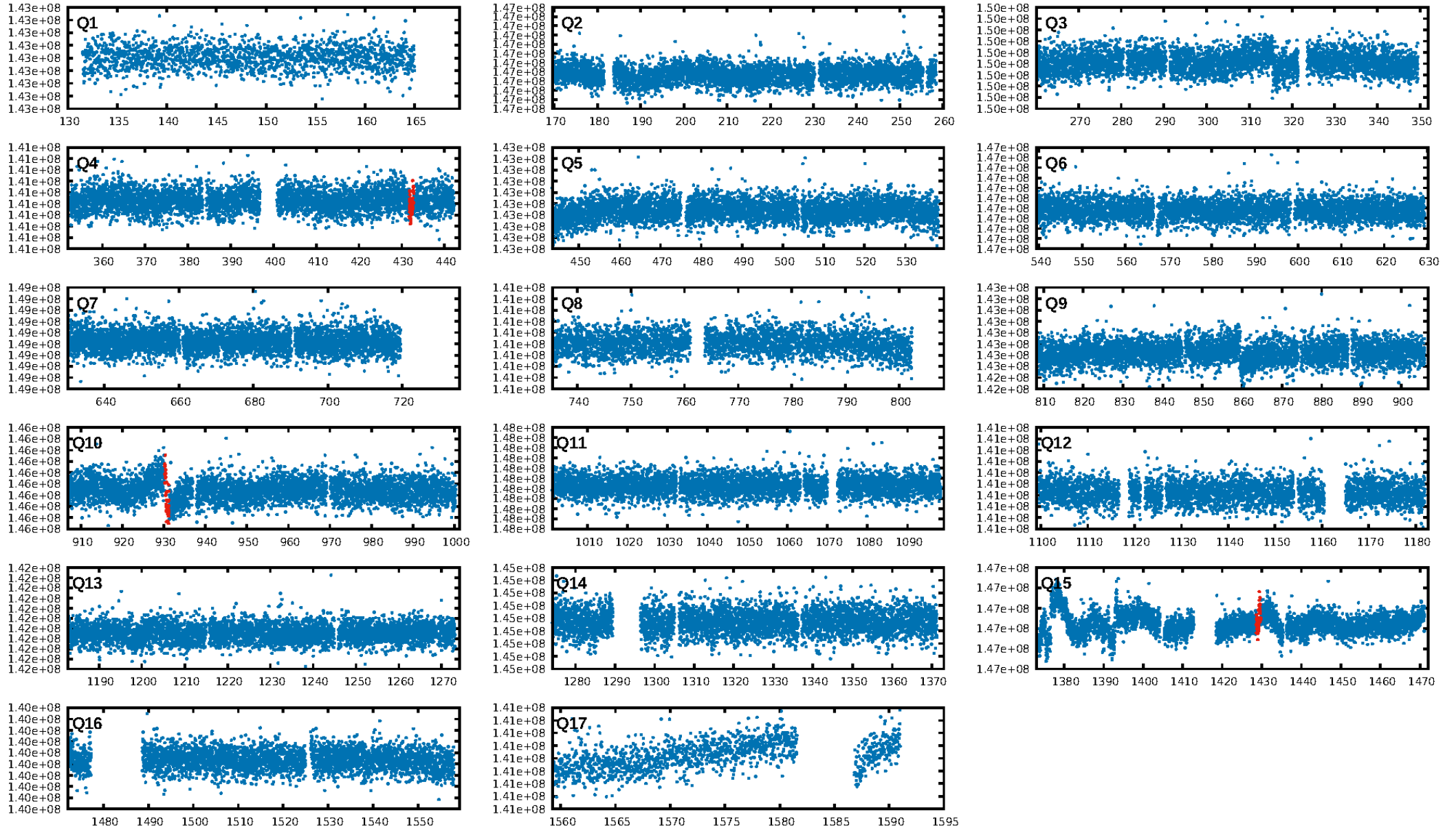
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [50.96σ]
ModelChiSquare2-sig: 16.6%
ModelChiSquareGof-sig: 97.5%
Bootstrap-pfa: 3.12e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.446
Centroid-sig: 0.3%
Centroid-so: 5.276 arcsec [3.22σ]
OotOffset-rm: 1.438 arcsec [2.33σ]
KicOffset-rm: 1.405 arcsec [2.27σ]
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]

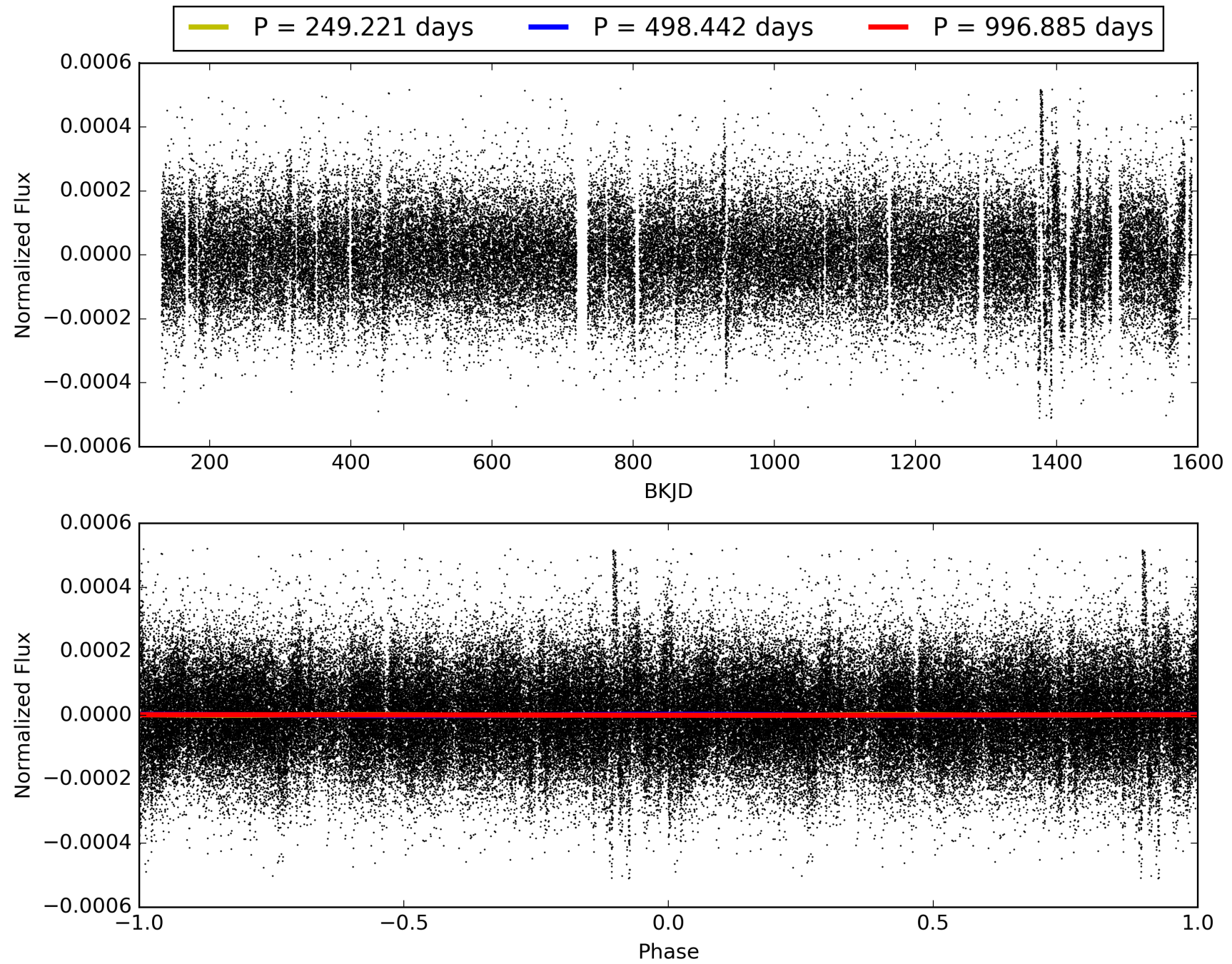
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 12:01:03 Z

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

TCE 008167391-01, PDC Light Curves

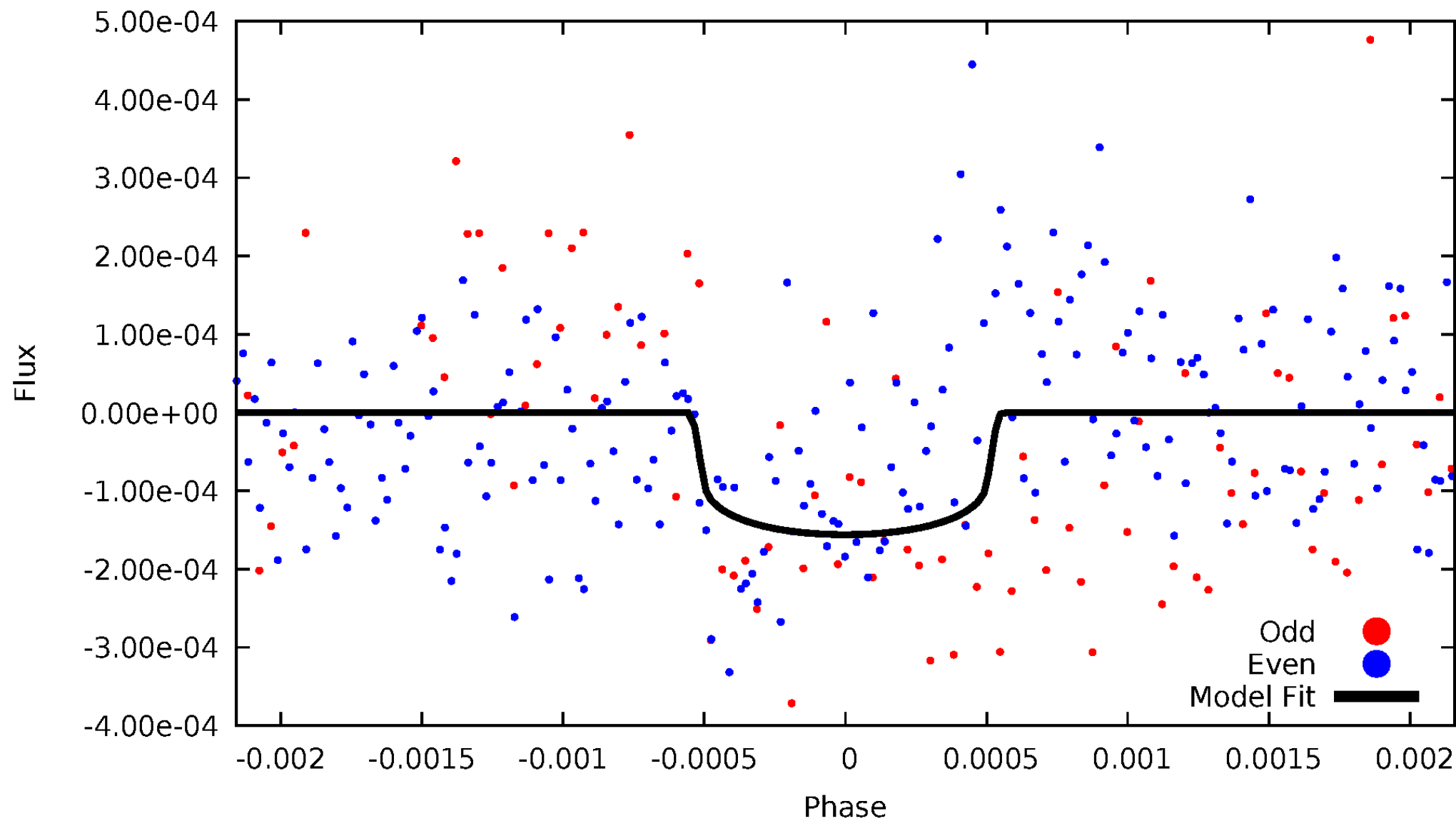


TCE 008167391-01



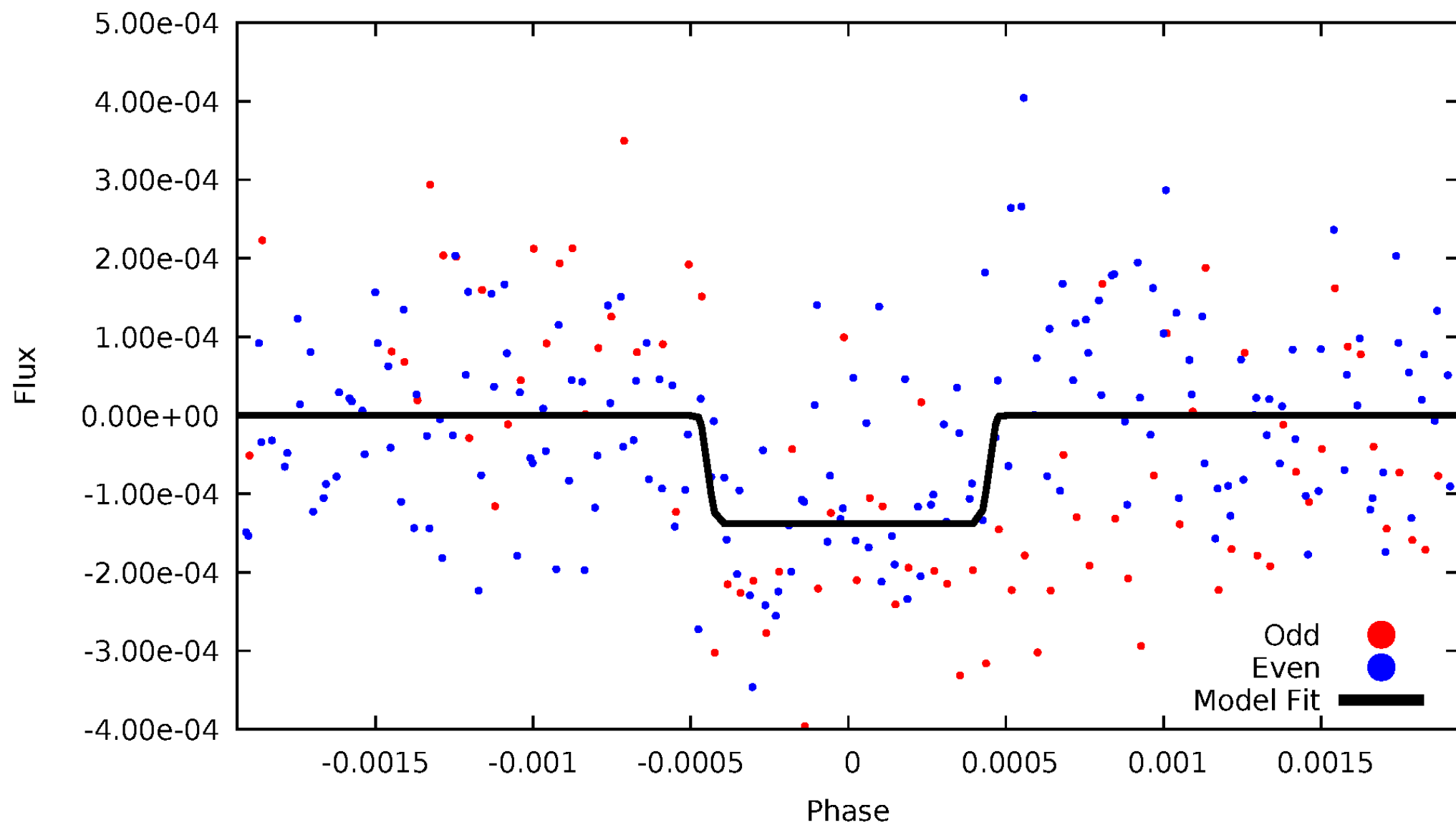
DV Odd/Even

TCE 008167391-01

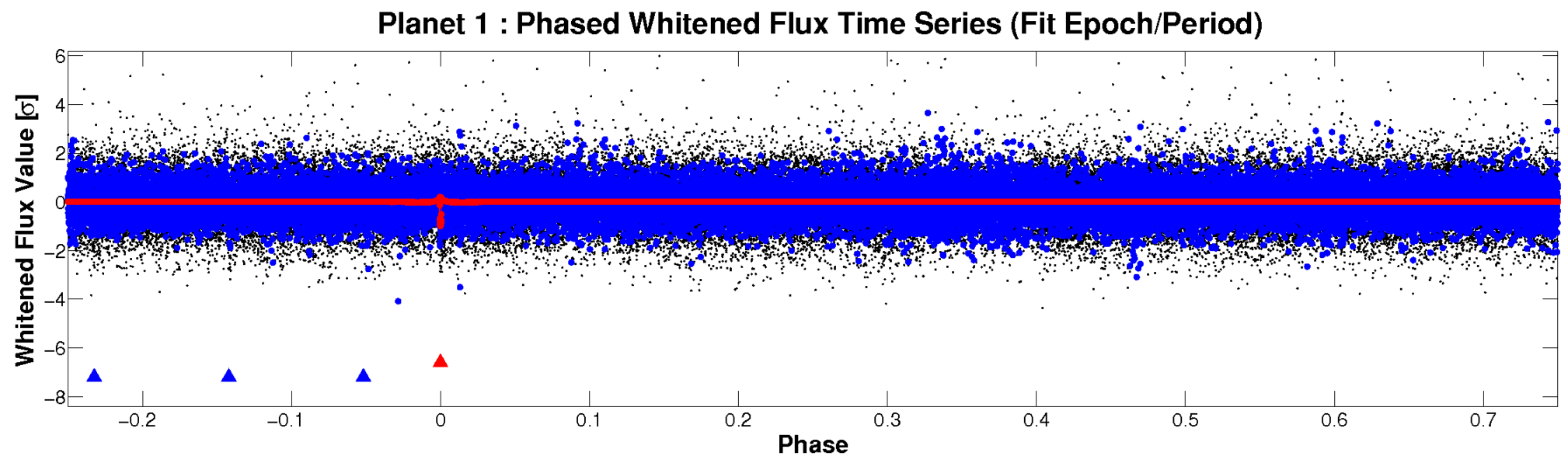
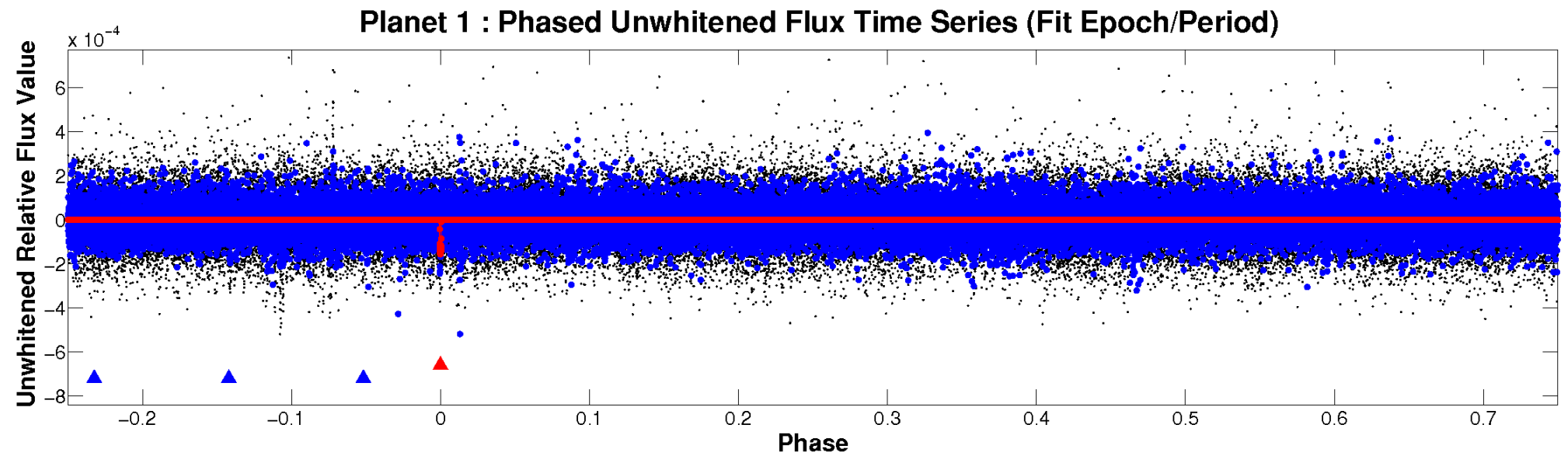


ALT Odd/Even

TCE 008167391-01

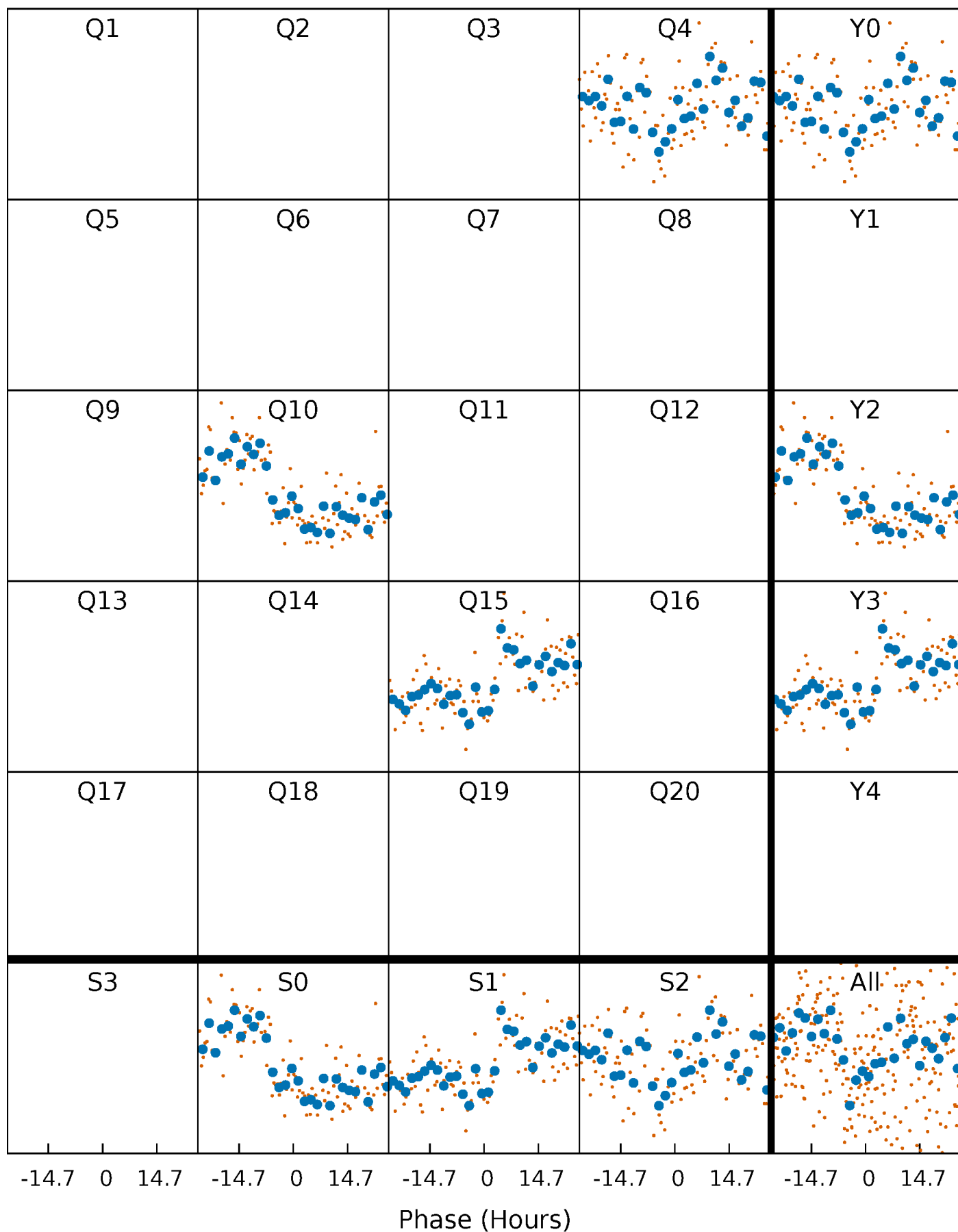


Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 008167391-01 P=498.442252 Days $T_0=432.263489$ (BKJD)



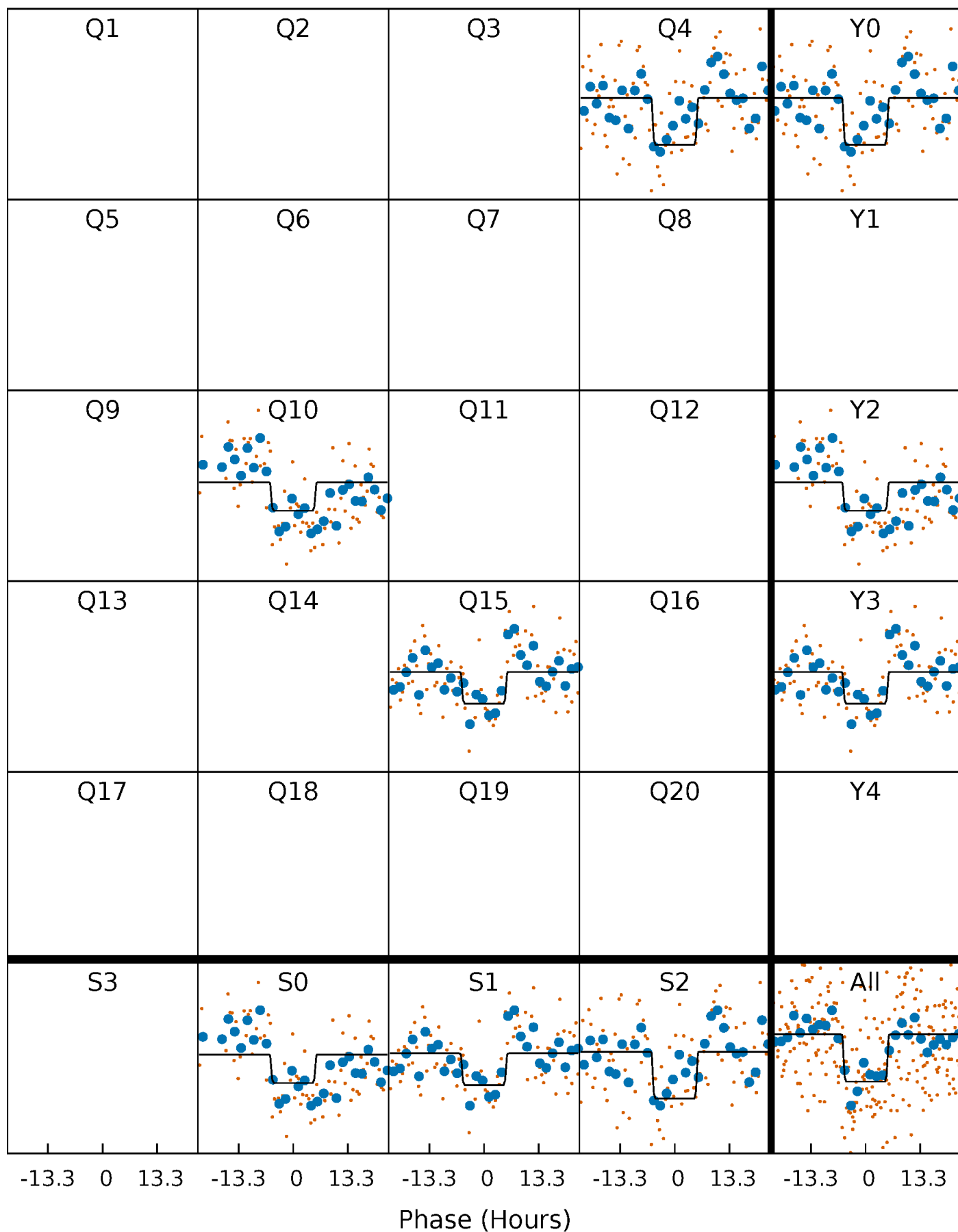
DV Quarter-Phased Transit Curves

TCE 008167391-01 P=498.442252 Days $T_0=432.263489$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

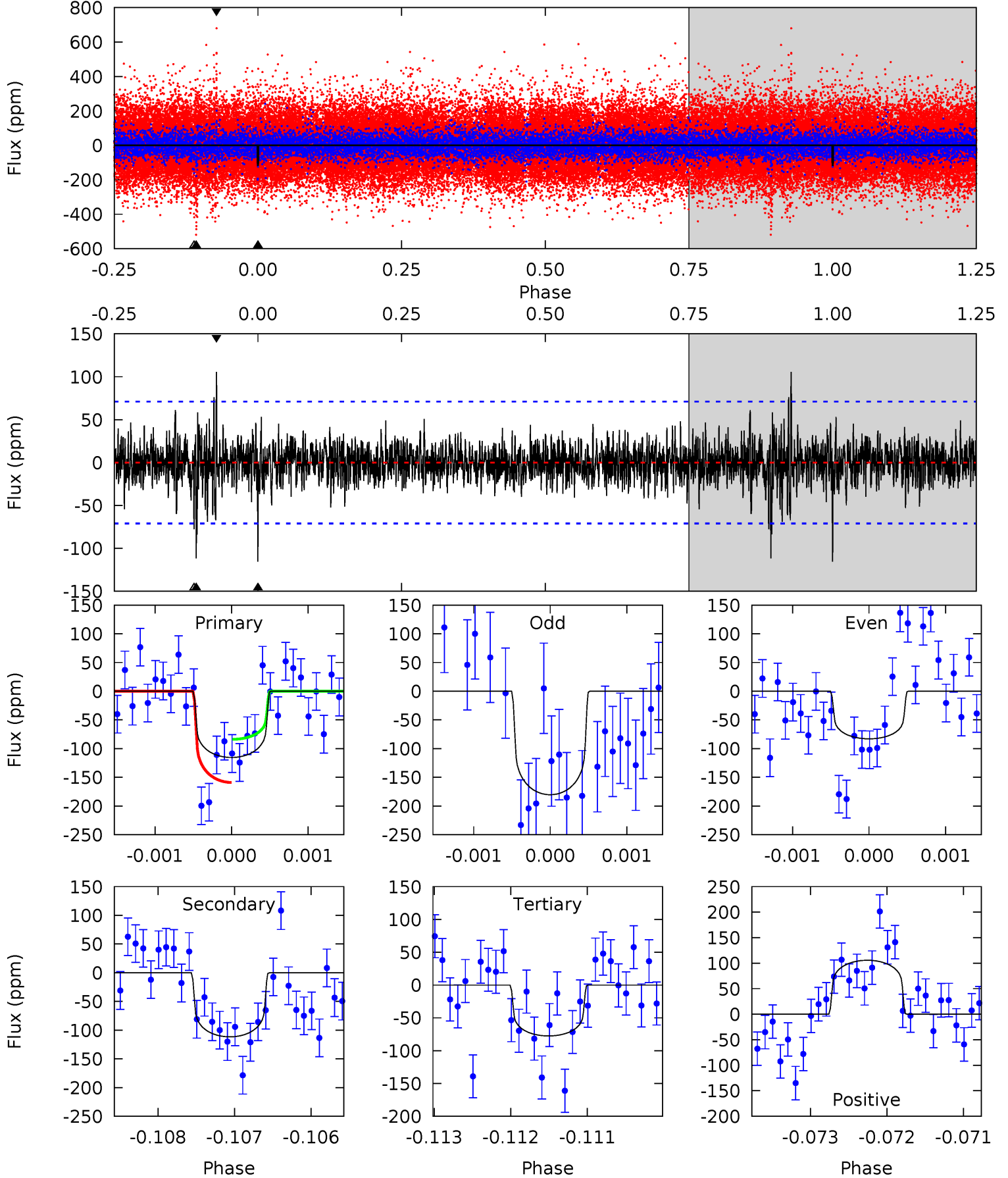
TCE 008167391-01 P=498.415395 Days $T_0=432.263806$ (BKJD)



DV Model-Shift Uniqueness Test

008167391-01, P = 498.442252 Days, E = 432.263489 Days

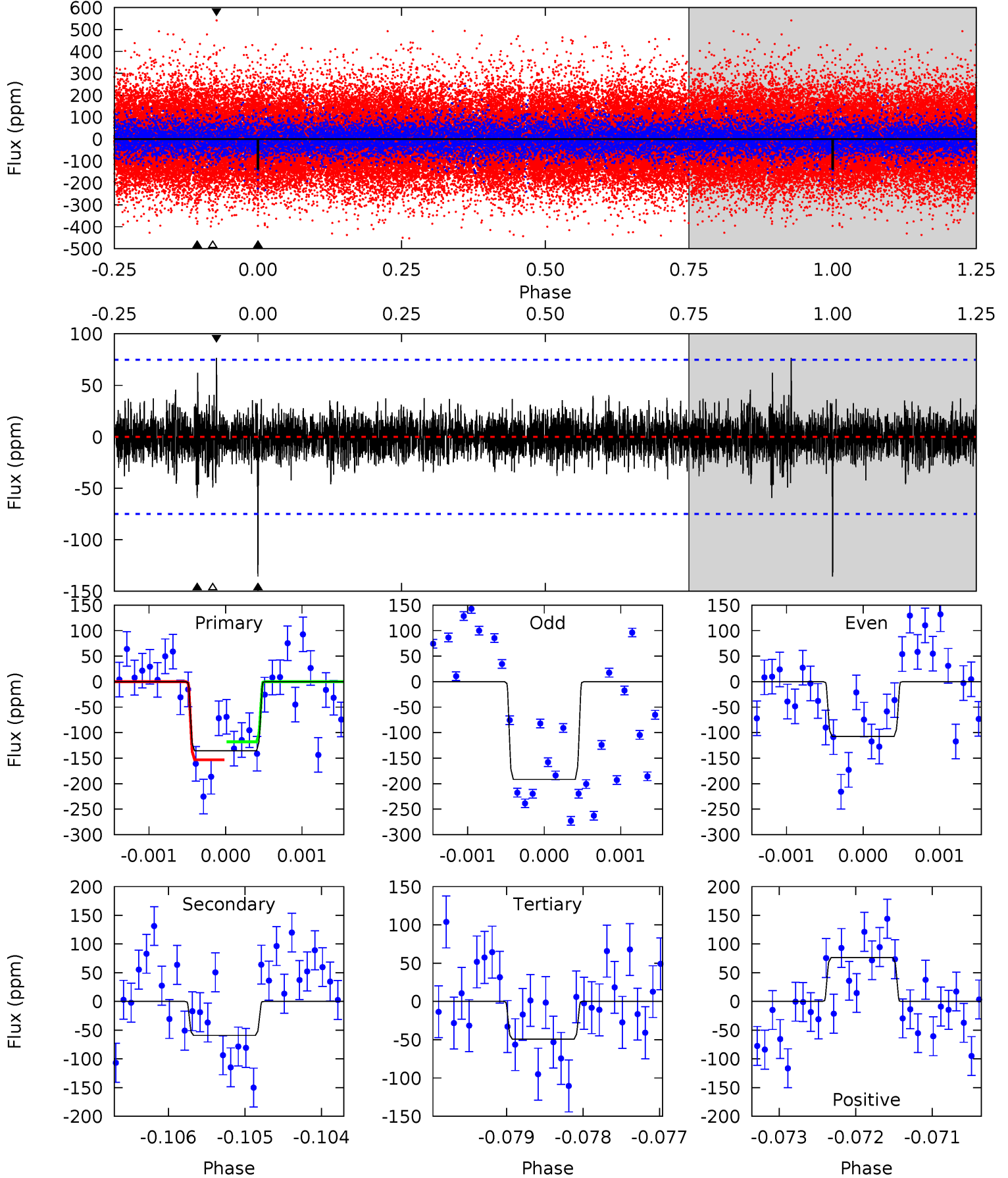
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.83	8.54	5.93	8.08	5.43	3.26	1.30	2.90	0.75	2.61	0.45	3.53	1.10	0.48	2.85



Alt Model-Shift Uniqueness Test

008167391-01, P = 498.415395 Days, E = 432.263806 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.88	4.32	3.58	5.57	5.46	3.30	0.91	6.30	4.31	0.74	-1.25	2.91	1.03	0.36	1.28



Stellar Parameters For KIC 008167391

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5759^{+190}_{-121}	$3.989^{+0.435}_{-0.145}$	$-0.700^{+0.350}_{-0.200}$	$1.503^{+0.383}_{-0.574}$	$0.802^{+0.112}_{-0.056}$	$0.333^{+1.093}_{-0.159}$
	+3%/-2%	+11%/-4%	+50%/-29%	+25%/-38%	+14%/-7%	+328%/-48%
Source	PHO1	FLK73	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 008167391-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-112 ± 13	$1.93^{+0.93}_{-0.76}$	401^{+30}_{-45}	5293^{+1374}_{-725}	22167^{+36994}_{-12333}
Alt.	-59 ± 14	$1.80^{+0.89}_{-0.80}$	398^{+34}_{-45}	4753^{+1485}_{-618}	13411^{+32525}_{-7650}

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

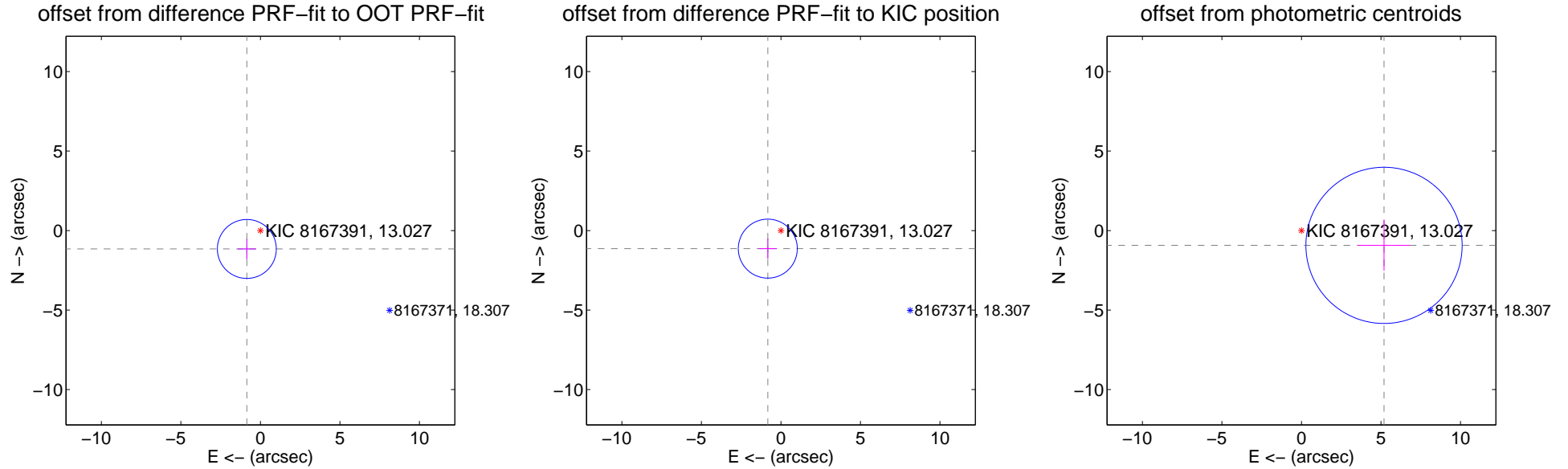
DV Centroid Data

Supplemental centroid analysis for 008167391-01. Kepler magnitude: 13.03. Transit SNR 7.79

There are 1 quarters with good PRF difference image offsets

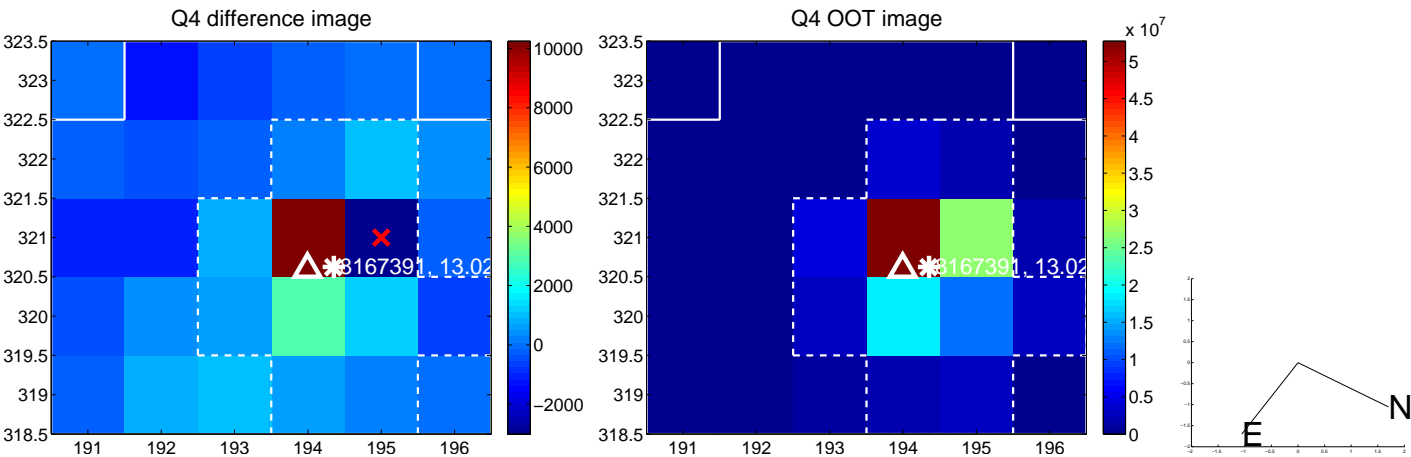
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.438 ± 0.618	2.33	0.854 ± 0.576	-1.157 ± 0.640
PRF-fit source offset from KIC position	1.405 ± 0.618	2.27	0.826 ± 0.576	-1.137 ± 0.640
photometric centroid source offset	5.28 ± 1.64	3.22	-5.19 ± 1.64	-0.93 ± 1.60

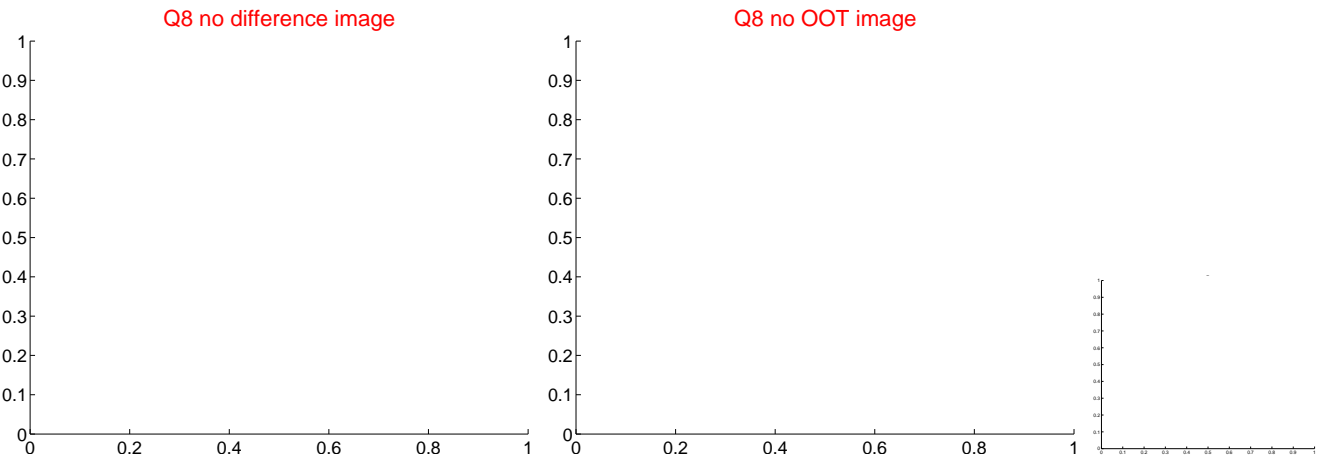
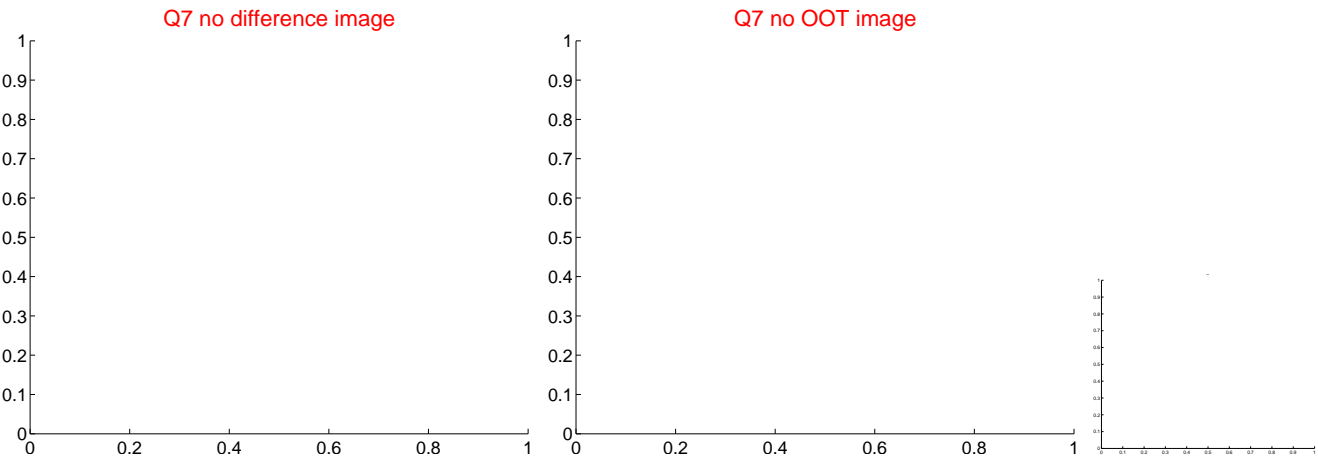
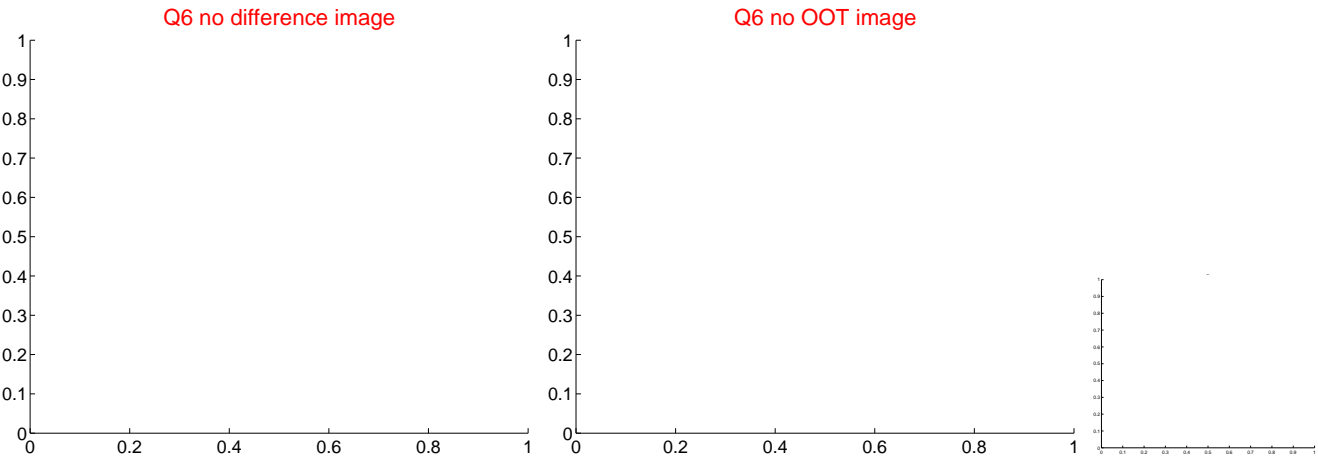
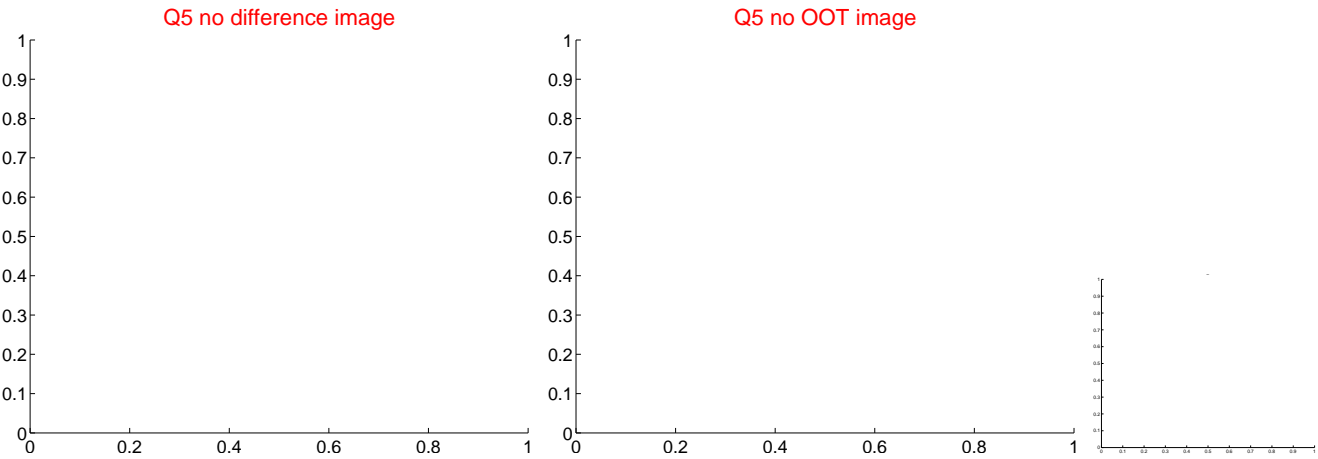


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



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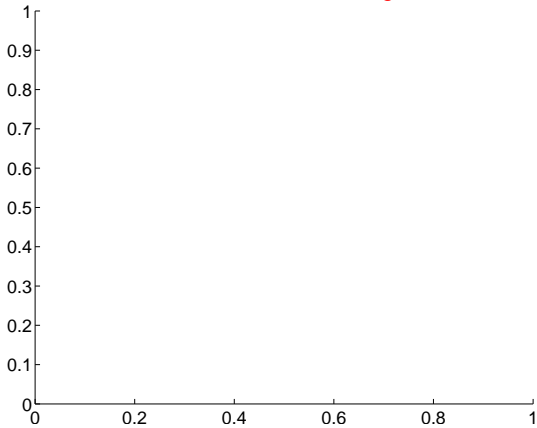


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

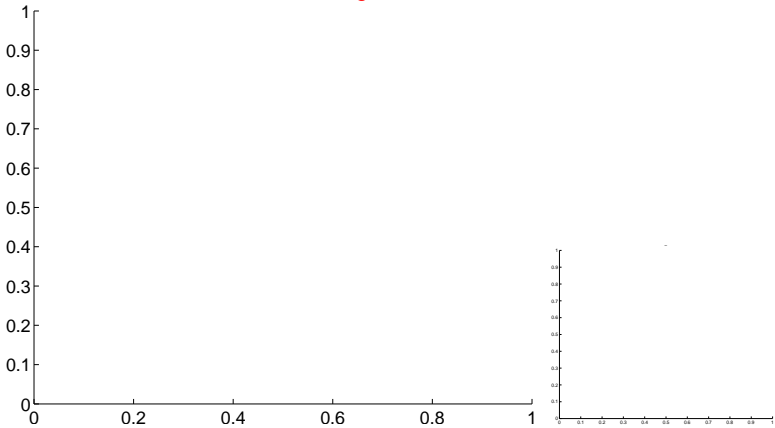


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

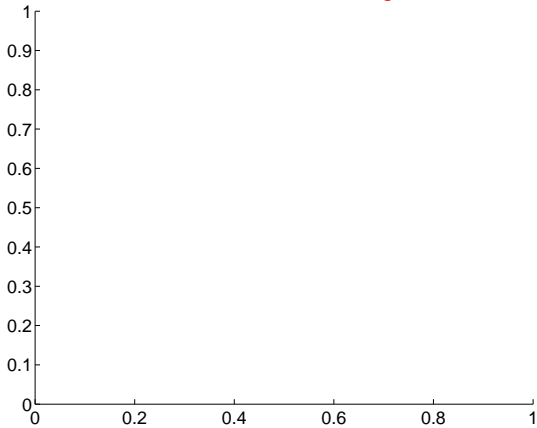
Q13 no difference image



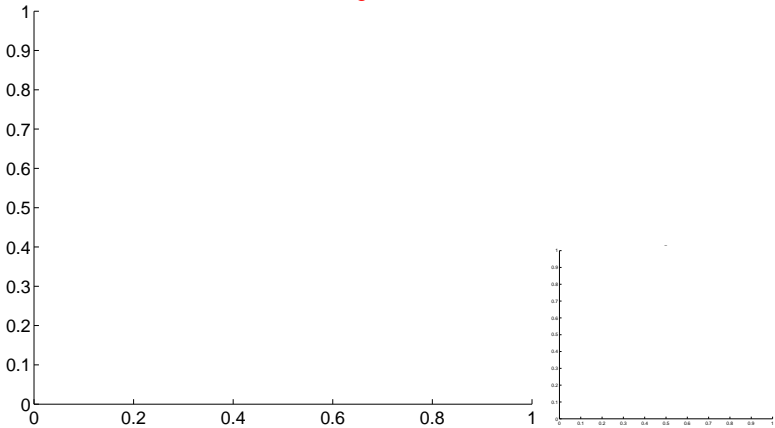
Q13 no OOT image



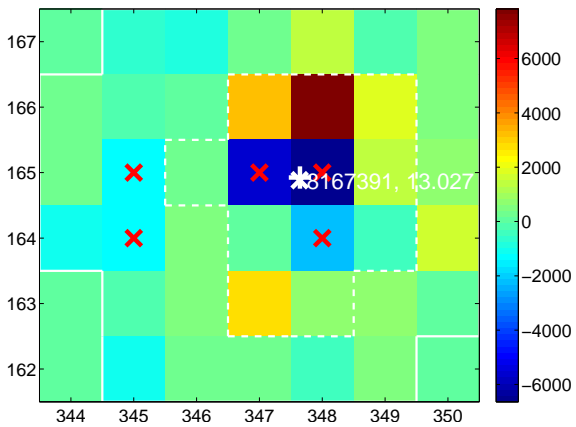
Q14 no difference image



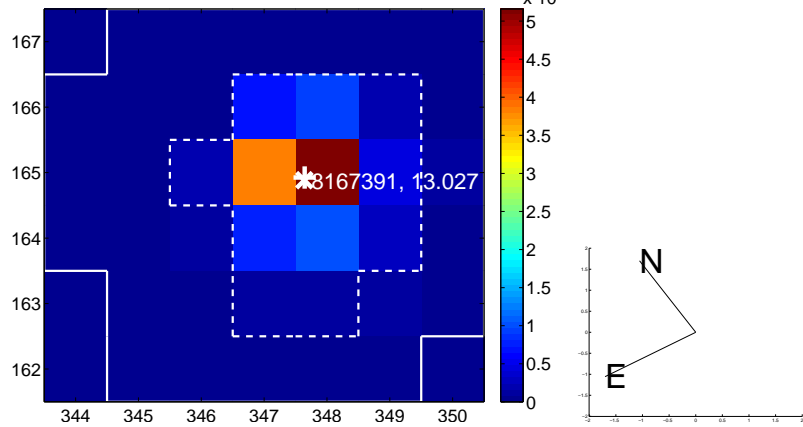
Q14 no OOT image



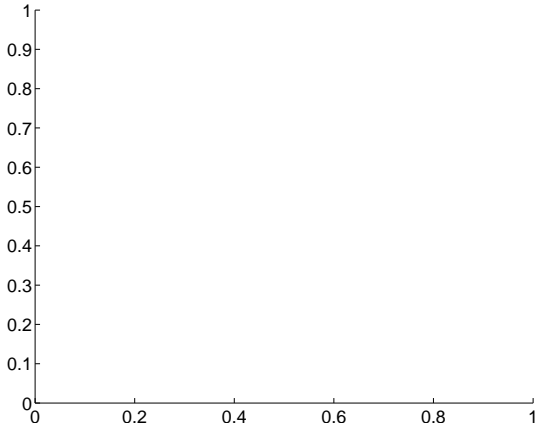
Q15 difference image. Poor Quality



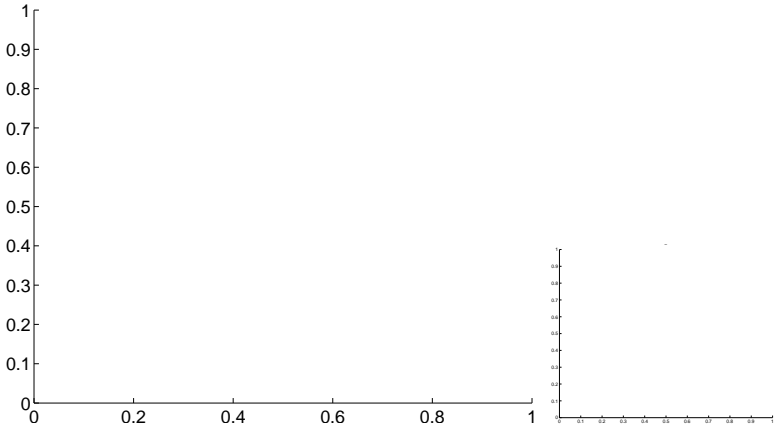
Q15 OOT image



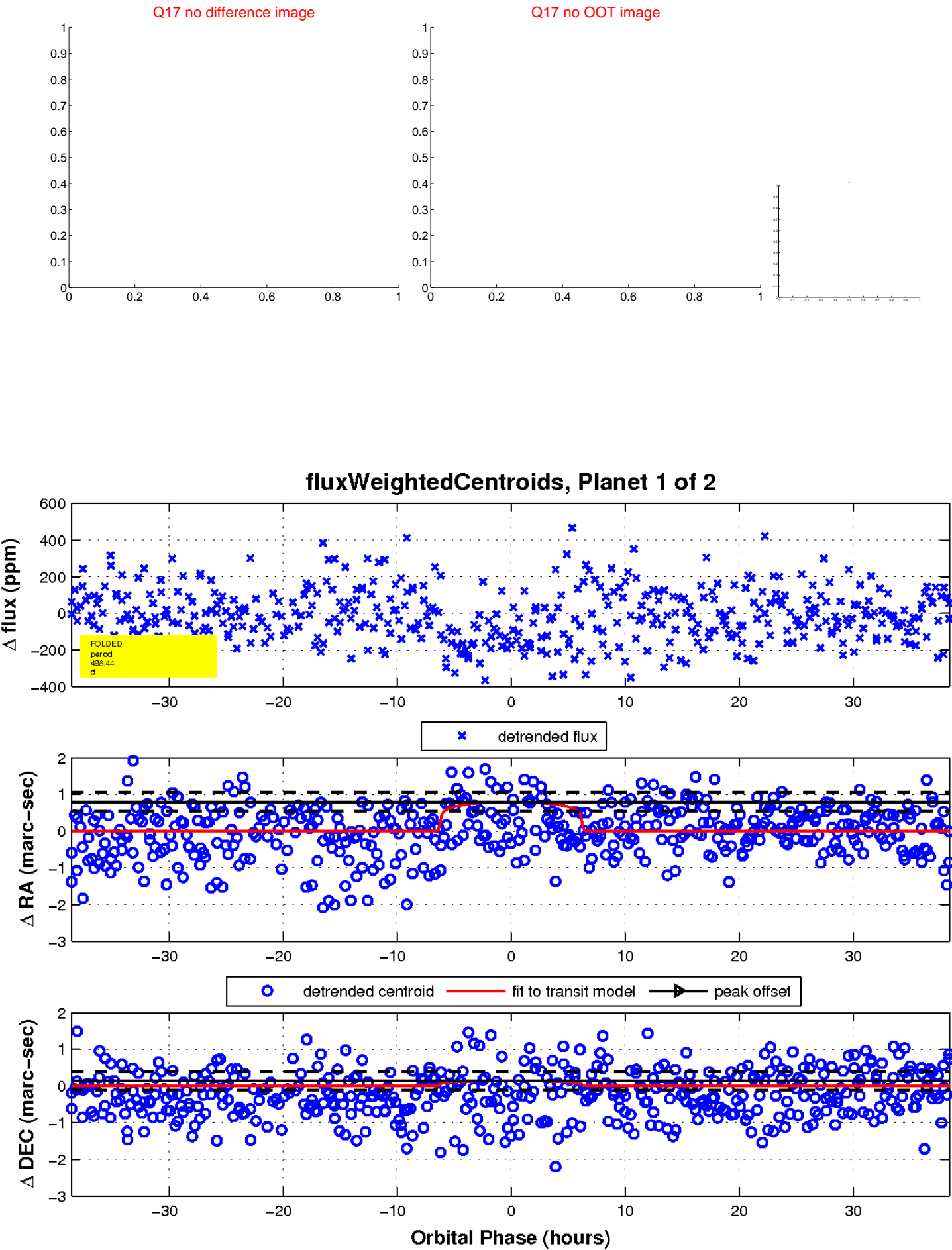
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

