

KIC 008955780

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})
008955780-01	OBS	No	513.888091	416.223792	125.8	14.766	7.6	7.4	1.09	6345	1.39	1.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008955780-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—MOD_NONUNIQ_ALT—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.

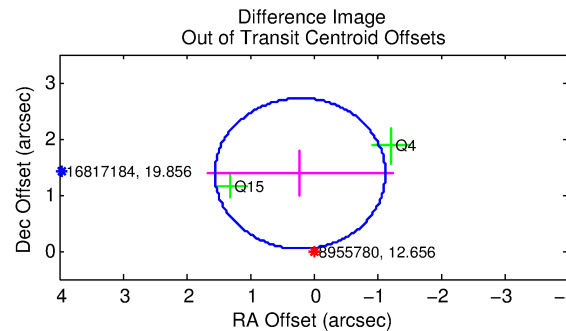
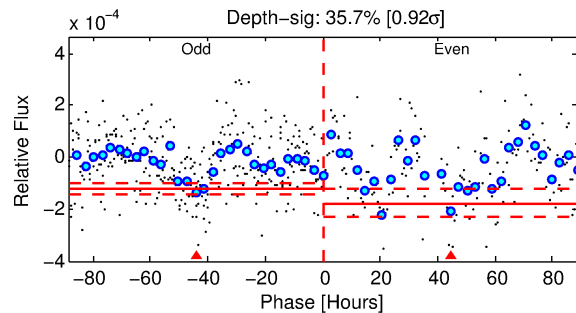
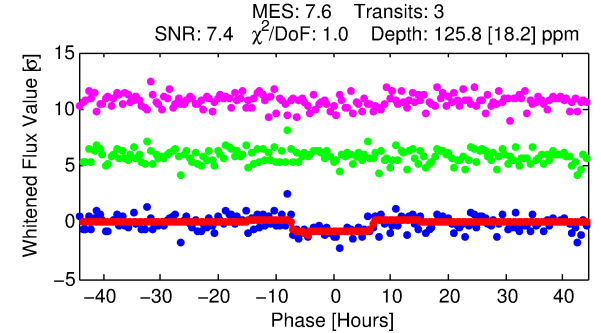
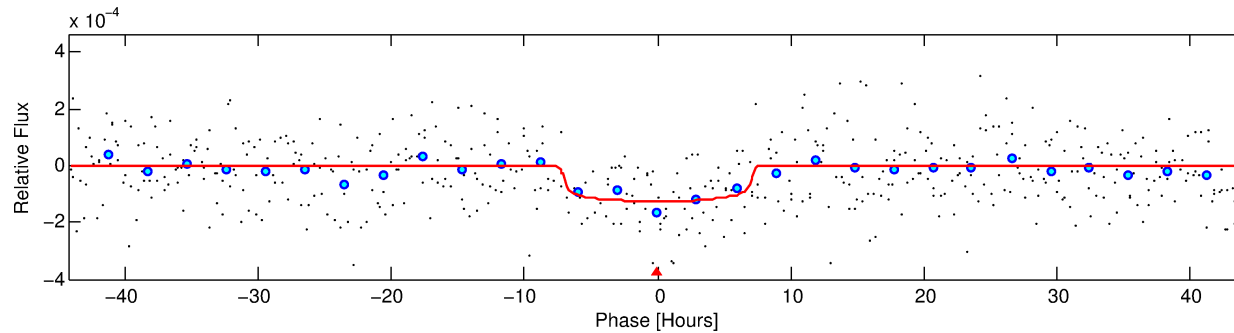
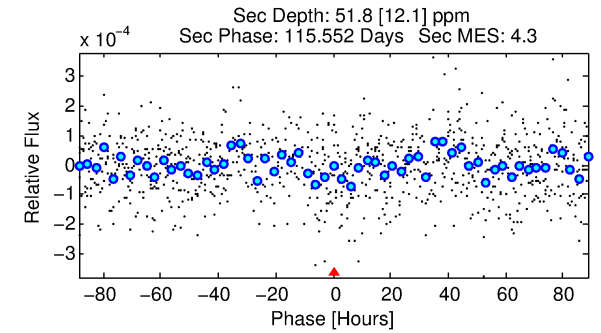
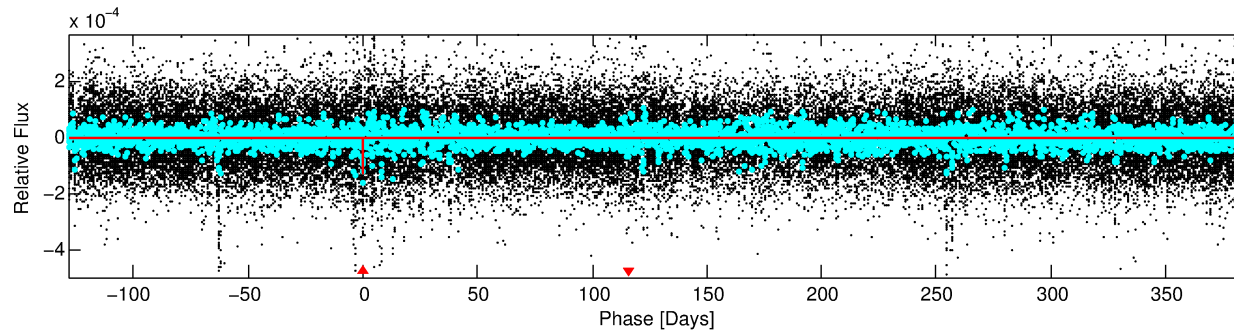
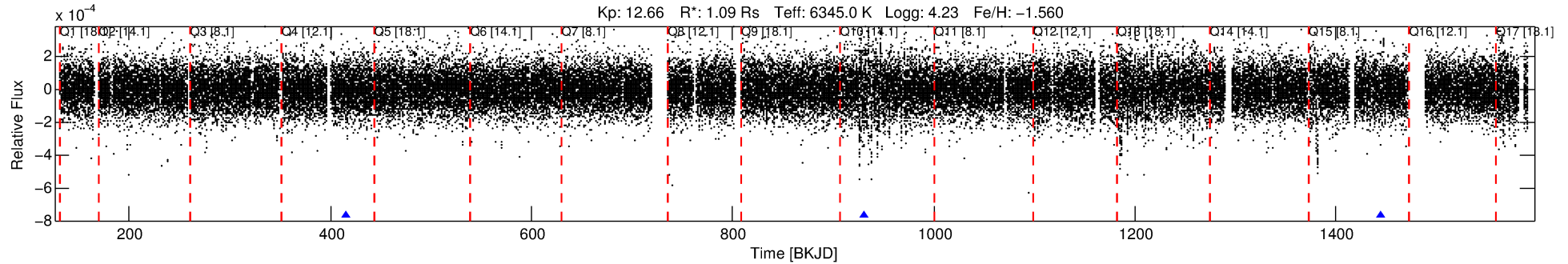
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008955780-01

No Significant Match Found

DV One-Page Summary

KIC: 8955780 Candidate: 1 of 1 Period: 513.888 d



DV Fit Results:

Period = 513.88809 [0.01470] d
Epoch = 416.2238 [0.0201] BKJD
Rp/R* = 0.0117 [0.0027]
a/R* = 141.99 [181.30]
b = 0.86 [0.39]
Seff = 1.35 [0.66]
Teq = 275 [33] K
Rp = 1.39 [0.50] Re
a = 1.1326 [0.3220] AU
Ag = 18952.39 [13430.89] [1.41σ]
Teffp = 4986 [669] K [7.03σ]

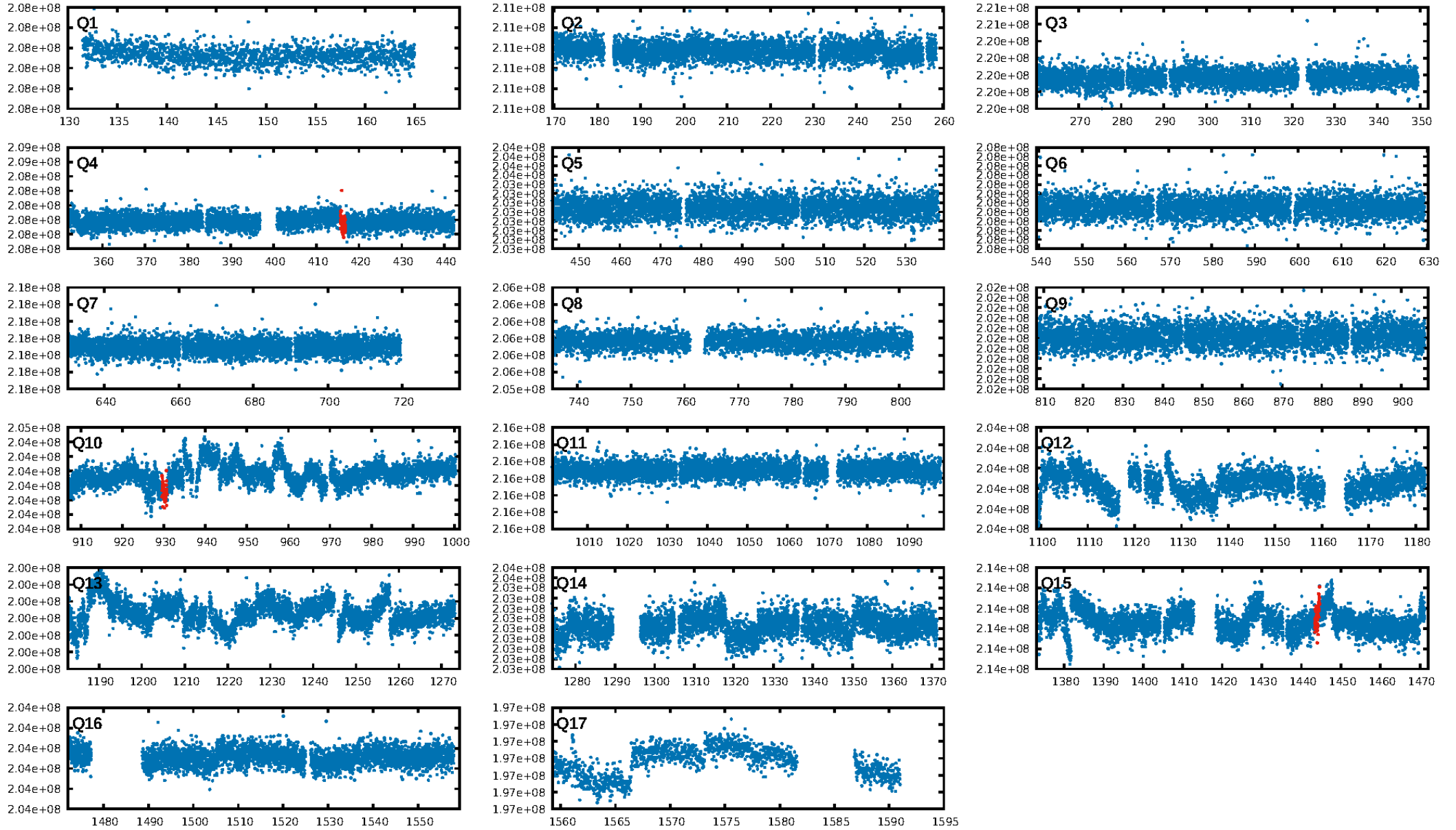
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 63.8%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 1.87e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.181
Centroid-sig: 16.6%
Centroid-so: 1.779 arcsec [1.31σ]
OotOffset-rm: 1.392 arcsec [3.11σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-rm: 1.624 arcsec [2.95σ]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

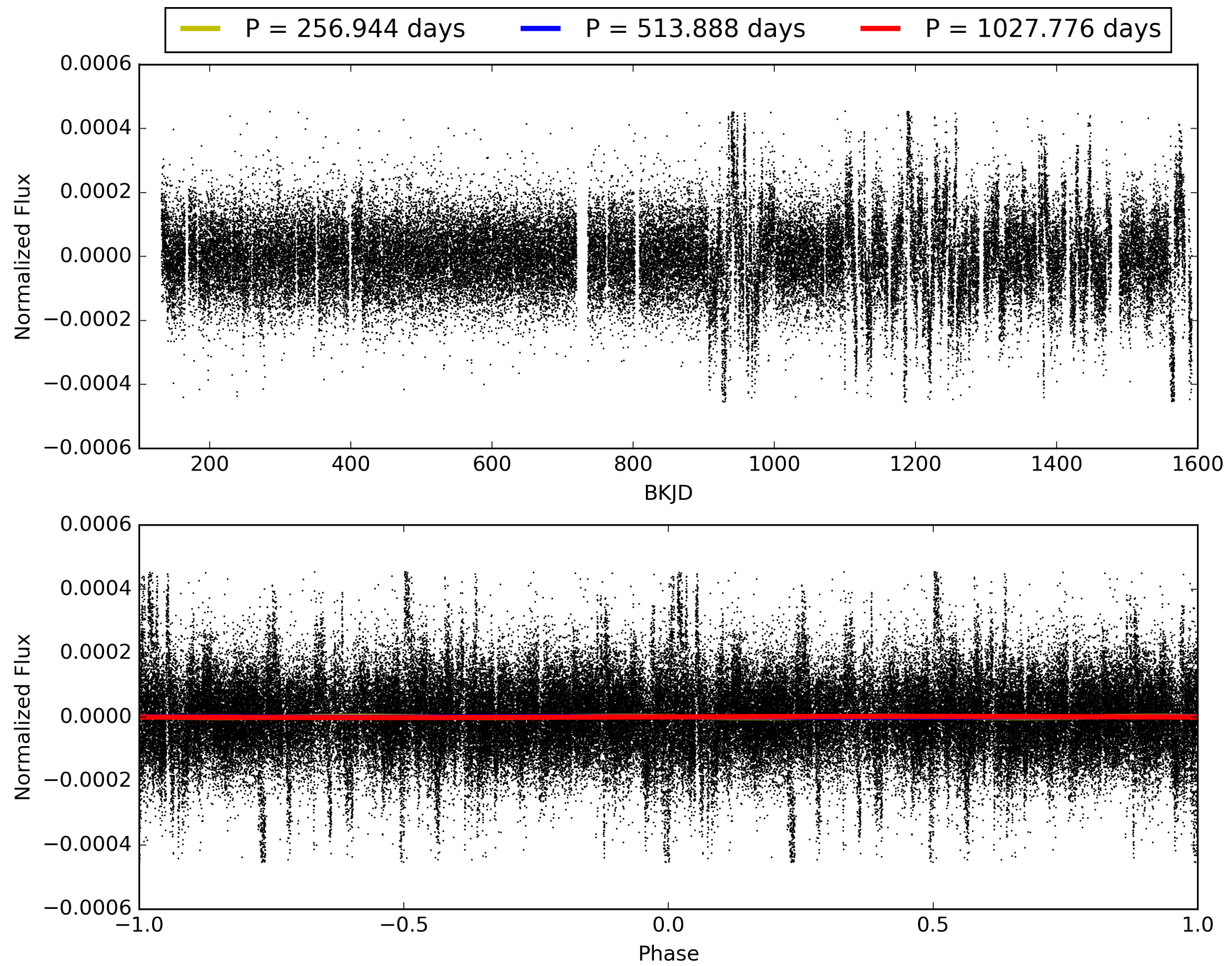
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:56:25 Z

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

TCE 008955780-01, PDC Light Curves

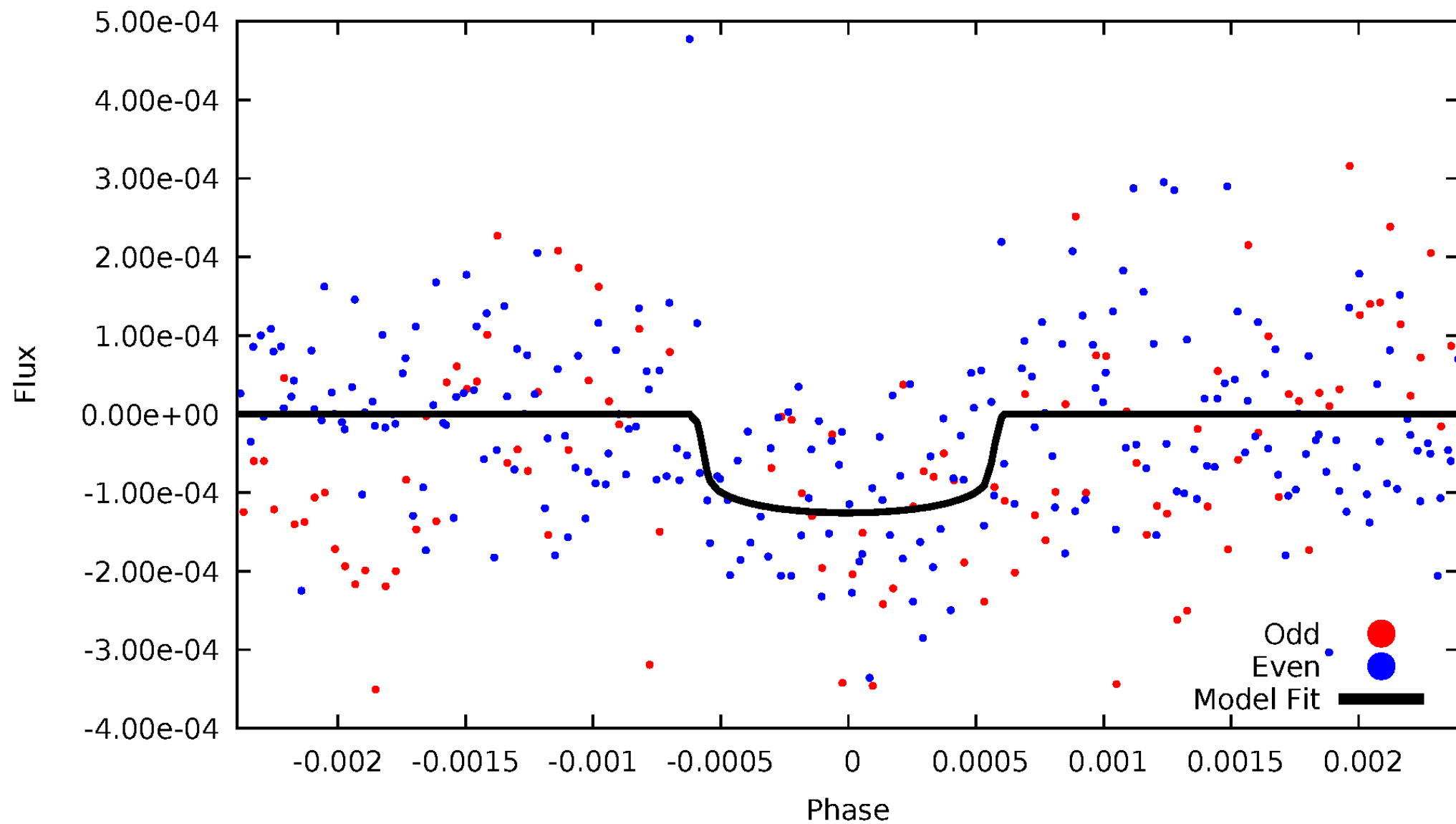


TCE 008955780-01



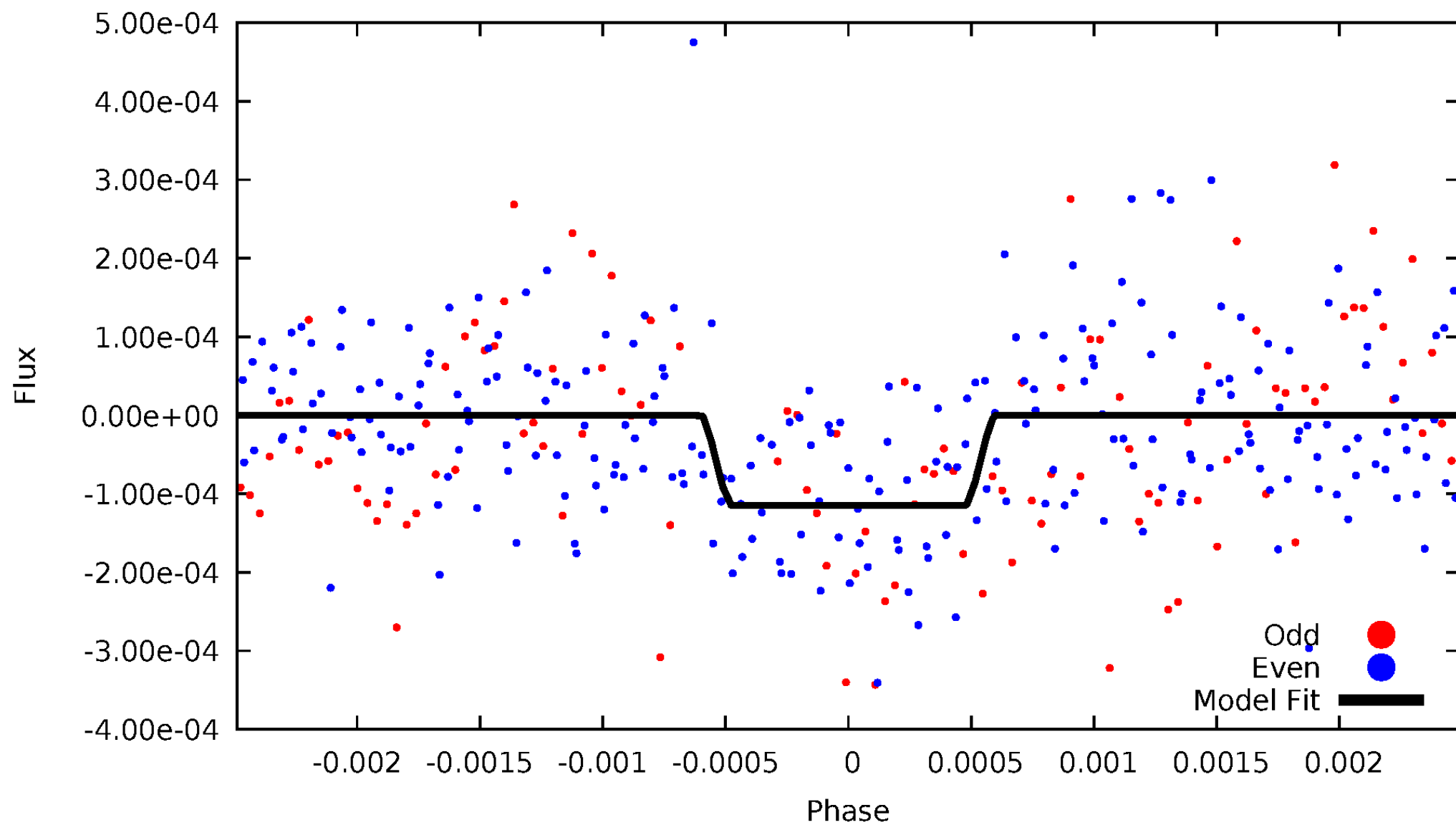
DV Odd/Even

TCE 008955780-01



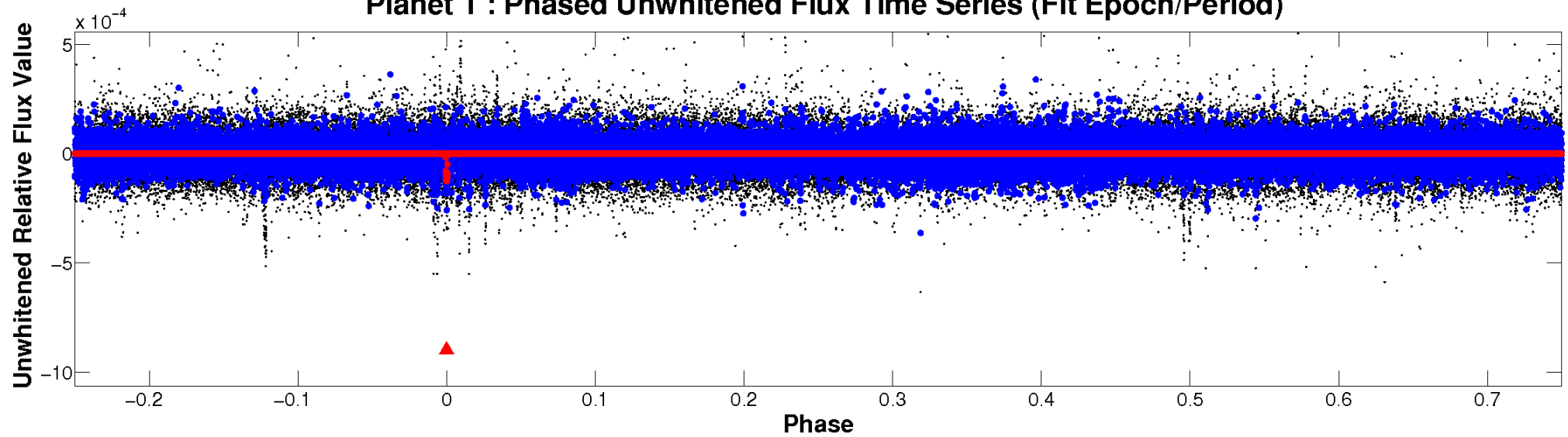
ALT Odd/Even

TCE 008955780-01

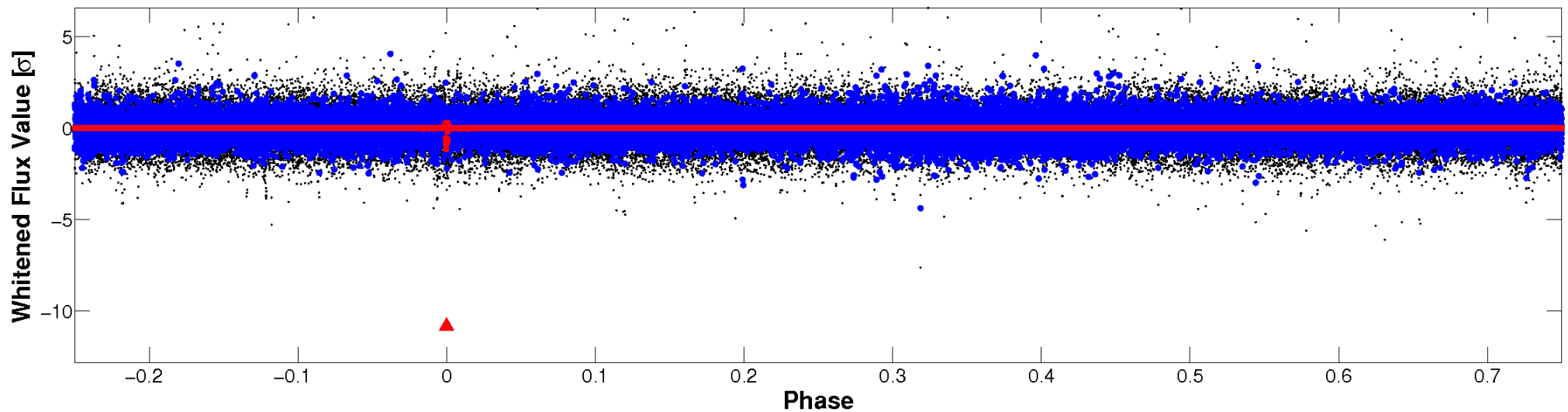


Non-Whitened Vs. Whitened Light Curve

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

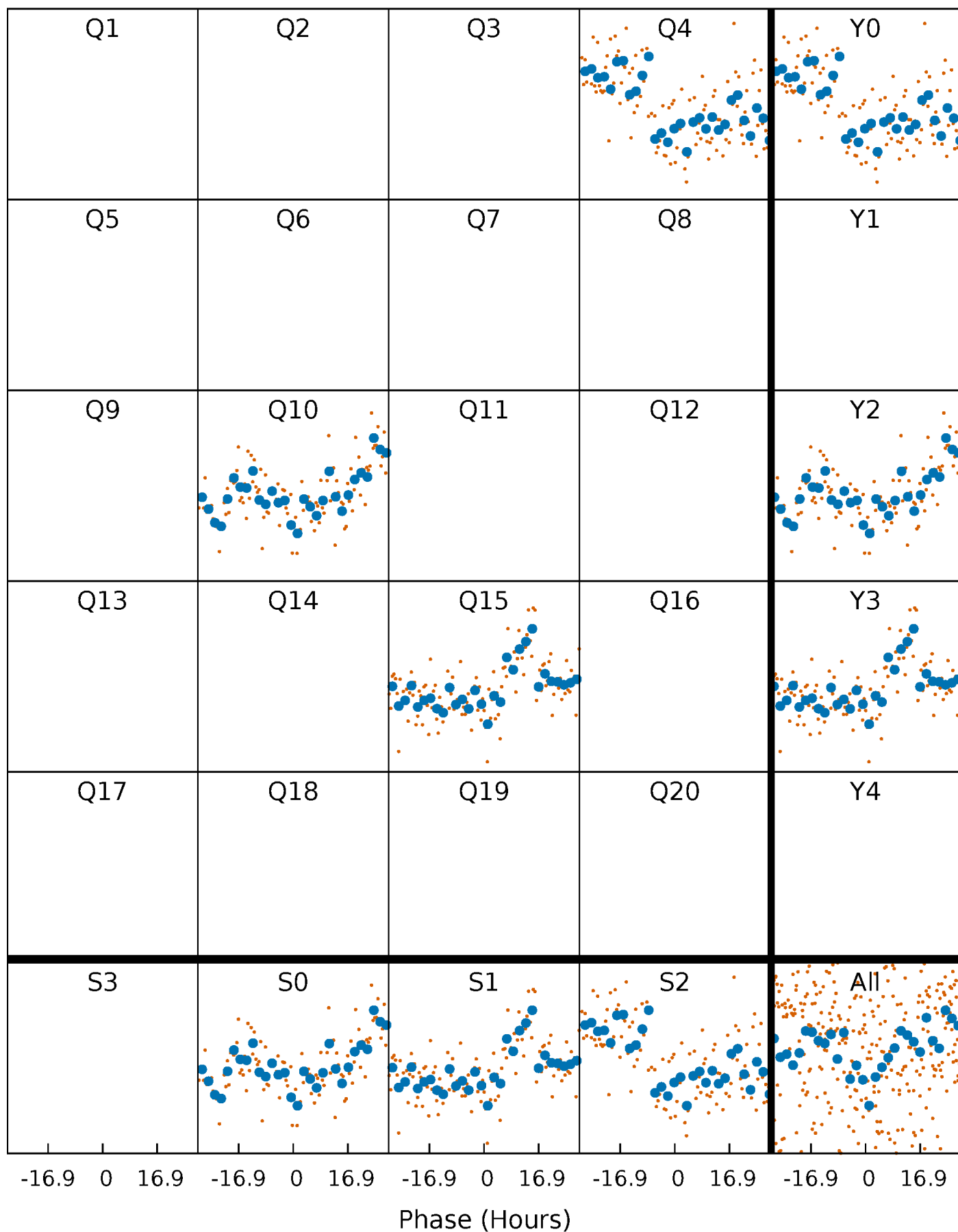


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 008955780-01 P=513.888091 Days $T_0=416.223792$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008955780-01 P=513.888091 Days $T_0=416.223792$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

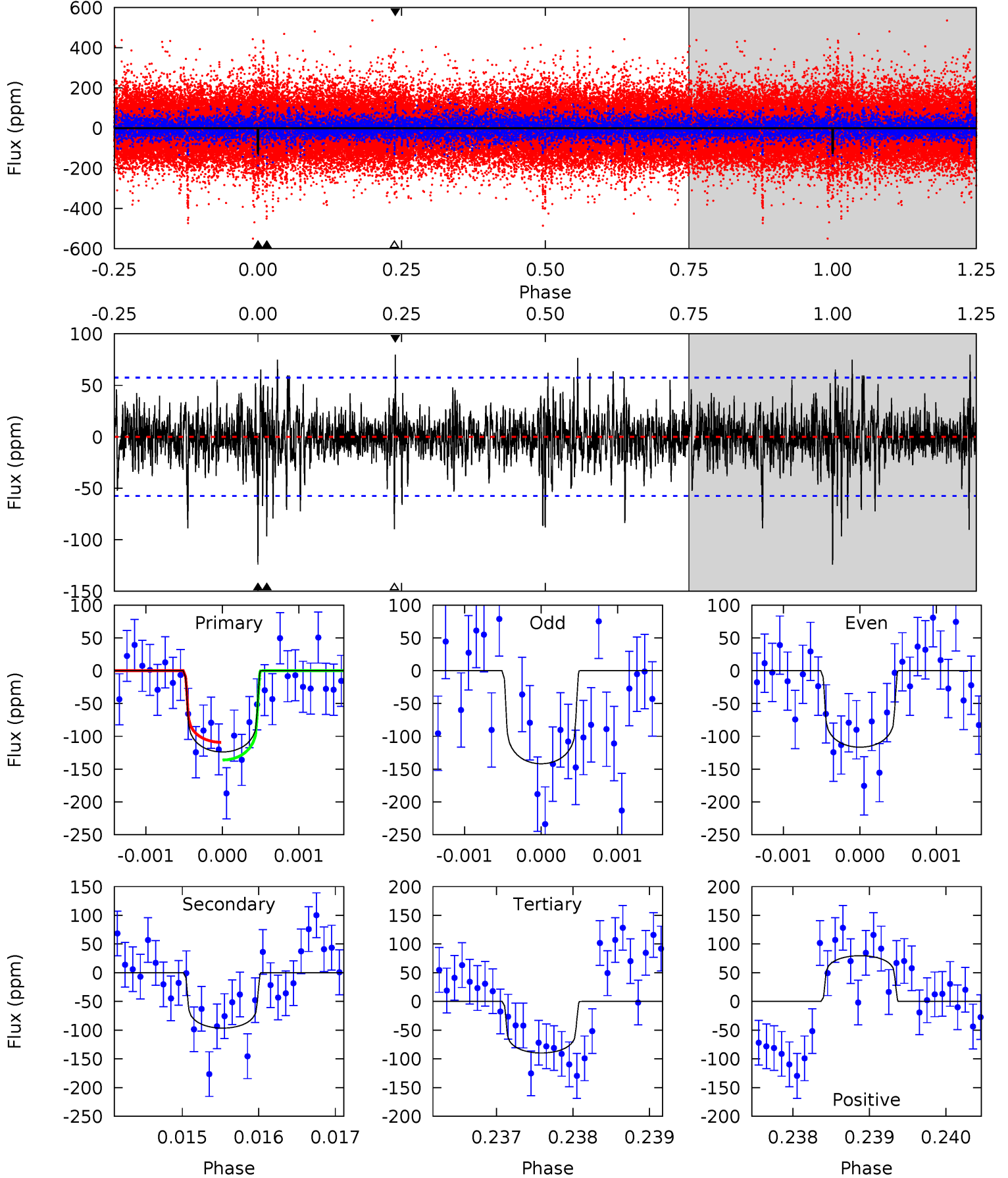
TCE 008955780-01 P=513.876789 Days $T_0=416.227898$ (BKJD)



DV Model-Shift Uniqueness Test

008955780-01, P = 513.888091 Days, E = 416.223792 Days

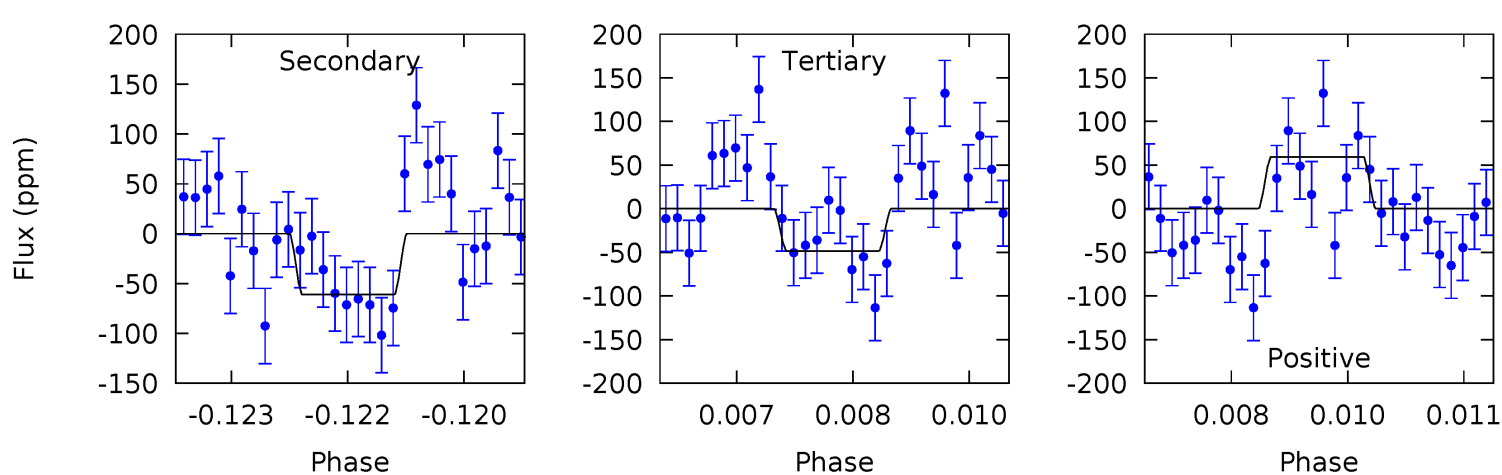
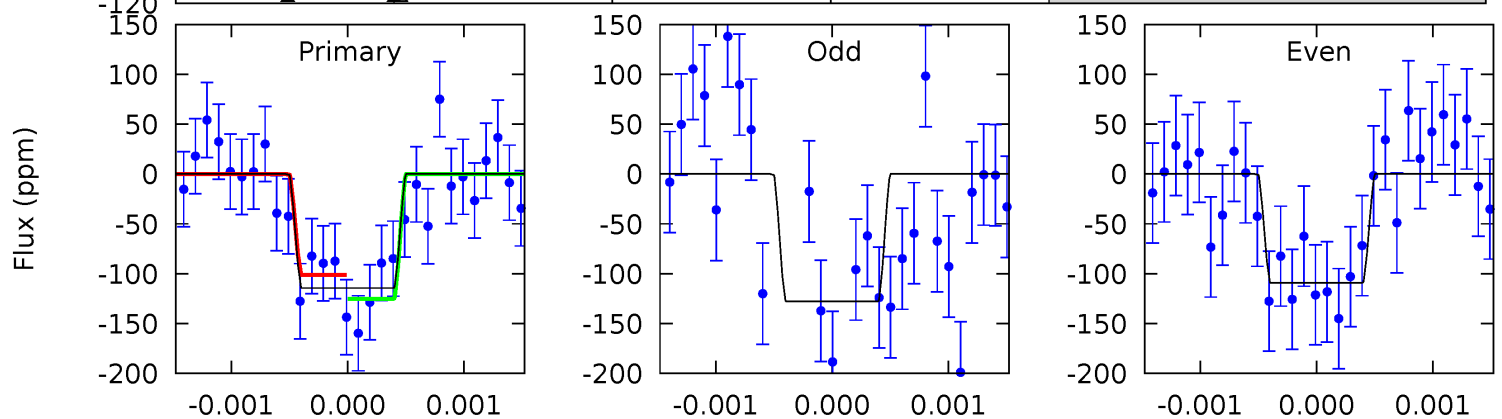
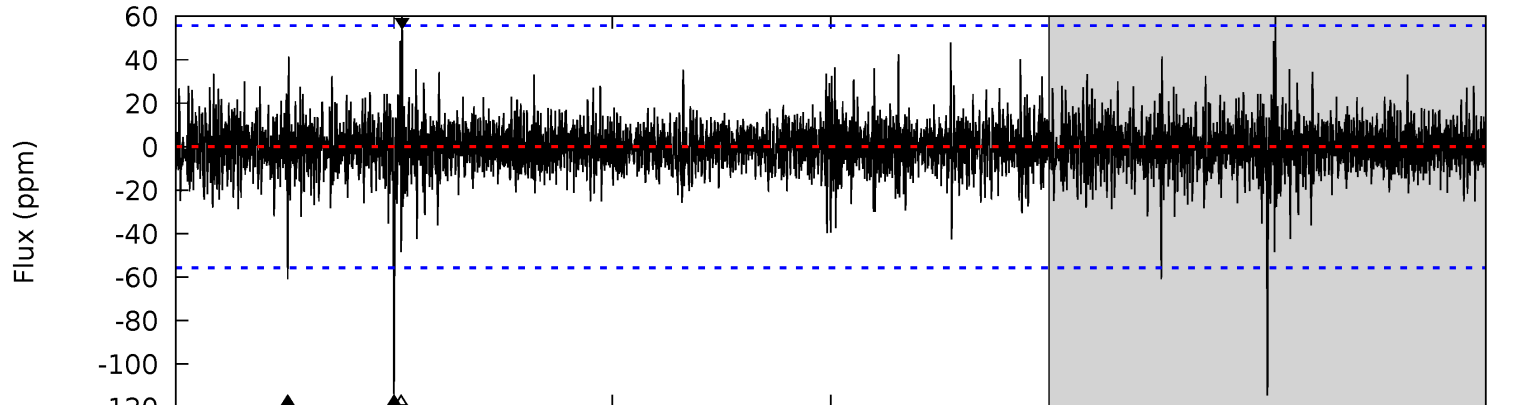
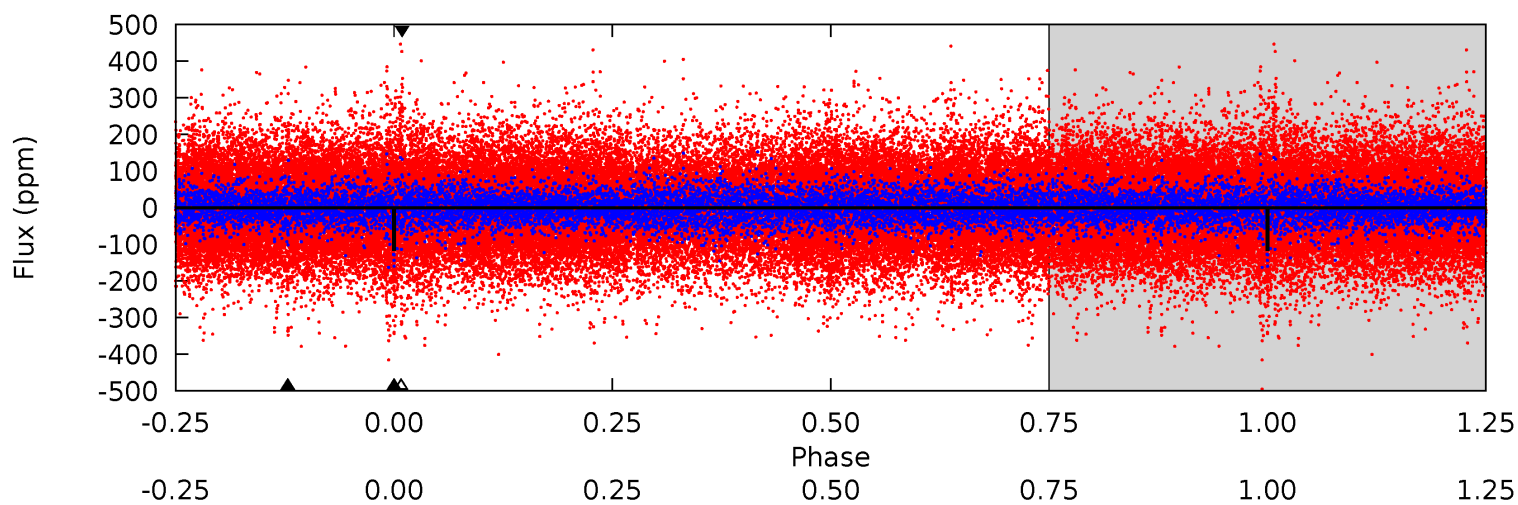
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	9.09	8.46	7.51	5.41	3.23	1.72	3.22	4.17	0.63	1.58	1.06	0.88	0.39	1.26



Alt Model-Shift Uniqueness Test

008955780-01, P = 513.876789 Days, E = 416.227898 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	5.93	4.71	5.79	5.42	3.24	0.95	6.42	5.34	1.22	0.14	0.80	0.93	0.34	1.15



Stellar Parameters For KIC 008955780

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6345^{+170}_{-151}	$4.227^{+0.286}_{-0.154}$	$-1.560^{+0.350}_{-0.200}$	$1.092^{+0.242}_{-0.296}$	$0.734^{+0.071}_{-0.022}$	$0.794^{+1.261}_{-0.313}$
	+3%/-2%	+7%/-4%	+22%/-13%	+22%/-27%	+10%/-3%	+159%/-39%
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 008955780-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-96 ± 11	$1.36^{+0.39}_{-0.39}$	382^{+27}_{-33}	5822^{+930}_{-562}	37904^{+34485}_{-15309}
Alt.	-61 ± 10	$1.26^{+0.38}_{-0.38}$	381^{+25}_{-28}	5412^{+856}_{-570}	27127^{+30118}_{-11574}

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

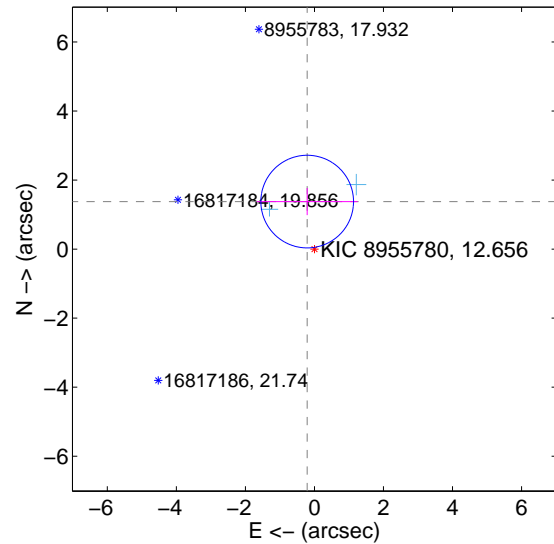
Supplemental centroid analysis for 008955780-01. Kepler magnitude: 12.66. Transit SNR 7.41

There are 2 quarters with good PRF difference image offsets

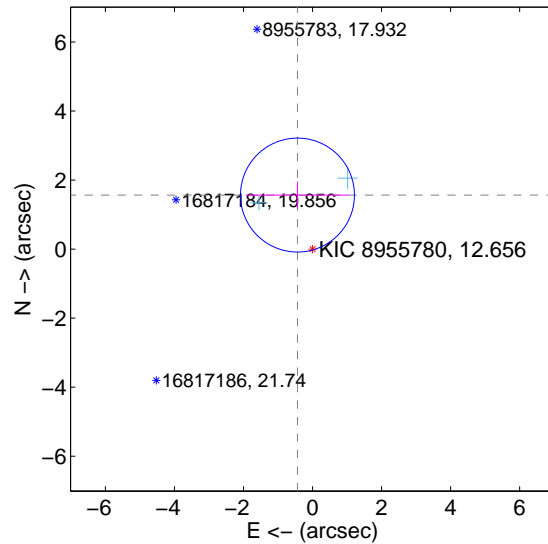
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.392 \pm 0.447	3.11	0.210 \pm 1.460	1.376 \pm 0.394
PRF-fit source offset from KIC position	1.624 \pm 0.550	2.95	0.436 \pm 1.488	1.565 \pm 0.392
photometric centroid source offset	1.78 \pm 1.35	1.31	0.97 \pm 1.17	1.49 \pm 1.42

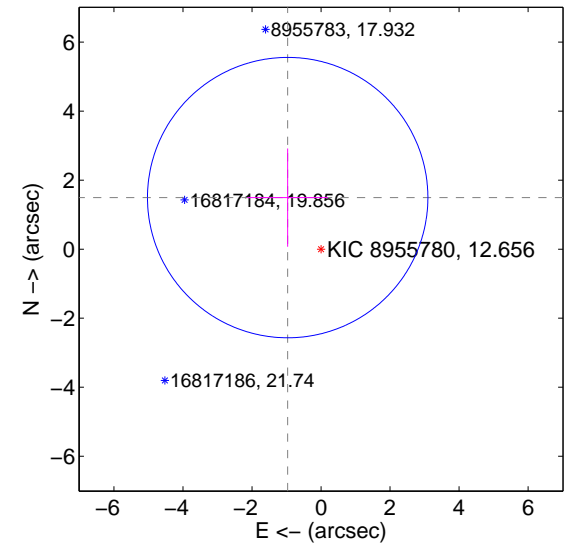
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

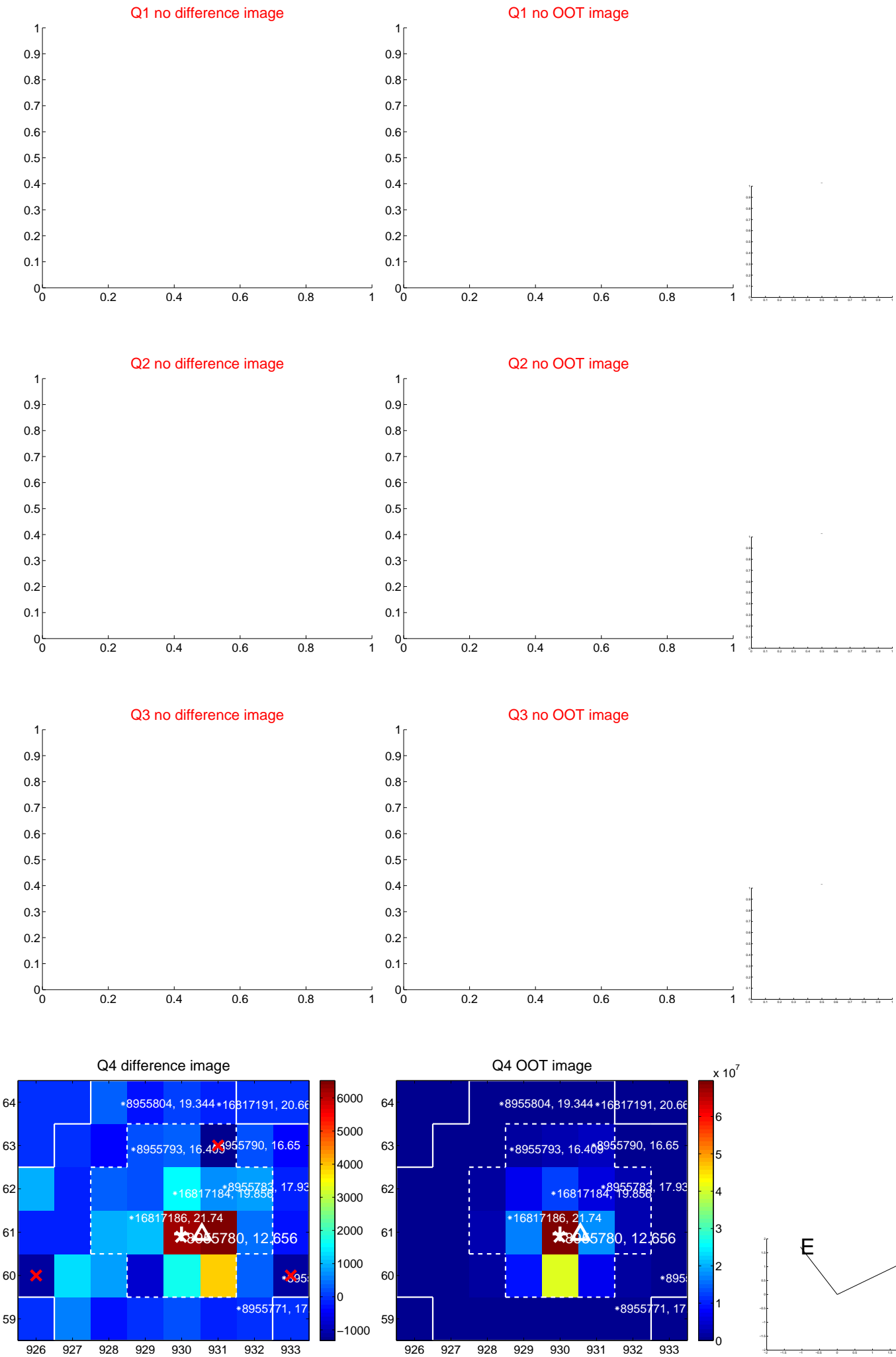


offset from photometric centroids



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.



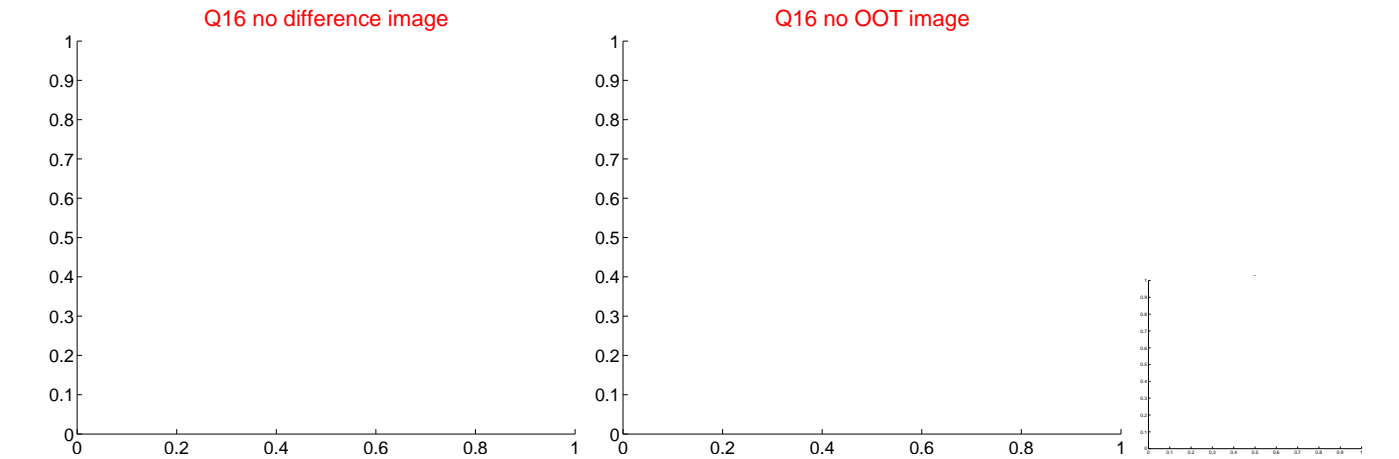
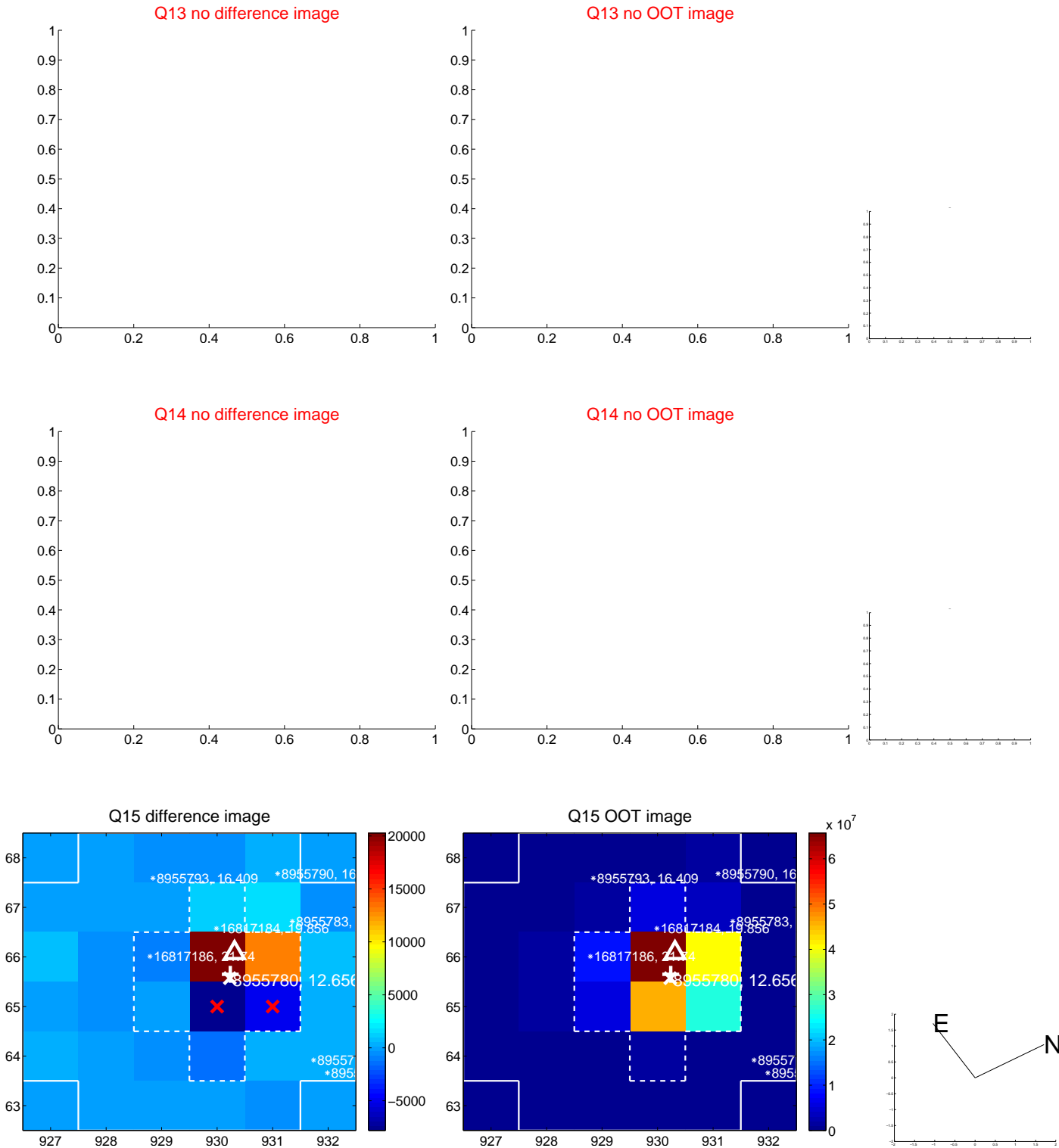
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



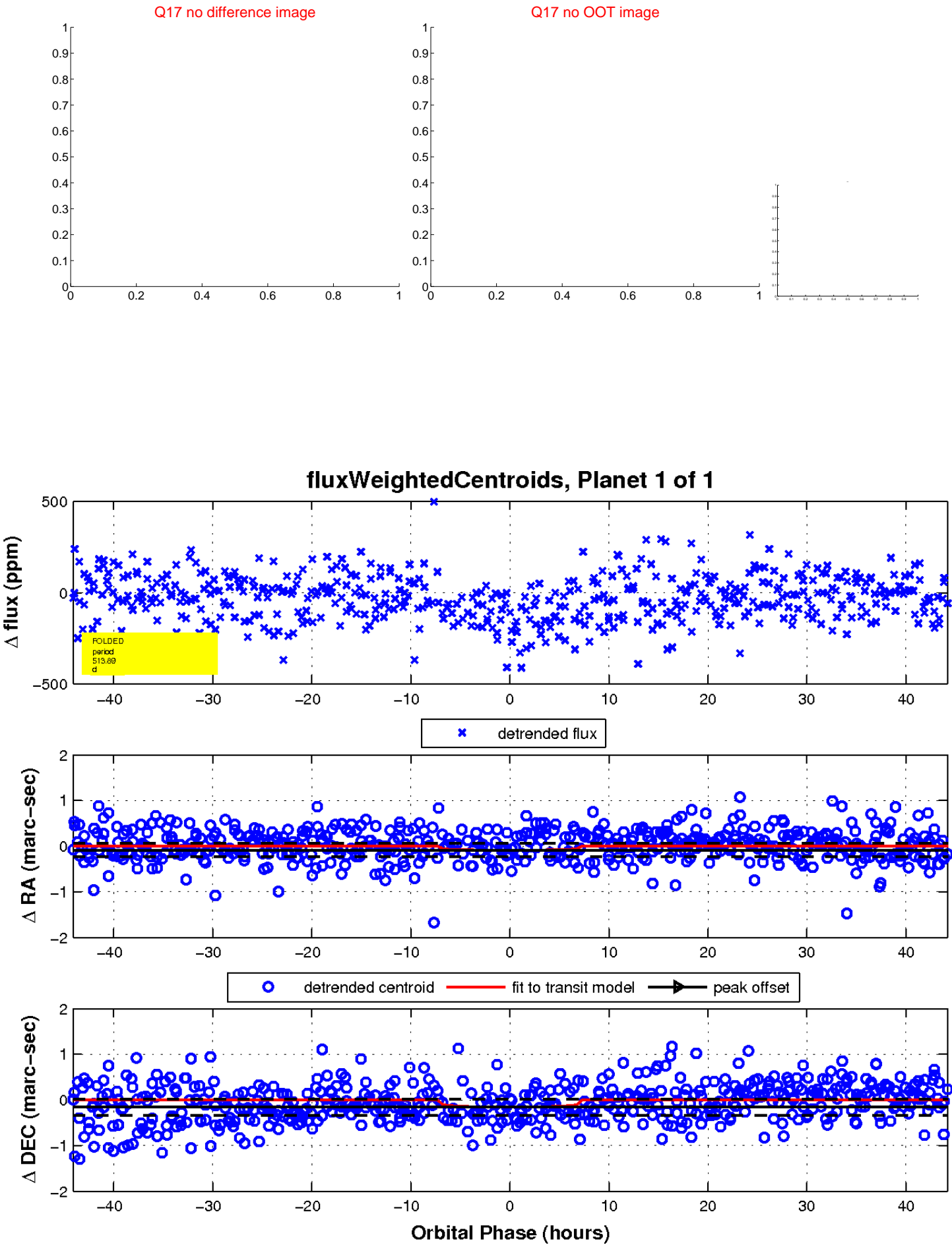
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

