

KIC 004060533

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})
004060533-01	OBS	No	488.865402	262.562458	1379.6	5.365	14.1	6.6	17.11	5140	62.34	61.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004060533-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS

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

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

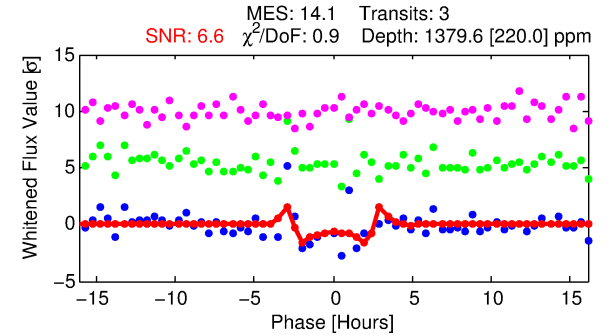
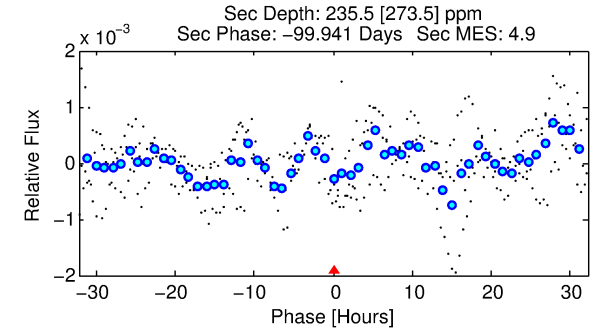
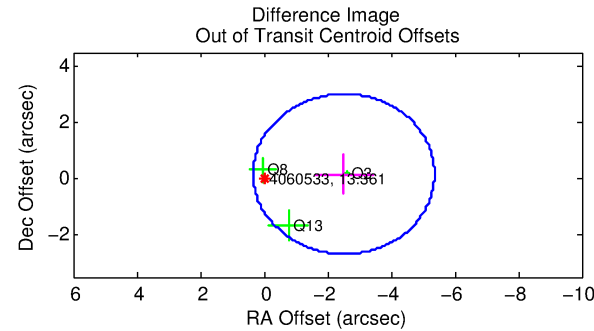
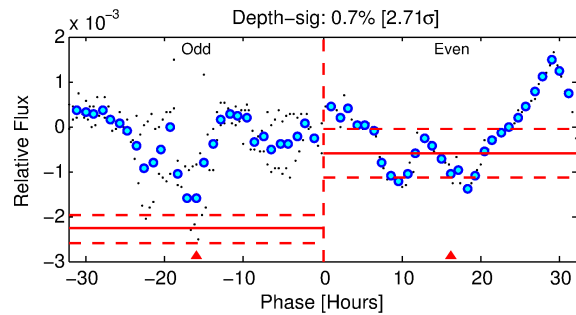
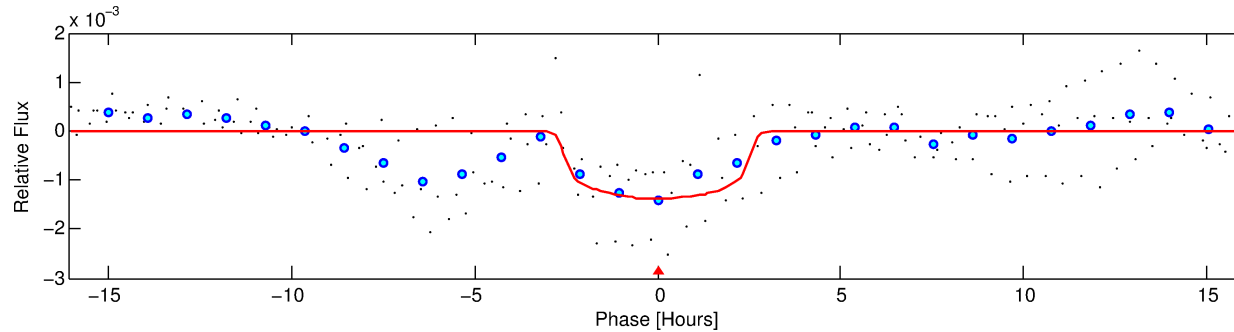
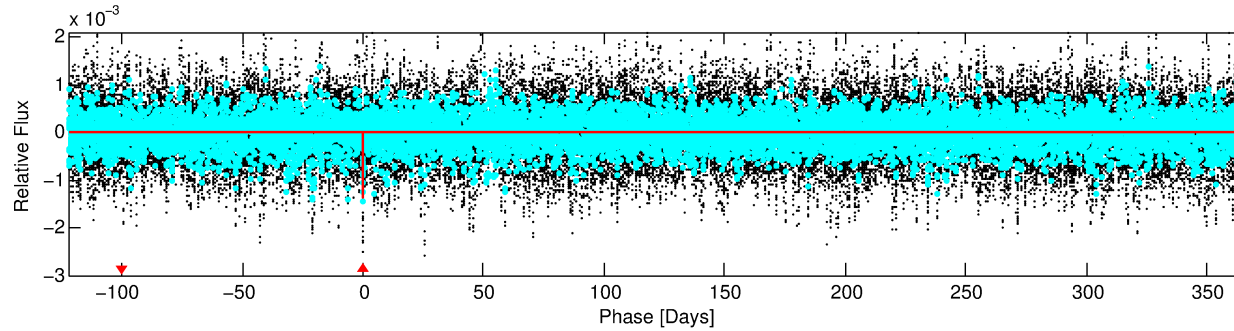
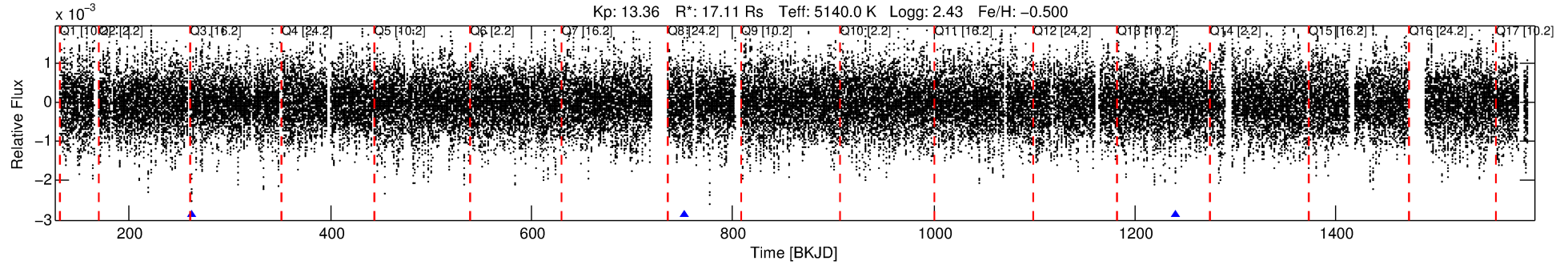
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004060533-01

No Significant Match Found

DV One-Page Summary

KIC: 4060533 Candidate: 1 of 1 Period: 488.865 d



DV Fit Results:

Period = 488.86540 [0.00305] d
Epoch = 262.5625 [0.0044] BKJD
Rp/R* = 0.0334 [0.0218]
a/R* = 719.11 [1833.08]
b = 0.03 [95.71]
Seff = 61.19 [19.13]
Teq = 713 [56] K
Rp = 62.34 [47.03] Re
a = 1.7299 [0.4379] AU
Ag = 99.77 [176.20] [0.56 σ]
Teffp = 3485 [1530] K [1.81 σ]

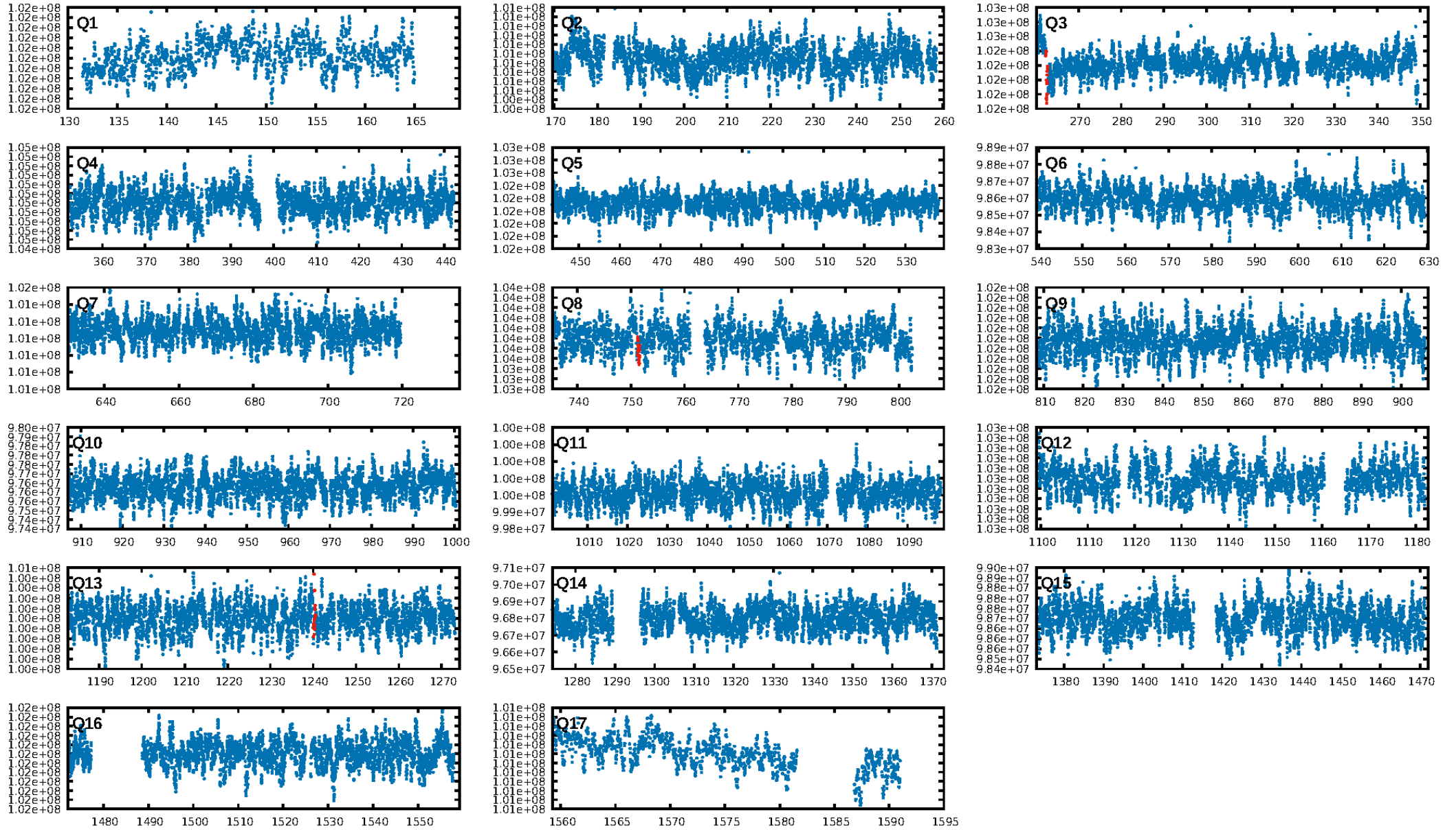
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 10.7%
ModelChiSquareGof-sig: 97.0%
Bootstrap-pfa: 5.73e-19
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 13.26
Centroid-sig: 26.4%
Centroid-so: 0.319 arcsec [0.89 σ]
OotOffset-rm: 2.520 arcsec [2.65 σ]
KicOffset-rm: 2.352 arcsec [3.50 σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

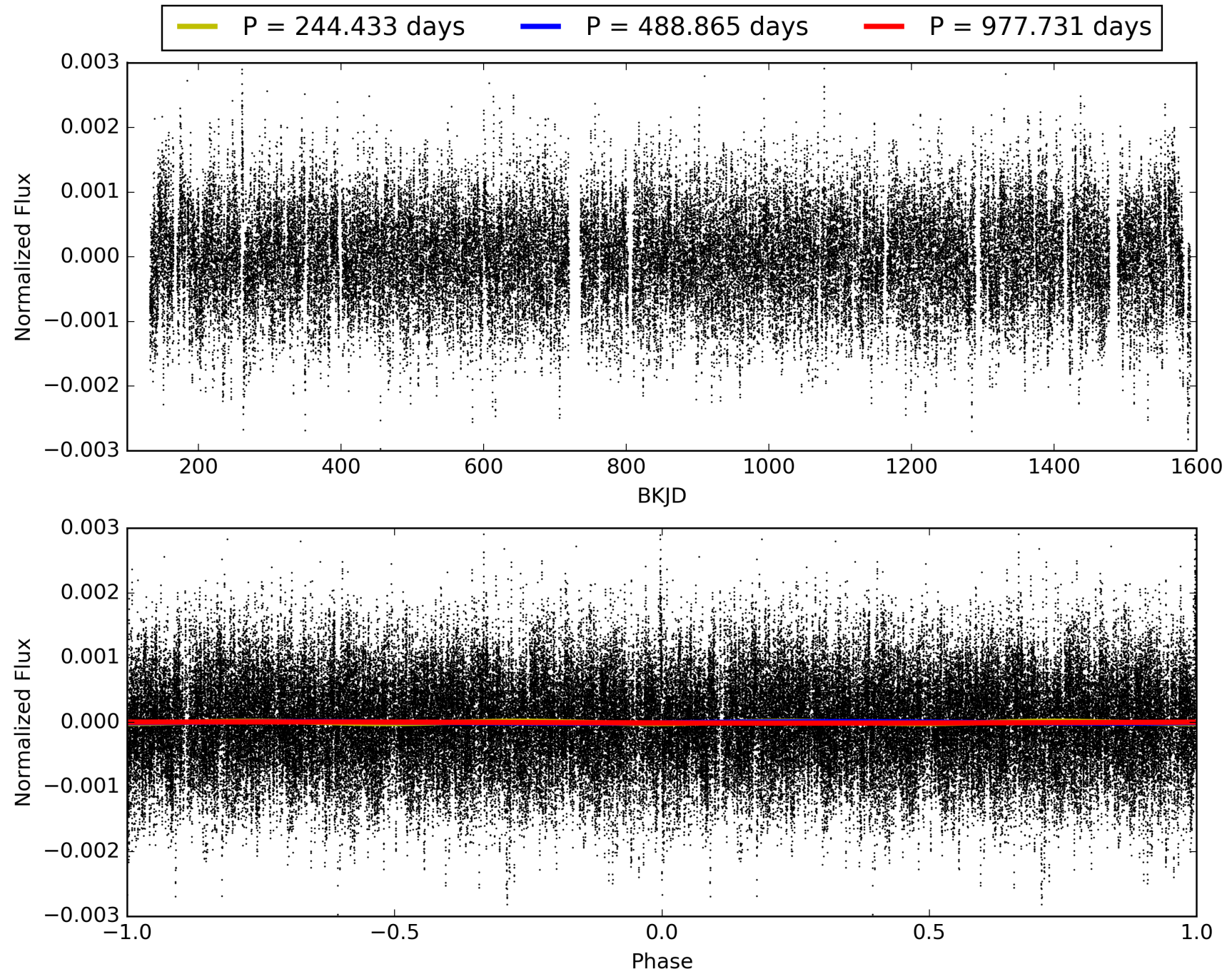
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 21:32:21 Z

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

TCE 004060533-01, PDC Light Curves

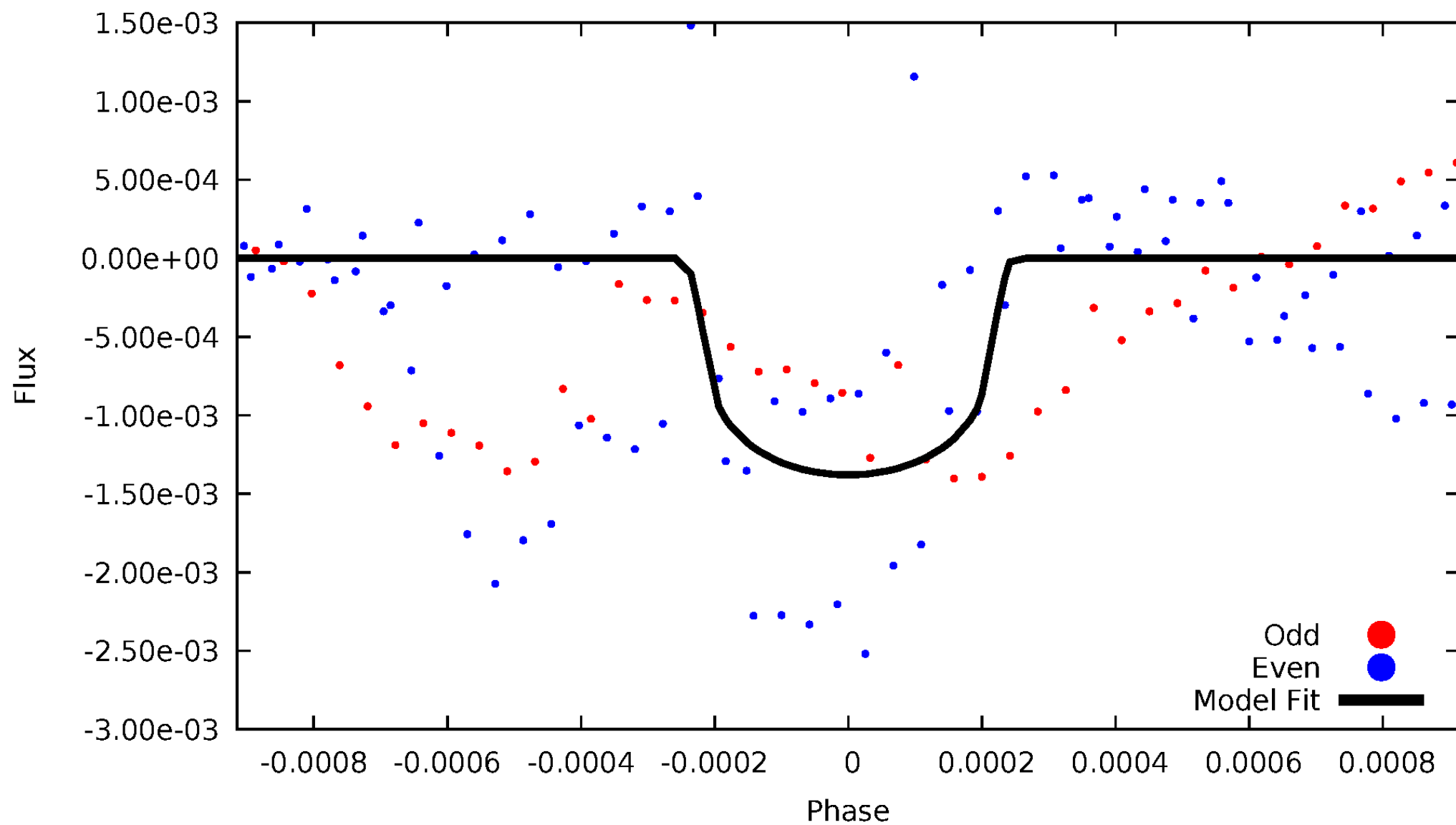


TCE 004060533-01



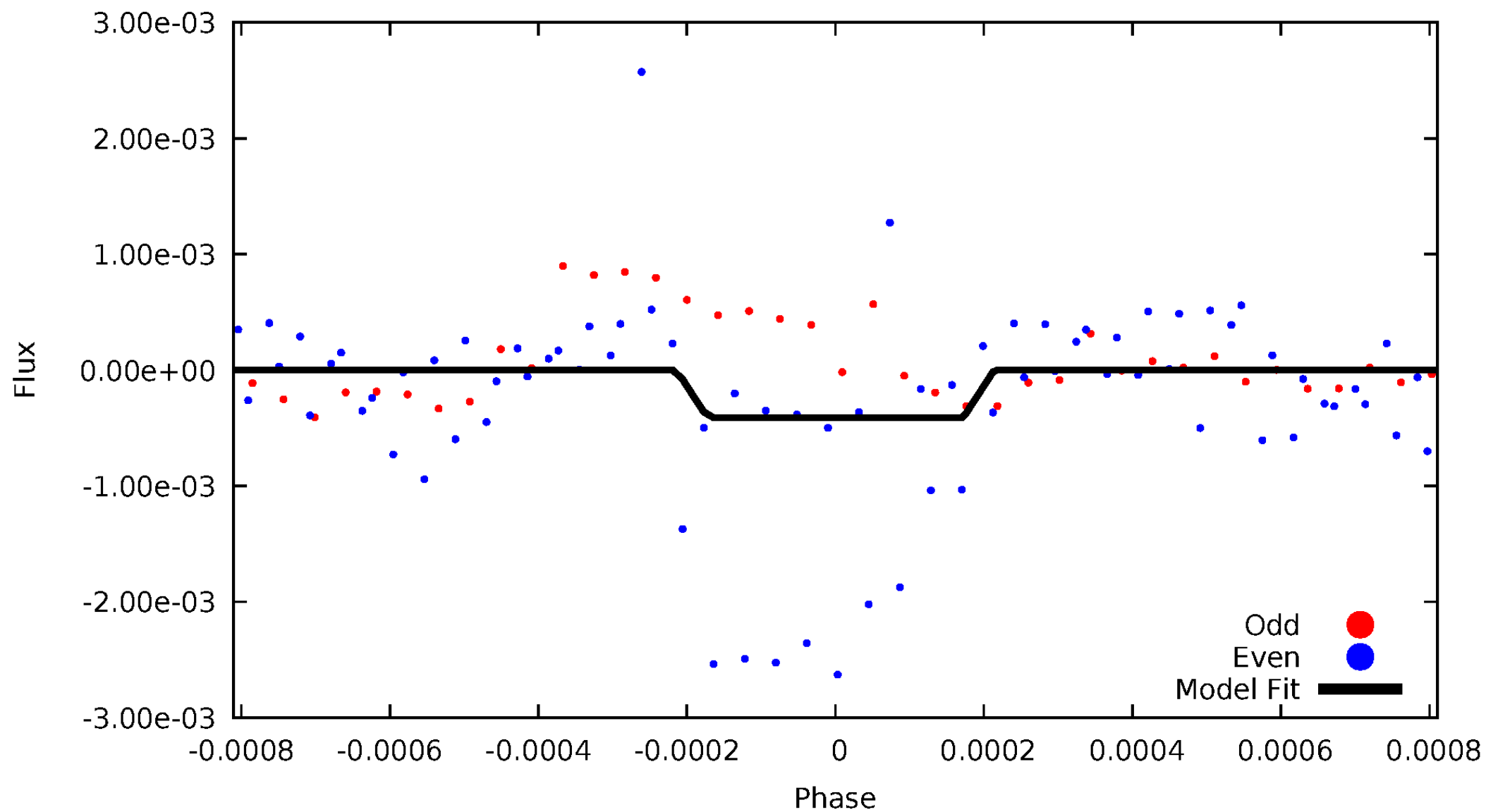
DV Odd/Even

TCE 004060533-01



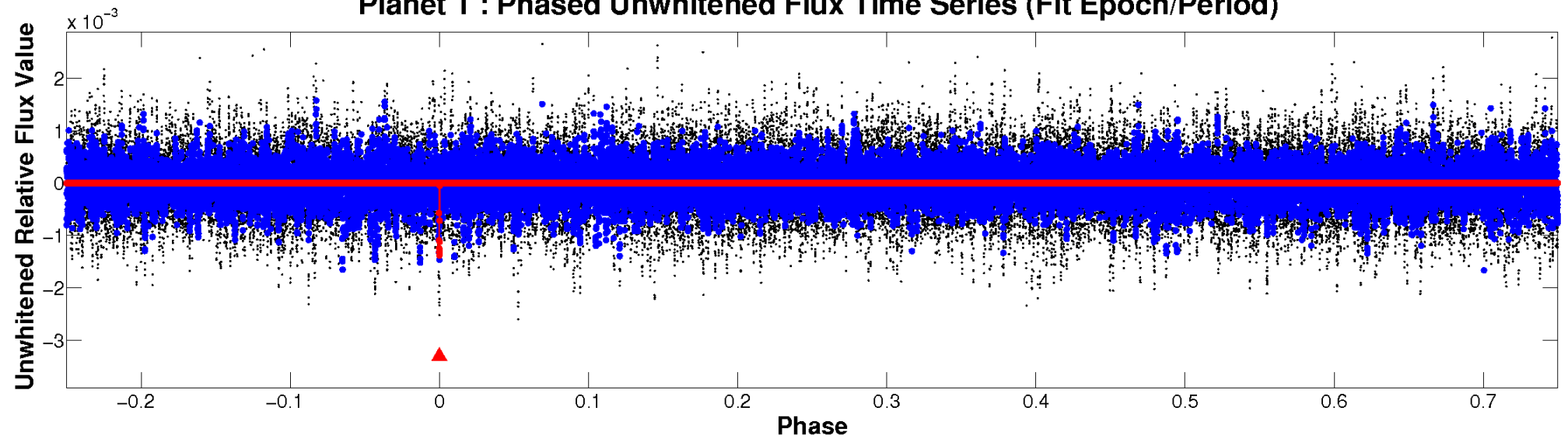
ALT Odd/Even

TCE 004060533-01

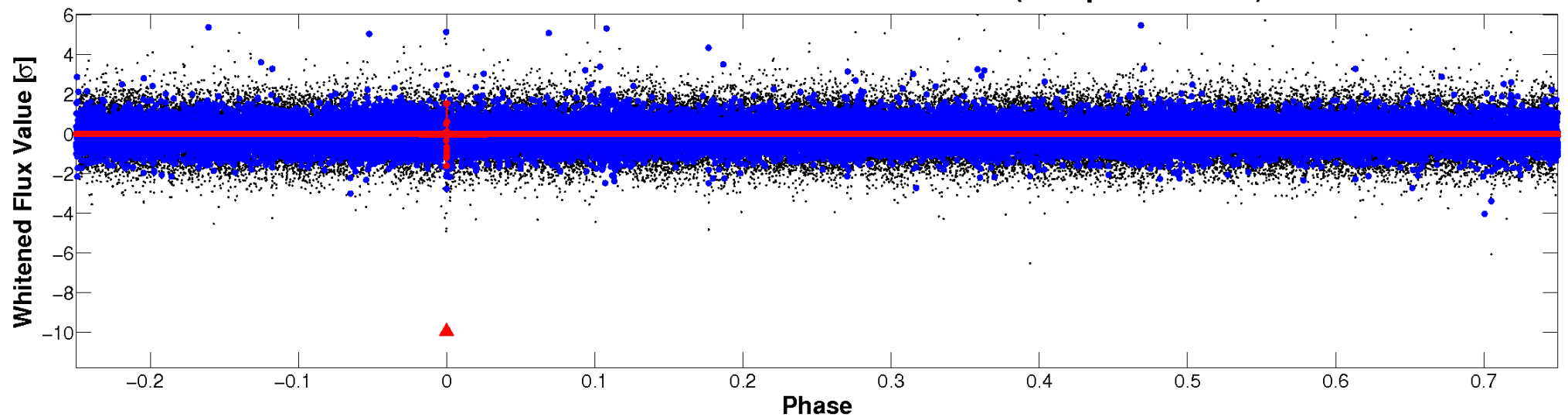


Non-Whitened Vs. Whitened Light Curve

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

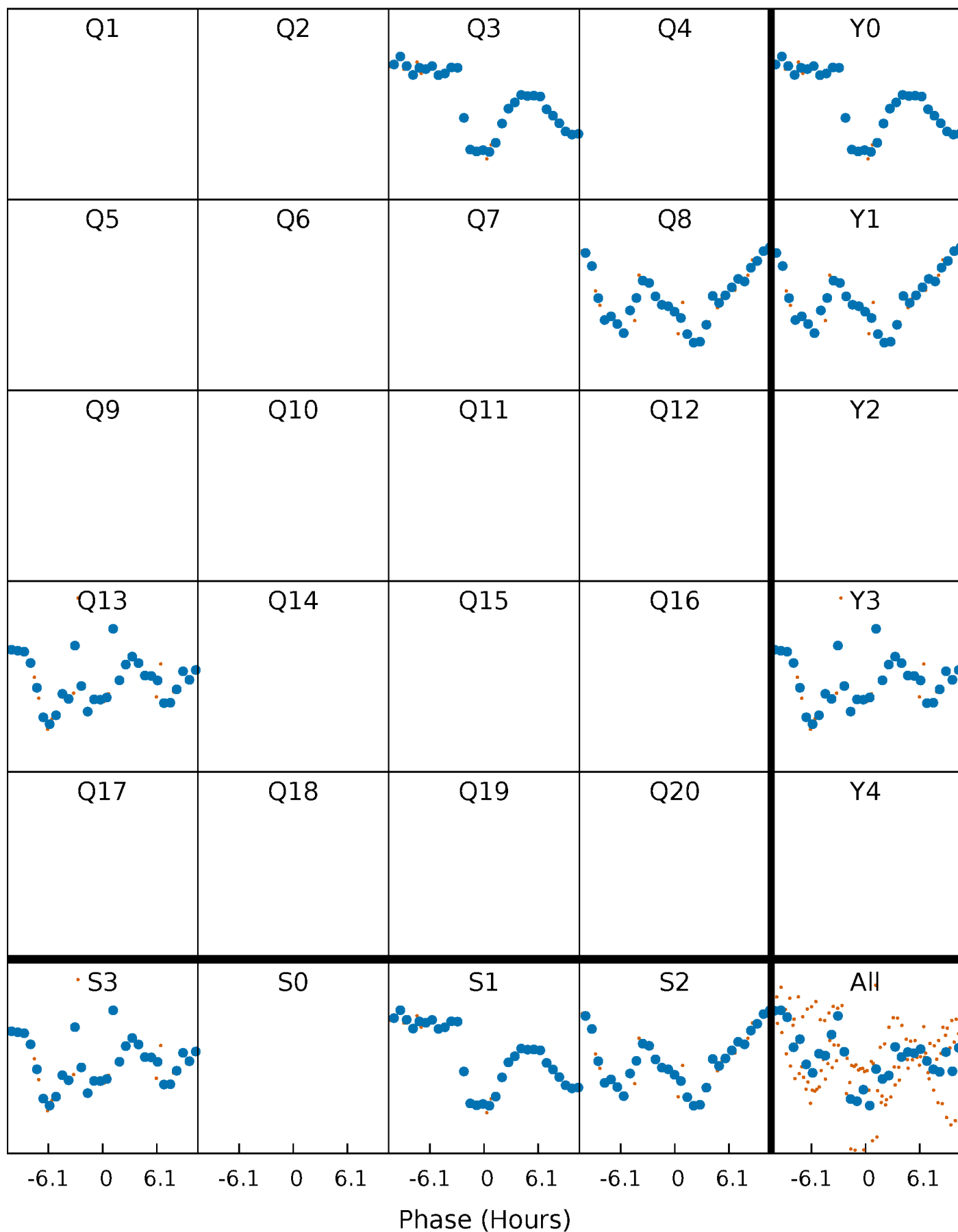


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



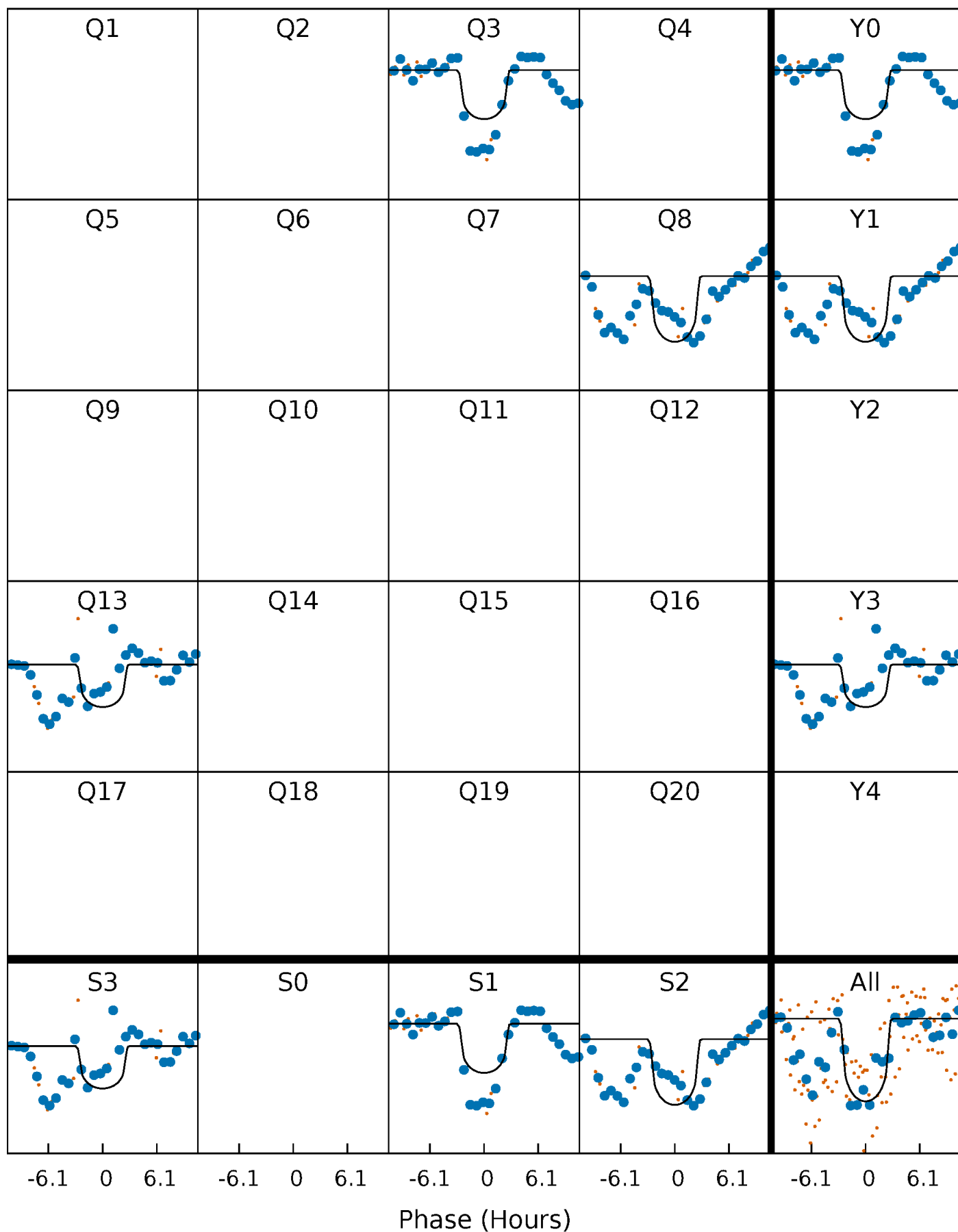
PDC Quarter-Phased Transit Curves

TCE 004060533-01 P=488.865402 Days $T_0=262.562458$ (BKJD)



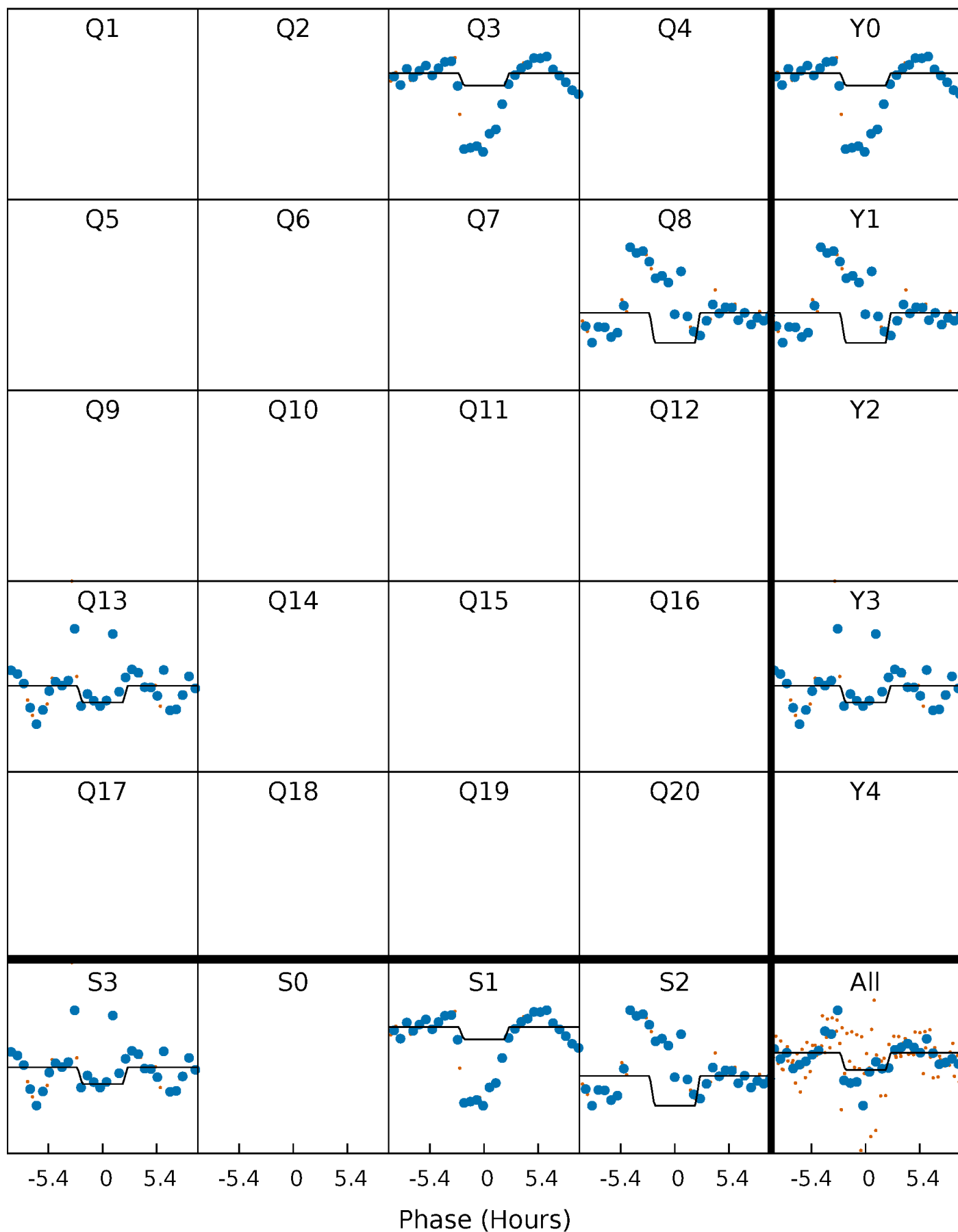
DV Quarter-Phased Transit Curves

TCE 004060533-01 P=488.865402 Days $T_0=262.562458$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

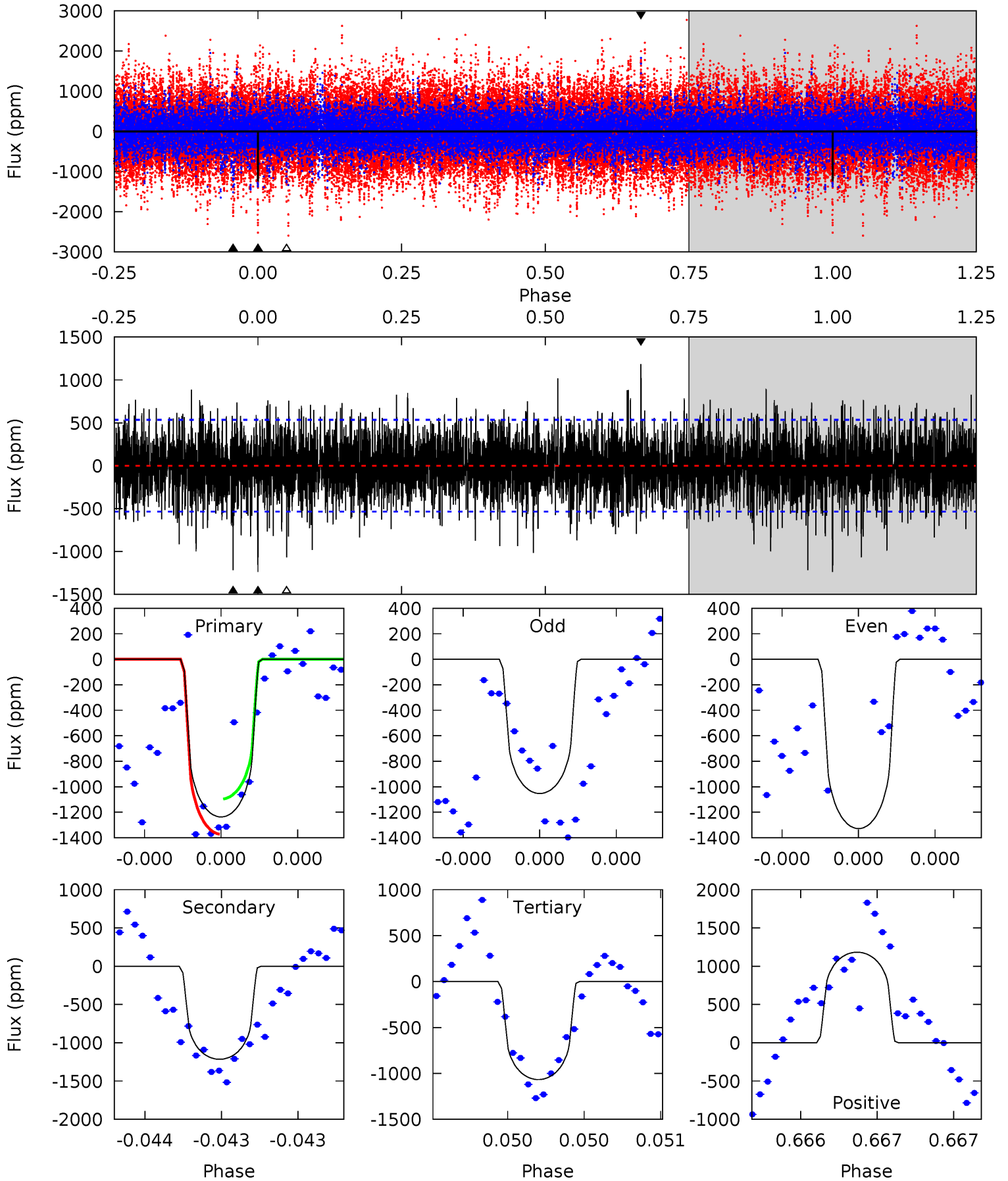
TCE 004060533-01 P=488.866112 Days $T_0=262.573332$ (BKJD)



DV Model-Shift Uniqueness Test

004060533-01, P = 488.865402 Days, E = 262.562458 Days

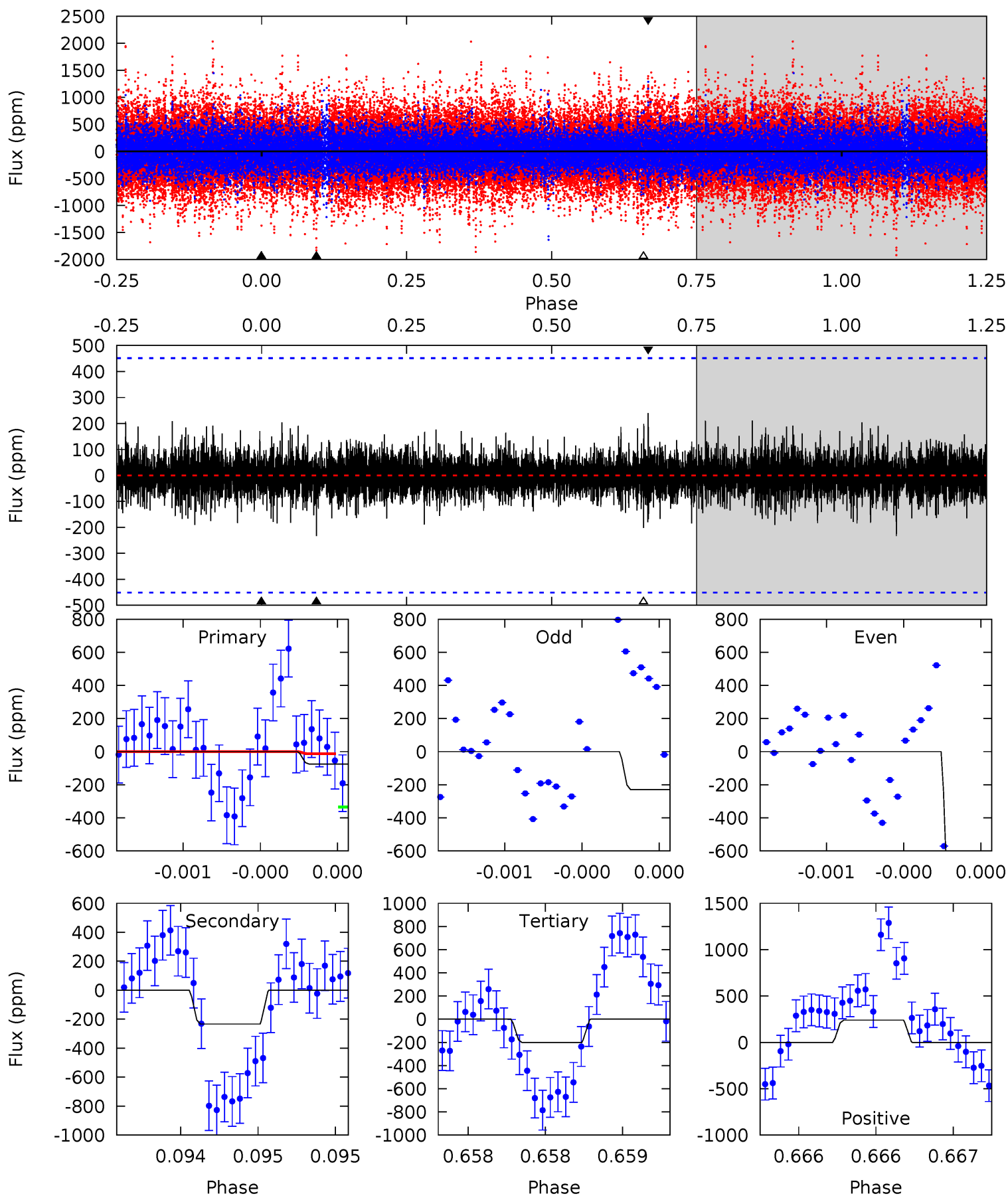
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	12.7	11.1	12.3	5.58	3.49	2.80	1.77	0.56	1.55	0.34	1.38	1.17	0.49	1.44



Alt Model-Shift Uniqueness Test

004060533-01, P = 488.866112 Days, E = 262.573332 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.93	2.90	2.50	2.98	5.60	3.52	0.64	-1.57	-2.05	0.39	-0.08	6.75	4.97	0.51	2.01



Stellar Parameters For KIC 004060533

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5140^{+92}_{-230}	$2.432^{+0.030}_{-0.030}$	$-0.500^{+0.150}_{-0.400}$	$17.112^{+0.719}_{-6.470}$	$2.885^{+0.204}_{-1.731}$	$0.001^{+0.001}_{-0.000}$
	+2%/-4%	+1%/-1%	+30%/-80%	+4%/-38%	+7%/-60%	+63%/-8%
Source	PHO1	AST9	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 004060533-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1215 ± 96	$65.56^{+39.73}_{-35.30}$	996^{+24}_{-45}	5059^{+2399}_{-887}	471^{+1788}_{-294}
Alt.	-233 ± 81	$47.43^{+35.73}_{-30.51}$	995^{+25}_{-43}	4127^{+2351}_{-777}	160^{+1084}_{-114}

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

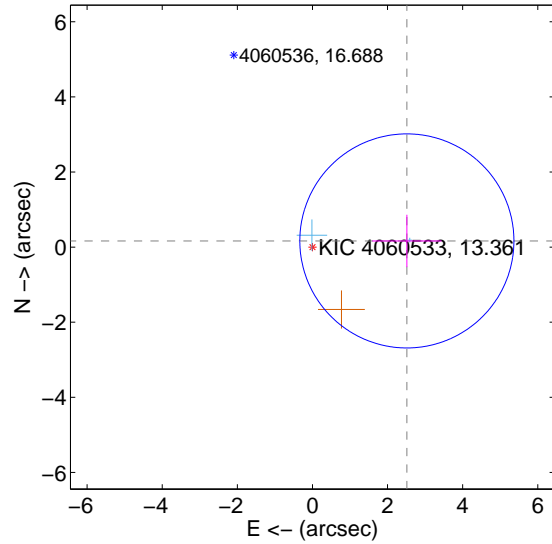
Supplemental centroid analysis for 004060533-01. Kepler magnitude: 13.36. Transit SNR 6.65

There are 2 quarters with good PRF difference image offsets

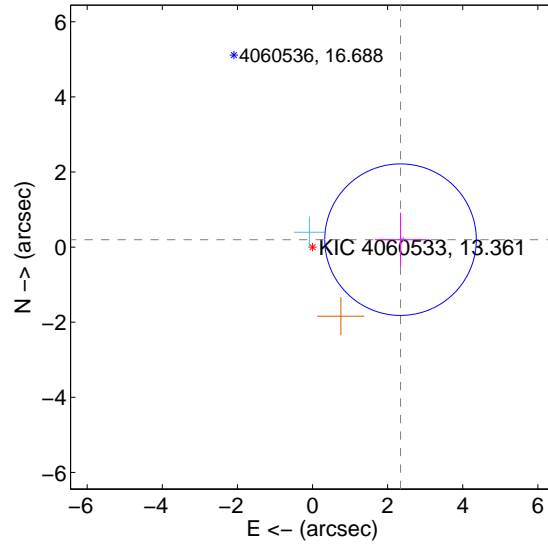
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.520 ± 0.950	2.65	-2.514 ± 0.925	0.165 ± 0.697
PRF-fit source offset from KIC position	2.352 ± 0.672	3.50	-2.343 ± 0.685	0.198 ± 0.717
photometric centroid source offset	0.32 ± 0.36	0.89	-0.31 ± 0.35	0.06 ± 0.44

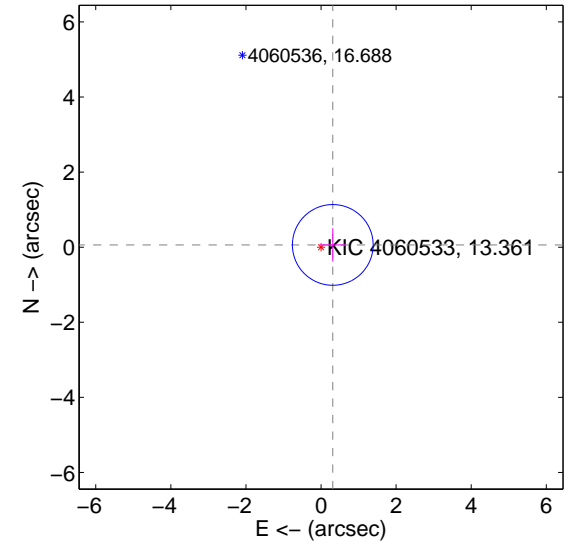
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

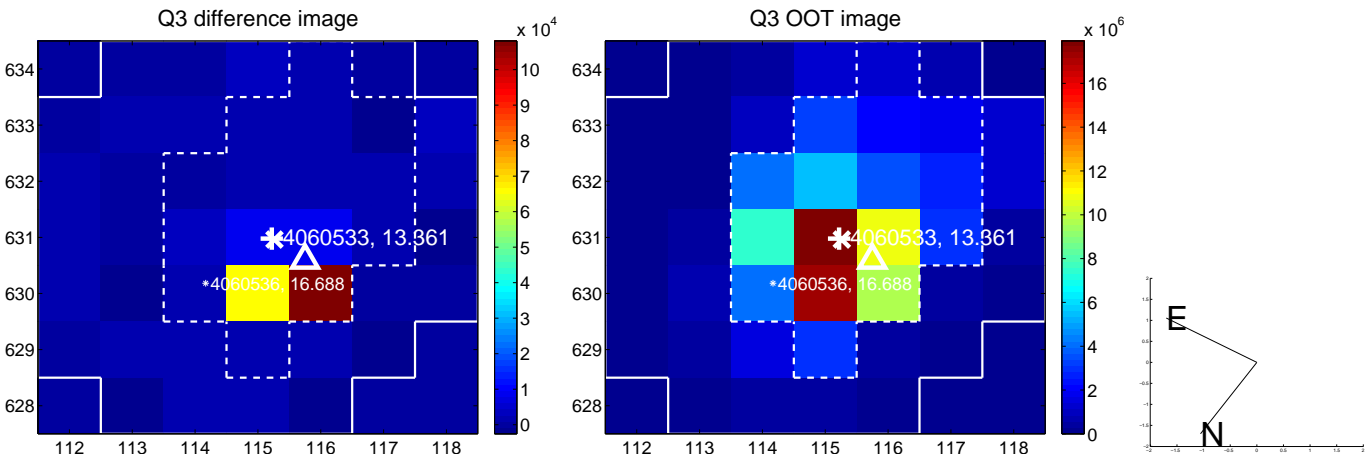


offset from photometric centroids

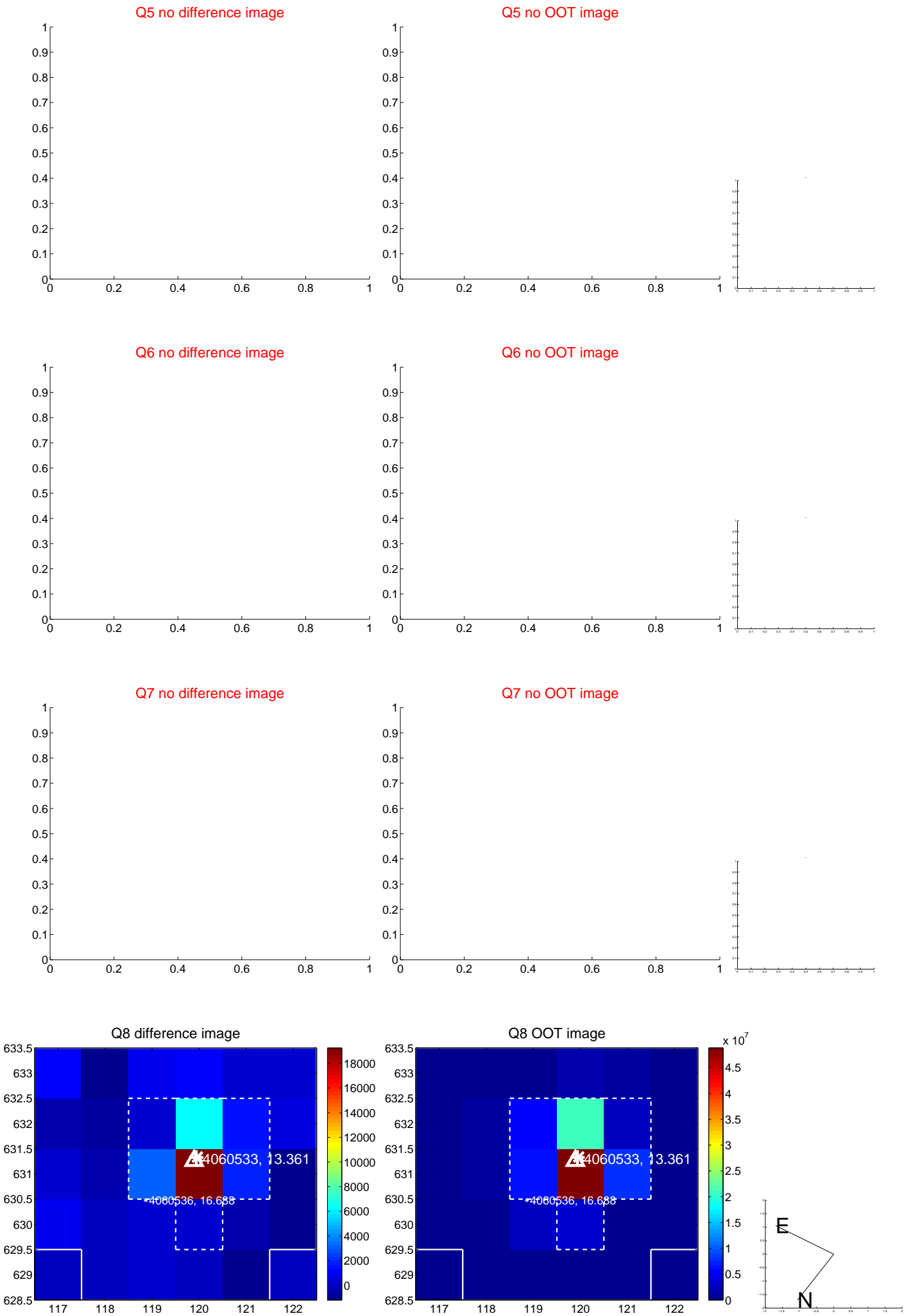


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



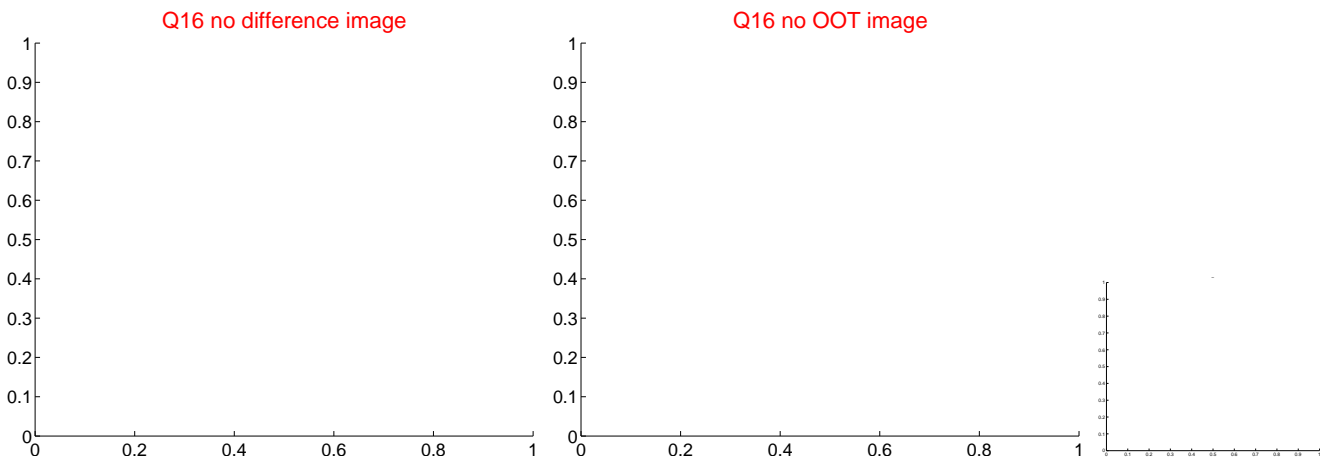
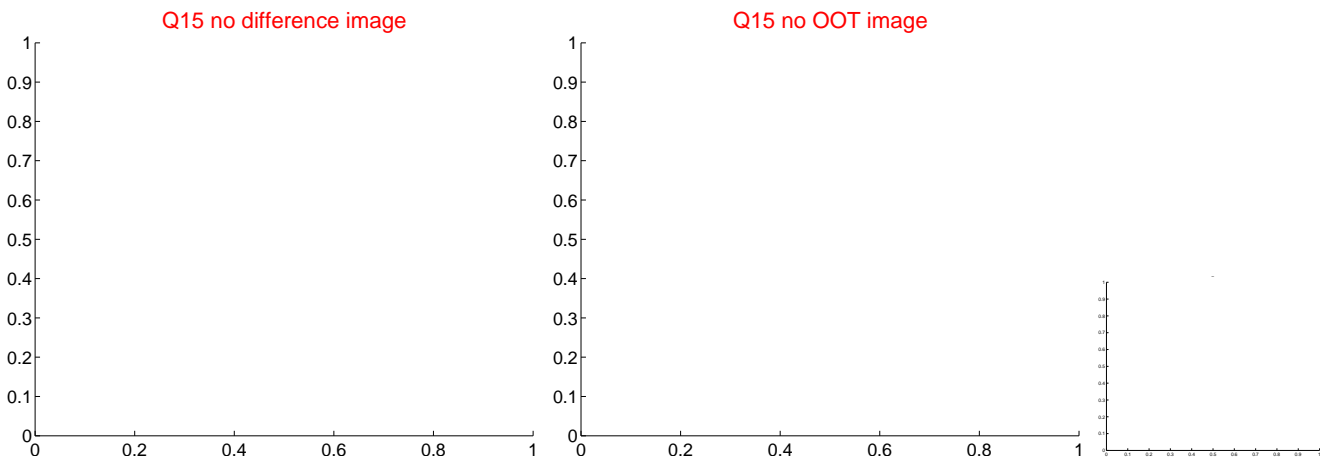
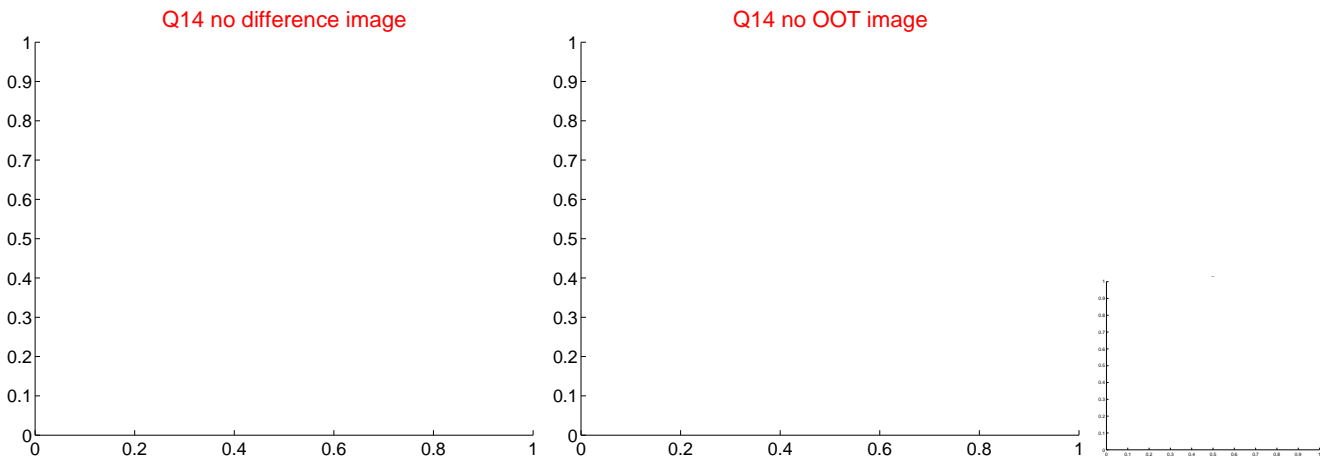
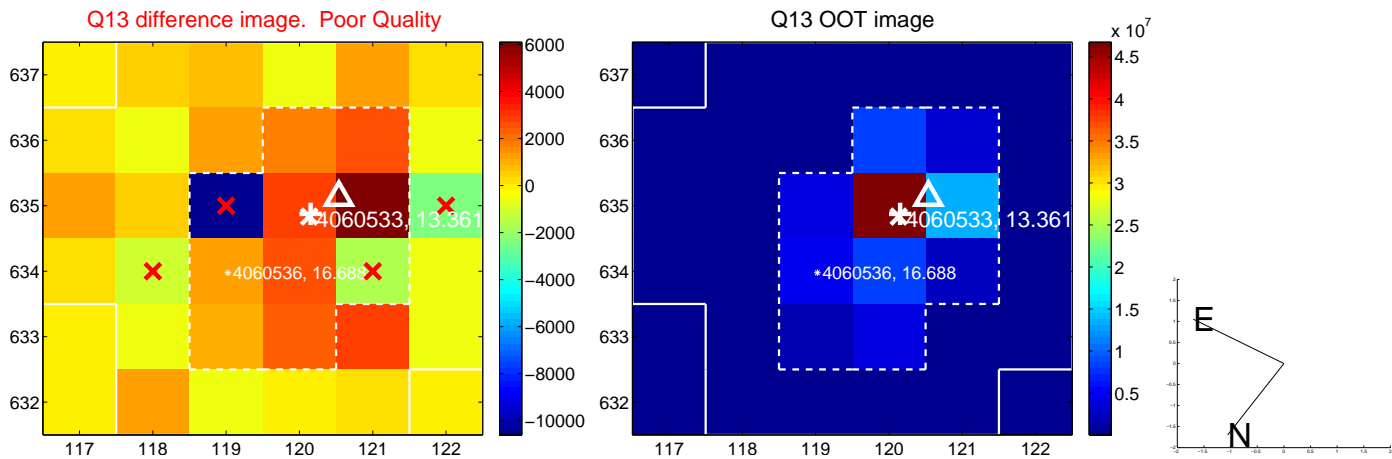
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



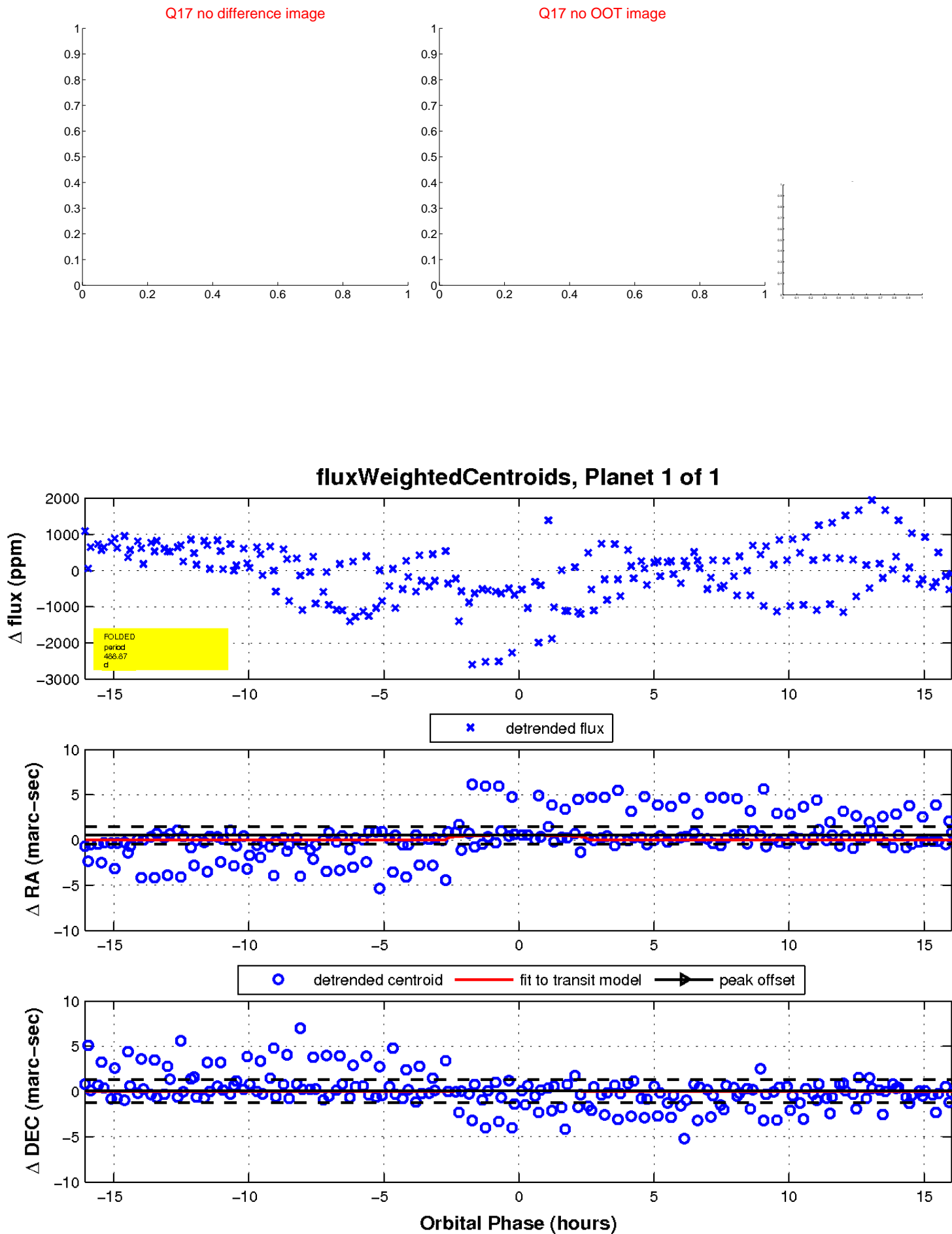
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UKIRT Image

Declination

