

KIC 012202133

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})
012202133-01	OBS	No	651.973298	263.162637	229.3	11.284	8.5	8.9	2.93	6025	4.98	3.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012202133-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—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.

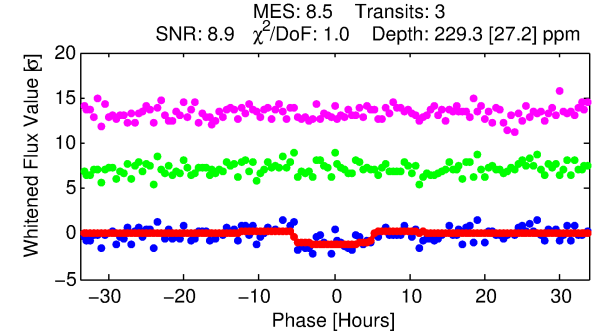
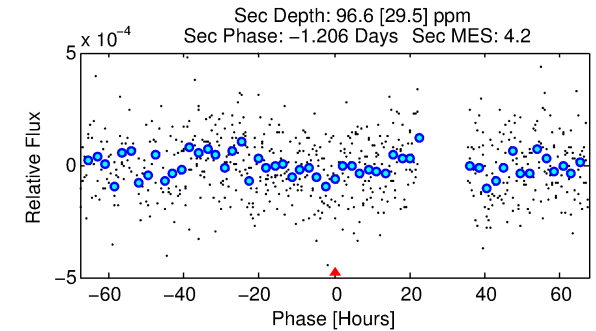
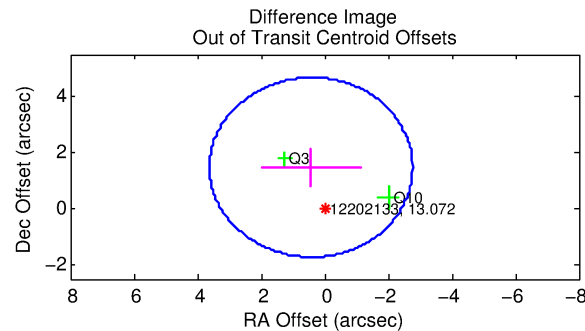
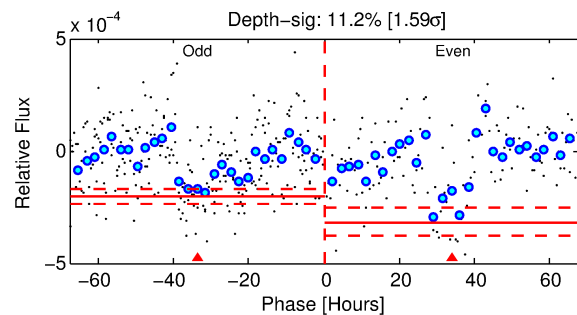
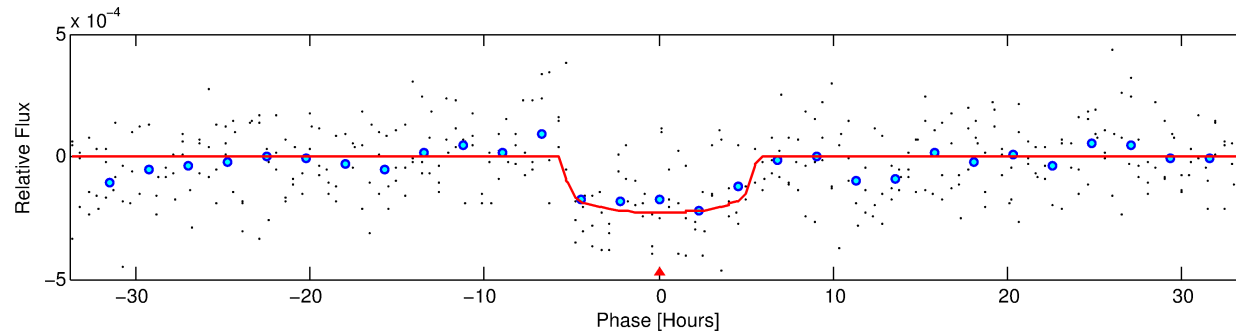
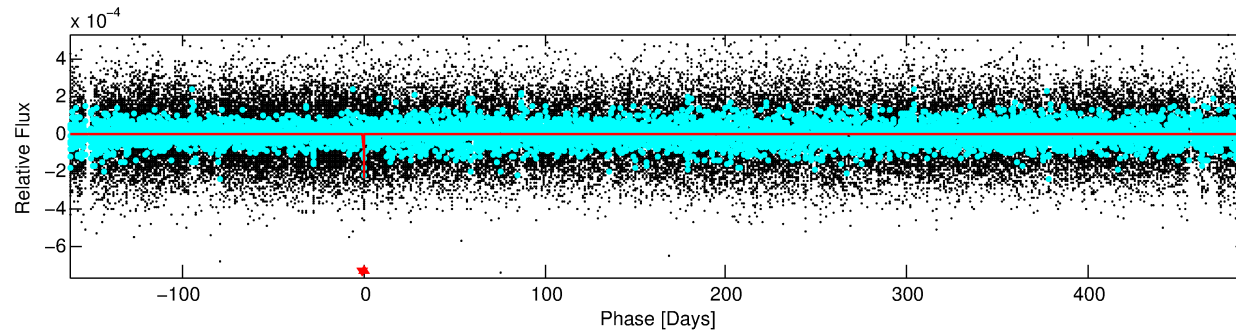
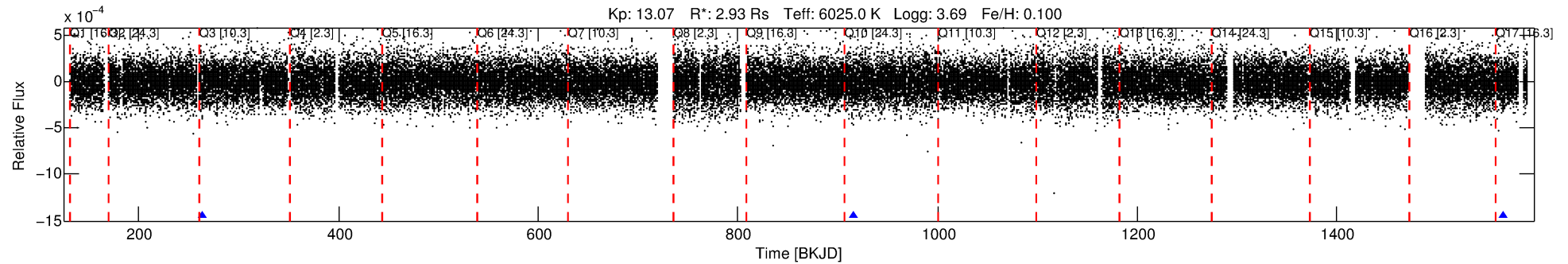
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012202133-01

No Significant Match Found

DV One-Page Summary

KIC: 12202133 Candidate: 1 of 1 Period: 651.973 d



DV Fit Results:

Period = 651.97330 [0.01151] d
Epoch = 263.1626 [0.0162] BKJD
Rp/R* = 0.0156 [0.0048]
a/R* = 259.75 [382.56]
b = 0.83 [0.57]
Seff = 3.54 [2.06]
Teq = 350 [51] K
Rp = 4.98 [2.46] Re
a = 1.6900 [0.6118] AU
Ag = 6124.08 [5449.46] [1.12 σ]
Teffp = 4785 [831] K [5.33 σ]

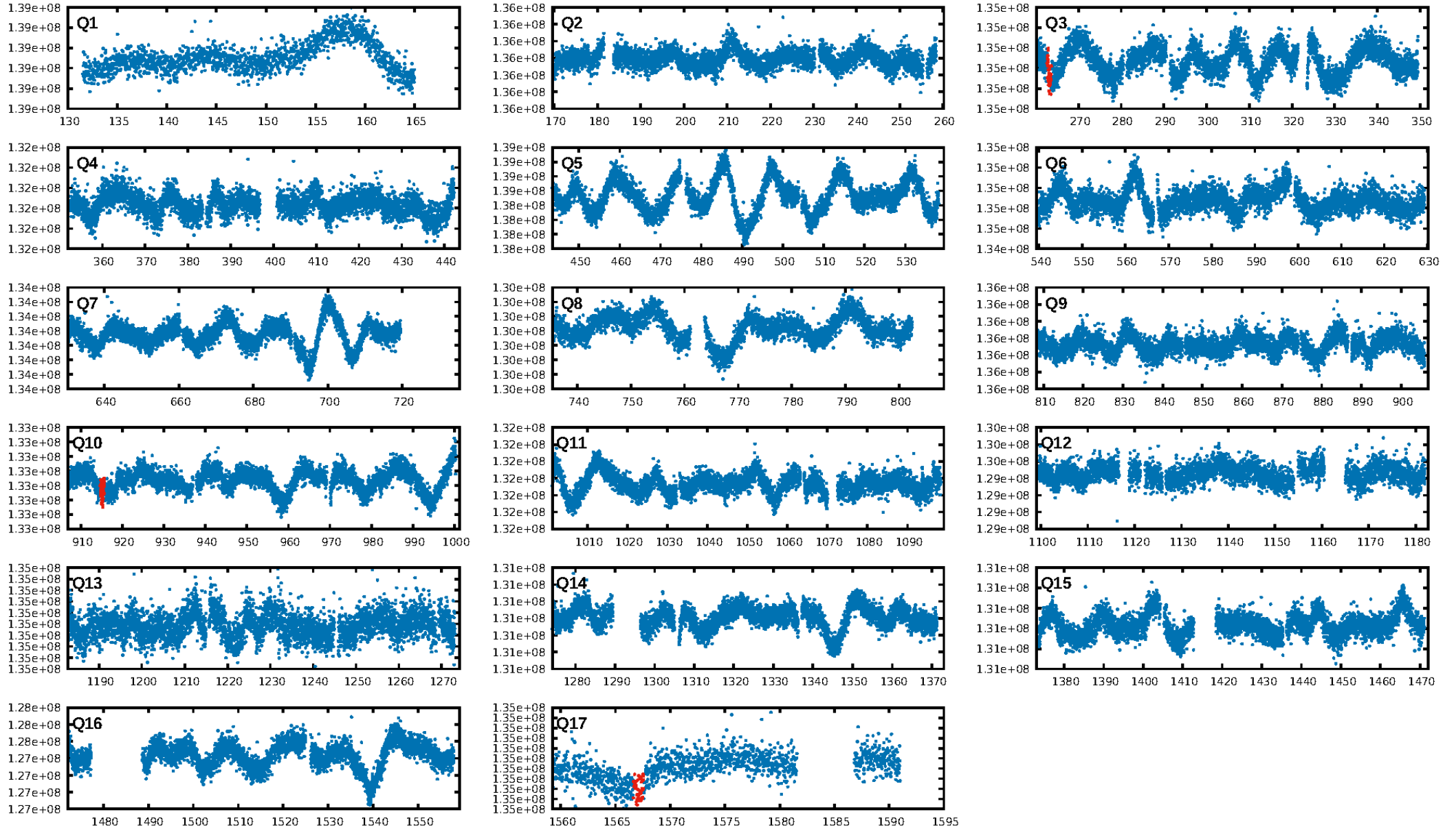
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 40.6%
ModelChiSquareGof-sig: 99.0%
Bootstrap-pfa: 7.07e-17
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 2.263
Centroid-sig: 45.7%
Centroid-so: 1.266 arcsec [1.01 σ]
OotOffset-rm: 1.535 arcsec [1.44 σ]
KicOffset-rm: 1.854 arcsec [2.00 σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [3/3]

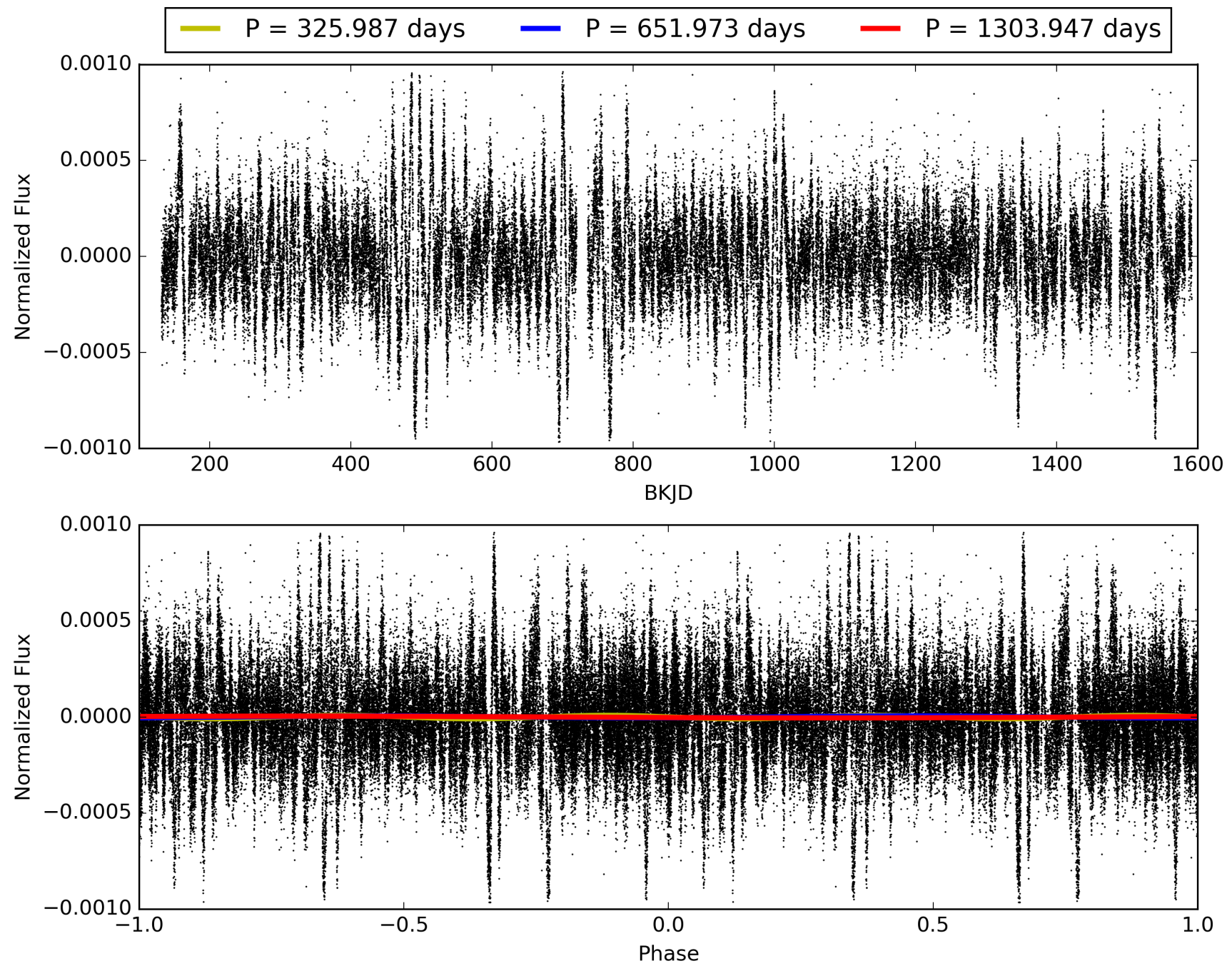
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 19:53:00 Z

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

TCE 012202133-01, PDC Light Curves

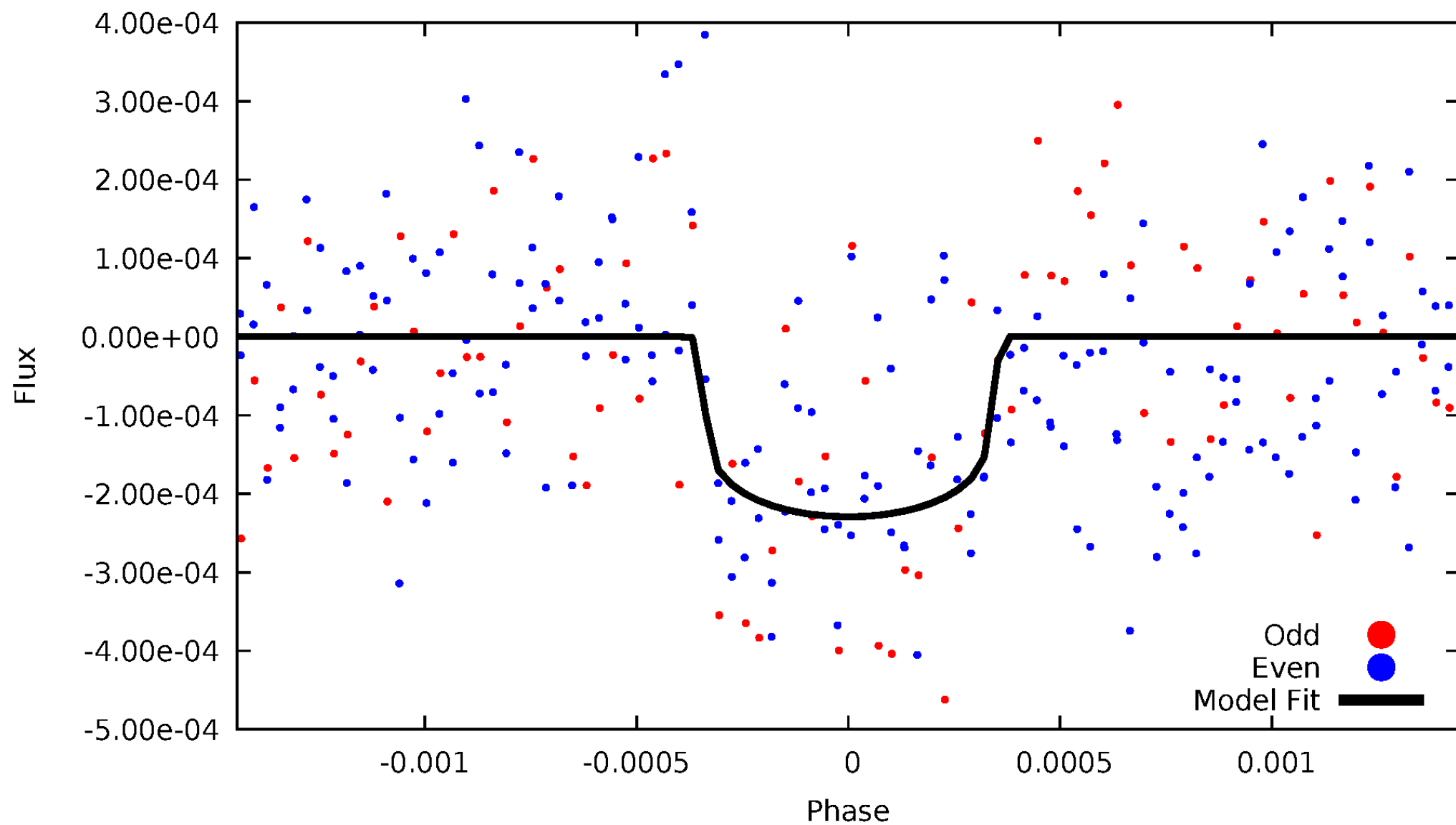


TCE 012202133-01



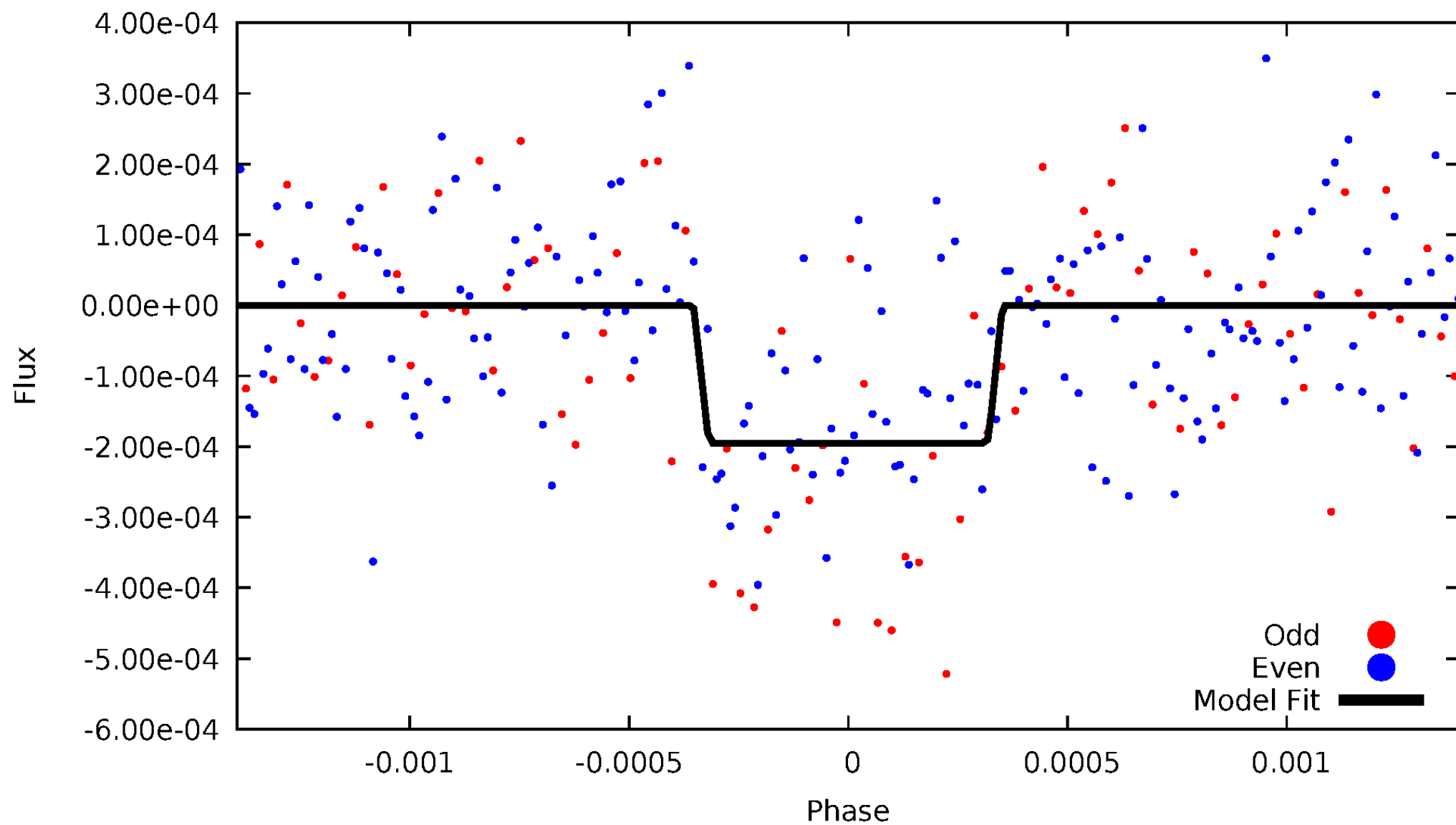
DV Odd/Even

TCE 012202133-01



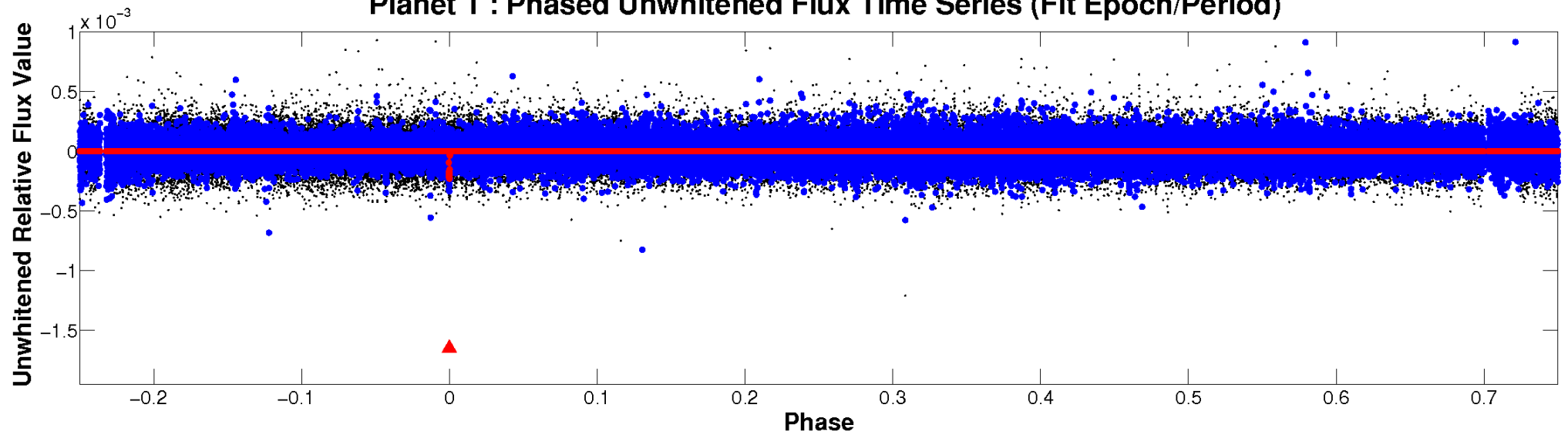
ALT Odd/Even

TCE 012202133-01

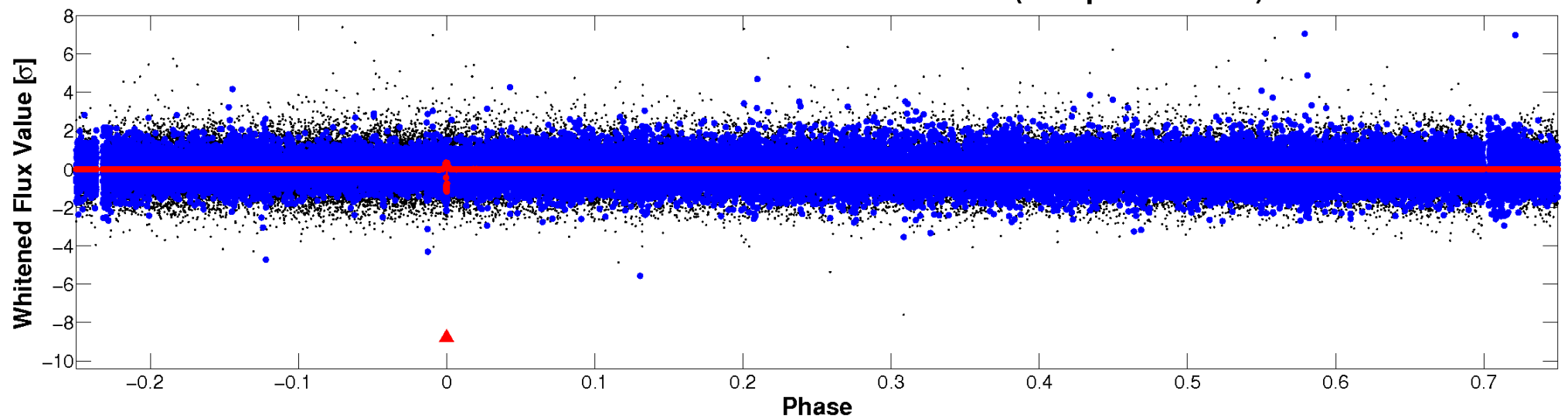


Non-Whitened Vs. Whitened Light Curve

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



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



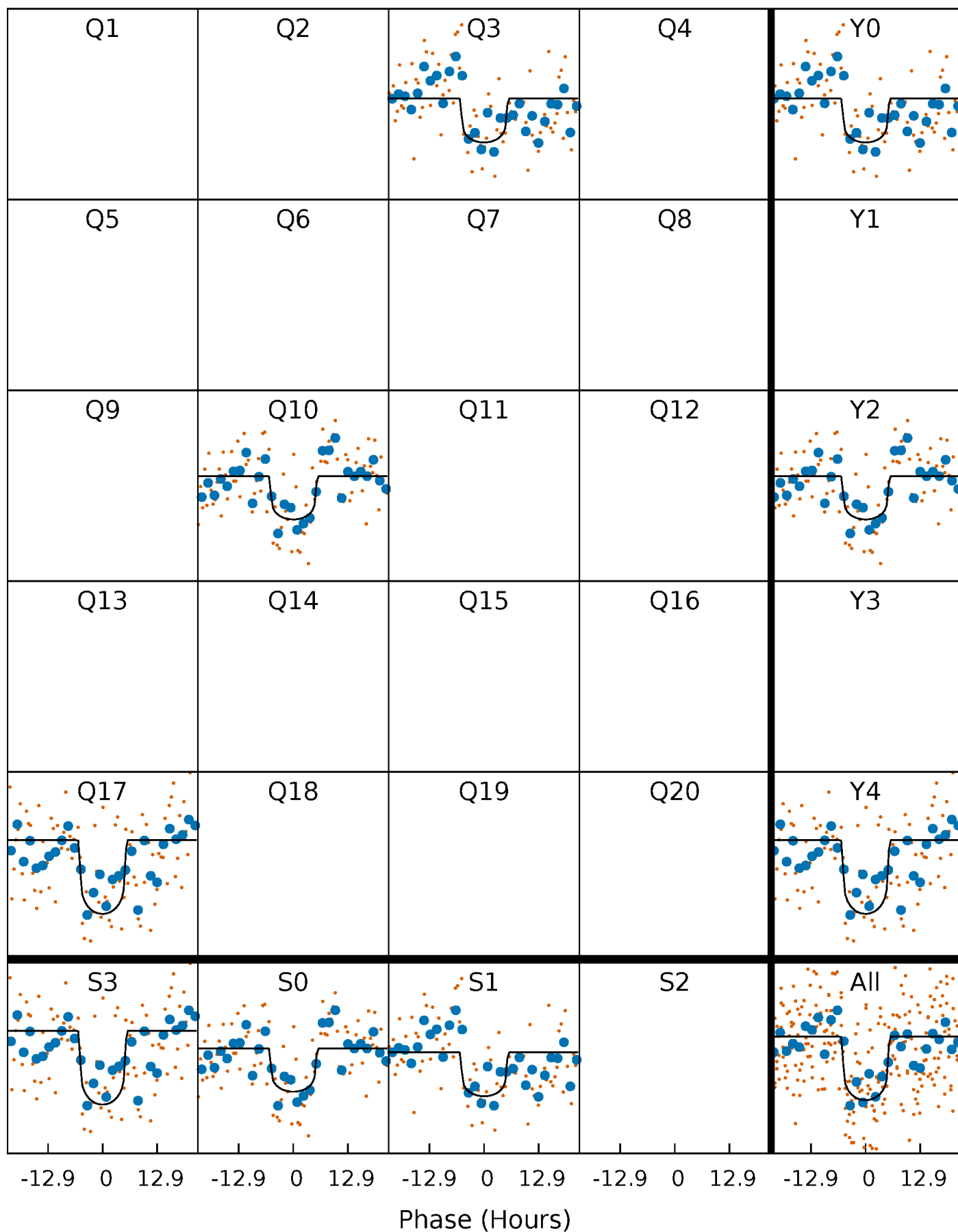
PDC Quarter-Phased Transit Curves

TCE 012202133-01 P=651.973298 Days $T_0=263.162637$ (BKJD)



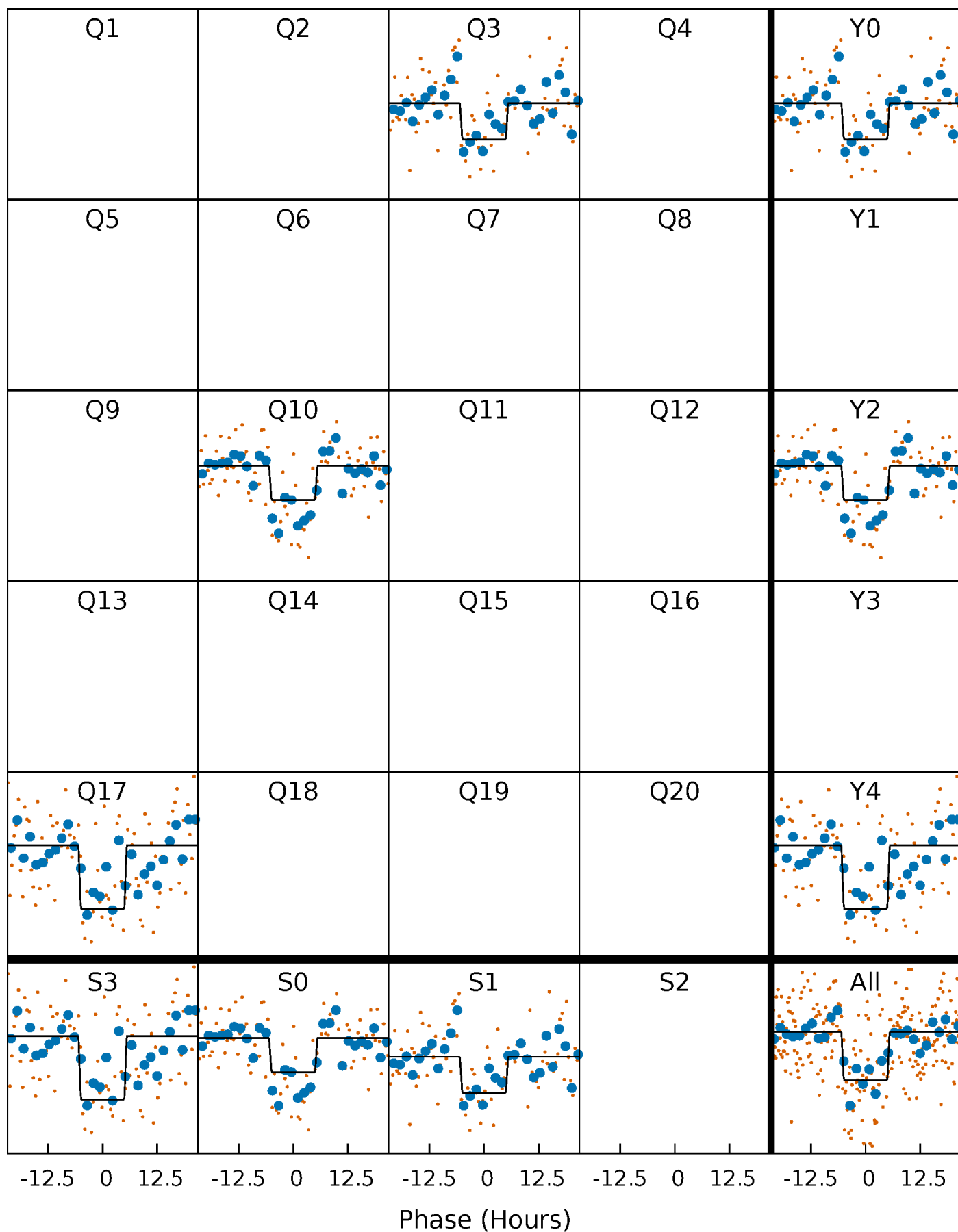
DV Quarter-Phased Transit Curves

TCE 012202133-01 P=651.973298 Days $T_0=263.162637$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

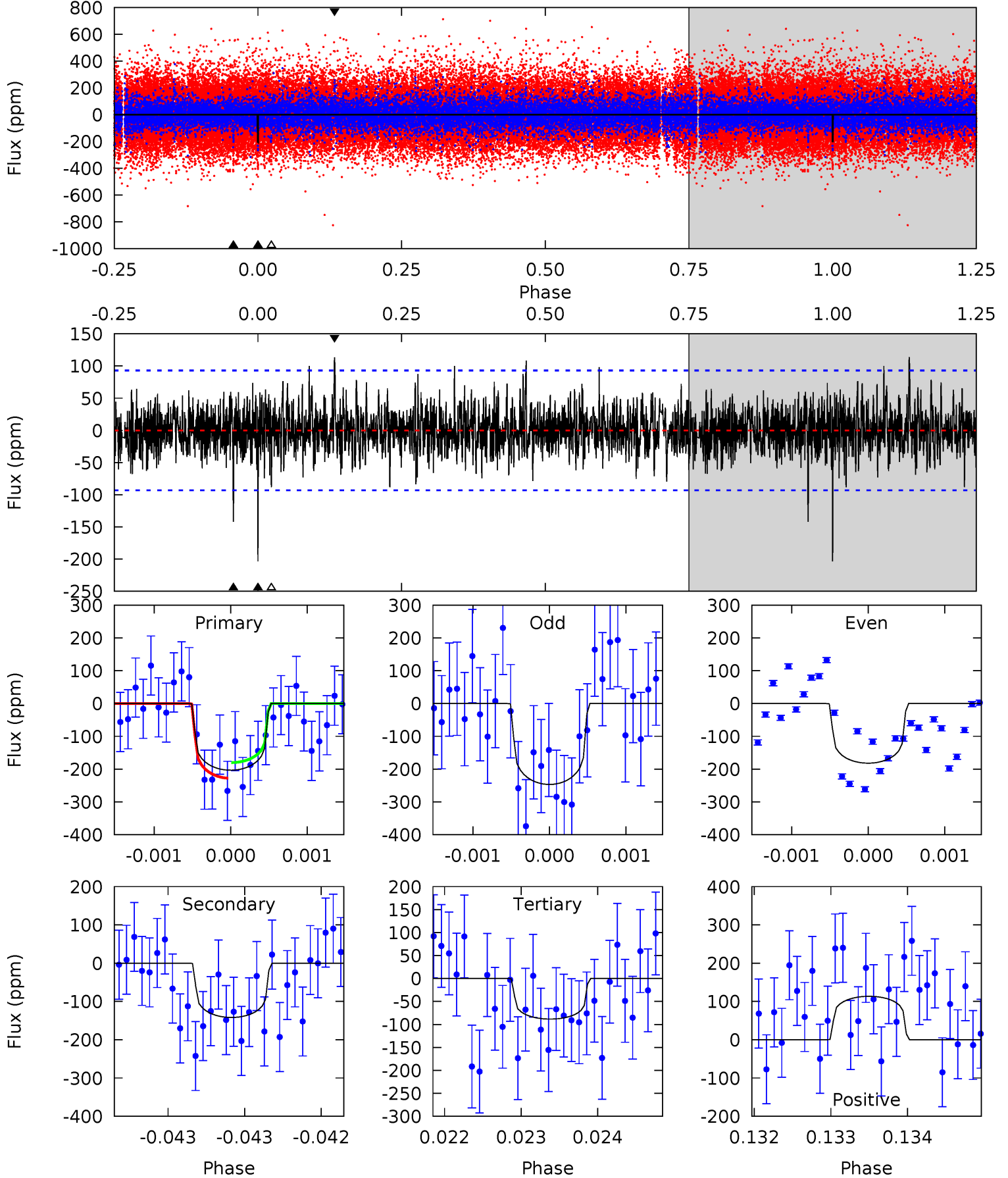
TCE 012202133-01 P=651.959977 Days $T_0=263.178655$ (BKJD)



DV Model-Shift Uniqueness Test

012202133-01, P = 651.973298 Days, E = 263.162637 Days

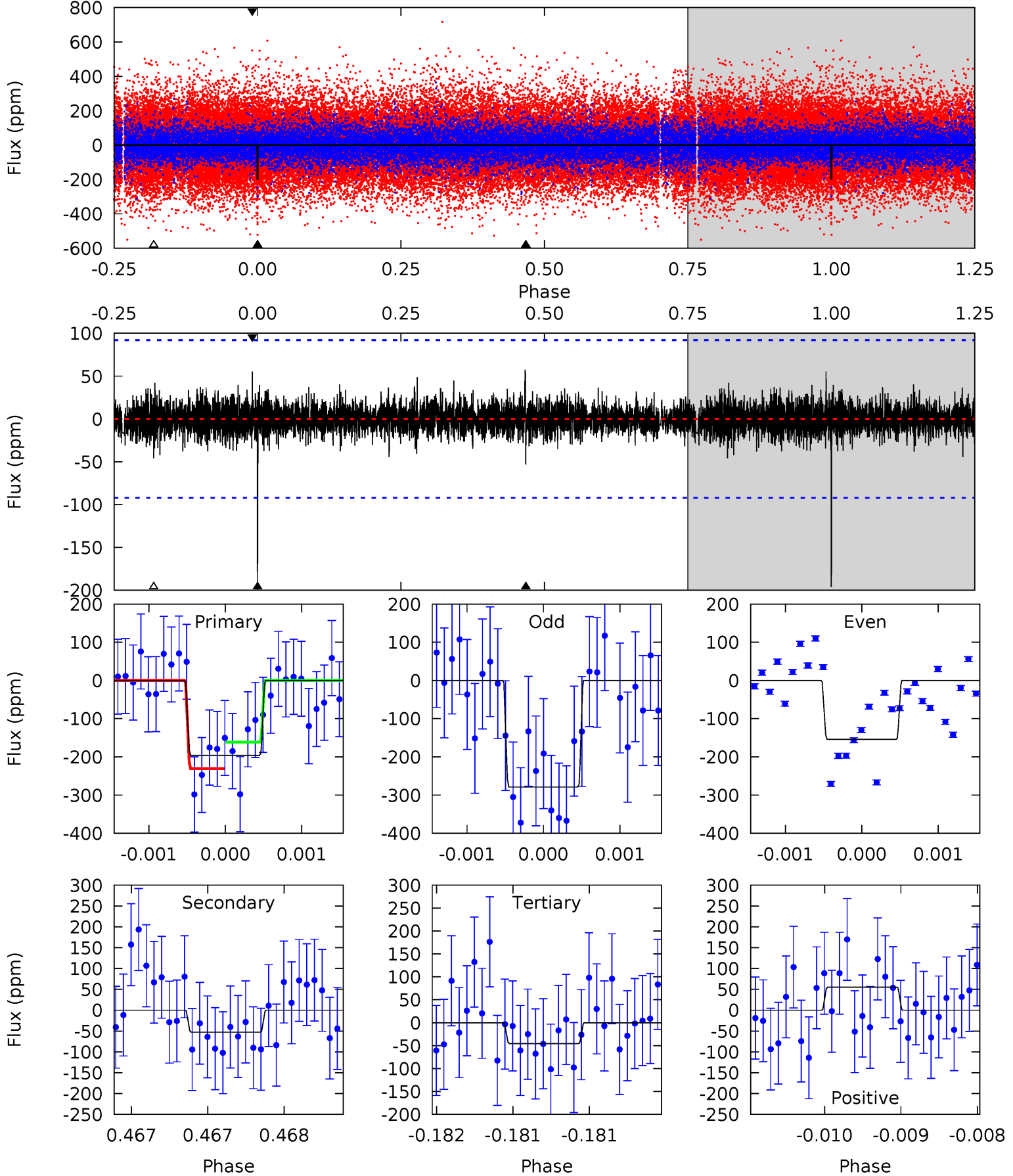
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	8.40	5.24	6.72	5.51	3.38	1.54	6.81	5.33	3.17	1.68	1.79	1.05	0.36	1.41



Alt Model-Shift Uniqueness Test

012202133-01, P = 651.959977 Days, E = 263.178655 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	3.17	2.74	3.31	5.52	3.40	0.69	9.01	8.43	0.43	-0.14	3.49	1.14	0.23	2.07



Stellar Parameters For KIC 012202133

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6025^{+181}_{-181}	$3.685^{+0.330}_{-0.088}$	$0.100^{+0.250}_{-0.250}$	$2.928^{+0.406}_{-1.136}$	$1.513^{+0.177}_{-0.353}$	$0.085^{+0.212}_{-0.025}$
	+3%/-3%	+9%/-2%	+250%/-250%	+14%/-39%	+12%/-23%	+250%/-29%
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 012202133-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-142 ± 17	$4.55^{+1.84}_{-1.68}$	478^{+32}_{-43}	5351^{+1072}_{-637}	10814^{+16650}_{-5458}
Alt.	-53 ± 17	$4.22^{+1.66}_{-1.58}$	479^{+30}_{-43}	4507^{+906}_{-557}	4701^{+7133}_{-2522}

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

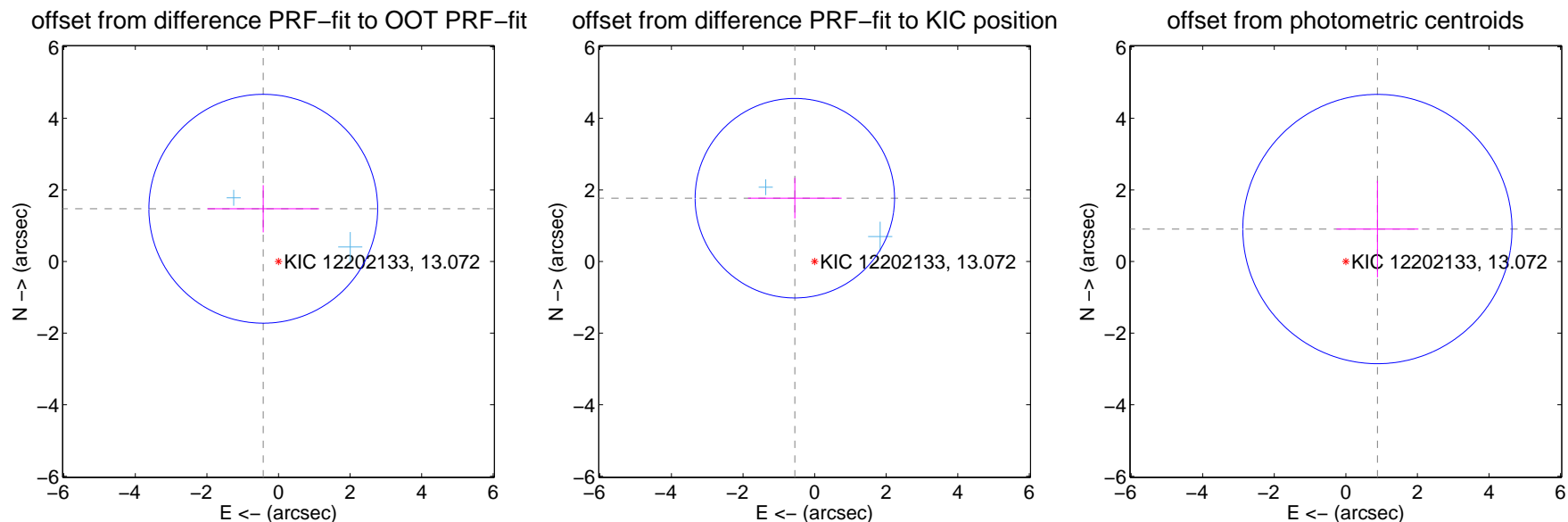
DV Centroid Data

Supplemental centroid analysis for 012202133-01. Kepler magnitude: 13.07. Transit SNR 8.92

There are 2 quarters with good PRF difference image offsets

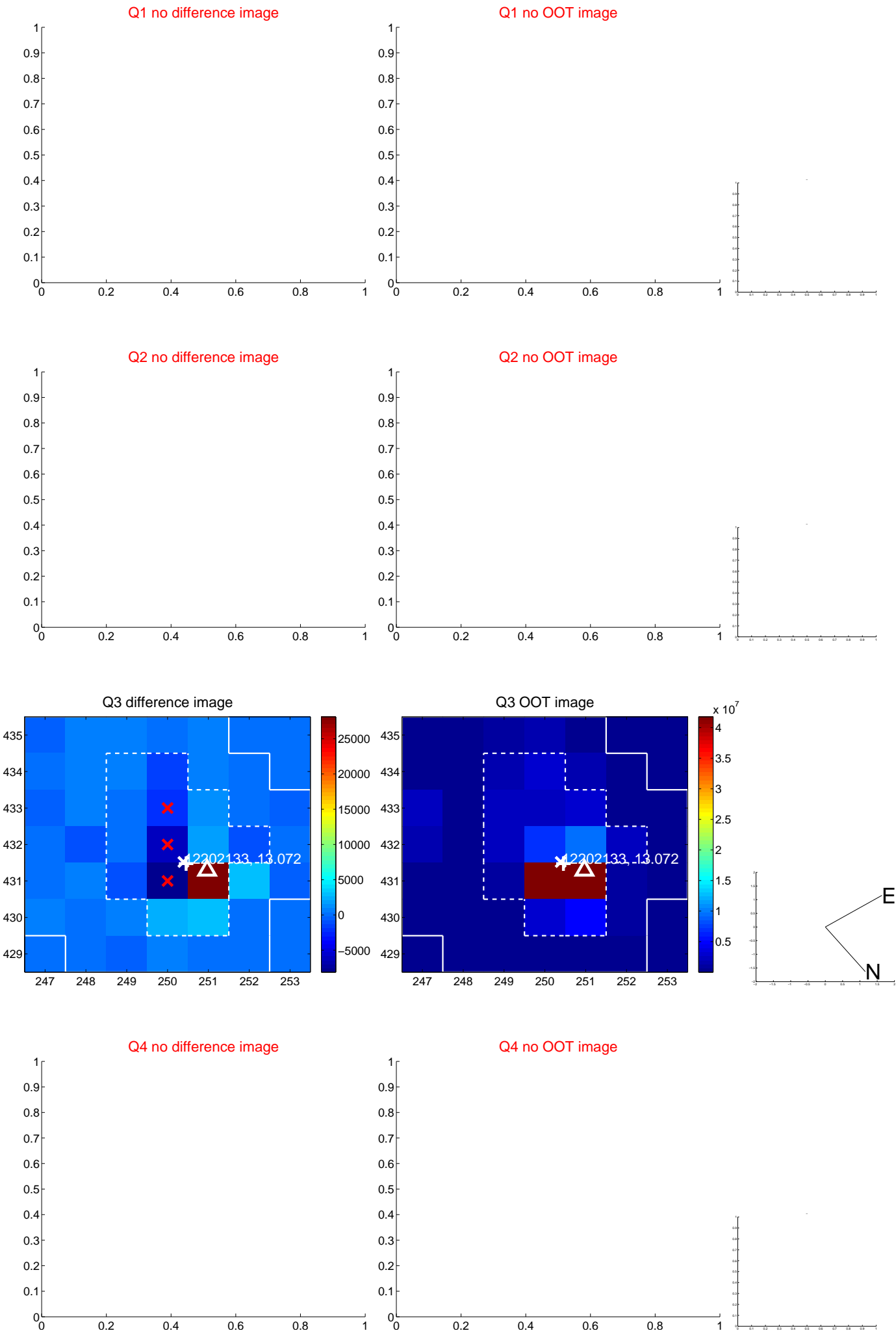
The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.535 ± 1.066	1.44	0.426 ± 1.561	1.475 ± 0.660
PRF-fit source offset from KIC position	1.854 ± 0.929	2.00	0.553 ± 1.307	1.769 ± 0.567
photometric centroid source offset	1.27 ± 1.25	1.01	-0.88 ± 1.15	0.91 ± 1.35



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.

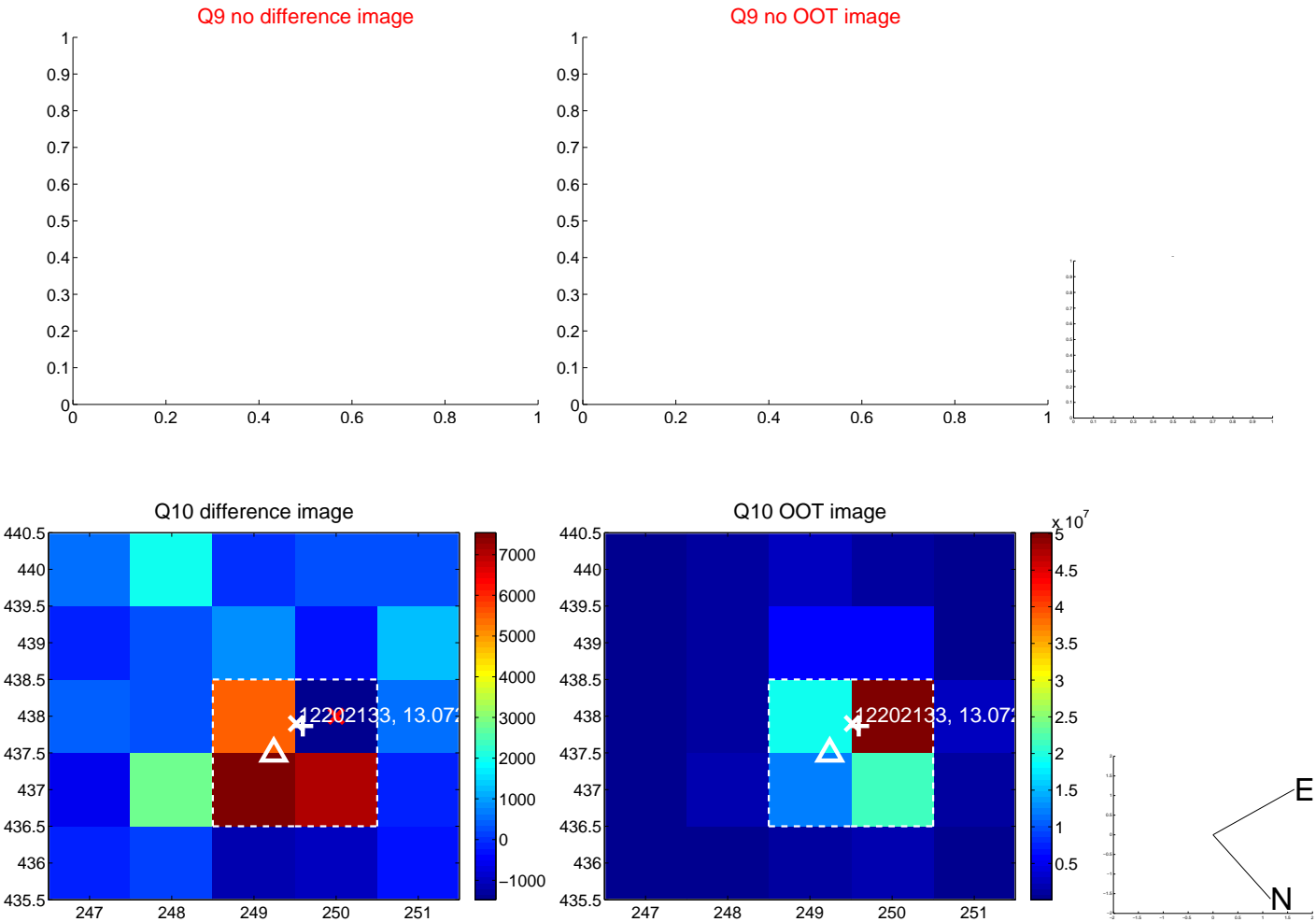
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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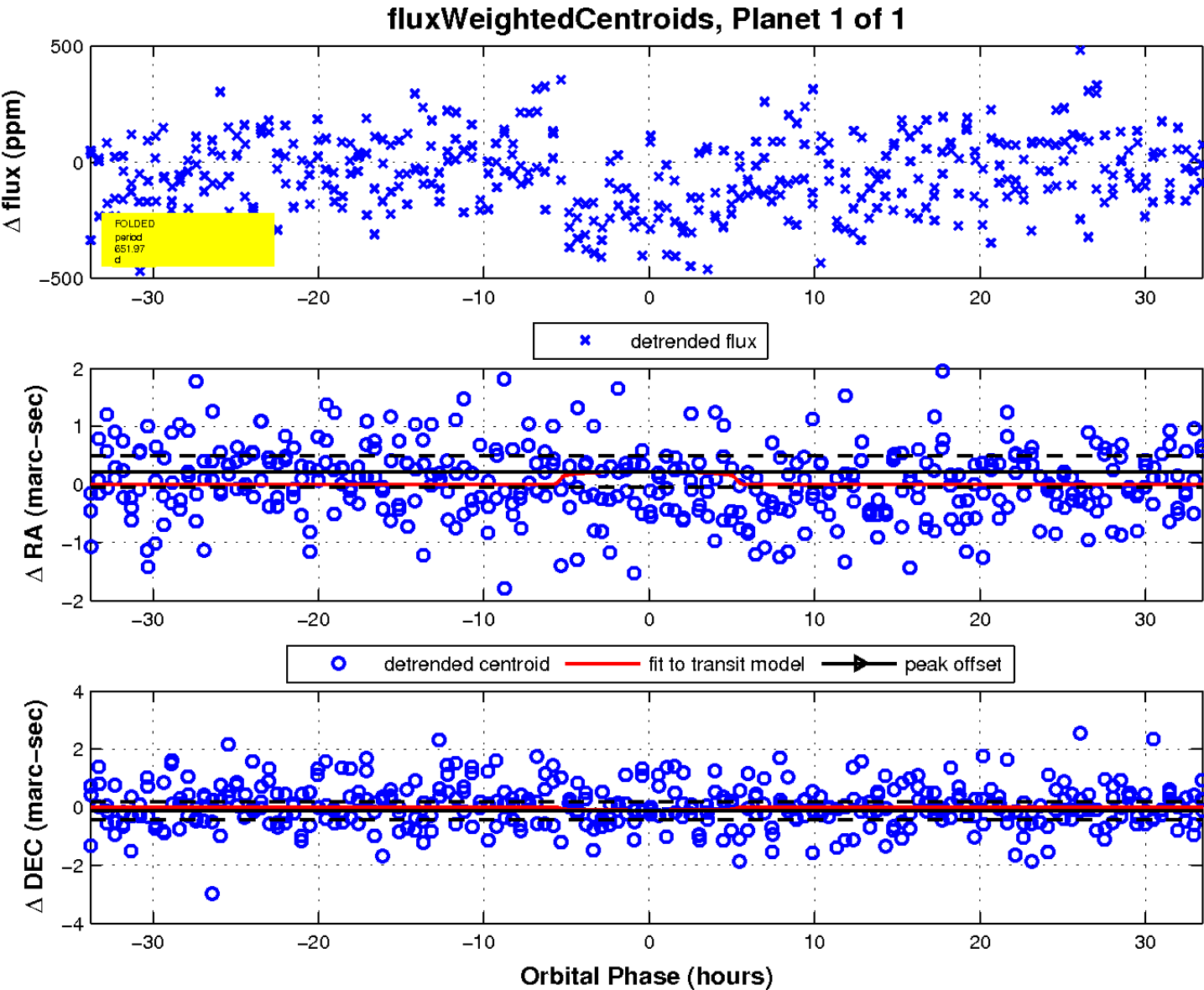
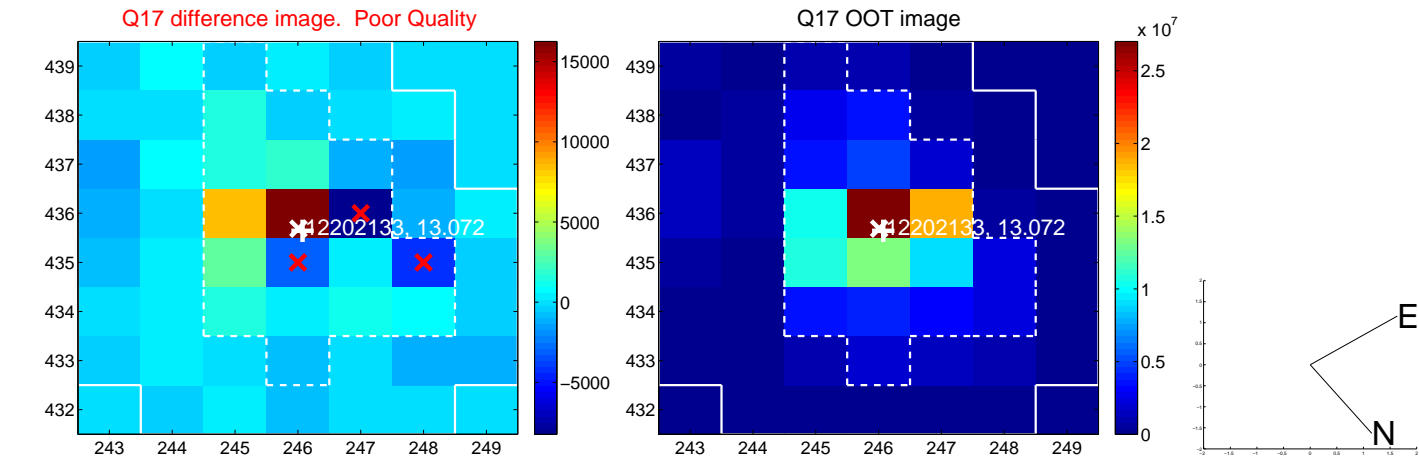
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UKIRT Image

Declination

