

KIC 005031653

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})
005031653-01	OBS	No	491.248466	253.278667	65.9	24.969	8.0	7.5	3.06	8529	2.76	18.81

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005031653-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—INCONSISTENT_TRANS—CENT_SATURATED

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

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

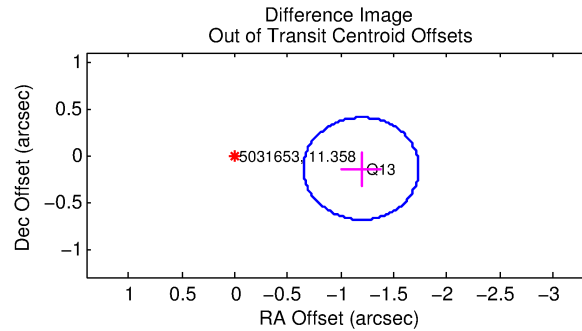
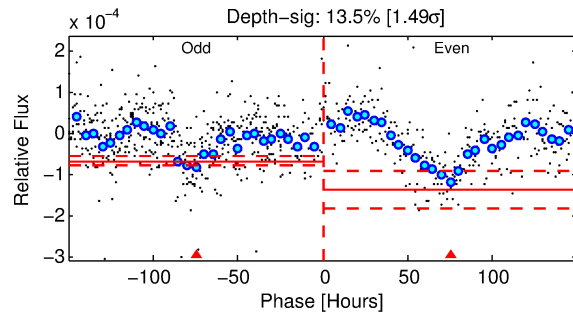
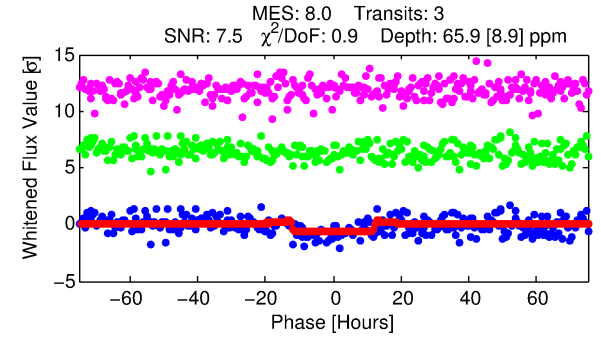
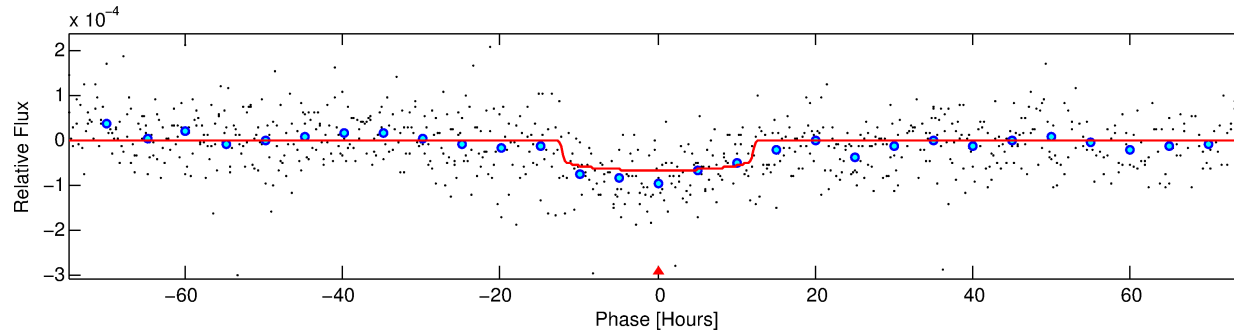
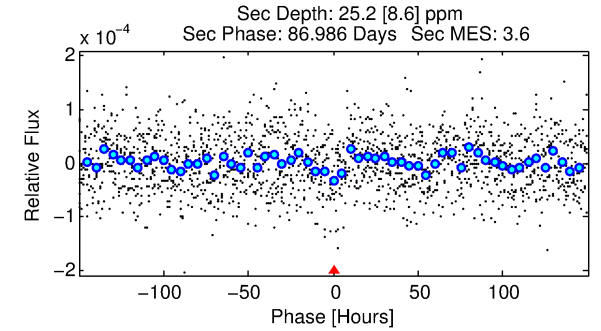
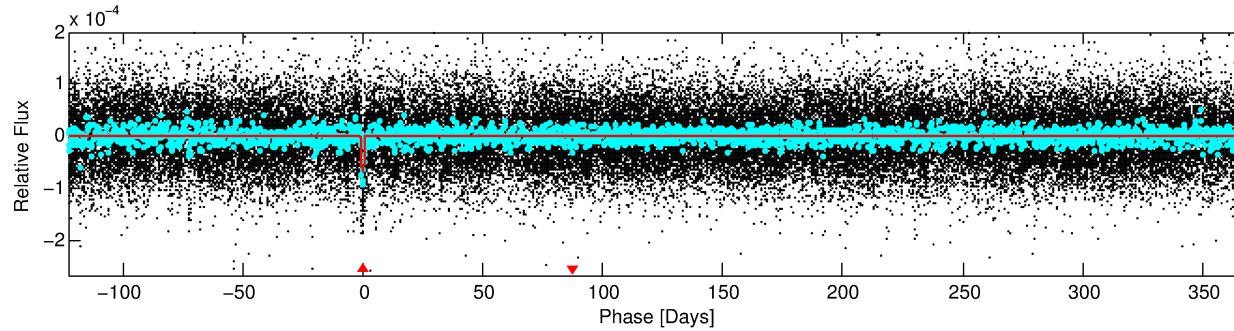
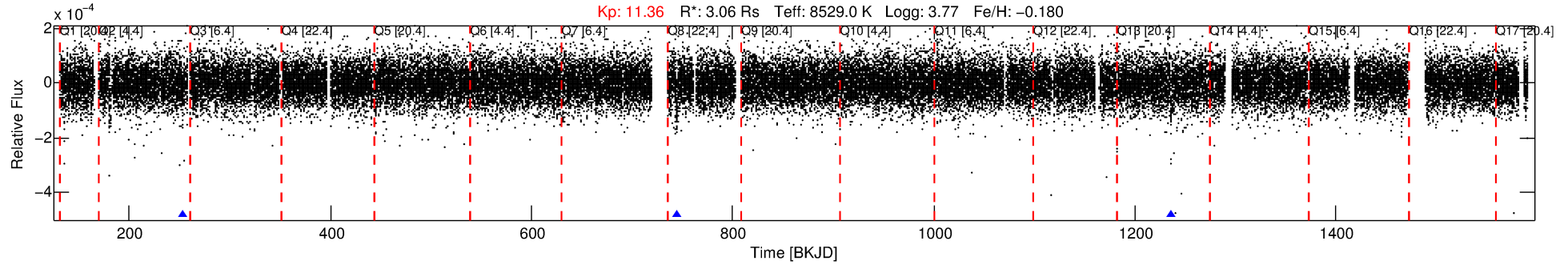
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005031653-01

No Significant Match Found

DV One-Page Summary

KIC: 5031653 Candidate: 1 of 1 Period: 491.248 d



DV Fit Results:

Period = 491.24847 [0.01980] d
Epoch = 253.2787 [0.0201] BKJD
Rp/R* = 0.0083 [0.0011]
a/R* = 88.90 [61.83]
b = 0.82 [0.29]
Seff = 18.81 [14.32]
Teq = 531 [101] K
Rp = 2.76 [1.33] Re
a = 1.5388 [0.6768] AU
Ag = 4307.36 [3534.34] [1.22σ]
Teffp = 6651 [876] K [6.94σ]

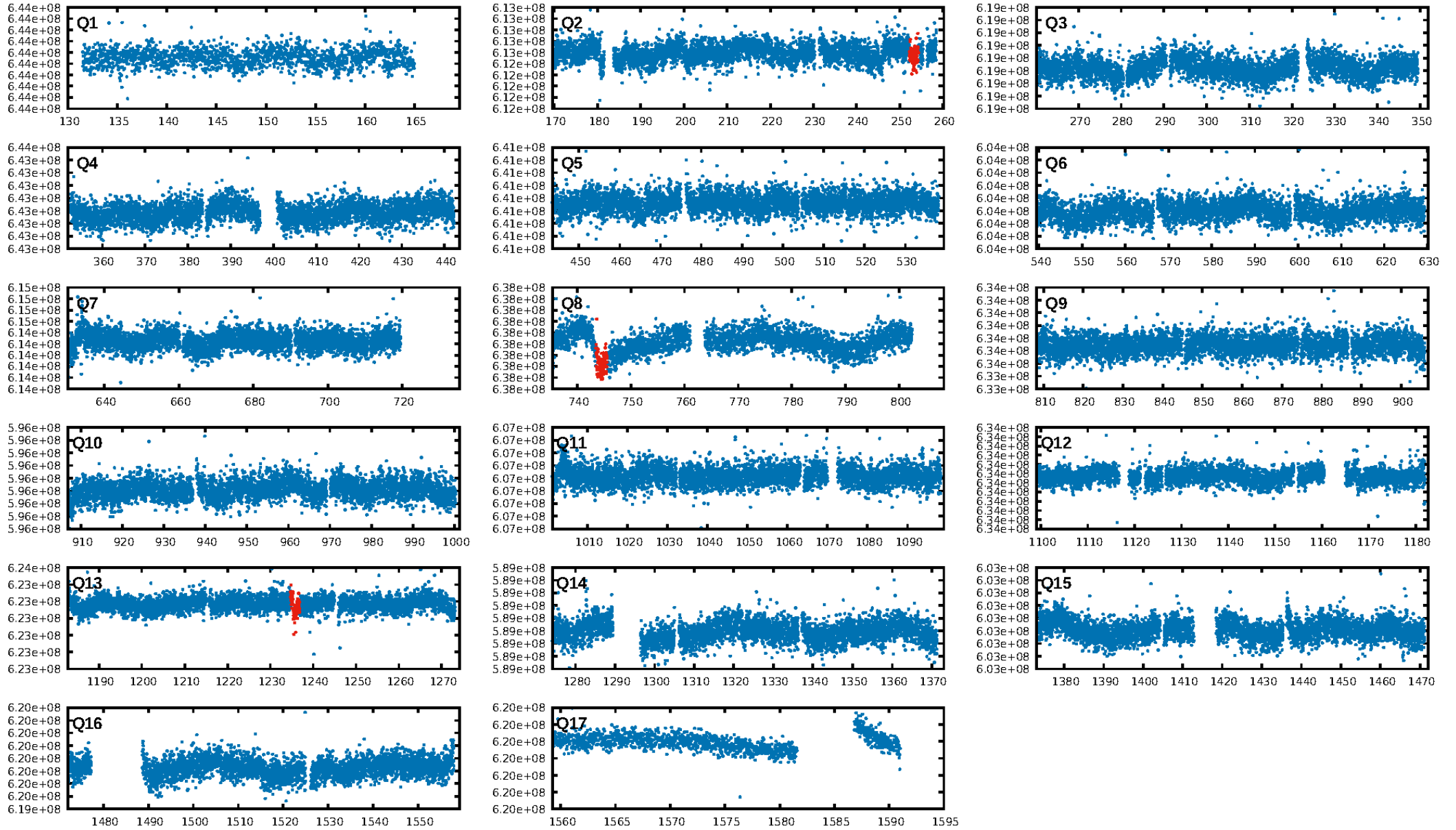
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.56e-15
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.228
Centroid-sig: 3.2%
Centroid-so: 4.640 arcsec [1.64σ]
OotOffset-rm: 1.203 arcsec [6.61σ]
KicOffset-rm: 1.218 arcsec [6.69σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [3/3]

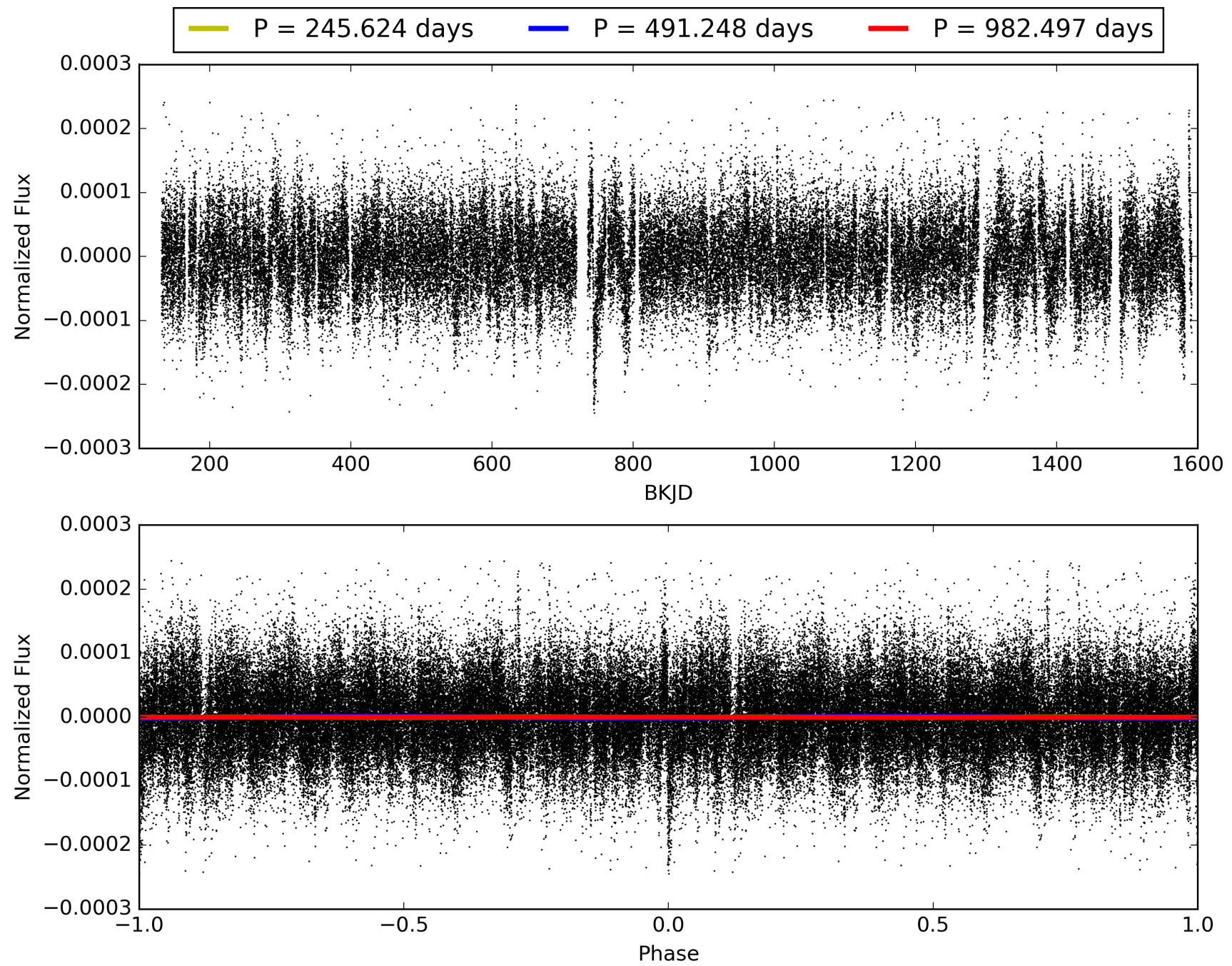
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:18:46 Z

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

TCE 005031653-01, PDC Light Curves

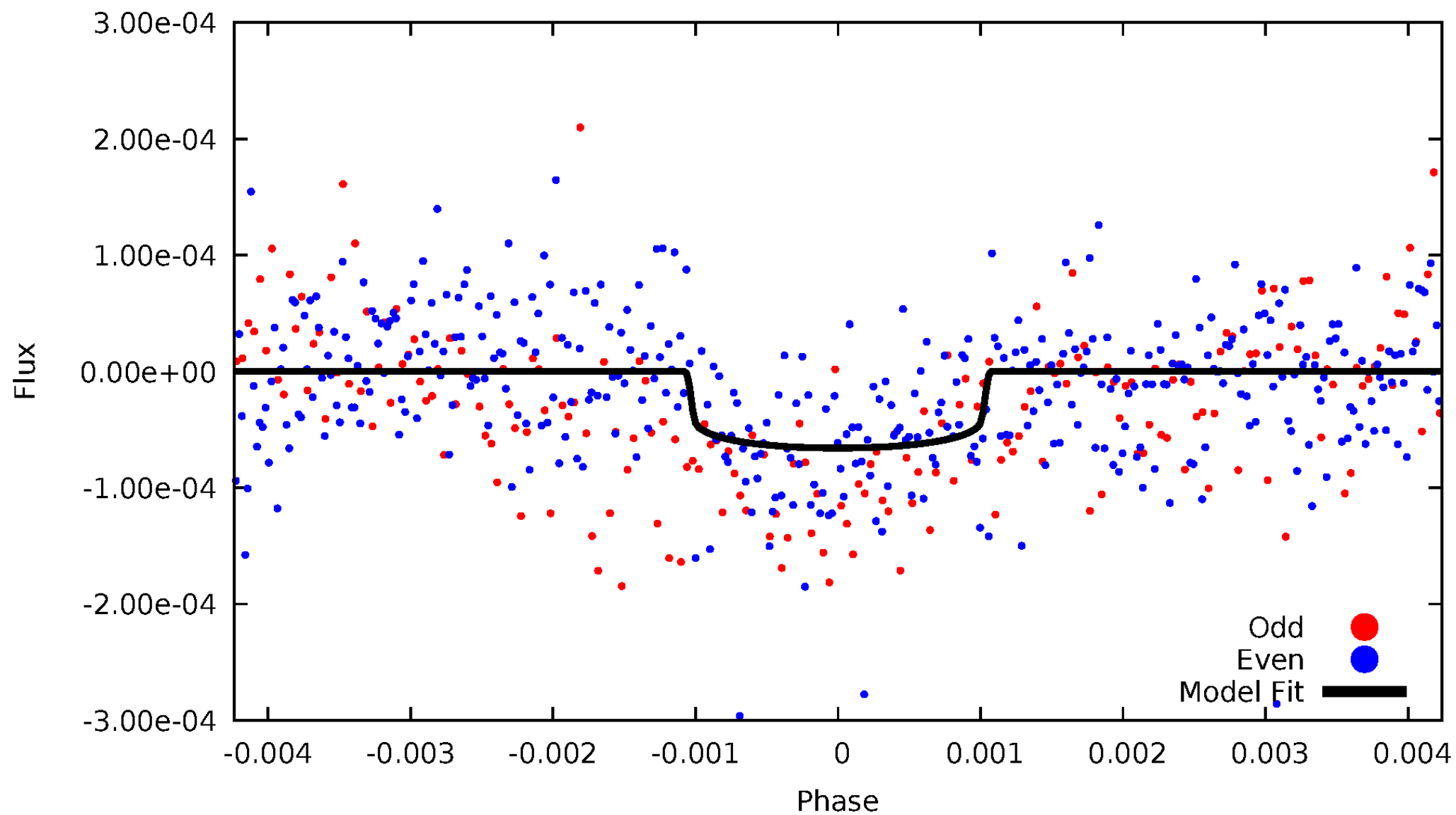


TCE 005031653-01



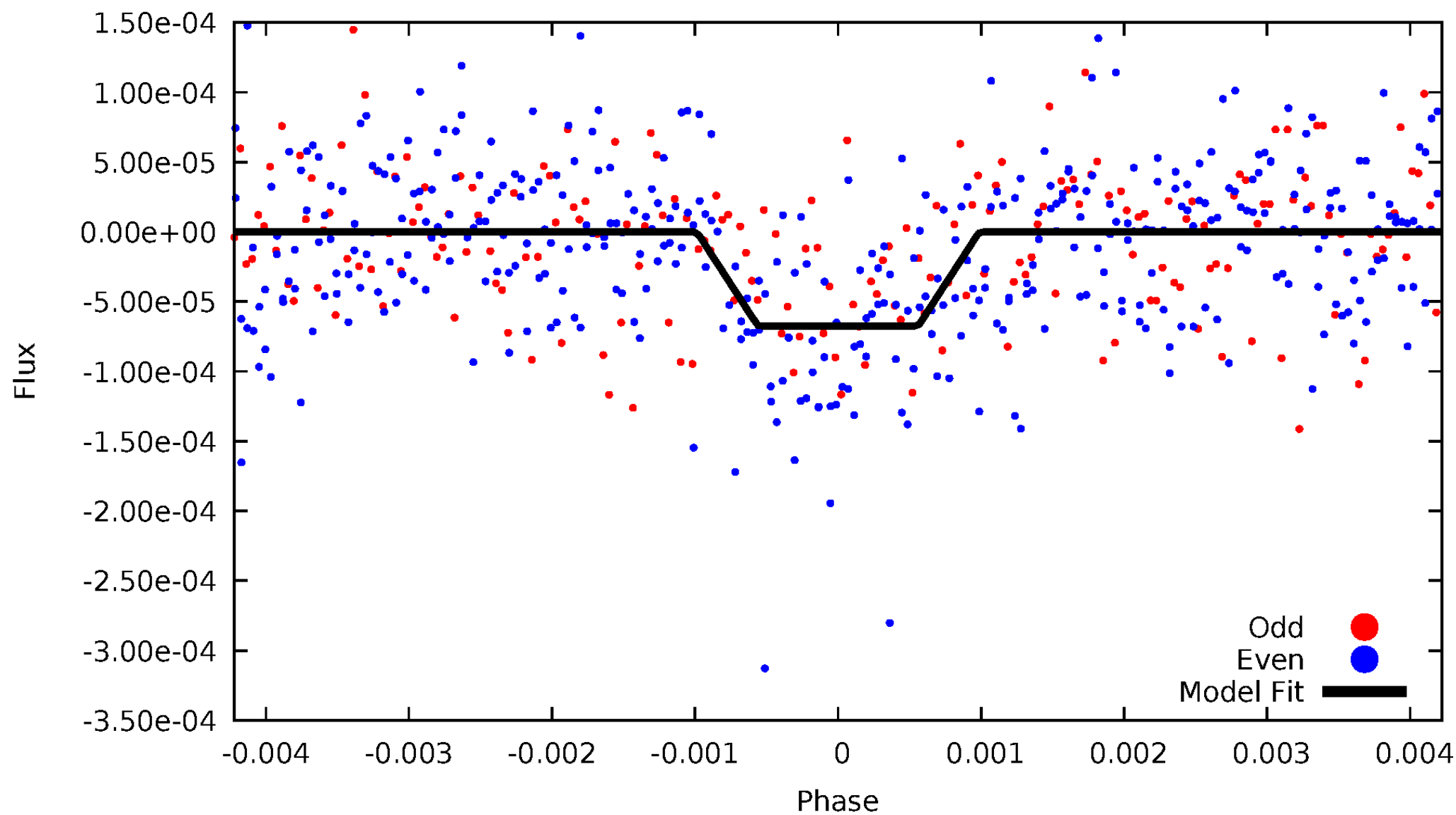
DV Odd/Even

TCE 005031653-01



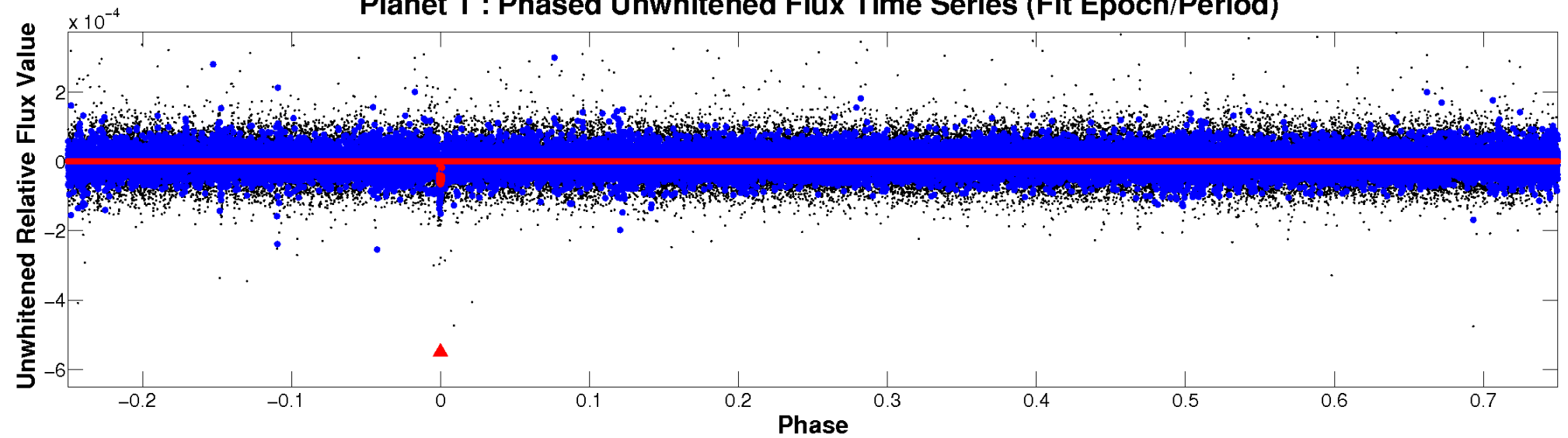
ALT Odd/Even

TCE 005031653-01

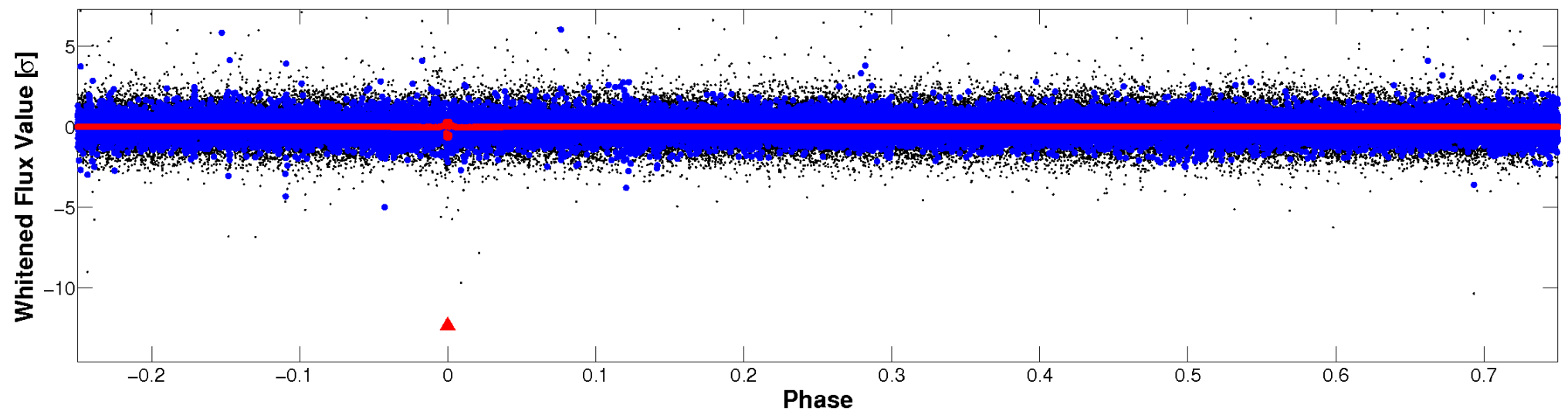


Non-Whitened Vs. Whitened Light Curve

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

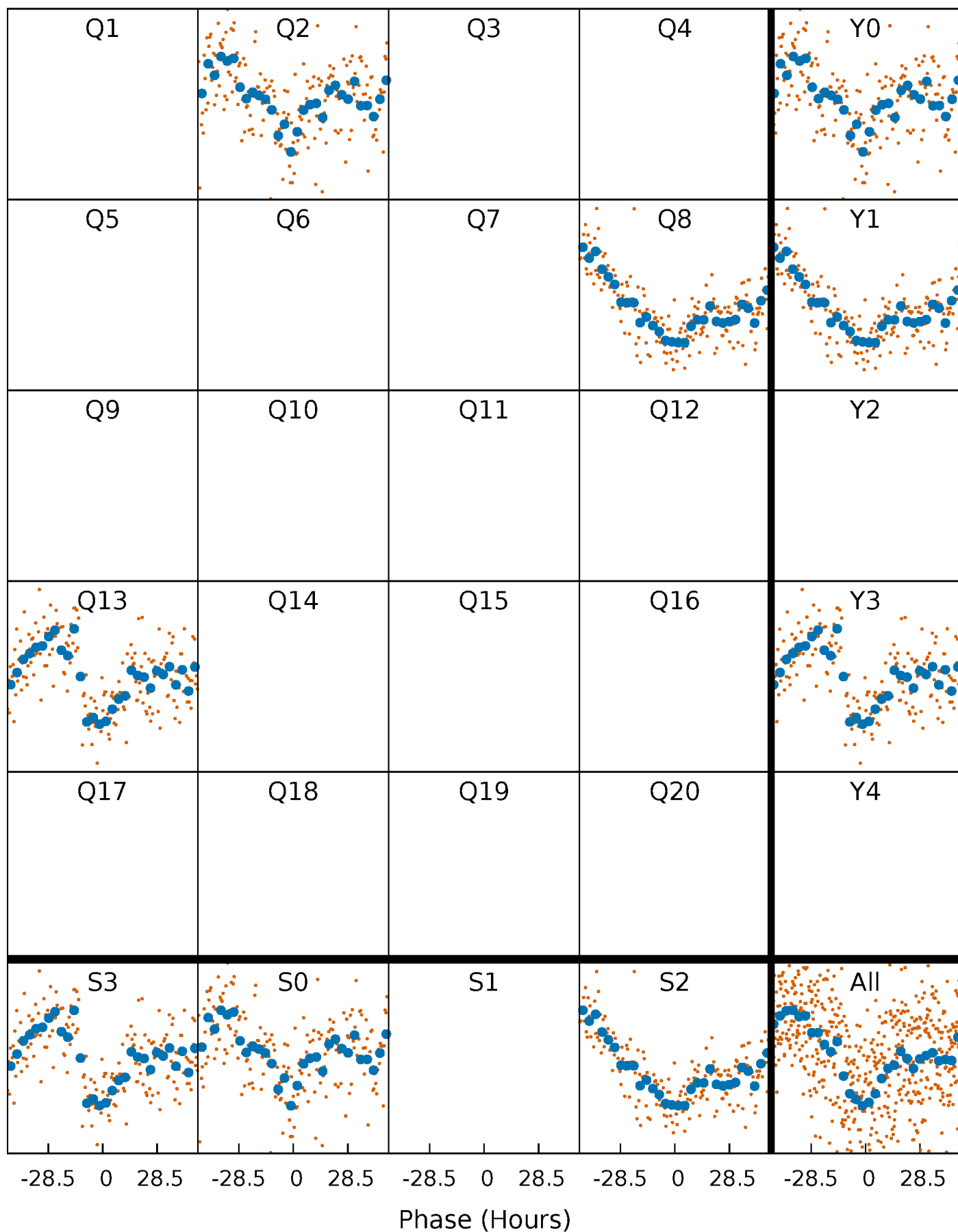


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



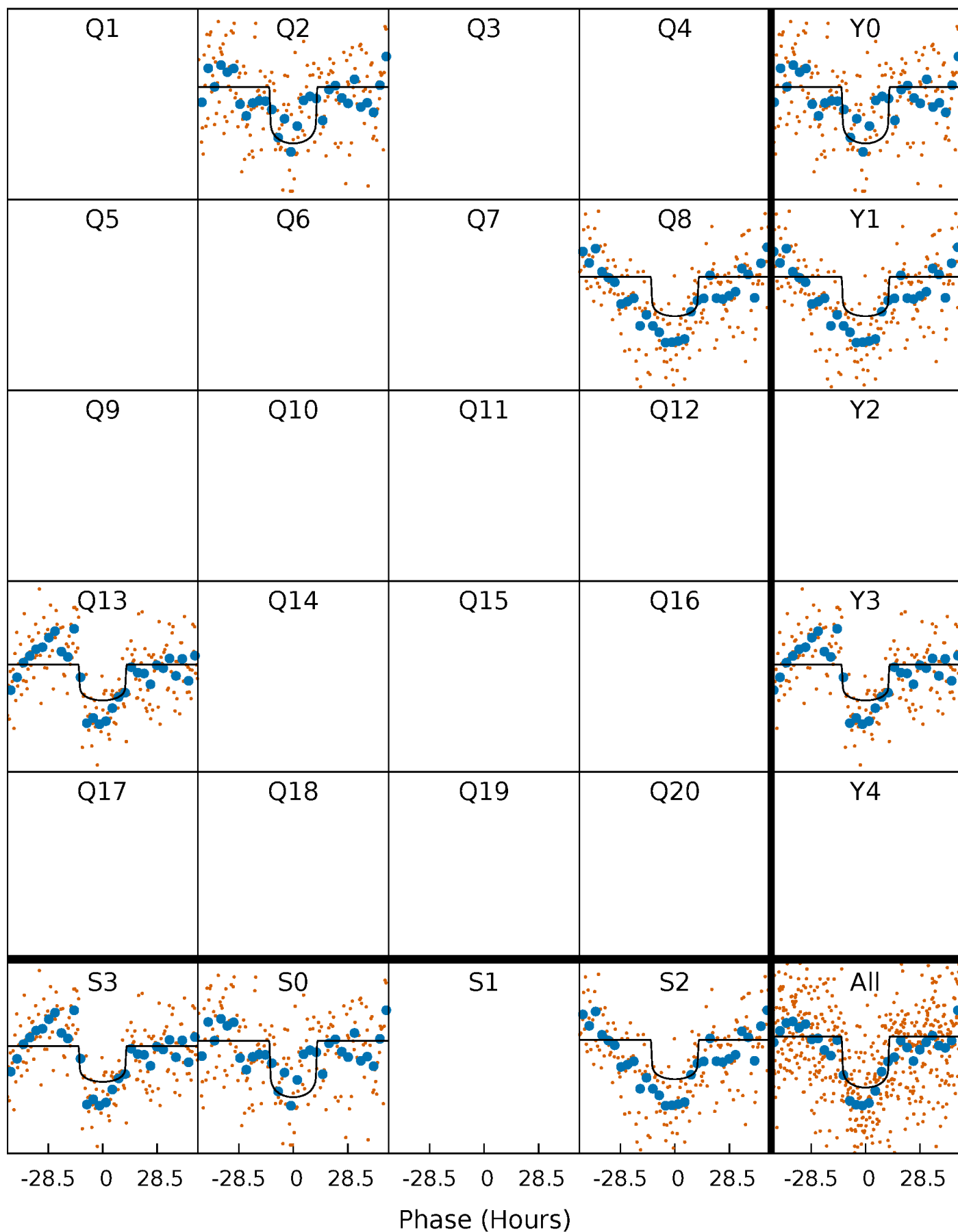
PDC Quarter-Phased Transit Curves

TCE 005031653-01 P=491.248466 Days $T_0=253.278667$ (BKJD)



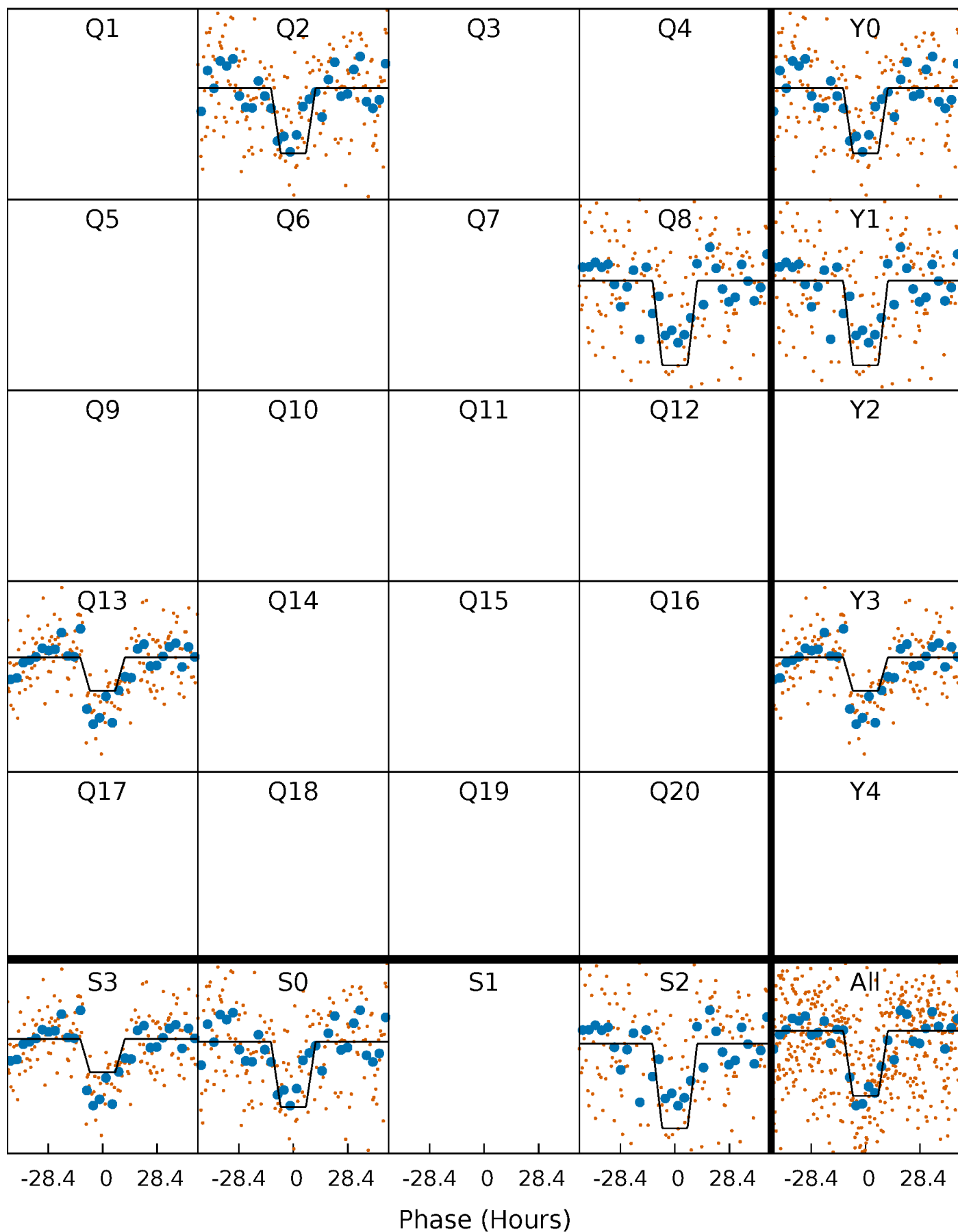
DV Quarter-Phased Transit Curves

TCE 005031653-01 P=491.248466 Days $T_0=253.278667$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

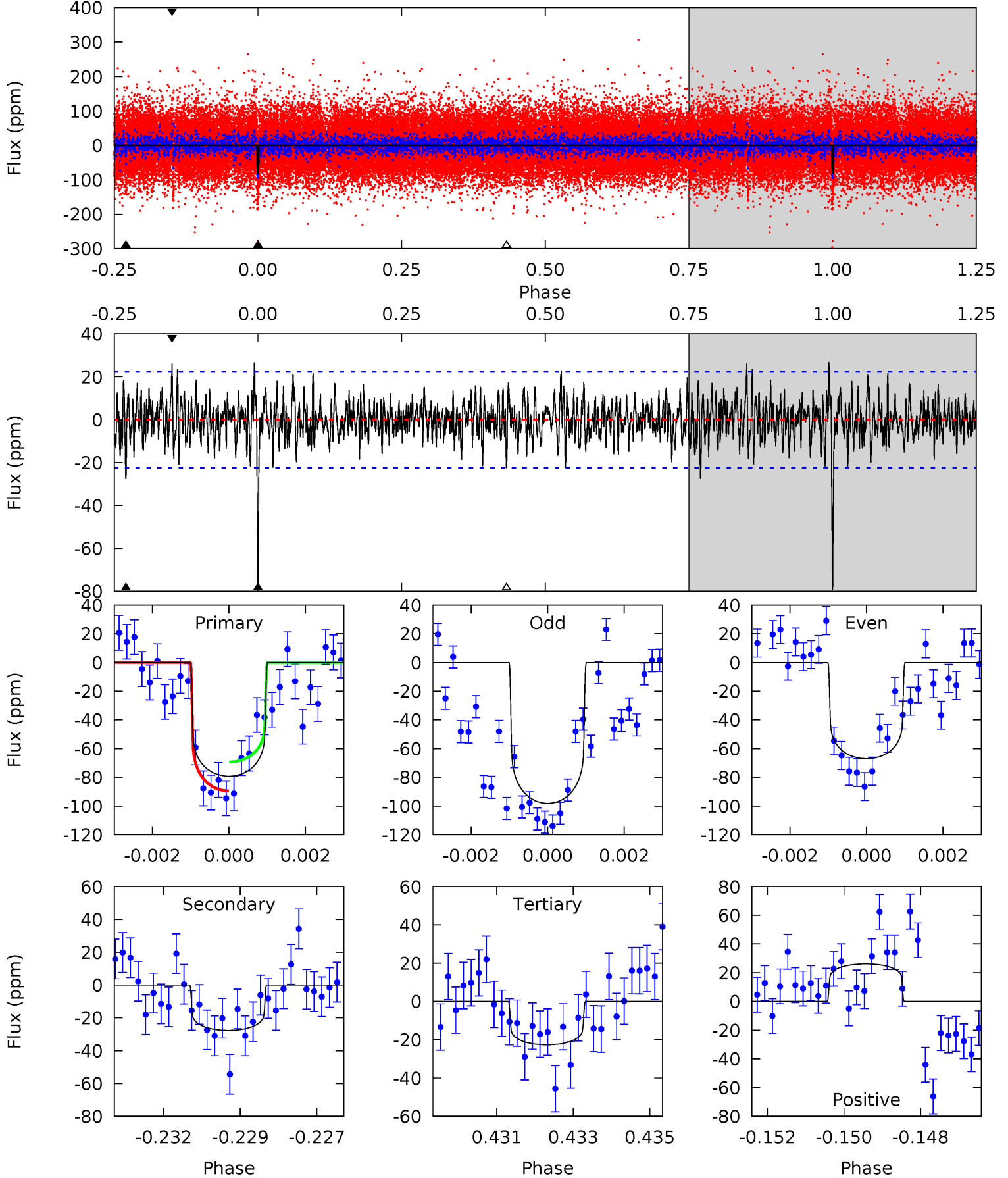
TCE 005031653-01 P=491.202349 Days $T_0=253.283369$ (BKJD)



DV Model-Shift Uniqueness Test

005031653-01, P = 491.248466 Days, E = 253.278667 Days

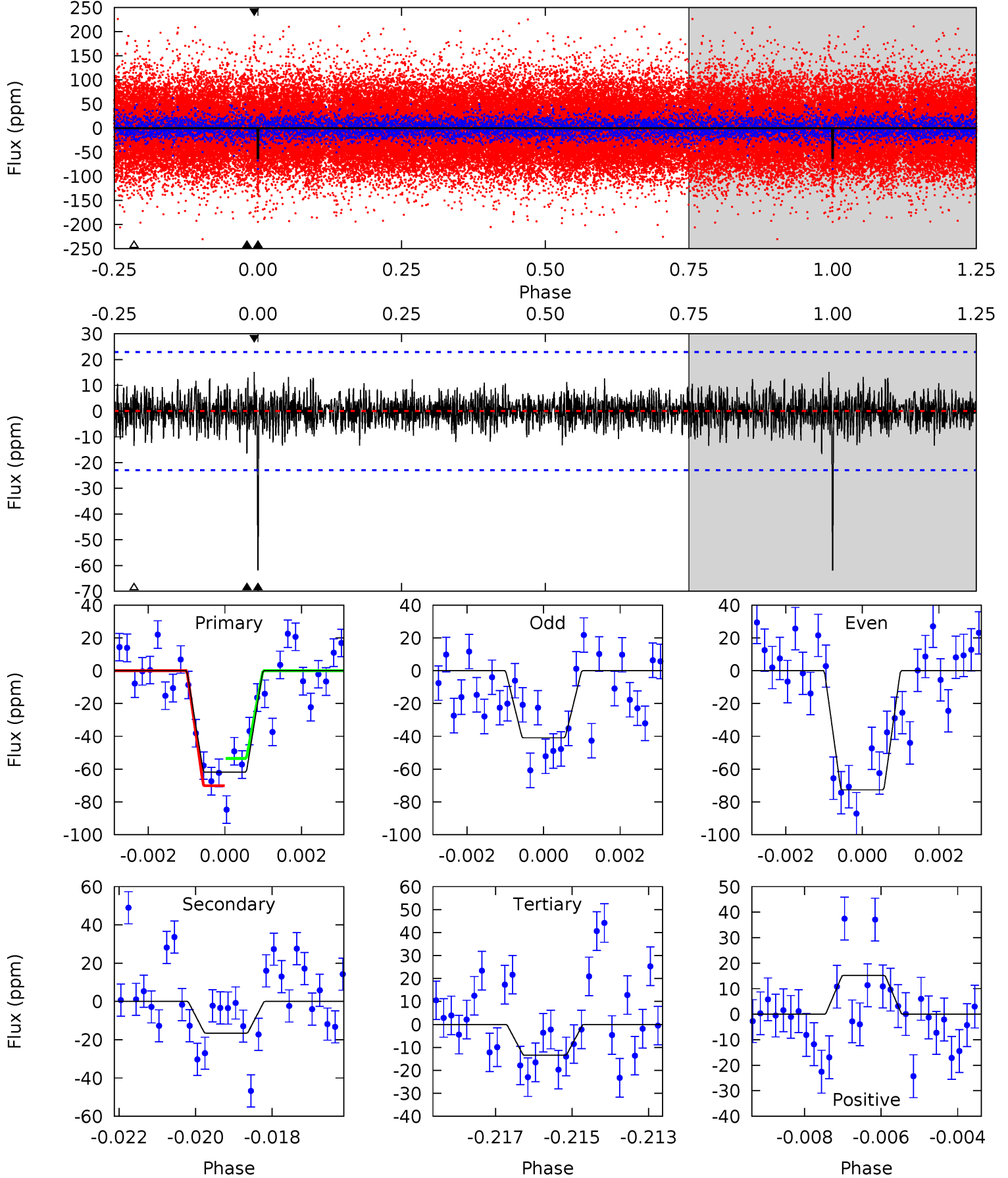
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.8	6.56	5.37	6.20	5.31	3.07	1.72	13.4	12.6	1.19	0.36	3.52	0.82	0.25	2.39



Alt Model-Shift Uniqueness Test

005031653-01, P = 491.202349 Days, E = 253.283369 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	3.84	3.12	3.52	5.33	3.09	0.99	11.2	10.8	0.72	0.32	3.51	1.46	0.20	1.93



Stellar Parameters For KIC 005031653

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8529^{+377}_{-646}	$3.769^{+0.408}_{-0.102}$	$-0.180^{+0.200}_{-0.200}$	$3.065^{+0.710}_{-1.420}$	$2.017^{+0.360}_{-0.401}$	$0.099^{+0.322}_{-0.038}$
	+4%/-8%	+11%/-3%	+111%/-111%	+23%/-46%	+18%/-20%	+327%/-39%
Source	SPE68	SPE68	SPE68	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 005031653-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-28 ± 4	$2.56^{+0.59}_{-0.63}$	707^{+69}_{-82}	6486^{+740}_{-561}	5605^{+3908}_{-1984}
Alt.	-17 ± 4	$2.57^{+0.55}_{-0.68}$	709^{+69}_{-99}	5696^{+652}_{-559}	3316^{+2718}_{-1310}

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 $A_{obs} \gg 1.0$

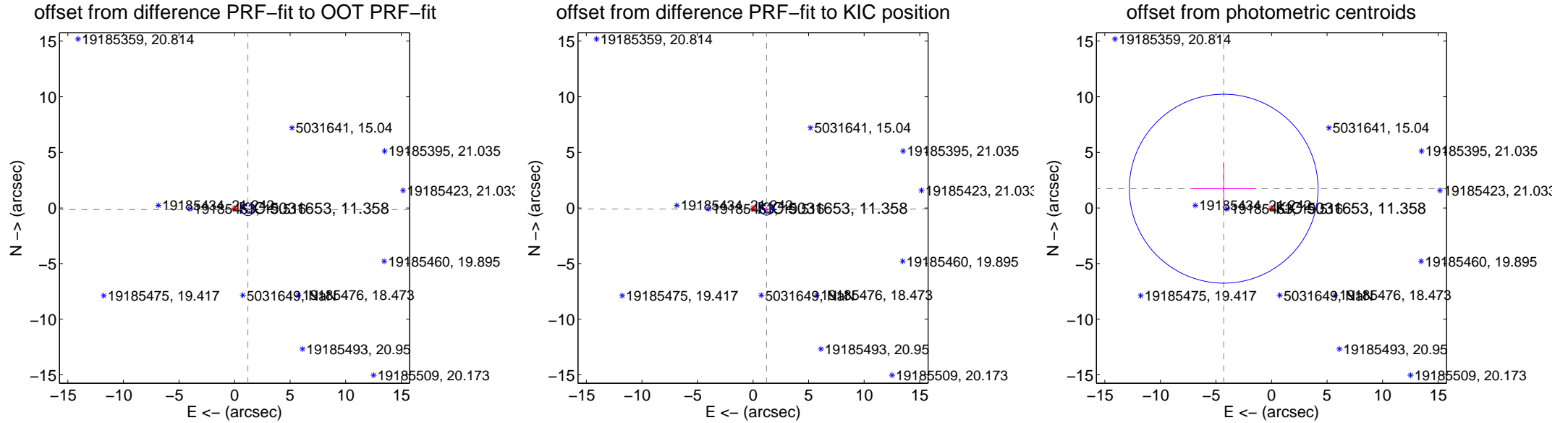
DV Centroid Data

Supplemental centroid analysis for 005031653-01. **Kepler magnitude: 11.36.** Transit SNR 7.47

There are 1 quarters with good PRF difference image offsets

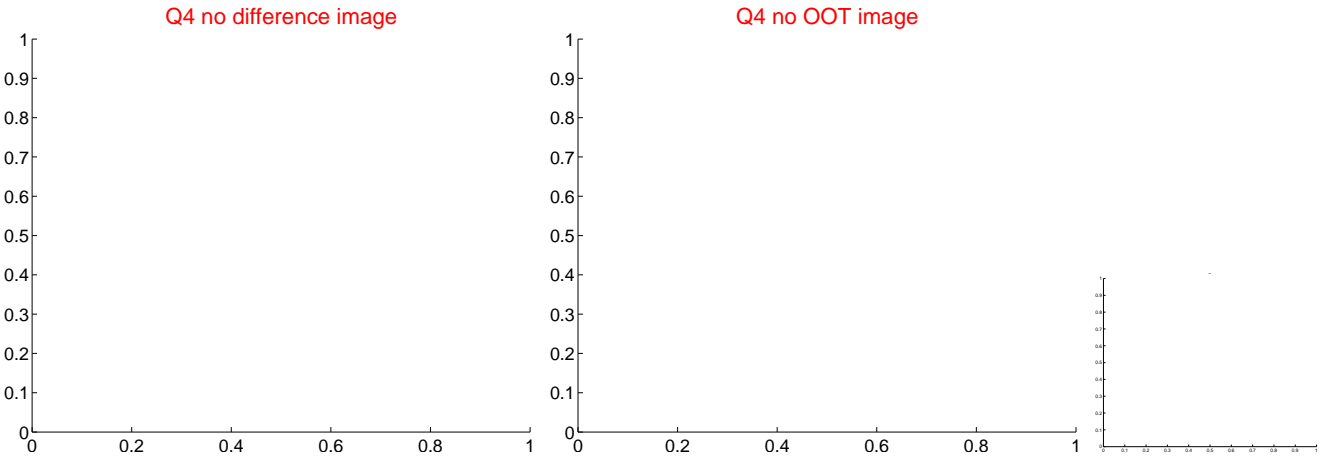
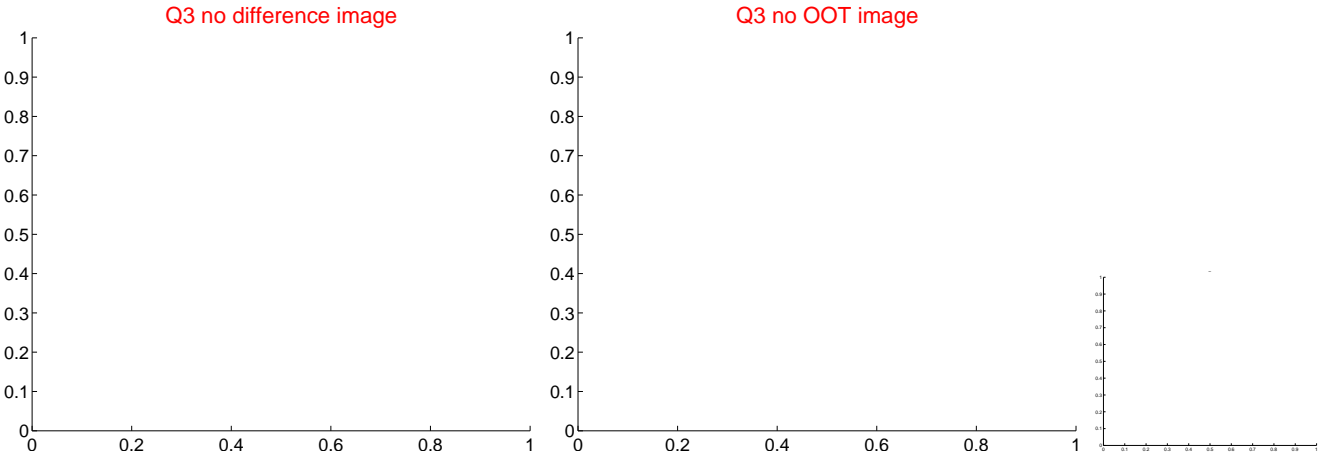
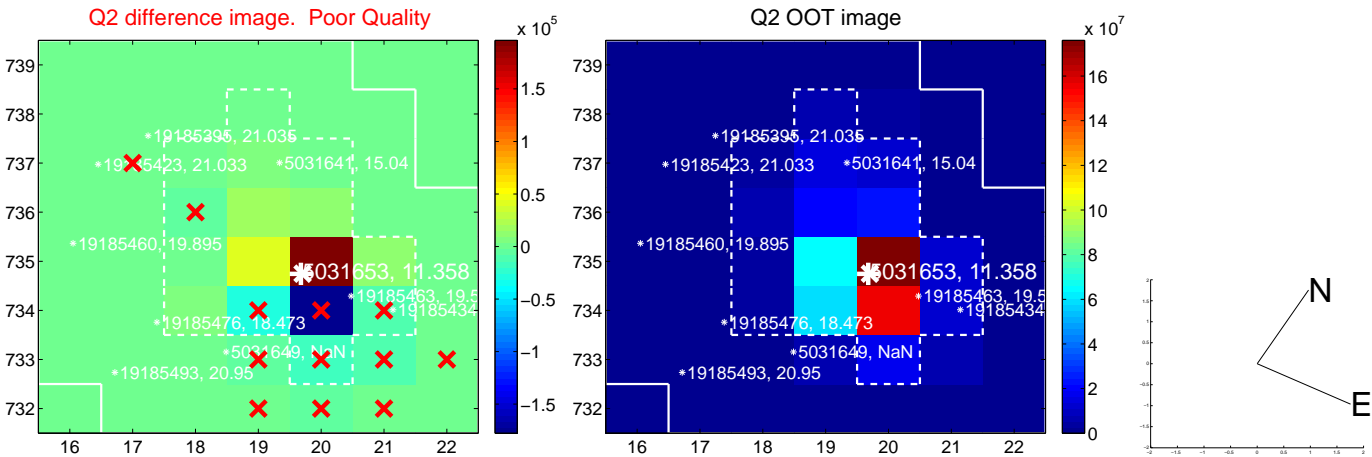
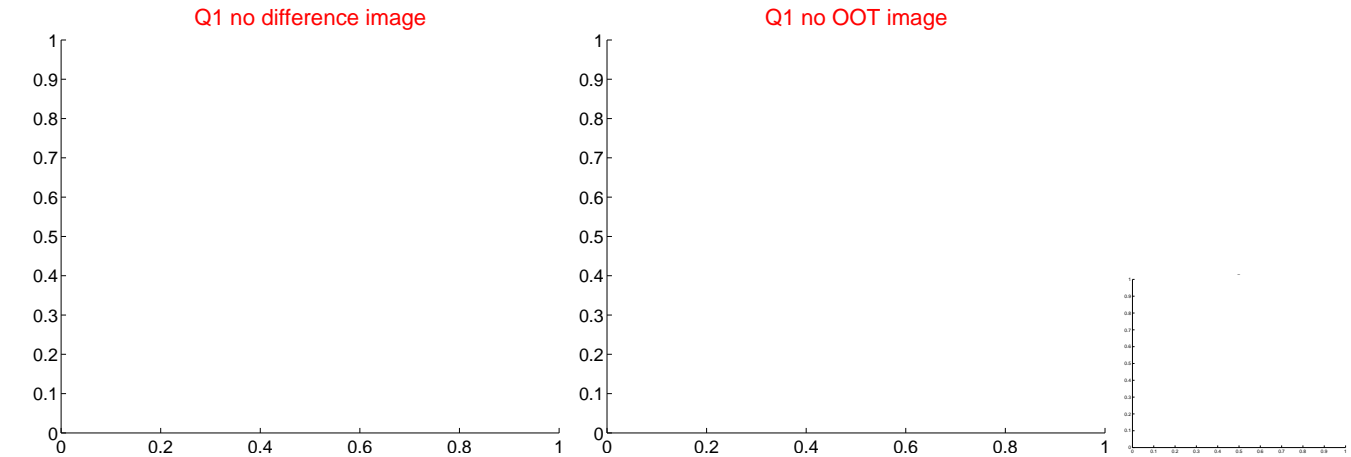
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.203 ± 0.182	6.61	-1.194 ± 0.182	-0.142 ± 0.179
PRF-fit source offset from KIC position	1.218 ± 0.182	6.69	-1.214 ± 0.182	-0.102 ± 0.179
photometric centroid source offset	4.64 ± 2.83	1.64	4.30 ± 2.91	1.73 ± 2.32

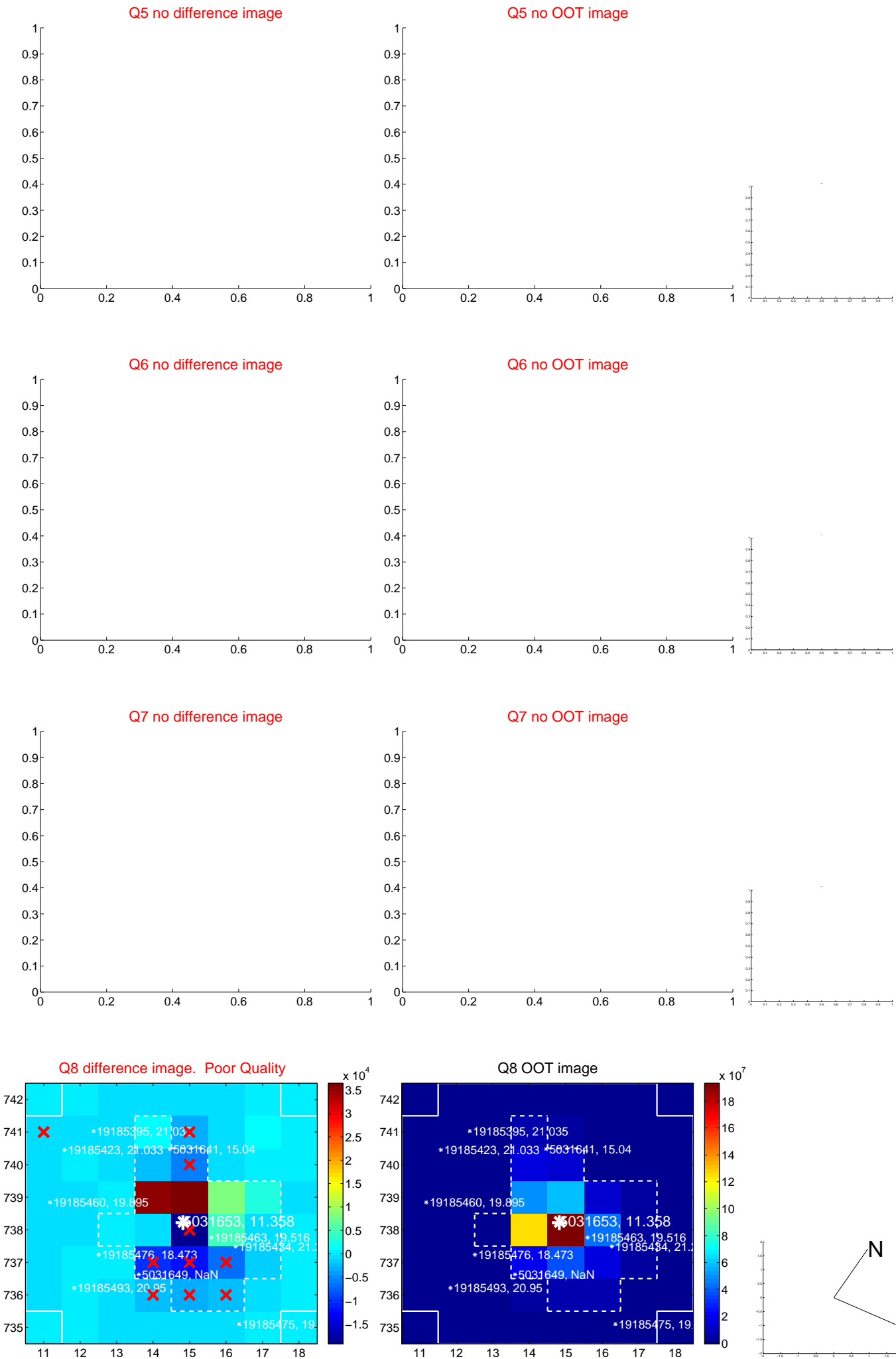


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



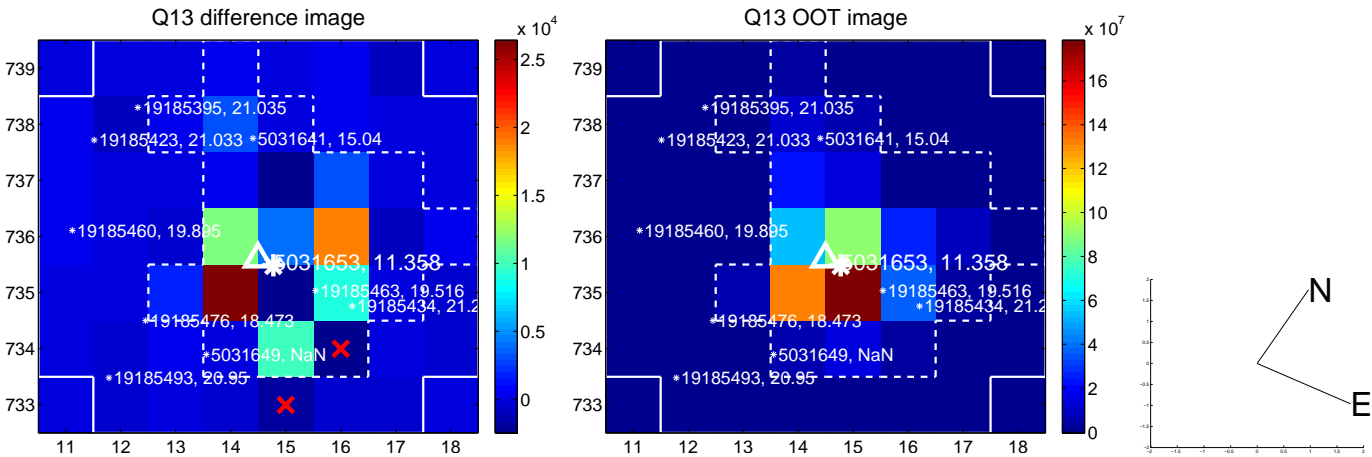
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



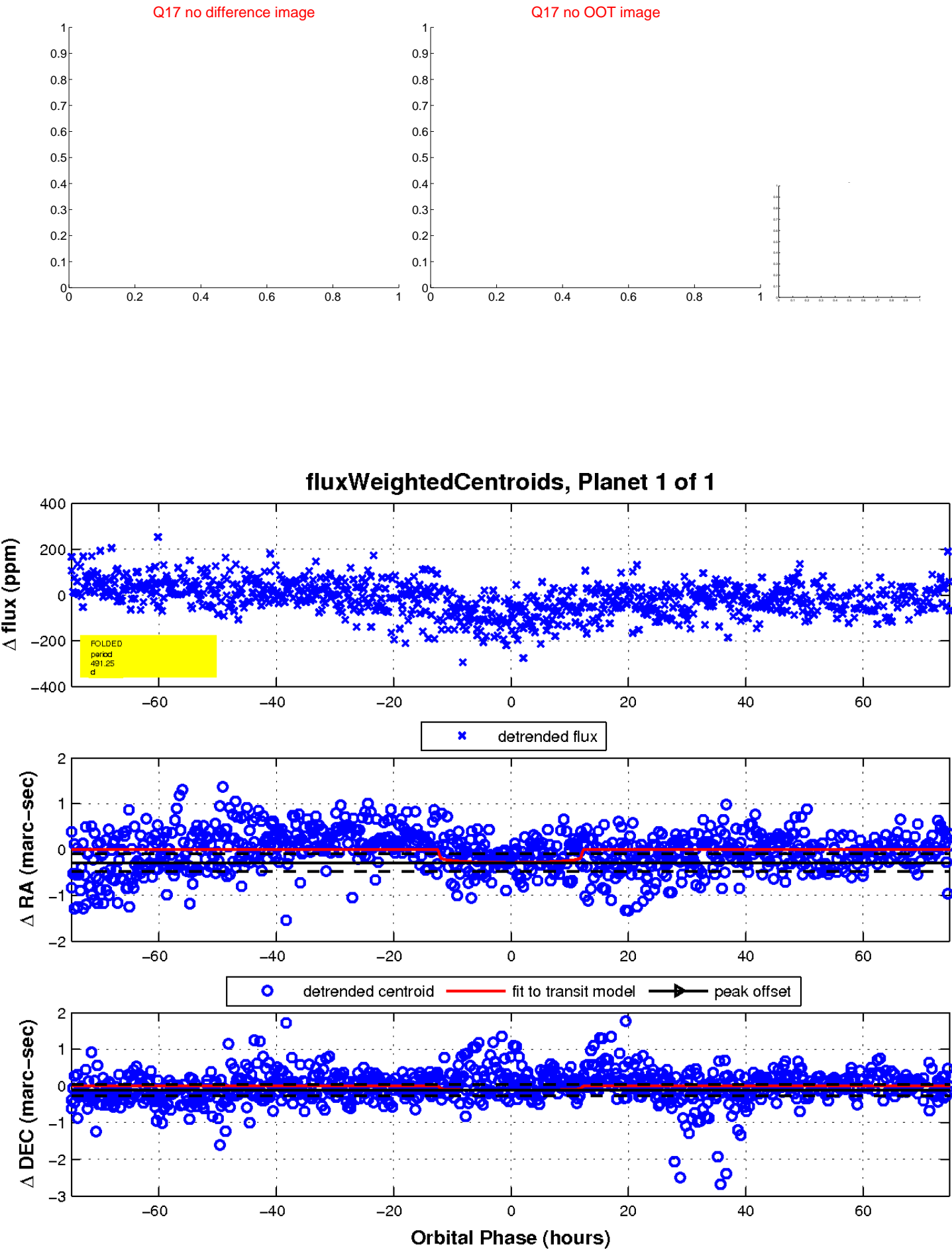
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

