

KIC 009327513

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})
009327513-01	OBS	No	497.641195	520.742214	449.1	15.995	9.1	7.9	2.41	7232	5.43	6.71

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009327513-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_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.

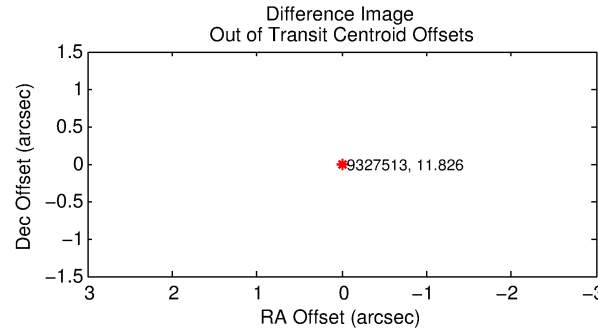
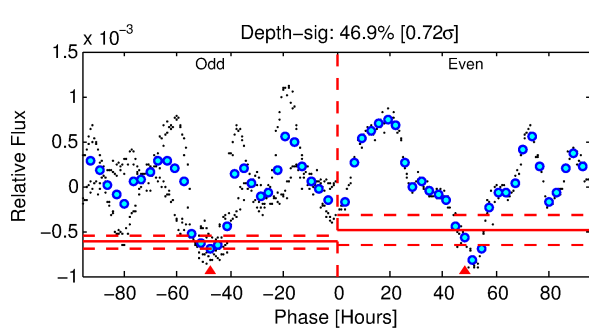
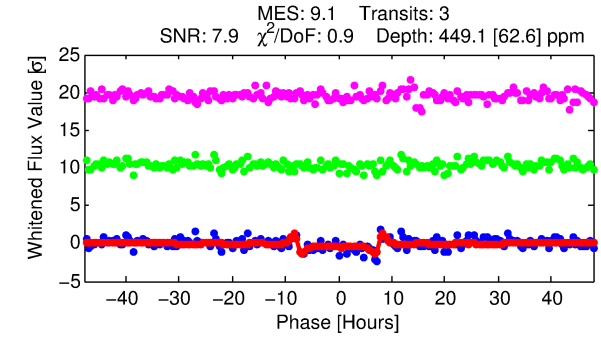
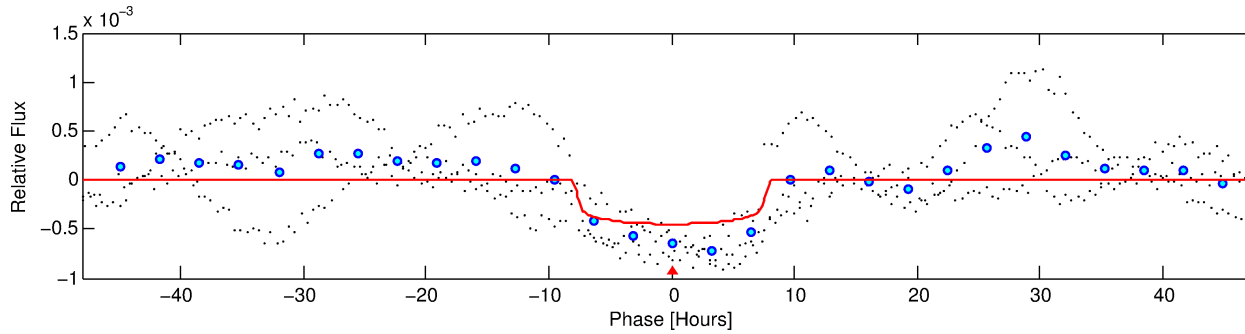
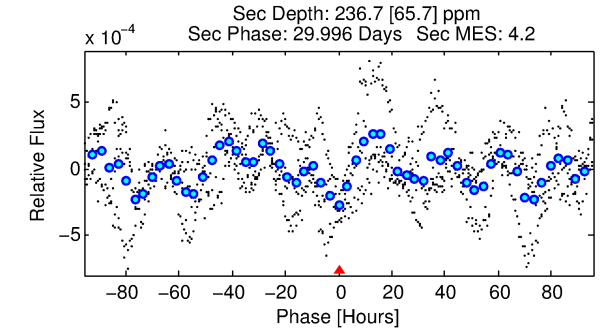
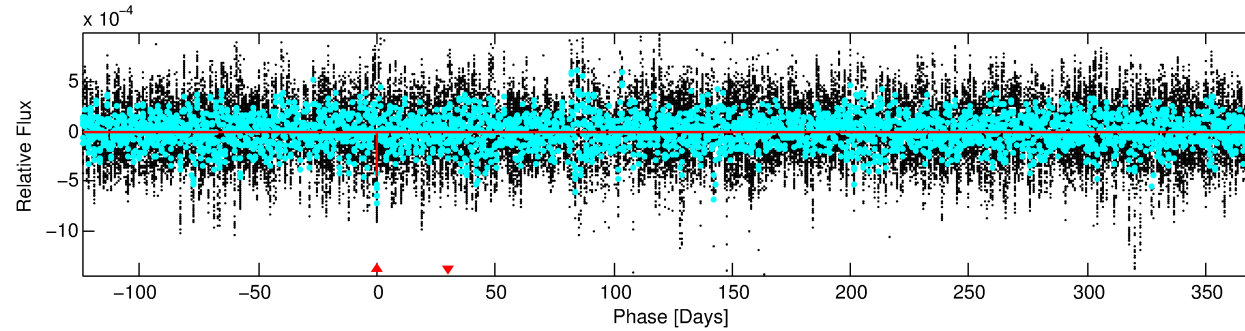
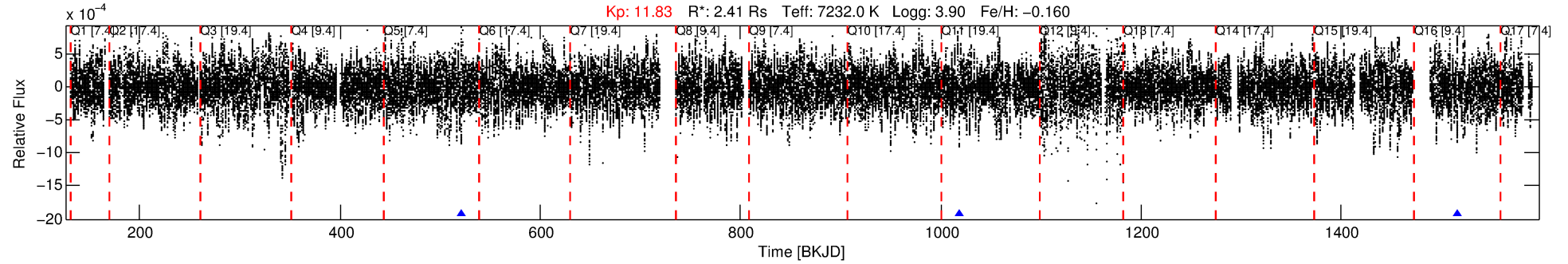
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009327513-01

No Significant Match Found

DV One-Page Summary

KIC: 9327513 Candidate: 1 of 1 Period: 497.641 d



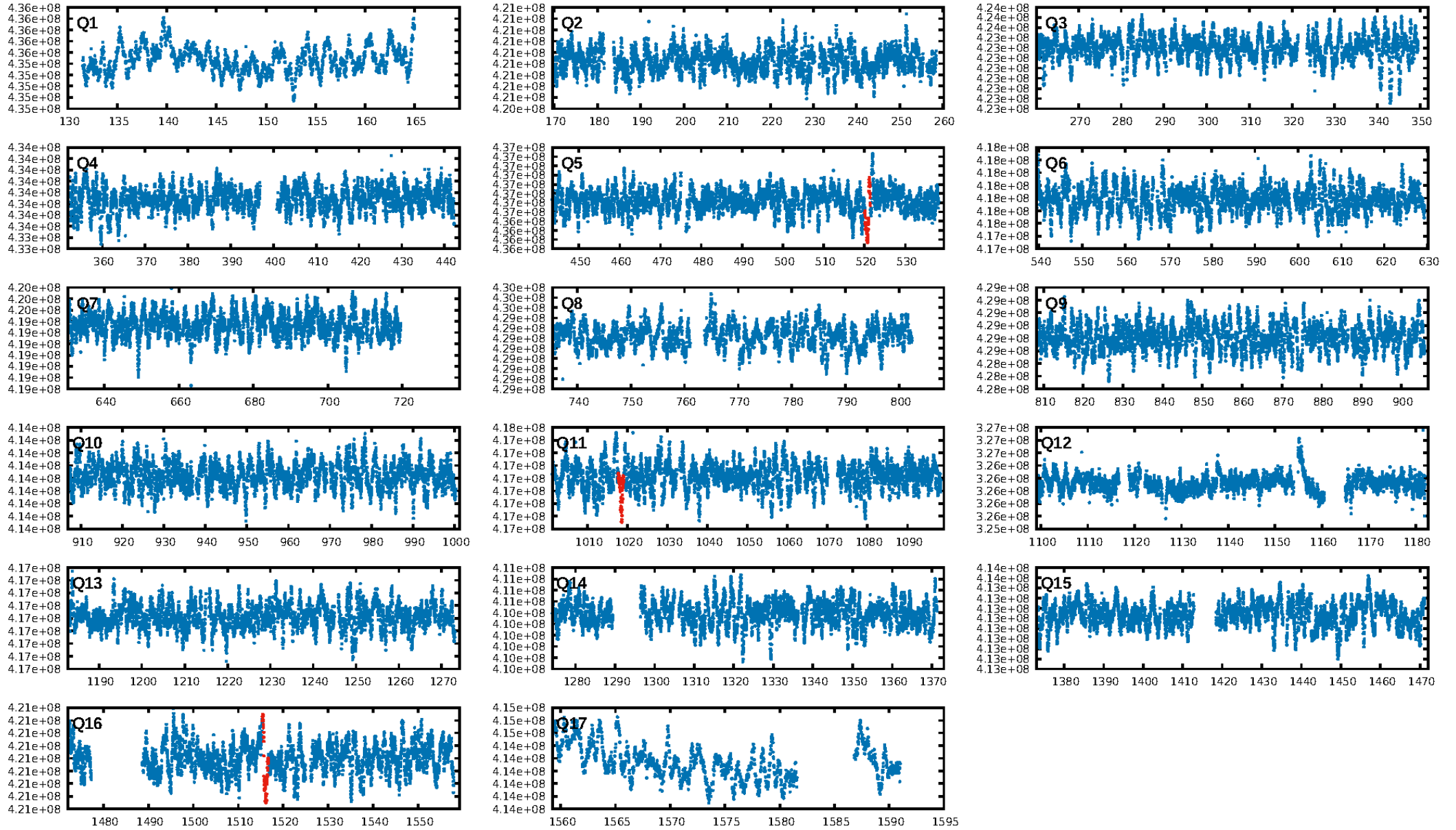
DV Fit Results:

Period = 497.64119 [0.00356] d
Epoch = 520.7422 [0.0047] BKJD
Rp/R* = 0.0206 [0.0022]
a/R* = 184.31 [66.86]
b = 0.66 [0.30]
Seff = 6.72 [3.70]
Teq = 410 [57] K
Rp = 5.43 [2.04] Re
a = 1.4577 [0.4903] AU
Ag = 9377.80 [5964.43] [1.57σ]
Teffp = 6245 [599] K [9.70σ]

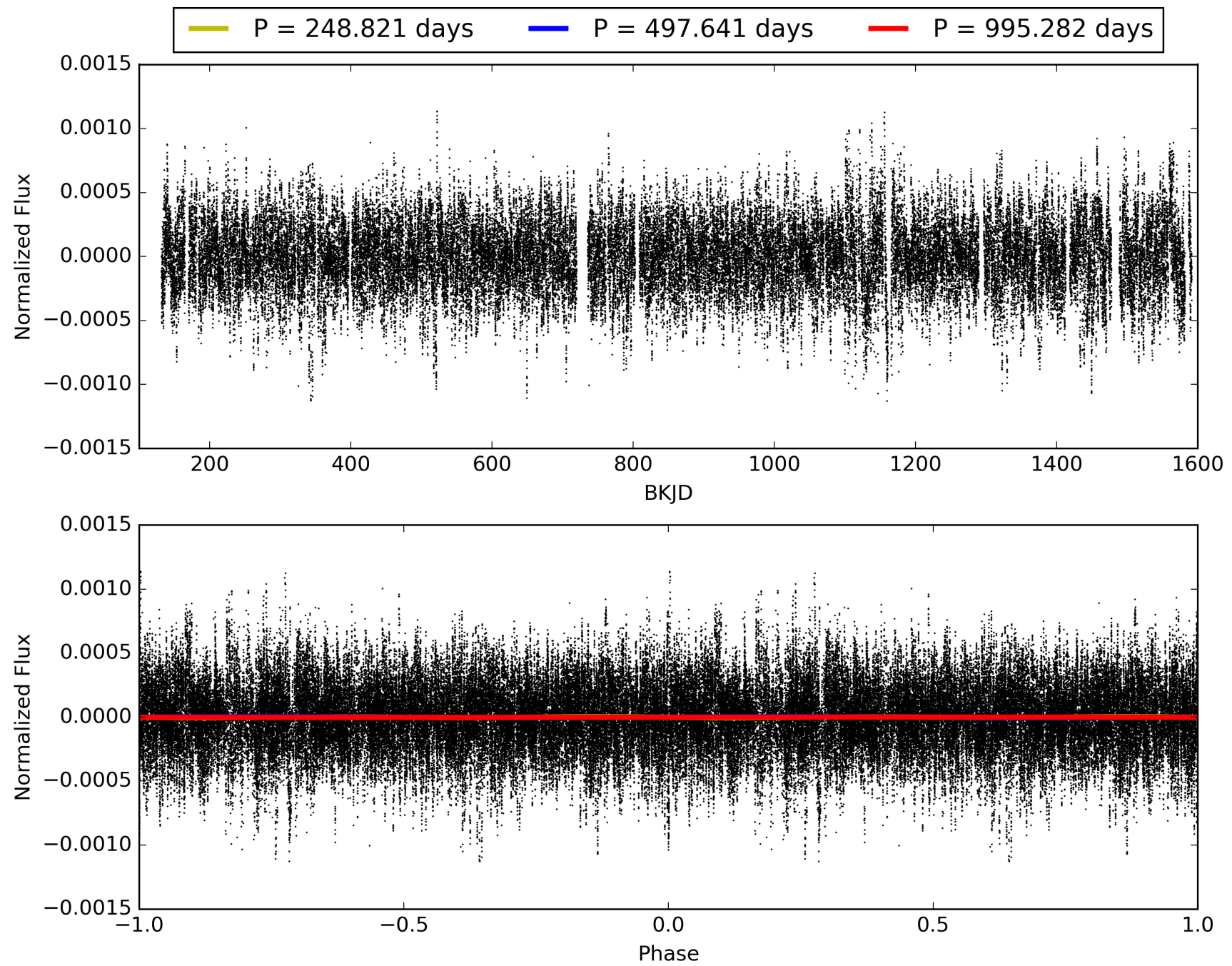
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.6%
ModelChiSquareGof-sig: 99.1%
Bootstrap-pfa: 2.36e-12
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.9669
Centroid-sig: 0.1%
Centroid-so: 4.693 arcsec [8.30σ]
OotOffset-rm: N/A
KicOffset-rm: 0.783 arcsec [10.72σ]
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/1/0 [1]
DiffImageQuality-fgm: 1.00 [1/1]
DiffImageOverlap-fno: 1.00 [2/2]

TCE 009327513-01, PDC Light Curves

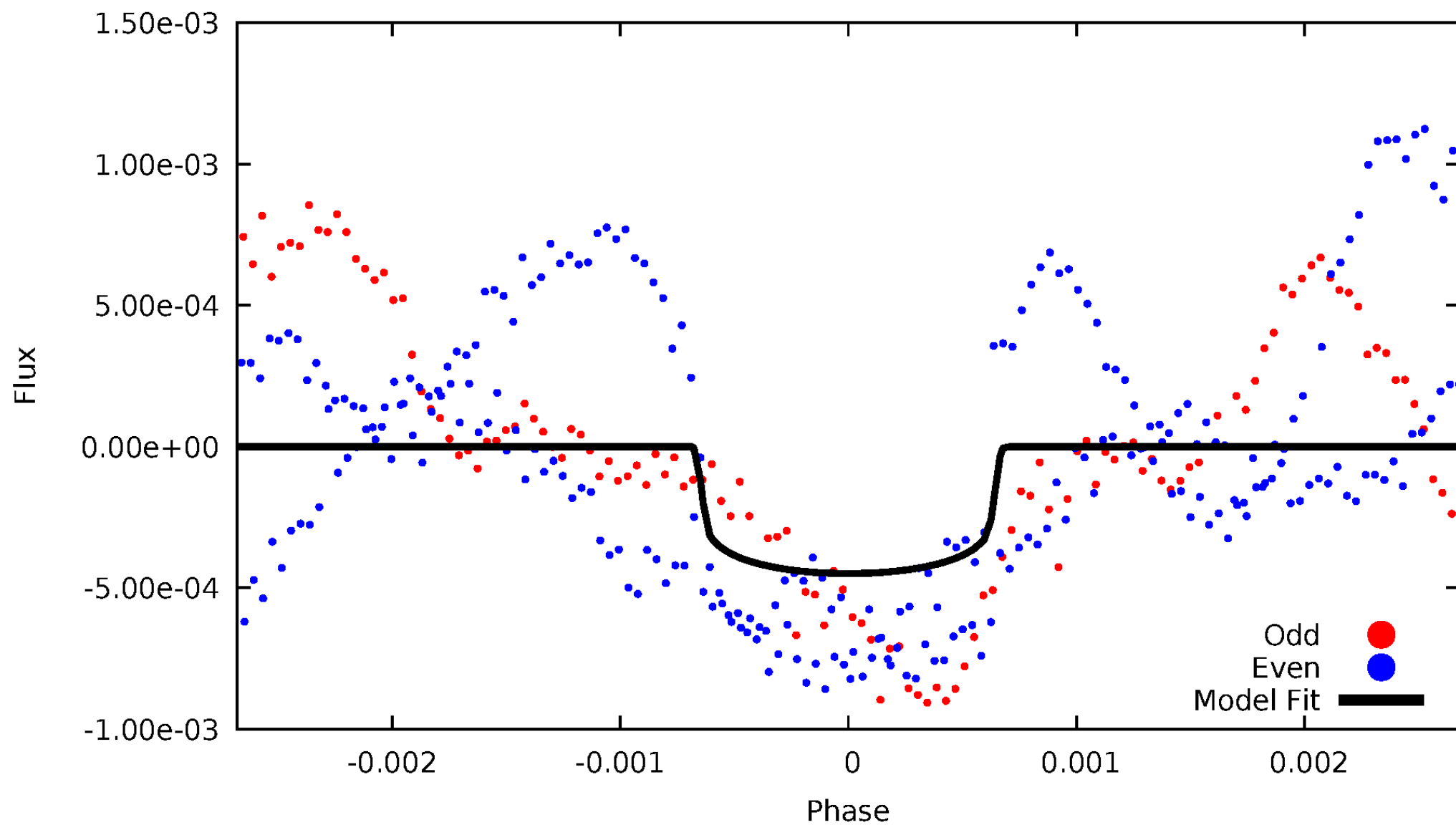


TCE 009327513-01



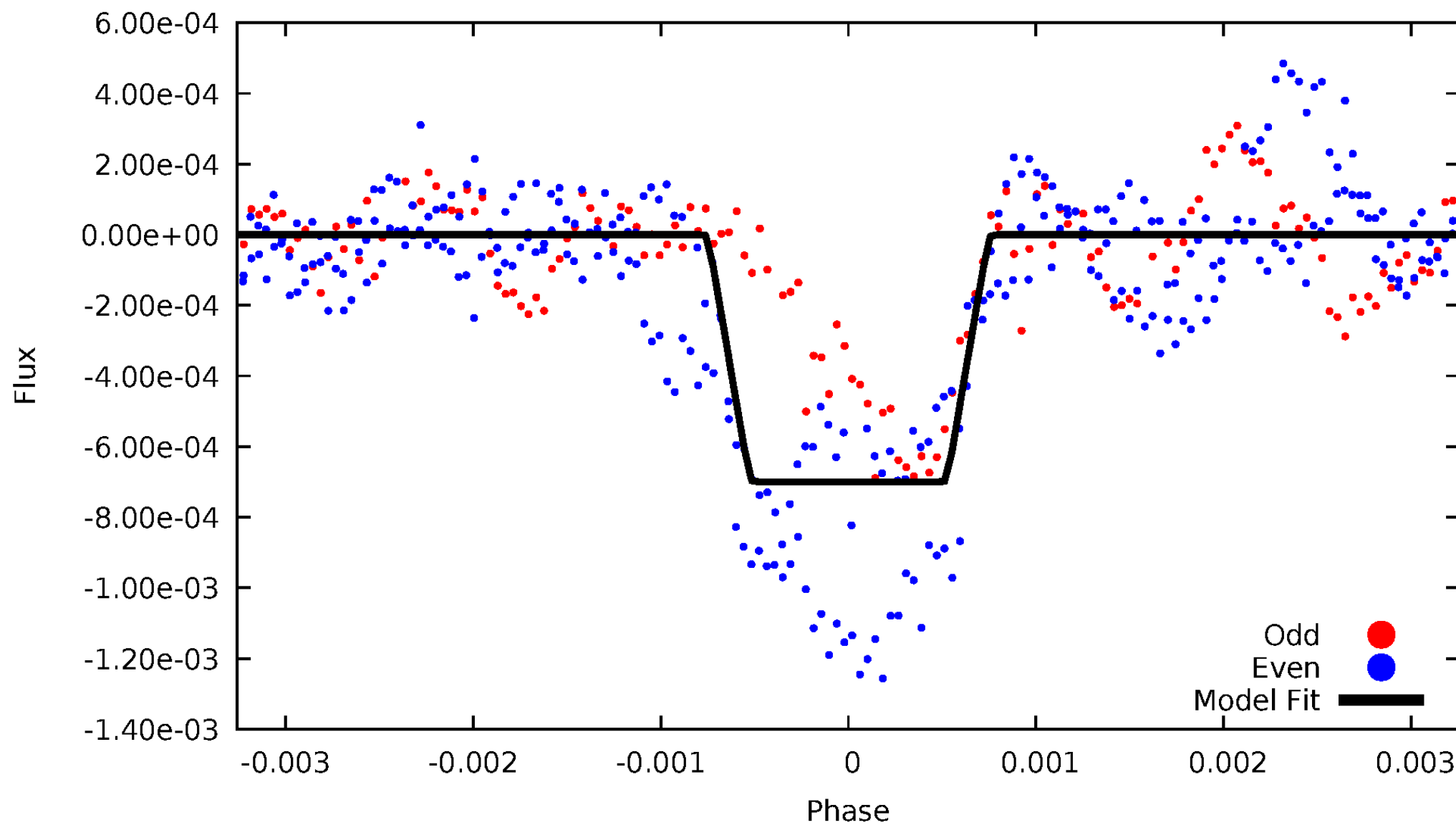
DV Odd/Even

TCE 009327513-01

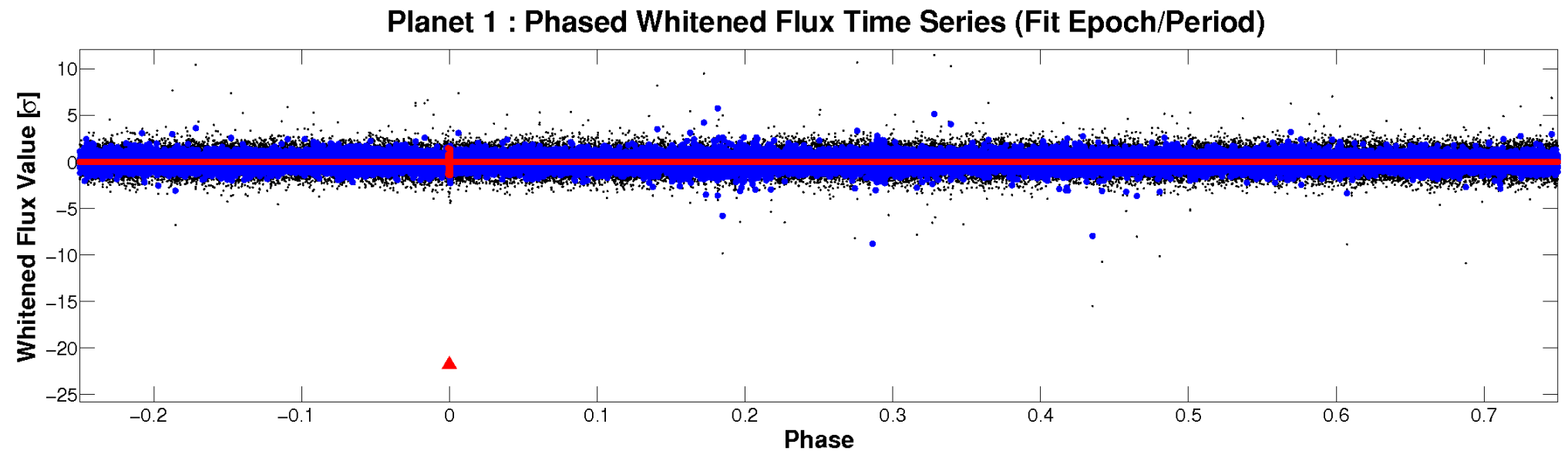
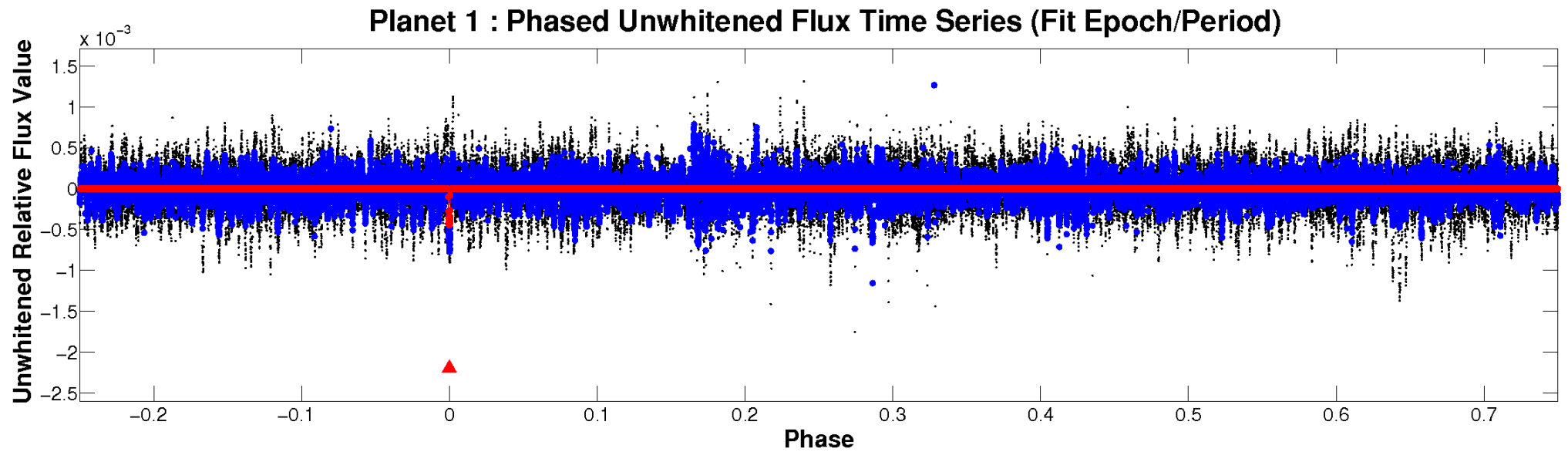


ALT Odd/Even

TCE 009327513-01

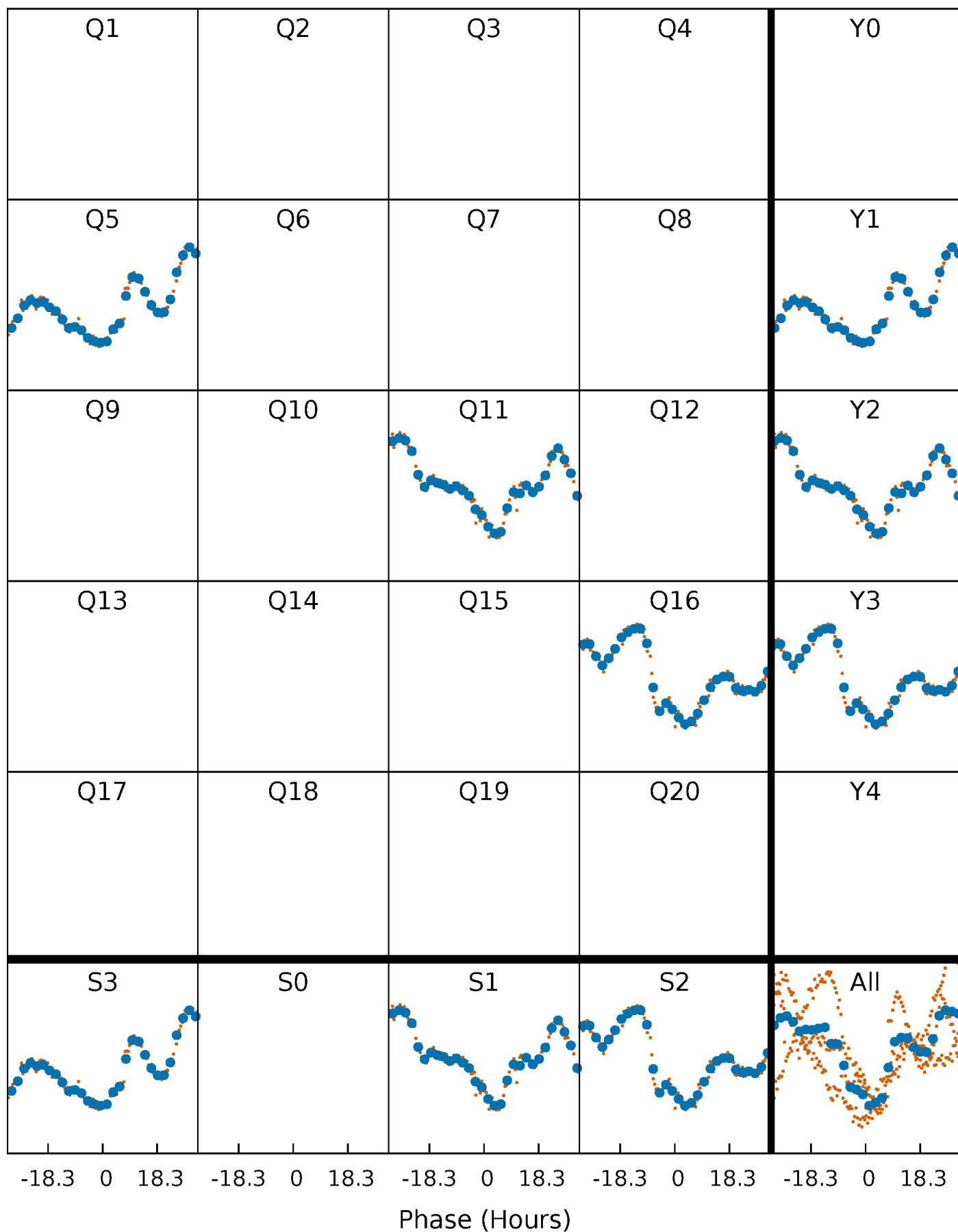


Non-Whitened Vs. Whitened Light Curve



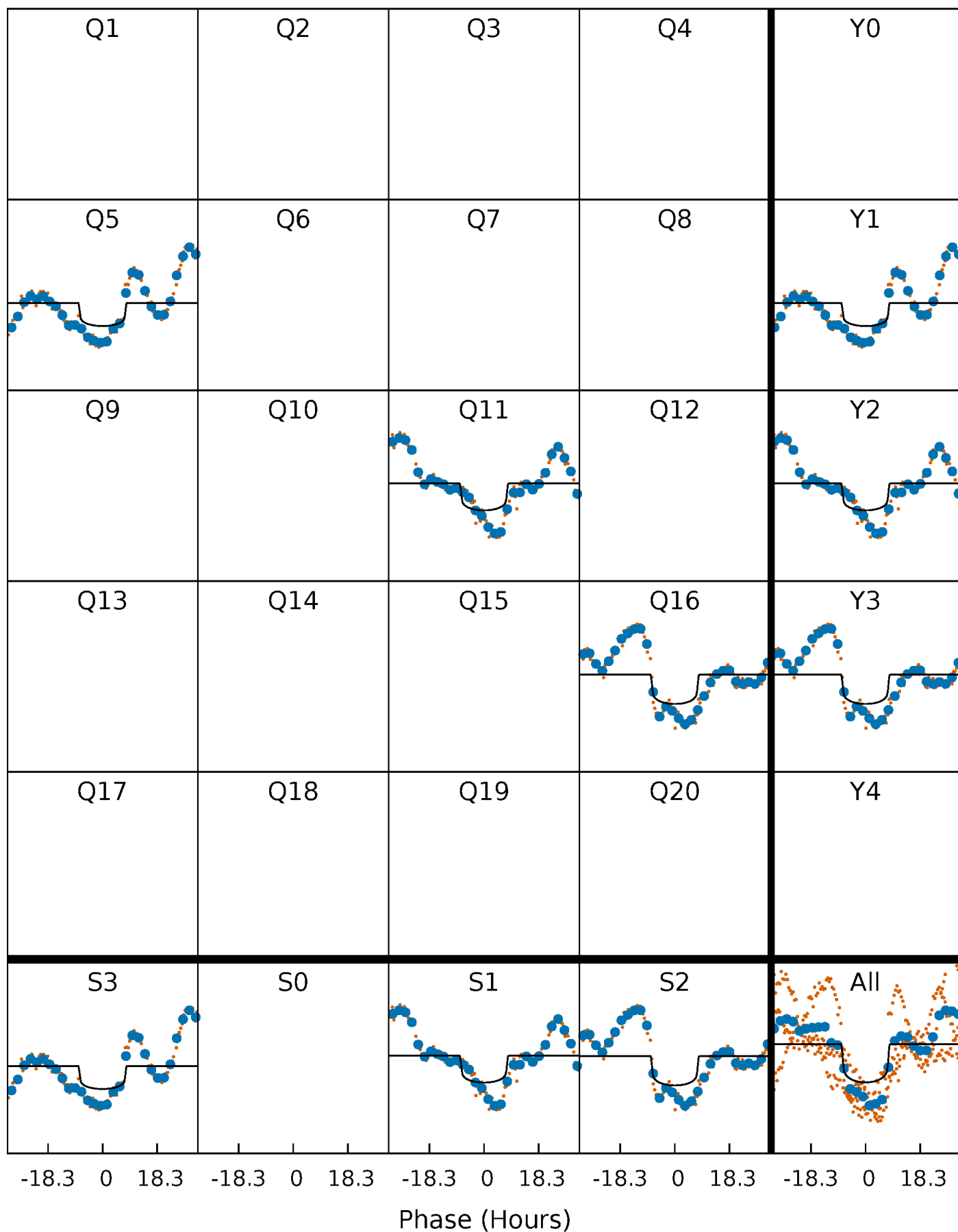
PDC Quarter-Phased Transit Curves

TCE 009327513-01 P=497.641195 Days $T_0=520.742214$ (BKJD)



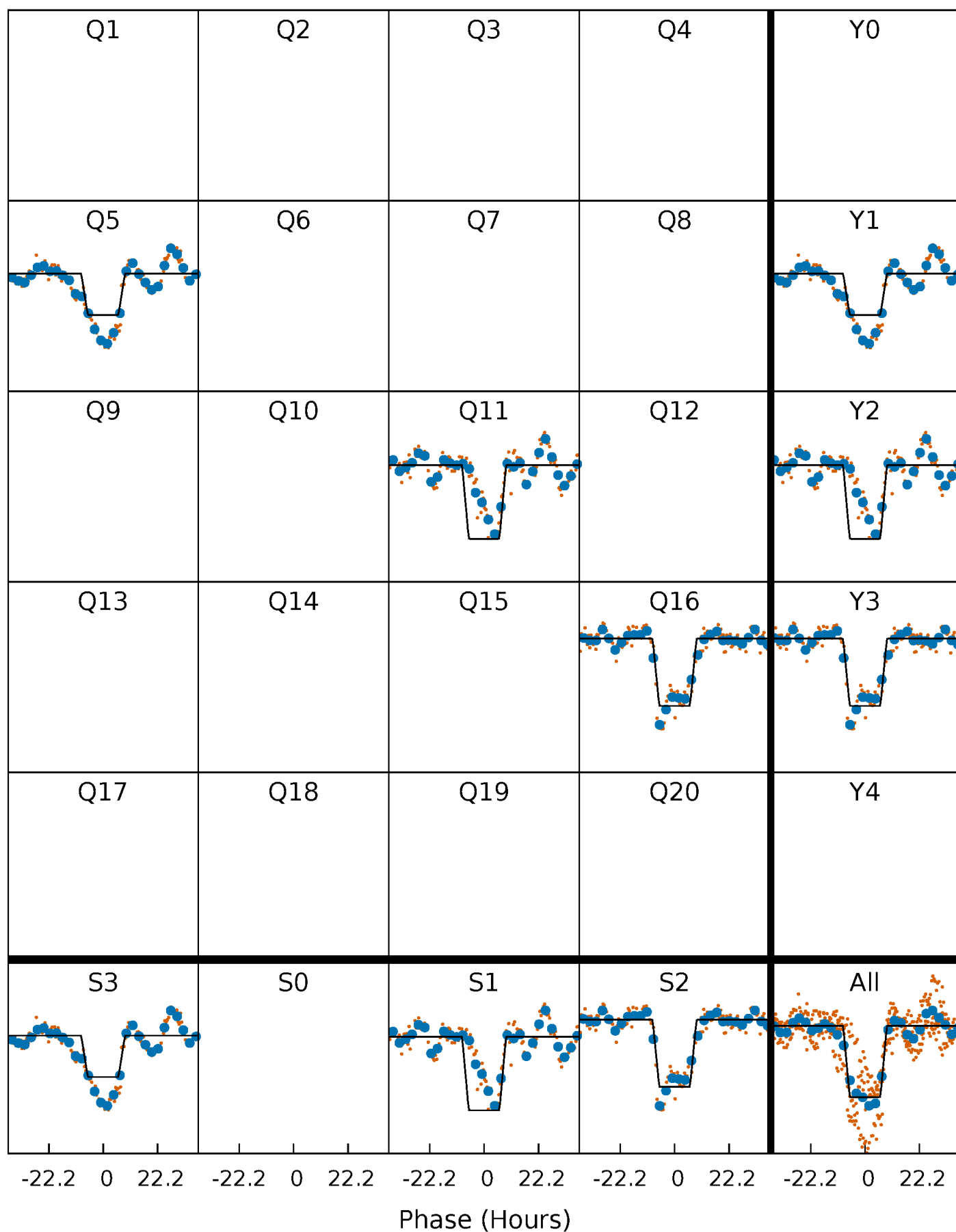
DV Quarter-Phased Transit Curves

TCE 009327513-01 P=497.641195 Days $T_0=520.742214$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

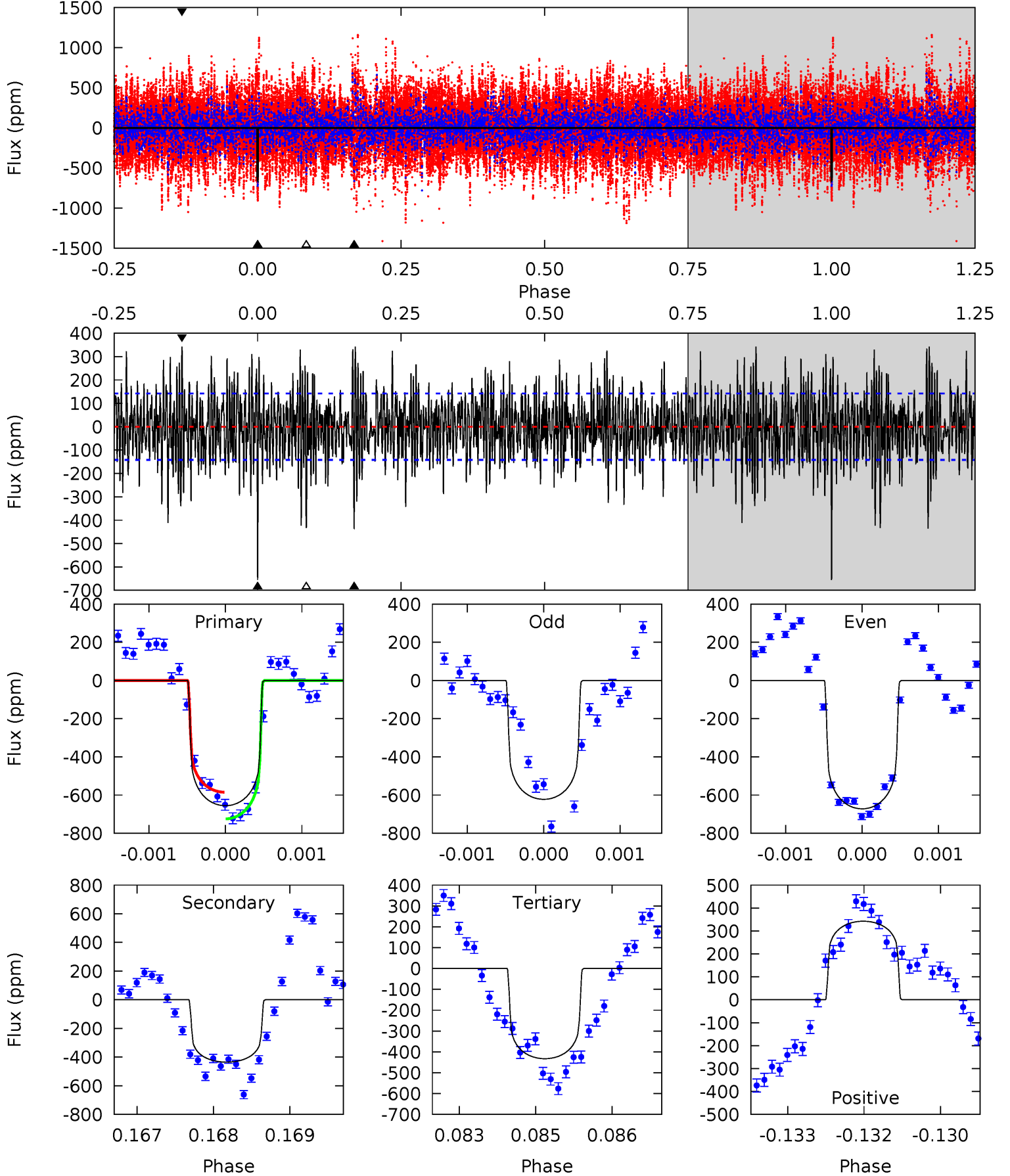
TCE 009327513-01 P=497.638920 Days $T_0=520.742886$ (BKJD)



DV Model-Shift Uniqueness Test

009327513-01, P = 497.641195 Days, E = 23.101019 Days

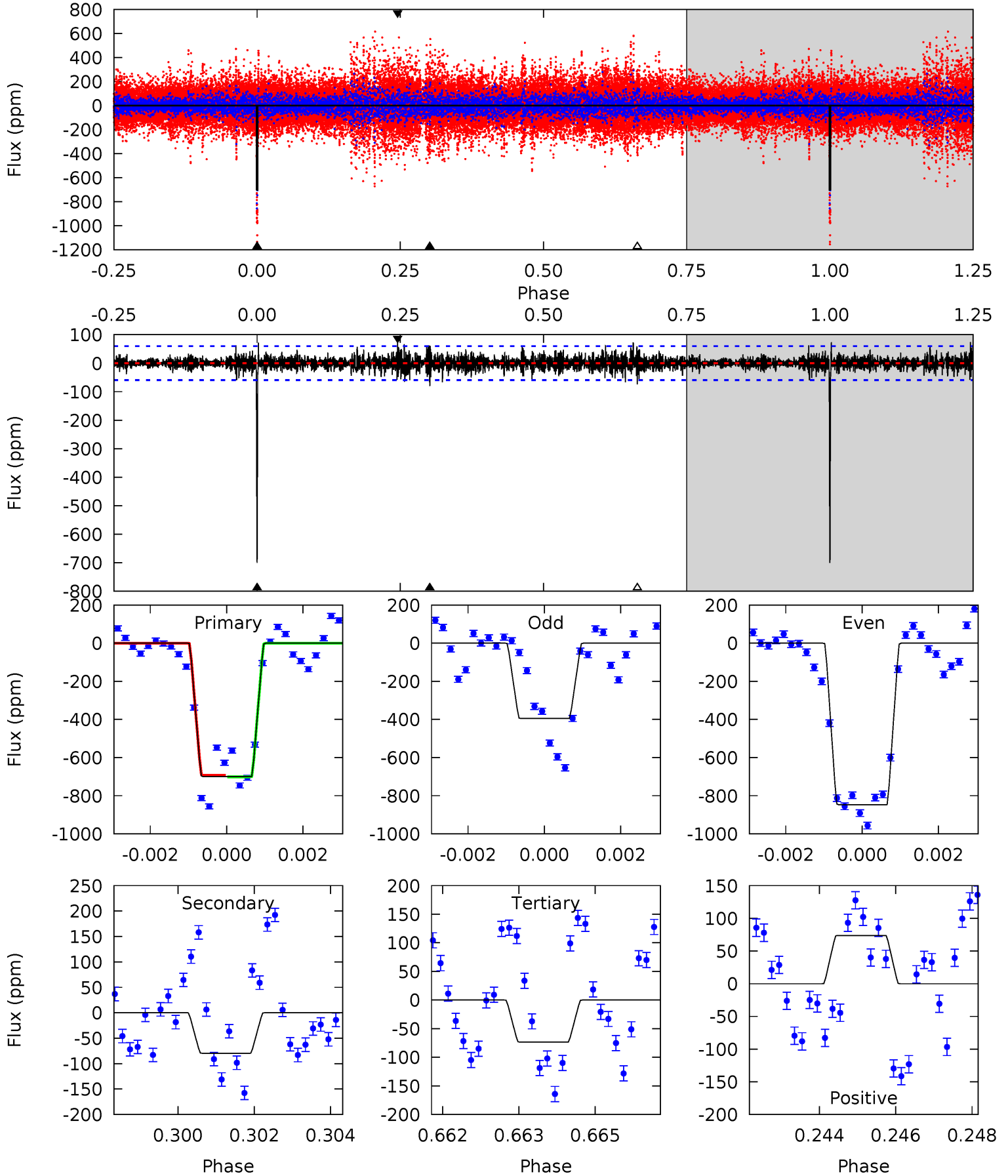
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.8	16.5	16.4	13.0	5.39	3.20	4.32	8.44	11.9	0.10	3.52	0.89	0.98	0.34	2.64



Alt Model-Shift Uniqueness Test

009327513-01, $P = 497.638920$ Days, $E = 23.103966$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
63.0	7.17	6.61	6.63	5.37	3.16	1.52	56.4	56.4	0.56	0.54	20.0	1.01	0.10	0.33



Stellar Parameters For KIC 009327513

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7232^{+201}_{-277}	$3.895^{+0.308}_{-0.132}$	$-0.160^{+0.250}_{-0.350}$	$2.413^{+0.578}_{-0.866}$	$1.666^{+0.186}_{-0.345}$	$0.167^{+0.365}_{-0.064}$
	+3%/-4%	+8%/-3%	+156%/-219%	+24%/-36%	+11%/-21%	+218%/-39%
Source	PHO1	KIC0	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 009327513-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-435 ± 26	$5.14^{+1.10}_{-1.00}$	562^{+42}_{-59}	7255^{+587}_{-473}	19142^{+10689}_{-6016}
Alt.	-80 ± 11	$6.68^{+1.21}_{-1.27}$	563^{+41}_{-51}	4360^{+216}_{-187}	2081^{+1026}_{-641}

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

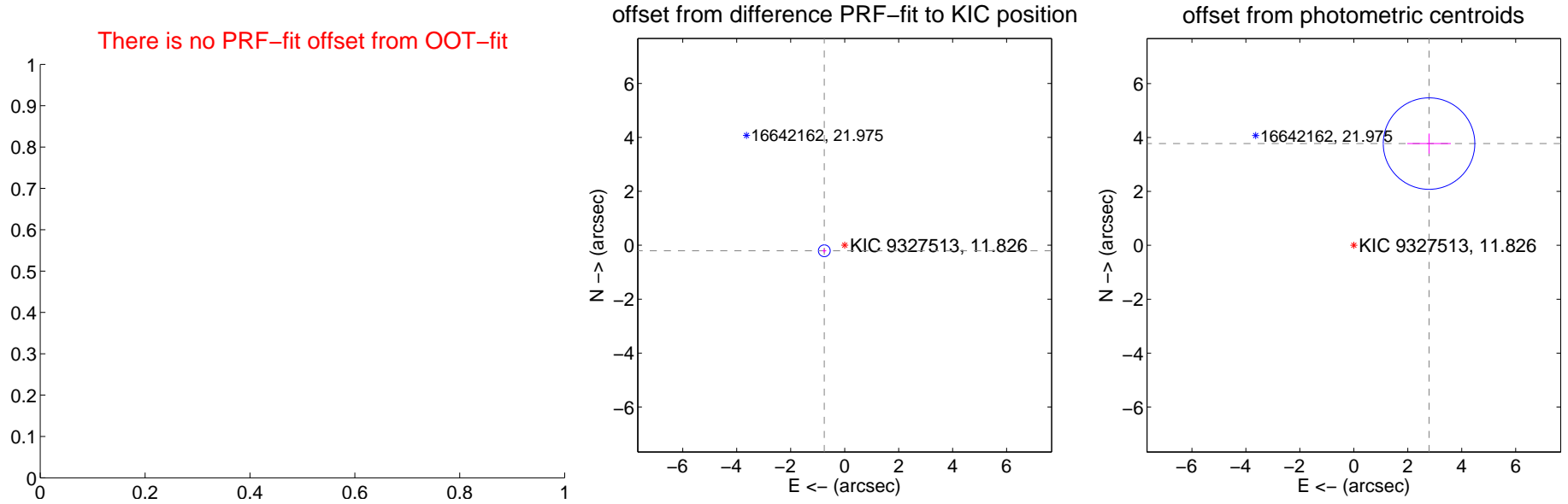
DV Centroid Data

Supplemental centroid analysis for 009327513-01. **Kepler magnitude: 11.83.** Transit SNR 7.87

There are 1 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	0.783 ± 0.073	10.72	0.755 ± 0.073	-0.205 ± 0.076
photometric centroid source offset	4.69 ± 0.57	8.30	-2.79 ± 0.81	3.77 ± 0.37

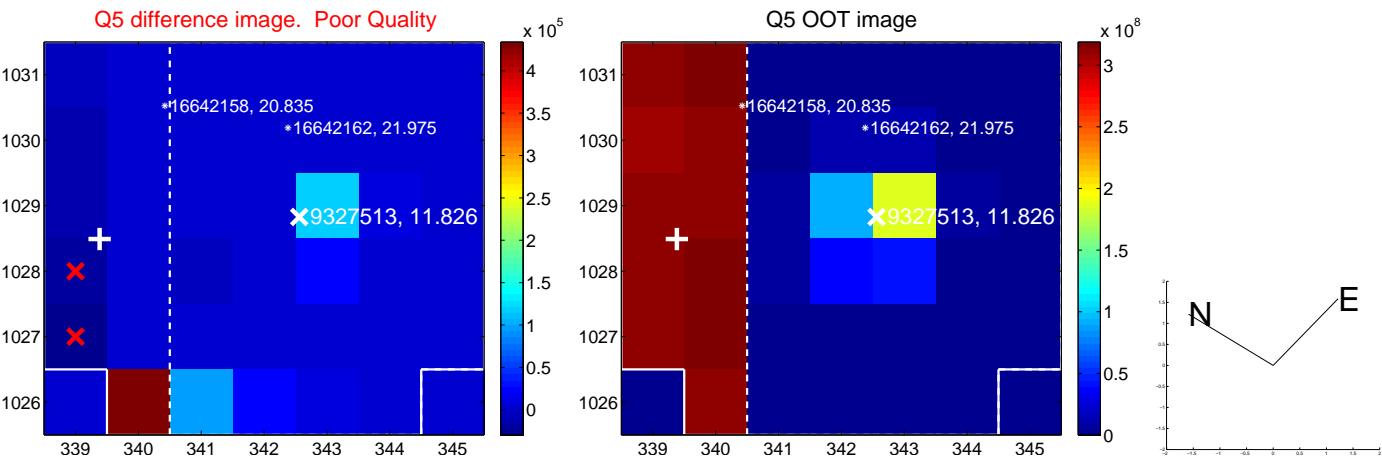


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

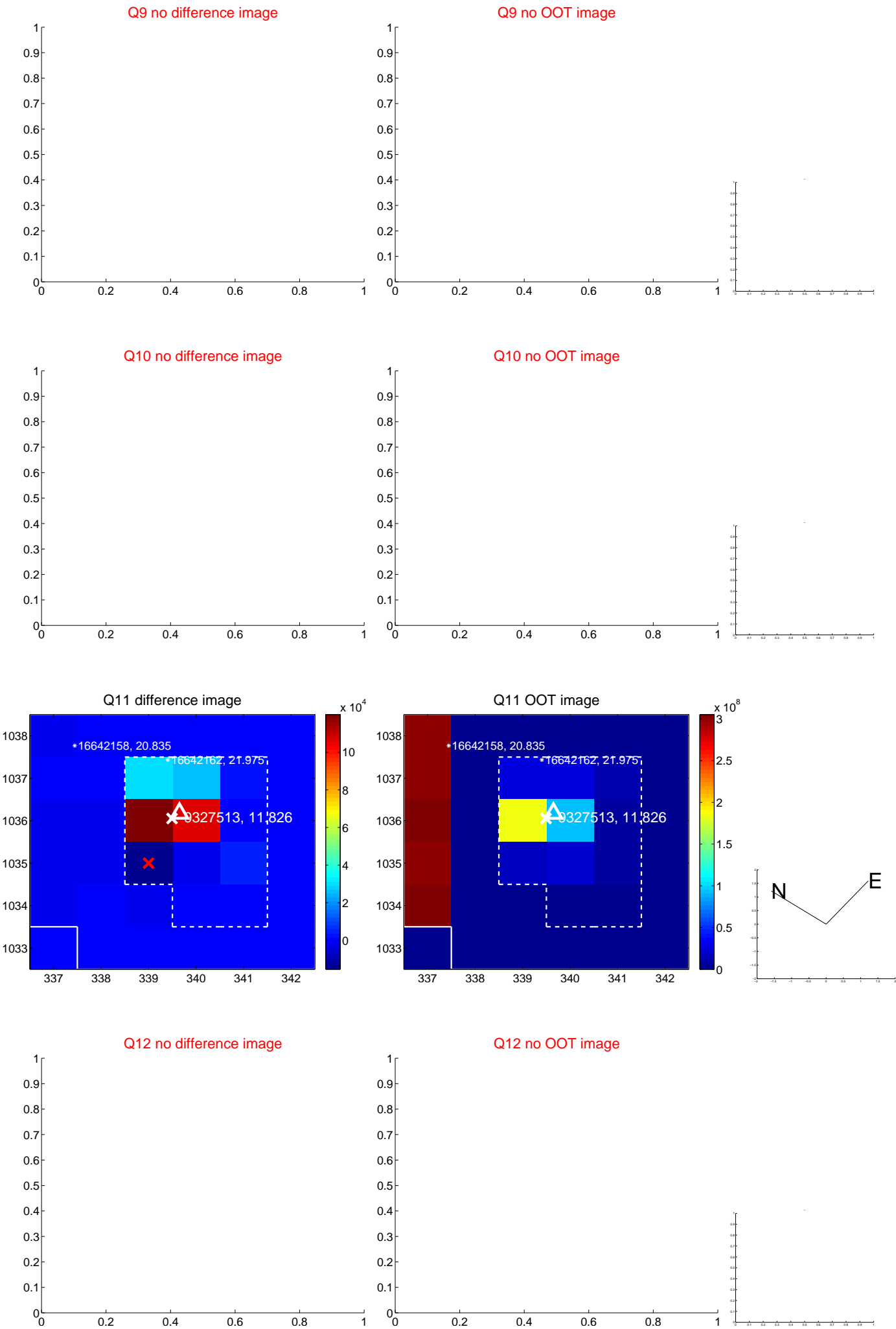
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



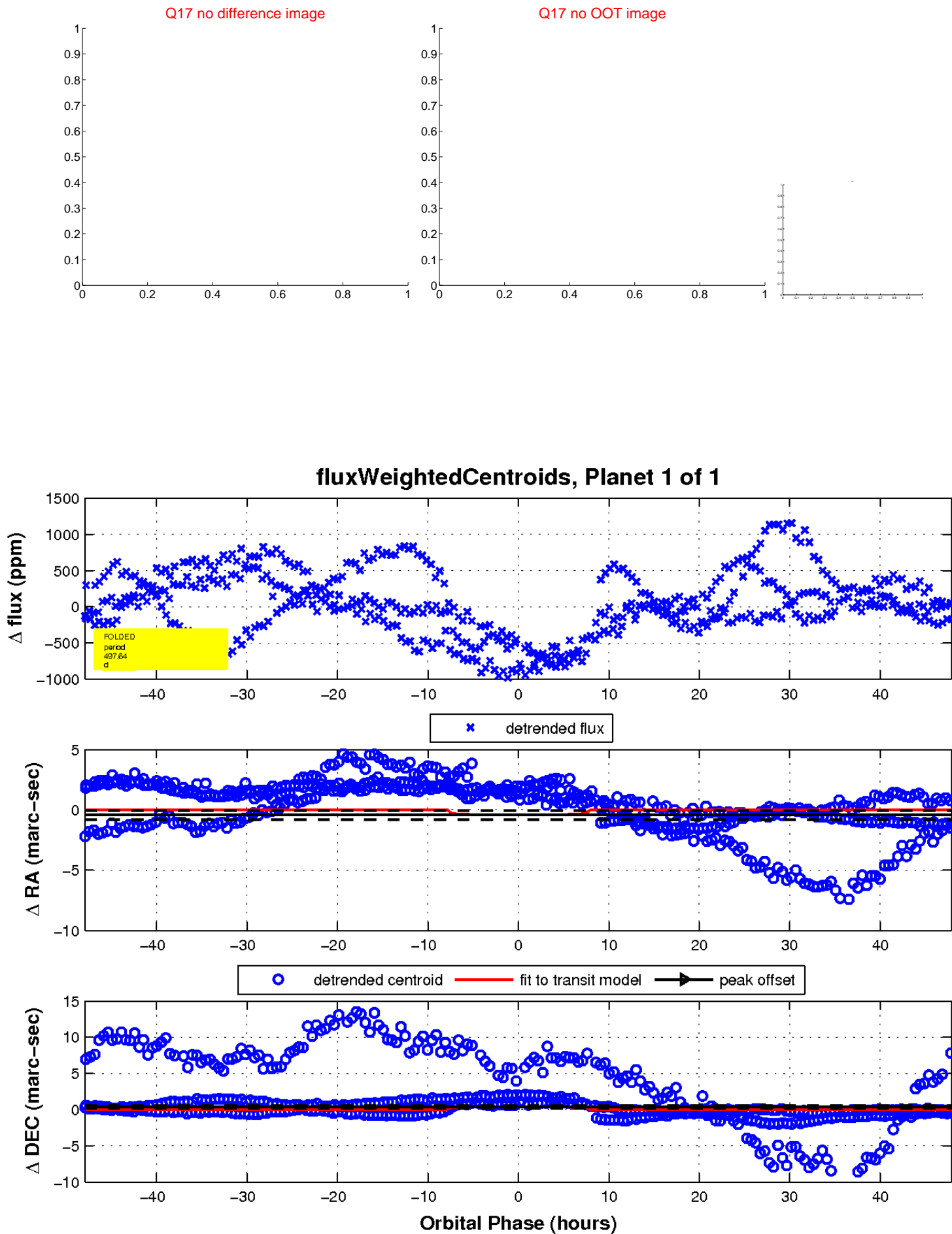
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UKIRT Image

Declination

