

KIC 008126531

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})
008126531-01	OBS	7868.01	513.456013	174.352080	570.0	5.897	7.2	6.7	6.07	4833	17.27	7.68

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008126531-01	OBS	FP	0.13	1	0	0	0	MOD_NONUNIQ_ALT—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.

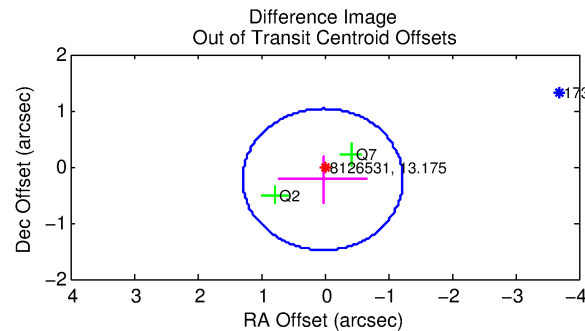
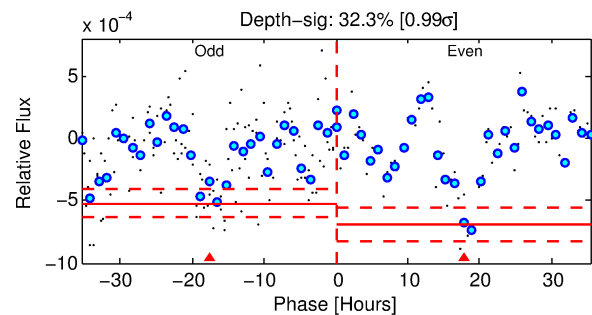
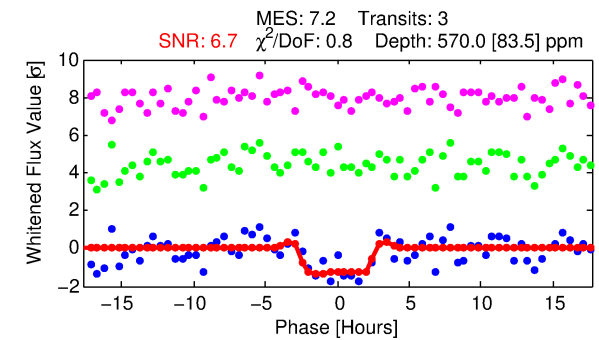
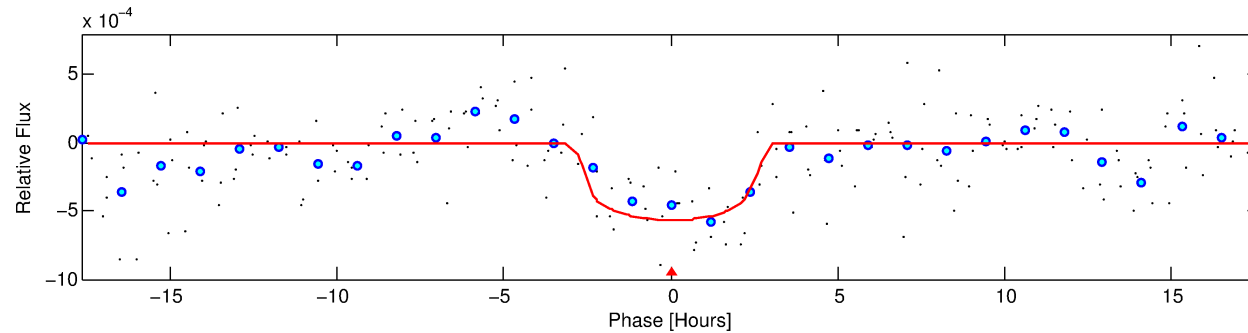
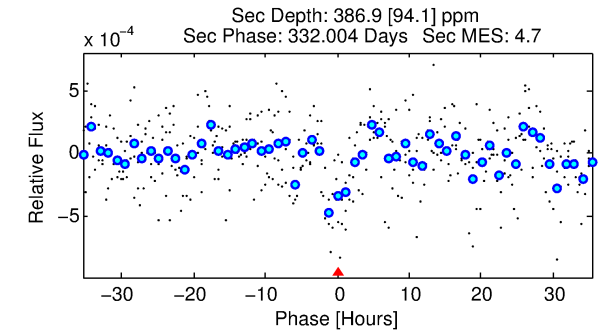
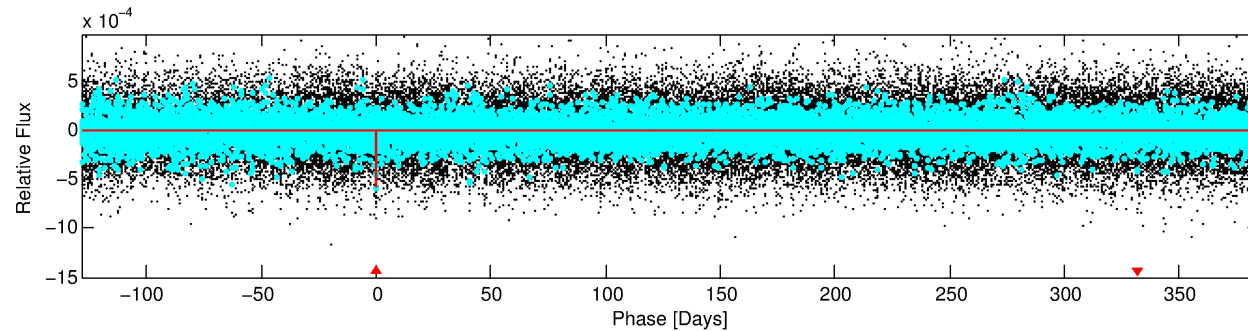
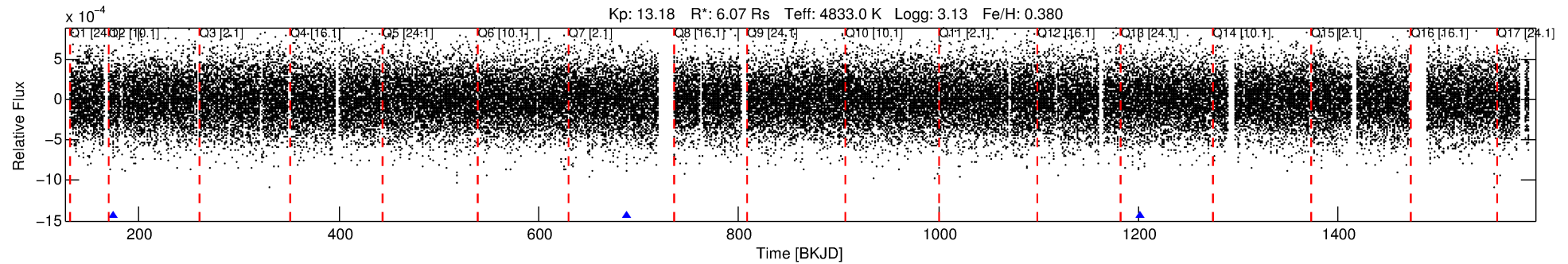
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008126531-01

No Significant Match Found

DV One-Page Summary

KIC: 8126531 Candidate: 1 of 1 Period: 513.456 d



DV Fit Results:

Period = 513.45601 [0.00780] d
Epoch = 174.3521 [0.0087] BKJD
Rp/R* = 0.0261 [0.0107]
a/R* = 358.61 [501.73]
b = 0.87 [0.40]
Seff = 7.69 [2.71]
Teq = 425 [37] K
Rp = 17.26 [8.84] Re
a = 1.5296 [0.3758] AU
Ag = 1671.02 [1544.86] [1.08σ]
Teffp = 4197 [905] K [4.16σ]

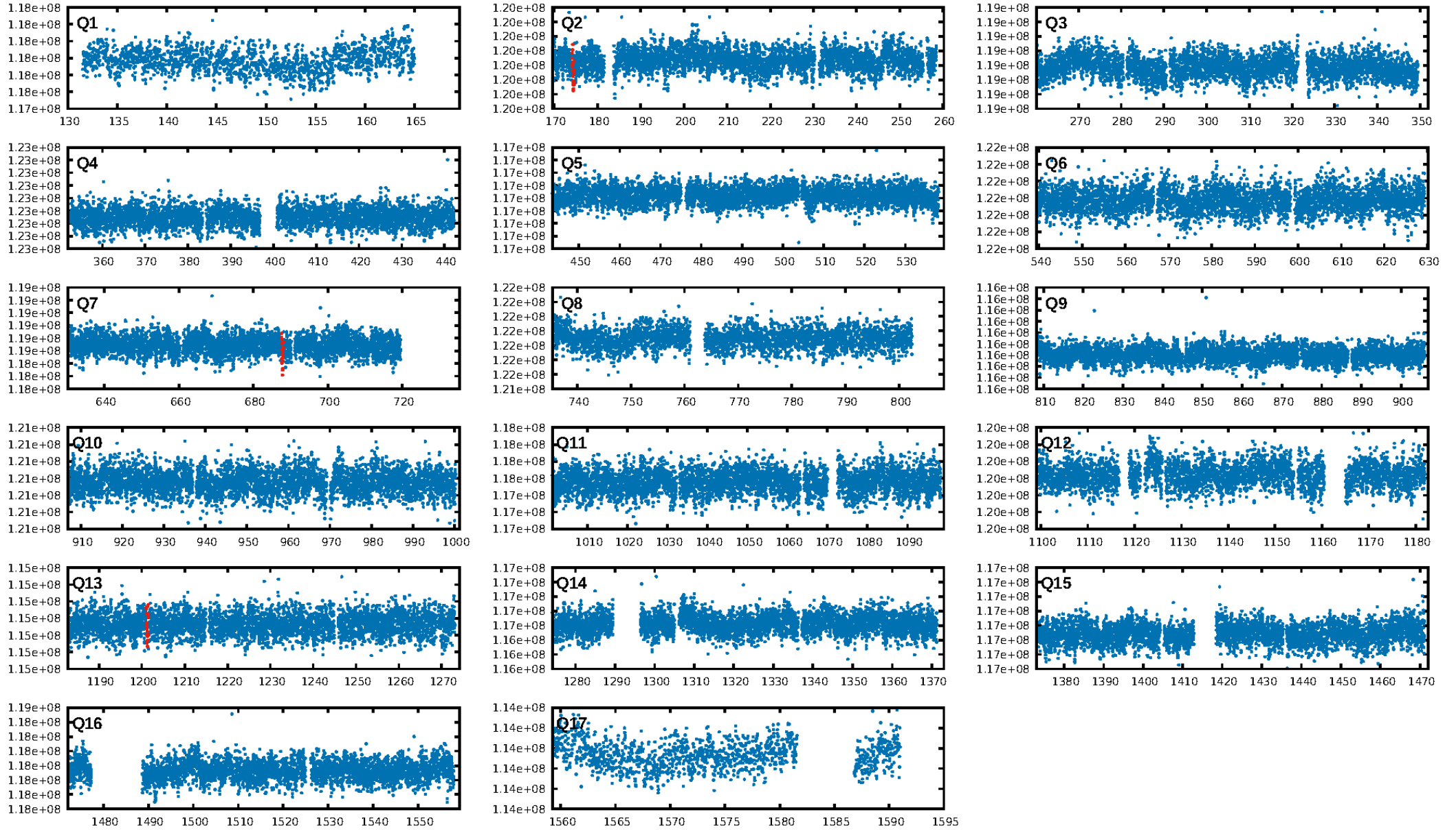
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 68.9%
ModelChiSquareGof-sig: 99.0%
Bootstrap-pfa: 1.41e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 6.784
Centroid-sig: 94.5%
Centroid-so: 0.123 arcsec [0.16σ]
OotOffset-rm: 0.228 arcsec [0.54σ]
KicOffset-rm: 0.351 arcsec [0.97σ]
OotOffset-st: 1/1/0/0 [2]
KicOffset-st: 1/1/0/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

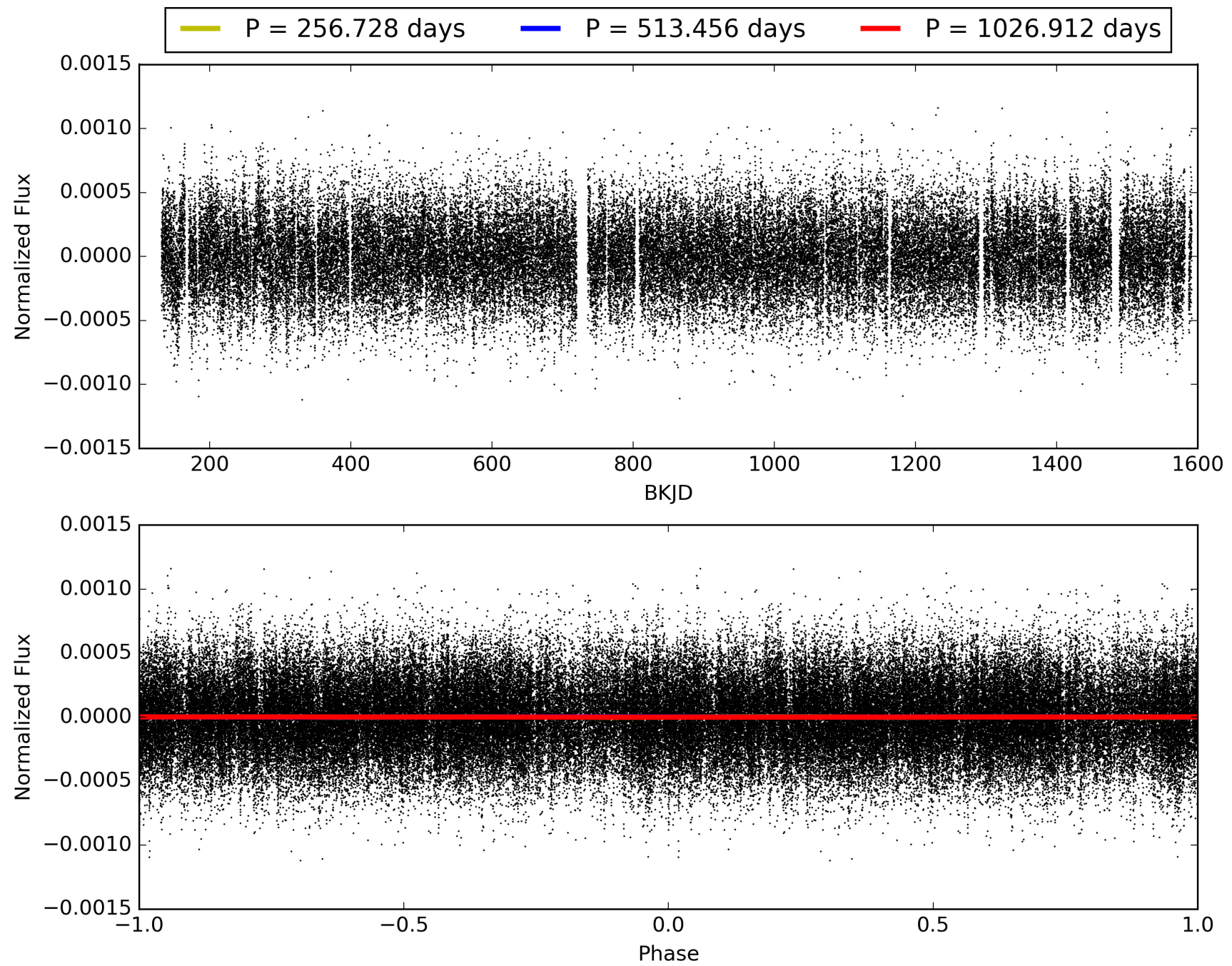
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:55:55 Z

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

TCE 008126531-01, PDC Light Curves

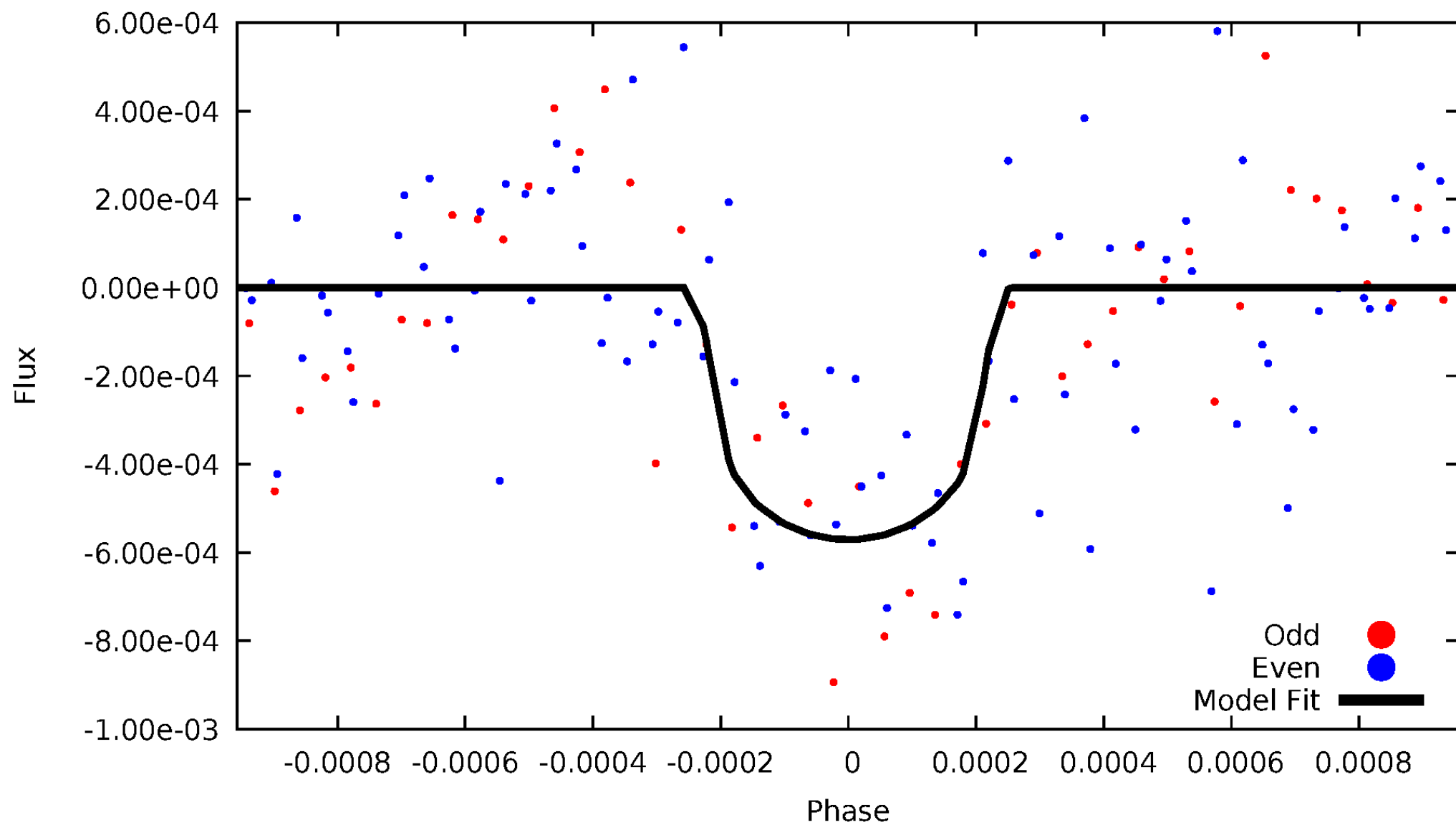


TCE 008126531-01



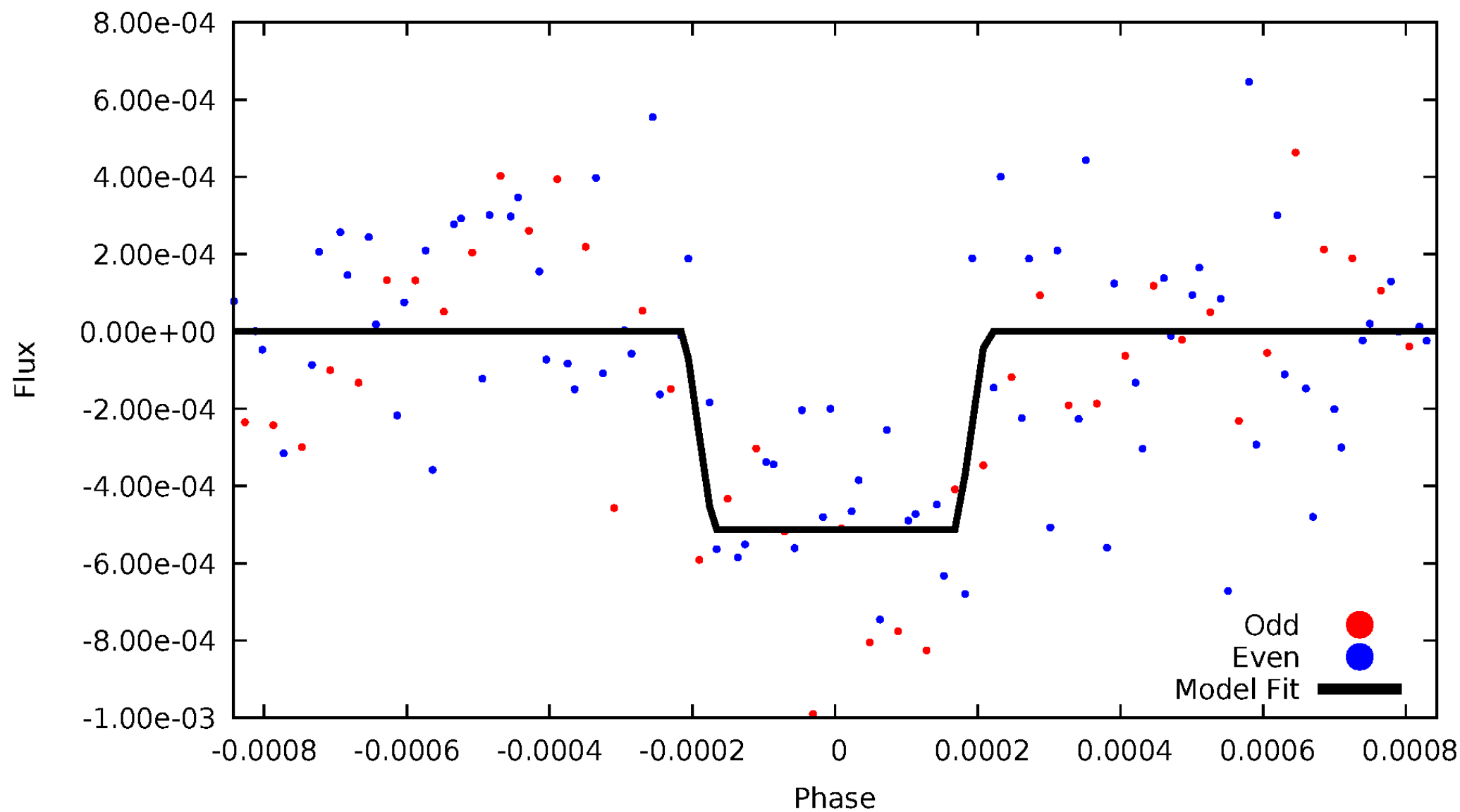
DV Odd/Even

TCE 008126531-01



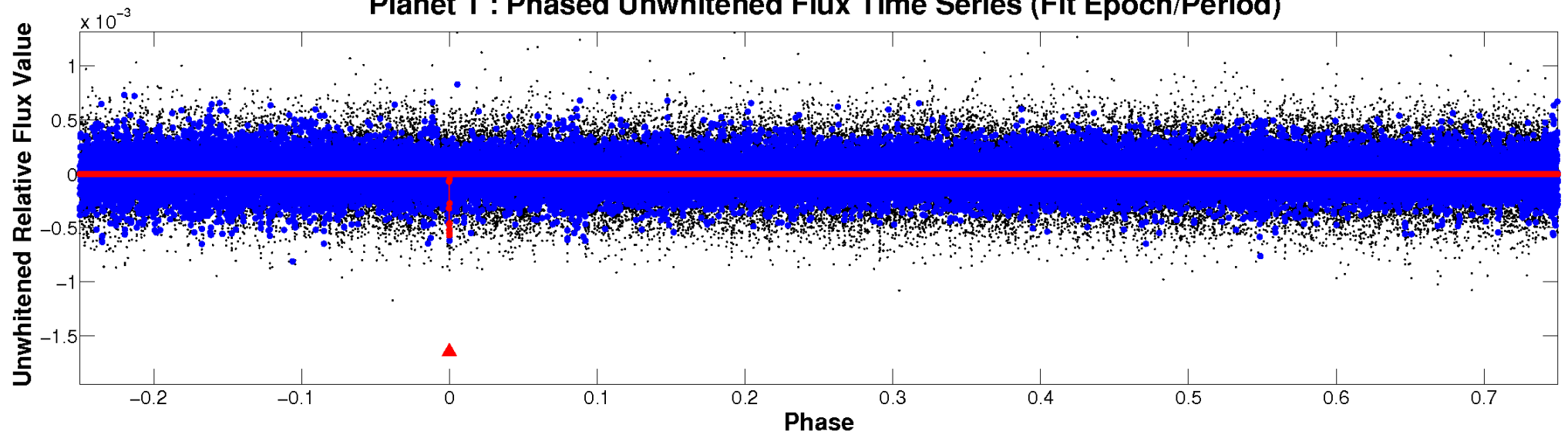
ALT Odd/Even

TCE 008126531-01

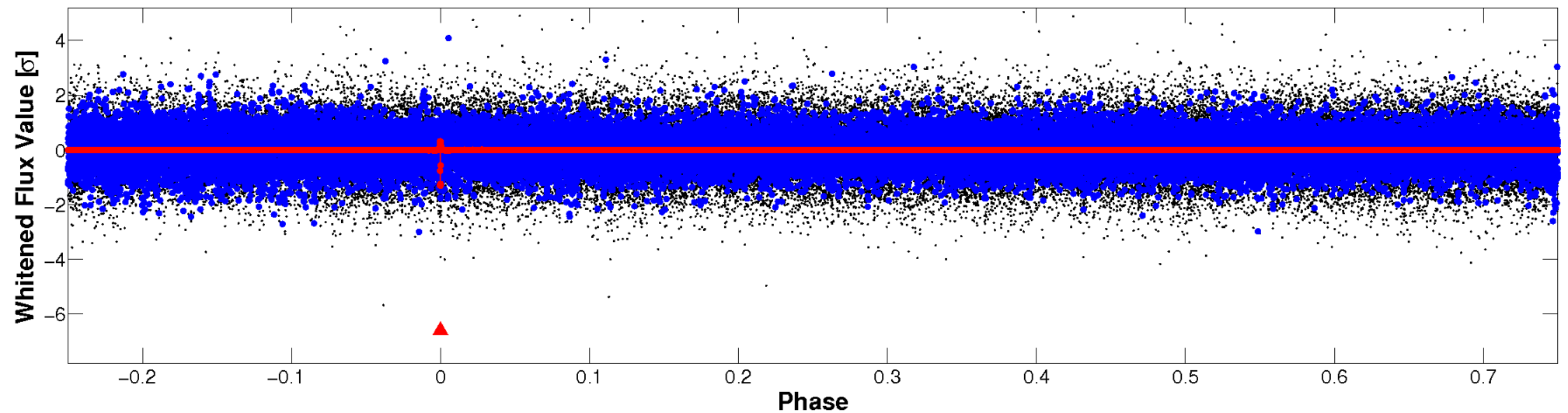


Non-Whitened Vs. Whitened Light Curve

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

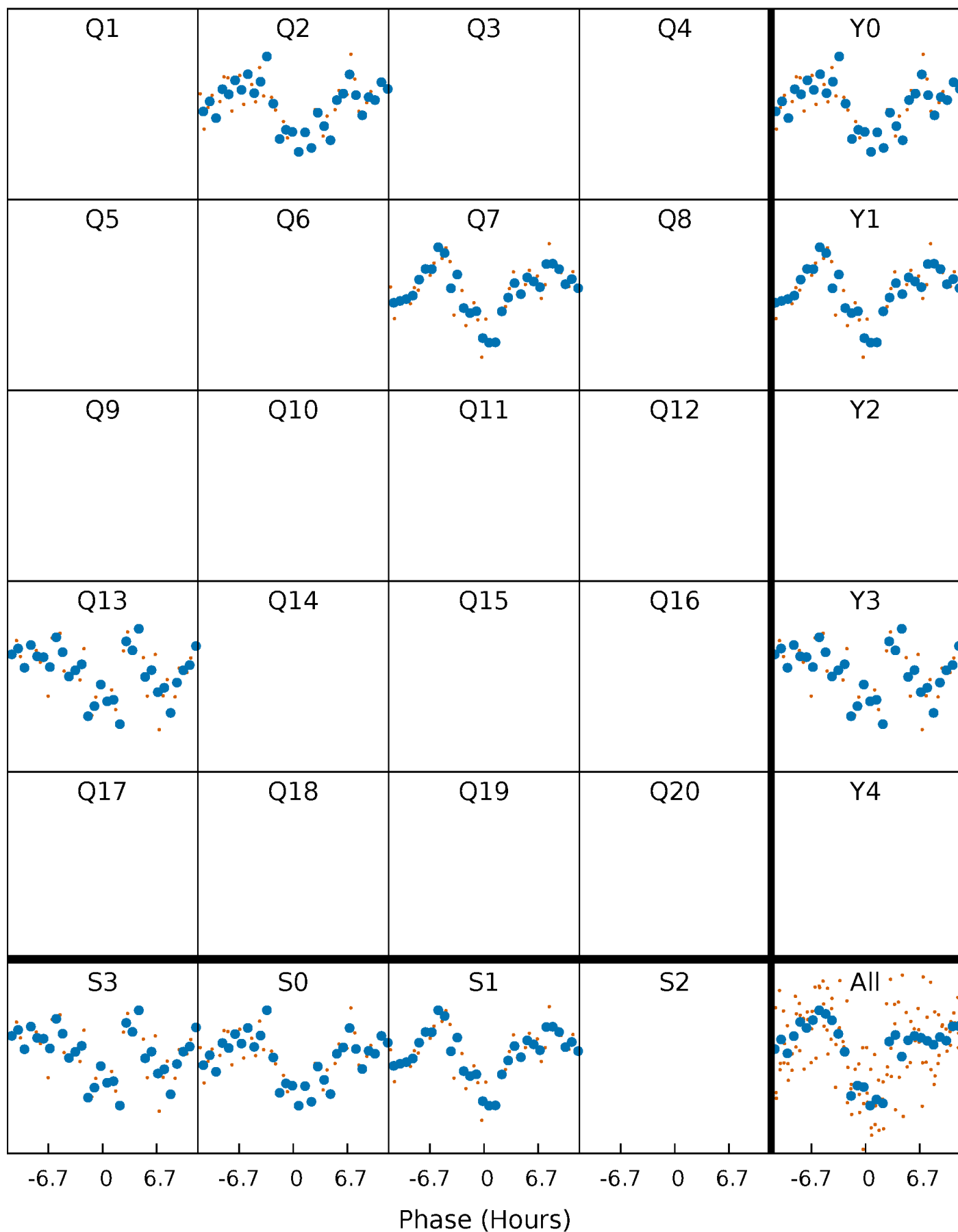


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



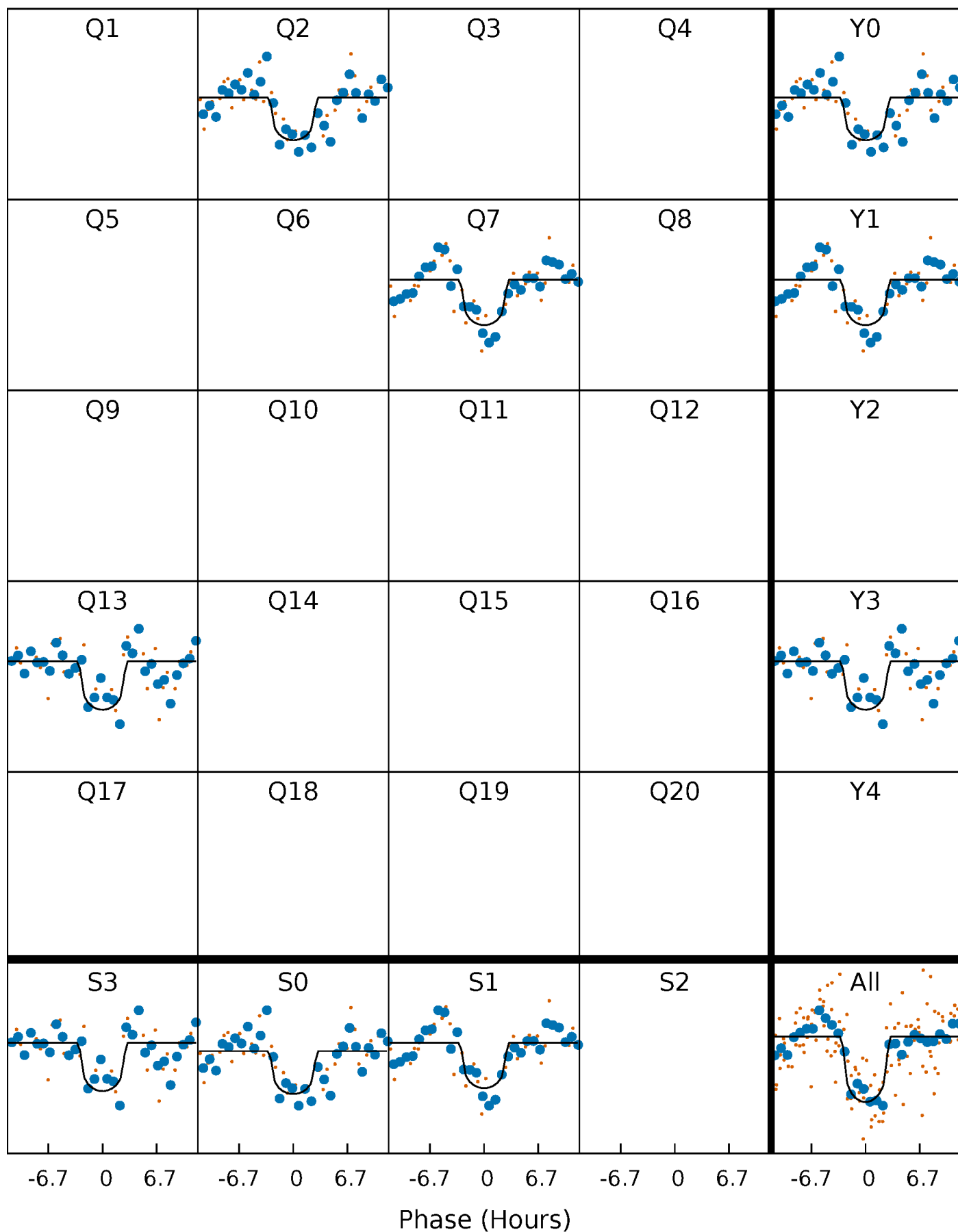
PDC Quarter-Phased Transit Curves

TCE 008126531-01 P=513.456013 Days $T_0=174.352080$ (BKJD)



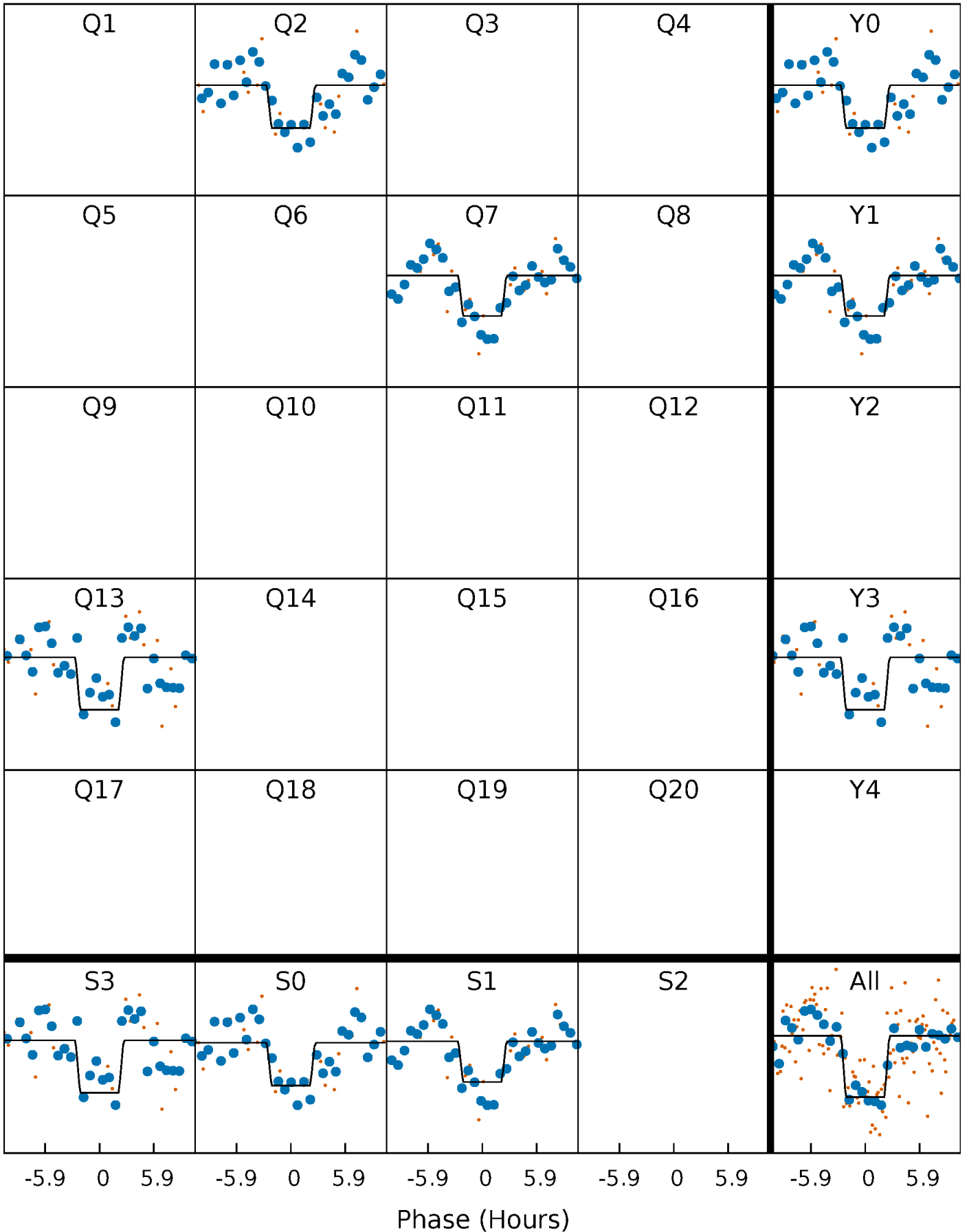
DV Quarter-Phased Transit Curves

TCE 008126531-01 P=513.456013 Days $T_0=174.352080$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

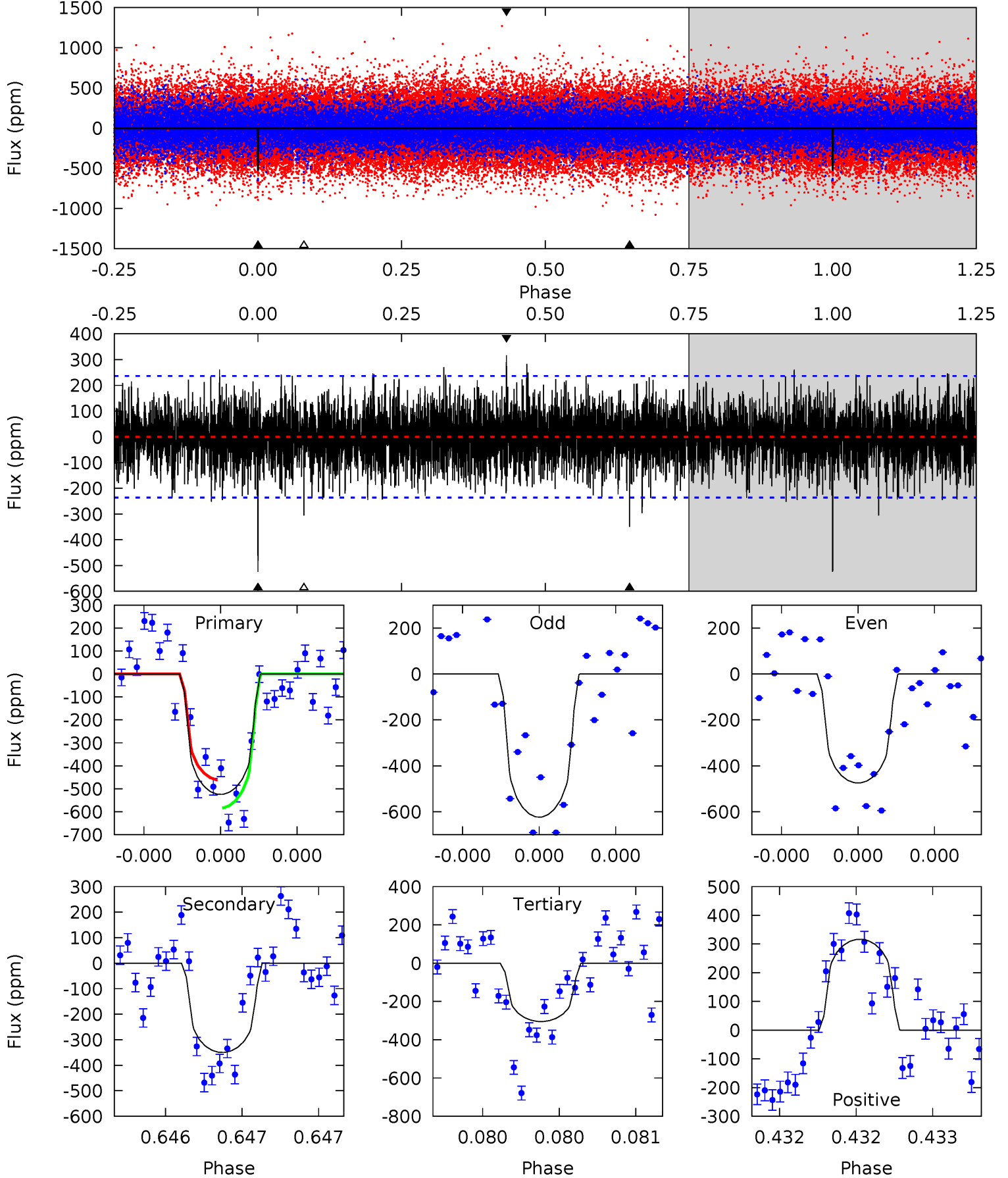
TCE 008126531-01 P=513.461307 Days $T_0=174.350889$ (BKJD)



DV Model-Shift Uniqueness Test

008126531-01, P = 513.456013 Days, E = 174.352080 Days

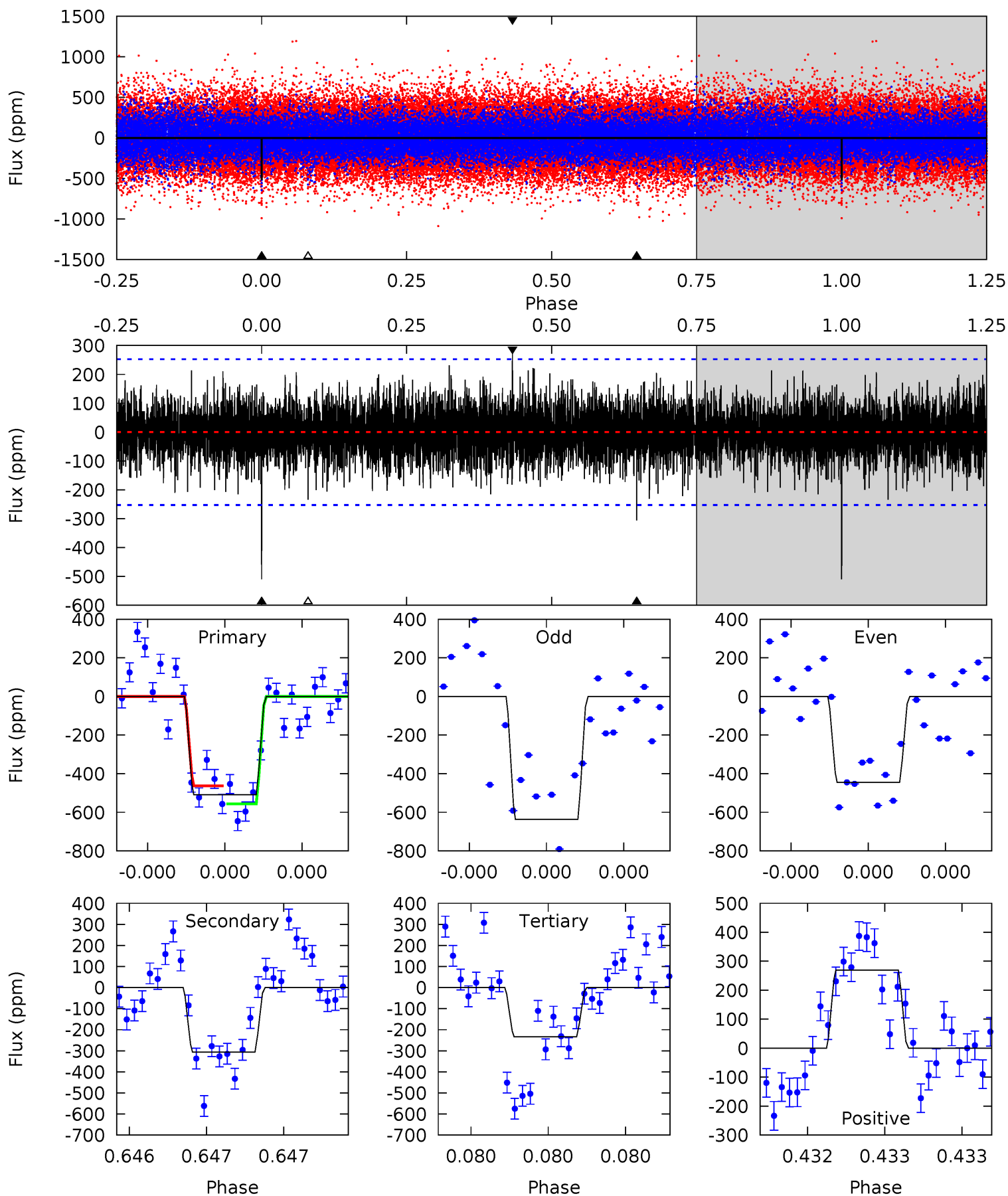
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	8.26	7.20	7.48	5.58	3.49	1.92	5.19	4.91	1.06	0.78	1.66	0.95	0.38	1.44



Alt Model-Shift Uniqueness Test

008126531-01, P = 513.461307 Days, E = 174.350889 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	6.79	5.19	5.99	5.61	3.53	1.48	6.12	5.32	1.60	0.80	2.00	0.99	0.35	1.03



Stellar Parameters For KIC 008126531

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4833^{+50}_{-101}	$3.130^{+0.180}_{-0.105}$	$0.380^{+0.050}_{-0.200}$	$6.065^{+0.995}_{-1.848}$	$1.810^{+0.200}_{-0.600}$	$0.011^{+0.014}_{-0.003}$
	+1%/-2%	+6%/-3%	+13%/-53%	+16%/-30%	+11%/-33%	+122%/-29%
Source	SPE74	SPE74	SPE74	DSEP		

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

Secondary Eclipse Parameters for KIC 008126531-01 / KOI 7868.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-350 ± 42	$16.82^{+7.51}_{-6.76}$	590^{+26}_{-37}	4201^{+934}_{-464}	1593^{+2856}_{-840}
Alt.	-306 ± 45	$14.58^{+6.91}_{-6.64}$	590^{+26}_{-37}	4335^{+1195}_{-539}	1805^{+4188}_{-976}

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

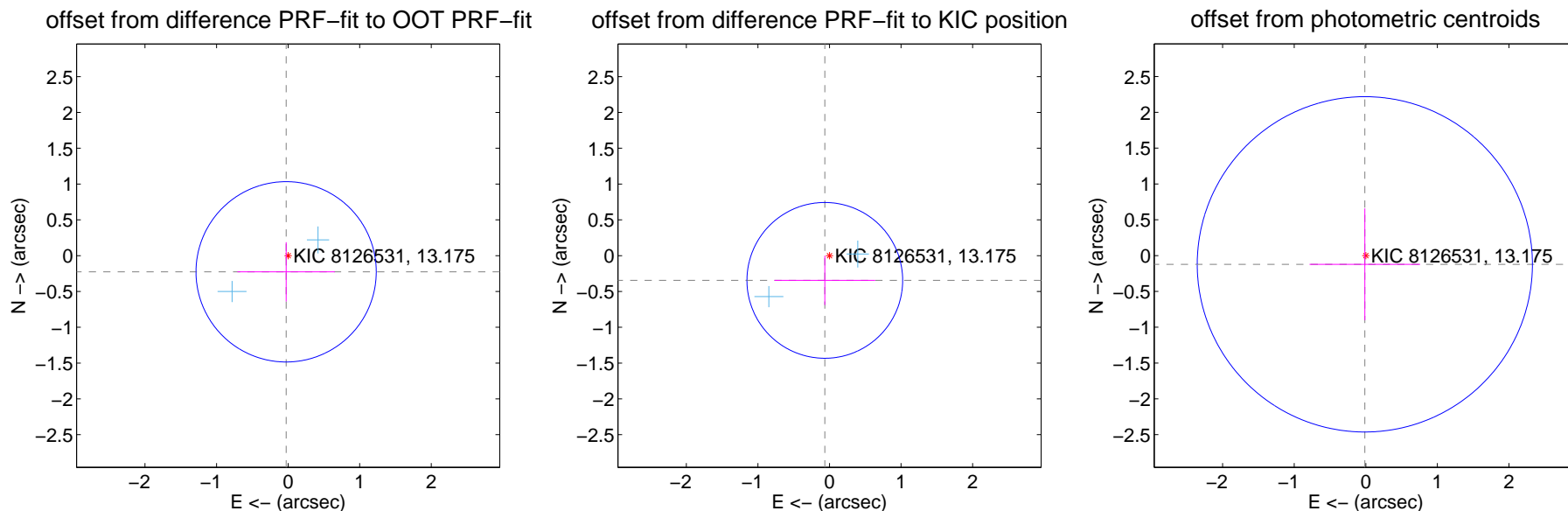
DV Centroid Data

Supplemental centroid analysis for 008126531-01. Kepler magnitude: 13.18. Transit SNR 6.67

There are 2 quarters with good PRF difference image offsets

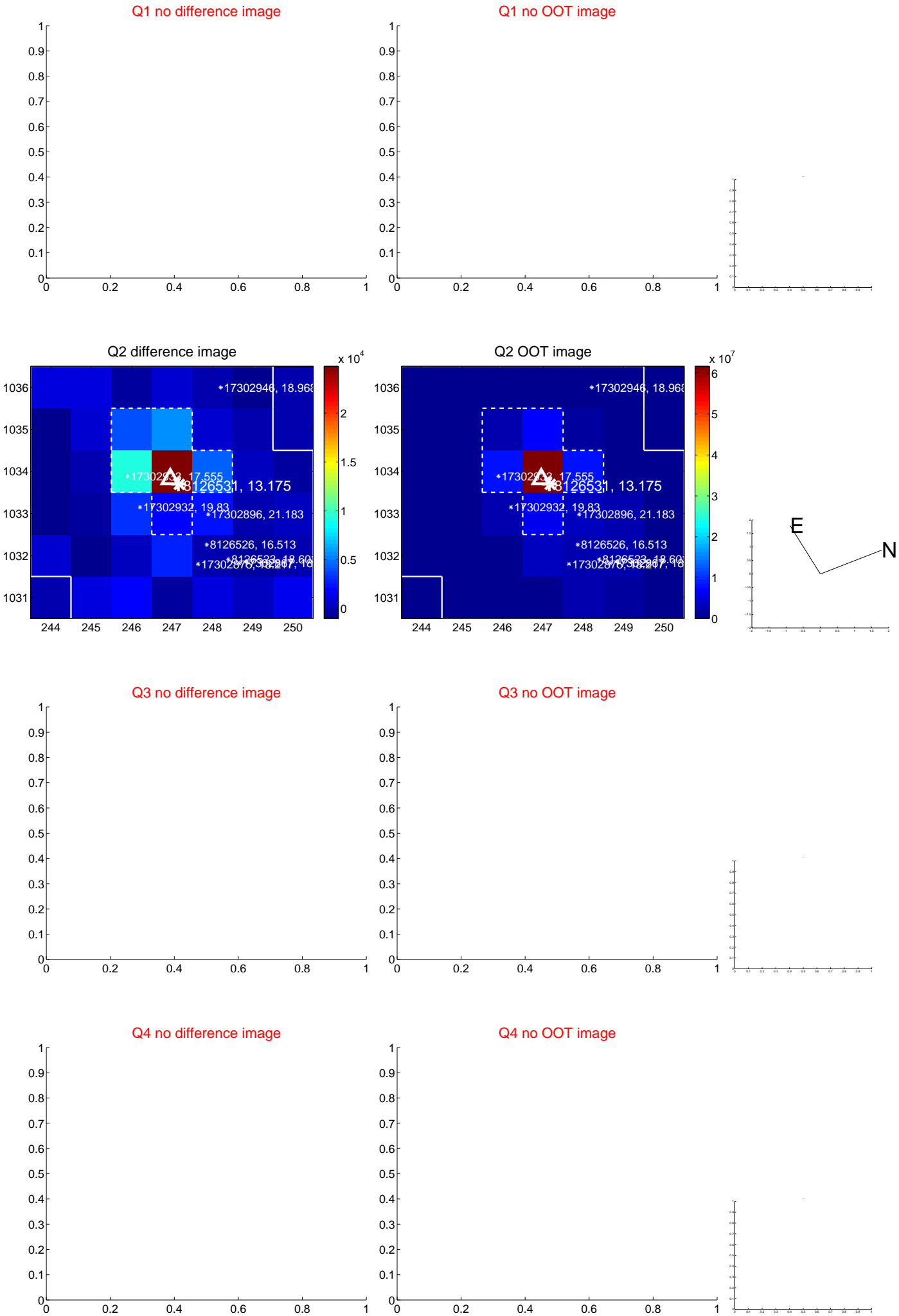
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.228 ± 0.420	0.54	0.028 ± 0.681	-0.226 ± 0.414
PRF-fit source offset from KIC position	0.351 ± 0.363	0.97	0.065 ± 0.704	-0.345 ± 0.344
photometric centroid source offset	0.12 ± 0.78	0.16	0.01 ± 0.77	-0.12 ± 0.78

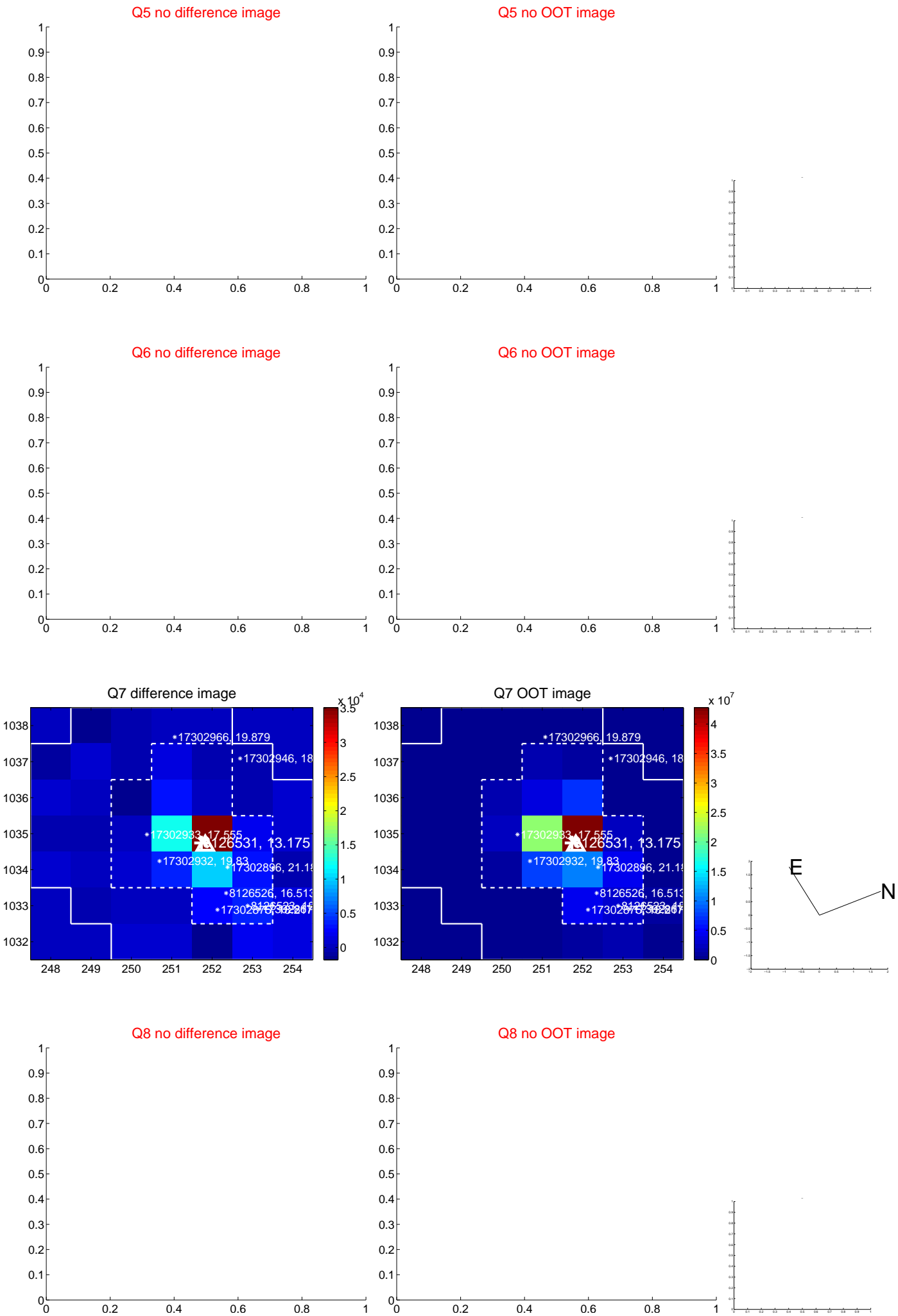


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



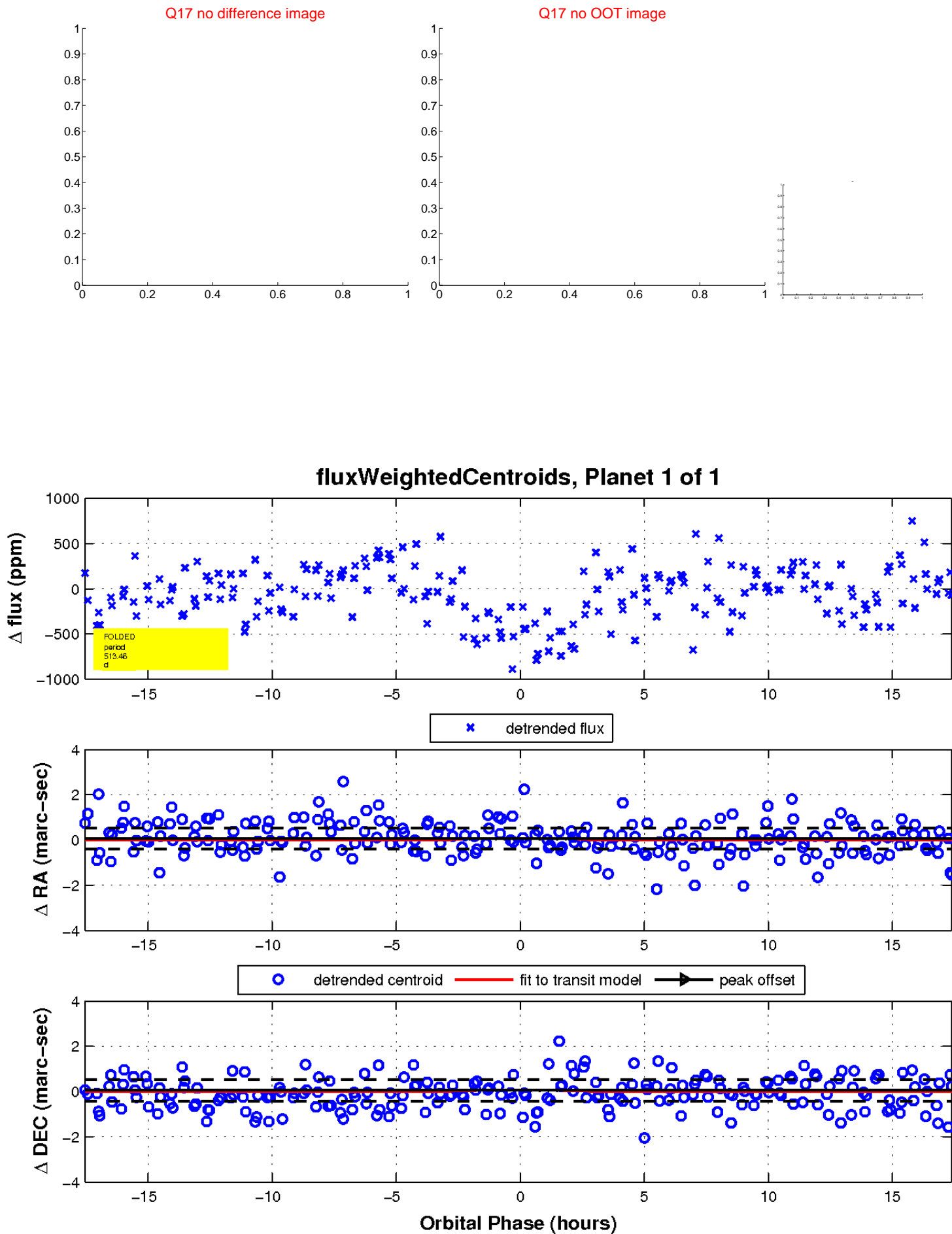
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

