

KIC 008570781

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})
008570781-01	OBS	No	450.740124	182.860087	371.0	12.881	46.2	3.2	0.85	5289	1.97	0.45

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008570781-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— INCONSISTENT_TRANS—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.

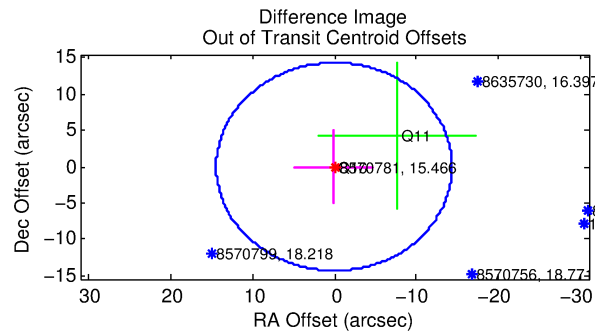
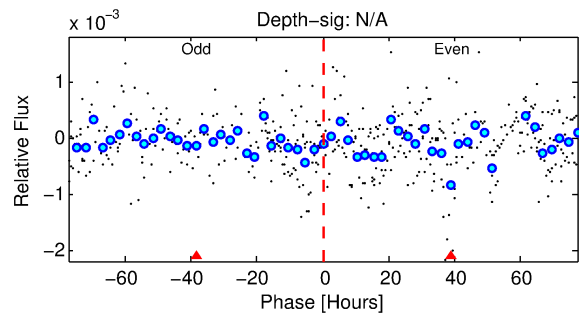
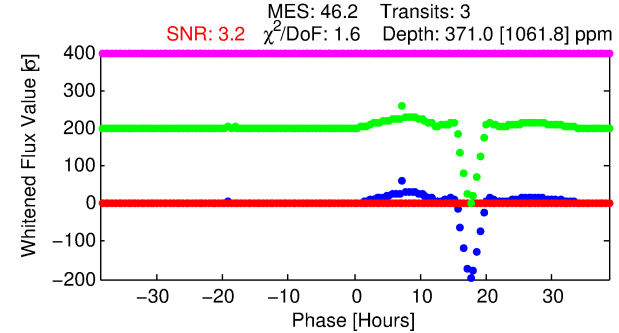
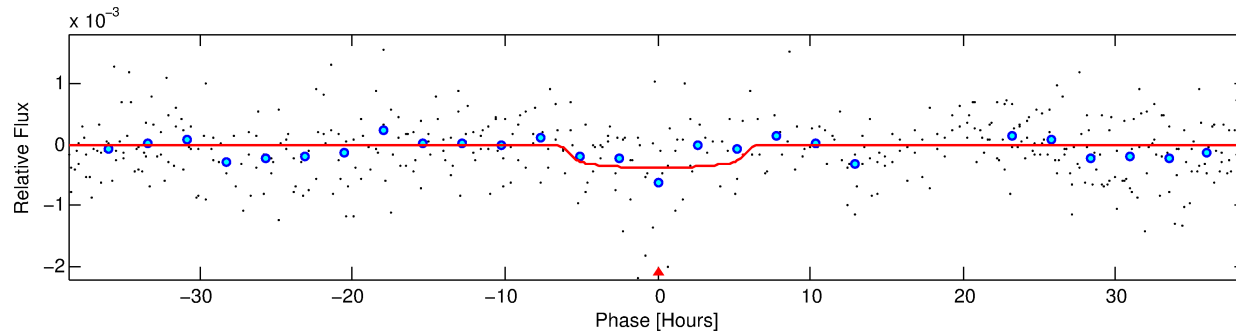
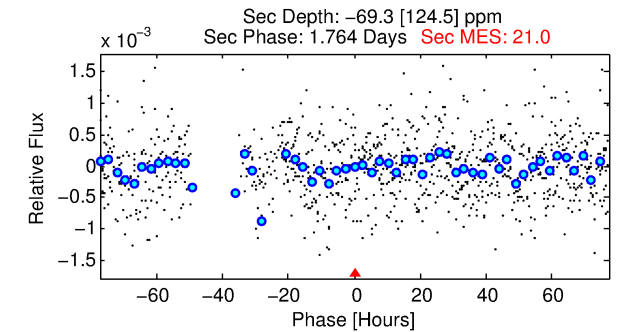
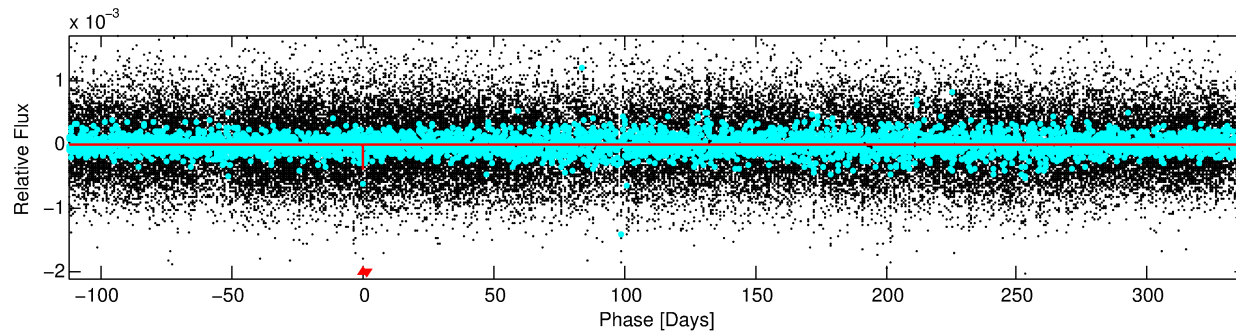
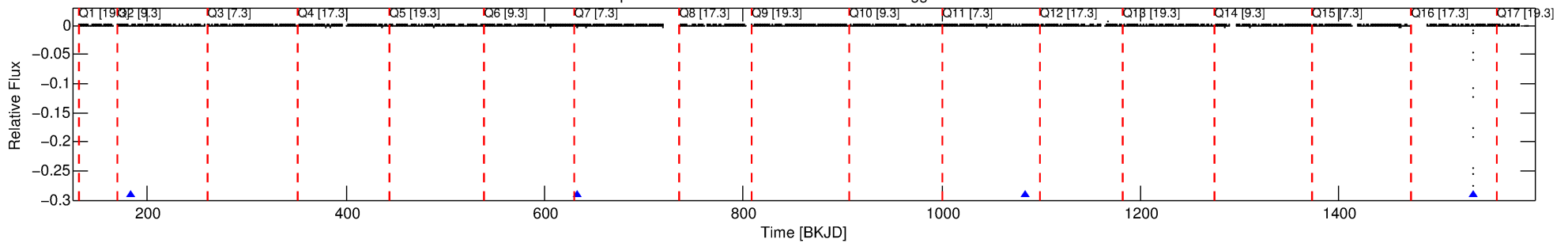
Ephemeris Match Information For 008570781-01

No Significant Match Found

DV One-Page Summary

KIC: 8570781 Candidate: 1 of 1 Period: 450.740 d

Kp: 15.47 R*: 0.85 Rs Teff: 5289.0 K Logg: 4.47 Fe/H: -0.140



DV Fit Results:

Period = 450.74012 [0.44457] d
Epoch = 182.8601 [1.0997] BKJD
Rp/R* = 0.0212 [0.0738]
a/R* = 129.42 [1676.45]
b = 0.90 [2.85]
Seff = 0.45 [0.12]
Seq = 209 [14] K
Rp = 1.97 [6.87] Re
a = 1.0591 [0.1596] AU
Ag = N/A
Teffp = N/A

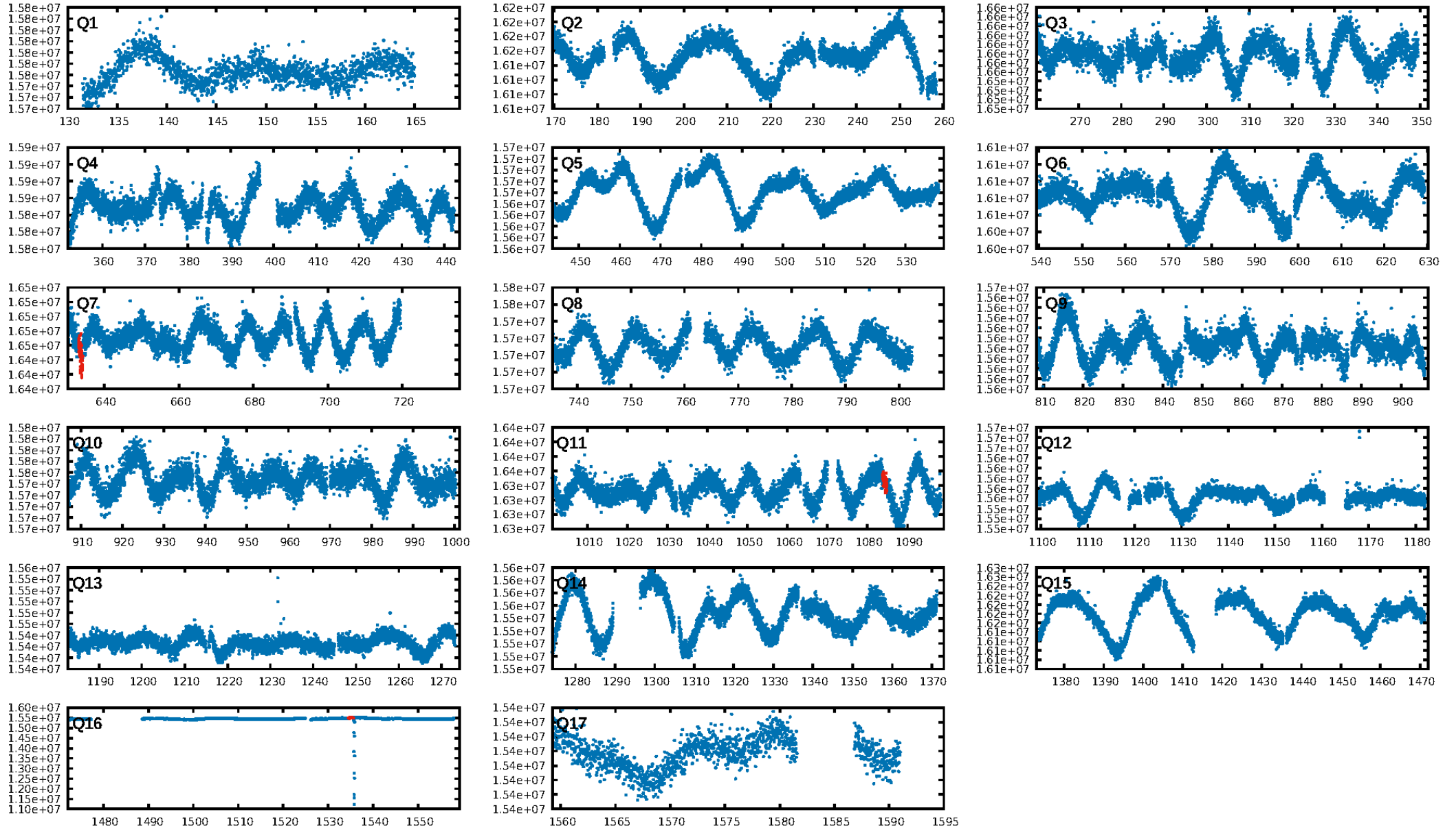
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 2.5%
ModelChiSquareGof-sig: 98.8%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.125
Centroid-sig: 2.2%
Centroid-so: 4.312 arcsec [1.60σ]
OotOffset-rm: 0.058 arcsec [0.01σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-rm: 0.018 arcsec [0.00σ]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [2/2]

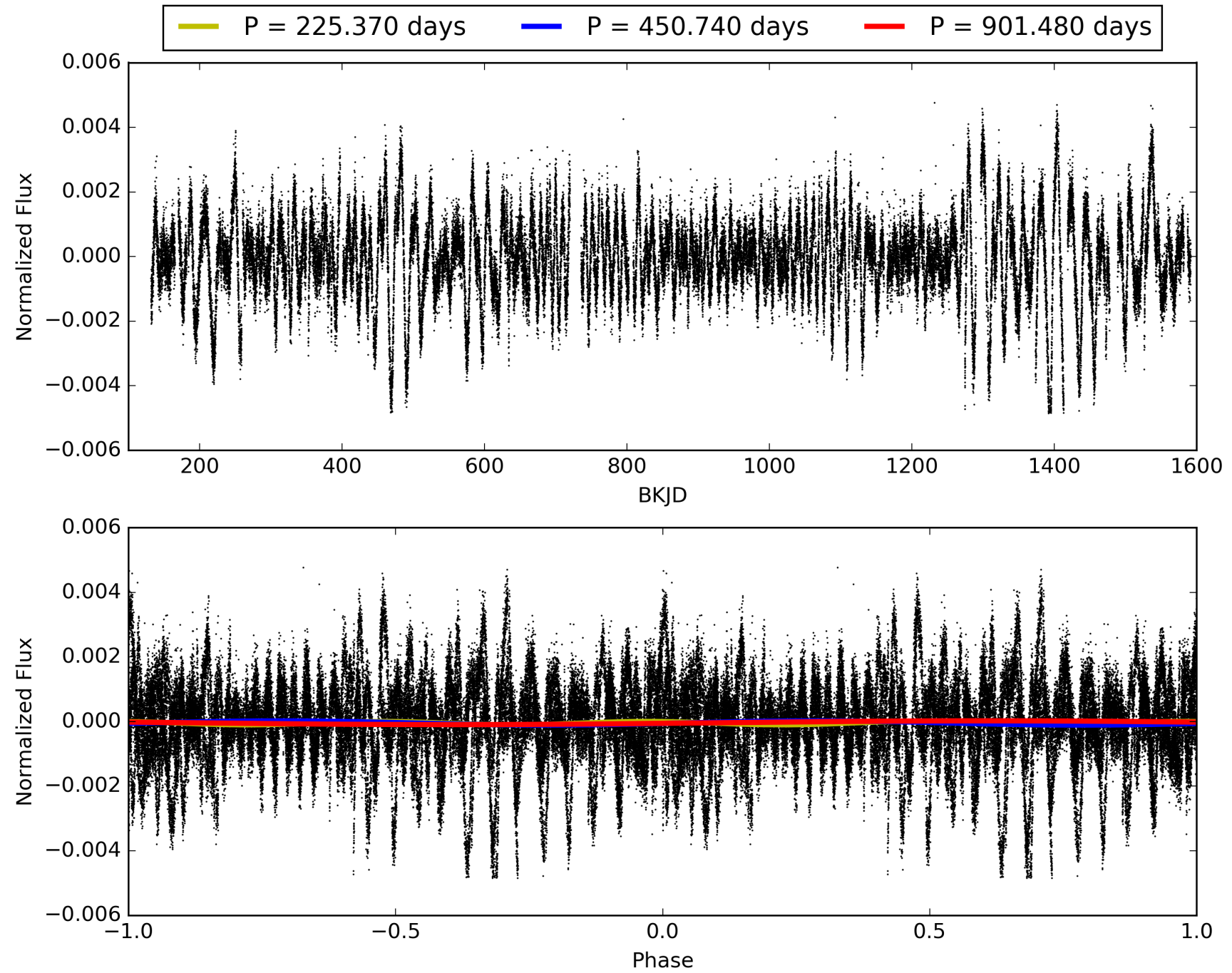
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 19:37:12 Z

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

TCE 008570781-01, PDC Light Curves

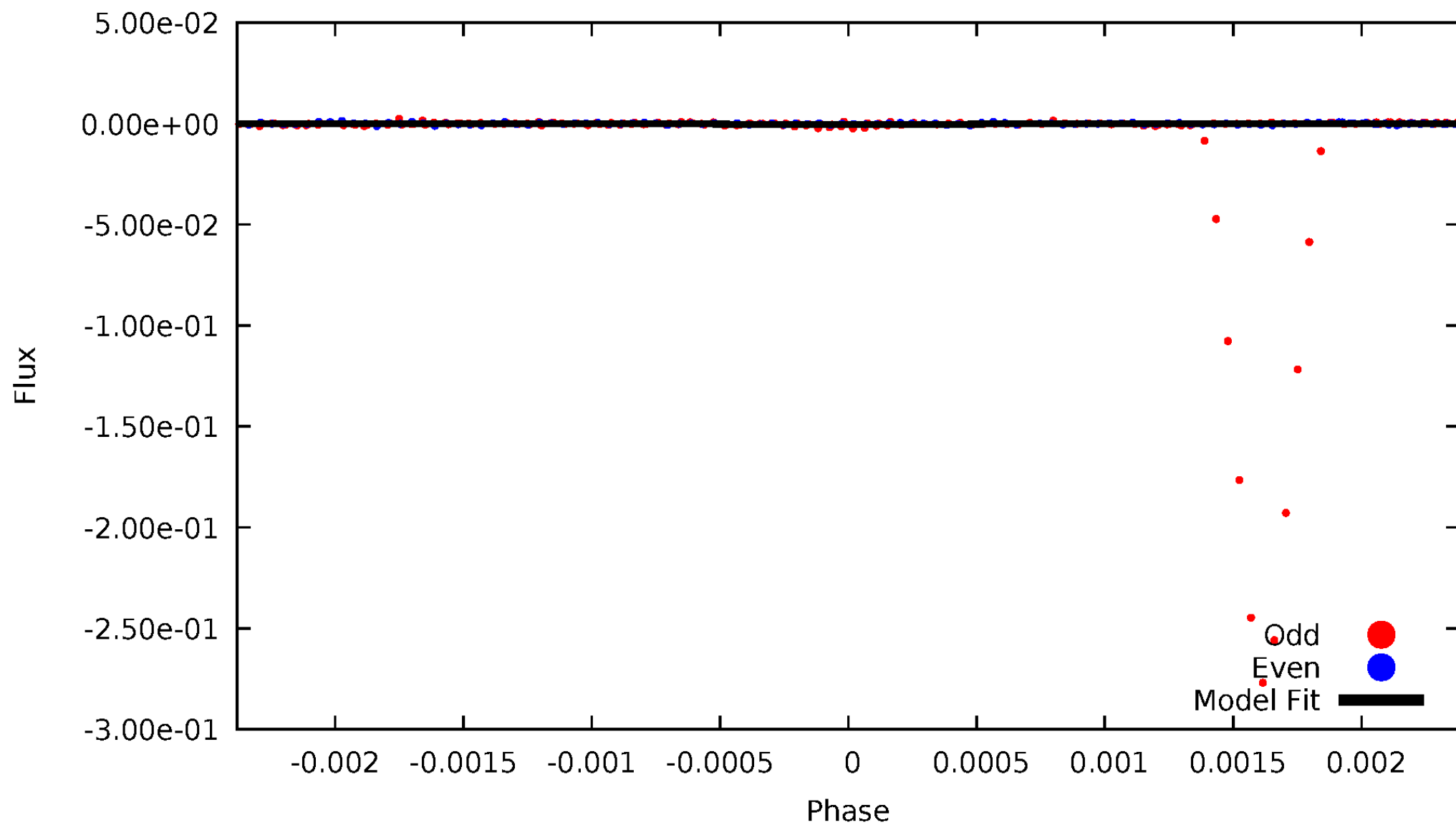


TCE 008570781-01



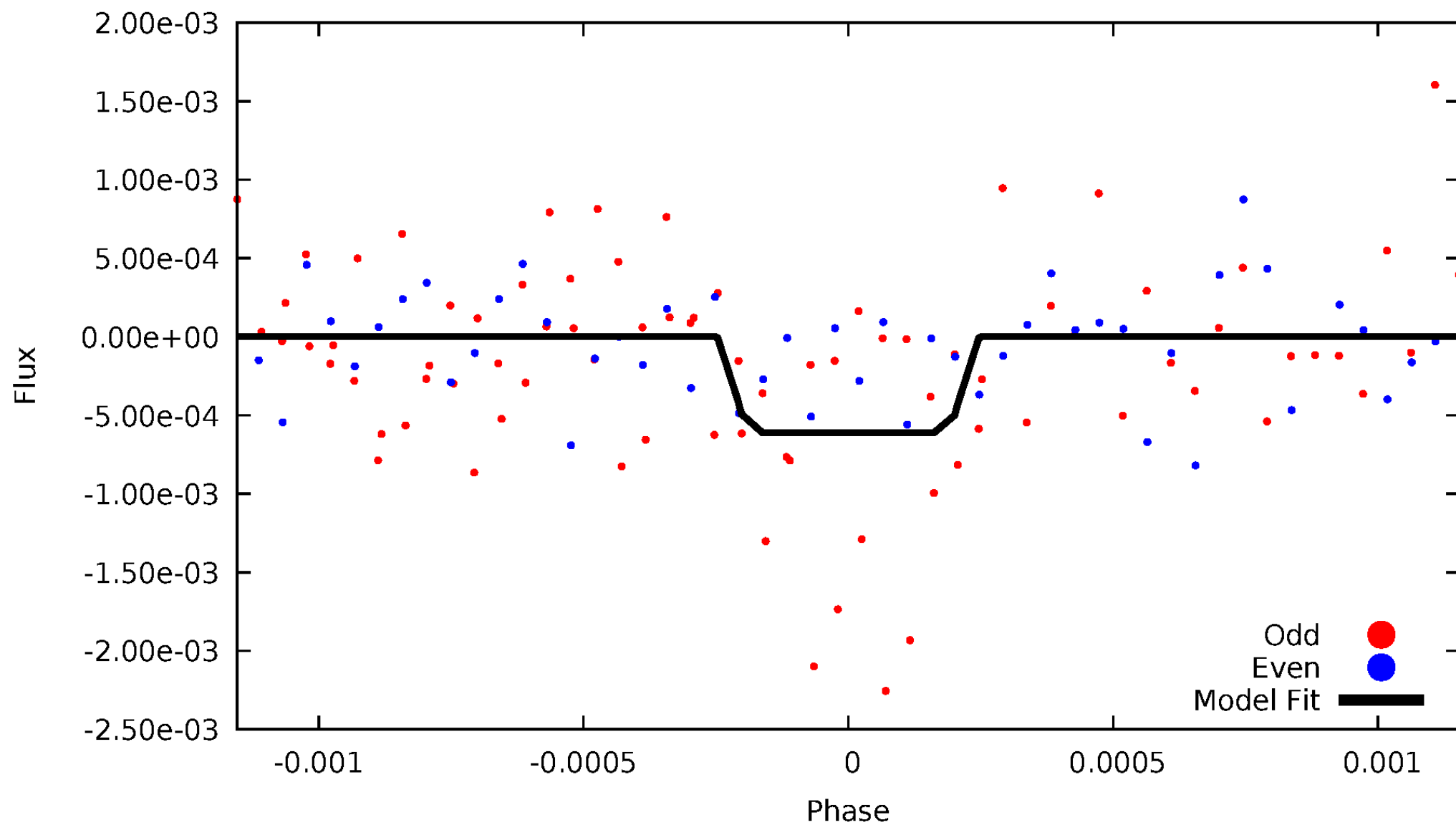
DV Odd/Even

TCE 008570781-01



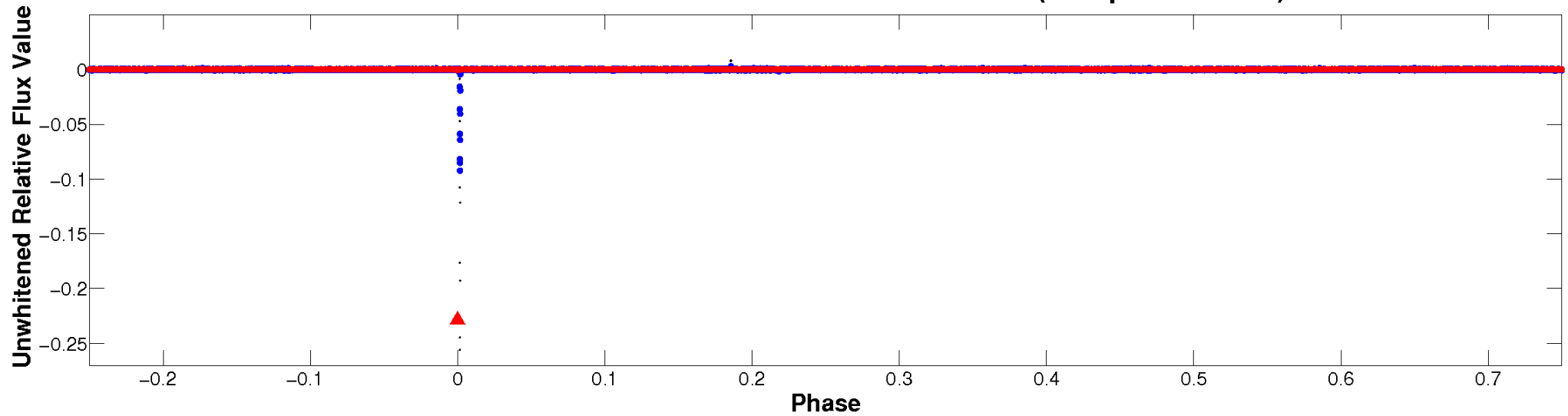
ALT Odd/Even

TCE 008570781-01

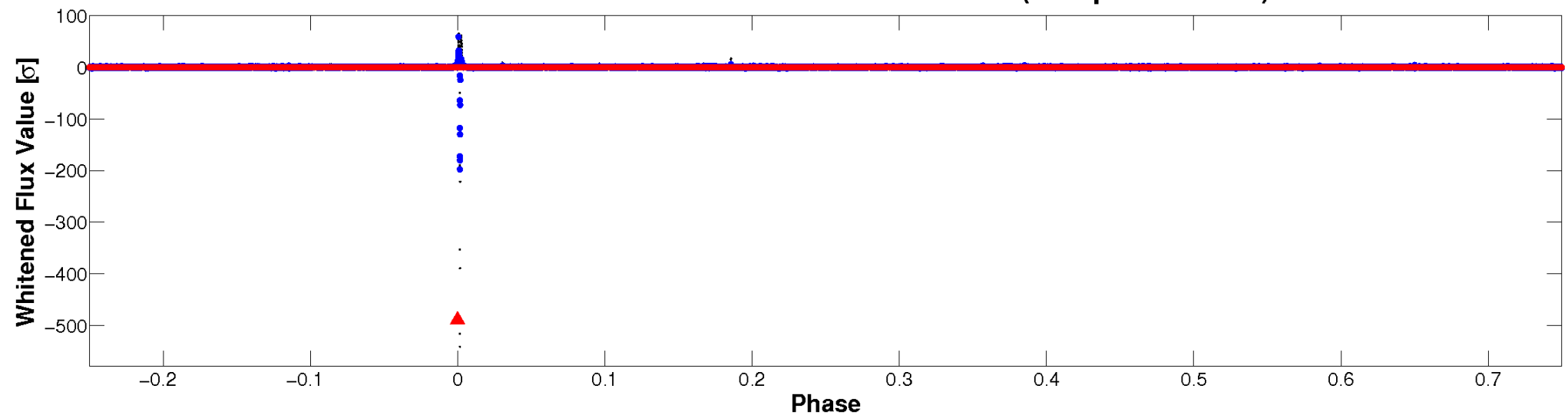


Non-Whitened Vs. Whitened Light Curve

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

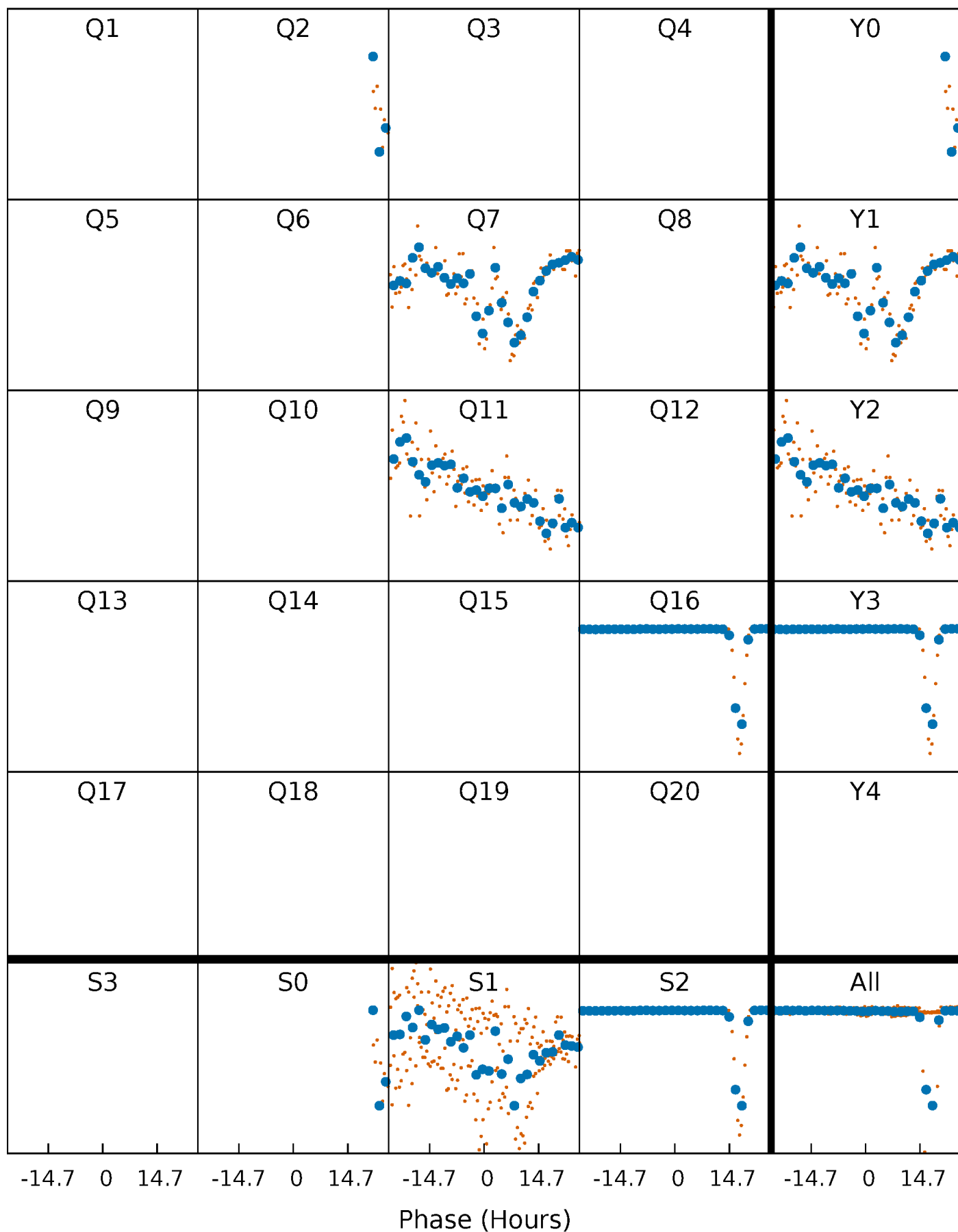


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



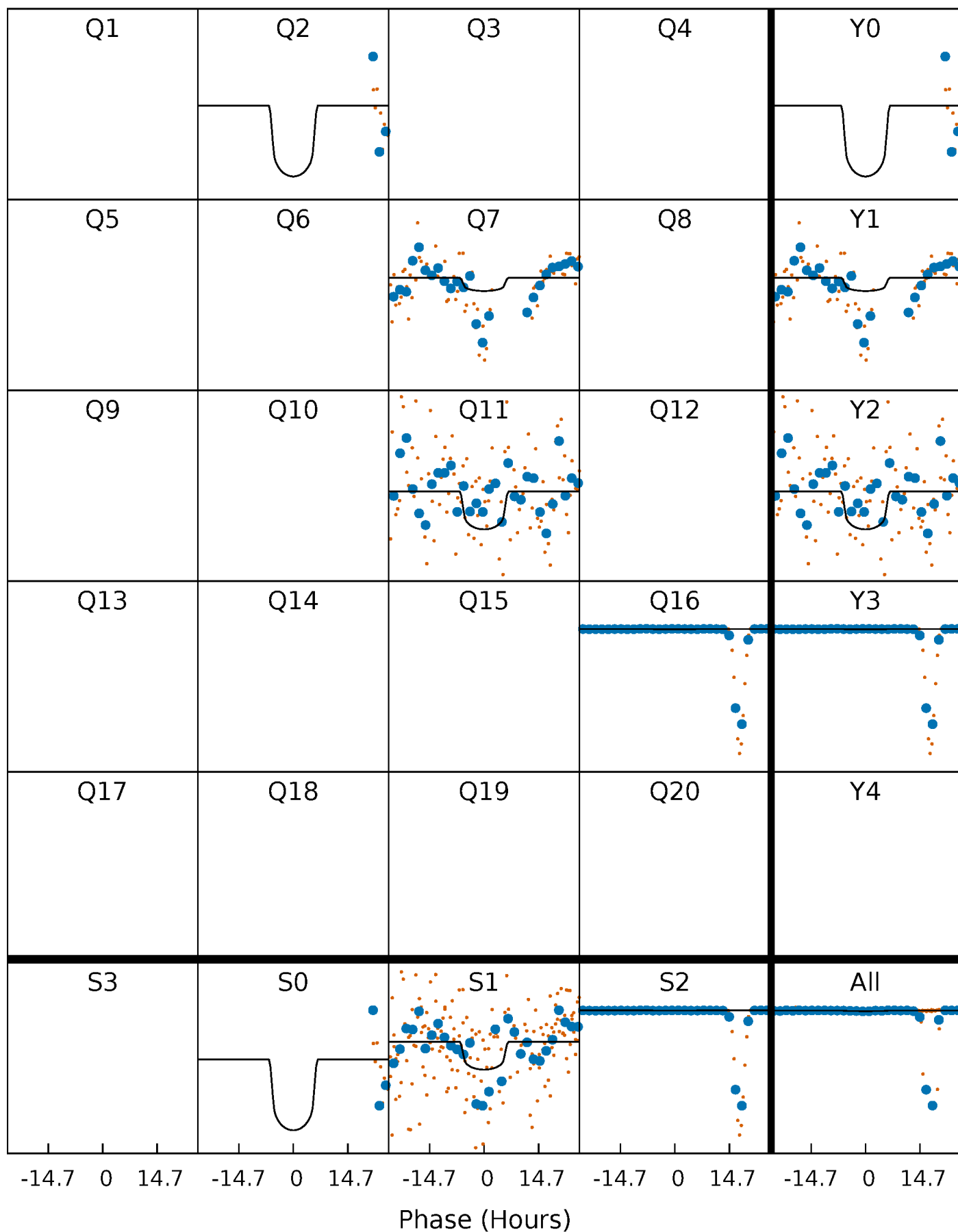
PDC Quarter-Phased Transit Curves

TCE 008570781-01 P=450.740124 Days $T_0=182.860087$ (BKJD)



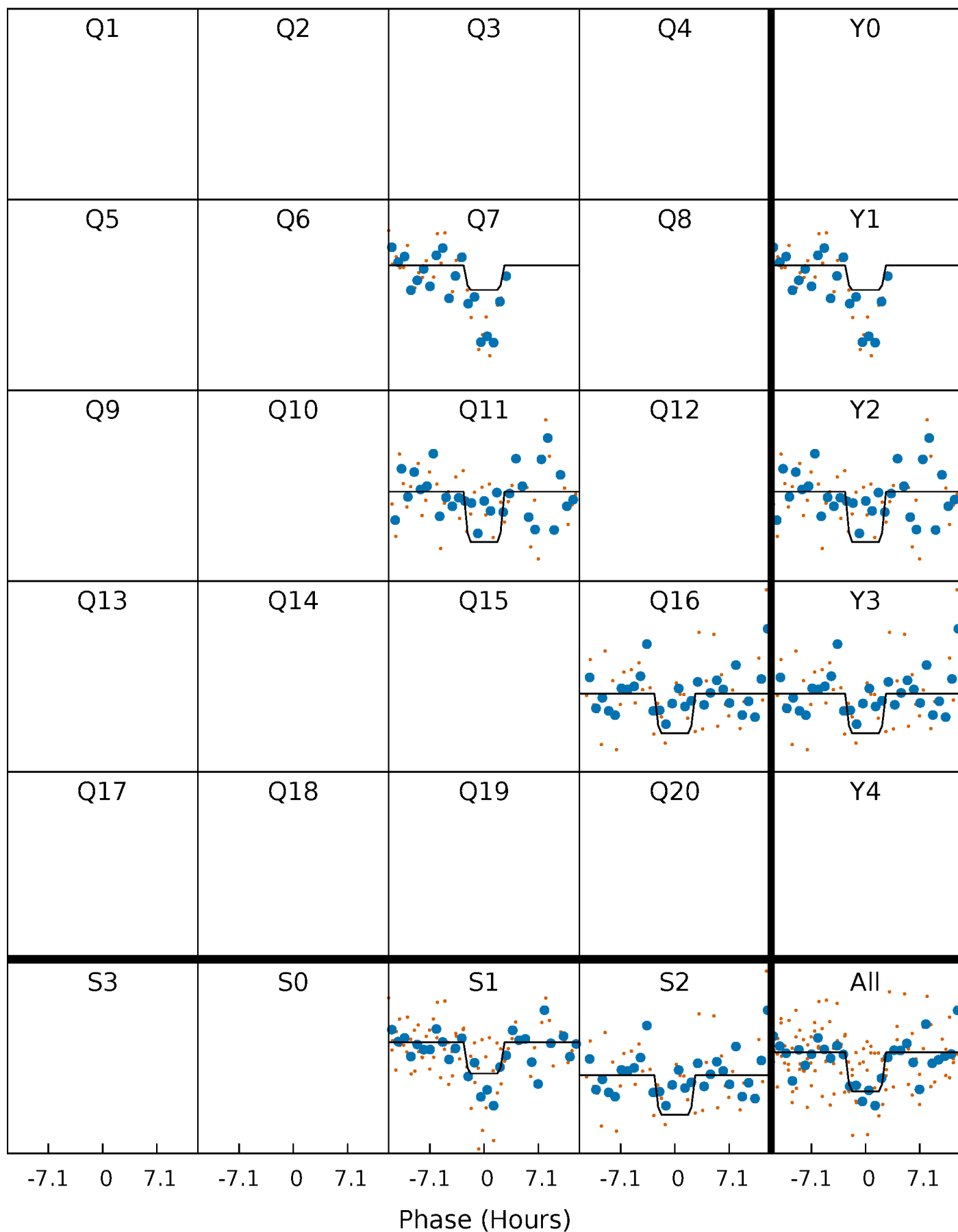
DV Quarter-Phased Transit Curves

TCE 008570781-01 P=450.740124 Days $T_0=182.860087$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

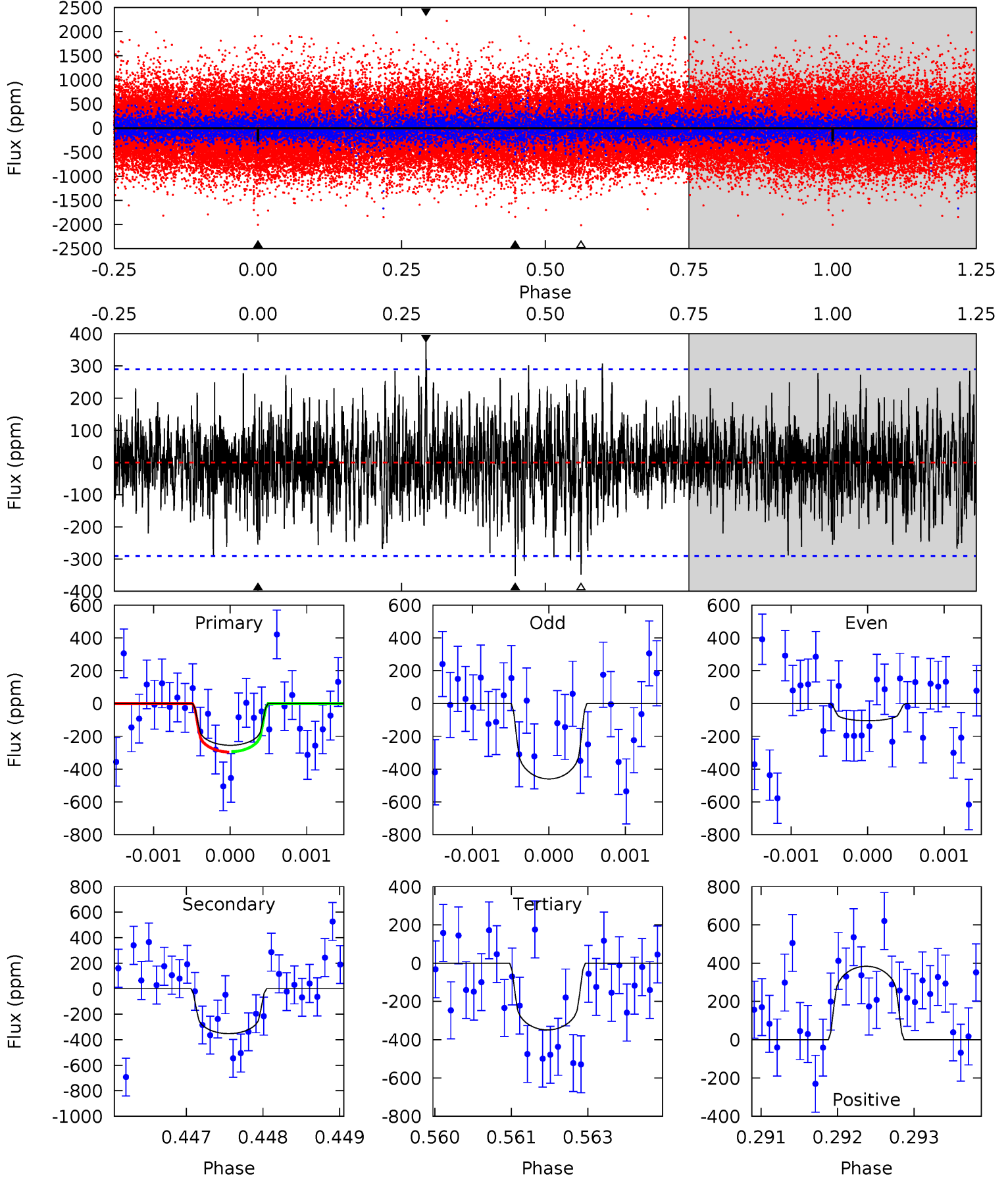
TCE 008570781-01 P=450.682599 Days $T_0=182.893631$ (BKJD)



DV Model-Shift Uniqueness Test

008570781-01, P = 450.740124 Days, E = 182.860087 Days

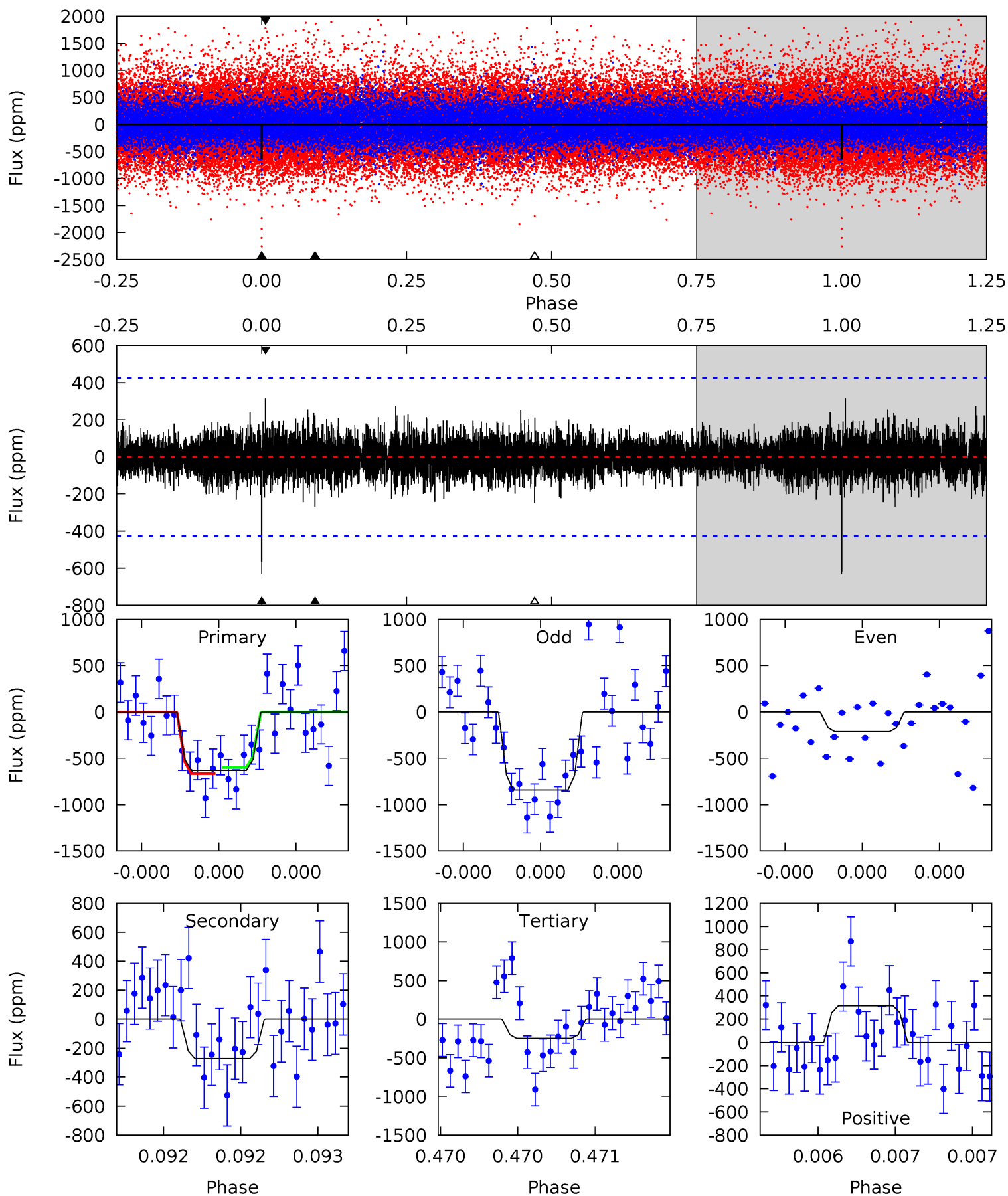
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.75	6.56	6.50	7.16	5.41	3.23	1.66	-1.75	-2.40	0.06	-0.59	3.25	3.76	0.52	0.02



Alt Model-Shift Uniqueness Test

008570781-01, P = 450.682599 Days, E = 182.893631 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.28	3.55	3.24	4.12	5.59	3.51	0.86	5.05	4.16	0.31	-0.57	4.01	2.97	0.33	0.44



Stellar Parameters For KIC 008570781

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5289^{+175}_{-159}	$4.469^{+0.113}_{-0.137}$	$-0.140^{+0.300}_{-0.300}$	$0.852^{+0.138}_{-0.113}$	$0.779^{+0.113}_{-0.061}$	$1.774^{+0.844}_{-0.627}$
	+3%/-3%	+3%/-3%	+214%/-214%	+16%/-13%	+15%/-8%	+48%/-35%
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 008570781-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-352 ± 54	$5.55^{+5.77}_{-3.77}$	294^{+16}_{-15}	3451^{+1786}_{-630}	7179^{+60772}_{-5492}
Alt.	-271 ± 76	$5.24^{+5.52}_{-3.67}$	293^{+16}_{-14}	3358^{+2048}_{-624}	5682^{+59996}_{-4319}

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 $A_{obs} \gg 1.0$

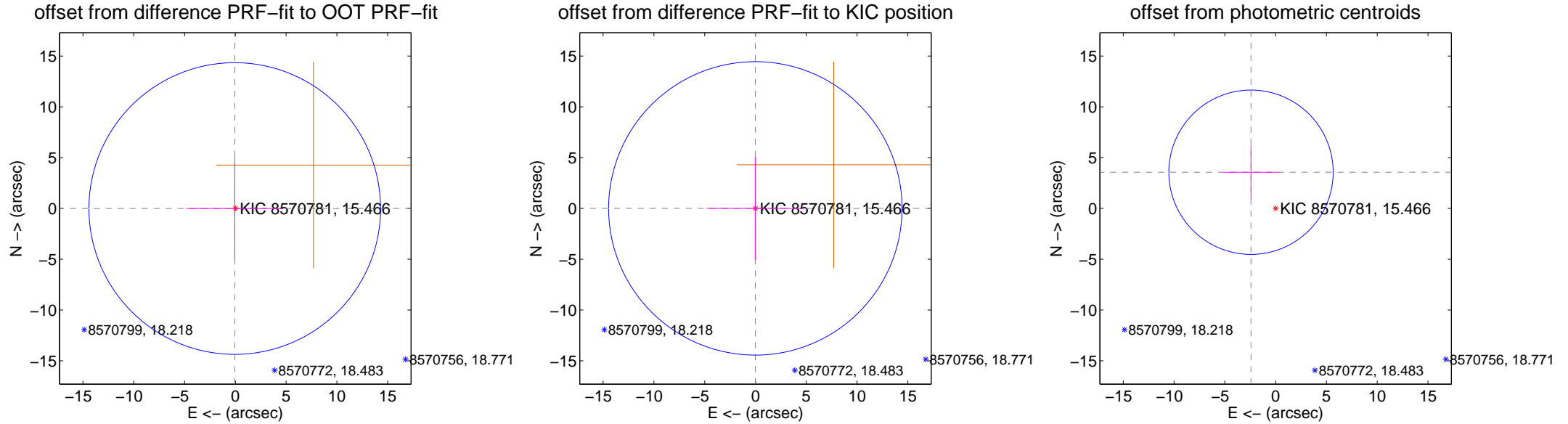
DV Centroid Data

Supplemental centroid analysis for 008570781-01. Kepler magnitude: 15.47. Transit SNR 3.24

There are 0 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	0.058 ± 4.785	0.01	0.057 ± 4.779	-0.008 ± 5.079
PRF-fit source offset from KIC position	0.018 ± 4.814	0.00	0.017 ± 4.779	0.006 ± 5.079
photometric centroid source offset	4.31 ± 2.70	1.60	2.43 ± 2.74	3.56 ± 2.67



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.

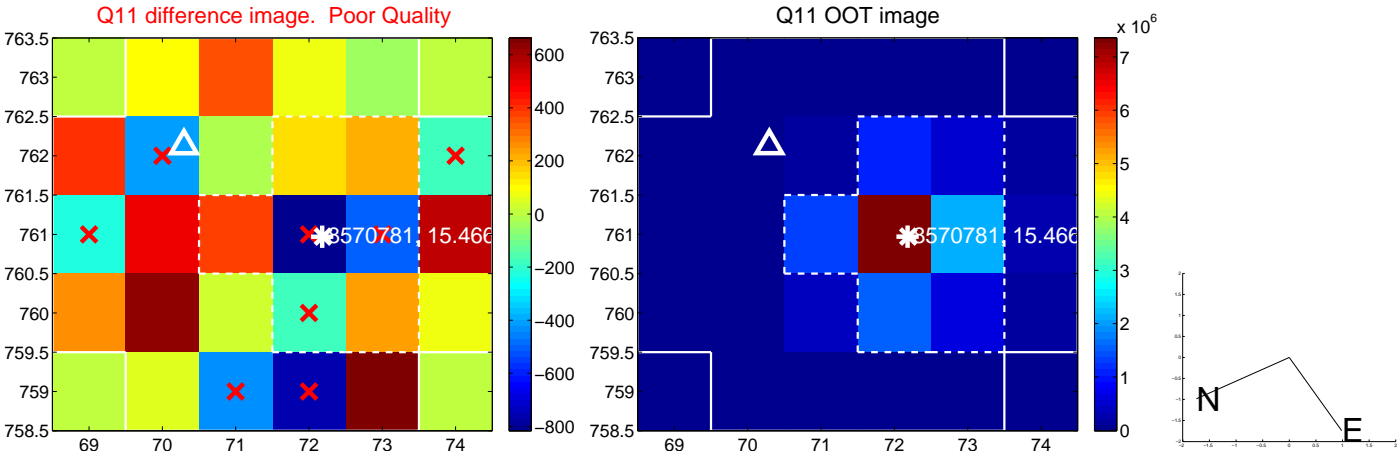
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



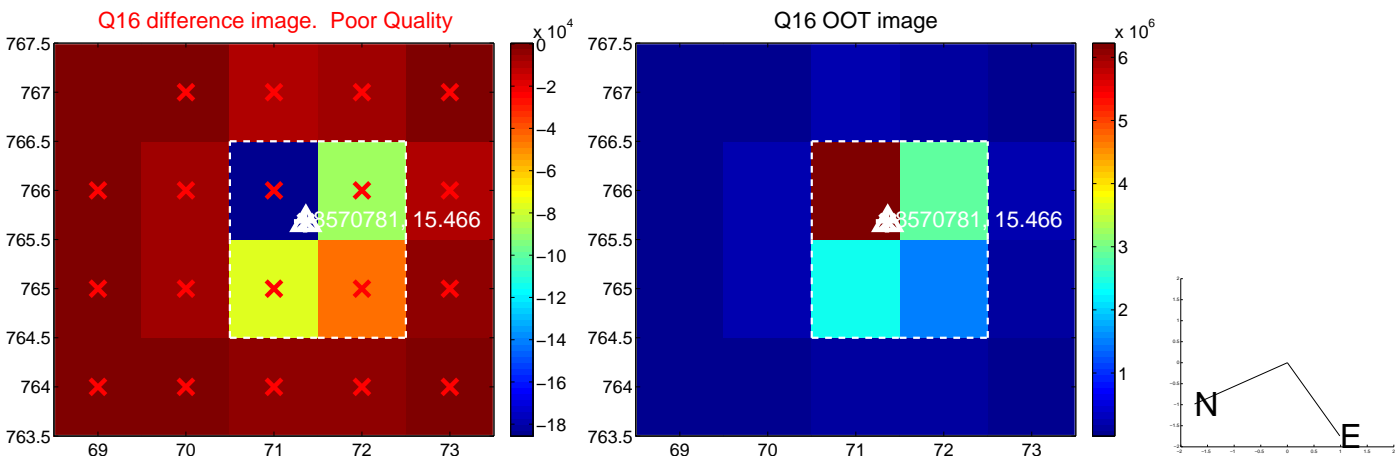
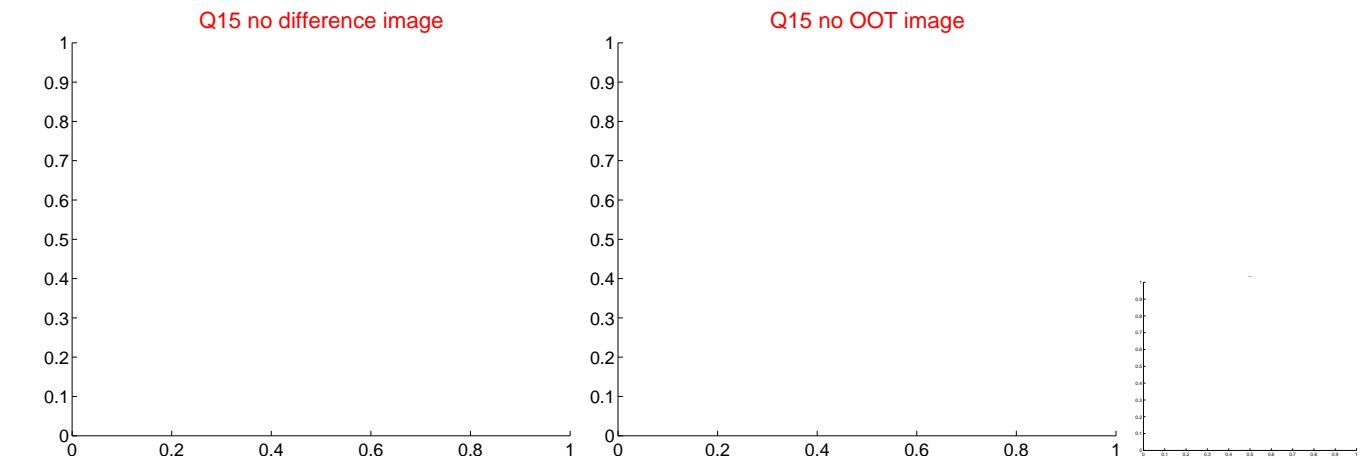
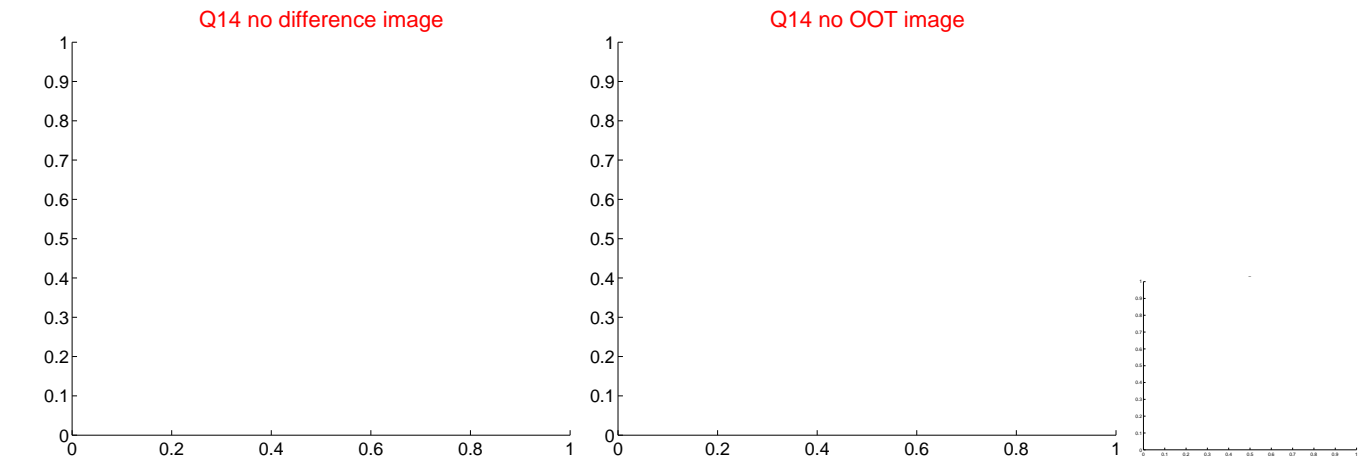
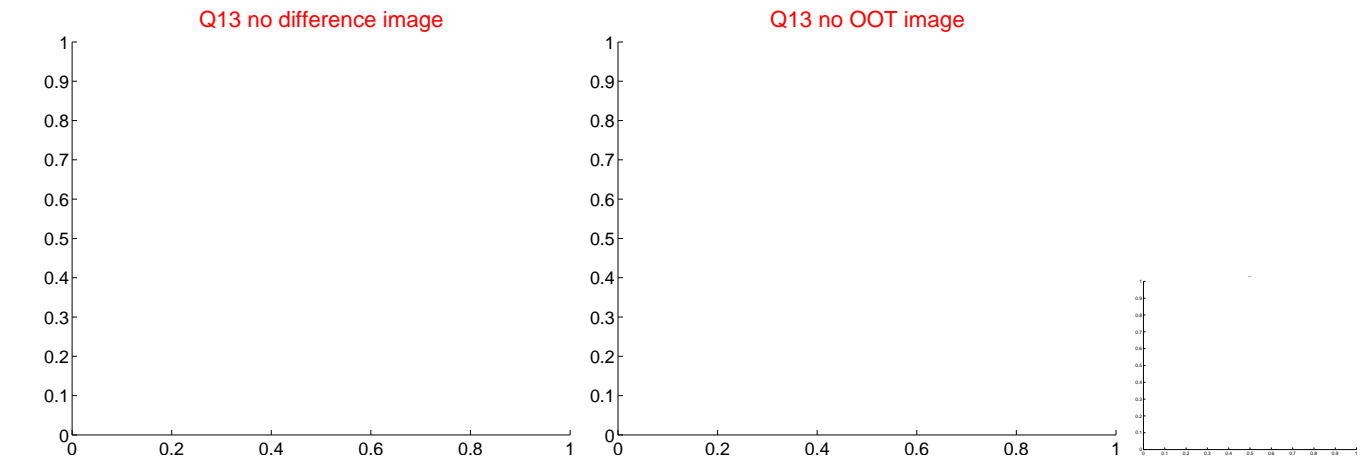
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



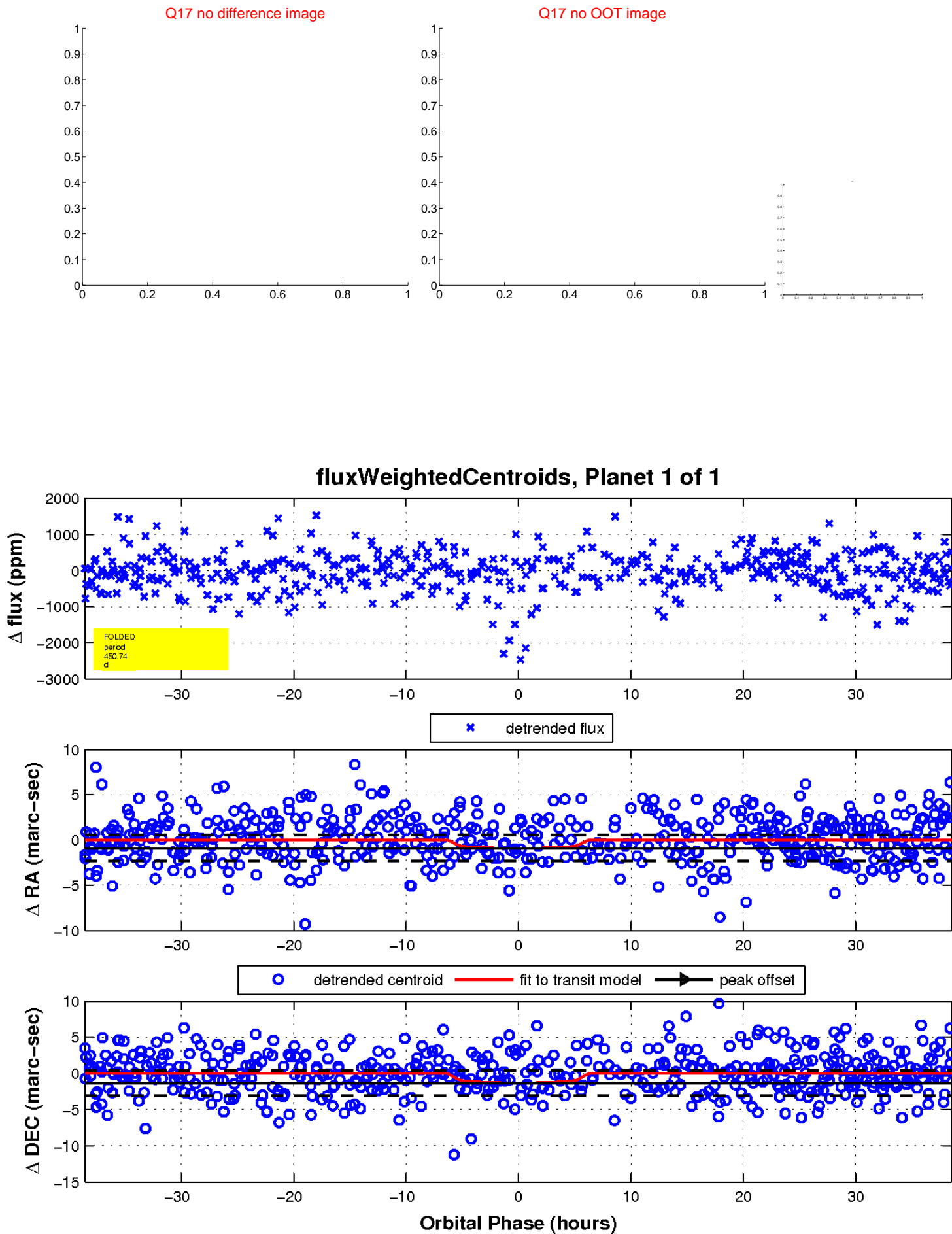
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UKIRT Image

Declination

