

KIC 009650579

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})
009650579-01	OBS	7953.01	432.965731	186.764698	266.3	20.423	7.3	7.4	0.89	5580	1.61	0.55

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009650579-01	OBS	PC	0.34	0	0	0	0	CENT_FEW_DIFFS

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

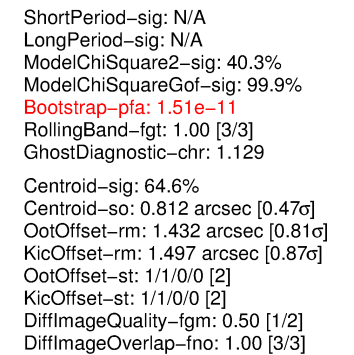
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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

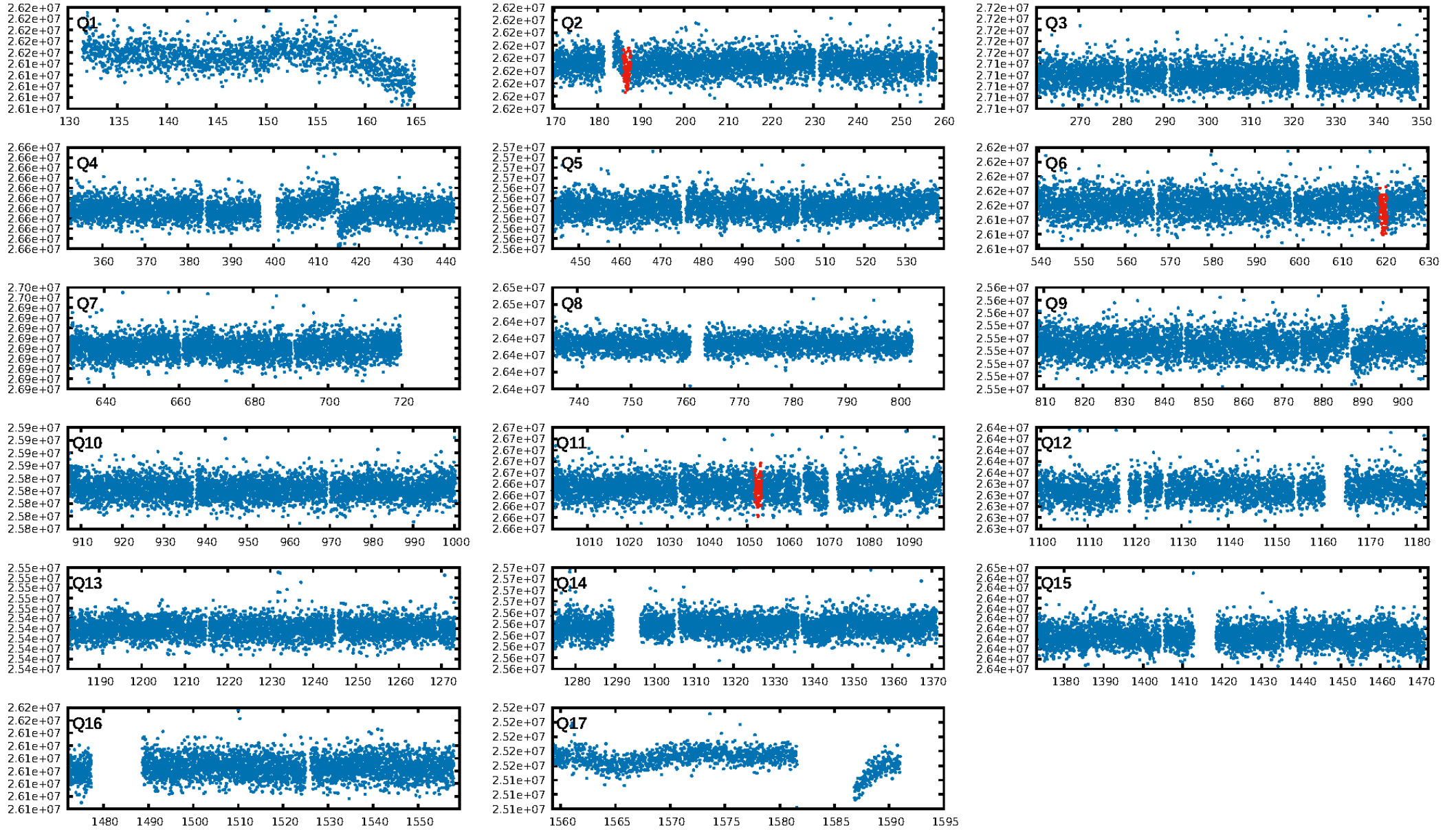
Ephemeris Match Information For 009650579-01

No Significant Match Found

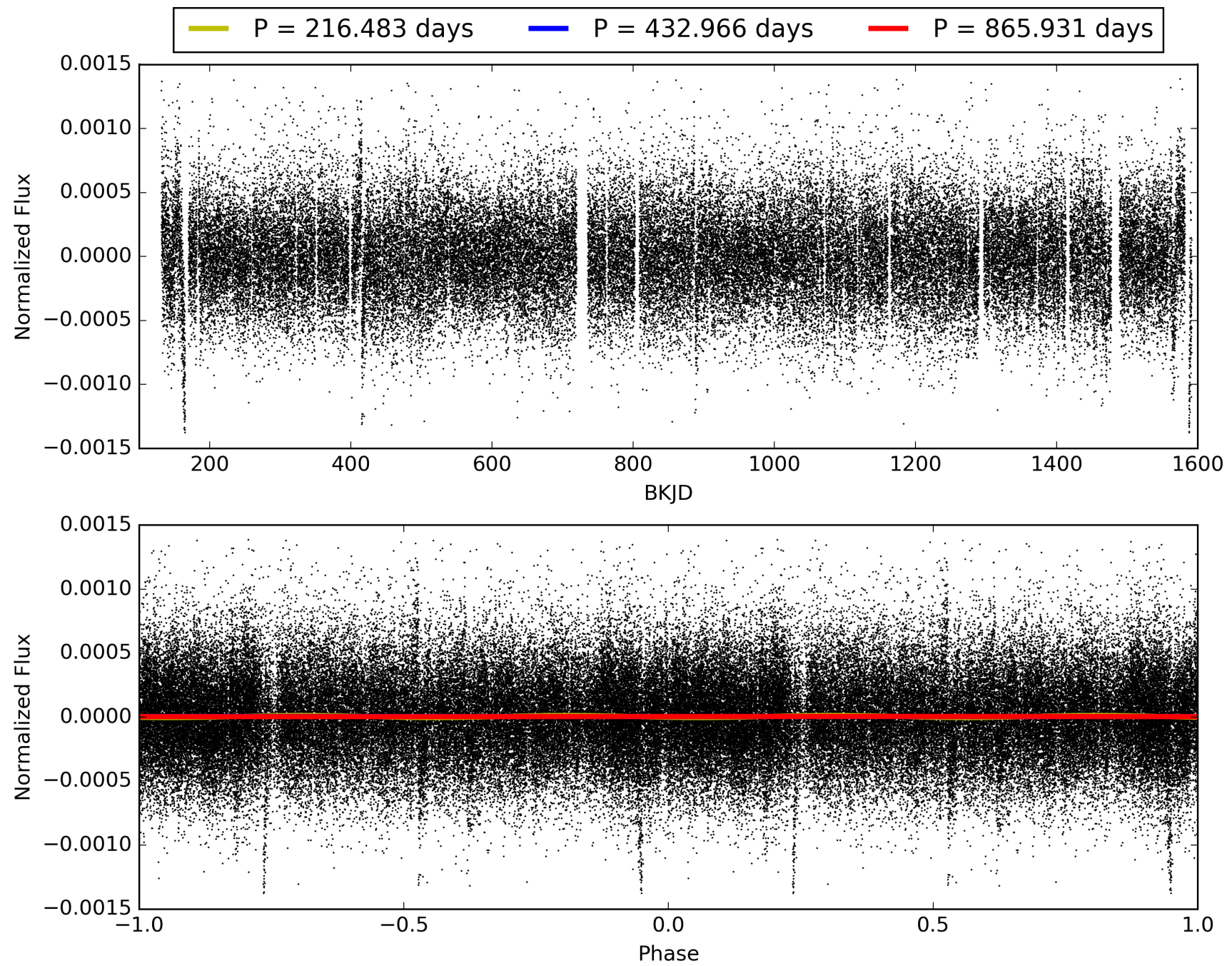
KIC: 9650579 Candidate: 1 of 1 Period: 432.966 d



TCE 009650579-01, PDC Light Curves

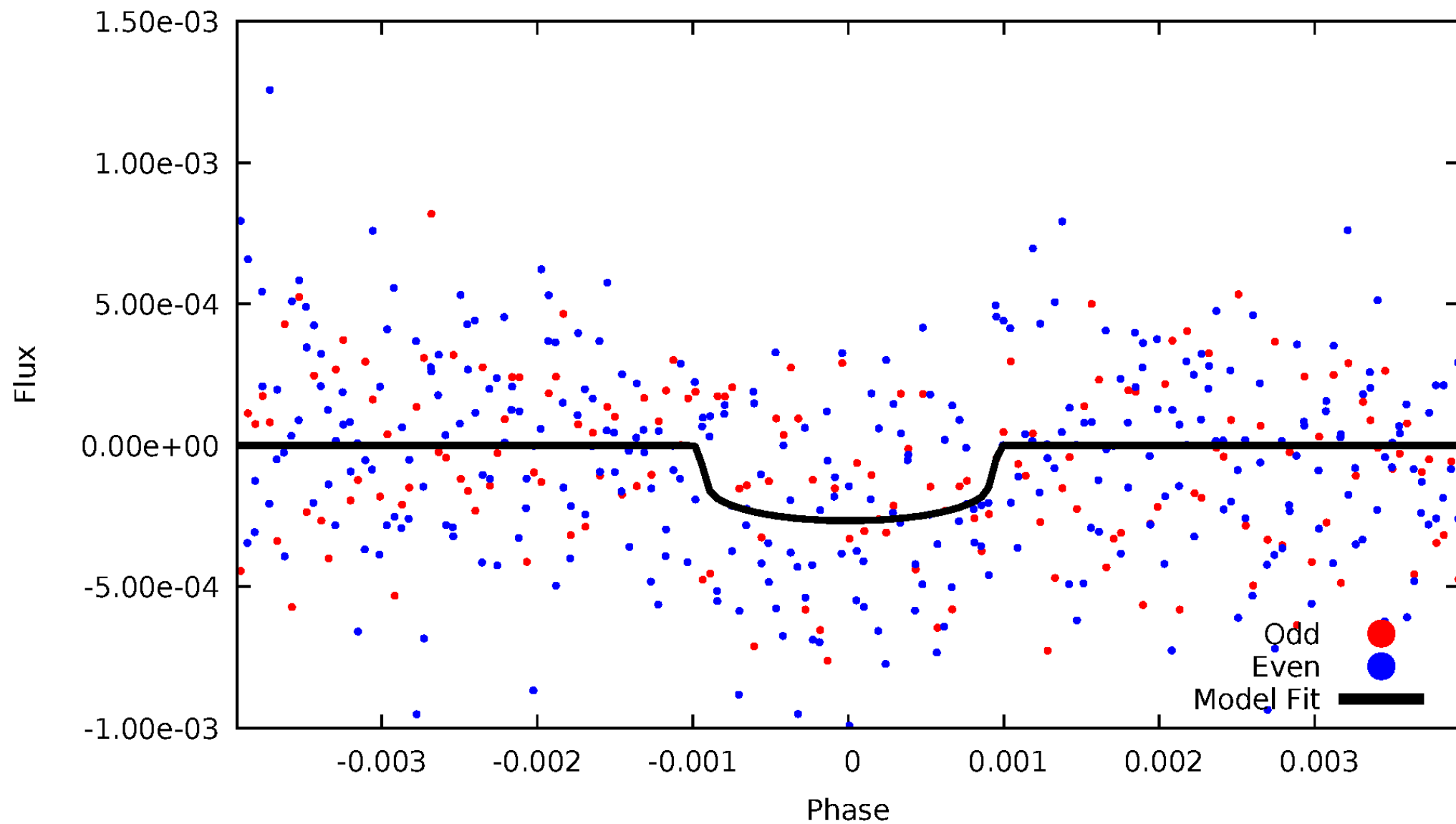


TCE 009650579-01



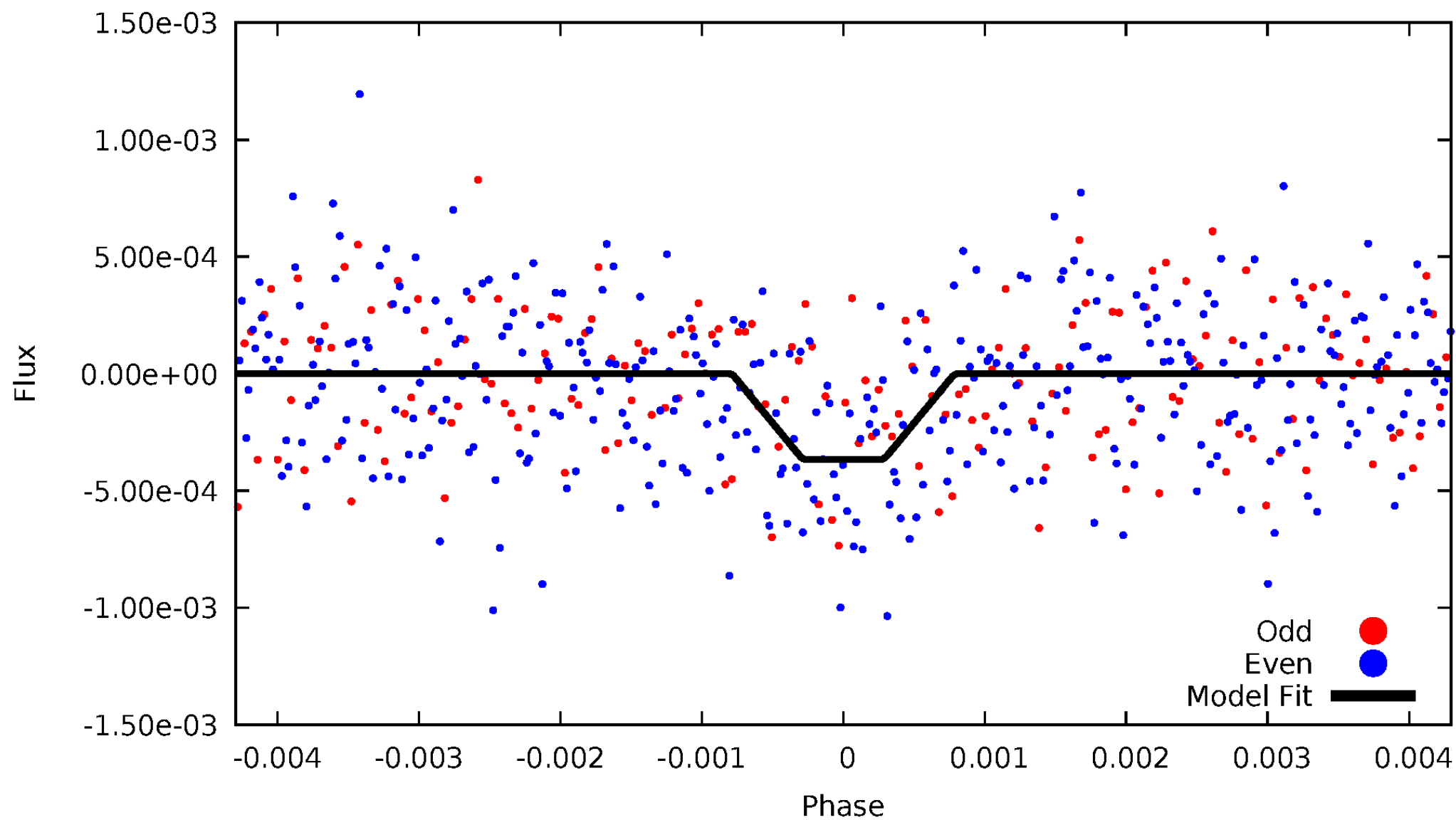
DV Odd/Even

TCE 009650579-01

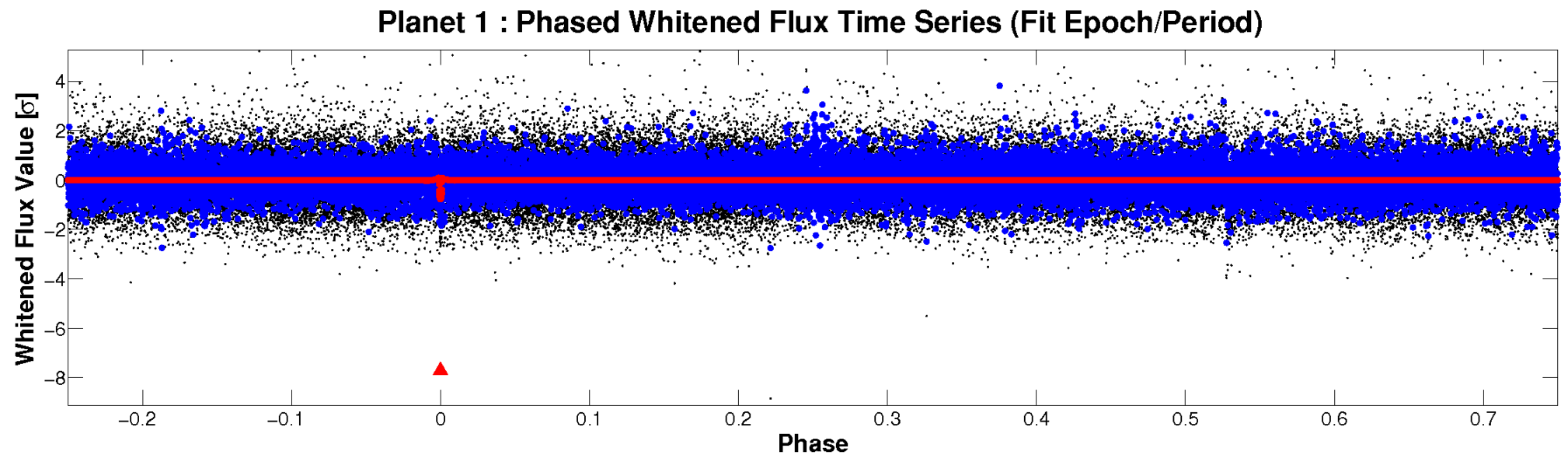
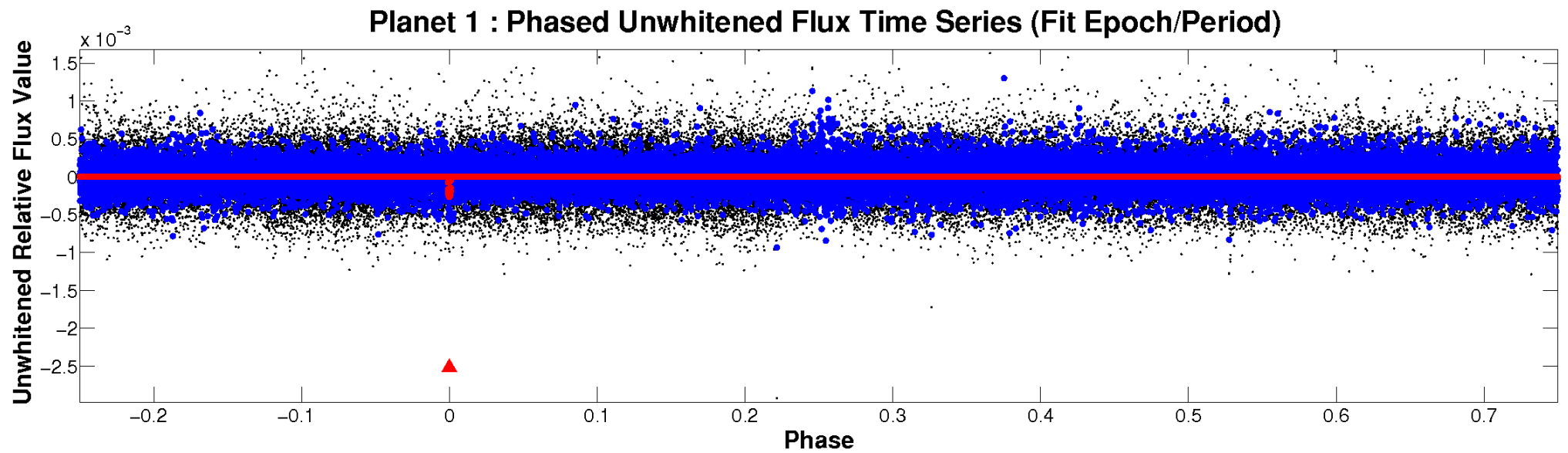


ALT Odd/Even

TCE 009650579-01

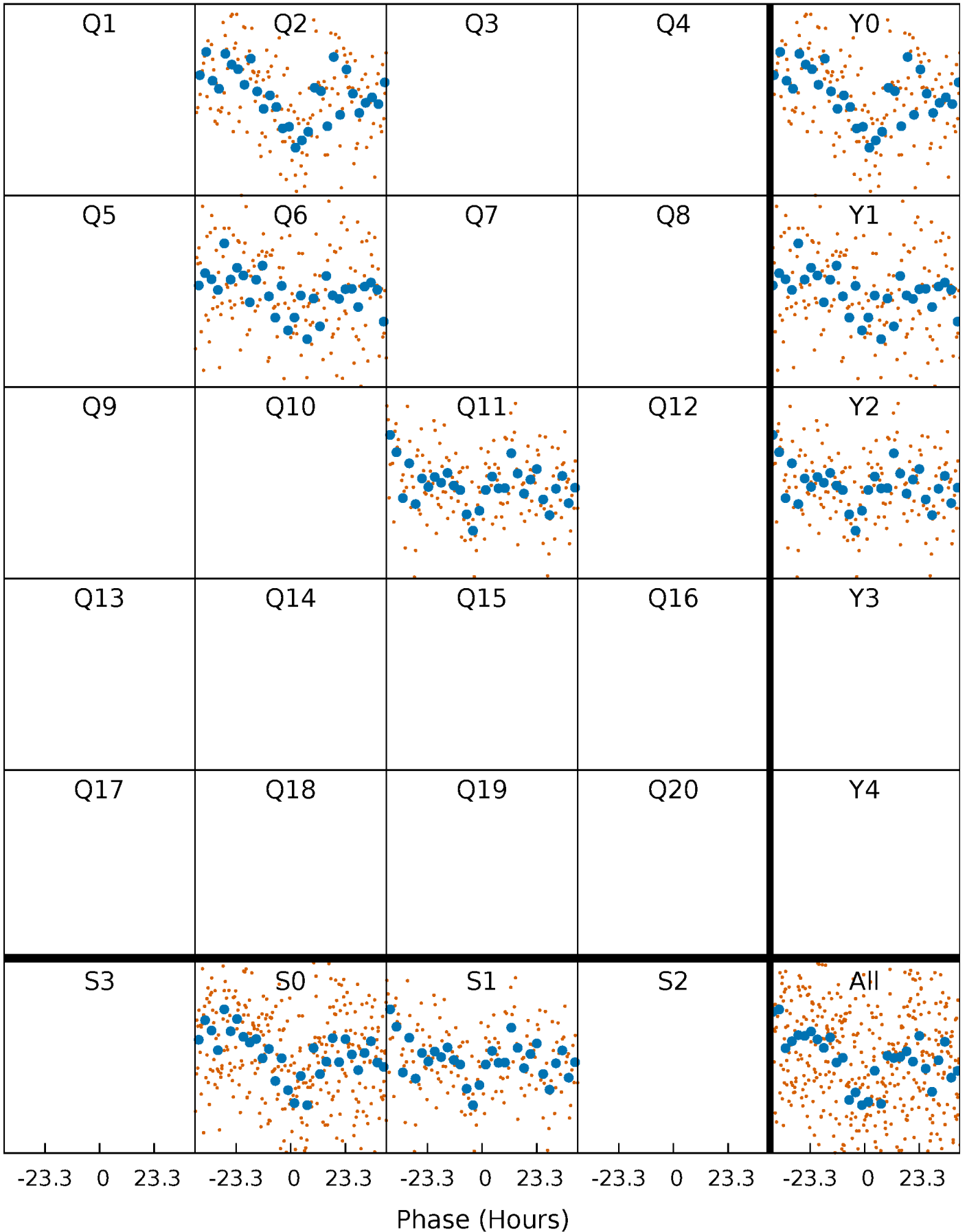


Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 009650579-01 P=432.965731 Days $T_0=186.764698$ (BKJD)



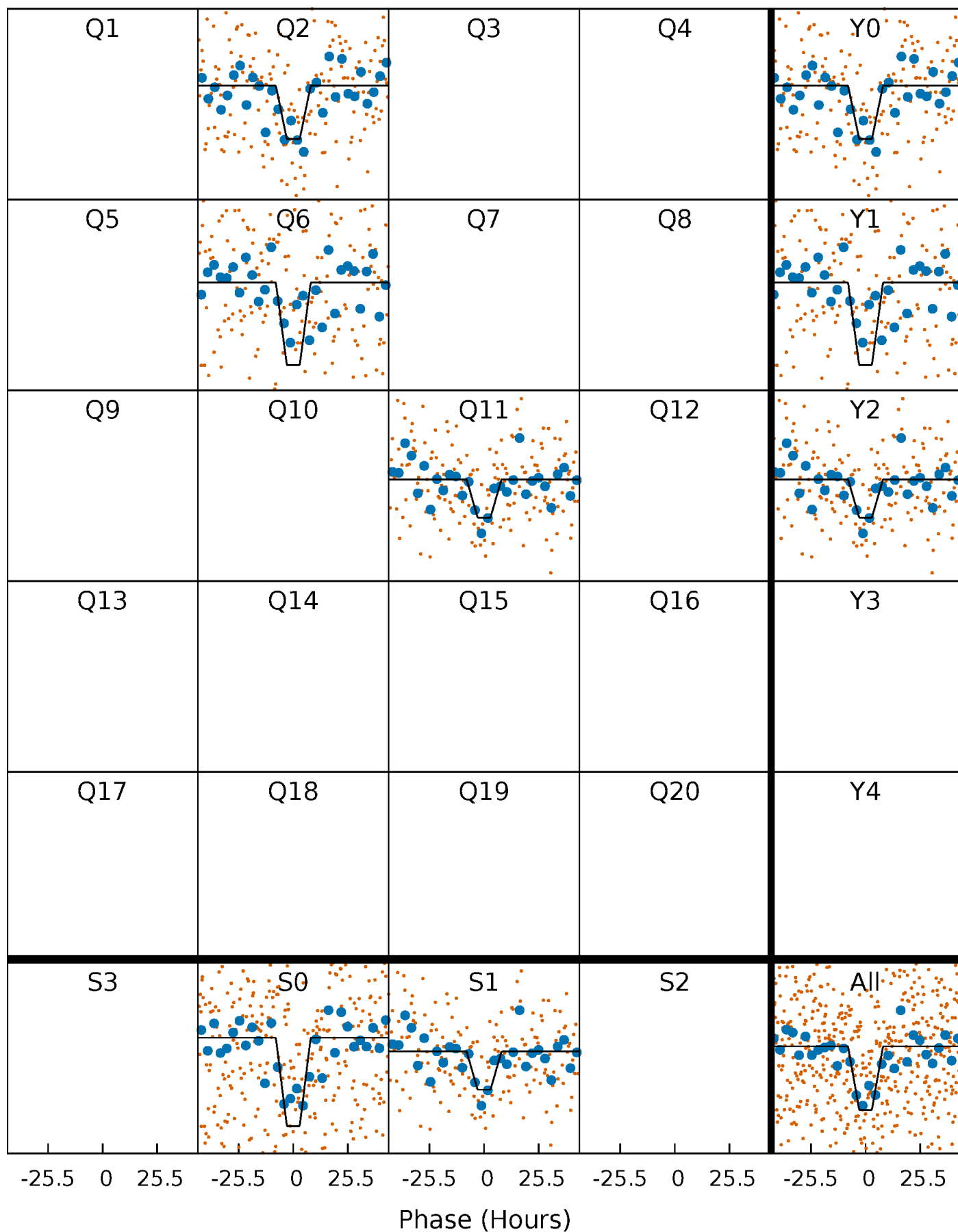
DV Quarter-Phased Transit Curves

TCE 009650579-01 P=432.965731 Days $T_0=186.764698$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

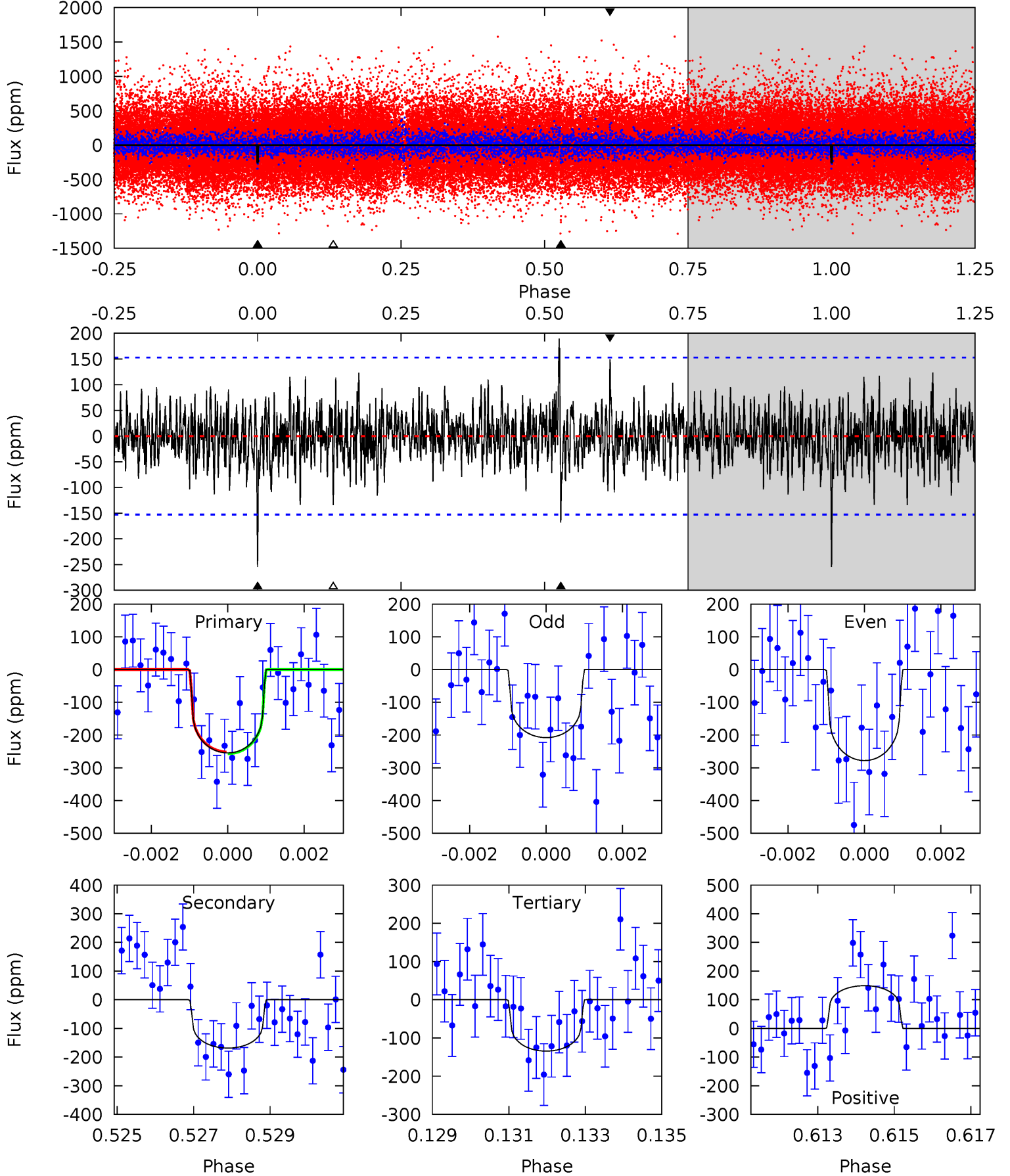
TCE 009650579-01 P=432.878157 Days $T_0=186.808679$ (BKJD)



DV Model-Shift Uniqueness Test

009650579-01, P = 432.965731 Days, E = 186.764698 Days

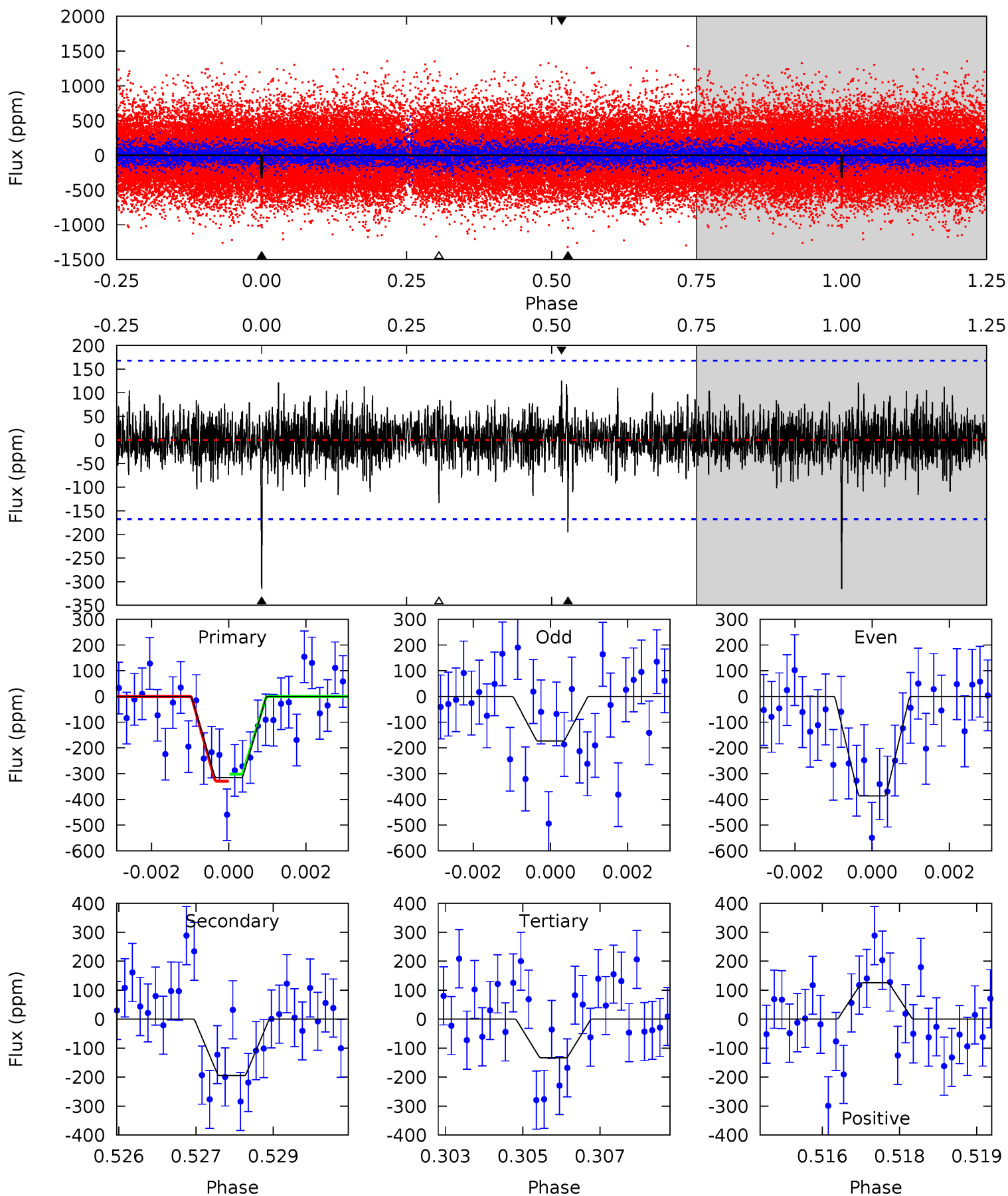
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.88	5.88	4.68	5.20	5.33	3.09	1.37	4.19	3.68	1.19	0.68	1.16	1.18	0.43	0.09



Alt Model-Shift Uniqueness Test

009650579-01, P = 432.878157 Days, E = 186.808679 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	6.23	4.26	4.01	5.36	3.15	1.07	5.84	6.08	1.98	2.22	3.23	0.83	0.28	0.44



Stellar Parameters For KIC 009650579

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5580^{+150}_{-166}	$4.538^{+0.031}_{-0.178}$	$0.140^{+0.250}_{-0.300}$	$0.886^{+0.207}_{-0.074}$	$0.989^{+0.075}_{-0.113}$	$2.003^{+0.344}_{-0.944}$
	+3%/-3%	+1%/-4%	+179%/-214%	+23%/-8%	+8%/-11%	+17%/-47%
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 009650579-01 / KOI 7953.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-169 ± 29	$1.68^{+0.65}_{-0.63}$	314^{+20}_{-15}	4979^{+1240}_{-640}	39307^{+62767}_{-20172}
Alt.	-195 ± 31	$1.94^{+0.69}_{-0.64}$	314^{+18}_{-13}	4856^{+936}_{-576}	35022^{+45176}_{-16596}

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

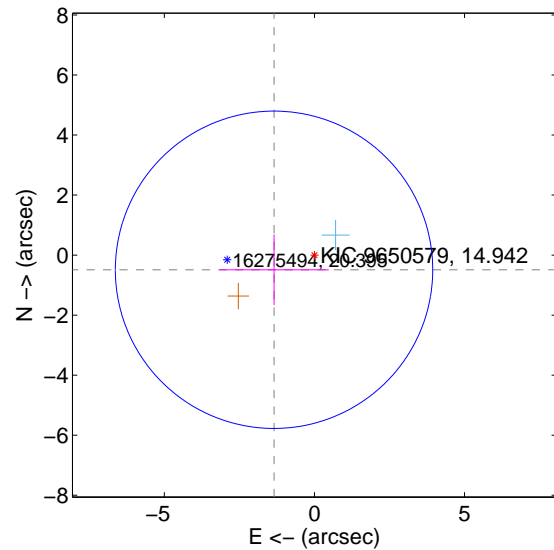
Supplemental centroid analysis for 009650579-01. Kepler magnitude: 14.94. Transit SNR 7.43

There are 1 quarters with good PRF difference image offsets

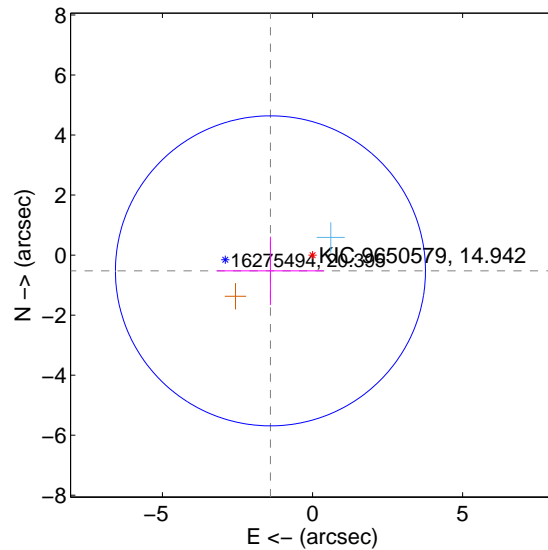
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.432 ± 1.762	0.81	1.346 ± 1.825	-0.489 ± 1.176
PRF-fit source offset from KIC position	1.497 ± 1.721	0.87	1.402 ± 1.788	-0.525 ± 1.136
photometric centroid source offset	0.81 ± 1.72	0.47	0.33 ± 1.82	-0.74 ± 1.70

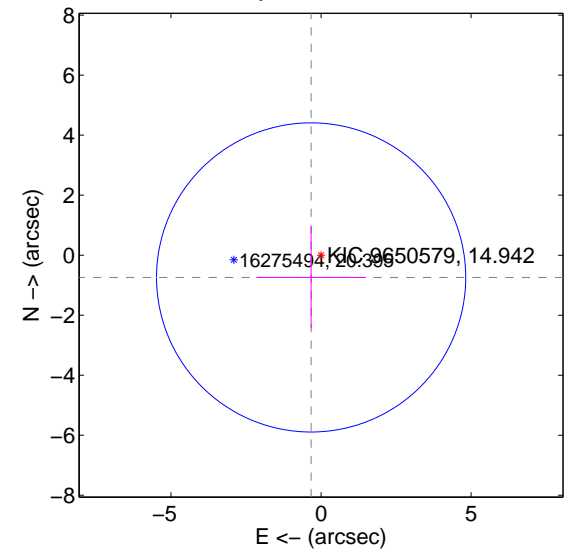
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

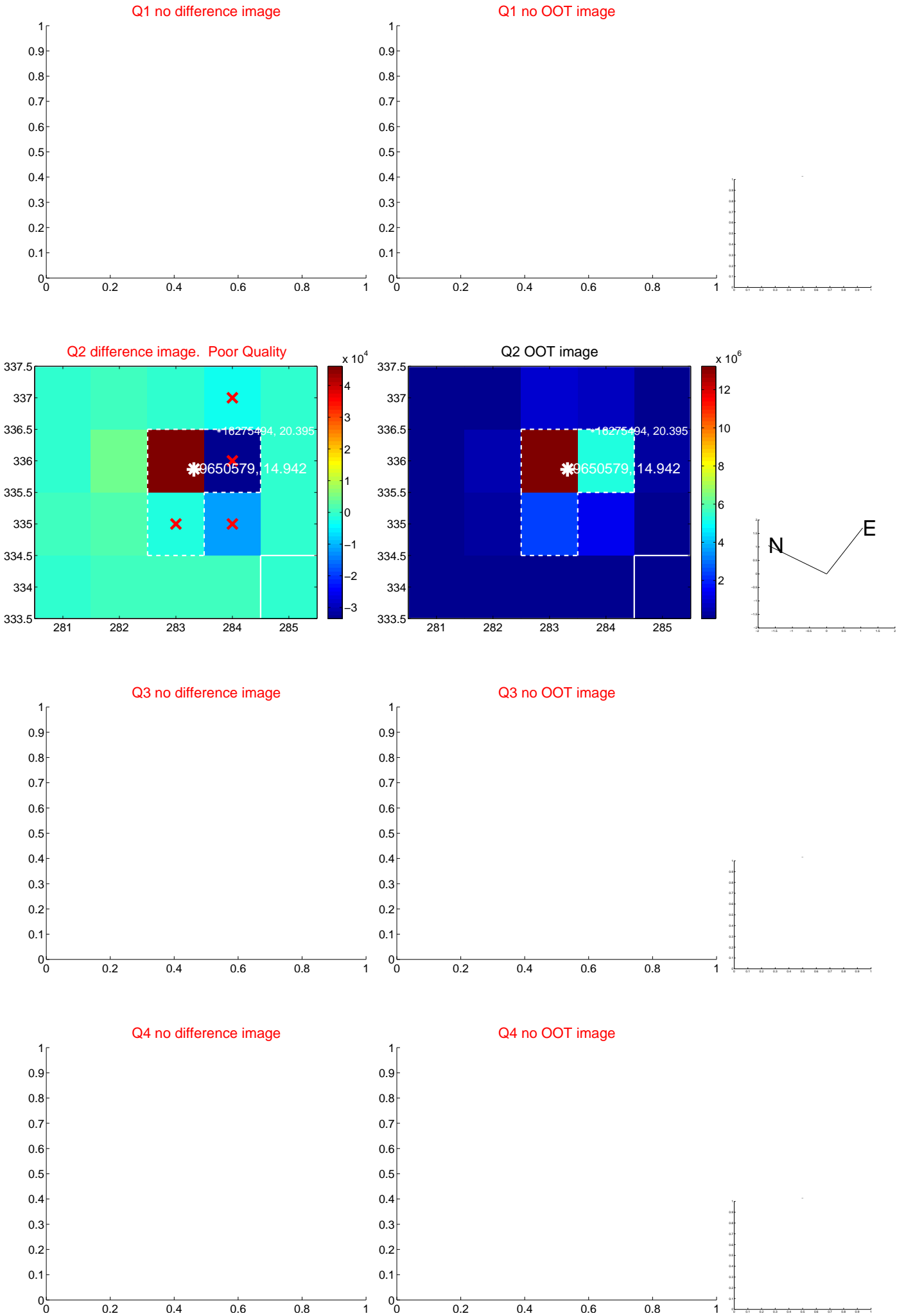


offset from photometric centroids

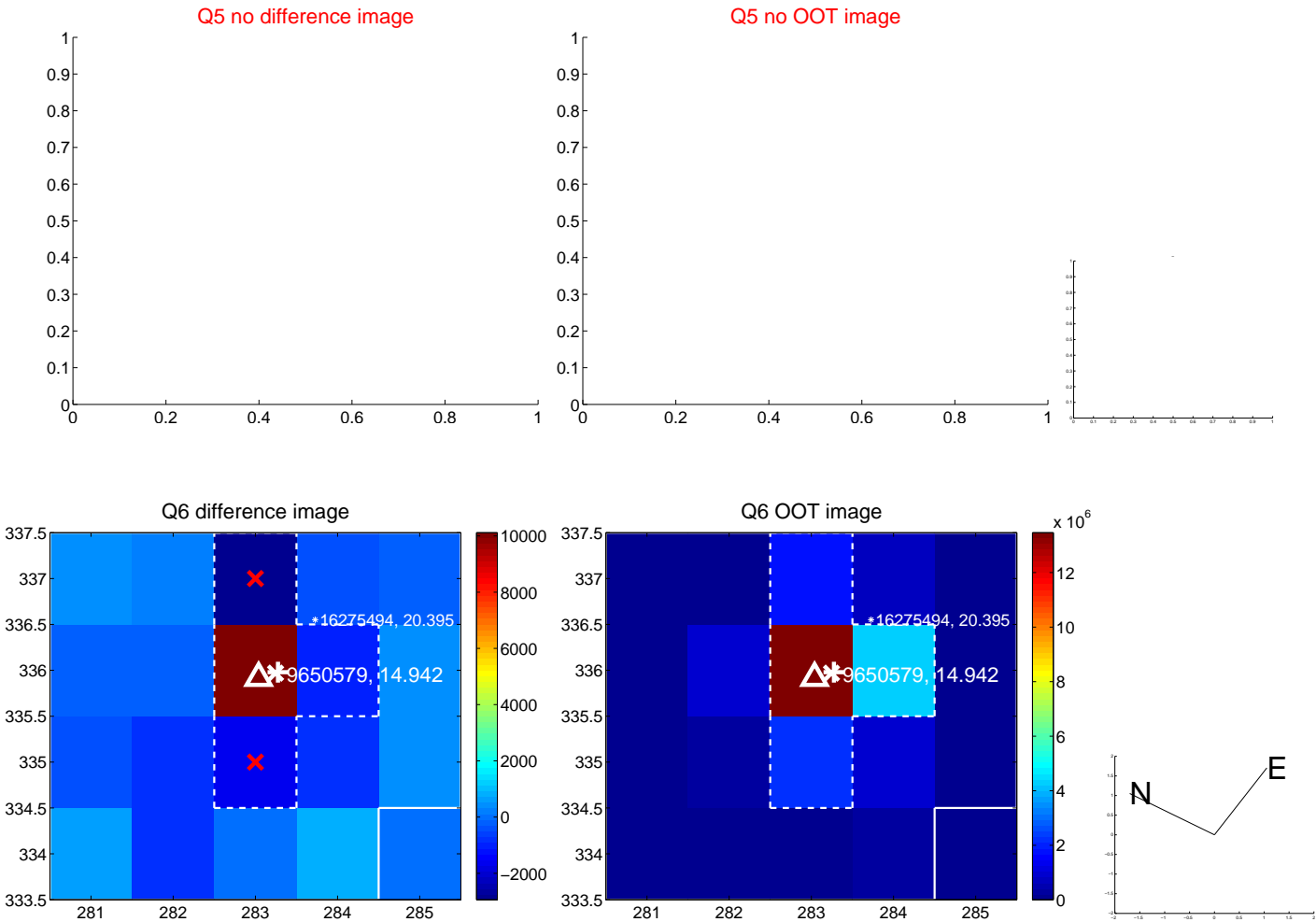


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

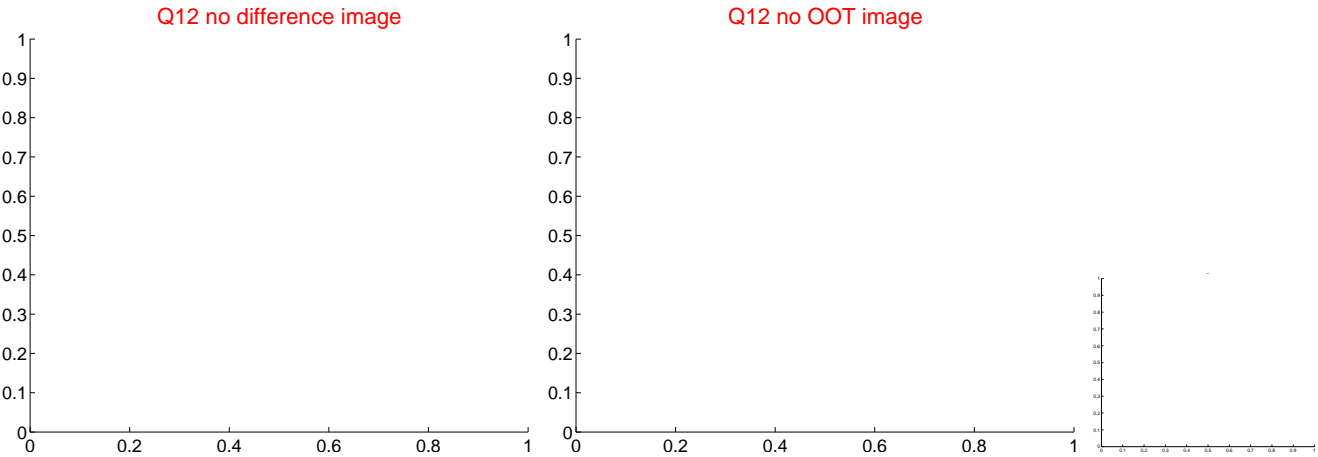
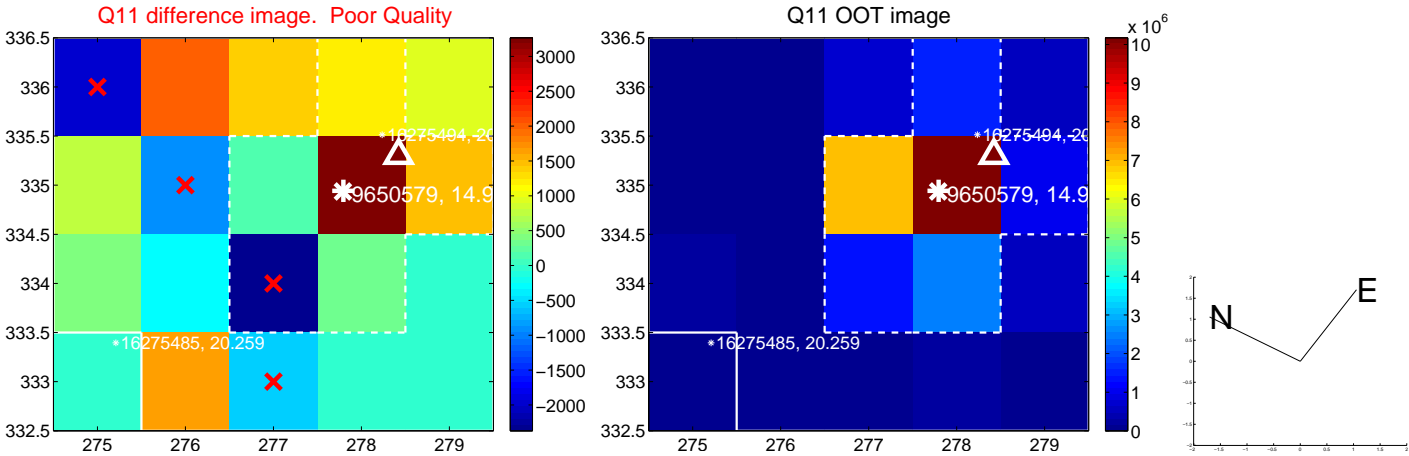
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



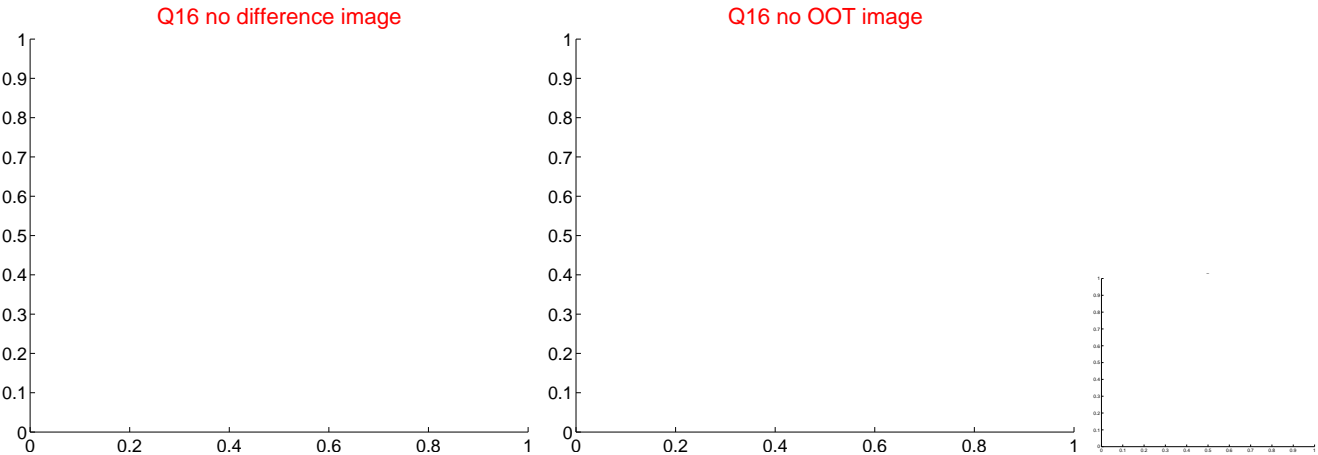
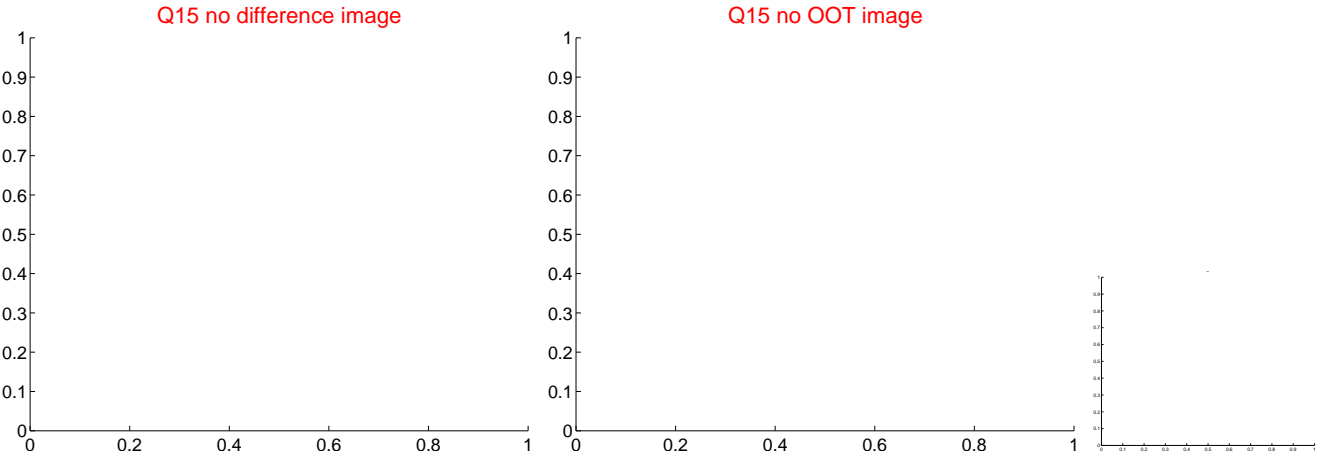
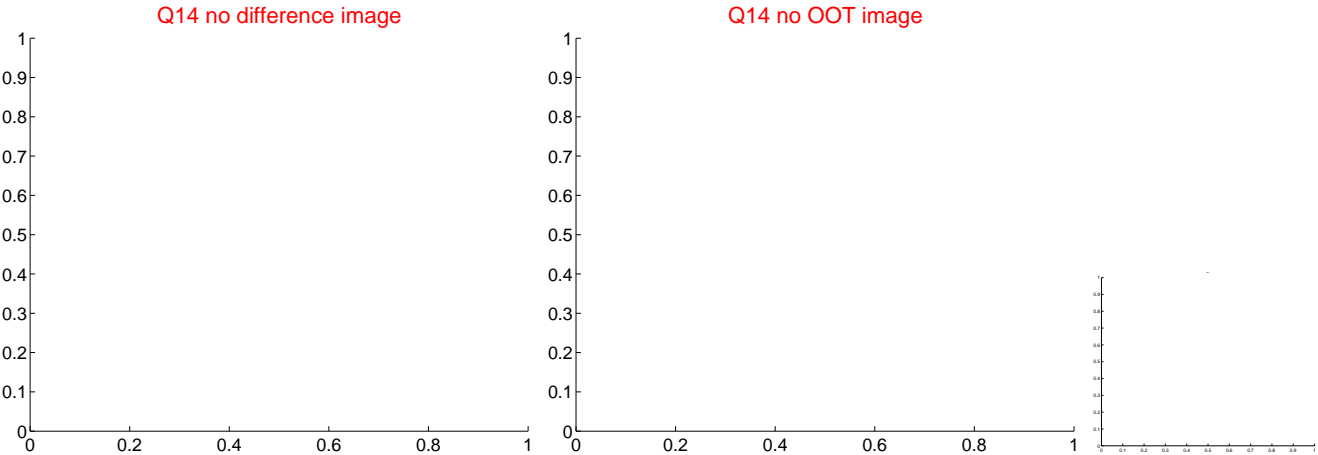
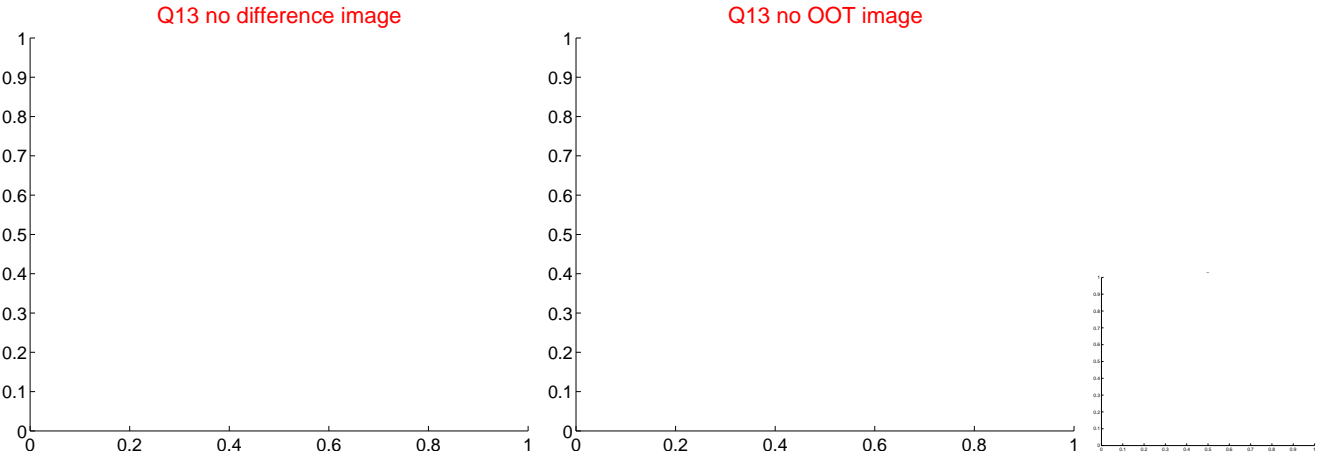
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



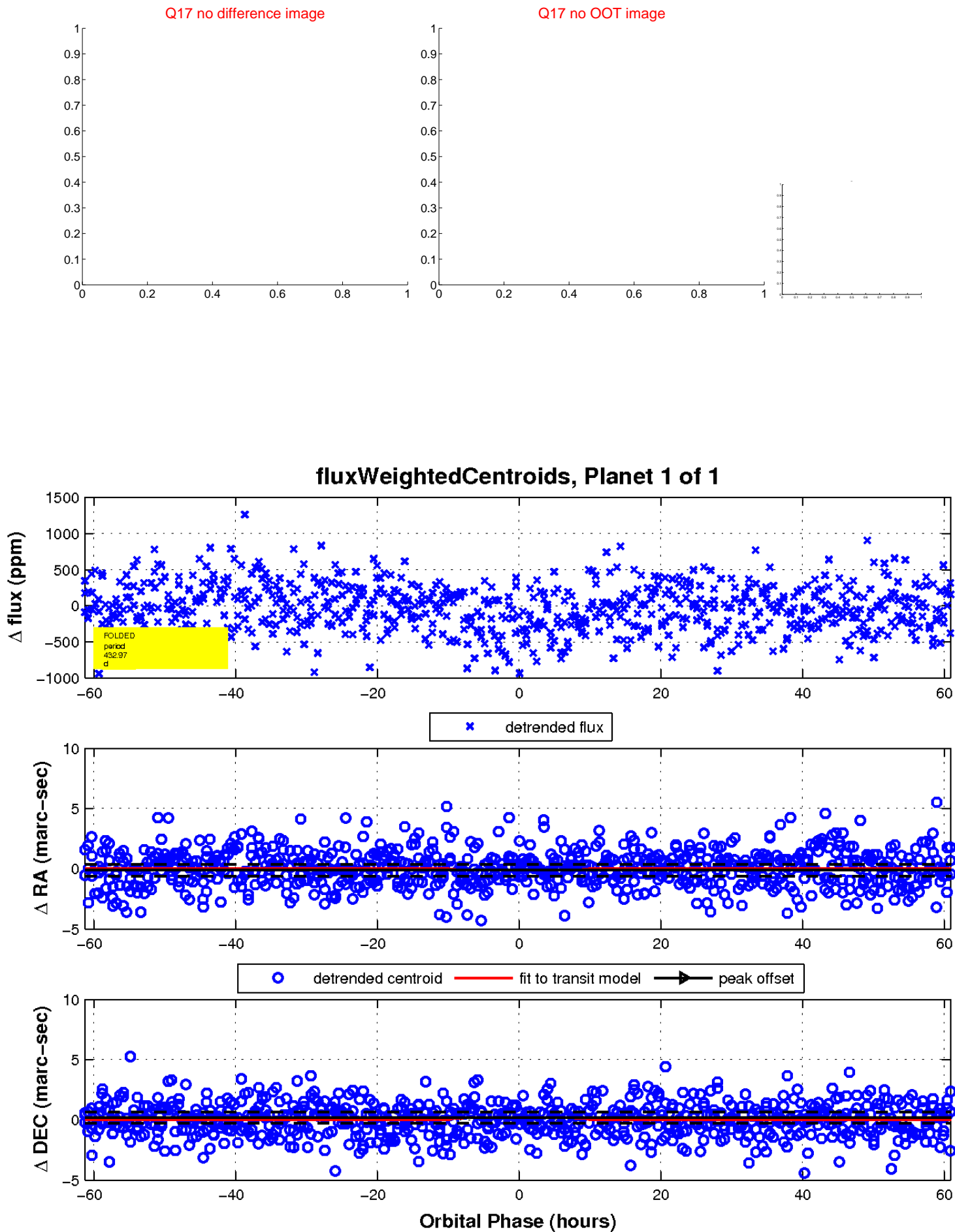
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

