

KIC 002831055

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})
002831055-01	OBS	4400.01	2.209224	131.906637	56.4	2.630	11.0	13.1	1.09	5991	0.96	1222.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002831055-01	OBS	PC	0.99	0	0	0	0	NO_COMMENT

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

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

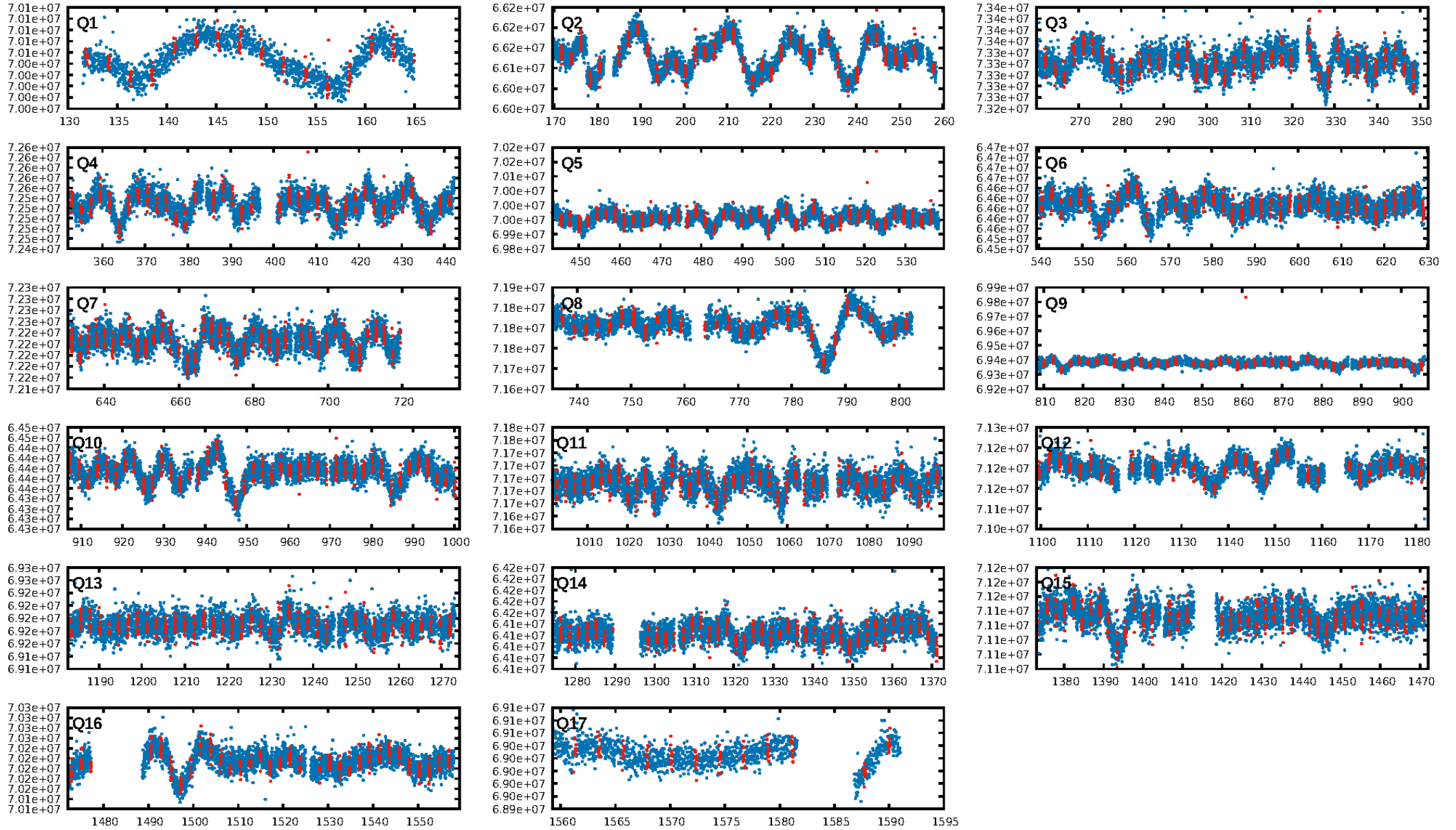
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002831055-01

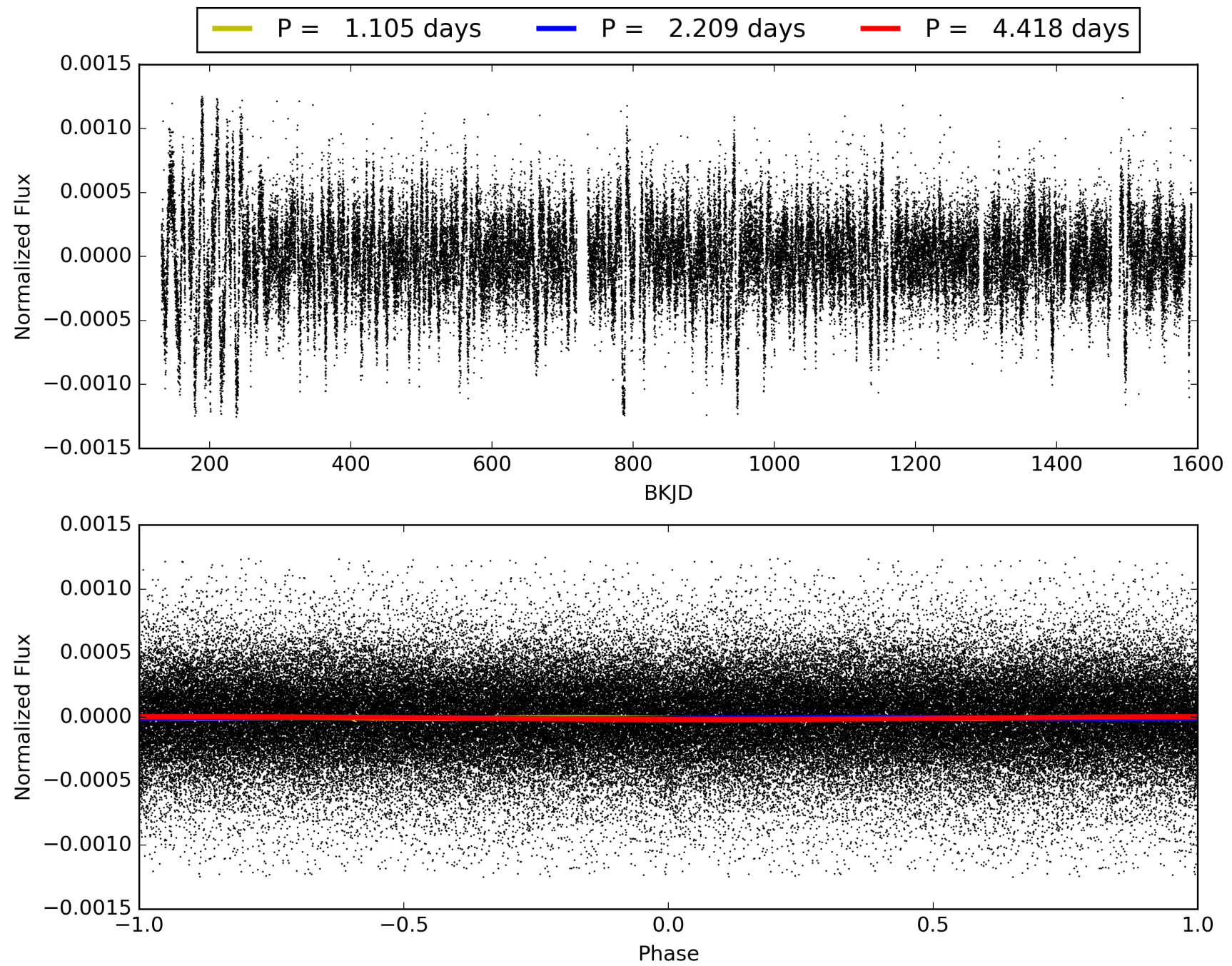
No Significant Match Found

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

TCE 002831055-01, PDC Light Curves

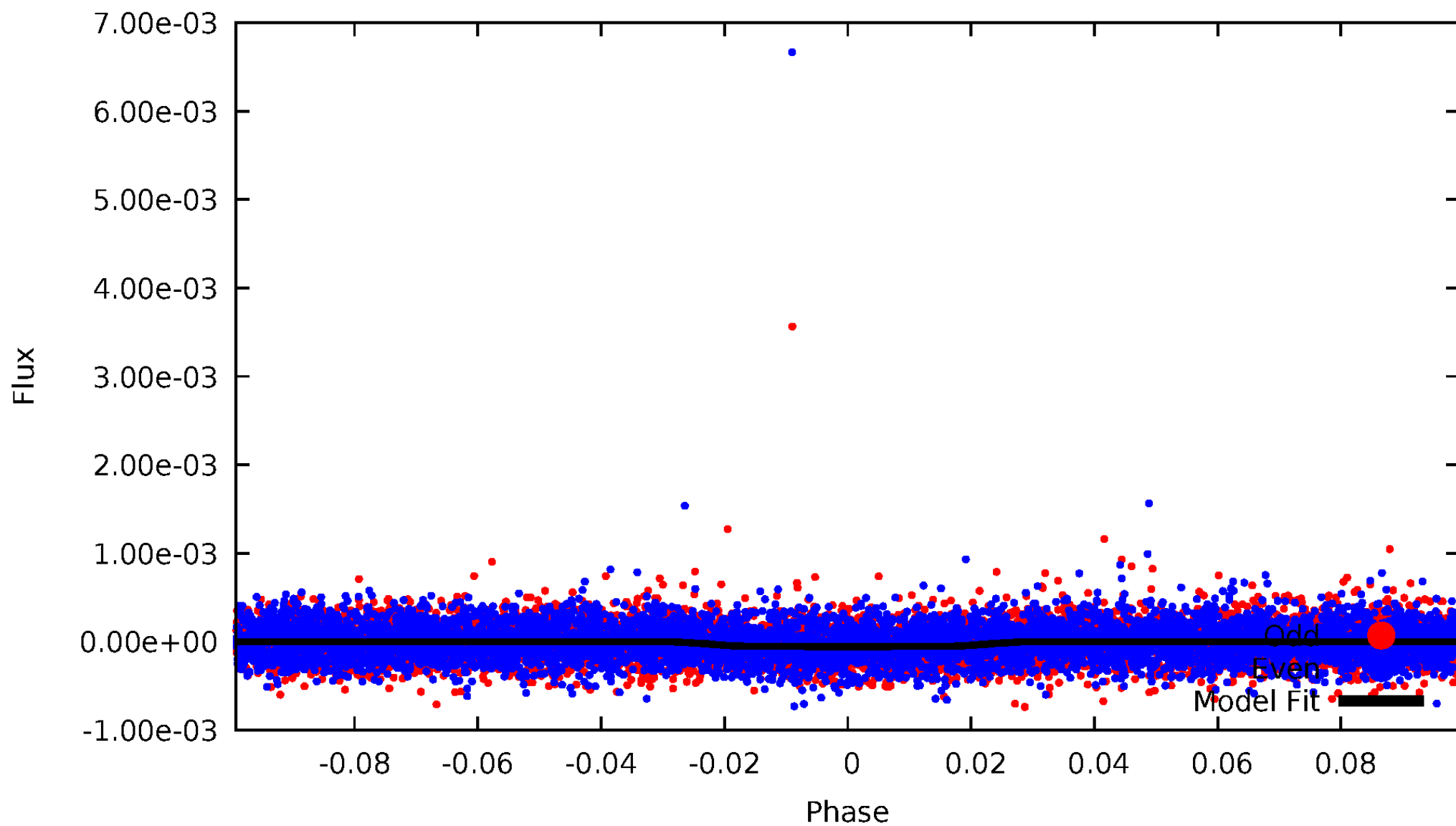


TCE 002831055-01



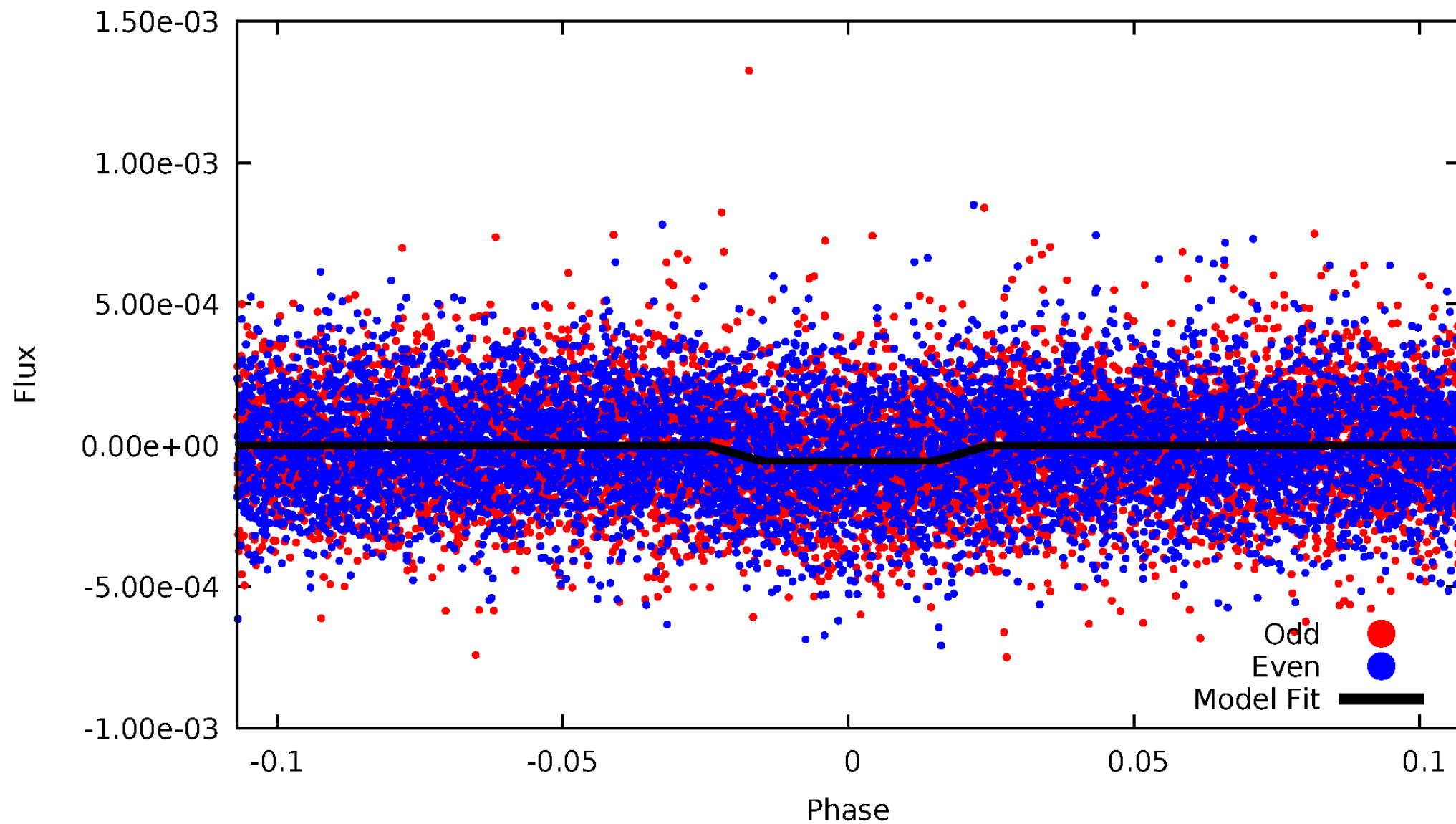
DV Odd/Even

TCE 002831055-01

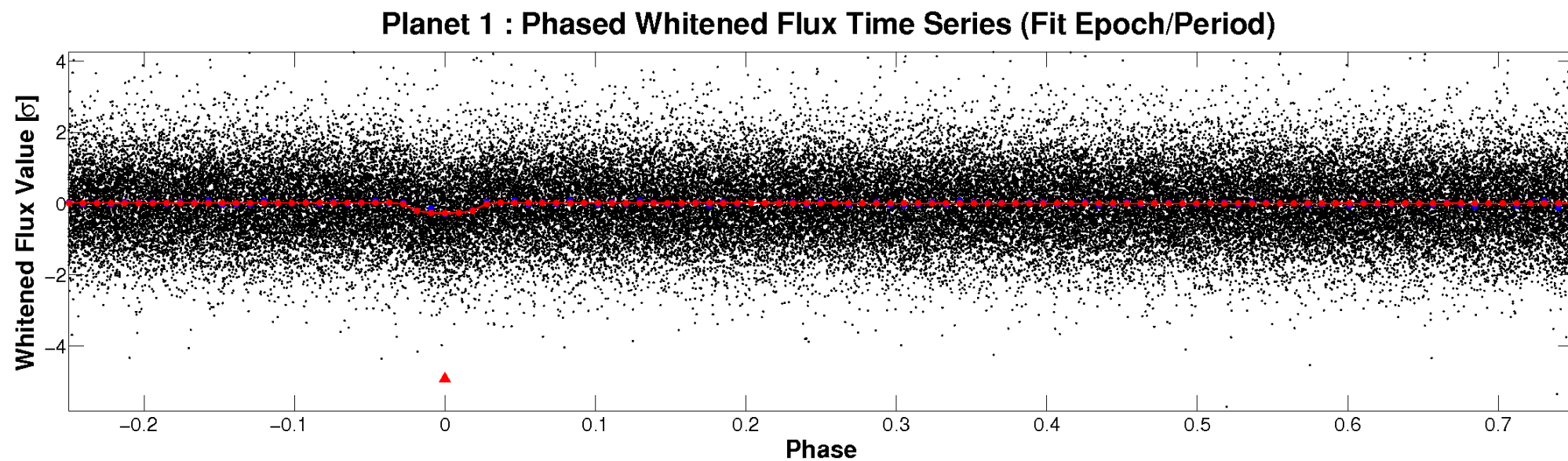
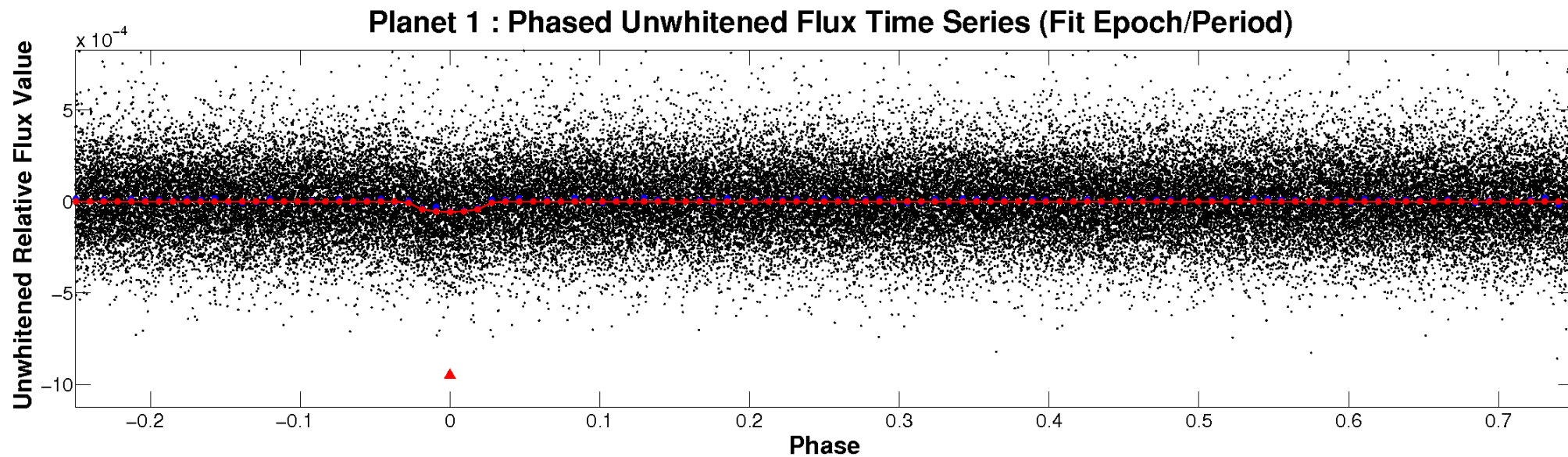


ALT Odd/Even

TCE 002831055-01

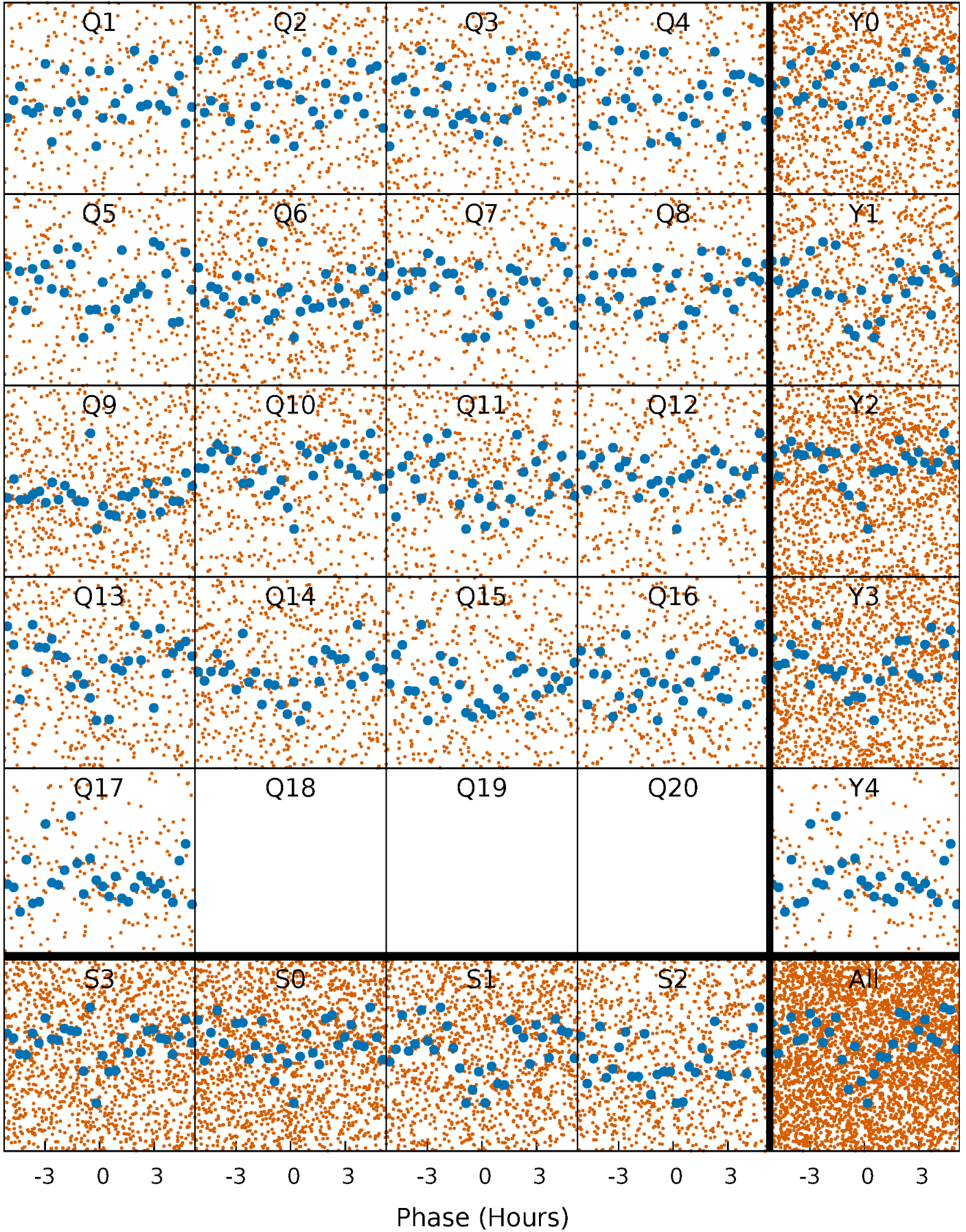


Non-Whitened Vs. Whitened Light Curve



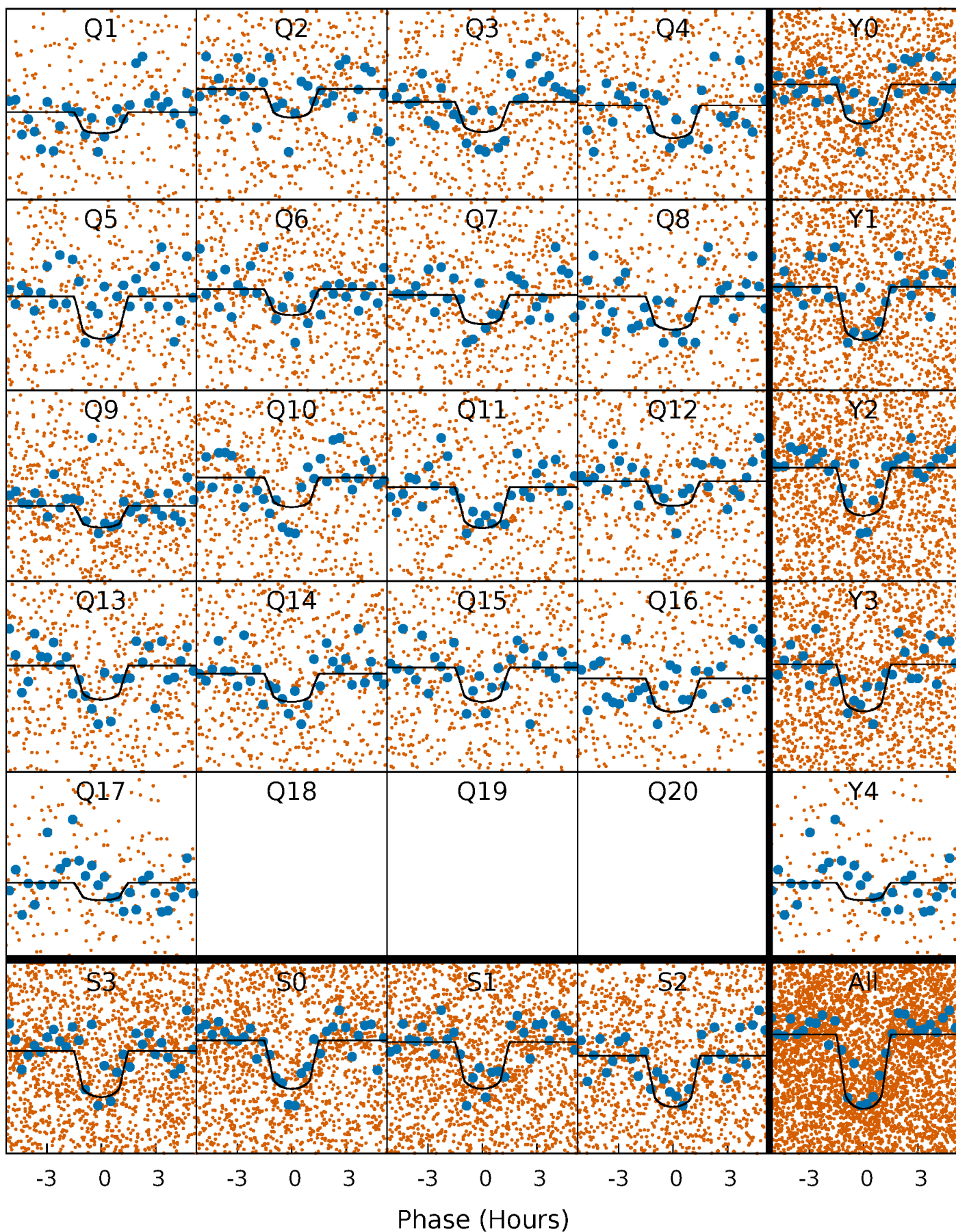
PDC Quarter-Phased Transit Curves

TCE 002831055-01 P= 2.209224 Days $T_0=131.906637$ (BKJD)



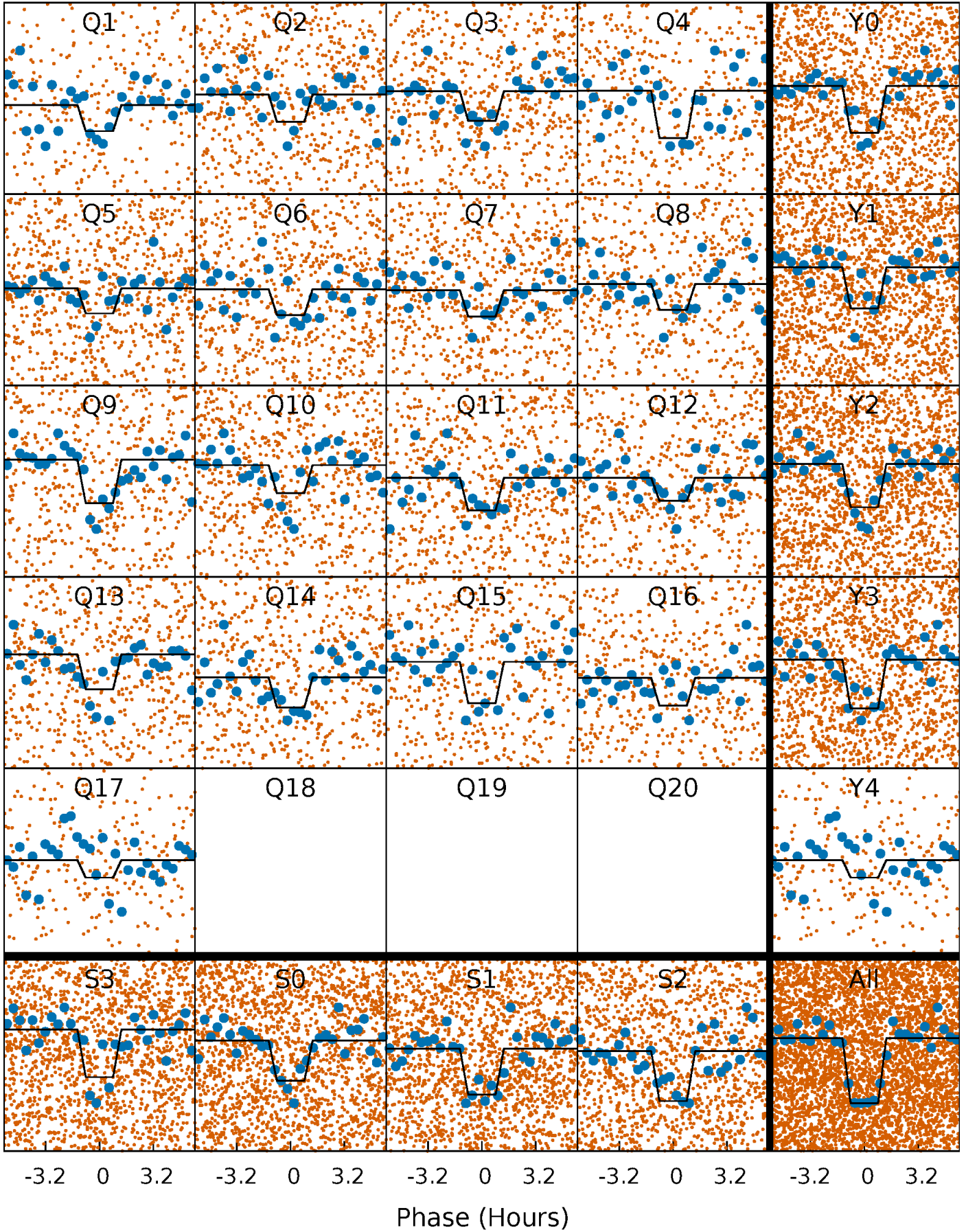
DV Quarter-Phased Transit Curves

TCE 002831055-01 P= 2.209224 Days $T_0=131.906637$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

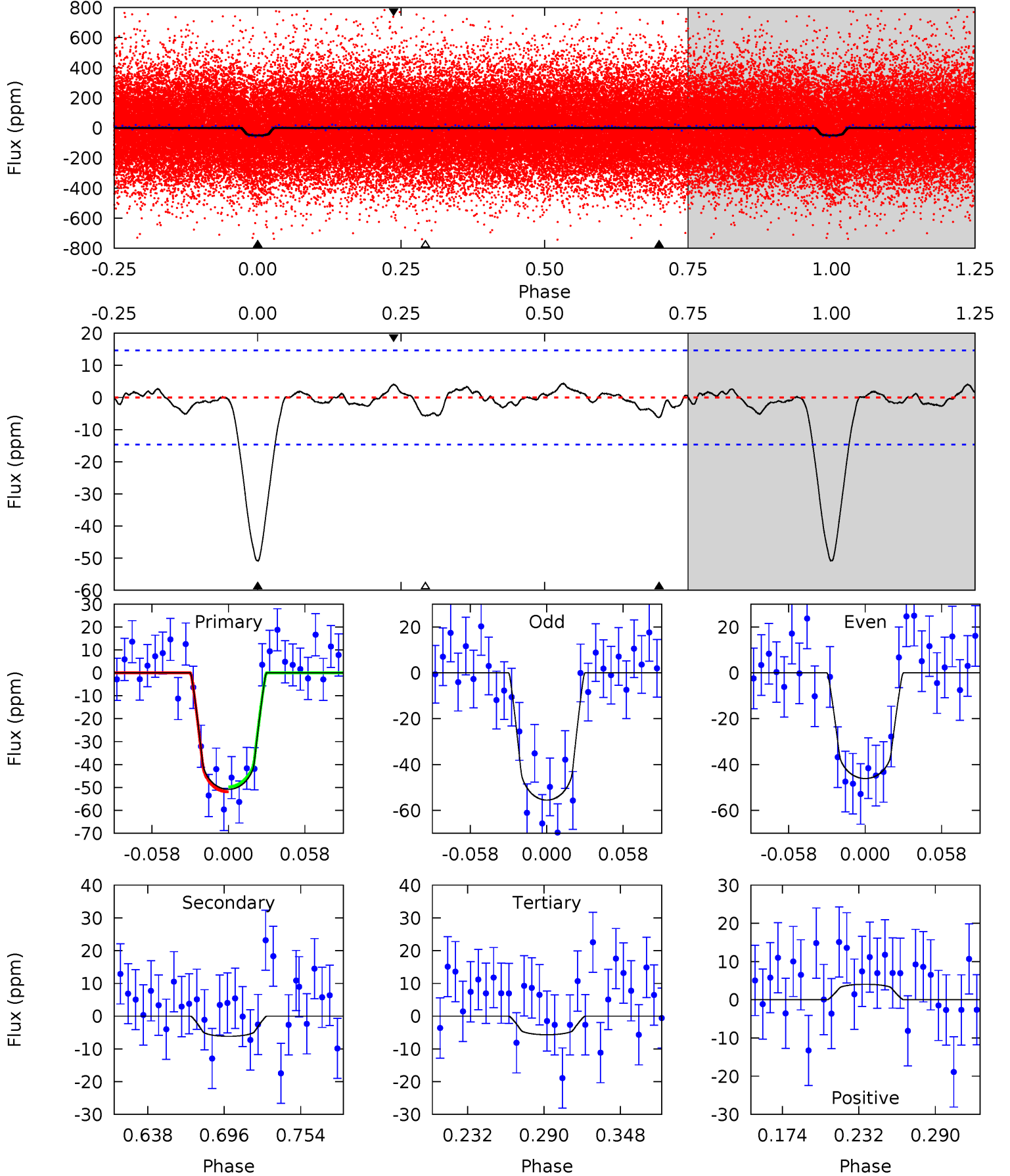
TCE 002831055-01 P= 2.209241 Days $T_0=131.899898$ (BKJD)



DV Model-Shift Uniqueness Test

002831055-01, P = 2.209224 Days, E = 129.697413 Days

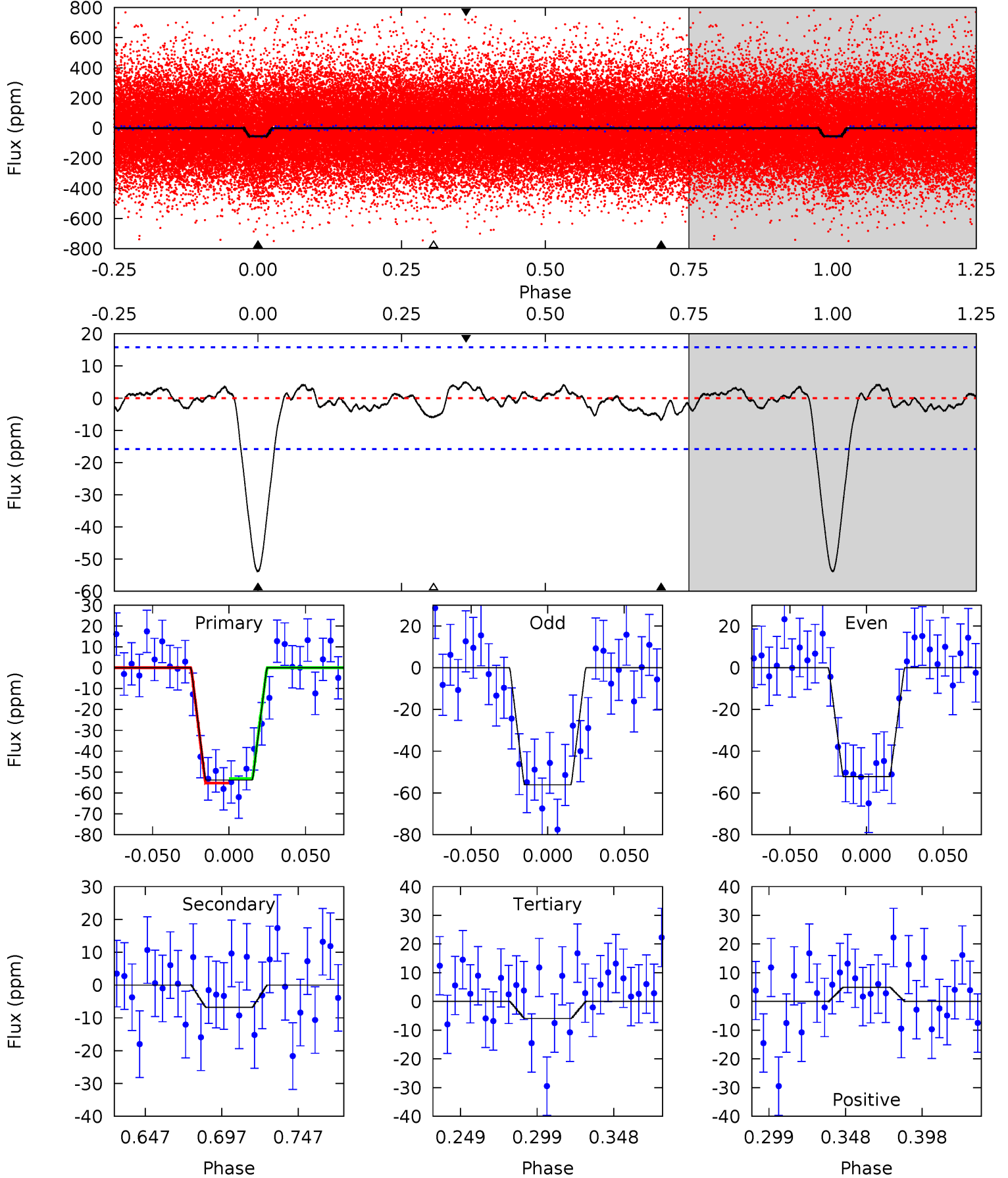
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.2	1.97	1.81	1.29	4.68	1.90	0.69	14.4	14.9	0.16	0.68	1.50	0.91	0.08	0.34



Alt Model-Shift Uniqueness Test

002831055-01, P = 2.209241 Days, E = 129.690657 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.0	2.02	1.76	1.47	4.71	1.96	0.71	14.3	14.5	0.25	0.54	0.59	1.01	0.08	0.31



Stellar Parameters For KIC 002831055

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5991^{+163}_{-199}	$4.375^{+0.105}_{-0.195}$	$-0.020^{+0.250}_{-0.300}$	$1.092^{+0.330}_{-0.152}$	$1.032^{+0.145}_{-0.130}$	$1.116^{+0.550}_{-0.590}$
	+3%/-3%	+2%/-4%	+1250%/-1500%	+30%/-14%	+14%/-13%	+49%/-53%
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 002831055-01 / KOI 4400.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-6 ± 3	$1.03^{+0.43}_{-0.45}$	2127^{+157}_{-114}	3627^{+932}_{-597}	$3.547^{+8.577}_{-2.299}$
Alt.	-7 ± 3	$0.89^{+0.48}_{-0.44}$	2123^{+162}_{-121}	3795^{+1309}_{-712}	$4.850^{+16.047}_{-3.410}$

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 $A_{obs} \gg 1.0$

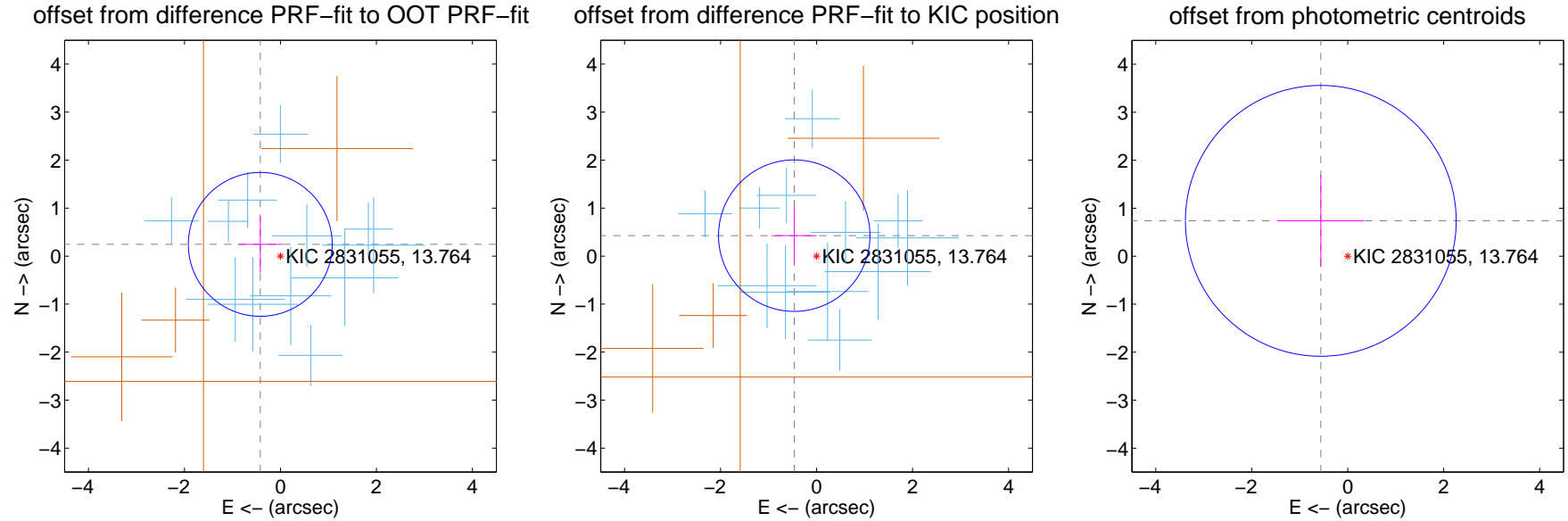
DV Centroid Data

Supplemental centroid analysis for 002831055-01. Kepler magnitude: 13.76. Transit SNR 13.10

There are 12 quarters with good PRF difference image offsets

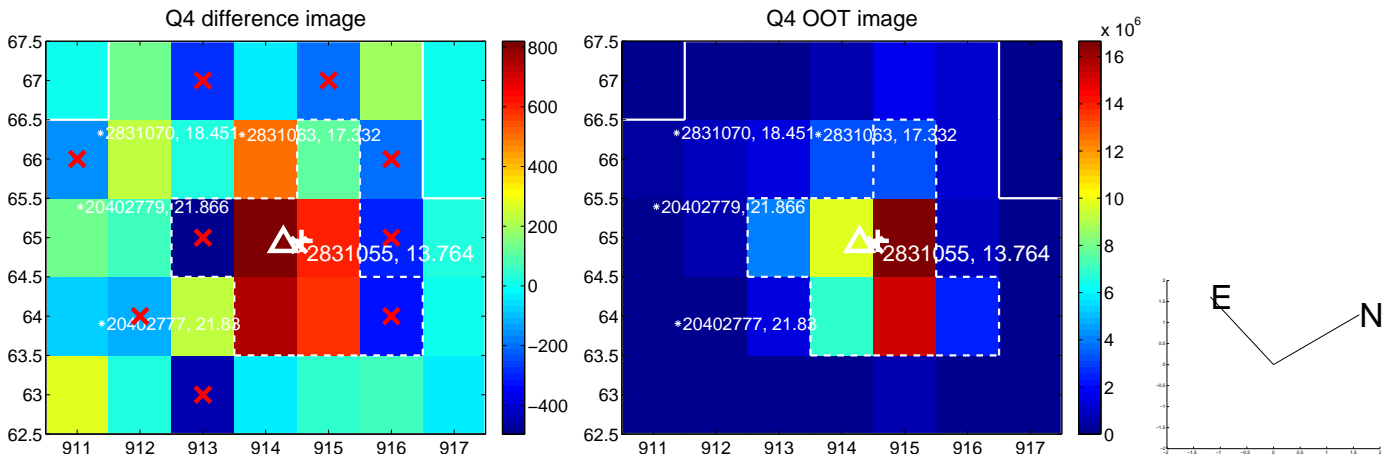
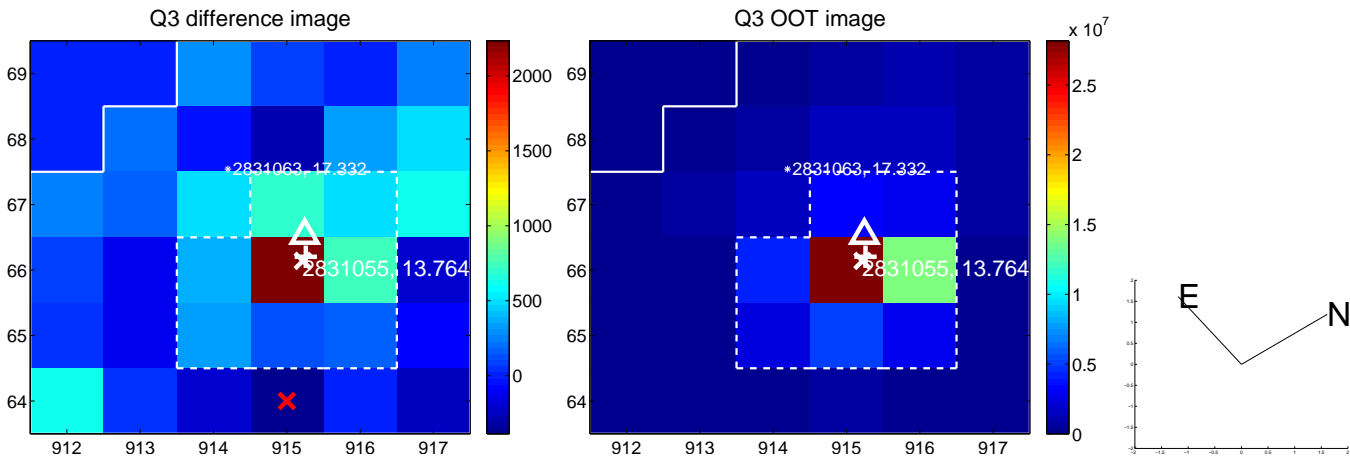
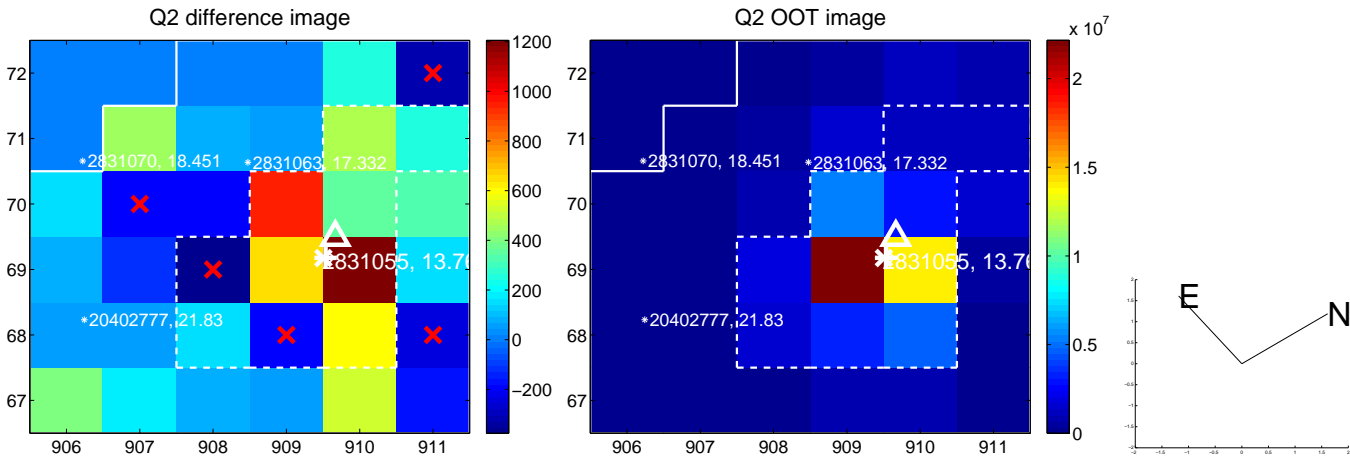
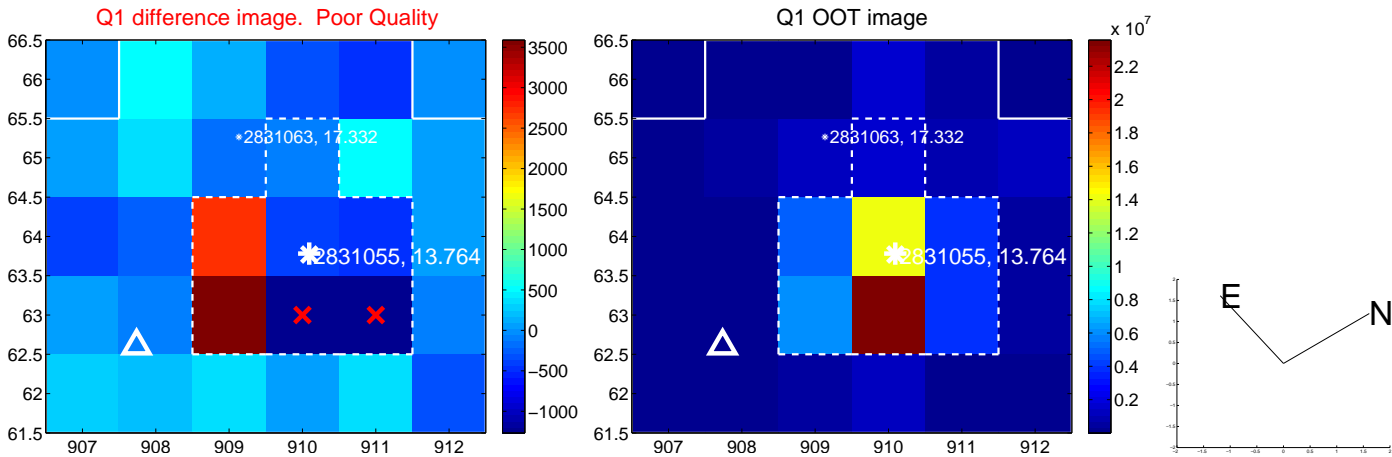
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.487 ± 0.499	0.97	0.421 ± 0.464	0.245 ± 0.591
PRF-fit source offset from KIC position	0.631 ± 0.526	1.20	0.465 ± 0.464	0.427 ± 0.591
photometric centroid source offset	0.93 ± 0.94	0.98	0.56 ± 0.91	0.74 ± 0.96

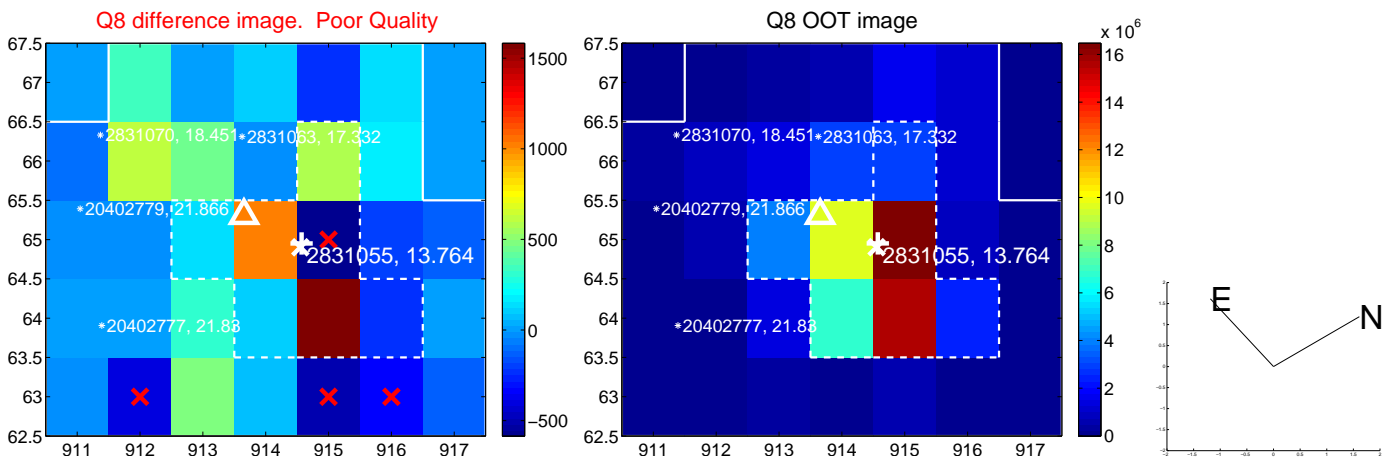
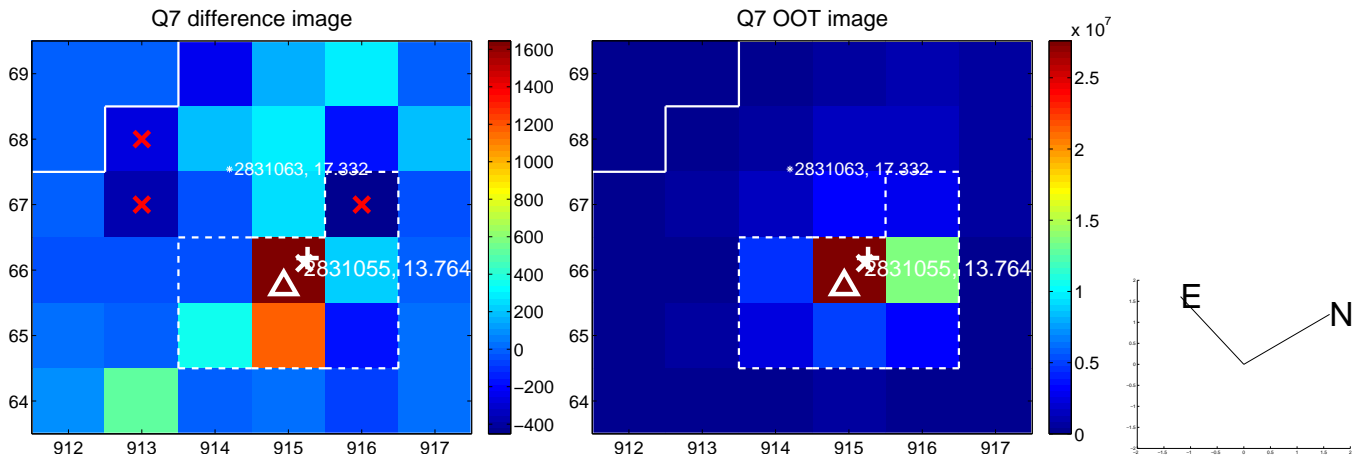
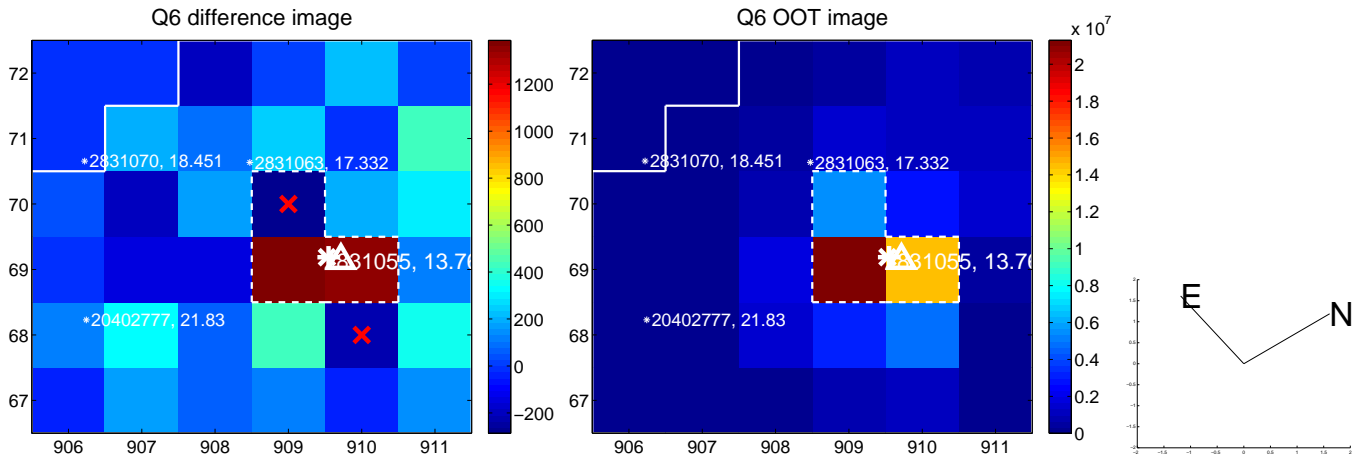
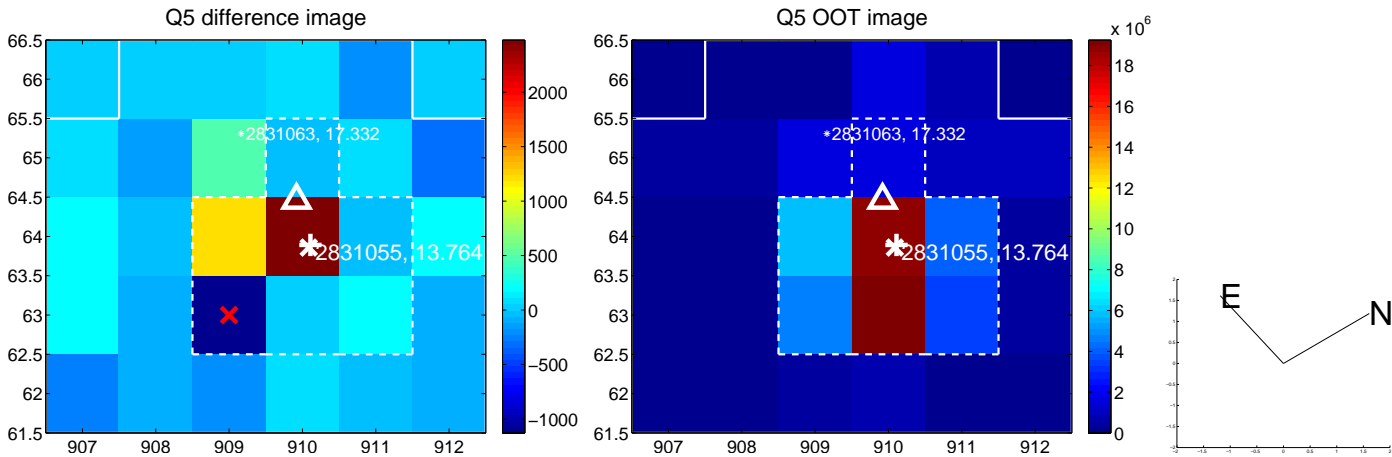


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

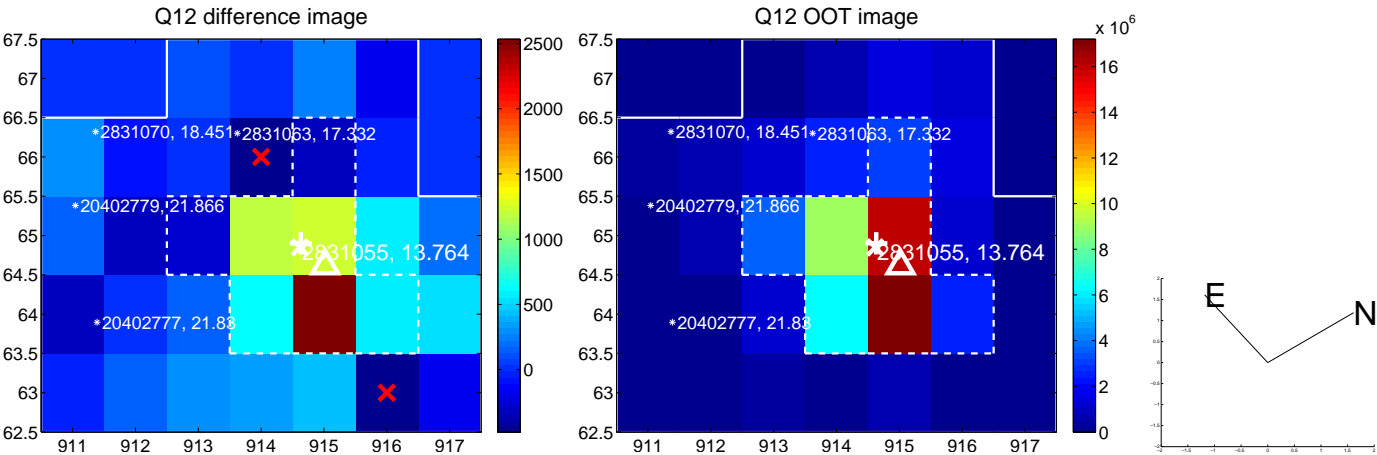
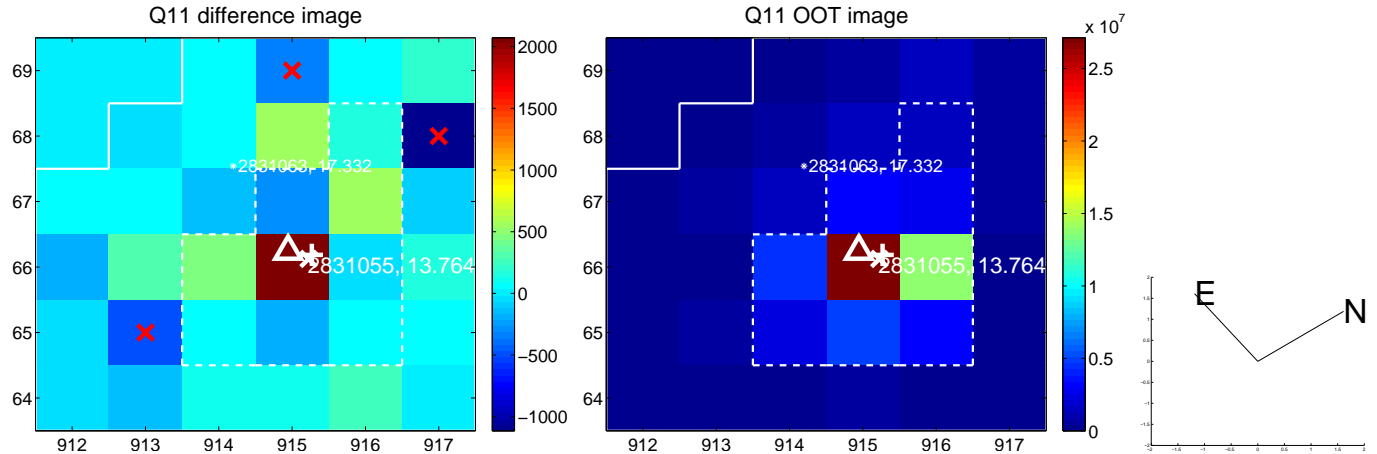
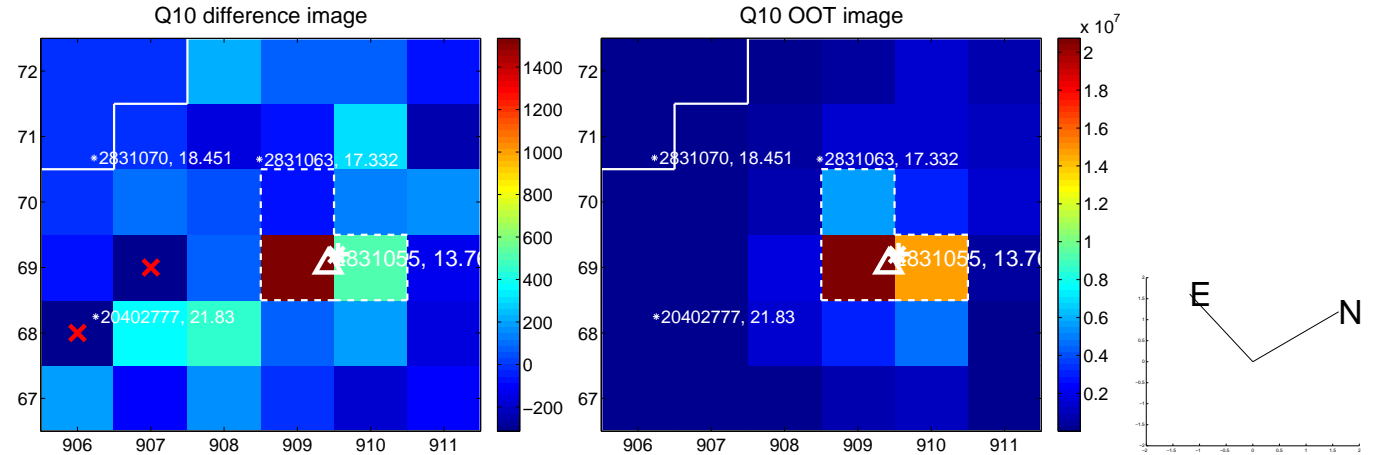
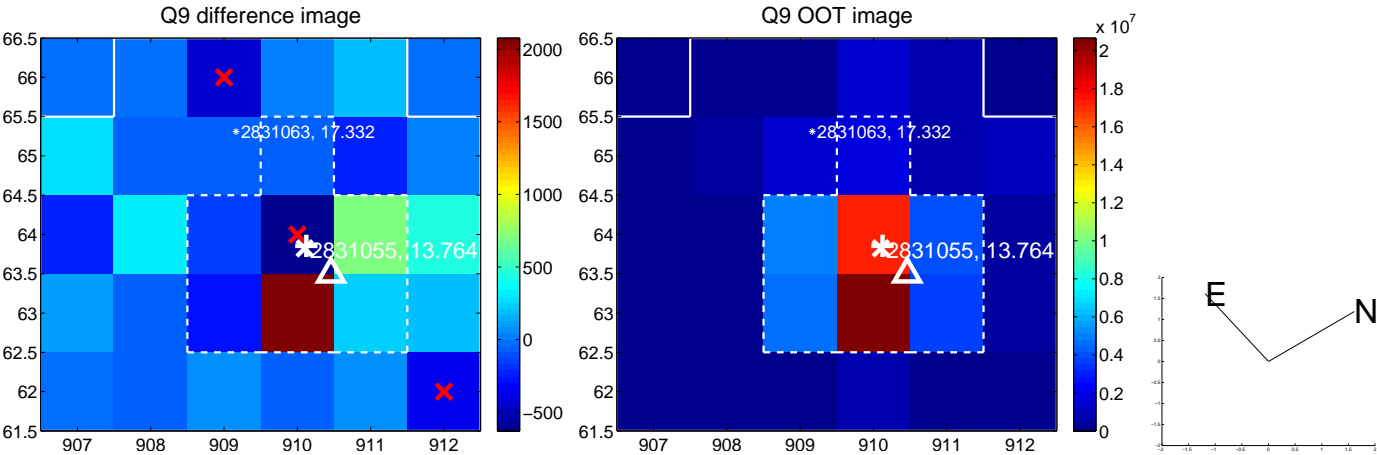
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



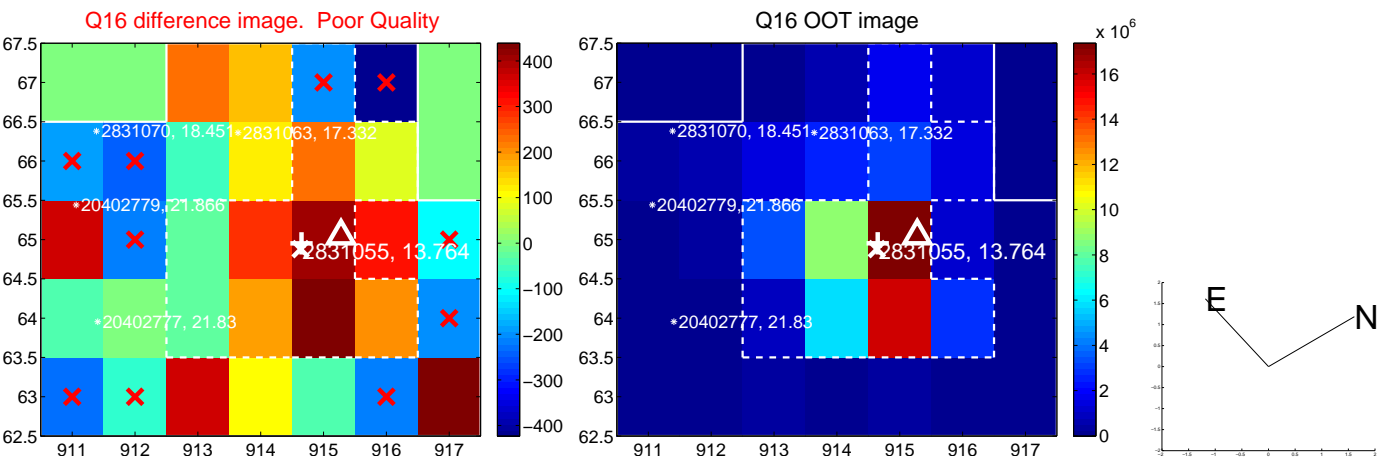
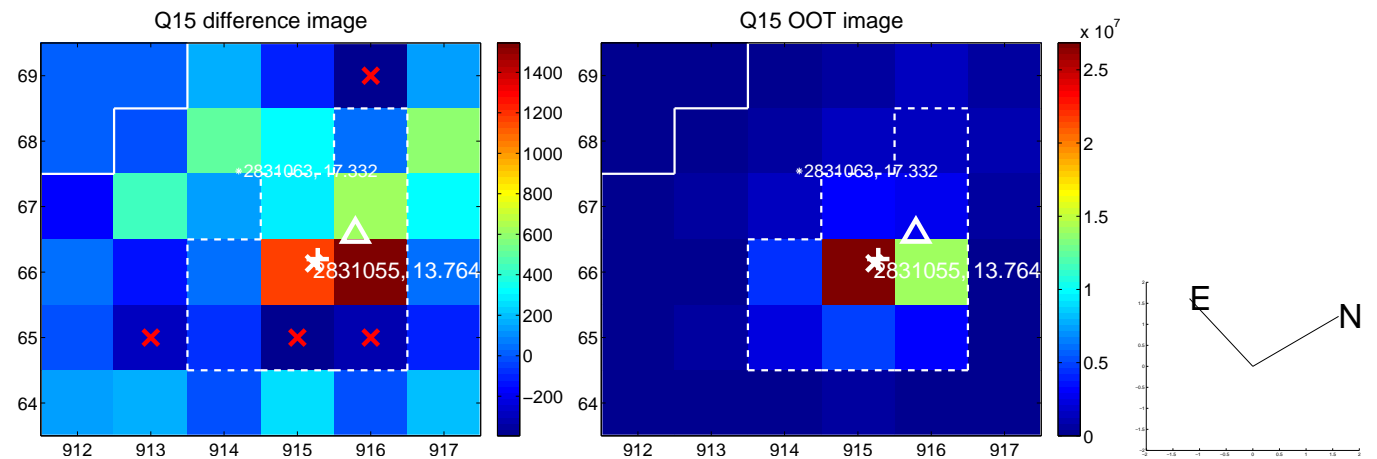
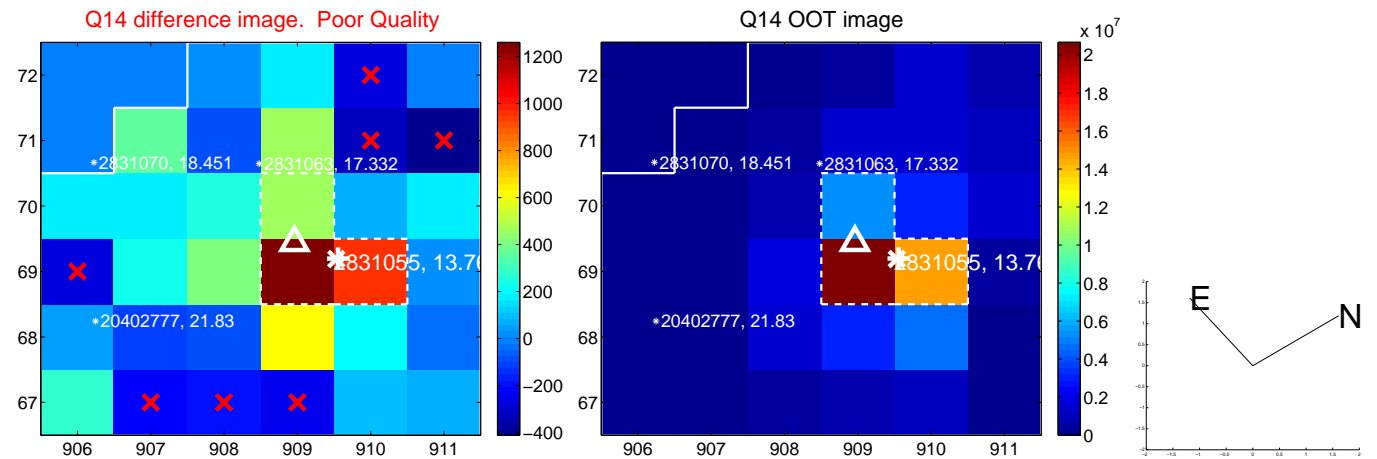
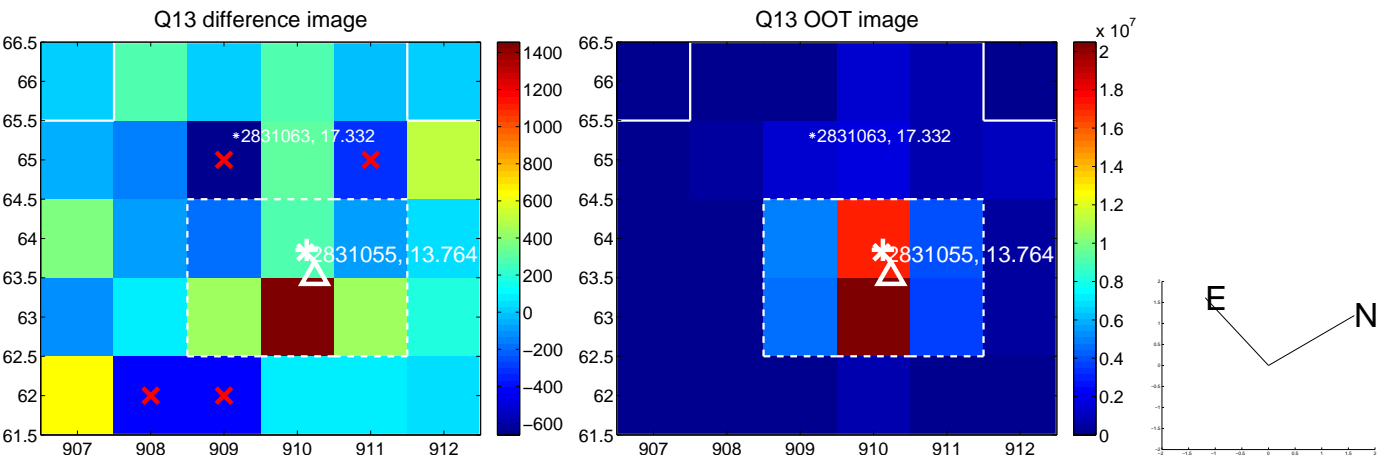
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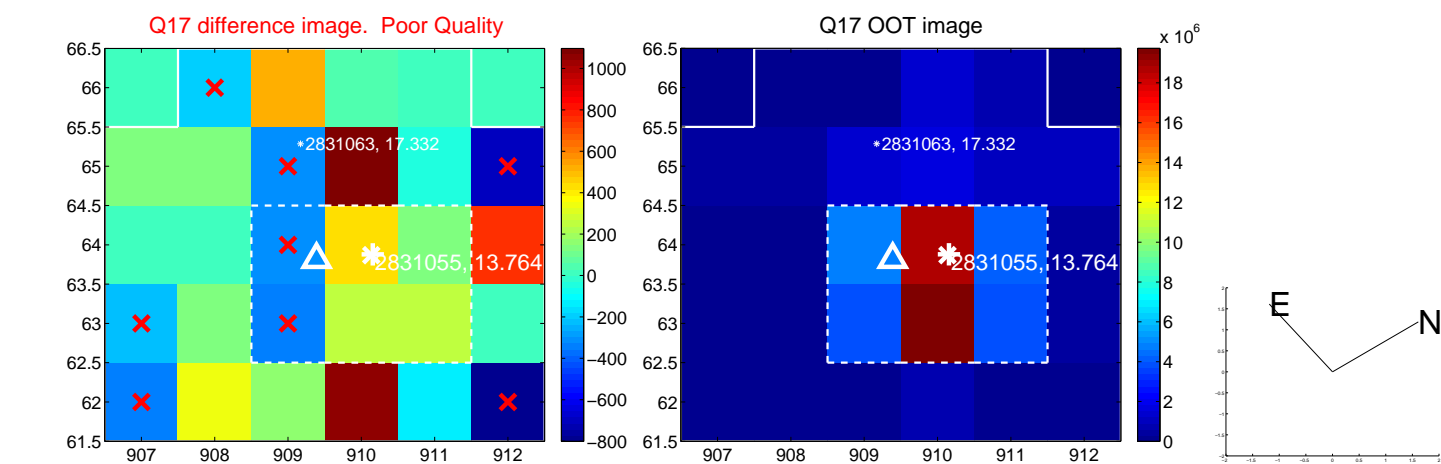
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



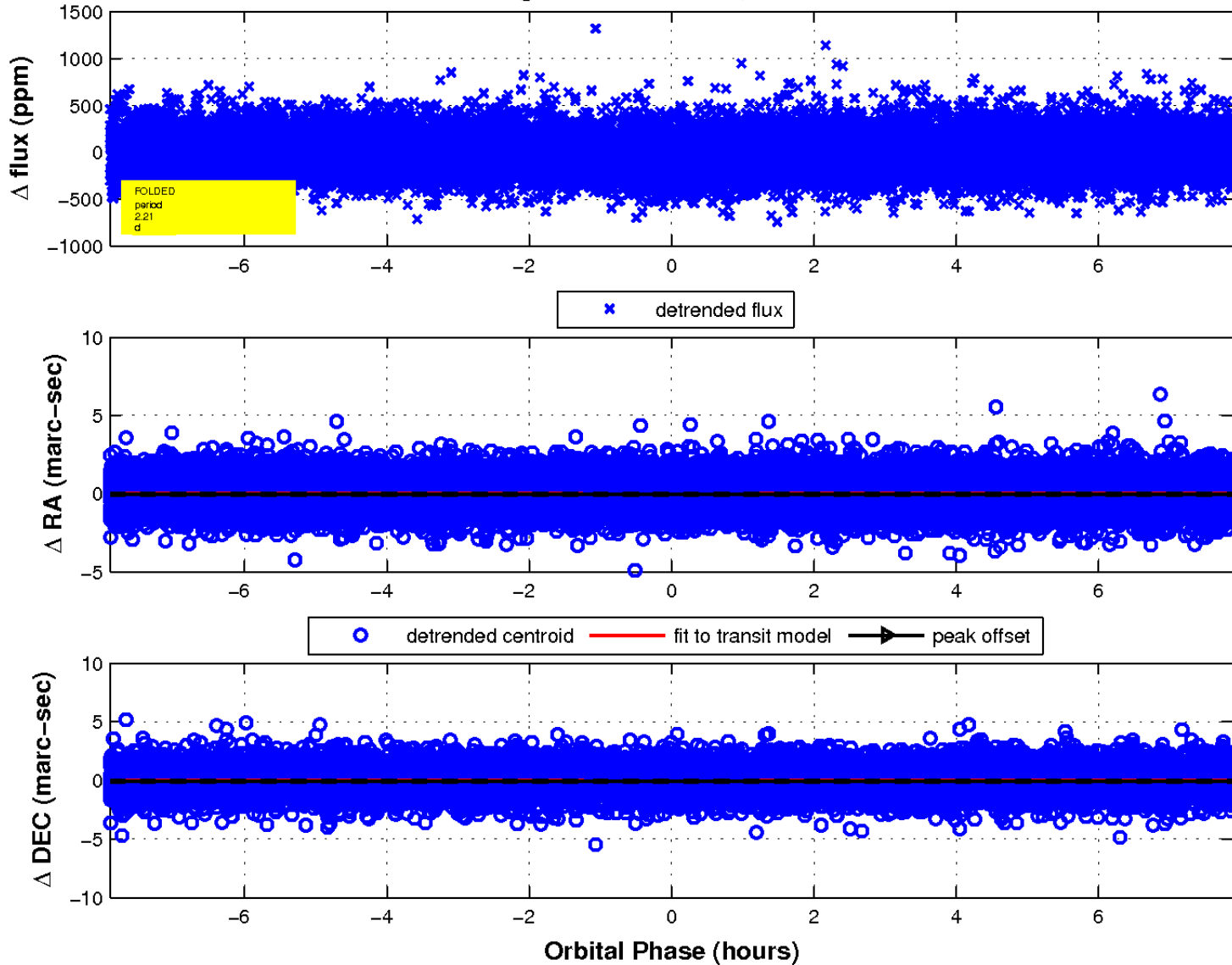
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

