

KIC 009308371

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})
009308371-01	OBS	No	5.308058	134.148164	130.4	5.821	7.7	8.3	3.12	7282	4.11	4659.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009308371-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

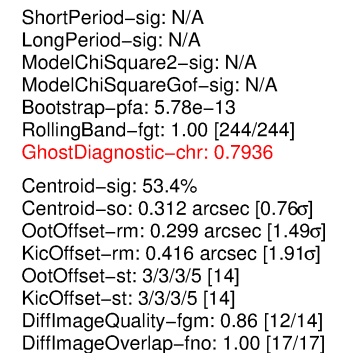
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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

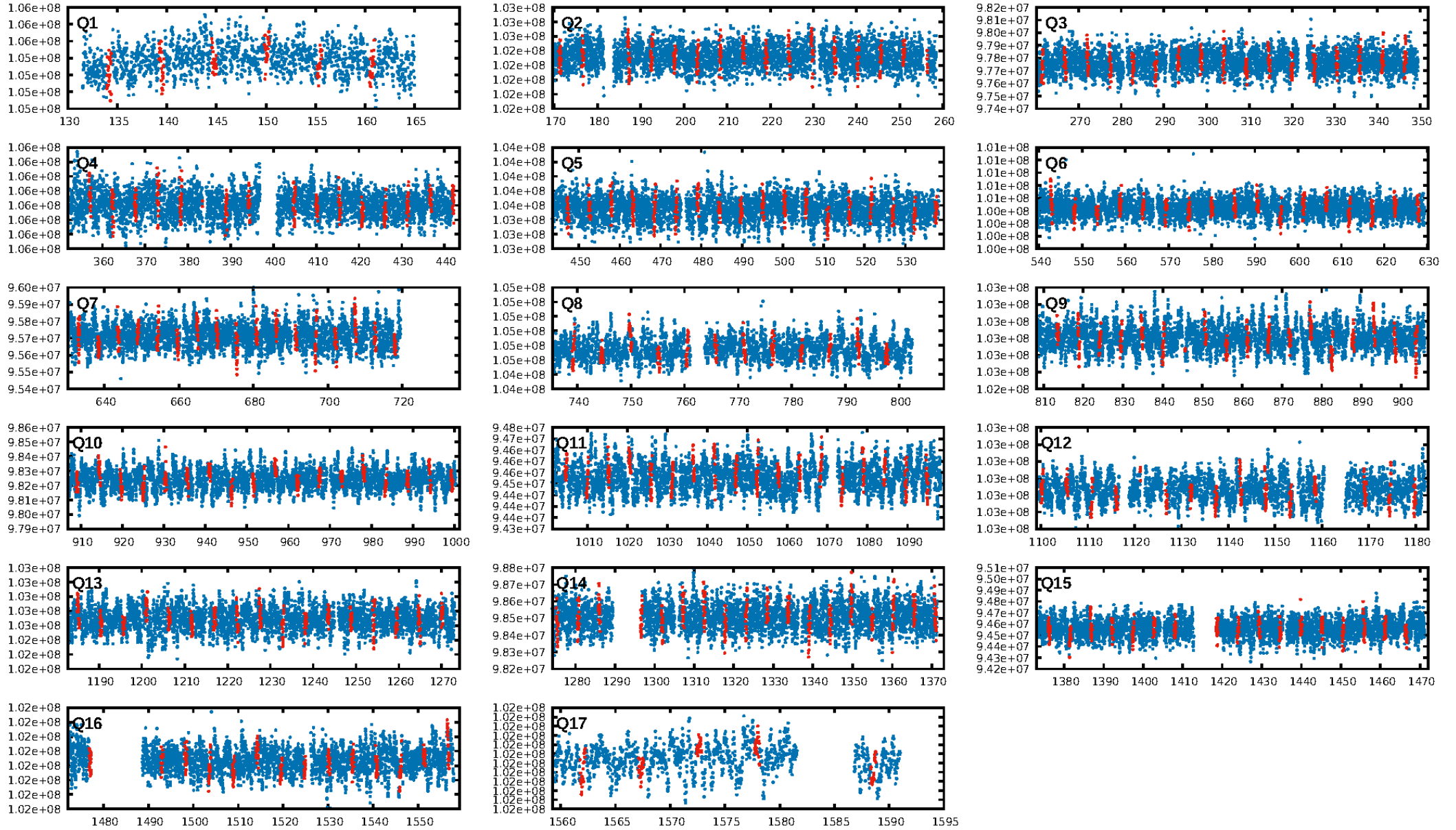
Ephemeris Match Information For 009308371-01

No Significant Match Found

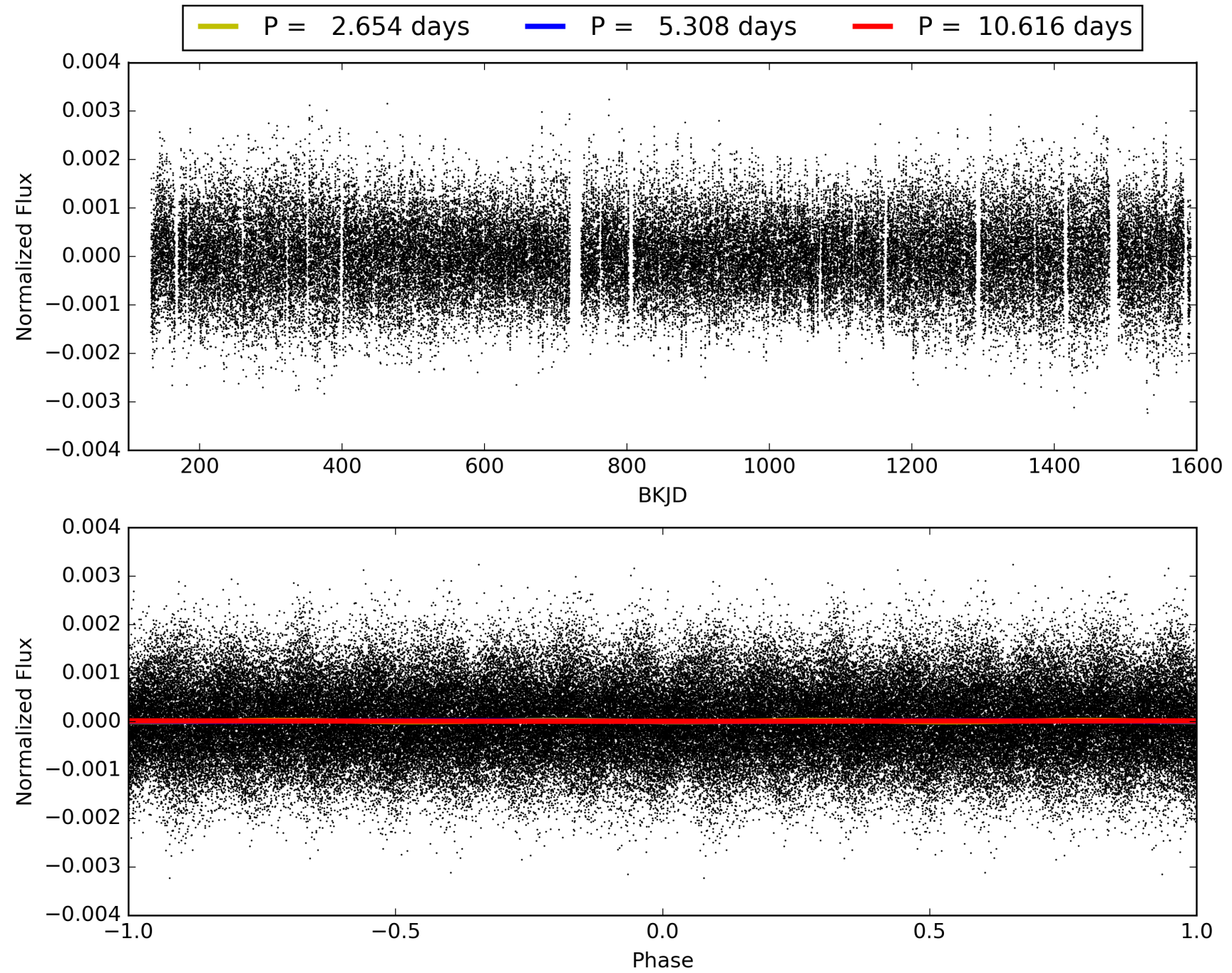
KIC: 9308371 Candidate: 1 of 1 Period: 5.308 d



TCE 009308371-01, PDC Light Curves

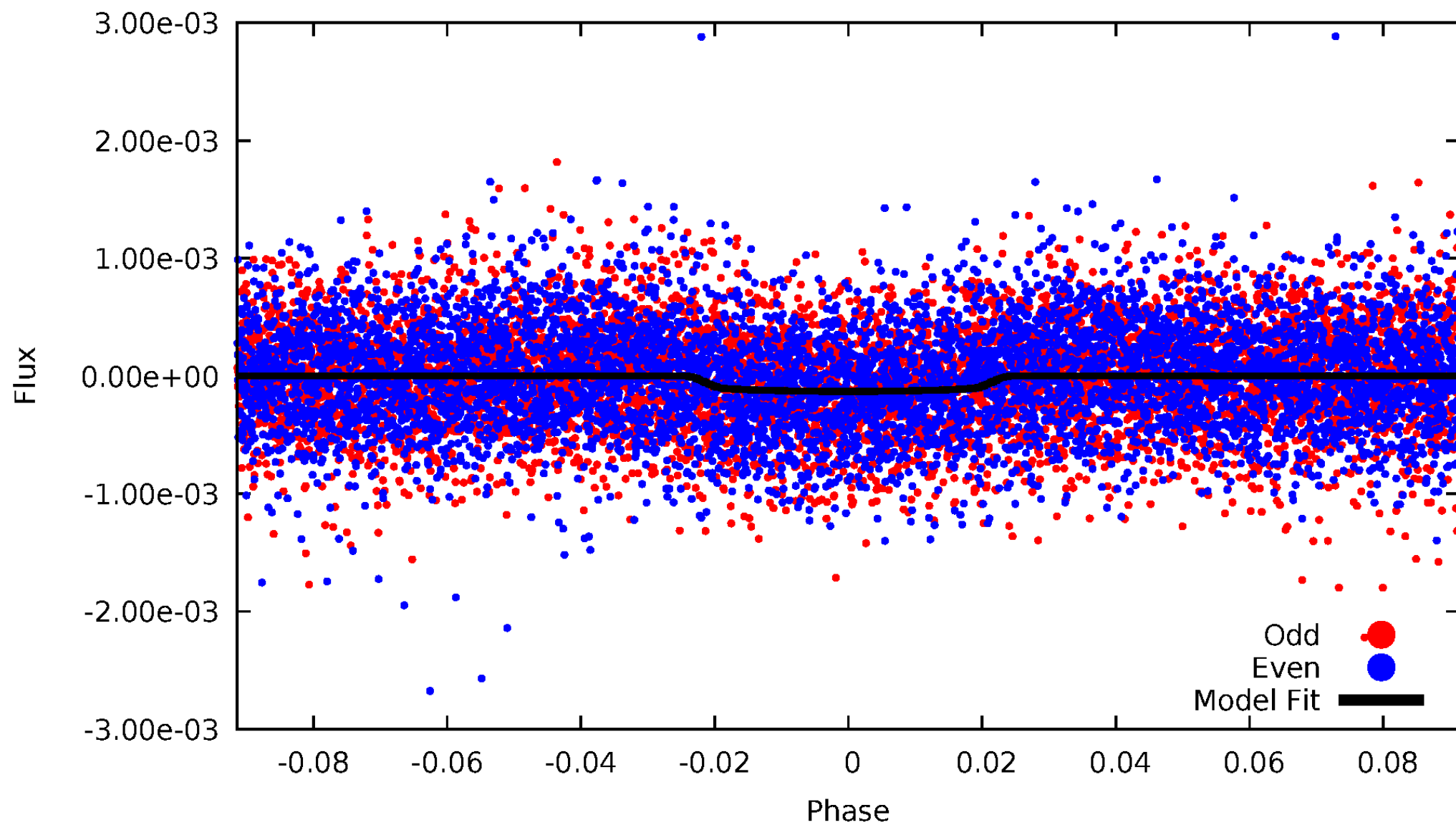


TCE 009308371-01



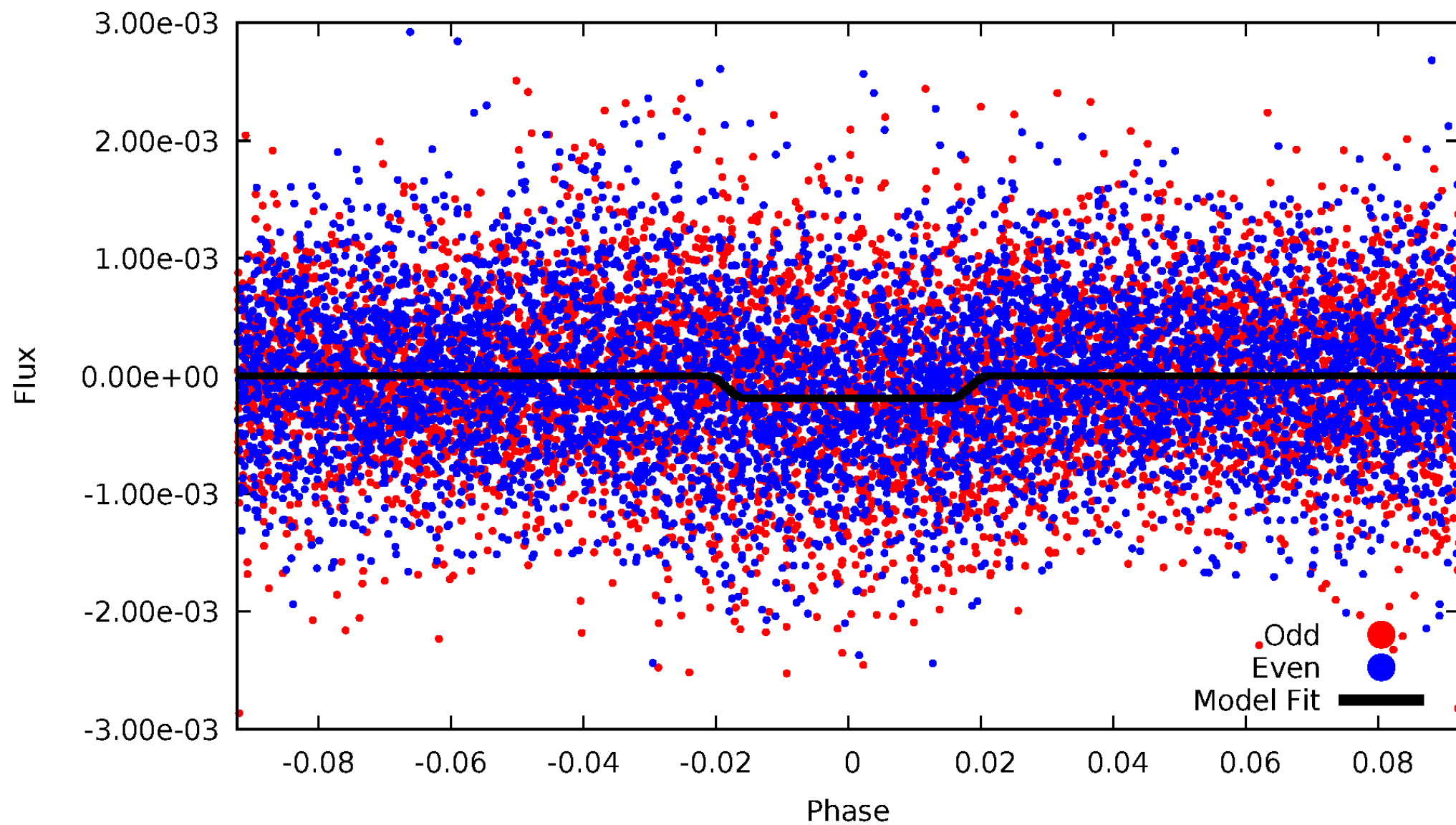
DV Odd/Even

TCE 009308371-01



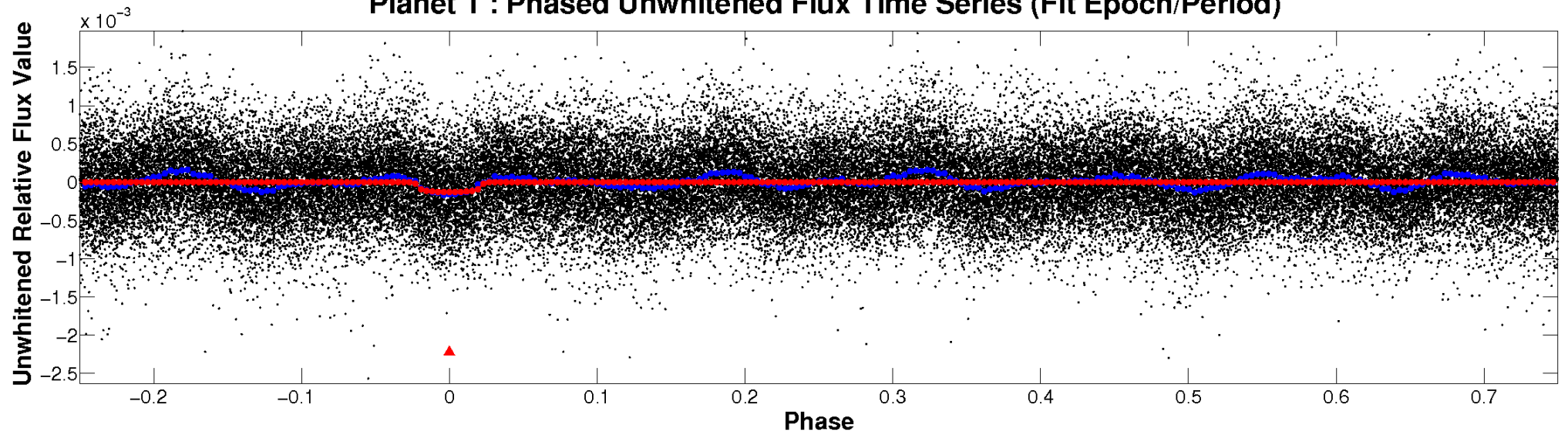
ALT Odd/Even

TCE 009308371-01

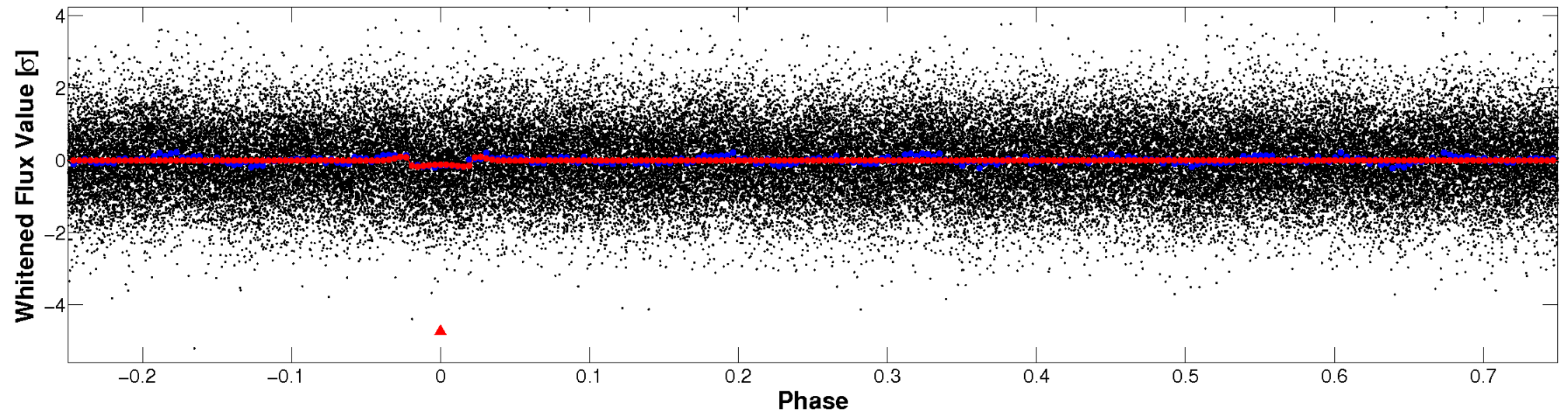


Non-Whitened Vs. Whitened Light Curve

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

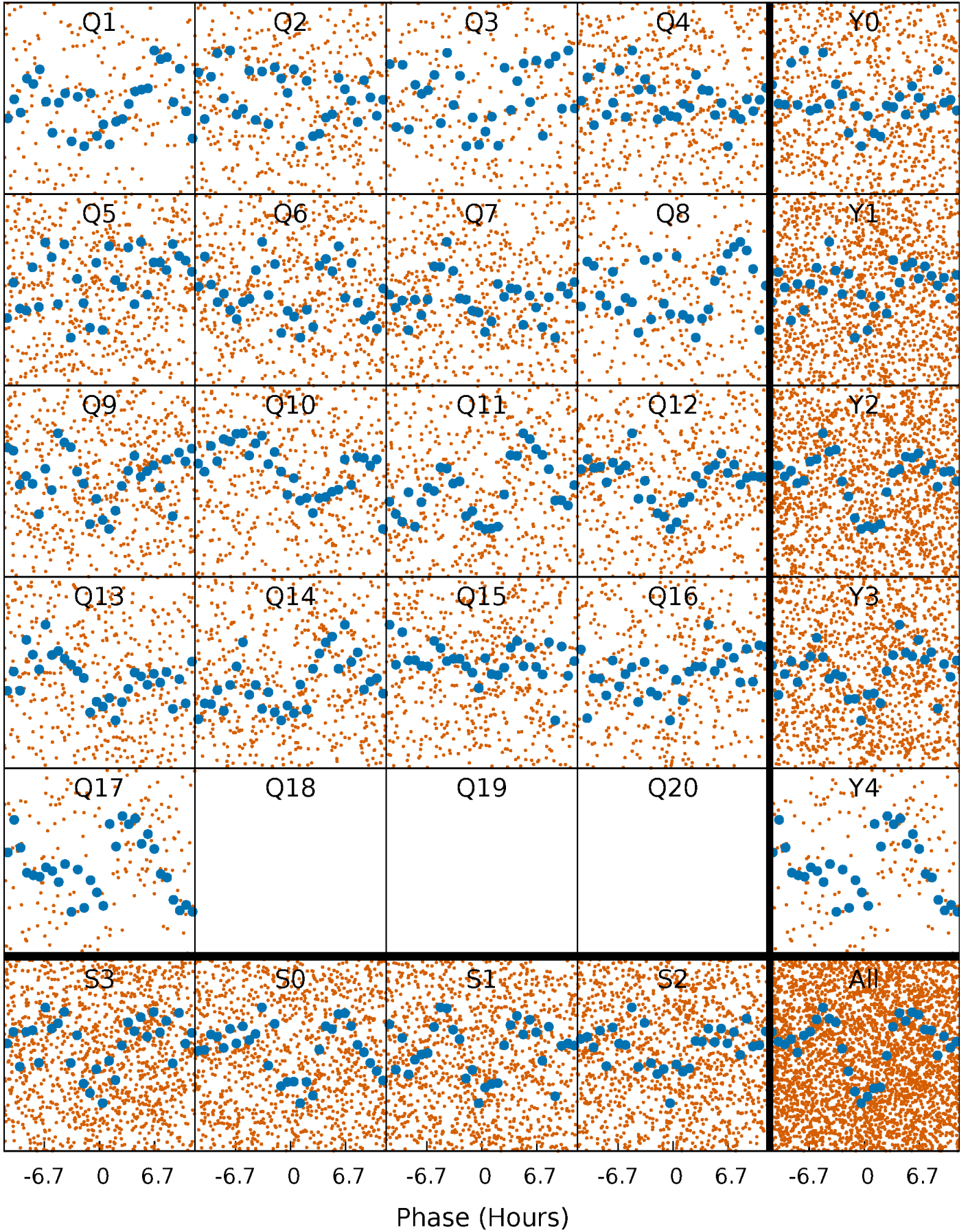


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



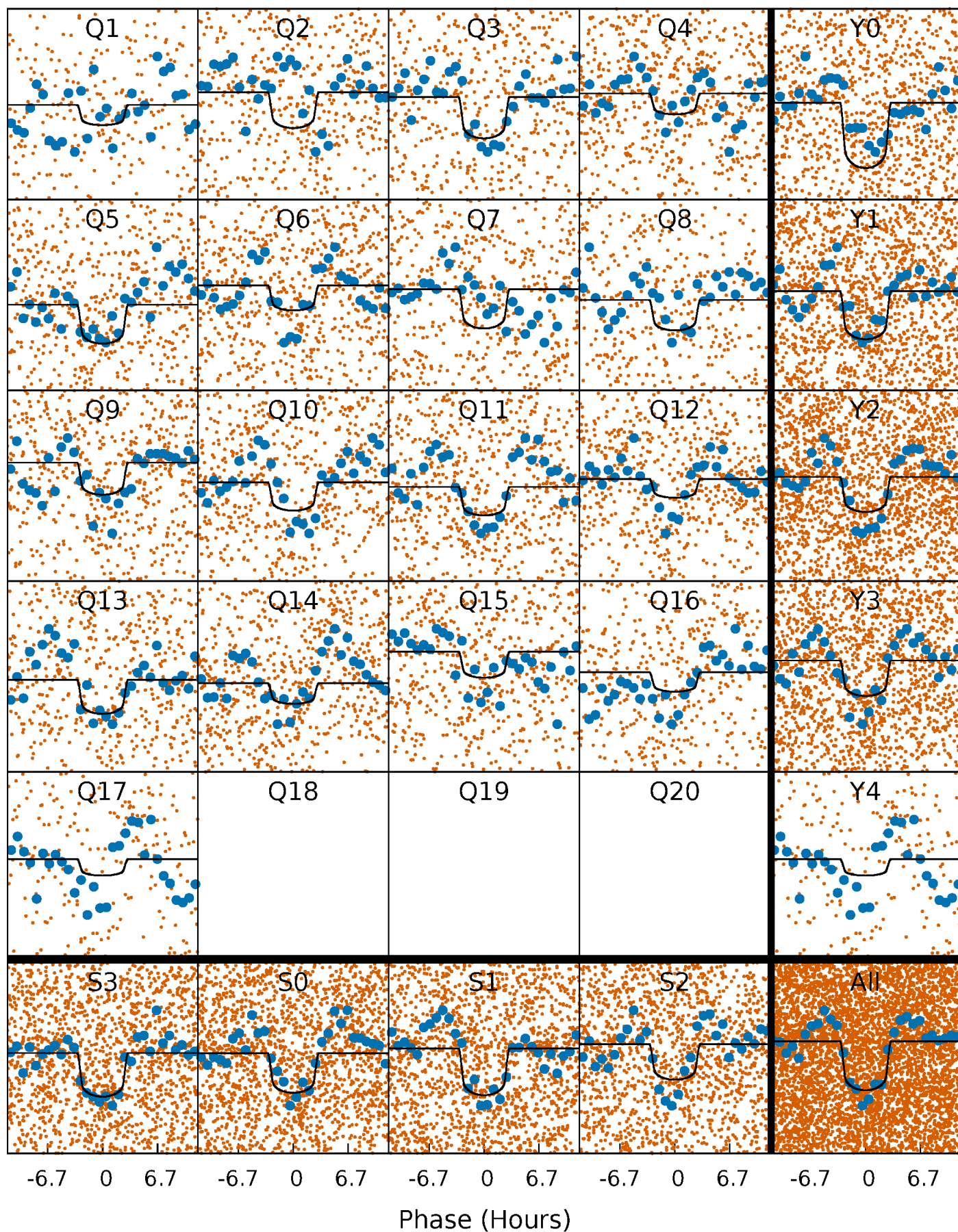
PDC Quarter-Phased Transit Curves

TCE 009308371-01 P= 5.308058 Days $T_0=134.148164$ (BKJD)



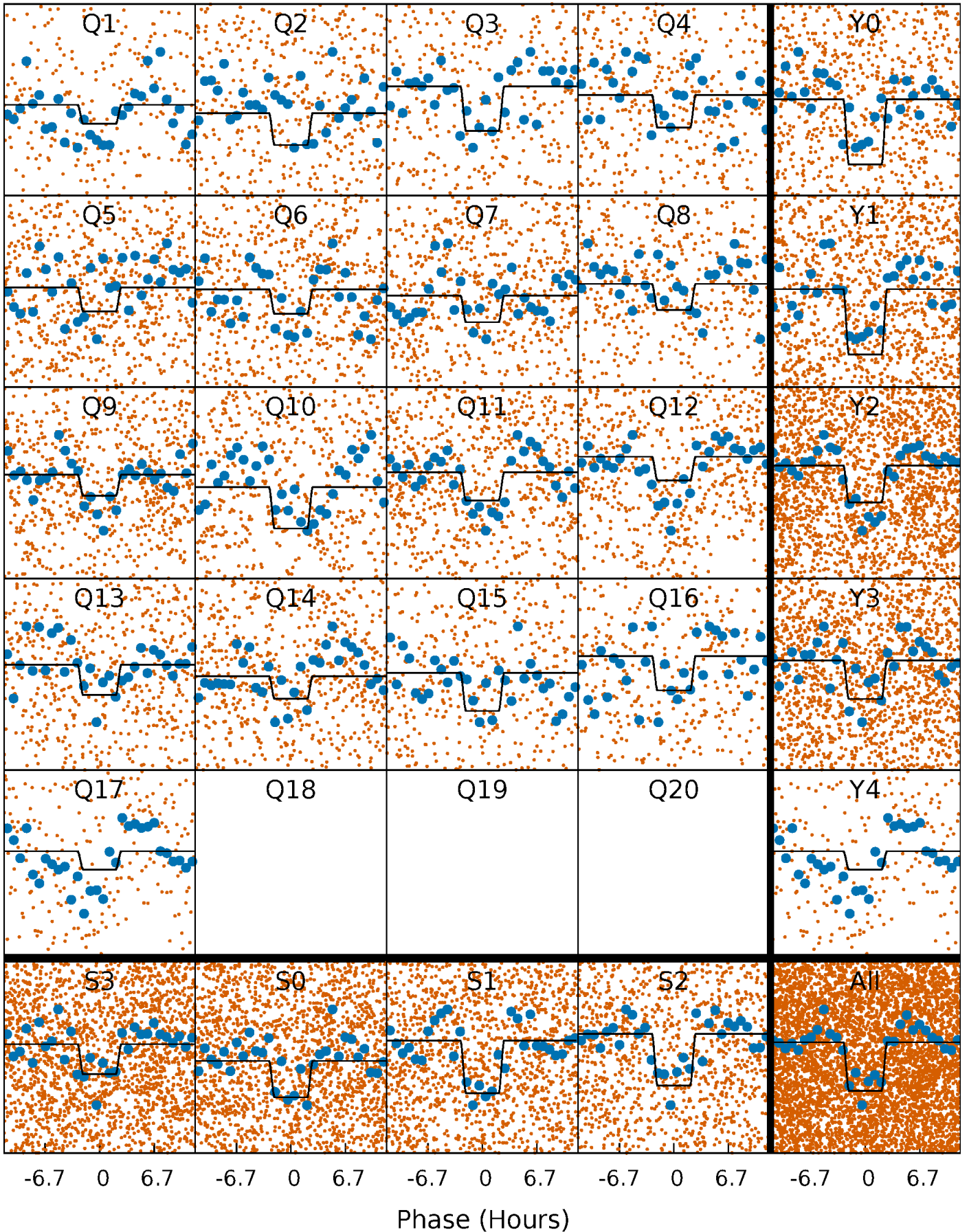
DV Quarter-Phased Transit Curves

TCE 009308371-01 P= 5.308058 Days $T_0=134.148164$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

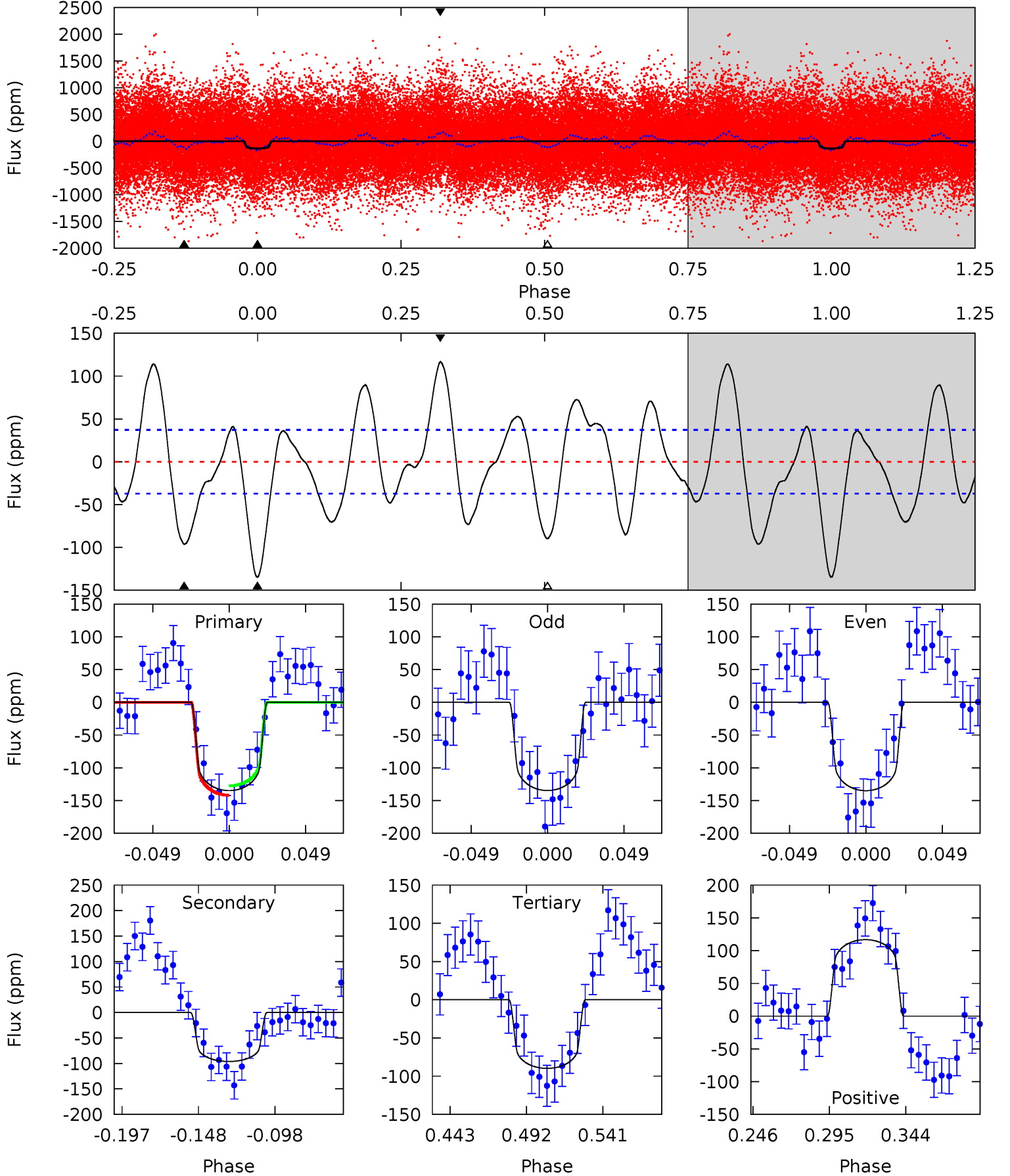
TCE 009308371-01 P= 5.307825 Days $T_0=134.191372$ (BKJD)



DV Model-Shift Uniqueness Test

009308371-01, P = 5.308058 Days, E = 128.840106 Days

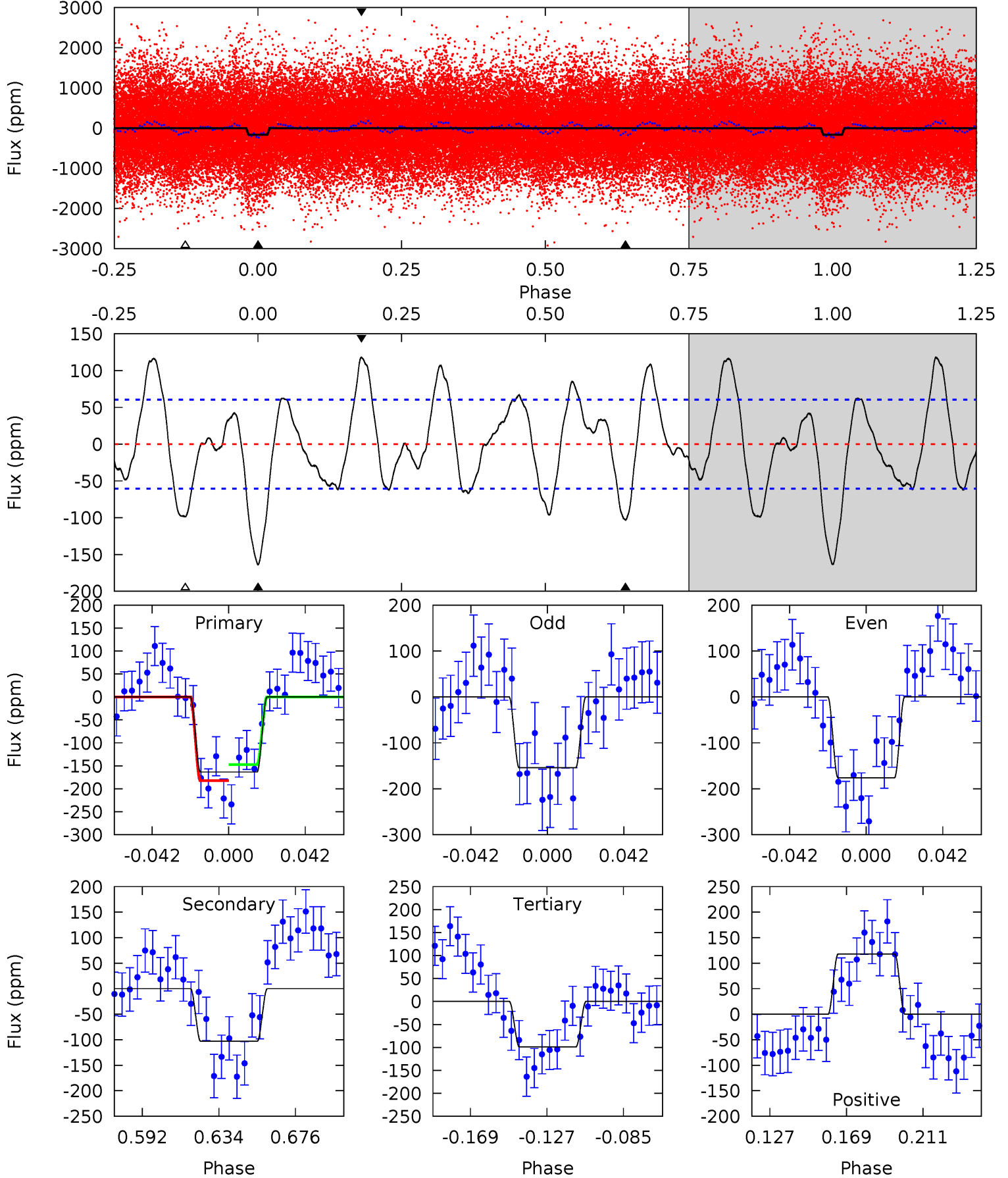
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.1	12.2	11.4	14.8	4.71	1.97	6.35	5.71	2.29	0.82	-2.60	0.02	1.32	0.46	0.92



Alt Model-Shift Uniqueness Test

009308371-01, P = 5.307825 Days, E = 128.883547 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	8.07	7.74	9.23	4.74	2.03	4.14	5.07	3.59	0.33	-1.16	0.85	0.81	0.42	1.36



Stellar Parameters For KIC 009308371

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7282^{+259}_{-388}	$3.707^{+0.504}_{-0.084}$	$-0.300^{+0.250}_{-0.300}$	$3.123^{+0.391}_{-1.564}$	$1.810^{+0.179}_{-0.536}$	$0.084^{+0.417}_{-0.022}$
	+4%/-5%	+14%/-2%	+83%/-100%	+13%/-50%	+10%/-30%	+498%/-27%
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 009308371-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-96 ± 8	$3.71^{+1.15}_{-1.12}$	2833^{+224}_{-391}	6470^{+823}_{-674}	20^{+19}_{-8}
Alt.	-103 ± 13	$4.28^{+1.16}_{-1.18}$	2836^{+226}_{-356}	6137^{+717}_{-580}	16^{+13}_{-6}

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 $A_{obs} \gg 1.0$

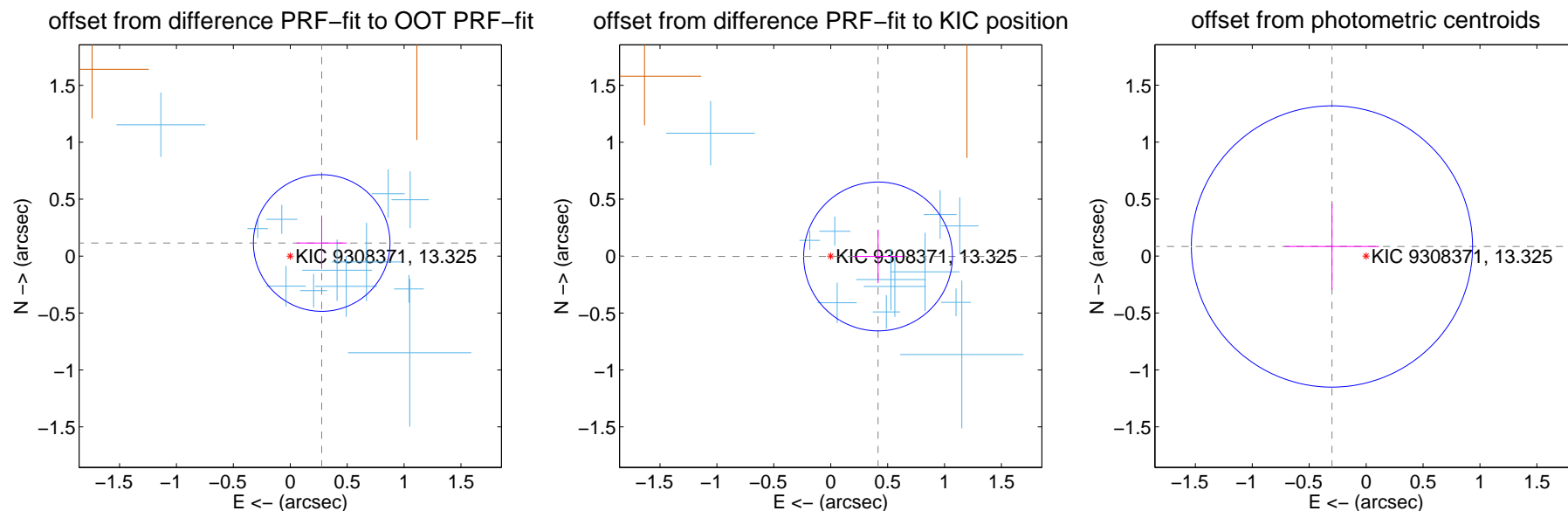
DV Centroid Data

Supplemental centroid analysis for 009308371-01. Kepler magnitude: 13.32. Transit SNR 8.27

There are 12 quarters with good PRF difference image offsets

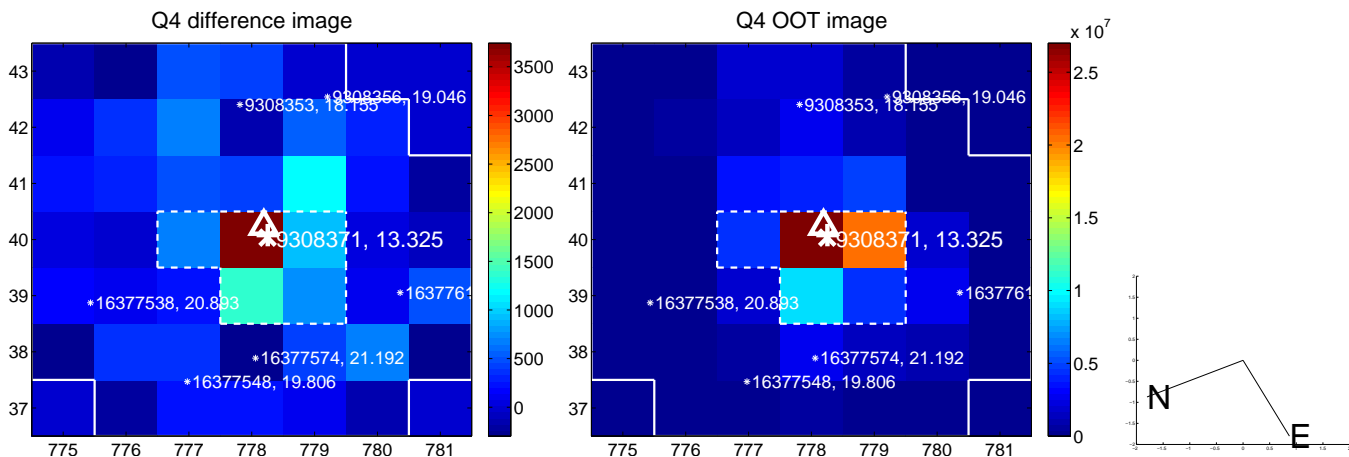
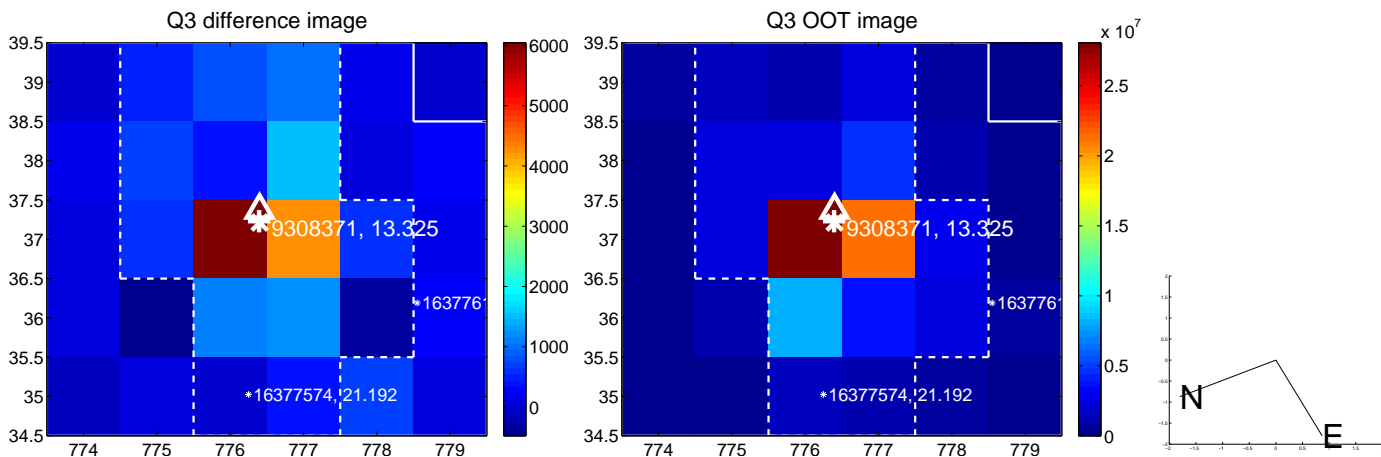
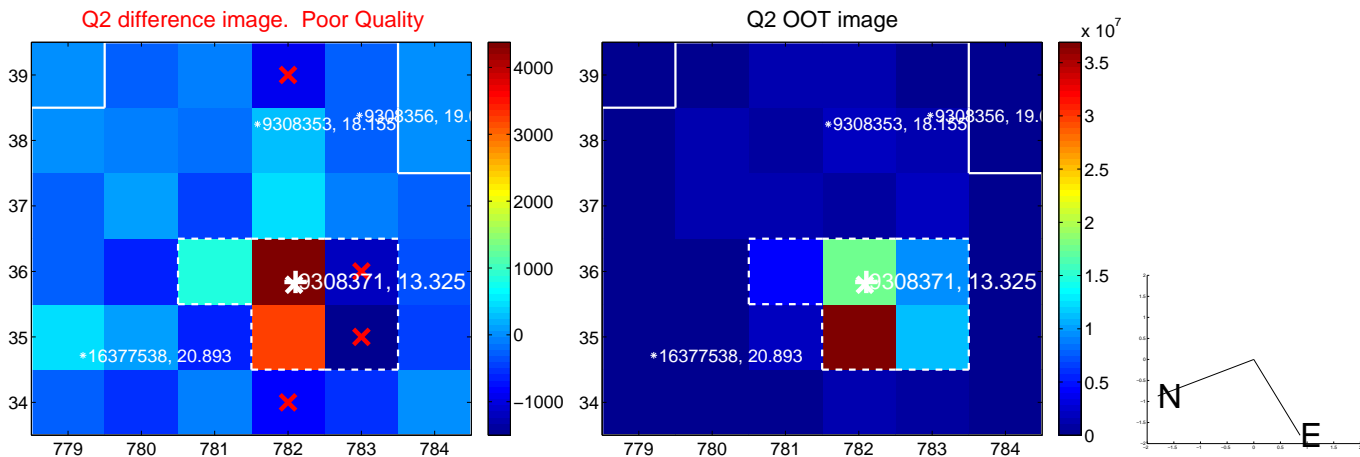
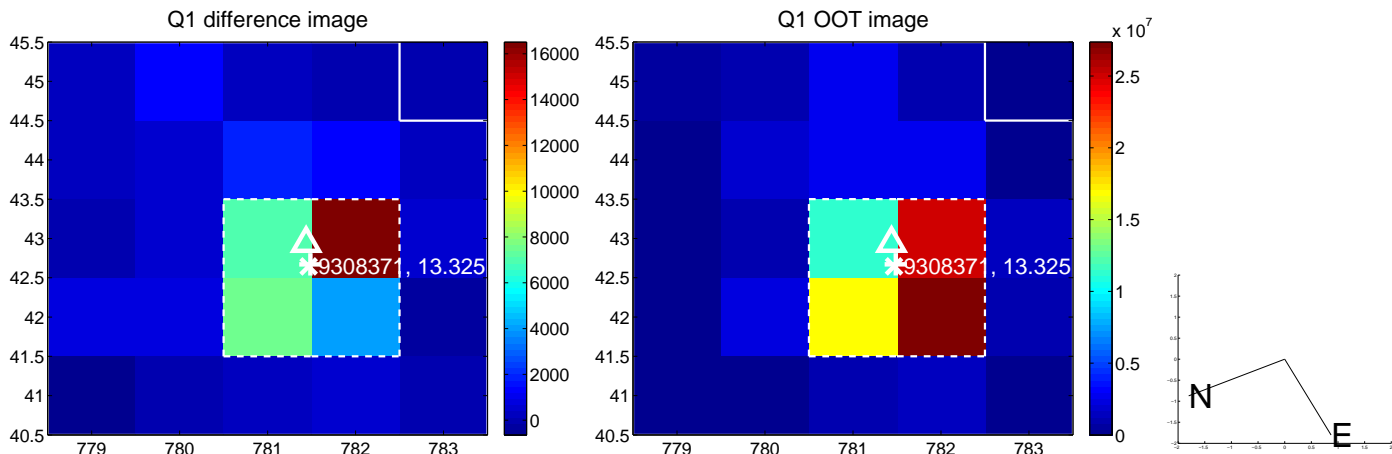
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.299 ± 0.200	1.49	-0.276 ± 0.221	0.115 ± 0.227
PRF-fit source offset from KIC position	0.416 ± 0.218	1.91	-0.416 ± 0.217	-0.003 ± 0.235
photometric centroid source offset	0.31 ± 0.41	0.76	0.30 ± 0.41	0.08 ± 0.38

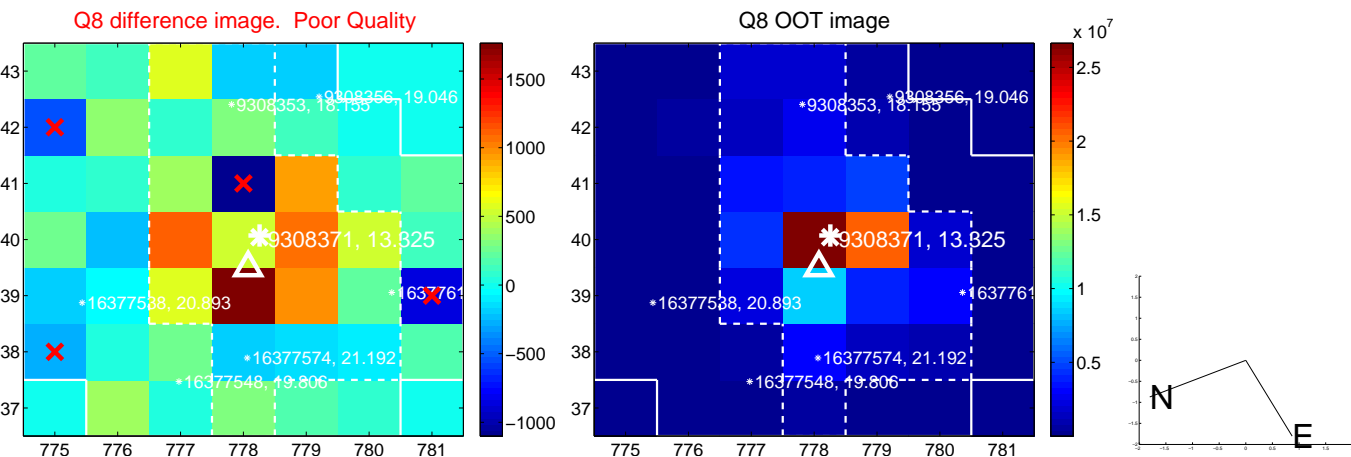
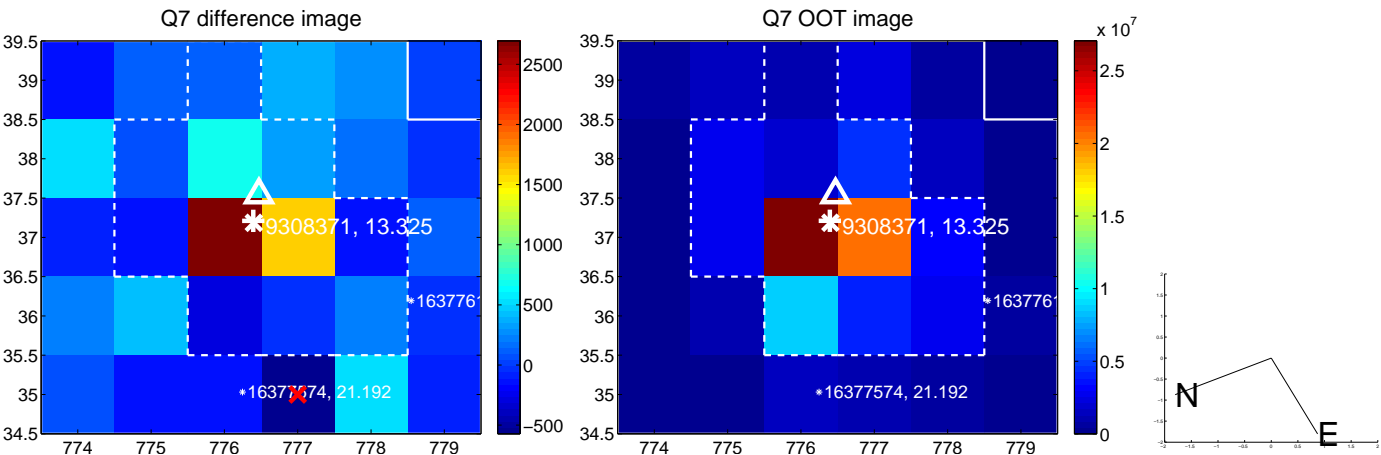
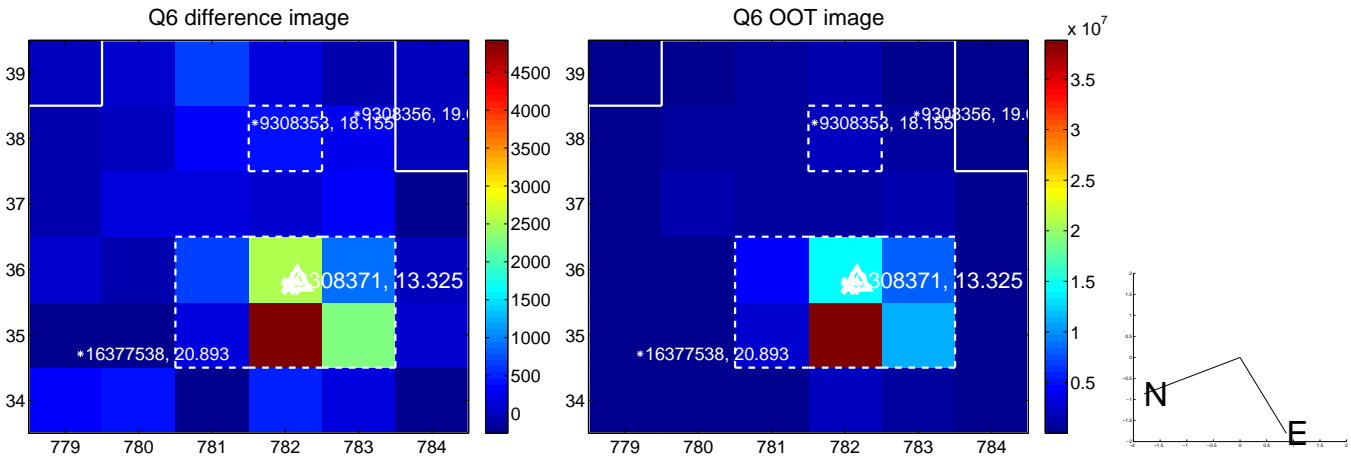
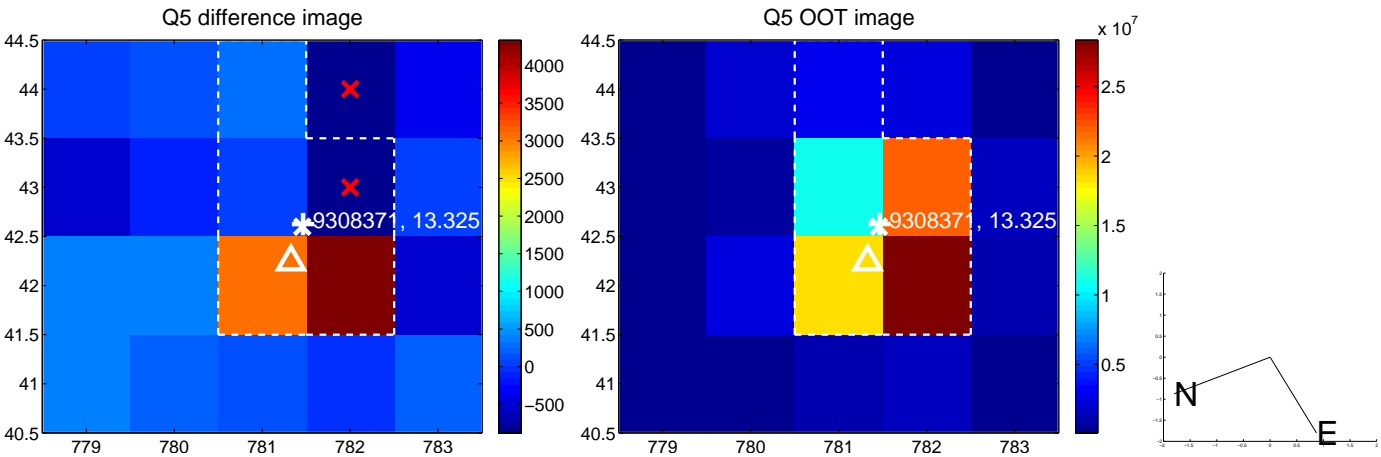


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

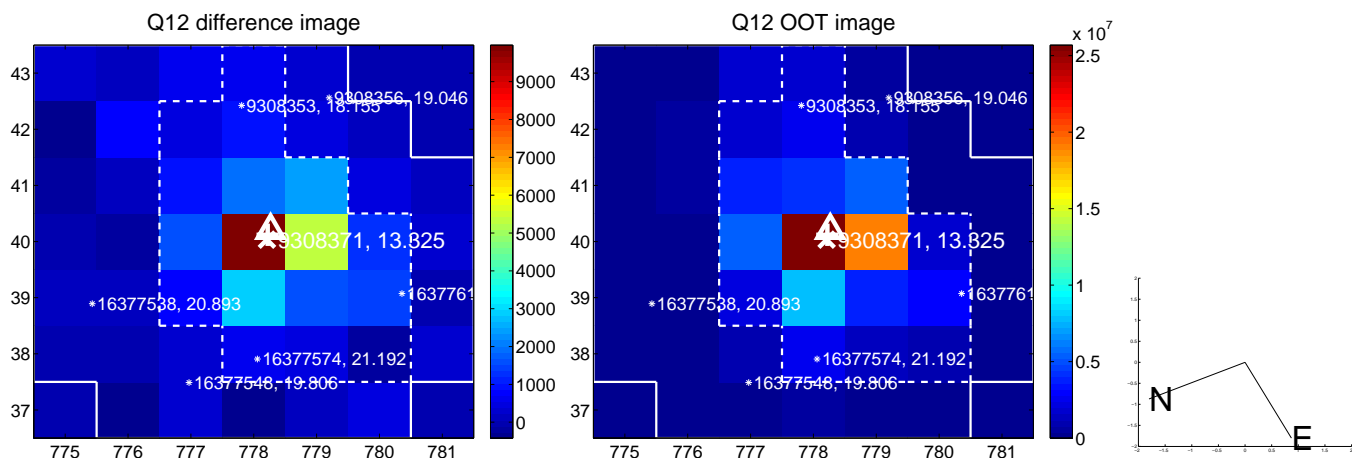
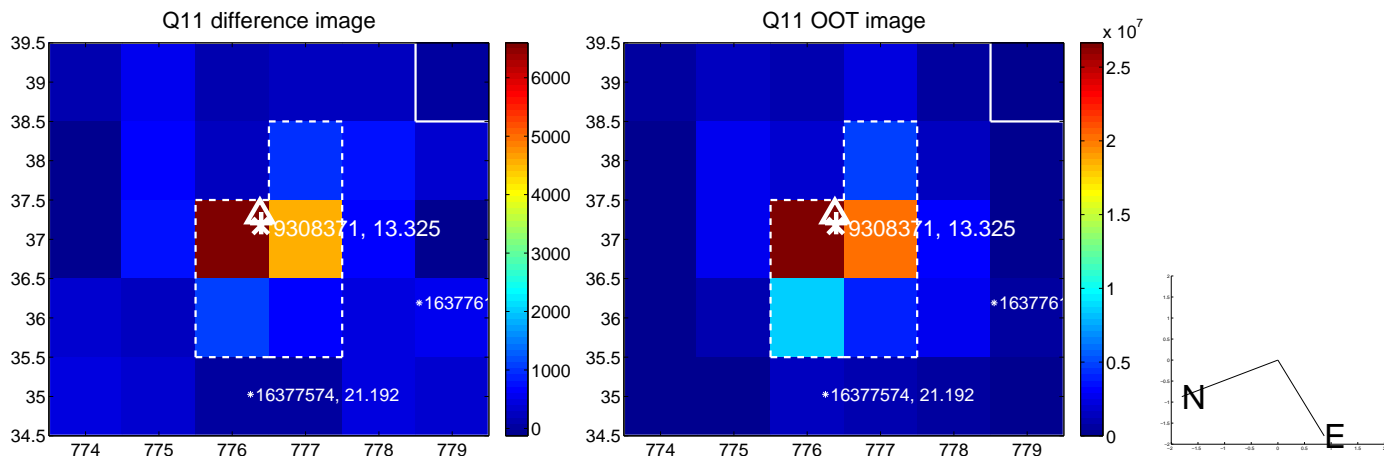
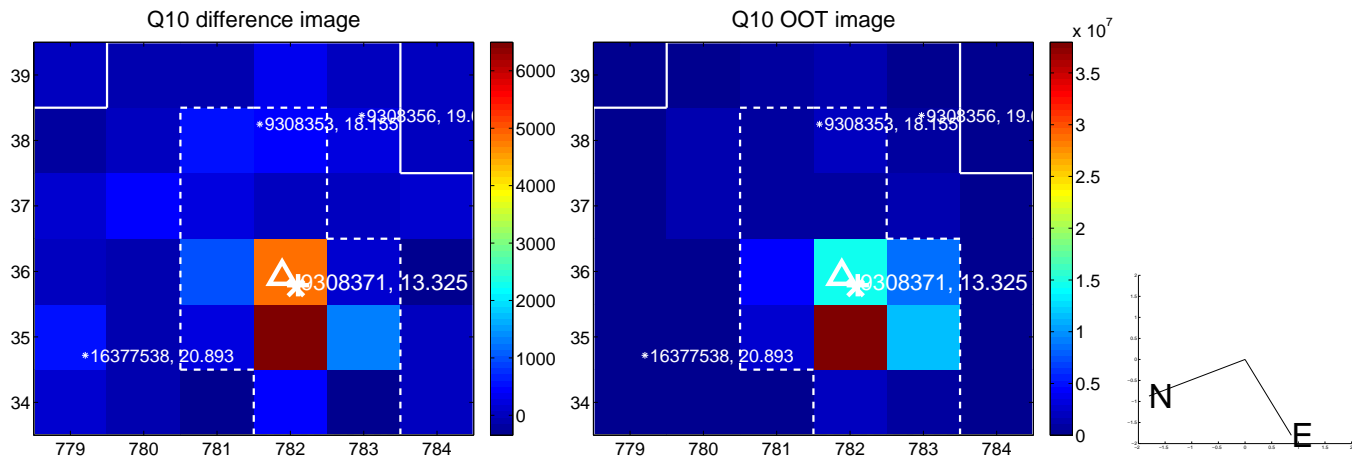
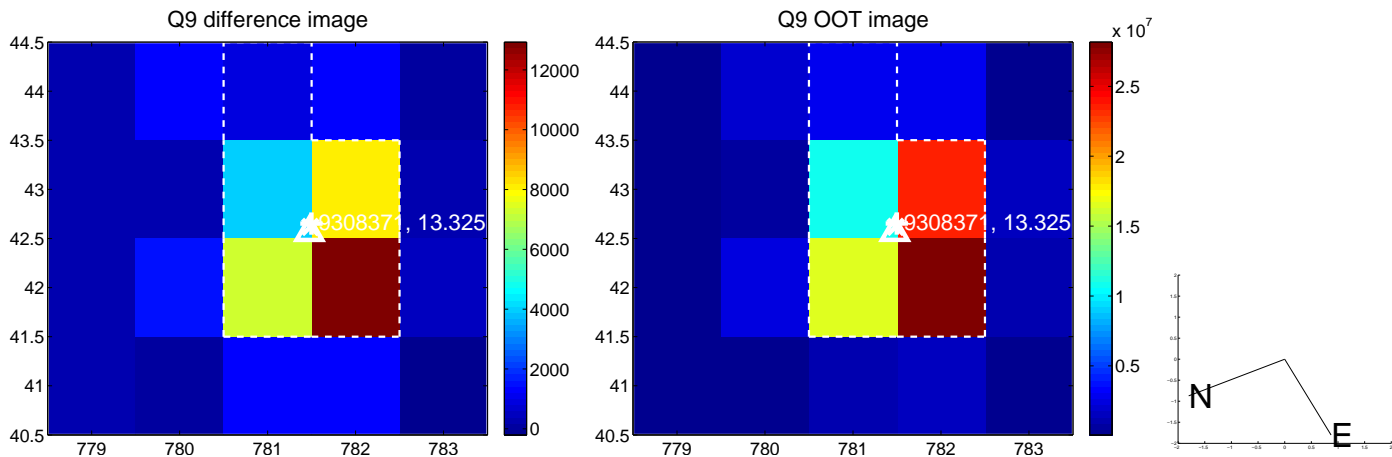
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



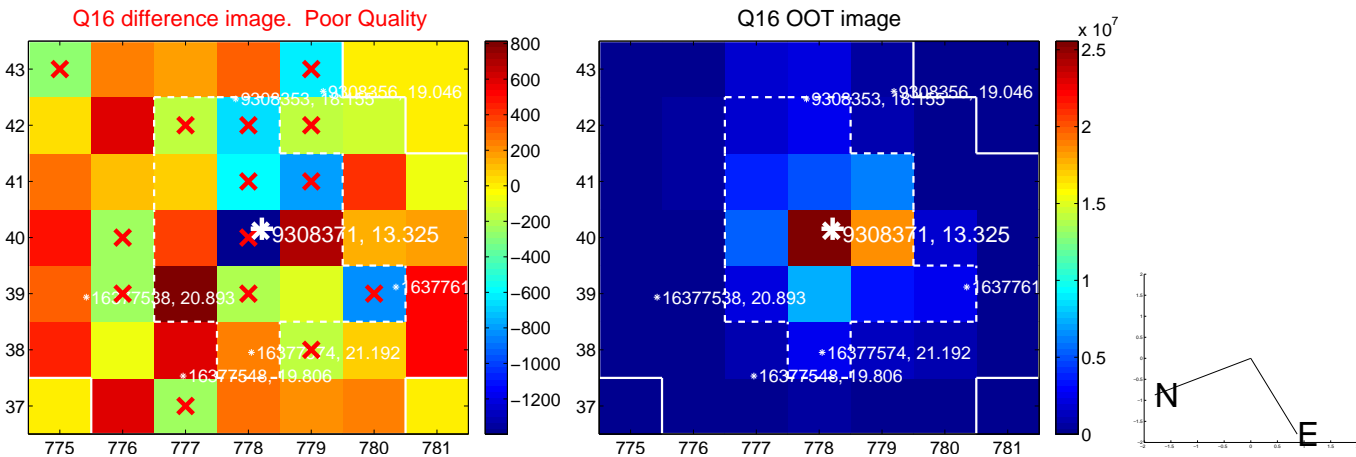
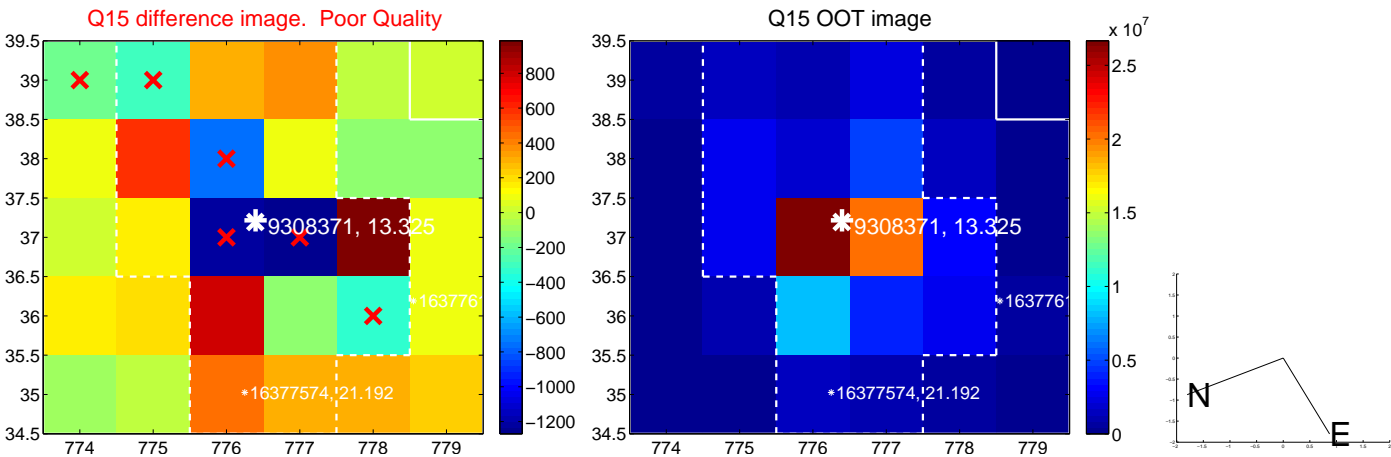
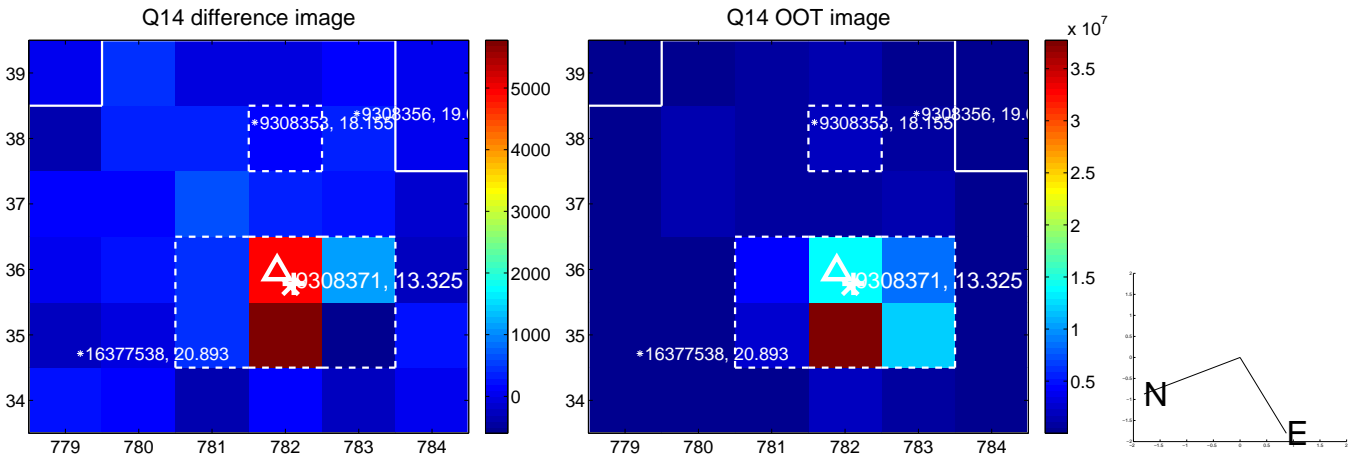
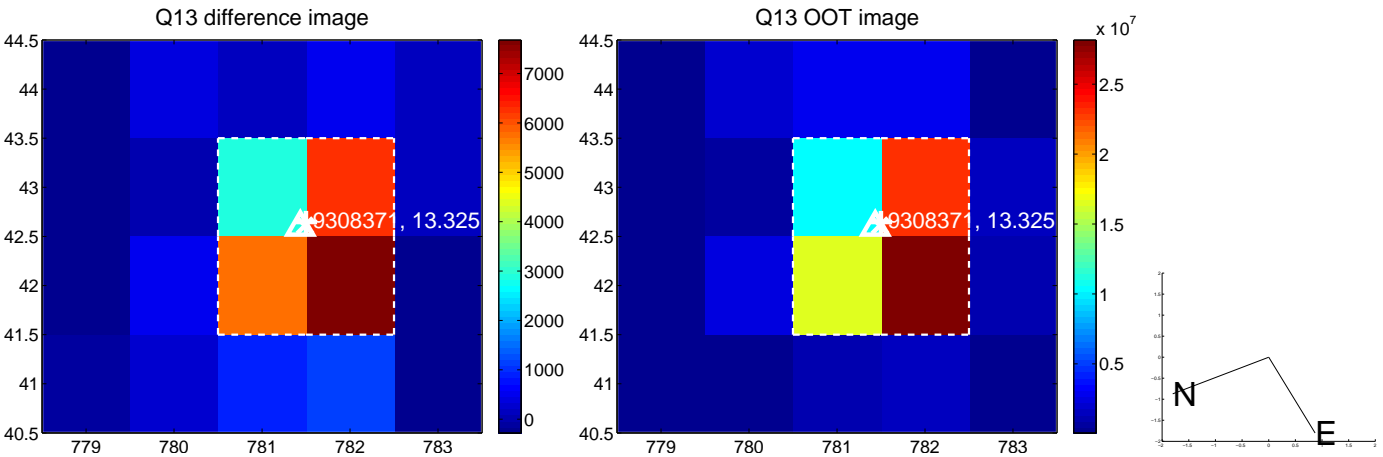
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



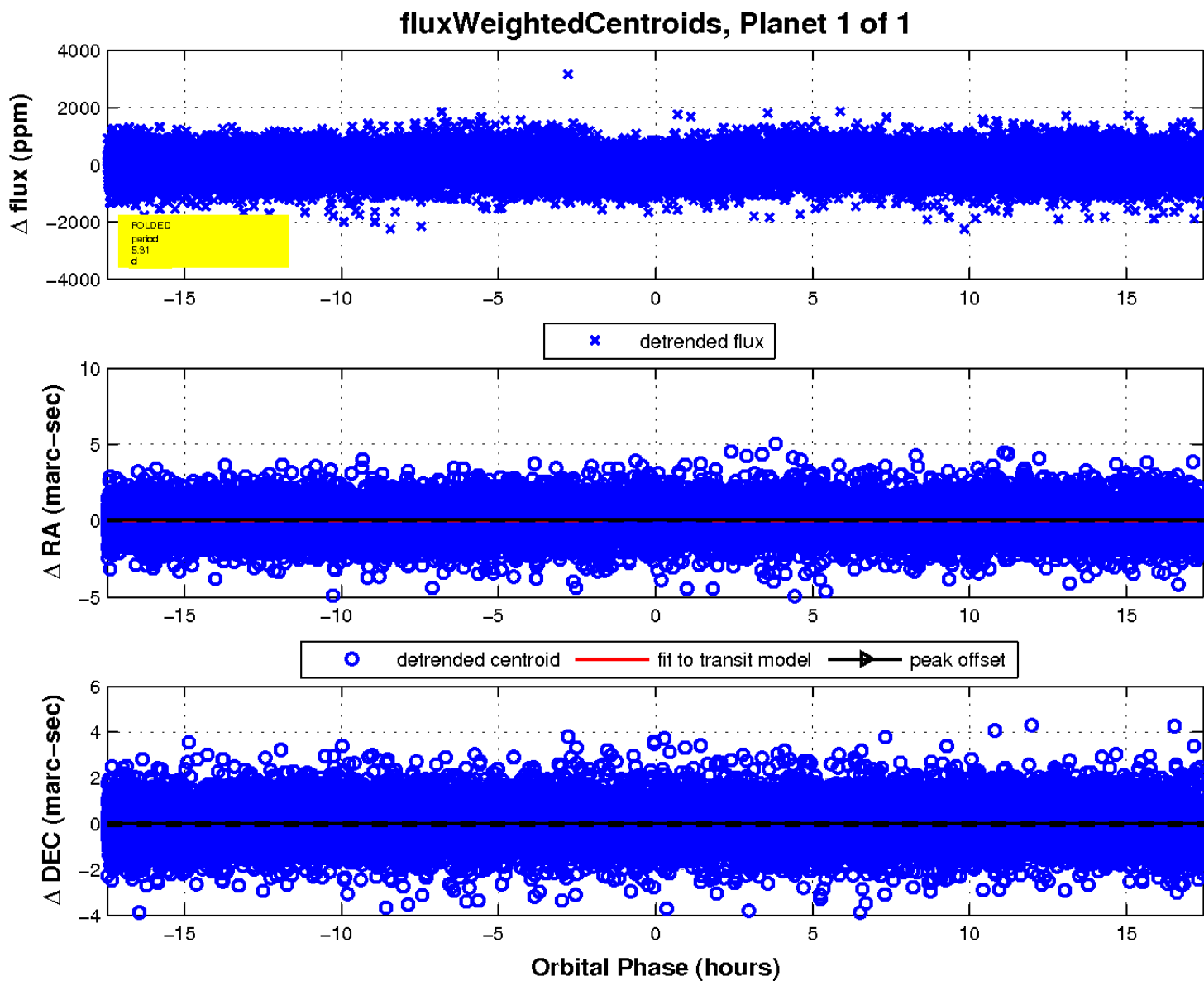
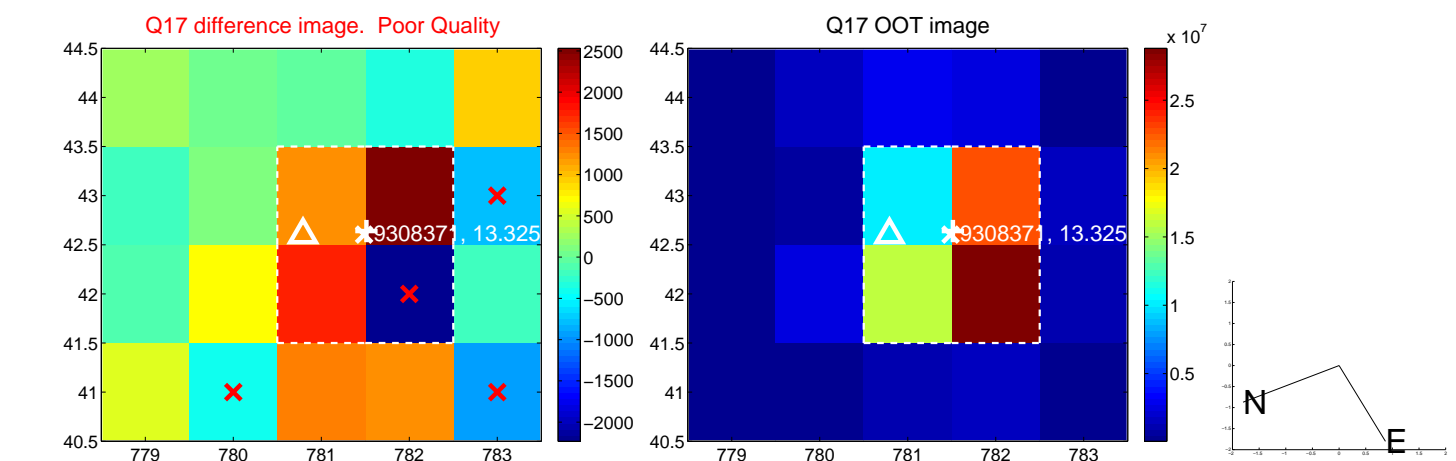
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UKIRT Image

Declination

