

KIC 009649801

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})
009649801-01	OBS	No	0.733220	131.813039	30.6	5.858	9.1	9.9	2.17	8675	1.22	58125.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009649801-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT

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

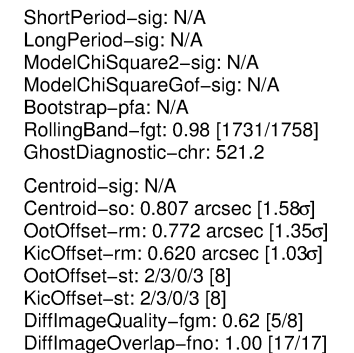
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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

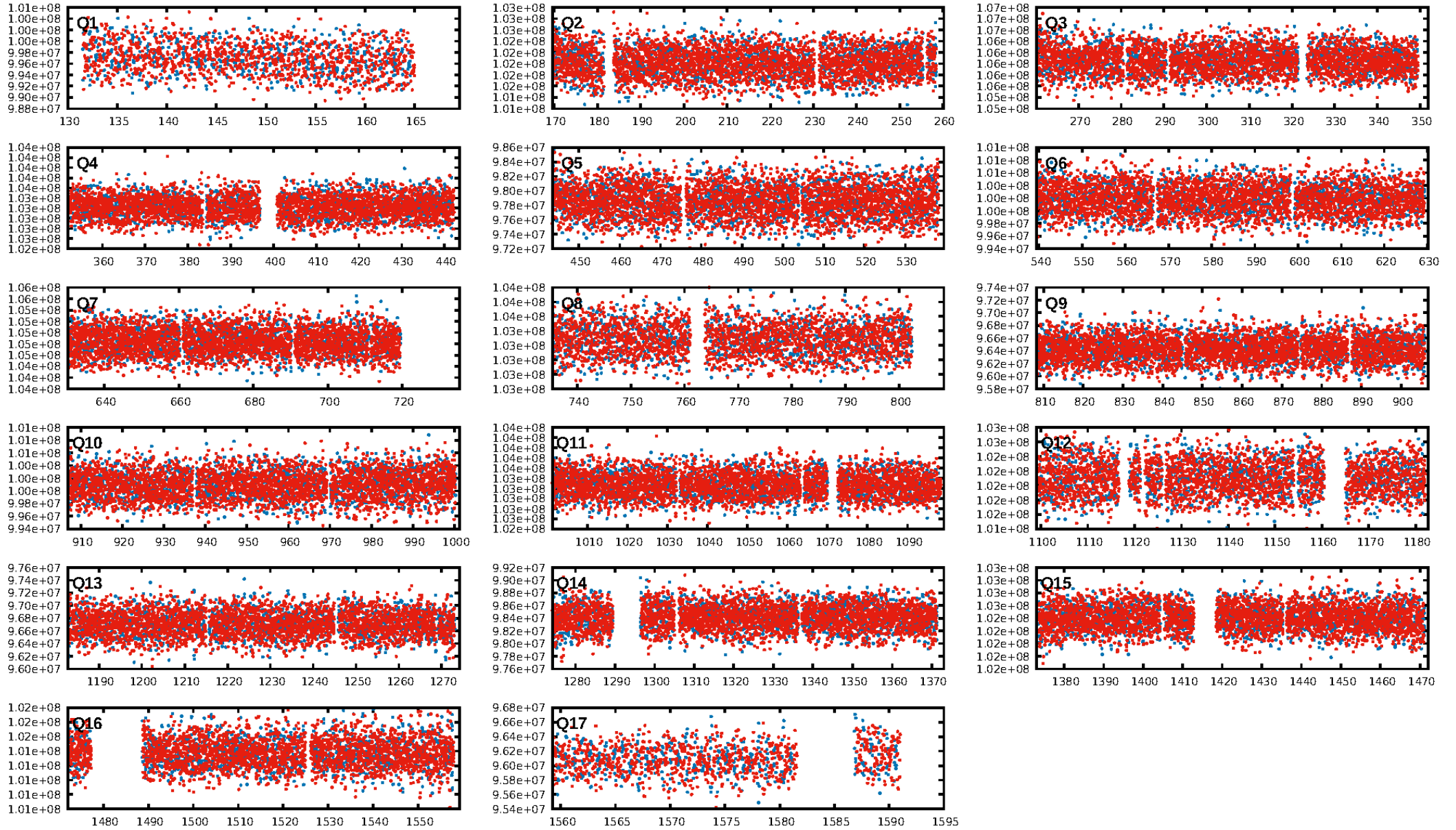
Ephemeris Match Information For 009649801-01

No Significant Match Found

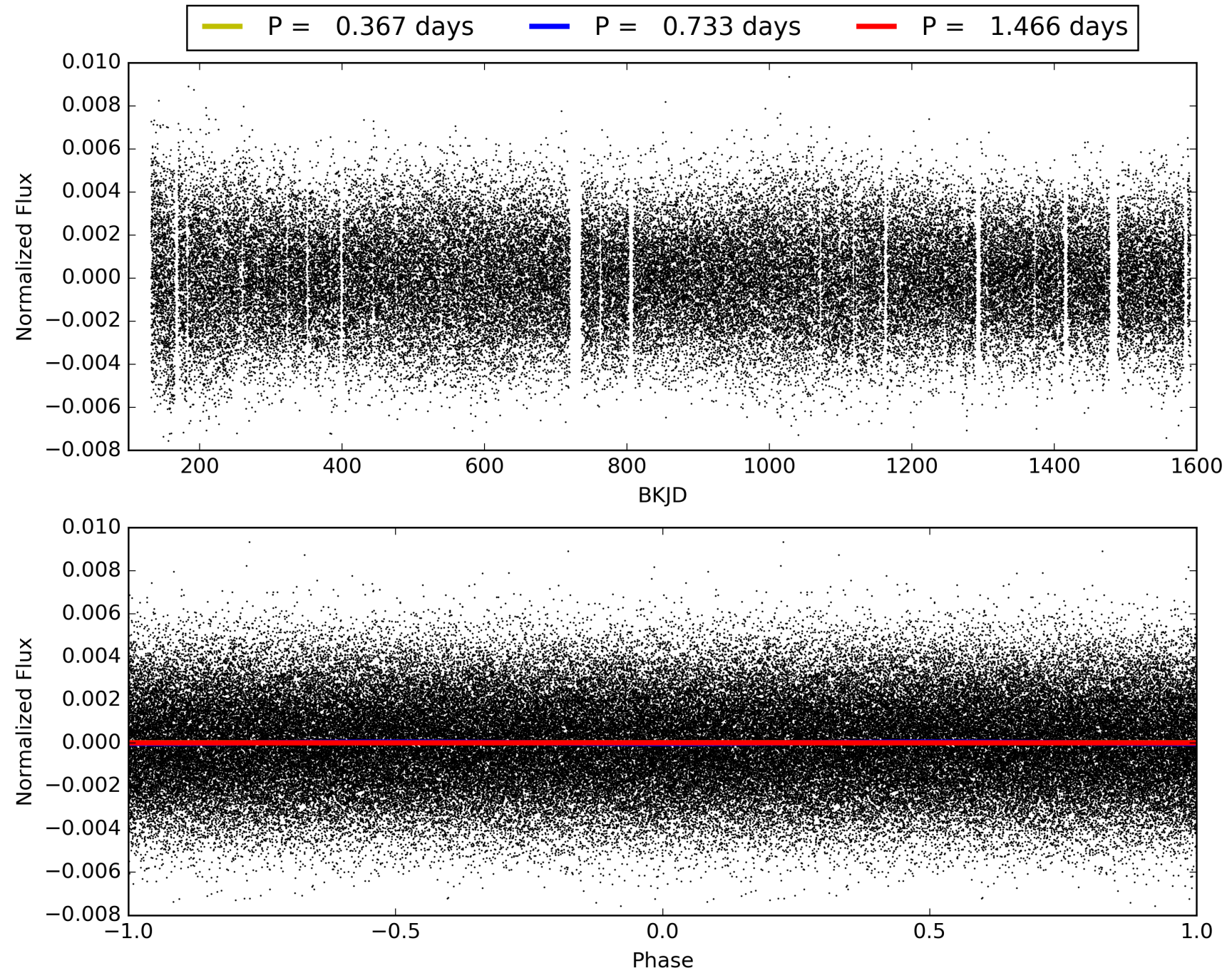
KIC: 9649801 Candidate: 1 of 1 Period: 0.733 d



TCE 009649801-01, PDC Light Curves

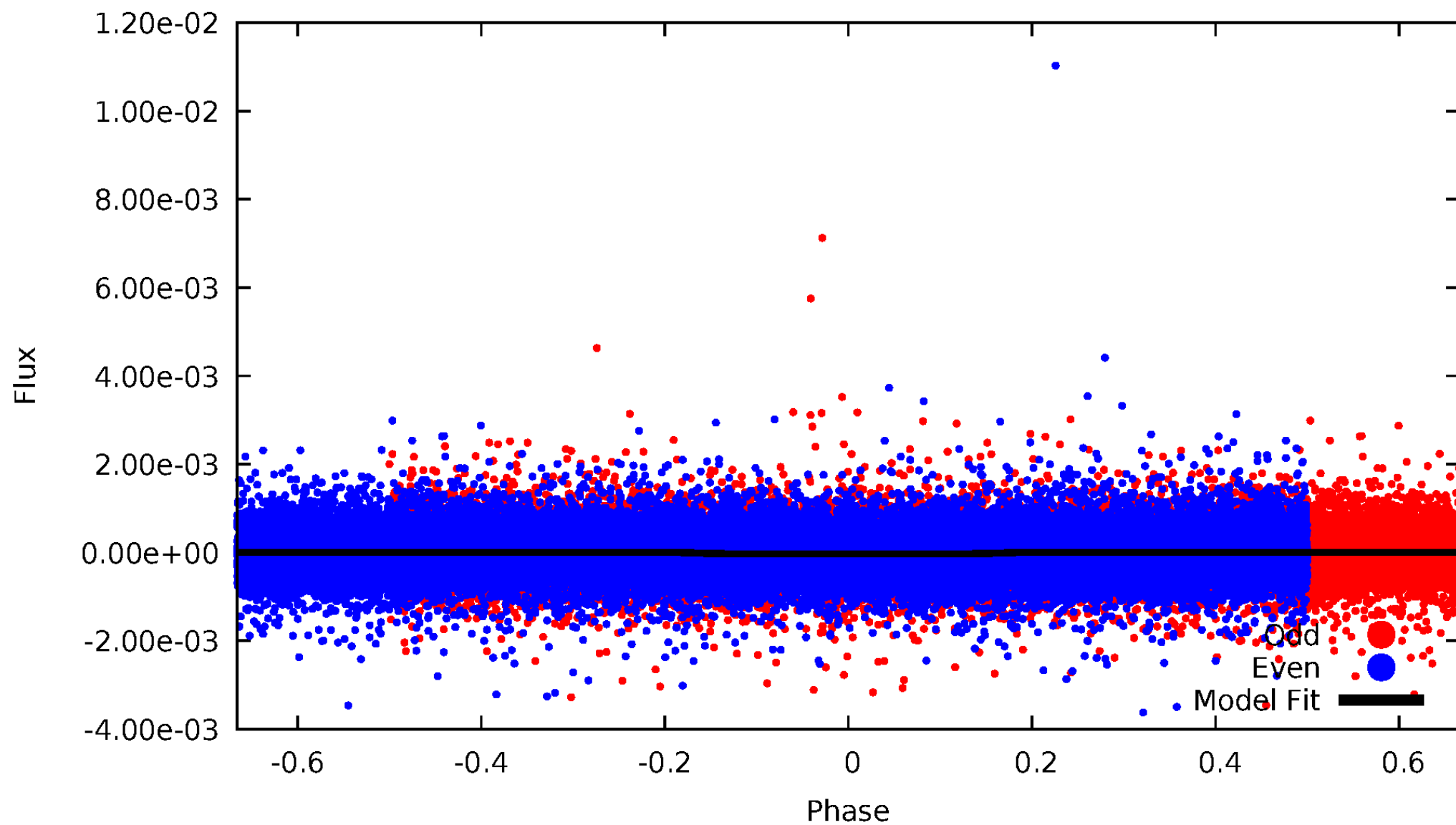


TCE 009649801-01



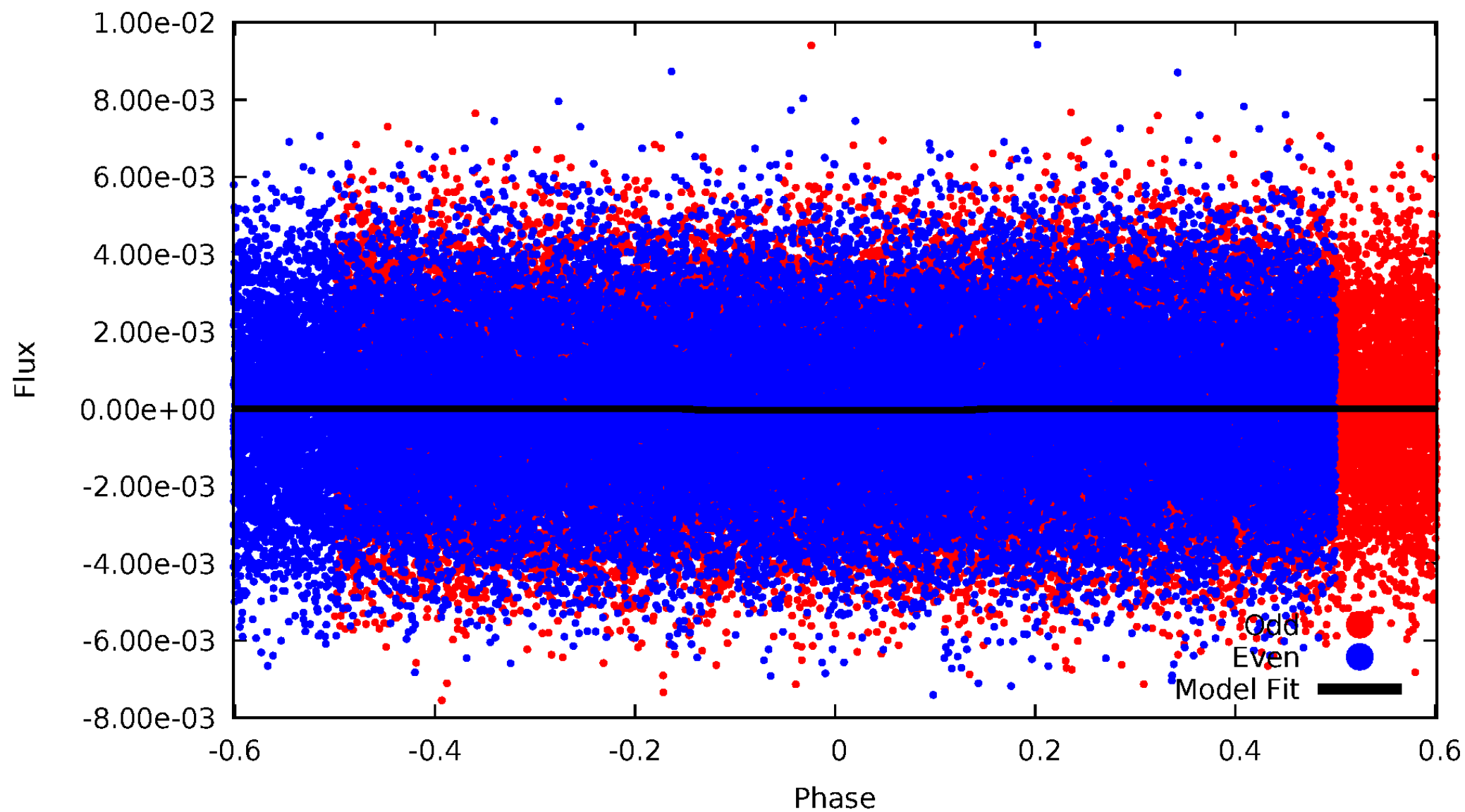
DV Odd/Even

TCE 009649801-01



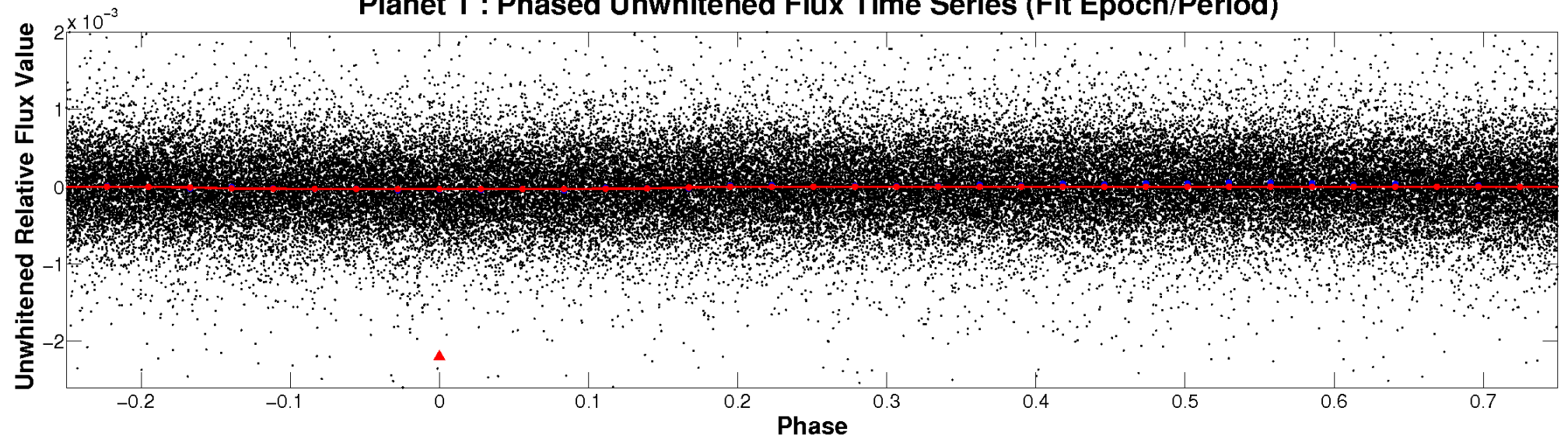
ALT Odd/Even

TCE 009649801-01

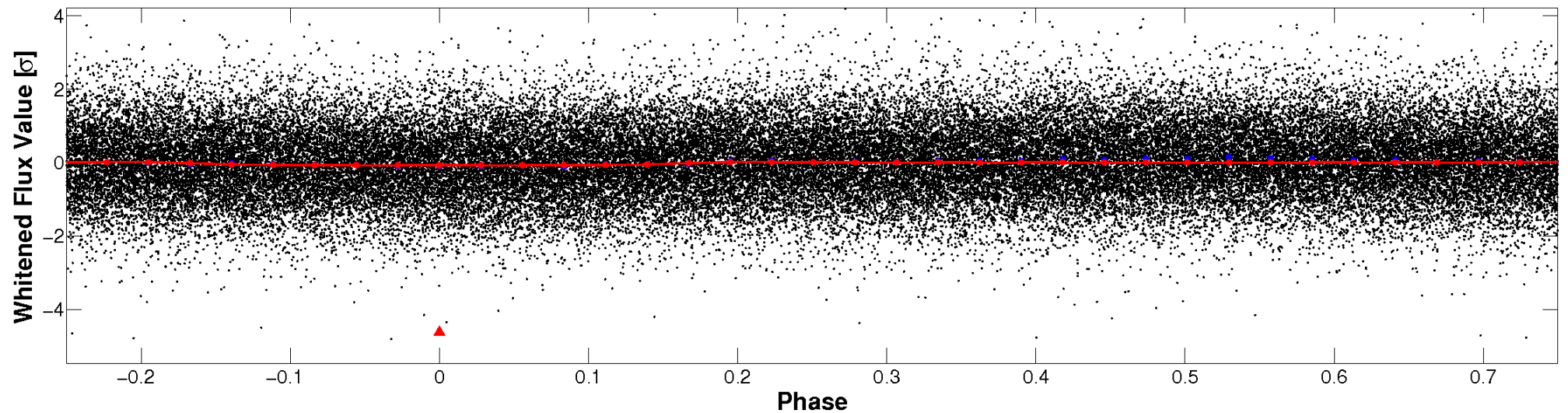


Non-Whitened Vs. Whitened Light Curve

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

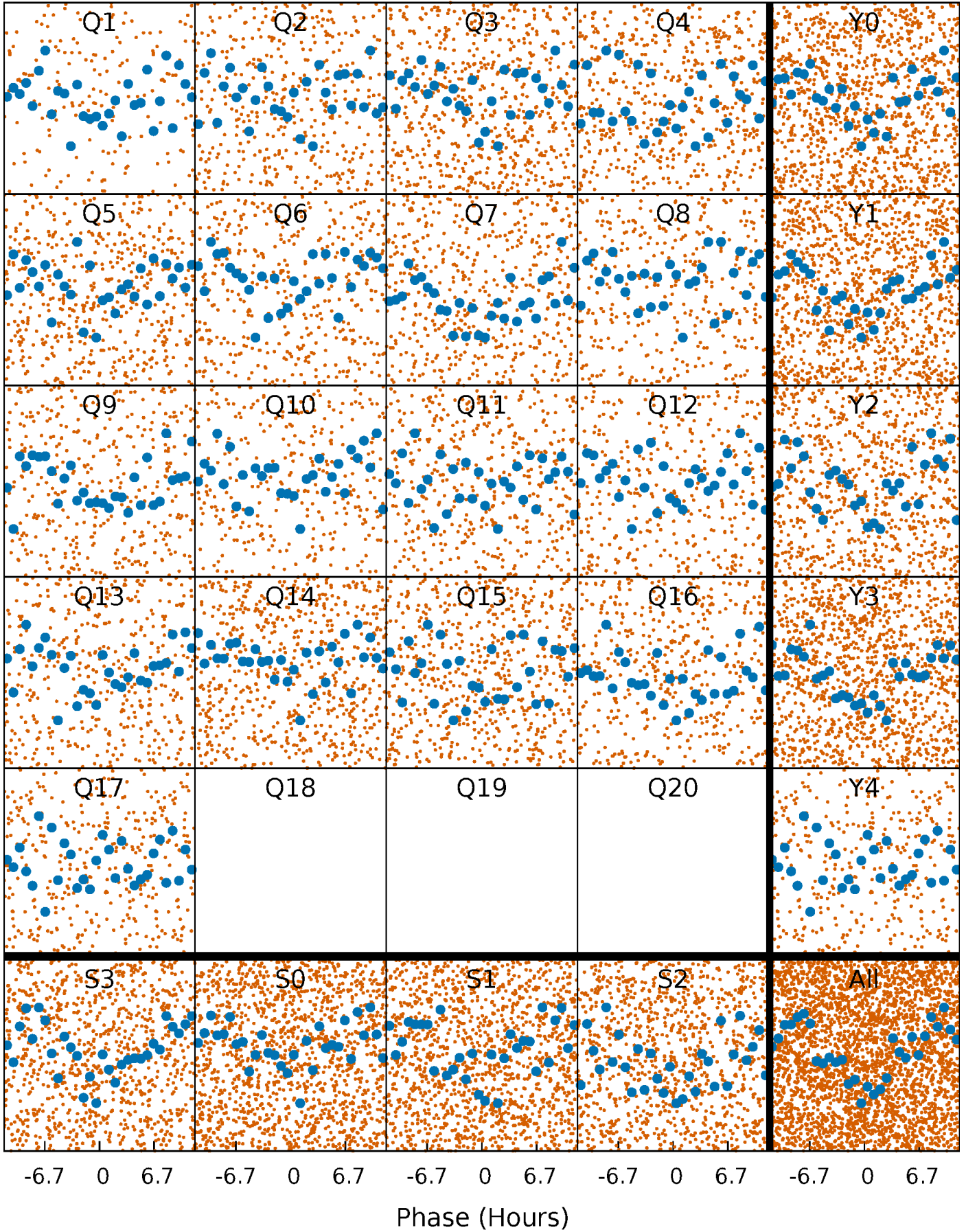


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



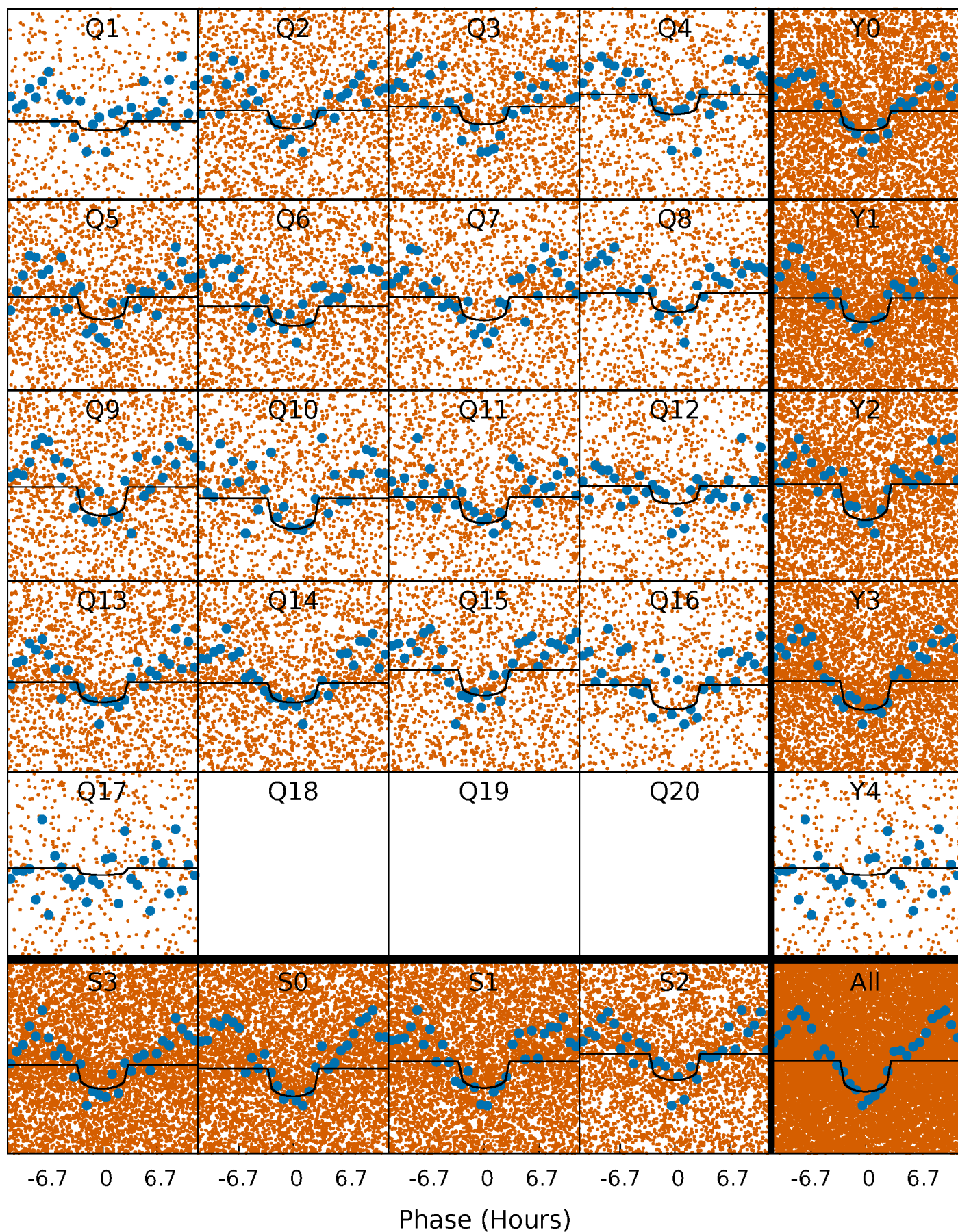
PDC Quarter-Phased Transit Curves

TCE 009649801-01 P= 0.733220 Days $T_0=131.813039$ (BKJD)



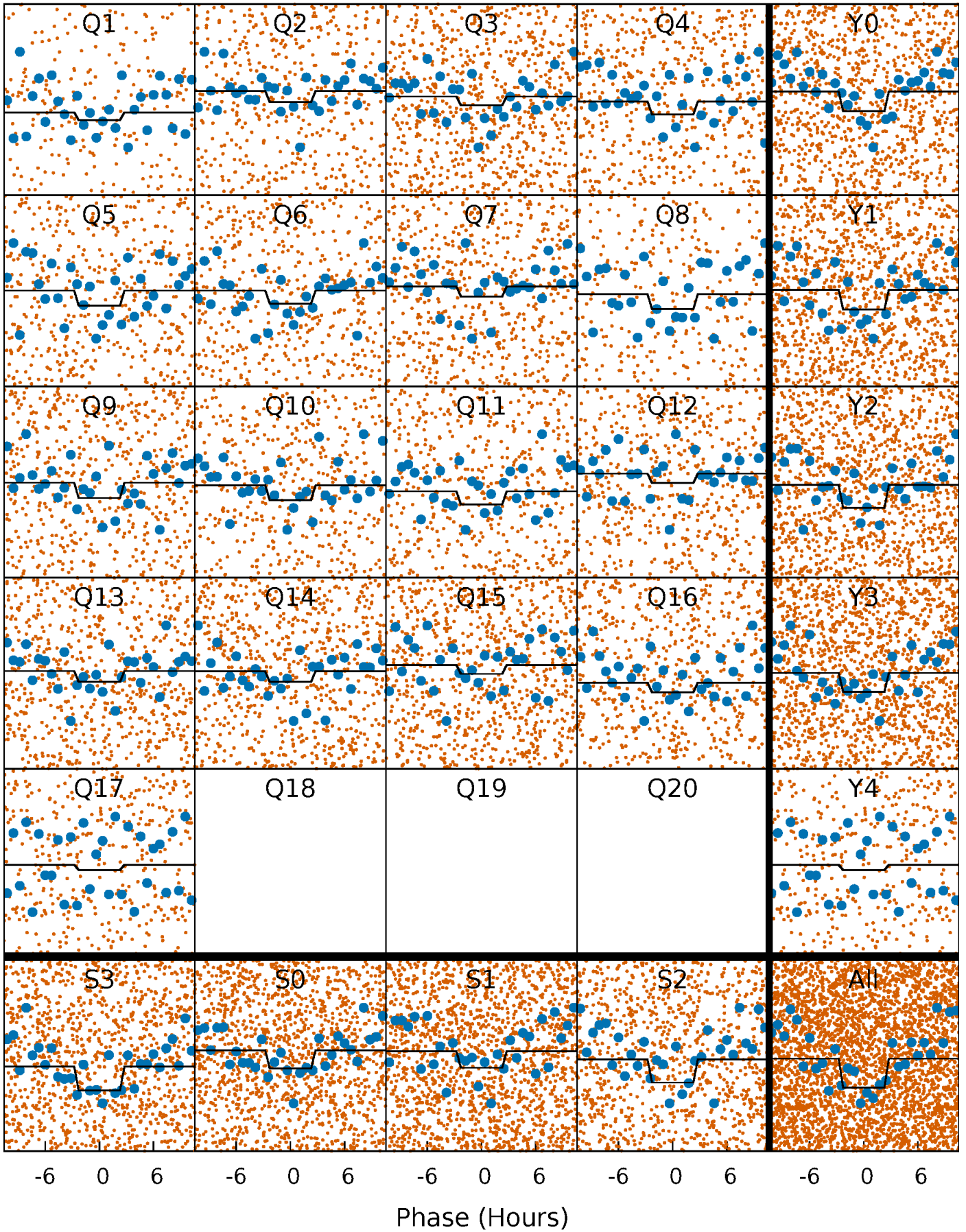
DV Quarter-Phased Transit Curves

TCE 009649801-01 P= 0.733220 Days $T_0=131.813039$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

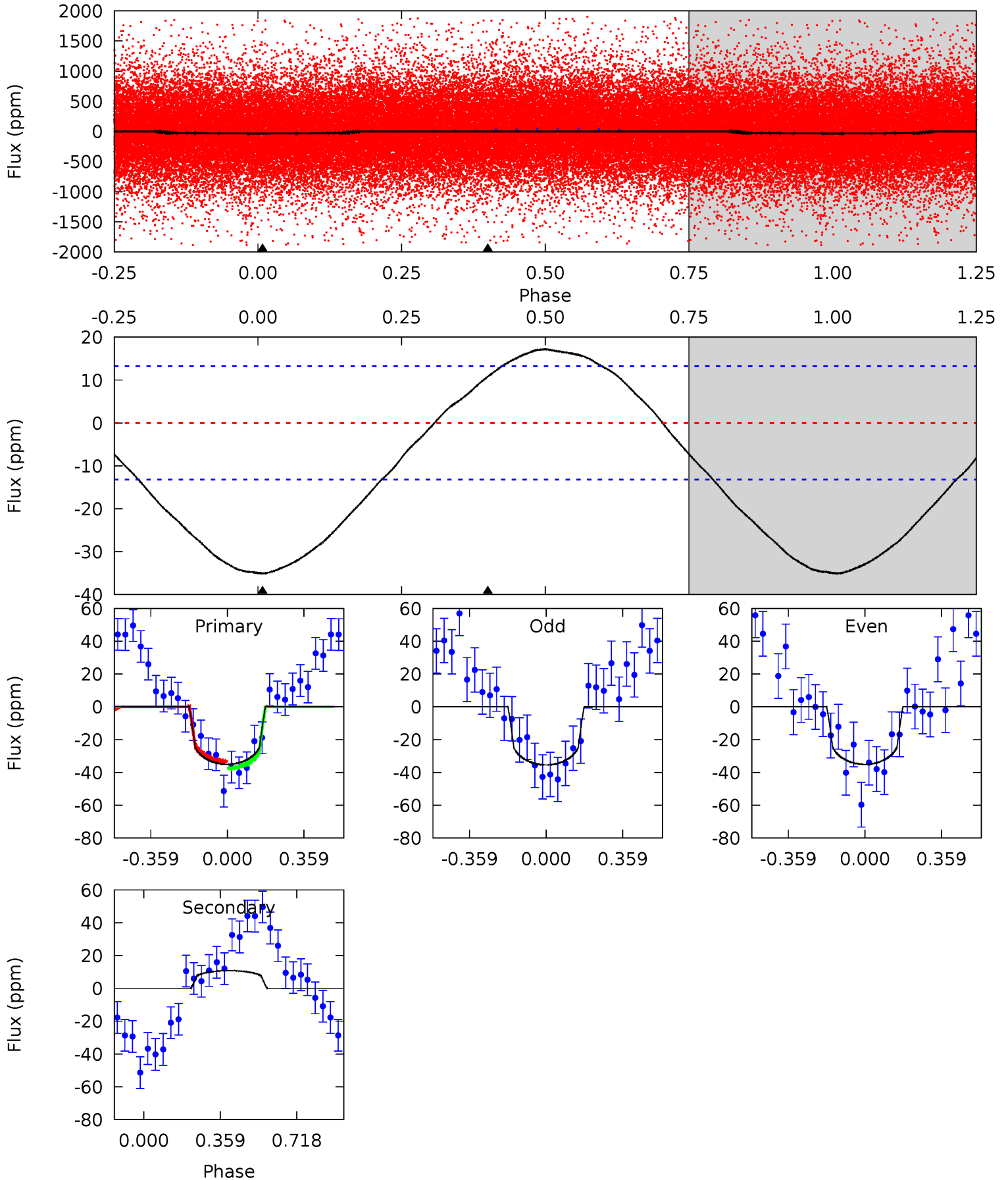
TCE 009649801-01 P= 0.733243 Days $T_0=131.801798$ (BKJD)



DV Model-Shift Uniqueness Test

009649801-01, P = 0.733220 Days, E = 131.079819 Days

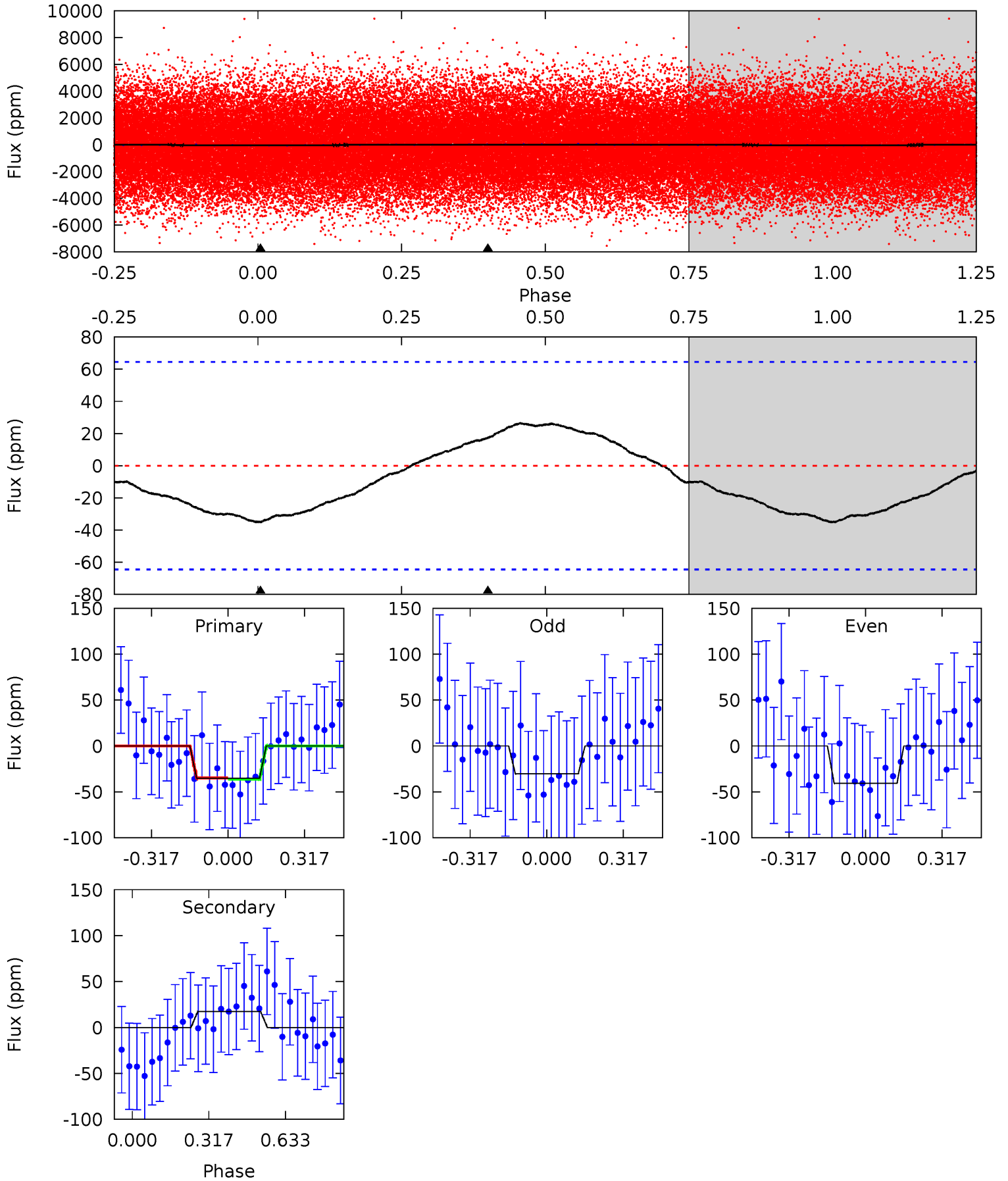
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	-3.51	0	0	4.29	0.92	1.47	11.4	11.4	-3.51	-3.51	0.06	1.03	0.33	0.67



Alt Model-Shift Uniqueness Test

009649801-01, P = 0.733243 Days, E = 131.068555 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.35	-1.16	0	0	4.32	1.00	0.39	2.35	2.35	-1.16	-1.16	0.34	1.18	0.43	0.05



Stellar Parameters For KIC 009649801

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8675^{+238}_{-408}	$4.080^{+0.150}_{-0.150}$	$0.070^{+0.250}_{-0.550}$	$2.168^{+0.560}_{-0.560}$	$2.057^{+0.329}_{-0.493}$	$0.284^{+0.259}_{-0.127}$
	+3%/-5%	+4%/-4%	+357%/-786%	+26%/-26%	+16%/-24%	+91%/-45%
Source	KIC0	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 009649801-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	11 ± 3	$1.43^{+1.15}_{-0.91}$	5525^{+386}_{-372}	-6399^{+1095}_{-4668}	$-1.121^{+0.797}_{-7.121}$
Alt.	17 ± 15	$1.66^{+1.07}_{-1.00}$	5512^{+373}_{-385}	-6387^{+1455}_{-4361}	$-1.109^{+0.946}_{-6.427}$

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 $A_{obs} \gg 1.0$

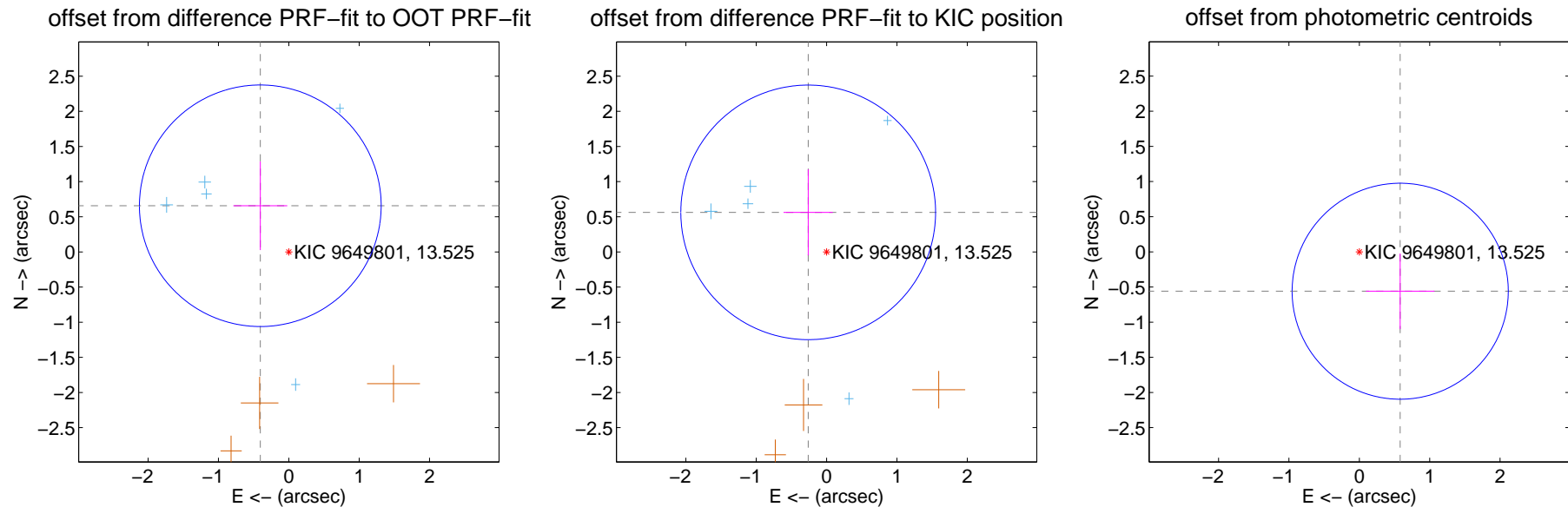
DV Centroid Data

Supplemental centroid analysis for 009649801-01. Kepler magnitude: 13.53. Transit SNR 9.93

There are 5 quarters with good PRF difference image offsets

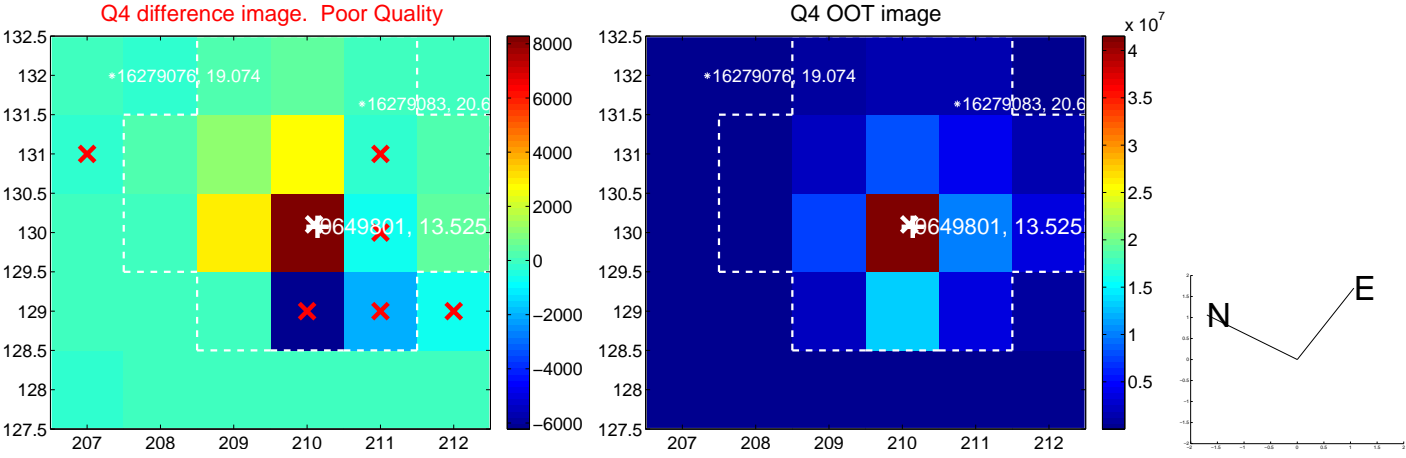
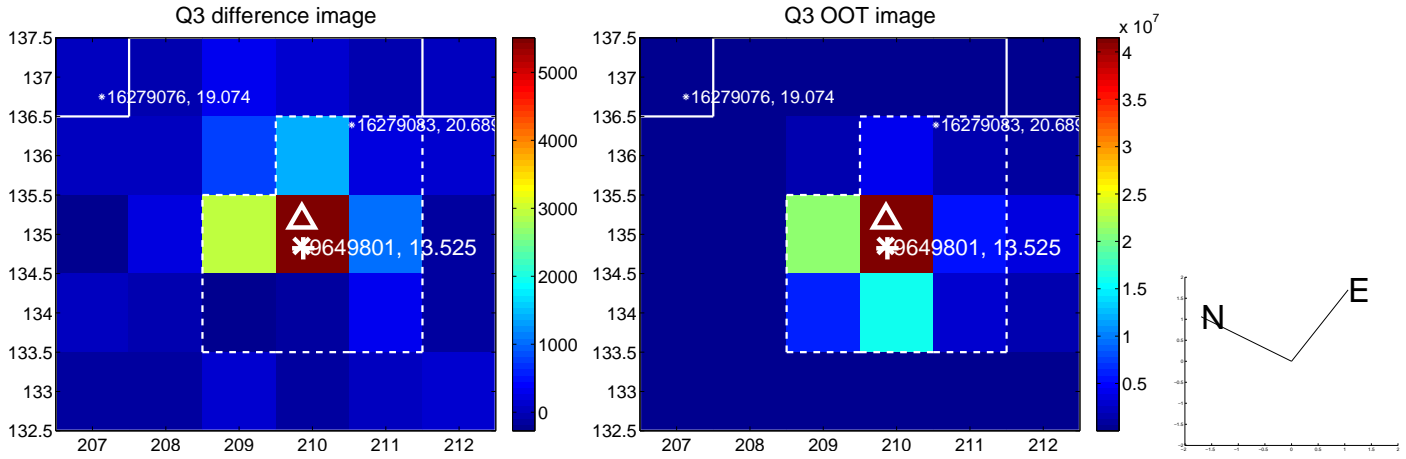
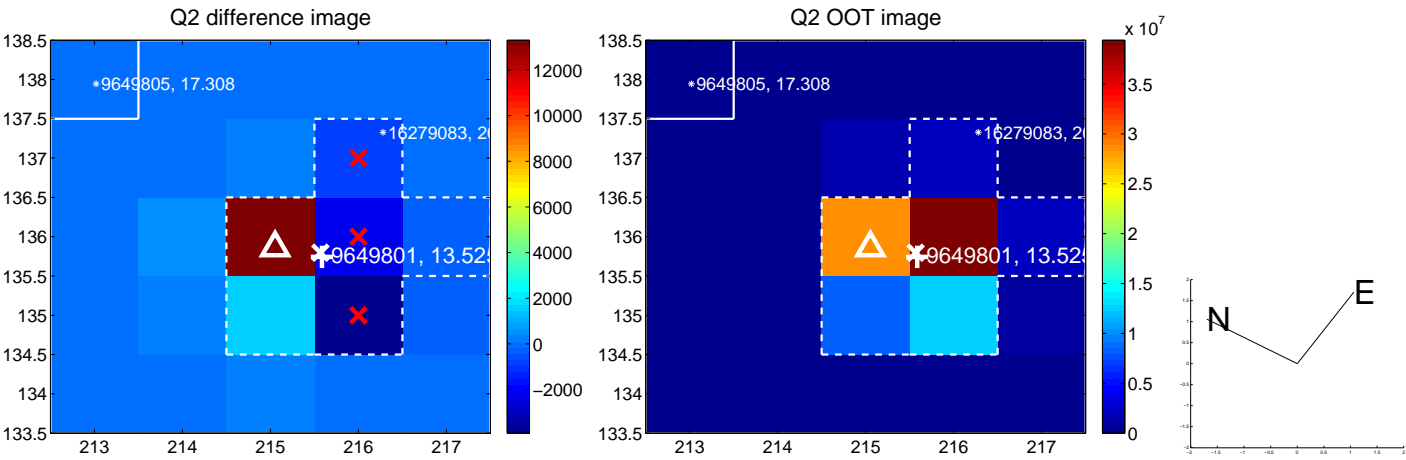
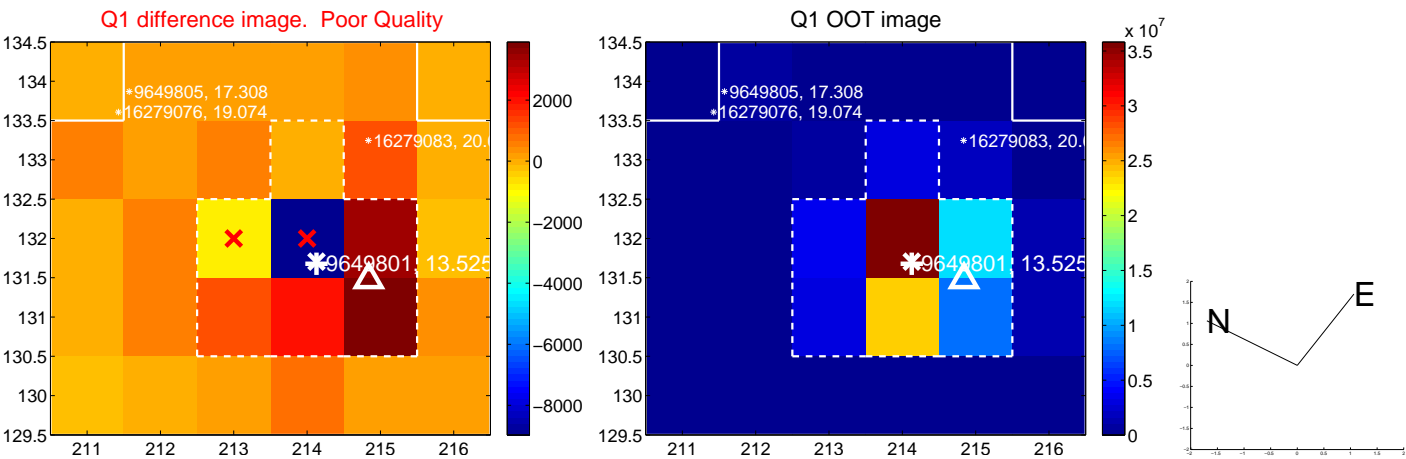
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.772 ± 0.573	1.35	0.406 ± 0.383	0.657 ± 0.630
PRF-fit source offset from KIC position	0.620 ± 0.604	1.03	0.261 ± 0.350	0.563 ± 0.612
photometric centroid source offset	0.81 ± 0.51	1.58	-0.58 ± 0.49	-0.56 ± 0.54

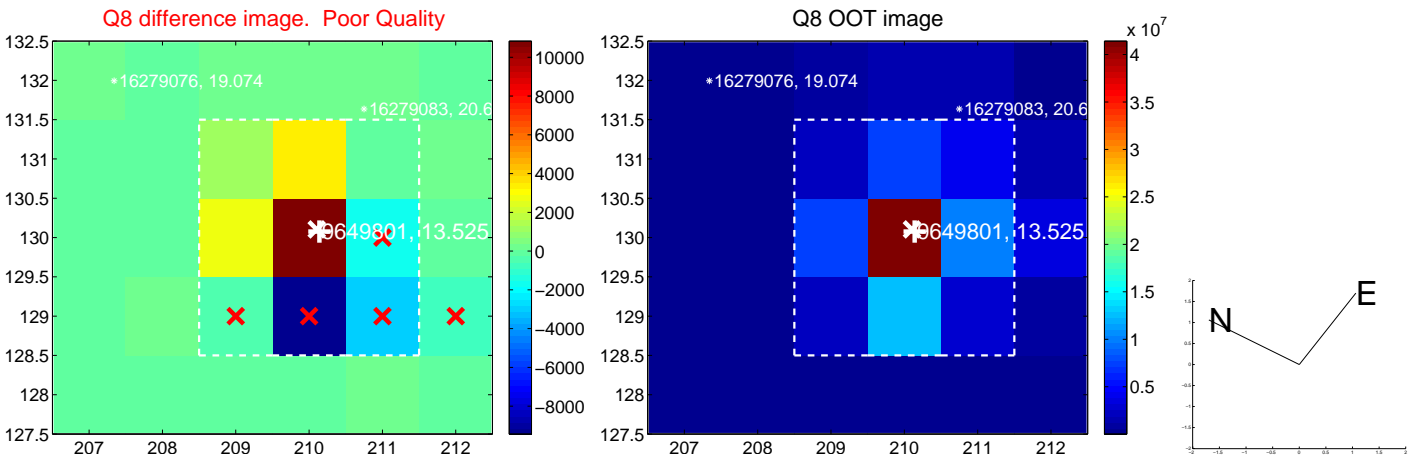
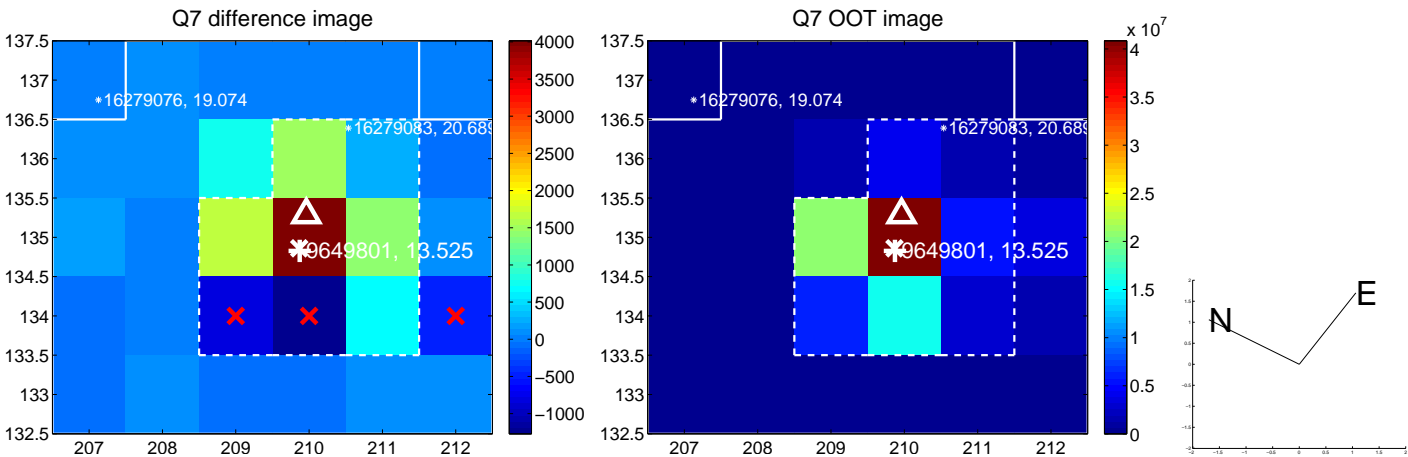
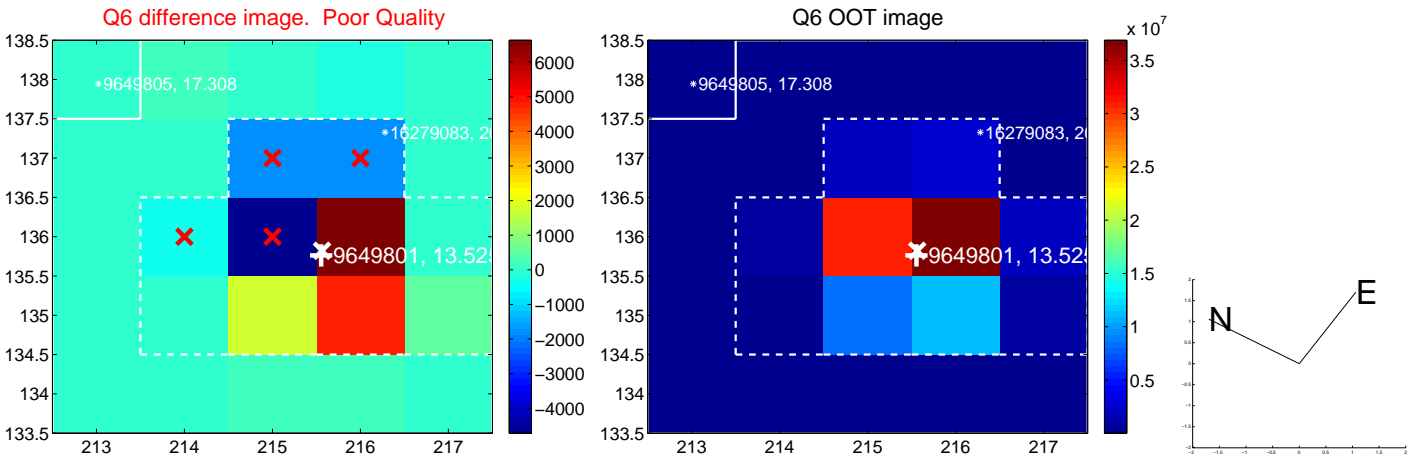
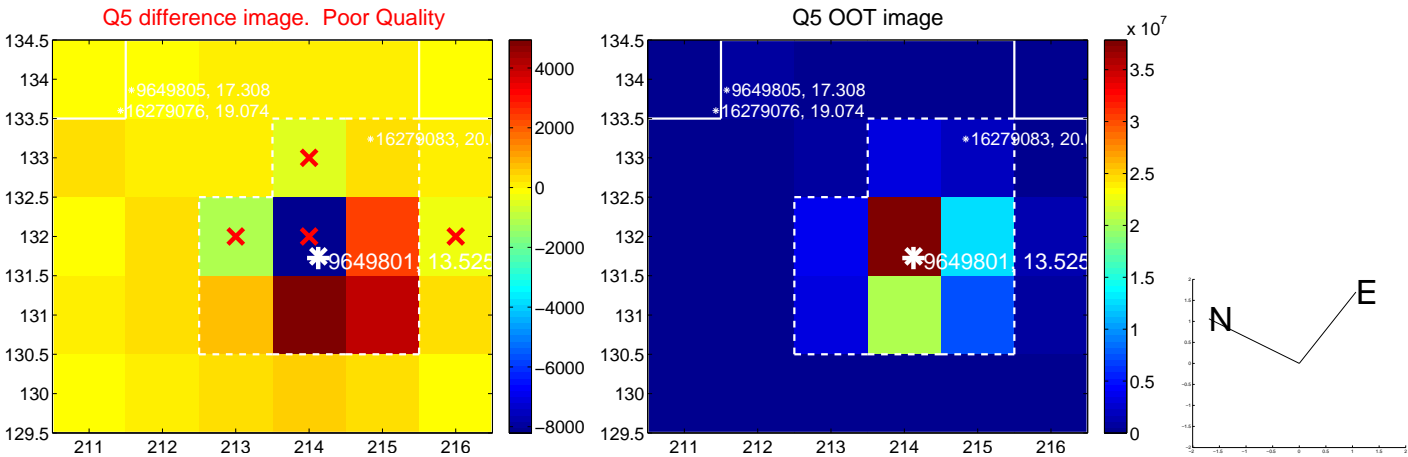


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

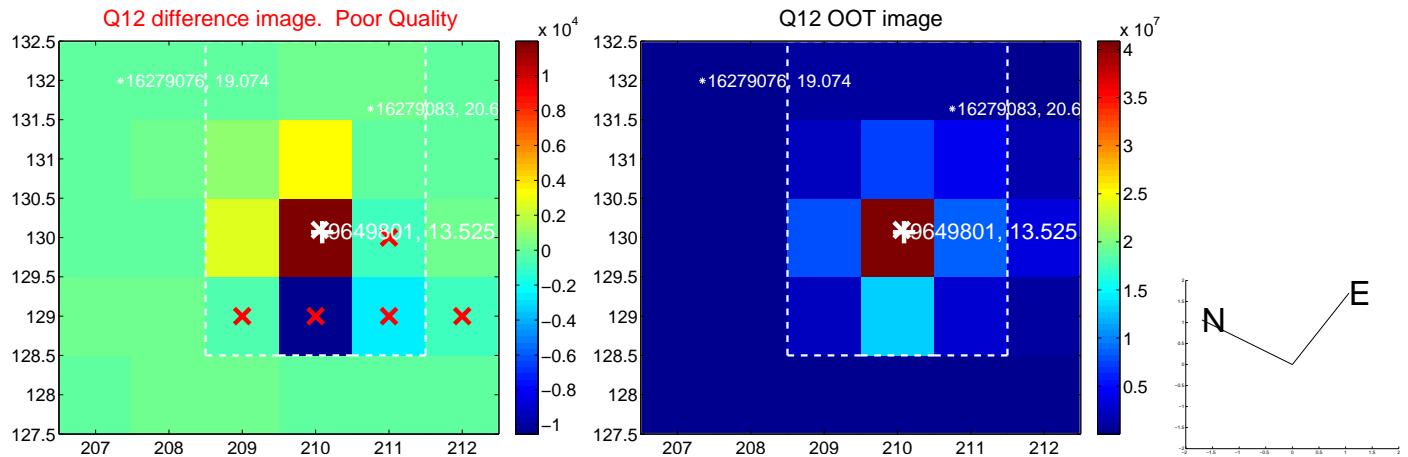
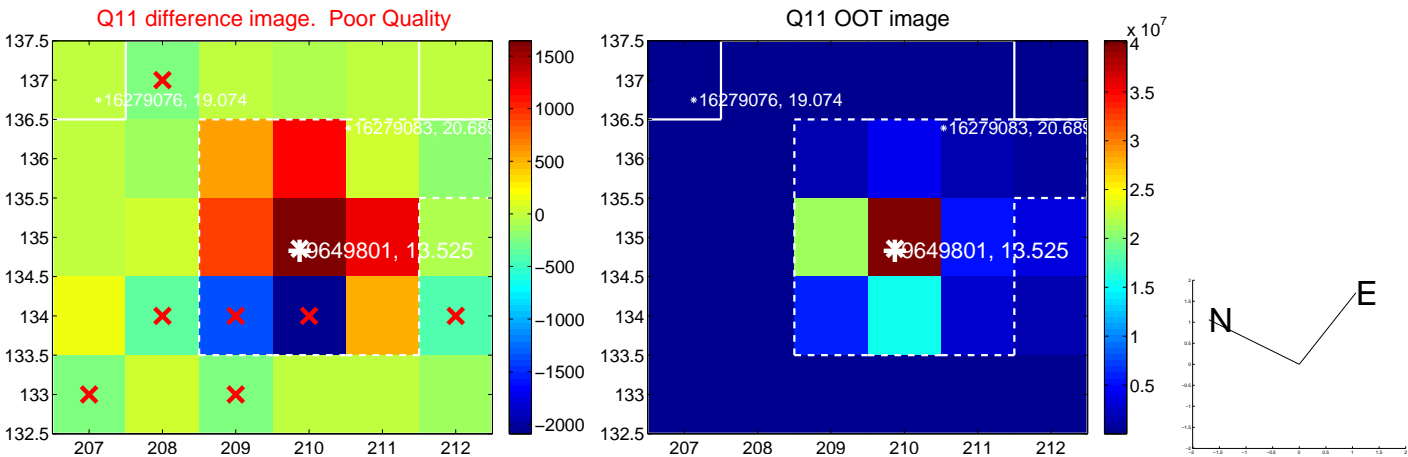
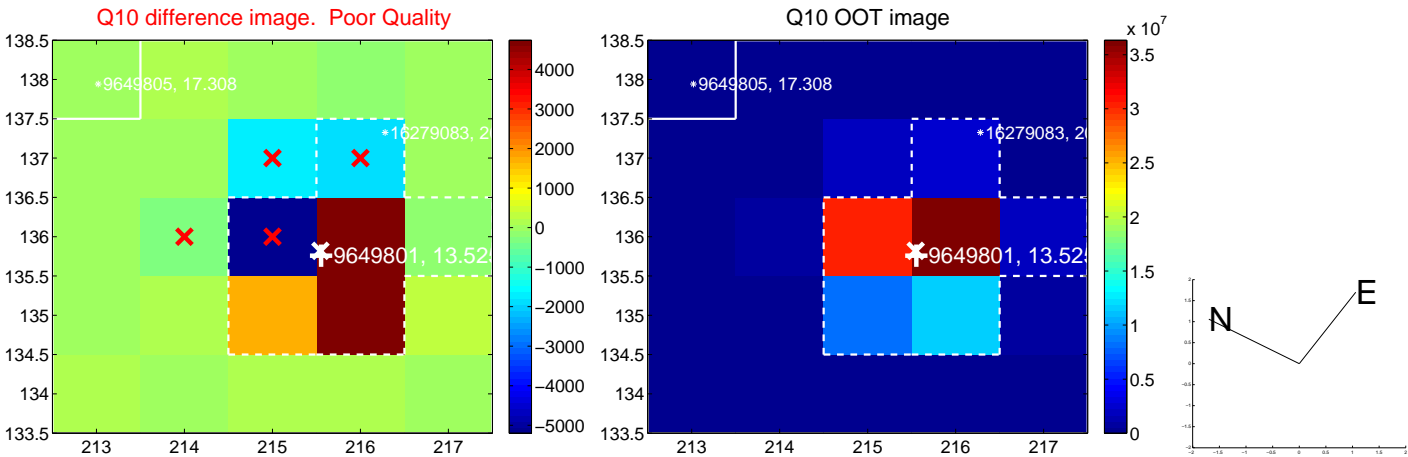
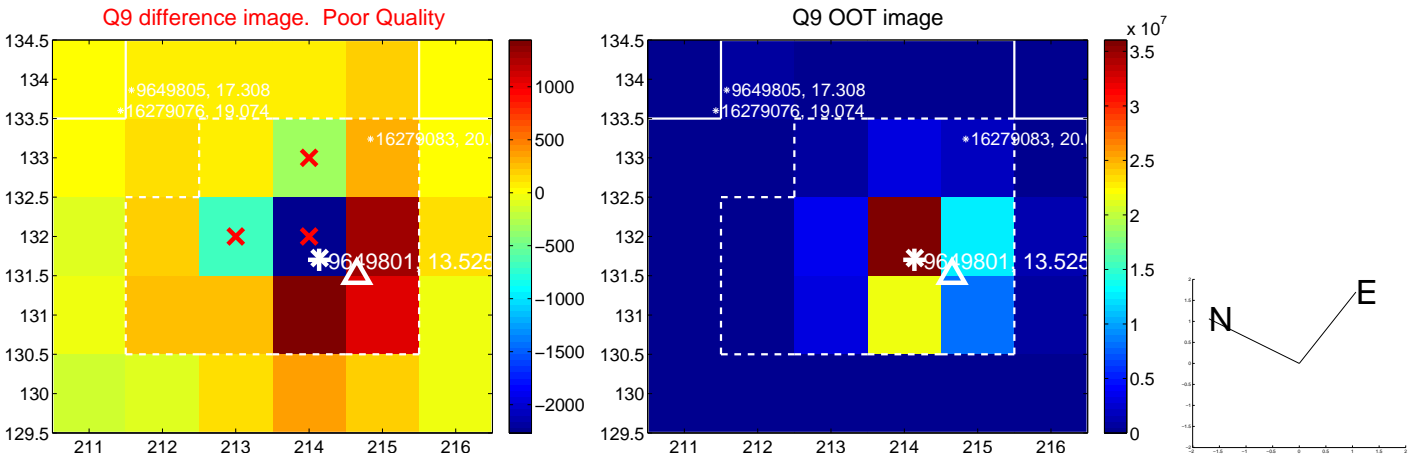
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



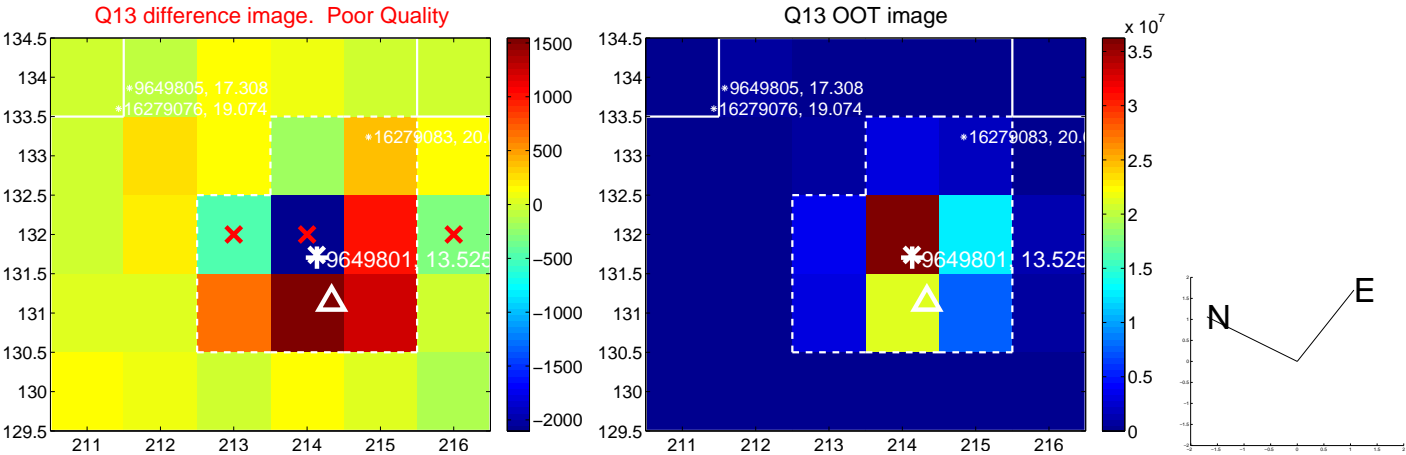
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



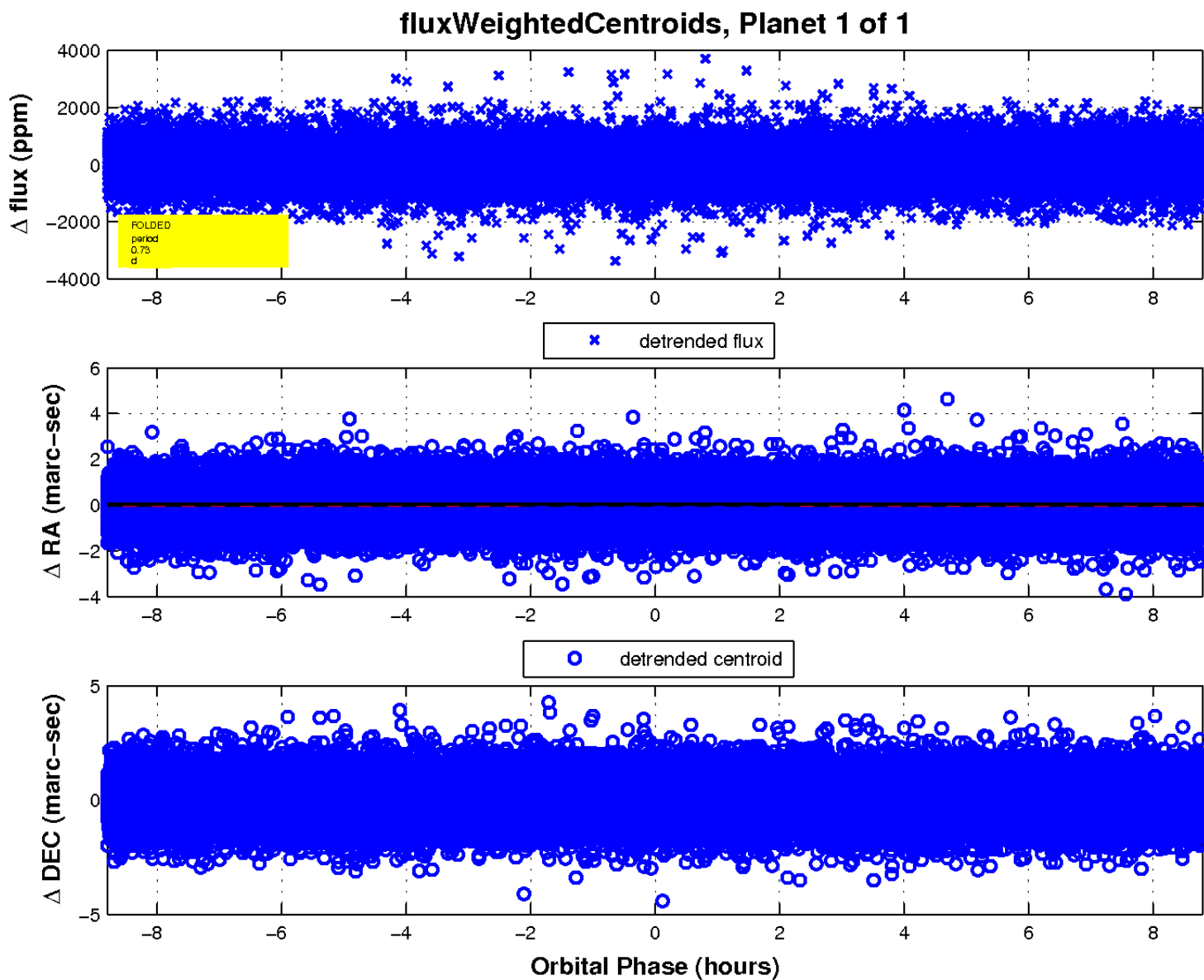
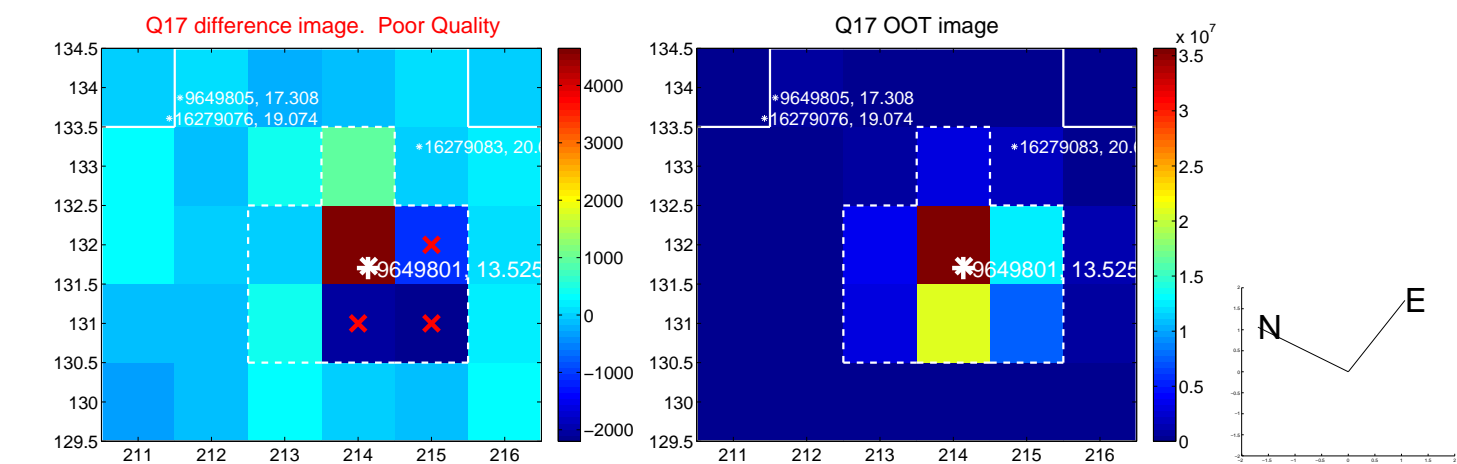
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UKIRT Image

Declination

