

KIC 002016979

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})
002016979-01	OBS	No	0.827217	131.630472	158.1	1.735	9.0	10.6	0.49	4418	0.74	433.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002016979-01	OBS	FP	0.00	1	0	1	0	LPP_ALT—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET

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

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

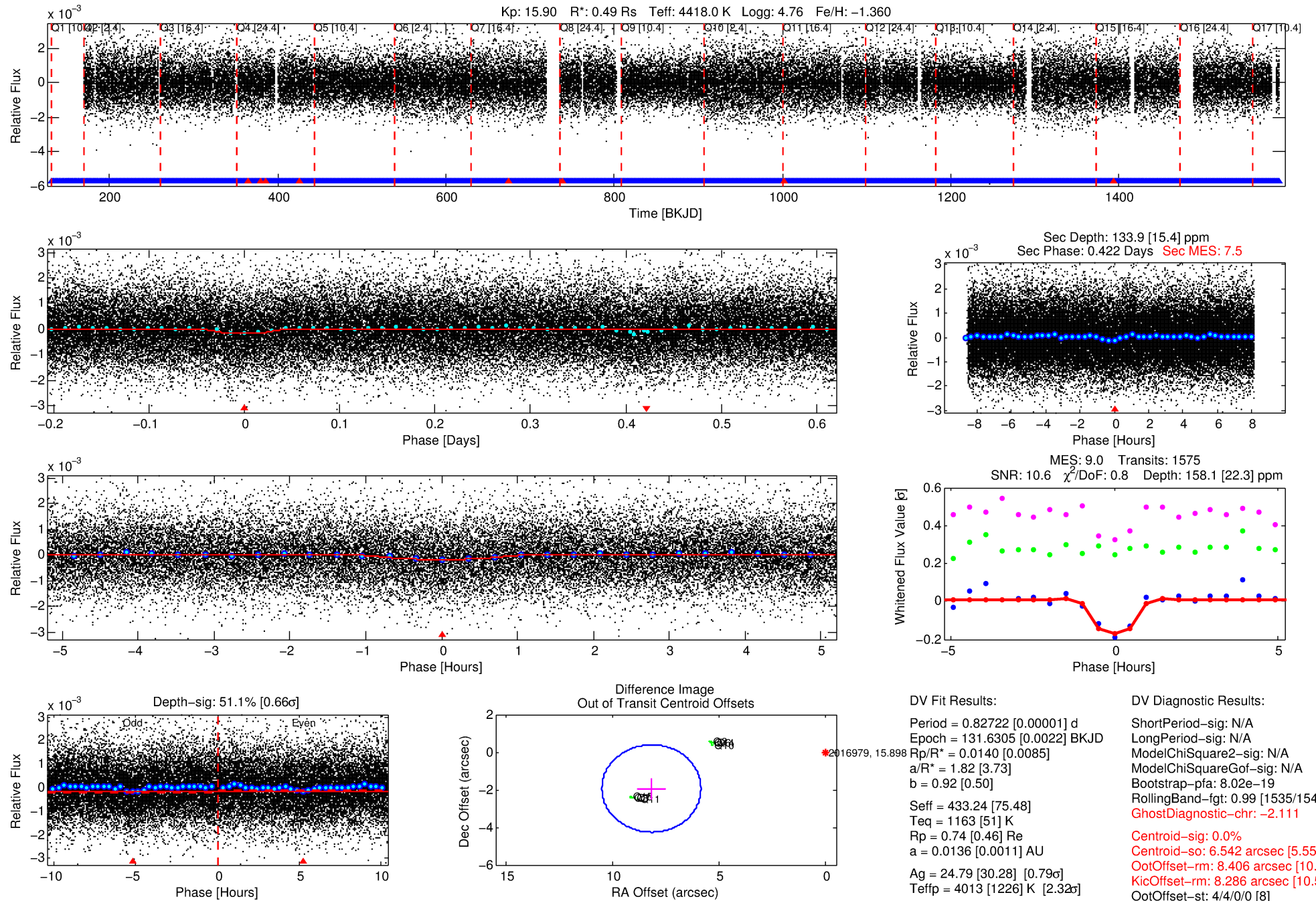
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002016979-01

No Significant Match Found

DV One-Page Summary

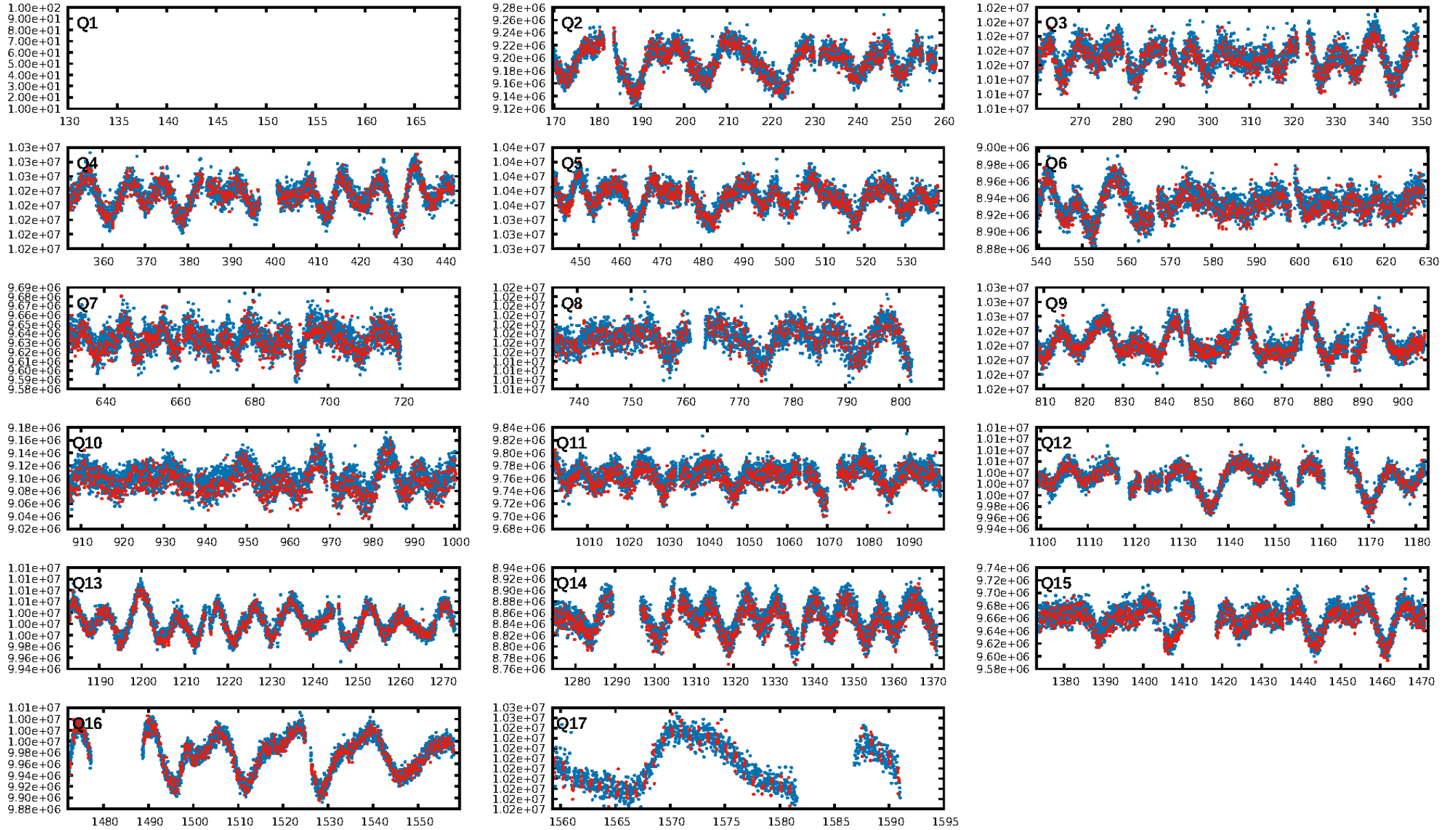
KIC: 2016979 Candidate: 1 of 1 Period: 0.827 d



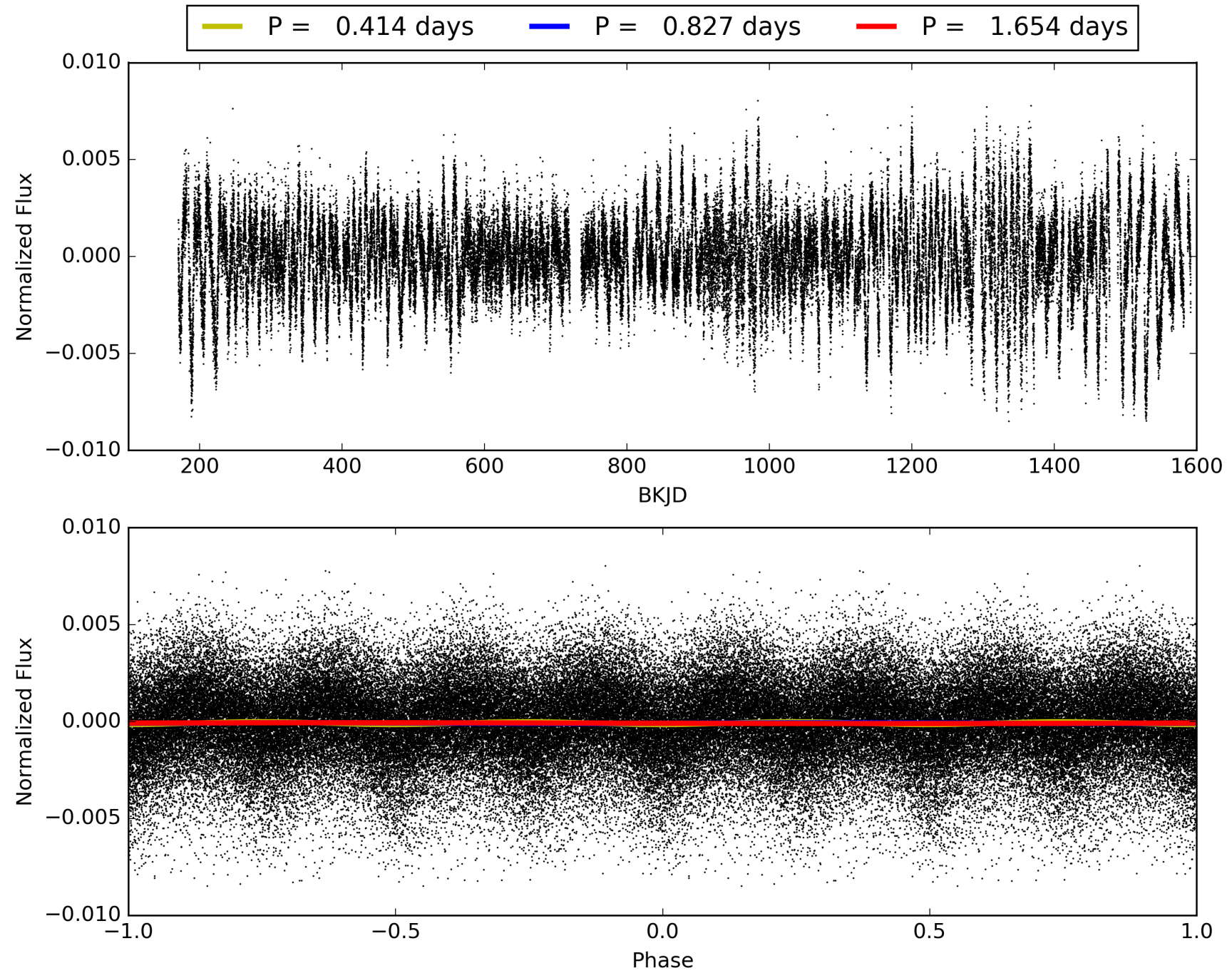
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 03:14:42 Z

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

TCE 002016979-01, PDC Light Curves

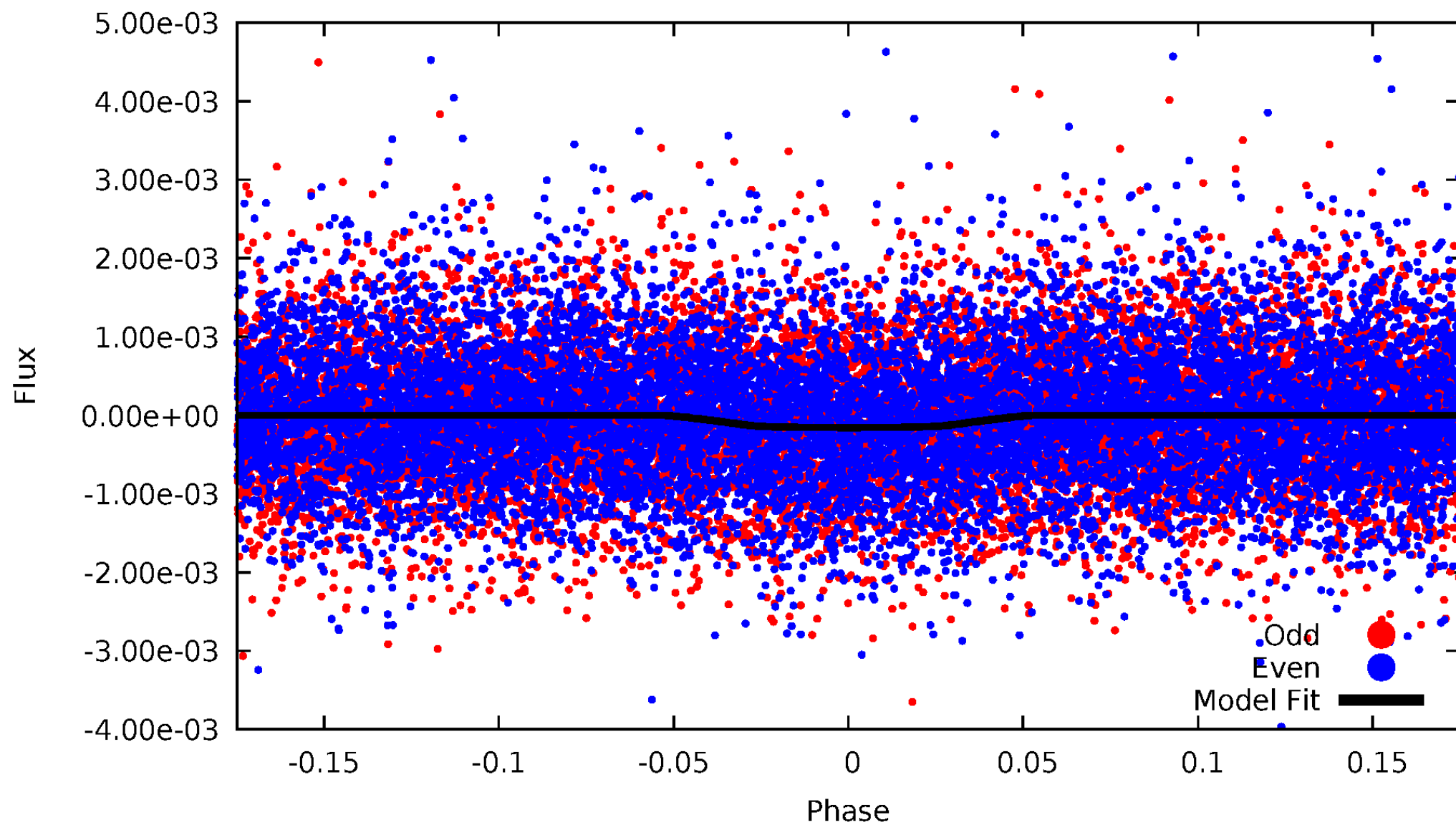


TCE 002016979-01



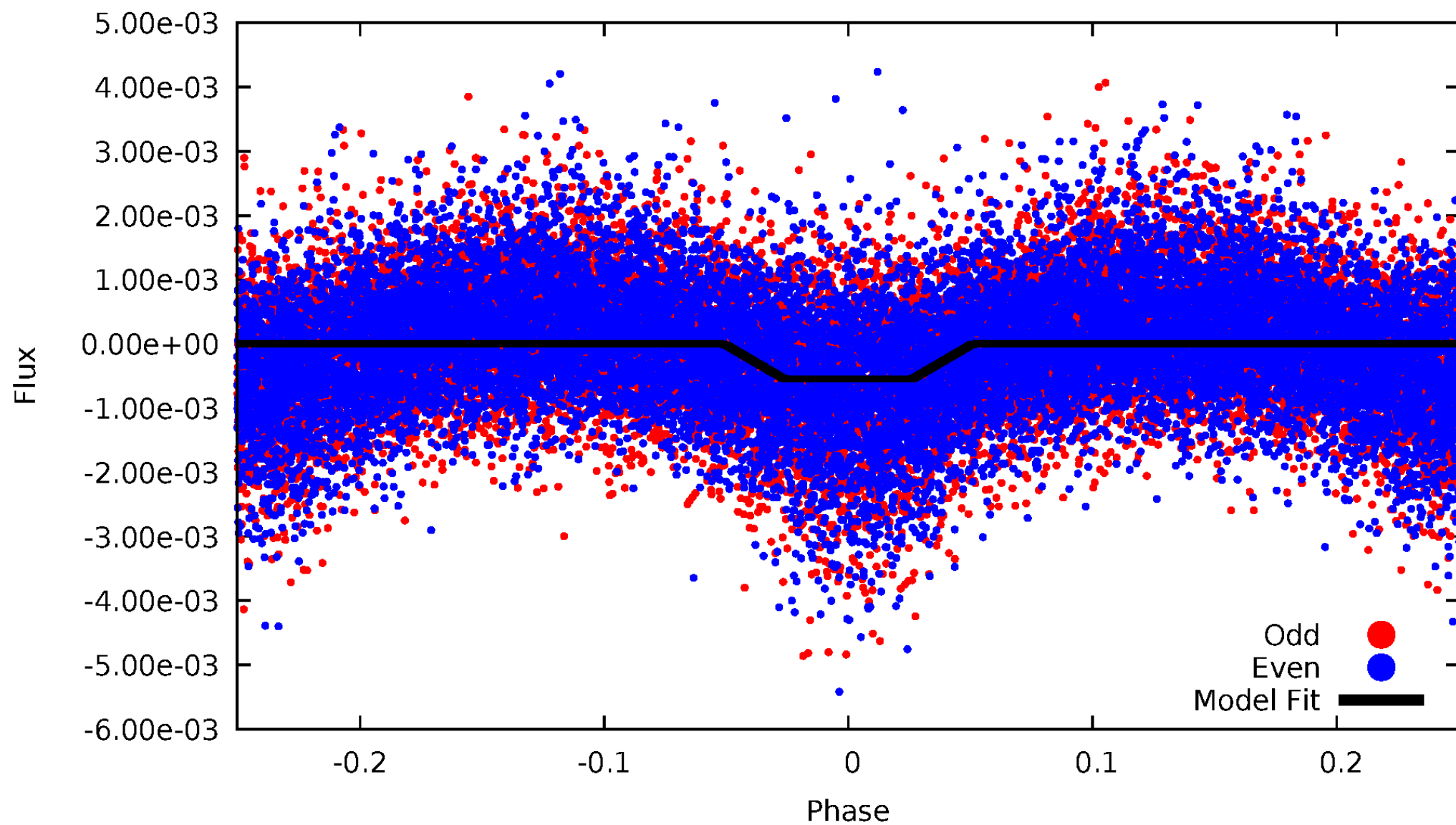
DV Odd/Even

TCE 002016979-01



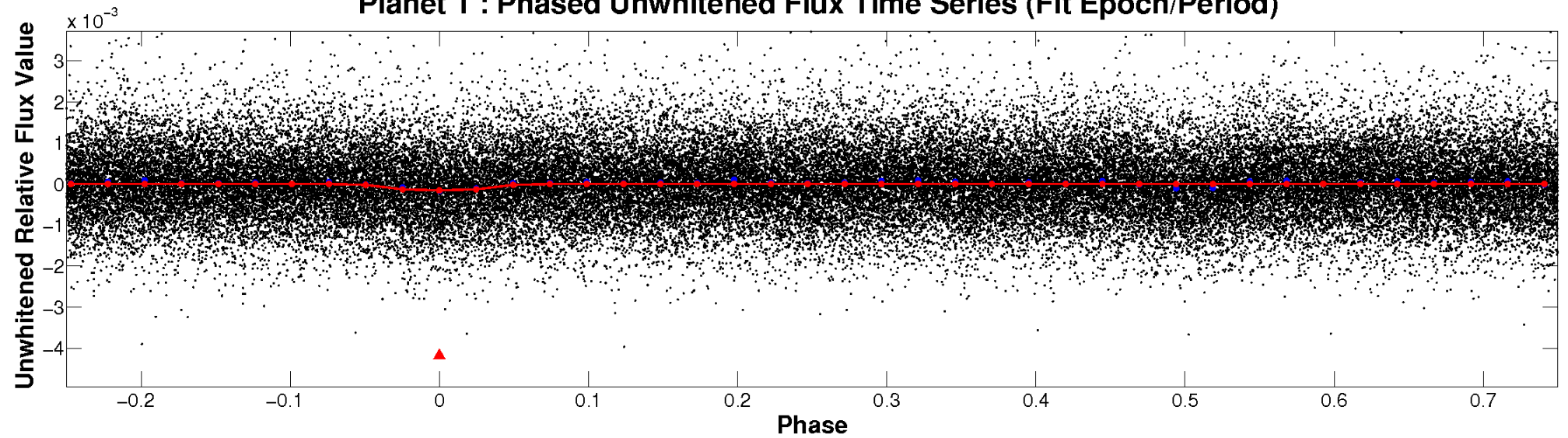
ALT Odd/Even

TCE 002016979-01

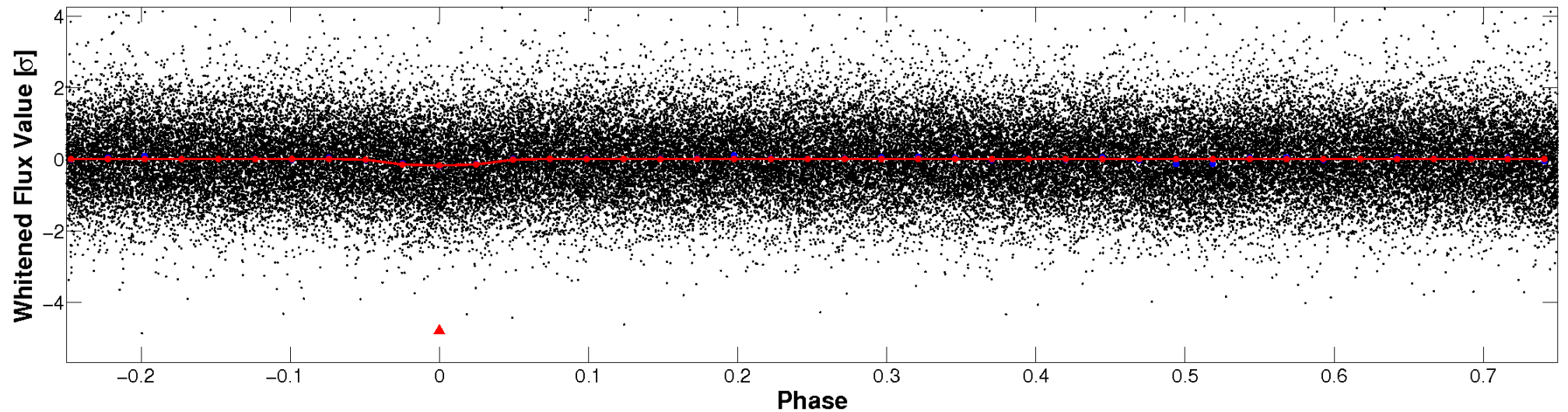


Non-Whitened Vs. Whitened Light Curve

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

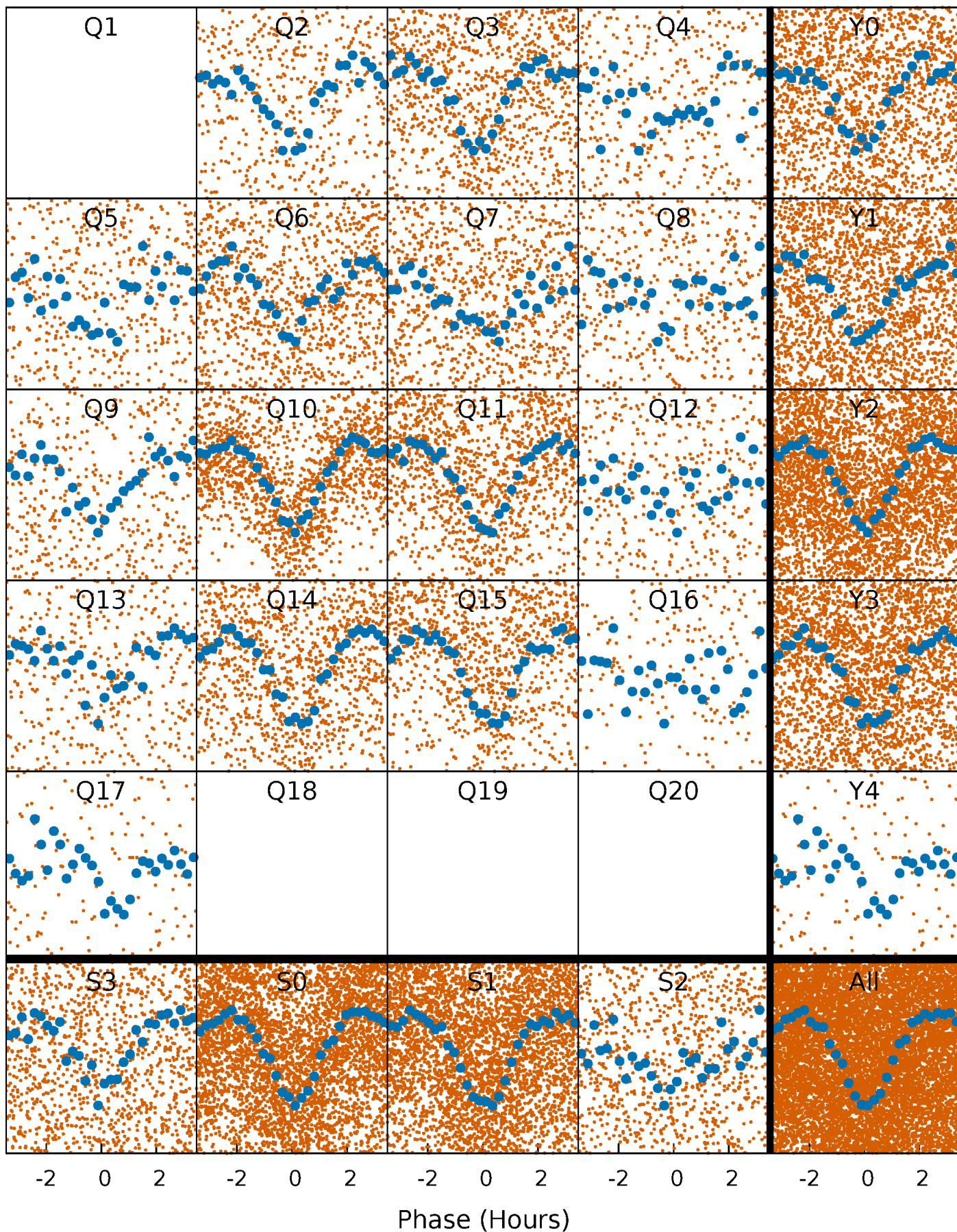


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



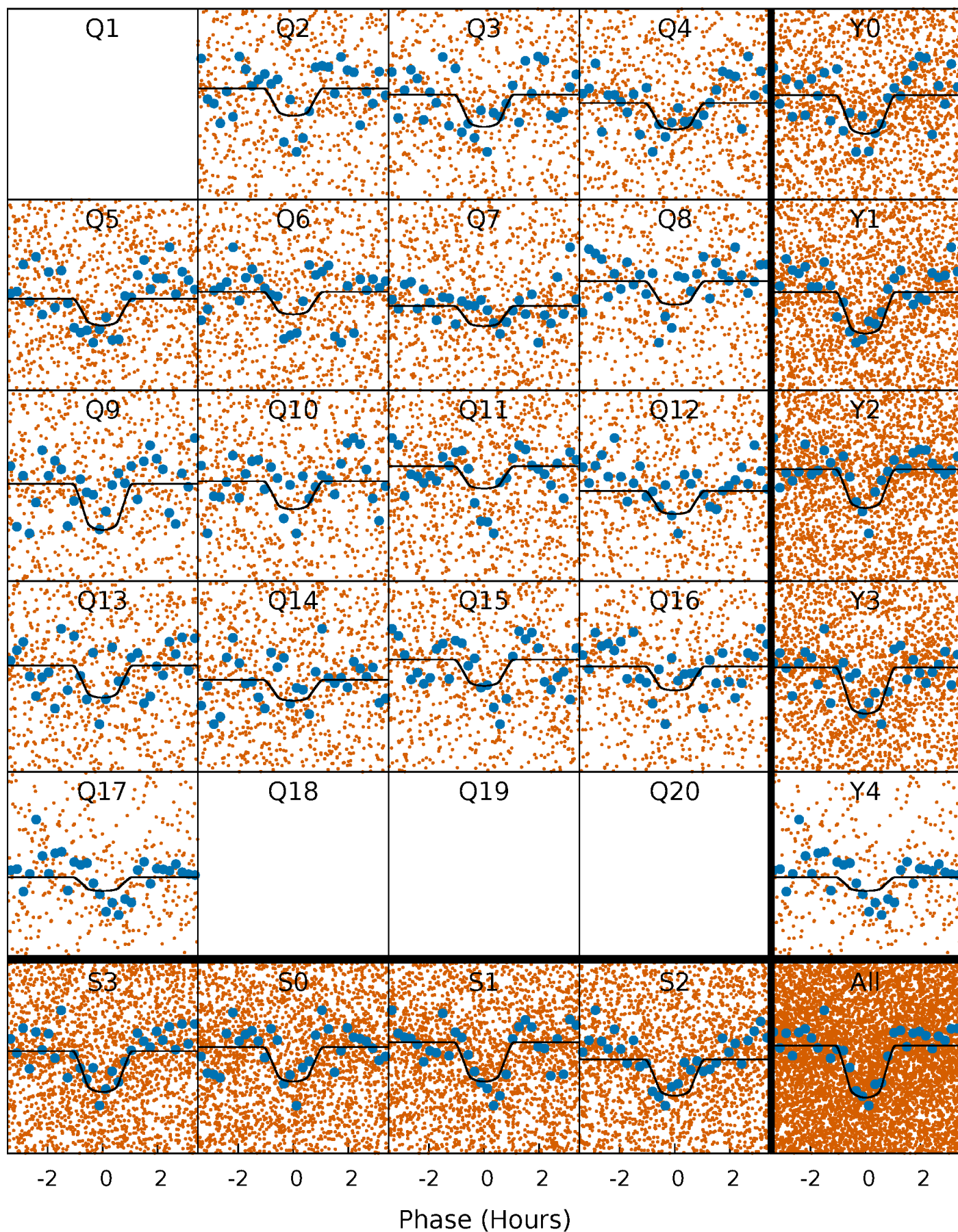
PDC Quarter-Phased Transit Curves

TCE 002016979-01 P= 0.827217 Days $T_0=131.630472$ (BKJD)



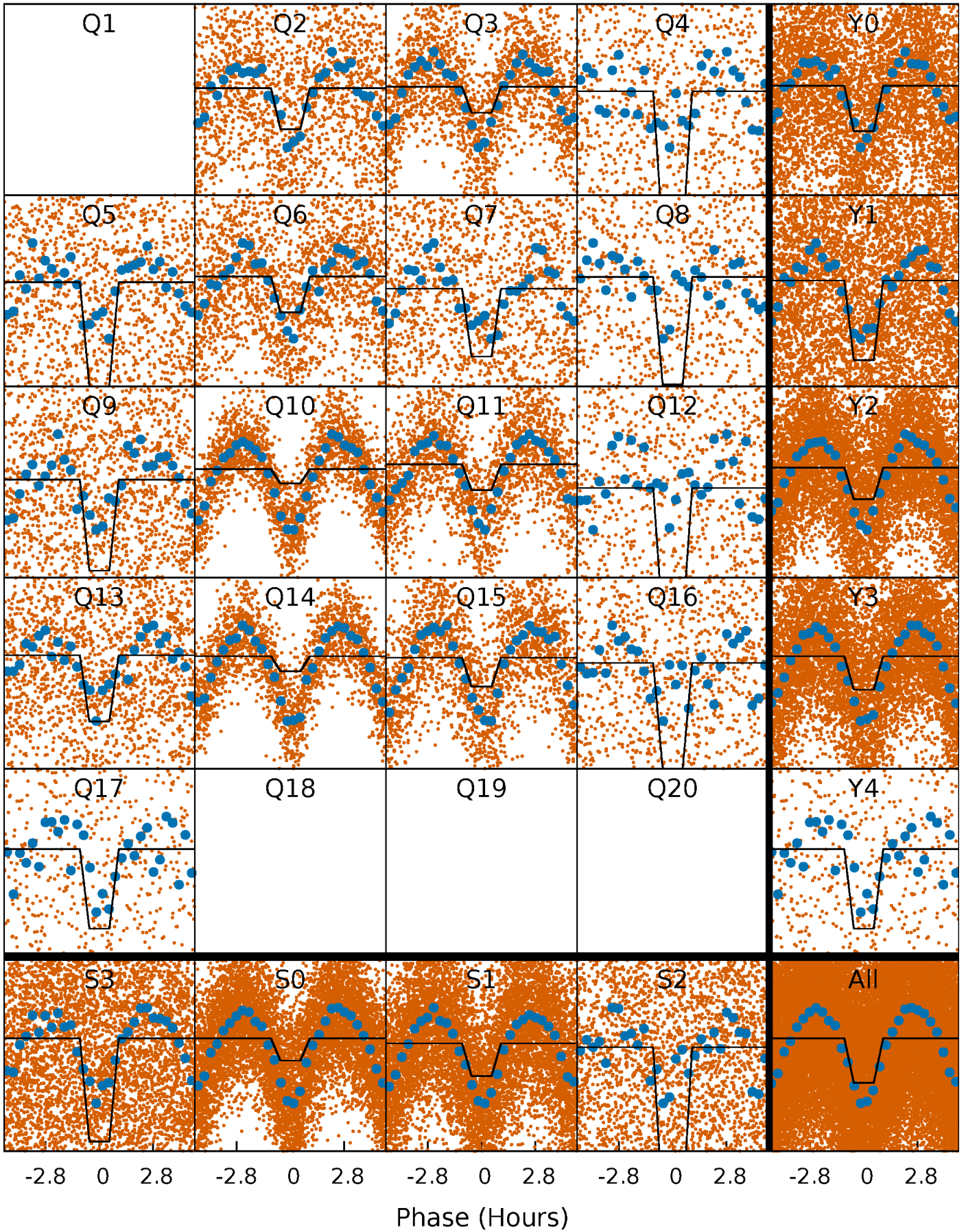
DV Quarter-Phased Transit Curves

TCE 002016979-01 P= 0.827217 Days $T_0=131.630472$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

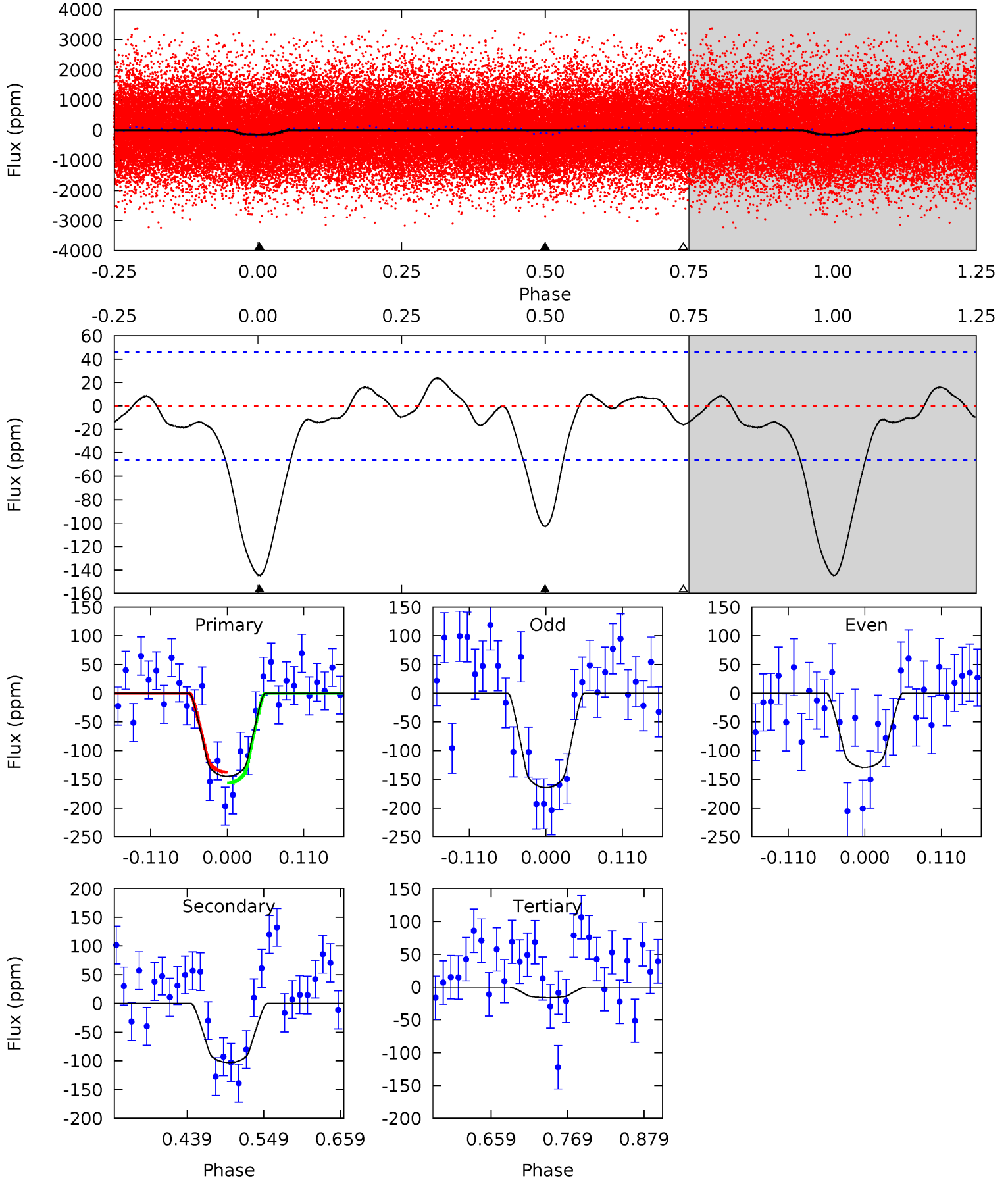
TCE 002016979-01 P= 0.827228 Days $T_0=131.621650$ (BKJD)



DV Model-Shift Uniqueness Test

002016979-01, P = 0.827217 Days, E = 131.630472 Days

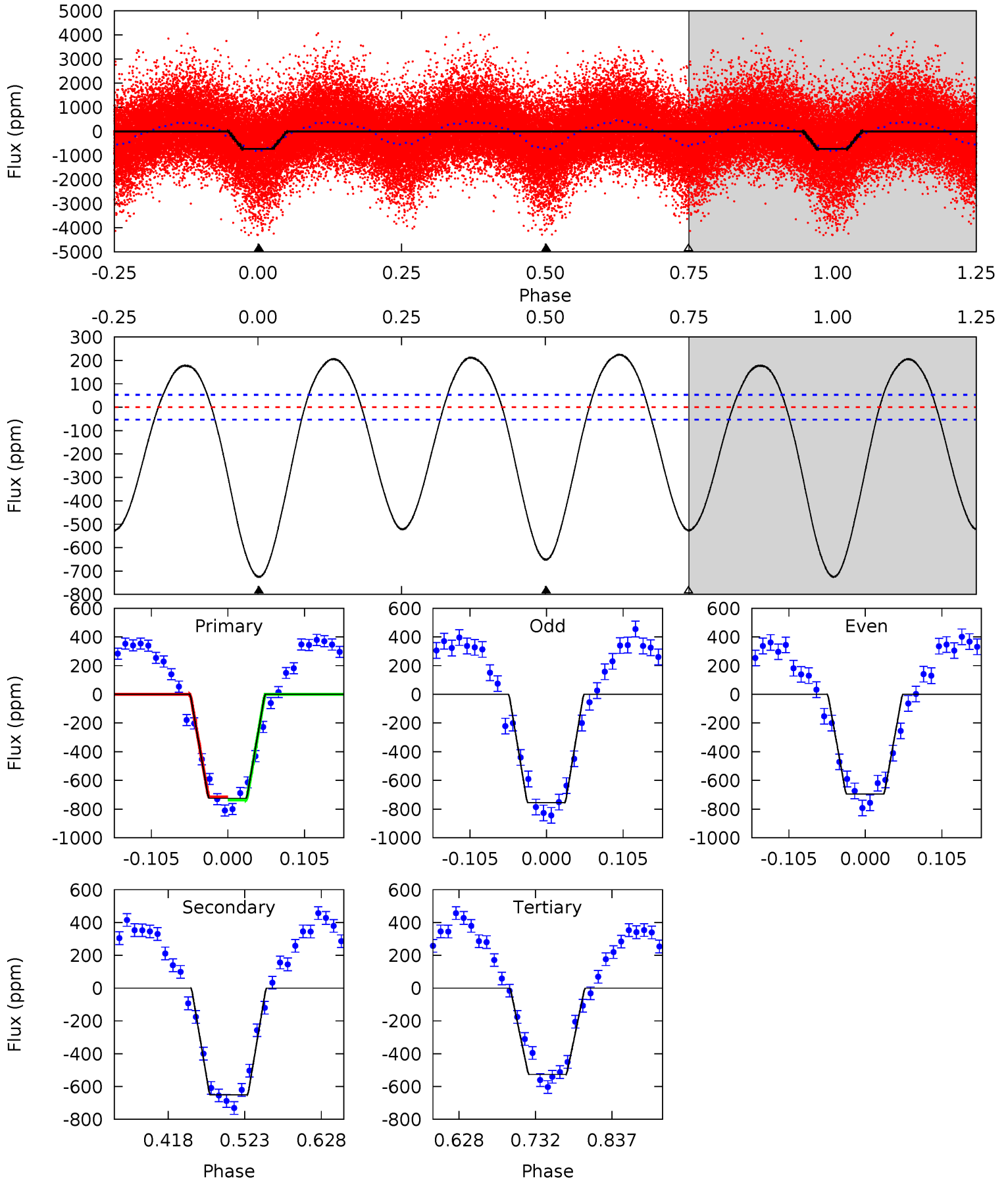
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.3	10.1	1.57	0	4.55	1.60	1.08	12.7	14.3	8.57	10.1	1.75	0.95	0.14	0.93



Alt Model-Shift Uniqueness Test

002016979-01, P = 0.827228 Days, E = 131.621650 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
62.0	55.7	44.9	0	4.56	1.62	22.5	17.0	62.0	10.7	55.7	2.55	1.17	0.24	0.89



Stellar Parameters For KIC 002016979

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4418^{+126}_{-141}	$4.759^{+0.063}_{-0.031}$	$-1.360^{+0.300}_{-0.300}$	$0.486^{+0.031}_{-0.050}$	$0.495^{+0.034}_{-0.034}$	$6.059^{+1.616}_{-0.782}$
	+3%/-3%	+1%/-1%	+22%/-22%	+6%/-10%	+7%/-7%	+27%/-13%
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 002016979-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-103 ± 10	$0.77^{+0.42}_{-0.42}$	1618^{+54}_{-66}	3868^{+1315}_{-541}	18^{+66}_{-11}
Alt.	-652 ± 12	$1.24^{+0.44}_{-0.45}$	1610^{+61}_{-57}	4554^{+990}_{-520}	44^{+65}_{-20}

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 $A_{obs} \gg 1.0$

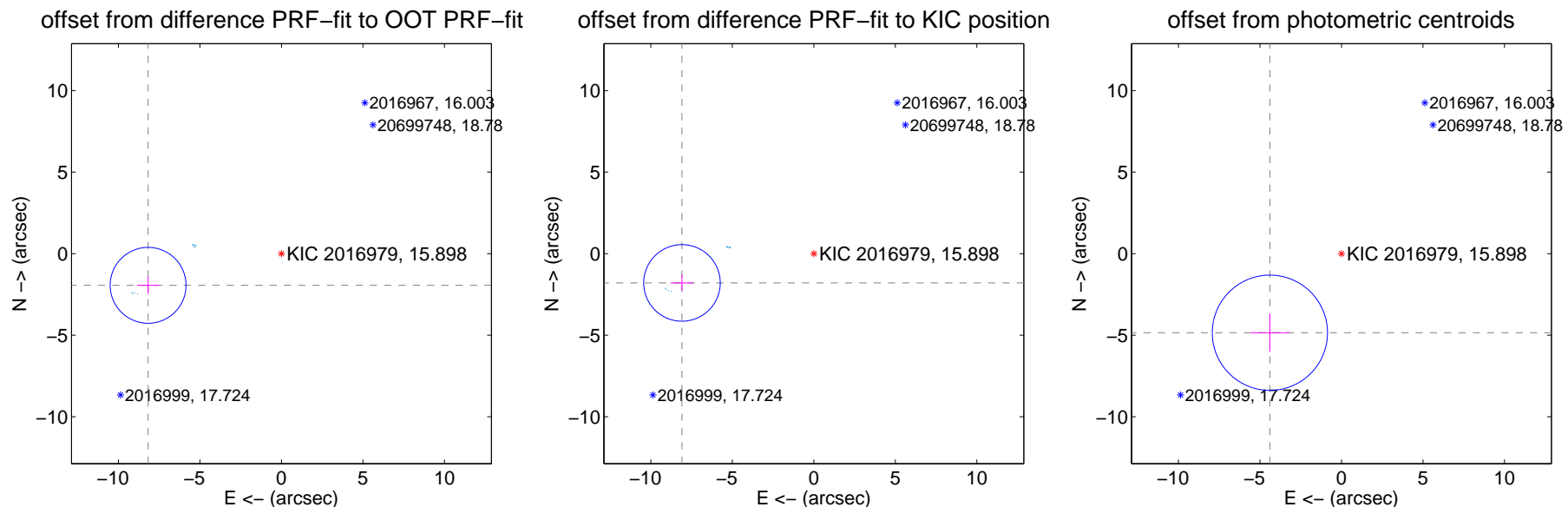
DV Centroid Data

Supplemental centroid analysis for 002016979-01. Kepler magnitude: 15.90. Transit SNR 10.55

There are 8 quarters with good PRF difference image offsets

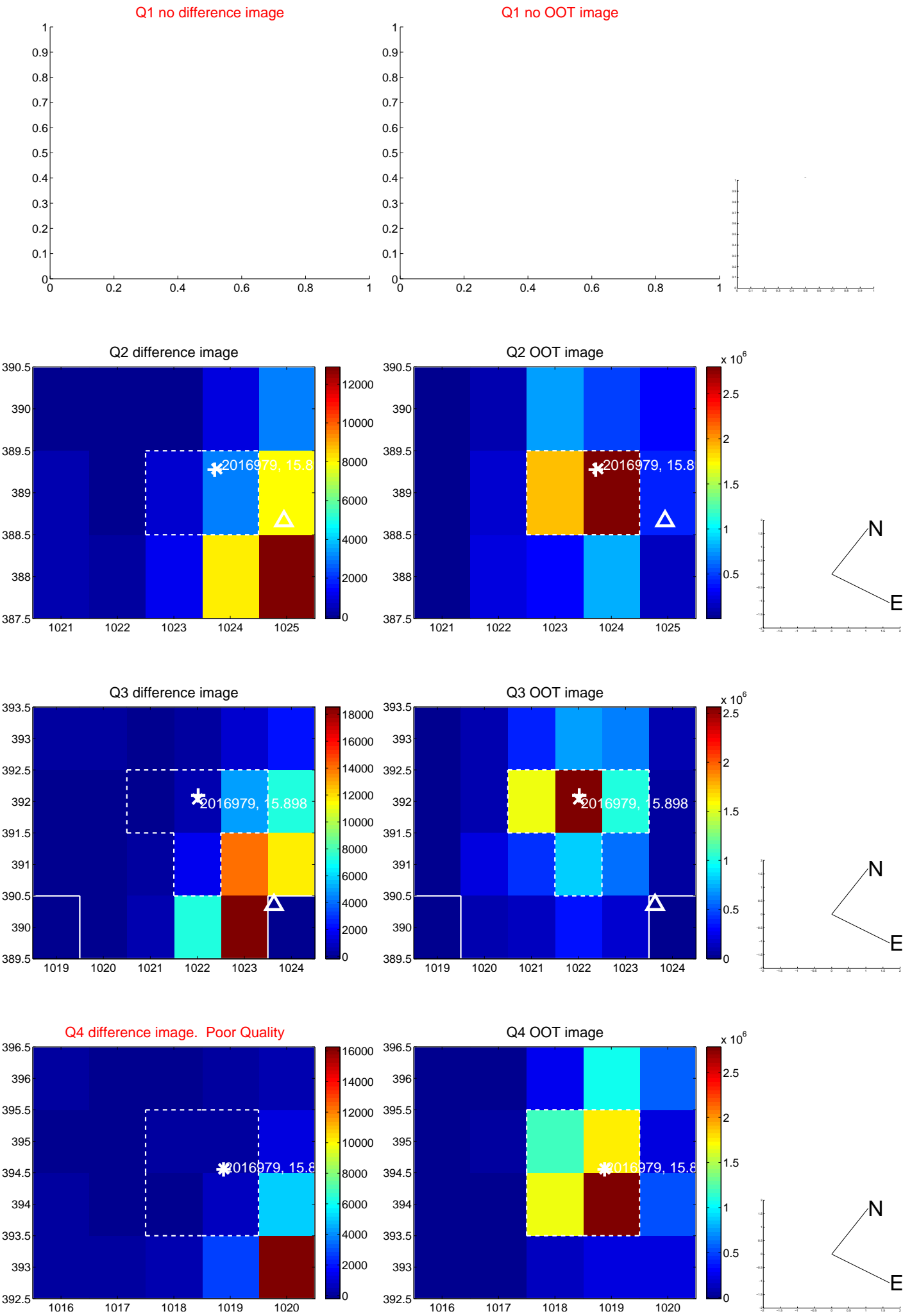
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.406 ± 0.775	10.84	8.179 ± 0.672	-1.942 ± 0.535
PRF-fit source offset from KIC position	8.286 ± 0.783	10.59	8.089 ± 0.693	-1.795 ± 0.497
photometric centroid source offset	6.54 ± 1.18	5.55	4.39 ± 1.18	-4.85 ± 1.18

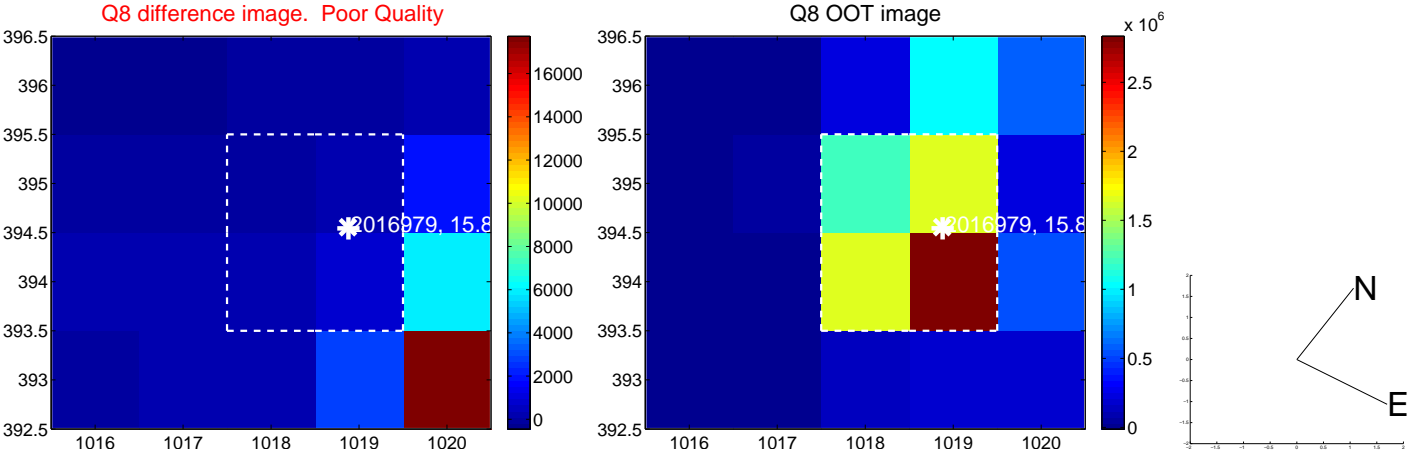
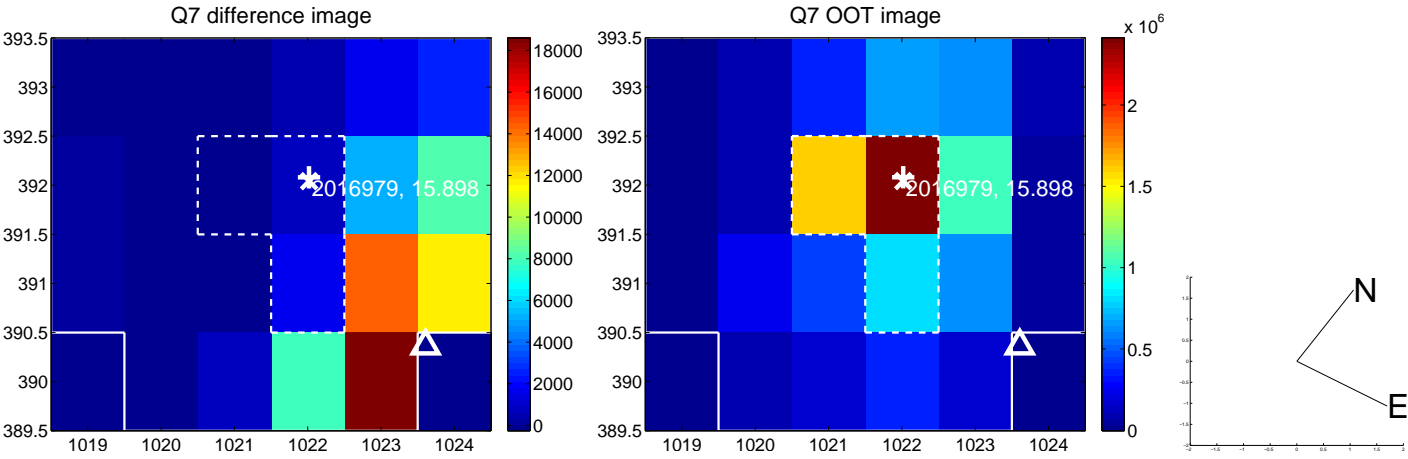
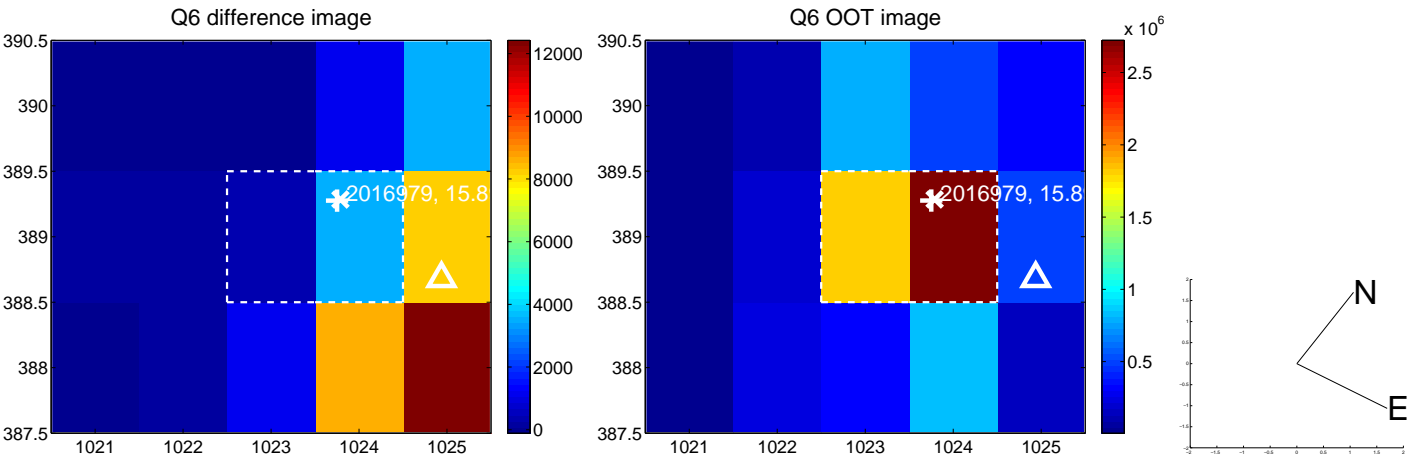
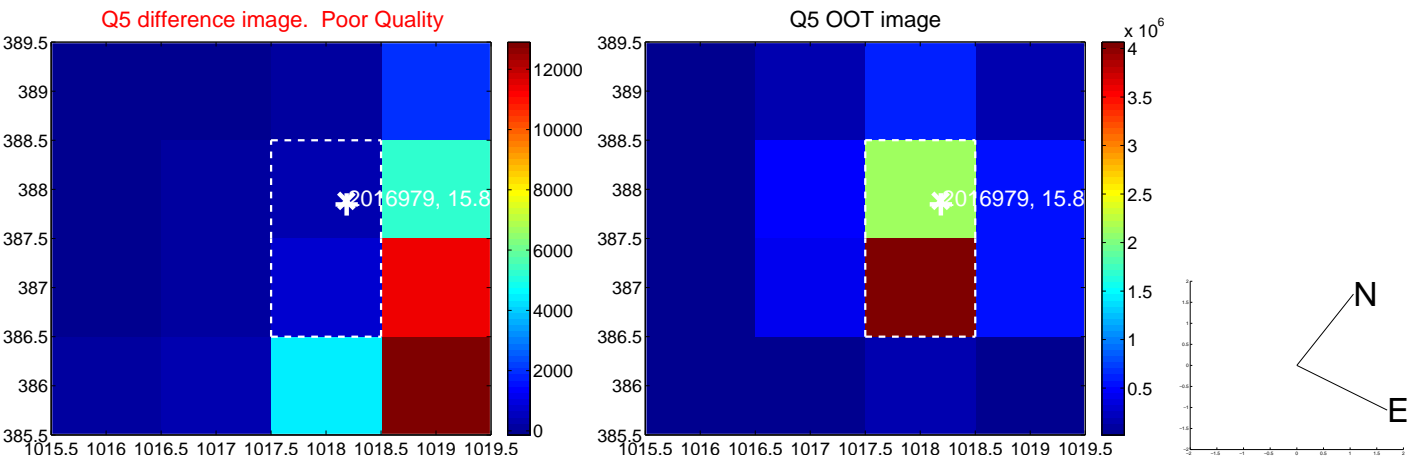


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

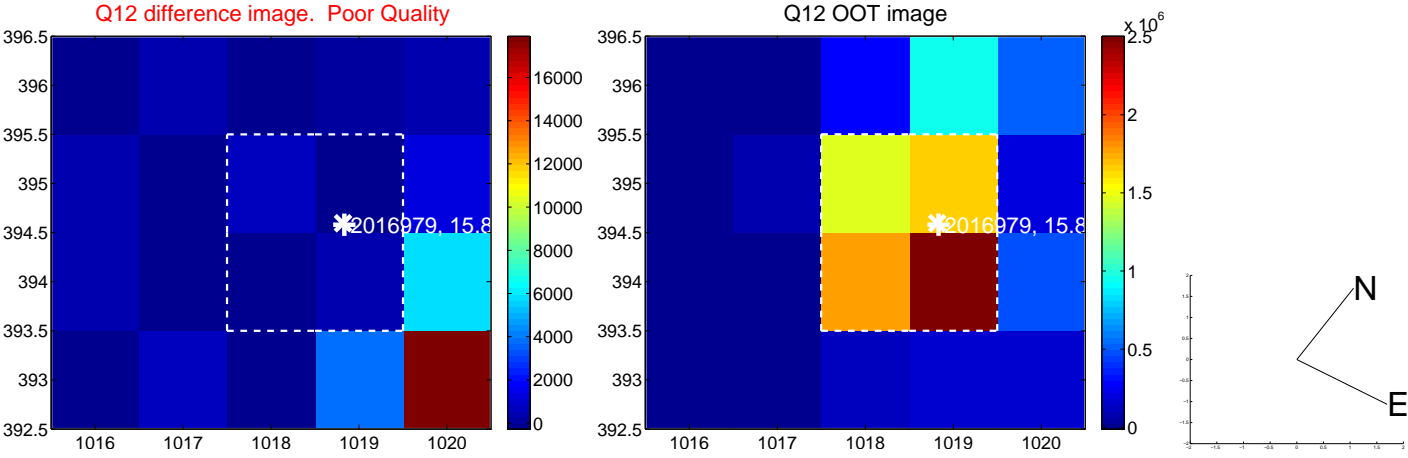
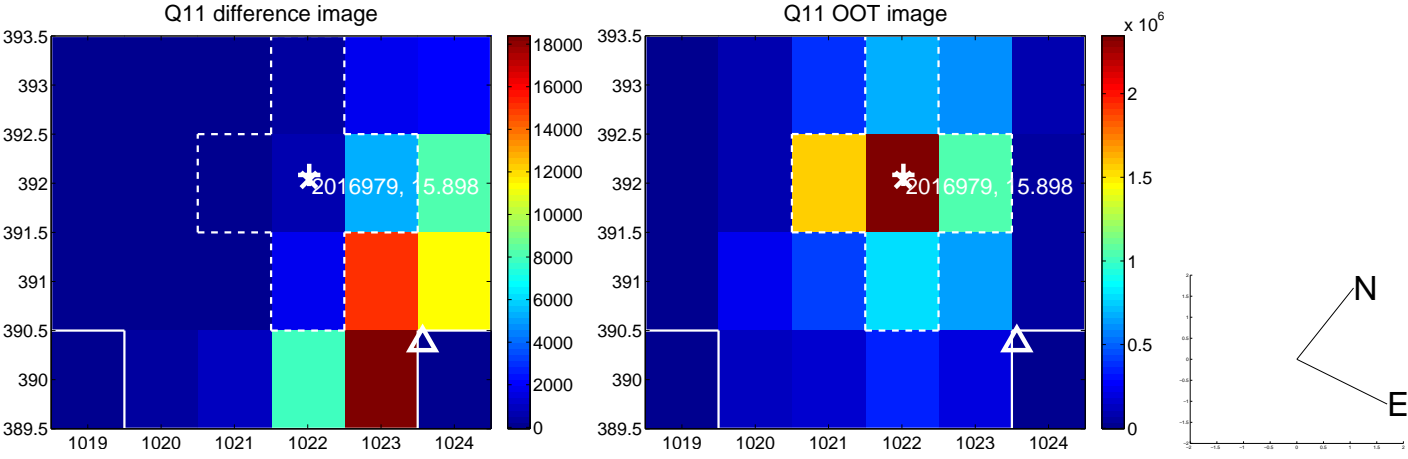
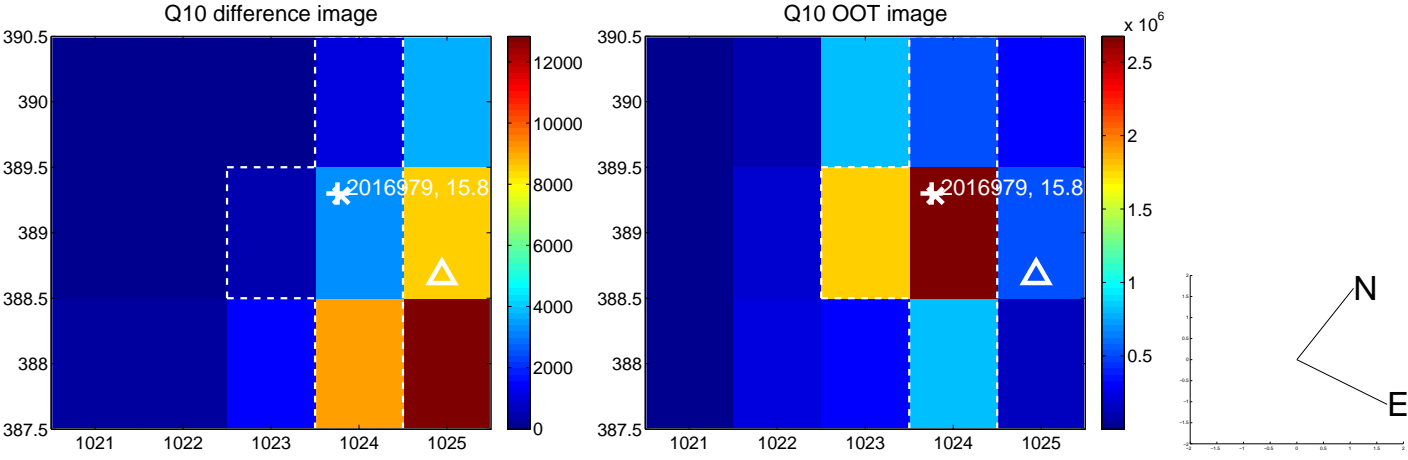
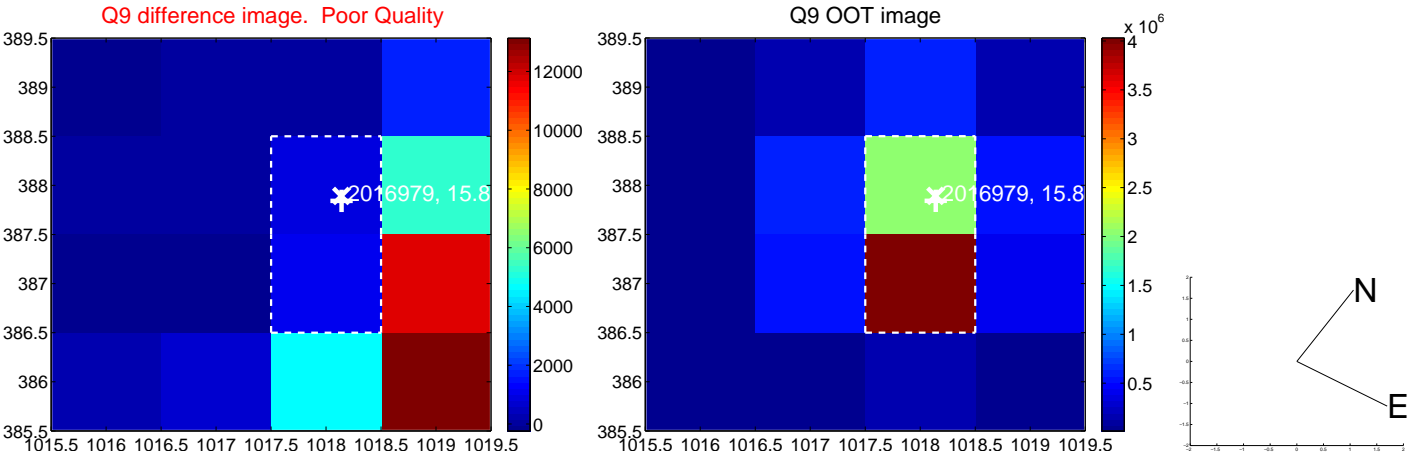
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



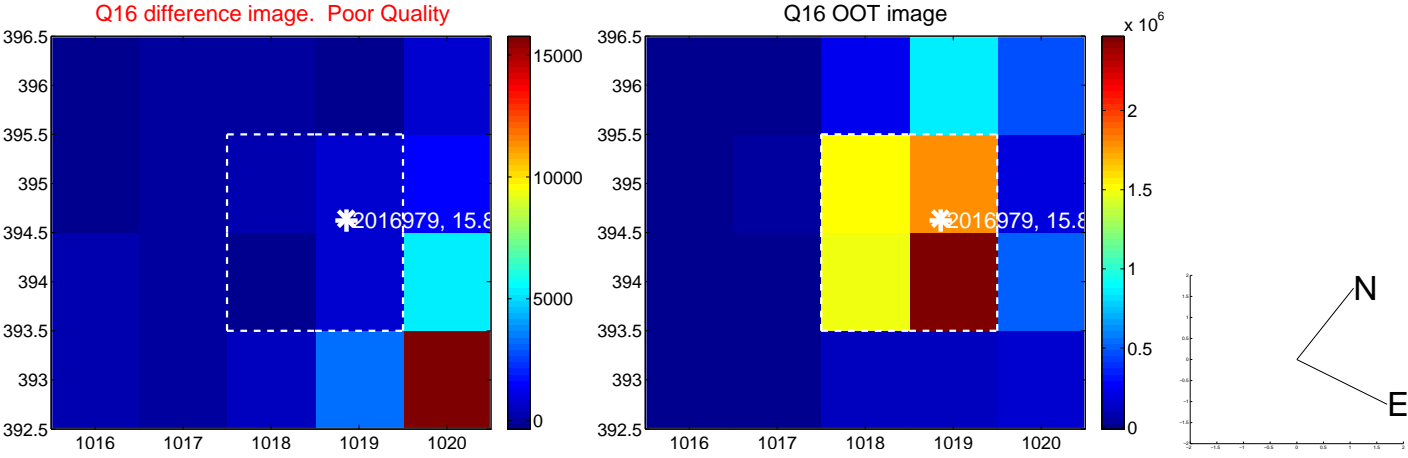
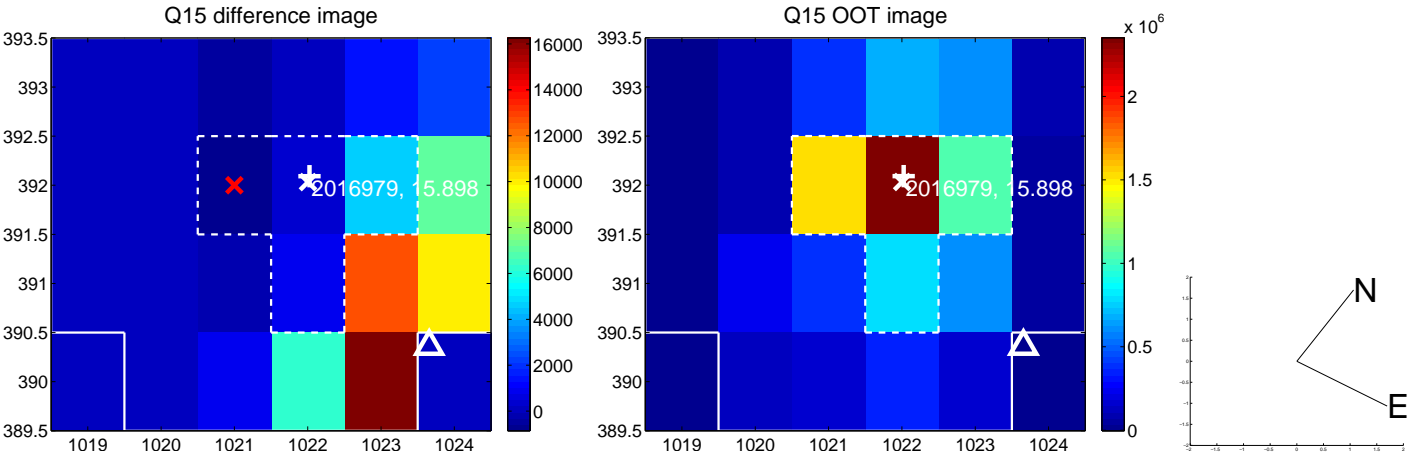
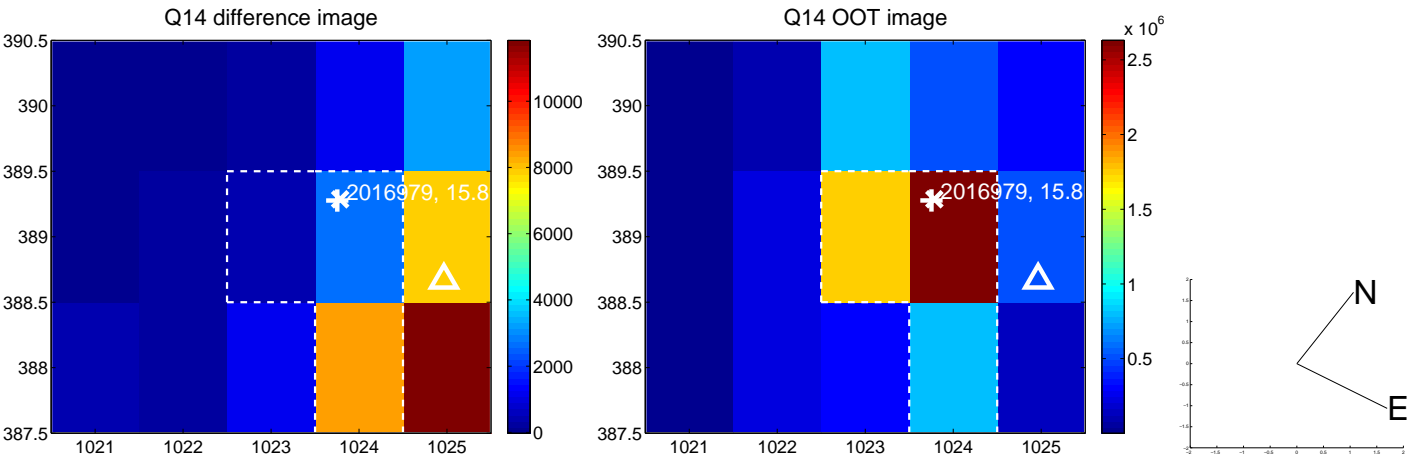
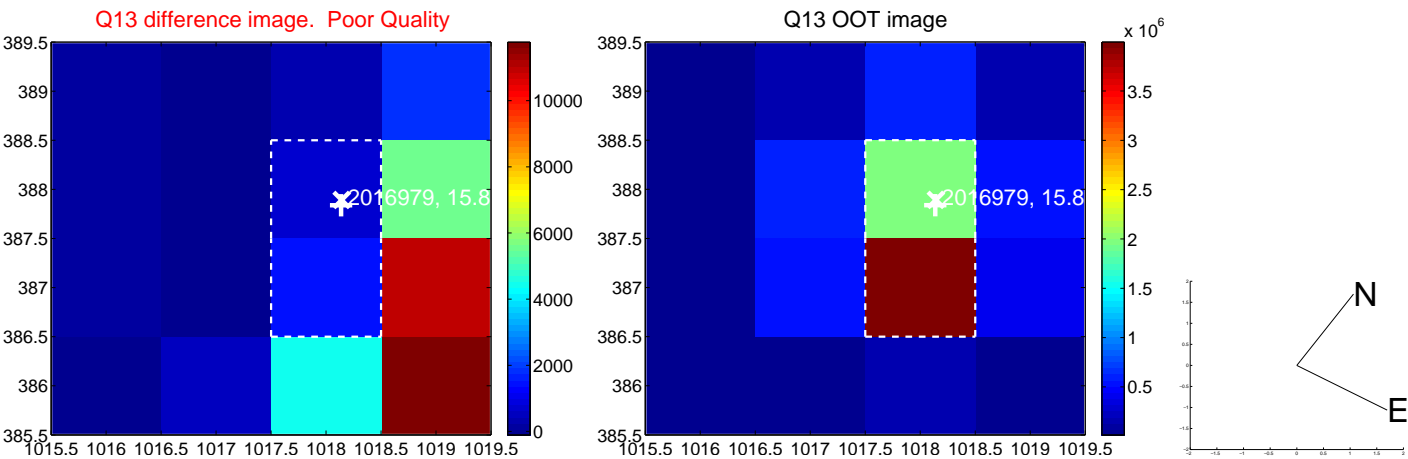
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



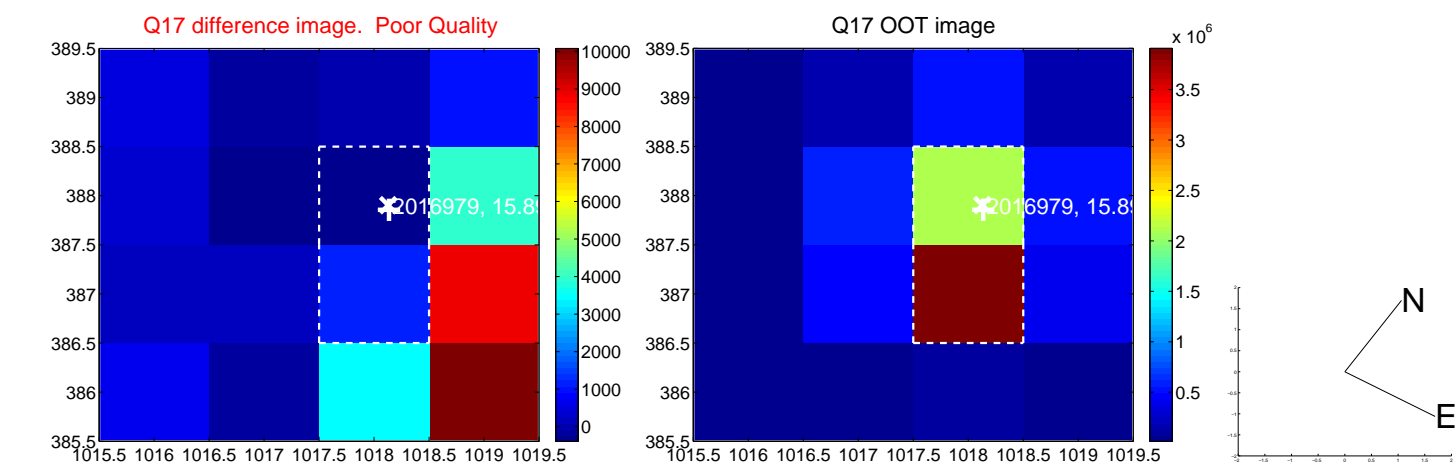
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



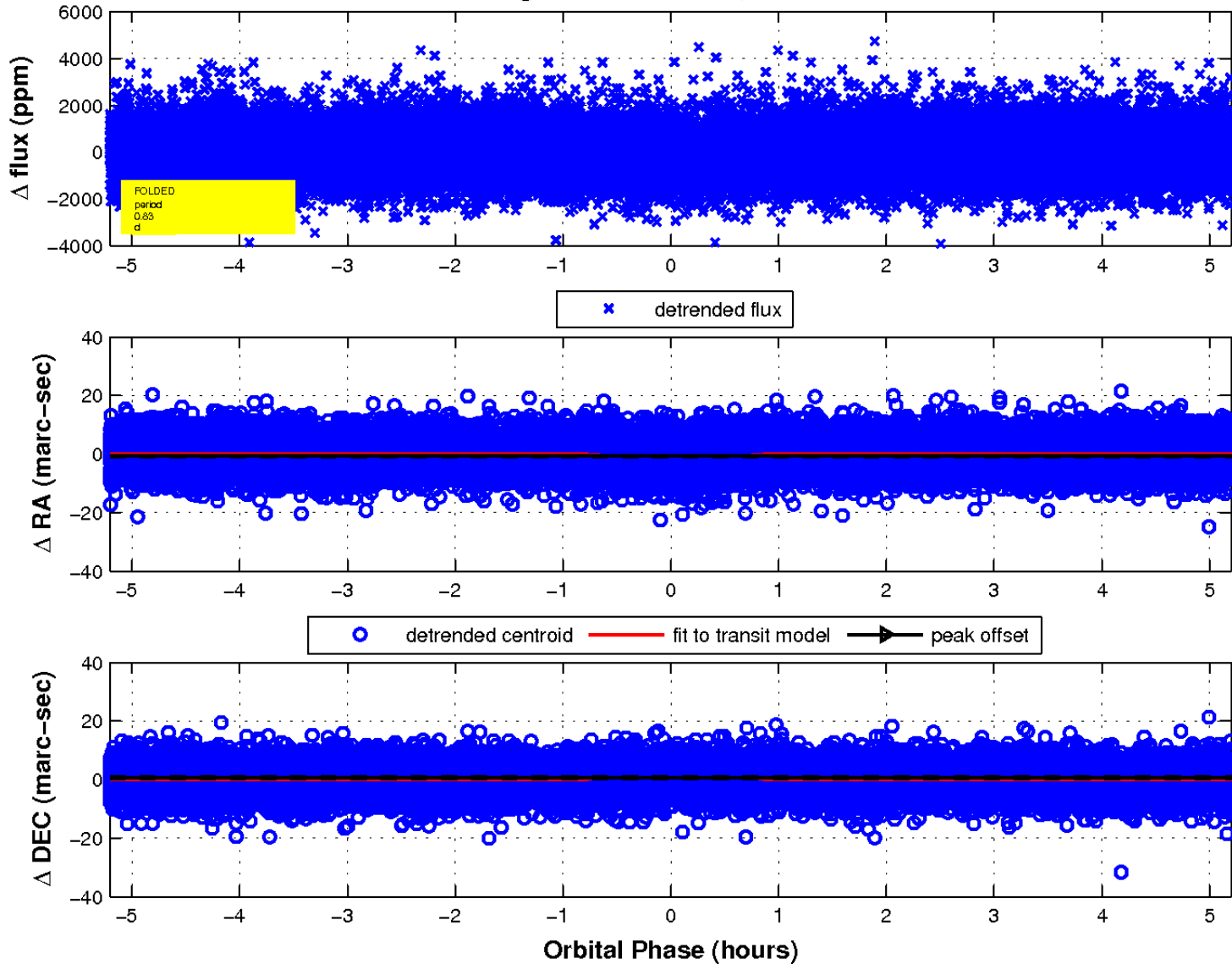
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

