

KIC 005731451

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})
005731451-01	OBS	No	0.937668	132.224627	38.5	3.780	8.9	9.3	0.96	6184	0.70	3564.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005731451-01	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.

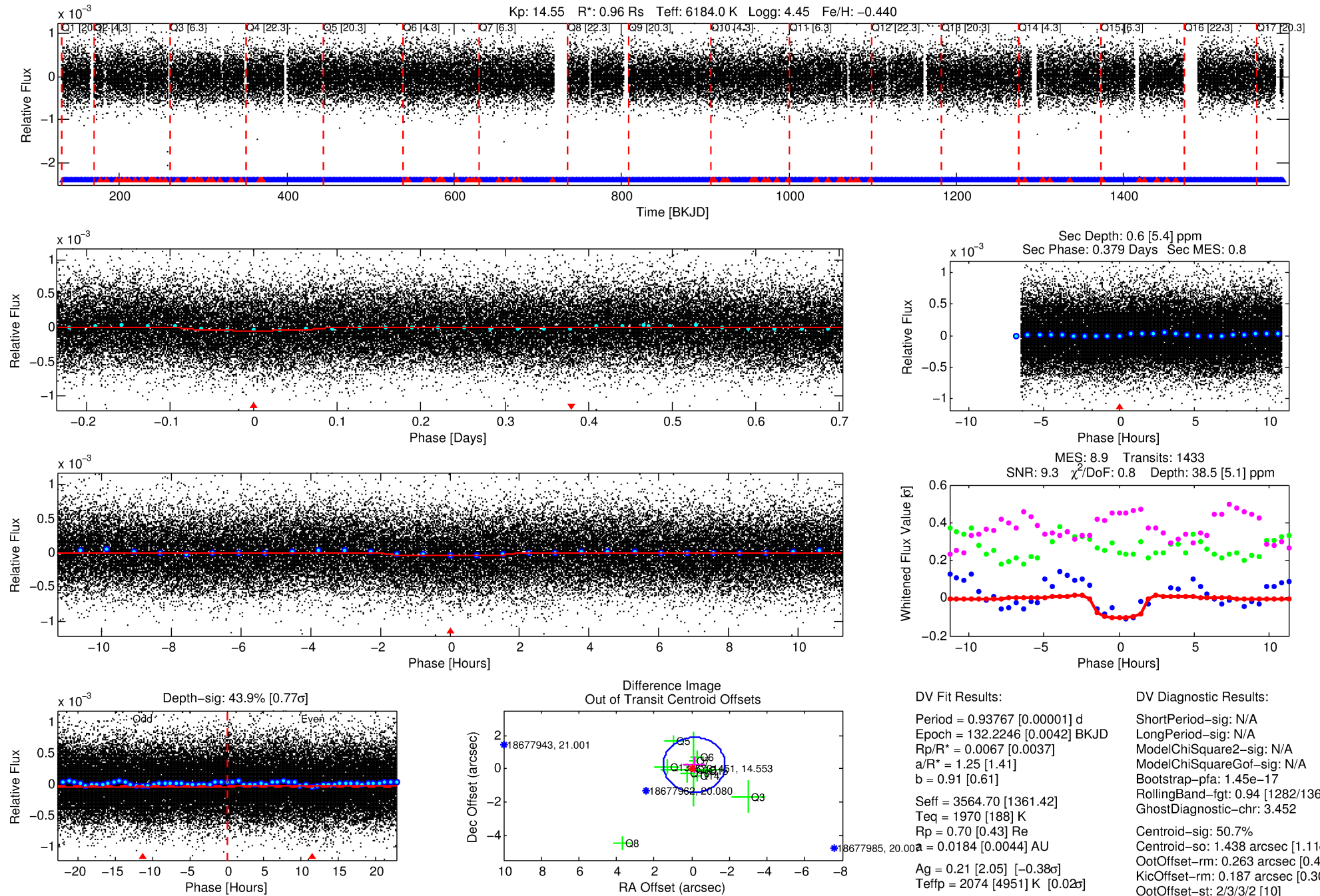
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005731451-01

No Significant Match Found

DV One-Page Summary

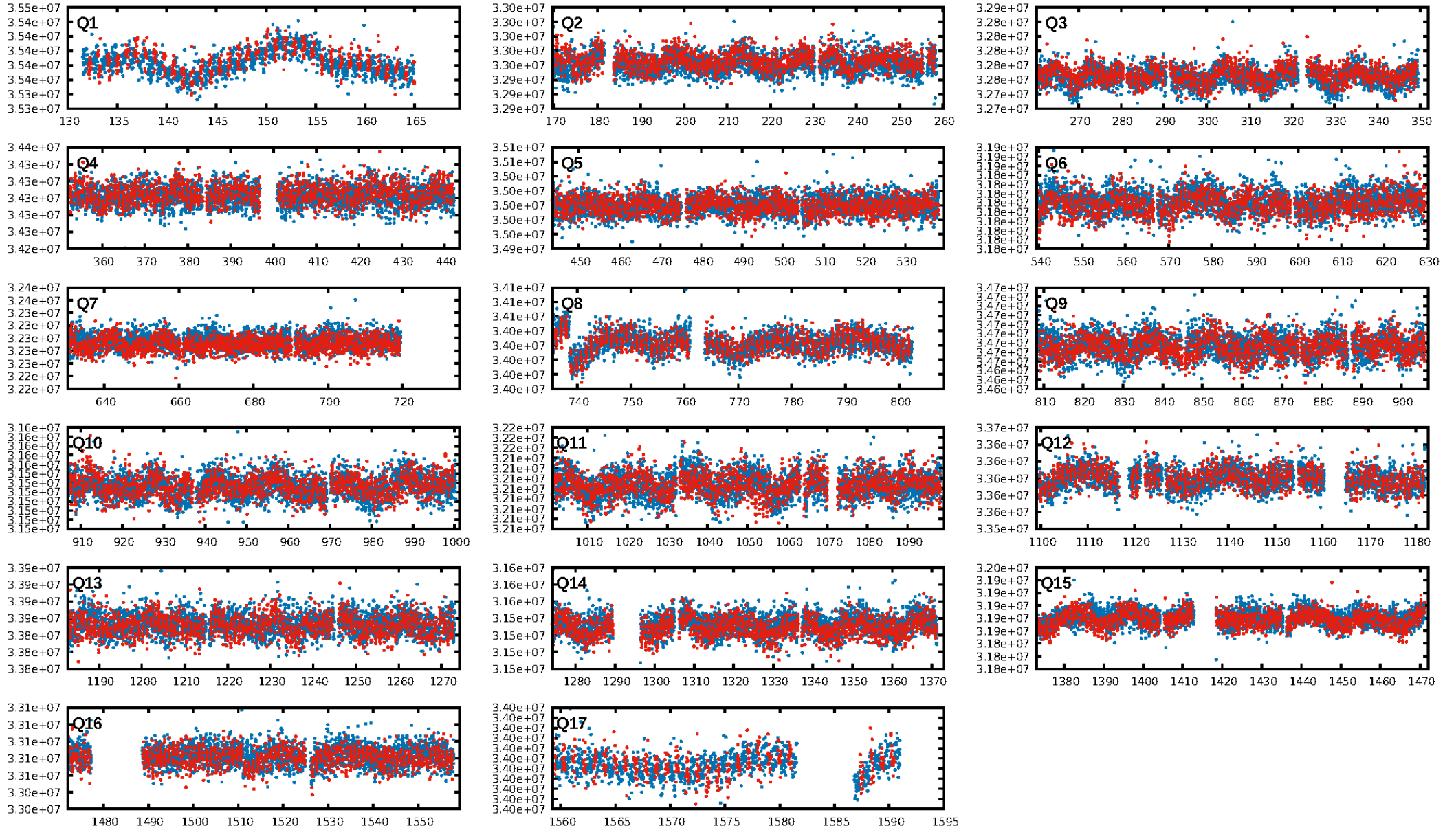
KIC: 5731451 Candidate: 1 of 1 Period: 0.938 d



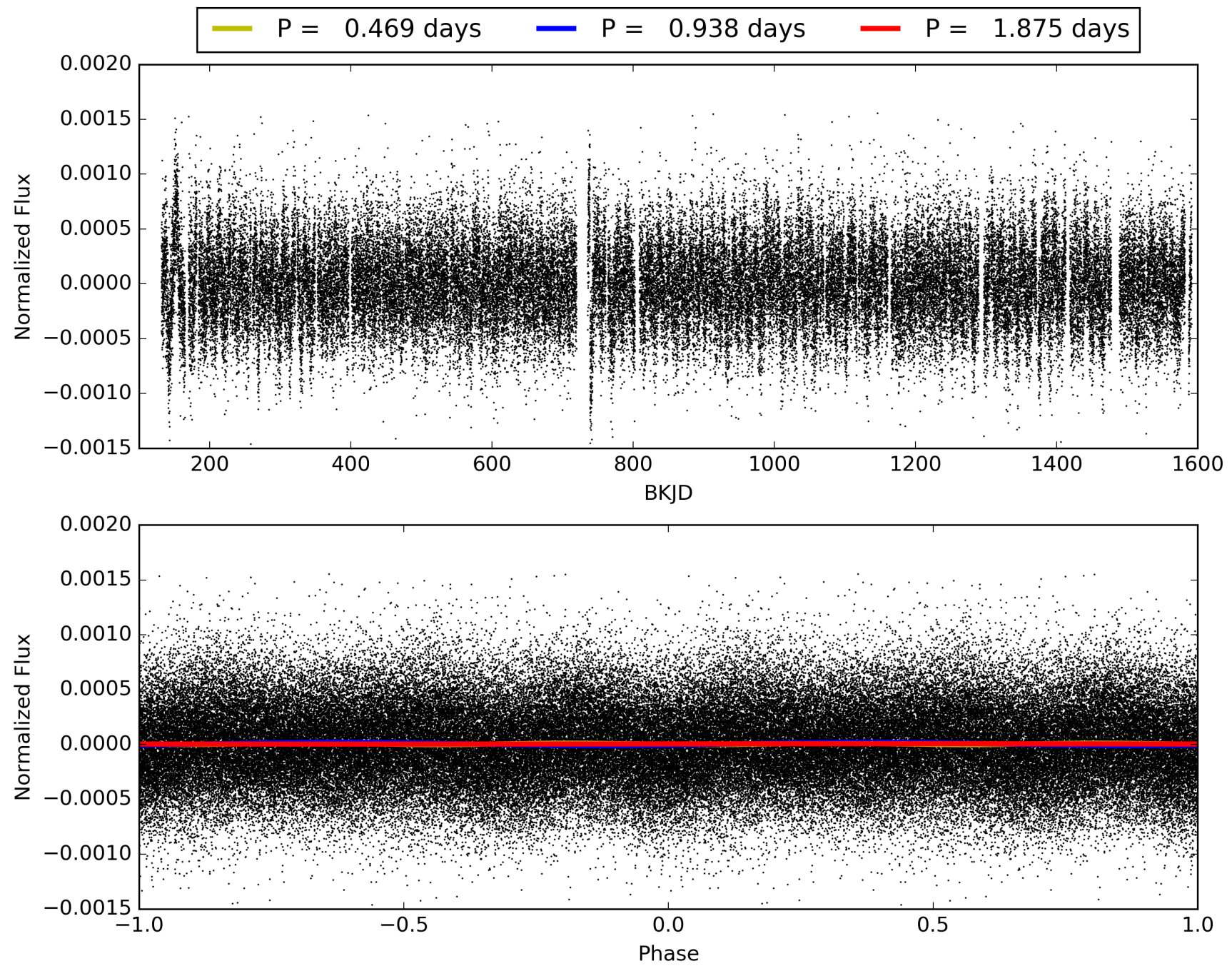
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:47:47 Z

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

TCE 005731451-01, PDC Light Curves

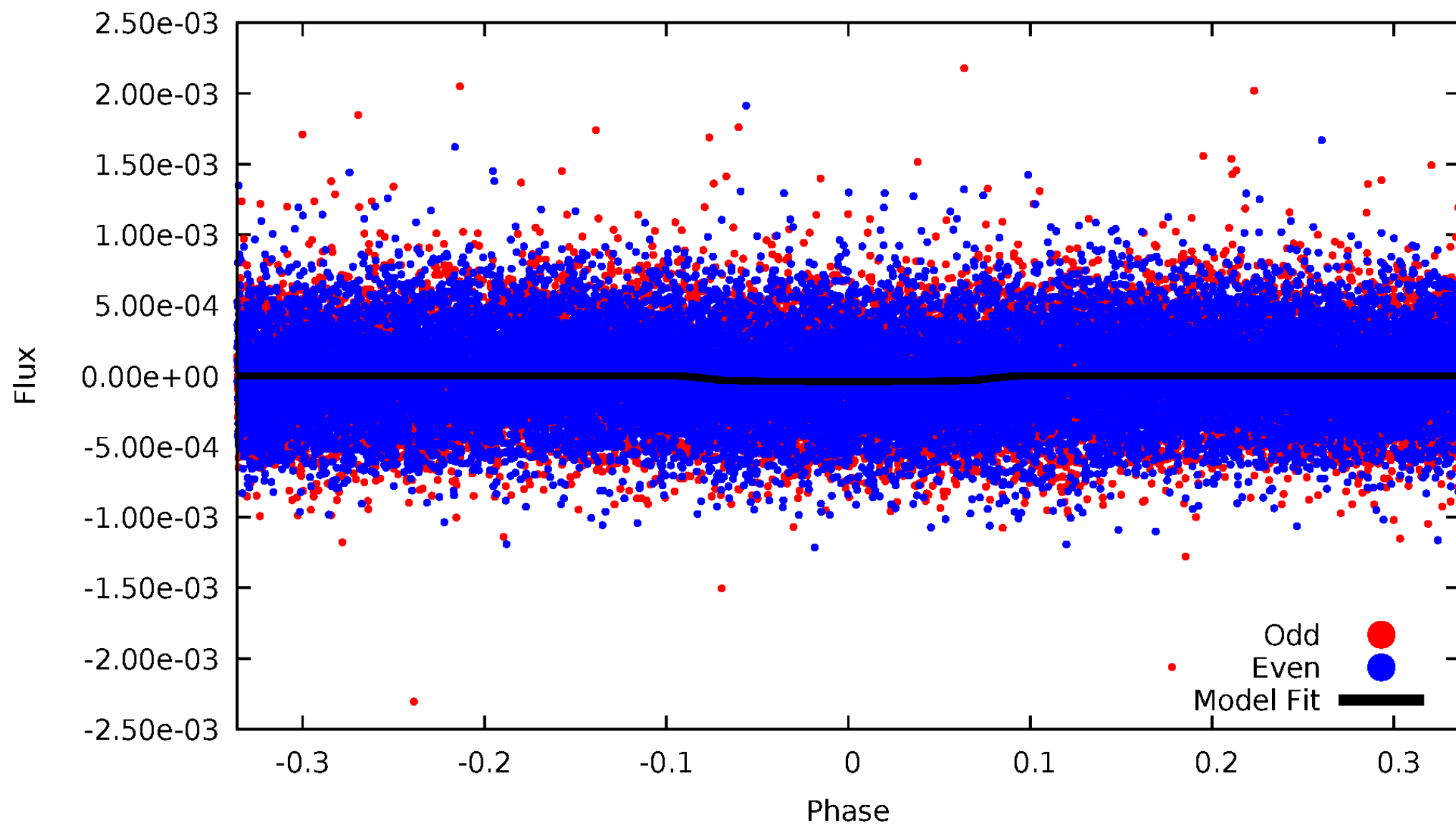


TCE 005731451-01



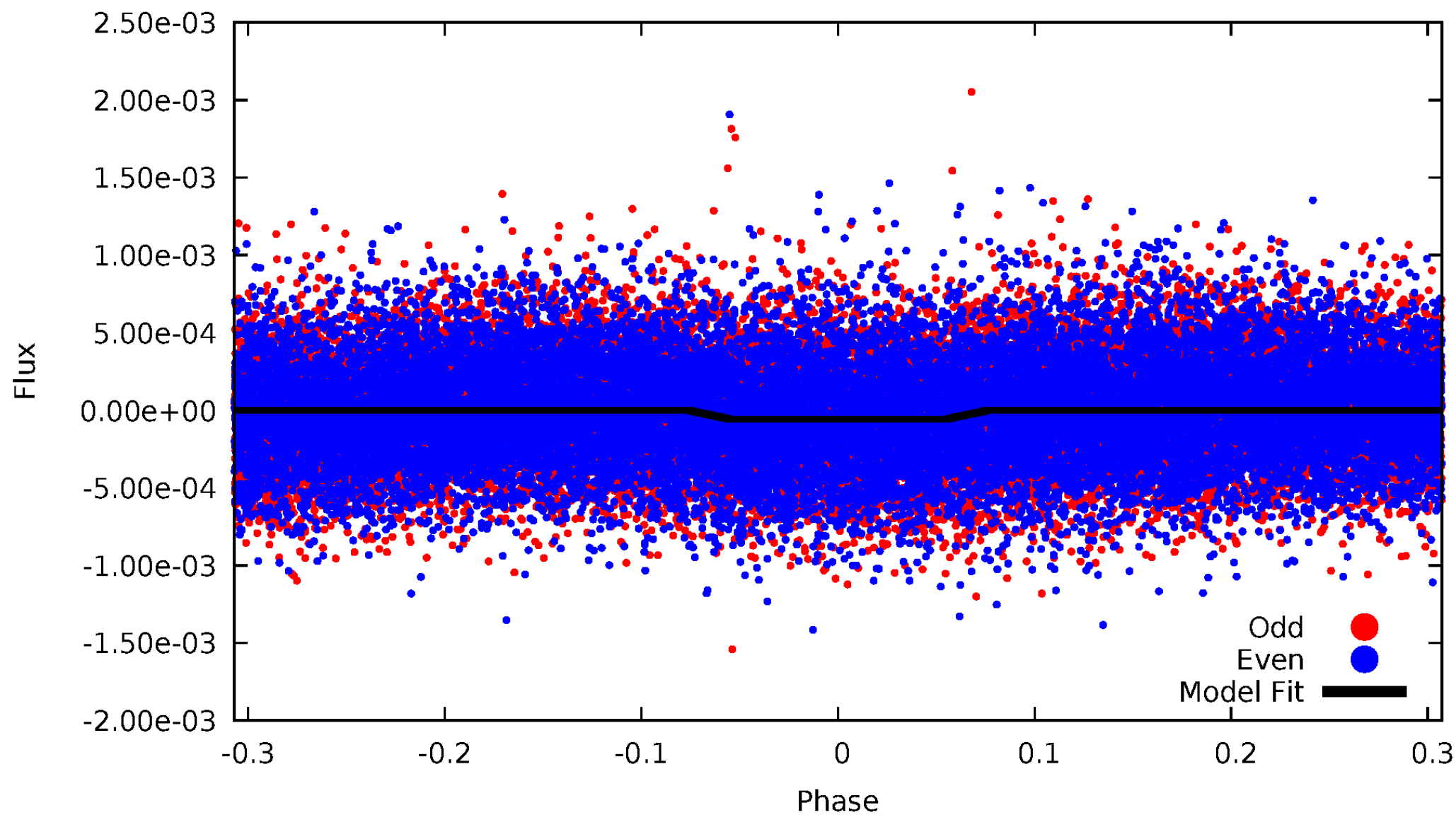
DV Odd/Even

TCE 005731451-01



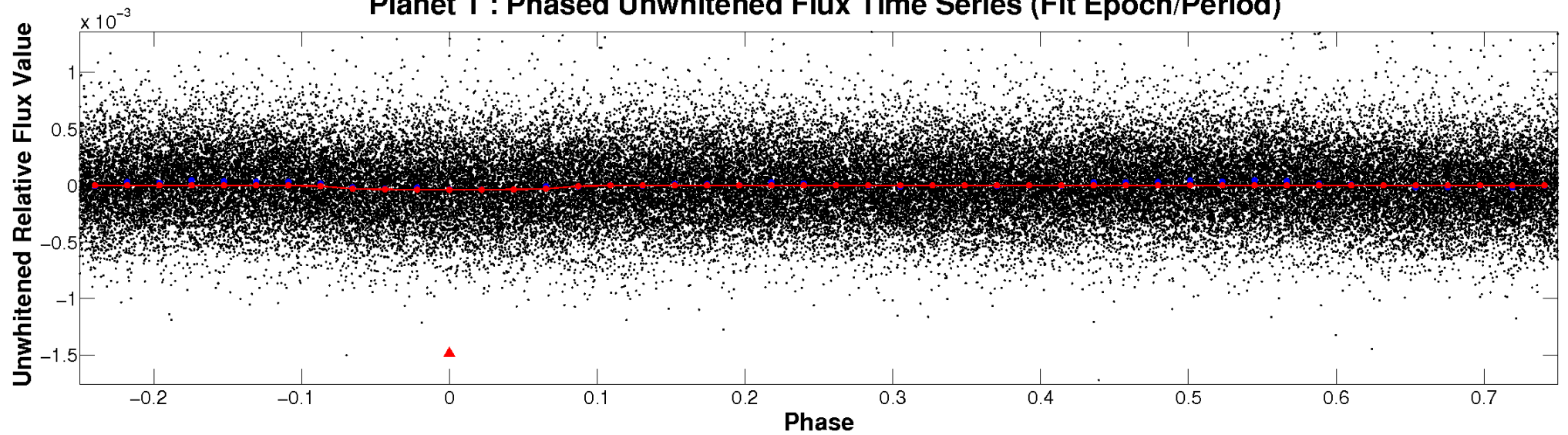
ALT Odd/Even

TCE 005731451-01

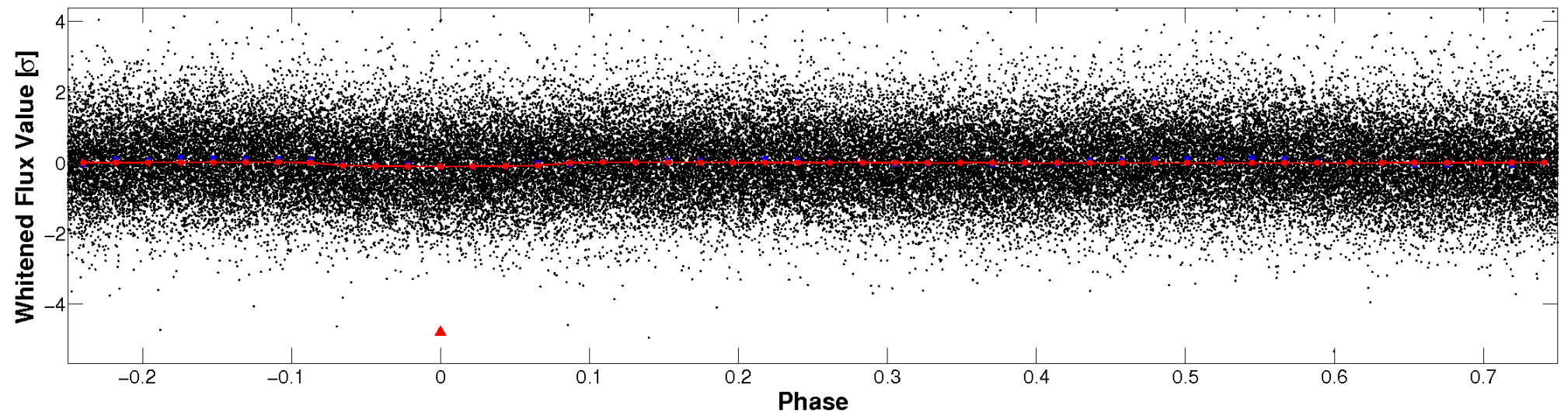


Non-Whitened Vs. Whitened Light Curve

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

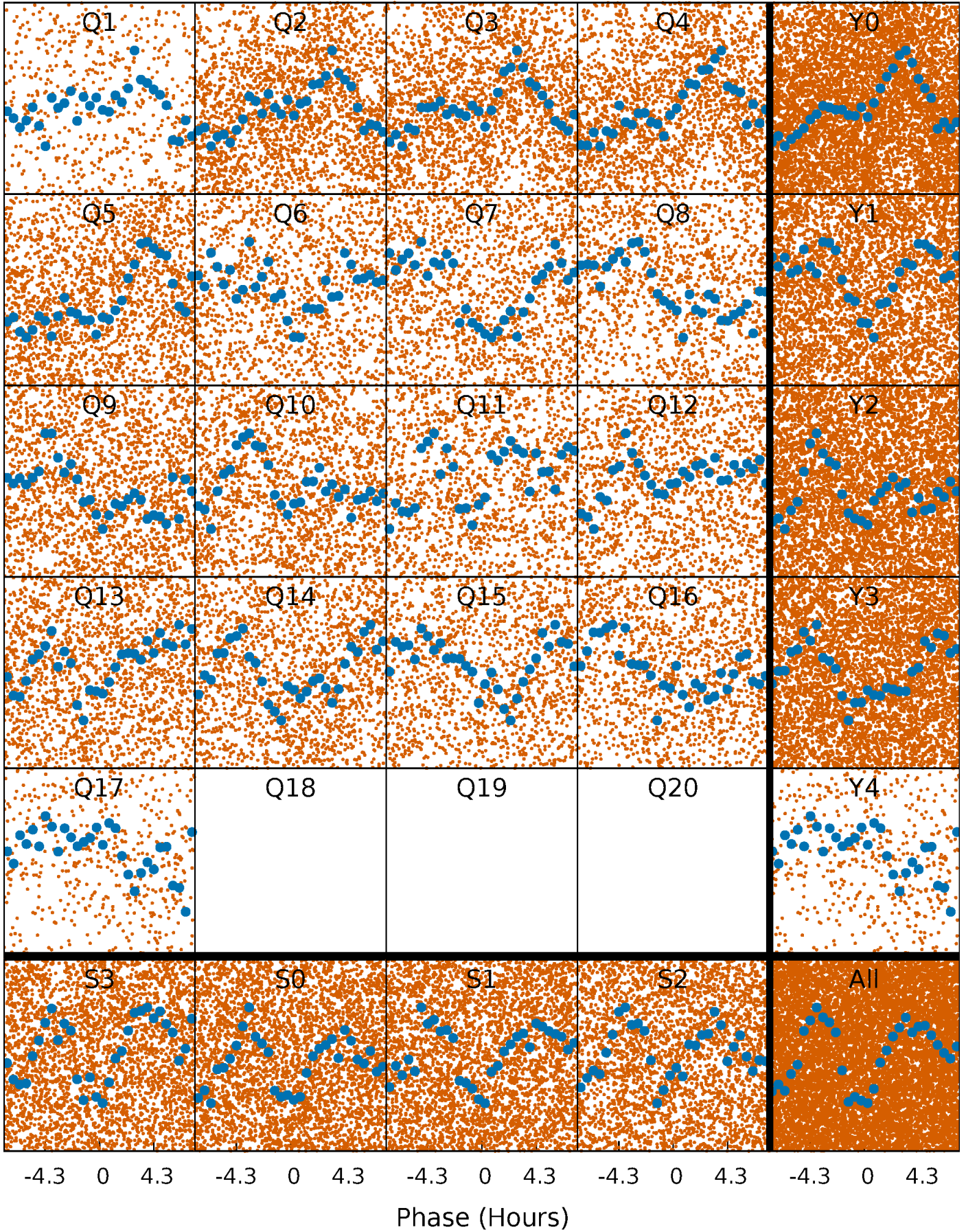


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



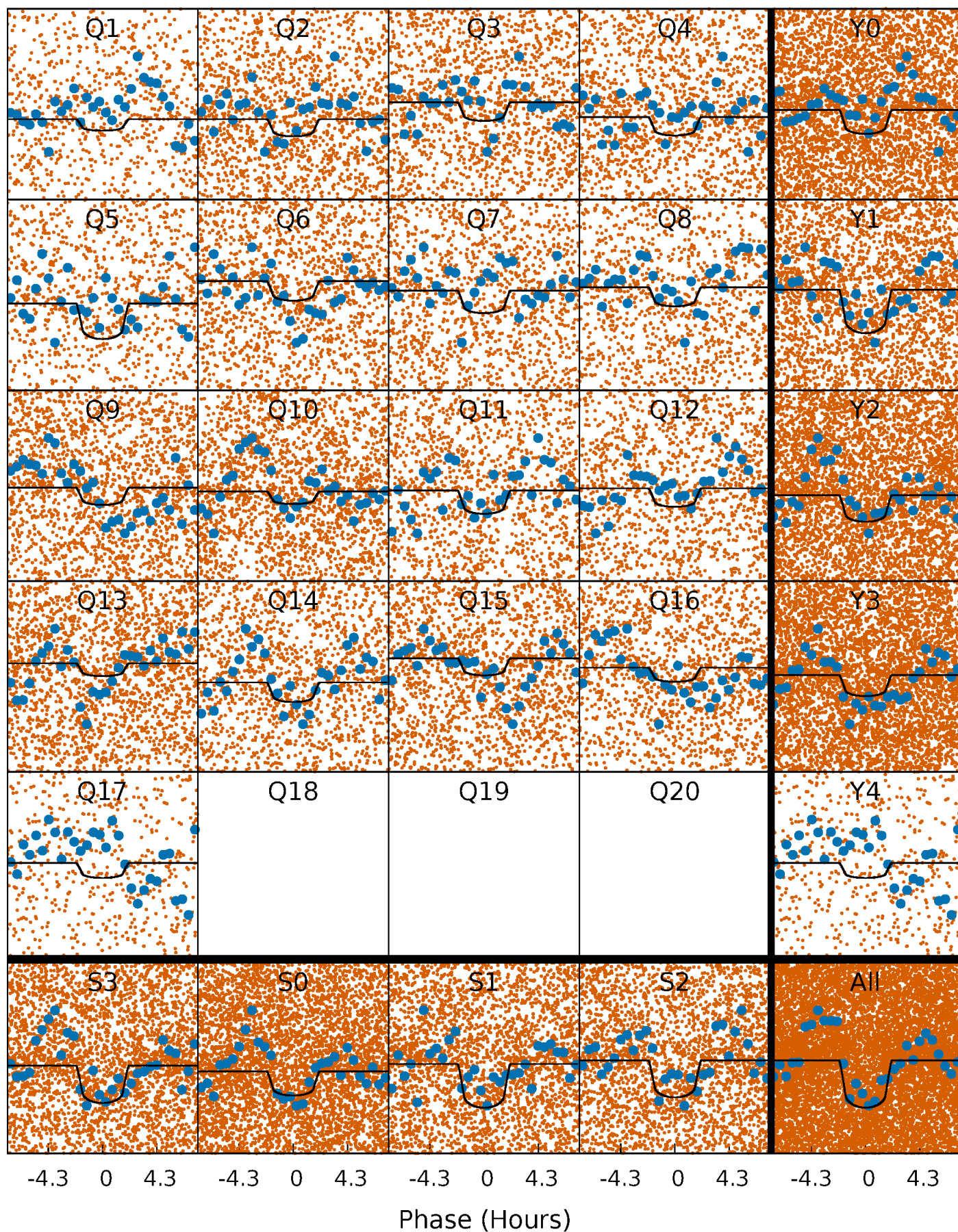
PDC Quarter-Phased Transit Curves

TCE 005731451-01 P= 0.937668 Days $T_0=132.224627$ (BKJD)



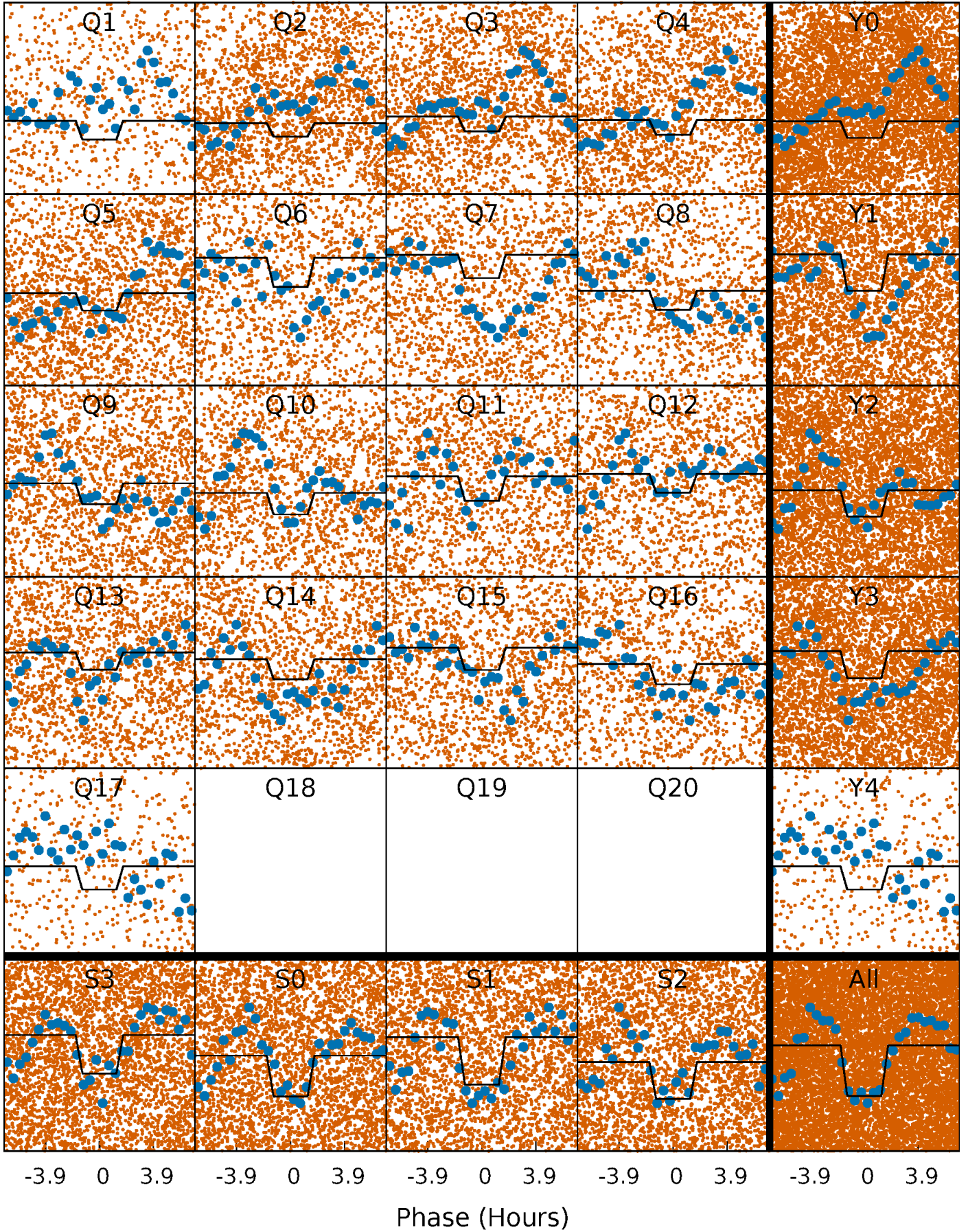
DV Quarter-Phased Transit Curves

TCE 005731451-01 P= 0.937668 Days $T_0=132.224627$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

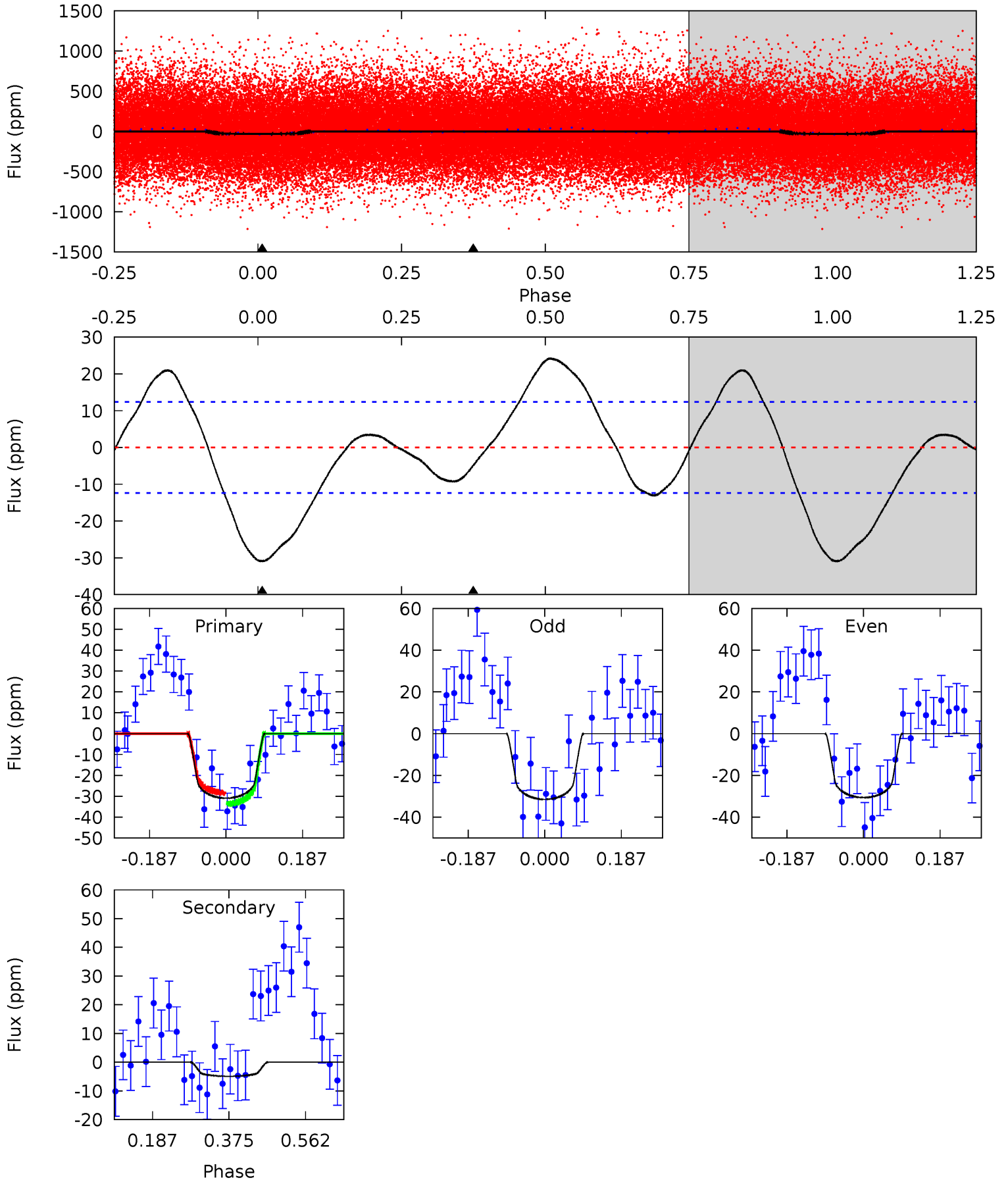
TCE 005731451-01 P= 0.937685 Days $T_0=132.200776$ (BKJD)



DV Model-Shift Uniqueness Test

005731451-01, P = 0.937668 Days, E = 131.286959 Days

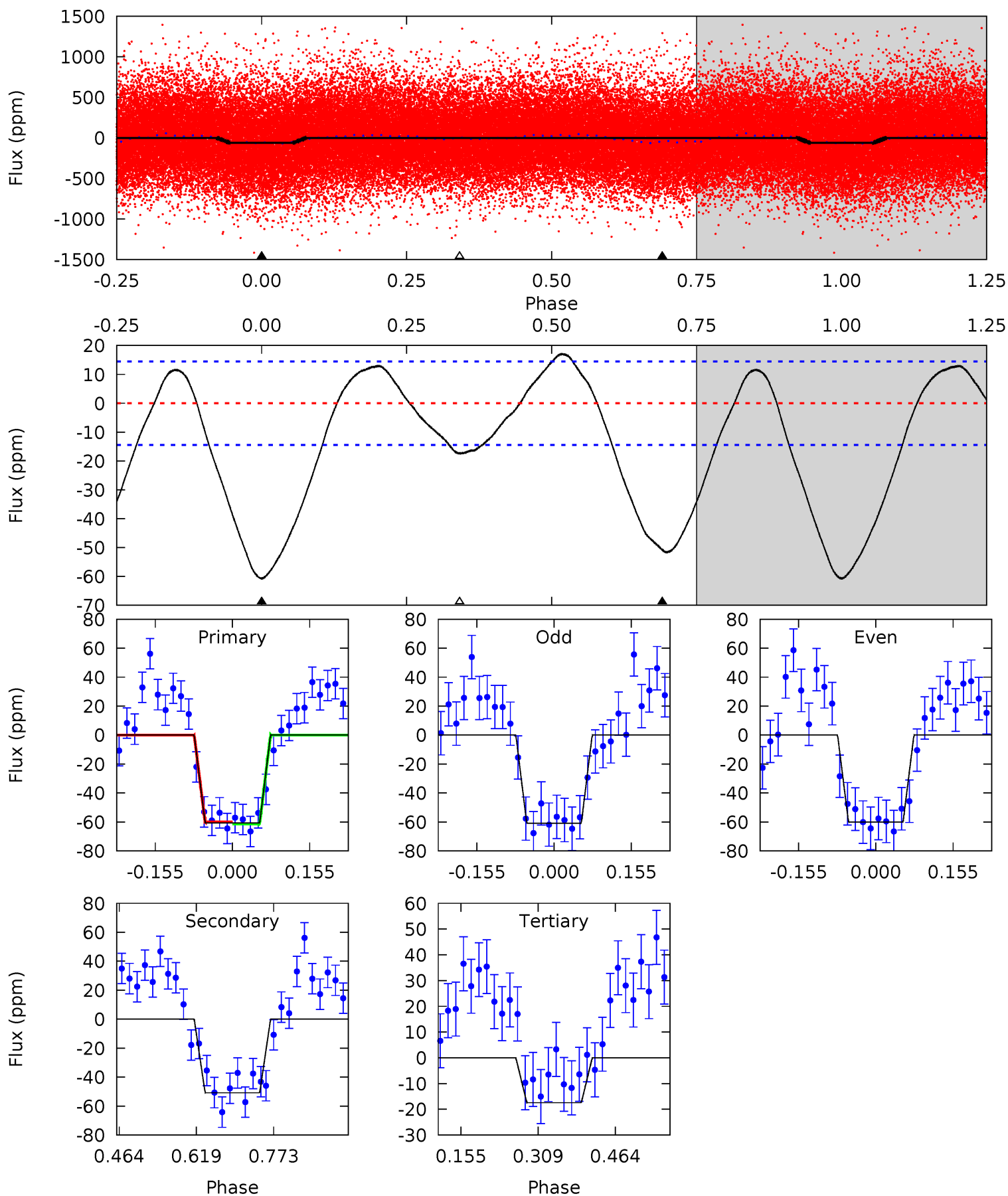
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	1.76	0	0	4.43	1.32	3.59	11.0	11.0	1.76	1.76	0.16	0.87	0.44	0.95



Alt Model-Shift Uniqueness Test

005731451-01, P = 0.937685 Days, E = 131.263091 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.8	15.7	5.39	0	4.47	1.42	3.49	13.4	18.8	10.3	15.7	0.12	0.99	0.22	0.19



Stellar Parameters For KIC 005731451

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6184^{+197}_{-219}	$4.450^{+0.084}_{-0.196}$	$-0.440^{+0.300}_{-0.300}$	$0.962^{+0.271}_{-0.116}$	$0.950^{+0.123}_{-0.111}$	$1.503^{+0.547}_{-0.782}$
	+3%/-4%	+2%/-4%	+68%/-68%	+28%/-12%	+13%/-12%	+36%/-52%
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 005731451-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-5 ± 3	$0.72^{+0.43}_{-0.36}$	2789^{+205}_{-159}	3733^{+1336}_{-1085}	$1.644^{+5.377}_{-1.211}$
Alt.	-51 ± 3	$0.84^{+0.41}_{-0.38}$	2791^{+196}_{-148}	5905^{+2272}_{-954}	13^{+33}_{-7}

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

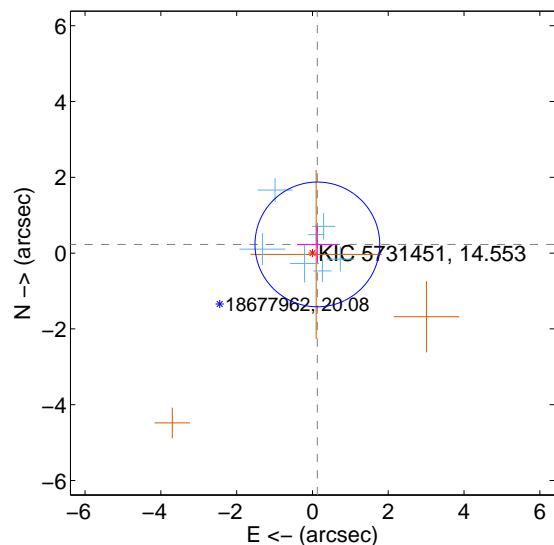
Supplemental centroid analysis for 005731451-01. Kepler magnitude: 14.55. Transit SNR 9.30

There are 7 quarters with good PRF difference image offsets

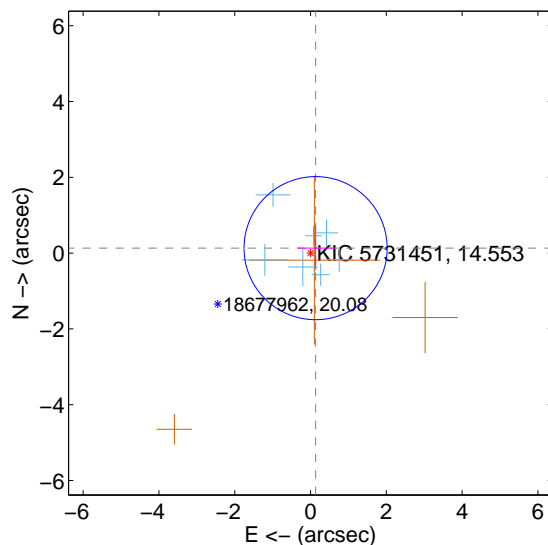
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.263 ± 0.549	0.48	-0.130 ± 0.539	0.229 ± 0.479
PRF-fit source offset from KIC position	0.187 ± 0.629	0.30	-0.134 ± 0.479	0.131 ± 0.569
photometric centroid source offset	1.44 ± 1.29	1.11	1.21 ± 1.34	-0.78 ± 1.18

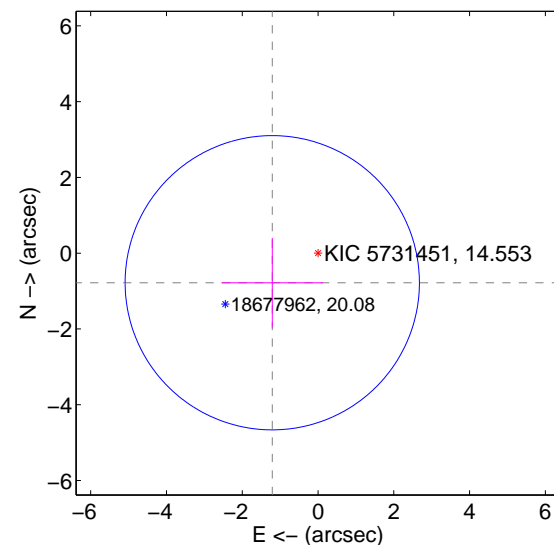
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

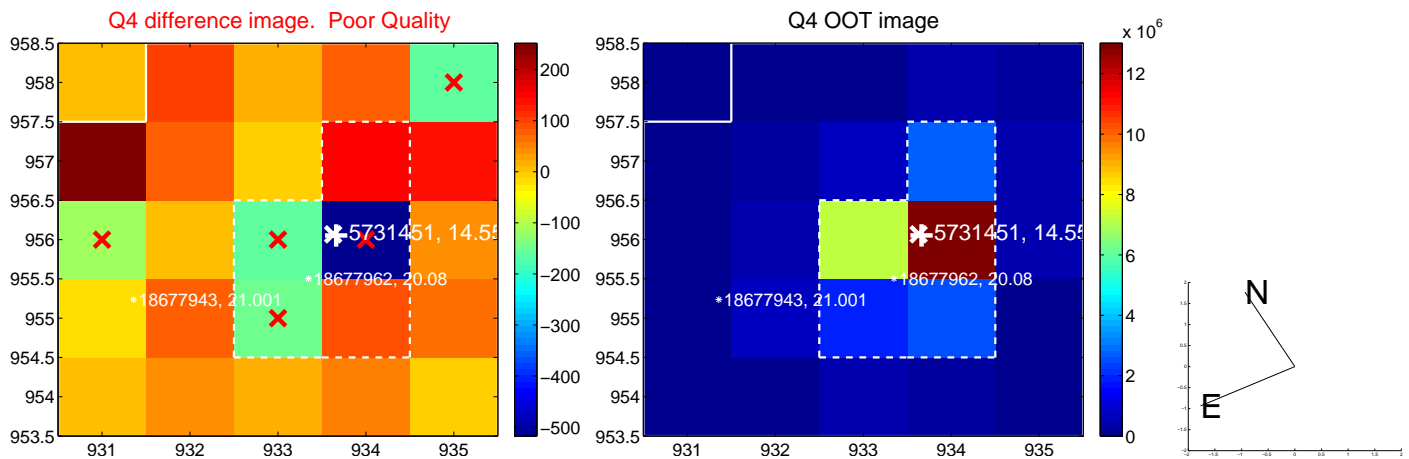
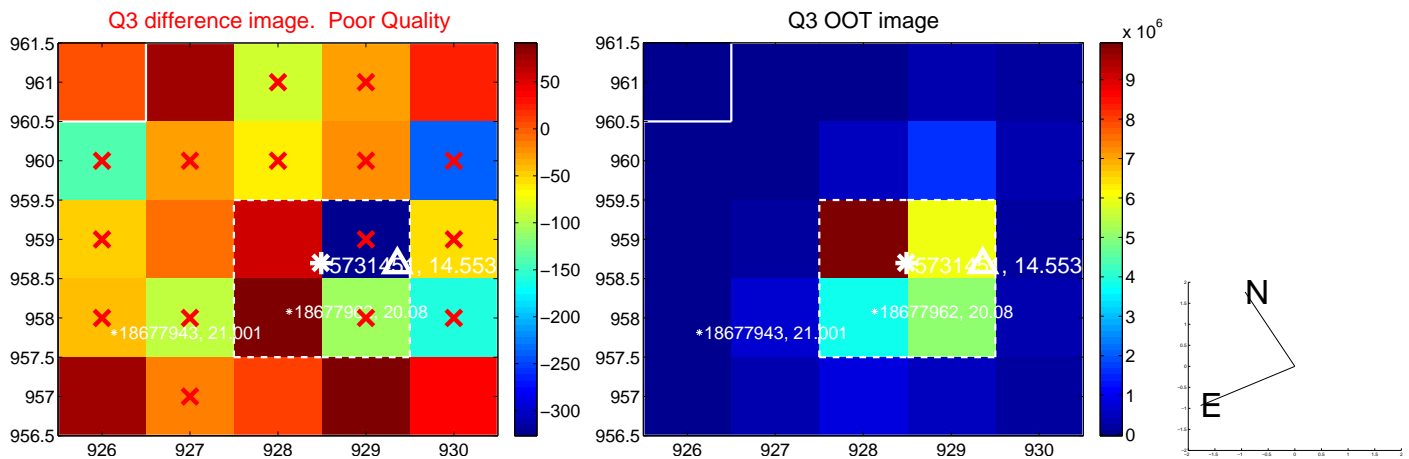
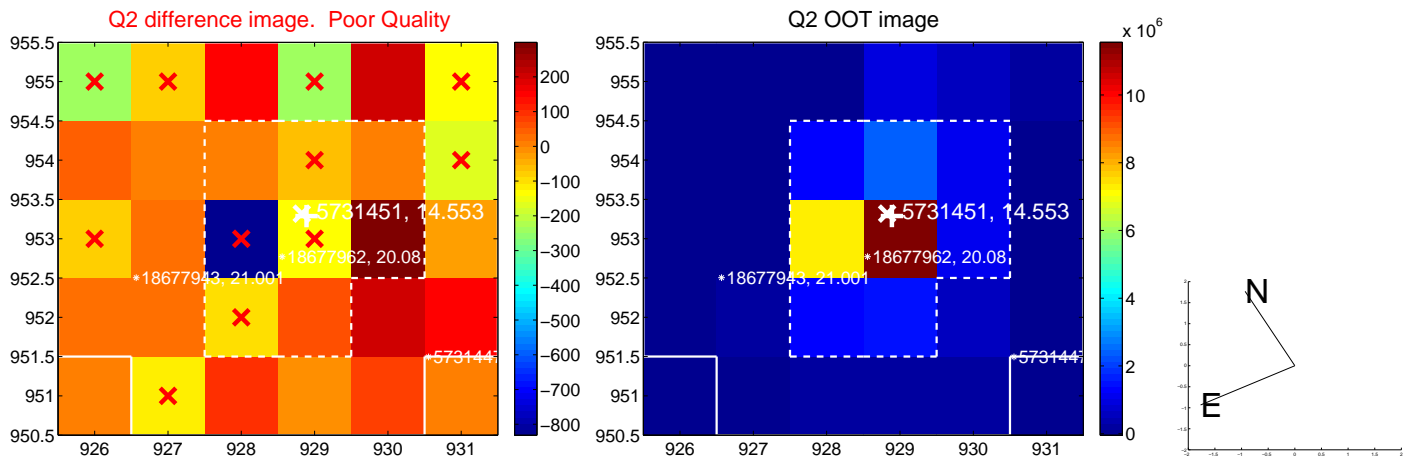
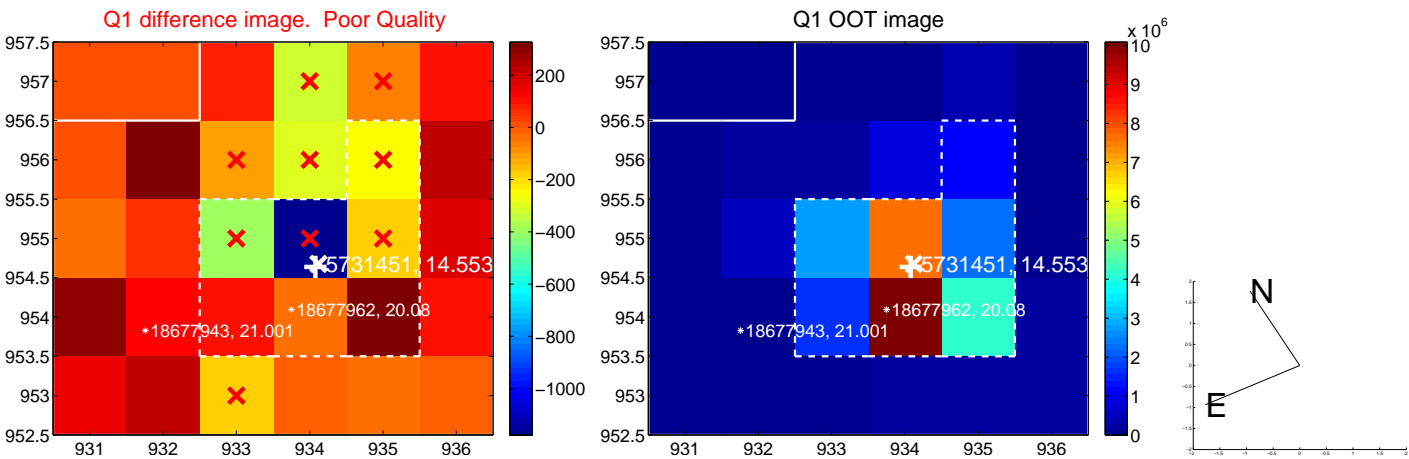


offset from photometric centroids

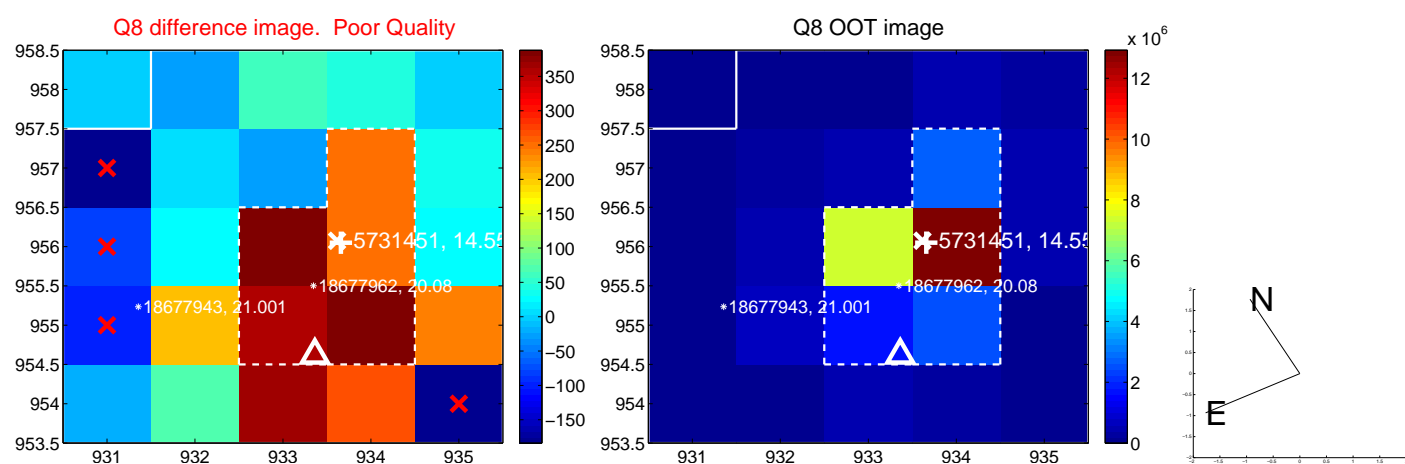
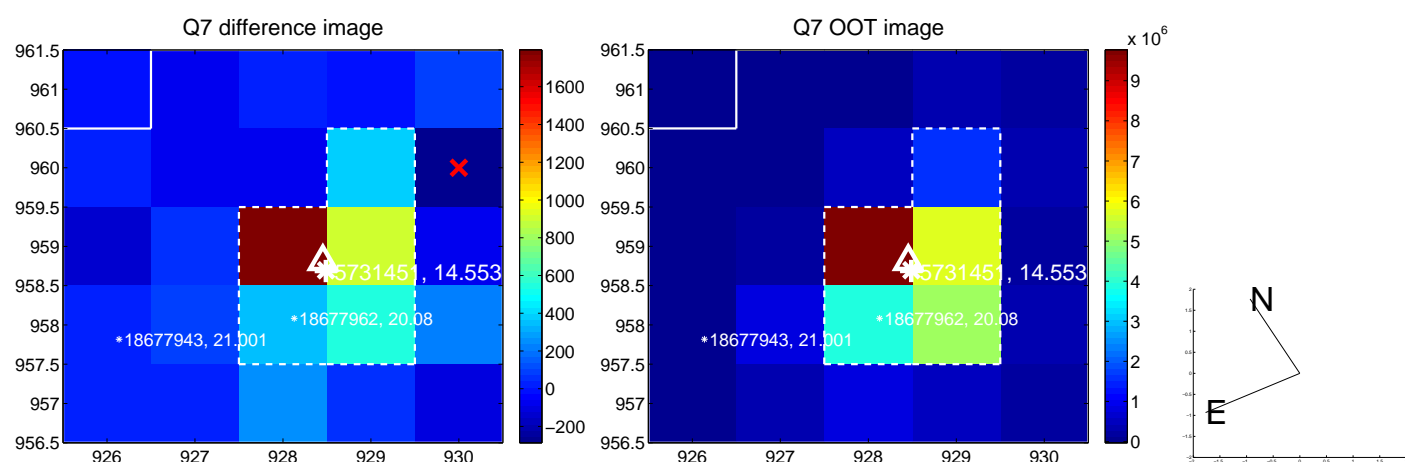
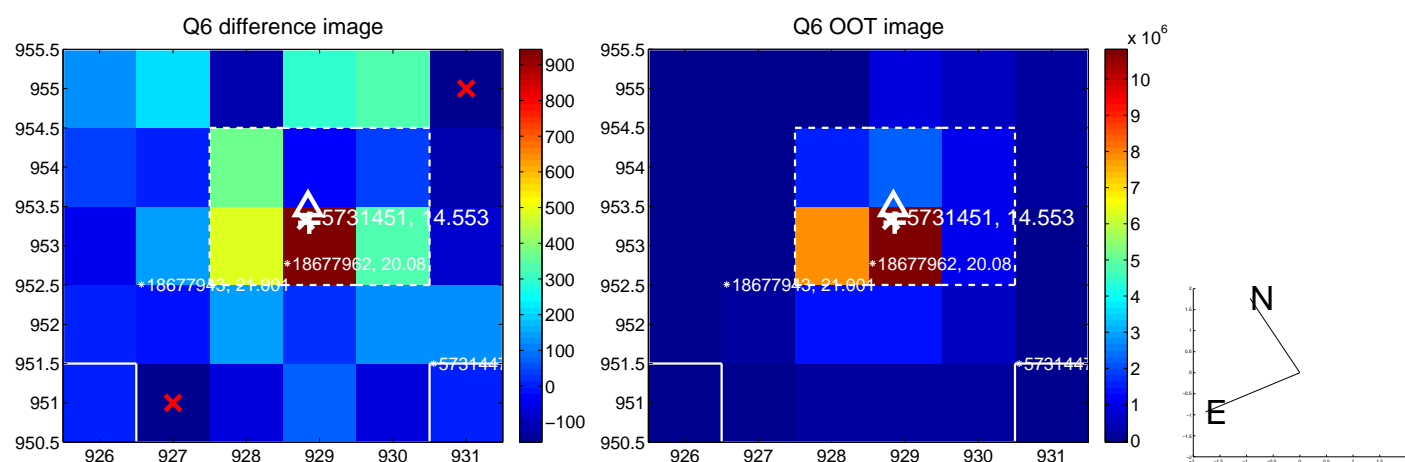
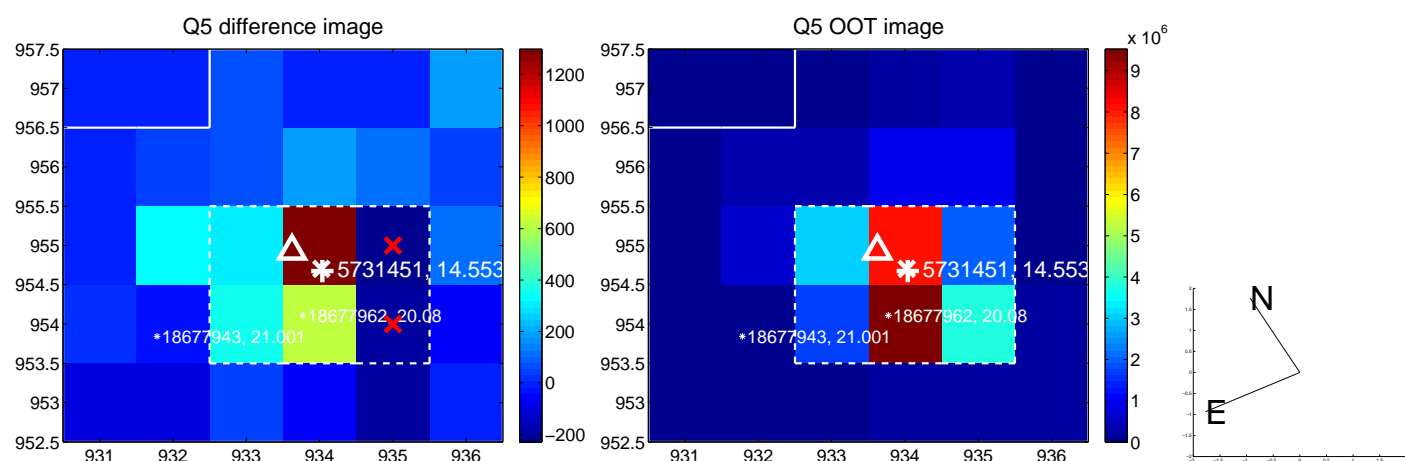


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

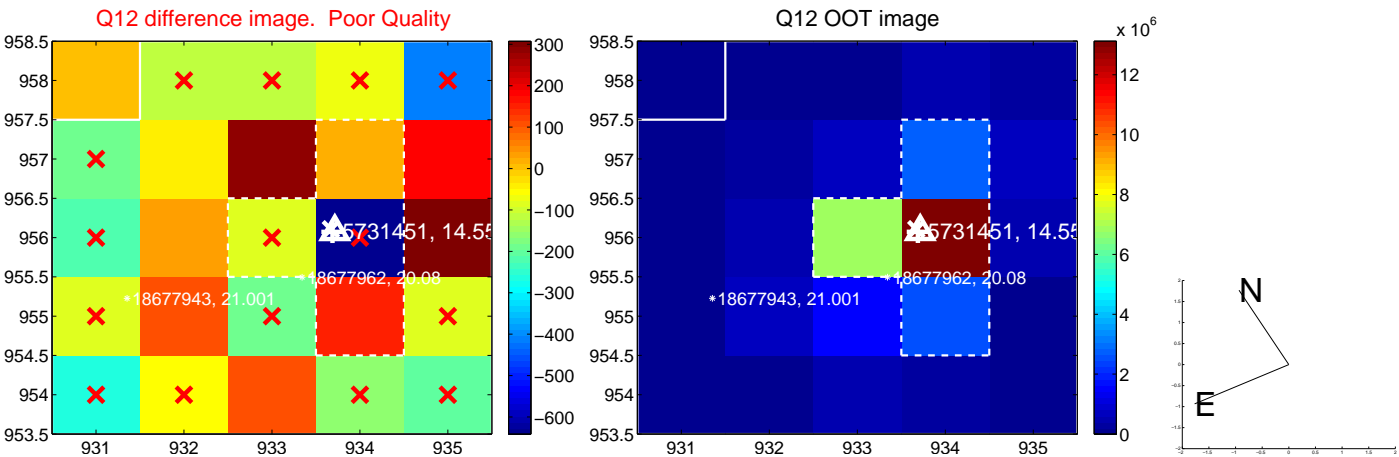
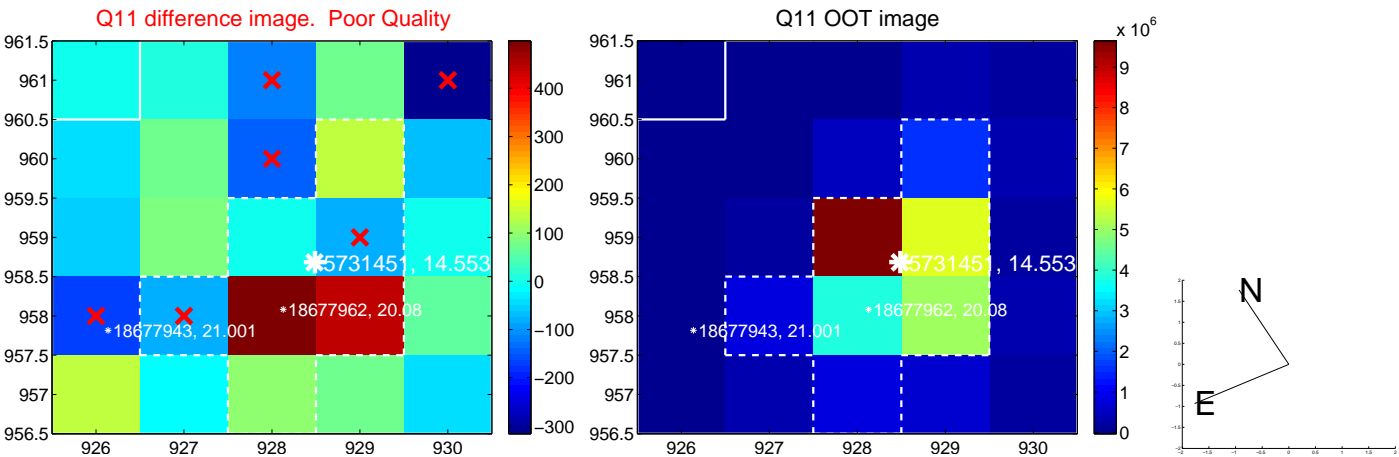
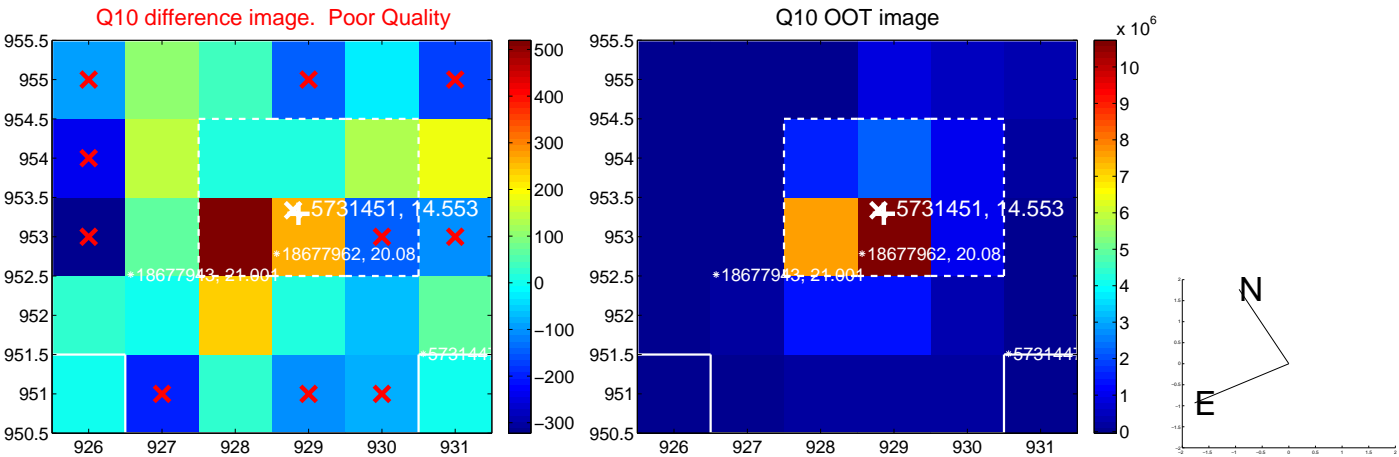
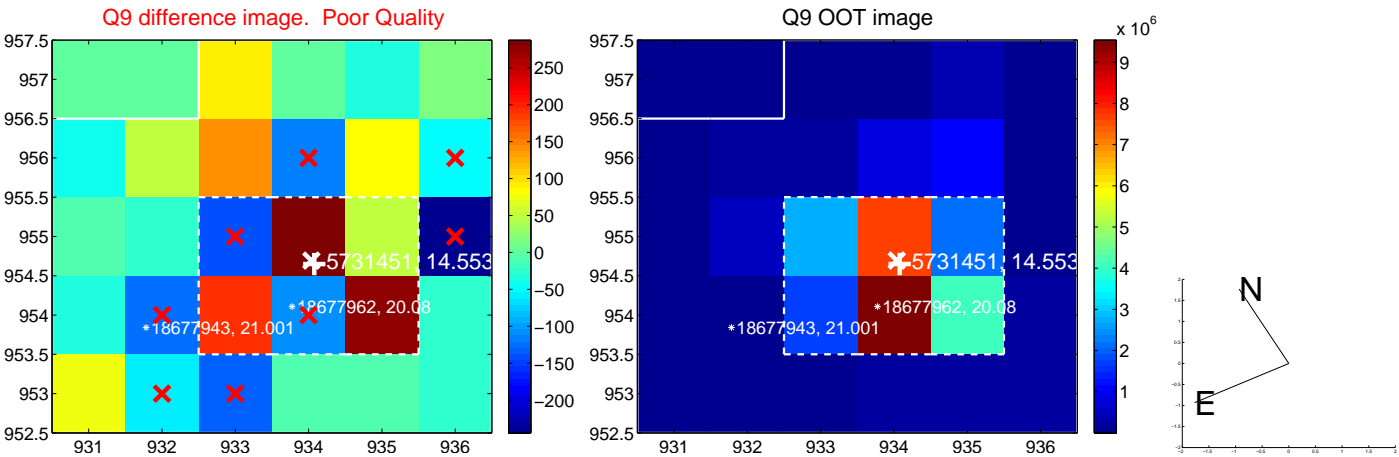
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



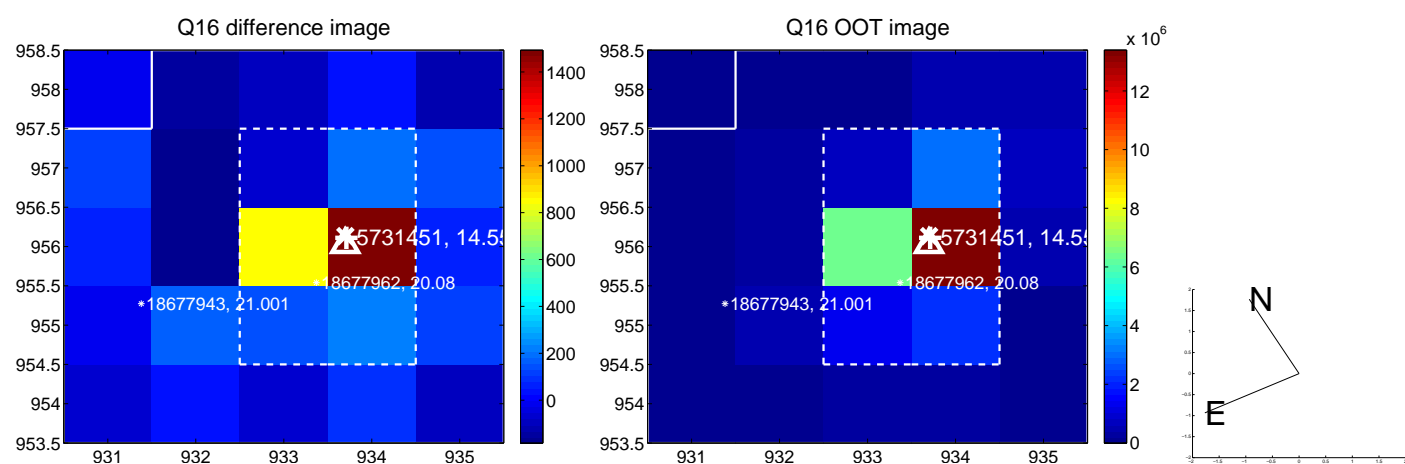
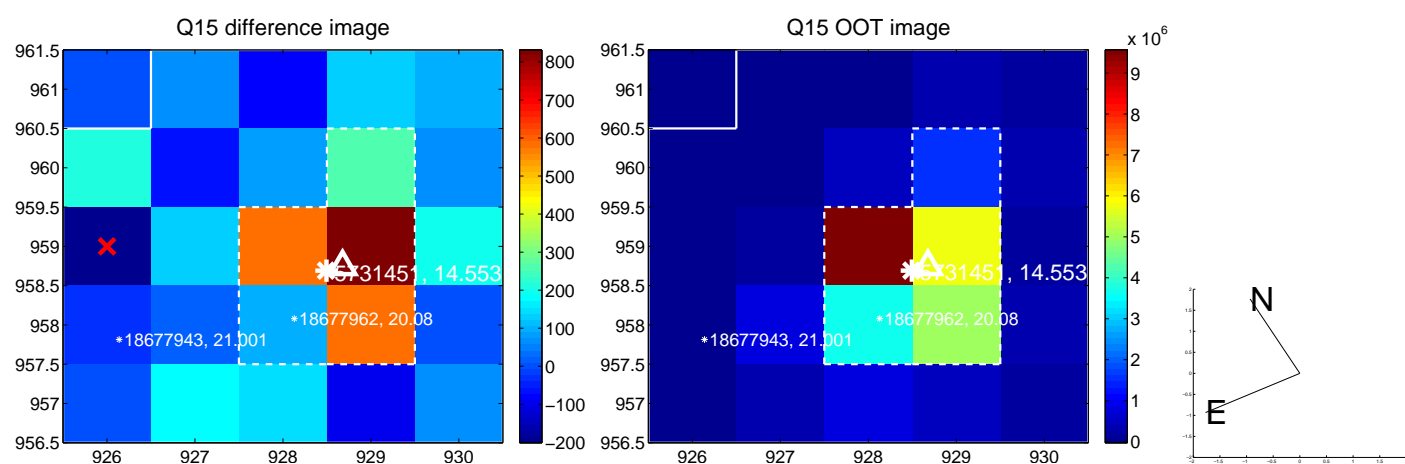
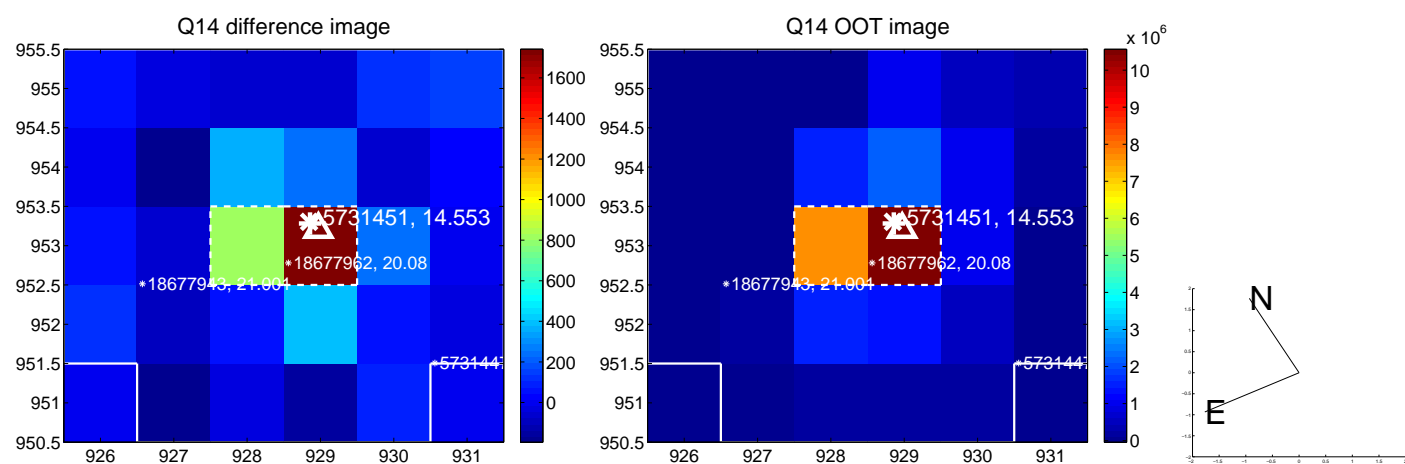
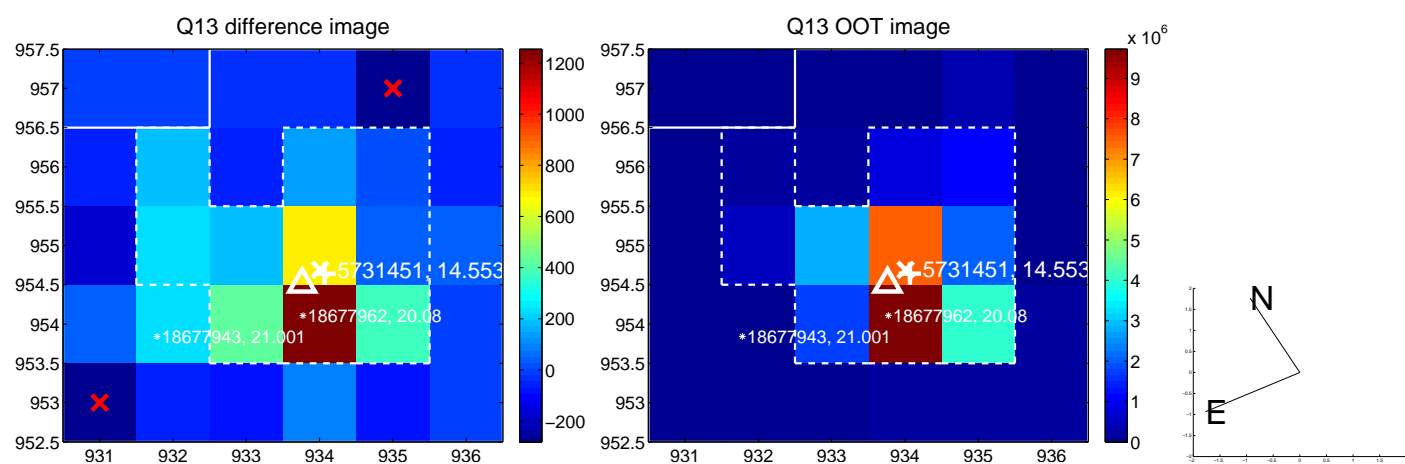
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

