

KIC 009021291

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})
009021291-01	OBS	No	3.657442	133.329266	30.7	7.635	8.6	6.3	0.97	6609	0.61	724.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009021291-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV

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

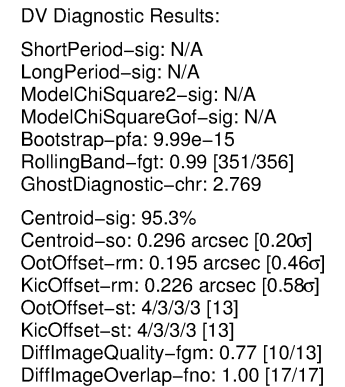
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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

Ephemeris Match Information For 009021291-01

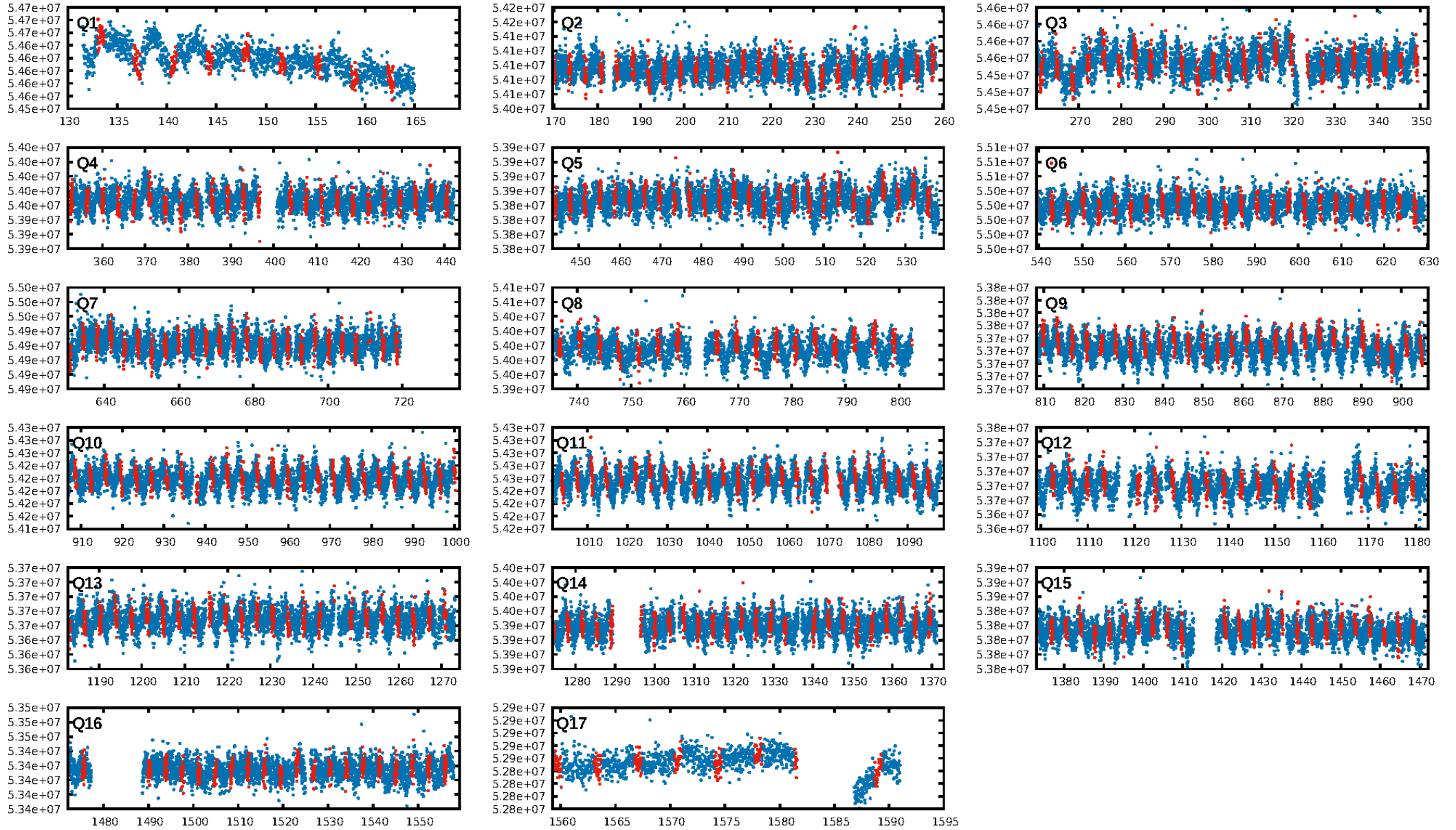
No Significant Match Found

KIC: 9021291 Candidate: 1 of 1 Period: 3.657 d

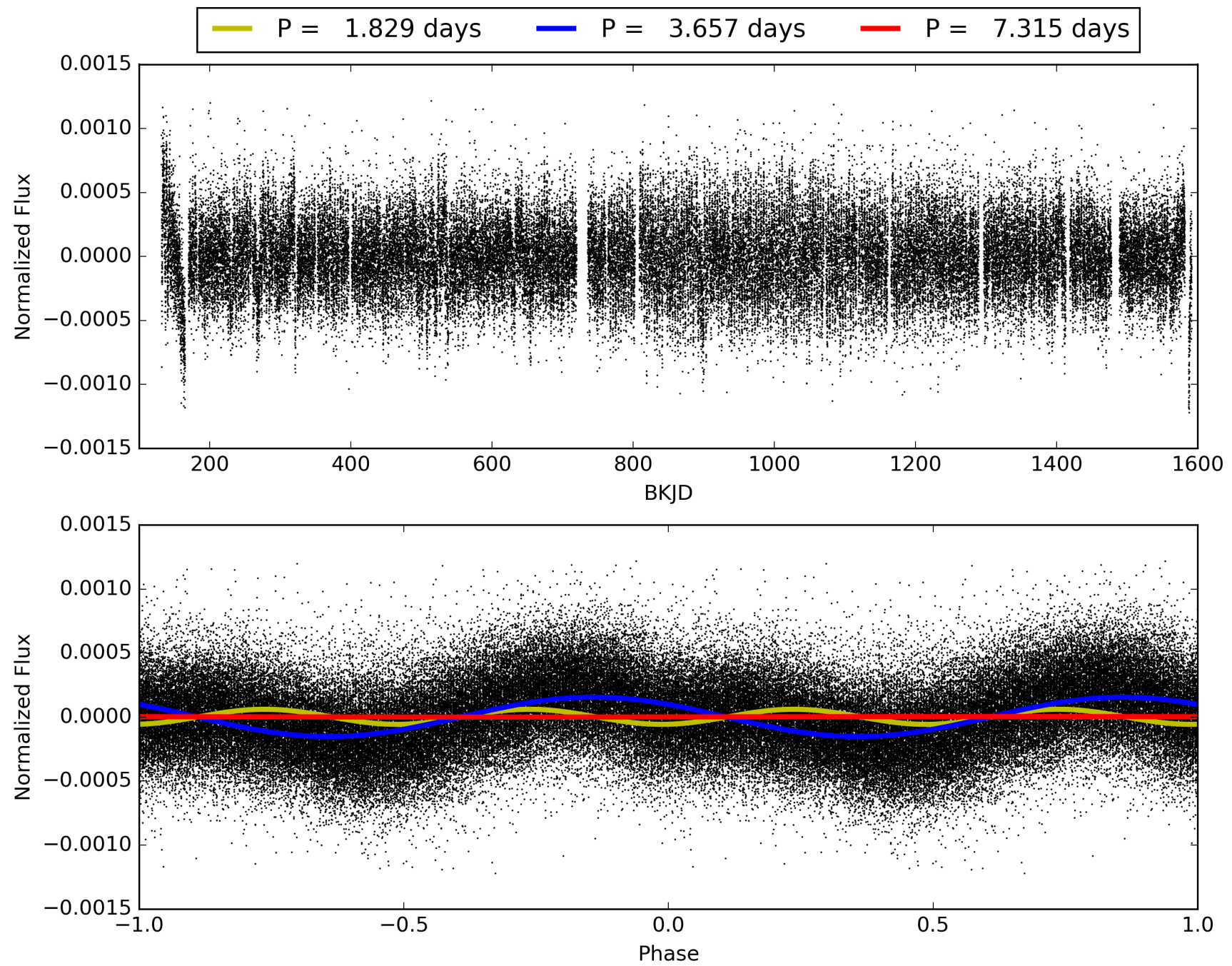


This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009021291-01, PDC Light Curves

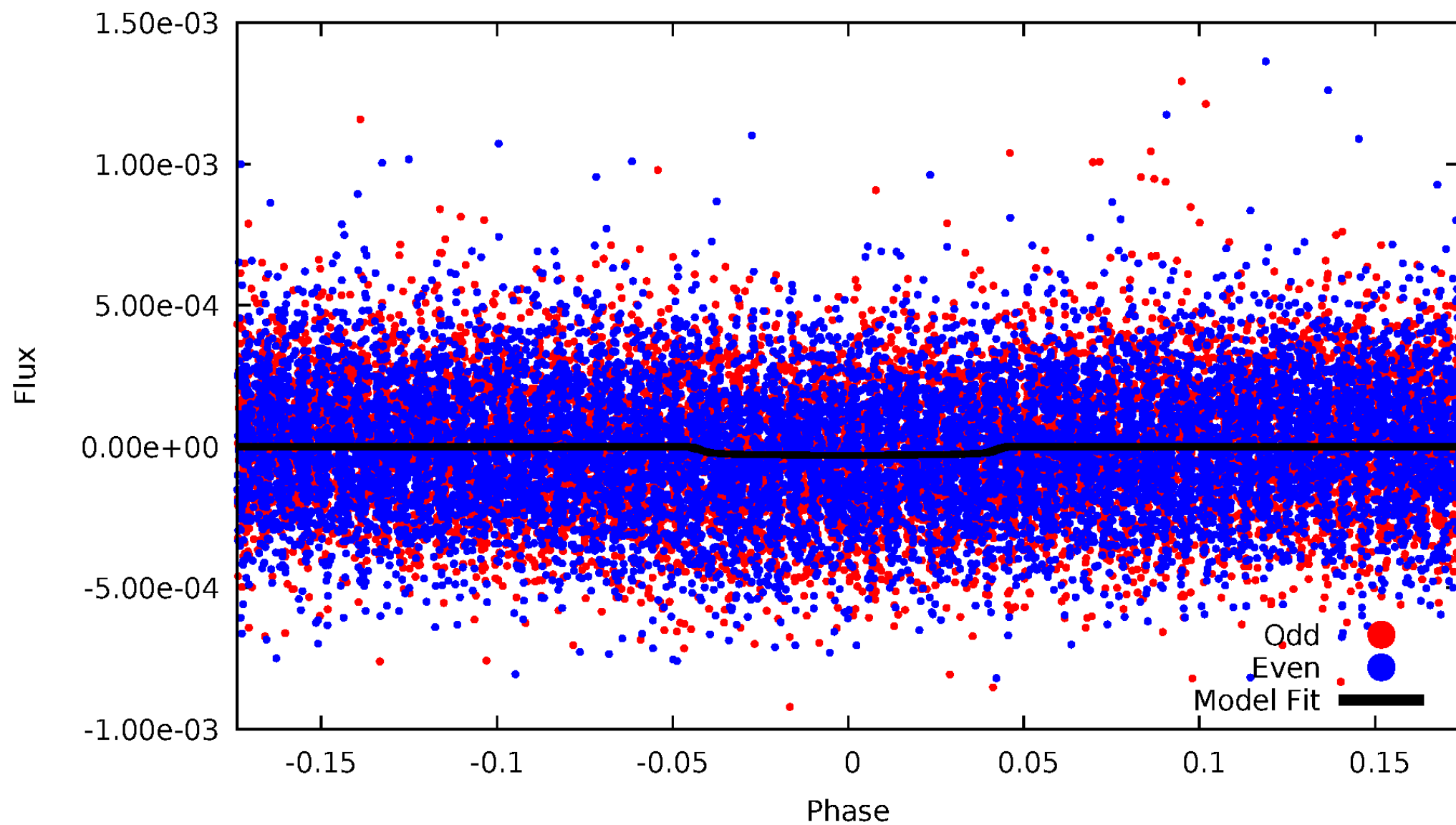


TCE 009021291-01



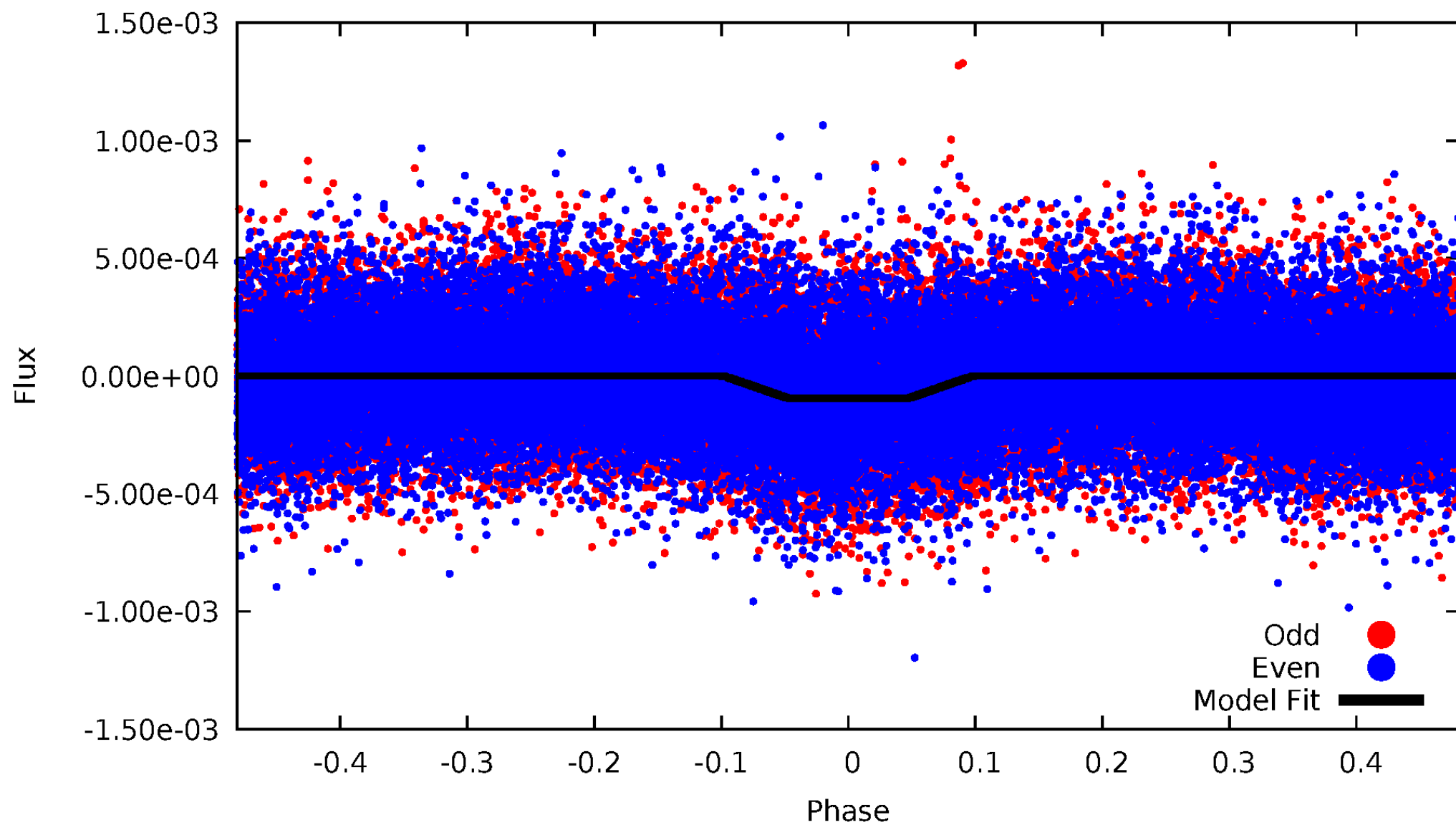
DV Odd/Even

TCE 009021291-01

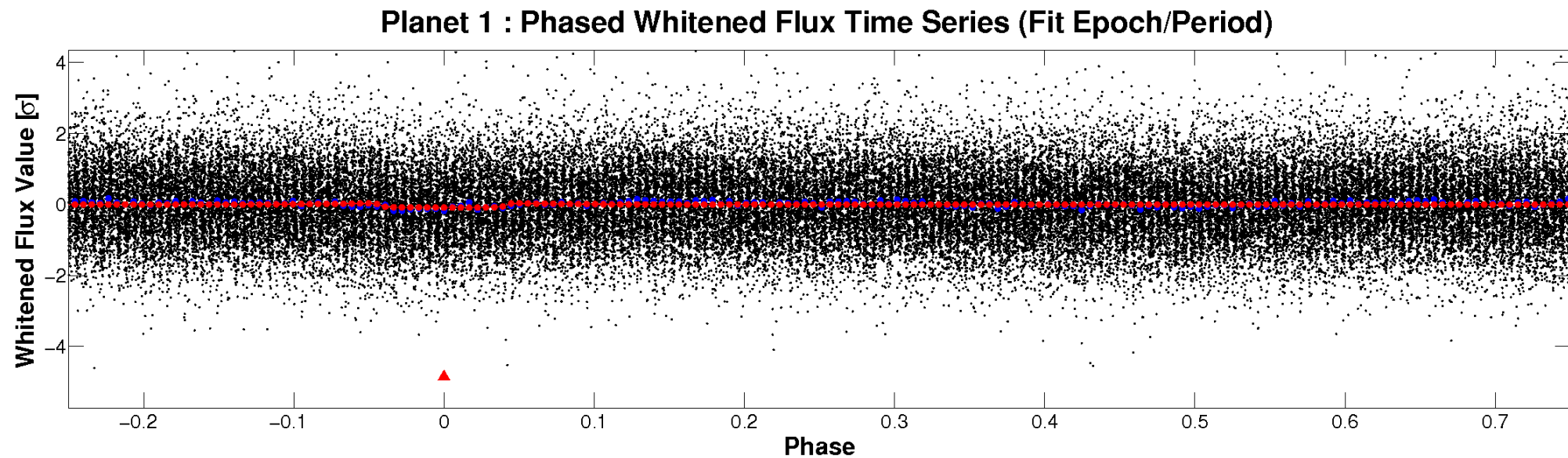
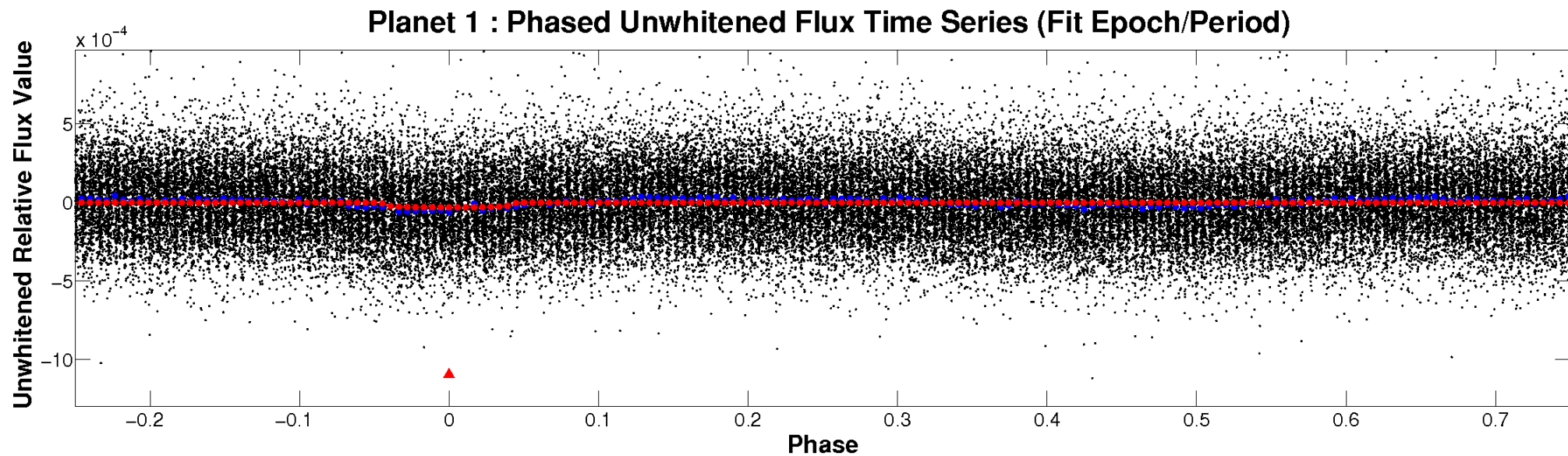


ALT Odd/Even

TCE 009021291-01

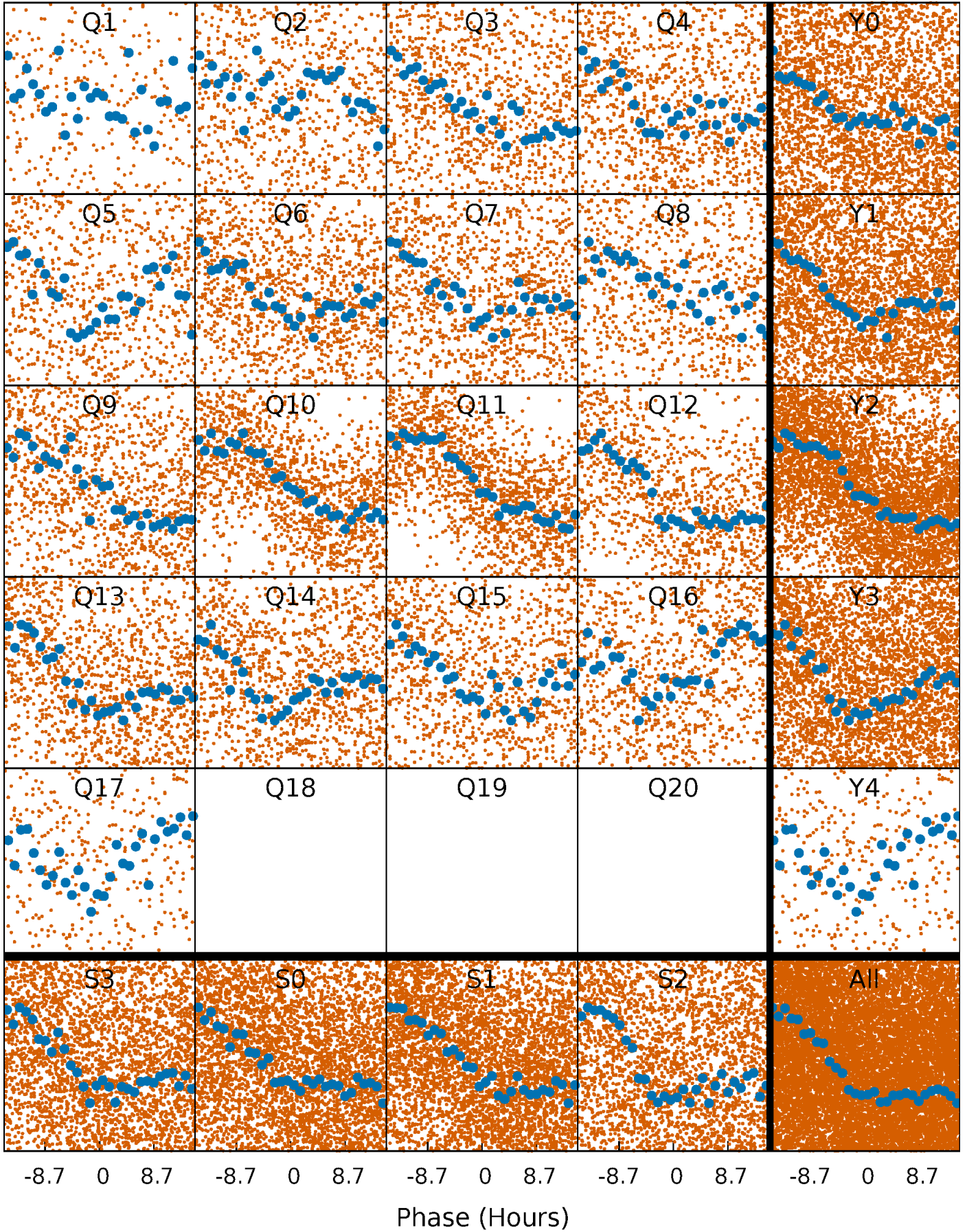


Non-Whitened Vs. Whitened Light Curve



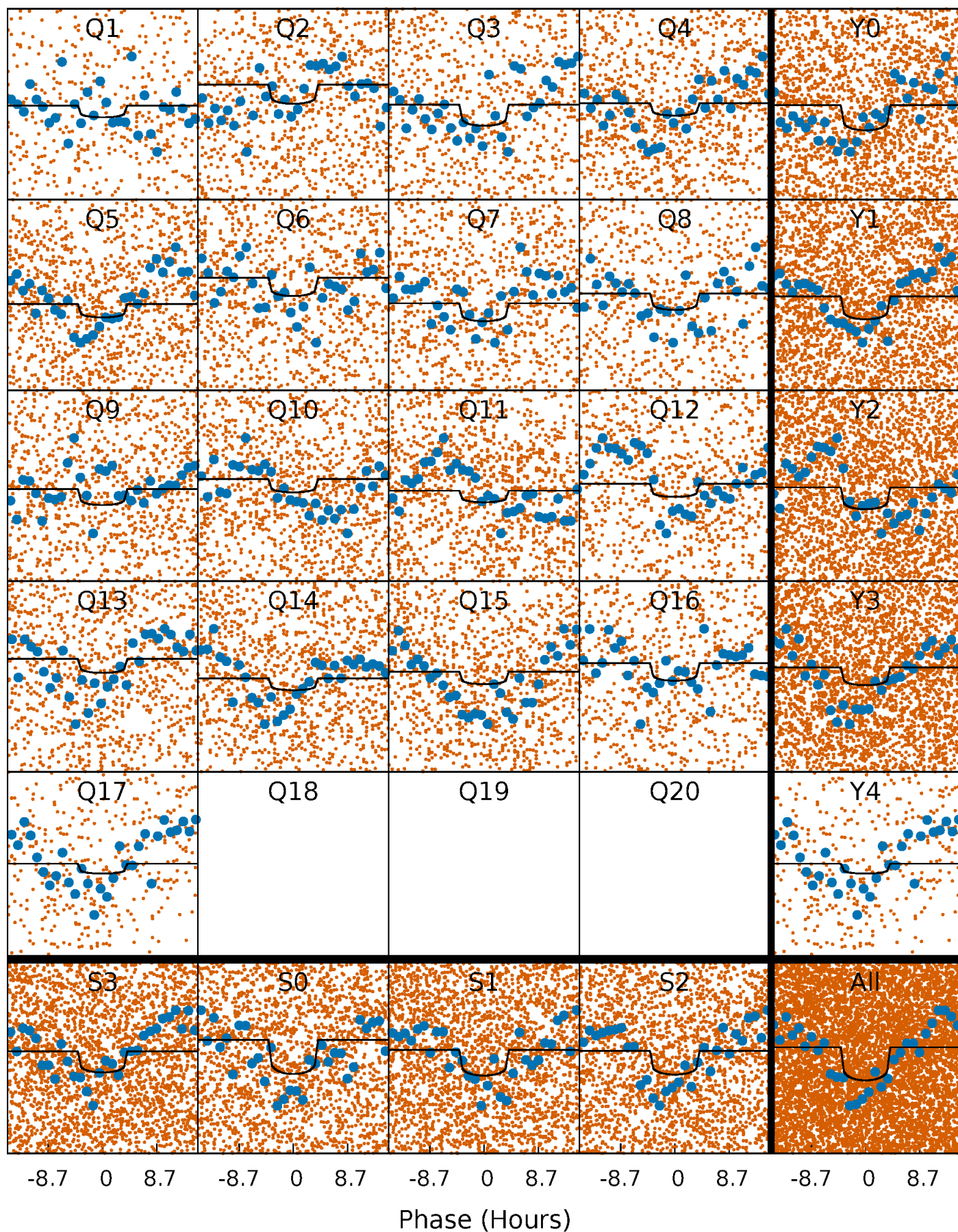
PDC Quarter-Phased Transit Curves

TCE 009021291-01 P= 3.657442 Days $T_0=133.329266$ (BKJD)



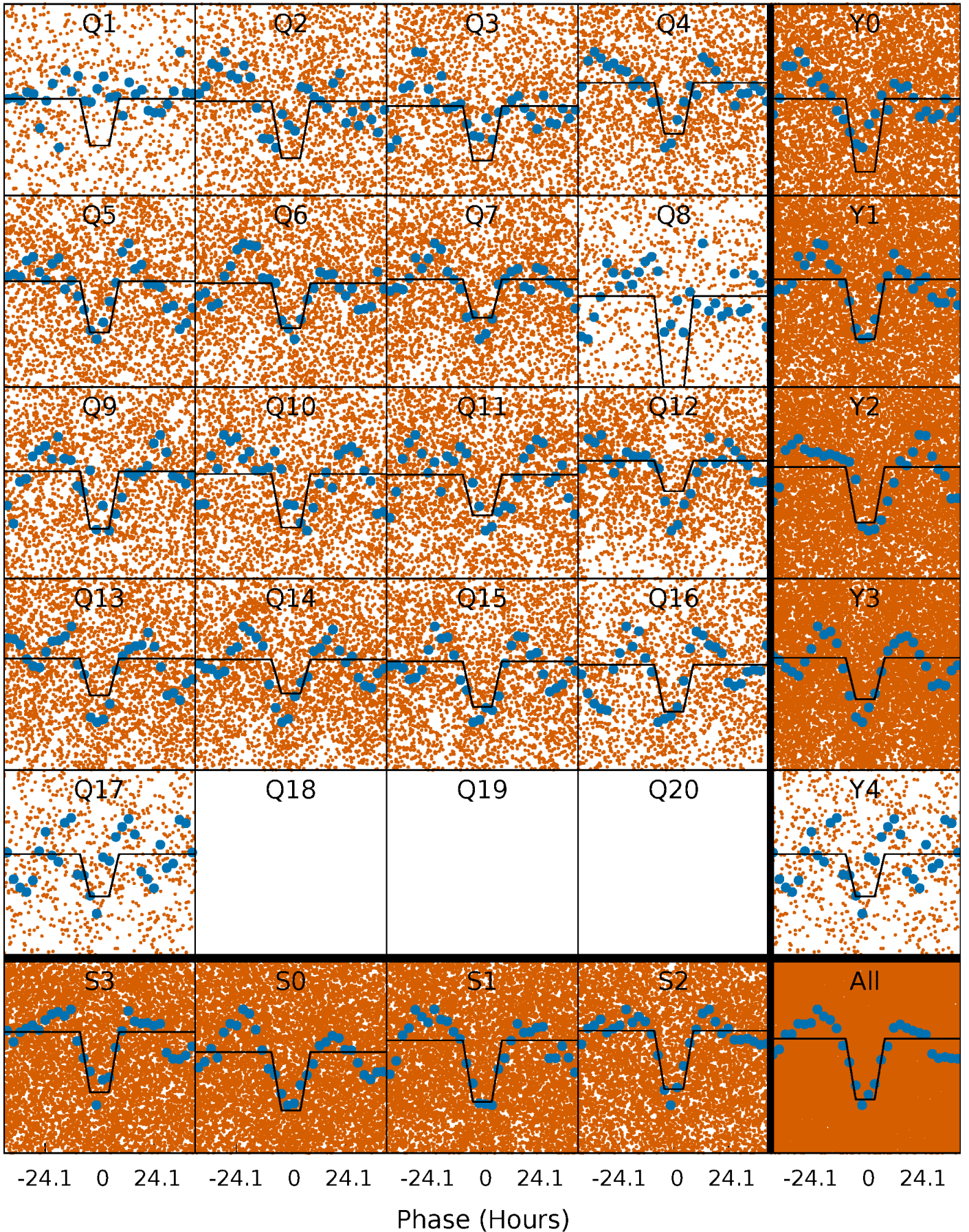
DV Quarter-Phased Transit Curves

TCE 009021291-01 P= 3.657442 Days $T_0=133.329266$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

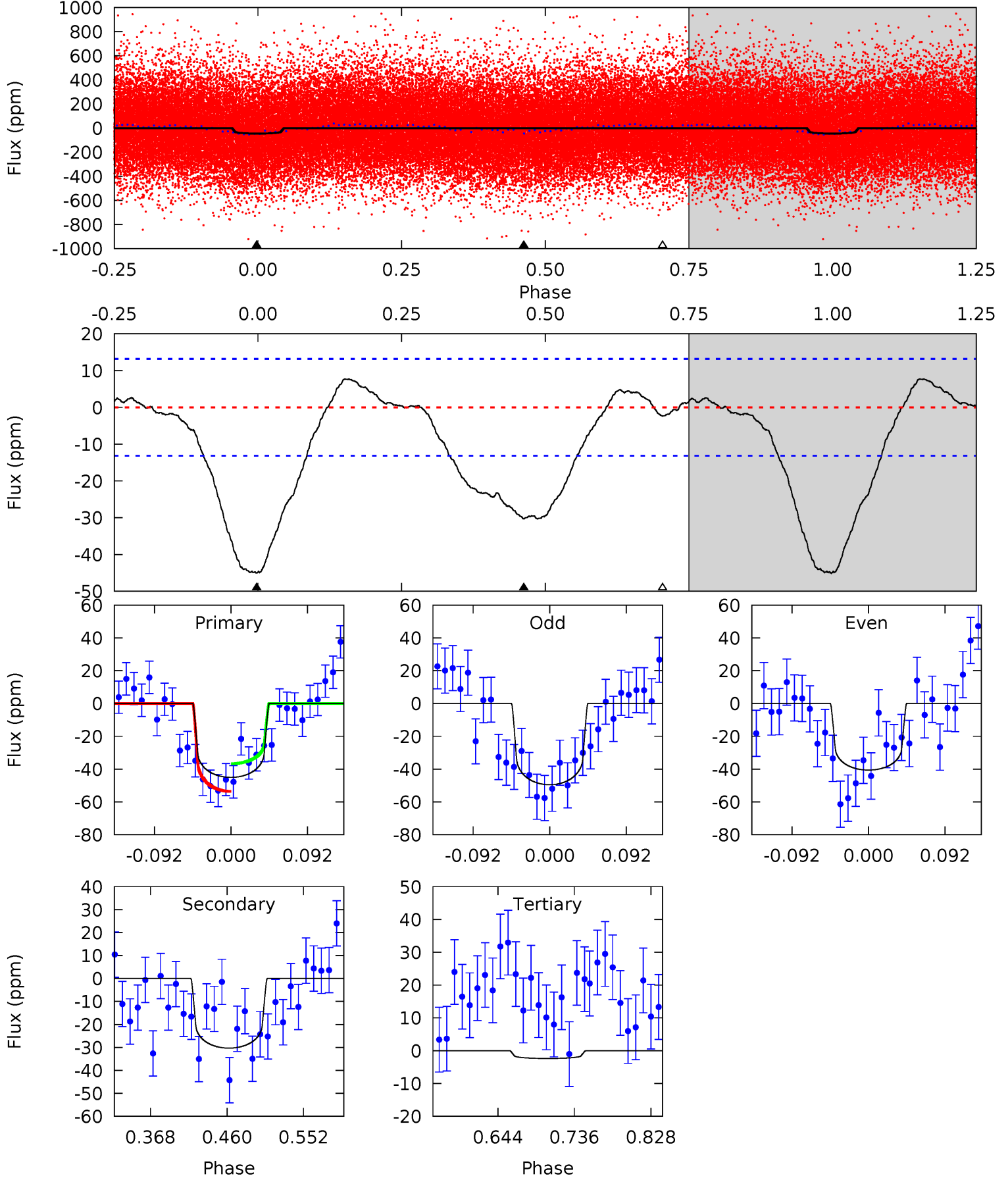
TCE 009021291-01 P= 3.657696 Days $T_0=133.273649$ (BKJD)



DV Model-Shift Uniqueness Test

009021291-01, P = 3.657442 Days, E = 129.671824 Days

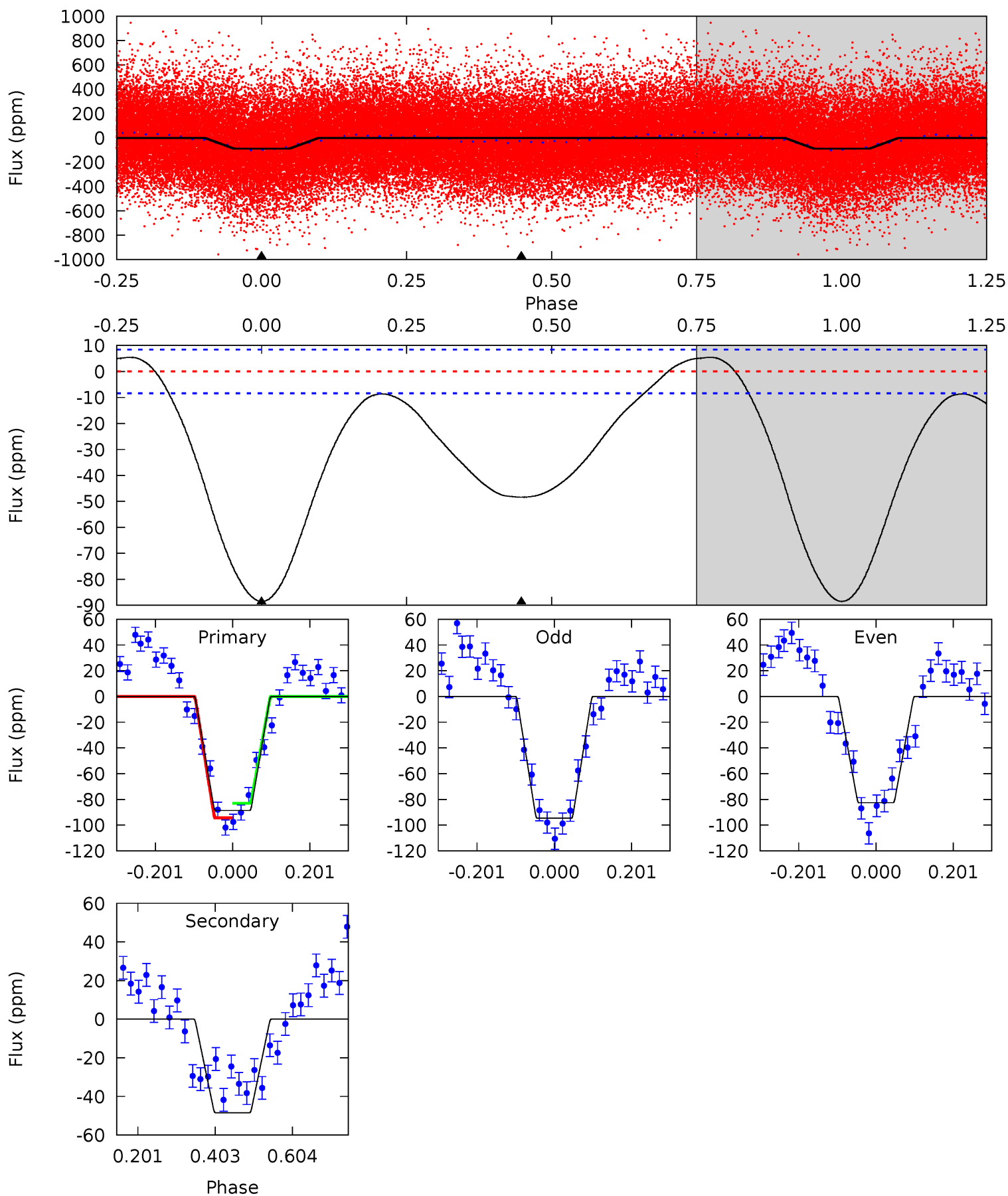
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.7	10.6	0.83	0	4.58	1.68	2.12	14.9	15.7	9.72	10.6	1.55	1.01	0.15	2.95



Alt Model-Shift Uniqueness Test

009021291-01, P = 3.657696 Days, E = 129.615953 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
46.6	25.5	0	0	4.42	1.28	3.27	46.6	46.6	25.5	25.5	3.16	0.99	0.06	2.98



Stellar Parameters For KIC 009021291

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6609^{+147}_{-229}	$4.484^{+0.039}_{-0.221}$	$-0.500^{+0.300}_{-0.300}$	$0.974^{+0.338}_{-0.084}$	$1.073^{+0.149}_{-0.122}$	$1.638^{+0.258}_{-0.928}$
	+2%/-3%	+1%/-5%	+60%/-60%	+35%/-9%	+14%/-11%	+16%/-57%
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 009021291-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-30 ± 3	$0.65^{+0.26}_{-0.25}$	1891^{+138}_{-86}	6448^{+1984}_{-942}	88^{+146}_{-43}
Alt.	-48 ± 2	$1.11^{+0.30}_{-0.26}$	1892^{+131}_{-85}	5540^{+795}_{-483}	48^{+35}_{-17}

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 $A_{\text{obs}} \gg 1.0$

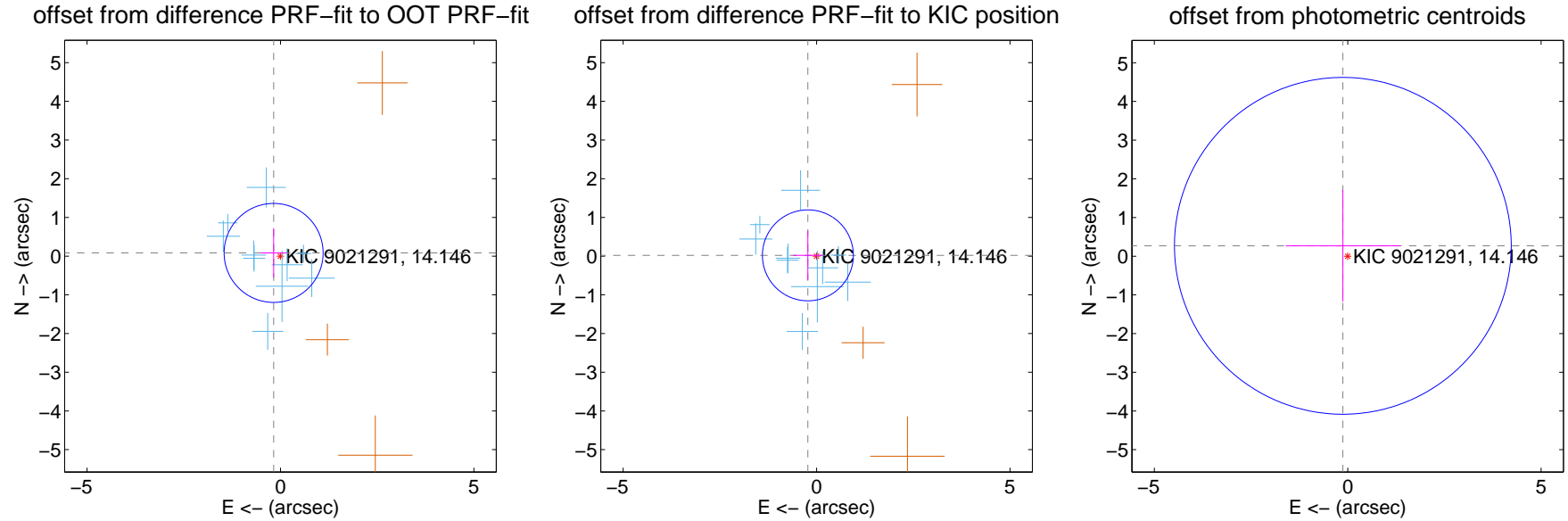
DV Centroid Data

Supplemental centroid analysis for 009021291-01. Kepler magnitude: 14.15. Transit SNR 6.28

There are 10 quarters with good PRF difference image offsets

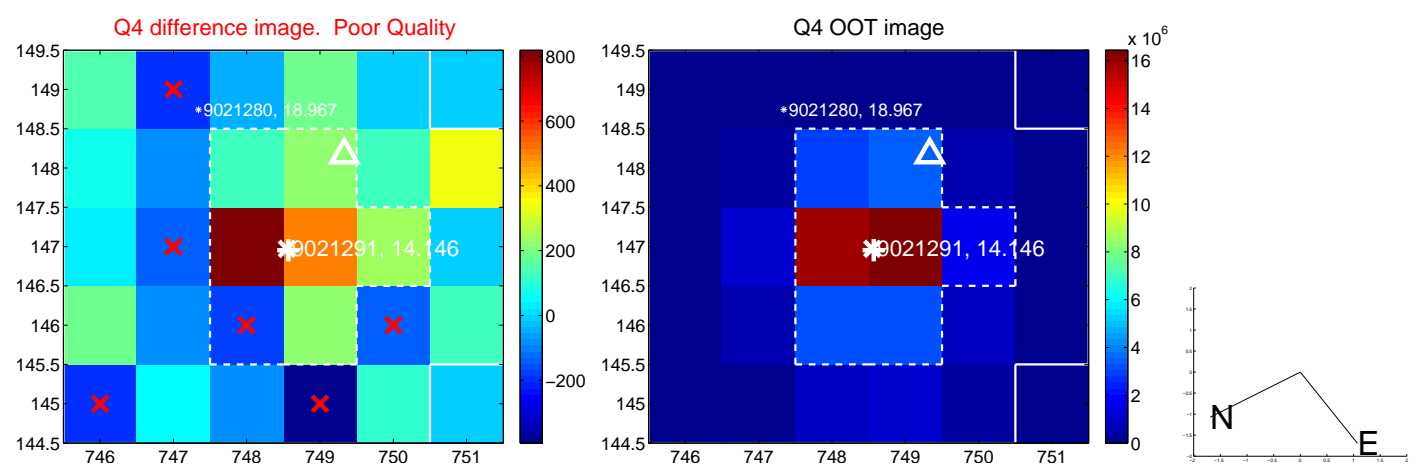
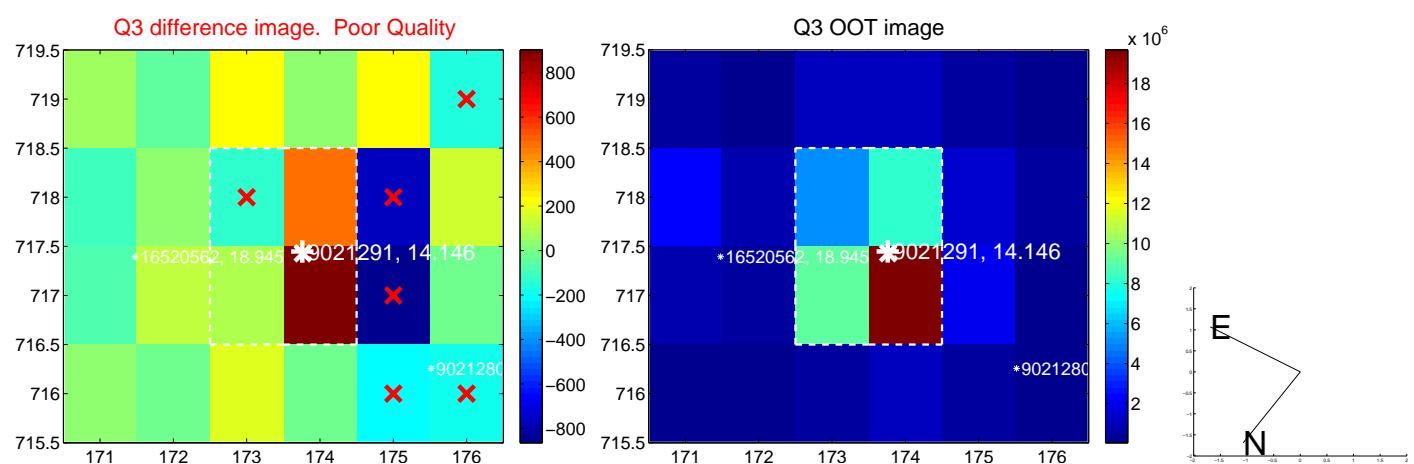
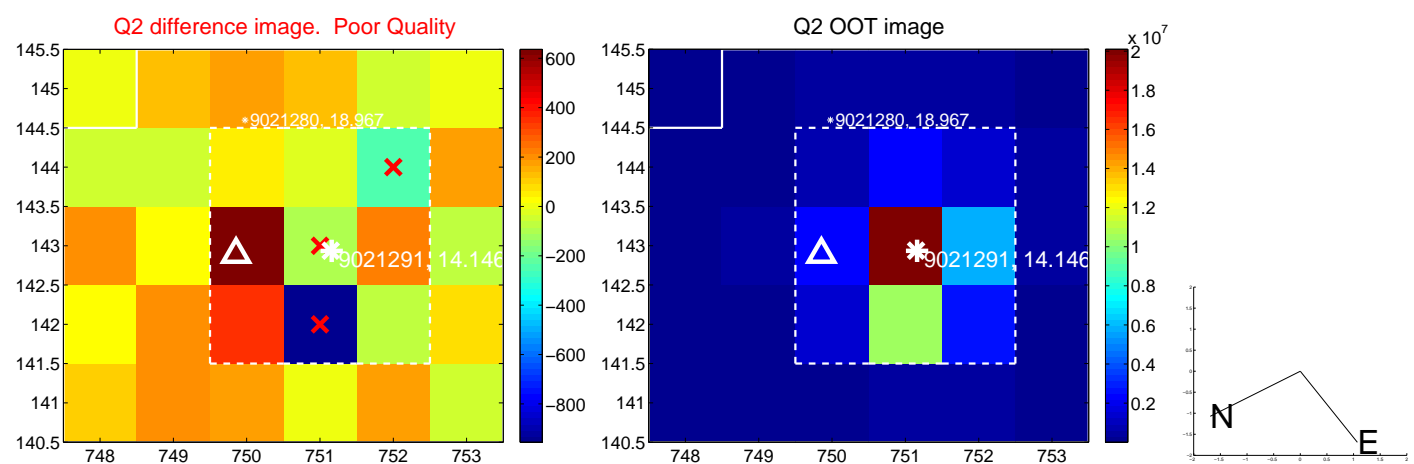
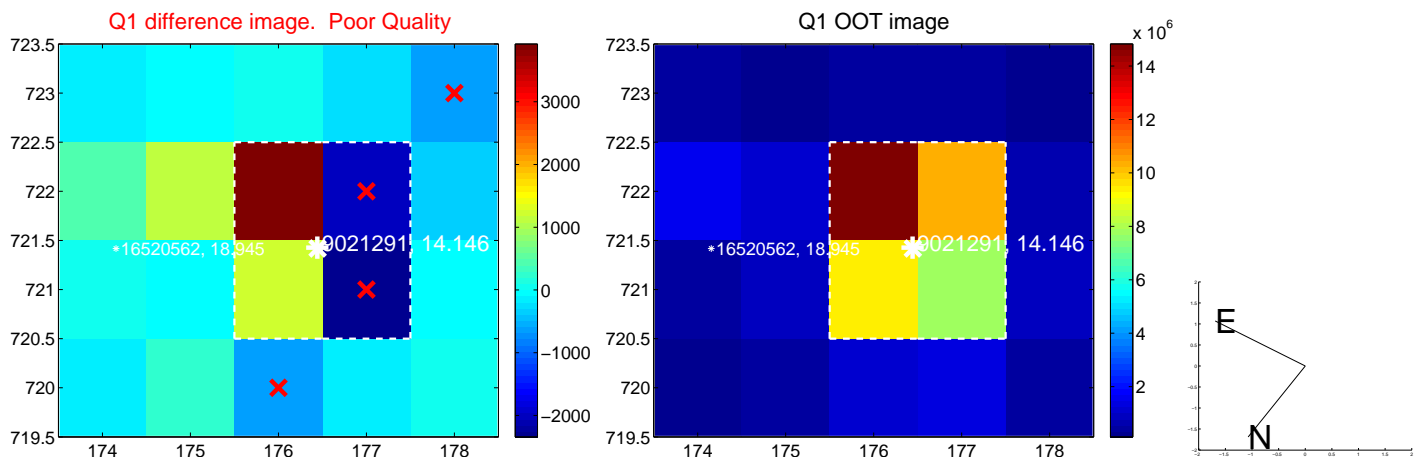
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.195 ± 0.426	0.46	0.177 ± 0.337	0.083 ± 0.635
PRF-fit source offset from KIC position	0.226 ± 0.392	0.58	0.225 ± 0.386	0.021 ± 0.638
photometric centroid source offset	0.30 ± 1.45	0.20	0.13 ± 1.48	0.27 ± 1.44

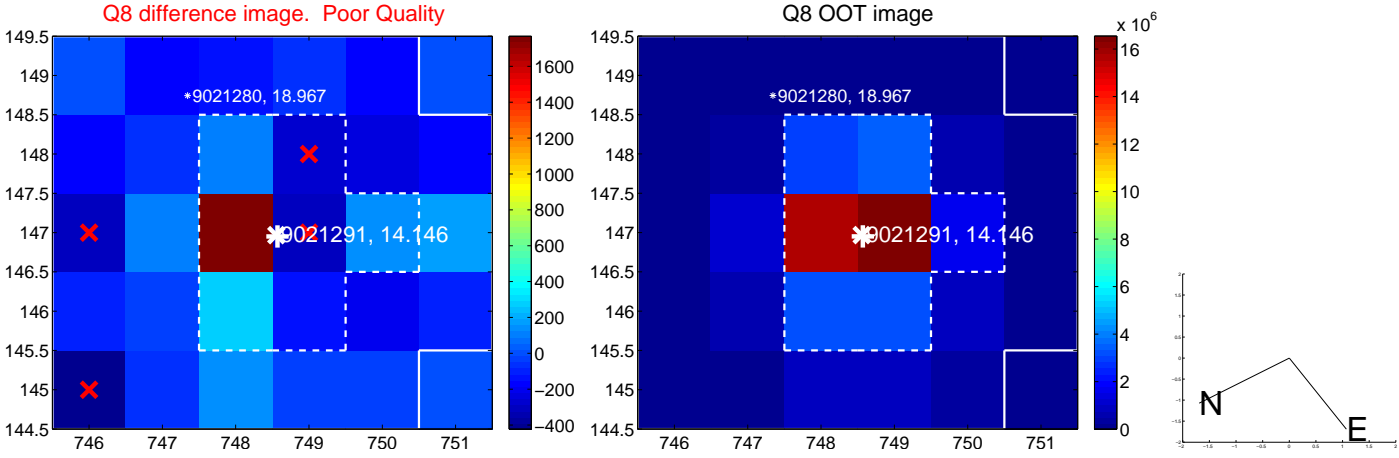
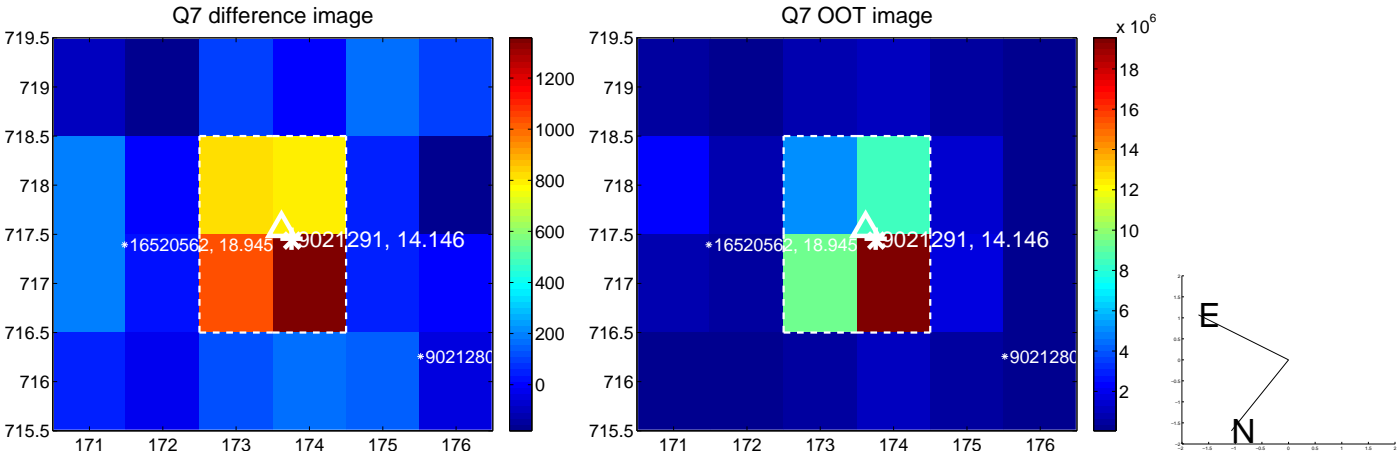
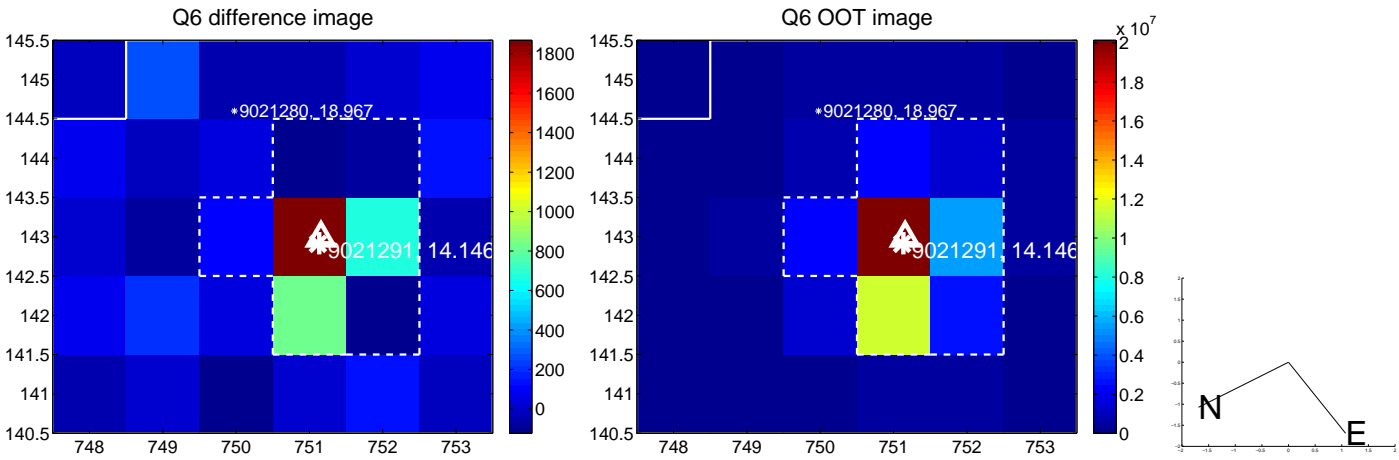
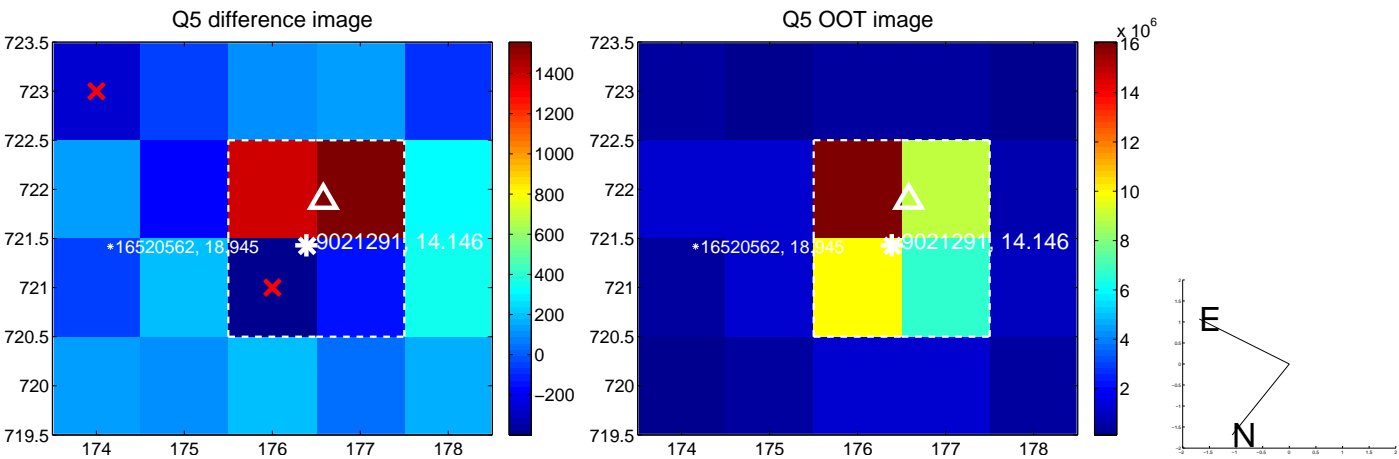


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

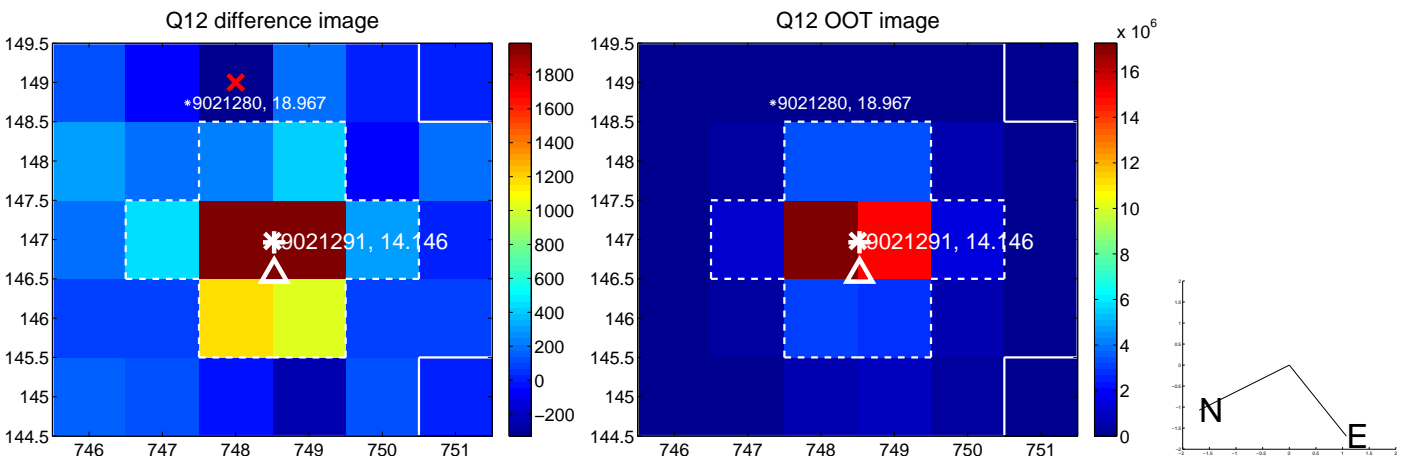
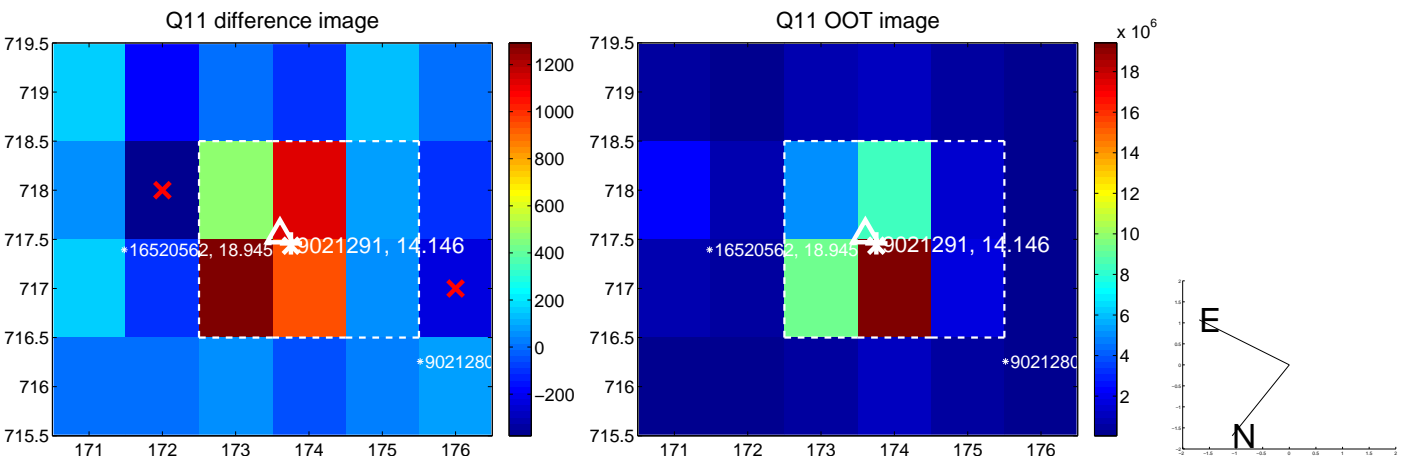
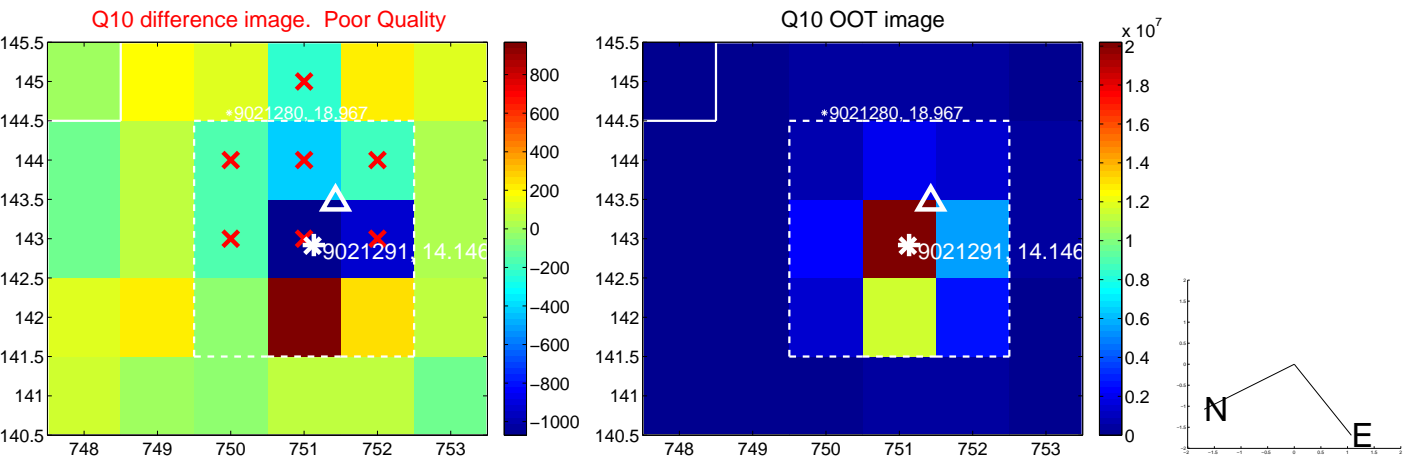
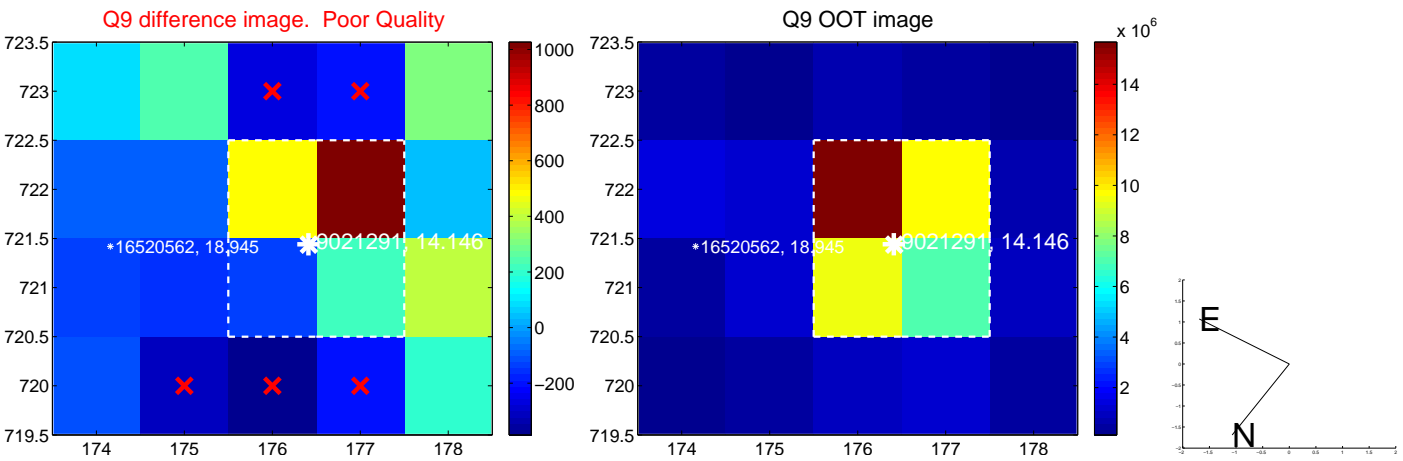
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



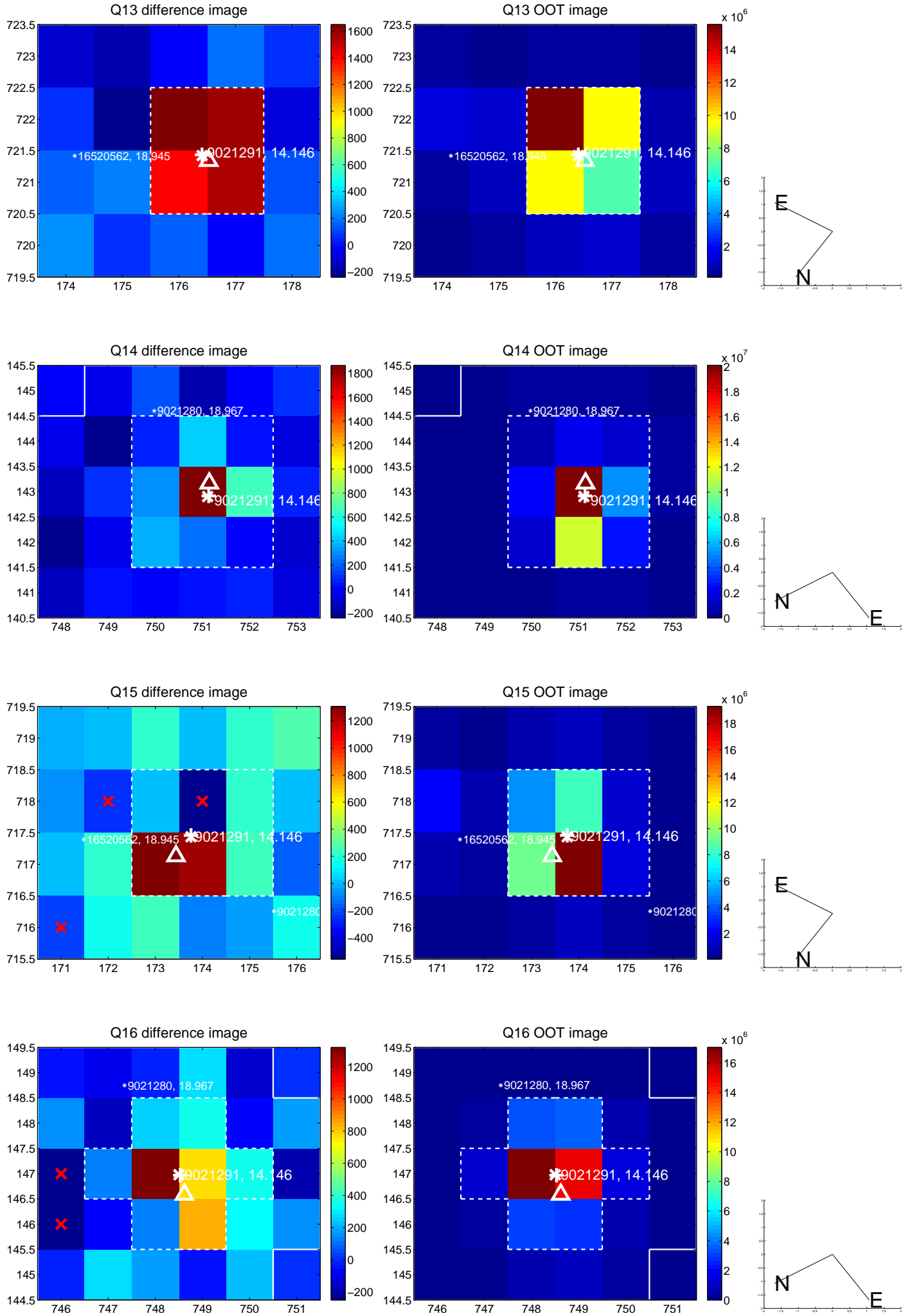
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



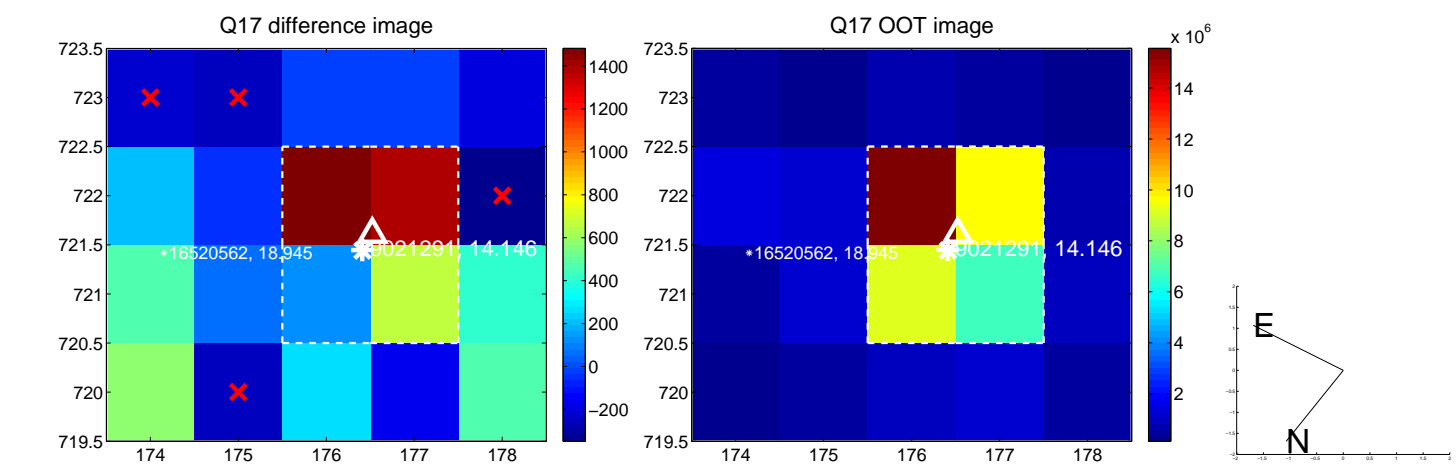
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



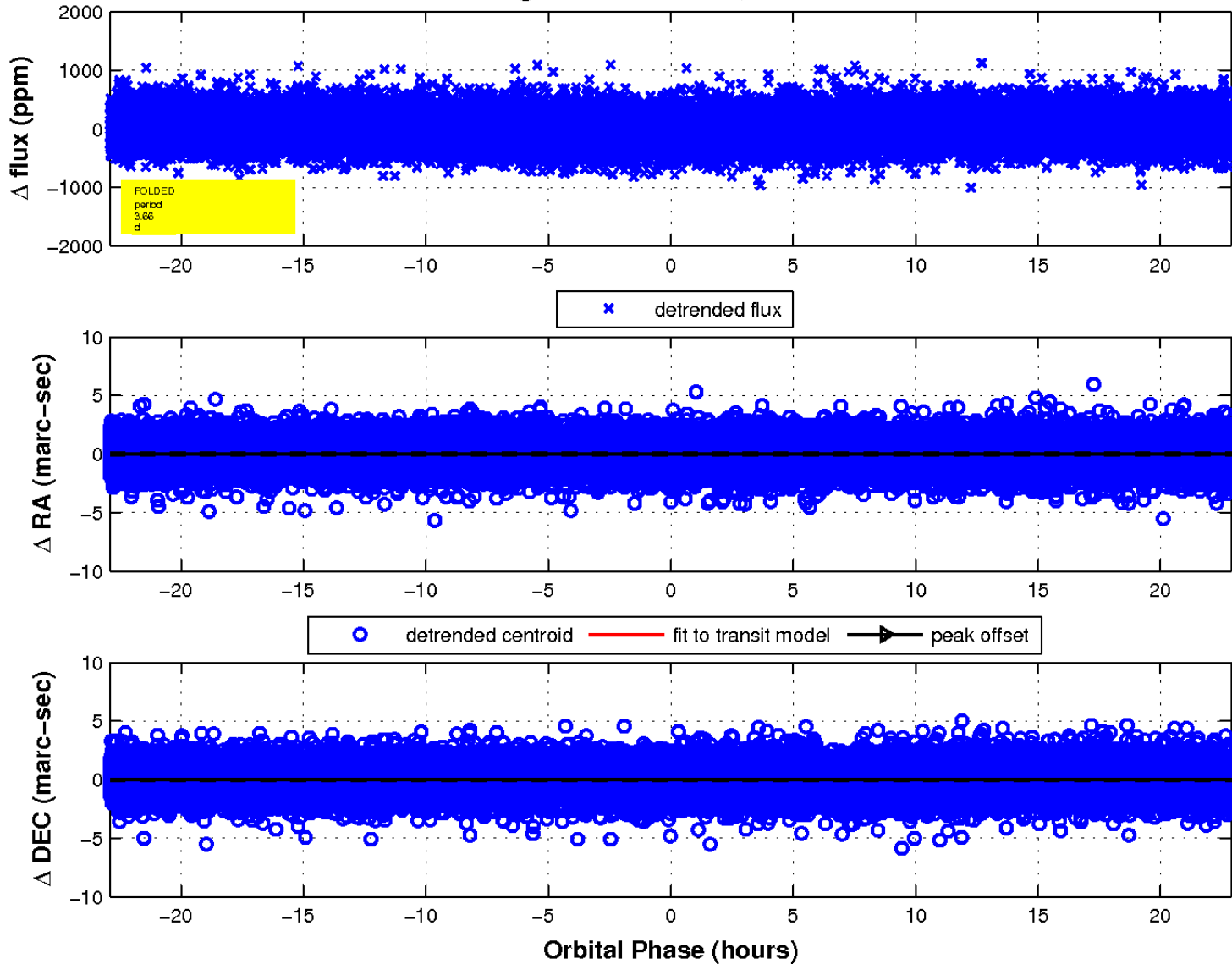
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

