

KIC 006437993

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})
006437993-01	OBS	6708.01	1.397953	131.739598	19.8	5.183	7.5	8.9	0.76	5074	0.44	711.04

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006437993-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_KIC_POS

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 006437993-01

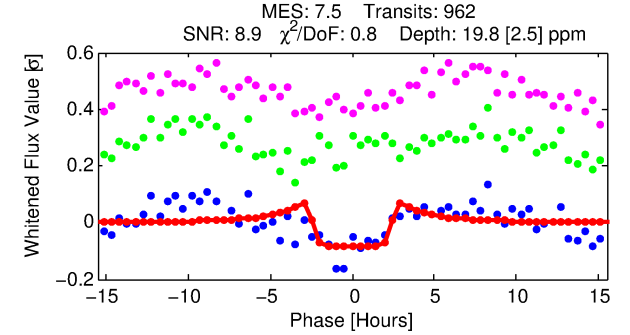
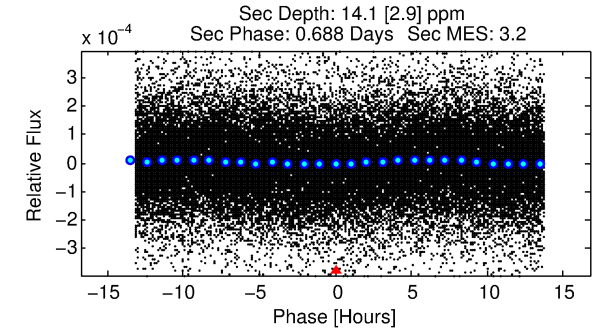
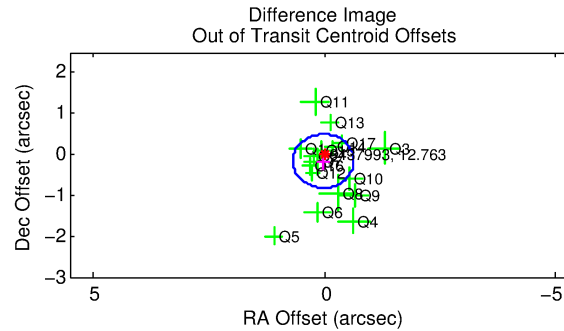
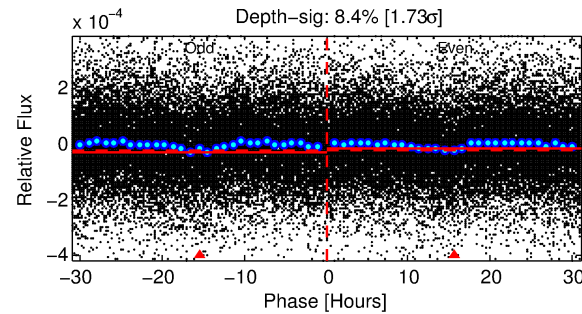
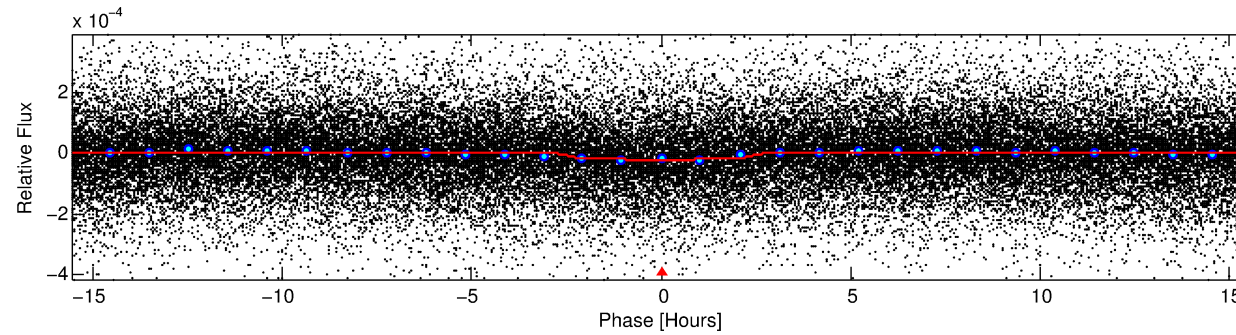
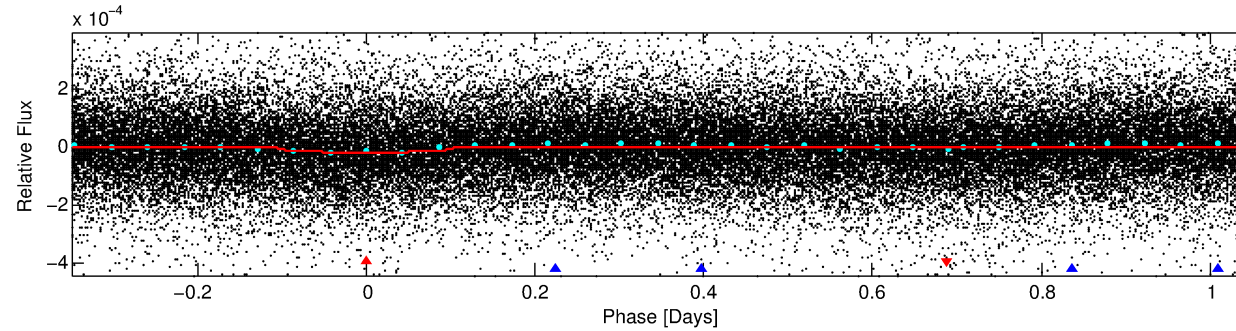
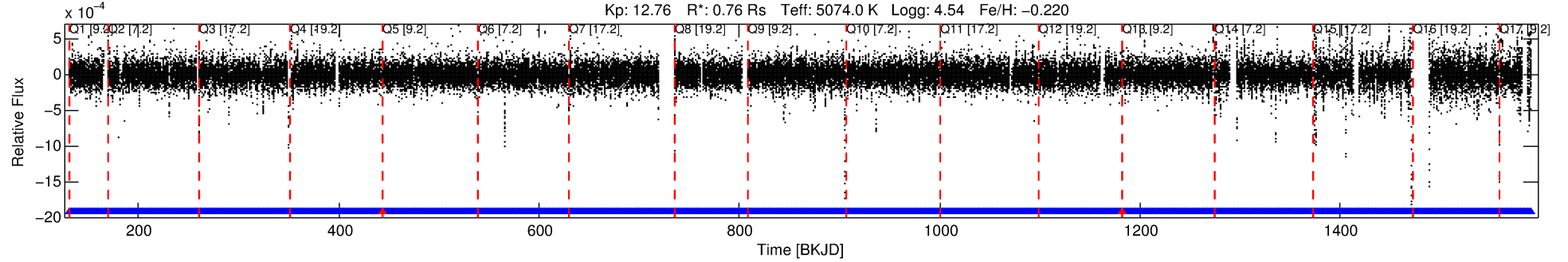
No Significant Match Found

DV One-Page Summary

KIC: 6437993 Candidate: 1 of 2 Period: 1.398 d

KOI: K06708 Corr: No Ephemeris Match

Kp: 12.76 R*: 0.76 Rs Teff: 5074.0 K Logg: 4.54 Fe/H: -0.220



DV Fit Results:

Period = 1.39795 [0.00001] d
Epoch = 131.7396 [0.0038] BKJD
Rp/R* = 0.0053 [0.0015]
a/R* = 1.20 [0.47]
b = 0.94 [0.15]
Seff = 711.04 [124.03]
Teq = 1317 [57] K
Rp = 0.44 [0.13] Re
a = 0.0220 [0.0021] AU
Ag = 19.66 [12.06] [1.55σ]
Teffp = 4287 [651] K [4.55σ]

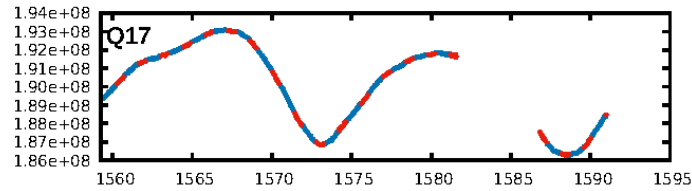
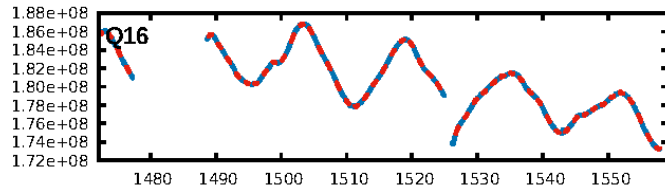
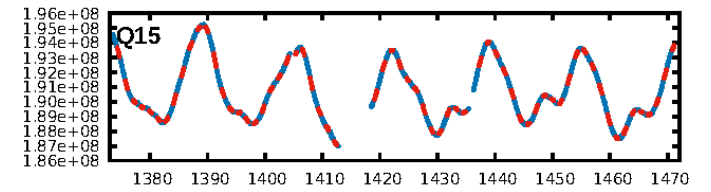
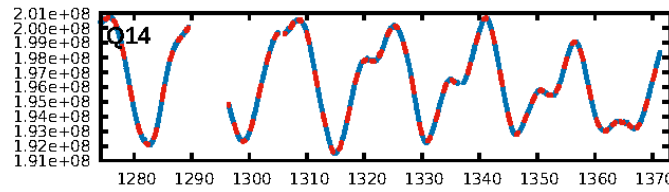
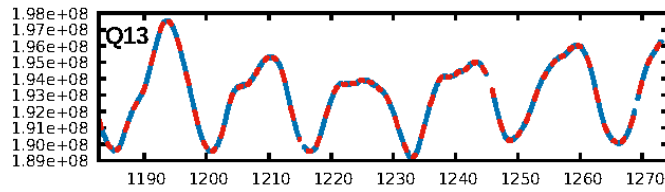
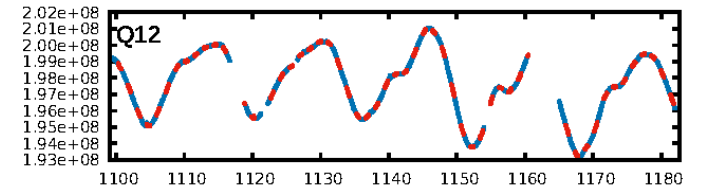
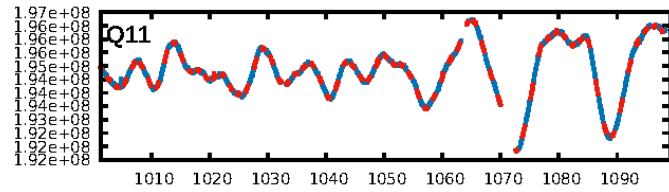
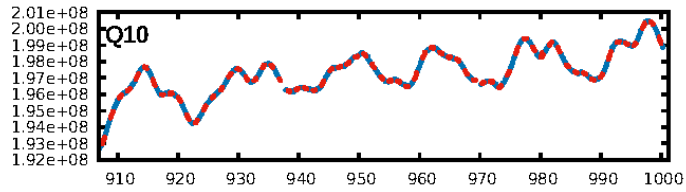
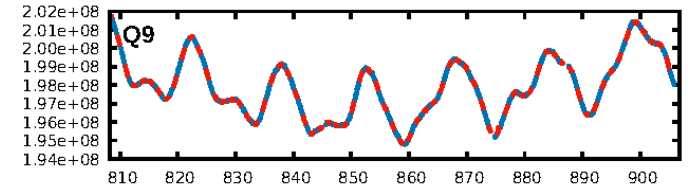
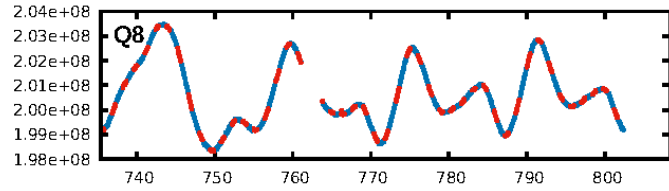
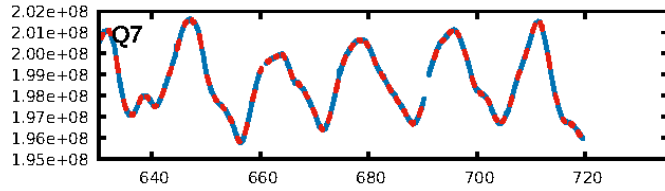
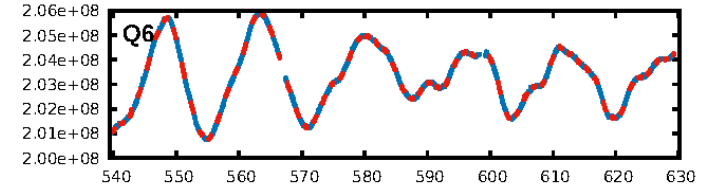
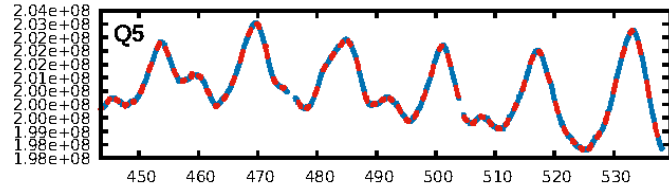
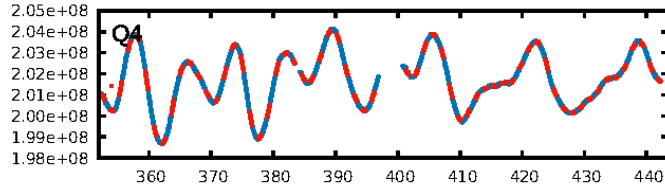
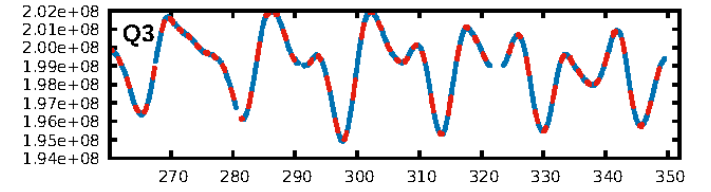
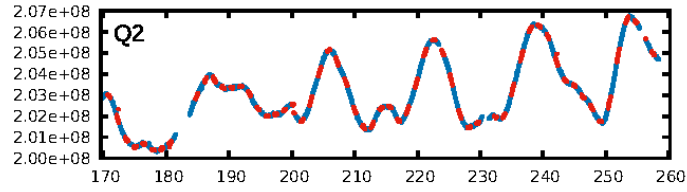
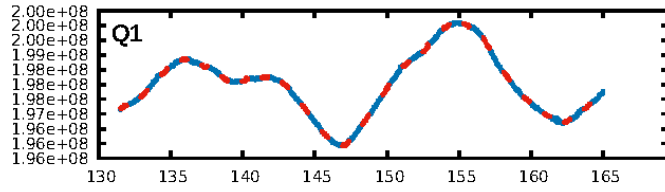
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [1576.09σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.75e-12
RollingBand-fgt: 1.00 [917/919]
GhostDiagnostic-chr: -0.4112
Centroid-sig: 30.2%
Centroid-so: 1.187 arcsec [0.83σ]
OotOffset-rm: 0.161 arcsec [0.74σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.346 arcsec [2.23σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

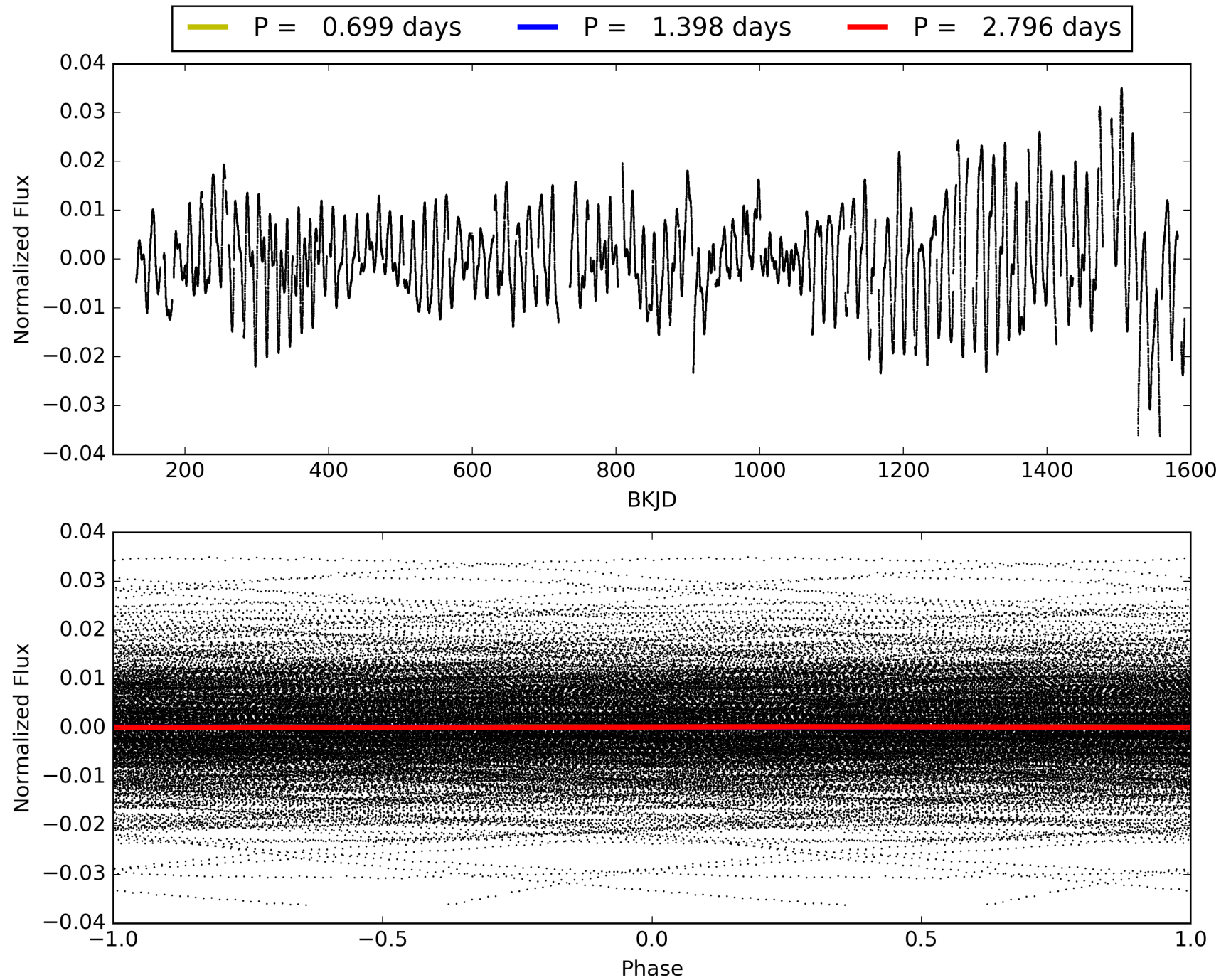
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 02:09:59 Z

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

TCE 006437993-01, PDC Light Curves

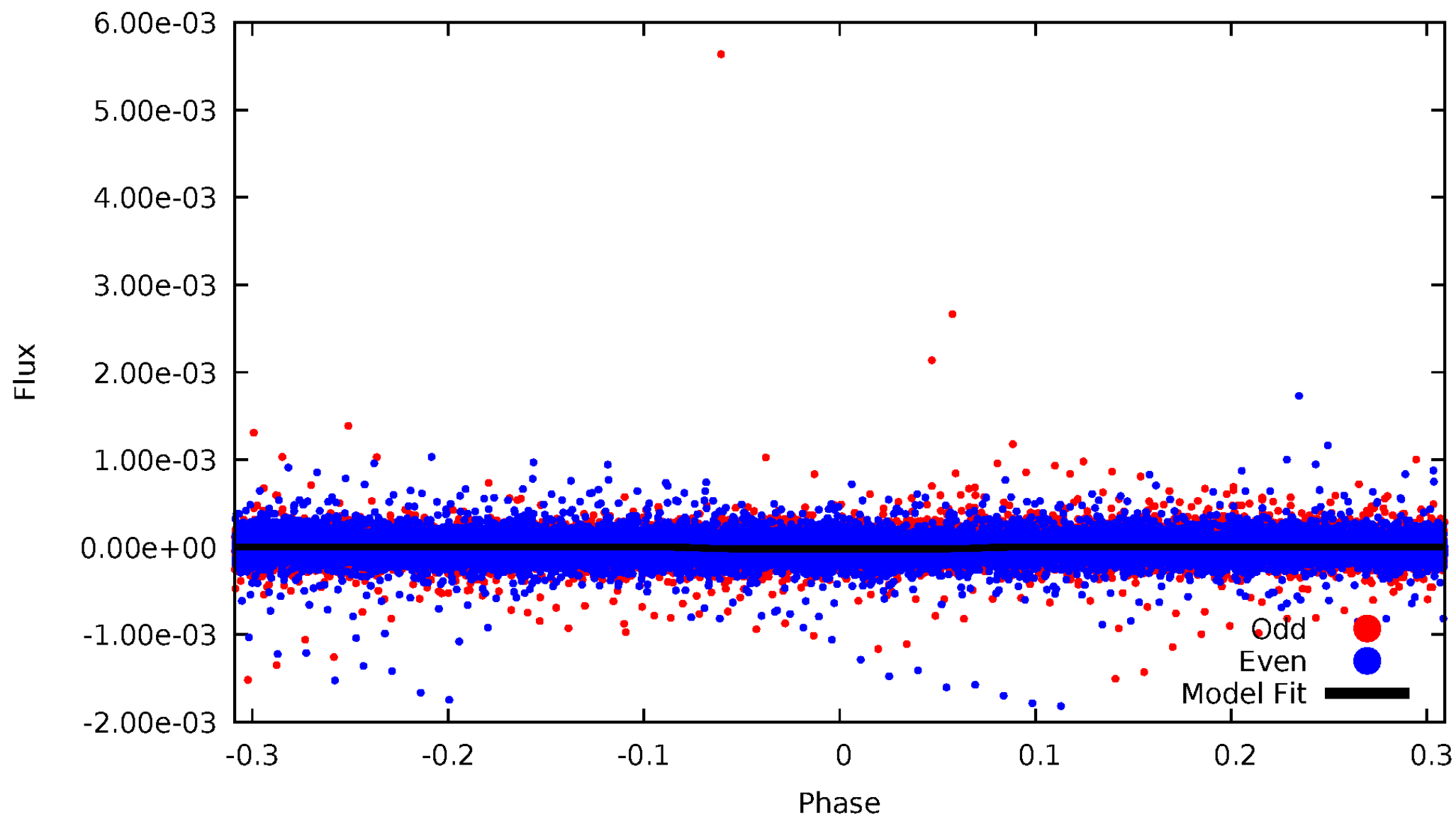


TCE 006437993-01



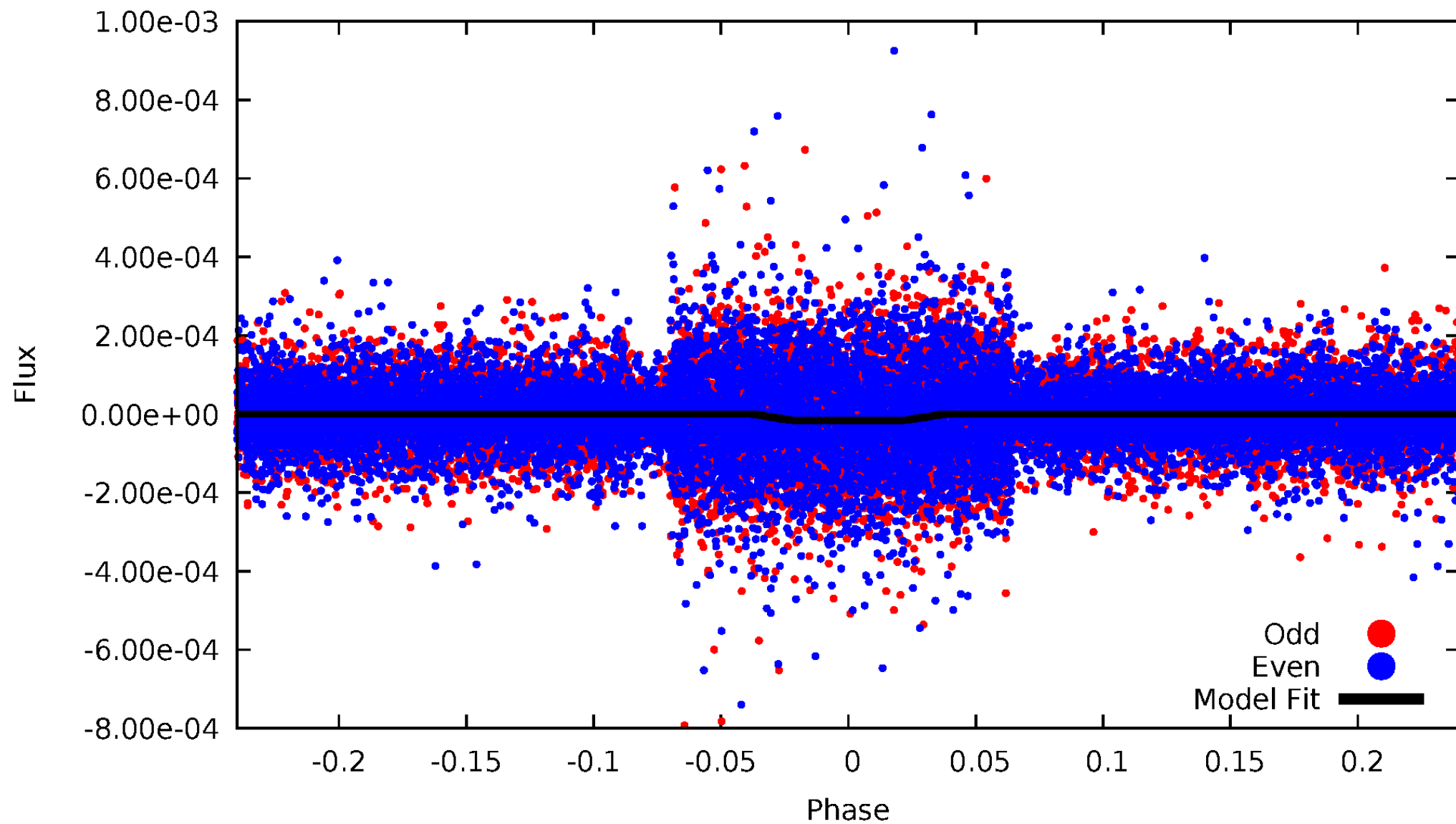
DV Odd/Even

TCE 006437993-01



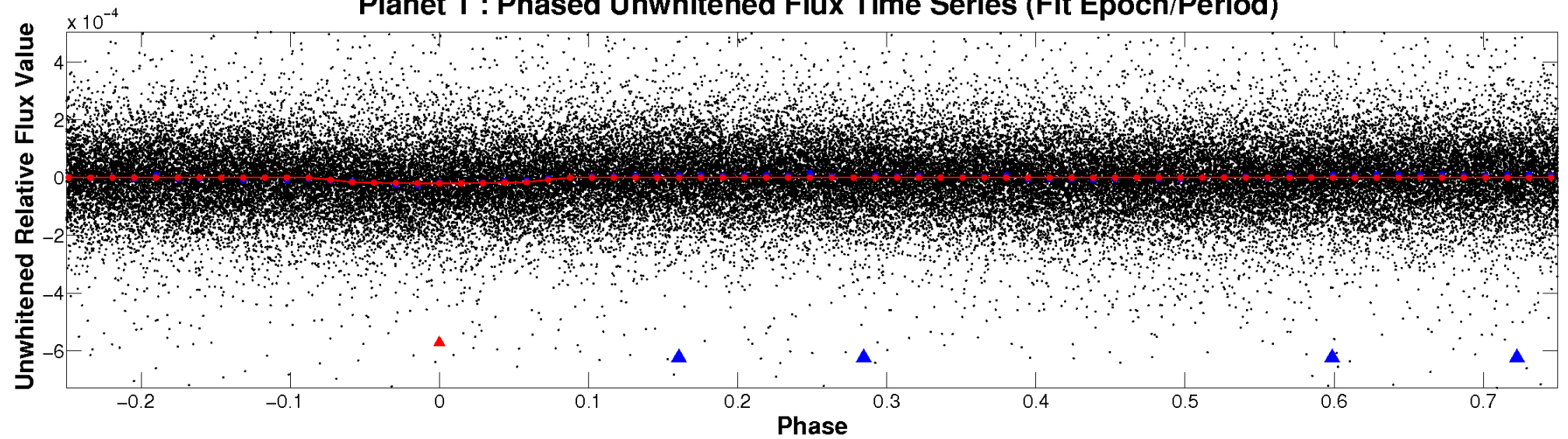
ALT Odd/Even

TCE 006437993-01

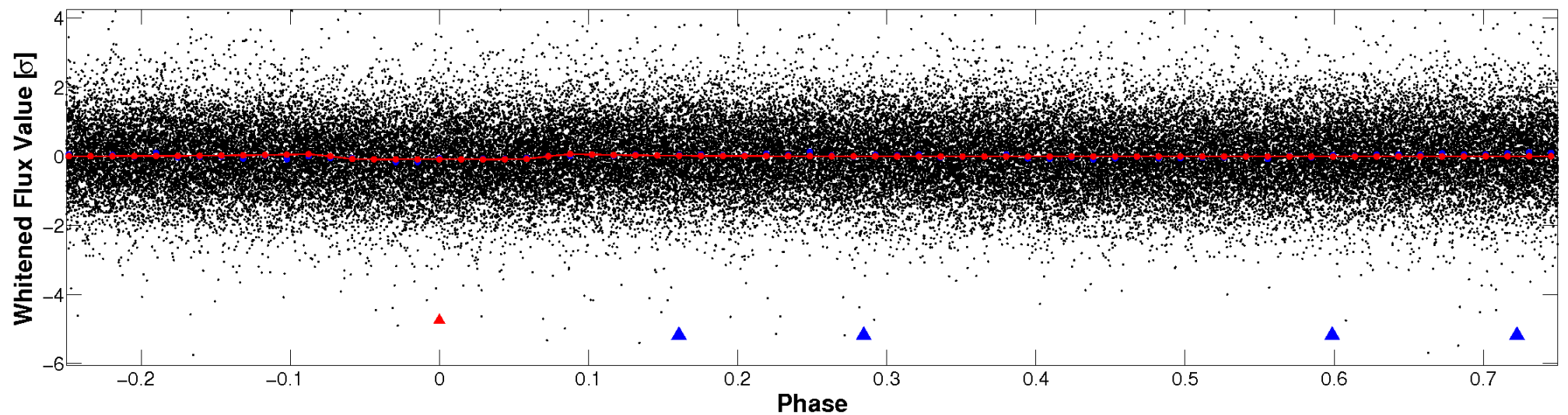


Non-Whitened Vs. Whitened Light Curve

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

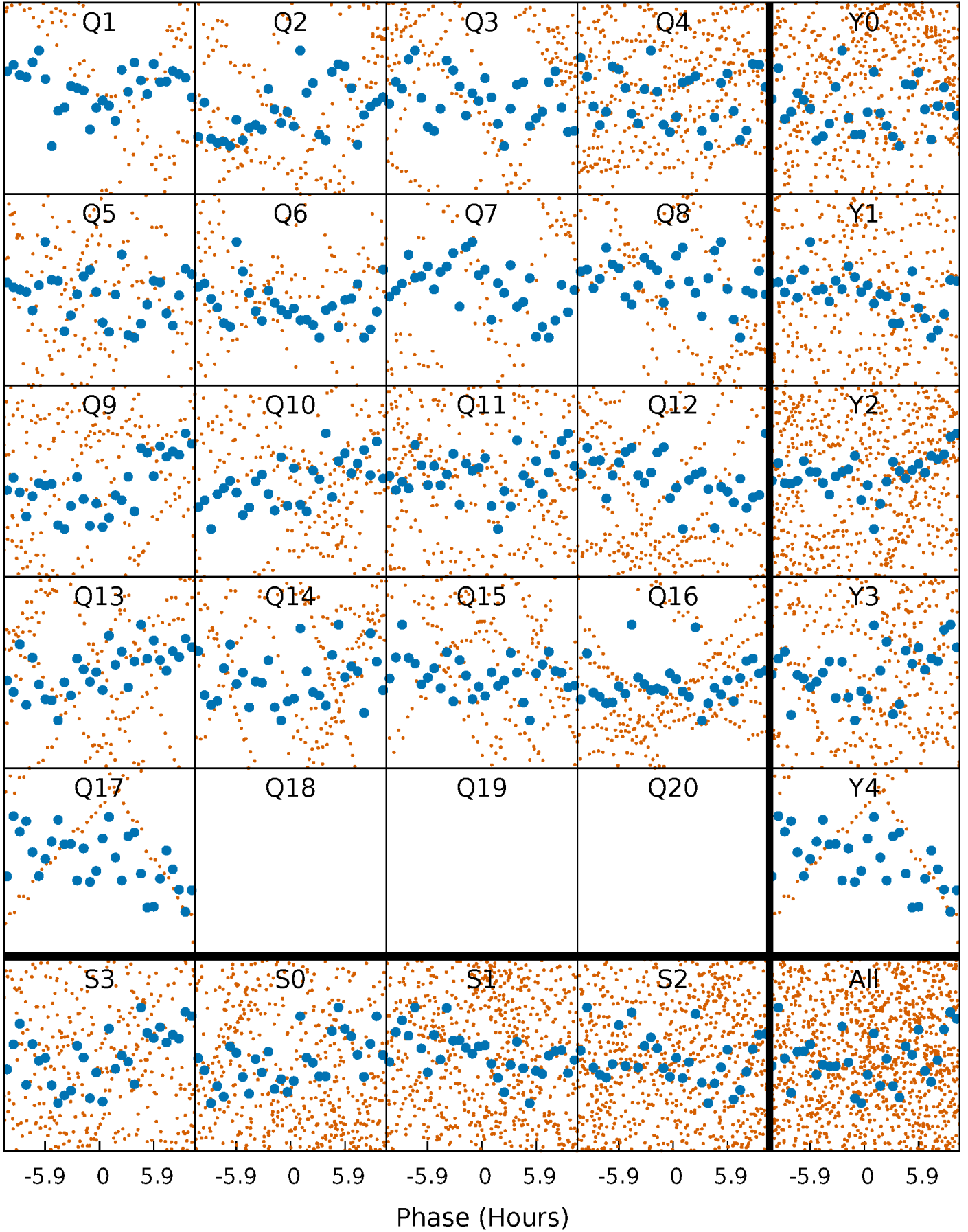


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



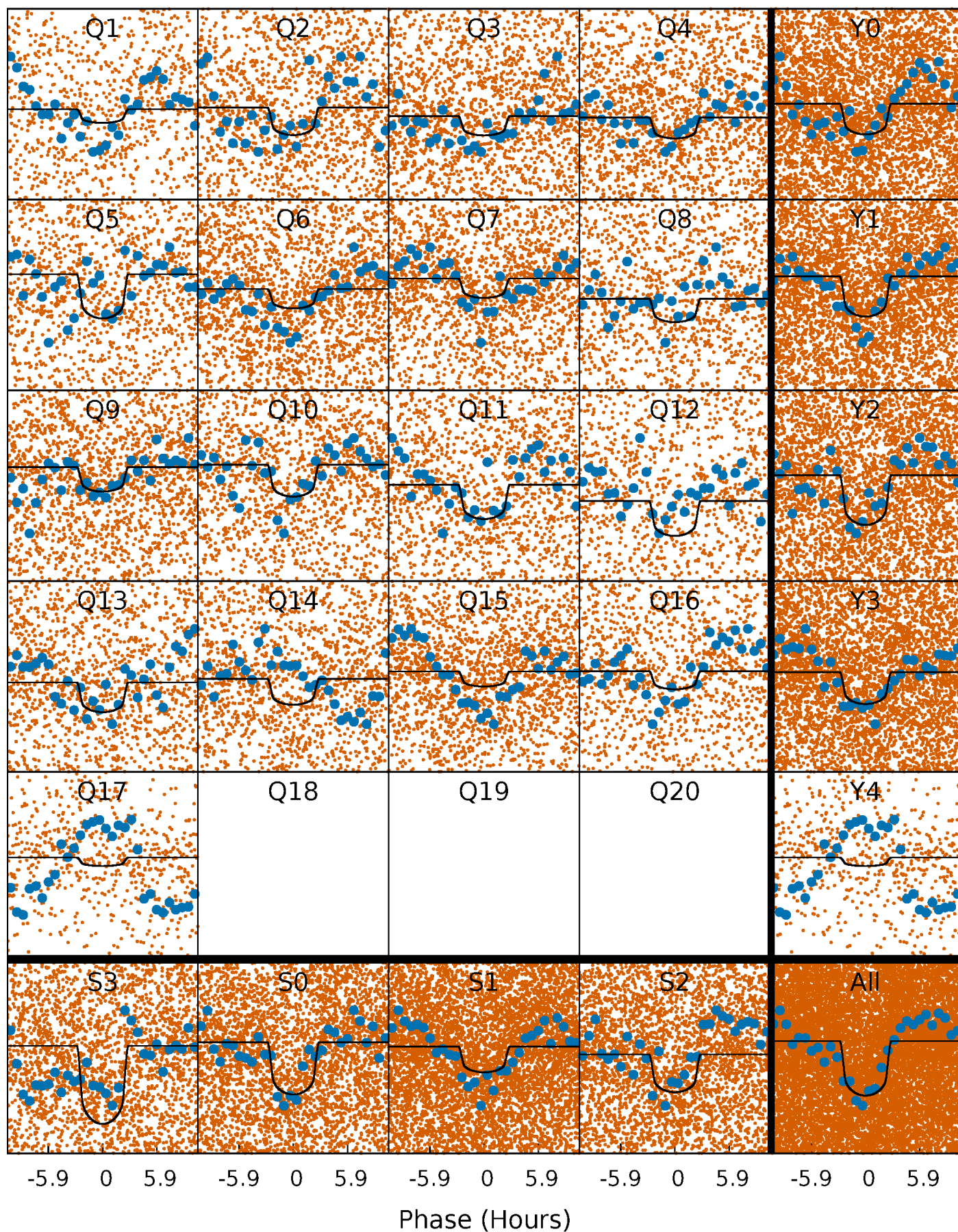
PDC Quarter-Phased Transit Curves

TCE 006437993-01 P= 1.397953 Days $T_0=131.739598$ (BKJD)



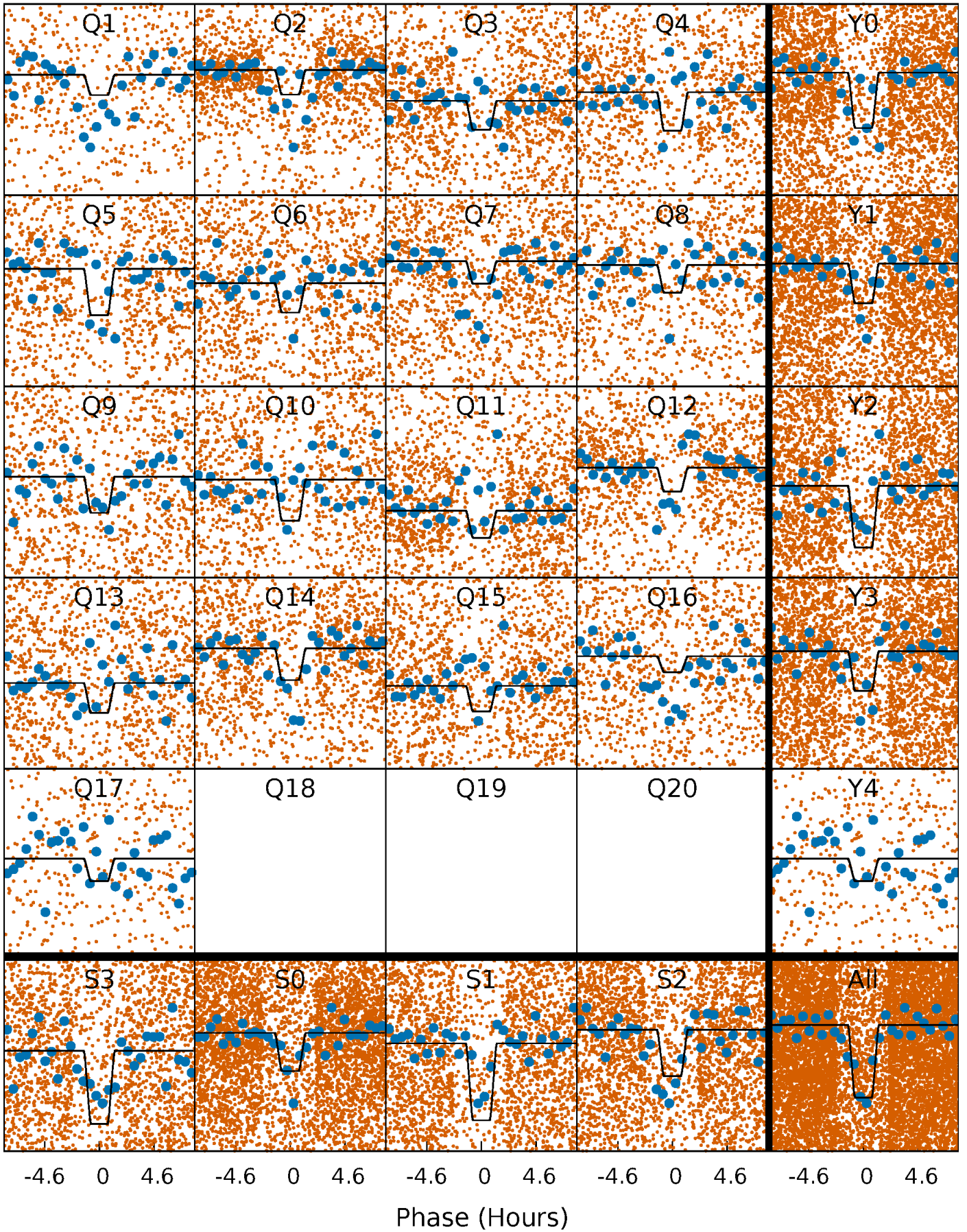
DV Quarter-Phased Transit Curves

TCE 006437993-01 P= 1.397953 Days $T_0=131.739598$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

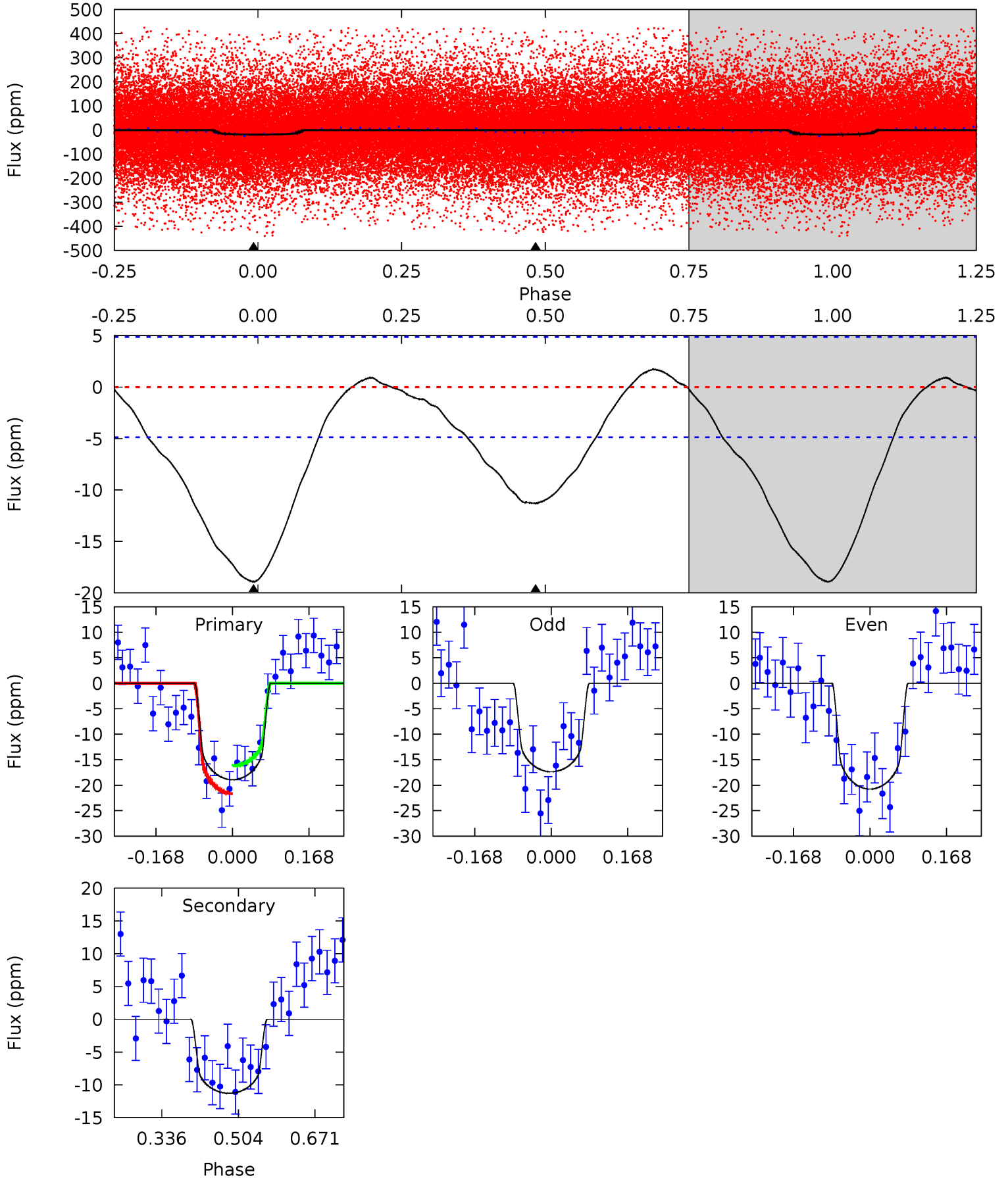
TCE 006437993-01 P= 1.397850 Days $T_0=131.761720$ (BKJD)



DV Model-Shift Uniqueness Test

006437993-01, P = 1.397953 Days, E = 130.341645 Days

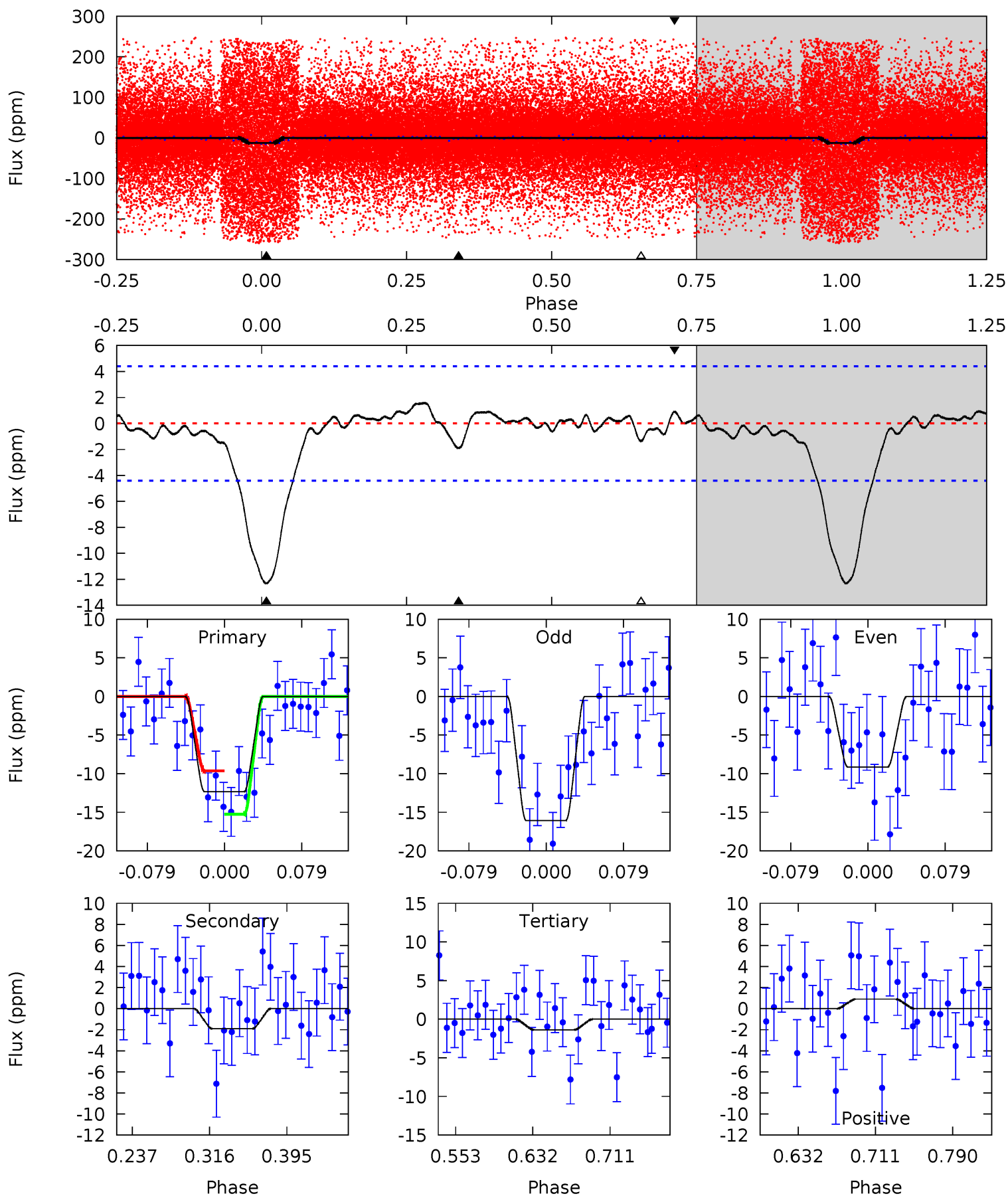
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.3	10.3	0	0	4.45	1.38	1.65	17.3	17.3	10.3	10.3	1.56	1.07	0.08	2.51



Alt Model-Shift Uniqueness Test

006437993-01, P = 1.397850 Days, E = 130.363870 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	1.99	1.45	0.95	4.61	1.76	0.57	11.5	12.0	0.55	1.05	3.63	1.27	0.11	2.93



Stellar Parameters For KIC 006437993

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5074^{+136}_{-136}	$4.536^{+0.075}_{-0.067}$	$-0.220^{+0.300}_{-0.300}$	$0.761^{+0.086}_{-0.086}$	$0.725^{+0.100}_{-0.057}$	$2.319^{+0.748}_{-0.518}$
	+3%/-3%	+2%/-1%	+136%/-136%	+11%/-11%	+14%/-8%	+32%/-22%
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 006437993-01 / KOI 6708.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-11 ± 1	$0.44^{+0.13}_{-0.13}$	1843^{+70}_{-72}	4226^{+610}_{-396}	15^{+16}_{-6}
Alt.	-2 ± 1	$0.33^{+0.13}_{-0.12}$	1841^{+69}_{-73}	3353^{+673}_{-482}	$4.254^{+7.547}_{-2.630}$

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

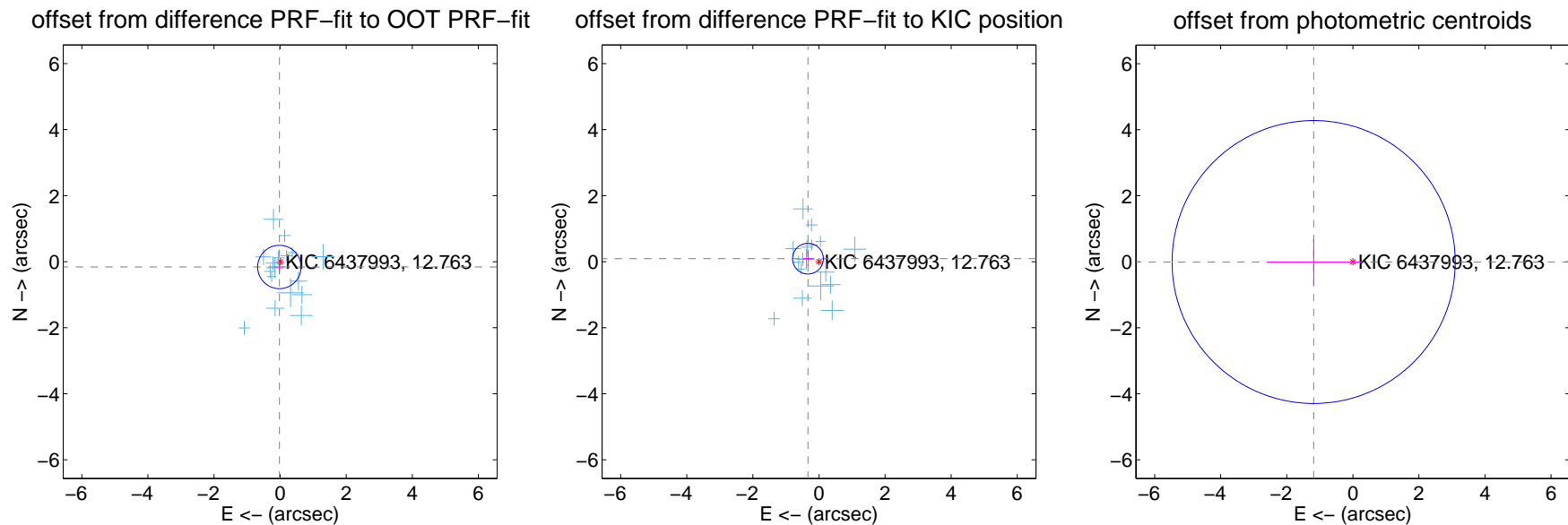
DV Centroid Data

Supplemental centroid analysis for 006437993-01. Kepler magnitude: 12.76. Transit SNR 8.87

There are 17 quarters with good PRF difference image offsets

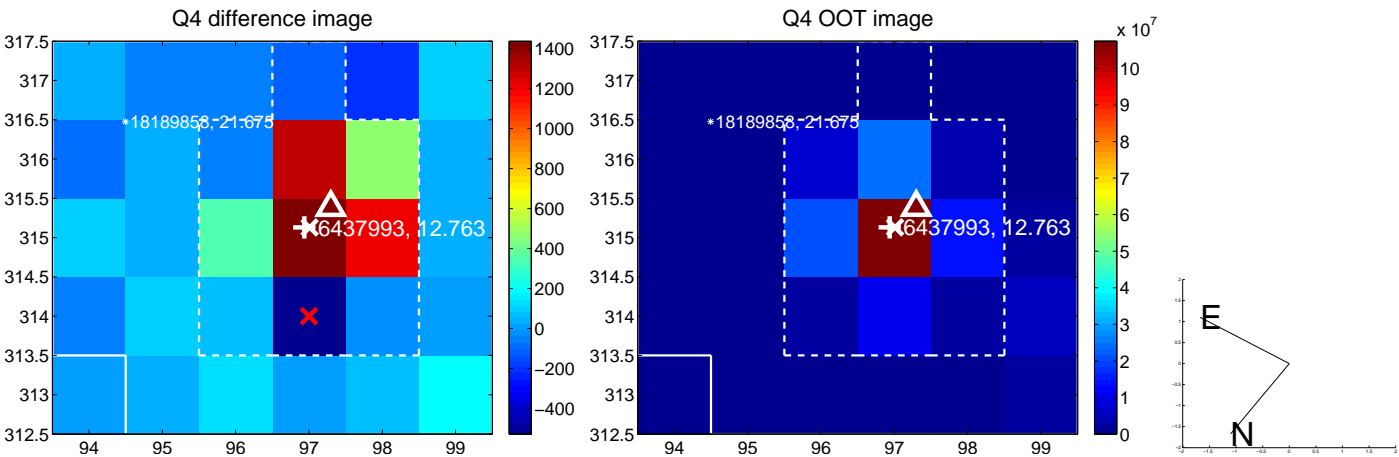
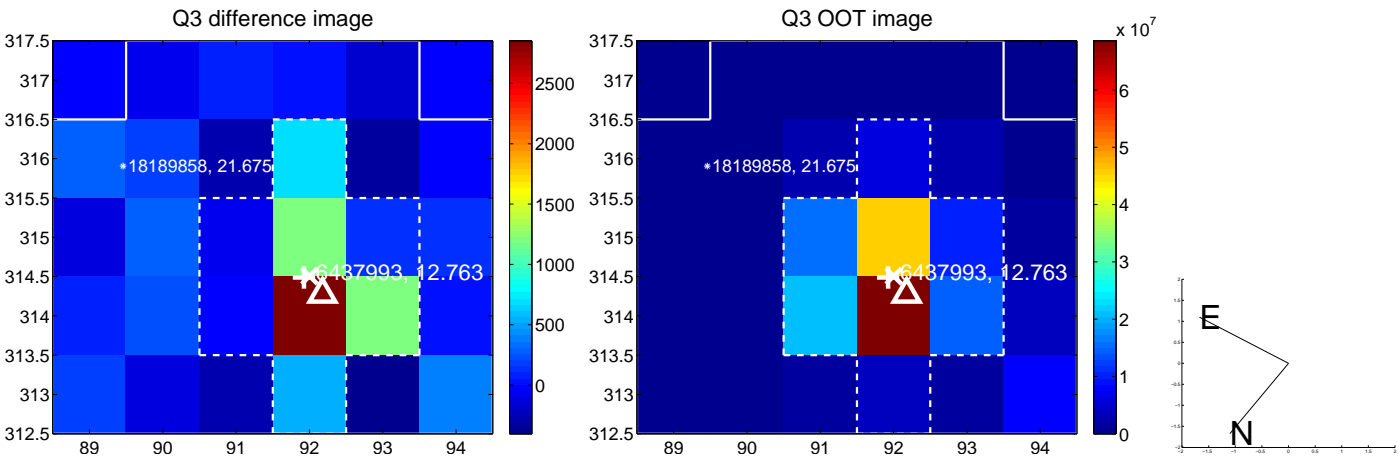
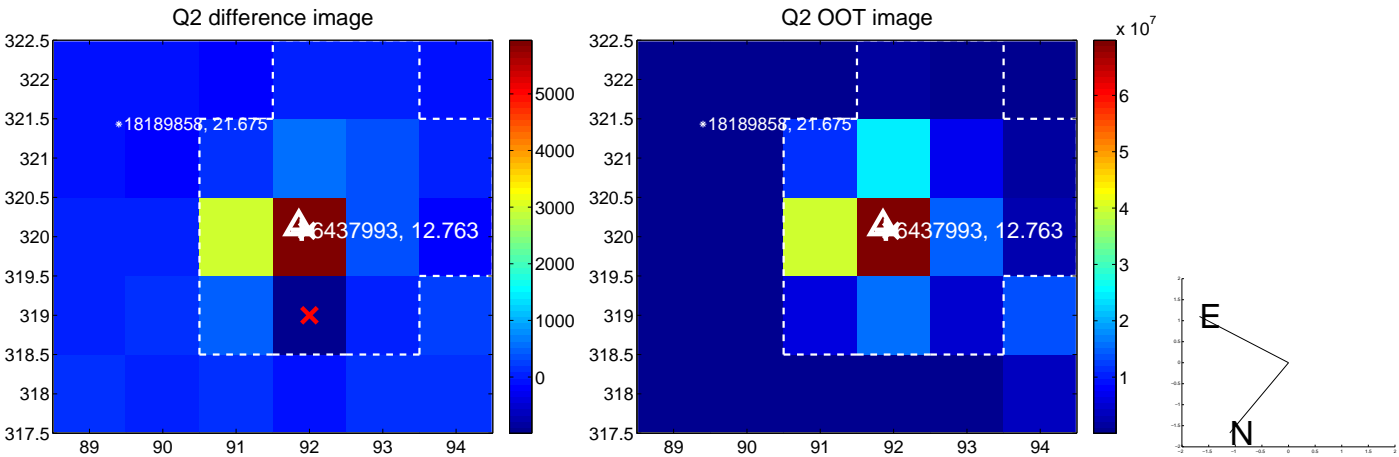
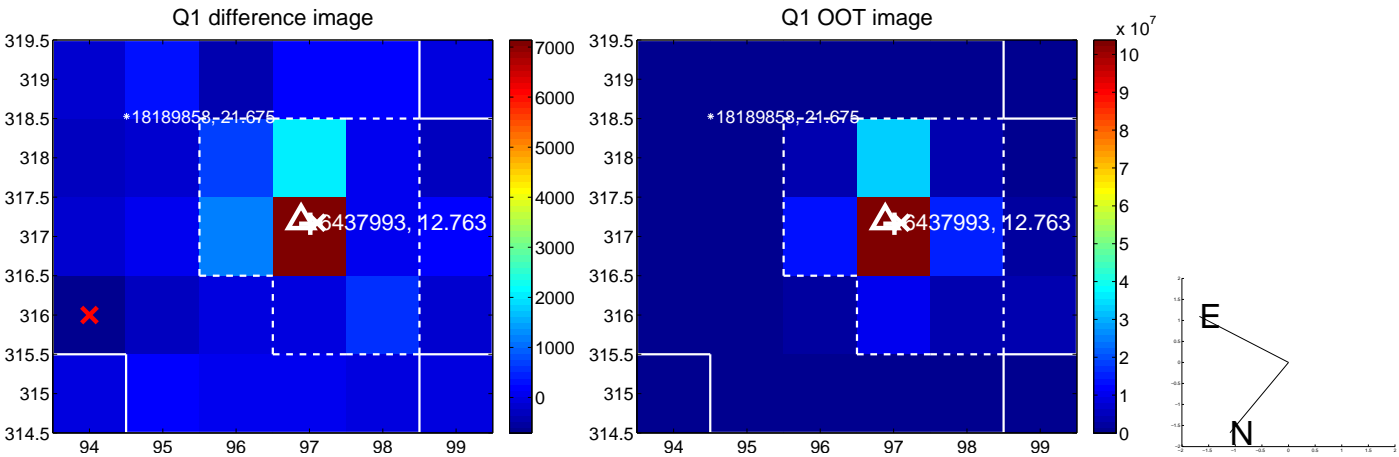
The direct PRF centroid is offset from the target star catalog position by about 0.47 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.161 ± 0.219	0.74	0.022 ± 0.139	-0.160 ± 0.220
PRF-fit source offset from KIC position	0.346 ± 0.155	2.23	0.334 ± 0.148	0.092 ± 0.214
photometric centroid source offset	1.19 ± 1.43	0.83	1.19 ± 1.43	-0.01 ± 0.69

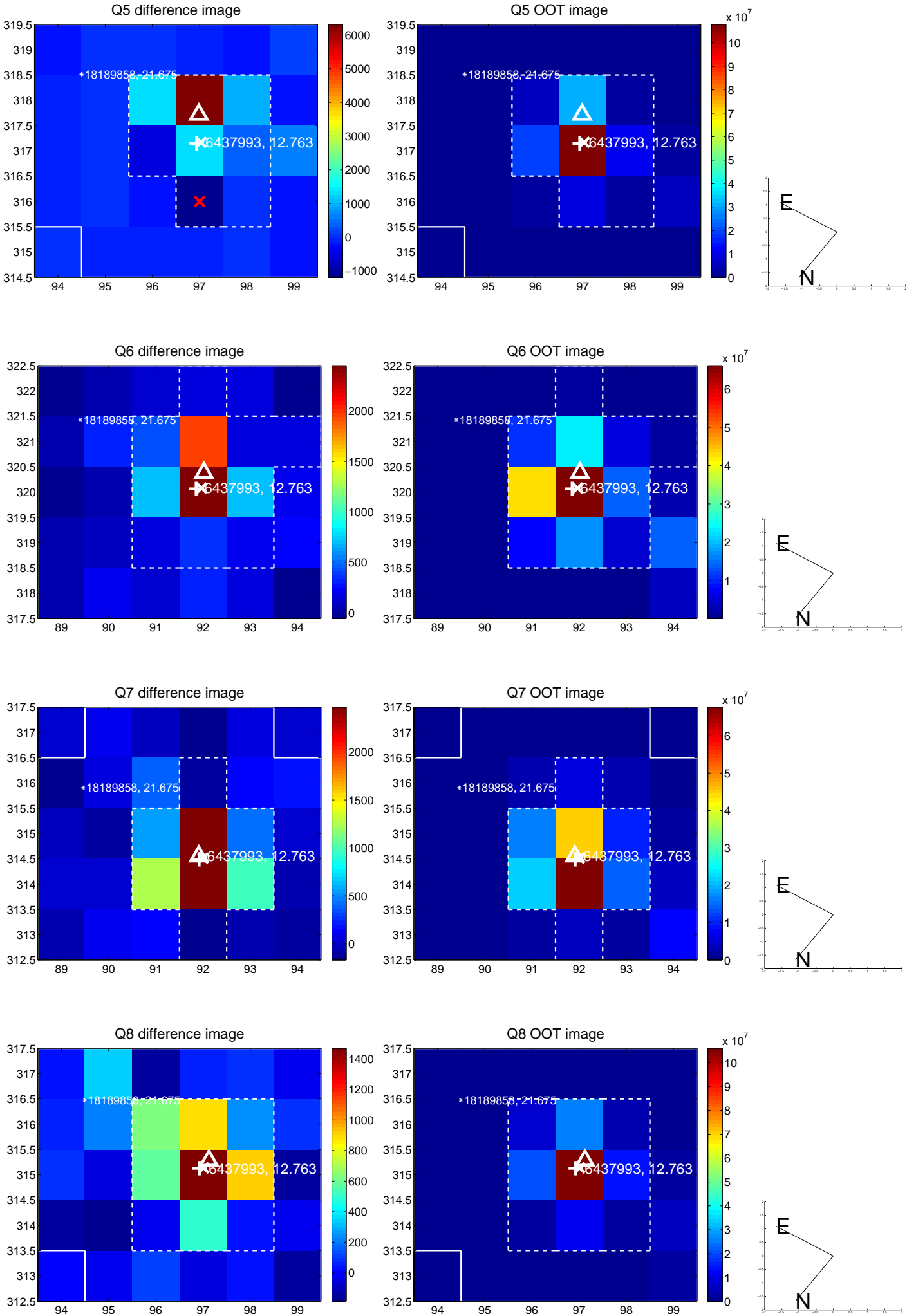


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

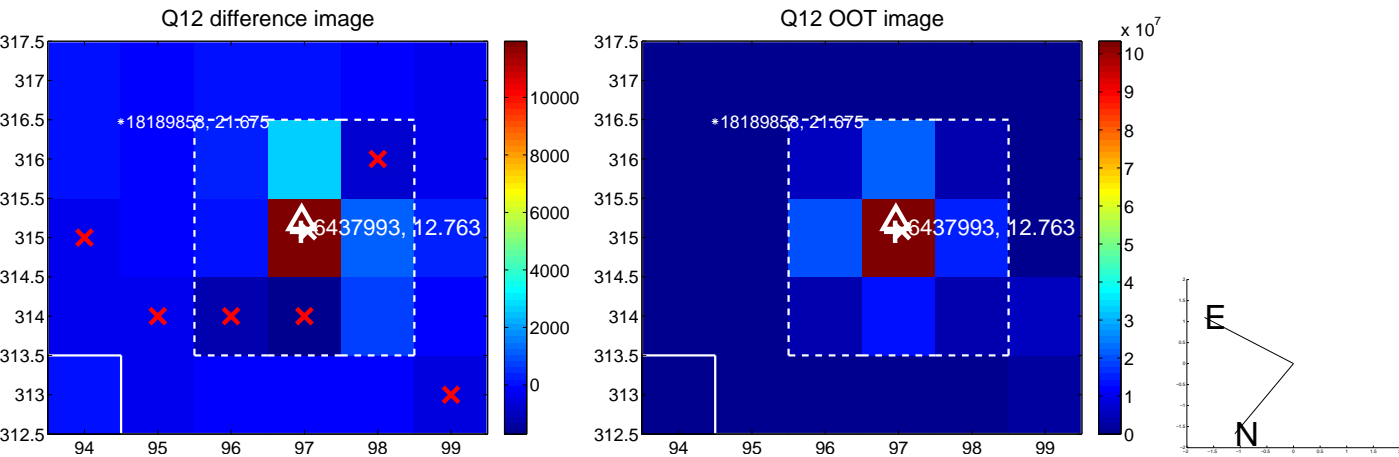
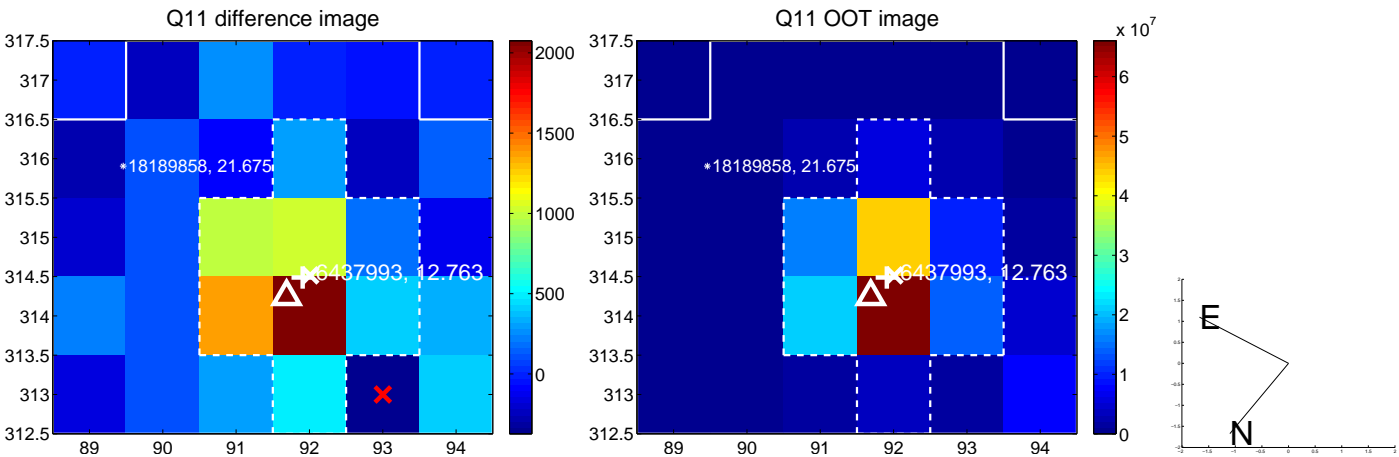
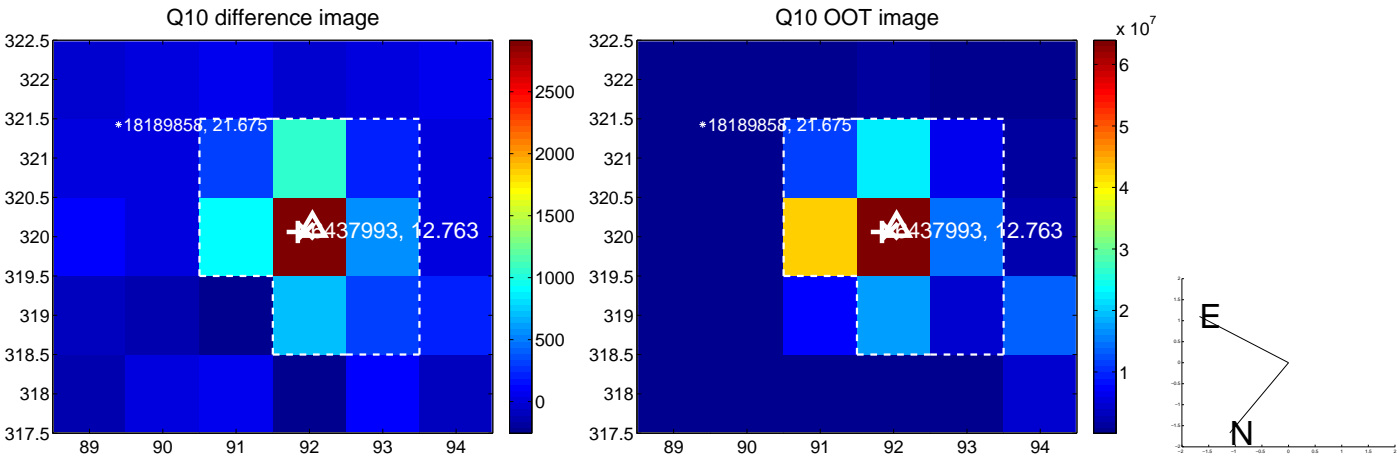
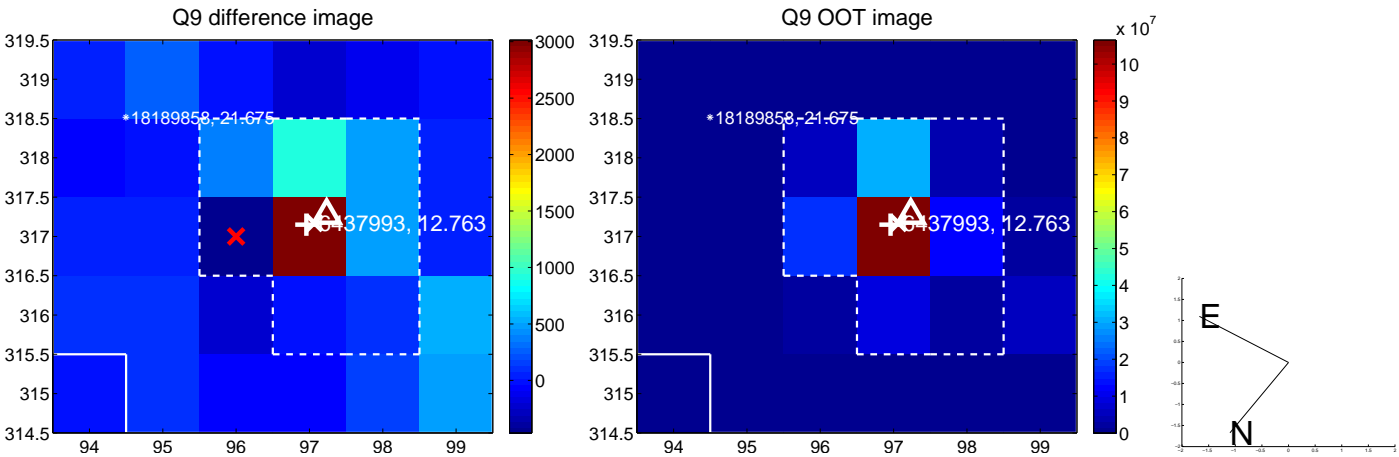
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



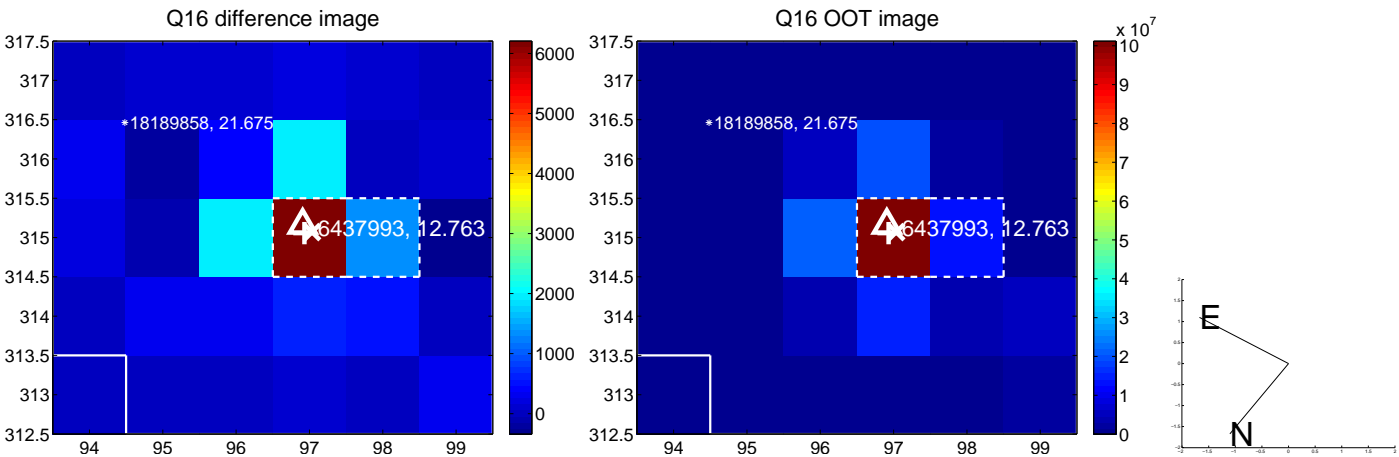
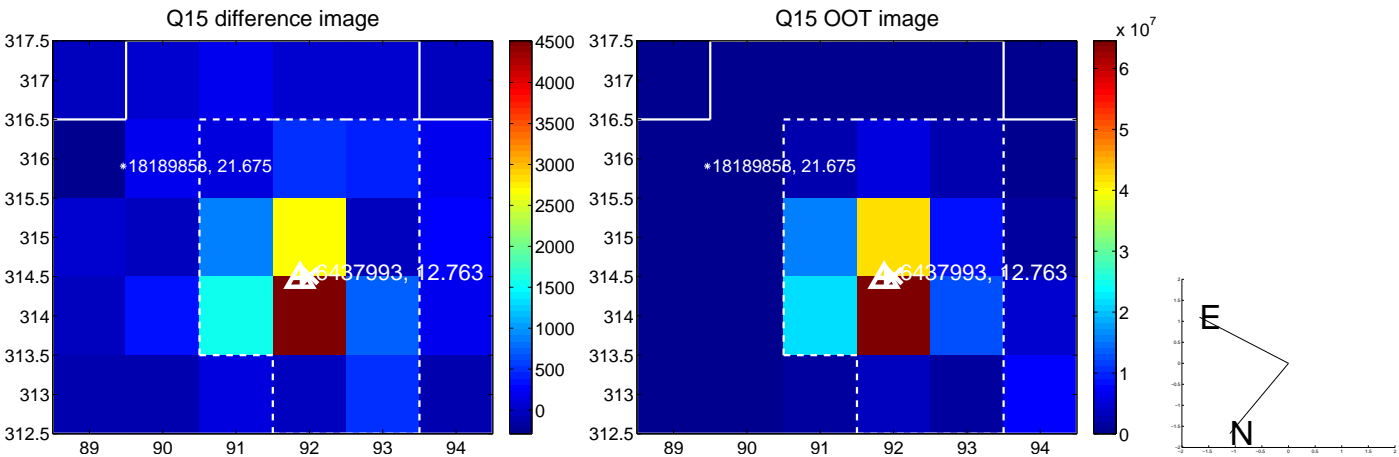
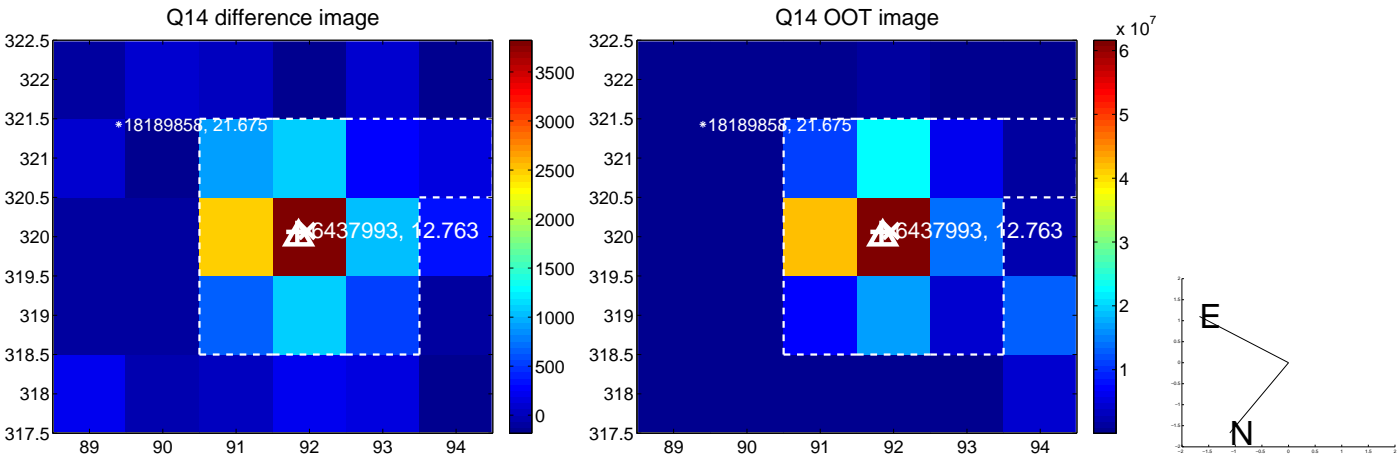
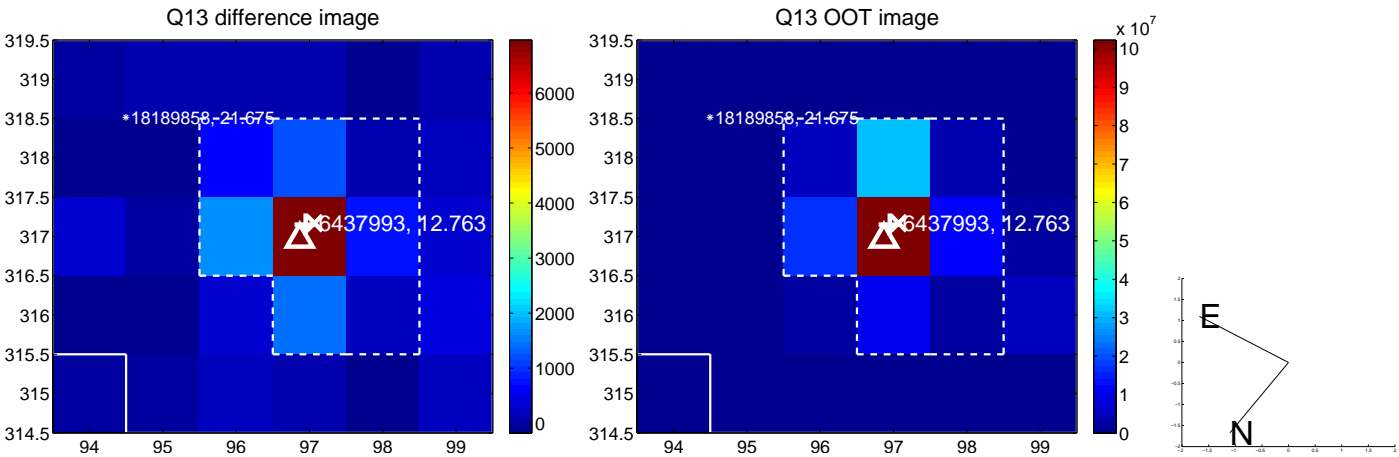
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



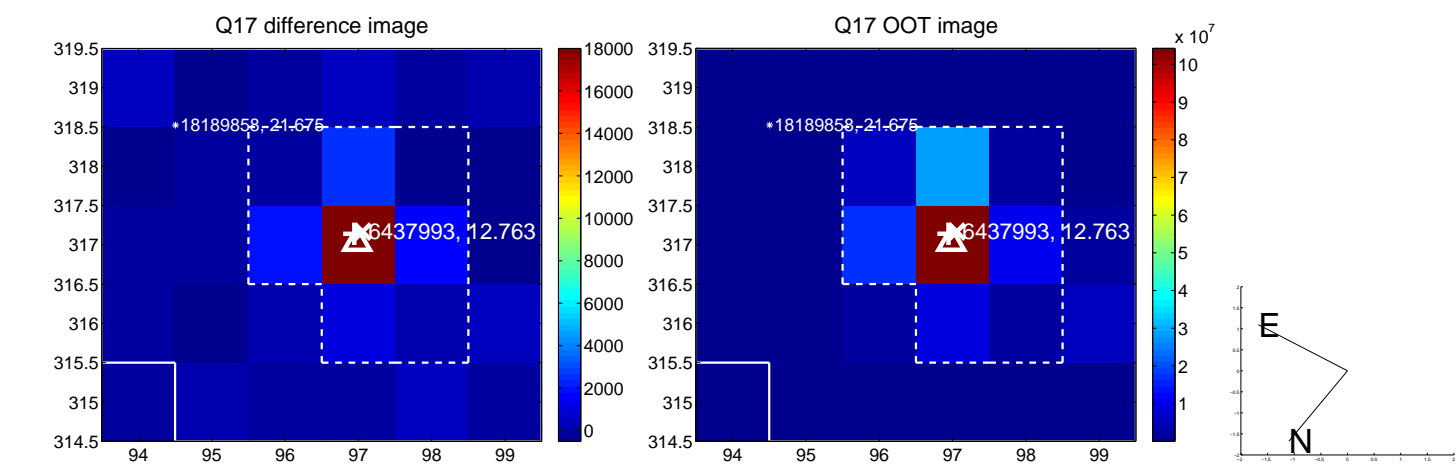
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



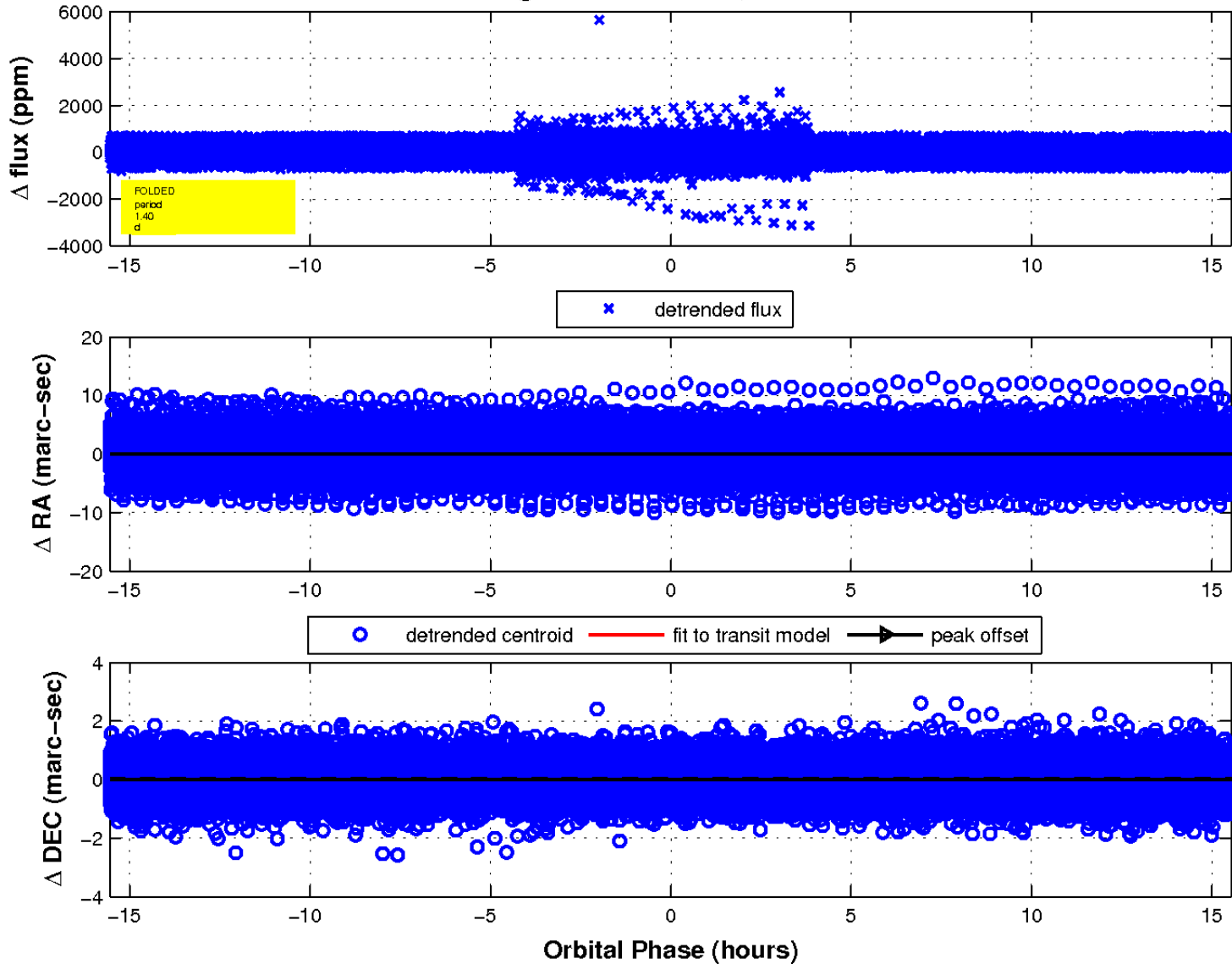
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination

