

KIC 004636938

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})
004636938-01	OBS	No	0.954620	131.771438	483.8	11.455	104.1	26.7	0.69	4306	2.03	519.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004636938-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT

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

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

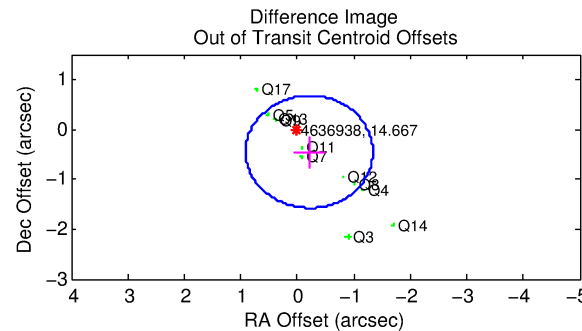
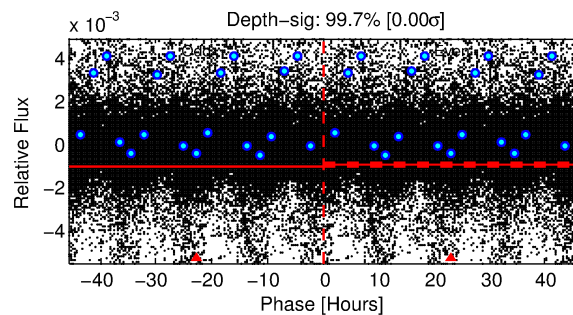
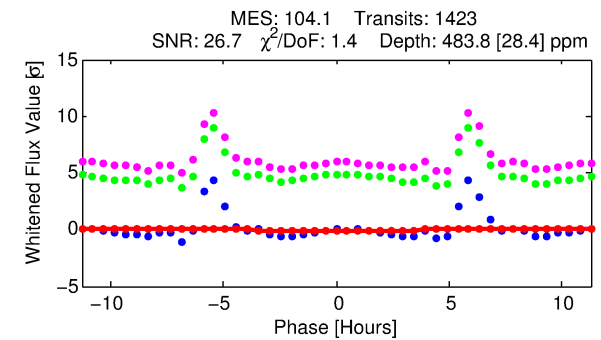
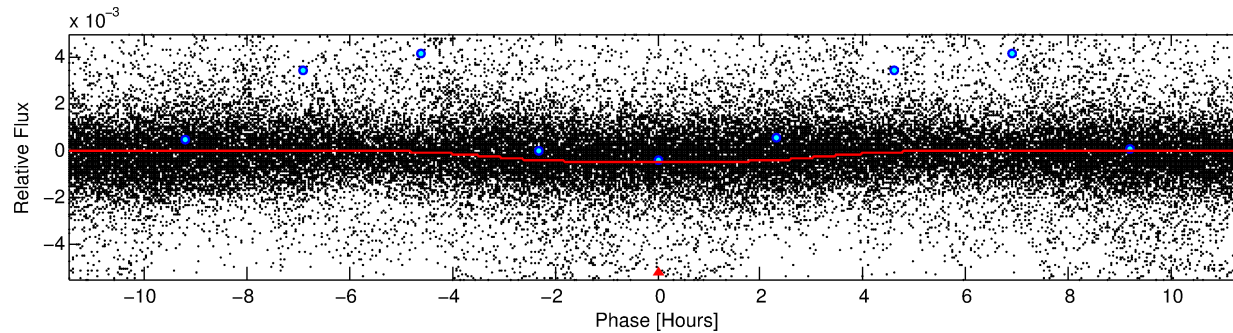
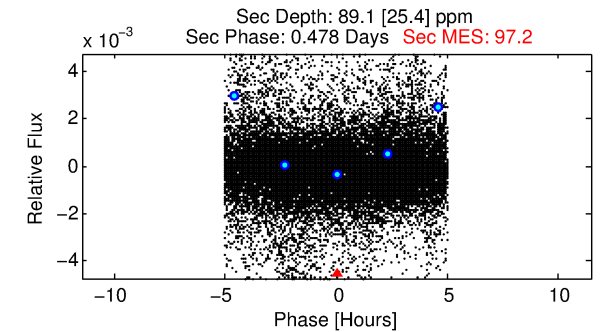
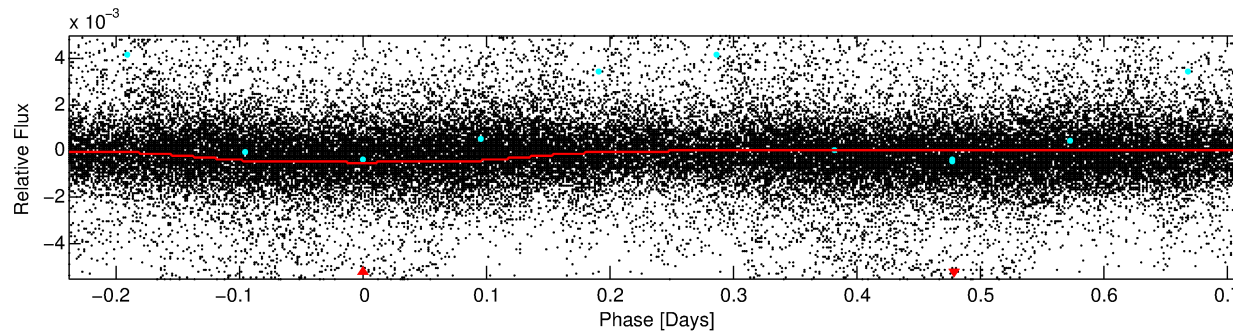
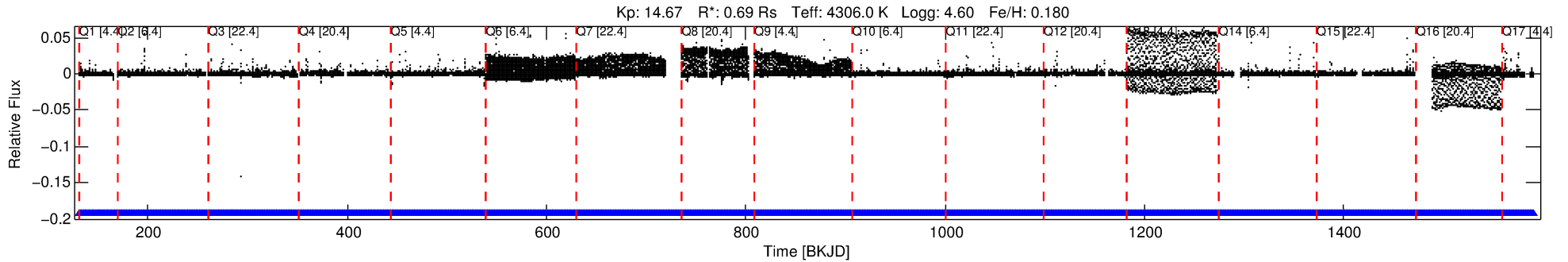
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004636938-01

No Significant Match Found

DV One-Page Summary

KIC: 4636938 Candidate: 1 of 1 Period: 0.955 d



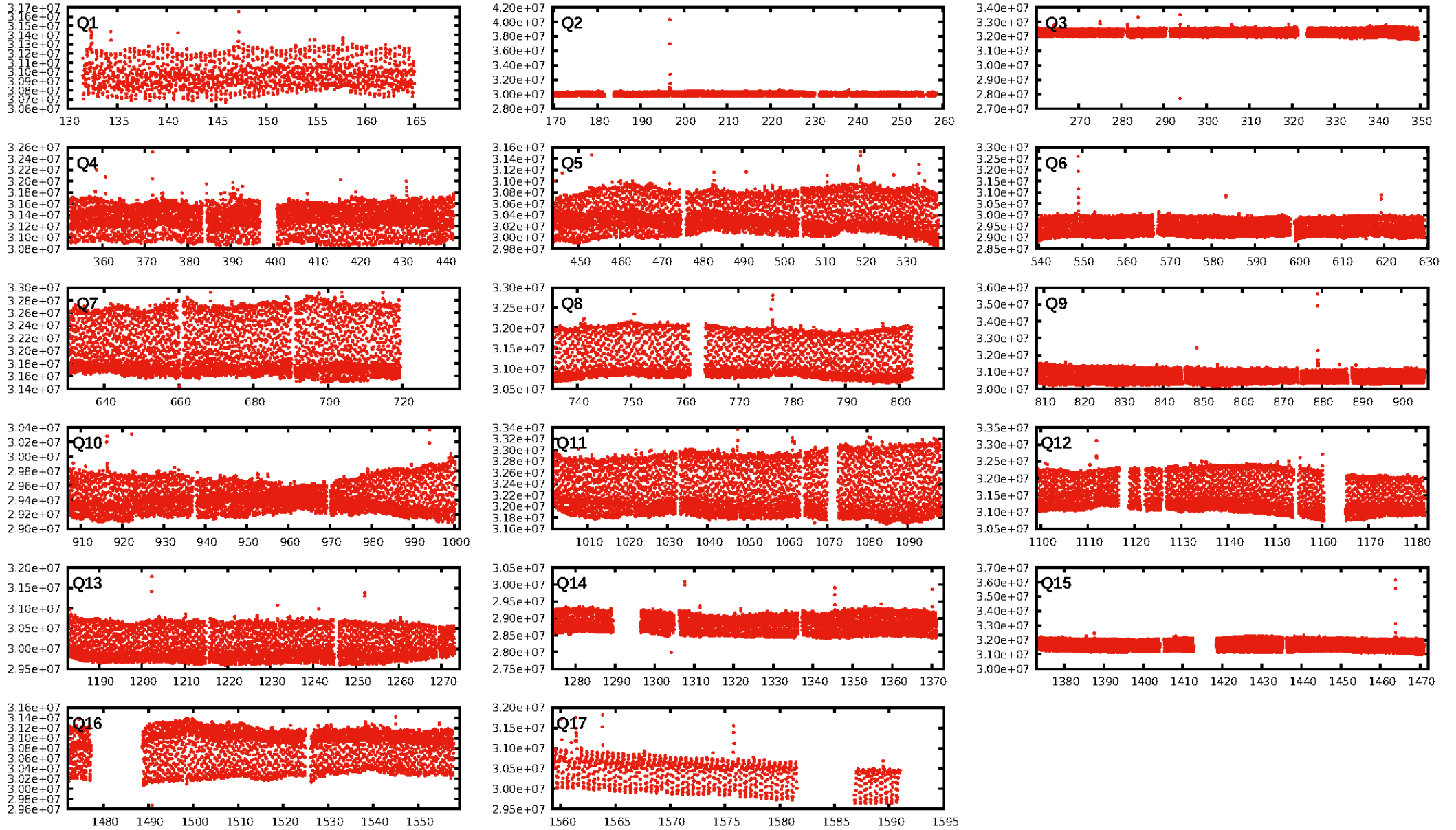
DV Fit Results:

Period = 0.95462 [0.00001] d
Epoch = 131.7714 [0.0064] BKJD
Rp/R* = 0.0271 [0.0009]
a/R* = 1.02 [0.00]
b = 0.95 [0.01]
Seff = 519.85 [85.57]
Teff = 1218 [50] K
Rp = 2.03 [0.18] Re
a = 0.0167 [0.0011] AU
Ag = 3.32 [1.02] [2.26σ]
Teffp = 2540 [204] K [6.30σ]

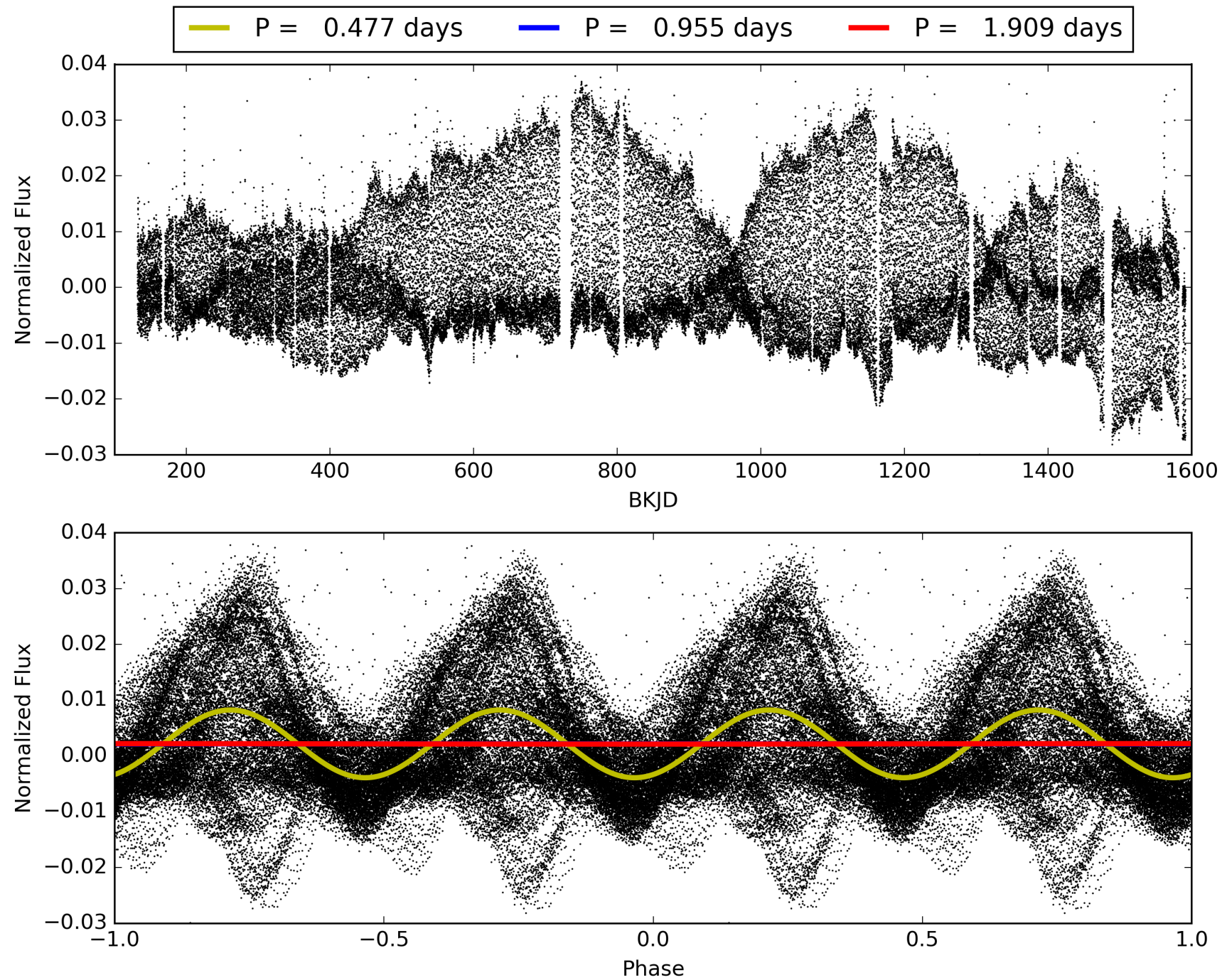
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1359/1359]
GhostDiagnostic-chr: 2.252
Centroid-sig: 0.0%
Centroid-so: 0.857 arcsec [9.33σ]
OotOffset-rm: 0.501 arcsec [1.33σ]
OotOffset-st: 1/3/3/4 [11]
KicOffset-rm: 0.394 arcsec [1.17σ]
KicOffset-st: 1/3/3/4 [11]
DiffImageQuality-fgm: 0.73 [8/11]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 004636938-01, PDC Light Curves

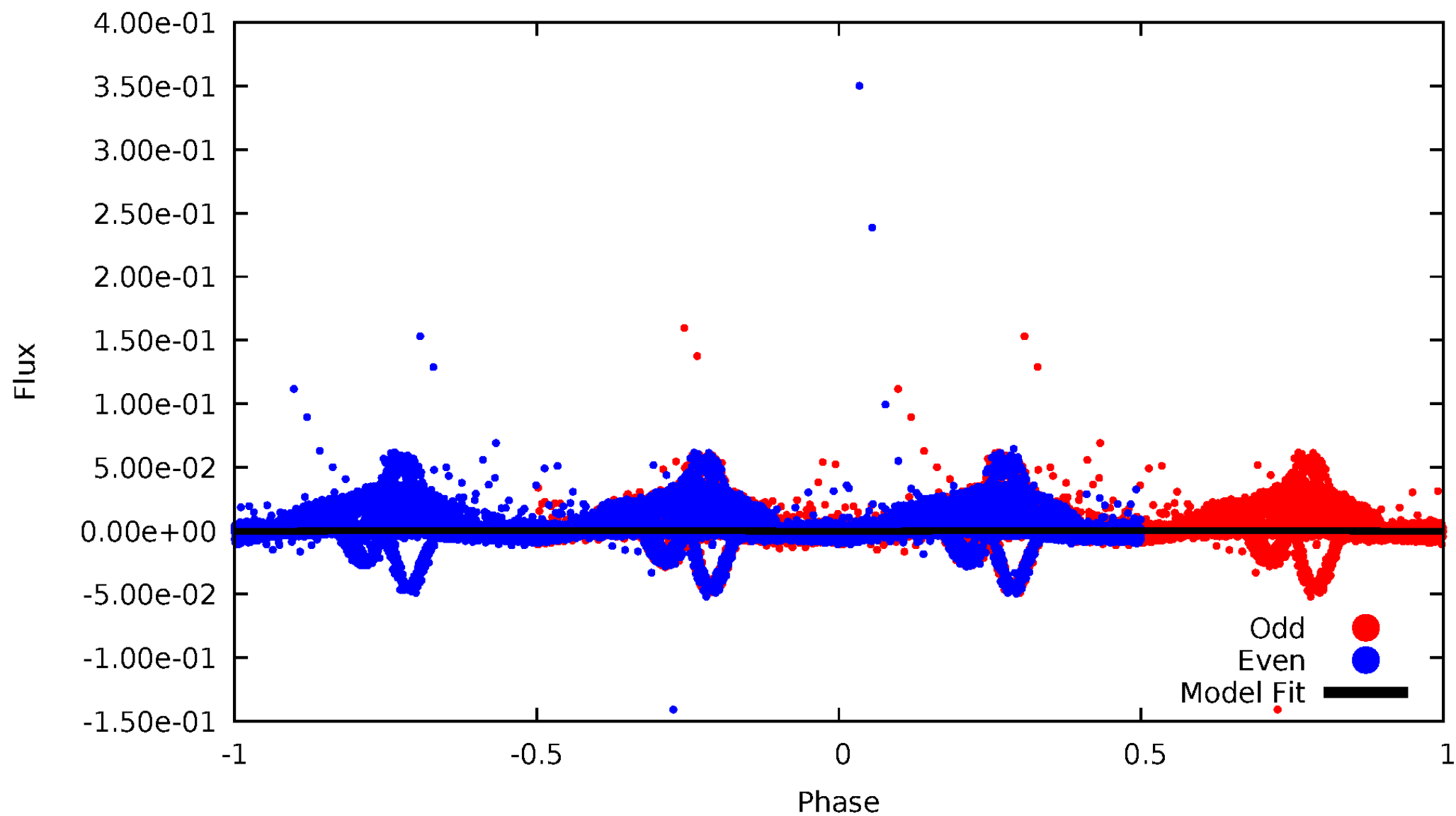


TCE 004636938-01



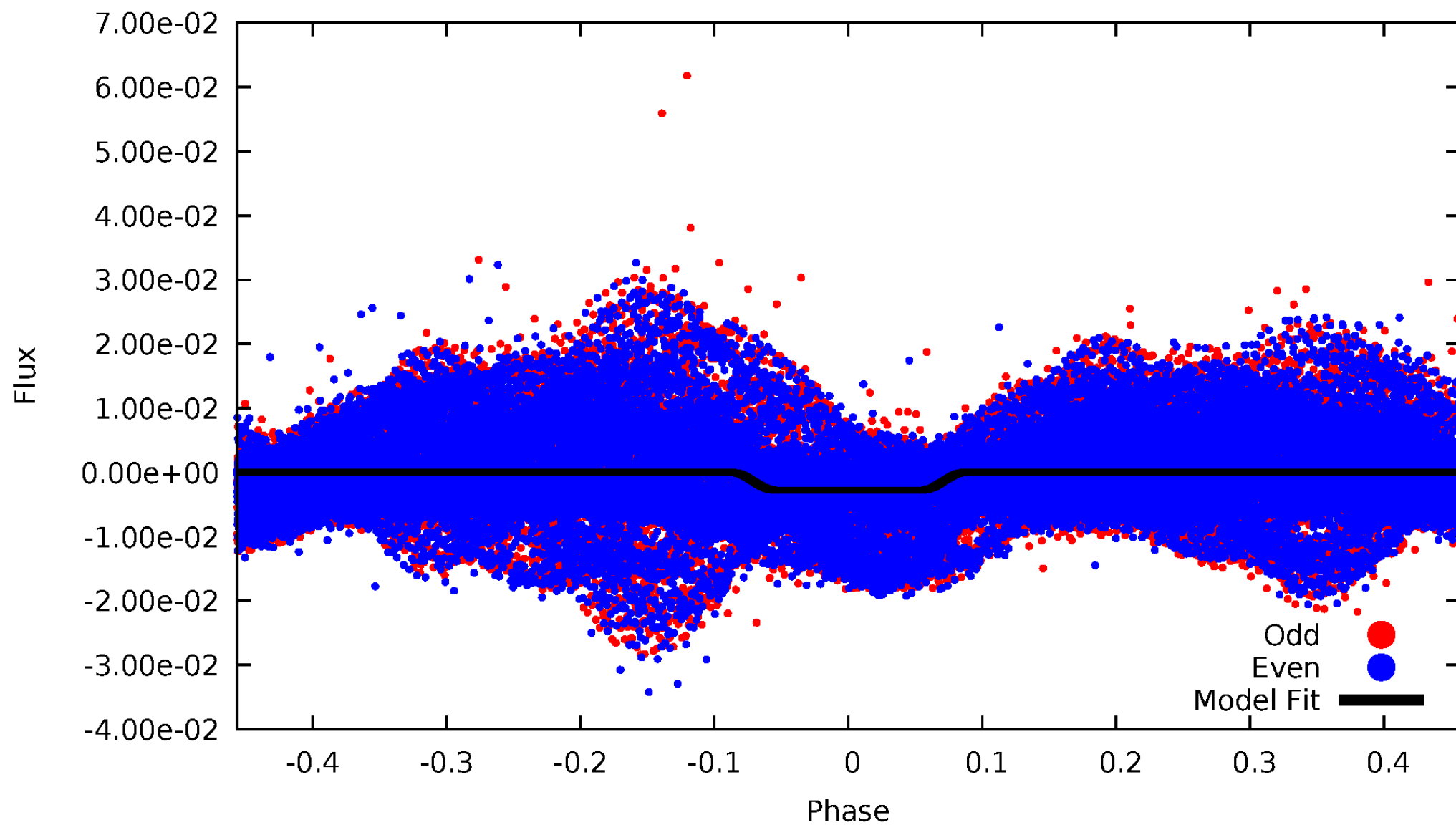
DV Odd/Even

TCE 004636938-01



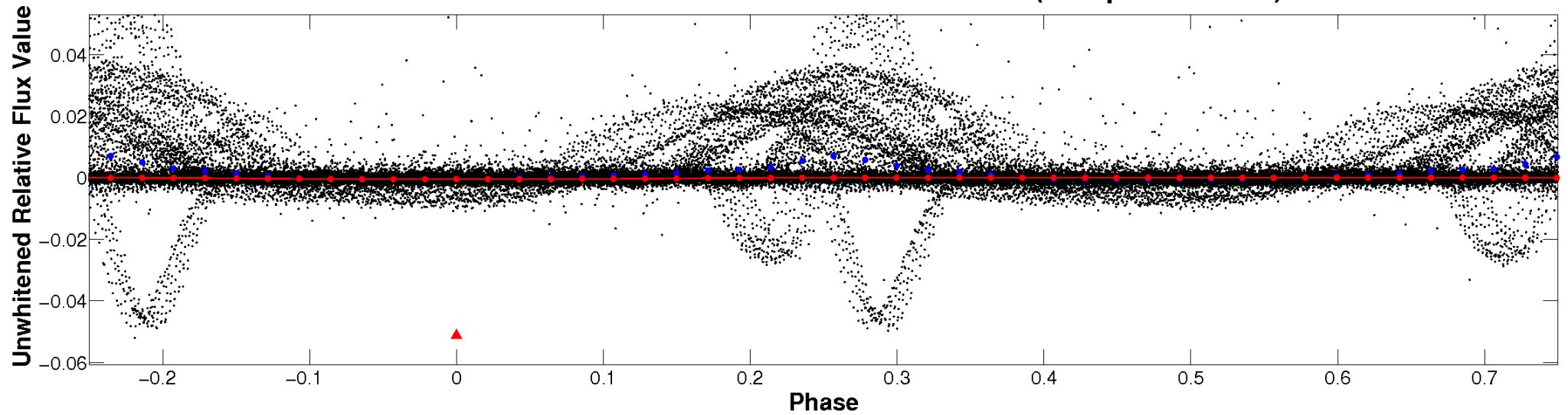
ALT Odd/Even

TCE 004636938-01

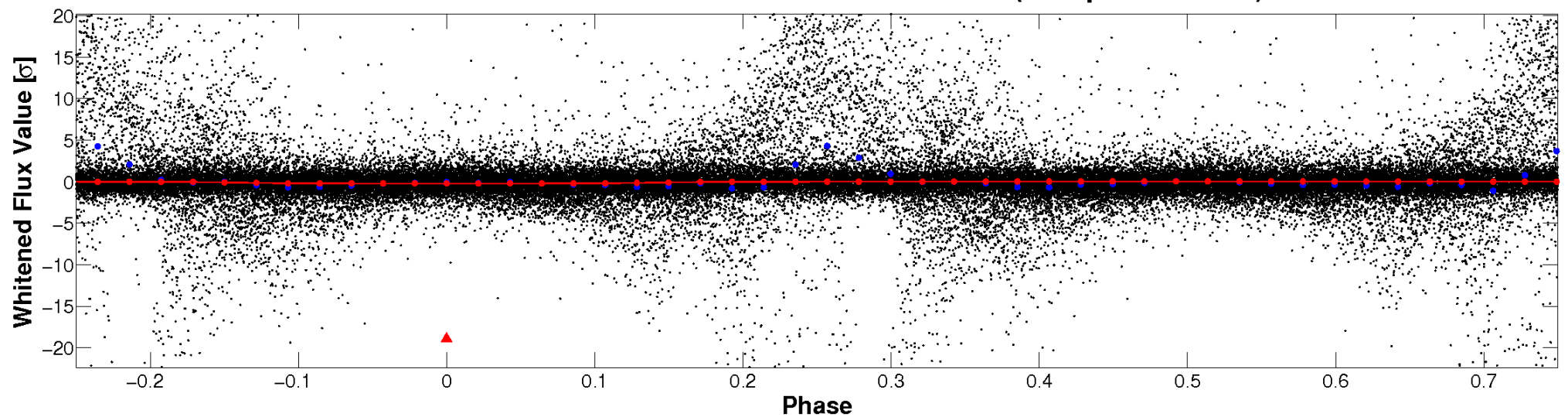


Non-Whitened Vs. Whitened Light Curve

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

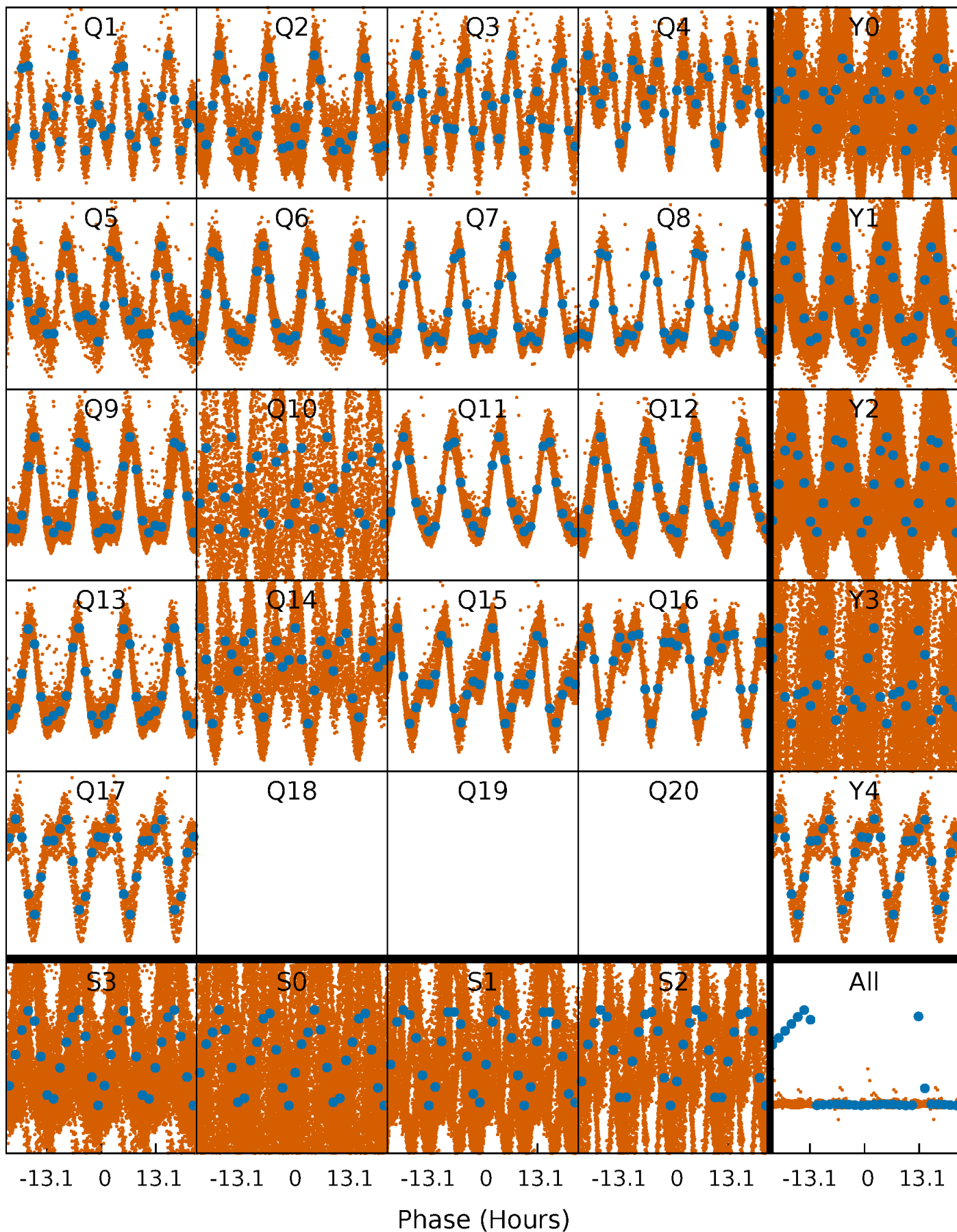


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



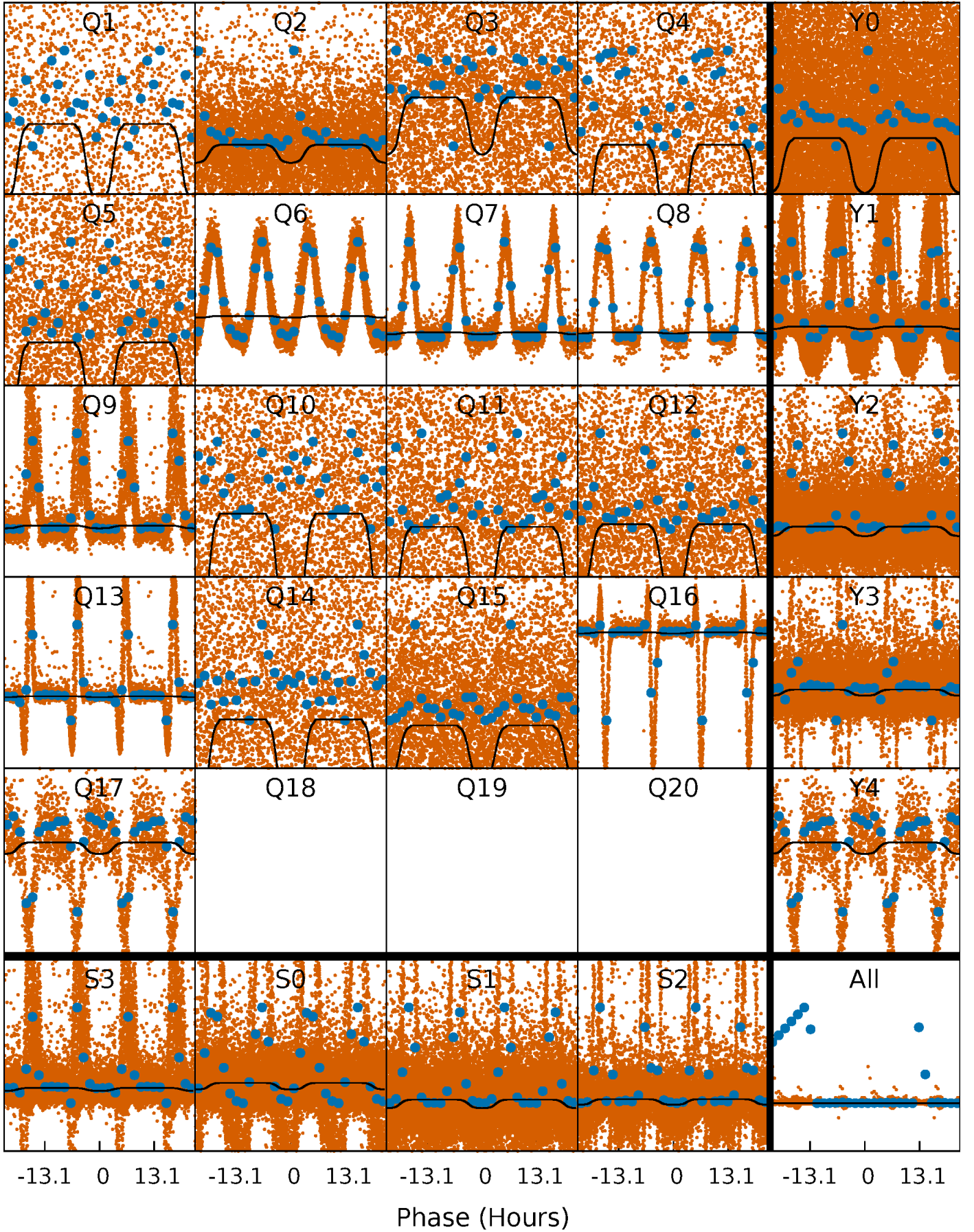
PDC Quarter-Phased Transit Curves

TCE 004636938-01 P= 0.954620 Days $T_0=131.771438$ (BKJD)



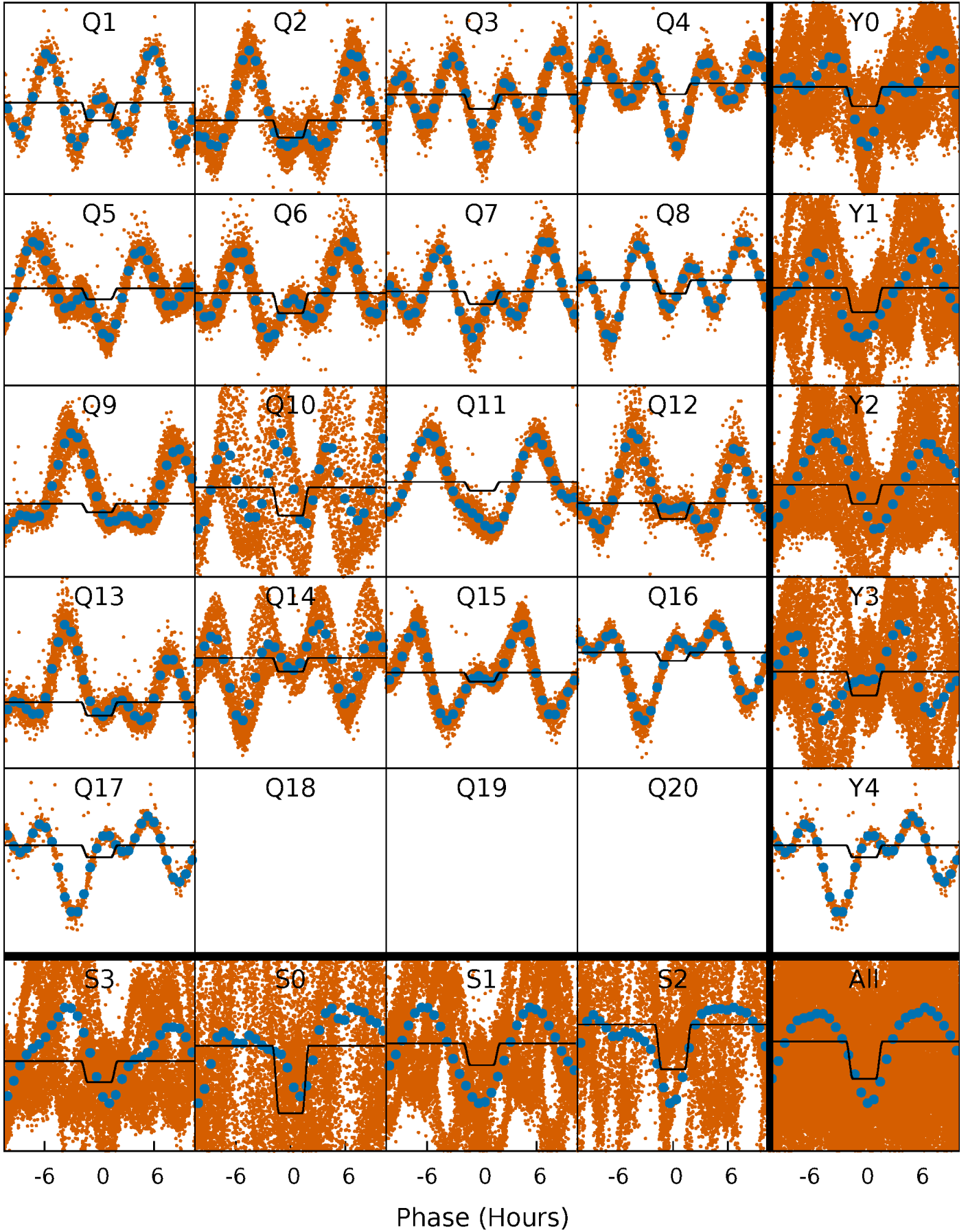
DV Quarter-Phased Transit Curves

TCE 004636938-01 P= 0.954620 Days $T_0=131.771438$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

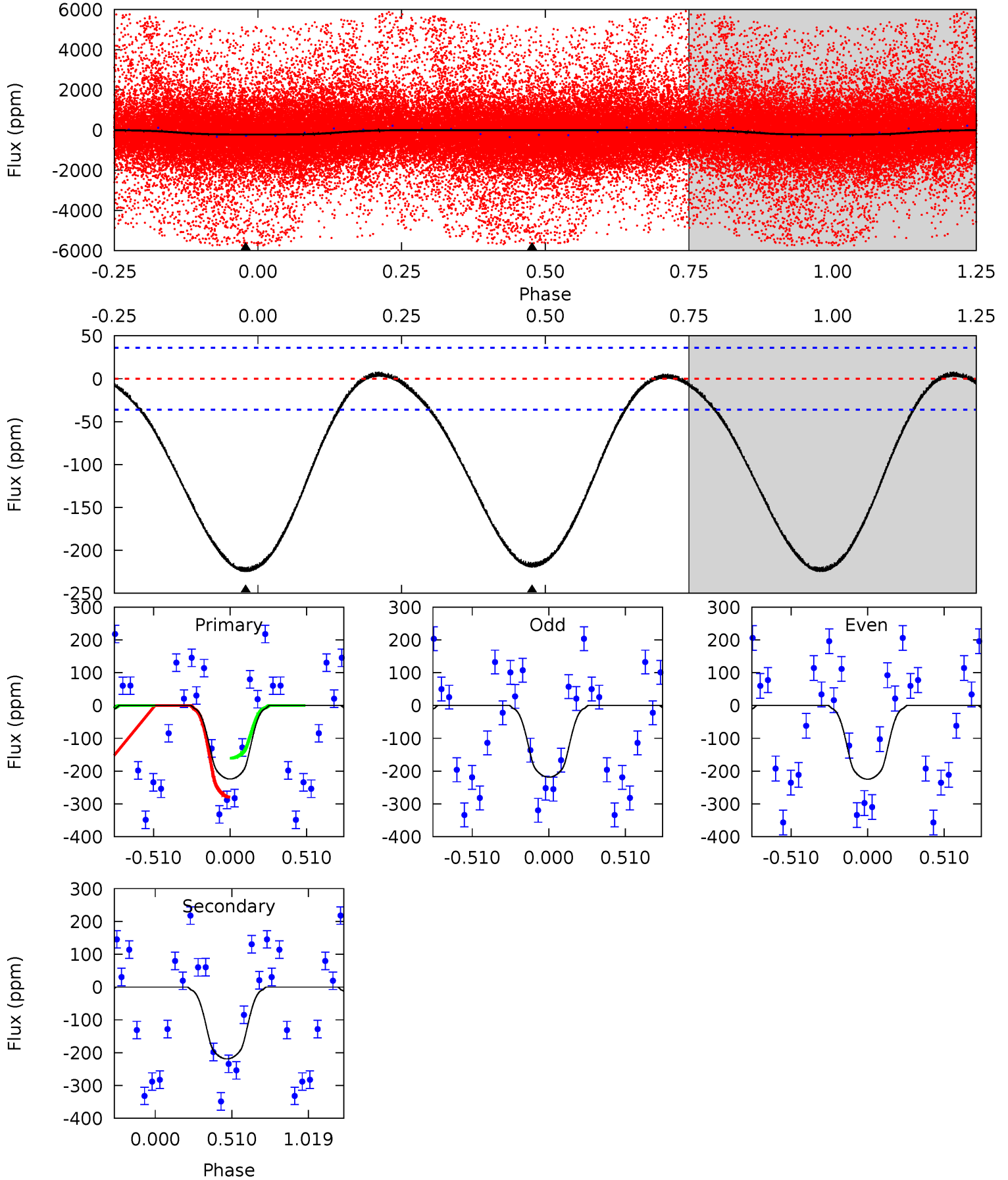
TCE 004636938-01 P= 0.954594 Days $T_0=131.721389$ (BKJD)



DV Model-Shift Uniqueness Test

004636938-01, P = 0.954620 Days, E = 130.816818 Days

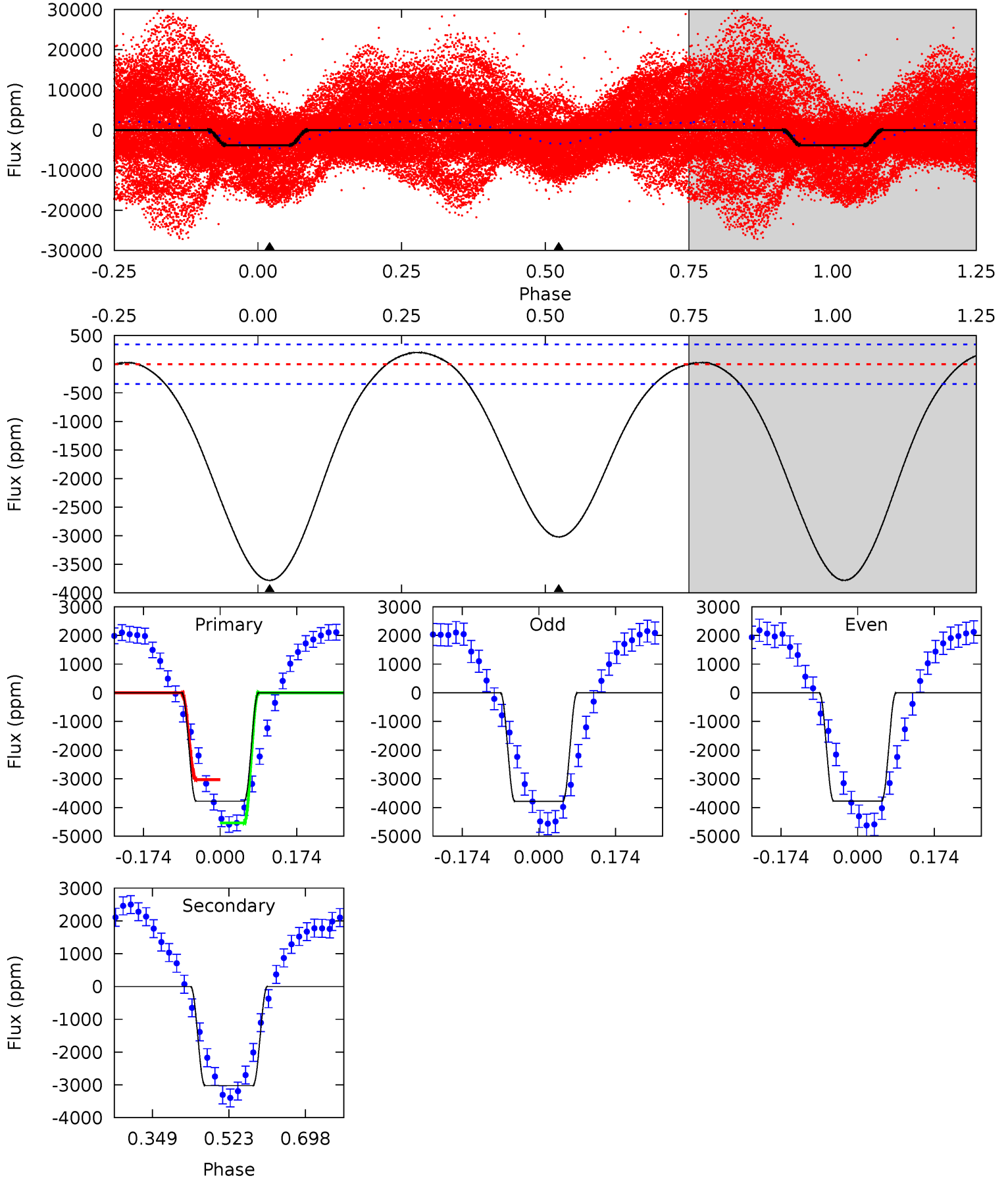
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.2	25.6	0	0	4.21	0.66	0.62	26.2	26.2	25.6	25.6	0.37	20.7	0.04	7.34



Alt Model-Shift Uniqueness Test

004636938-01, P = 0.954594 Days, E = 130.766795 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
48.5	38.7	0	0	4.45	1.36	1.92	48.5	48.5	38.7	38.7	0.07	1.46	0.05	9.95



Stellar Parameters For KIC 004636938

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4306^{+142}_{-142}	$4.598^{+0.053}_{-0.018}$	$0.180^{+0.200}_{-0.300}$	$0.685^{+0.028}_{-0.057}$	$0.679^{+0.047}_{-0.052}$	$2.974^{+0.684}_{-0.236}$
	+3%/-3%	+1%/-0%	+111%/-167%	+4%/-8%	+7%/-8%	+23%/-8%
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 004636938-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-219 ± 9	$2.02^{+0.10}_{-0.11}$	1692^{+58}_{-68}	3472^{+114}_{-113}	$8.353^{+0.827}_{-0.749}$
Alt.	-3022 ± 78	$3.90^{+0.14}_{-0.20}$	1684^{+63}_{-58}	4369^{+160}_{-139}	31^{+3}_{-2}

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

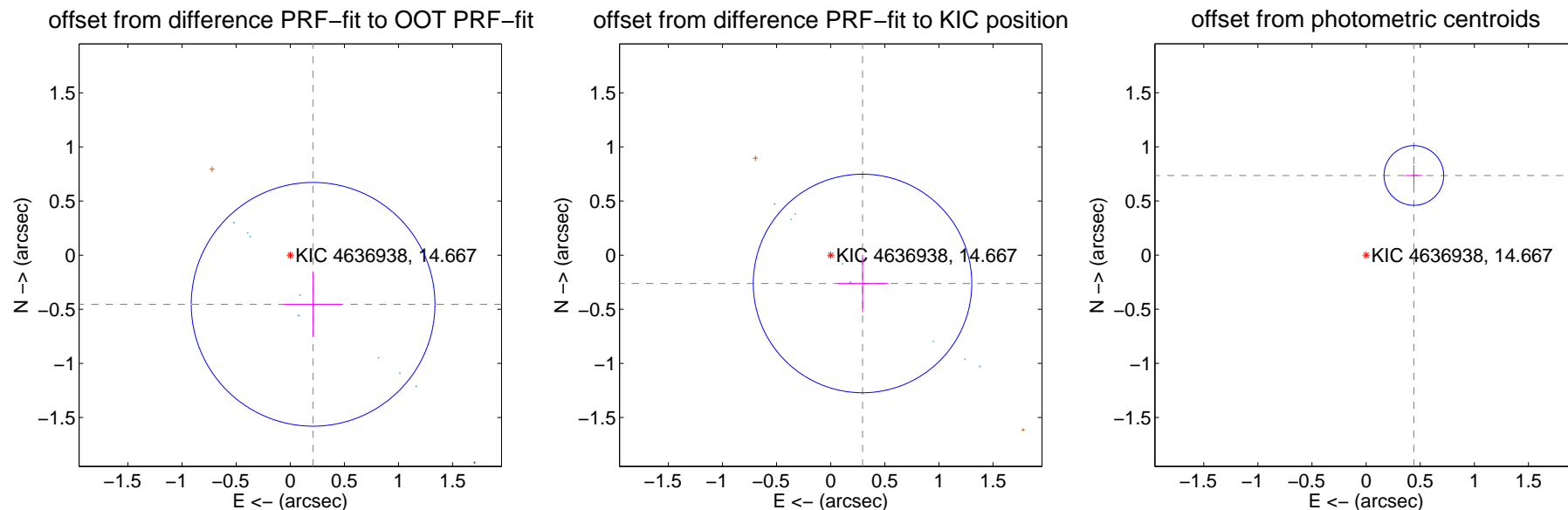
DV Centroid Data

Supplemental centroid analysis for 004636938-01. Kepler magnitude: 14.67. Transit SNR 26.67

There are 8 quarters with good PRF difference image offsets

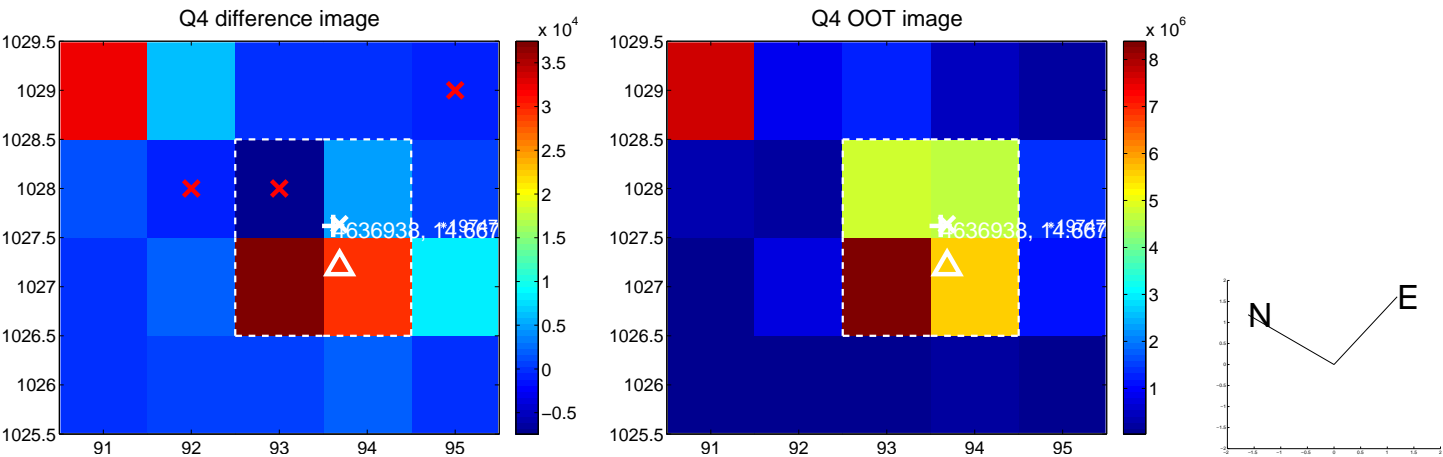
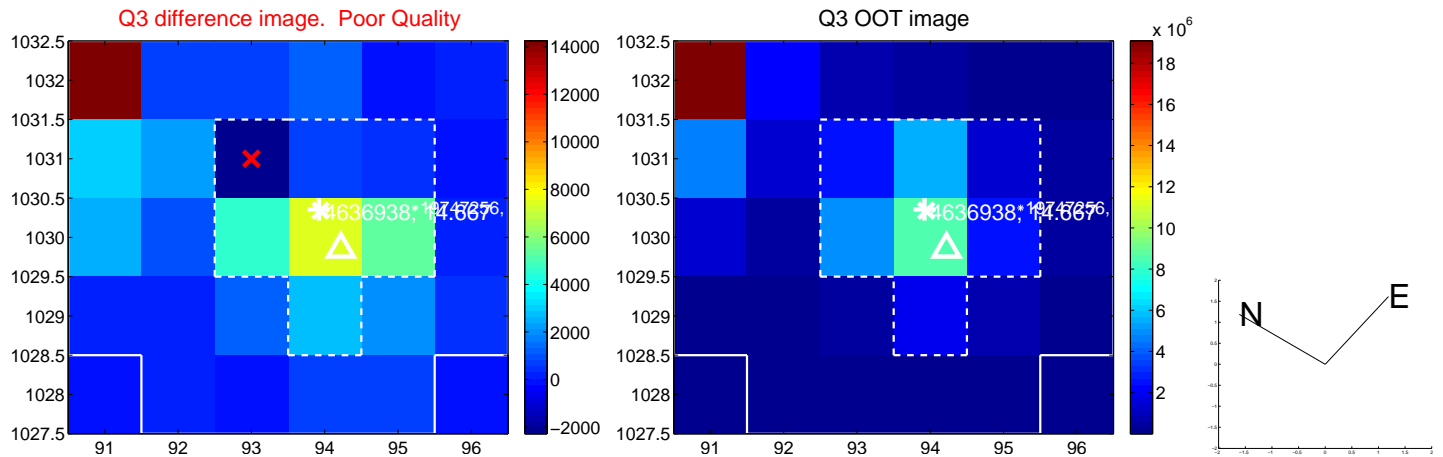
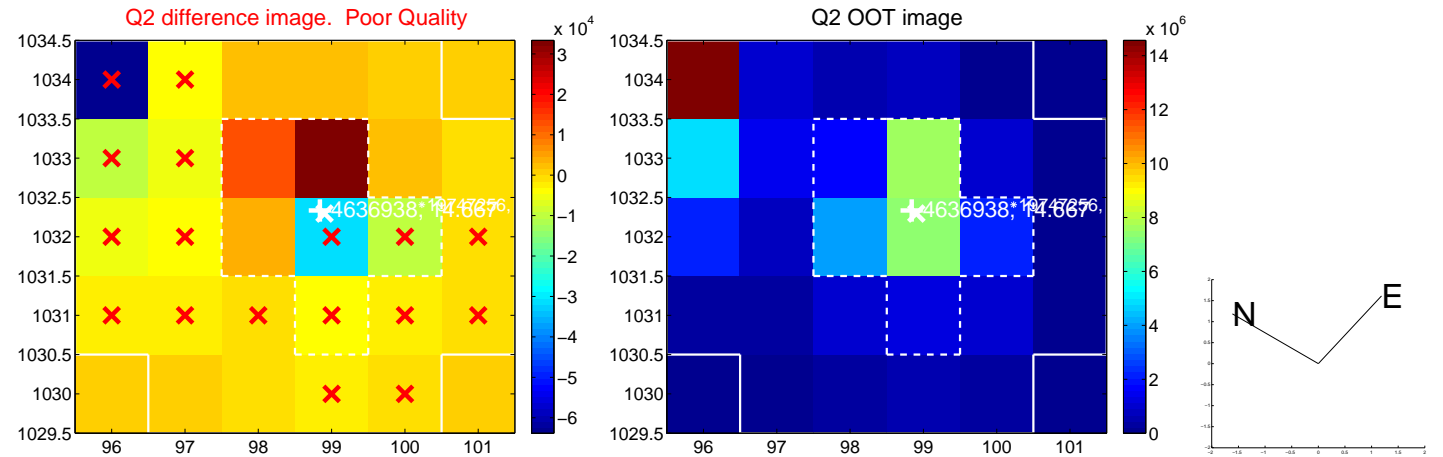
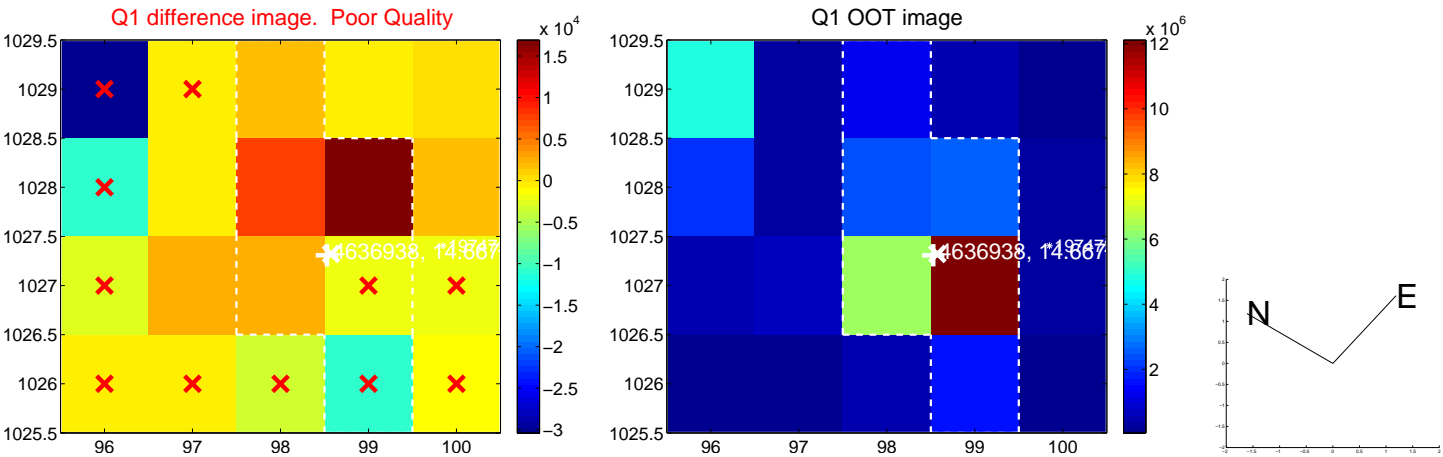
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.501 ± 0.375	1.33	-0.211 ± 0.265	-0.454 ± 0.300
PRF-fit source offset from KIC position	0.394 ± 0.336	1.17	-0.294 ± 0.236	-0.262 ± 0.266
photometric centroid source offset	0.86 ± 0.09	9.33	-0.44 ± 0.08	0.74 ± 0.10

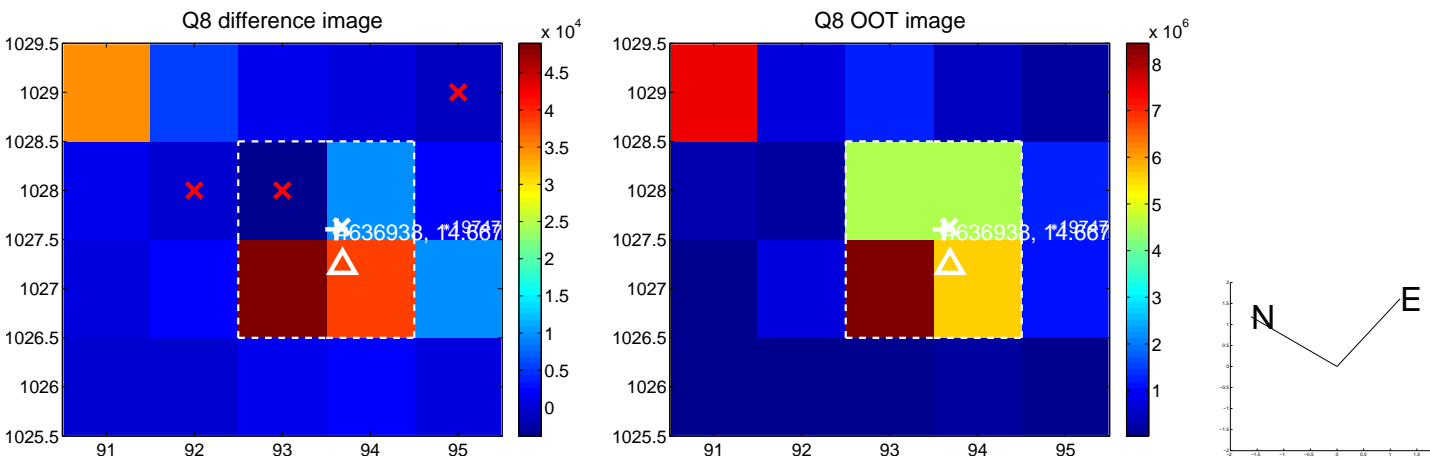
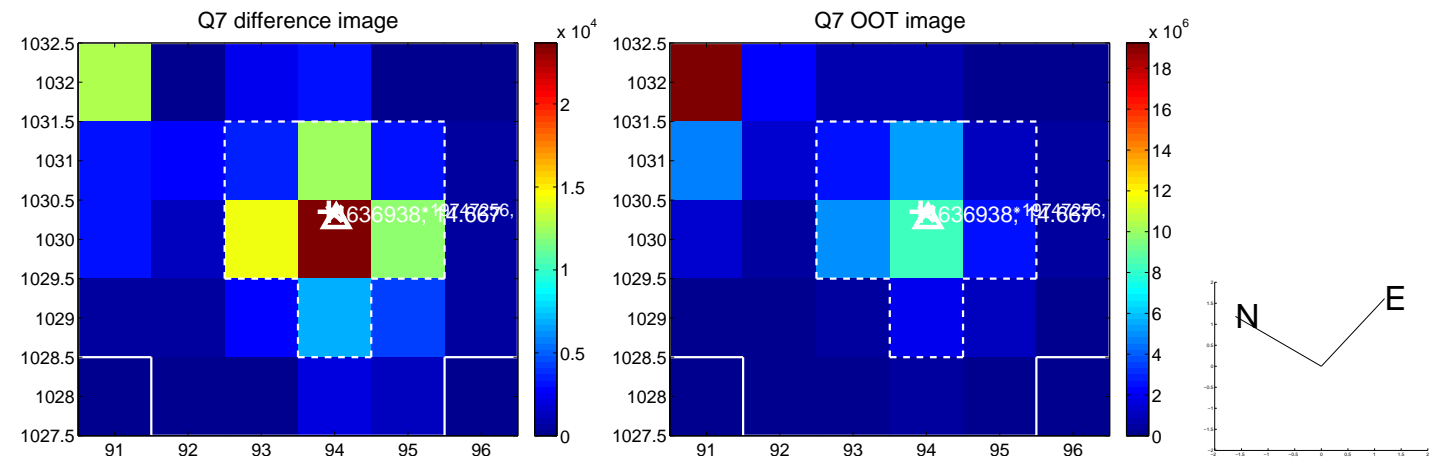
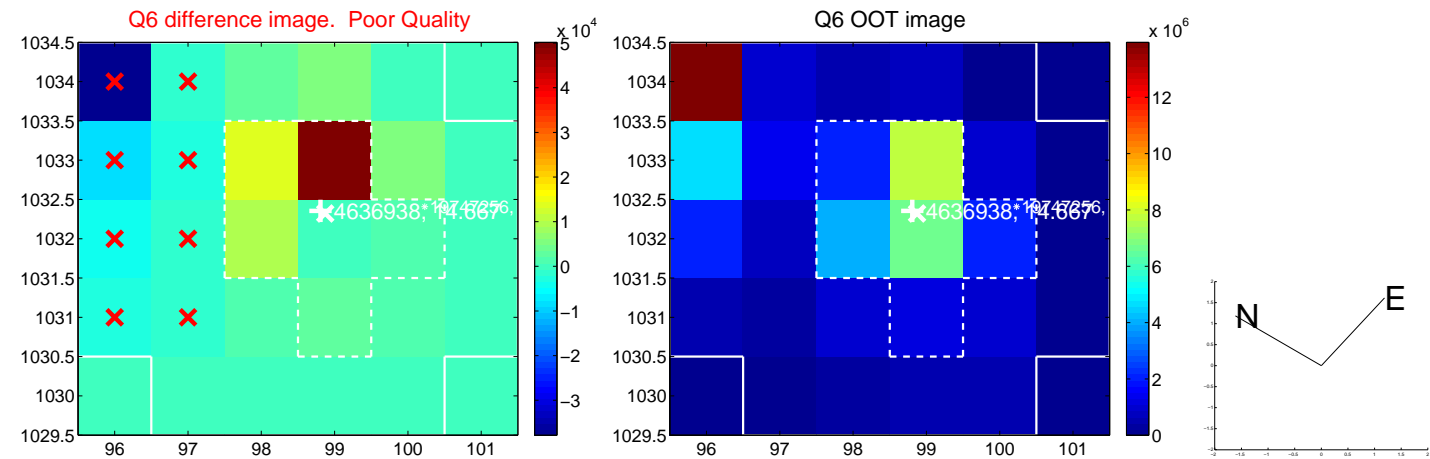
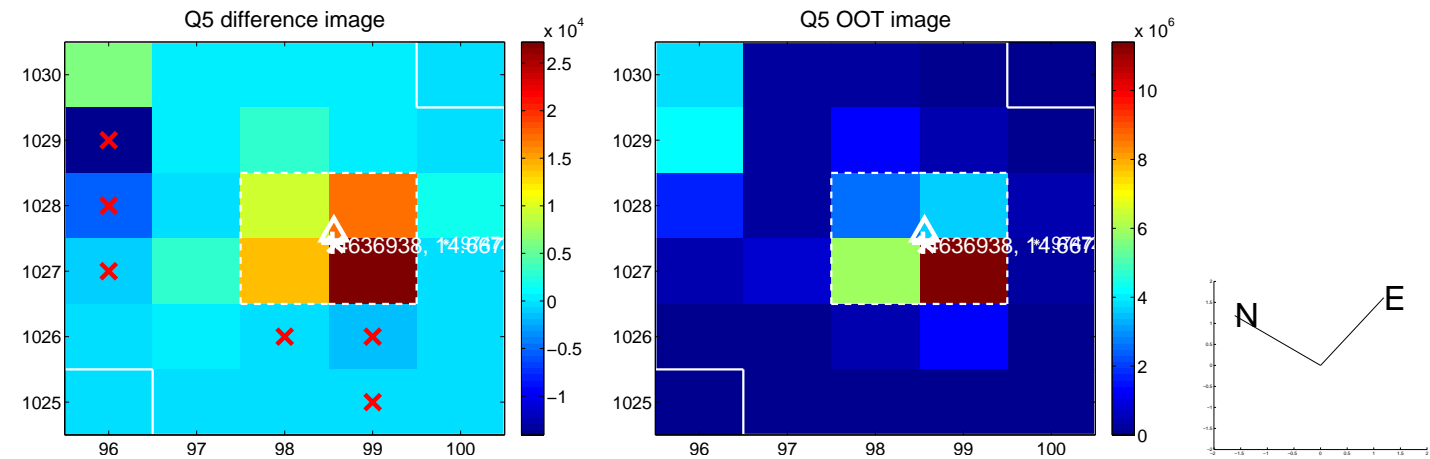


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

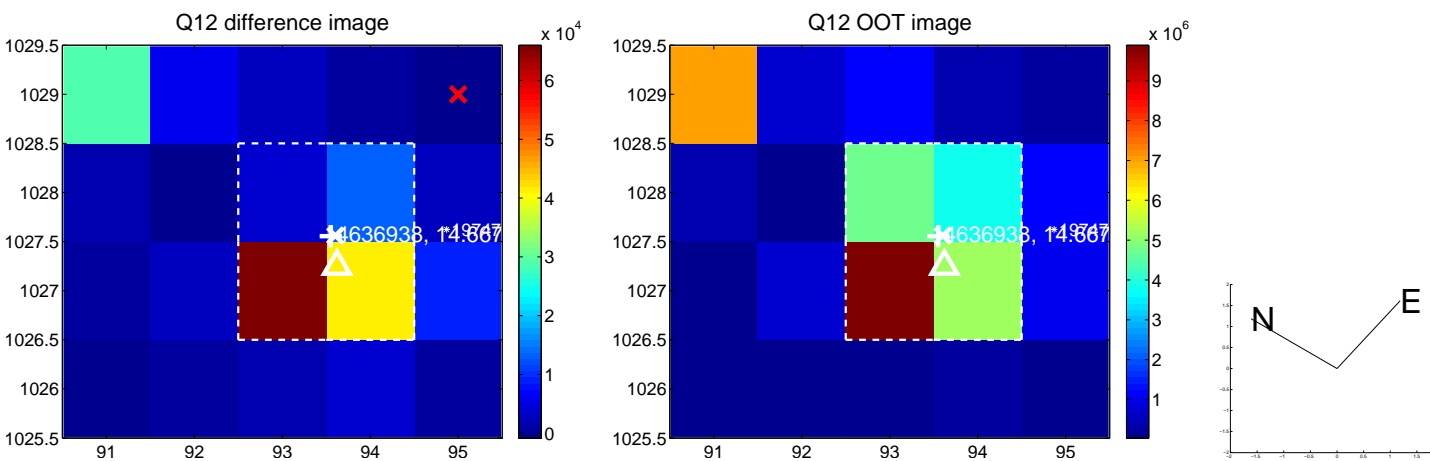
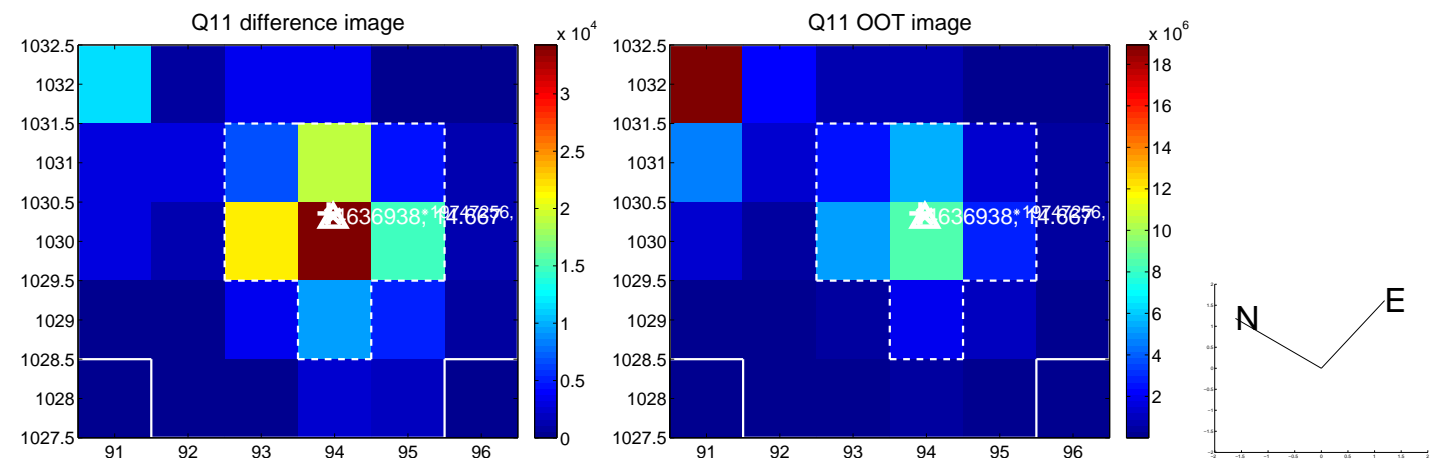
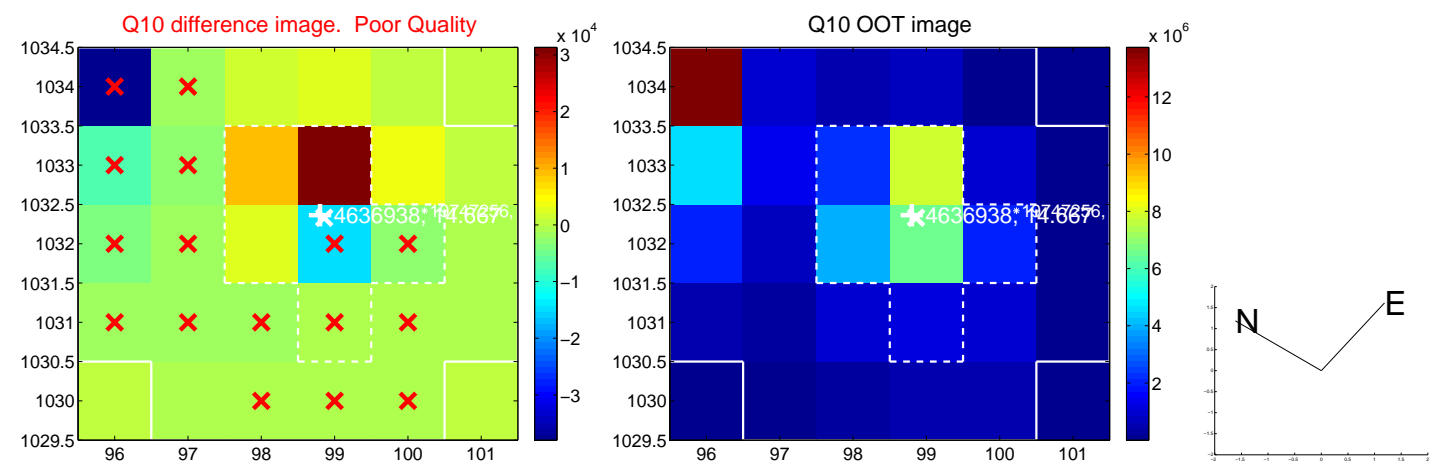
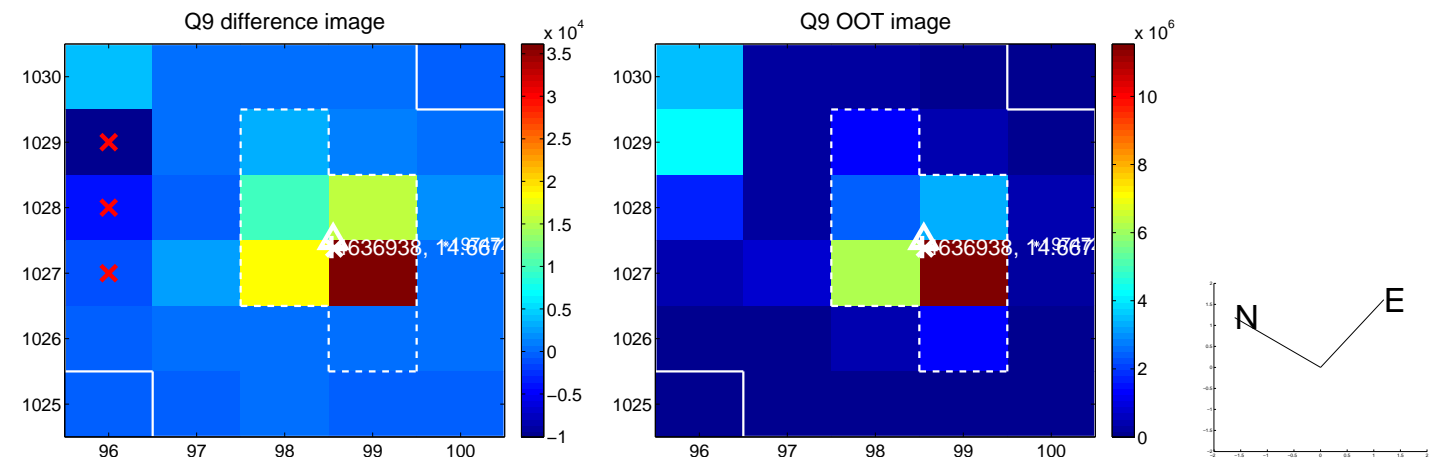
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



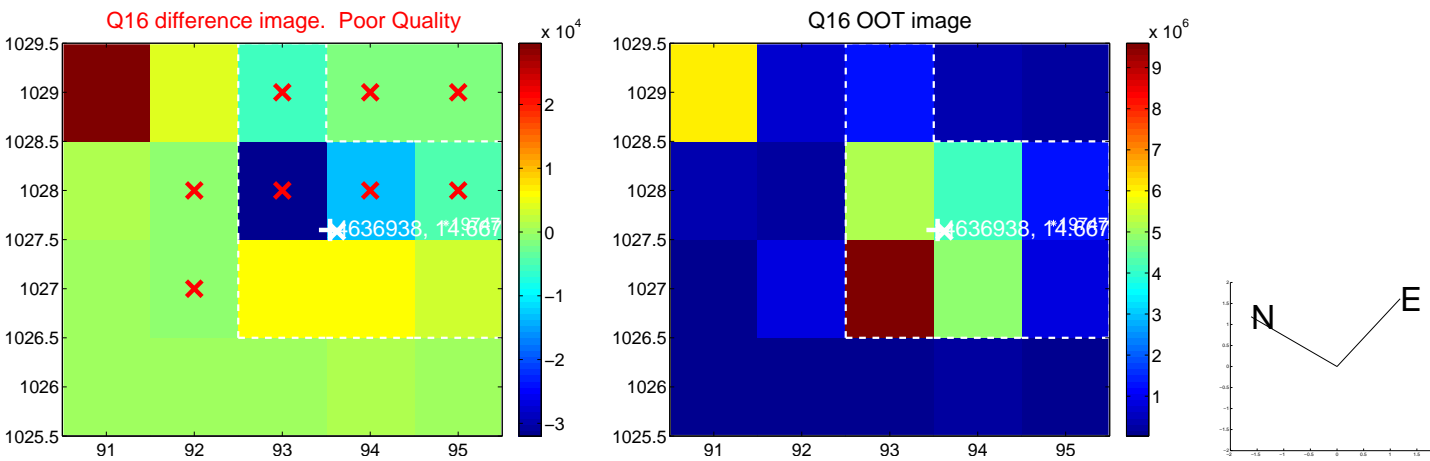
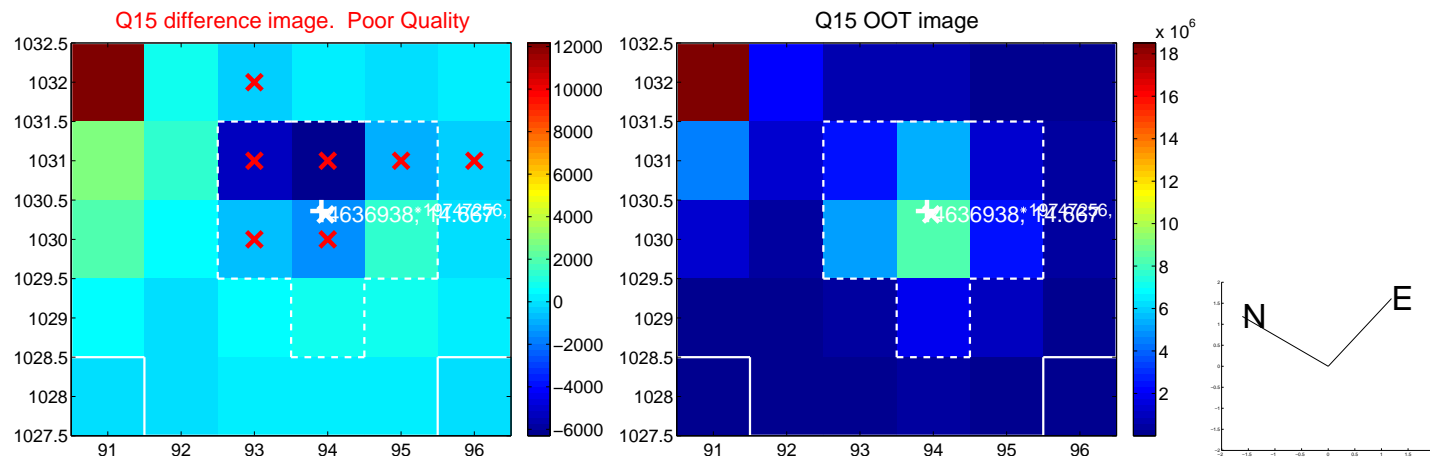
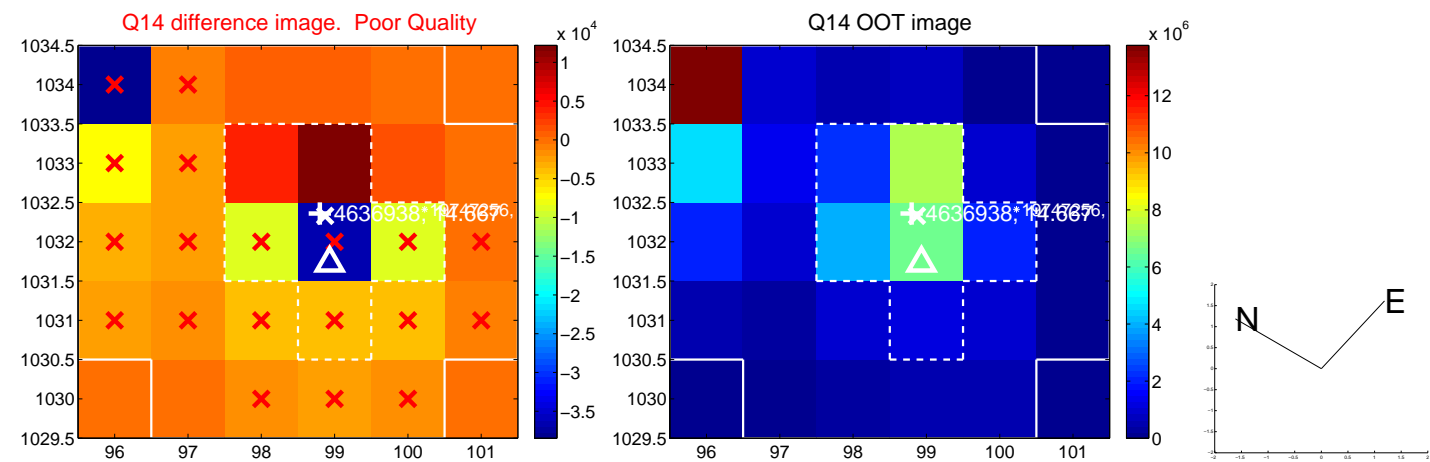
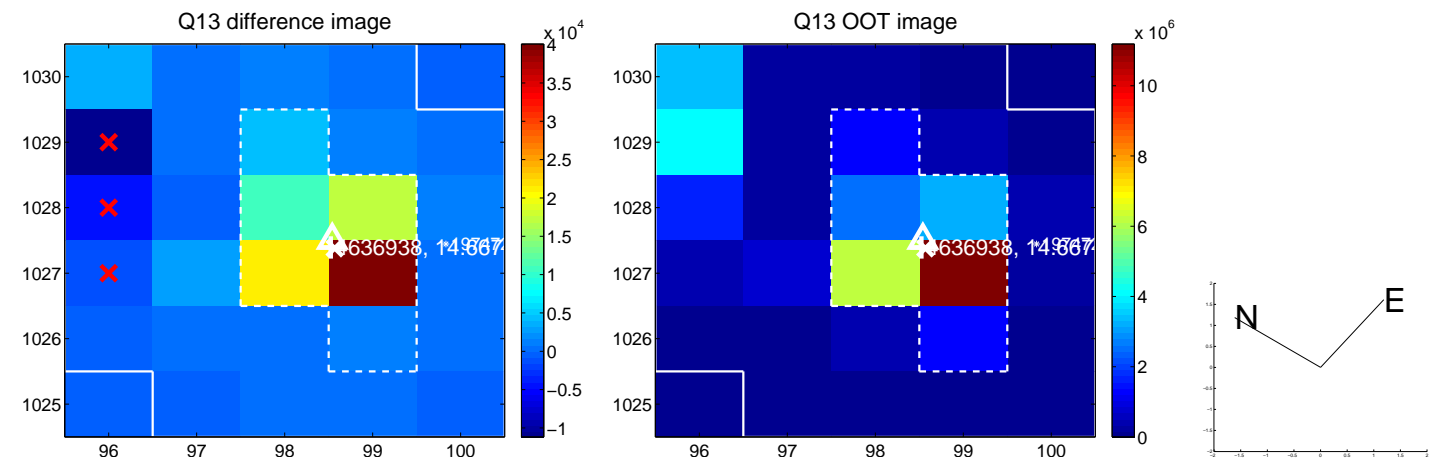
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



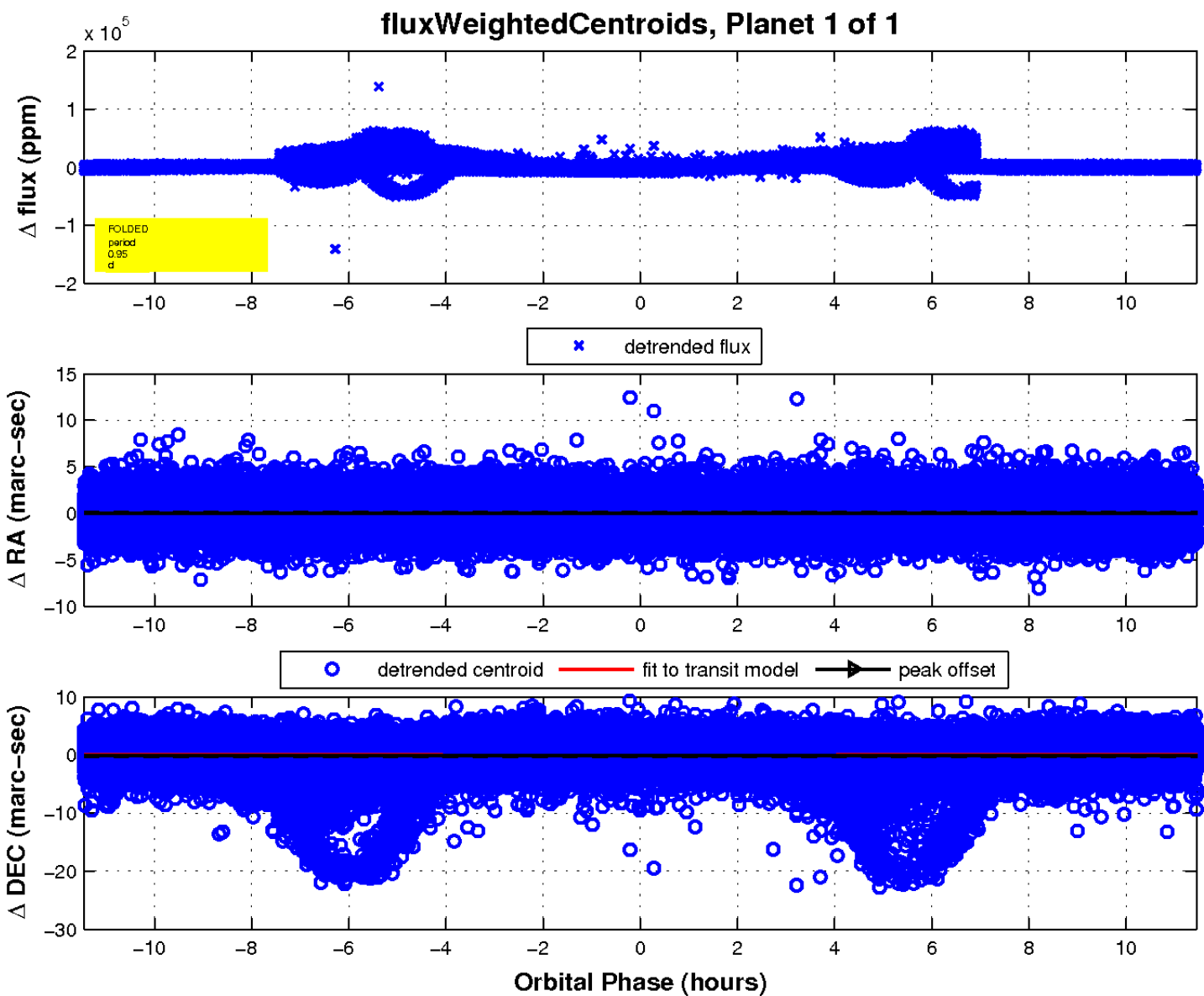
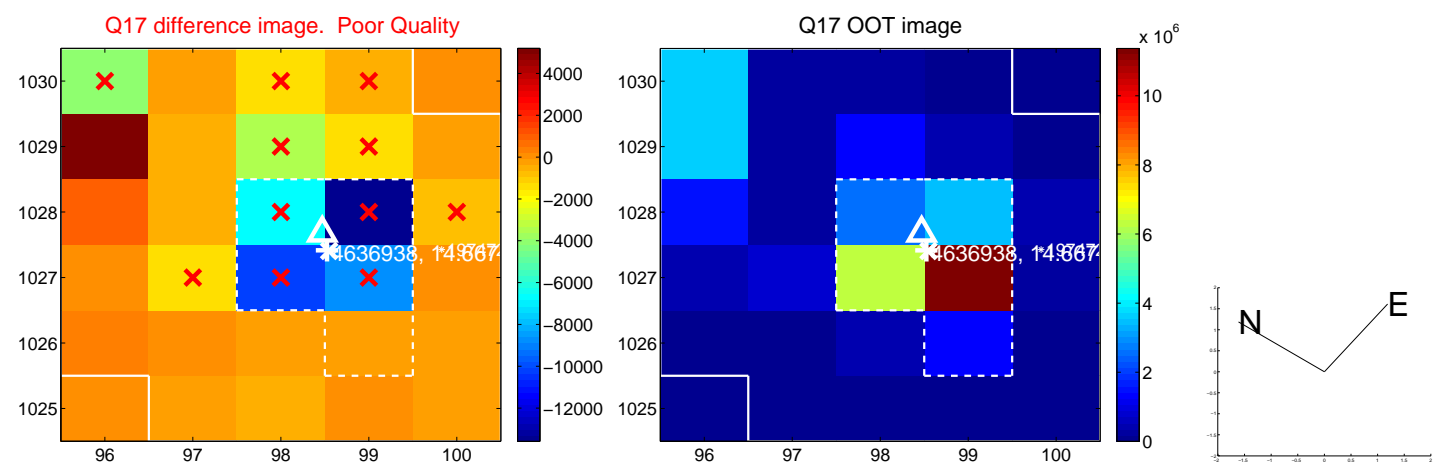
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UKIRT Image

