

KIC 001718958

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})
001718958-01	OBS	4053.01	1.419765	132.919278	55.2	1.669	14.8	18.0	1.03	5925	0.96	1976.91

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001718958-01	OBS	PC	0.98	0	0	0	0	NO_COMMENT

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

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

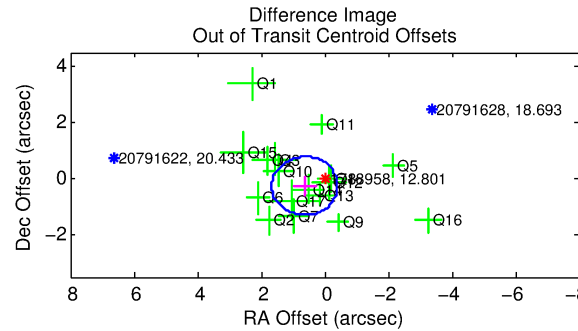
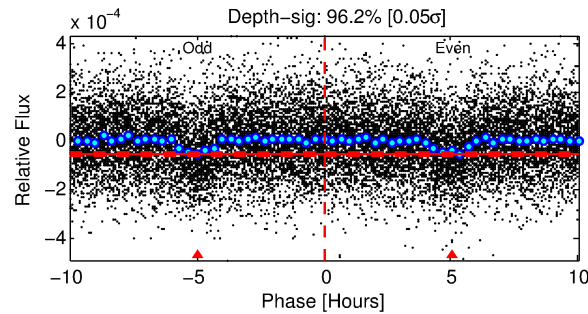
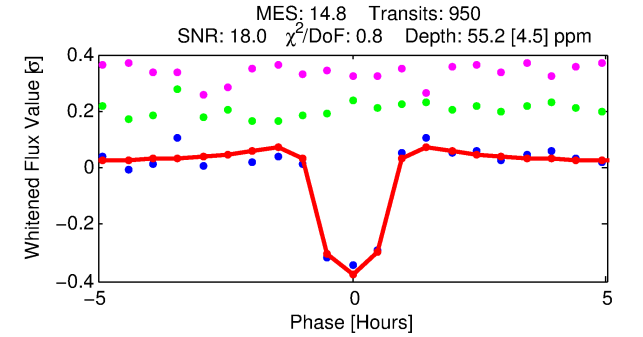
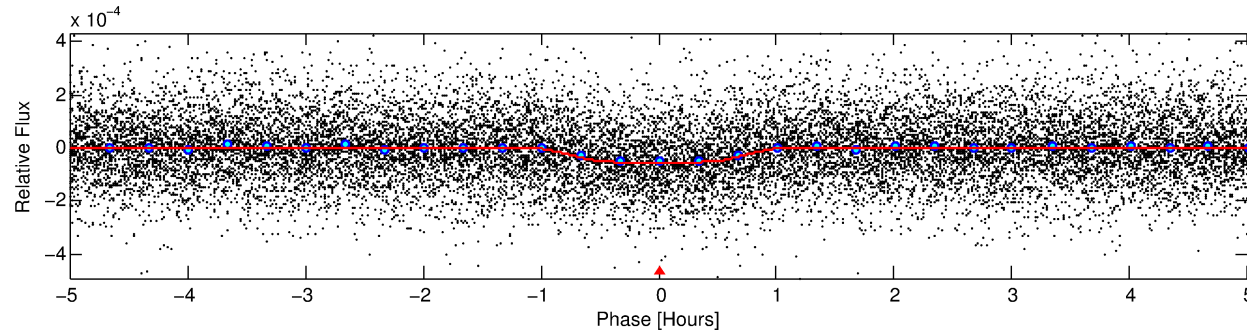
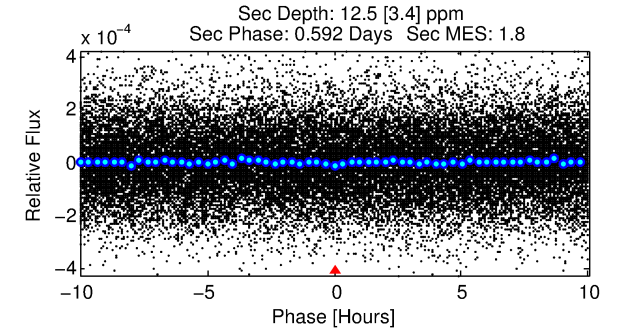
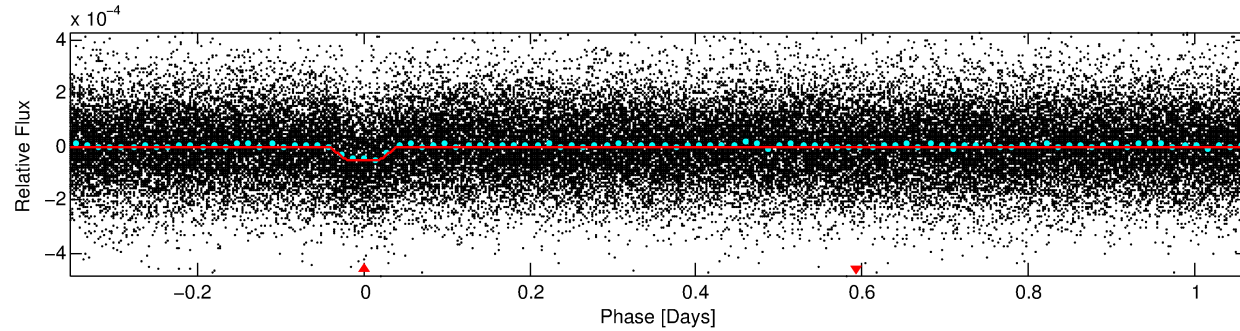
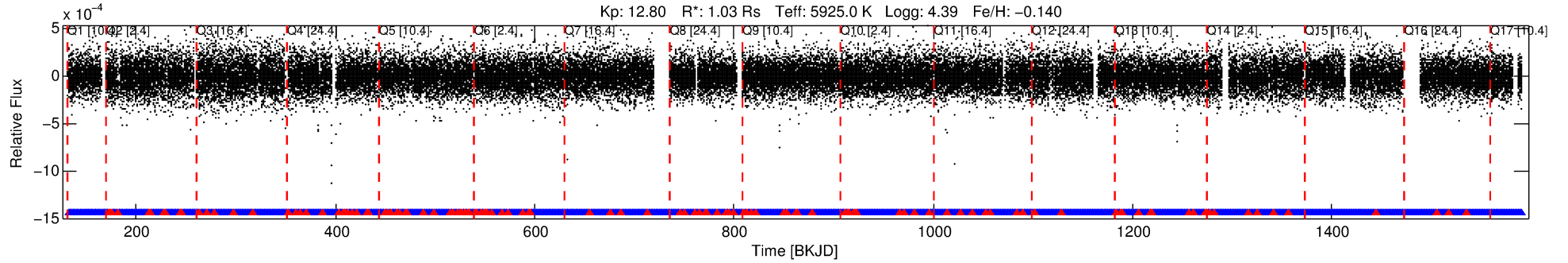
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 001718958-01

No Significant Match Found

DV One-Page Summary

KIC: 1718958 Candidate: 1 of 1 Period: 1.420 d
KOI: K04053.01 Corr: 0.927



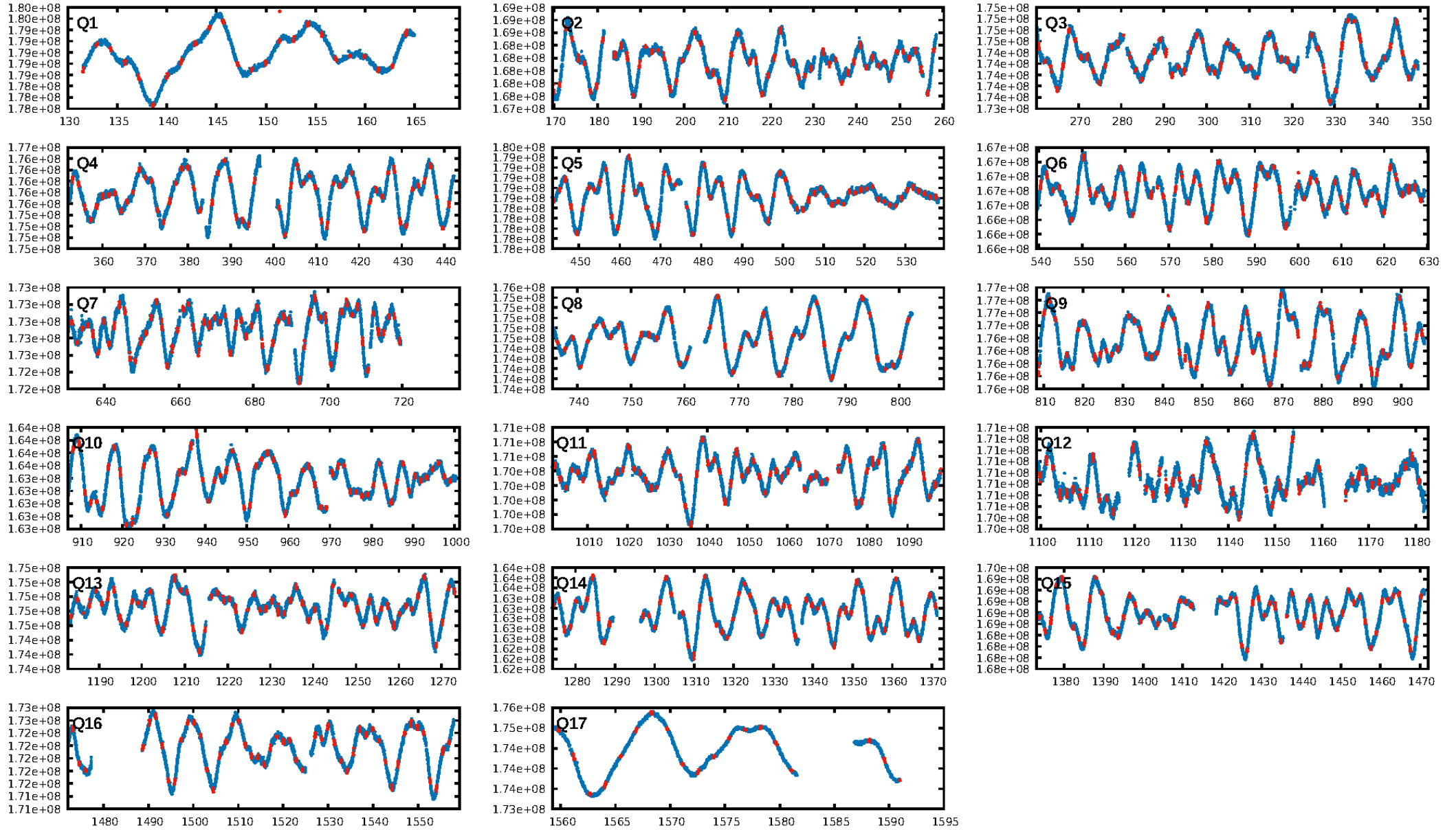
DV Fit Results:

Period = 1.41976 [0.00001] d
Epoch = 132.9193 [0.0012] BKJD
Rp/R* = 0.0085 [0.0024]
a/R* = 2.50 [3.19]
b = 0.94 [0.18]
Seff = 1976.91 [434.87]
Teq = 1700 [94] K
Rp = 0.96 [0.31] Re
a = 0.0245 [0.0033] AU
Ag = 4.46 [2.96] [1.17σ]
Teffp = 3821 [607] K [3.45σ]

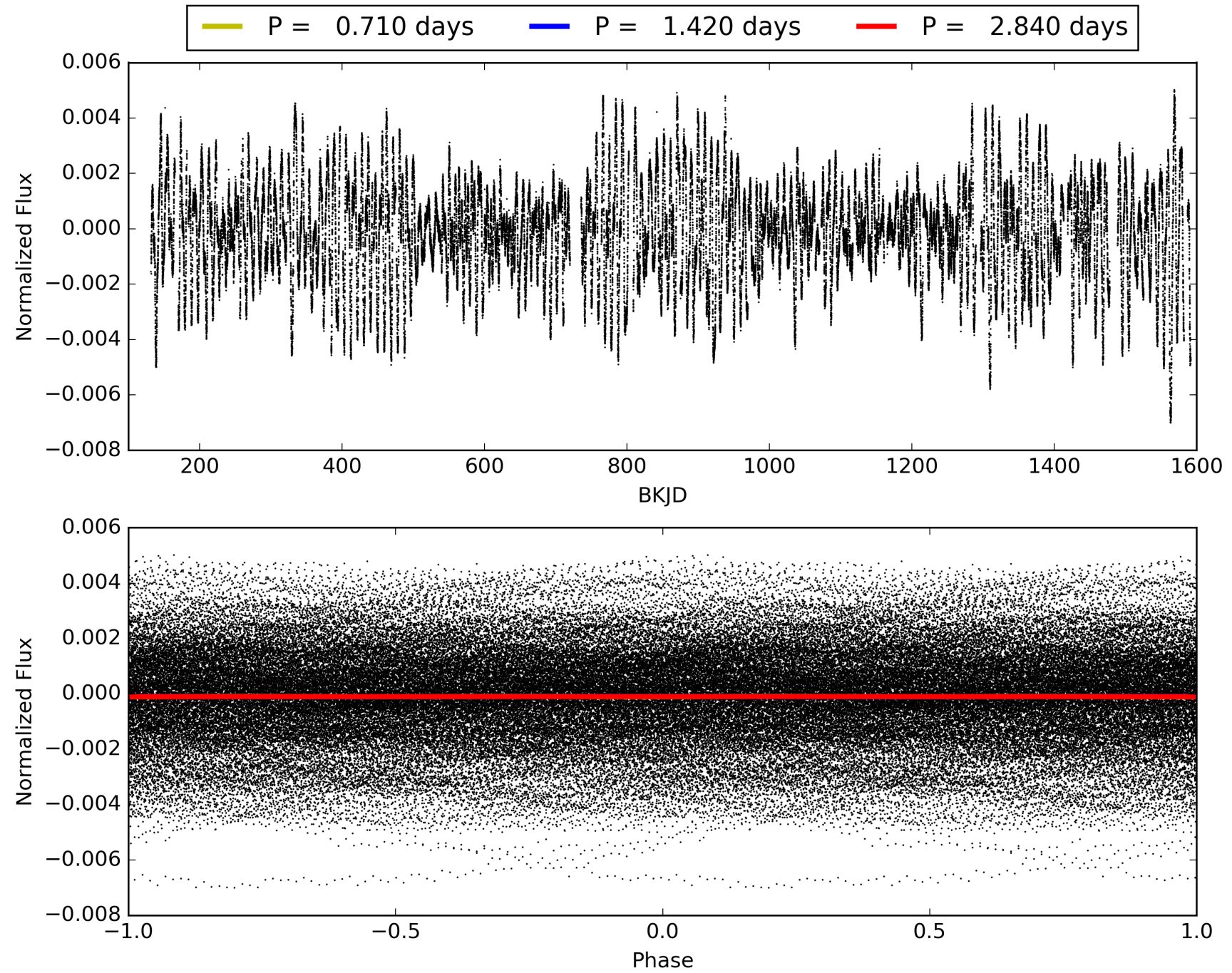
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.20e-46
RollingBand-fgt: 0.87 [785/907]
GhostDiagnostic-chr: 2.864
Centroid-sig: 26.5%
Centroid-so: 0.665 arcsec [1.05σ]
OotOffset-rm: 0.679 arcsec [1.96σ]
KicOffset-rm: 0.691 arcsec [1.93σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 001718958-01, PDC Light Curves

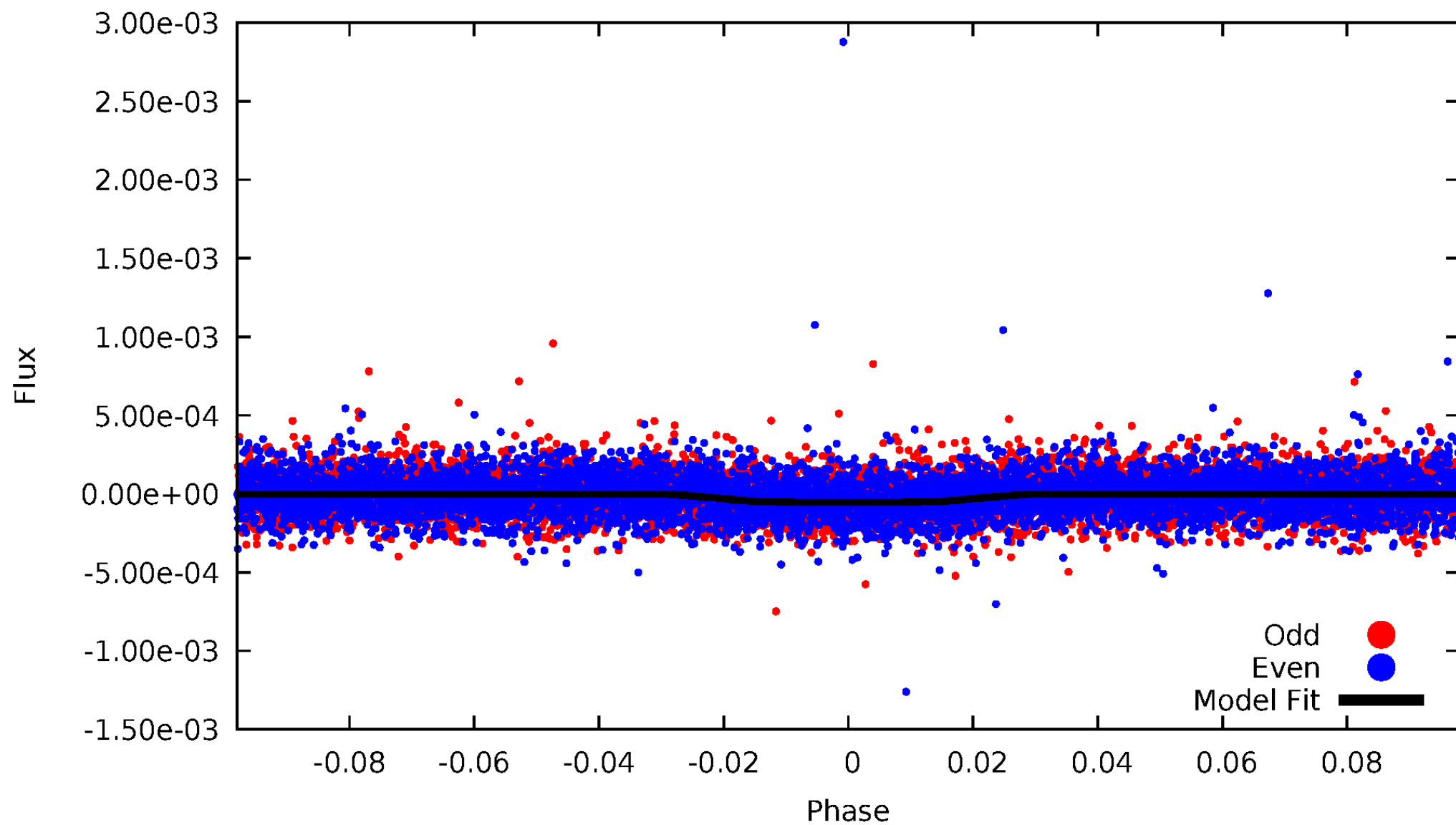


TCE 001718958-01



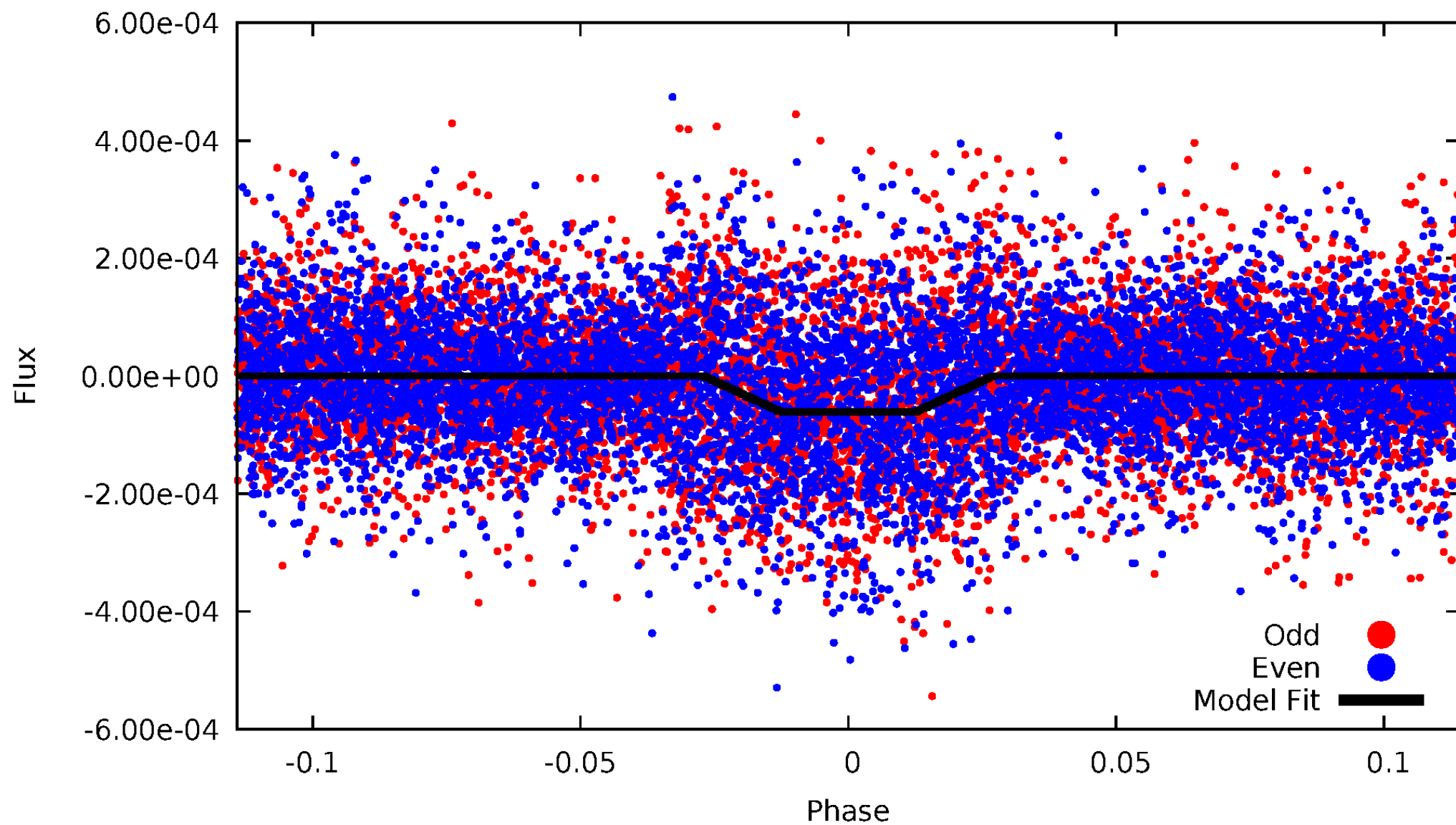
DV Odd/Even

TCE 001718958-01



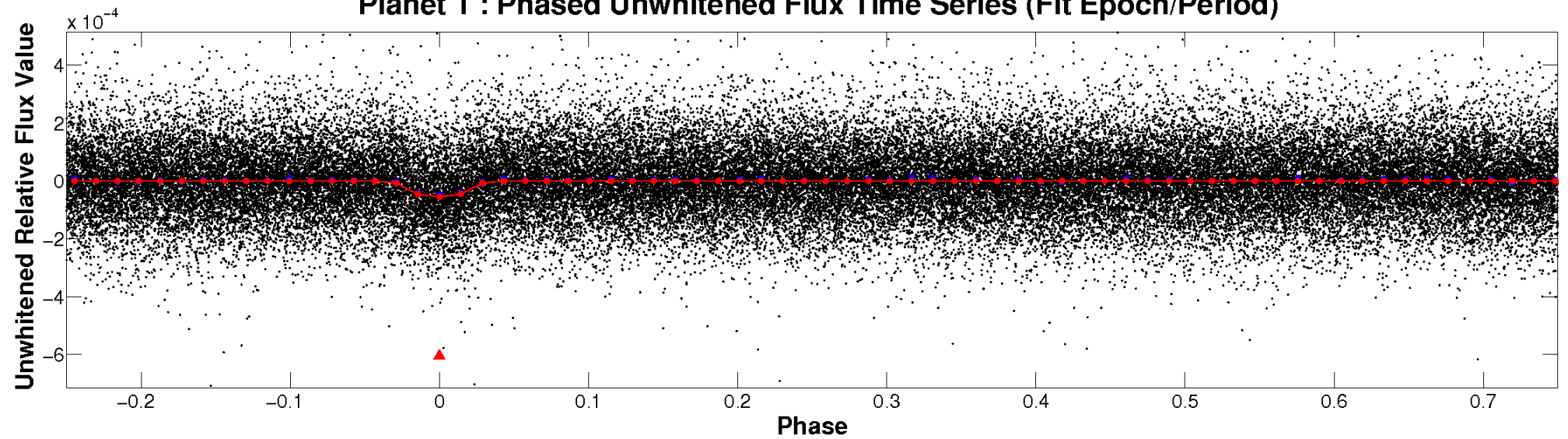
ALT Odd/Even

TCE 001718958-01

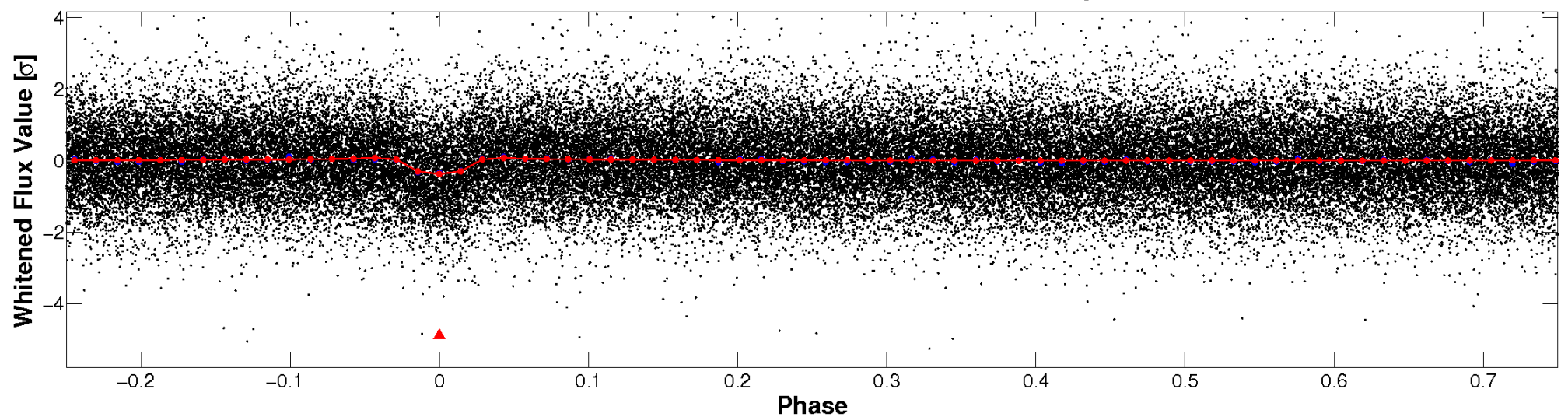


Non-Whitened Vs. Whitened Light Curve

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

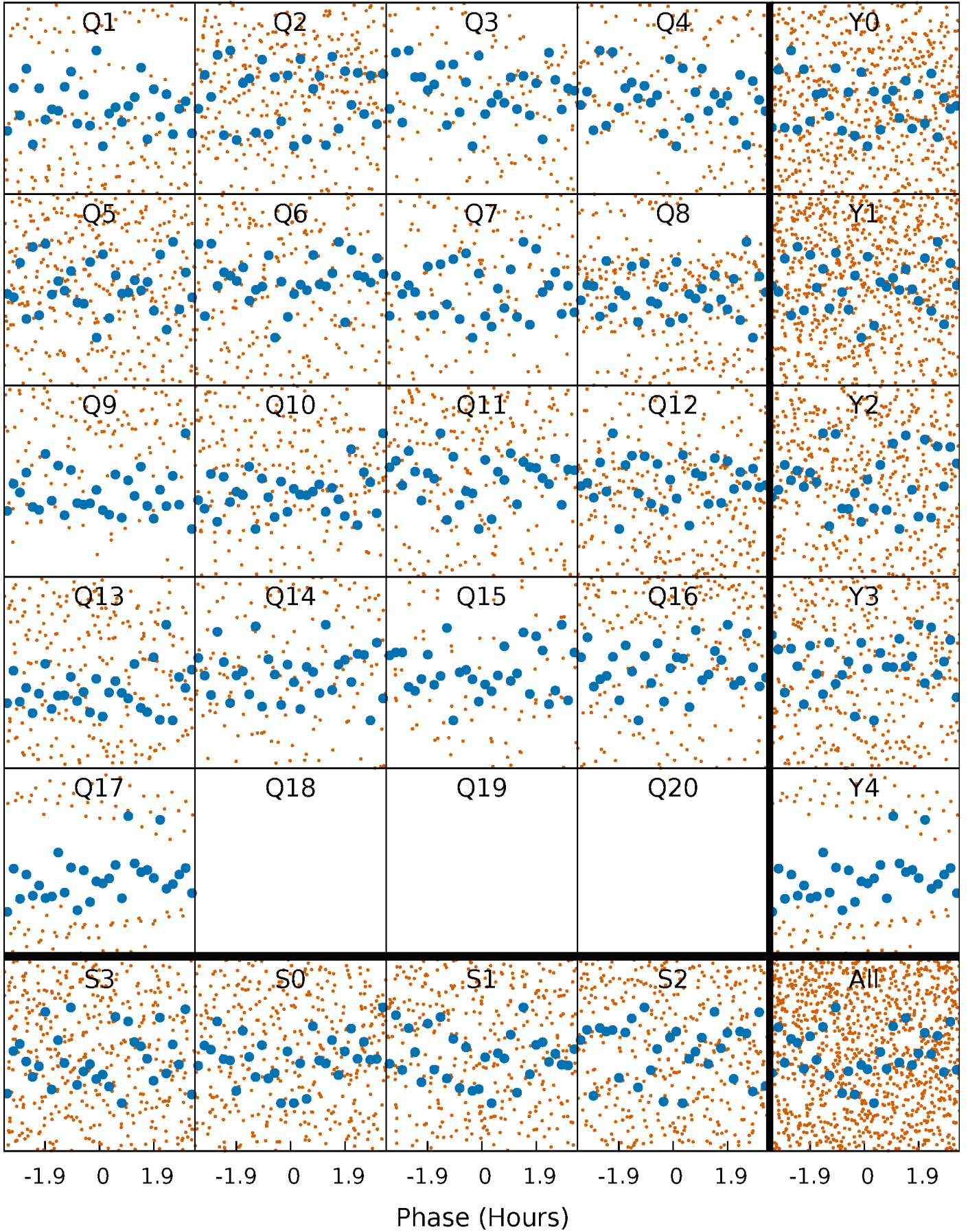


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



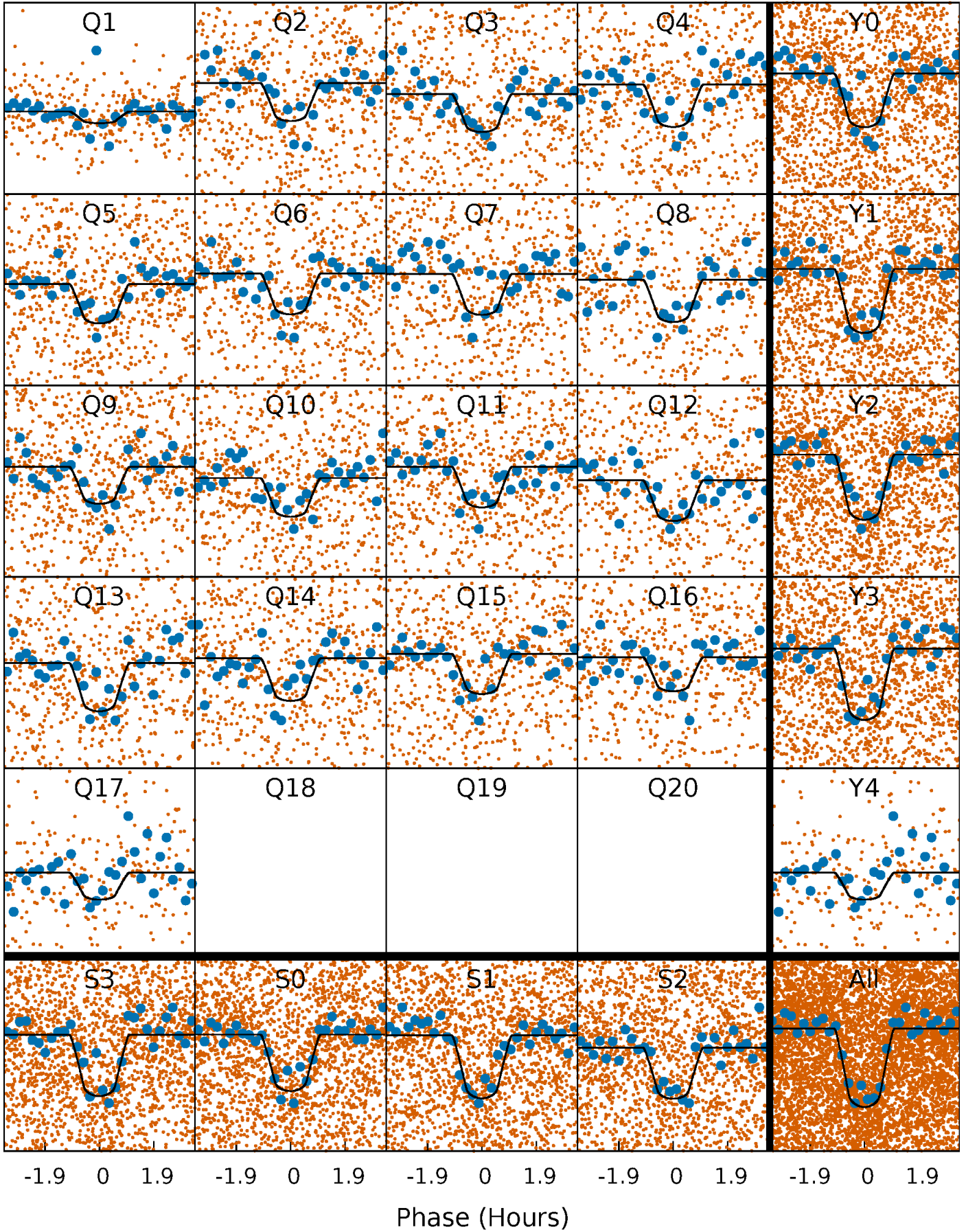
PDC Quarter-Phased Transit Curves

TCE 001718958-01 P= 1.419765 Days $T_0=132.919278$ (BKJD)



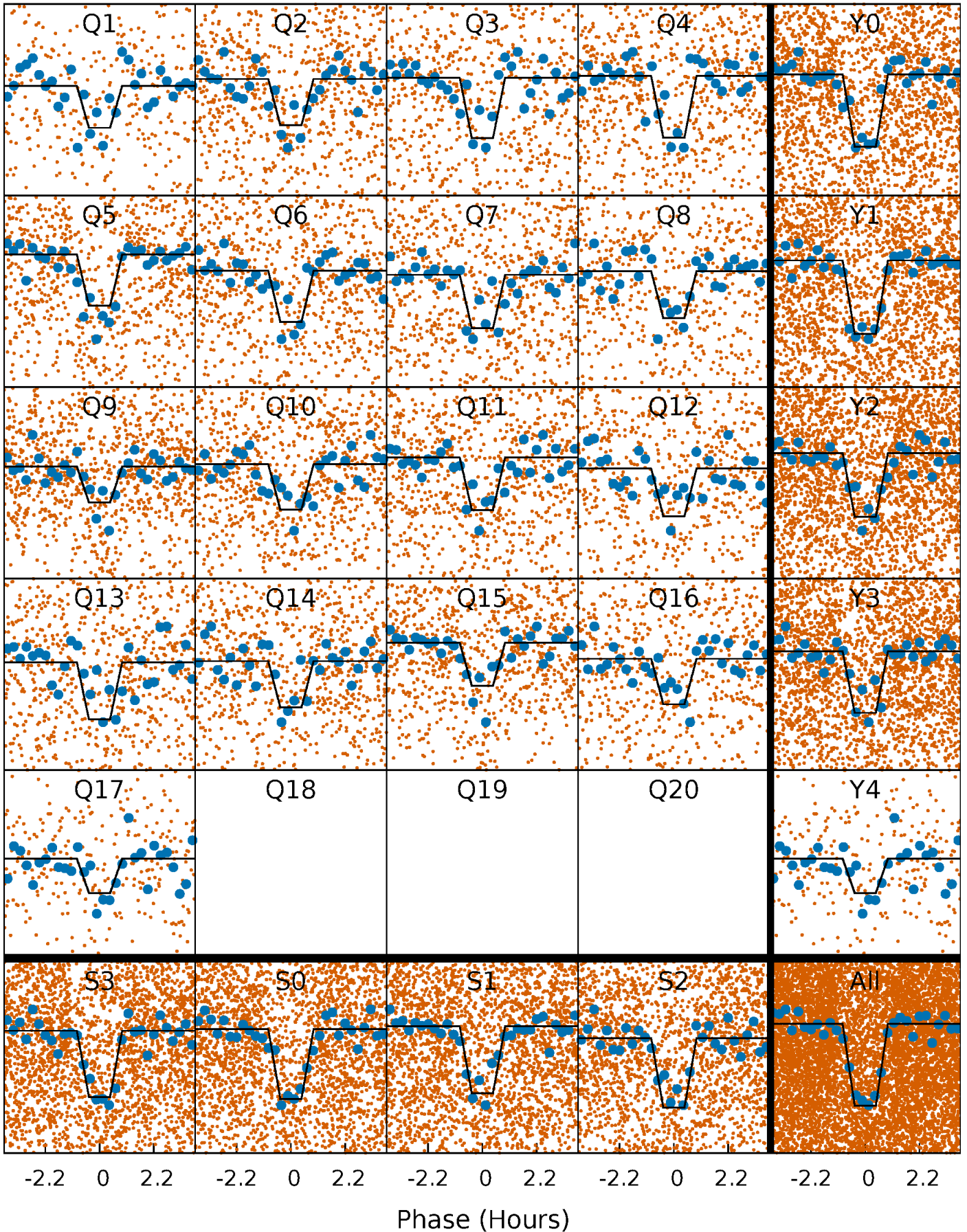
DV Quarter-Phased Transit Curves

TCE 001718958-01 P= 1.419765 Days $T_0=132.919278$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

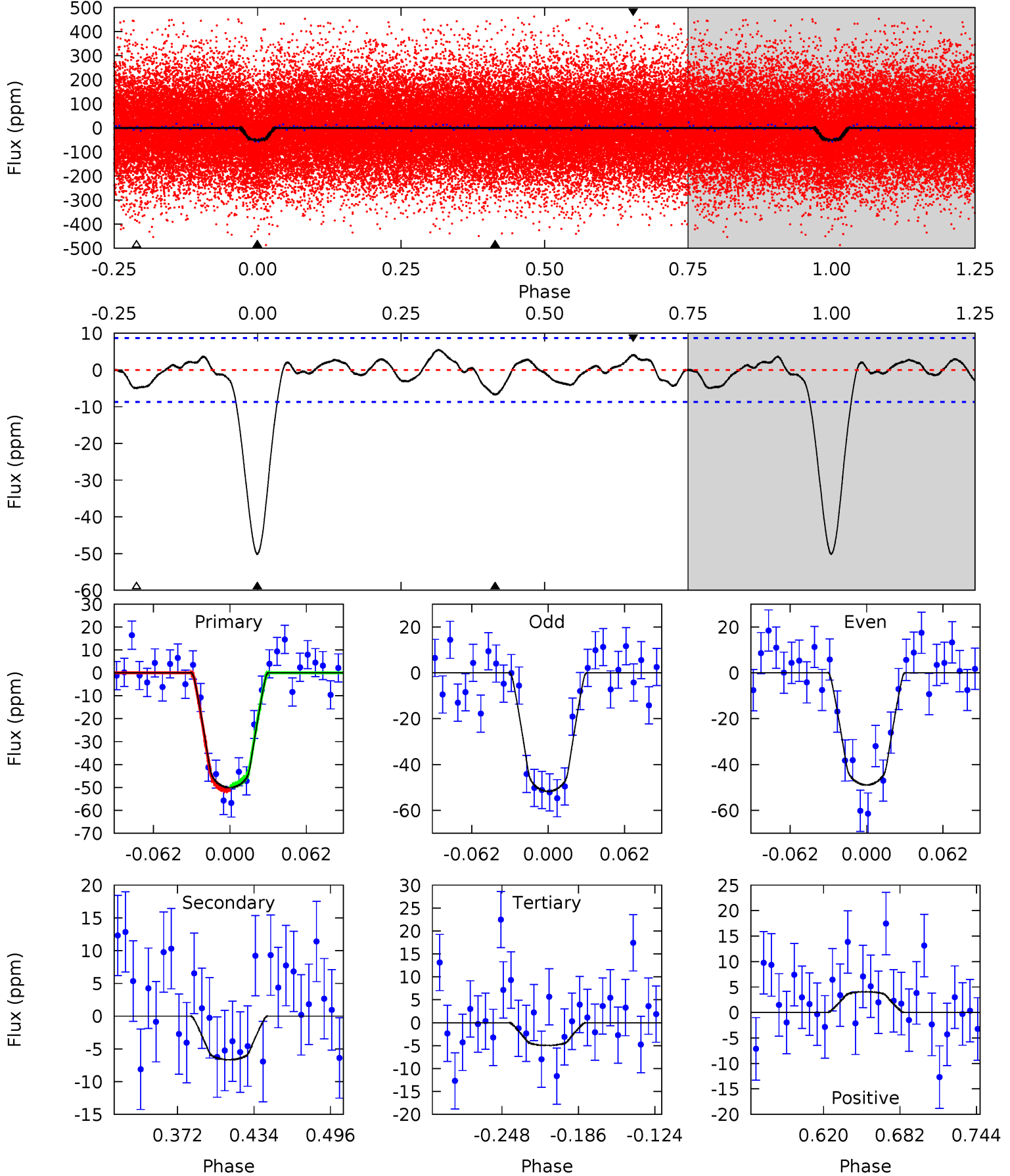
TCE 001718958-01 P= 1.419751 Days $T_0=132.925065$ (BKJD)



DV Model-Shift Uniqueness Test

001718958-01, P = 1.419765 Days, E = 131.499513 Days

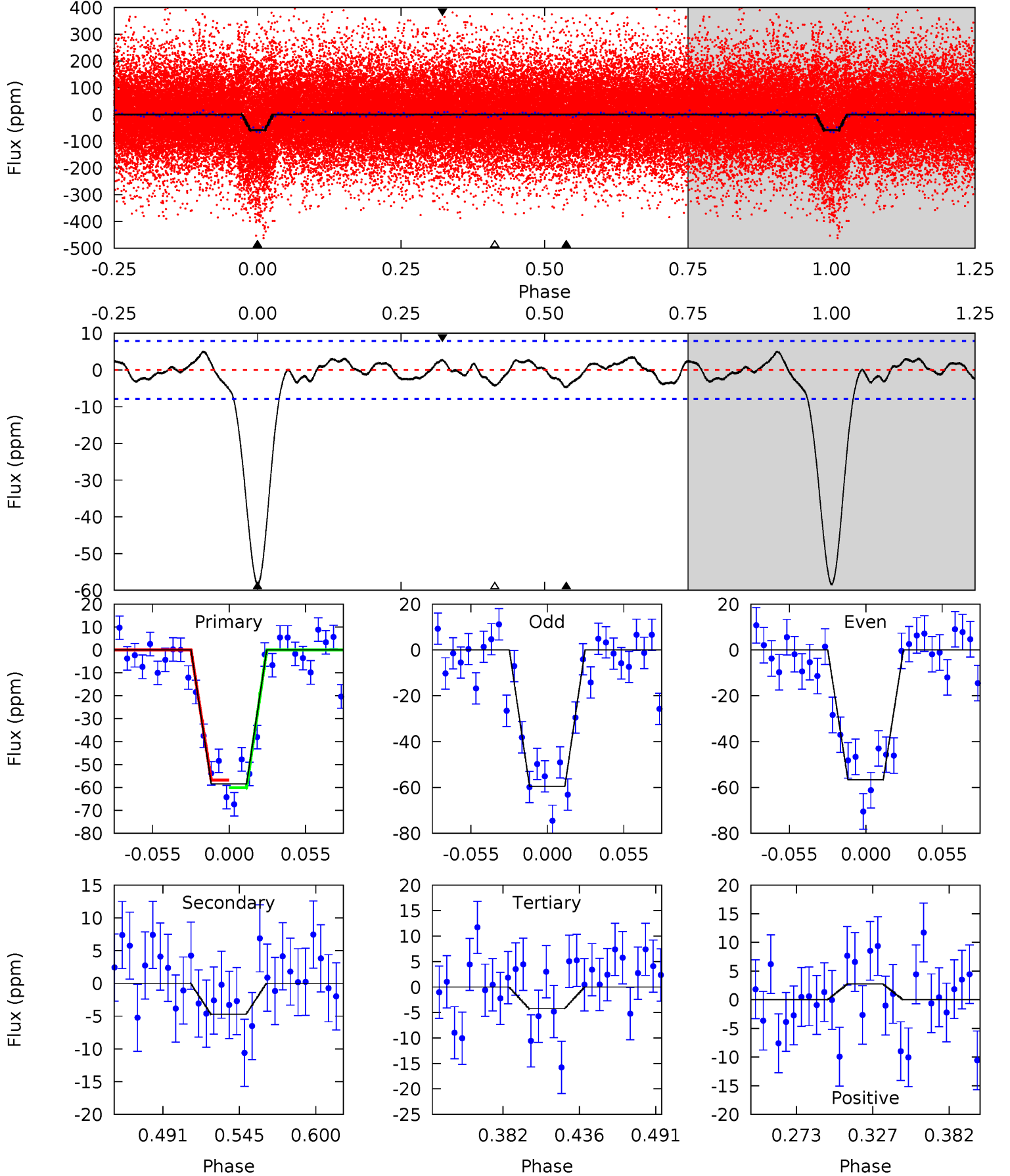
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.9	3.57	2.65	2.18	4.66	1.87	1.29	24.2	24.7	0.91	1.39	0.75	1.04	0.10	0.56



Alt Model-Shift Uniqueness Test

001718958-01, P = 1.419751 Days, E = 131.505314 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.7	2.79	2.53	1.64	4.69	1.92	1.24	32.2	33.1	0.26	1.15	0.85	1.06	0.08	0.99



Stellar Parameters For KIC 001718958

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5925^{+107}_{-119}	$4.394^{+0.084}_{-0.116}$	$-0.140^{+0.150}_{-0.150}$	$1.035^{+0.157}_{-0.105}$	$0.968^{+0.067}_{-0.067}$	$1.228^{+0.467}_{-0.400}$
	+2%/-2%	+2%/-3%	+107%/-107%	+15%/-10%	+7%/-7%	+38%/-33%
Source	SPE59	SPE59	SPE59	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 001718958-01 / KOI 4053.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-7 ± 2	$0.95^{+0.28}_{-0.27}$	2382^{+99}_{-87}	3604^{+536}_{-372}	$2.328^{+2.622}_{-1.036}$
Alt.	-5 ± 2	$0.90^{+0.30}_{-0.27}$	2391^{+104}_{-93}	3462^{+543}_{-478}	$1.803^{+2.365}_{-0.941}$

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

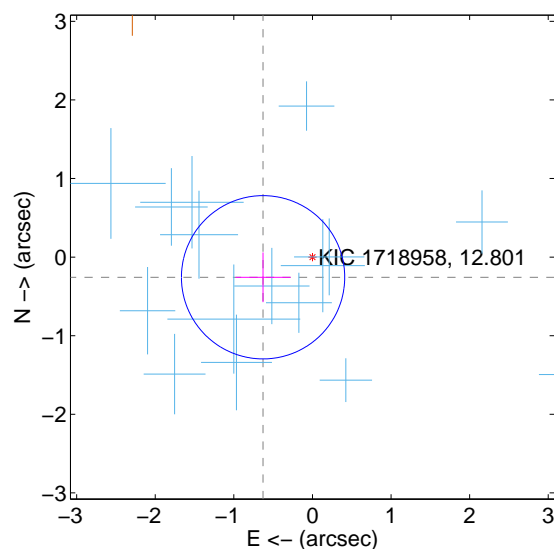
Supplemental centroid analysis for 001718958-01. Kepler magnitude: 12.80. Transit SNR 18.04

There are 16 quarters with good PRF difference image offsets

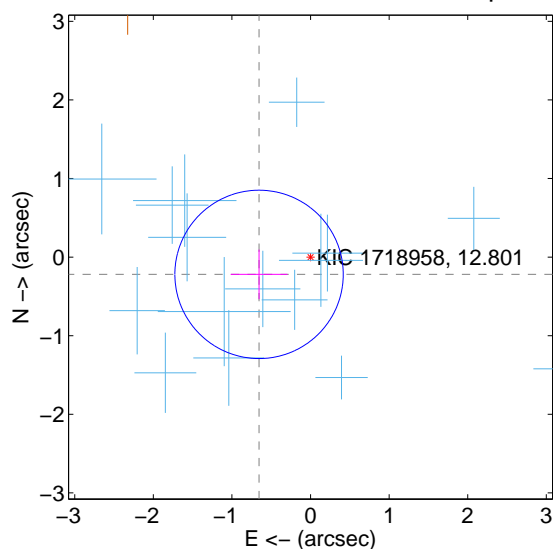
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.679 ± 0.346	1.96	0.628 ± 0.351	-0.257 ± 0.316
PRF-fit source offset from KIC position	0.691 ± 0.357	1.93	0.655 ± 0.361	-0.220 ± 0.316
photometric centroid source offset	0.67 ± 0.63	1.05	-0.59 ± 0.61	-0.31 ± 0.70

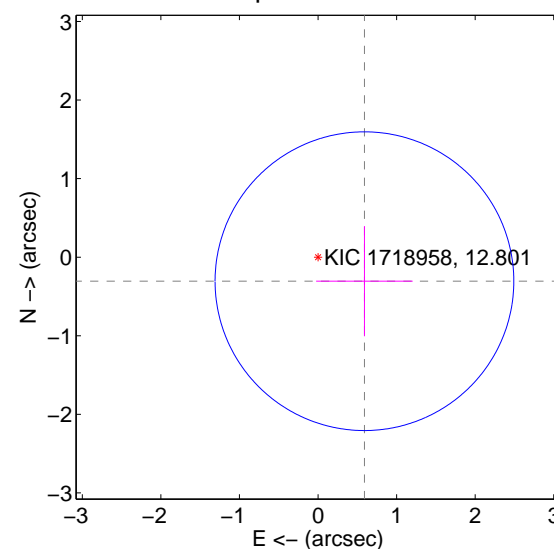
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

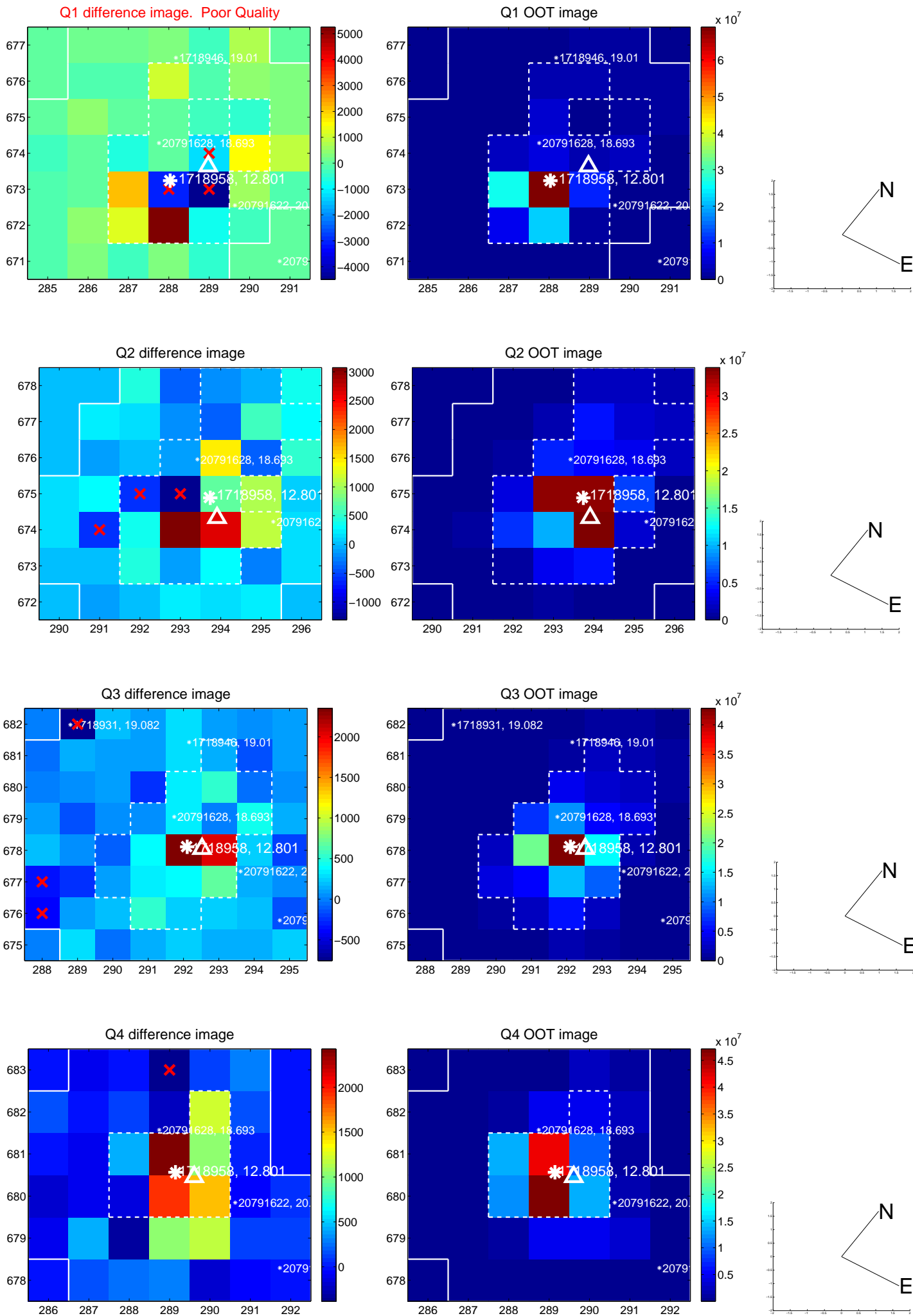


offset from photometric centroids

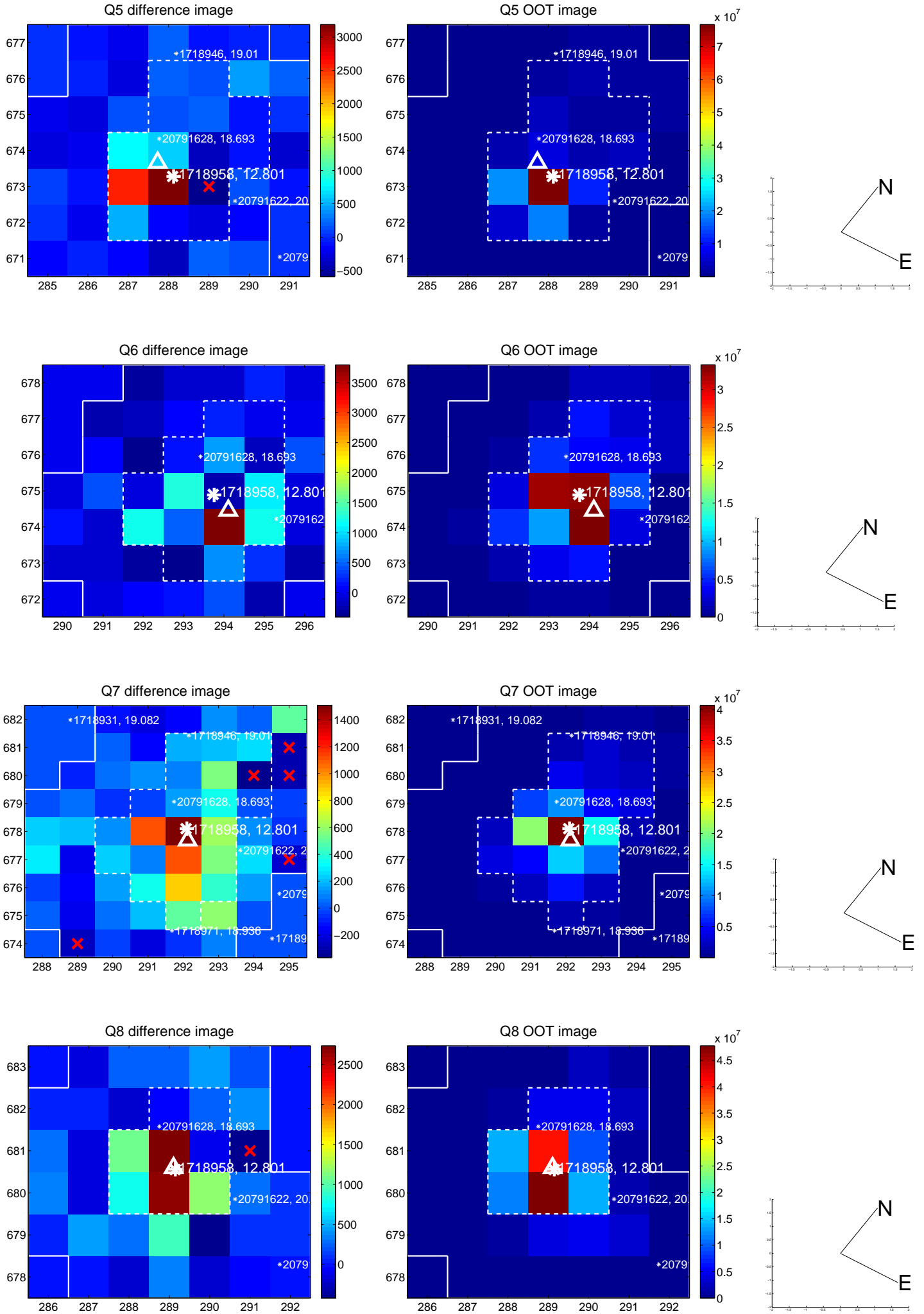


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

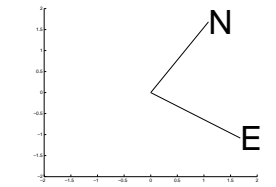
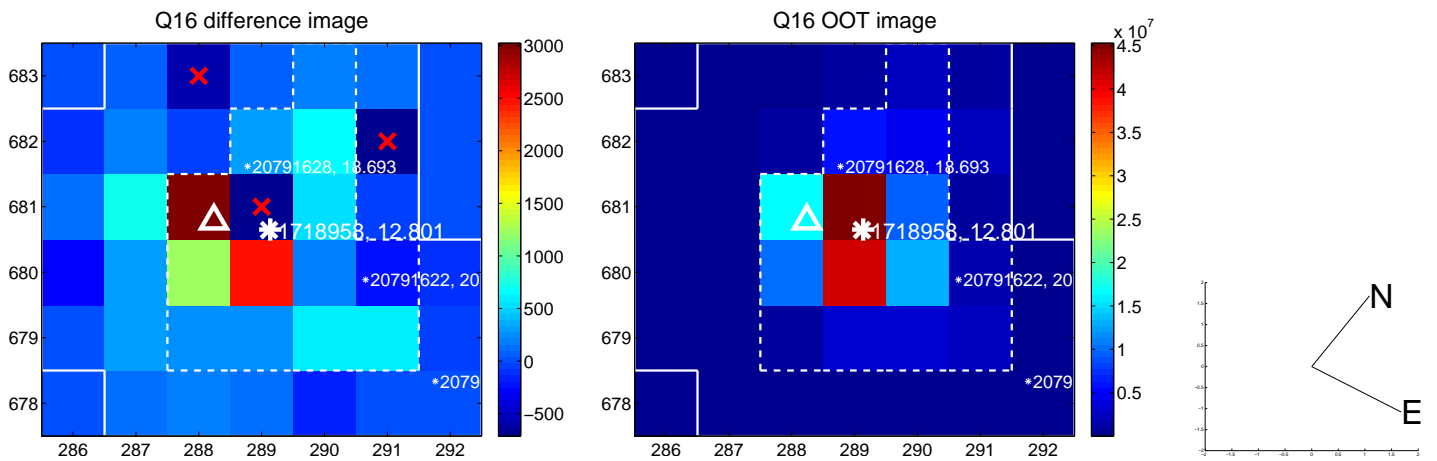
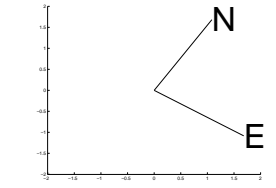
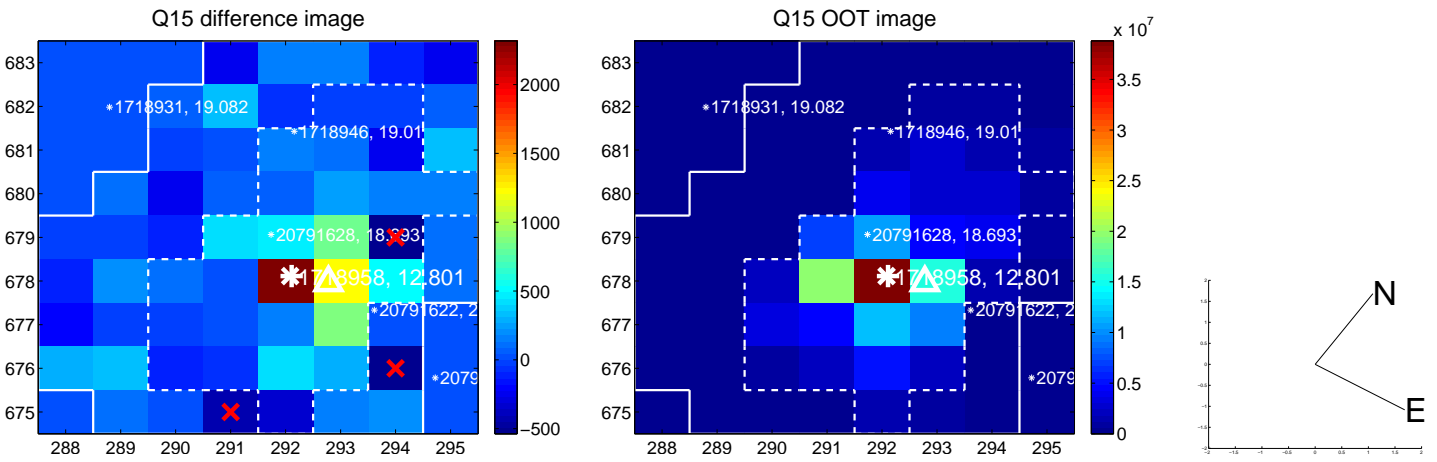
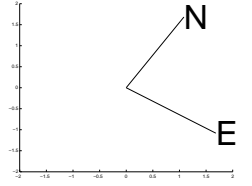
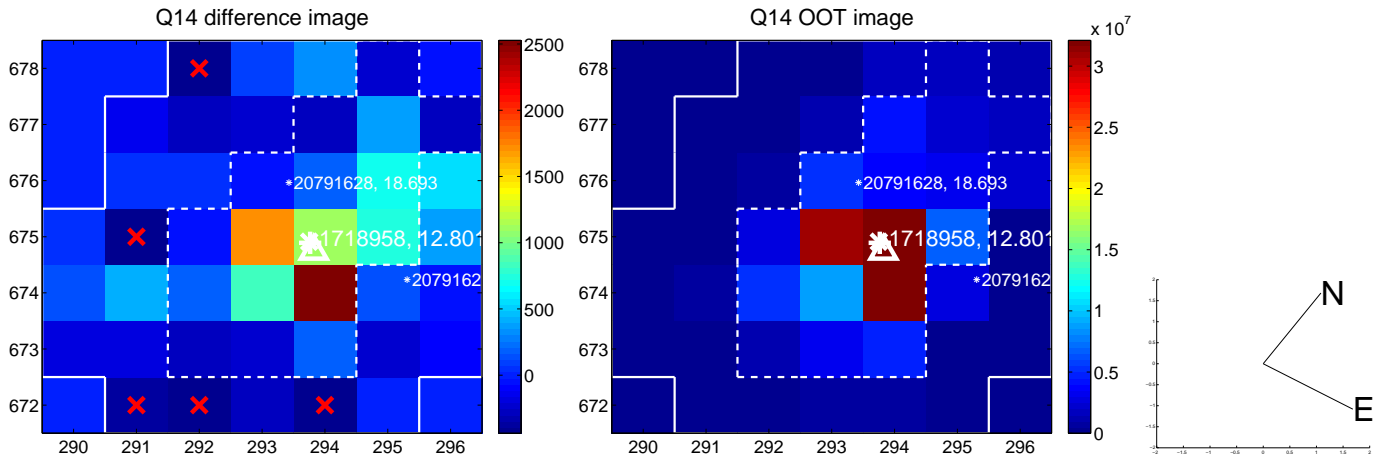
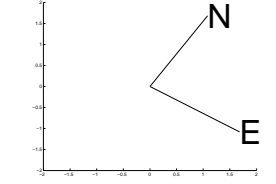
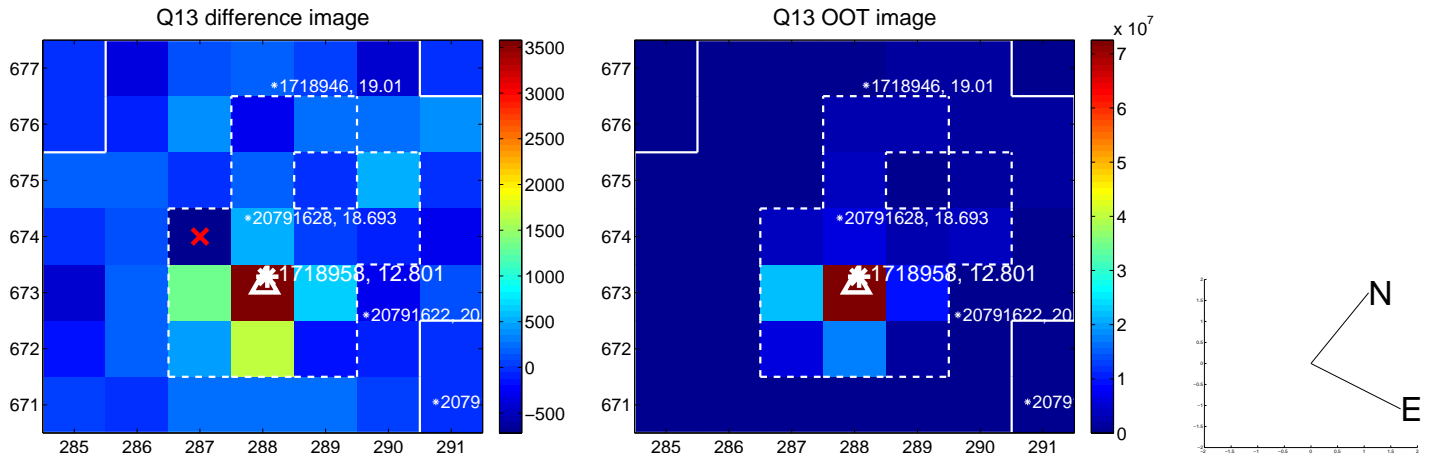
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



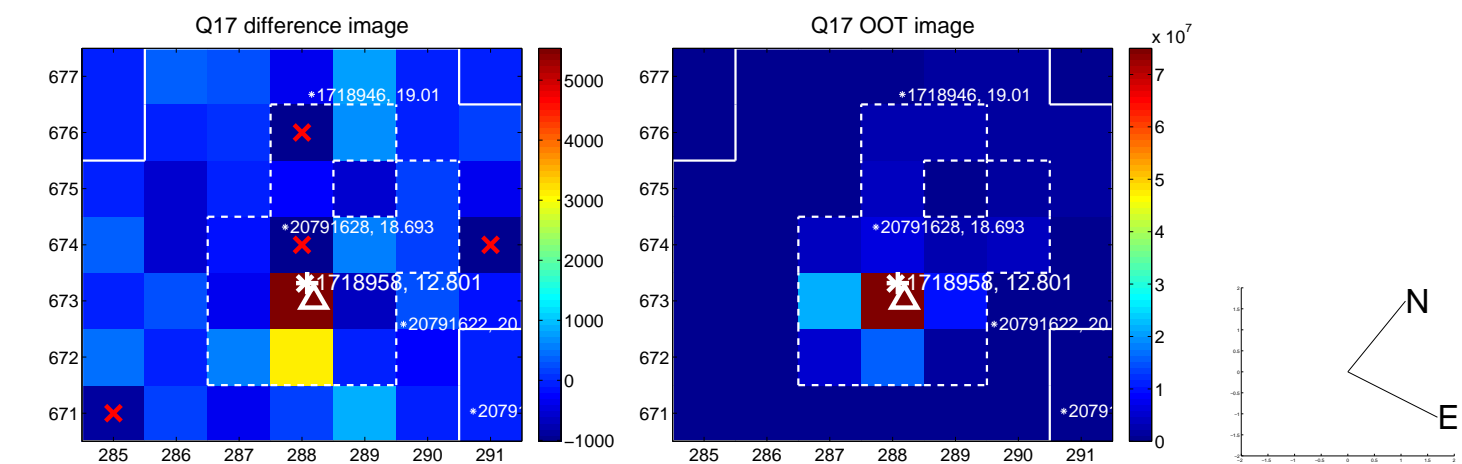
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



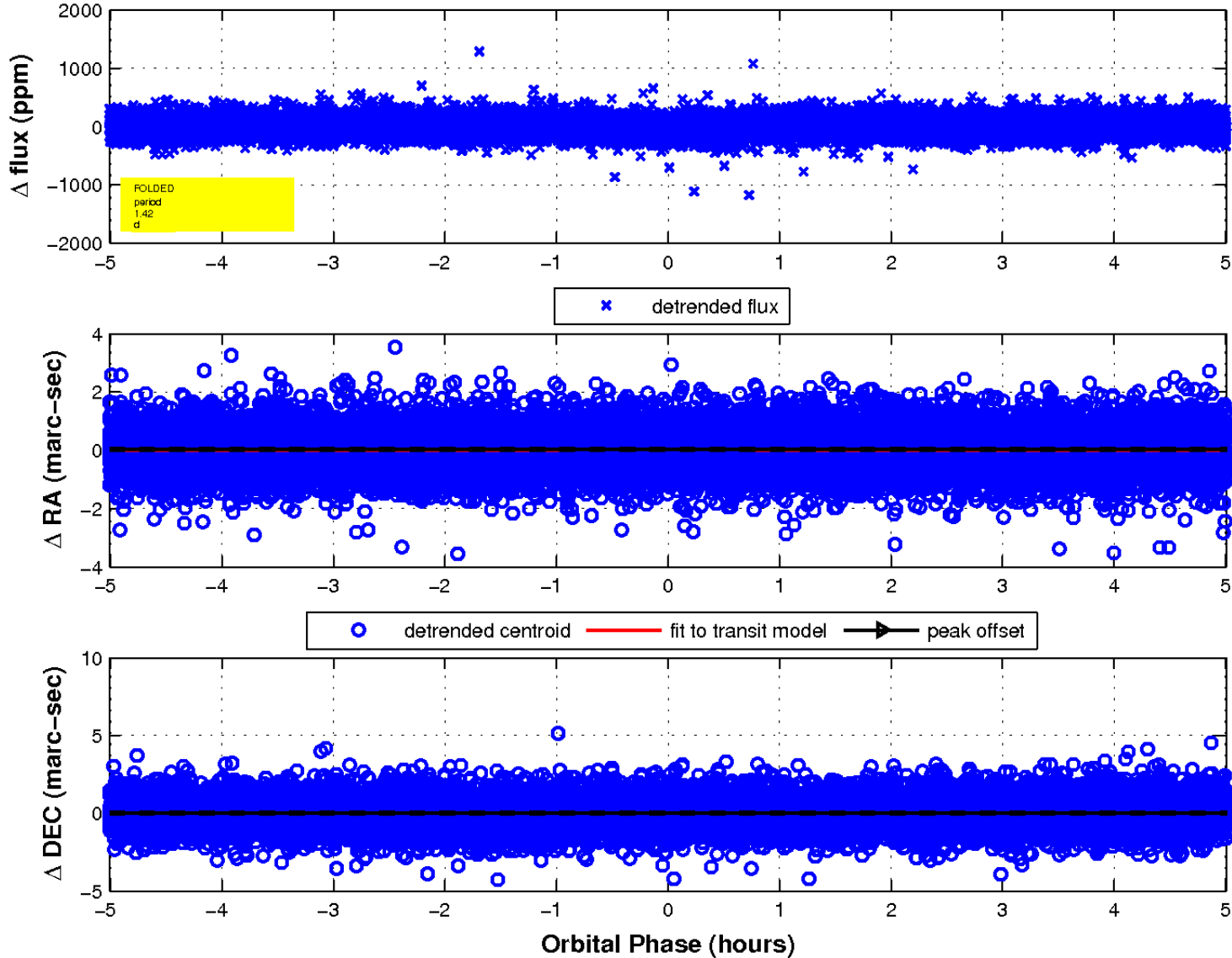
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

