

KIC 009969287

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})
009969287-01	OBS	4820.01	14.740162	133.536526	270.8	5.427	9.9	9.9	0.96	5999	1.82	74.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009969287-01	OBS	PC	0.99	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 009969287-01

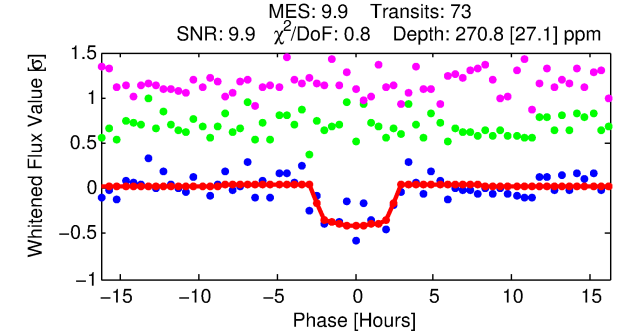
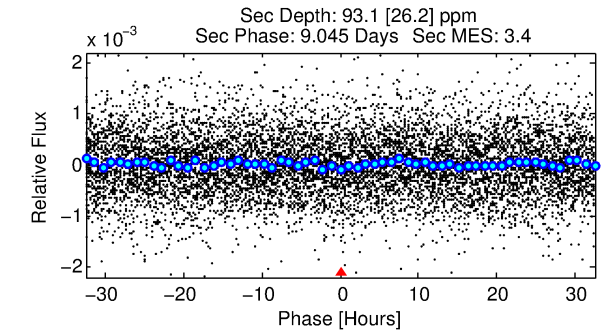
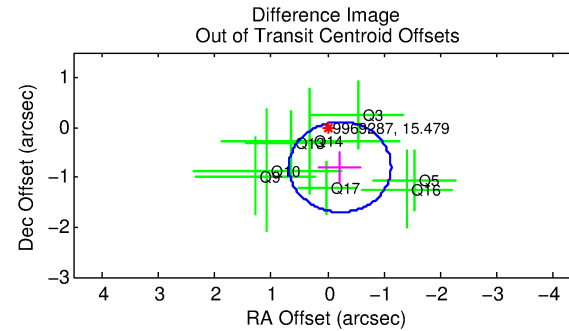
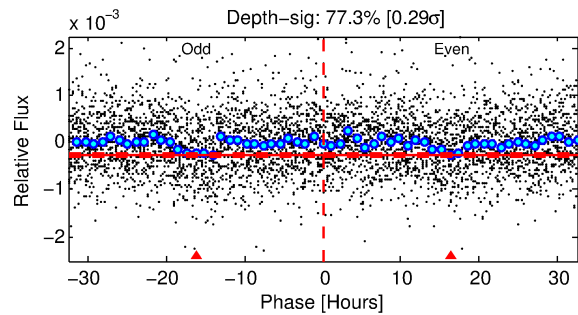
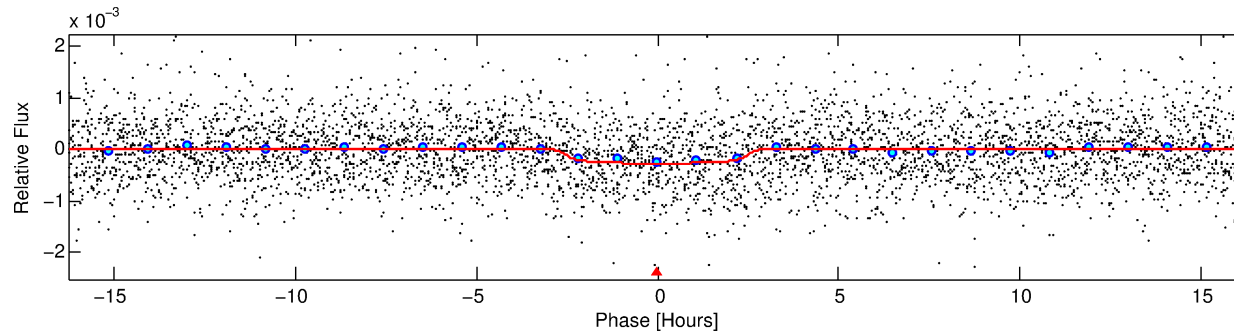
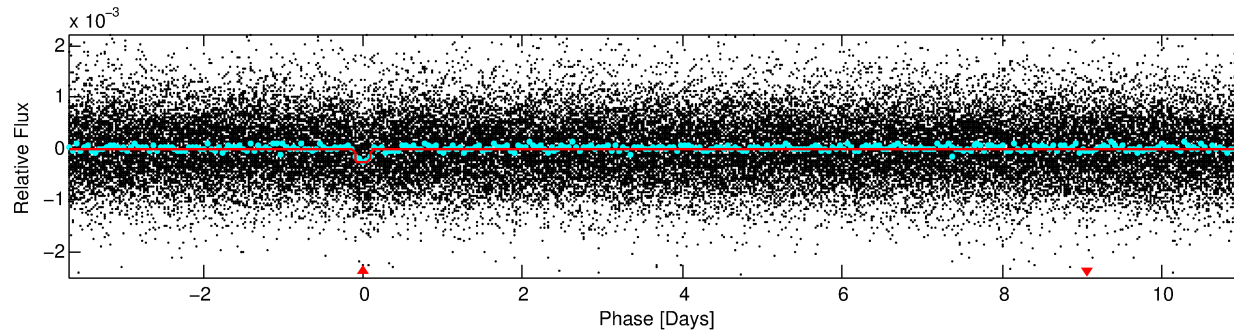
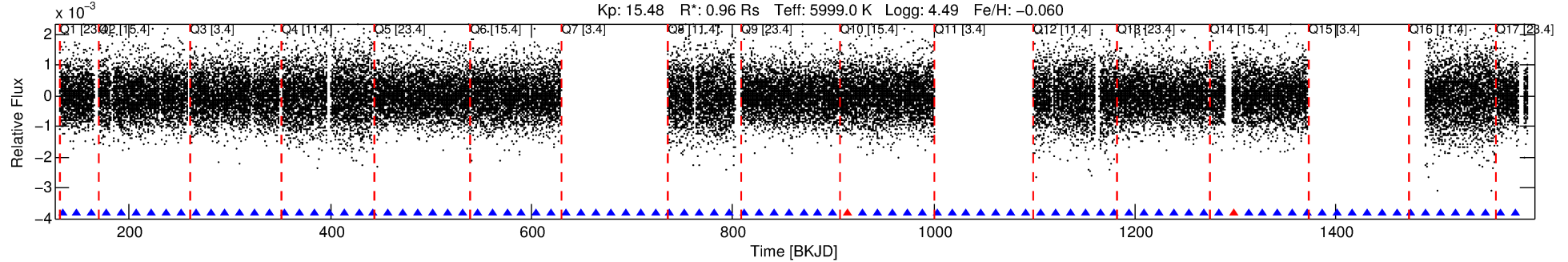
No Significant Match Found

DV One-Page Summary

KIC: 9969287 Candidate: 1 of 1 Period: 14.740 d

KOI: K04820.01 Corr: 0.974

Kp: 15.48 R*: 0.96 Rs Teff: 5999.0 K Logg: 4.49 Fe/H: -0.060



DV Fit Results:

Period = 14.74016 [0.00018] d
Epoch = 133.5365 [0.0094] BKJD
Rp/R* = 0.0174 [0.0061]
a/R* = 11.03 [18.92]
b = 0.87 [0.50]
Seff = 74.77 [27.83]
Teq = 750 [70] K
Rp = 1.82 [0.81] Re
a = 0.1195 [0.0282] AU
Ag = 221.35 [184.66] [1.19σ]
Teffp = 4472 [860] K [4.31σ]

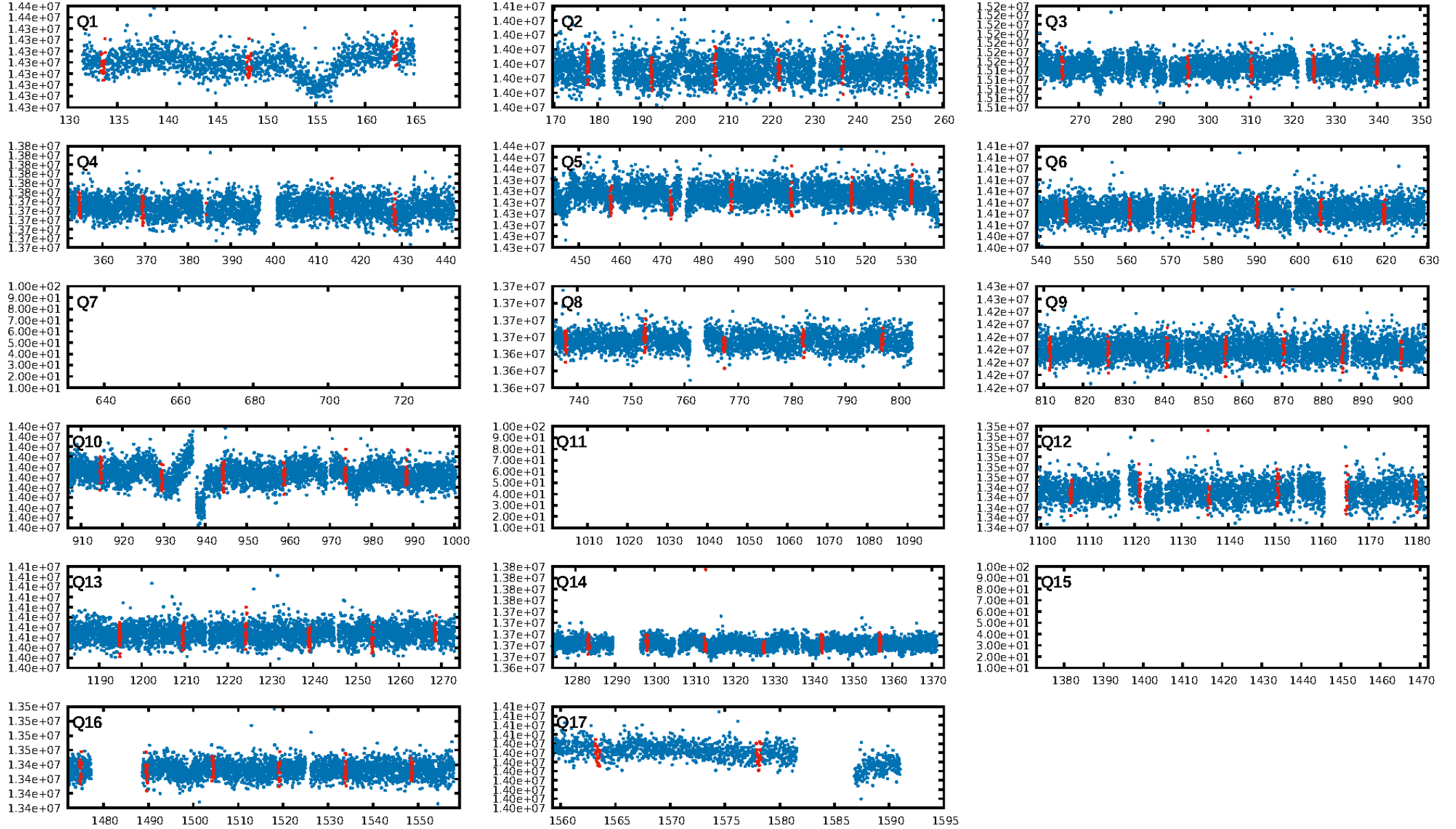
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 96.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.68e-23
RollingBand-fgt: 0.97 [66/68]
GhostDiagnostic-chr: 1.407
Centroid-sig: 6.7%
Centroid-so: 2.122 arcsec [1.35σ]
OotOffset-rm: 0.830 arcsec [2.75σ]
KicOffset-rm: 0.834 arcsec [2.78σ]
OotOffset-st: 2/1/1/4 [8]
KicOffset-st: 2/1/1/4 [8]
DiffImageQuality-fgm: 0.62 [5/8]
DiffImageOverlap-fno: 1.00 [14/14]

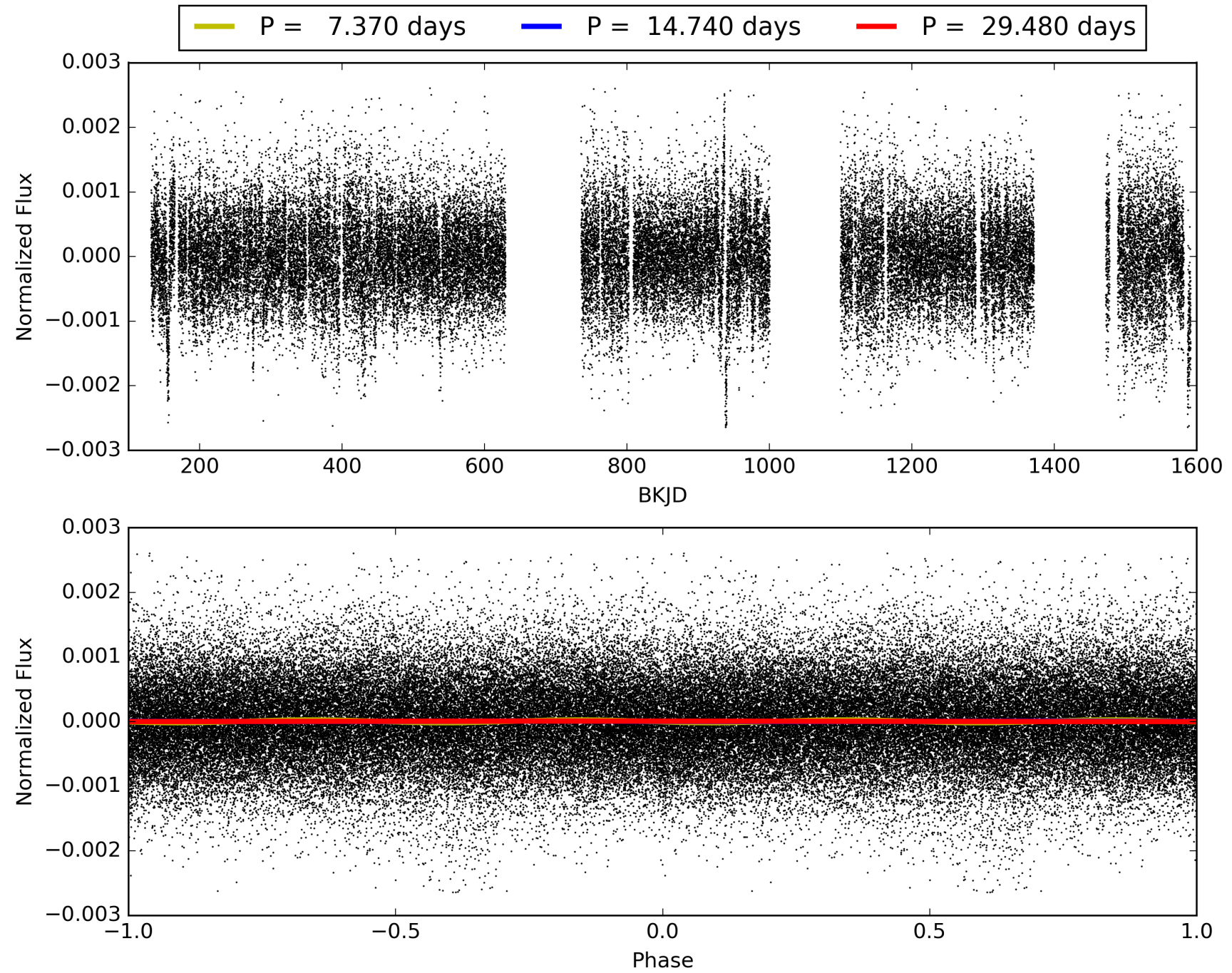
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 08:06:34 Z

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

TCE 009969287-01, PDC Light Curves

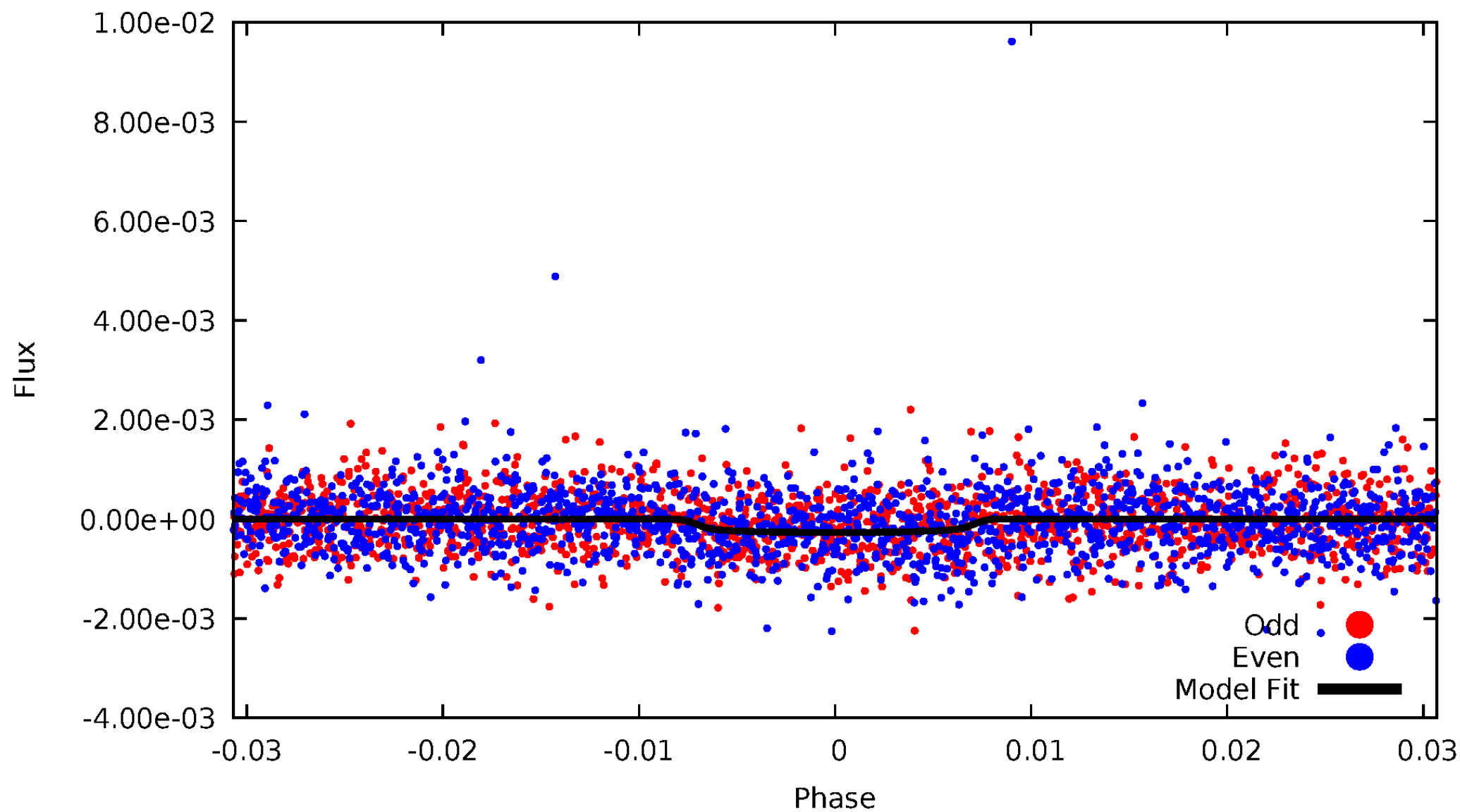


TCE 009969287-01



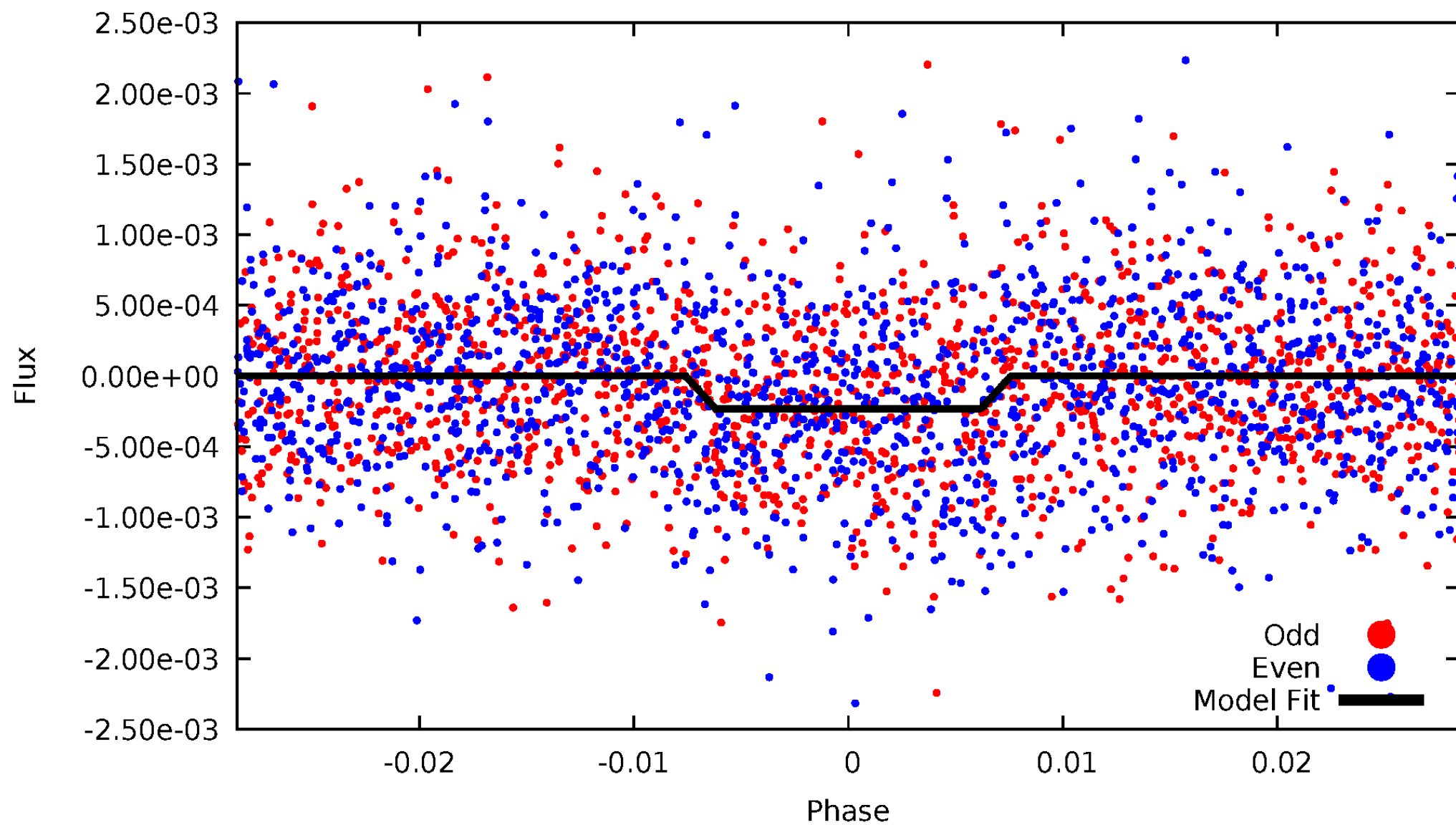
DV Odd/Even

TCE 009969287-01



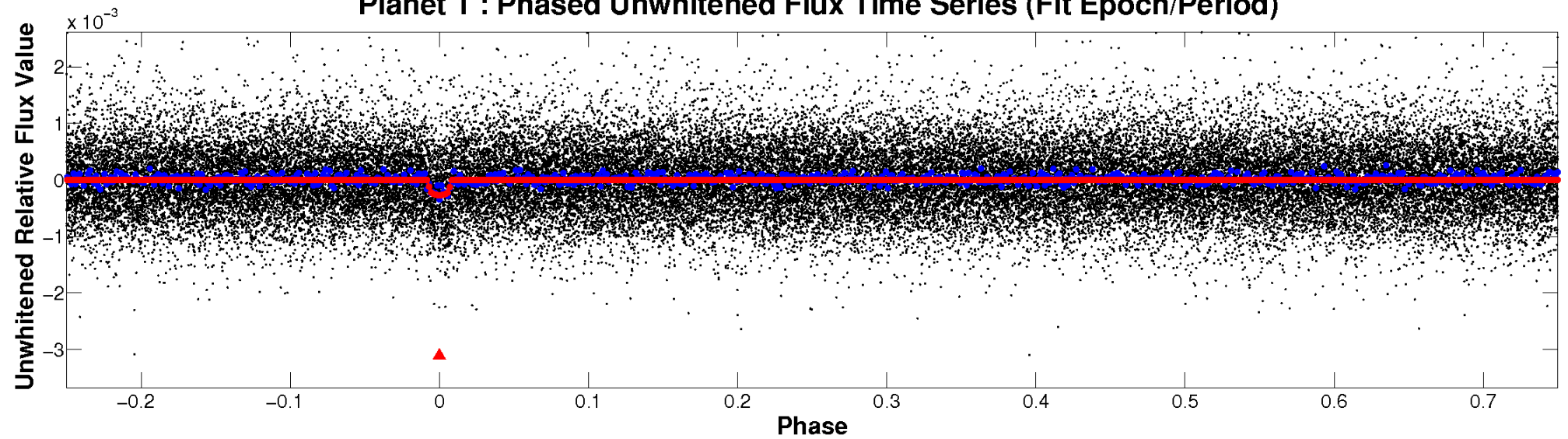
ALT Odd/Even

TCE 009969287-01

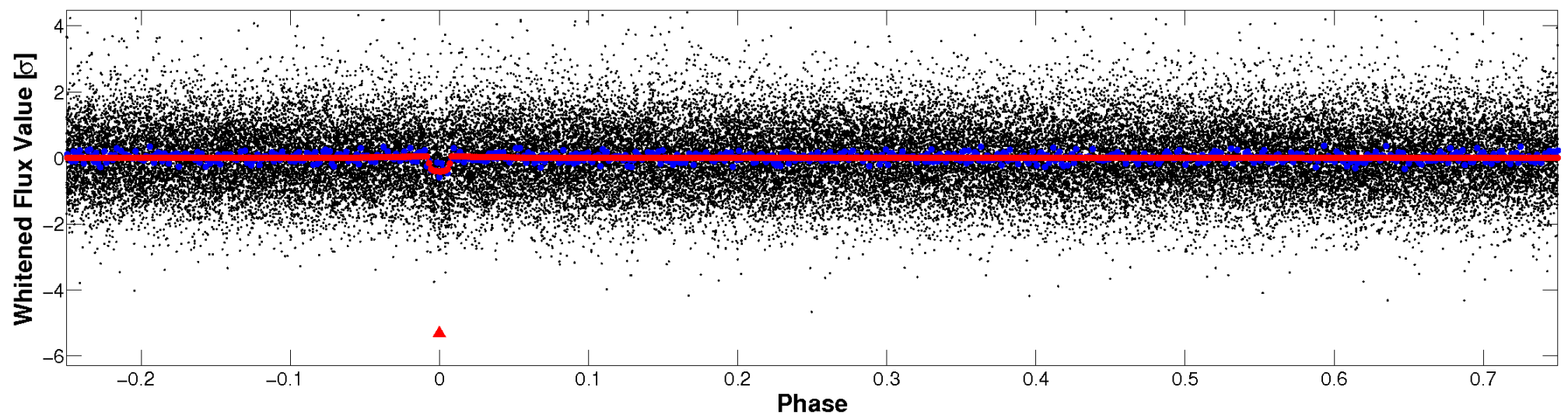


Non-Whitened Vs. Whitened Light Curve

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

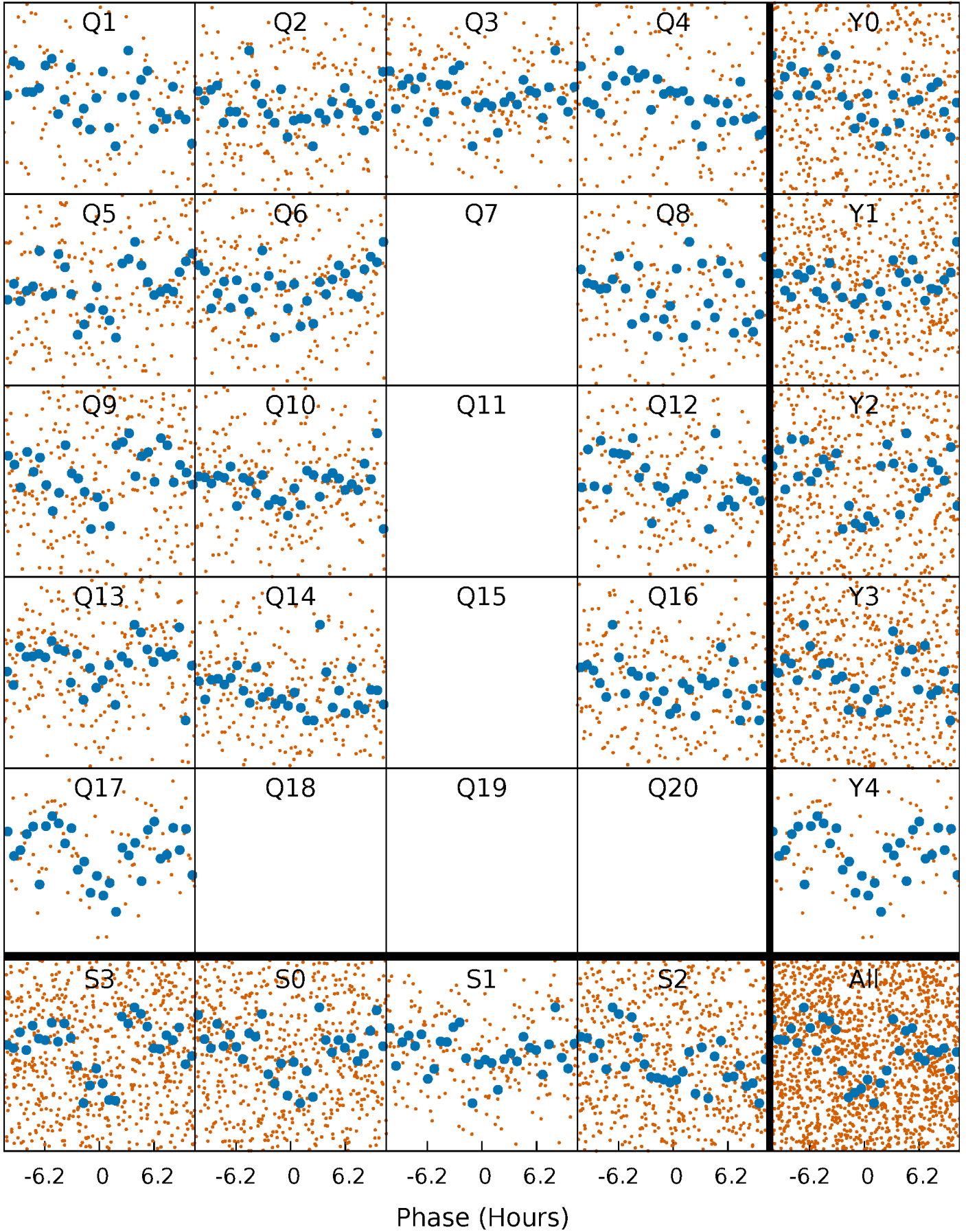


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



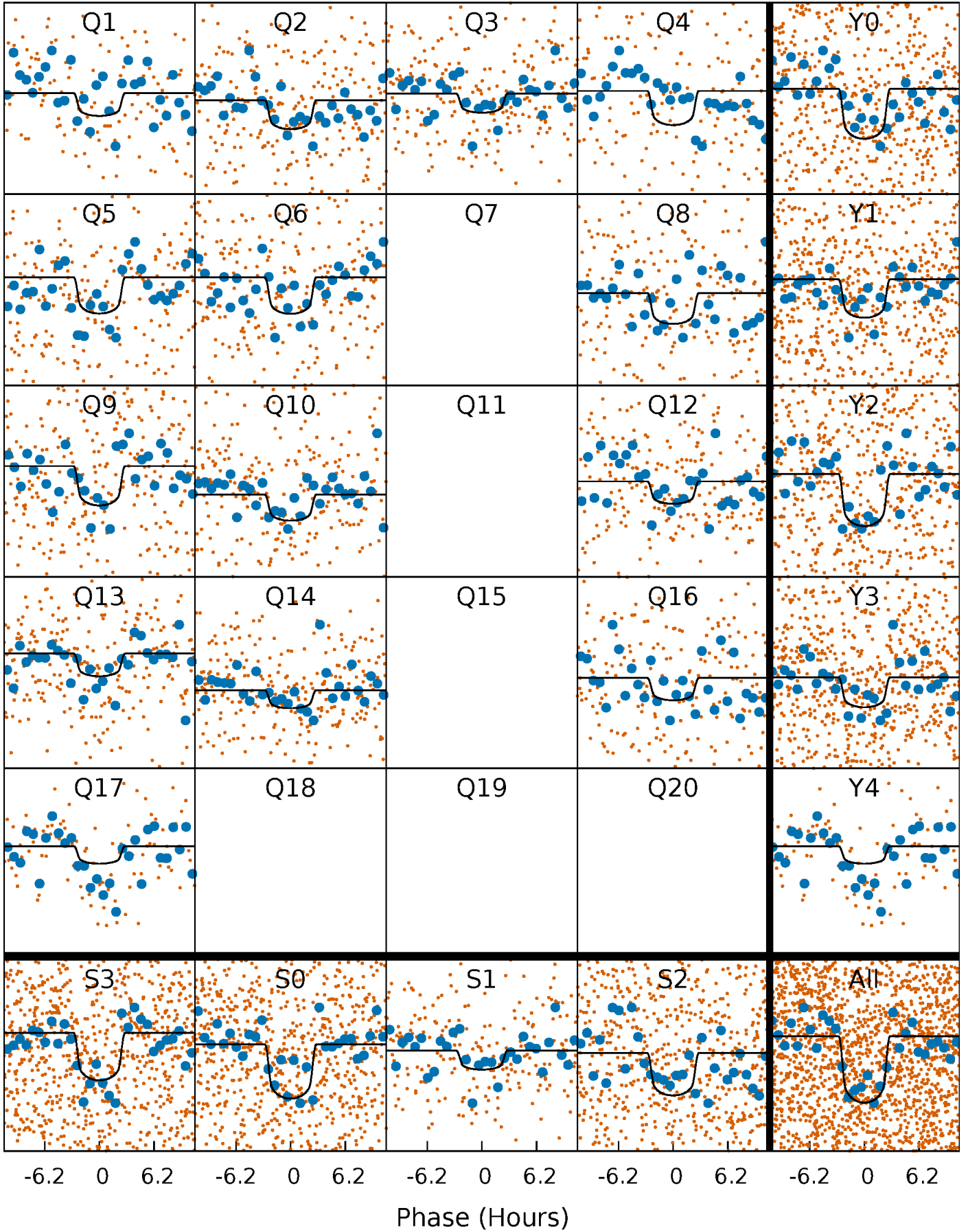
PDC Quarter-Phased Transit Curves

TCE 009969287-01 P= 14.740162 Days $T_0=133.536526$ (BKJD)



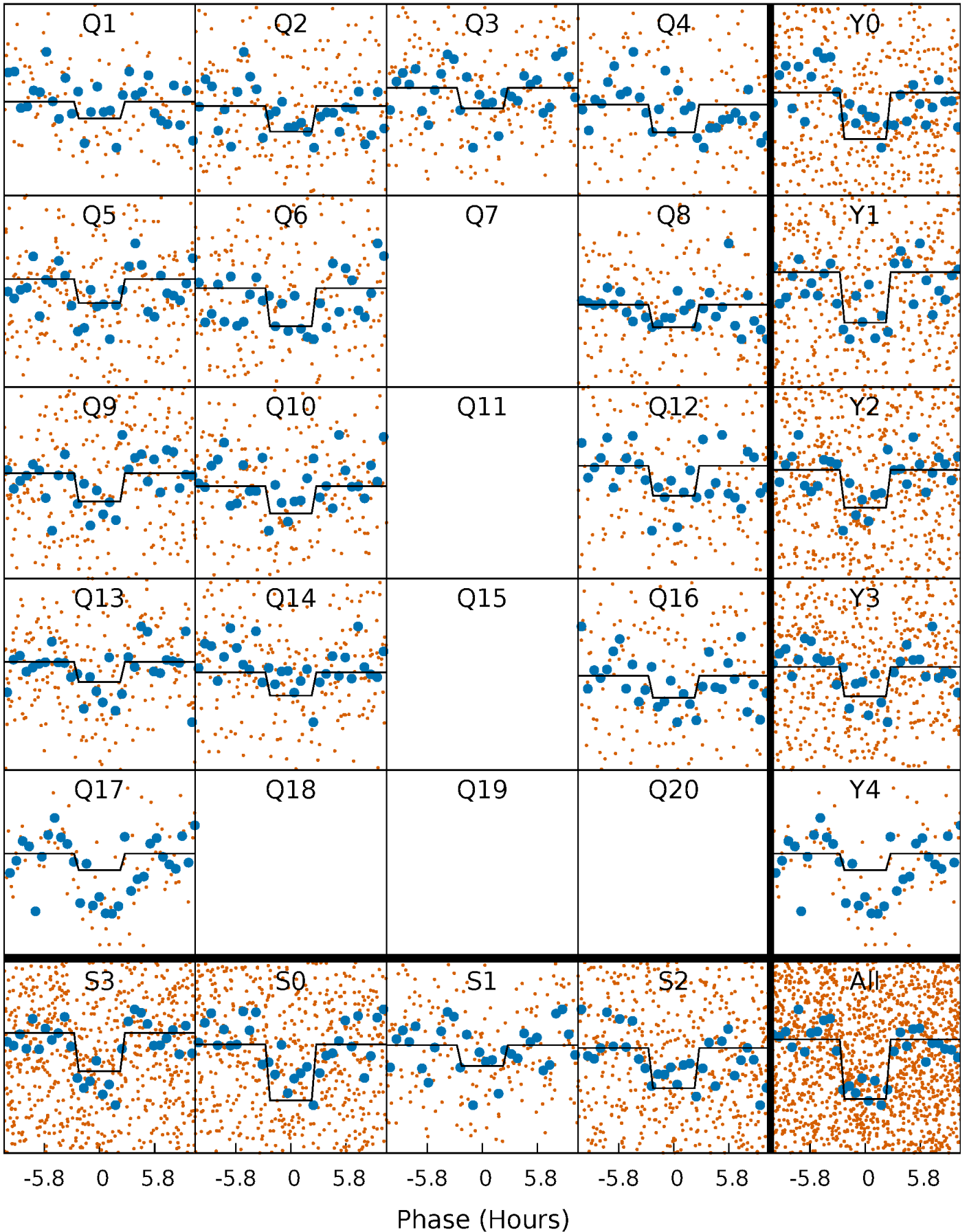
DV Quarter-Phased Transit Curves

TCE 009969287-01 P= 14.740162 Days $T_0=133.536526$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

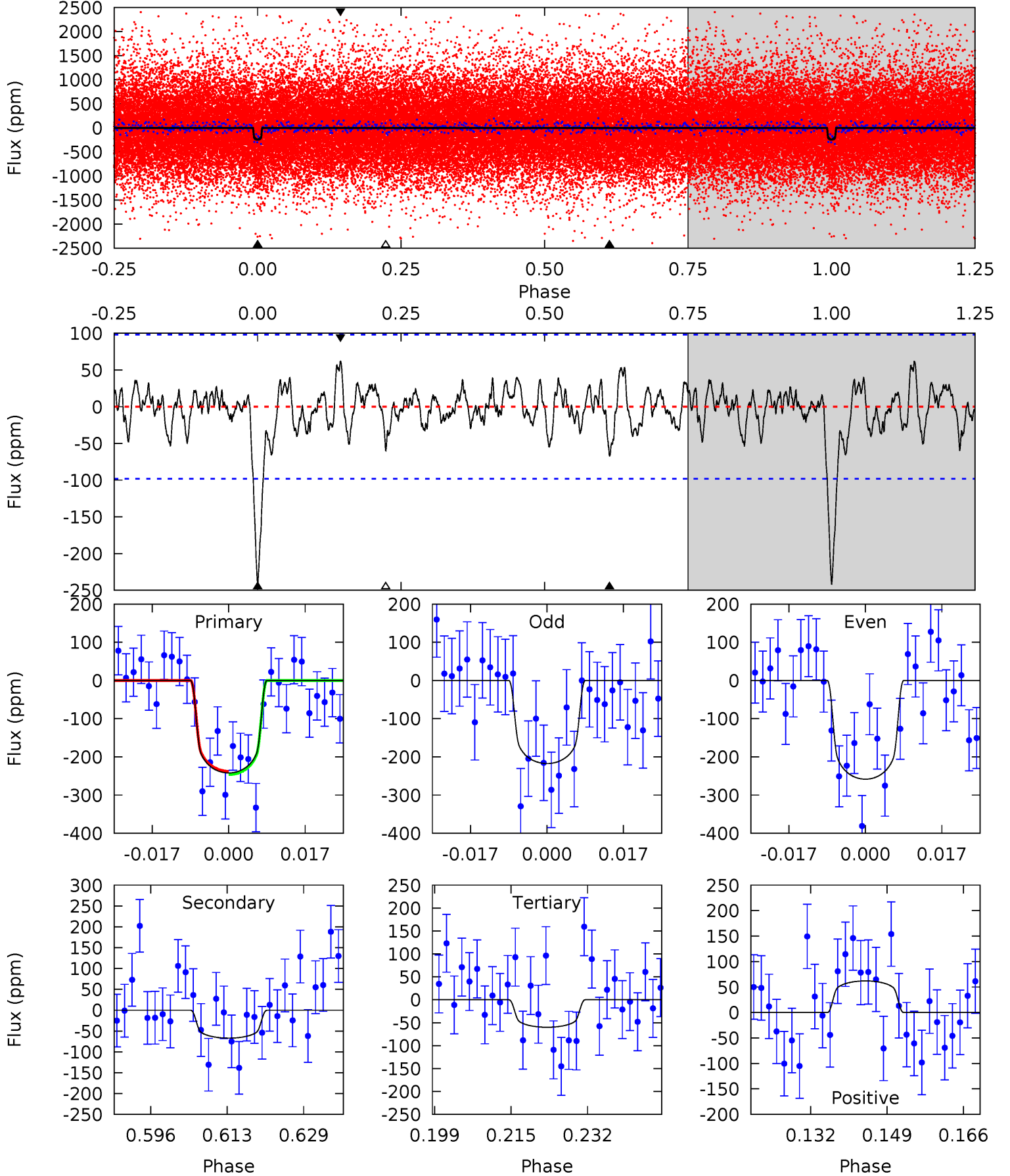
TCE 009969287-01 P= 14.740029 Days $T_0=133.541482$ (BKJD)



DV Model-Shift Uniqueness Test

009969287-01, P = 14.740162 Days, E = 118.796364 Days

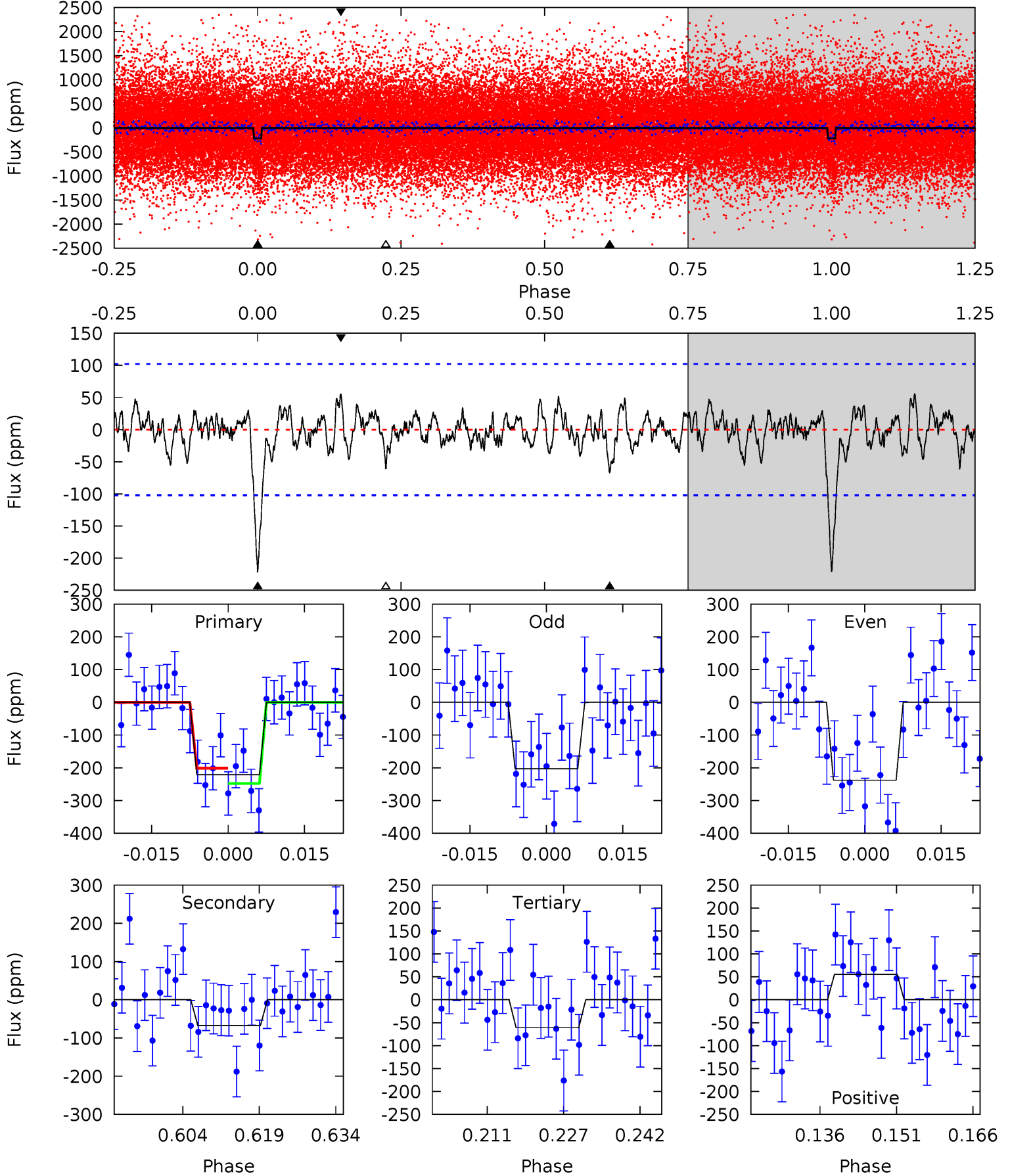
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	3.37	3.01	3.11	4.93	2.40	1.11	9.15	9.05	0.35	0.25	1.03	0.95	0.20	0.21



Alt Model-Shift Uniqueness Test

009969287-01, P = 14.740029 Days, E = 118.801453 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	3.27	2.96	2.69	4.95	2.43	0.97	7.74	8.01	0.31	0.58	0.84	0.99	0.20	1.13



Stellar Parameters For KIC 009969287

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5999^{+180}_{-198}	$4.494^{+0.048}_{-0.192}$	$-0.060^{+0.250}_{-0.300}$	$0.959^{+0.266}_{-0.095}$	$1.045^{+0.129}_{-0.142}$	$1.670^{+0.412}_{-0.802}$
	+3%/-3%	+1%/-4%	+417%/-500%	+28%/-10%	+12%/-14%	+25%/-48%
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 009969287-01 / KOI 4820.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-67 ± 20	$1.87^{+0.69}_{-0.70}$	1069^{+75}_{-53}	4327^{+922}_{-491}	142^{+227}_{-71}
Alt.	-67 ± 21	$1.66^{+0.76}_{-0.66}$	1071^{+65}_{-49}	4479^{+1114}_{-589}	169^{+325}_{-88}

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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

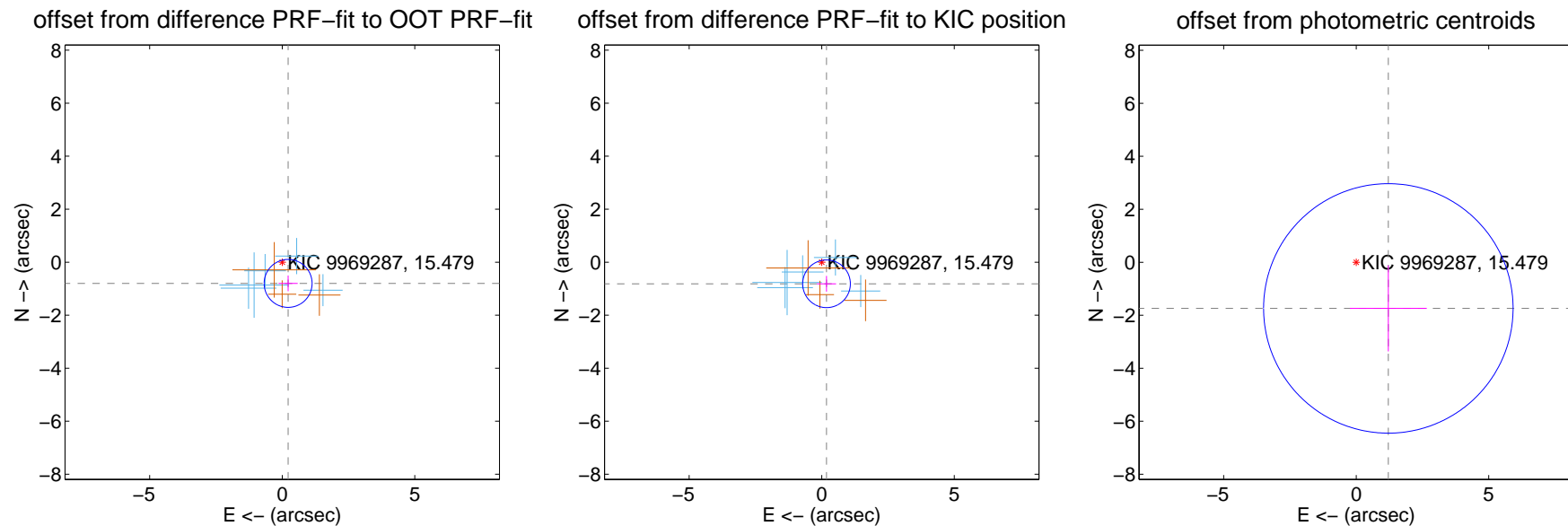
DV Centroid Data

Supplemental centroid analysis for 009969287-01. Kepler magnitude: 15.48. Transit SNR 9.93

There are 5 quarters with good PRF difference image offsets

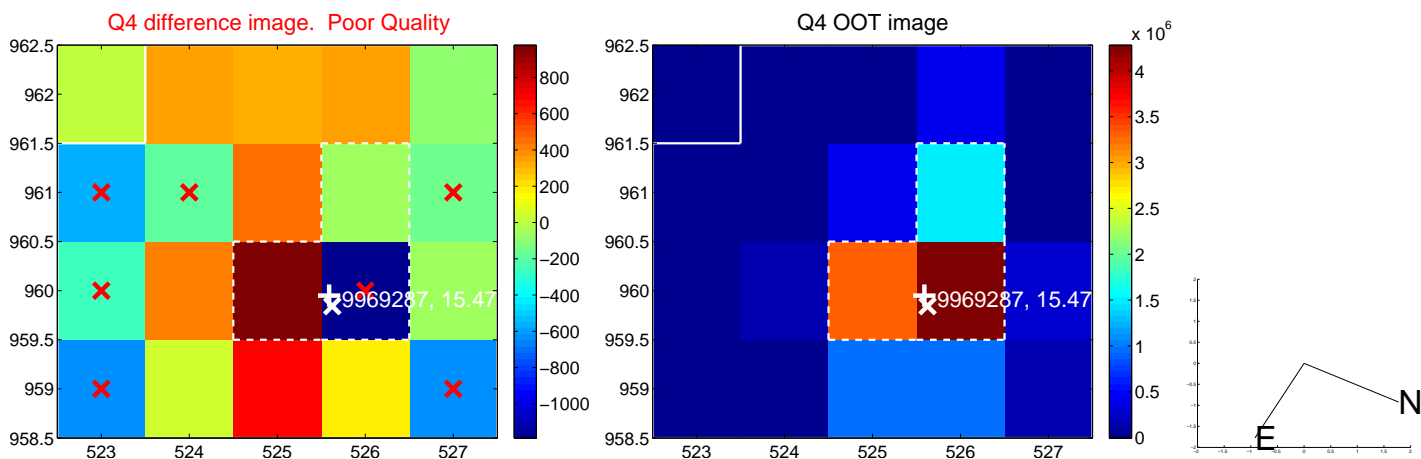
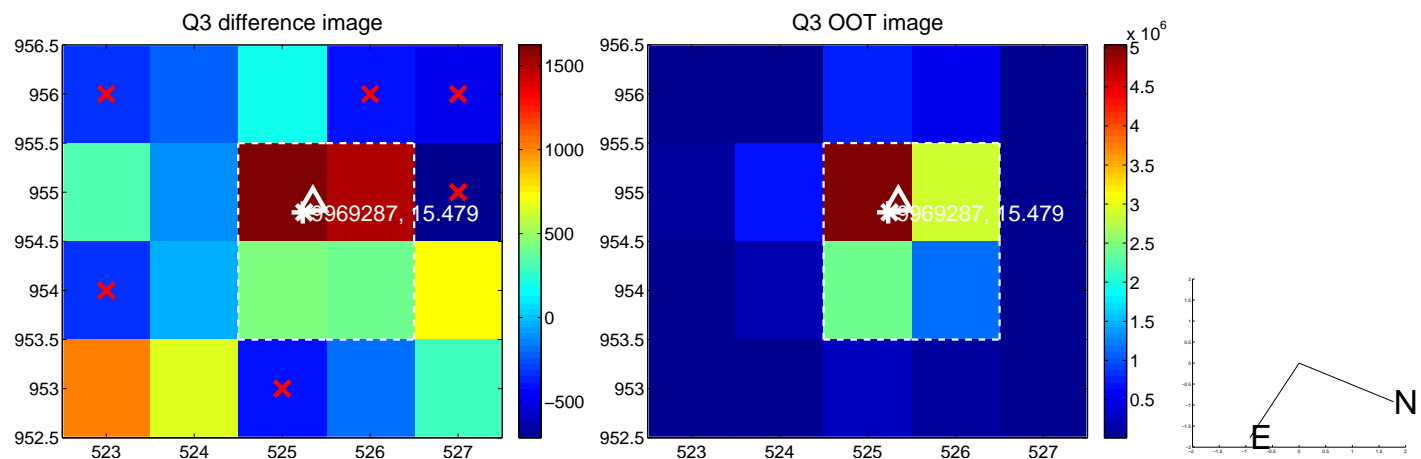
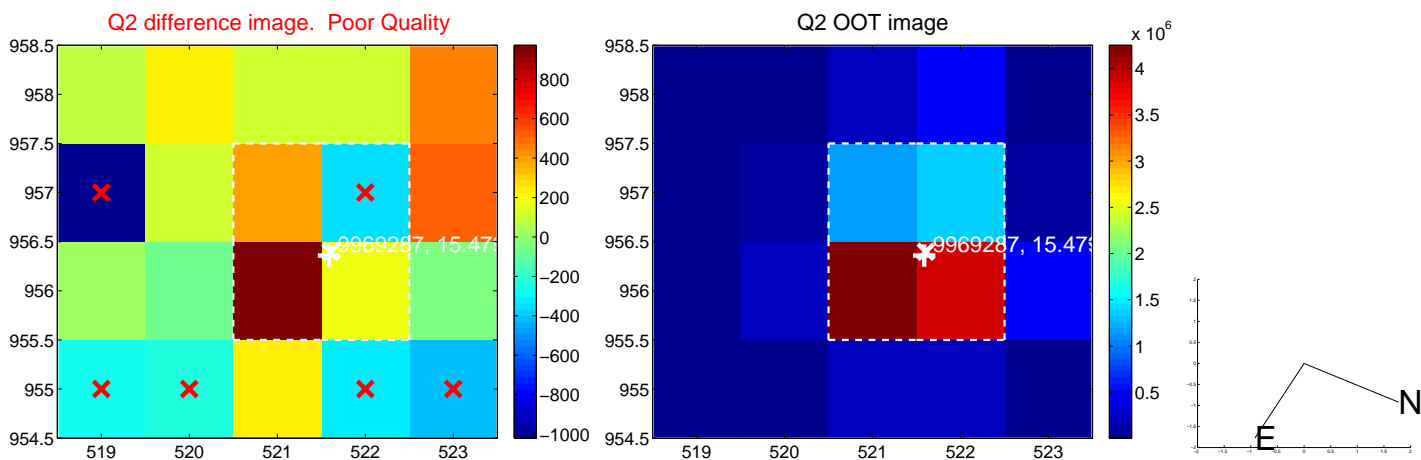
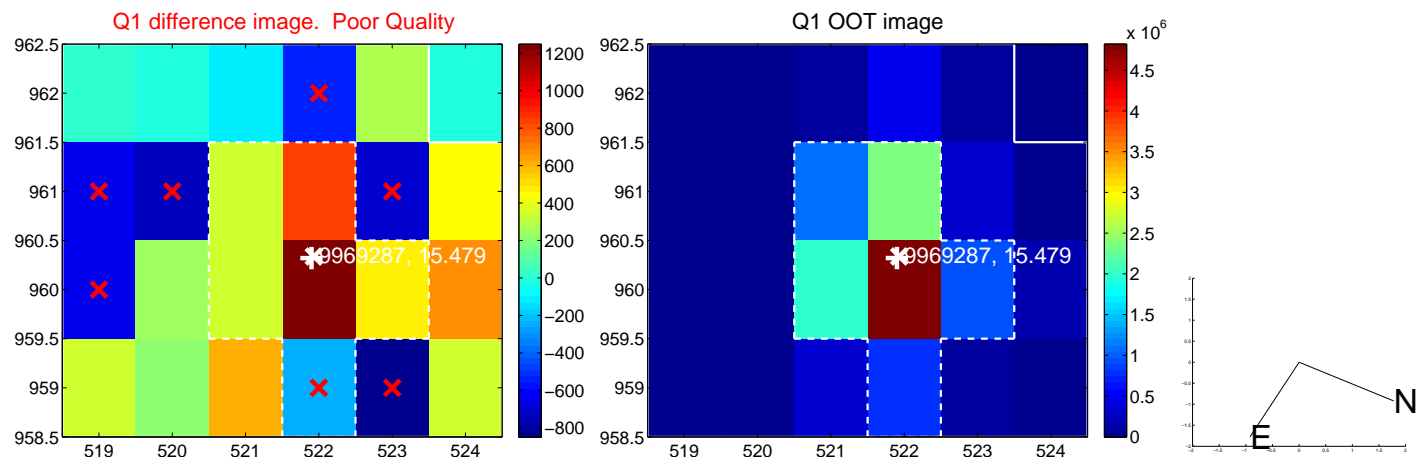
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.830 ± 0.302	2.75	-0.222 ± 0.361	-0.800 ± 0.296
PRF-fit source offset from KIC position	0.834 ± 0.300	2.78	-0.181 ± 0.361	-0.815 ± 0.296
photometric centroid source offset	2.12 ± 1.57	1.35	-1.21 ± 1.45	-1.74 ± 1.62

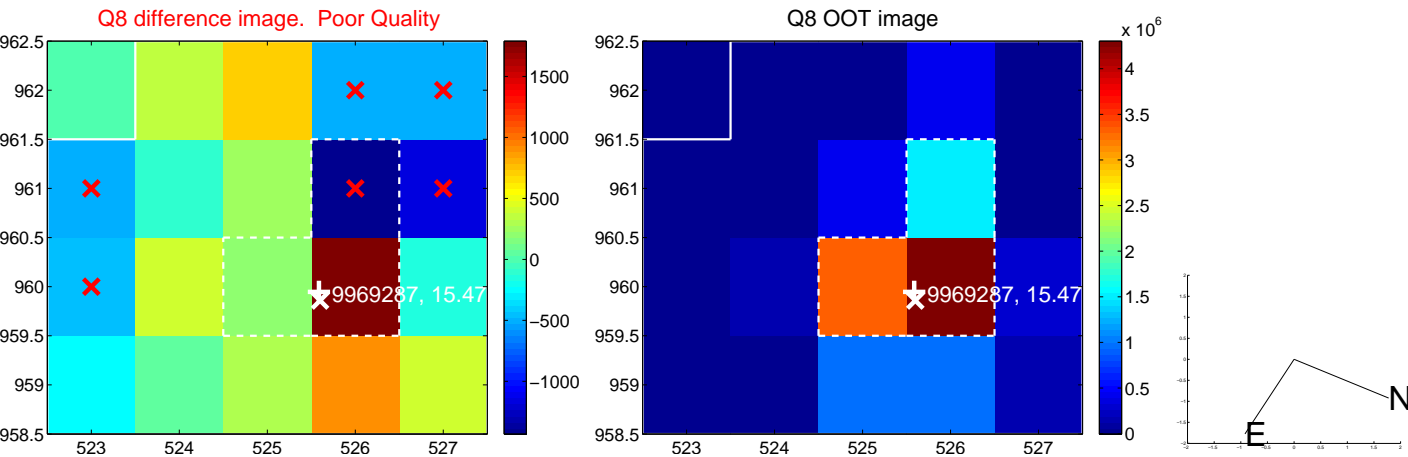
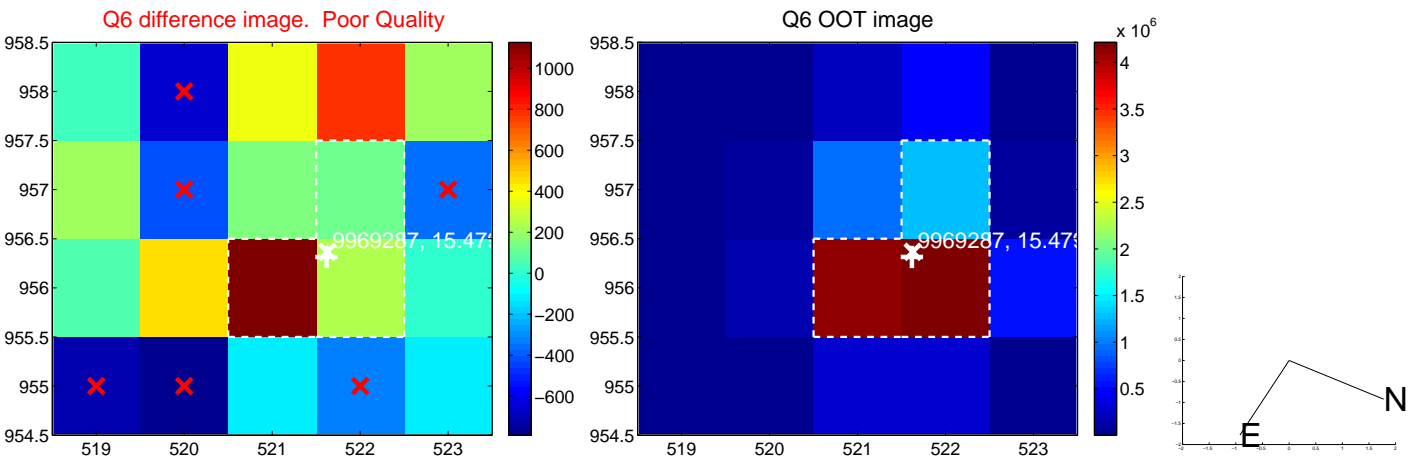
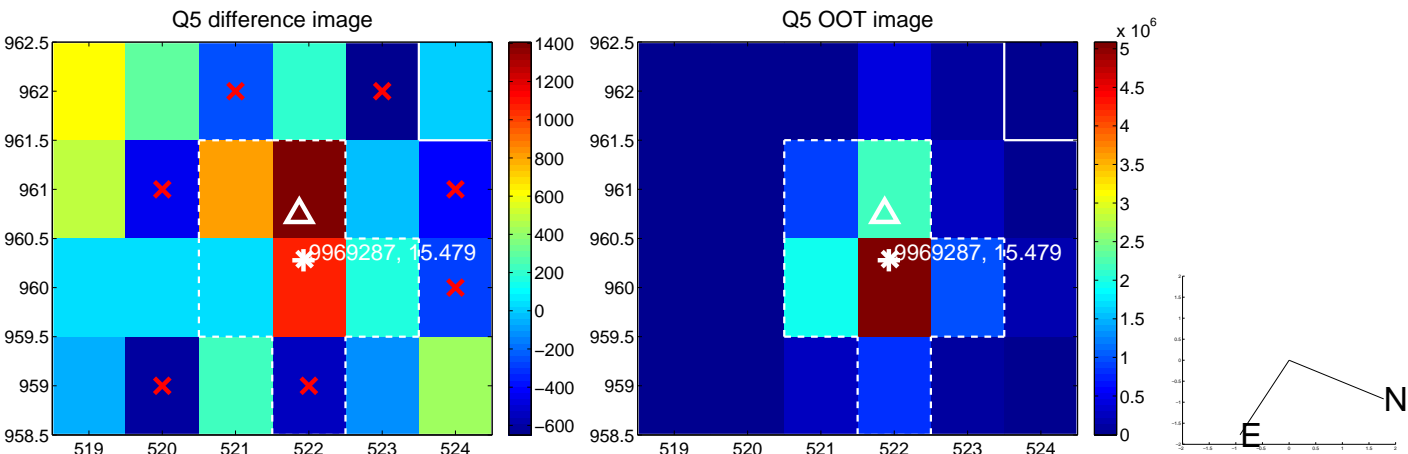


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

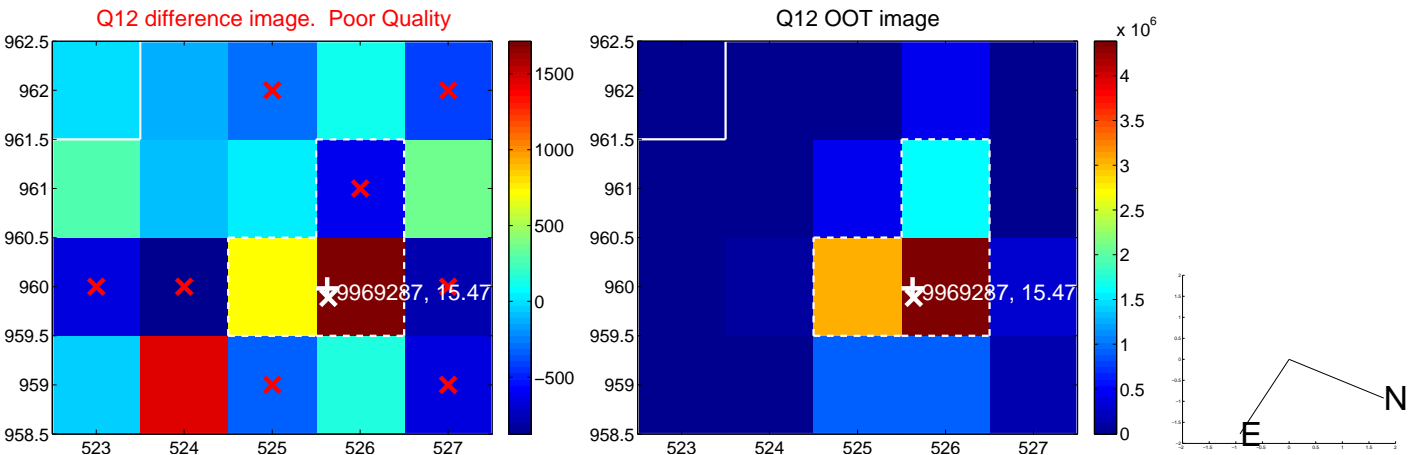
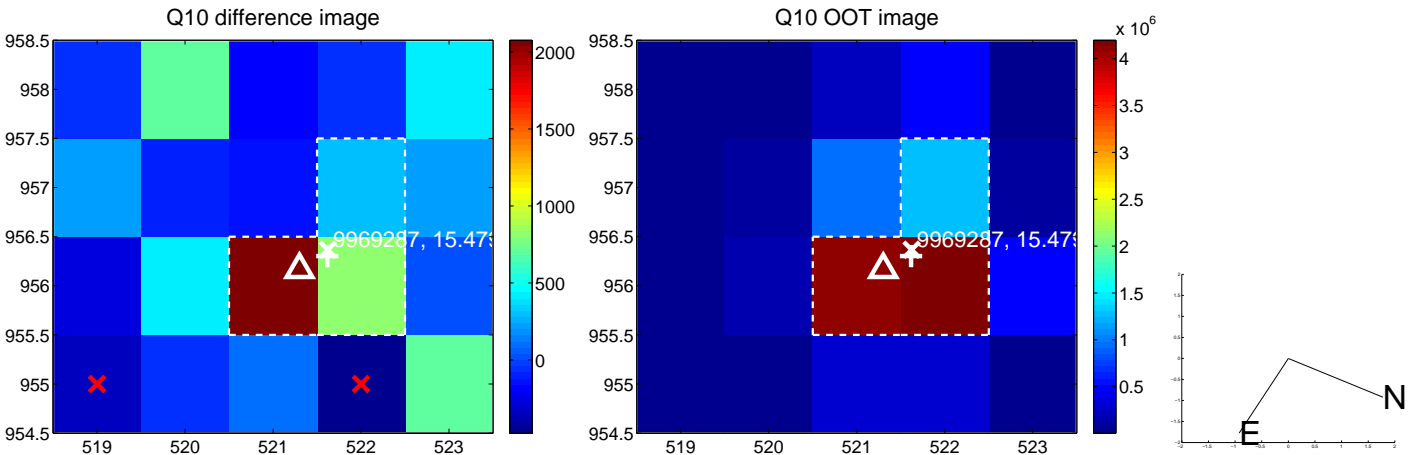
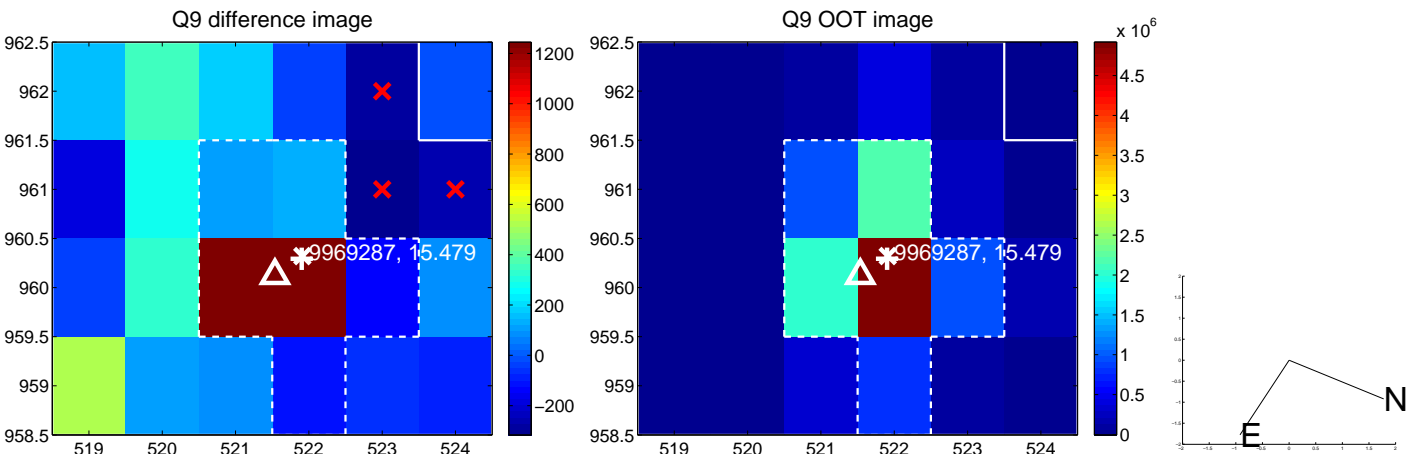
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



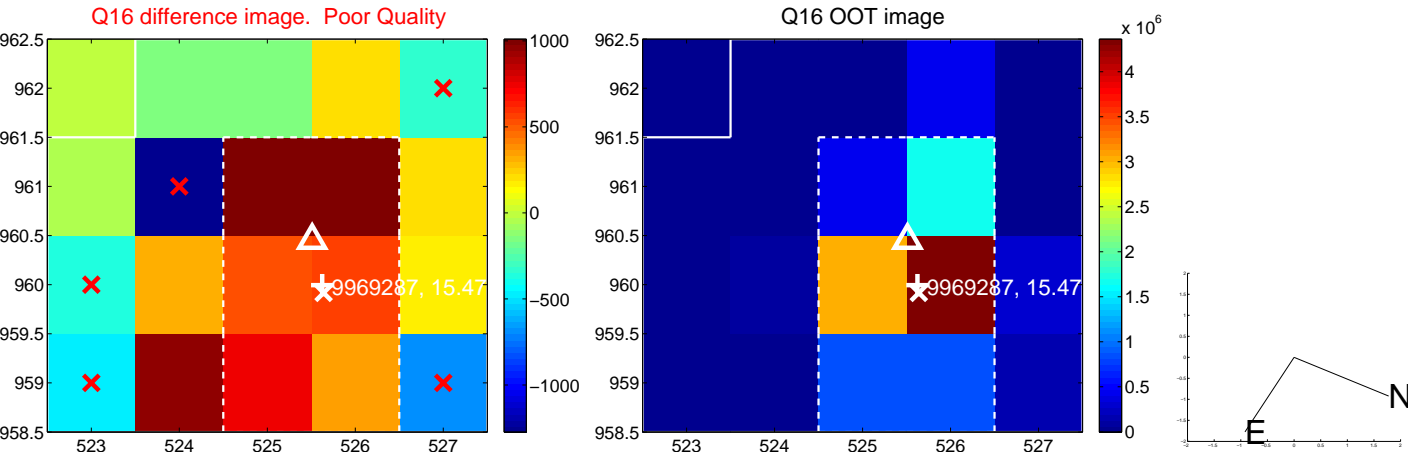
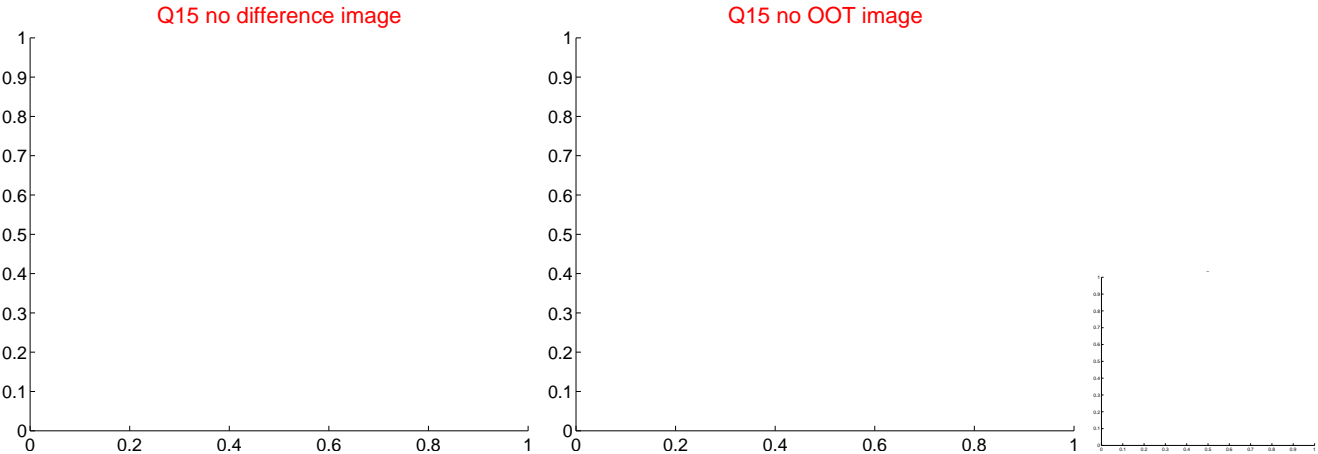
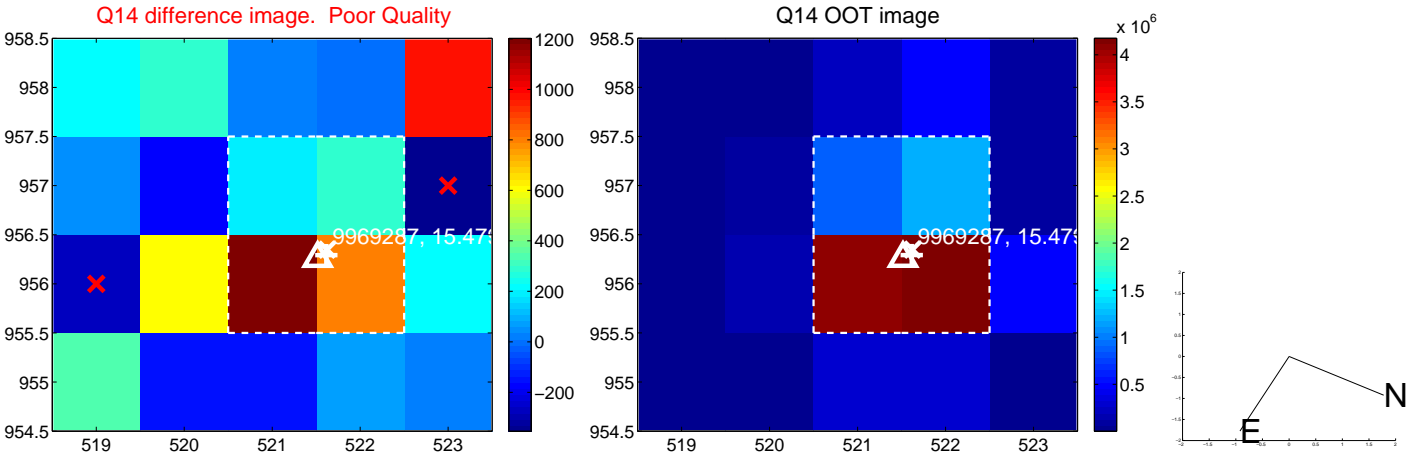
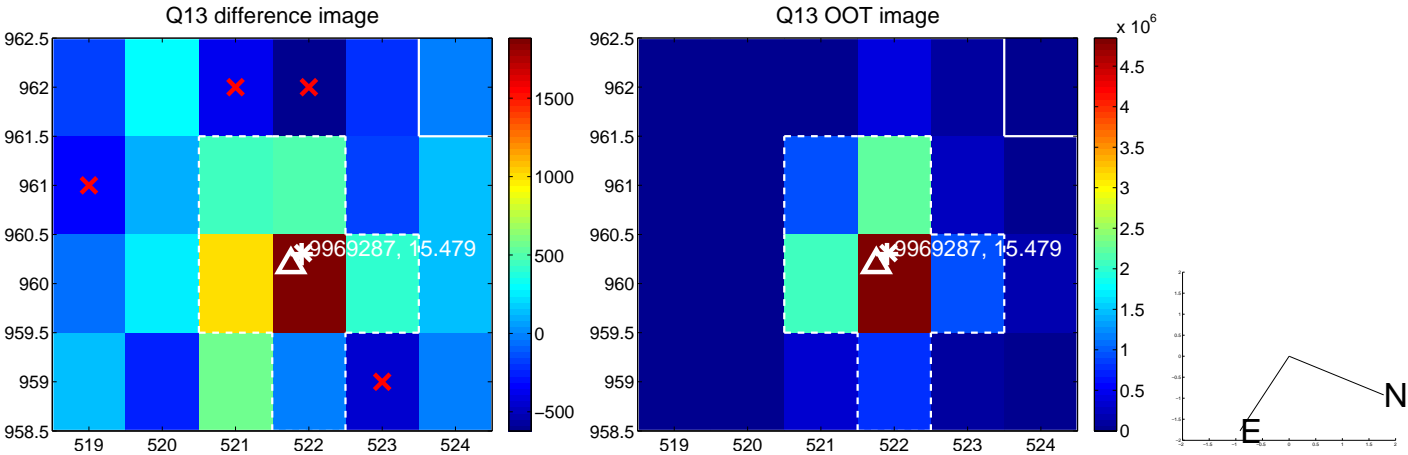
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



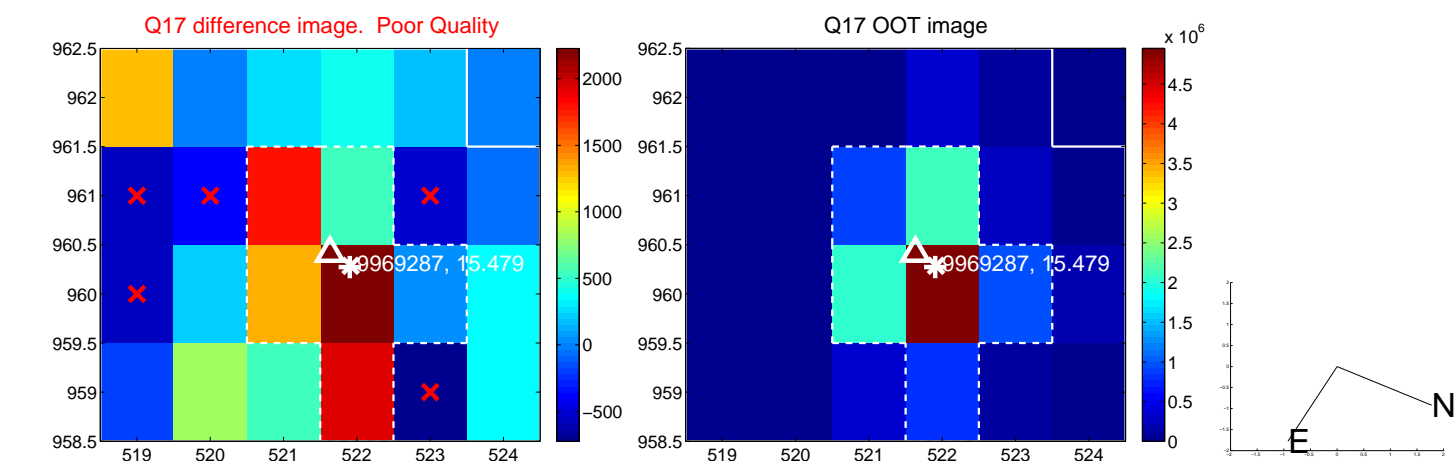
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



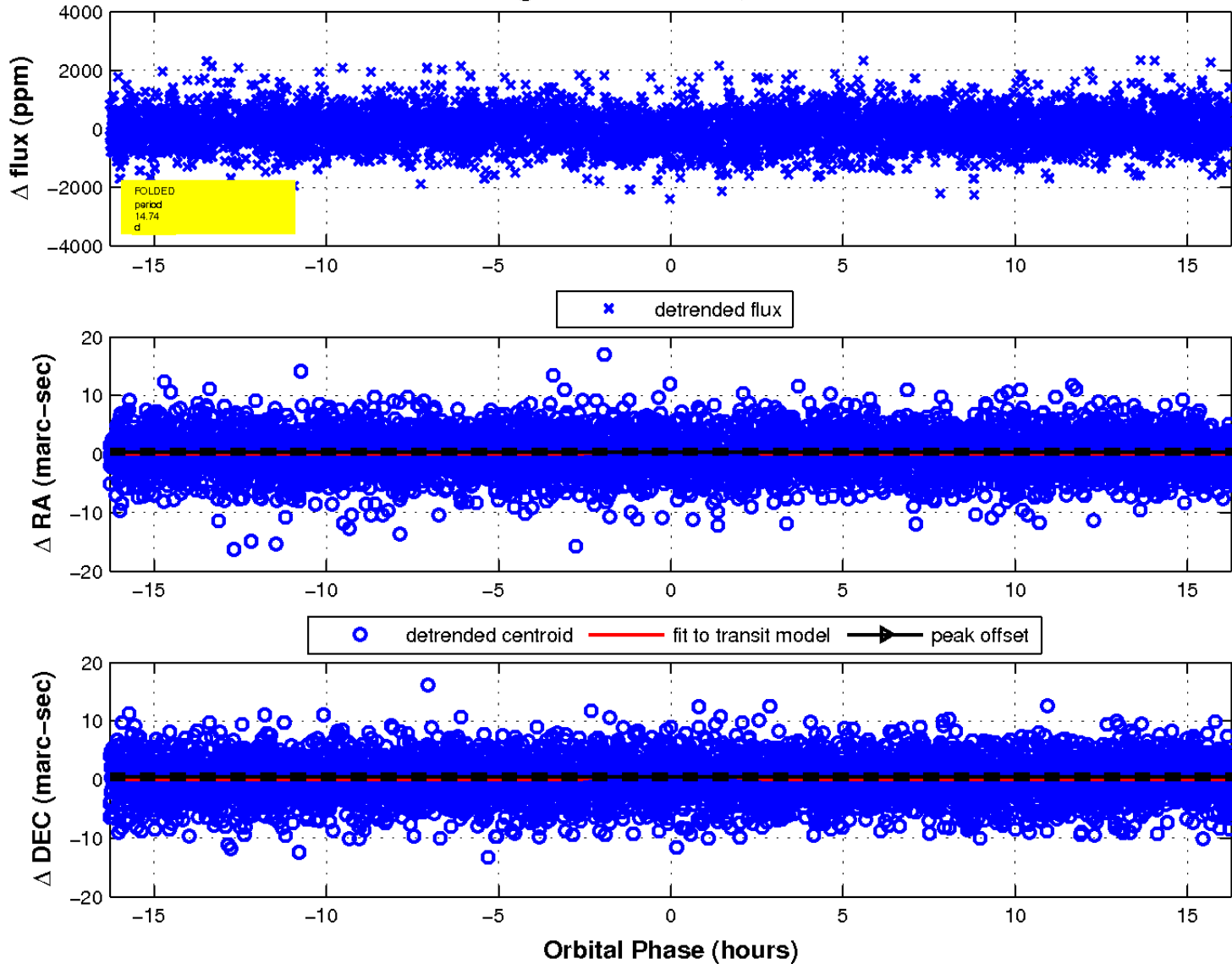
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

