

KIC 010022908

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})
010022908-01	OBS	1586.01	6.991317	135.461601	533.2	2.260	29.4	32.1	0.76	4847	2.16	62.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010022908-01	OBS	PC	1.00	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.

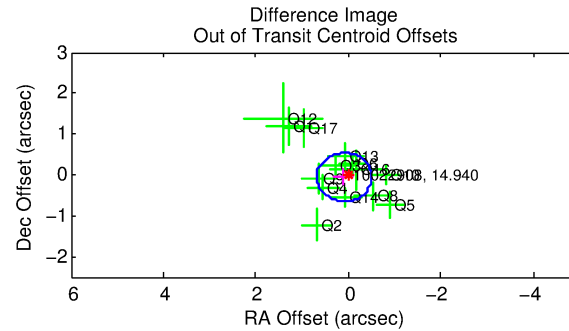
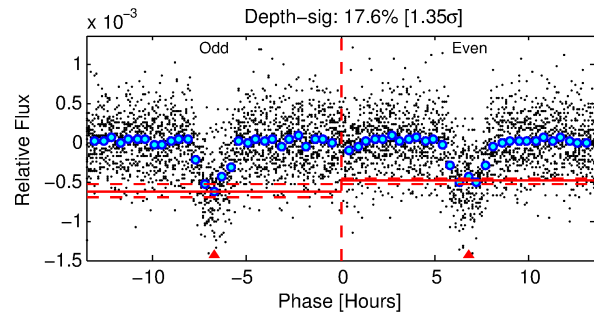
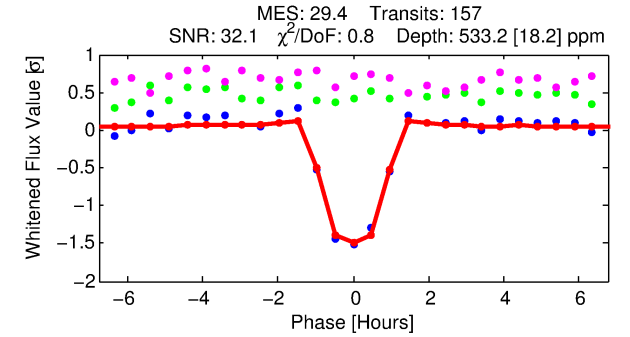
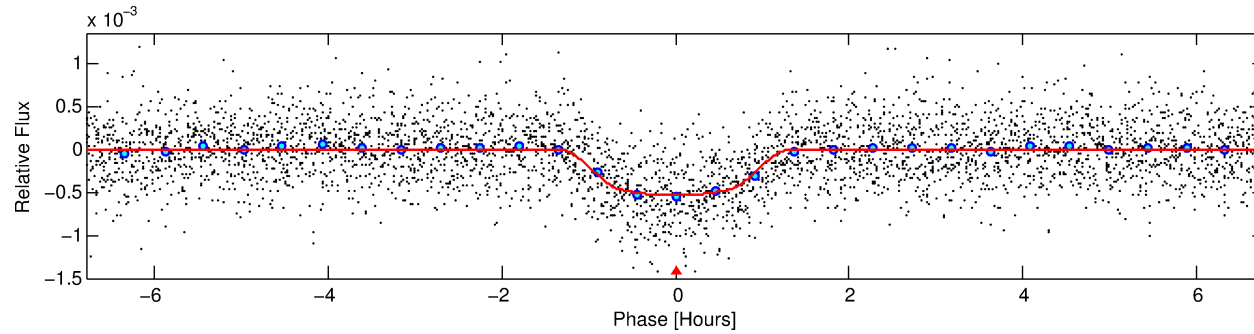
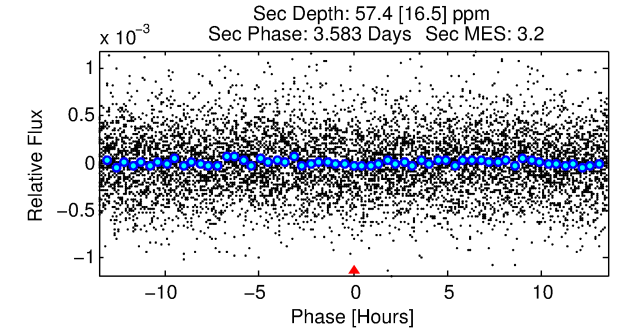
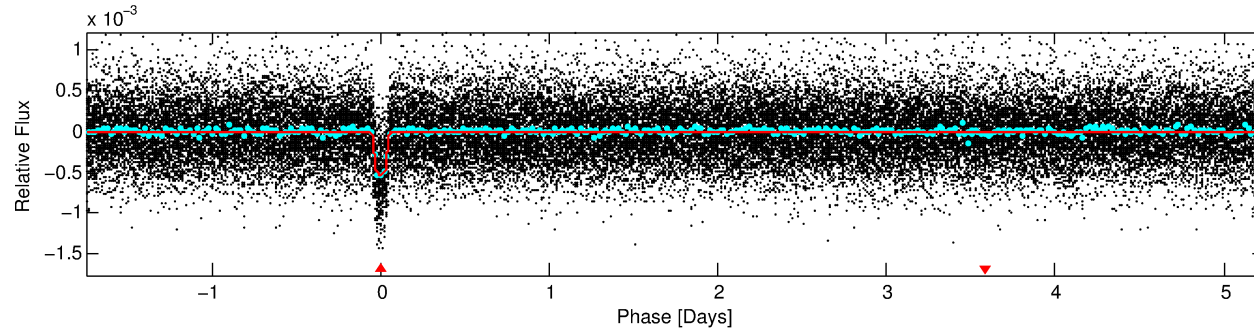
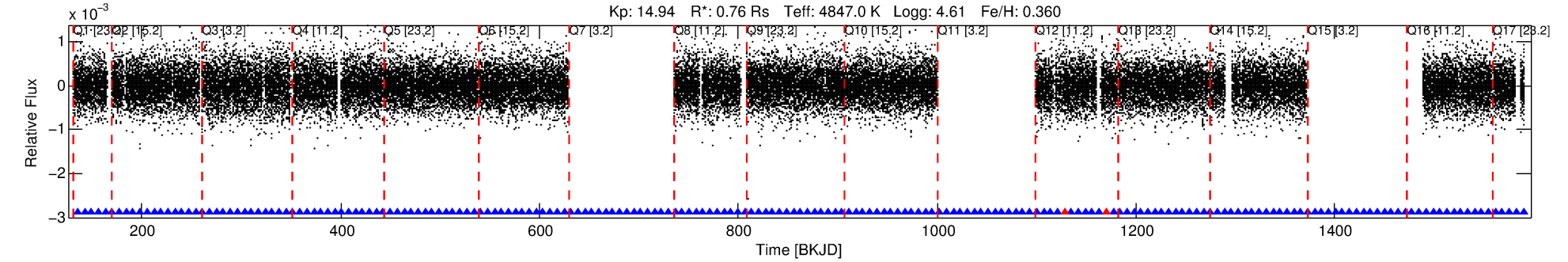
Ephemeris Match Information For 010022908-01

No Significant Match Found

DV One-Page Summary

KIC: 10022908 Candidate: 1 of 1 Period: 6.991 d

KOI: K01586.01 Corr: 0.989



DV Fit Results:

Period = 6.99132 [0.00001] d
Epoch = 135.4616 [0.0014] BKJD
Rp/R* = 0.0260 [0.0046]
a/R* = 11.73 [7.67]
b = 0.90 [0.15]
Seff = 62.18 [10.11]
Teff = 716 [29] K
Rp = 2.16 [0.42] Re
a = 0.0679 [0.0048] AU
Ag = 31.19 [14.72] [2.05σ]
Teffp = 2616 [310] K [6.10σ]

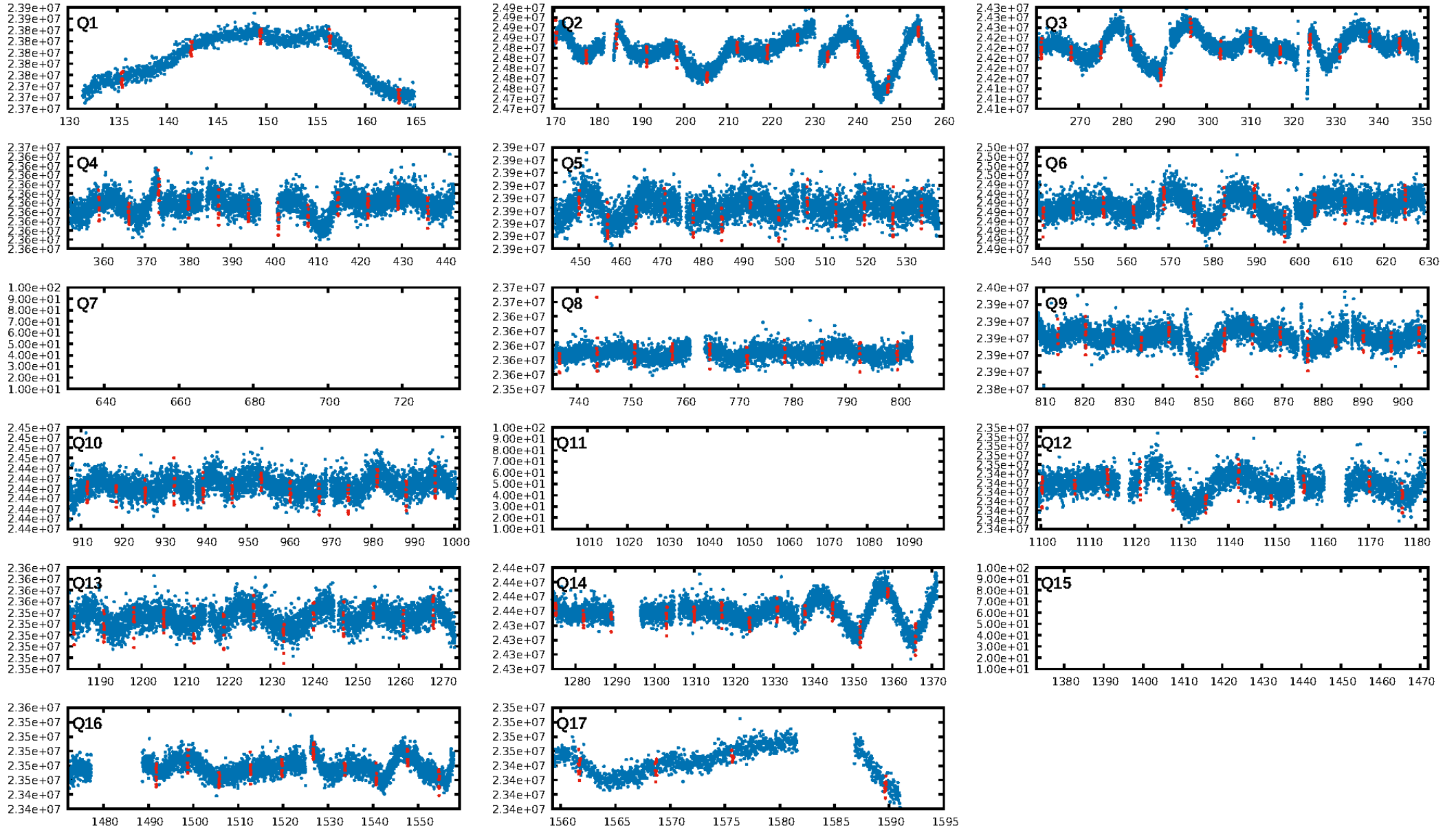
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.38e-185
RollingBand-fgt: 0.99 [146/148]
GhostDiagnostic-chr: 3.6
Centroid-sig: 5.4%
Centroid-so: 0.699 arcsec [2.06σ]
OotOffset-rm: 0.115 arcsec [0.58σ]
KicOffset-rm: 0.269 arcsec [1.35σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 0.93 [13/14]
DiffImageOverlap-fno: 1.00 [14/14]

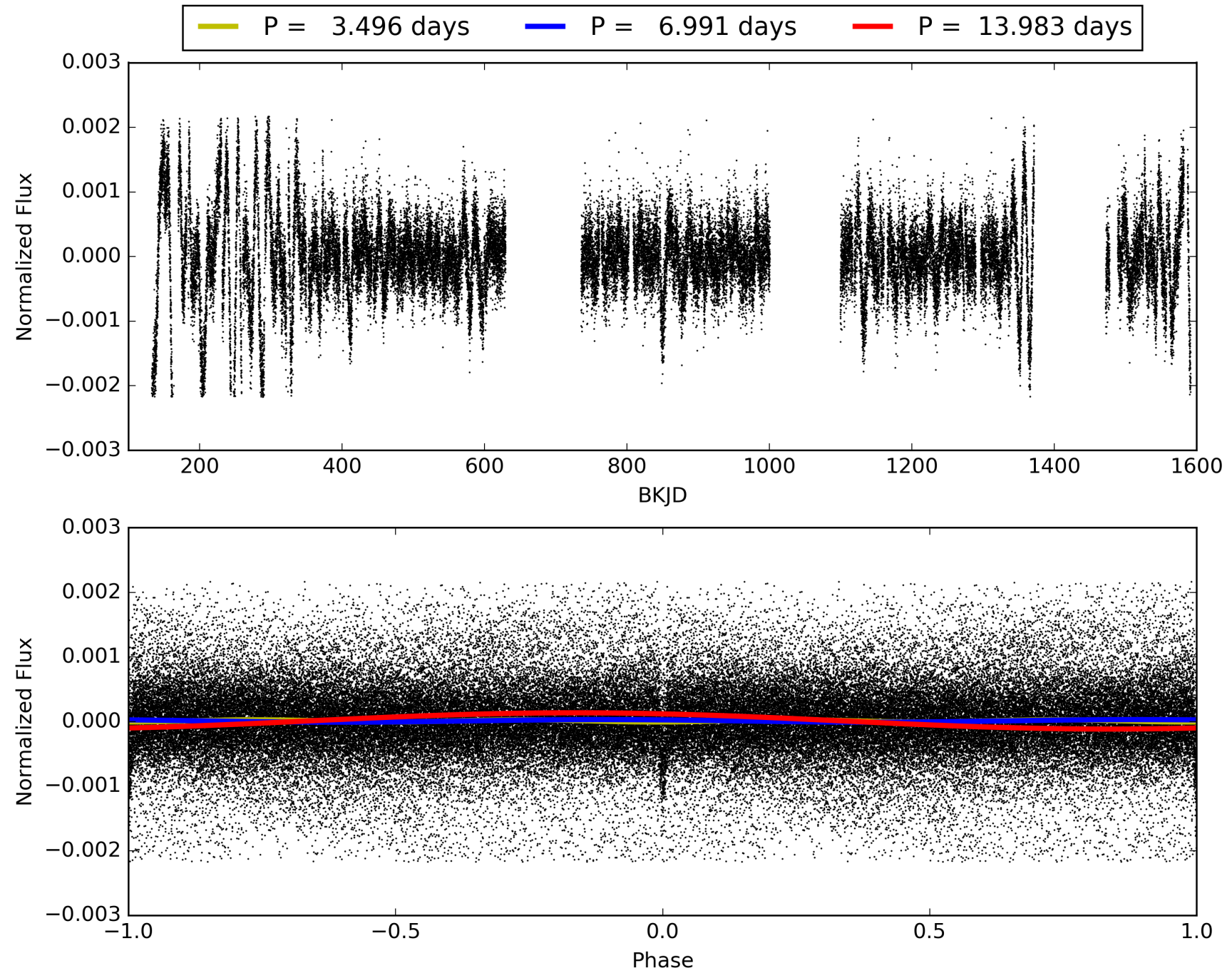
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:53:52 Z

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

TCE 010022908-01, PDC Light Curves

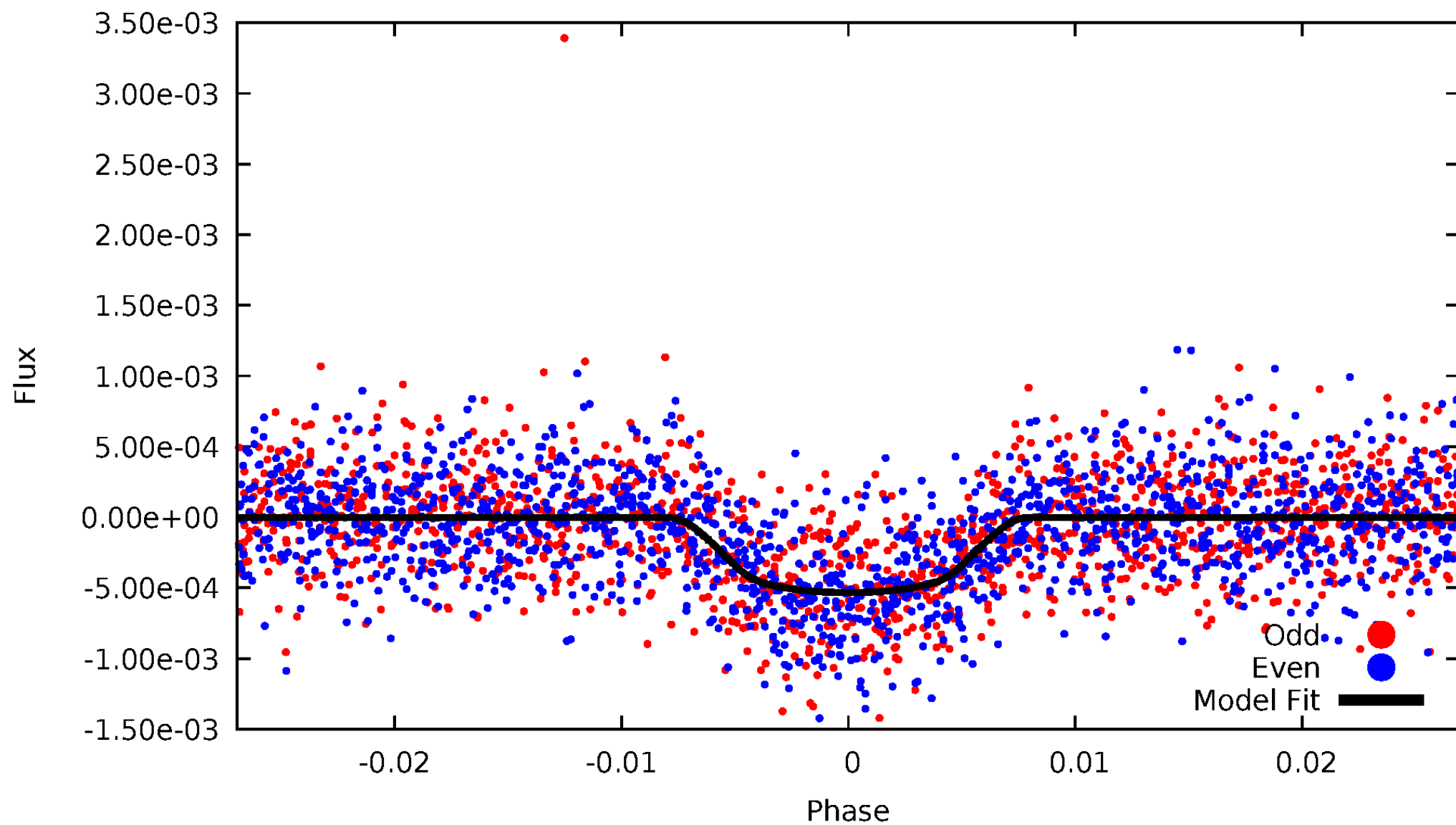


TCE 010022908-01



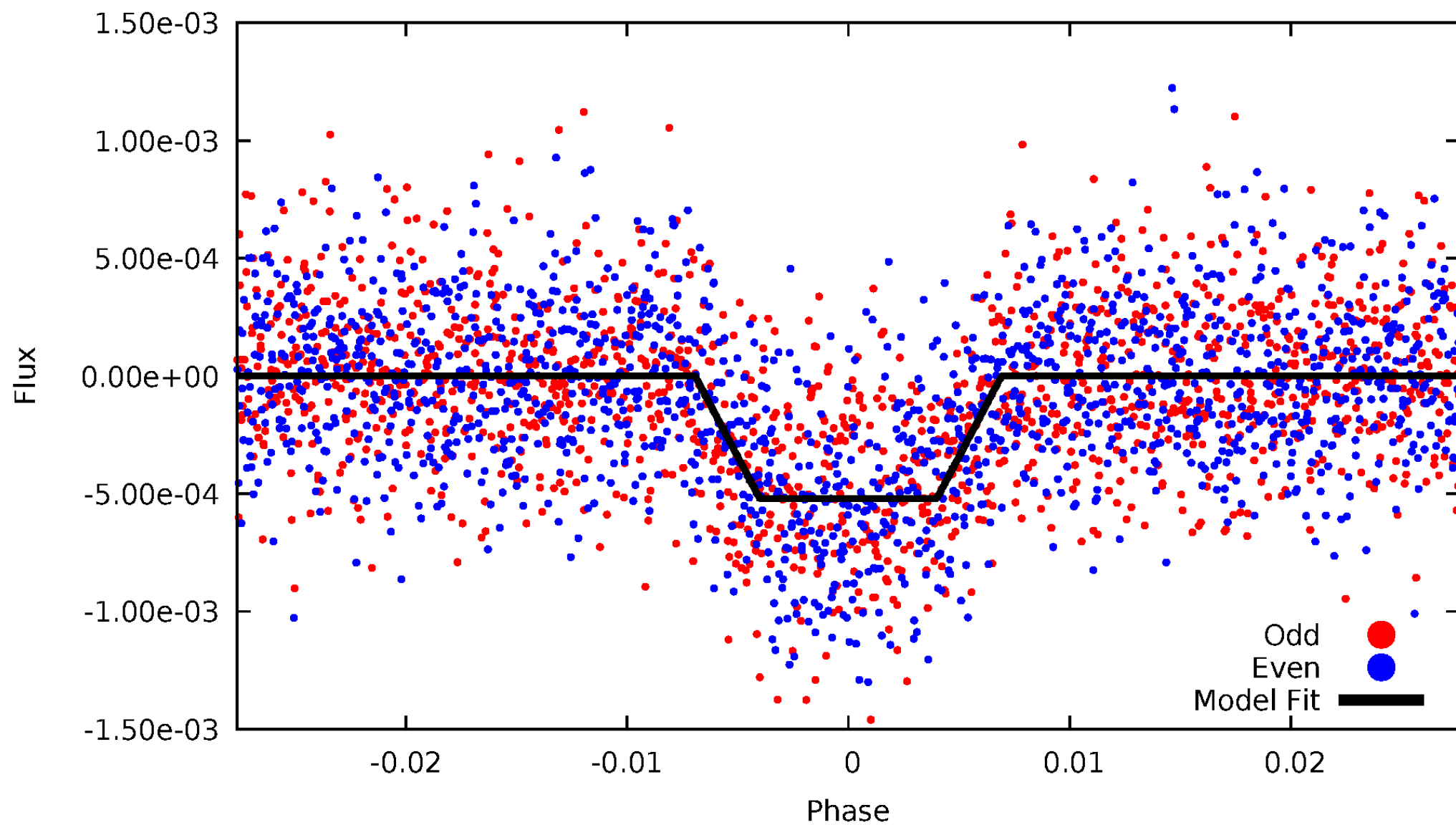
DV Odd/Even

TCE 010022908-01

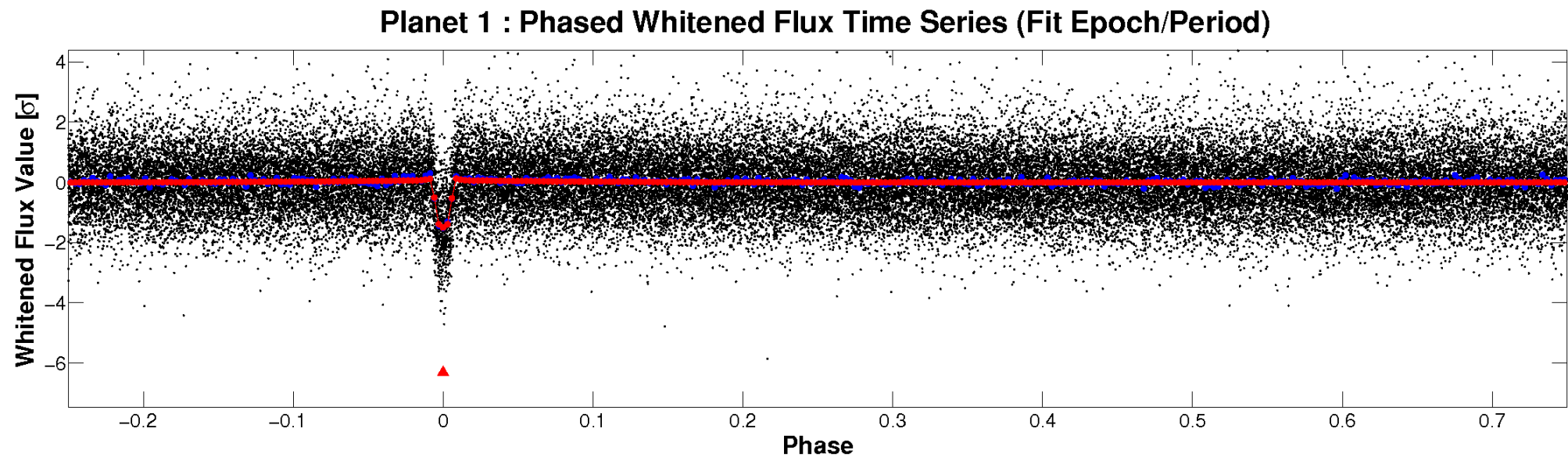
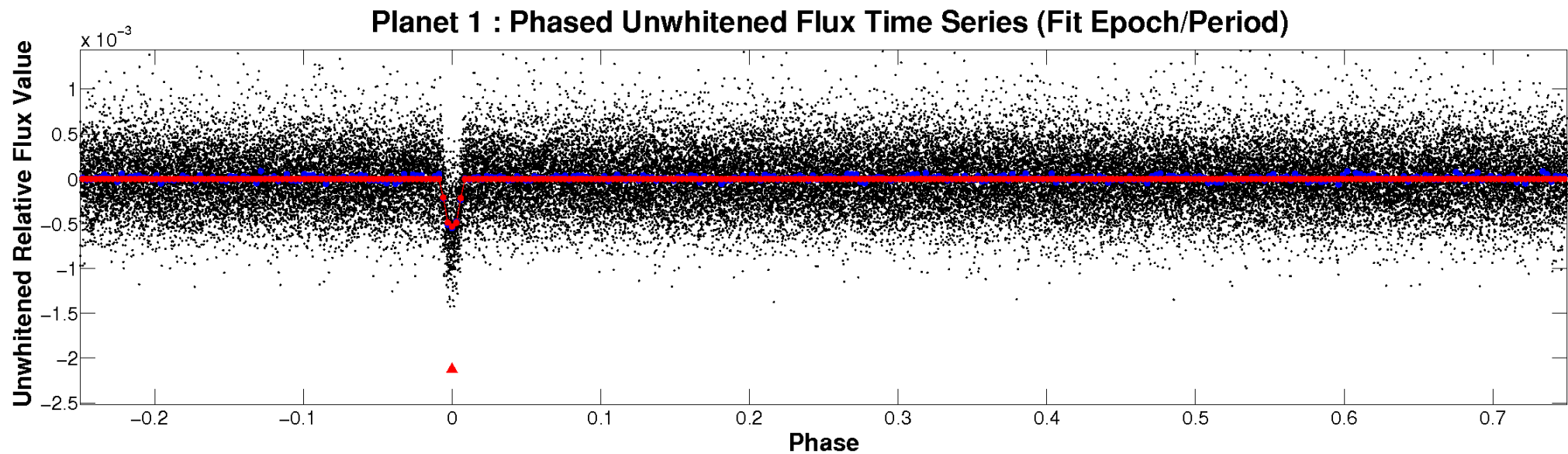


ALT Odd/Even

TCE 010022908-01

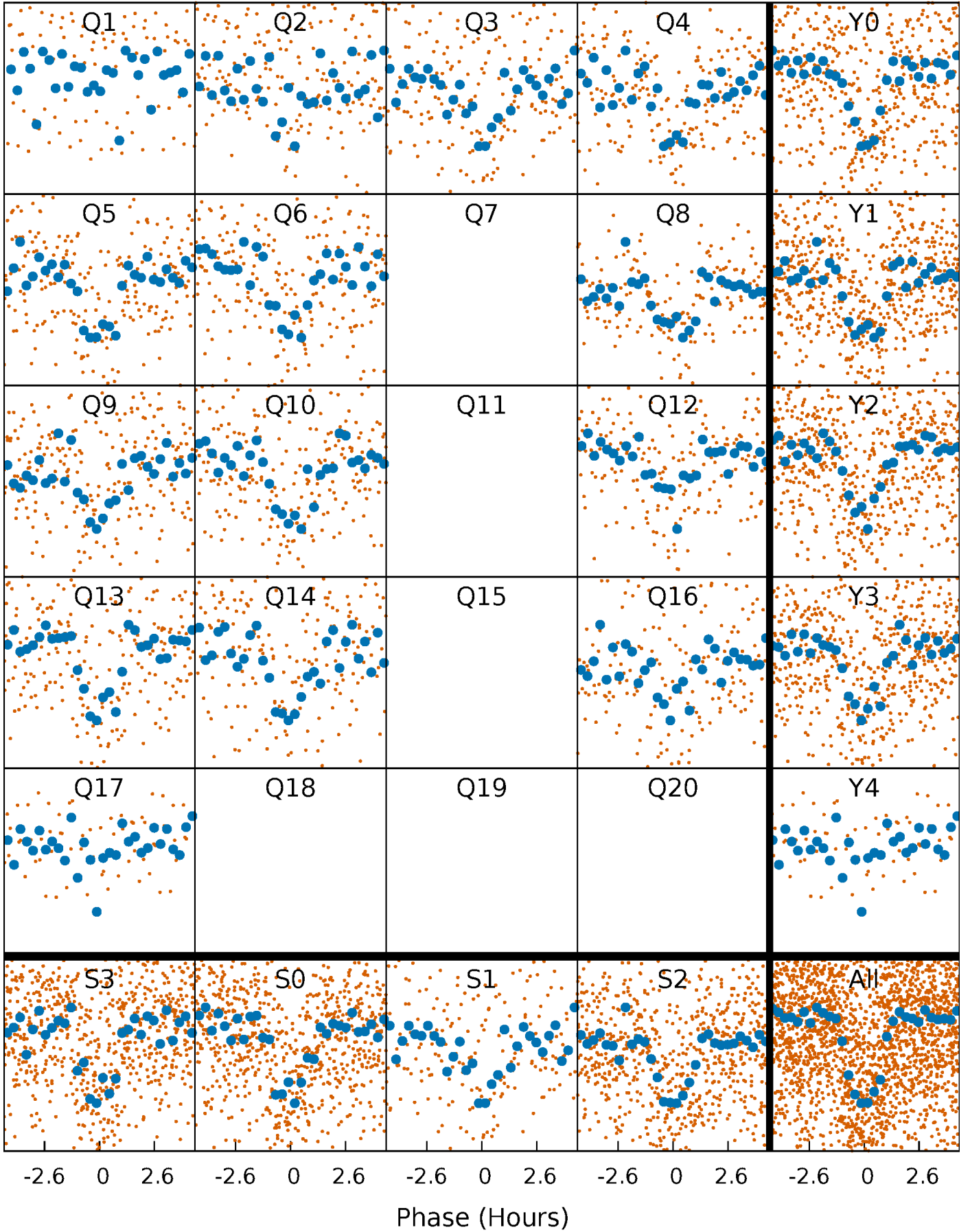


Non-Whitened Vs. Whitened Light Curve



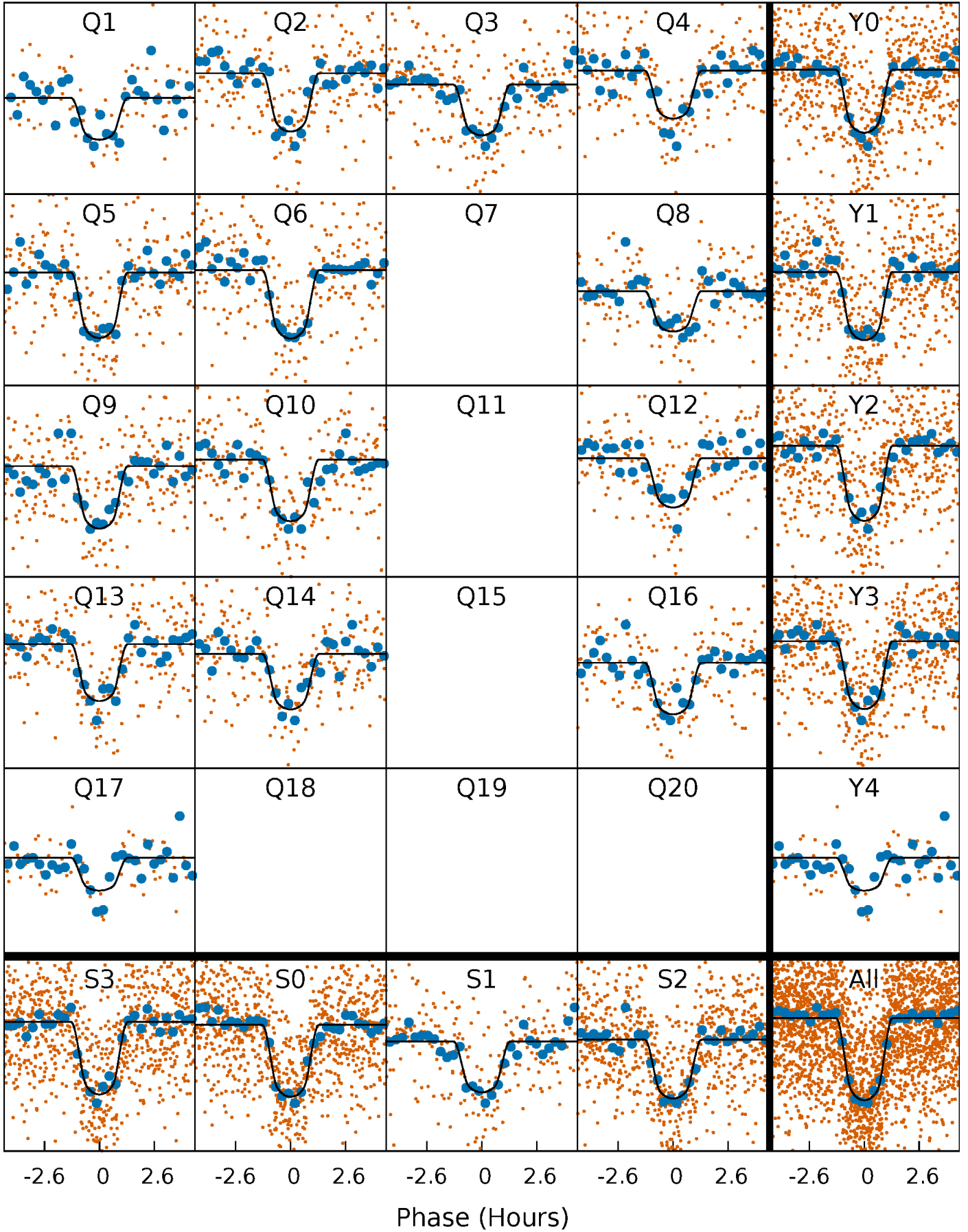
PDC Quarter-Phased Transit Curves

TCE 010022908-01 P= 6.991317 Days $T_0=135.461601$ (BKJD)



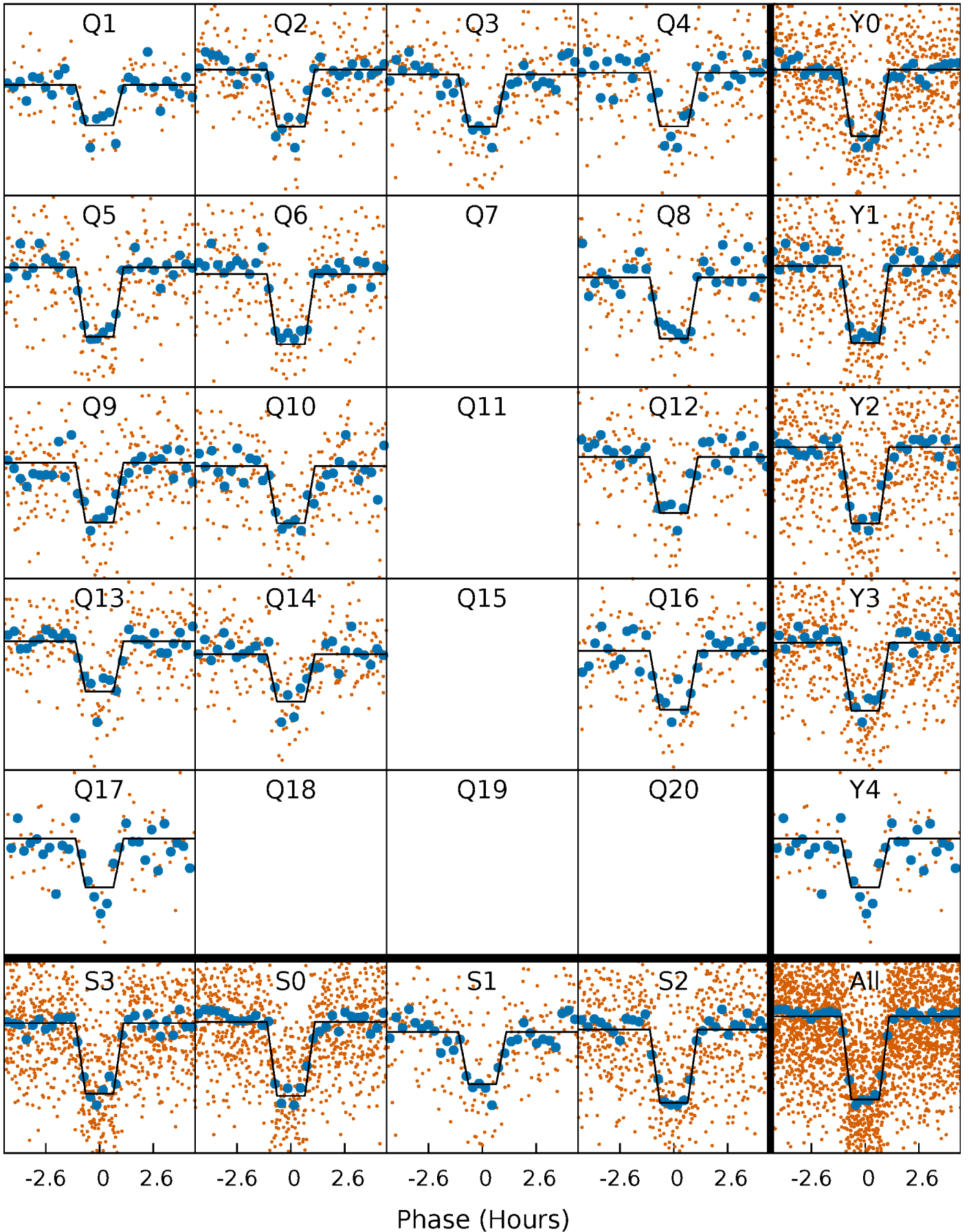
DV Quarter-Phased Transit Curves

TCE 010022908-01 P= 6.991317 Days $T_0=135.461601$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

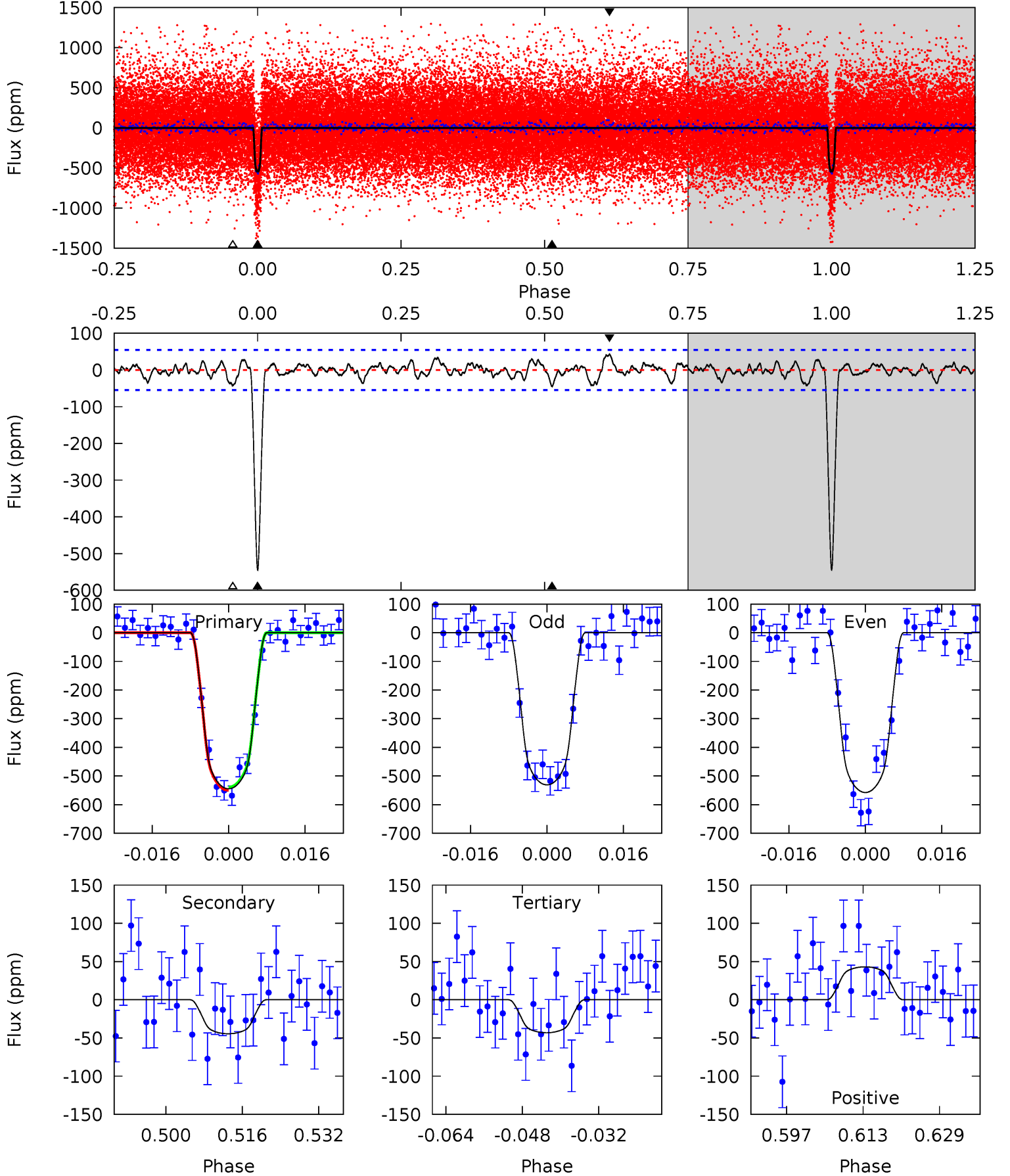
TCE 010022908-01 P= 6.991291 Days $T_0=135.464319$ (BKJD)



DV Model-Shift Uniqueness Test

010022908-01, P = 6.991317 Days, E = 128.470284 Days

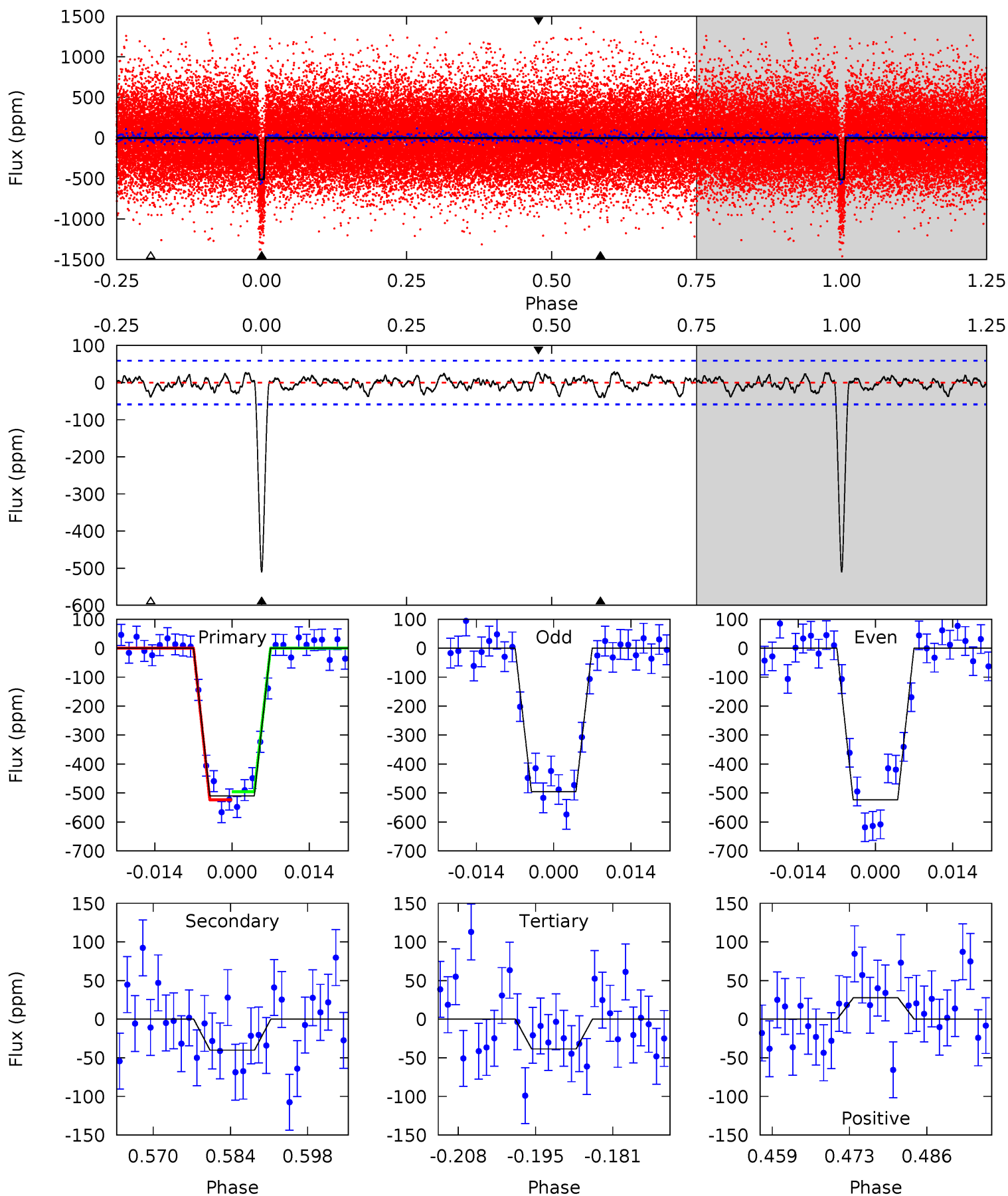
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
49.2	4.02	3.90	3.89	4.93	2.41	1.35	45.3	45.3	0.12	0.13	1.20	0.99	0.07	0.46



Alt Model-Shift Uniqueness Test

010022908-01, P = 6.991291 Days, E = 128.473028 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.0	3.37	3.25	2.34	4.96	2.46	1.12	39.7	40.6	0.13	1.03	1.19	0.98	0.05	1.18



Stellar Parameters For KIC 010022908

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4847^{+144}_{-129}	$4.606^{+0.020}_{-0.064}$	$0.360^{+0.100}_{-0.300}$	$0.761^{+0.059}_{-0.043}$	$0.860^{+0.030}_{-0.084}$	$2.746^{+0.328}_{-0.555}$
	+3%/-3%	+0%/-1%	+28%/-83%	+8%/-6%	+3%/-10%	+12%/-20%
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 010022908-01 / KOI 1586.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-45 ± 11	$2.17^{+0.39}_{-0.39}$	1011^{+36}_{-30}	3043^{+240}_{-193}	23^{+14}_{-8}
Alt.	-40 ± 12	$1.92^{+0.38}_{-0.38}$	1009^{+34}_{-29}	3105^{+253}_{-222}	27^{+17}_{-11}

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

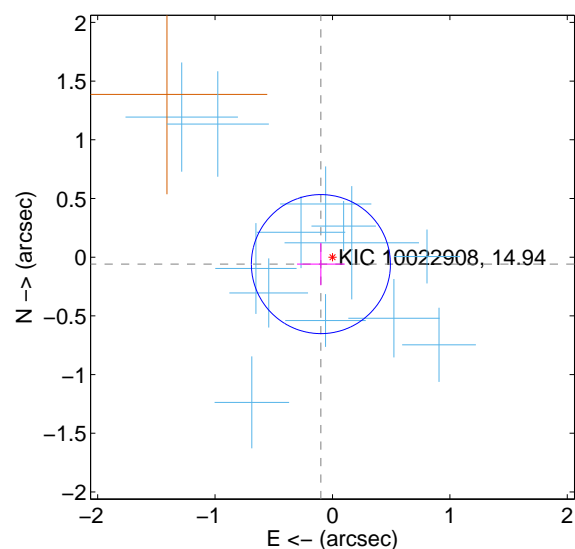
Supplemental centroid analysis for 010022908-01. Kepler magnitude: 14.94. Transit SNR 32.06

There are 13 quarters with good PRF difference image offsets

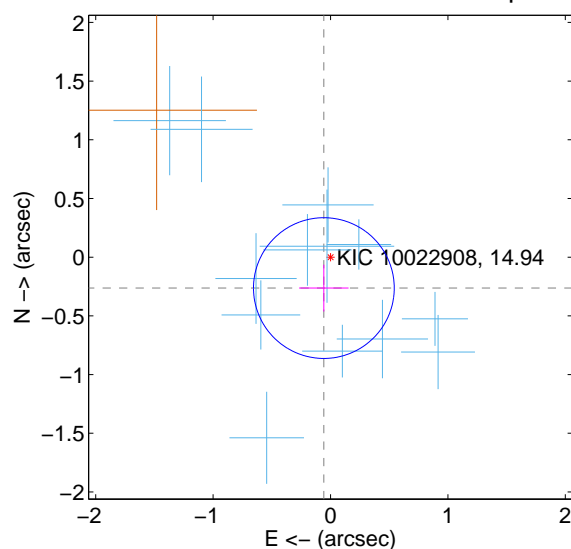
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.115 ± 0.197	0.58	0.099 ± 0.203	-0.059 ± 0.181
PRF-fit source offset from KIC position	0.269 ± 0.200	1.35	0.057 ± 0.211	-0.263 ± 0.199
photometric centroid source offset	0.70 ± 0.34	2.06	-0.70 ± 0.34	-0.07 ± 0.39

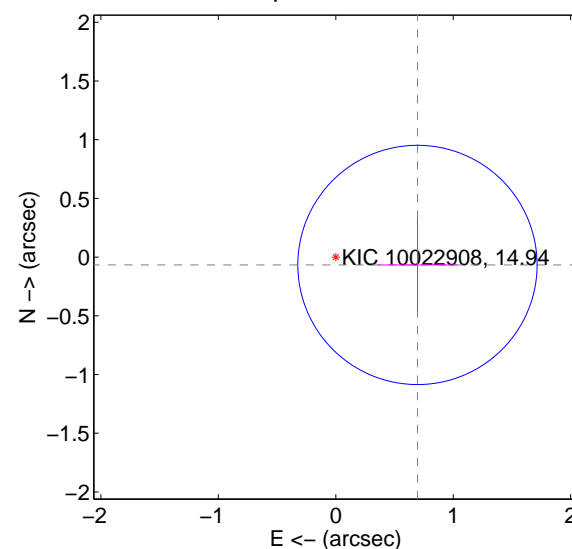
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

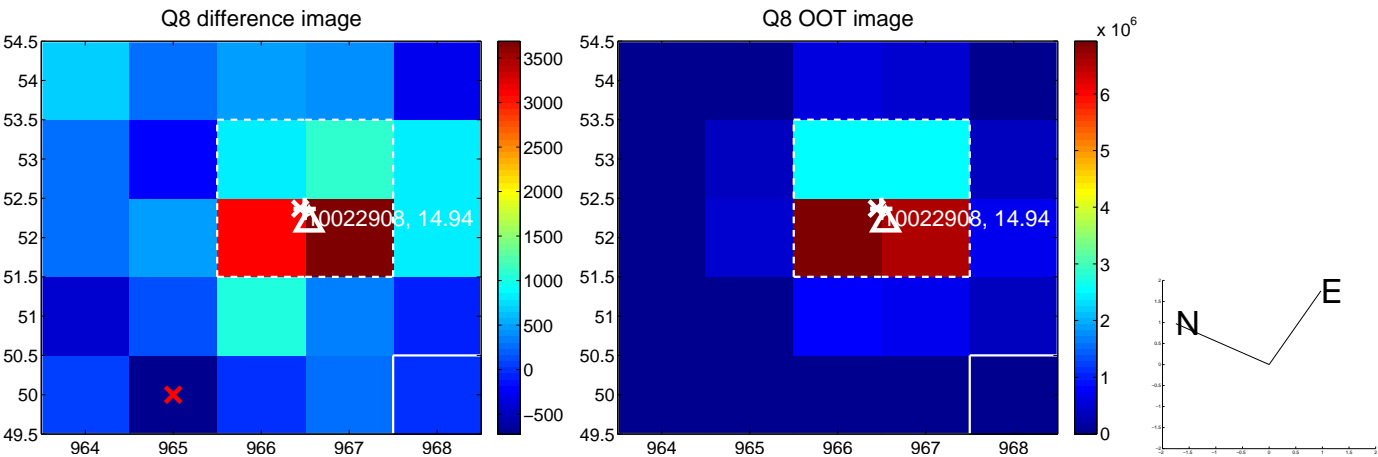
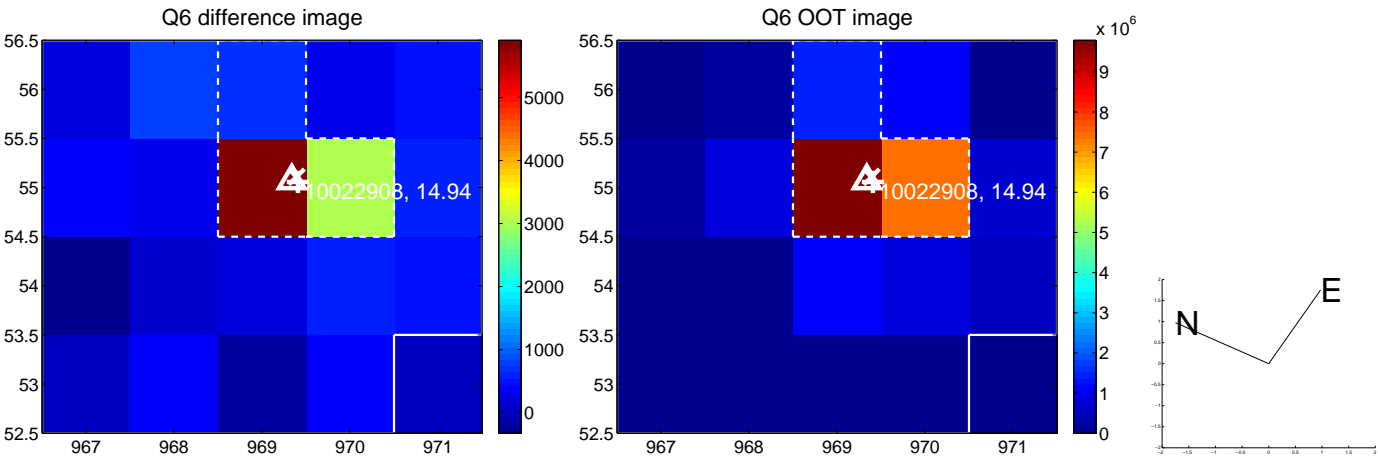
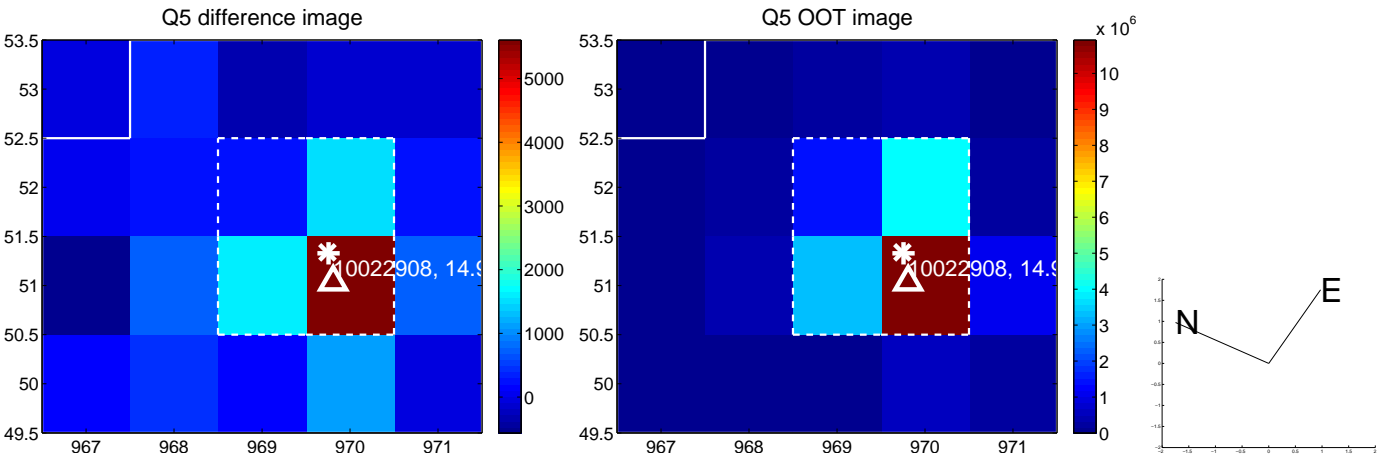


offset from photometric centroids

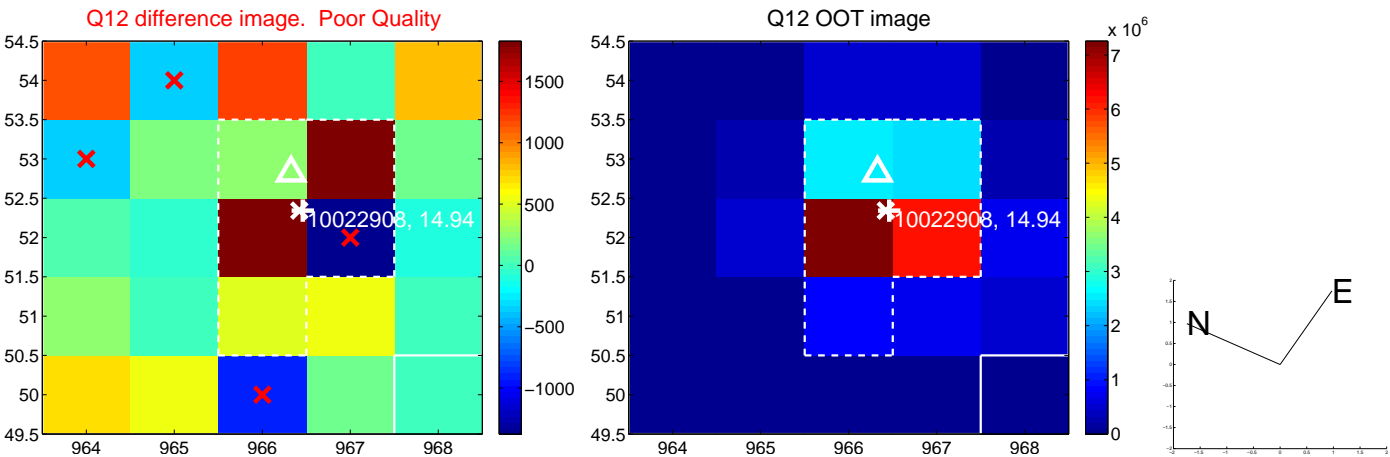
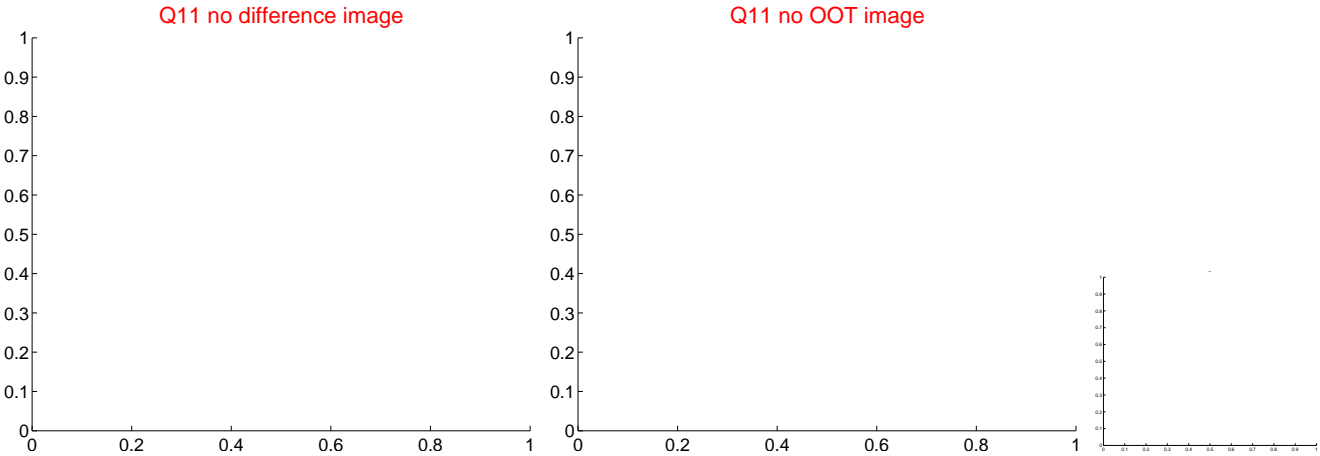
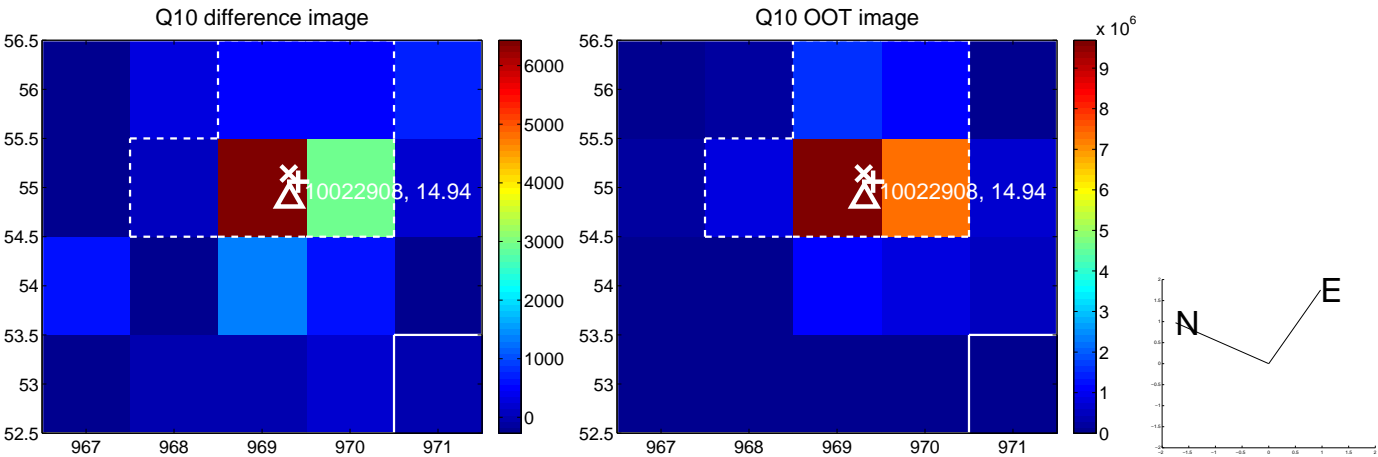
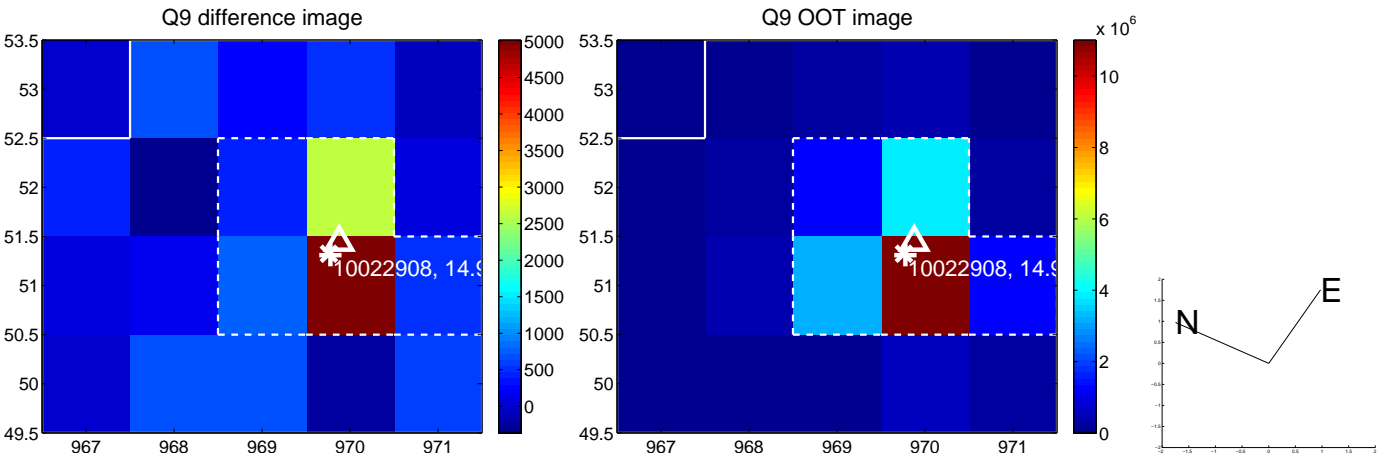


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

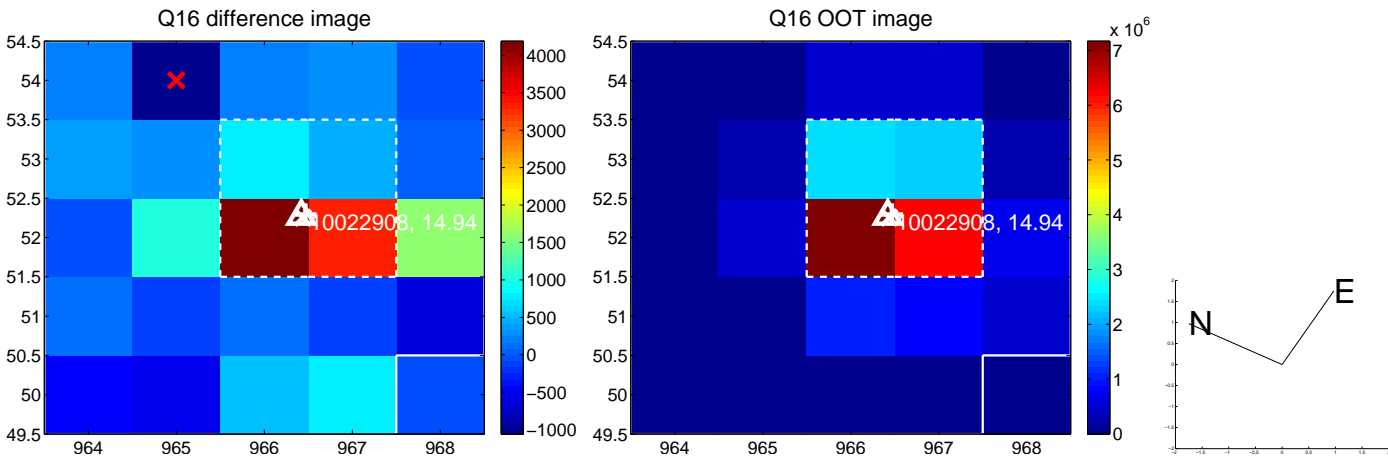
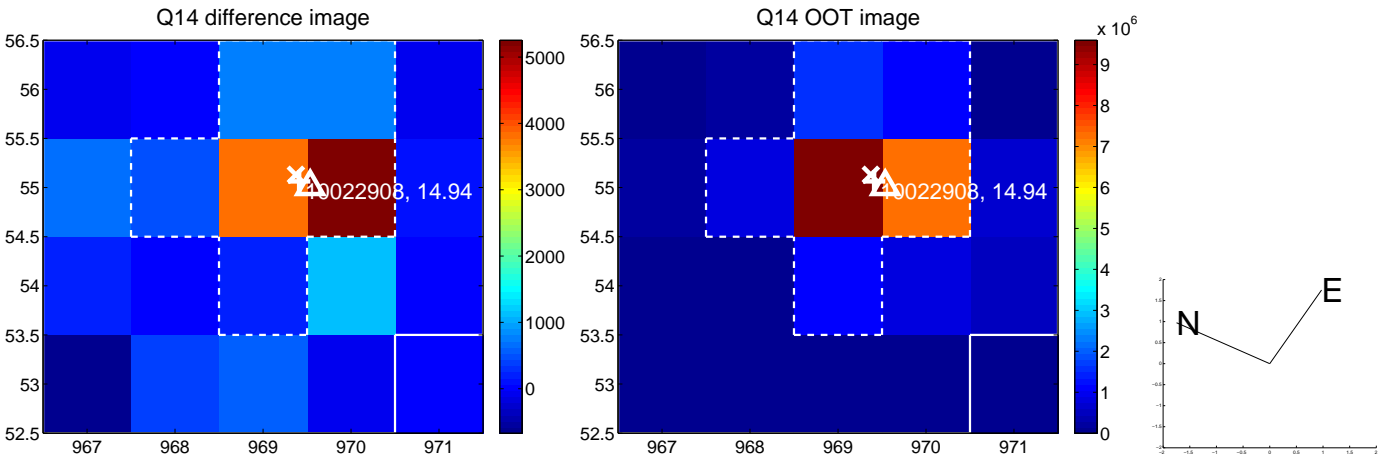
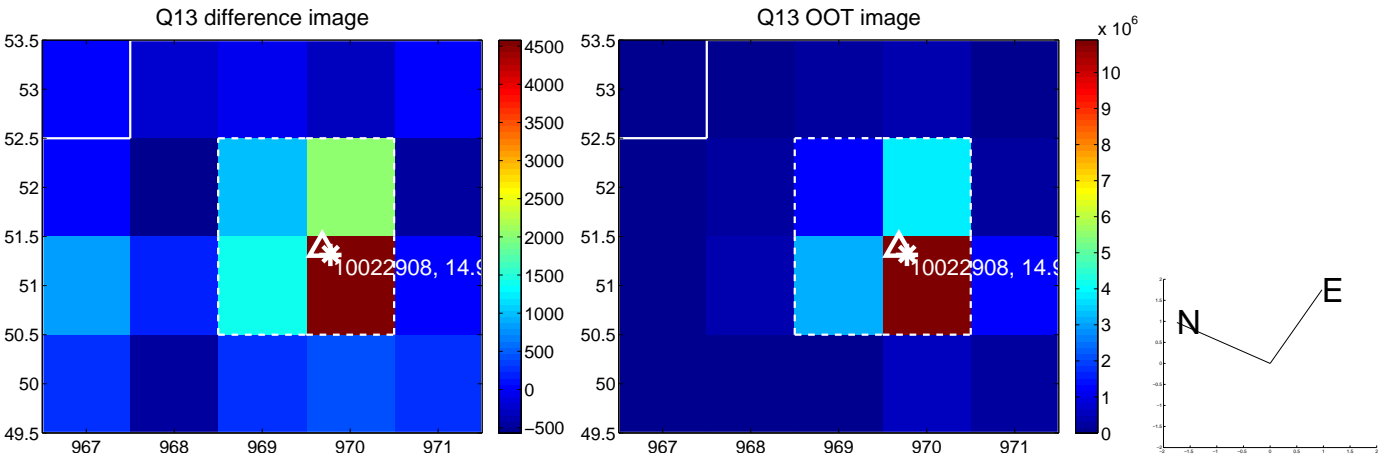
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



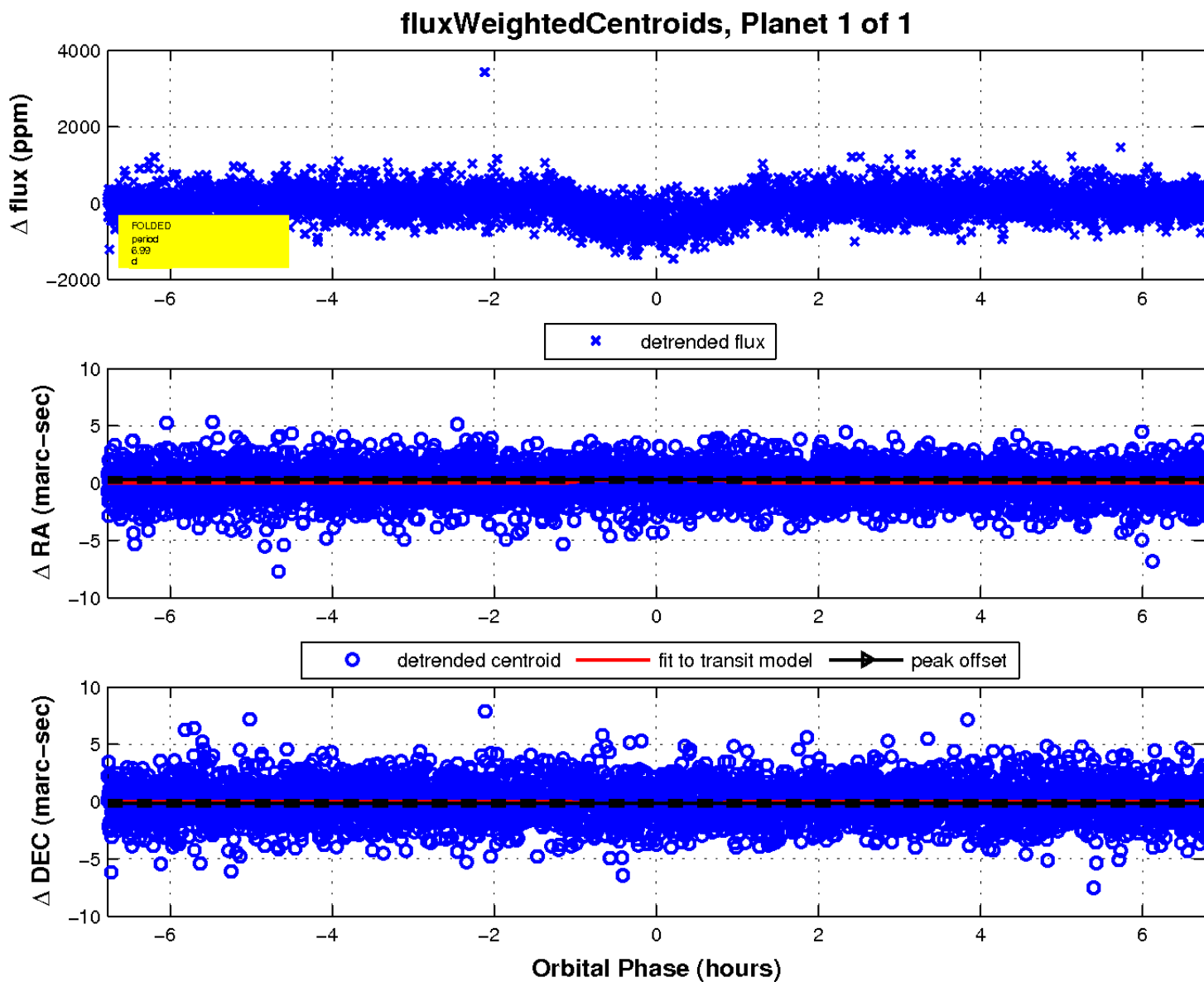
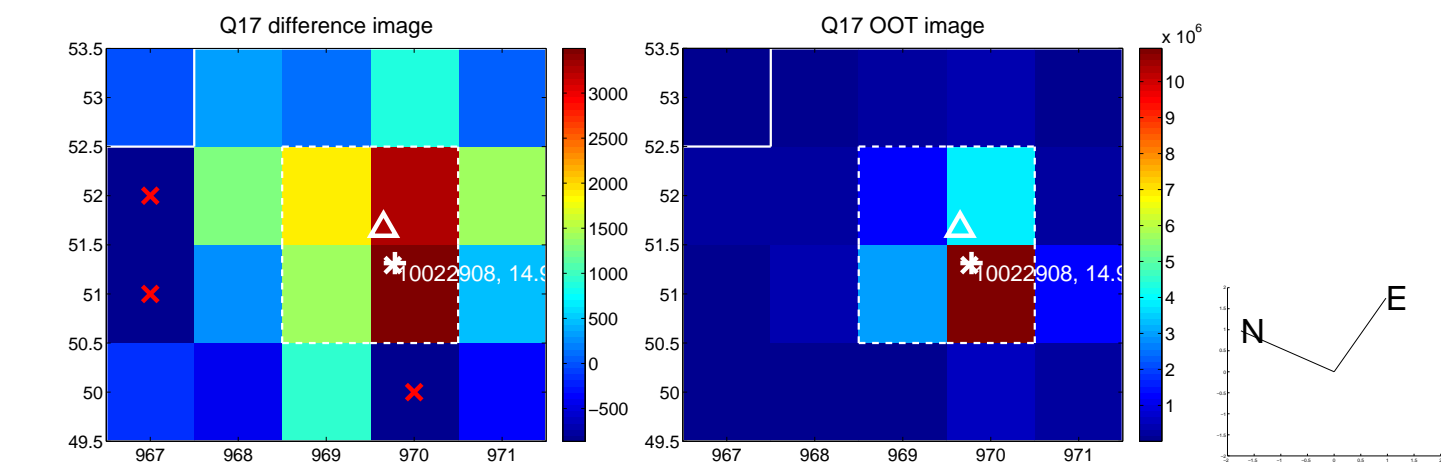
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

