

KIC 009306998

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})
009306998-01	OBS	No	6.808301	136.669828	27.3	21.475	7.4	7.3	2.06	8067	1.23	2106.19

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009306998-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_FEW_MEAS

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

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

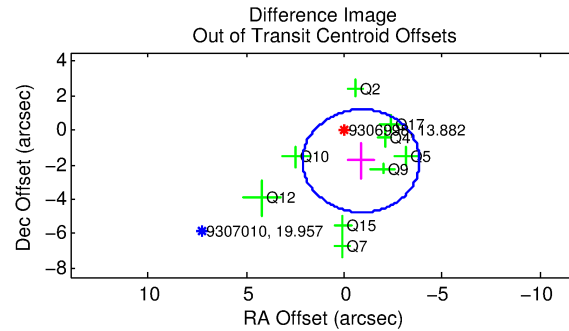
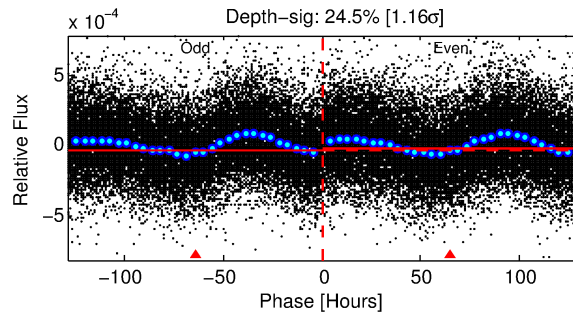
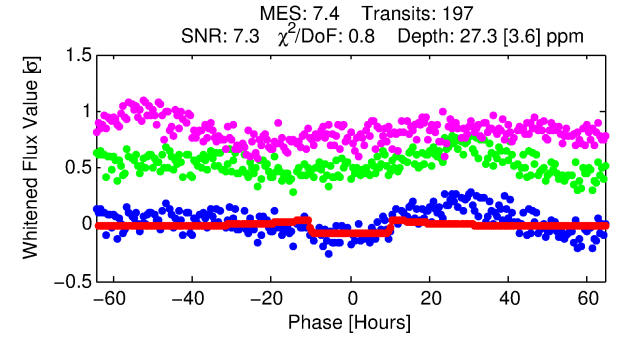
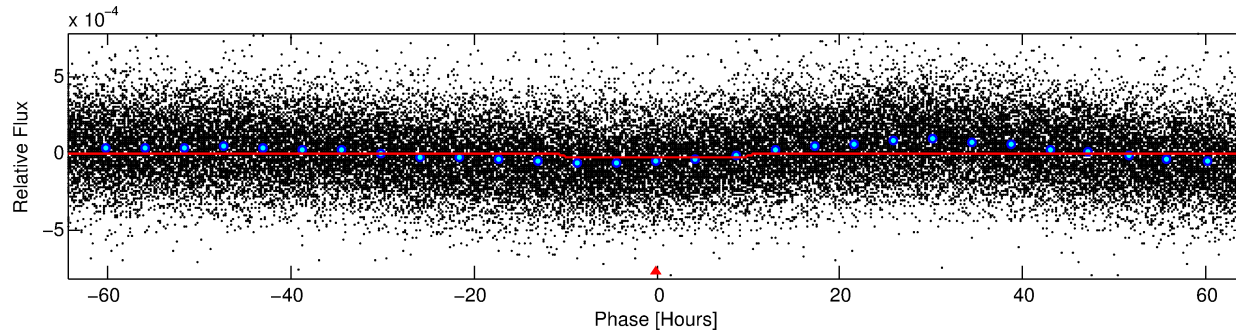
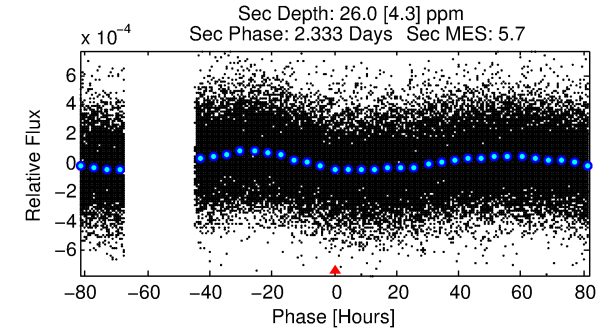
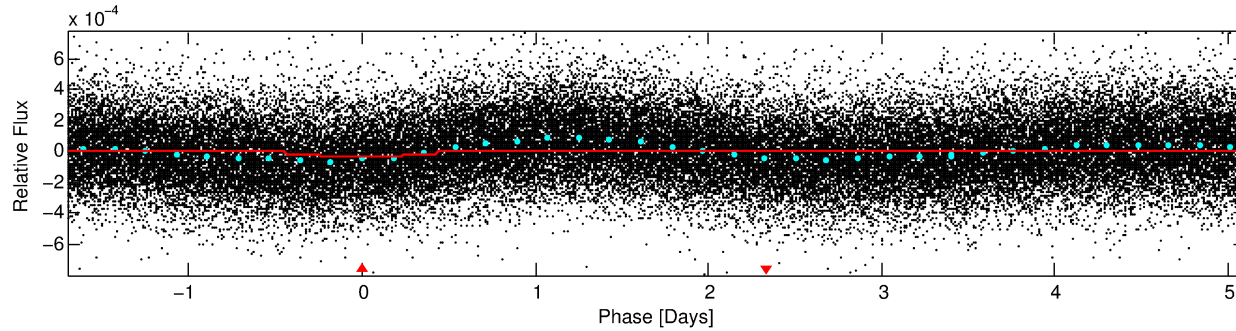
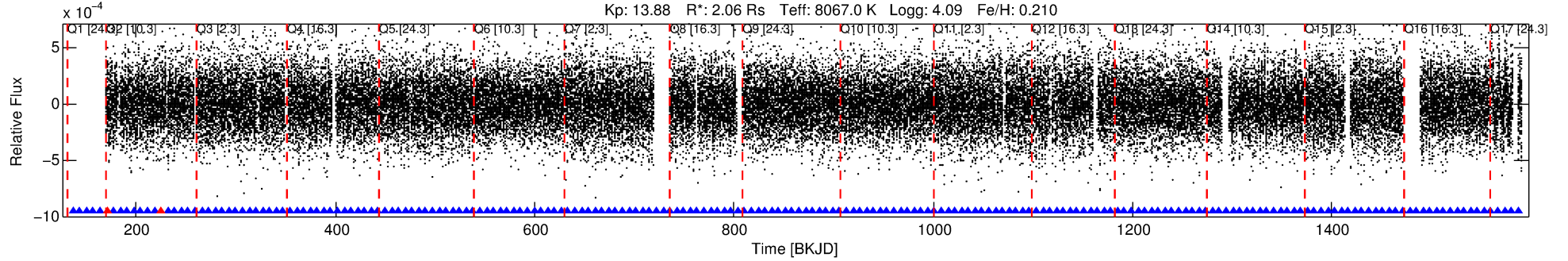
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009306998-01

No Significant Match Found

DV One-Page Summary

KIC: 9306998 Candidate: 1 of 1 Period: 6.808 d



DV Fit Results:

Period = 6.80830 [0.00020] d
Epoch = 136.6698 [0.0221] BKJD
Rp/R* = 0.0054 [0.0009]
a/R* = 1.54 [0.82]
b = 0.87 [0.27]
Seff = 2106.19 [729.93]
Teff = 1727 [150] K
Rp = 1.22 [0.36] Re
a = 0.0876 [0.0181] AU
Ag = 73.16 [34.63] [2.08σ]
Teffp = 7811 [795] K [7.52σ]

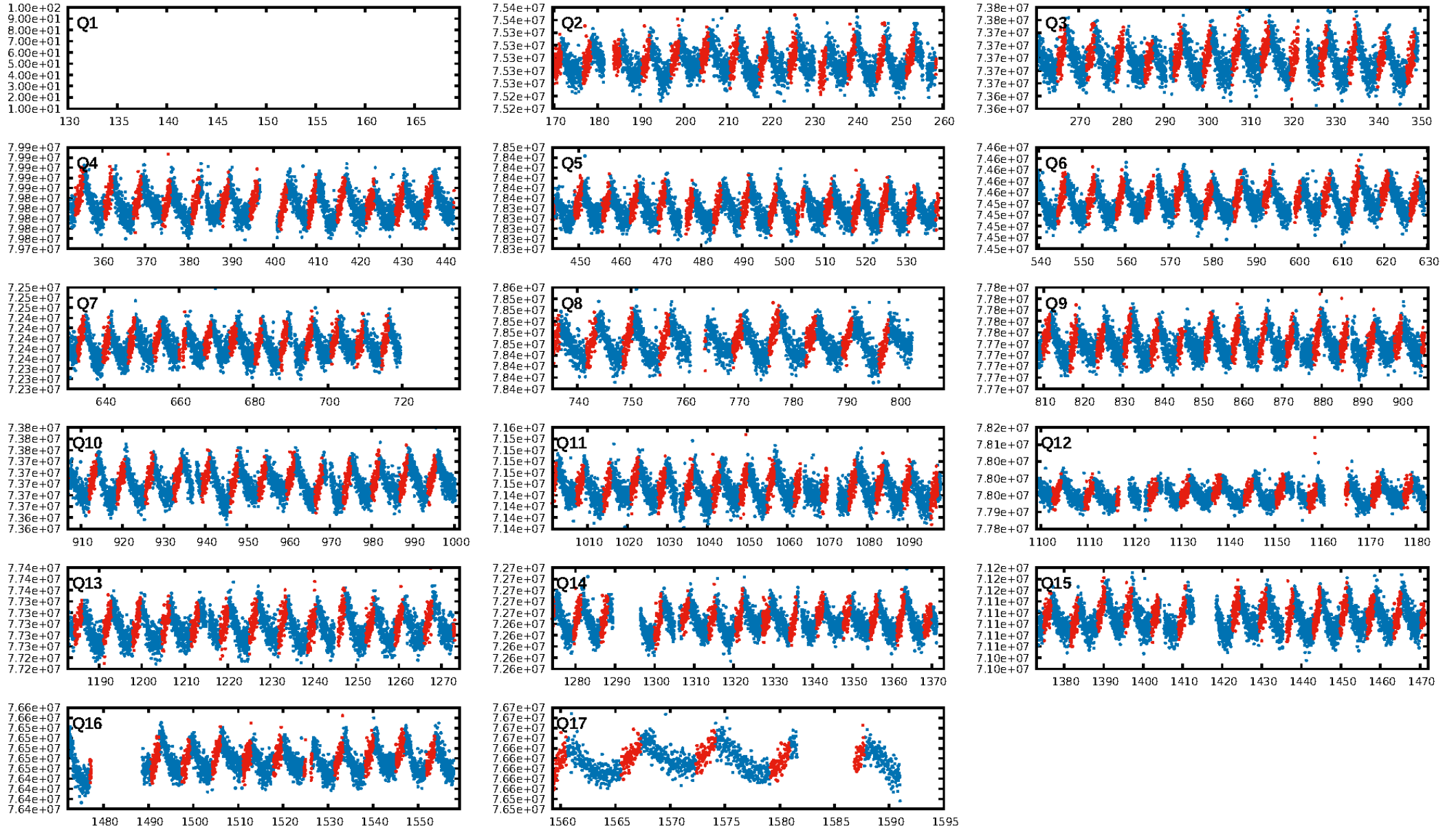
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.15e-13
RollingBand-fgt: 0.99 [190/192]
GhostDiagnostic-chr: 2.873
Centroid-sig: 55.4%
Centroid-so: 0.725 arcsec [0.49σ]
OotOffset-rm: 1.982 arcsec [1.99σ]
OotOffset-st: 2/2/2/3 [9]
KicOffset-rm: 2.011 arcsec [2.05σ]
KicOffset-st: 2/2/2/3 [9]
DiffImageQuality-fgm: 0.67 [6/9]
DiffImageOverlap-fno: 1.00 [16/16]

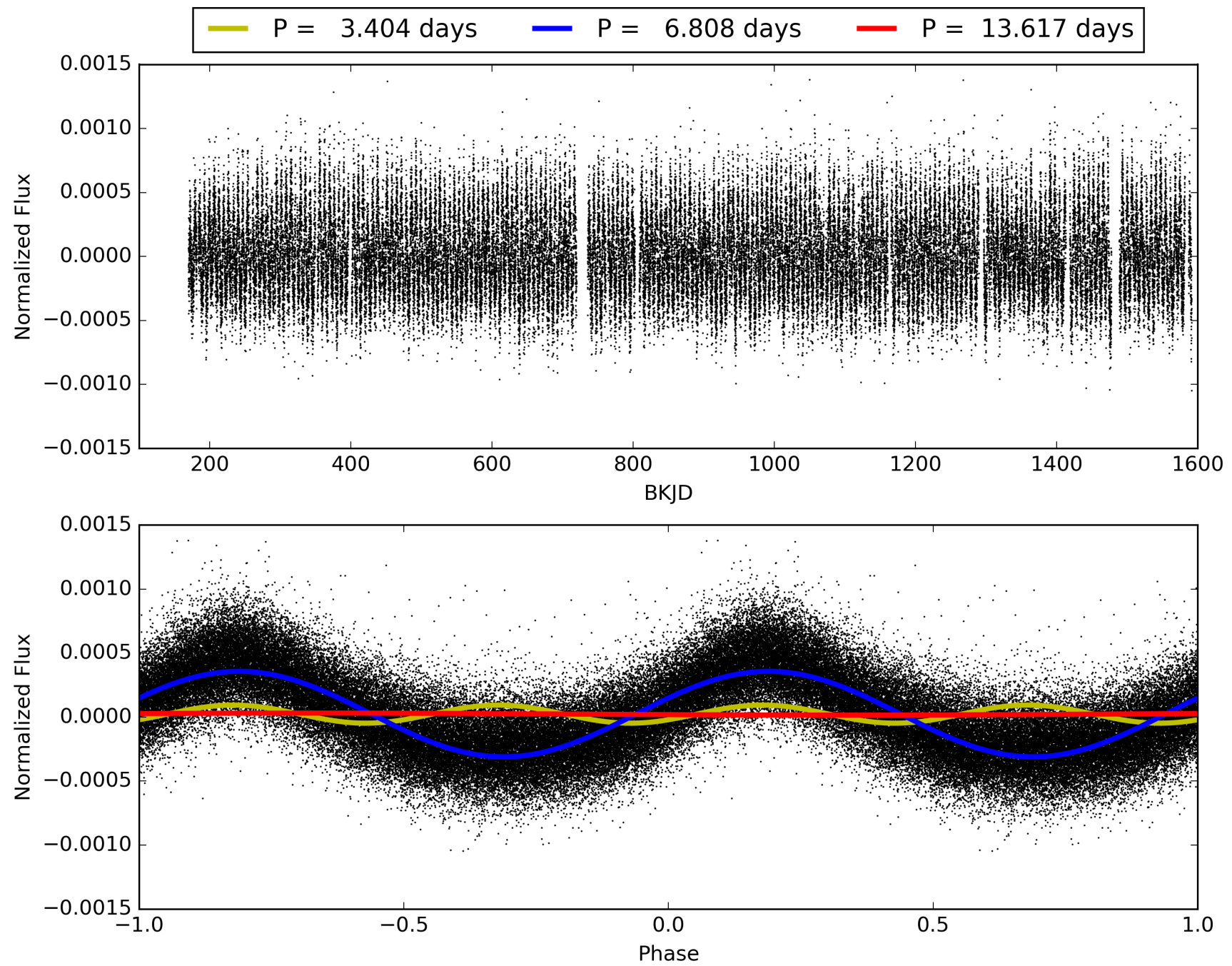
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:58:50 Z

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

TCE 009306998-01, PDC Light Curves

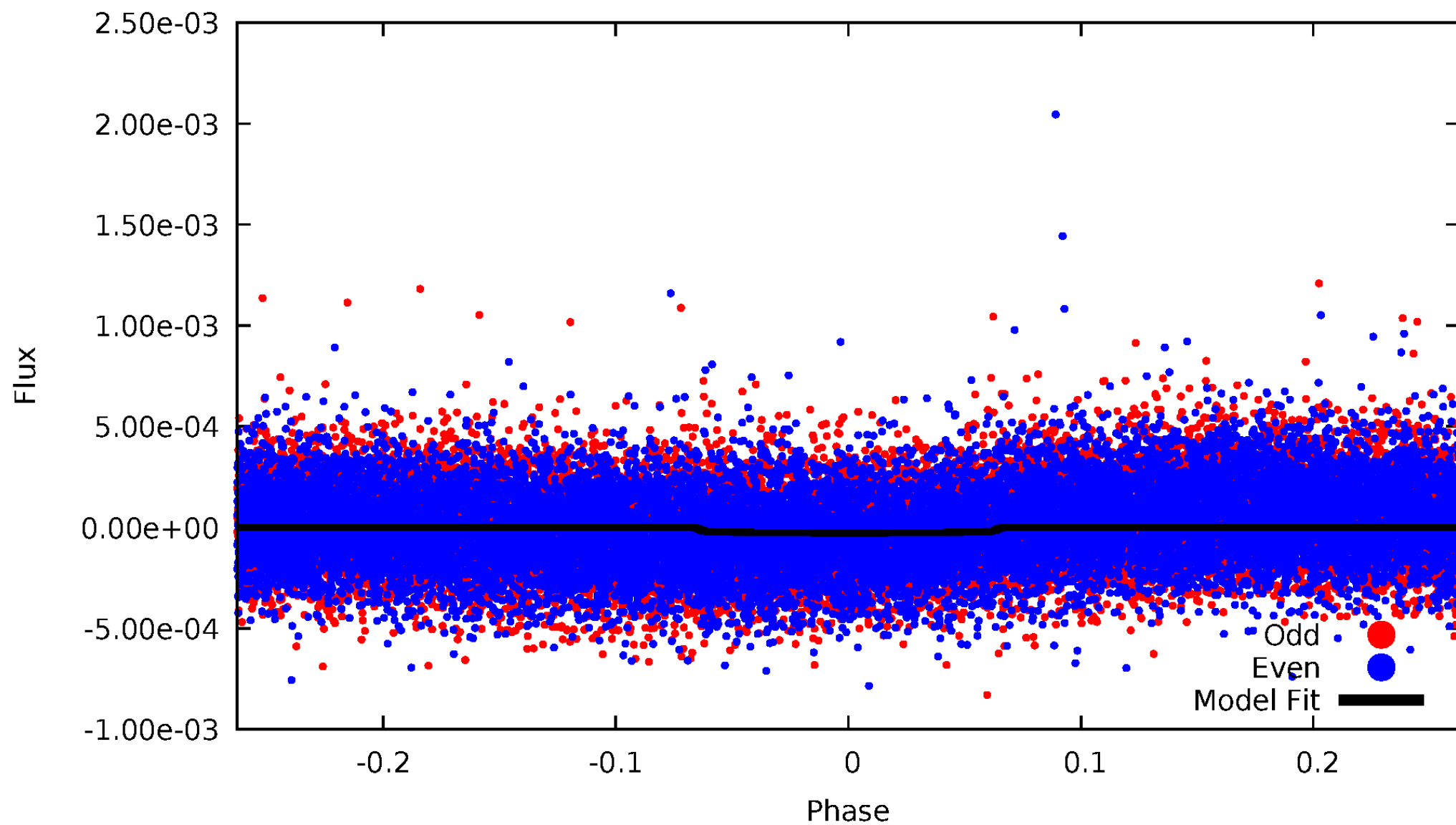


TCE 009306998-01



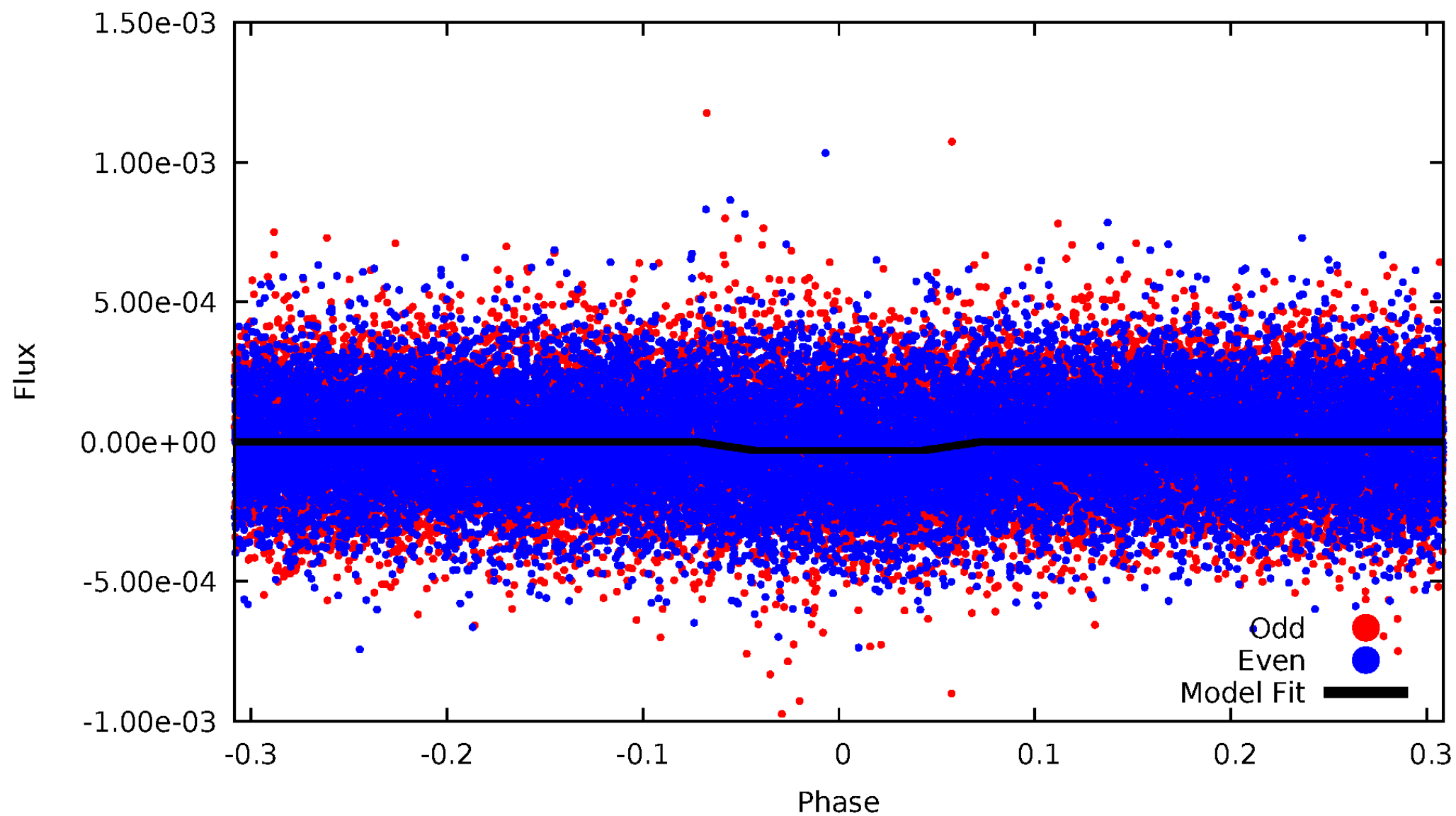
DV Odd/Even

TCE 009306998-01



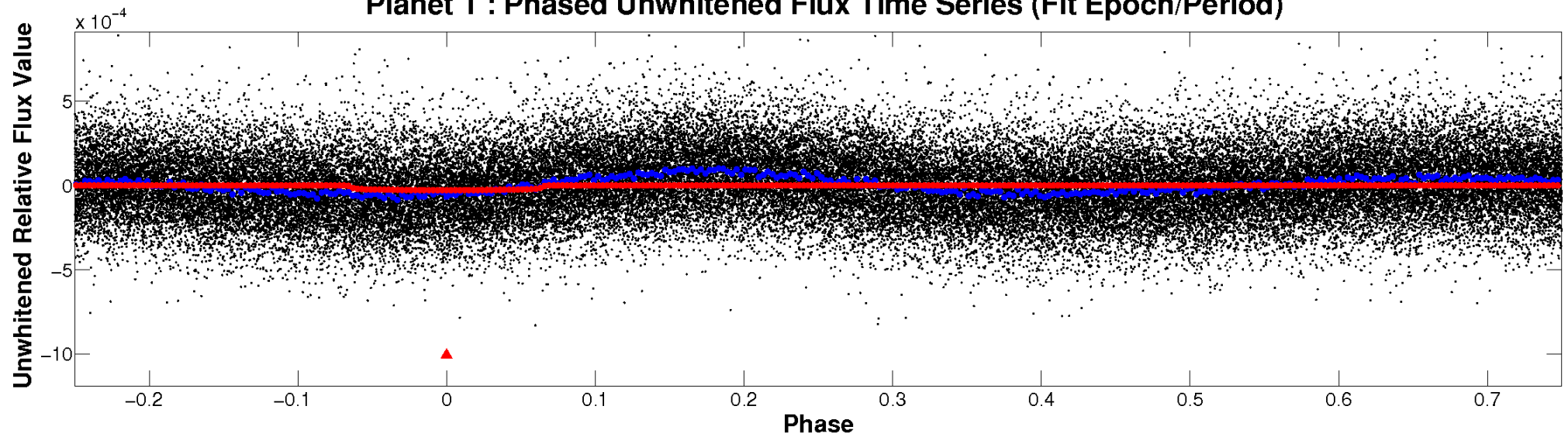
ALT Odd/Even

TCE 009306998-01

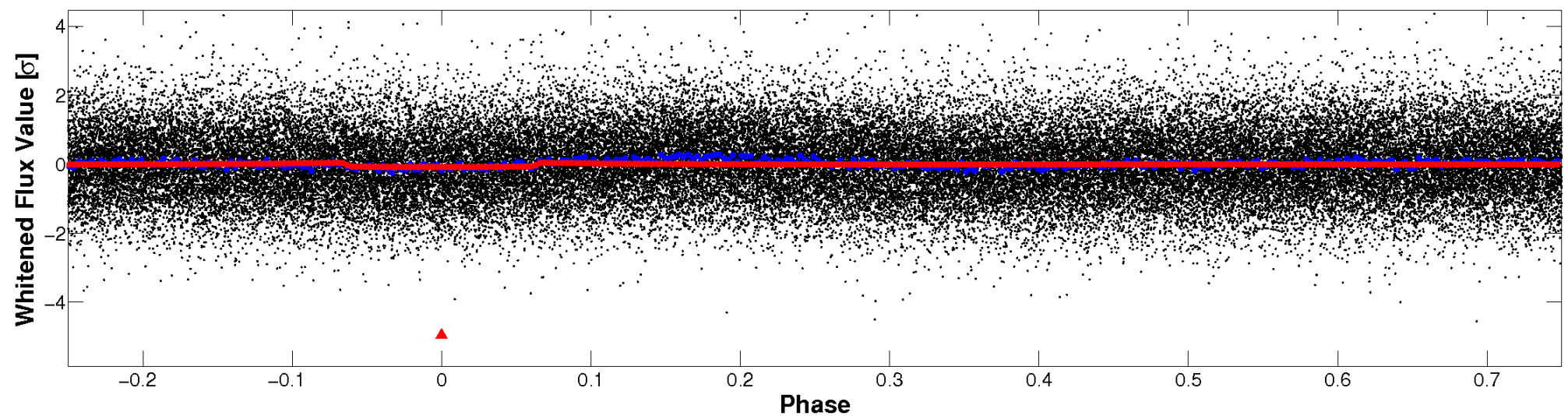


Non-Whitened Vs. Whitened Light Curve

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

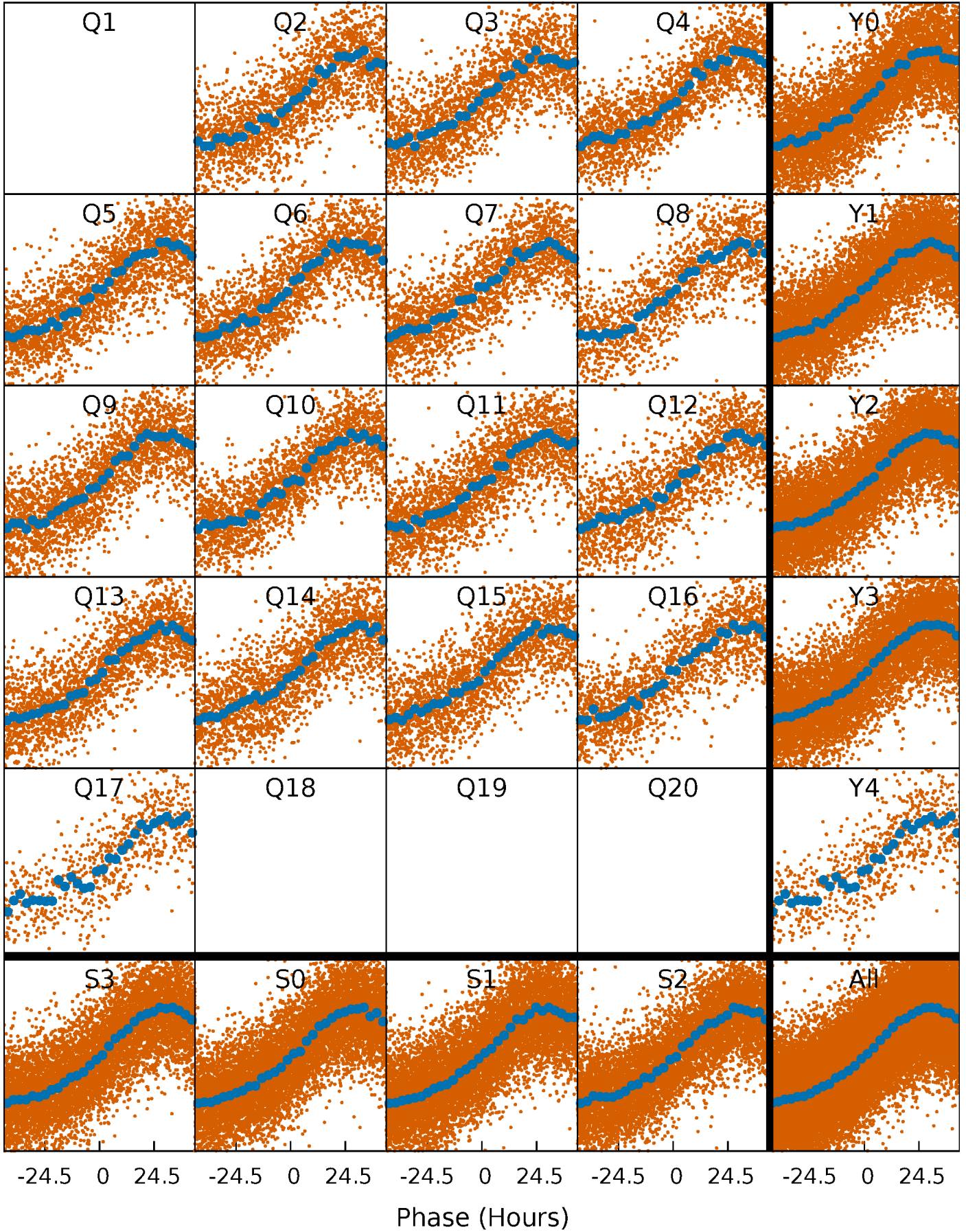


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



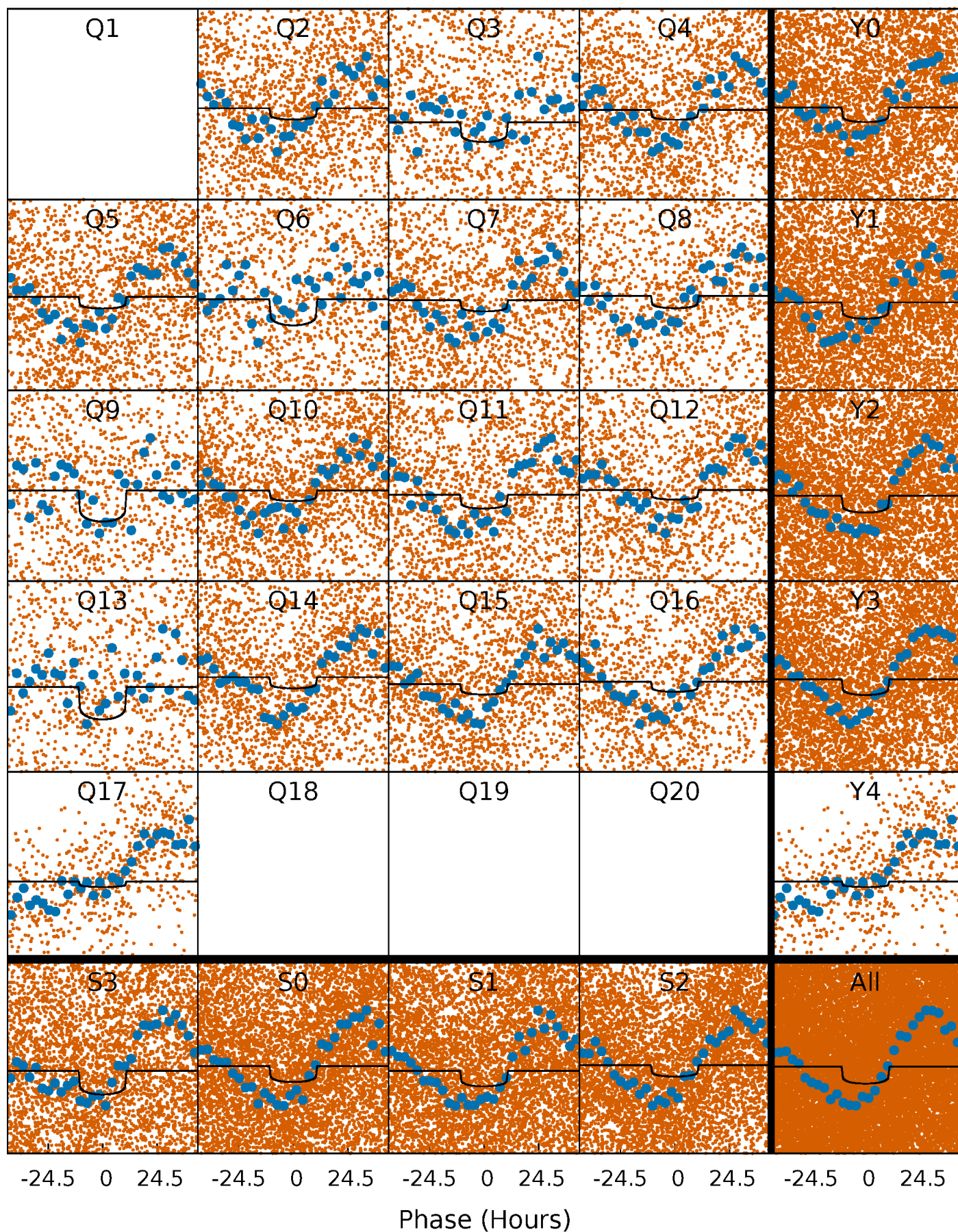
PDC Quarter-Phased Transit Curves

TCE 009306998-01 P= 6.808301 Days $T_0=136.669828$ (BKJD)



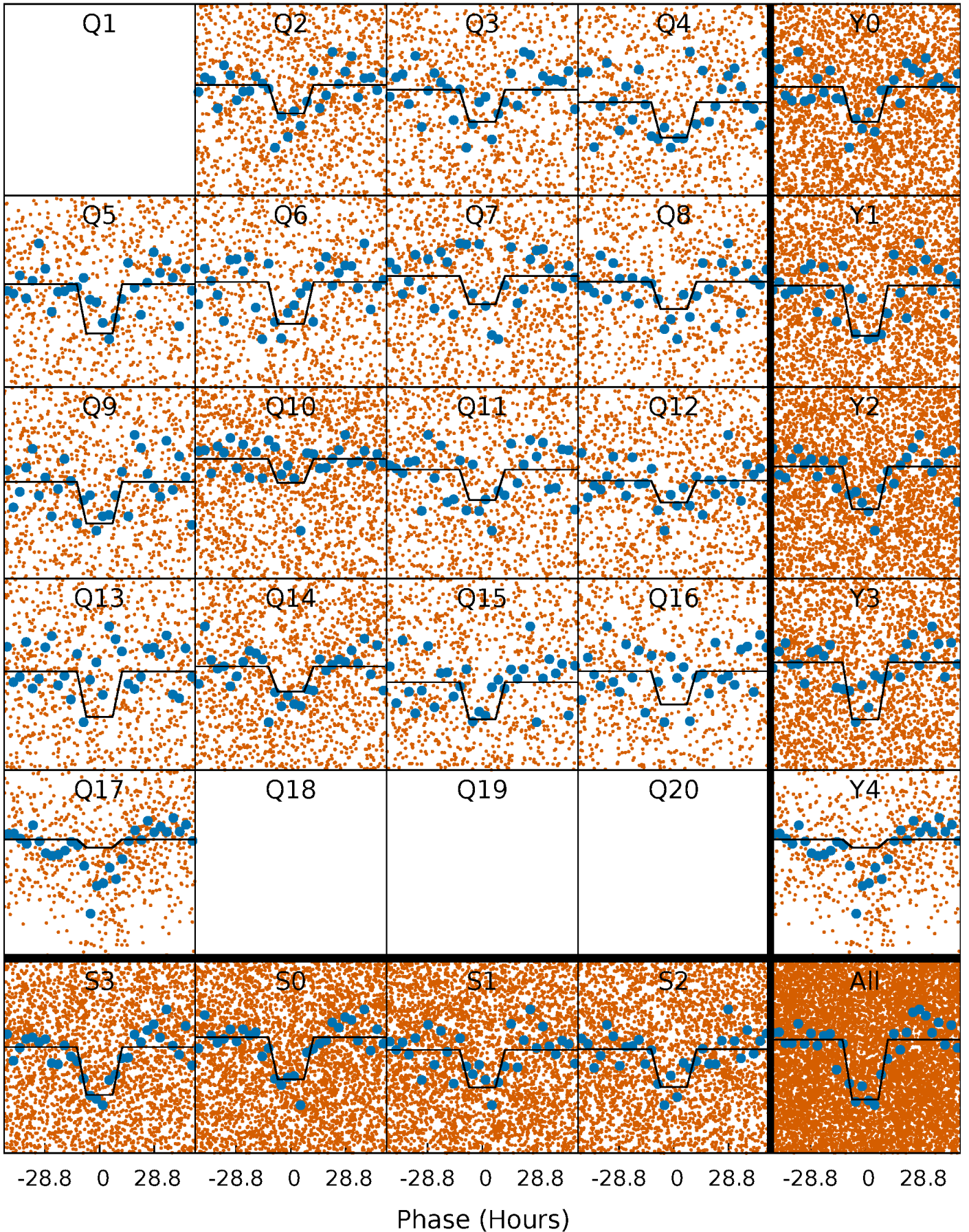
DV Quarter-Phased Transit Curves

TCE 009306998-01 P= 6.808301 Days $T_0=136.669828$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

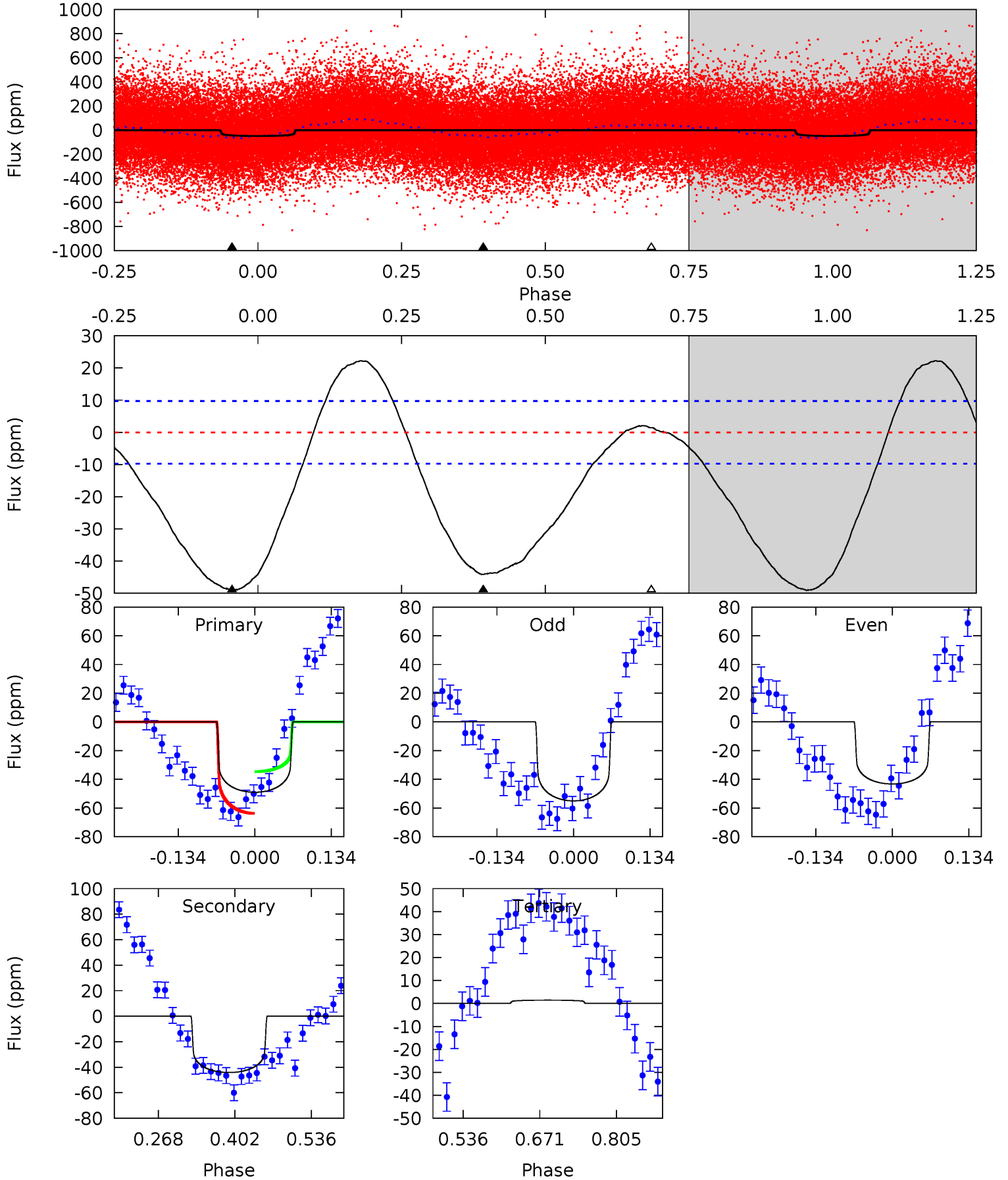
TCE 009306998-01 P= 6.807899 Days $T_0=136.715401$ (BKJD)



DV Model-Shift Uniqueness Test

009306998-01, P = 6.808301 Days, E = 136.669828 Days

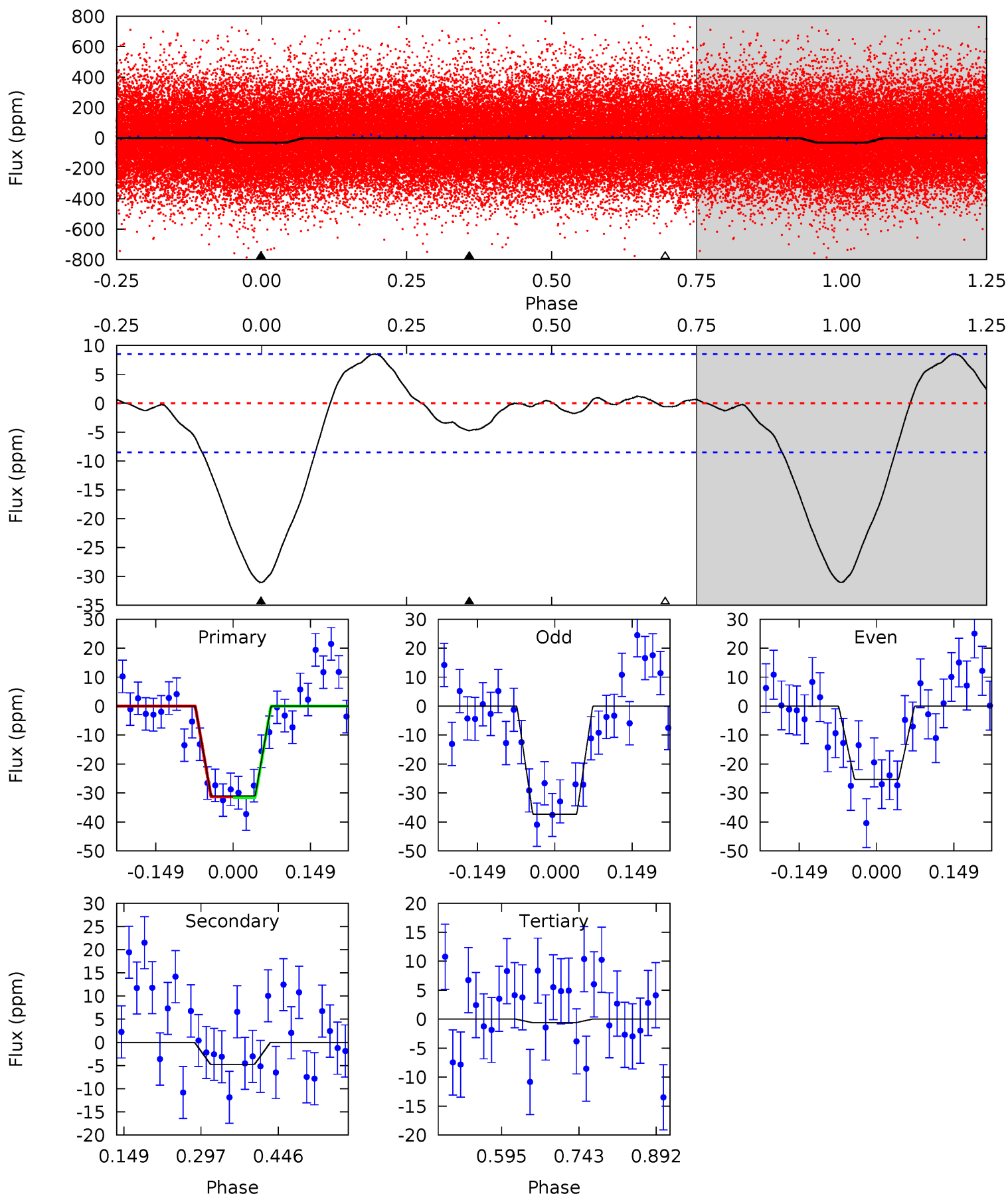
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.7	20.4	-0.66	0	4.50	1.50	5.94	23.3	22.7	21.0	20.4	2.73	1.13	0.31	6.61



Alt Model-Shift Uniqueness Test

009306998-01, P = 6.807899 Days, E = 136.715401 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.3	2.50	0.31	0	4.48	1.44	1.52	16.0	16.3	2.19	2.50	3.15	0.96	0.21	0.06



Stellar Parameters For KIC 009306998

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8067^{+225}_{-354}	$4.095^{+0.121}_{-0.162}$	$0.210^{+0.150}_{-0.450}$	$2.064^{+0.513}_{-0.373}$	$1.934^{+0.275}_{-0.336}$	$0.310^{+0.196}_{-0.140}$
	+3%/-4%	+3%/-4%	+71%/-214%	+25%/-18%	+14%/-17%	+63%/-45%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 009306998-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-44 ± 2	$1.23^{+0.27}_{-0.24}$	2412^{+170}_{-143}	9107^{+1215}_{-922}	122^{+61}_{-39}
Alt.	-5 ± 2	$1.28^{+0.28}_{-0.25}$	2420^{+160}_{-141}	4931^{+541}_{-554}	12^{+9}_{-5}

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 $A_{obs} \gg 1.0$

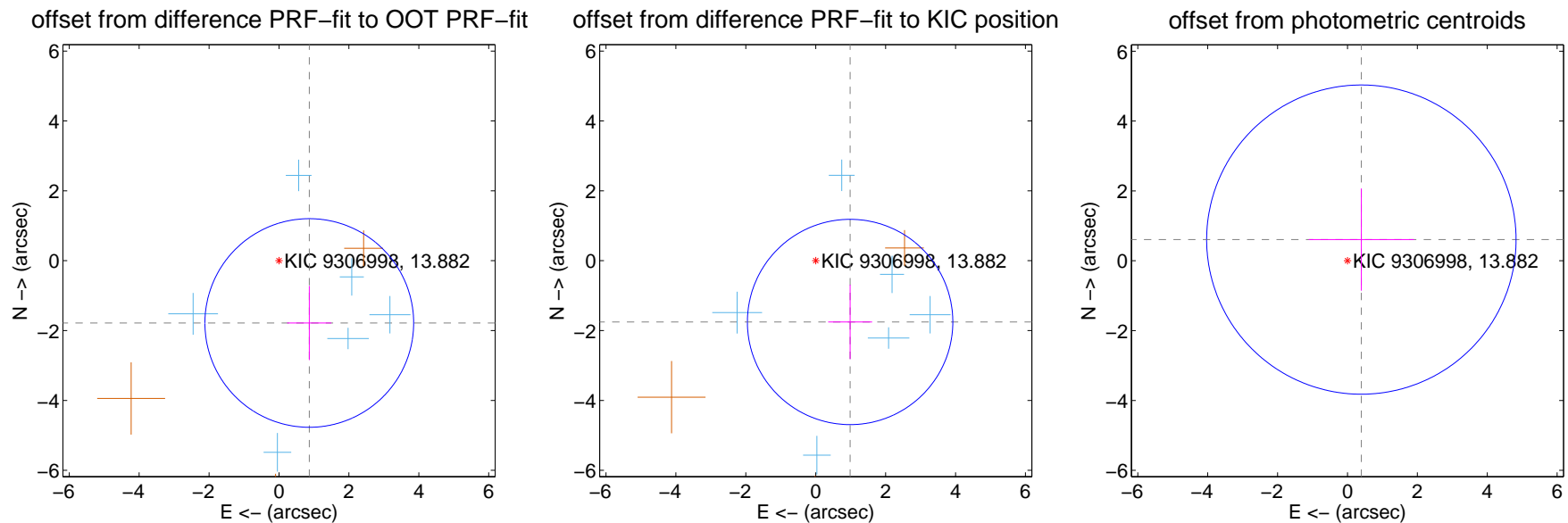
DV Centroid Data

Supplemental centroid analysis for 009306998-01. Kepler magnitude: 13.88. Transit SNR 7.29

There are 6 quarters with good PRF difference image offsets

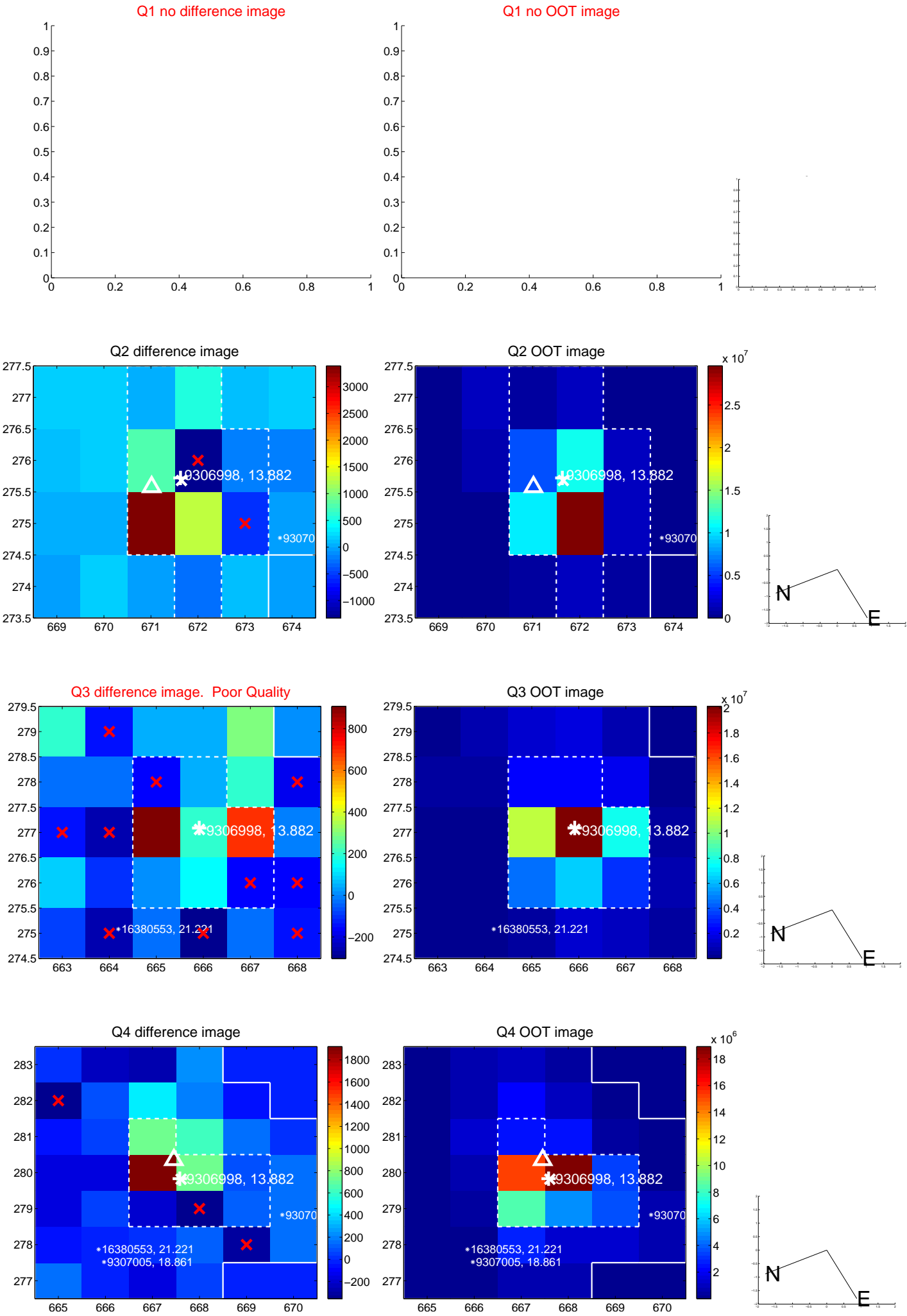
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.982 ± 0.995	1.99	-0.867 ± 0.634	-1.783 ± 1.063
PRF-fit source offset from KIC position	2.011 ± 0.979	2.05	-0.984 ± 0.630	-1.754 ± 1.066
photometric centroid source offset	0.73 ± 1.48	0.49	-0.40 ± 1.51	0.61 ± 1.46

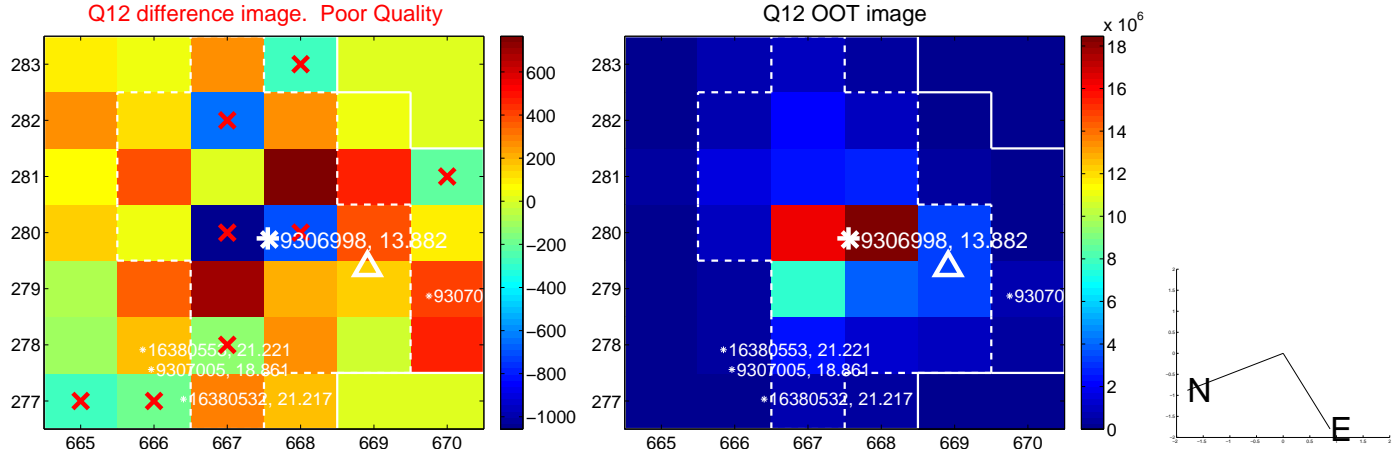
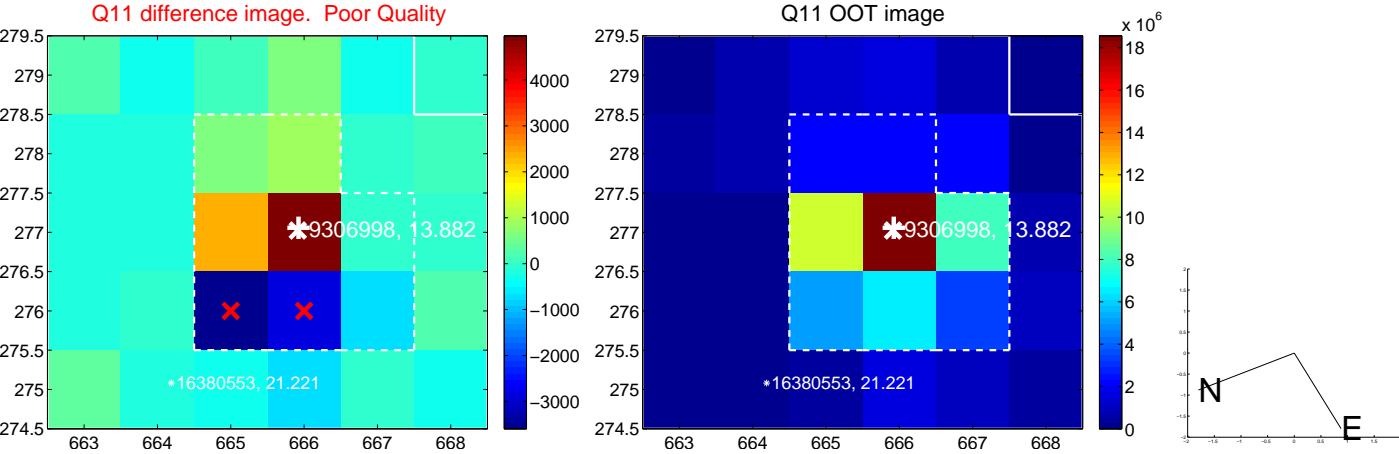
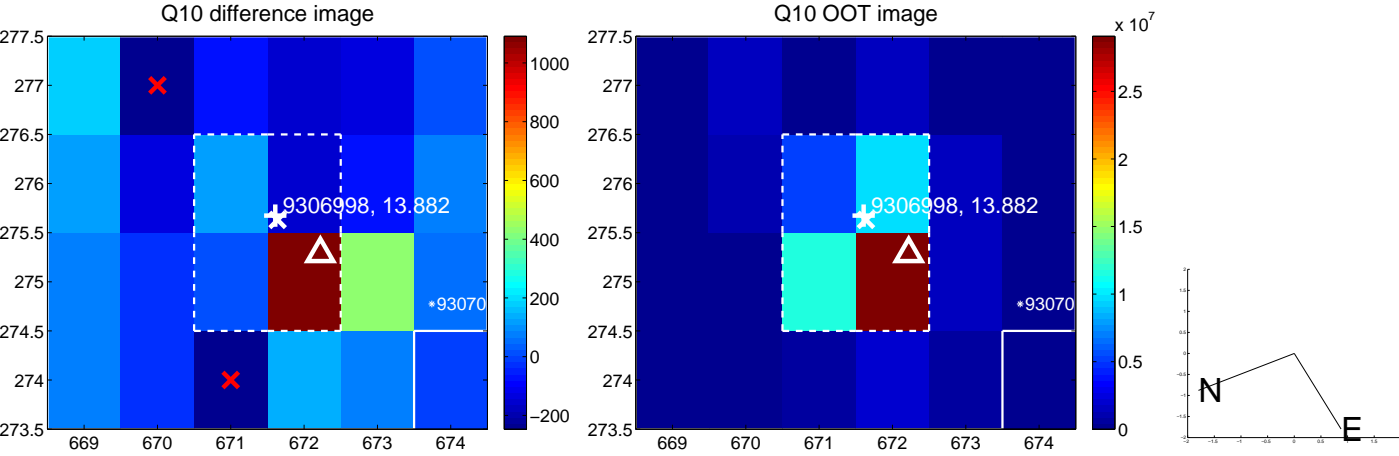
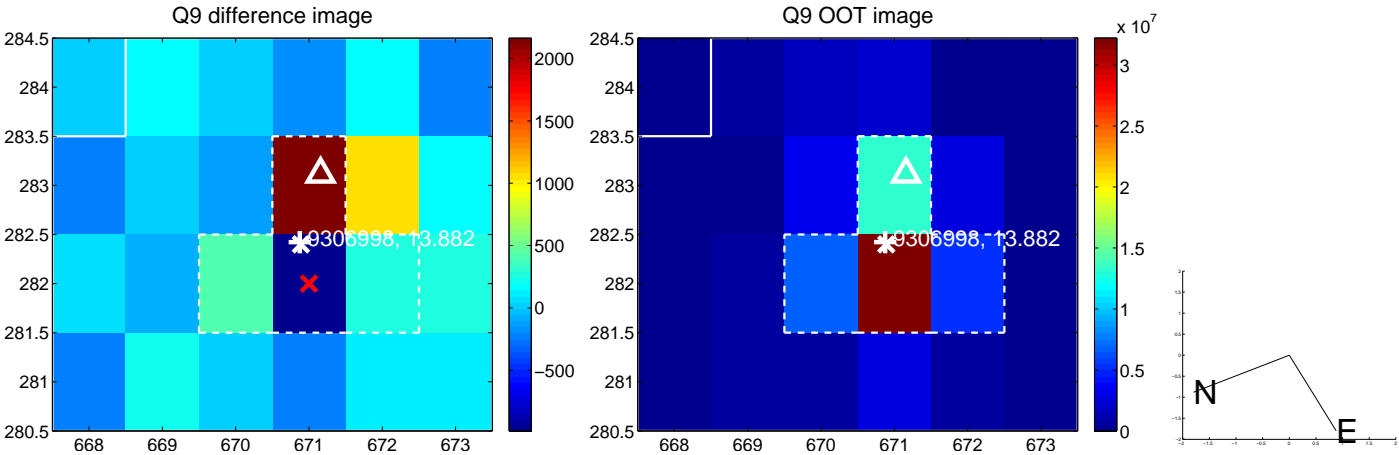


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

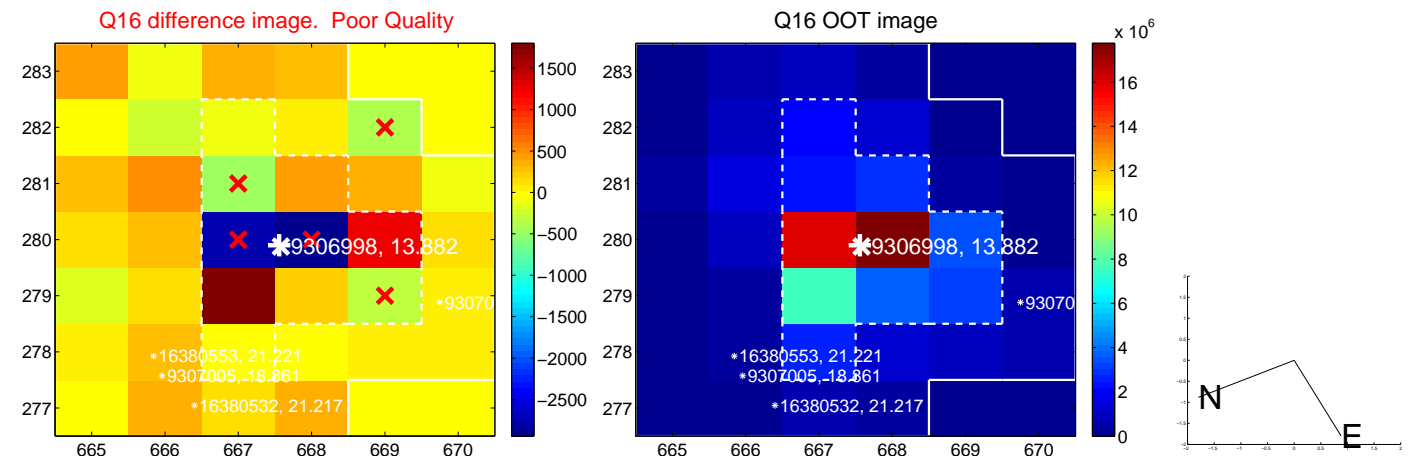
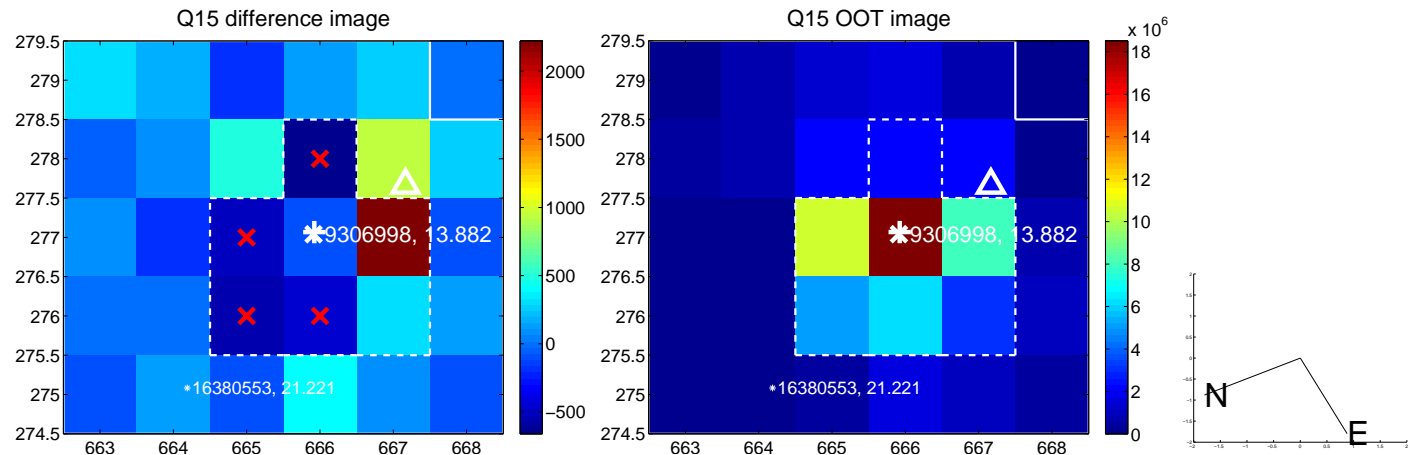
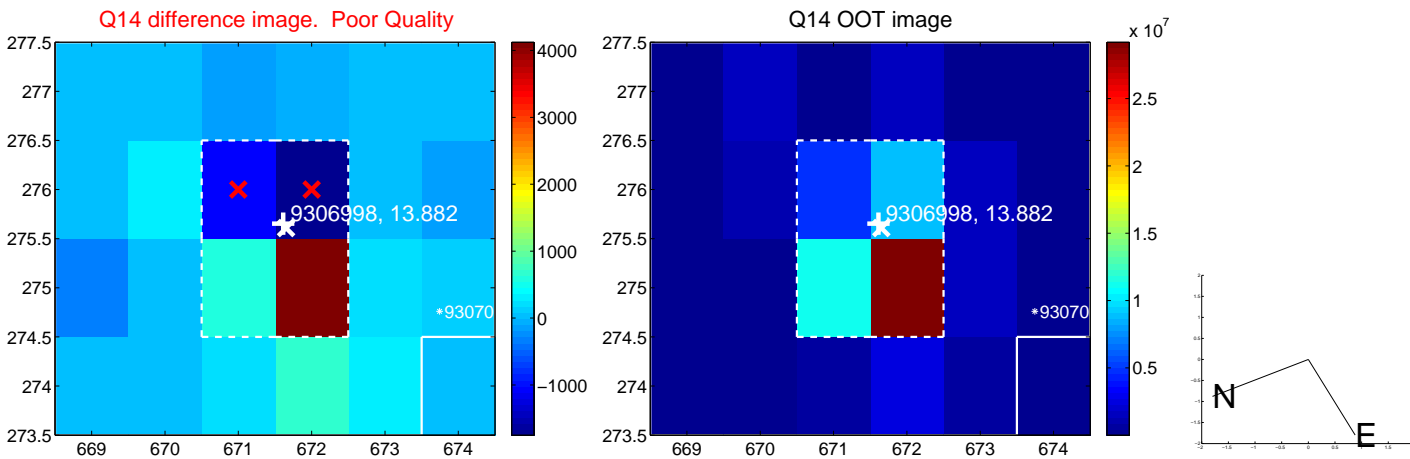
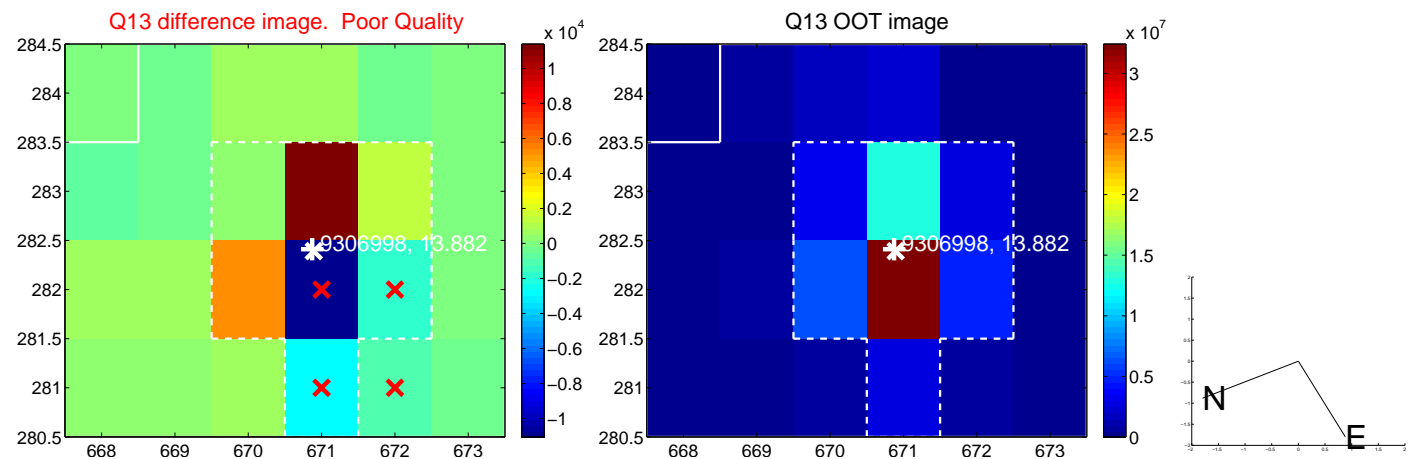
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



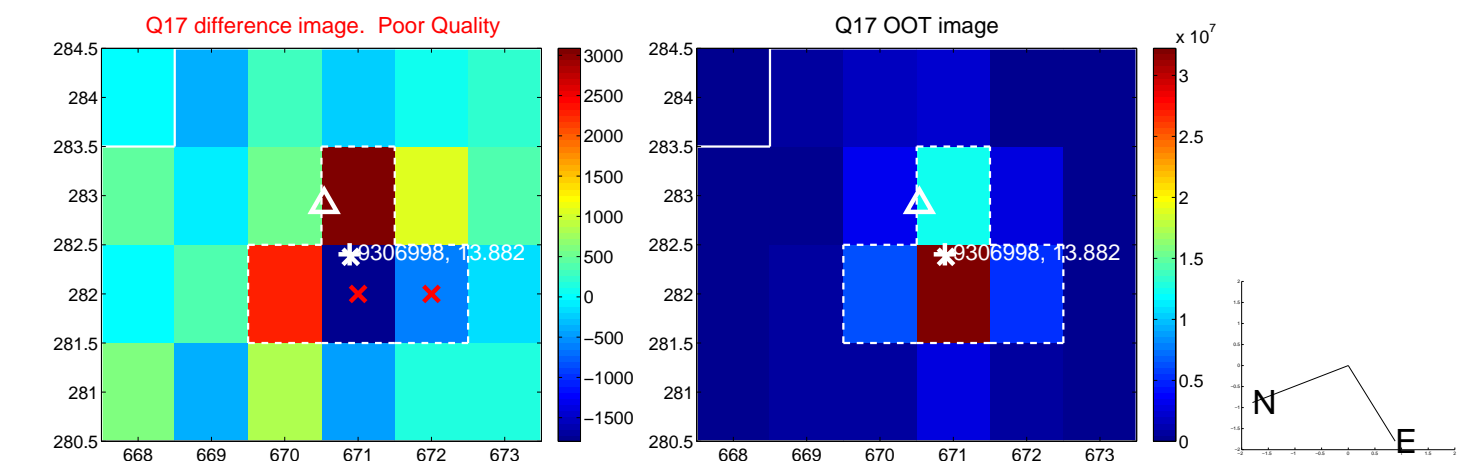
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



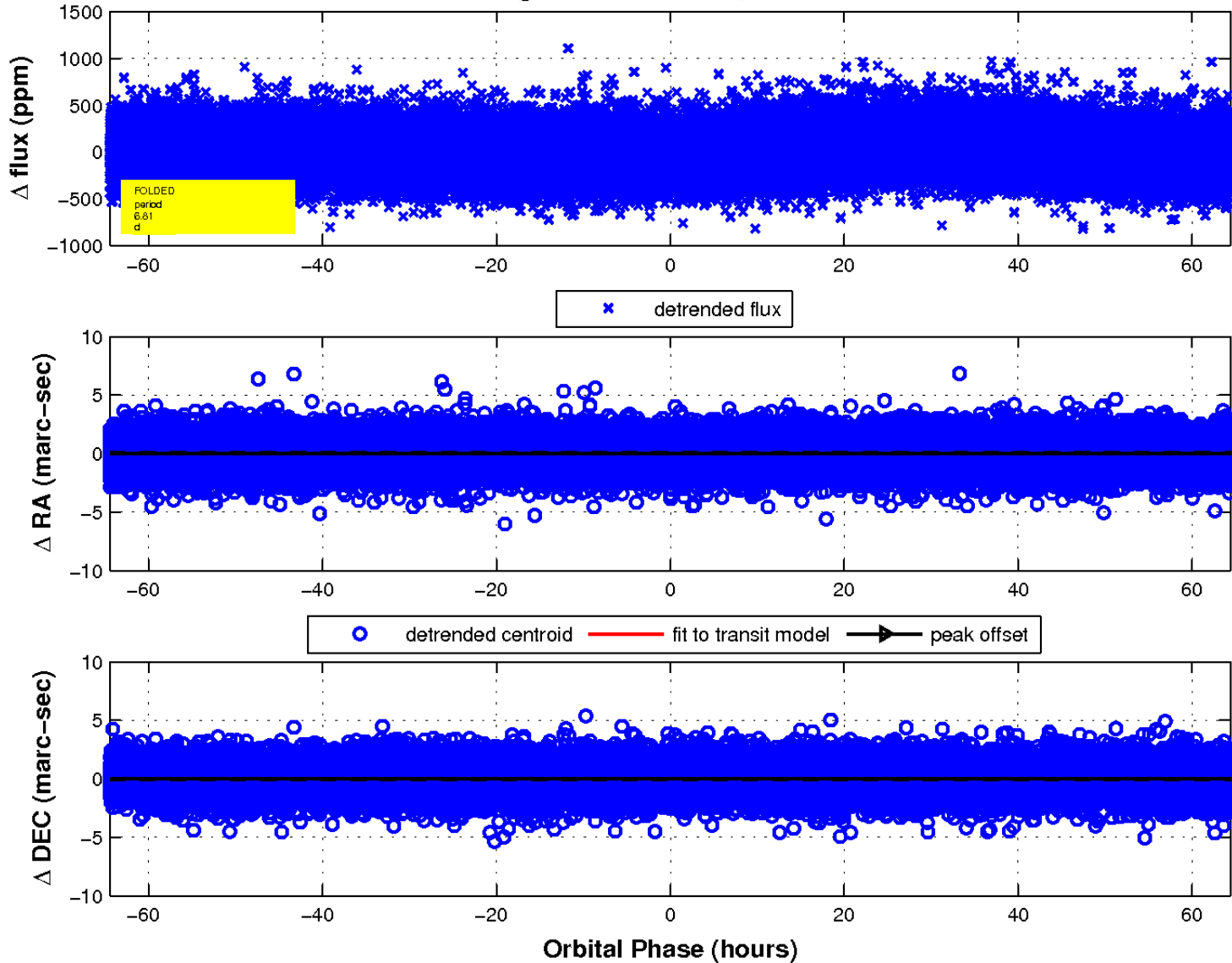
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

