

KIC 006019971

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})
006019971-01	OBS	6646.01	7.135591	135.107844	258.5	1.359	7.8	8.7	0.79	4926	1.25	75.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006019971-01	OBS	PC	1.00	0	0	0	0	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.

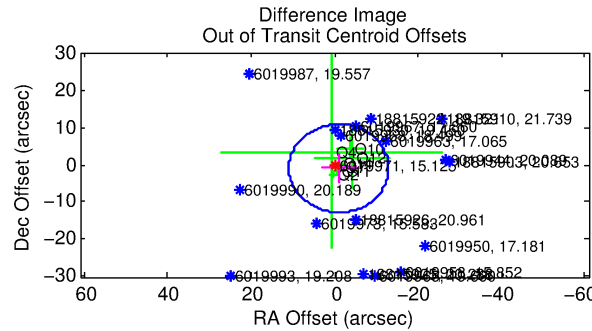
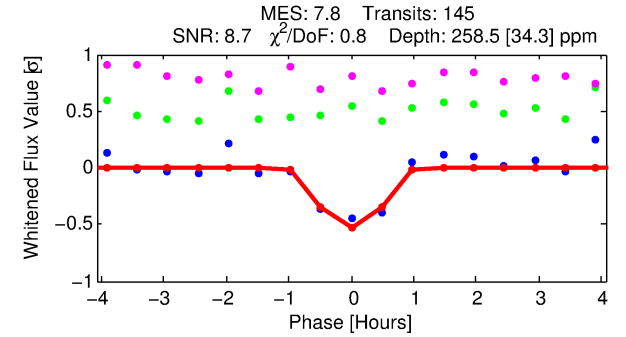
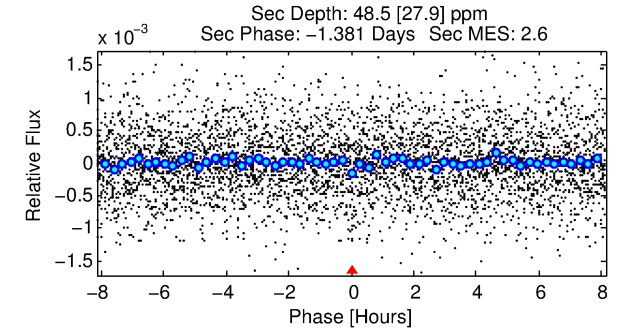
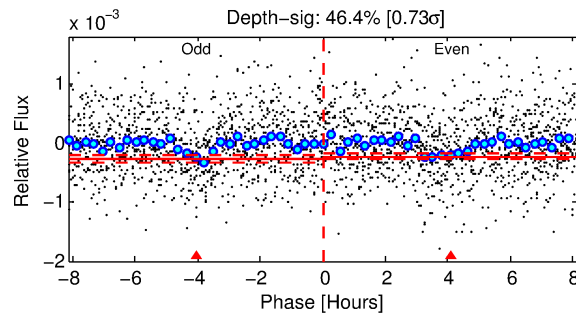
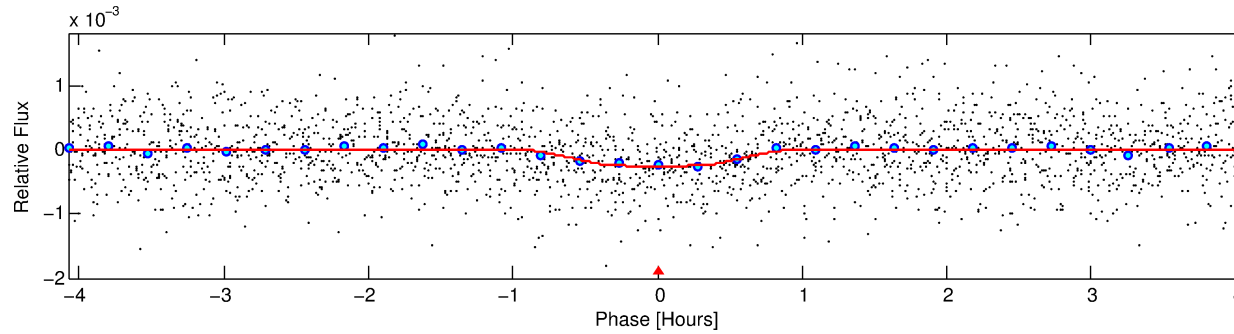
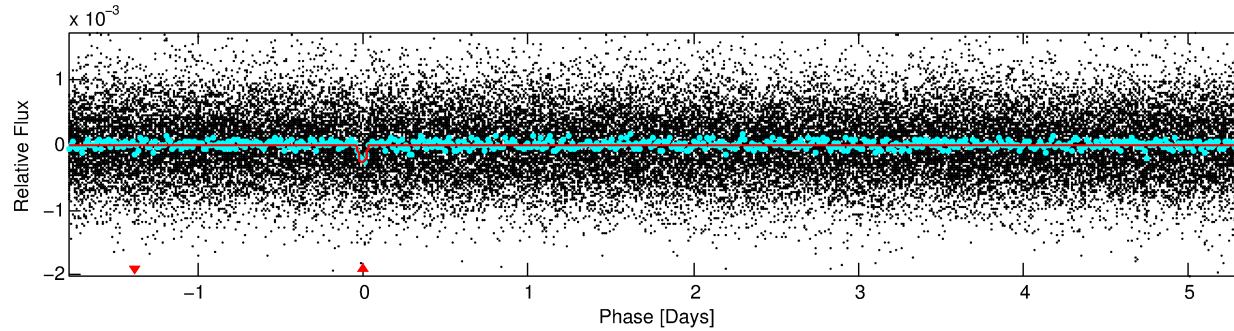
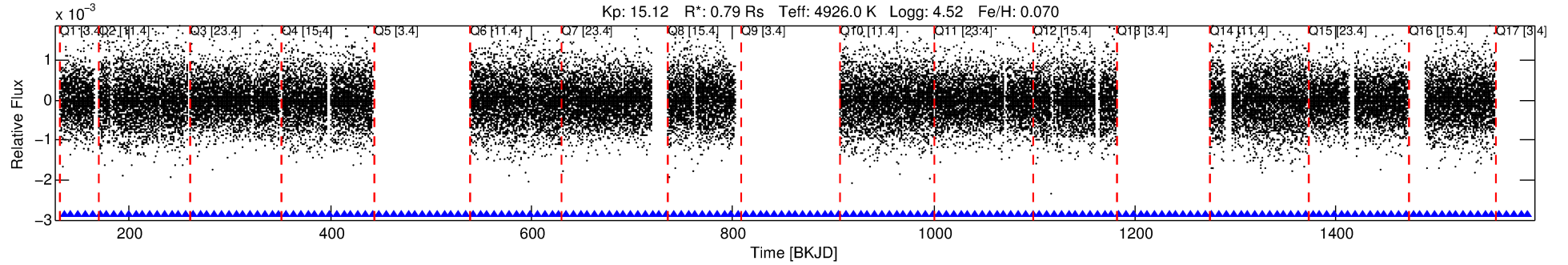
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006019971-01

No Significant Match Found

DV One-Page Summary

KIC: 6019971 Candidate: 1 of 1 Period: 7.136 d
KOI: K06646.01 Corr: 0.910



DV Fit Results:

Period = 7.13559 [0.00004] d
Epoch = 135.1078 [0.0041] BKJD
Rp/R* = 0.0144 [0.0278]
a/R* = 39.55 [249.63]
b = 0.24 [25.32]
Seff = 75.48 [14.19]
Teq = 752 [35] K
Rp = 1.25 [2.41] Re
a = 0.0663 [0.0061] AU
Ag = 75.24 [293.74] [0.25σ]
Teffp = 3422 [3339] K [0.80σ]

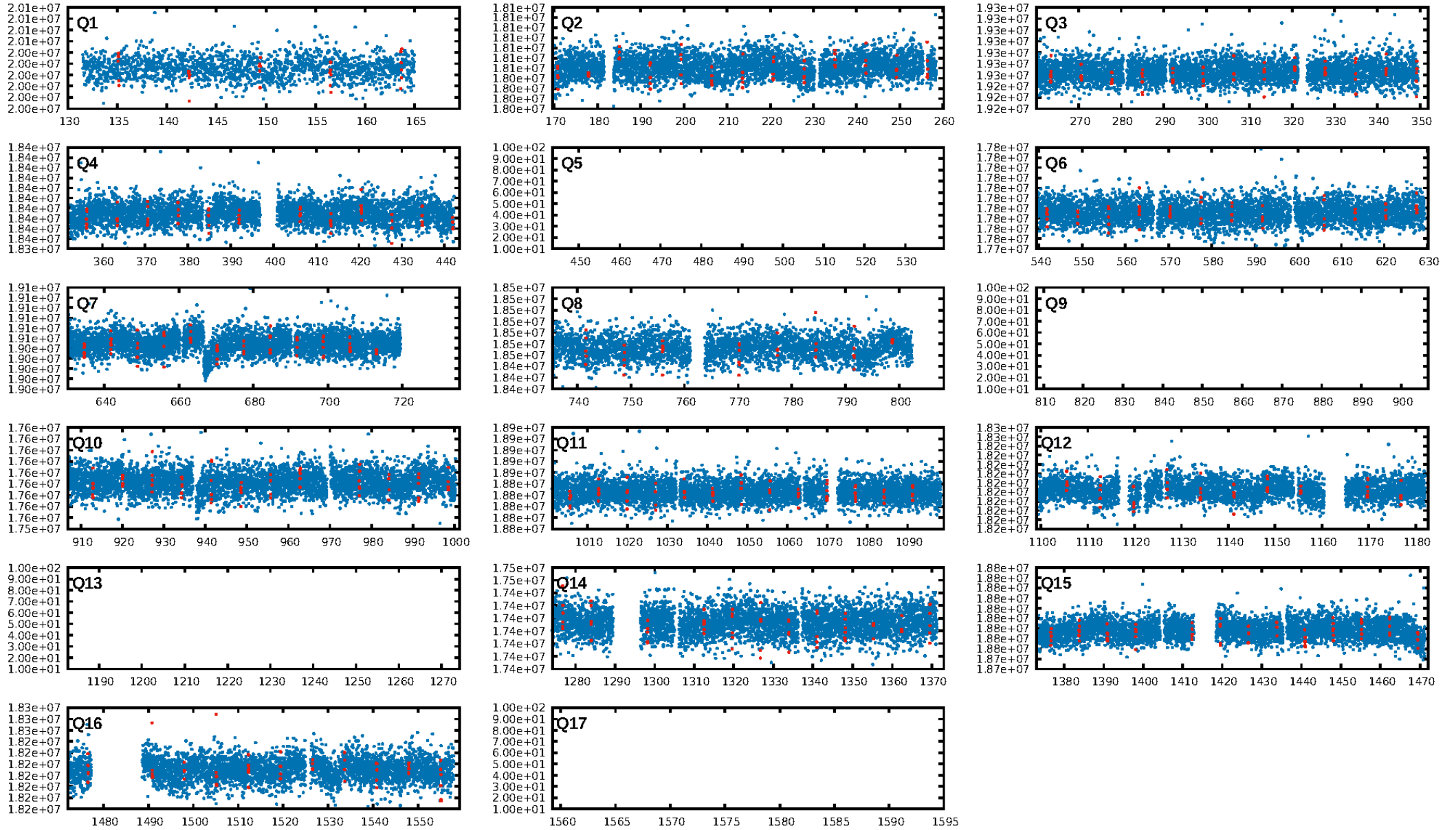
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.56e-15
RollingBand-fgt: 1.00 [140/140]
GhostDiagnostic-chr: -24.06
Centroid-sig: 87.2%
Centroid-so: 1.058 arcsec [0.63σ]
OotOffset-rm: 1.425 arcsec [0.36σ]
KicOffset-rm: 1.435 arcsec [0.36σ]
OotOffset-st: 3/2/2/0 [7]
KicOffset-st: 3/2/2/0 [7]
DiffImageQuality-fgm: 0.29 [2/7]
DiffImageOverlap-fno: 1.00 [13/13]

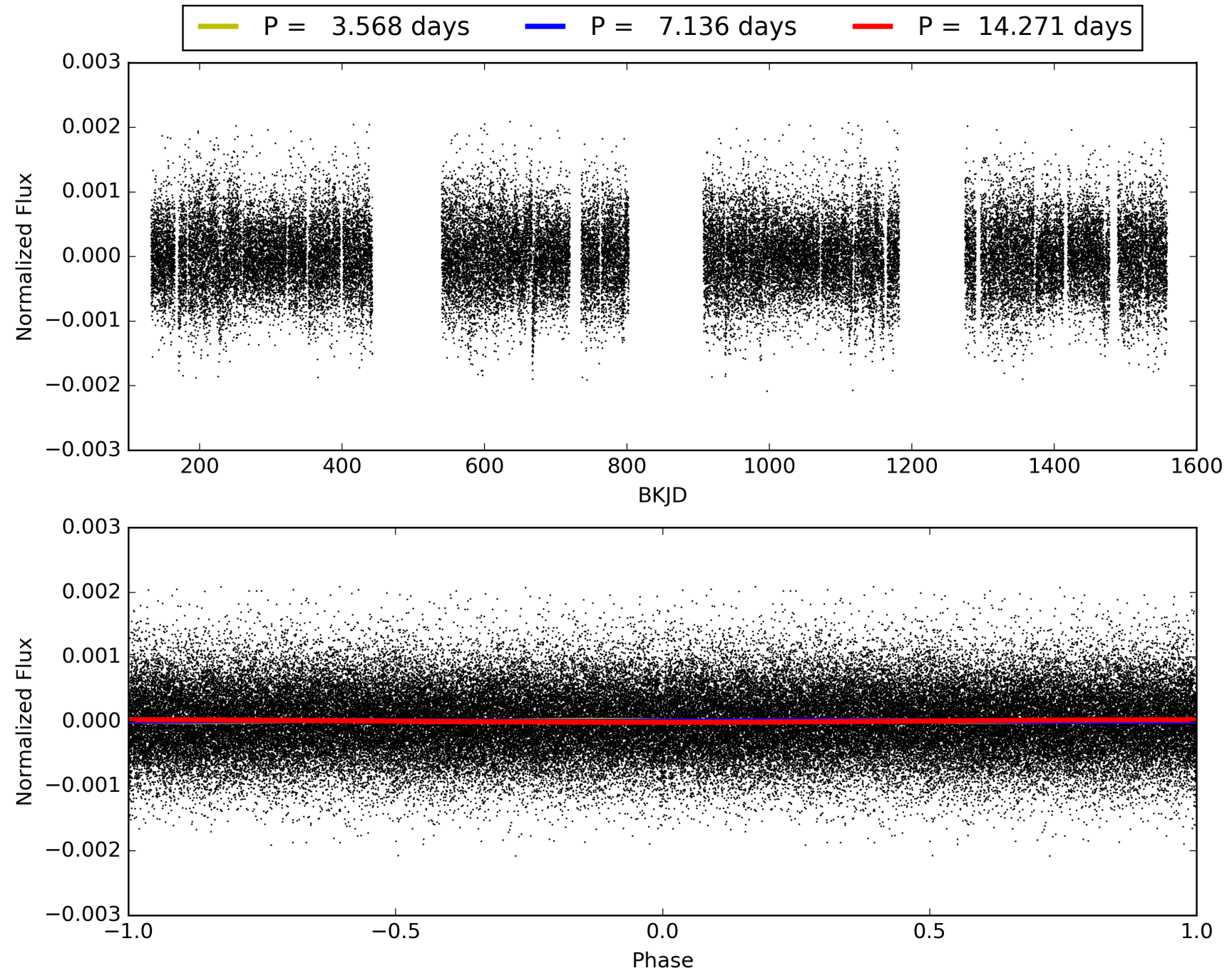
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:51:33 Z

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

TCE 006019971-01, PDC Light Curves

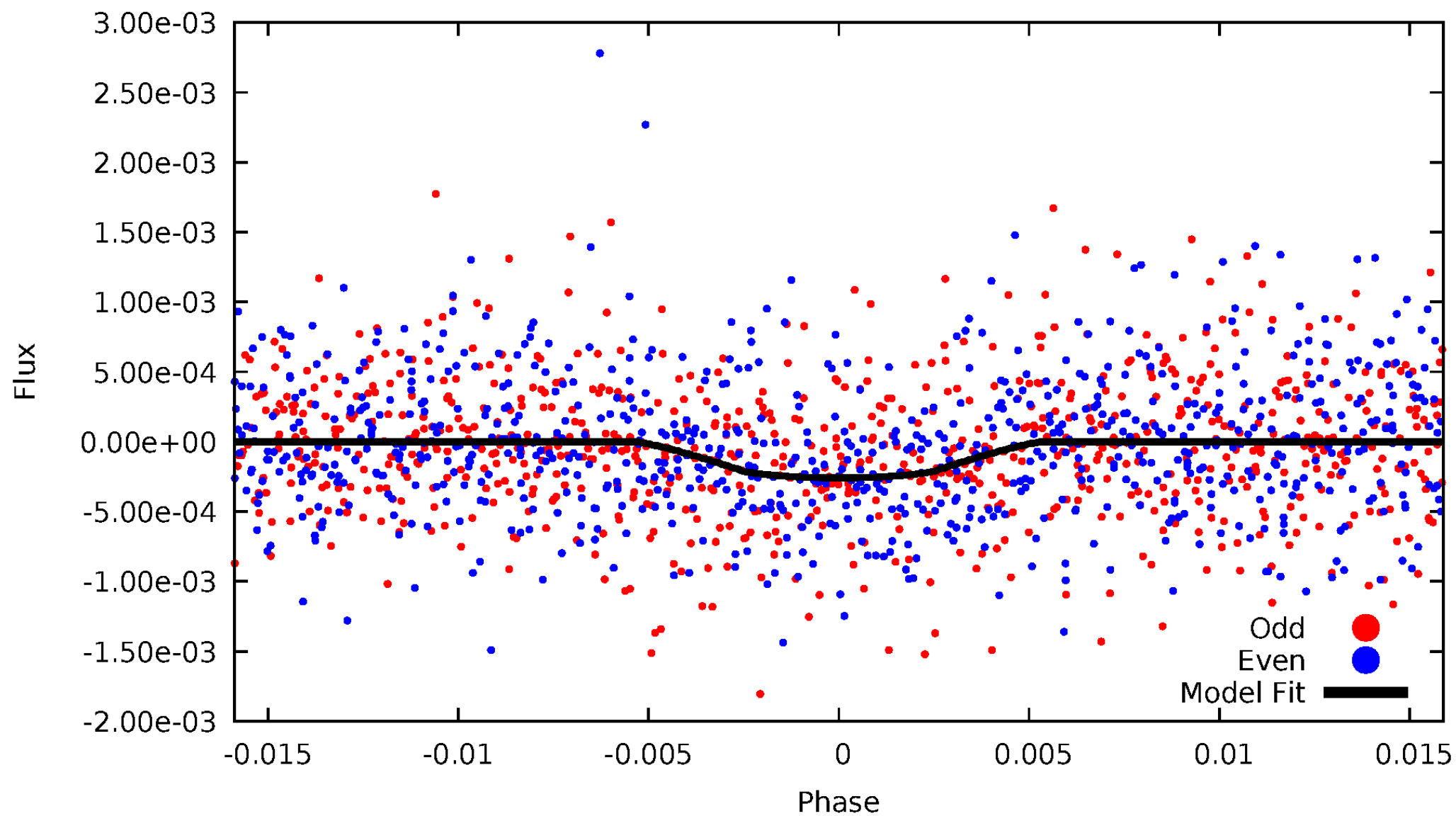


TCE 006019971-01



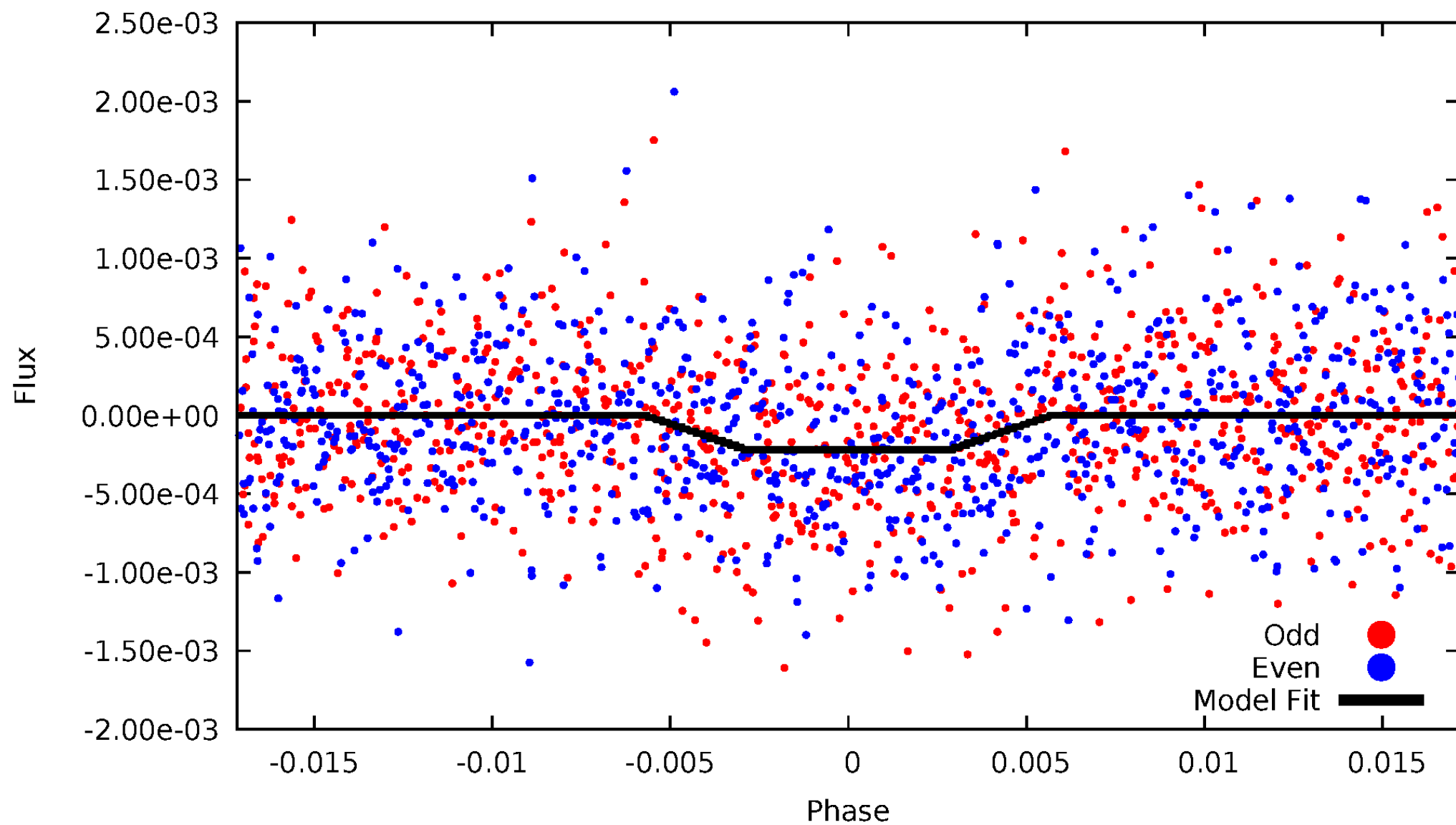
DV Odd/Even

TCE 006019971-01



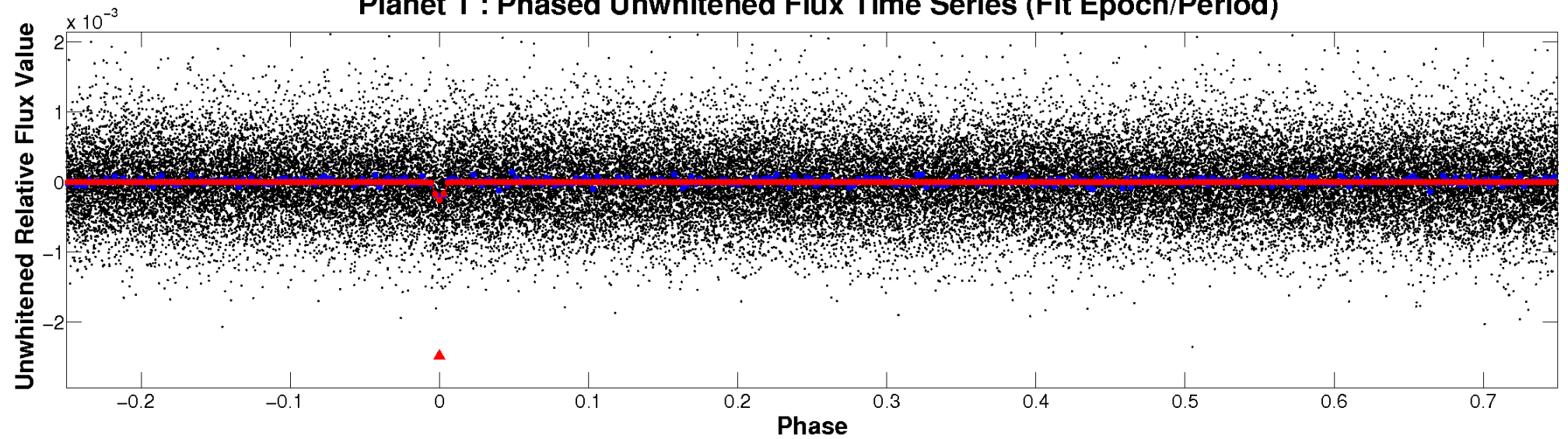
ALT Odd/Even

TCE 006019971-01

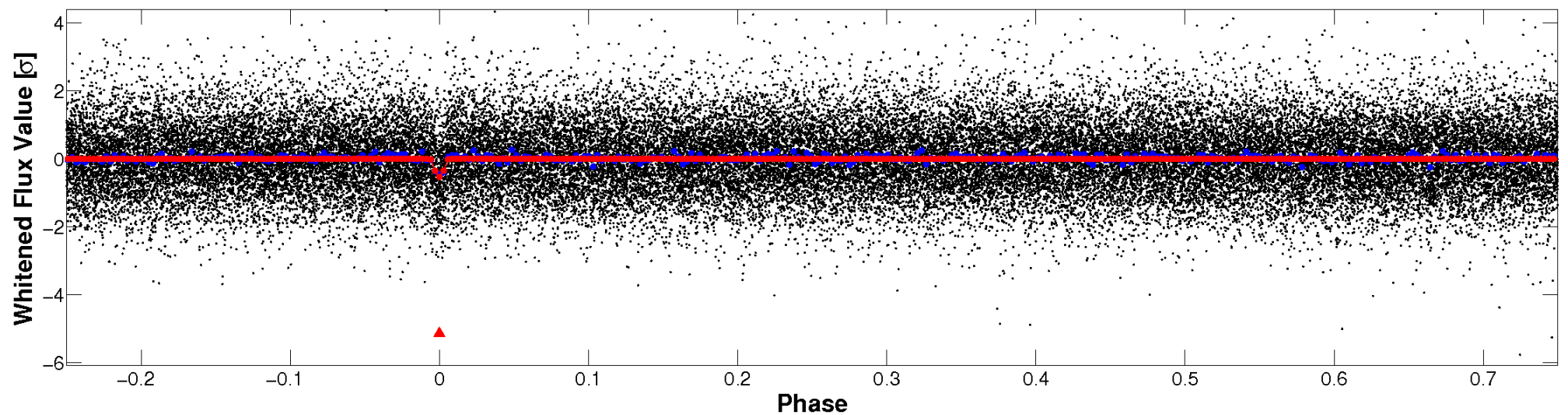


Non-Whitened Vs. Whitened Light Curve

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

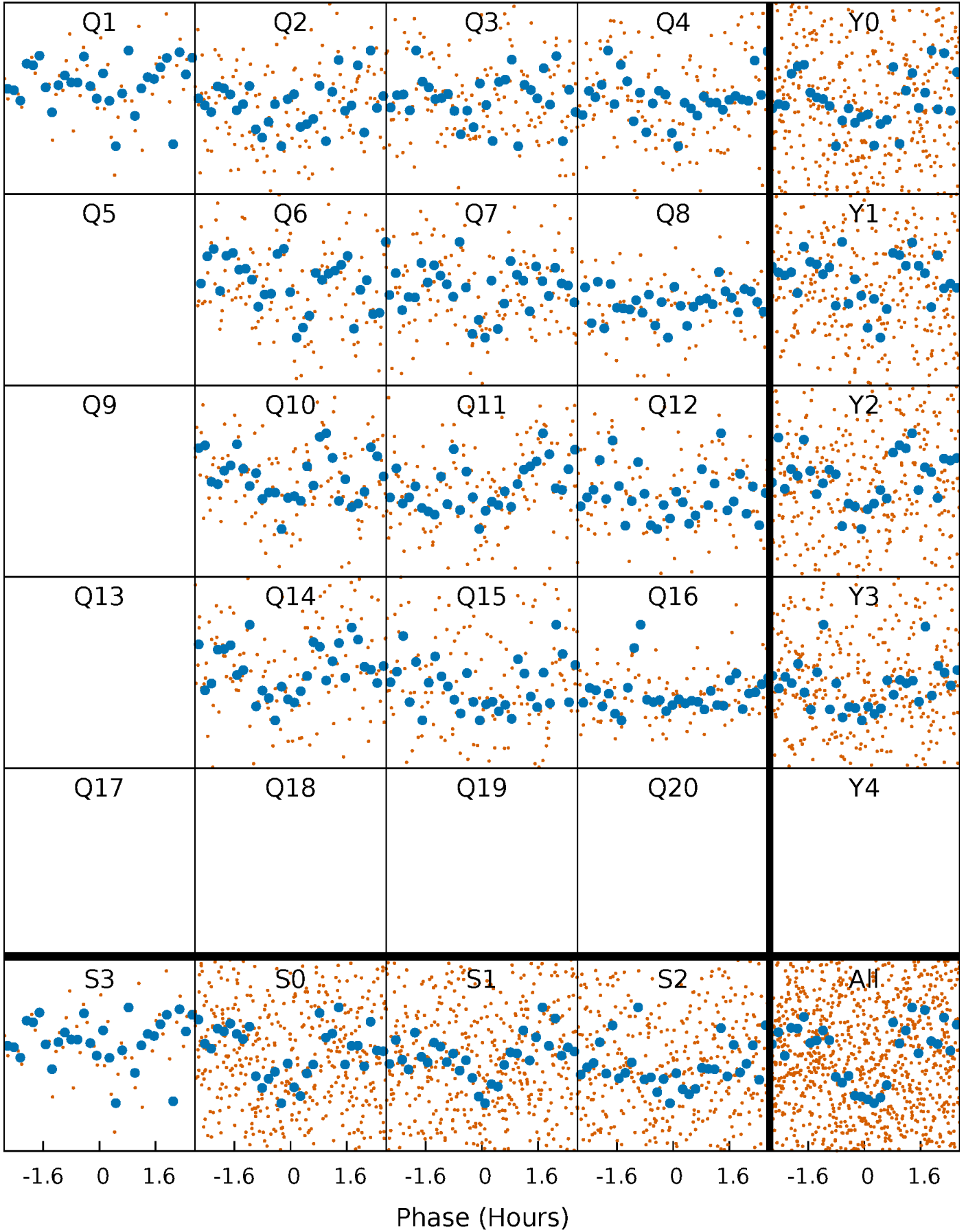


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



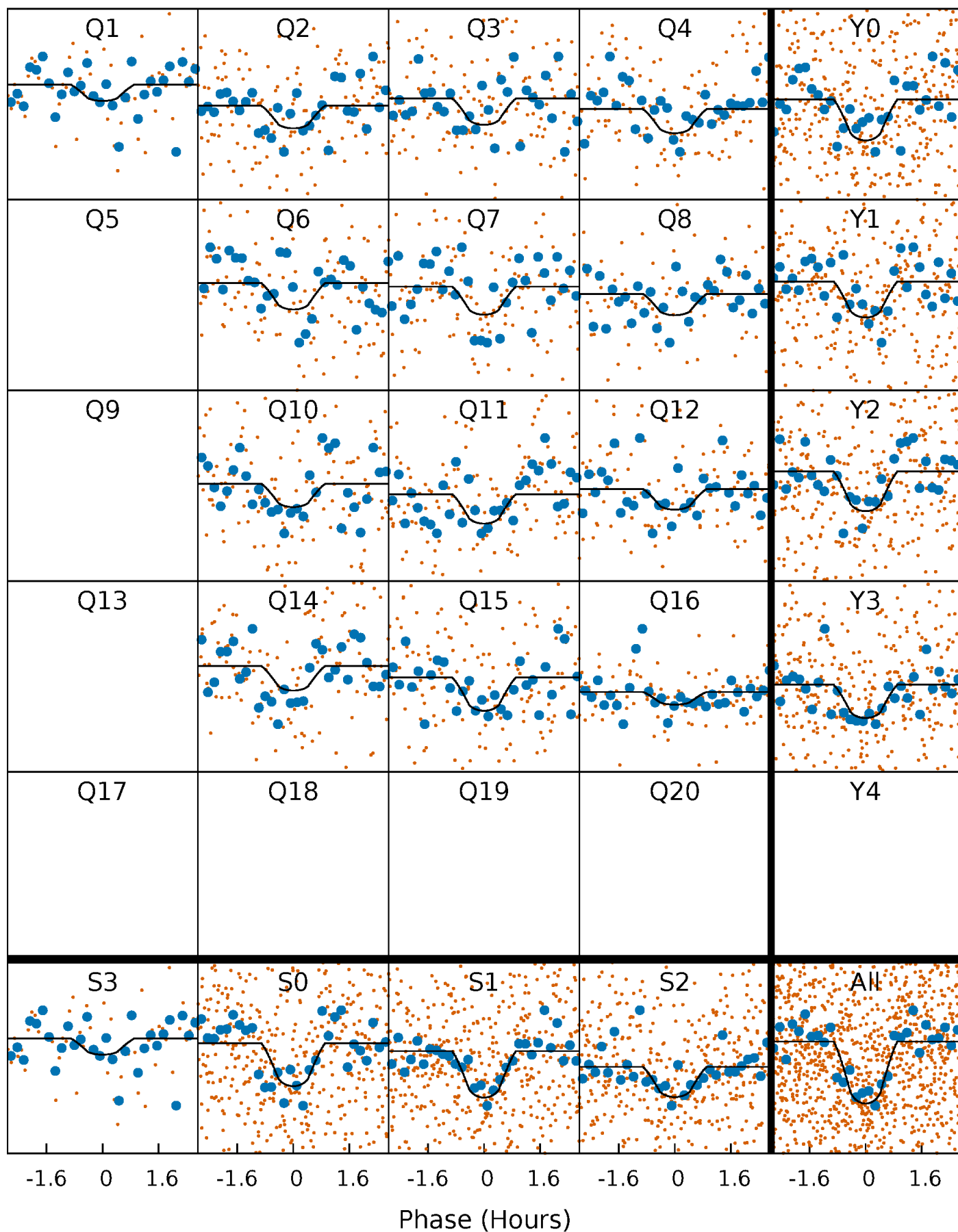
PDC Quarter-Phased Transit Curves

TCE 006019971-01 P= 7.135591 Days $T_0=135.107844$ (BKJD)



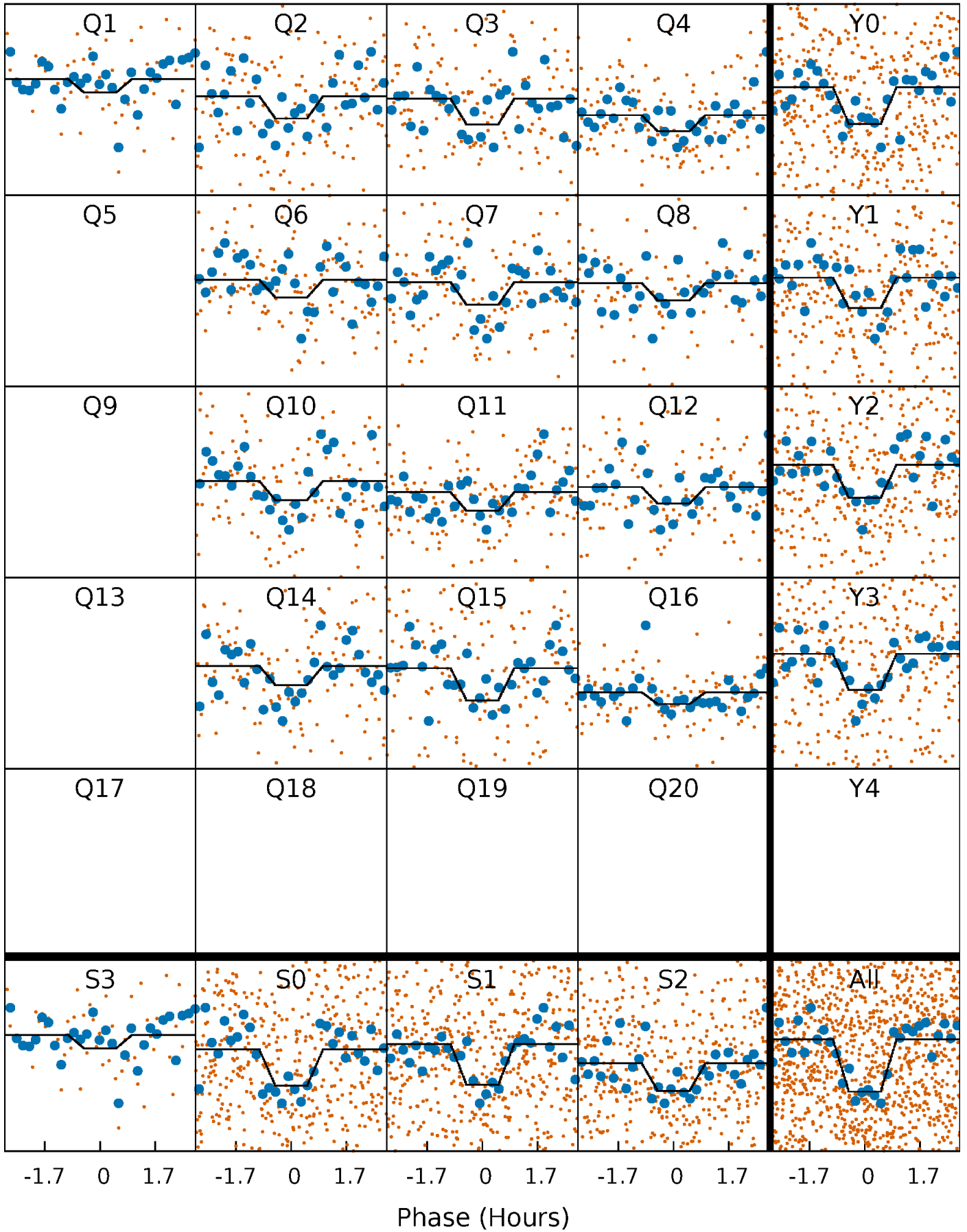
DV Quarter-Phased Transit Curves

TCE 006019971-01 P= 7.135591 Days $T_0=135.107844$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

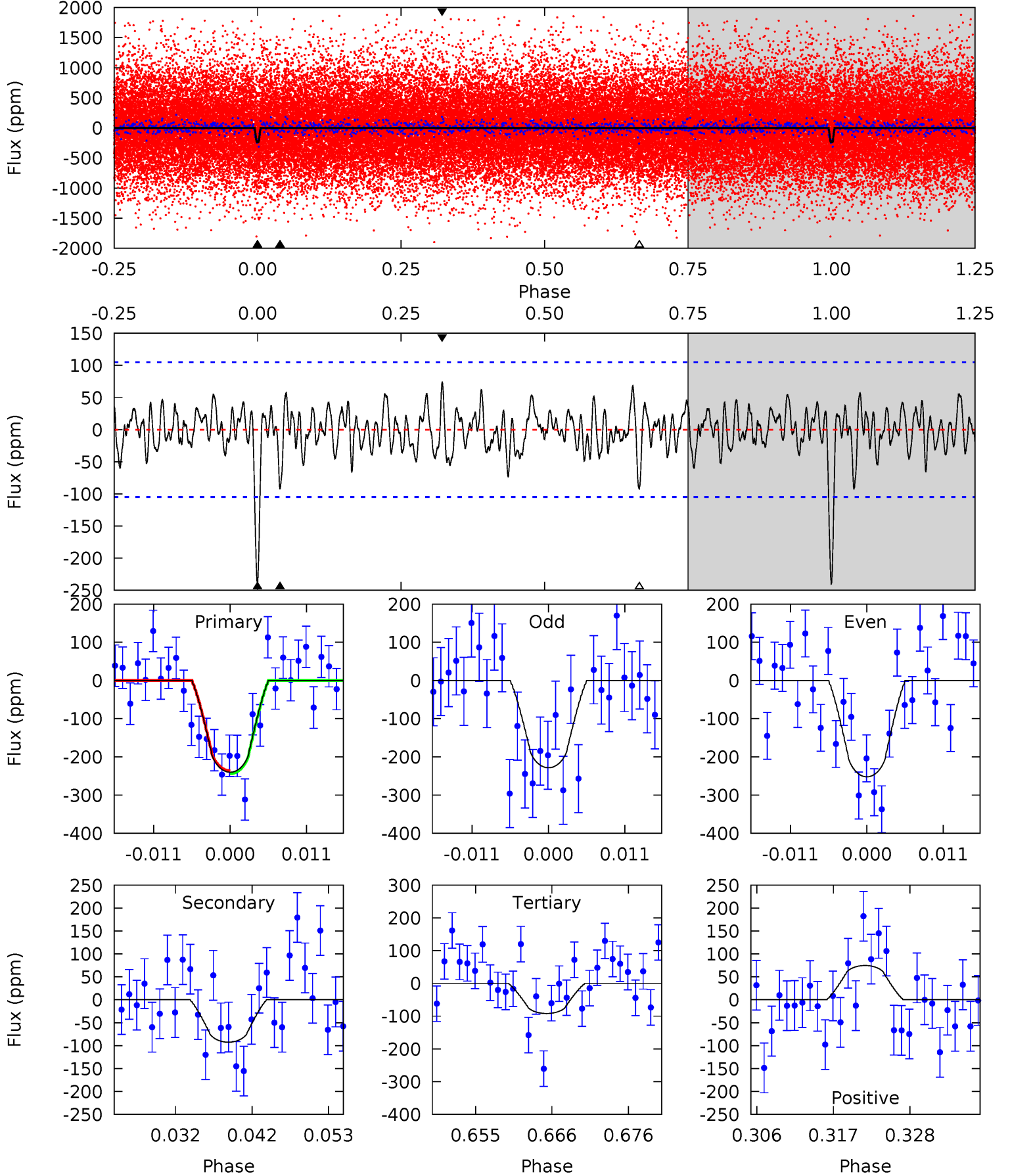
TCE 006019971-01 P= 7.135615 Days $T_0=135.101945$ (BKJD)



DV Model-Shift Uniqueness Test

006019971-01, P = 7.135591 Days, E = 127.972253 Days

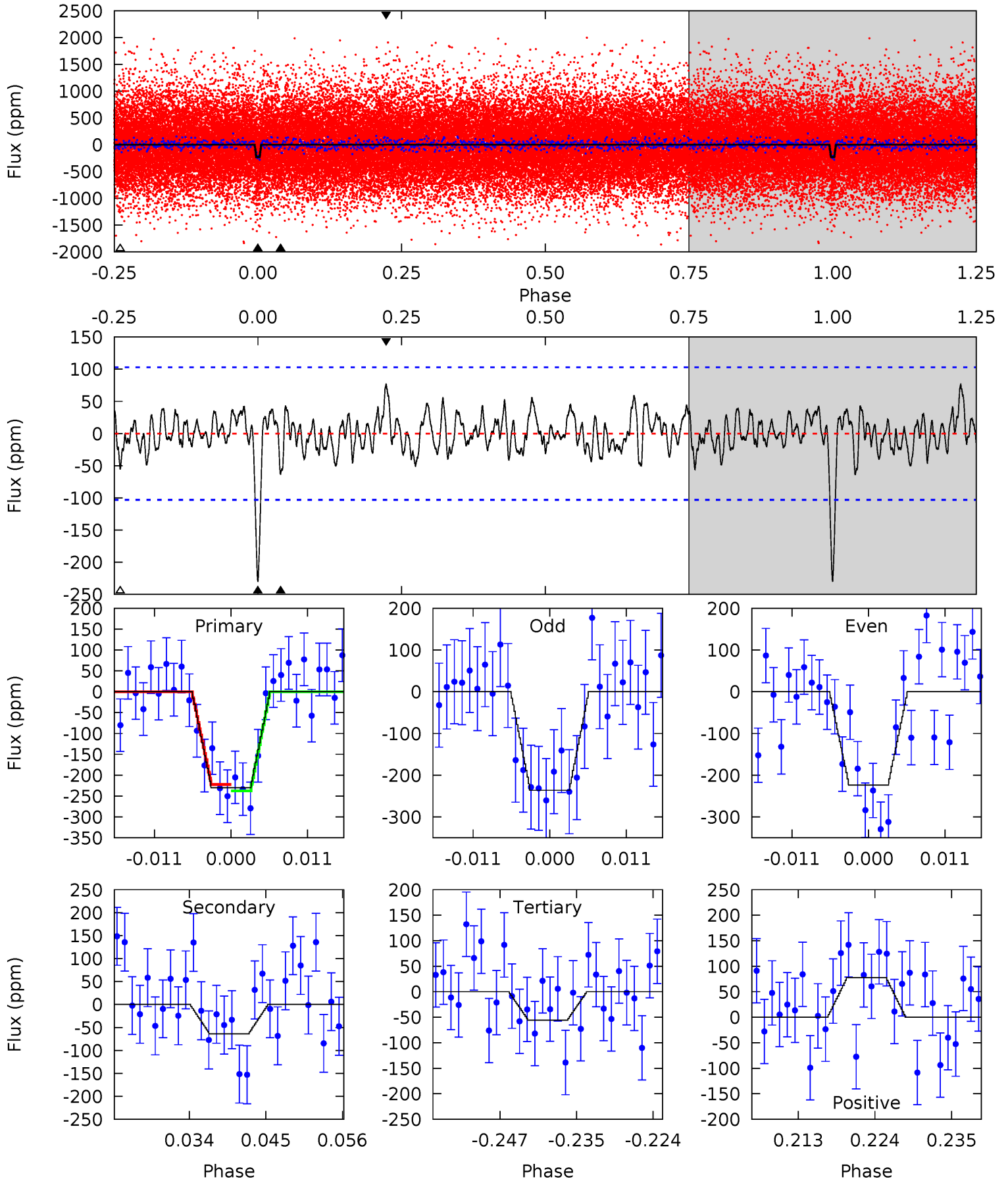
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	4.43	4.40	3.57	5.02	2.56	1.27	7.09	7.91	0.03	0.85	0.57	0.97	0.24	0.19



Alt Model-Shift Uniqueness Test

006019971-01, P = 7.135615 Days, E = 127.966330 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	3.10	2.71	3.78	5.00	2.54	1.14	8.47	7.40	0.39	-0.68	0.30	0.98	0.25	0.38



Stellar Parameters For KIC 006019971

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4926^{+148}_{-148}	$4.522^{+0.084}_{-0.045}$	$0.070^{+0.250}_{-0.300}$	$0.793^{+0.059}_{-0.078}$	$0.763^{+0.077}_{-0.056}$	$2.153^{+0.708}_{-0.345}$
	+3%/-3%	+2%/-1%	+357%/-429%	+7%/-10%	+10%/-7%	+33%/-16%
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 006019971-01 / KOI 6646.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-93 ± 21	$2.04^{+2.06}_{-1.38}$	1045^{+40}_{-42}	3521^{+1897}_{-654}	53^{+426}_{-40}
Alt.	-64 ± 21	$2.18^{+2.11}_{-1.46}$	1043^{+41}_{-41}	3247^{+1508}_{-557}	31^{+262}_{-23}

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

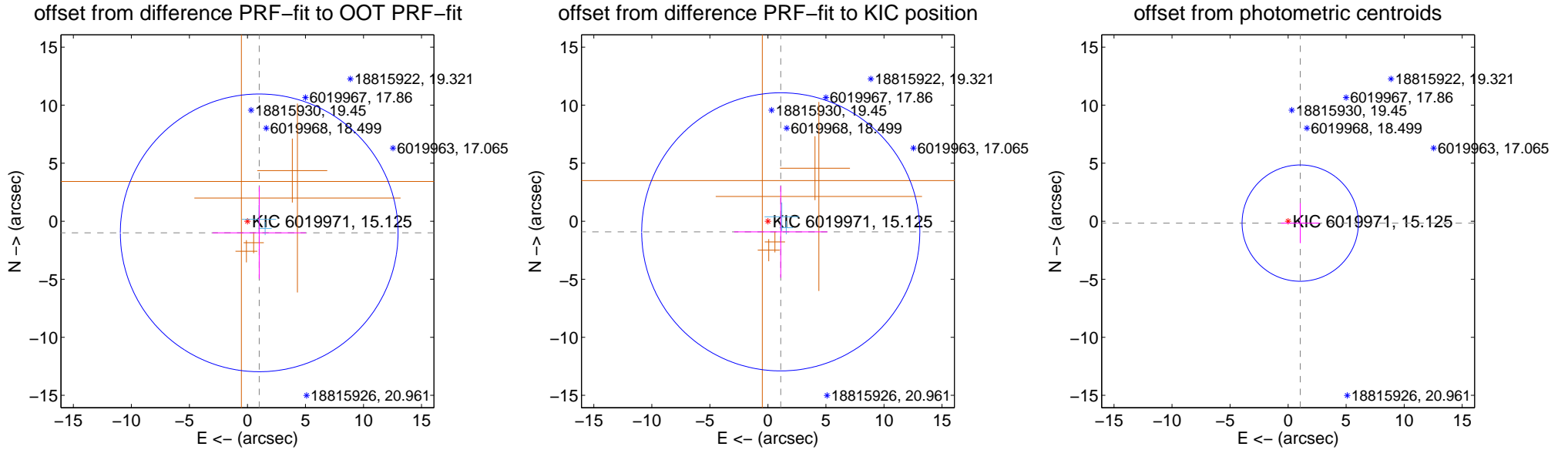
DV Centroid Data

Supplemental centroid analysis for 006019971-01. Kepler magnitude: 15.12. Transit SNR 8.71

There are 2 quarters with good PRF difference image offsets

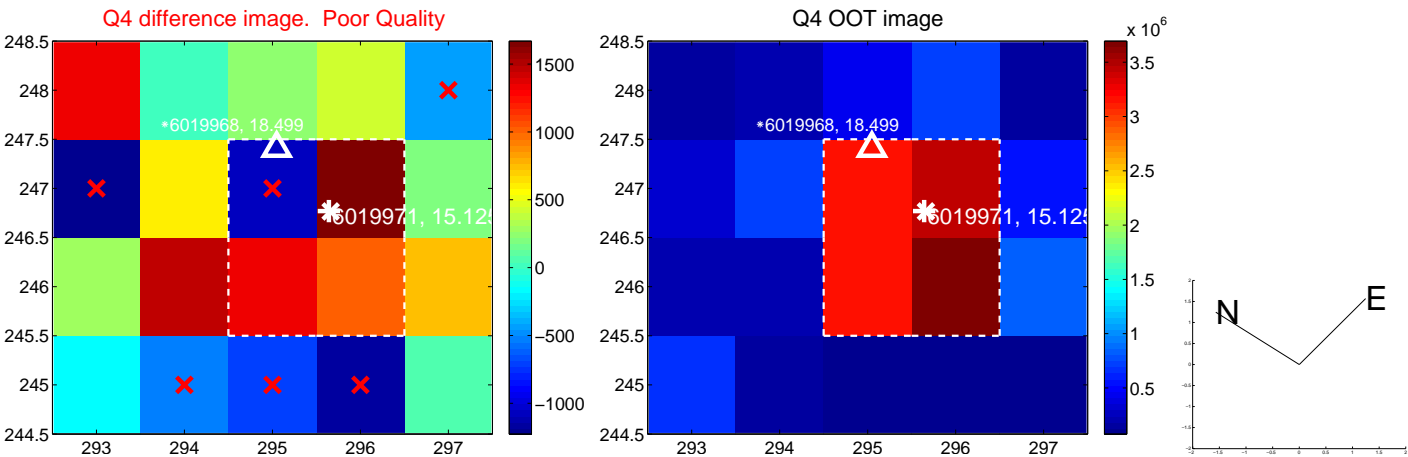
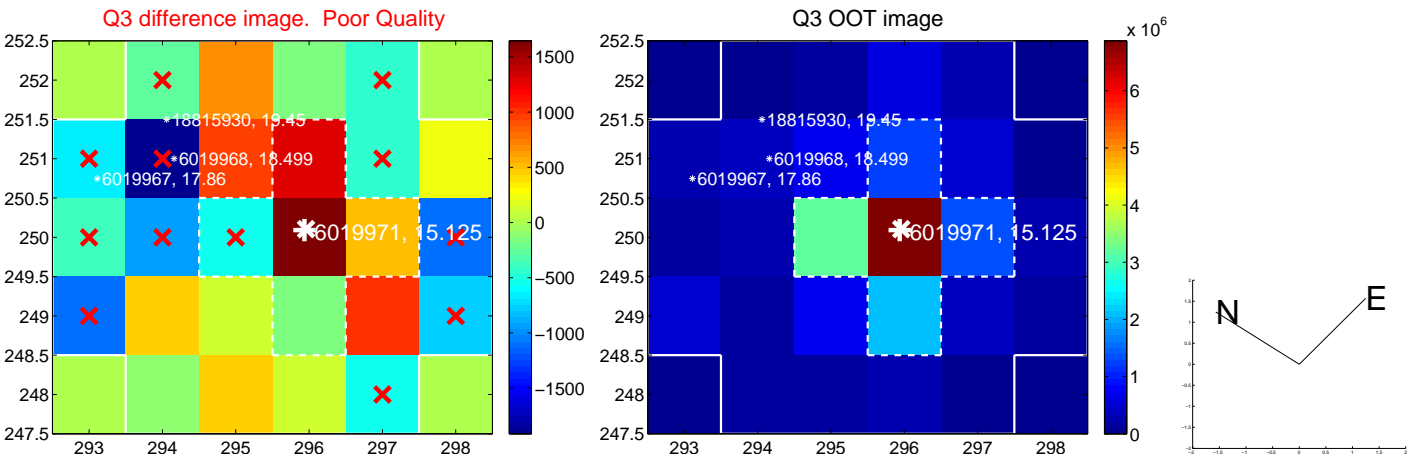
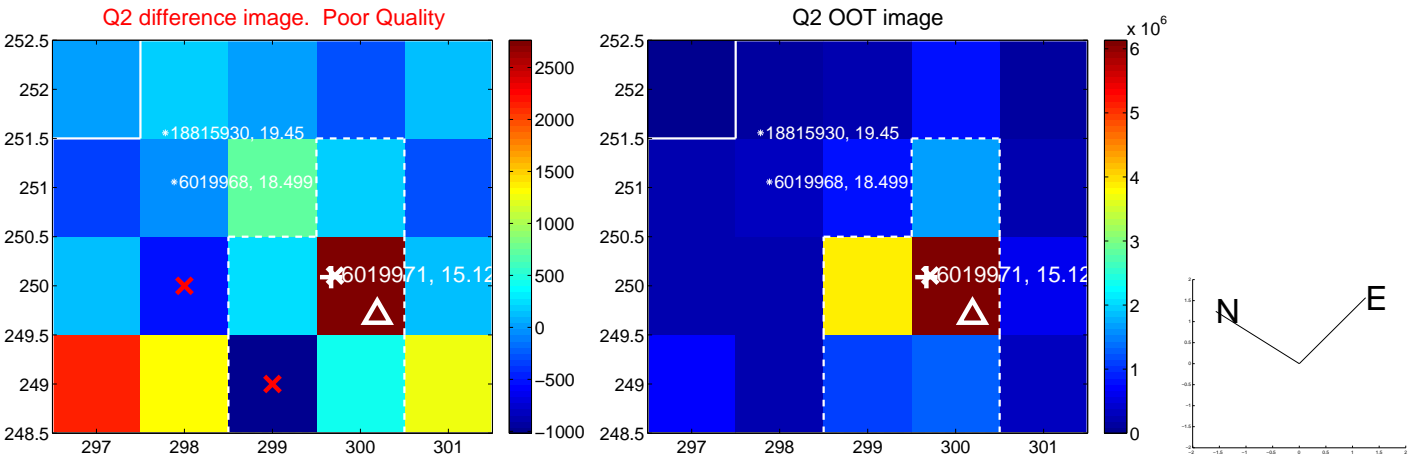
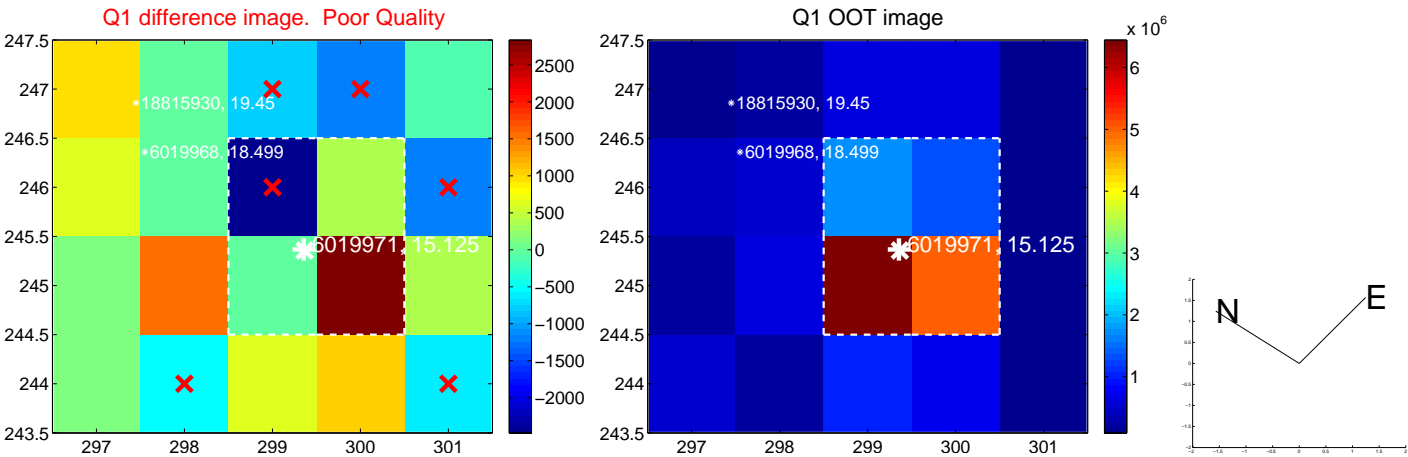
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.425 ± 3.988	0.36	-1.013 ± 4.020	-1.002 ± 3.954
PRF-fit source offset from KIC position	1.435 ± 3.993	0.36	-1.106 ± 4.020	-0.915 ± 3.954
photometric centroid source offset	1.06 ± 1.67	0.63	-1.05 ± 1.67	-0.16 ± 1.72

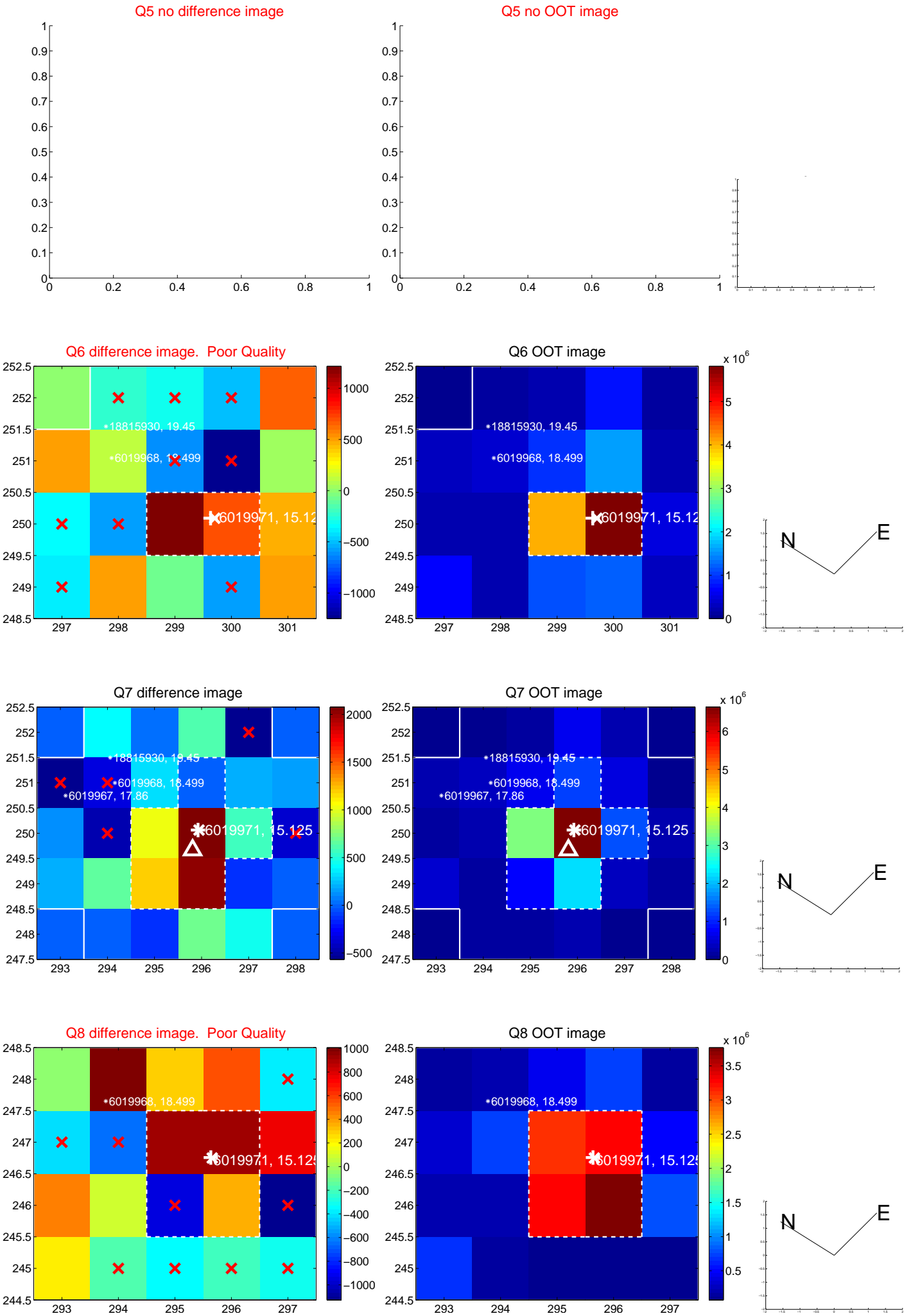


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

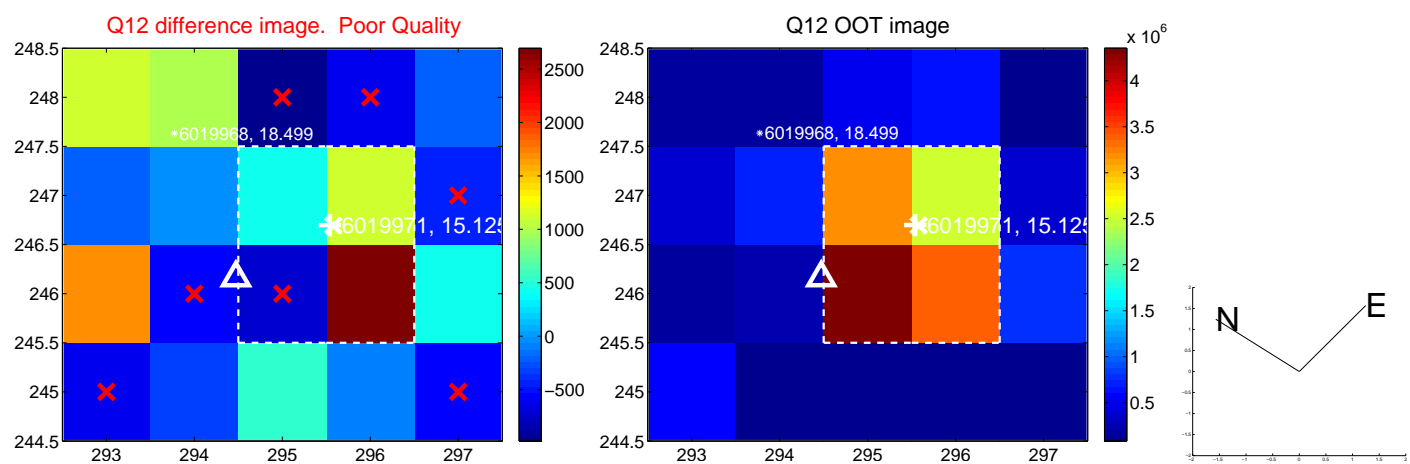
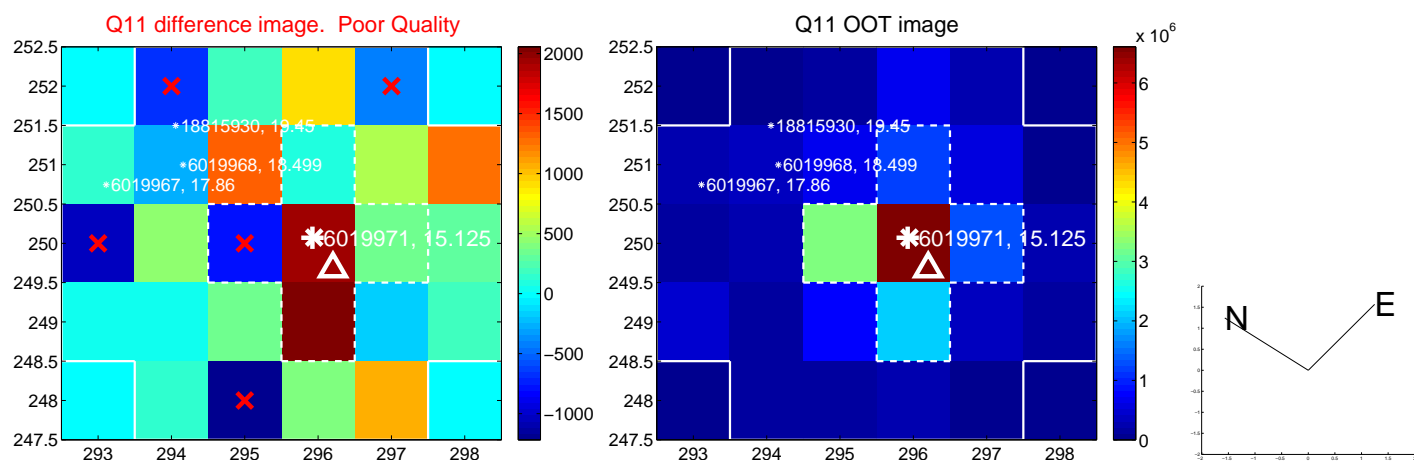
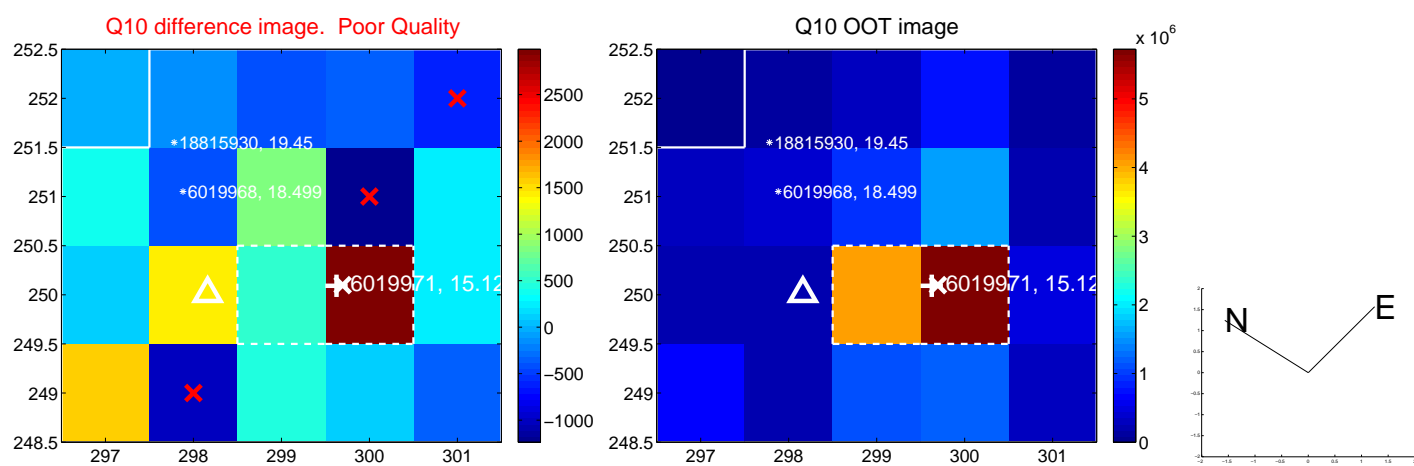
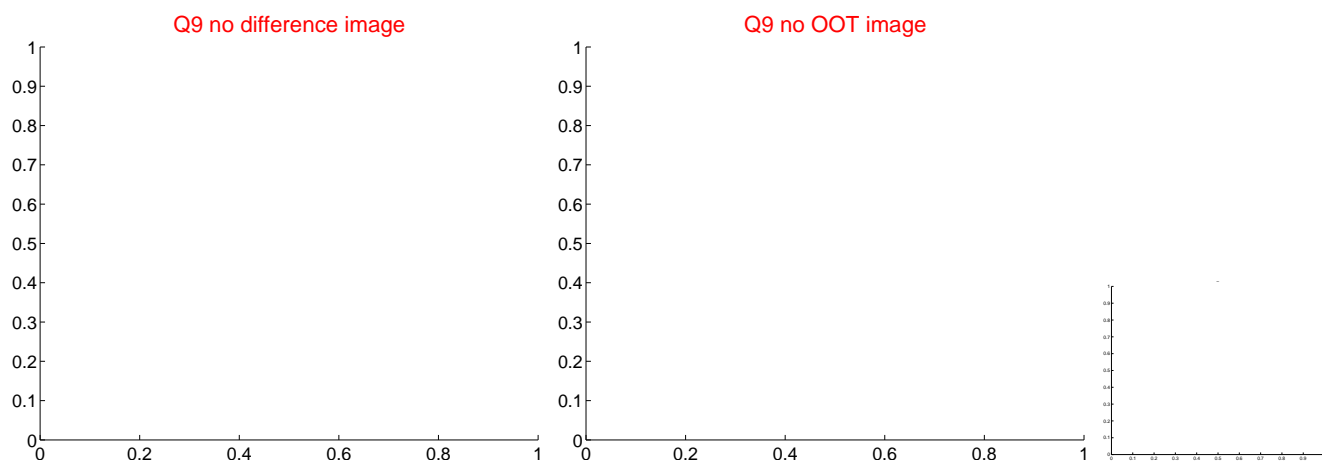
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



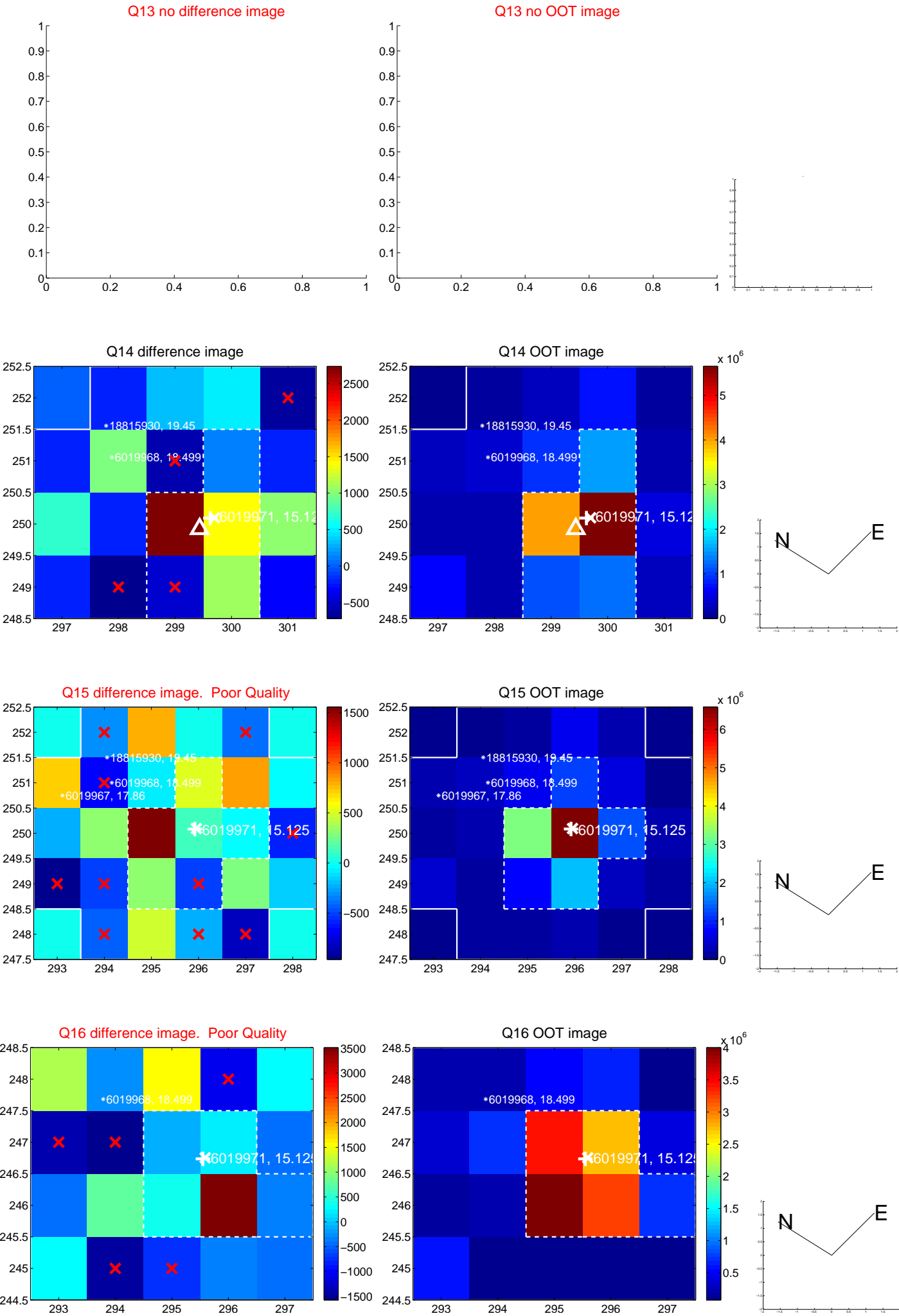
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



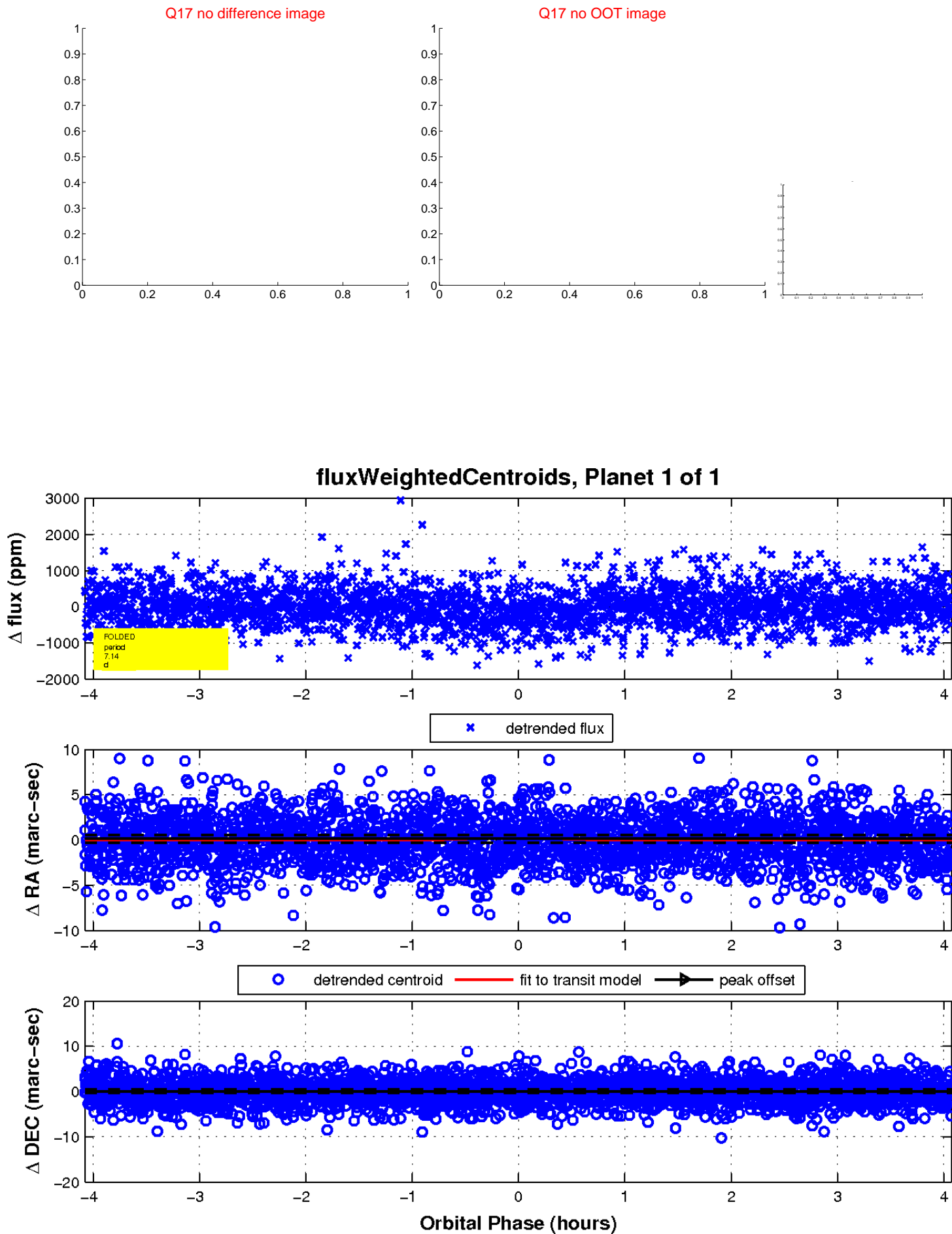
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



UKIRT Image

Declination

