

KIC 003973002

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})
003973002-01	OBS	6376.01	1.992098	132.891270	64119.9	4.086	5342.1	3262.6	0.90	6024	33.16	1005.04

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003973002-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED

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.

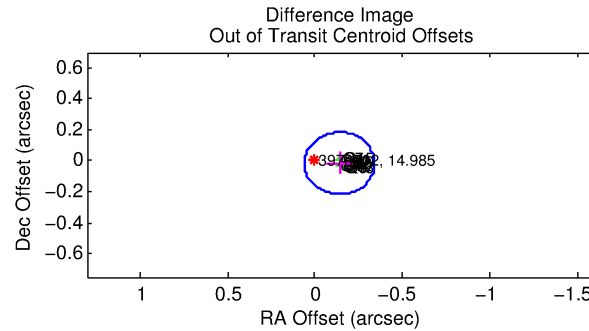
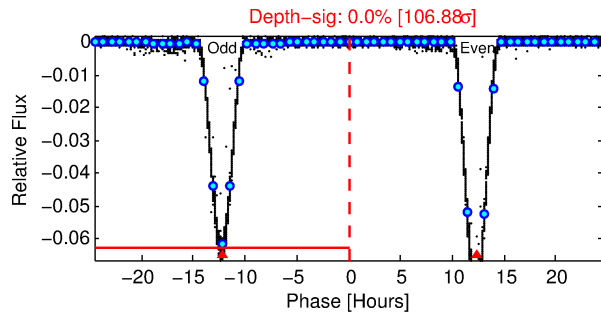
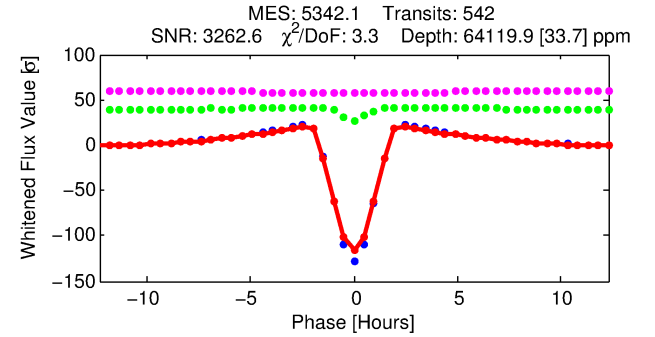
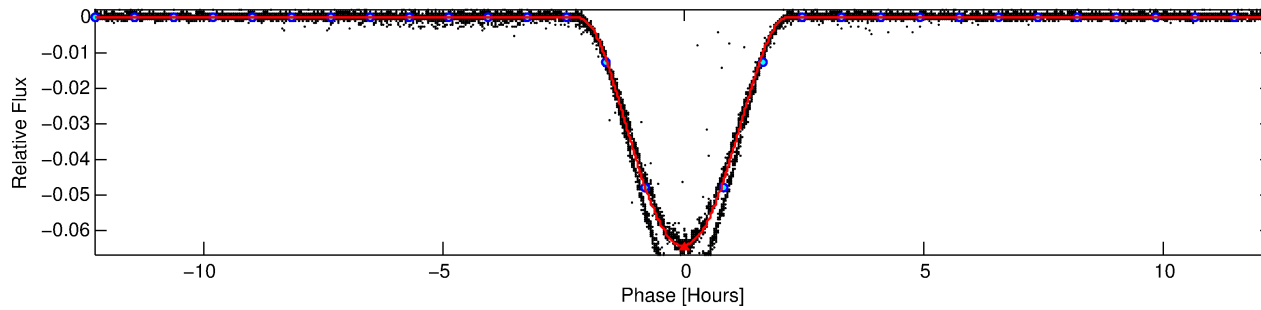
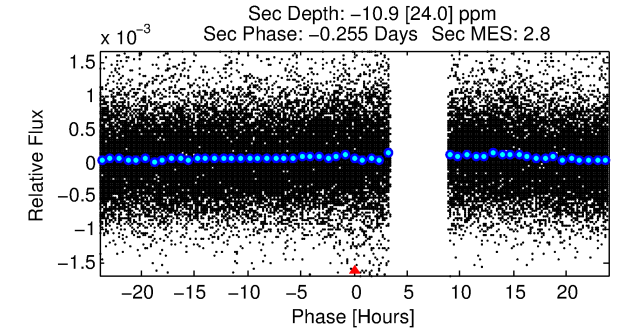
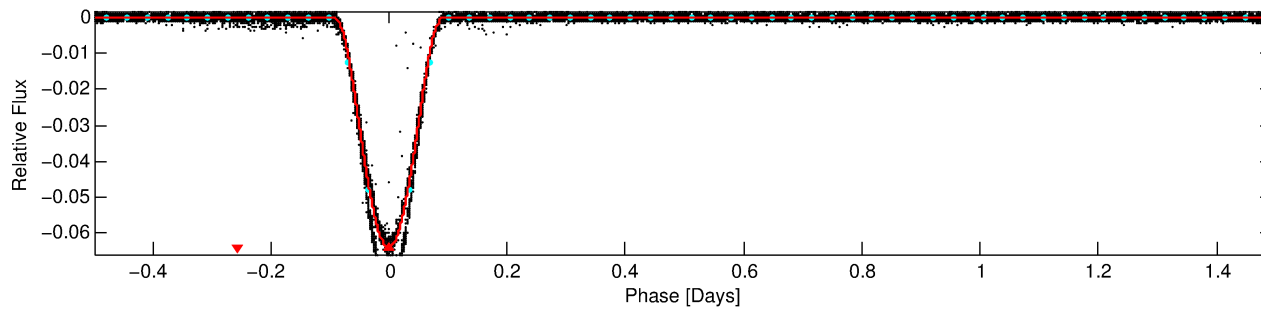
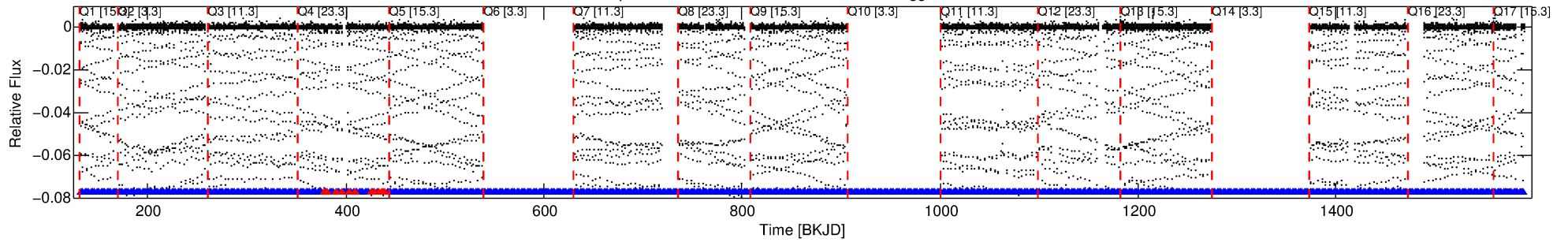
Ephemeris Match Information For 003973002-01

No Significant Match Found

DV One-Page Summary

KIC: 3973002 Candidate: 1 of 1 Period: 1.992 d
KOI: K06376.01 Corr: 0.995

Kp: 14.98 R*: 0.90 Rs Teff: 6024.0 K Logg: 4.52 Fe/H: -0.260



DV Fit Results:

Period = 1.99210 [0.00000] d
Epoch = 132.8913 [0.0000] BKJD
Rp/R* = 0.3376 [0.0068]
a/R* = 3.79 [0.00]
b = 0.92 [0.01]
Seff = 1005.04 [388.82]
Teq = 1436 [139] K
Rp = 33.16 [9.71] Re
a = 0.0308 [0.0076] AU
Ag = N/A
Teffp = N/A

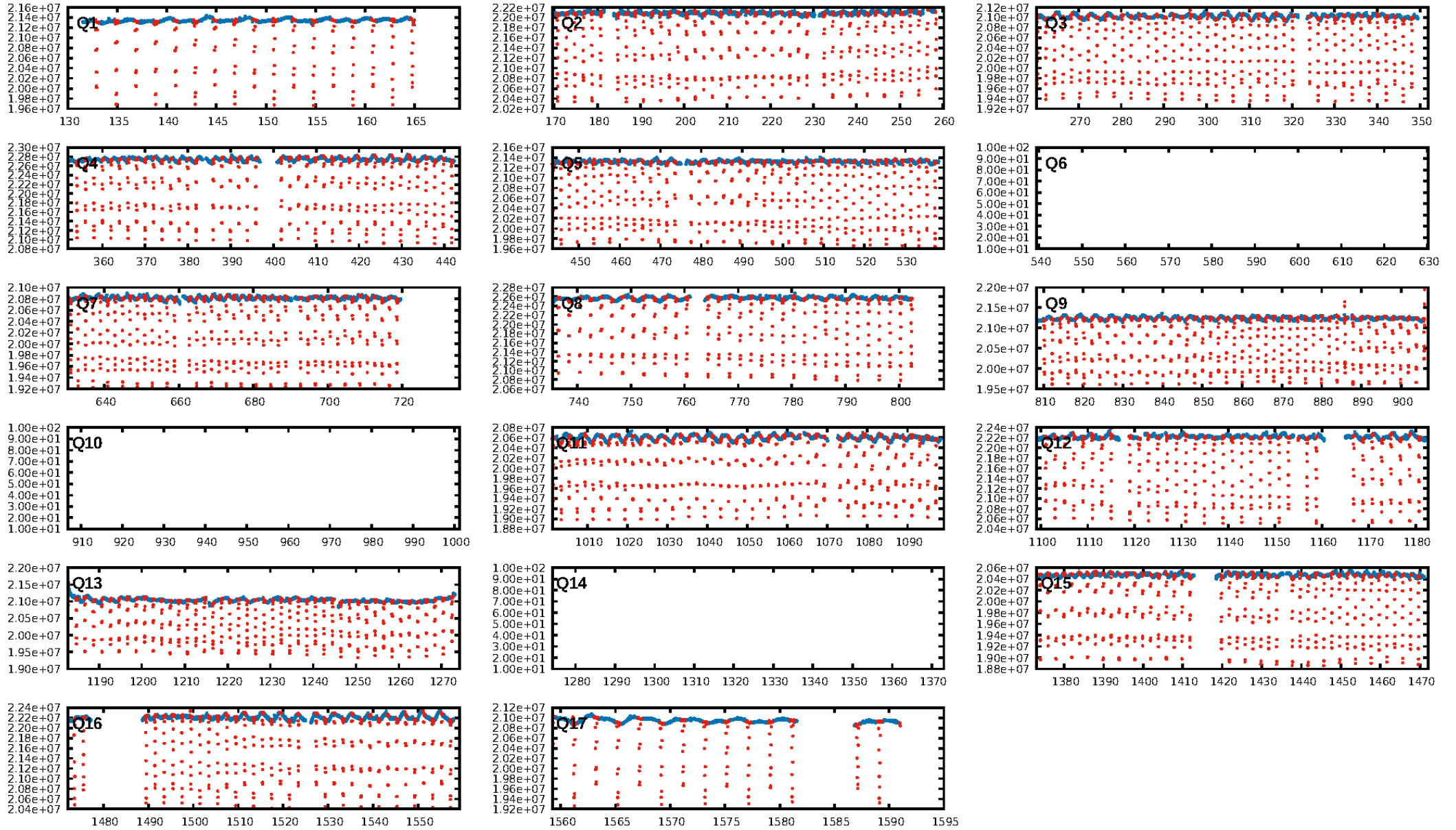
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.98 [499/511]
GhostDiagnostic-chr: 2.365
Centroid-sig: 0.0%
Centroid-so: 0.389 arcsec [157.85σ]
OotOffset-rm: 0.140 arcsec [2.10σ]
KicOffset-rm: 0.114 arcsec [1.70σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

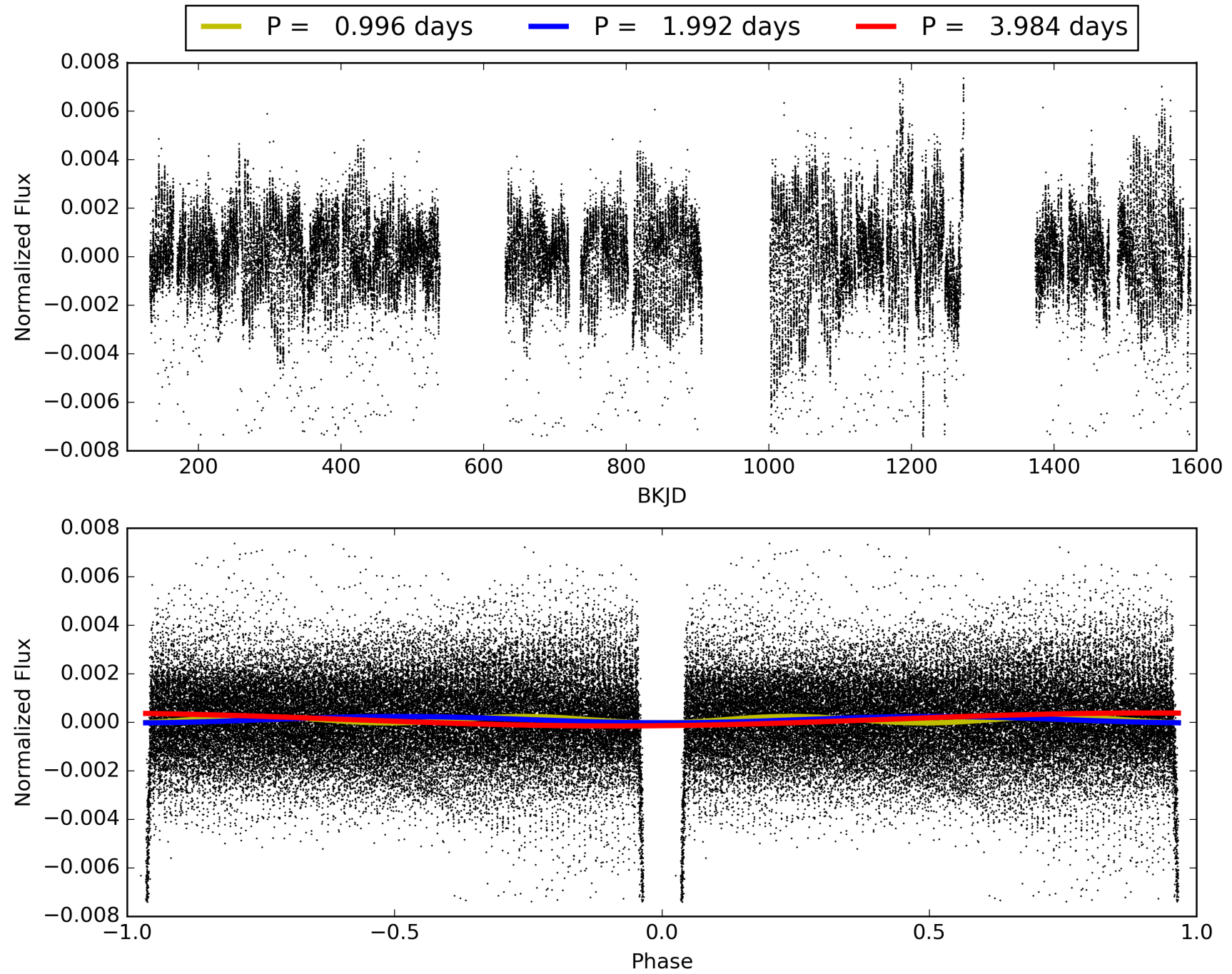
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 01:57:48 Z

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

TCE 003973002-01, PDC Light Curves

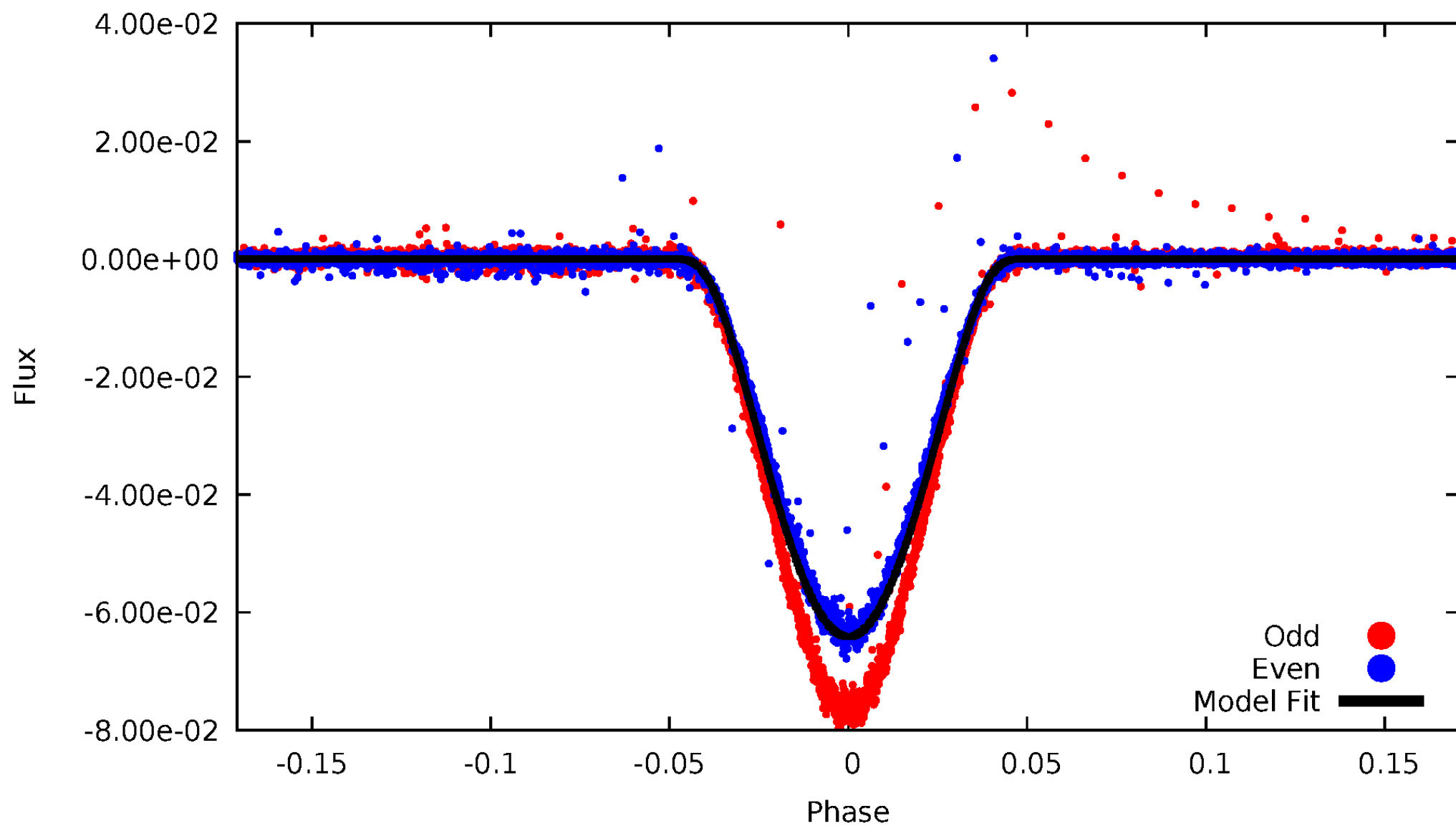


TCE 003973002-01



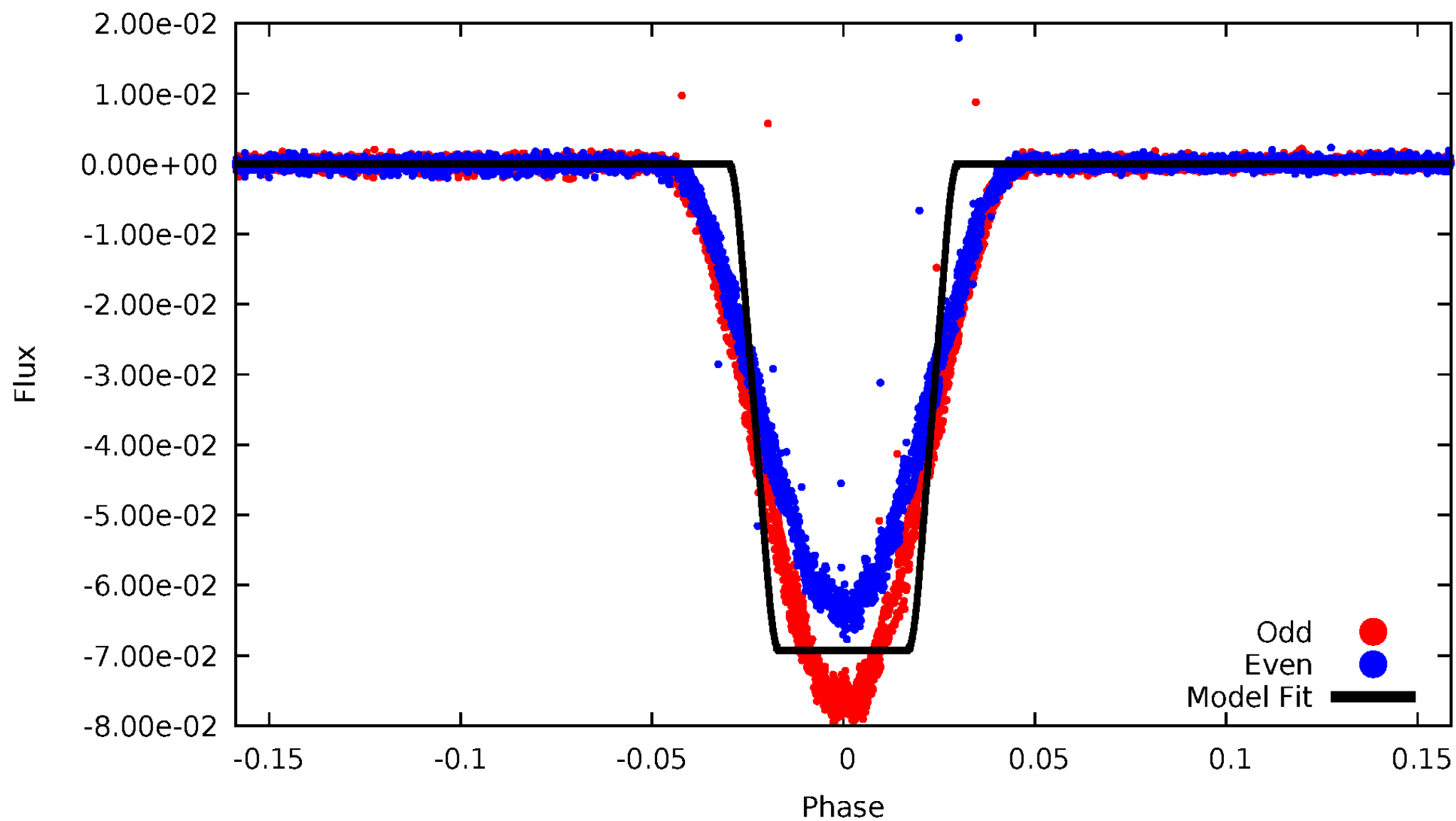
DV Odd/Even

TCE 003973002-01



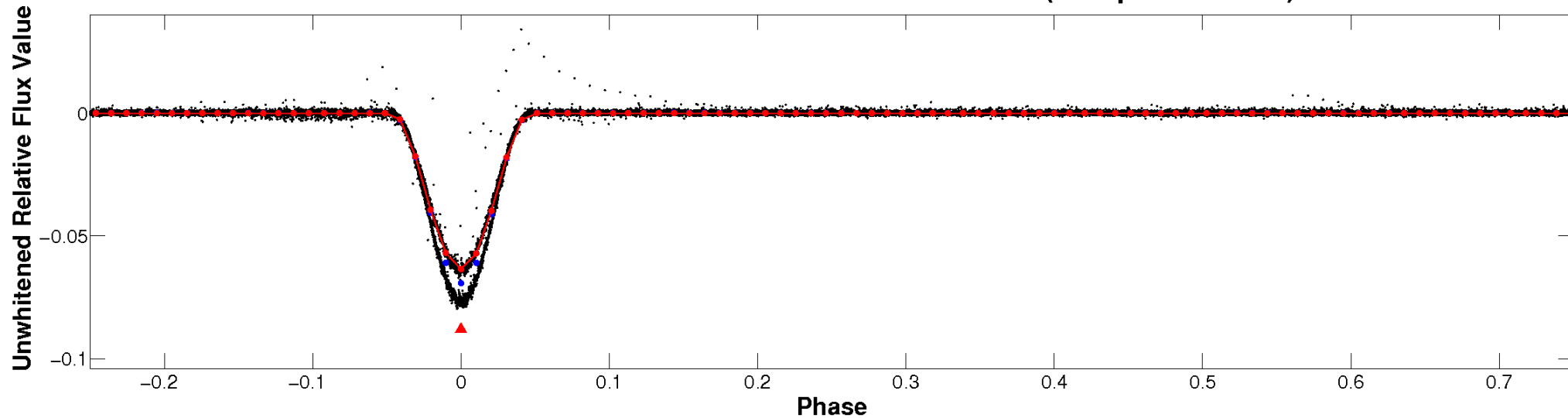
ALT Odd/Even

TCE 003973002-01

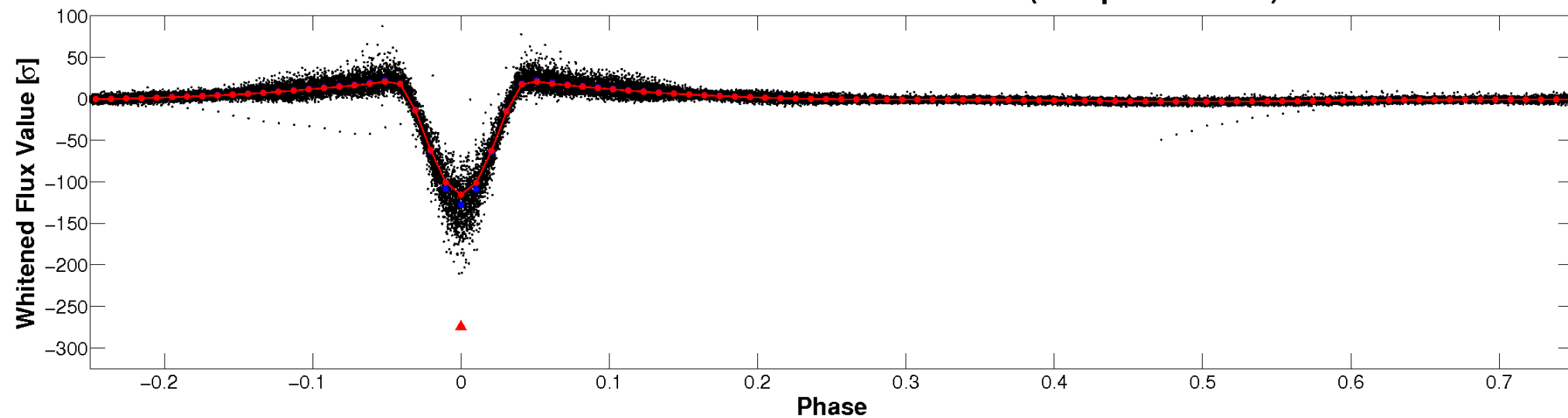


Non-Whitened Vs. Whitened Light Curve

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

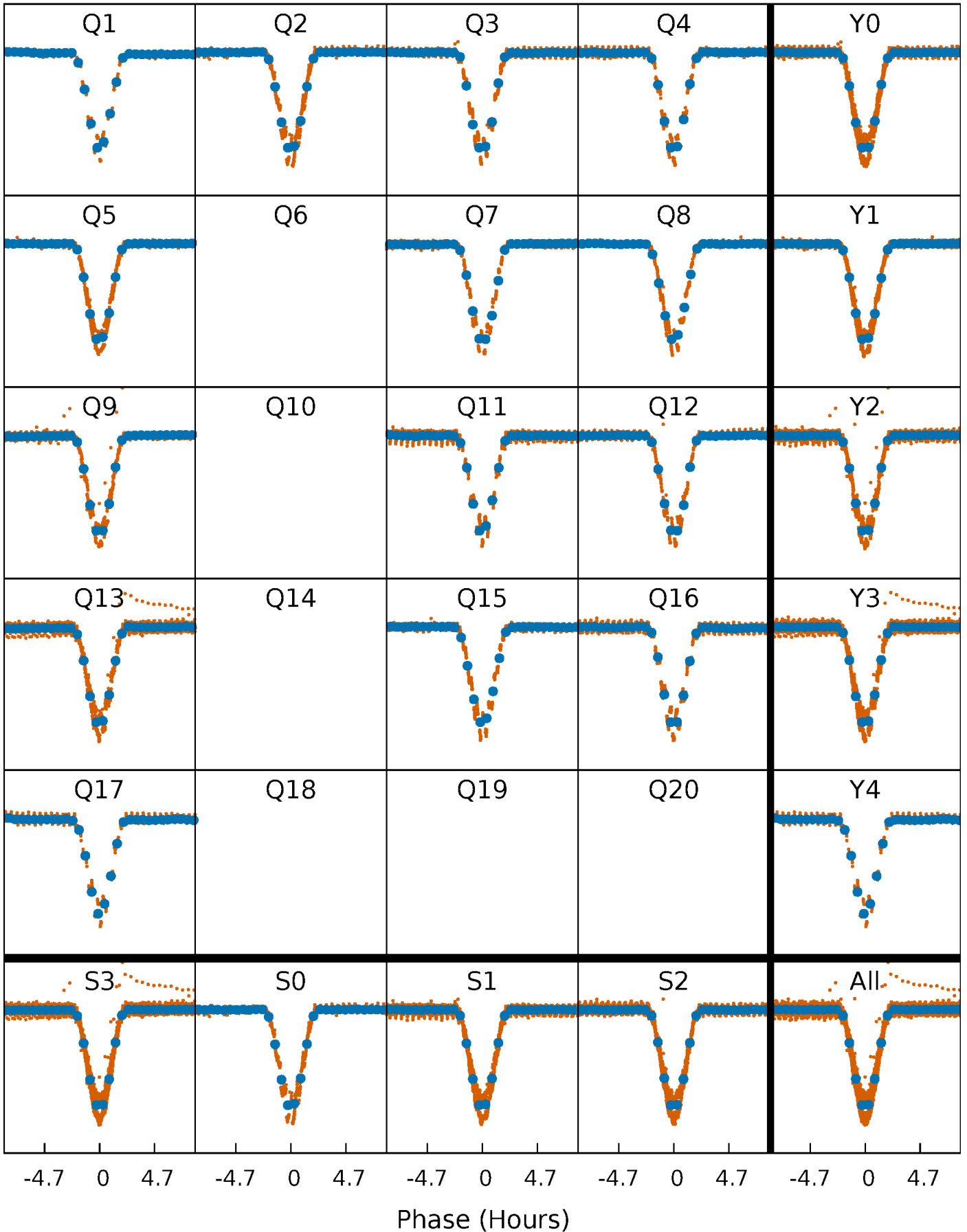


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



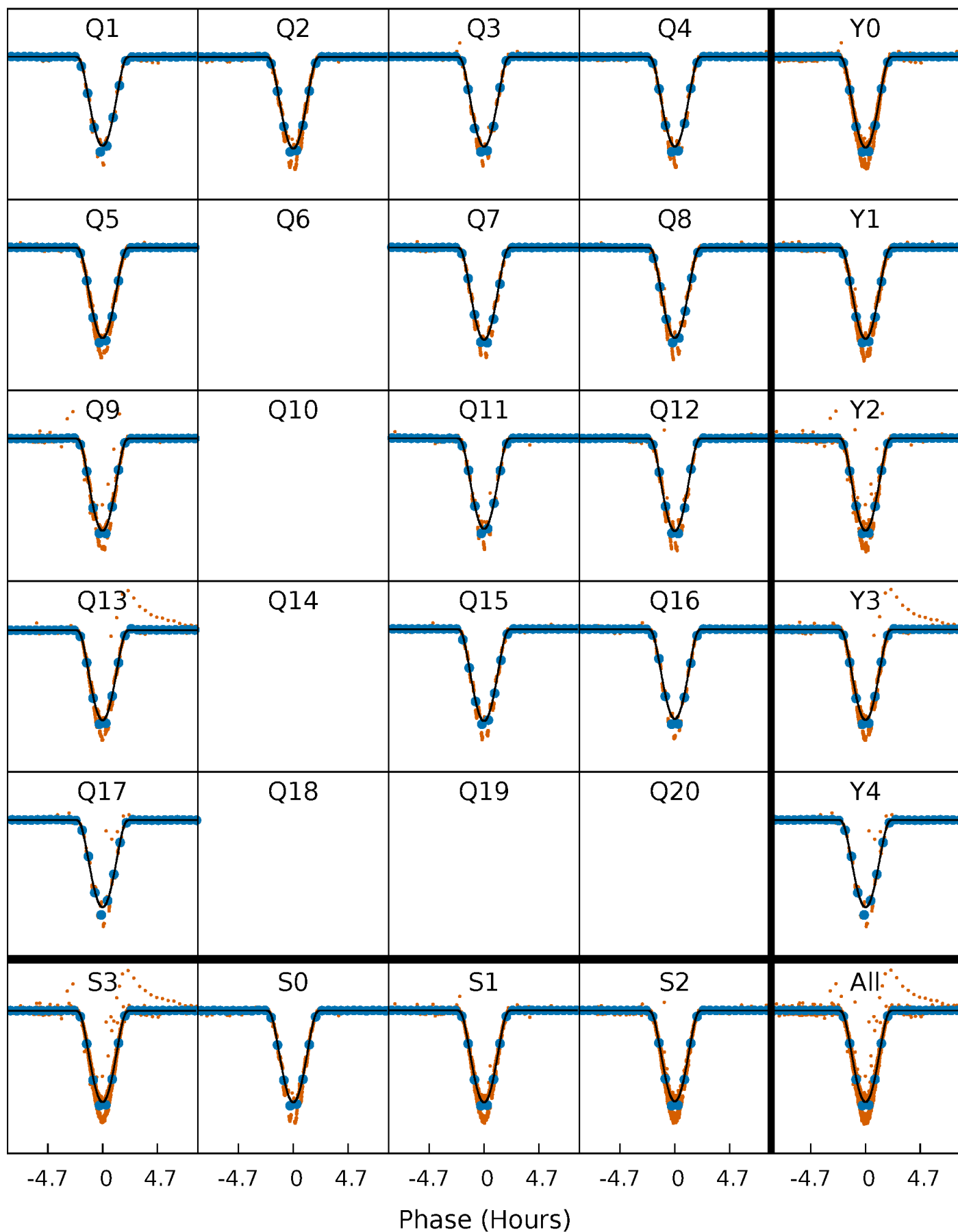
PDC Quarter-Phased Transit Curves

TCE 003973002-01 P= 1.992098 Days $T_0=132.891270$ (BKJD)



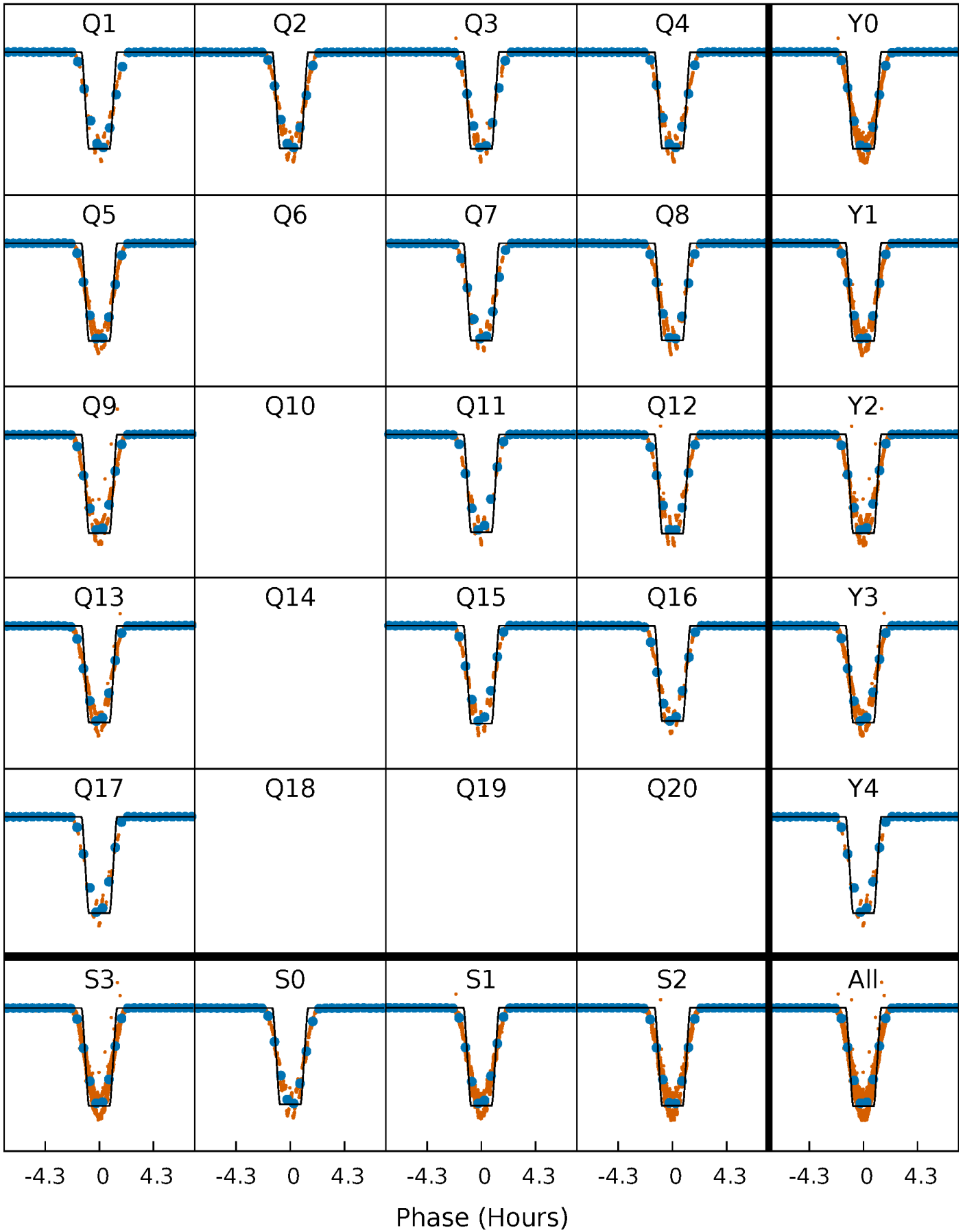
DV Quarter-Phased Transit Curves

TCE 003973002-01 P= 1.992098 Days $T_0=132.891270$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

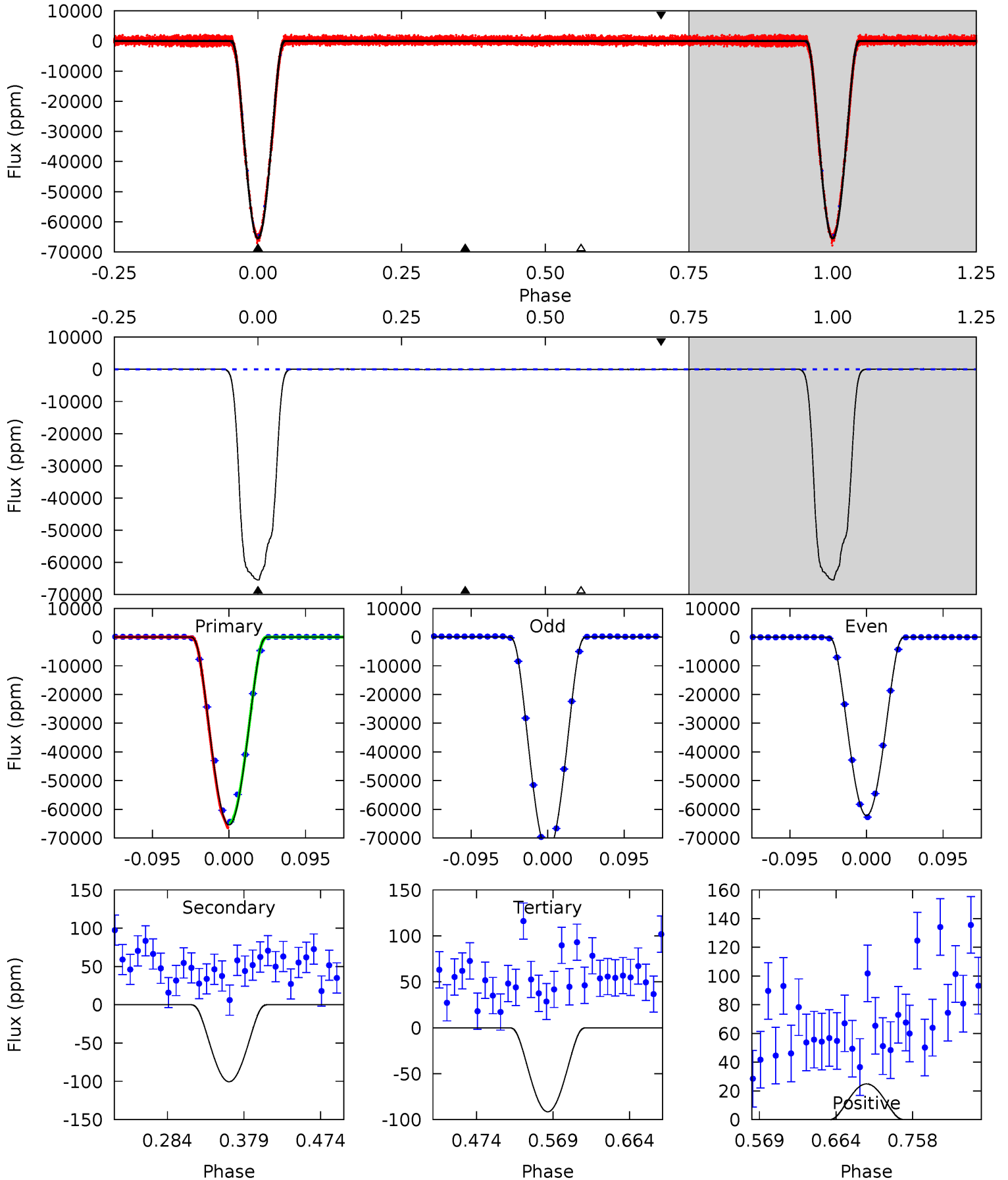
TCE 003973002-01 P= 1.992108 Days $T_0=132.888006$ (BKJD)



DV Model-Shift Uniqueness Test

003973002-01, P = 1.992098 Days, E = 130.899172 Days

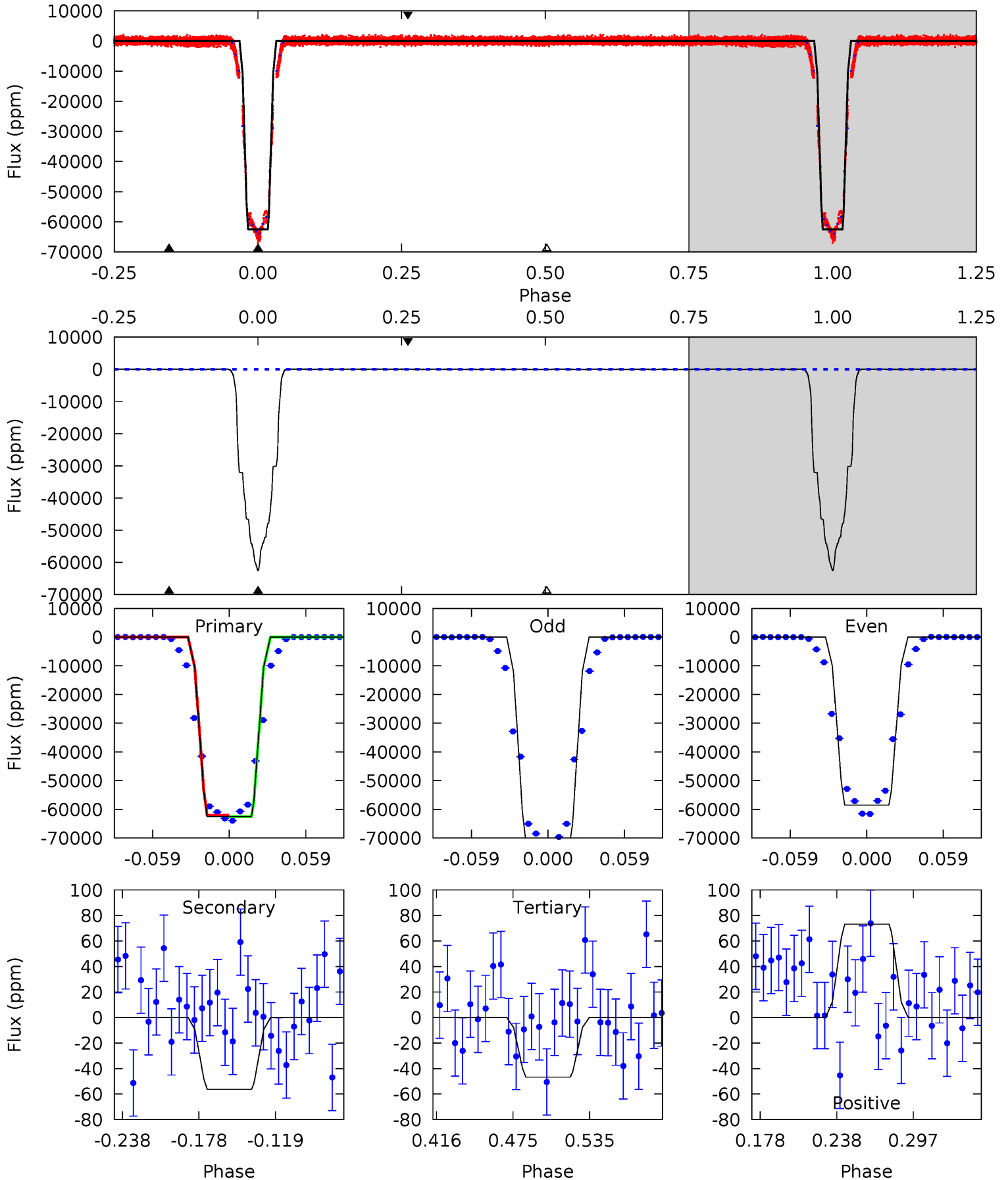
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6720	10.3	9.39	2.55	4.58	1.67	4.66	6710	6717	0.93	7.77	886.6	1.05	0.00	0



Alt Model-Shift Uniqueness Test

003973002-01, P = 1.992108 Days, E = 130.895898 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3182	2.86	2.38	3.72	4.67	1.89	1.27	3180	3178	0.49	-0.86	468.6	1.05	0.00	0



Stellar Parameters For KIC 003973002

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6024^{+163}_{-199}	$4.523^{+0.050}_{-0.200}$	$-0.260^{+0.300}_{-0.300}$	$0.900^{+0.263}_{-0.088}$	$0.985^{+0.120}_{-0.132}$	$1.903^{+0.484}_{-0.933}$
	+3%/-3%	+1%/-4%	+115%/-115%	+29%/-10%	+12%/-13%	+25%/-49%
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 003973002-01 / KOI 6376.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-101 ± 10	$34.04^{+5.33}_{-2.71}$	2050^{+139}_{-101}	-2477^{+65}_{-92}	$0.044^{+0.009}_{-0.010}$
Alt.	-56 ± 20	$26.47^{+4.40}_{-2.19}$	2042^{+149}_{-94}	-2477^{+66}_{-99}	$0.039^{+0.019}_{-0.014}$

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 $A_{obs} \gg 1.0$

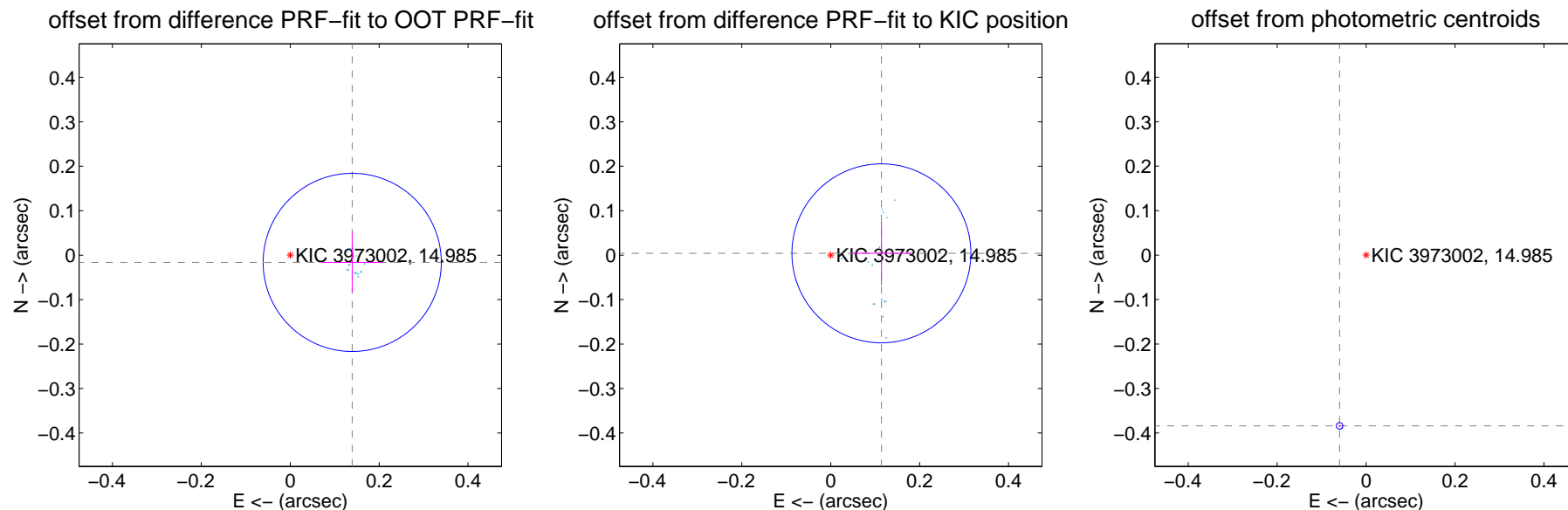
DV Centroid Data

Supplemental centroid analysis for 003973002-01. Kepler magnitude: 14.98. Transit SNR 3262.65

There are 14 quarters with good PRF difference image offsets

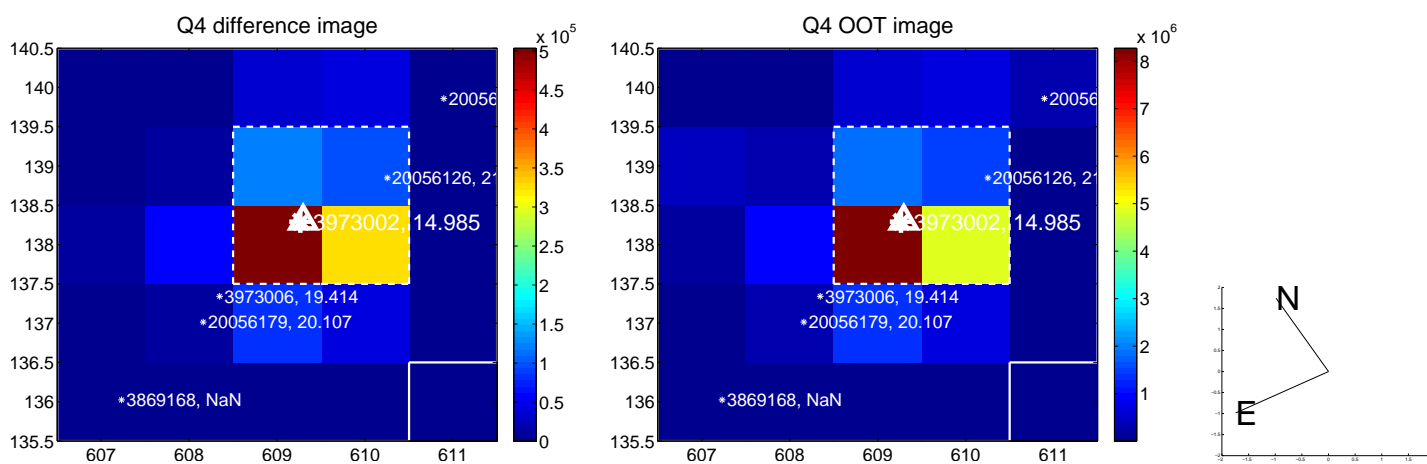
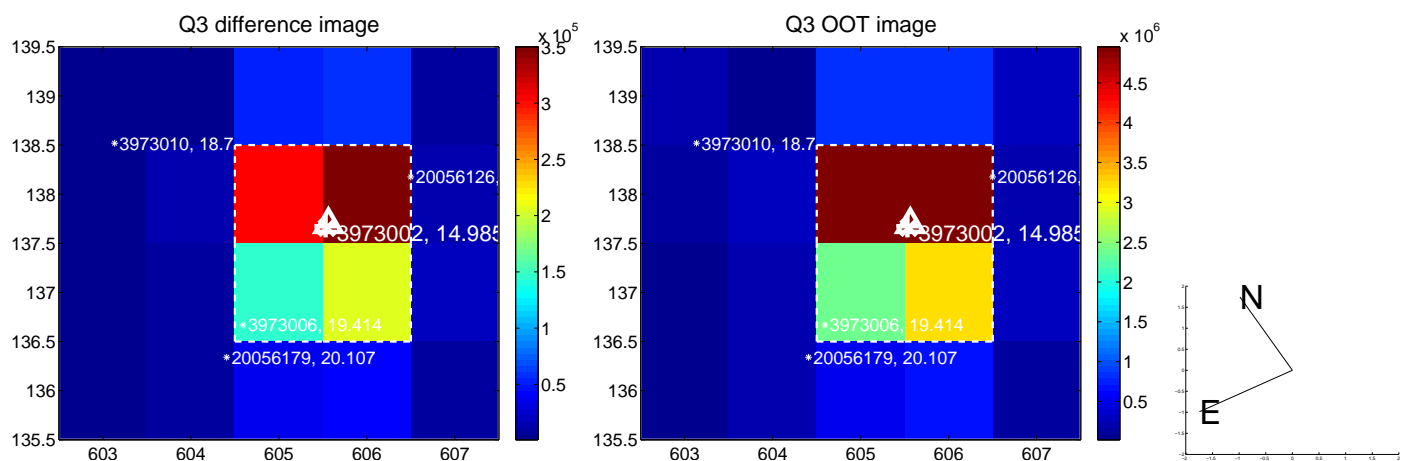
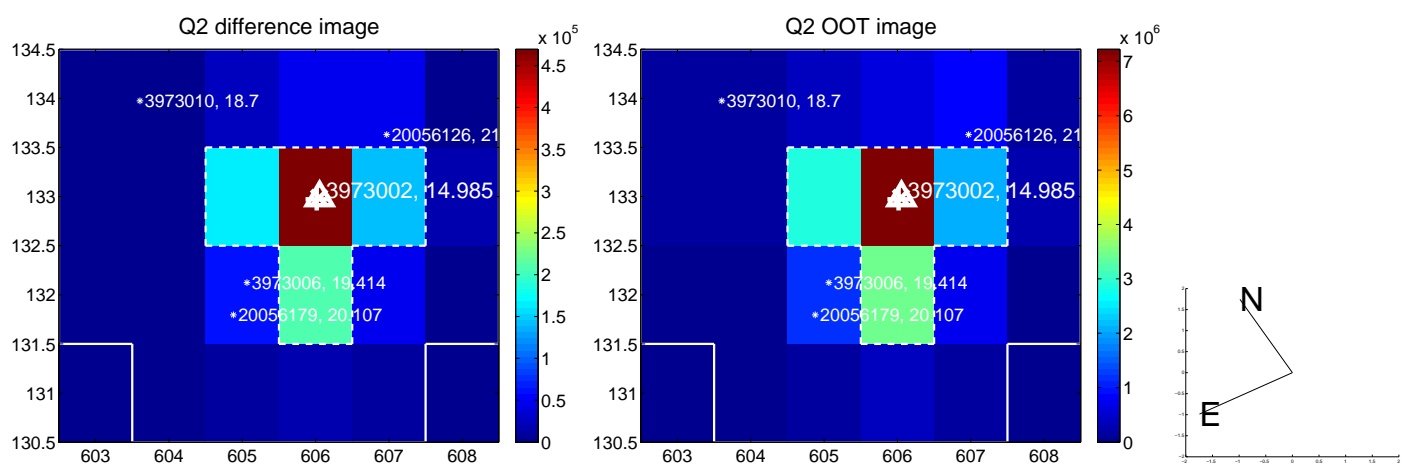
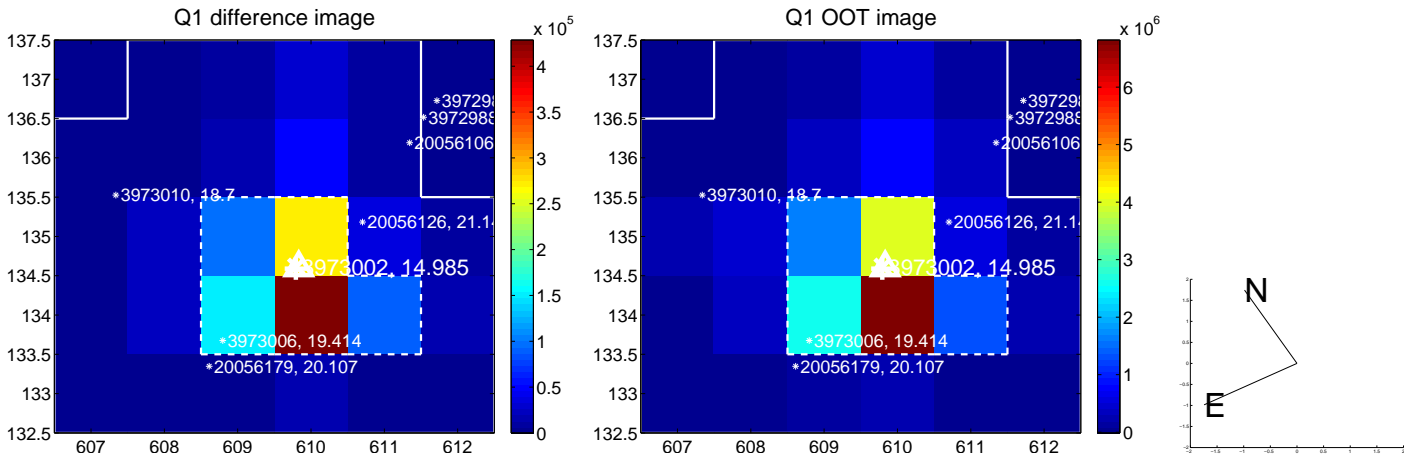
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.140 ± 0.067	2.10	-0.139 ± 0.067	-0.016 ± 0.067
PRF-fit source offset from KIC position	0.114 ± 0.067	1.70	-0.114 ± 0.067	0.004 ± 0.071
photometric centroid source offset	0.39 ± 0.00	157.85	0.06 ± 0.00	-0.38 ± 0.00

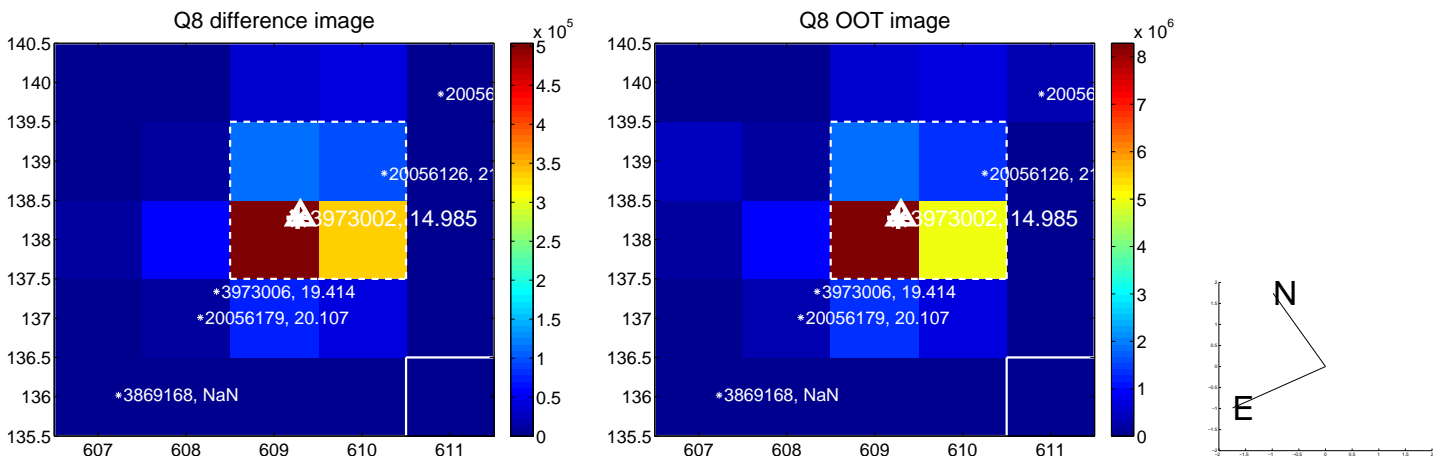
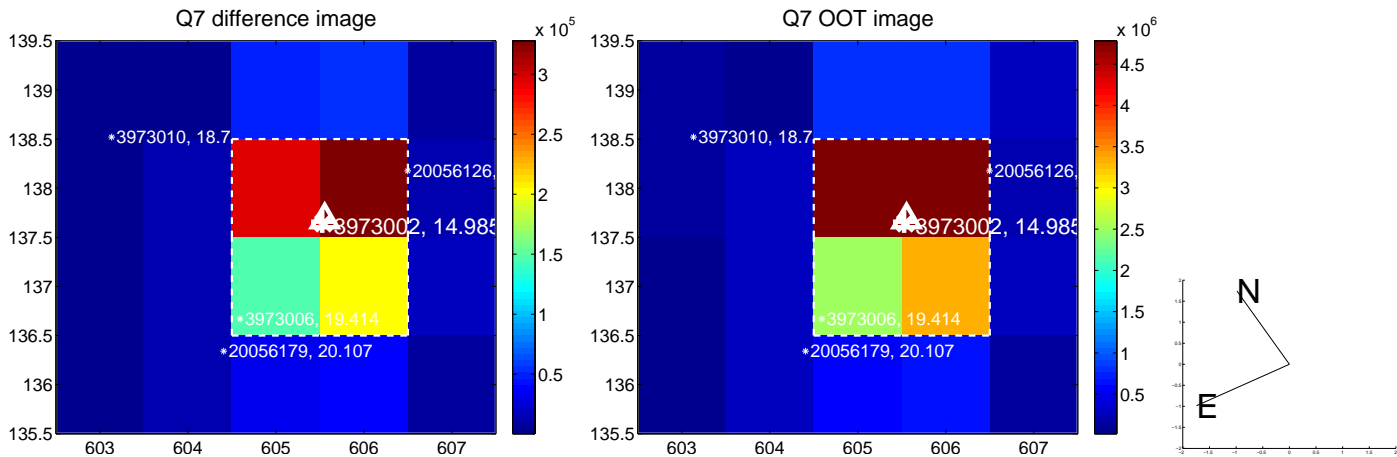
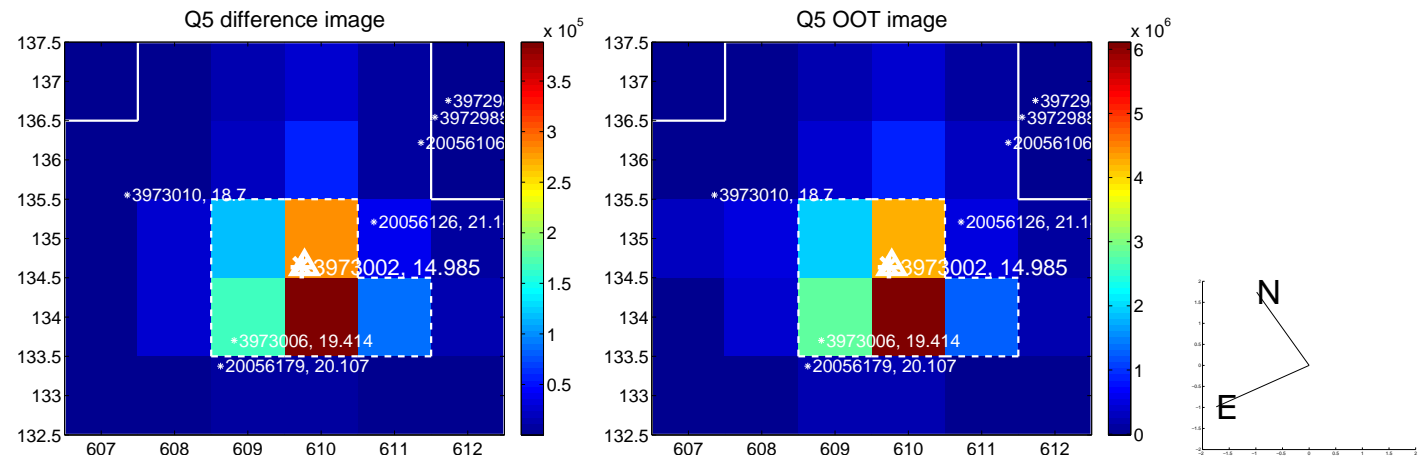


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

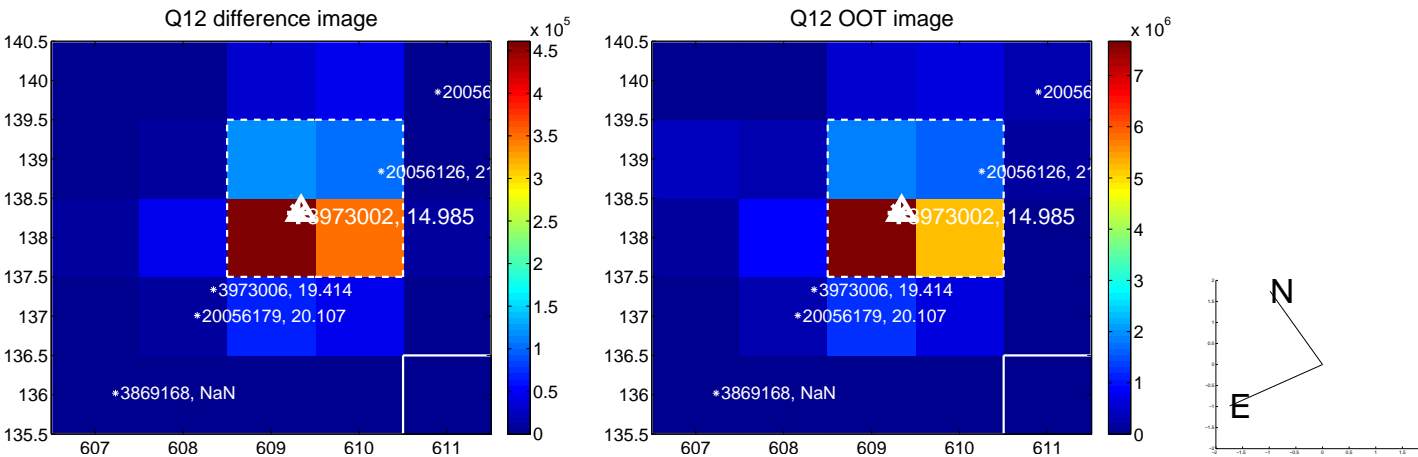
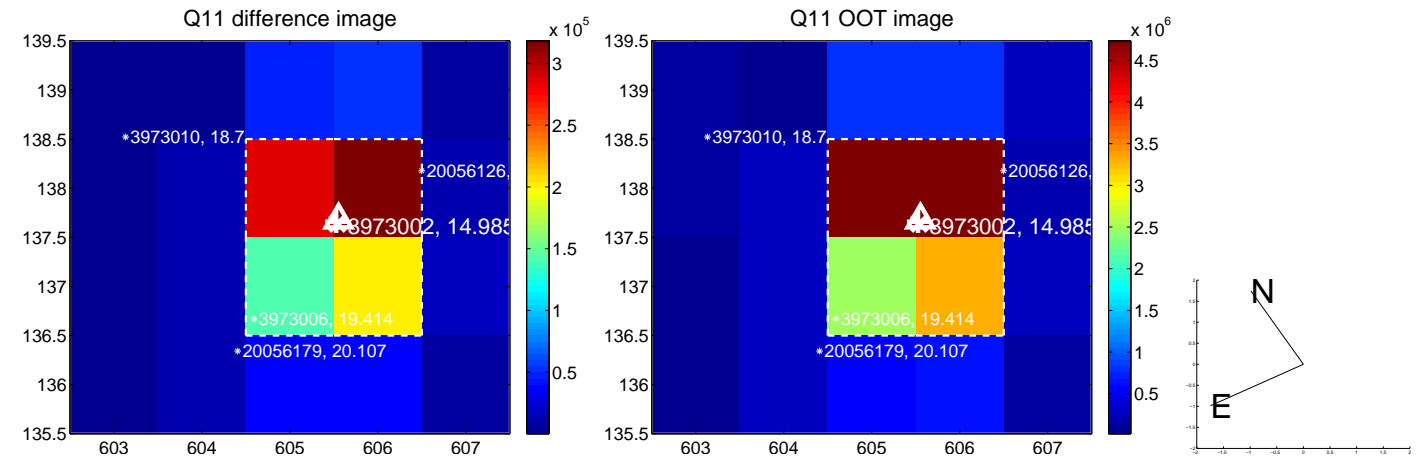
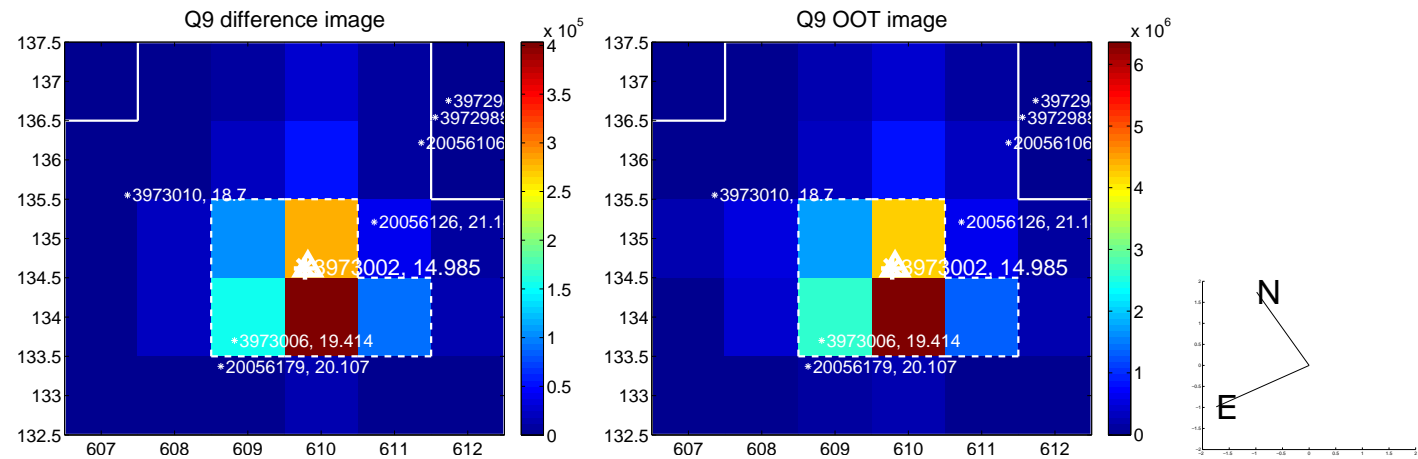
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



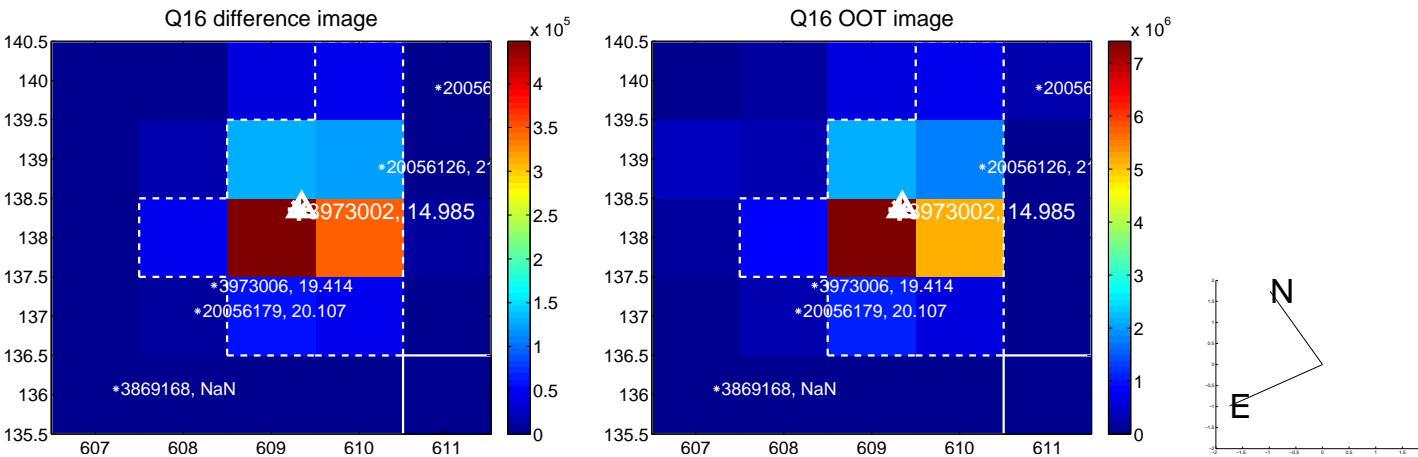
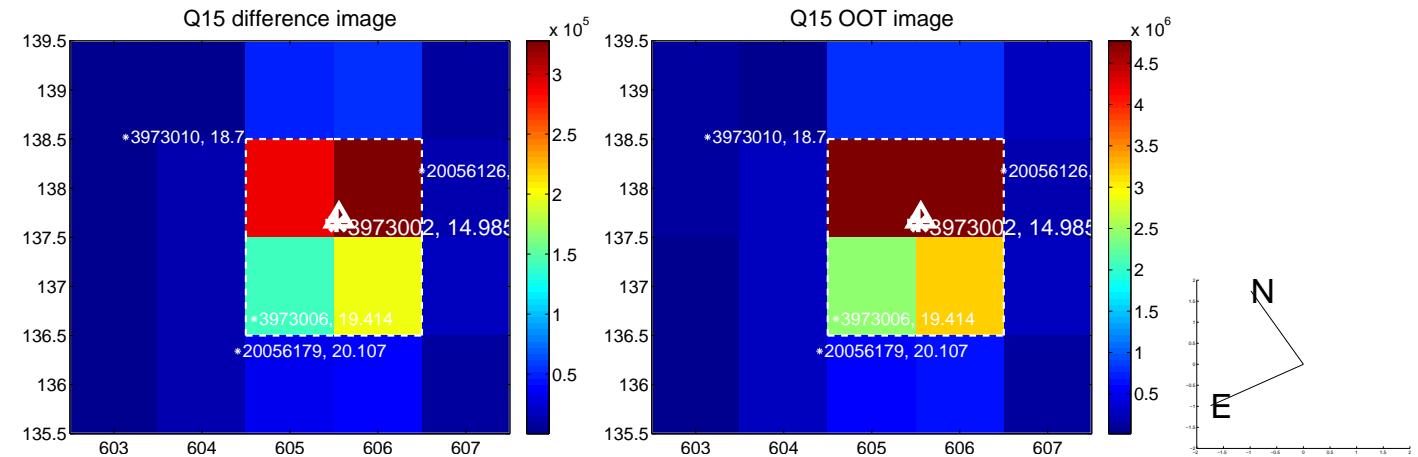
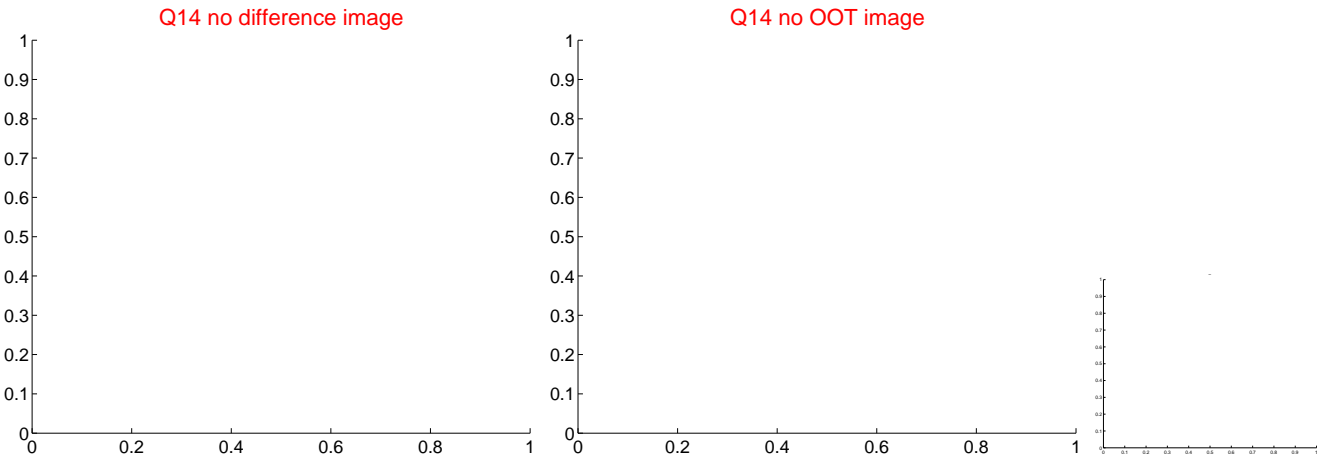
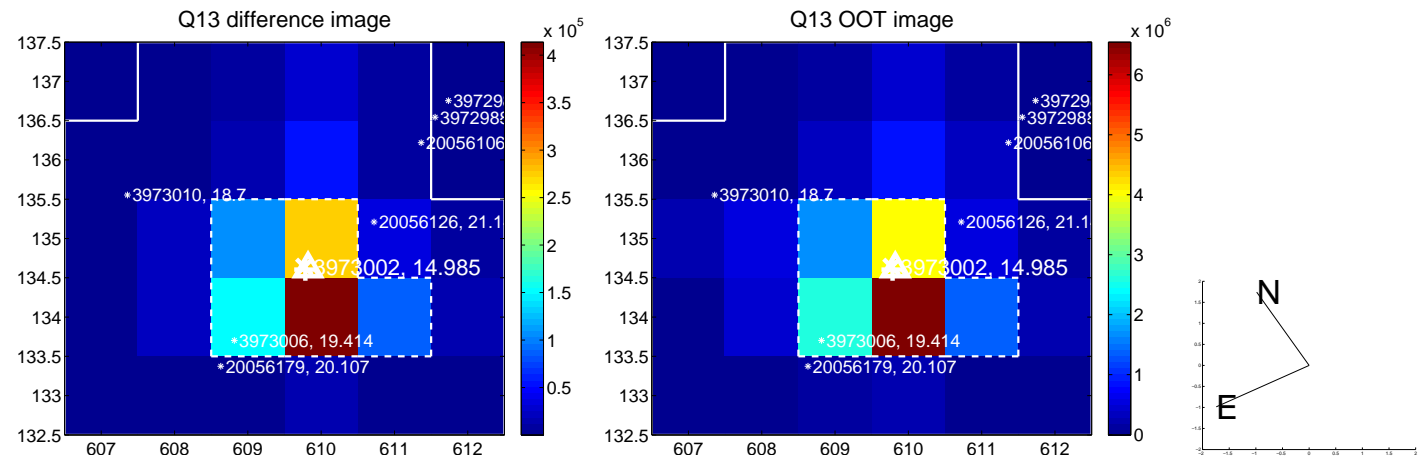
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



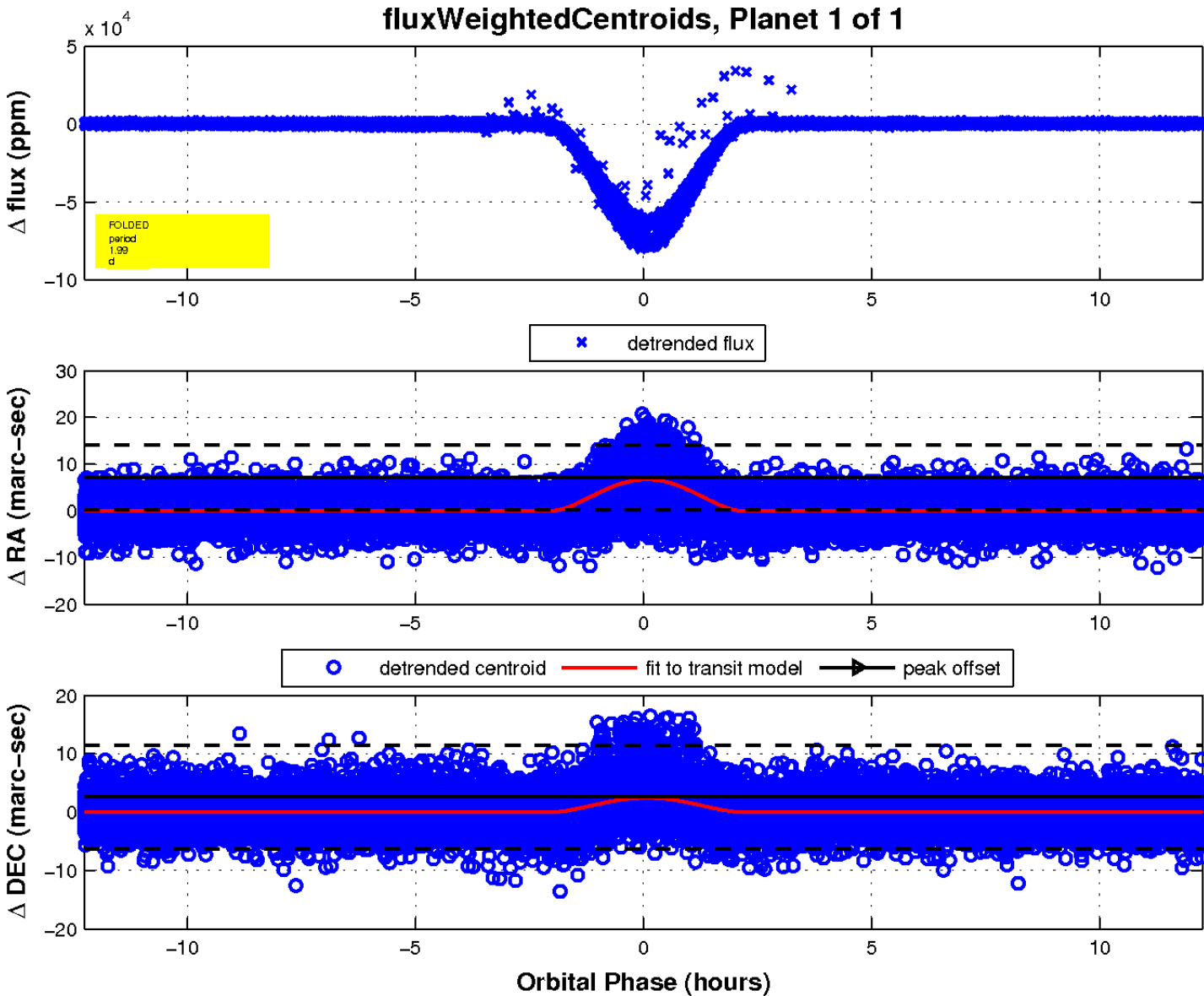
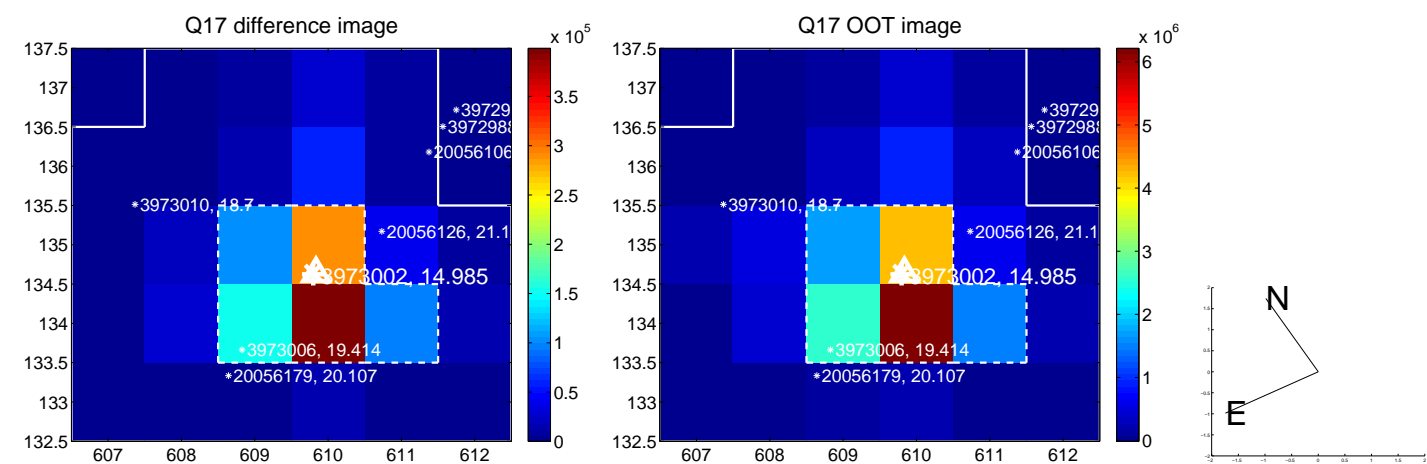
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

