

KIC 005020319

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})
005020319-01	OBS	0635.01	16.719858	137.961712	531.7	3.424	51.9	52.5	1.08	6020	2.75	81.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005020319-01	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.

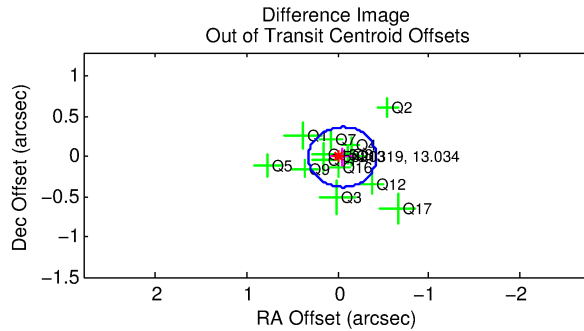
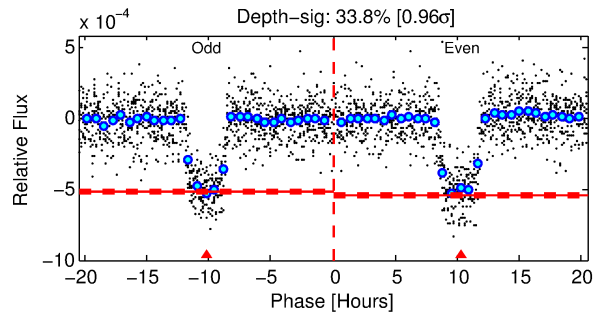
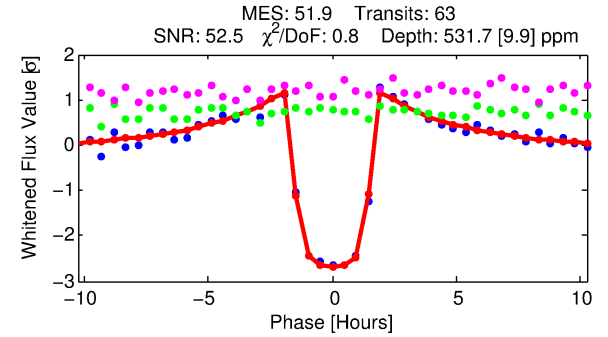
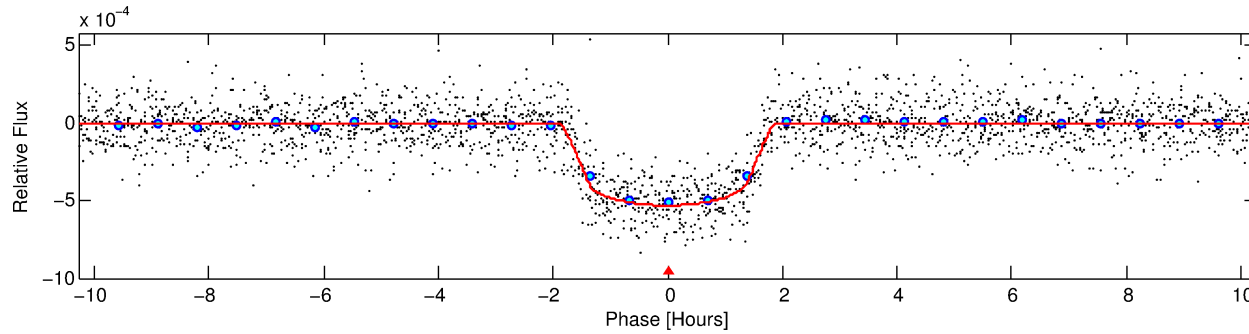
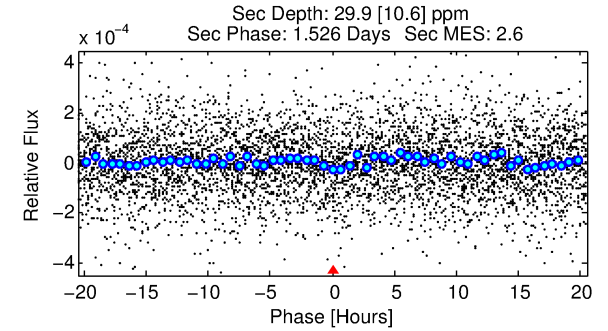
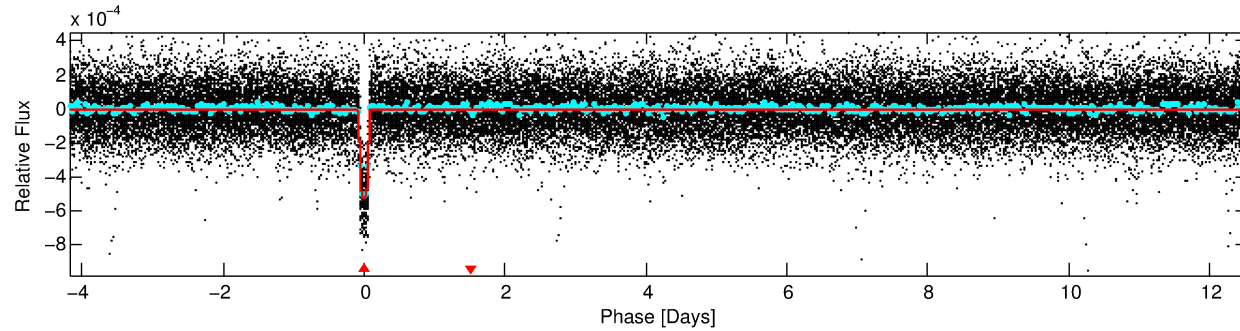
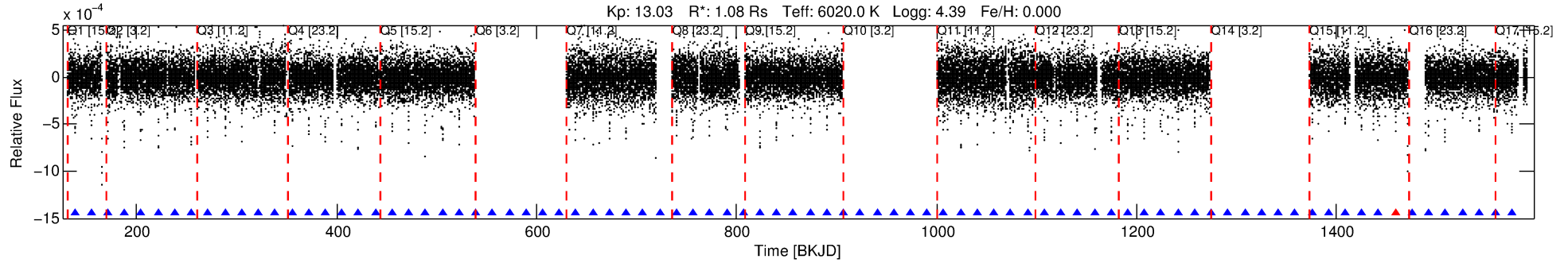
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005020319-01

No Significant Match Found

DV One-Page Summary

KIC: 5020319 Candidate: 1 of 1 Period: 16.720 d
KOI: K00635.01 Corr: 0.981



DV Fit Results:

Period = 16.71986 [0.00002] d
Epoch = 137.9617 [0.0010] BKJD
Rp/R* = 0.0233 [0.0025]
a/R* = 24.48 [12.26]
b = 0.79 [0.25]
Seff = 81.77 [19.30]
Teff = 767 [45] K
Rp = 2.76 [0.54] Re
a = 0.1302 [0.0189] AU
Ag = 36.76 [17.14] [2.09σ]
Teffp = 2919 [307] K [6.93σ]

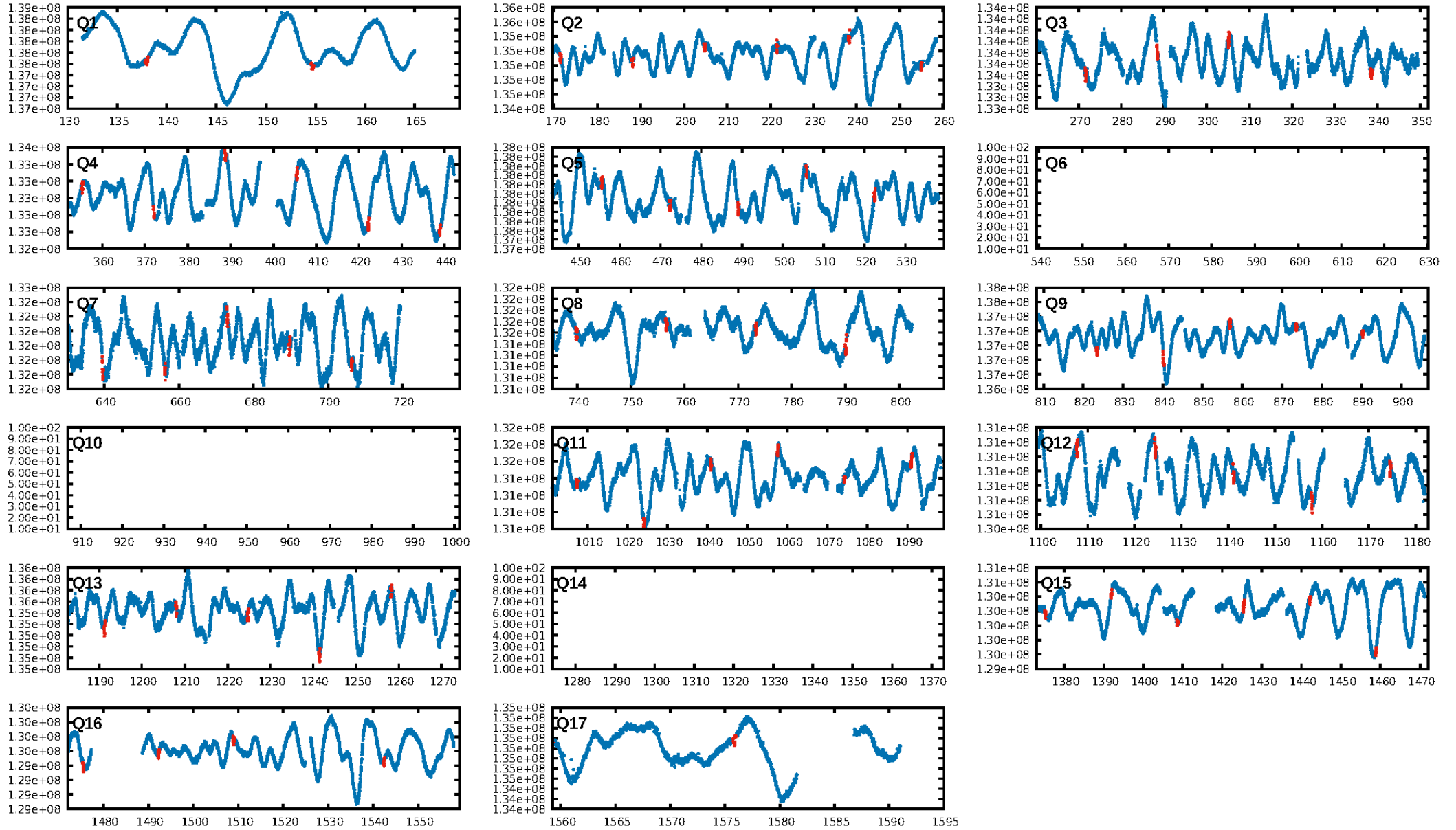
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 91.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.98 [59/60]
GhostDiagnostic-chr: 3.342
Centroid-sig: 10.3%
Centroid-so: 0.160 arcsec [0.98σ]
OotOffset-rm: 0.053 arcsec [0.42σ]
KicOffset-rm: 0.082 arcsec [0.77σ]
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]

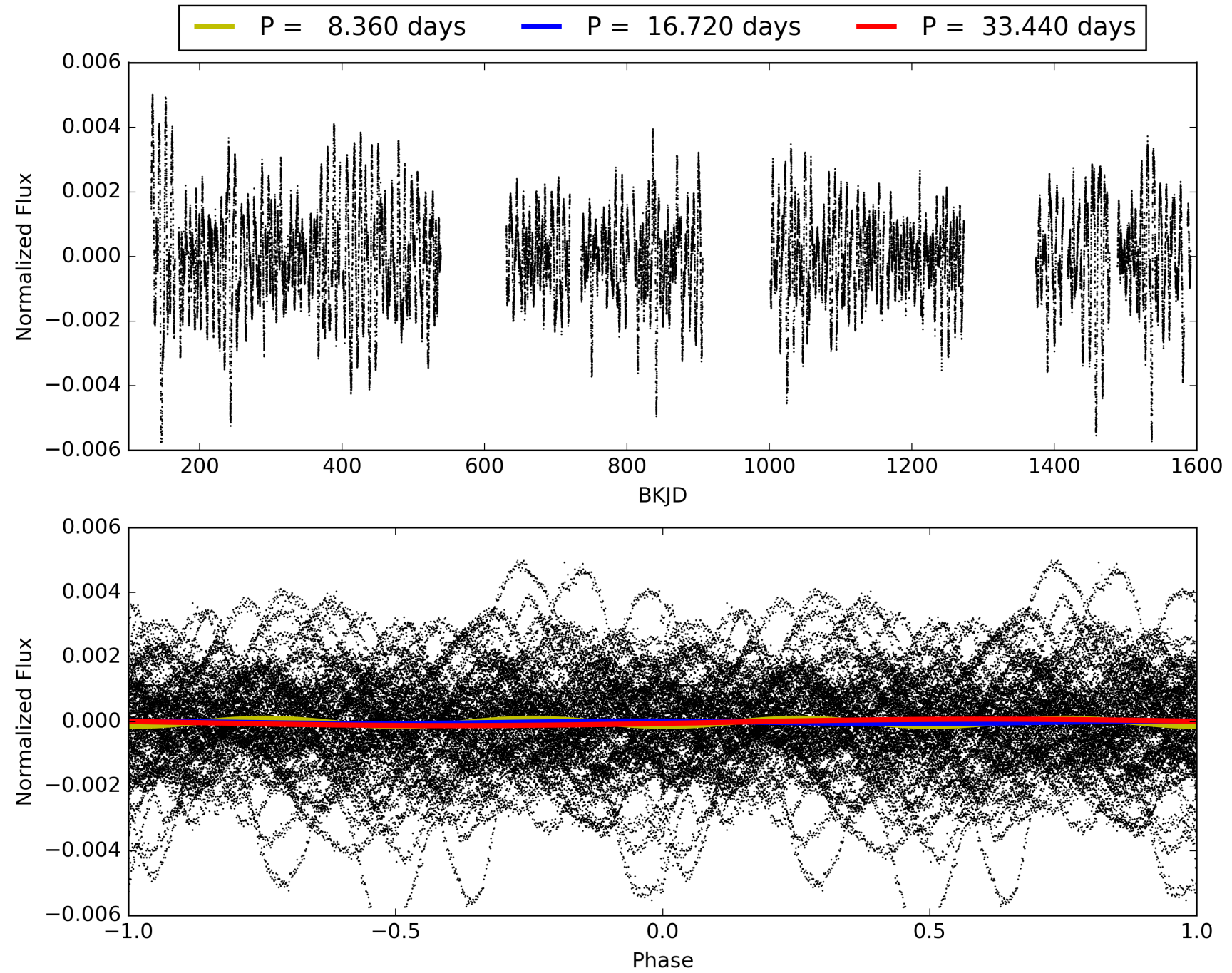
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 20:03:44 Z

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

TCE 005020319-01, PDC Light Curves

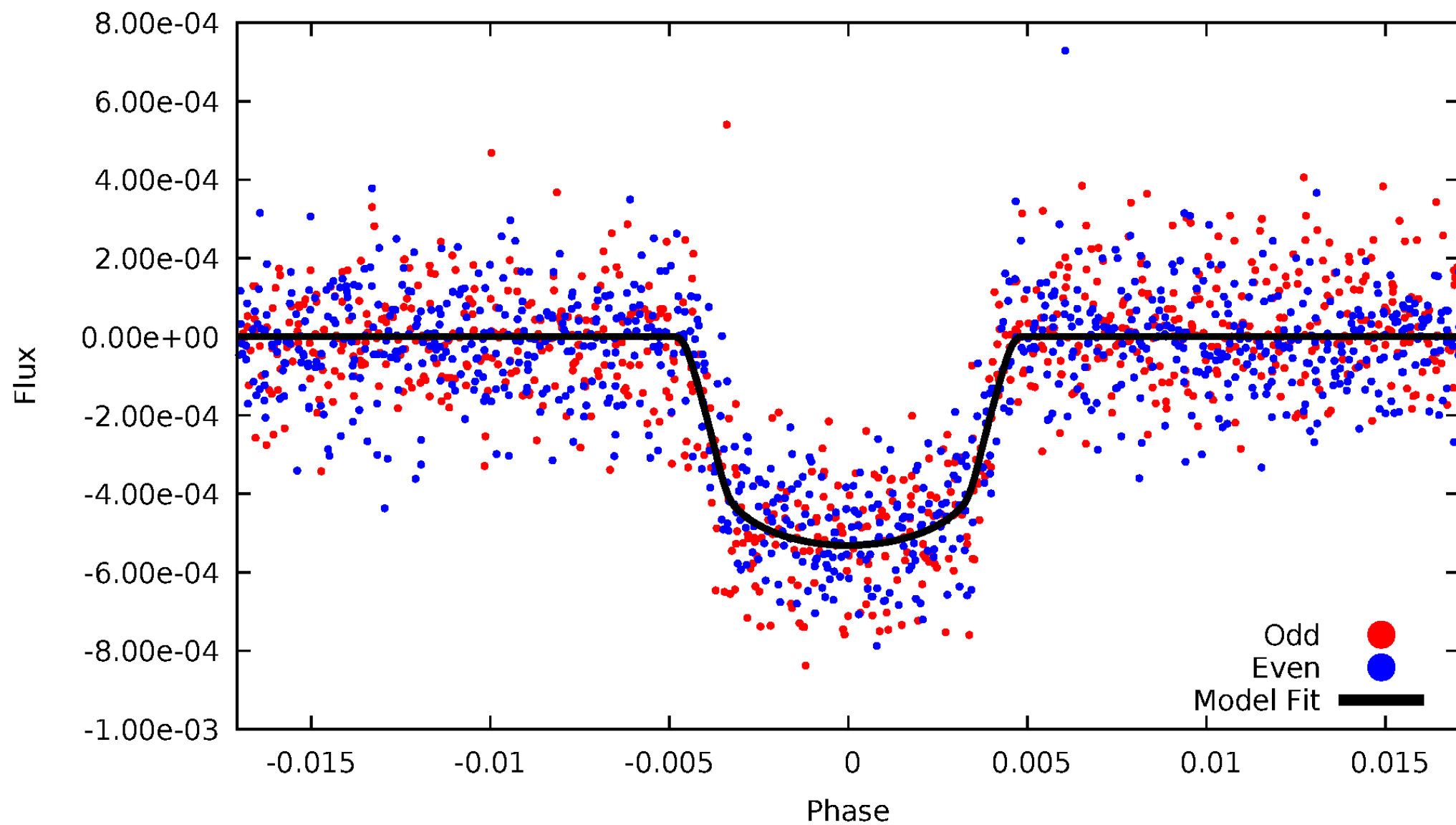


TCE 005020319-01



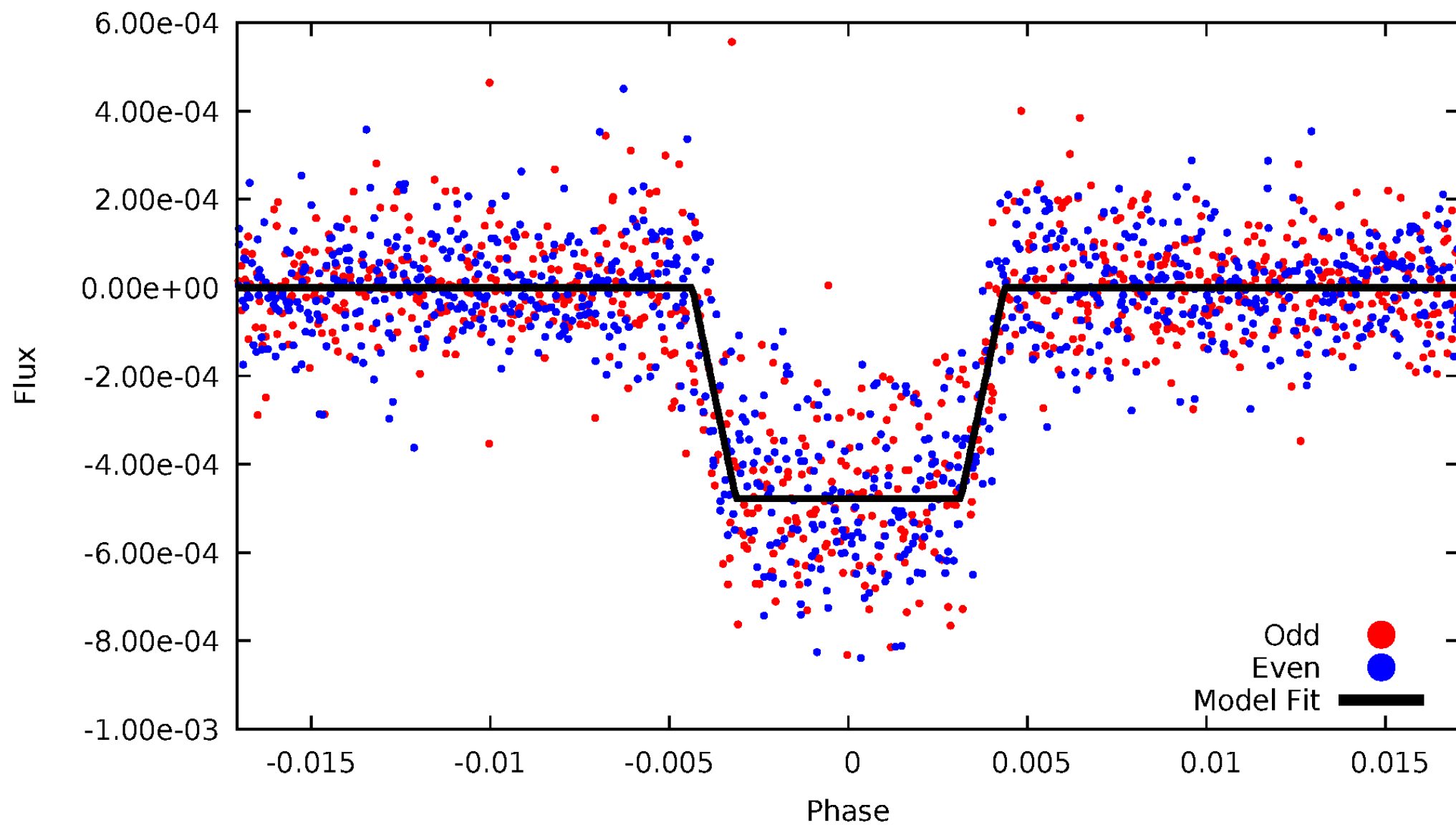
DV Odd/Even

TCE 005020319-01



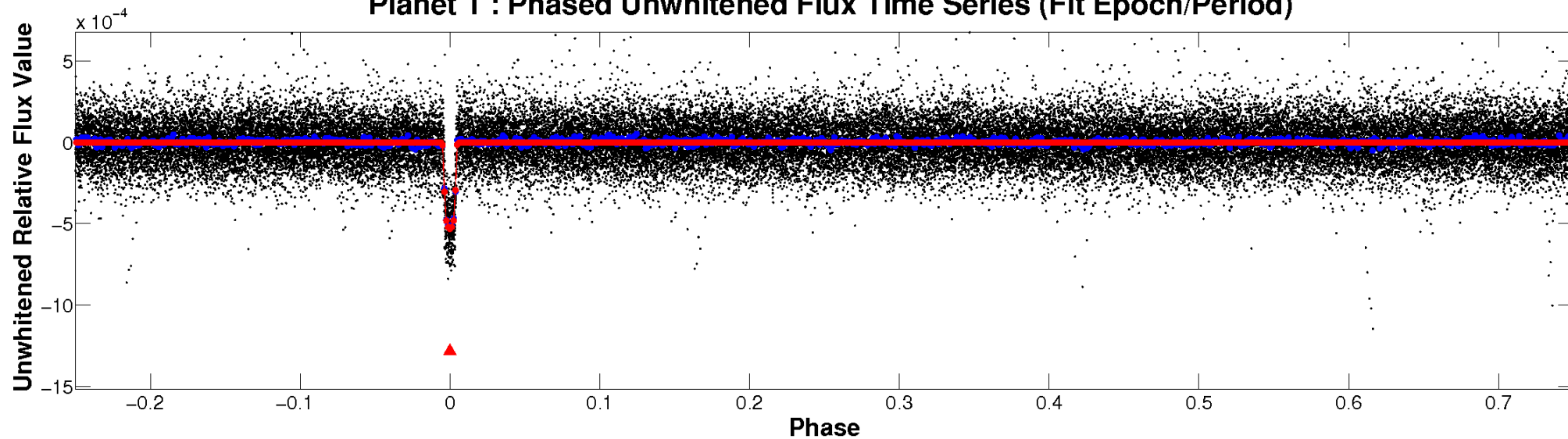
ALT Odd/Even

TCE 005020319-01

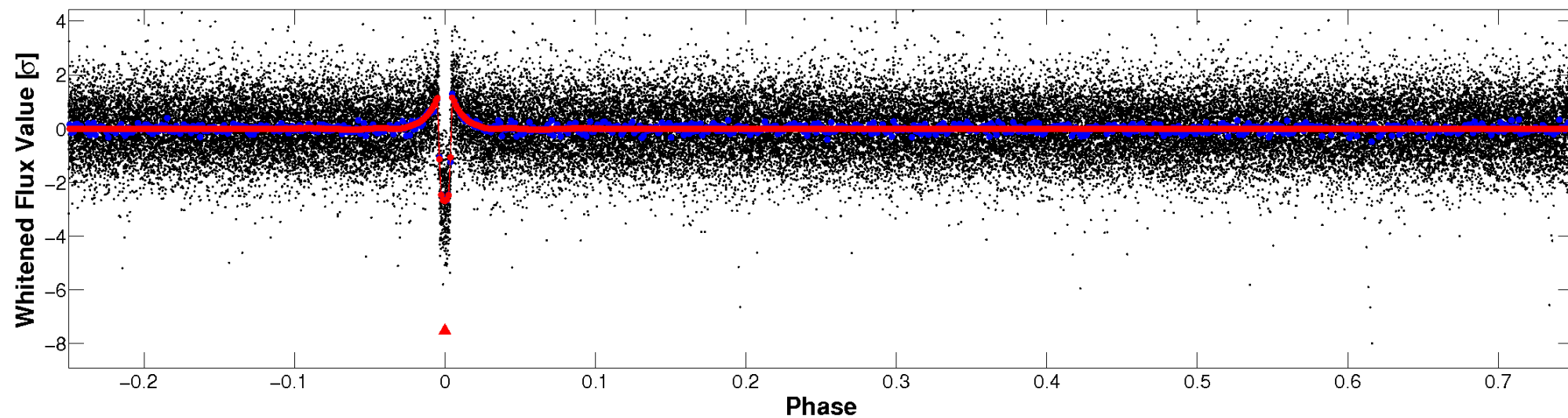


Non-Whitened Vs. Whitened Light Curve

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

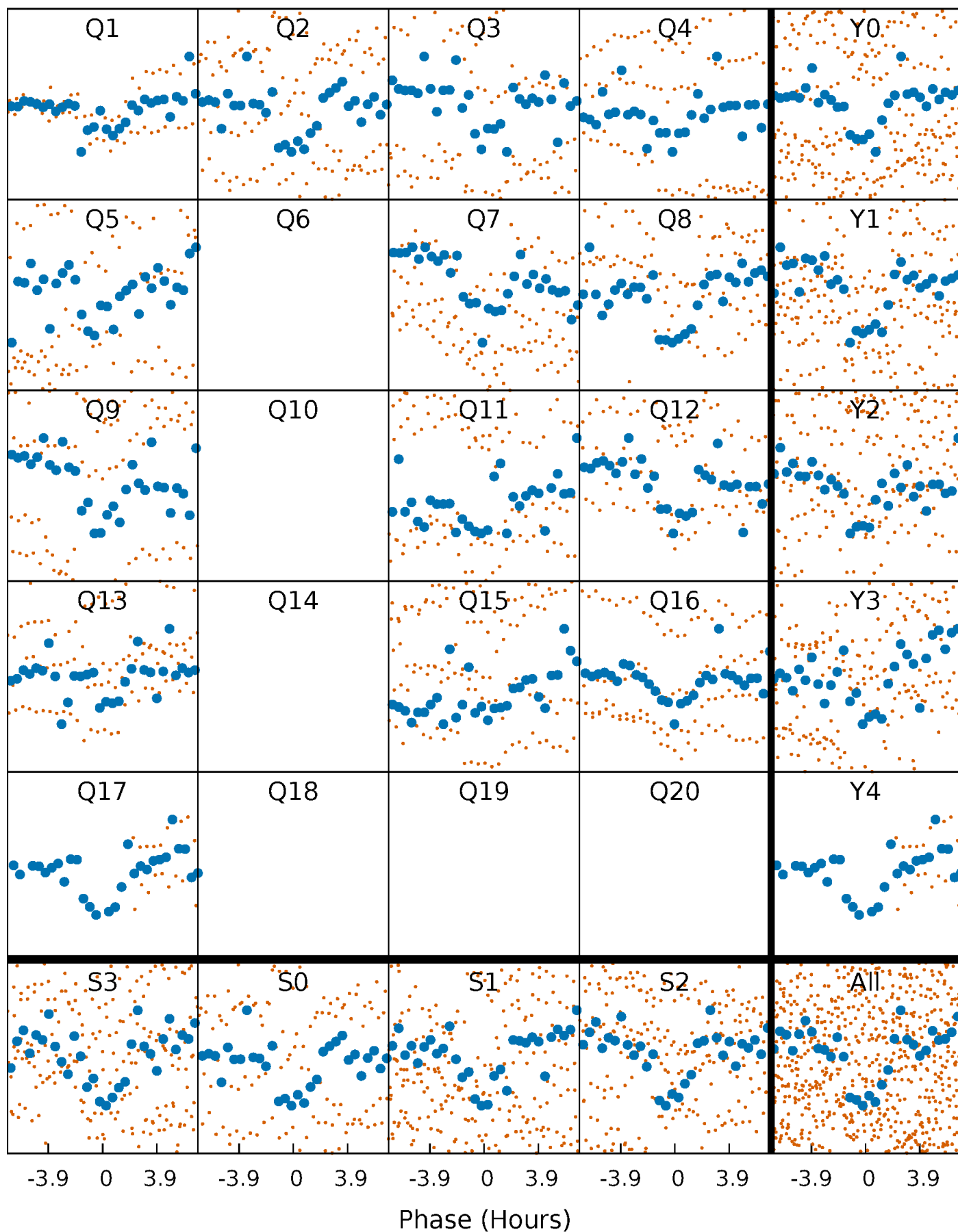


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



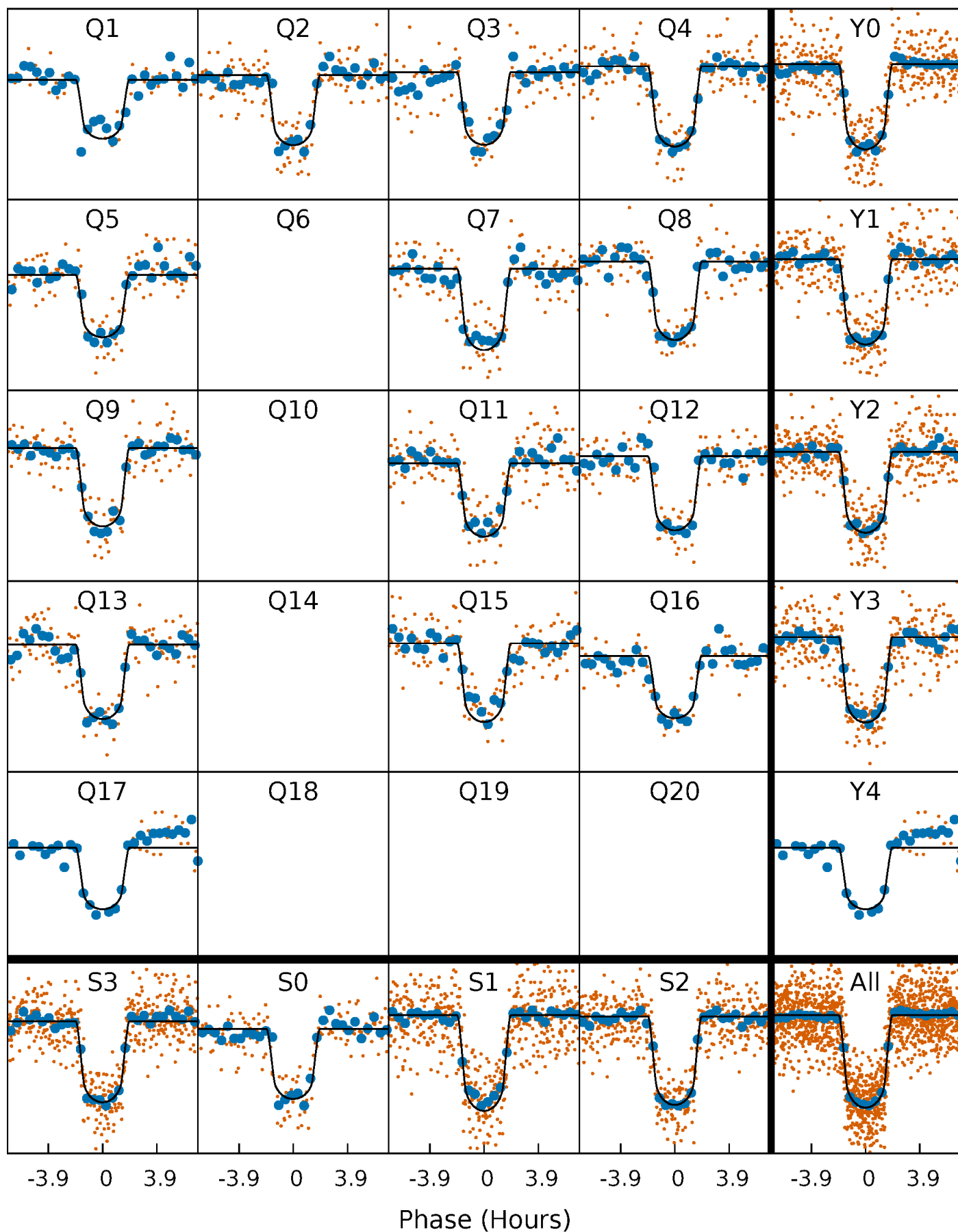
PDC Quarter-Phased Transit Curves

TCE 005020319-01 P= 16.719858 Days $T_0=137.961712$ (BKJD)



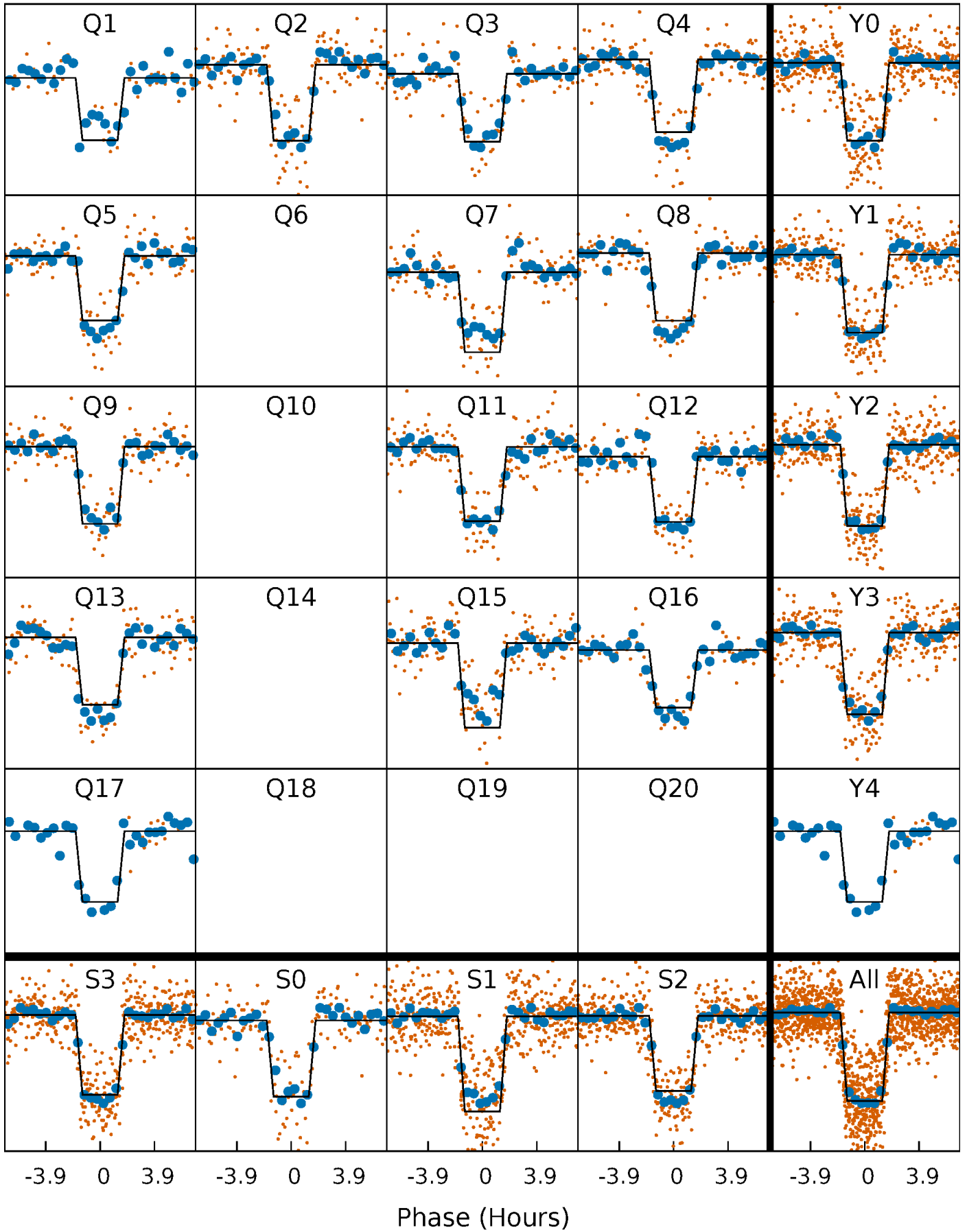
DV Quarter-Phased Transit Curves

TCE 005020319-01 P= 16.719858 Days $T_0=137.961712$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

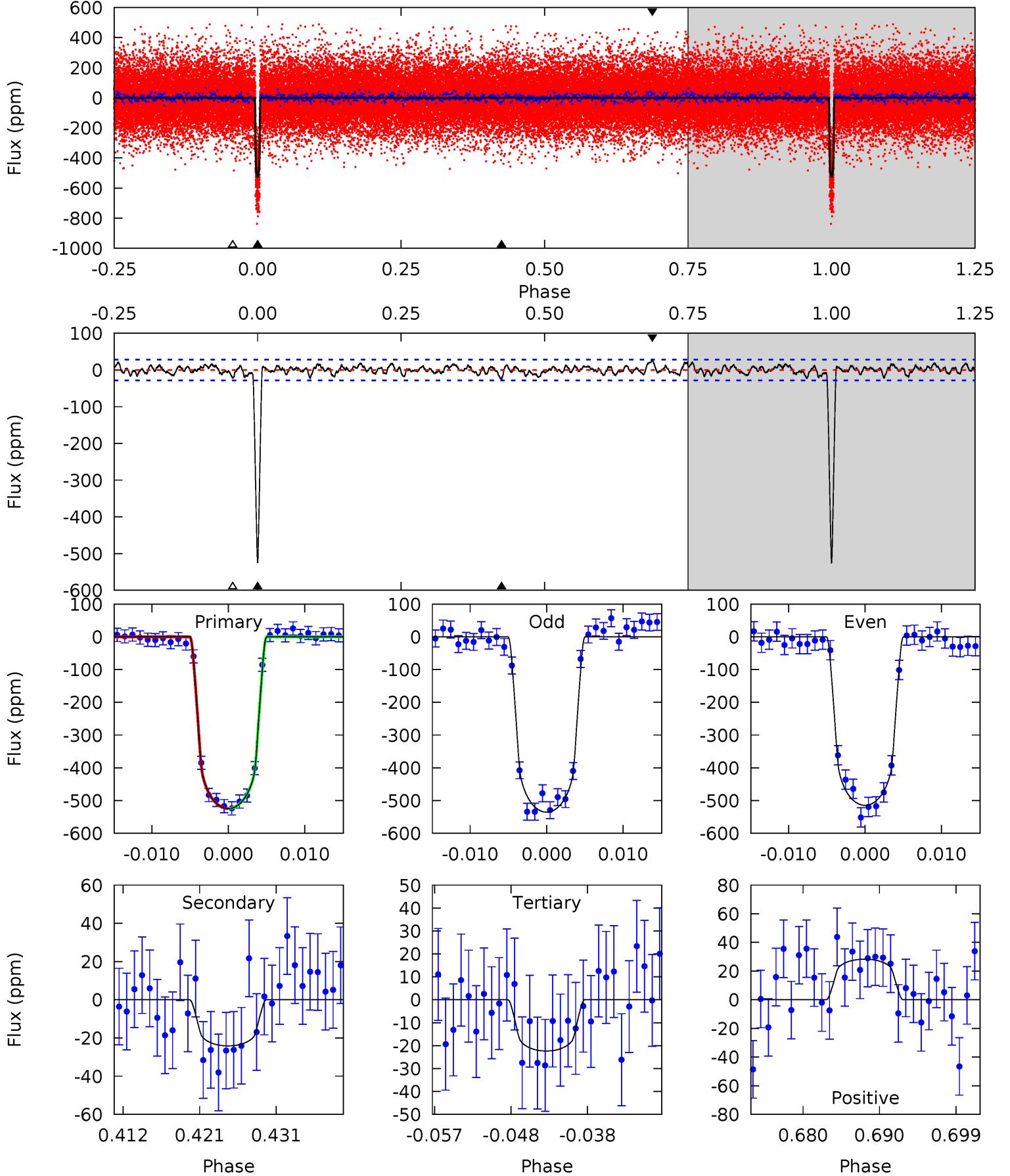
TCE 005020319-01 P= 16.719955 Days $T_0=137.958880$ (BKJD)



DV Model-Shift Uniqueness Test

005020319-01, $P = 16.719858$ Days, $E = 121.241854$ Days

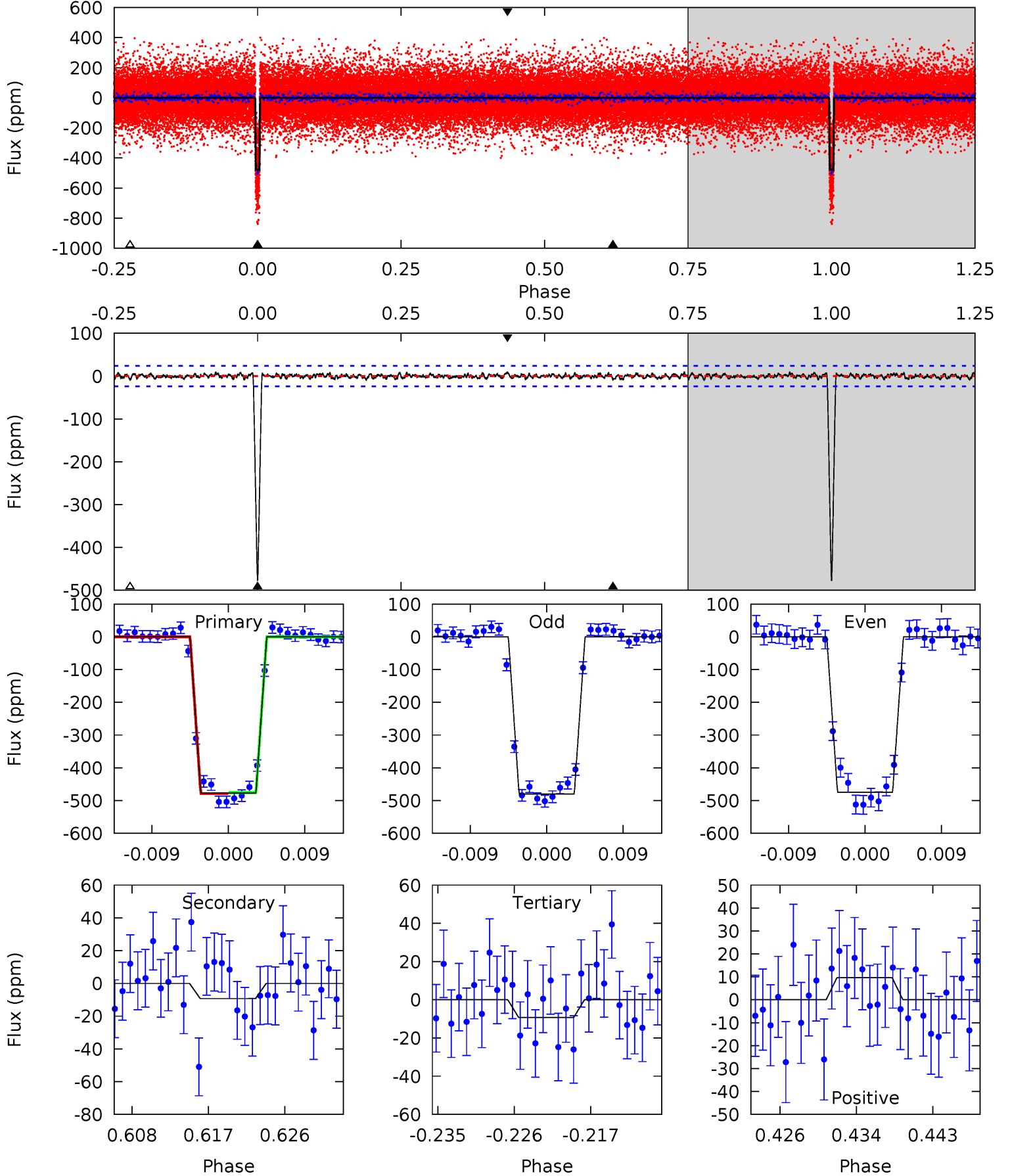
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
93.4	4.30	3.98	5.04	5.03	2.59	1.51	89.4	88.3	0.32	-0.75	1.86	1.00	0.05	0.05



Alt Model-Shift Uniqueness Test

005020319-01, P = 16.719955 Days, E = 121.238925 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
101.1	1.97	1.96	2.04	5.05	2.62	0.70	99.2	99.1	0.01	-0.07	0.62	0.99	0.02	0.29



Stellar Parameters For KIC 005020319

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6020^{+108}_{-133}	$4.389^{+0.066}_{-0.123}$	$0.000^{+0.150}_{-0.150}$	$1.085^{+0.180}_{-0.103}$	$1.049^{+0.086}_{-0.070}$	$1.157^{+0.305}_{-0.408}$
	+2%/-2%	+2%/-3%	+inf%/-inf%	+17%/-9%	+8%/-7%	+26%/-35%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 005020319-01 / KOI 0635.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-24 ± 6	$2.80^{+0.37}_{-0.34}$	1078^{+49}_{-39}	3308^{+166}_{-173}	28^{+12}_{-8}
Alt.	-9 ± 5	$2.63^{+0.38}_{-0.35}$	1076^{+50}_{-38}	2919^{+235}_{-288}	12^{+9}_{-6}

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

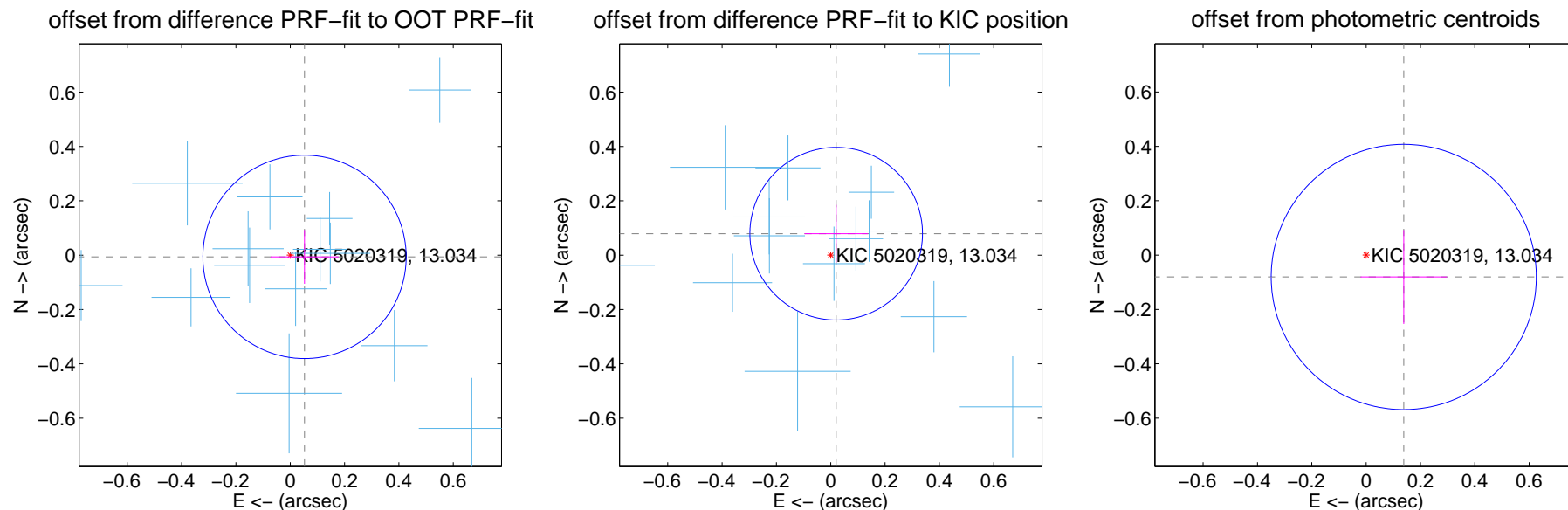
DV Centroid Data

Supplemental centroid analysis for 005020319-01. Kepler magnitude: 13.03. Transit SNR 52.53

There are 14 quarters with good PRF difference image offsets

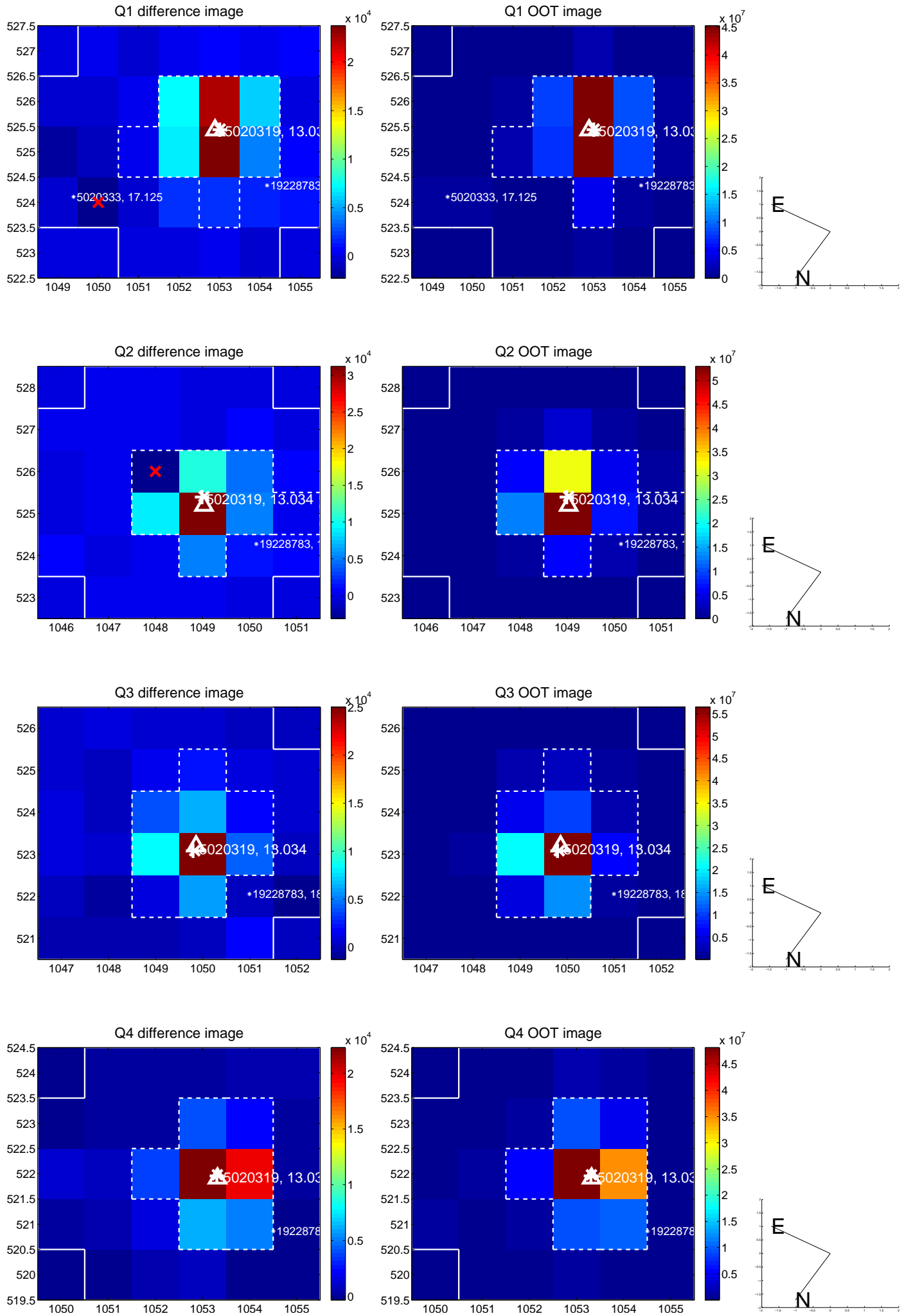
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.053 ± 0.125	0.42	-0.053 ± 0.125	-0.006 ± 0.099
PRF-fit source offset from KIC position	0.082 ± 0.106	0.77	-0.020 ± 0.117	0.079 ± 0.106
photometric centroid source offset	0.16 ± 0.16	0.98	-0.14 ± 0.16	-0.08 ± 0.17

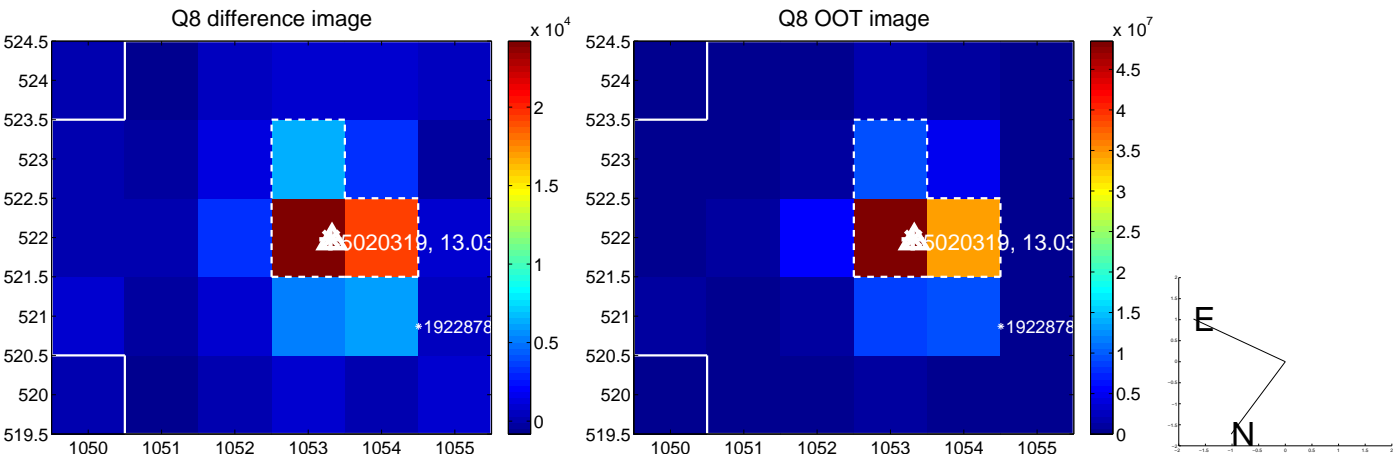
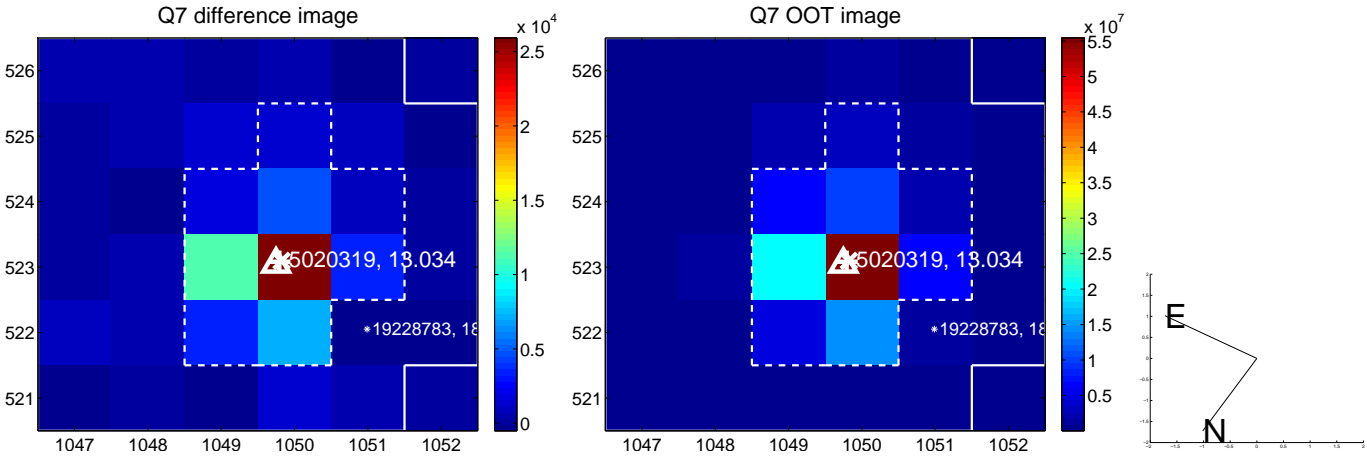
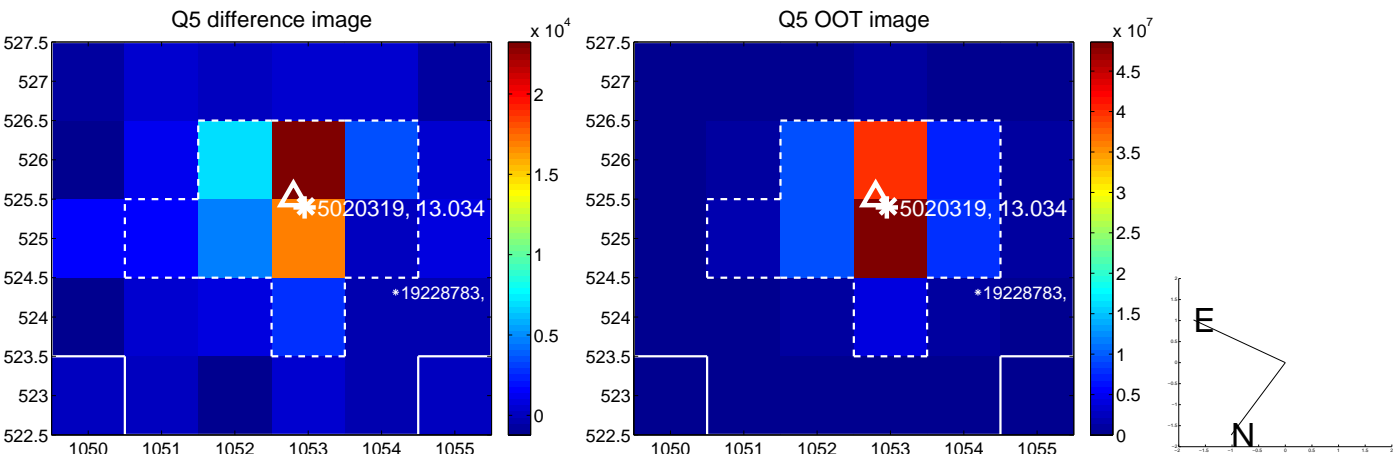


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

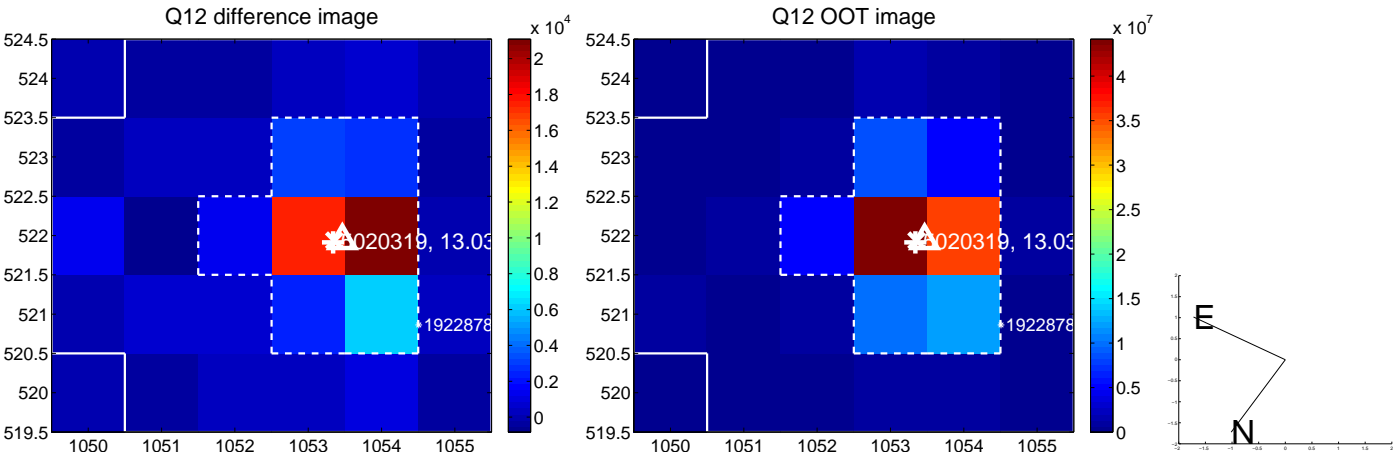
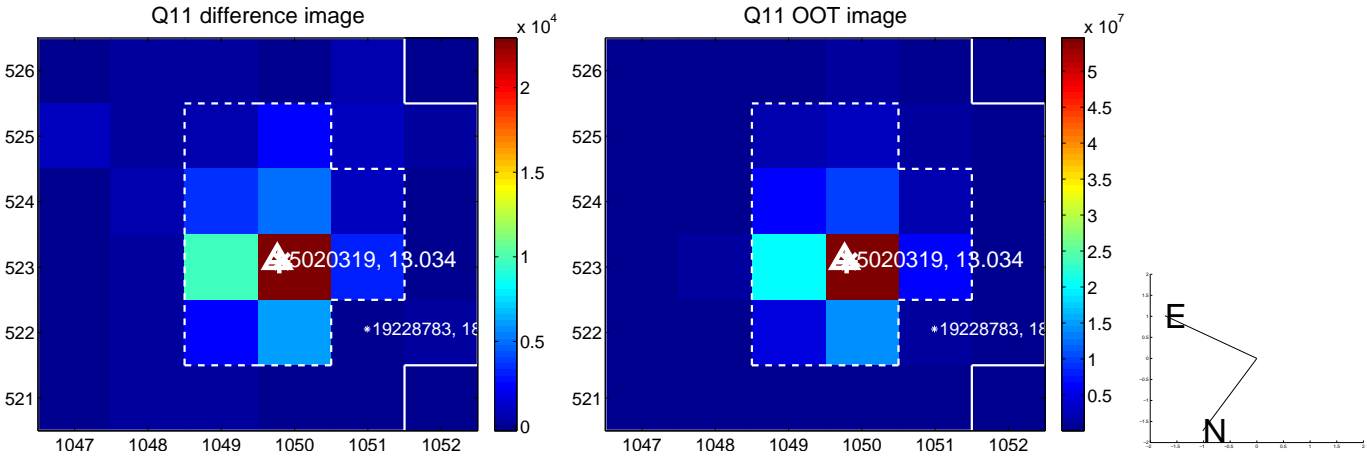
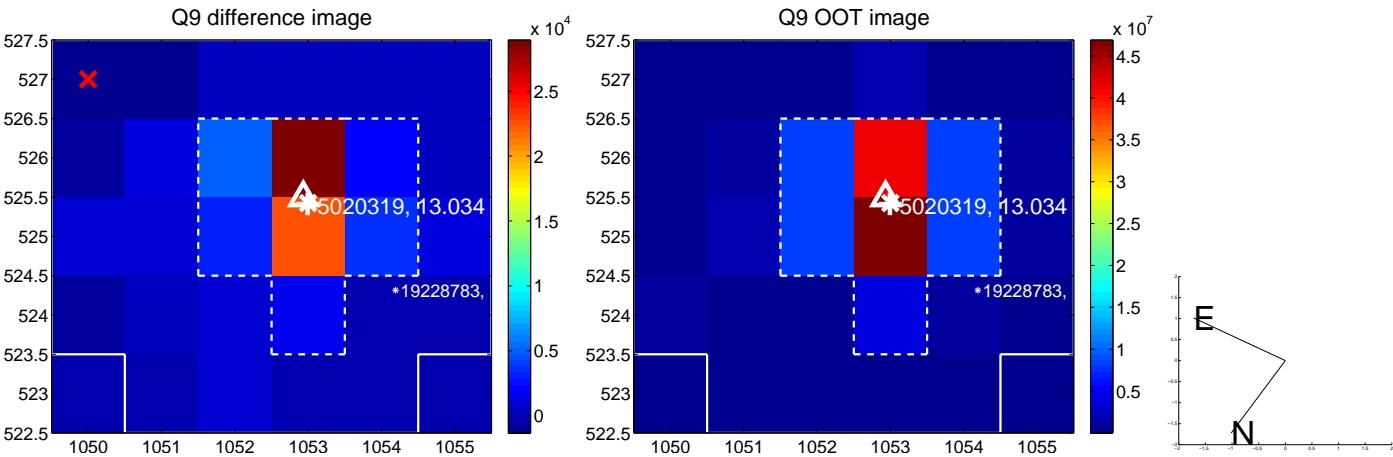
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



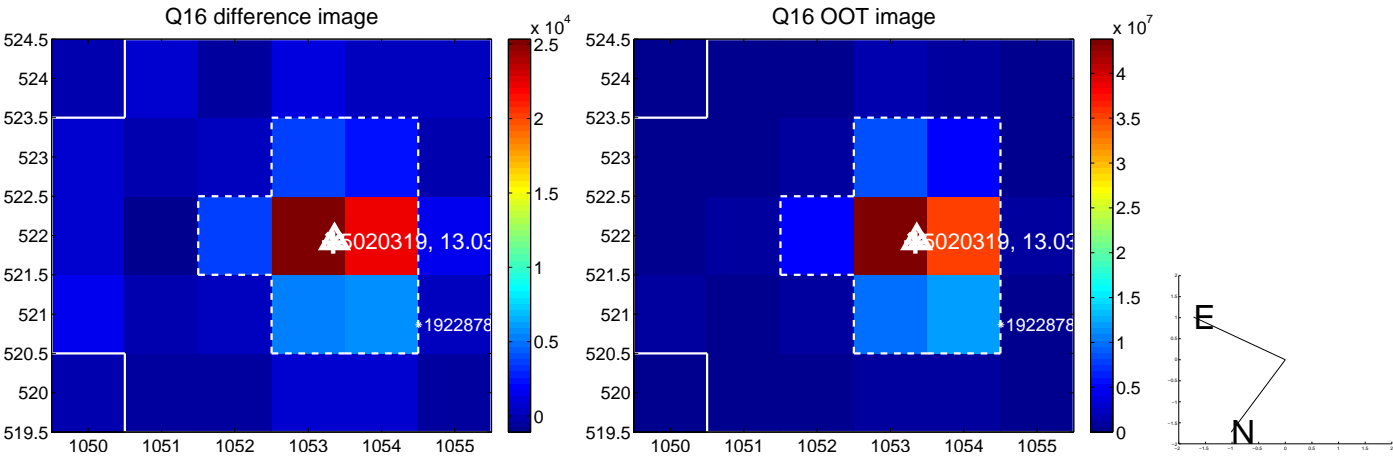
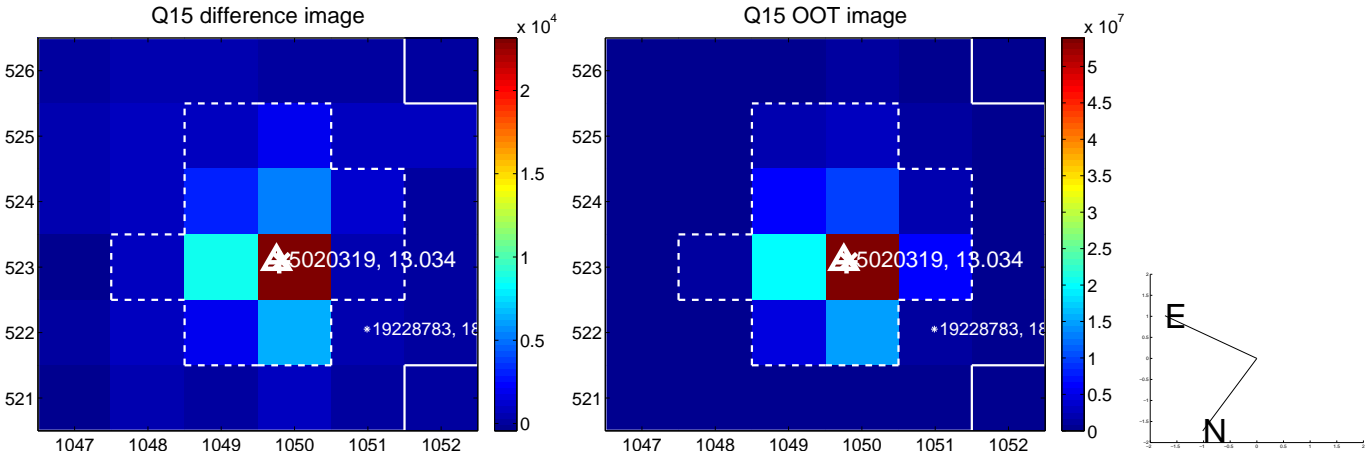
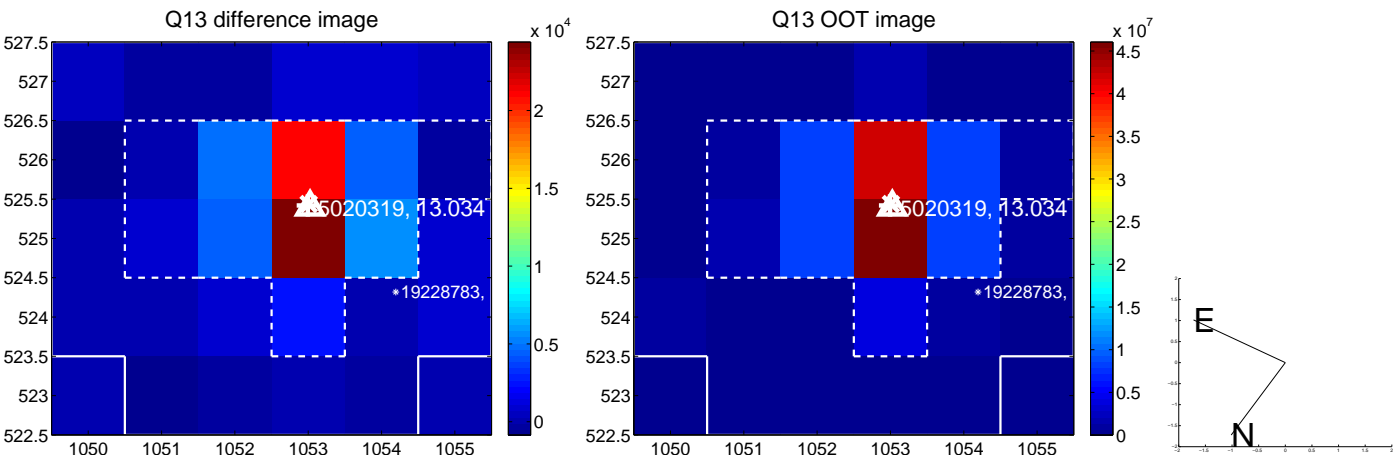
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



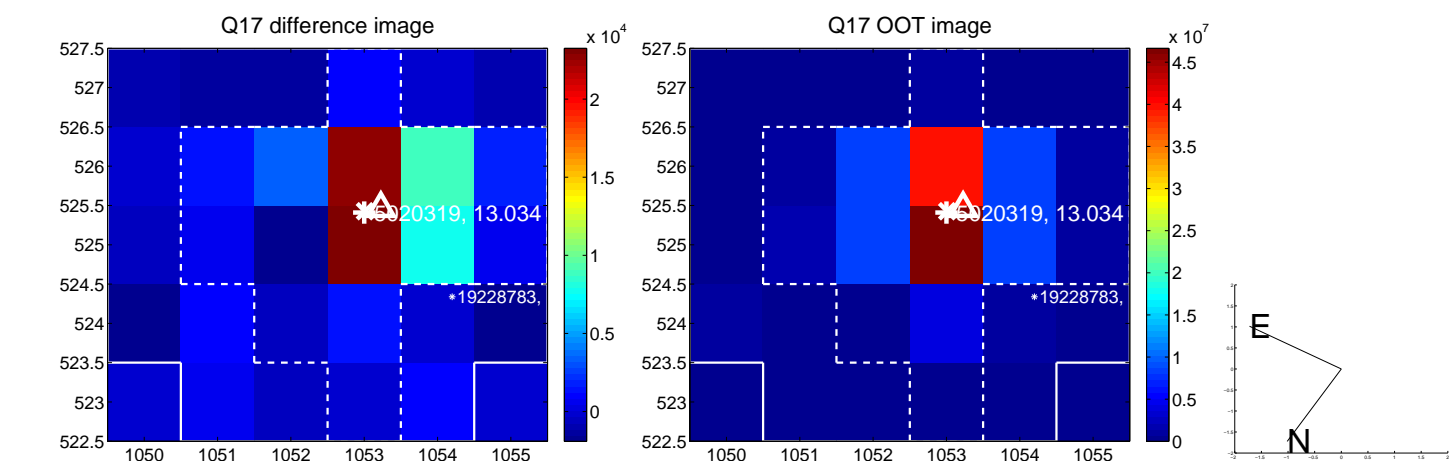
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



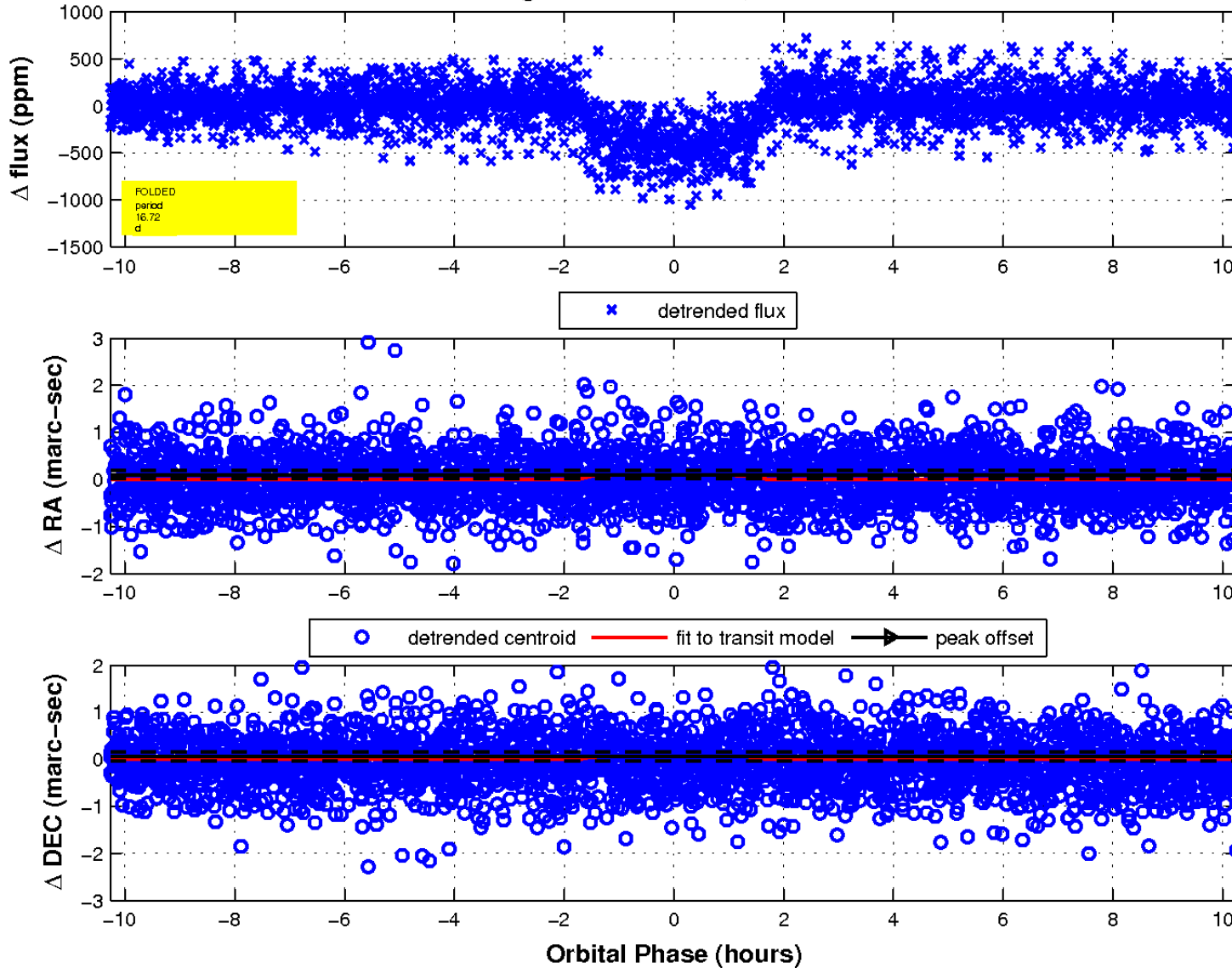
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white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

