

KIC 002305255

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})
002305255-01	OBS	4935.01	24.569374	155.963379	649.7	31.167	10.0	11.9	0.96	5977	4.75	39.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002305255-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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 002305255-01

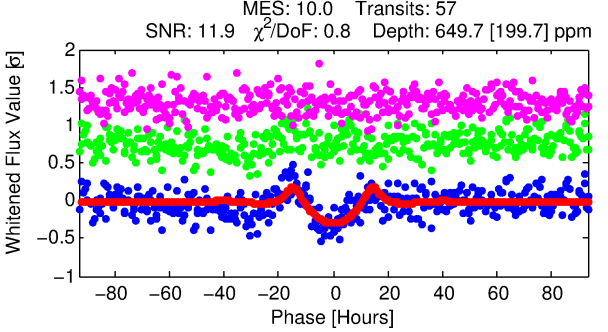
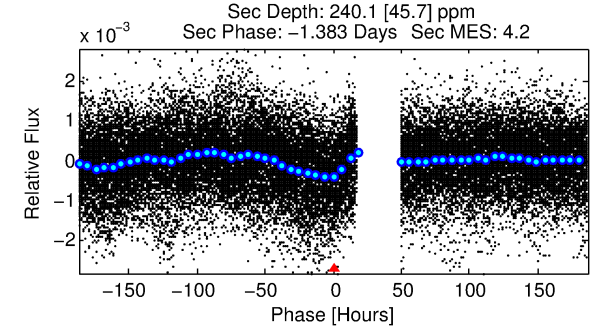
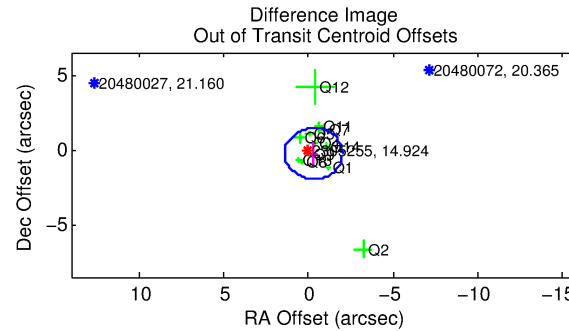
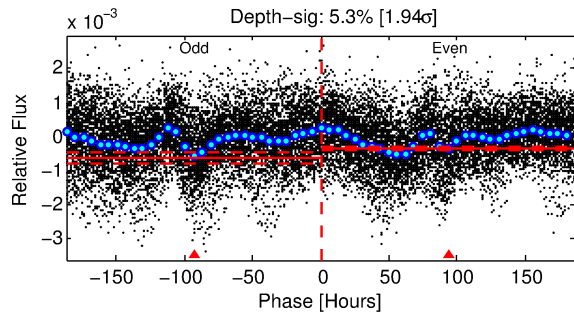
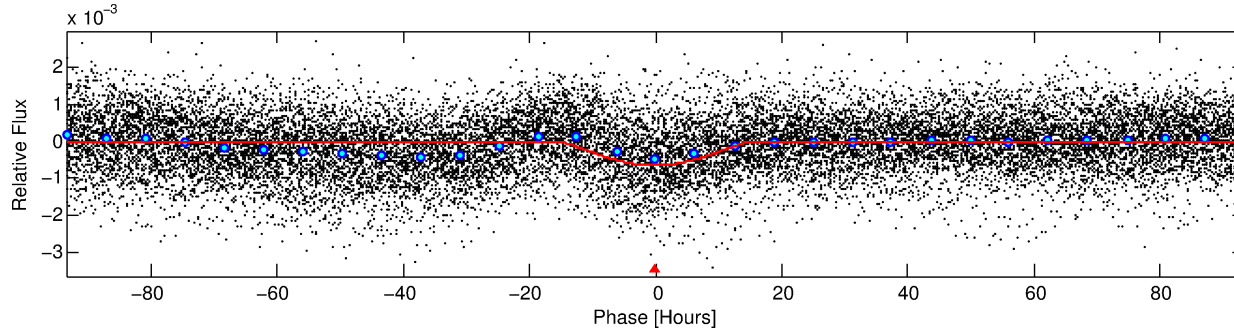
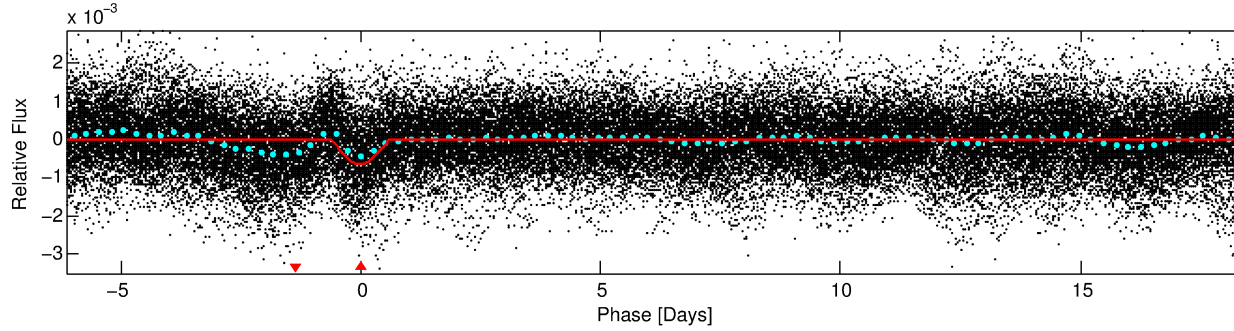
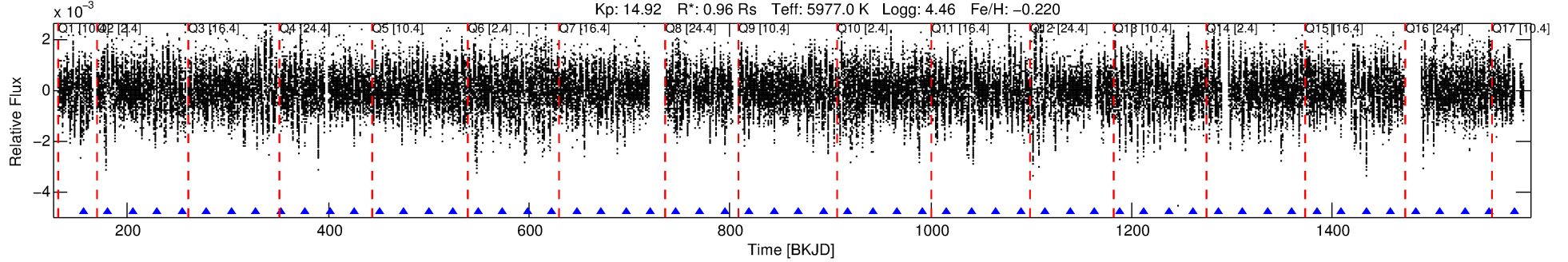
No Significant Match Found

DV One-Page Summary

KIC: 2305255 Candidate: 1 of 1 Period: 24.569 d

KOI: K04935.01 Corr: 0.869

Kp: 14.92 R*: 0.96 Rs Teff: 5977.0 K Logg: 4.46 Fe/H: -0.220



DV Fit Results:

Period = 24.56937 [0.00102] d
Epoch = 155.9634 [0.0334] BKJD
Rp/R* = 0.0455 [0.0383]
a/R* = 2.10 [0.30]
b = 1.00 [0.06]
Seff = 39.08 [15.12]
Teq = 638 [62] K
Rp = 4.75 [4.25] Re
a = 0.1635 [0.0415] AU
Ag = 156.80 [271.49] [0.57σ]
Teffp = 3488 [1481] K [1.92σ]

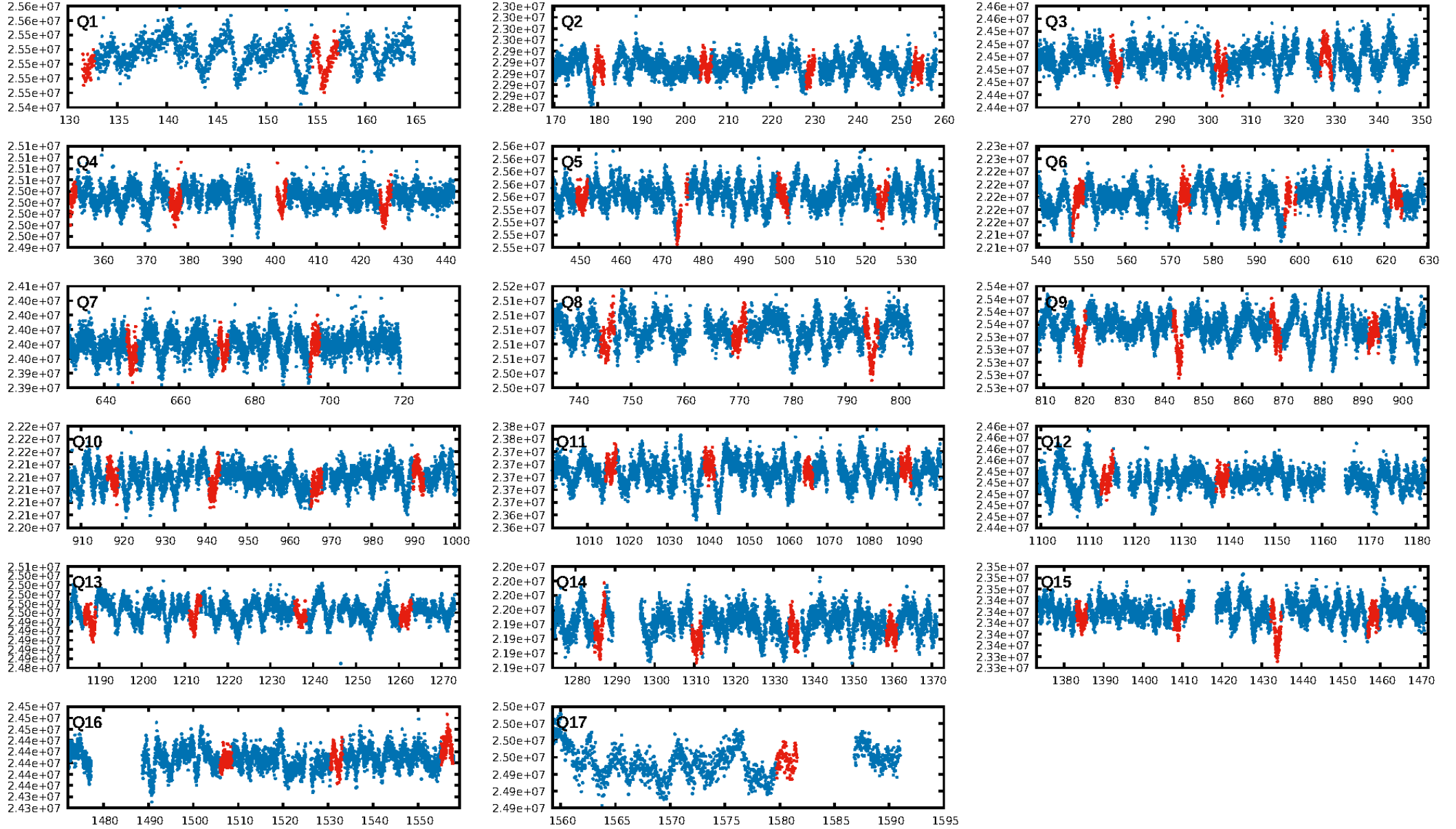
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 33.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.78e-24
RollingBand-fgt: 1.00 [54/54]
GhostDiagnostic-chr: 0.8545
Centroid-sig: 12.7%
Centroid-so: 0.568 arcsec [2.19σ]
OotOffset-rm: 0.393 arcsec [0.69σ]
KicOffset-rm: 0.310 arcsec [0.58σ]
OotOffset-st: 3/2/3/4 [12]
KicOffset-st: 3/2/3/4 [12]
DiffImageQuality-fgm: 0.83 [10/12]
DiffImageOverlap-fno: 1.00 [15/15]

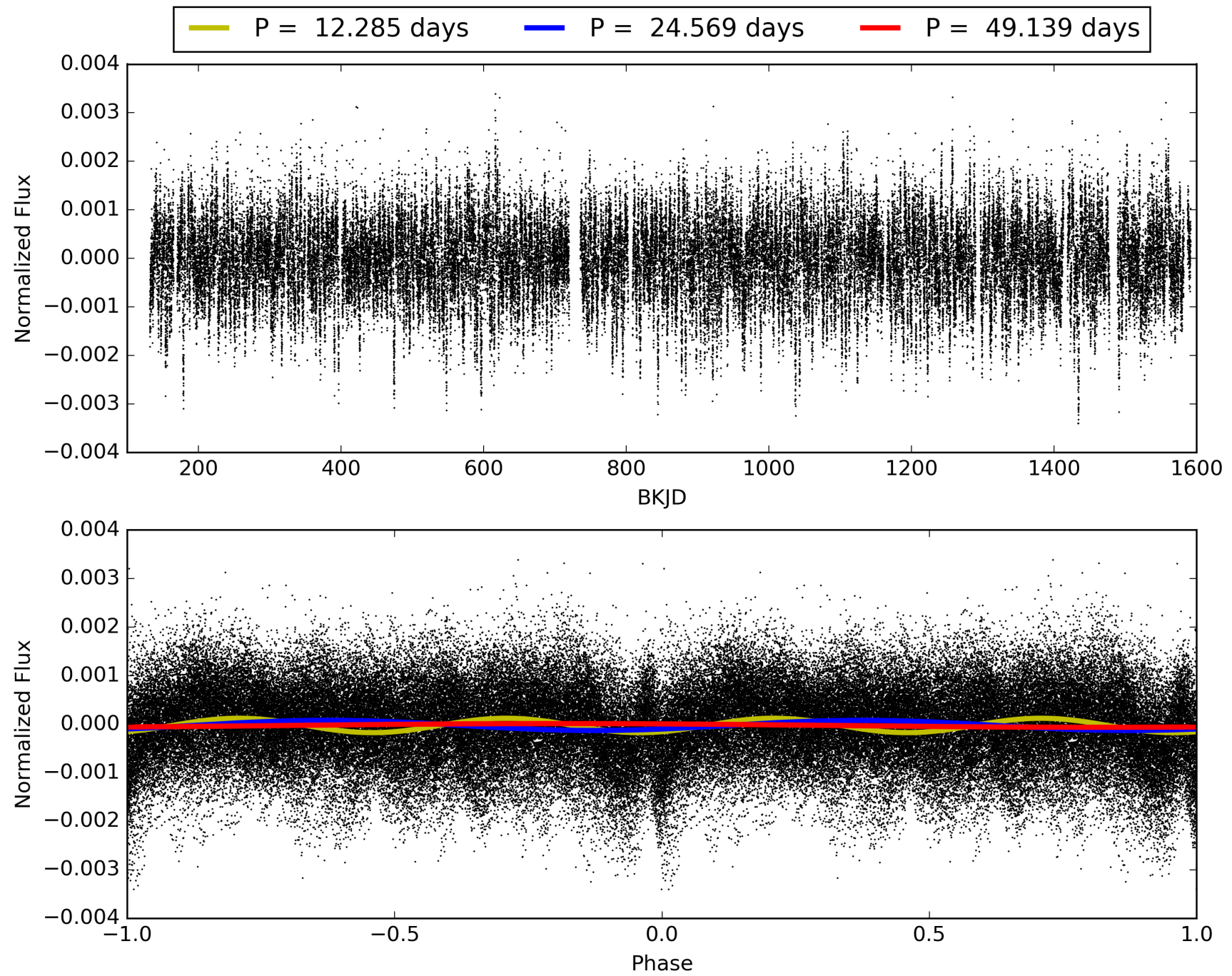
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:57:49 Z

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

TCE 002305255-01, PDC Light Curves

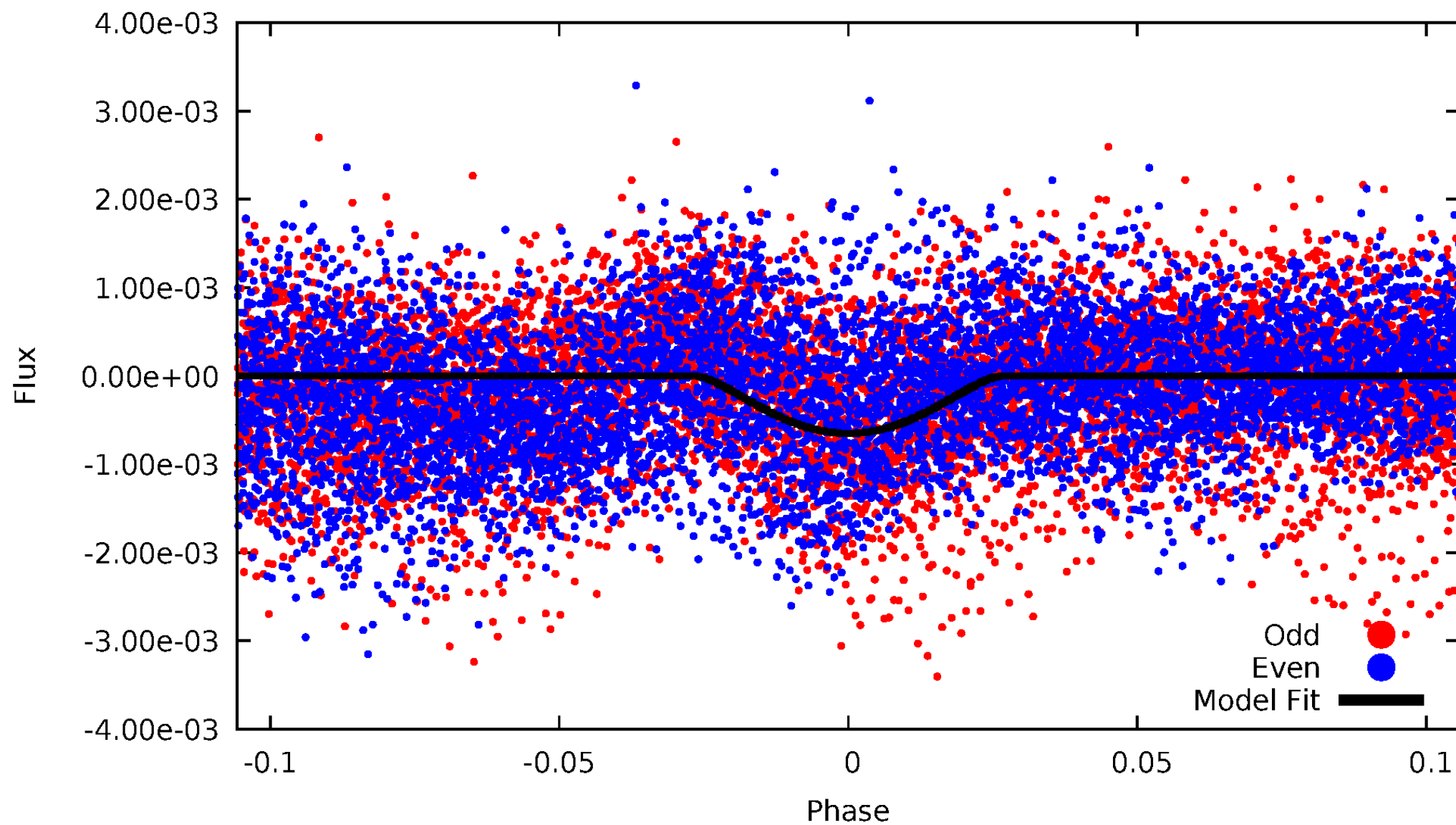


TCE 002305255-01



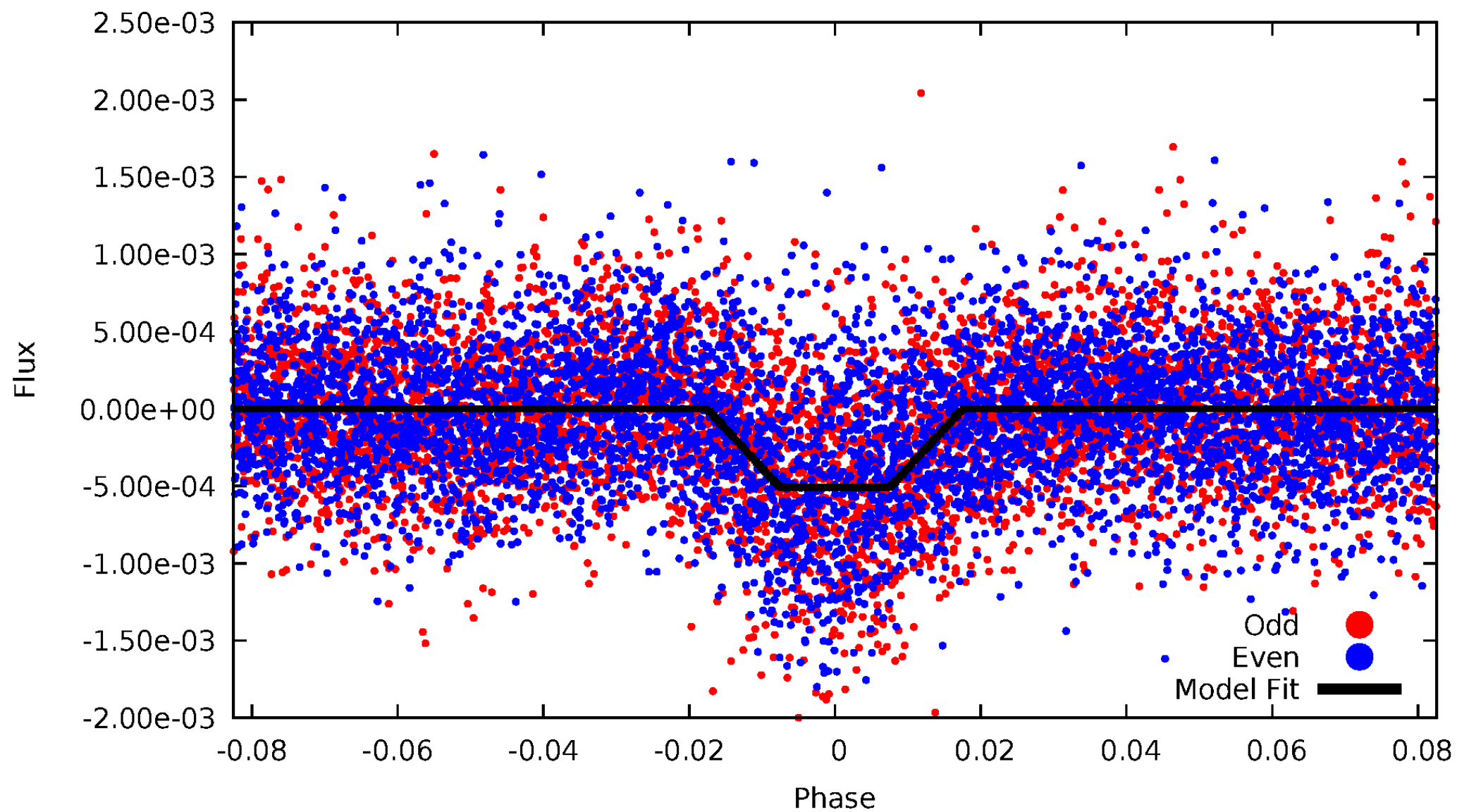
DV Odd/Even

TCE 002305255-01



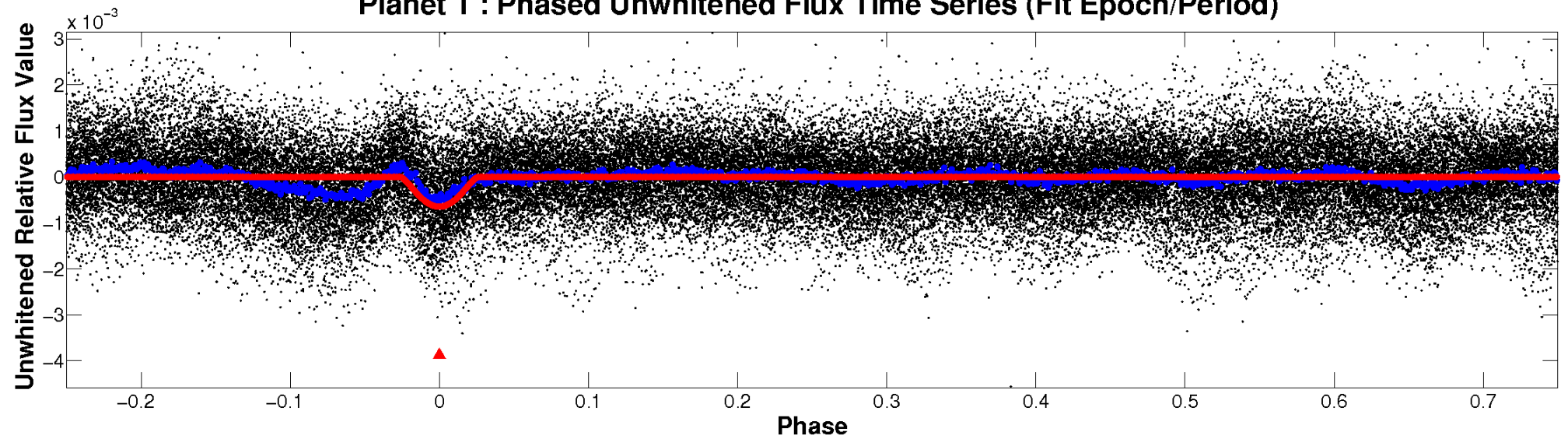
ALT Odd/Even

TCE 002305255-01

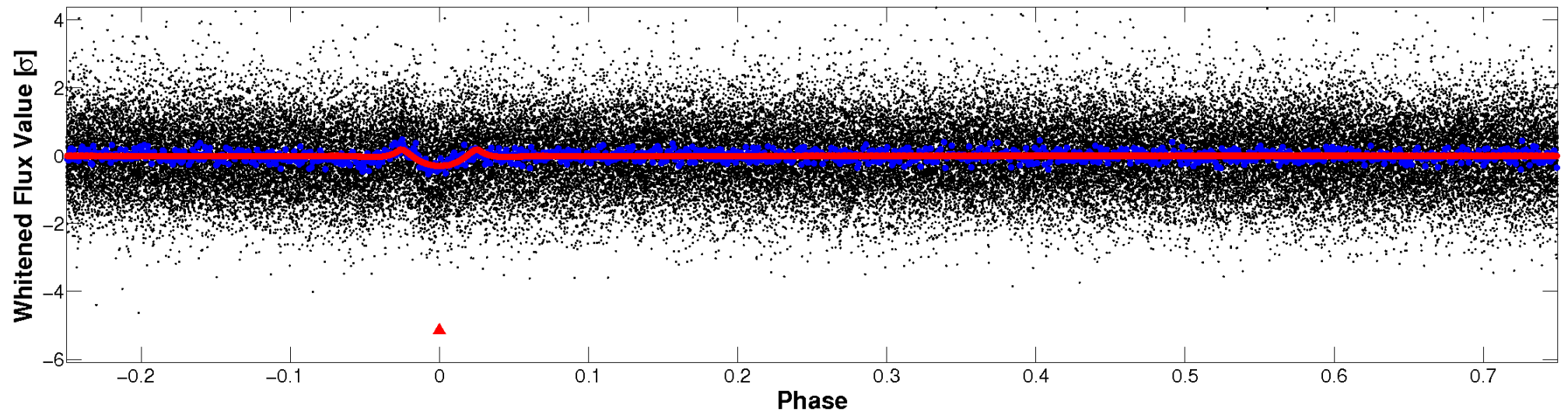


Non-Whitened Vs. Whitened Light Curve

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

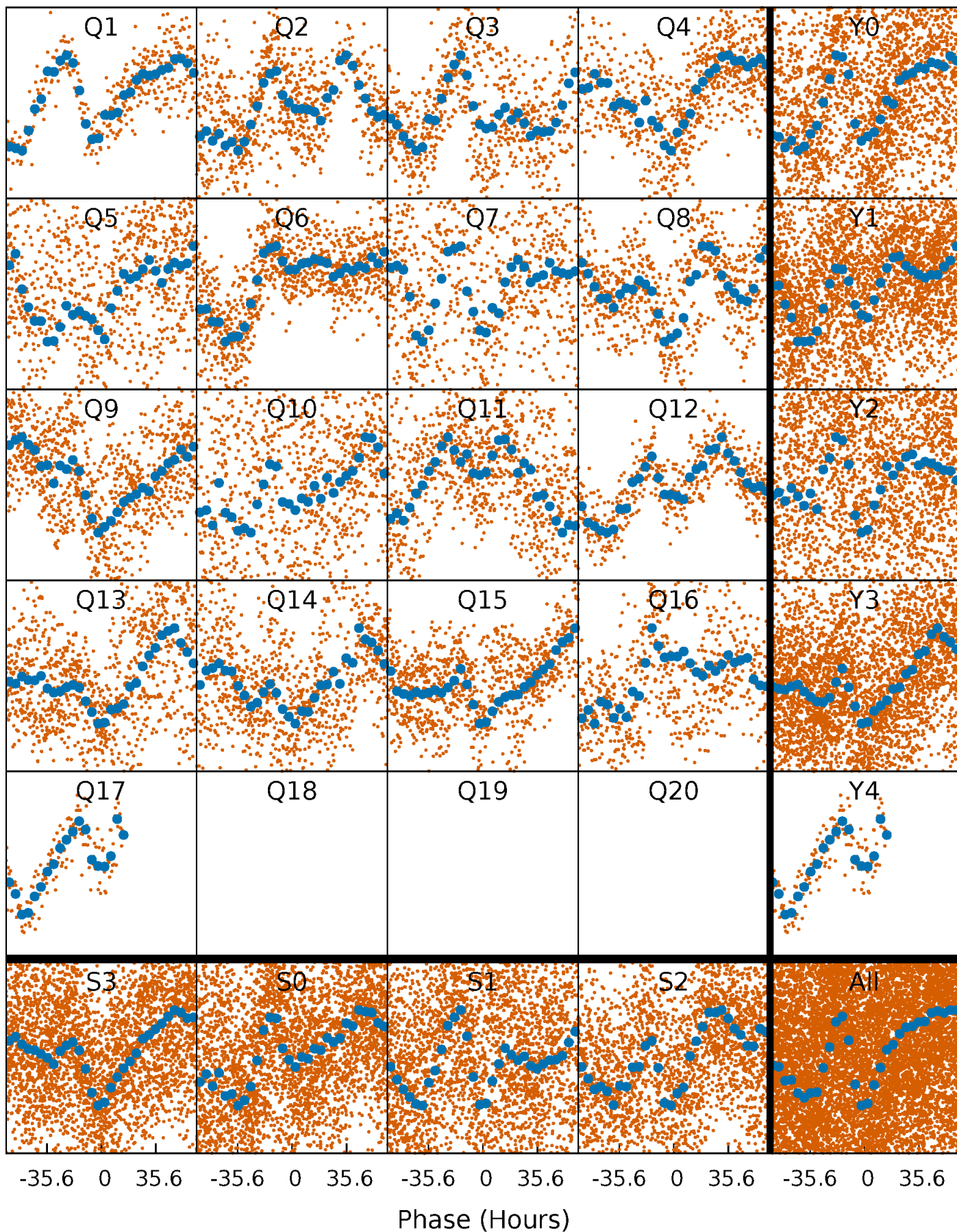


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



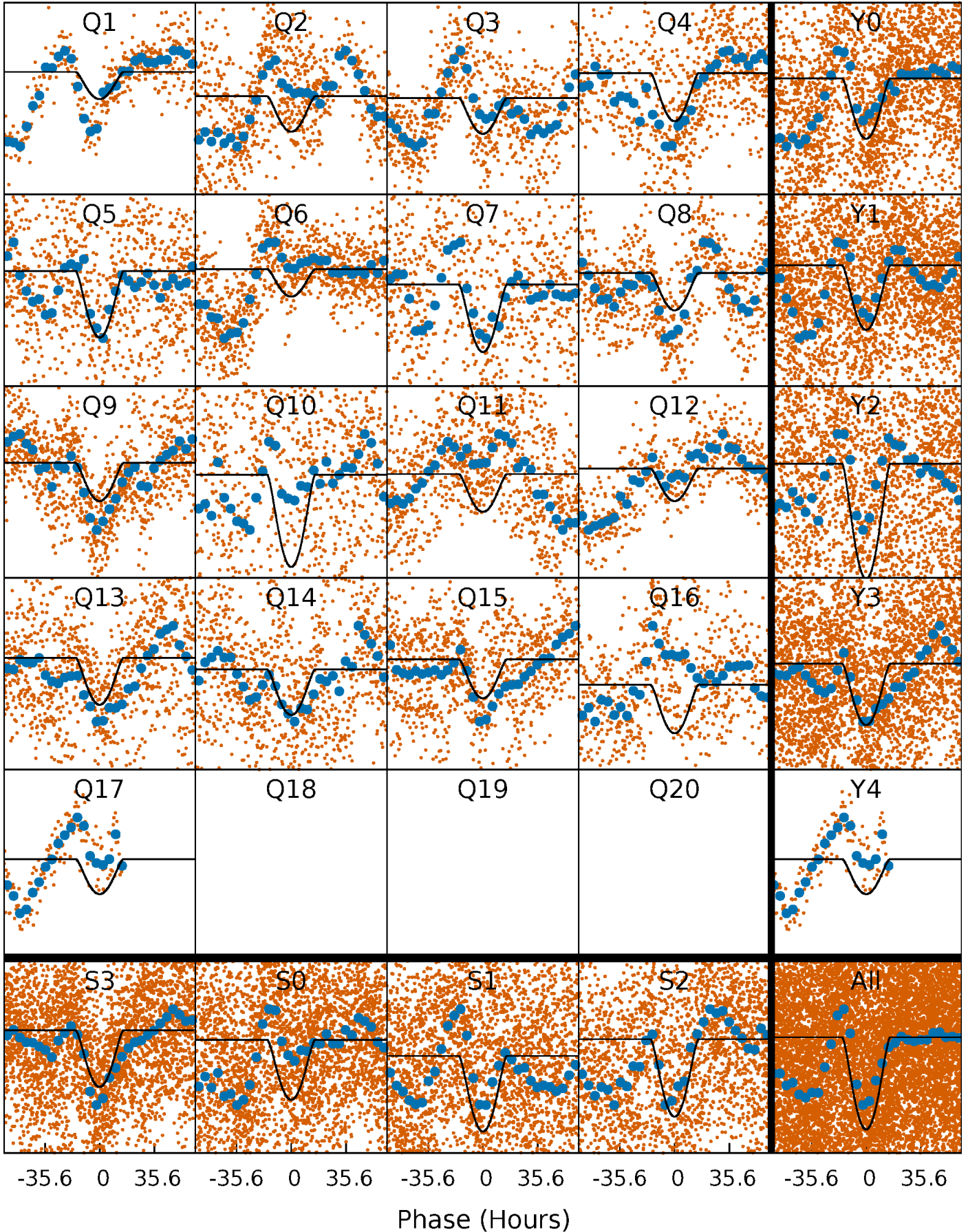
PDC Quarter-Phased Transit Curves

TCE 002305255-01 P= 24.569374 Days $T_0=155.963380$ (BKJD)



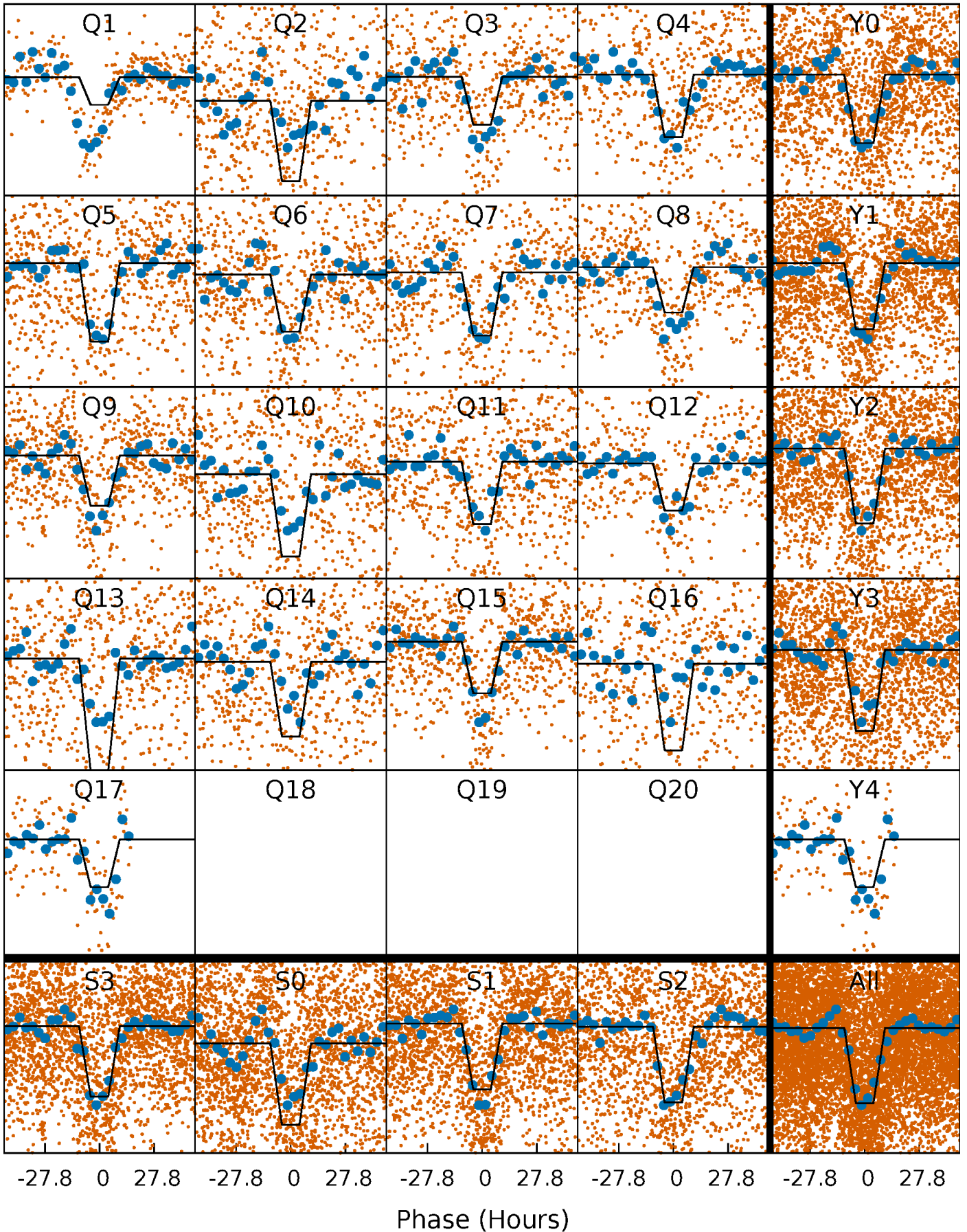
DV Quarter-Phased Transit Curves

TCE 002305255-01 P= 24.569374 Days $T_0=155.963380$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

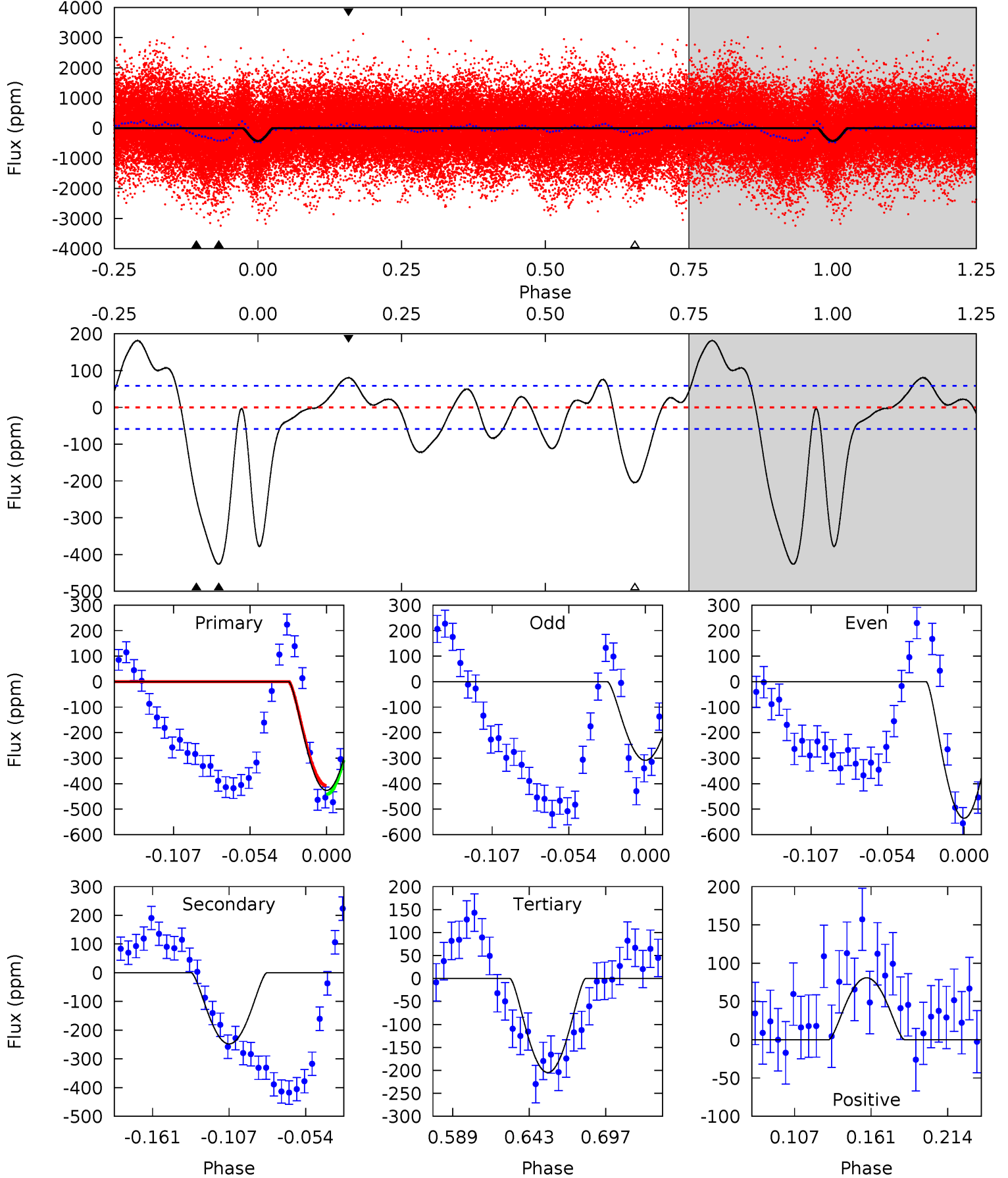
TCE 002305255-01 P= 24.568708 Days $T_0=155.934712$ (BKJD)



DV Model-Shift Uniqueness Test

002305255-01, P = 24.569374 Days, E = 131.394006 Days

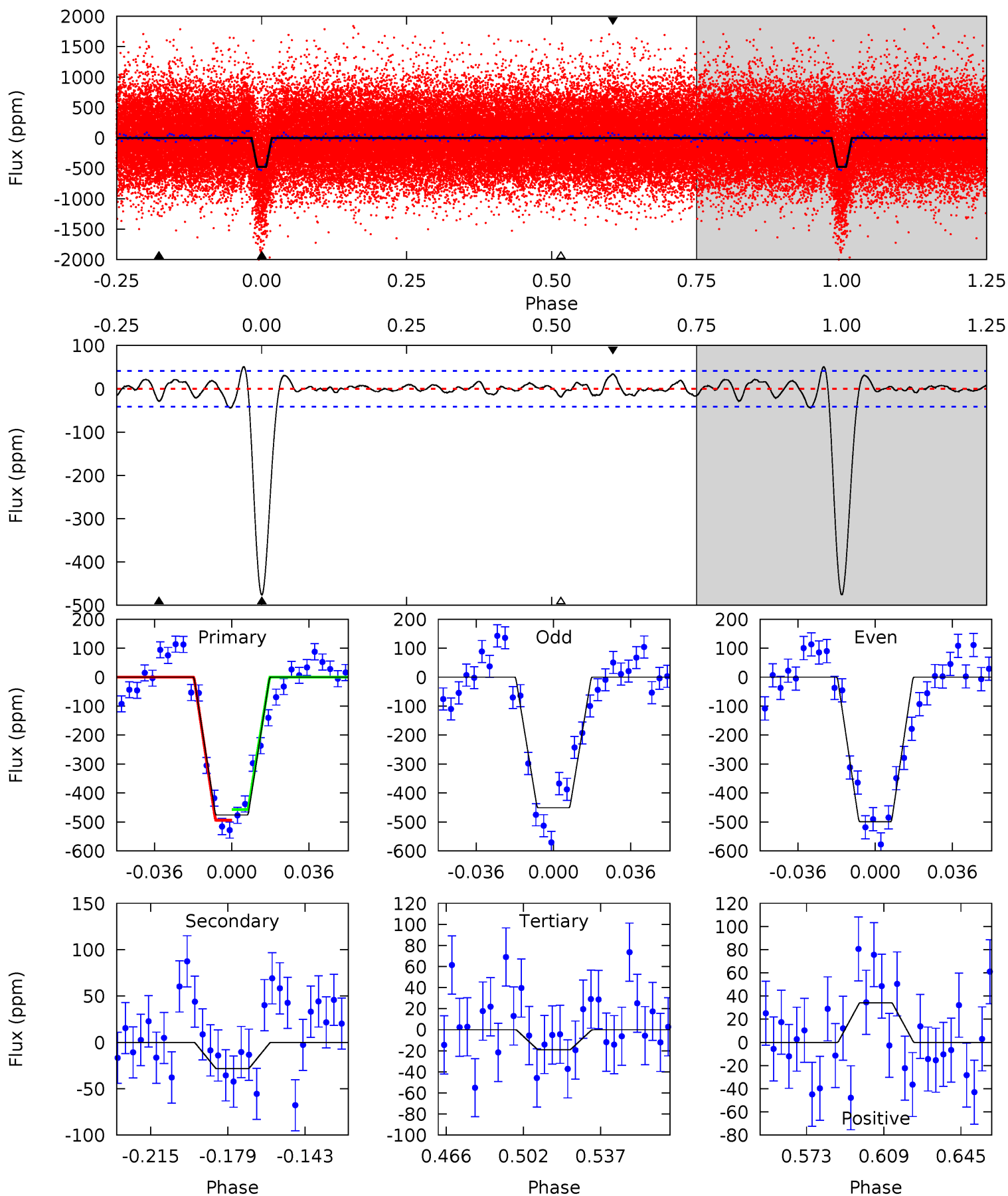
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.0	19.8	16.3	6.45	4.69	1.93	7.90	17.7	27.6	3.44	13.3	9.06	1.19	0.30	1.35



Alt Model-Shift Uniqueness Test

002305255-01, $P = 24.568708$ Days, $E = 131.366004$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
55.0	3.29	2.19	3.95	4.78	2.10	1.31	52.8	51.1	1.10	-0.66	2.76	0.92	0.10	2.14



Stellar Parameters For KIC 002305255

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5977^{+161}_{-197}	$4.462^{+0.070}_{-0.196}$	$-0.220^{+0.300}_{-0.300}$	$0.956^{+0.293}_{-0.117}$	$0.967^{+0.121}_{-0.121}$	$1.557^{+0.553}_{-0.792}$
	+3%/-3%	+2%/-4%	+136%/-136%	+31%/-12%	+13%/-13%	+36%/-51%
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 002305255-01 / KOI 4935.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-248 ± 13	$5.29^{+4.09}_{-3.09}$	905^{+69}_{-44}	3747^{+1485}_{-599}	126^{+599}_{-85}
Alt.	-28 ± 9	$3.85^{+3.78}_{-2.65}$	900^{+67}_{-44}	2978^{+1257}_{-500}	28^{+229}_{-21}

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 $A_{obs} \gg 1.0$

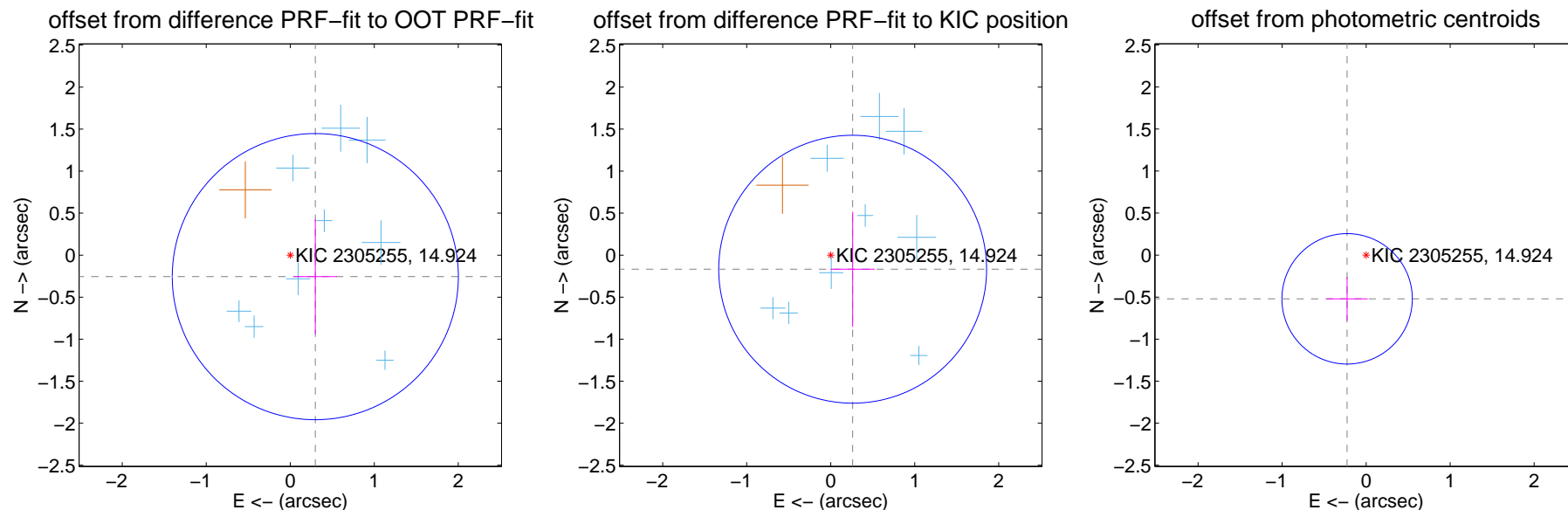
DV Centroid Data

Supplemental centroid analysis for 002305255-01. Kepler magnitude: 14.92. Transit SNR 11.93

There are 10 quarters with good PRF difference image offsets

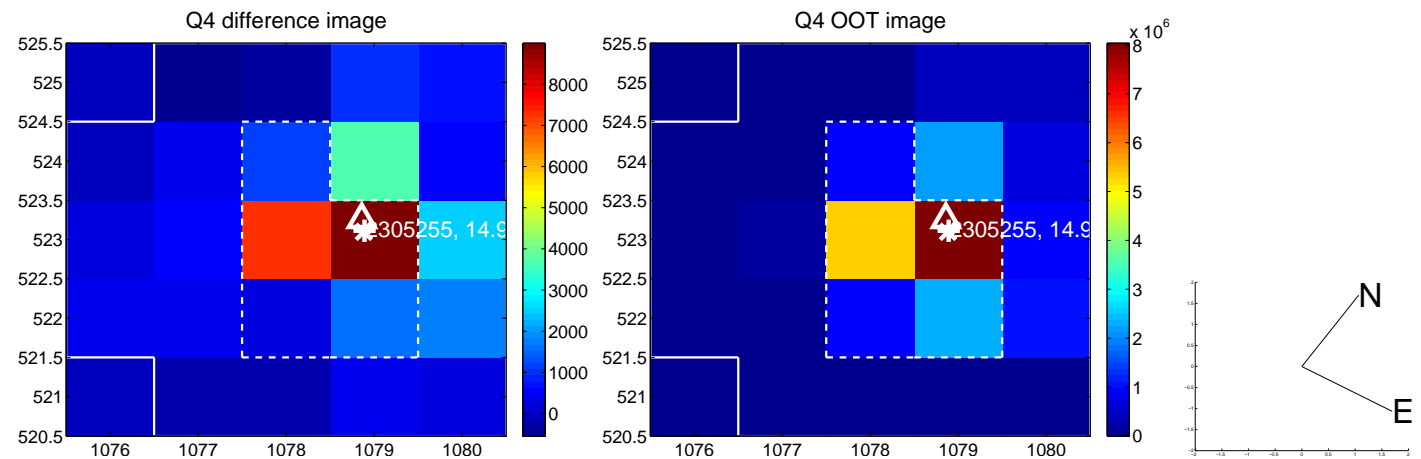
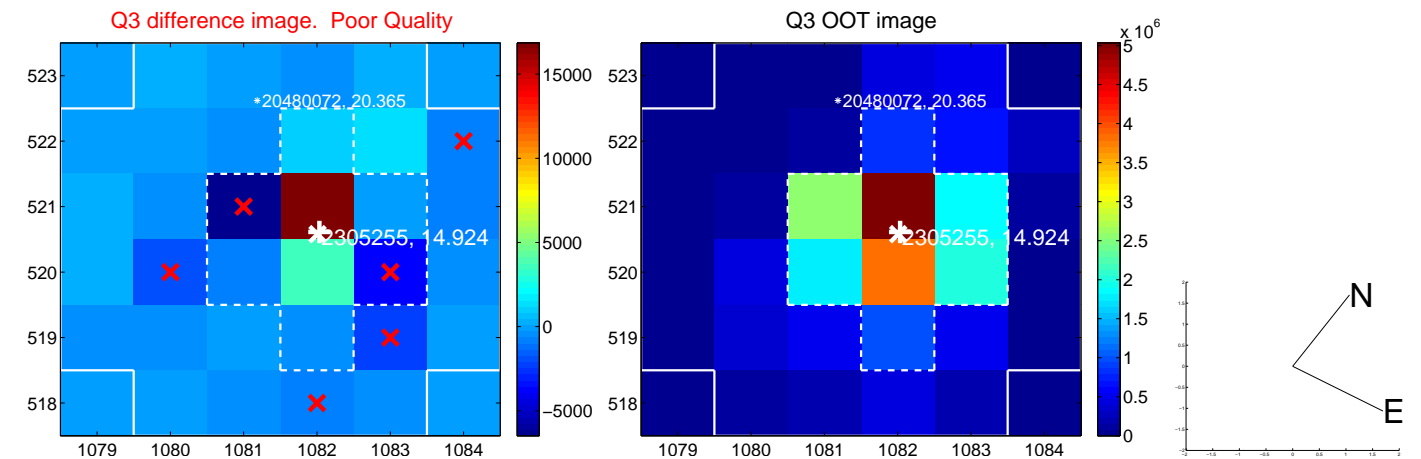
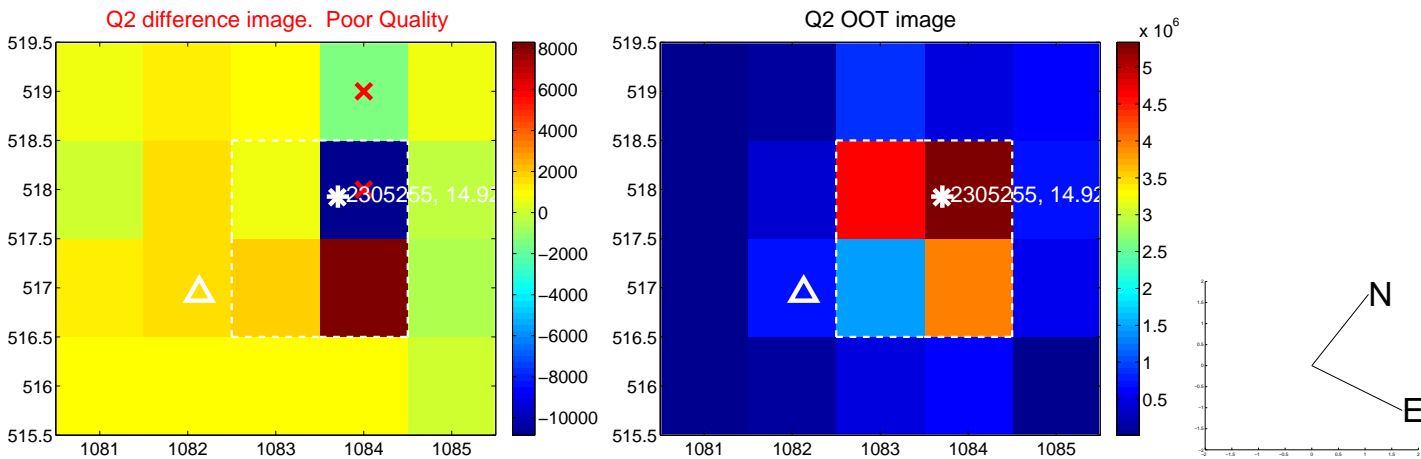
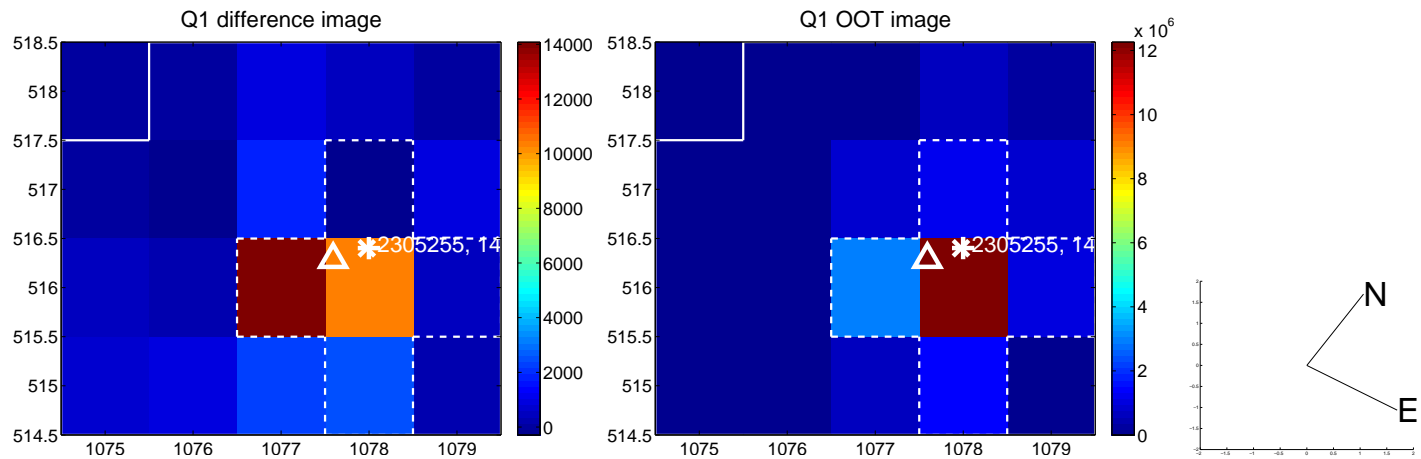
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.393 ± 0.568	0.69	-0.298 ± 0.256	-0.256 ± 0.685
PRF-fit source offset from KIC position	0.310 ± 0.531	0.58	-0.261 ± 0.265	-0.167 ± 0.685
photometric centroid source offset	0.57 ± 0.26	2.19	0.23 ± 0.25	-0.52 ± 0.26

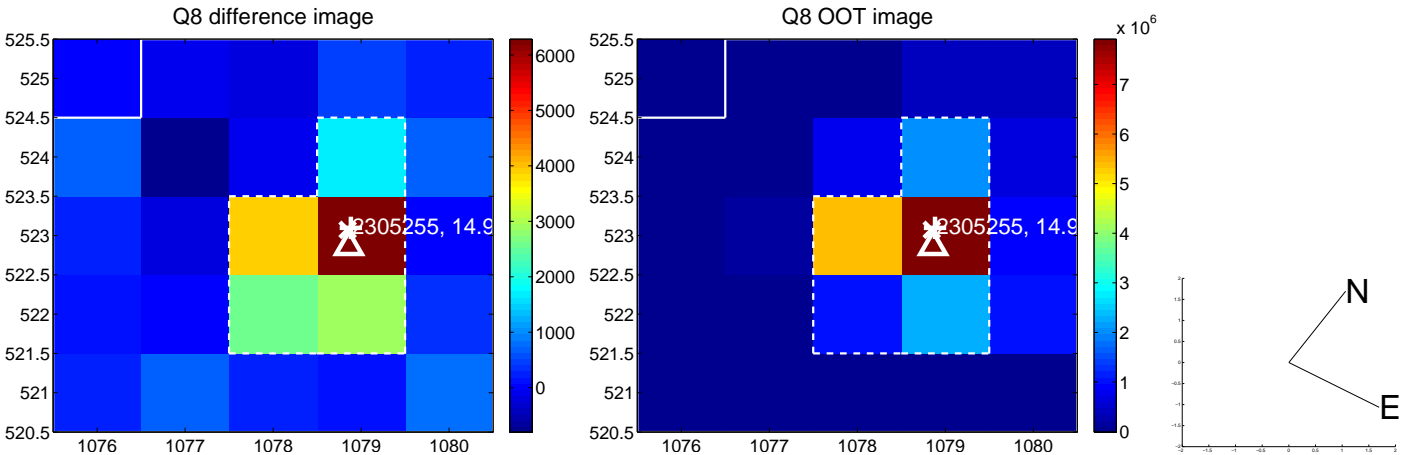
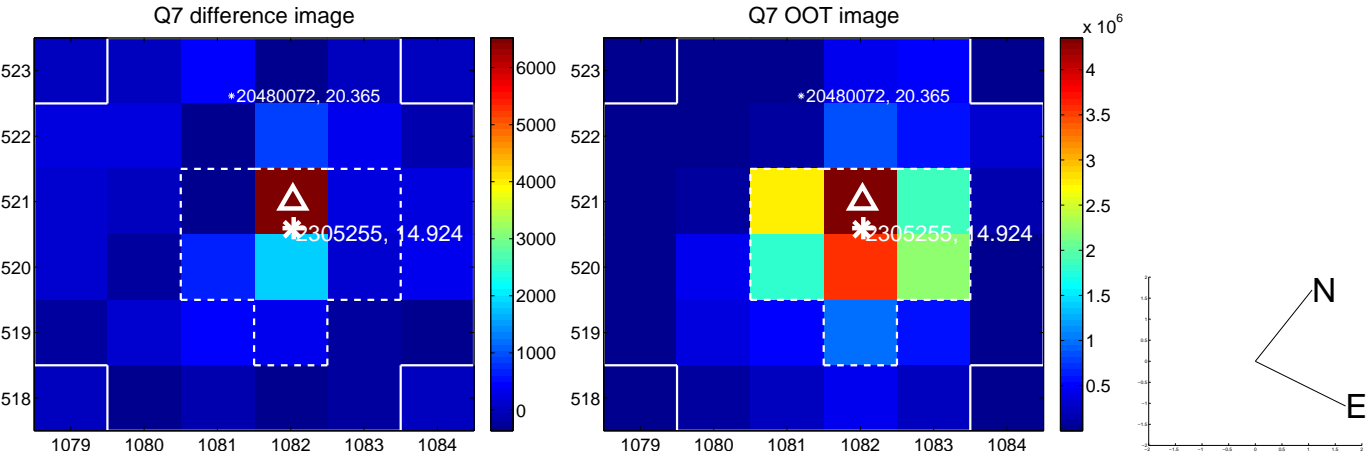
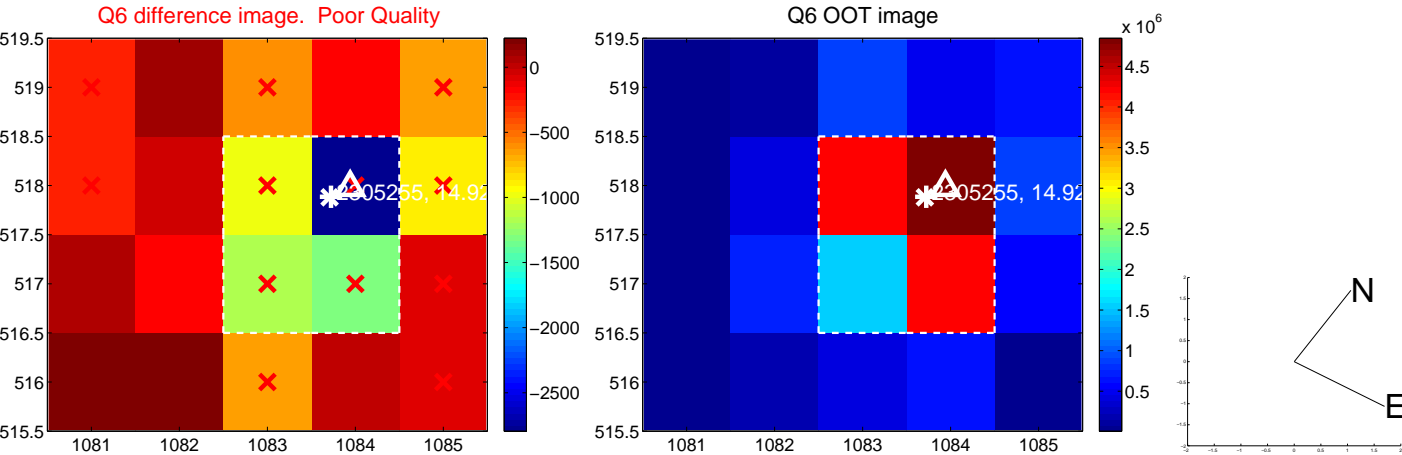
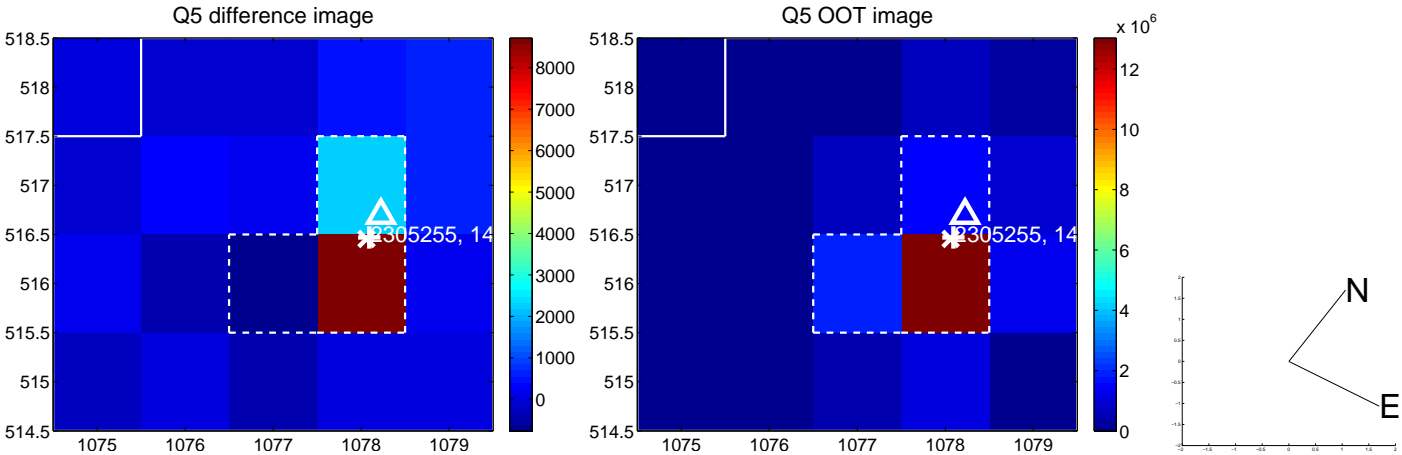


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

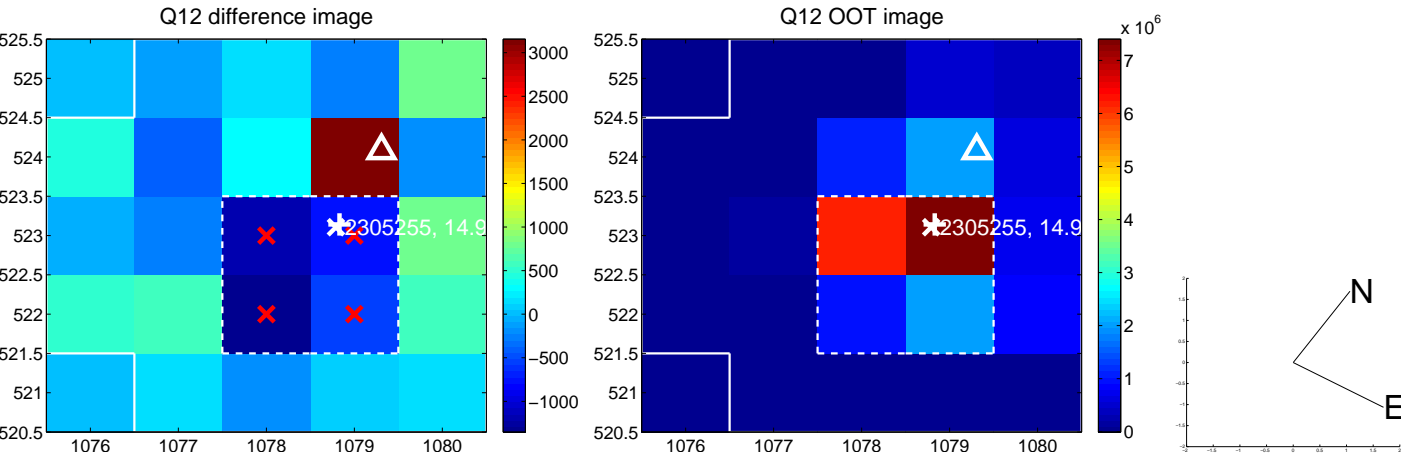
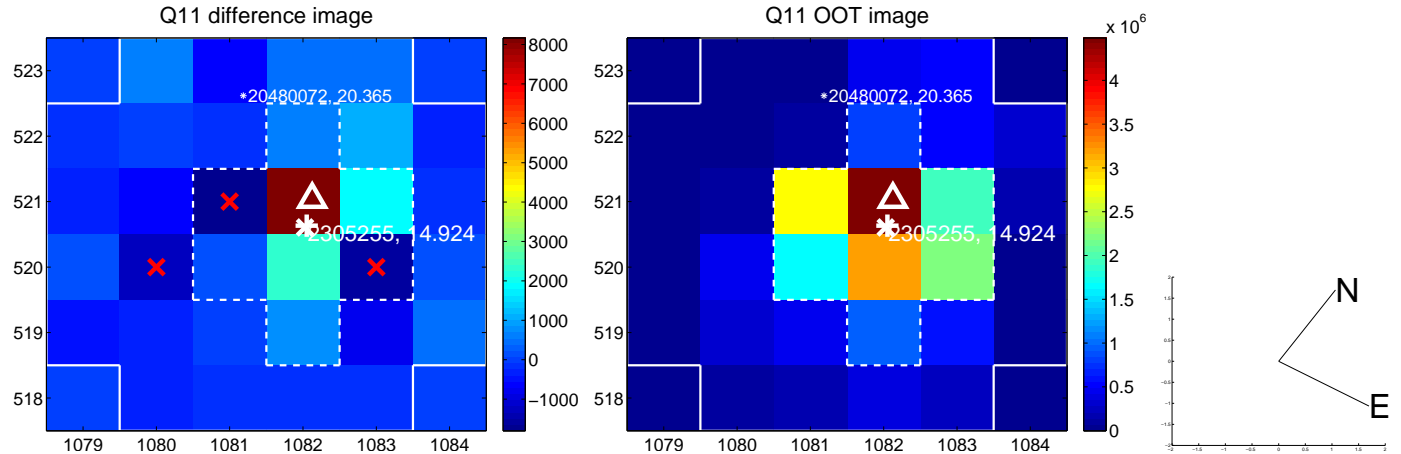
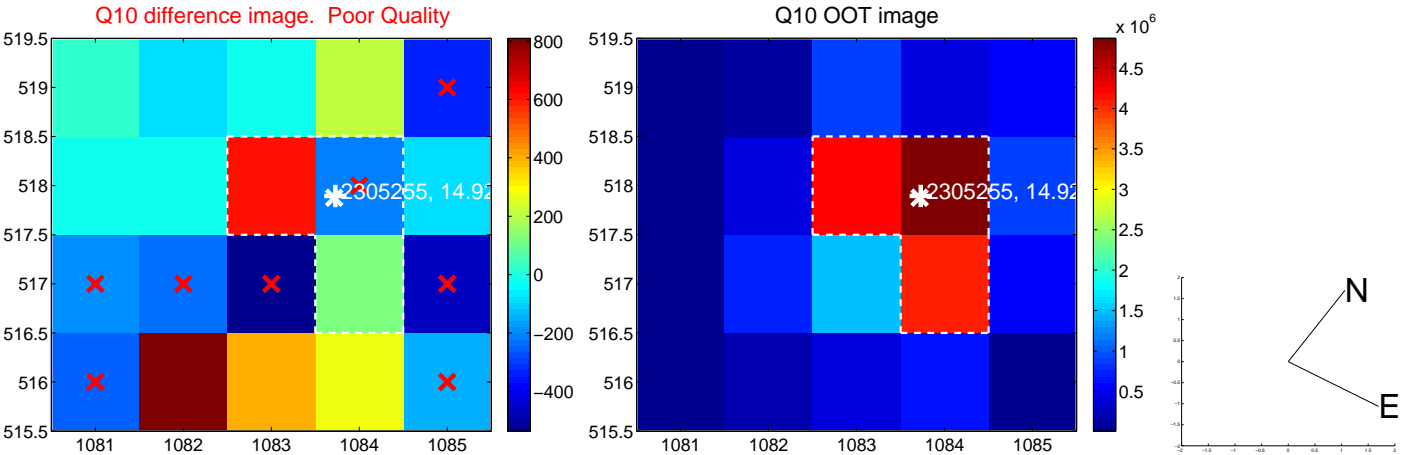
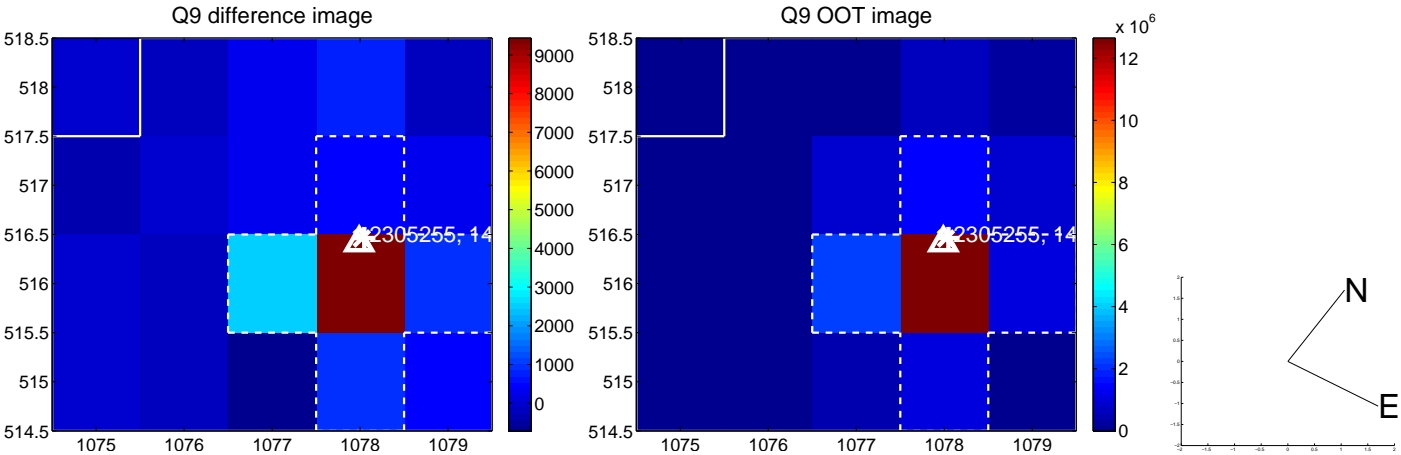
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



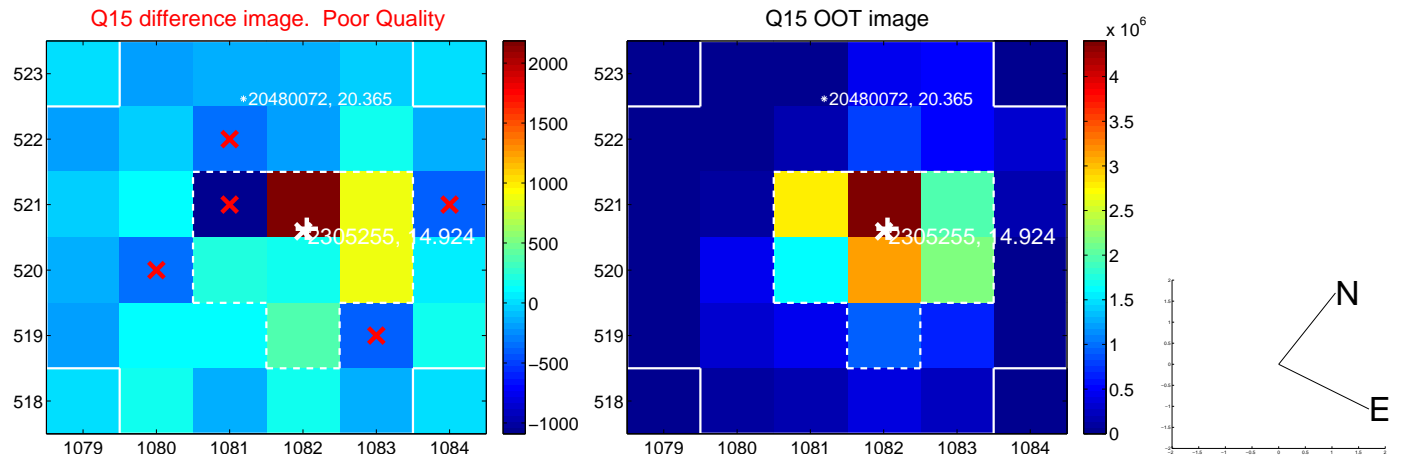
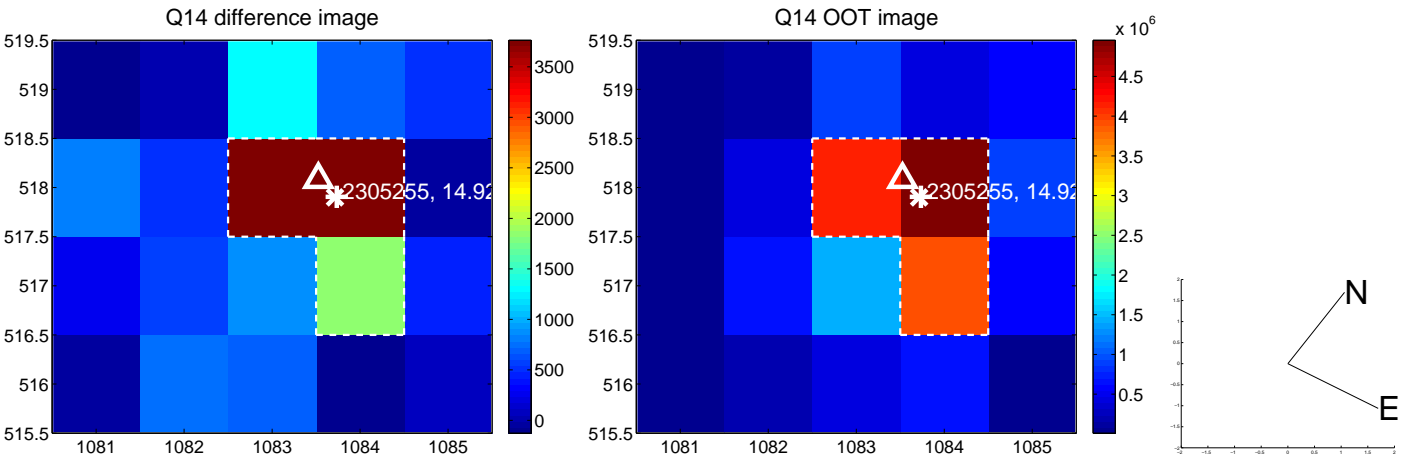
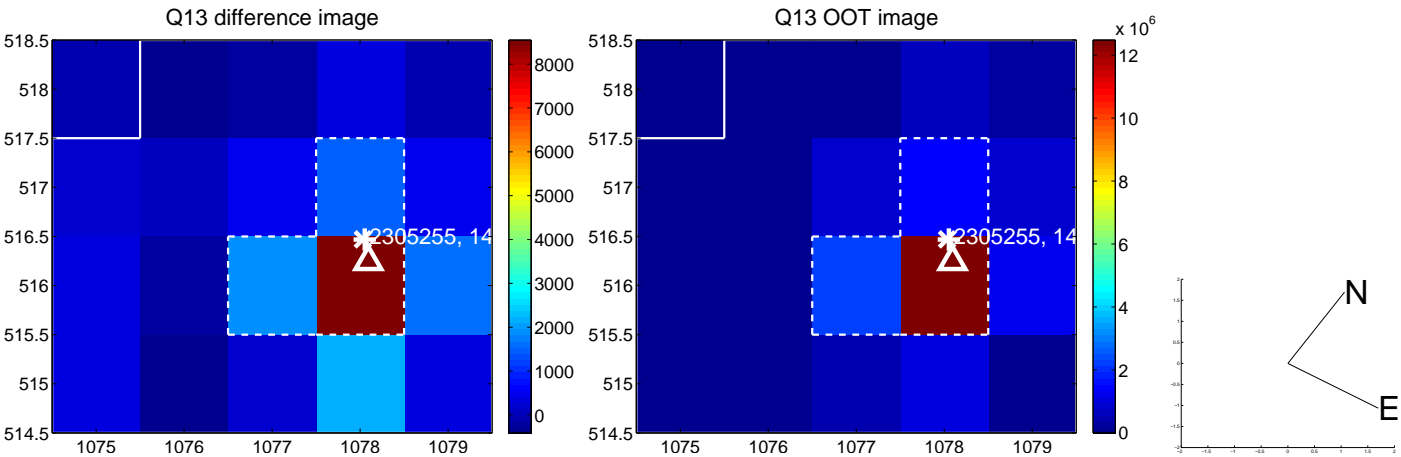
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



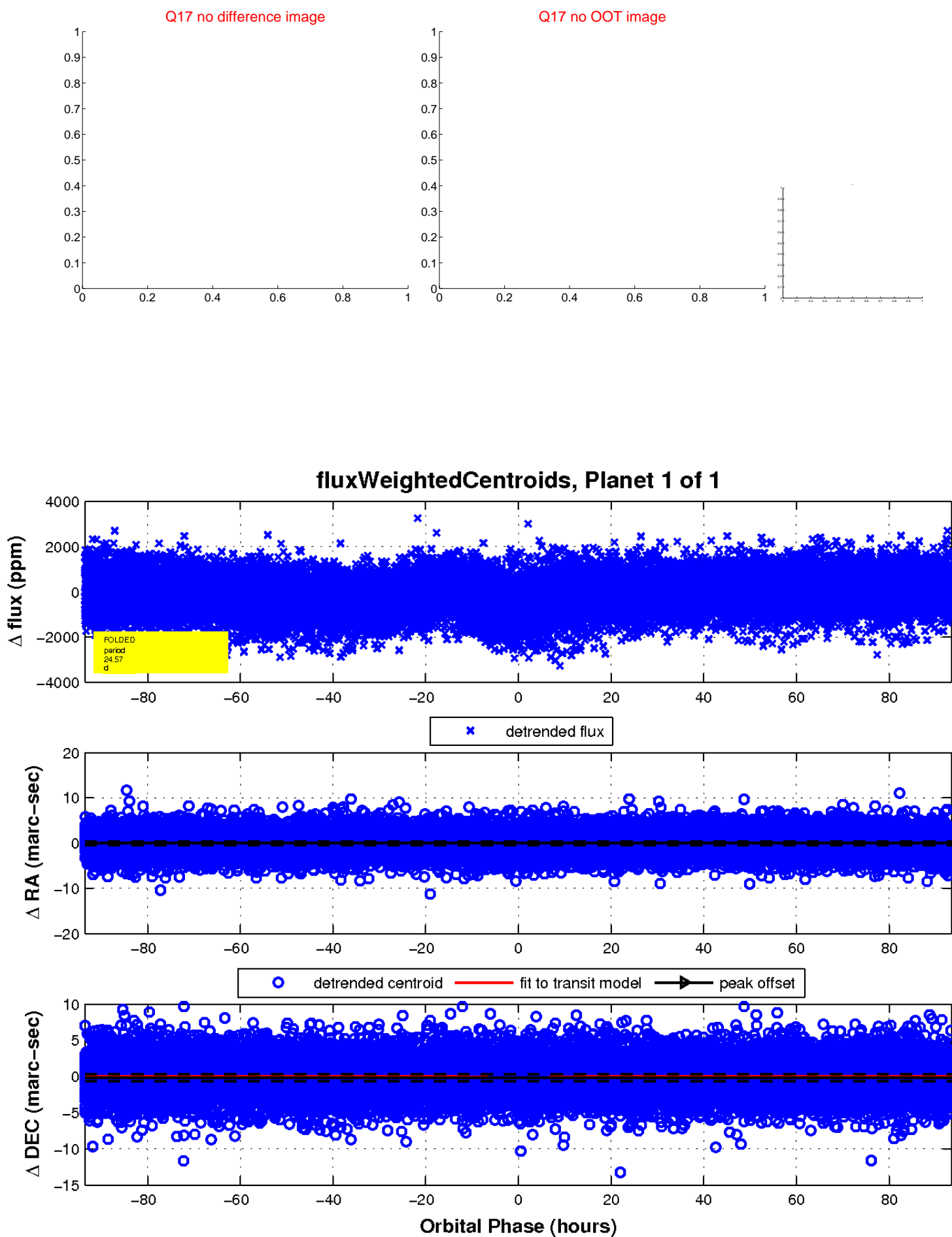
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

