

KIC 005305399

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})
005305399-01	OBS	7725.01	322.457494	189.195493	844.8	20.854	13.7	13.5	0.88	5968	3.01	1.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005305399-01	OBS	FP	0.00	1	0	1	1	INDIV_TRANS_MARSHALL_SKYE—CENT_FEW_DIFFS—HALO_GHOST—EPHEM_MATCH

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.

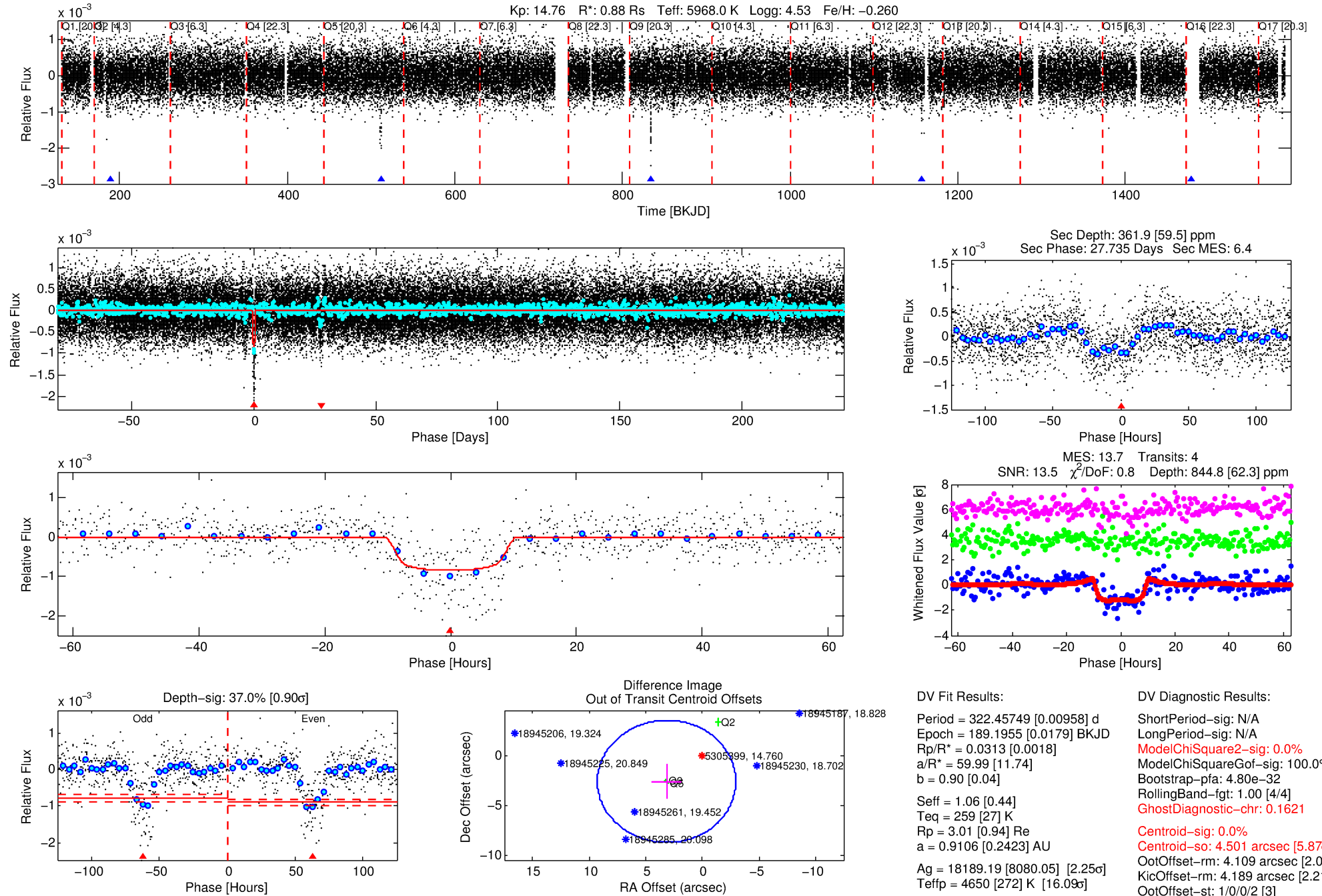
Ephemeris Match Information For 005305399-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
005305399-01	5305399	005217733-pri	5217733	2:1	99.7	24	-8	7.39	14.76	119.41	Direct-PRF	0	3.96	0.72

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 5305399 Candidate: 1 of 1 Period: 322.457 d



DV Fit Results:

Period = 322.45749 [0.00958] d
Epoch = 189.1955 [0.0179] BKJD
Rp/R* = 0.0313 [0.0018]
a/R* = 59.99 [11.74]
b = 0.90 [0.04]
Seff = 1.06 [0.44]
Teq = 259 [27] K
Rp = 3.01 [0.94] Re
a = 0.9106 [0.2423] AU
Ag = 18189.19 [8080.05] [2.25 σ]
Teff = 4650 [272] K [16.09 σ]

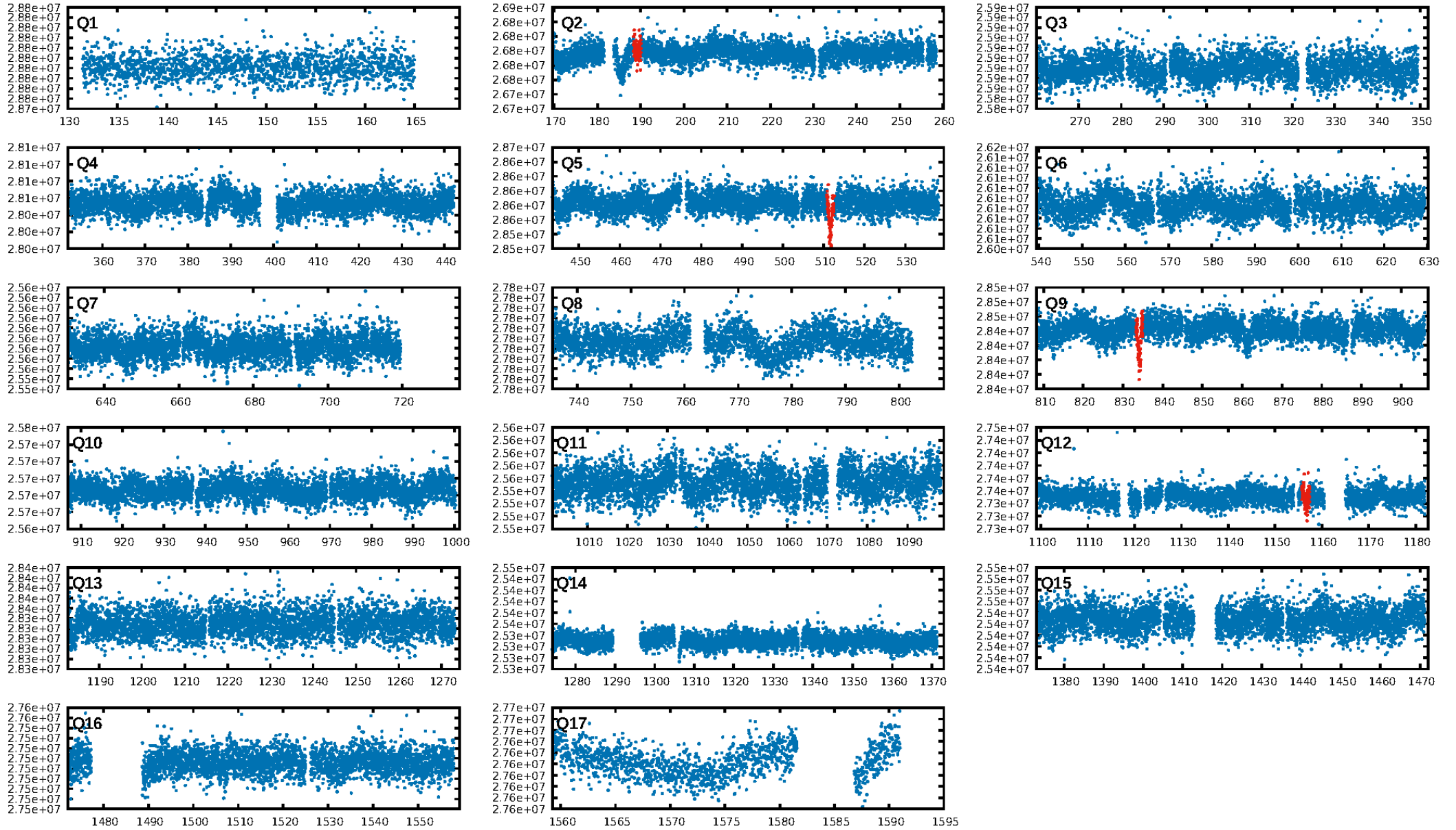
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.80e-32
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.1621
Centroid-sig: 0.0%
Centroid-so: 4.501 arcsec [5.87 σ]
OotOffset-rm: 4.109 arcsec [2.02 σ]
KicOffset-rm: 4.189 arcsec [2.21 σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-st: 1/0/0/2 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

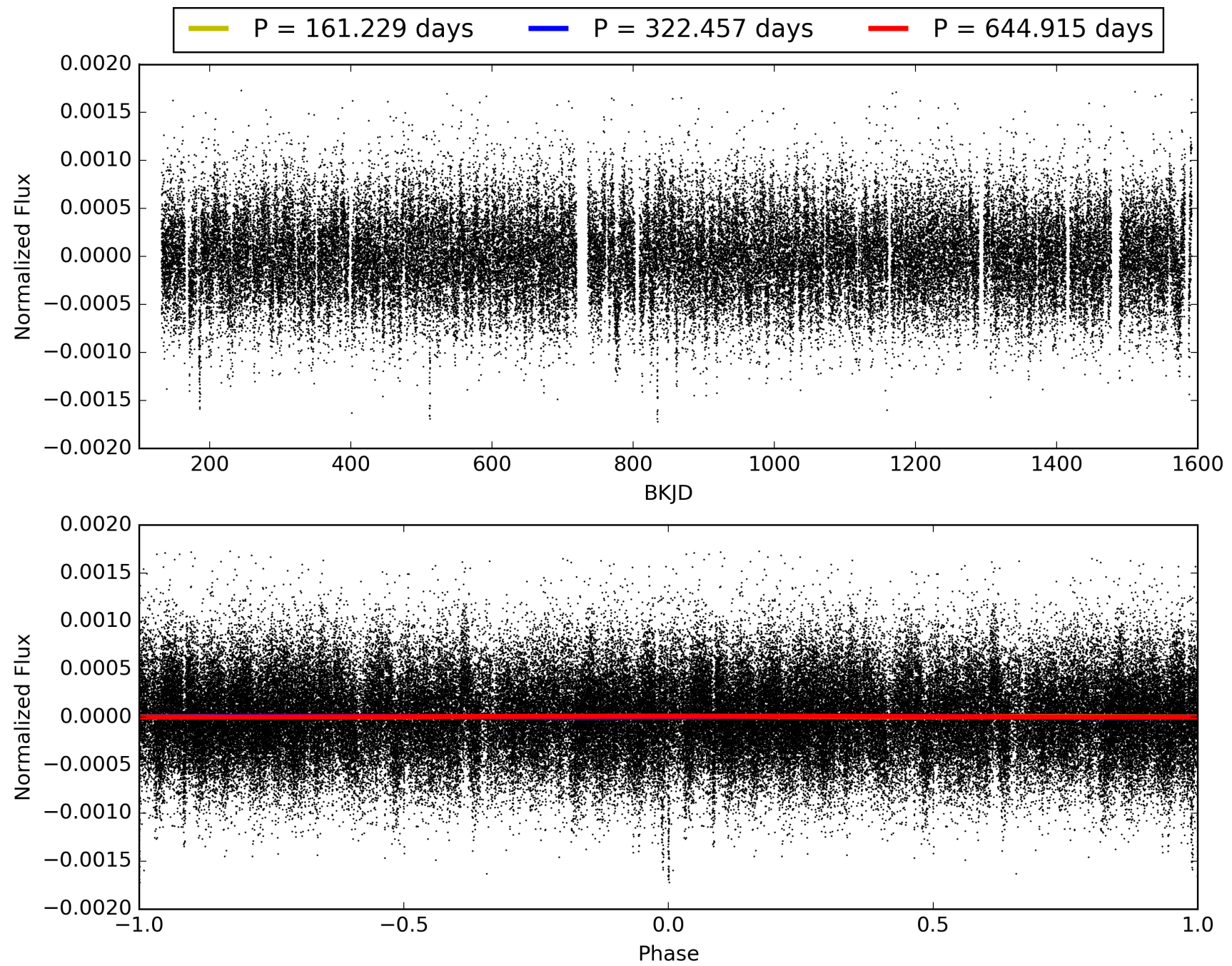
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:06:45 Z

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

TCE 005305399-01, PDC Light Curves

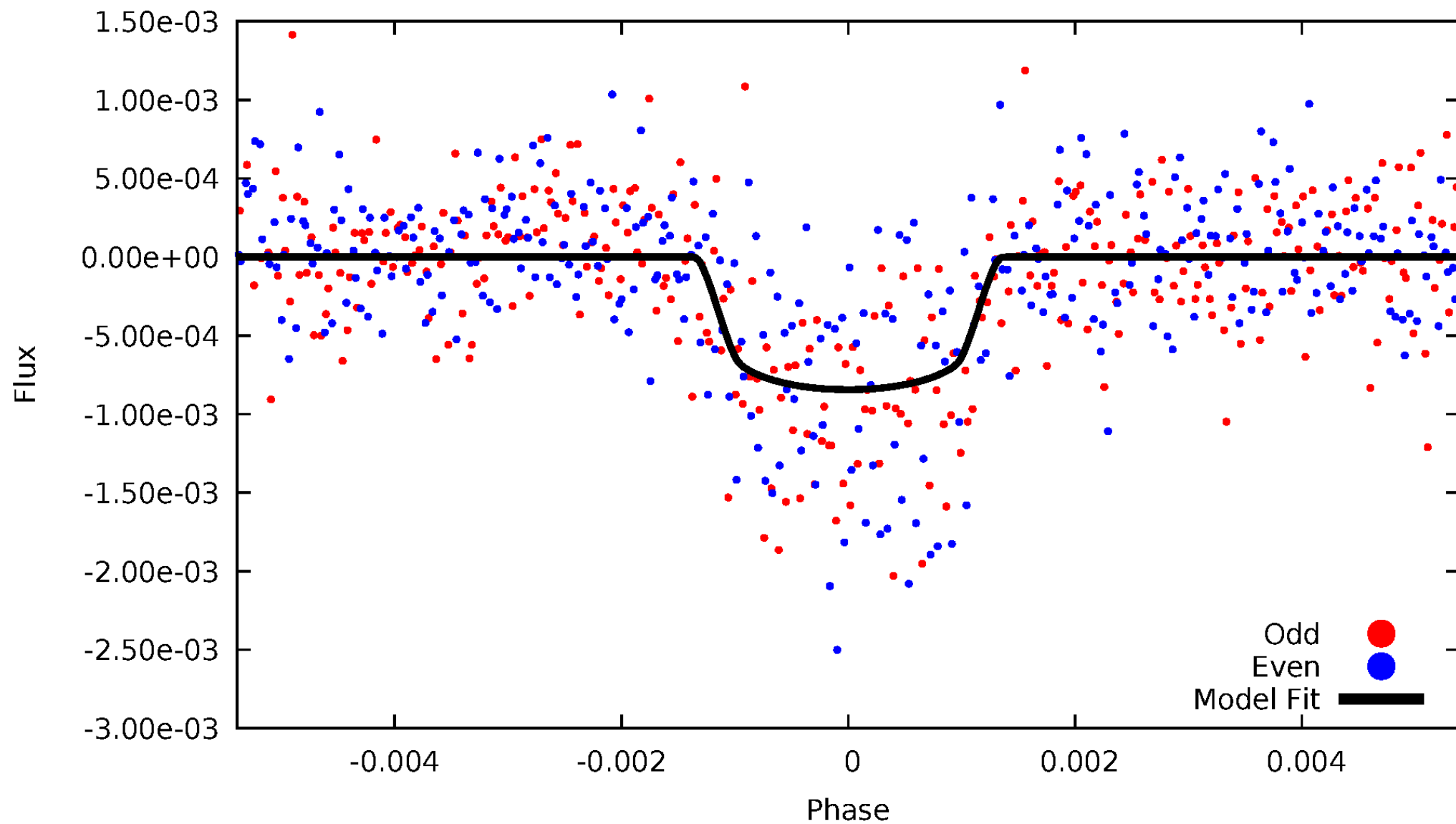


TCE 005305399-01



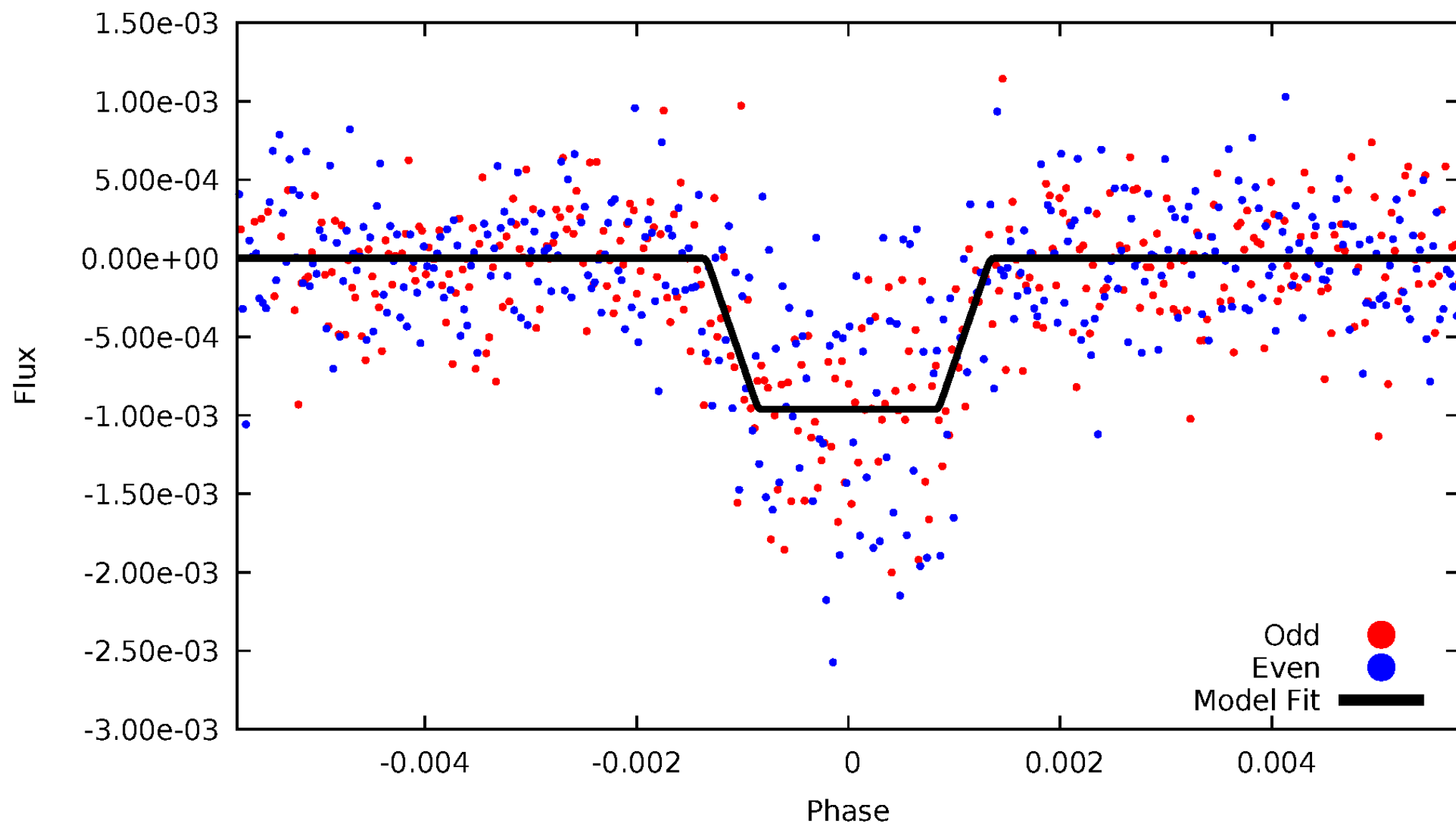
DV Odd/Even

TCE 005305399-01



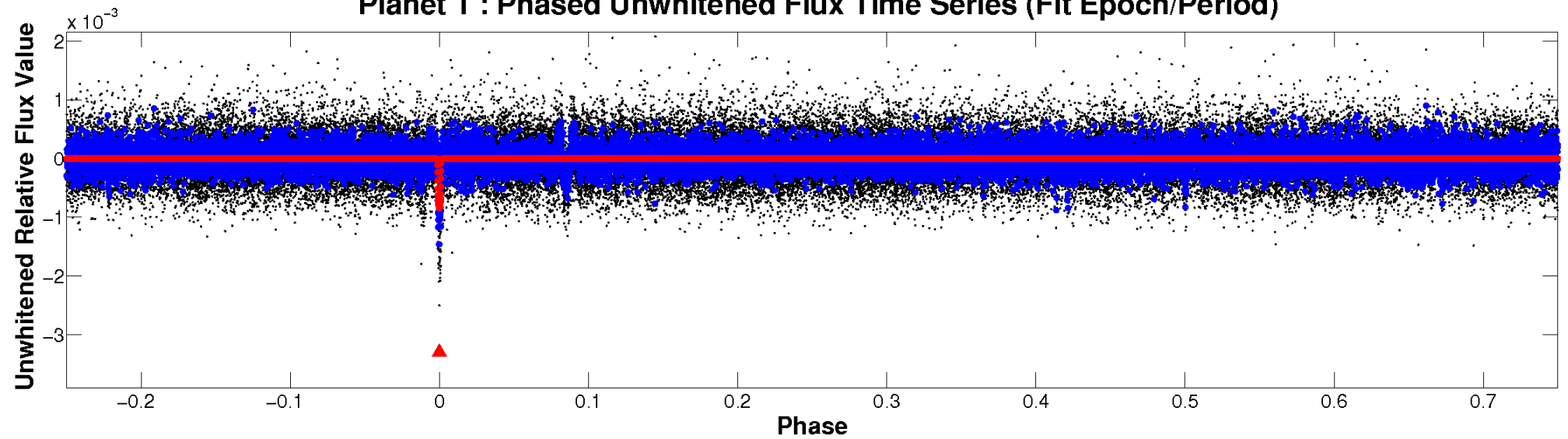
ALT Odd/Even

TCE 005305399-01

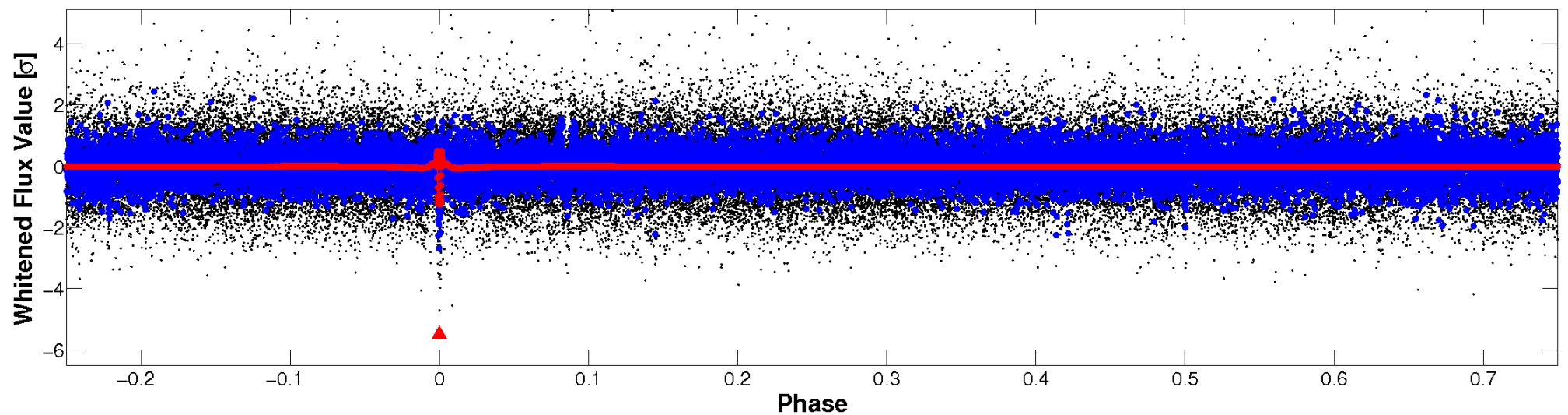


Non-Whitened Vs. Whitened Light Curve

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

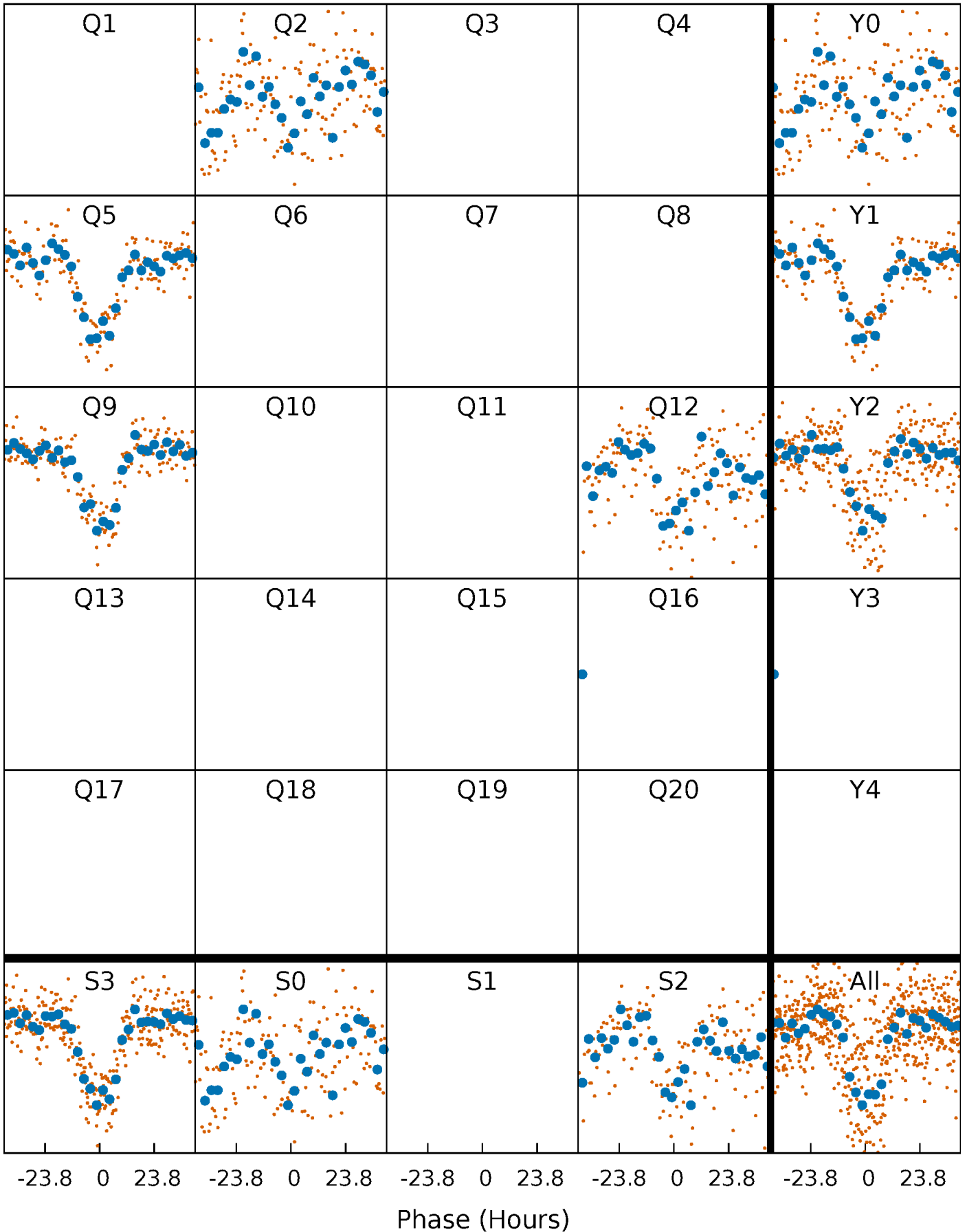


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



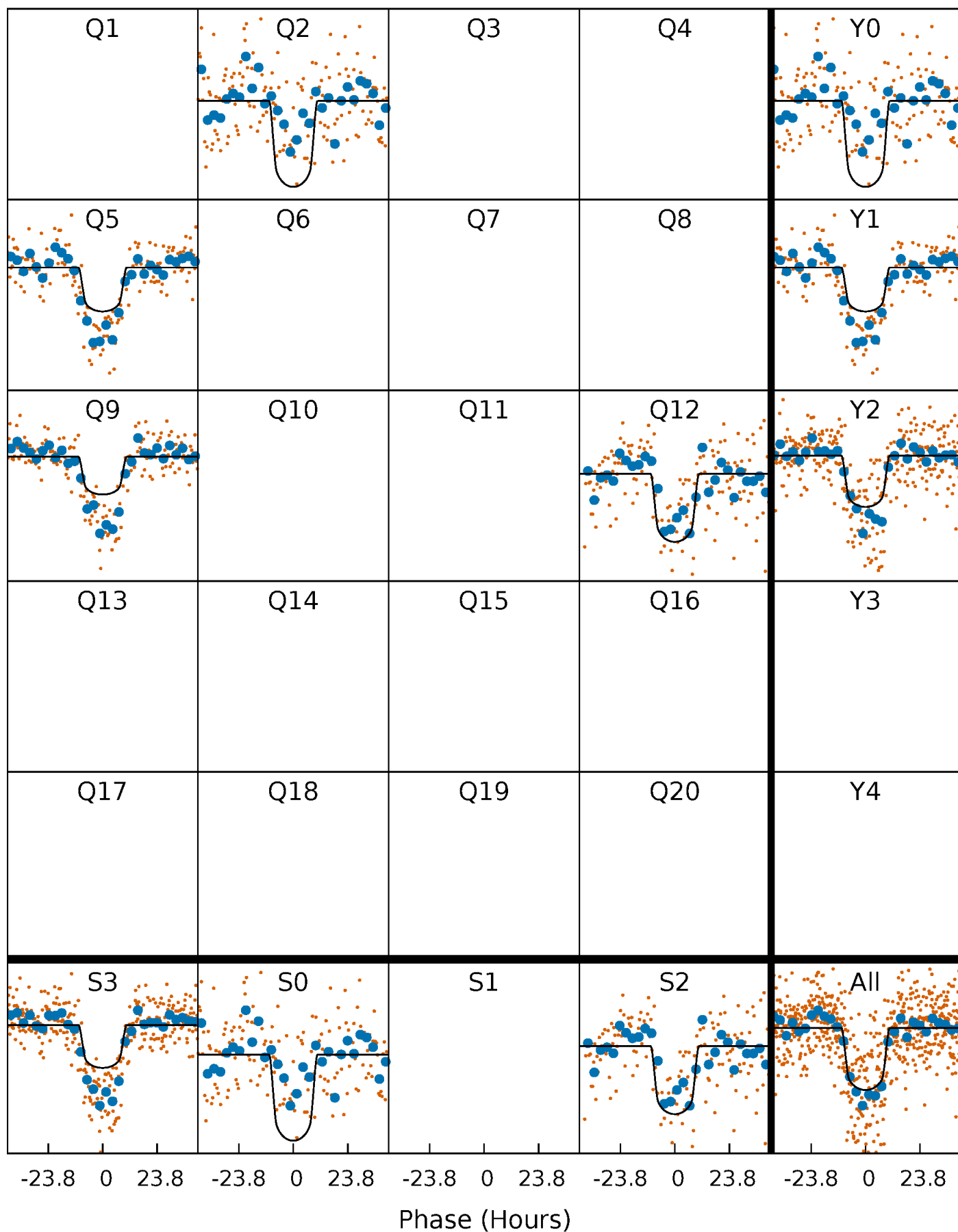
PDC Quarter-Phased Transit Curves

TCE 005305399-01 $P=322.457494$ Days $T_0=189.195493$ (BKJD)



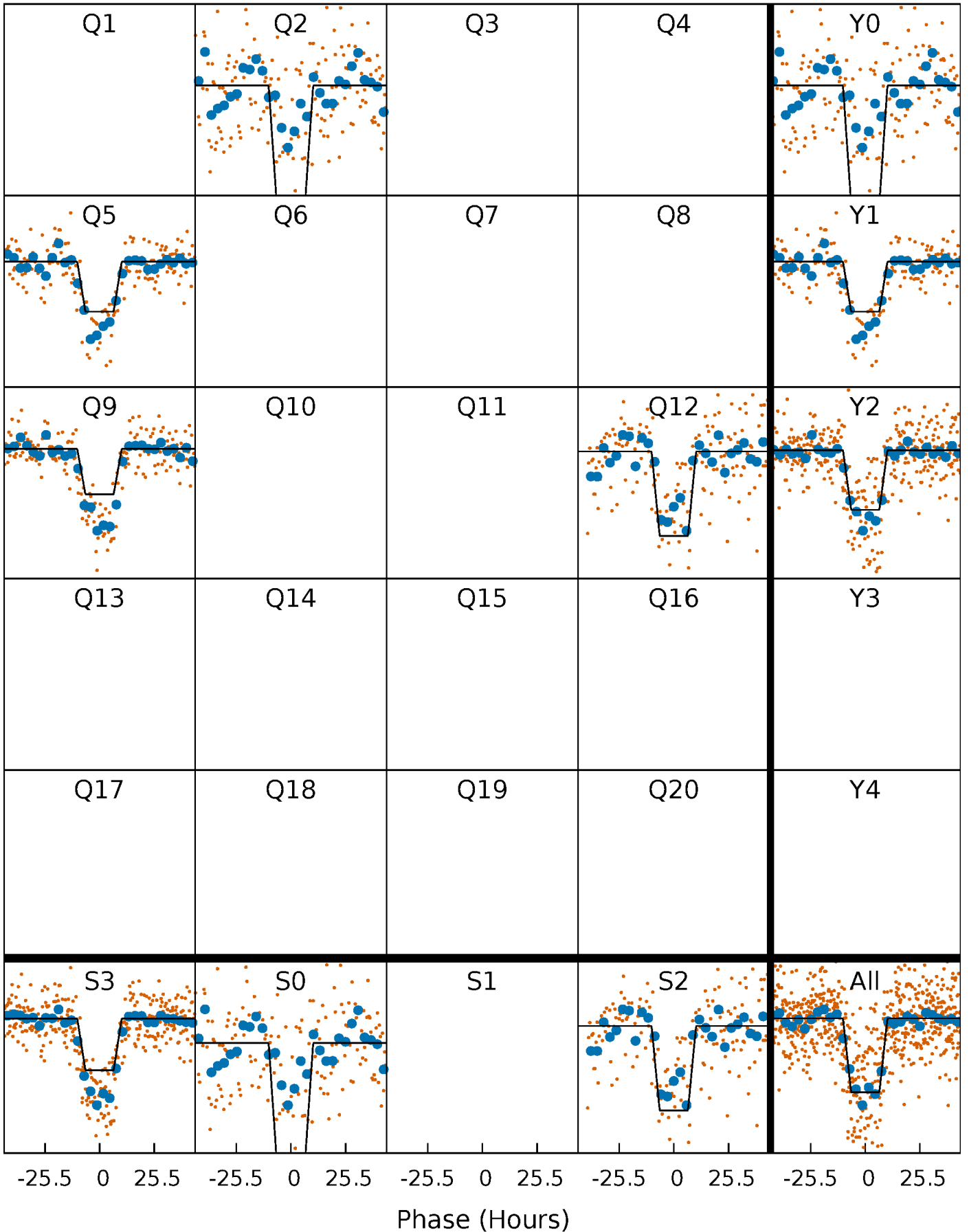
DV Quarter-Phased Transit Curves

TCE 005305399-01 P=322.457494 Days $T_0=189.195493$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

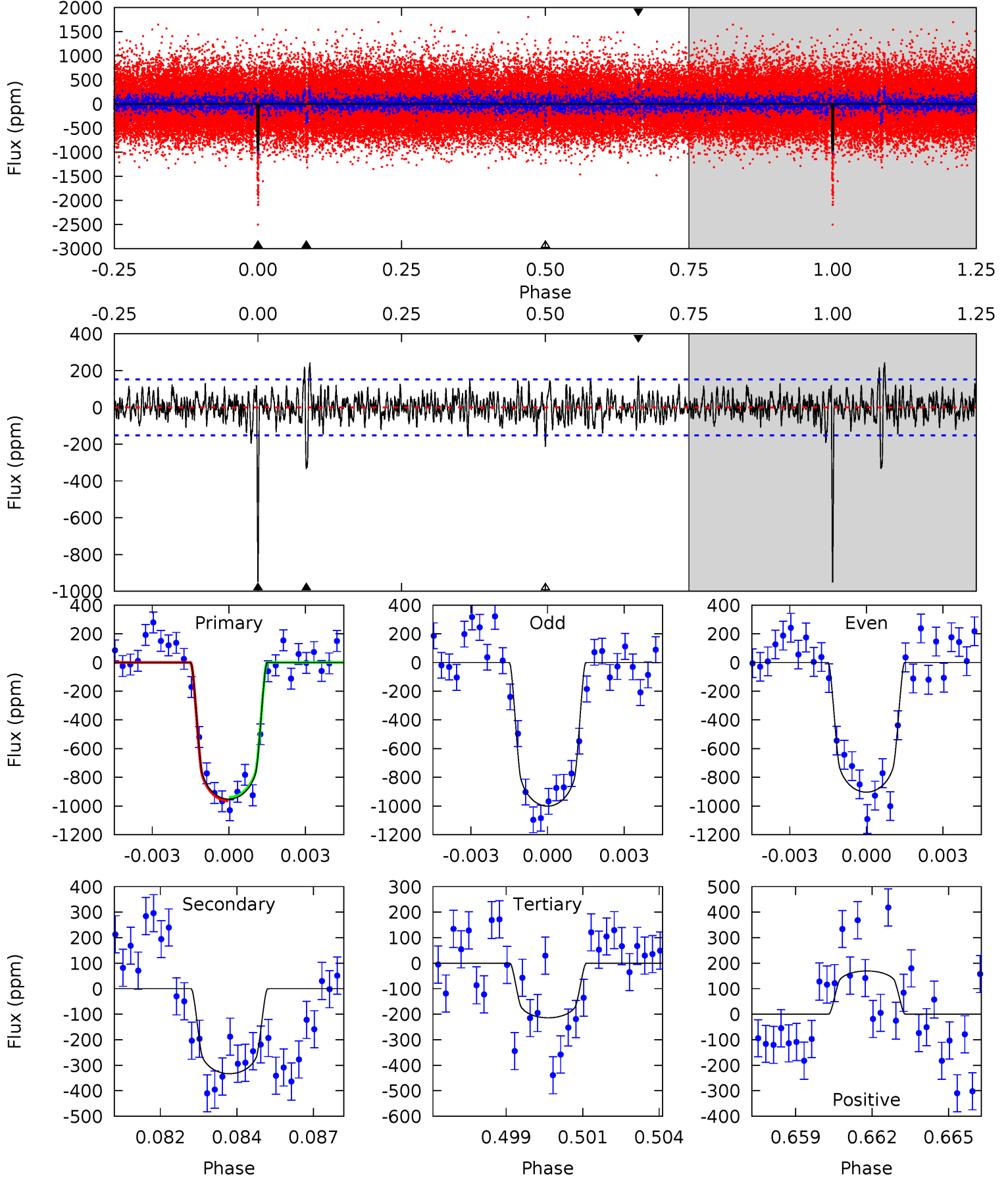
TCE 005305399-01 $P=322.475633$ Days $T_0=189.173927$ (BKJD)



DV Model-Shift Uniqueness Test

005305399-01, P = 322.457494 Days, E = 189.195493 Days

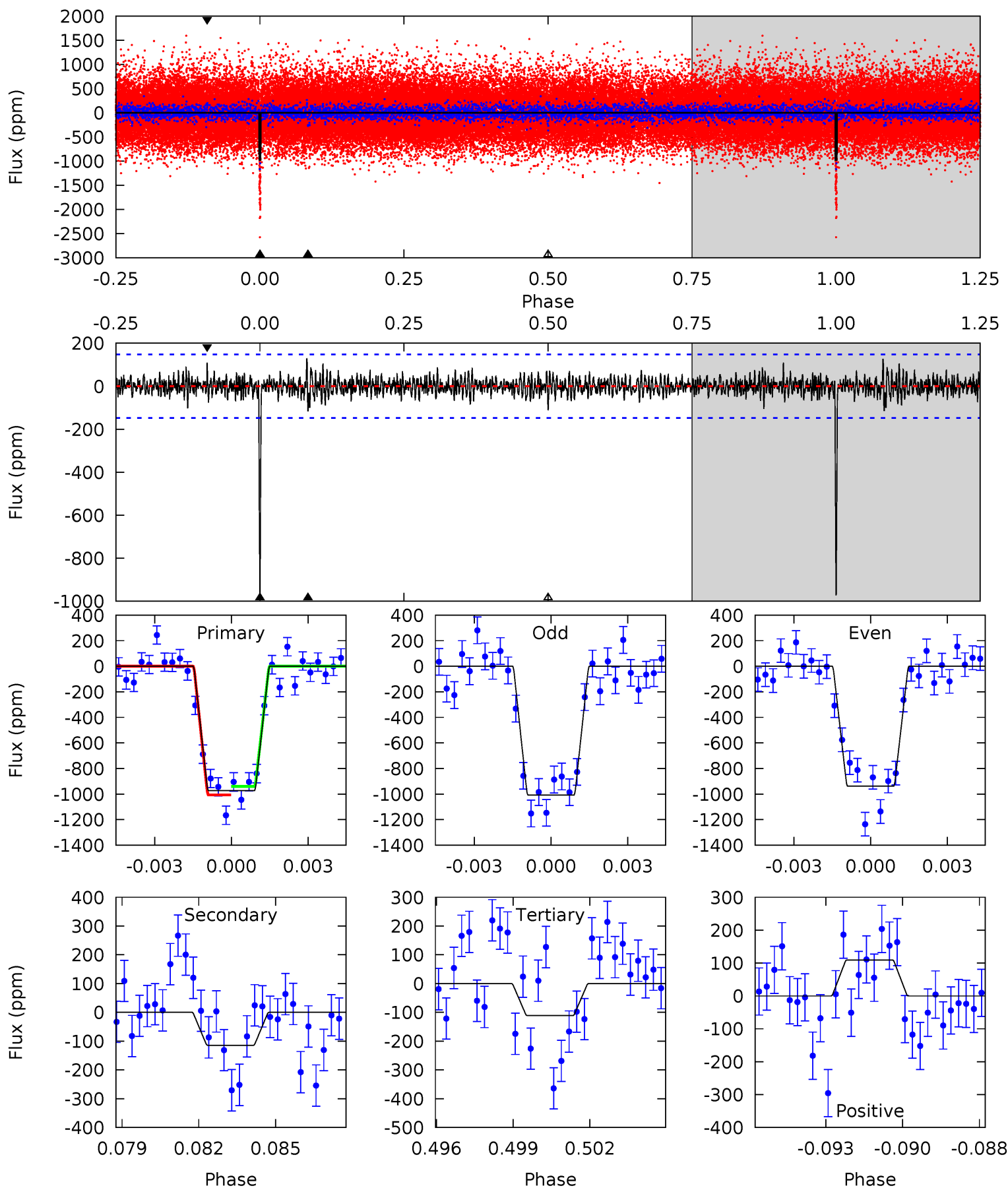
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.0	11.6	7.43	5.88	5.27	3.00	1.87	25.6	27.2	4.13	5.68	1.69	0.96	0.20	0.42



Alt Model-Shift Uniqueness Test

005305399-01, P = 322.475633 Days, E = 189.173927 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.7	4.08	3.95	3.89	5.27	3.00	1.05	30.7	30.8	0.12	0.18	1.23	0.97	0.12	1.19



Stellar Parameters For KIC 005305399

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5968^{+161}_{-179}	$4.534^{+0.039}_{-0.221}$	$-0.260^{+0.300}_{-0.300}$	$0.881^{+0.271}_{-0.090}$	$0.970^{+0.118}_{-0.130}$	$1.995^{+0.428}_{-1.081}$
	+3%/-3%	+1%/-5%	+115%/-115%	+31%/-10%	+12%/-13%	+21%/-54%
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 005305399-01 / KOI 7725.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-333 ± 29	$3.17^{+0.52}_{-0.34}$	372^{+29}_{-17}	4690^{+187}_{-170}	14577^{+3810}_{-3333}
Alt.	-114 ± 28	$3.13^{+0.49}_{-0.34}$	372^{+27}_{-18}	3867^{+193}_{-210}	5043^{+1891}_{-1580}

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

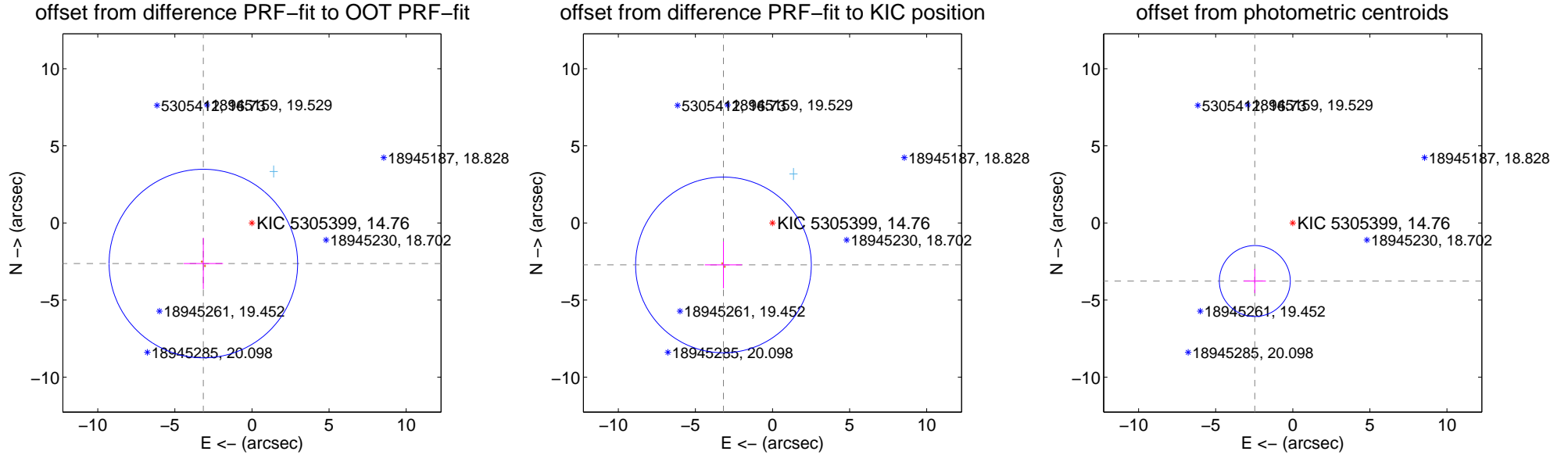
DV Centroid Data

Supplemental centroid analysis for 005305399-01. Kepler magnitude: 14.76. Transit SNR 13.47

There are 1 quarters with good PRF difference image offsets

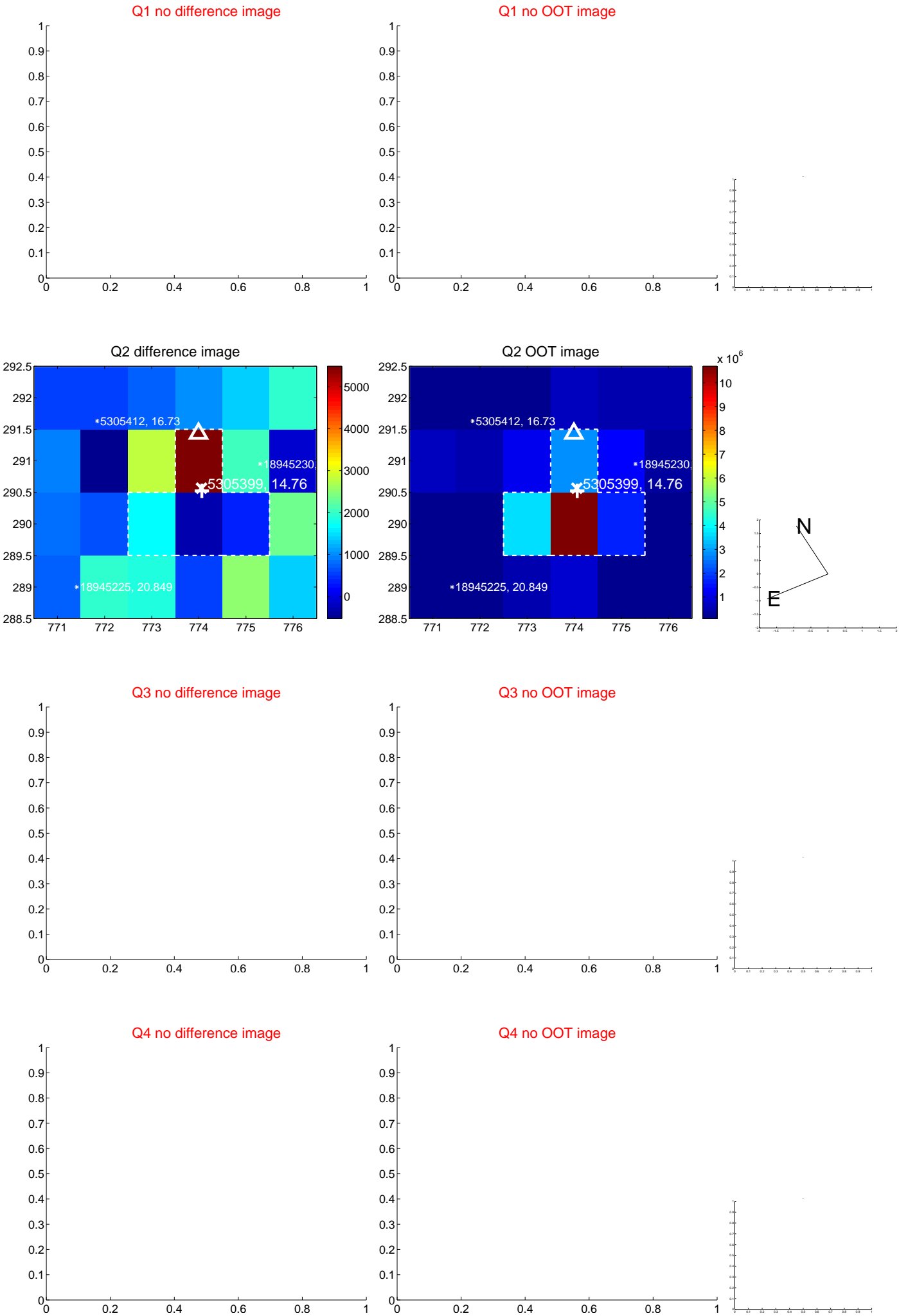
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.109 ± 2.039	2.02	3.153 ± 1.272	-2.634 ± 1.660
PRF-fit source offset from KIC position	4.189 ± 1.900	2.21	3.183 ± 1.202	-2.723 ± 1.519
photometric centroid source offset	4.50 ± 0.77	5.87	2.46 ± 0.72	-3.77 ± 0.79

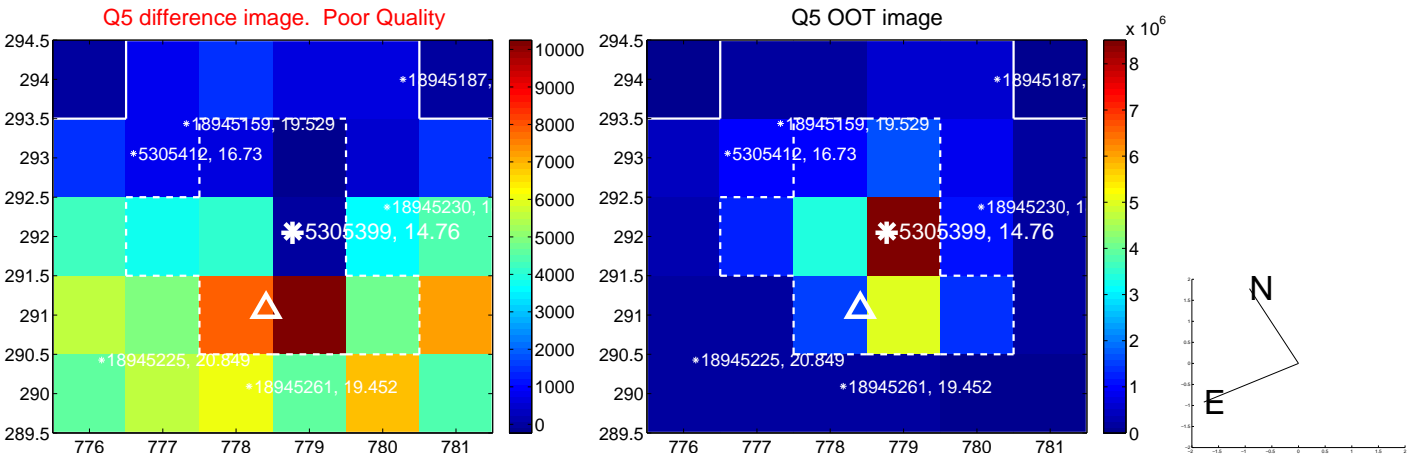


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

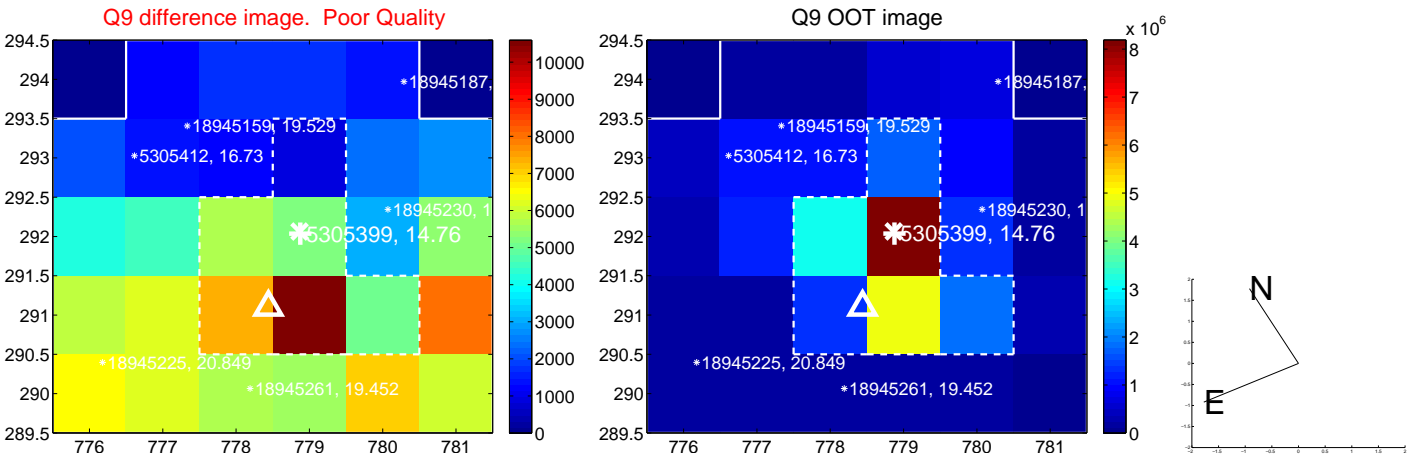
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



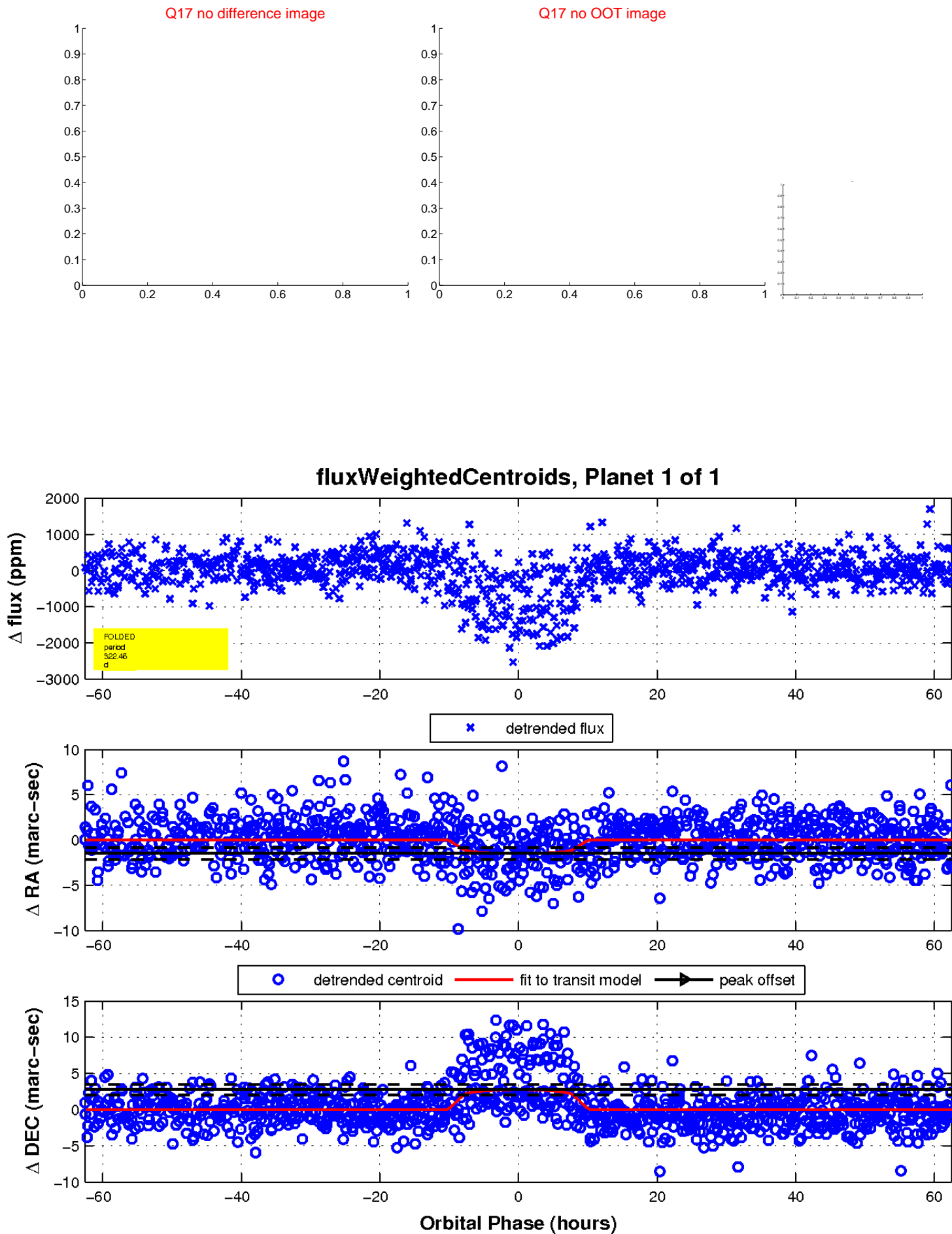
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

