

KIC 002302010

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})
002302010-01	OBS	No	298.192155	316.519628	1773.3	7.235	9.1	6.4	8.70	4960	72.39	38.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002302010-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—INCONSISTENT_TRANS—CENT_KIC_POS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

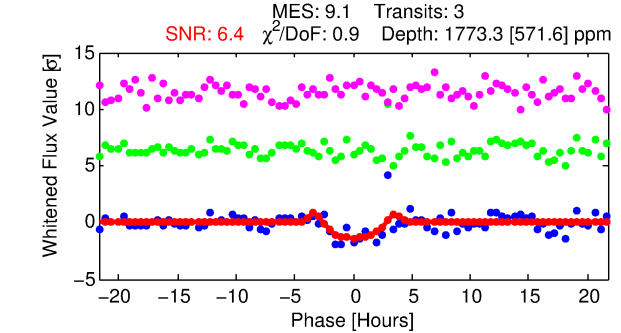
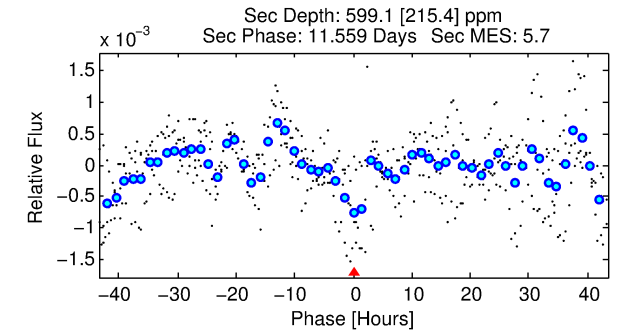
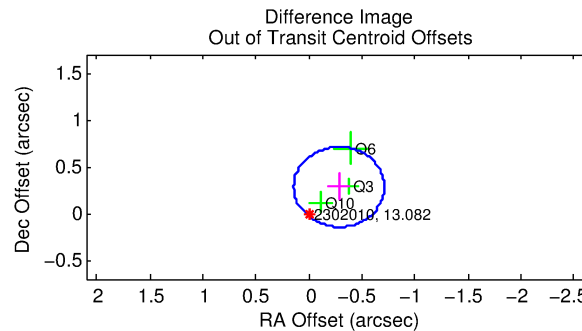
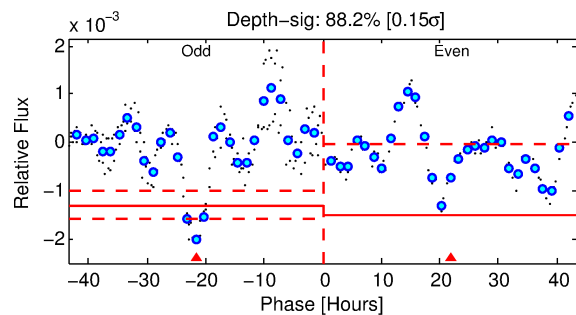
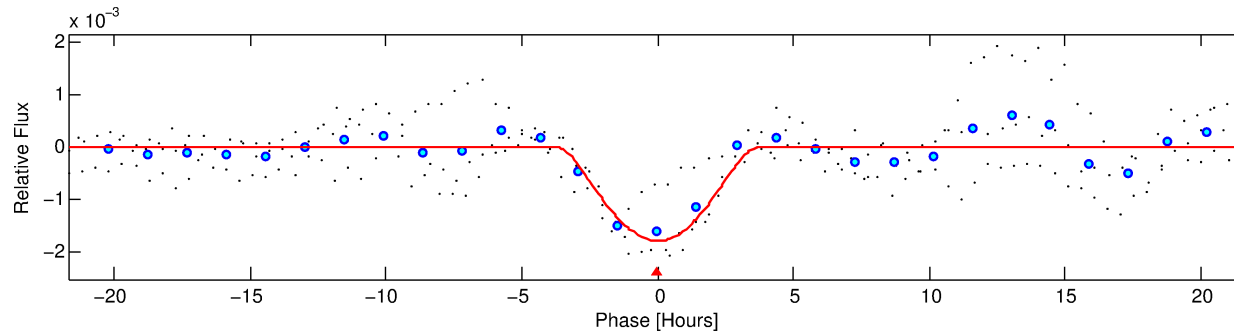
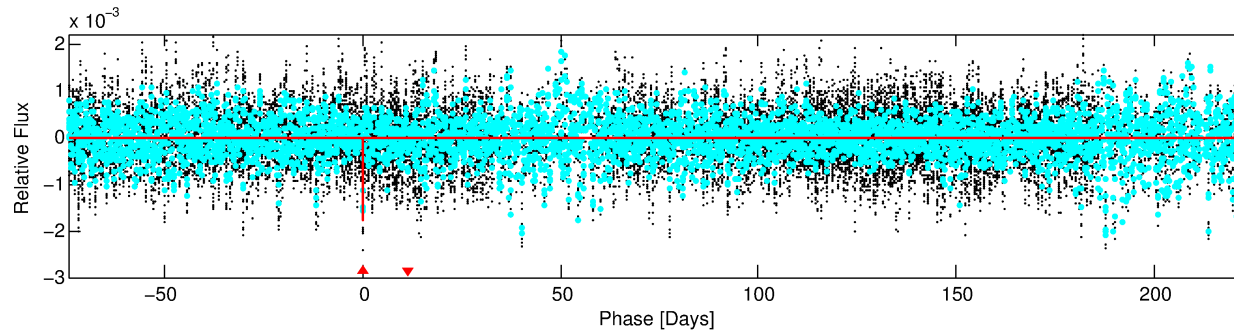
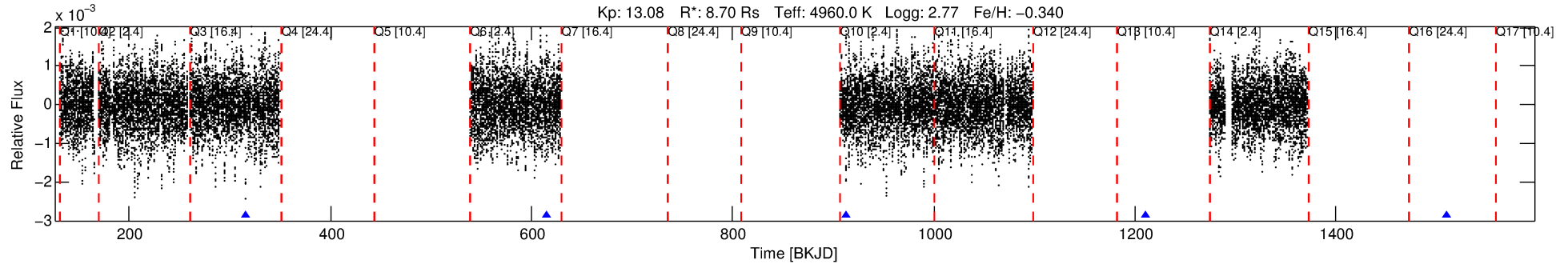
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002302010-01

No Significant Match Found

DV One-Page Summary

KIC: 2302010 Candidate: 1 of 1 Period: 298.192 d



DV Fit Results:

Period = 298.19215 [0.00943] d
Epoch = 316.5196 [0.0113] BKJD
Rp/R* = 0.0763 [0.1275]
a/R* = 125.38 [41.48]
b = 1.00 [0.19]
Seff = 38.82 [30.26]
Teq = 636 [124] K
Rp = 72.39 [126.61] Re
a = 1.0278 [0.5013] AU
Ag = 66.44 [229.13] [0.29 σ]
Teffp = 2810 [2362] K [0.92 σ]

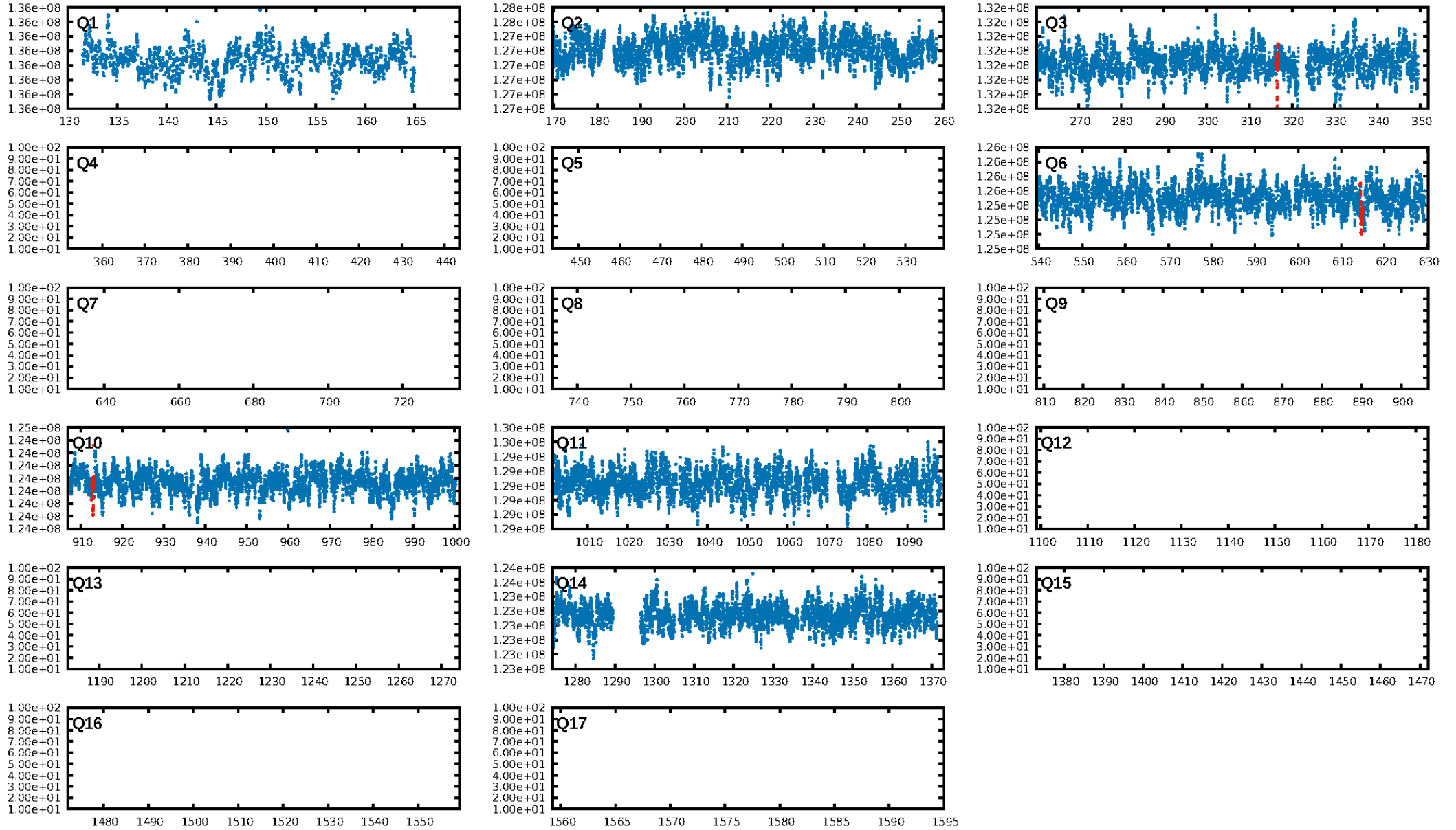
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 16.9%
ModelChiSquareGof-sig: 99.1%
Bootstrap-pfa: 1.67e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.435
Centroid-sig: 0.1%
Centroid-so: 0.774 arcsec [1.97 σ]
OotOffset-rm: 0.401 arcsec [2.82 σ]
KicOffset-rm: 0.176 arcsec [0.92 σ]
OotOffset-st: 2/1/0/0 [3]
KicOffset-st: 2/1/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

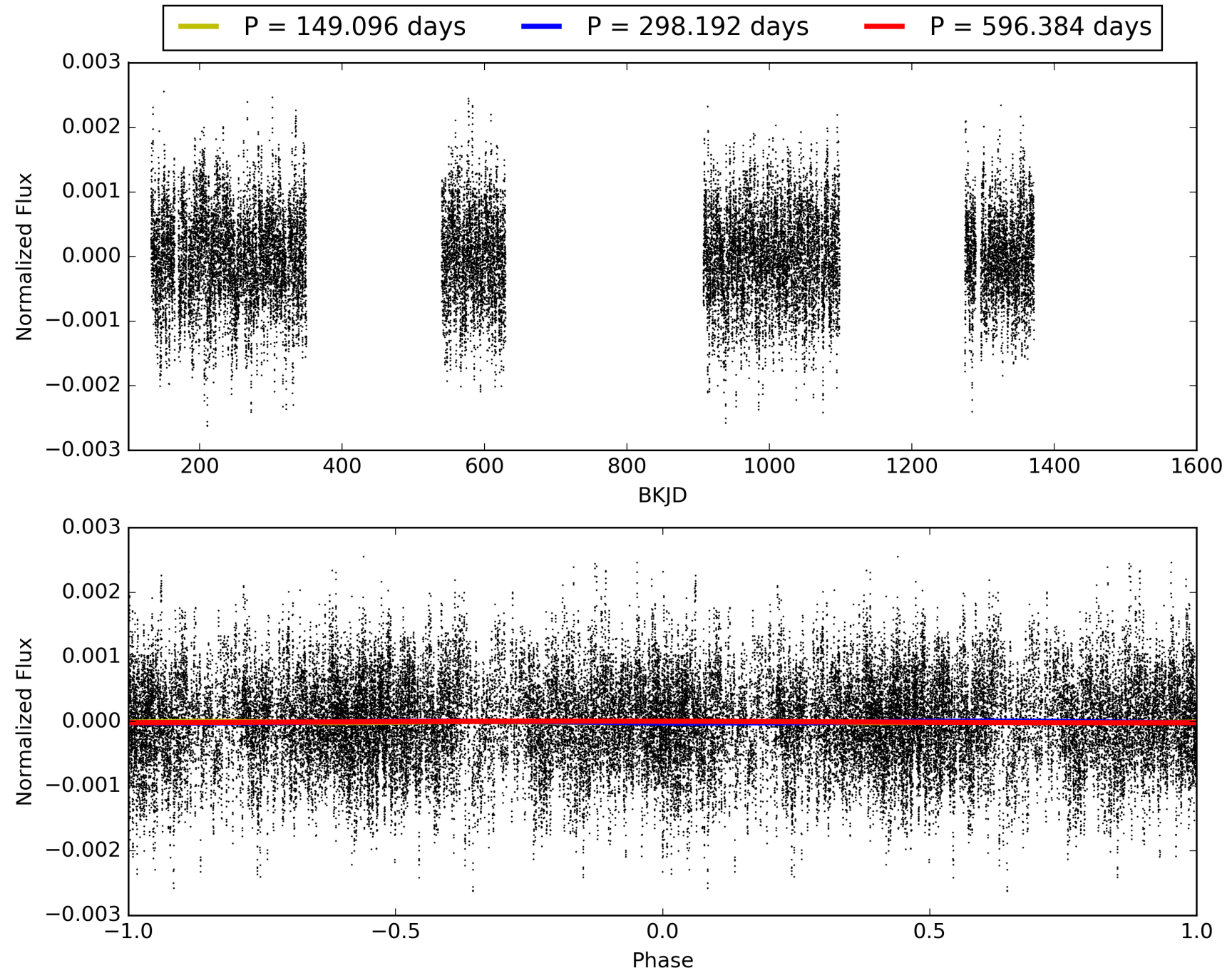
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:50:06 Z

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

TCE 002302010-01, PDC Light Curves

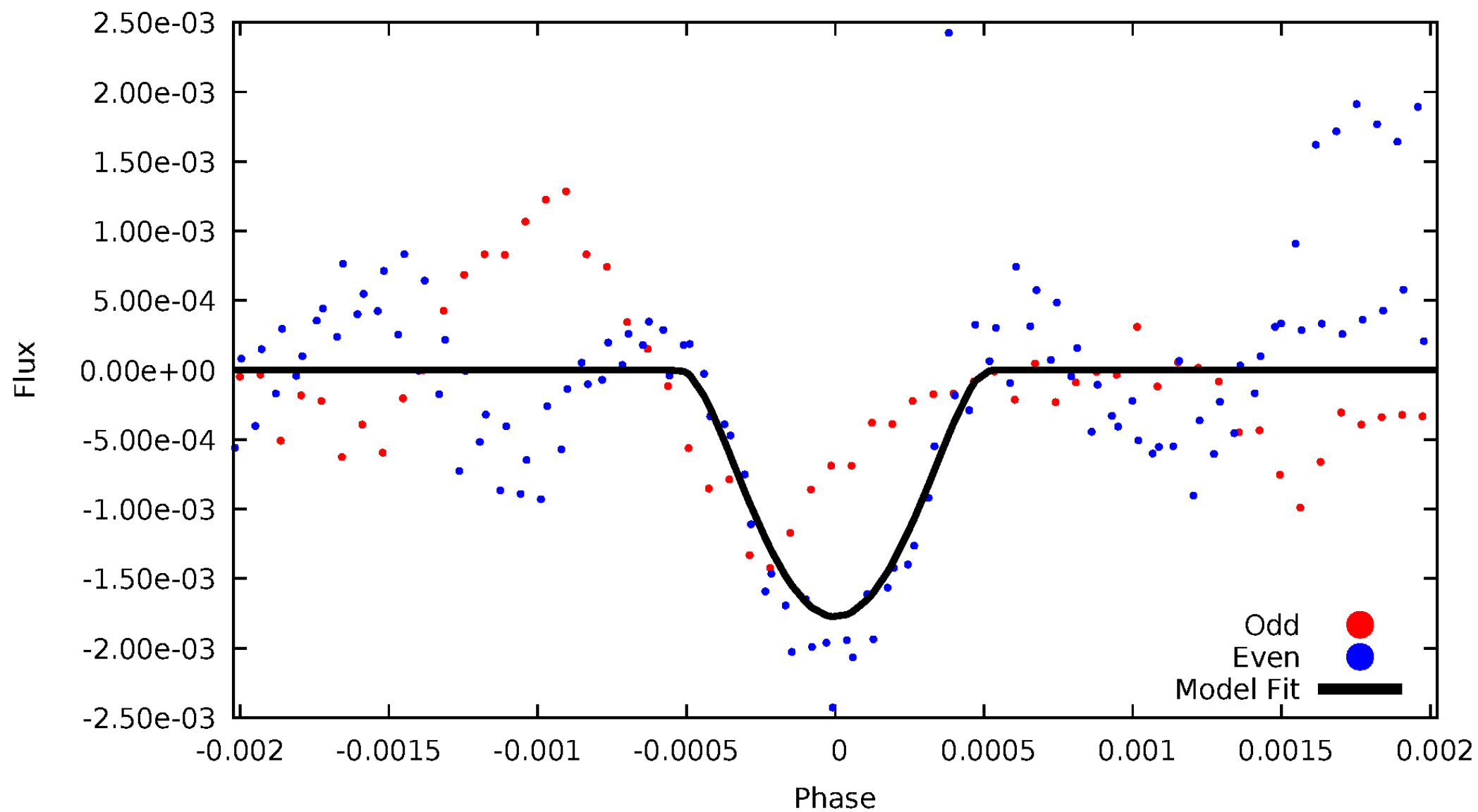


TCE 002302010-01



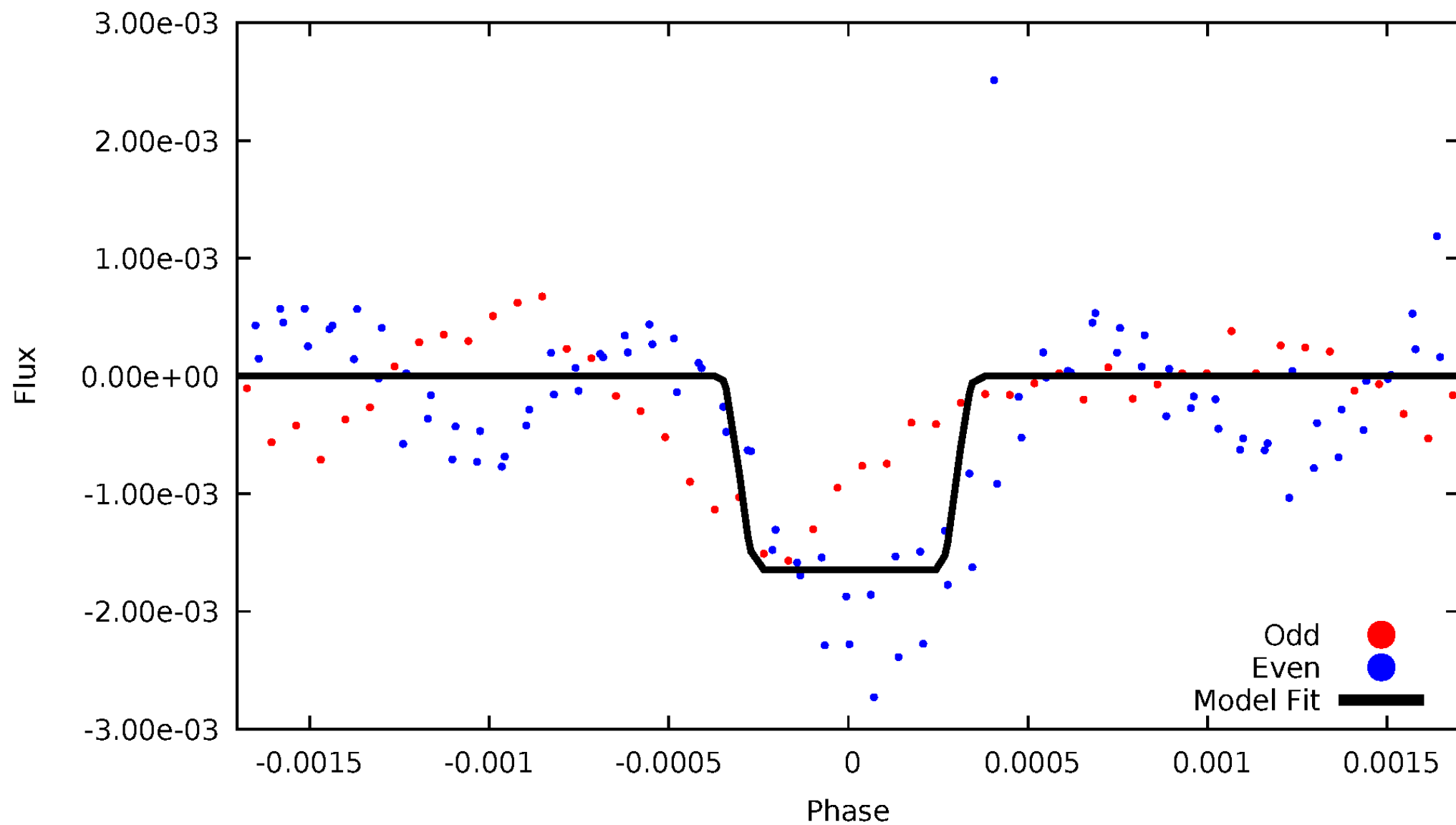
DV Odd/Even

TCE 002302010-01



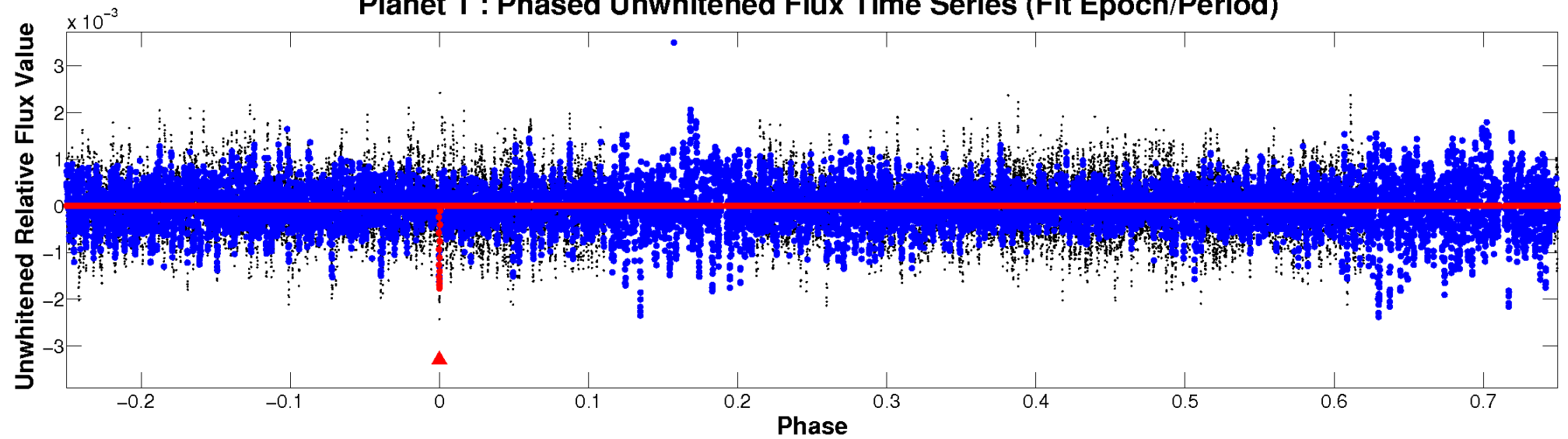
ALT Odd/Even

TCE 002302010-01

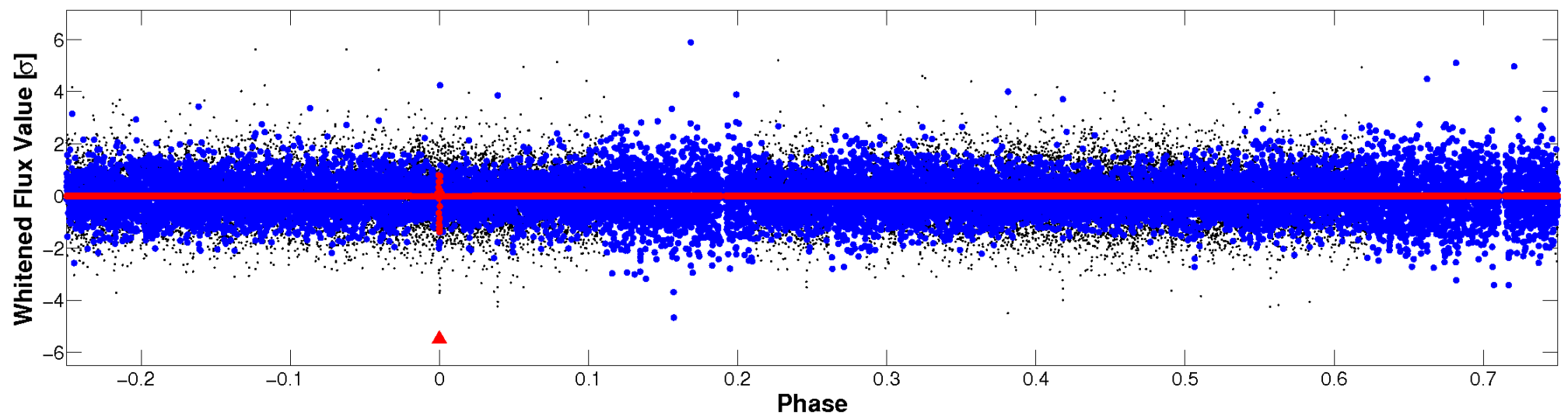


Non-Whitened Vs. Whitened Light Curve

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

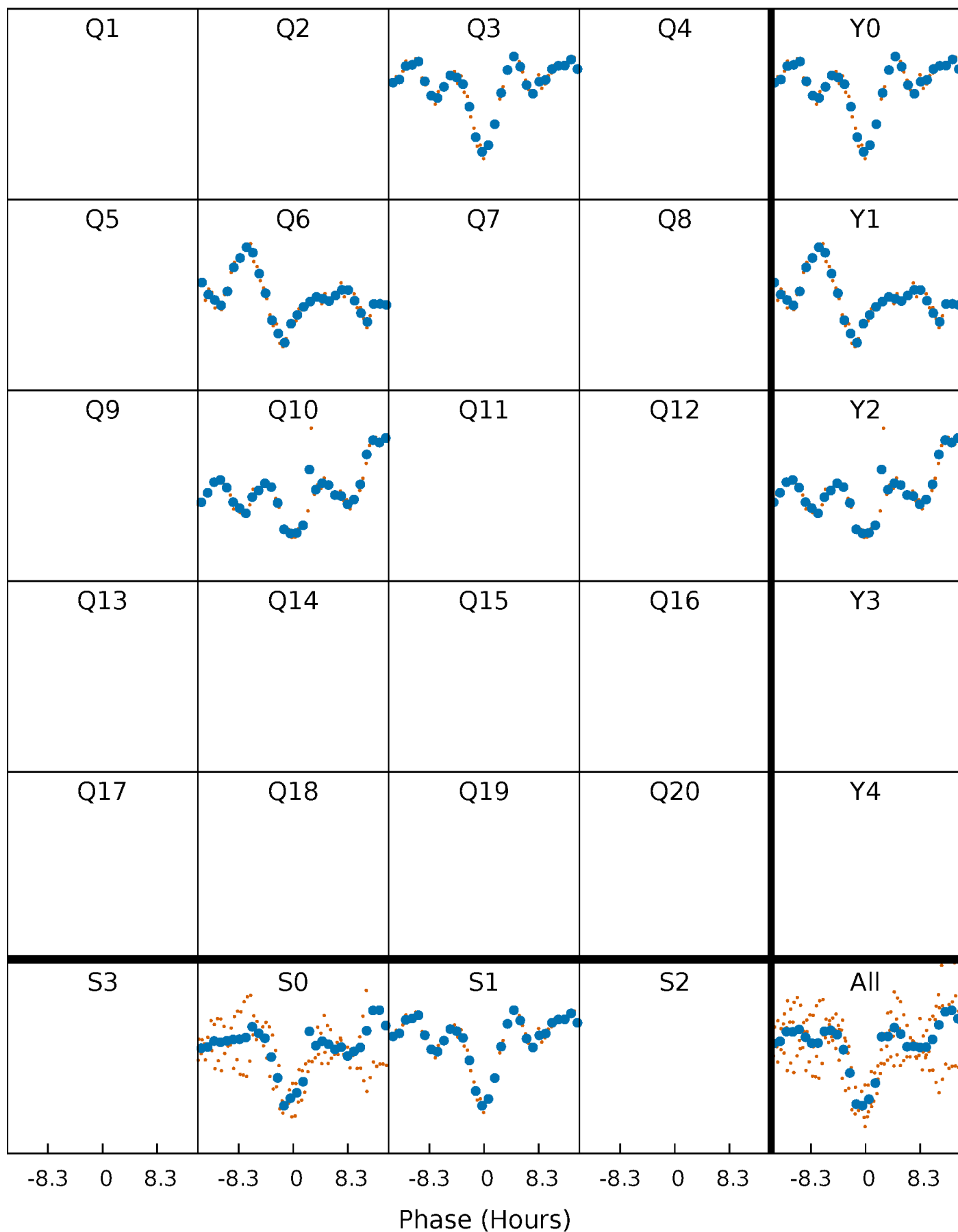


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



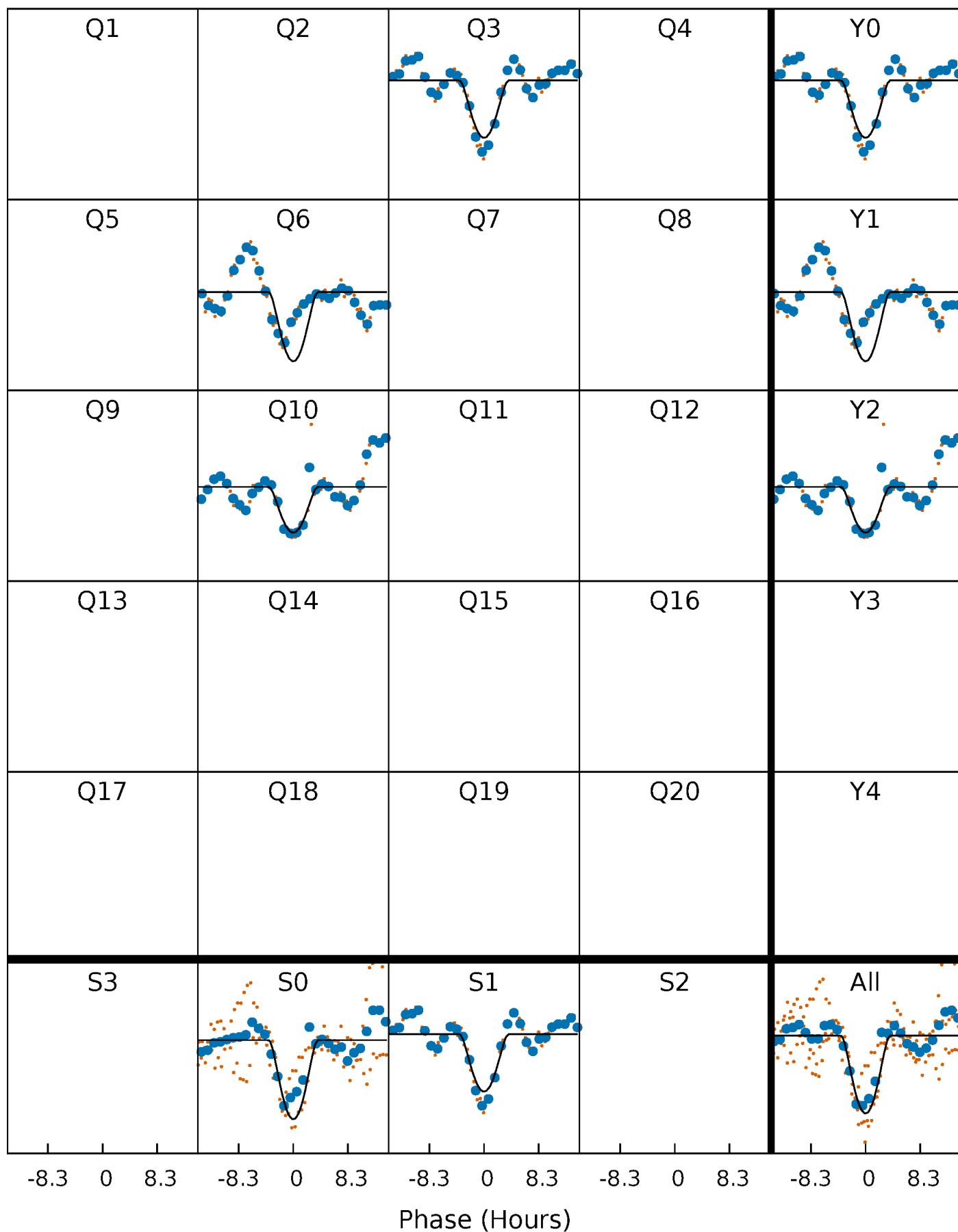
PDC Quarter-Phased Transit Curves

TCE 002302010-01 P=298.192155 Days $T_0=316.519628$ (BKJD)



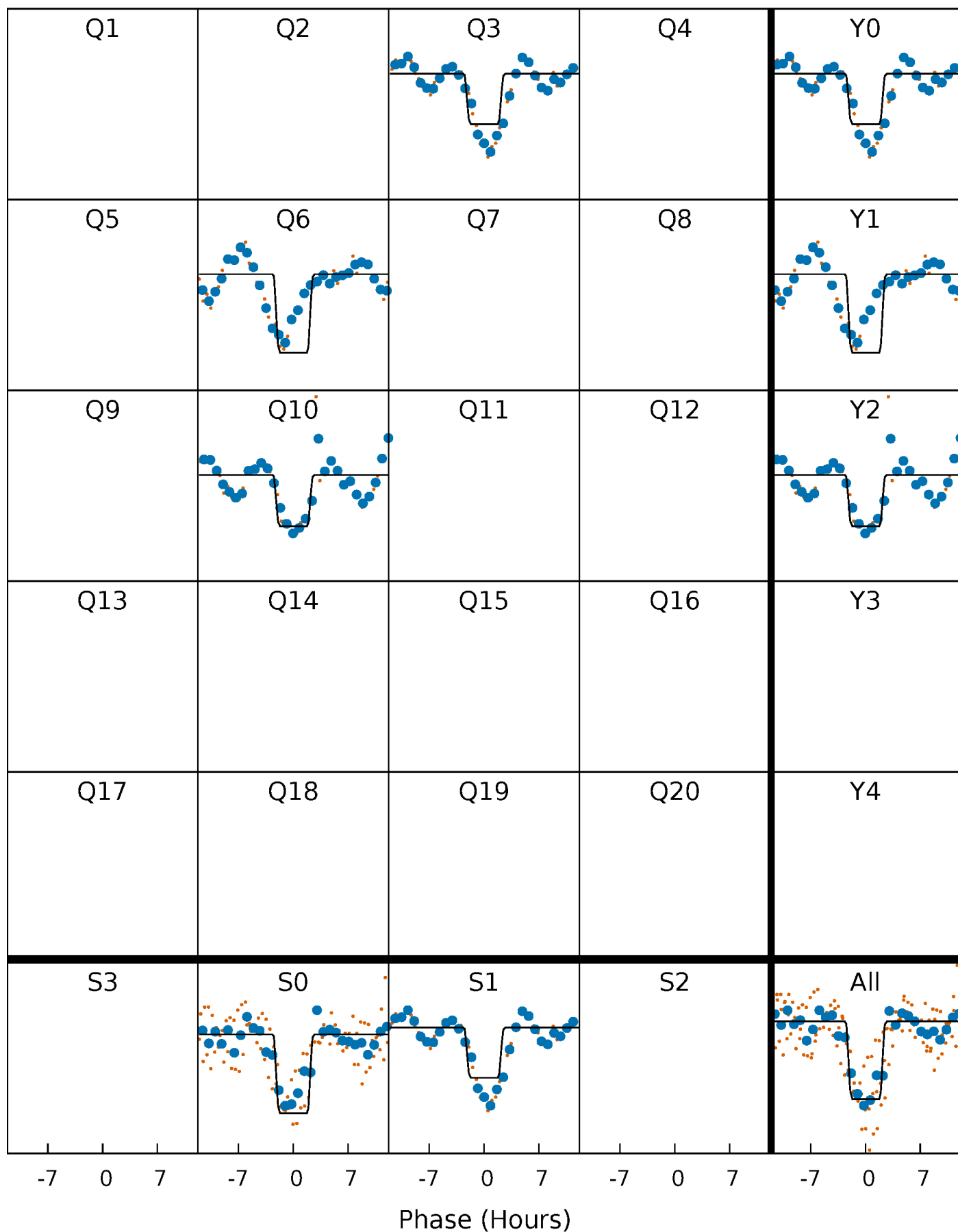
DV Quarter-Phased Transit Curves

TCE 002302010-01 P=298.192155 Days $T_0=316.519628$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

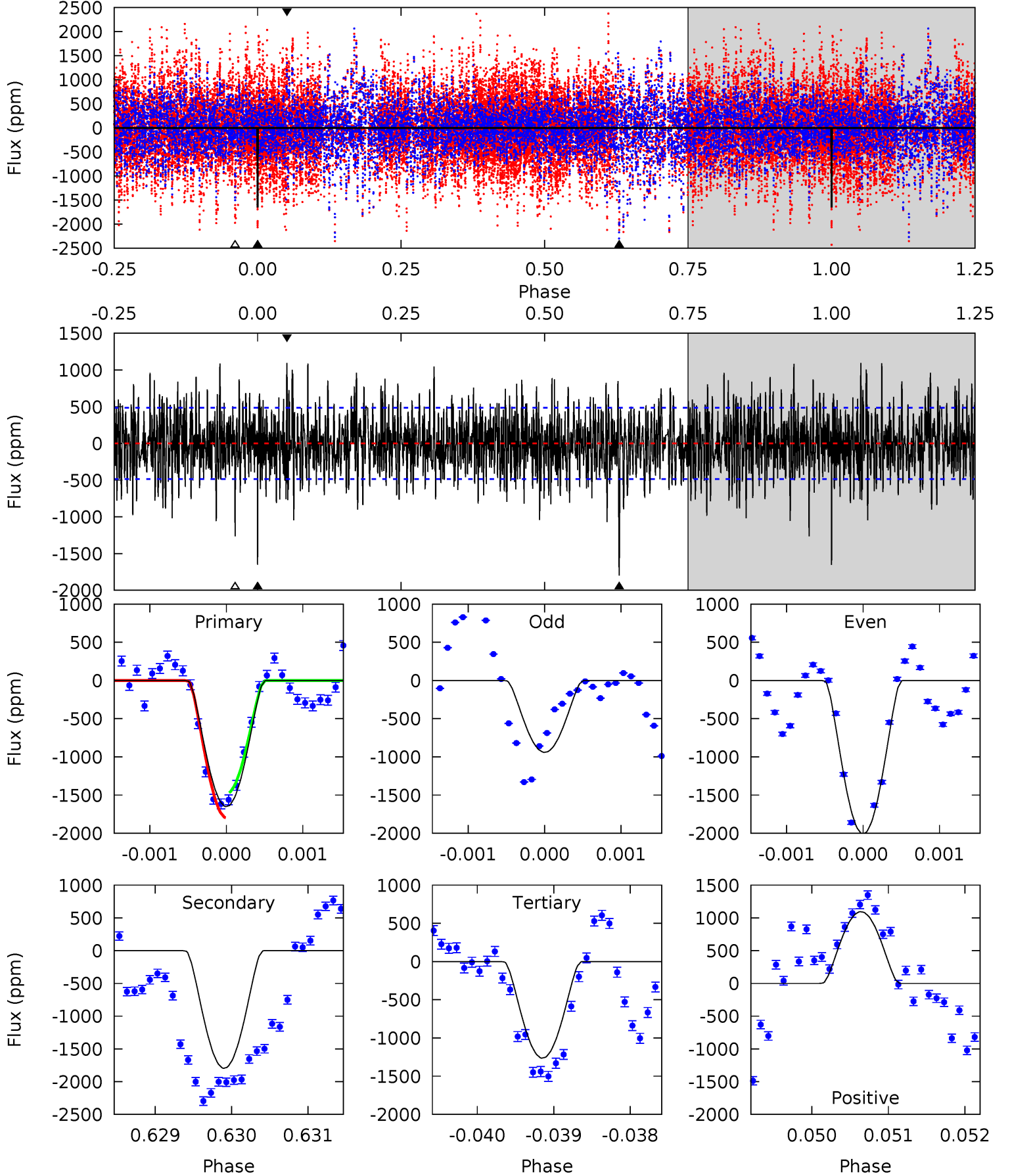
TCE 002302010-01 P=298.200563 Days $T_0=316.495627$ (BKJD)



DV Model-Shift Uniqueness Test

002302010-01, P = 298.192155 Days, E = 18.327473 Days

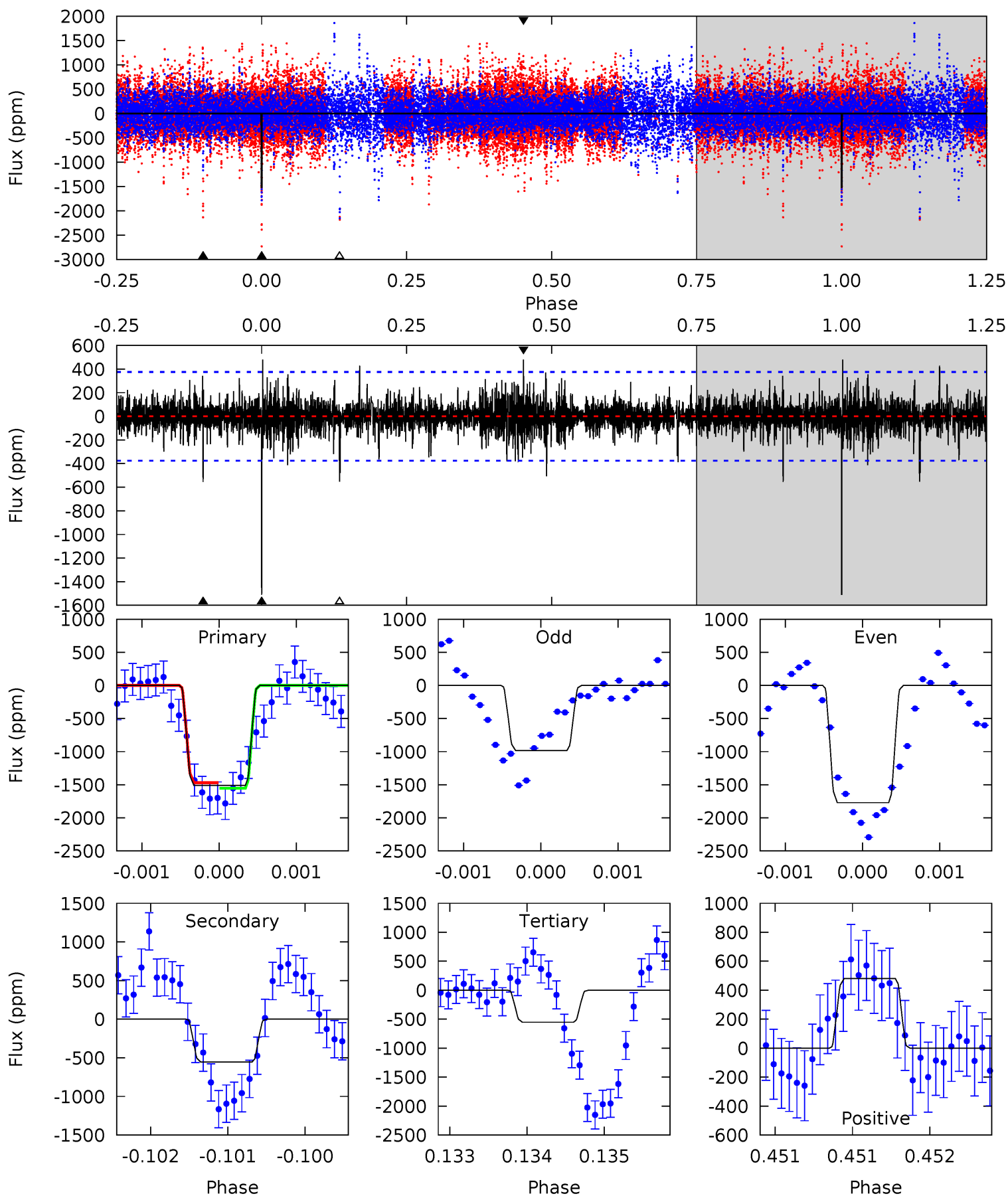
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.5	20.1	14.2	12.3	5.45	3.28	3.73	4.33	6.23	5.97	7.86	5.64	0.90	0.38	1.84



Alt Model-Shift Uniqueness Test

002302010-01, P = 298.200563 Days, E = 18.295064 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.2	8.14	8.10	7.04	5.51	3.38	1.52	14.1	15.1	0.05	1.10	5.50	0.98	0.24	0.63



Stellar Parameters For KIC 002302010

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4960^{+122}_{-135}	$2.771^{+0.450}_{-0.263}$	$-0.340^{+0.250}_{-0.250}$	$8.696^{+2.995}_{-4.493}$	$1.628^{+0.249}_{-0.623}$	$0.003^{+0.017}_{-0.002}$
	+2%/-3%	+16%/-9%	+74%/-74%	+34%/-52%	+15%/-38%	+496%/-63%
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 002302010-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1797 ± 89	$107.82^{+114.84}_{-70.63}$	890^{+97}_{-119}	3380^{+1723}_{-597}	86^{+666}_{-67}
Alt.	-555 ± 68	$90.93^{+104.44}_{-64.53}$	886^{+93}_{-112}	2998^{+1492}_{-512}	39^{+428}_{-31}

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

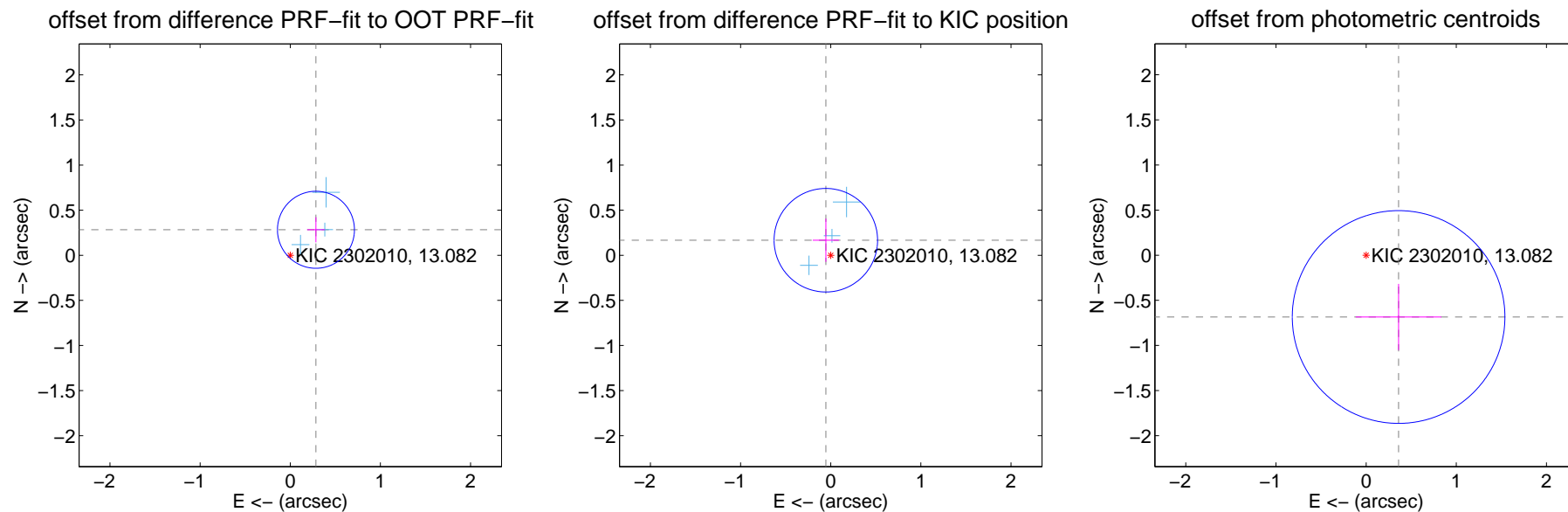
DV Centroid Data

Supplemental centroid analysis for 002302010-01. Kepler magnitude: 13.08. Transit SNR 6.37

There are 3 quarters with good PRF difference image offsets

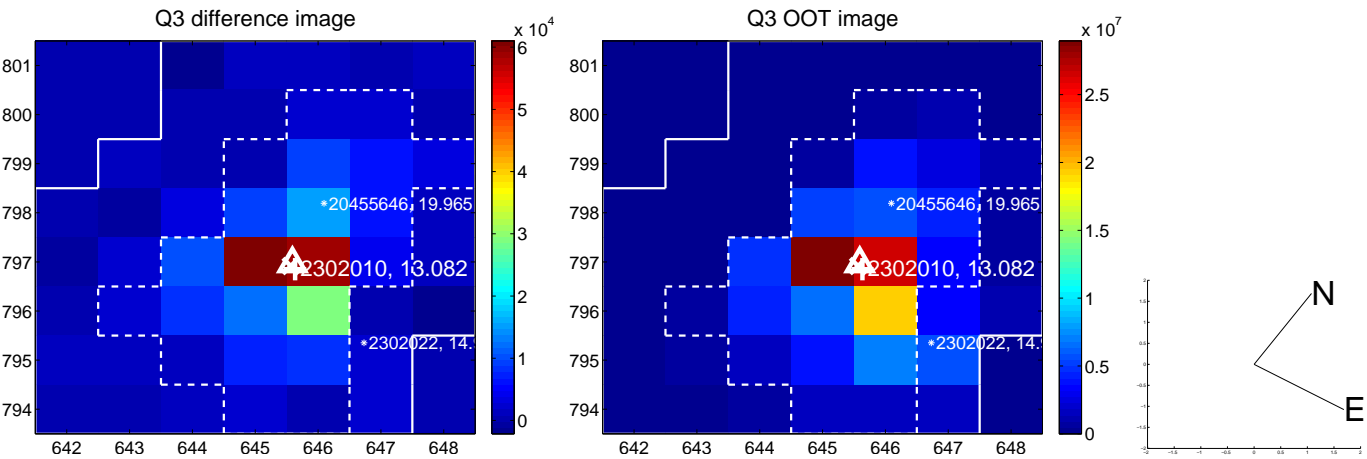
The direct PRF centroid is offset from the target star catalog position by about 0.42 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.401 ± 0.142	2.82	-0.285 ± 0.098	0.283 ± 0.139
PRF-fit source offset from KIC position	0.176 ± 0.191	0.92	0.054 ± 0.145	0.167 ± 0.239
photometric centroid source offset	0.77 ± 0.39	1.97	-0.36 ± 0.47	-0.68 ± 0.37

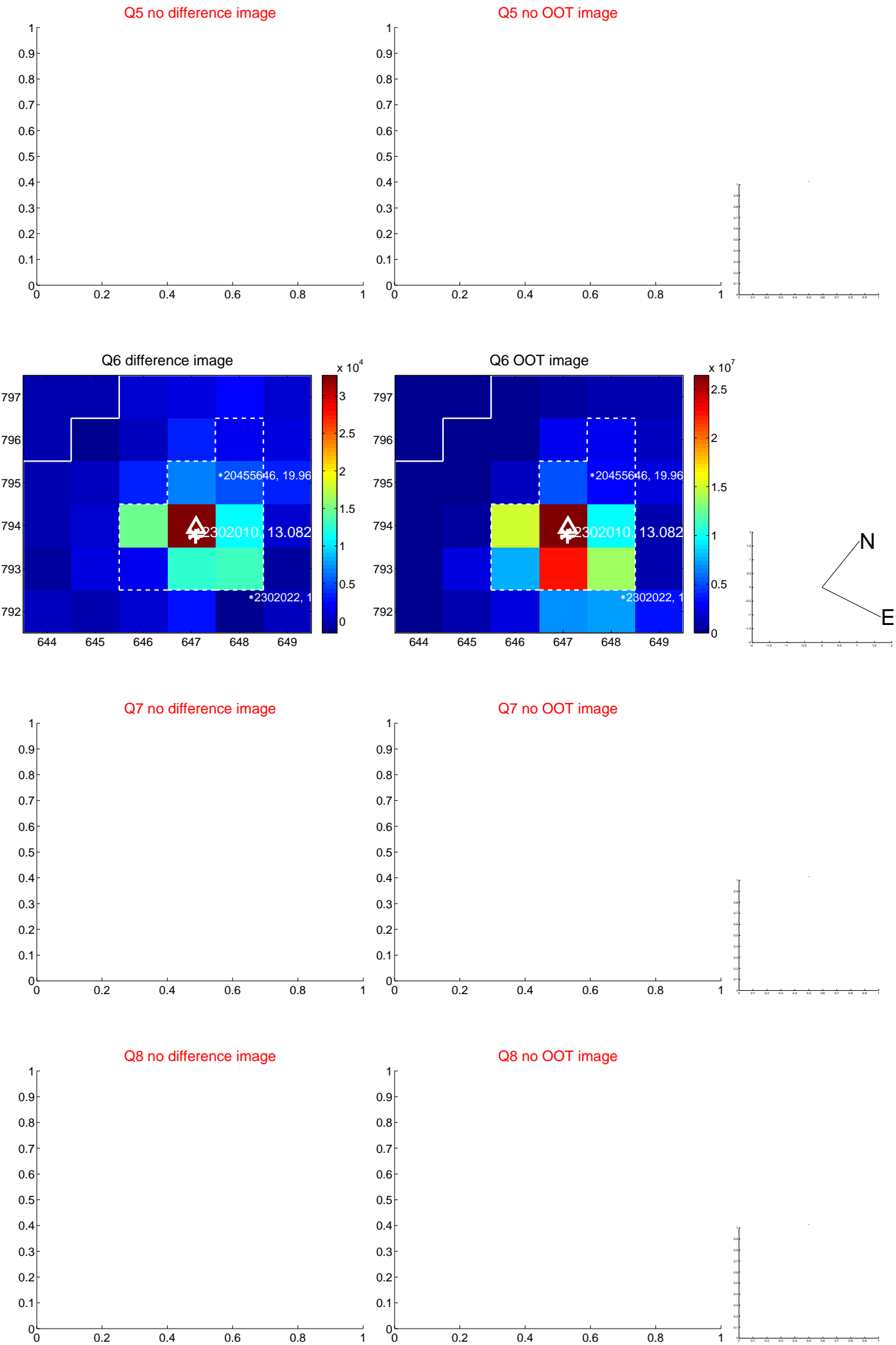


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

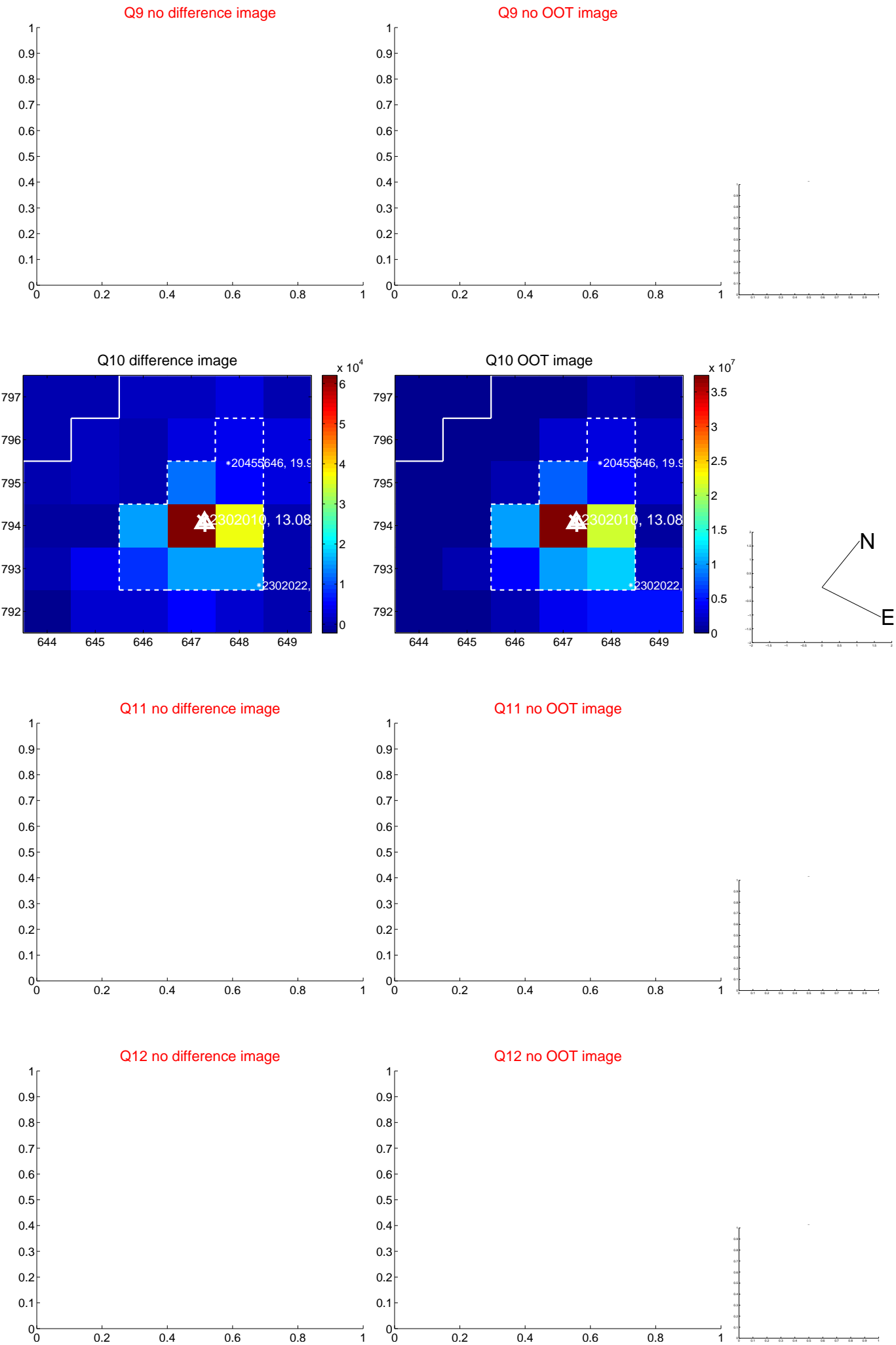
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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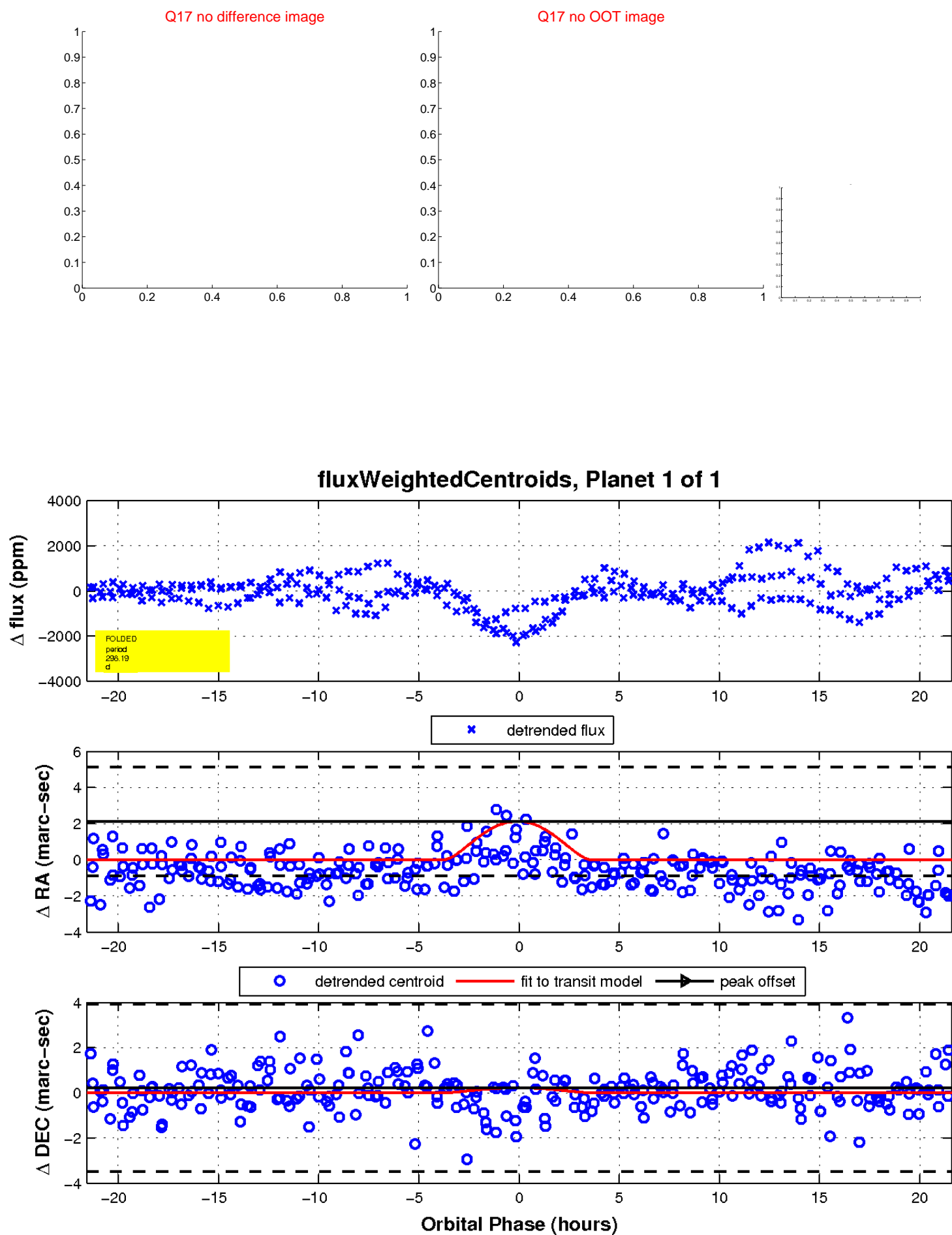
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UKIRT Image

Declination

