

KIC 007871919

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})
007871919-01	OBS	No	546.653122	375.618619	296.2	6.608	8.2	4.8	1.04	6184	2.05	0.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007871919-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

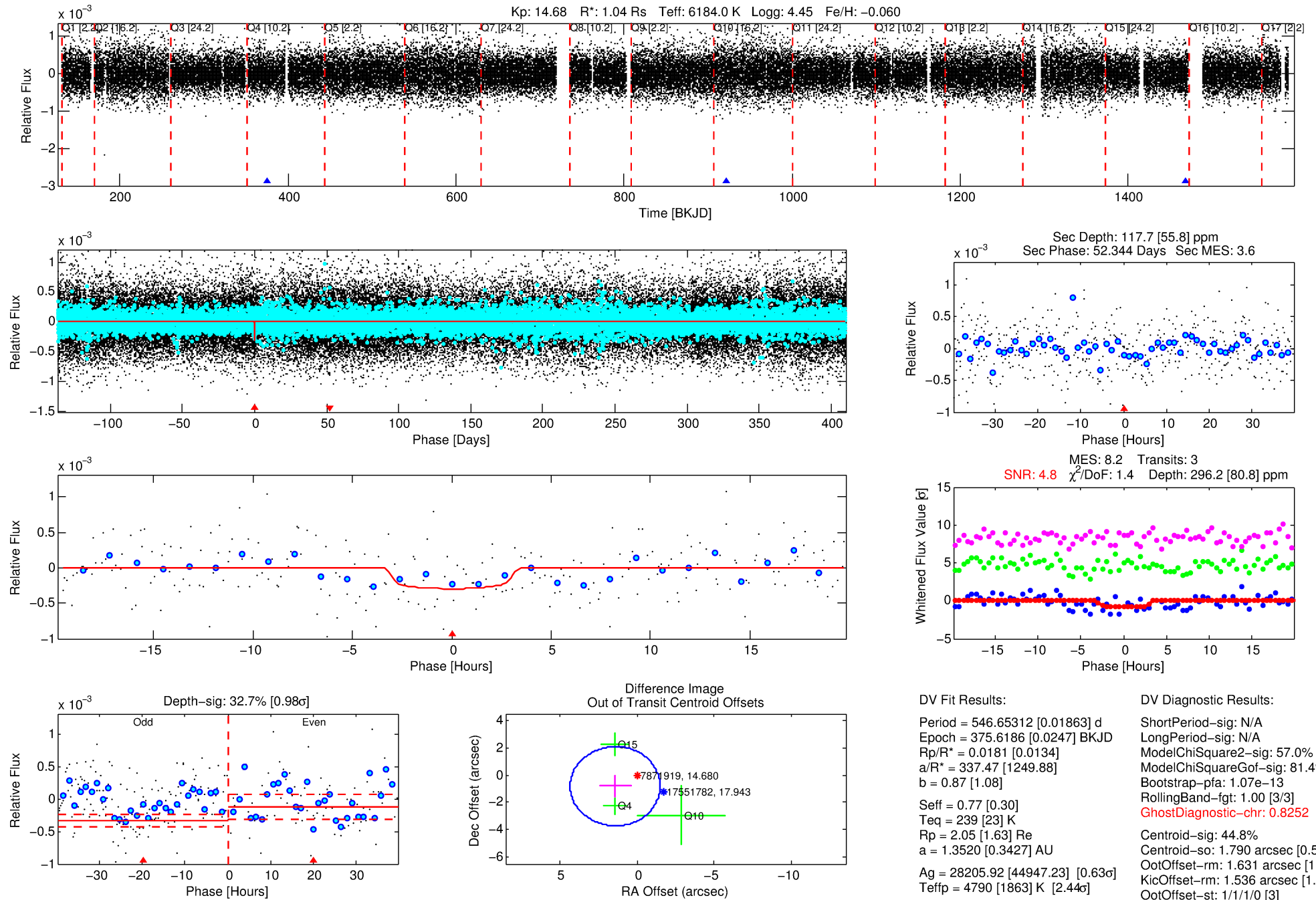
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007871919-01

No Significant Match Found

DV One-Page Summary

KIC: 7871919 Candidate: 1 of 1 Period: 546.653 d



DV Fit Results:

Period = 546.65312 [0.01863] d
Epoch = 375.6186 [0.0247] BKJD
Rp/R* = 0.0181 [0.0134]
a/R* = 337.47 [1249.88]
b = 0.87 [1.08]
Seff = 0.77 [0.30]
Teq = 239 [23] K
Rp = 2.05 [1.63] Re
a = 1.3520 [0.3427] AU
Ag = 28205.92 [44947.23] [0.63 σ]
Teffp = 4790 [1863] K [2.44 σ]

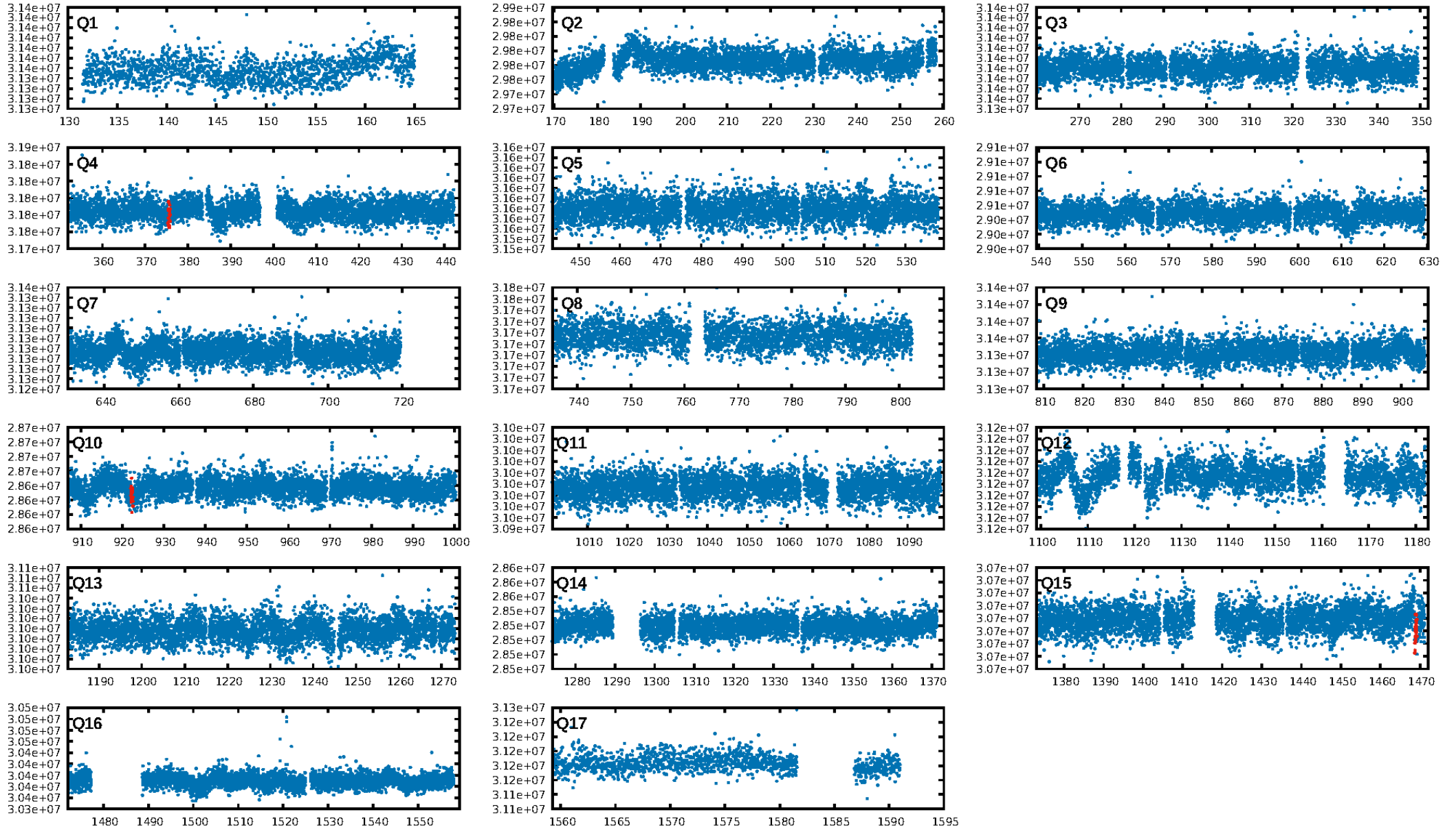
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 57.0%
ModelChiSquareGof-sig: 81.4%
Bootstrap-pfa: 1.07e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.8252
Centroid-sig: 44.8%
Centroid-so: 1.790 arcsec [0.57 σ]
OotOffset-rm: 1.631 arcsec [1.69 σ]
KicOffset-rm: 1.536 arcsec [1.58 σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

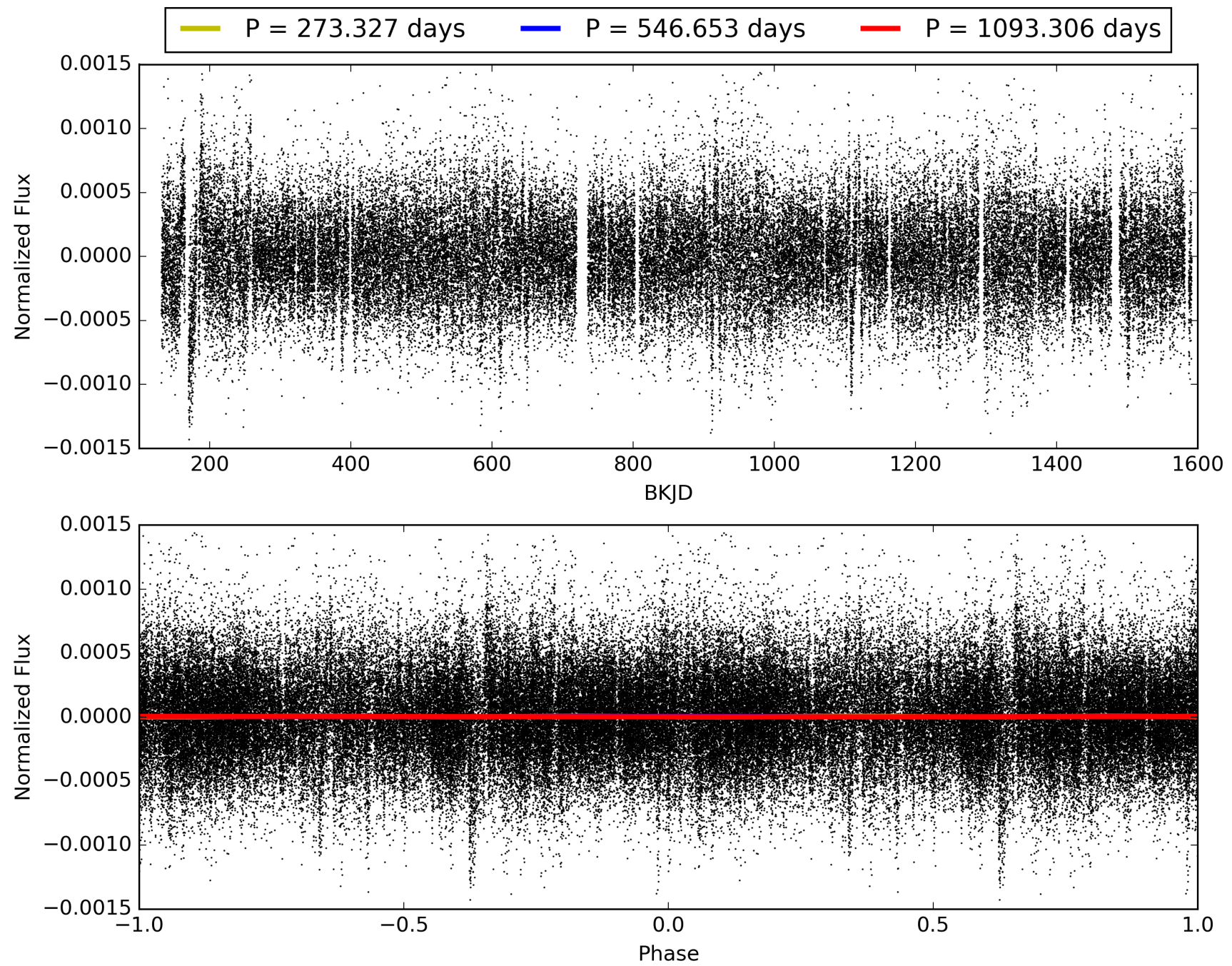
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:21:27 Z

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

TCE 007871919-01, PDC Light Curves

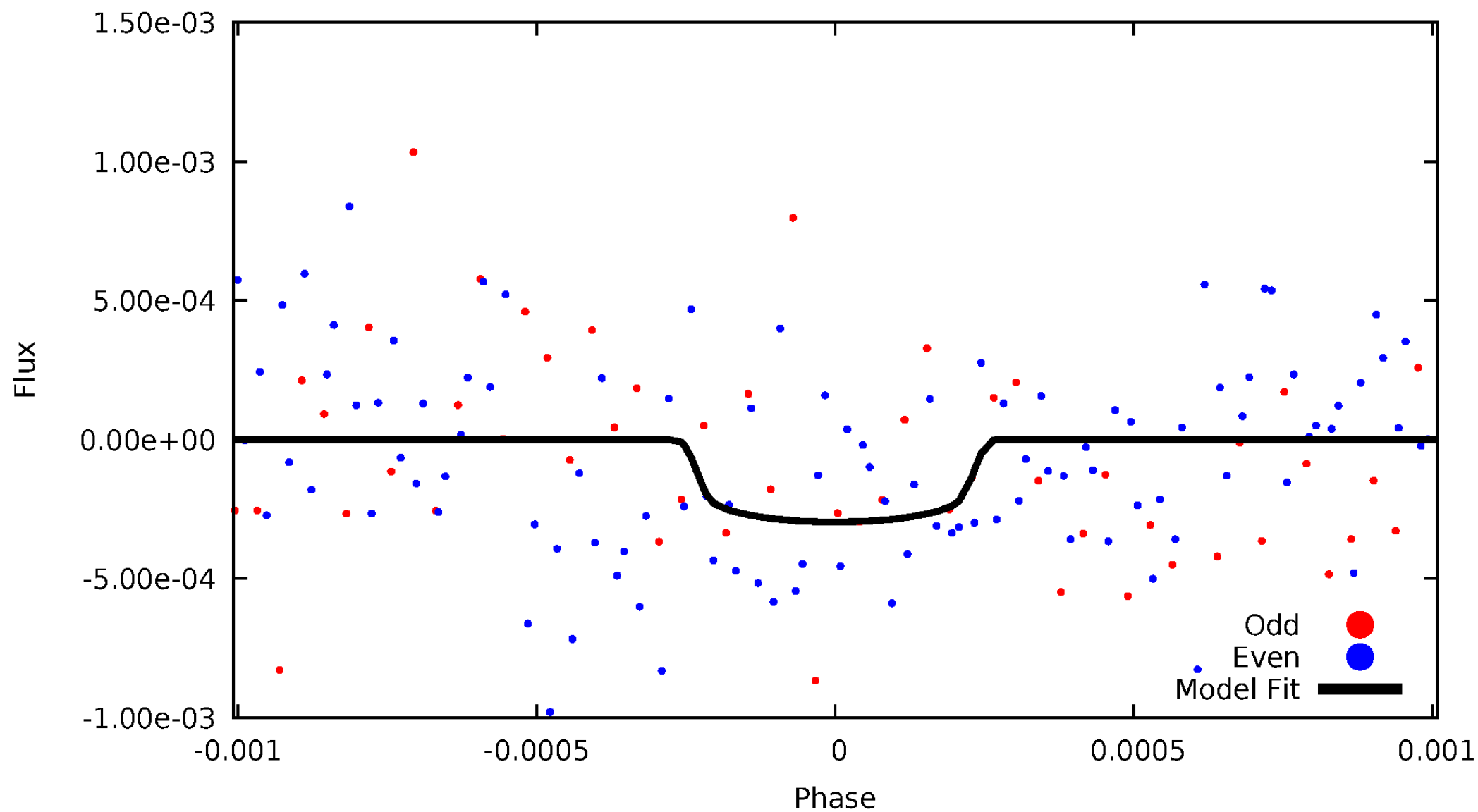


TCE 007871919-01



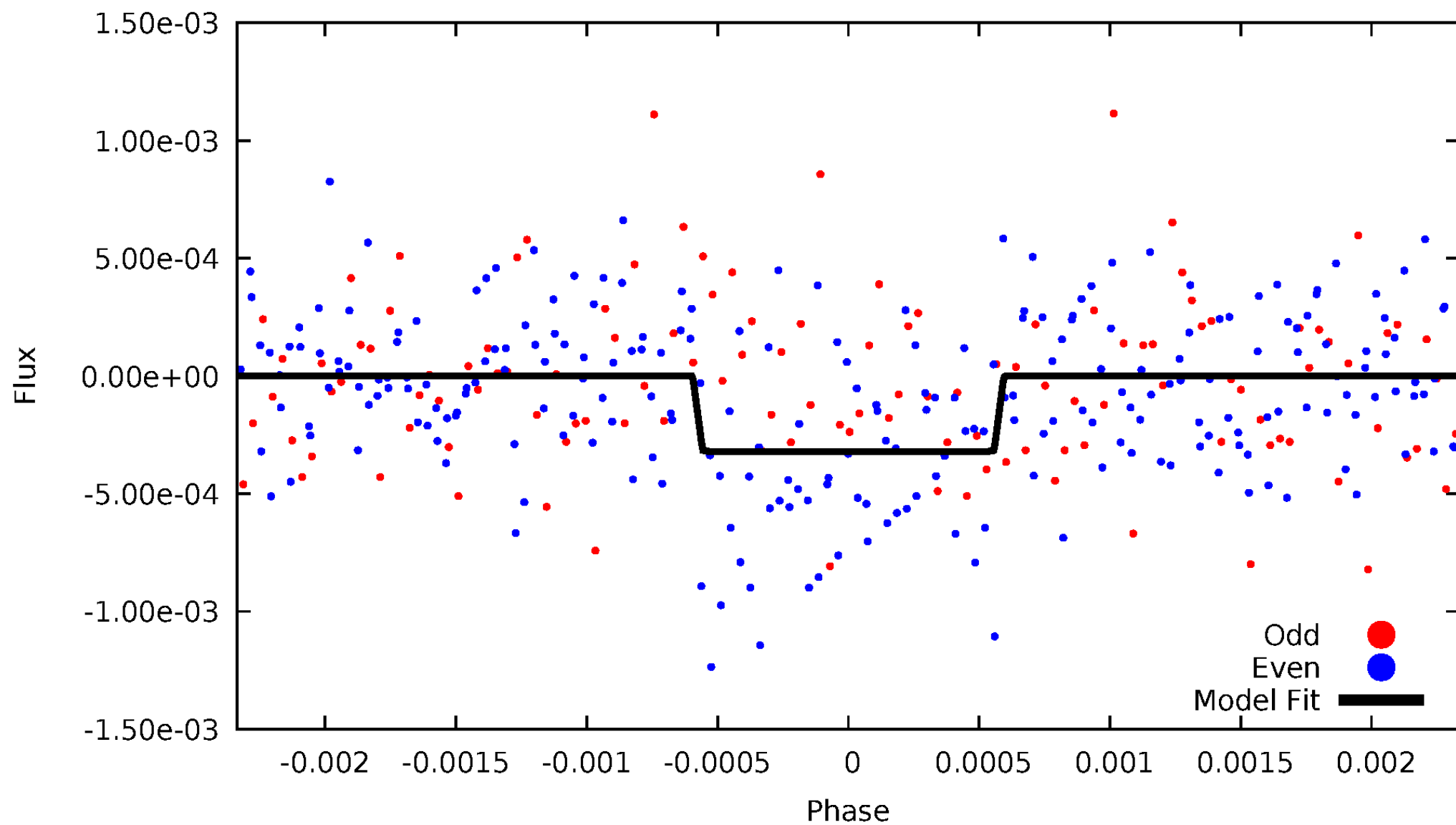
DV Odd/Even

TCE 007871919-01



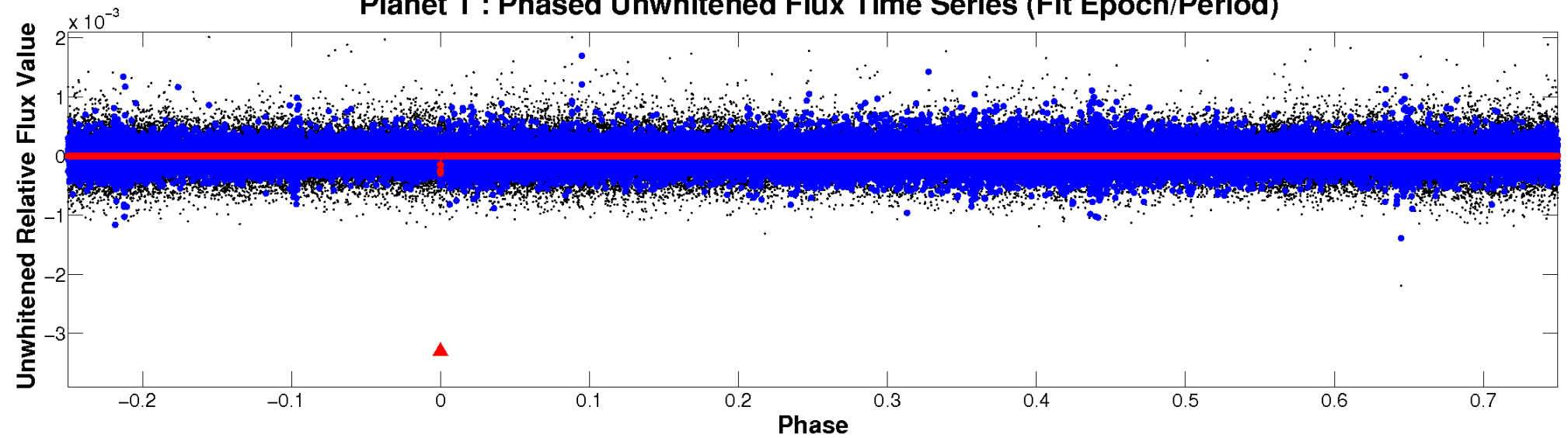
ALT Odd/Even

TCE 007871919-01

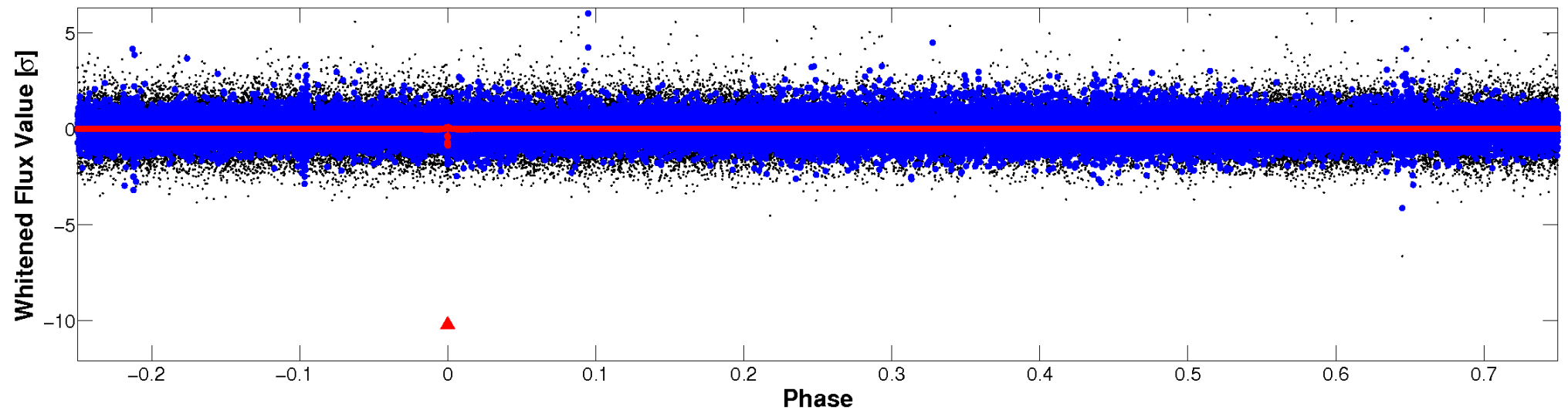


Non-Whitened Vs. Whitened Light Curve

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

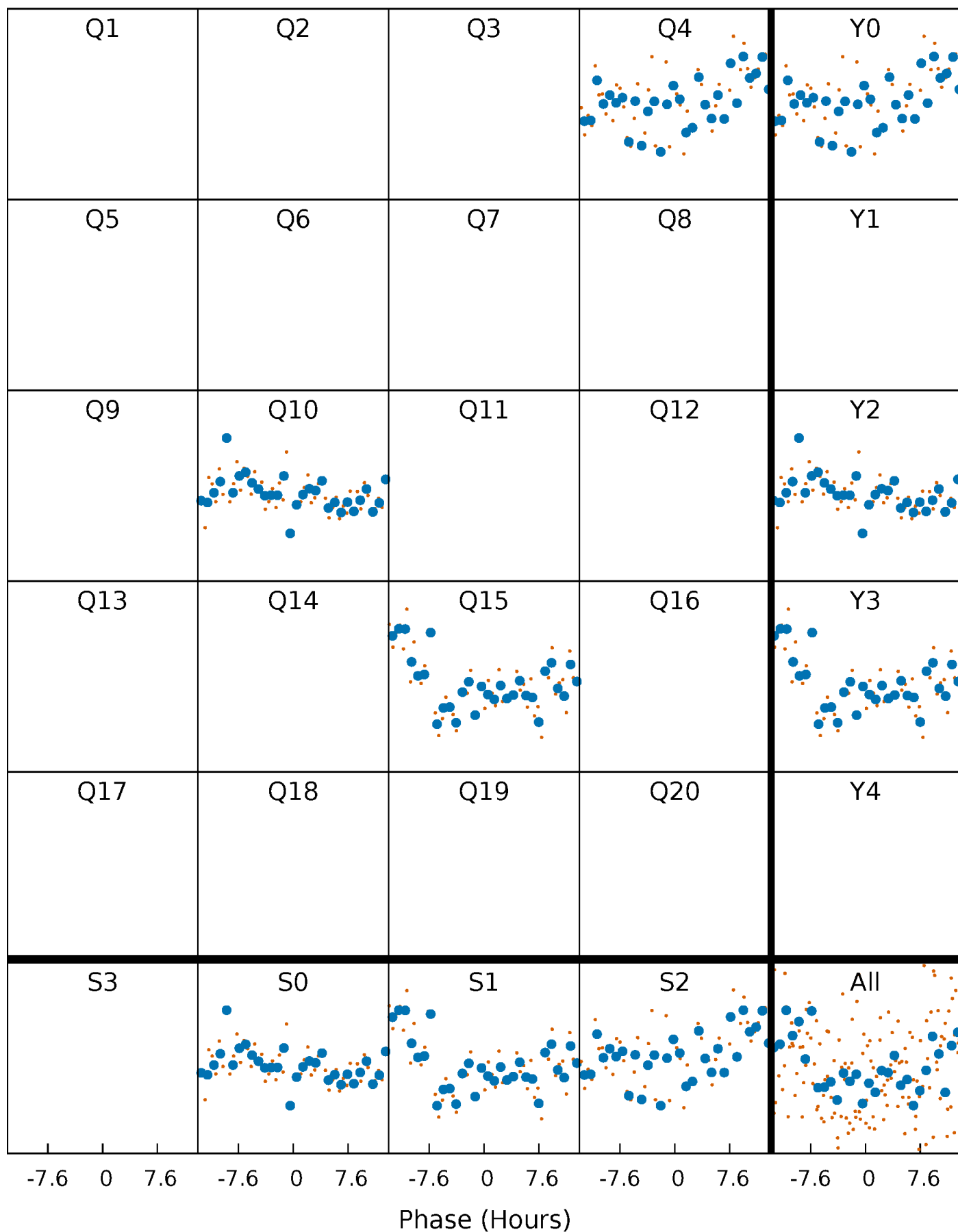


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



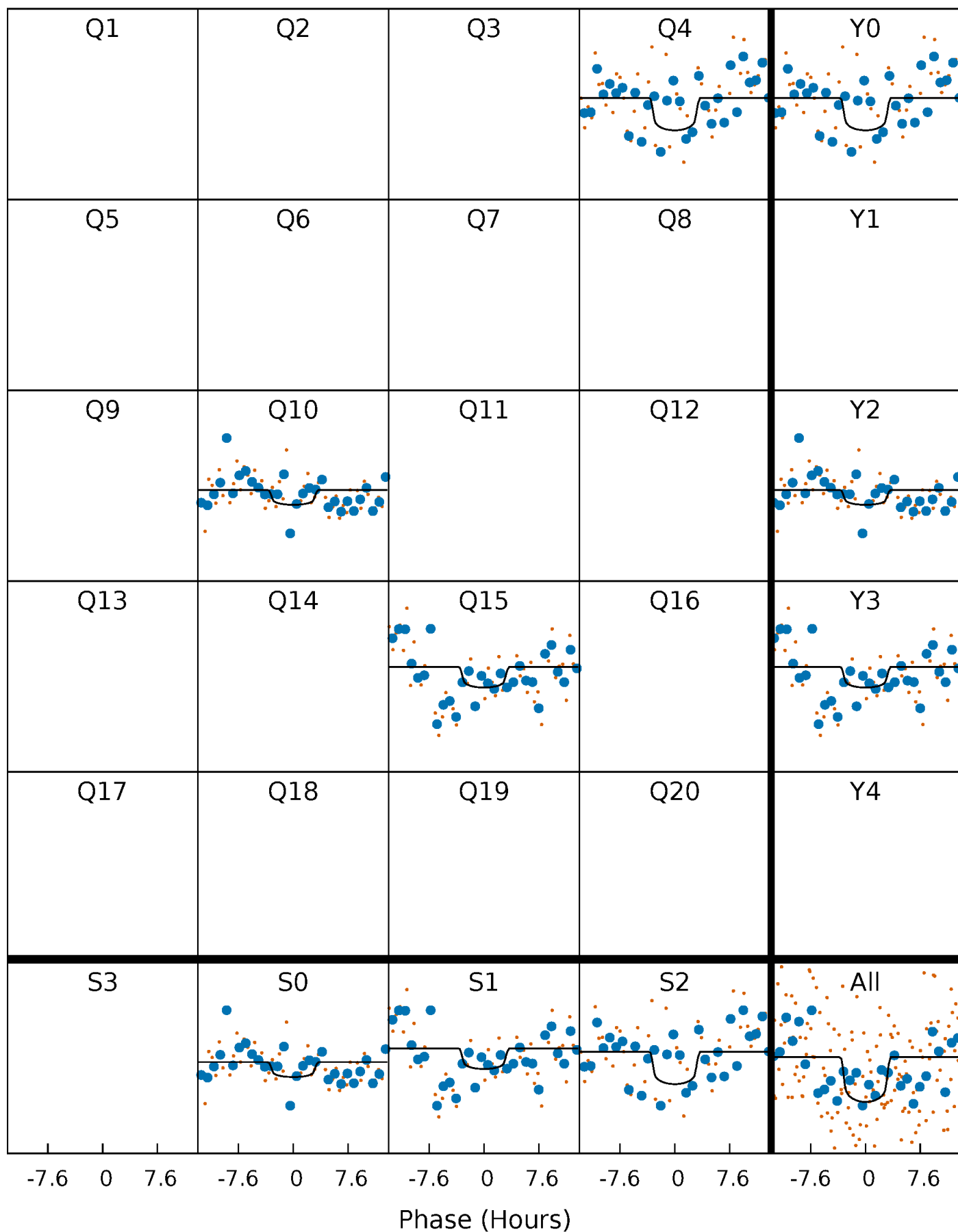
PDC Quarter-Phased Transit Curves

TCE 007871919-01 P=546.653122 Days $T_0=375.618619$ (BKJD)



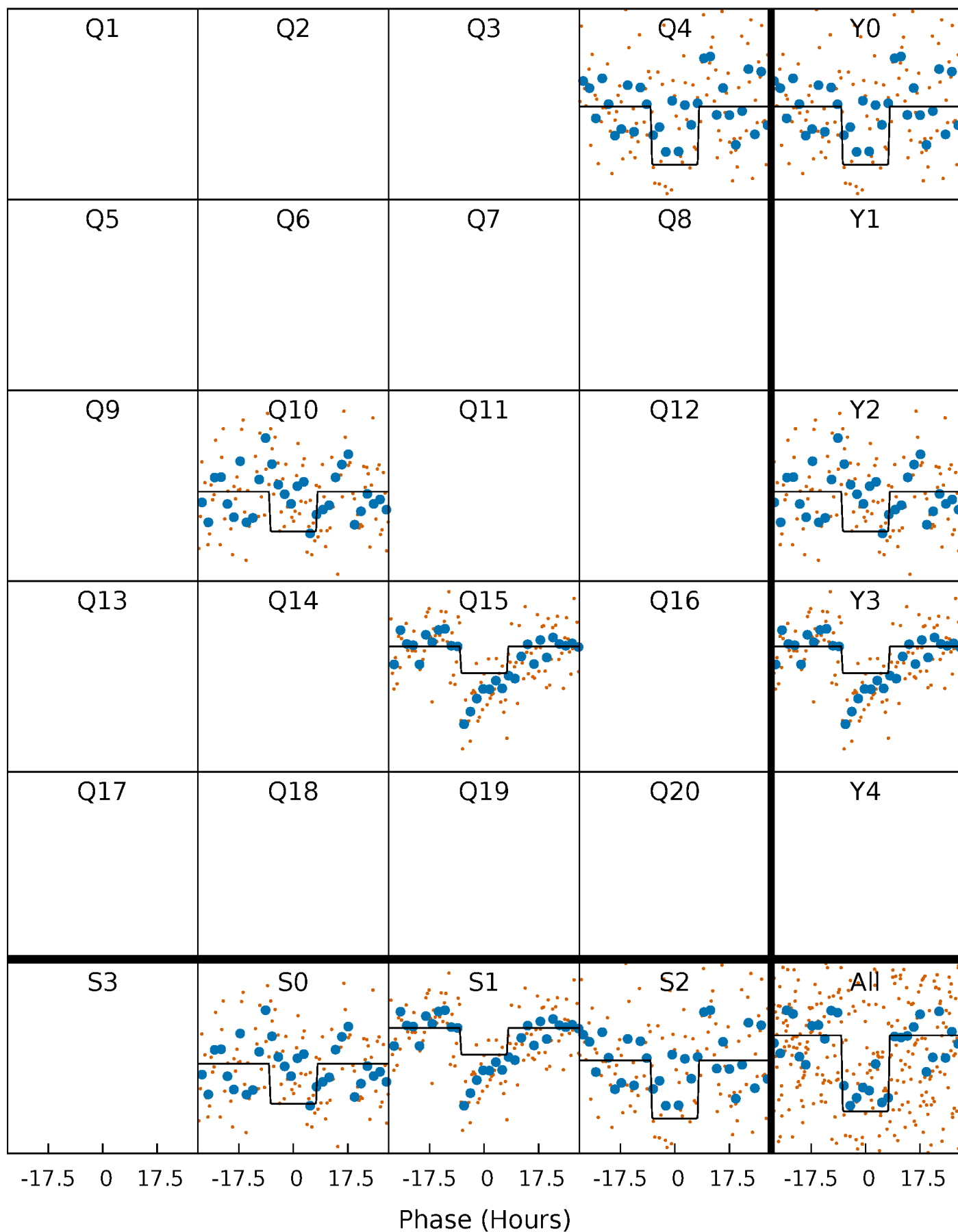
DV Quarter-Phased Transit Curves

TCE 007871919-01 P=546.653122 Days $T_0=375.618619$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

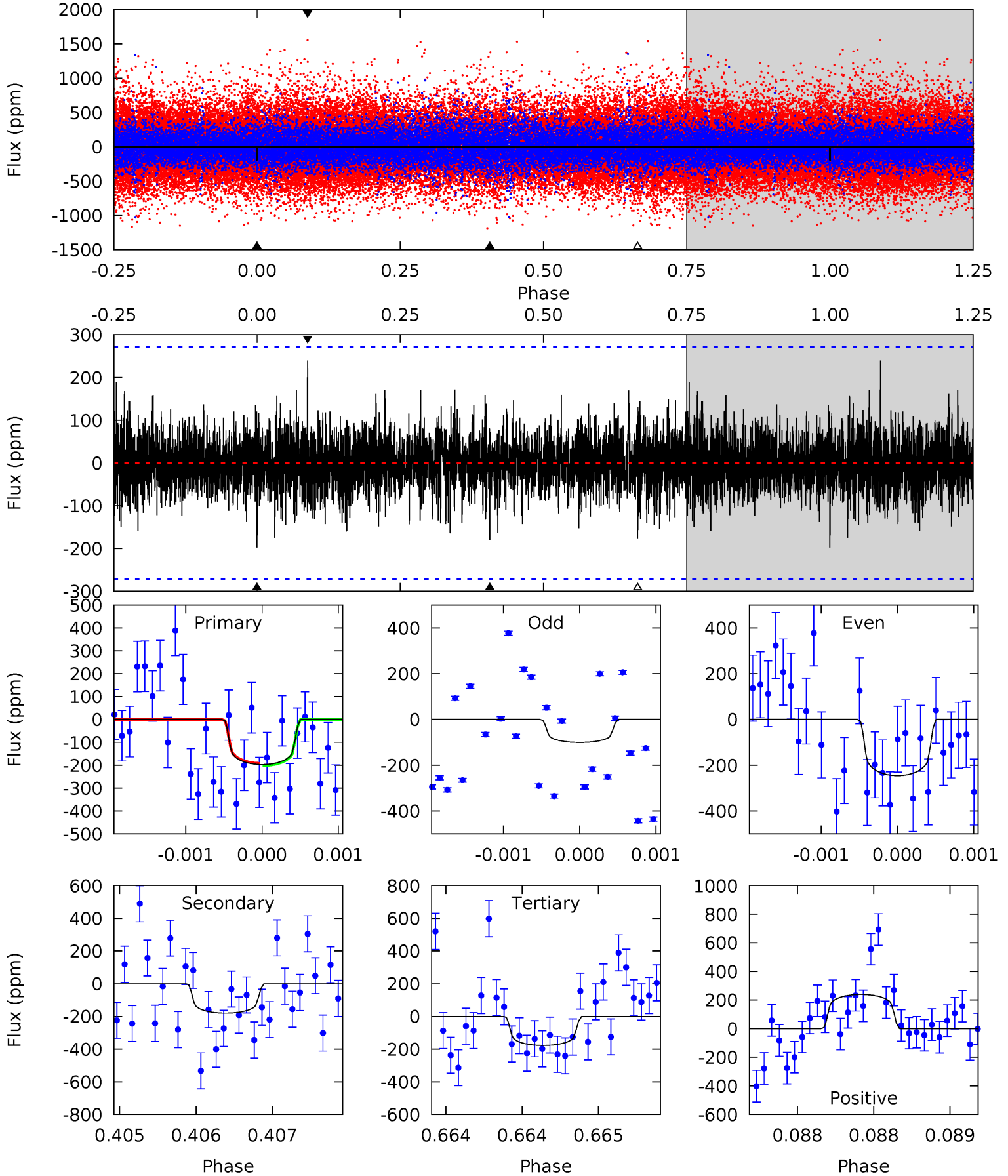
TCE 007871919-01 P=546.659031 Days $T_0=375.632531$ (BKJD)



DV Model-Shift Uniqueness Test

007871919-01, P = 546.653122 Days, E = 375.618619 Days

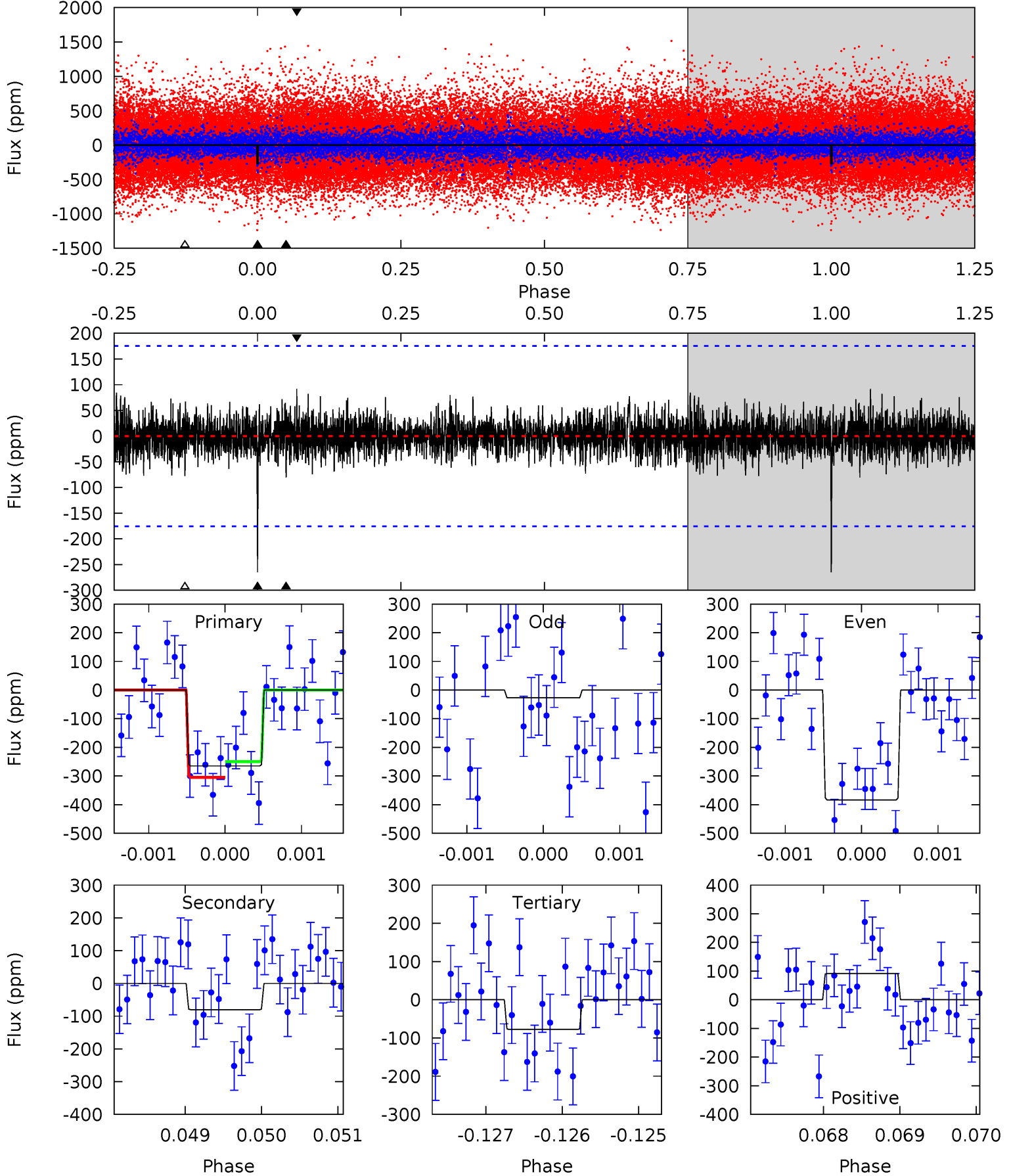
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.04	3.69	3.64	4.90	5.56	3.47	0.98	0.40	-0.86	0.05	-1.21	1.43	0.90	0.55	0.10



Alt Model-Shift Uniqueness Test

007871919-01, P = 546.659031 Days, E = 375.632531 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.19	2.48	2.40	2.83	5.42	3.25	0.70	5.79	5.36	0.08	-0.35	5.25	2.04	0.26	0.84



Stellar Parameters For KIC 007871919

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6184^{+166}_{-203}	$4.448^{+0.050}_{-0.200}$	$-0.060^{+0.250}_{-0.350}$	$1.038^{+0.314}_{-0.126}$	$1.100^{+0.141}_{-0.141}$	$1.387^{+0.376}_{-0.716}$
	+3%/-3%	+1%/-4%	+417%/-583%	+30%/-12%	+13%/-13%	+27%/-52%
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 007871919-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-180 ± 49	$2.36^{+1.48}_{-1.36}$	341^{+25}_{-16}	5124^{+2840}_{-973}	$30805^{+138480}_{-19951}$
Alt.	-80 ± 32	$2.26^{+1.71}_{-1.25}$	342^{+23}_{-18}	4415^{+1906}_{-816}	14524^{+62164}_{-9906}

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

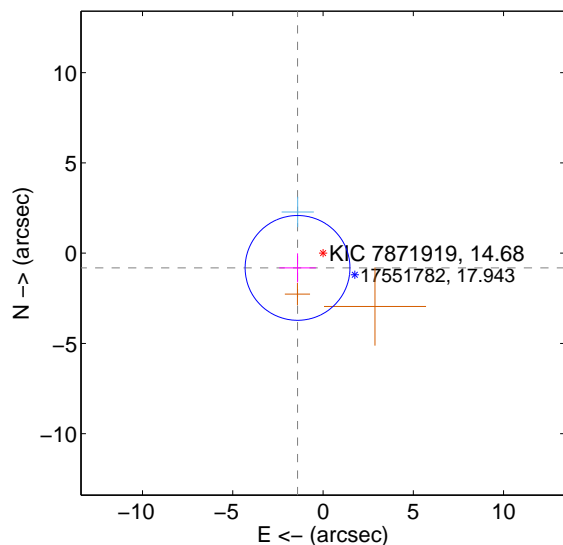
Supplemental centroid analysis for 007871919-01. Kepler magnitude: 14.68. Transit SNR 4.76

There are 1 quarters with good PRF difference image offsets

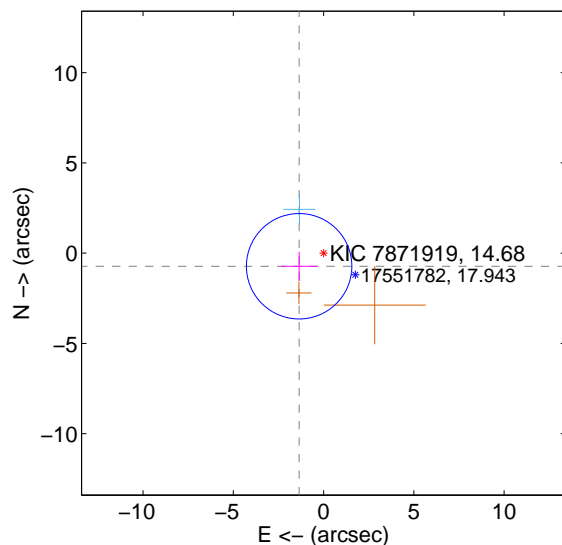
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.631 ± 0.968	1.69	1.413 ± 1.017	-0.816 ± 0.804
PRF-fit source offset from KIC position	1.536 ± 0.973	1.58	1.355 ± 1.017	-0.724 ± 0.804
photometric centroid source offset	1.79 ± 3.13	0.57	0.66 ± 3.12	-1.66 ± 3.13

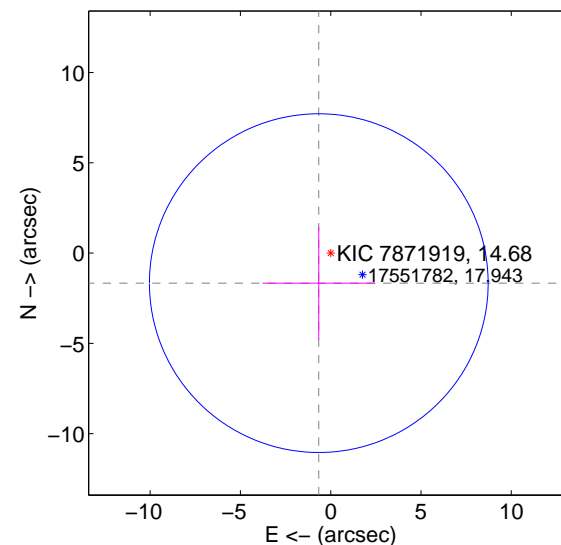
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

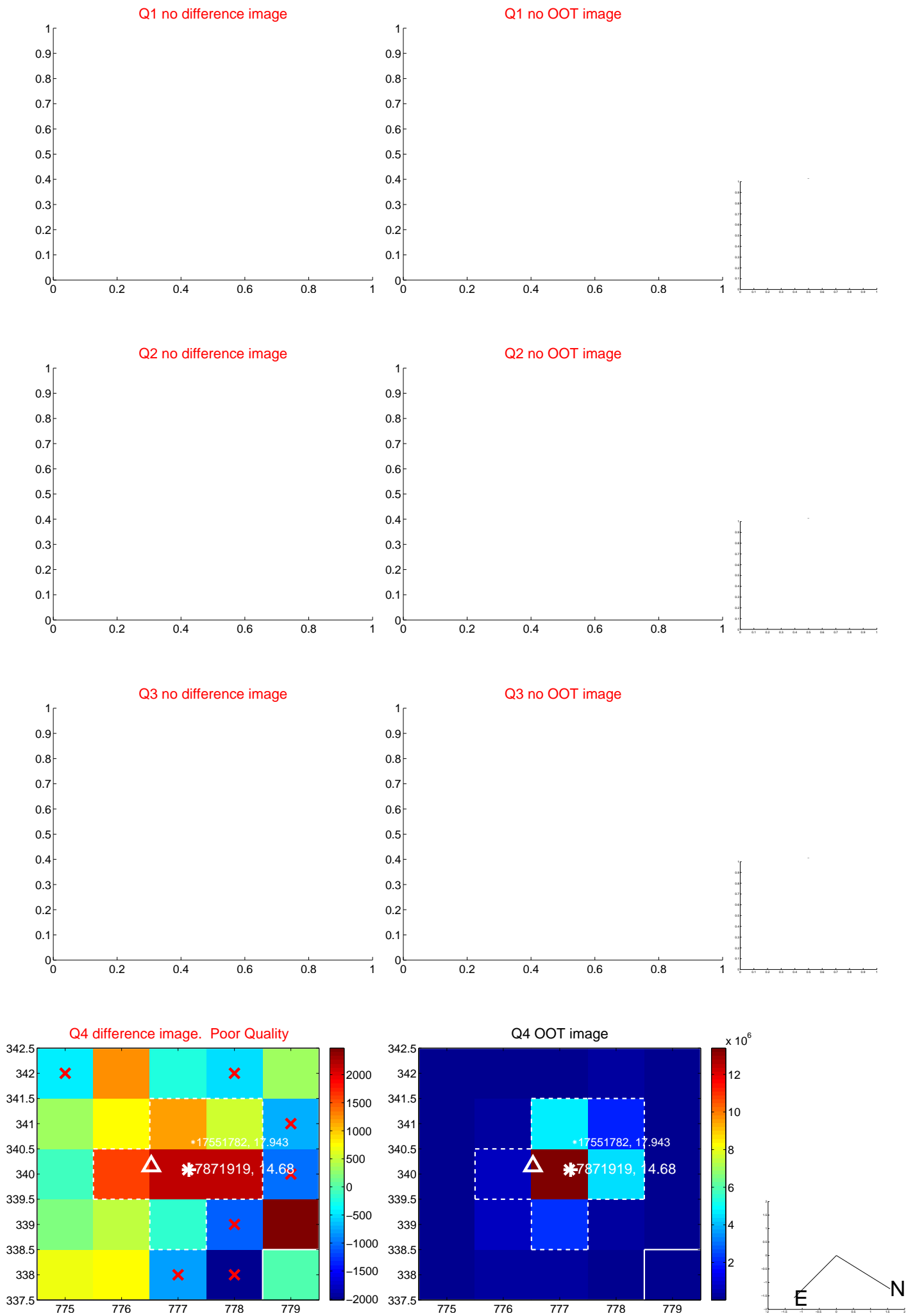


offset from photometric centroids



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.

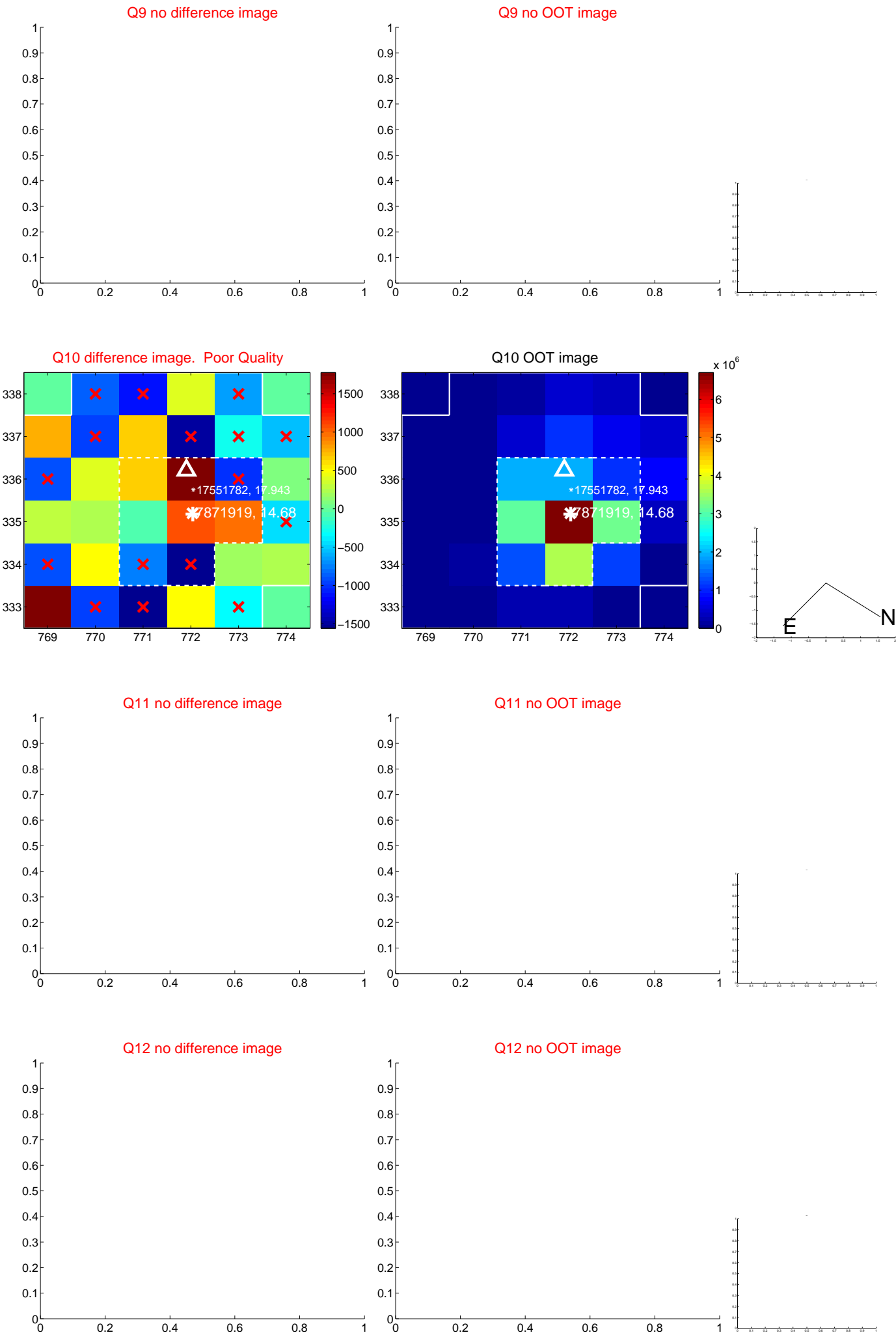
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



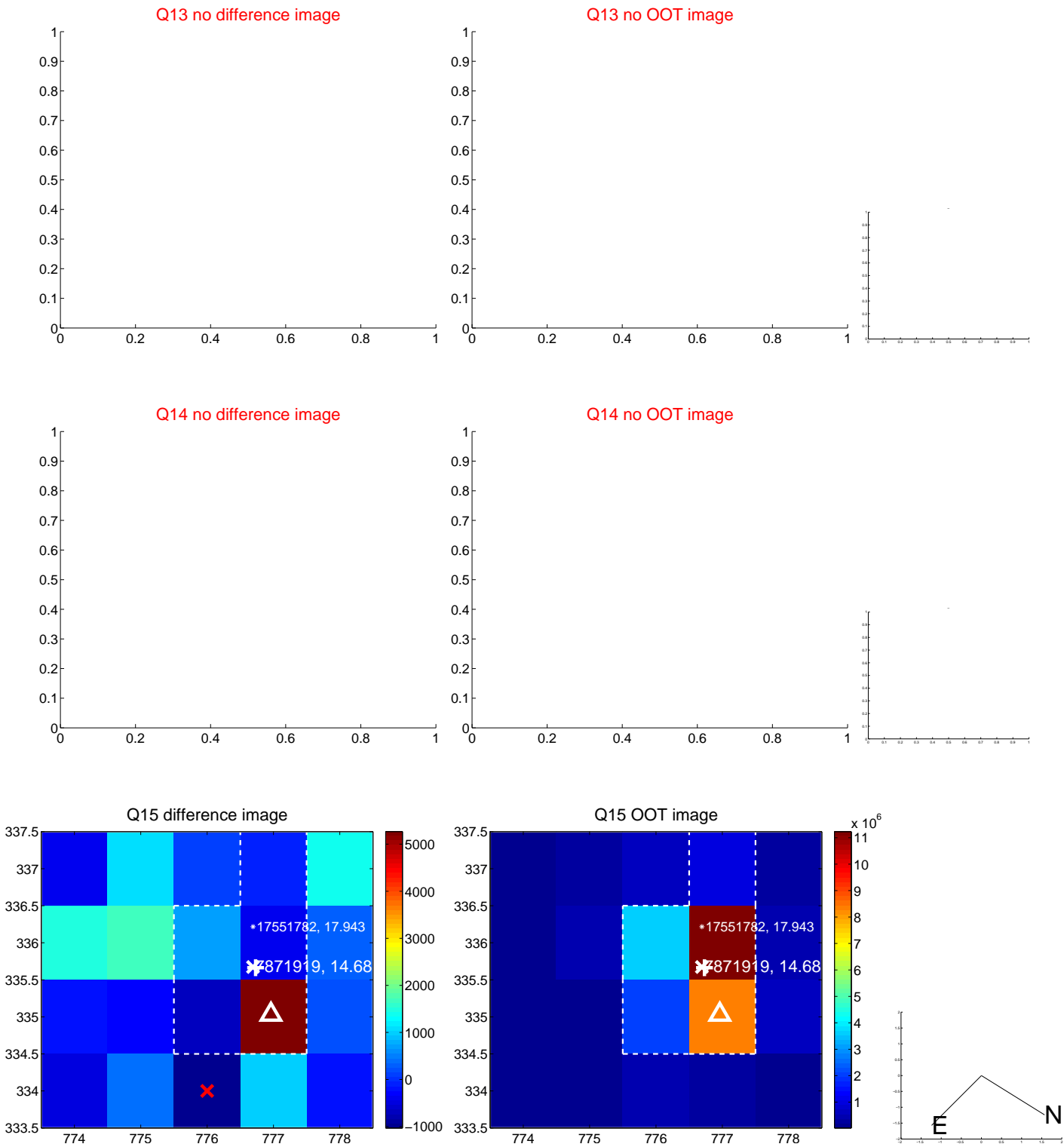
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



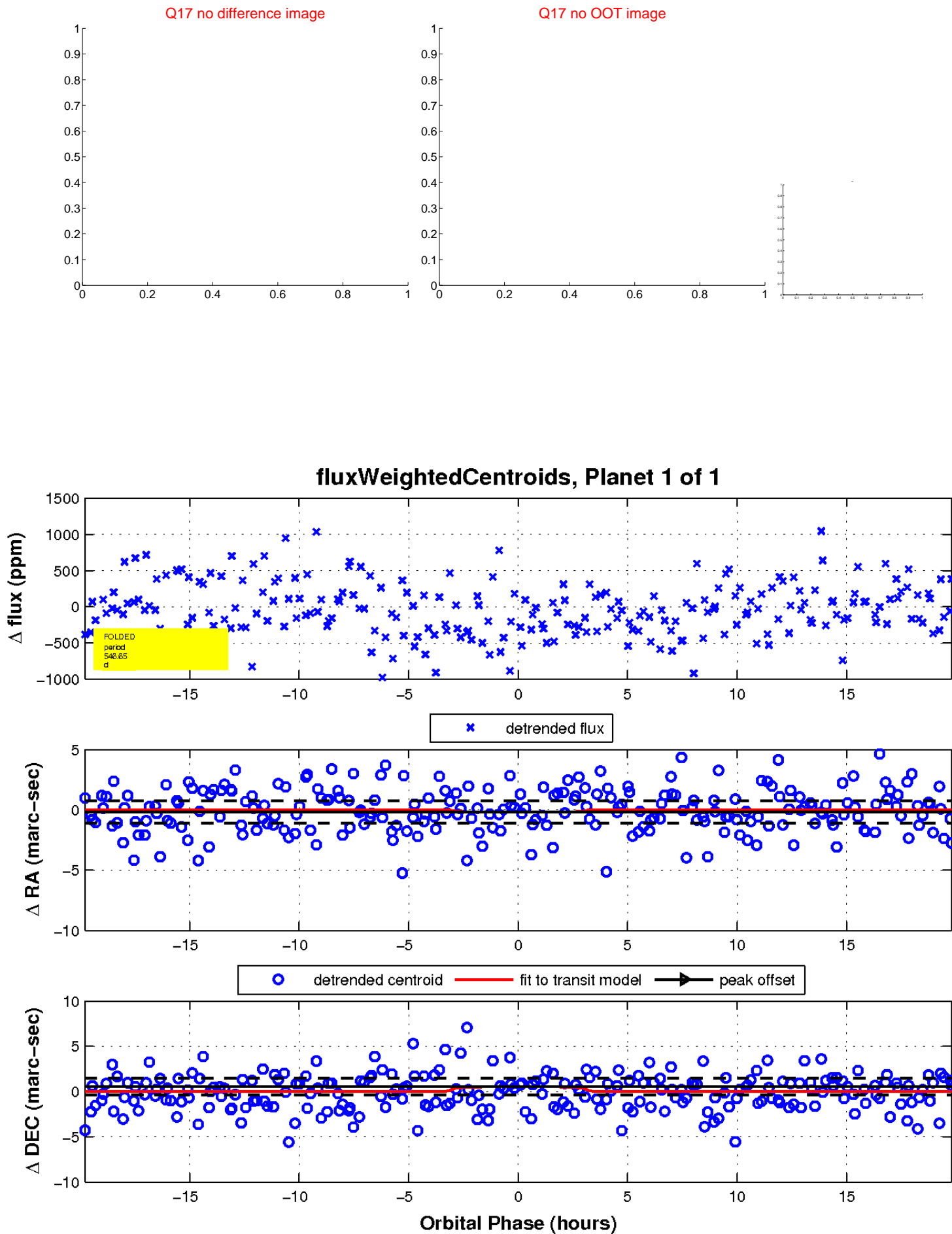
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

