

KIC 004072271

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
004072271-01	OBS	7680.01	219.188026	327.982468	174.0	14.496	7.1	6.7	1.78	6990	2.53	10.21

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004072271-01	OBS	PC	0.43	0	0	0	0	CENT_UNCERTAIN

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

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

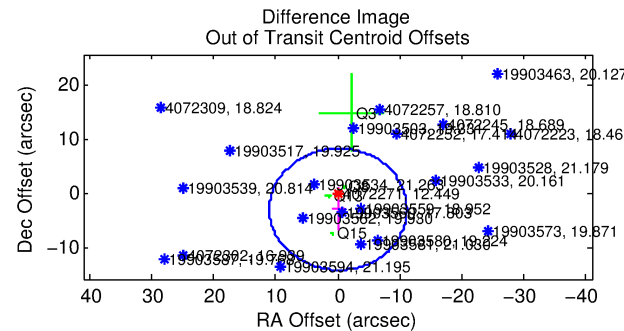
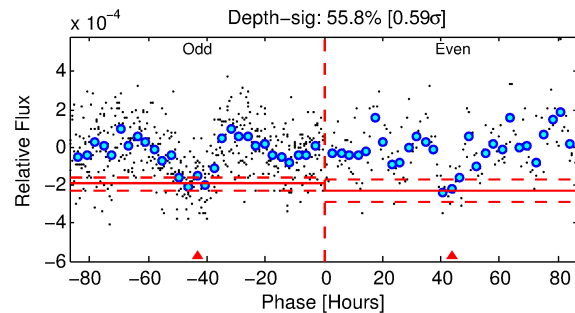
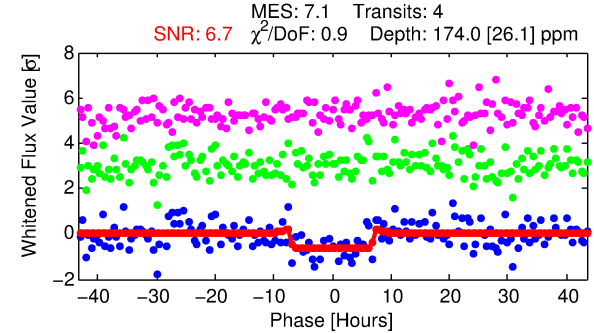
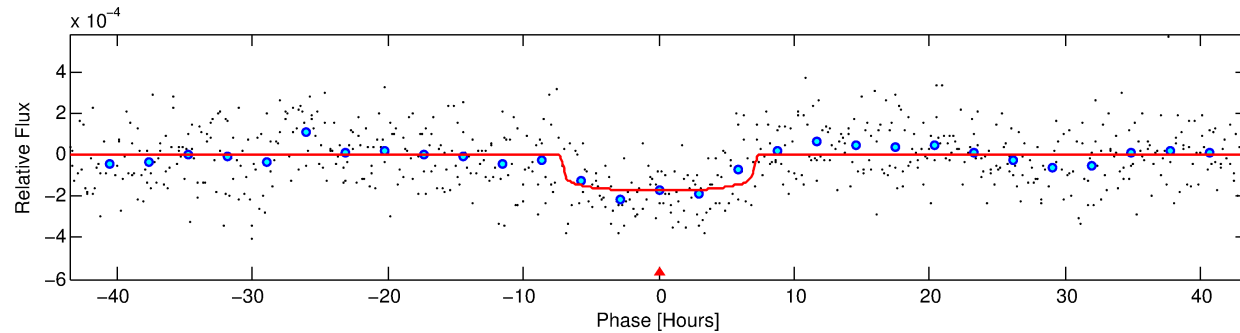
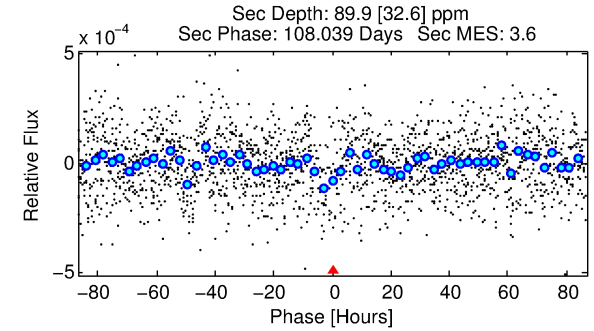
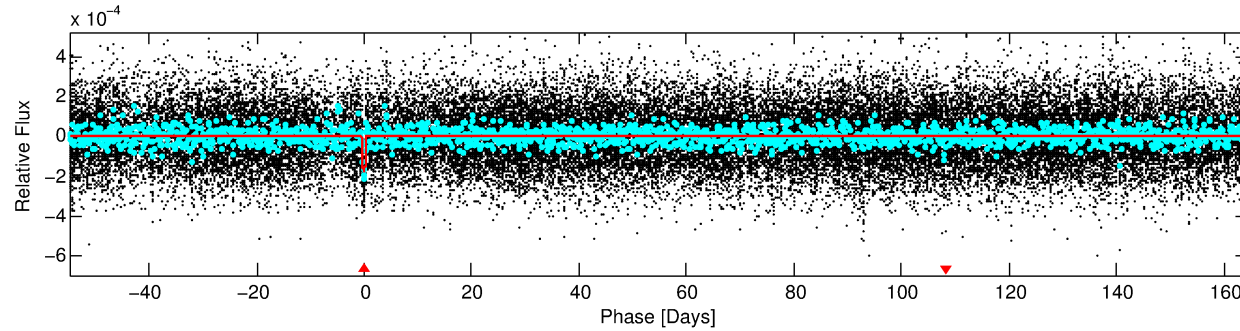
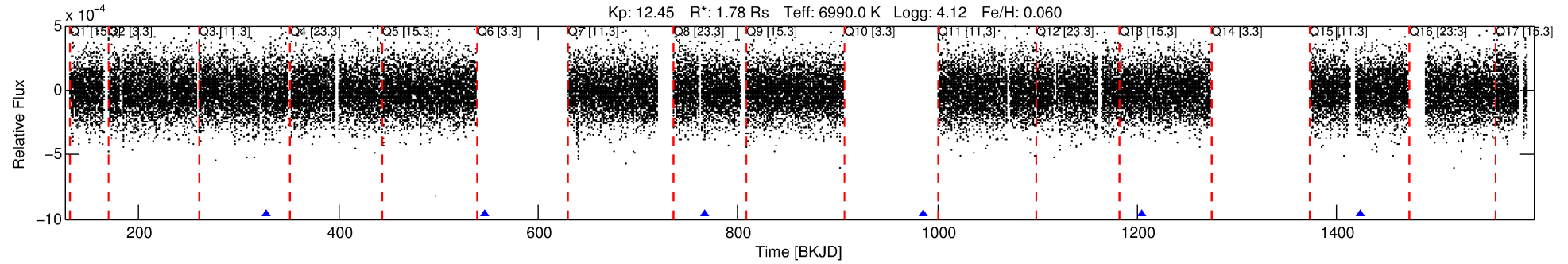
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004072271-01

No Significant Match Found

DV One-Page Summary

KIC: 4072271 Candidate: 1 of 1 Period: 219.188 d



DV Fit Results:

Period = 219.18803 [0.00484] d
Epoch = 327.9825 [0.0174] BKJD
Rp/R* = 0.0130 [0.0035]
a/R* = 82.48 [123.48]
b = 0.72 [1.01]
Seff = 10.20 [3.99]
Teff = 456 [44] K
Rp = 2.53 [1.05] Re
a = 0.8172 [0.2070] AU
Ag = 5150.51 [3786.38] [1.36σ]
Teffp = 5969 [1000] K [5.51σ]

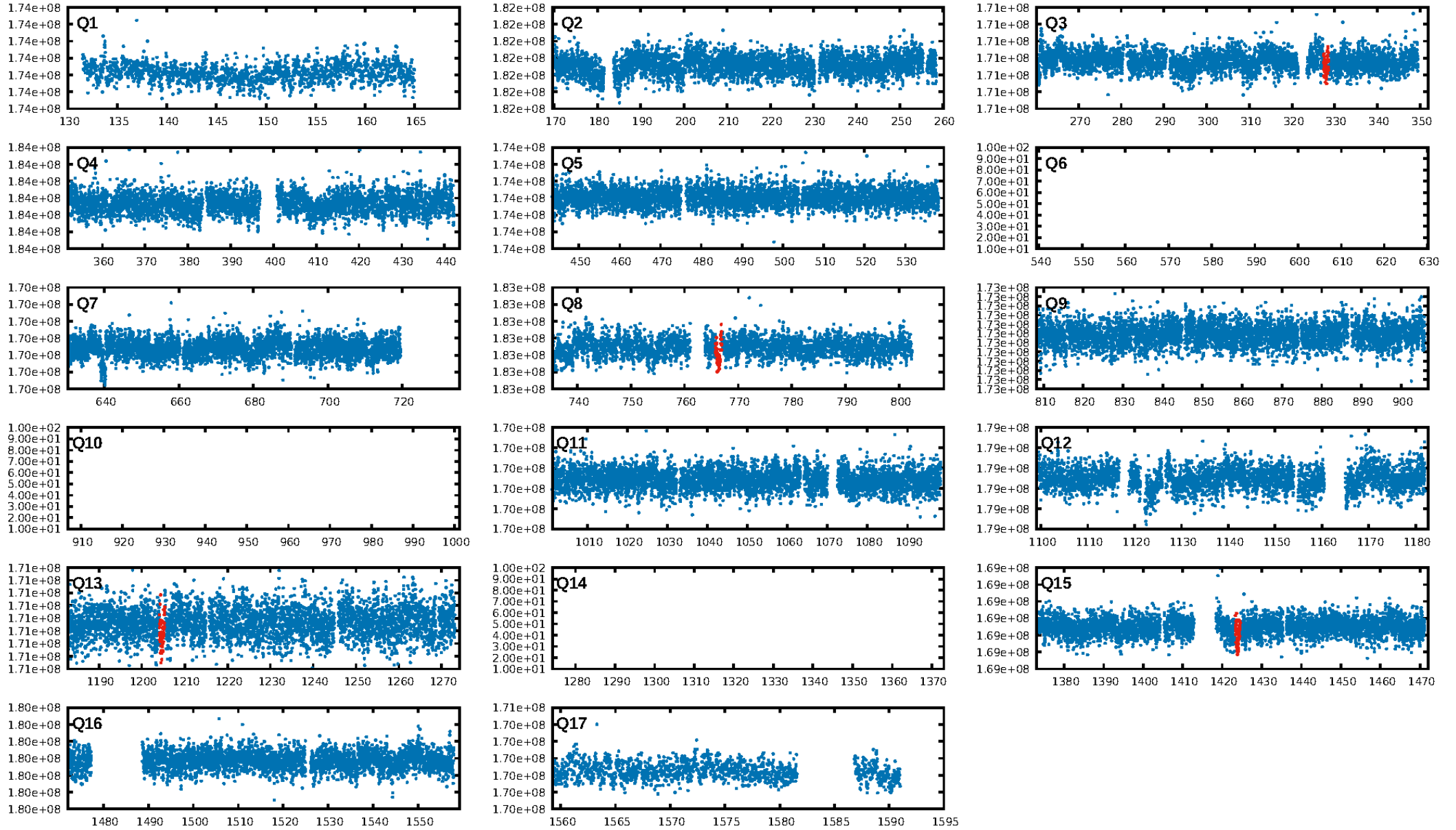
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 62.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.46e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.373
Centroid-sig: 45.3%
Centroid-so: 1.034 arcsec [0.78σ]
OotOffset-rm: 2.784 arcsec [0.75σ]
KicOffset-rm: 2.742 arcsec [0.75σ]
OotOffset-st: 0/2/1/1 [4]
KicOffset-st: 0/2/1/1 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 1.00 [4/4]

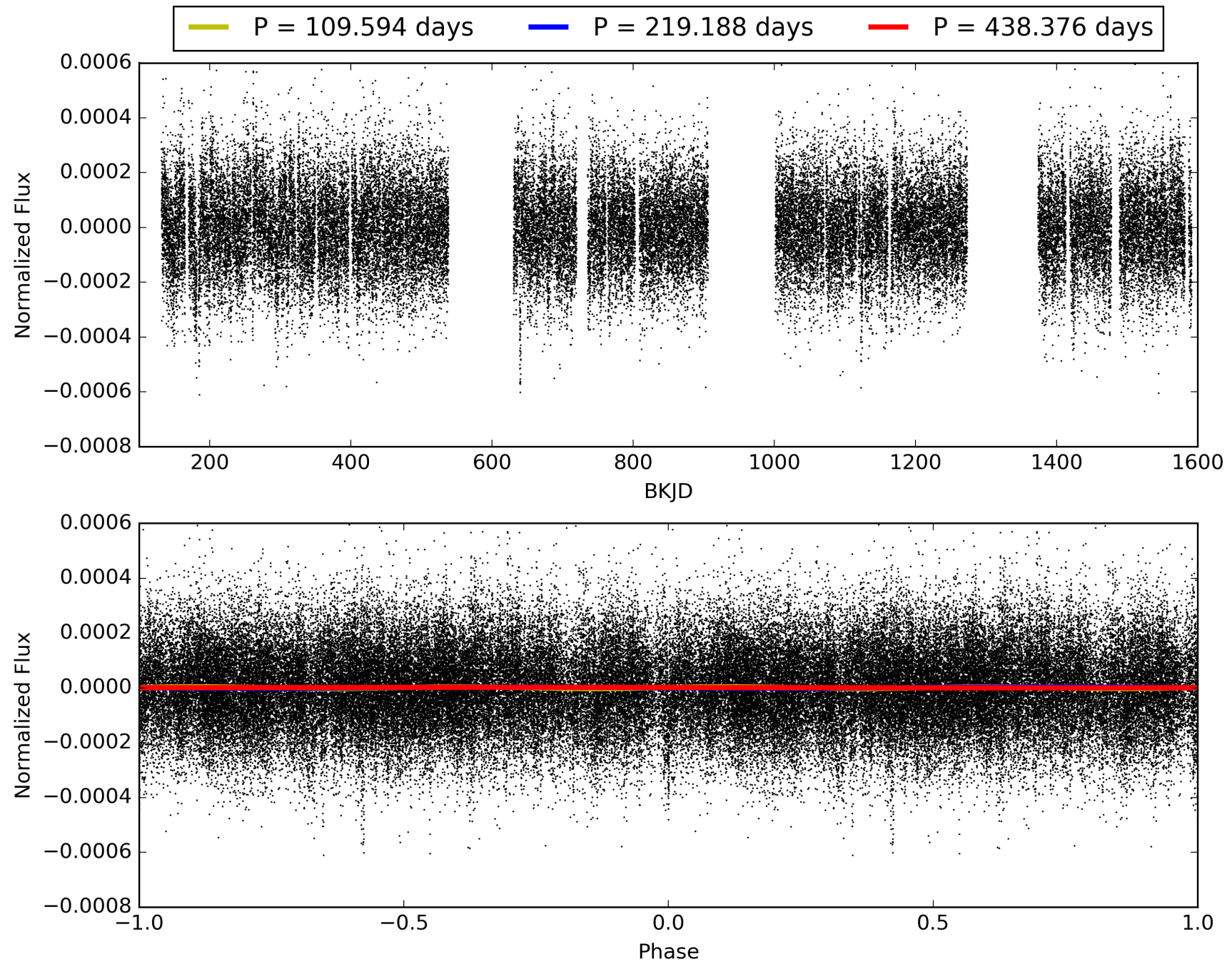
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:08:40 Z

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

TCE 004072271-01, PDC Light Curves

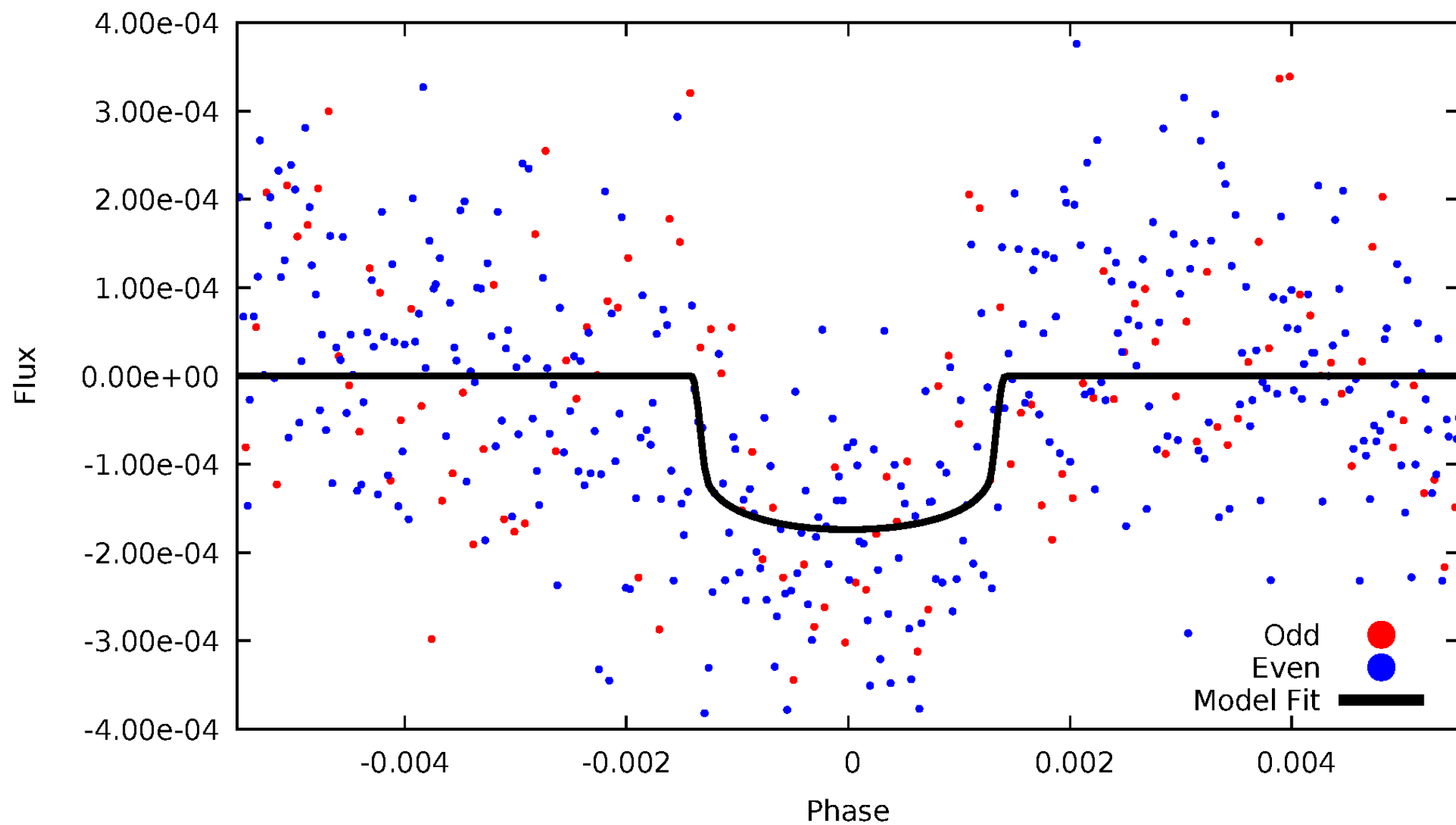


TCE 004072271-01



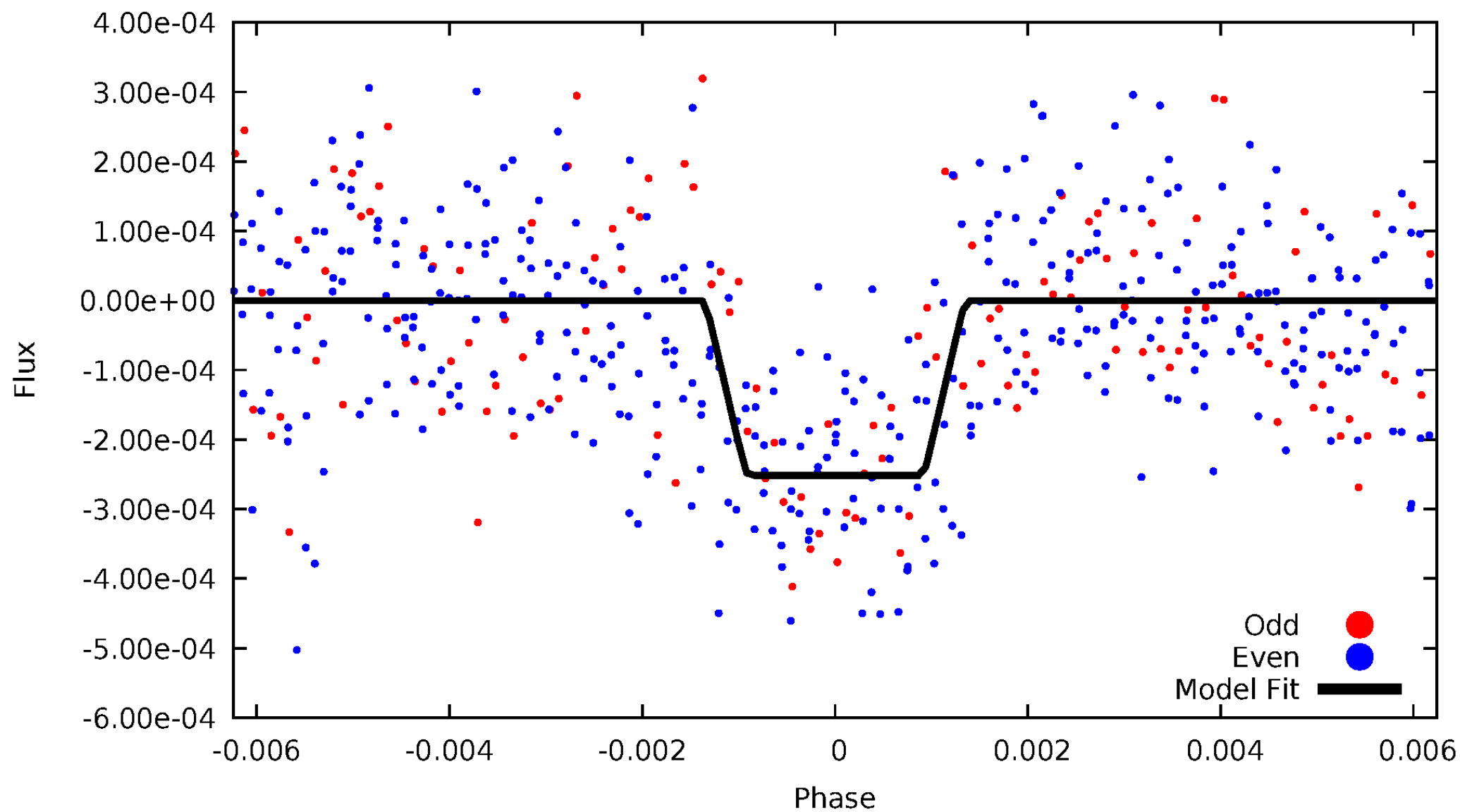
DV Odd/Even

TCE 004072271-01

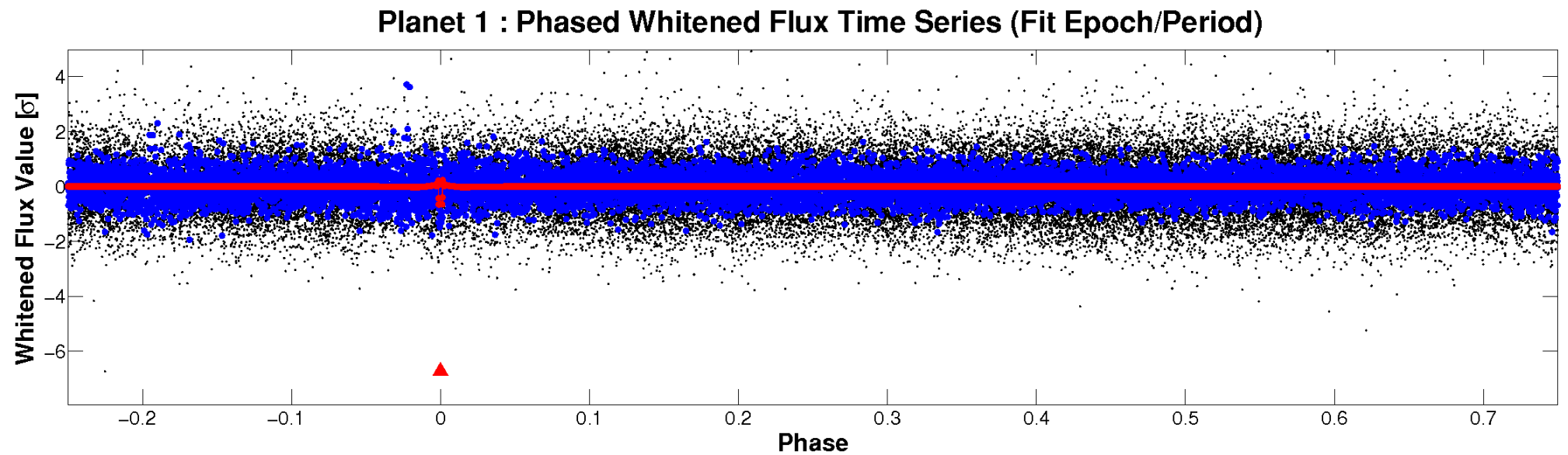
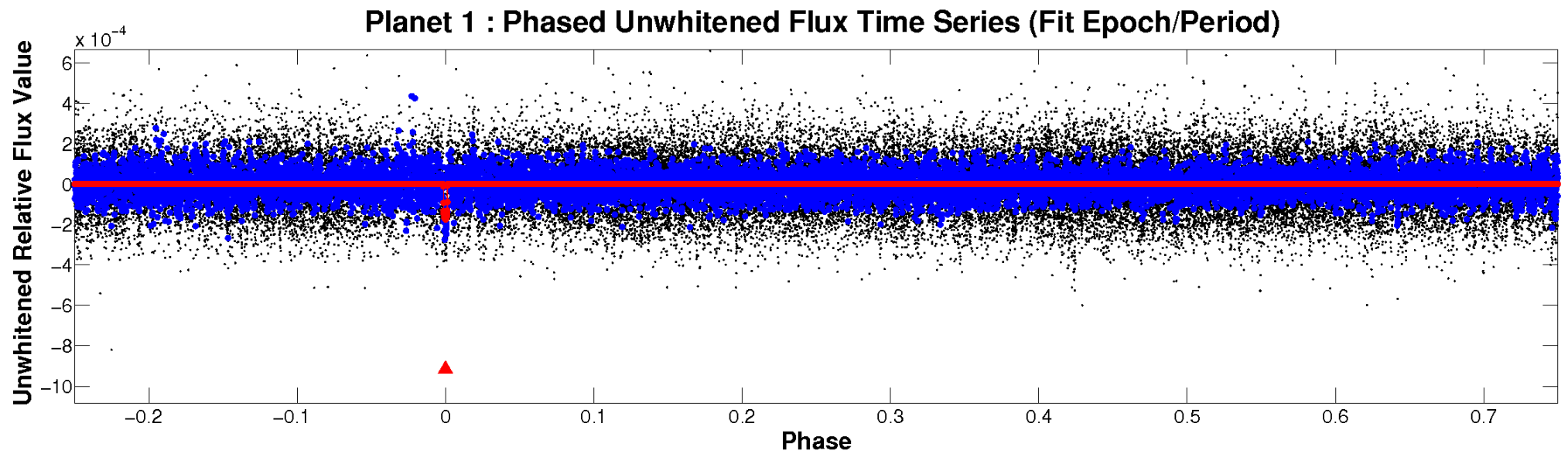


ALT Odd/Even

TCE 004072271-01

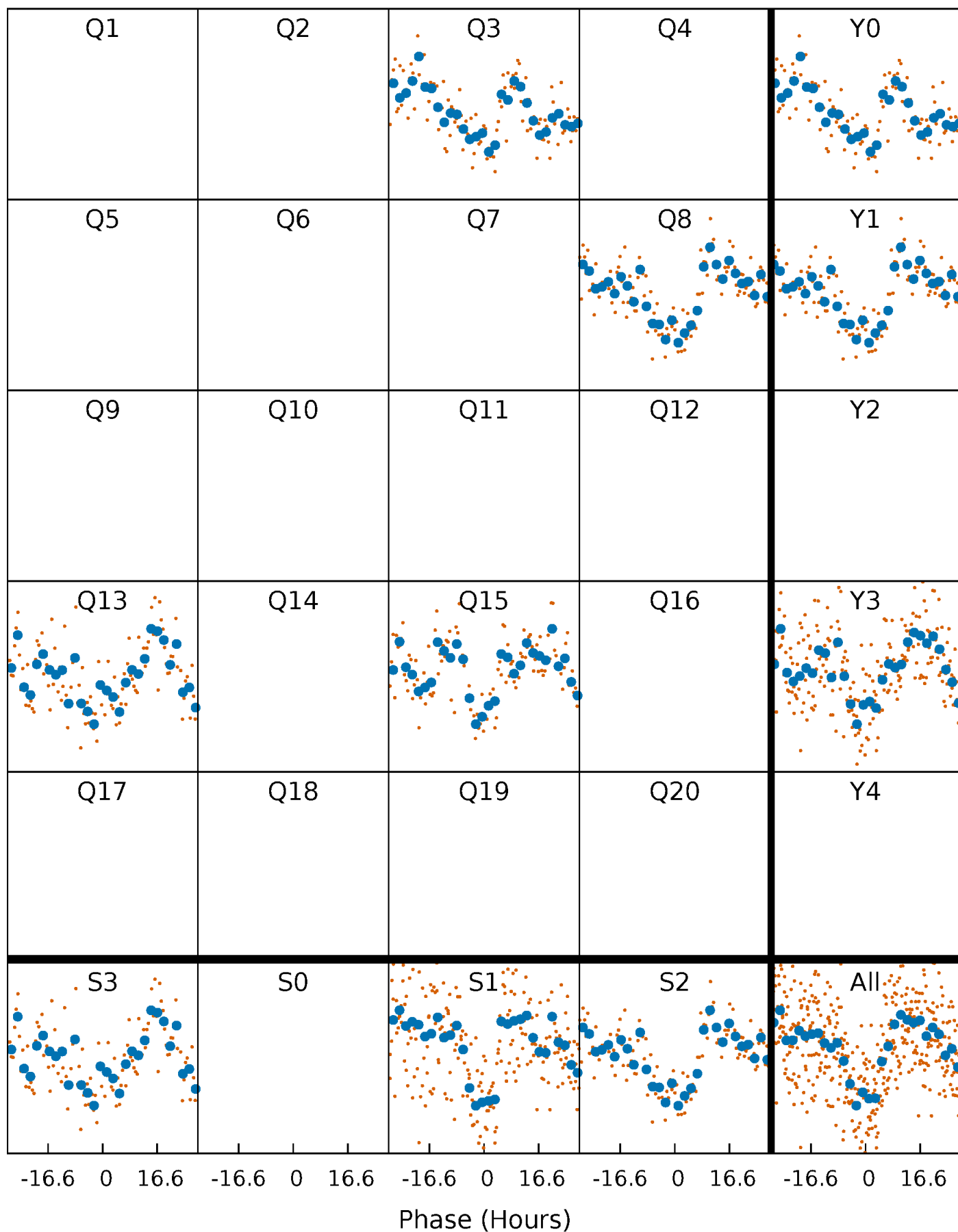


Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 004072271-01 P=219.188026 Days $T_0=327.982468$ (BKJD)



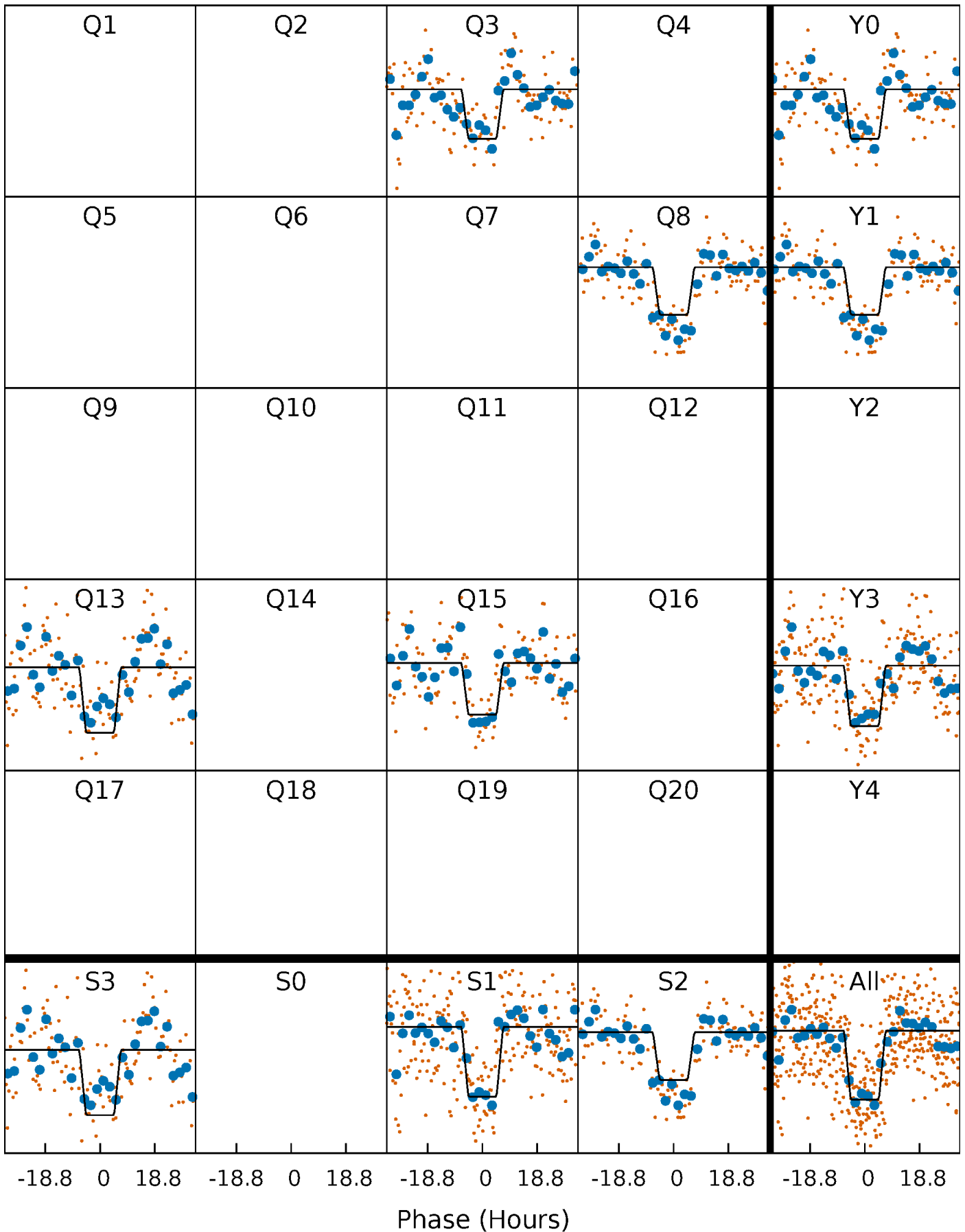
DV Quarter-Phased Transit Curves

TCE 004072271-01 P=219.188026 Days $T_0=327.982468$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

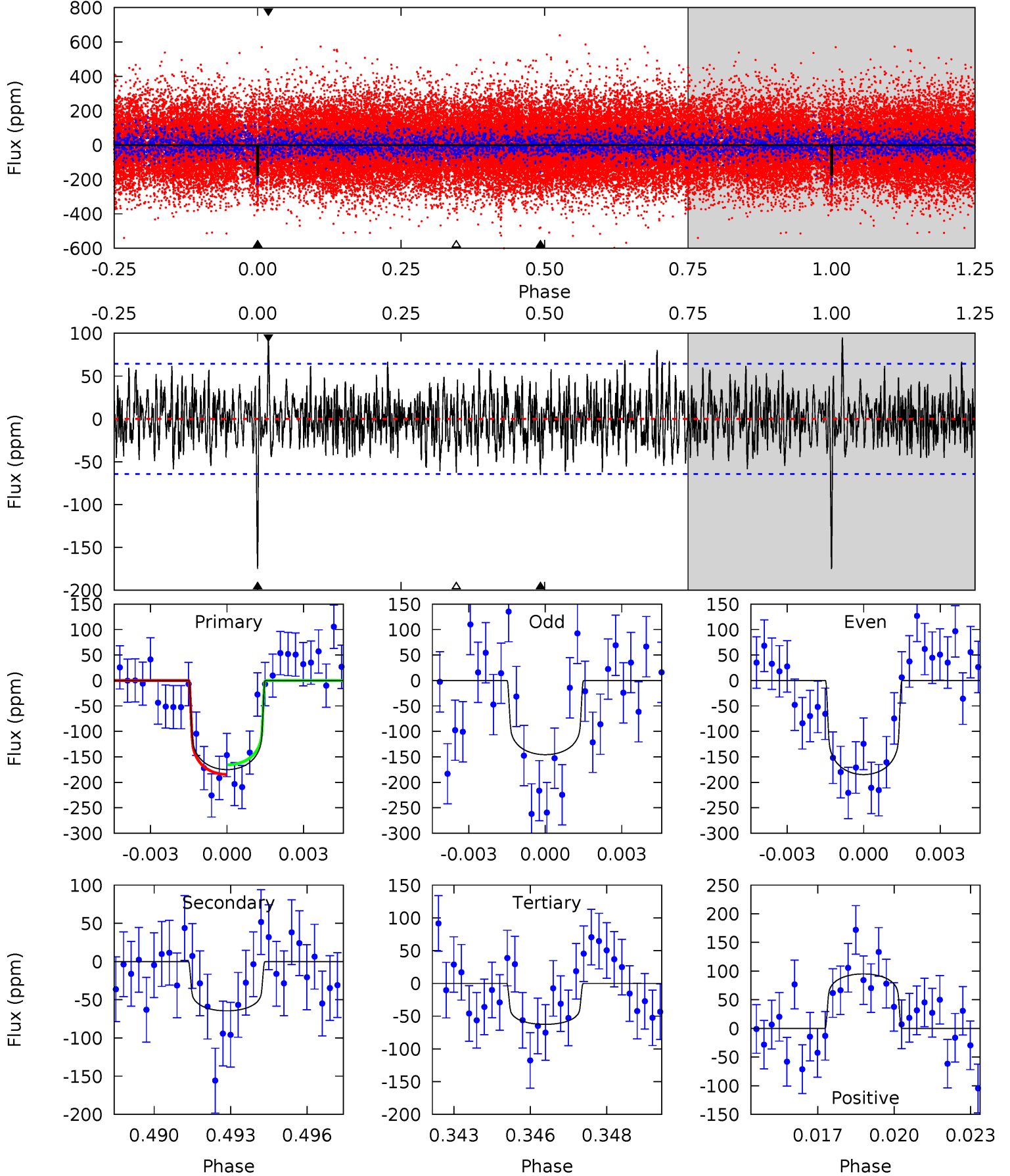
TCE 004072271-01 P=219.190798 Days $T_0=327.957358$ (BKJD)



DV Model-Shift Uniqueness Test

004072271-01, P = 219.188026 Days, E = 108.794442 Days

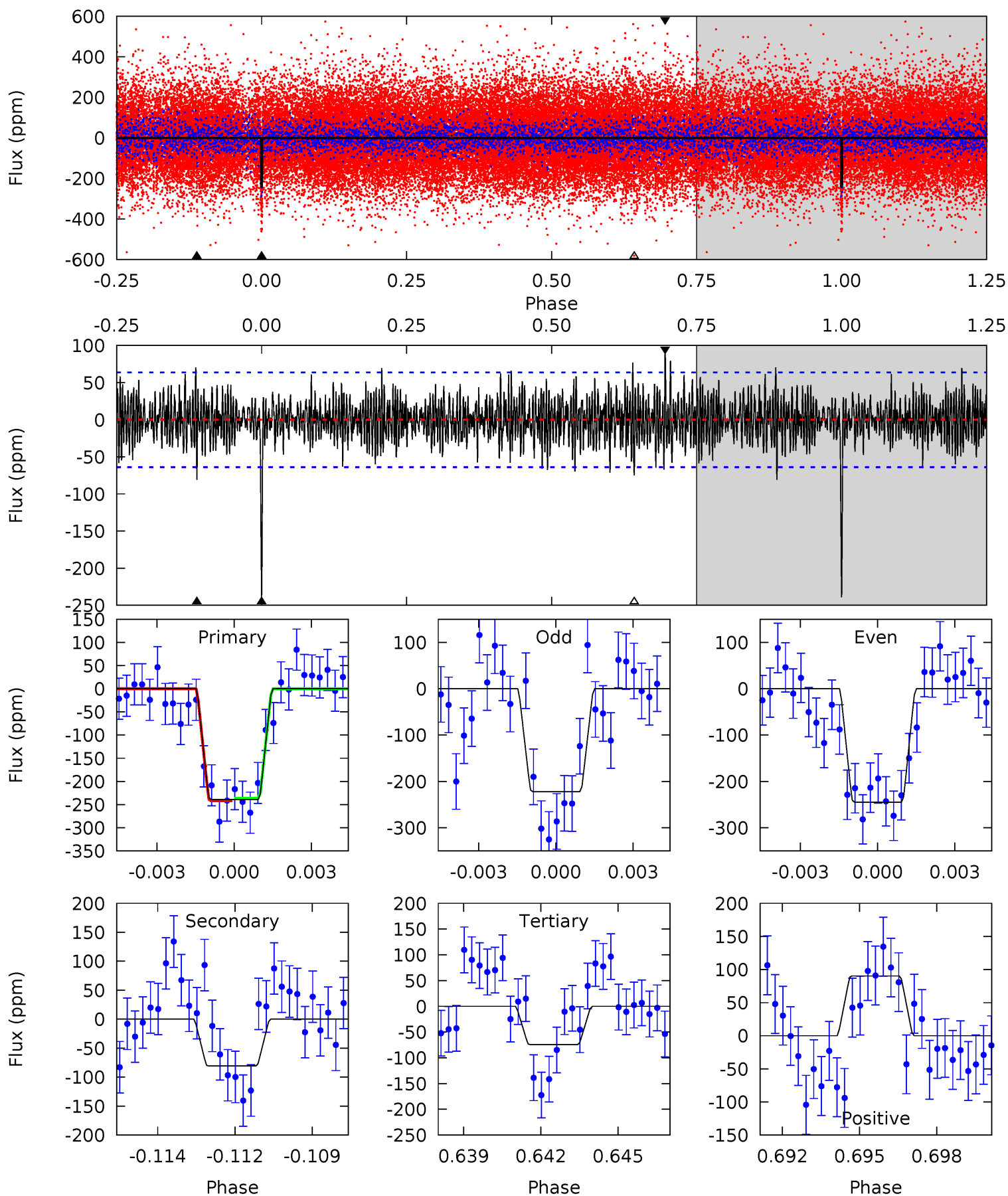
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.3	5.28	5.12	7.77	5.26	2.99	1.91	9.19	6.53	0.16	-2.50	1.38	1.15	0.35	0.78



Alt Model-Shift Uniqueness Test

004072271-01, P = 219.190798 Days, E = 108.766560 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.7	6.67	6.14	7.44	5.27	2.99	1.97	13.6	12.3	0.53	-0.78	0.81	1.11	0.27	0.26



Stellar Parameters For KIC 004072271

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6990^{+194}_{-305}	$4.115^{+0.148}_{-0.181}$	$0.060^{+0.200}_{-0.350}$	$1.785^{+0.567}_{-0.378}$	$1.515^{+0.207}_{-0.231}$	$0.375^{+0.296}_{-0.192}$
	+3%/-4%	+4%/-4%	+333%/-583%	+32%/-21%	+14%/-15%	+79%/-51%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 004072271-01 / KOI 7680.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-65 ± 12	$2.53^{+0.72}_{-0.73}$	636^{+46}_{-45}	5477^{+1003}_{-601}	3643^{+3669}_{-1532}
Alt.	-81 ± 12	$3.09^{+0.93}_{-0.74}$	638^{+47}_{-45}	5224^{+692}_{-462}	3004^{+2227}_{-1171}

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

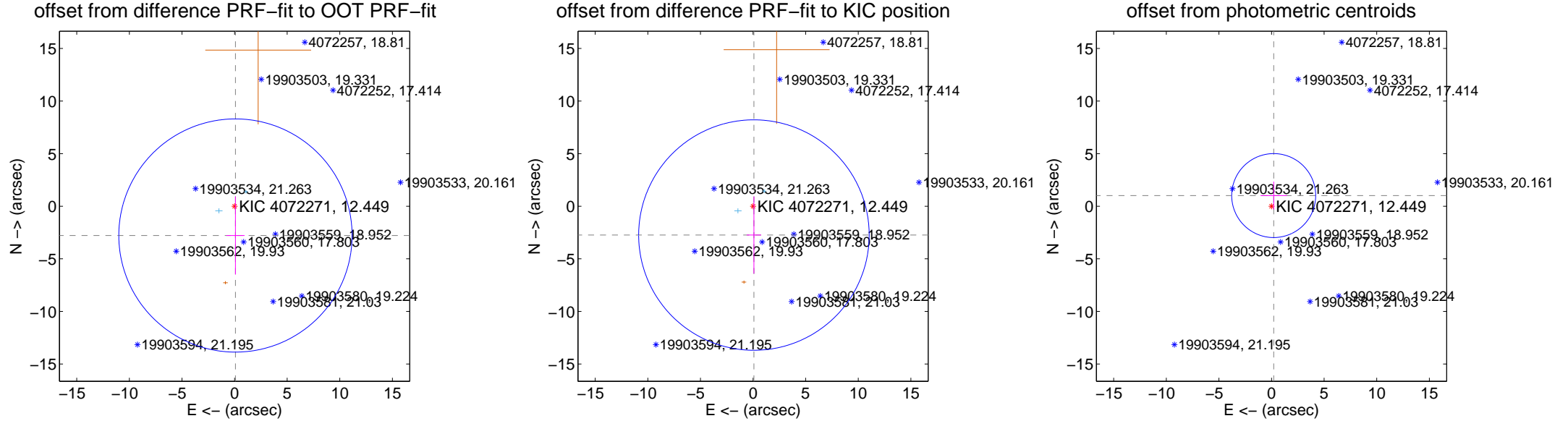
DV Centroid Data

Supplemental centroid analysis for 004072271-01. Kepler magnitude: 12.45. Transit SNR 6.73

There are 2 quarters with good PRF difference image offsets

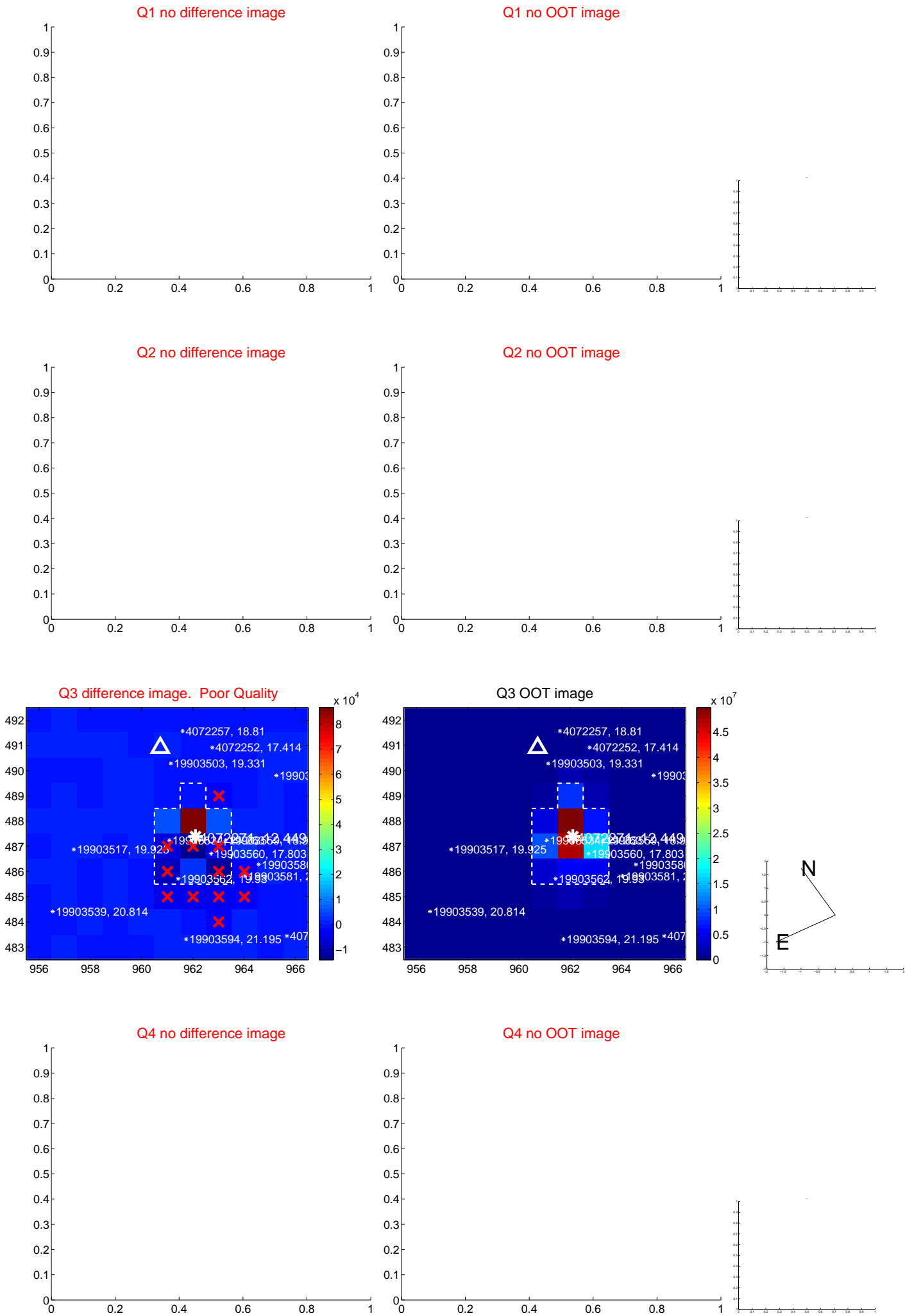
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.784 ± 3.695	0.75	-0.083 ± 0.870	-2.783 ± 3.718
PRF-fit source offset from KIC position	2.742 ± 3.651	0.75	-0.083 ± 0.682	-2.740 ± 3.669
photometric centroid source offset	1.03 ± 1.33	0.78	-0.21 ± 1.25	1.01 ± 1.33

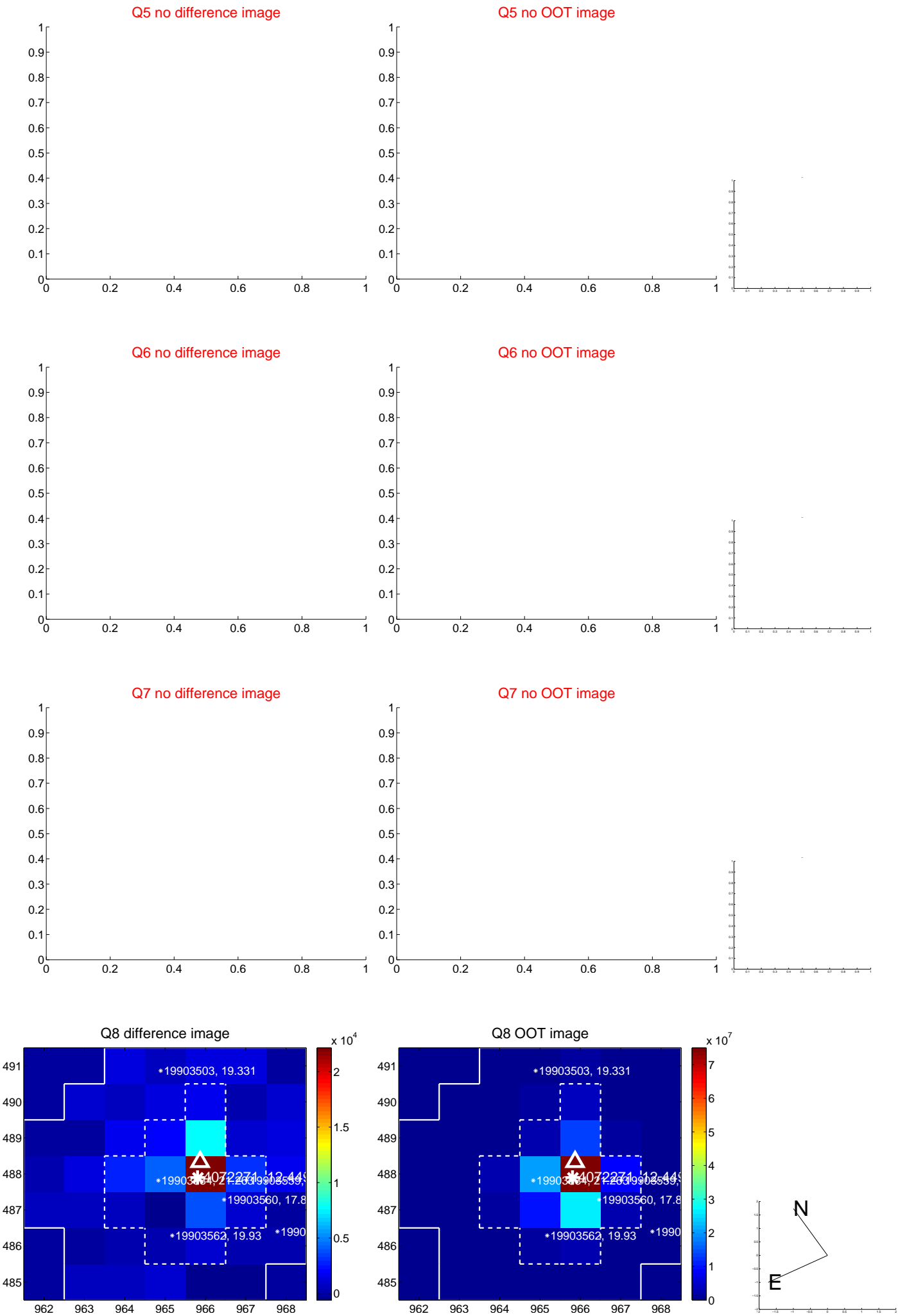


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



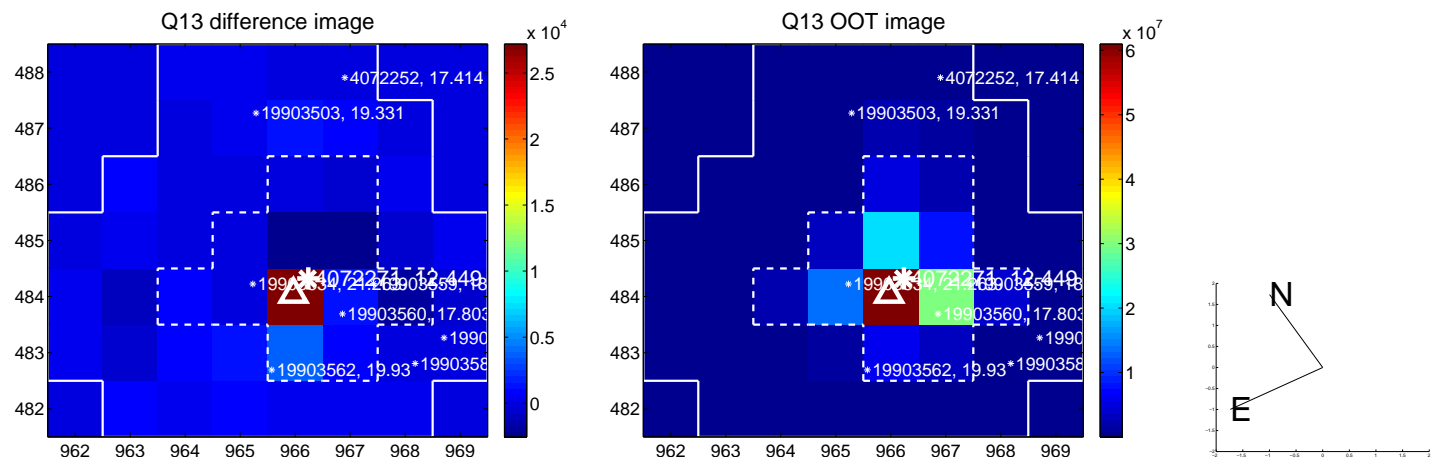
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



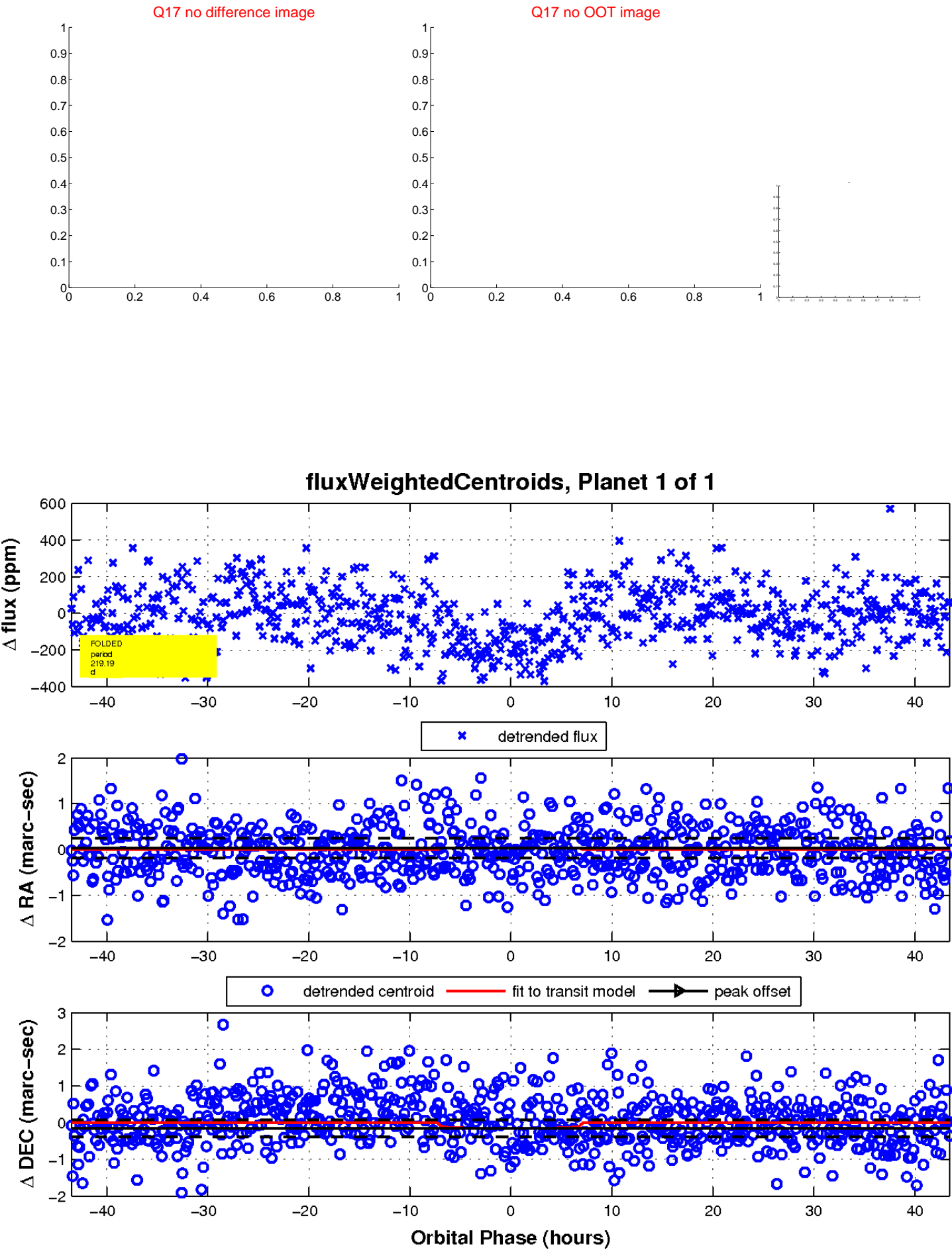
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

