

KIC 008686373

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})
008686373-01	OBS	4066.01	126.557117	145.693621	341.1	7.508	15.7	17.0	1.85	6501	4.28	17.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008686373-01	OBS	PC	0.99	0	0	0	0	NO_COMMENT

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

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

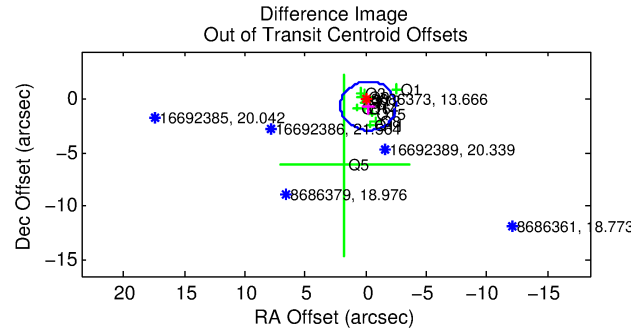
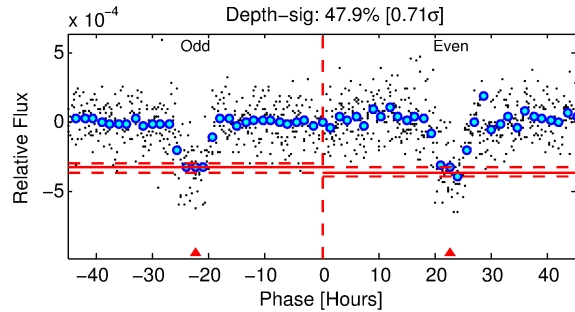
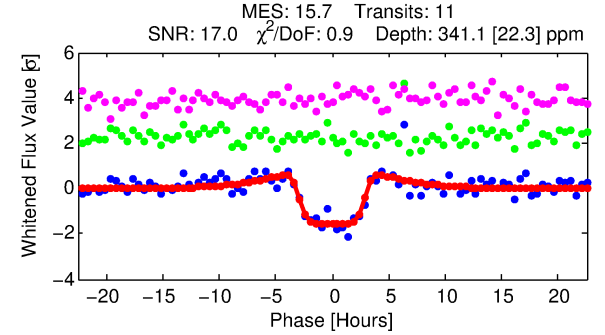
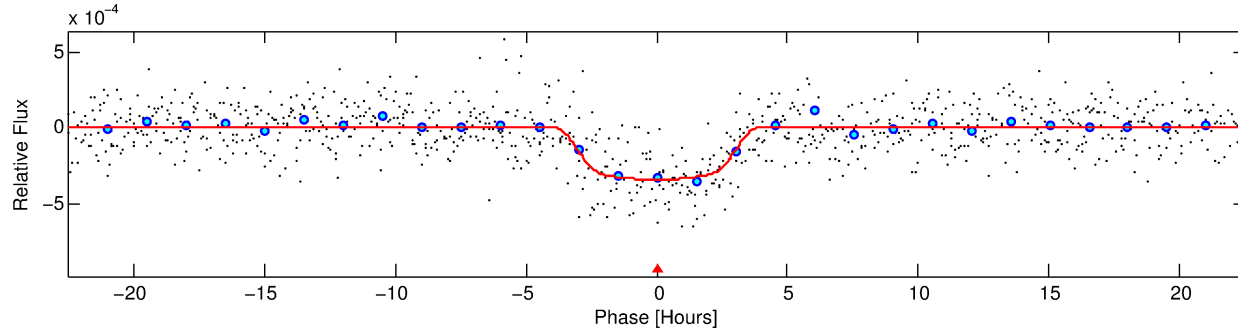
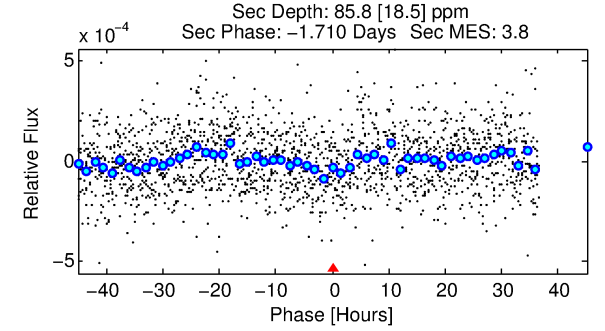
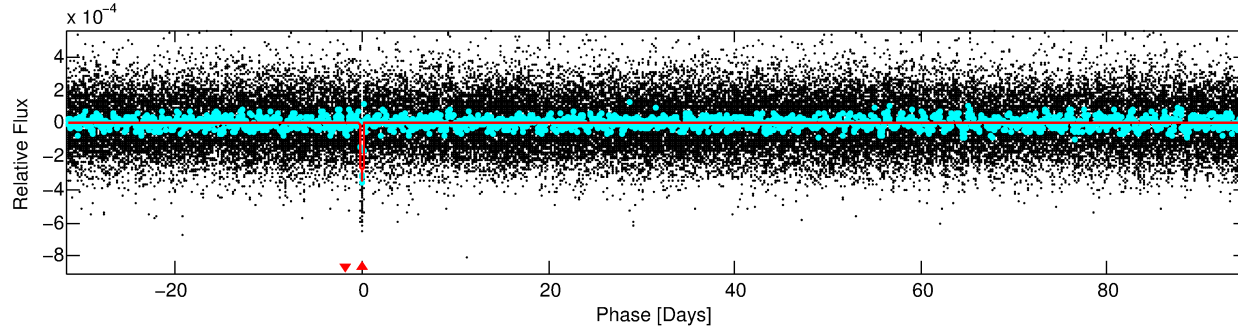
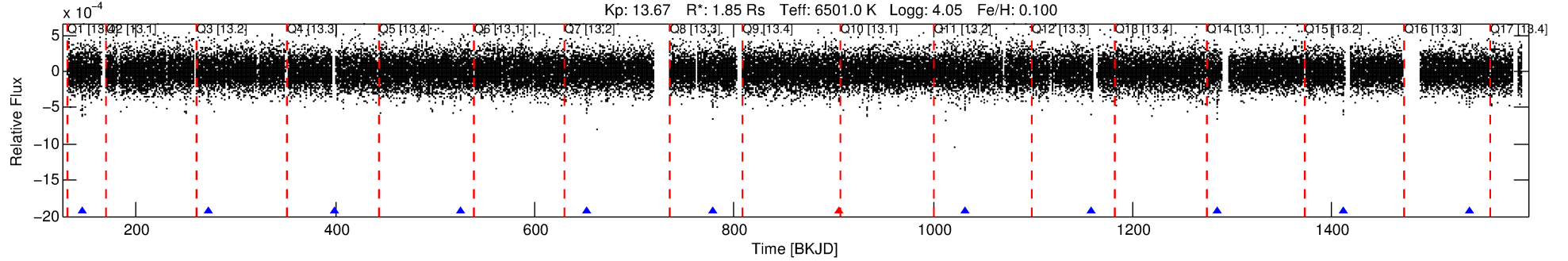
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008686373-01

No Significant Match Found

DV One-Page Summary

KIC: 8686373 Candidate: 1 of 1 Period: 126.557 d
KOI: K04066.01 Corr: 0.973



DV Fit Results:

Period = 126.55712 [0.00115] d
Epoch = 145.6936 [0.0078] BKJD
Rp/R* = 0.0212 [0.0010]
a/R* = 46.51 [7.30]
b = 0.96 [0.01]
Seff = 17.89 [7.84]
Teq = 524 [57] K
Rp = 4.28 [1.35] Re
a = 0.5546 [0.1515] AU
Ag = 792.93 [375.38] [2.11σ]
Teffp = 4302 [301] K [12.33σ]

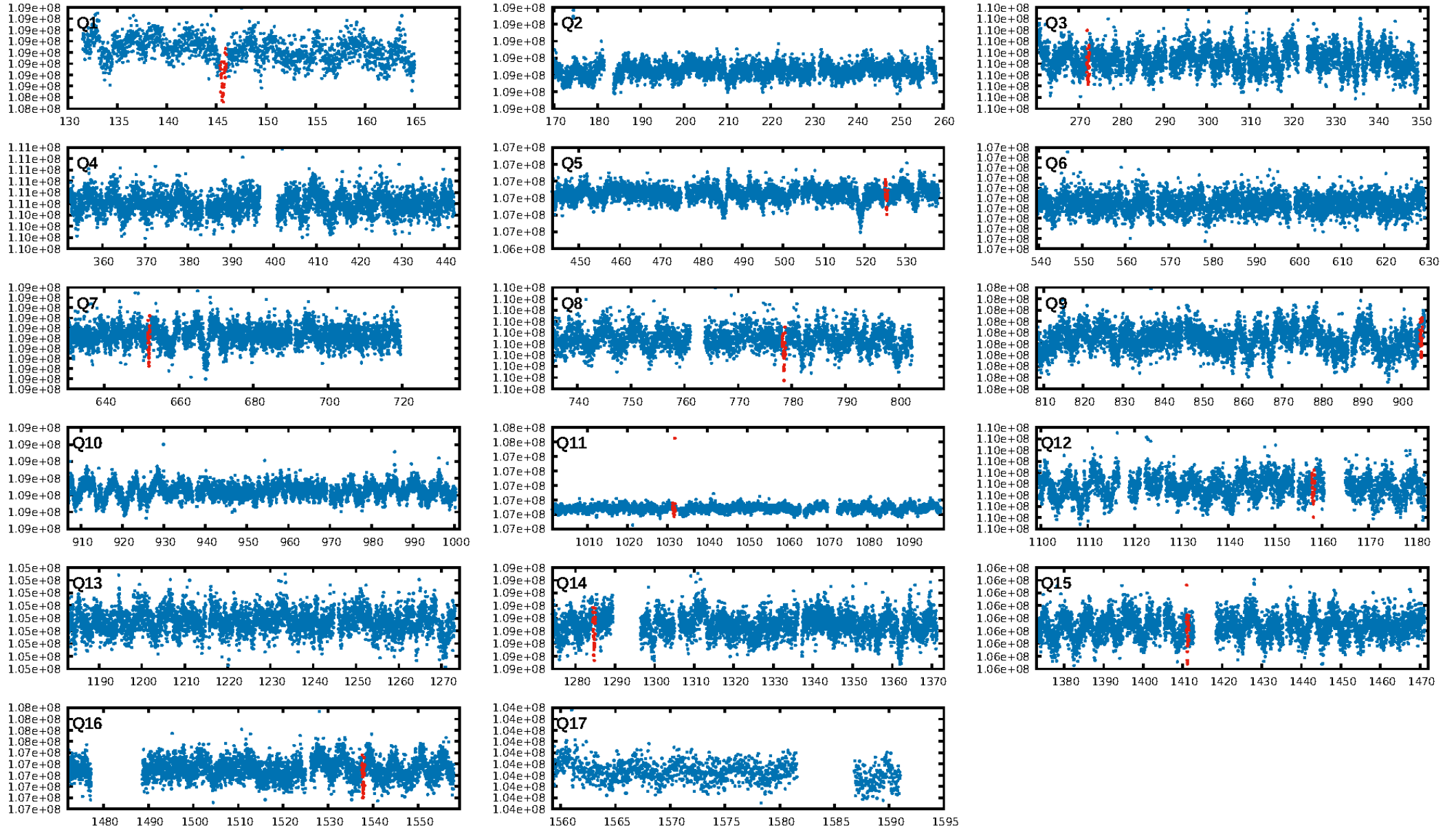
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 86.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.82e-50
RollingBand-fgt: 0.90 [9/10]
GhostDiagnostic-chr: 5.59
Centroid-sig: 1.3%
Centroid-so: 0.850 arcsec [1.43σ]
OotOffset-rm: 0.626 arcsec [0.82σ]
KicOffset-rm: 0.457 arcsec [0.60σ]
OotOffset-st: 1/4/3/3 [11]
KicOffset-st: 1/4/3/3 [11]
DiffImageQuality-fgm: 0.91 [10/11]
DiffImageOverlap-fno: 1.00 [11/11]

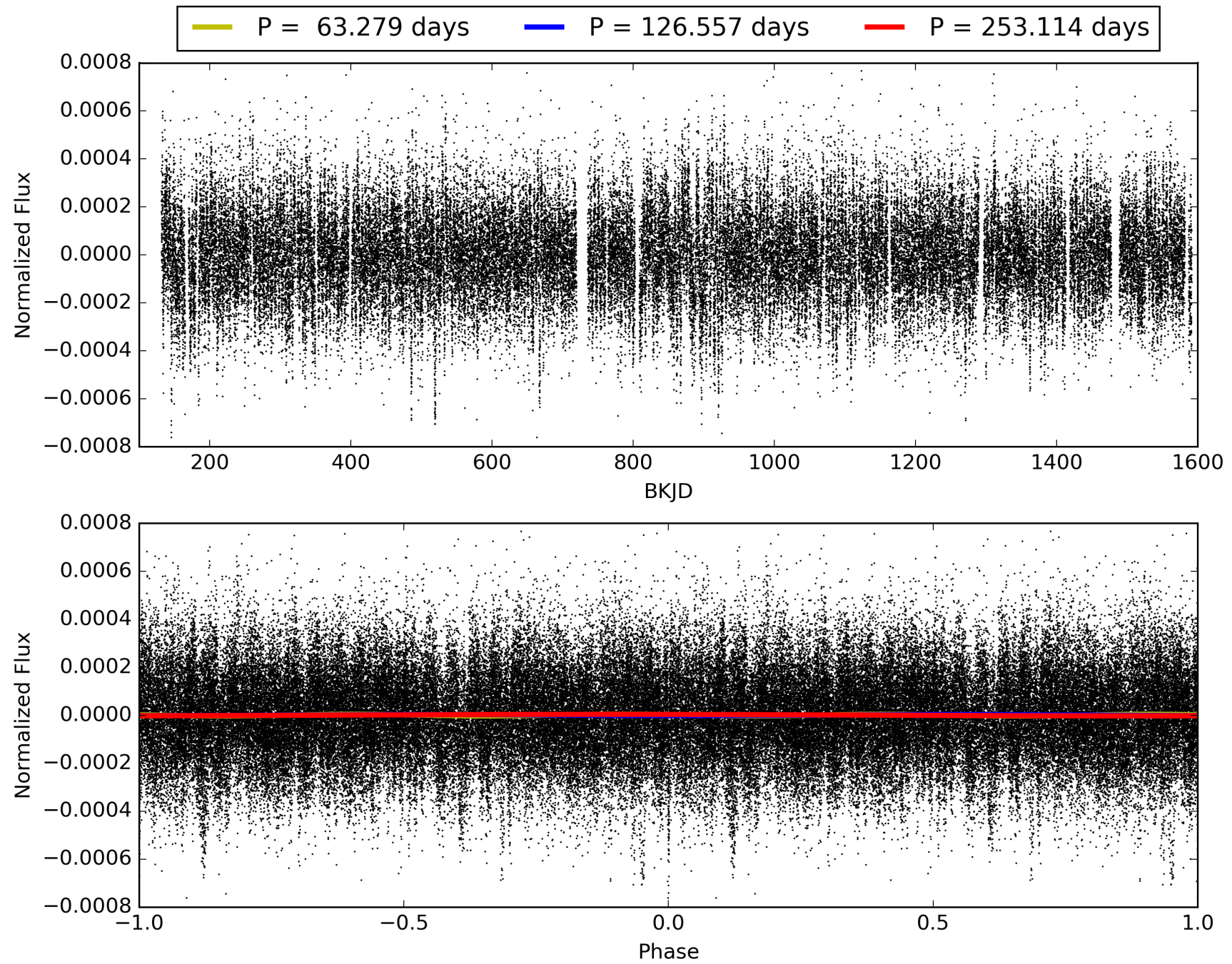
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:07:45 Z

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

TCE 008686373-01, PDC Light Curves

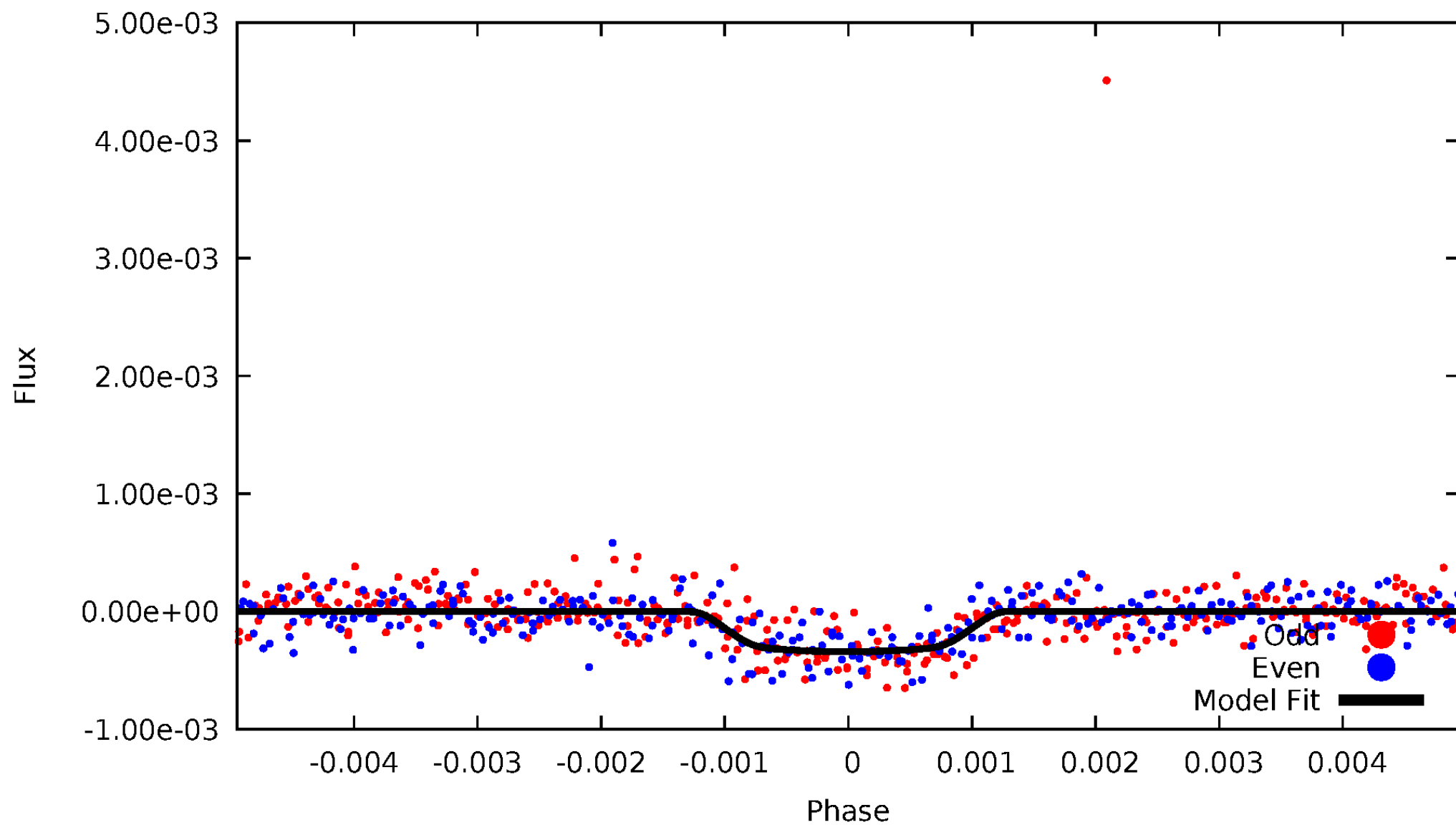


TCE 008686373-01



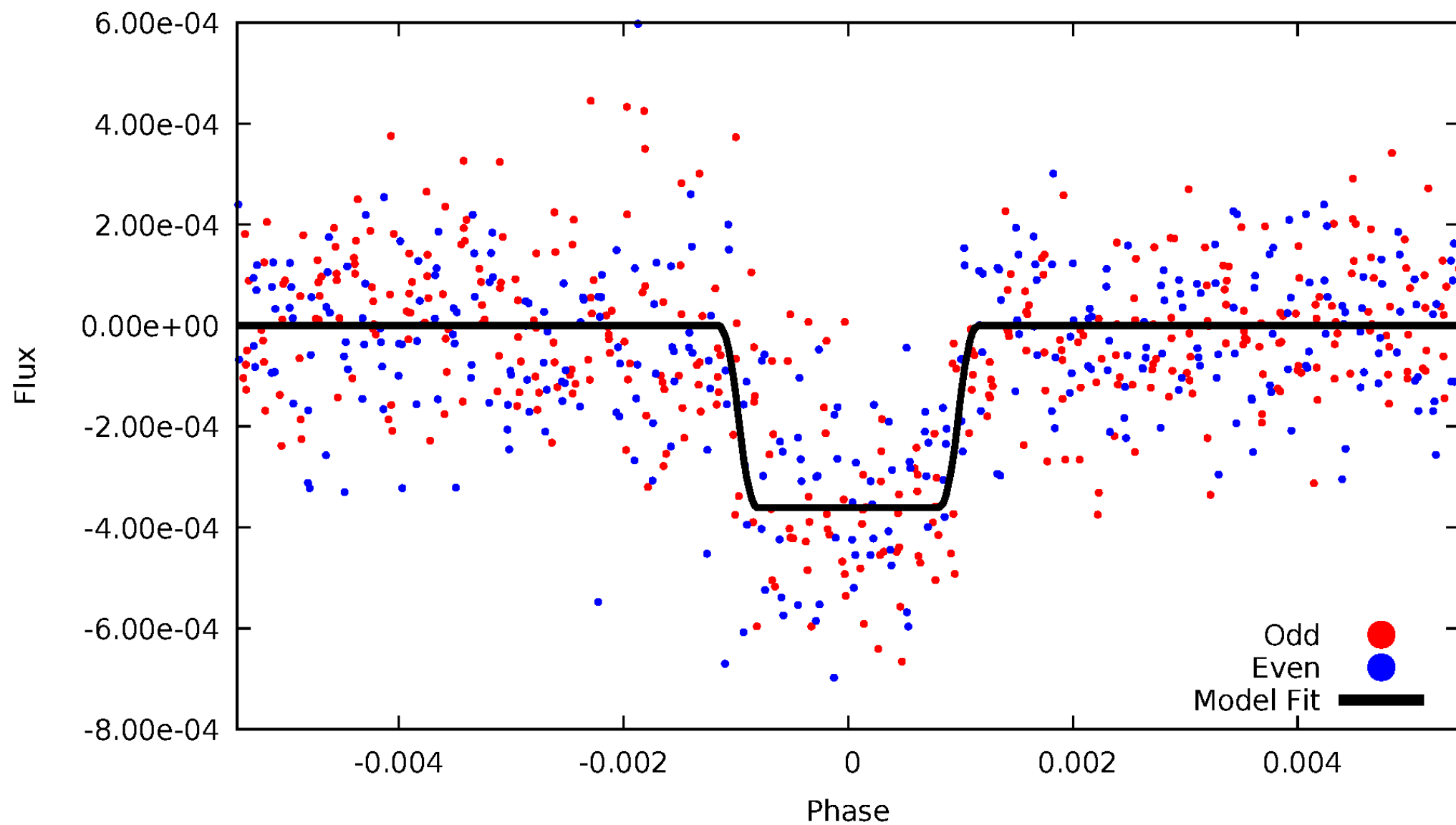
DV Odd/Even

TCE 008686373-01

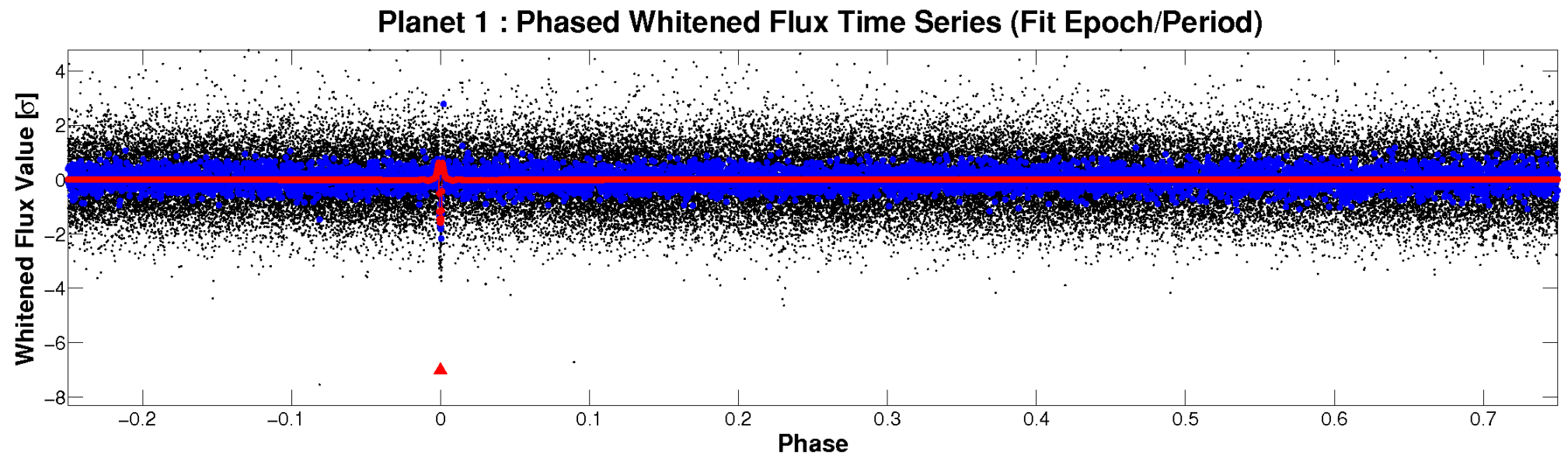
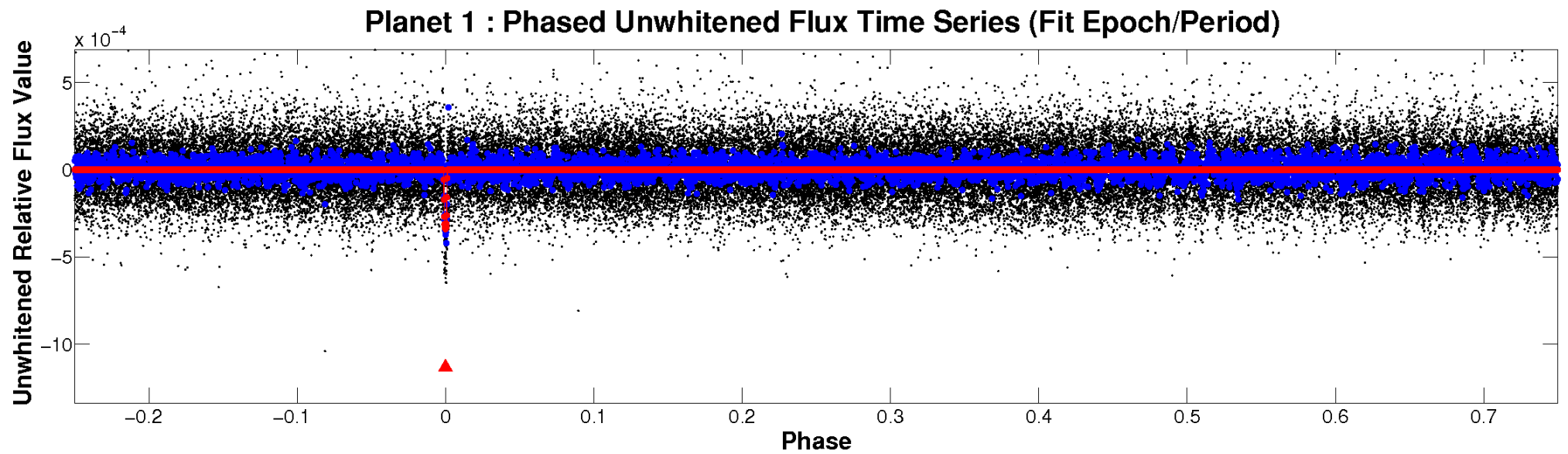


ALT Odd/Even

TCE 008686373-01

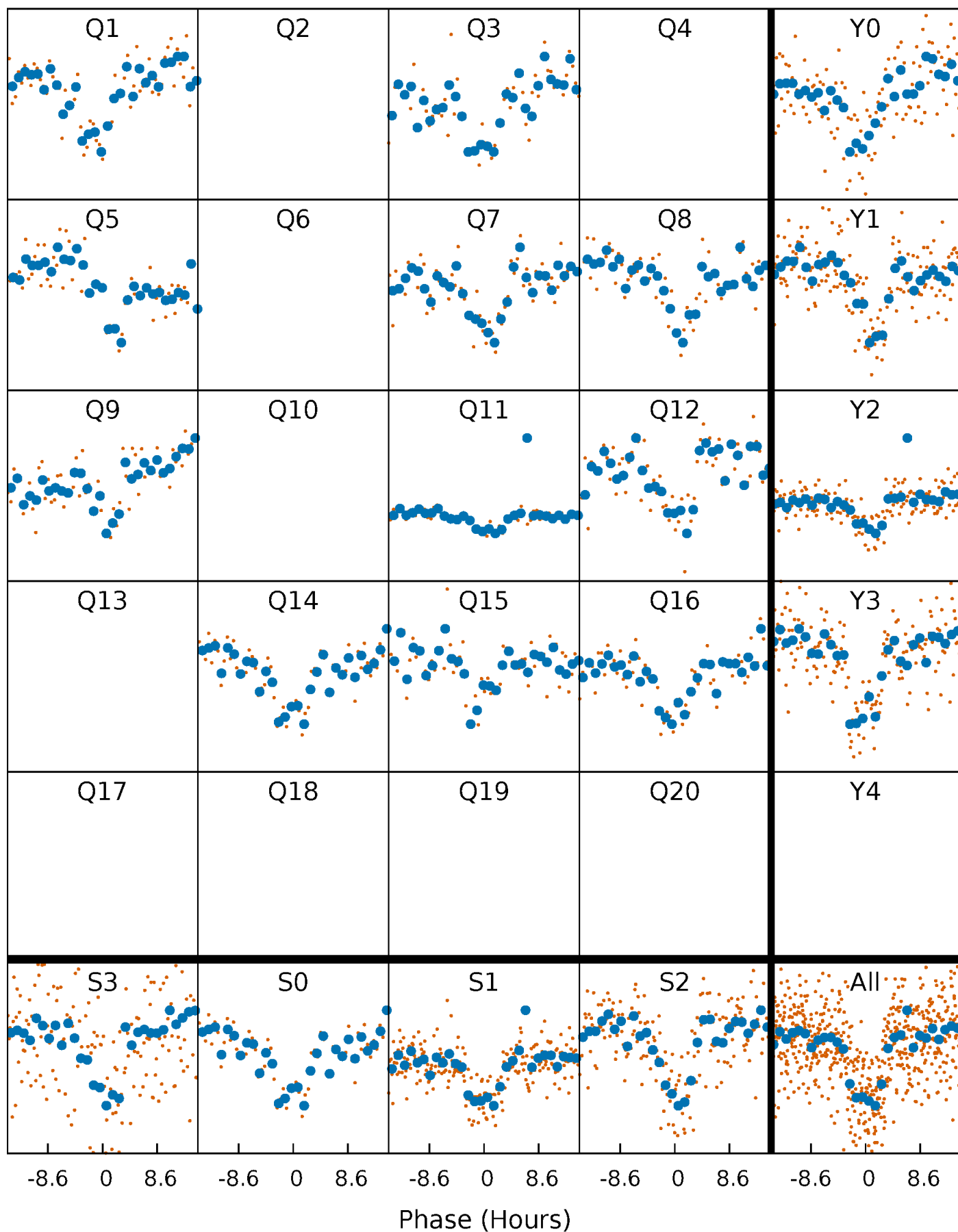


Non-Whitened Vs. Whitened Light Curve



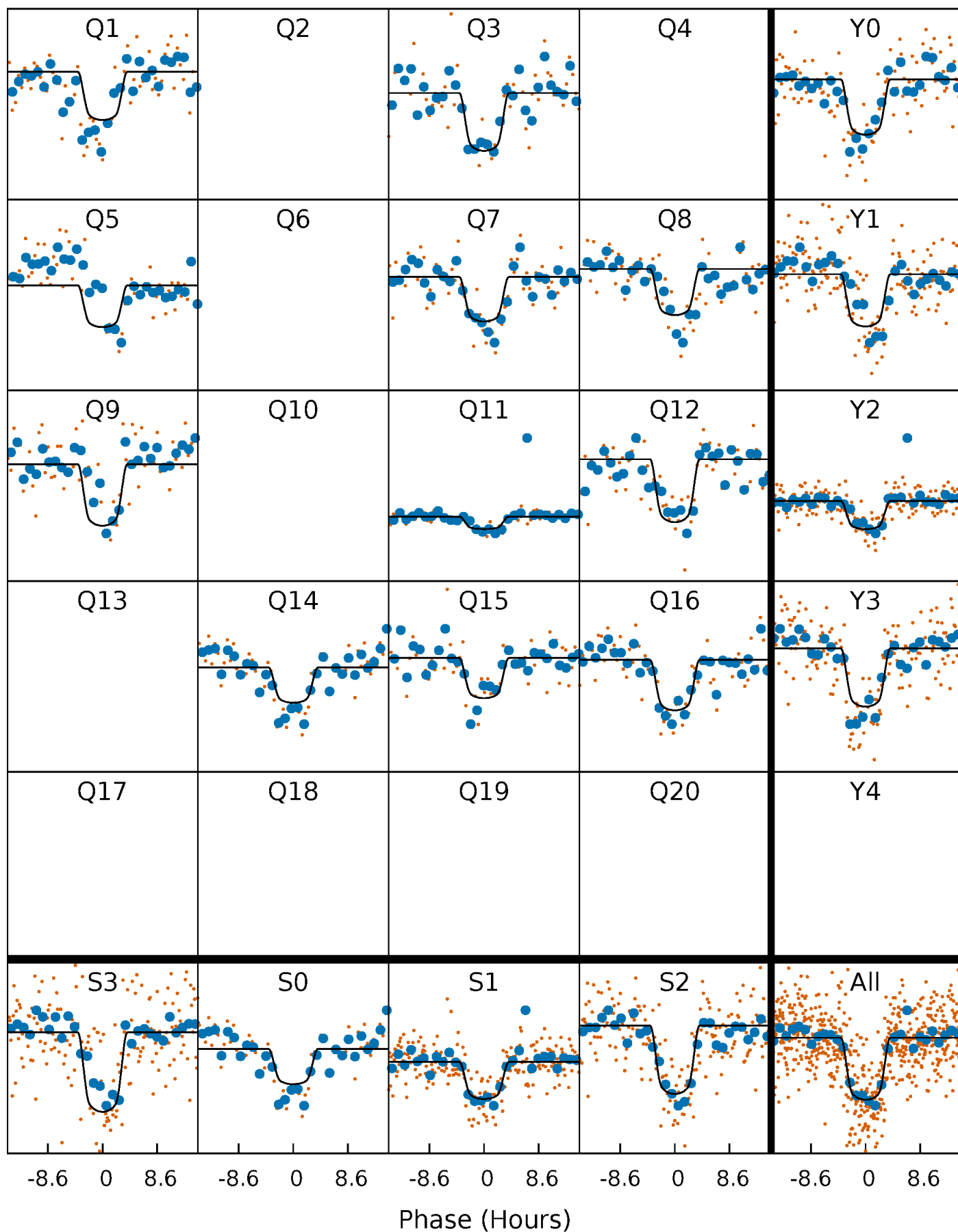
PDC Quarter-Phased Transit Curves

TCE 008686373-01 P=126.557117 Days $T_0=145.693621$ (BKJD)



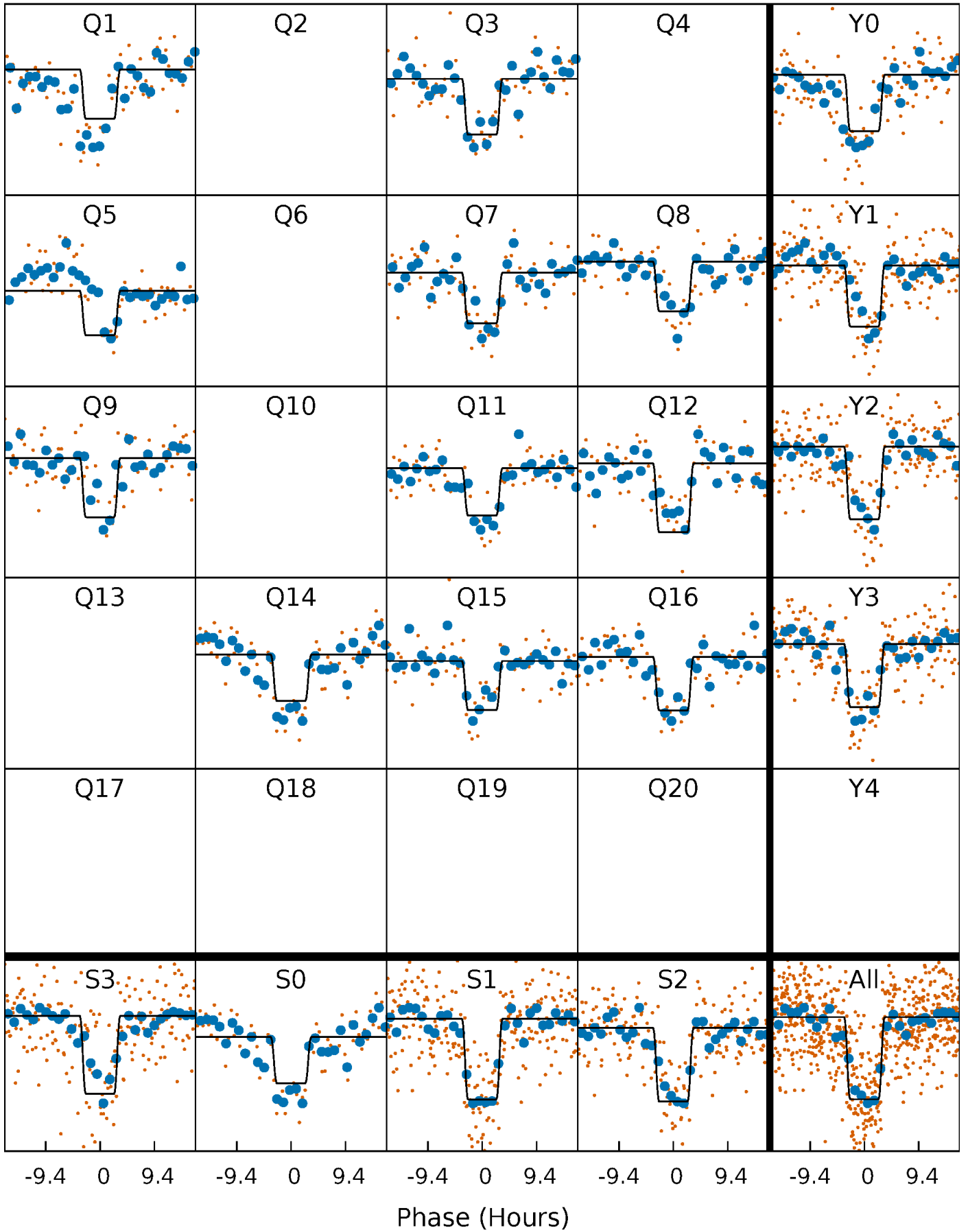
DV Quarter-Phased Transit Curves

TCE 008686373-01 P=126.557117 Days $T_0=145.693621$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

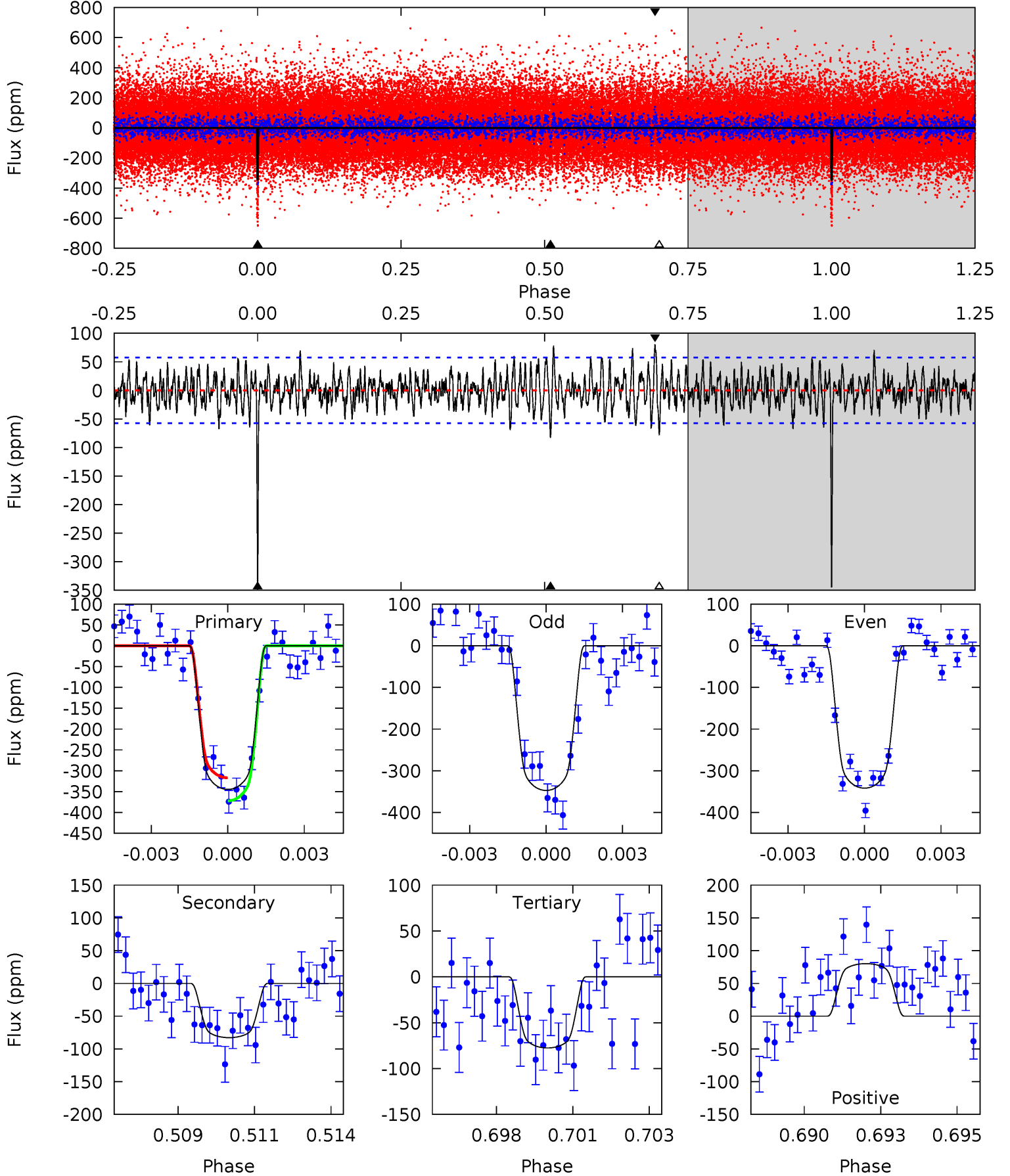
TCE 008686373-01 P=126.555021 Days $T_0=145.709838$ (BKJD)



DV Model-Shift Uniqueness Test

008686373-01, $P = 126.557117$ Days, $E = 19.136504$ Days

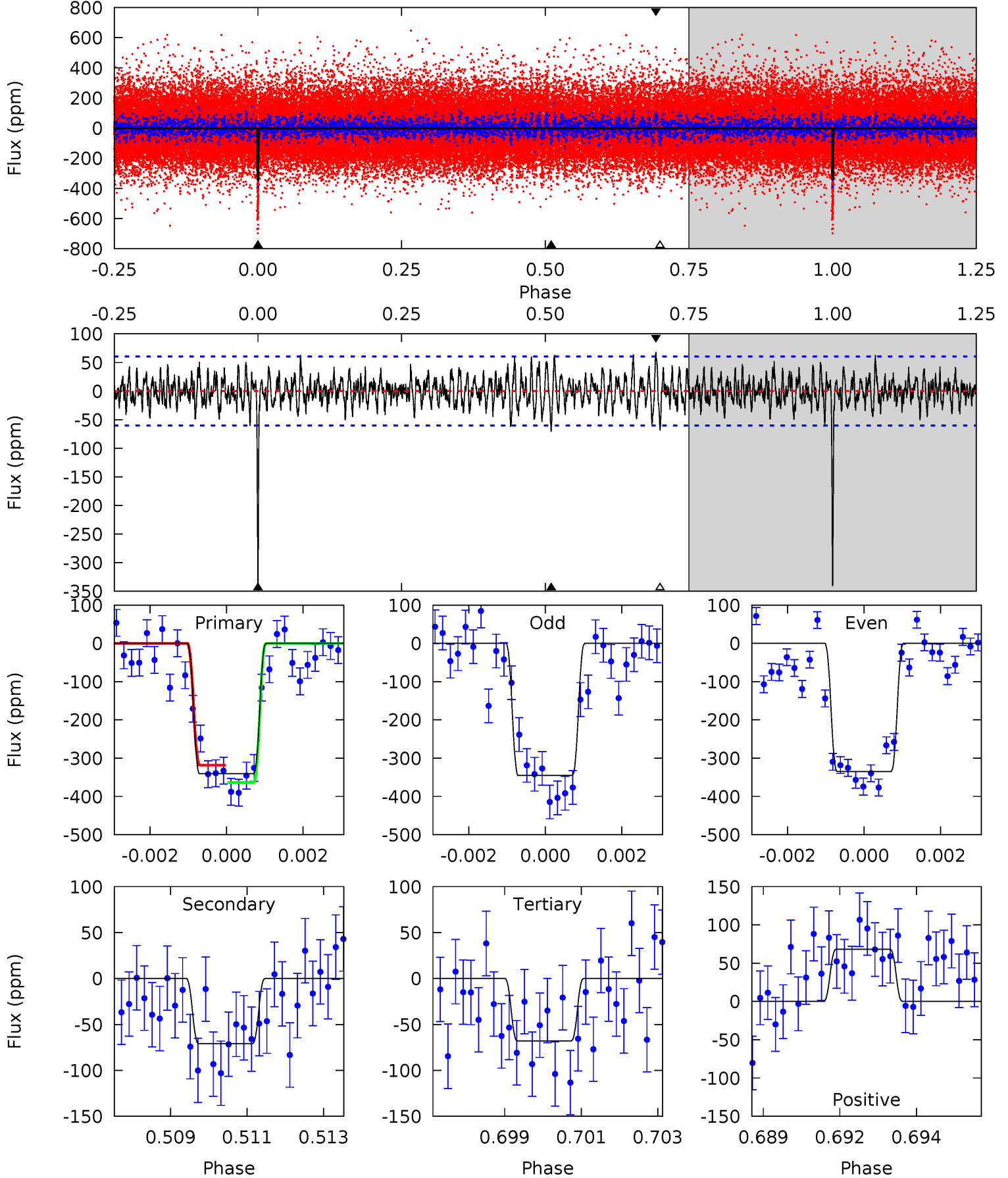
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.6	7.60	7.12	7.36	5.28	3.01	2.17	24.5	24.3	0.49	0.25	0.25	0.95	0.19	2.54



Alt Model-Shift Uniqueness Test

008686373-01, P = 126.555021 Days, E = 19.154817 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.9	6.21	5.97	5.99	5.30	3.05	1.82	23.9	23.9	0.24	0.22	0.46	1.00	0.17	2.00



Stellar Parameters For KIC 008686373

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6501^{+179}_{-247}	$4.054^{+0.231}_{-0.189}$	$0.100^{+0.250}_{-0.300}$	$1.854^{+0.578}_{-0.578}$	$1.419^{+0.210}_{-0.256}$	$0.314^{+0.509}_{-0.148}$
	+3%/-4%	+6%/-5%	+250%/-300%	+31%/-31%	+15%/-18%	+162%/-47%
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 008686373-01 / KOI 4066.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-83 ± 11	$4.33^{+0.75}_{-0.75}$	732^{+59}_{-63}	4431^{+191}_{-167}	754^{+343}_{-220}
Alt.	-71 ± 11	$3.82^{+0.74}_{-0.68}$	731^{+64}_{-67}	4497^{+203}_{-206}	814^{+396}_{-264}

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

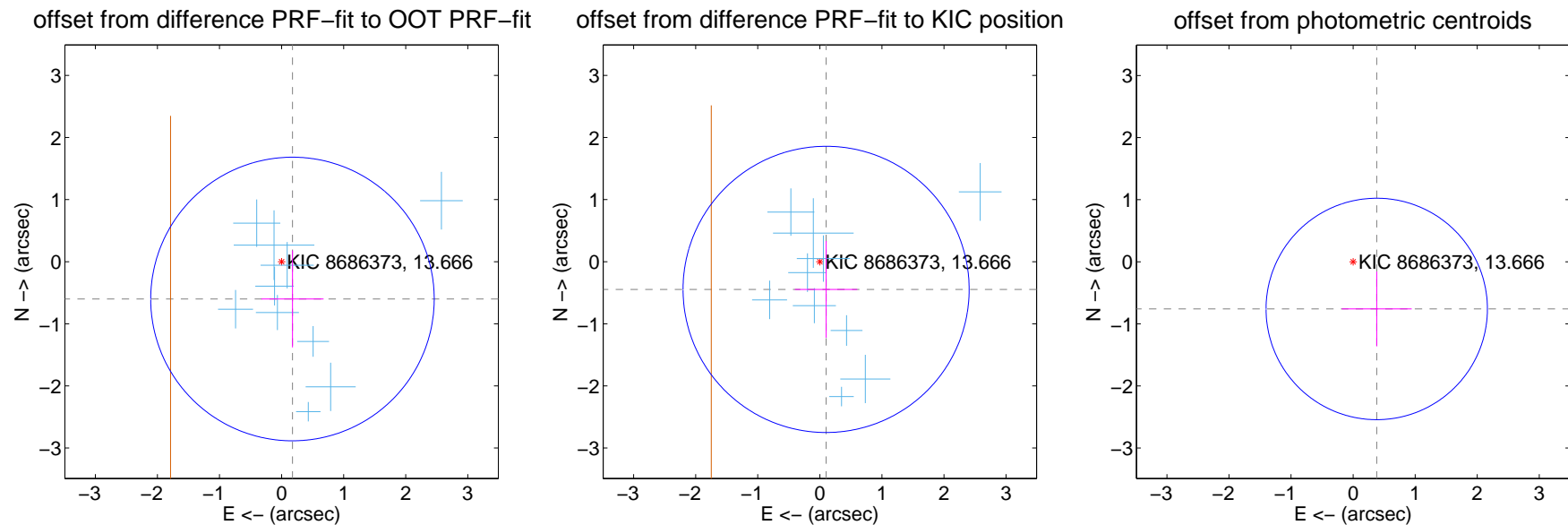
DV Centroid Data

Supplemental centroid analysis for 008686373-01. Kepler magnitude: 13.67. Transit SNR 16.97

There are 10 quarters with good PRF difference image offsets

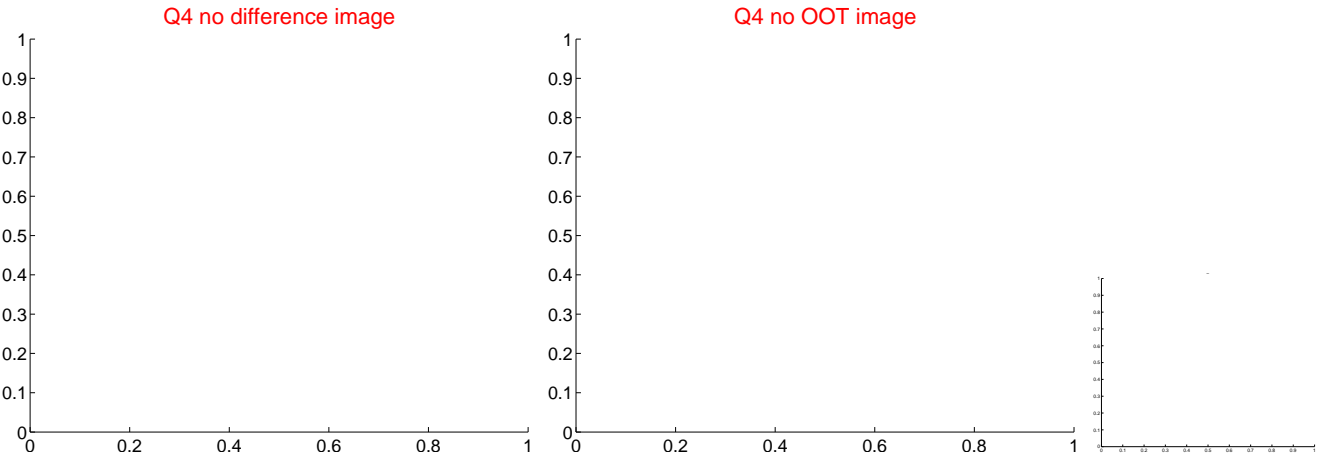
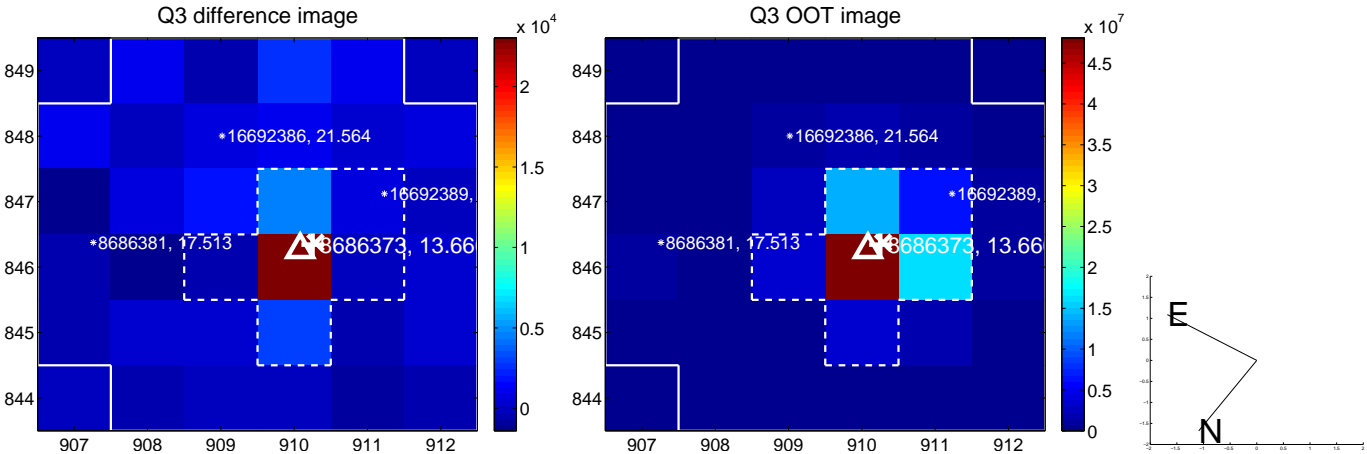
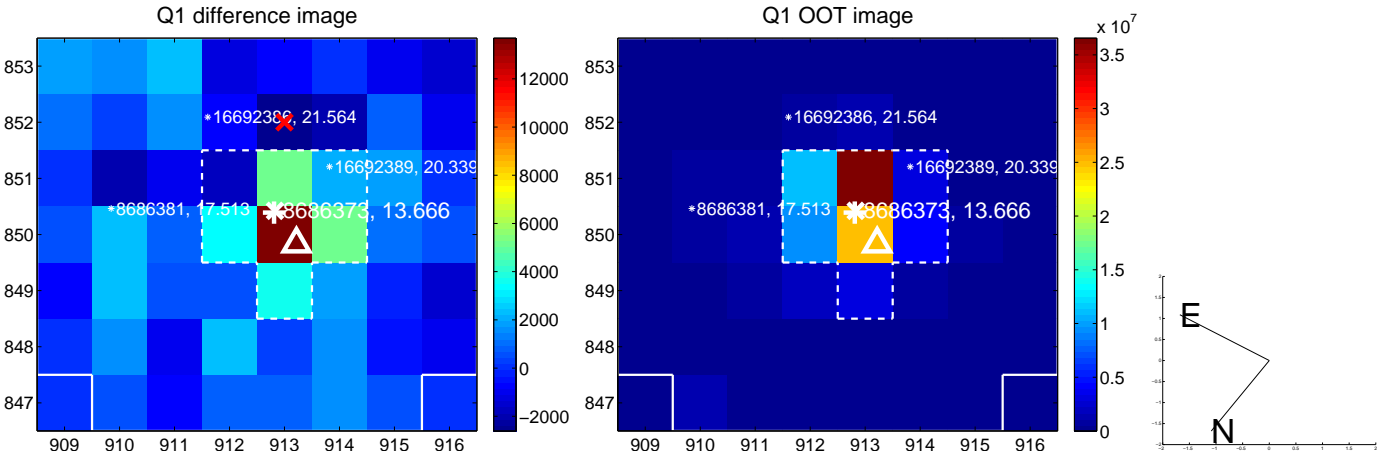
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.626 ± 0.761	0.82	-0.175 ± 0.501	-0.601 ± 0.779
PRF-fit source offset from KIC position	0.457 ± 0.768	0.60	-0.101 ± 0.501	-0.446 ± 0.779
photometric centroid source offset	0.85 ± 0.59	1.43	-0.38 ± 0.56	-0.76 ± 0.60

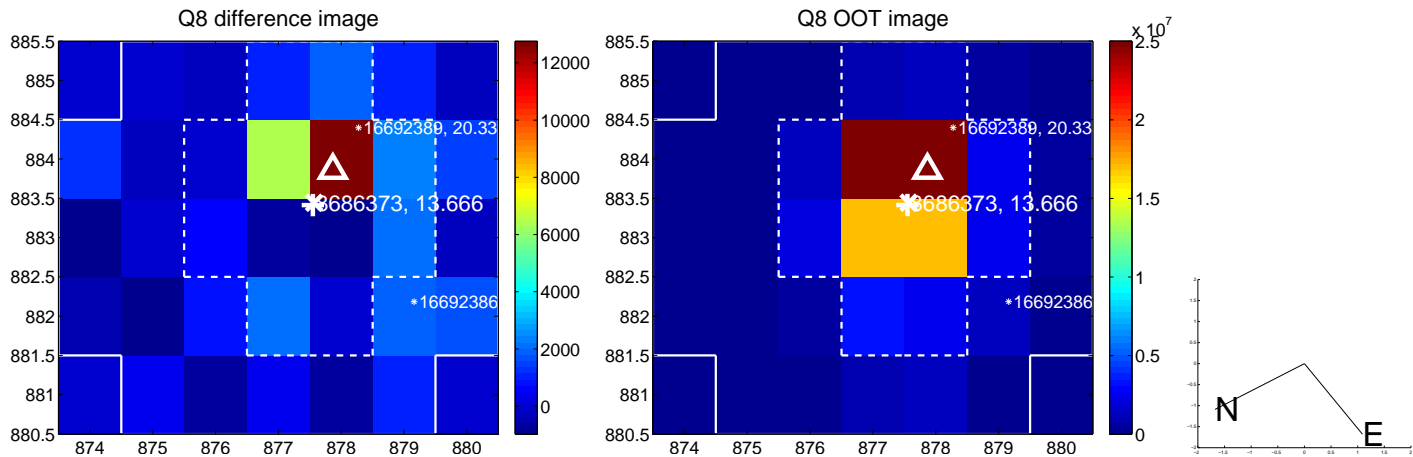
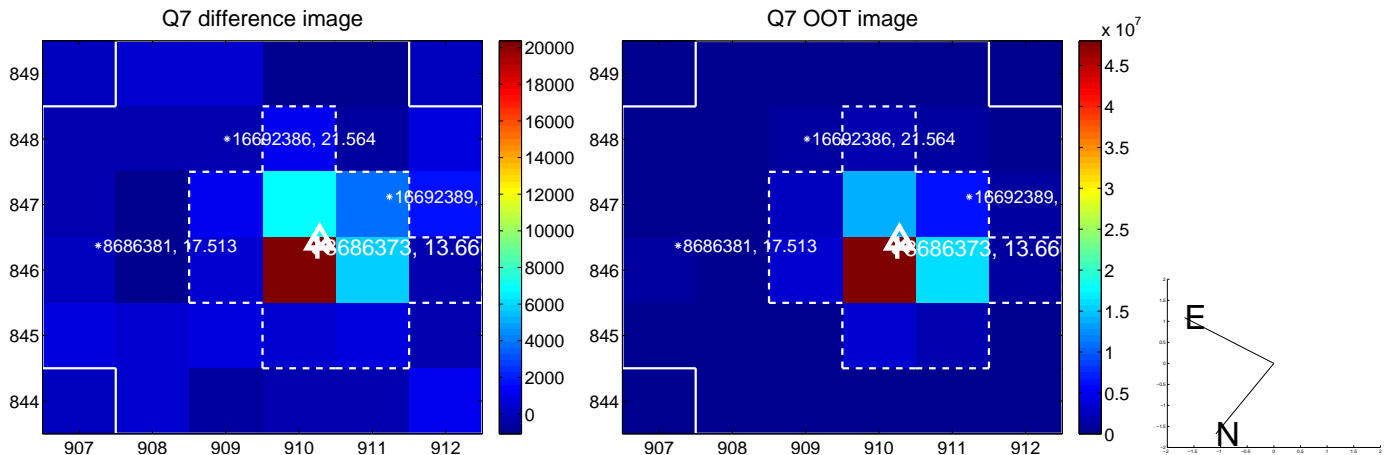
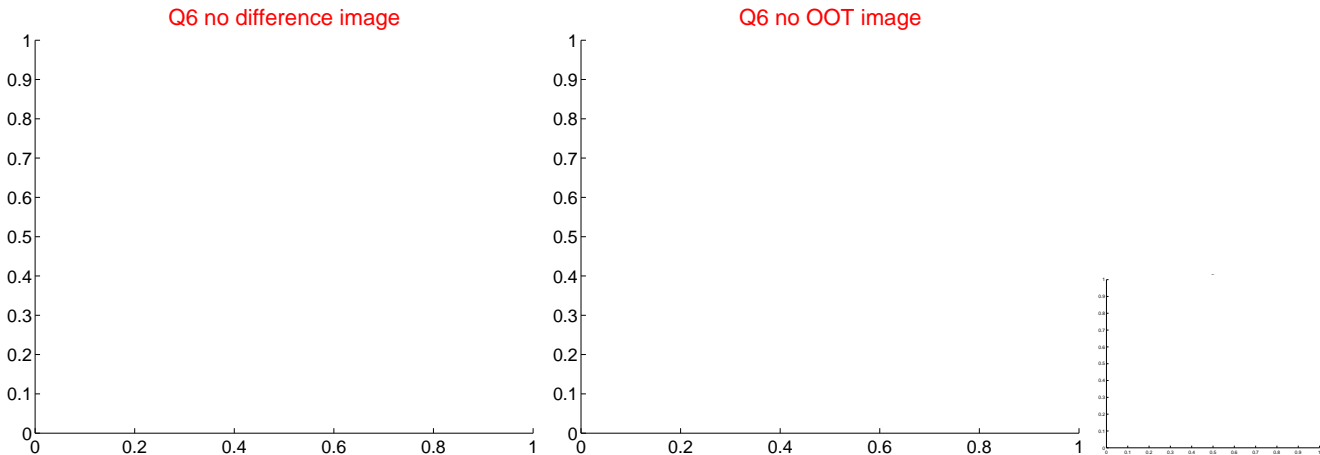
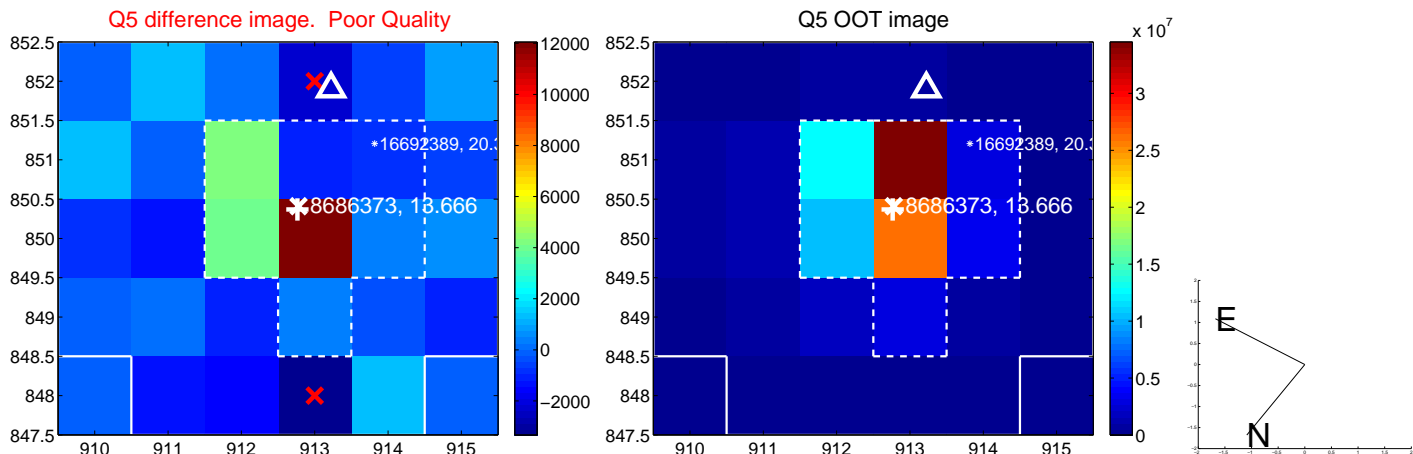


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

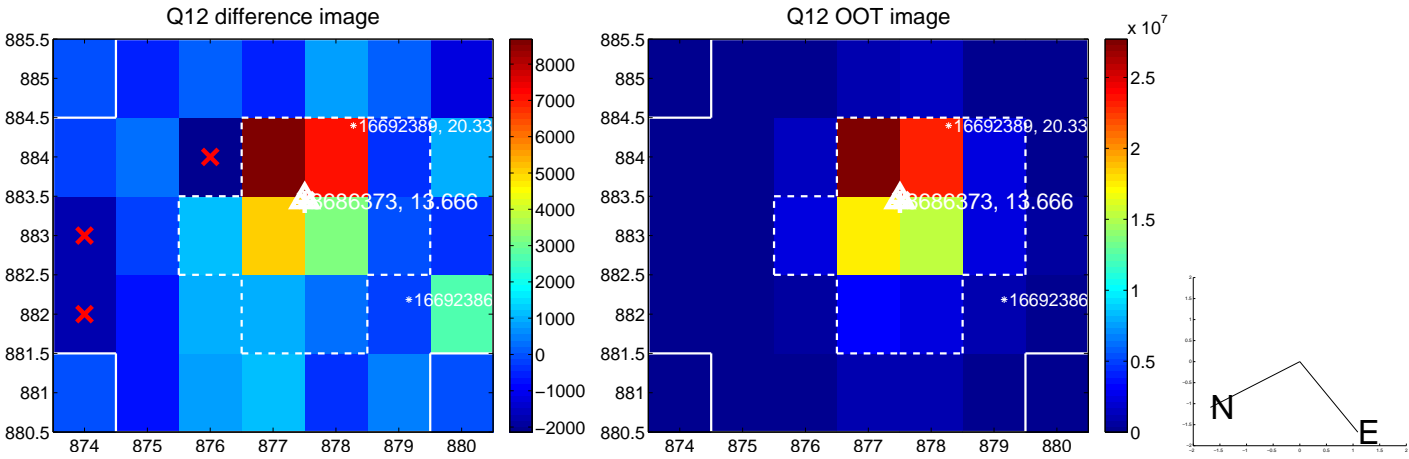
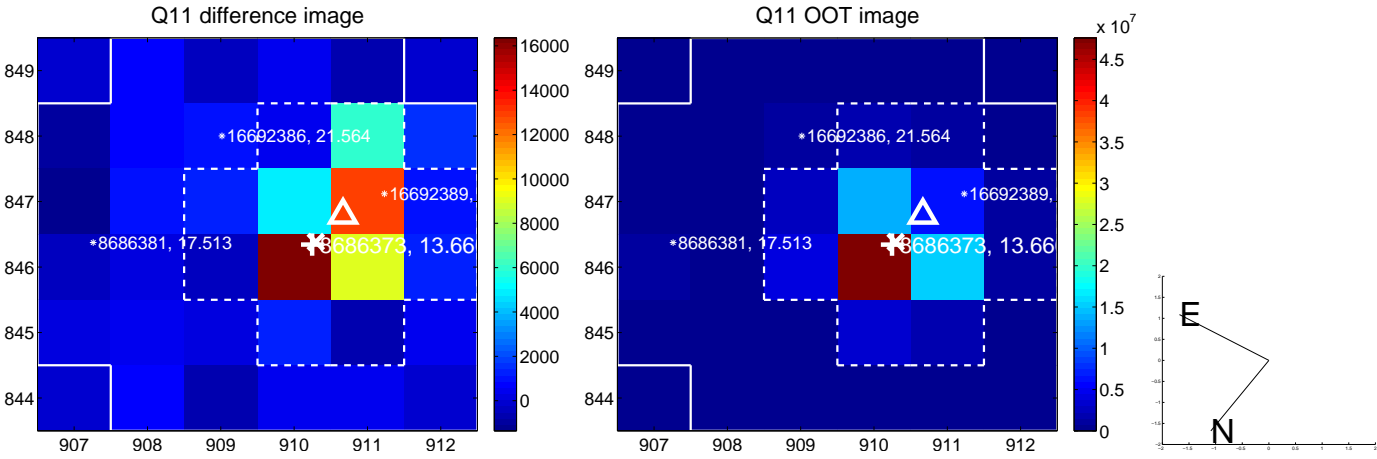
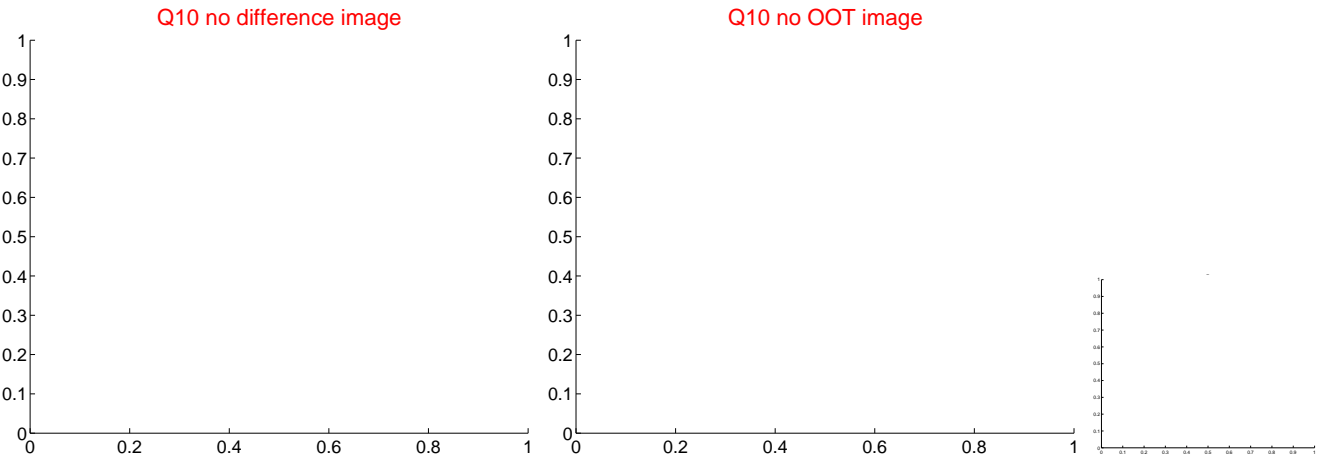
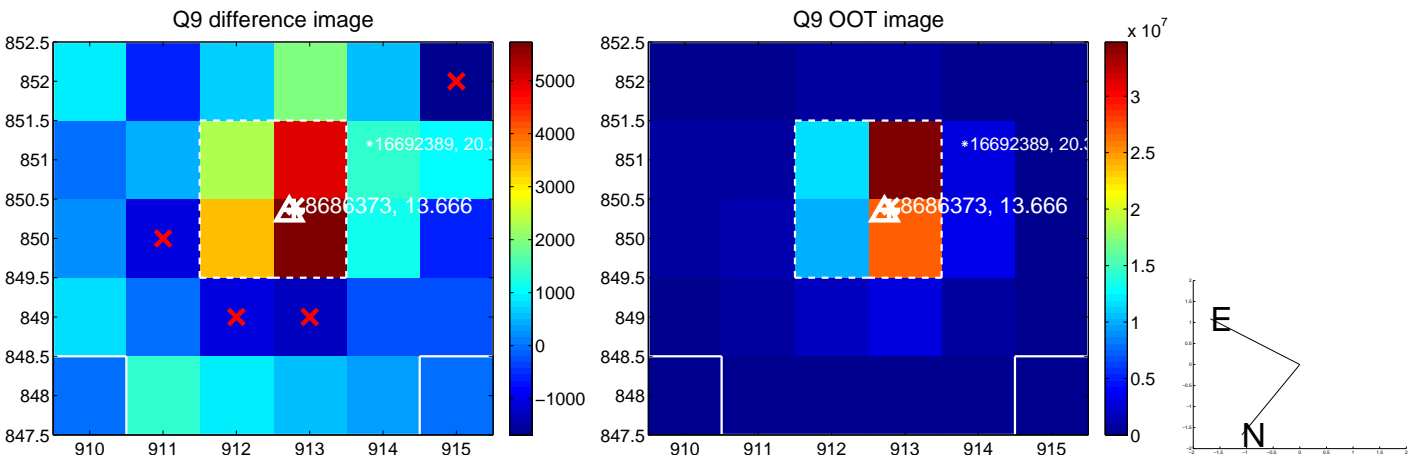
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



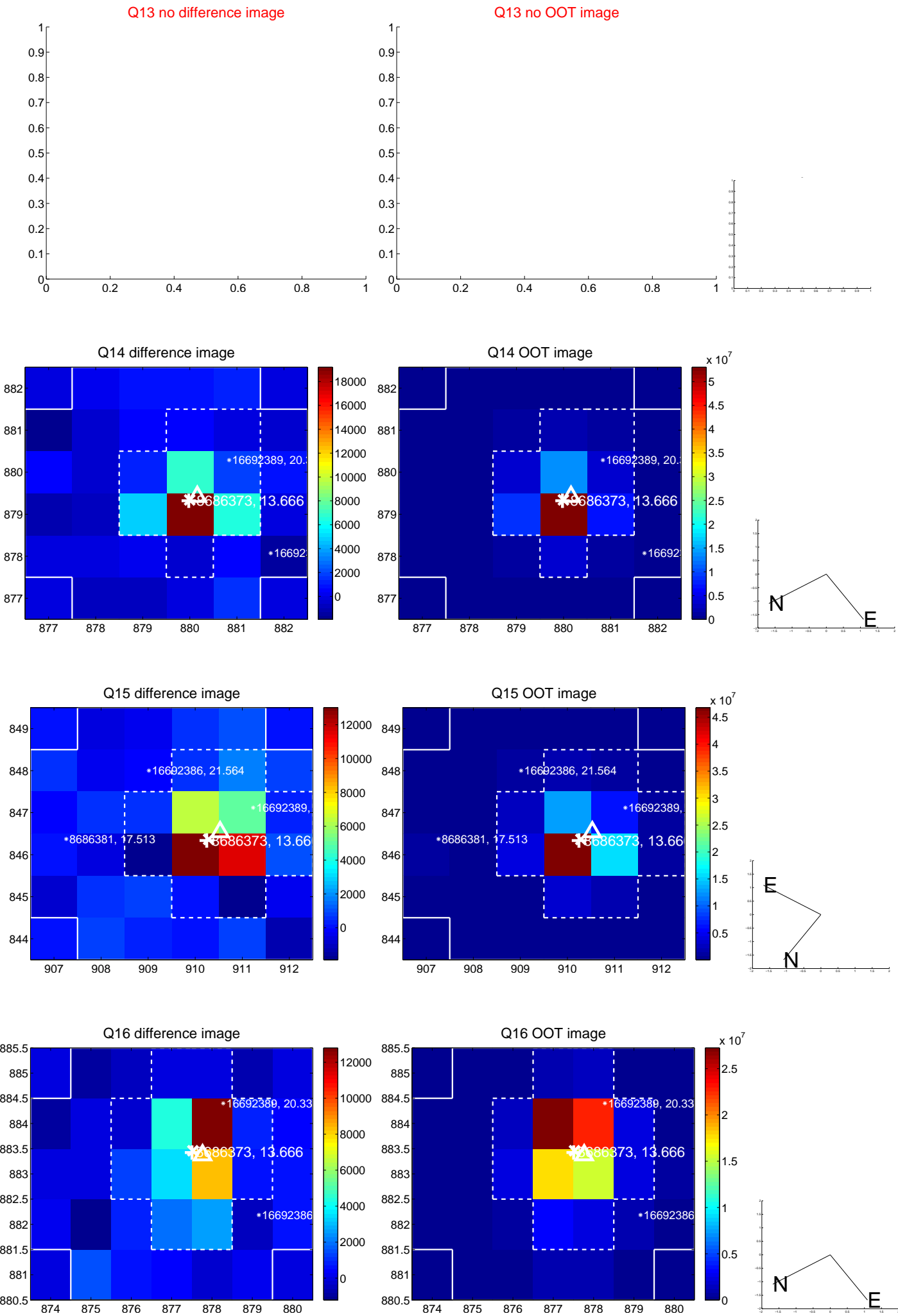
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



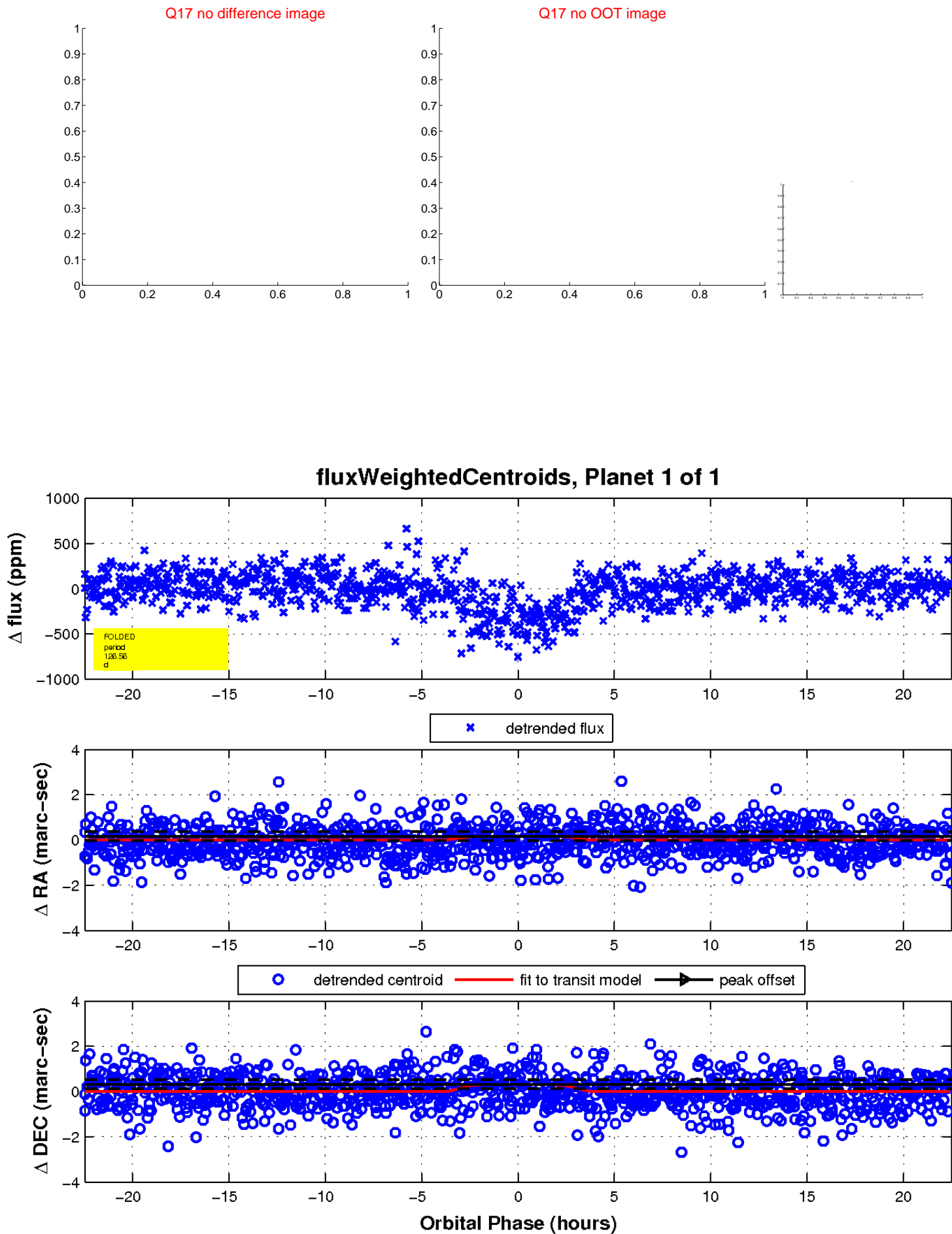
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UKIRT Image

Declination

