

KIC 010810859

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})
010810859-01	OBS	4801.01	82.401043	140.656658	455.3	6.391	8.4	9.3	1.00	5886	2.27	7.43

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010810859-01	OBS	PC	0.41	0	0	0	0	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.

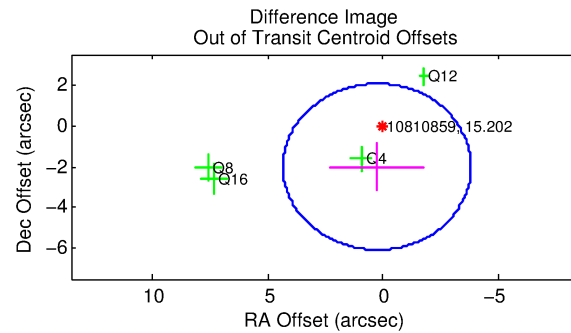
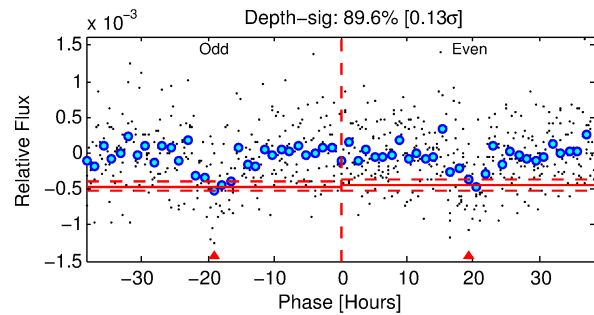
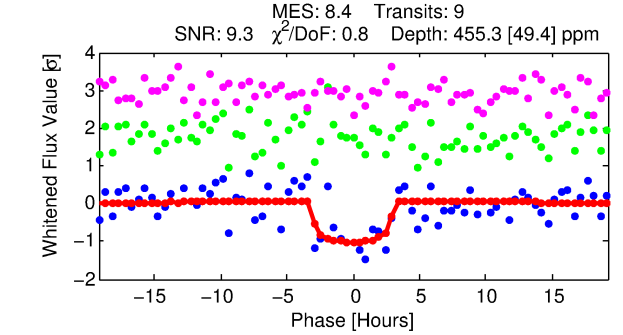
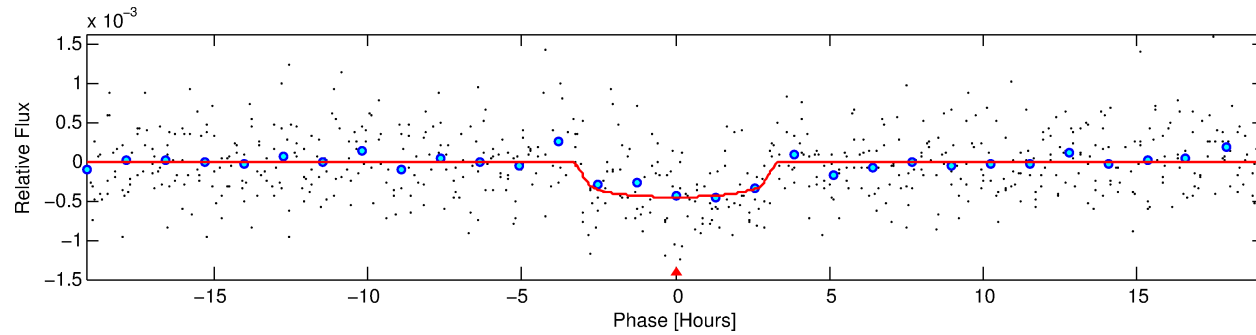
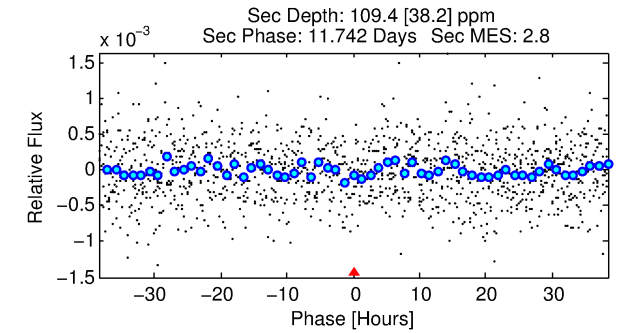
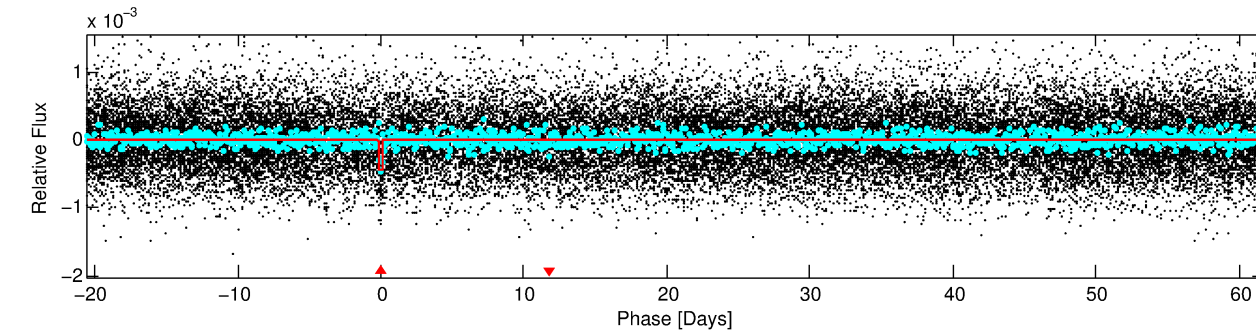
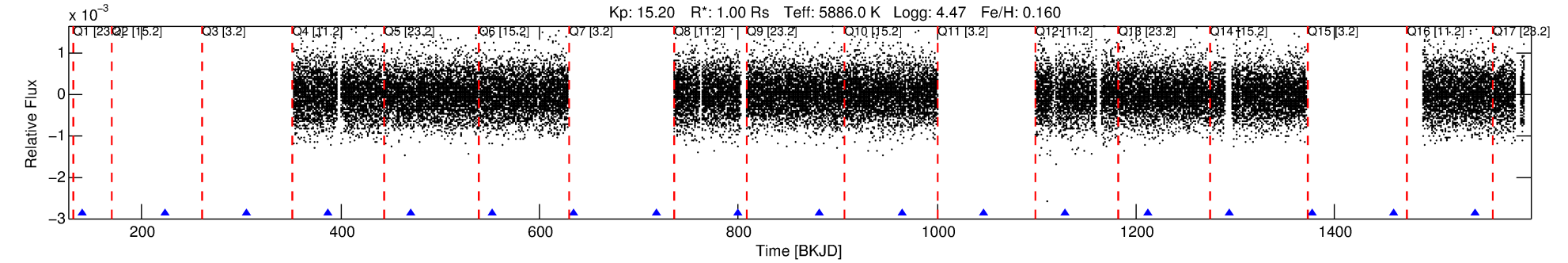
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010810859-01

No Significant Match Found

DV One-Page Summary

KIC: 10810859 Candidate: 1 of 1 Period: 82.401 d
KOI: K04801.01 Corr: 0.996



DV Fit Results:

Period = 82.40104 [0.00163] d
Epoch = 140.6567 [0.0160] BKJD
Rp/R* = 0.0208 [0.0180]
a/R* = 74.15 [284.33]
b = 0.69 [2.95]
Seff = 7.43 [1.72]
Teff = 421 [24] K
Rp = 2.27 [2.00] Re
a = 0.3805 [0.0557] AU
Ag = 1689.98 [3006.02] [0.56σ]
Teffp = 4173 [1842] K [2.04σ]

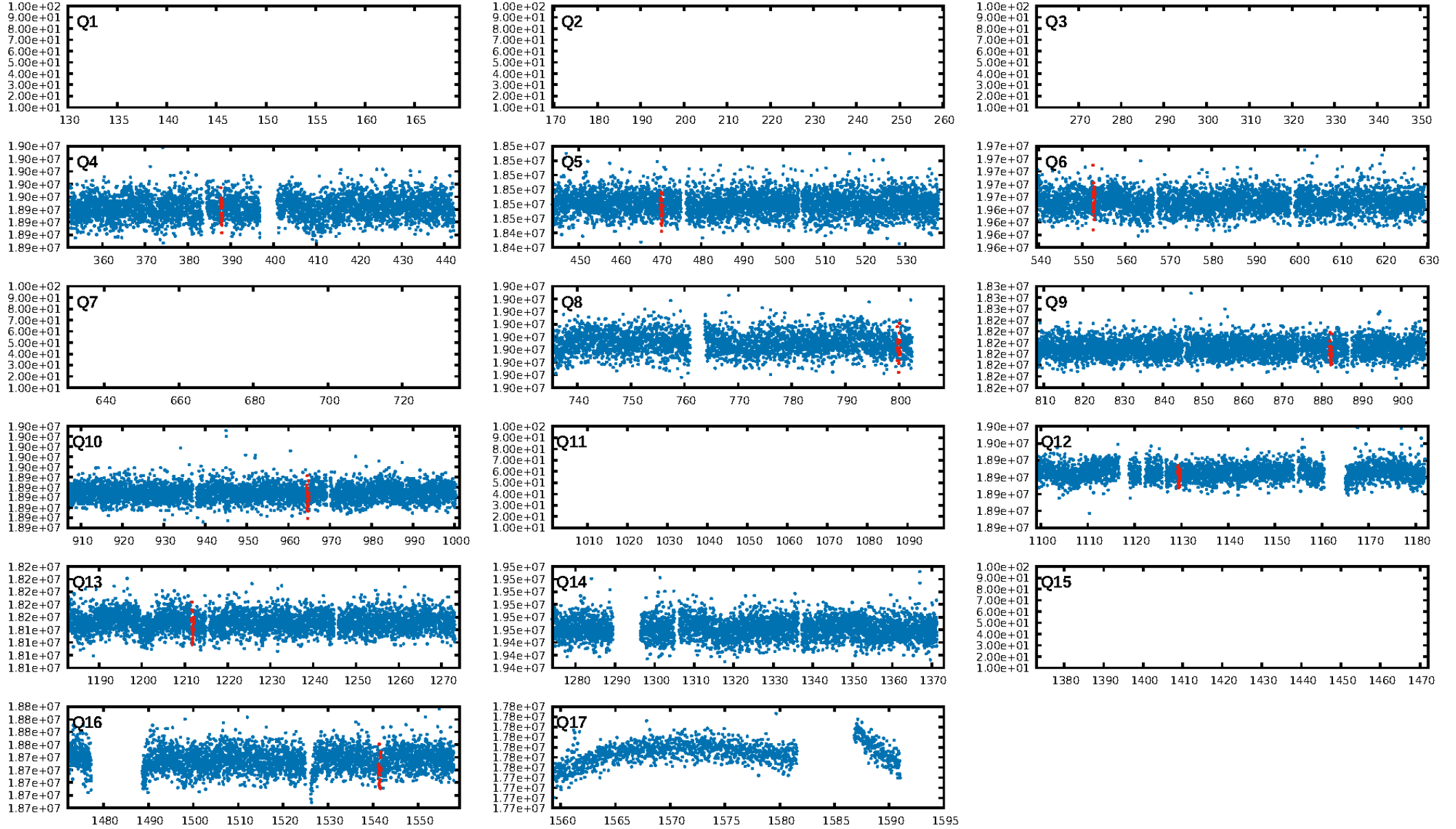
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 77.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.98e-17
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: -19.43
Centroid-sig: 5.5%
Centroid-so: 1.953 arcsec [2.04σ]
OotOffset-rm: 2.026 arcsec [1.49σ]
OotOffset-st: 0/0/4/0 [4]
KicOffset-rm: 9.609 arcsec [5.26σ]
KicOffset-st: 0/0/4/1 [5]
DiffImageQuality-fgm: 0.60 [3/5]
DiffImageOverlap-fno: 1.00 [9/9]

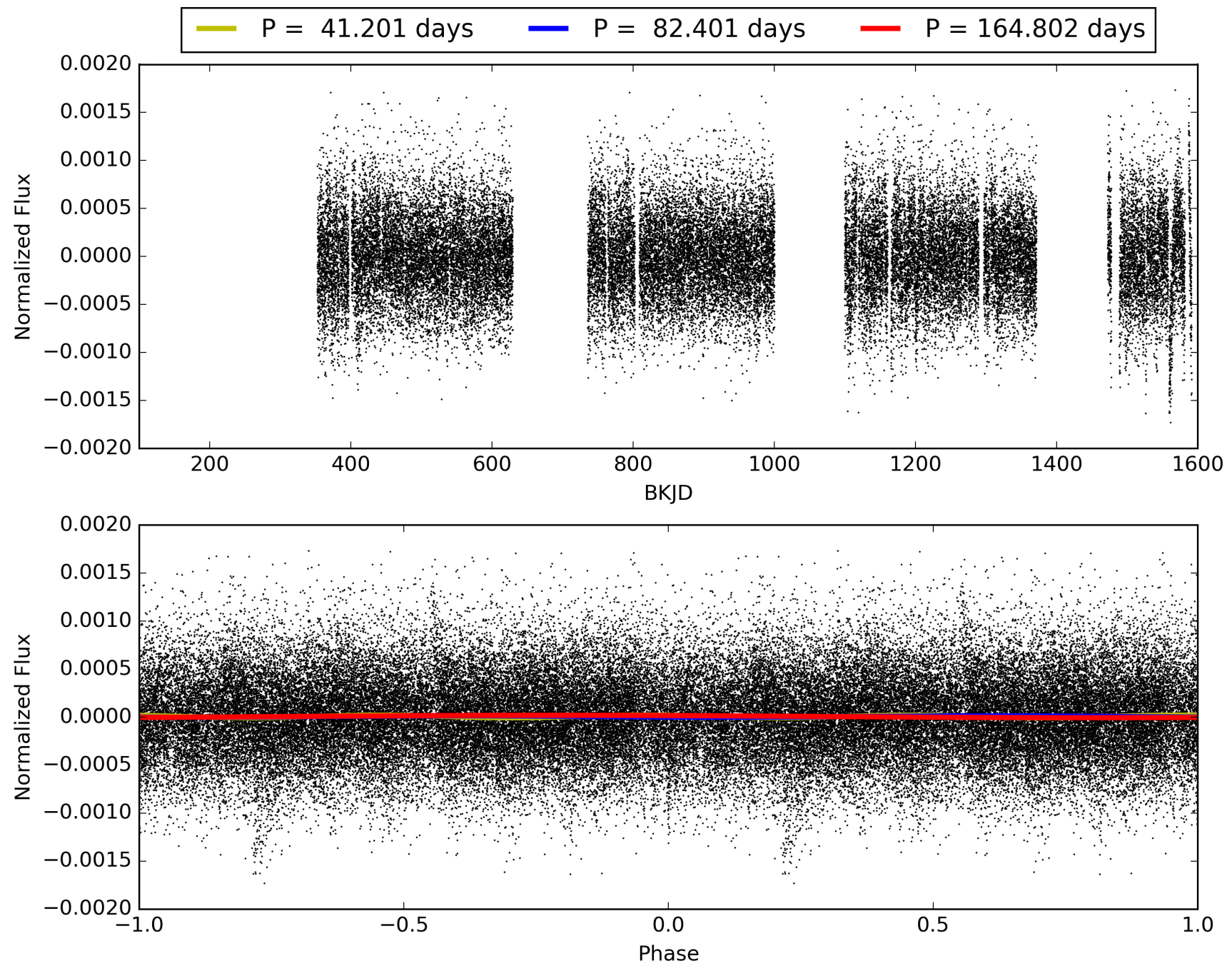
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:02:08 Z

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

TCE 010810859-01, PDC Light Curves

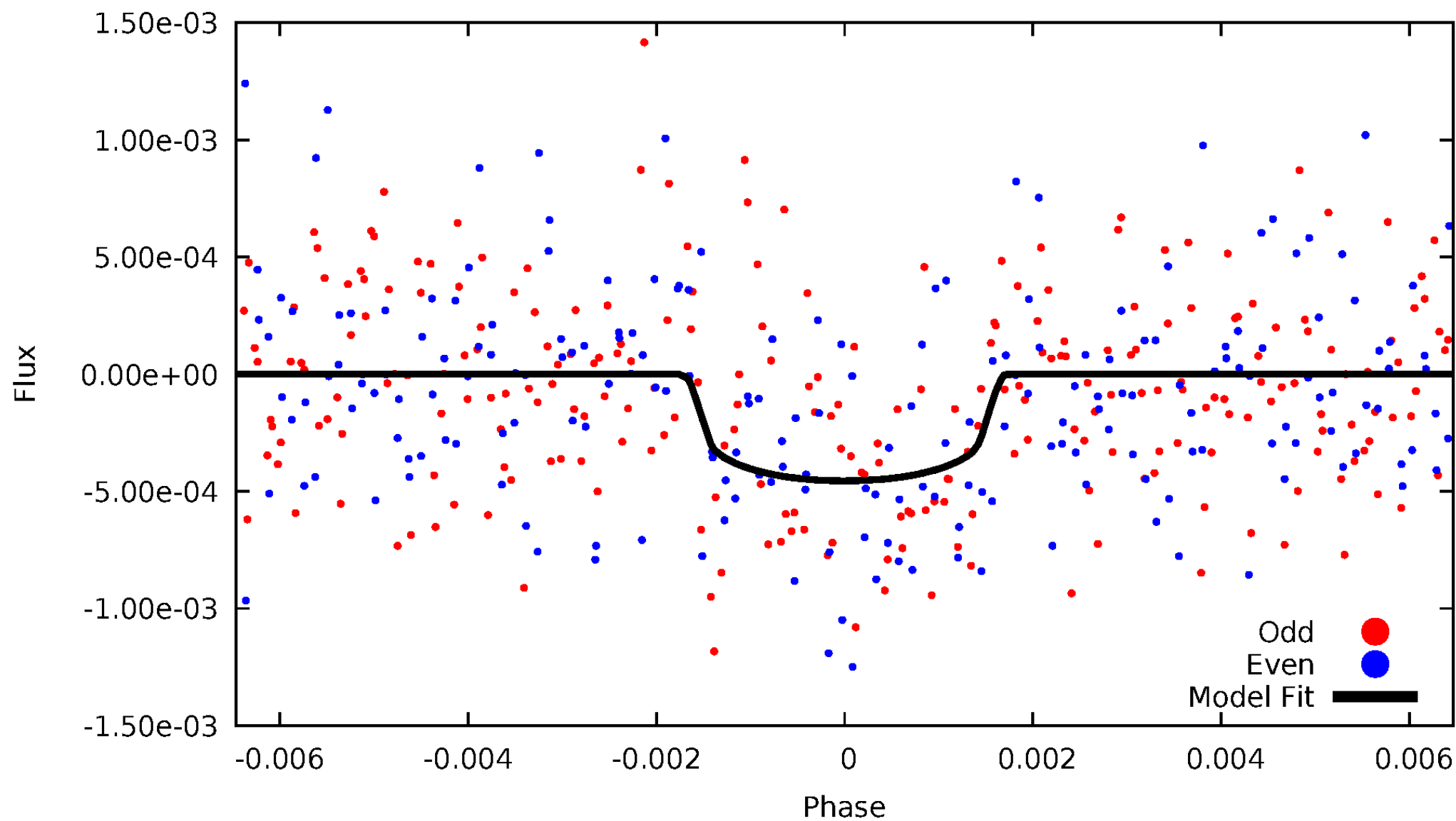


TCE 010810859-01



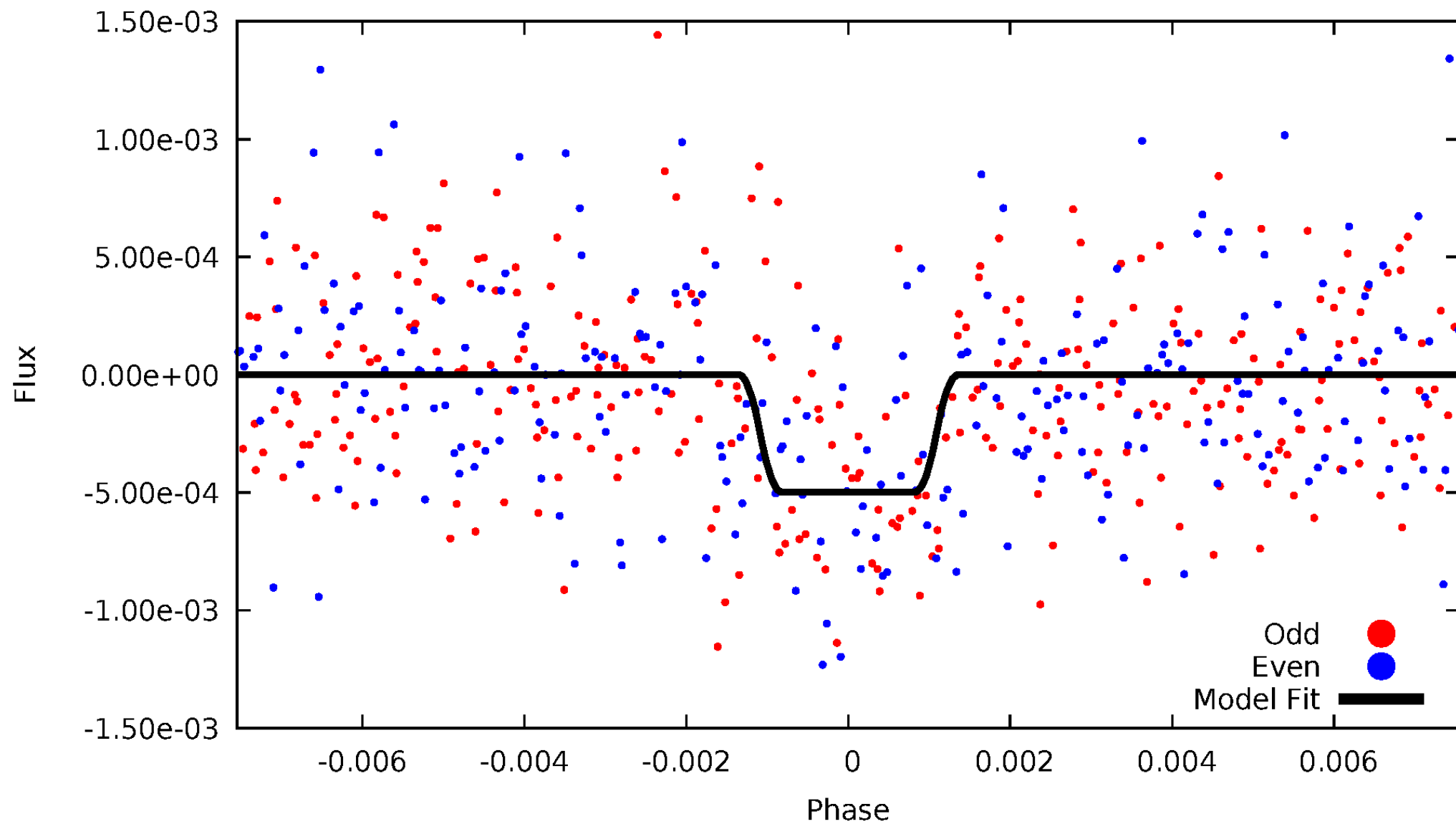
DV Odd/Even

TCE 010810859-01

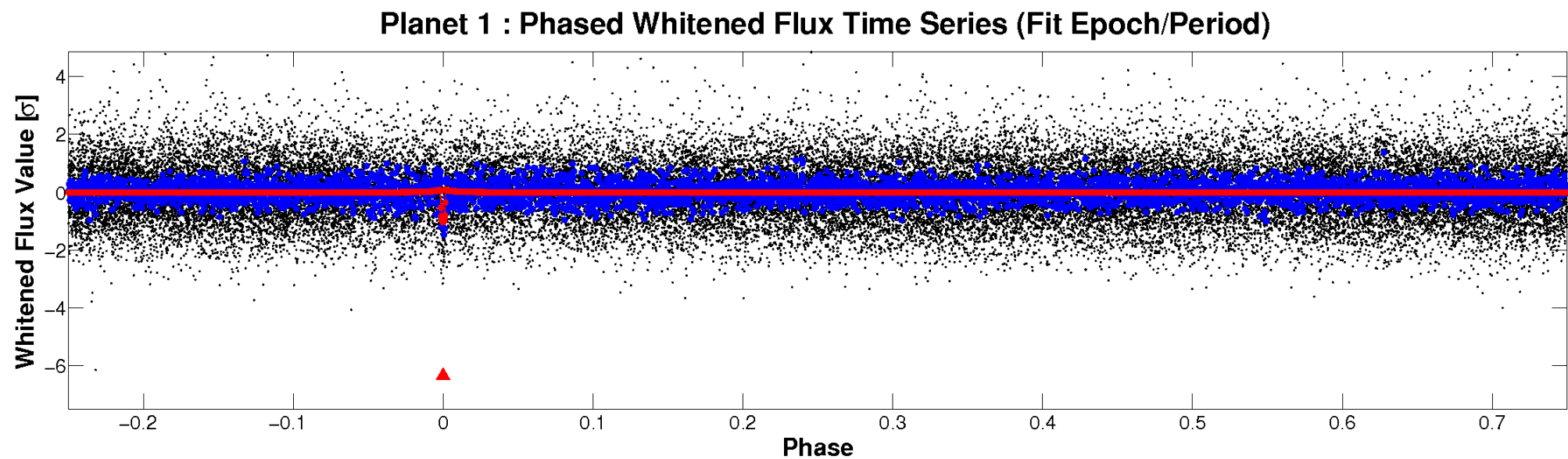
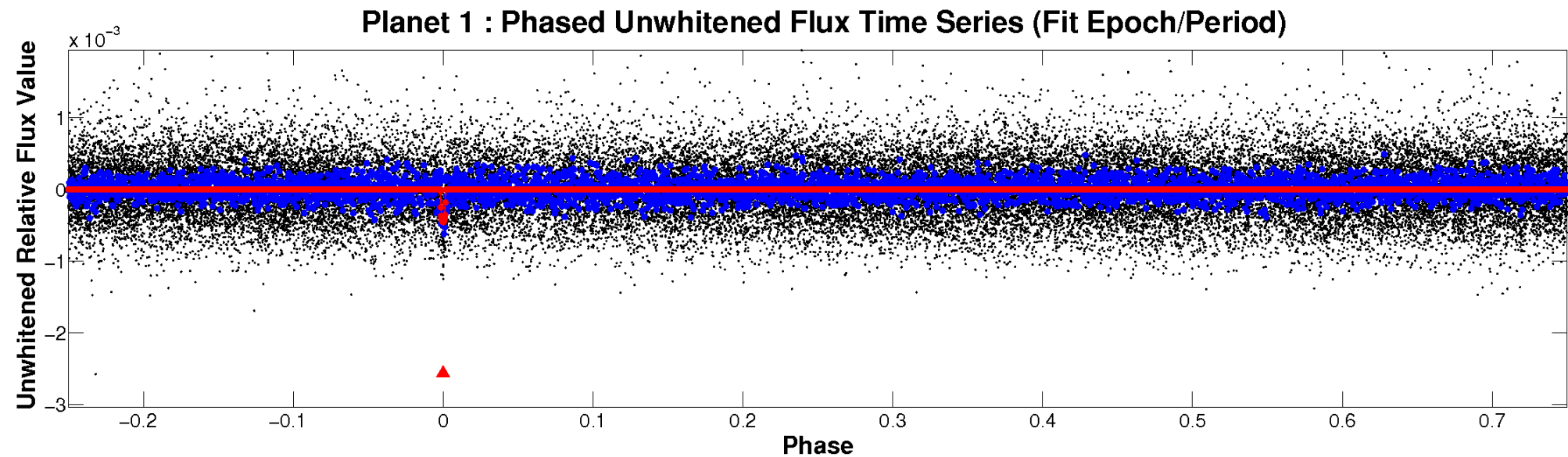


ALT Odd/Even

TCE 010810859-01

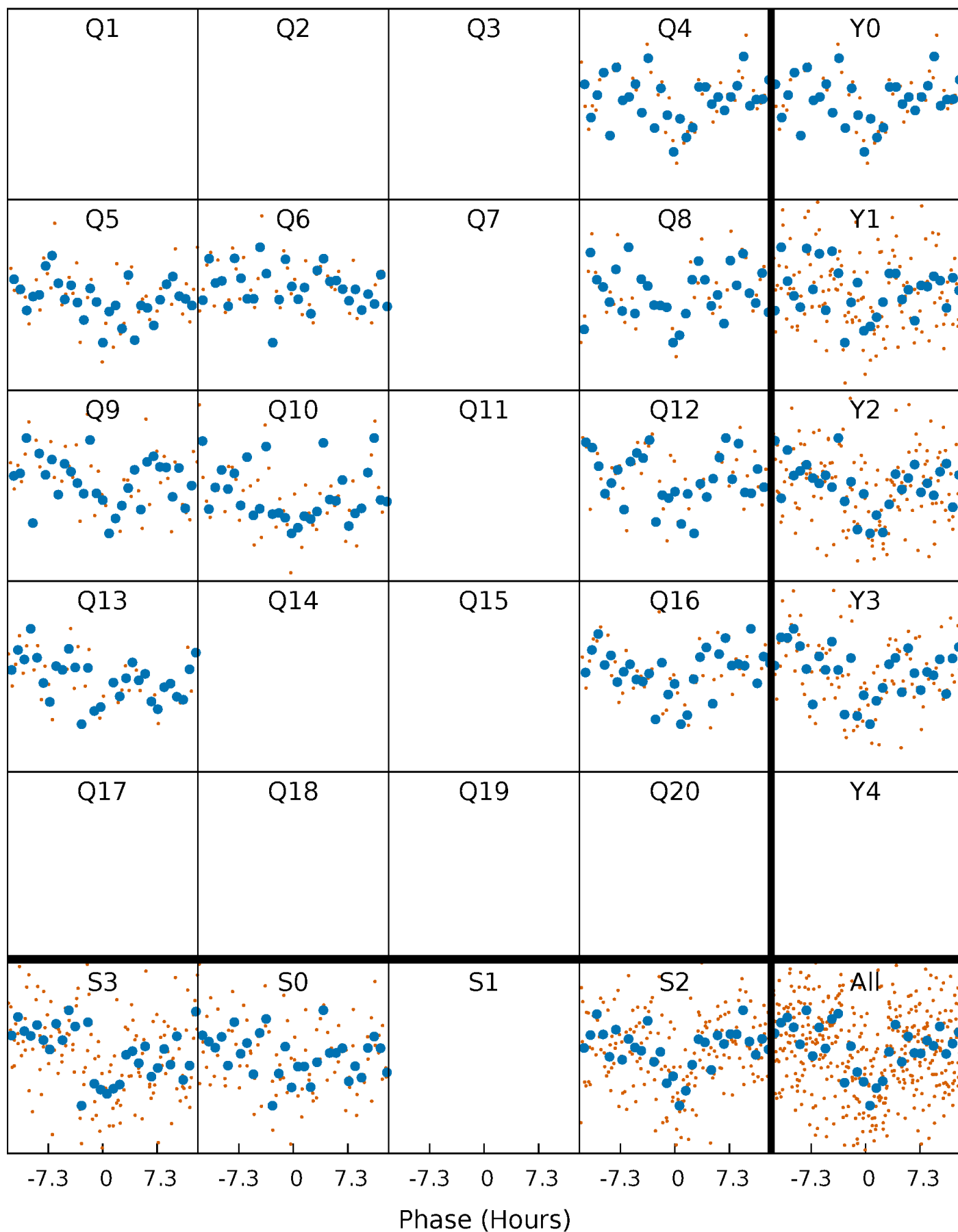


Non-Whitened Vs. Whitened Light Curve



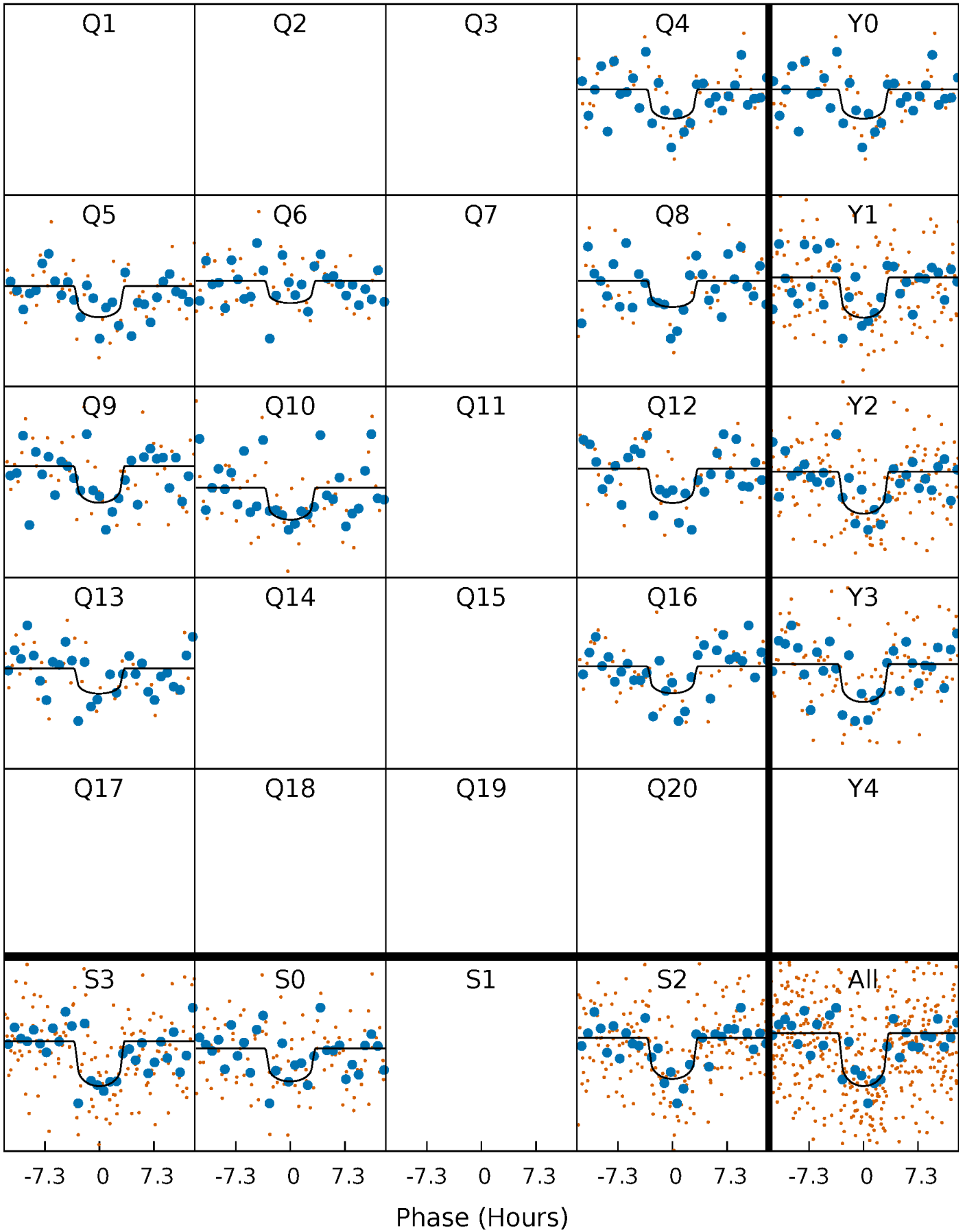
PDC Quarter-Phased Transit Curves

TCE 010810859-01 P= 82.401043 Days $T_0=140.656658$ (BKJD)



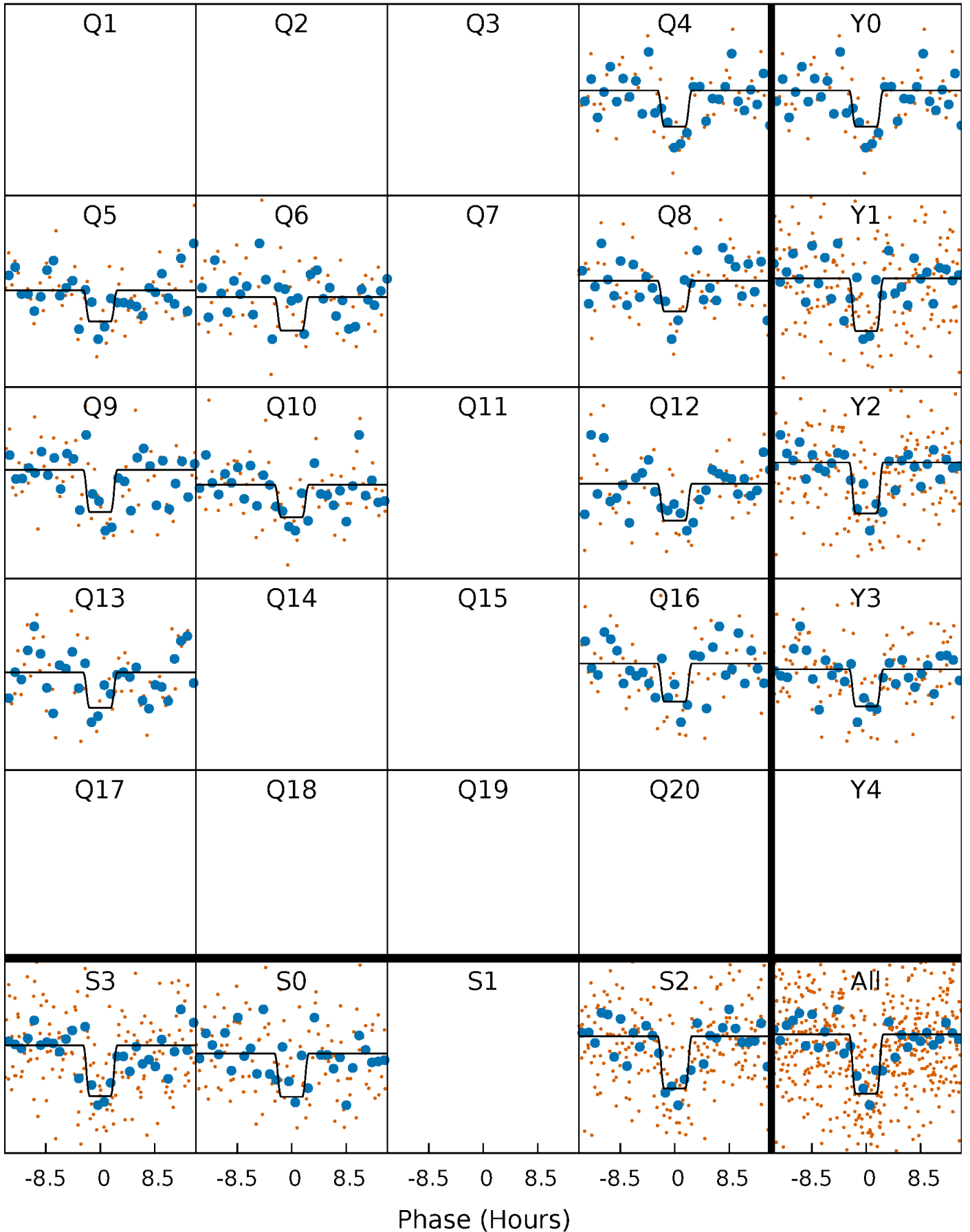
DV Quarter-Phased Transit Curves

TCE 010810859-01 P= 82.401043 Days $T_0=140.656658$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

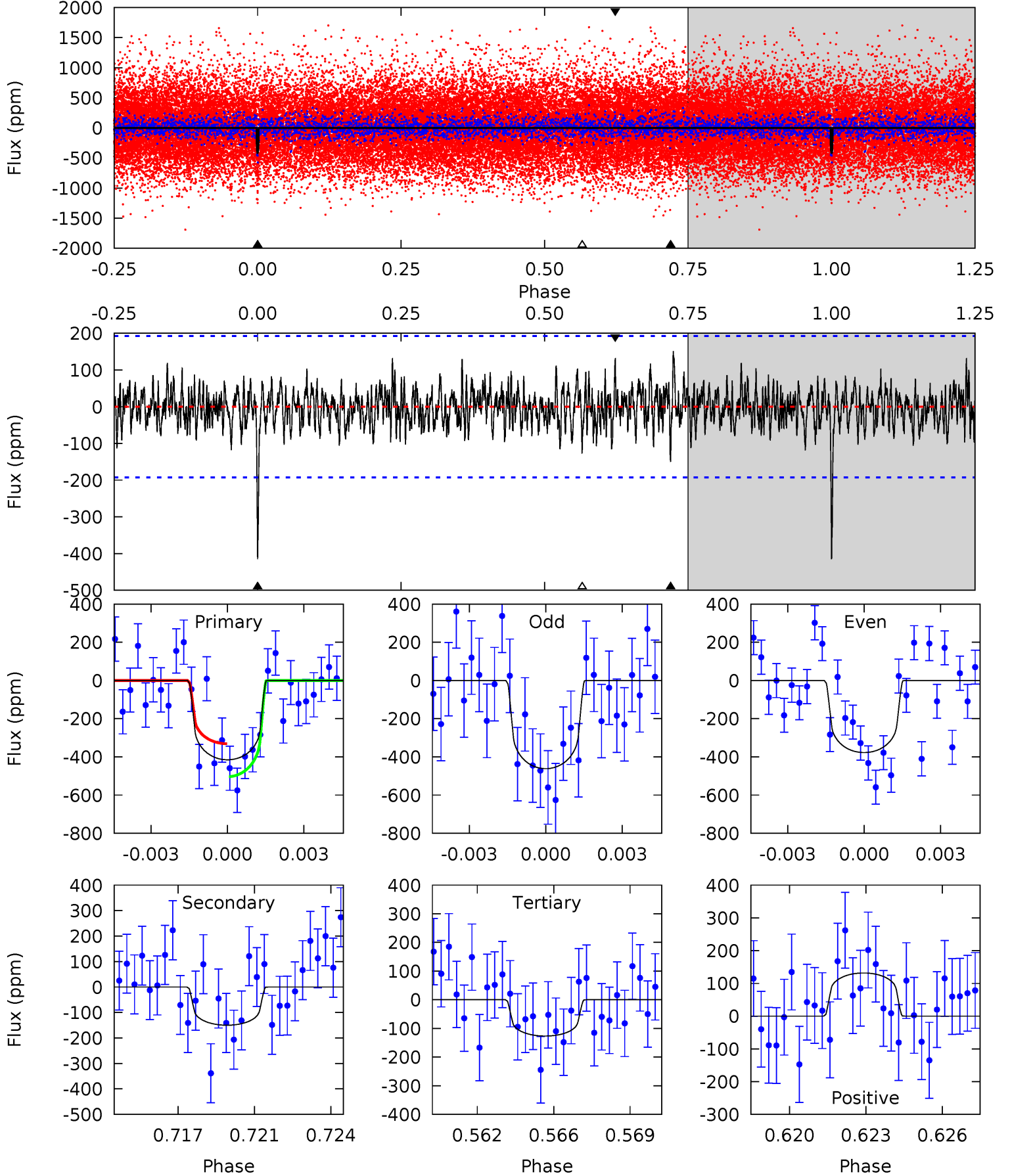
TCE 010810859-01 P= 82.399761 Days $T_0=140.681719$ (BKJD)



DV Model-Shift Uniqueness Test

010810859-01, $P = 82.401043$ Days, $E = 140.656658$ Days

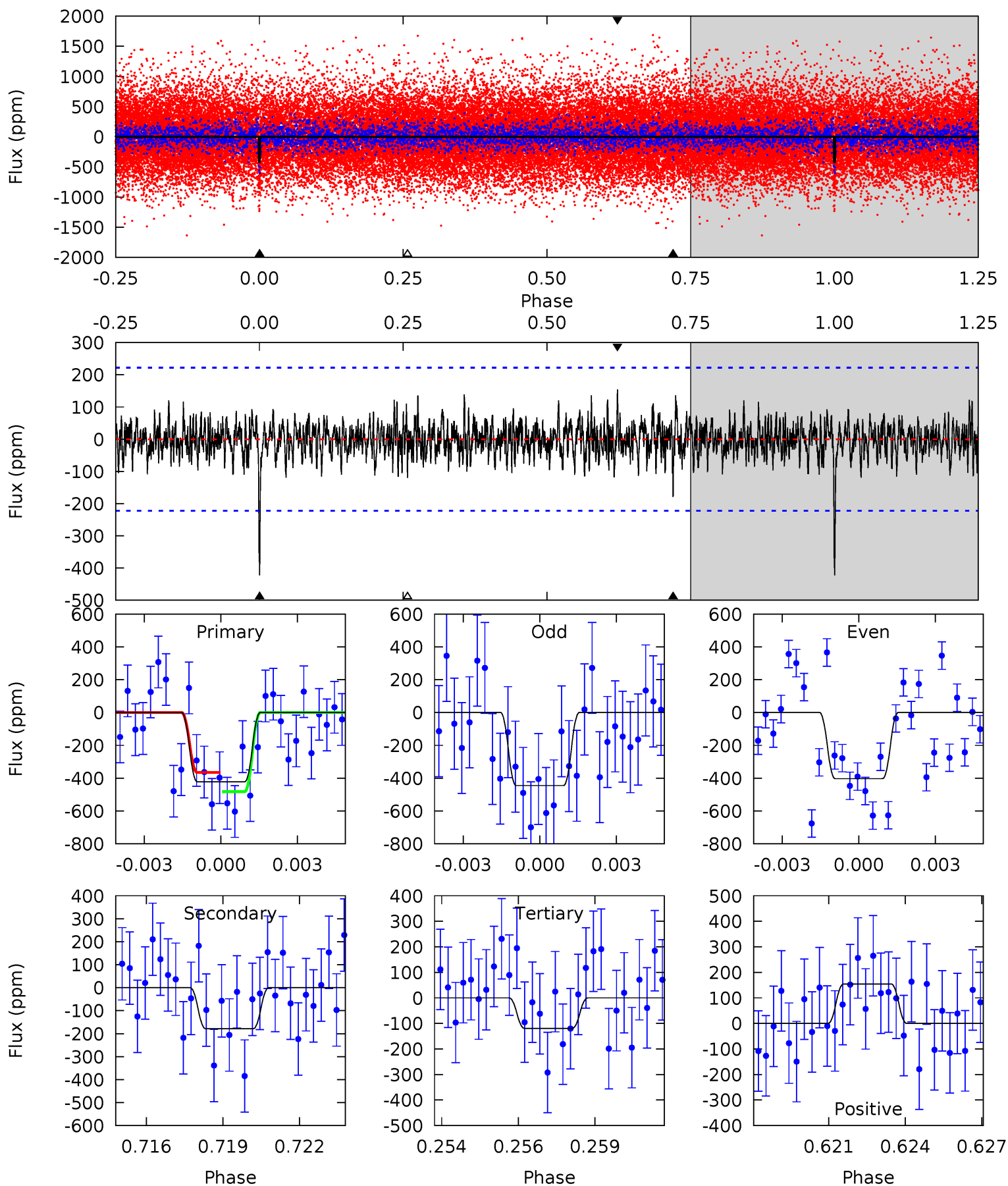
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	4.07	3.44	3.58	5.23	2.93	1.14	7.84	7.70	0.63	0.49	1.14	0.94	0.27	2.34



Alt Model-Shift Uniqueness Test

010810859-01, $P = 82.399761$ Days, $E = 140.681719$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.0	4.24	2.84	3.66	5.28	3.01	1.00	7.18	6.35	1.40	0.57	0.50	0.96	0.27	1.39



Stellar Parameters For KIC 010810859

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5886^{+70}_{-88}	$4.472^{+0.030}_{-0.127}$	$0.160^{+0.150}_{-0.150}$	$1.000^{+0.164}_{-0.055}$	$1.083^{+0.051}_{-0.076}$	$1.523^{+0.168}_{-0.519}$
	+1%/-1%	+1%/-3%	+94%/-94%	+16%/-6%	+5%/-7%	+11%/-34%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 010810859-01 / KOI 4801.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-150 ± 37	$2.73^{+1.97}_{-1.67}$	595^{+24}_{-16}	4360^{+2400}_{-761}	1556^{+9072}_{-1036}
Alt.	-178 ± 42	$2.87^{+2.00}_{-1.71}$	595^{+23}_{-15}	4483^{+2193}_{-804}	1727^{+8851}_{-1148}

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 $A_{obs} \gg 1.0$

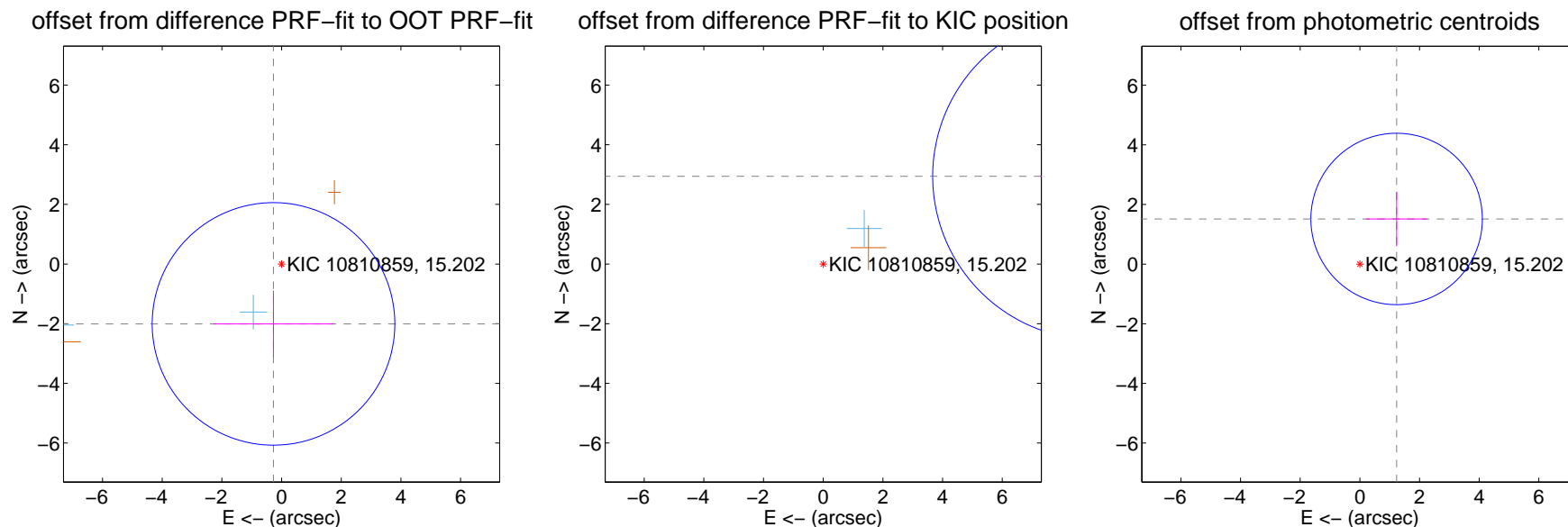
DV Centroid Data

Supplemental centroid analysis for 010810859-01. Kepler magnitude: 15.20. Transit SNR 9.29

There are 3 quarters with good PRF difference image offsets

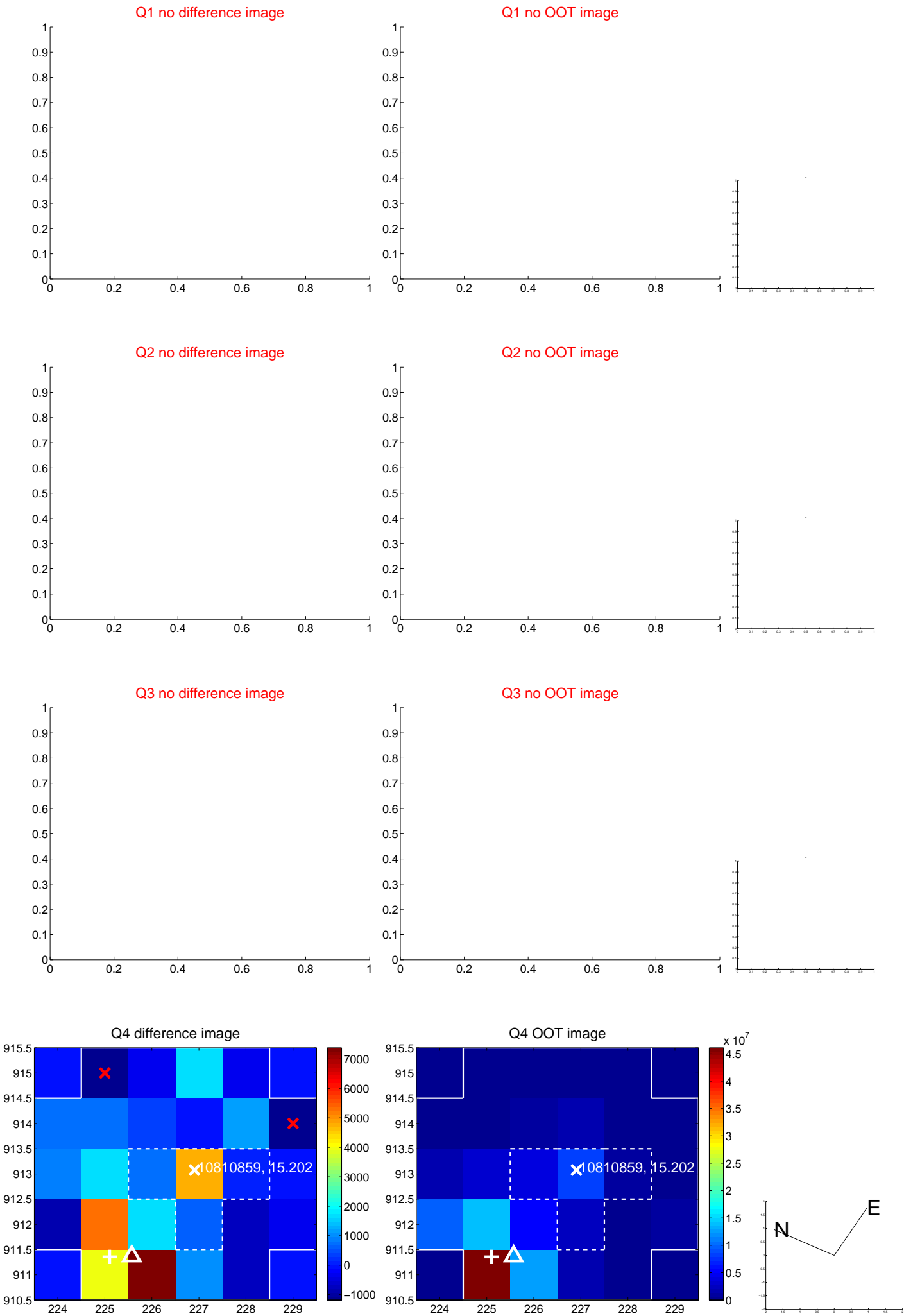
The OOT PRF centroid is offset from the target star catalog position by about 9.38 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.026 ± 1.355	1.49	0.270 ± 2.016	-2.008 ± 1.115
PRF-fit source offset from KIC position	9.609 ± 1.826	5.26	-9.147 ± 1.877	2.942 ± 1.226
photometric centroid source offset	1.95 ± 0.96	2.04	-1.23 ± 1.02	1.51 ± 0.92

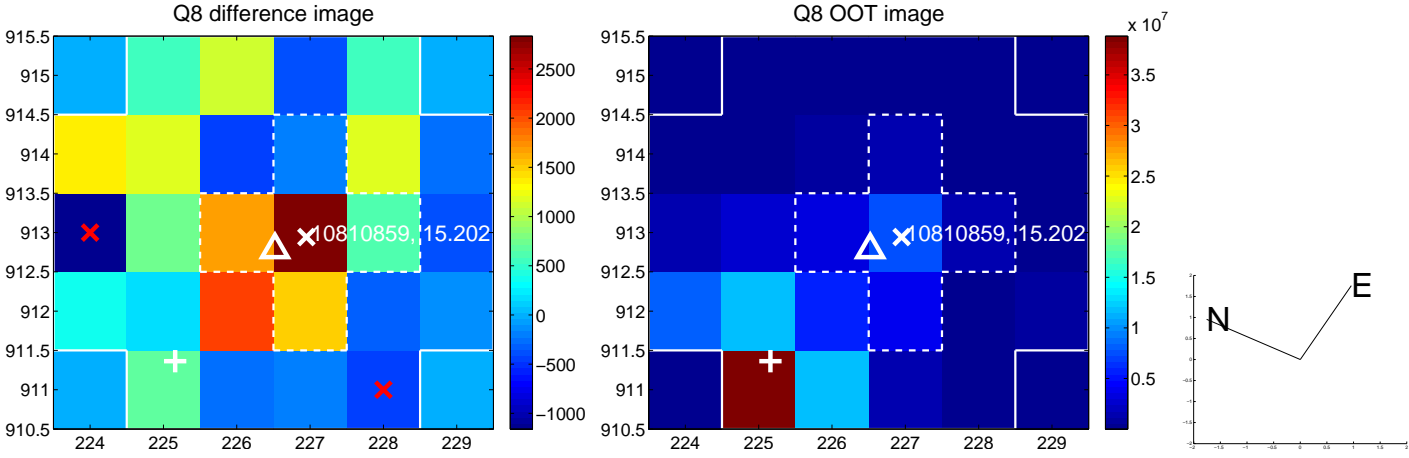
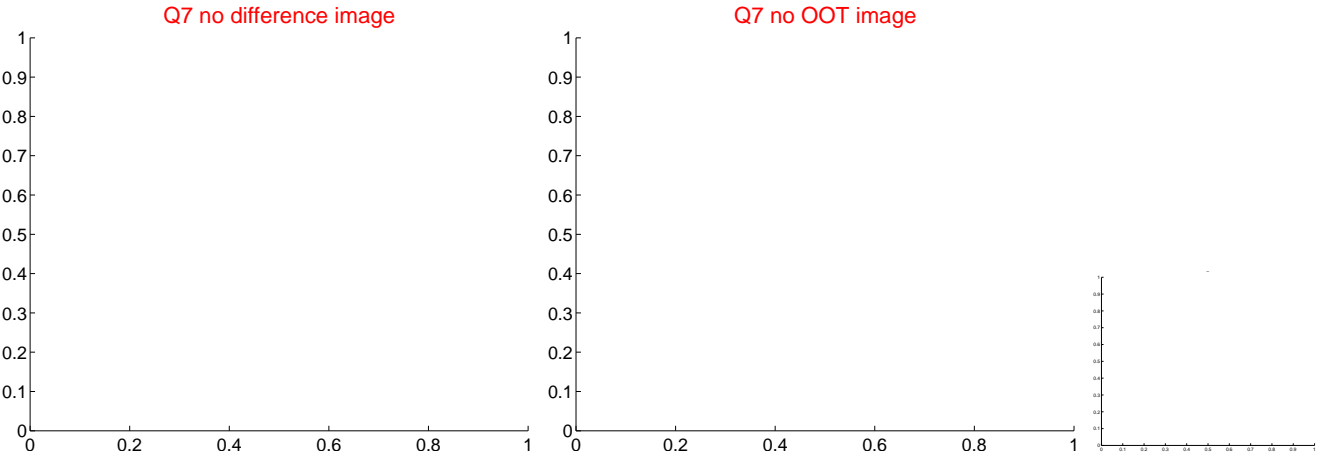
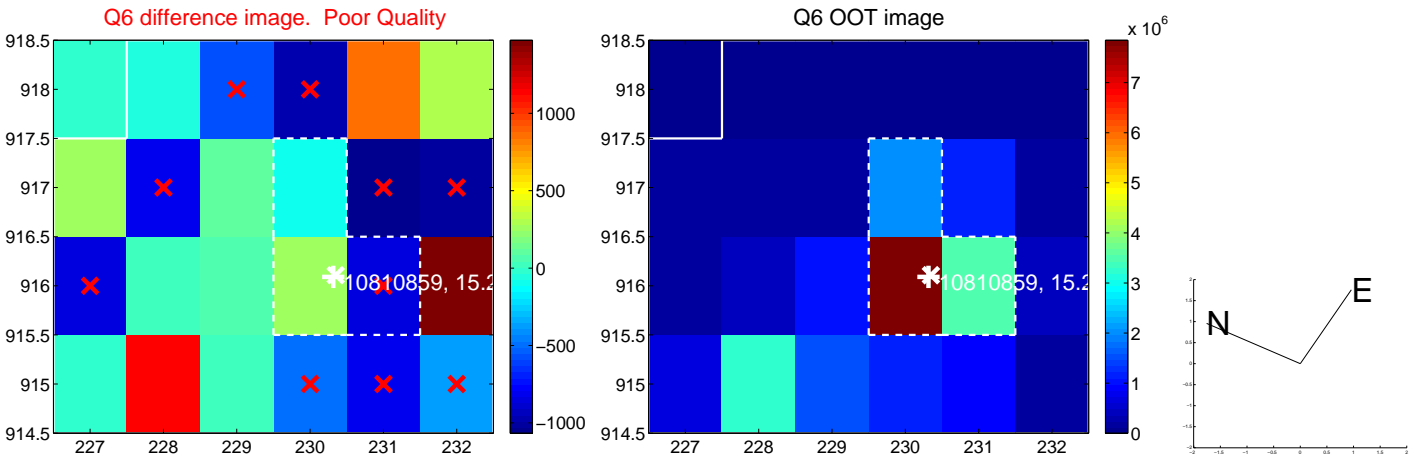
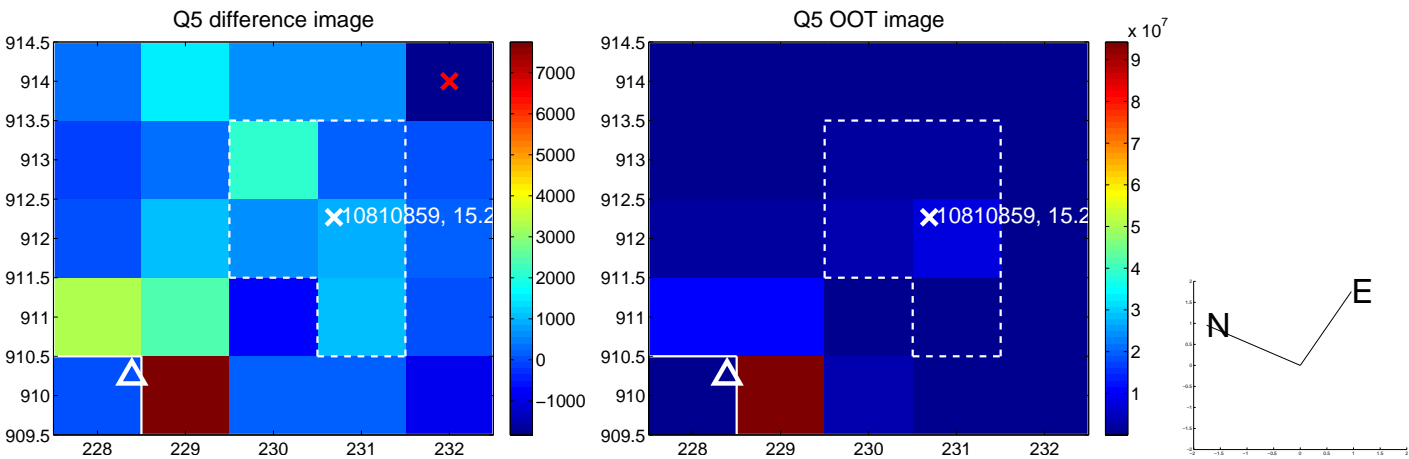


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

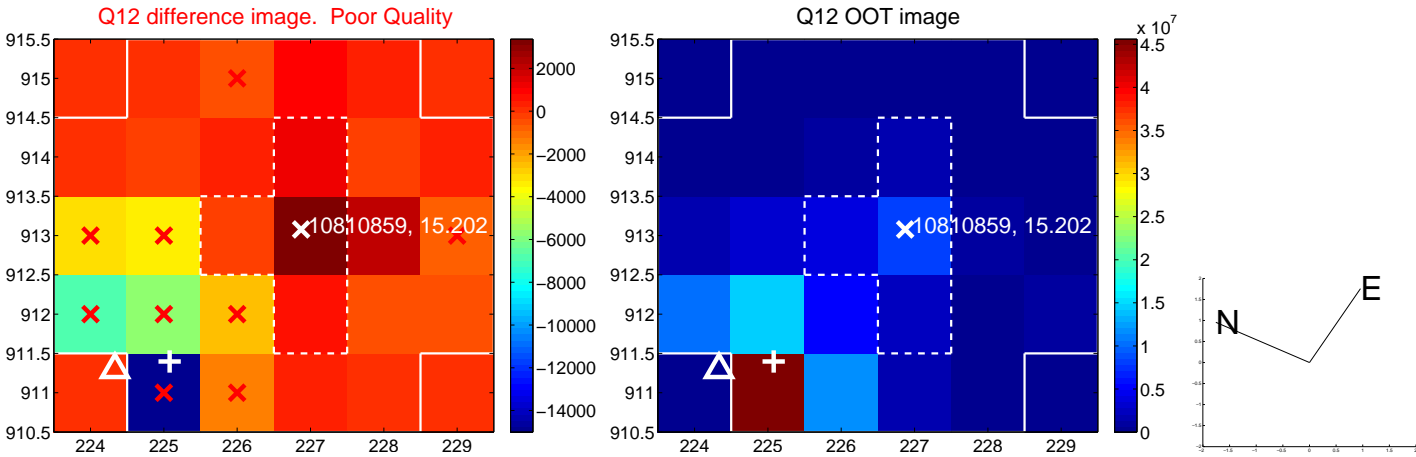
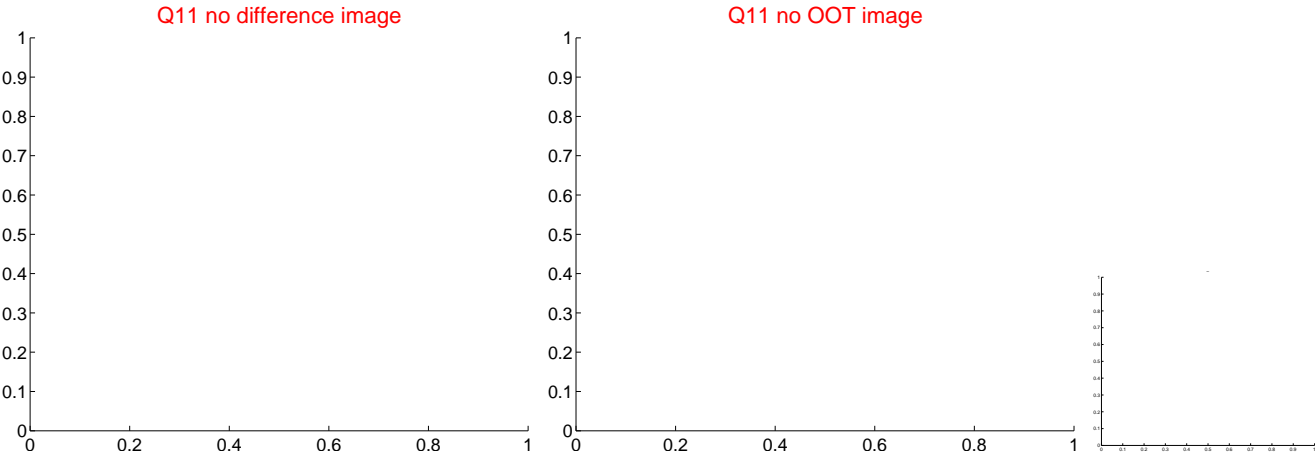
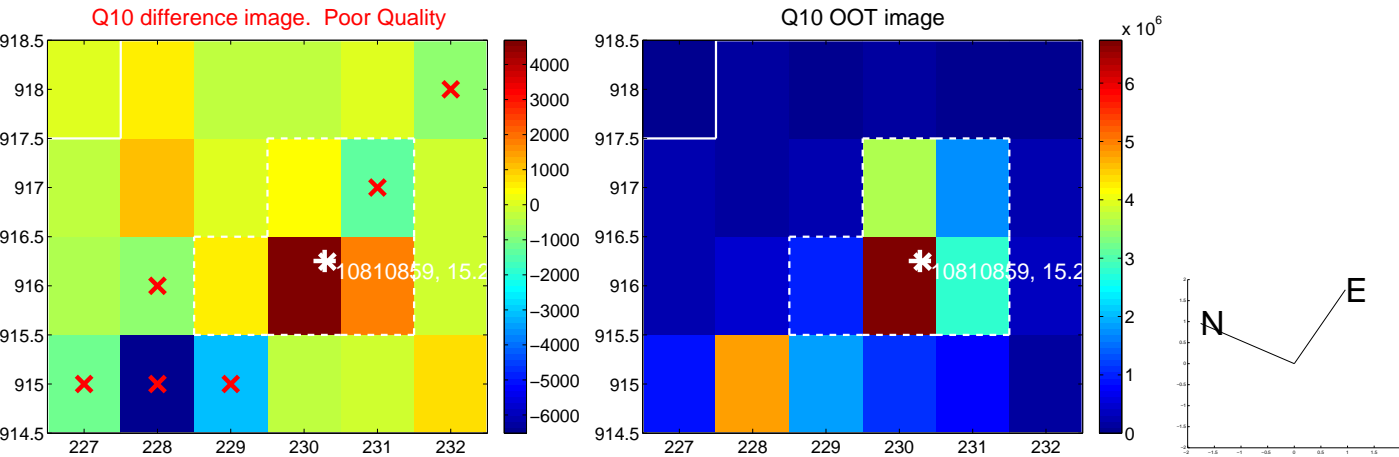
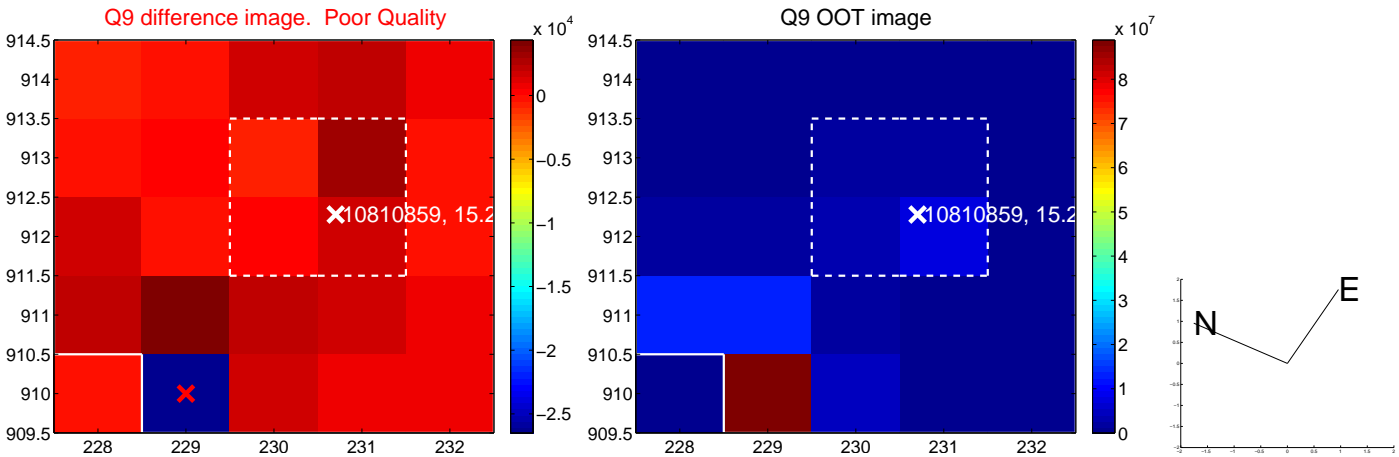
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



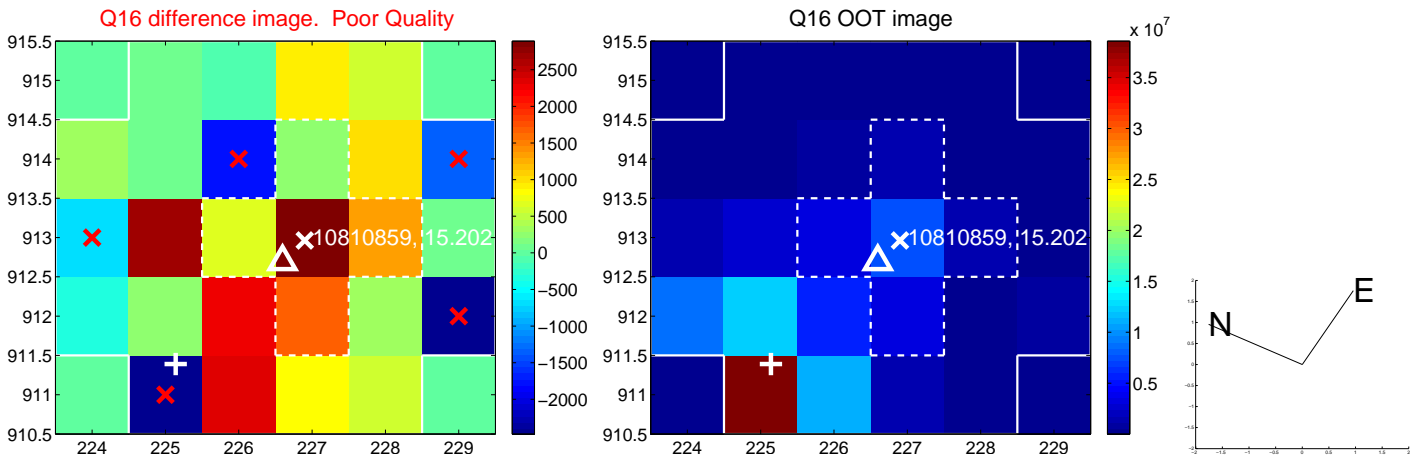
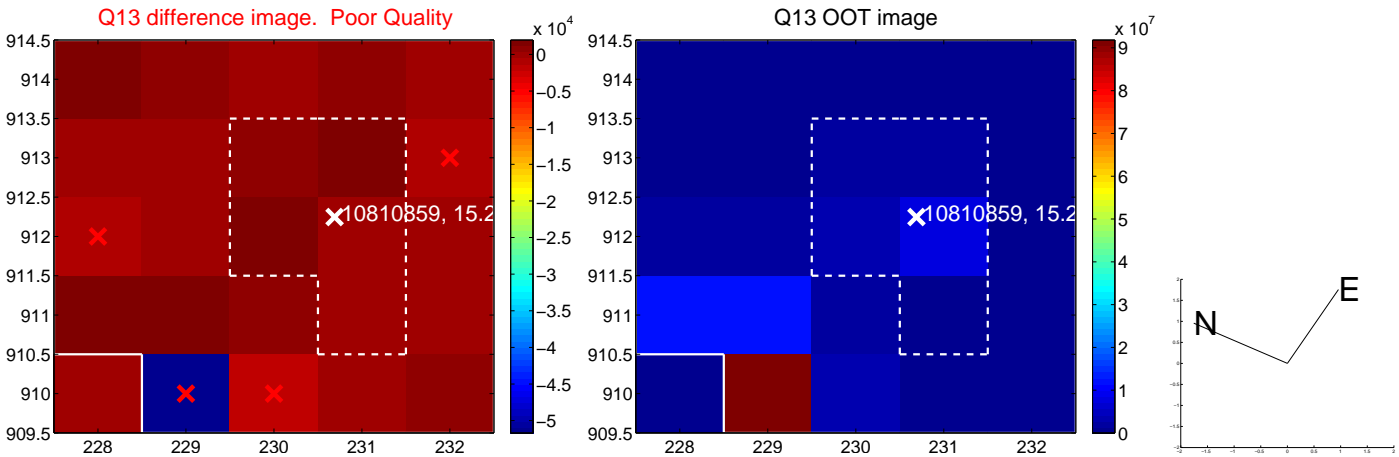
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



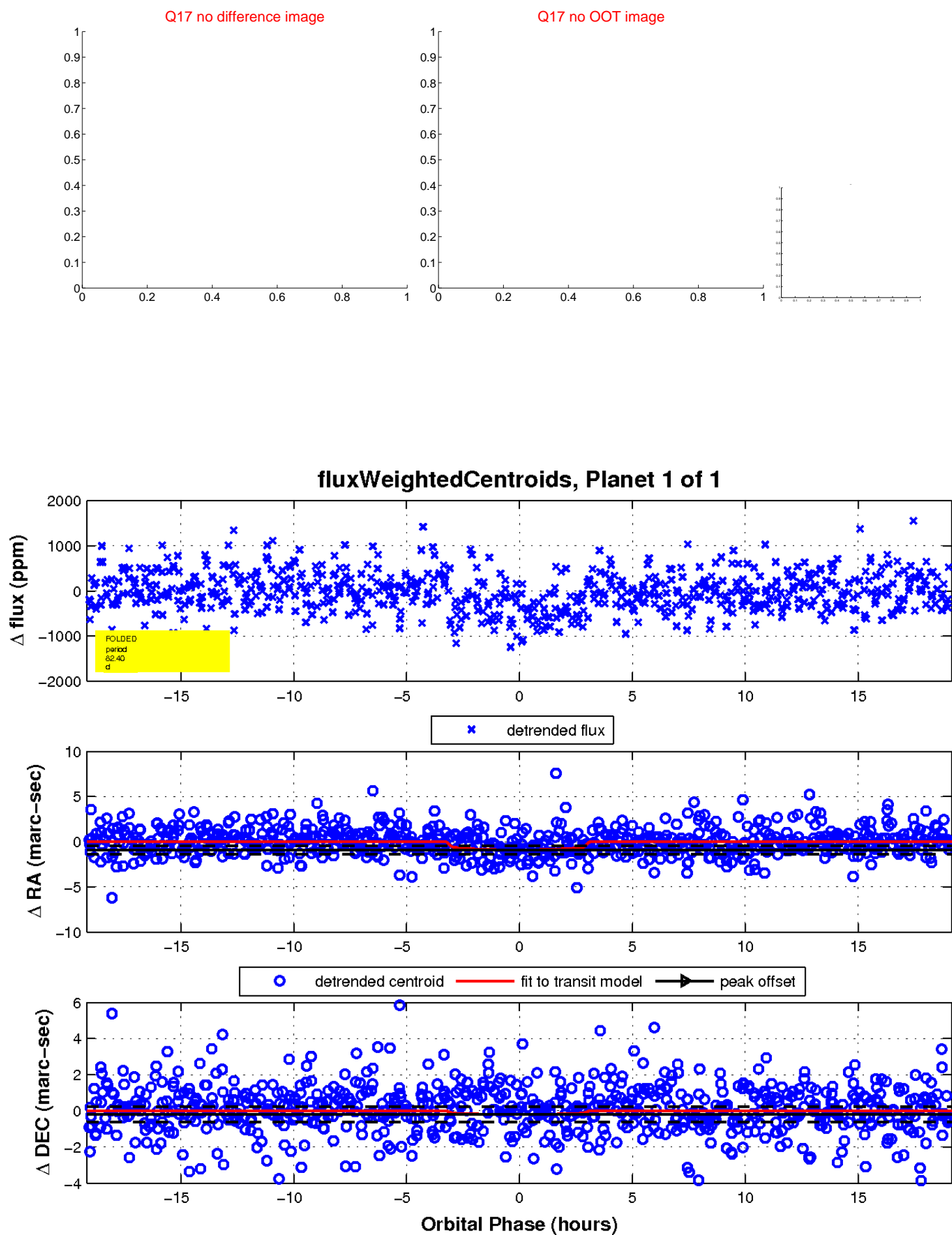
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

