

KIC 008259709

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})
008259709-01	OBS	No	5.837302	132.009080	13.4	38.126	7.3	6.3	1.97	6322	0.72	1232.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008259709-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_FEW_MEAS

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

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

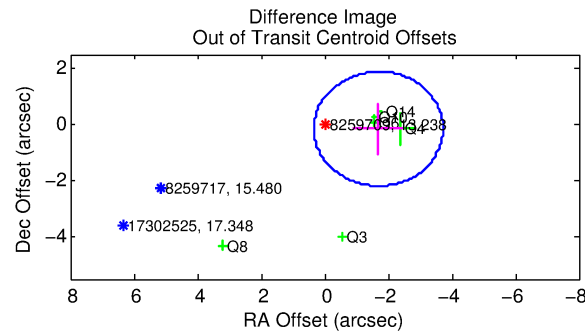
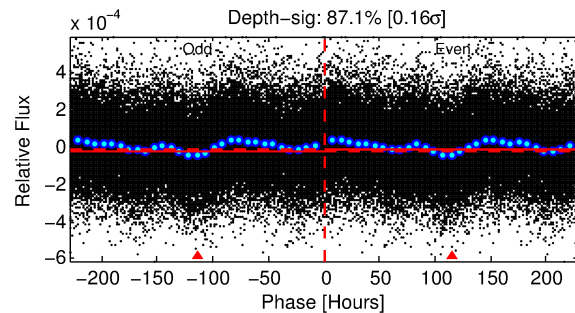
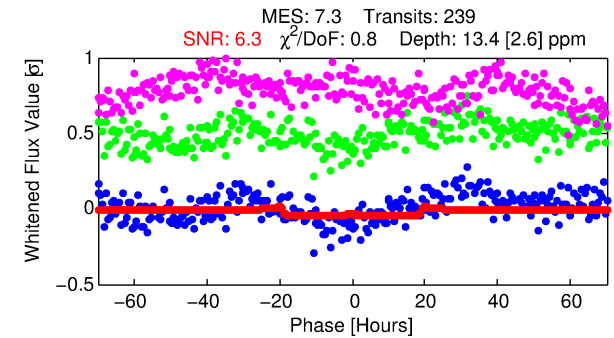
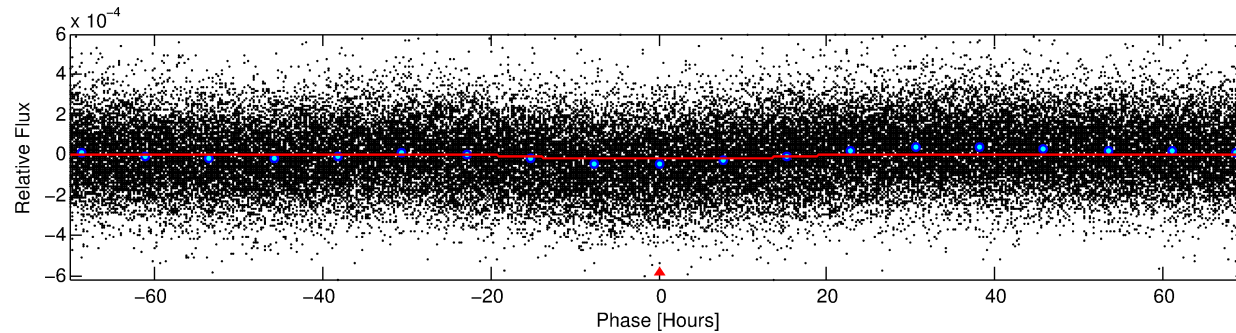
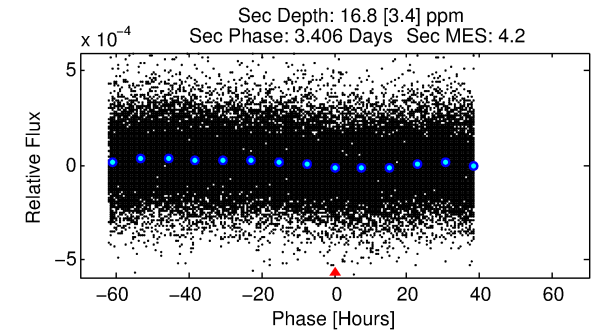
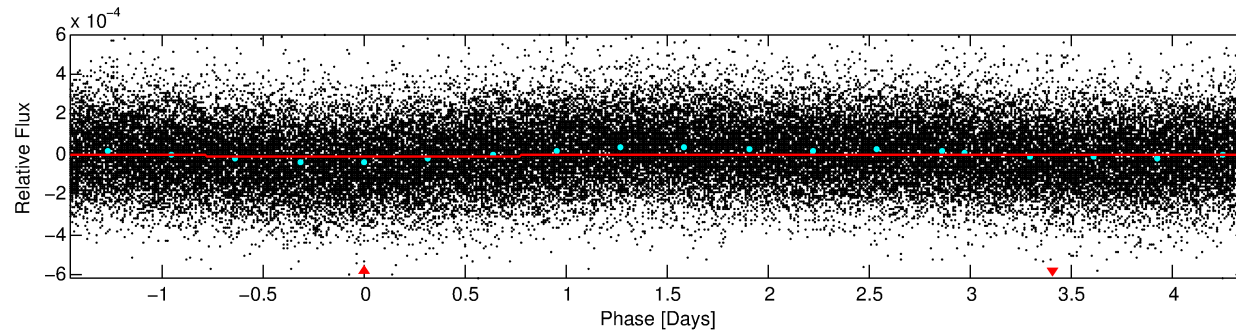
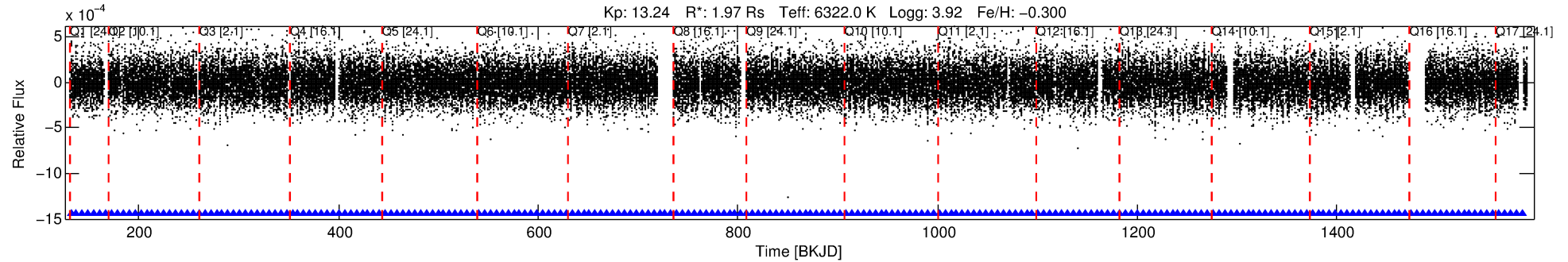
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008259709-01

No Significant Match Found

DV One-Page Summary

KIC: 8259709 Candidate: 1 of 1 Period: 5.837 d



DV Fit Results:

Period = 5.83730 [0.00025] d
Epoch = 132.0091 [0.0314] BKJD
Rp/R* = 0.0034 [0.0044]
a/R* = 1.32 [3.86]
b = 0.17 [38.03]
Seff = 1232.93 [885.96]
Teff = 1511 [271] K
Rp = 0.72 [0.98] Re
a = 0.0669 [0.0287] AU
Ag = 79.31 [212.74] [0.37σ]
Teffp = 6972 [4518] K [1.21σ]

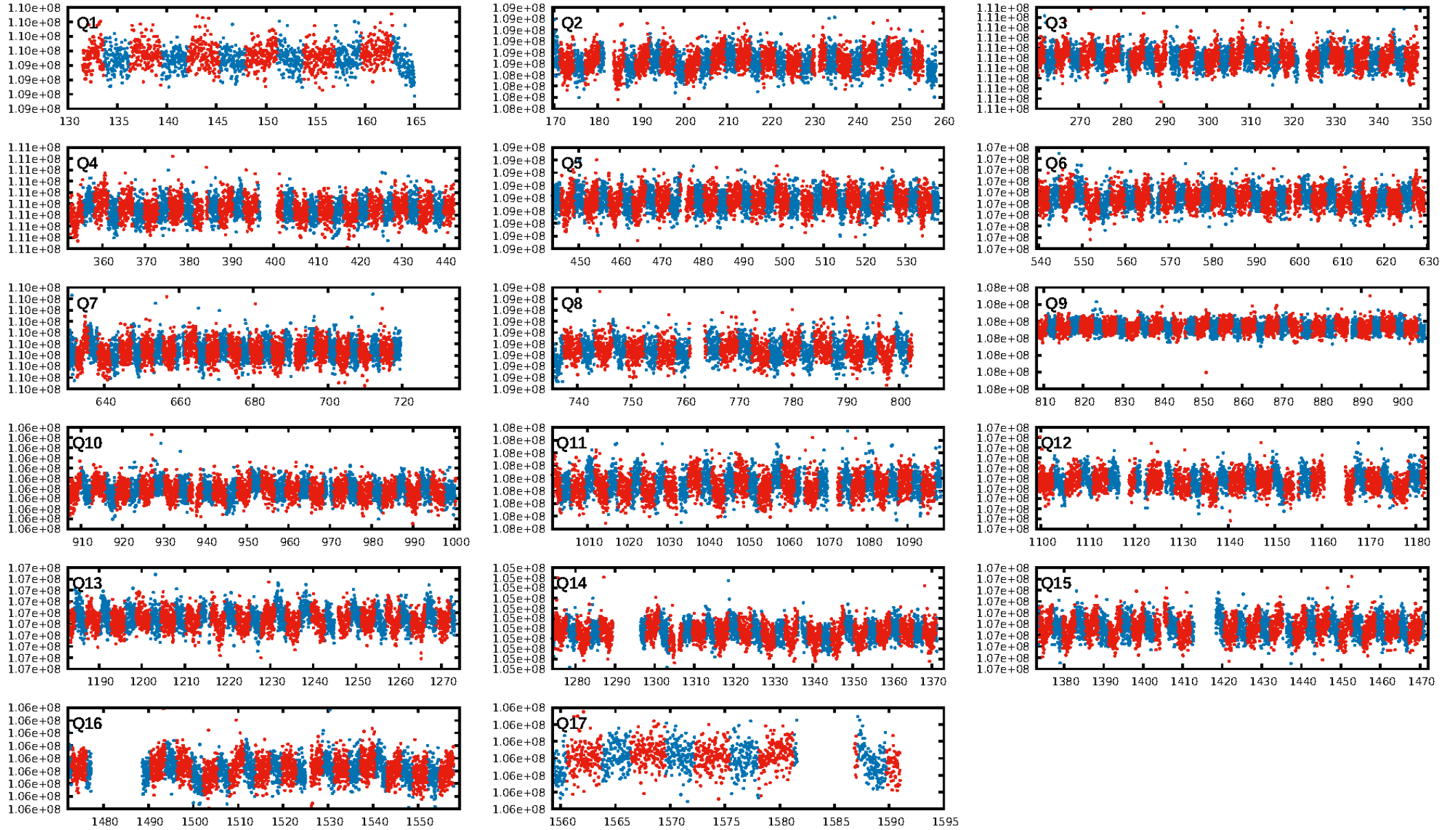
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.91e-14
RollingBand-fgt: 1.00 [228/228]
GhostDiagnostic-chr: 1.816
Centroid-sig: 0.1%
Centroid-so: 3.428 arcsec [2.16σ]
OotOffset-rm: 1.696 arcsec [2.50σ]
KicOffset-rm: 1.671 arcsec [2.50σ]
OotOffset-st: 3/1/2/0 [6]
KicOffset-st: 3/1/2/0 [6]
DiffImageQuality-fgm: 0.67 [4/6]
DiffImageOverlap-fno: 1.00 [17/17]

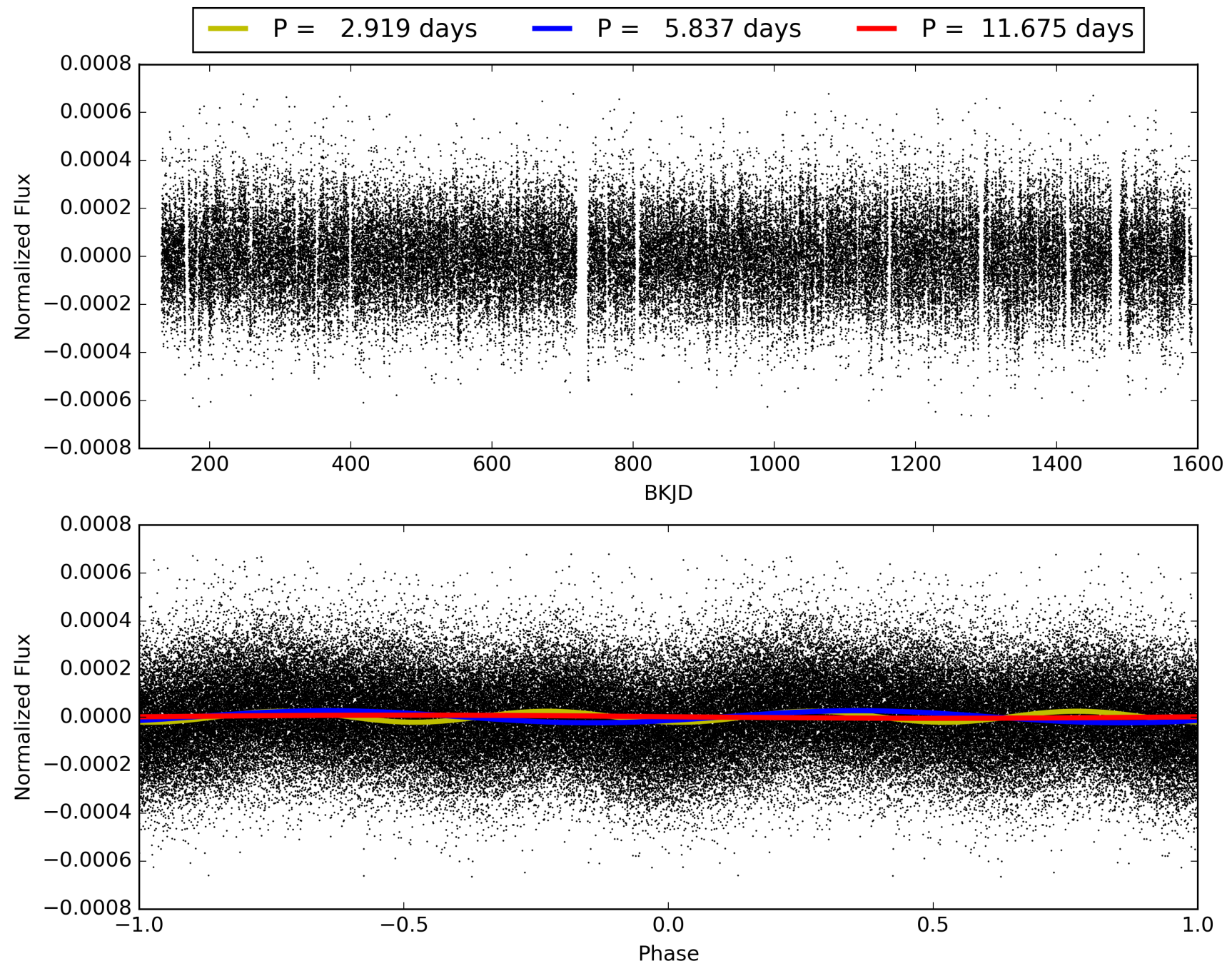
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:33:48 Z

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

TCE 008259709-01, PDC Light Curves

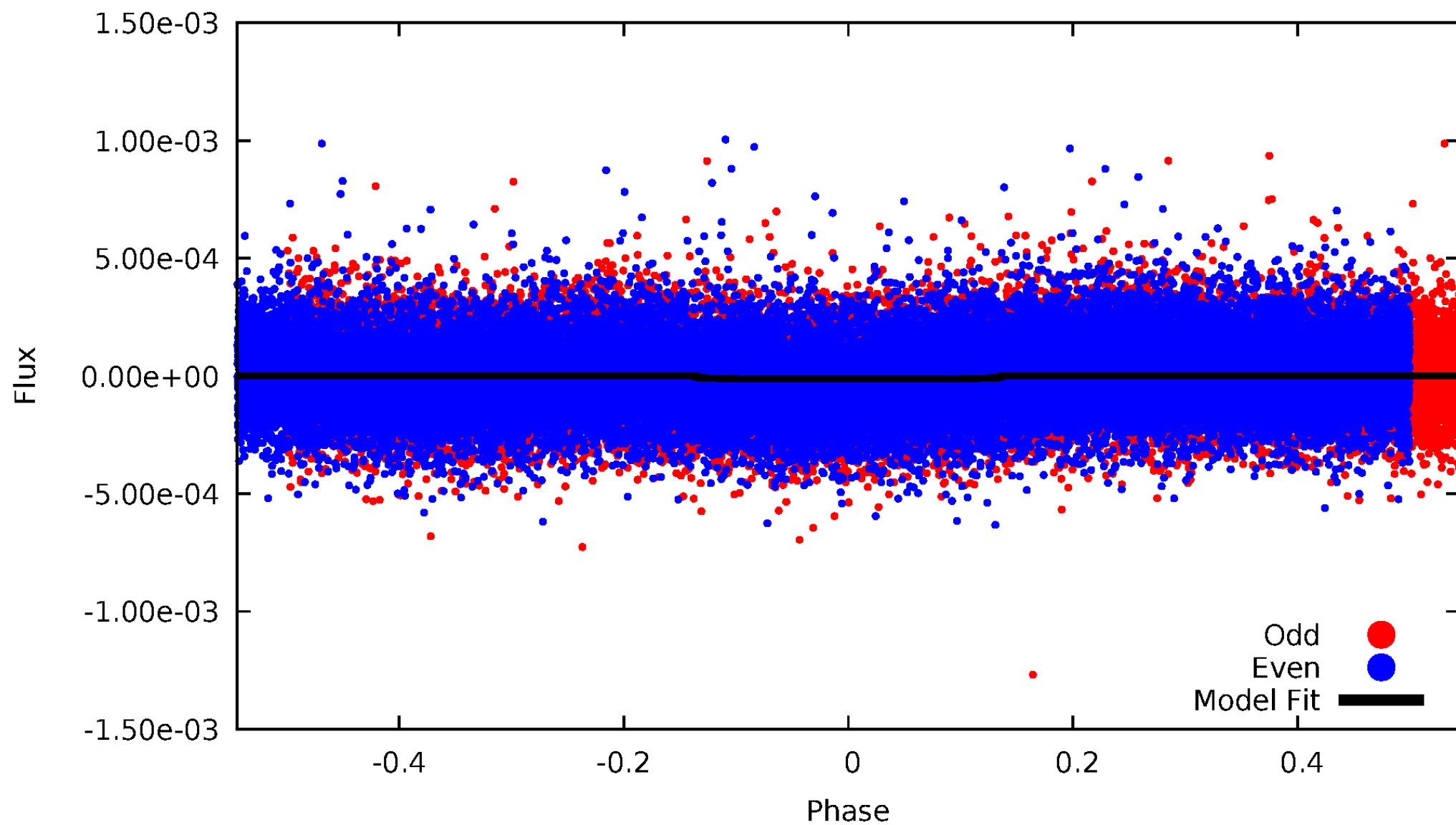


TCE 008259709-01



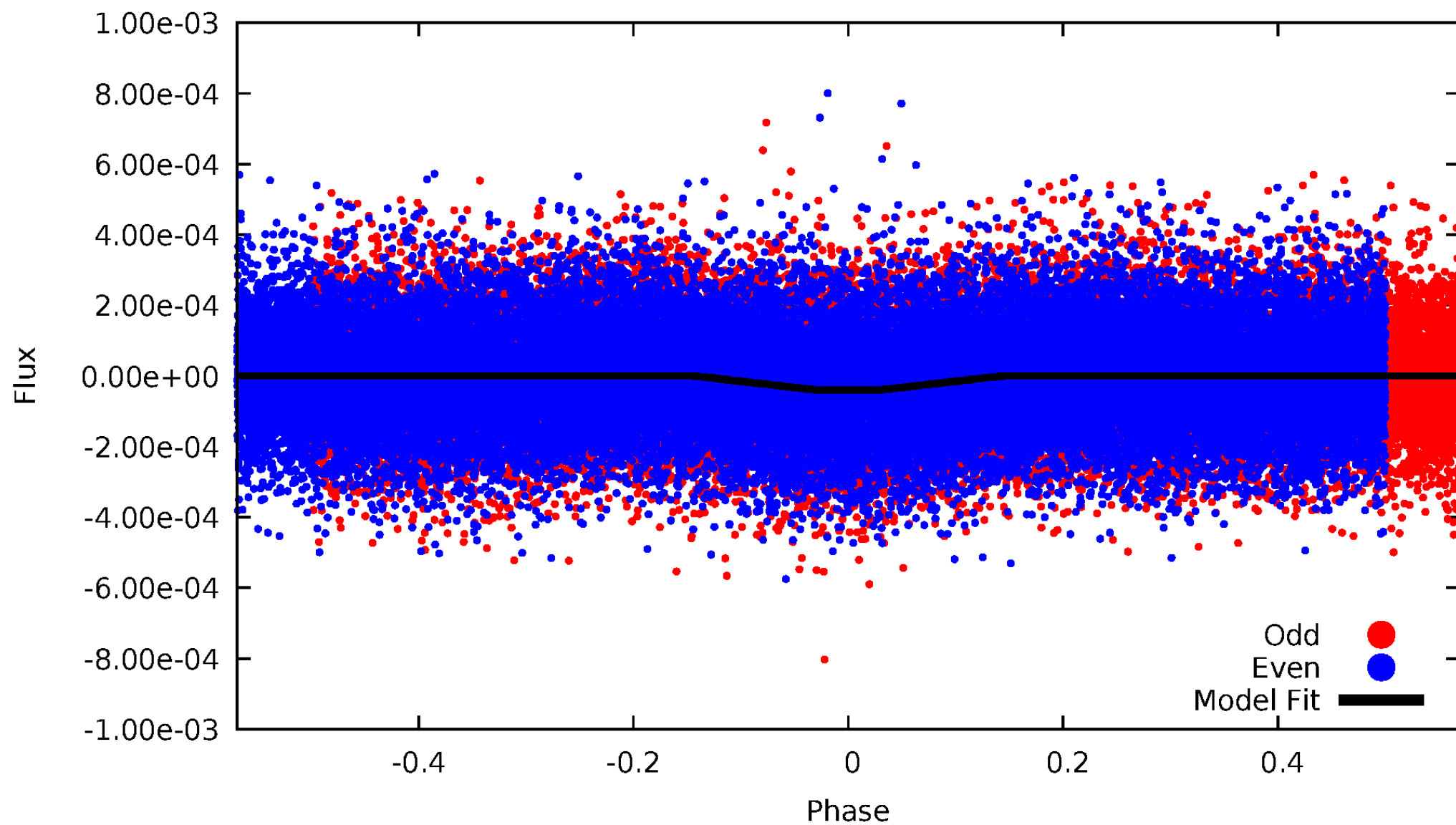
DV Odd/Even

TCE 008259709-01



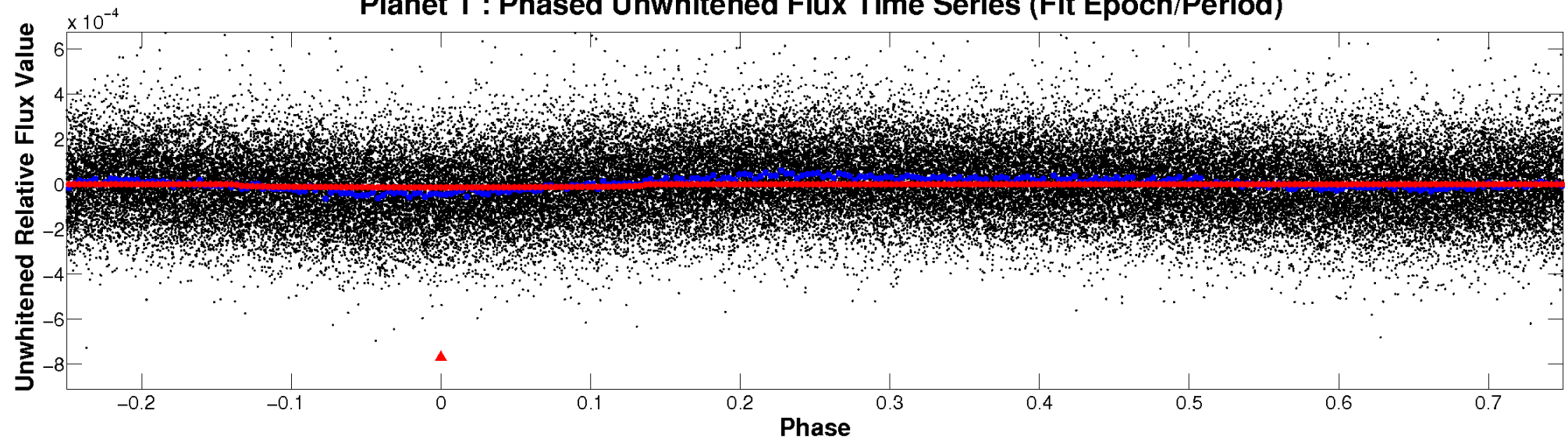
ALT Odd/Even

TCE 008259709-01

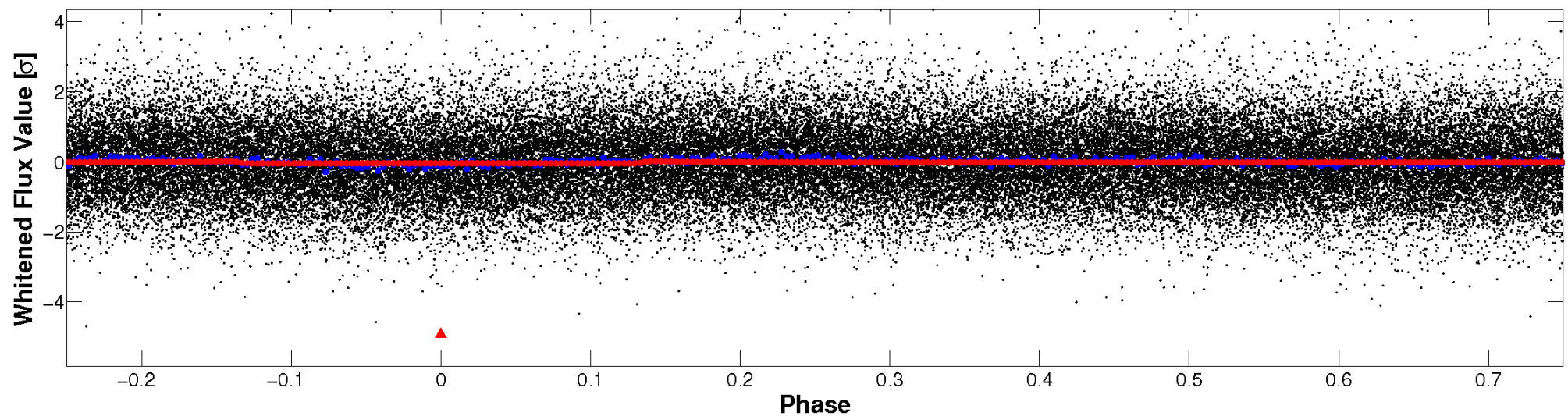


Non-Whitened Vs. Whitened Light Curve

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

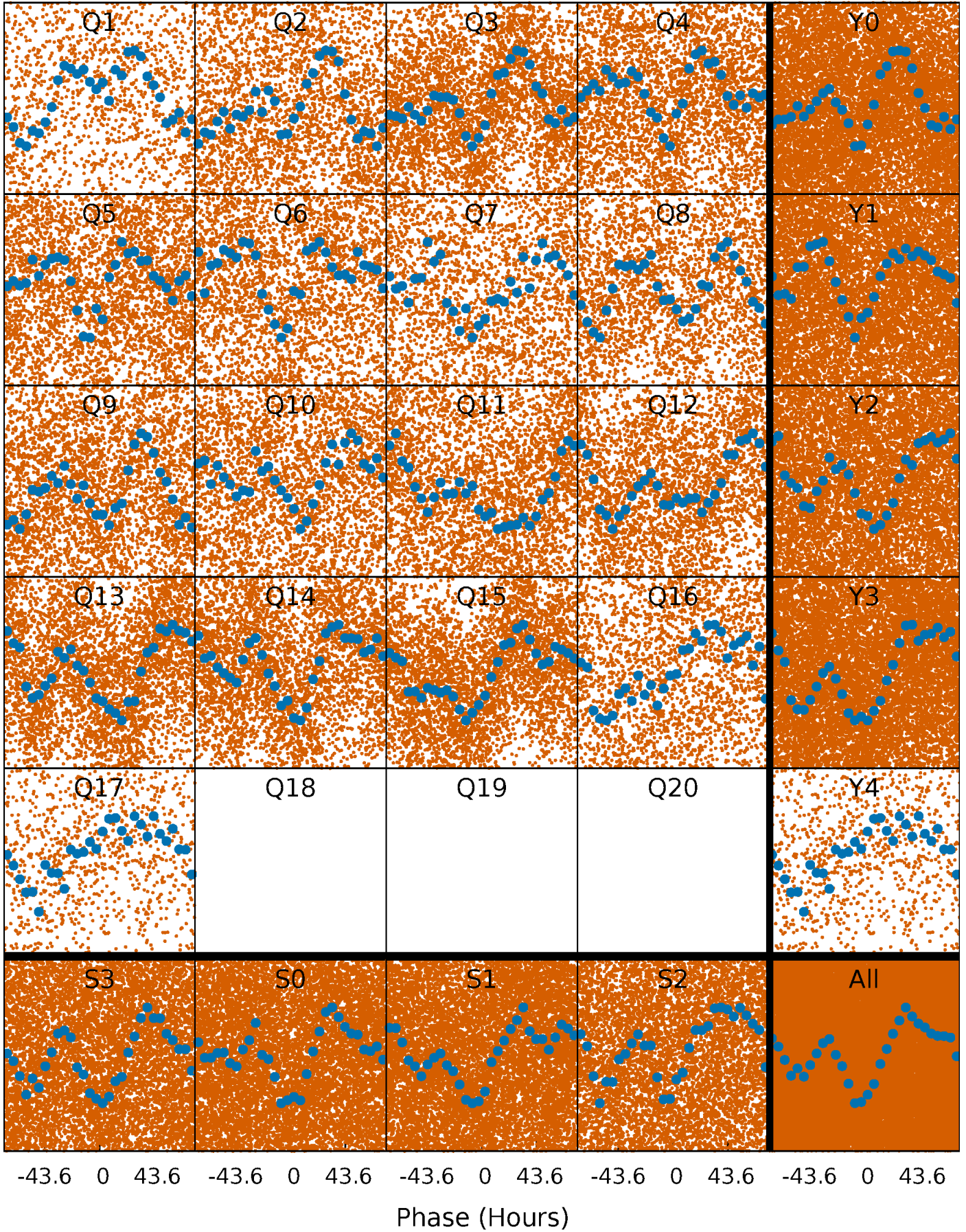


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



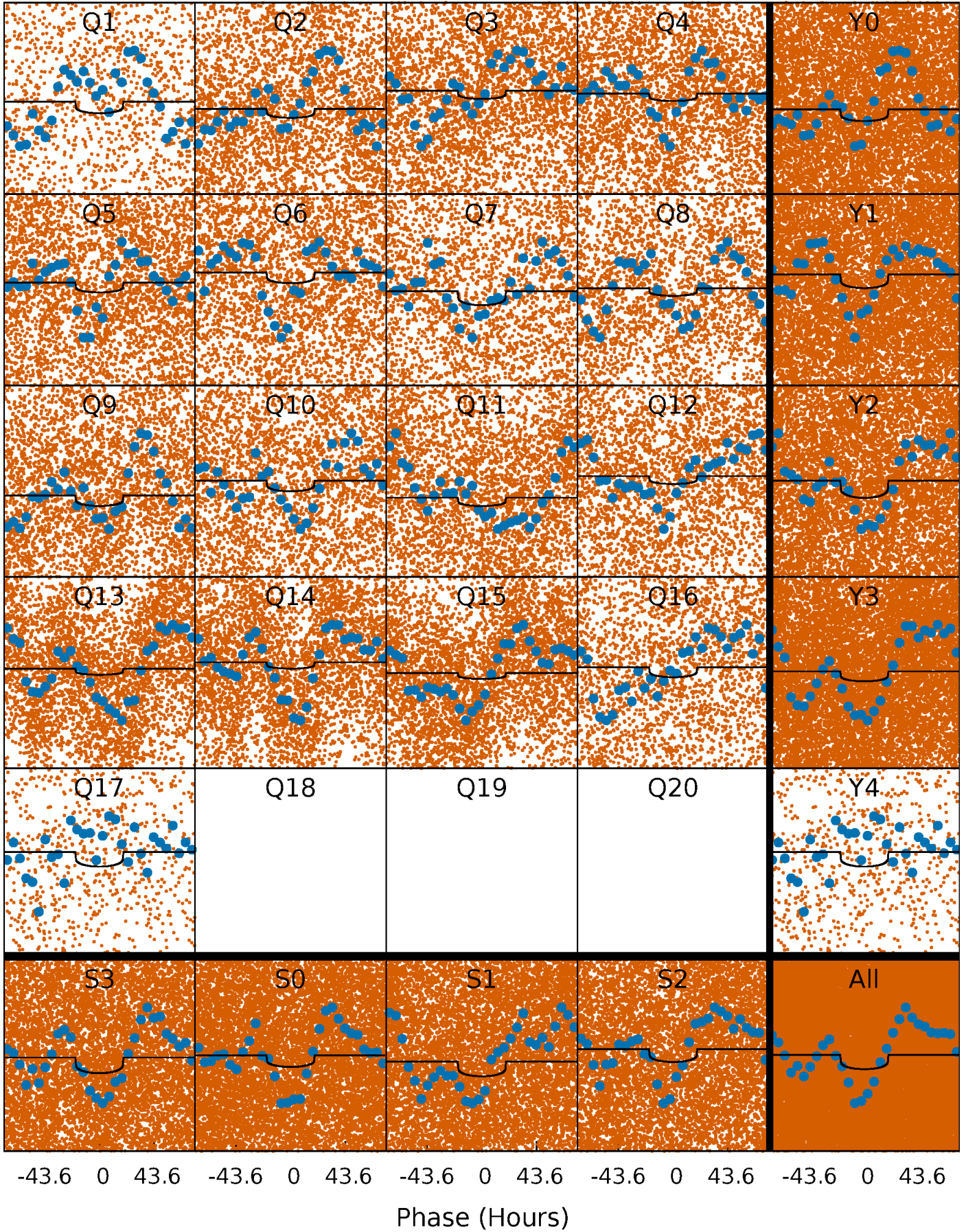
PDC Quarter-Phased Transit Curves

TCE 008259709-01 P= 5.837302 Days $T_0=132.009080$ (BKJD)



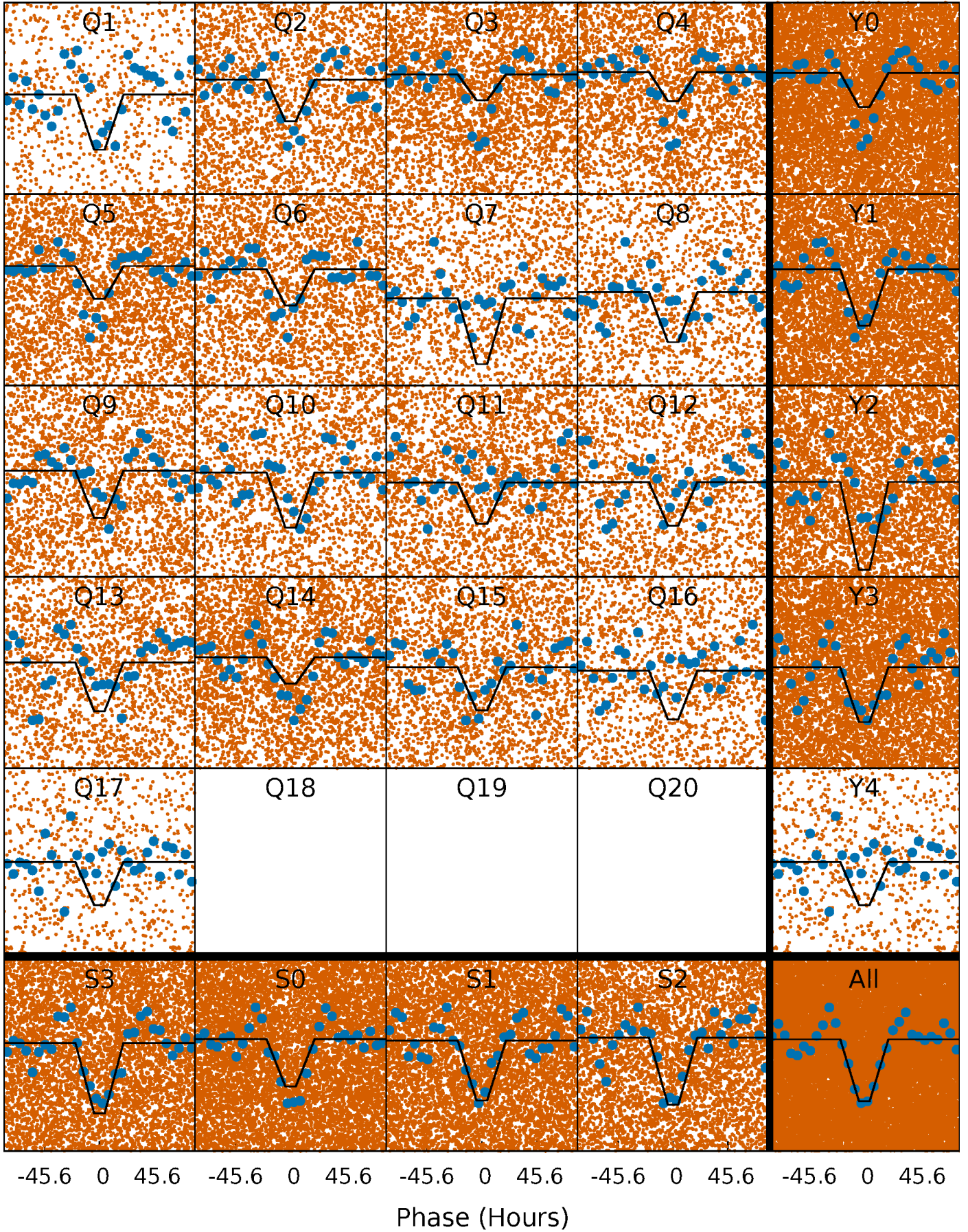
DV Quarter-Phased Transit Curves

TCE 008259709-01 P= 5.837302 Days $T_0=132.009080$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

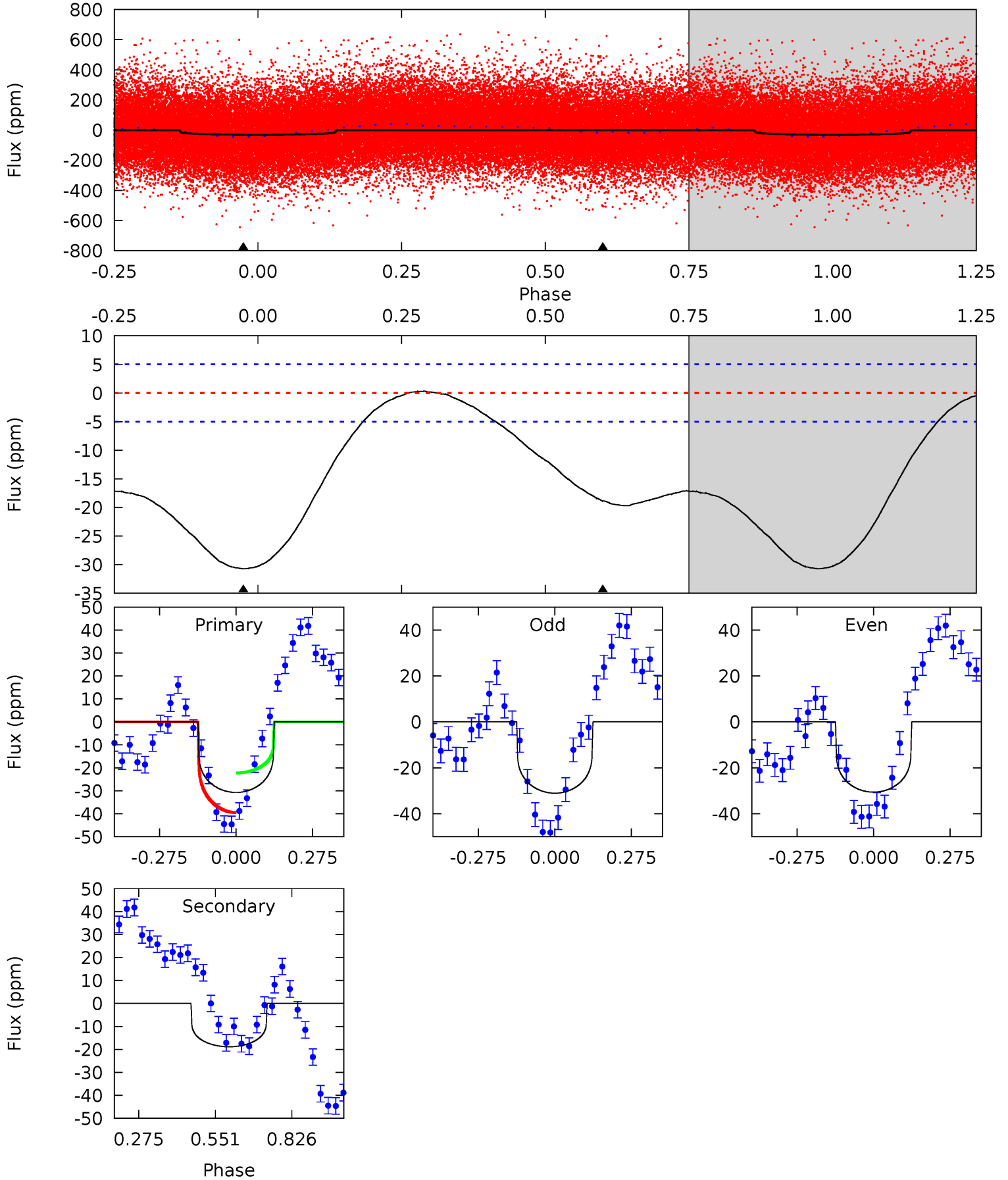
TCE 008259709-01 P= 5.838244 Days $T_0=131.859670$ (BKJD)



DV Model-Shift Uniqueness Test

008259709-01, P = 5.837302 Days, E = 126.171778 Days

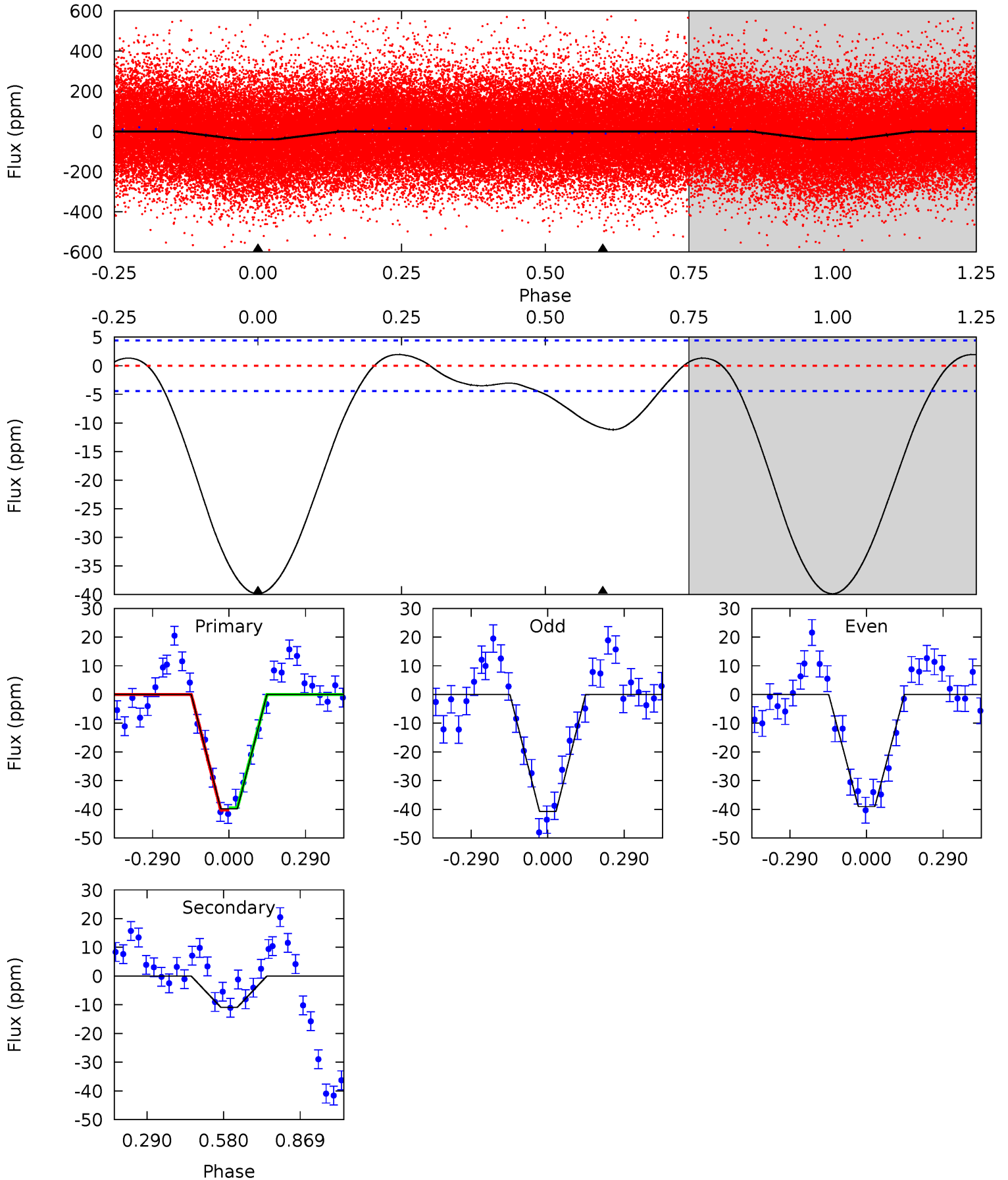
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.6	16.3	0	0	4.35	1.09	0.29	26.6	26.6	16.3	16.3	0.20	1.14	0.01	7.61



Alt Model-Shift Uniqueness Test

008259709-01, P = 5.838244 Days, E = 126.021426 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.1	10.7	0	0	4.34	1.06	1.57	39.1	39.1	10.7	10.7	0.83	1.20	0.05	0.42



Stellar Parameters For KIC 008259709

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6322^{+181}_{-227}	$3.921^{+0.420}_{-0.140}$	$-0.300^{+0.300}_{-0.300}$	$1.965^{+0.486}_{-0.834}$	$1.174^{+0.181}_{-0.221}$	$0.218^{+0.824}_{-0.090}$
	+3%/-4%	+11%/-4%	+100%/-100%	+25%/-42%	+15%/-19%	+378%/-42%
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 008259709-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-19 ± 1	$0.89^{+0.79}_{-0.61}$	2055^{+171}_{-226}	6173^{+6880}_{-1465}	59^{+540}_{-41}
Alt.	-11 ± 1	$1.29^{+0.90}_{-0.73}$	2061^{+175}_{-237}	4682^{+1899}_{-840}	17^{+70}_{-11}

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

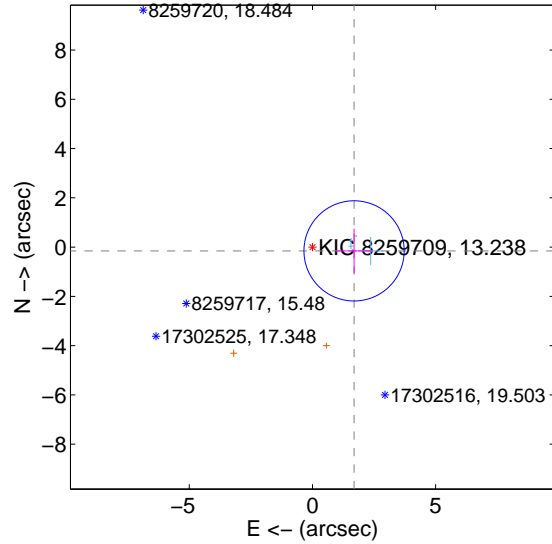
Supplemental centroid analysis for 008259709-01. Kepler magnitude: 13.24. Transit SNR 6.26

There are 4 quarters with good PRF difference image offsets

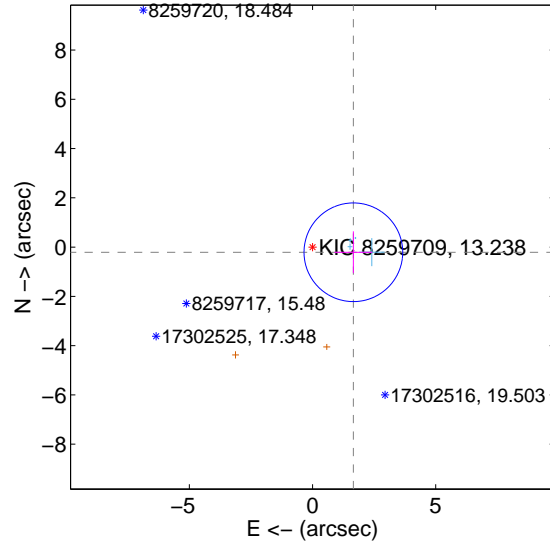
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.696 ± 0.678	2.50	-1.690 ± 0.750	-0.154 ± 0.898
PRF-fit source offset from KIC position	1.671 ± 0.668	2.50	-1.658 ± 0.766	-0.210 ± 0.849
photometric centroid source offset	3.43 ± 1.59	2.16	1.35 ± 1.86	-3.15 ± 1.53

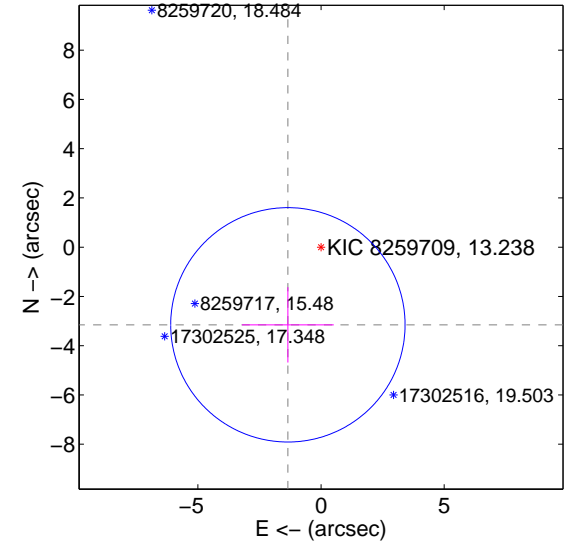
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

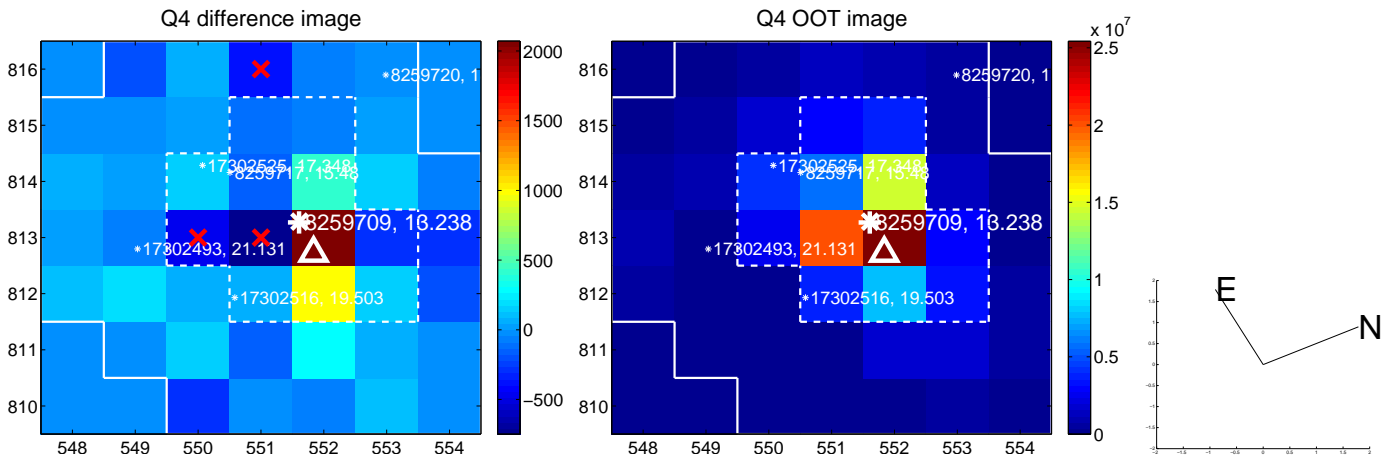
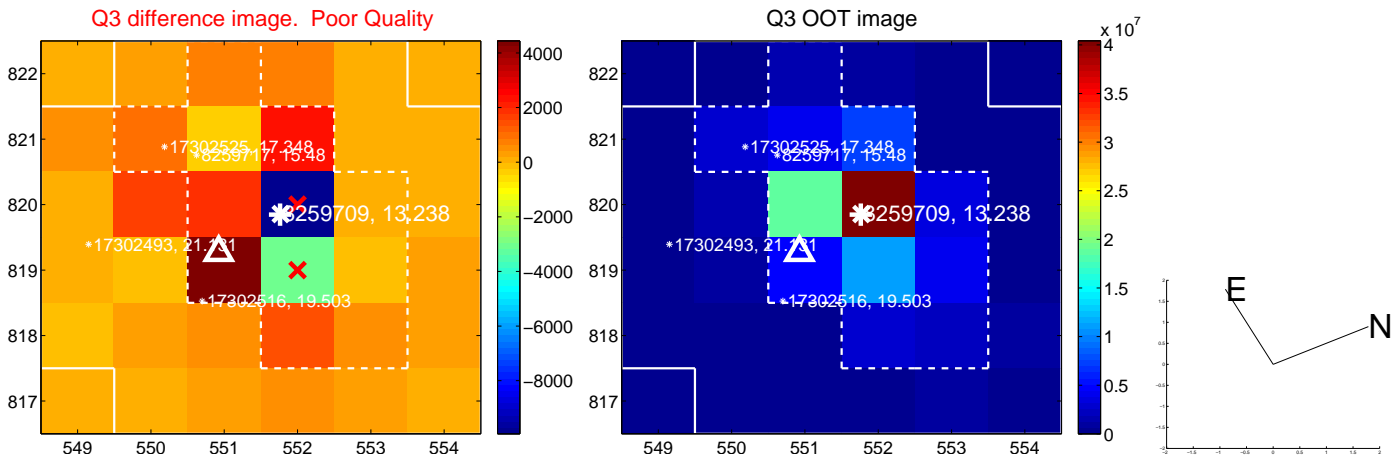
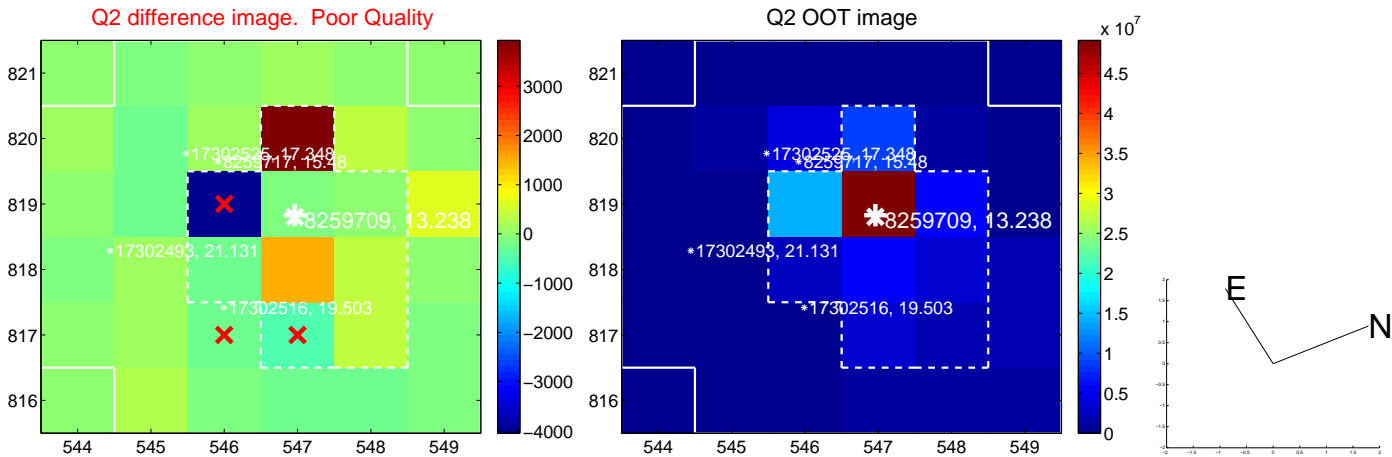
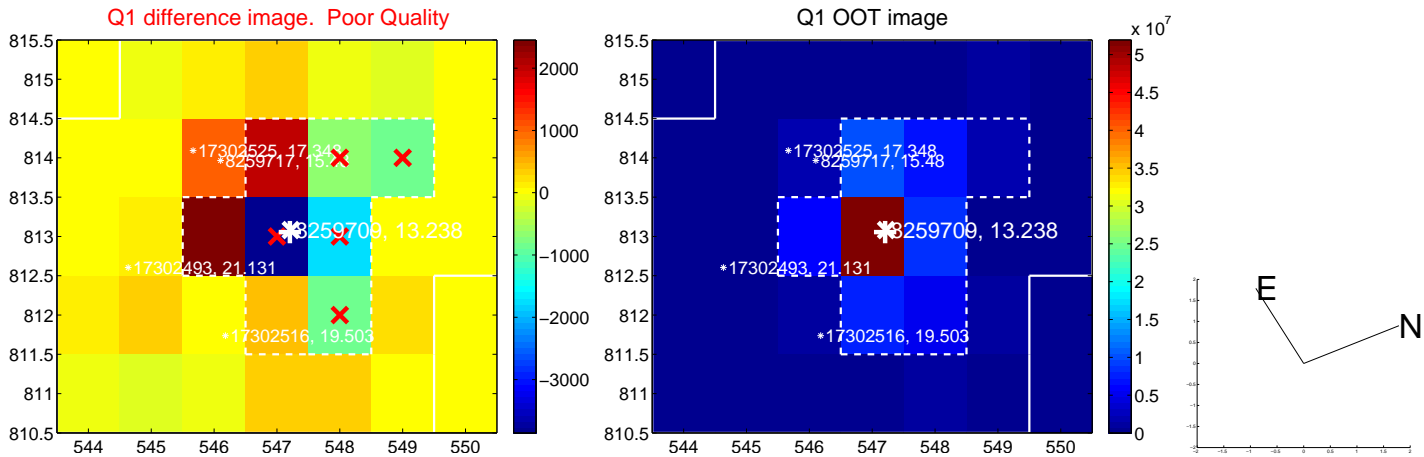


offset from photometric centroids

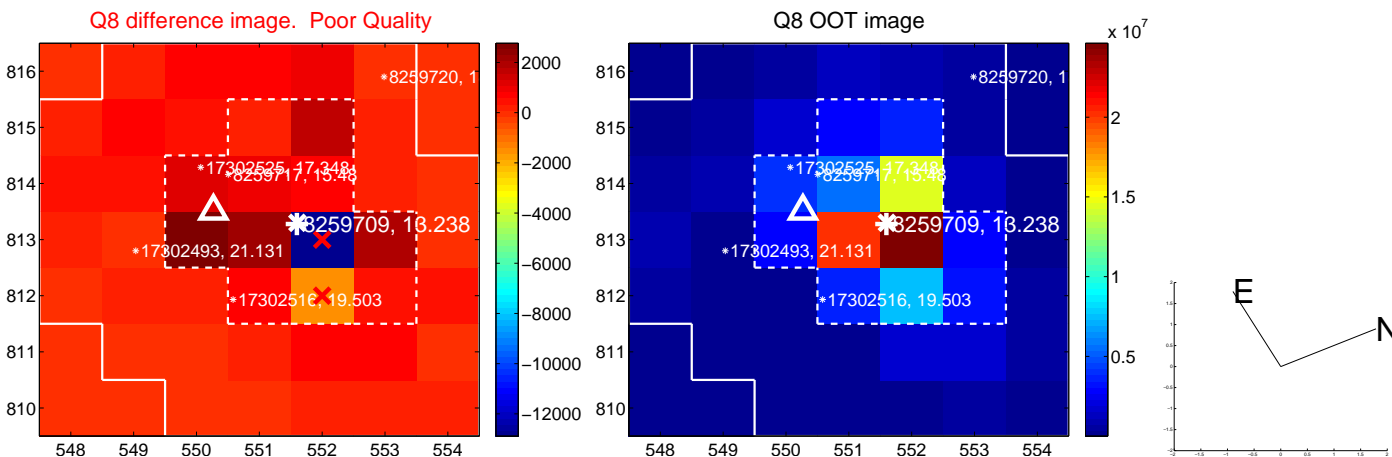
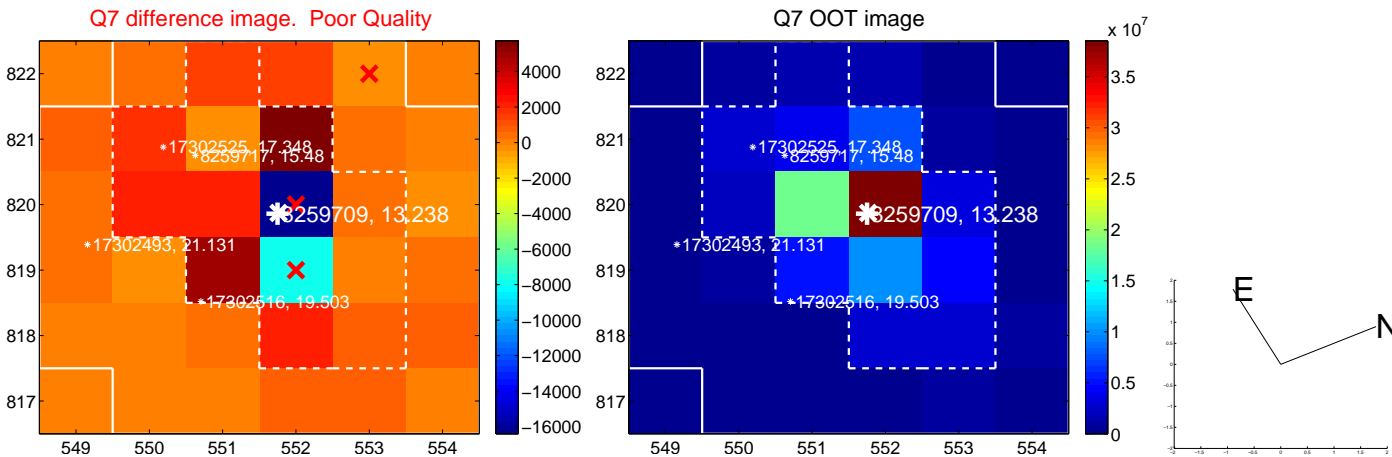
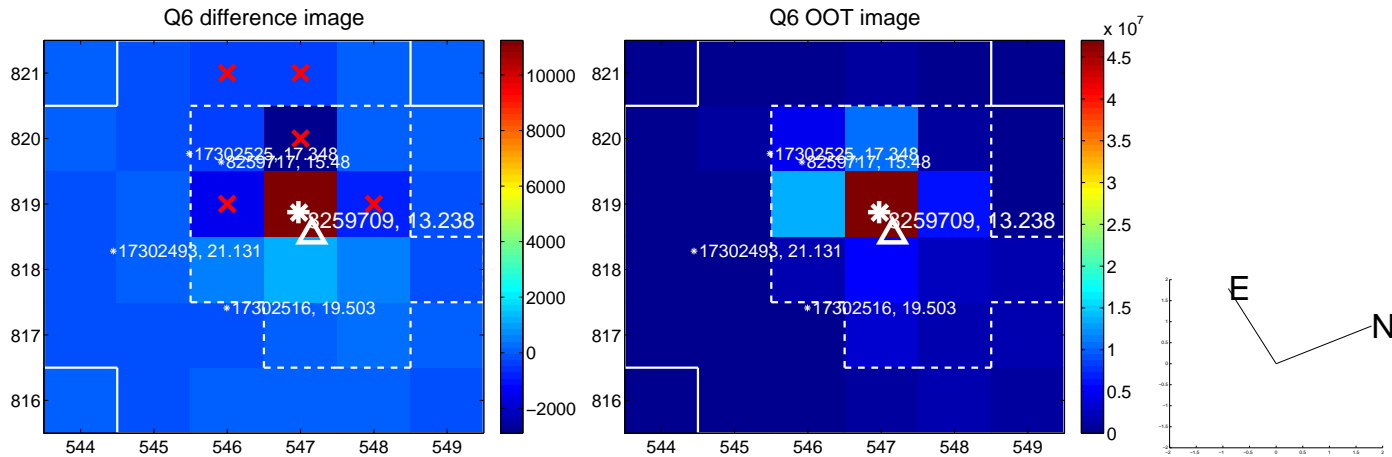
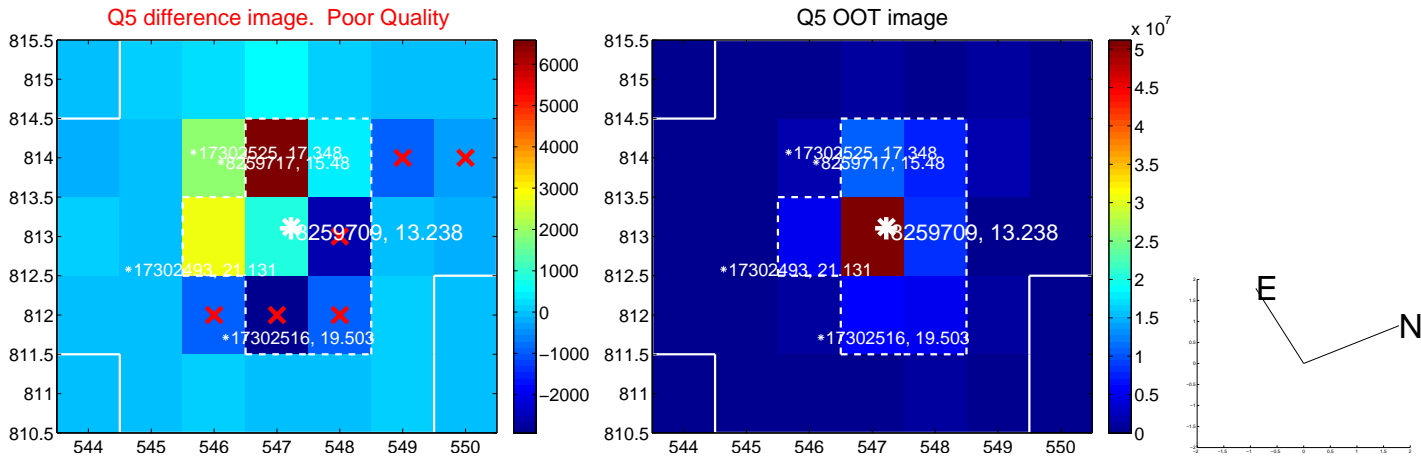


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

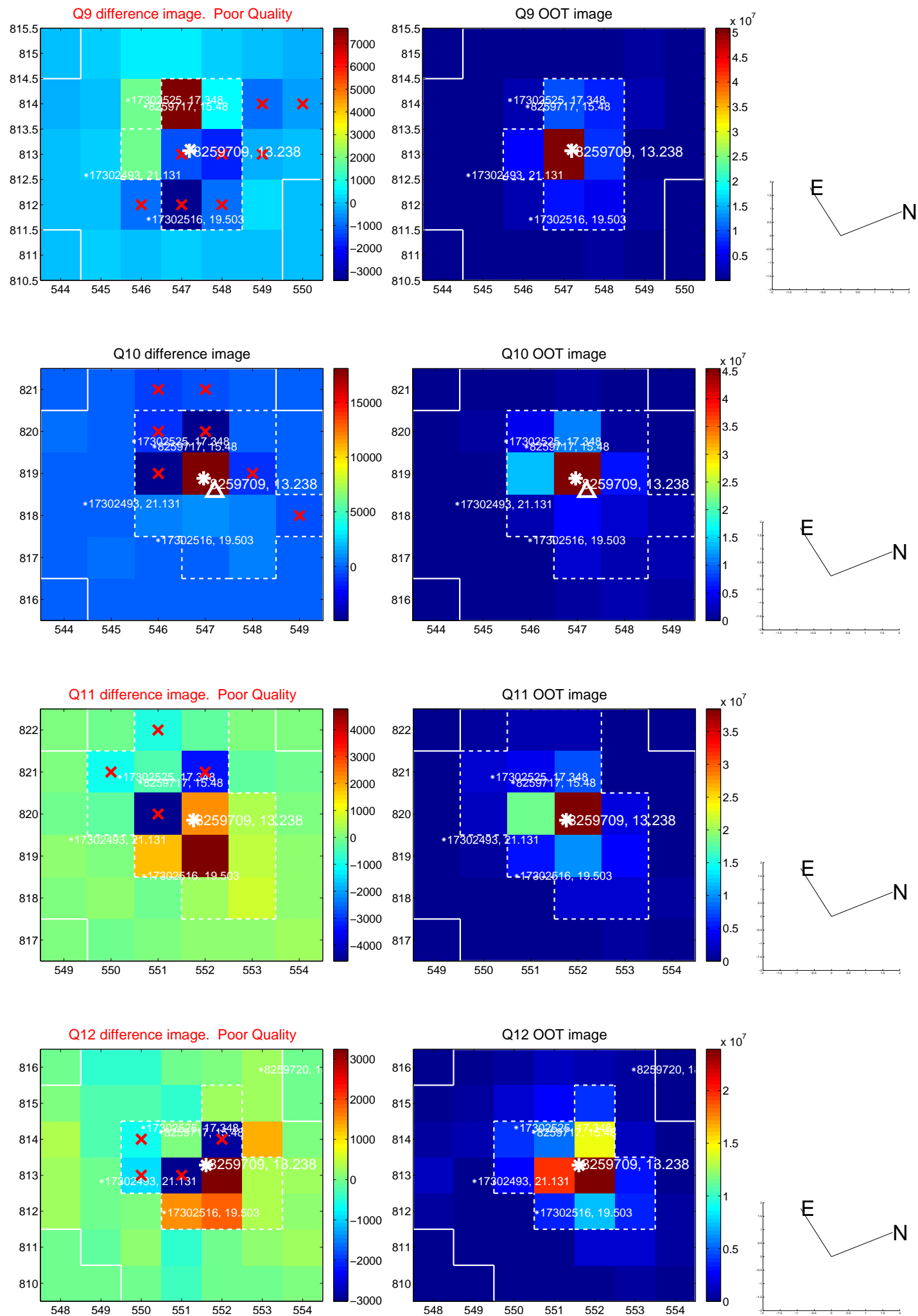
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



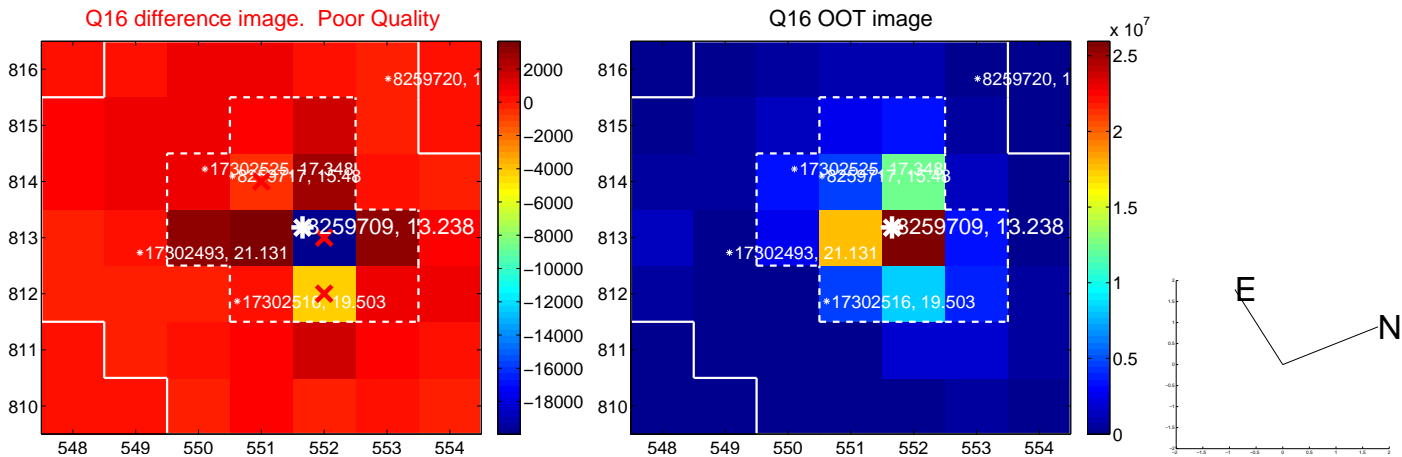
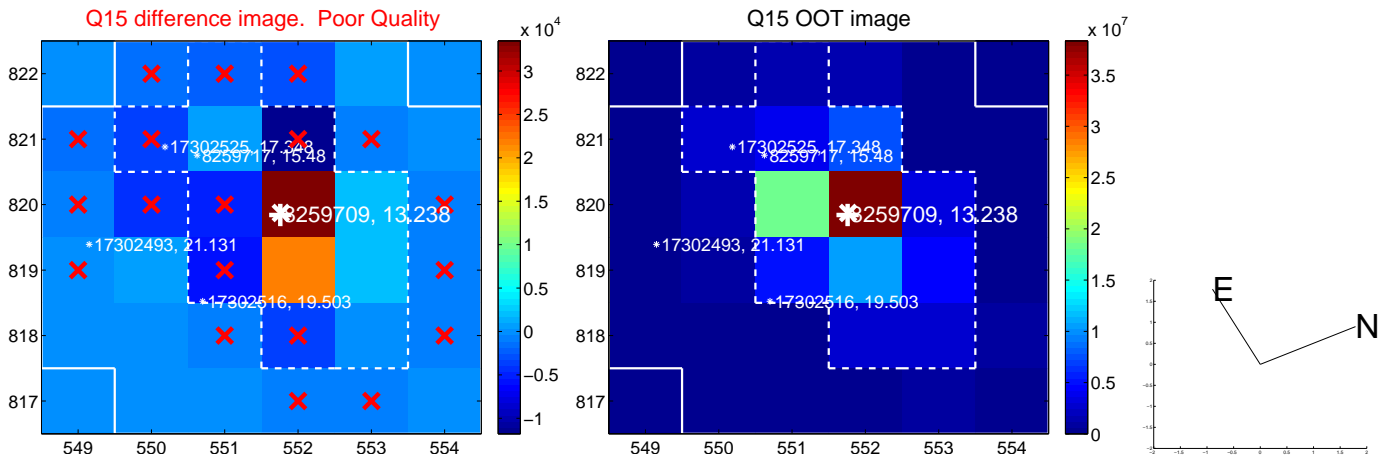
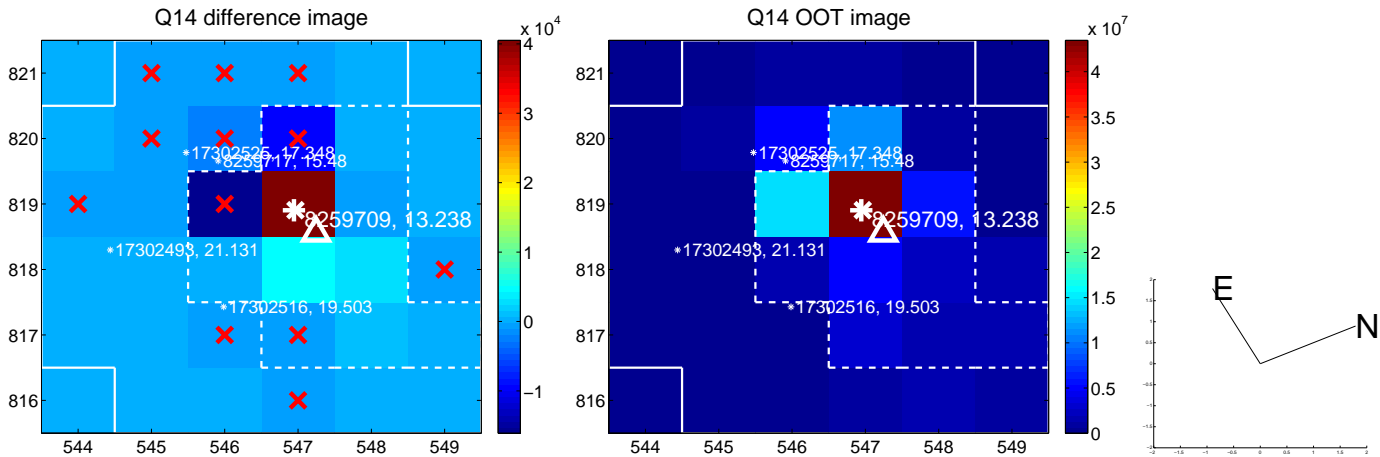
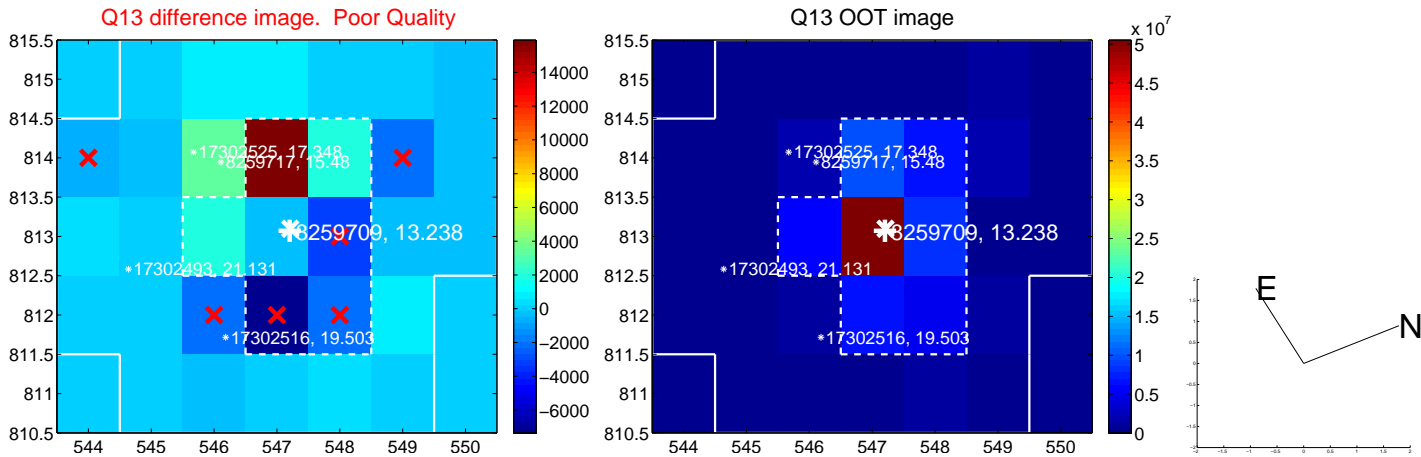
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



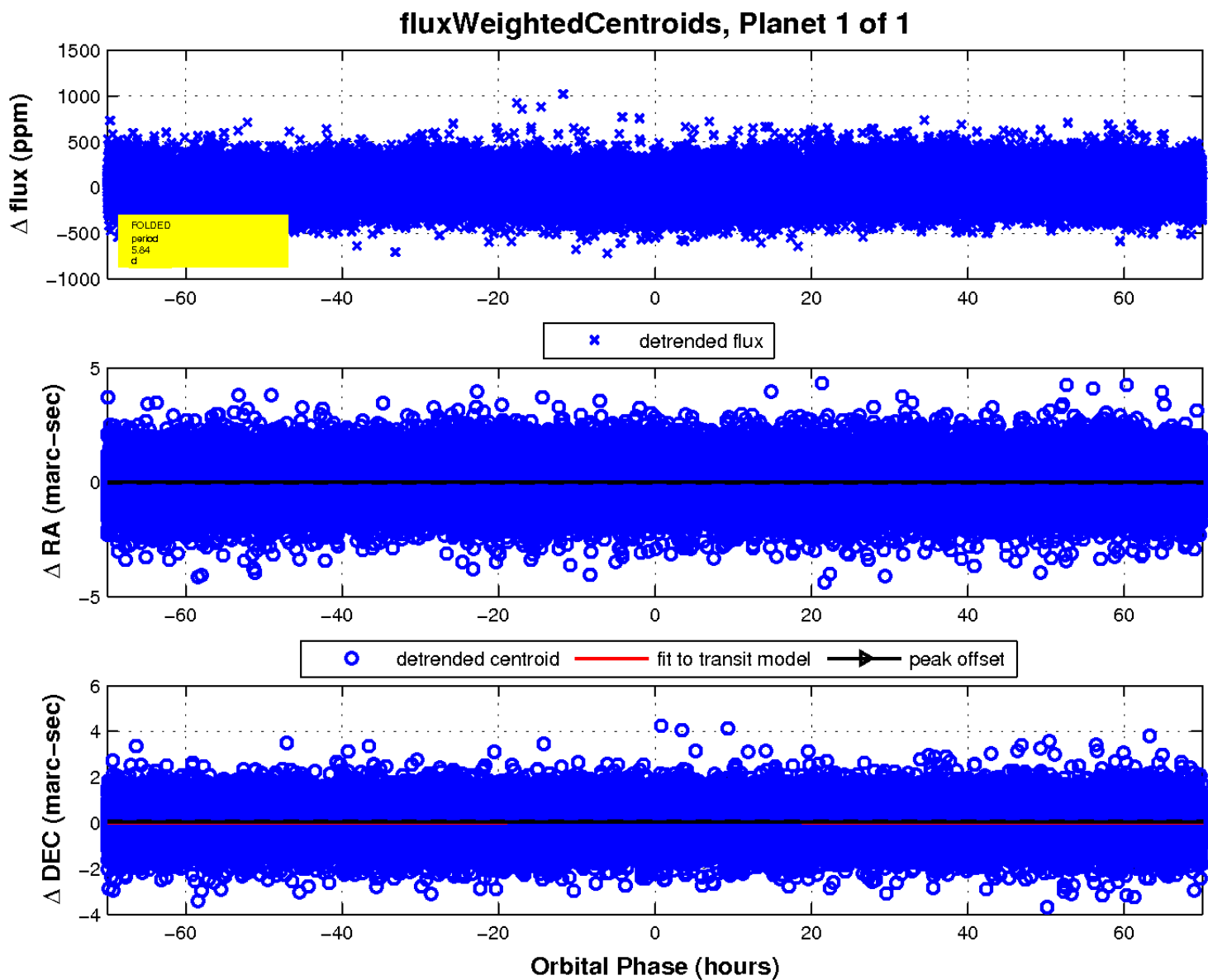
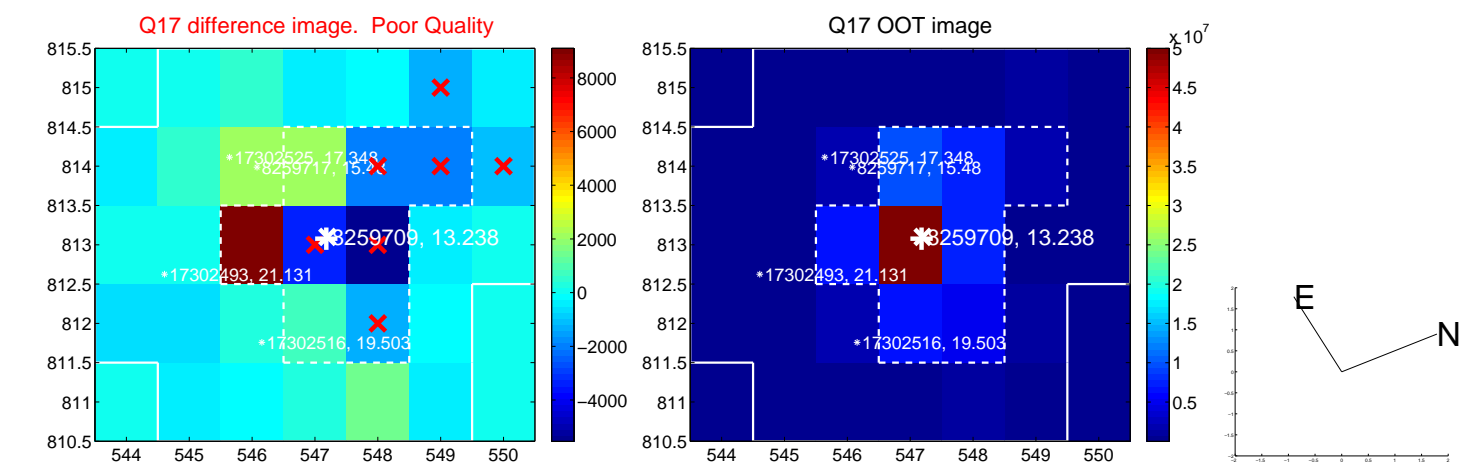
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

