

KIC 008509703

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})
008509703-01	OBS	No	1.847839	131.643812	644.4	6.000	9.1	-1.0	0.97	5661	2.42	951.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008509703-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL —LPP_DV —LPP_ALT —CENT_NOFITS

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

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

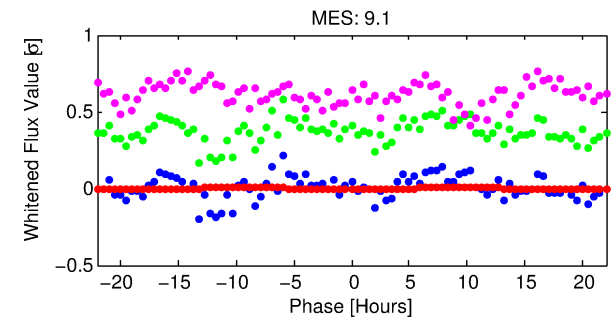
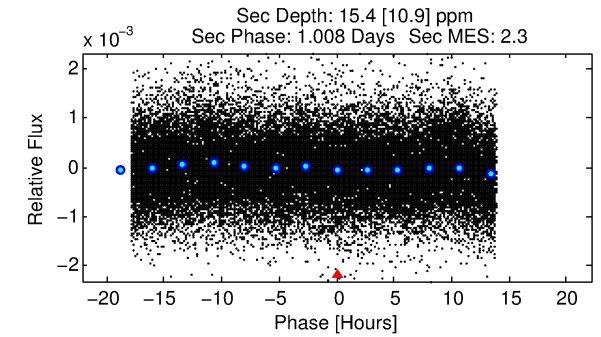
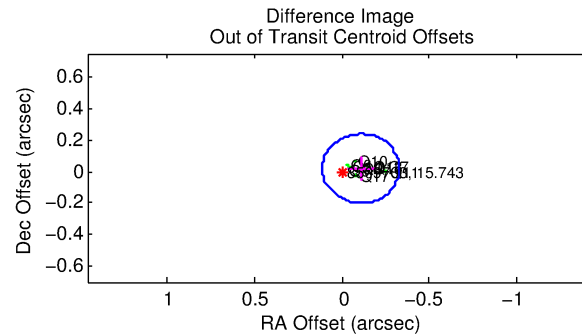
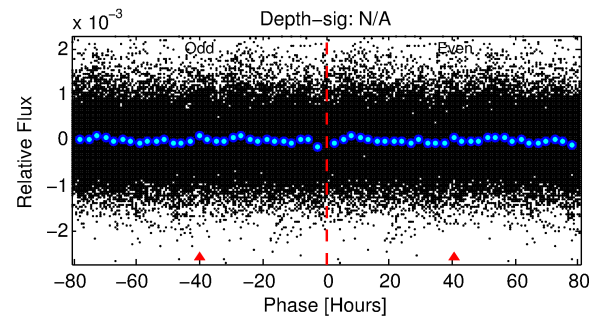
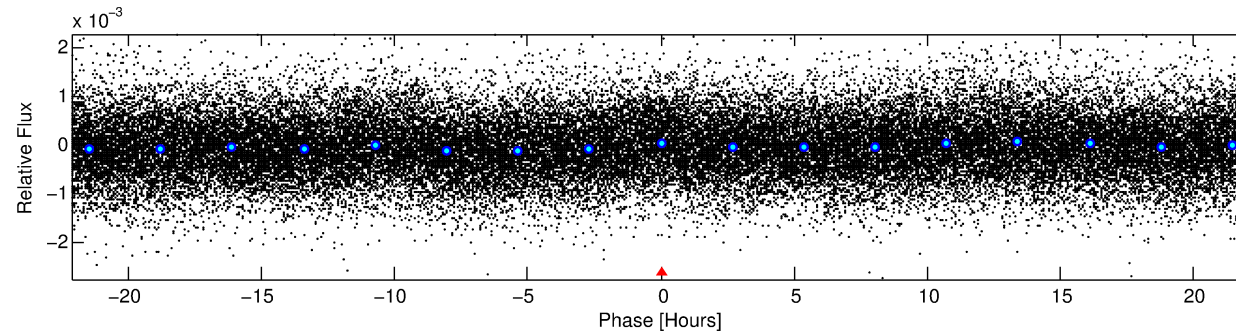
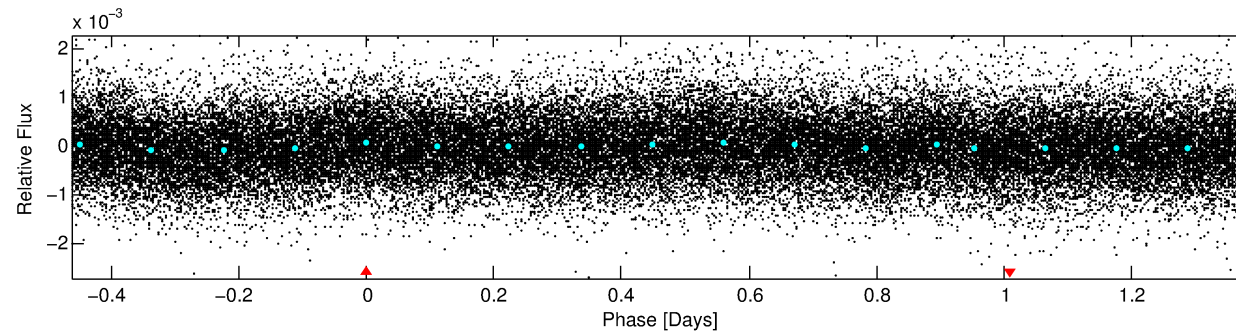
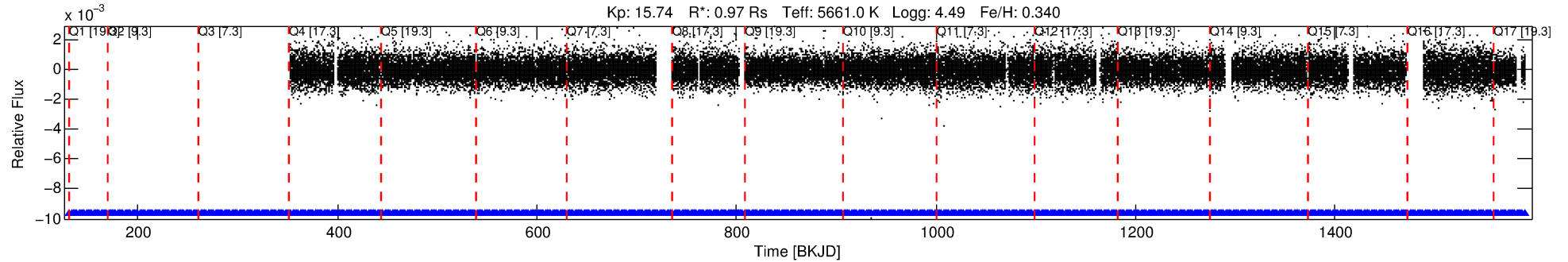
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008509703-01

No Significant Match Found

DV One-Page Summary

KIC: 8509703 Candidate: 1 of 1 Period: 1.848 d



TPS TCE Results:

Period = 1.84784 d
Epoch = 131.6438 BKJD

DV fit results are unavailable

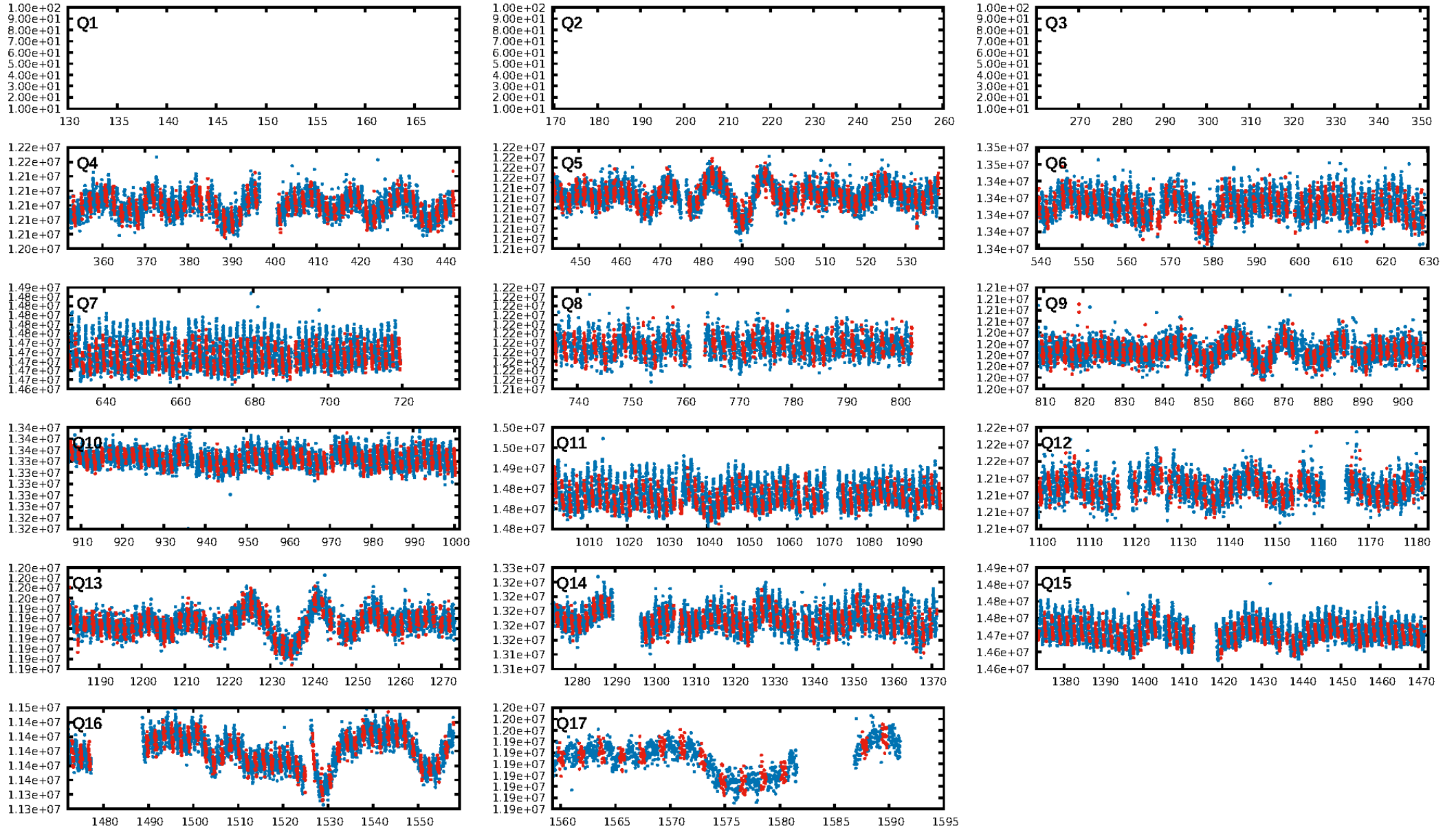
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.43e-17
RollingBand-fgt: 1.00 [613/613]
GhostDiagnostic-chr: -2.4
Centroid-sig: 0.0%
Centroid-so: 3.695 arcsec [78.32σ]
OotOffset-rm: 0.110 arcsec [1.50σ]
KicOffset-rm: 7.490 arcsec [99.67σ]
OotOffset-st: 3/3/0/4 [10]
KicOffset-st: 3/3/0/4 [10]
DiffImageQuality-fgm: 1.00 [10/10]
DiffImageOverlap-fno: 1.00 [14/14]

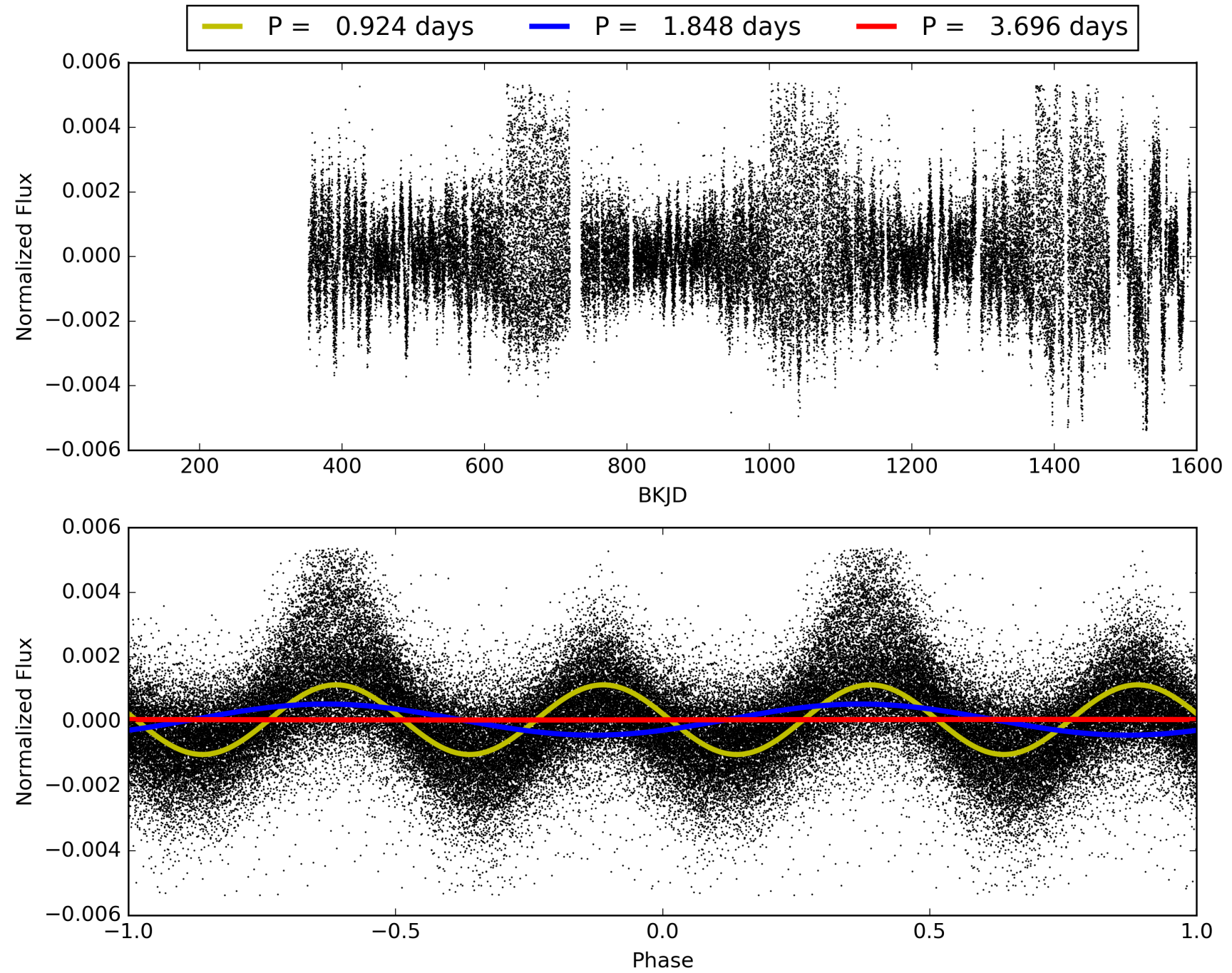
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:28:59 Z

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

TCE 008509703-01, PDC Light Curves

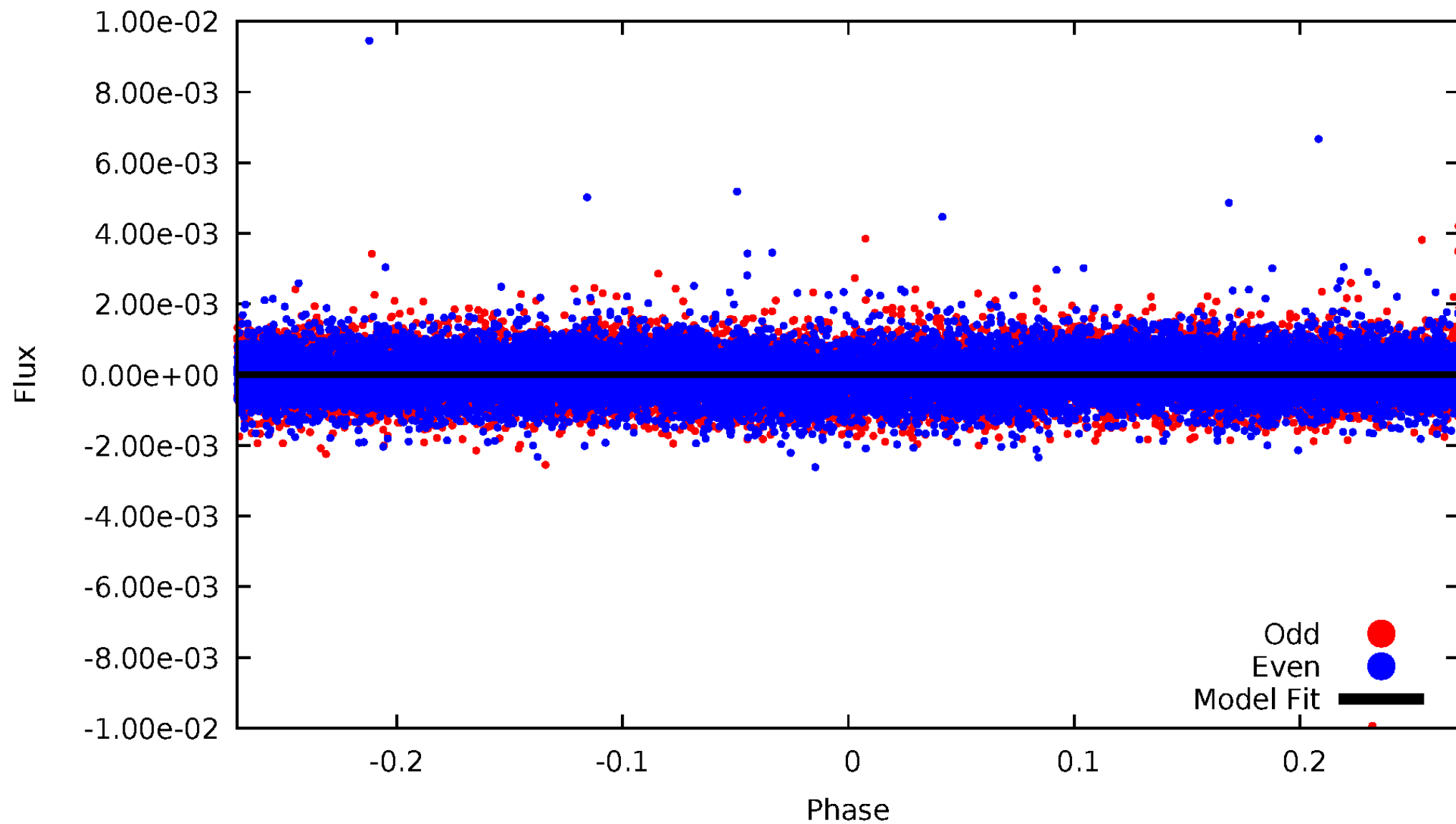


TCE 008509703-01



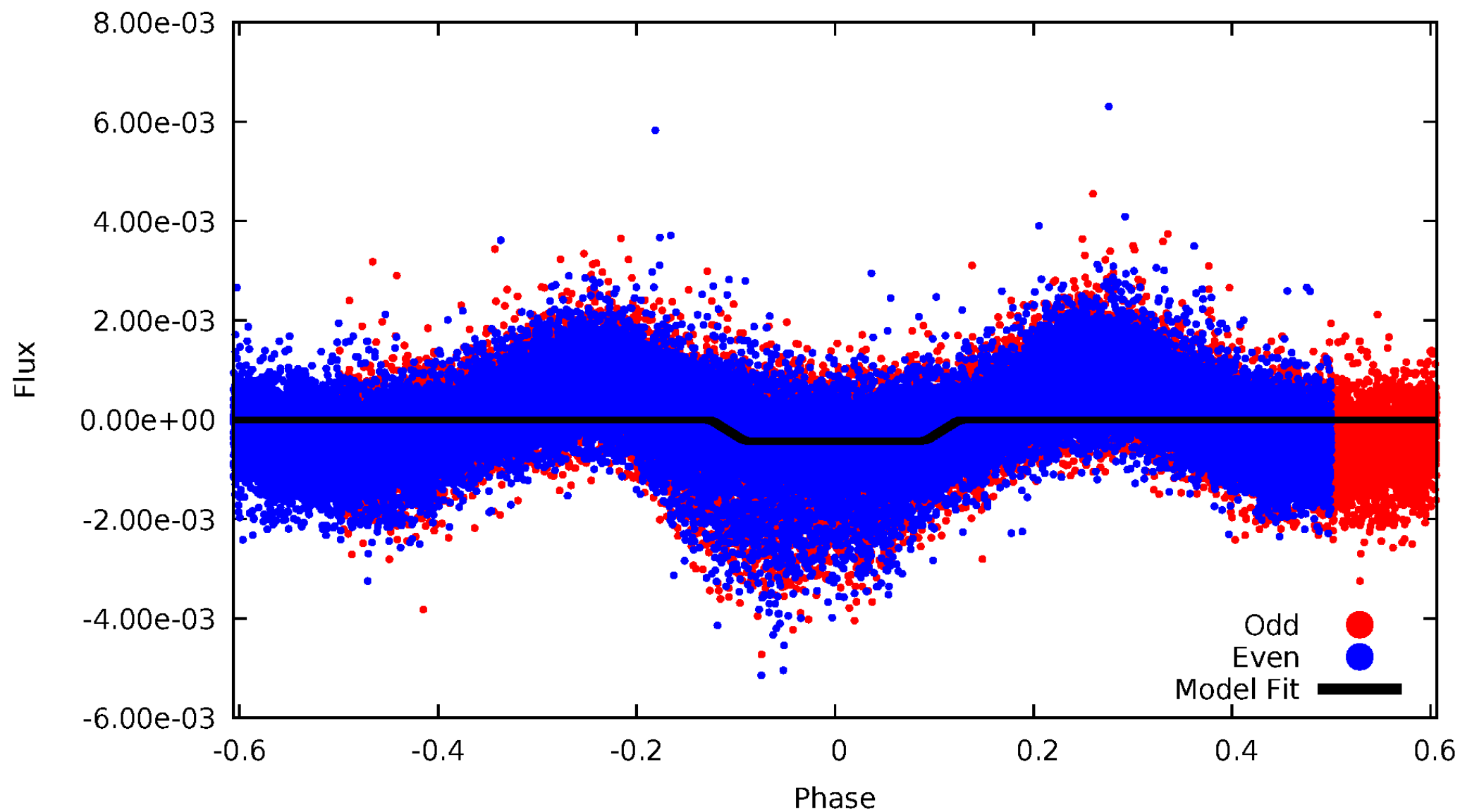
DV Odd/Even

TCE 008509703-01

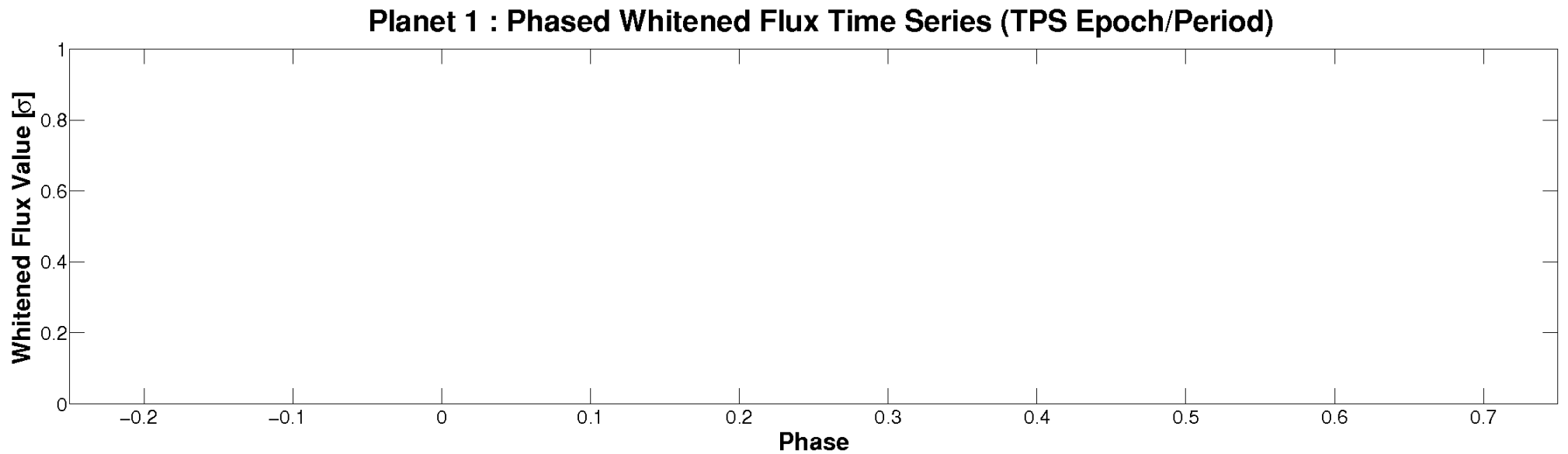
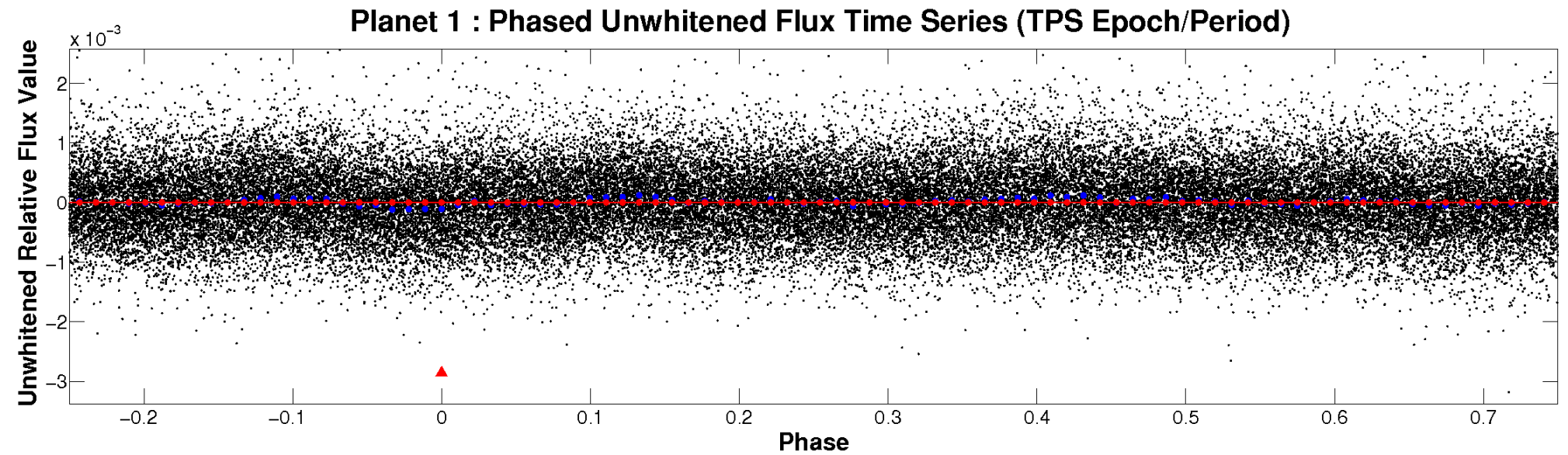


ALT Odd/Even

TCE 008509703-01

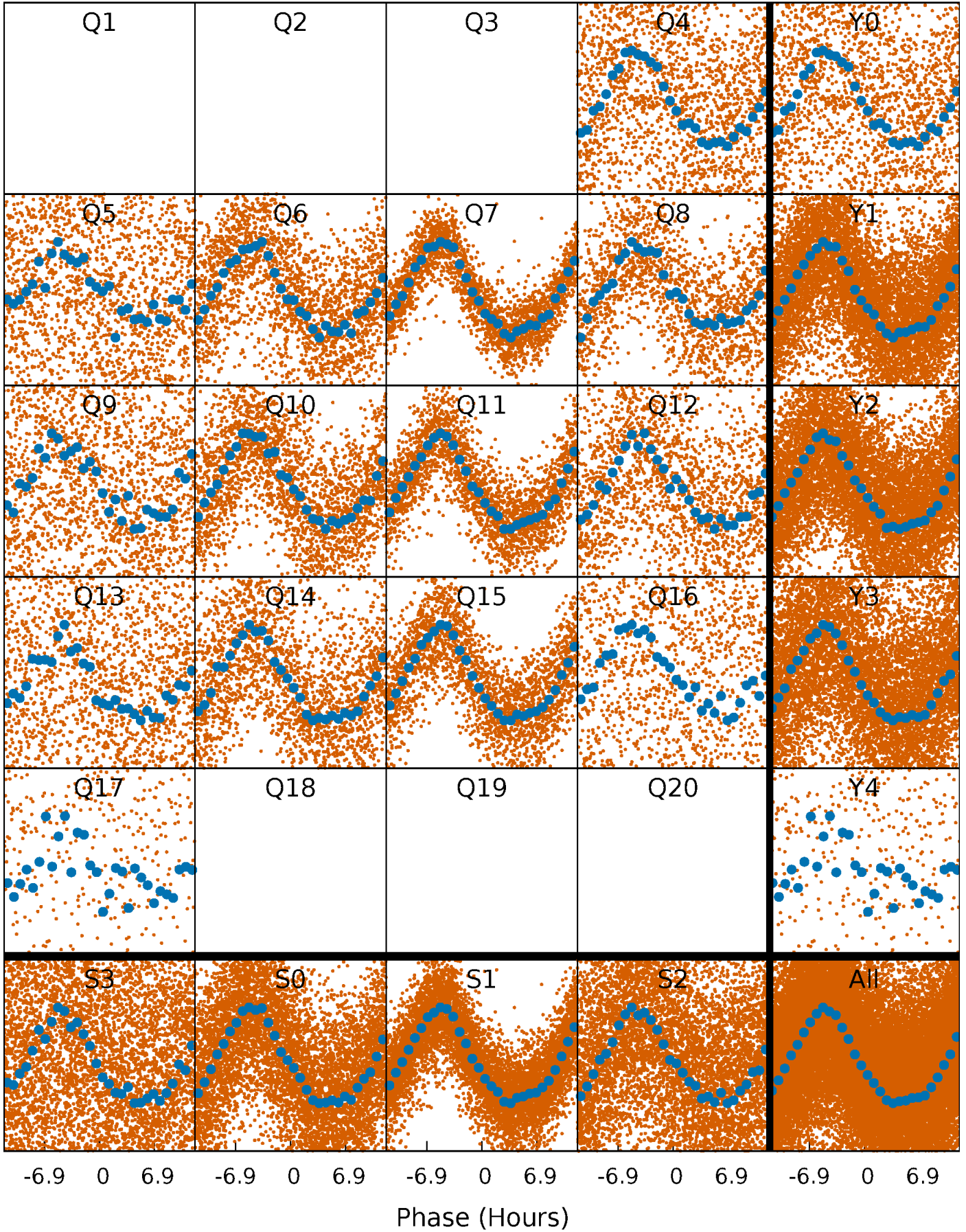


Non-Whitened Vs. Whitened Light Curve



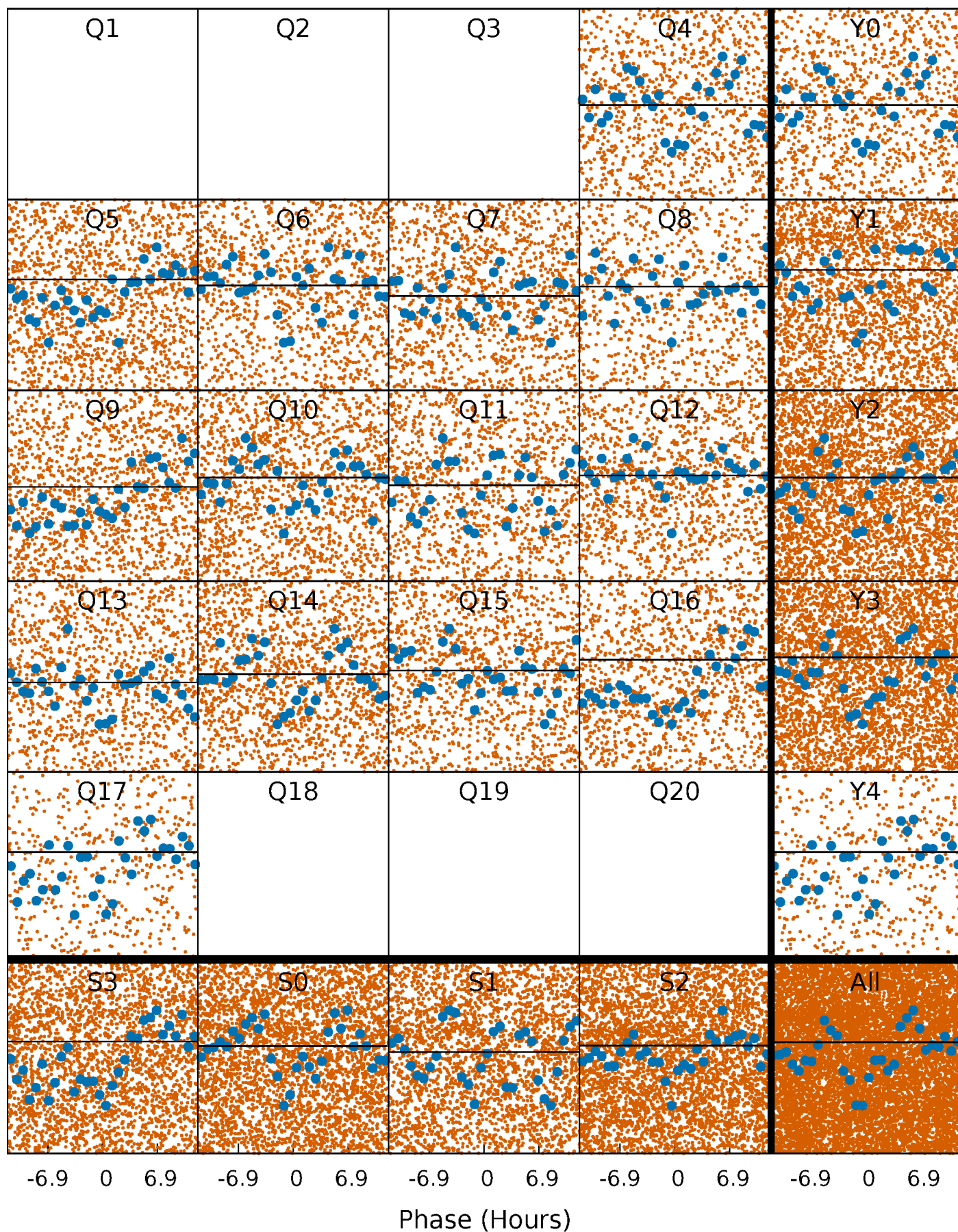
PDC Quarter-Phased Transit Curves

TCE 008509703-01 P= 1.847839 Days $T_0=131.643812$ (BKJD)



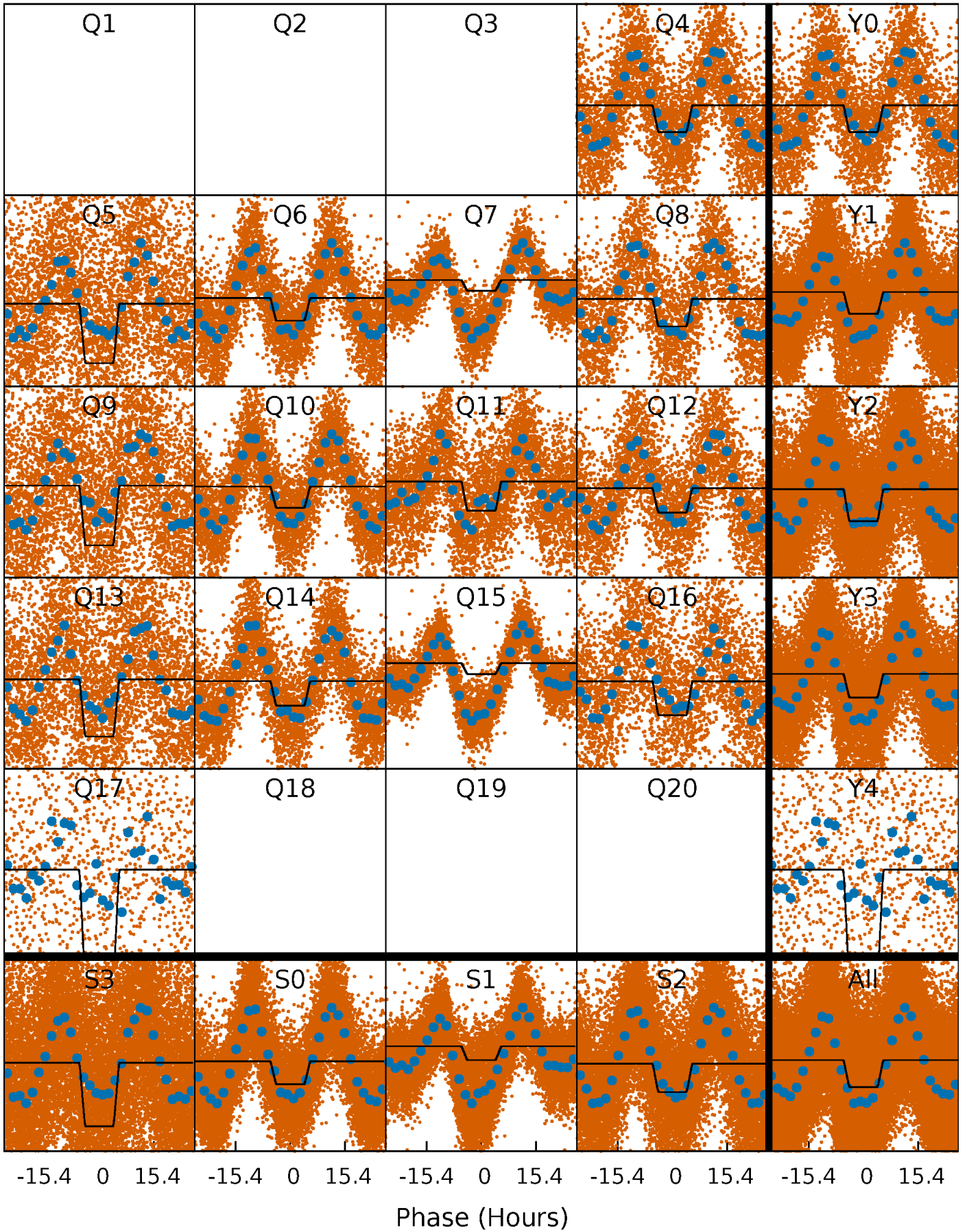
DV Quarter-Phased Transit Curves

TCE 008509703-01 P= 1.847839 Days $T_0=131.643812$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

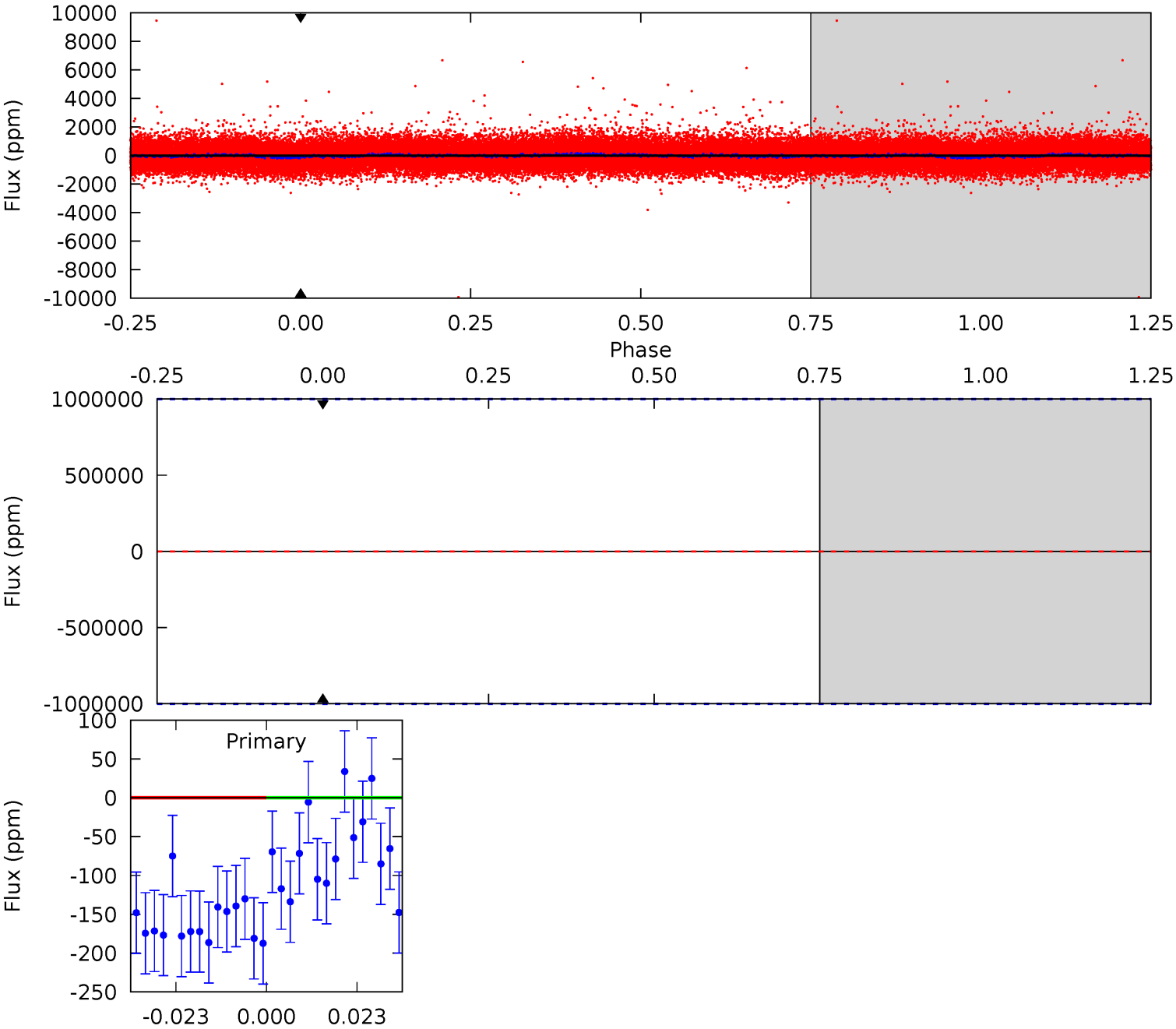
TCE 008509703-01 P= 1.847839 Days $T_0=131.887406$ (BKJD)



DV Model-Shift Uniqueness Test

008509703-01, P = 1.847839 Days, E = 131.643812 Days

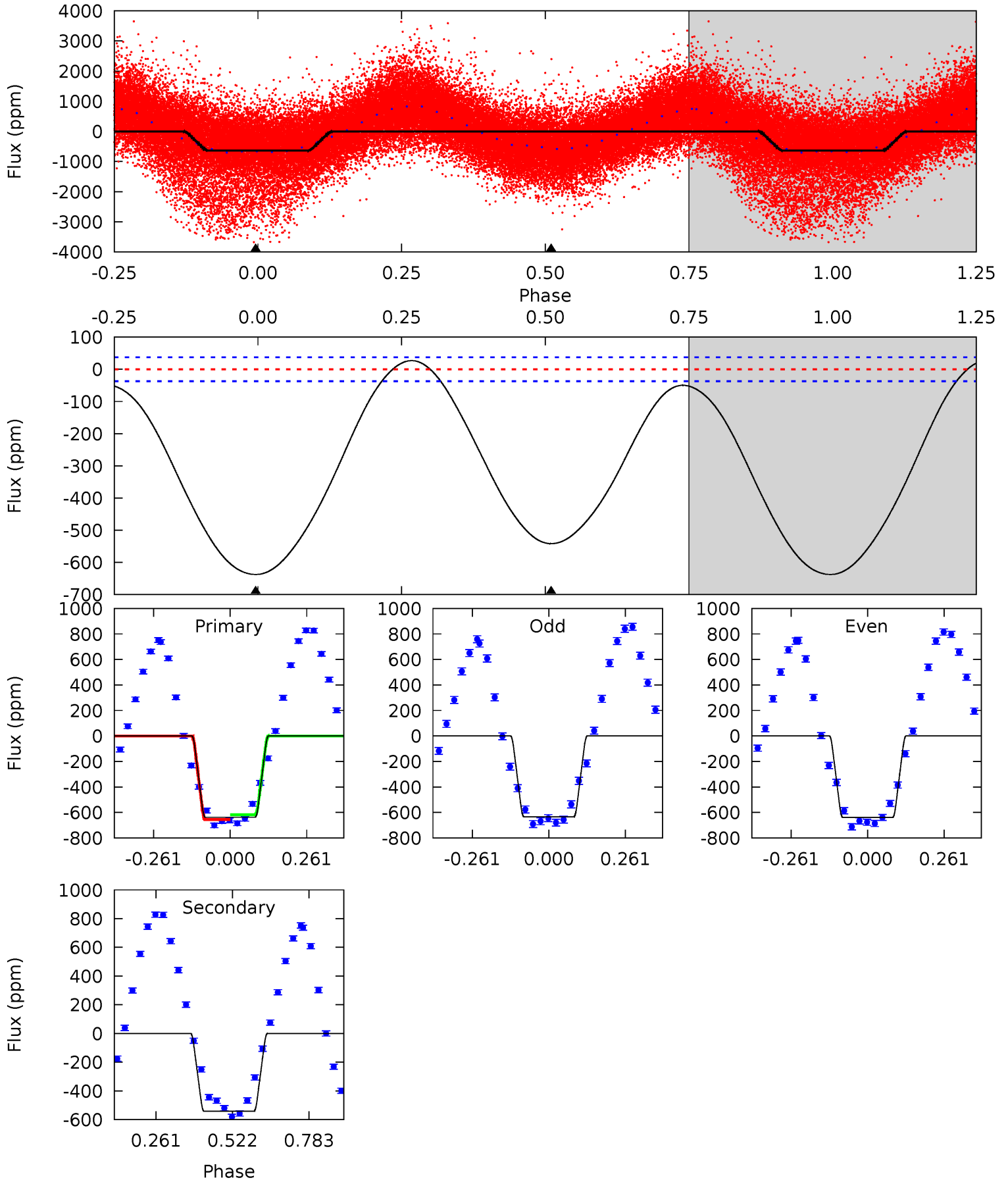
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008509703-01, P = 1.847839 Days, E = 131.887406 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
74.5	63.3	0	0	4.36	1.12	4.19	74.5	74.5	63.3	63.3	0.26	1.47	0.04	2.76



Stellar Parameters For KIC 008509703

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5661^{+180}_{-200}	$4.494^{+0.050}_{-0.212}$	$0.340^{+0.100}_{-0.300}$	$0.969^{+0.279}_{-0.093}$	$1.067^{+0.100}_{-0.133}$	$1.654^{+0.341}_{-0.880}$
	+3%/-4%	+1%/-5%	+29%/-88%	+29%/-10%	+9%/-12%	+21%/-53%
Source	KIC0	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 008509703-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$8.08^{+9.22}_{-5.42}$	2022^{+142}_{-103}	3657^{+16219}_{-23636}	$4.794^{+1285.613}_{-1301.411}$
Alt.	-542 ± 9	$8.48^{+8.57}_{-5.93}$	2024^{+143}_{-95}	3573^{+2169}_{-831}	$3.678^{+38.317}_{-2.778}$

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 $A_{obs} \gg 1.0$

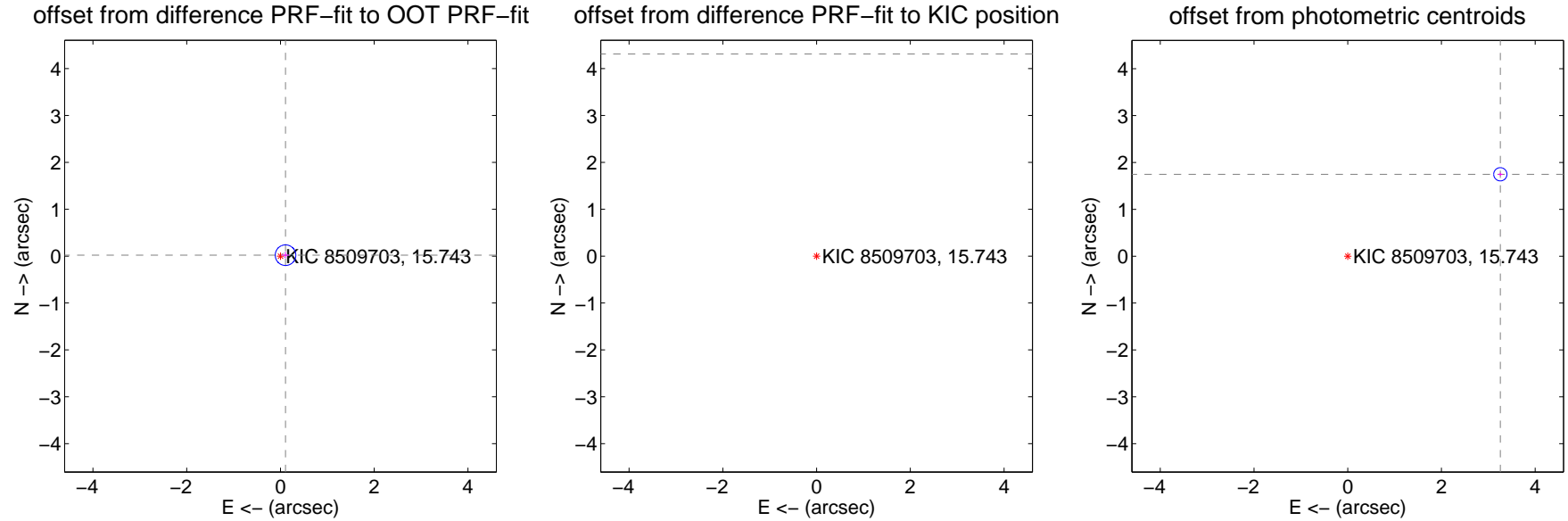
DV Centroid Data

Supplemental centroid analysis for 008509703-01. Kepler magnitude: 15.74. Transit SNR -1.00

There are 10 quarters with good PRF difference image offsets

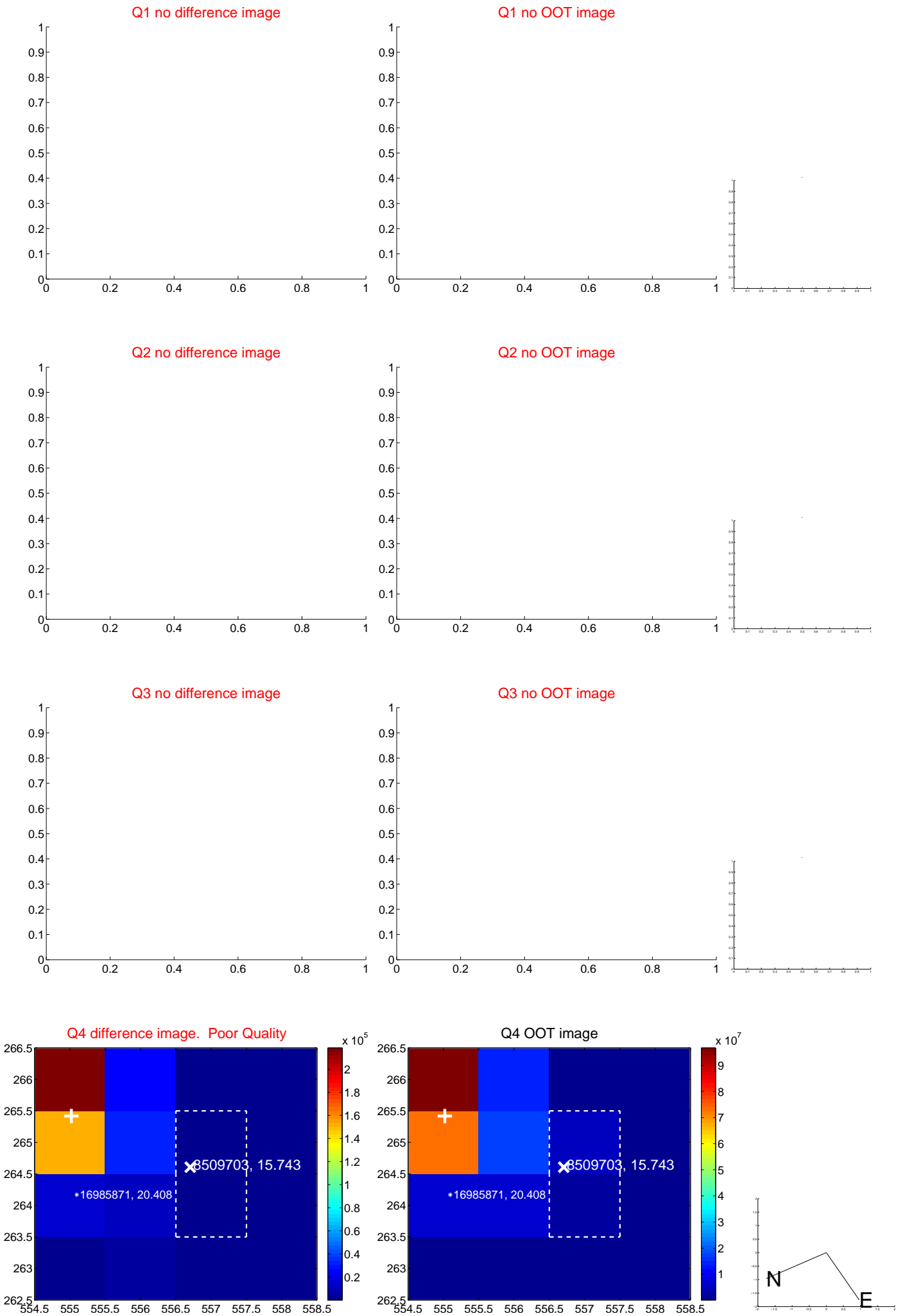
The OOT PRF centroid is offset from the target star catalog position by about 7.40 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.110 ± 0.073	1.50	-0.108 ± 0.073	0.020 ± 0.067
PRF-fit source offset from KIC position	7.490 ± 0.075	99.67	-6.125 ± 0.077	4.311 ± 0.071
photometric centroid source offset	3.69 ± 0.05	78.32	-3.26 ± 0.05	1.75 ± 0.03

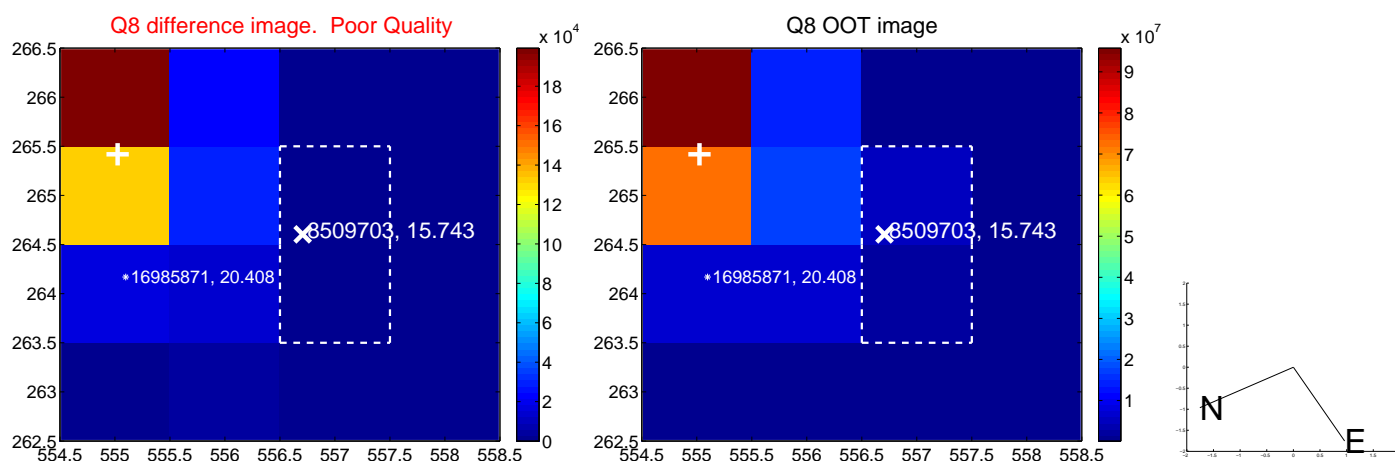
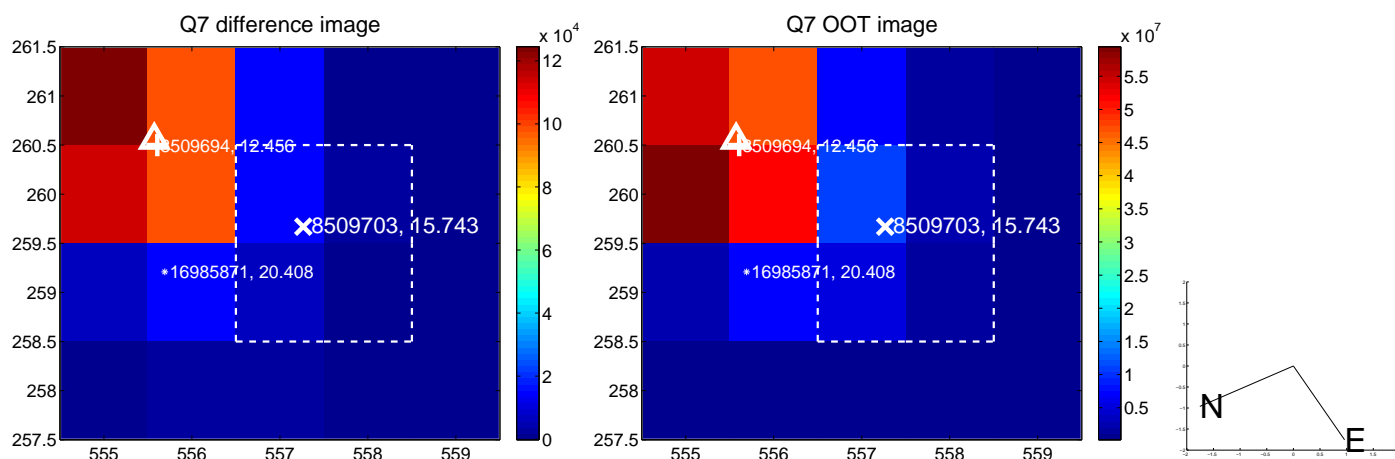
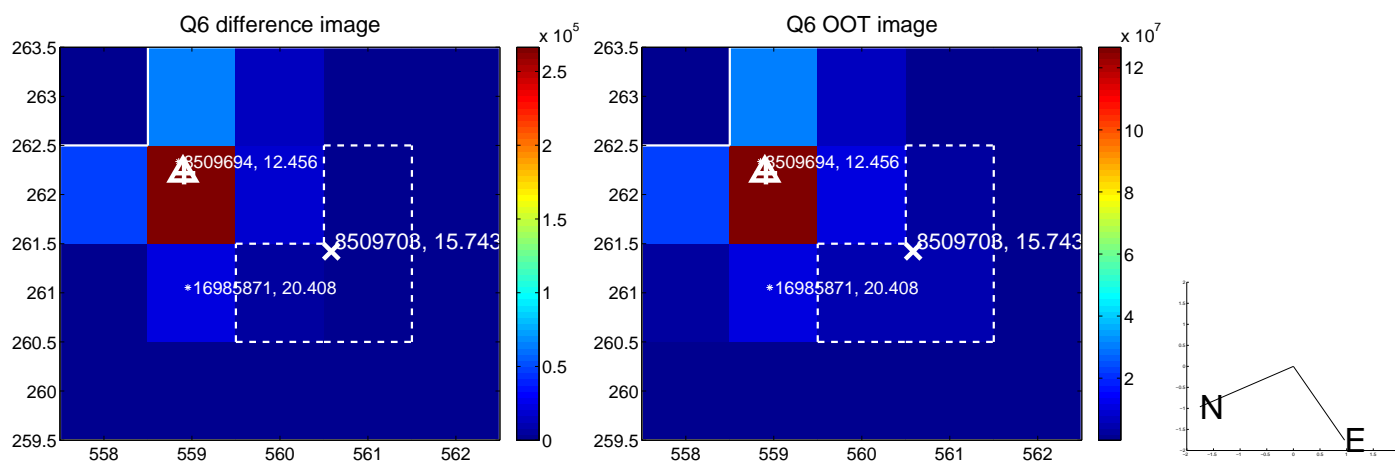
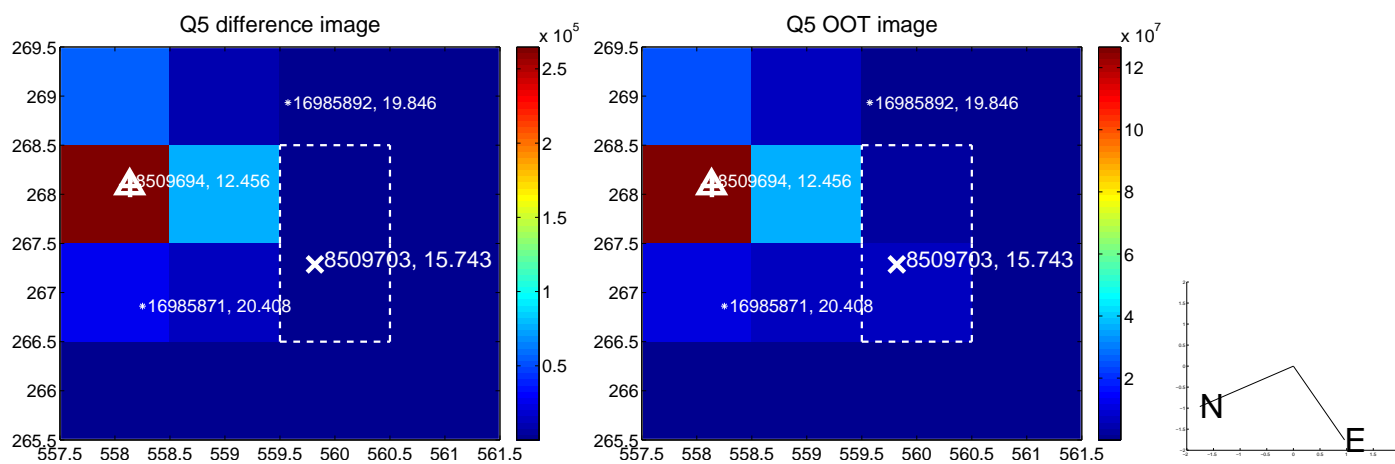


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

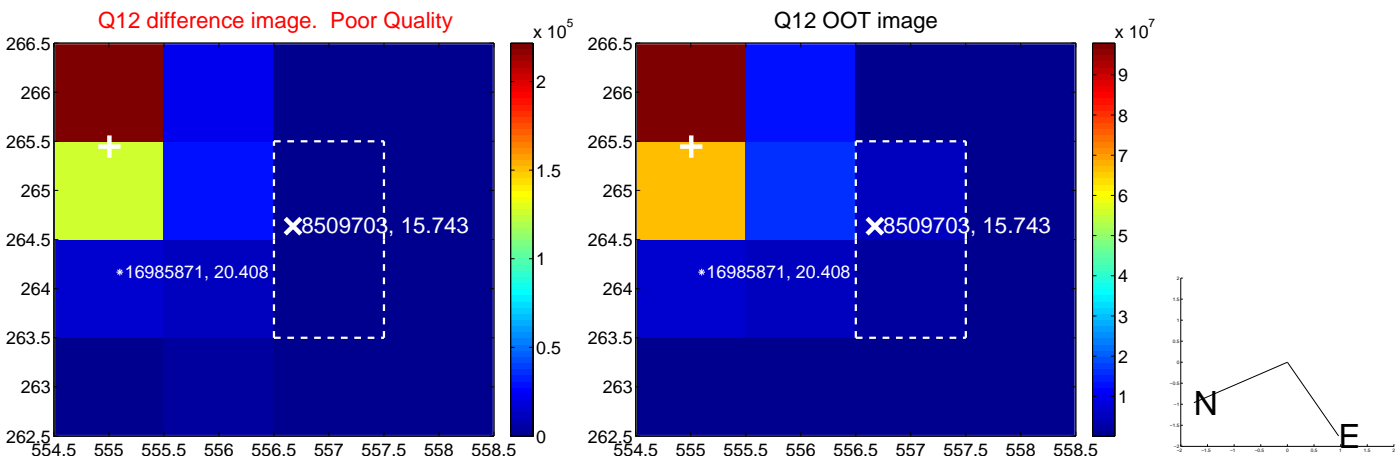
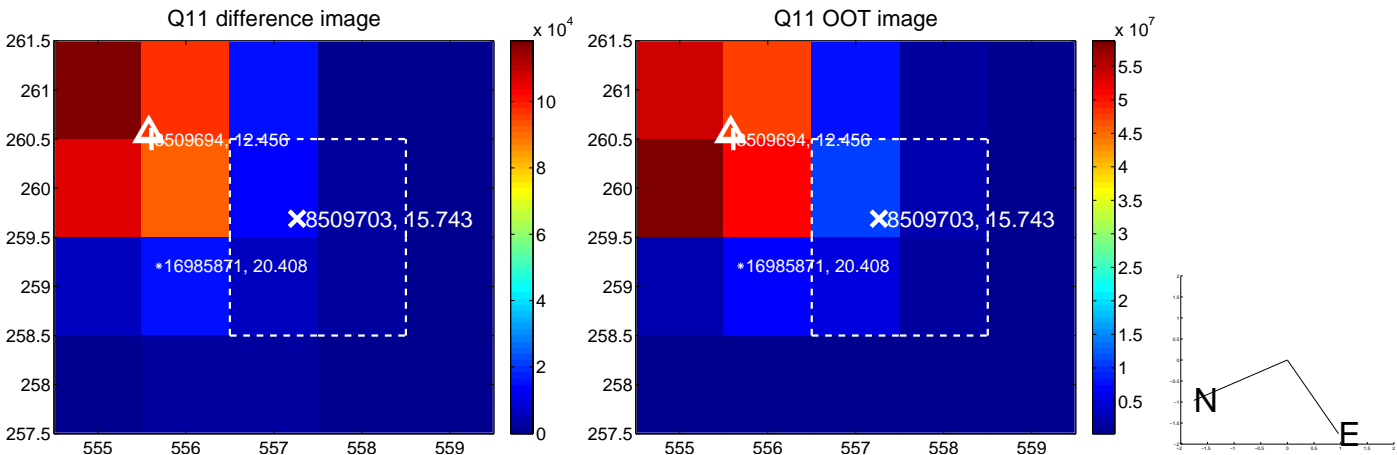
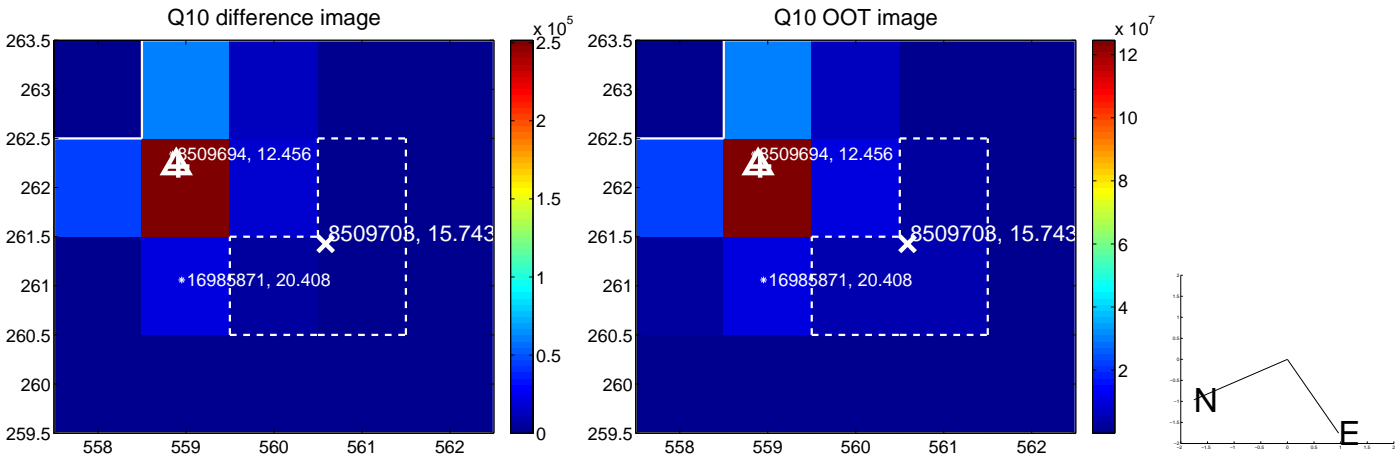
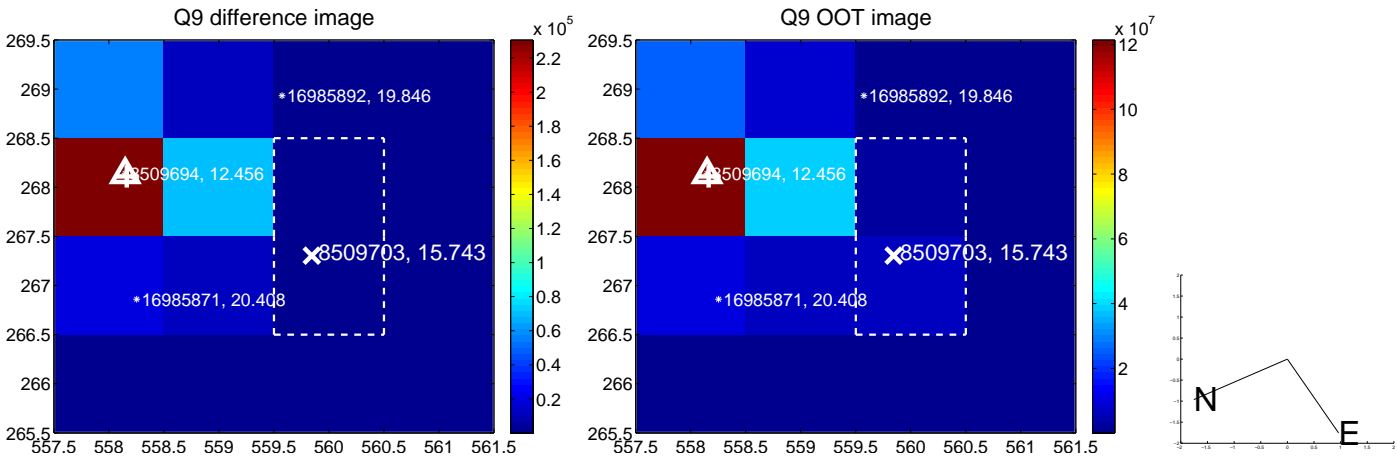
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



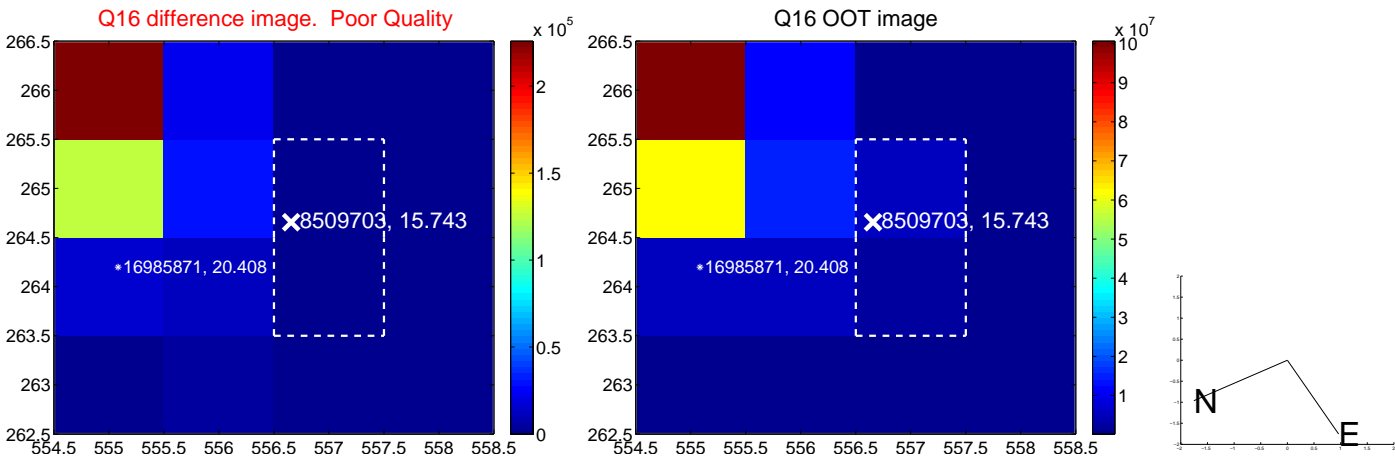
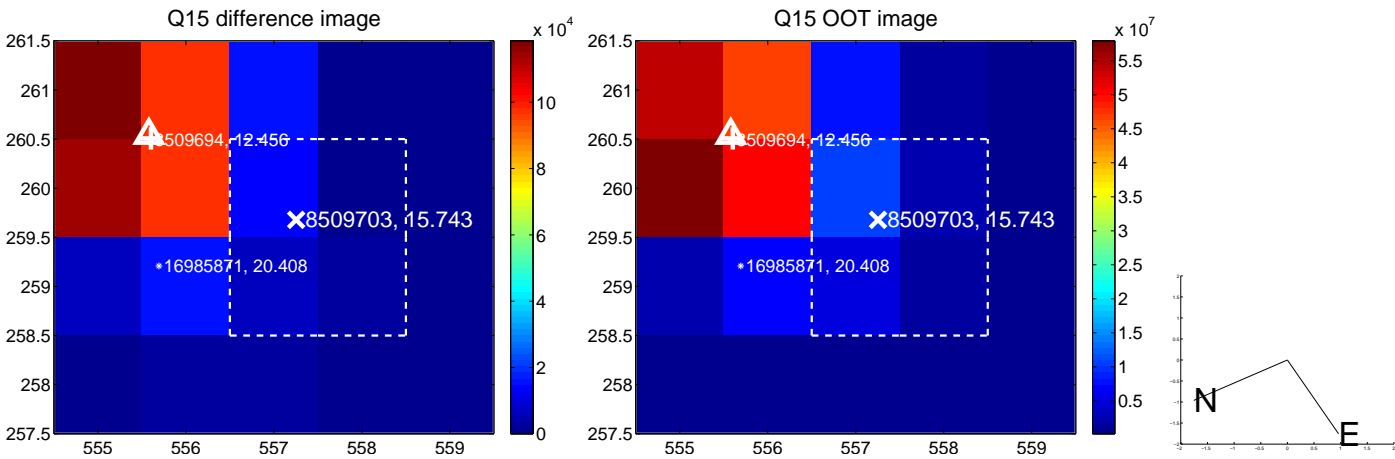
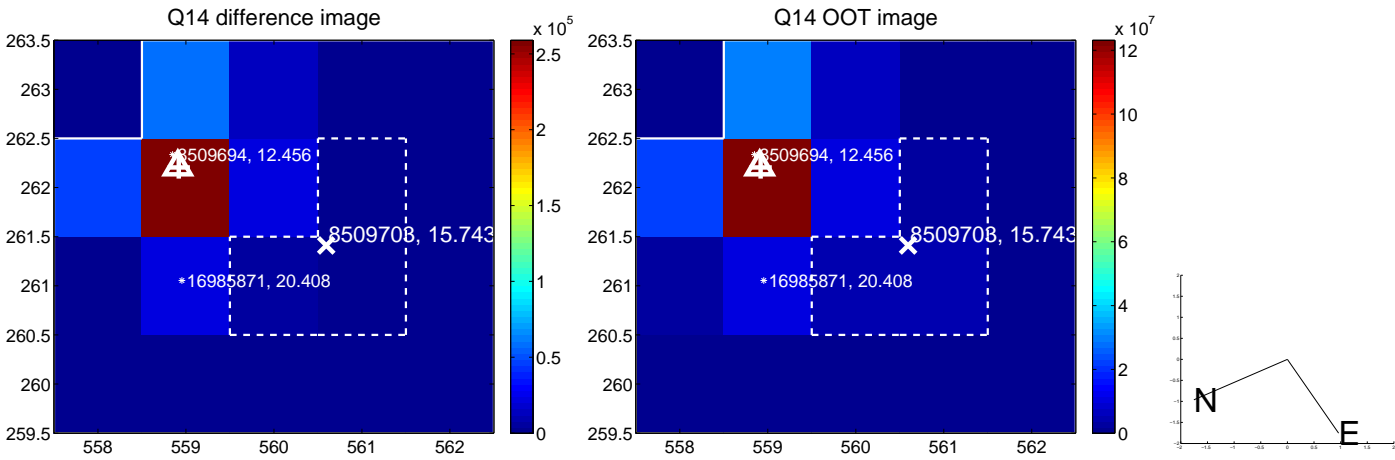
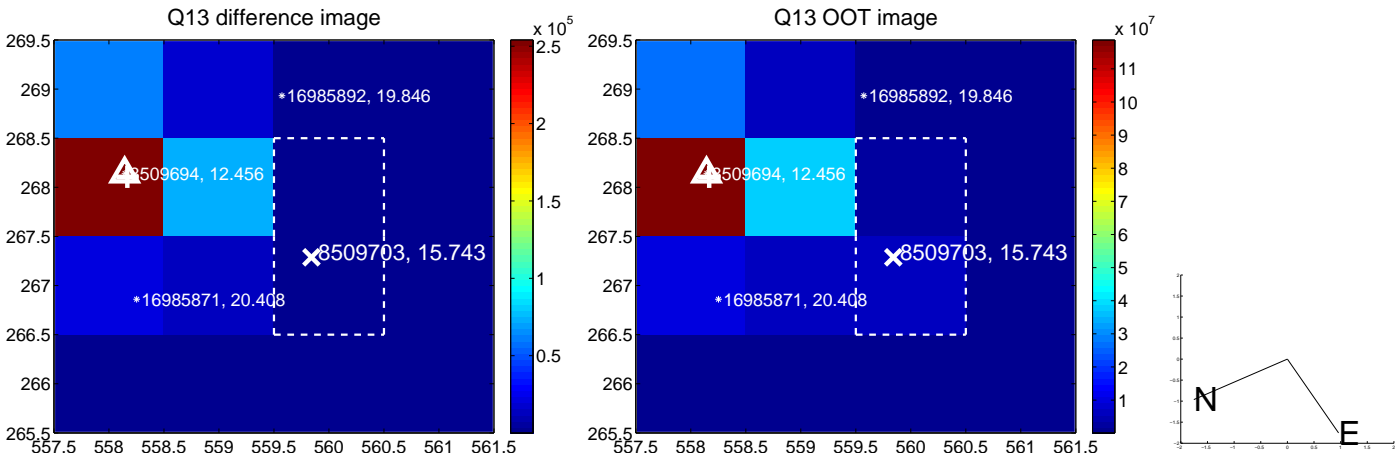
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



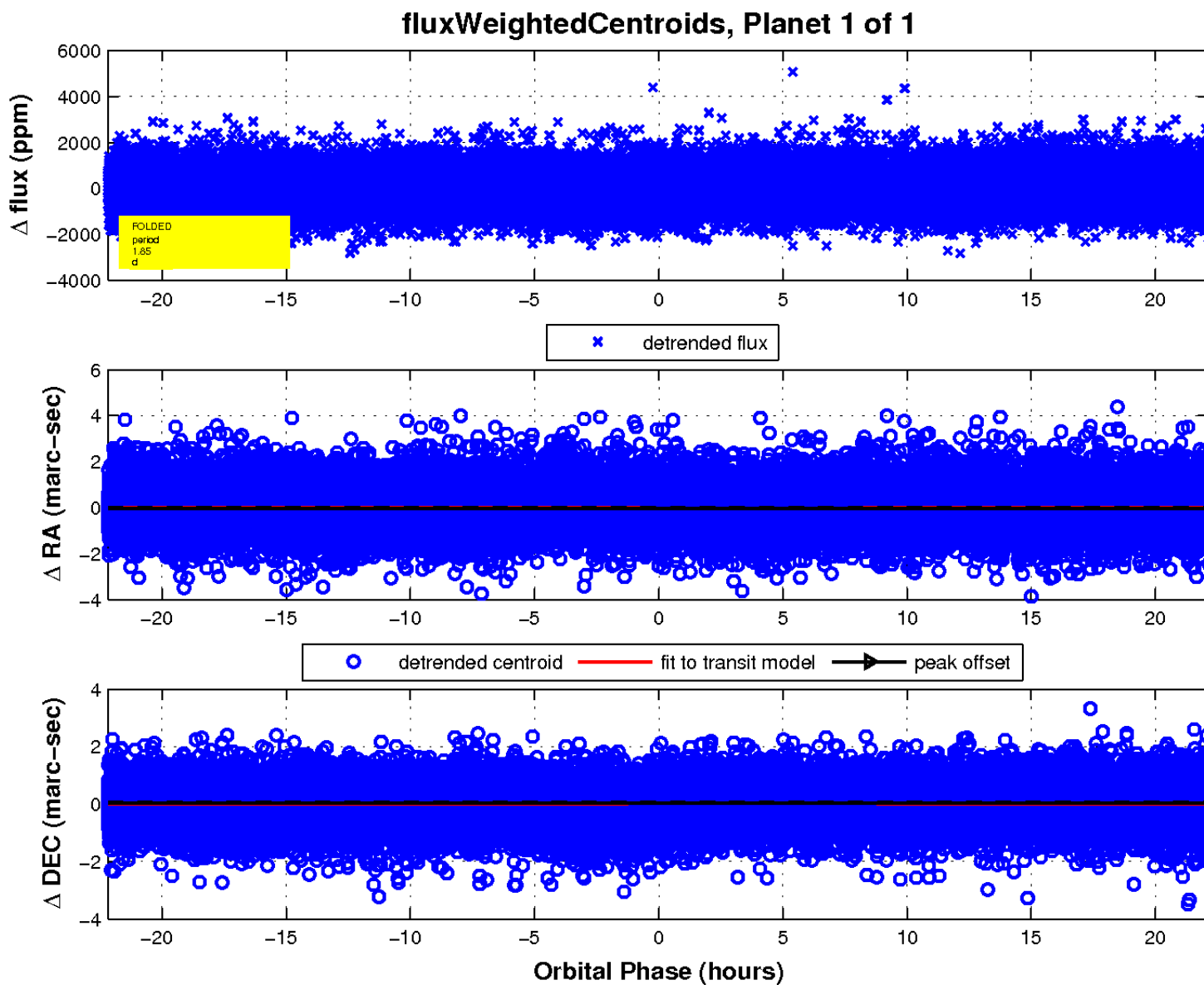
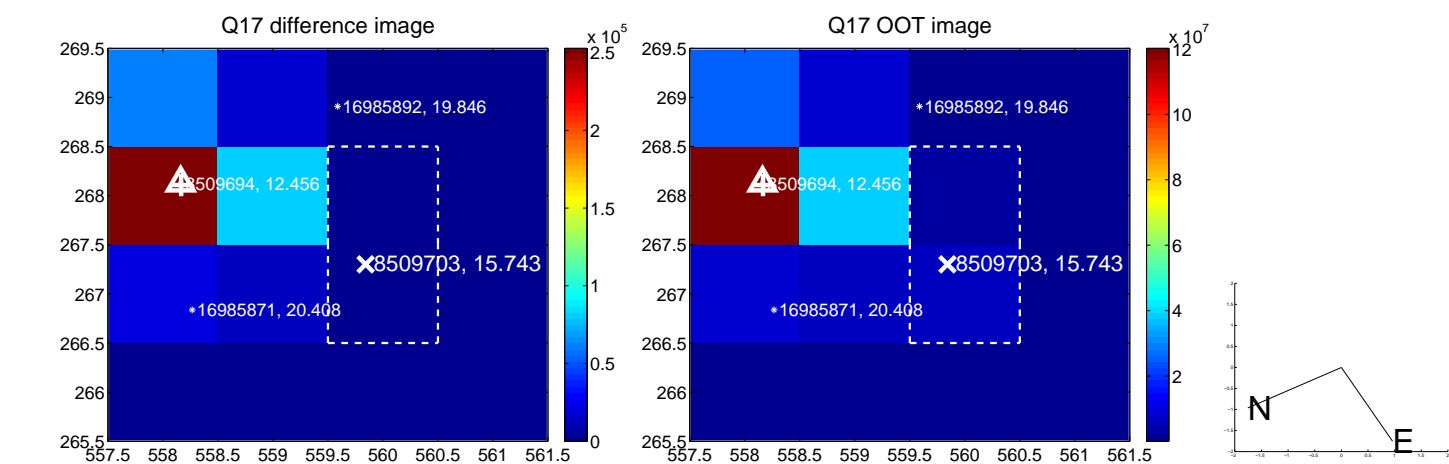
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UKIRT Image

Declination

