

KIC 009845909

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})
009845909-01	OBS	3354.01	11.570567	136.288755	189.8	3.216	7.9	8.3	0.90	5718	1.44	83.60

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009845909-01	OBS	PC	0.94	0	0	0	0	CENT_KIC_POS

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.

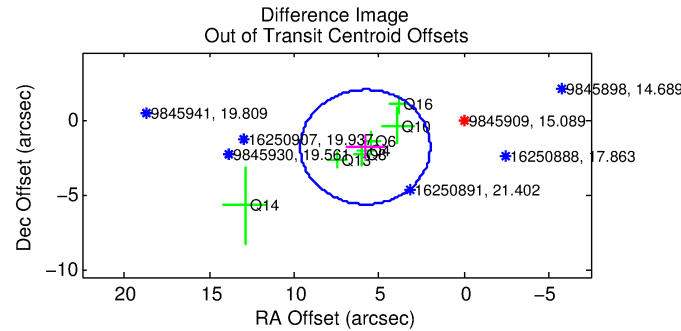
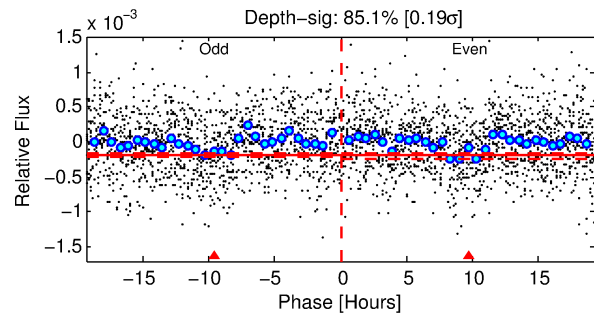
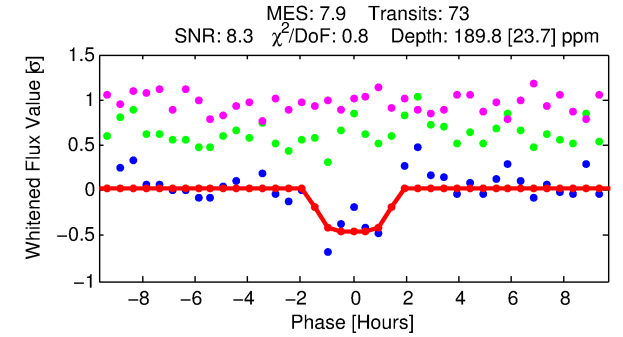
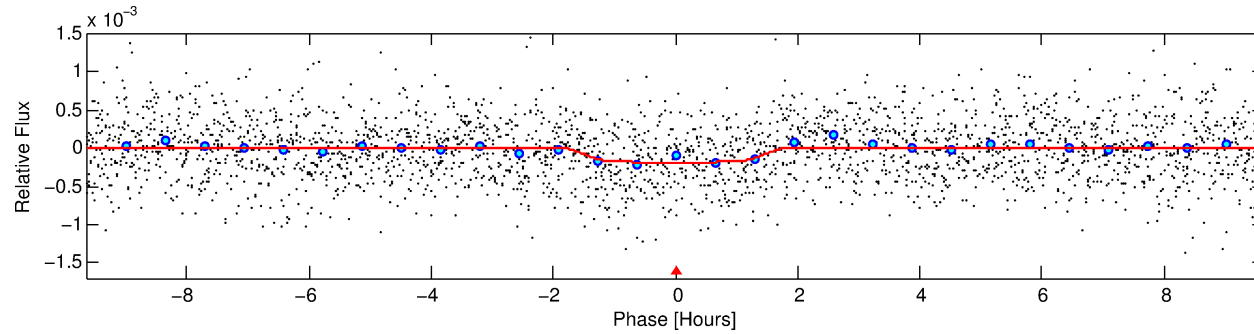
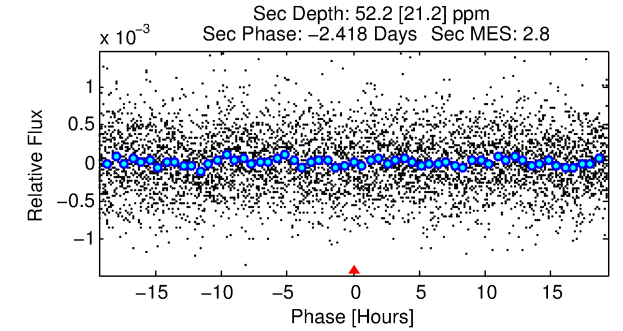
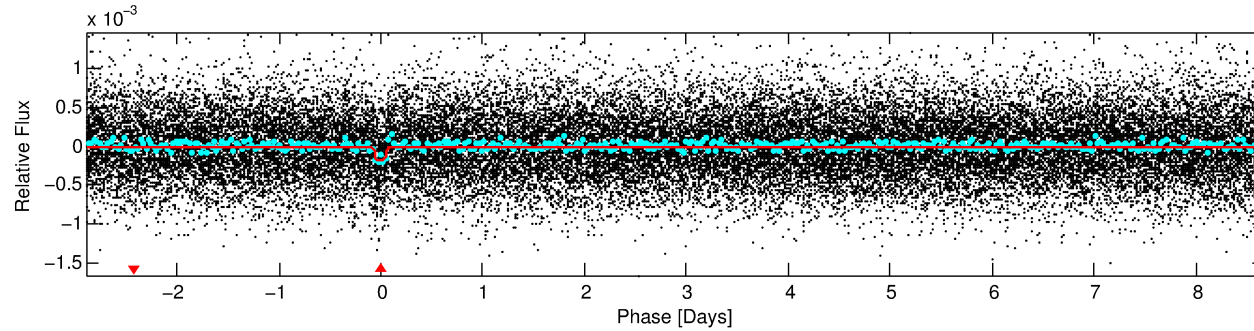
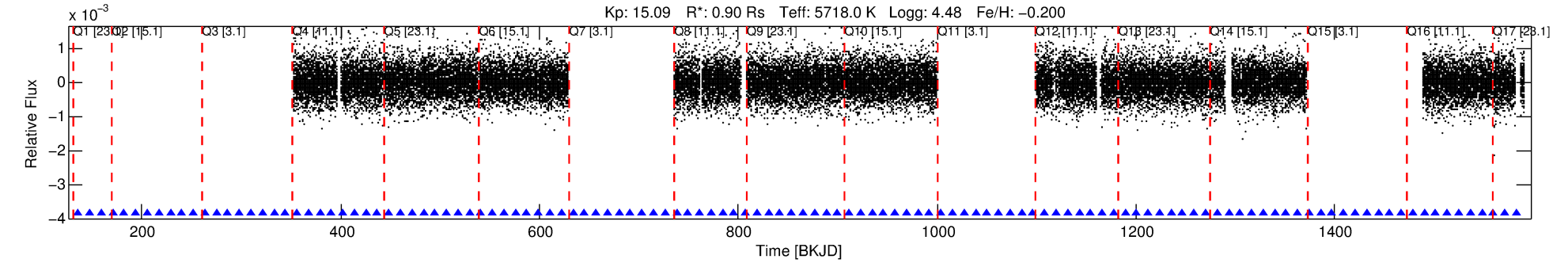
Ephemeris Match Information For 009845909-01

No Significant Match Found

DV One-Page Summary

KIC: 9845909 Candidate: 1 of 1 Period: 11.571 d

KOI: K03354.01 Corr: 0.977



DV Fit Results:

Period = 11.57057 [0.00013] d
Epoch = 136.2888 [0.0098] BKJD
Rp/R* = 0.0147 [0.0125]
a/R* = 14.22 [56.83]
b = 0.87 [1.11]
Seff = 83.60 [29.93]
Teff = 771 [69] K
Rp = 1.44 [1.28] Re
a = 0.0963 [0.0220] AU
Ag = 128.46 [228.57] [0.56σ]
Teffp = 4013 [1759] K [1.84σ]

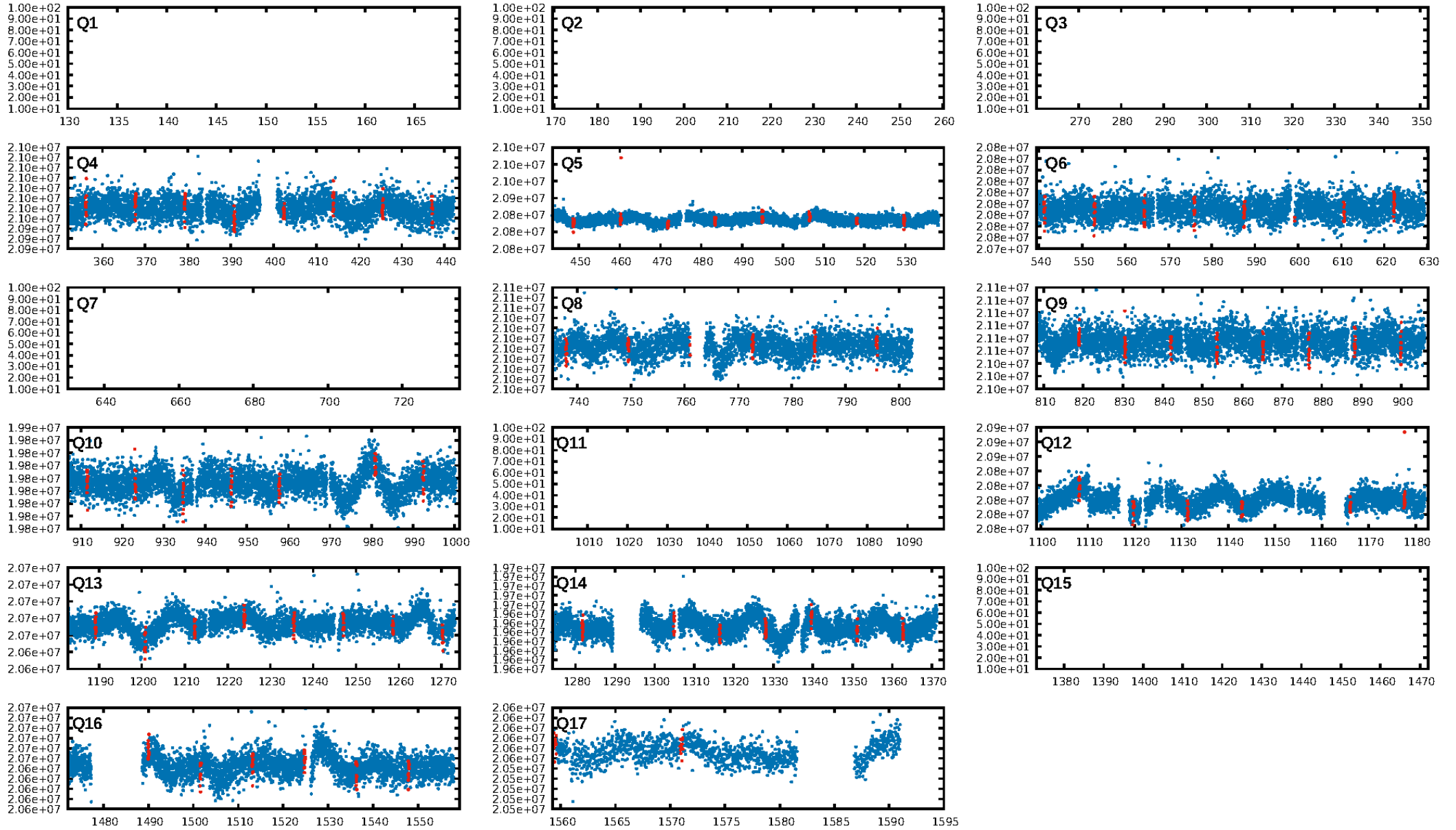
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 97.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.02e-15
RollingBand-fgt: 1.00 [71/71]
GhostDiagnostic-chr: 2.745
Centroid-sig: 8.2%
Centroid-so: 2.060 arcsec [2.00σ]
OotOffset-rm: 6.076 arcsec [4.76σ]
KicOffset-rm: 0.748 arcsec [0.90σ]
OotOffset-st: 3/0/3/1 [7]
KicOffset-st: 3/0/3/1 [7]
DiffImageQuality-fgm: 0.43 [3/7]
DiffImageOverlap-fno: 1.00 [11/11]

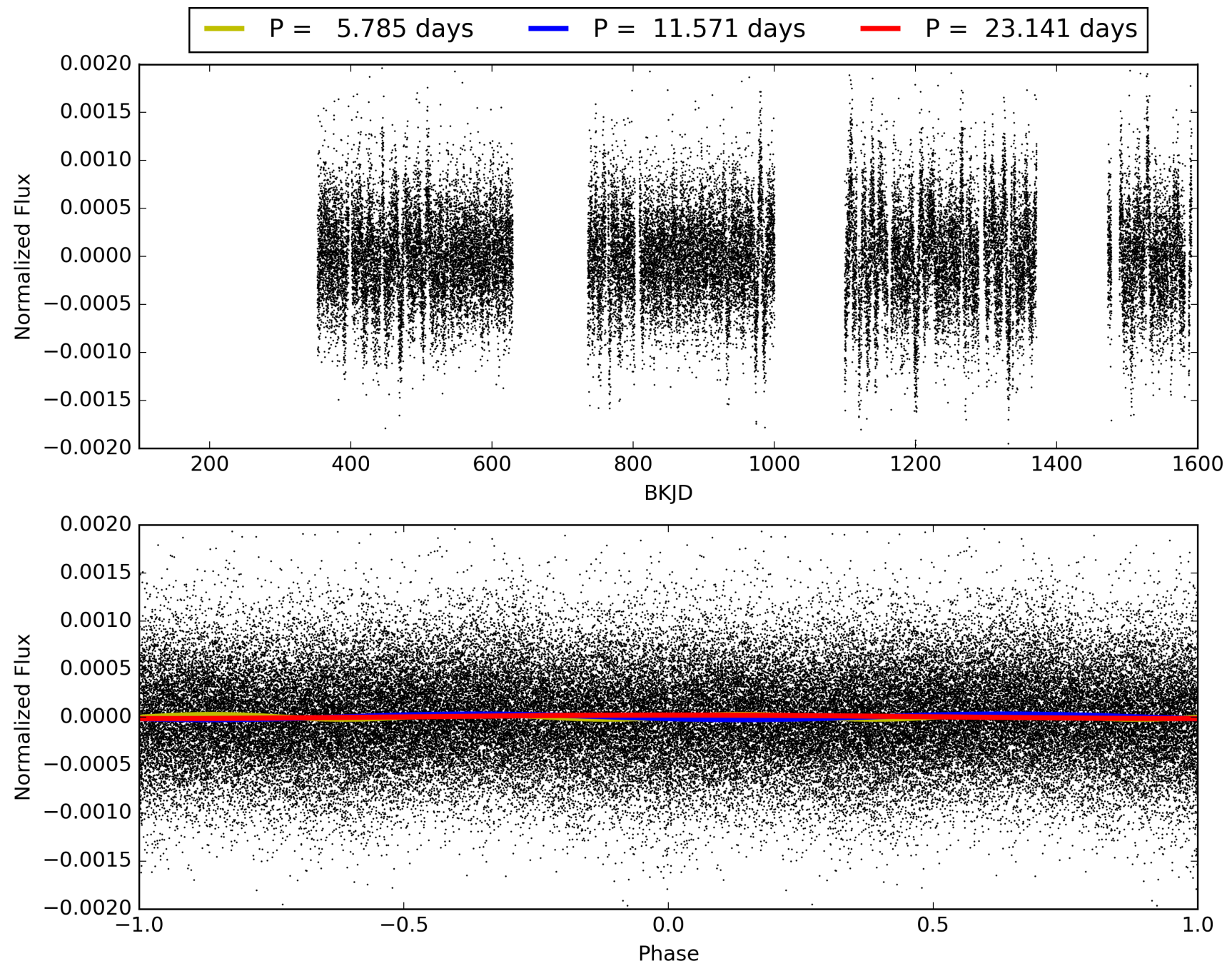
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:54:35 Z

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

TCE 009845909-01, PDC Light Curves

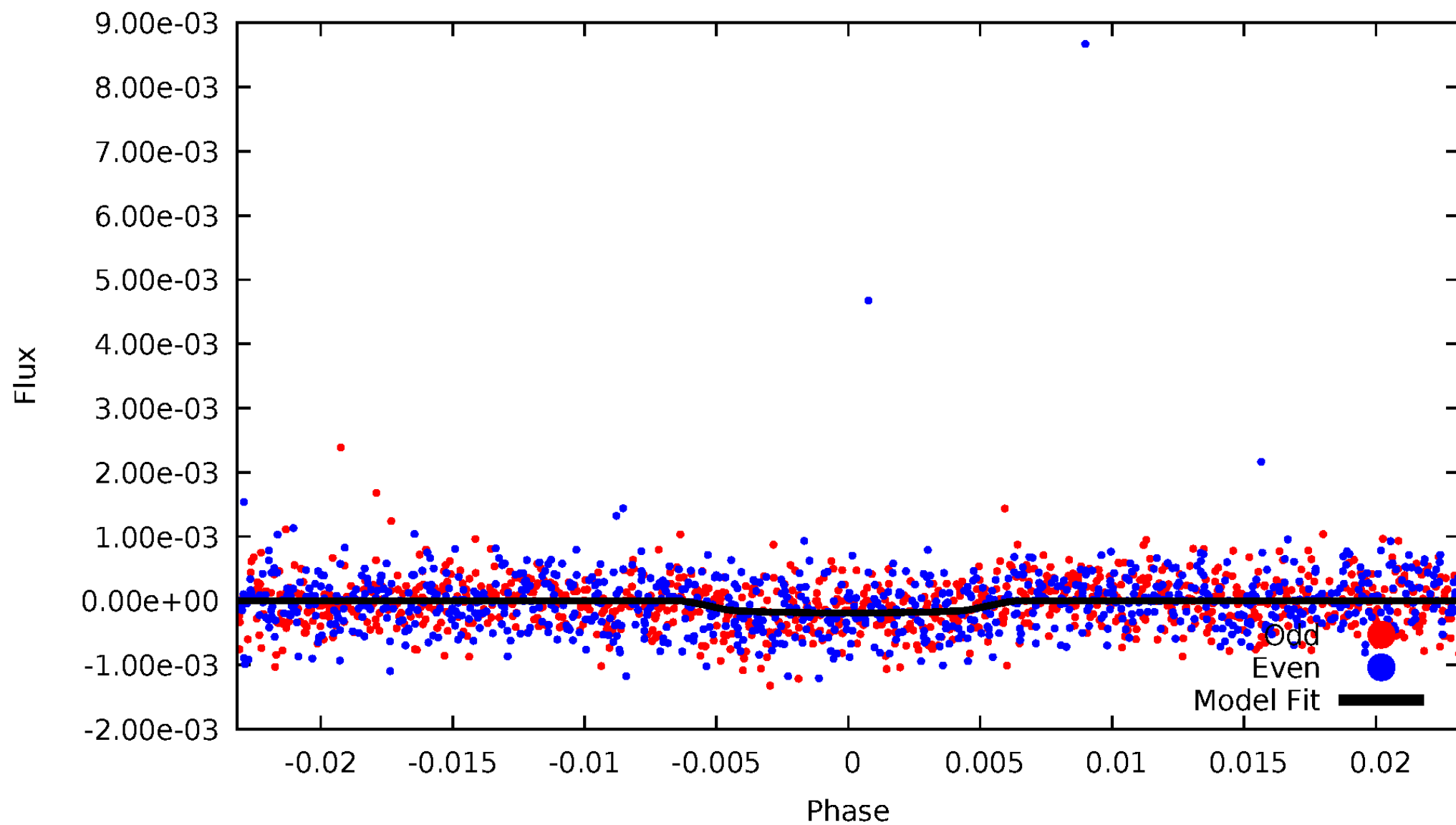


TCE 009845909-01



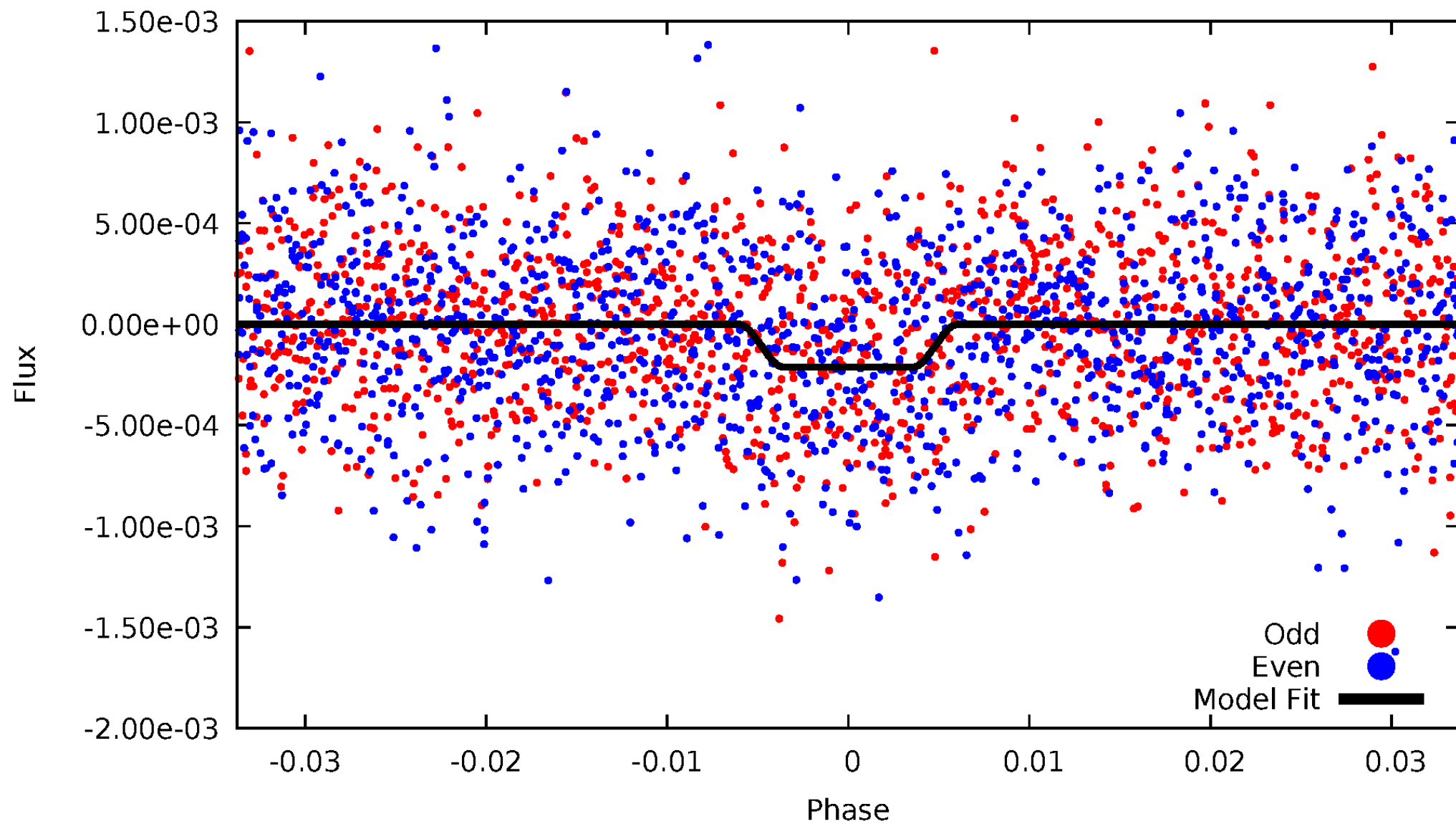
DV Odd/Even

TCE 009845909-01

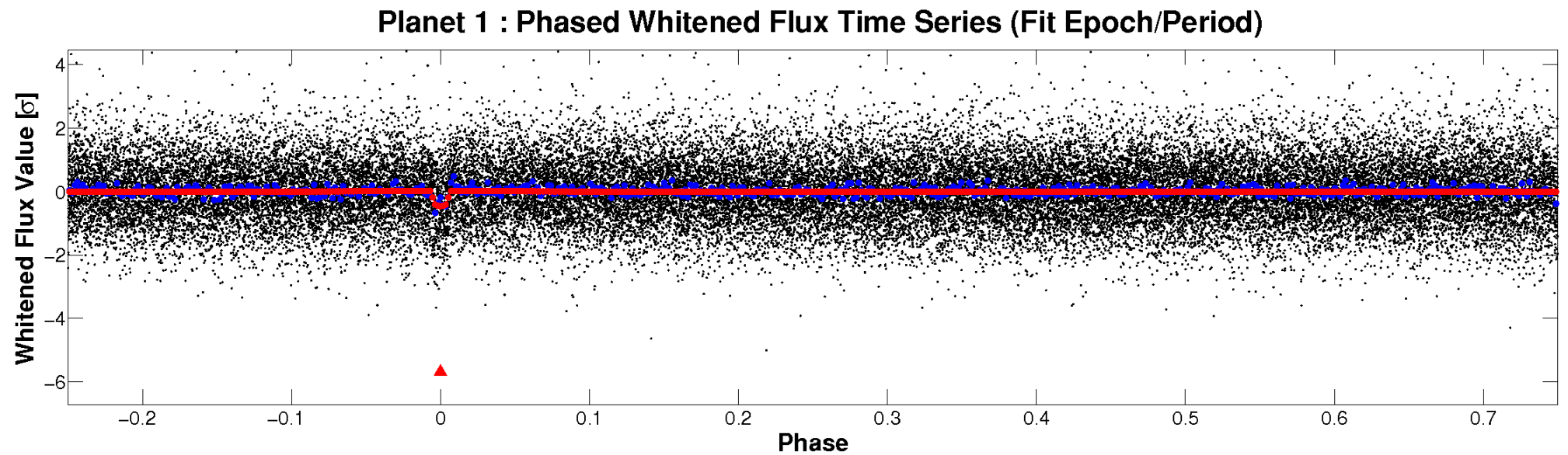
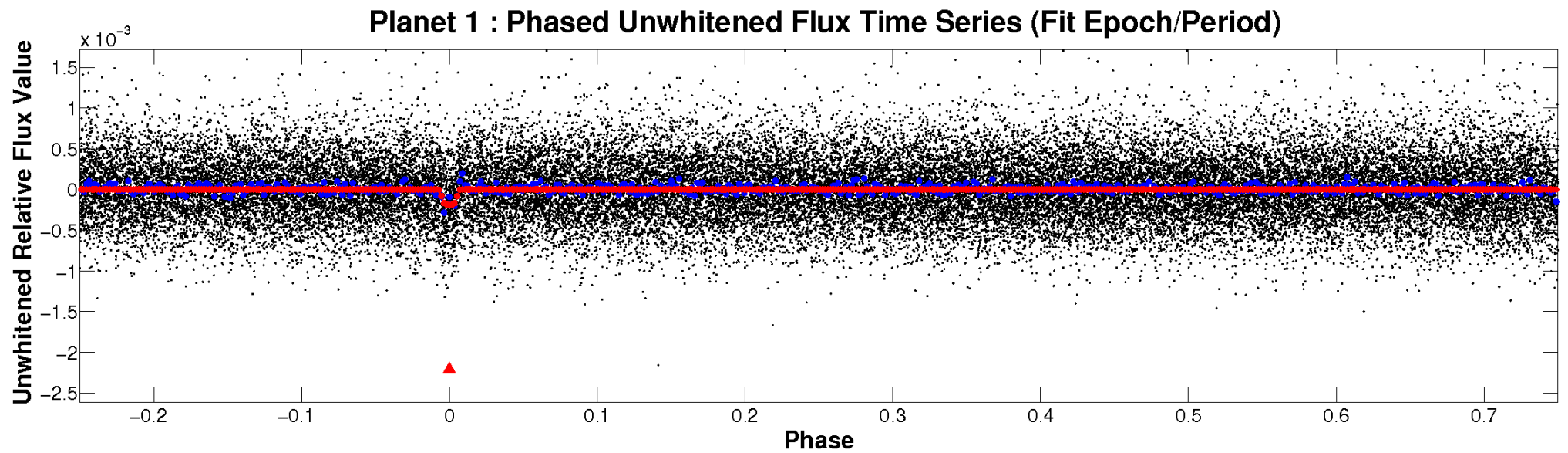


ALT Odd/Even

TCE 009845909-01

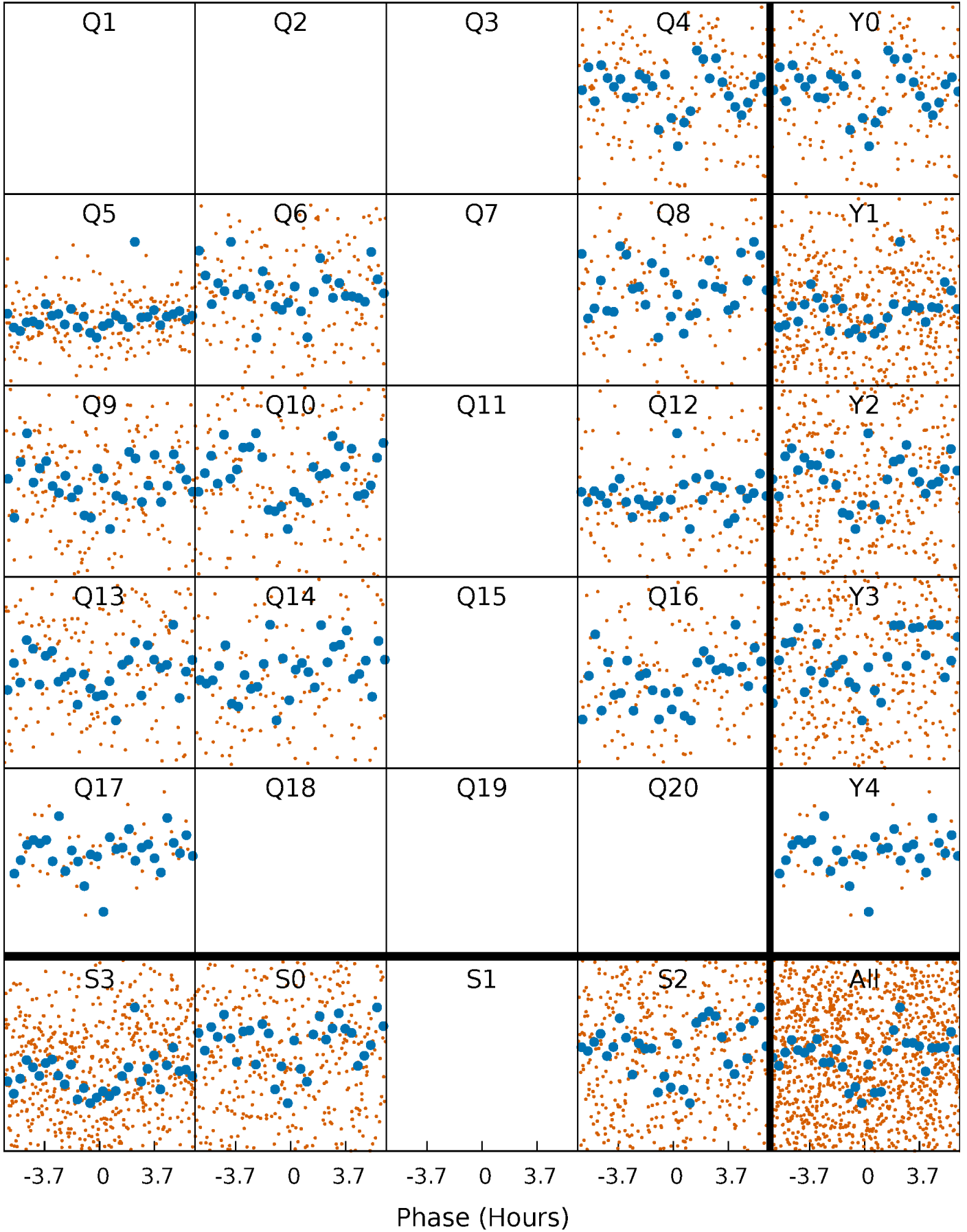


Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 009845909-01 P= 11.570567 Days $T_0=136.288755$ (BKJD)



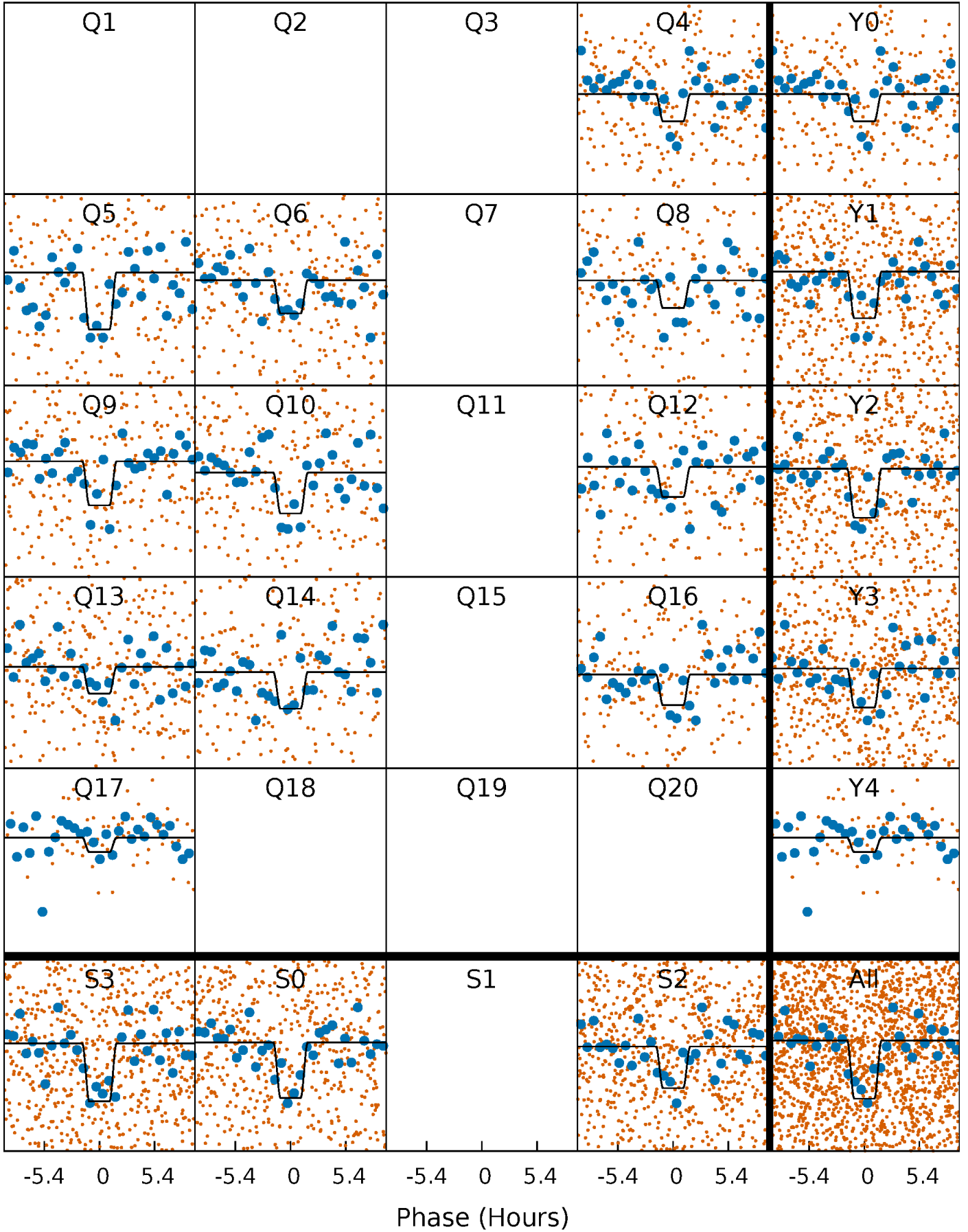
DV Quarter-Phased Transit Curves

TCE 009845909-01 P= 11.570567 Days $T_0=136.288755$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

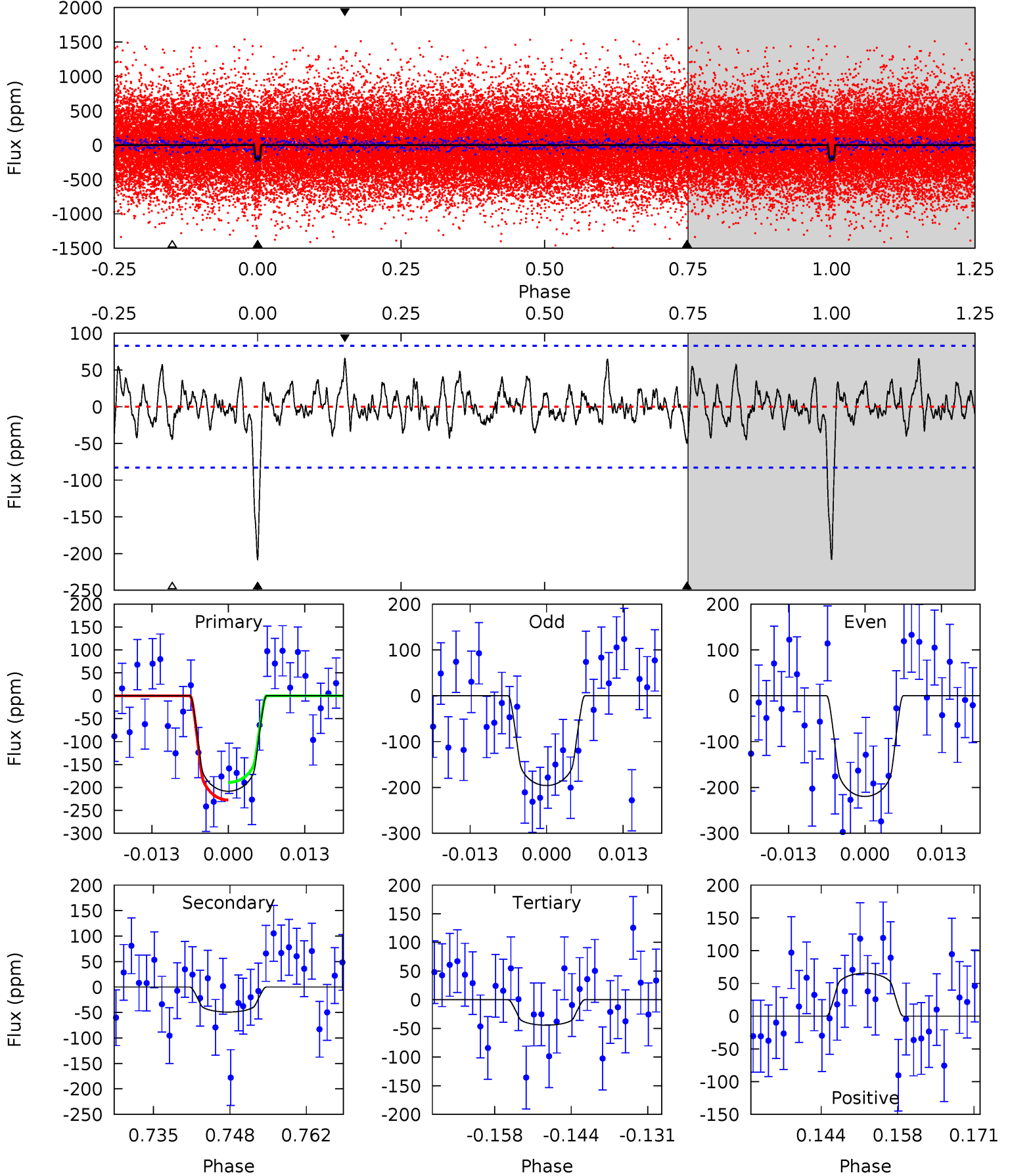
TCE 009845909-01 P= 11.570101 Days $T_0=136.311355$ (BKJD)



DV Model-Shift Uniqueness Test

009845909-01, P = 11.570567 Days, E = 136.288755 Days

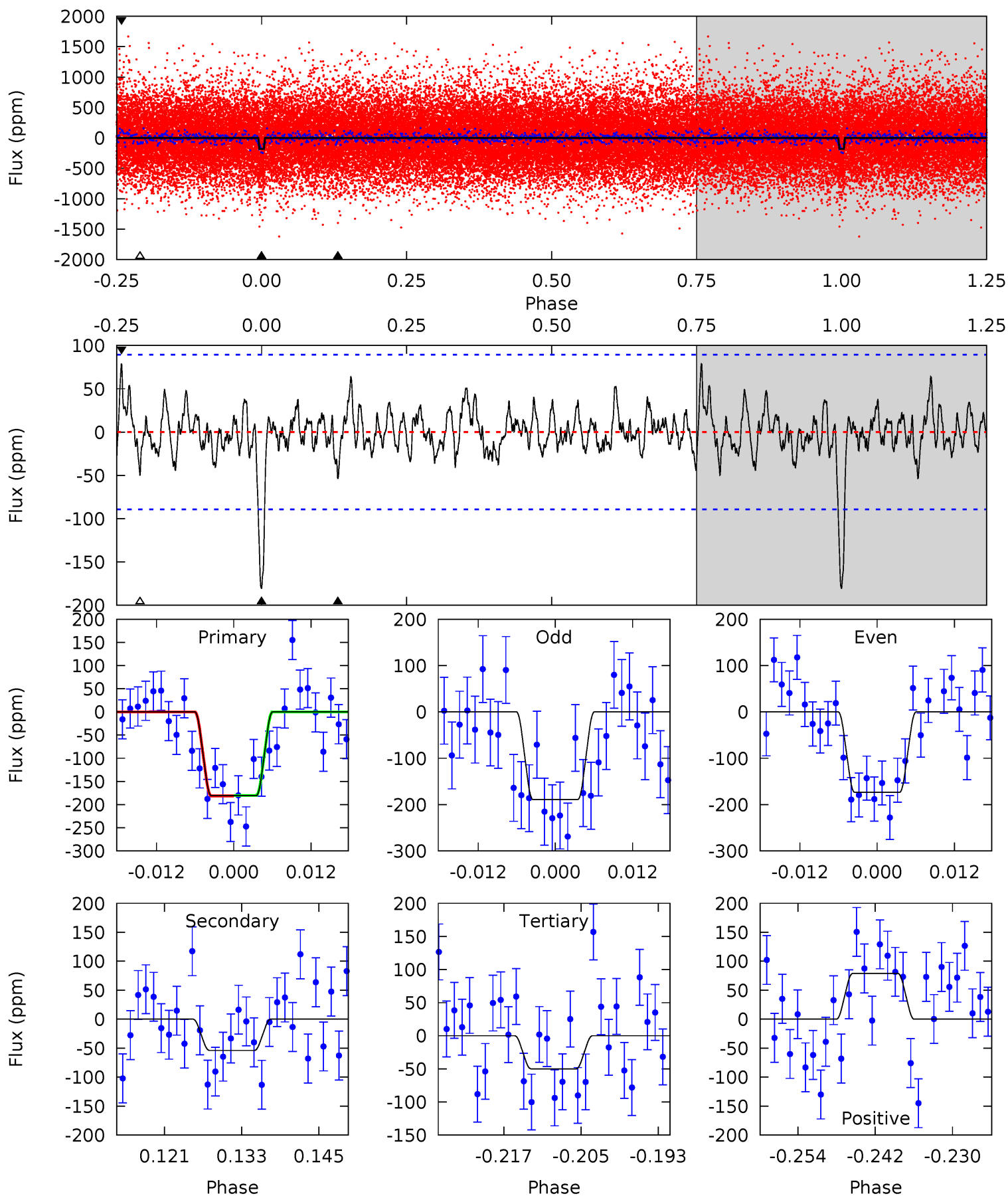
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	2.95	2.65	3.92	4.97	2.48	1.11	9.83	8.56	0.29	-0.98	0.72	1.01	0.24	1.15



Alt Model-Shift Uniqueness Test

009845909-01, P = 11.570101 Days, E = 136.311355 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	3.01	2.79	4.41	4.99	2.51	1.11	7.31	5.69	0.22	-1.40	0.43	0.98	0.30	0.03



Stellar Parameters For KIC 009845909

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5718^{+172}_{-189}	$4.479^{+0.078}_{-0.182}$	$-0.200^{+0.300}_{-0.300}$	$0.900^{+0.244}_{-0.105}$	$0.890^{+0.110}_{-0.090}$	$1.721^{+0.575}_{-0.849}$
	+3%/-3%	+2%/-4%	+150%/-150%	+27%/-12%	+12%/-10%	+33%/-49%
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 009845909-01 / KOI 3354.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-49 ± 17	$1.61^{+1.25}_{-1.01}$	1093^{+70}_{-54}	4096^{+2069}_{-732}	92^{+579}_{-64}
Alt.	-54 ± 18	$1.64^{+1.20}_{-1.00}$	1092^{+77}_{-55}	4101^{+2049}_{-723}	96^{+584}_{-65}

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

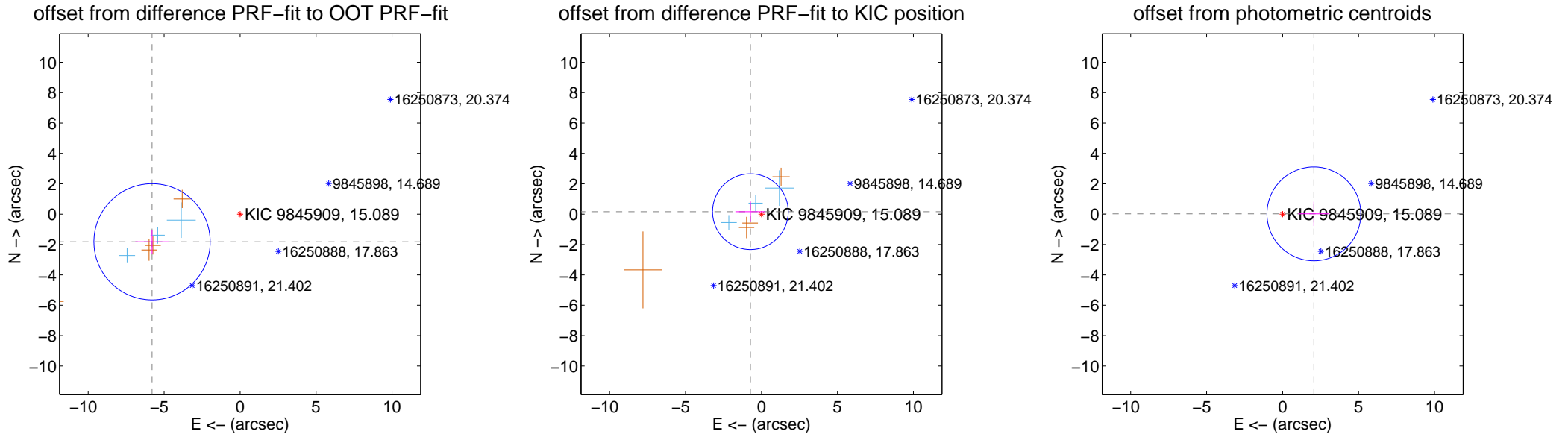
DV Centroid Data

Supplemental centroid analysis for 009845909-01. Kepler magnitude: 15.09. Transit SNR 8.33

There are 3 quarters with good PRF difference image offsets

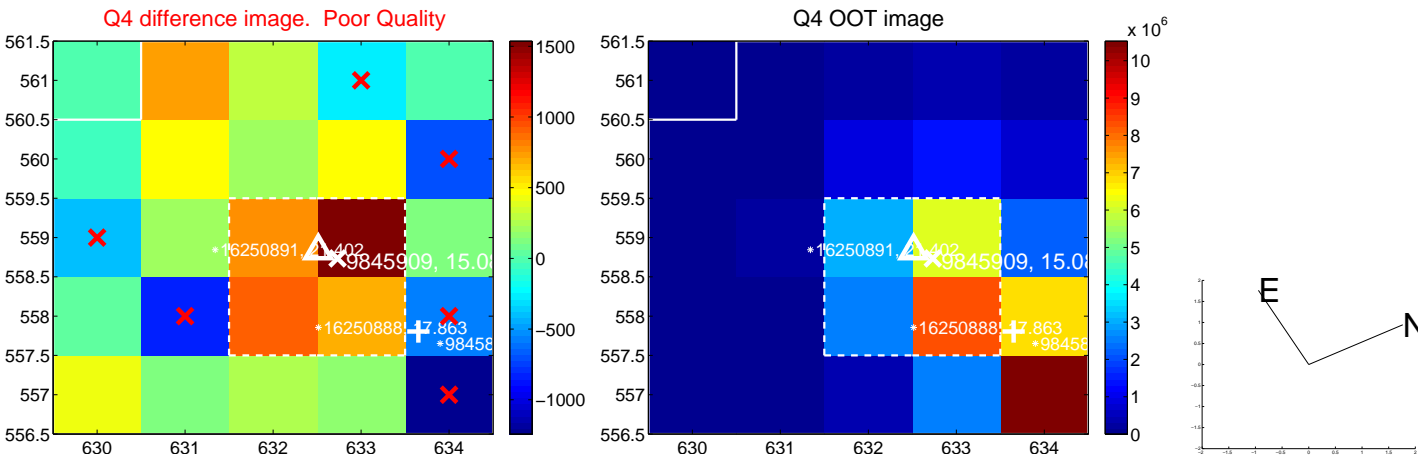
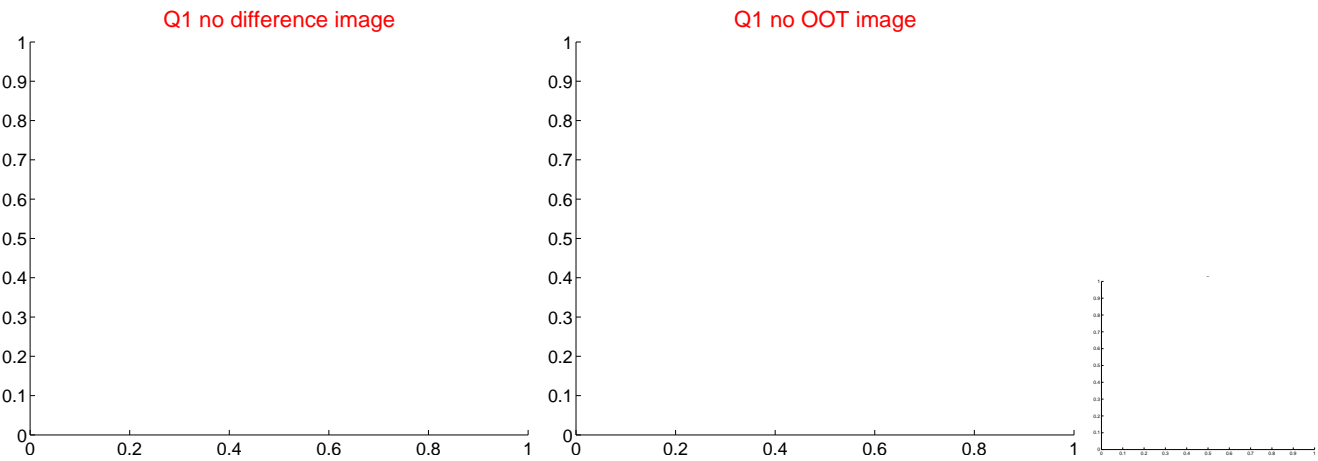
The OOT PRF centroid is offset from the target star catalog position by about 5.30 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.076 ± 1.276	4.76	5.797 ± 1.103	-1.822 ± 0.770
PRF-fit source offset from KIC position	0.748 ± 0.831	0.90	0.730 ± 0.989	0.162 ± 0.673
photometric centroid source offset	2.06 ± 1.03	2.00	-2.06 ± 1.03	0.02 ± 0.80

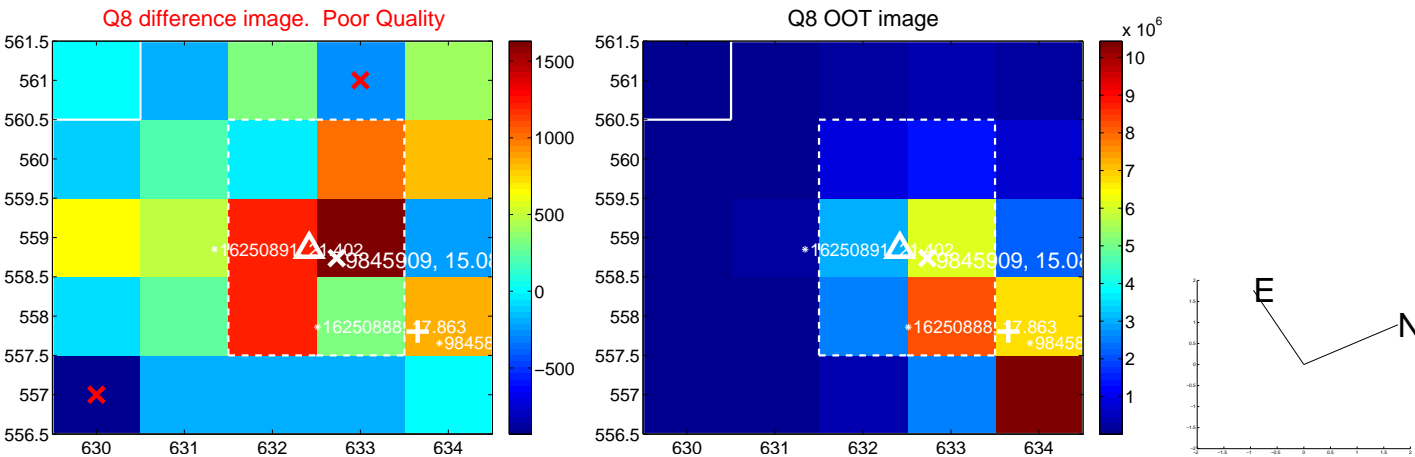
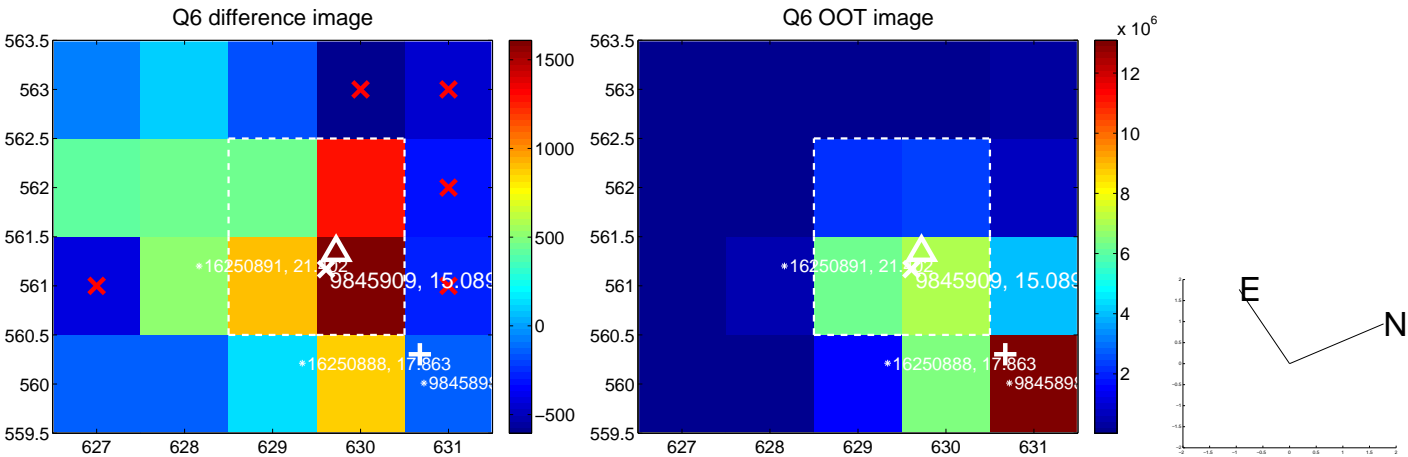
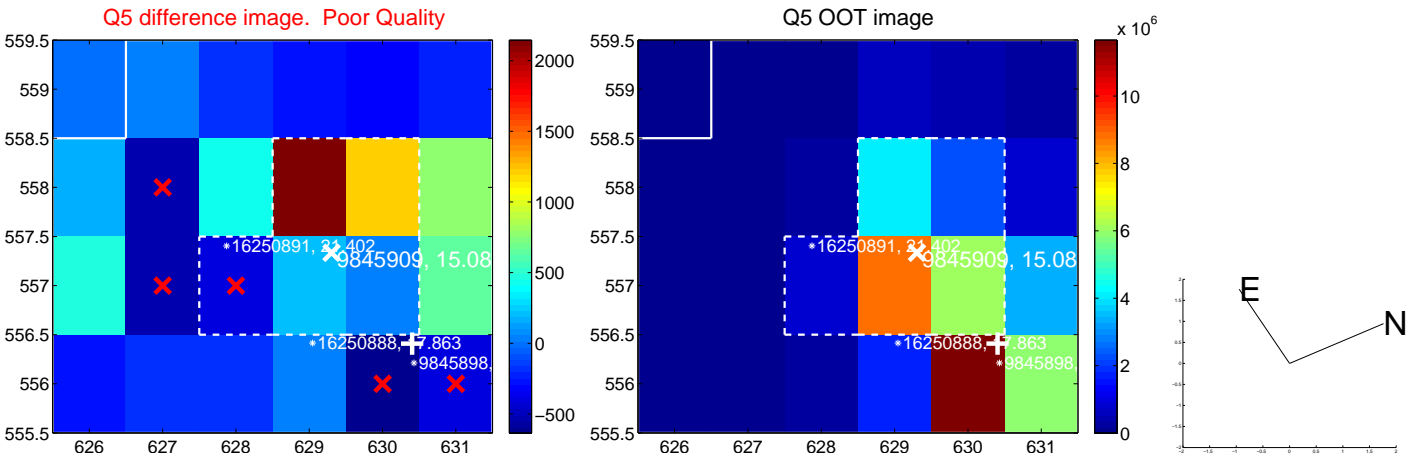


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

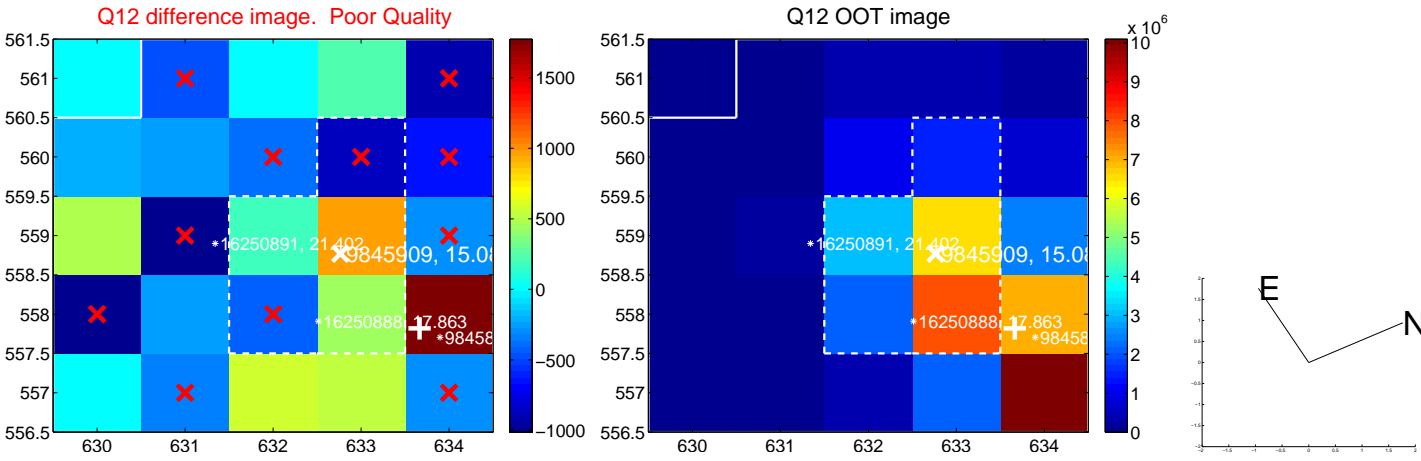
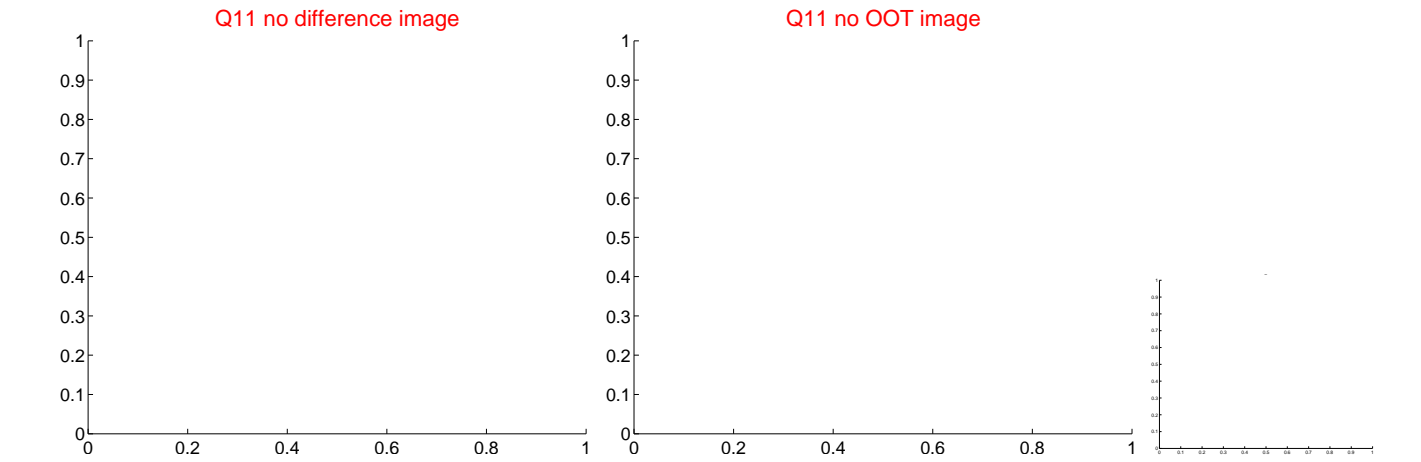
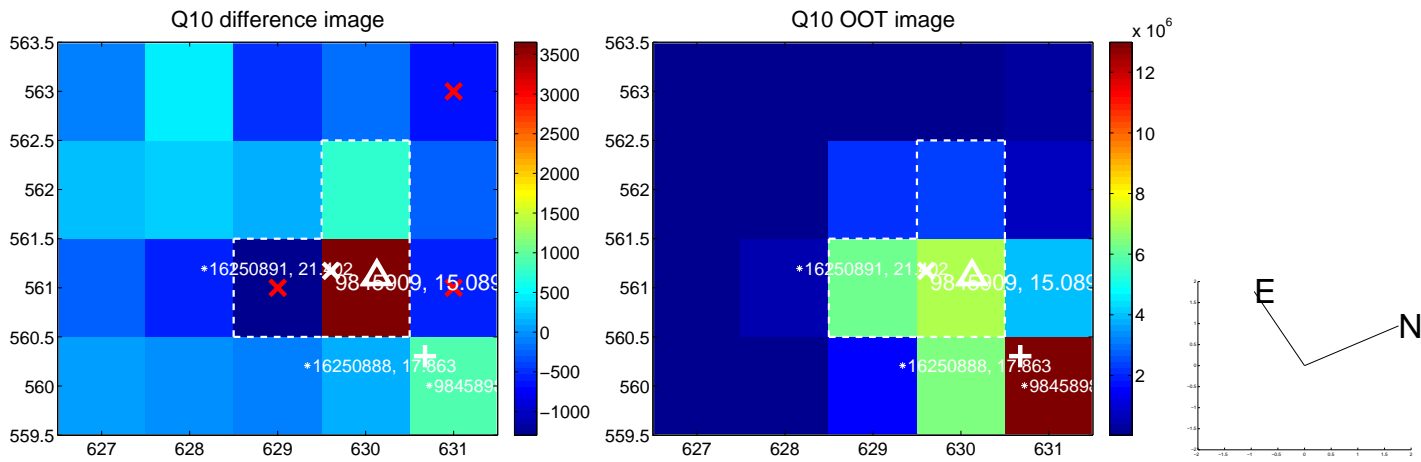
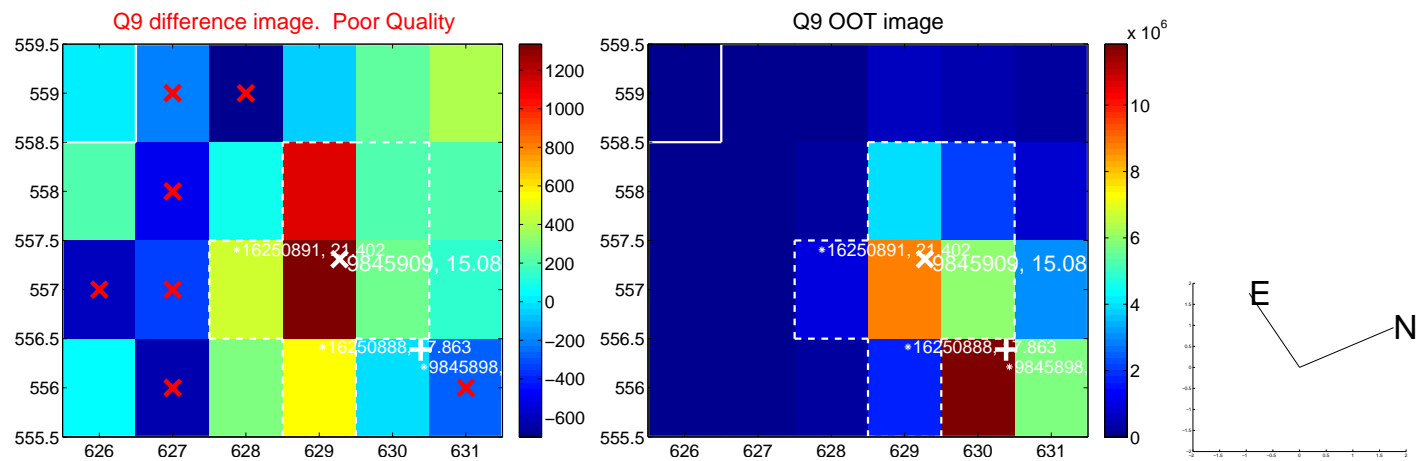
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



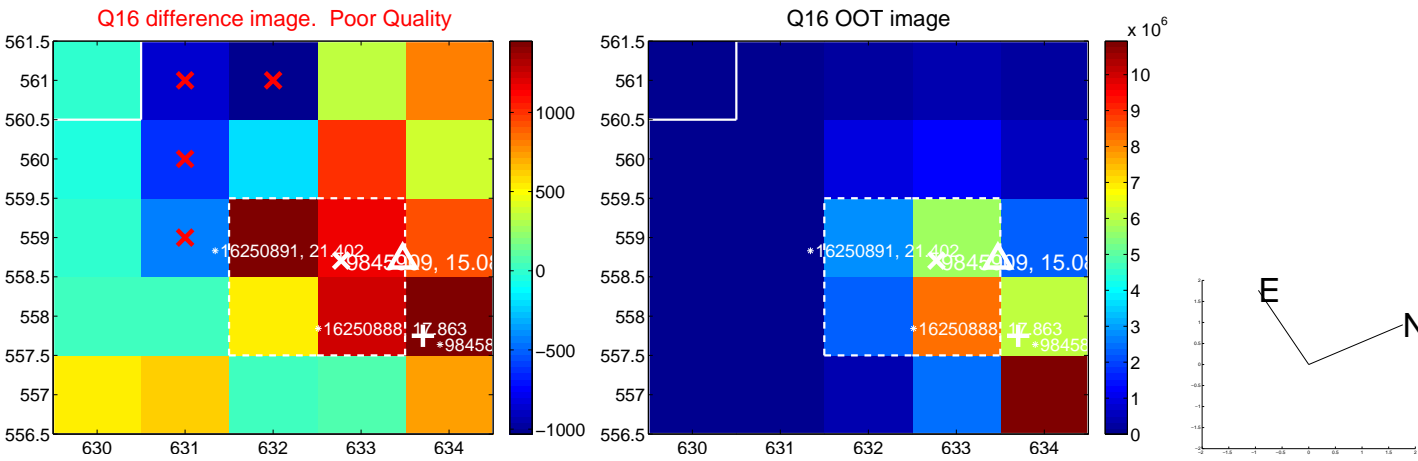
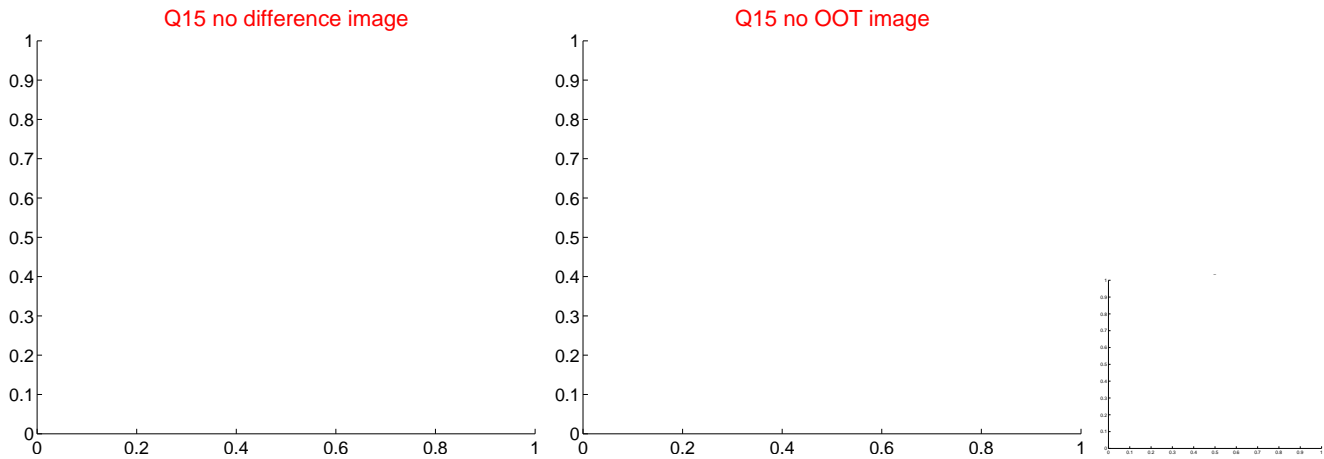
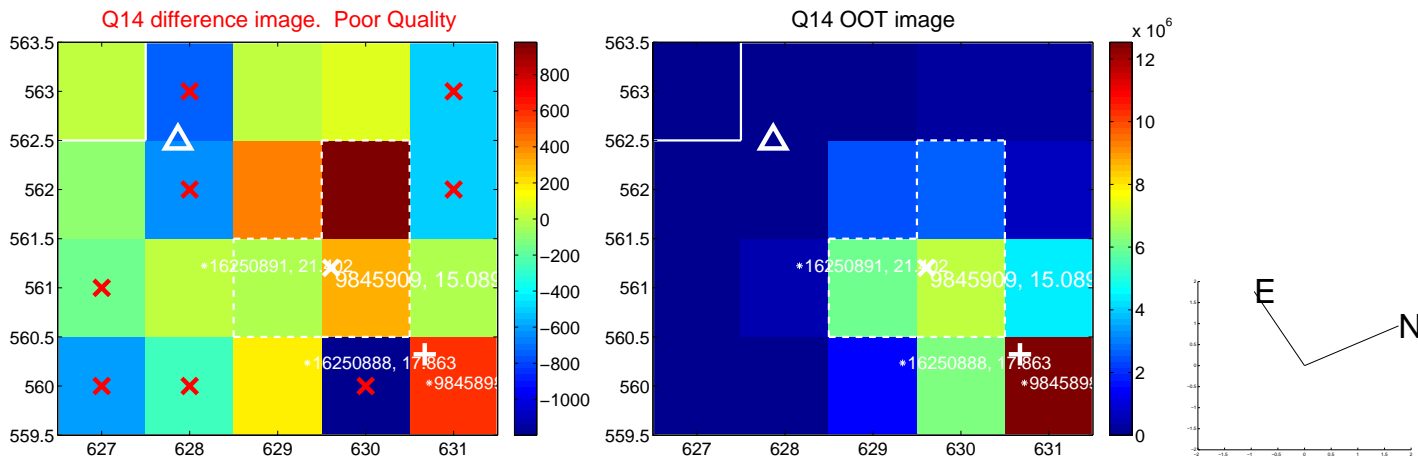
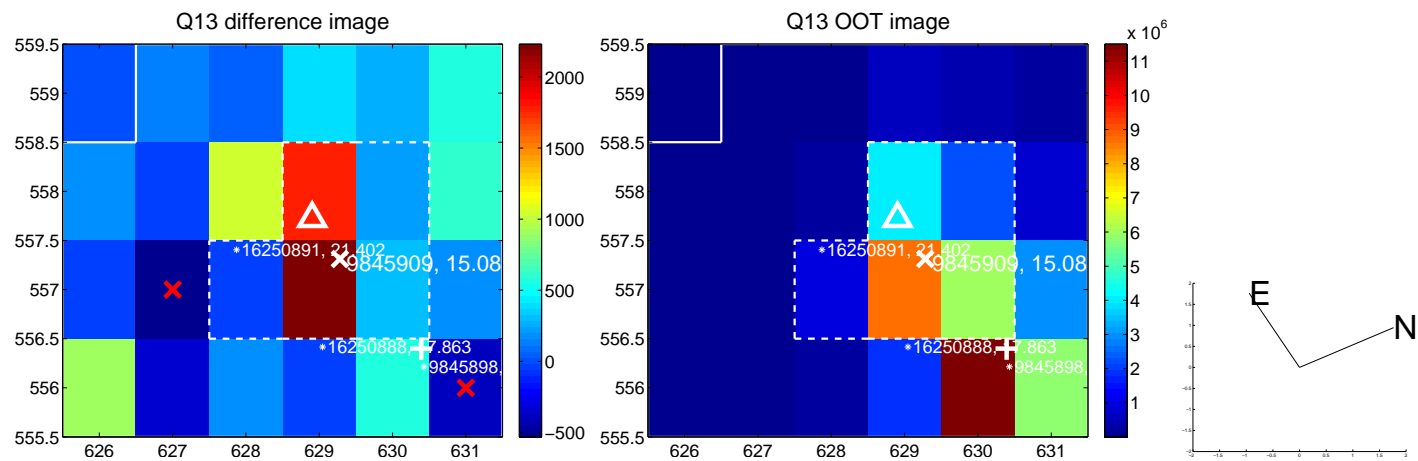
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



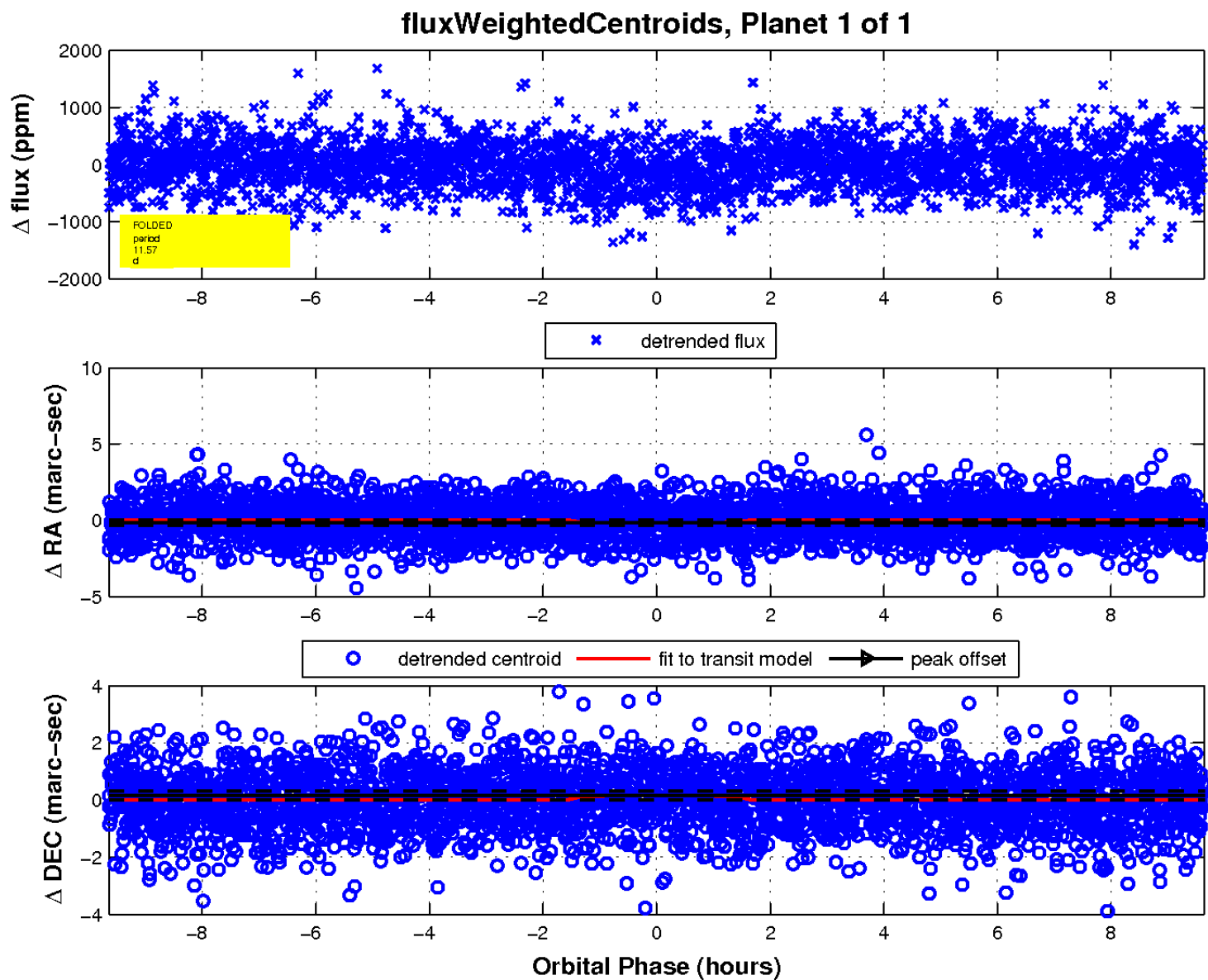
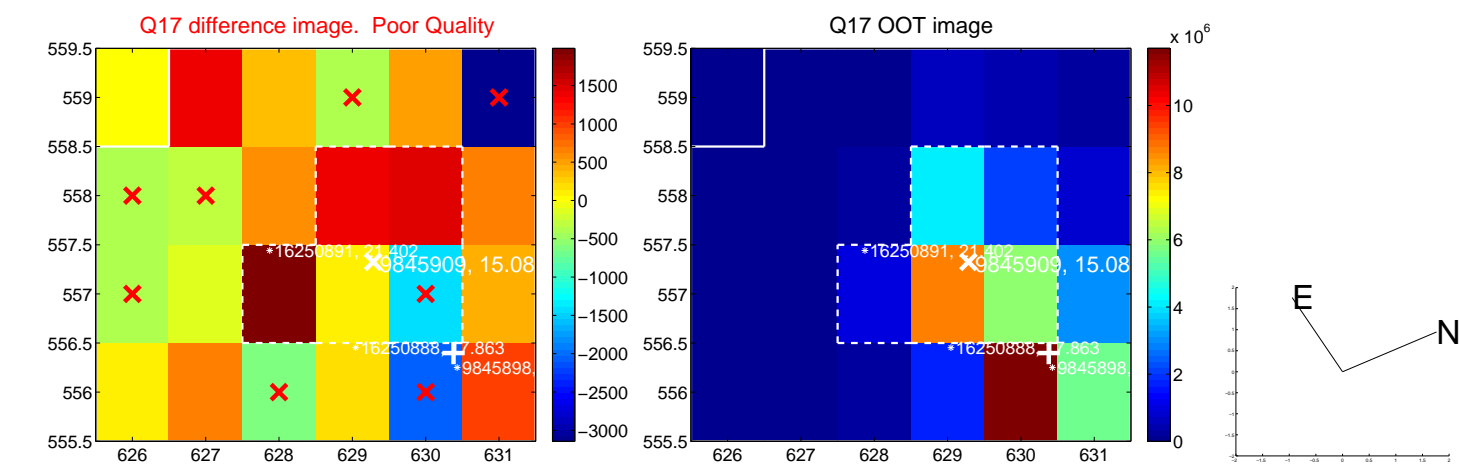
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

