

KIC 008707639

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})
008707639-01	OBS	No	7.783685	133.147622	32.3	17.095	10.2	9.2	1.14	6011	0.75	256.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008707639-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—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.

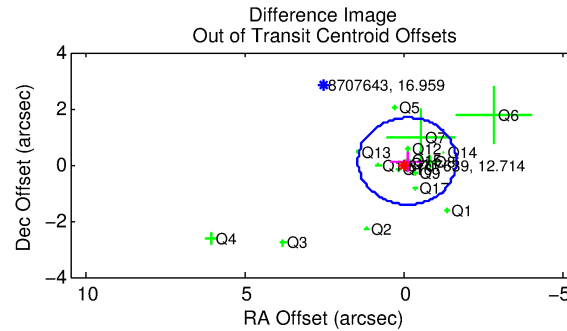
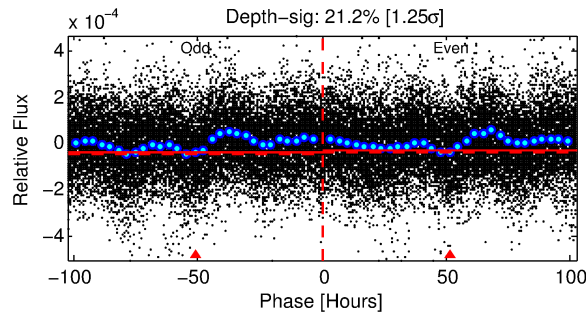
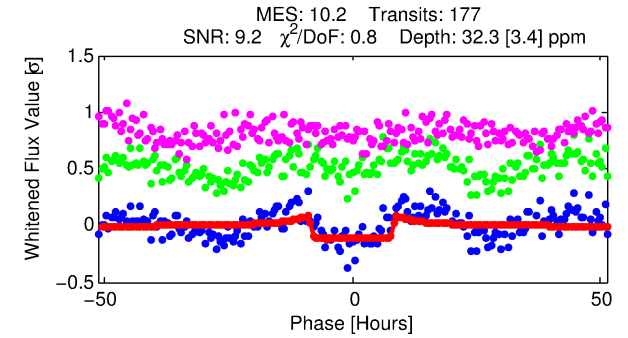
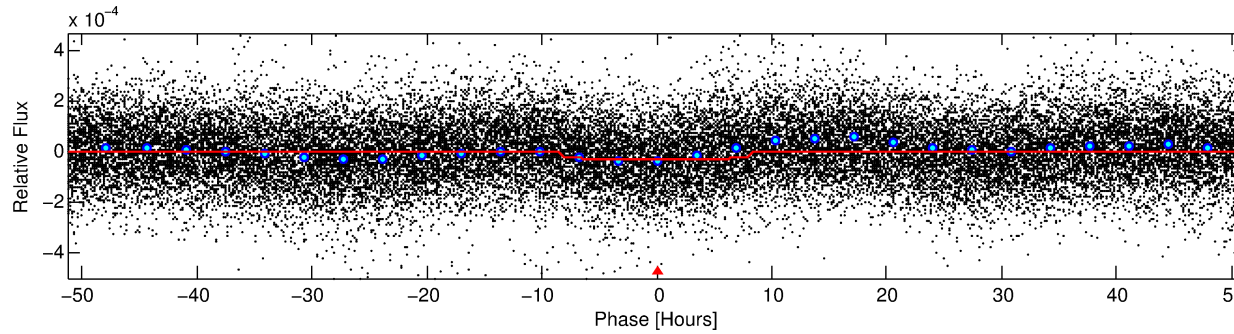
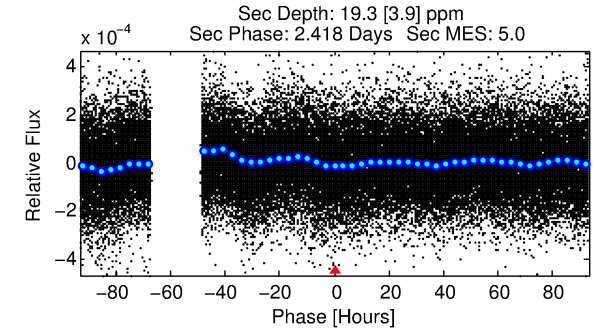
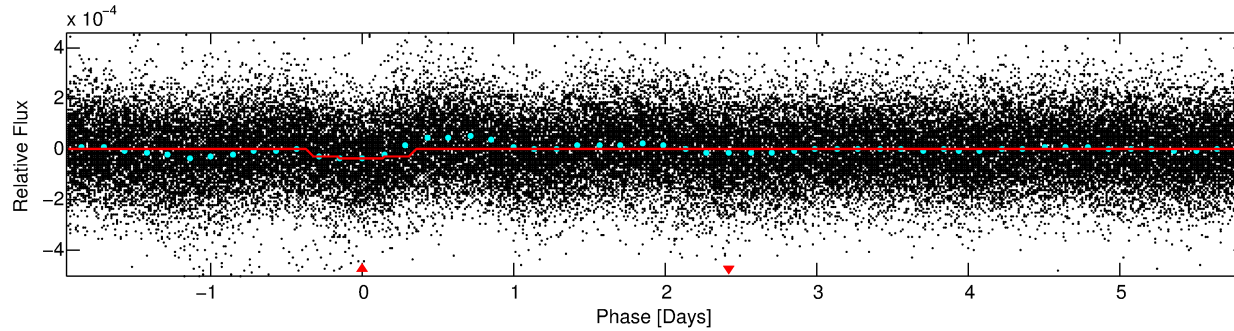
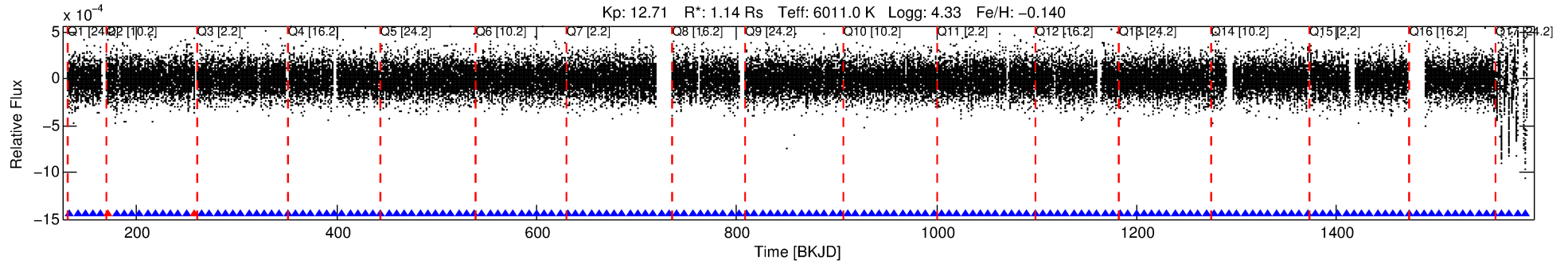
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008707639-01

No Significant Match Found

DV One-Page Summary

KIC: 8707639 Candidate: 1 of 1 Period: 7.784 d



DV Fit Results:

Period = 7.78369 [0.00012] d
Epoch = 133.1476 [0.0122] BKJD
Rp/R* = 0.0061 [0.0007]
a/R* = 1.88 [0.73]
b = 0.89 [0.13]
Seff = 256.26 [96.16]
Teq = 1020 [96] K
Rp = 0.75 [0.24] Re
a = 0.0767 [0.0187] AU
Ag = 110.08 [51.43] [2.12σ]
Teffp = 5109 [436] K [9.16σ]

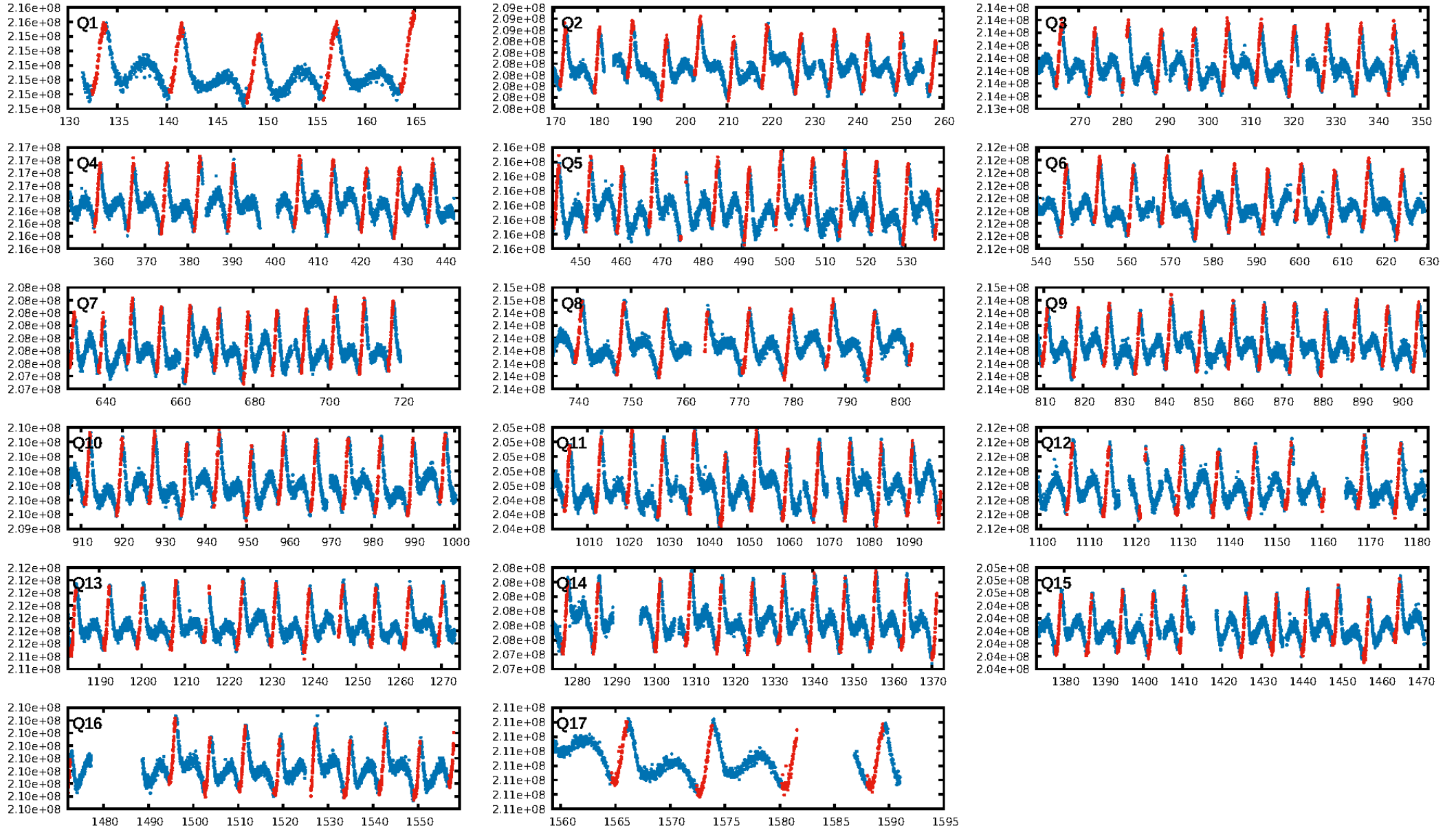
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.43e-19
RollingBand-fgt: 0.99 [166/168]
GhostDiagnostic-chr: -4.433
Centroid-sig: 0.0%
Centroid-so: 1.529 arcsec [1.76σ]
OotOffset-rm: 0.159 arcsec [0.31σ]
KicOffset-rm: 0.830 arcsec [3.72σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.65 [11/17]
DiffImageOverlap-fno: 1.00 [17/17]

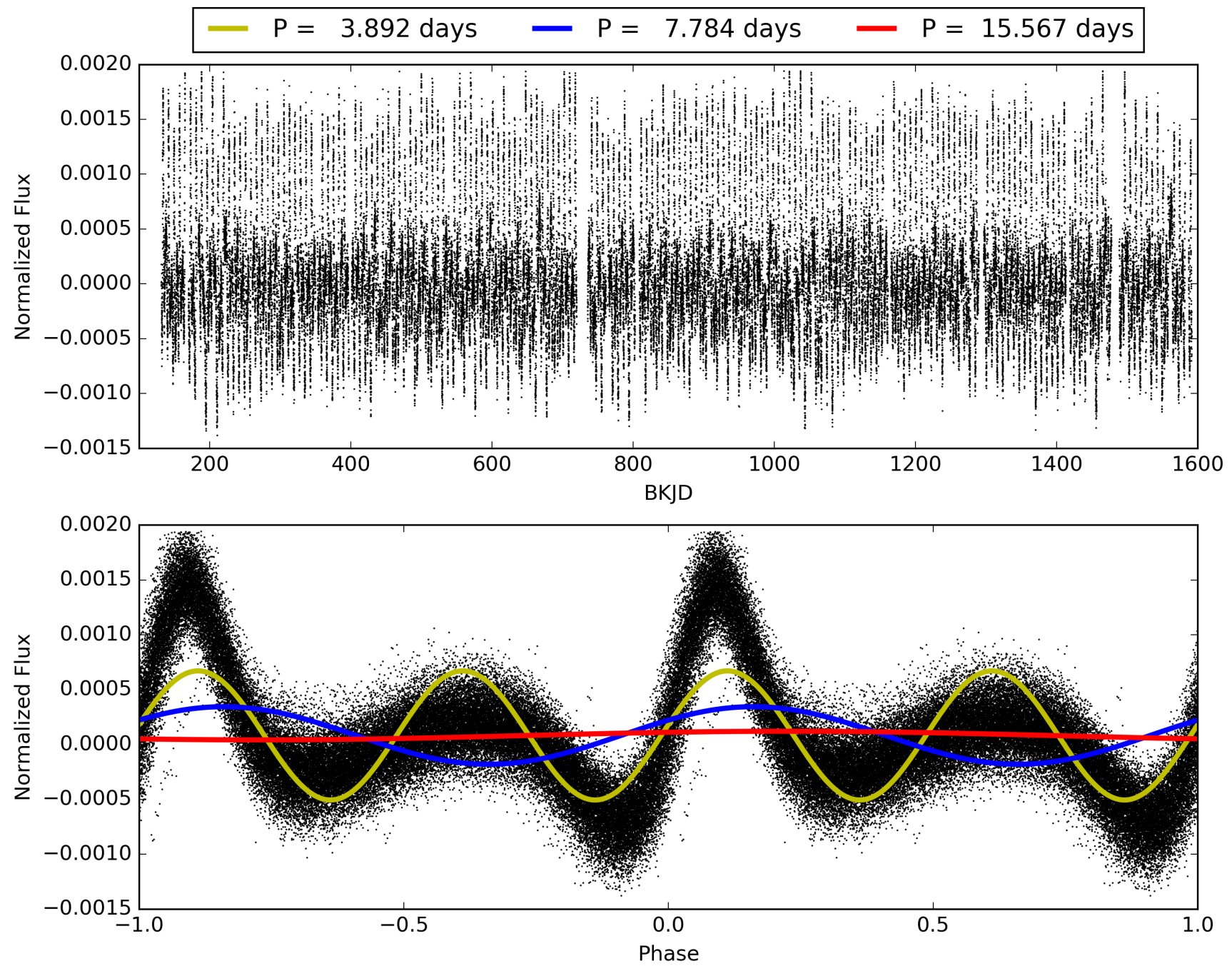
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:17:21 Z

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

TCE 008707639-01, PDC Light Curves

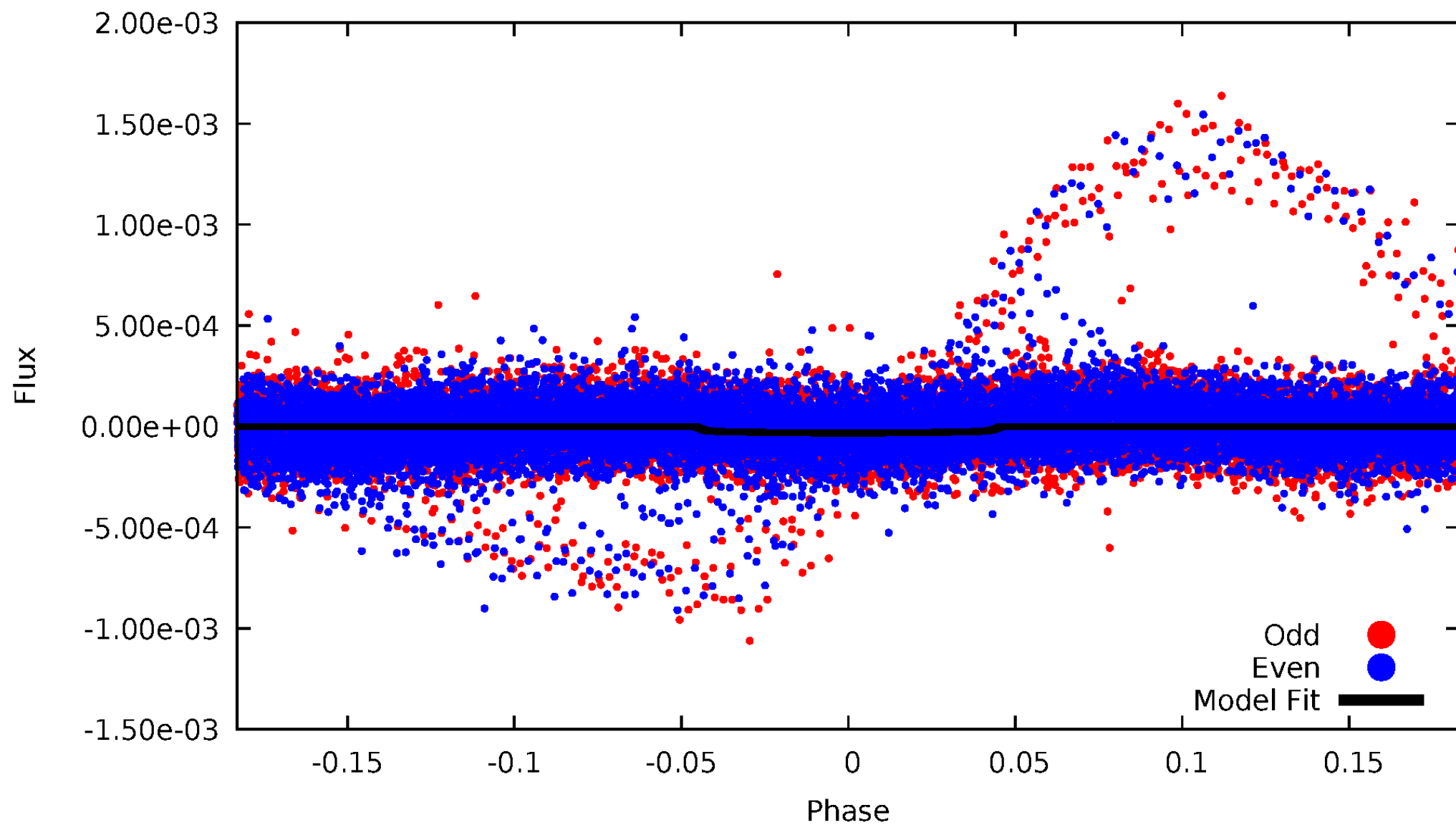


TCE 008707639-01



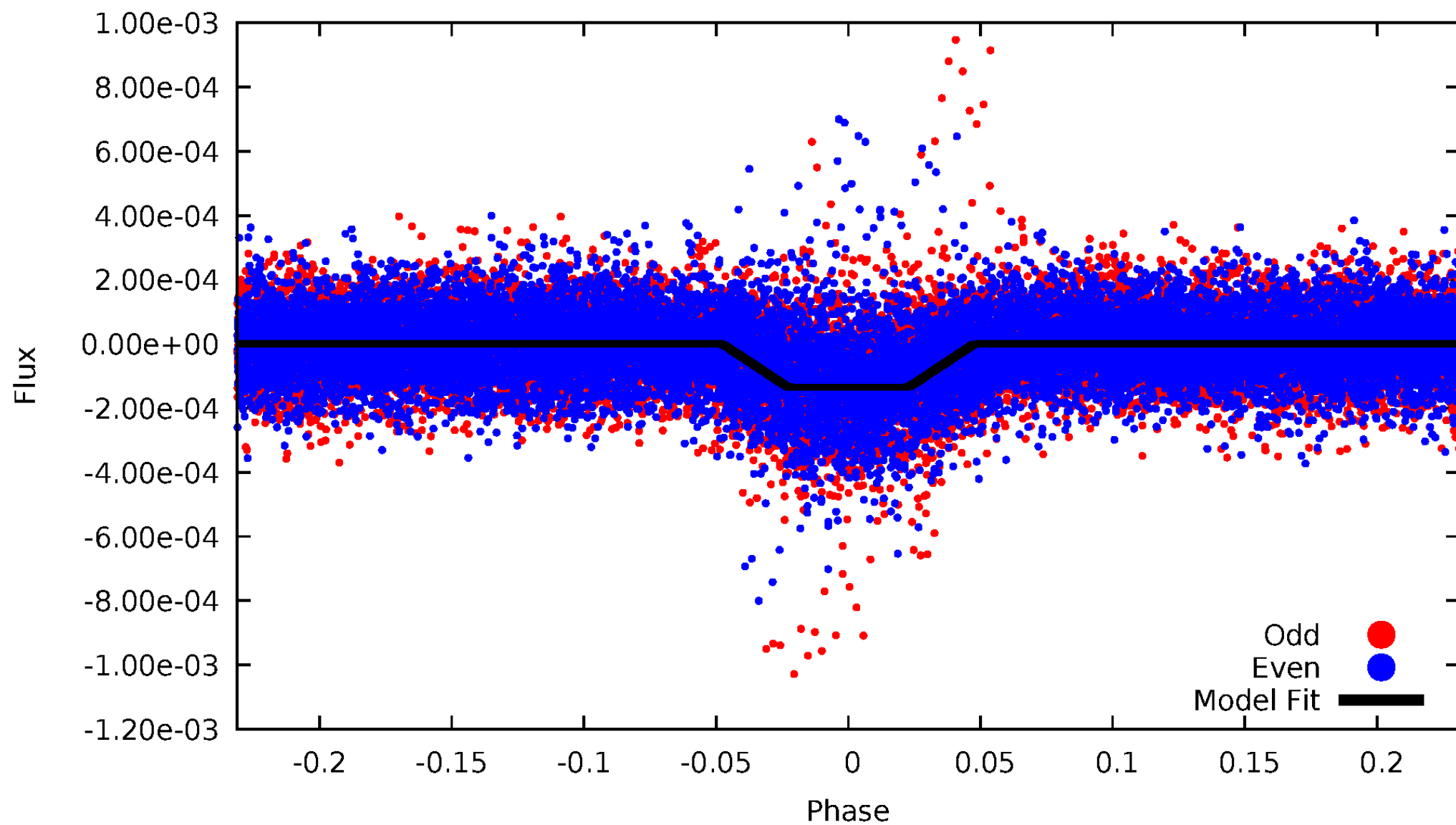
DV Odd/Even

TCE 008707639-01



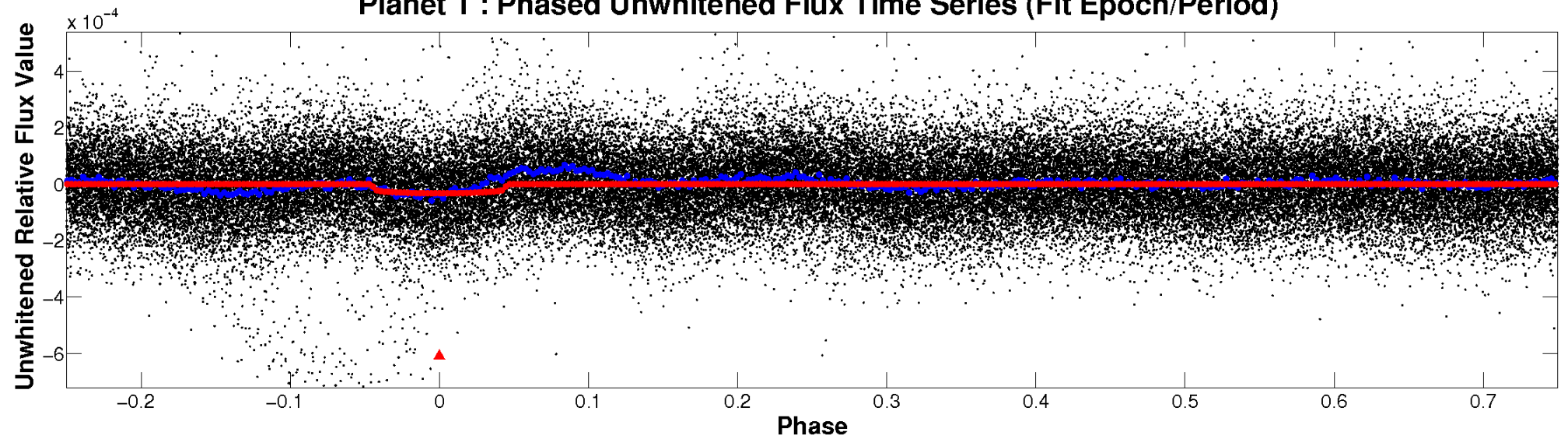
ALT Odd/Even

TCE 008707639-01

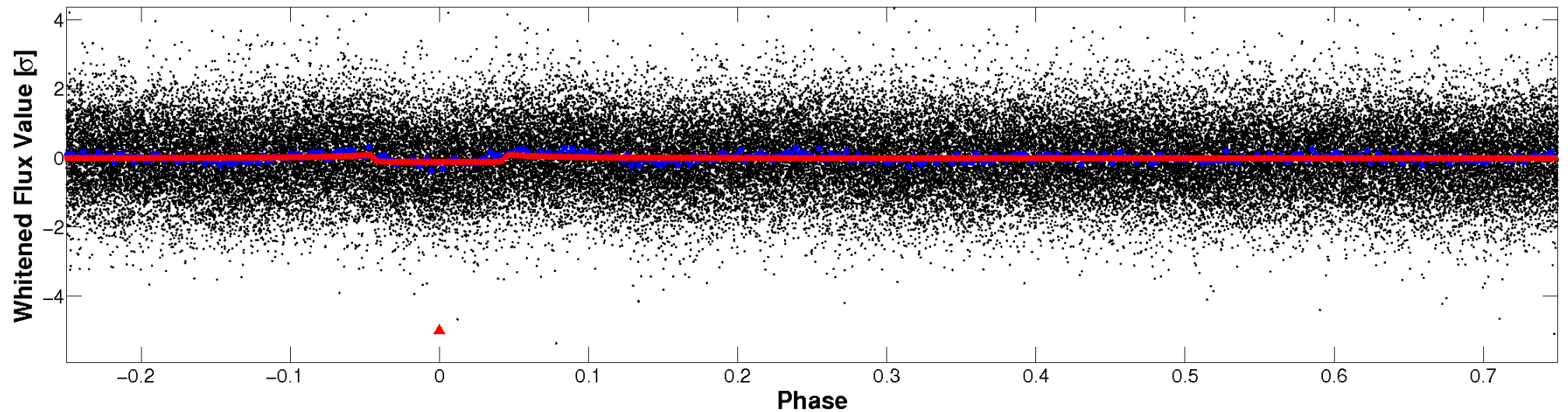


Non-Whitened Vs. Whitened Light Curve

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

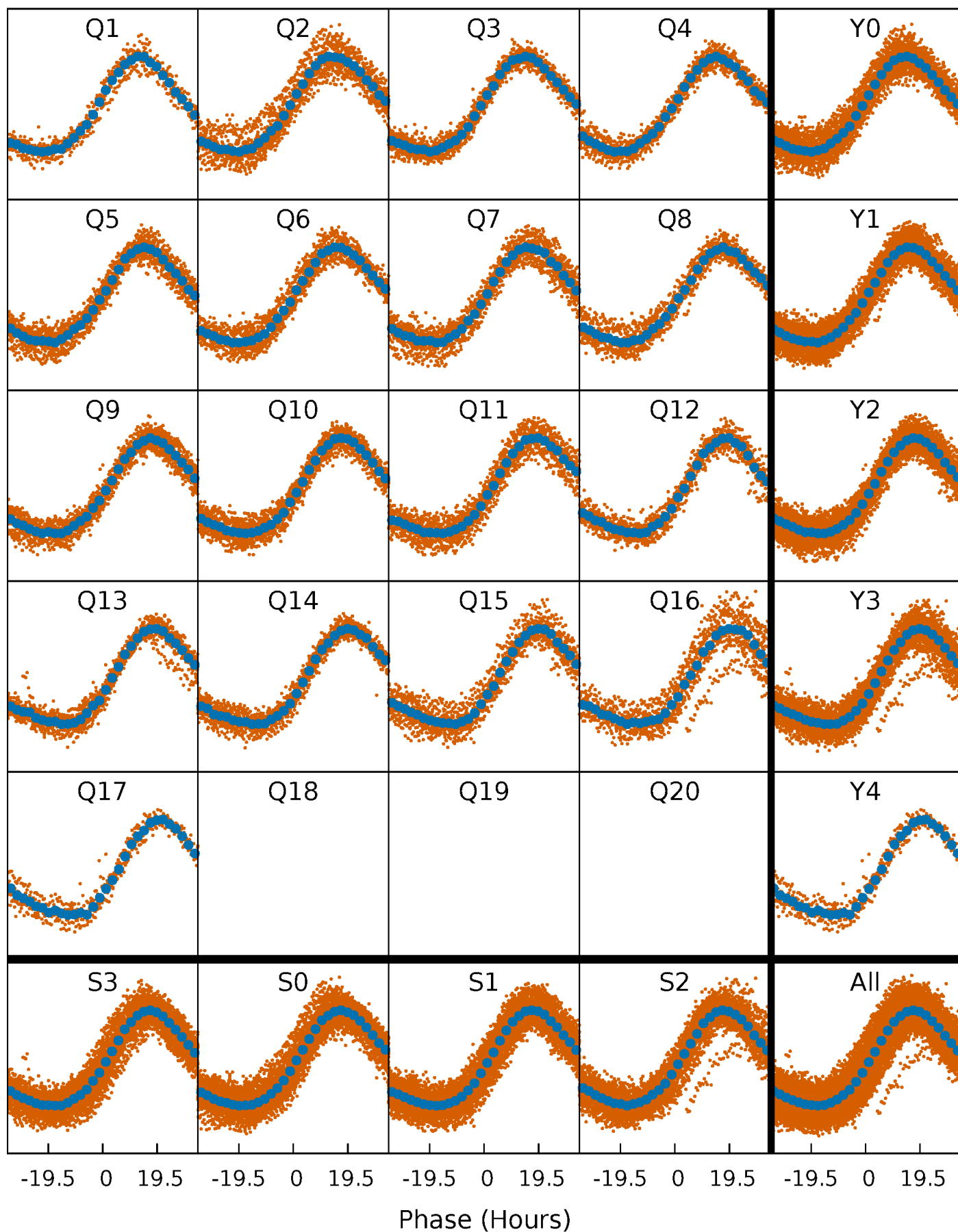


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



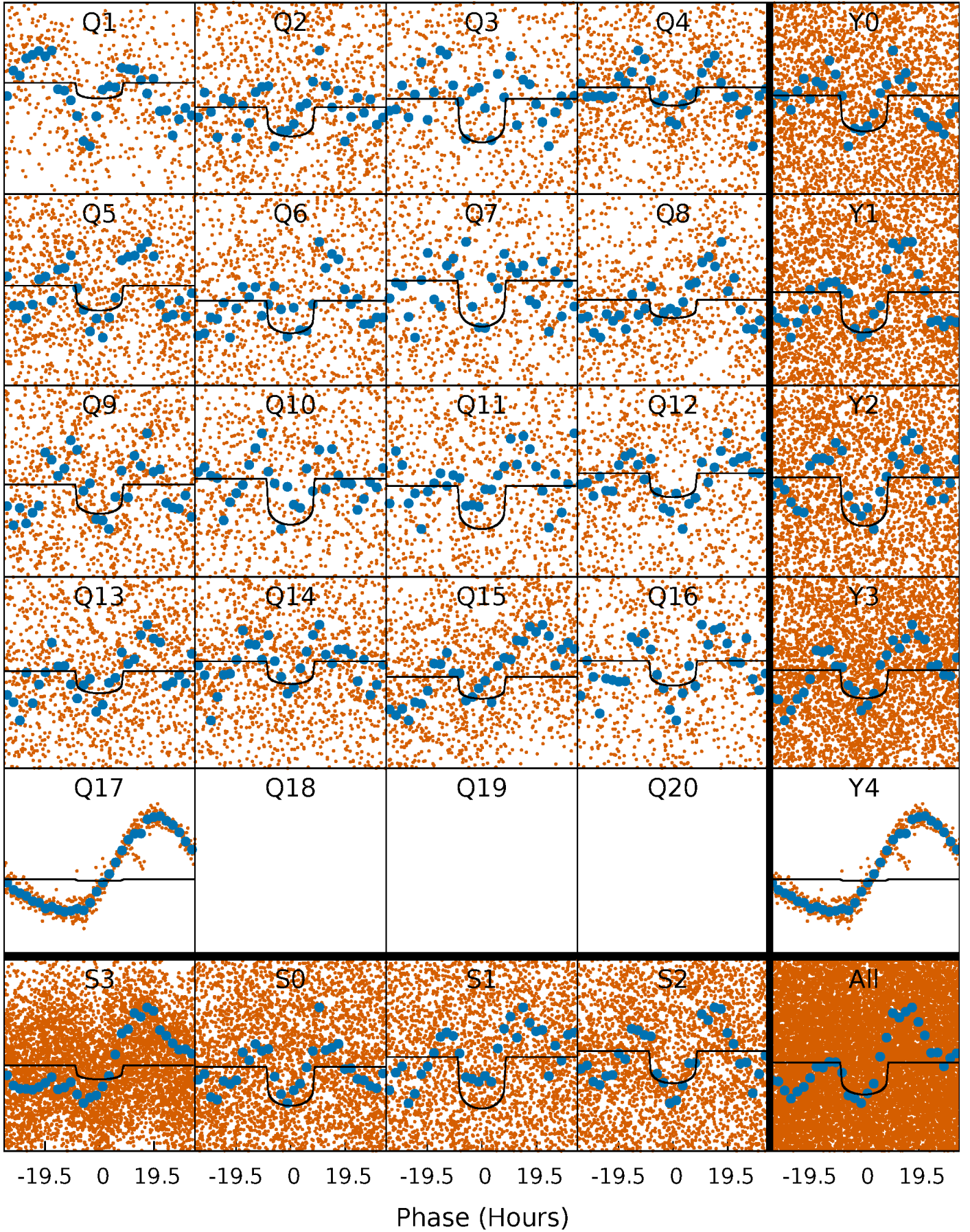
PDC Quarter-Phased Transit Curves

TCE 008707639-01 P= 7.783685 Days $T_0=133.147622$ (BKJD)



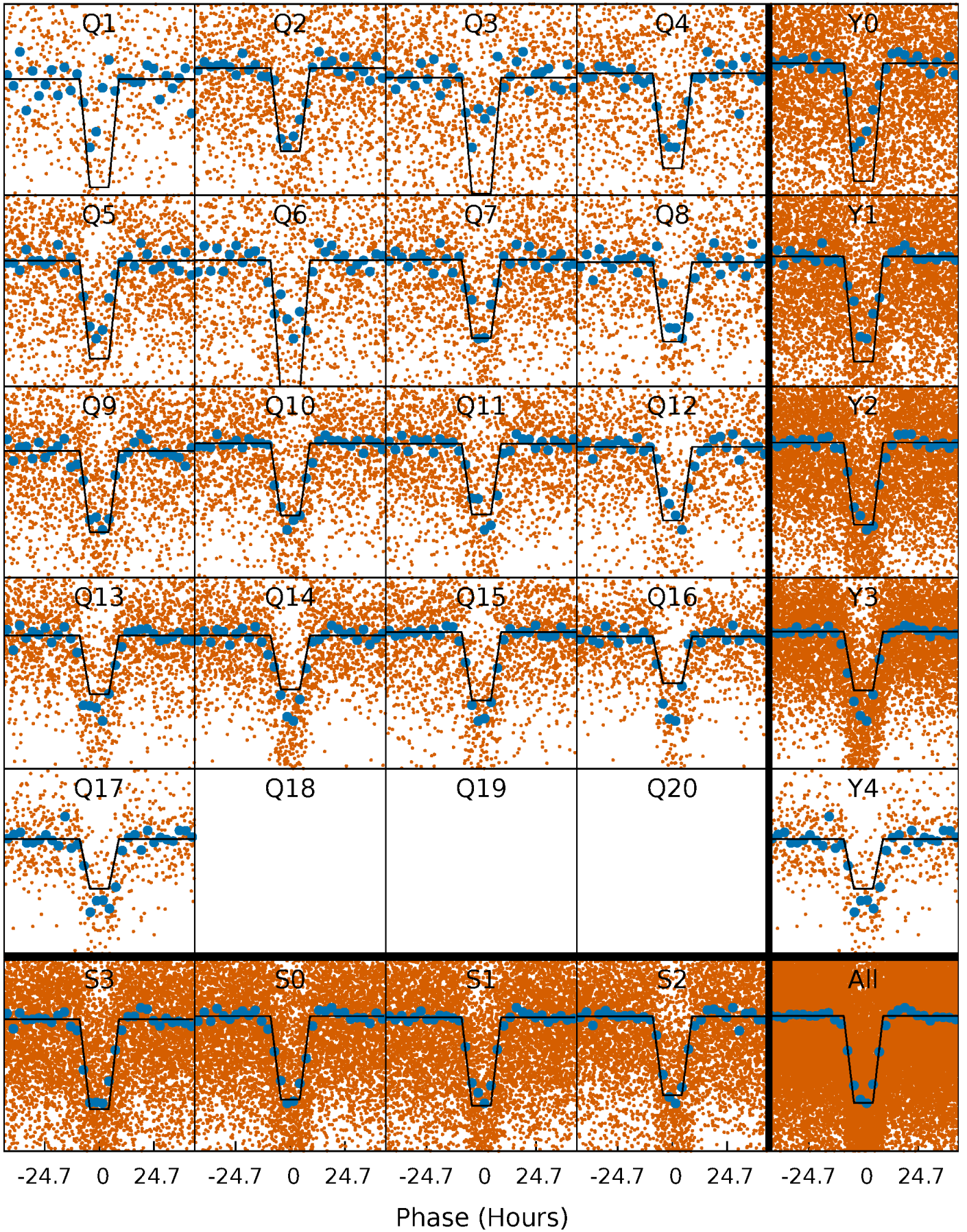
DV Quarter-Phased Transit Curves

TCE 008707639-01 P= 7.783685 Days $T_0=133.147622$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

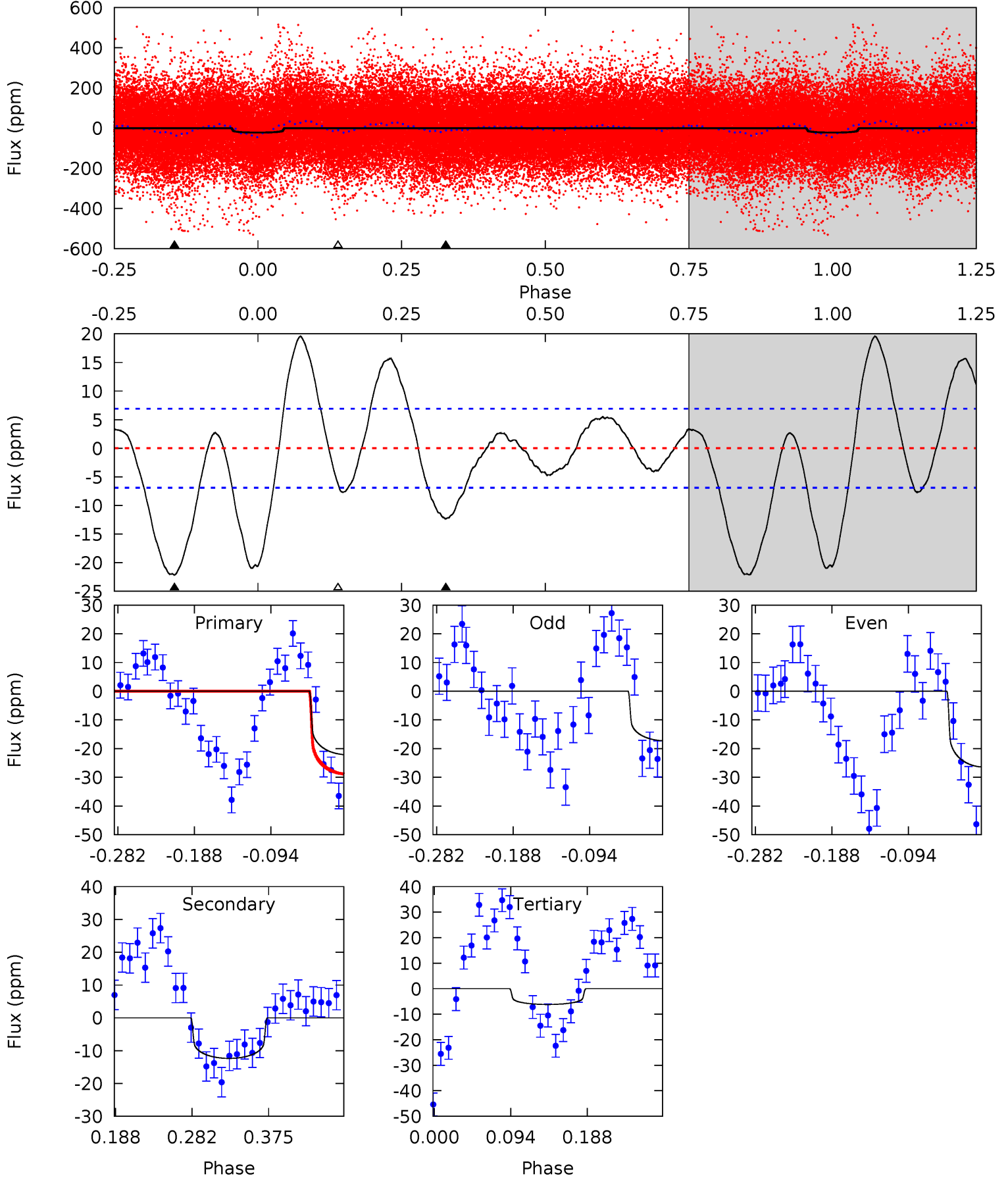
TCE 008707639-01 P= 7.783791 Days $T_0=133.085910$ (BKJD)



DV Model-Shift Uniqueness Test

008707639-01, P = 7.783685 Days, E = 125.363937 Days

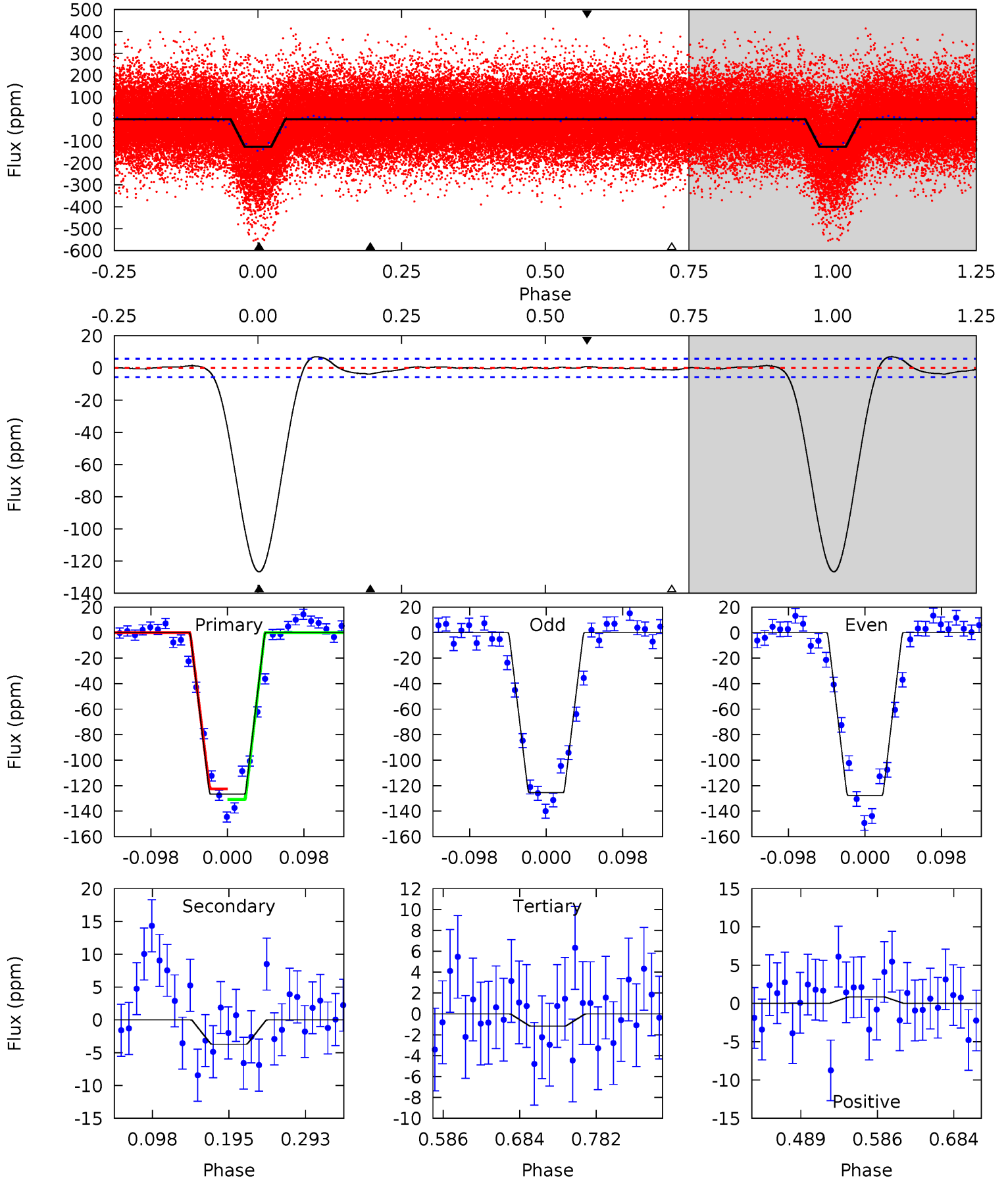
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.7	8.19	4.10	0	4.58	1.68	5.72	10.6	14.7	4.09	8.19	3.05	1.01	0.47	4.56



Alt Model-Shift Uniqueness Test

008707639-01, P = 7.783791 Days, E = 125.302119 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
101.5	2.99	0.94	0.69	4.57	1.66	0.45	100.6	100.8	2.05	2.30	0.87	1.00	0.05	3.31



Stellar Parameters For KIC 008707639

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6011^{+210}_{-210}	$4.325^{+0.153}_{-0.187}$	$-0.140^{+0.300}_{-0.300}$	$1.136^{+0.336}_{-0.224}$	$0.994^{+0.153}_{-0.126}$	$0.956^{+0.720}_{-0.476}$
	+3%/-3%	+4%/-4%	+214%/-214%	+30%/-20%	+15%/-13%	+75%/-50%
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 008707639-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-12 ± 2	$0.76^{+0.14}_{-0.13}$	1435^{+109}_{-95}	4718^{+307}_{-286}	68^{+31}_{-20}
Alt.	-4 ± 1	$1.46^{+0.23}_{-0.19}$	1430^{+110}_{-90}	3046^{+169}_{-199}	$5.396^{+2.852}_{-2.257}$

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

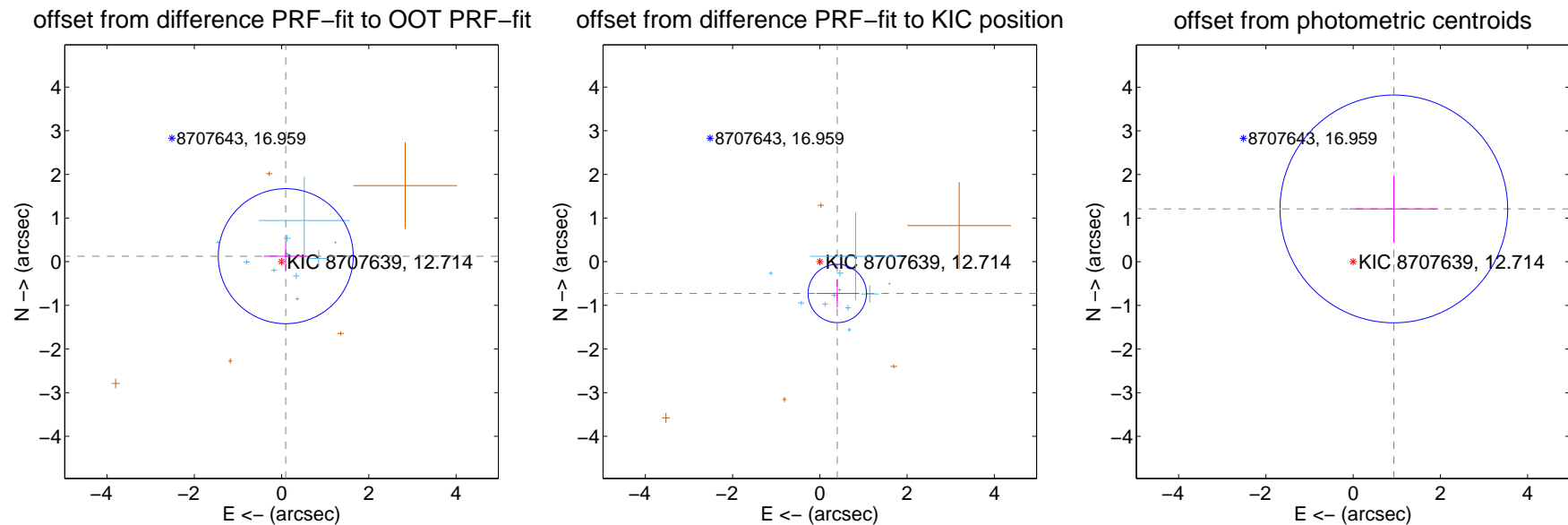
DV Centroid Data

Supplemental centroid analysis for 008707639-01. Kepler magnitude: 12.71. Transit SNR 9.23

There are 11 quarters with good PRF difference image offsets

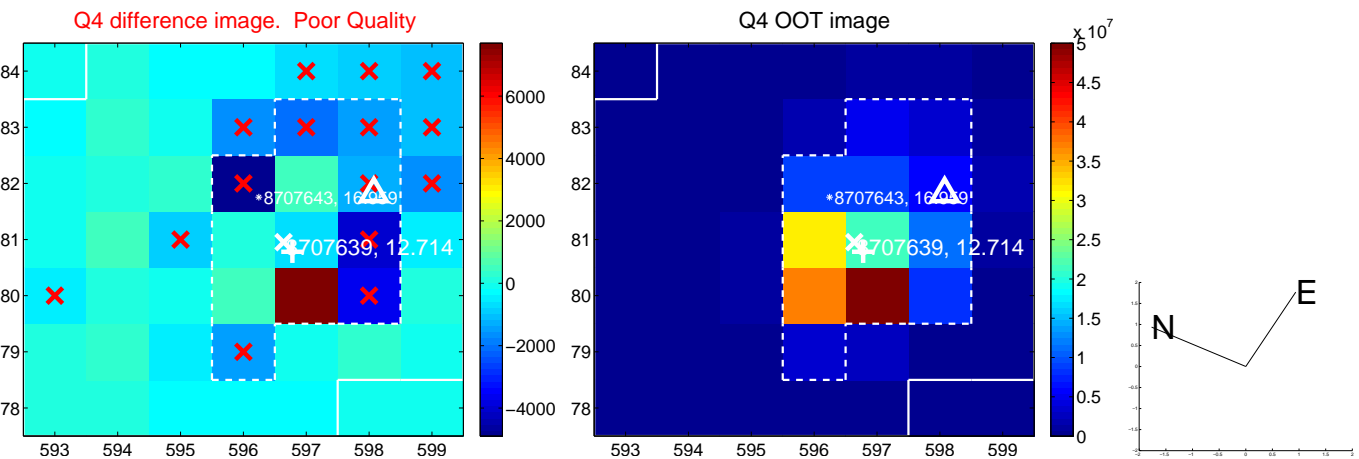
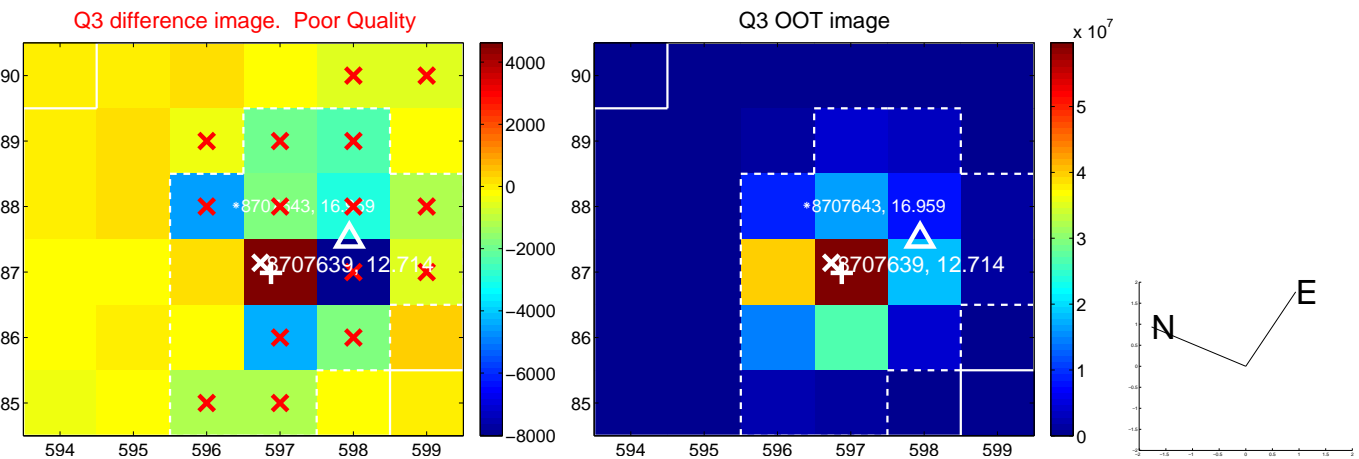
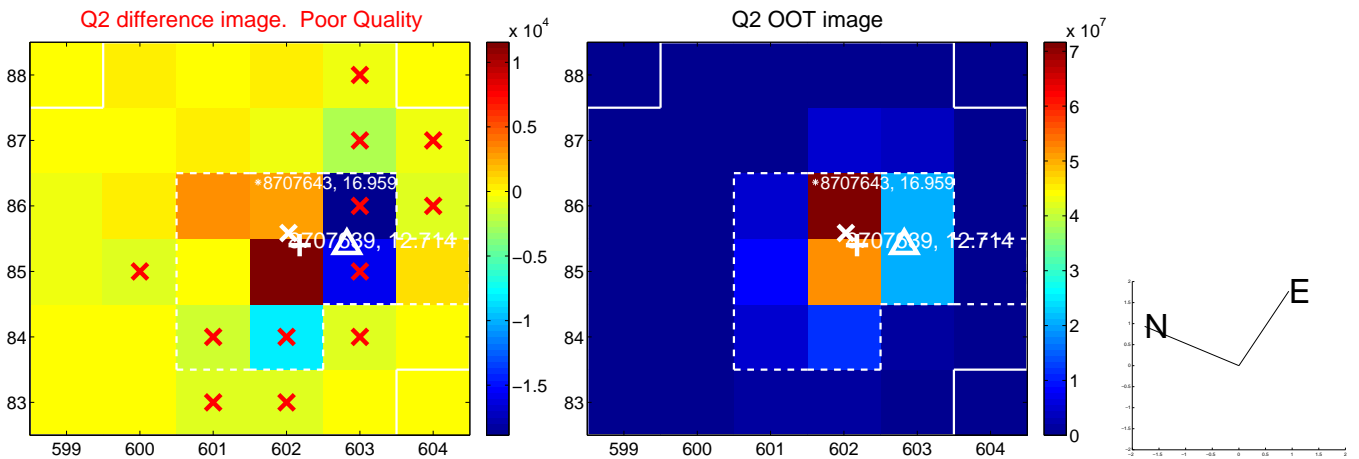
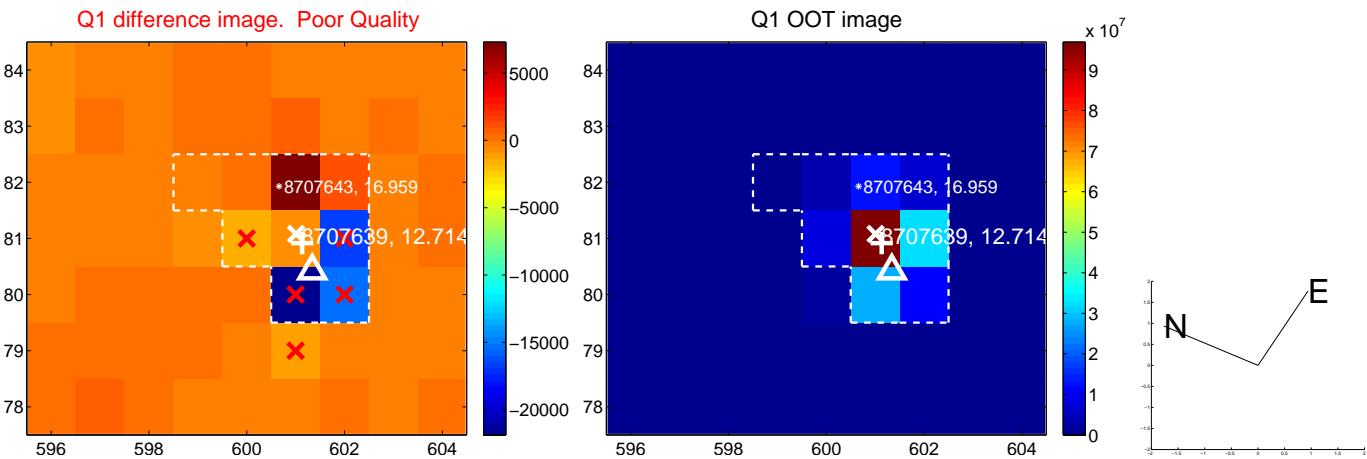
The direct PRF centroid is offset from the target star catalog position by about 0.78 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.159 ± 0.515	0.31	-0.096 ± 0.508	0.126 ± 0.328
PRF-fit source offset from KIC position	0.830 ± 0.223	3.72	-0.399 ± 0.477	-0.727 ± 0.323
photometric centroid source offset	1.53 ± 0.87	1.76	-0.93 ± 1.02	1.21 ± 0.77

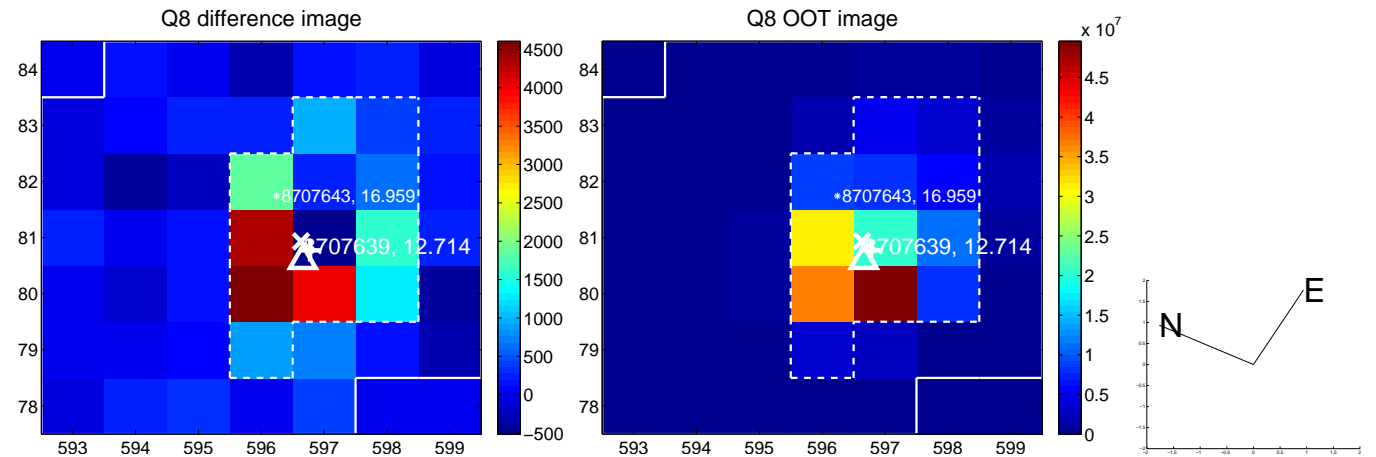
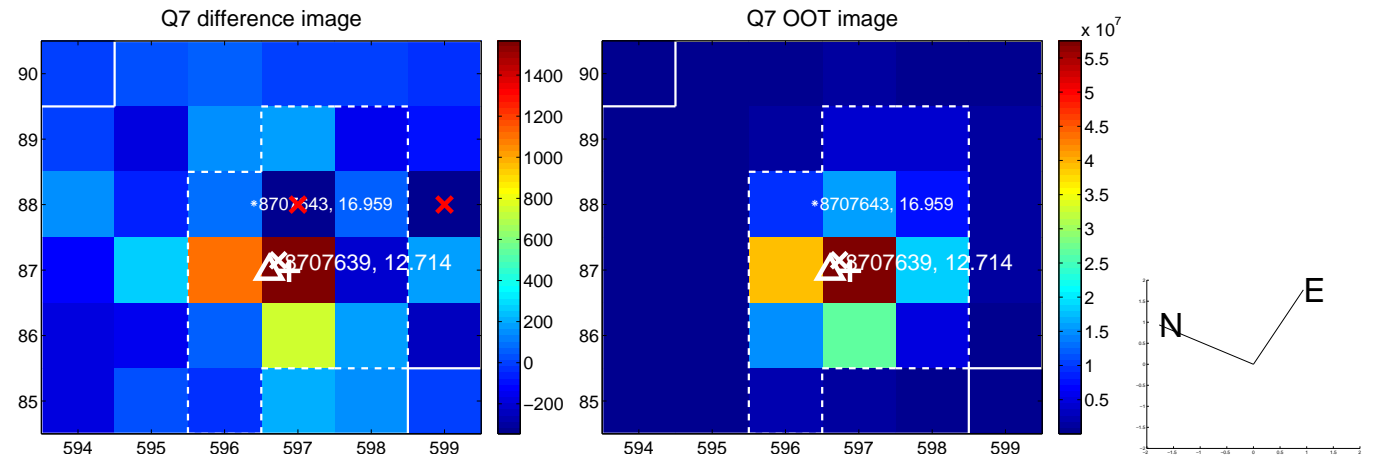
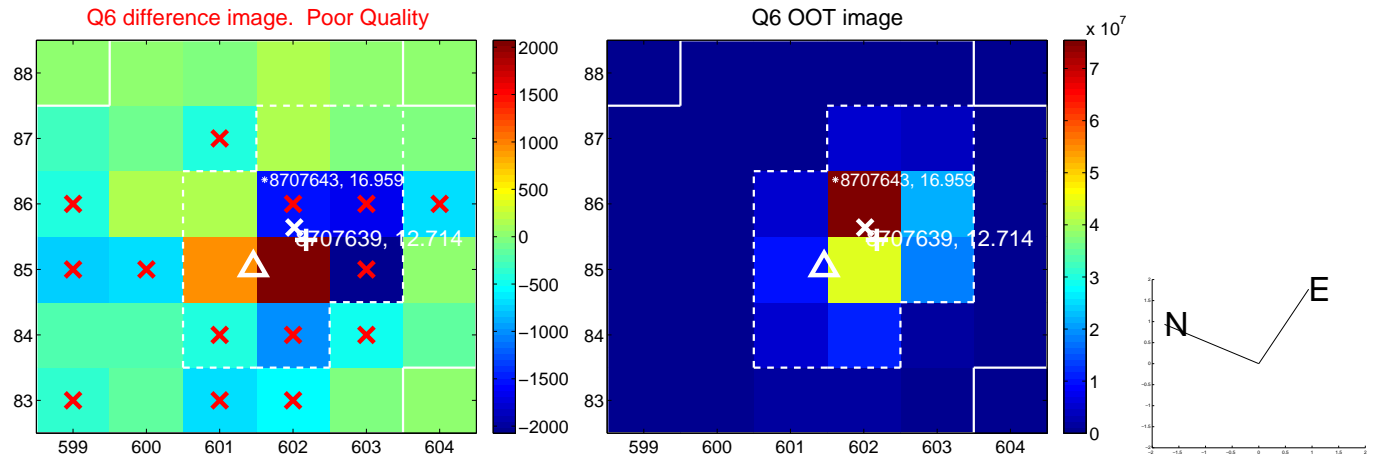
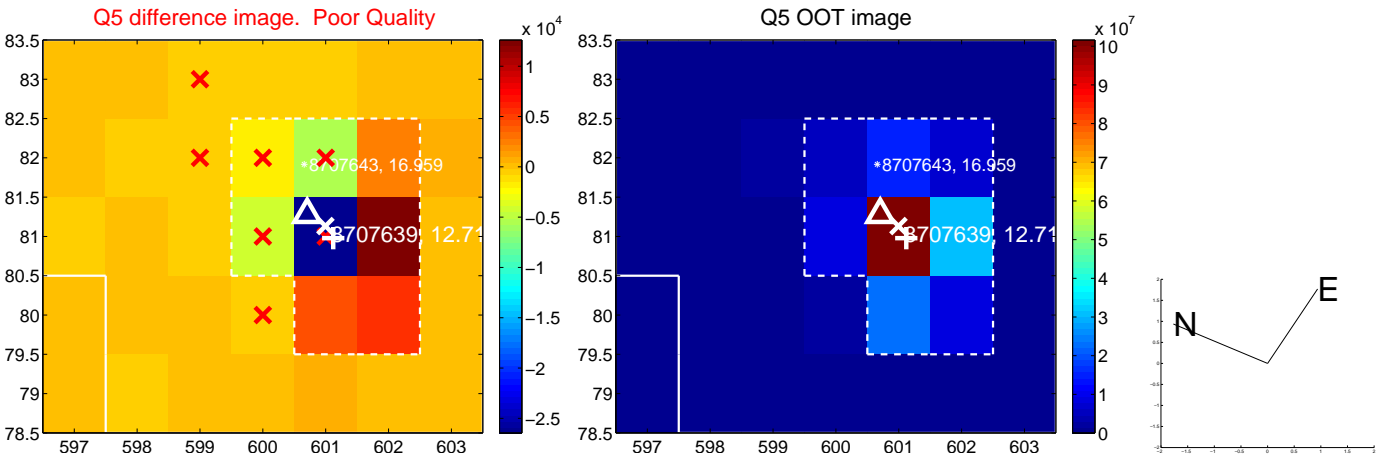


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000 are from the UKIRT catalog.

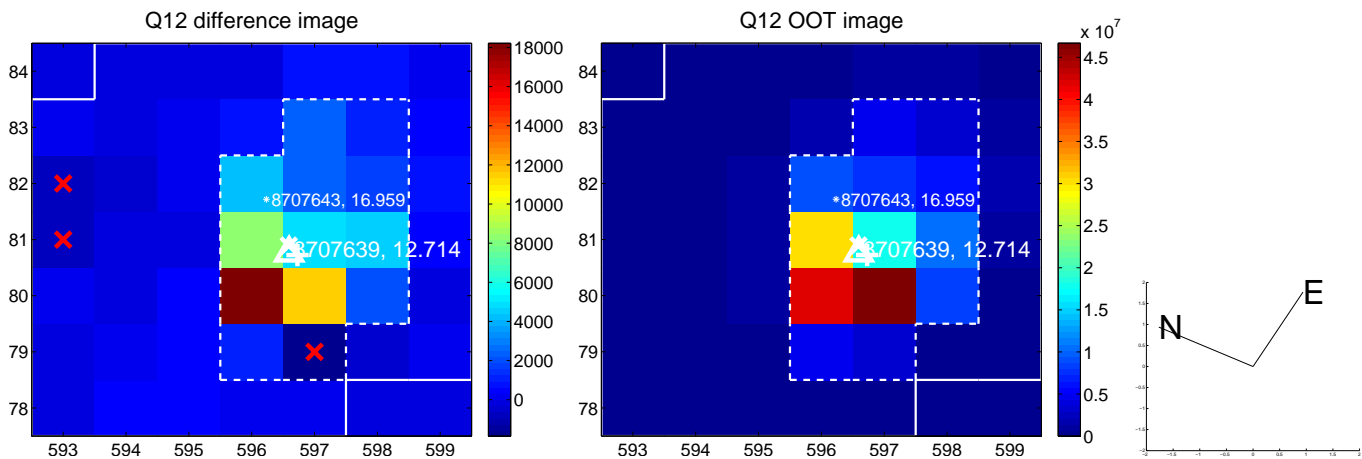
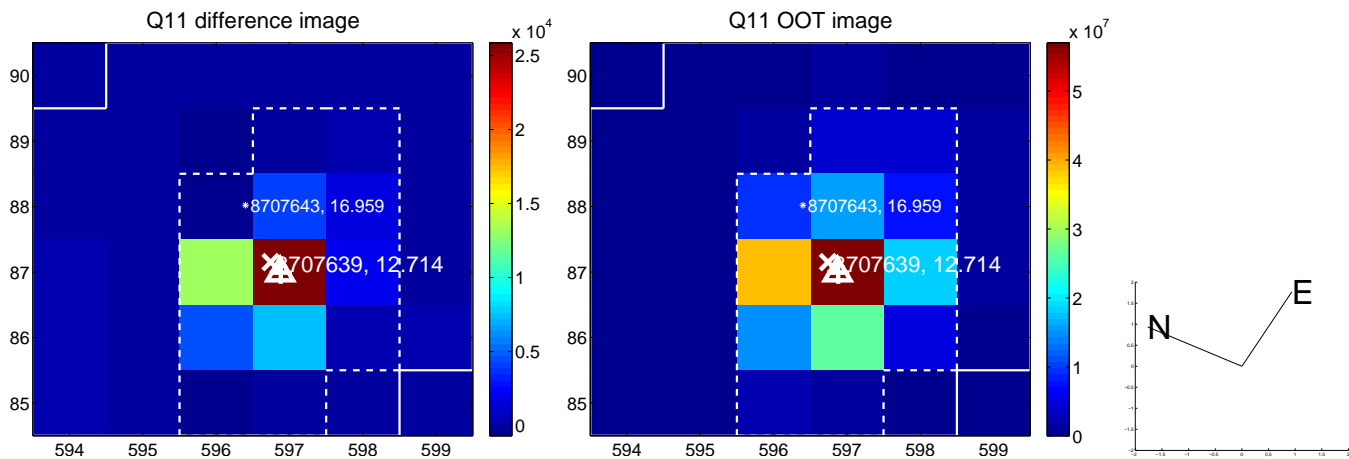
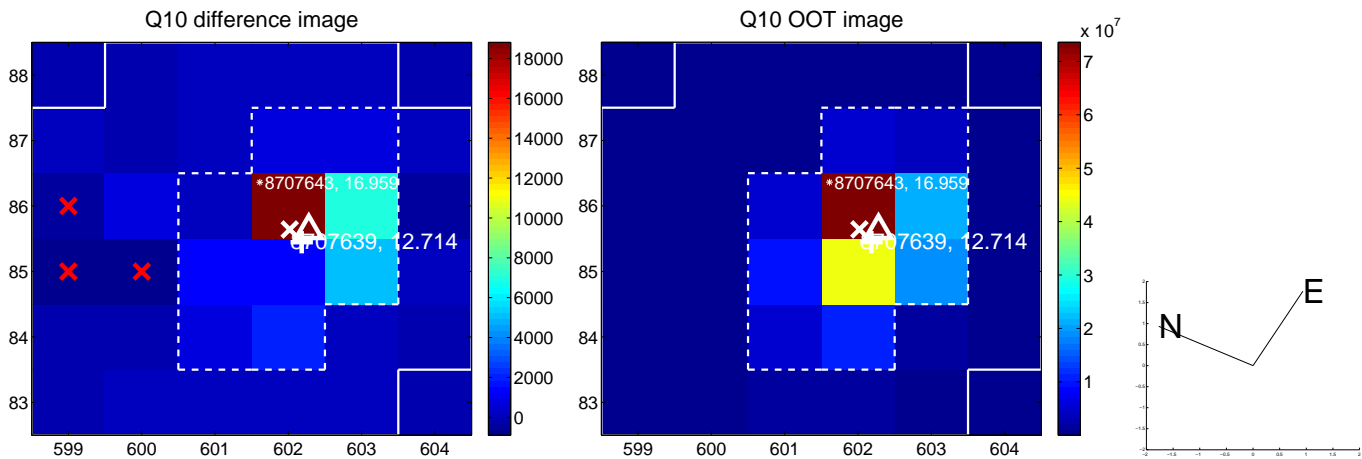
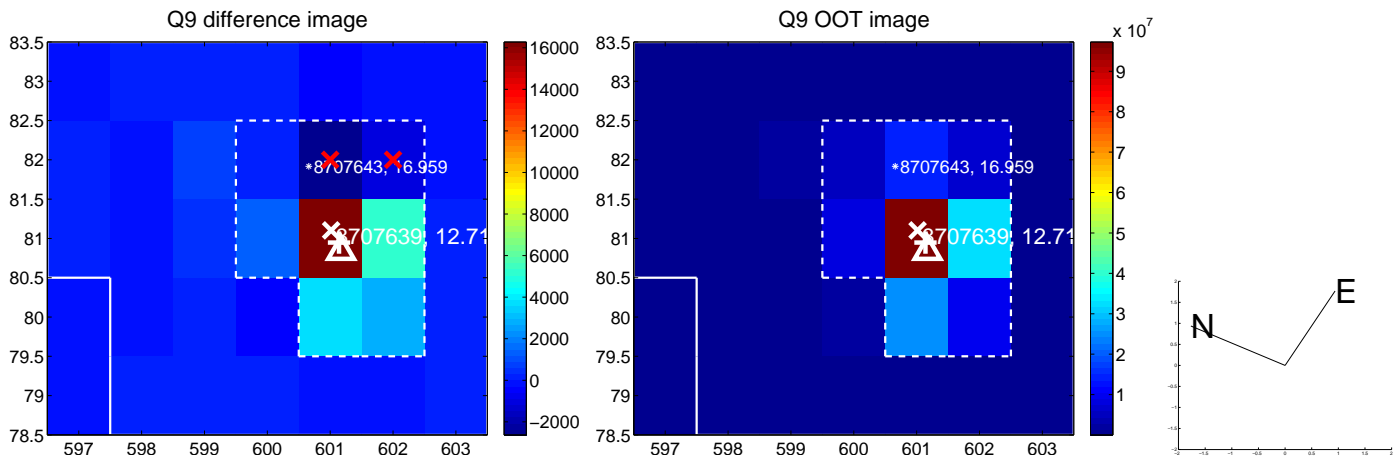
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



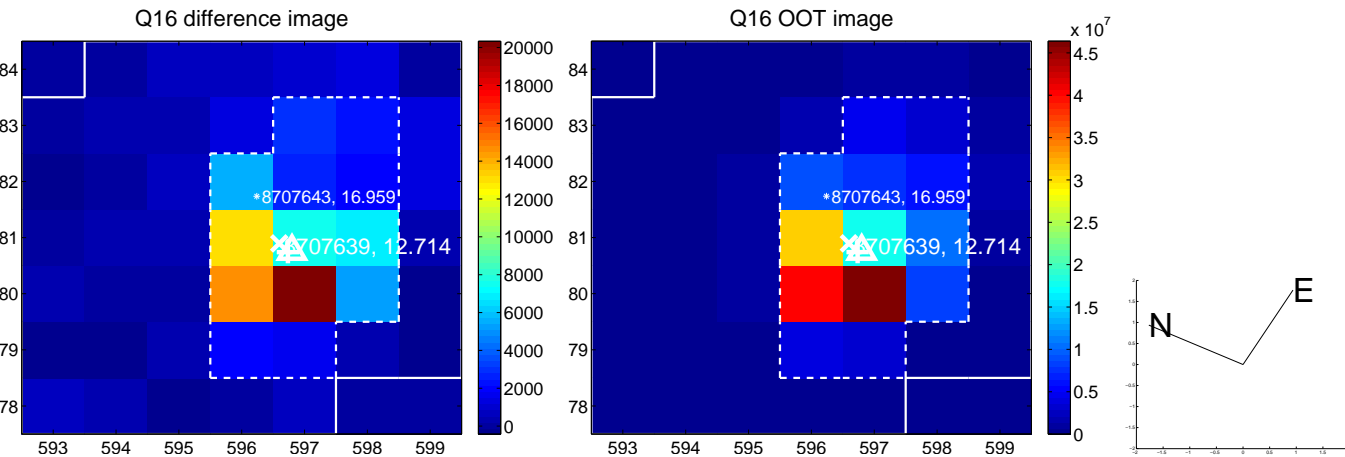
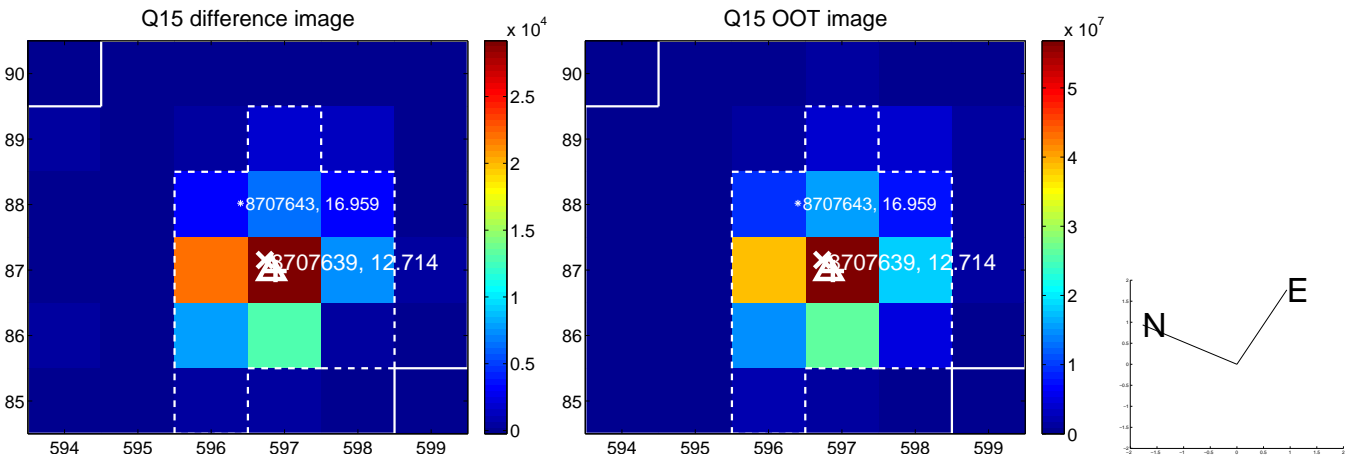
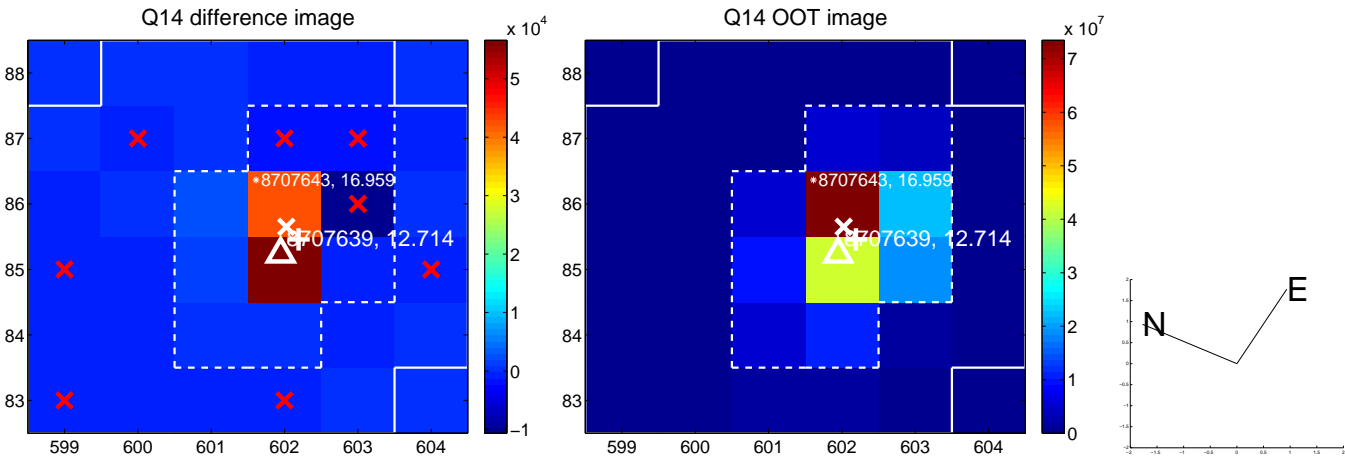
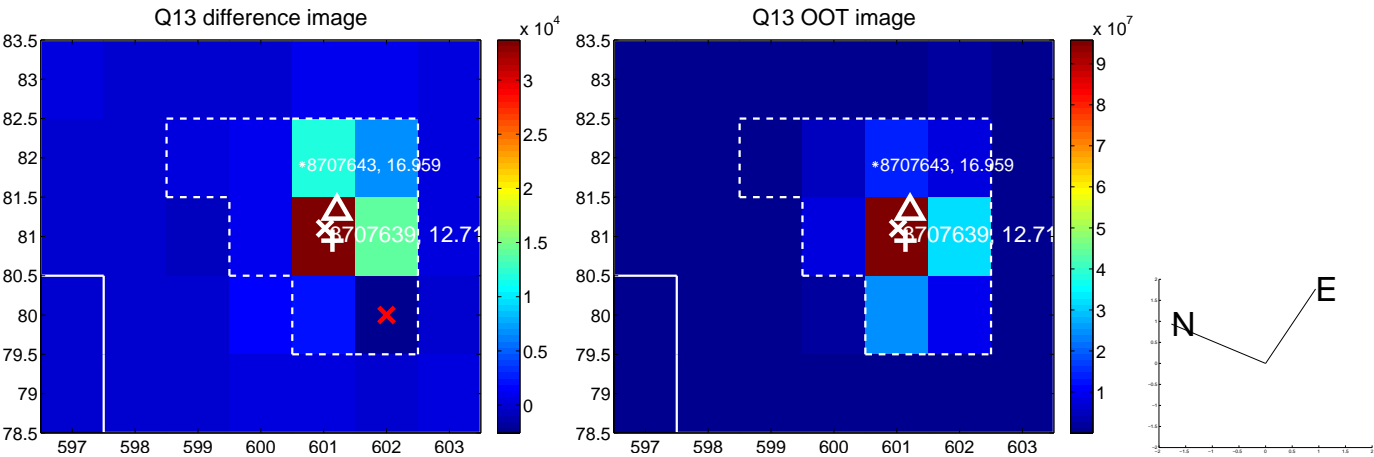
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



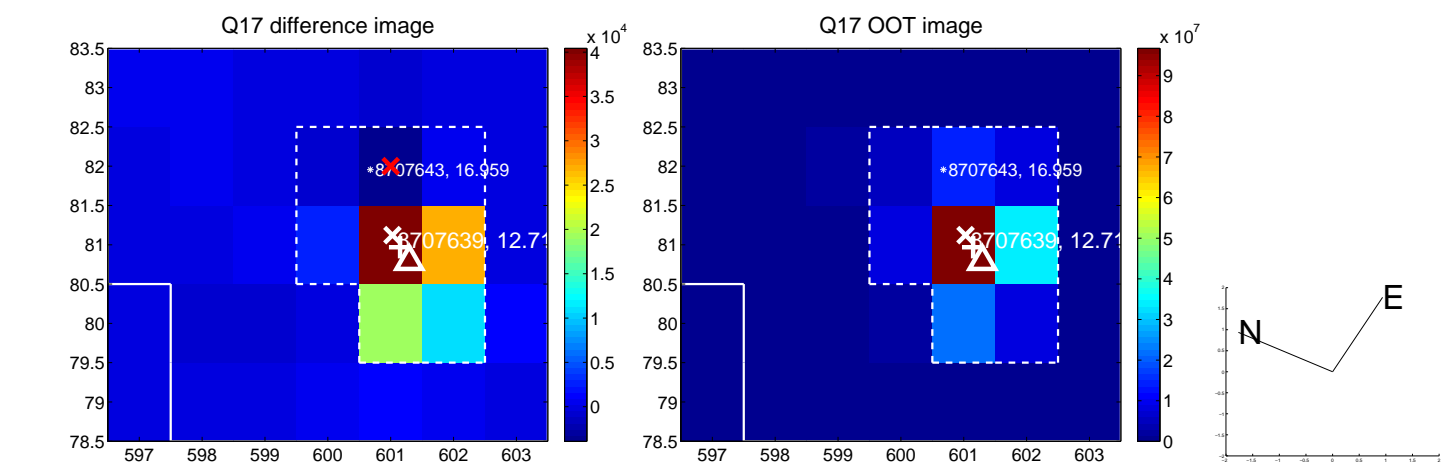
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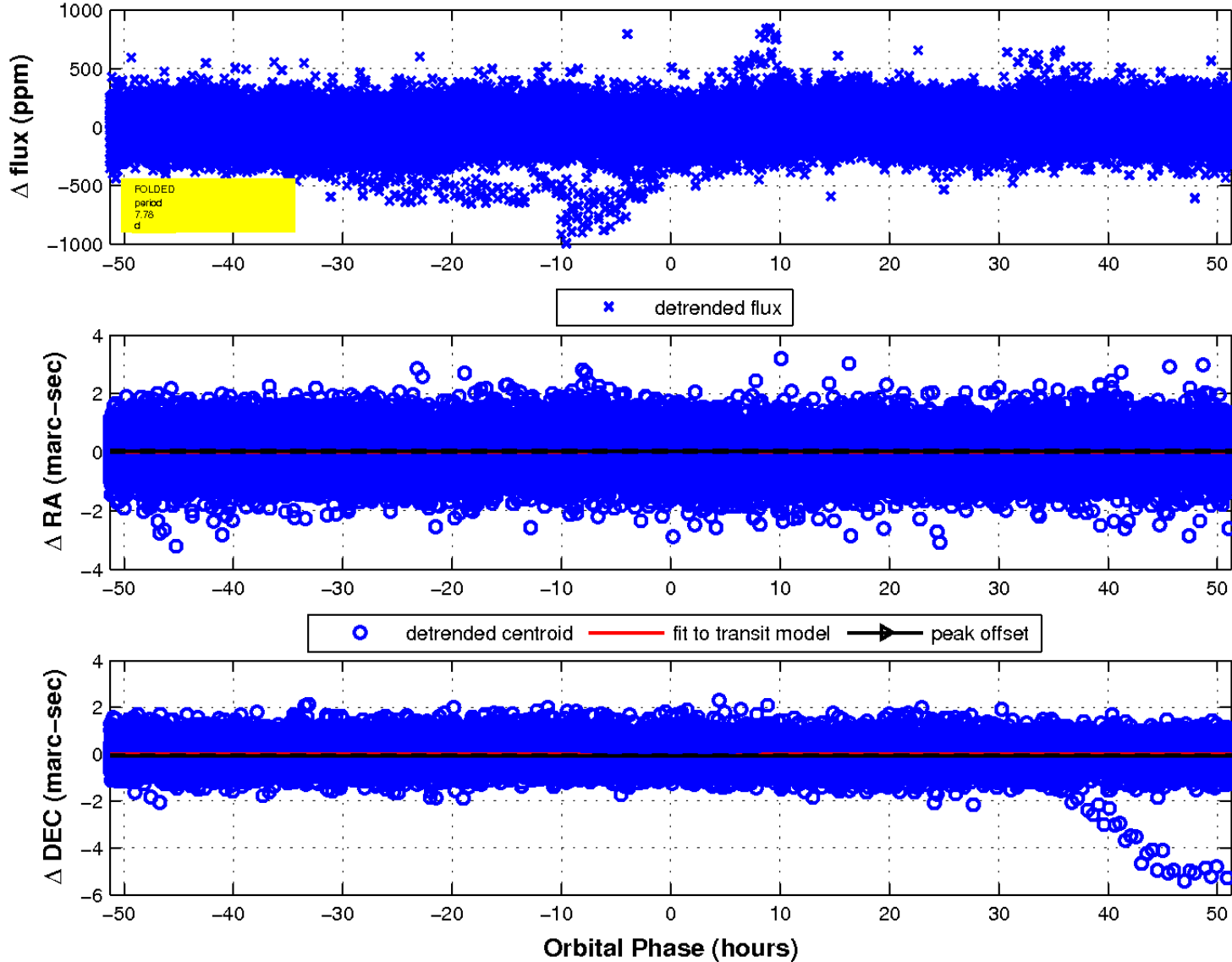
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

