

KIC 007459411

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})
007459411-01	OBS	No	0.844461	132.383820	5.0	8.082	10.5	3.5	3.04	6746	0.72	39112.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007459411-01	OBS	FP	0.00	1	0	1	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST

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

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

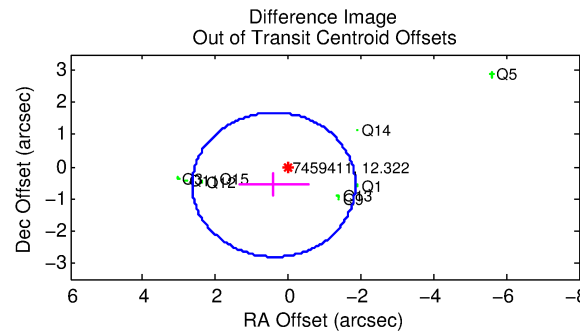
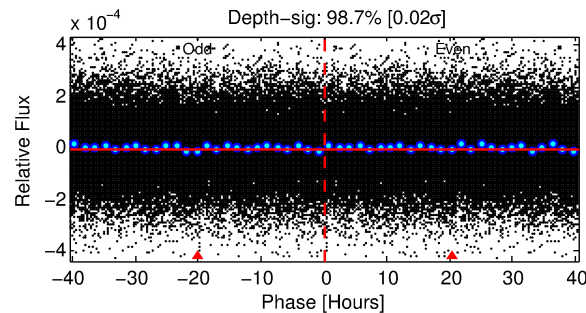
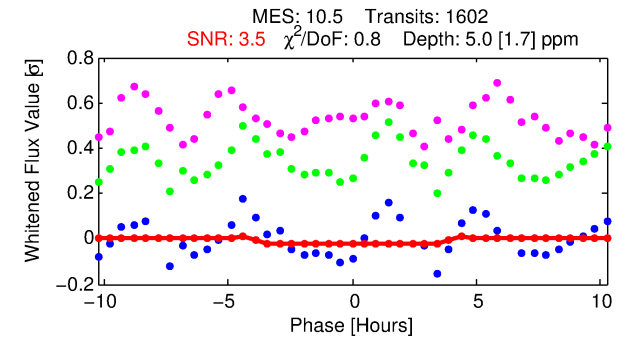
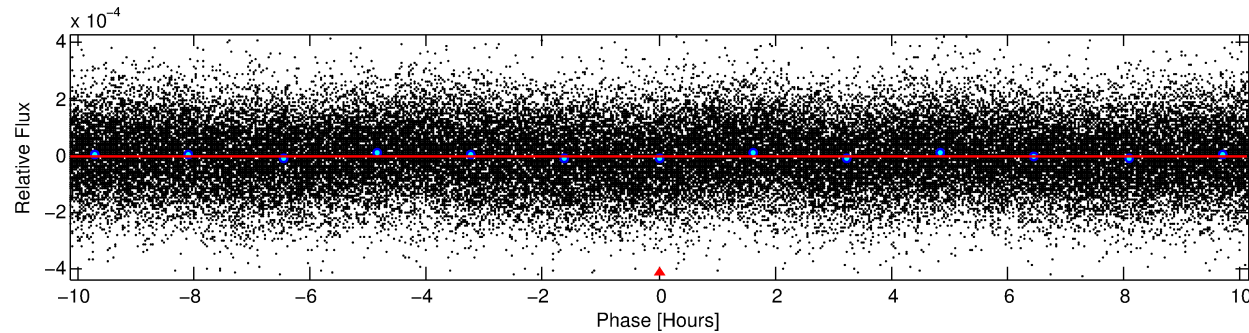
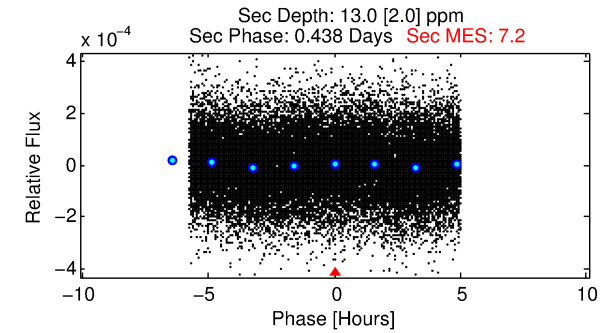
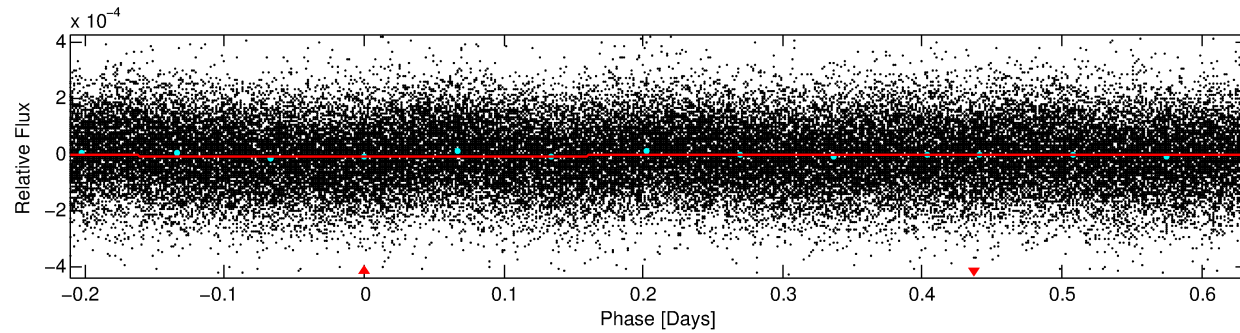
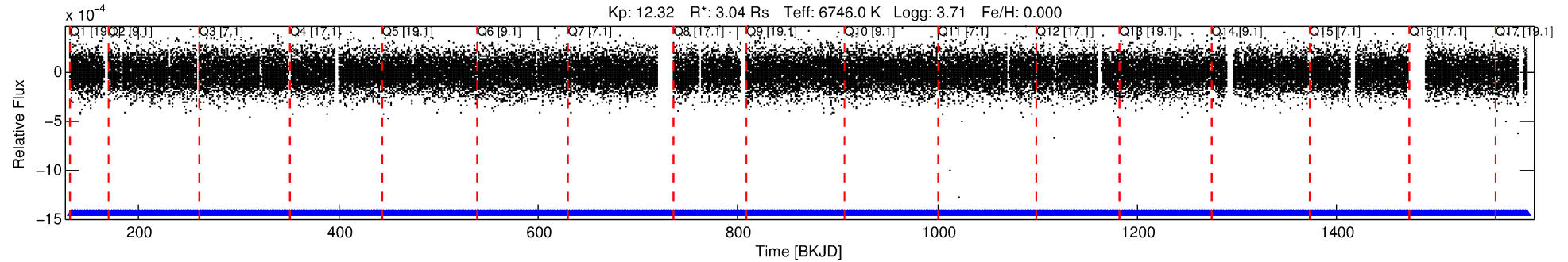
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007459411-01

No Significant Match Found

DV One-Page Summary

KIC: 7459411 Candidate: 1 of 1 Period: 0.844 d



DV Fit Results:

Period = 0.84446 [0.00004] d
Epoch = 132.3838 [0.0126] BKJD
Rp/R* = 0.0022 [0.0041]
a/R* = 1.03 [0.70]
b = 0.65 [9.85]
Seff = 39112.72 [20106.04]
Teq = 3586 [461] K
Rp = 0.72 [1.38] Re
a = 0.0209 [0.0068] AU
Ag = 5.98 [22.61] [0.22σ]
Teffp = 8670 [8125] K [0.62σ]

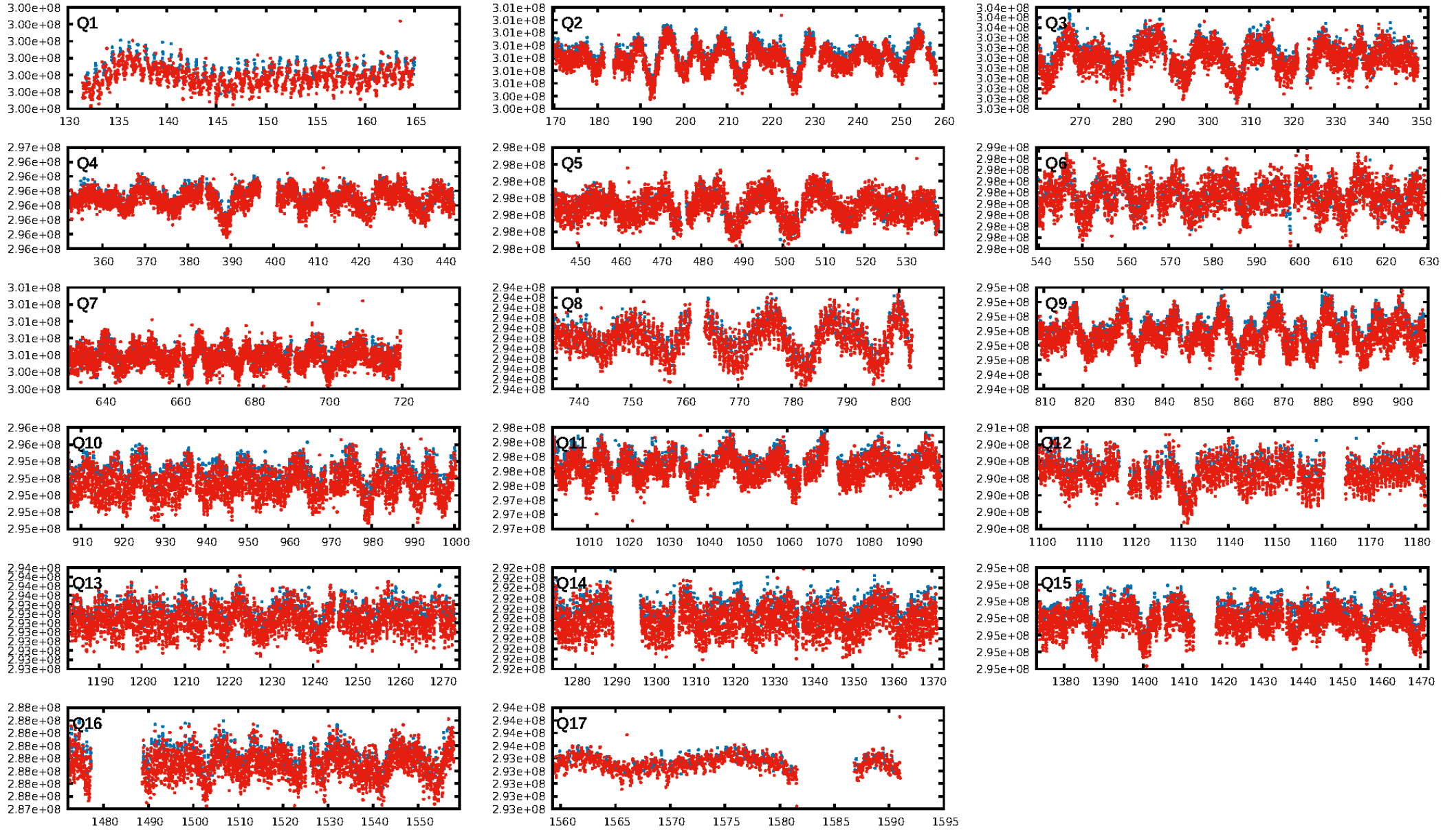
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1530/1530]
GhostDiagnostic-chr: -0.05876
Centroid-sig: 0.1%
Centroid-so: 3.125 arcsec [2.65σ]
OotOffset-rm: 0.691 arcsec [0.92σ]
KicOffset-rm: 0.760 arcsec [1.13σ]
OotOffset-st: 1/3/1/4 [9]
KicOffset-st: 1/3/1/4 [9]
DiffImageQuality-fgm: 0.89 [8/9]
DiffImageOverlap-fno: 1.00 [17/17]

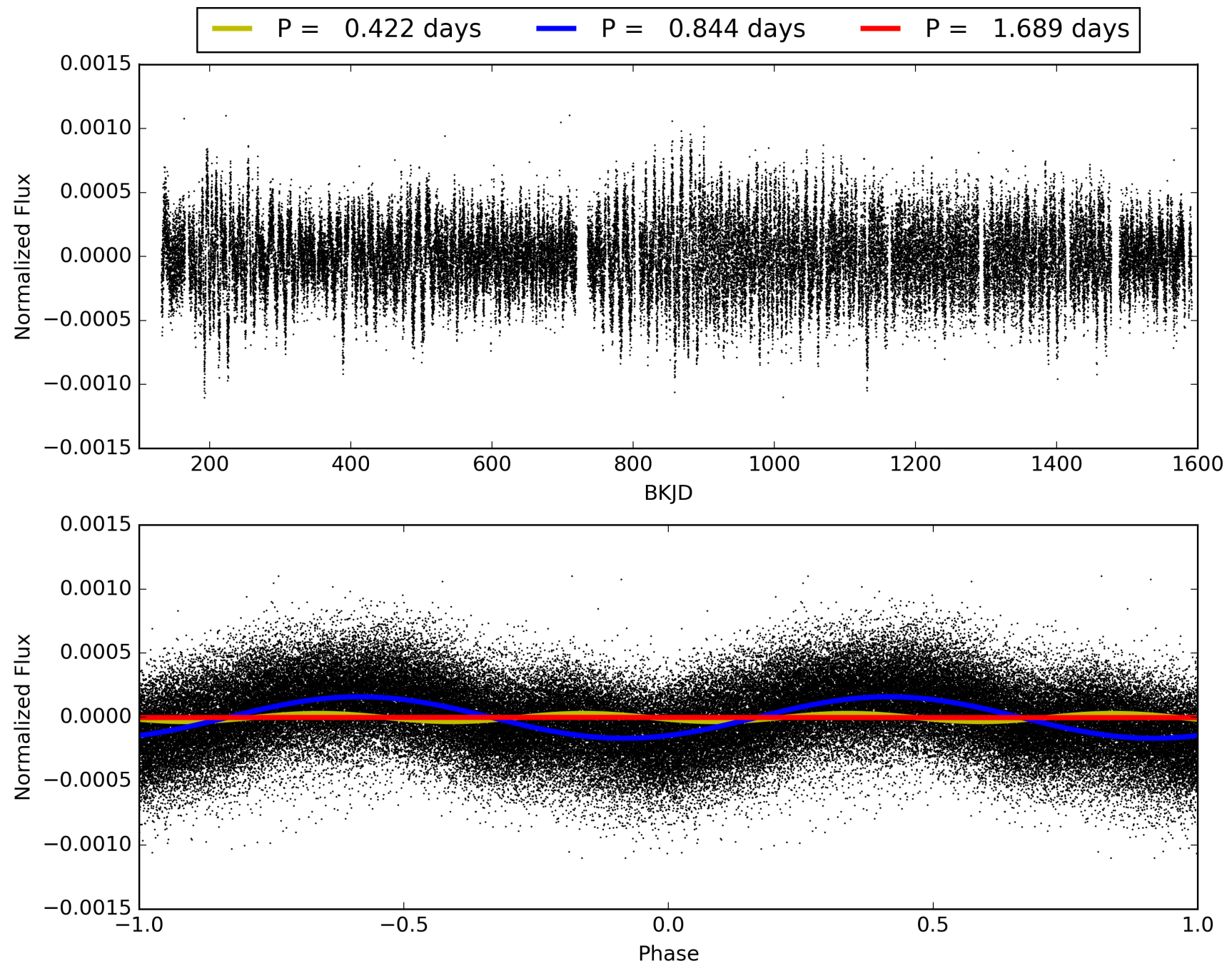
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:50:07 Z

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

TCE 007459411-01, PDC Light Curves

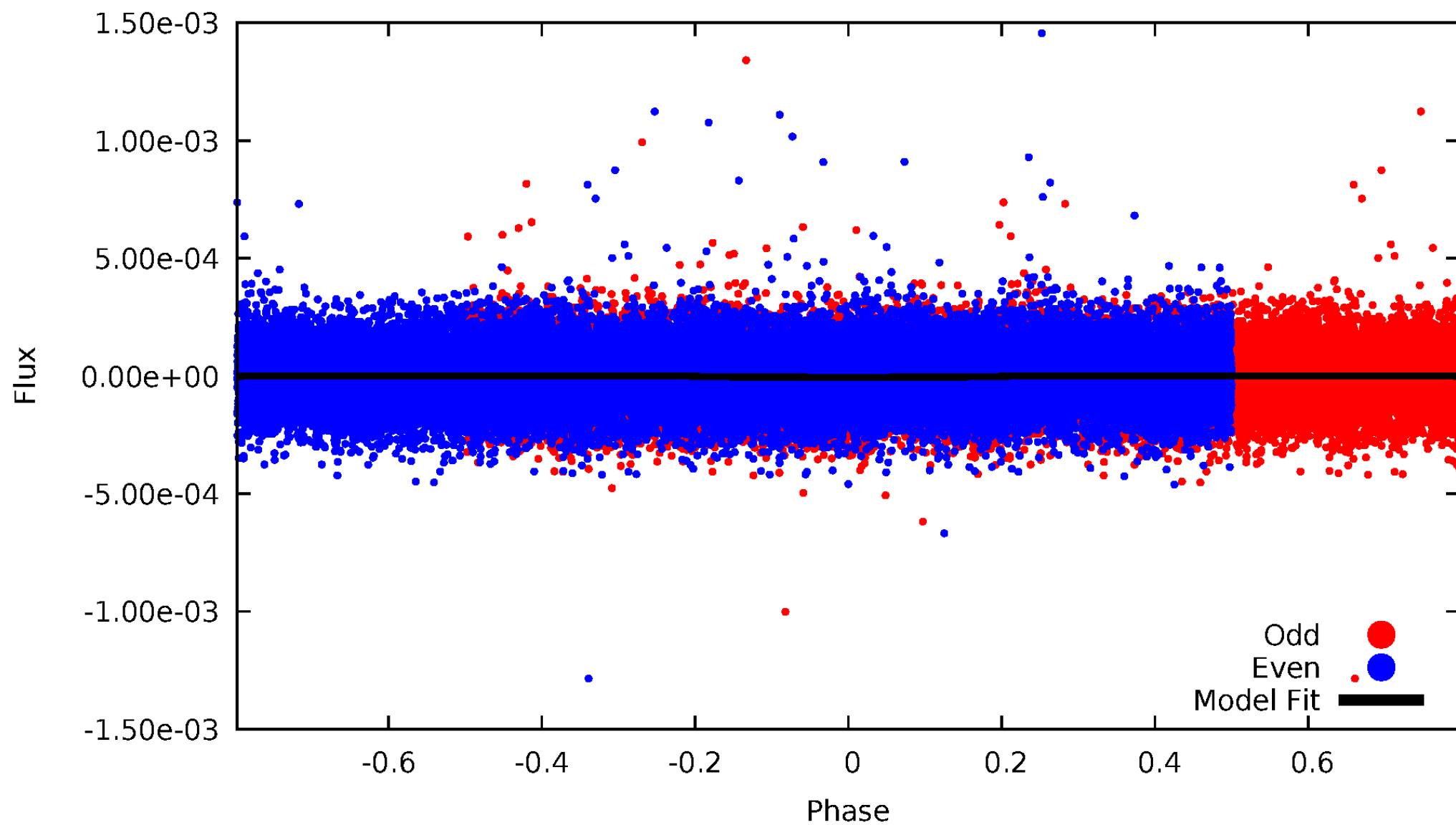


TCE 007459411-01



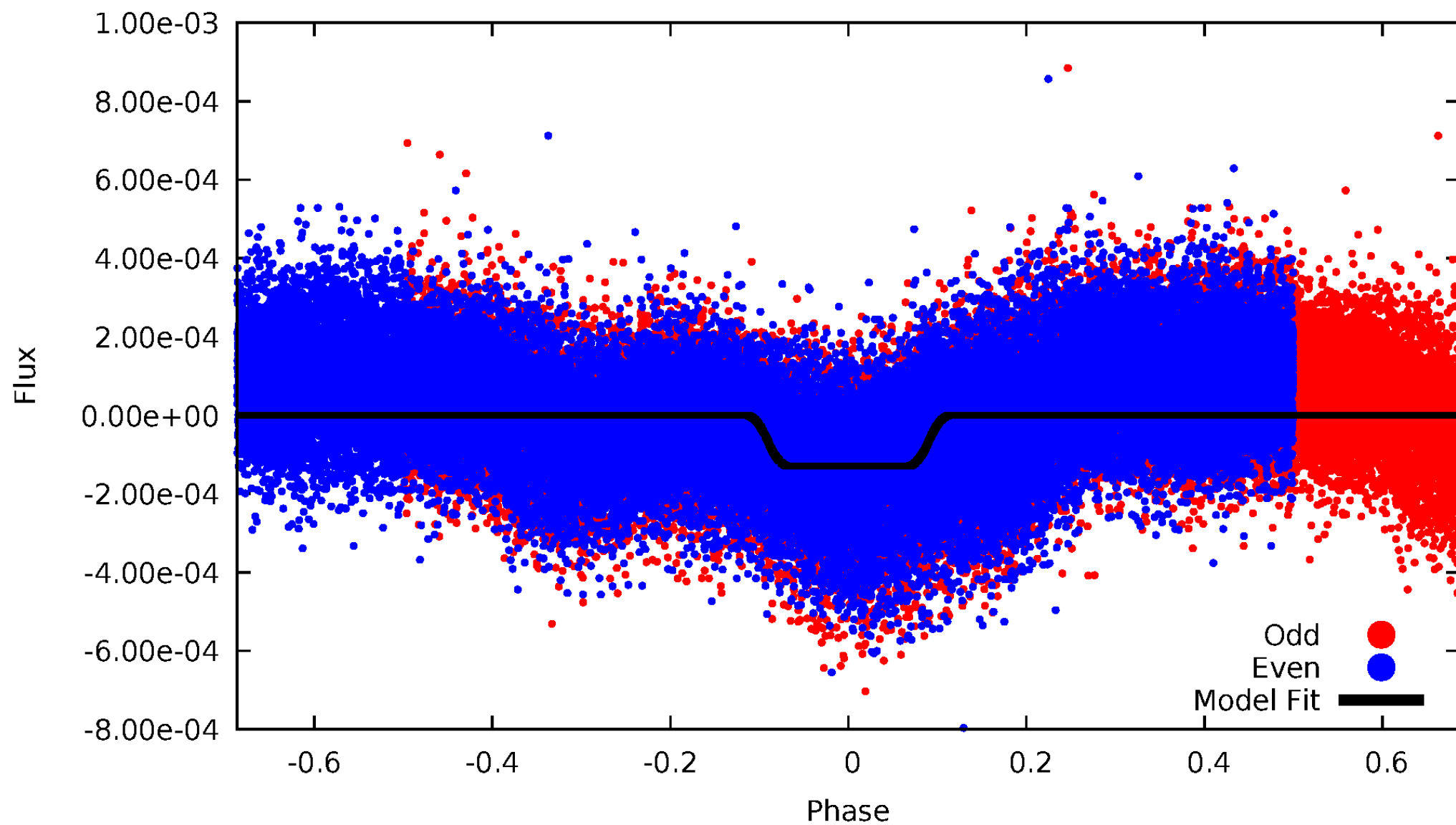
DV Odd/Even

TCE 007459411-01



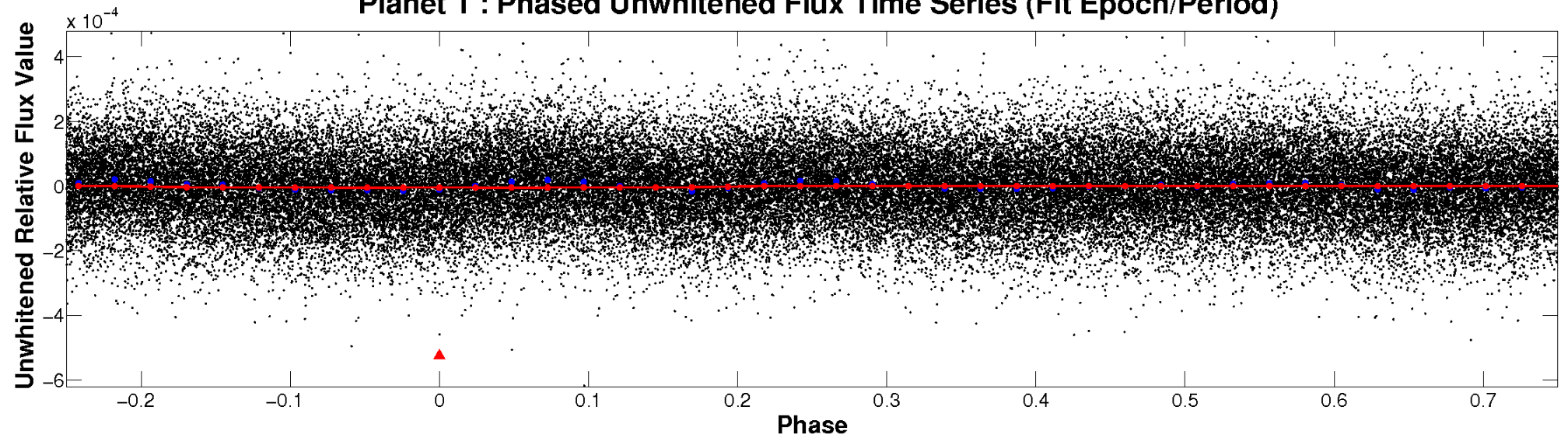
ALT Odd/Even

TCE 007459411-01

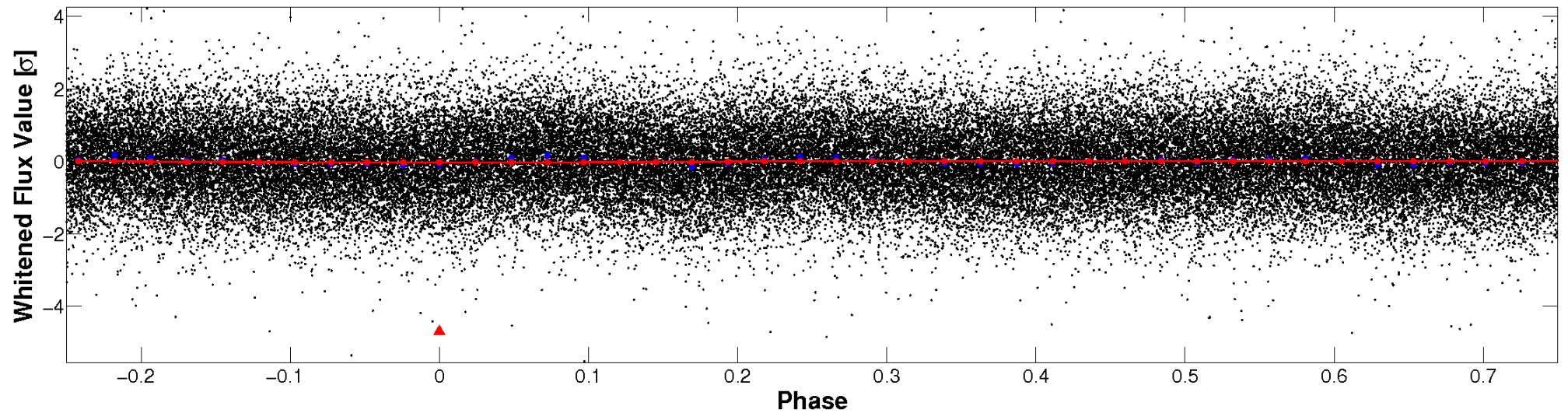


Non-Whitened Vs. Whitened Light Curve

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

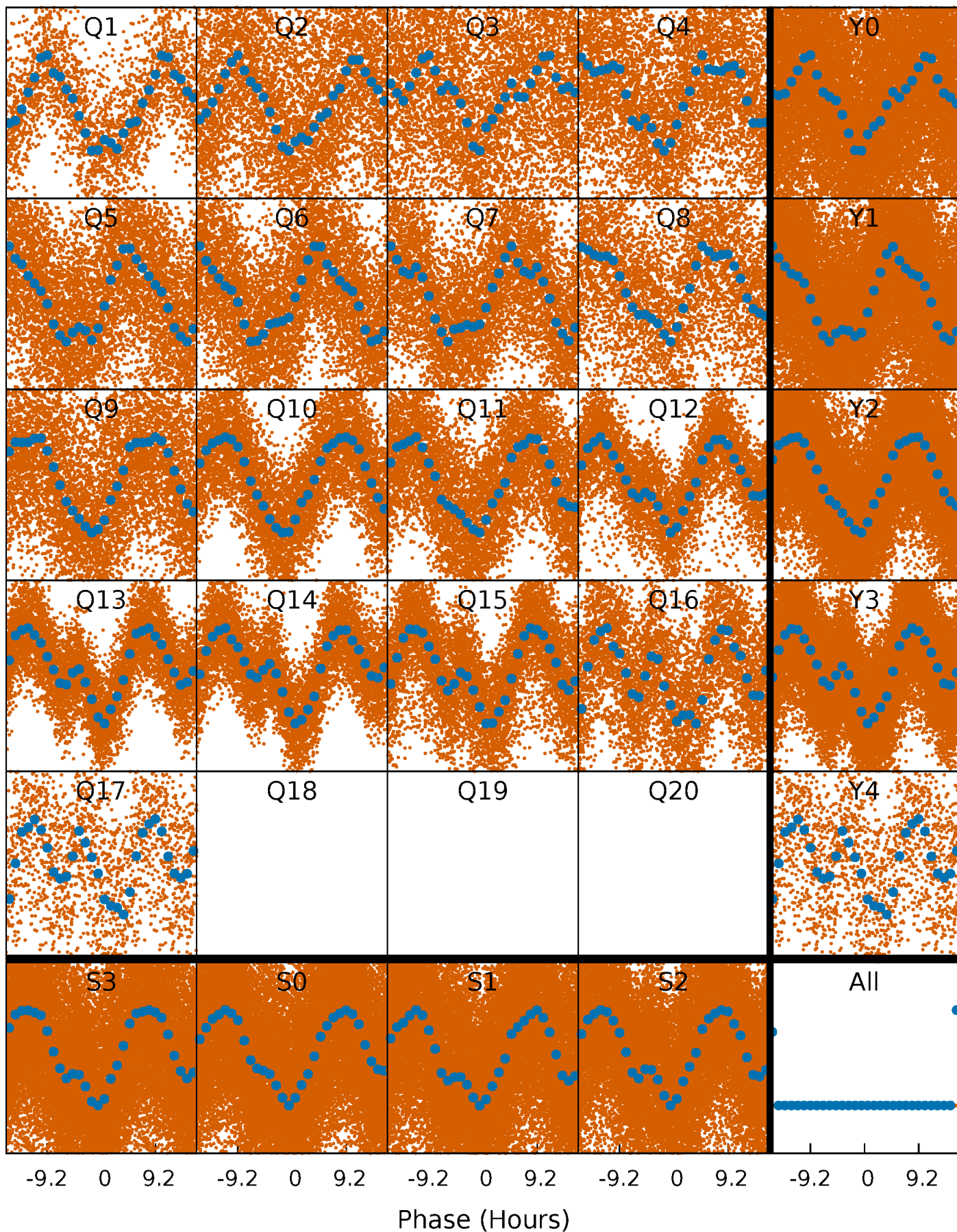


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



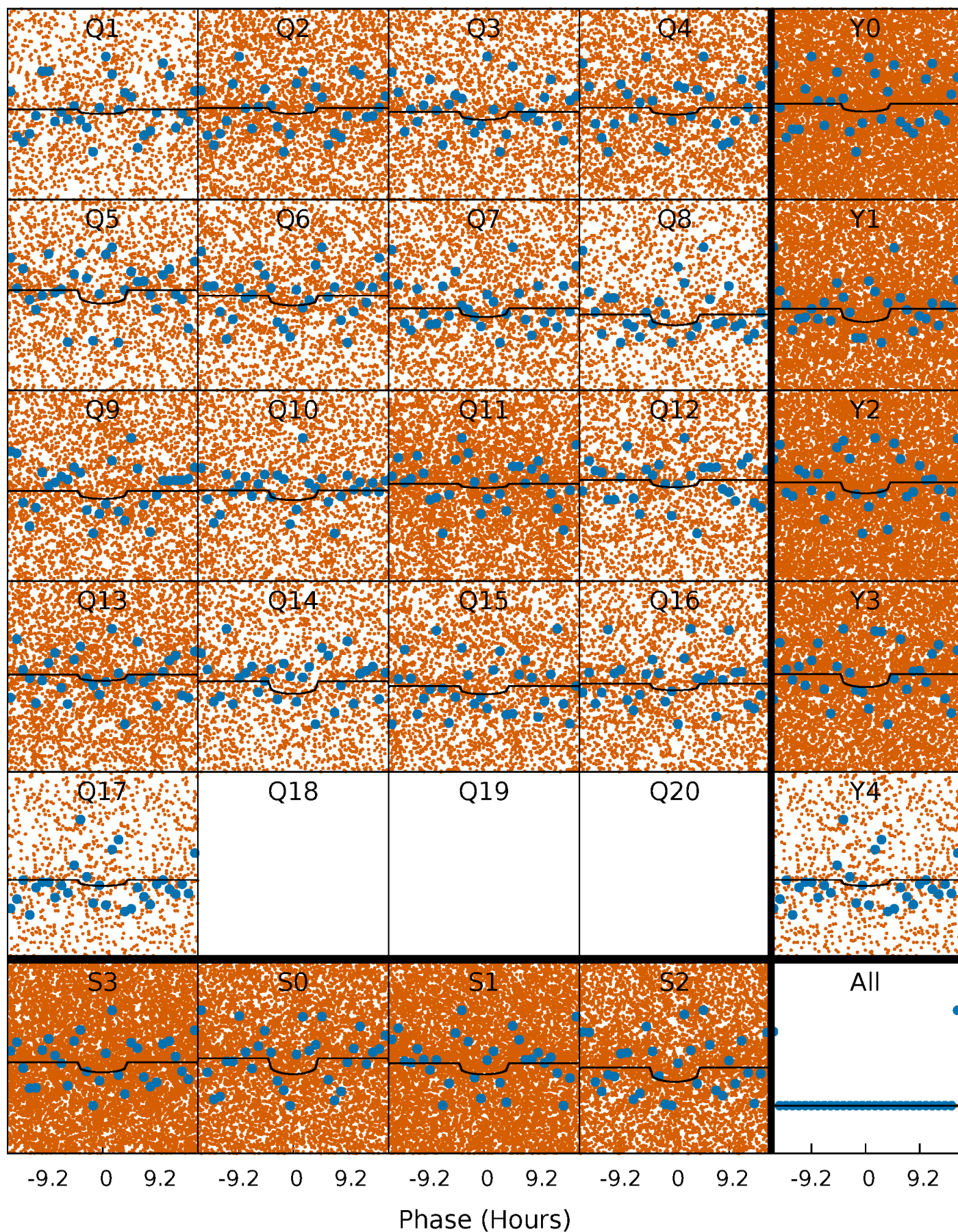
PDC Quarter-Phased Transit Curves

TCE 007459411-01 P= 0.844461 Days $T_0=132.383820$ (BKJD)



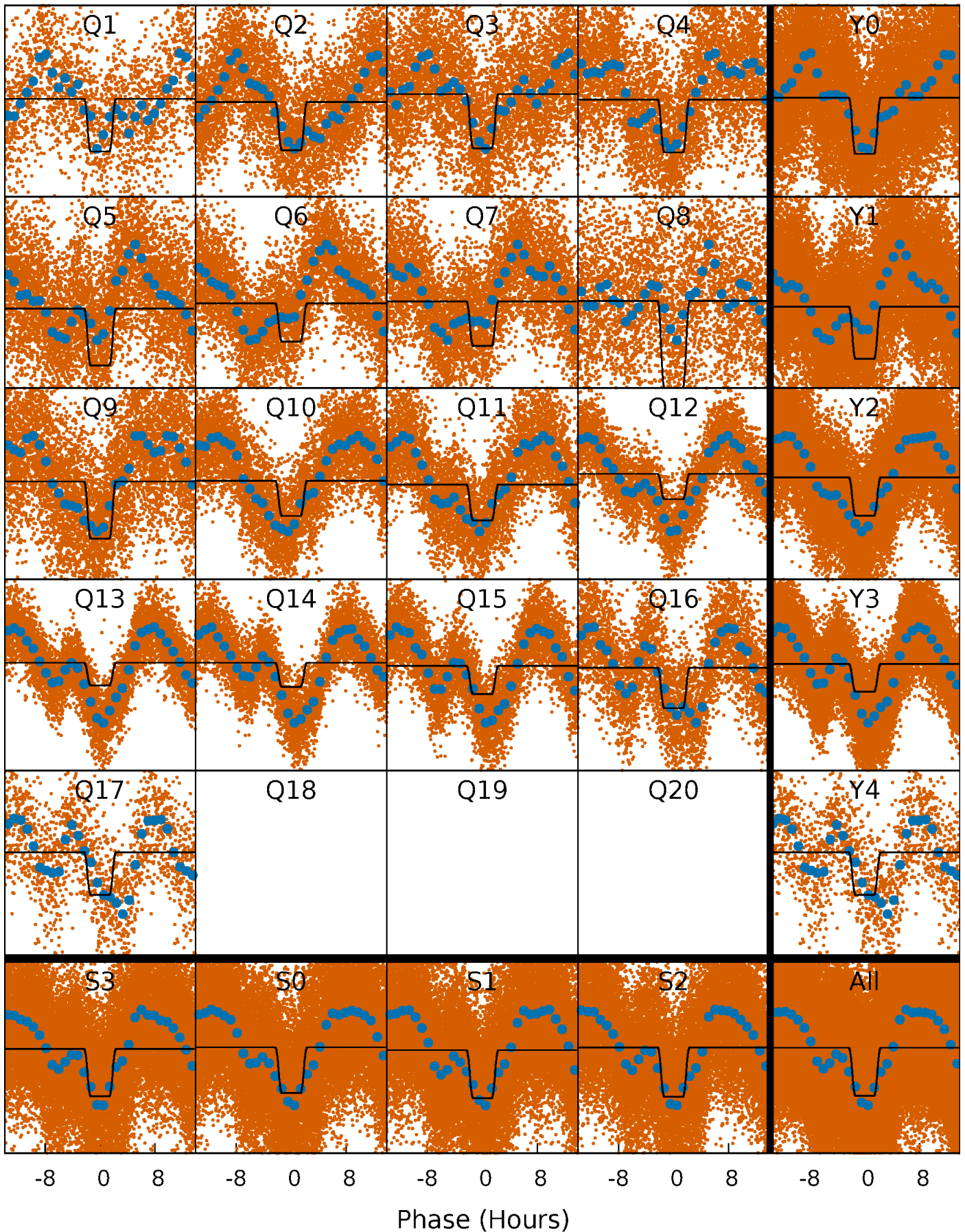
DV Quarter-Phased Transit Curves

TCE 007459411-01 P= 0.844461 Days $T_0=132.383820$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

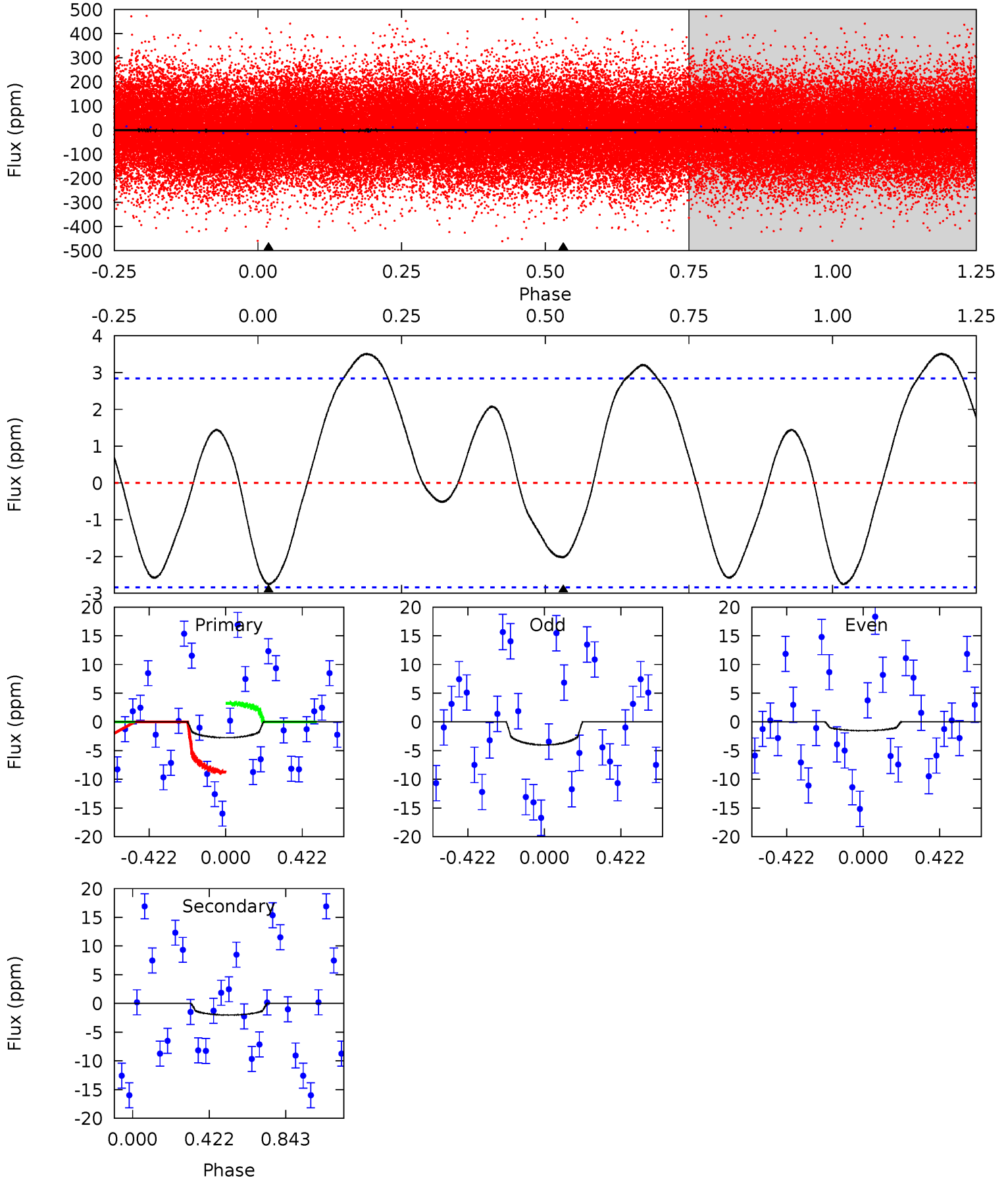
TCE 007459411-01 P= 0.844509 Days $T_0=132.323530$ (BKJD)



DV Model-Shift Uniqueness Test

007459411-01, P = 0.844461 Days, E = 130.694898 Days

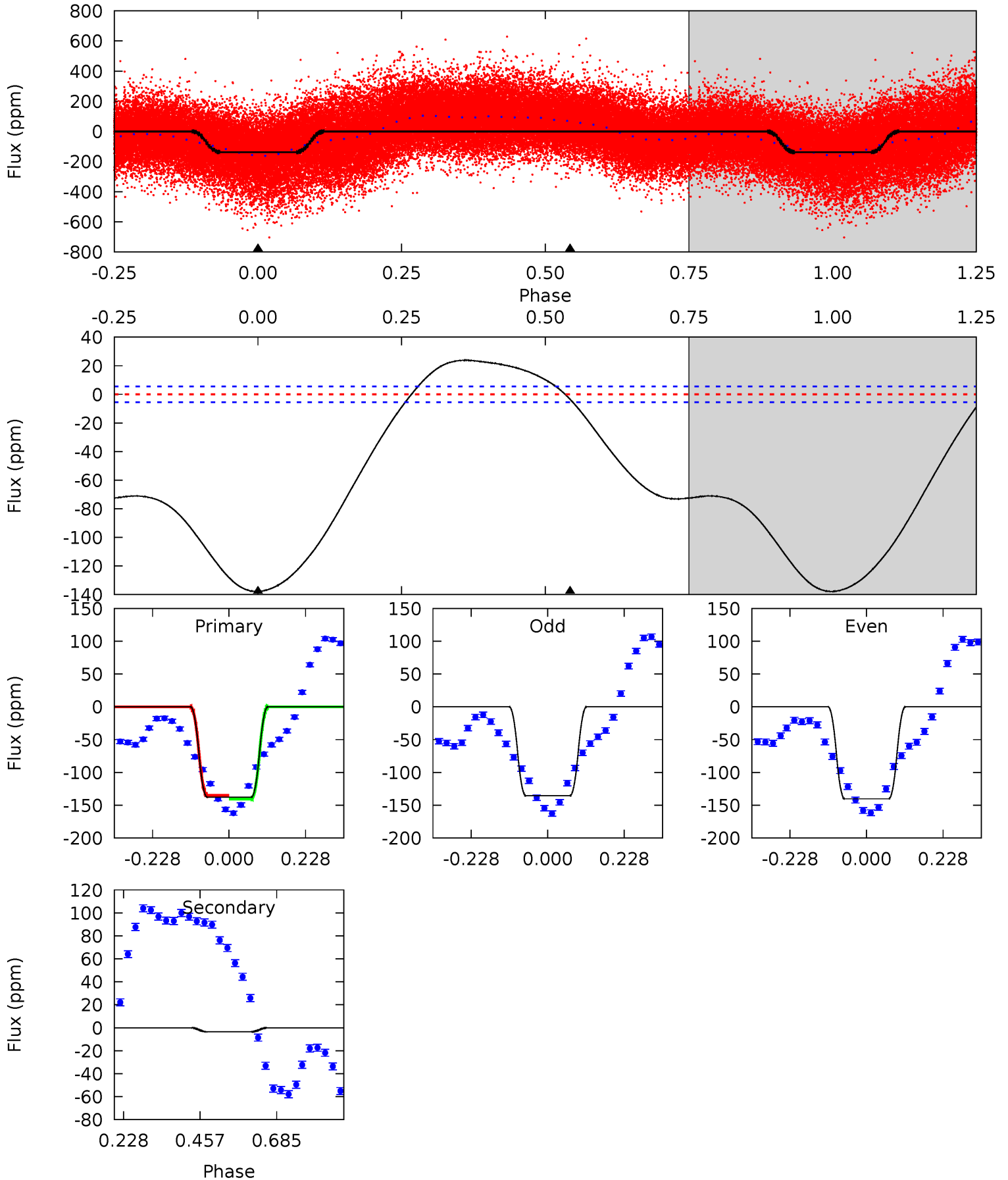
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.13	3.03	0	0	4.25	0.80	1.50	4.13	4.13	3.03	3.03	1.85	0.85	0.56	4.06



Alt Model-Shift Uniqueness Test

007459411-01, P = 0.844509 Days, E = 131.479021 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
110.4	2.75	0	0	4.39	1.20	19.1	110.4	110.4	2.75	2.75	1.84	1.17	0.15	2.45



Stellar Parameters For KIC 007459411

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6746^{+162}_{-203}	$3.707^{+0.285}_{-0.095}$	$0.000^{+0.250}_{-0.250}$	$3.041^{+0.472}_{-1.102}$	$1.716^{+0.172}_{-0.319}$	$0.086^{+0.185}_{-0.026}$
	+2%/-3%	+8%/-3%	+inf%/-inf%	+16%/-36%	+10%/-19%	+215%/-30%
Source	PHO1	FLK73	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 007459411-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2 ± 1	$1.14^{+1.12}_{-0.83}$	4932^{+269}_{-406}	3160^{+4615}_{-7165}	$0.356^{+4.437}_{-0.266}$
Alt.	-3 ± 1	$3.58^{+1.43}_{-1.44}$	4934^{+272}_{-413}	-4046^{+618}_{-255}	$0.064^{+0.132}_{-0.035}$

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 $A_{obs} \gg 1.0$

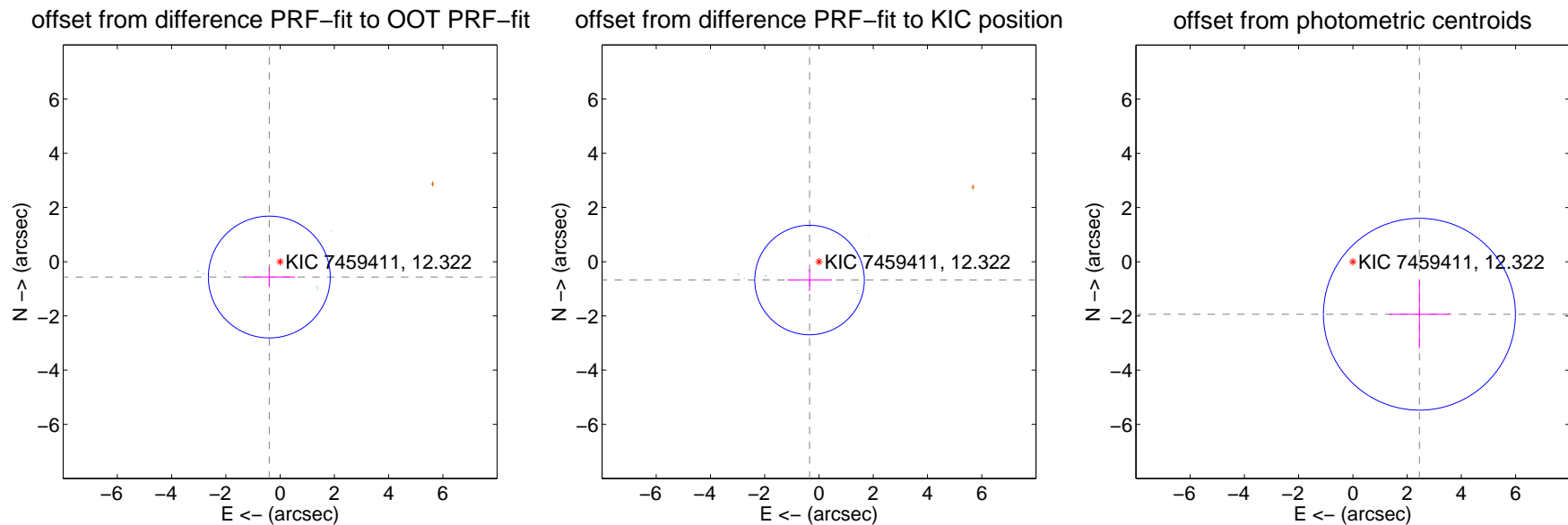
DV Centroid Data

Supplemental centroid analysis for 007459411-01. Kepler magnitude: 12.32. Transit SNR 3.54

There are 8 quarters with good PRF difference image offsets

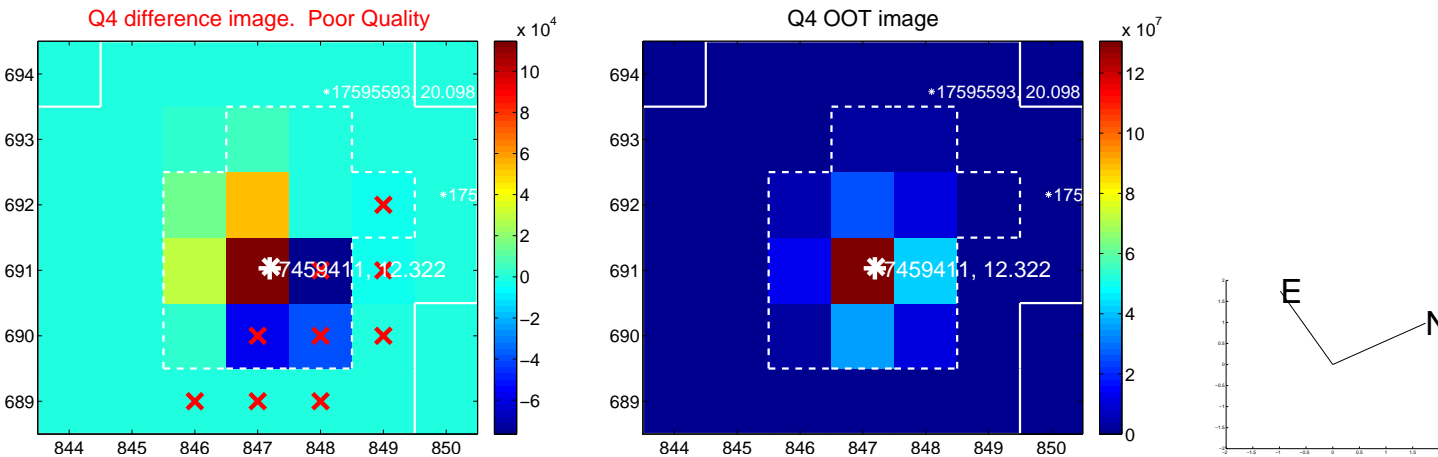
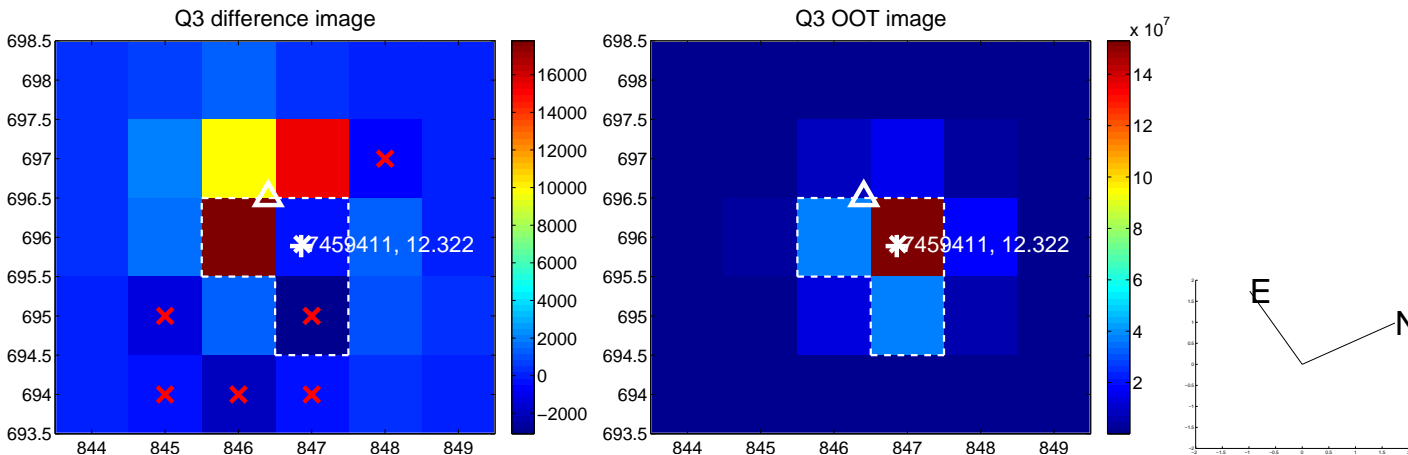
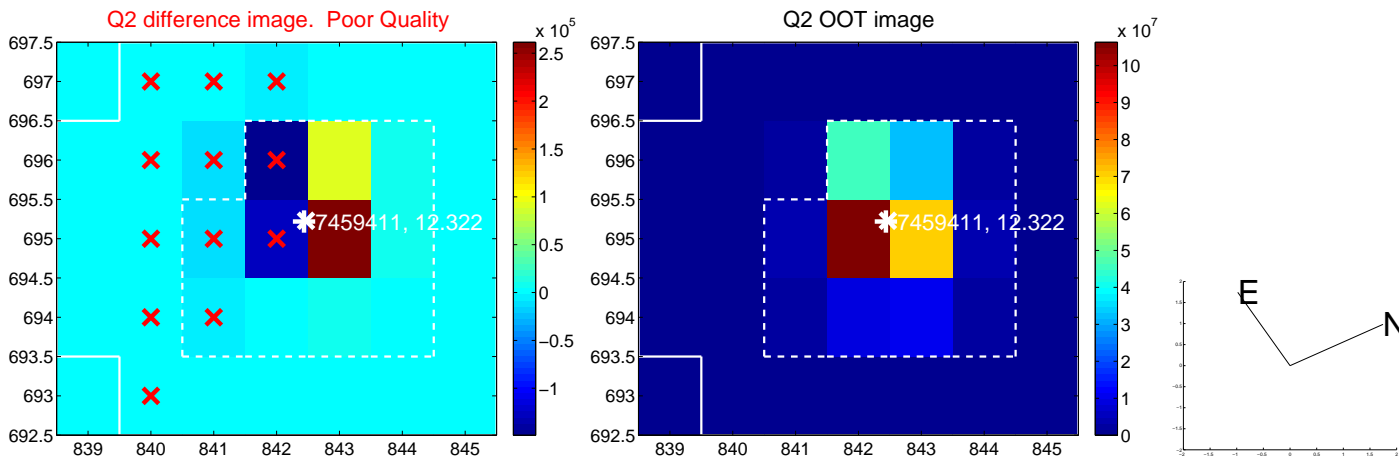
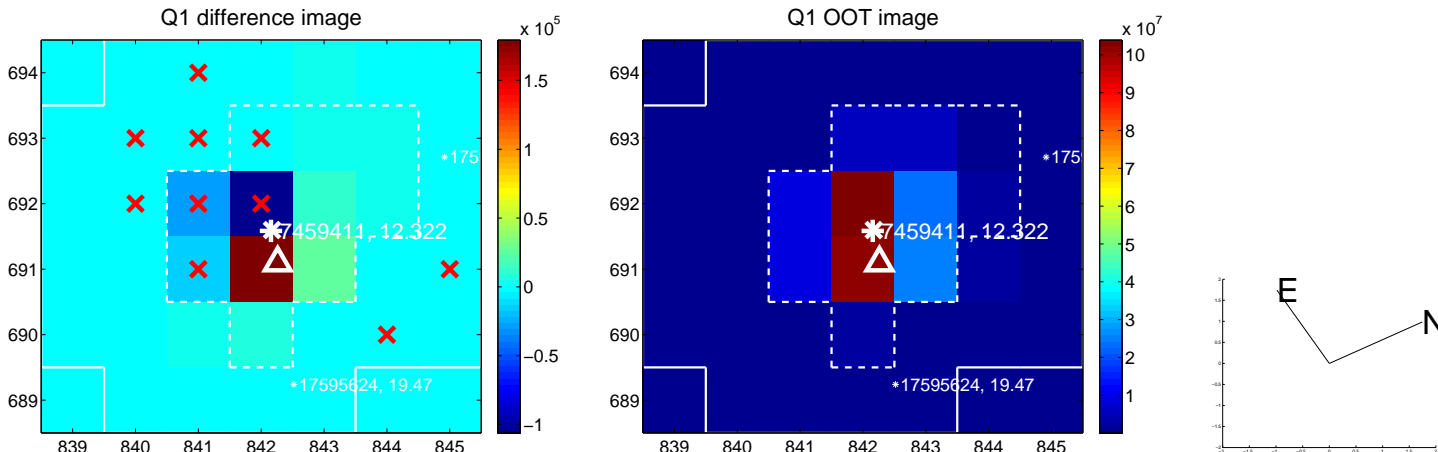
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.691 ± 0.749	0.92	0.398 ± 0.949	-0.566 ± 0.365
PRF-fit source offset from KIC position	0.760 ± 0.673	1.13	0.348 ± 0.818	-0.676 ± 0.414
photometric centroid source offset	3.13 ± 1.18	2.65	-2.45 ± 1.12	-1.94 ± 1.26

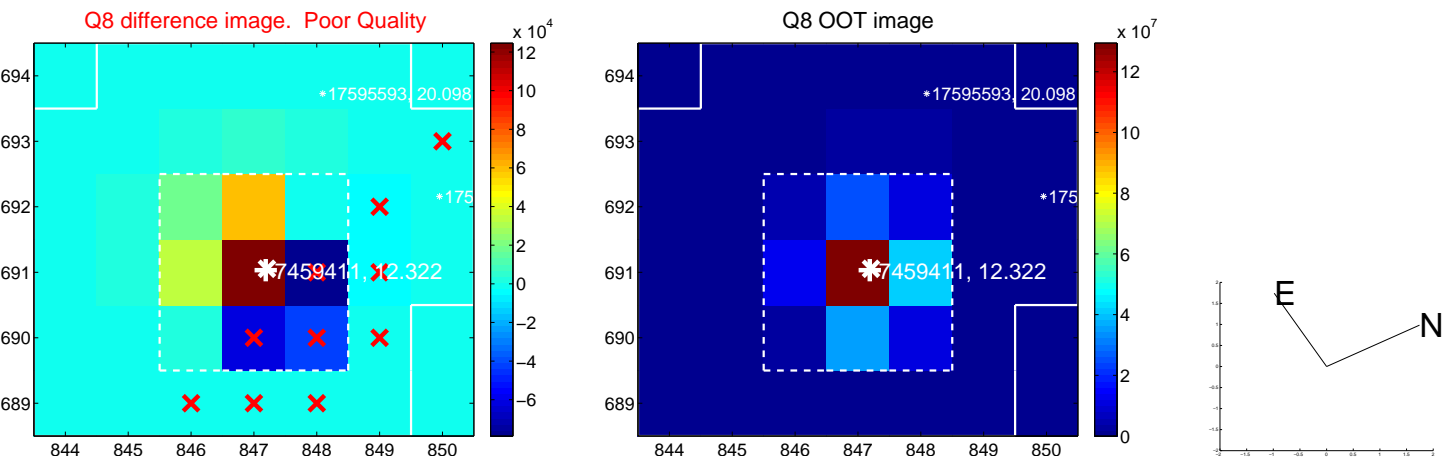
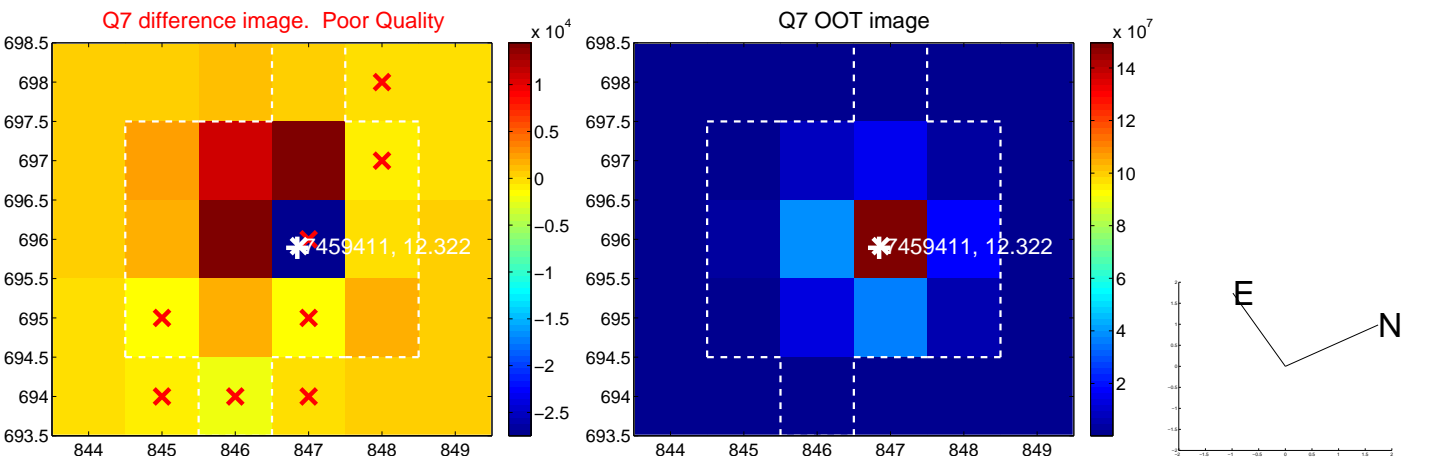
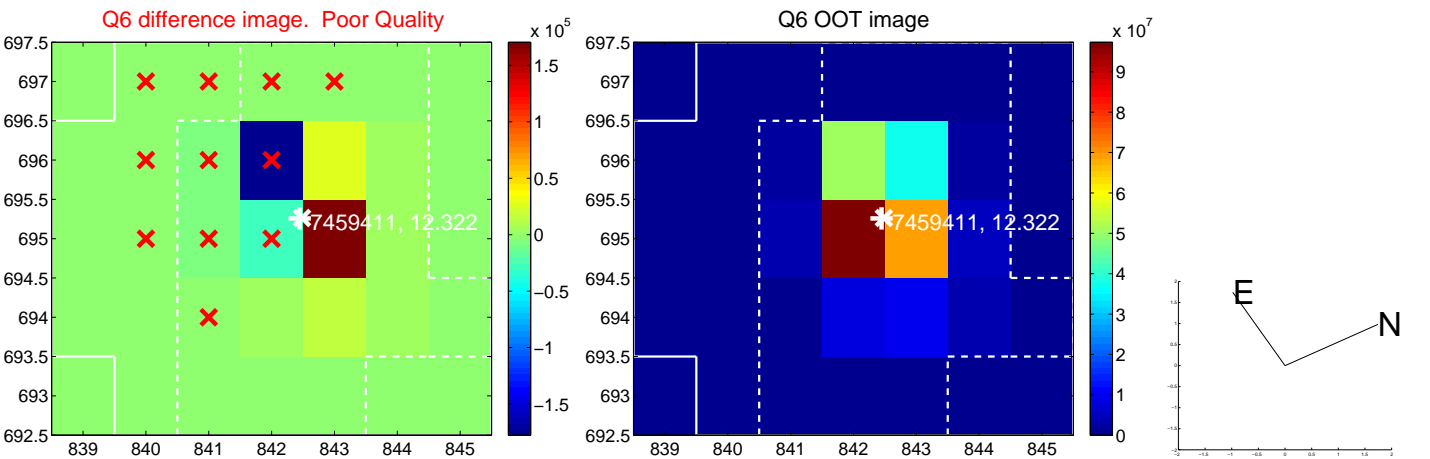
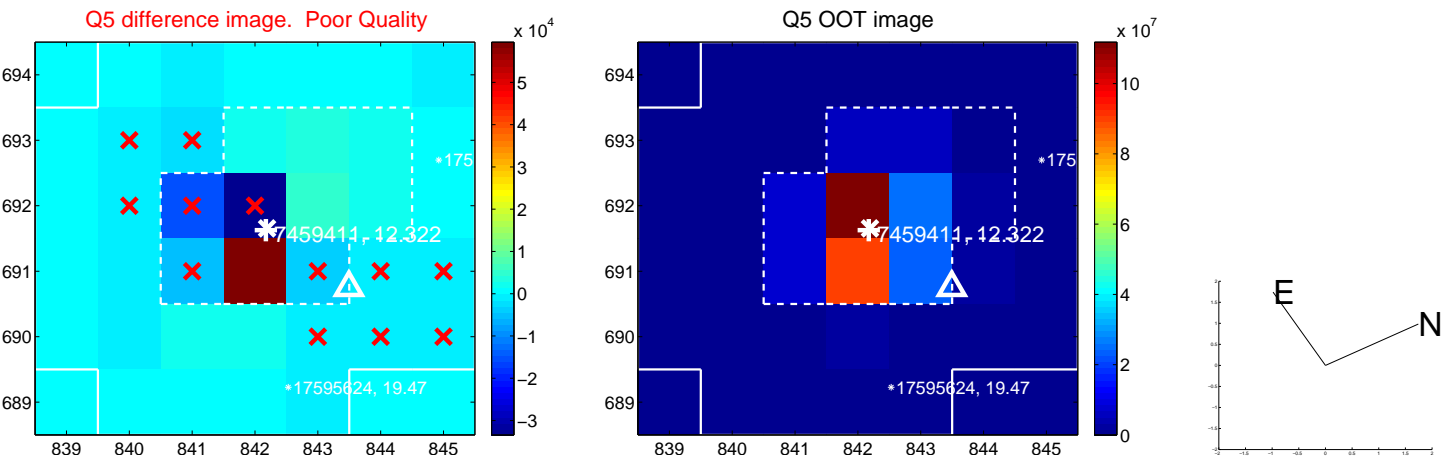


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

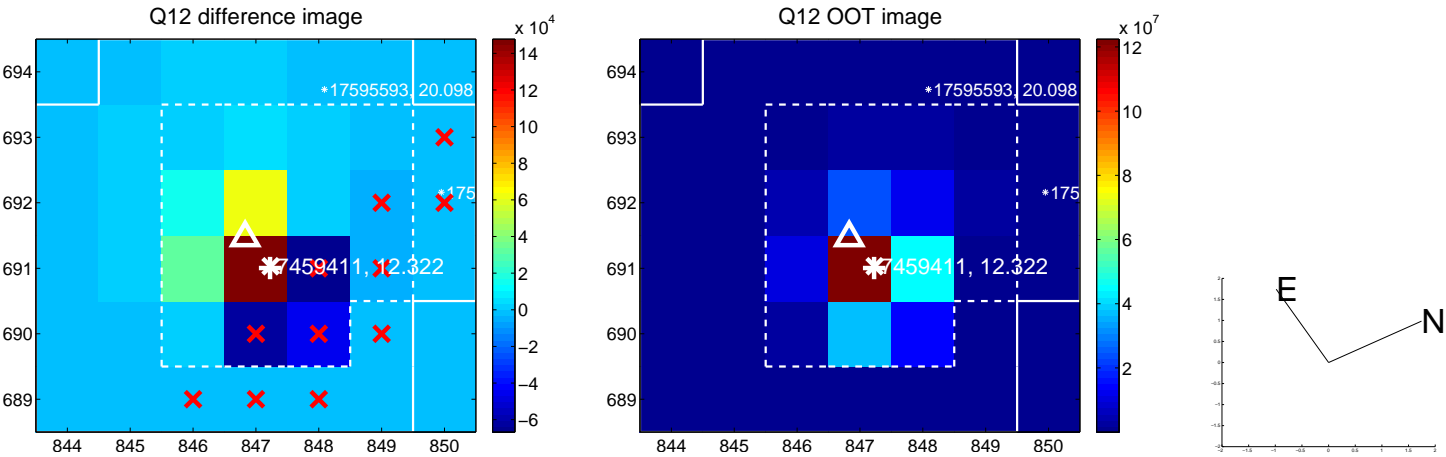
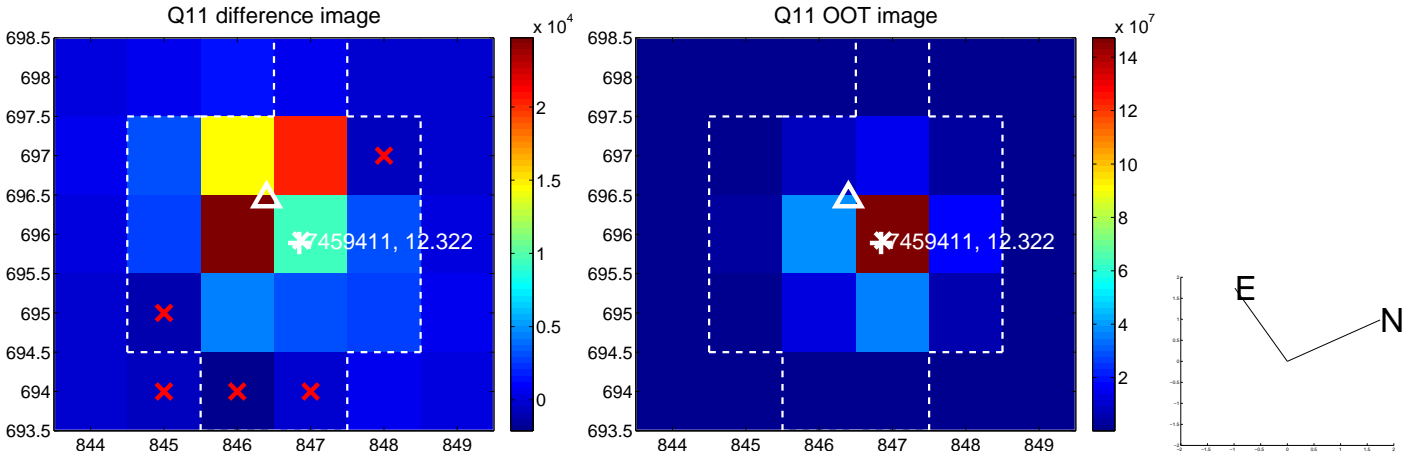
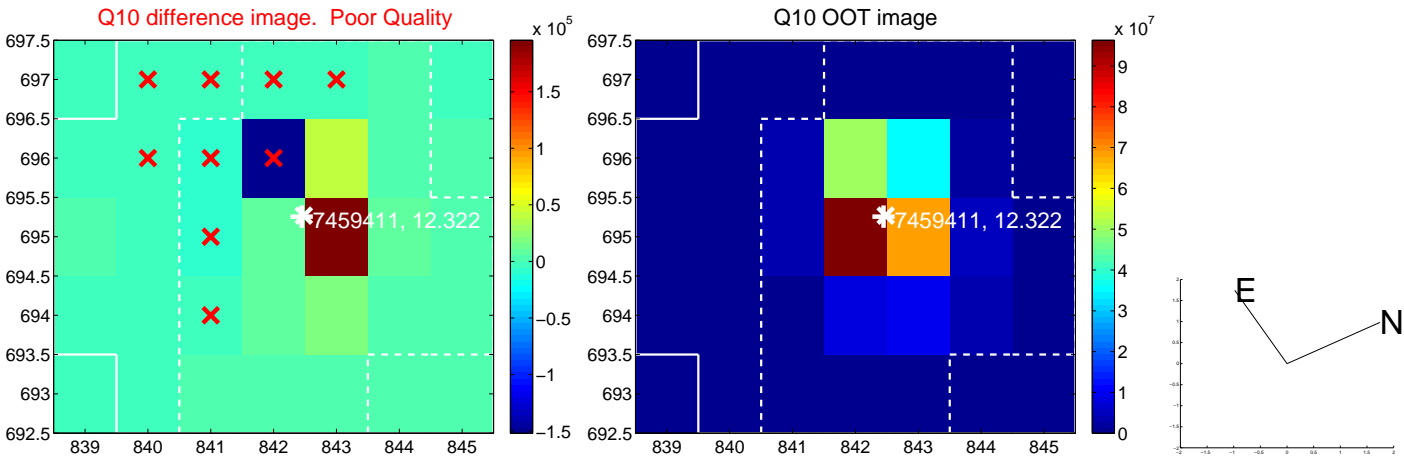
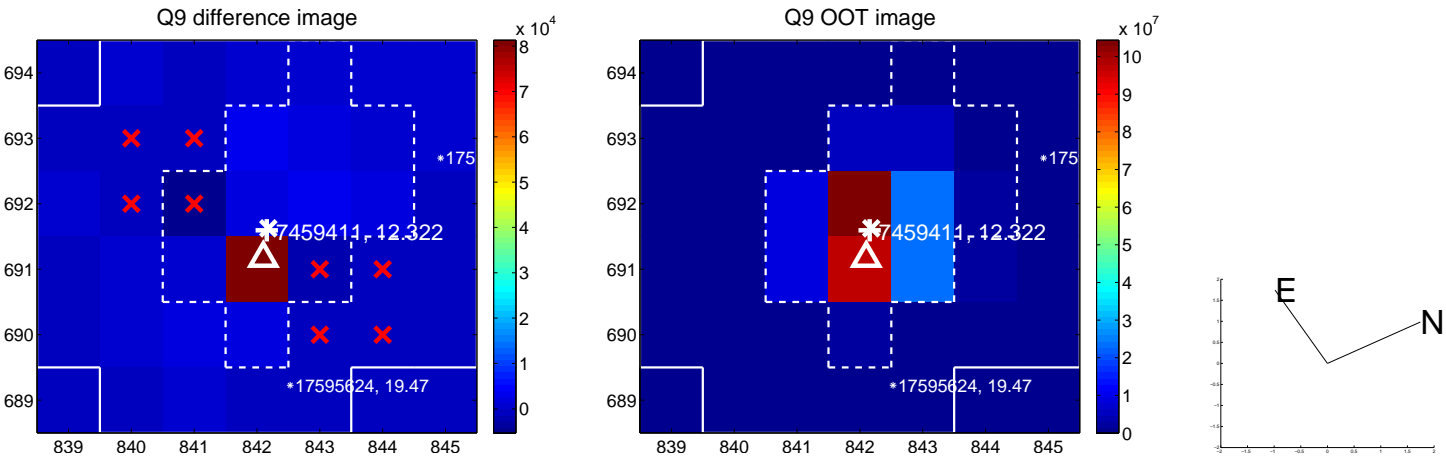
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



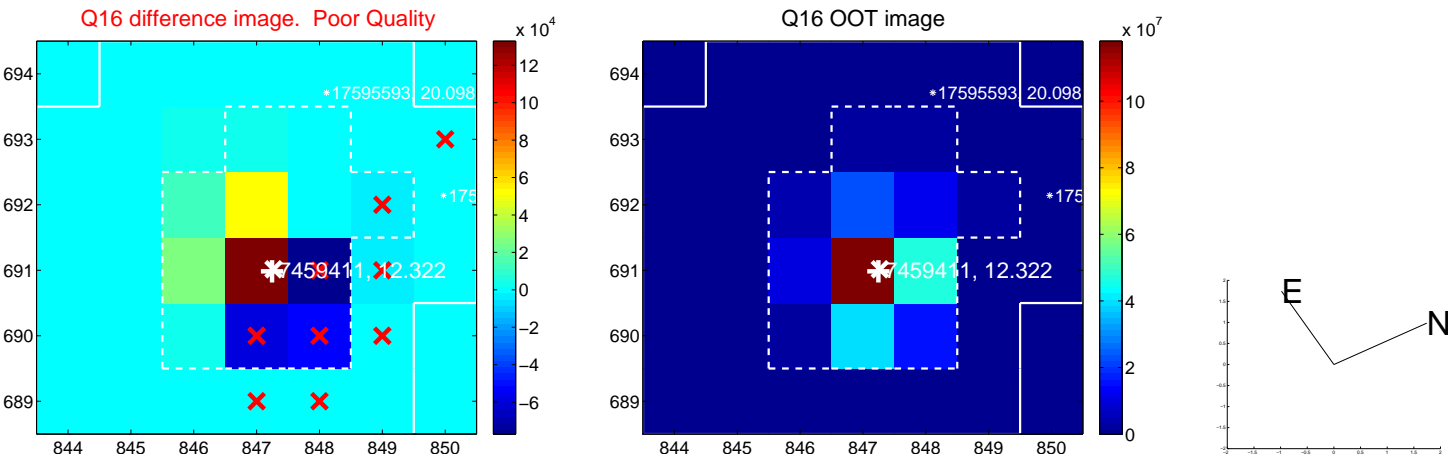
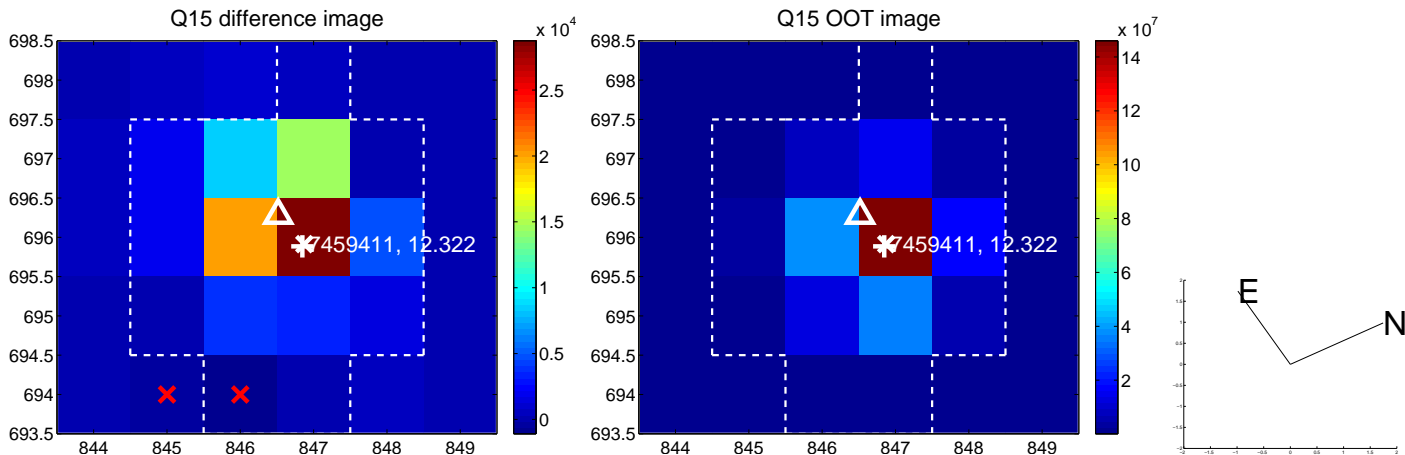
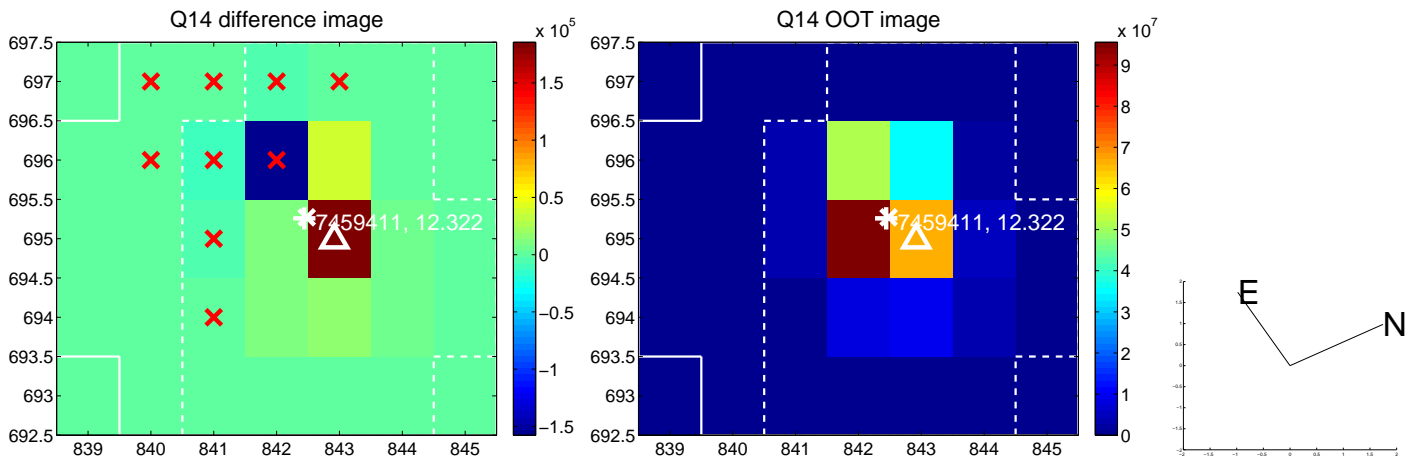
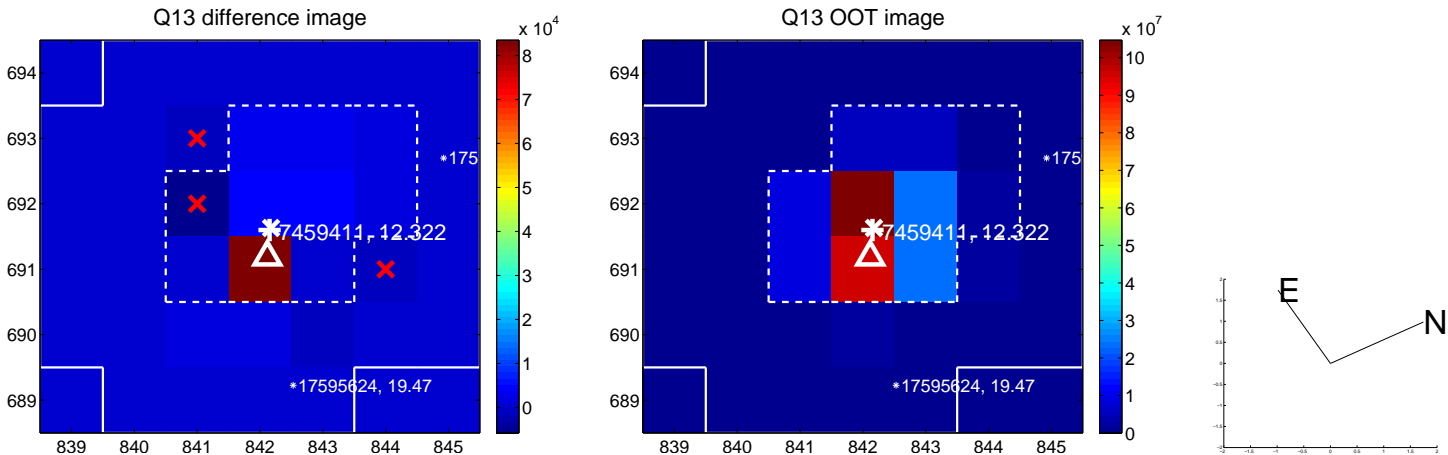
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



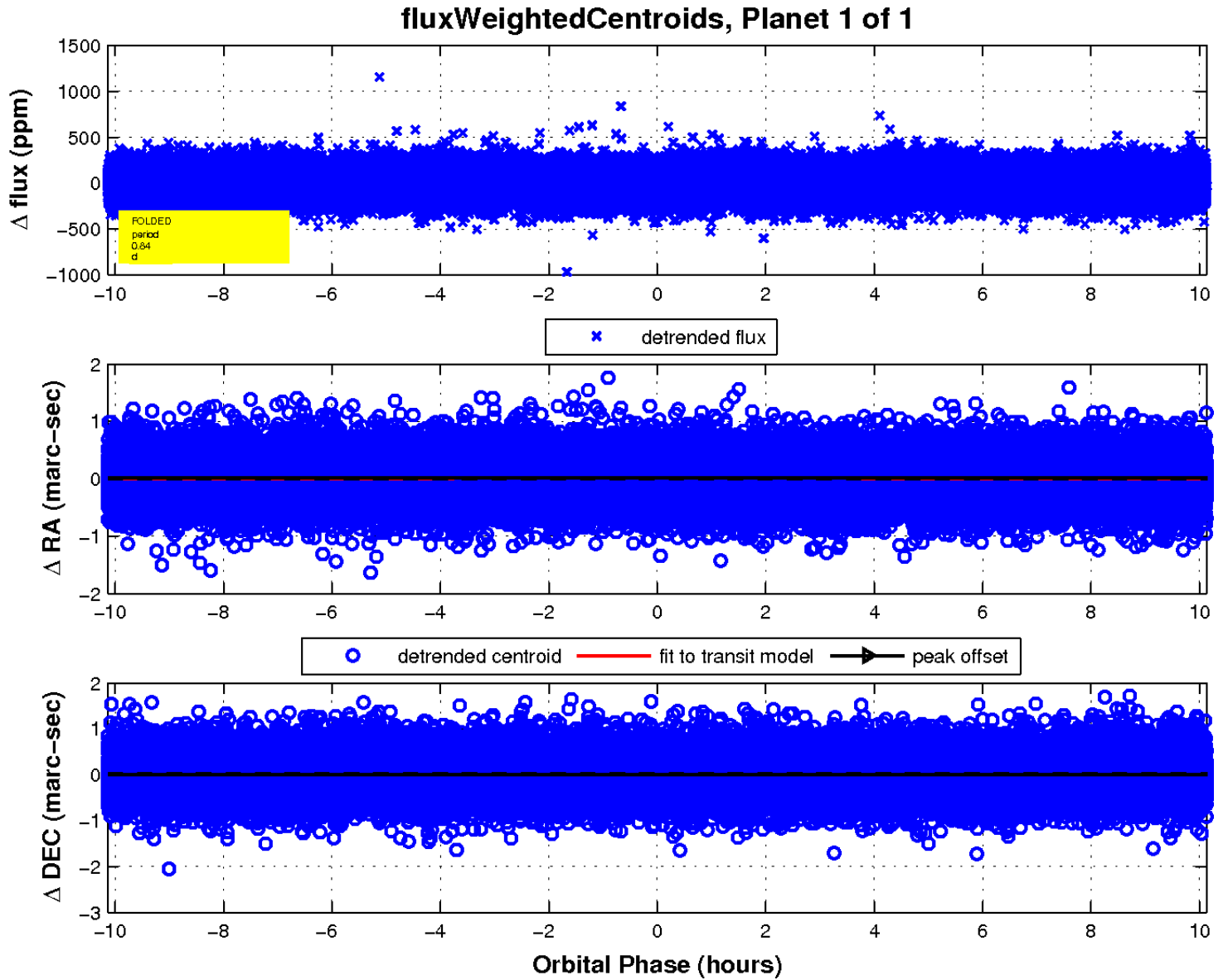
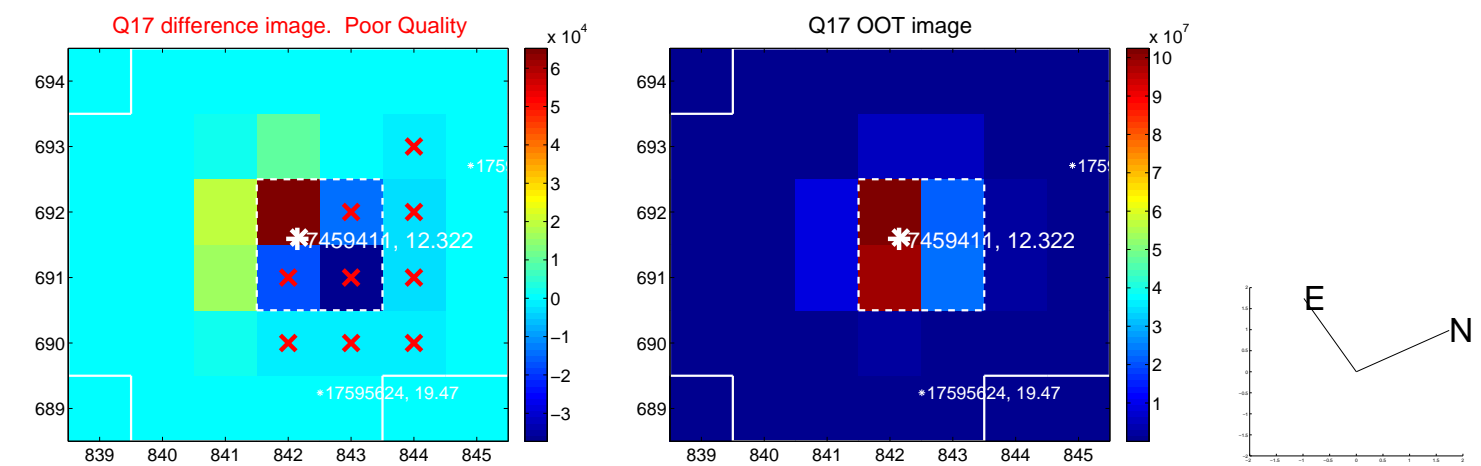
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

