

KIC 008222395

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})
008222395-01	OBS	7873.01	1.931881	133.171867	36.9	1.082	7.3	8.7	0.91	5896	0.60	981.25

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008222395-01	OBS	PC	0.96	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.

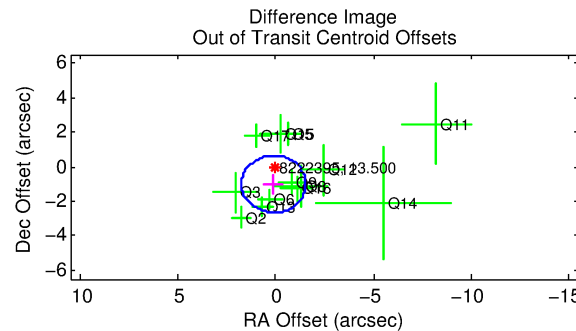
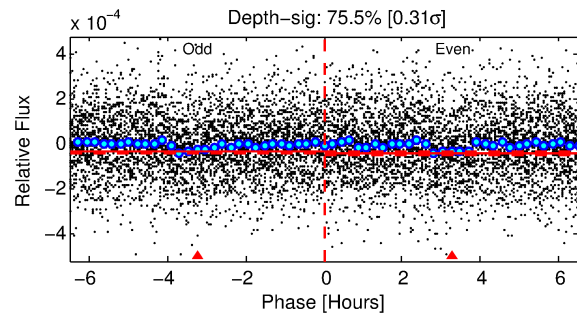
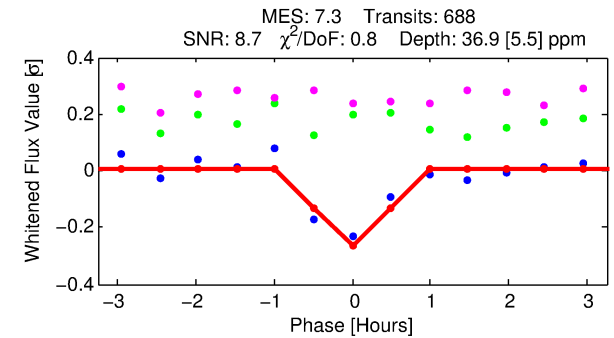
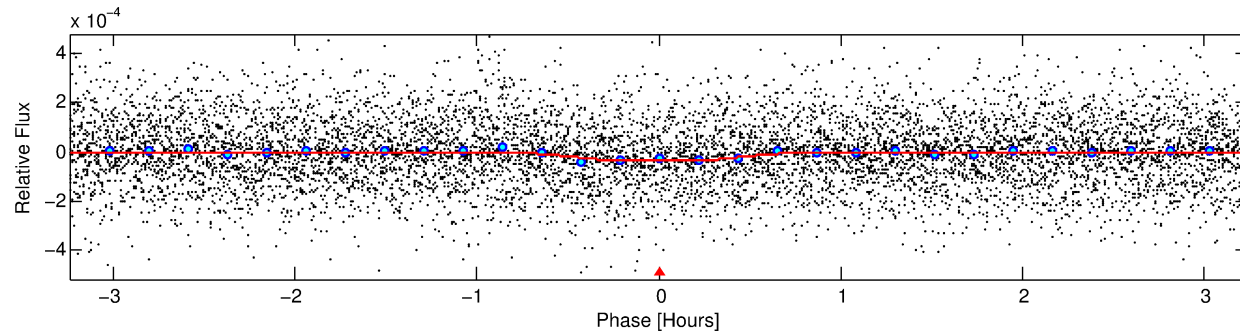
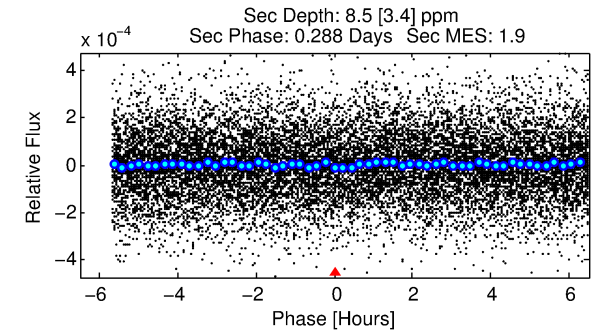
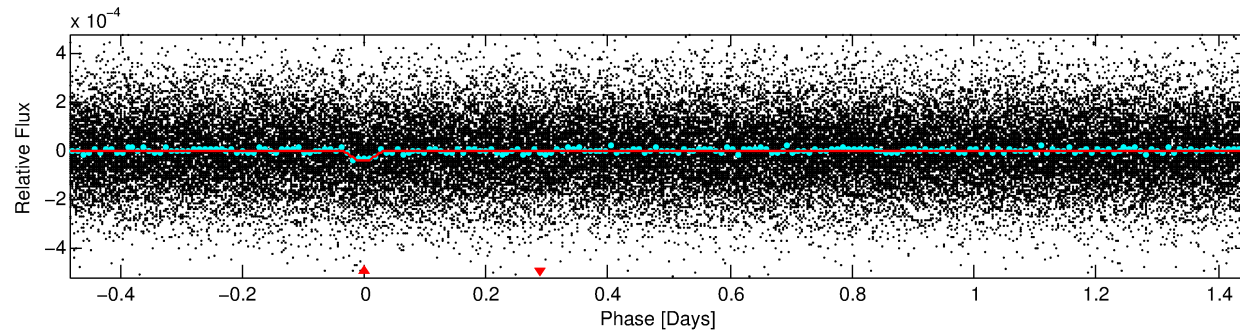
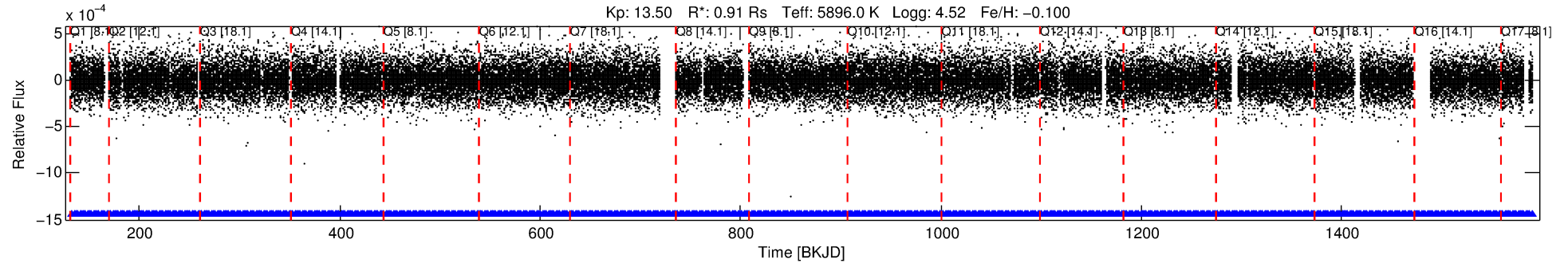
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008222395-01

No Significant Match Found

DV One-Page Summary

KIC: 8222395 Candidate: 1 of 1 Period: 1.932 d



DV Fit Results:

Period = 1.93188 [0.00001] d
Epoch = 133.1719 [0.0023] BKJD
Rp/R* = 0.0060 [0.0019]
a/R* = 9.88 [14.28]
b = 0.70 [1.07]
Seff = 981.25 [375.87]
Teq = 1427 [137] K
Rp = 0.60 [0.26] Re
a = 0.0304 [0.0075] AU
Ag = 12.10 [10.14] [1.09σ]
Teffp = 4115 [787] K [3.37σ]

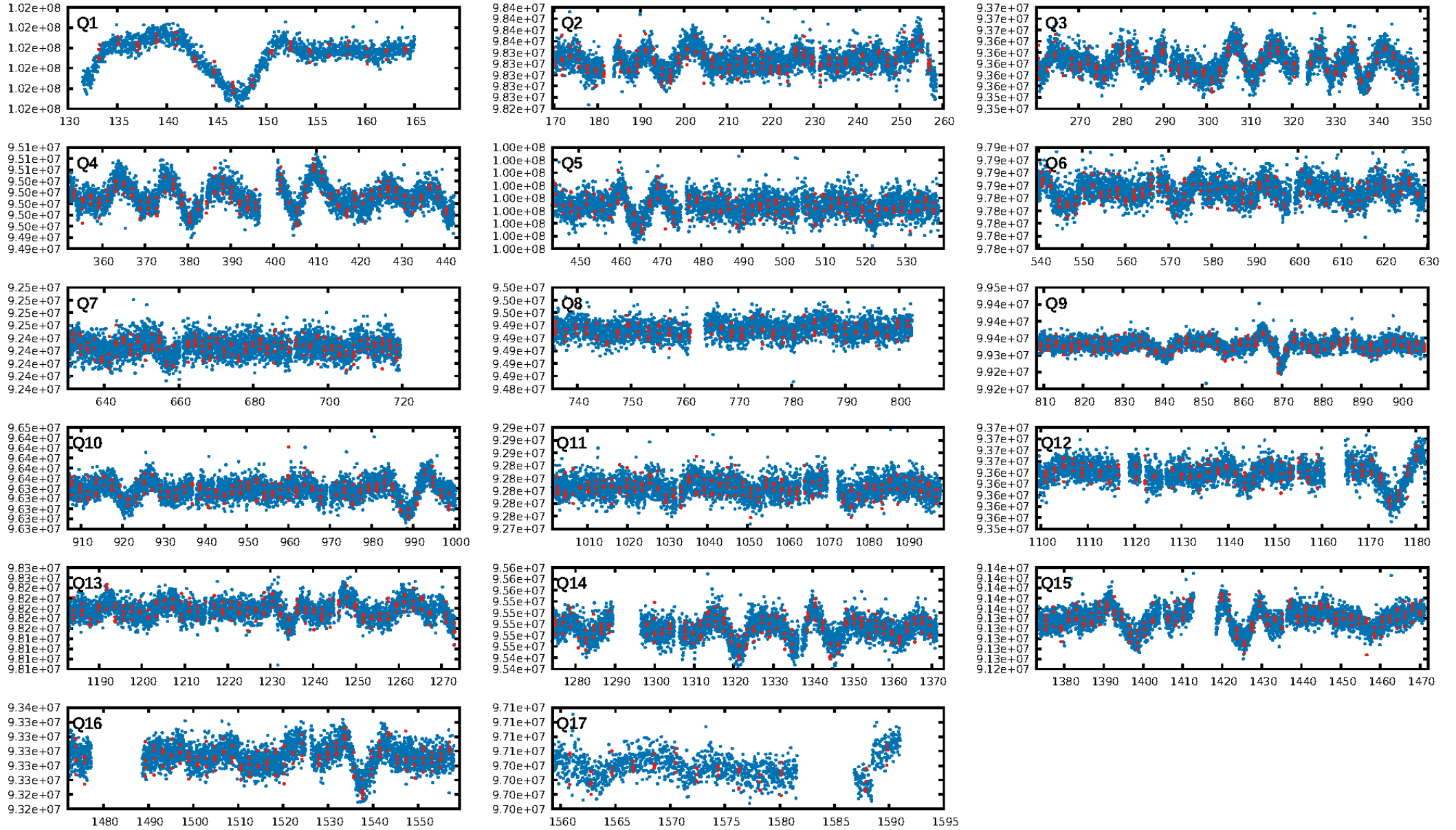
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.98e-13
RollingBand-fgt: 1.00 [658/658]
GhostDiagnostic-chr: 10.8
Centroid-sig: 13.5%
Centroid-so: 1.402 arcsec [1.05σ]
OotOffset-rm: 1.014 arcsec [1.85σ]
OotOffset-st: 3/3/3/4 [13]
KicOffset-rm: 1.367 arcsec [2.52σ]
KicOffset-st: 3/3/3/4 [13]
DiffImageQuality-fgm: 0.69 [9/13]
DiffImageOverlap-fno: 1.00 [17/17]

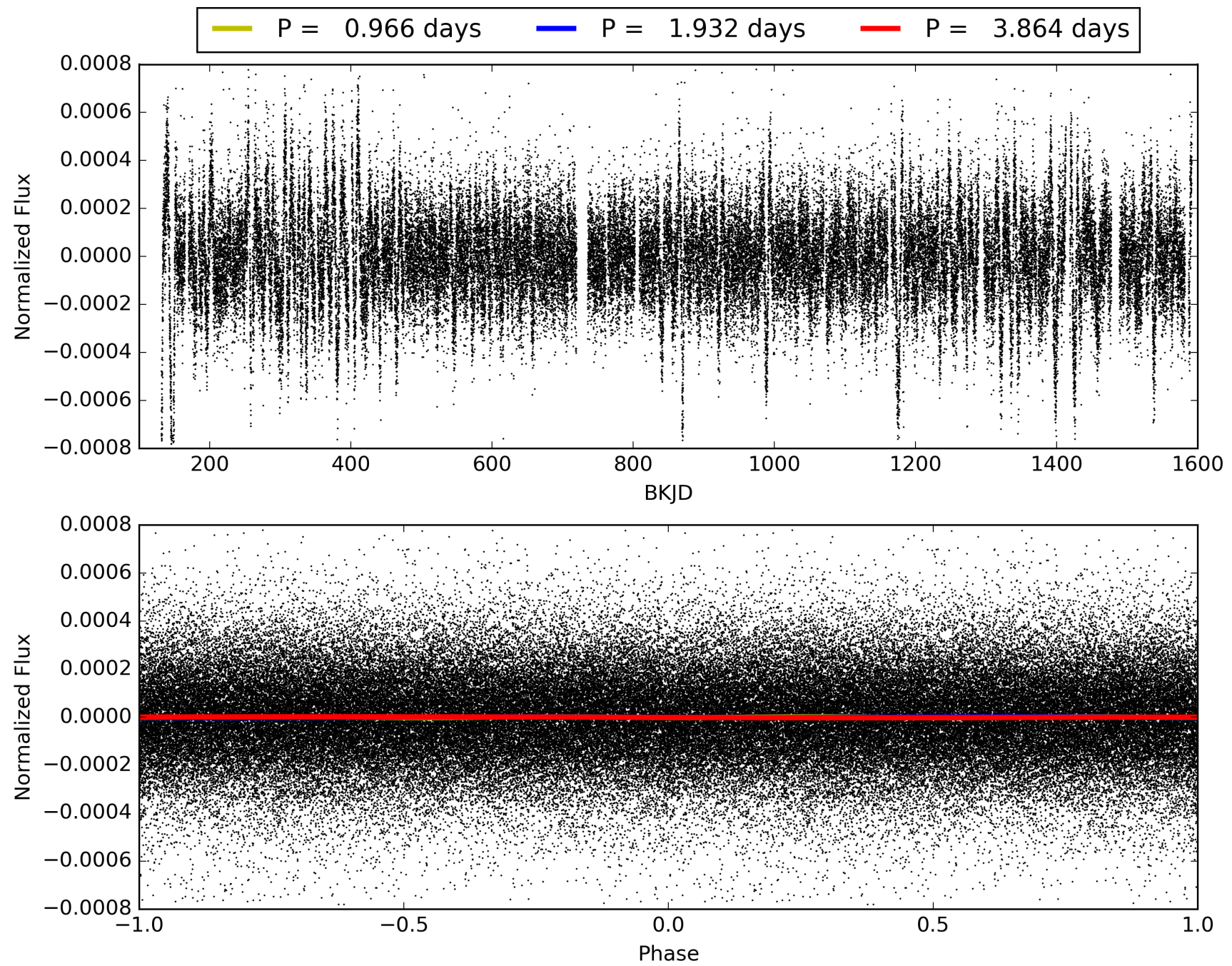
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:30:06 Z

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

TCE 008222395-01, PDC Light Curves

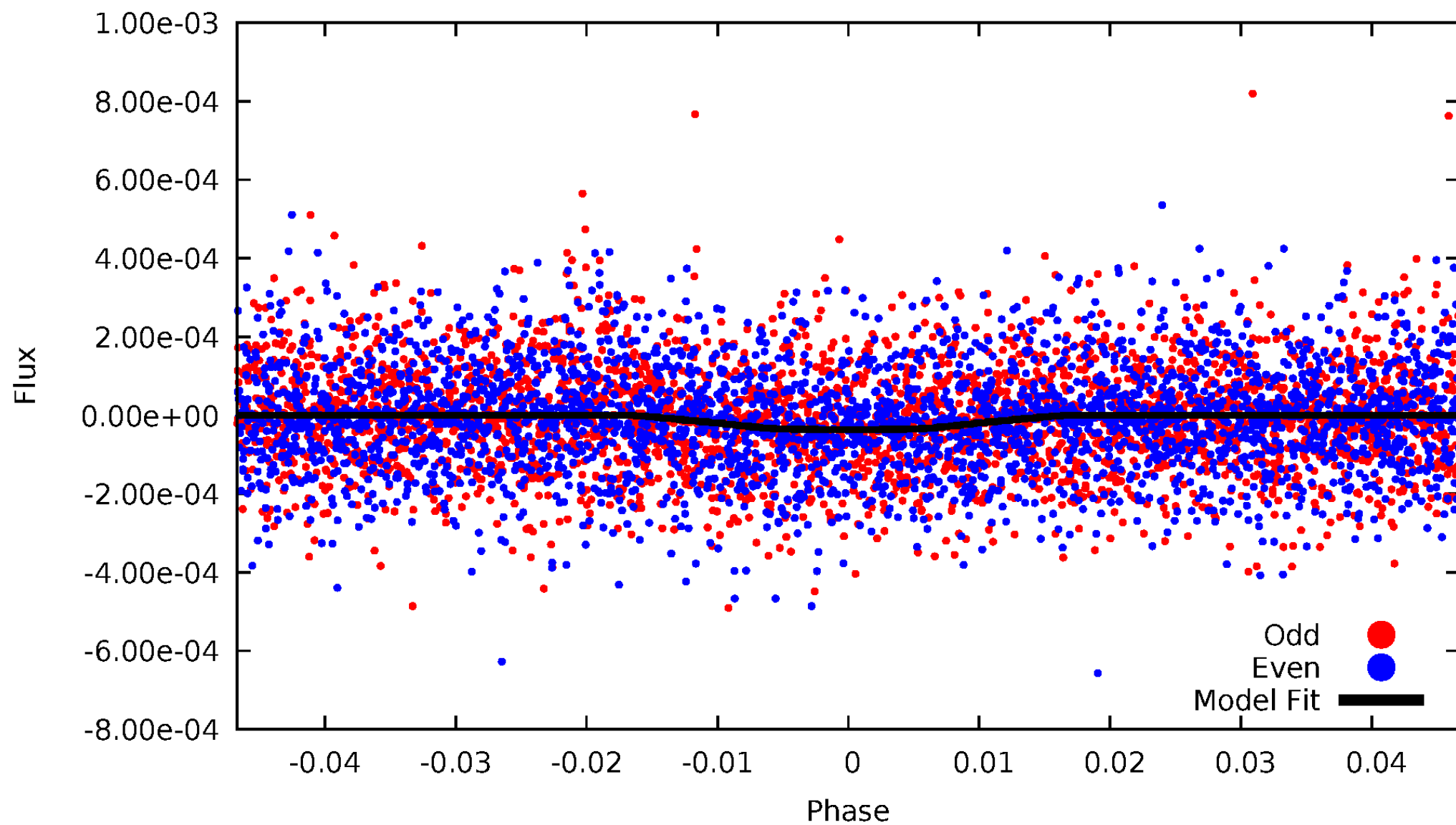


TCE 008222395-01



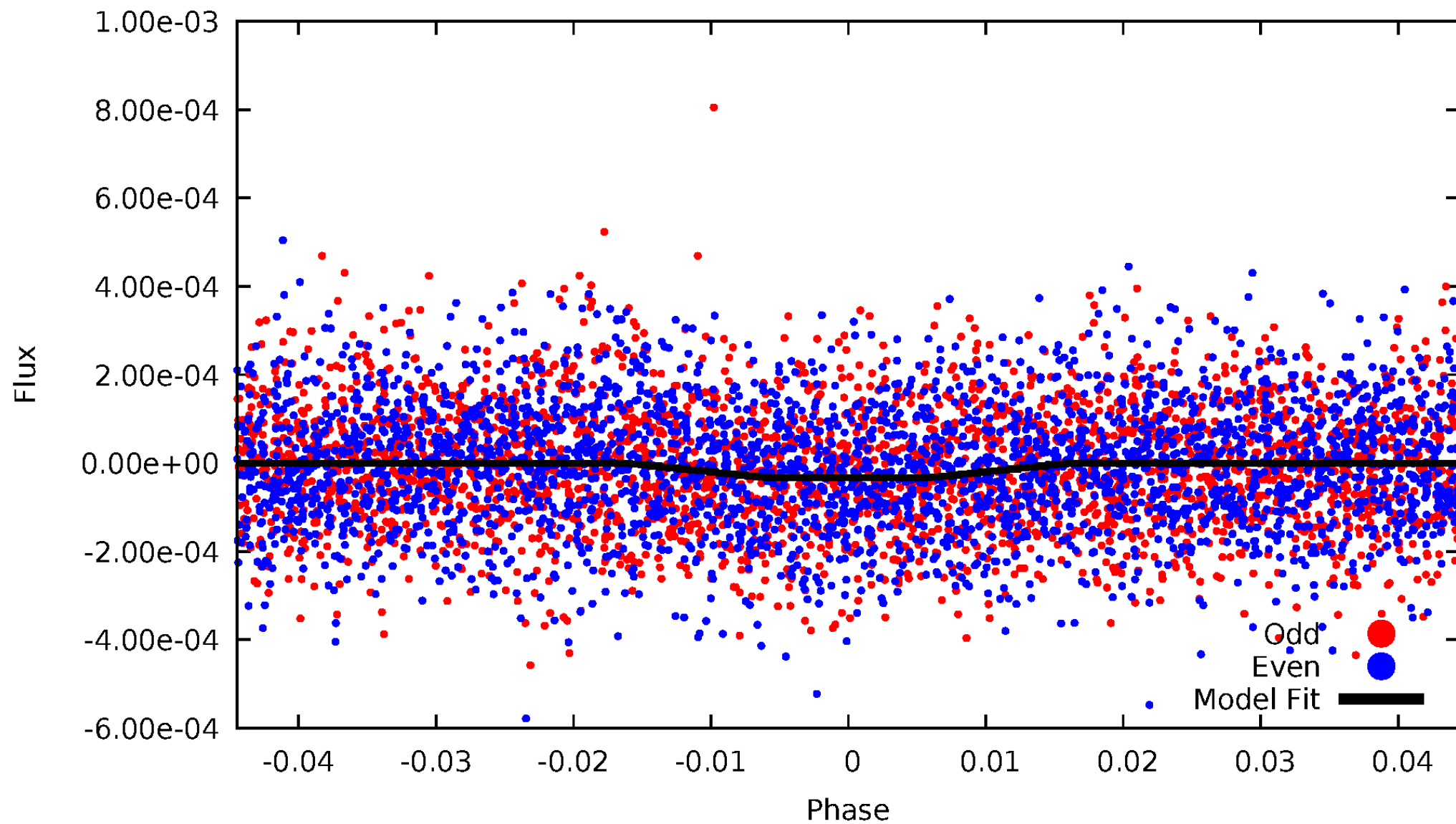
DV Odd/Even

TCE 008222395-01

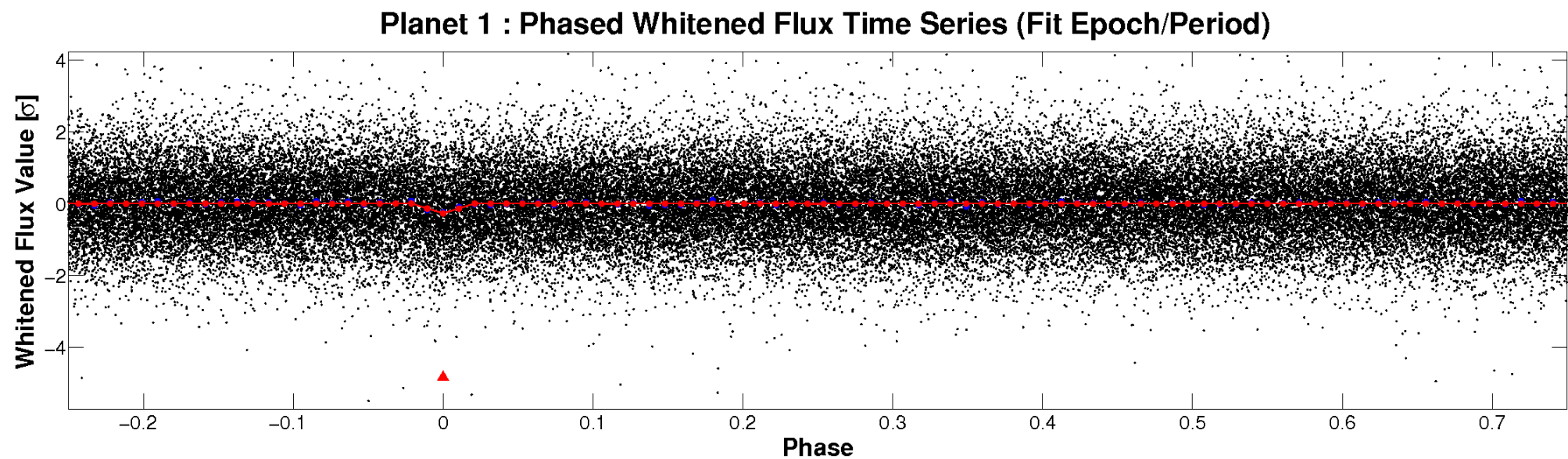
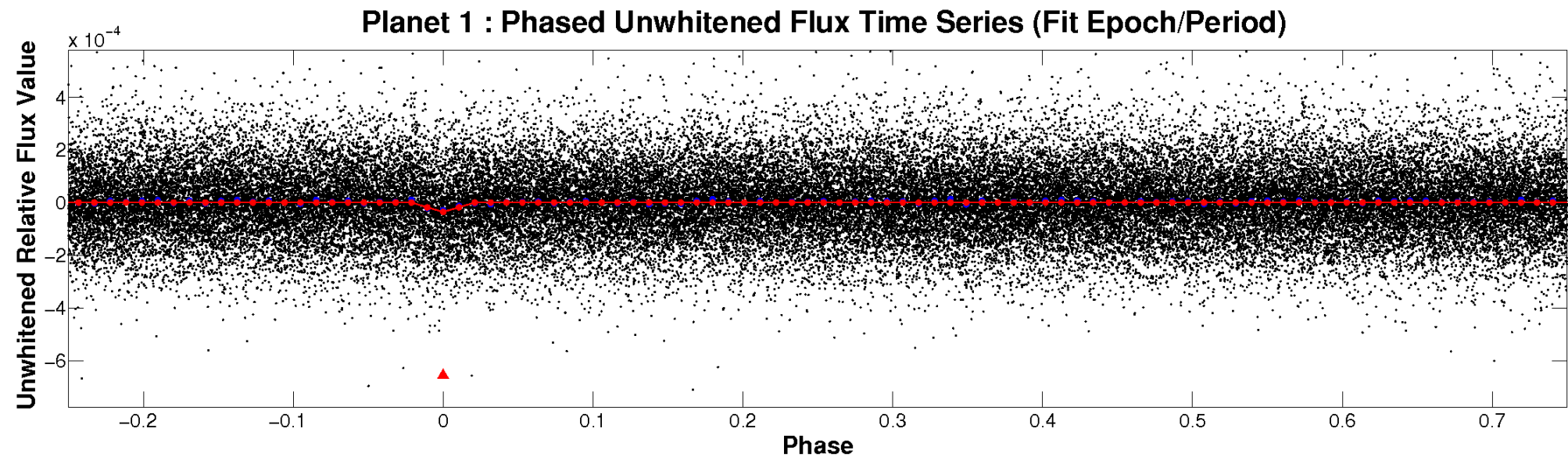


ALT Odd/Even

TCE 008222395-01

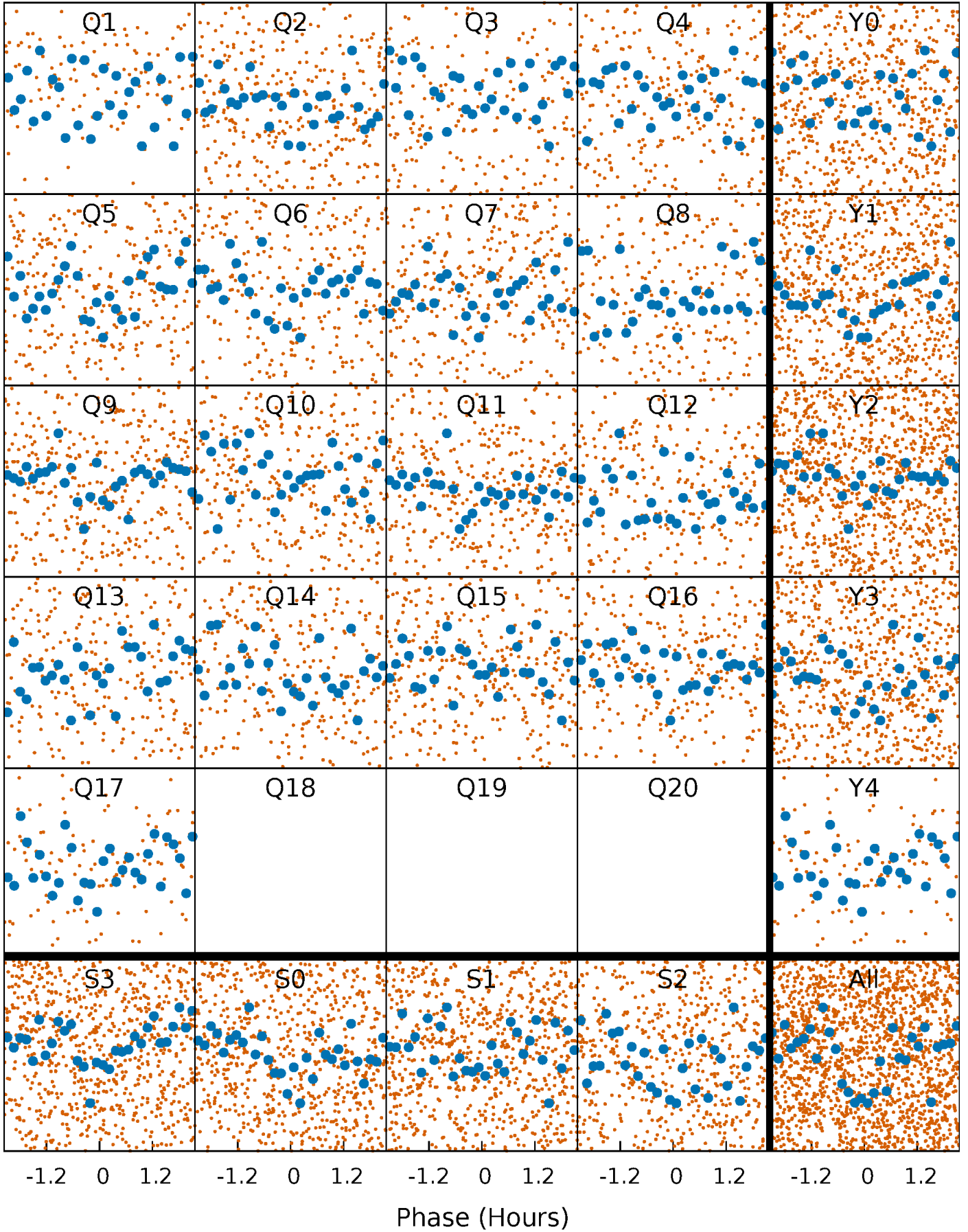


Non-Whitened Vs. Whitened Light Curve



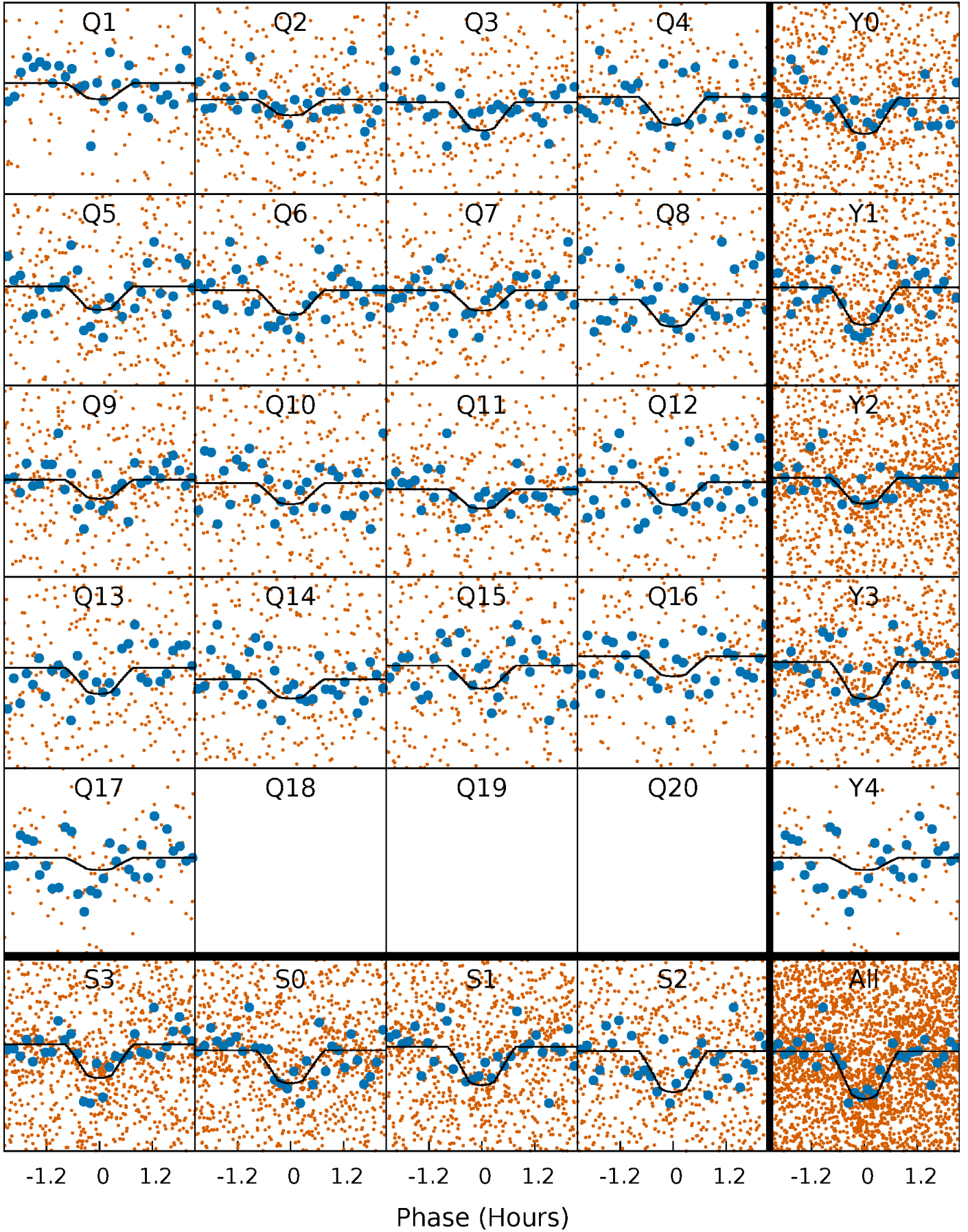
PDC Quarter-Phased Transit Curves

TCE 008222395-01 P= 1.931881 Days $T_0=133.171867$ (BKJD)



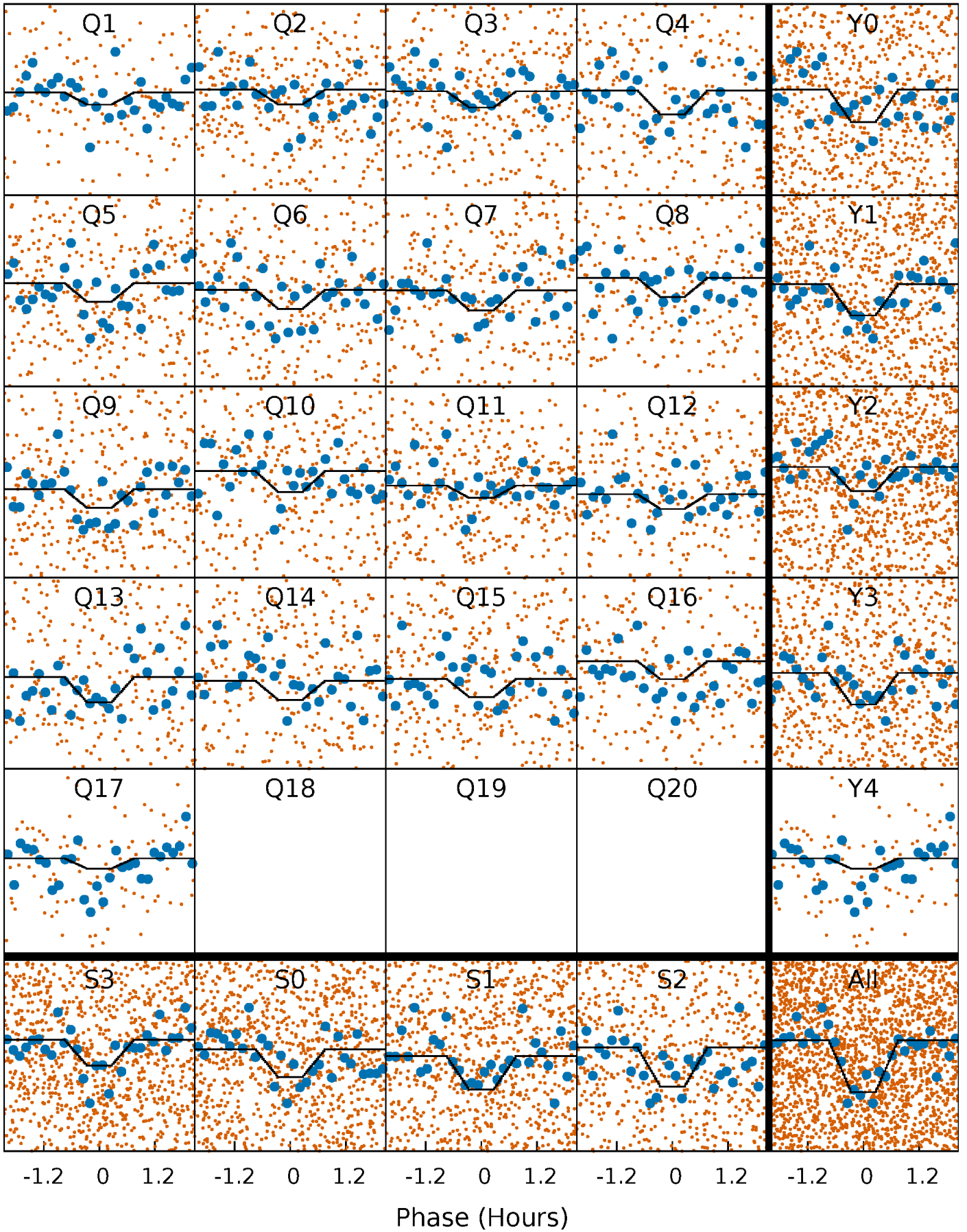
DV Quarter-Phased Transit Curves

TCE 008222395-01 P= 1.931881 Days $T_0=133.171867$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

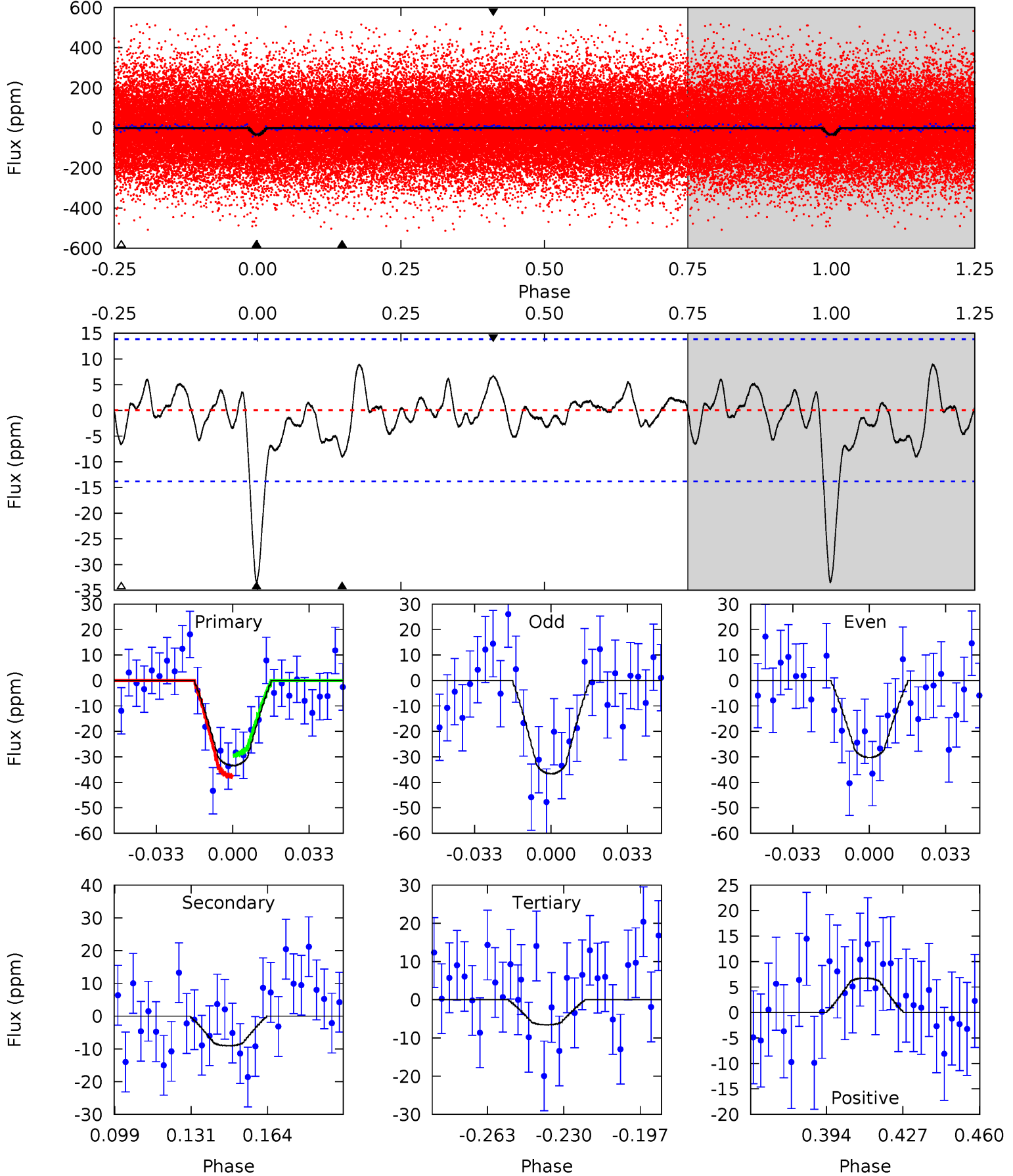
TCE 008222395-01 P= 1.931874 Days $T_0=133.171112$ (BKJD)



DV Model-Shift Uniqueness Test

008222395-01, P = 1.931881 Days, E = 131.239986 Days

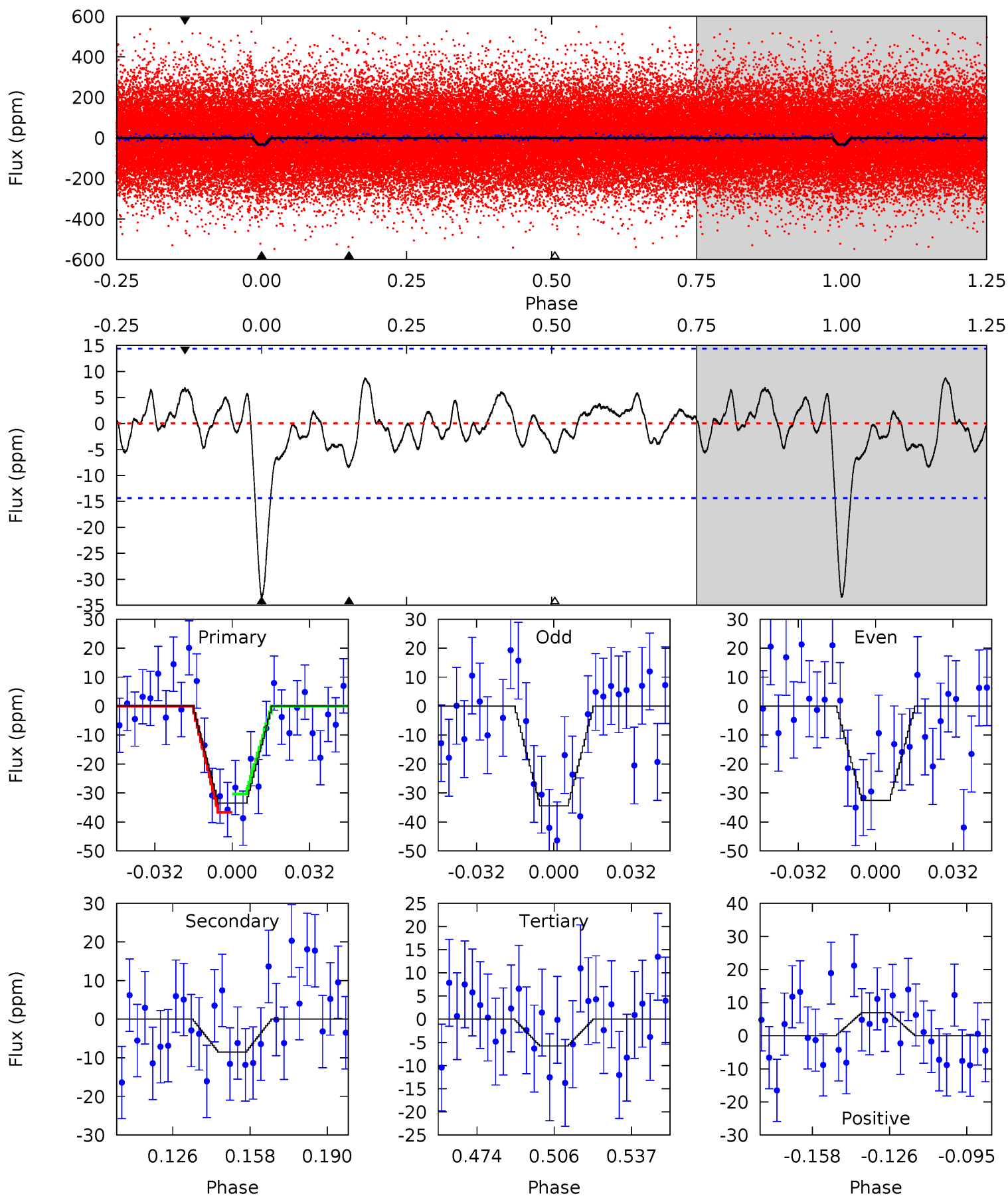
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	3.13	2.27	2.34	4.79	2.13	0.98	9.30	9.24	0.86	0.80	1.11	1.15	0.21	1.46



Alt Model-Shift Uniqueness Test

008222395-01, P = 1.931874 Days, E = 131.239238 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	2.84	1.93	2.32	4.80	2.15	0.99	9.25	8.86	0.91	0.51	0.31	1.09	0.21	1.05



Stellar Parameters For KIC 008222395

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5896^{+132}_{-176}	$4.516^{+0.050}_{-0.200}$	$-0.100^{+0.300}_{-0.300}$	$0.914^{+0.268}_{-0.089}$	$1.000^{+0.117}_{-0.128}$	$1.846^{+0.370}_{-0.955}$
	+2%/-3%	+1%/-4%	+300%/-300%	+29%/-10%	+12%/-13%	+20%/-52%
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 008222395-01 / KOI 7873.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-9 ± 3	$0.64^{+0.19}_{-0.21}$	2025^{+134}_{-92}	4313^{+714}_{-515}	11^{+13}_{-5}
Alt.	-9 ± 3	$0.60^{+0.22}_{-0.21}$	2037^{+139}_{-92}	4323^{+984}_{-533}	11^{+19}_{-6}

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 $A_{obs} \gg 1.0$

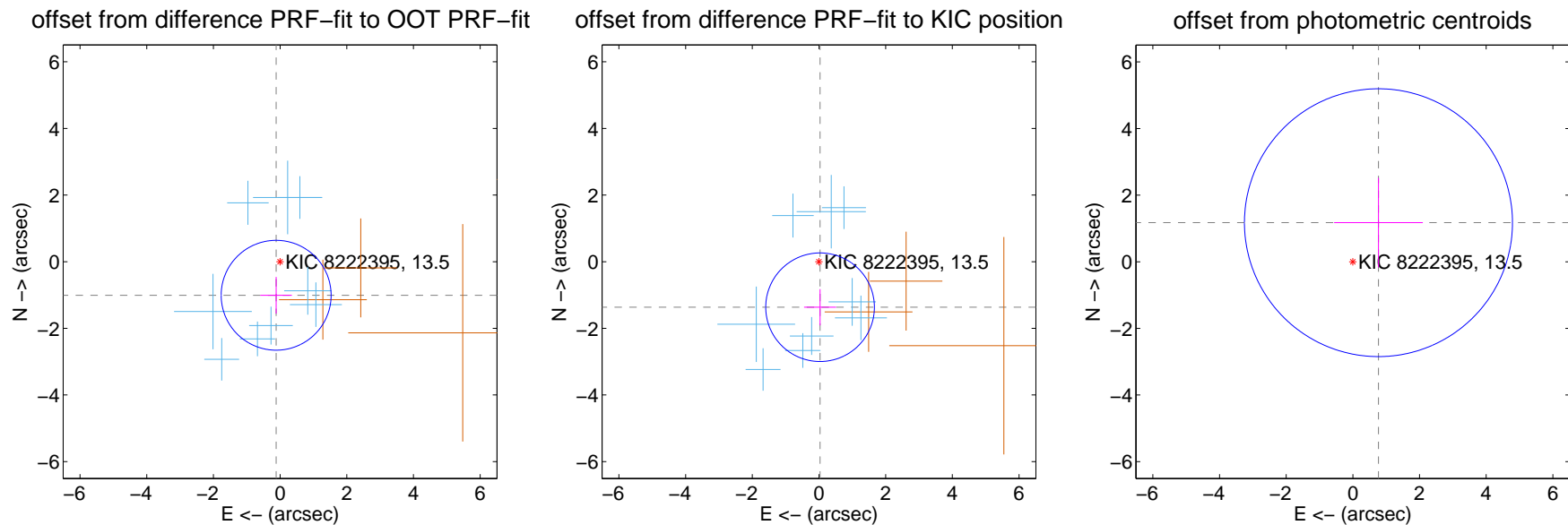
DV Centroid Data

Supplemental centroid analysis for 008222395-01. Kepler magnitude: 13.50. Transit SNR 8.65

There are 9 quarters with good PRF difference image offsets

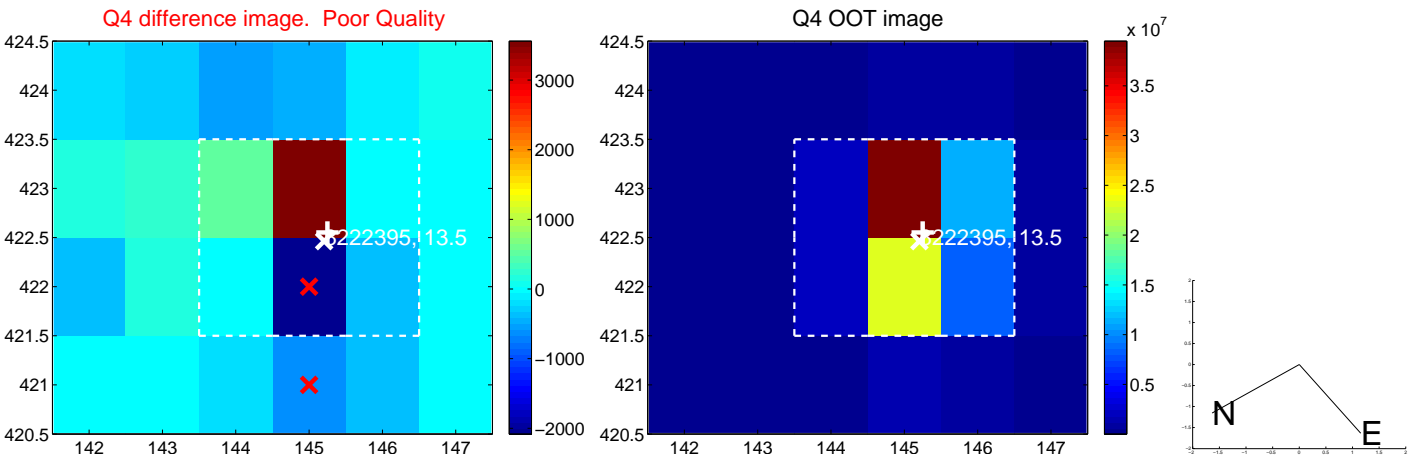
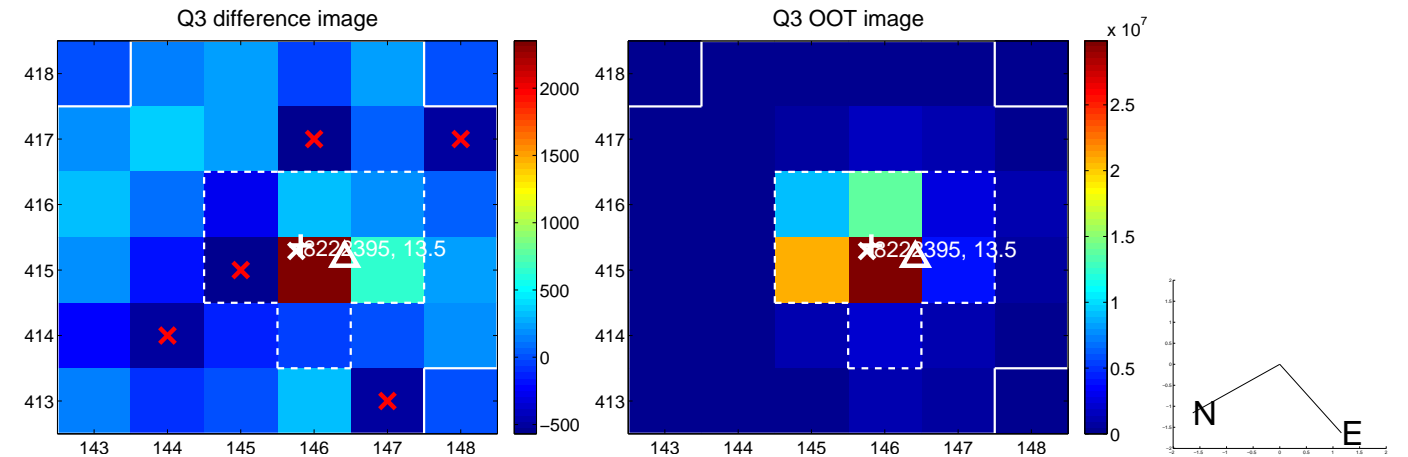
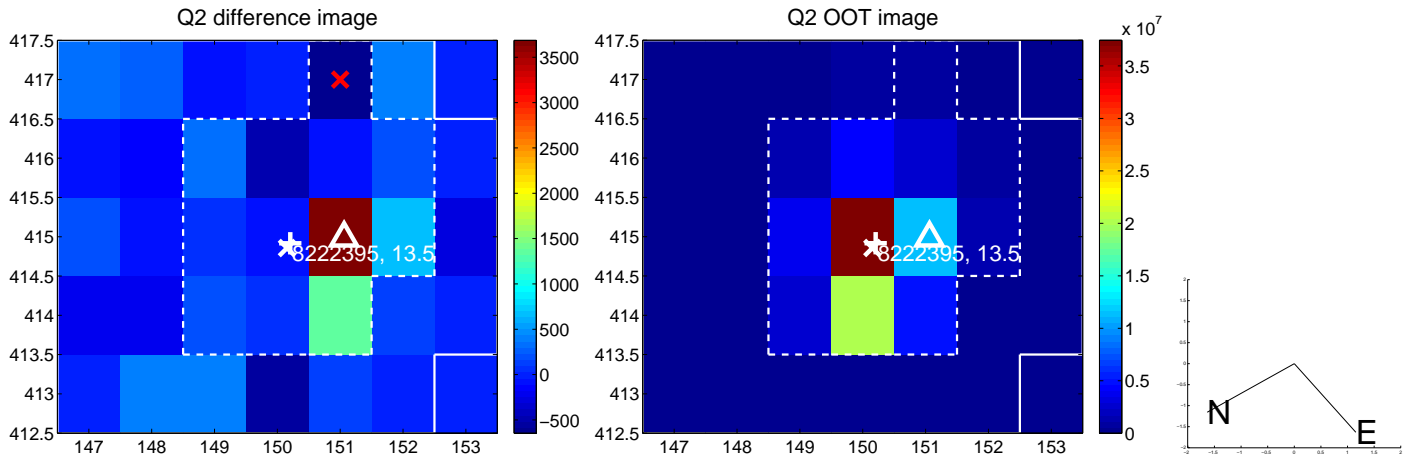
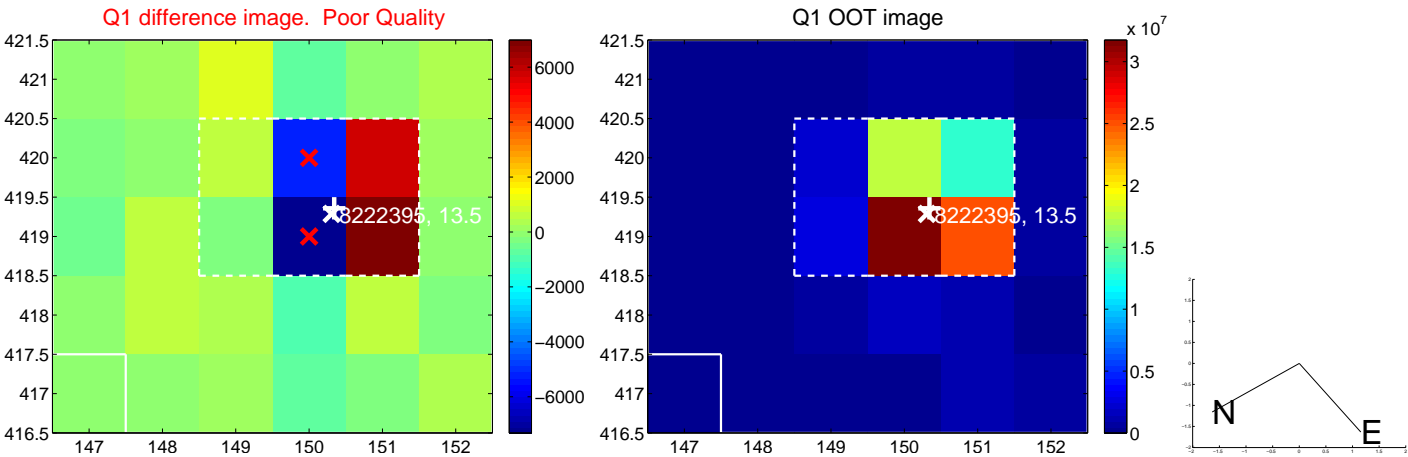
The direct PRF centroid is offset from the target star catalog position by about 0.43 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.014 ± 0.550	1.85	0.119 ± 0.472	-1.007 ± 0.551
PRF-fit source offset from KIC position	1.367 ± 0.543	2.52	-0.032 ± 0.480	-1.366 ± 0.543
photometric centroid source offset	1.40 ± 1.34	1.05	-0.77 ± 1.33	1.17 ± 1.34

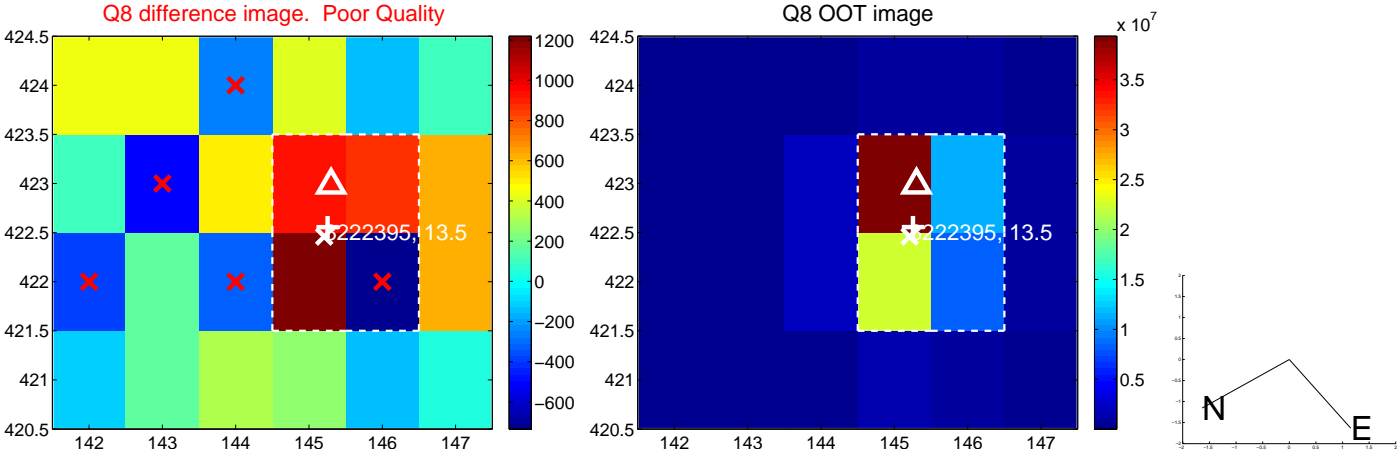
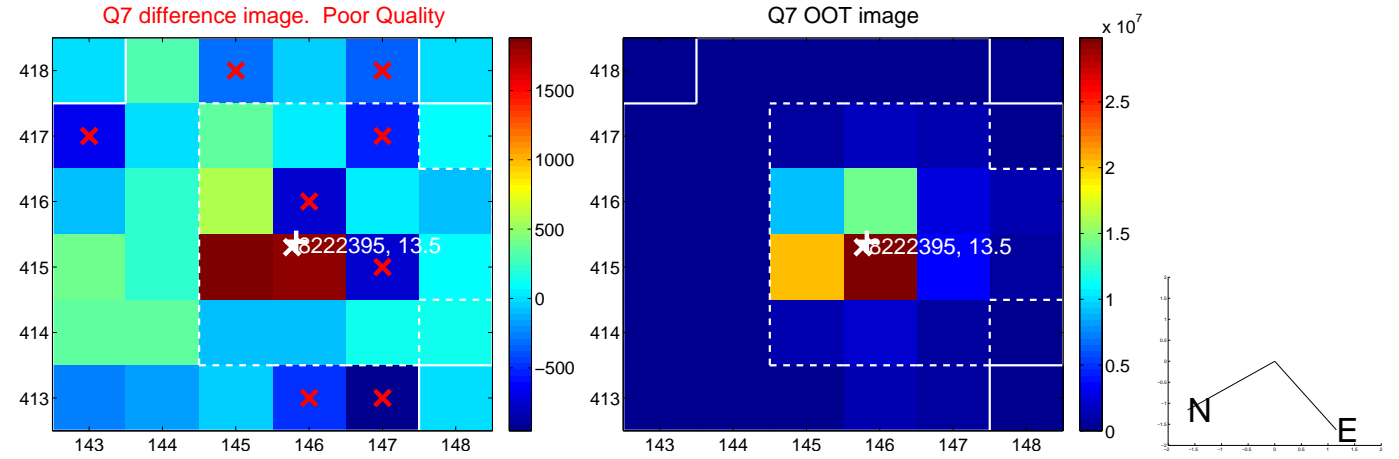
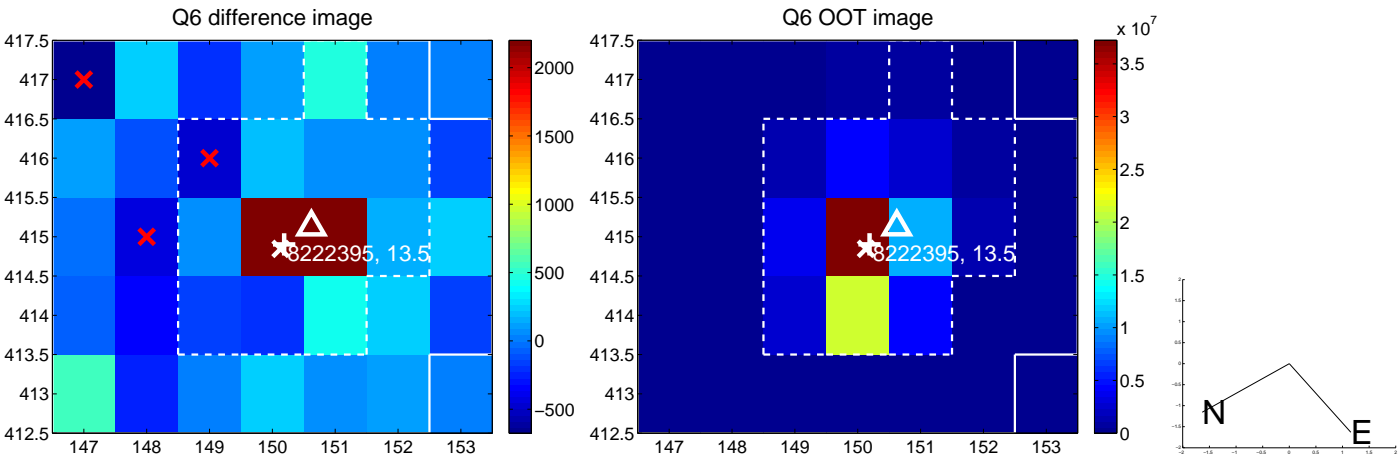
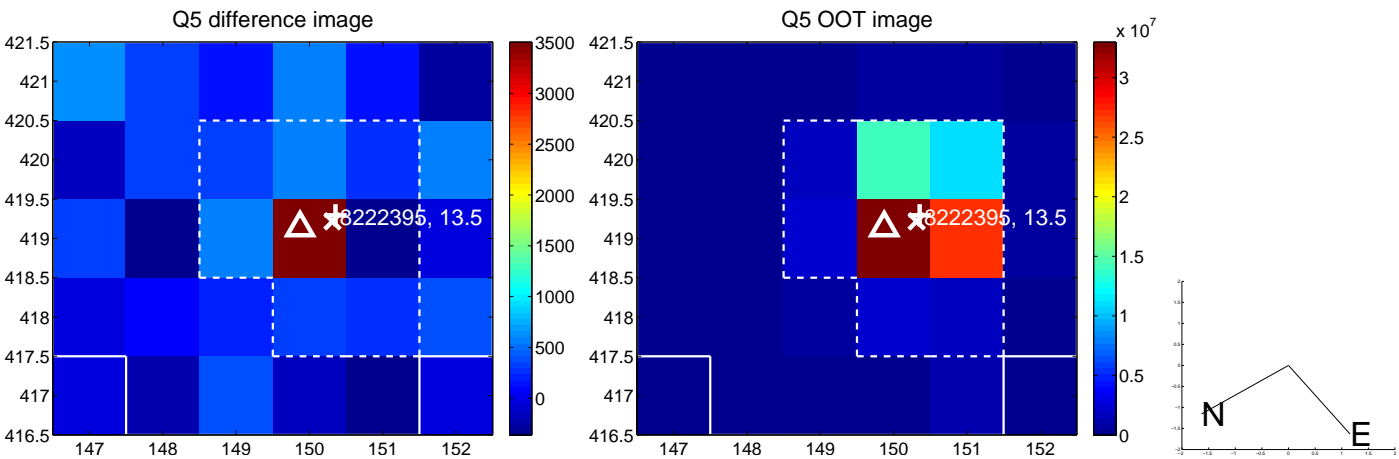


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

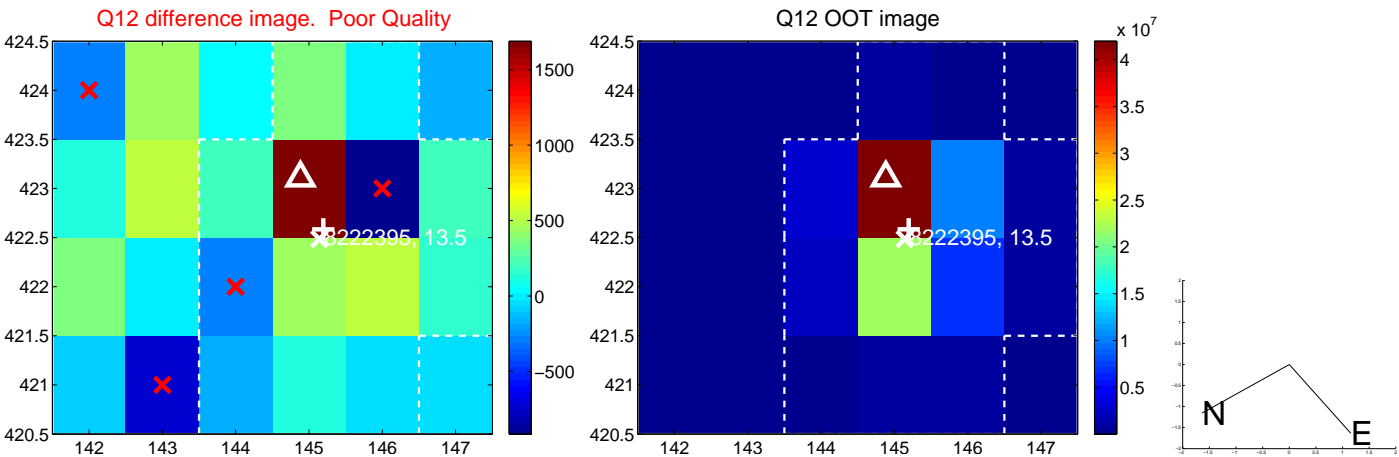
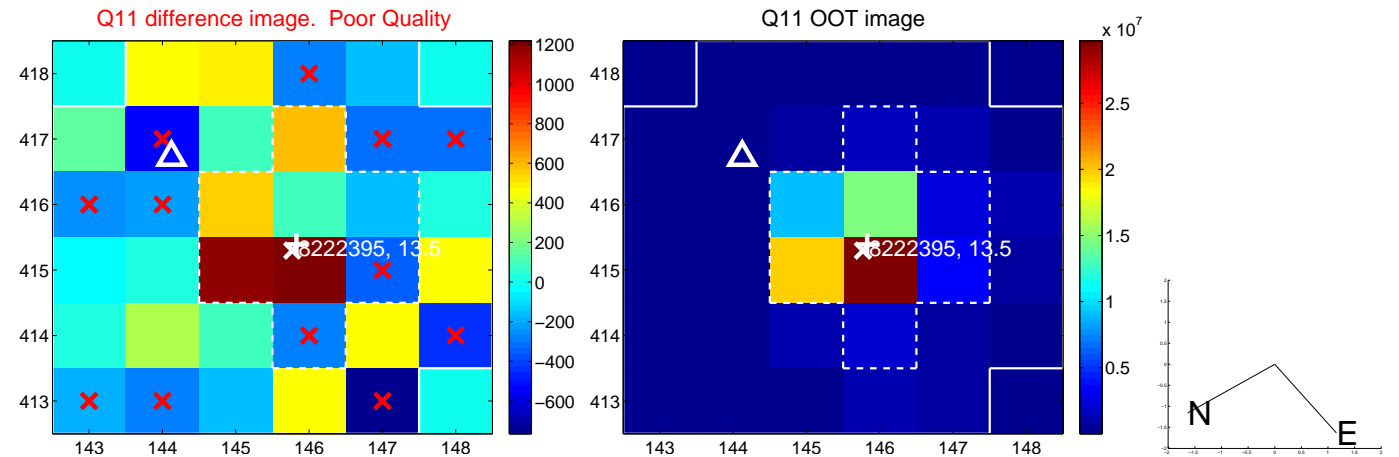
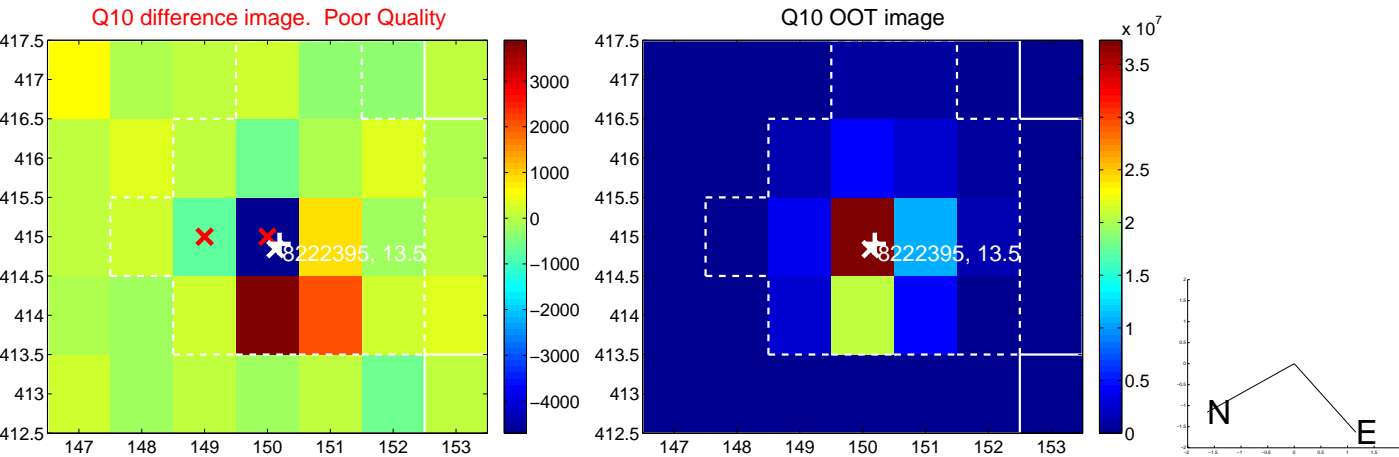
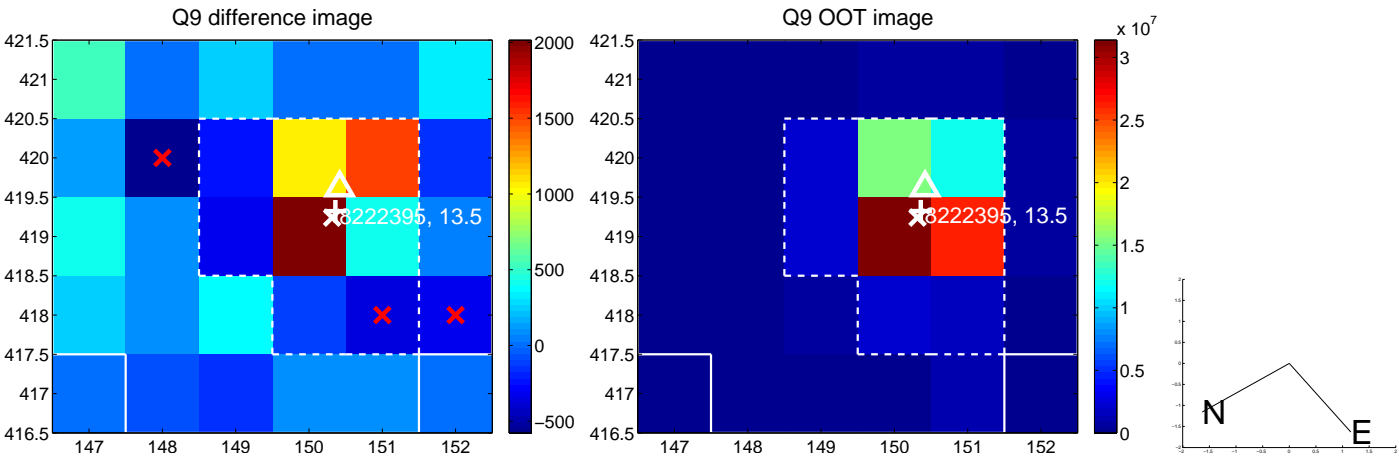
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



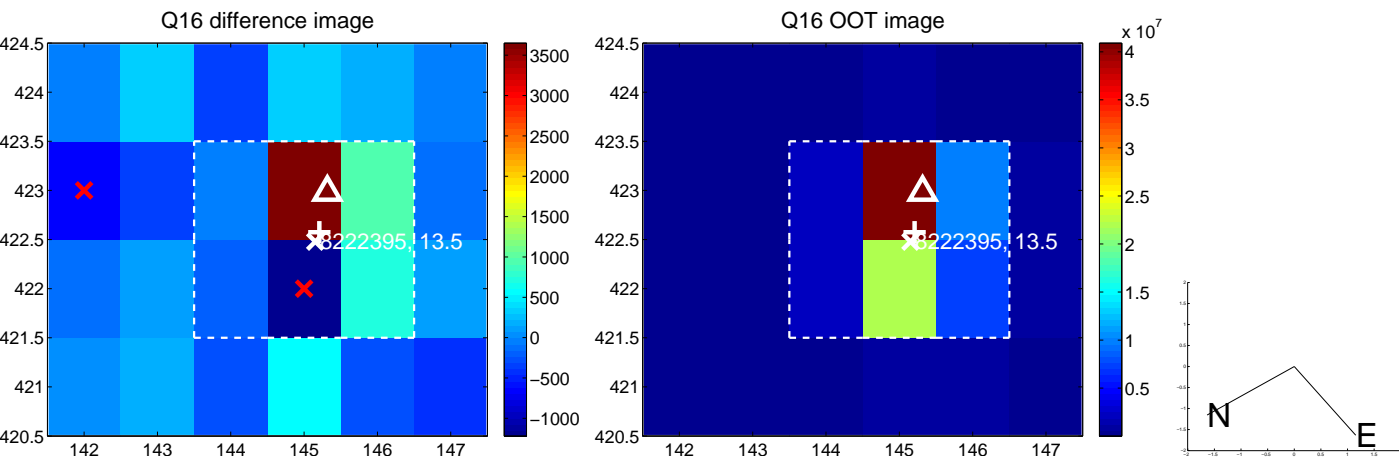
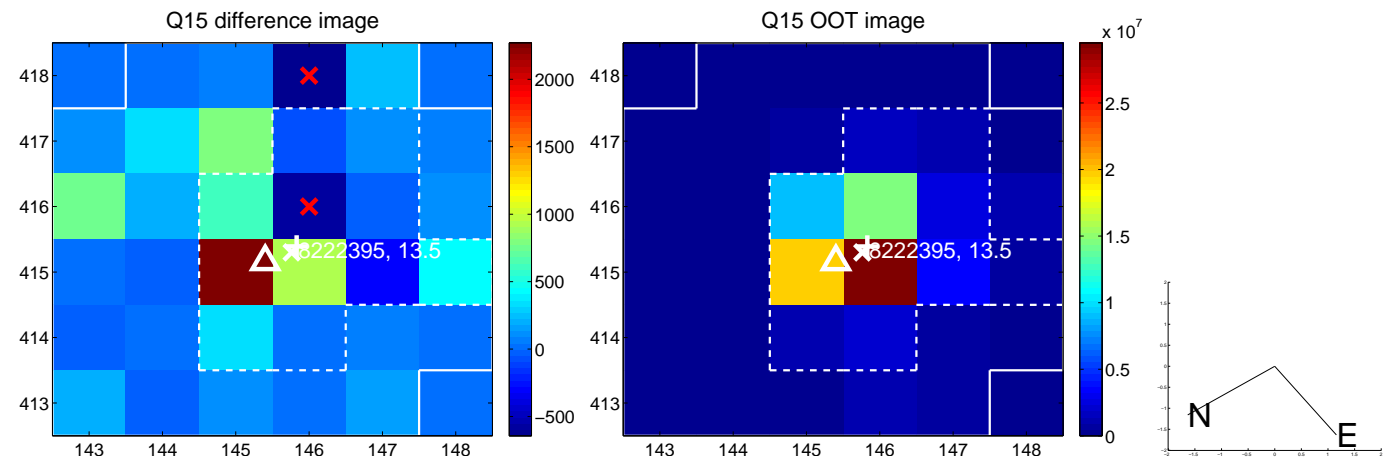
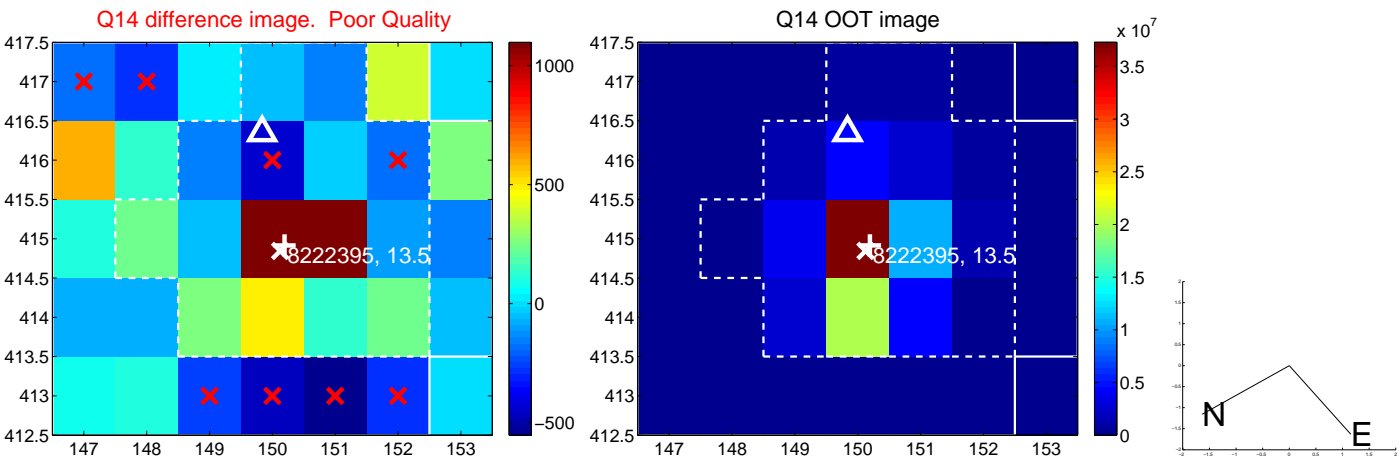
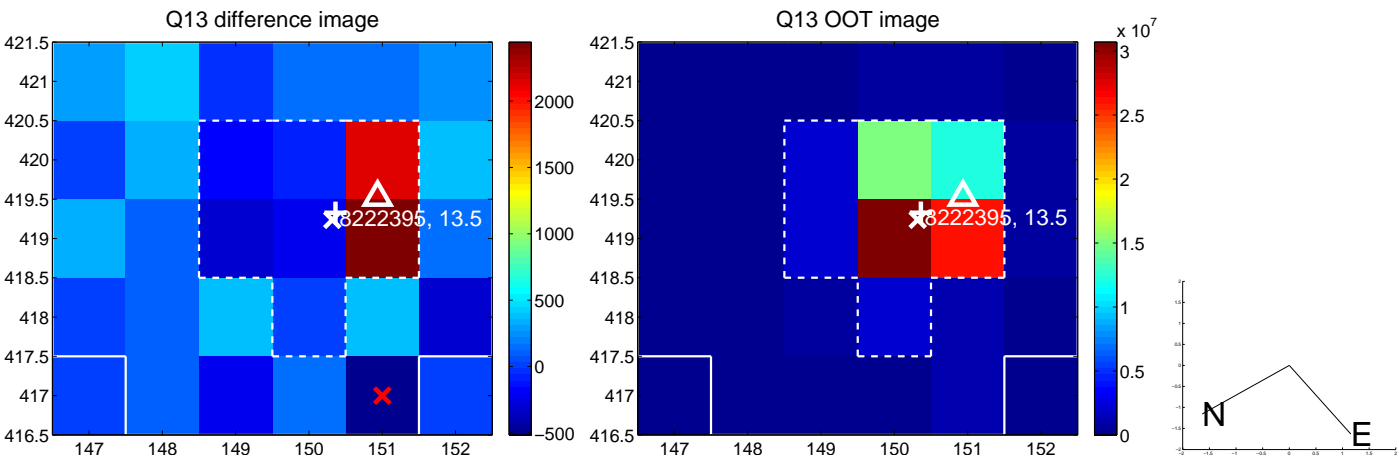
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



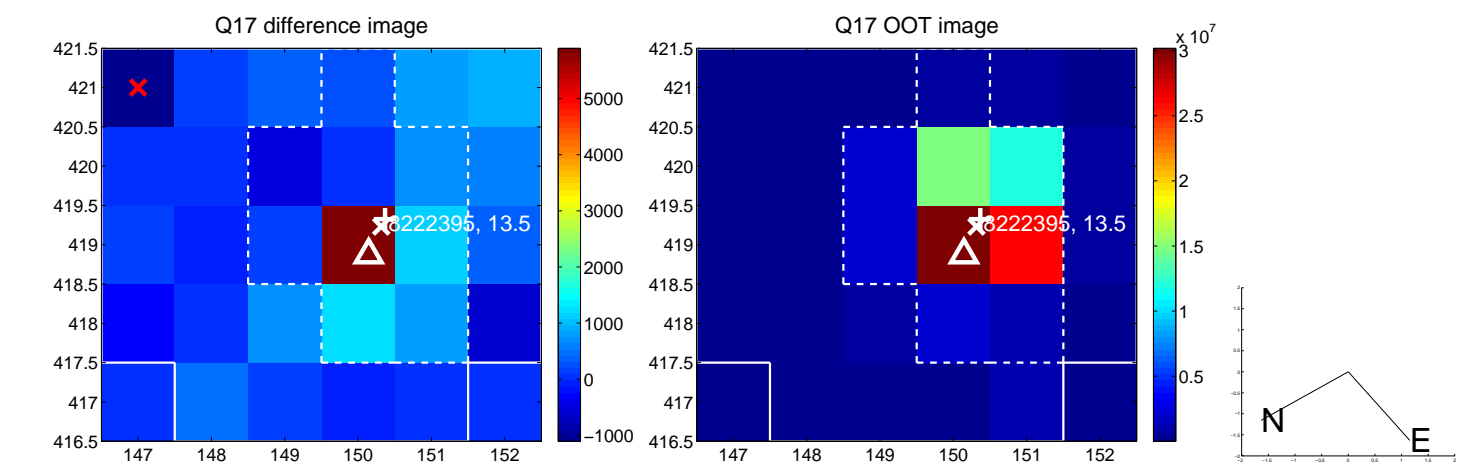
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



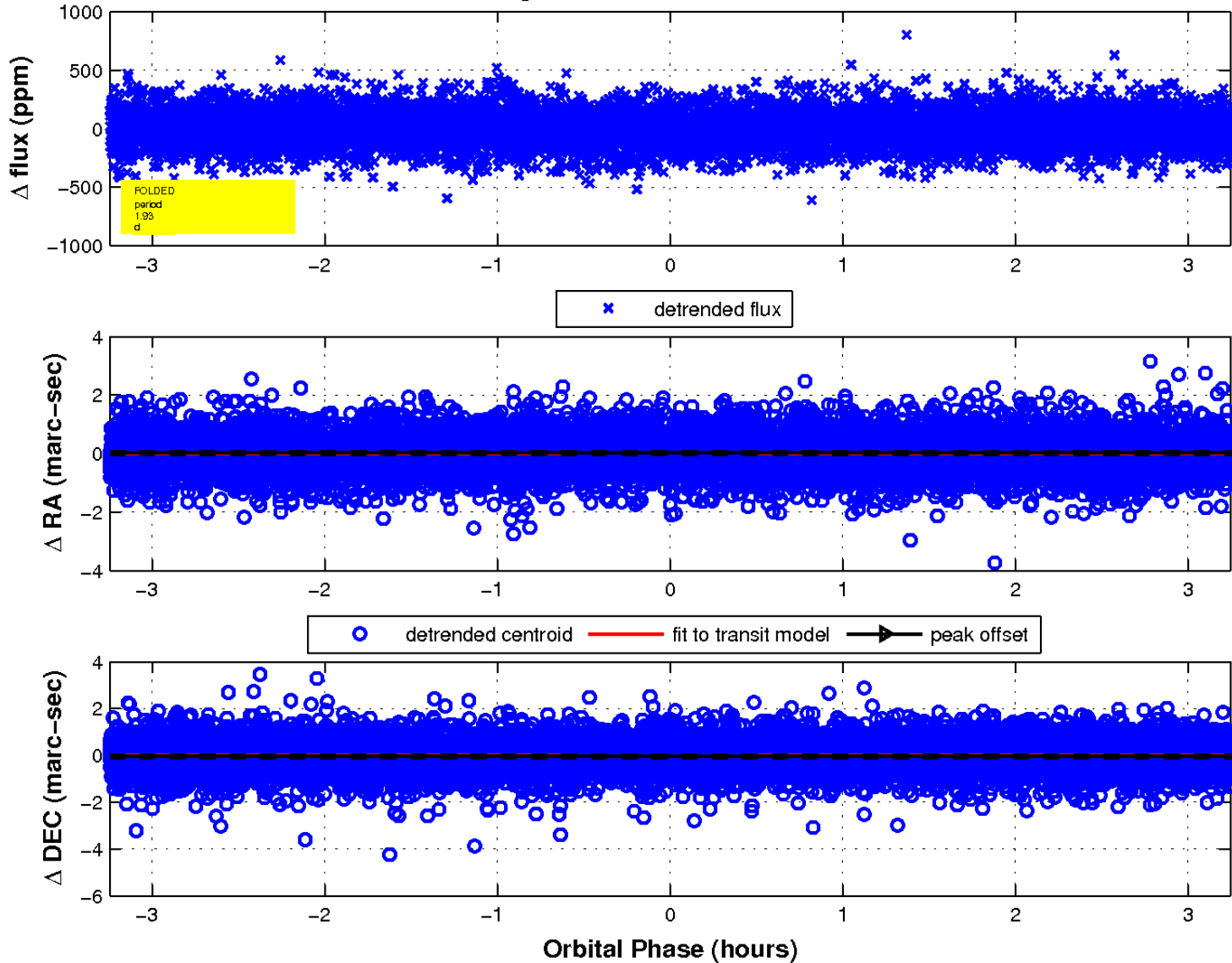
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

