

KIC 002158208

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})
002158208-01	OBS	No	0.879156	131.938810	96.2	1.796	9.3	9.3	1.97	9883	2.22	65631.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002158208-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

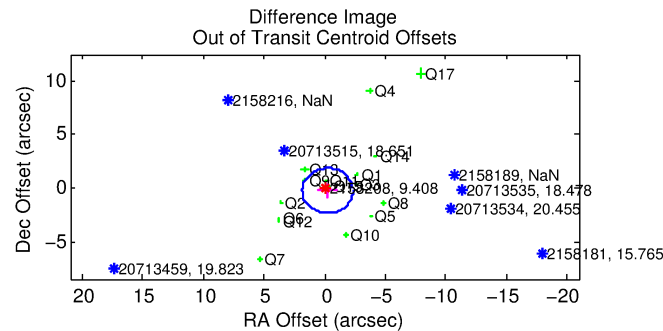
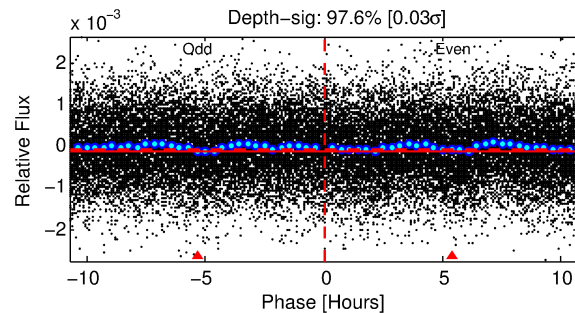
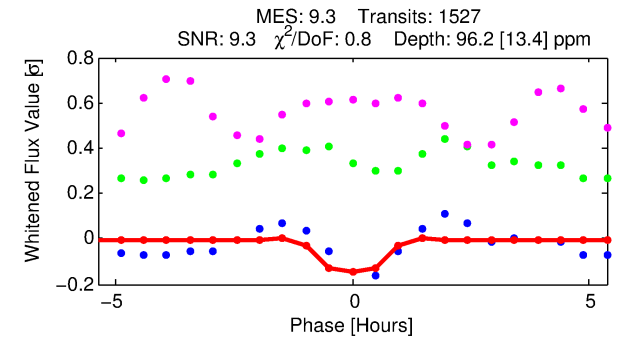
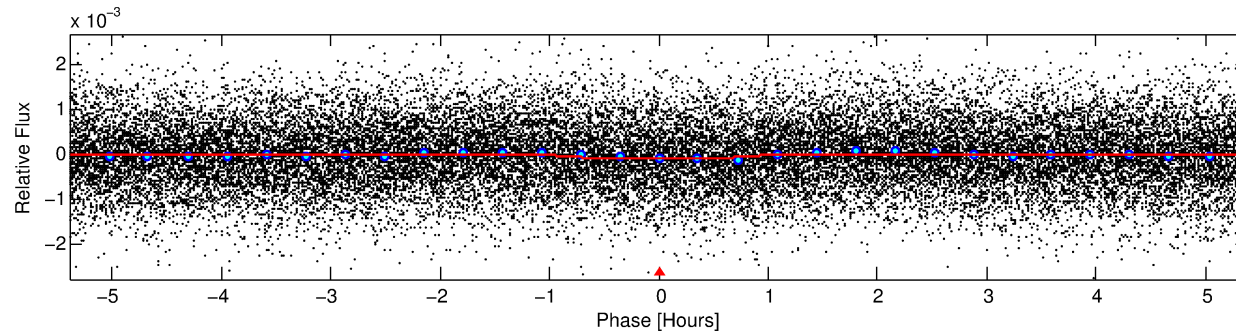
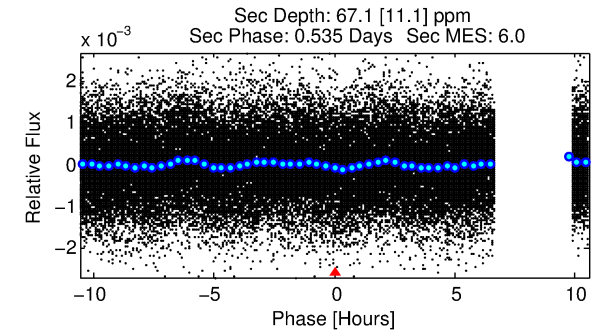
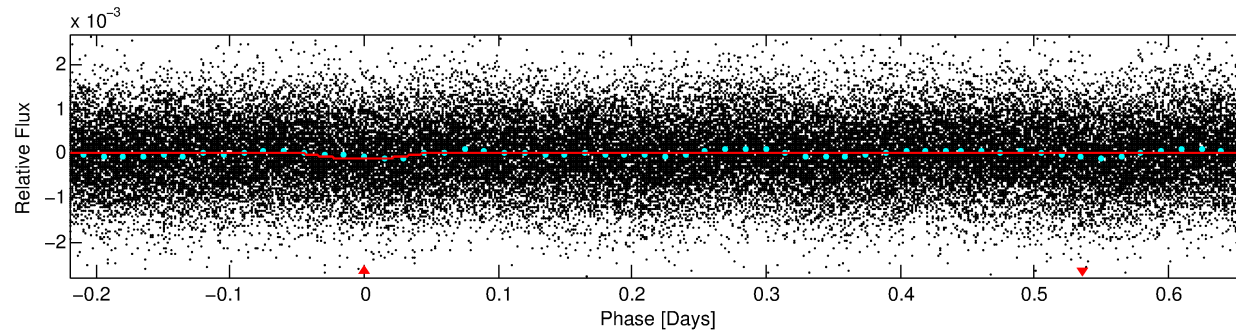
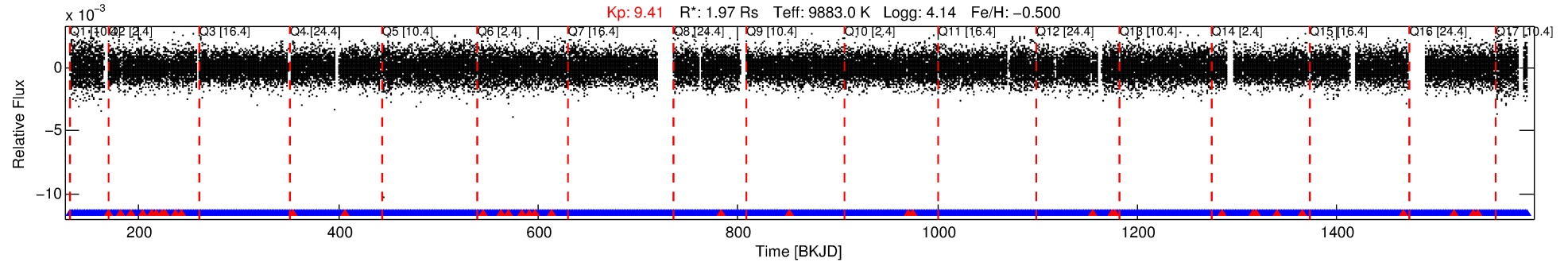
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002158208-01

No Significant Match Found

DV One-Page Summary

KIC: 2158208 Candidate: 1 of 1 Period: 0.879 d



DV Fit Results:

Period = 0.87916 [0.00001] d
Epoch = 131.9388 [0.0028] BKJD
Rp/R* = 0.0103 [0.0044]
a/R* = 1.96 [4.85]
b = 0.90 [0.72]
Seff = 65631.58 [26489.92]
Teff = 4081 [412] K
Rp = 2.22 [1.13] Re
a = 0.0225 [0.0055] AU
Ag = 3.79 [3.58] [0.78σ]
Teffp = 8803 [1955] K [2.36σ]

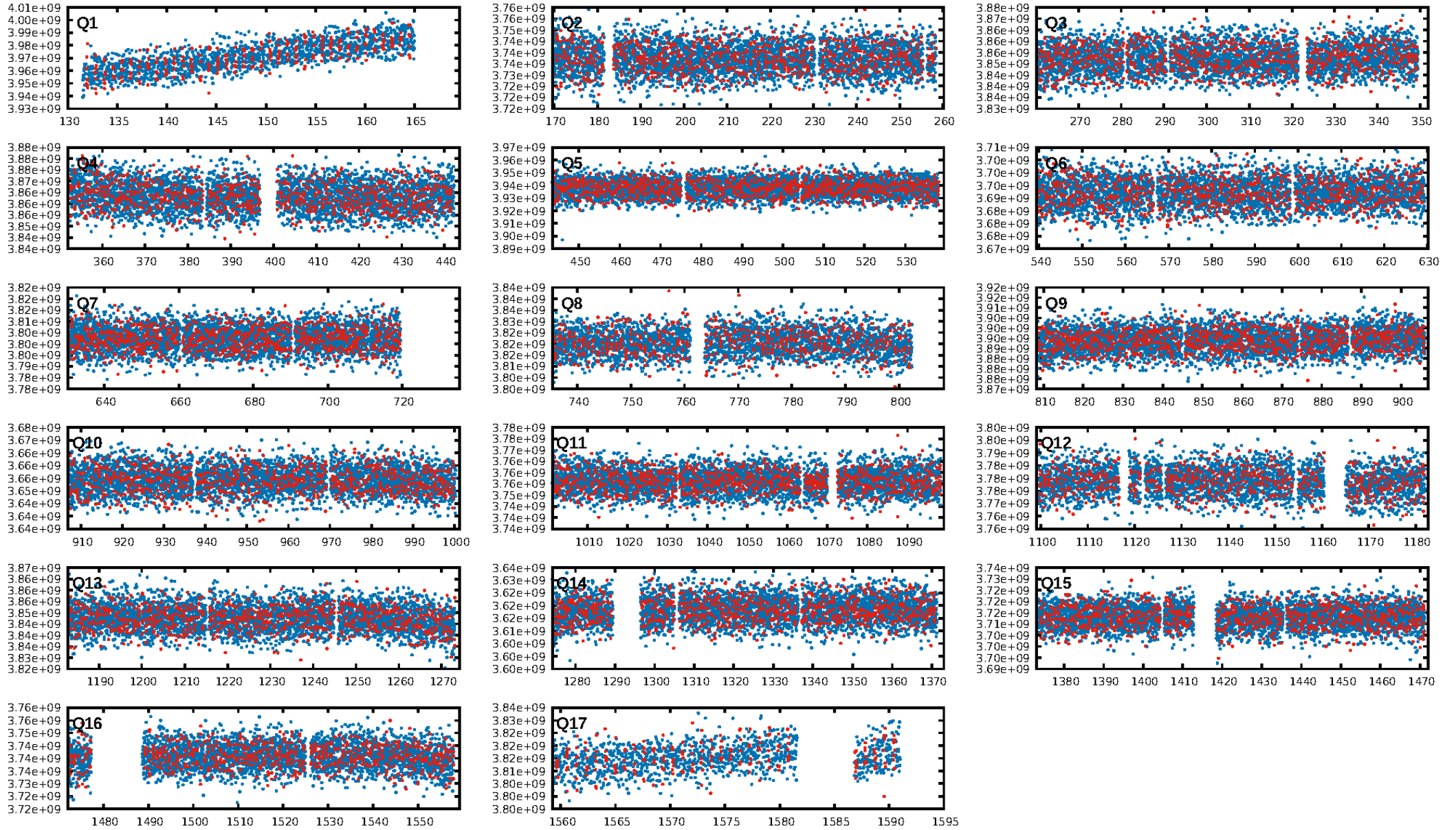
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.73e-22
RollingBand-fgt: 0.98 [1424/1459]
GhostDiagnostic-chr: N/A
Centroid-sig: 0.1%
Centroid-so: 1.108 arcsec [5.54σ]
OotOffset-rm: 0.350 arcsec [0.50σ]
KicOffset-rm: 0.487 arcsec [0.41σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.00 [0/16]
DiffImageOverlap-fno: 1.00 [17/17]

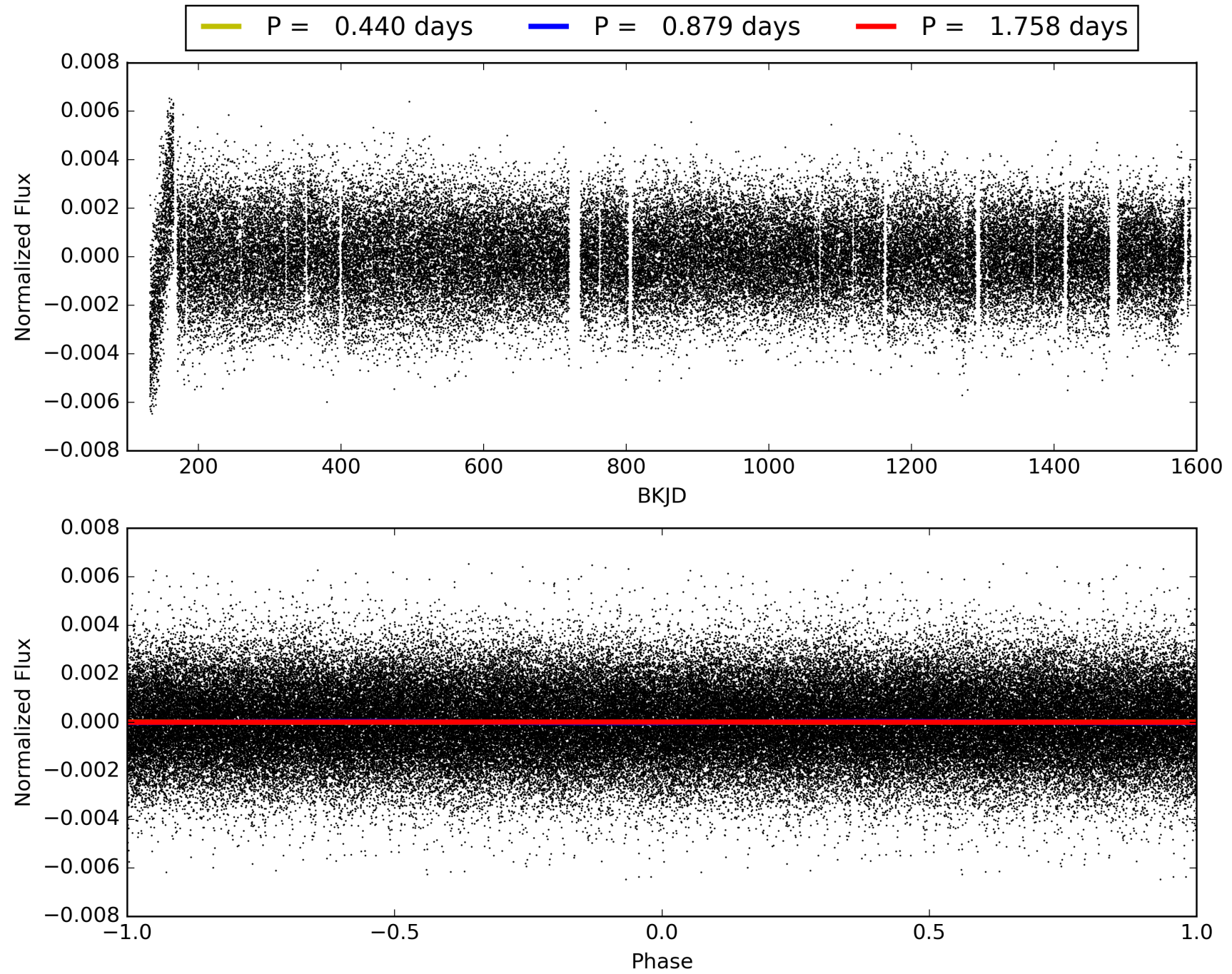
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:33:42 Z

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

TCE 002158208-01, PDC Light Curves

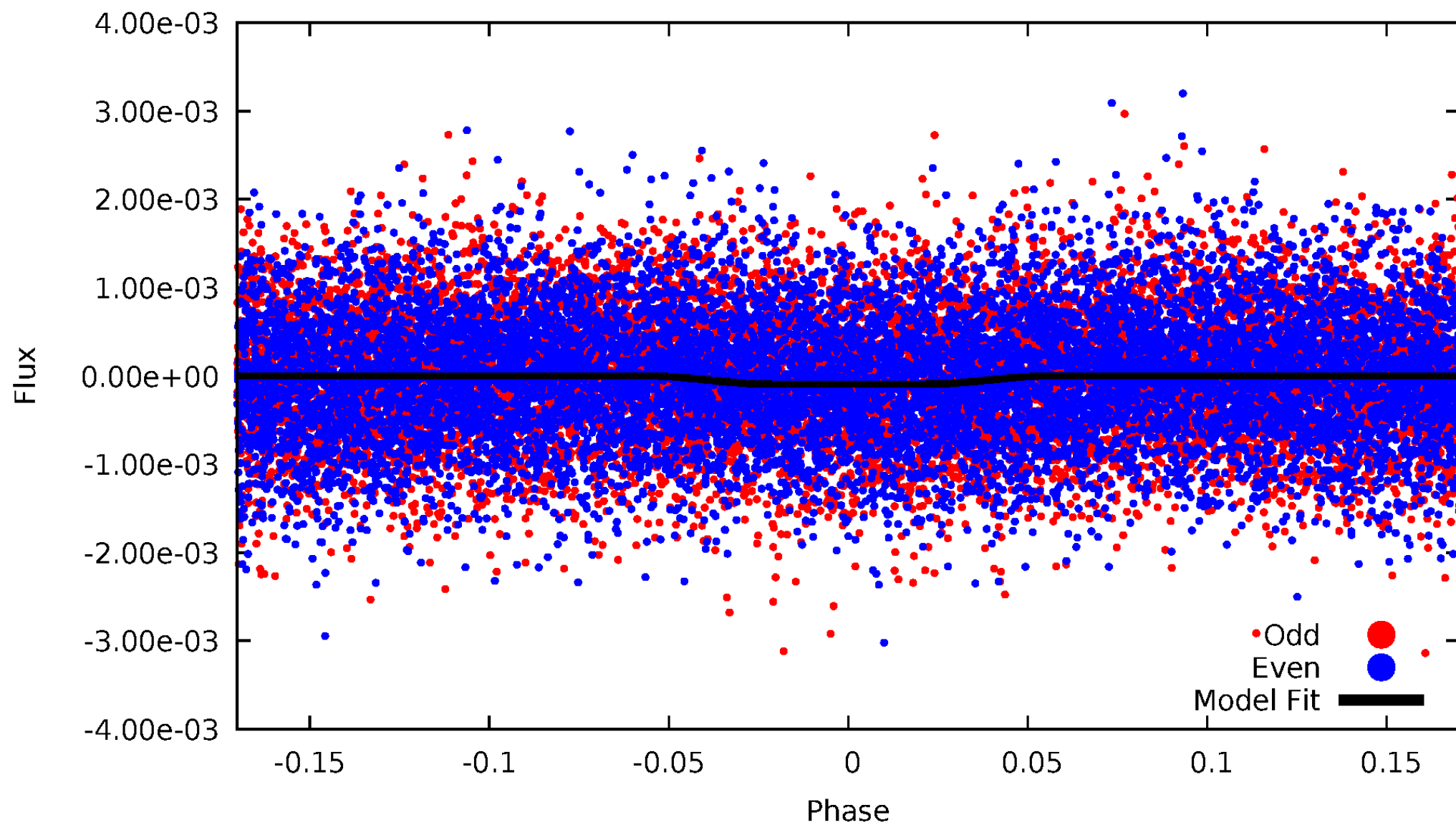


TCE 002158208-01



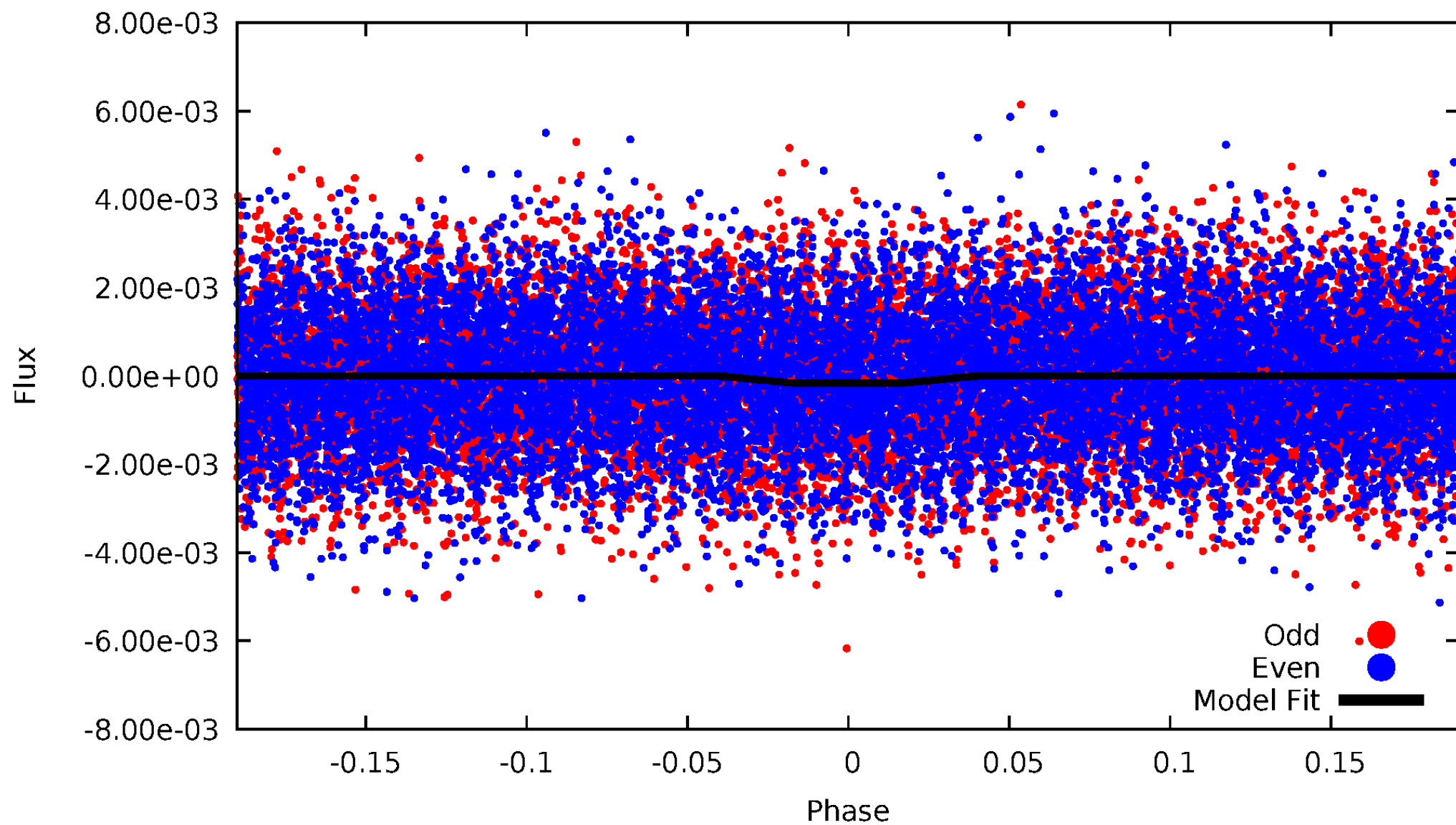
DV Odd/Even

TCE 002158208-01



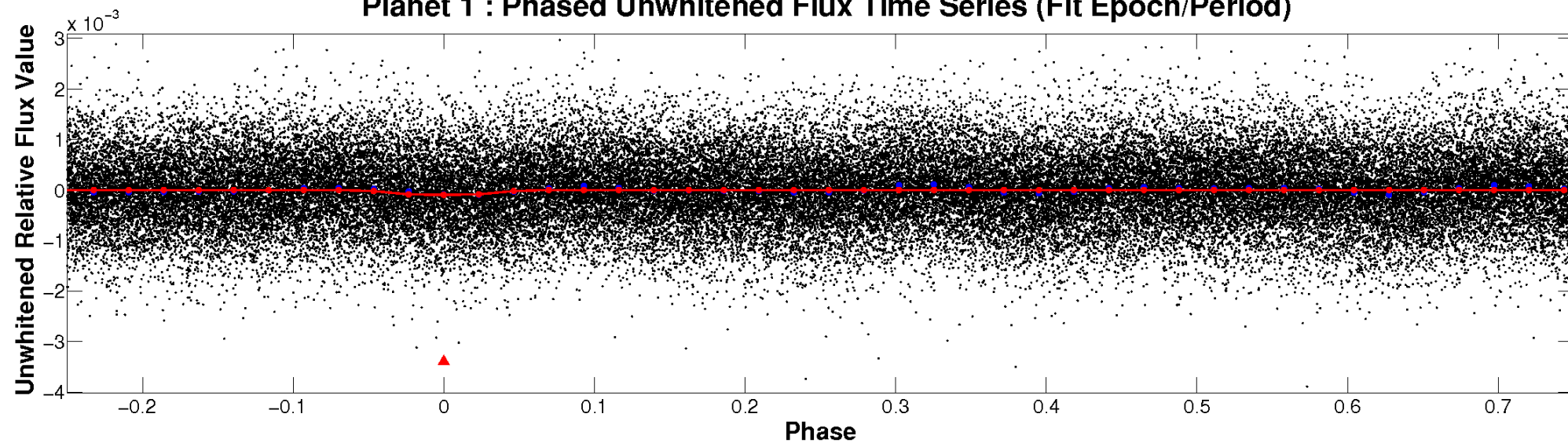
ALT Odd/Even

TCE 002158208-01

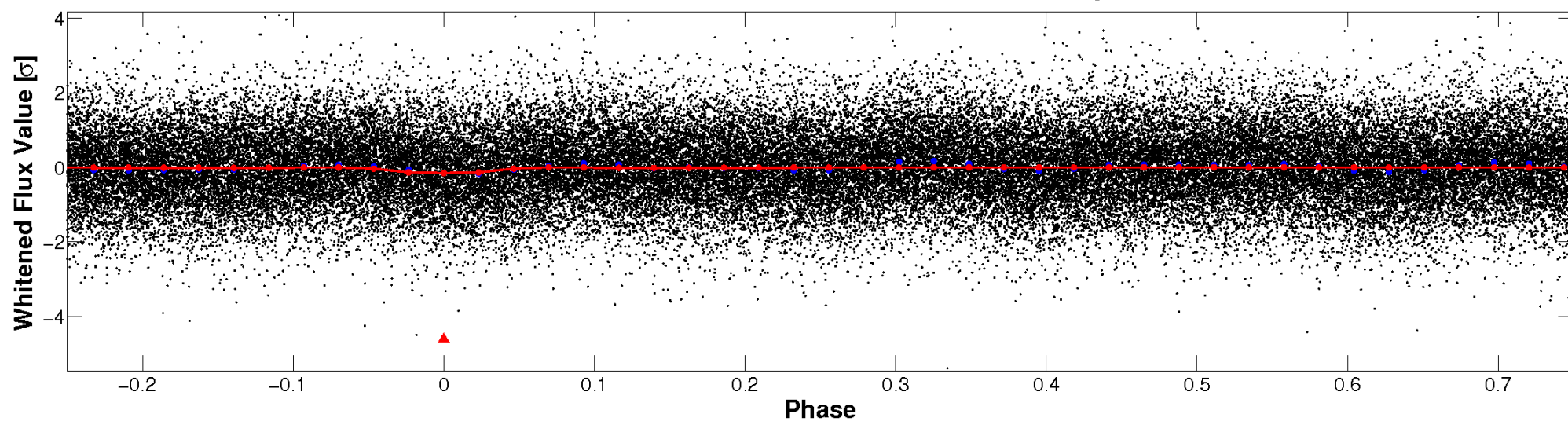


Non-Whitened Vs. Whitened Light Curve

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

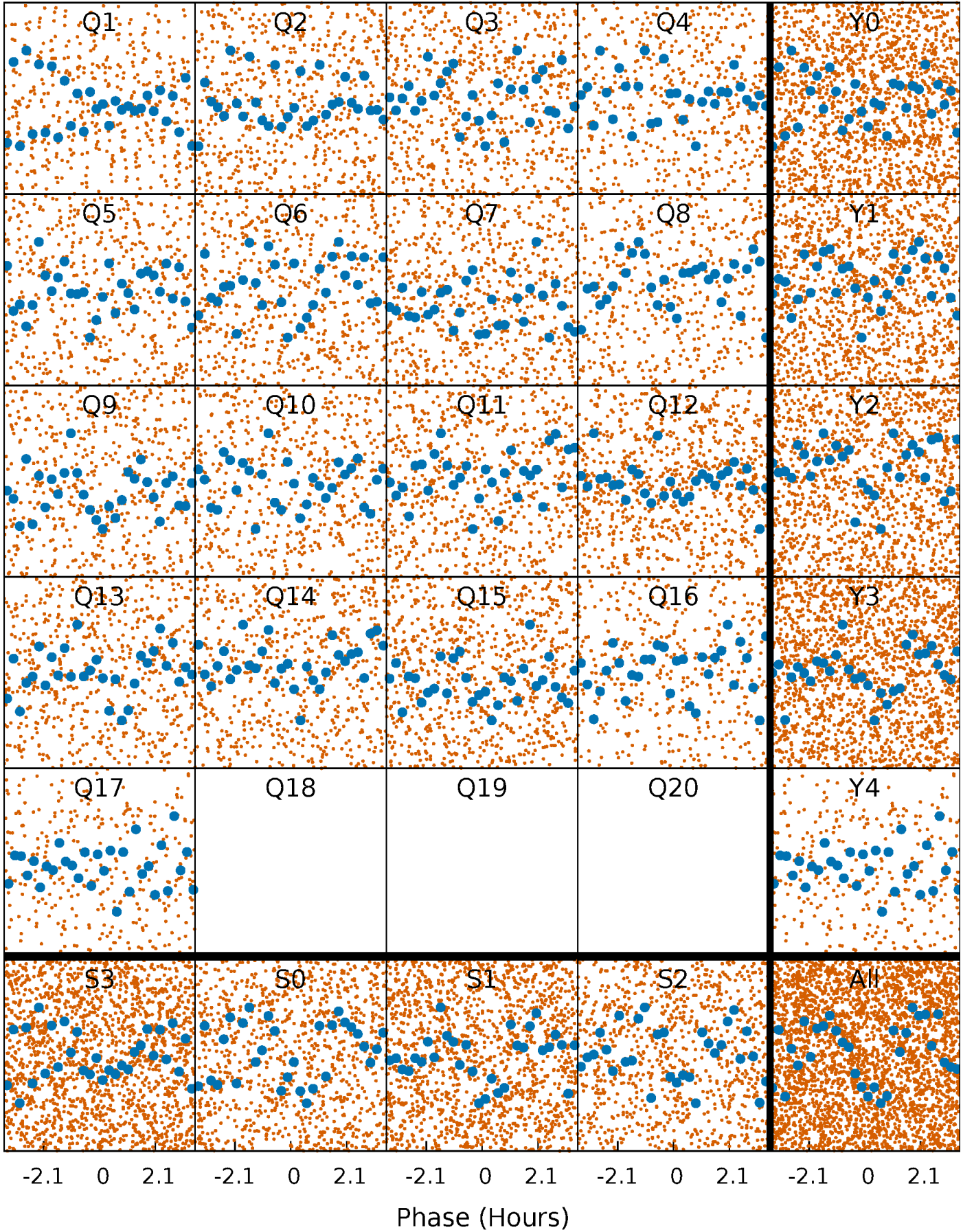


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



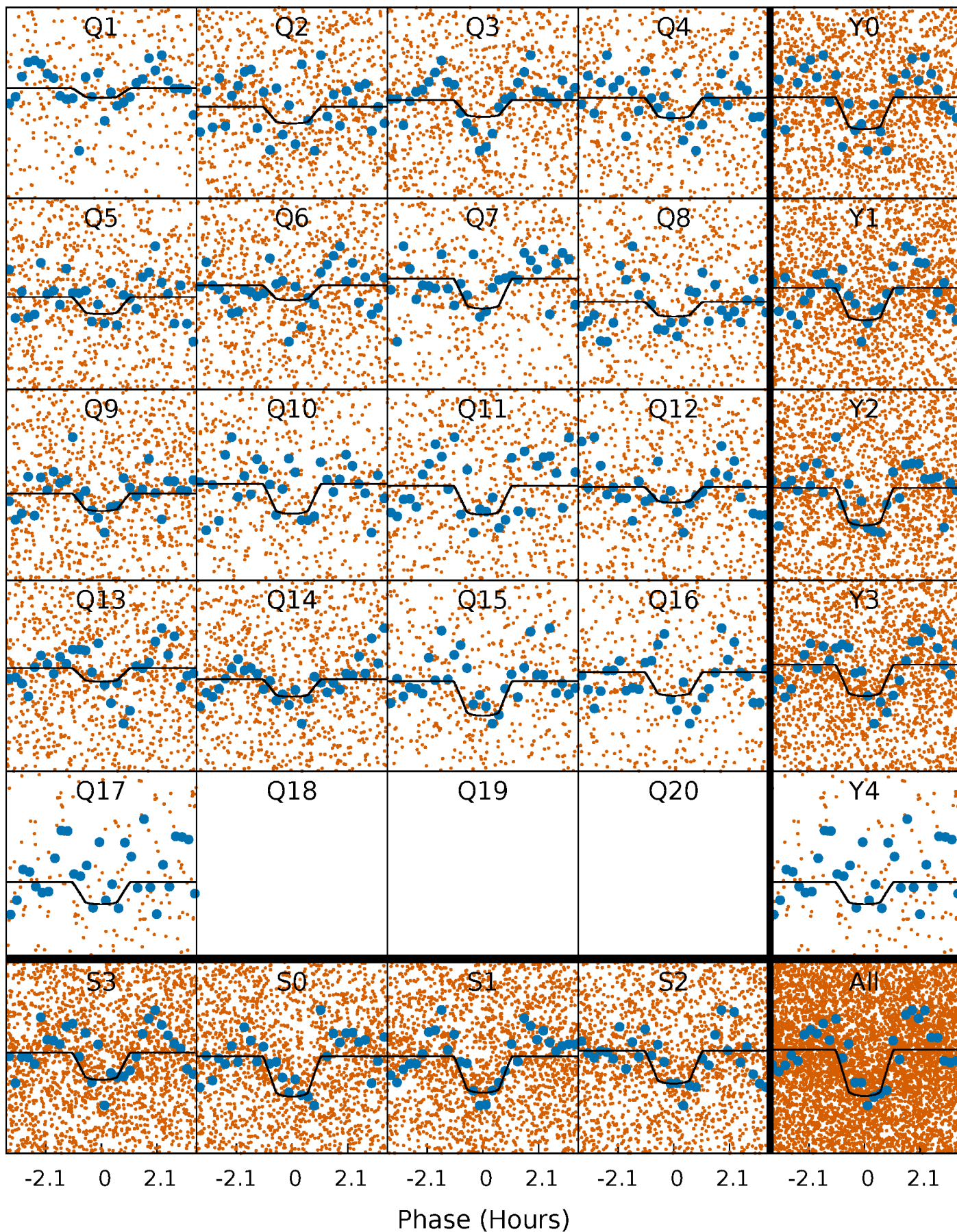
PDC Quarter-Phased Transit Curves

TCE 002158208-01 P= 0.879156 Days $T_0=131.938810$ (BKJD)



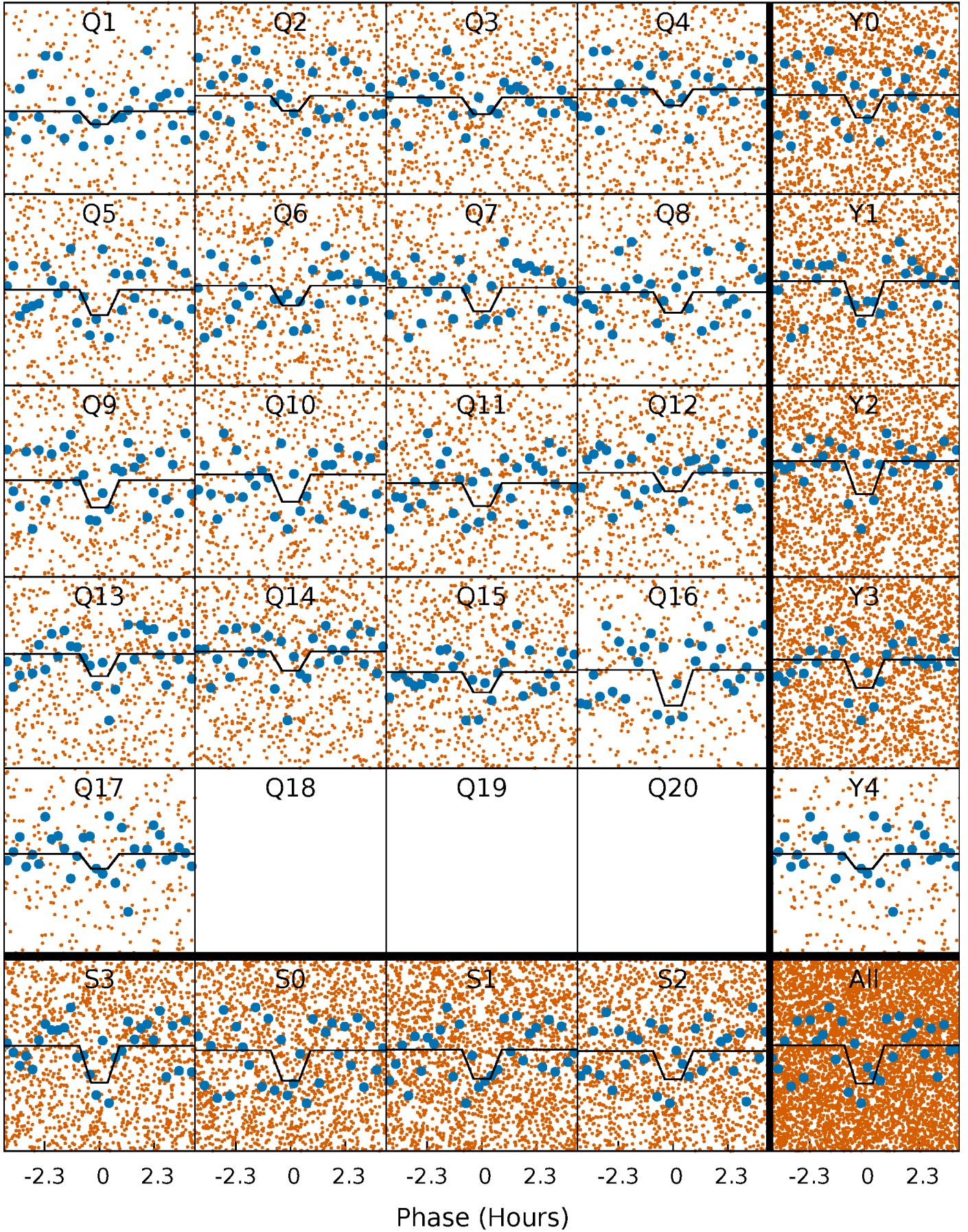
DV Quarter-Phased Transit Curves

TCE 002158208-01 P= 0.879156 Days $T_0=131.938810$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

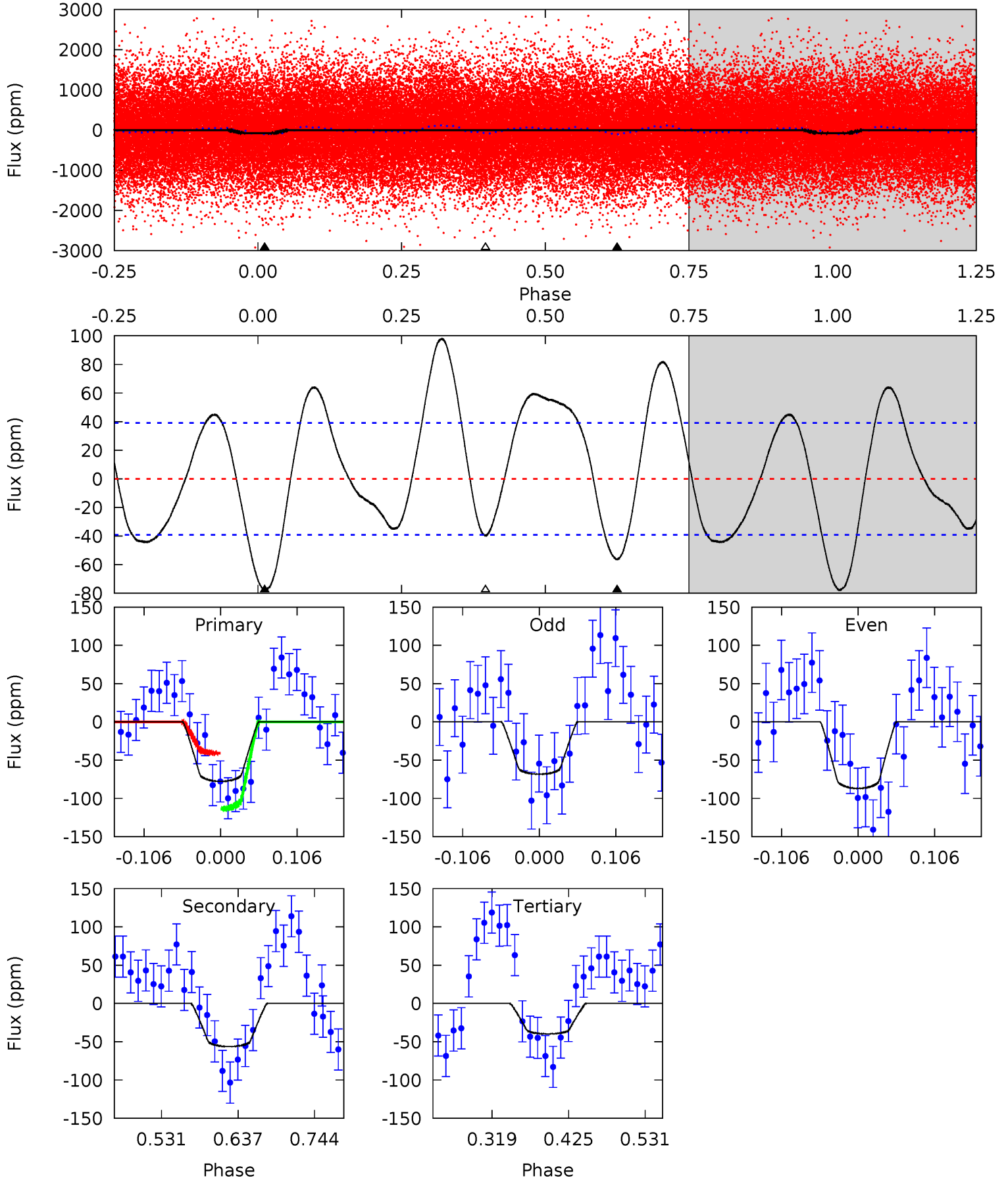
TCE 002158208-01 P= 0.879173 Days $T_0=131.935464$ (BKJD)



DV Model-Shift Uniqueness Test

002158208-01, P = 0.879156 Days, E = 131.059654 Days

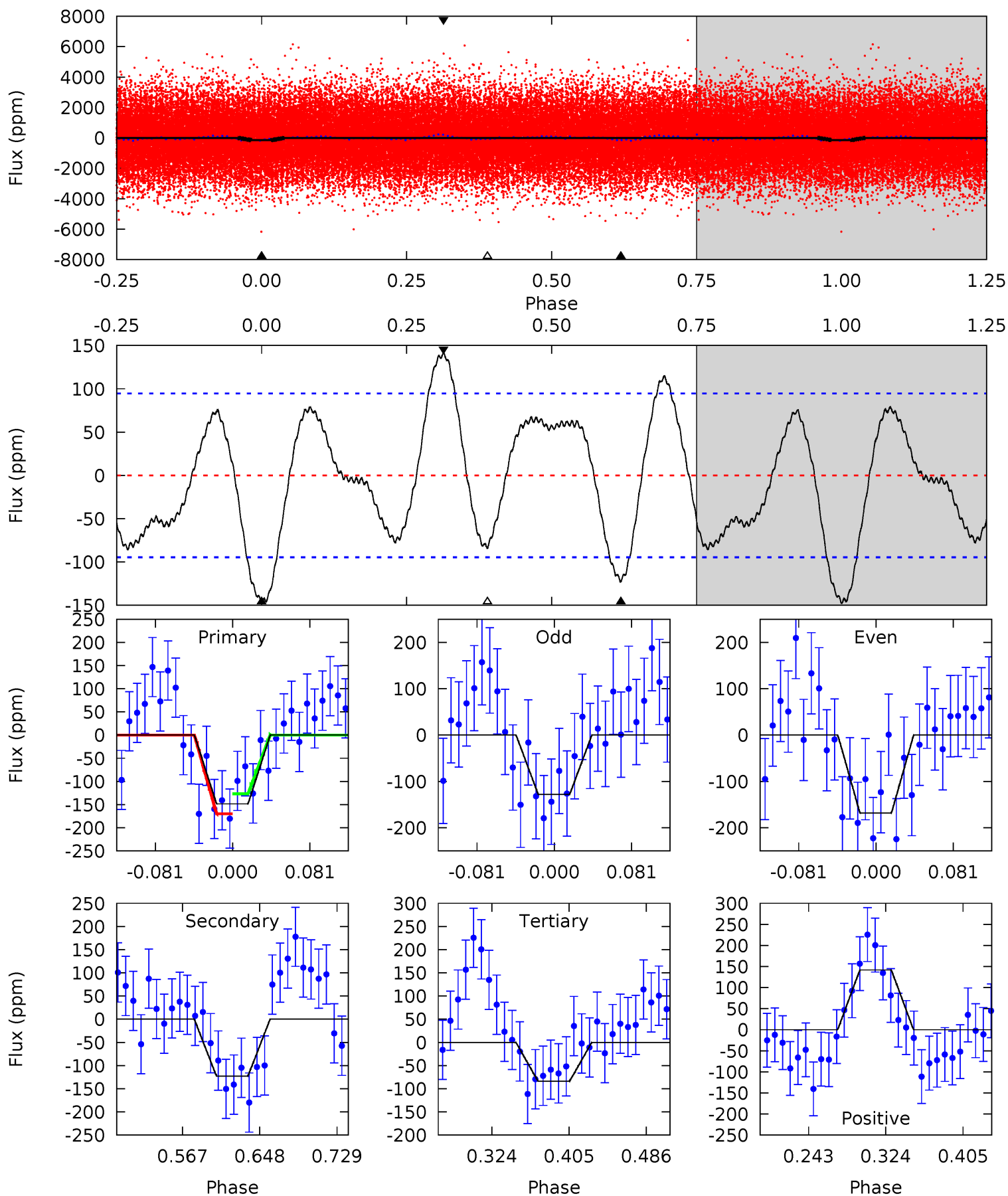
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.05	6.55	4.62	0	4.55	1.62	4.61	4.43	9.05	1.93	6.55	1.08	0.92	0.56	4.25



Alt Model-Shift Uniqueness Test

002158208-01, P = 0.879173 Days, E = 131.056291 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.23	5.99	4.10	6.91	4.61	1.74	2.95	3.14	0.32	1.90	-0.92	0.98	1.28	0.49	1.05



Stellar Parameters For KIC 002158208

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	9883^{+313}_{-431}	$4.142^{+0.204}_{-0.136}$	$-0.500^{+0.550}_{-0.500}$	$1.973^{+0.449}_{-0.549}$	$1.970^{+0.326}_{-0.398}$	$0.361^{+0.415}_{-0.143}$
	+3%/-4%	+5%/-3%	+110%/-100%	+23%/-28%	+17%/-20%	+115%/-40%
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 002158208-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-56 ± 9	$2.19^{+1.01}_{-0.91}$	5660^{+359}_{-439}	7689^{+3471}_{-1518}	$3.402^{+6.804}_{-1.891}$
Alt.	-123 ± 21	$2.68^{+1.13}_{-0.94}$	5638^{+410}_{-445}	8594^{+3470}_{-1611}	$4.658^{+6.742}_{-2.322}$

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

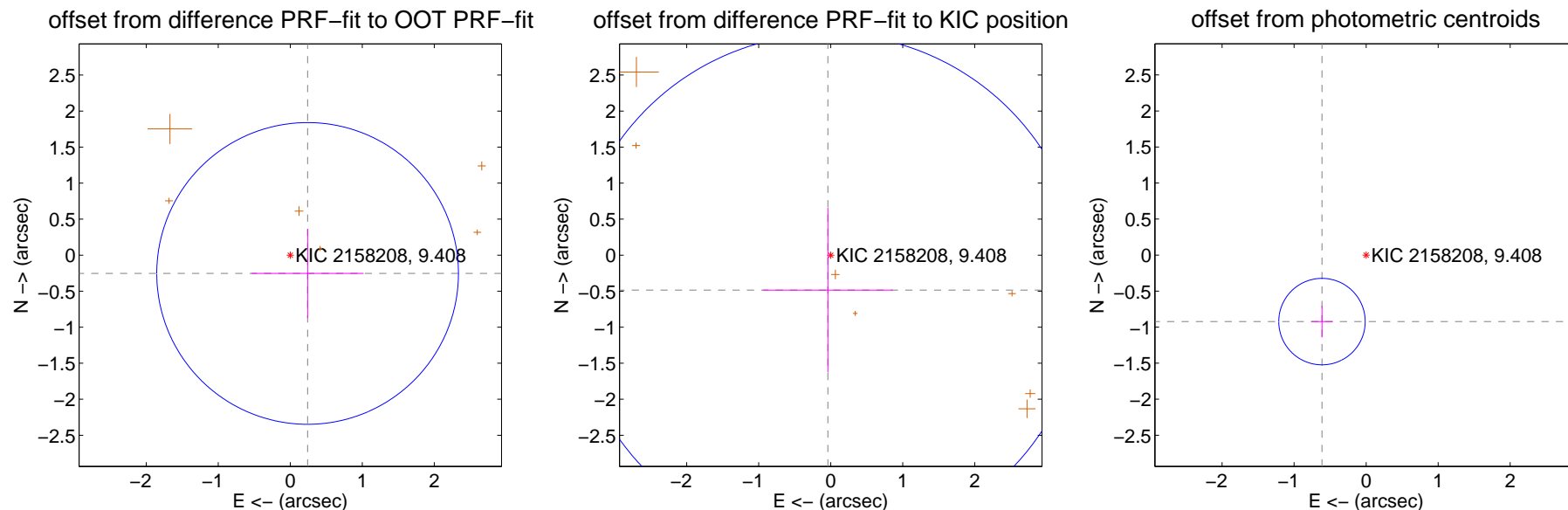
DV Centroid Data

Supplemental centroid analysis for 002158208-01. **Kepler magnitude: 9.41.** Transit SNR 9.31

There are 0 quarters with good PRF difference image offsets

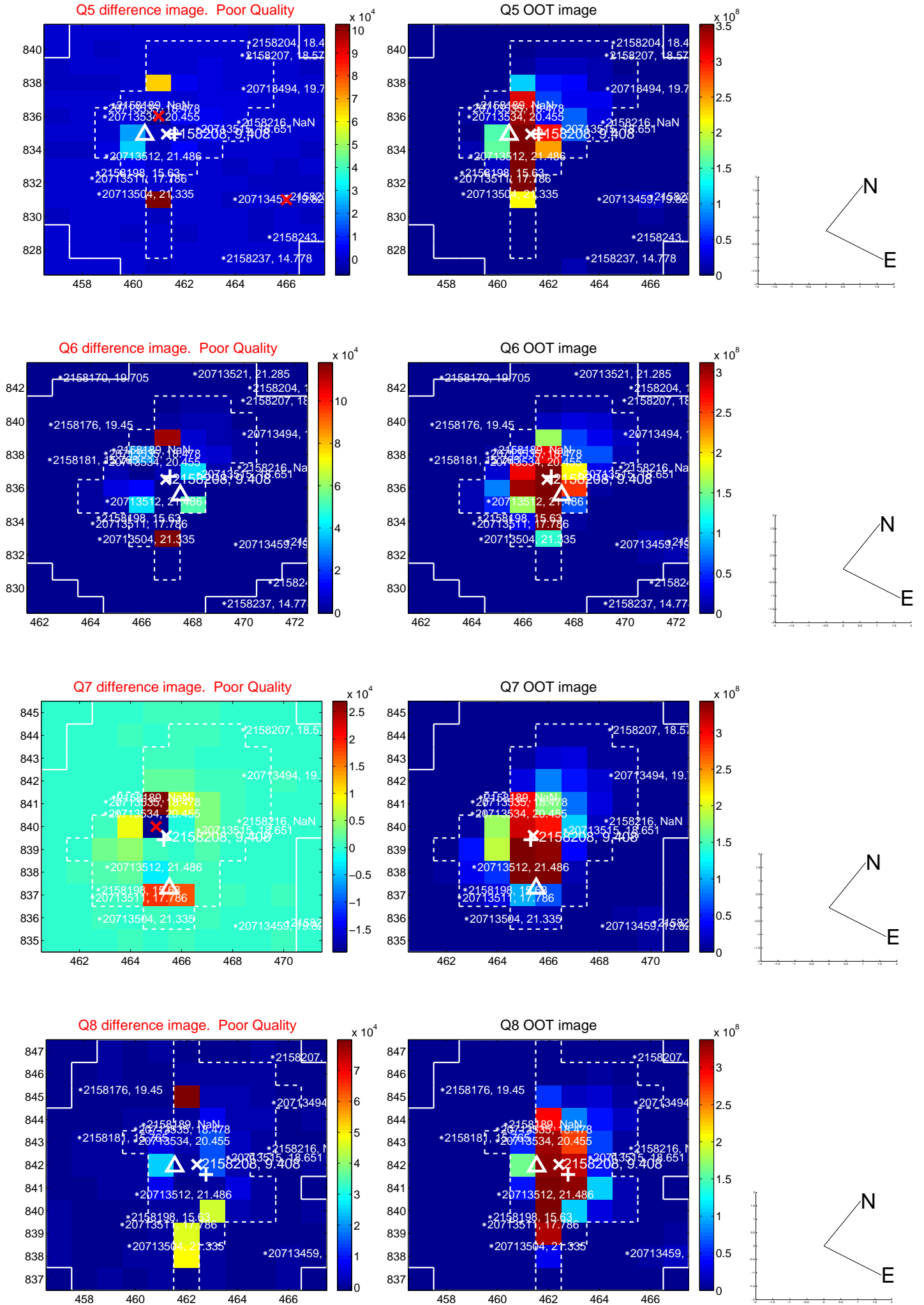
The direct PRF centroid is offset from the target star catalog position by about 1.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.350 ± 0.698	0.50	-0.241 ± 0.778	-0.254 ± 0.618
PRF-fit source offset from KIC position	0.487 ± 1.186	0.41	0.039 ± 0.902	-0.486 ± 1.144
photometric centroid source offset	1.11 ± 0.20	5.54	0.61 ± 0.15	-0.92 ± 0.22

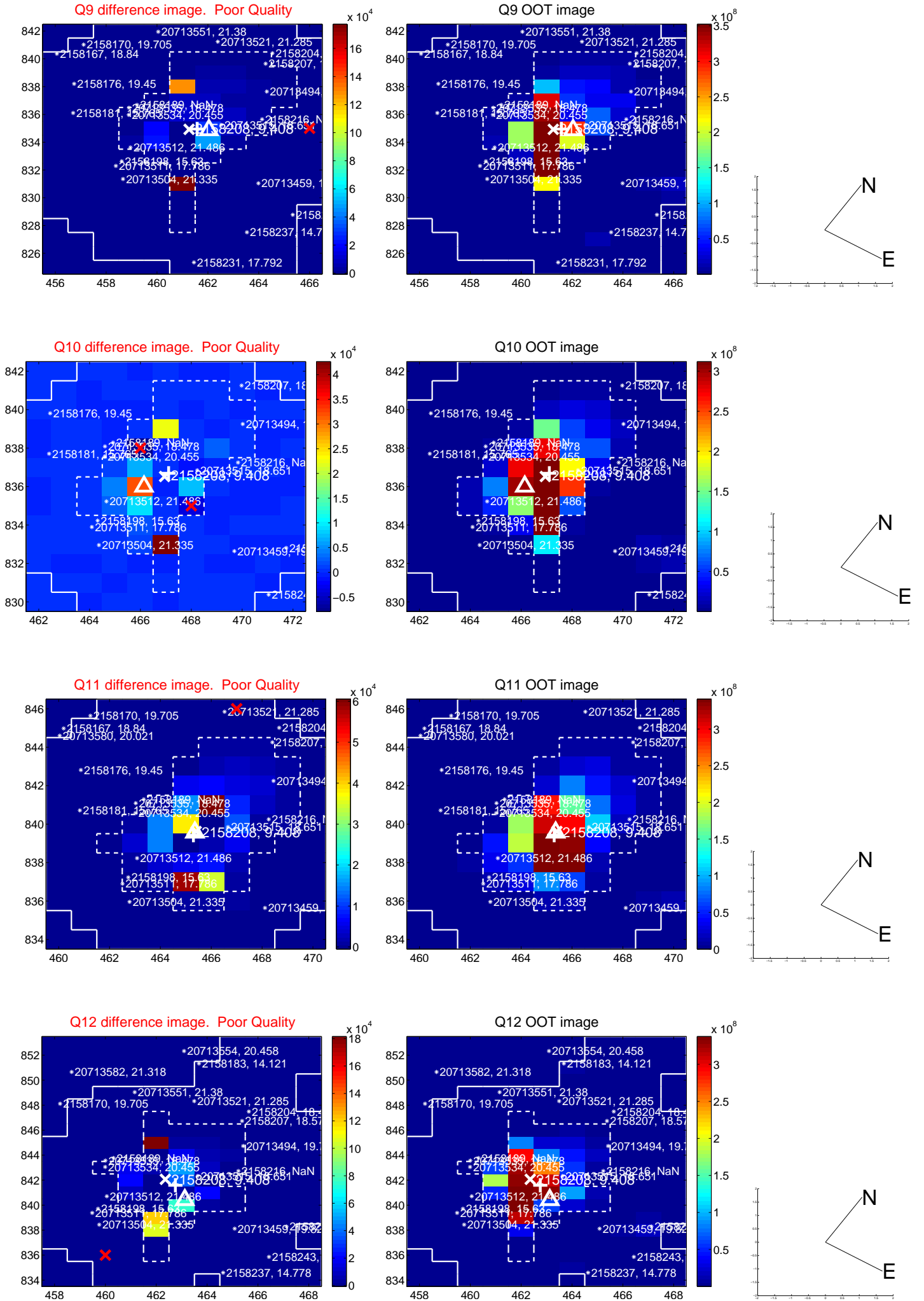


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

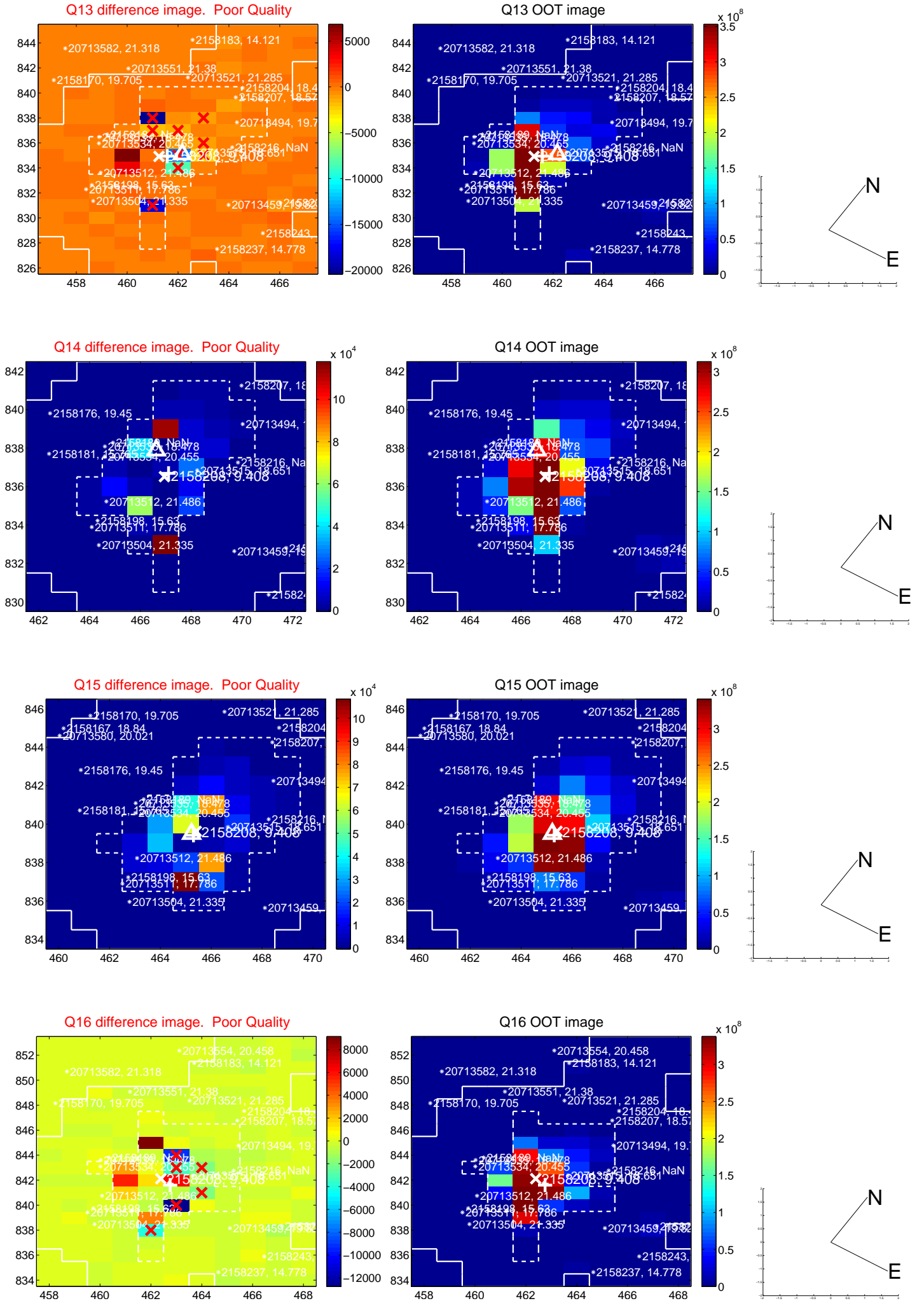
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



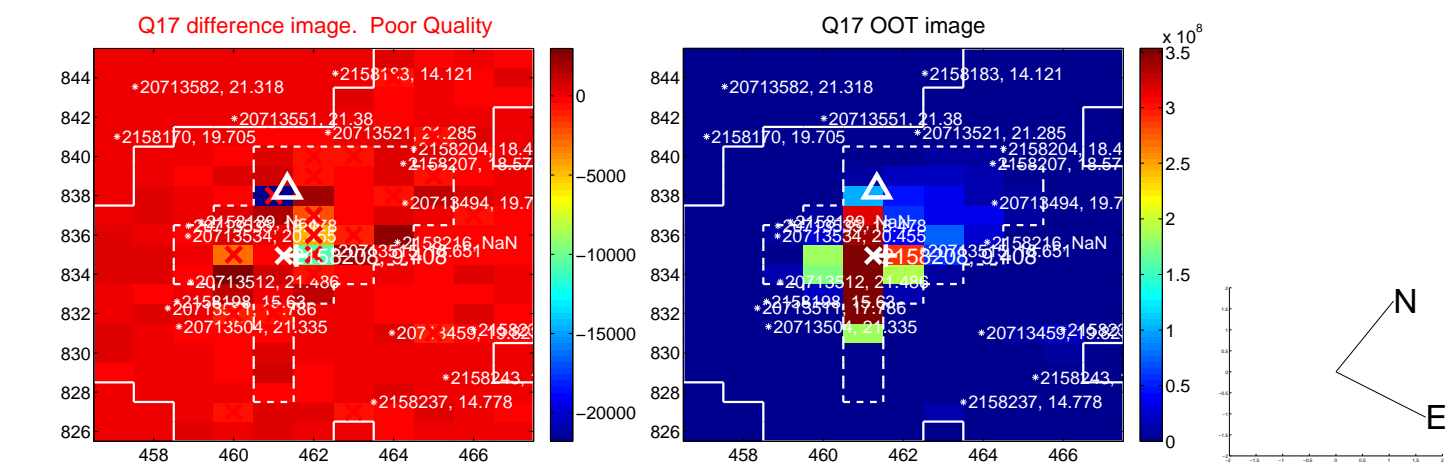
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



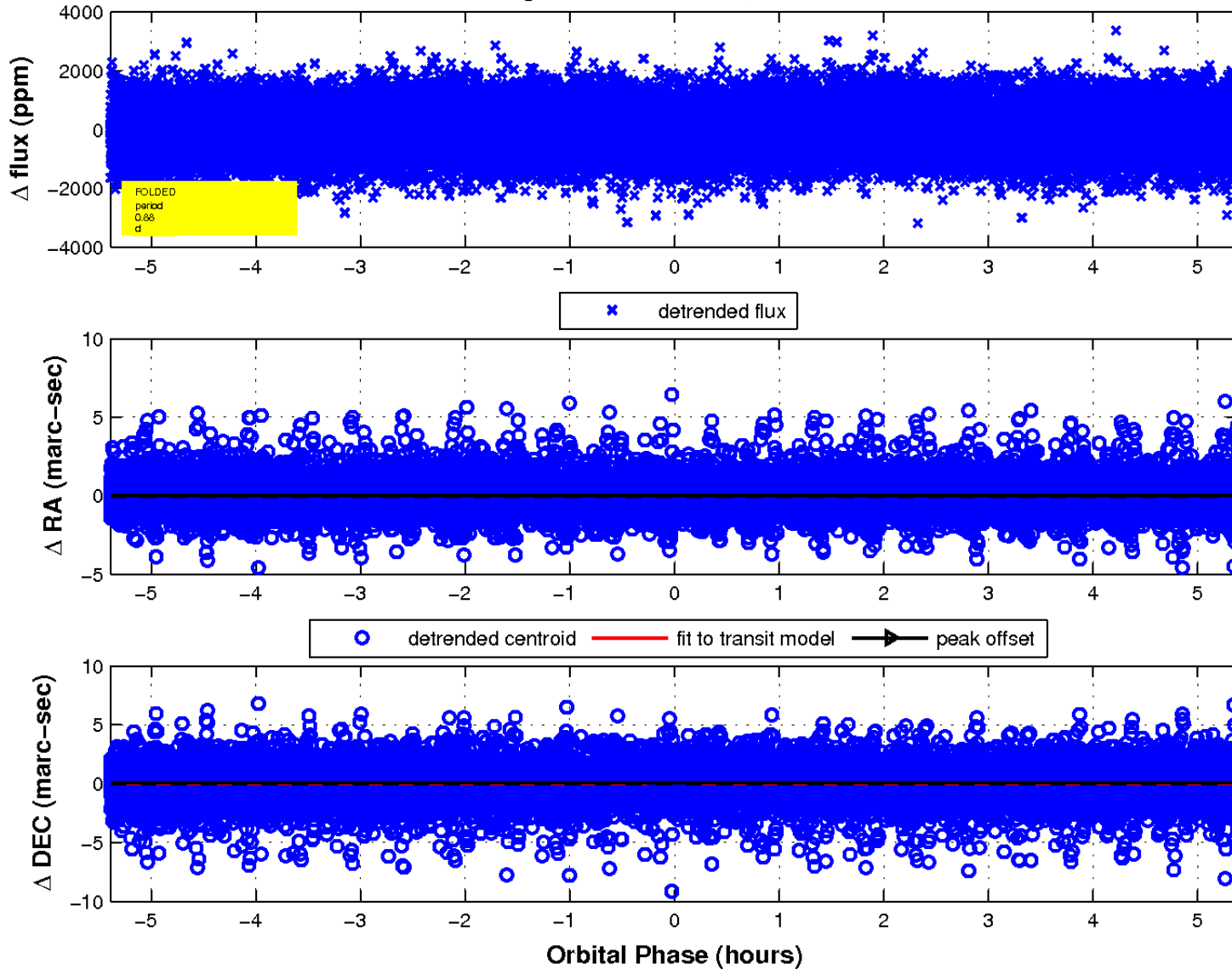
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

