

KIC 004919809

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})
004919809-01	OBS	No	3.940430	132.124628	40.0	15.367	7.6	8.1	0.94	5977	0.69	476.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004919809-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

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

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

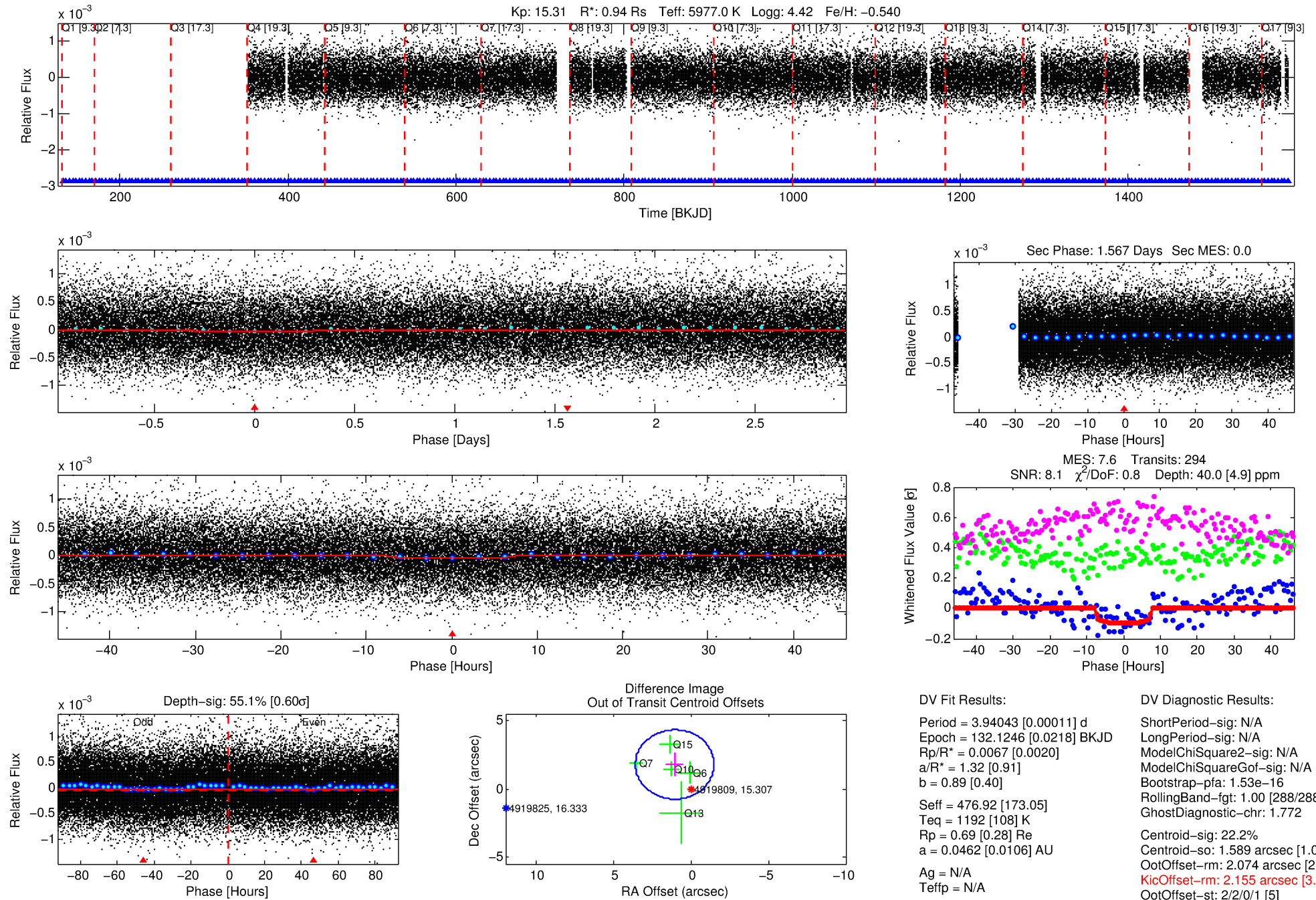
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004919809-01

No Significant Match Found

DV One-Page Summary

KIC: 4919809 Candidate: 1 of 1 Period: 3.940 d



DV Fit Results:

Period = 3.94043 [0.00011] d
Epoch = 132.1246 [0.0218] BKJD
Rp/R* = 0.0067 [0.0020]
a/R* = 1.32 [0.91]
b = 0.89 [0.40]
Seff = 476.92 [173.05]
Teff = 1192 [108] K
Rp = 0.69 [0.28] Re
a = 0.0462 [0.0106] AU
Ag = N/A
Teffp = N/A

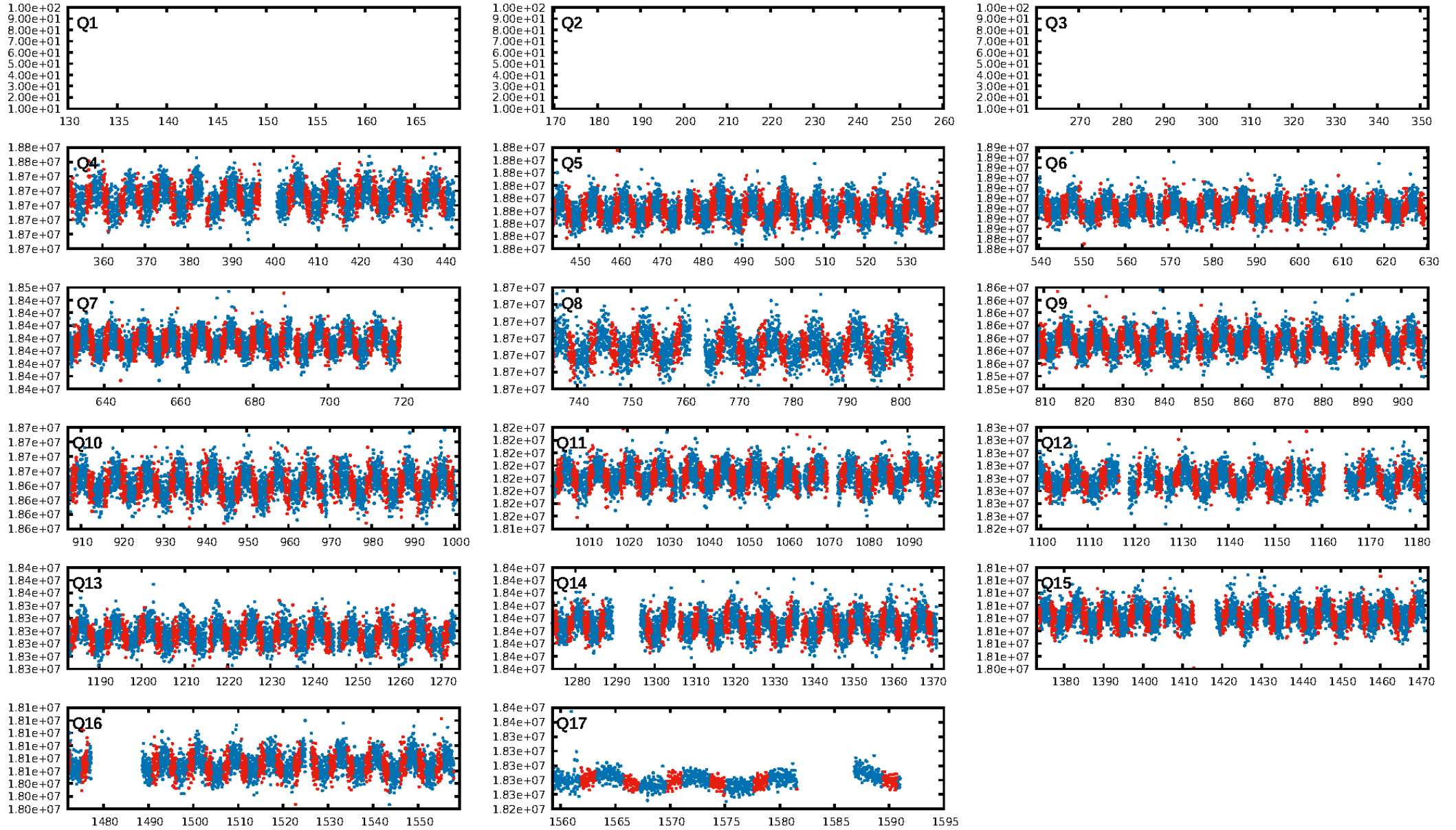
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.53e-16
RollingBand-fgt: 1.00 [288/288]
GhostDiagnostic-chr: 1.772
Centroid-sig: 22.2%
Centroid-so: 1.589 arcsec [1.05 σ]
OotOffset-rm: 2.074 arcsec [2.45 σ]
KicOffset-rm: 2.155 arcsec [3.09 σ]
OotOffset-st: 2/2/0/1 [5]
KicOffset-st: 2/2/0/1 [5]
DiffImageQuality-fgm: 0.60 [3/5]
DiffImageOverlap-fno: 1.00 [14/14]

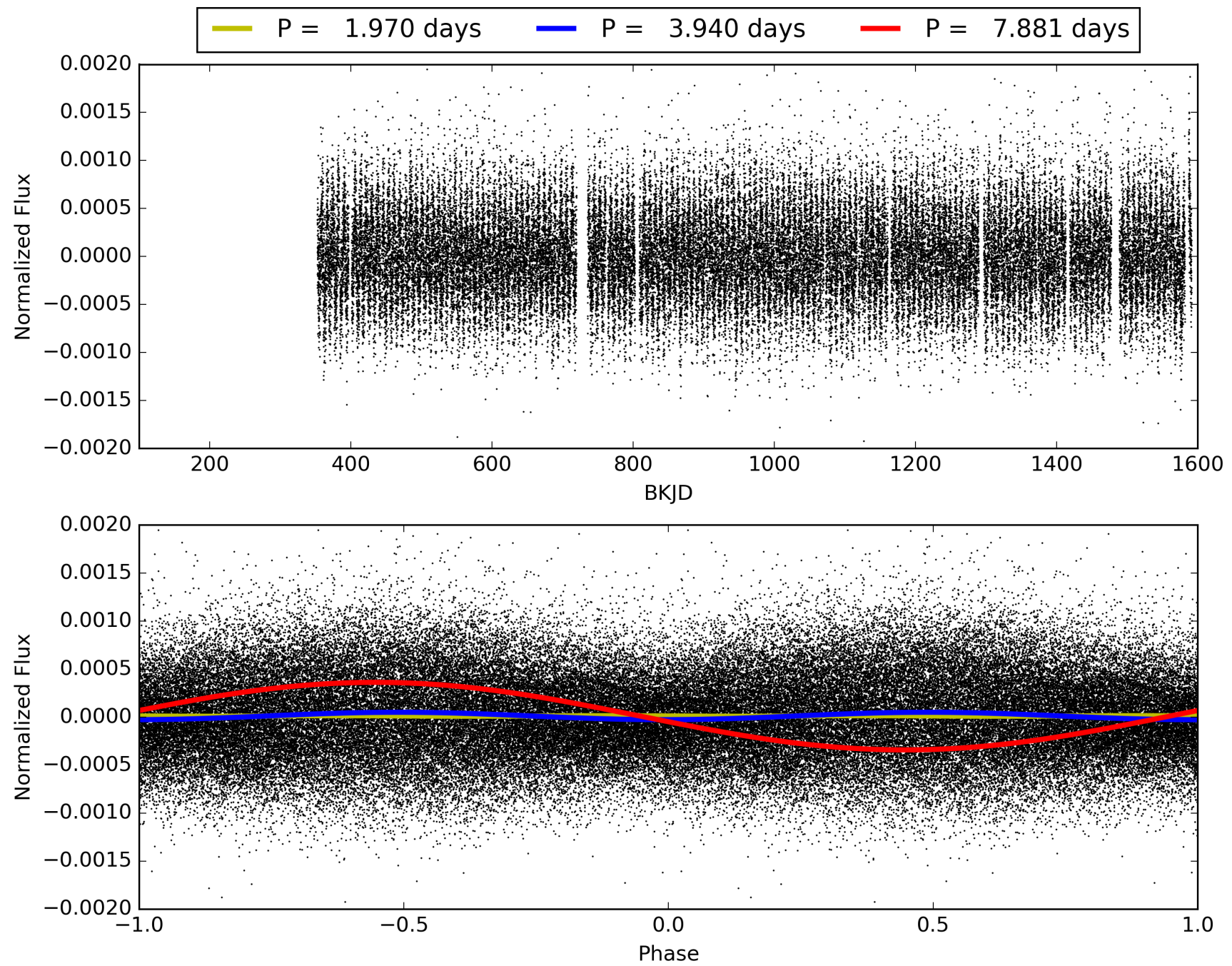
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:19:56 Z

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

TCE 004919809-01, PDC Light Curves

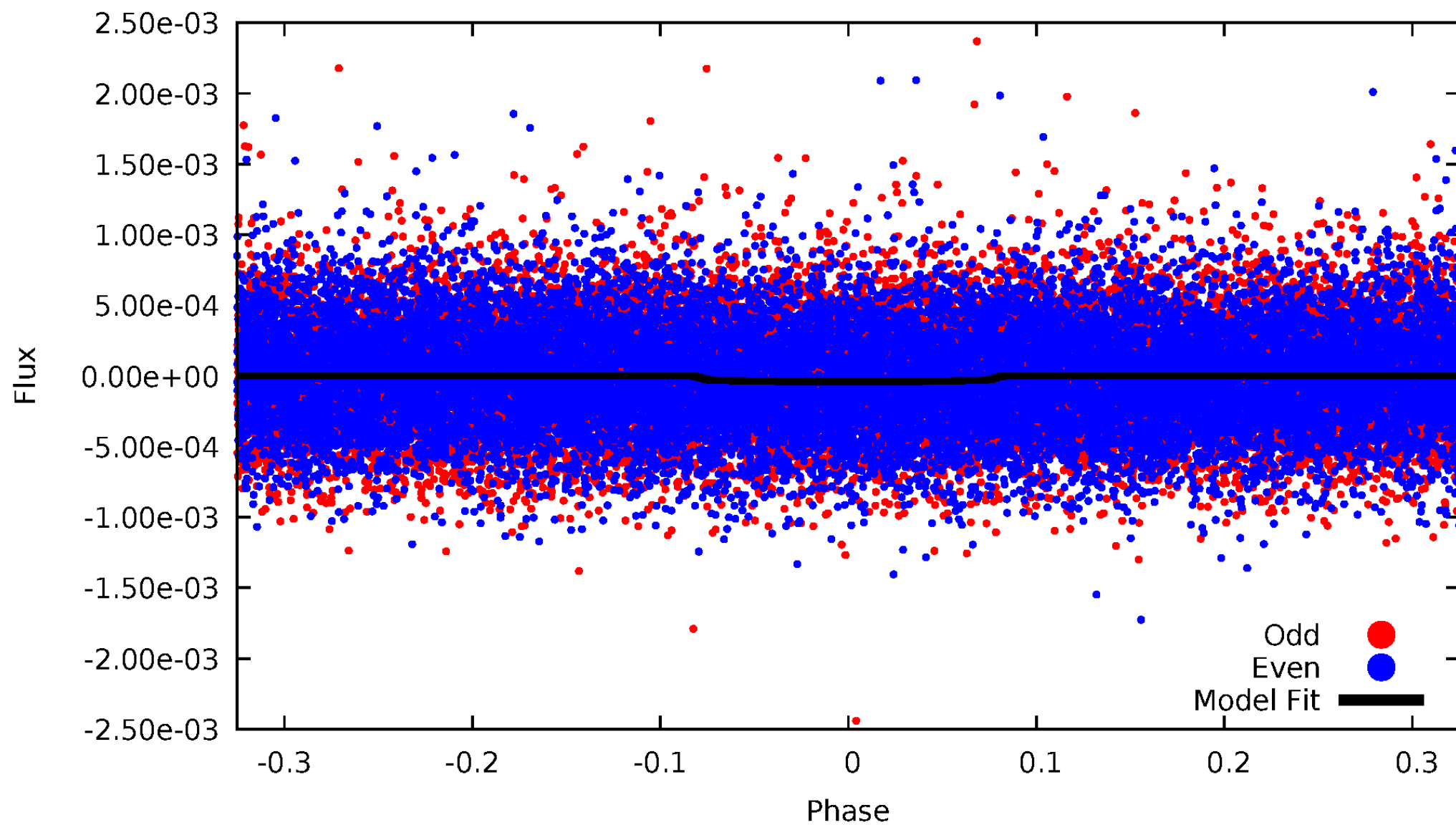


TCE 004919809-01



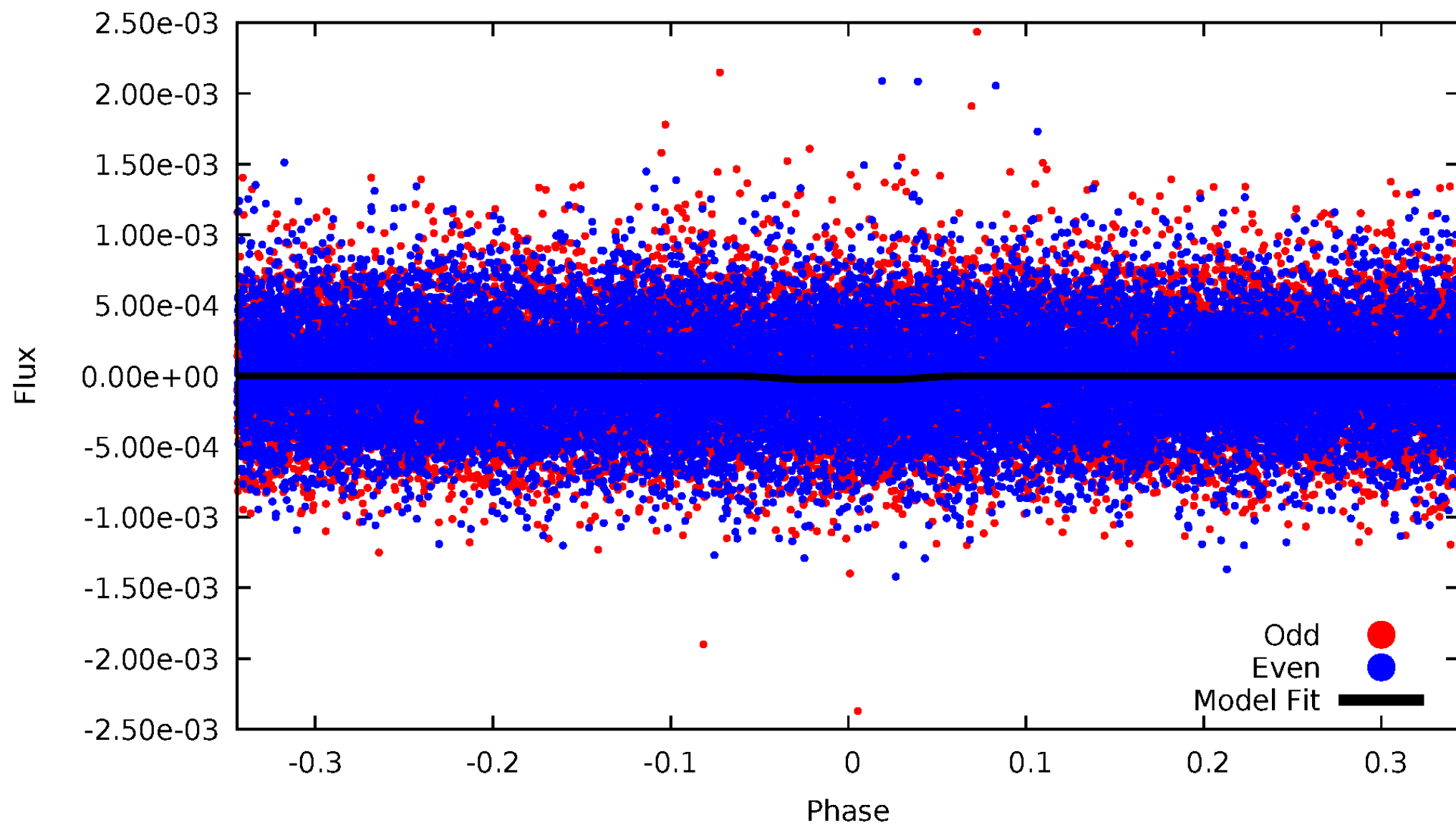
DV Odd/Even

TCE 004919809-01



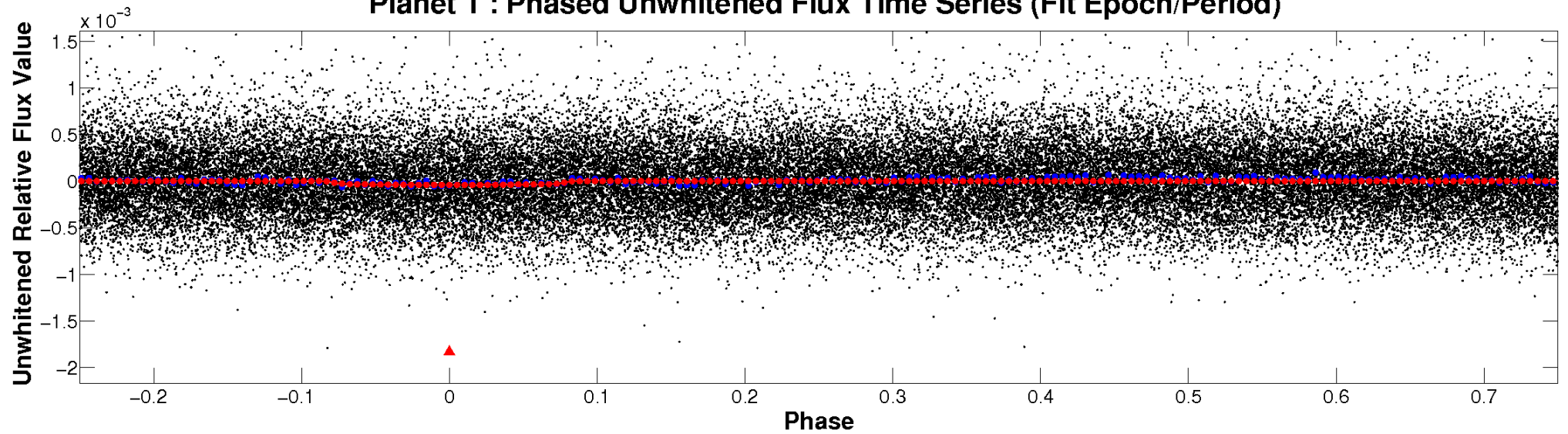
ALT Odd/Even

TCE 004919809-01

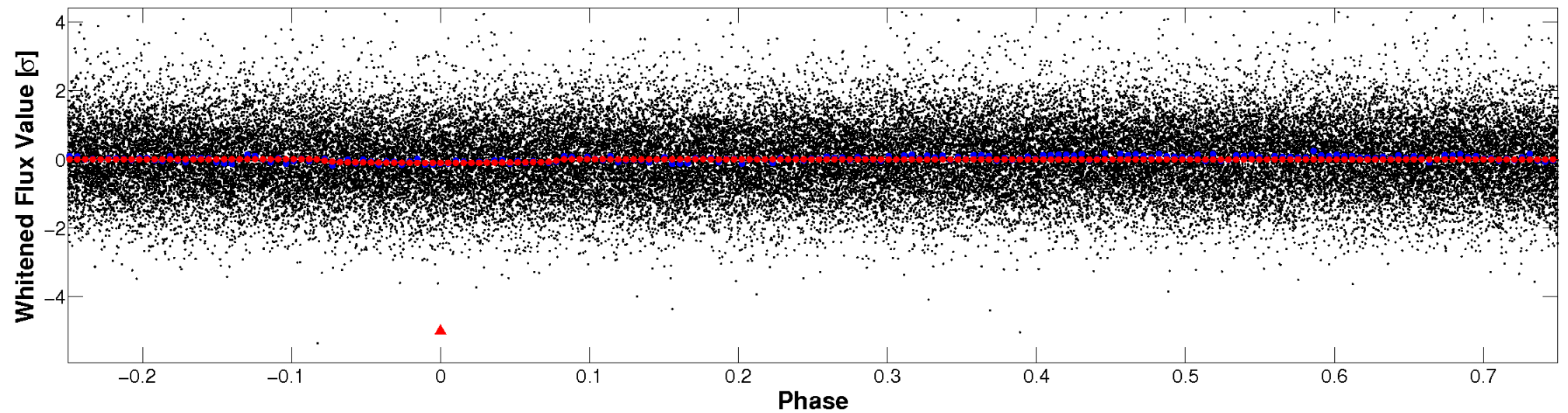


Non-Whitened Vs. Whitened Light Curve

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

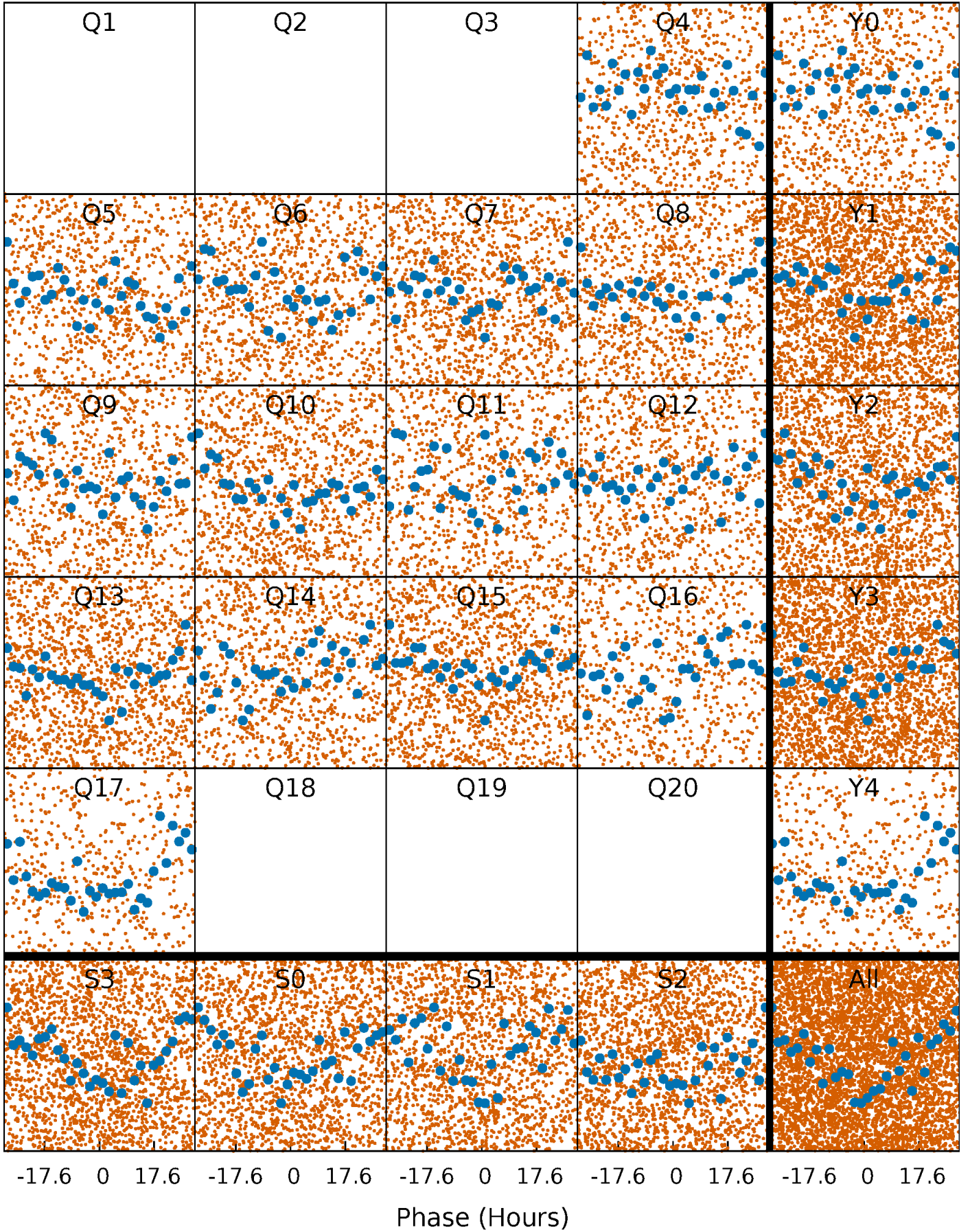


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



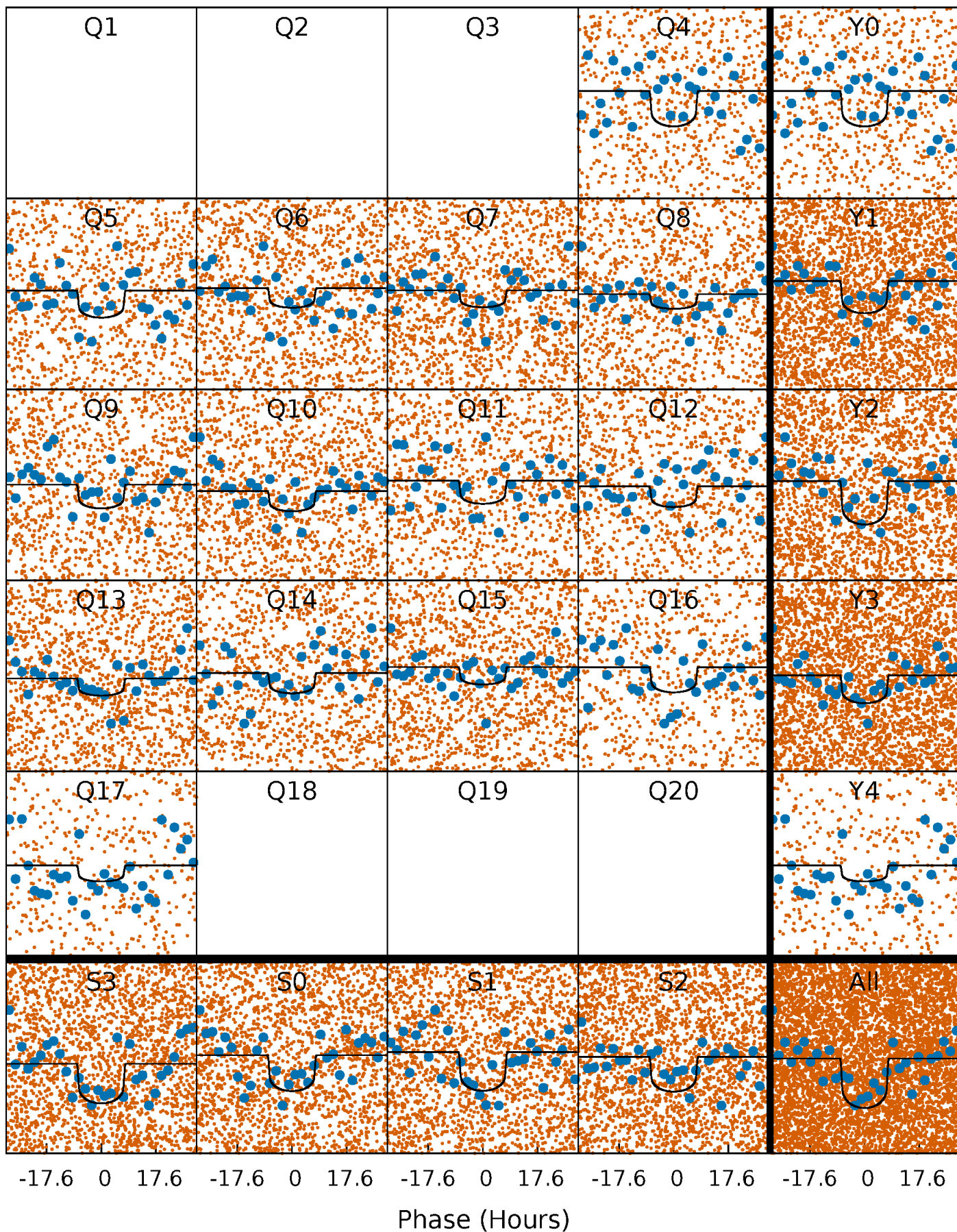
PDC Quarter-Phased Transit Curves

TCE 004919809-01 P= 3.940430 Days $T_0=132.124628$ (BKJD)



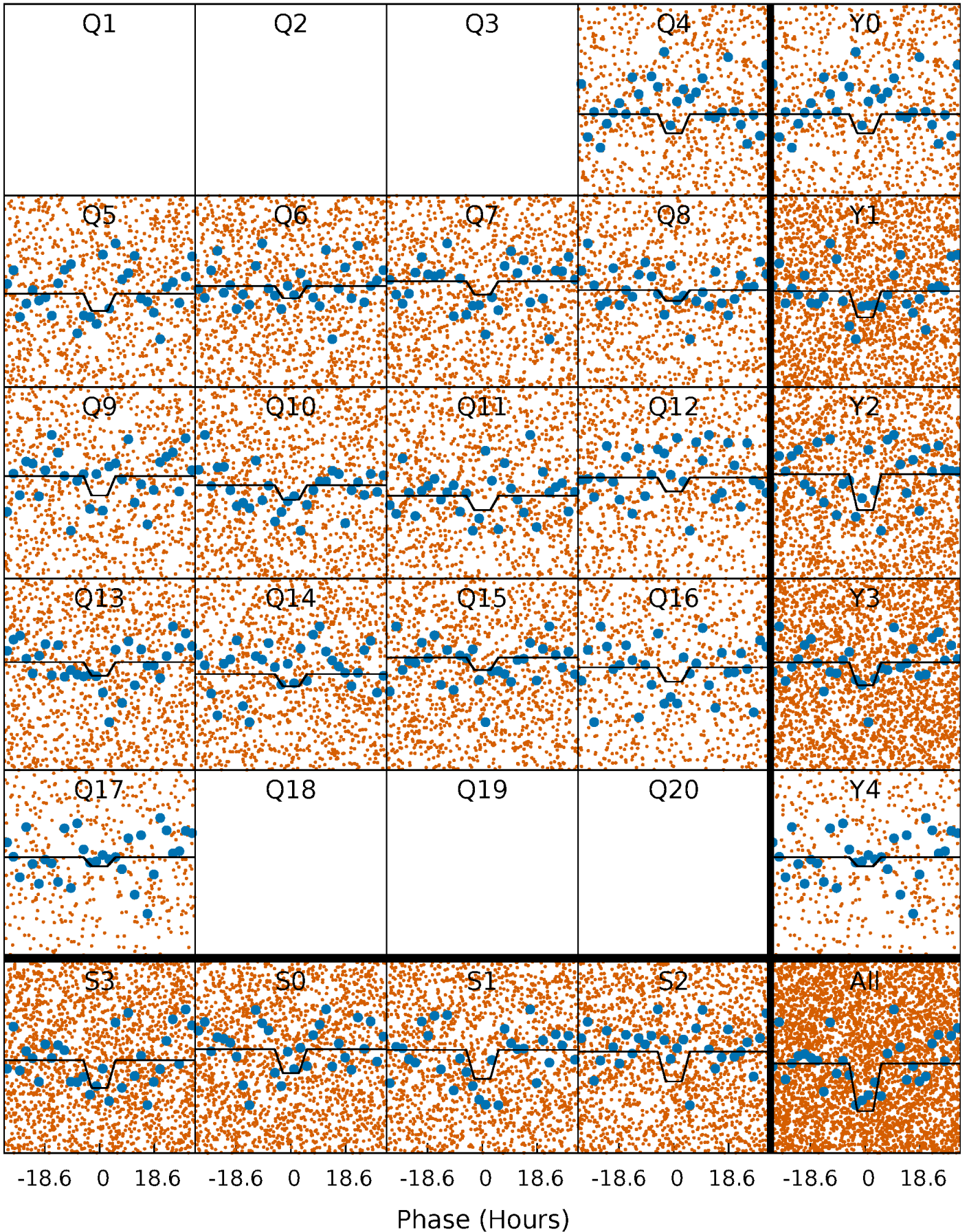
DV Quarter-Phased Transit Curves

TCE 004919809-01 P= 3.940430 Days $T_0=132.124628$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

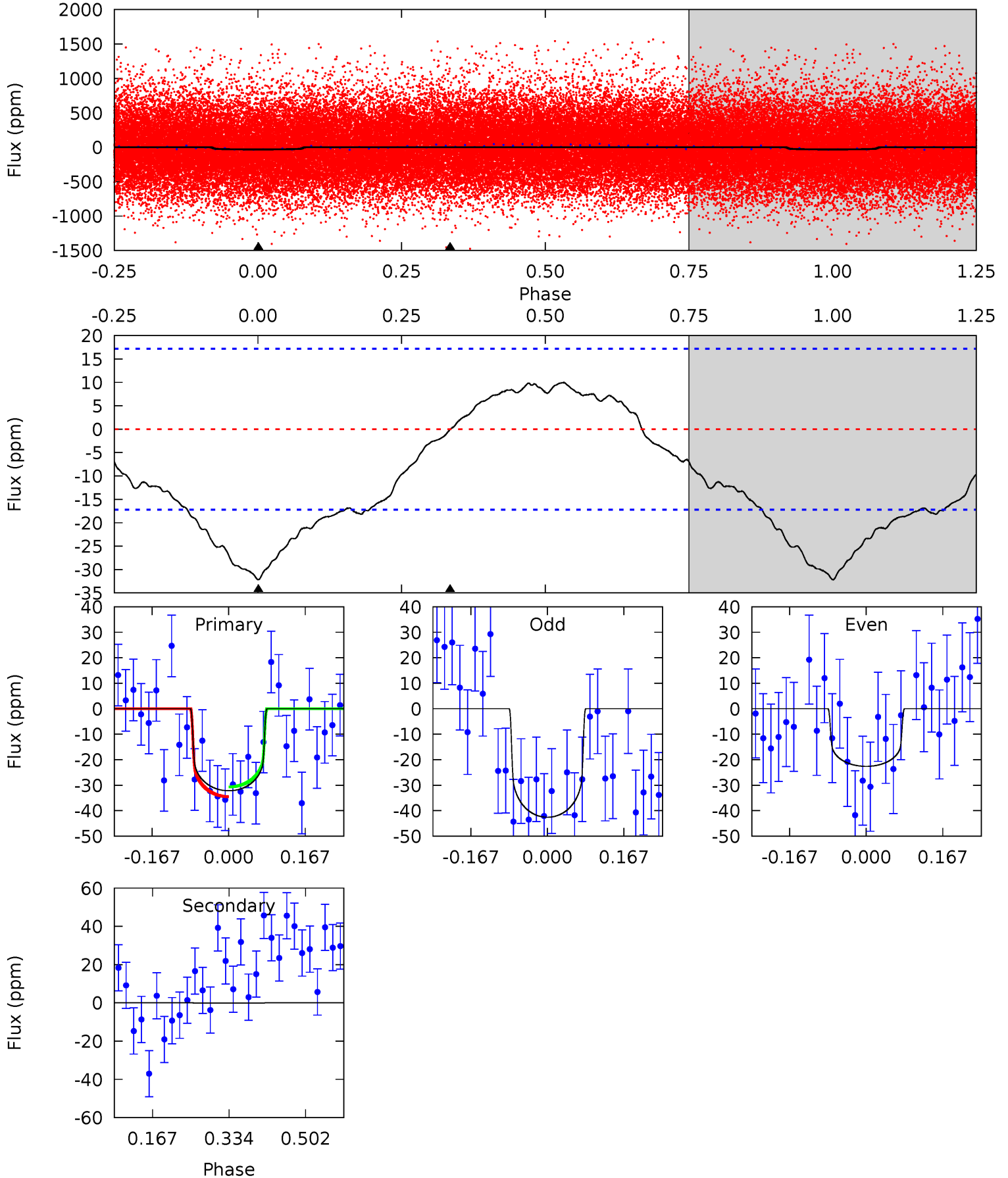
TCE 004919809-01 P= 3.940477 Days $T_0=132.104582$ (BKJD)



DV Model-Shift Uniqueness Test

004919809-01, P = 3.940430 Days, E = 132.124628 Days

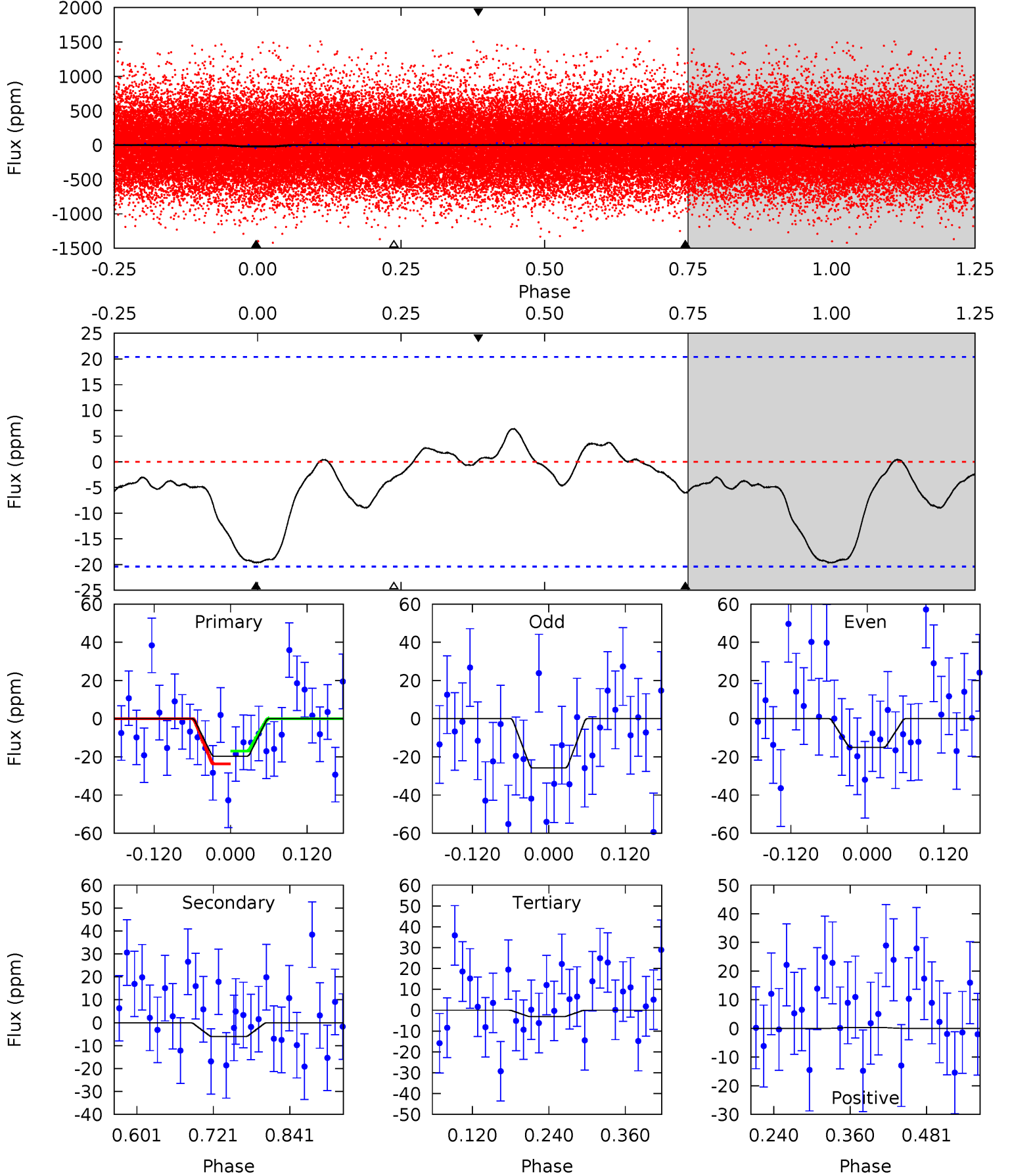
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.33	0.02	0	0	4.46	1.38	2.05	8.33	8.33	0.02	0.02	2.60	0.89	0.24	0.50



Alt Model-Shift Uniqueness Test

004919809-01, P = 3.940477 Days, E = 132.104582 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.36	1.34	0.68	0.07	4.53	1.55	0.83	3.67	4.29	0.66	1.28	1.19	0.63	0.25	0.75



Stellar Parameters For KIC 004919809

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5977^{+197}_{-197}	$4.416^{+0.124}_{-0.186}$	$-0.540^{+0.300}_{-0.300}$	$0.943^{+0.256}_{-0.158}$	$0.845^{+0.108}_{-0.072}$	$1.420^{+0.890}_{-0.670}$
	+3%/-3%	+3%/-4%	+56%/-56%	+27%/-17%	+13%/-9%	+63%/-47%
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 004919809-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-0 ± 4	$0.70^{+0.24}_{-0.20}$	1676^{+127}_{-97}	1679^{+2015}_{-5431}	$0.325^{+10.414}_{-10.434}$
Alt.	-6 ± 5	$0.50^{+0.23}_{-0.19}$	1676^{+111}_{-89}	4436^{+1219}_{-927}	26^{+64}_{-19}

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

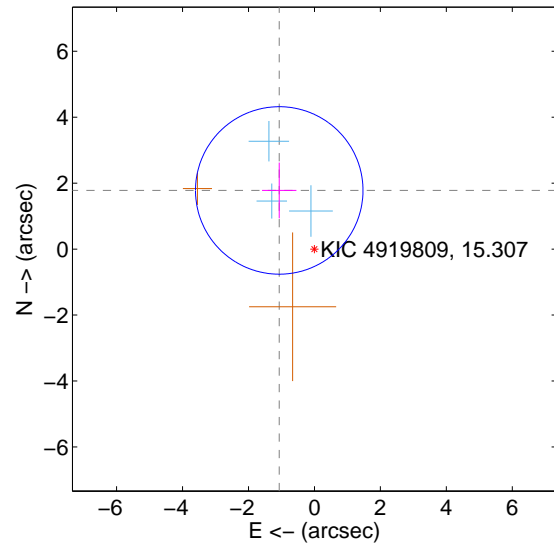
Supplemental centroid analysis for 004919809-01. Kepler magnitude: 15.31. Transit SNR 8.09

There are 3 quarters with good PRF difference image offsets

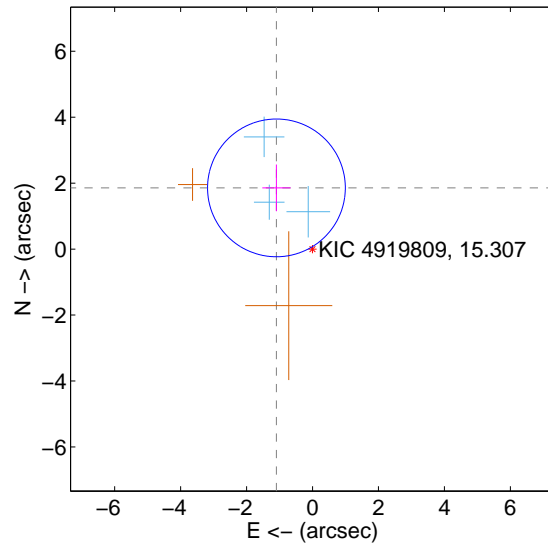
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.074 ± 0.847	2.45	1.067 ± 0.520	1.779 ± 0.846
PRF-fit source offset from KIC position	2.155 ± 0.696	3.09	1.094 ± 0.428	1.856 ± 0.708
photometric centroid source offset	1.59 ± 1.51	1.05	1.03 ± 1.54	1.21 ± 1.48

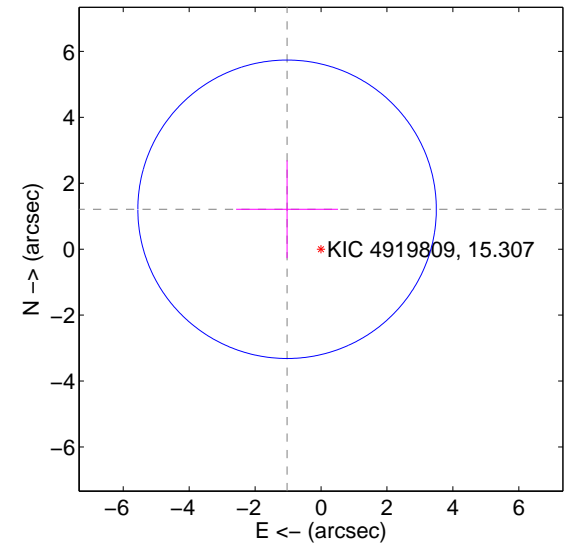
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

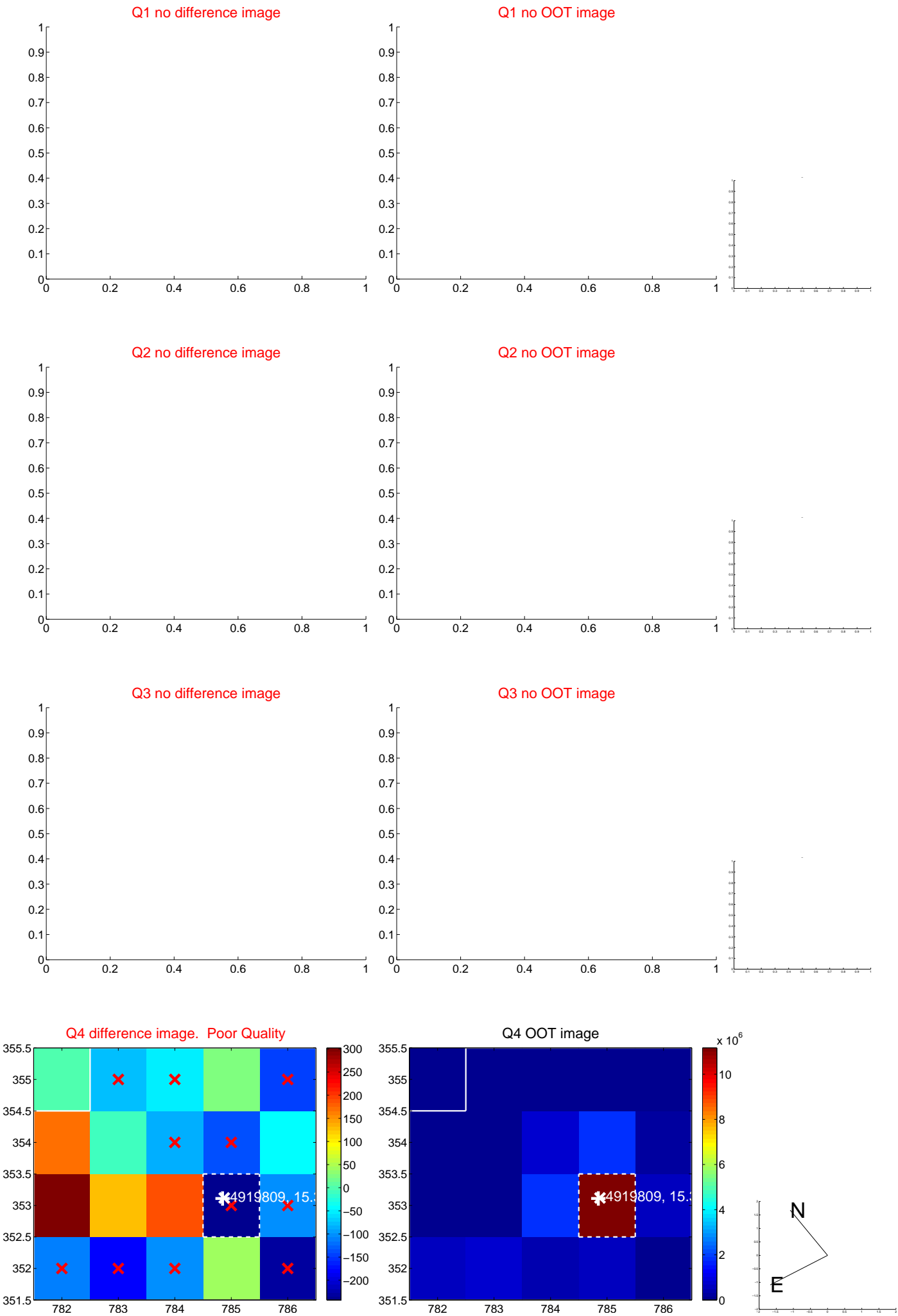


offset from photometric centroids

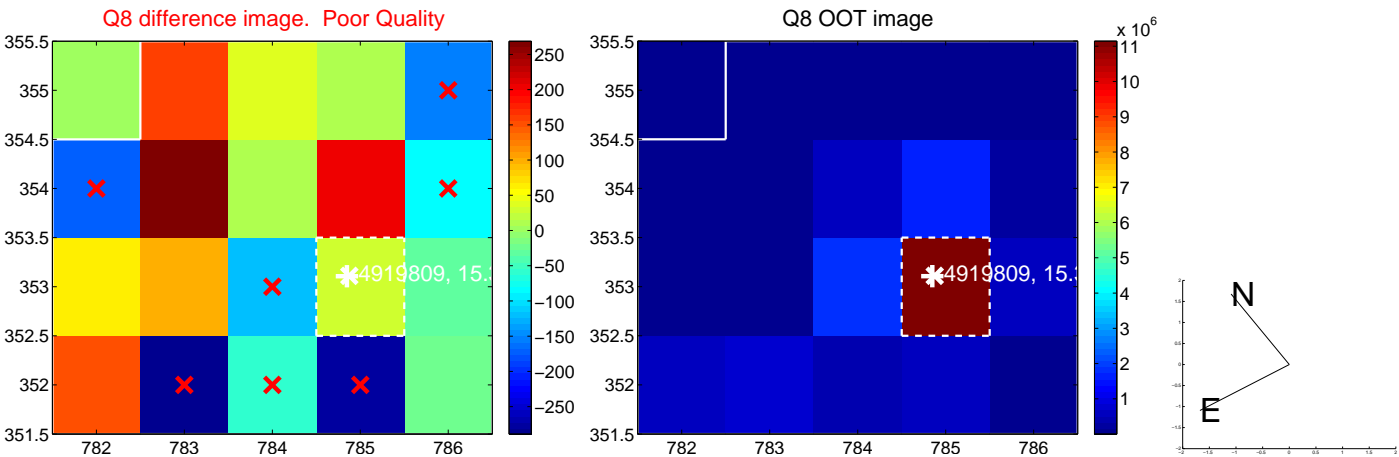
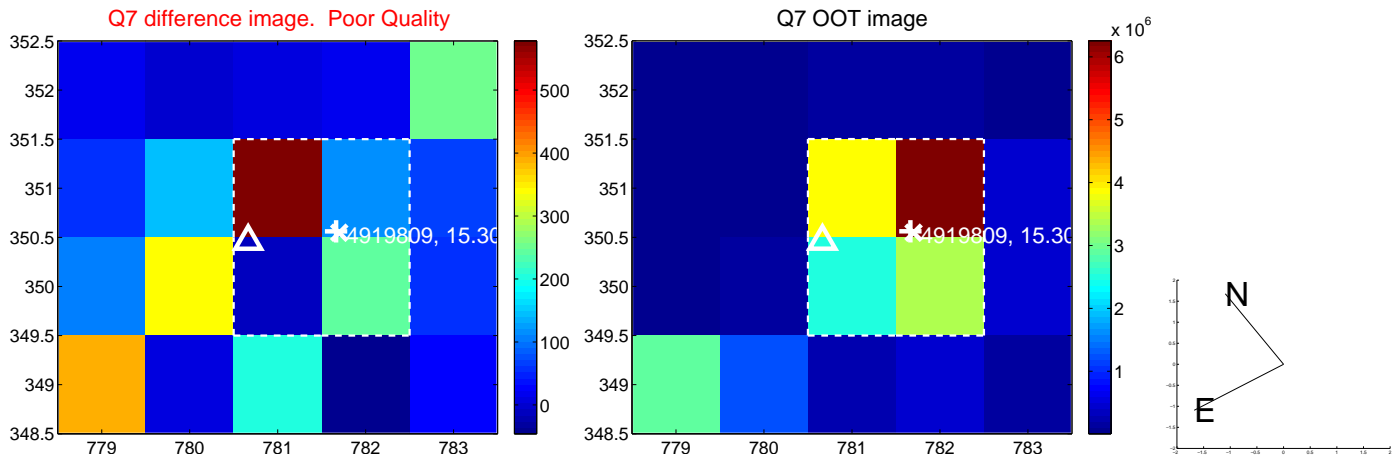
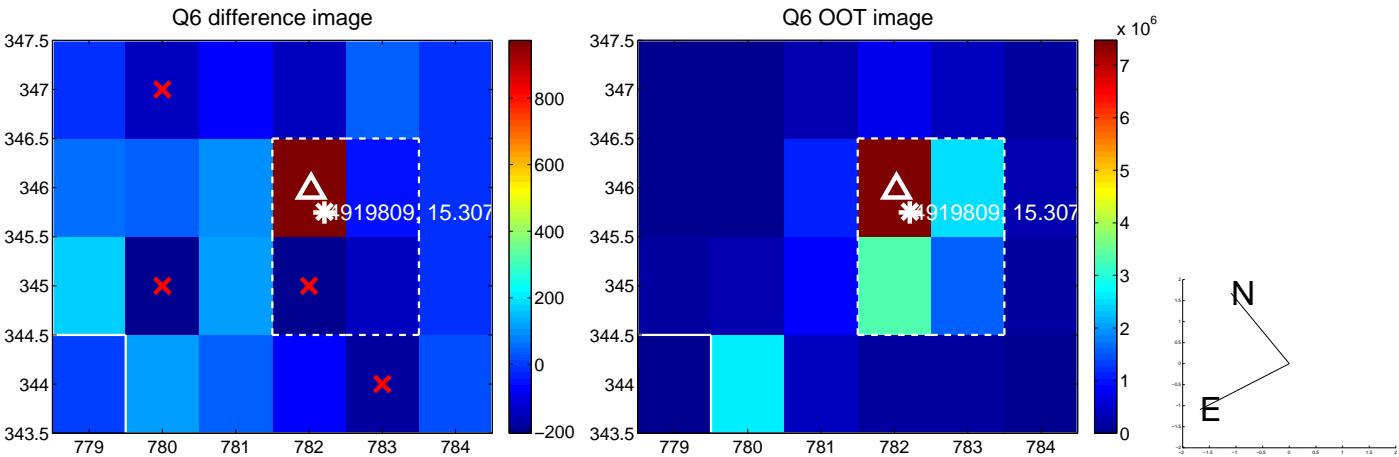
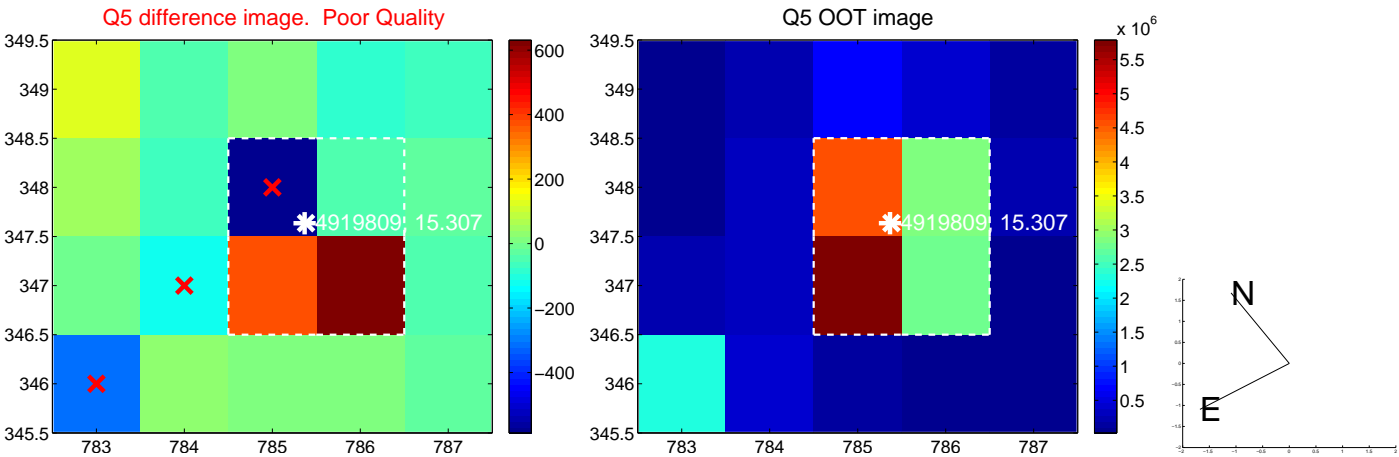


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

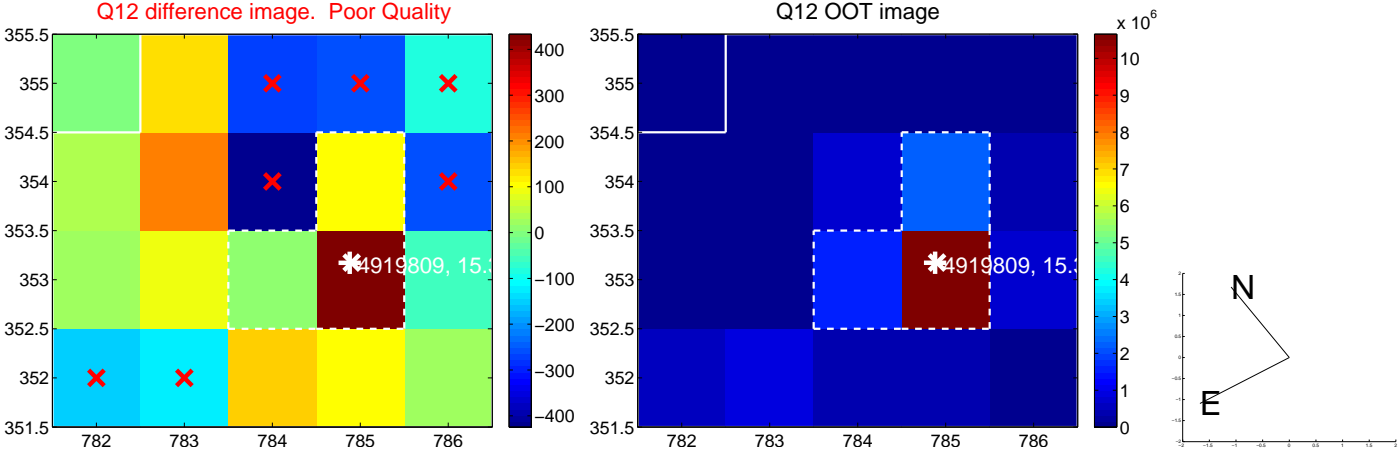
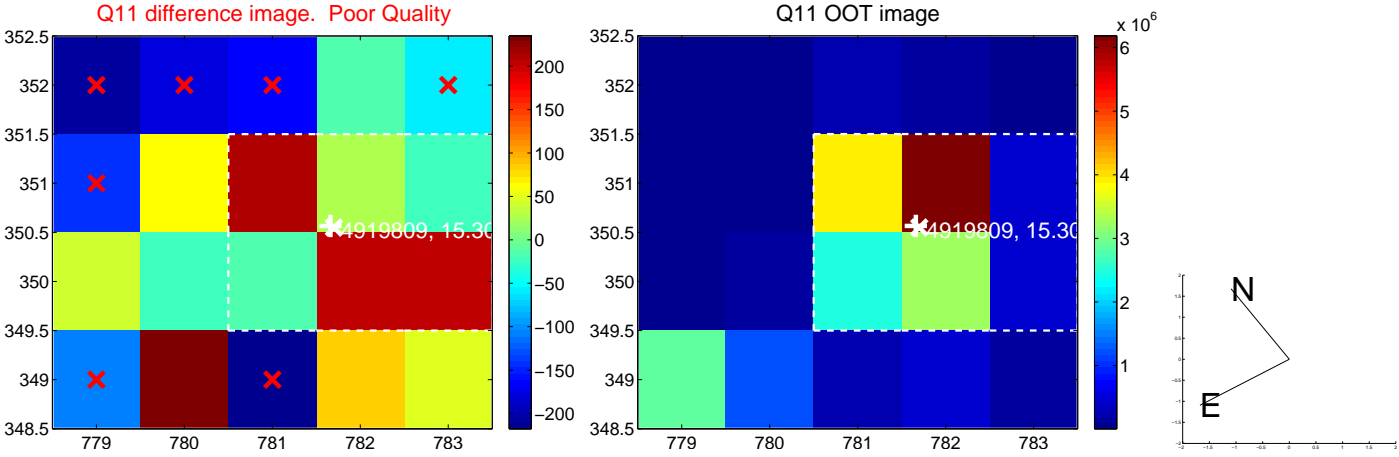
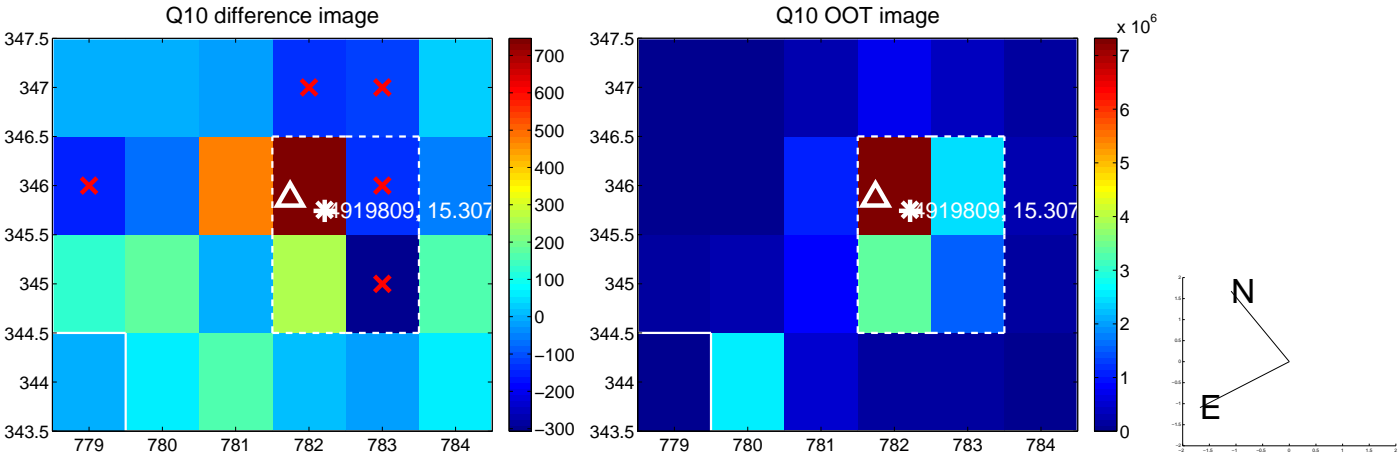
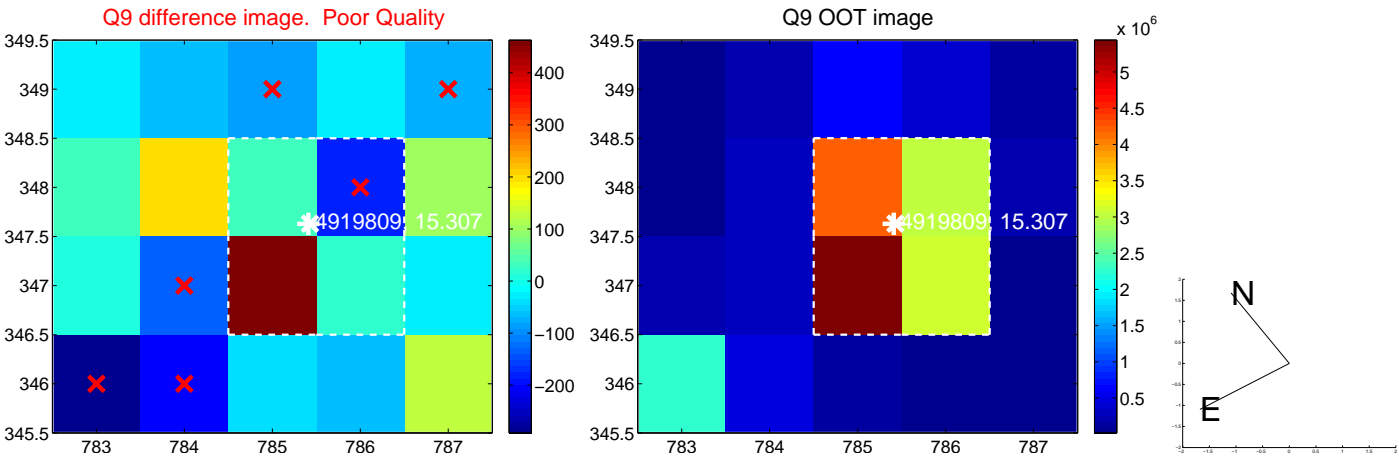
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



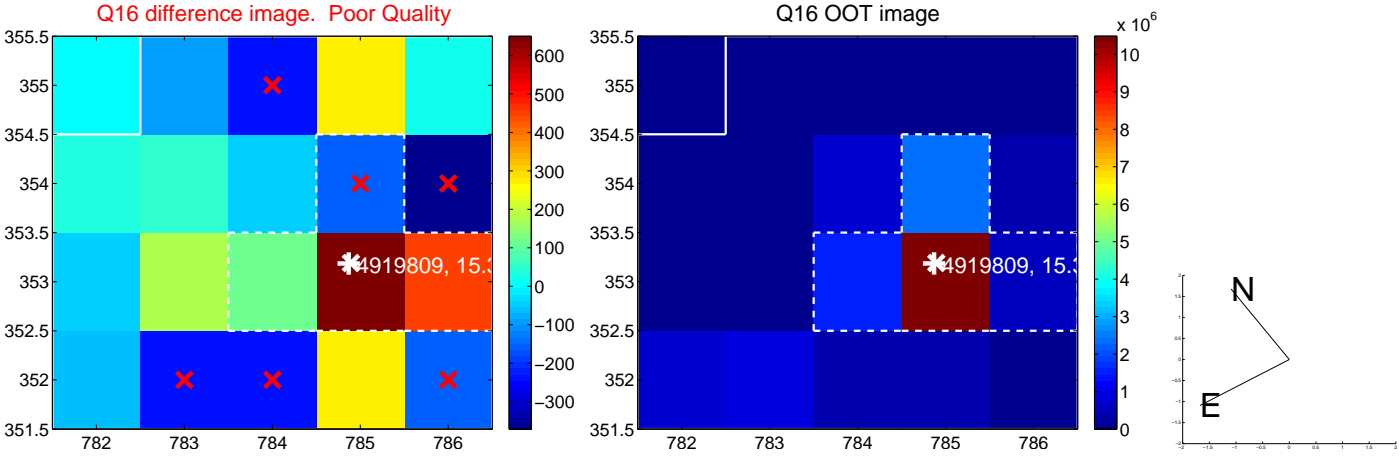
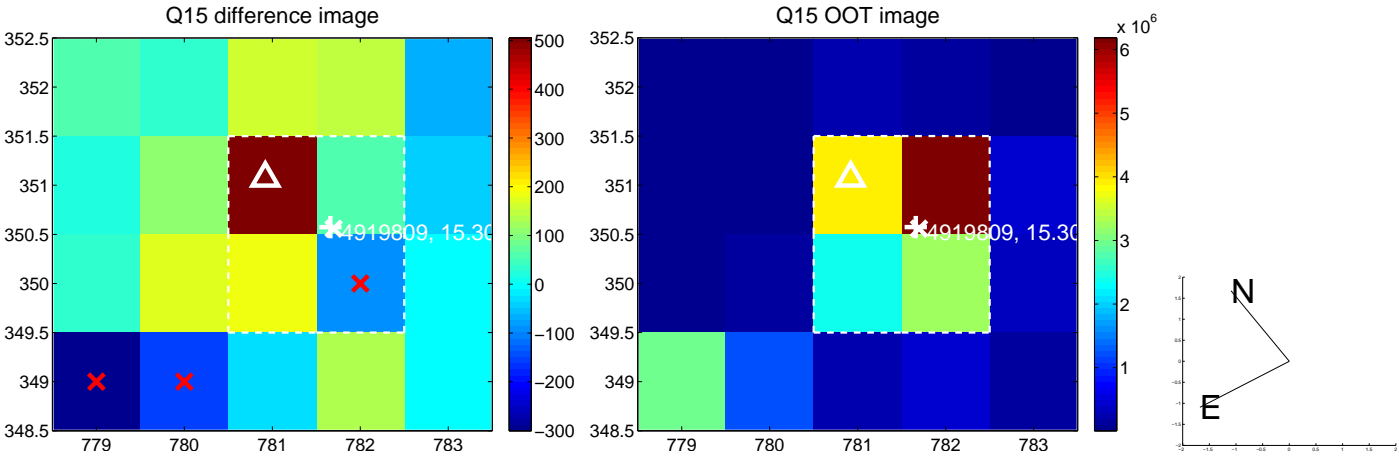
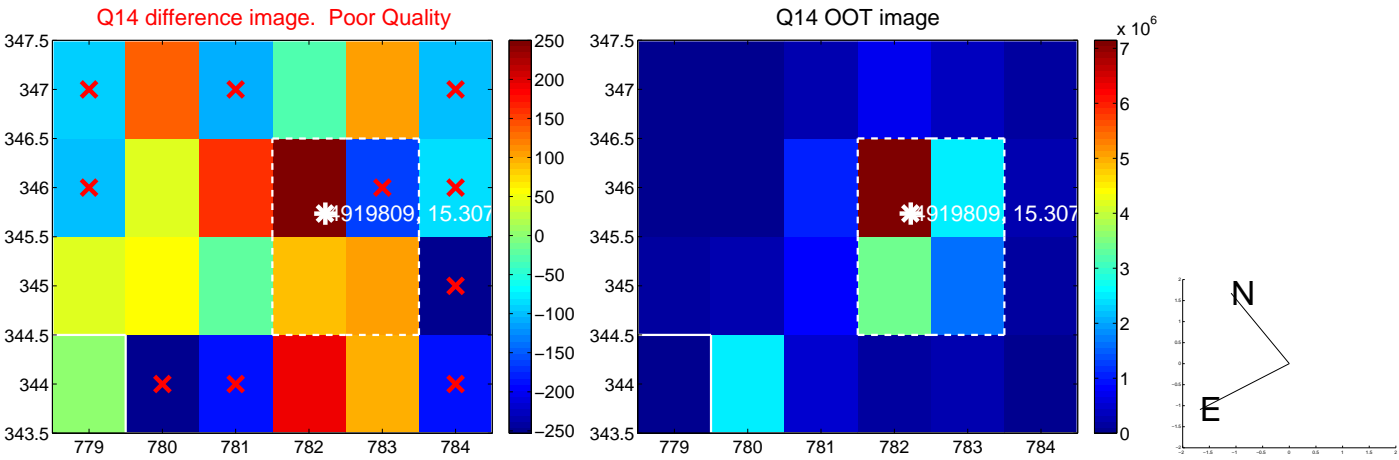
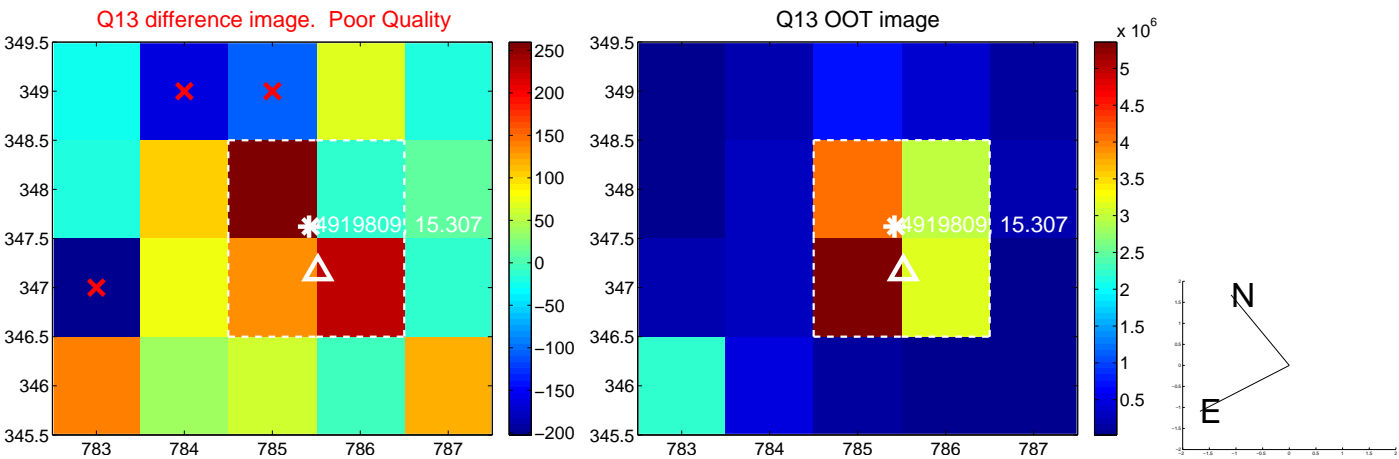
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



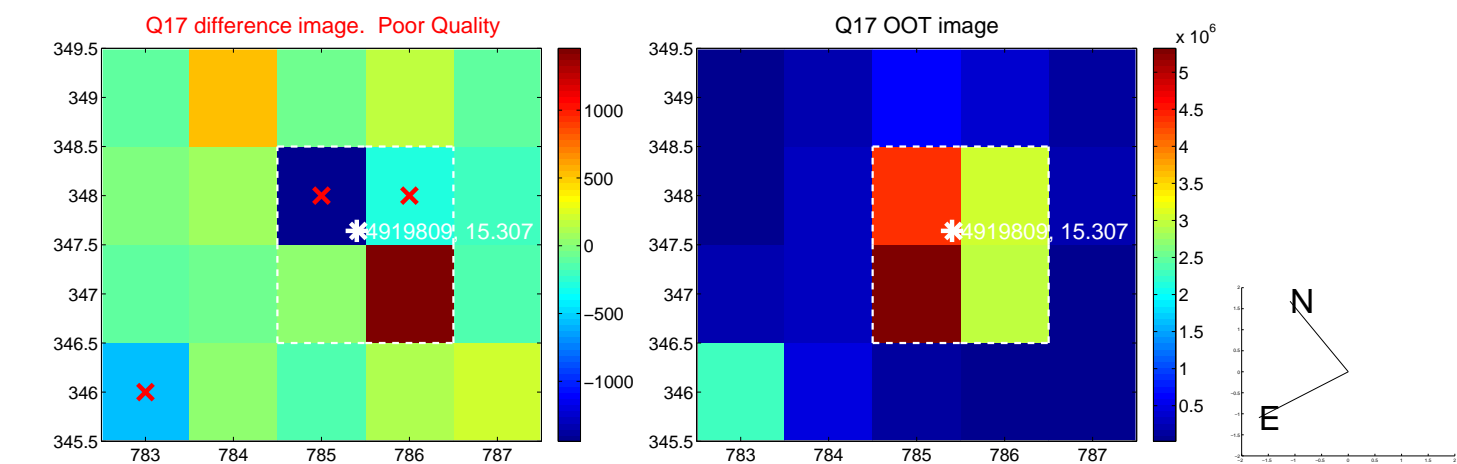
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



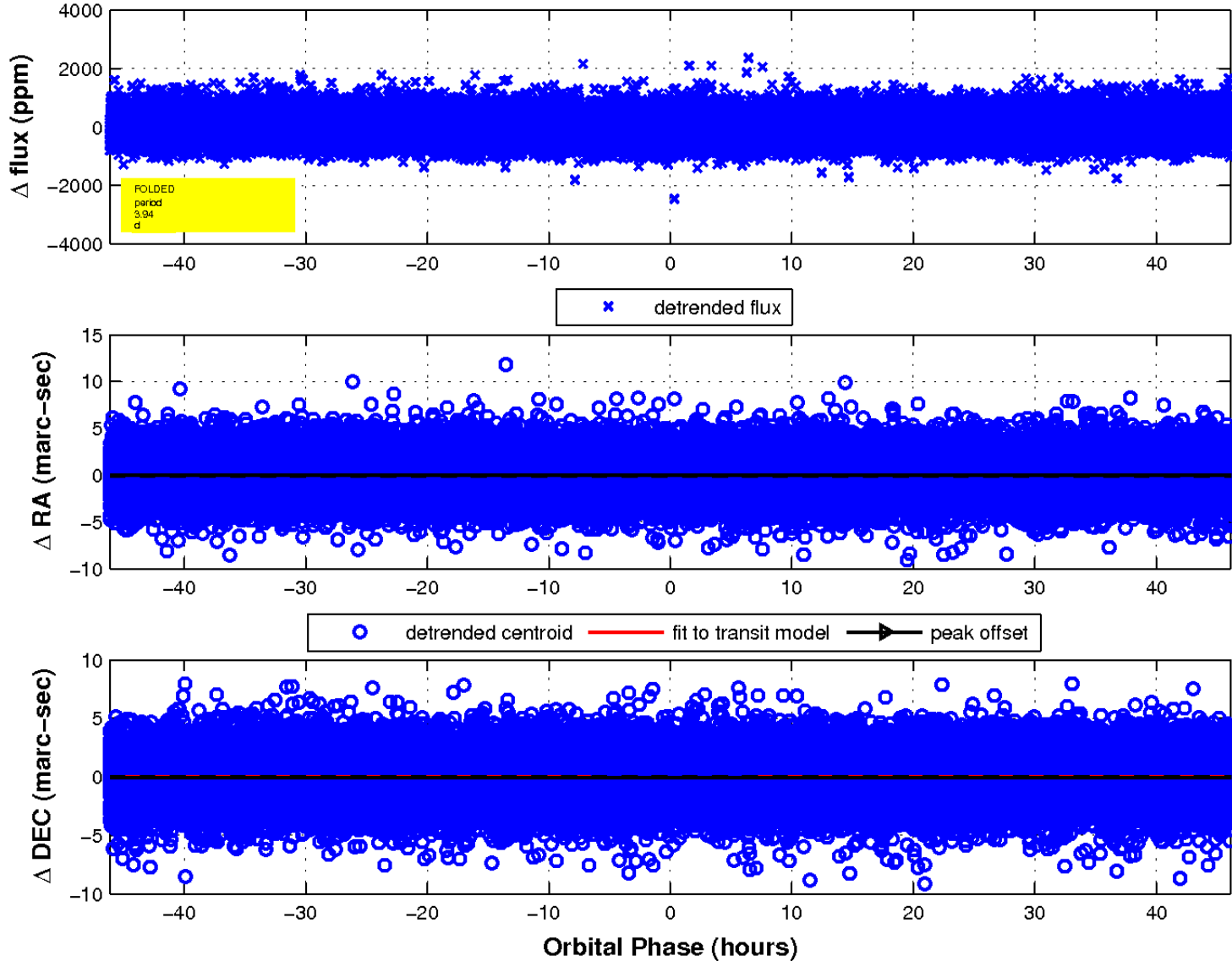
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

