

KIC 009457948

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})
009457948-01	OBS	4694.01	19.252680	144.269723	135.5	5.111	9.5	9.8	1.05	6258	1.43	71.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009457948-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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.

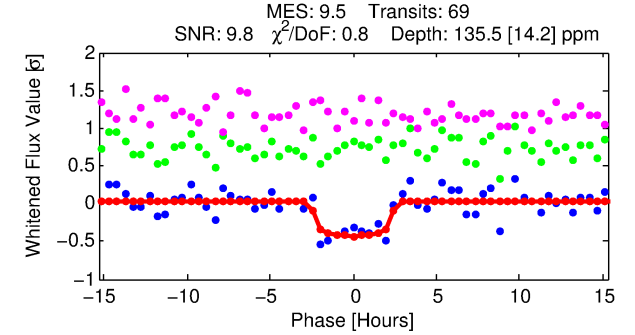
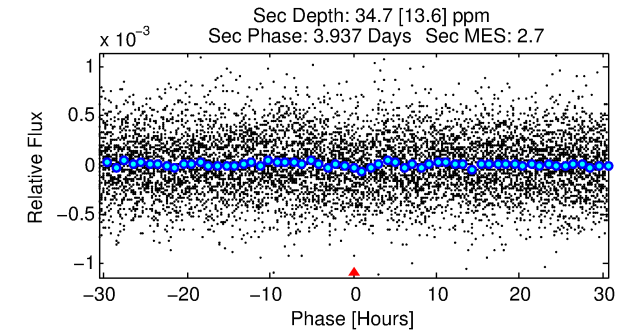
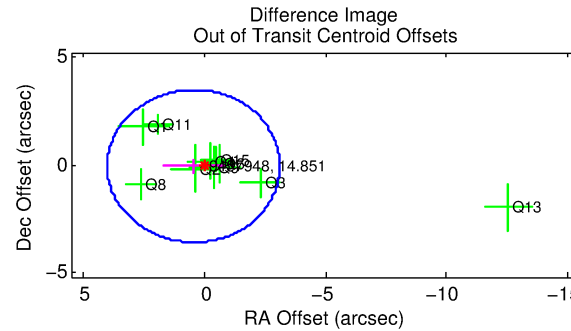
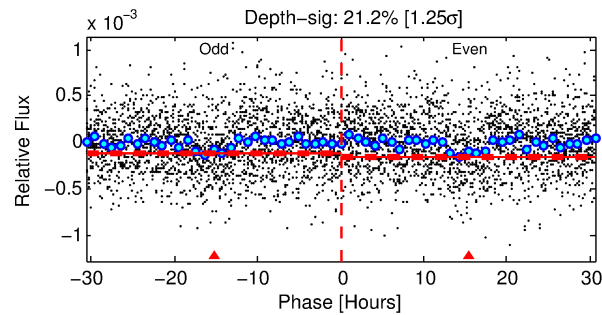
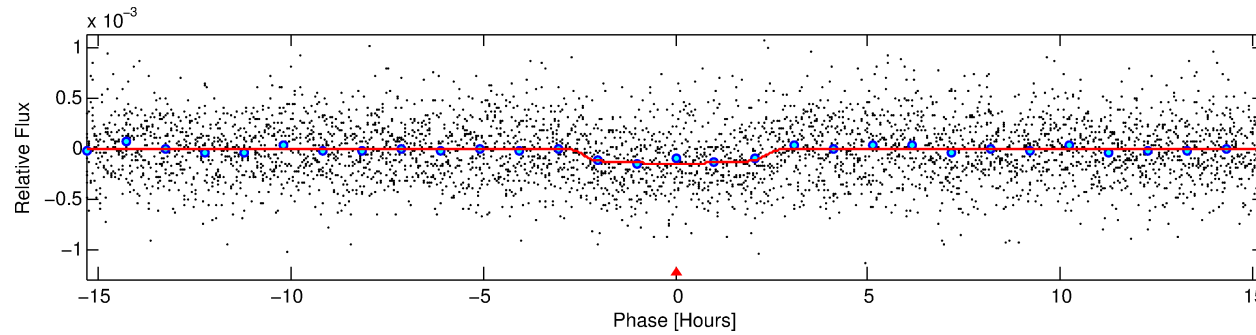
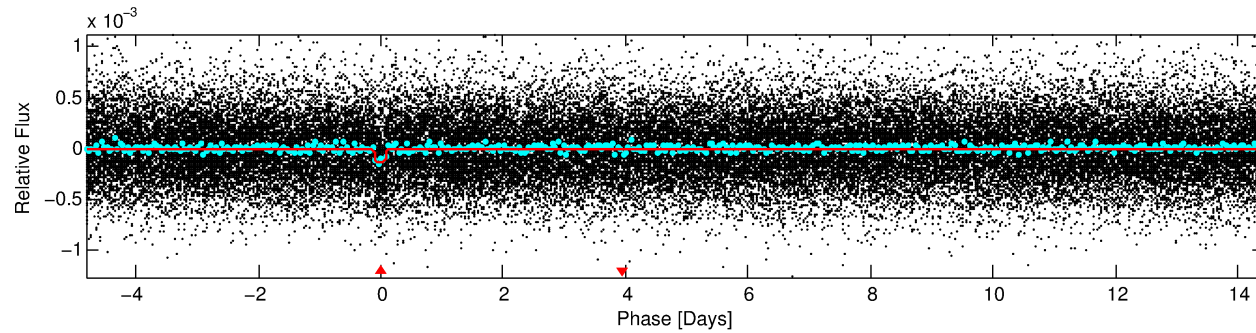
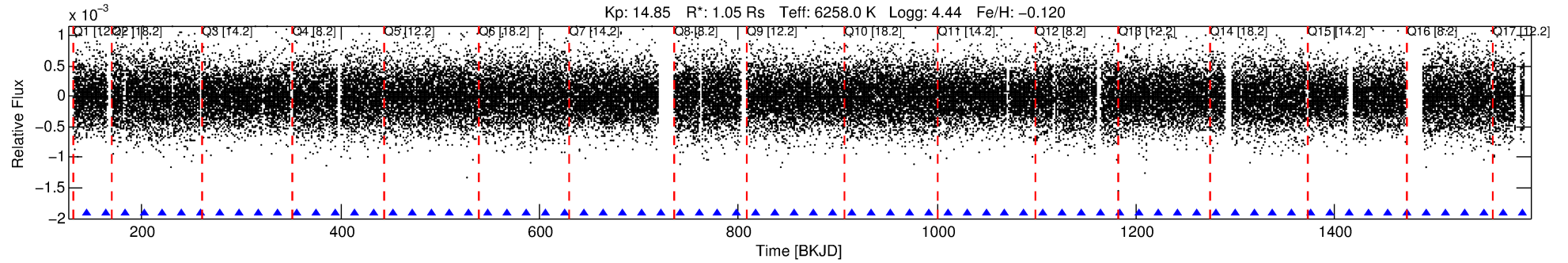
Ephemeris Match Information For 009457948-01

No Significant Match Found

DV One-Page Summary

KIC: 9457948 Candidate: 1 of 1 Period: 19.253 d

KOI: K04694.01 Corr: 0.978



DV Fit Results:

Period = 19.25268 [0.00024] d
Epoch = 144.2697 [0.0105] BKJD
Rp/R* = 0.0125 [0.0044]
a/R* = 13.43 [25.67]
b = 0.90 [0.41]
Seff = 71.18 [29.79]
Teff = 741 [77] K
Rp = 1.43 [0.68] Re
a = 0.1453 [0.0393] AU
Ag = 197.98 [178.60] [1.10 σ]
Teffp = 4295 [884] K [4.01 σ]

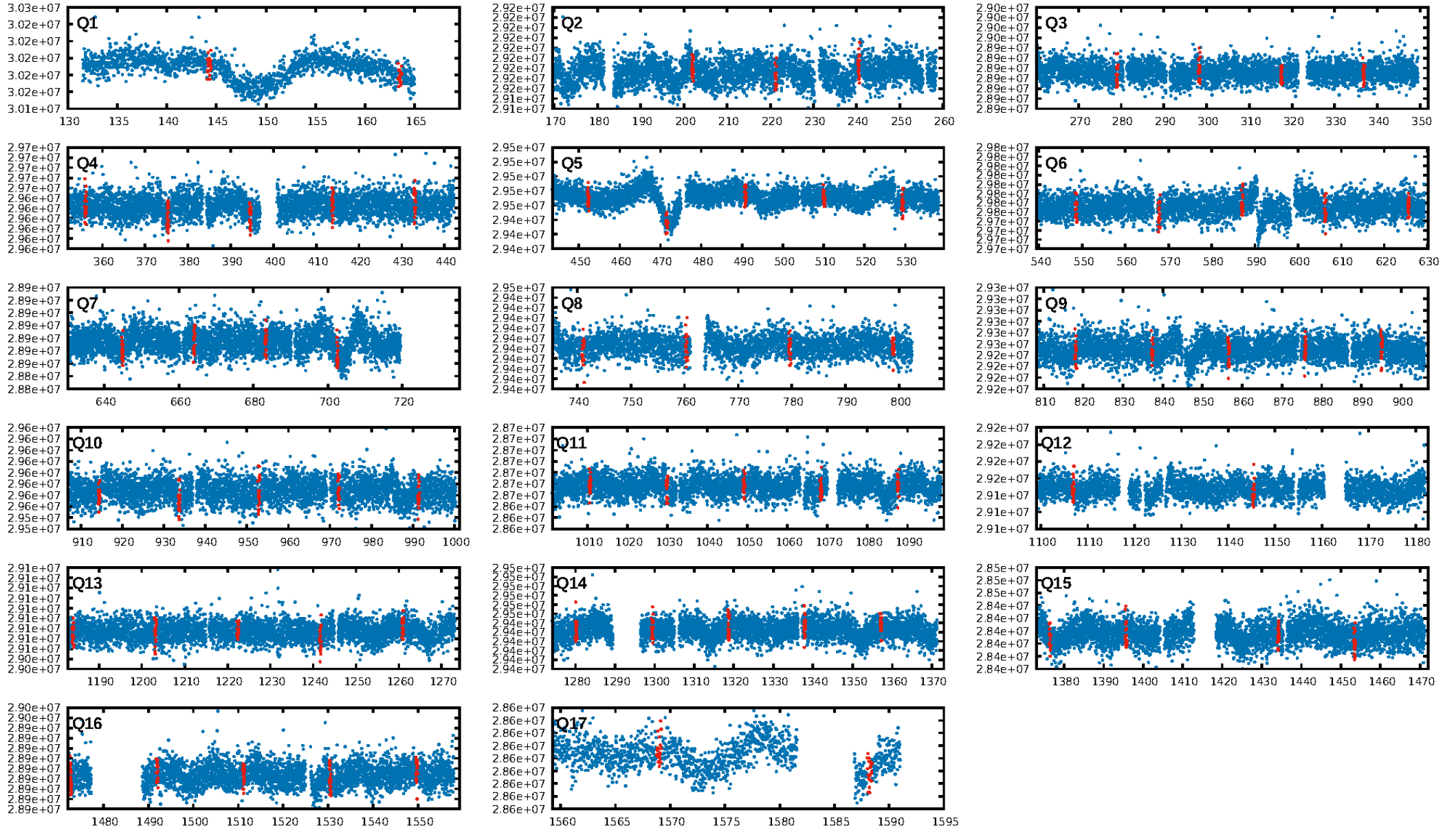
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.49e-21
RollingBand-fgt: 1.00 [65/65]
GhostDiagnostic-chr: -82.99
Centroid-sig: 13.8%
Centroid-so: 1.686 arcsec [1.27 σ]
OotOffset-rm: 0.449 arcsec [0.38 σ]
KicOffset-rm: 0.465 arcsec [0.39 σ]
OotOffset-st: 2/3/2/3 [10]
KicOffset-st: 2/3/2/3 [10]
DiffImageQuality-fgm: 0.80 [8/10]
DiffImageOverlap-fno: 1.00 [17/17]

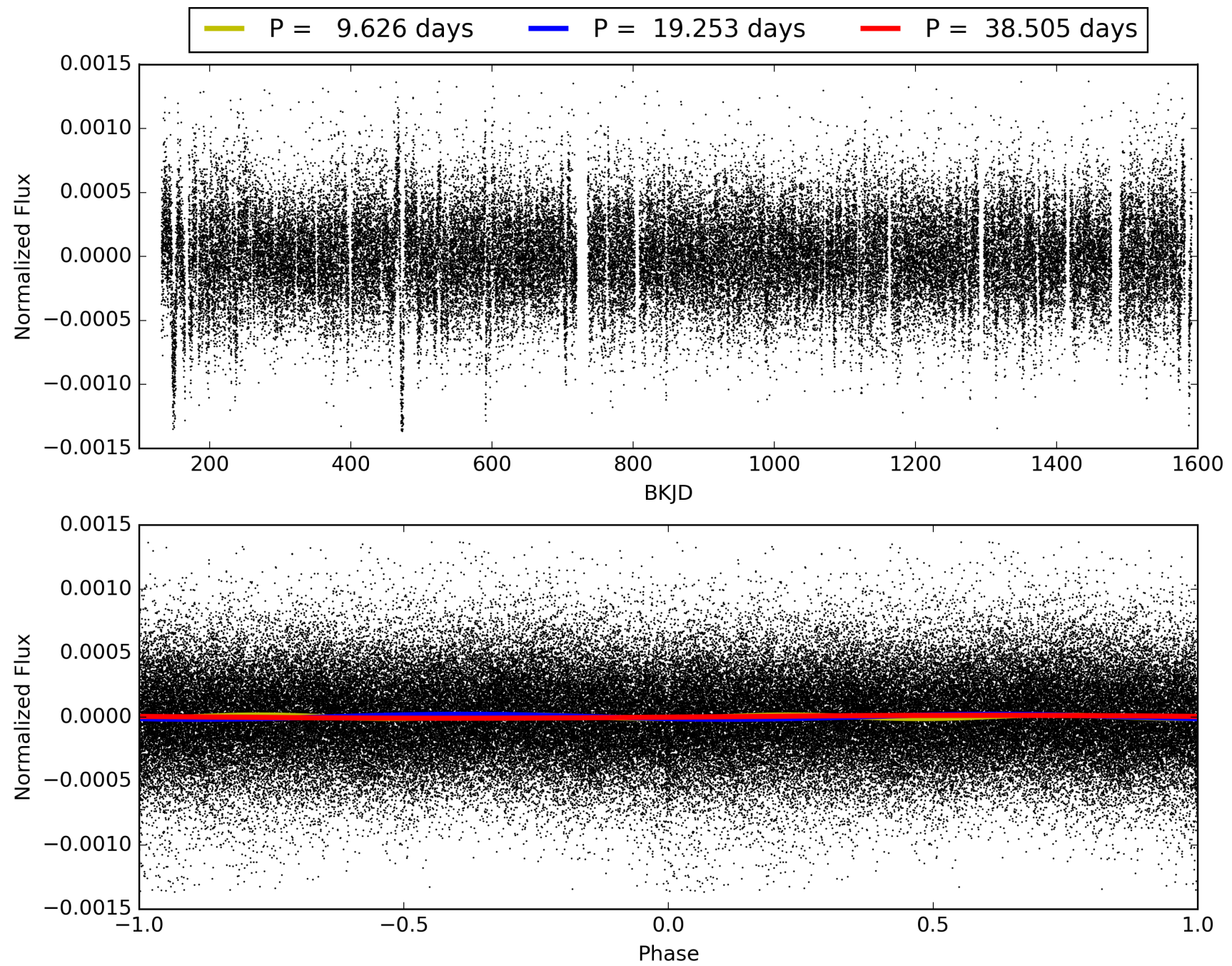
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:31:43 Z

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

TCE 009457948-01, PDC Light Curves

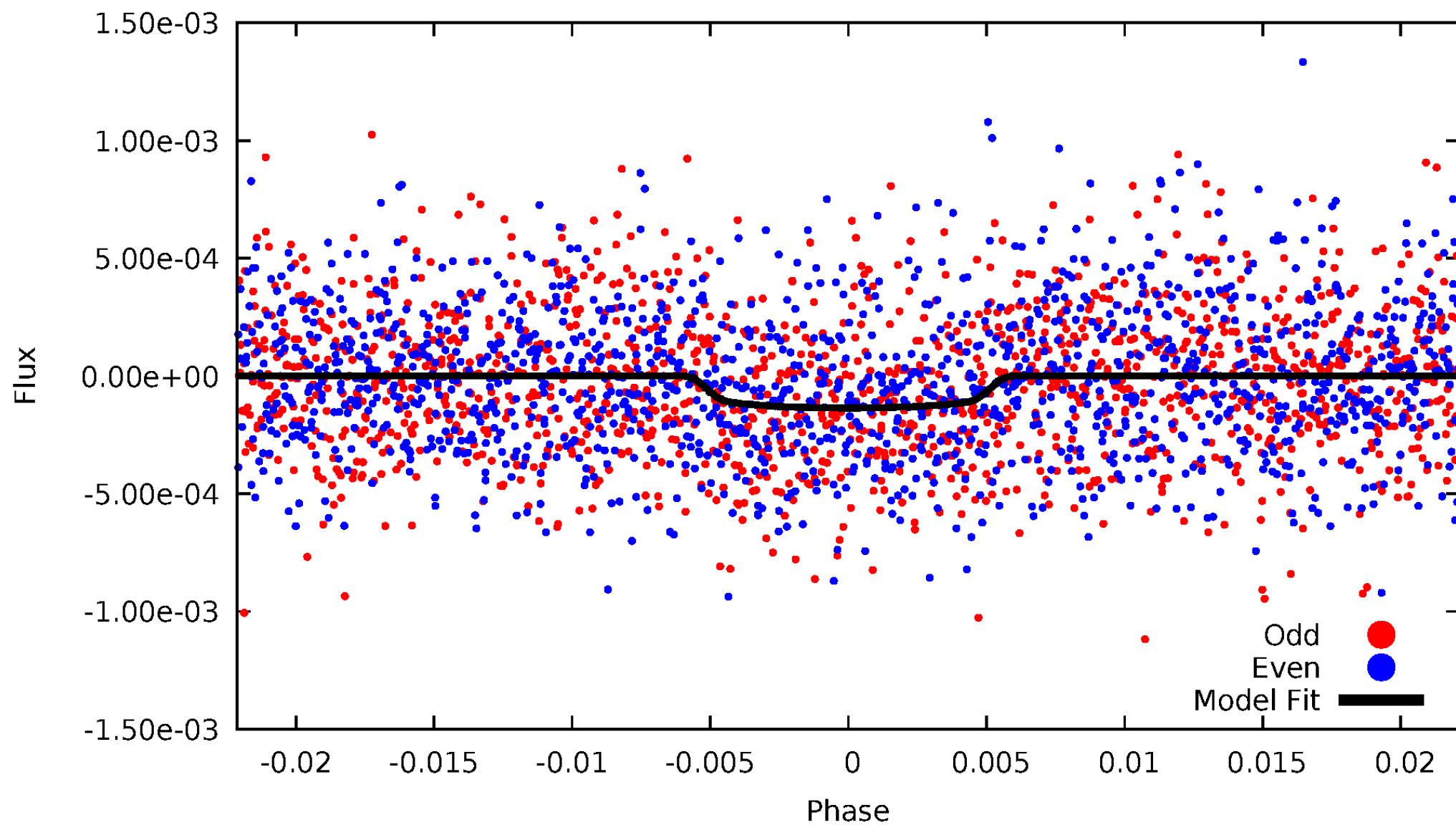


TCE 009457948-01



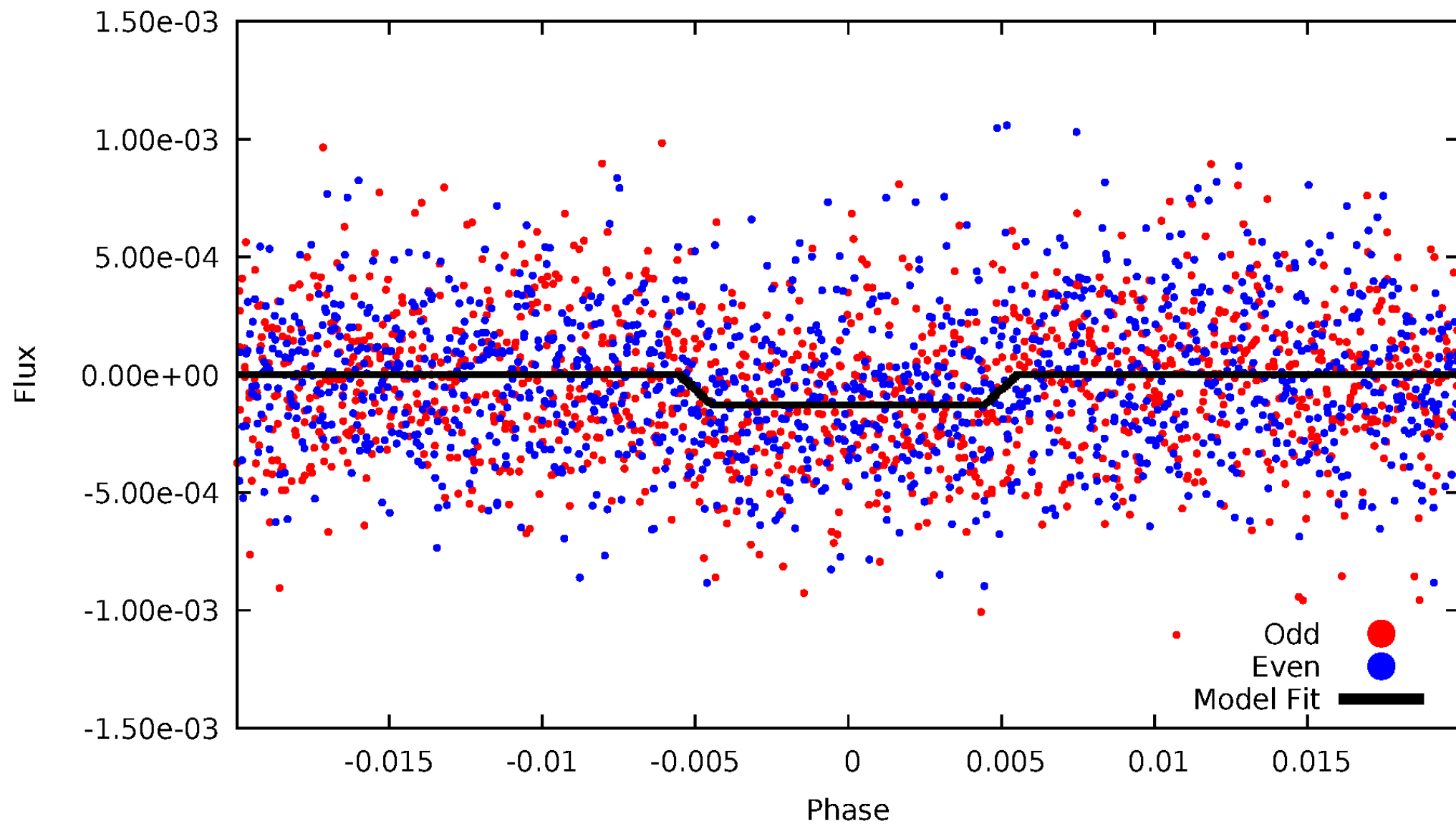
DV Odd/Even

TCE 009457948-01

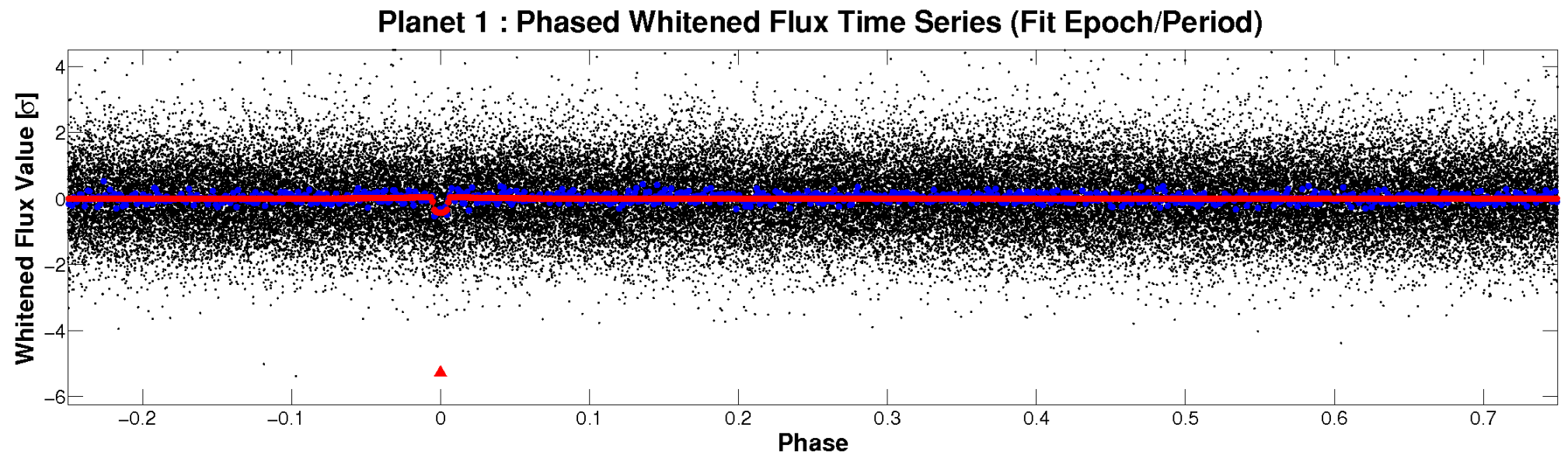
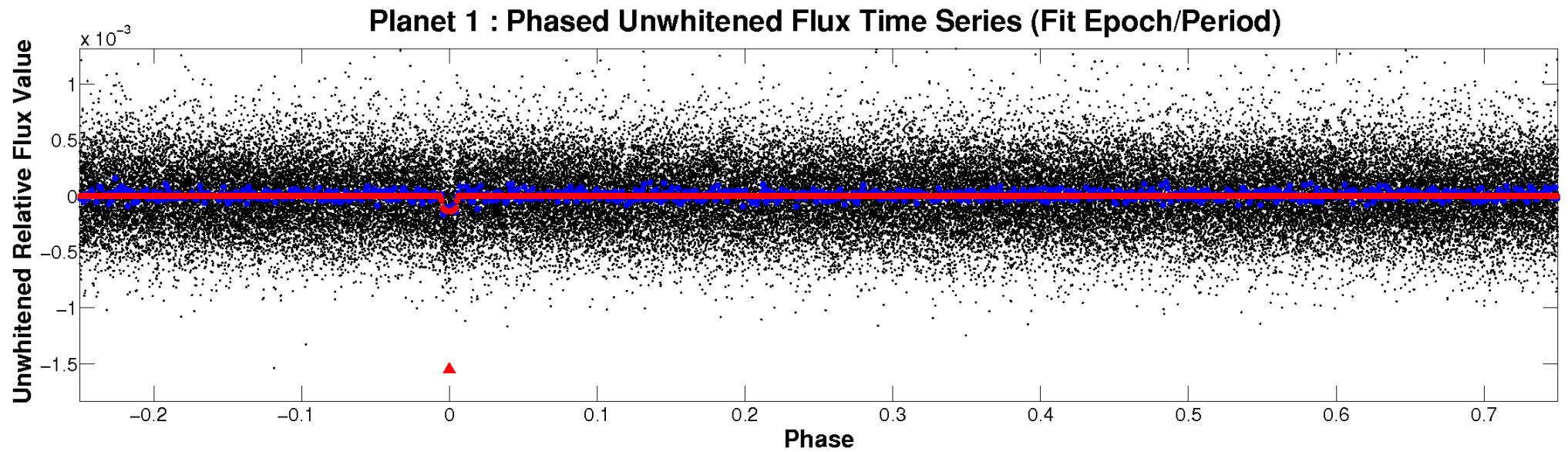


ALT Odd/Even

TCE 009457948-01

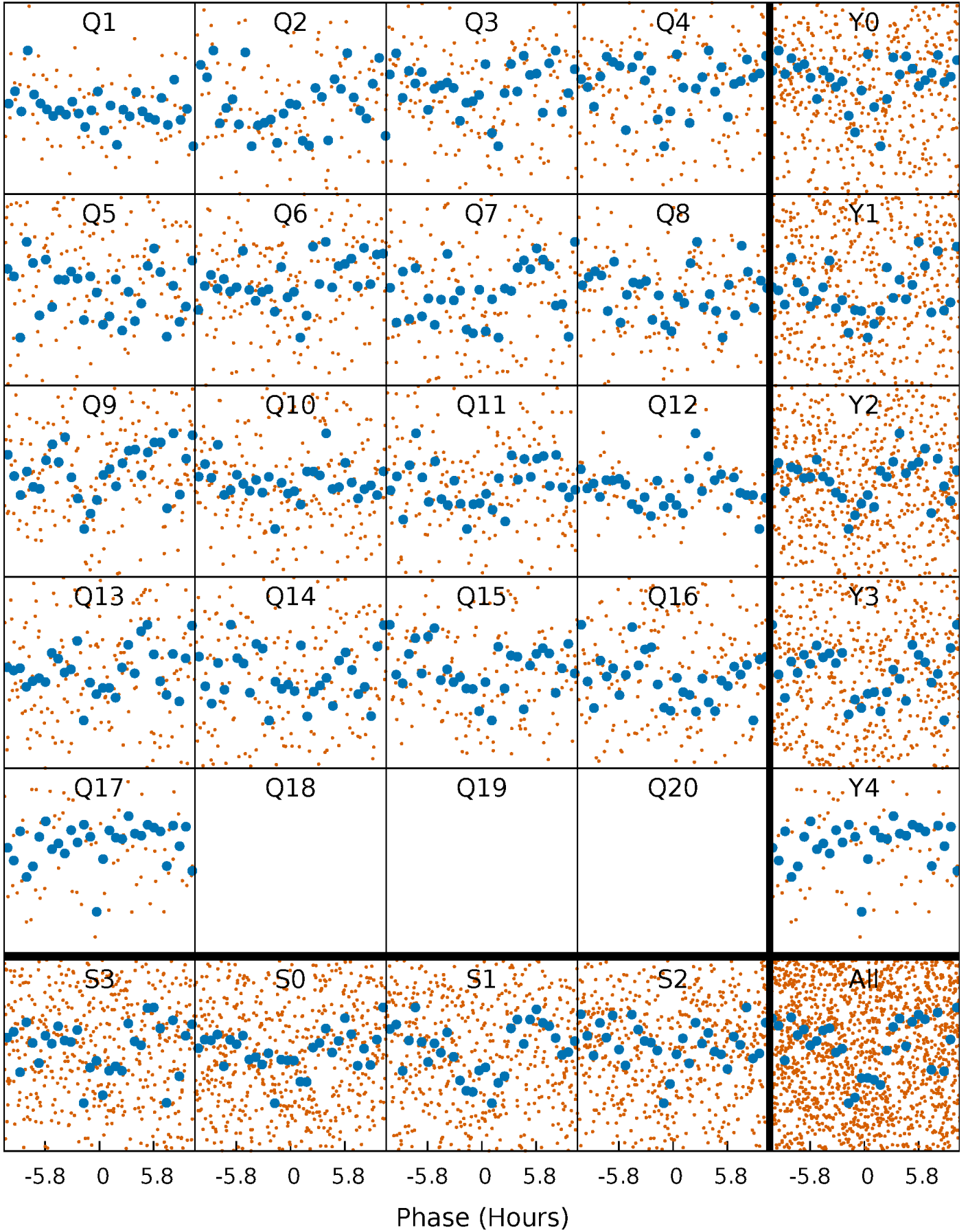


Non-Whitened Vs. Whitened Light Curve



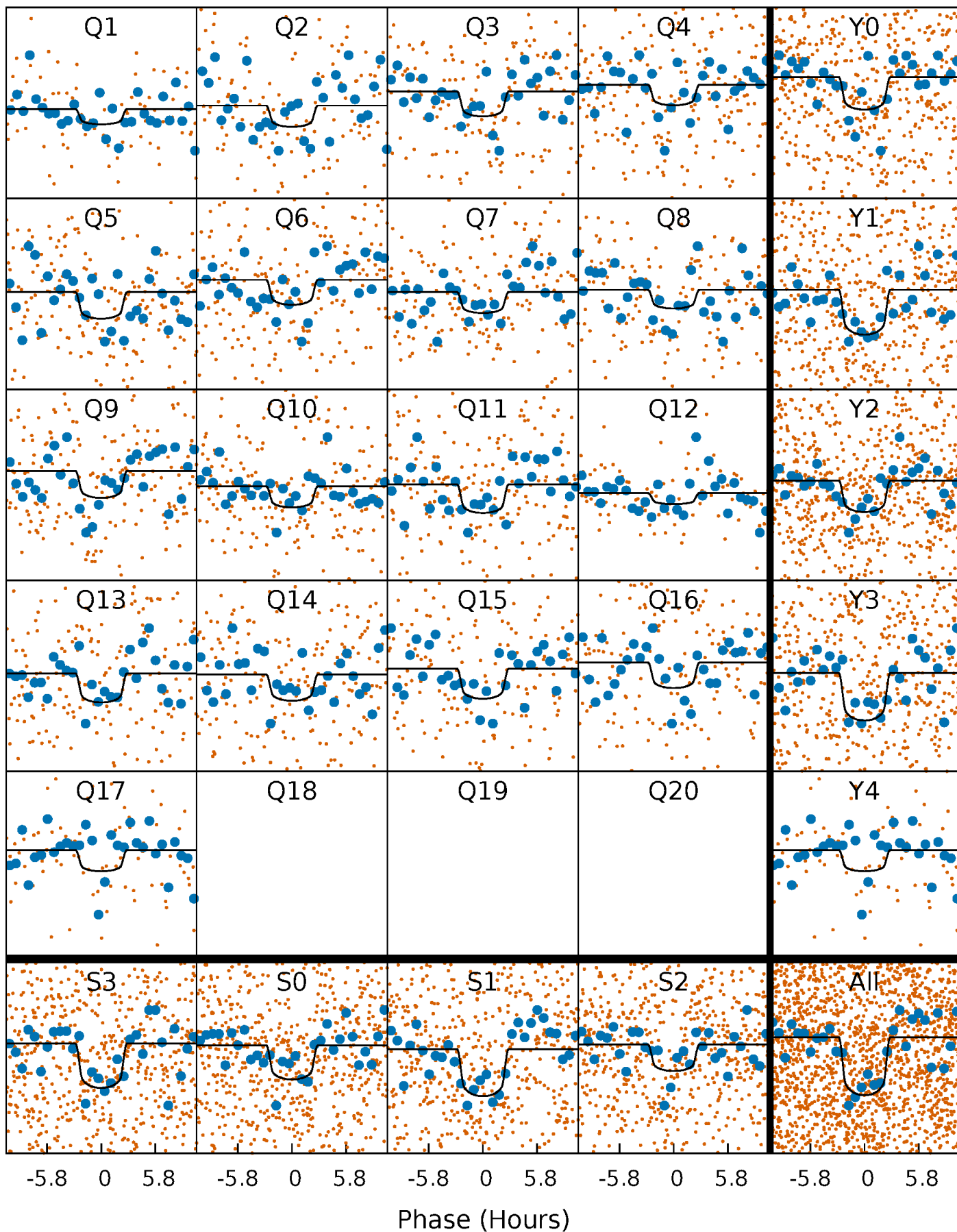
PDC Quarter-Phased Transit Curves

TCE 009457948-01 P= 19.252680 Days $T_0=144.269723$ (BKJD)



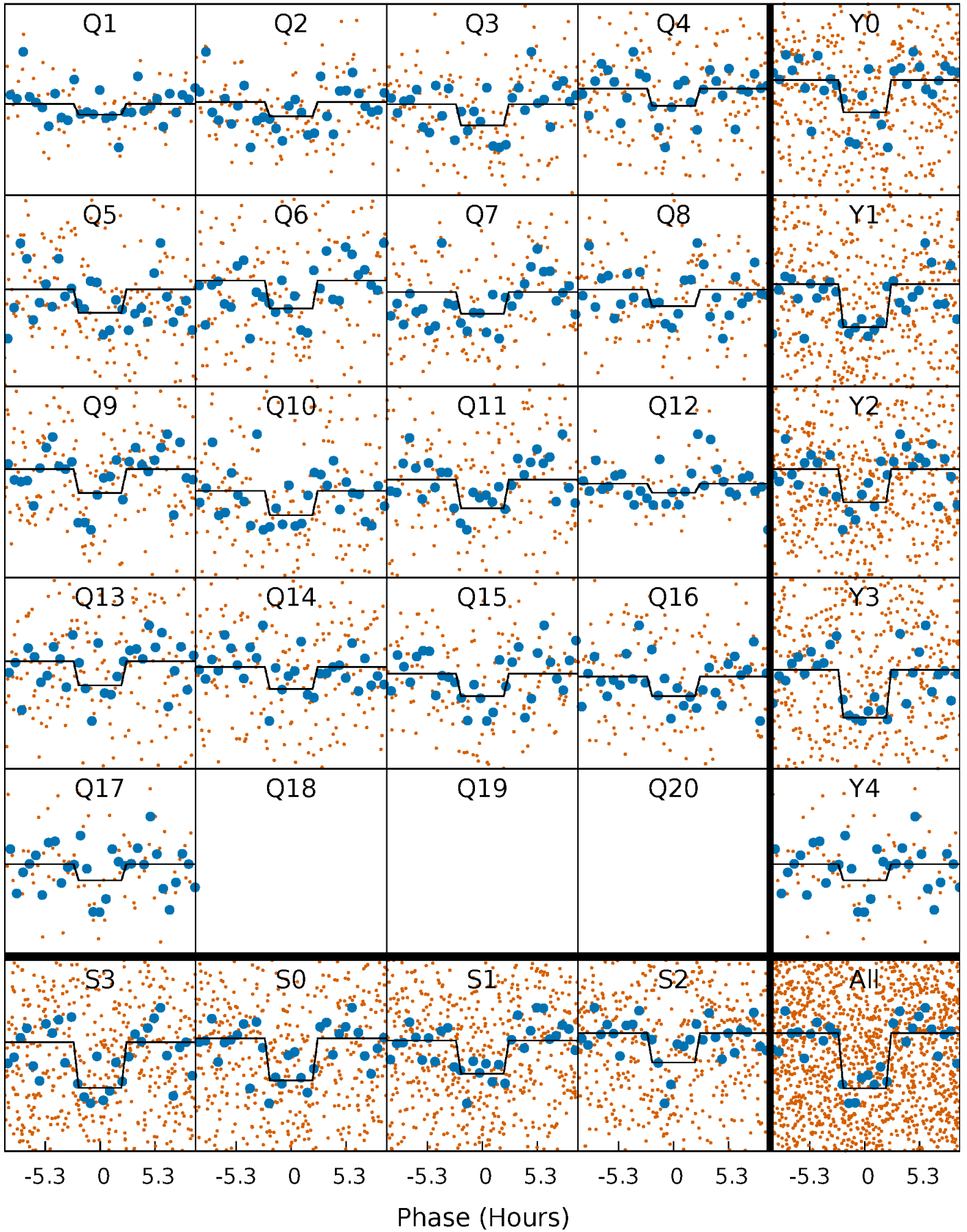
DV Quarter-Phased Transit Curves

TCE 009457948-01 P= 19.252680 Days $T_0=144.269723$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

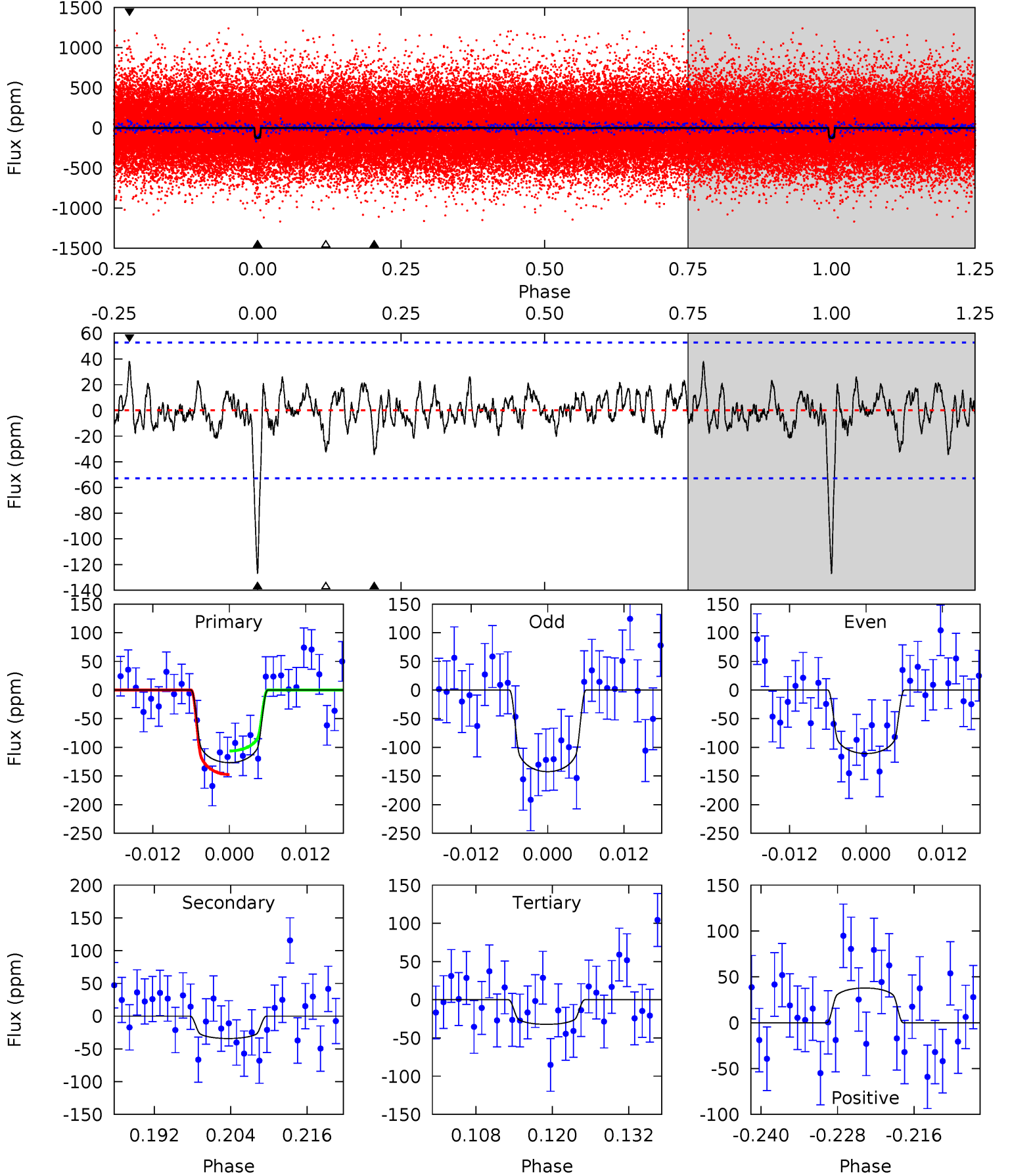
TCE 009457948-01 P= 19.252846 Days $T_0=144.264865$ (BKJD)



DV Model-Shift Uniqueness Test

009457948-01, P = 19.252680 Days, E = 125.017043 Days

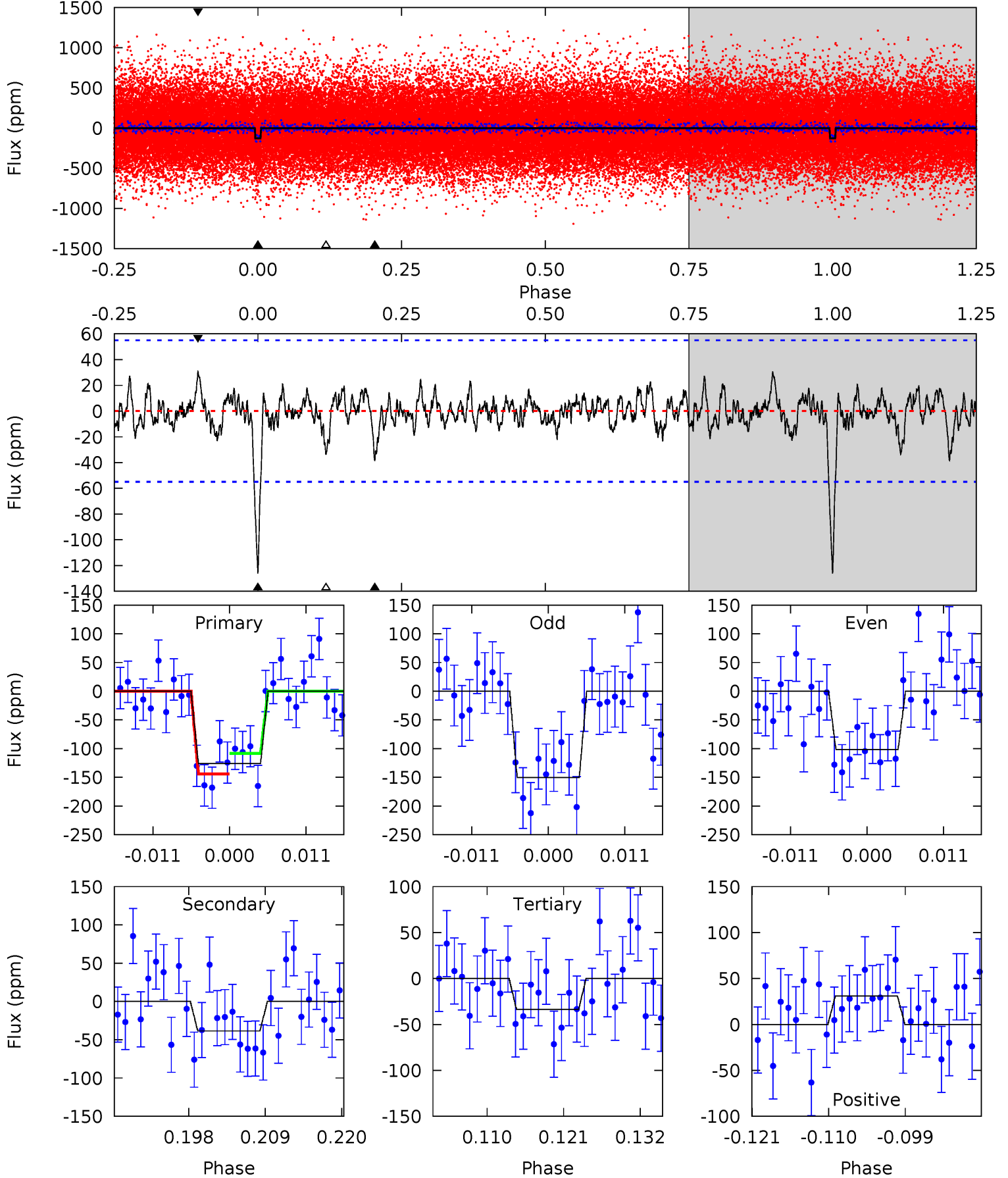
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	3.22	3.04	3.57	4.99	2.51	0.97	8.94	8.41	0.18	-0.35	1.50	1.09	0.23	1.95



Alt Model-Shift Uniqueness Test

009457948-01, P = 19.252846 Days, E = 125.012019 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	3.51	3.07	2.81	5.01	2.54	0.86	8.42	8.69	0.44	0.70	2.23	1.10	0.20	1.62



Stellar Parameters For KIC 009457948

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6258^{+175}_{-219}	$4.442^{+0.054}_{-0.216}$	$-0.120^{+0.250}_{-0.350}$	$1.046^{+0.335}_{-0.112}$	$1.102^{+0.154}_{-0.154}$	$1.357^{+0.388}_{-0.716}$
	+3%/-3%	+1%/-5%	+208%/-292%	+32%/-11%	+14%/-14%	+29%/-53%
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 009457948-01 / KOI 4694.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-34 ± 11	$1.48^{+0.62}_{-0.51}$	1056^{+79}_{-55}	4449^{+933}_{-578}	168^{+259}_{-90}
Alt.	-39 ± 11	$1.30^{+0.56}_{-0.50}$	1055^{+72}_{-52}	4780^{+1200}_{-640}	246^{+436}_{-135}

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 $A_{obs} \gg 1.0$

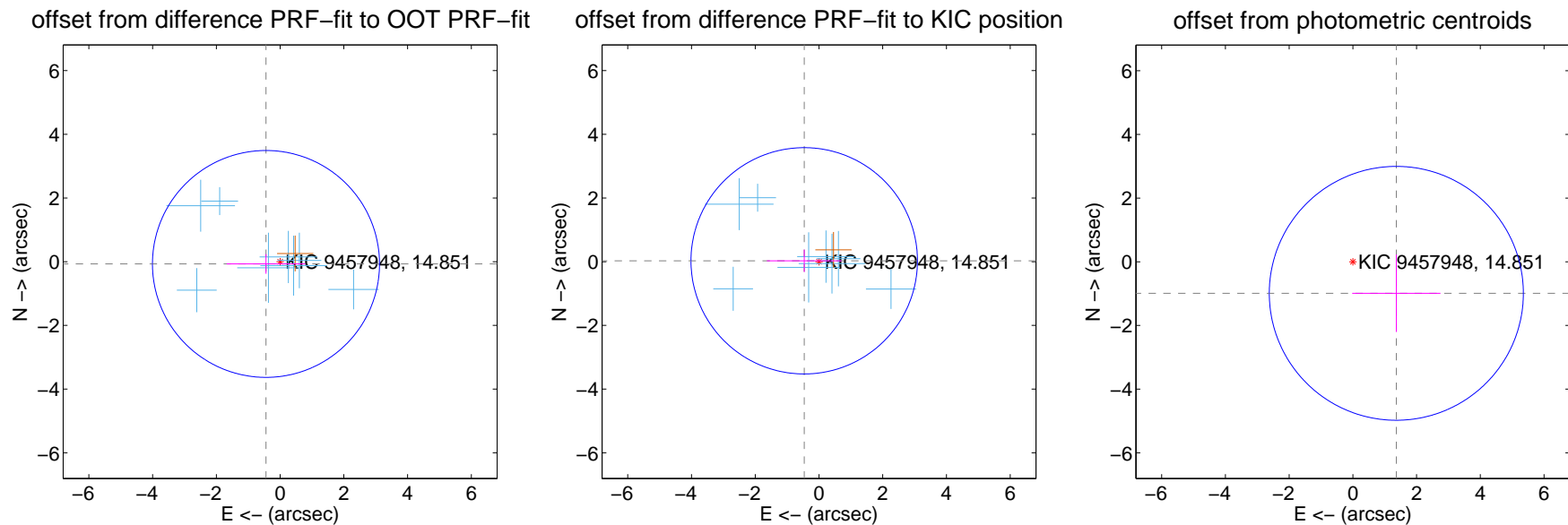
DV Centroid Data

Supplemental centroid analysis for 009457948-01. Kepler magnitude: 14.85. Transit SNR 9.78

There are 8 quarters with good PRF difference image offsets

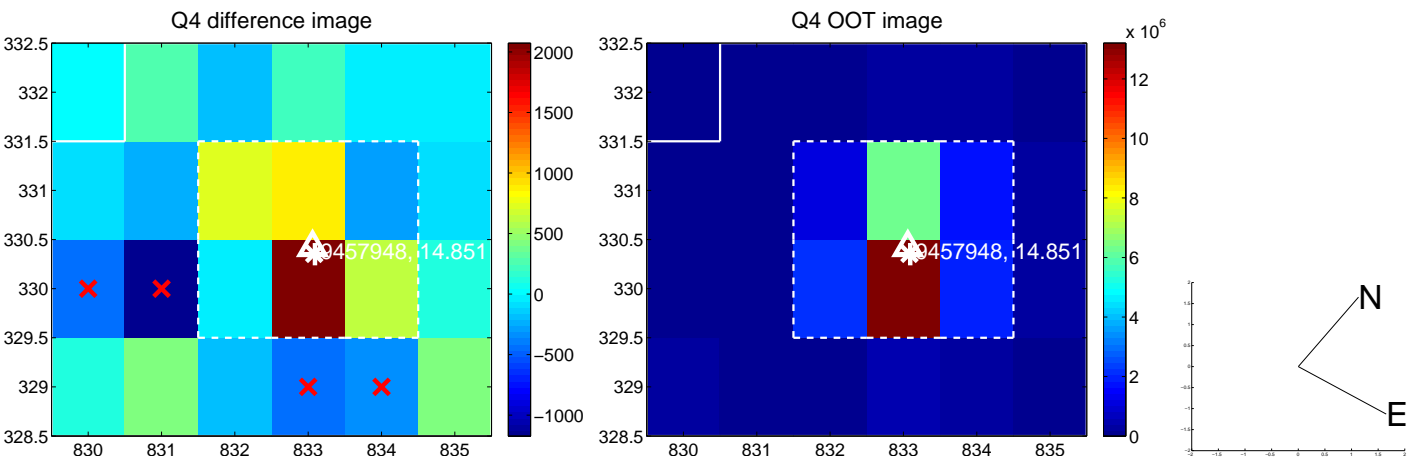
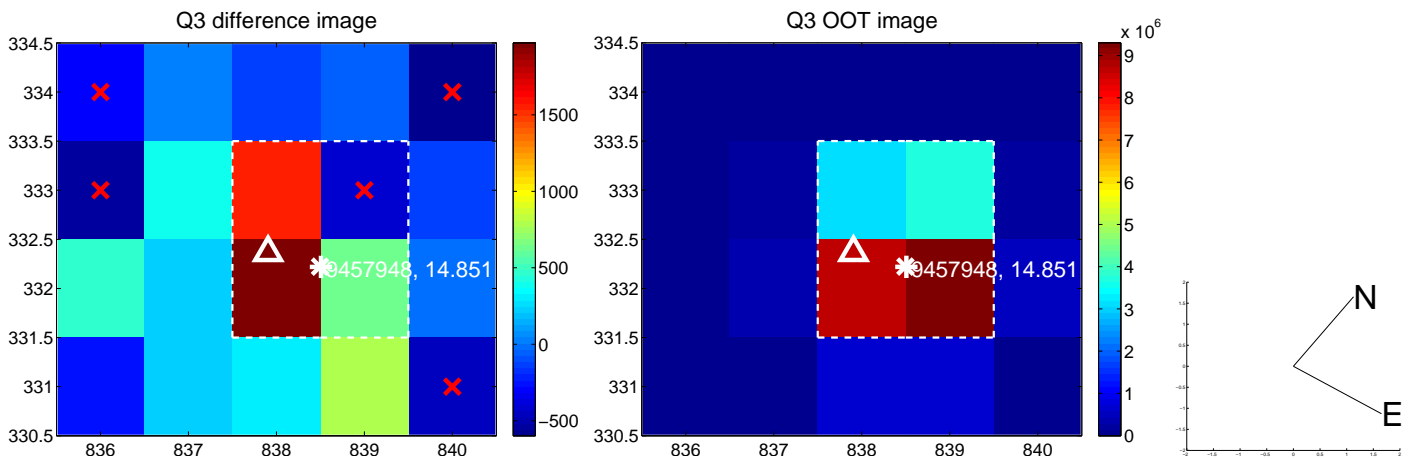
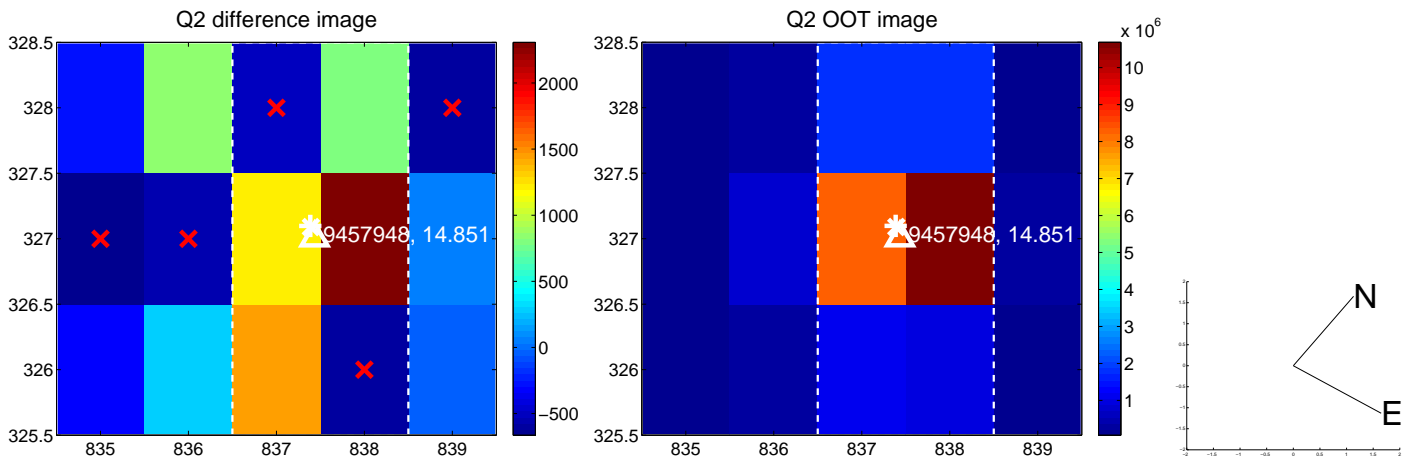
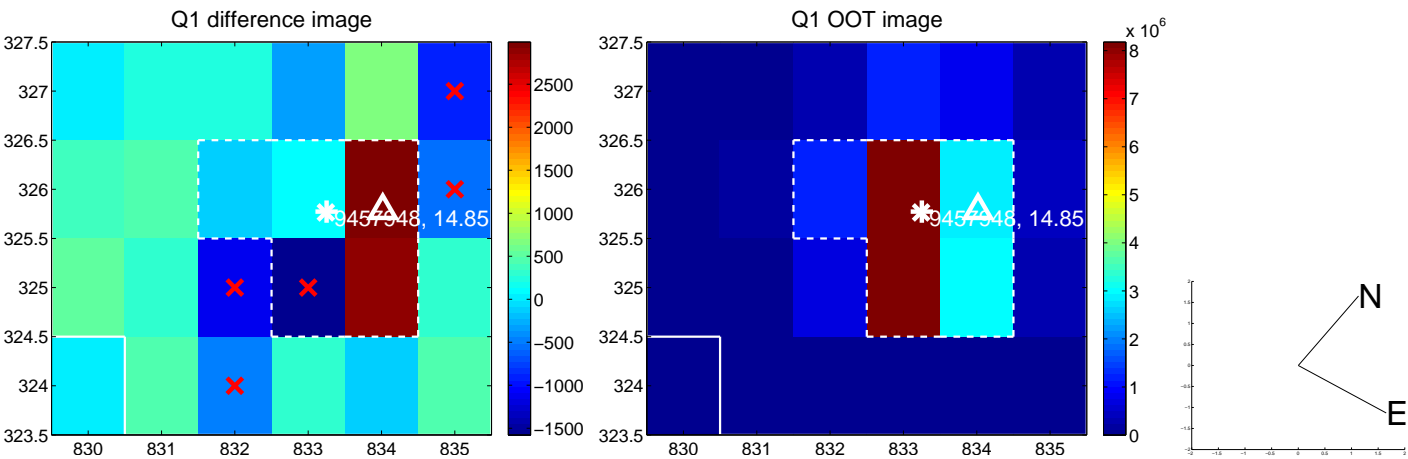
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.449 ± 1.187	0.38	0.443 ± 1.232	-0.070 ± 0.308
PRF-fit source offset from KIC position	0.465 ± 1.184	0.39	0.464 ± 1.171	0.028 ± 0.352
photometric centroid source offset	1.69 ± 1.33	1.27	-1.36 ± 1.39	-0.99 ± 1.22

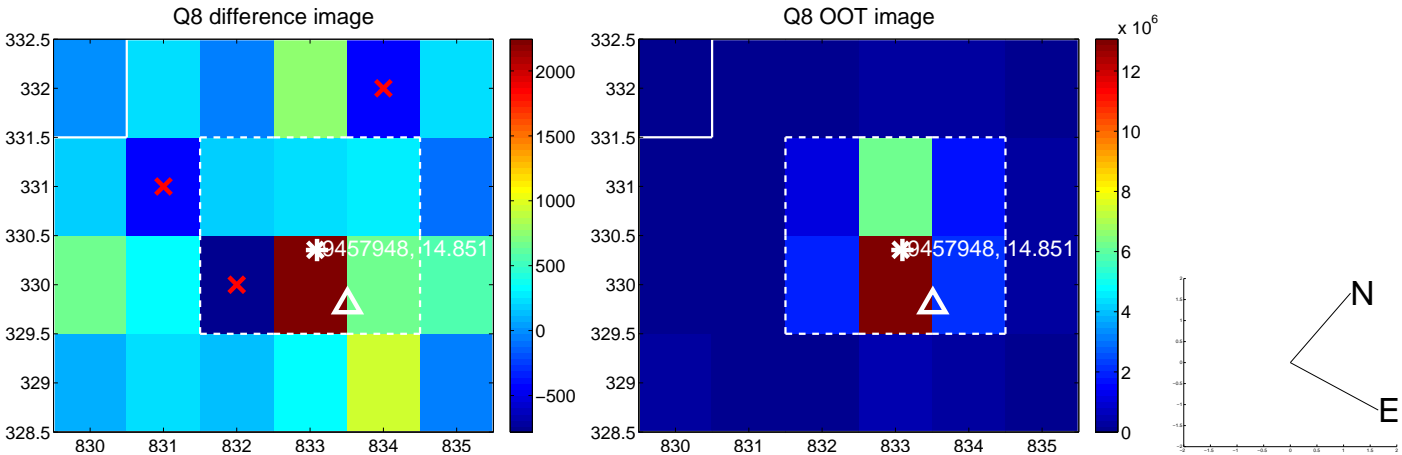
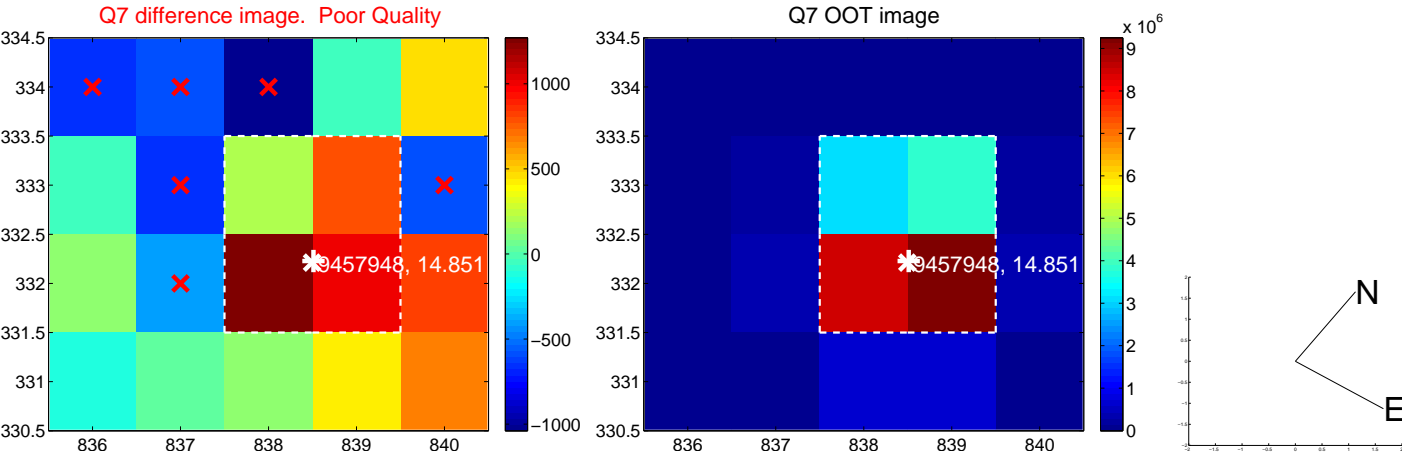
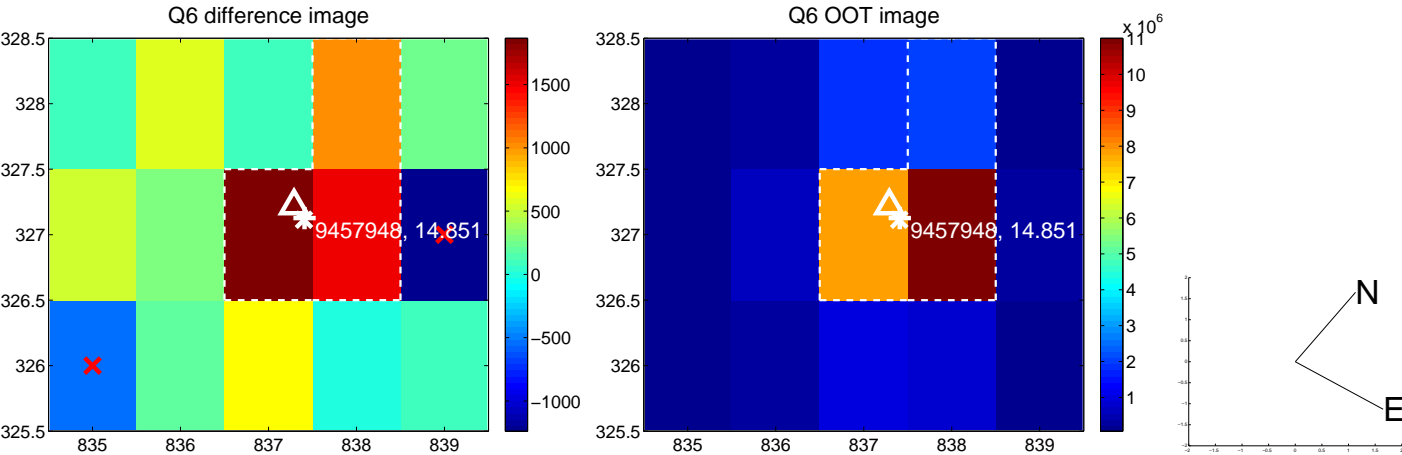
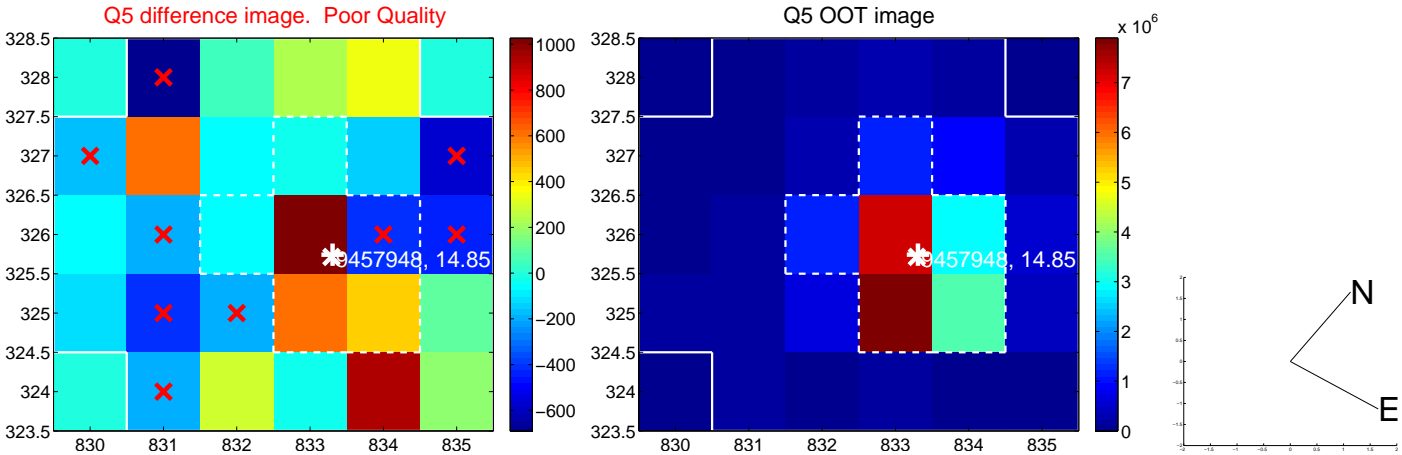


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

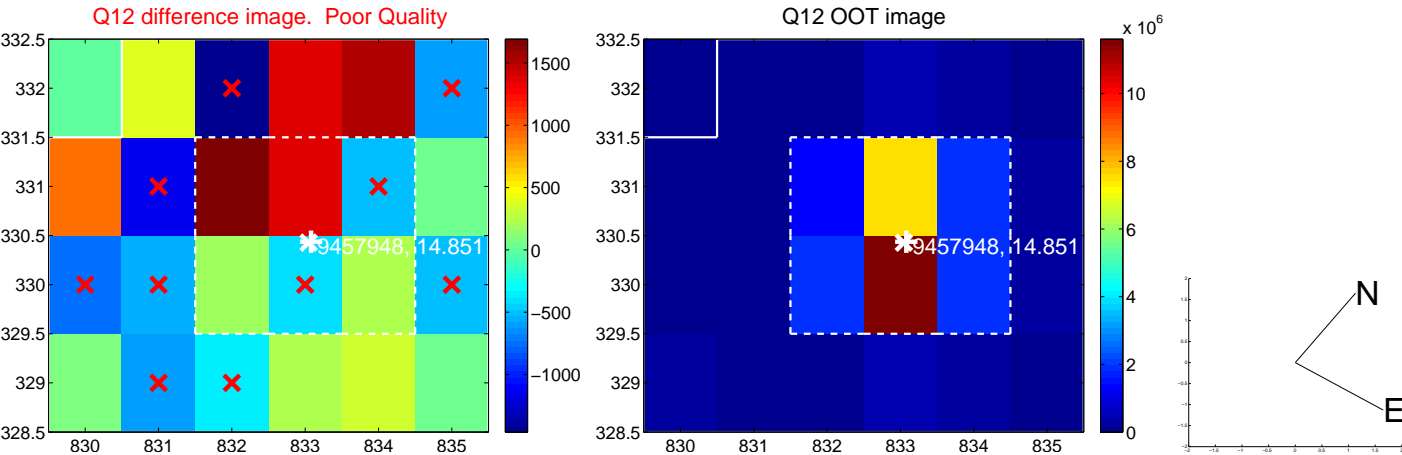
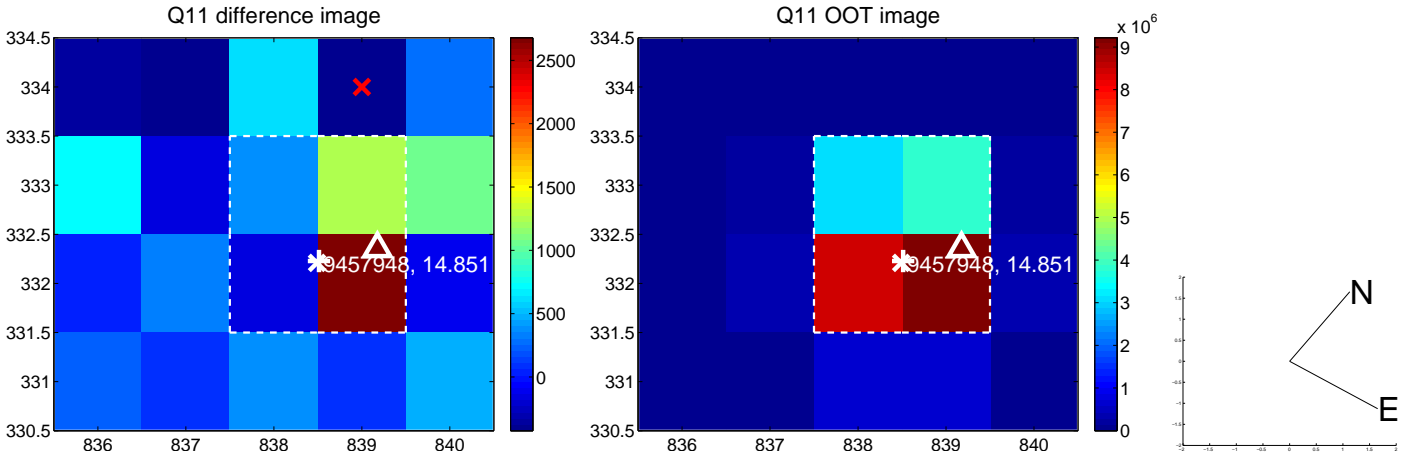
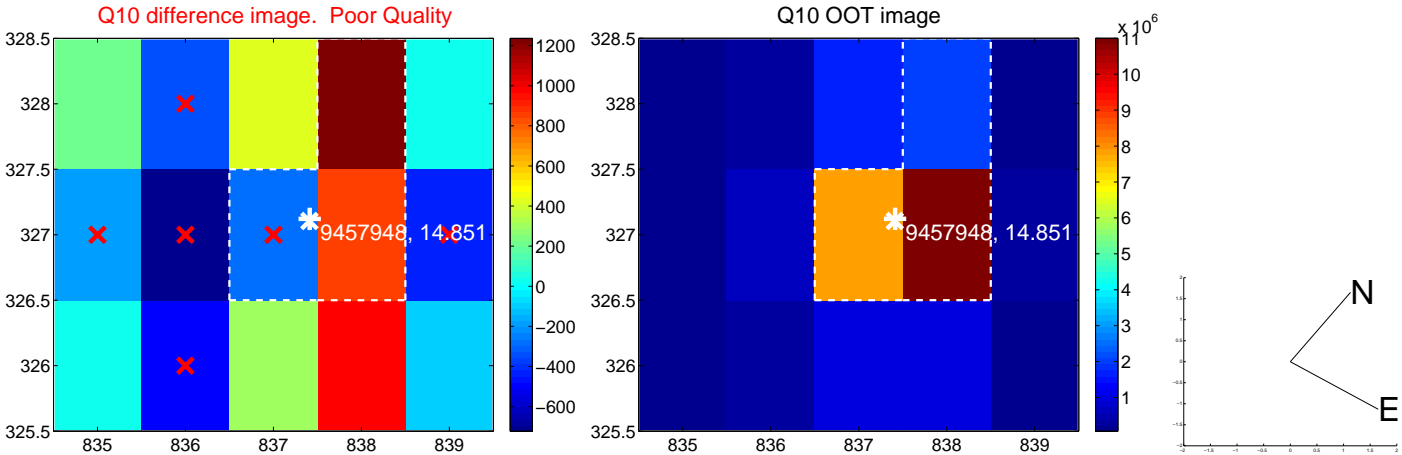
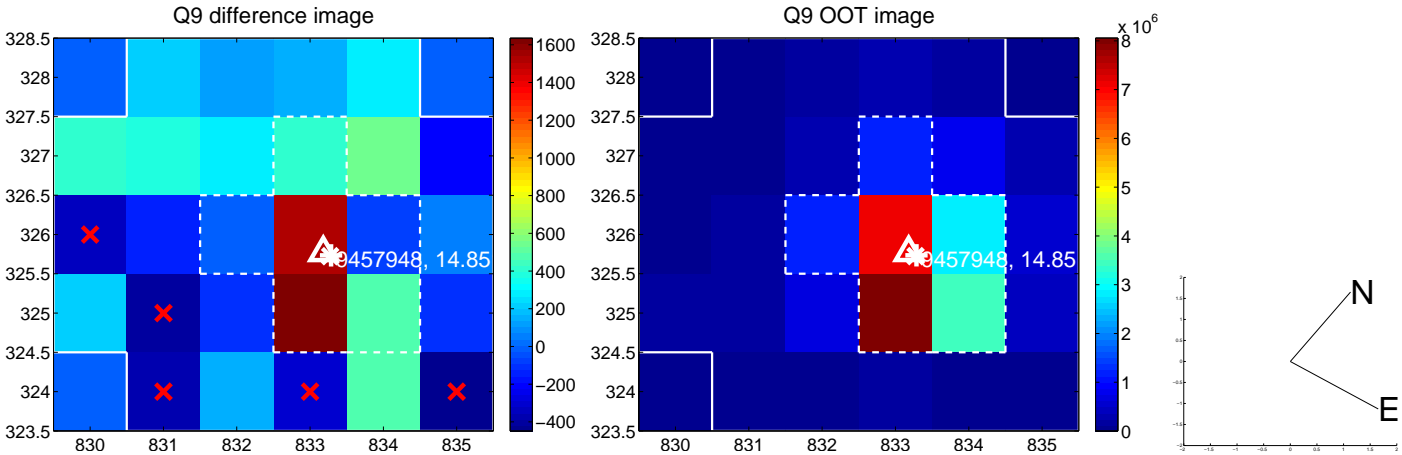
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



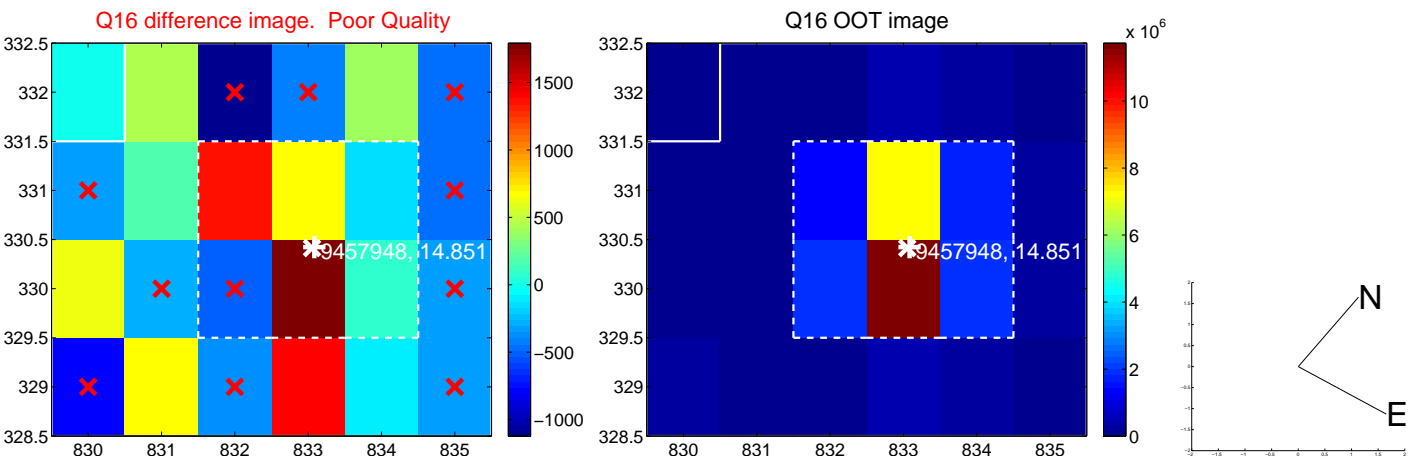
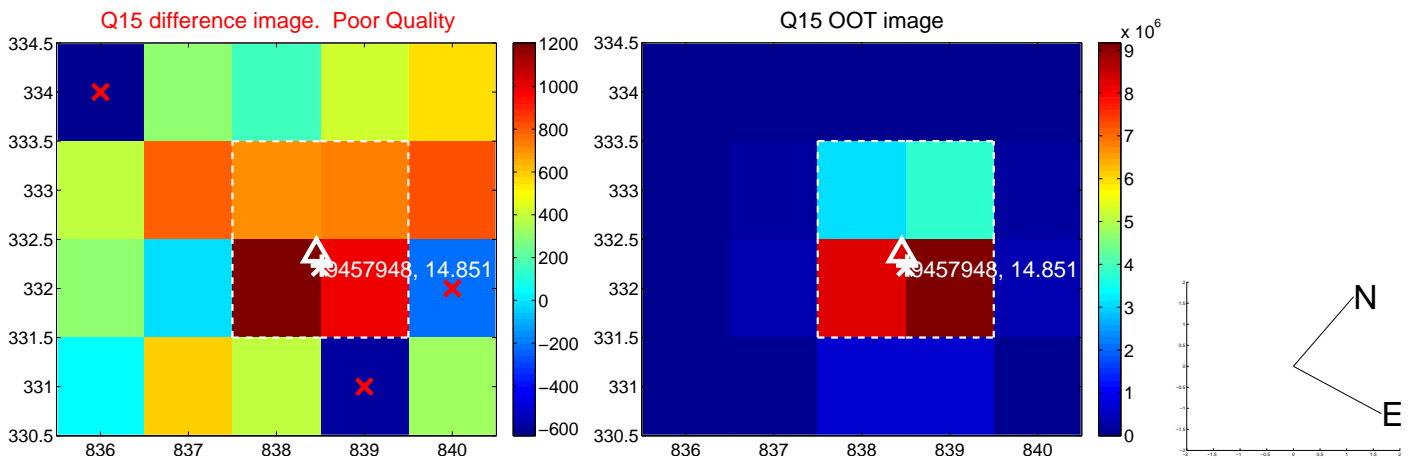
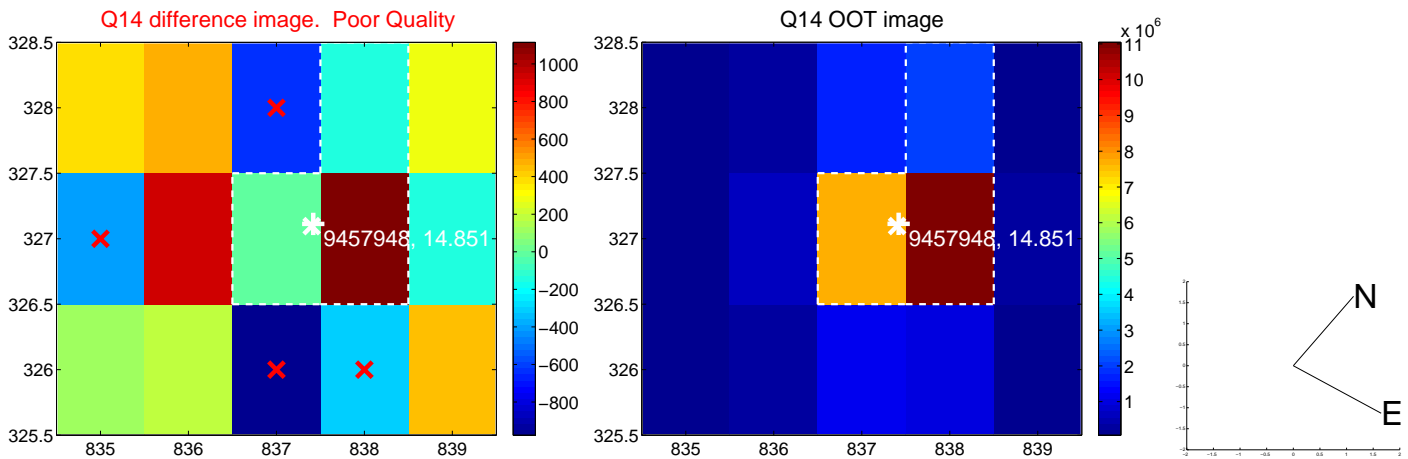
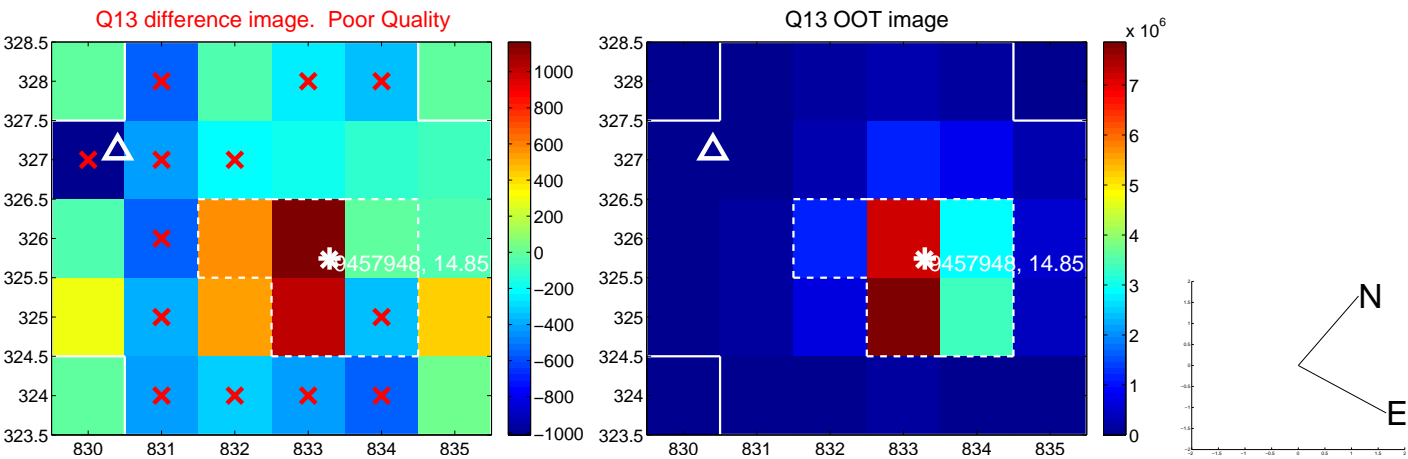
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



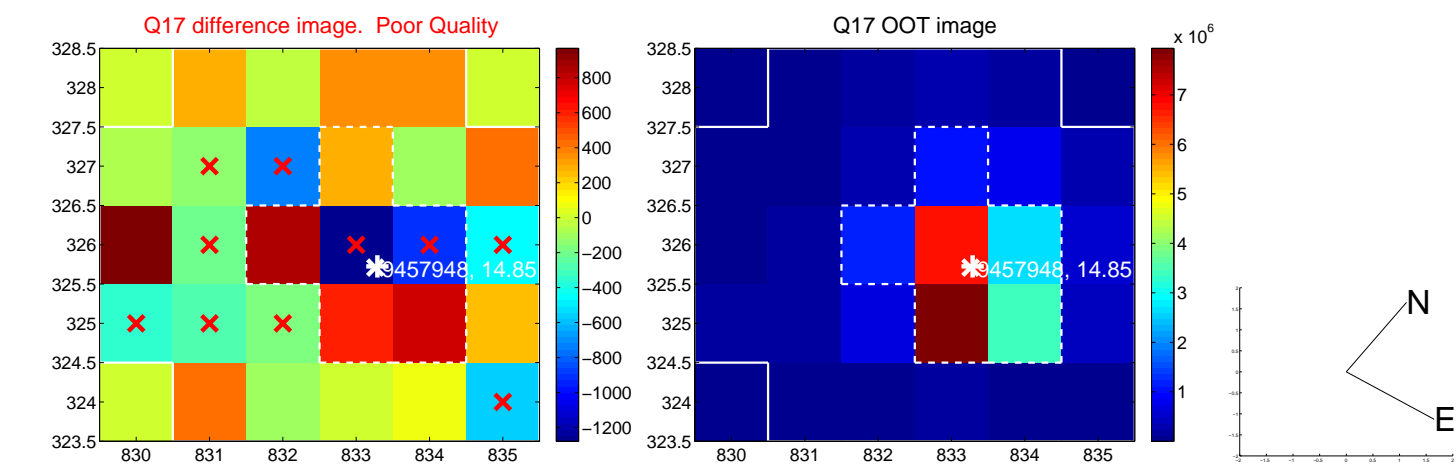
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



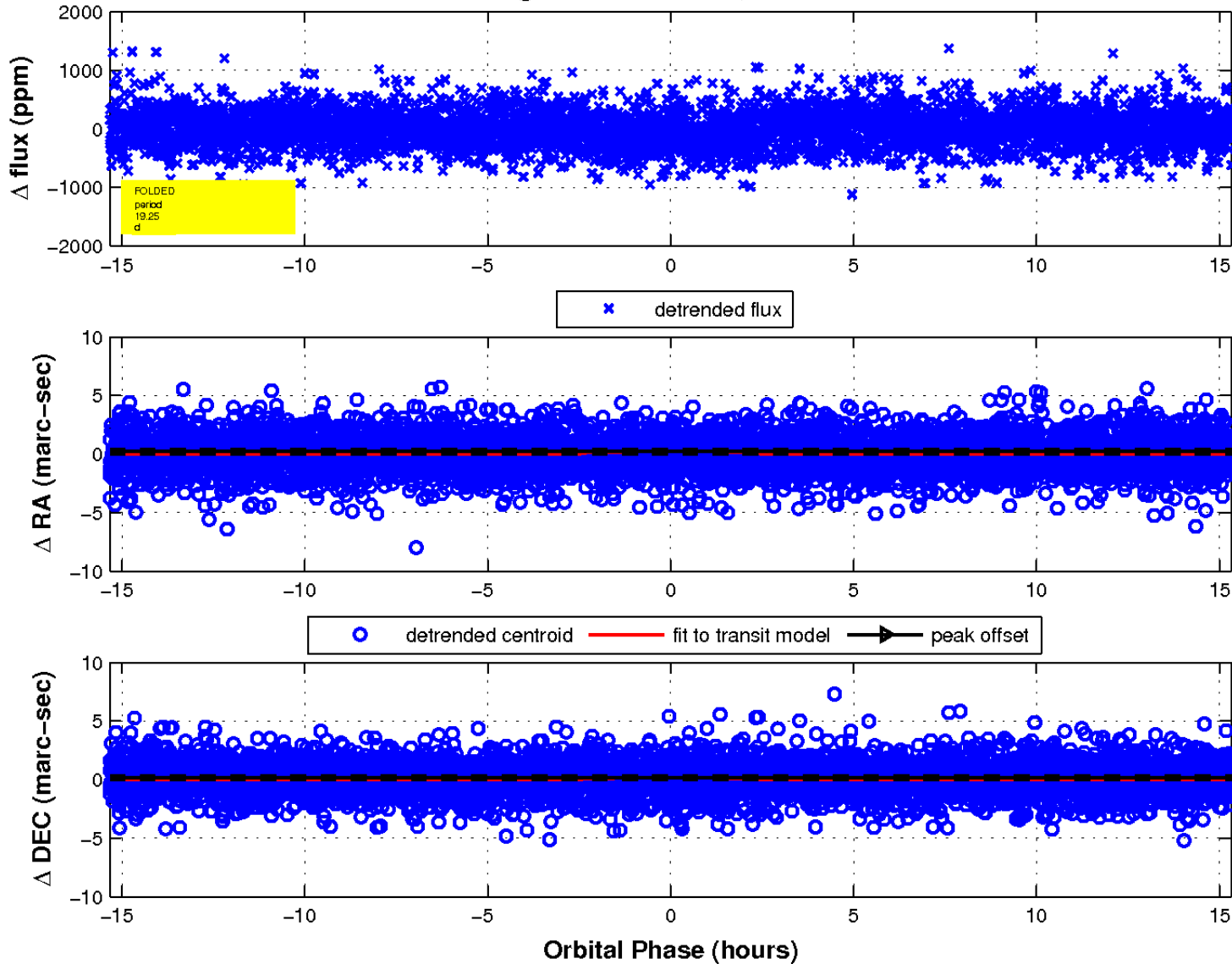
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

