

KIC 005009688

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})
005009688-01	OBS	7713.01	1.381254	131.839840	59.2	1.042	7.8	7.0	1.13	5861	1.05	2112.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005009688-01	OBS	FP	0.20	1	0	0	0	MOD_NONUNIQ_ALT—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.

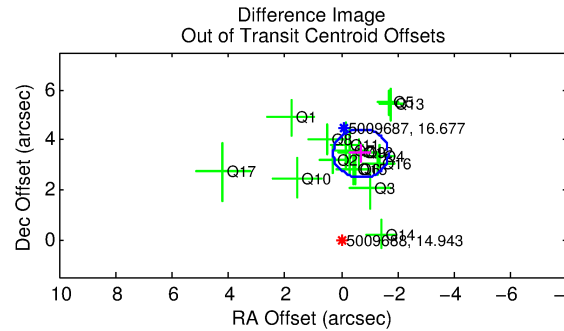
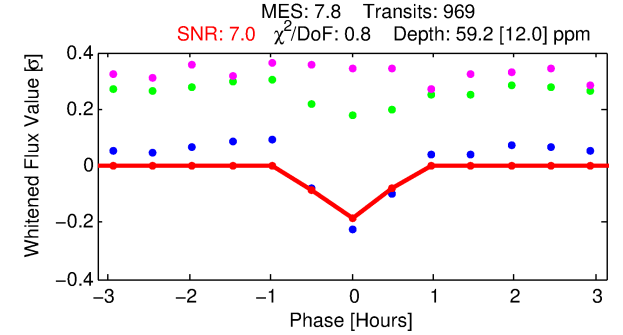
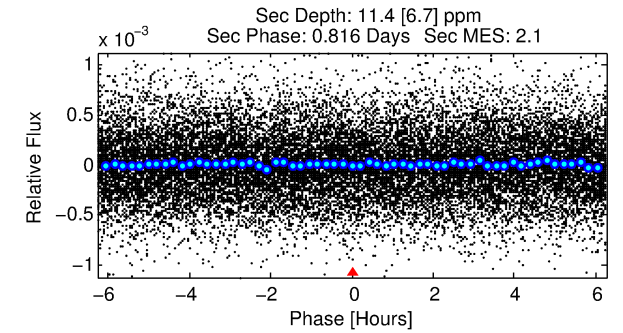
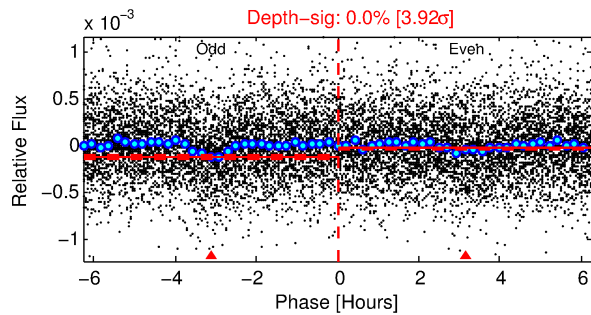
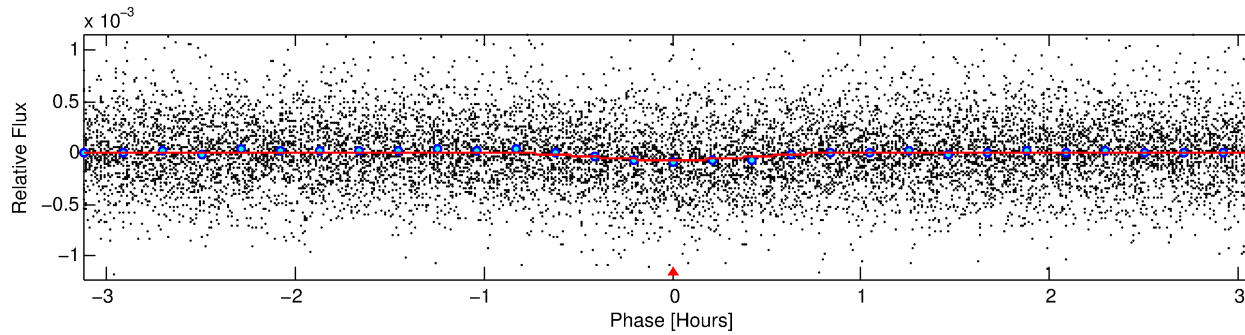
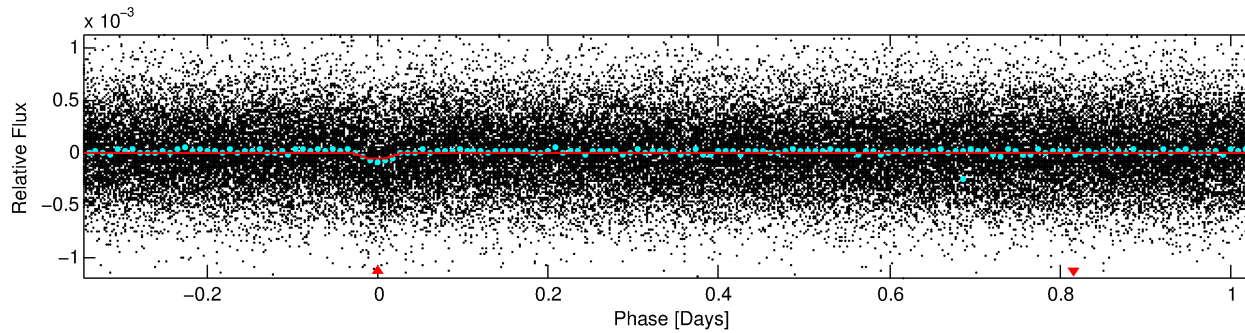
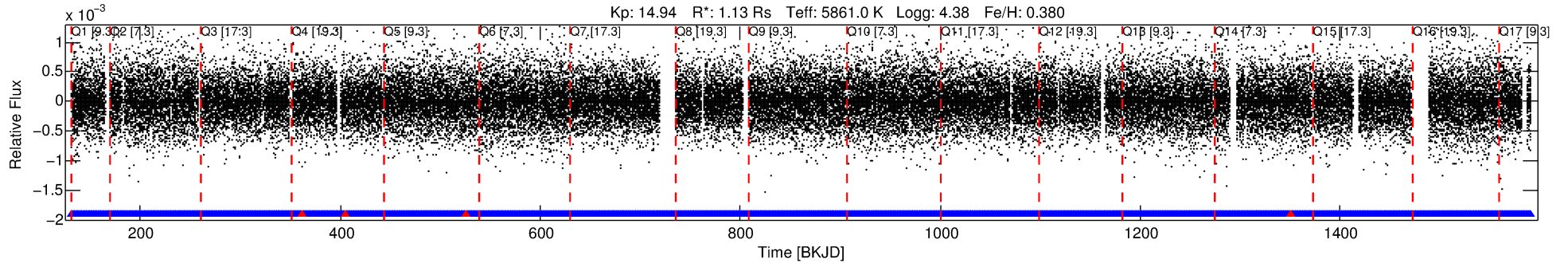
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005009688-01

No Significant Match Found

DV One-Page Summary

KIC: 5009688 Candidate: 1 of 1 Period: 1.381 d



DV Fit Results:

Period = 1.38125 [0.00001] d
Epoch = 131.8398 [0.0027] BKJD
Rp/R* = 0.0085 [0.0049]
a/R* = 4.71 [11.95]
b = 0.90 [0.58]
Seff = 2112.15 [856.57]
Teff = 1729 [175] K
Rp = 1.05 [0.68] Re
a = 0.0253 [0.0066] AU
Ag = 3.68 [4.98] [0.54σ]
Teffp = 3703 [1207] K [1.62σ]

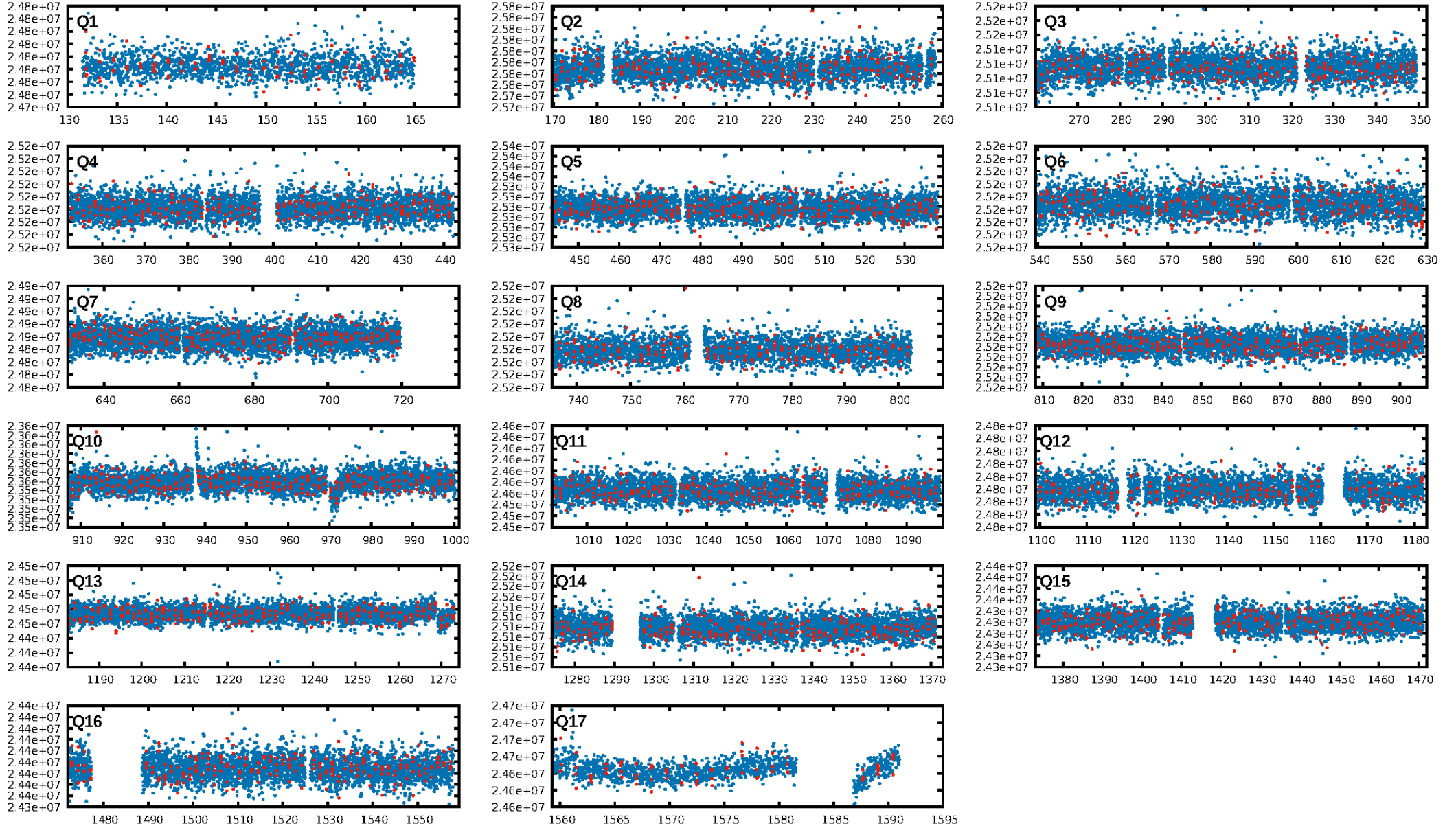
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.53e-15
RollingBand-fgt: 1.00 [921/925]
GhostDiagnostic-chr: 0.9133
Centroid-sig: 0.0%
Centroid-so: 5.860 arcsec [3.35σ]
OotOffset-rm: 3.517 arcsec [10.82σ]
KicOffset-rm: 3.825 arcsec [13.23σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.82 [14/17]
DiffImageOverlap-fno: 1.00 [17/17]

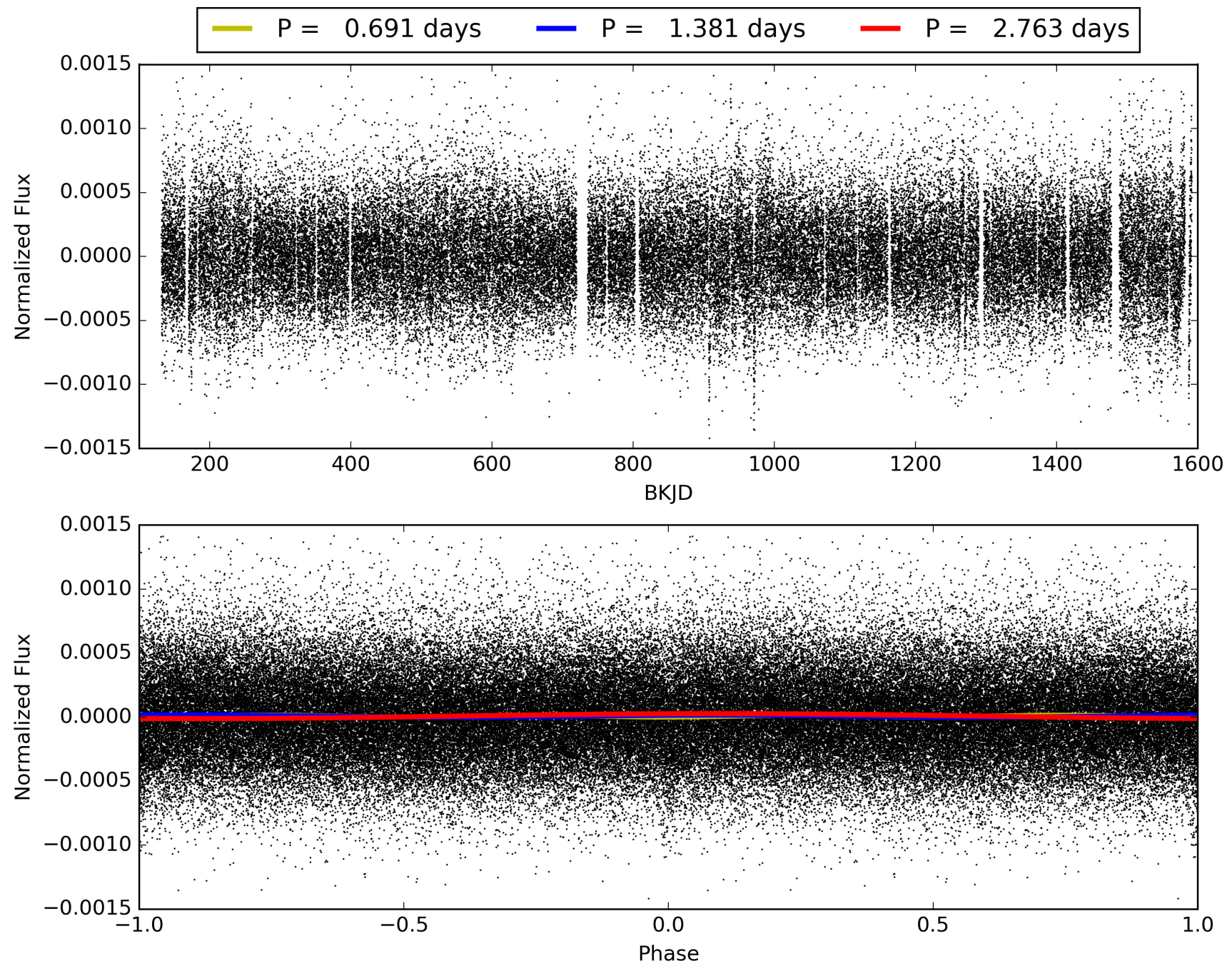
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:22:51 Z

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

TCE 005009688-01, PDC Light Curves

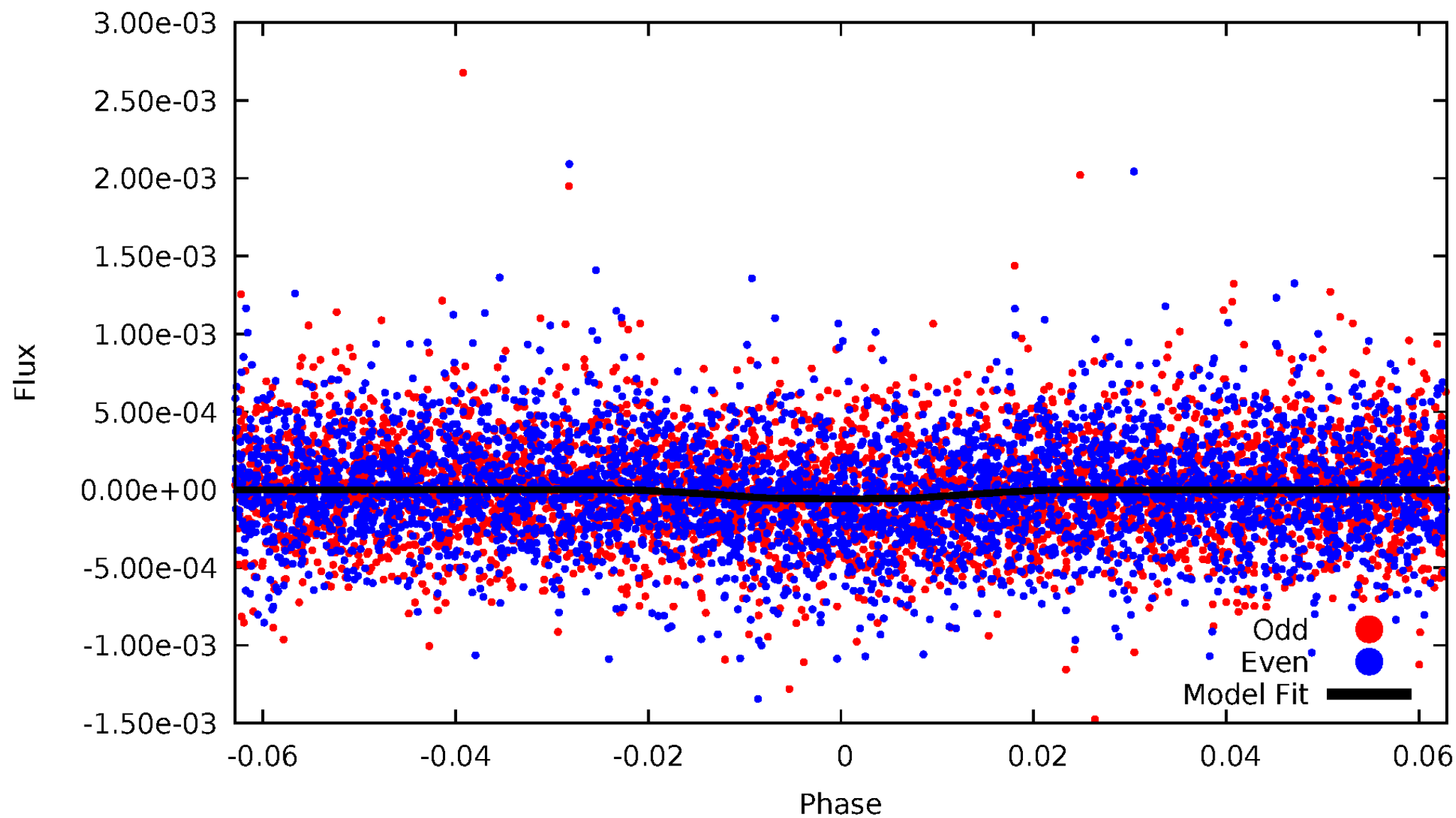


TCE 005009688-01



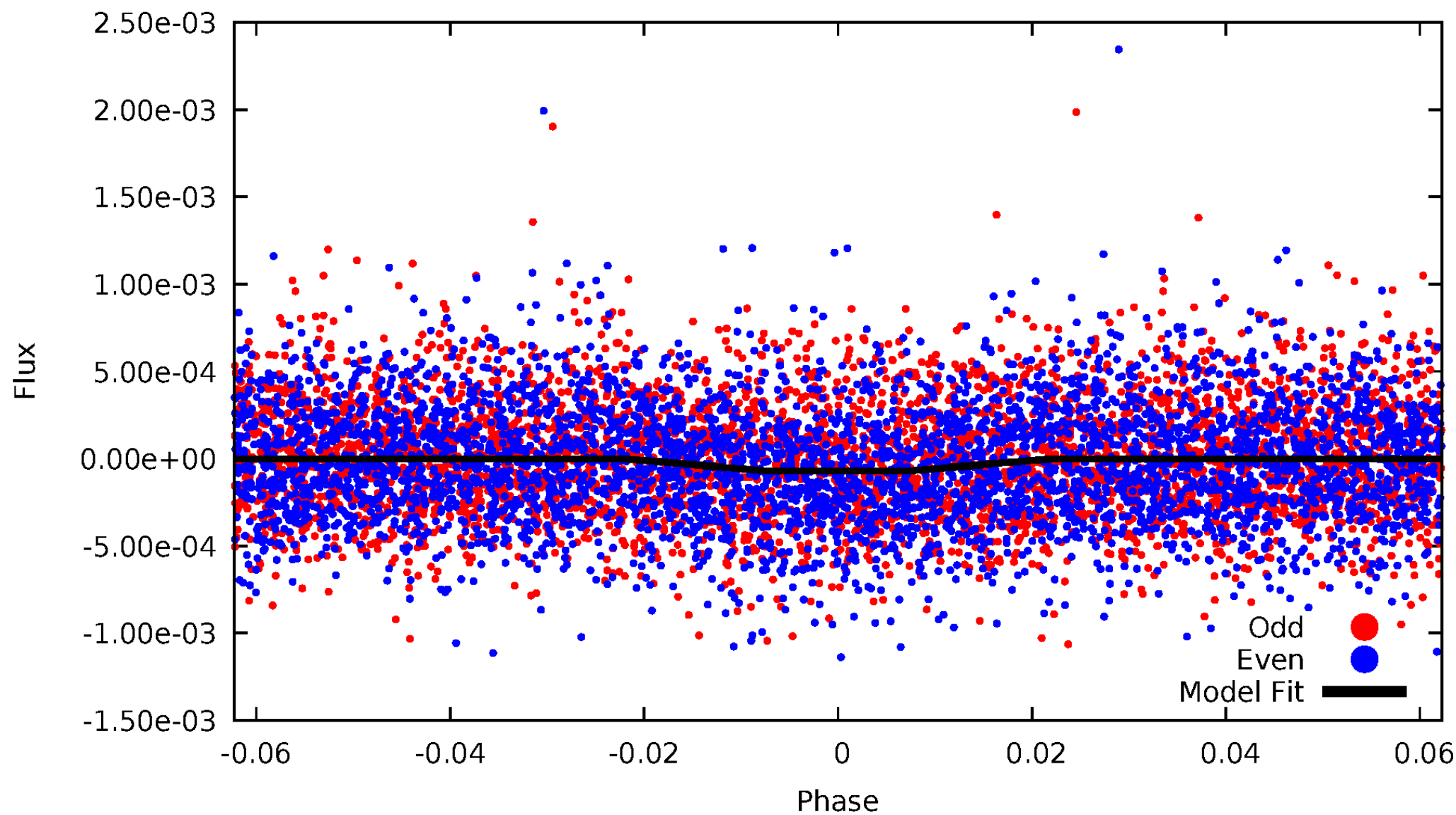
DV Odd/Even

TCE 005009688-01



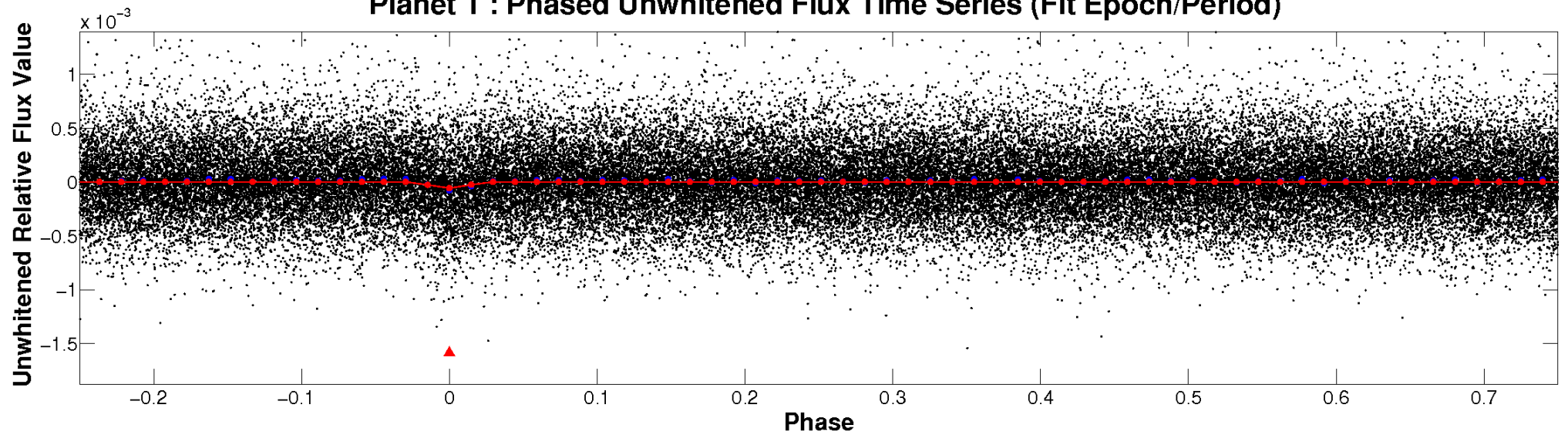
ALT Odd/Even

TCE 005009688-01

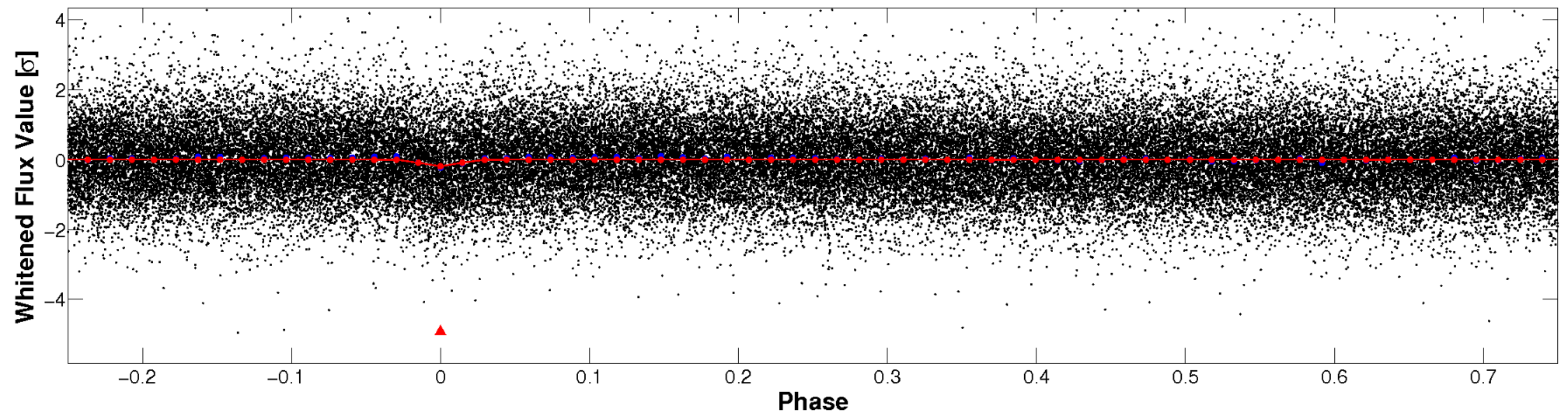


Non-Whitened Vs. Whitened Light Curve

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

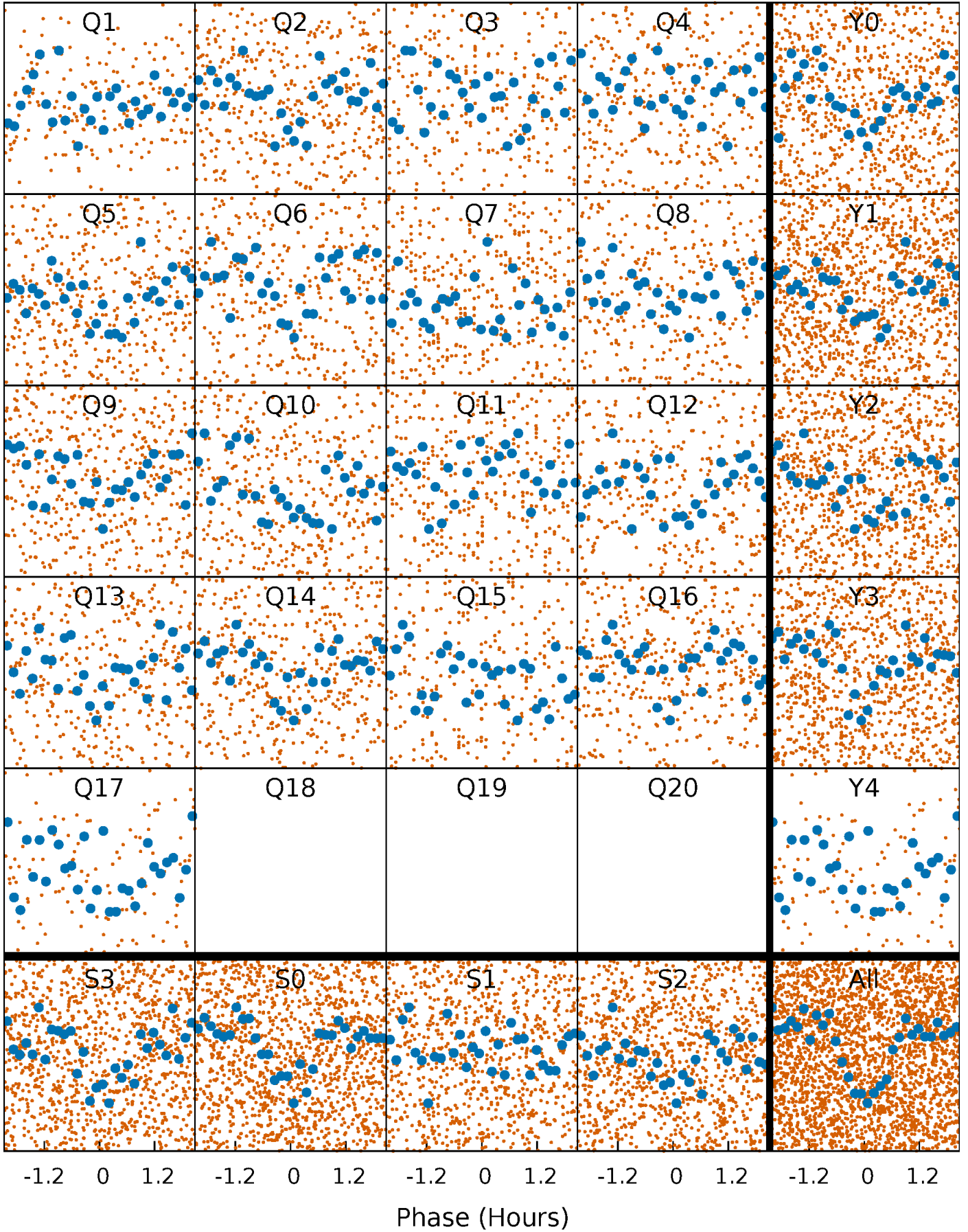


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



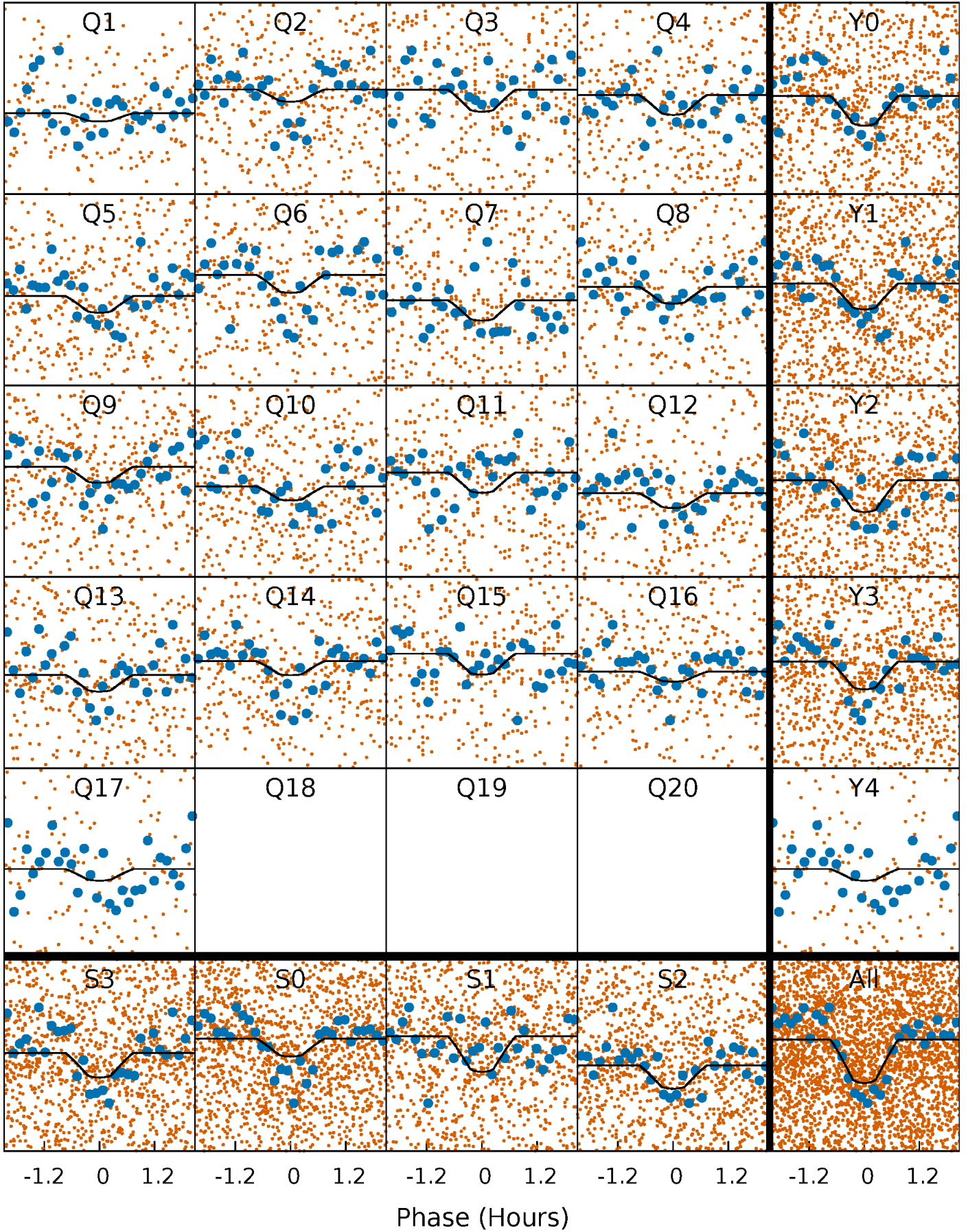
PDC Quarter-Phased Transit Curves

TCE 005009688-01 P= 1.381254 Days $T_0=131.839840$ (BKJD)



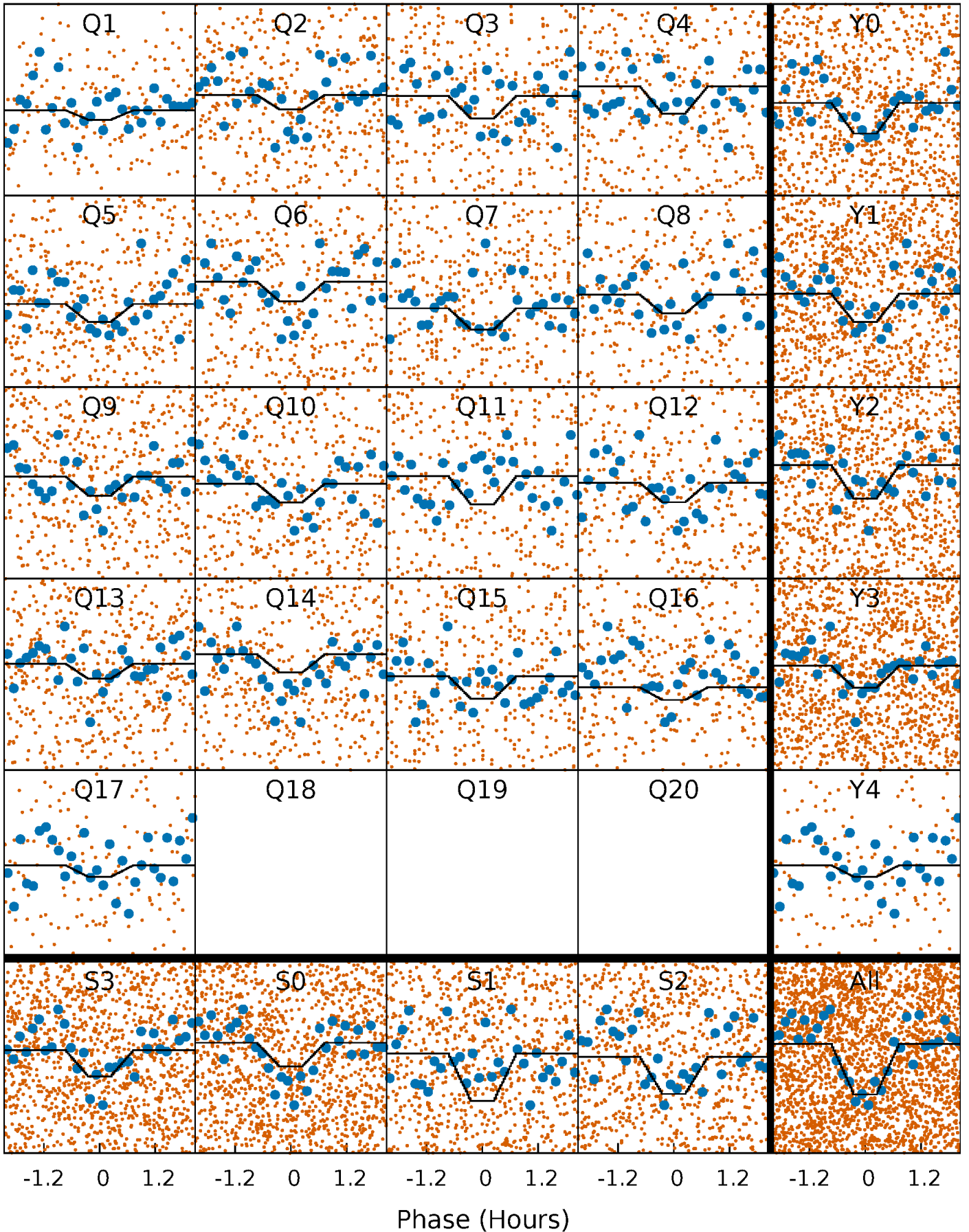
DV Quarter-Phased Transit Curves

TCE 005009688-01 P= 1.381254 Days $T_0=131.839840$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

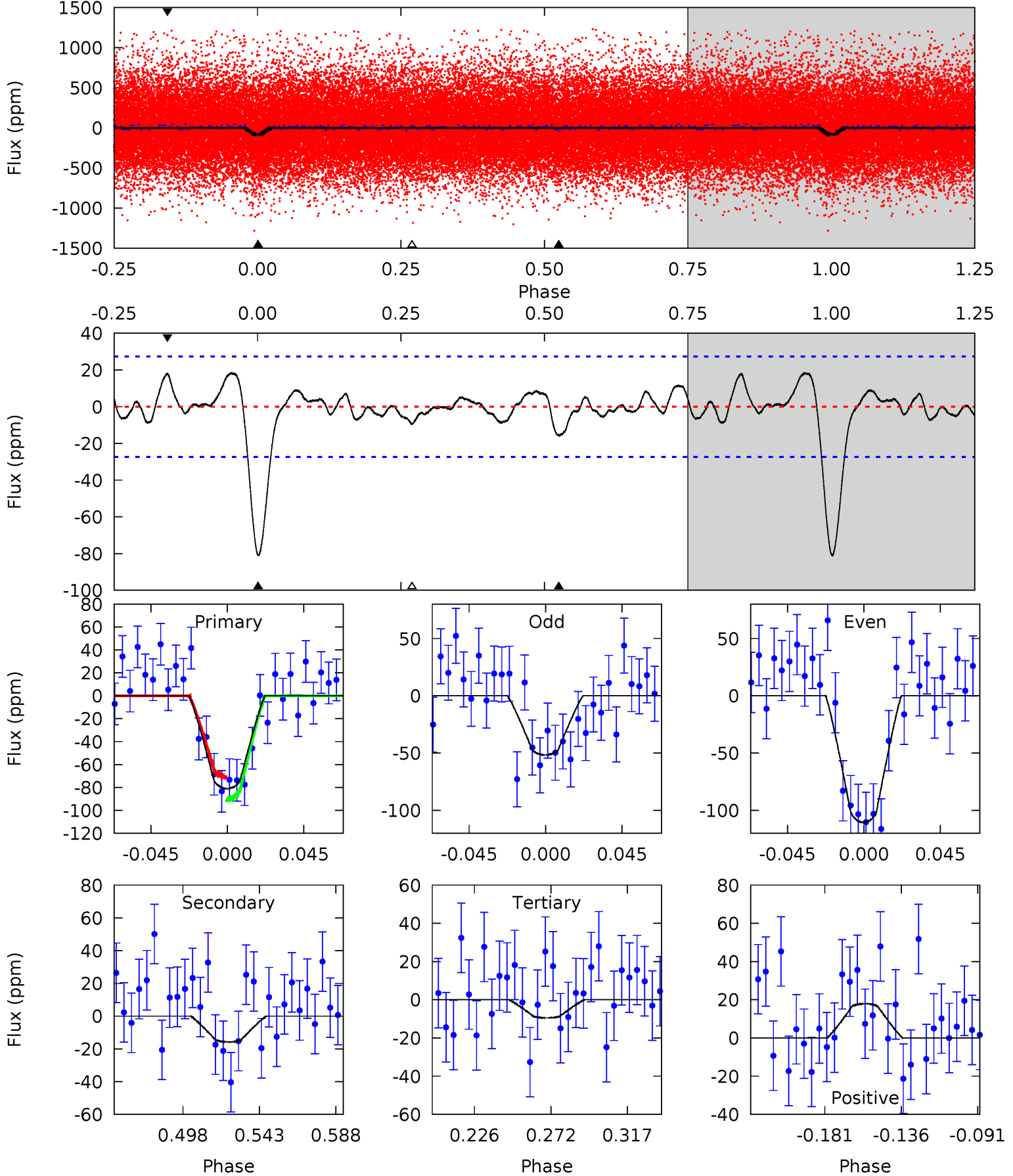
TCE 005009688-01 P= 1.381257 Days $T_0=131.839979$ (BKJD)



DV Model-Shift Uniqueness Test

005009688-01, P = 1.381254 Days, E = 130.458586 Days

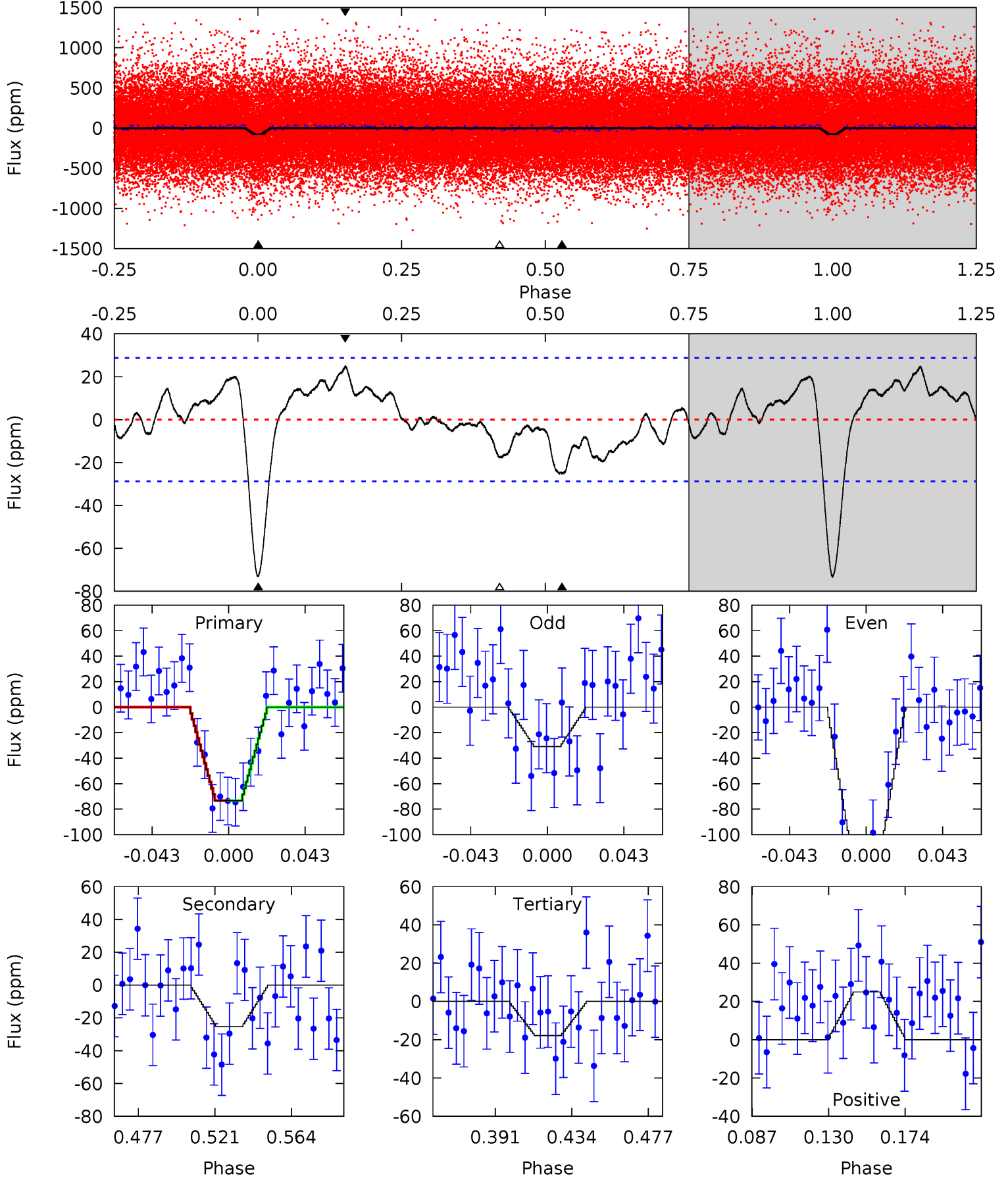
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.0	2.73	1.64	3.11	4.73	2.00	0.96	12.4	10.9	1.09	-0.38	5.09	0.95	0.18	1.68



Alt Model-Shift Uniqueness Test

005009688-01, P = 1.381257 Days, E = 130.458722 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	4.15	2.94	4.11	4.74	2.02	1.69	9.12	7.95	1.22	0.05	7.40	0.96	0.25	0.00



Stellar Parameters For KIC 005009688

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5861^{+162}_{-203}	$4.385^{+0.084}_{-0.210}$	$0.380^{+0.050}_{-0.300}$	$1.131^{+0.345}_{-0.148}$	$1.130^{+0.122}_{-0.136}$	$1.101^{+0.407}_{-0.569}$
	+3%/-3%	+2%/-5%	+13%/-79%	+31%/-13%	+11%/-12%	+37%/-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 005009688-01 / KOI 7713.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-16 ± 6	$1.09^{+0.63}_{-0.54}$	2448^{+199}_{-135}	4177^{+1418}_{-744}	$4.597^{+13.775}_{-3.047}$
Alt.	-25 ± 6	$1.14^{+0.62}_{-0.62}$	2451^{+180}_{-133}	4505^{+1961}_{-717}	$6.710^{+25.258}_{-4.022}$

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

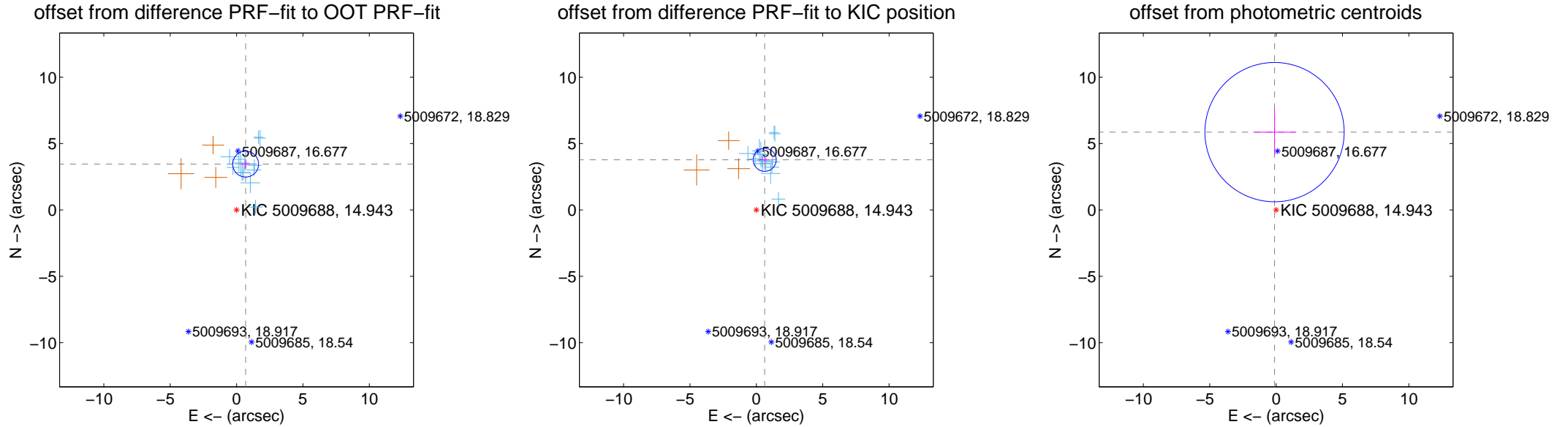
DV Centroid Data

Supplemental centroid analysis for 005009688-01. Kepler magnitude: 14.94. Transit SNR 6.98

There are 14 quarters with good PRF difference image offsets

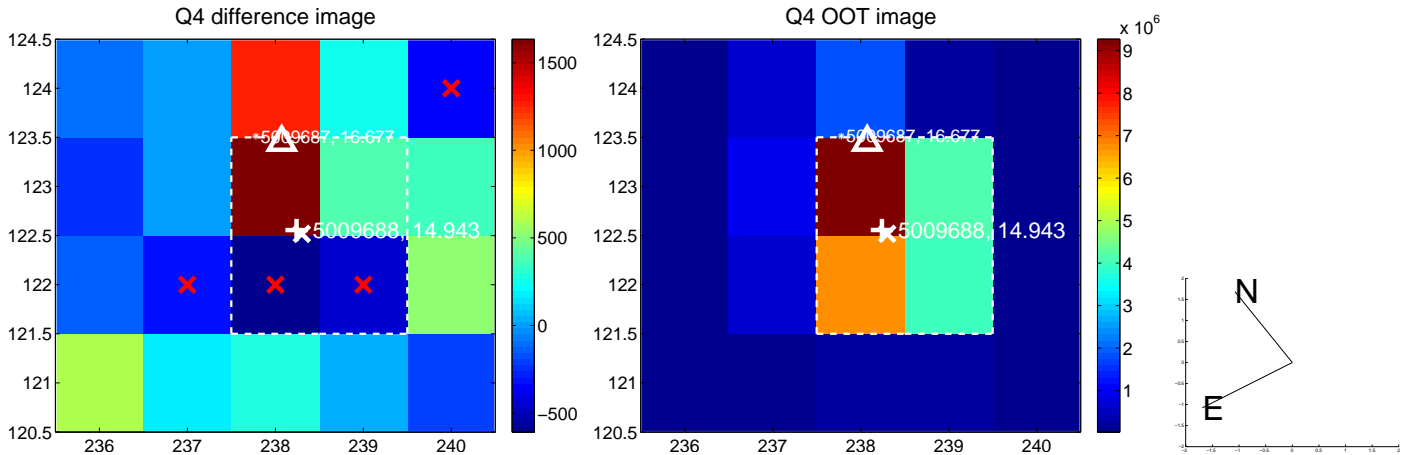
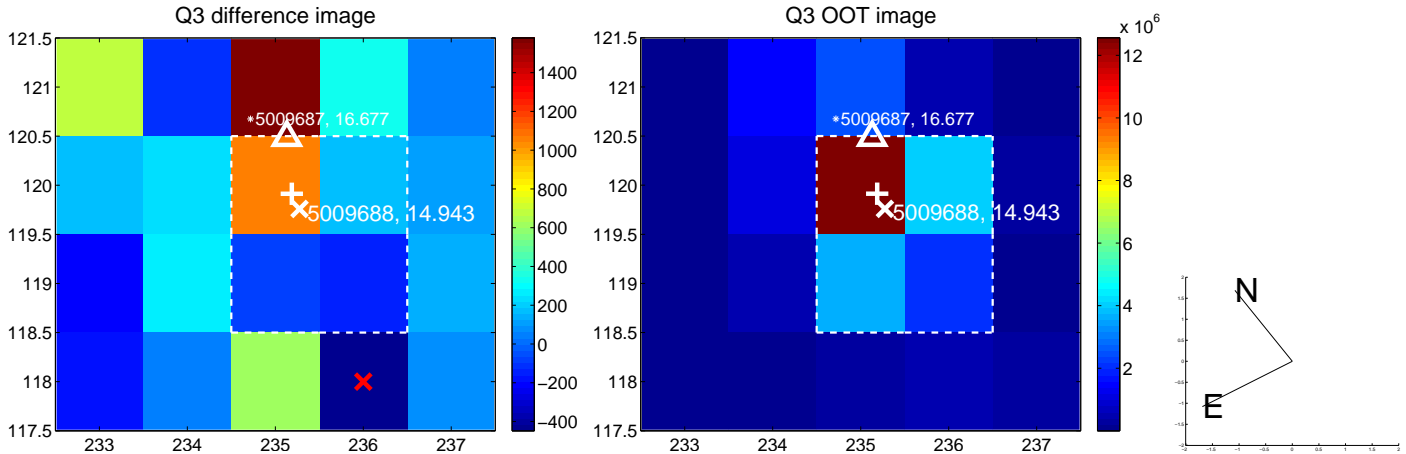
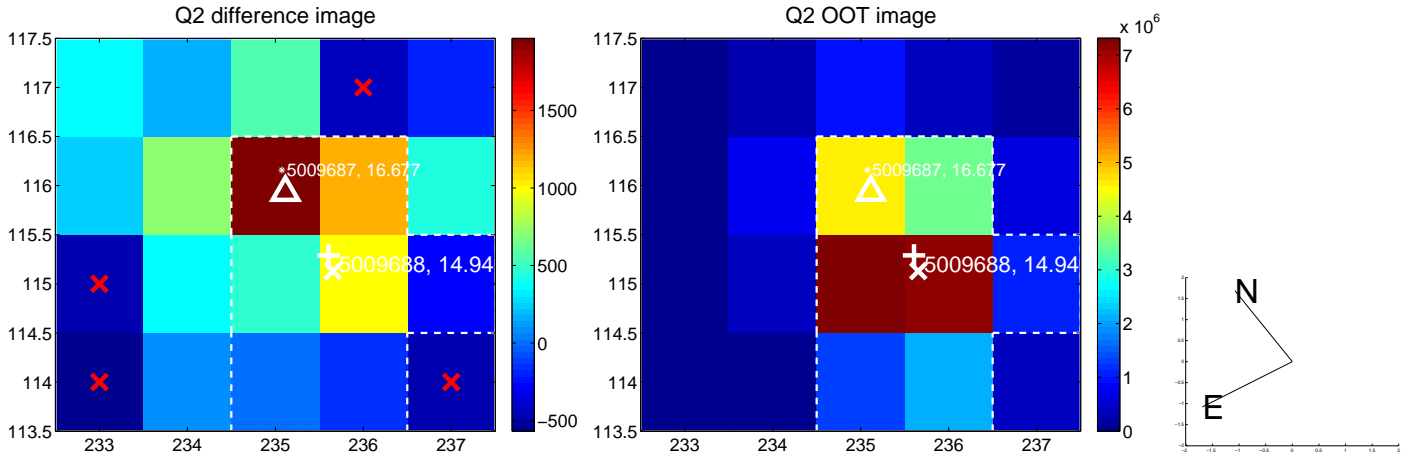
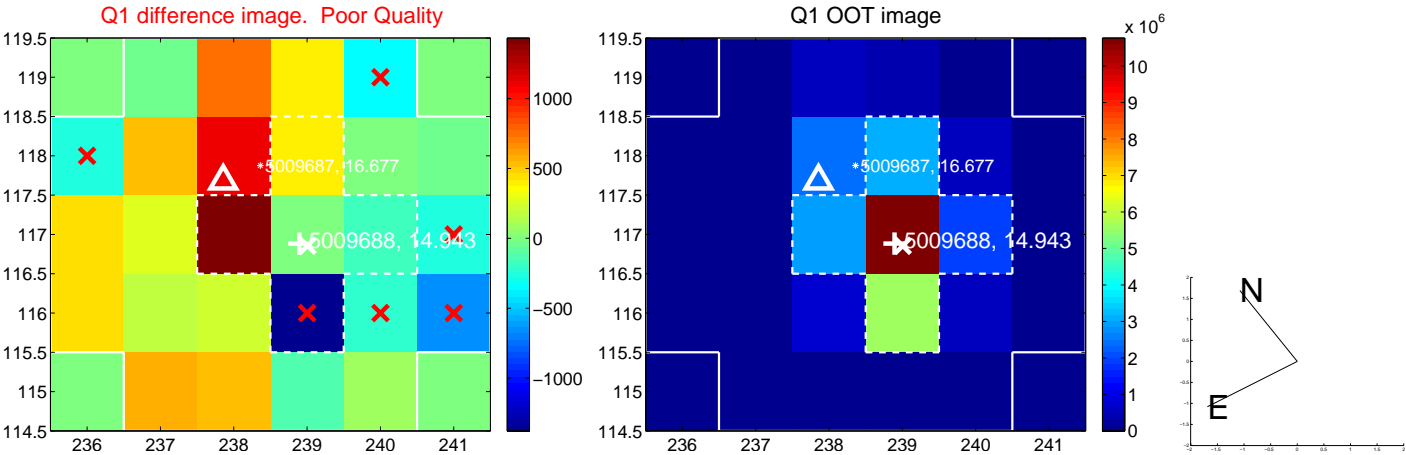
The direct PRF centroid is offset from the target star catalog position by about 0.43 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.517 ± 0.325	10.82	-0.683 ± 0.363	3.450 ± 0.324
PRF-fit source offset from KIC position	3.825 ± 0.289	13.23	-0.630 ± 0.382	3.773 ± 0.284
photometric centroid source offset	5.86 ± 1.75	3.35	0.12 ± 1.59	5.86 ± 1.75

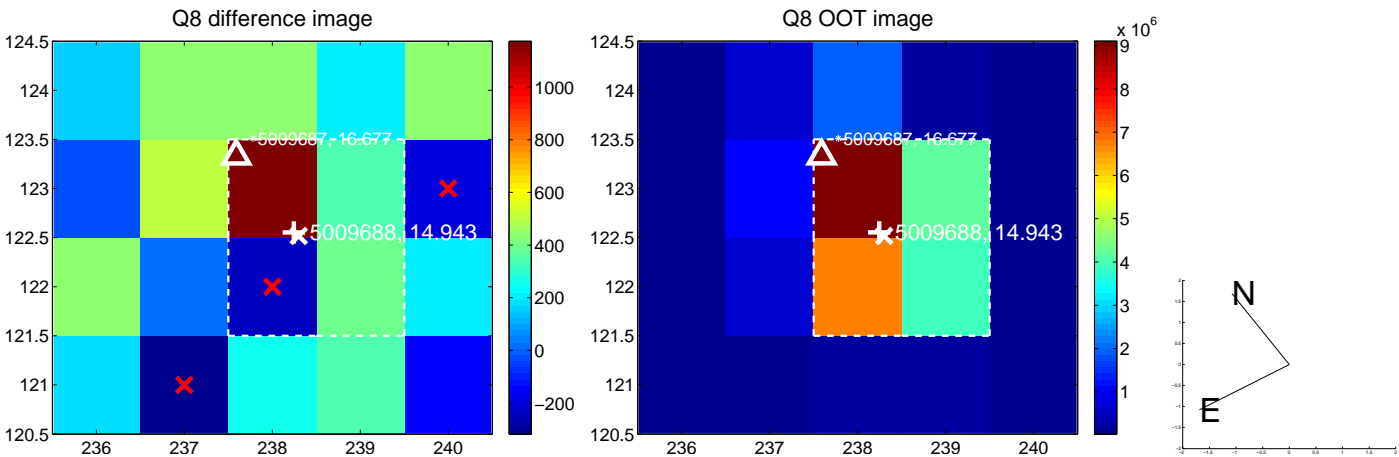
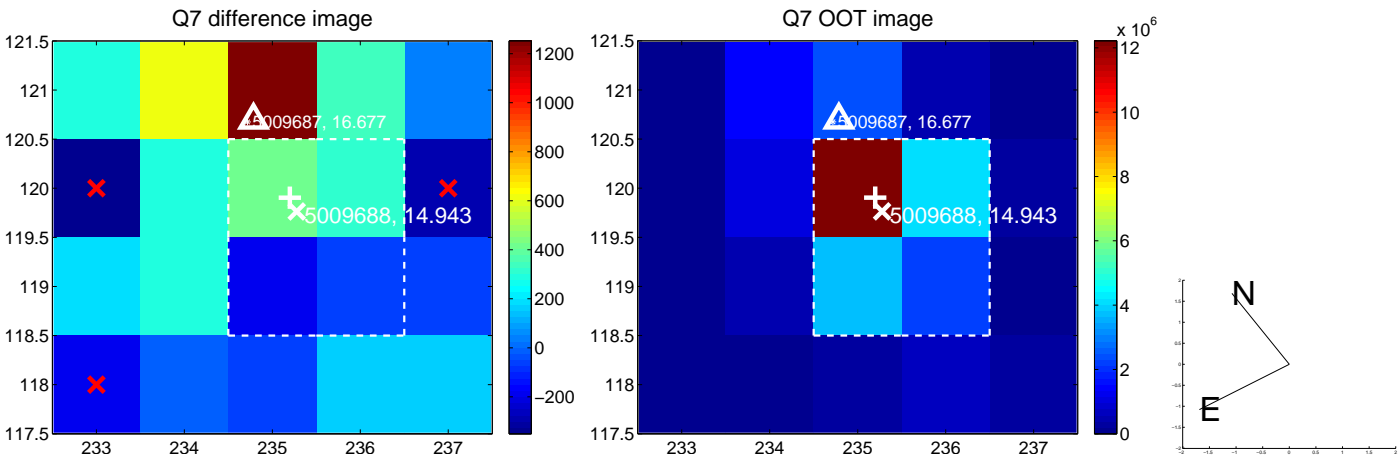
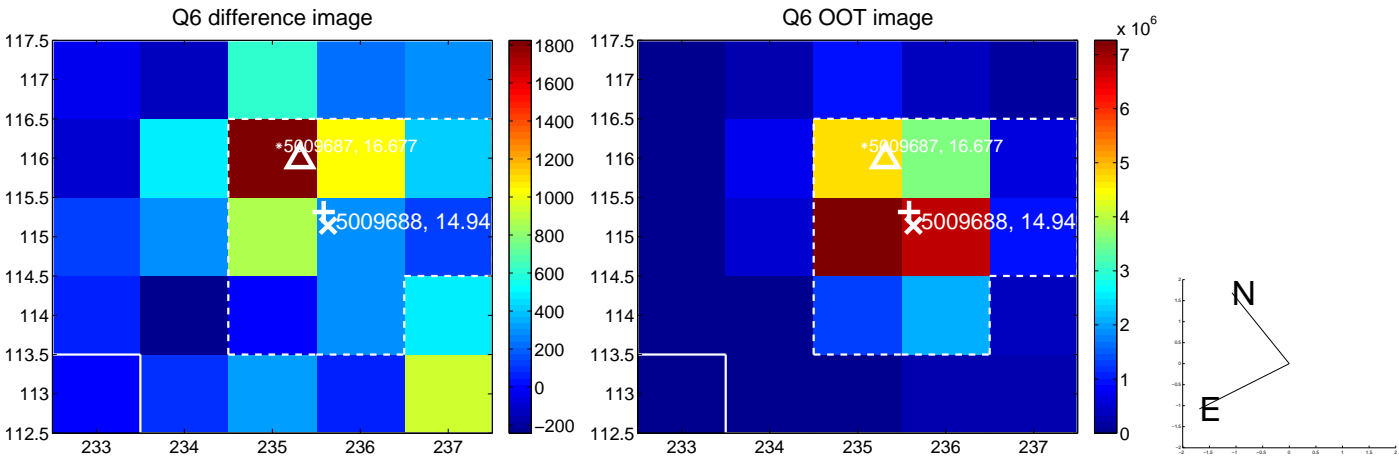
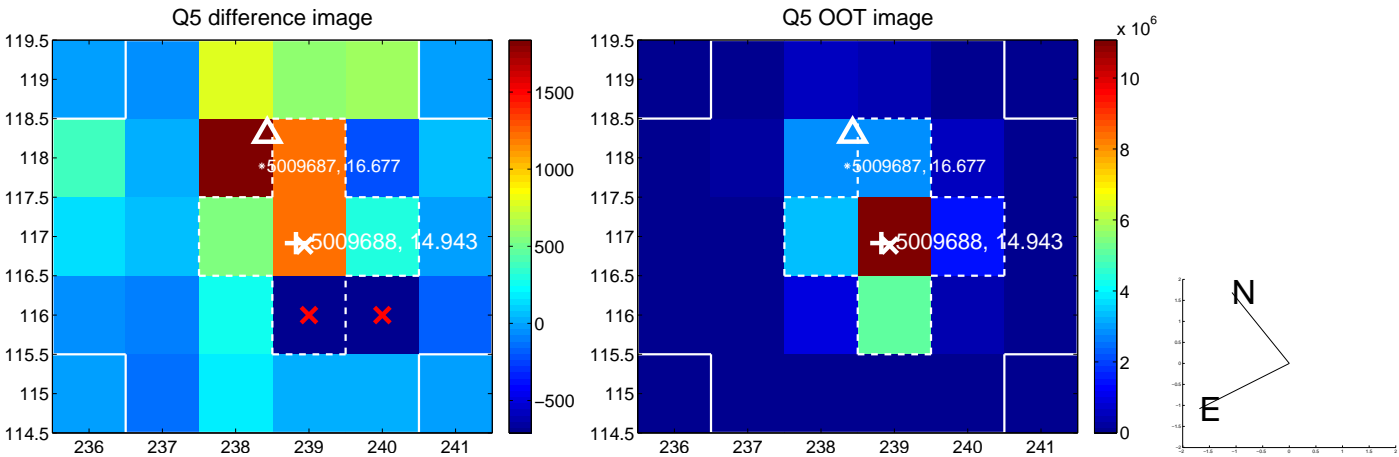


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

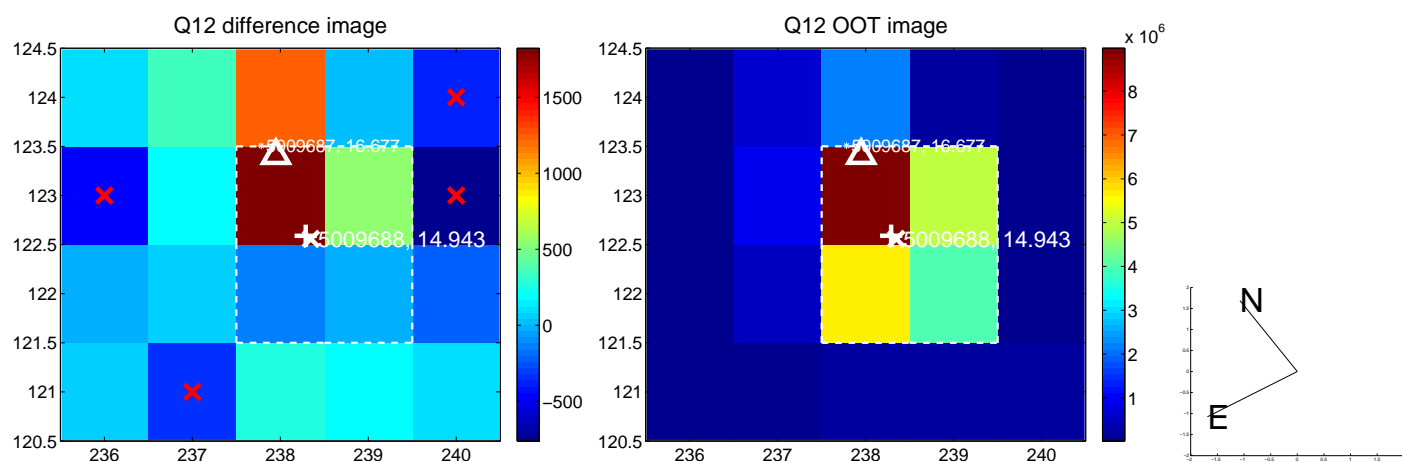
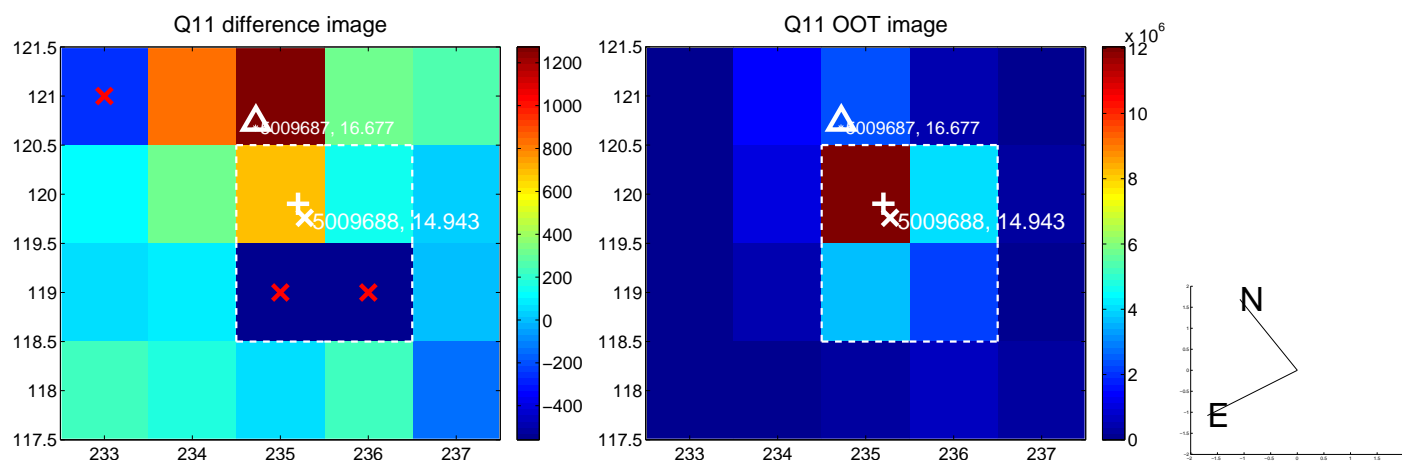
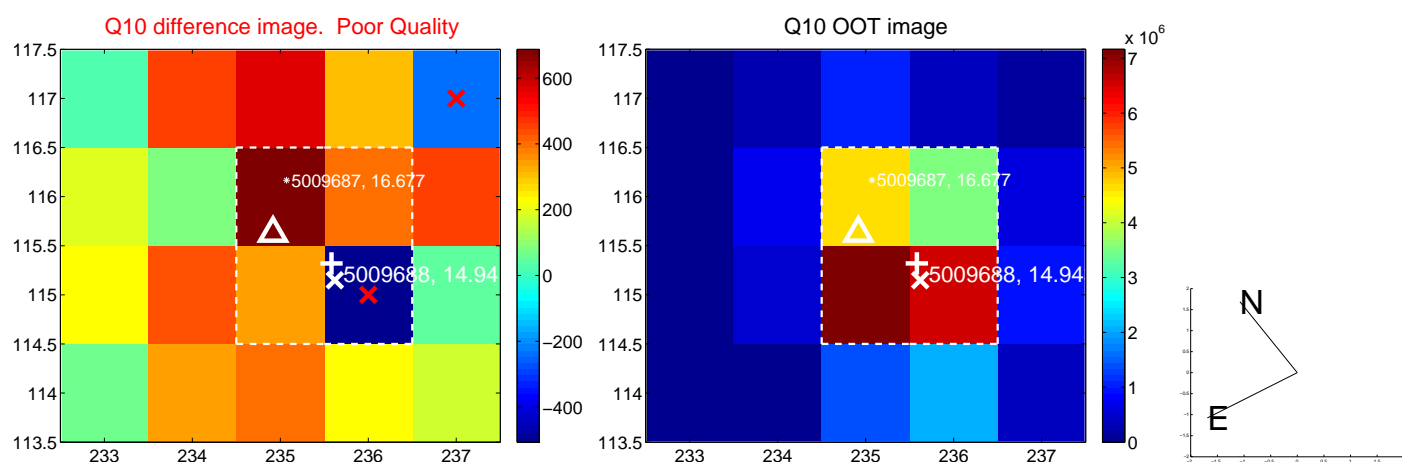
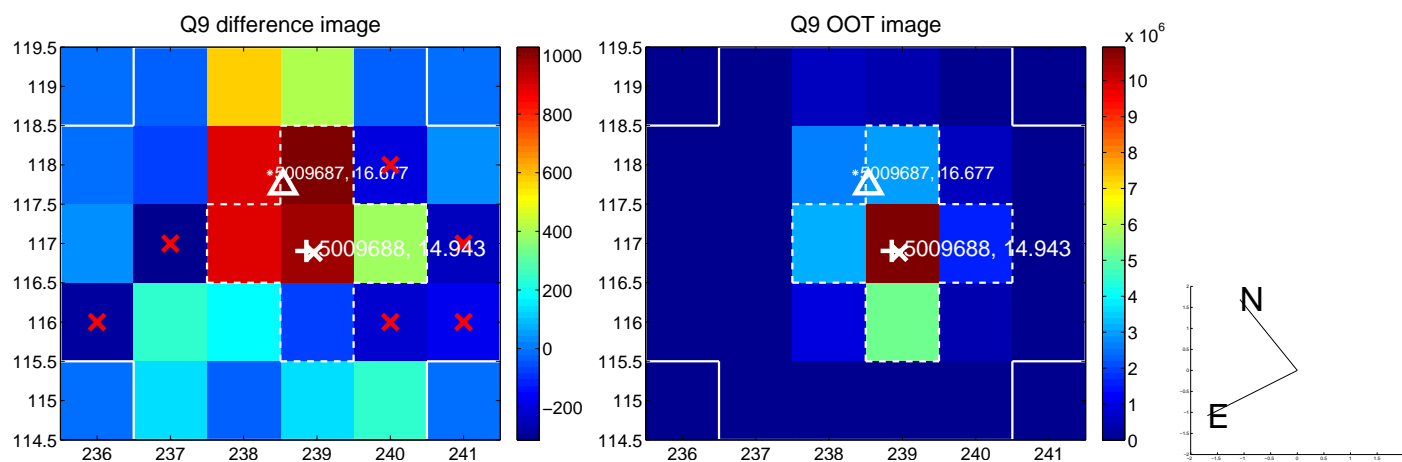
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



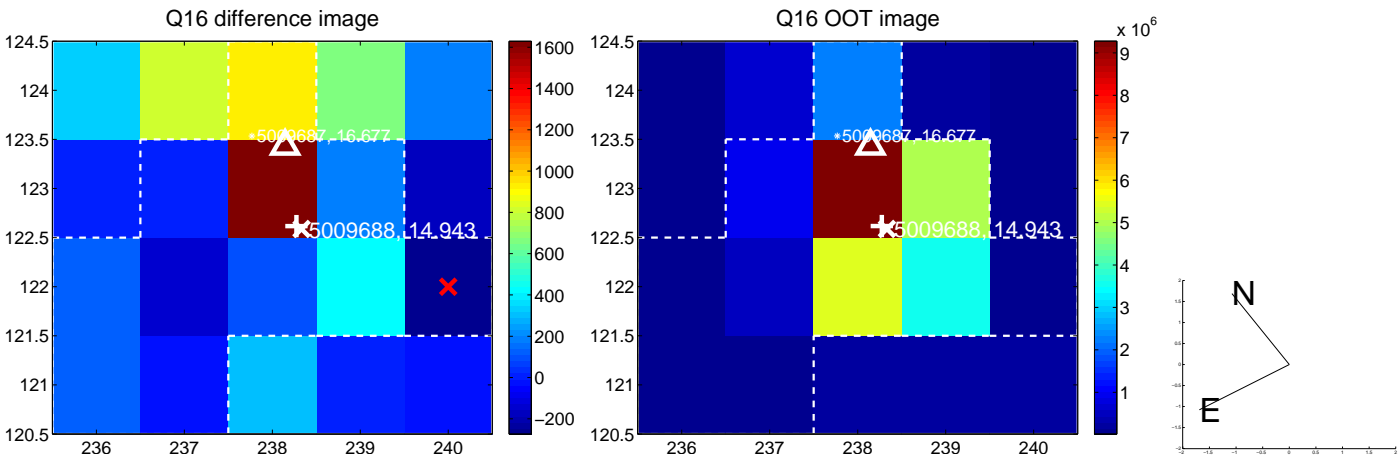
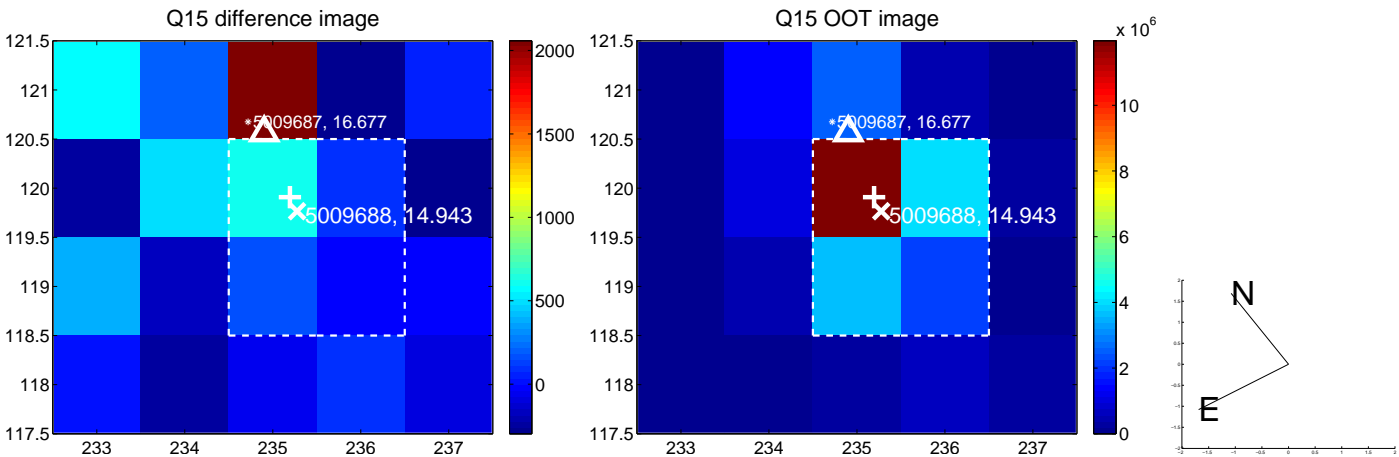
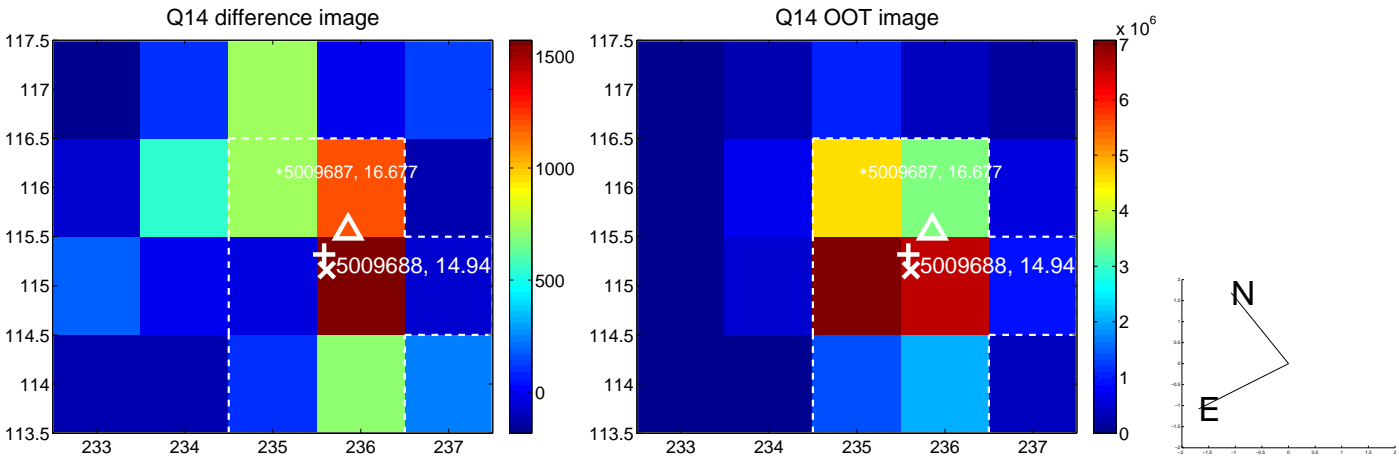
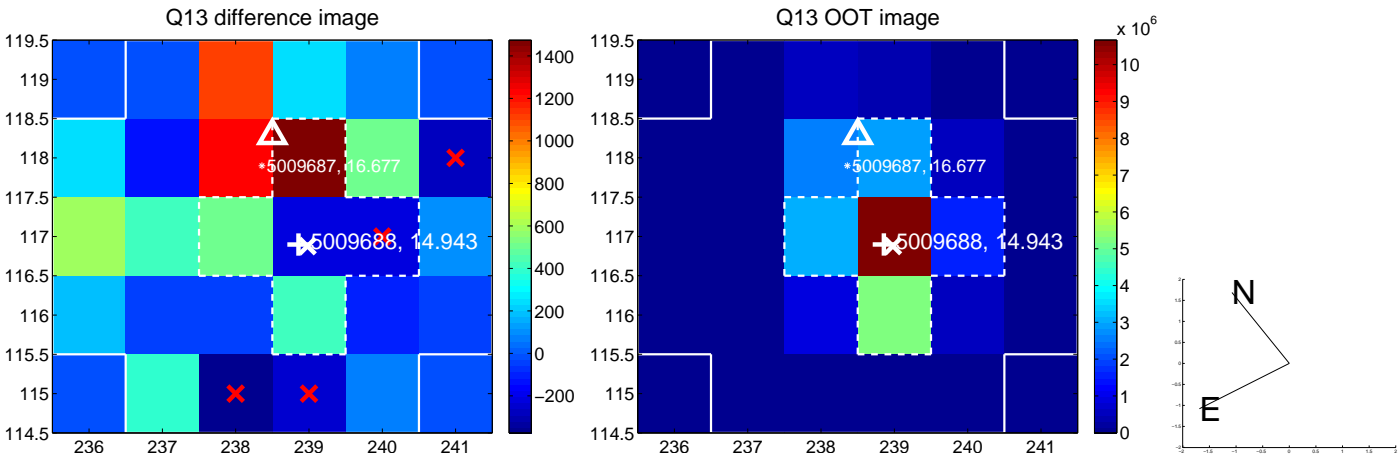
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



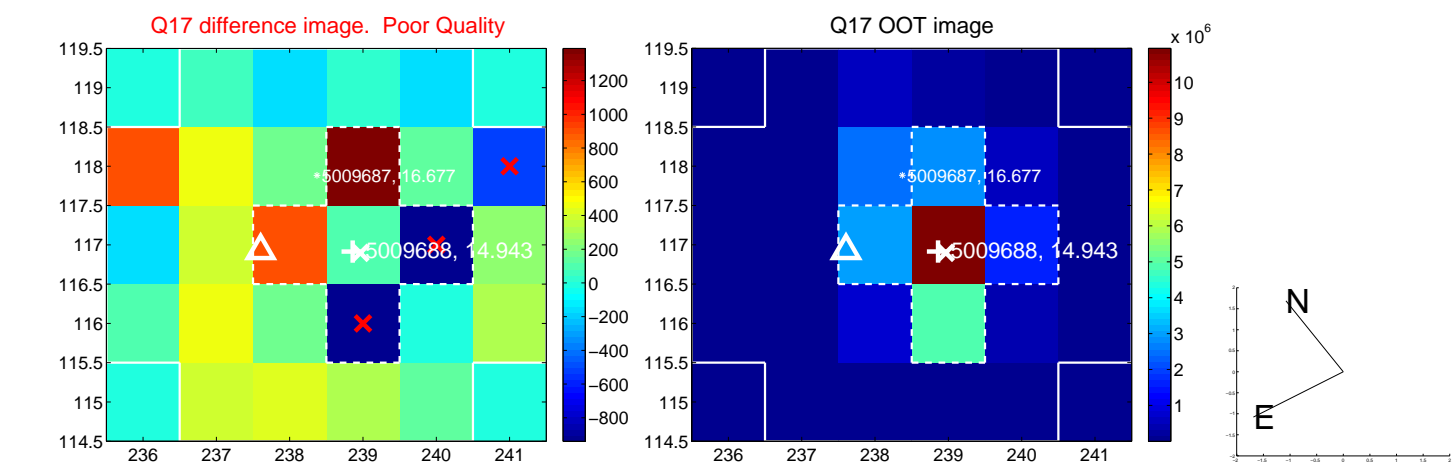
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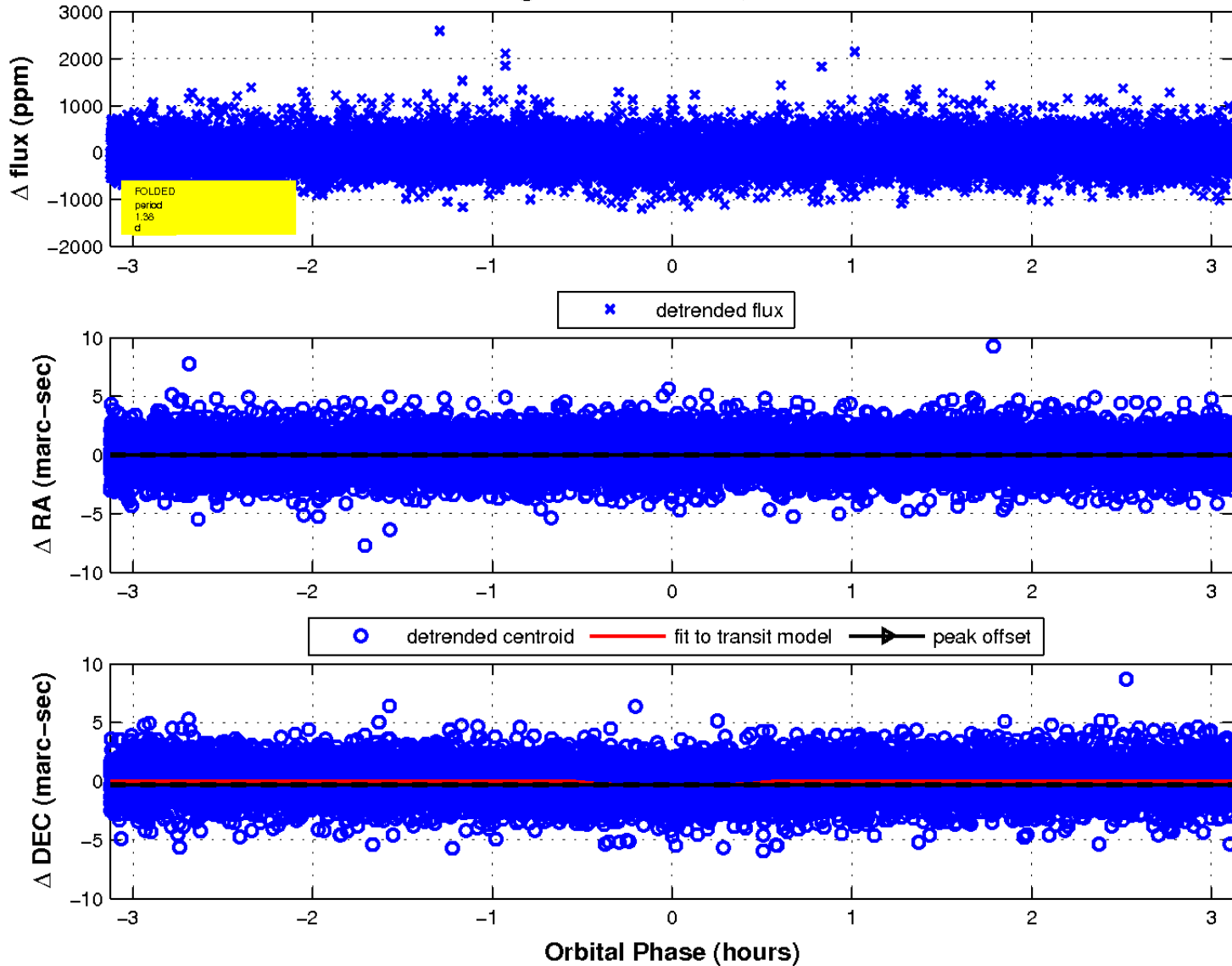
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

