

KIC 009045611

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})
009045611-01	OBS	No	0.745798	132.141797	55.3	6.155	10.8	5.1	3.08	5422	2.26	21955.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009045611-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV

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

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

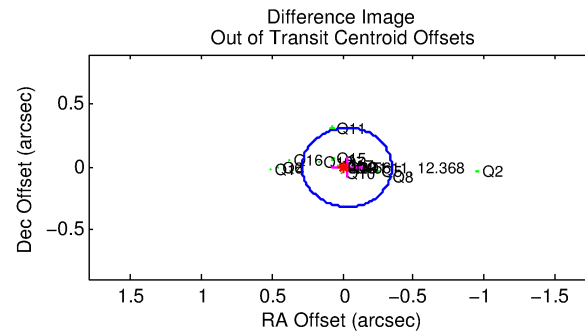
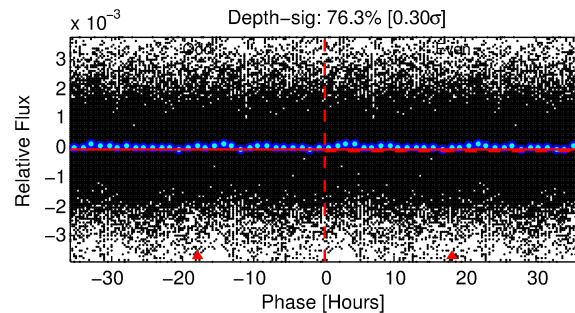
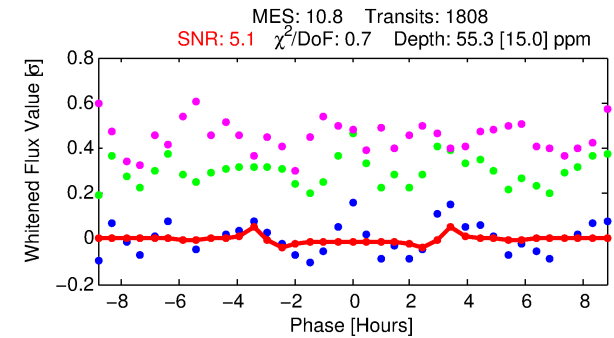
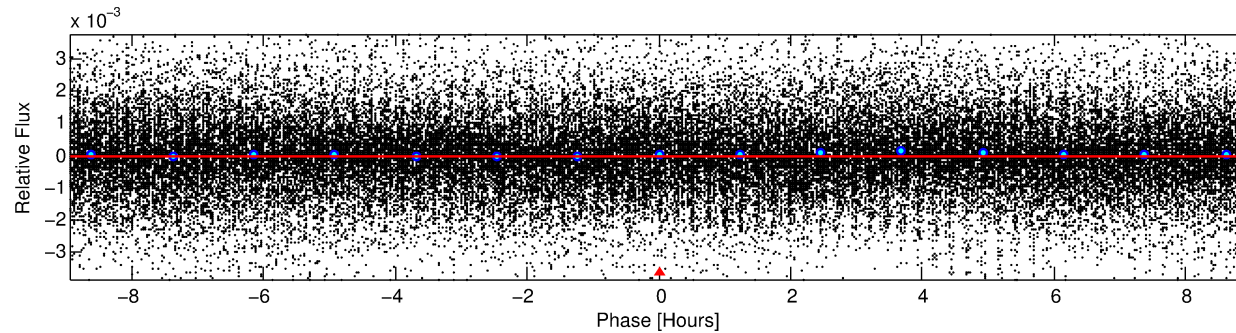
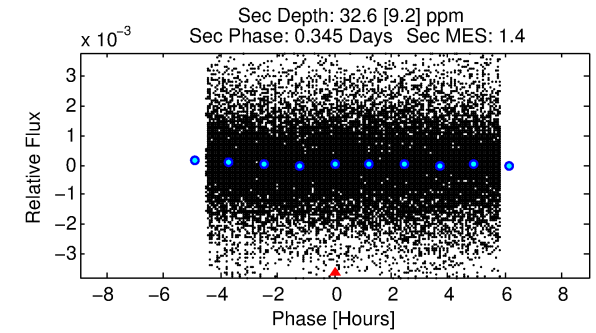
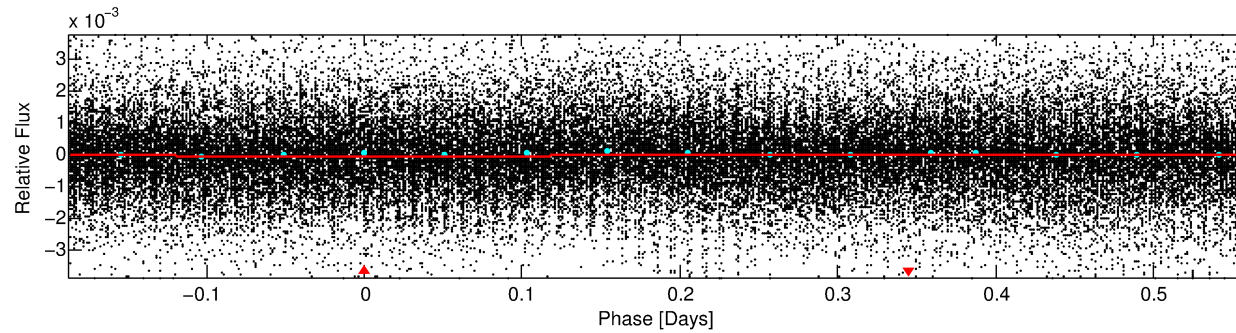
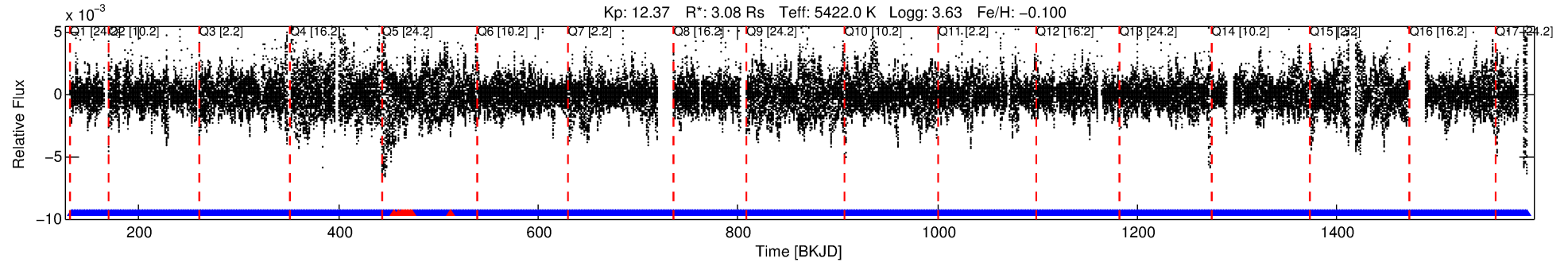
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009045611-01

No Significant Match Found

DV One-Page Summary

KIC: 9045611 Candidate: 1 of 1 Period: 0.746 d



DV Fit Results:

Period = 0.74580 [0.00002] d
Epoch = 132.1418 [0.0022] BKJD
Rp/R* = 0.0067 [0.0036]
a/R* = 1.14 [0.59]
b = 0.21 [10.76]
Seff = 21955.83 [29413.69]
Teq = 3104 [1040] K
Rp = 2.26 [1.96] Re
a = 0.0183 [0.0142] AU
Ag = 1.17 [2.03] [0.08σ]
Teffp = 4993 [1382] K [1.09σ]

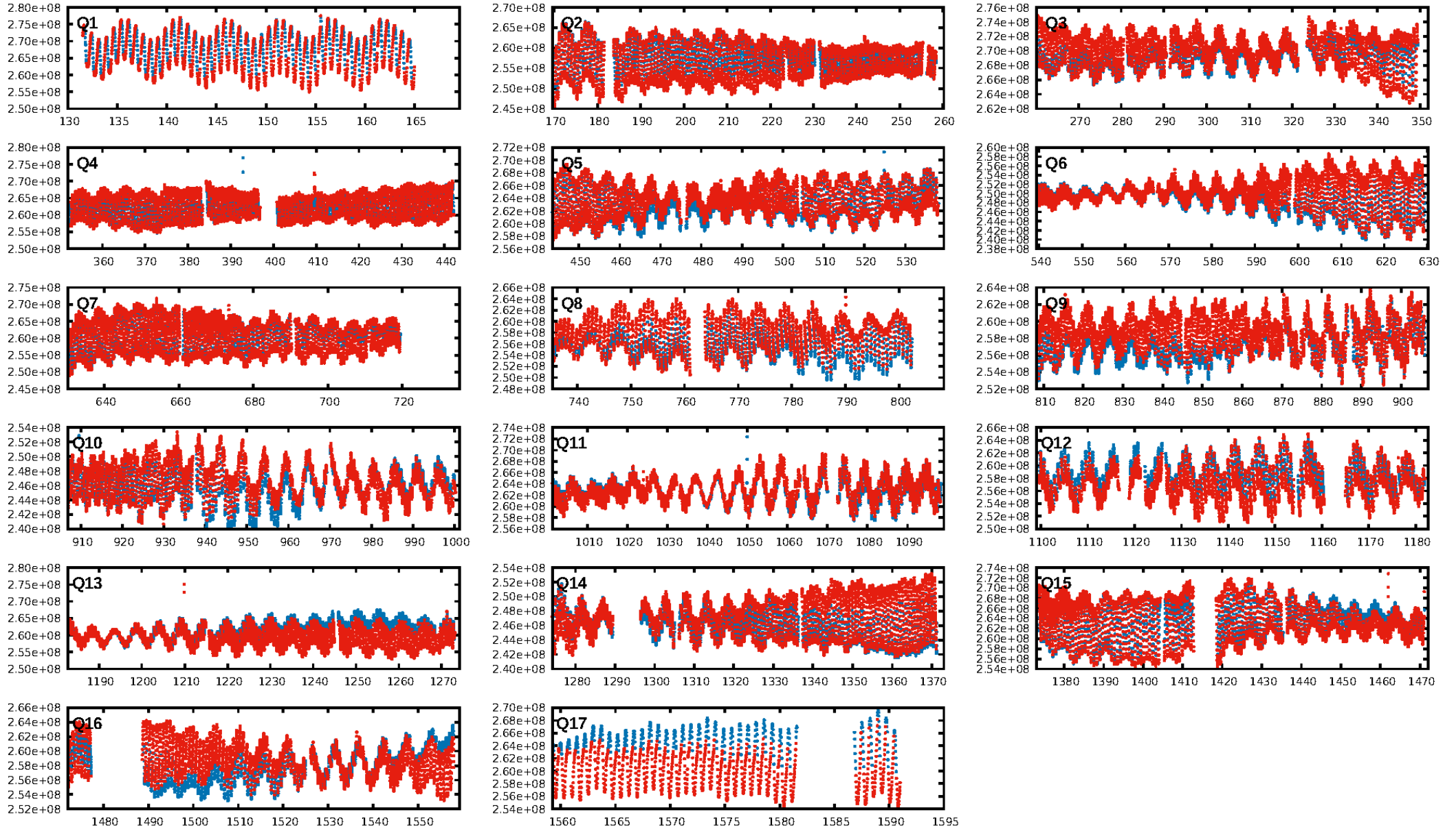
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [1709/1726]
GhostDiagnostic-chr: 0.9804
Centroid-sig: 3.8%
Centroid-so: 0.525 arcsec [2.29σ]
OotOffset-rm: 0.031 arcsec [0.30σ]
KicOffset-rm: 0.103 arcsec [1.05σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.47 [8/17]
DiffImageOverlap-fno: 1.00 [17/17]

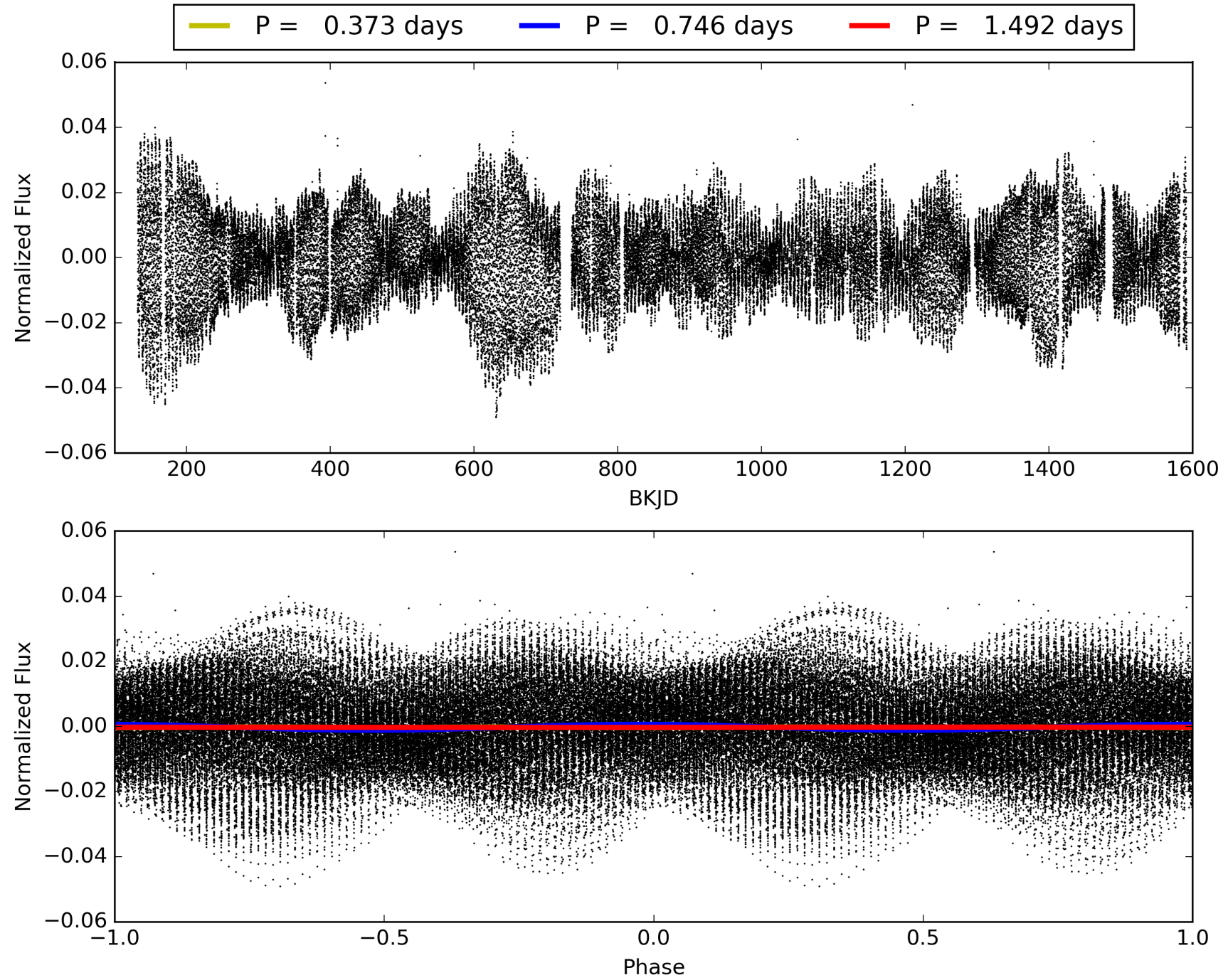
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 19:35:11 Z

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

TCE 009045611-01, PDC Light Curves

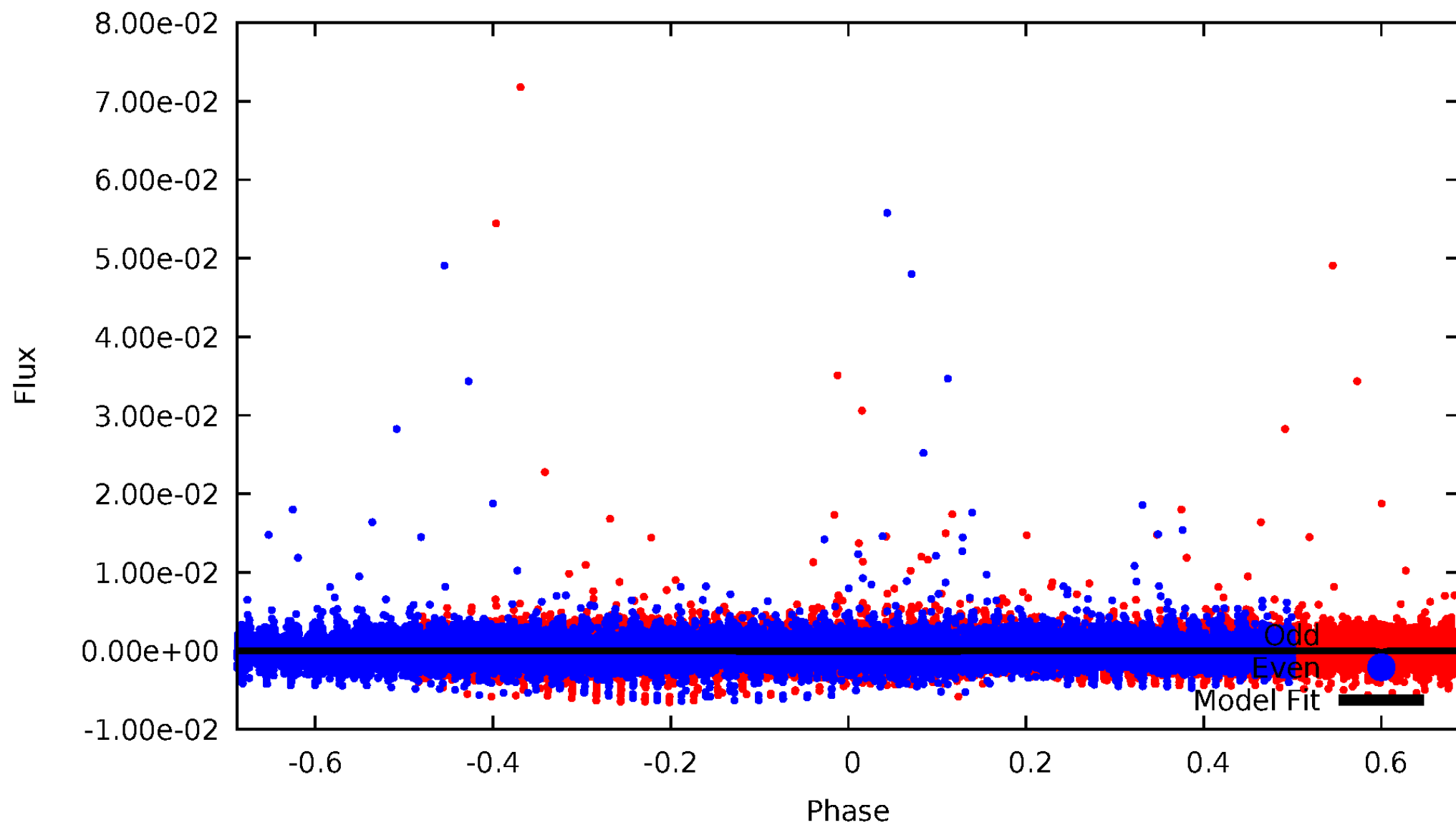


TCE 009045611-01



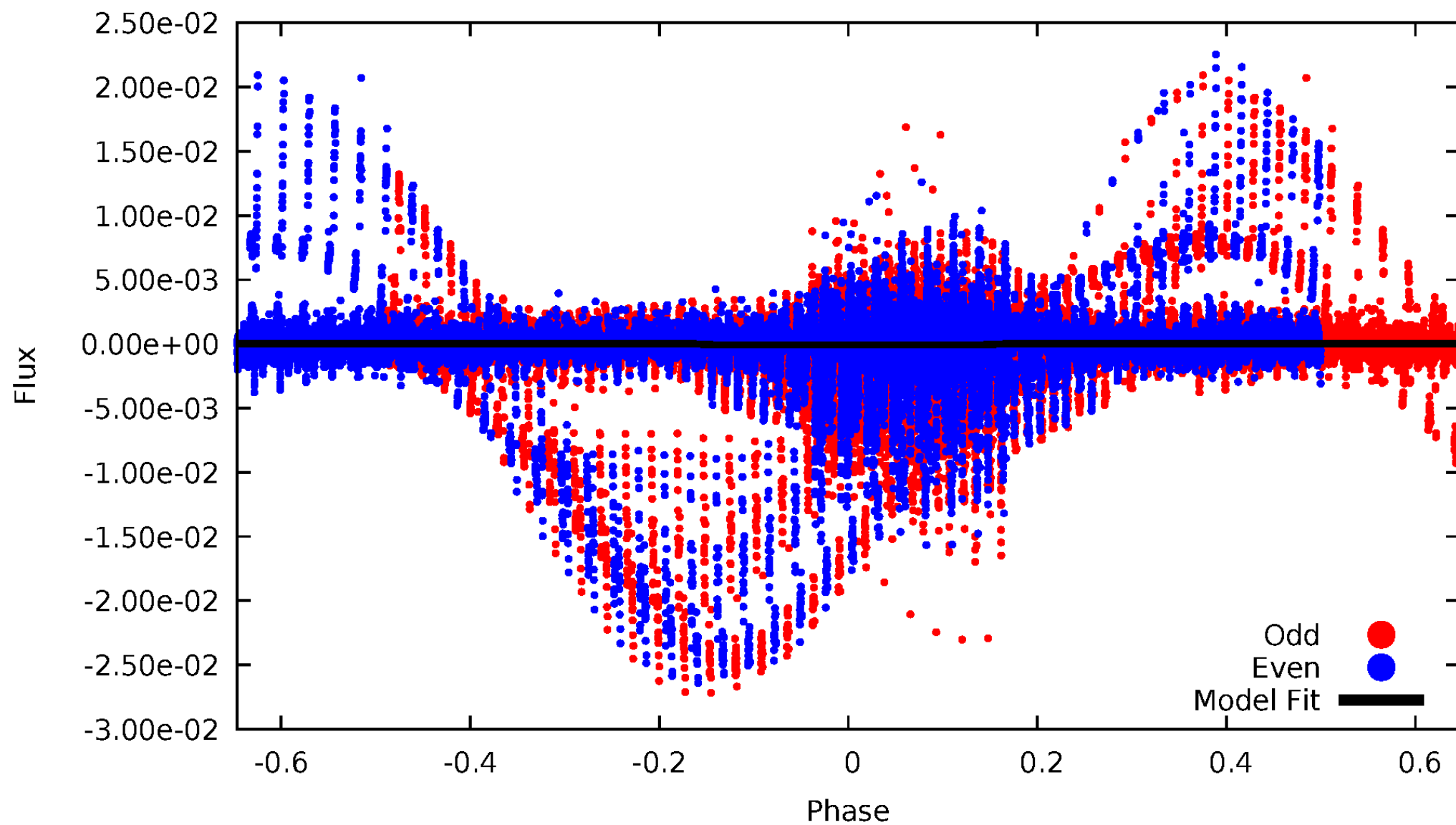
DV Odd/Even

TCE 009045611-01



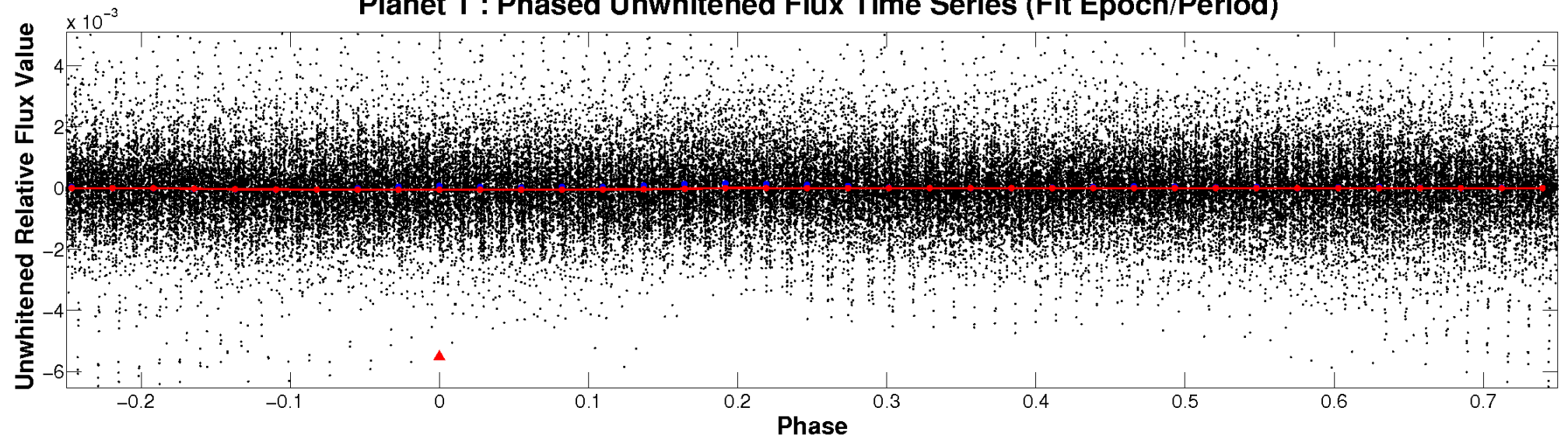
ALT Odd/Even

TCE 009045611-01

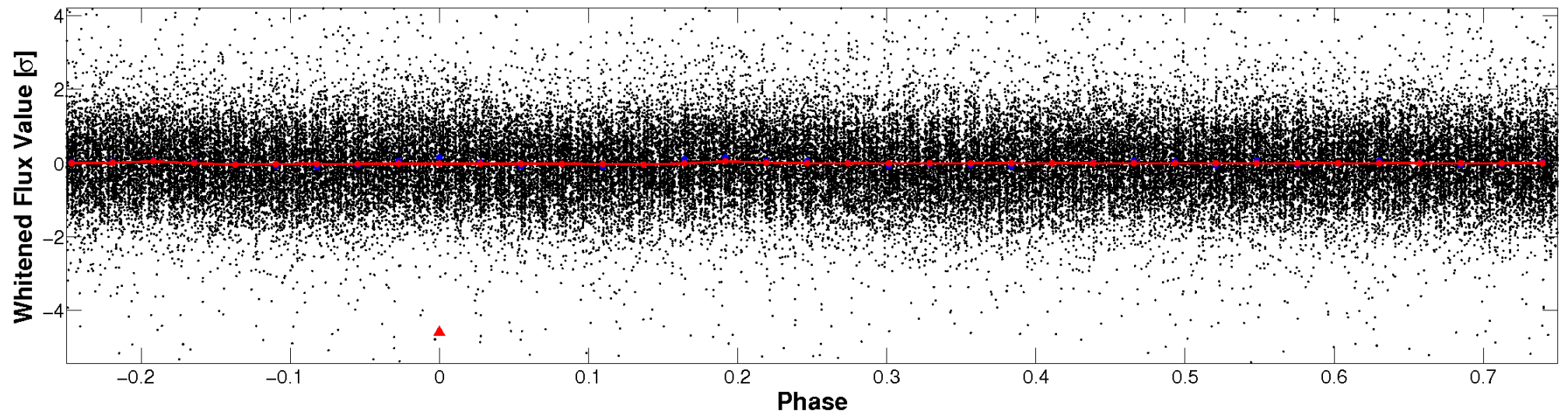


Non-Whitened Vs. Whitened Light Curve

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

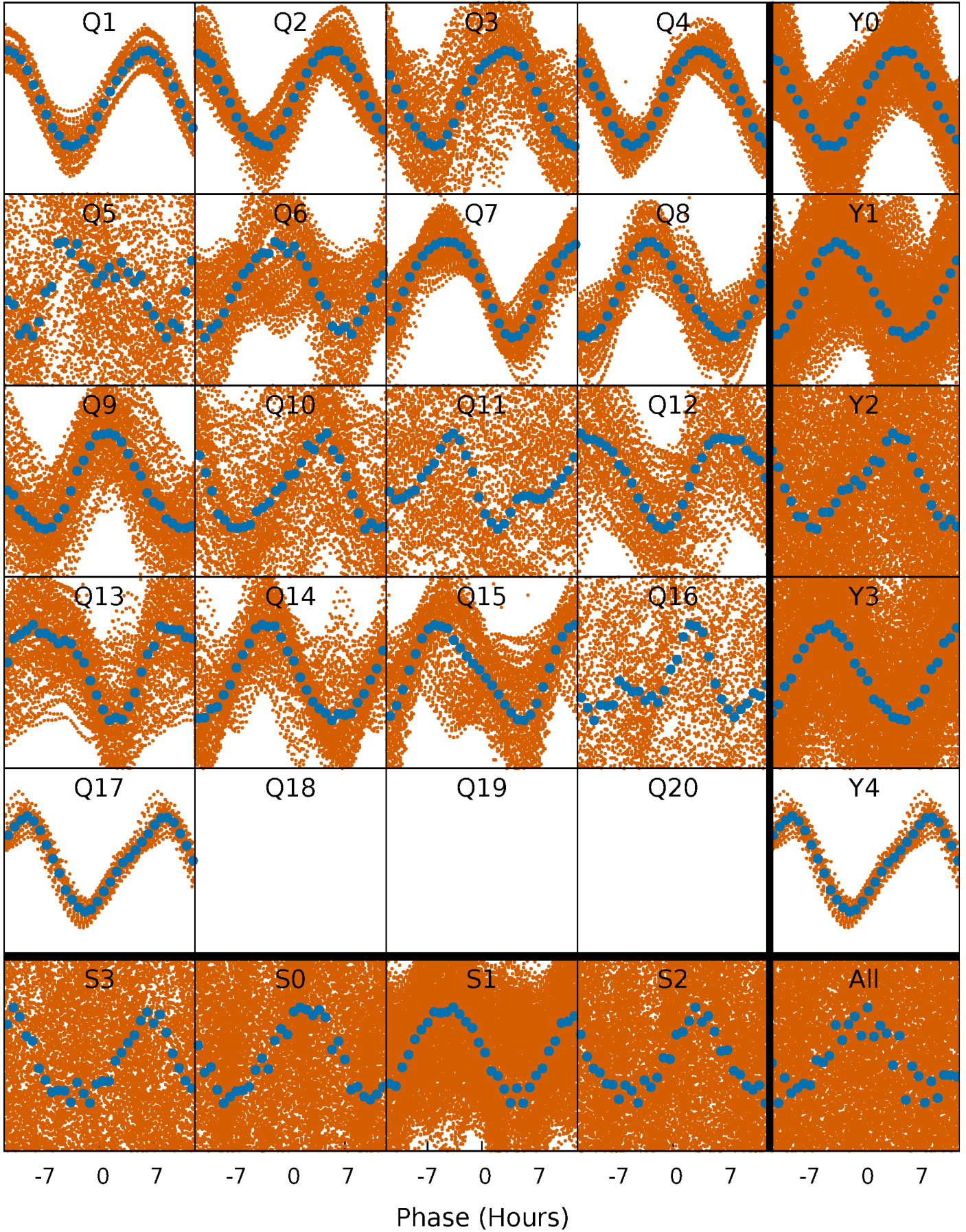


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



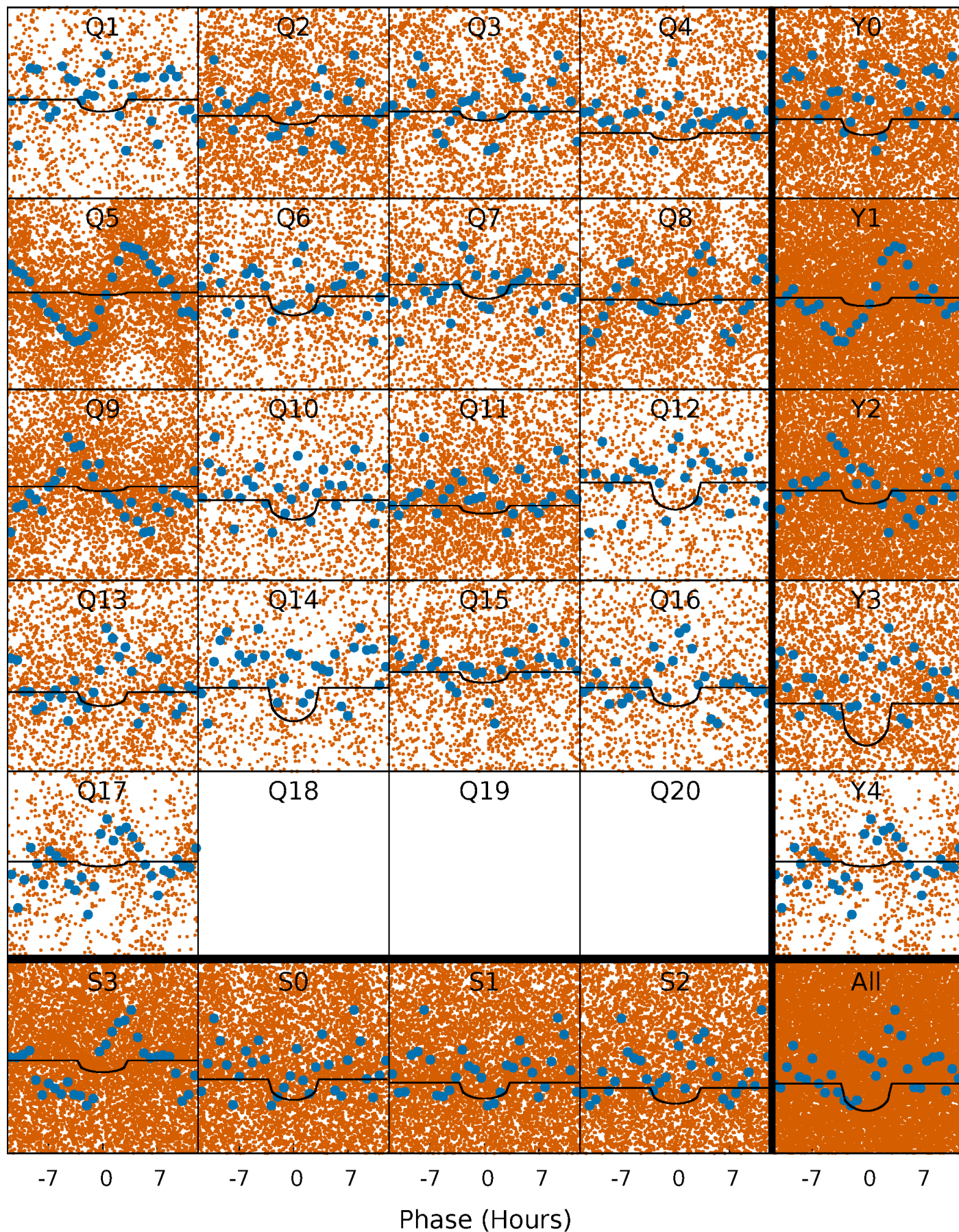
PDC Quarter-Phased Transit Curves

TCE 009045611-01 P= 0.745798 Days $T_0=132.141797$ (BKJD)



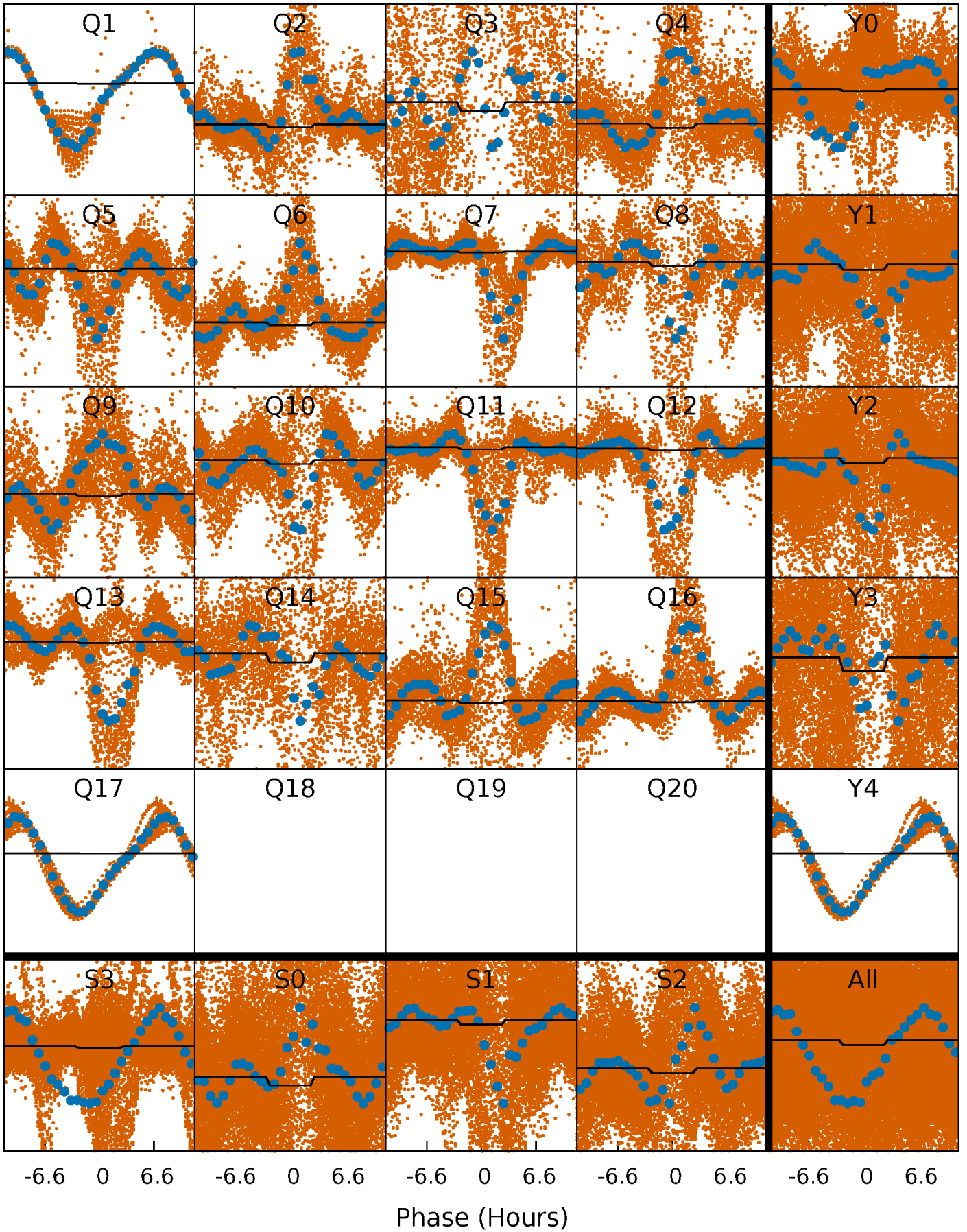
DV Quarter-Phased Transit Curves

TCE 009045611-01 P= 0.745798 Days $T_0=132.141797$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

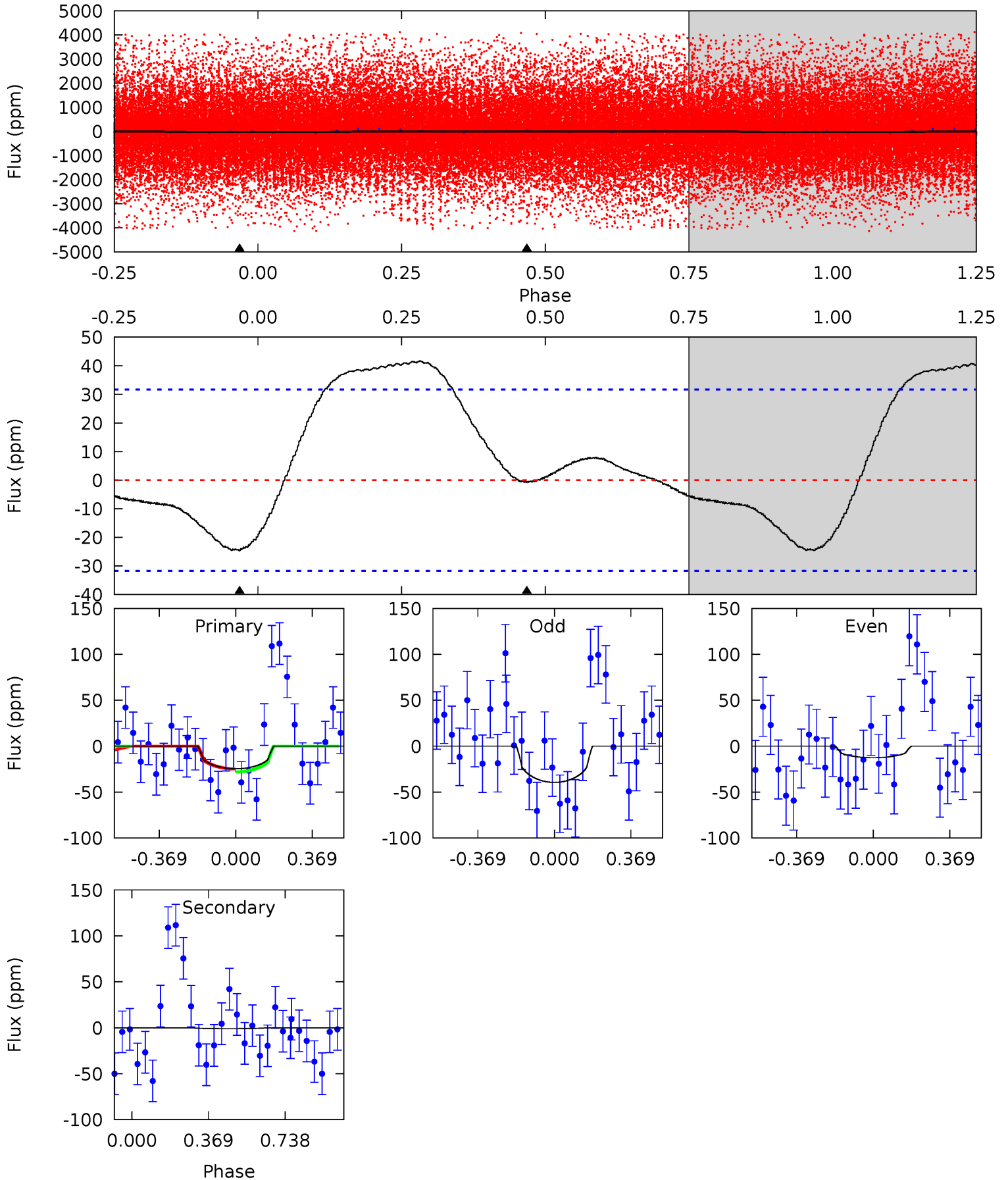
TCE 009045611-01 P= 0.745812 Days $T_0=132.137183$ (BKJD)



DV Model-Shift Uniqueness Test

009045611-01, P = 0.745798 Days, E = 131.395999 Days

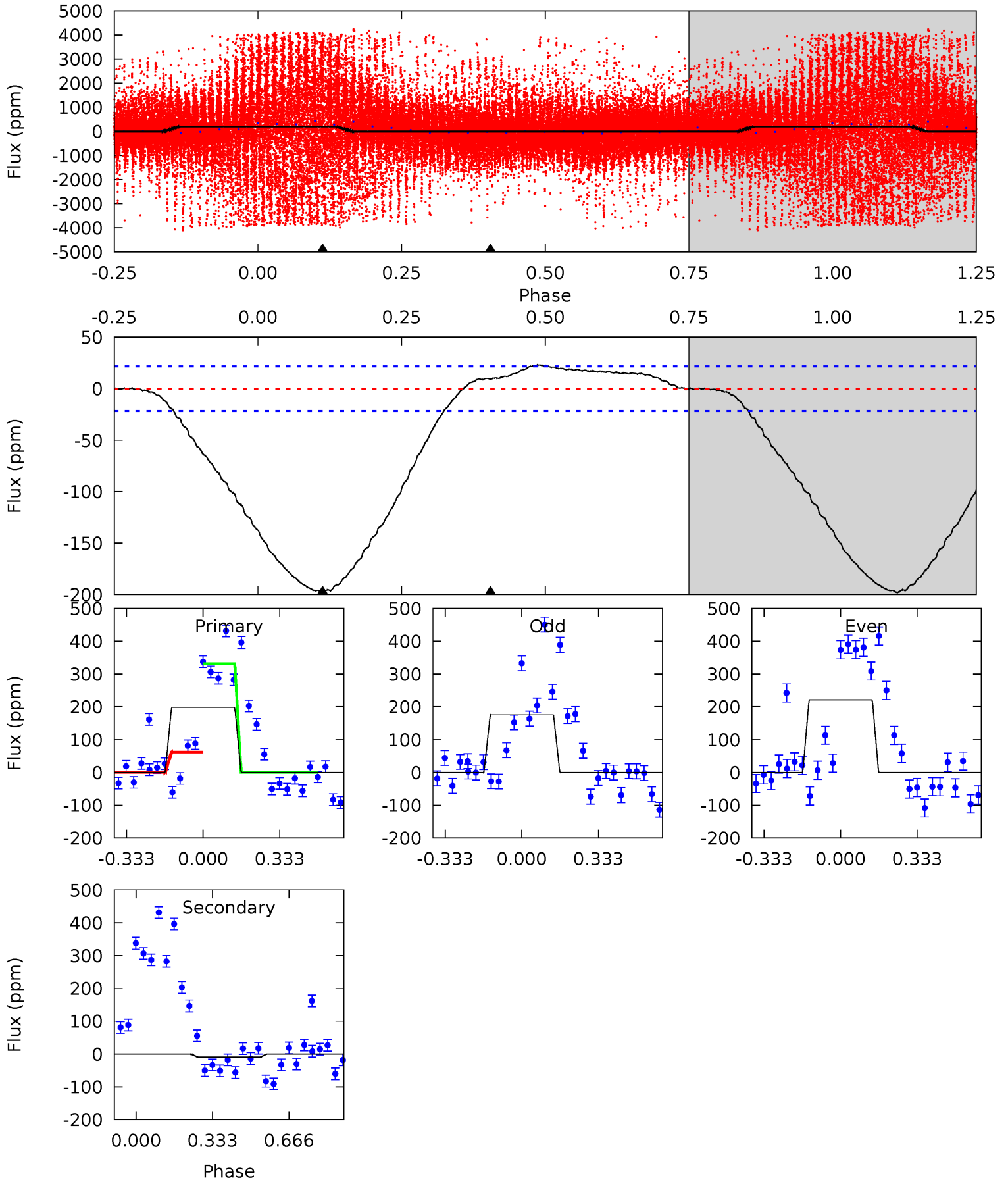
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.33	0.12	0	0	4.28	0.90	2.84	3.33	3.33	0.12	0.12	1.84	7.76	0.63	0.22



Alt Model-Shift Uniqueness Test

009045611-01, P = 0.745812 Days, E = 131.391371 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.3	-1.81	0	0	4.31	0.97	0.41	39.3	39.3	-1.81	-1.81	4.05	44.8	0.10	0



Stellar Parameters For KIC 009045611

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5422^{+177}_{-160}	$3.627^{+0.816}_{-0.204}$	$-0.100^{+0.350}_{-0.300}$	$3.078^{+0.904}_{-2.109}$	$1.464^{+0.239}_{-0.597}$	$0.071^{+1.318}_{-0.036}$
	+3%/-3%	+22%/-6%	+350%/-300%	+29%/-69%	+16%/-41%	+1864%/-51%
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 009045611-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1 ± 7	$1.97^{+1.49}_{-1.06}$	4260^{+443}_{-858}	-3727^{+7348}_{-690}	$0.036^{+0.626}_{-0.354}$
Alt.	9 ± 5	$2.65^{+1.45}_{-1.29}$	4246^{+455}_{-776}	-4204^{+426}_{-520}	$-0.204^{+0.143}_{-0.661}$

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

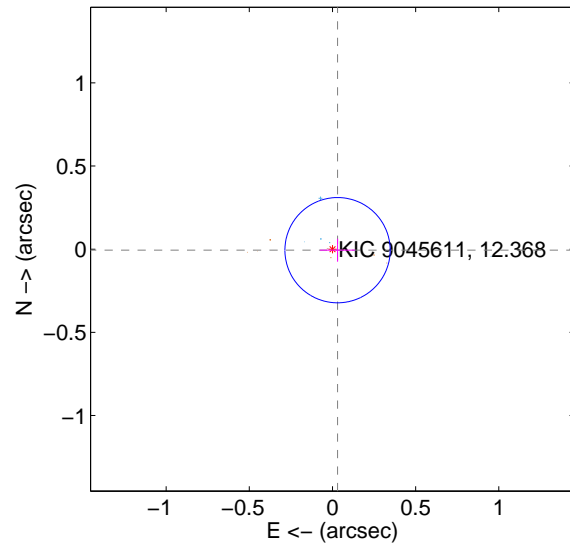
Supplemental centroid analysis for 009045611-01. Kepler magnitude: 12.37. Transit SNR 5.10

There are 8 quarters with good PRF difference image offsets

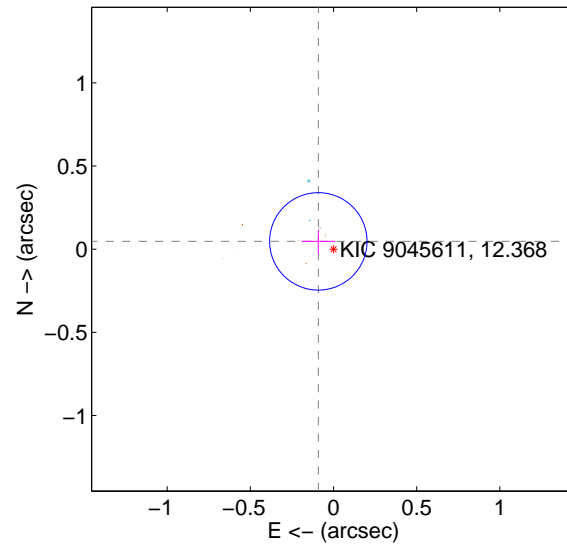
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.031 ± 0.106	0.30	-0.031 ± 0.106	-0.006 ± 0.069
PRF-fit source offset from KIC position	0.103 ± 0.098	1.05	0.091 ± 0.102	0.047 ± 0.072
photometric centroid source offset	0.53 ± 0.23	2.29	0.49 ± 0.23	0.18 ± 0.19

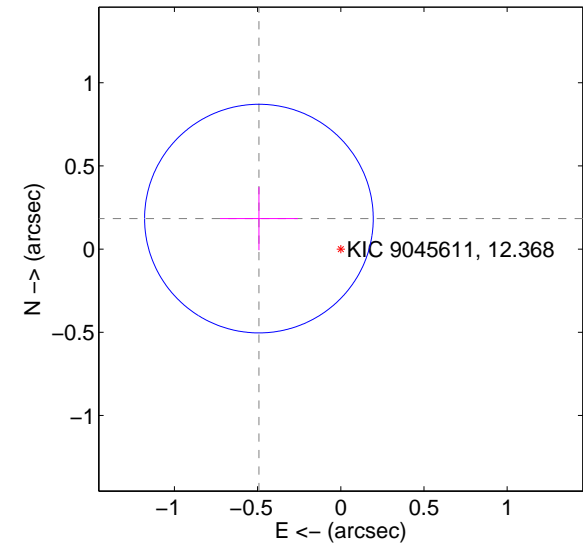
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

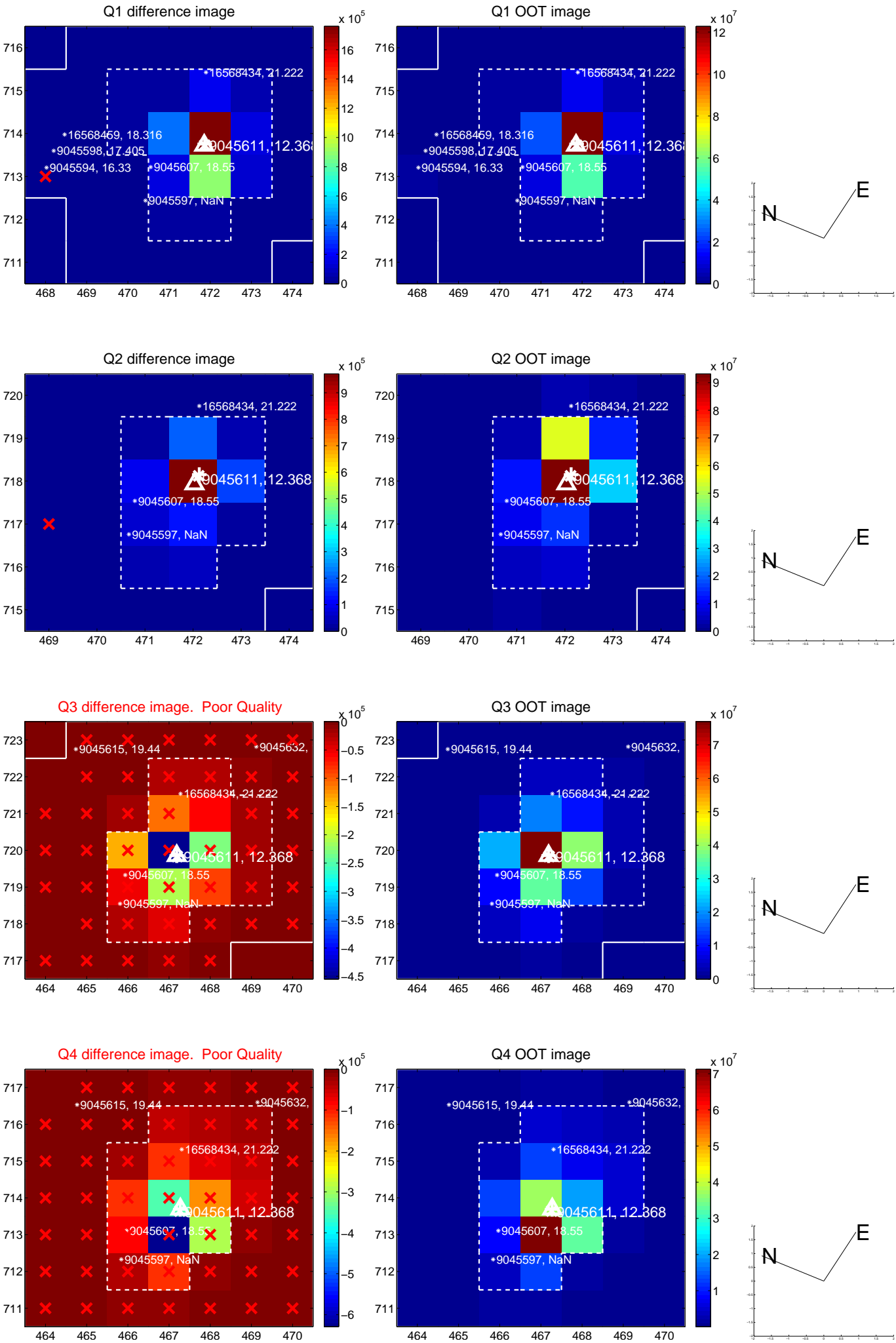


offset from photometric centroids

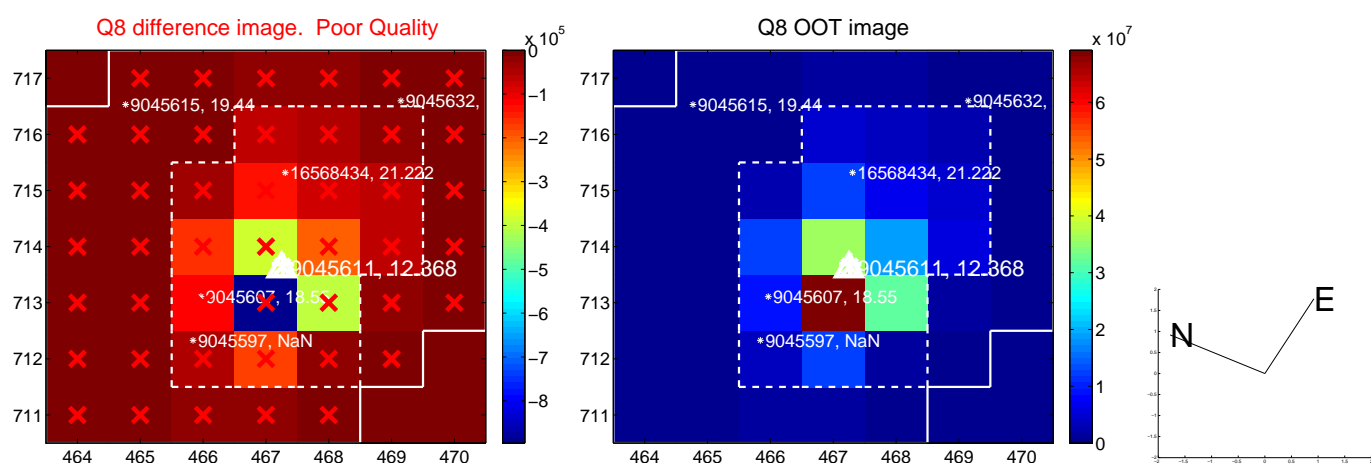
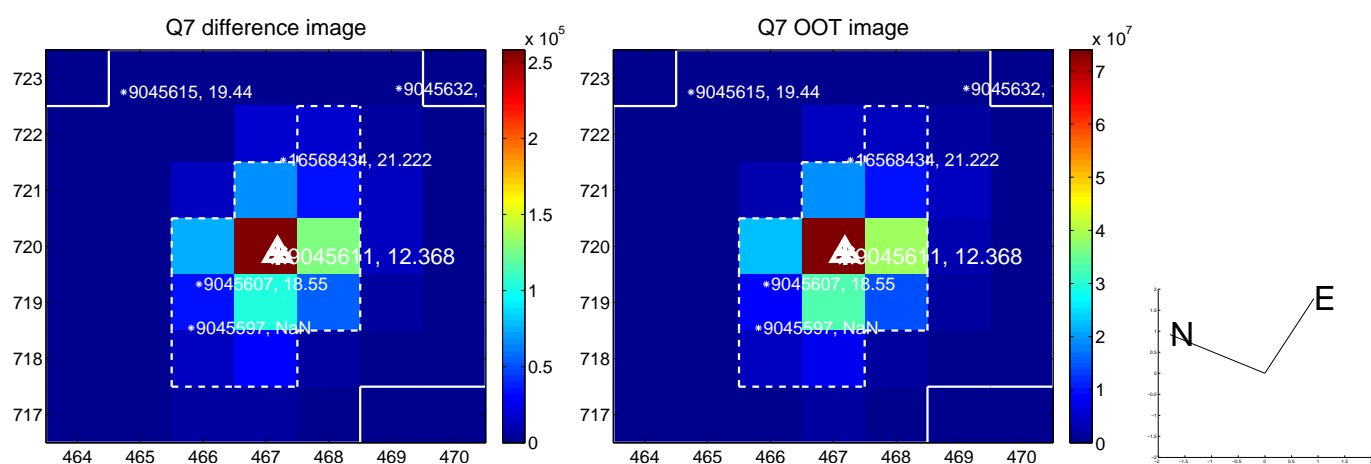
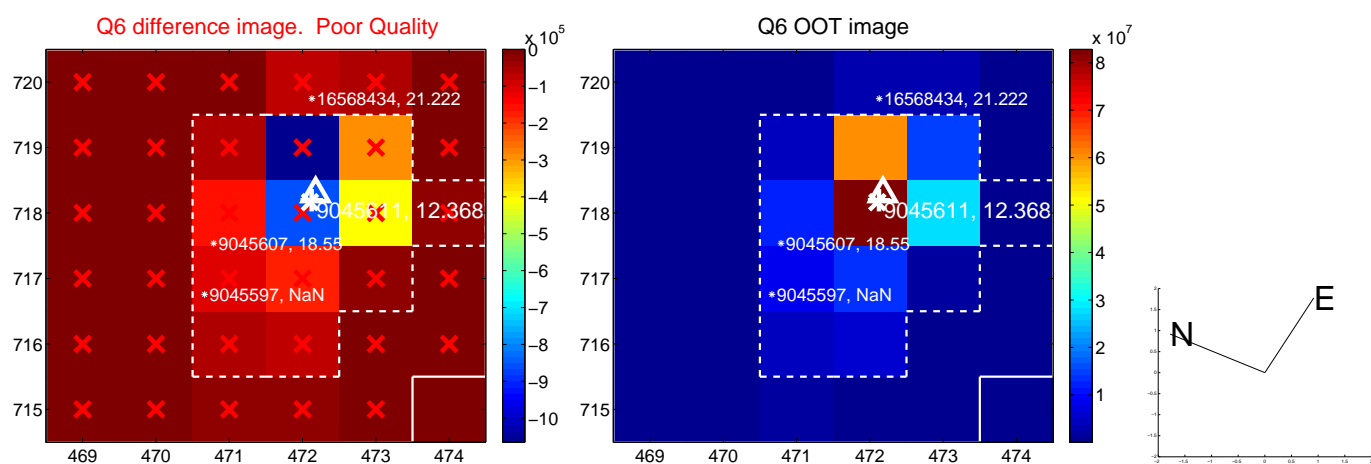
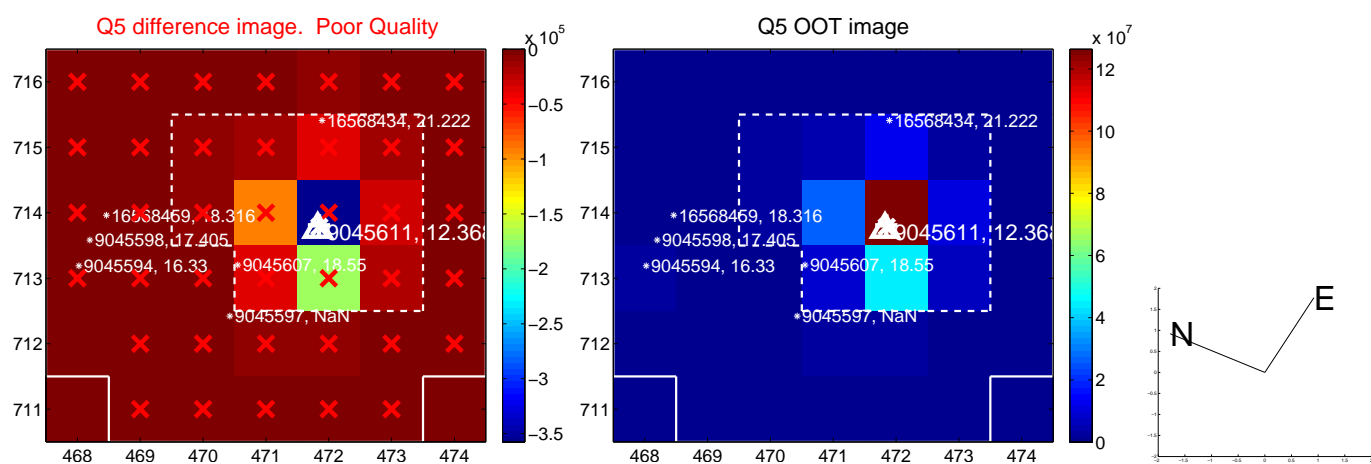


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

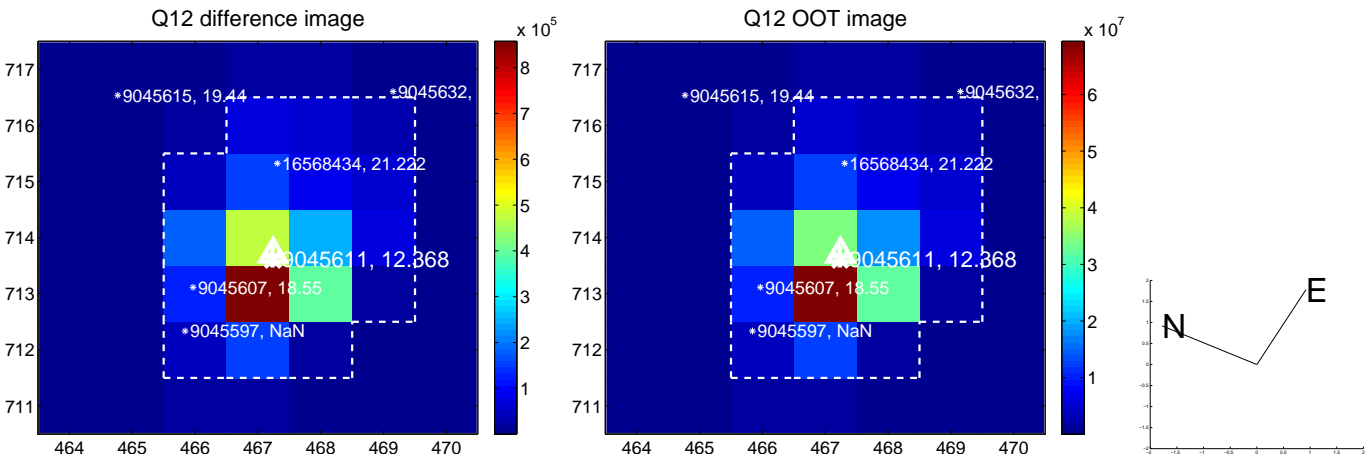
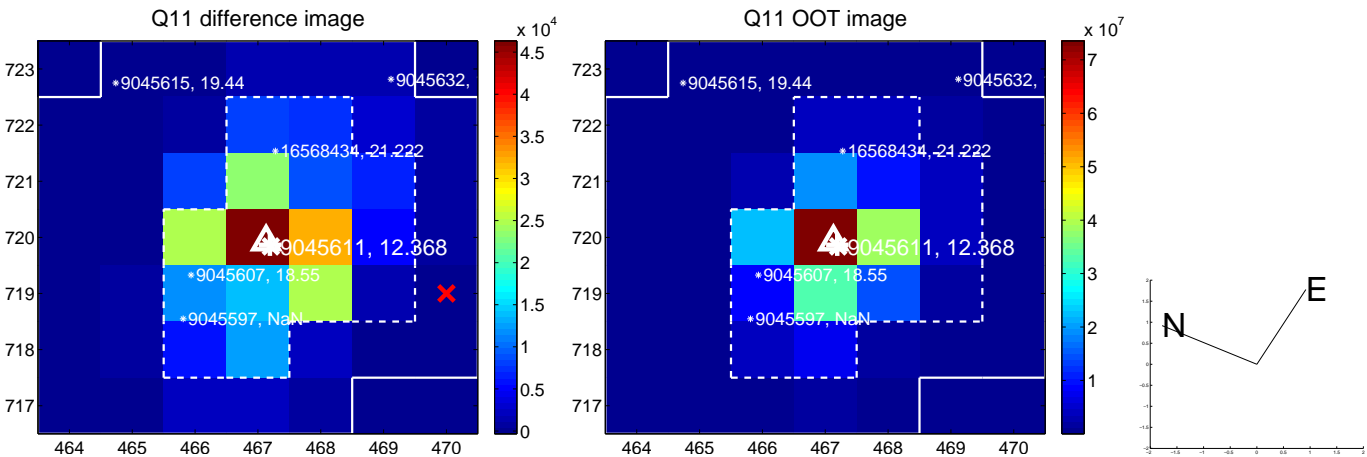
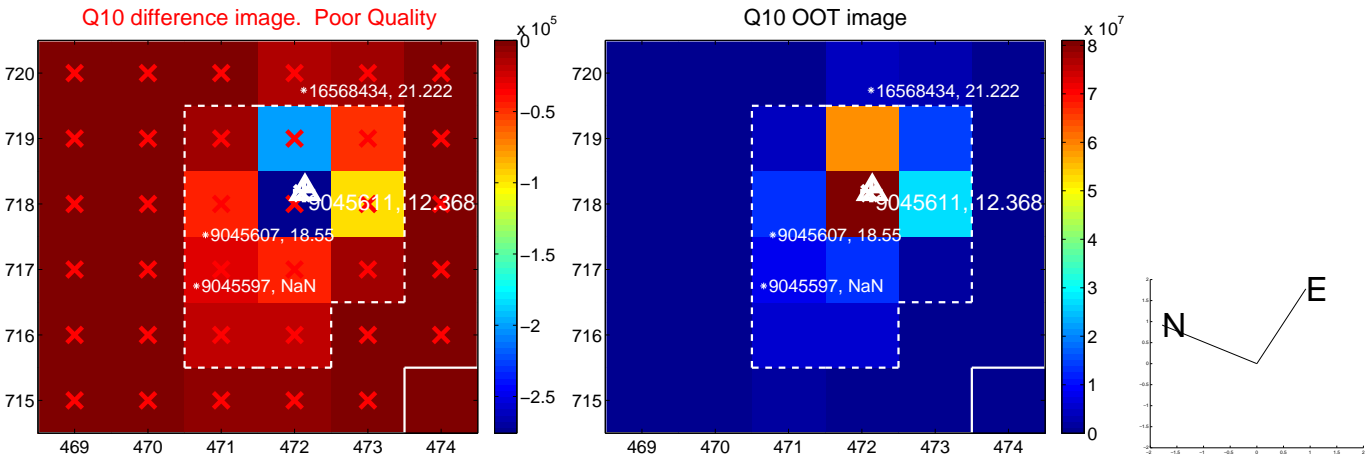
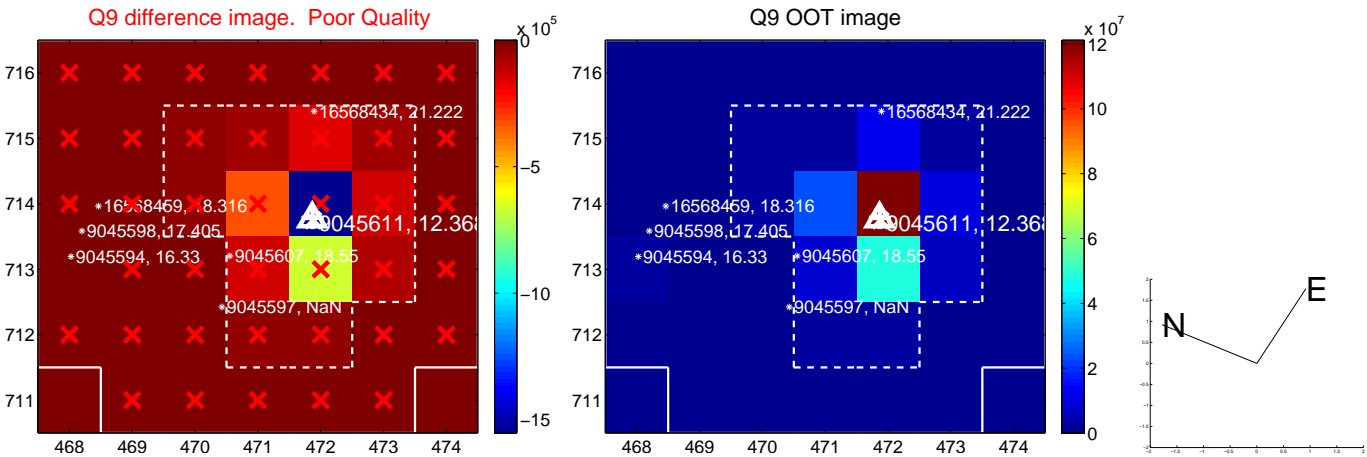
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



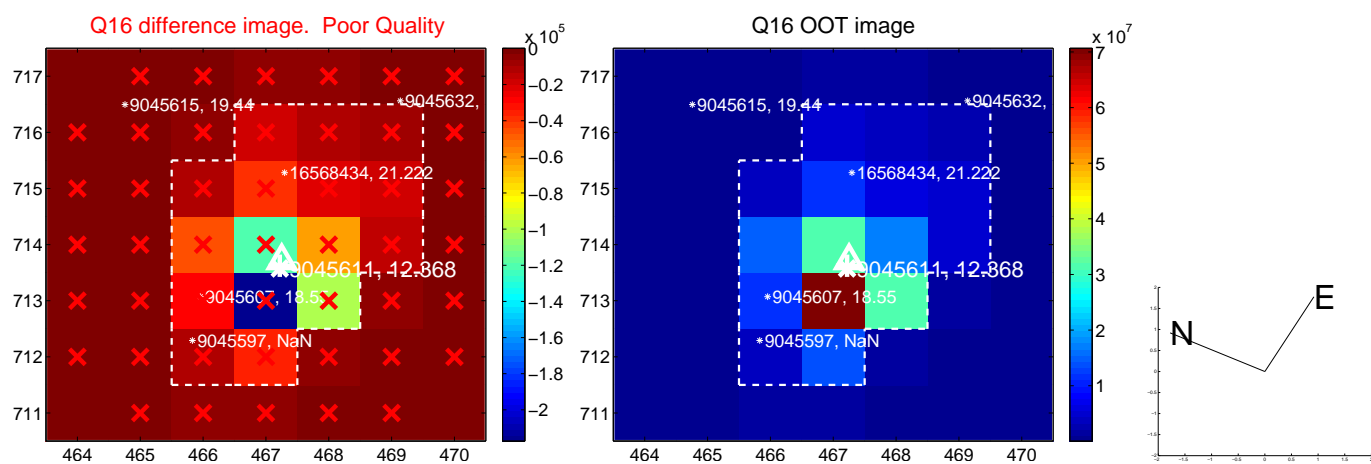
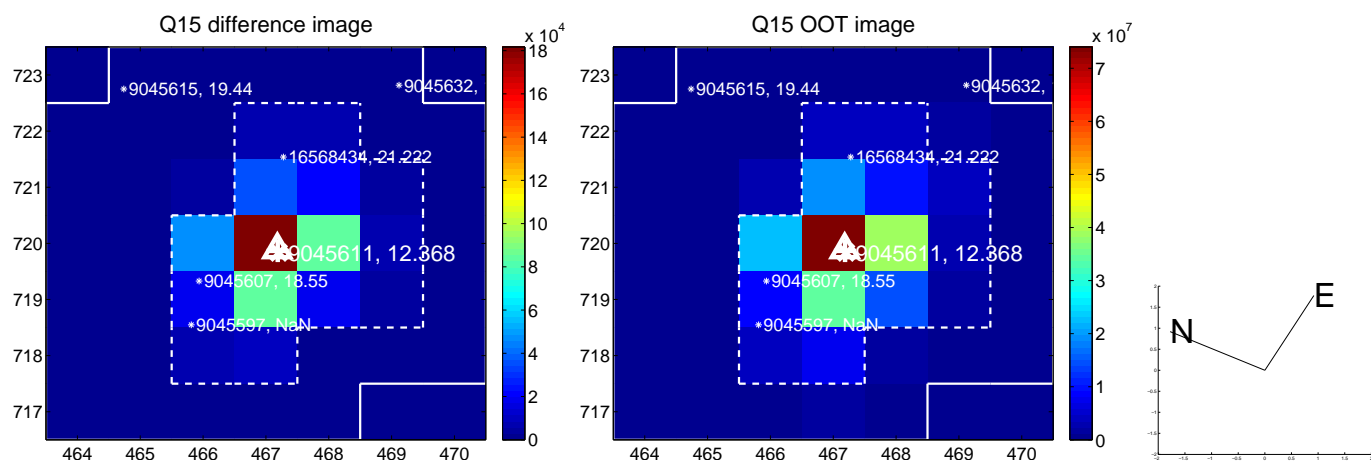
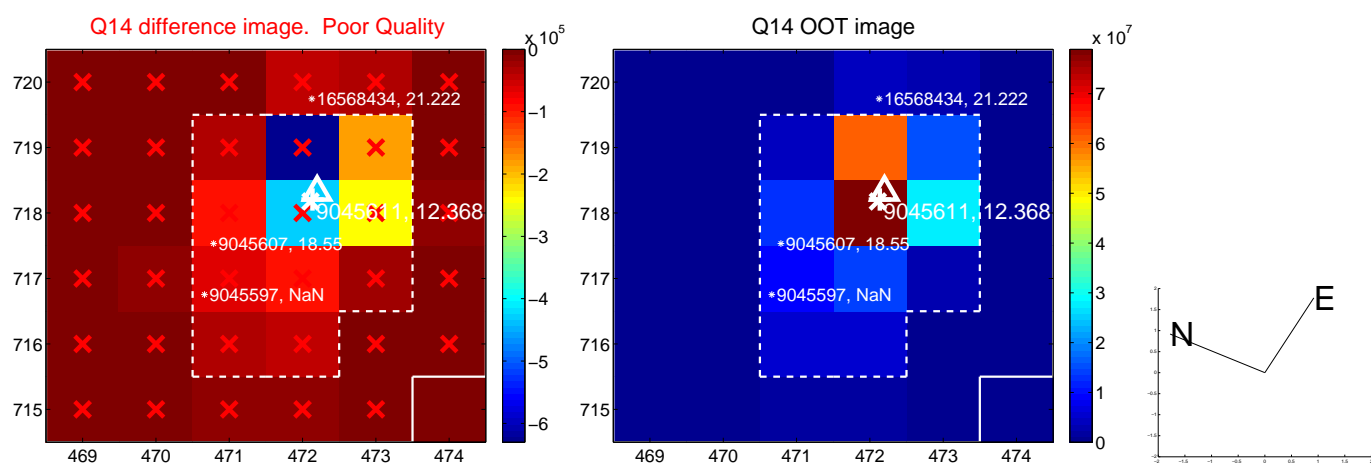
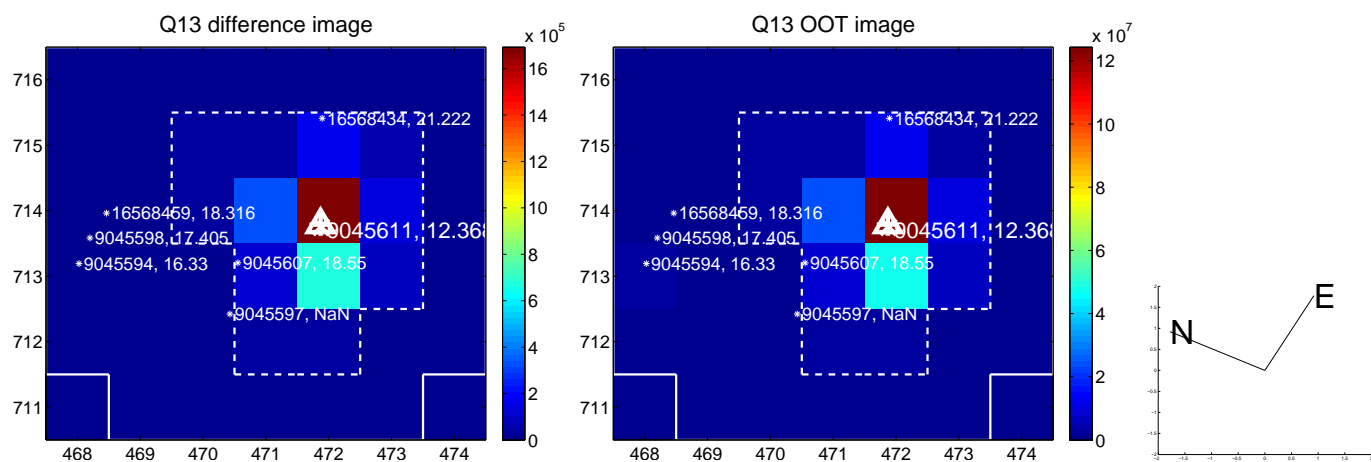
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



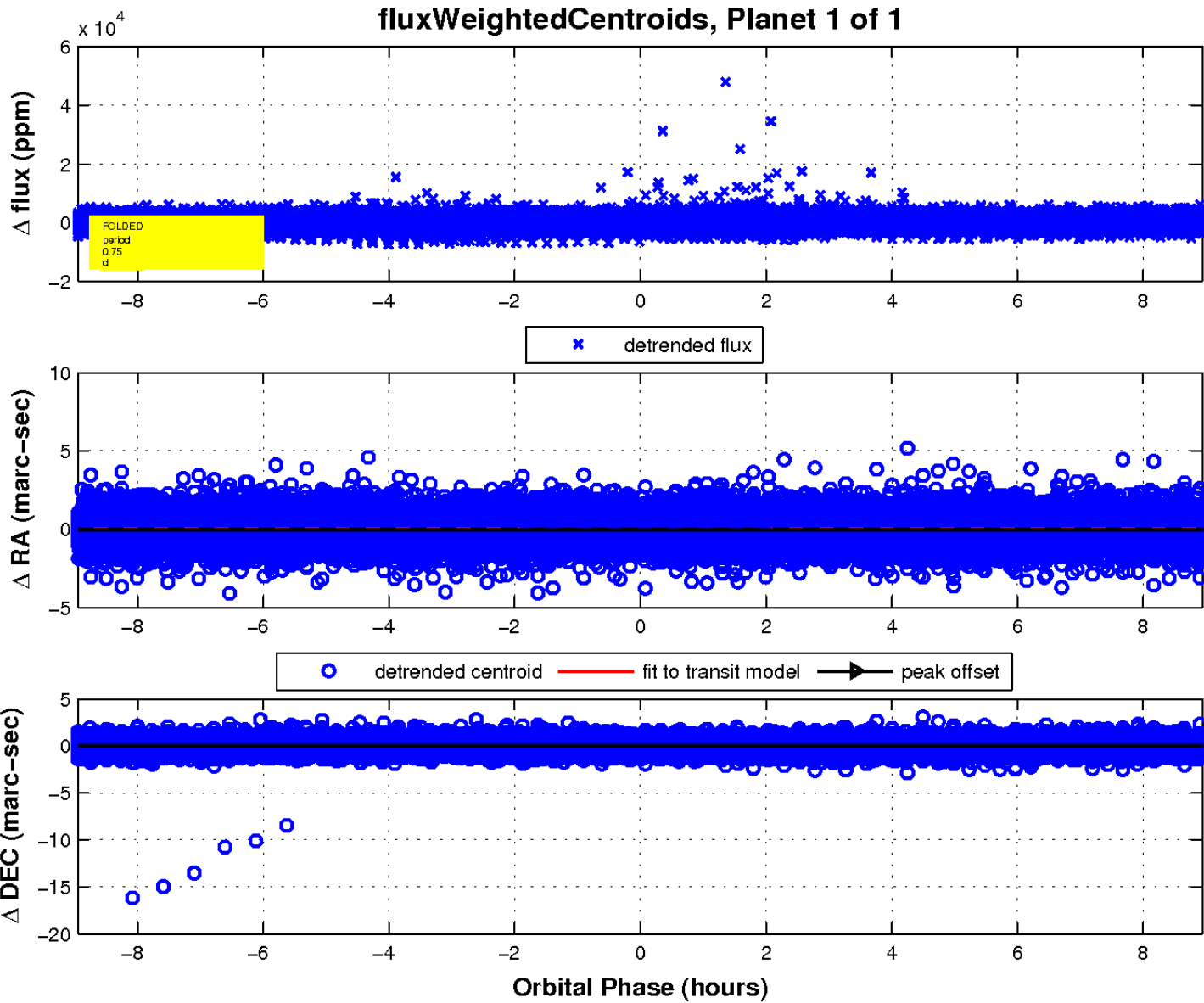
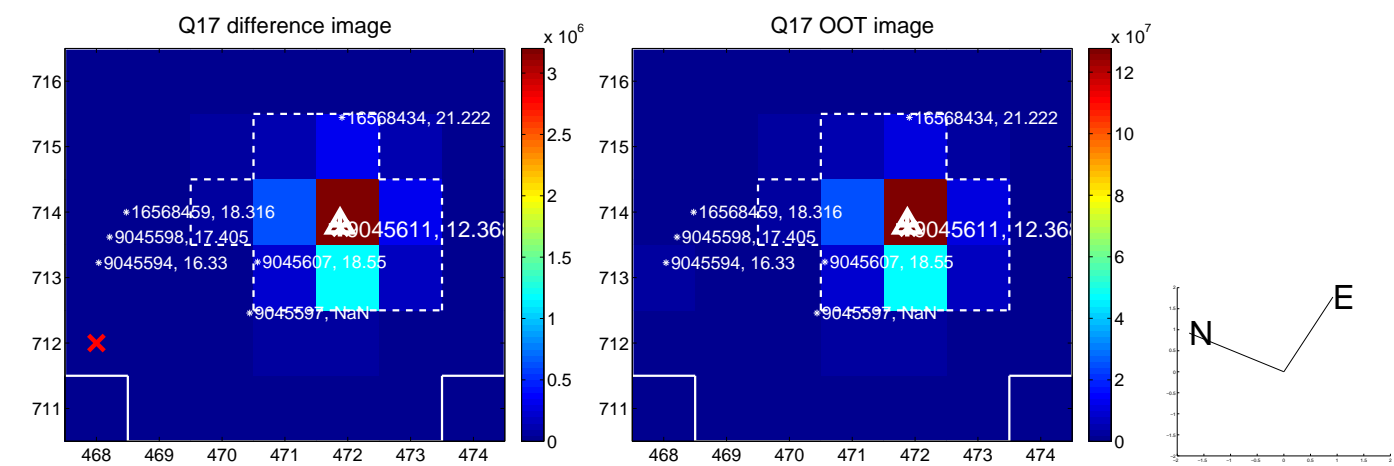
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

