

KIC 002439469

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})
002439469-01	OBS	No	21.164694	137.617884	311.2	21.991	10.1	11.6	1.12	6386	3.73	75.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002439469-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

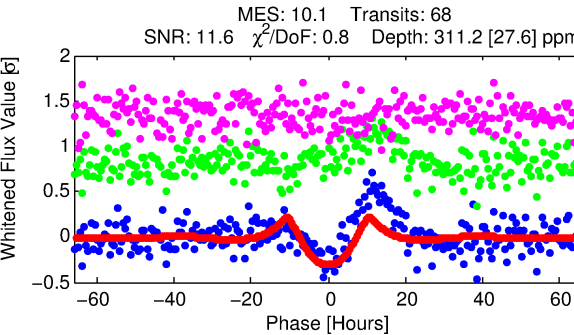
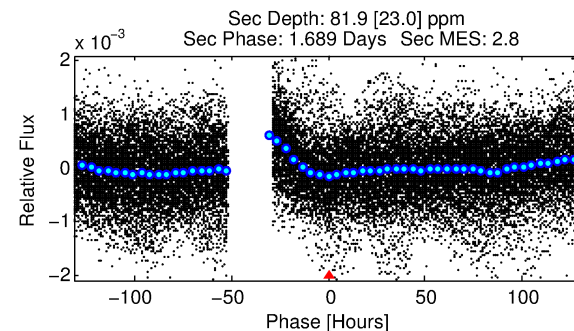
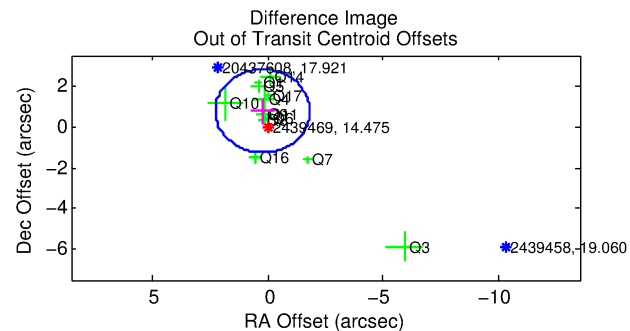
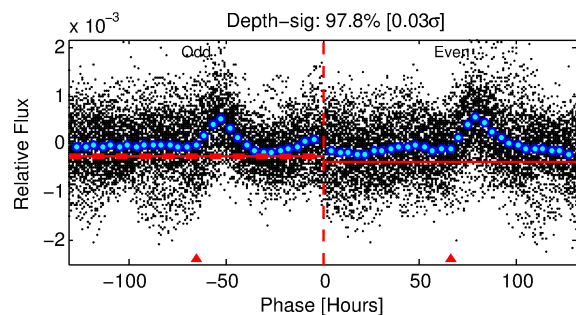
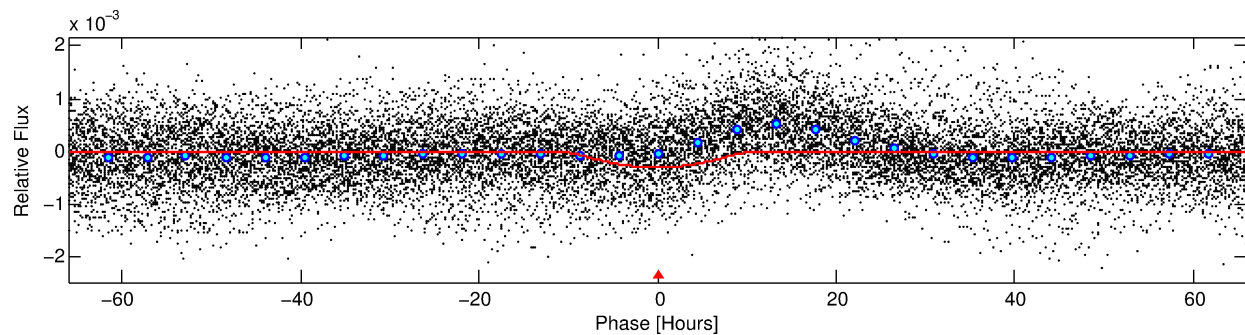
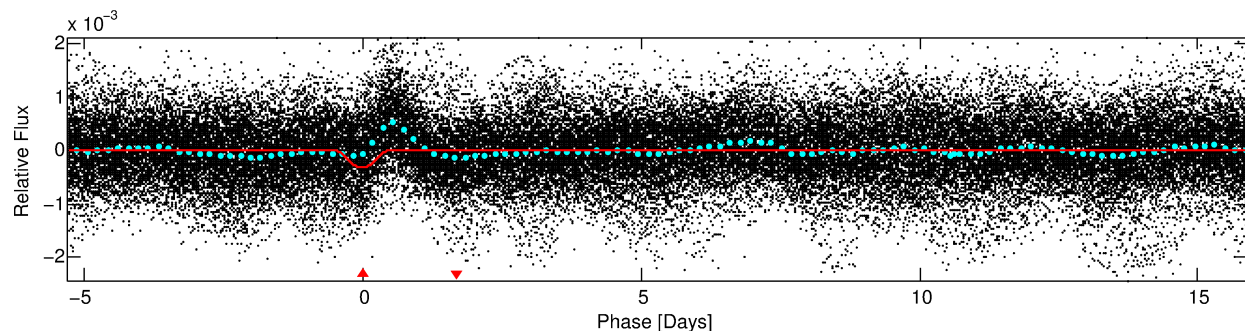
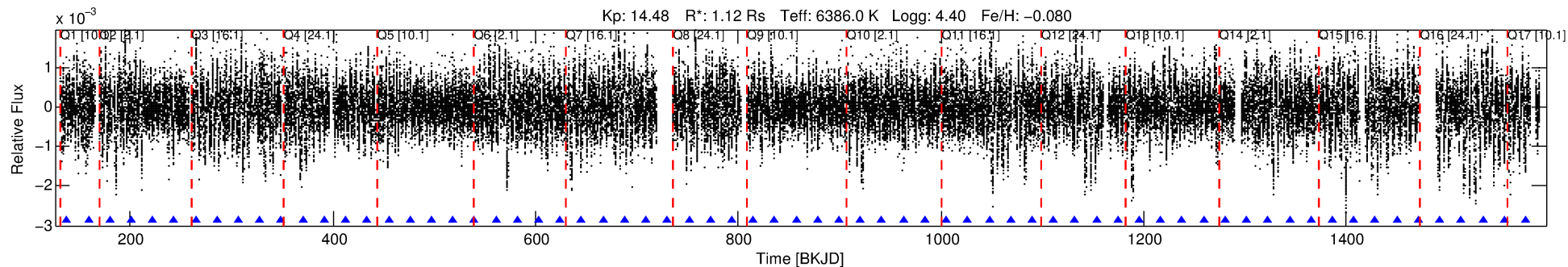
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002439469-01

No Significant Match Found

DV One-Page Summary

KIC: 2439469 Candidate: 1 of 1 Period: 21.165 d



DV Fit Results:

Period = 21.16469 [0.00066] d
Epoch = 137.6179 [0.0256] BKJD
Rp/R* = 0.0305 [0.0281]
a/R* = 2.14 [0.40]
b = 1.00 [0.04]
Seff = 75.84 [31.70]
Teq = 752 [79] K
Rp = 3.73 [3.68] Re
a = 0.1574 [0.0443] AU
Ag = 79.99 [152.39] [0.52σ]
Teffp = 3479 [1625] K [1.68σ]

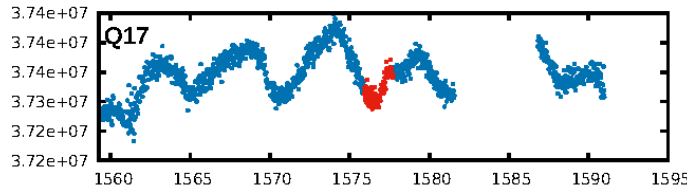
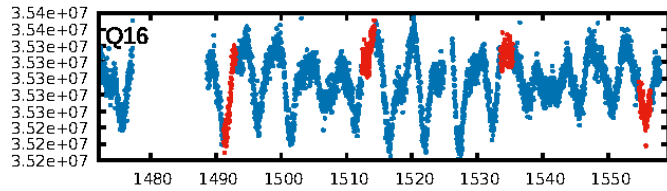
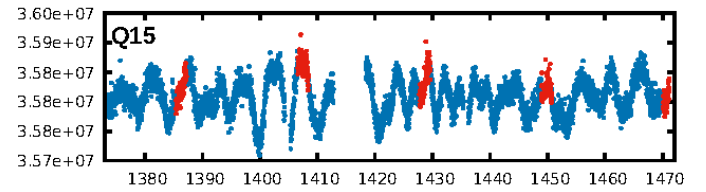
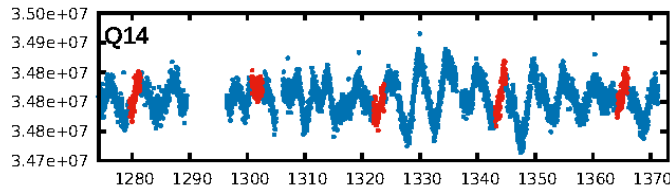
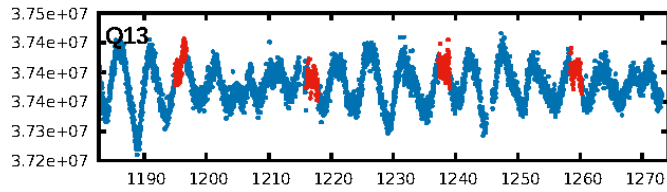
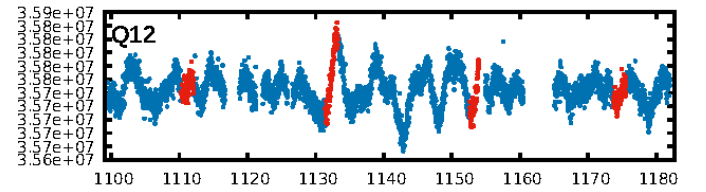
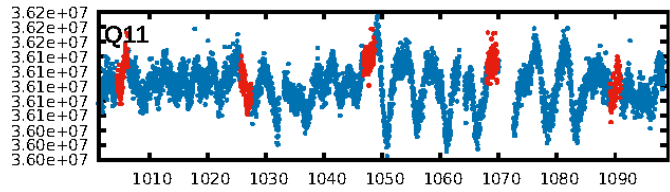
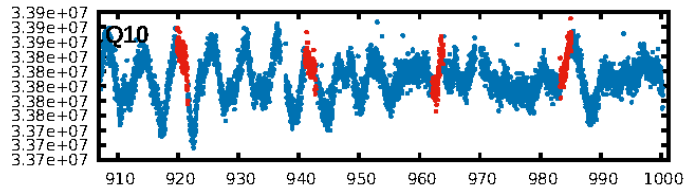
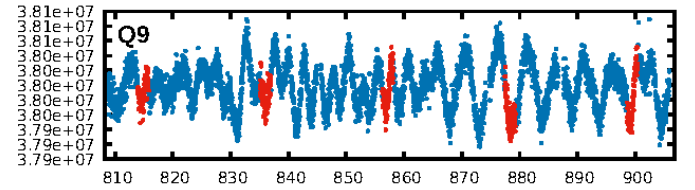
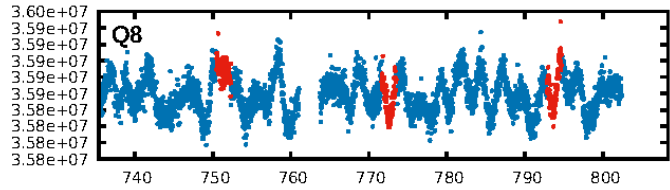
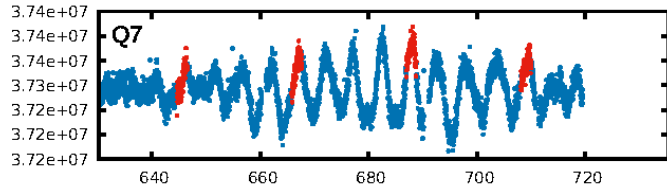
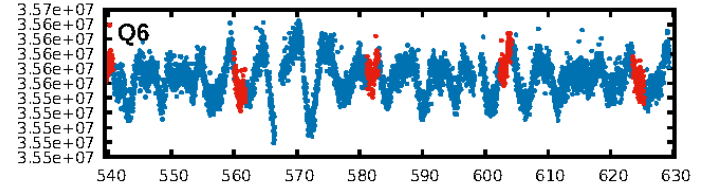
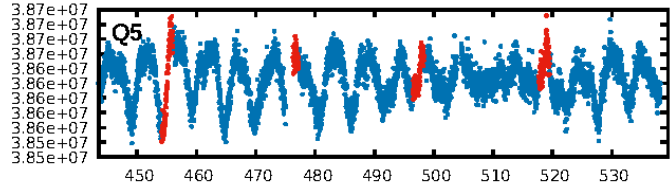
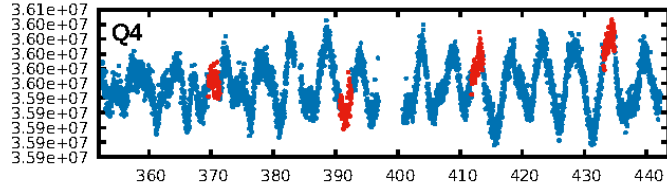
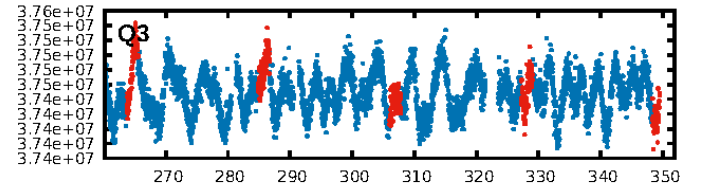
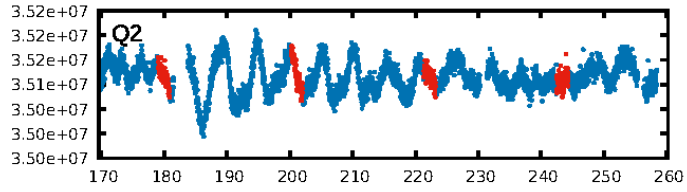
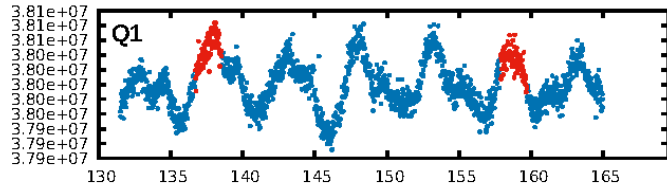
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.50e-26
RollingBand-fgt: 1.00 [65/65]
GhostDiagnostic-chr: -75.08
Centroid-sig: 1.0%
Centroid-so: 1.225 arcsec [3.09σ]
OotOffset-rm: 0.810 arcsec [1.19σ]
KicOffset-rm: 0.823 arcsec [1.19σ]
OotOffset-st: 3/3/3/4 [13]
KicOffset-st: 3/3/3/4 [13]
DiffImageQuality-fgm: 0.54 [7/13]
DiffImageOverlap-fno: 1.00 [17/17]

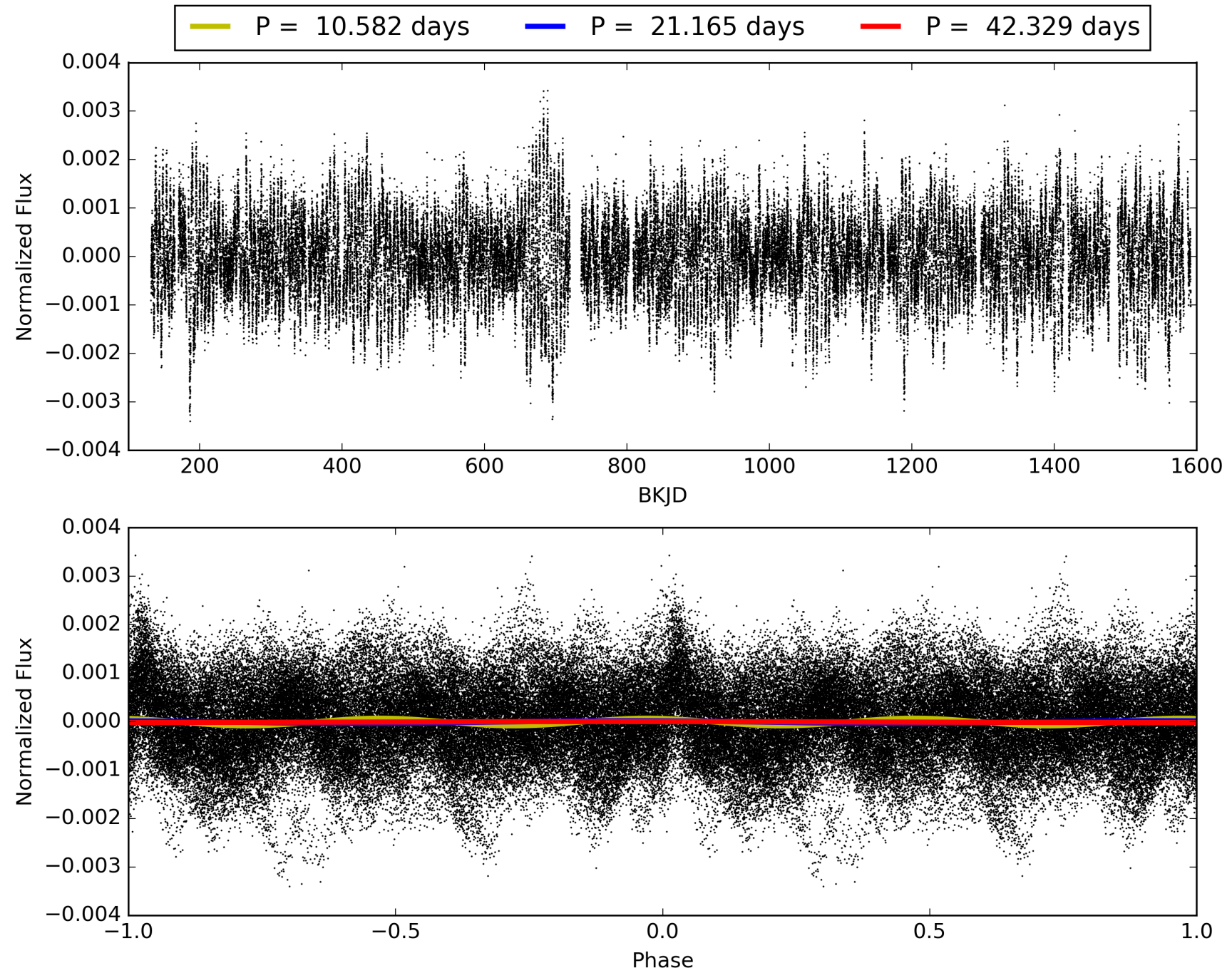
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 14:21:21 Z

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

TCE 002439469-01, PDC Light Curves

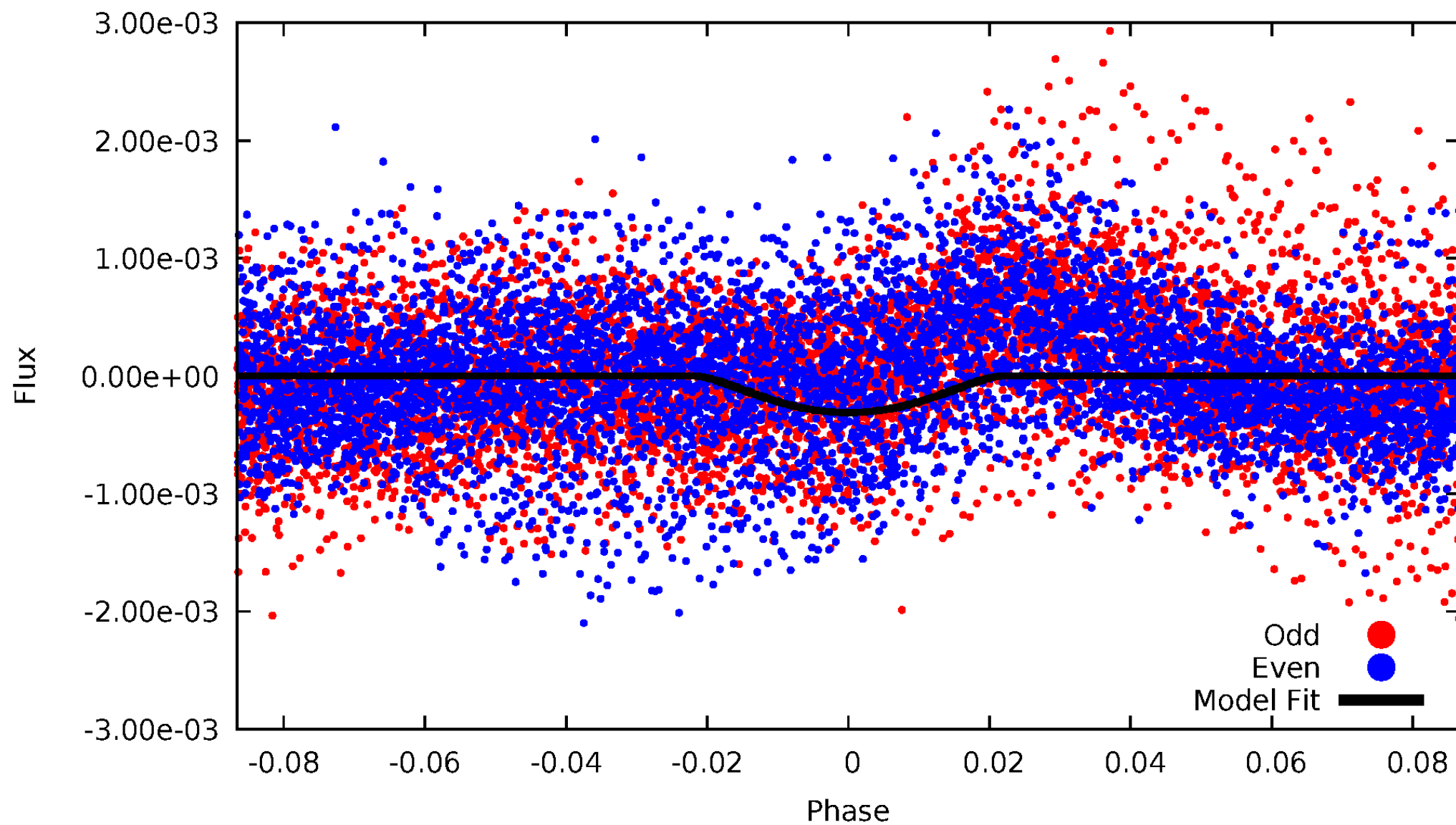


TCE 002439469-01



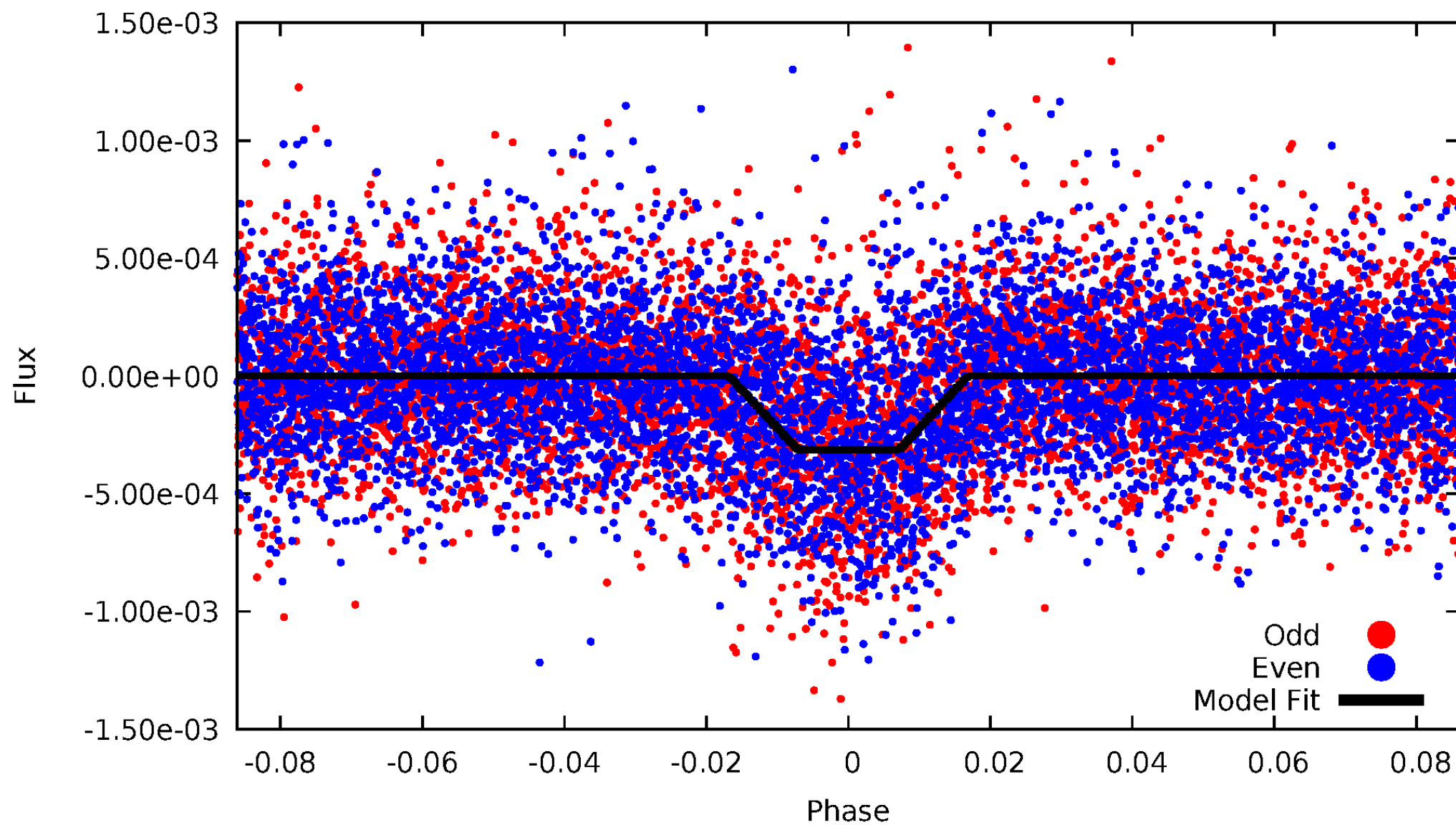
DV Odd/Even

TCE 002439469-01

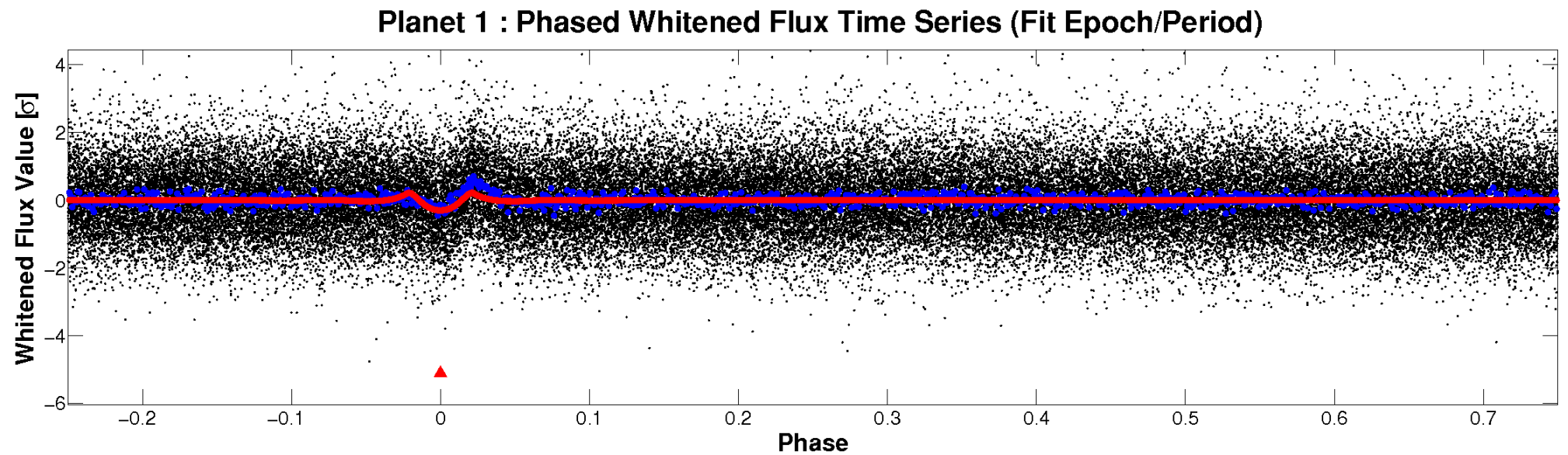
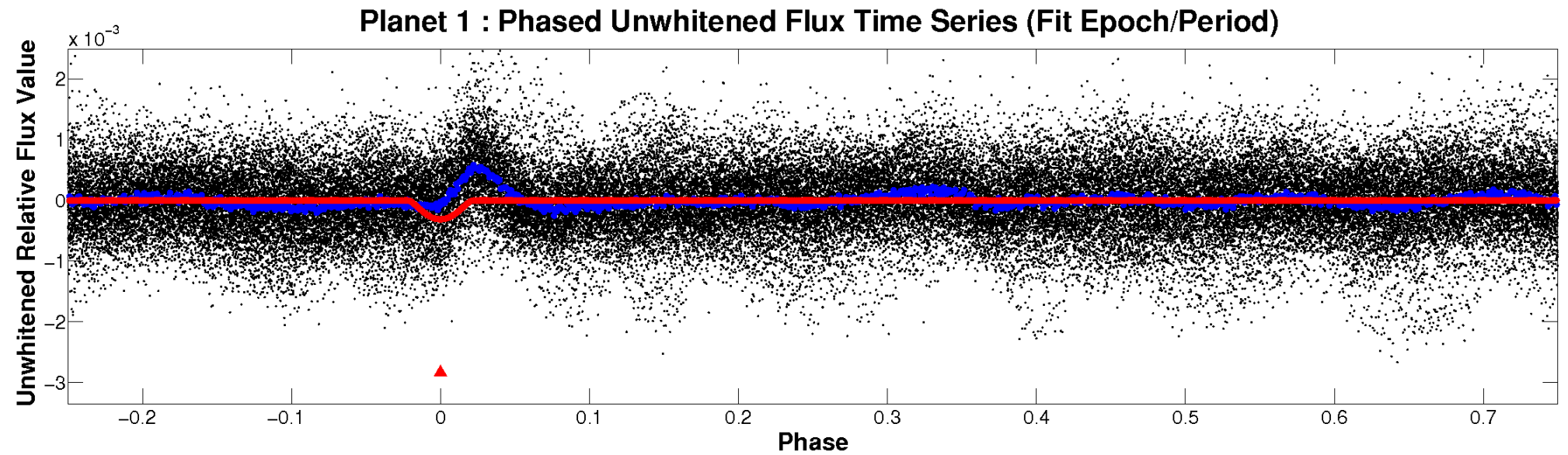


ALT Odd/Even

TCE 002439469-01

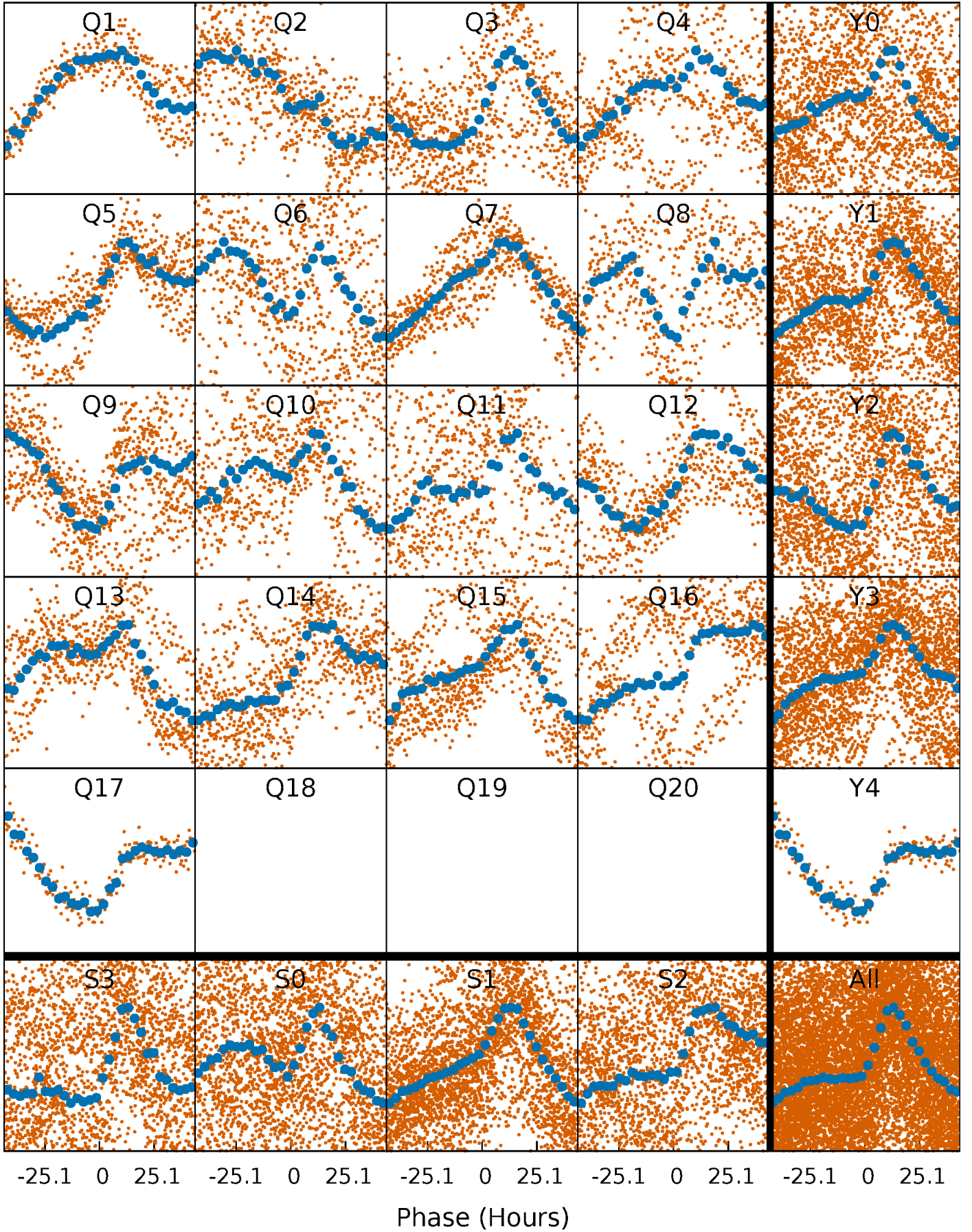


Non-Whitened Vs. Whitened Light Curve



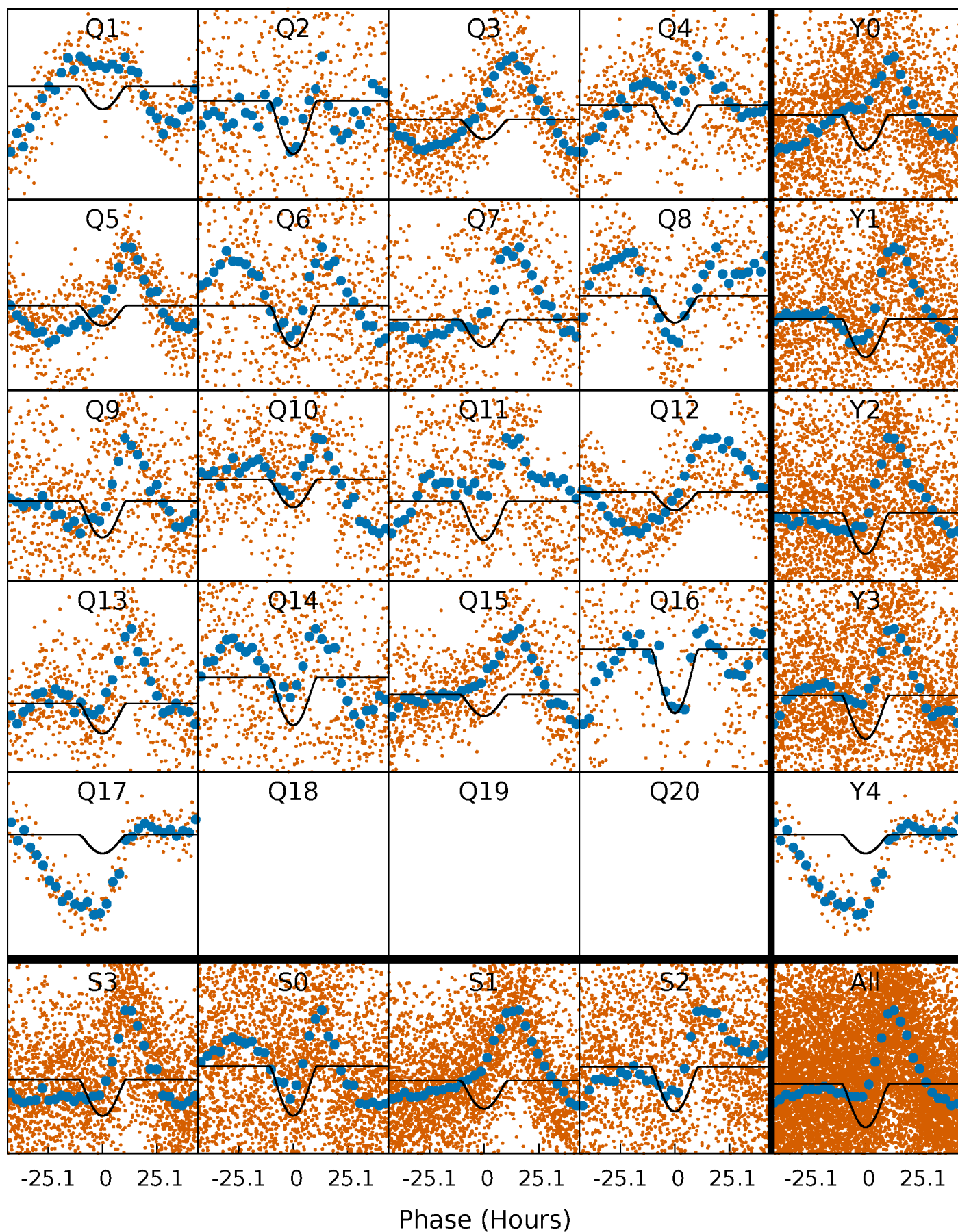
PDC Quarter-Phased Transit Curves

TCE 002439469-01 P= 21.164694 Days $T_0=137.617884$ (BKJD)



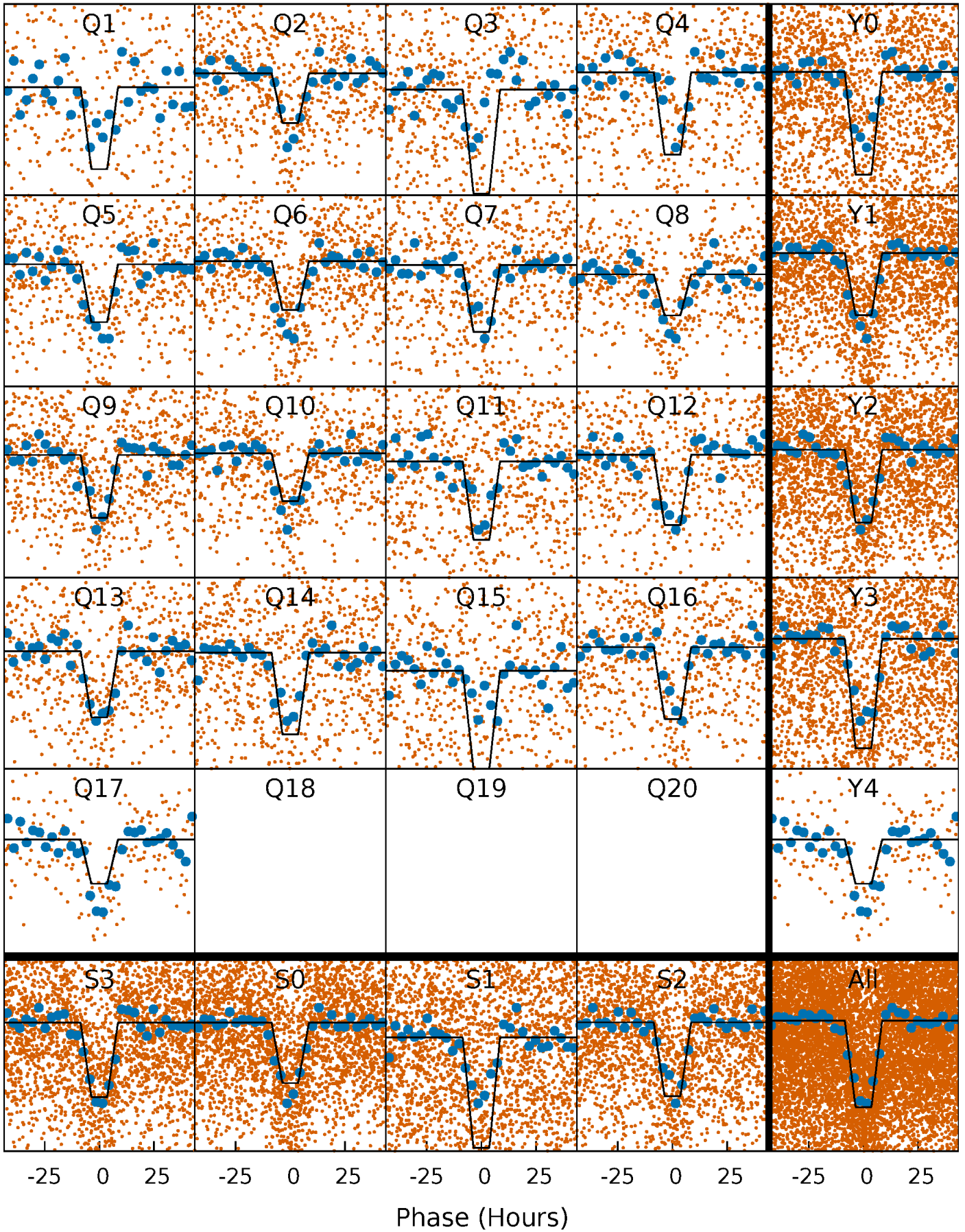
DV Quarter-Phased Transit Curves

TCE 002439469-01 P= 21.164694 Days $T_0=137.617884$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

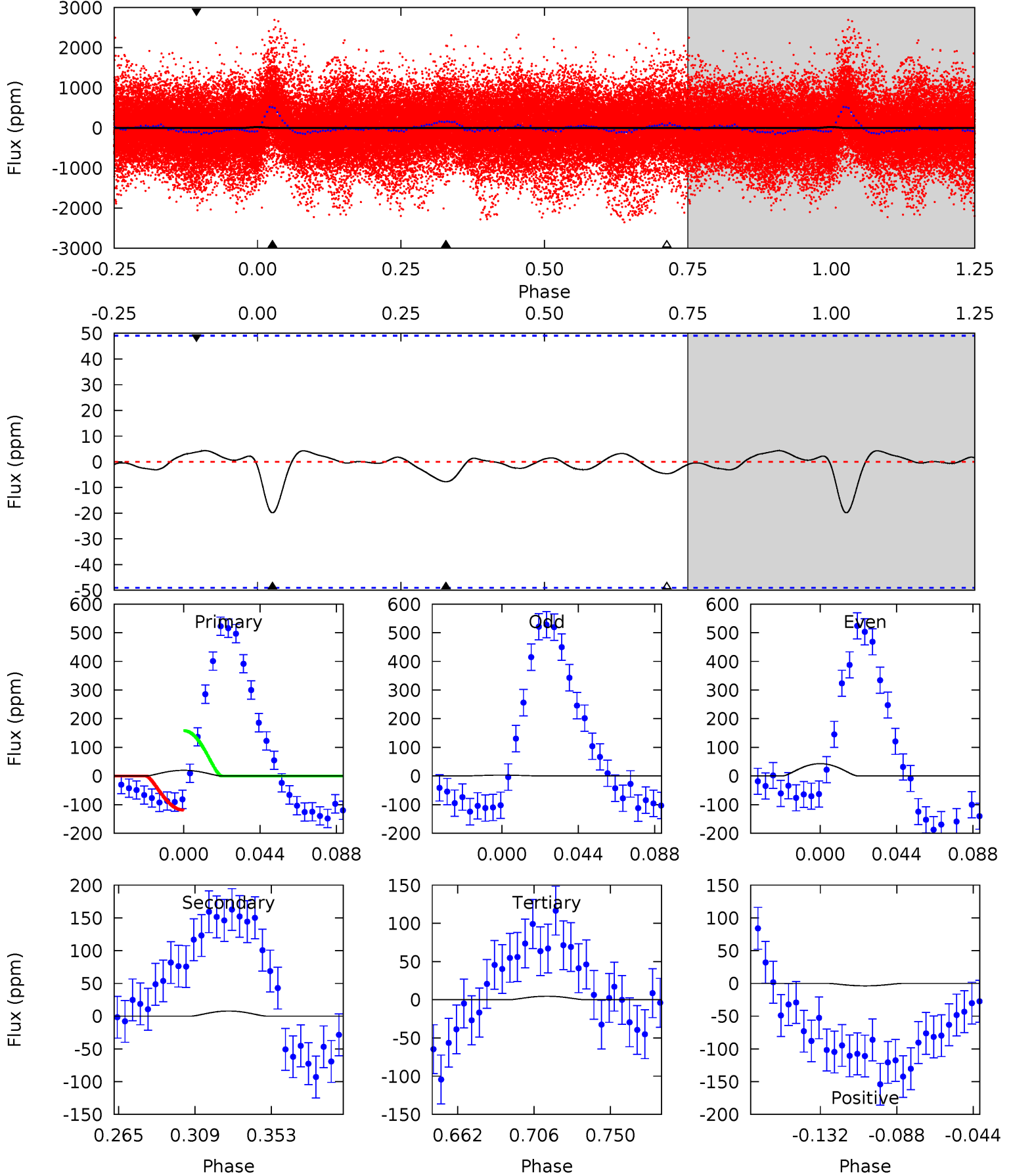
TCE 002439469-01 P= 21.164330 Days $T_0=137.638906$ (BKJD)



DV Model-Shift Uniqueness Test

002439469-01, P = 21.164694 Days, E = 116.453190 Days

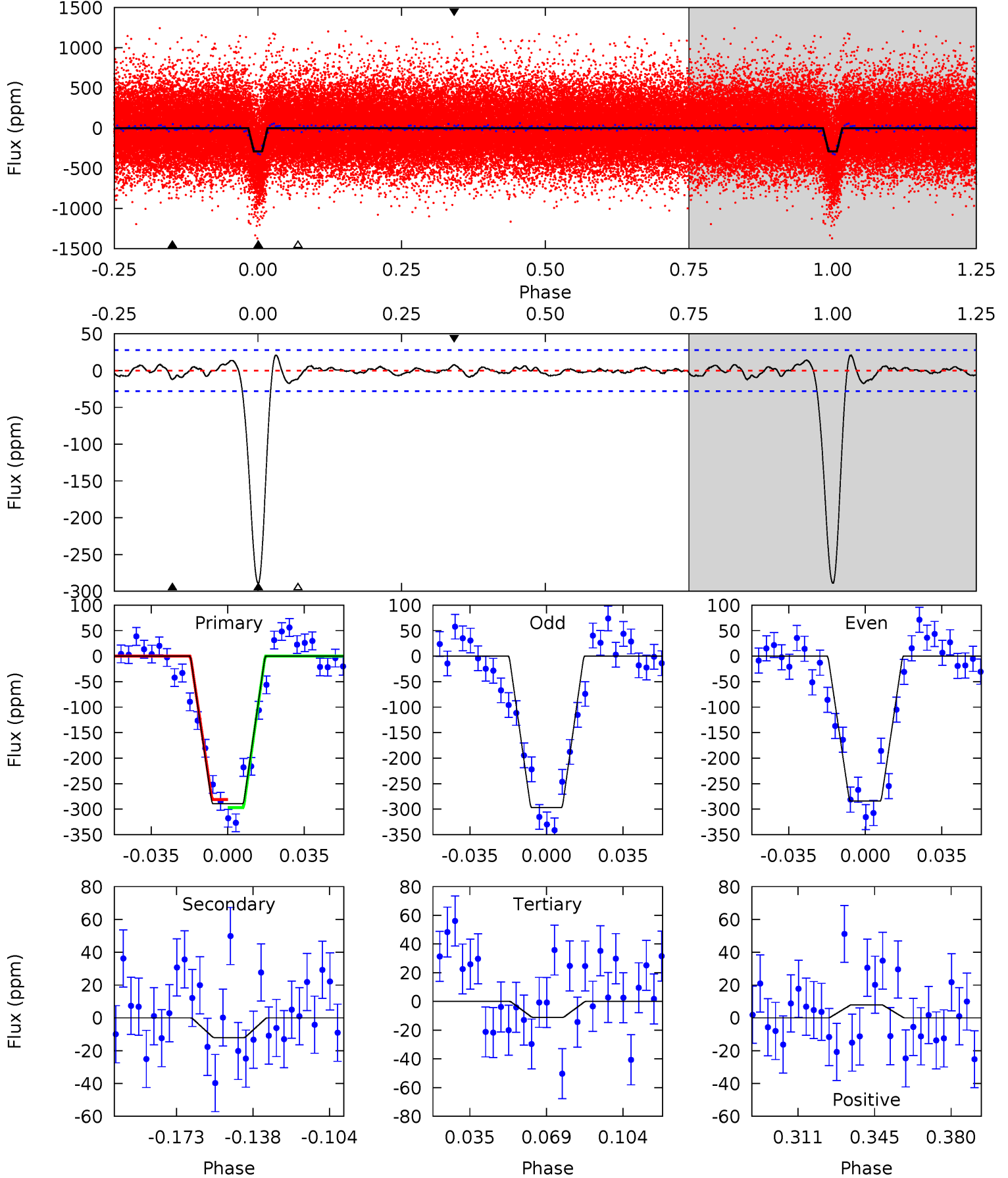
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.92	0.75	0.45	0.36	4.73	2.01	0.21	1.47	1.55	0.30	0.38	1.93	0.21	0.18	1.89



Alt Model-Shift Uniqueness Test

002439469-01, $P = 21.164330$ Days, $E = 116.474576$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
49.4	2.05	1.89	1.36	4.78	2.11	0.80	47.5	48.0	0.16	0.69	1.10	1.03	0.07	1.35



Stellar Parameters For KIC 002439469

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6386^{+153}_{-211}	$4.402^{+0.056}_{-0.210}$	$-0.080^{+0.250}_{-0.300}$	$1.123^{+0.389}_{-0.130}$	$1.161^{+0.172}_{-0.157}$	$1.154^{+0.350}_{-0.639}$
	+2%/-3%	+1%/-5%	+312%/-375%	+35%/-12%	+15%/-14%	+30%/-55%
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 002439469-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-8 ± 10	$4.53^{+3.44}_{-2.74}$	1072^{+81}_{-50}	2479^{+887}_{-4753}	$3.708^{+29.546}_{-4.998}$
Alt.	-12 ± 6	$3.46^{+3.04}_{-2.19}$	1072^{+77}_{-53}	2913^{+1076}_{-533}	12^{+84}_{-9}

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 $A_{obs} \gg 1.0$

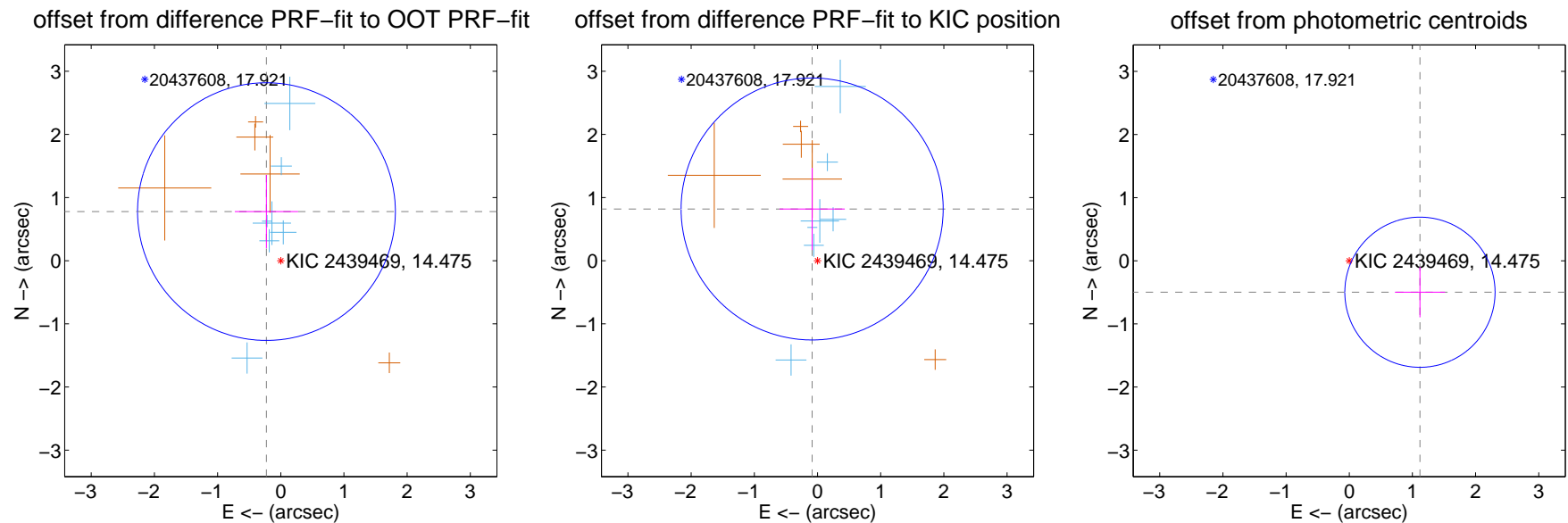
DV Centroid Data

Supplemental centroid analysis for 002439469-01. Kepler magnitude: 14.47. Transit SNR 11.59

There are 7 quarters with good PRF difference image offsets

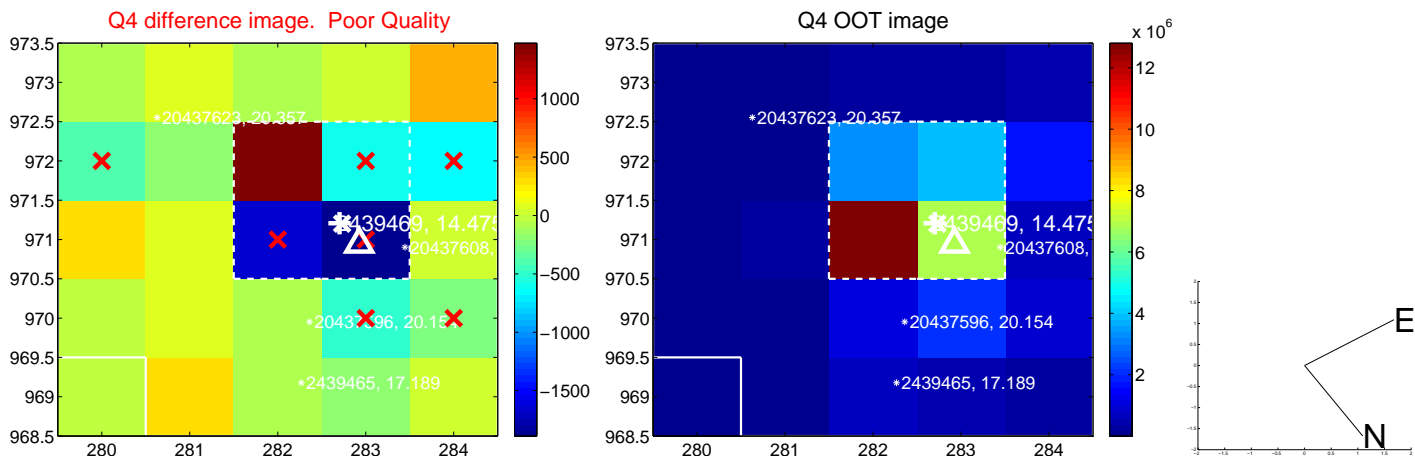
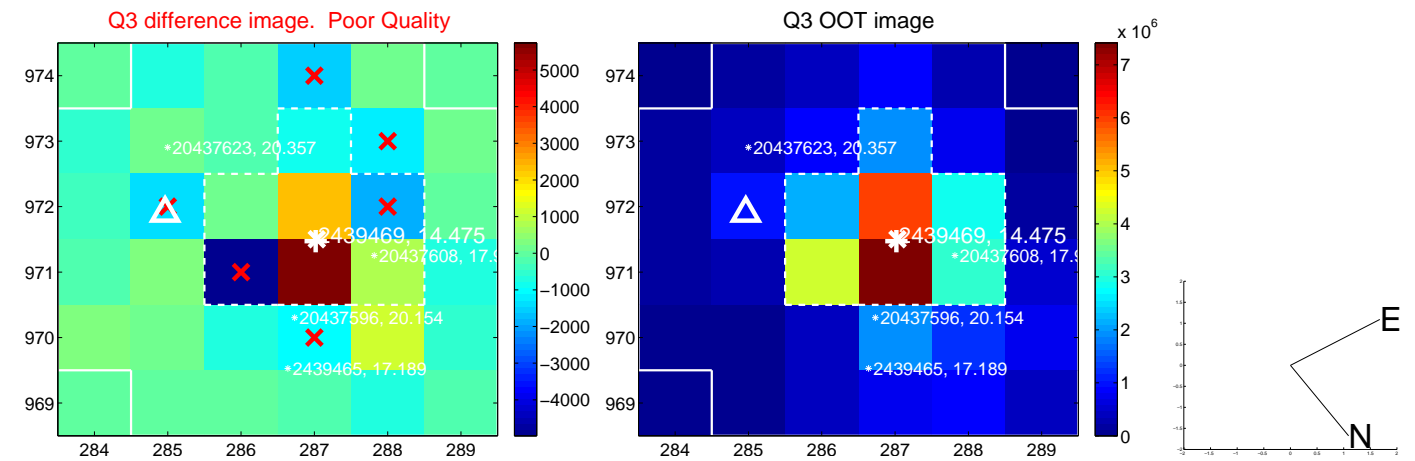
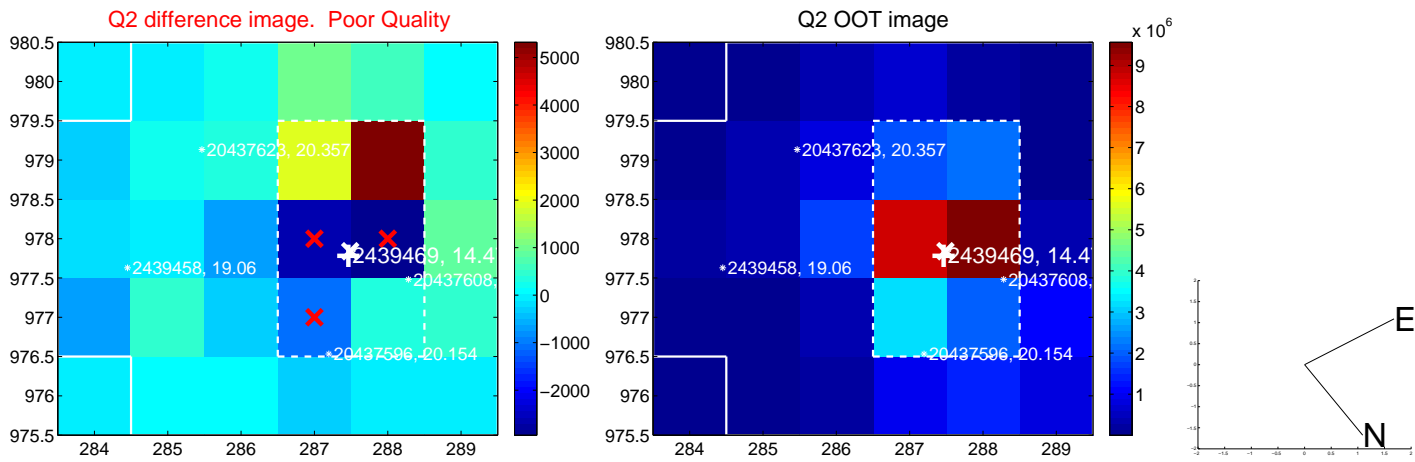
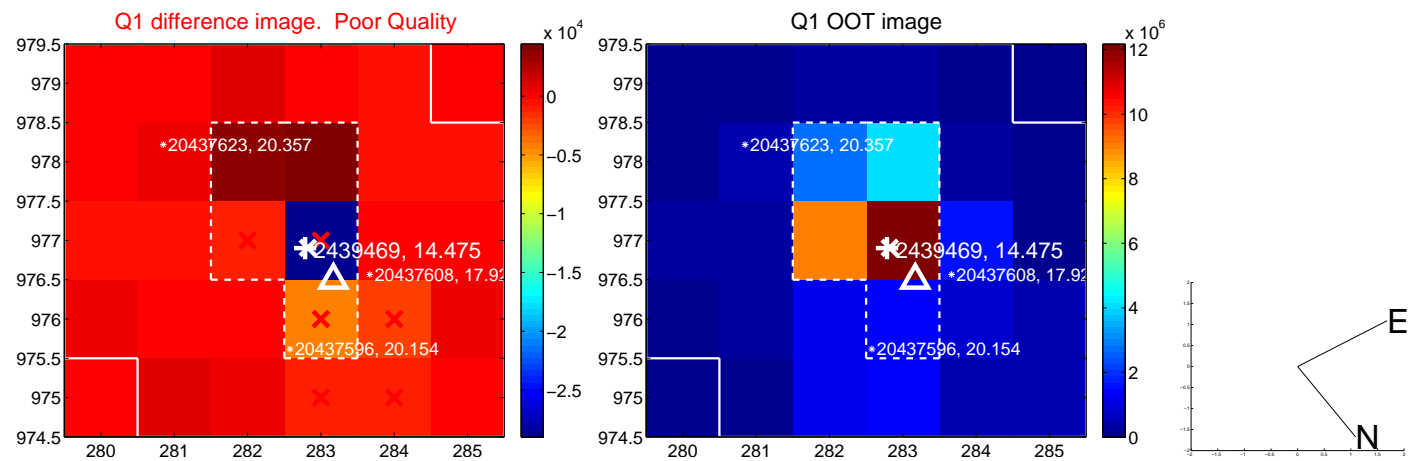
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.810 ± 0.680	1.19	0.227 ± 0.502	0.778 ± 0.582
PRF-fit source offset from KIC position	0.823 ± 0.691	1.19	0.085 ± 0.516	0.819 ± 0.650
photometric centroid source offset	1.23 ± 0.40	3.09	-1.12 ± 0.40	-0.50 ± 0.40

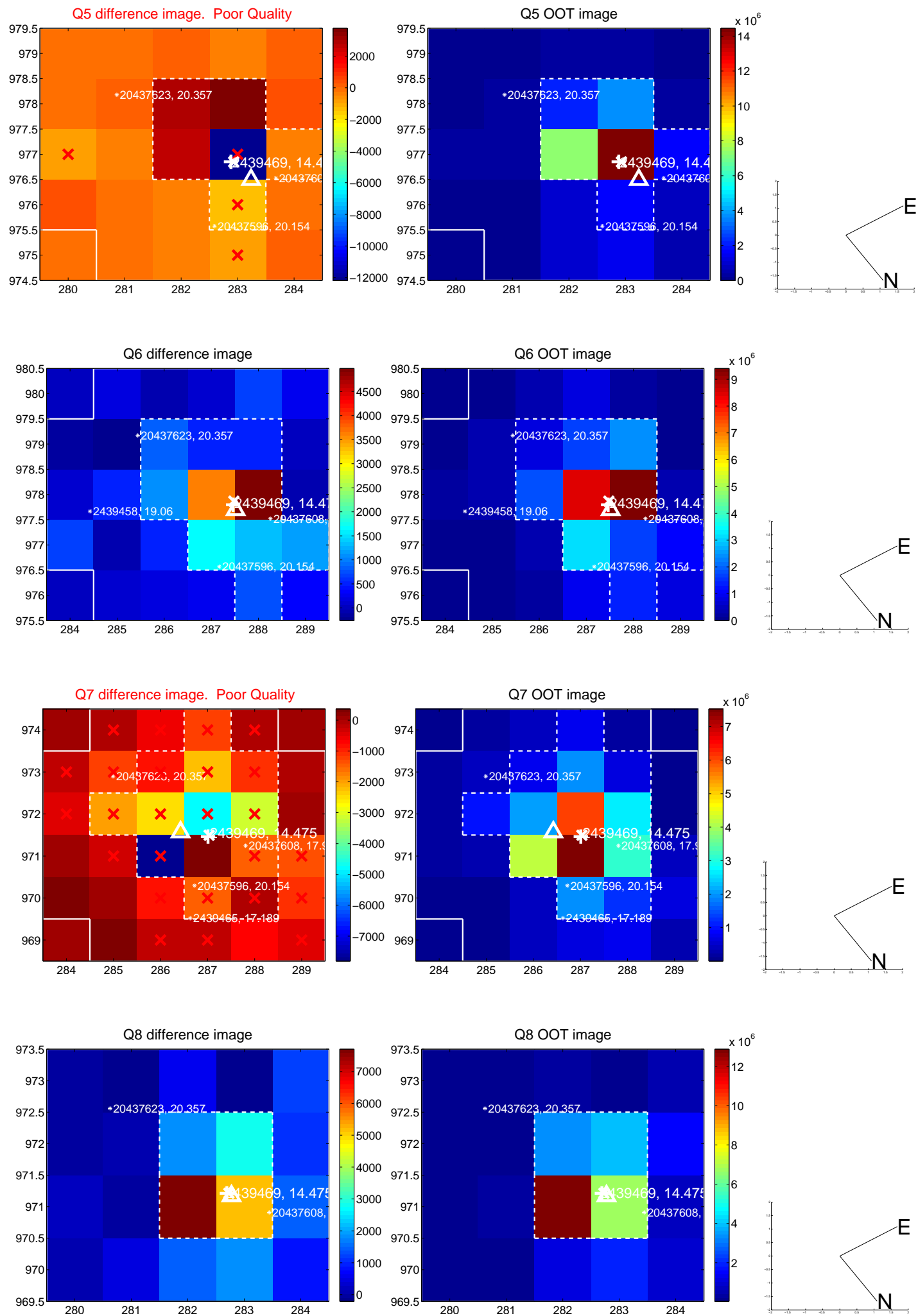


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

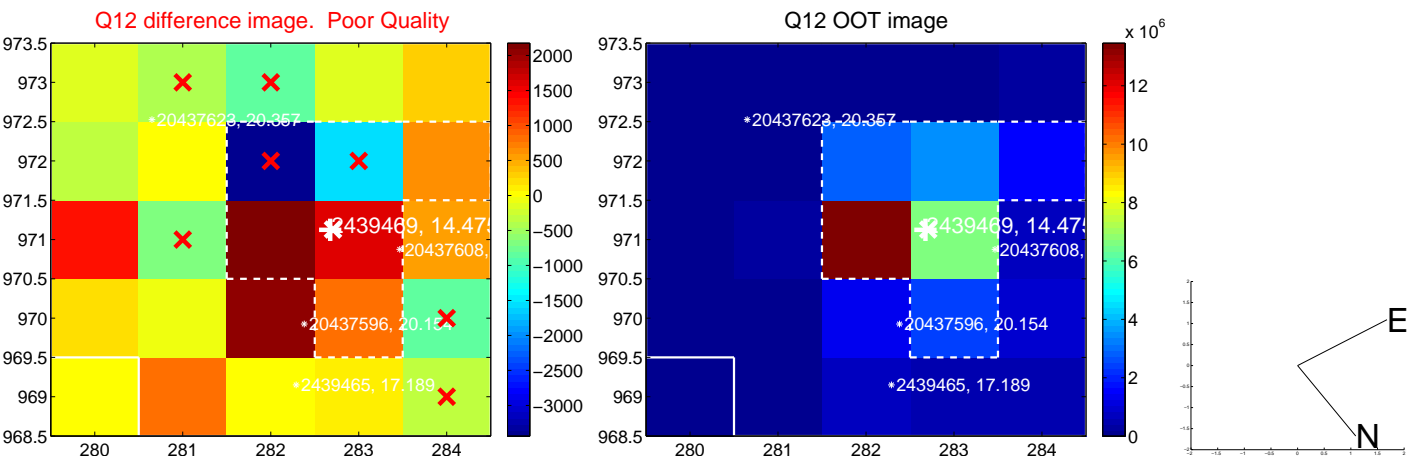
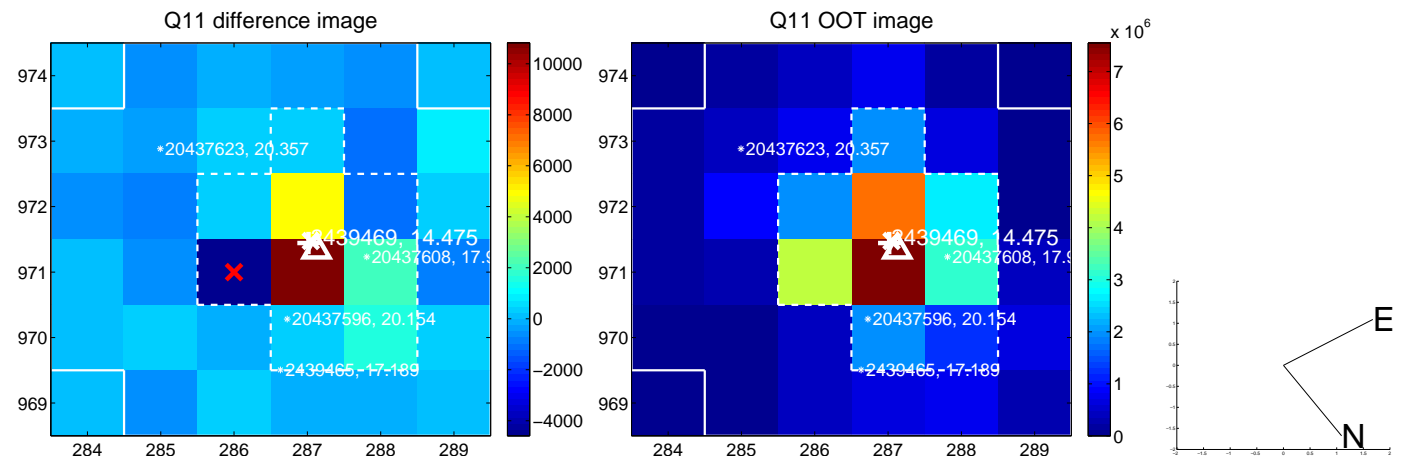
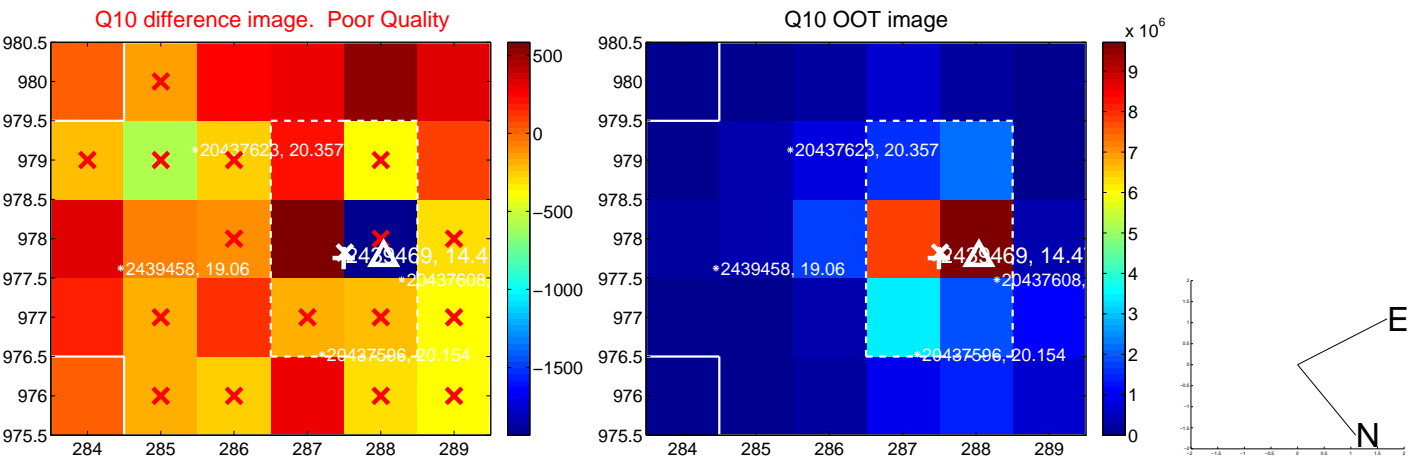
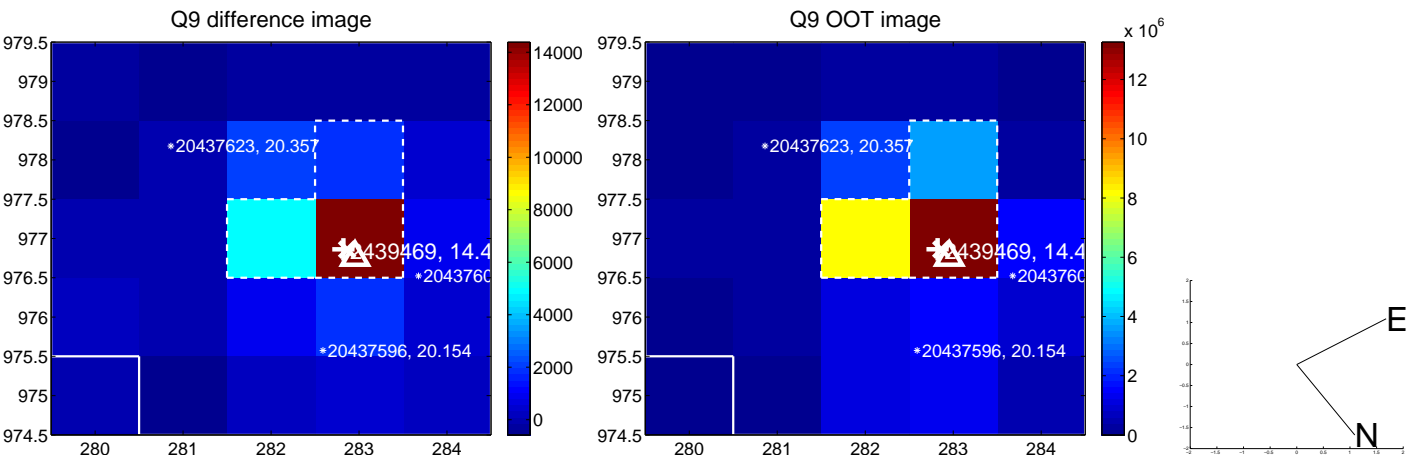
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



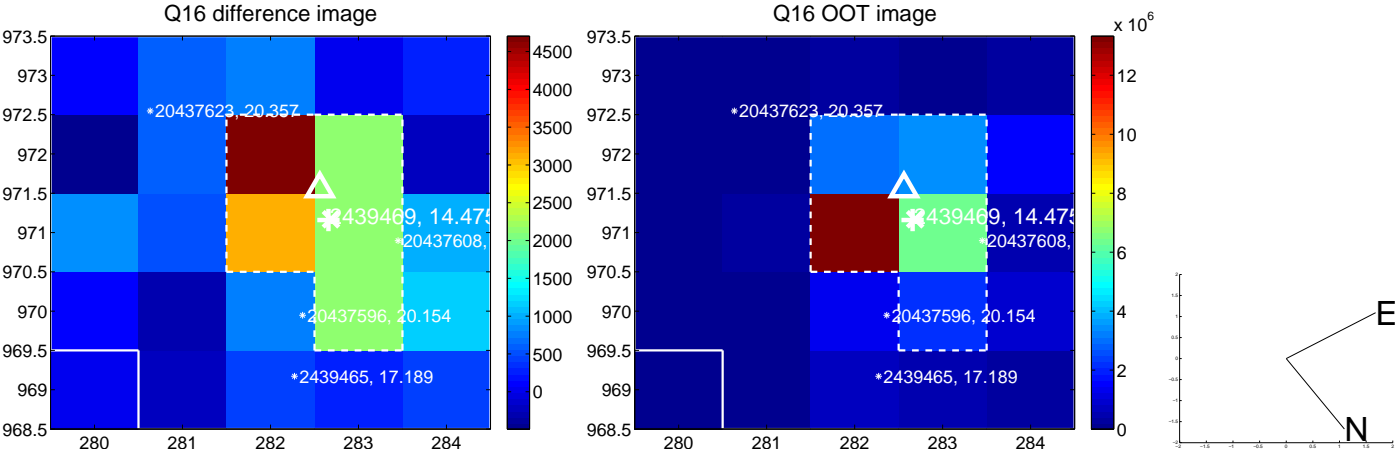
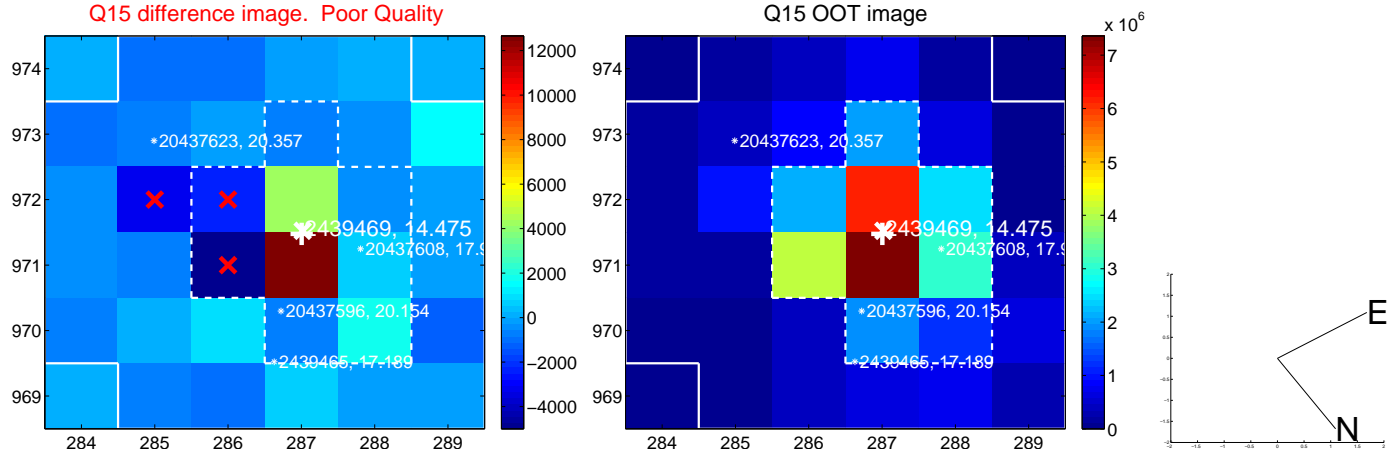
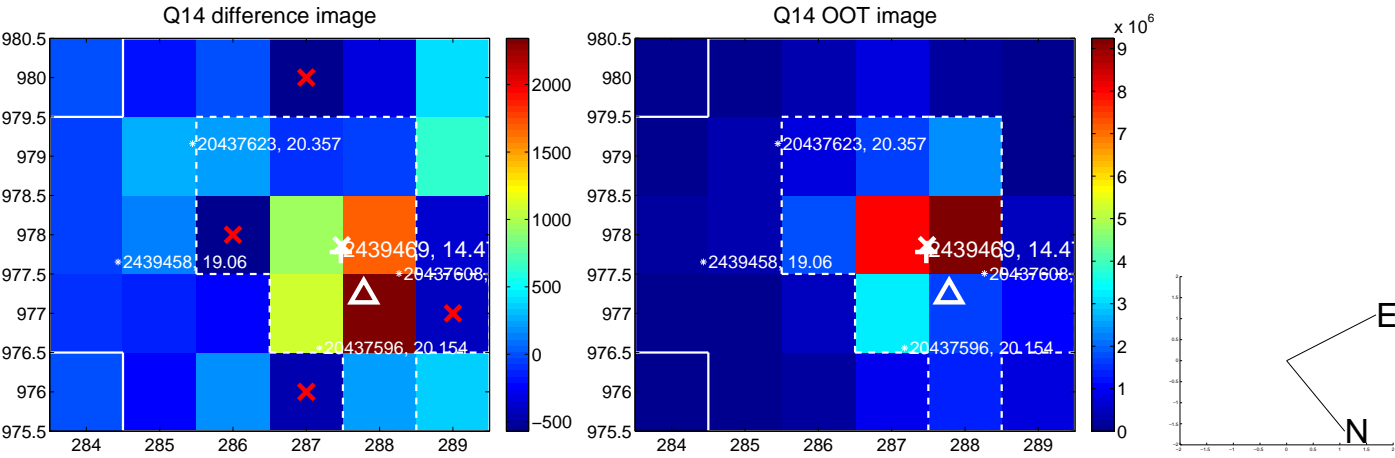
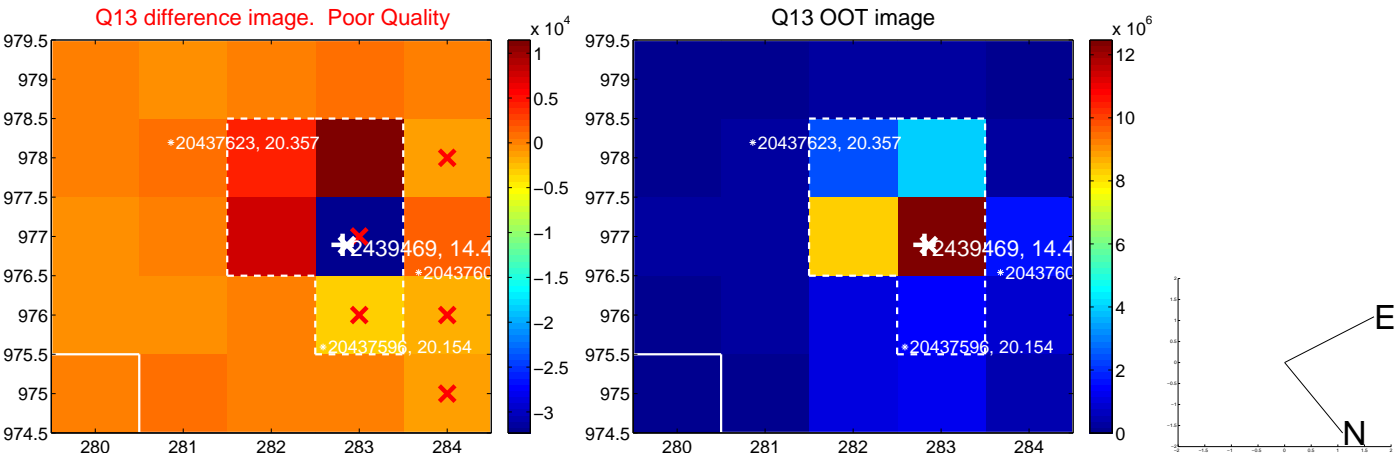
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



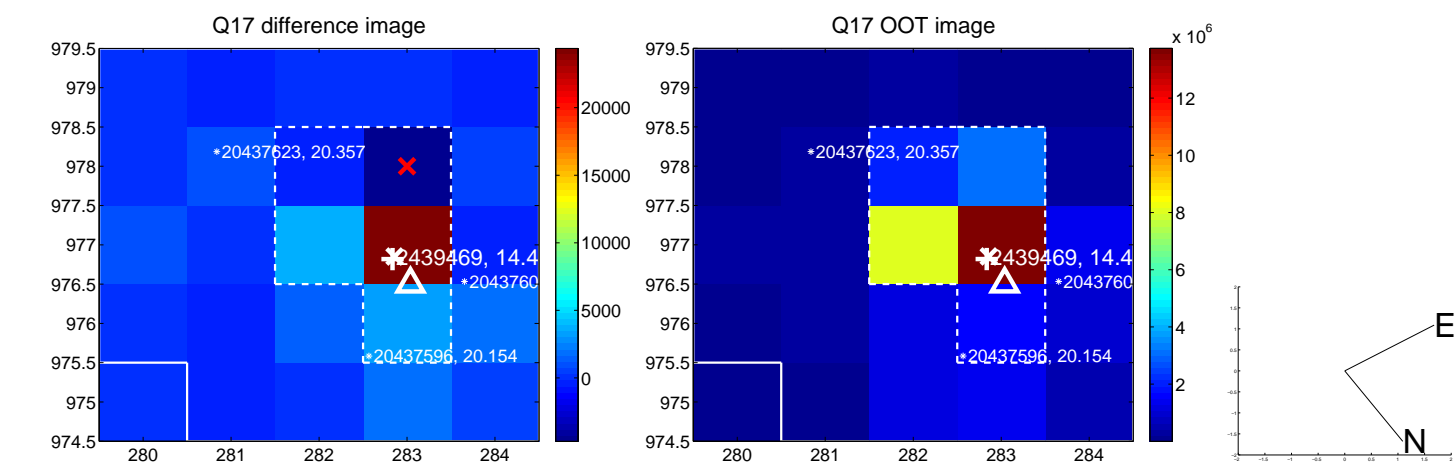
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



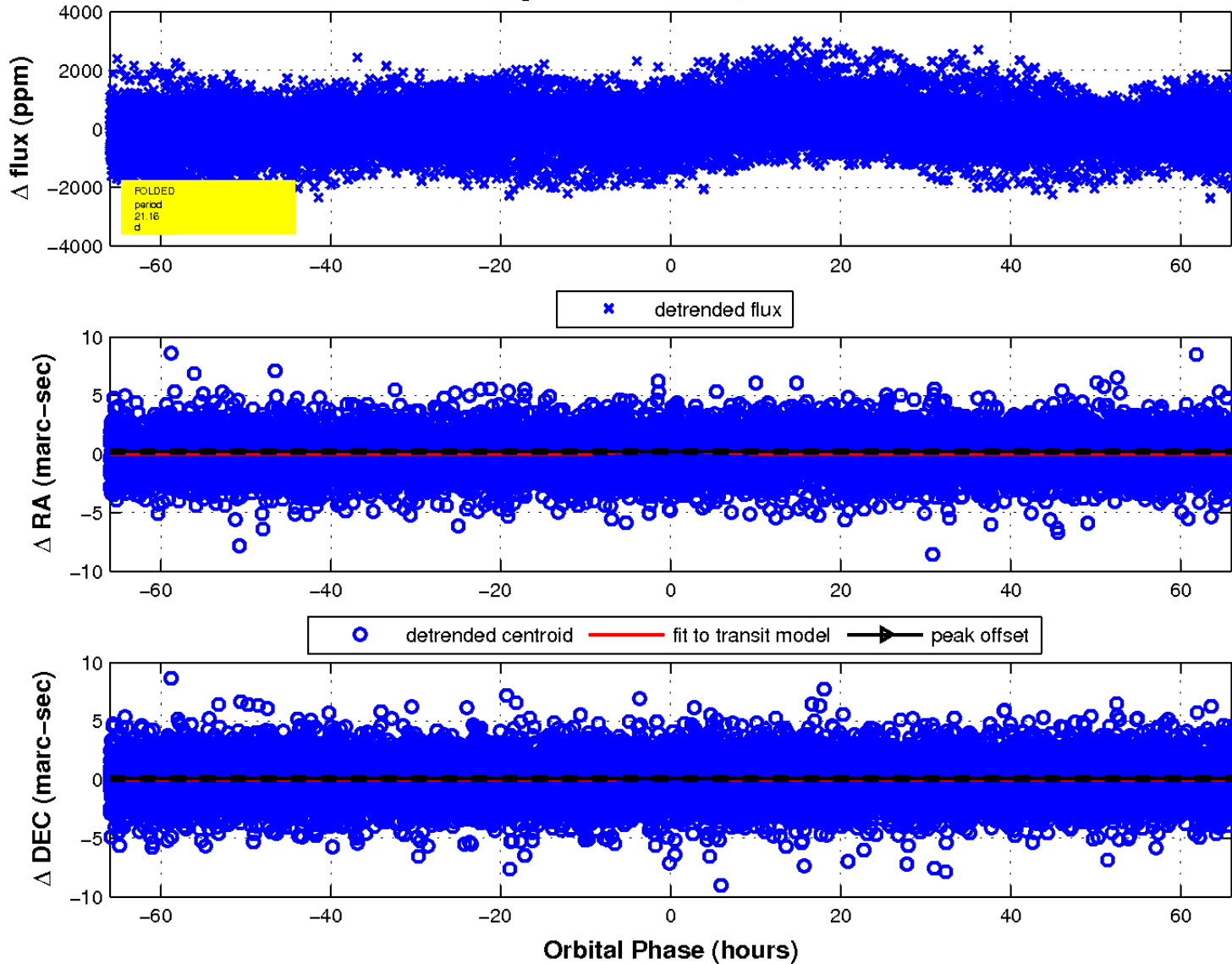
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

