

KIC 008973811

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})
008973811-01	OBS	No	3.259562	134.922662	6.8	22.699	13.4	4.2	2.84	6593	0.77	5236.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008973811-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT

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

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

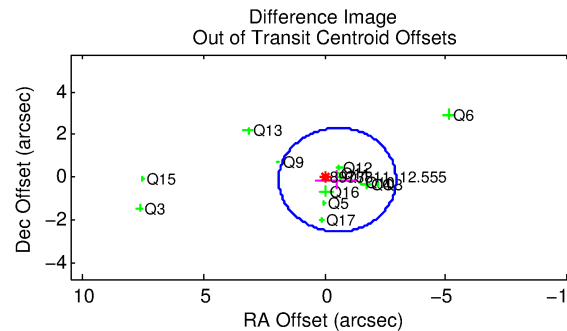
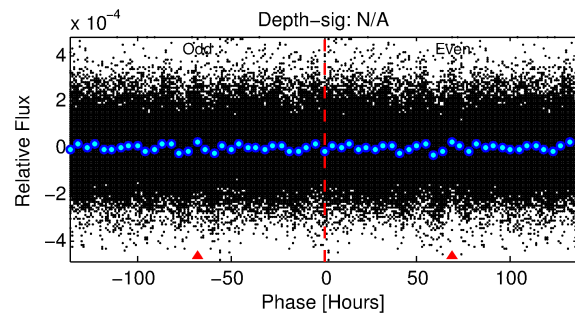
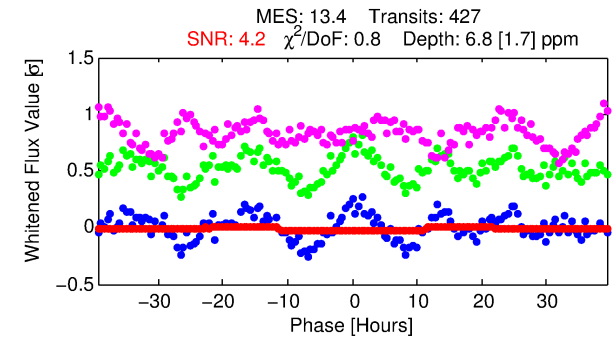
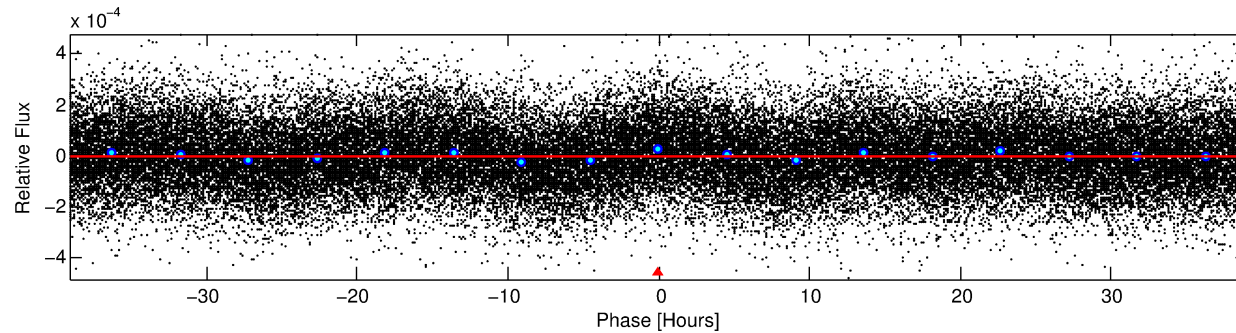
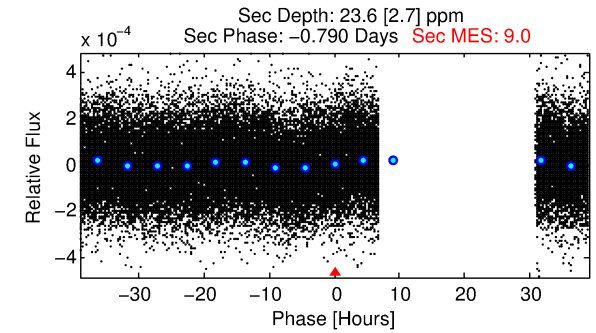
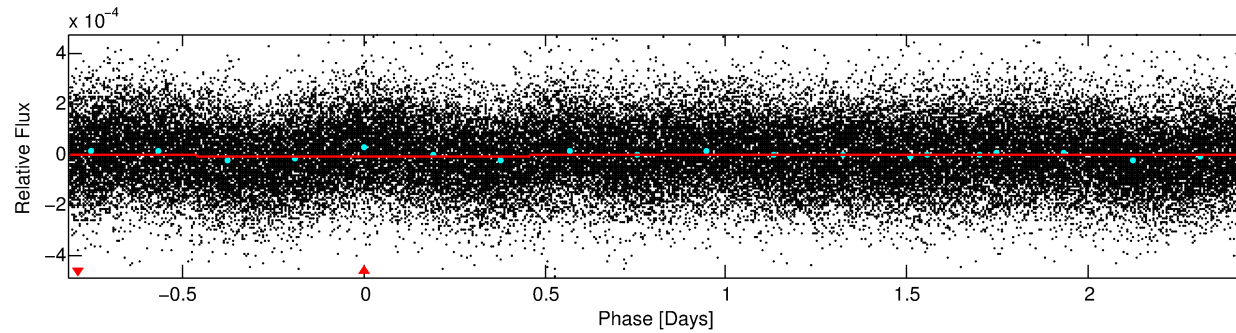
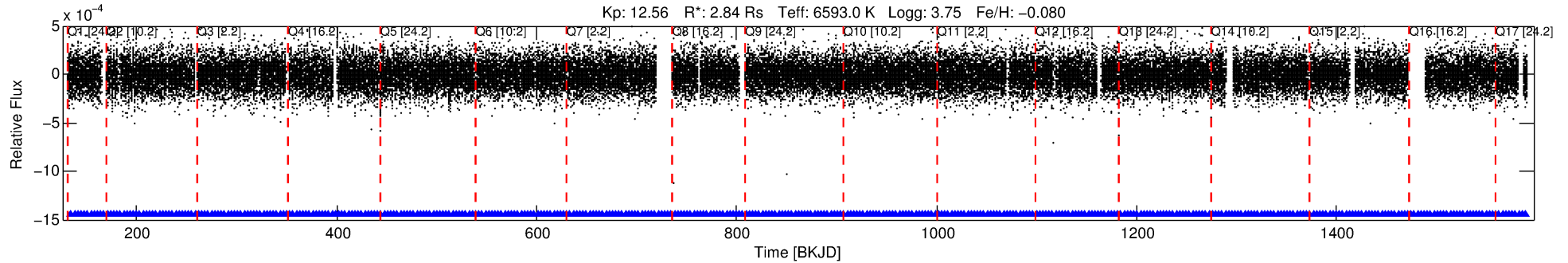
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008973811-01

No Significant Match Found

DV One-Page Summary

KIC: 8973811 Candidate: 1 of 1 Period: 3.260 d



DV Fit Results:

Period = 3.25956 [0.00014] d
Epoch = 134.9227 [0.0271] BKJD
Rp/R* = 0.0025 [0.0029]
a/R* = 1.21 [2.45]
b = 0.49 [9.84]
Seff = 5236.28 [2763.33]
Teq = 2169 [286] K
Rp = 0.77 [0.93] Re
a = 0.0510 [0.0172] AU
Ag = 57.85 [137.69] [0.41σ]
Teffp = 9249 [5381] K [1.31σ]

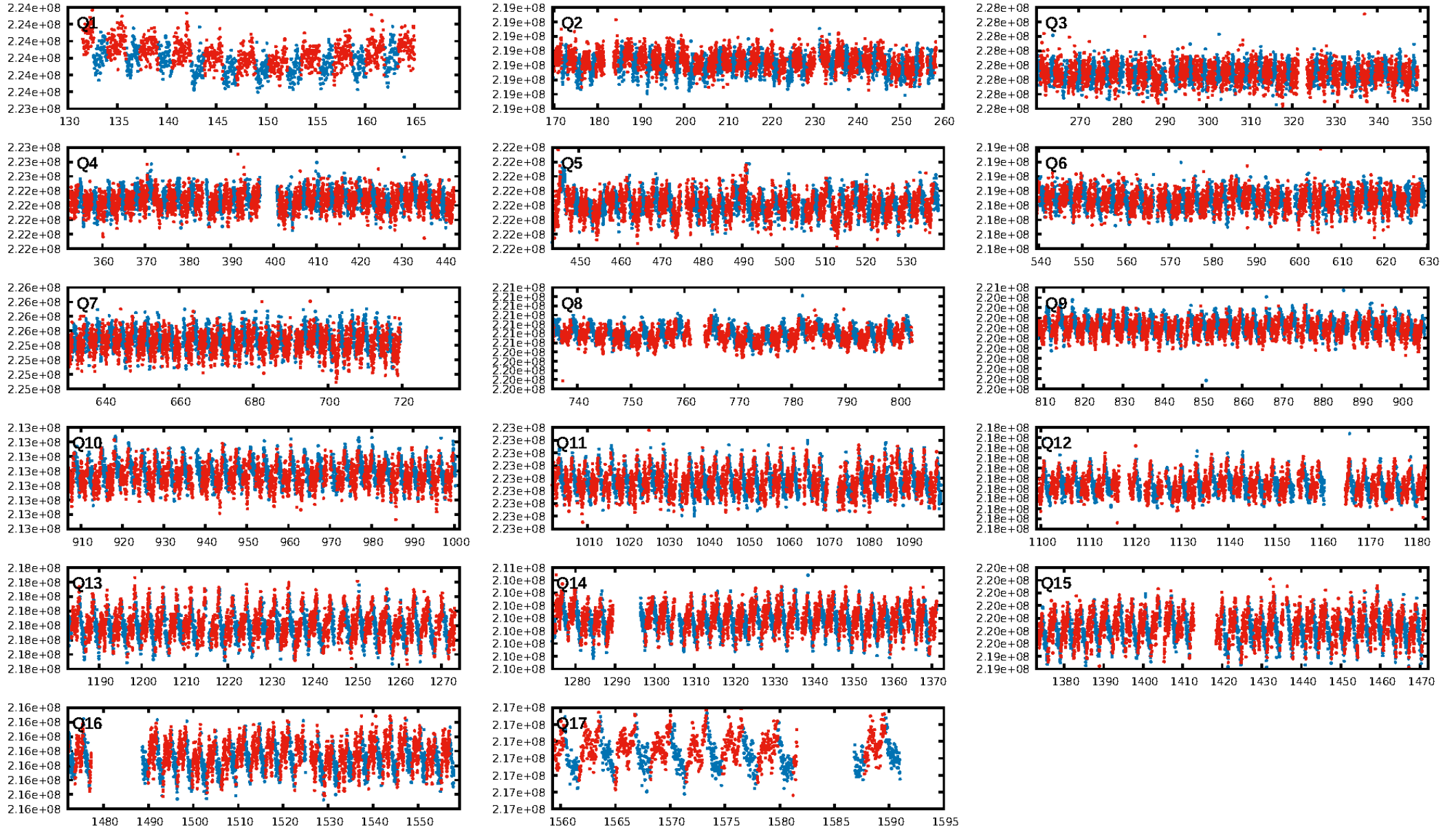
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [408/408]
GhostDiagnostic-chr: 1.608
Centroid-sig: 0.0%
Centroid-so: 4.768 arcsec [2.72σ]
OotOffset-rm: 0.537 arcsec [0.67σ]
KicOffset-rm: 0.675 arcsec [0.87σ]
OotOffset-st: 2/4/4/4 [14]
KicOffset-st: 2/4/4/4 [14]
DiffImageQuality-fgm: 0.64 [9/14]
DiffImageOverlap-fno: 1.00 [17/17]

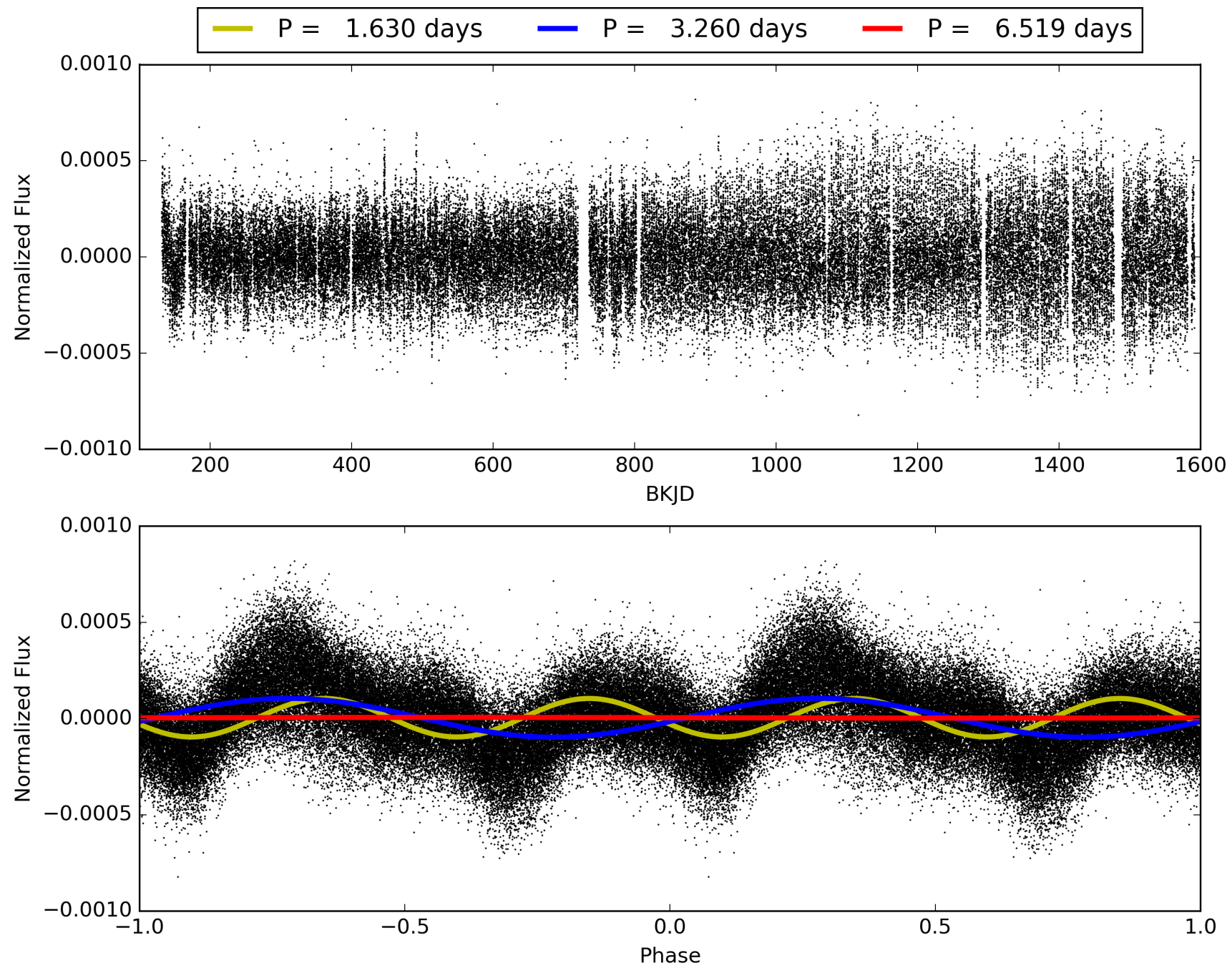
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:07:34 Z

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

TCE 008973811-01, PDC Light Curves

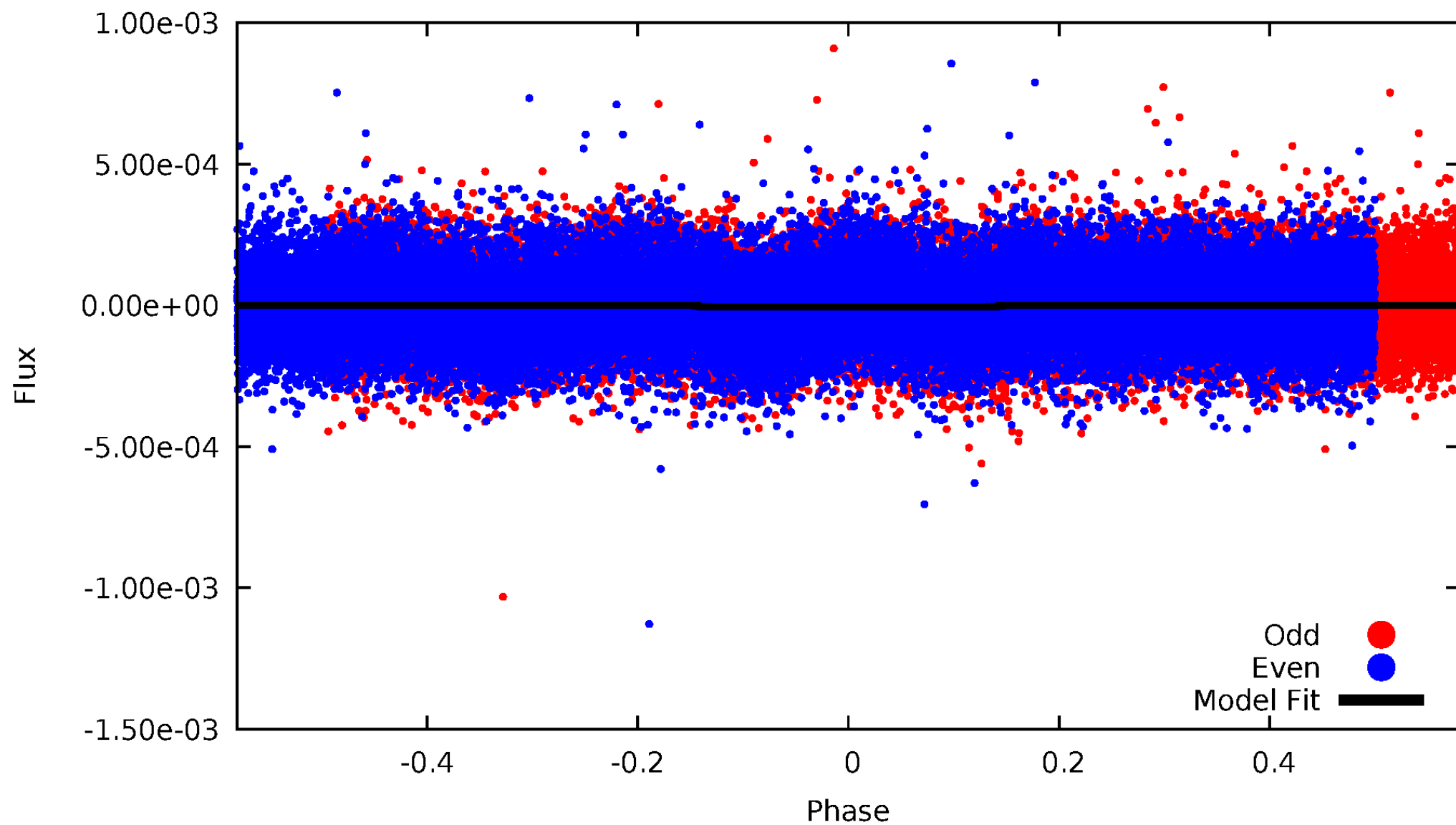


TCE 008973811-01



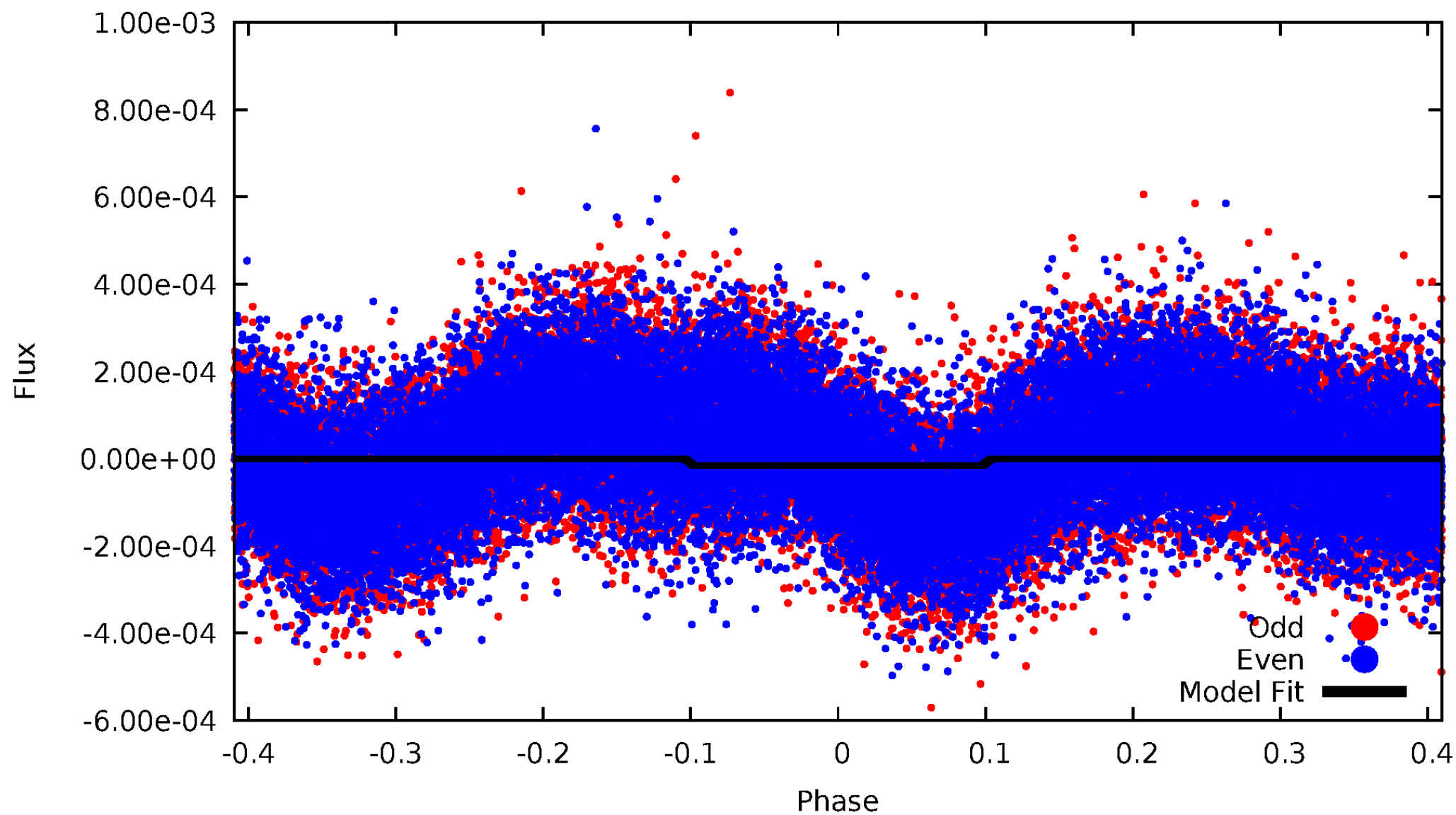
DV Odd/Even

TCE 008973811-01

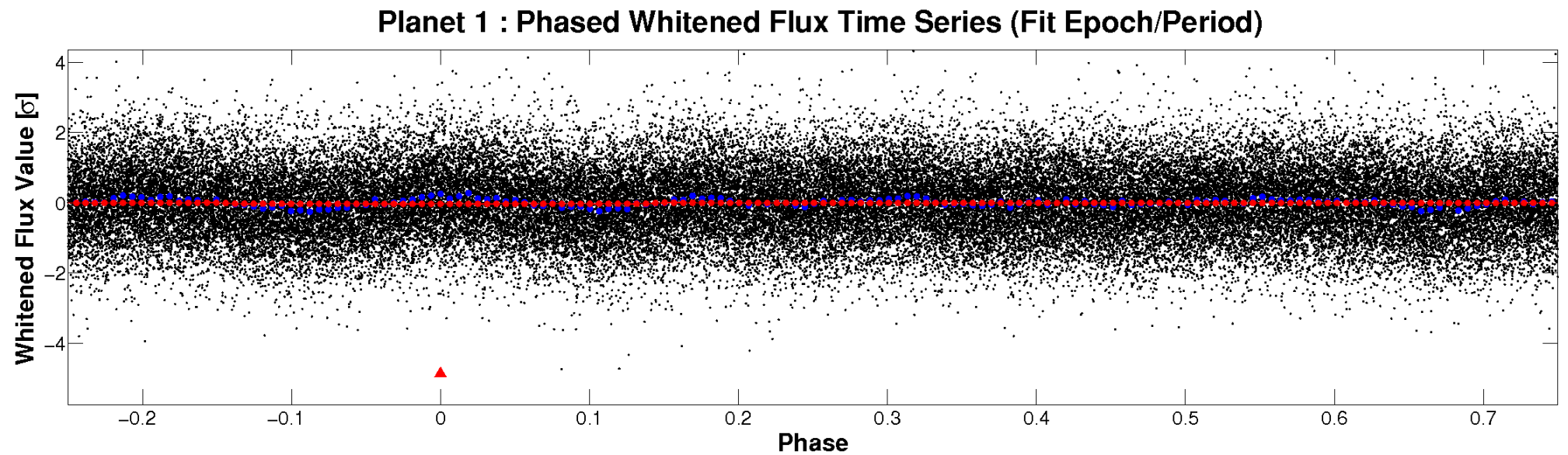
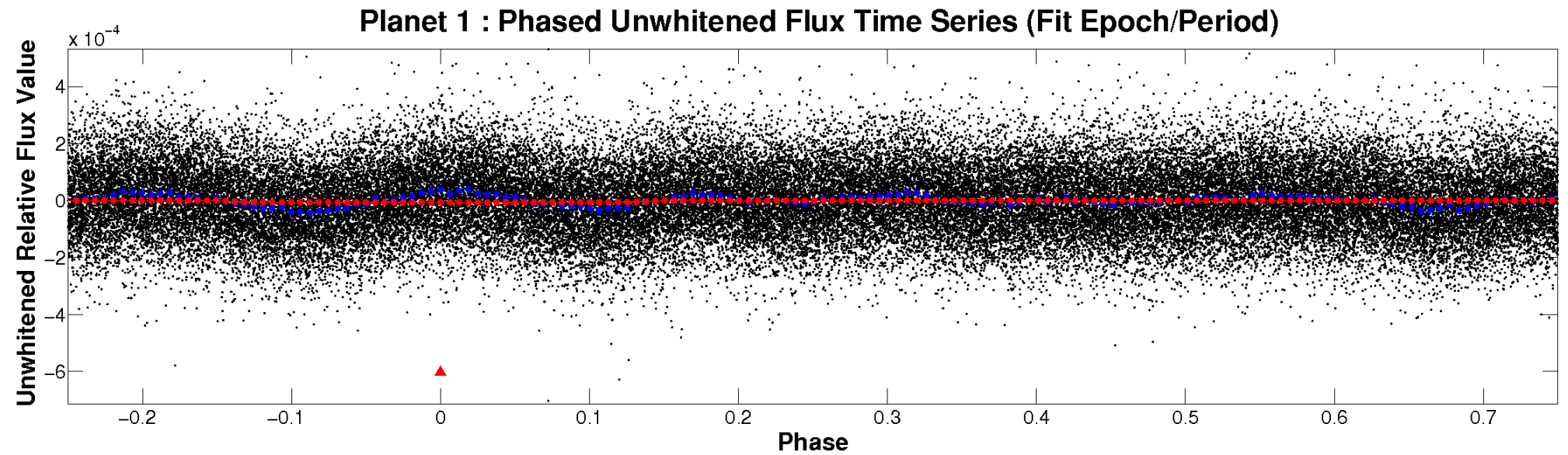


ALT Odd/Even

TCE 008973811-01

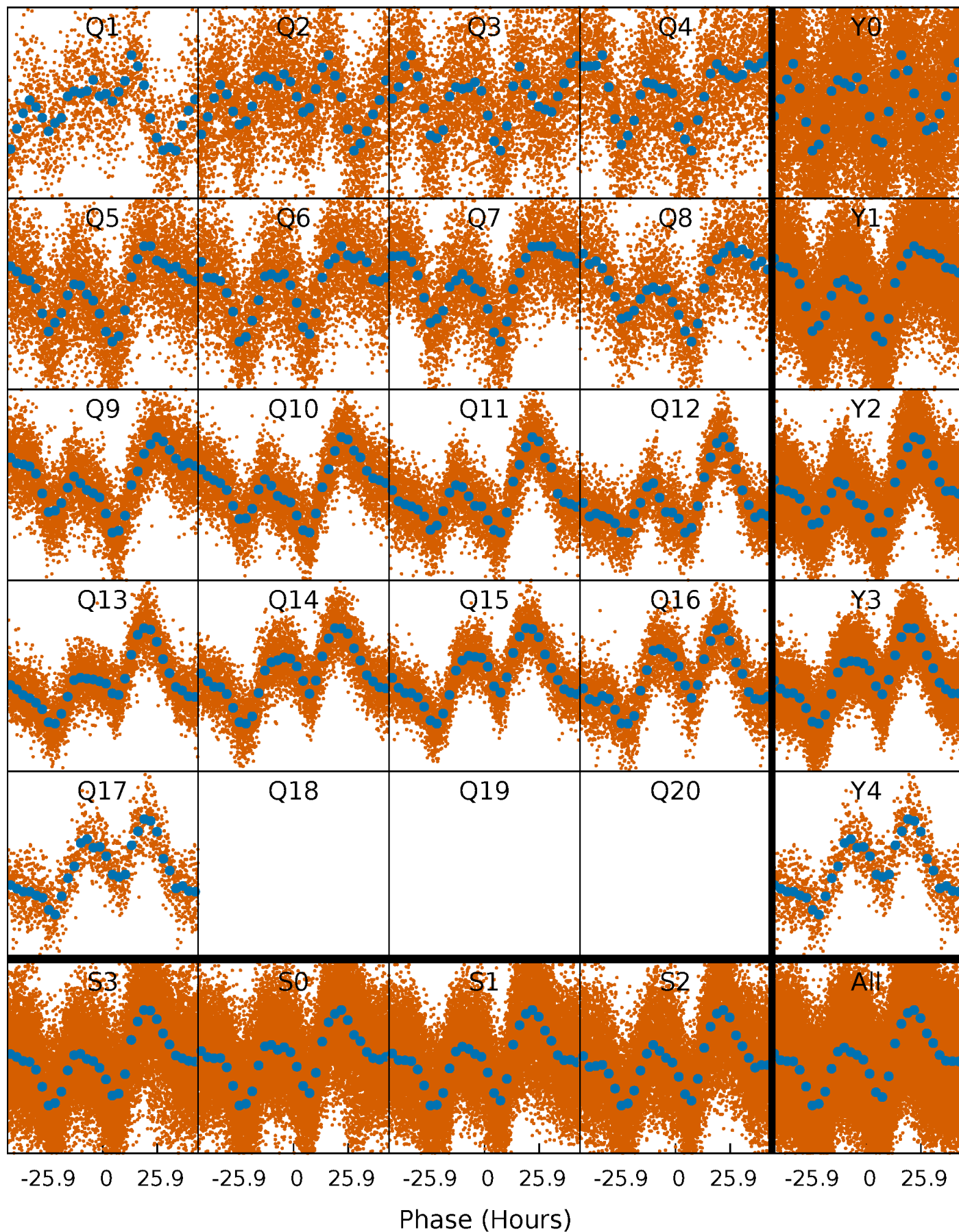


Non-Whitened Vs. Whitened Light Curve



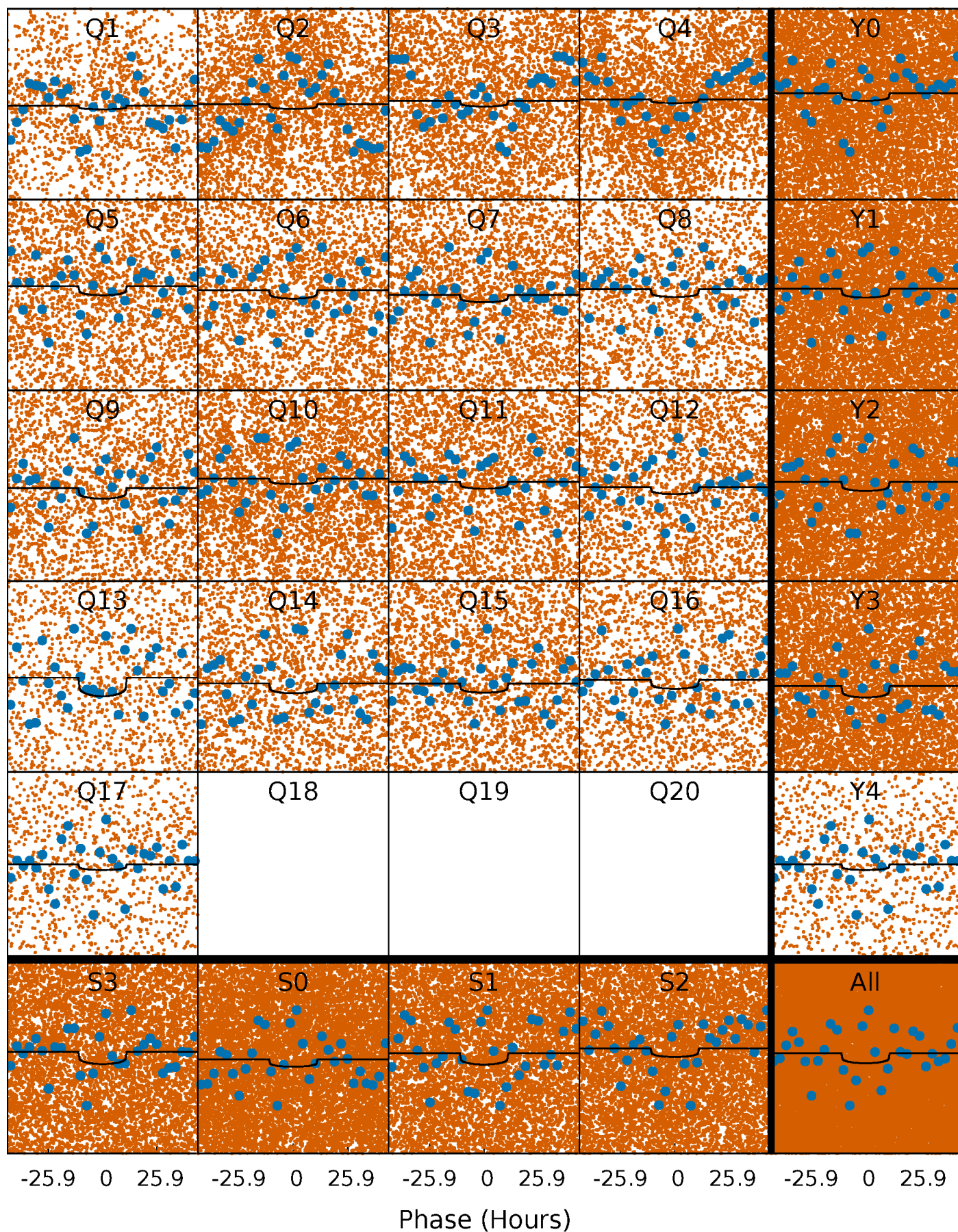
PDC Quarter-Phased Transit Curves

TCE 008973811-01 P= 3.259562 Days $T_0=134.922662$ (BKJD)



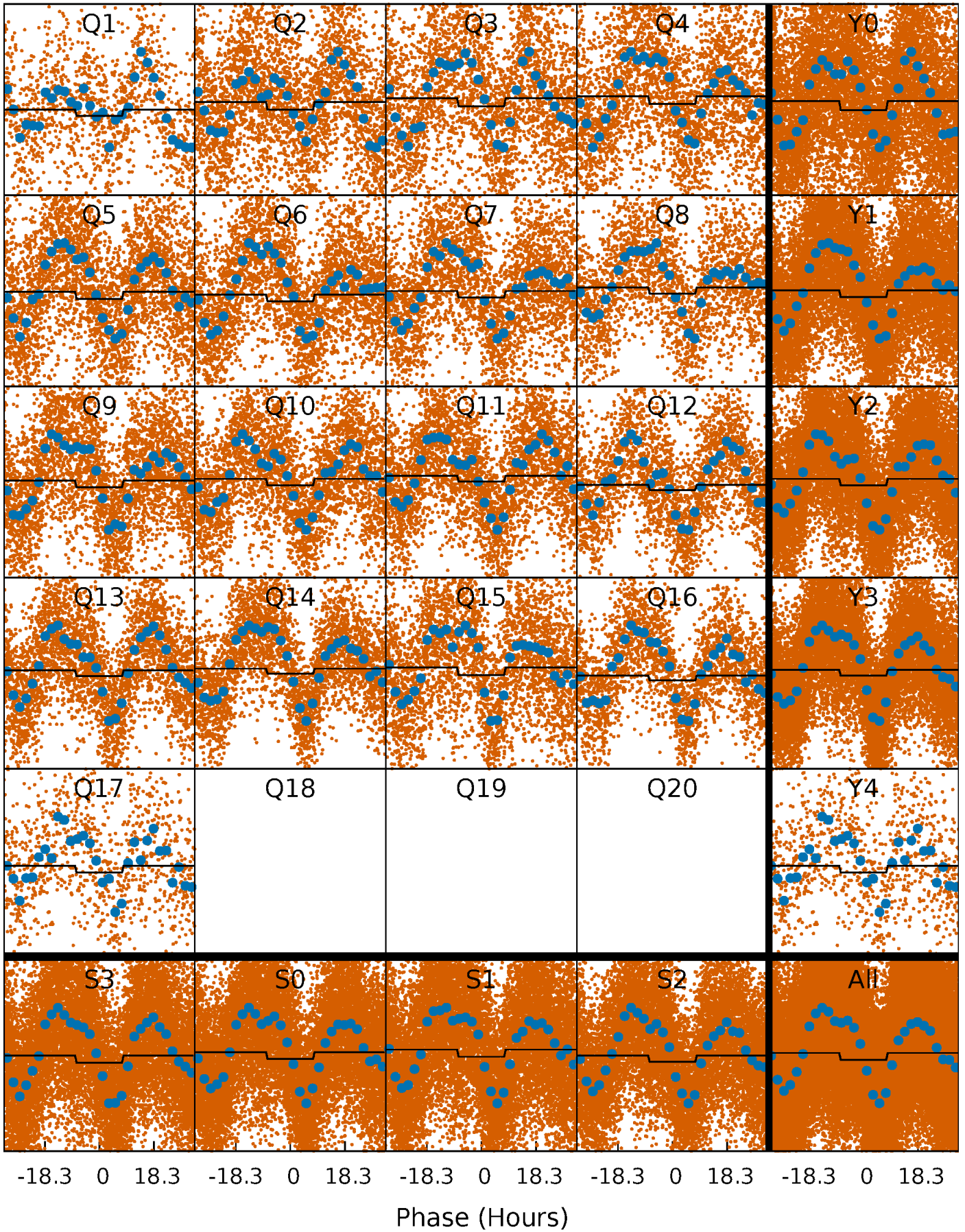
DV Quarter-Phased Transit Curves

TCE 008973811-01 P= 3.259562 Days $T_0=134.922662$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

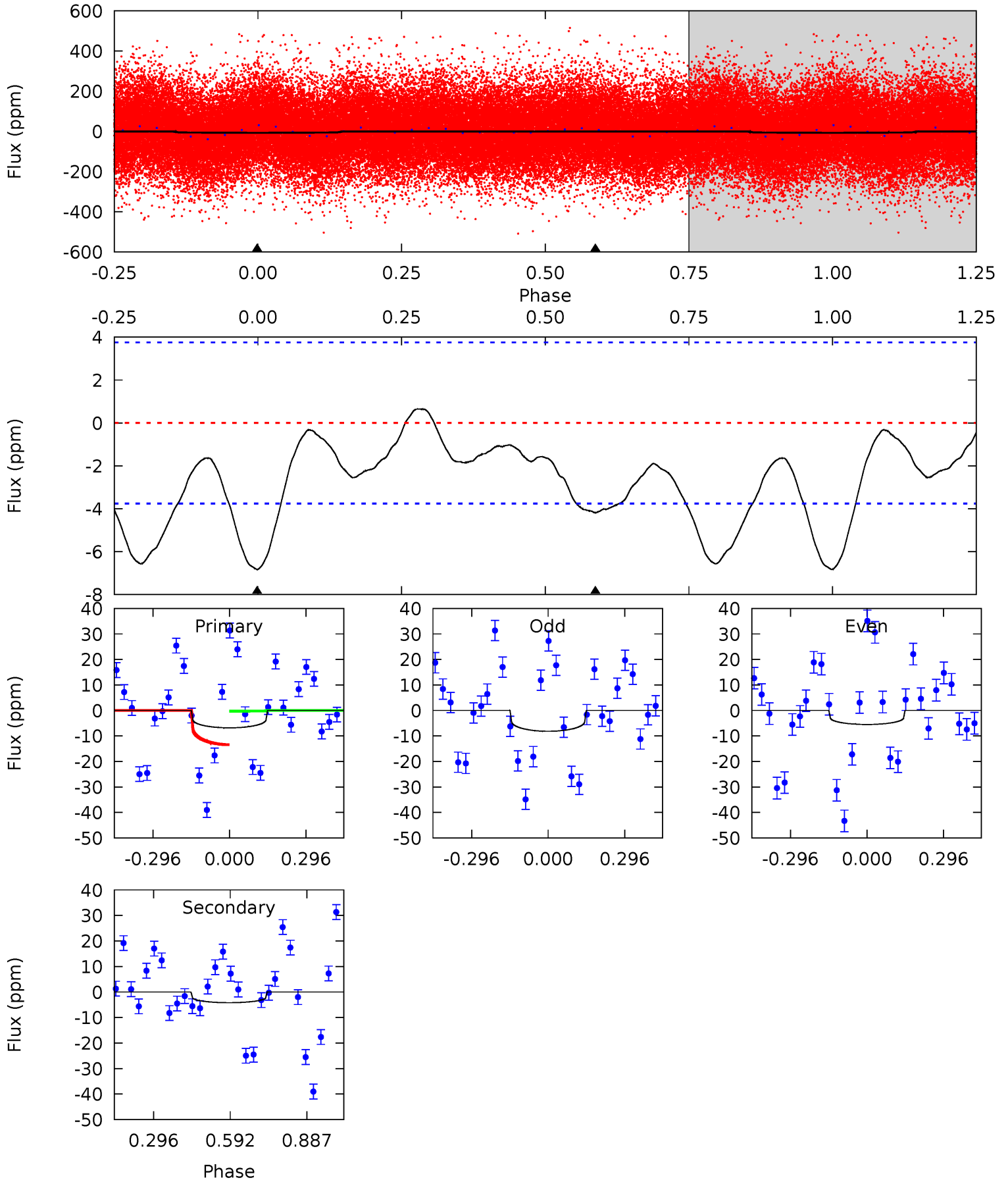
TCE 008973811-01 P= 3.259894 Days $T_0=134.931554$ (BKJD)



DV Model-Shift Uniqueness Test

008973811-01, P = 3.259562 Days, E = 128.403538 Days

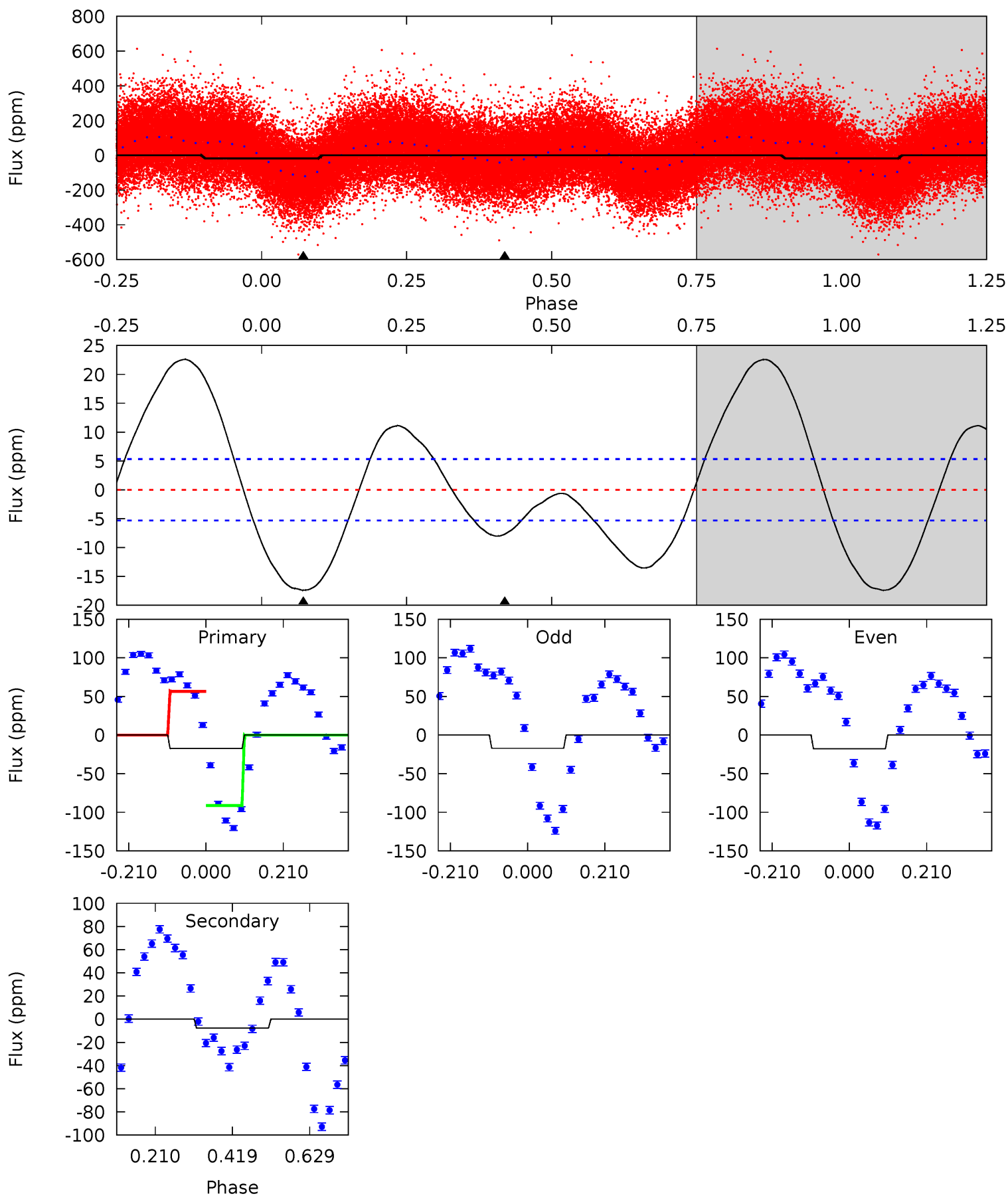
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.87	4.82	0	0	4.33	1.05	0.89	7.87	7.87	4.82	4.82	1.53	1.03	0.09	7.71



Alt Model-Shift Uniqueness Test

008973811-01, P = 3.259894 Days, E = 128.411766 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	6.36	0	0	4.41	1.25	10.8	14.4	14.4	6.36	6.36	0.25	1.01	0.56	15.2



Stellar Parameters For KIC 008973811

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6593^{+177}_{-197}	$3.754^{+0.292}_{-0.097}$	$-0.080^{+0.300}_{-0.250}$	$2.838^{+0.459}_{-1.071}$	$1.667^{+0.178}_{-0.387}$	$0.103^{+0.229}_{-0.031}$
	+3%/-3%	+8%/-3%	+375%/-312%	+16%/-38%	+11%/-23%	+223%/-30%
Source	PHO1	FLK73	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 008973811-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-4 ± 1	$0.90^{+0.71}_{-0.57}$	2984^{+192}_{-276}	5265^{+4198}_{-1167}	$7.373^{+45.776}_{-5.193}$
Alt.	-8 ± 1	$1.27^{+0.86}_{-0.75}$	2977^{+166}_{-259}	5150^{+3230}_{-983}	$6.480^{+33.657}_{-4.014}$

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

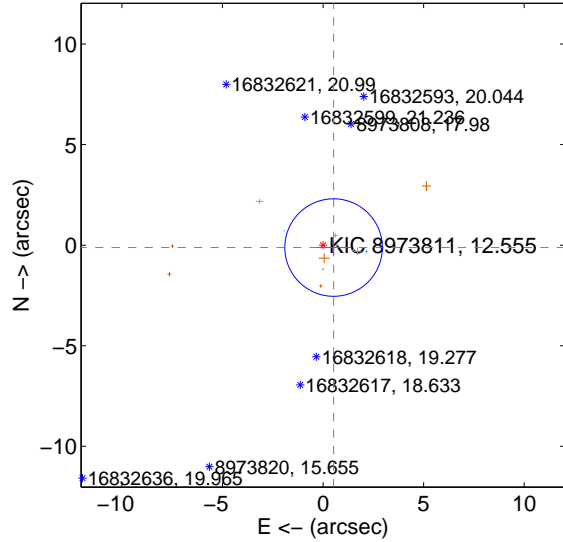
Supplemental centroid analysis for 008973811-01. Kepler magnitude: 12.55. Transit SNR 4.17

There are 9 quarters with good PRF difference image offsets

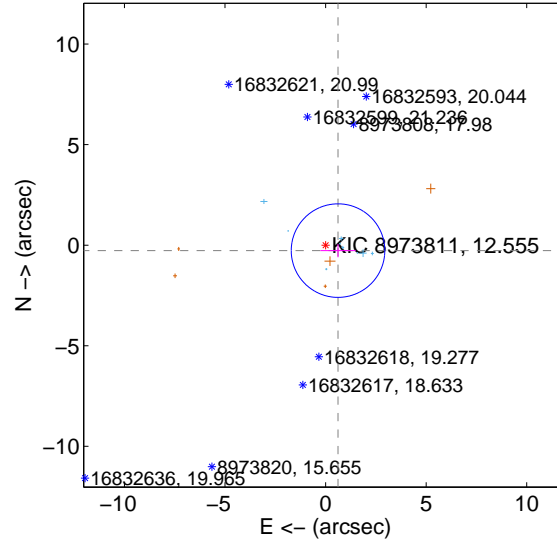
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.537 ± 0.808	0.67	-0.524 ± 0.849	-0.118 ± 0.383
PRF-fit source offset from KIC position	0.675 ± 0.775	0.87	-0.619 ± 0.880	-0.271 ± 0.333
photometric centroid source offset	4.77 ± 1.75	2.72	-1.58 ± 2.18	4.50 ± 1.69

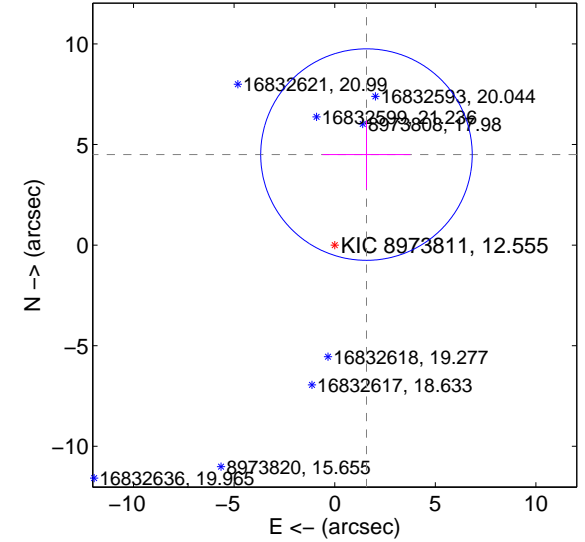
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

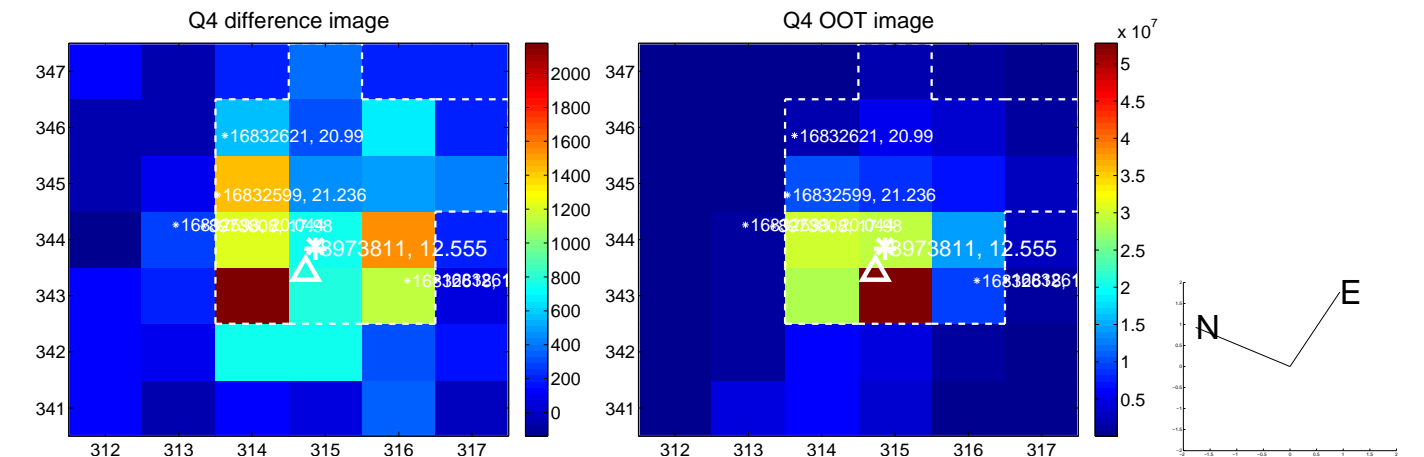
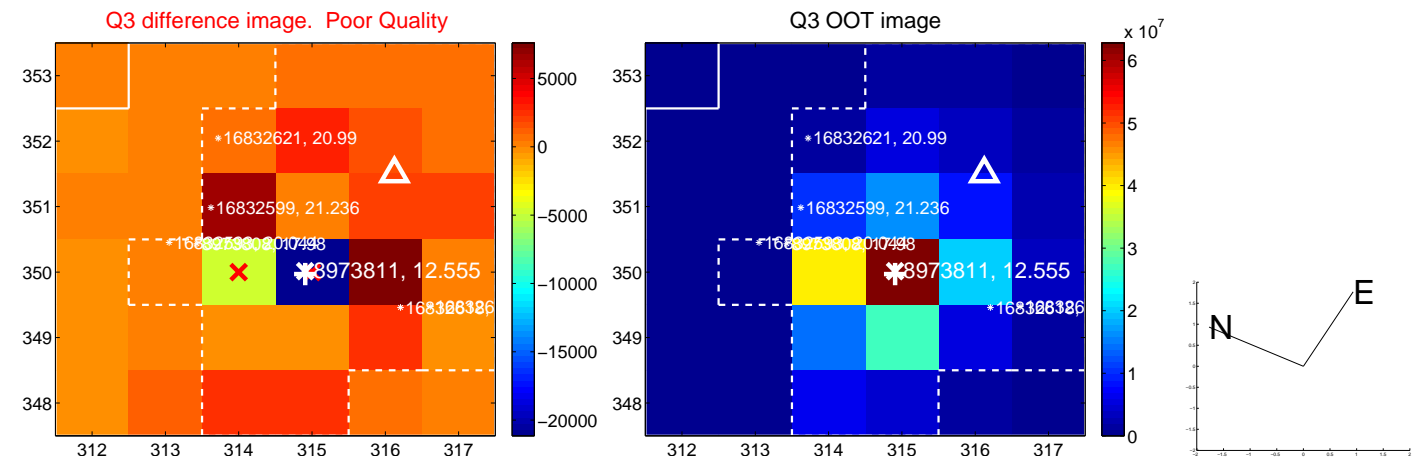
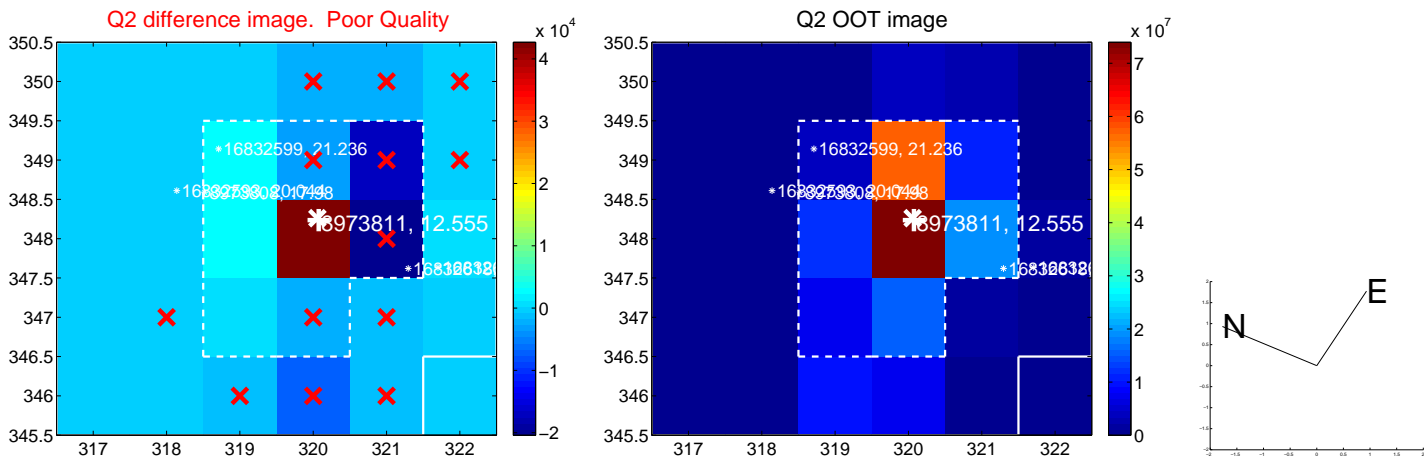
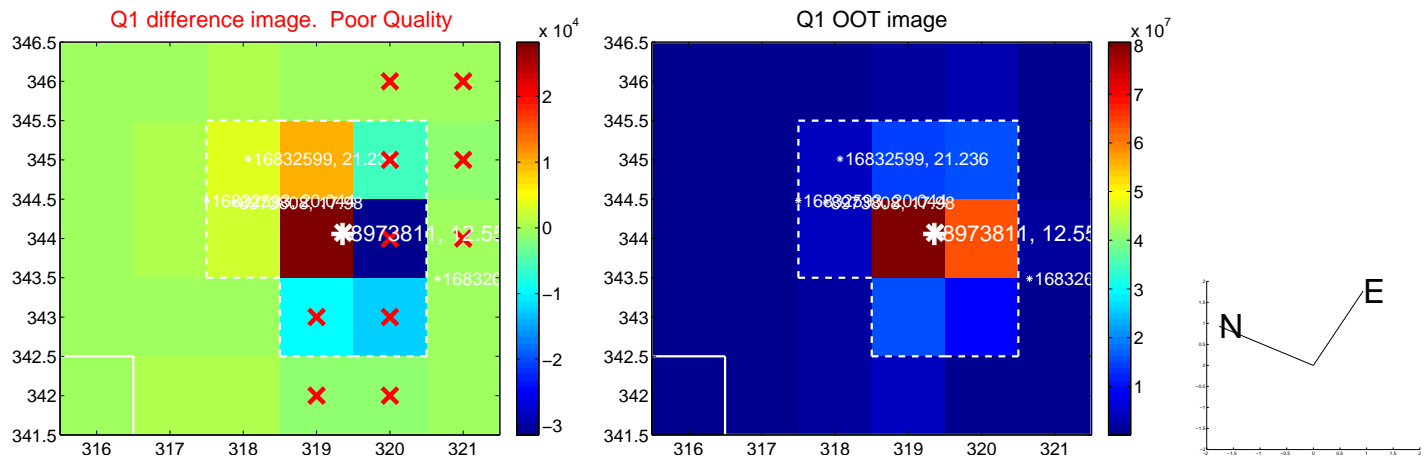


offset from photometric centroids

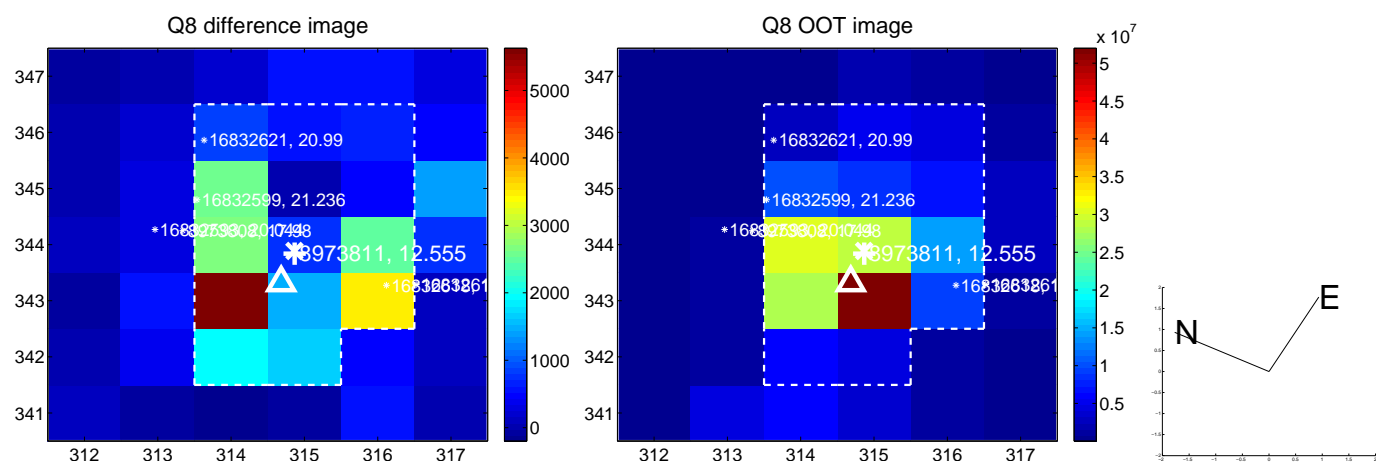
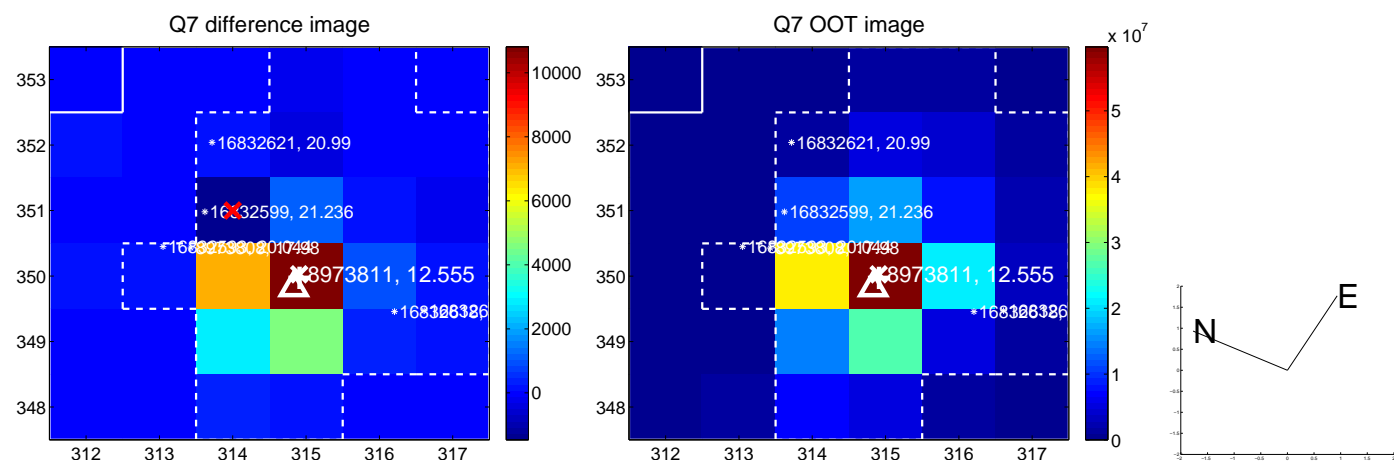
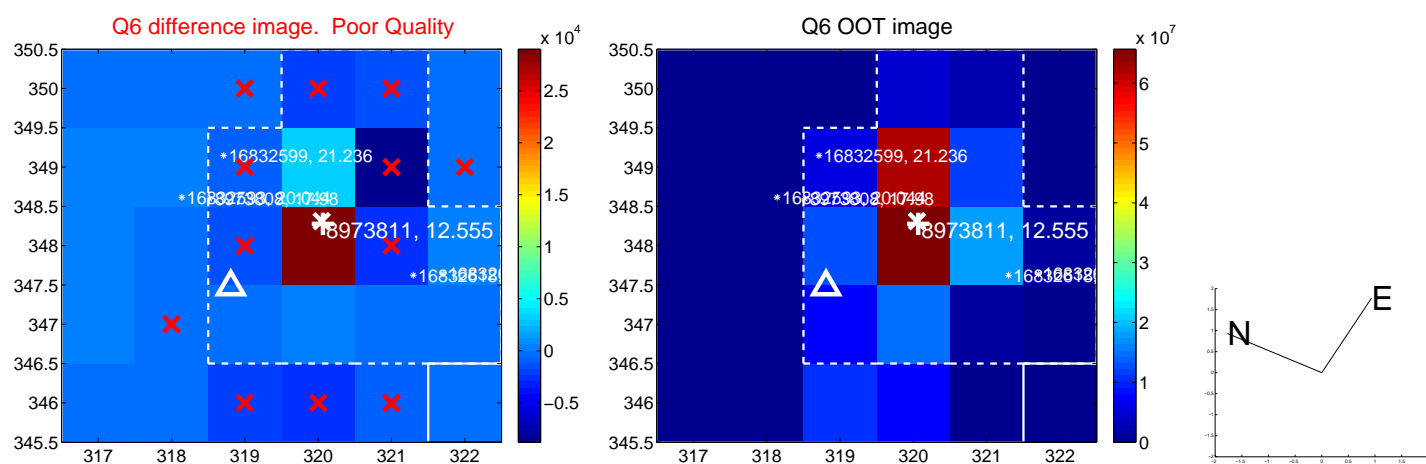
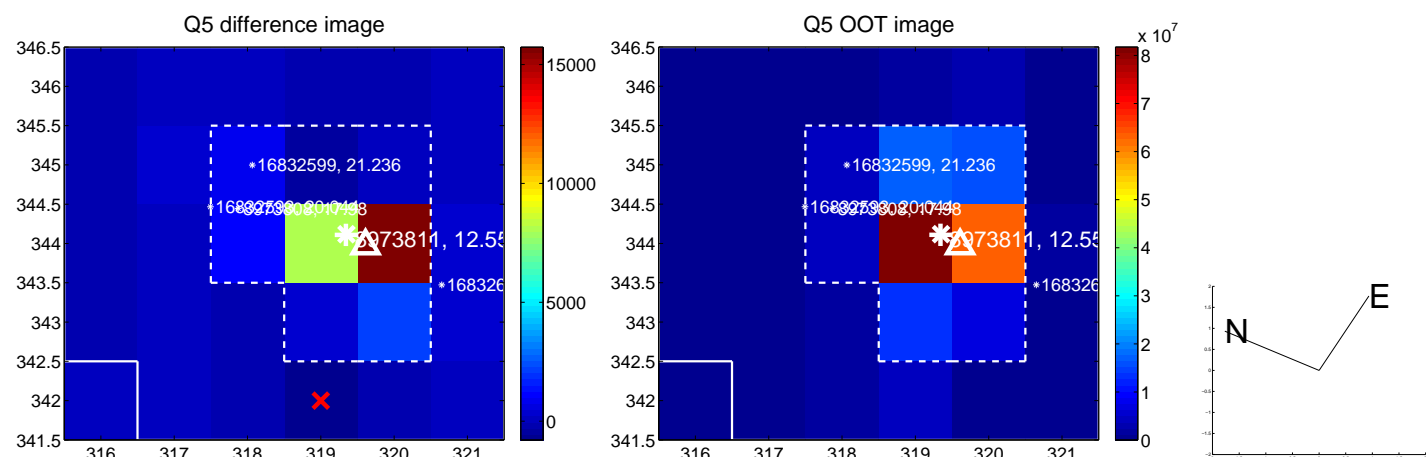


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

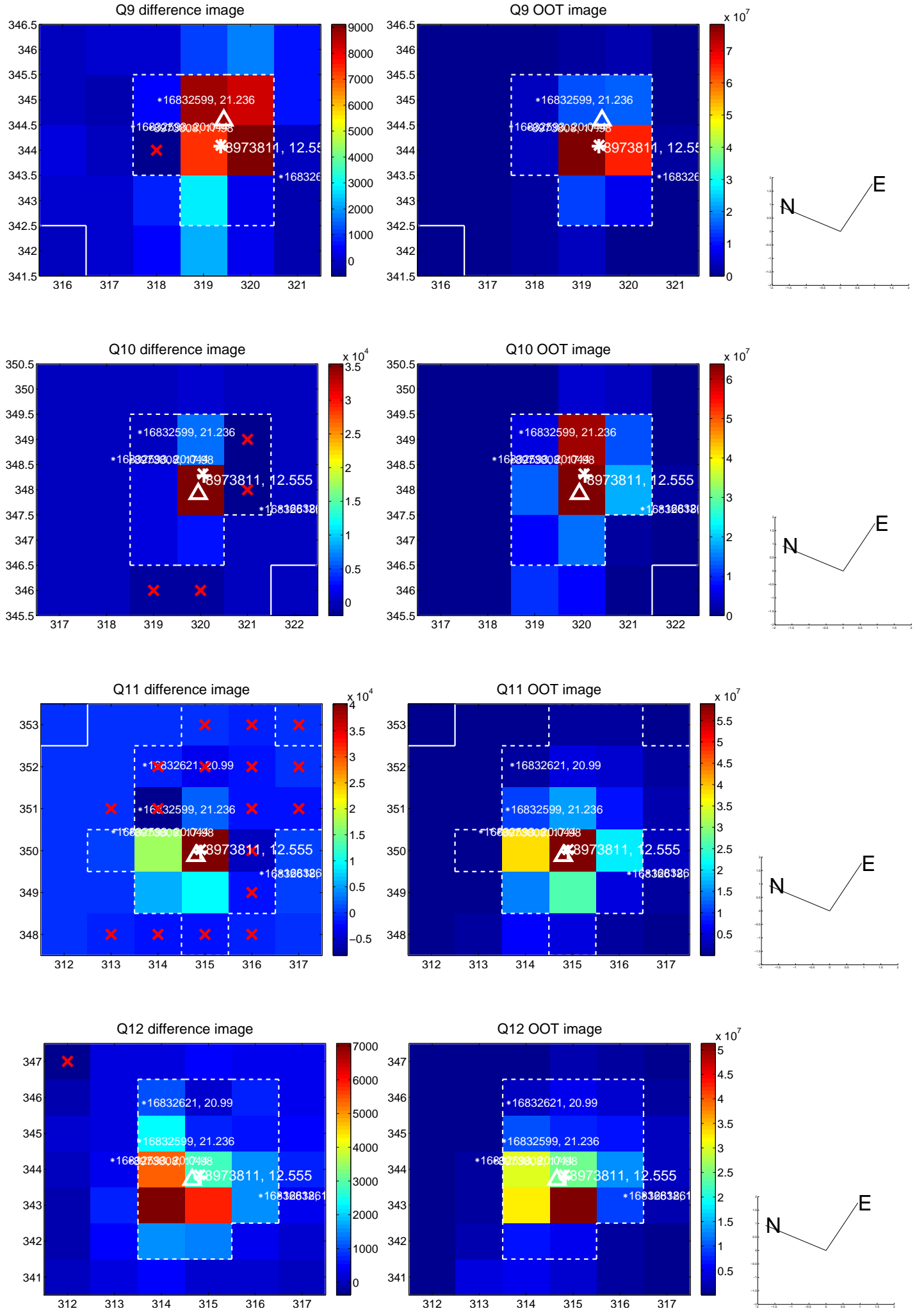
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



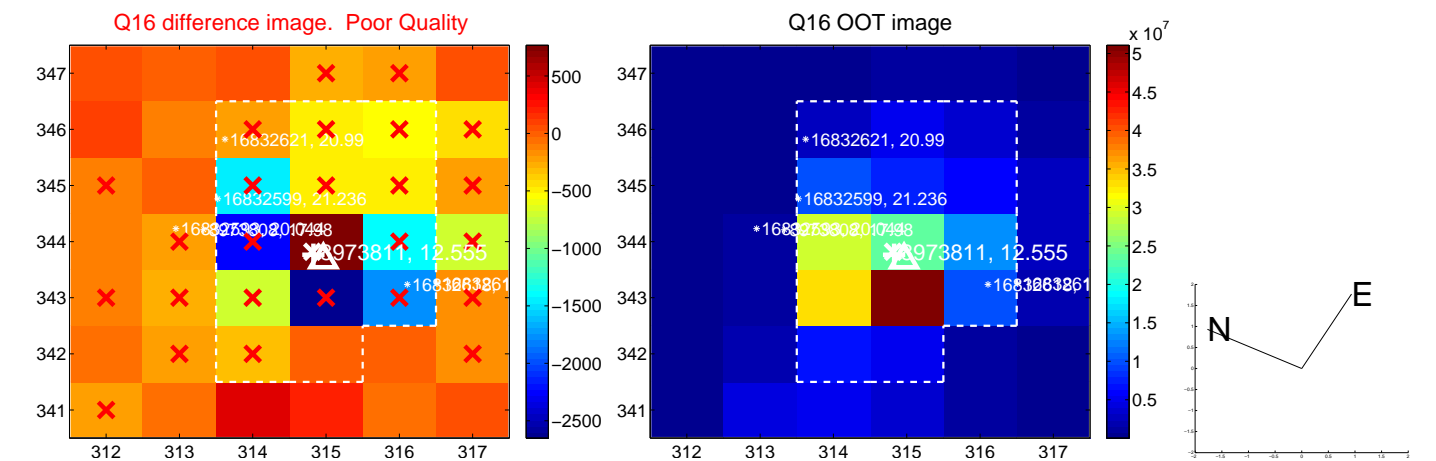
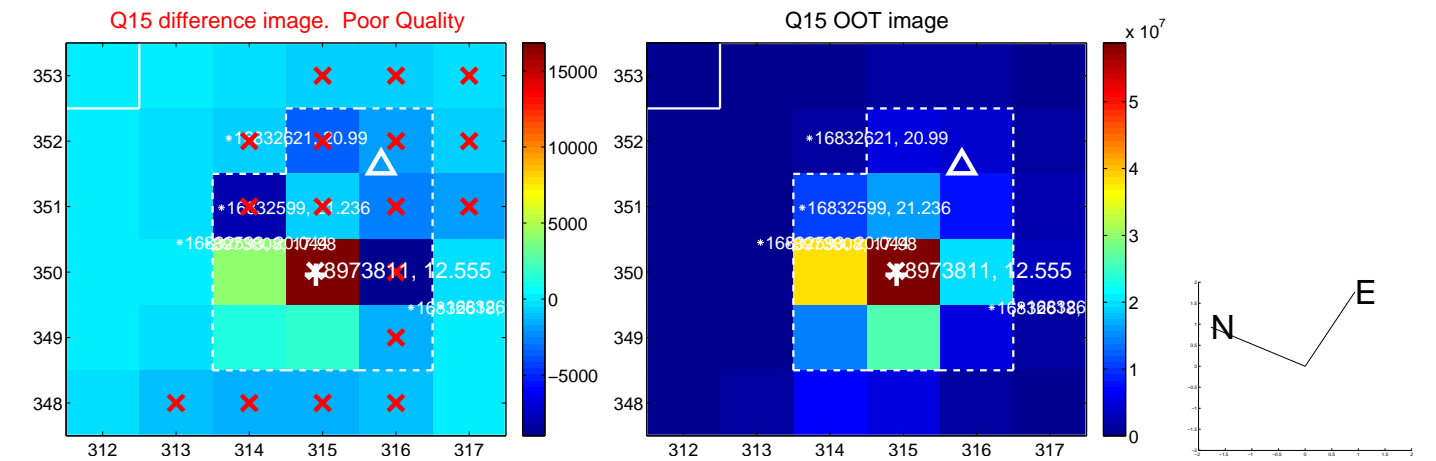
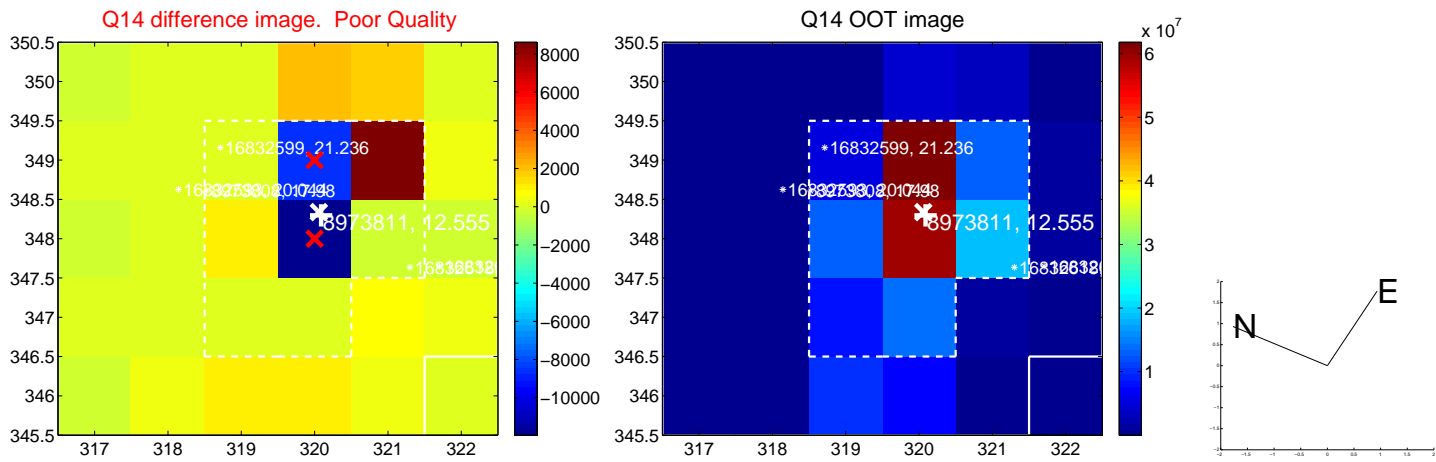
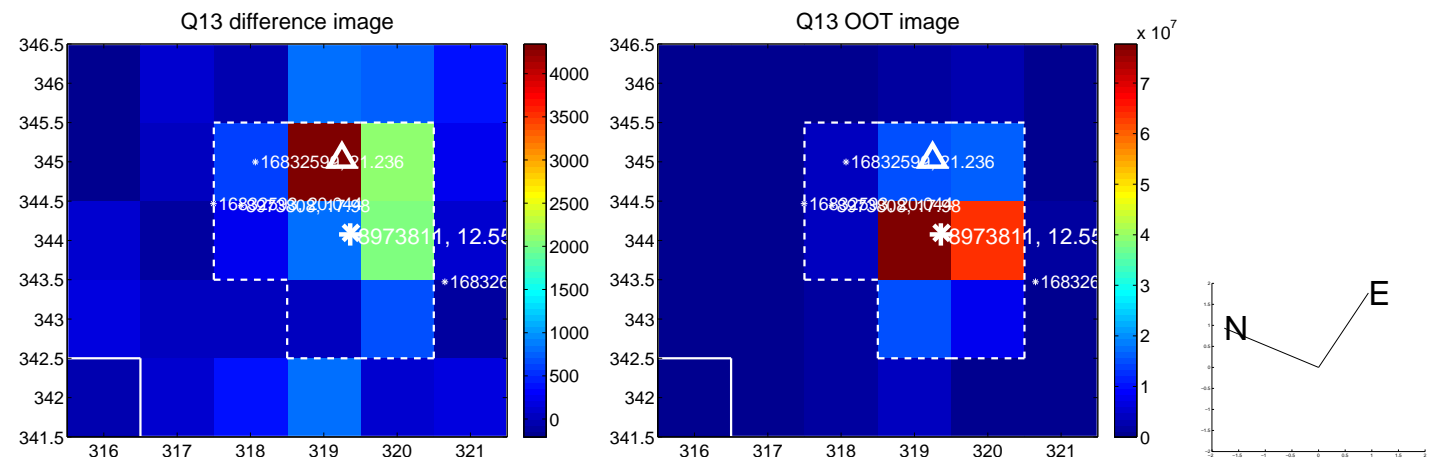
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



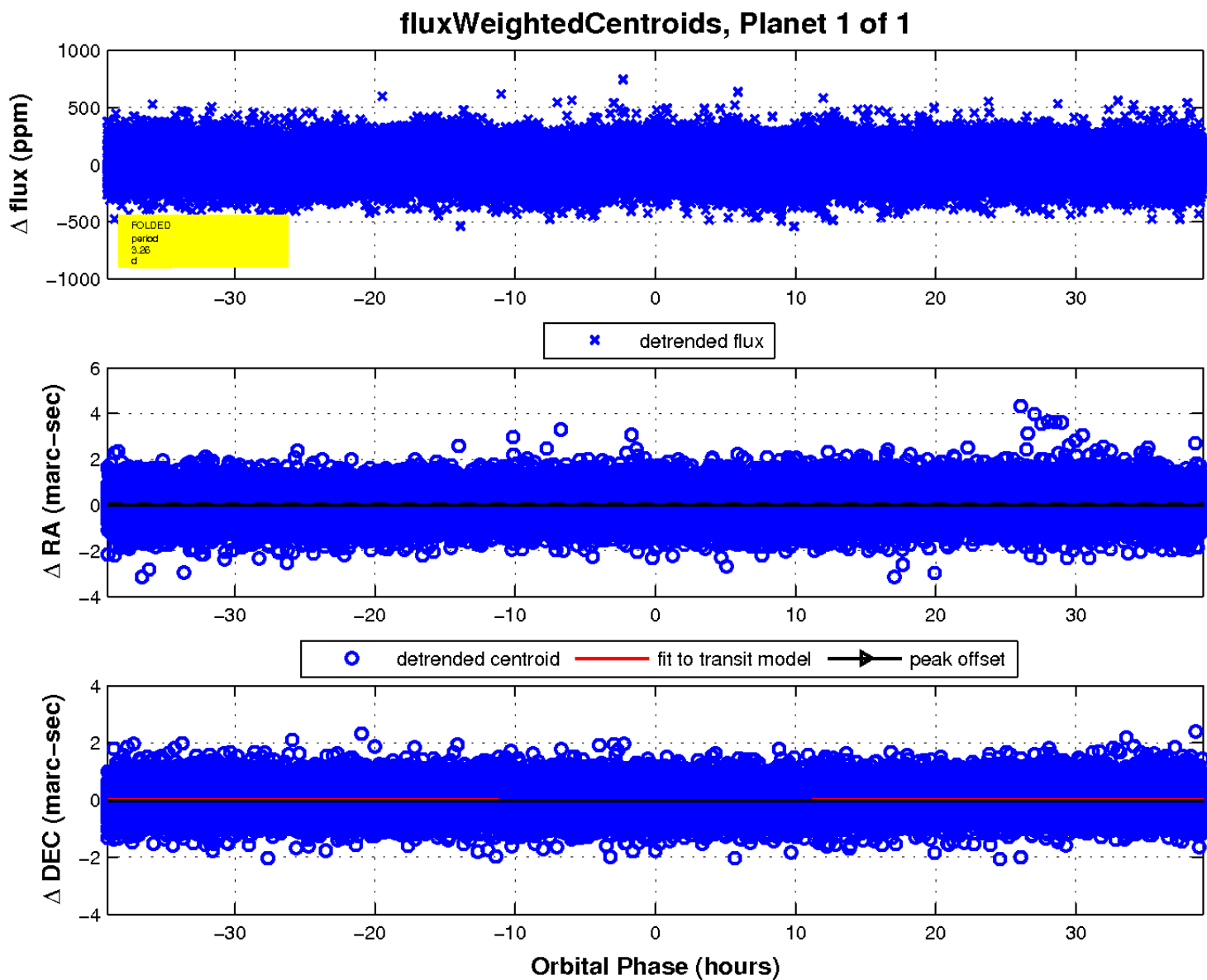
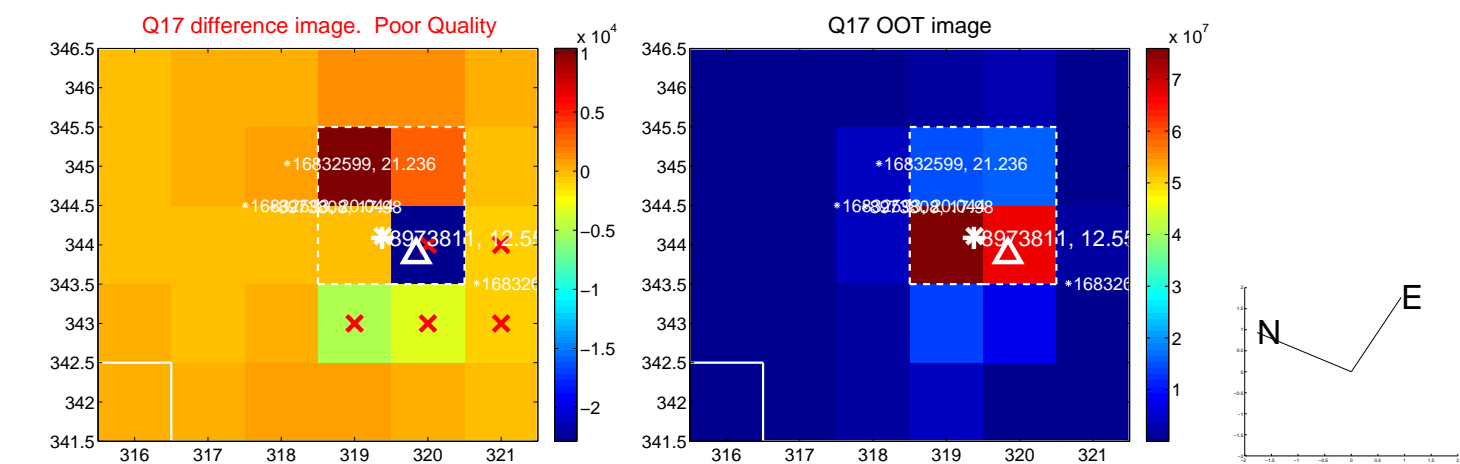
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

