

KIC 009389134

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})
009389134-01	OBS	No	0.699888	131.562501	57.0	1.058	7.9	9.9	1.03	6108	0.93	5116.94

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009389134-01	OBS	FP	0.00	1	0	1	1	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET—EPHEM_MATCH

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.

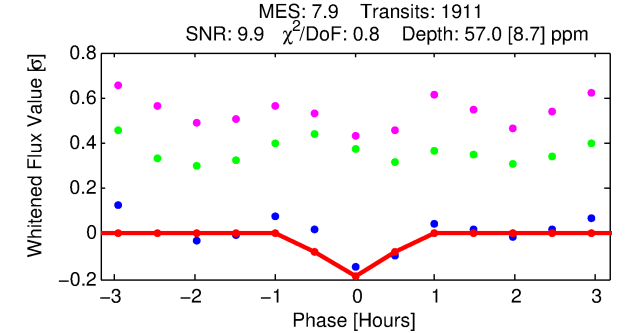
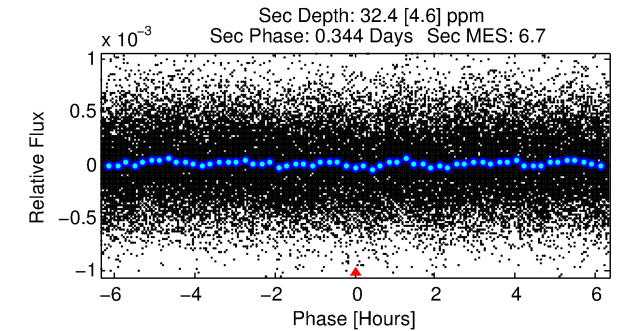
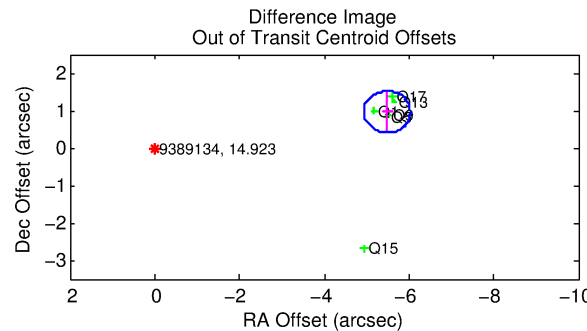
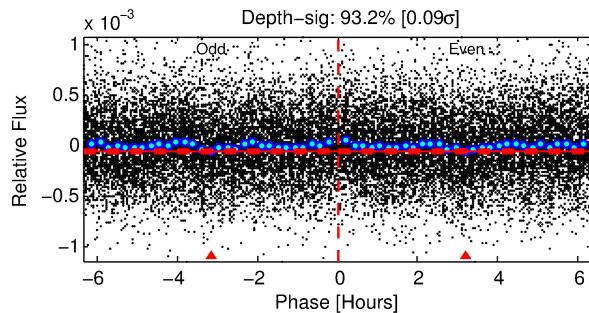
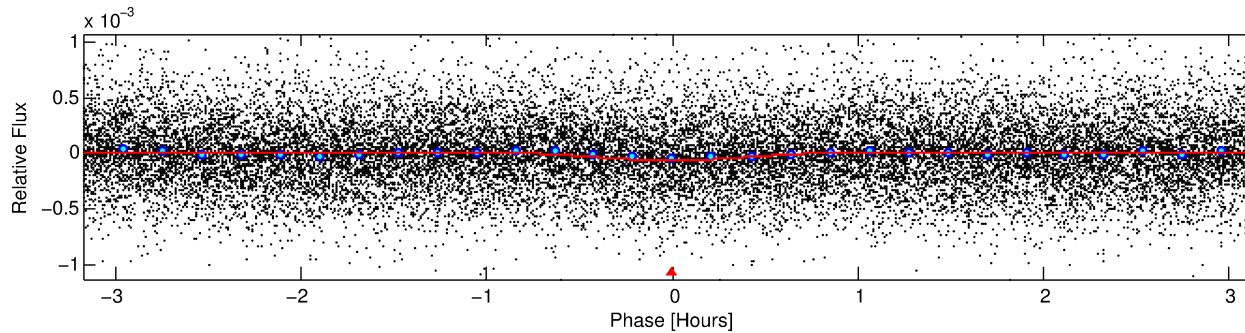
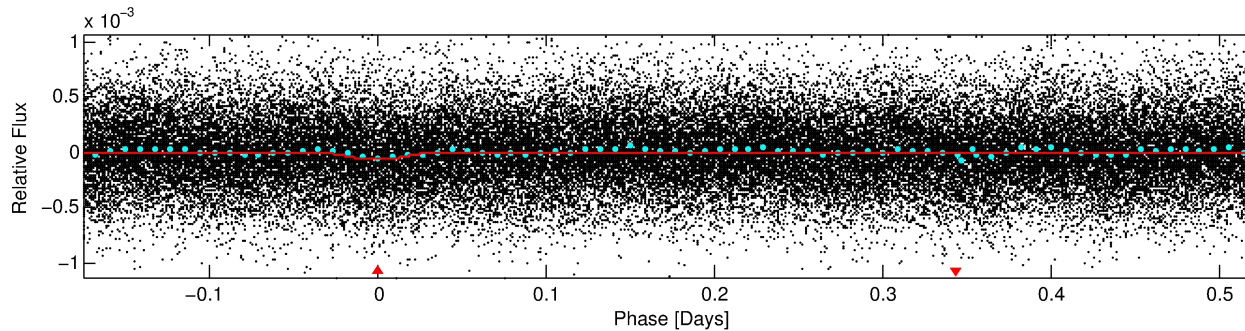
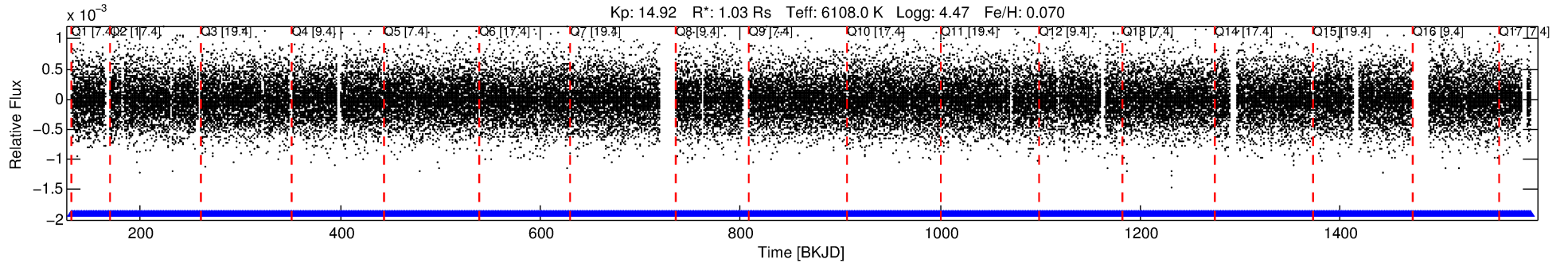
Ephemeris Match Information For 009389134-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
009389134-01	9389134	009389122-pri	9389122	2:1	16.8	4	1	14.31	14.92	7752.60	Direct-PRF	0	4.68	0.48

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 9389134 Candidate: 1 of 1 Period: 0.700 d



DV Fit Results:

Period = 0.69989 [0.00001] d
Epoch = 131.5625 [0.0018] BKJD
Rp/R* = 0.0083 [0.0033]
a/R* = 2.44 [4.13]
b = 0.90 [0.42]
Seff = 5116.94 [1995.19]
Teq = 2157 [210] K
Rp = 0.93 [0.46] Re
a = 0.0161 [0.0040] AU
Ag = 5.35 [4.75] [0.91σ]
Teffp = 5070 [1044] K [2.74σ]

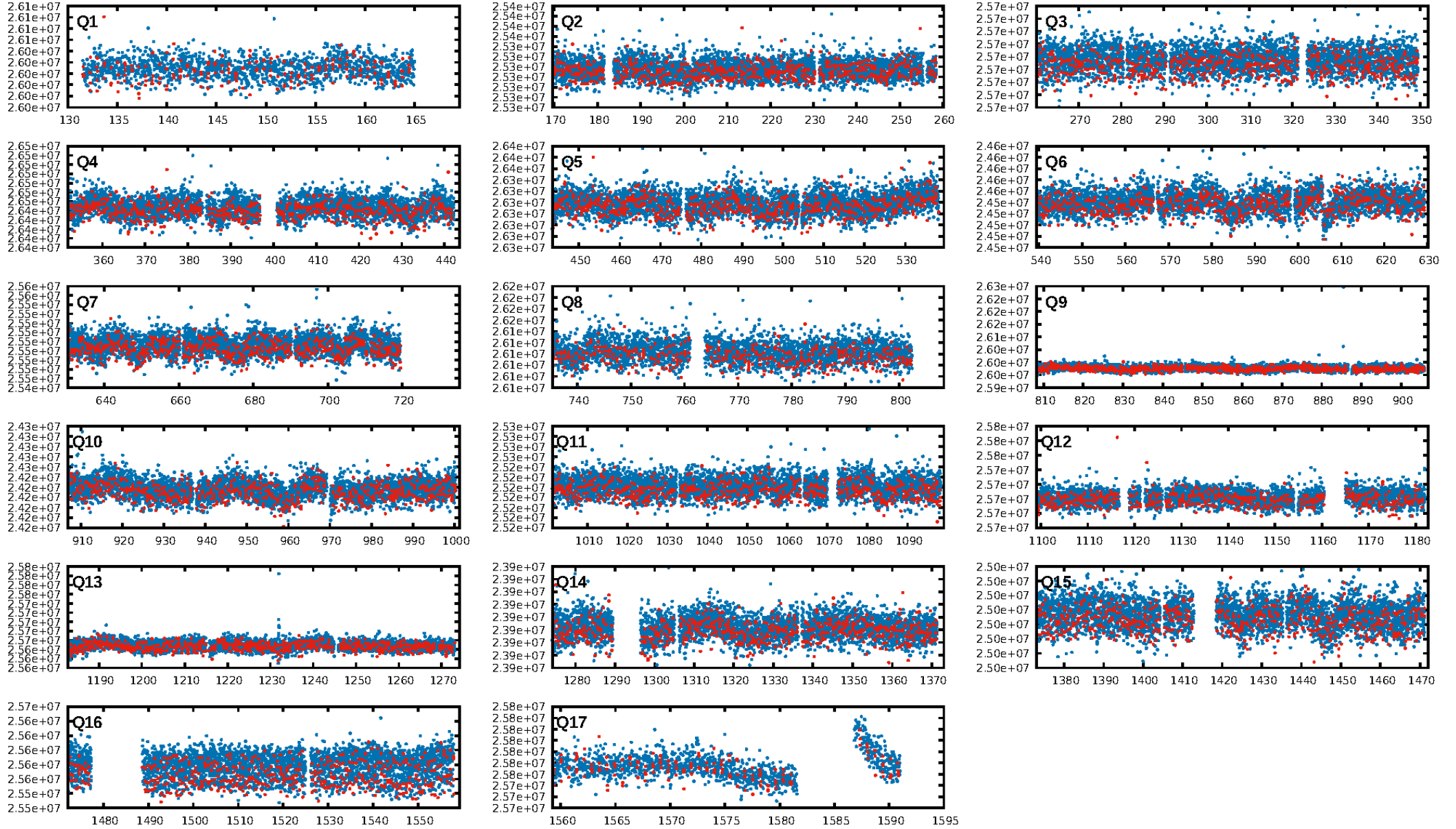
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.46e-15
RollingBand-fgt: 1.00 [1825/1825]
GhostDiagnostic-chr: -0.8568
Centroid-sig: 0.0%
Centroid-so: 5.069 arcsec [3.64σ]
OotOffset-rm: 5.566 arcsec [30.29σ]
KicOffset-rm: 5.597 arcsec [28.87σ]
OotOffset-st: 0/1/0/5 [6]
KicOffset-st: 0/1/0/5 [6]
DiffImageQuality-fgm: 1.00 [6/6]
DiffImageOverlap-fno: 1.00 [17/17]

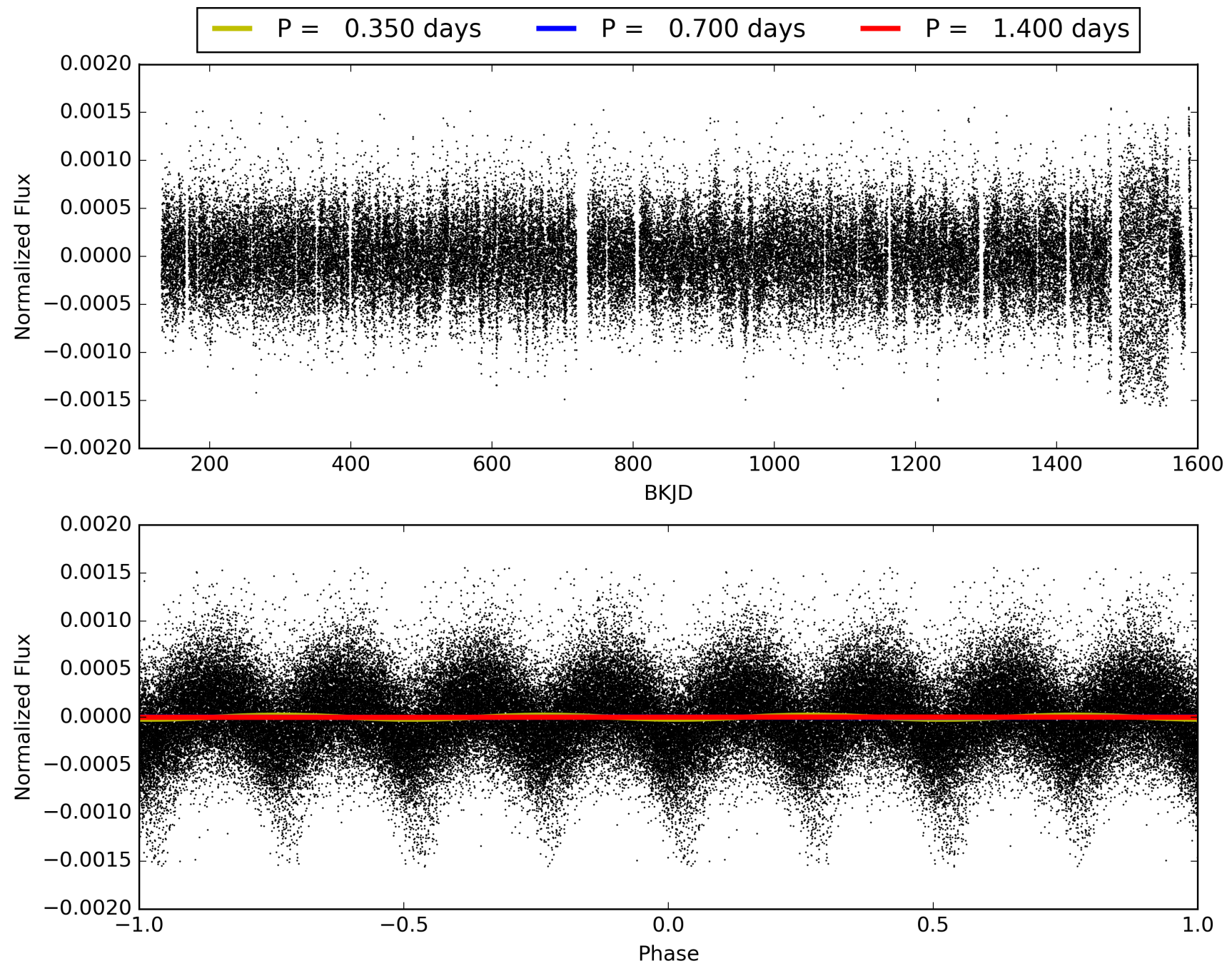
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:16:34 Z

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

TCE 009389134-01, PDC Light Curves

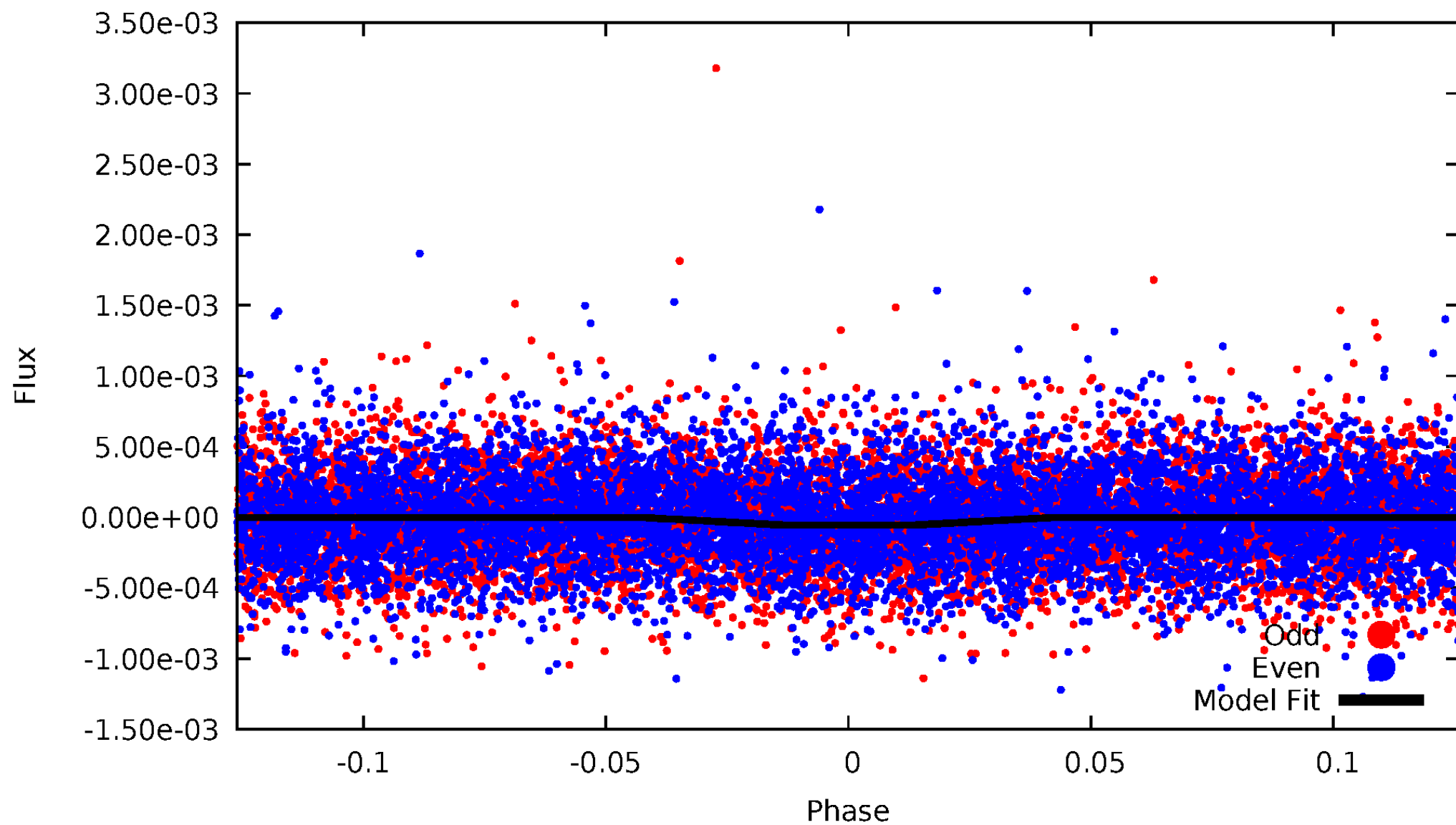


TCE 009389134-01



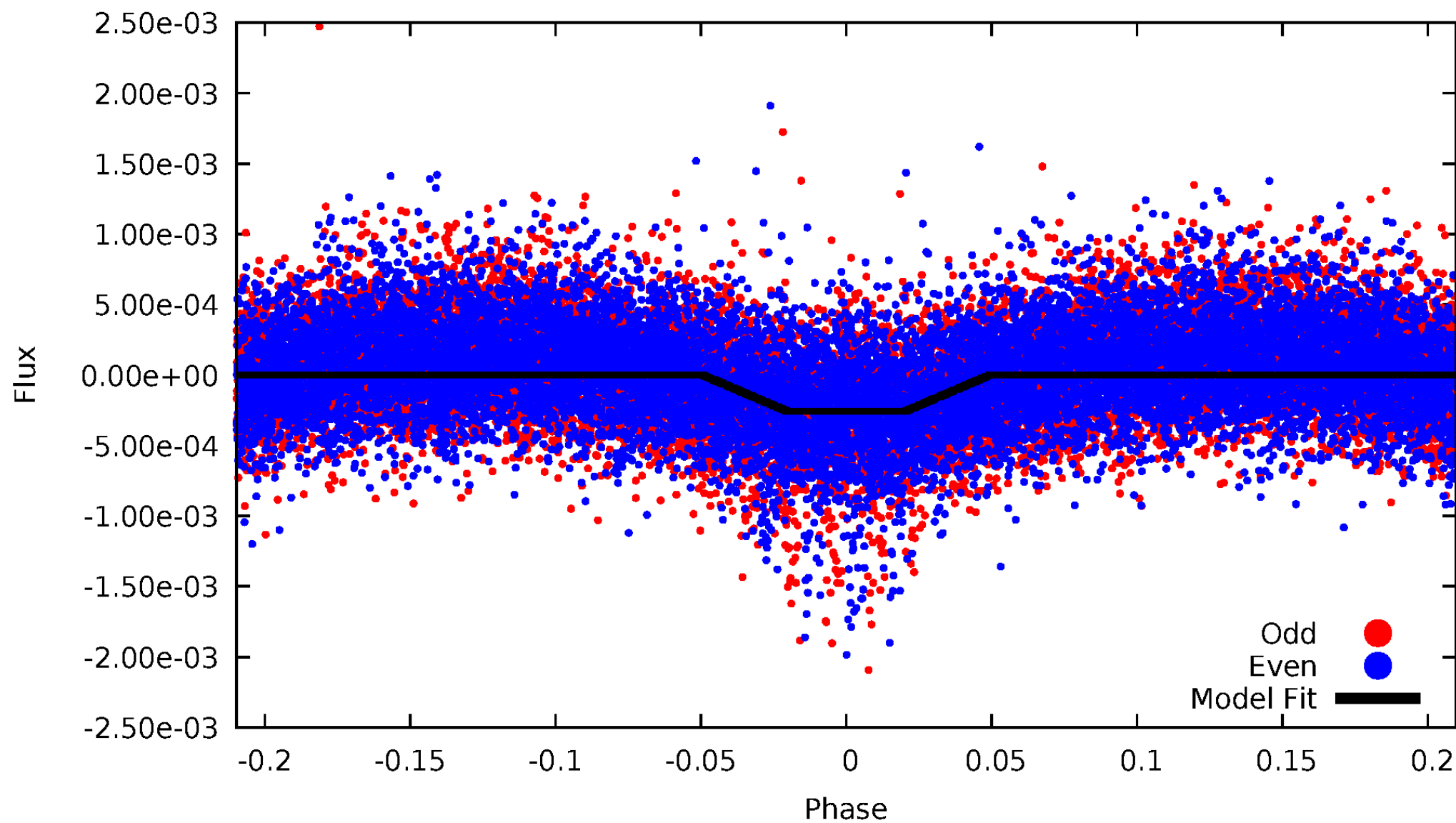
DV Odd/Even

TCE 009389134-01

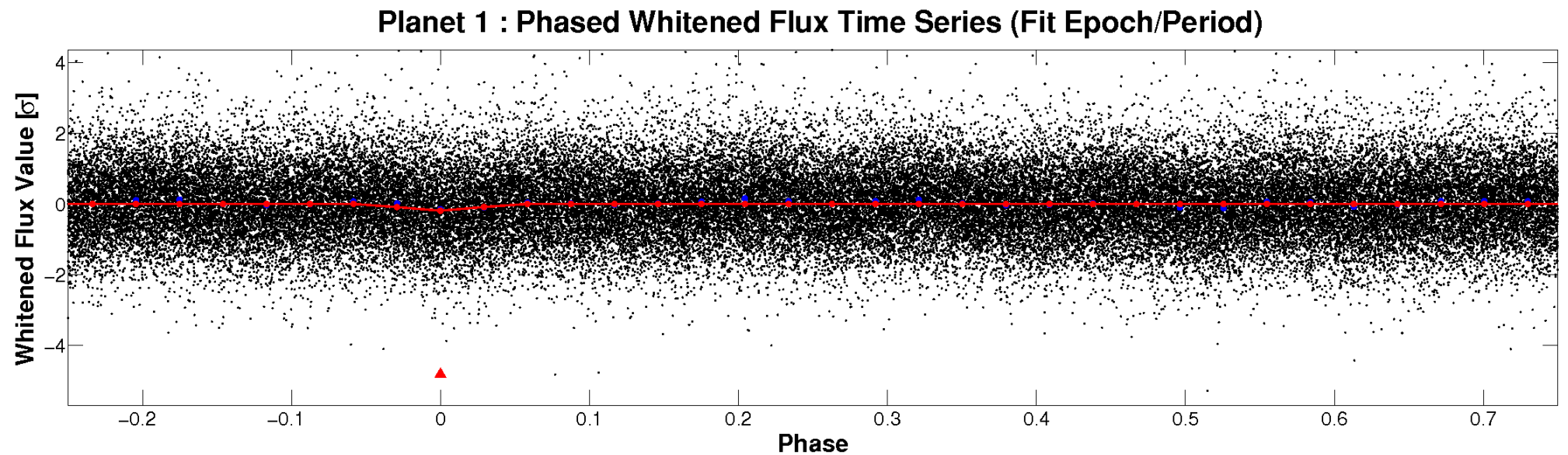
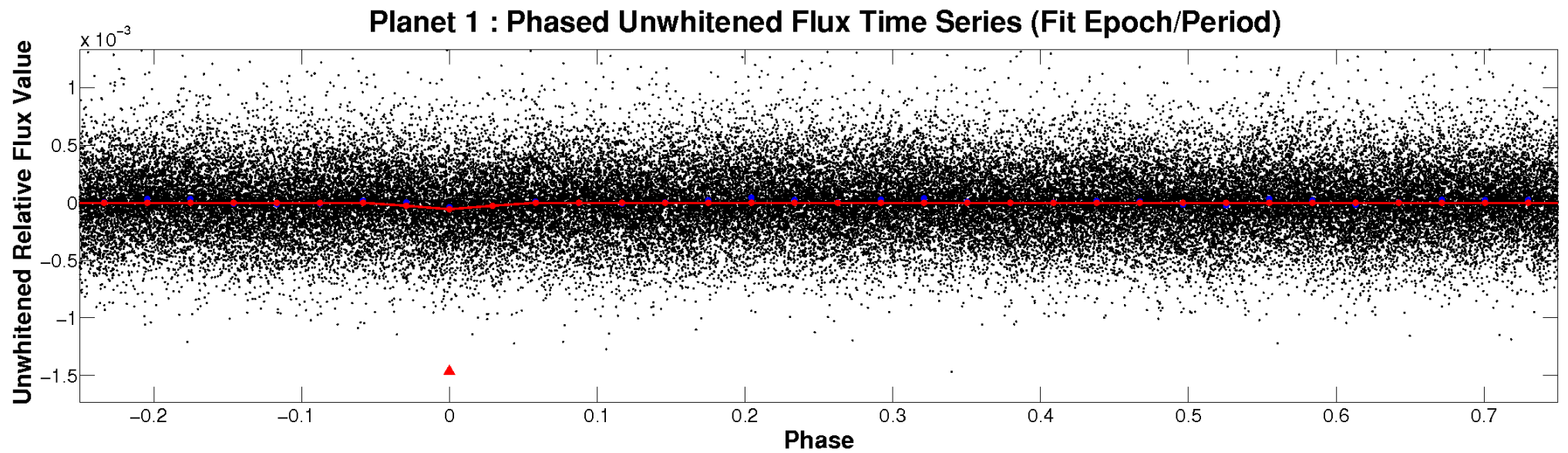


ALT Odd/Even

TCE 009389134-01

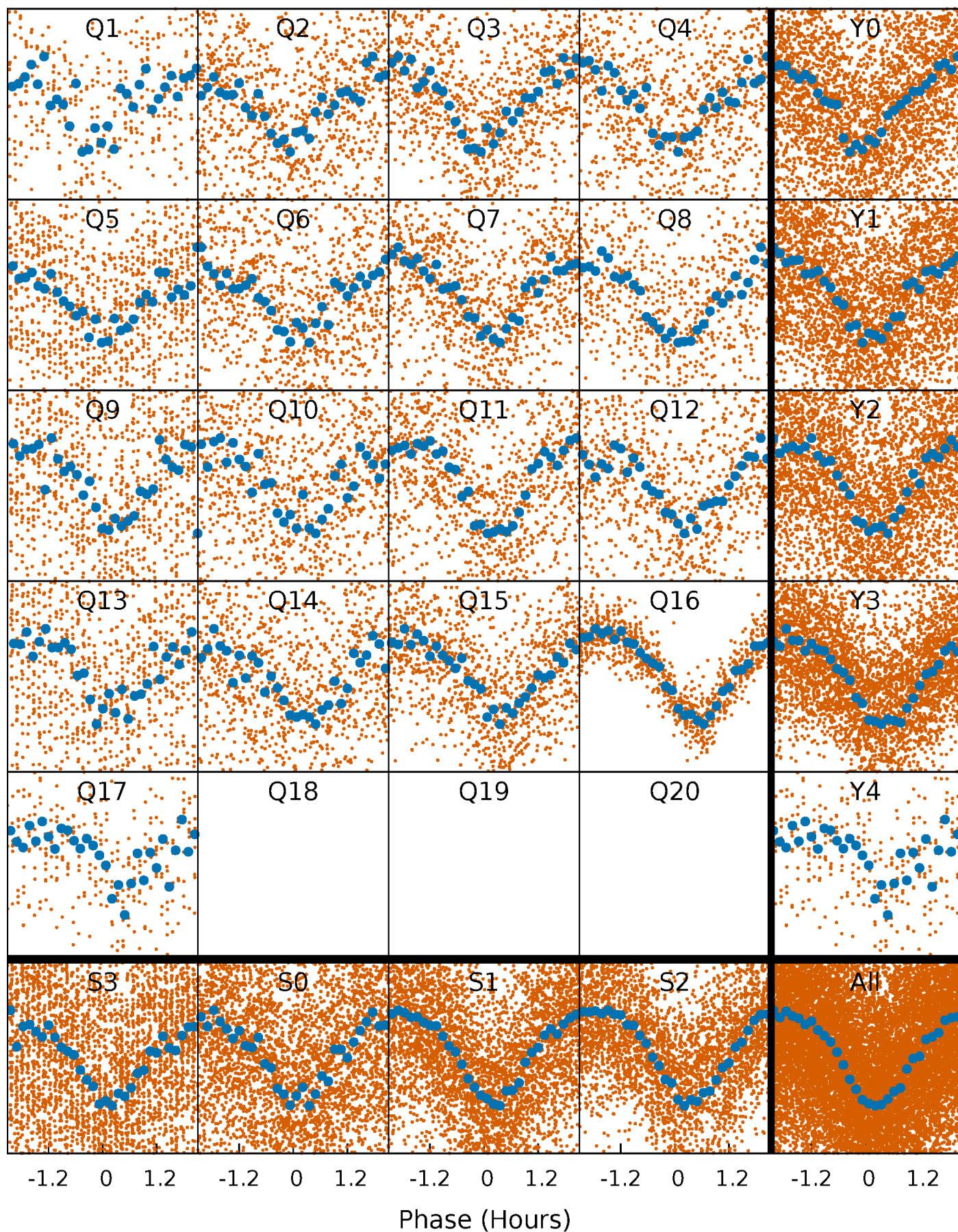


Non-Whitened Vs. Whitened Light Curve



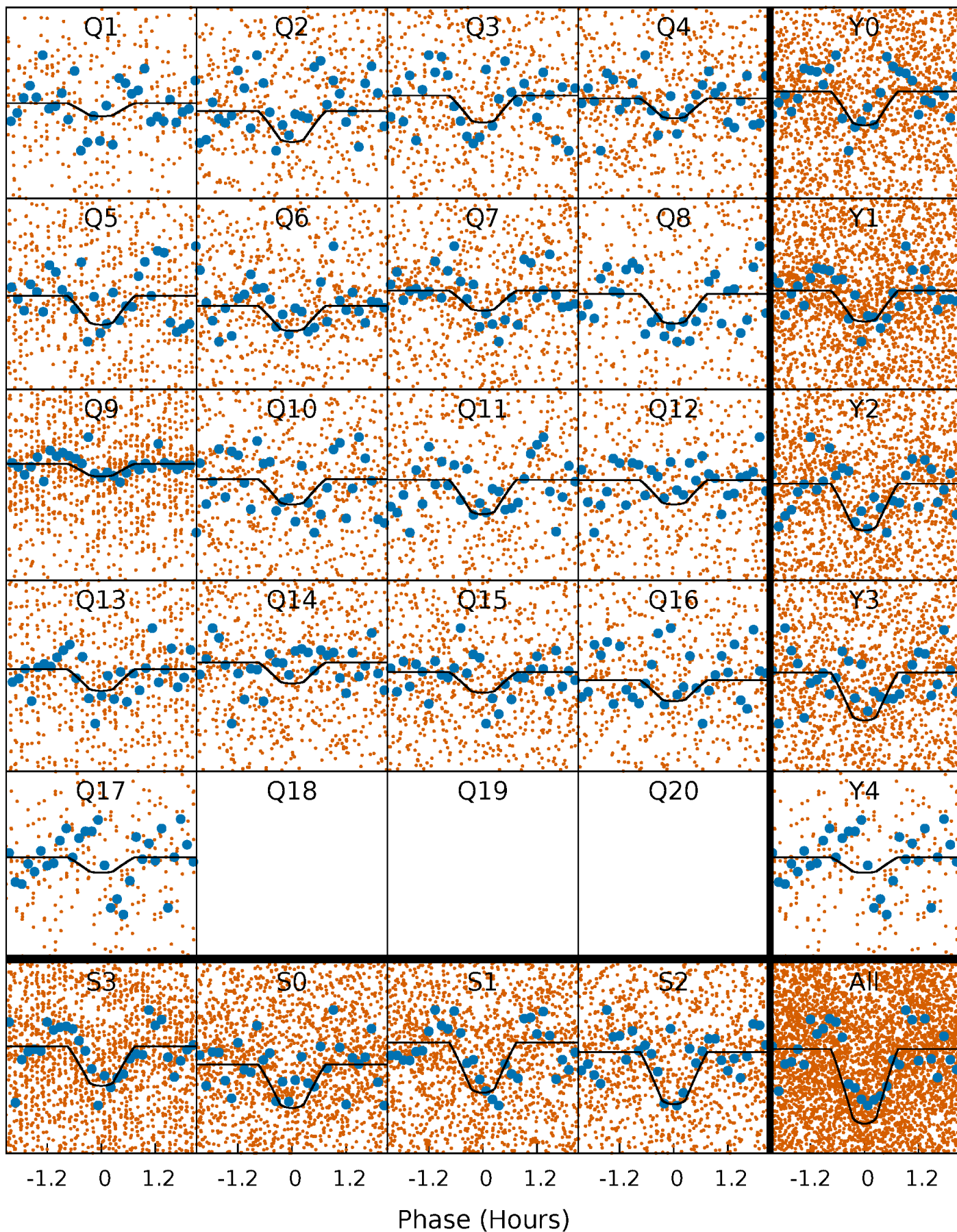
PDC Quarter-Phased Transit Curves

TCE 009389134-01 P= 0.699888 Days $T_0=131.562501$ (BKJD)



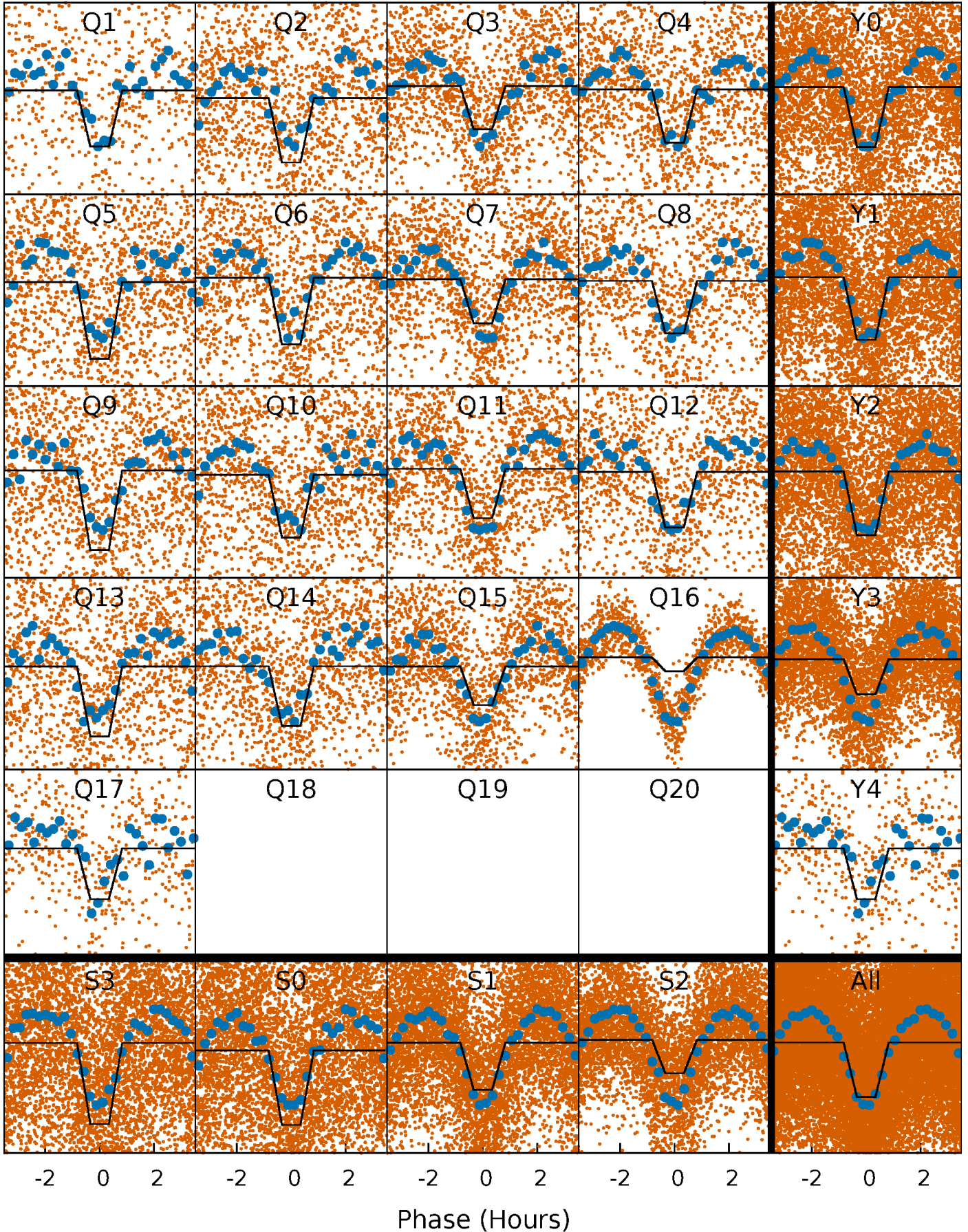
DV Quarter-Phased Transit Curves

TCE 009389134-01 P= 0.699888 Days $T_0=131.562501$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

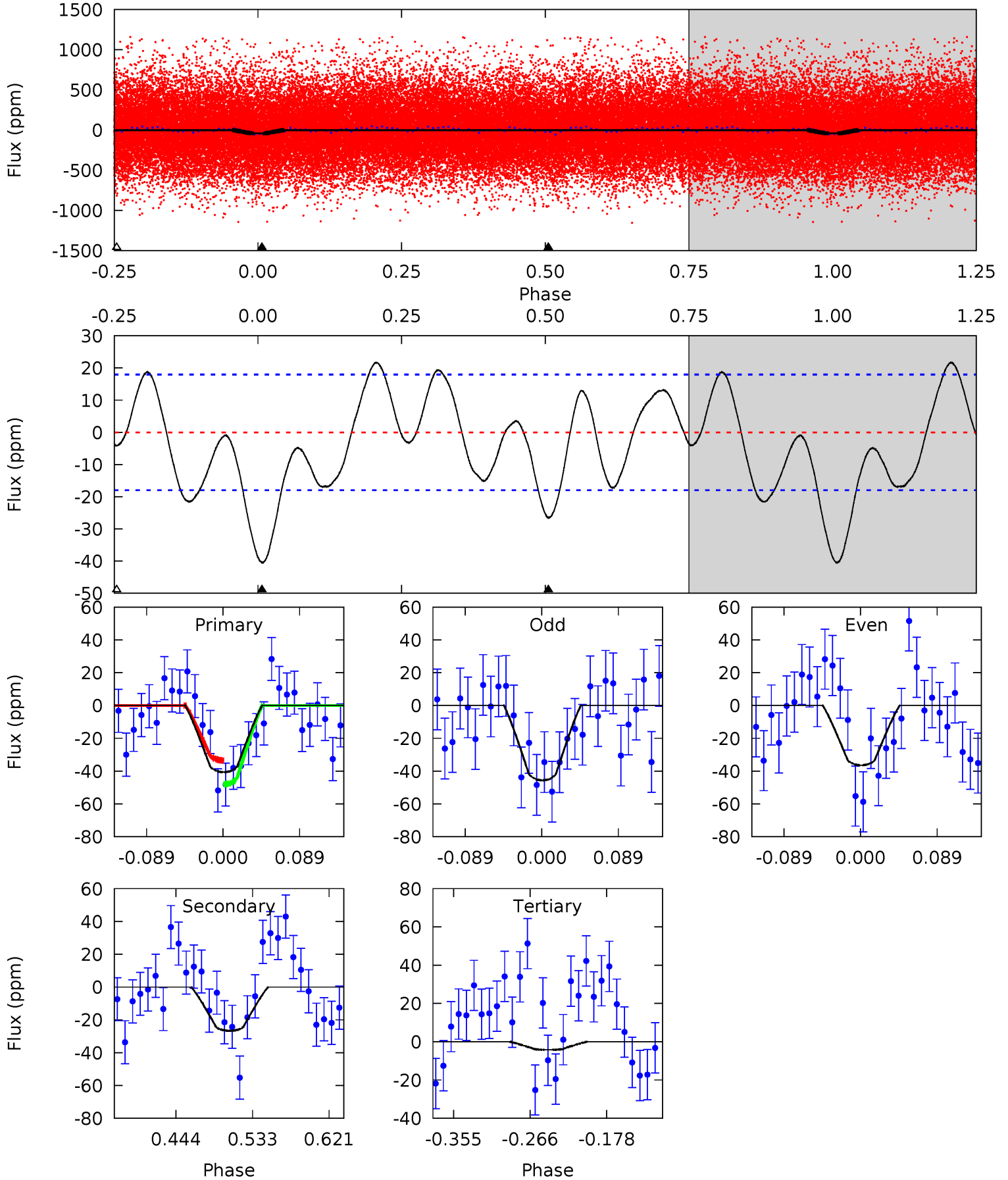
TCE 009389134-01 P= 0.699905 Days $T_0=131.553370$ (BKJD)



DV Model-Shift Uniqueness Test

009389134-01, P = 0.699888 Days, E = 130.862613 Days

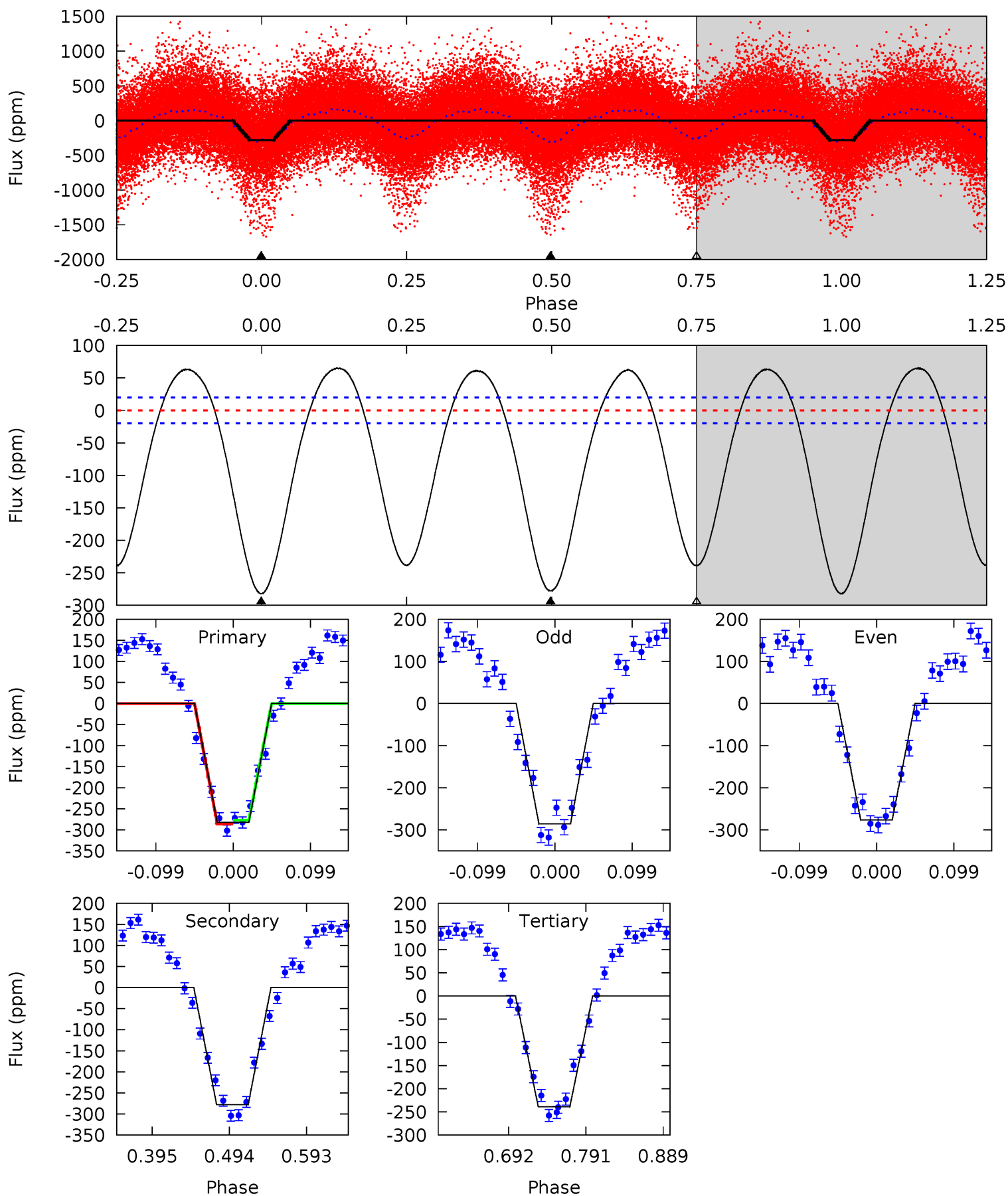
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.4	6.81	1.09	0	4.59	1.70	3.20	9.30	10.4	5.73	6.81	1.18	0.88	0.35	1.86



Alt Model-Shift Uniqueness Test

009389134-01, P = 0.699905 Days, E = 130.853465 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
64.7	63.8	54.8	0	4.57	1.65	24.7	9.92	64.7	8.94	63.8	1.12	1.10	0.19	1.05



Stellar Parameters For KIC 009389134

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6108^{+193}_{-215}	$4.466^{+0.050}_{-0.200}$	$0.070^{+0.250}_{-0.300}$	$1.030^{+0.301}_{-0.108}$	$1.132^{+0.141}_{-0.141}$	$1.457^{+0.374}_{-0.753}$
	+3%/-4%	+1%/-4%	+357%/-429%	+29%/-10%	+12%/-12%	+26%/-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 009389134-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-27 ± 4	$0.98^{+0.45}_{-0.39}$	3090^{+199}_{-161}	4840^{+1442}_{-710}	$3.921^{+6.961}_{-2.086}$
Alt.	-278 ± 4	$1.87^{+0.46}_{-0.40}$	3079^{+207}_{-153}	6181^{+877}_{-599}	11^{+6}_{-4}

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

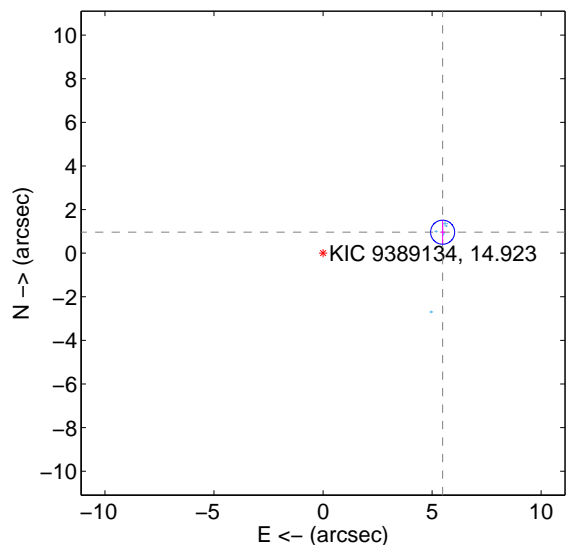
Supplemental centroid analysis for 009389134-01. Kepler magnitude: 14.92. Transit SNR 9.87

There are 6 quarters with good PRF difference image offsets

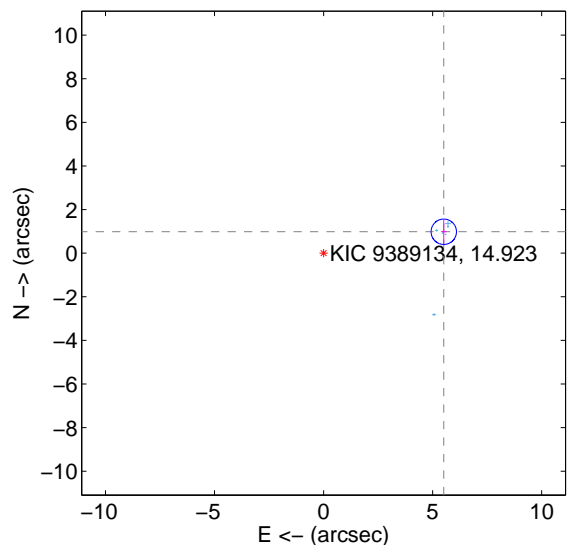
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.566 ± 0.184	30.29	-5.482 ± 0.111	0.962 ± 0.552
PRF-fit source offset from KIC position	5.597 ± 0.194	28.87	-5.510 ± 0.125	0.982 ± 0.564
photometric centroid source offset	5.07 ± 1.39	3.64	-3.43 ± 1.44	-3.73 ± 1.35

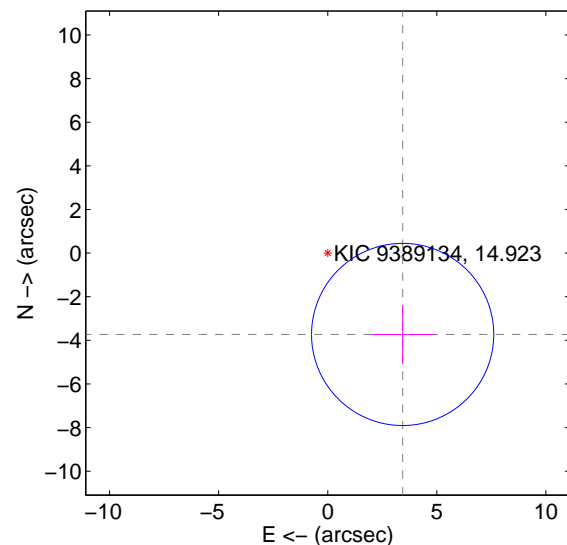
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

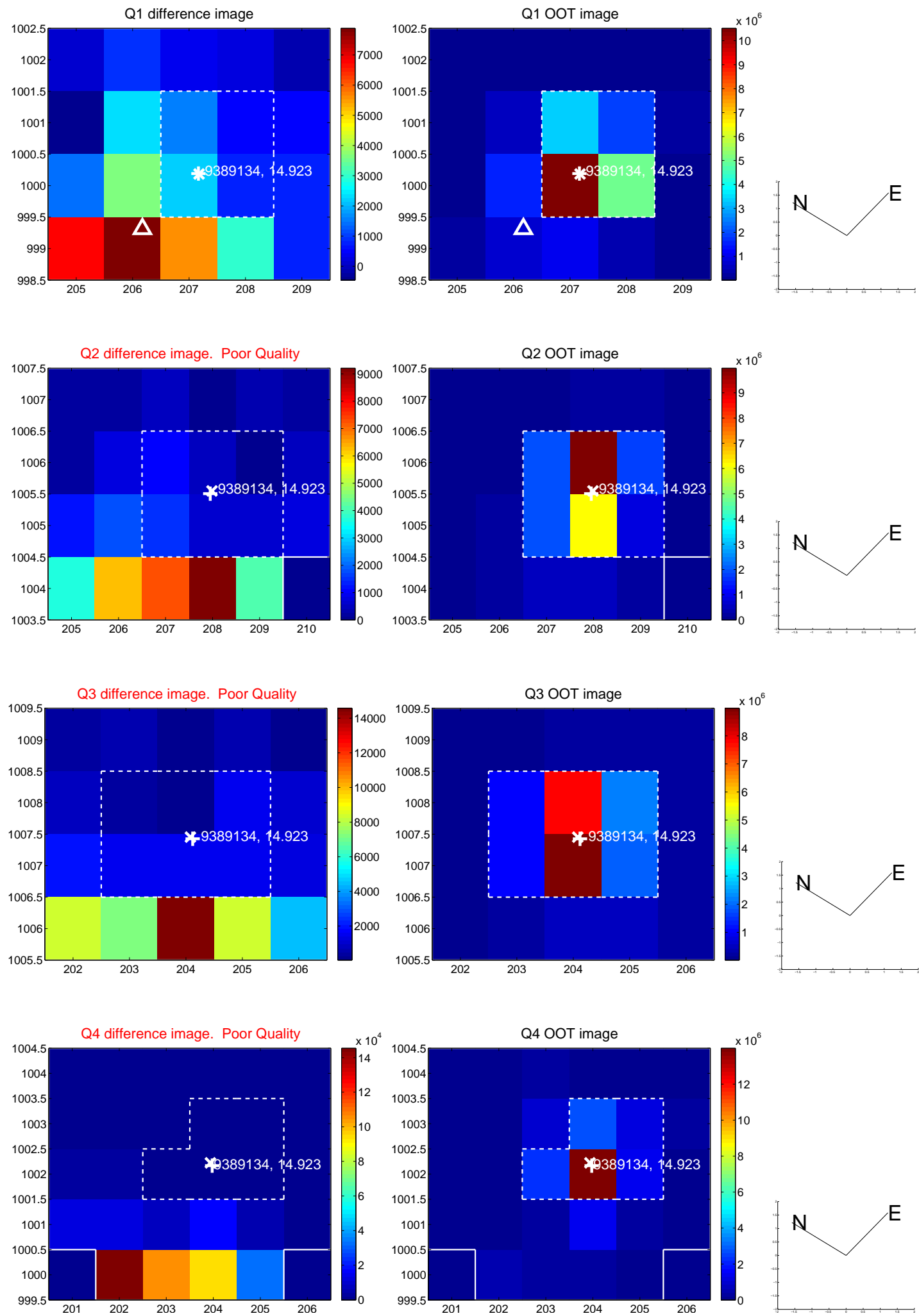


offset from photometric centroids

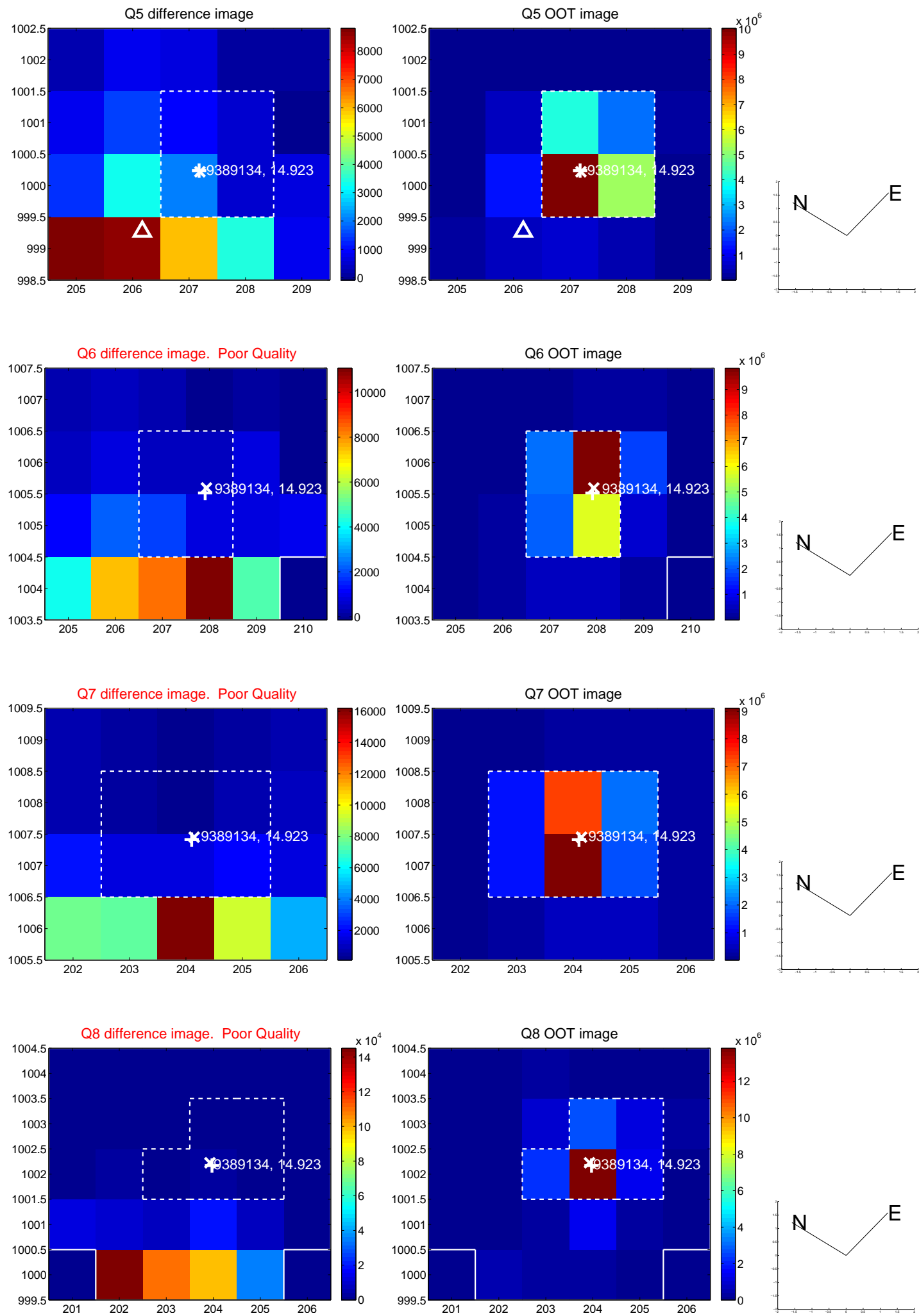


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

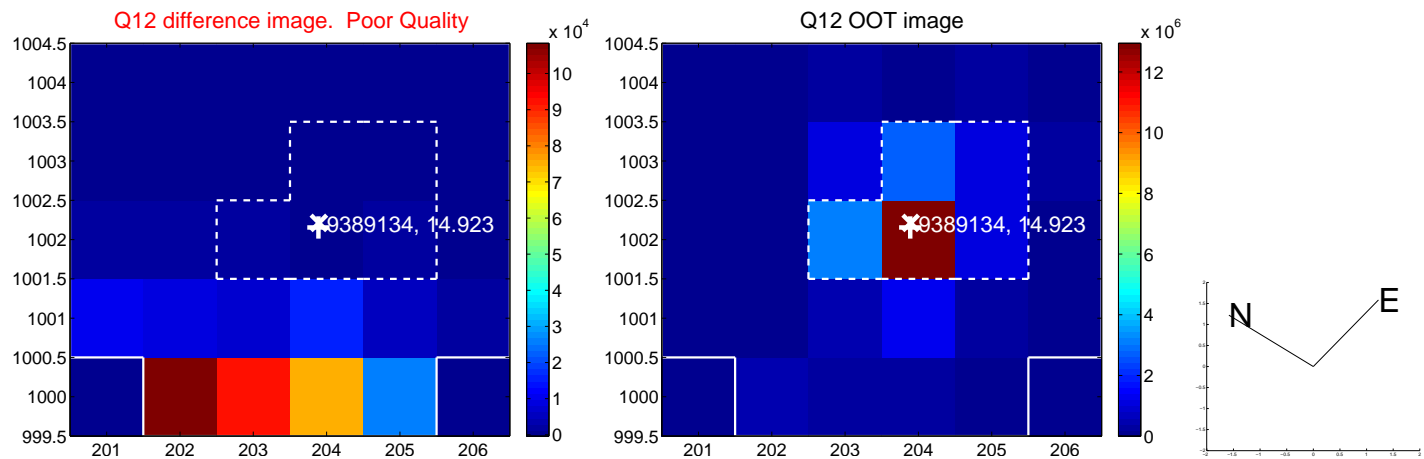
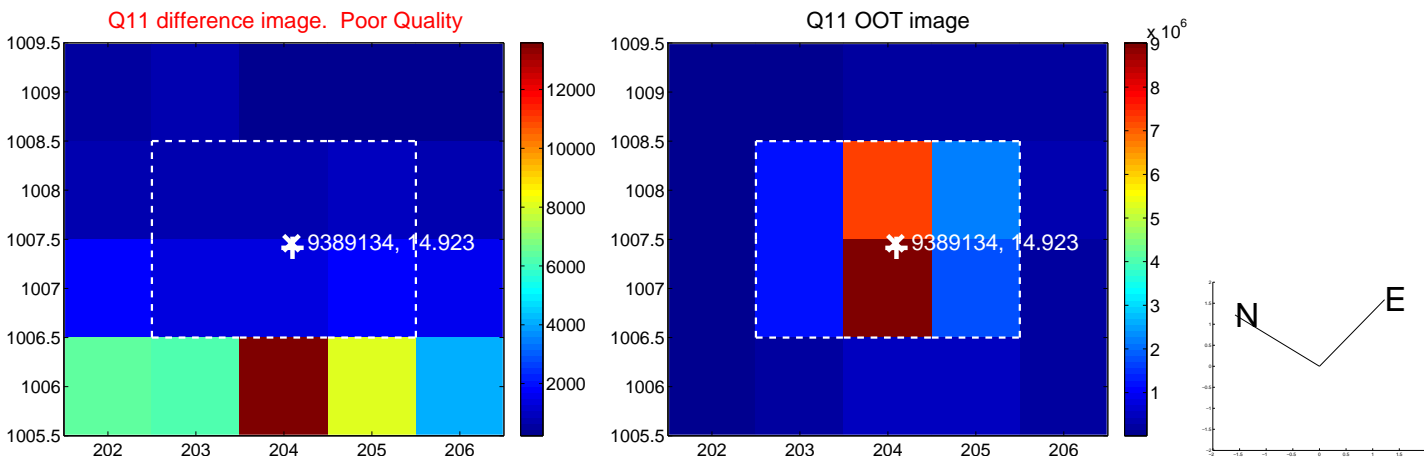
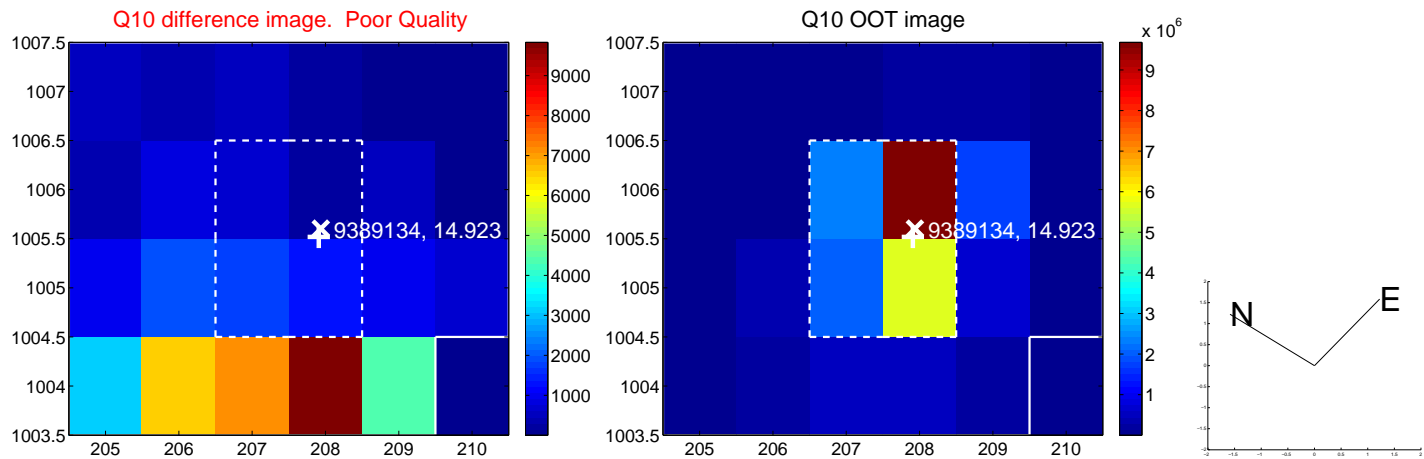
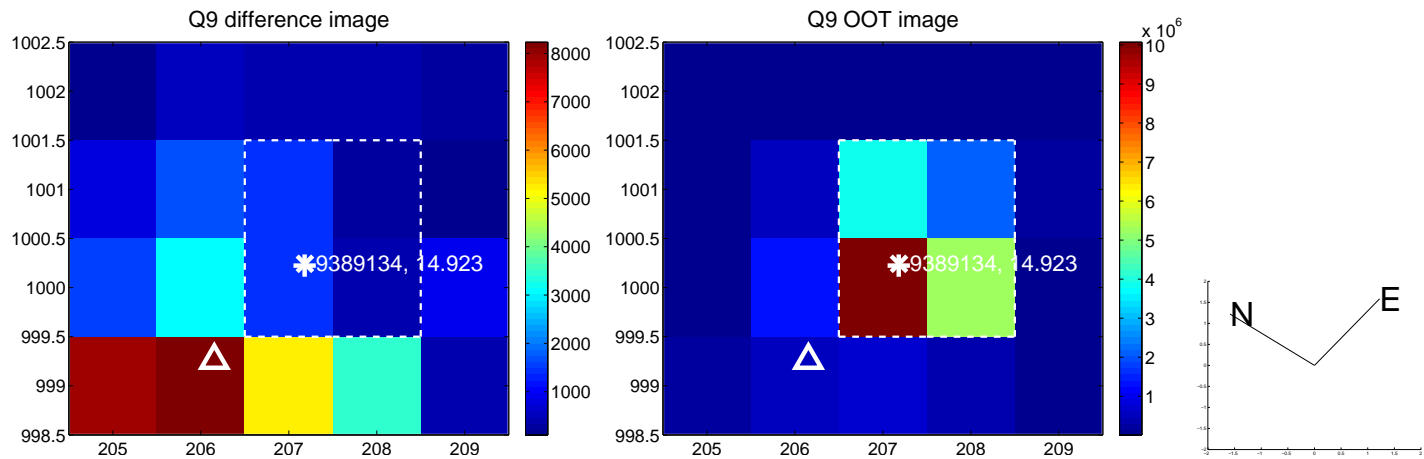
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



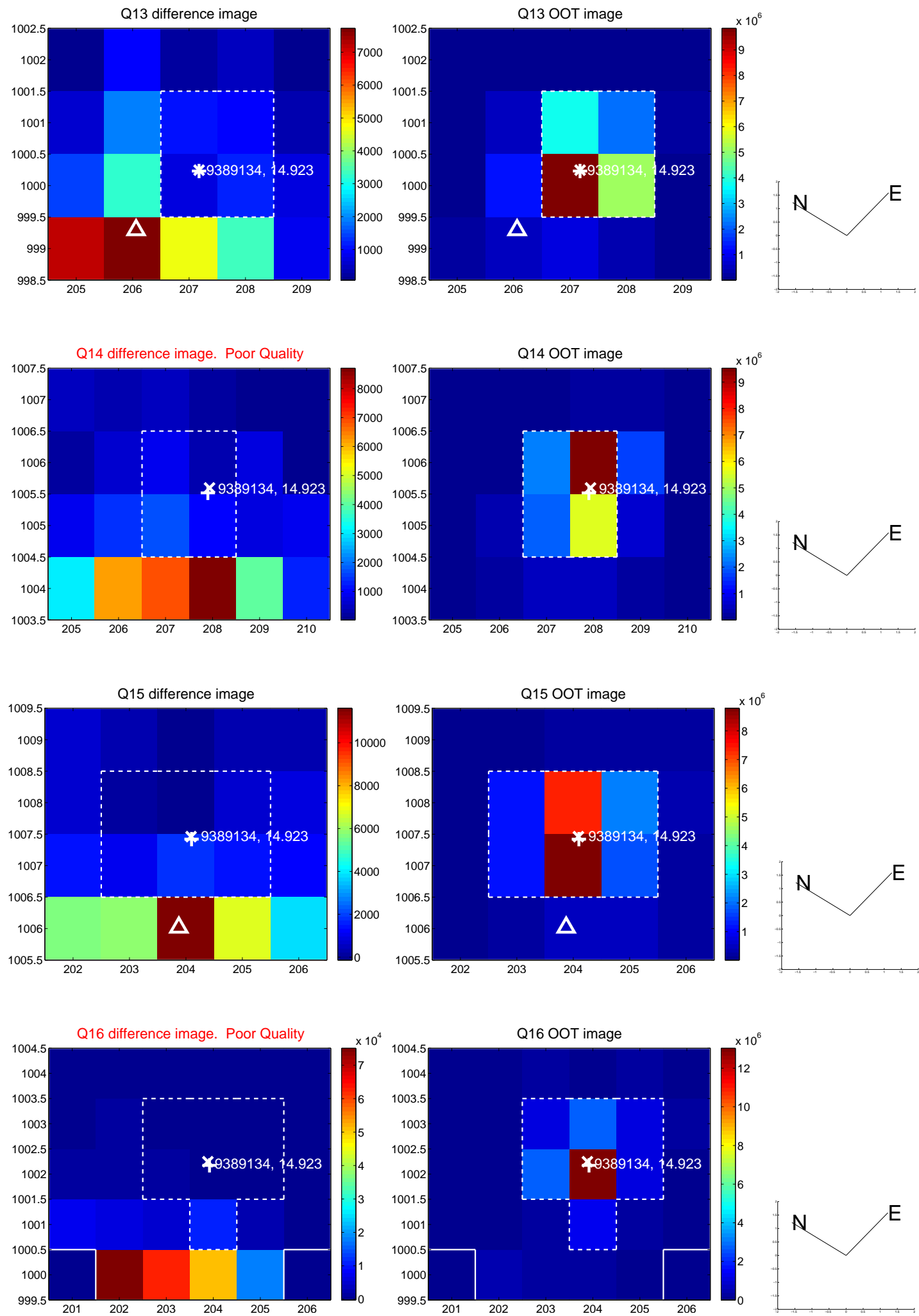
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



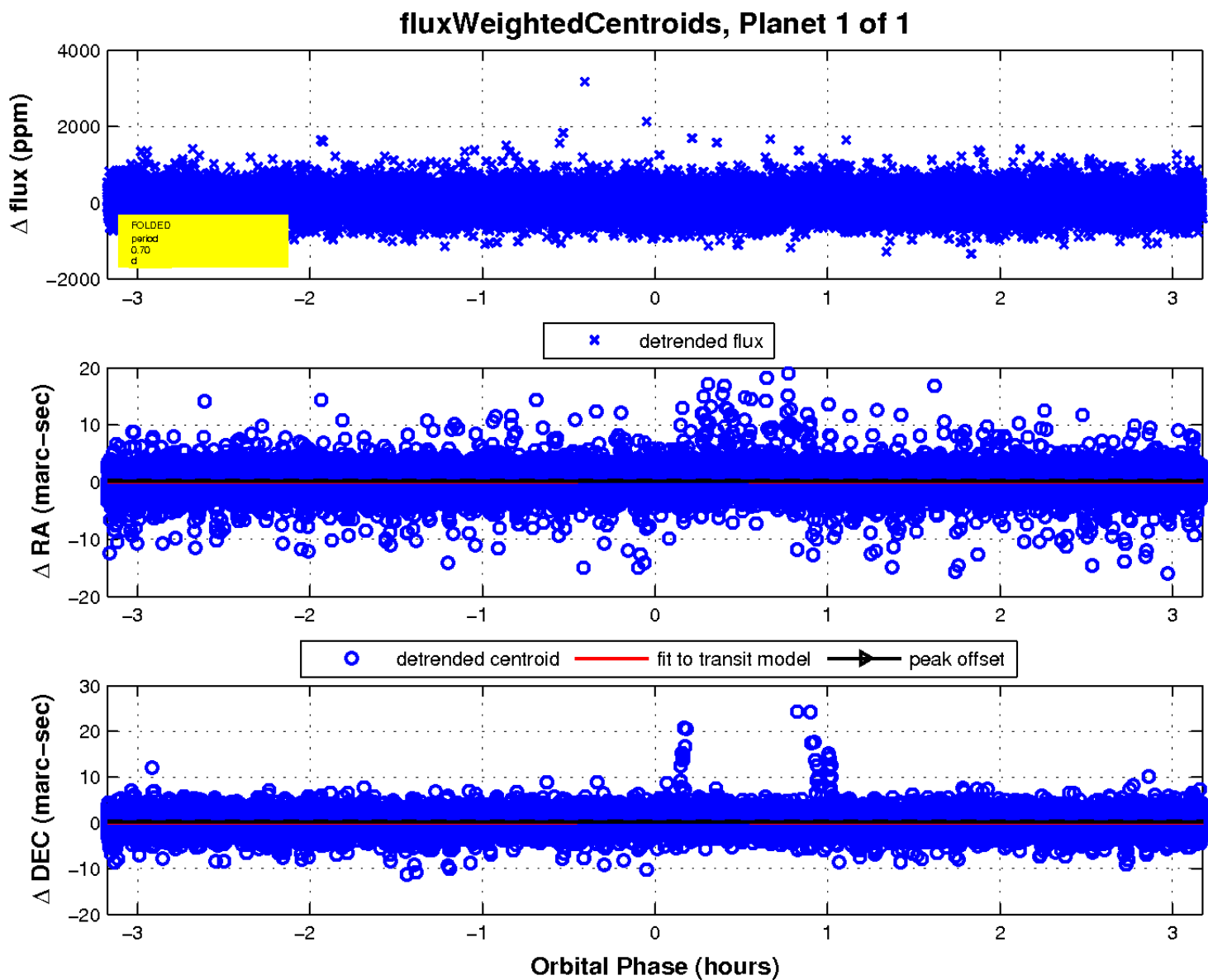
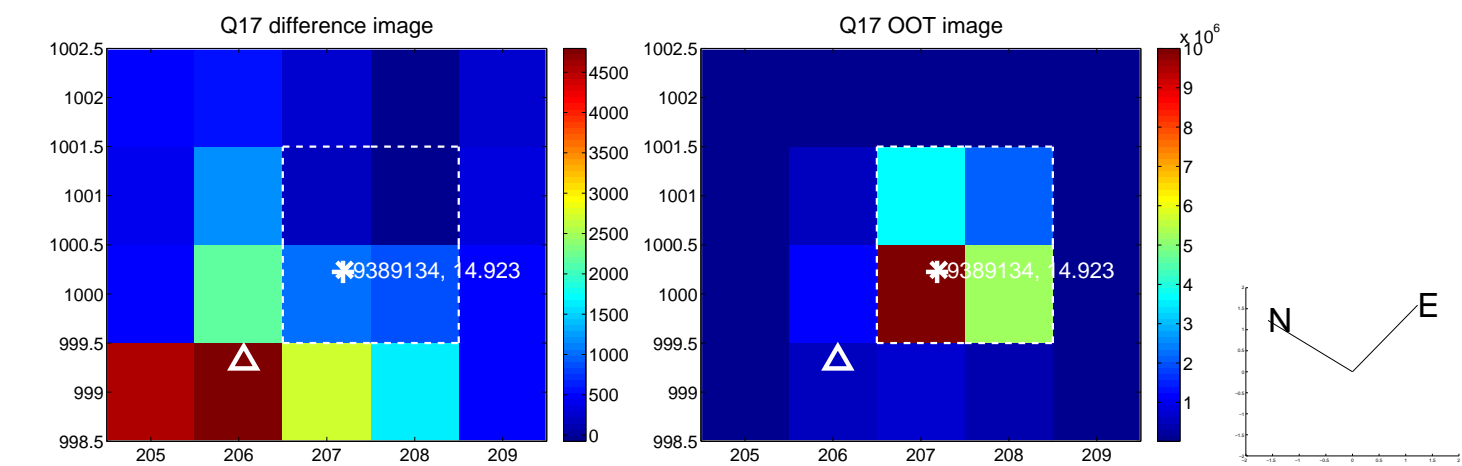
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

