

KIC 010489373

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})
010489373-01	OBS	No	0.639212	131.766349	374.7	1.411	8.8	7.6	3.20	8118	6.42	117856.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010489373-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—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.

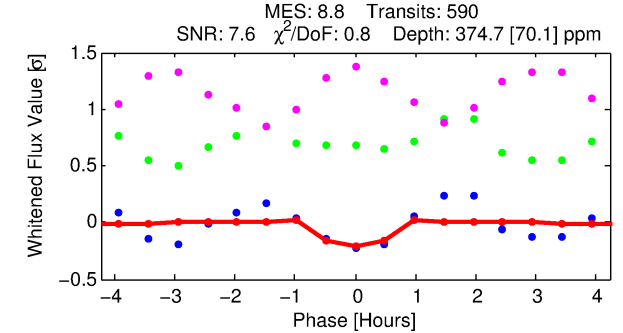
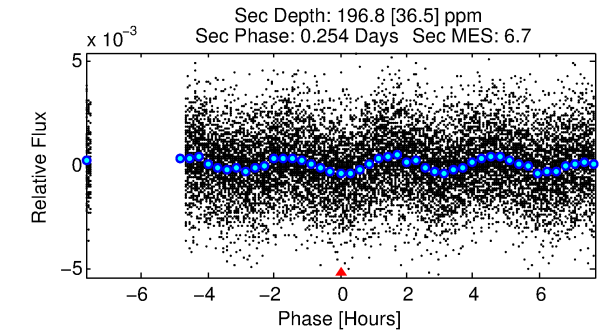
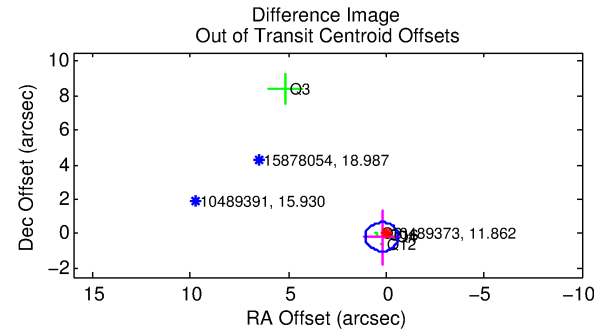
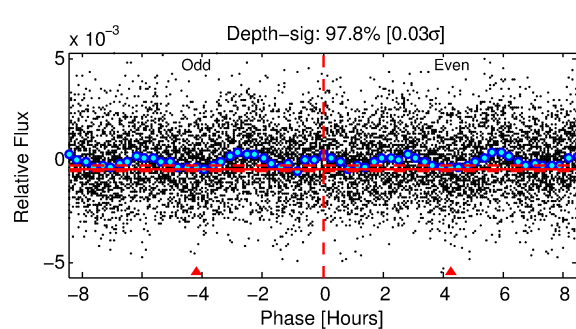
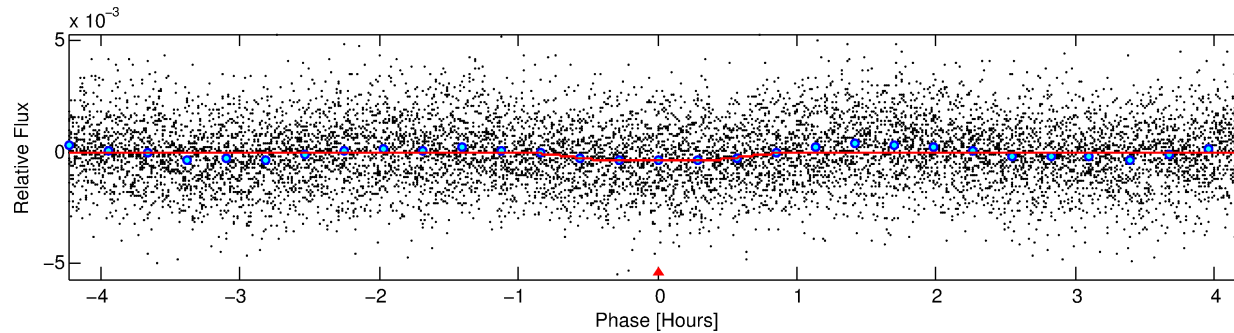
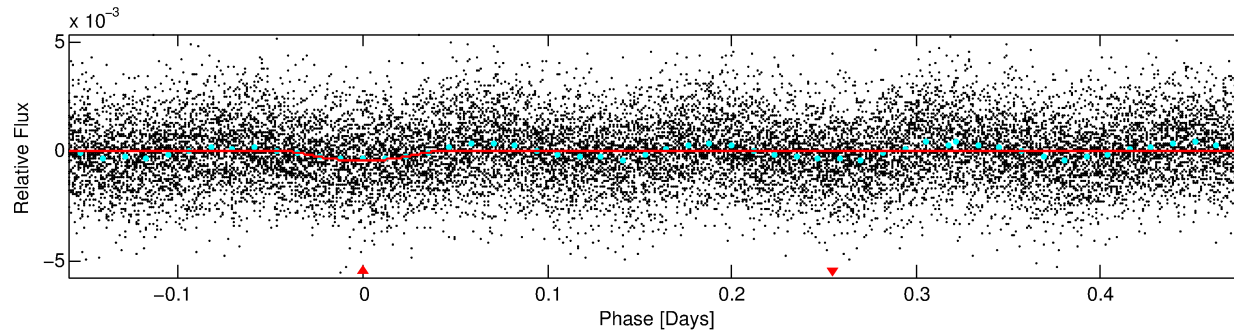
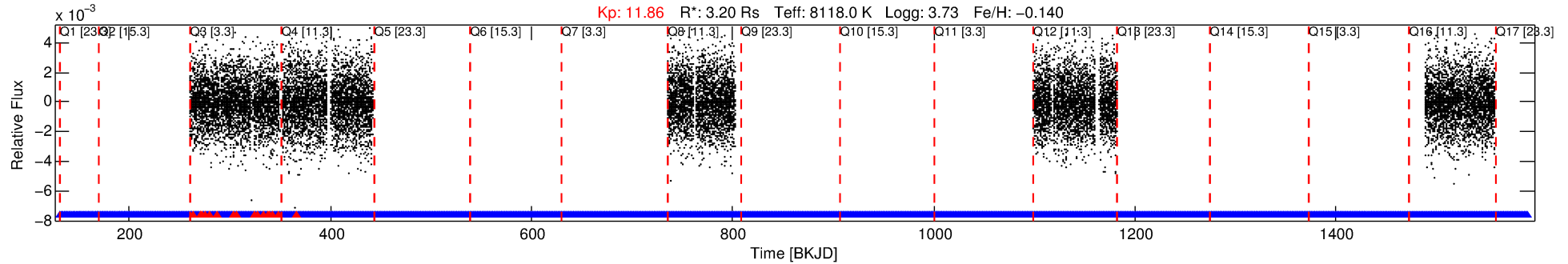
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010489373-01

No Significant Match Found

DV One-Page Summary

KIC: 10489373 Candidate: 1 of 1 Period: 0.639 d



DV Fit Results:

Period = 0.63921 [0.00002] d
Epoch = 131.7663 [0.0024] BKJD
Rp/R* = 0.0184 [0.0118]
a/R* = 3.20 [10.49]
b = 0.47 [6.00]
Seff = 117856.62 [89314.02]
Teq = 4725 [895] K
Rp = 6.43 [5.00] Re
a = 0.0184 [0.0082] AU
Ag = 0.89 [1.32] [-0.09 σ]
Teffp = 7089 [2319] K [0.95 σ]

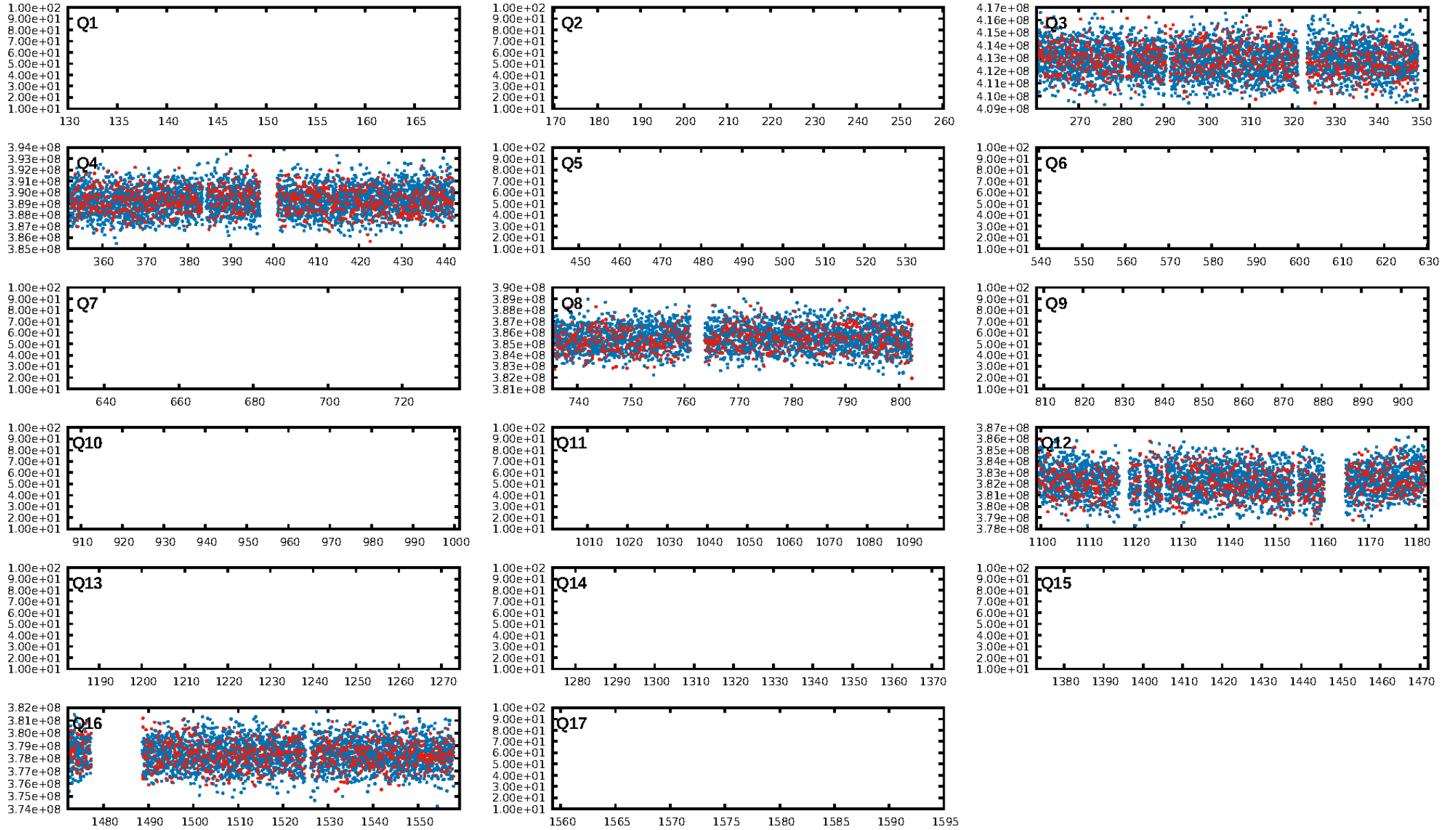
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.24e-20
RollingBand-fgt: 0.97 [573/590]
GhostDiagnostic-chr: 1.849
Centroid-sig: 0.0%
Centroid-so: 0.353 arcsec [3.25 σ]
OotOffset-rm: 0.285 arcsec [1.02 σ]
KicOffset-rm: 0.286 arcsec [0.29 σ]
OotOffset-st: 0/1/4/0 [5]
KicOffset-st: 0/1/4/0 [5]
DiffImageQuality-fgm: 0.80 [4/5]
DiffImageOverlap-fno: 1.00 [5/5]

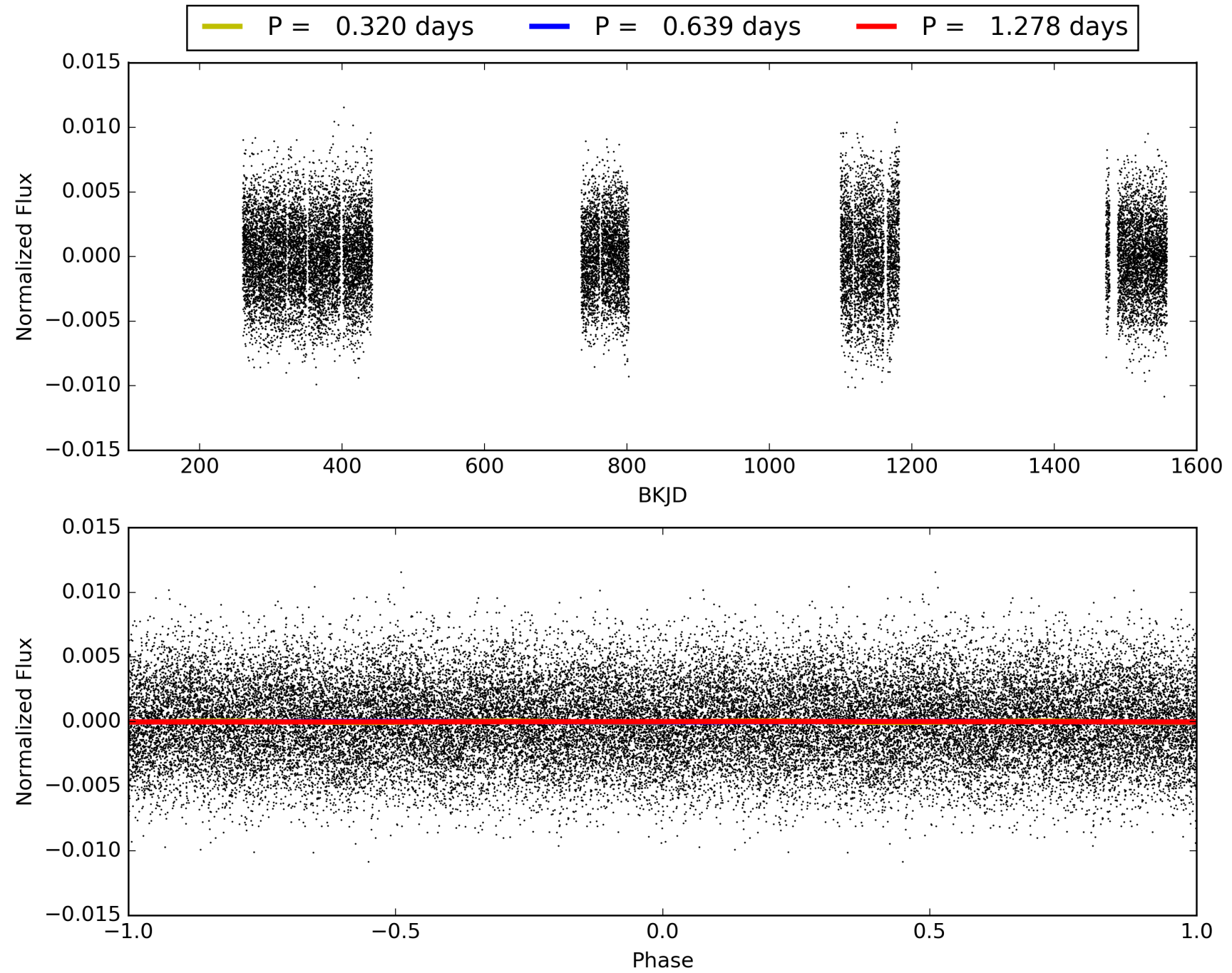
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:23:02 Z

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

TCE 010489373-01, PDC Light Curves

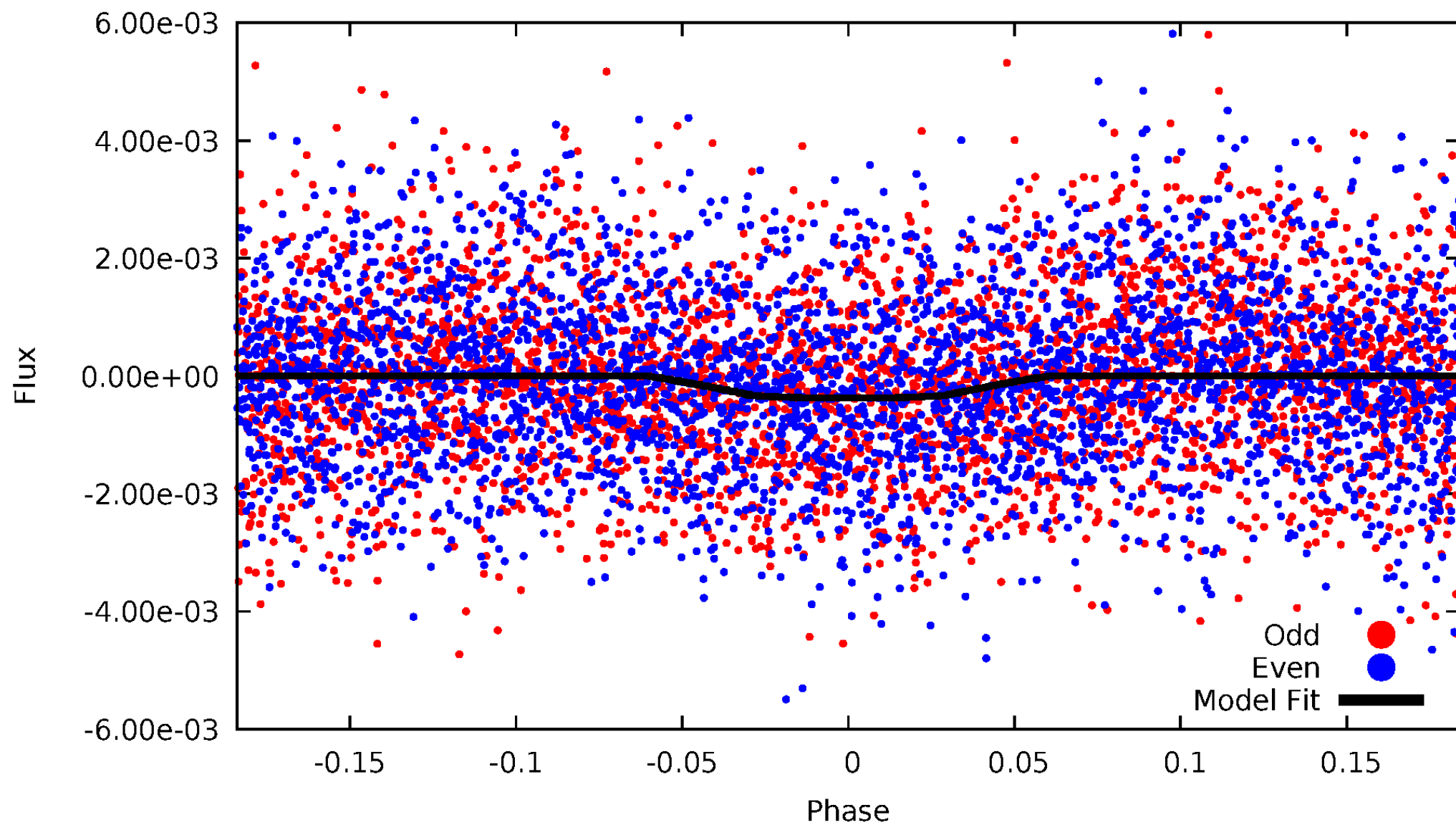


TCE 010489373-01



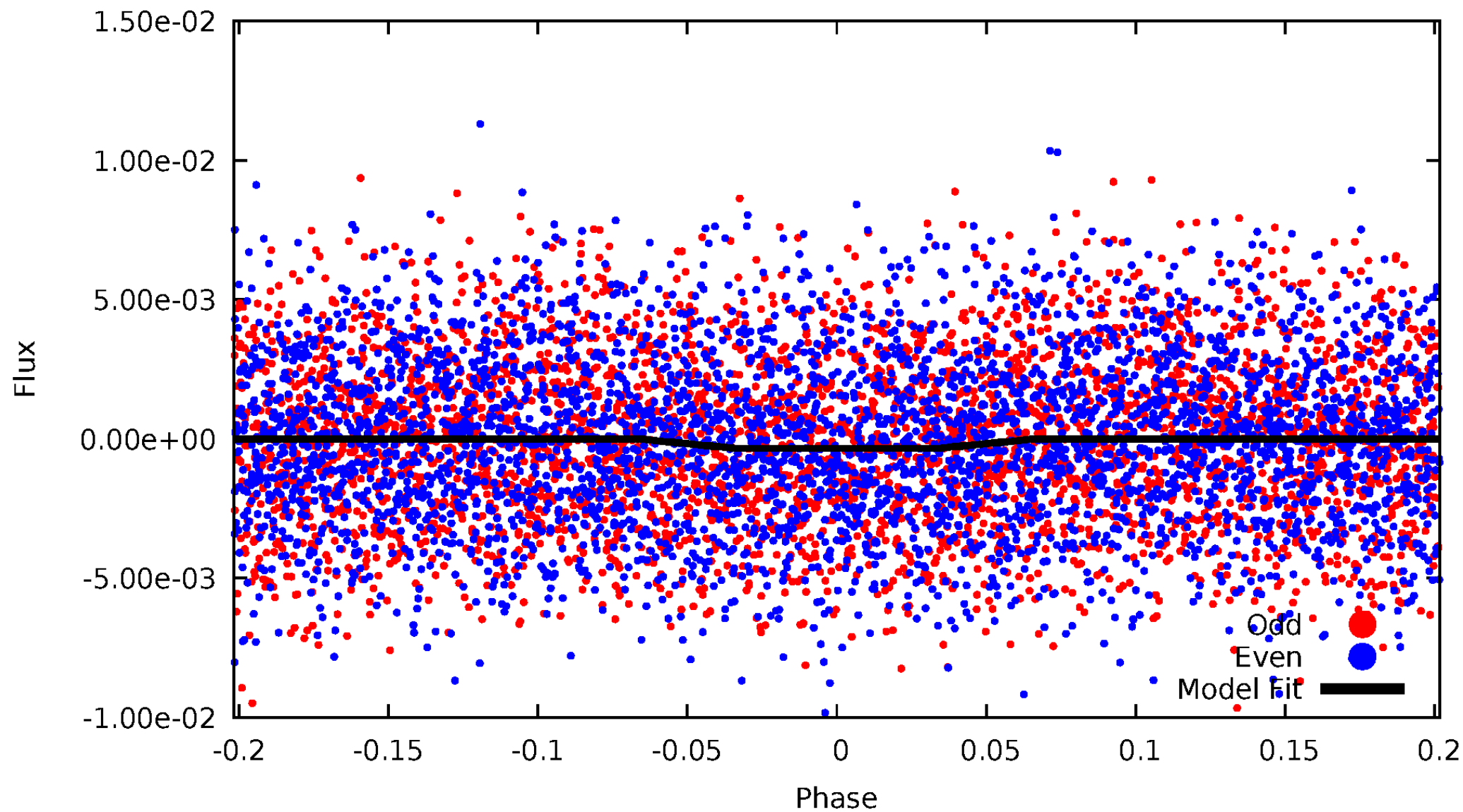
DV Odd/Even

TCE 010489373-01



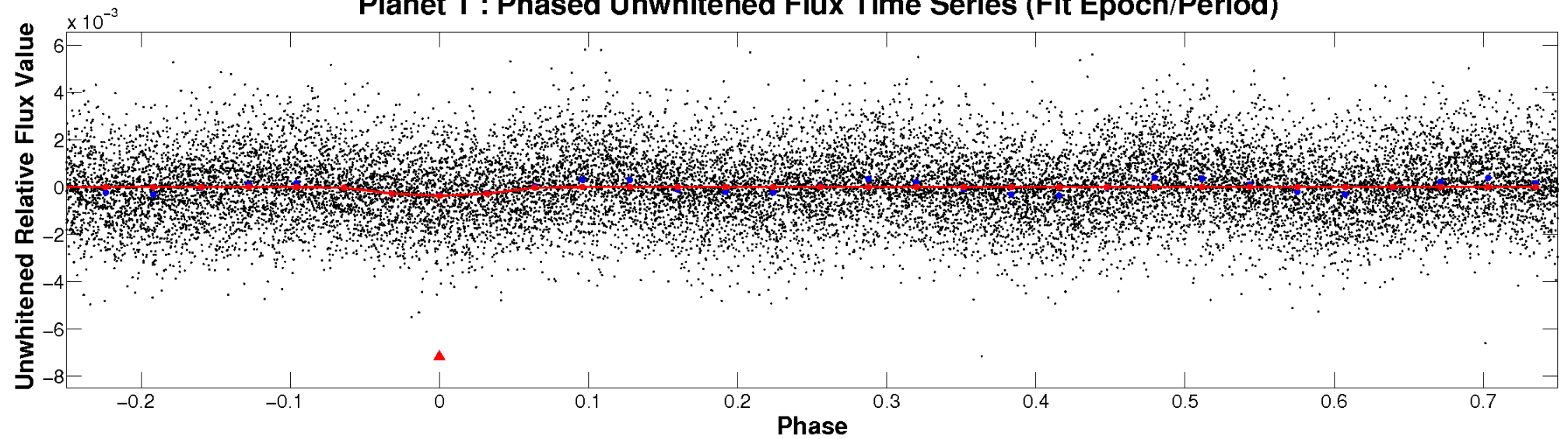
ALT Odd/Even

TCE 010489373-01

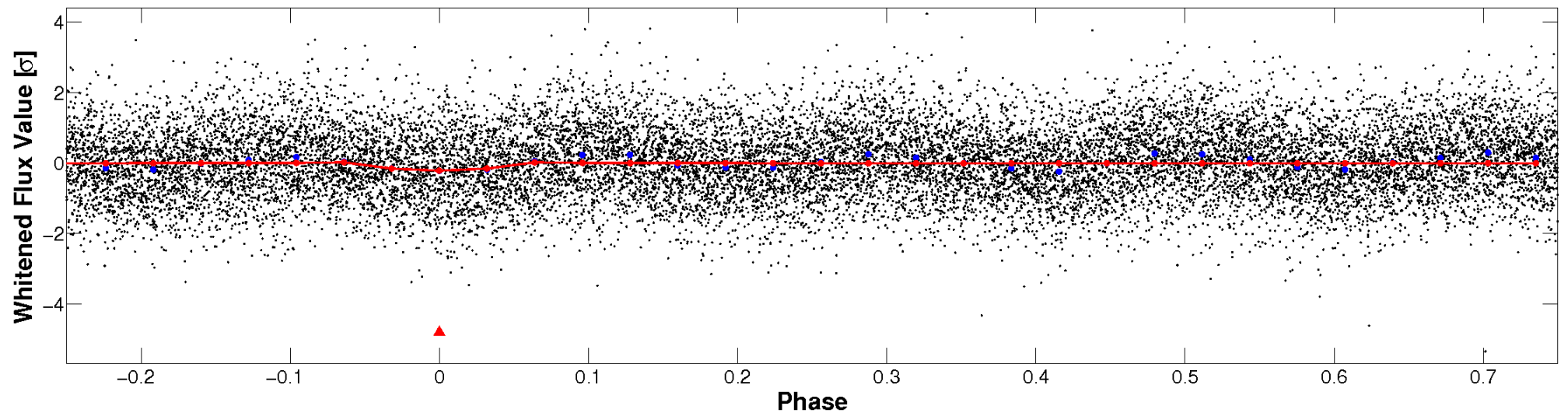


Non-Whitened Vs. Whitened Light Curve

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

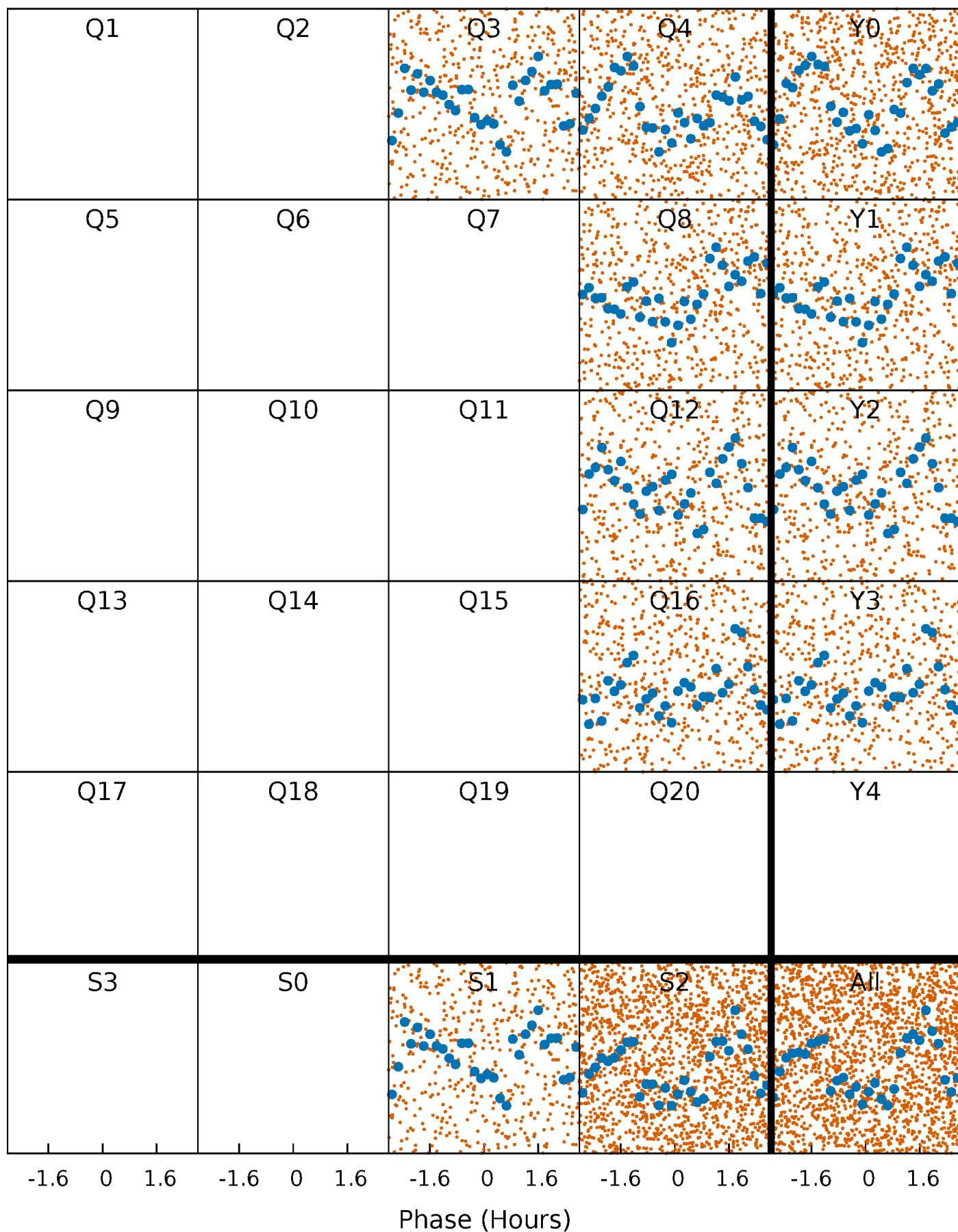


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



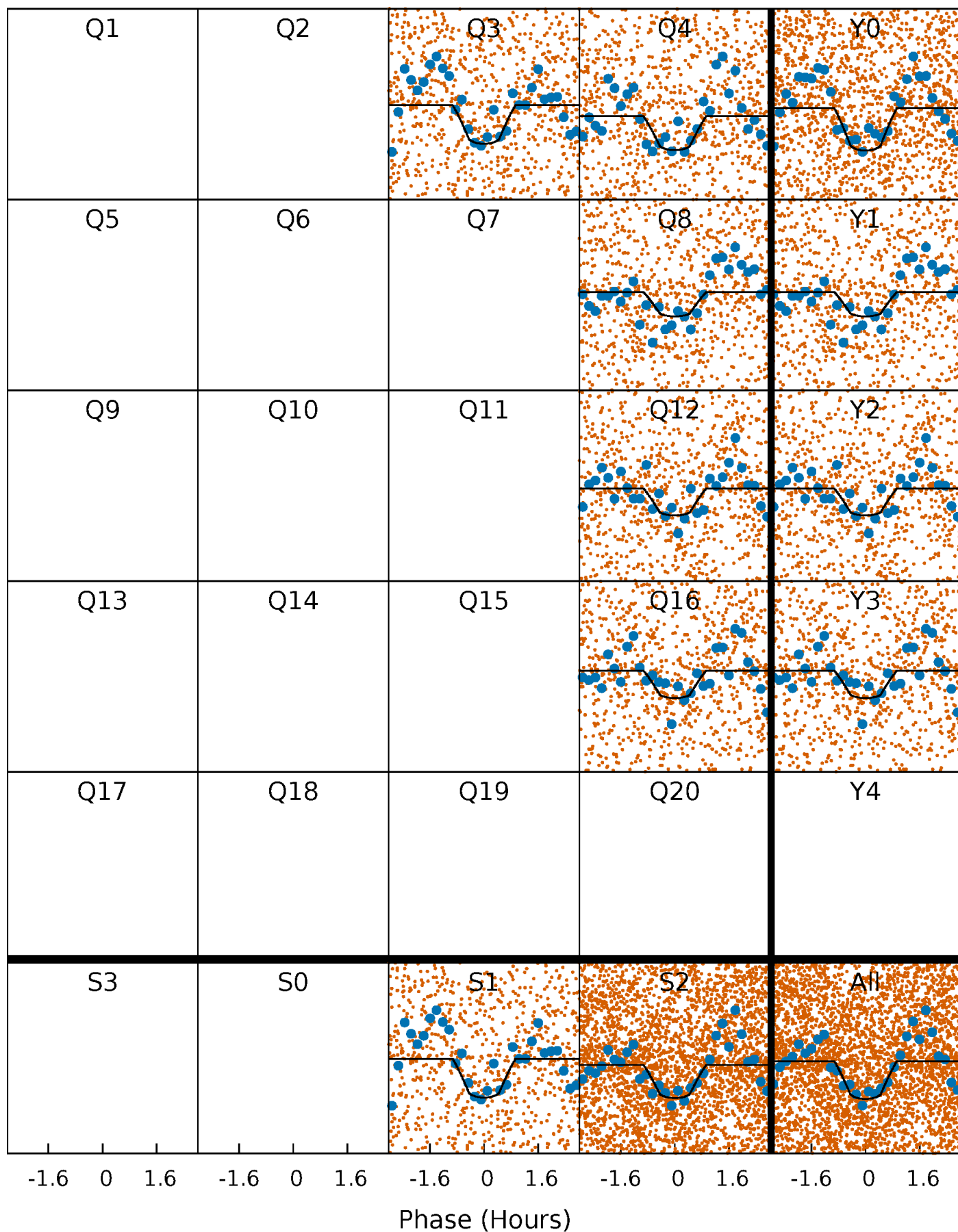
PDC Quarter-Phased Transit Curves

TCE 010489373-01 P= 0.639212 Days $T_0=131.766349$ (BKJD)



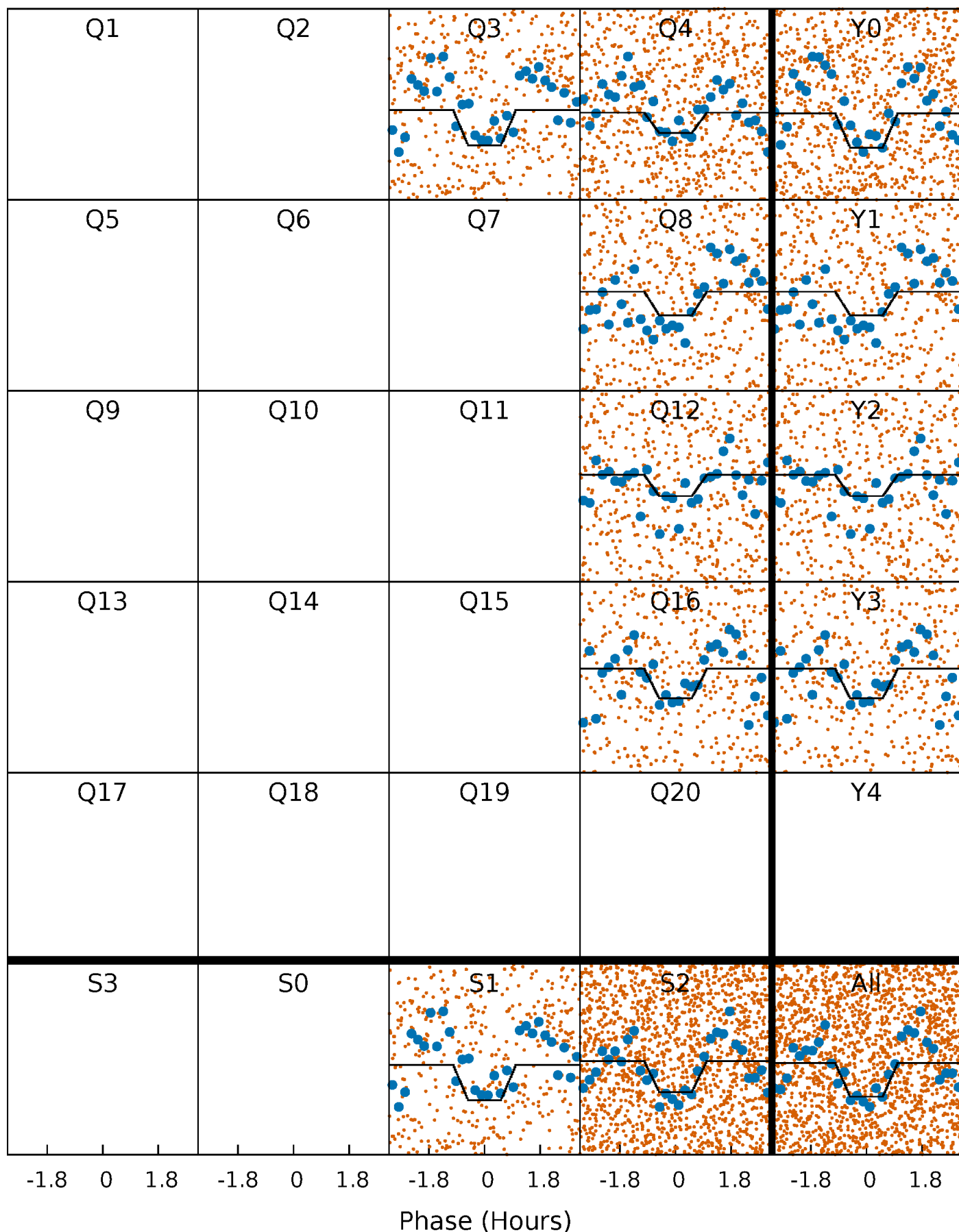
DV Quarter-Phased Transit Curves

TCE 010489373-01 P= 0.639212 Days $T_0=131.766349$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

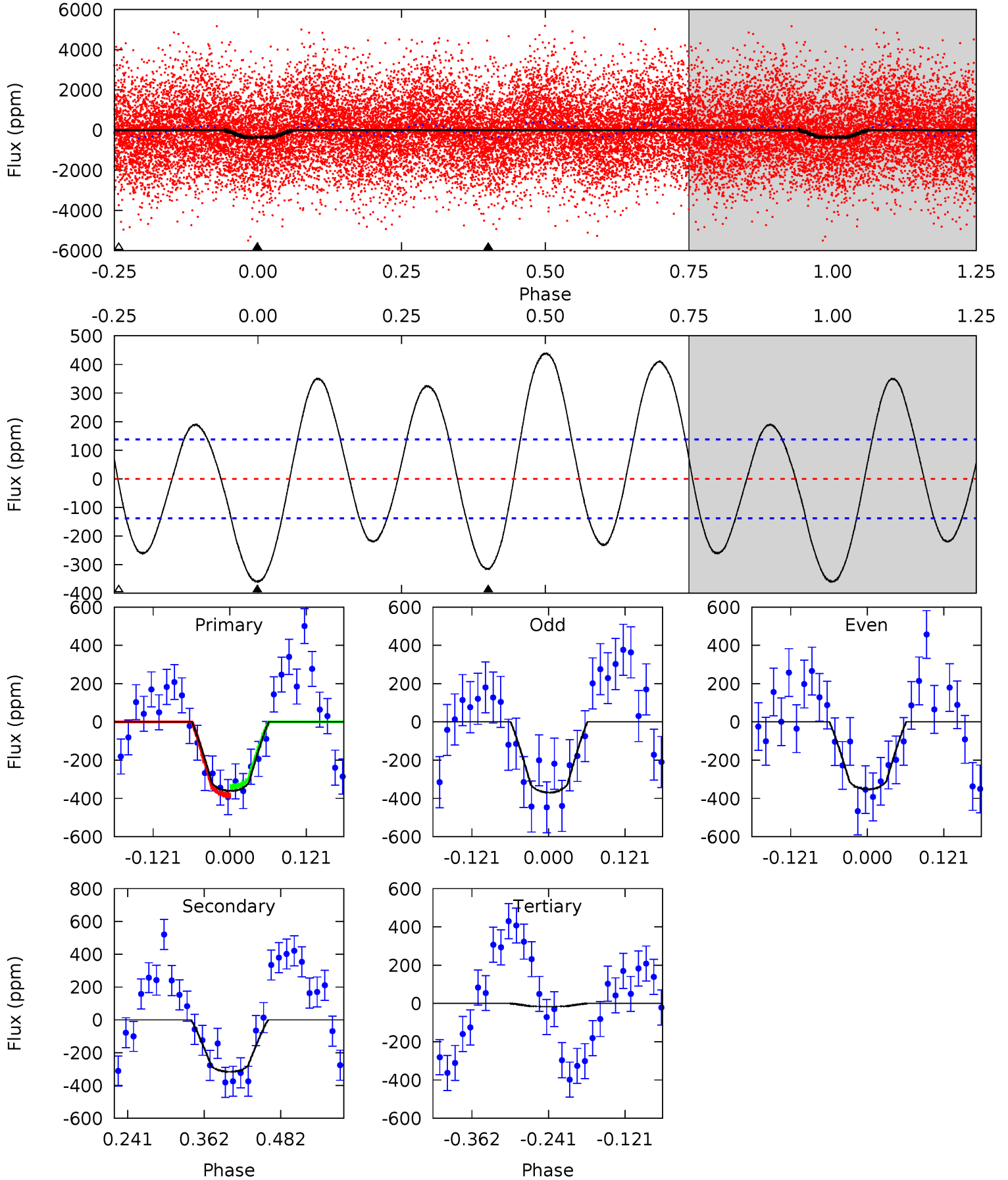
TCE 010489373-01 P= 0.639215 Days $T_0=131.766197$ (BKJD)



DV Model-Shift Uniqueness Test

010489373-01, P = 0.639212 Days, E = 131.766349 Days

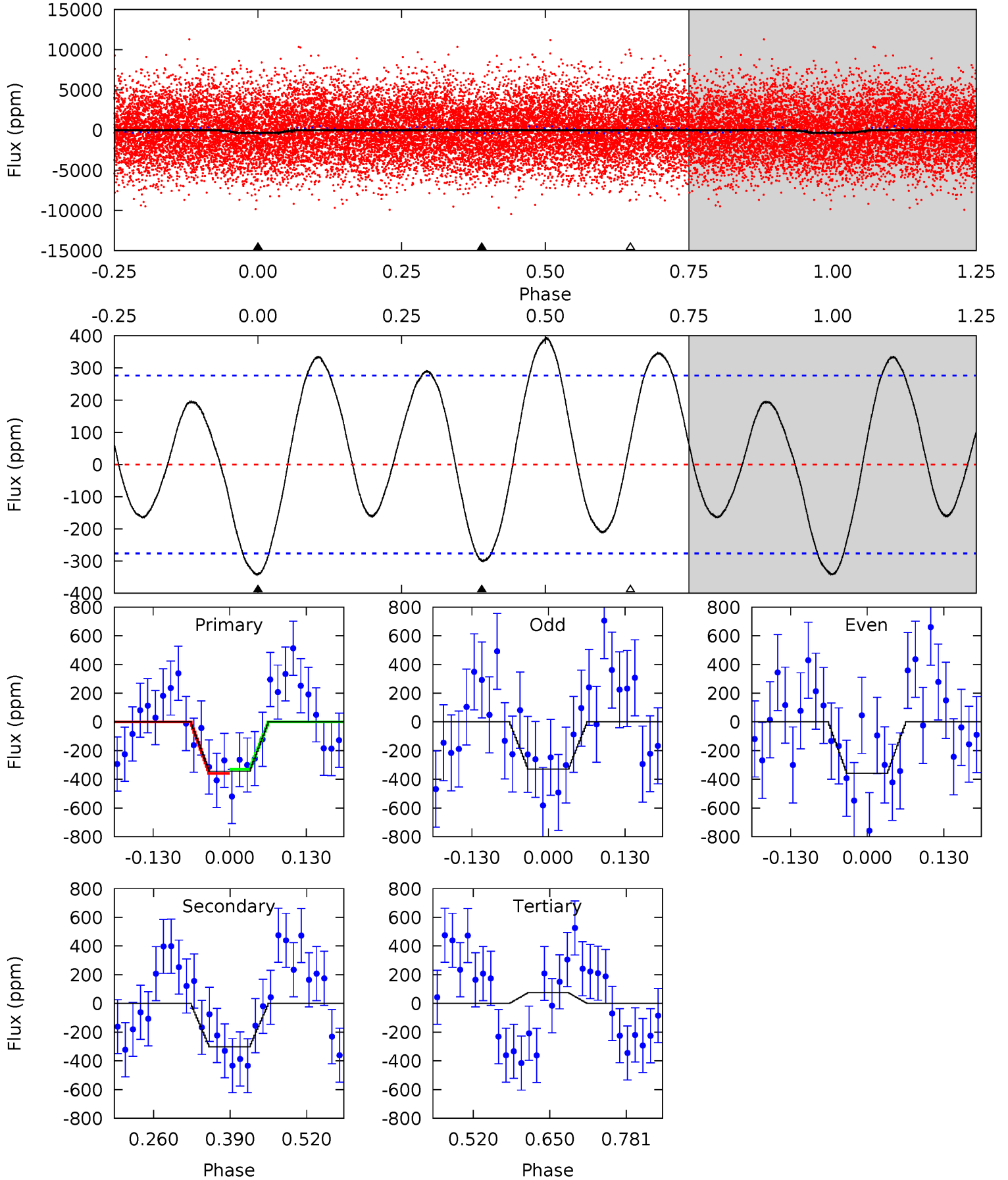
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.8	10.4	0.53	0	4.53	1.55	6.72	11.3	11.8	9.87	10.4	0.29	0.95	0.55	0.76



Alt Model-Shift Uniqueness Test

010489373-01, P = 0.639215 Days, E = 131.766197 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.61	4.93	-1.22	0	4.51	1.51	2.73	6.83	5.61	6.14	4.93	0.24	1.08	0.53	0.23



Stellar Parameters For KIC 010489373

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8118^{+226}_{-340}	$3.735^{+0.442}_{-0.104}$	$-0.140^{+0.200}_{-0.350}$	$3.201^{+0.649}_{-1.407}$	$2.032^{+0.347}_{-0.521}$	$0.087^{+0.363}_{-0.029}$
	+3%/-4%	+12%/-3%	+143%/-250%	+20%/-44%	+17%/-26%	+417%/-34%
Source	KIC0	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 010489373-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-317 ± 30	$6.08^{+3.74}_{-3.37}$	6367^{+502}_{-728}	7213^{+5443}_{-2026}	$1.630^{+6.093}_{-1.026}$
Alt.	-302 ± 61	$6.16^{+4.35}_{-3.50}$	6360^{+496}_{-711}	7017^{+5734}_{-2333}	$1.531^{+5.928}_{-1.027}$

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

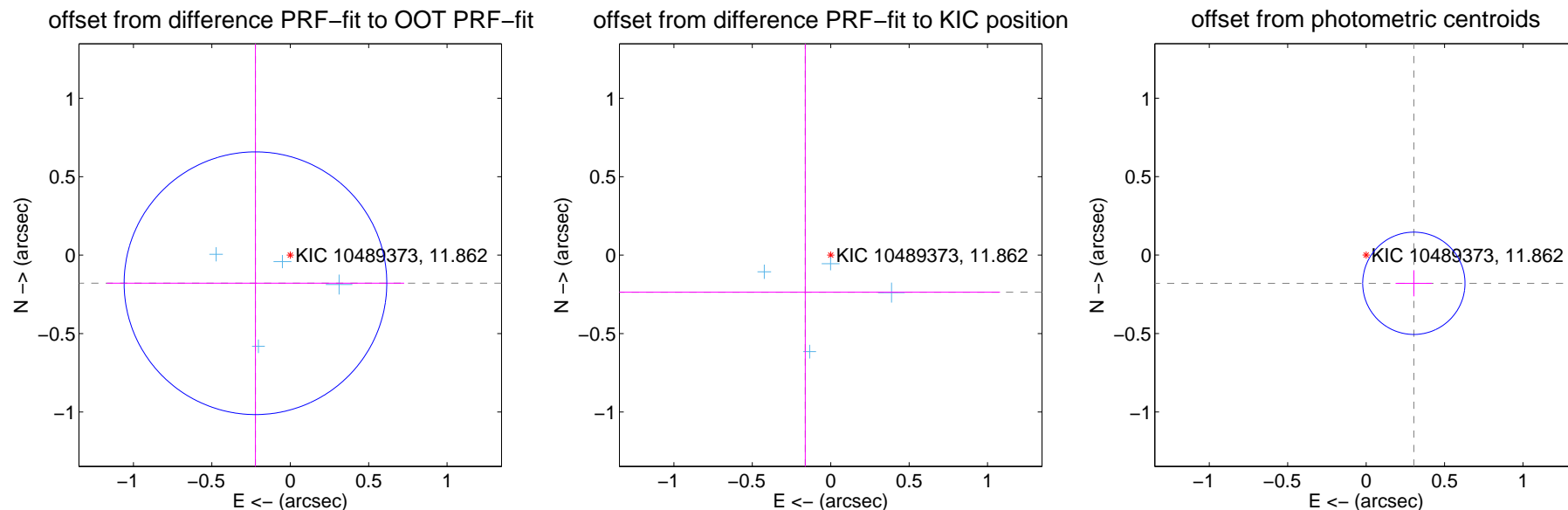
DV Centroid Data

Supplemental centroid analysis for 010489373-01. **Kepler magnitude: 11.86.** Transit SNR 7.60

There are 4 quarters with good PRF difference image offsets

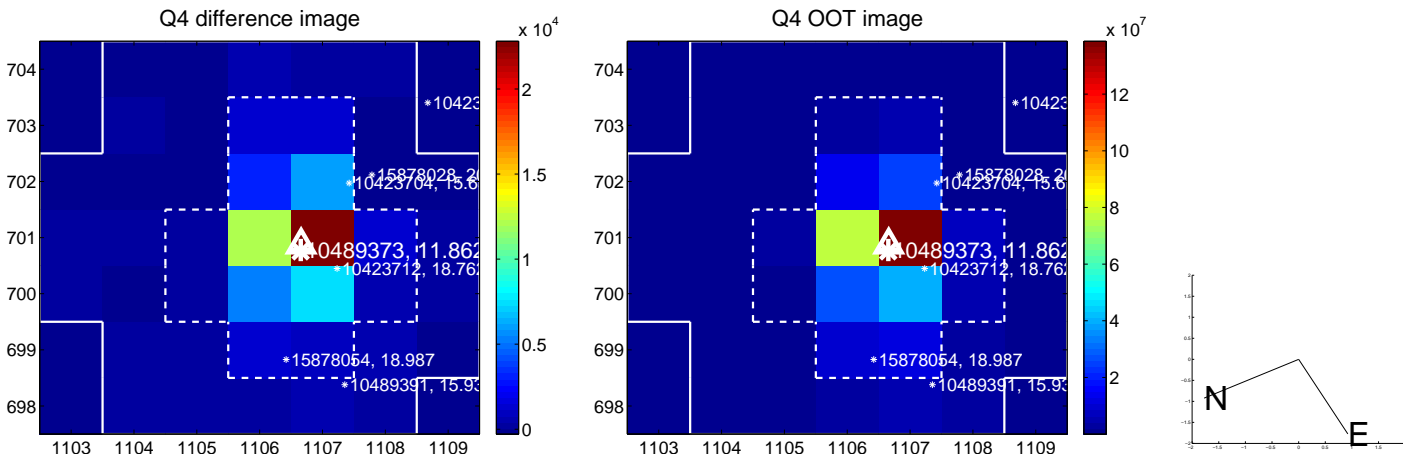
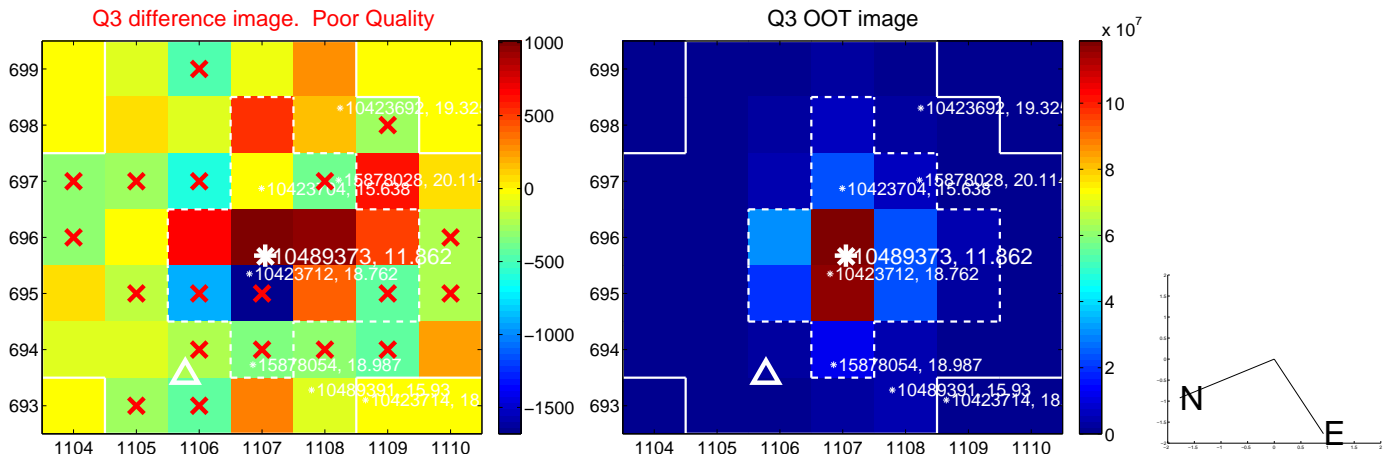
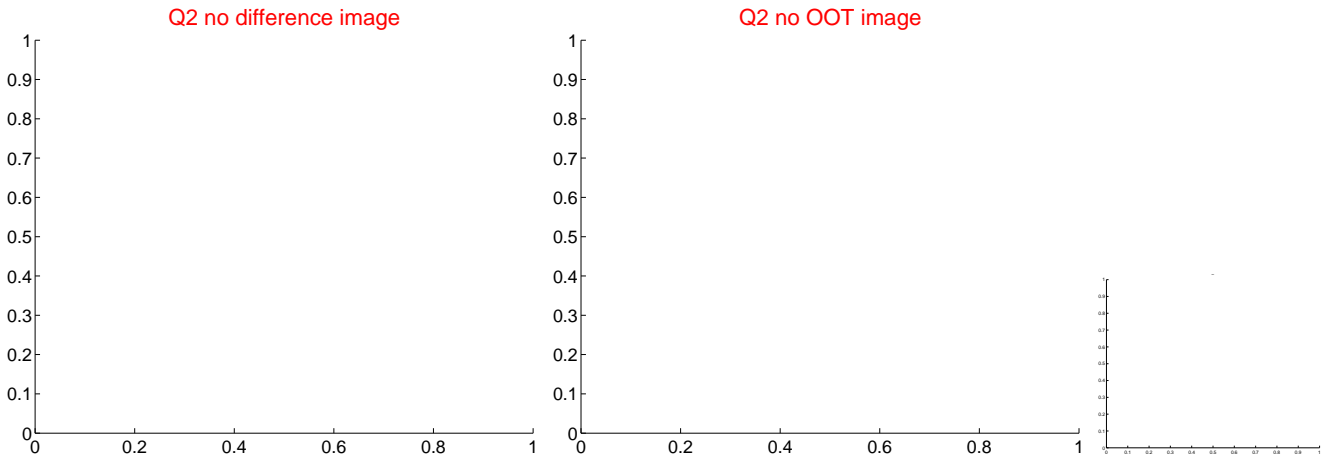
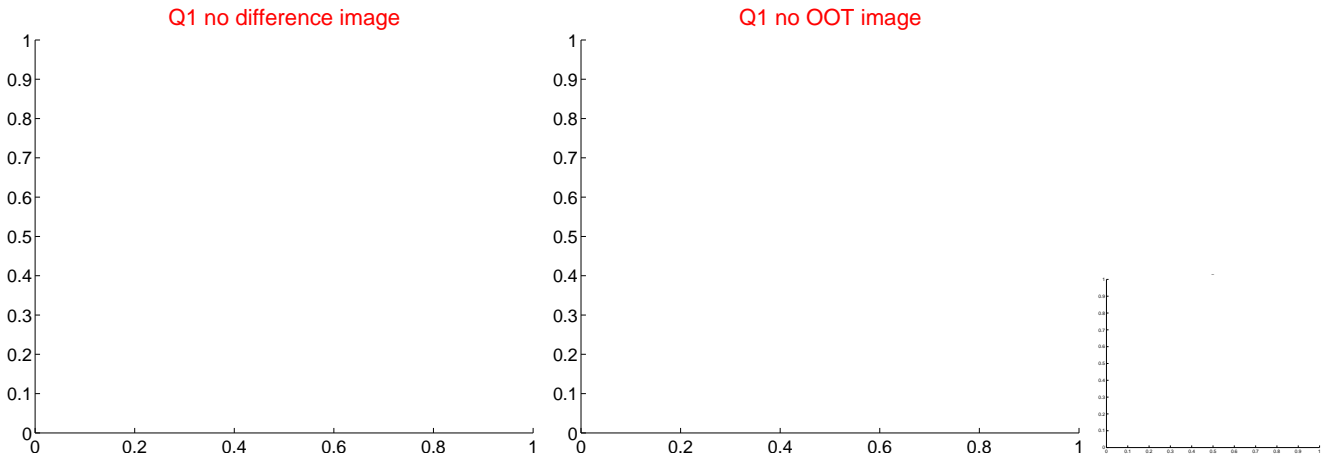
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.285 ± 0.279	1.02	0.222 ± 0.948	-0.179 ± 1.574
PRF-fit source offset from KIC position	0.286 ± 0.998	0.29	0.162 ± 1.242	-0.236 ± 2.055
photometric centroid source offset	0.35 ± 0.11	3.25	-0.30 ± 0.12	-0.18 ± 0.08

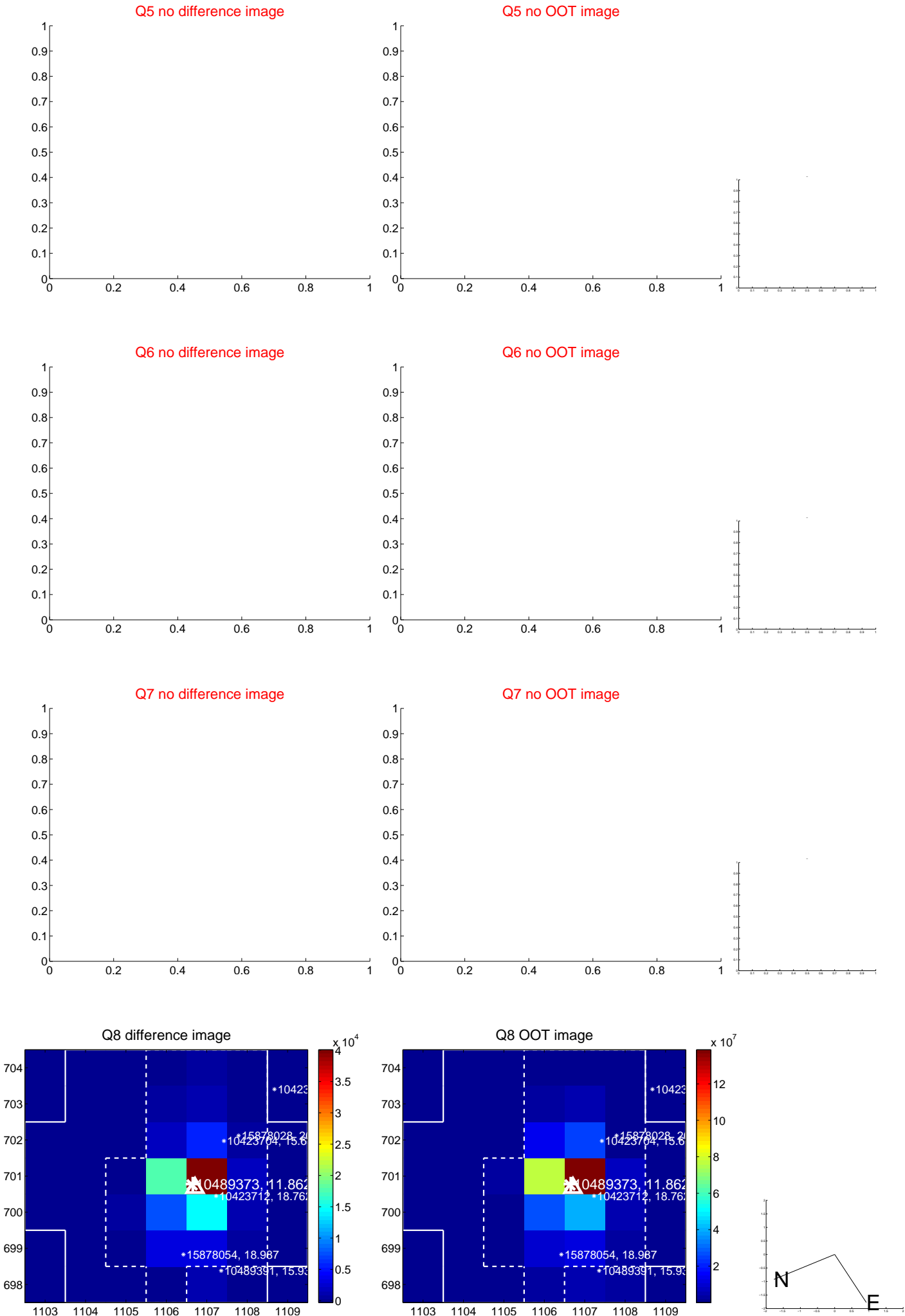


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

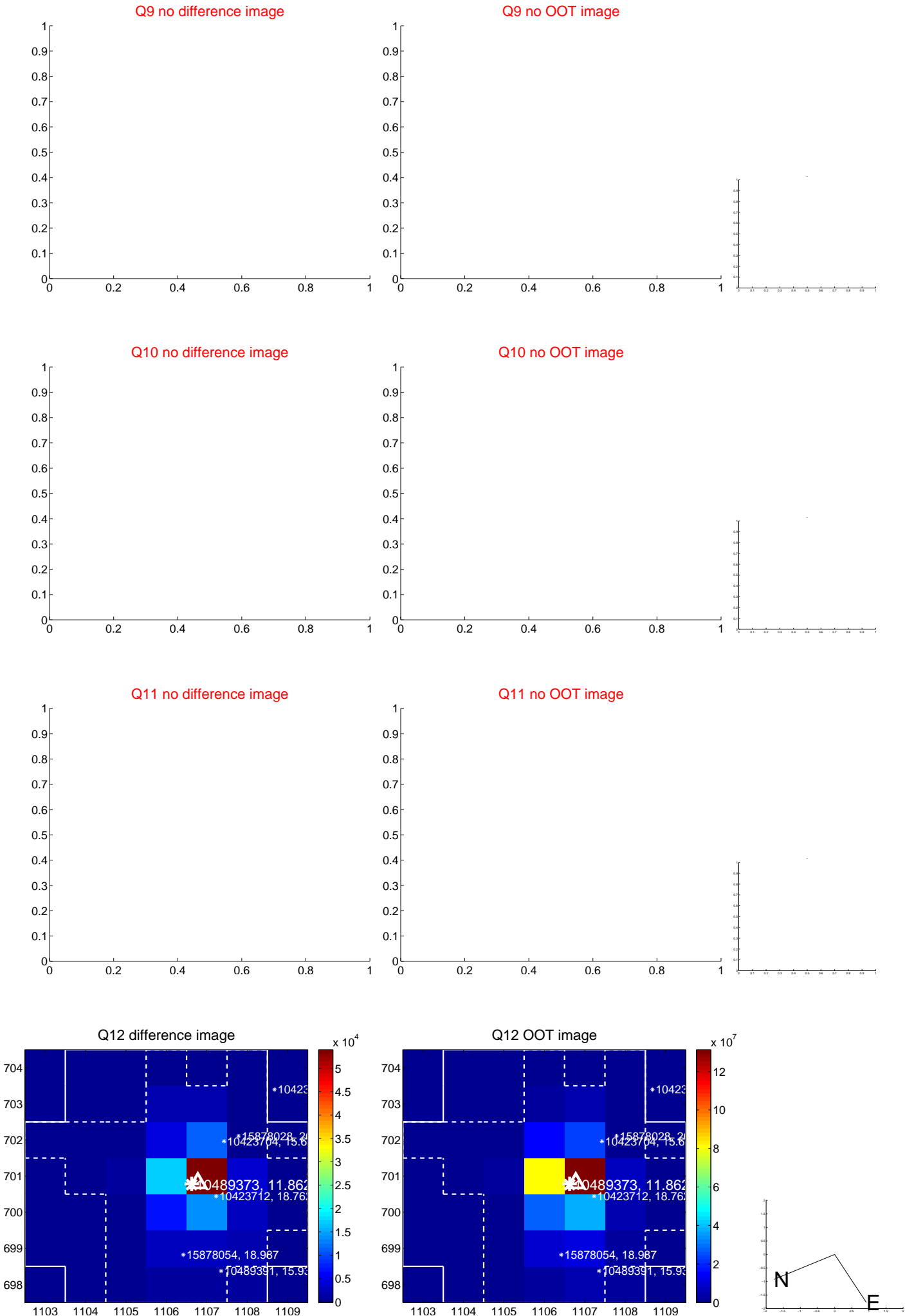
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



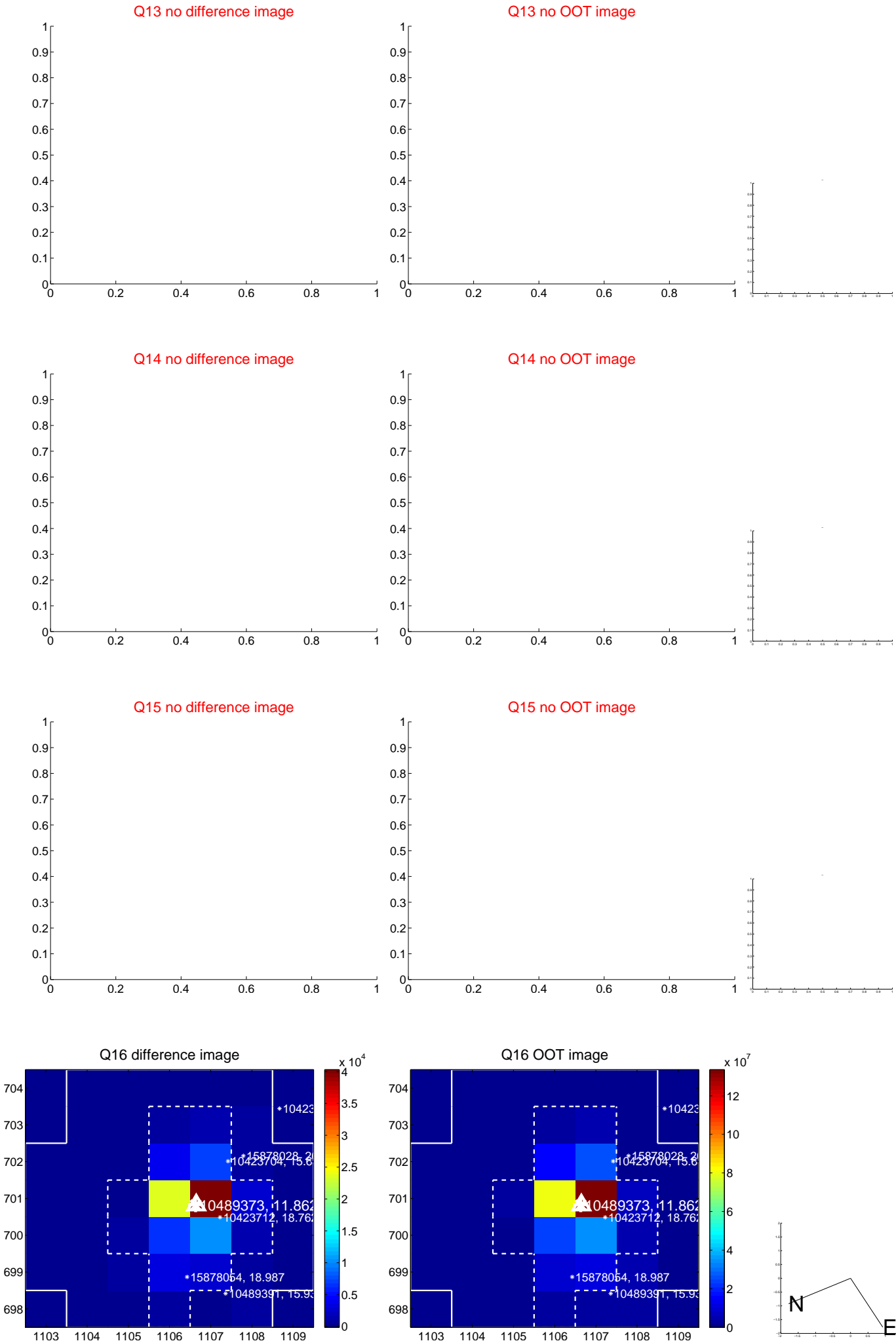
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



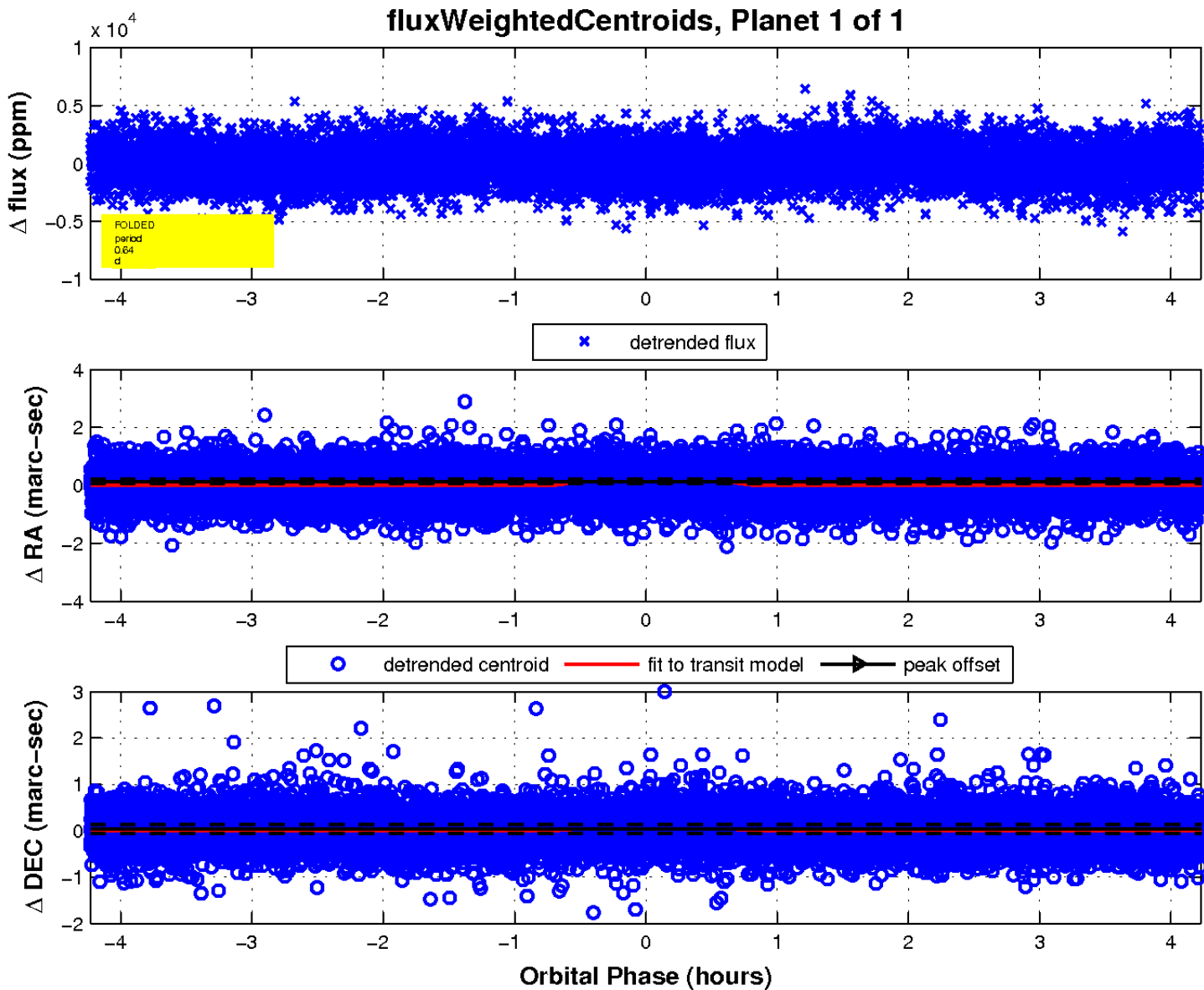
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

Q17 no difference image

Q17 no OOT image



UKIRT Image

Declination

