

KIC 002973509

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})
002973509-01	OBS	6300.01	6.627612	132.546610	225920.7	6.143	15525.9	11771.3	1.33	6316	83.83	497.44

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002973509-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_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.

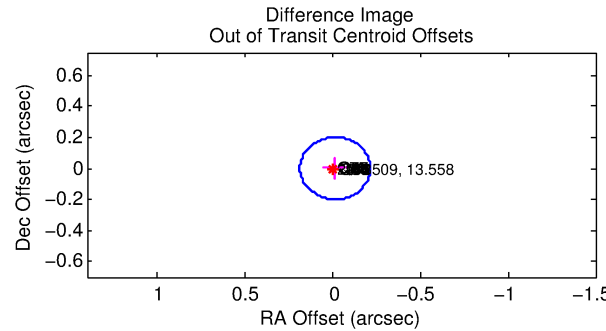
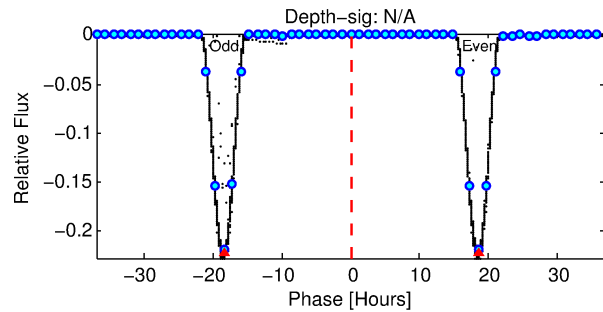
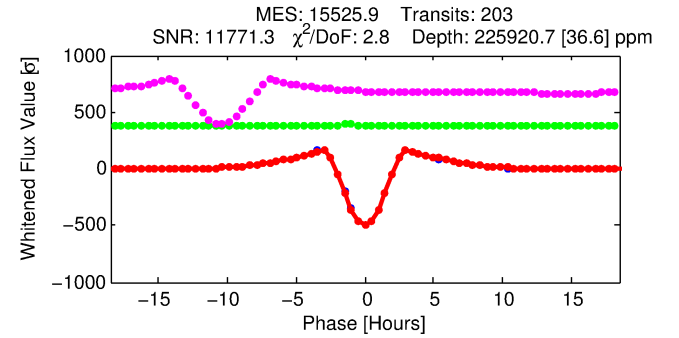
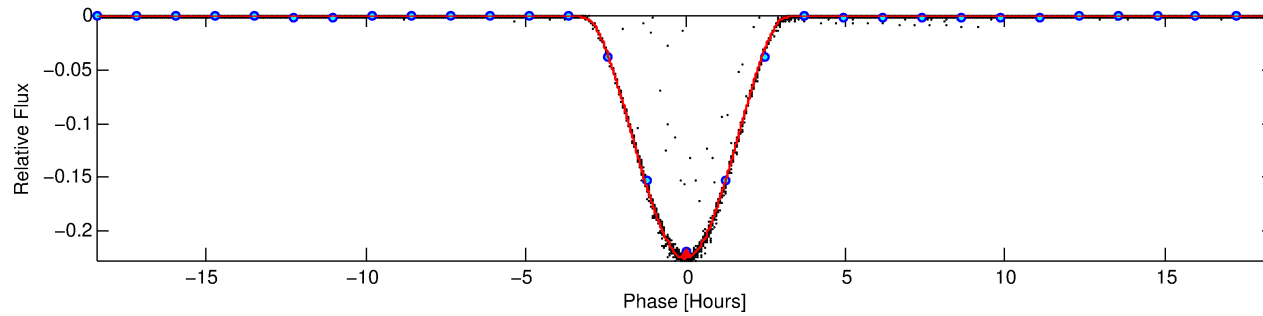
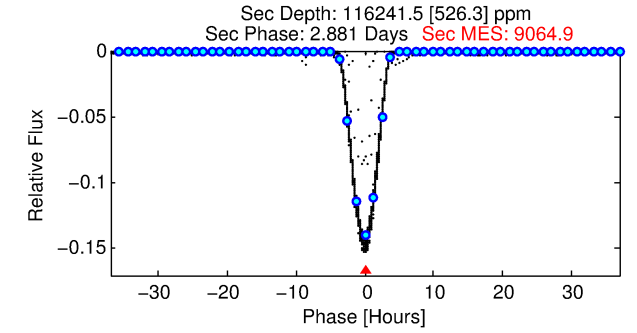
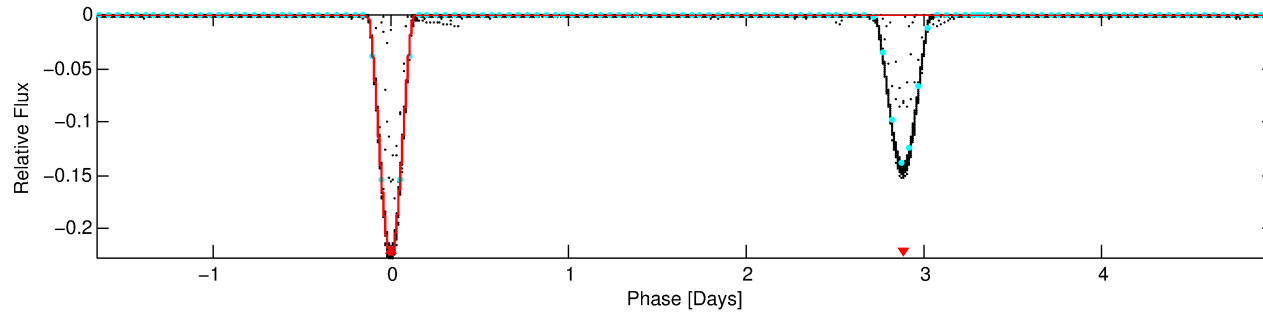
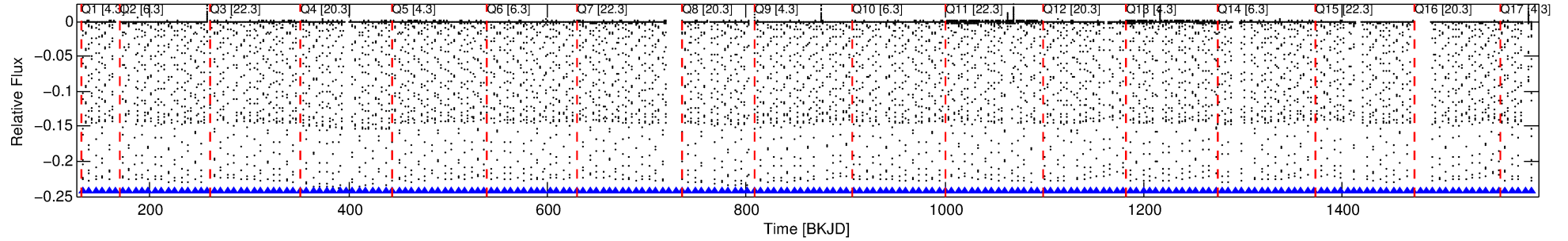
Ephemeris Match Information For 002973509-01

No Significant Match Found

DV One-Page Summary

KIC: 2973509 Candidate: 1 of 1 Period: 6.628 d
KOI: K06300.01 Corr: 0.999

Kp: 13.56 R*: 1.33 Rs Teff: 6316.0 K Logg: 4.23 Fe/H: -0.120



DV Fit Results:

Period = 6.62761 [0.00000] d
Epoch = 132.5466 [0.0000] BKJD
Rp/R* = 0.5763 [0.0083]
a/R* = 11.36 [0.02]
b = 0.78 [0.01]
Seff = 497.44 [181.08]
Teq = 1204 [110] K
Rp = 83.83 [25.75] Re
a = 0.0714 [0.0176] AU
Ag = 46.35 [15.99] [2.84σ]
Teffp = 4858 [150] K [19.70σ]

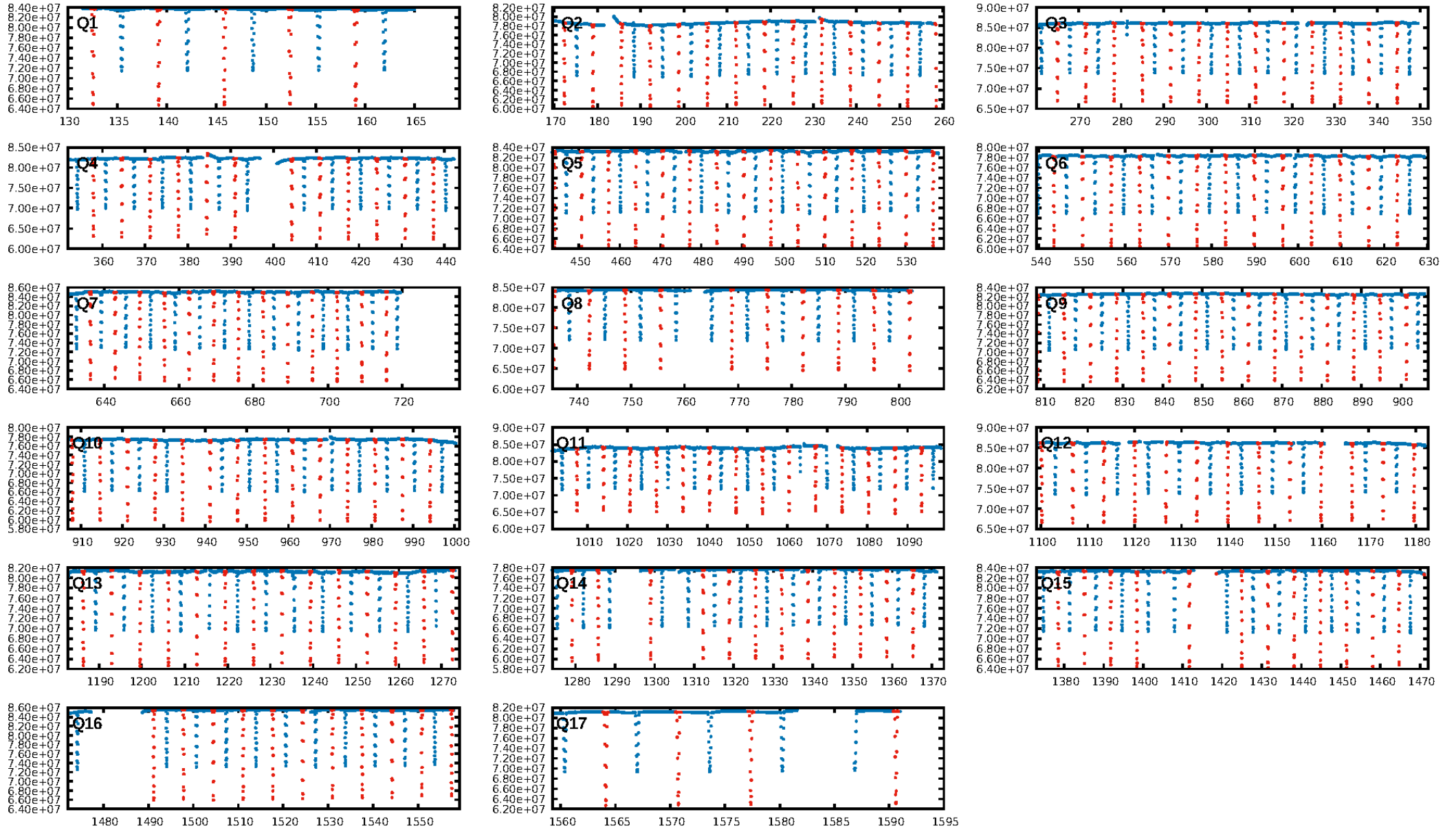
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [194/194]
GhostDiagnostic-chr: 2.67
Centroid-sig: 0.0%
Centroid-so: 0.340 arcsec [695.48σ]
OotOffset-rm: 0.014 arcsec [0.21σ]
KicOffset-rm: 0.052 arcsec [0.77σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

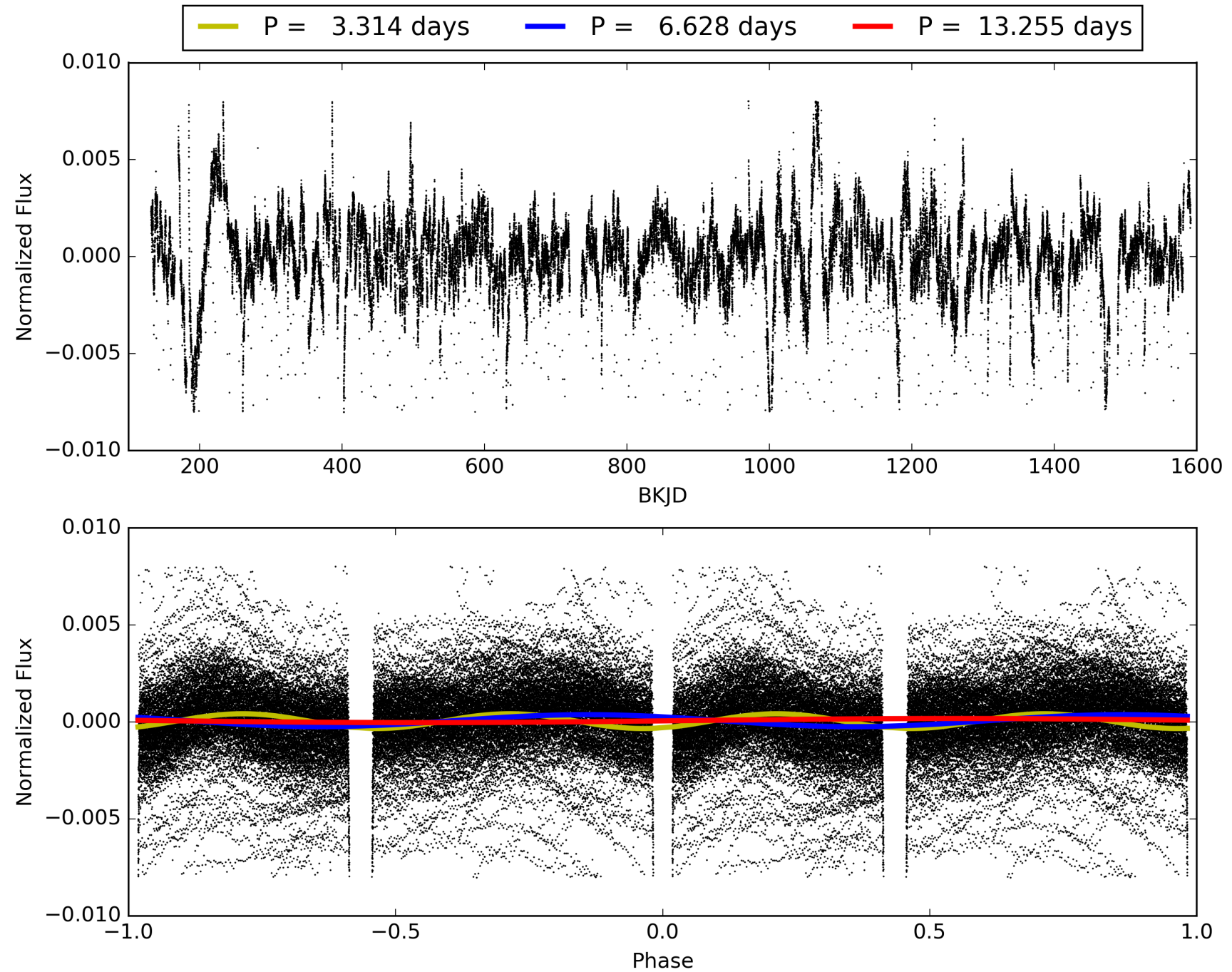
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:15:51 Z

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

TCE 002973509-01, PDC Light Curves

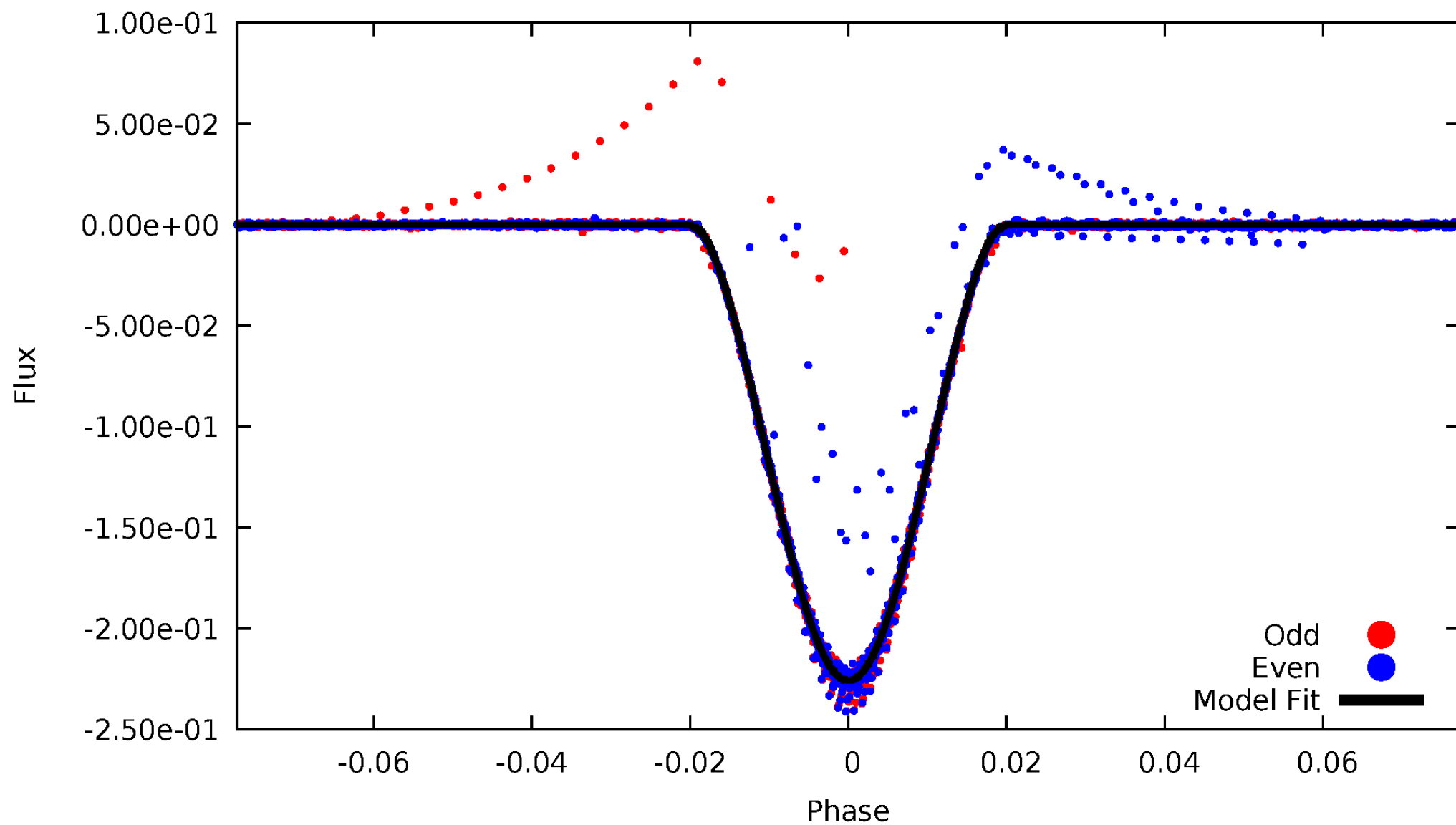


TCE 002973509-01



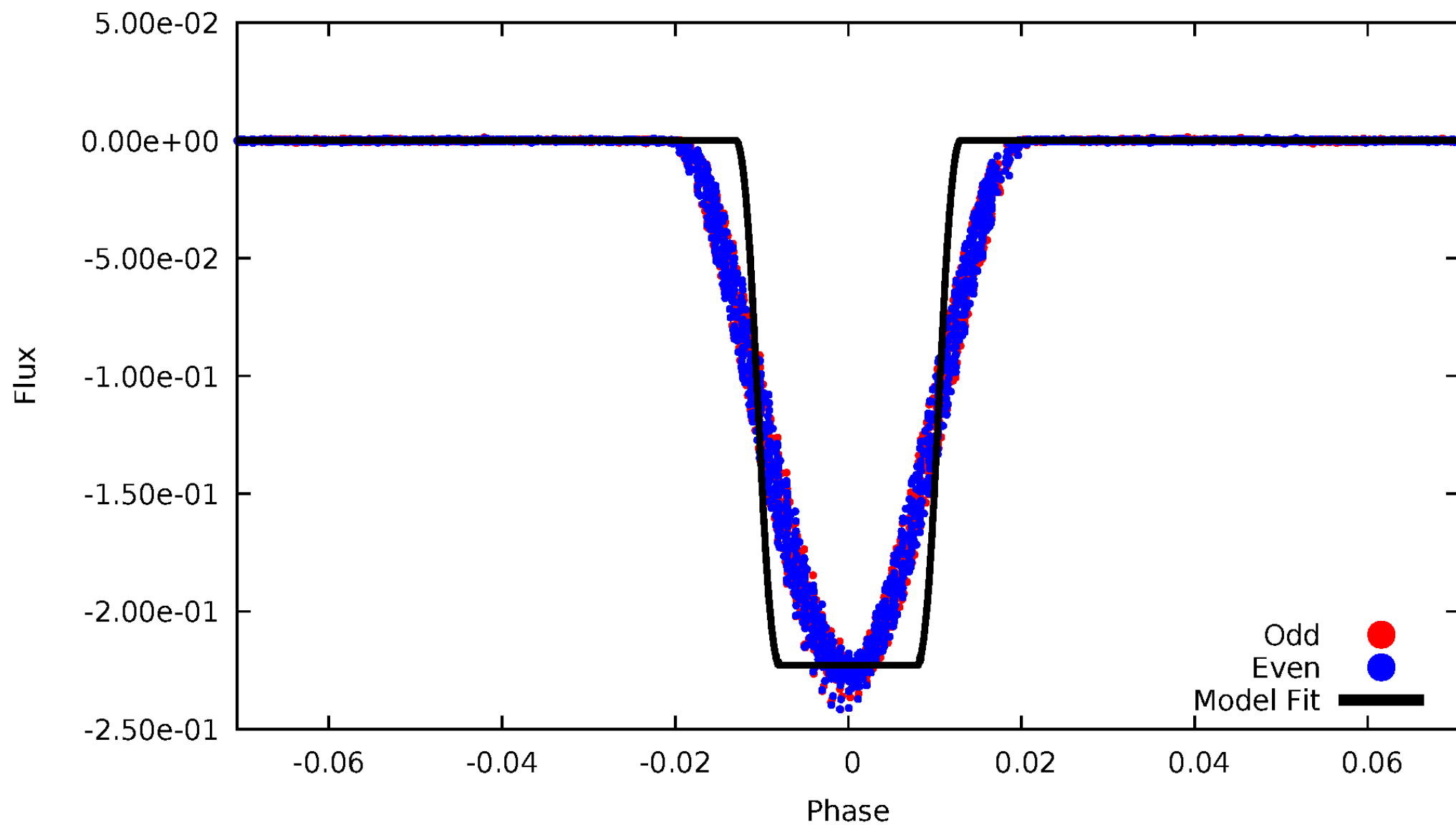
DV Odd/Even

TCE 002973509-01



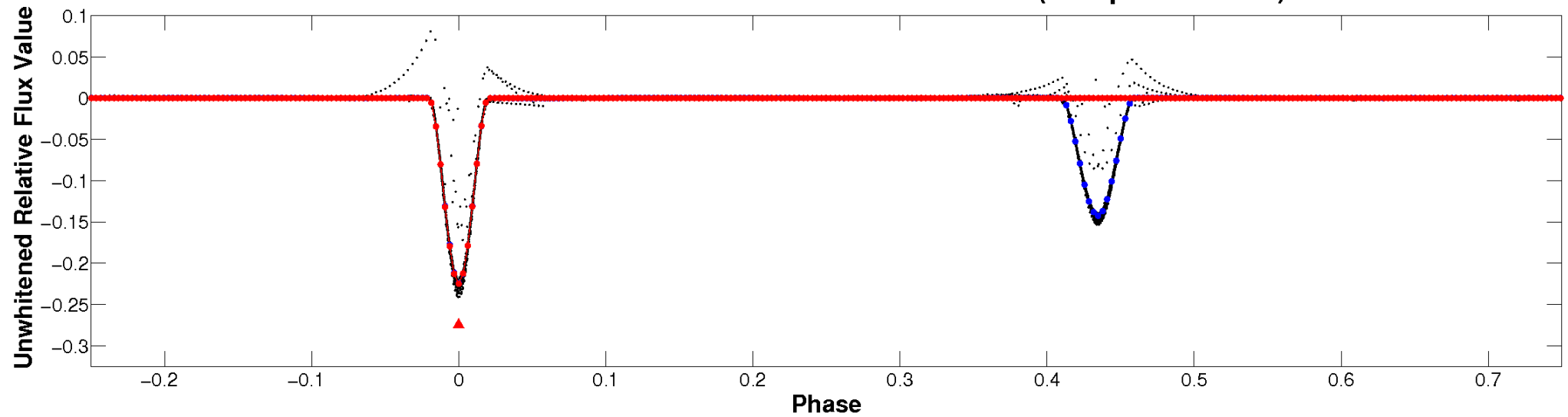
ALT Odd/Even

TCE 002973509-01

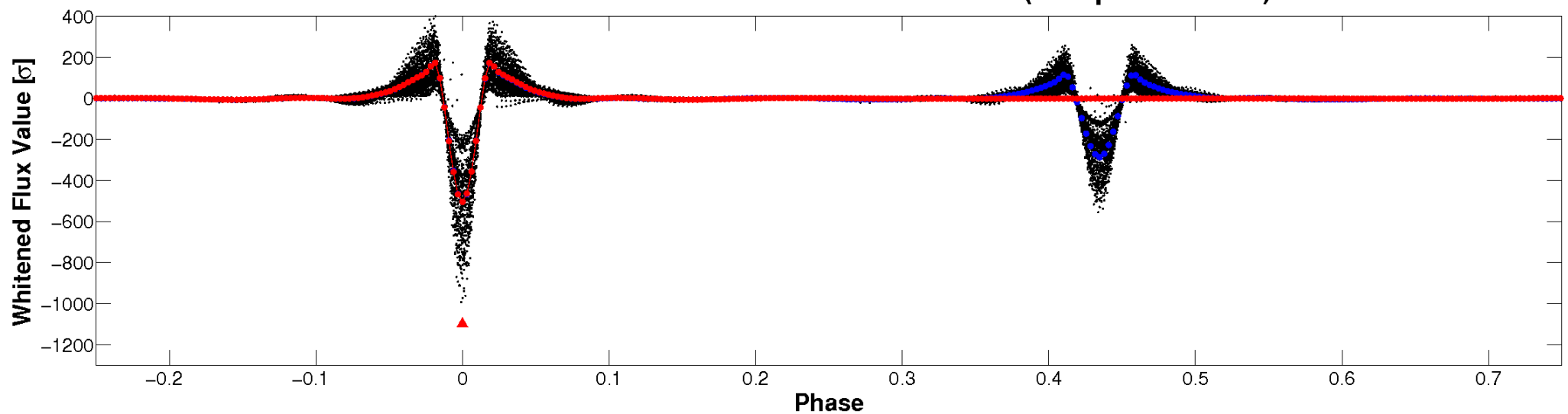


Non-Whitened Vs. Whitened Light Curve

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

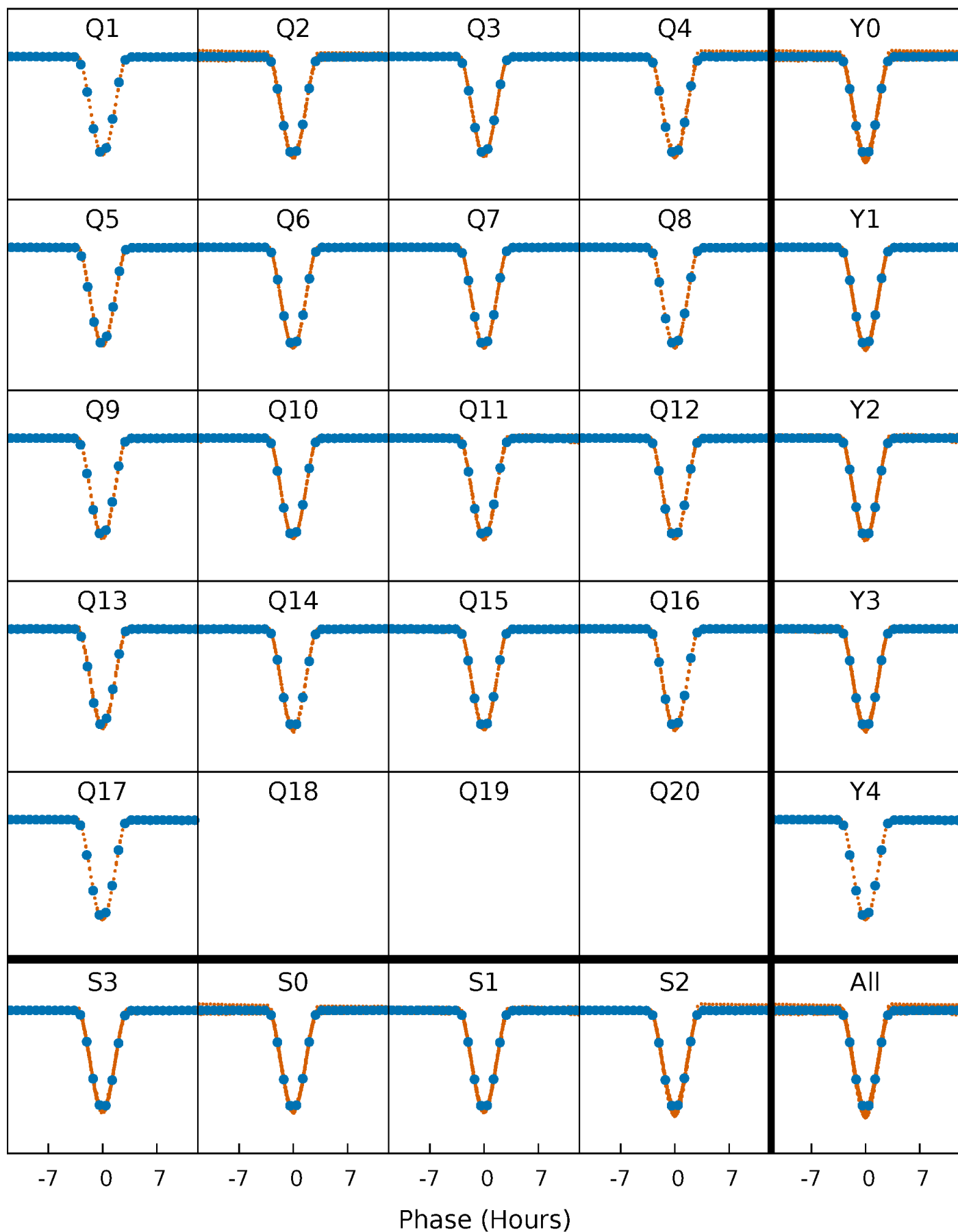


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



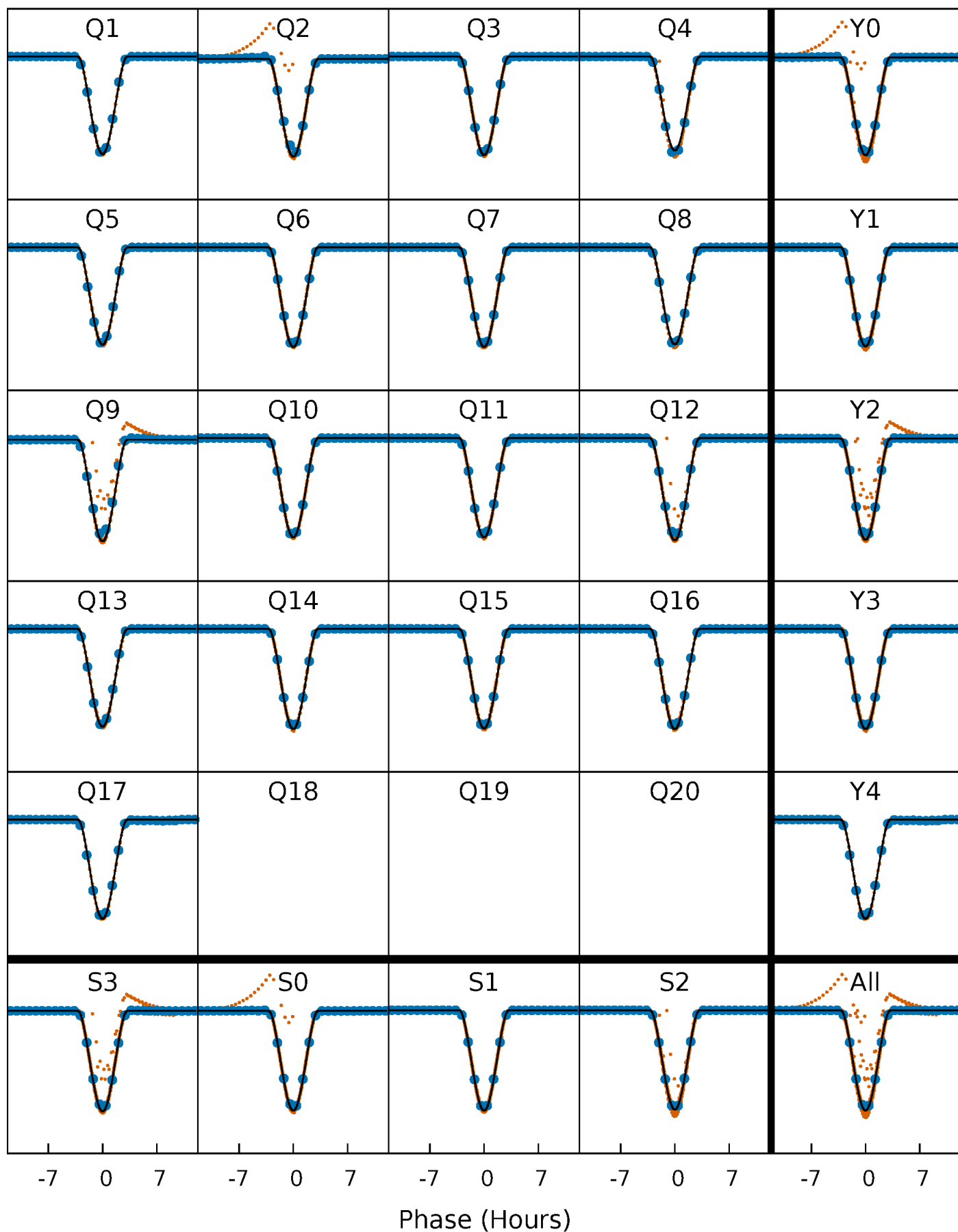
PDC Quarter-Phased Transit Curves

TCE 002973509-01 P= 6.627612 Days $T_0=132.546610$ (BKJD)



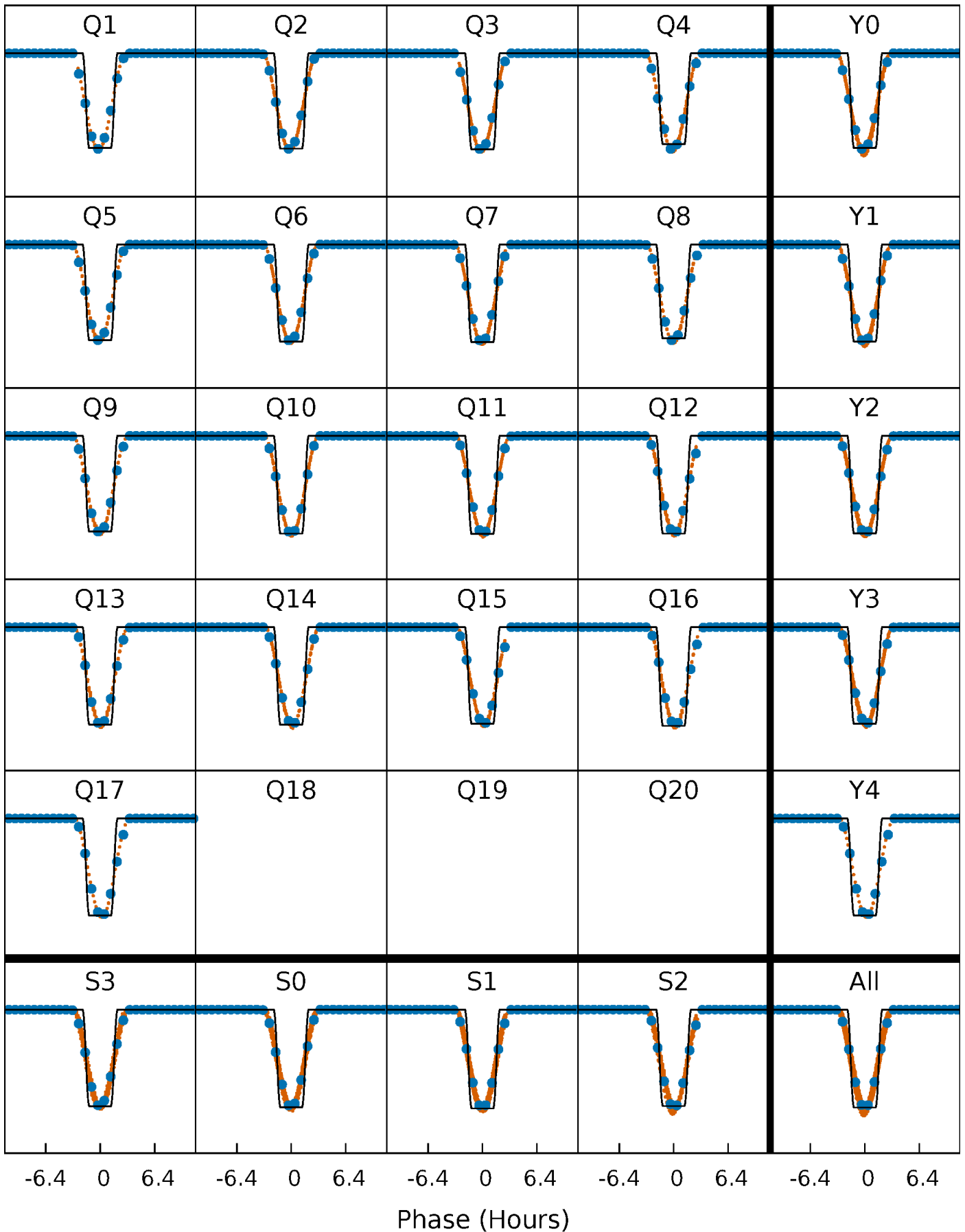
DV Quarter-Phased Transit Curves

TCE 002973509-01 P= 6.627612 Days $T_0=132.546610$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

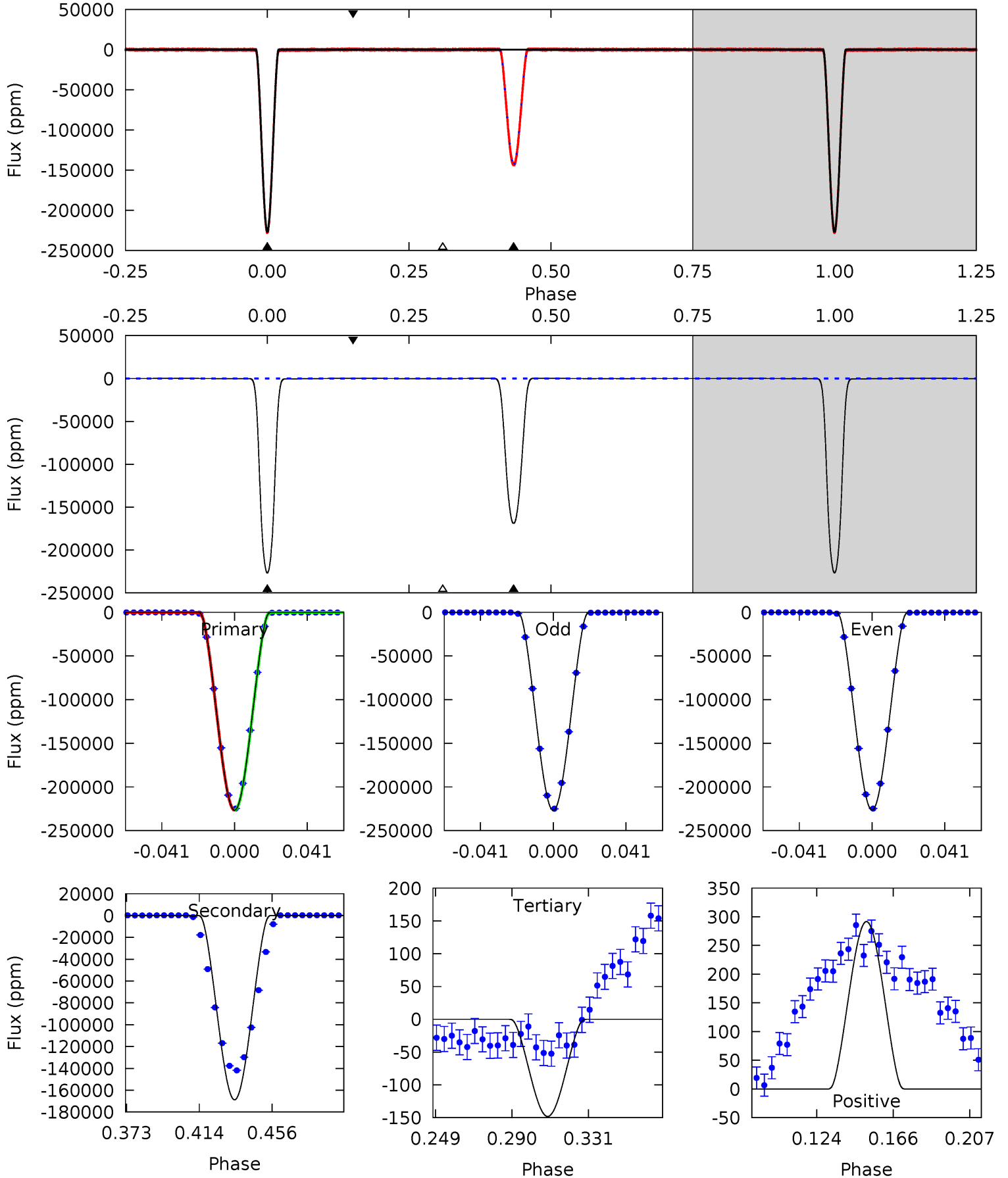
TCE 002973509-01 P= 6.627541 Days $T_0=132.554090$ (BKJD)



DV Model-Shift Uniqueness Test

002973509-01, P = 6.627612 Days, E = 125.918998 Days

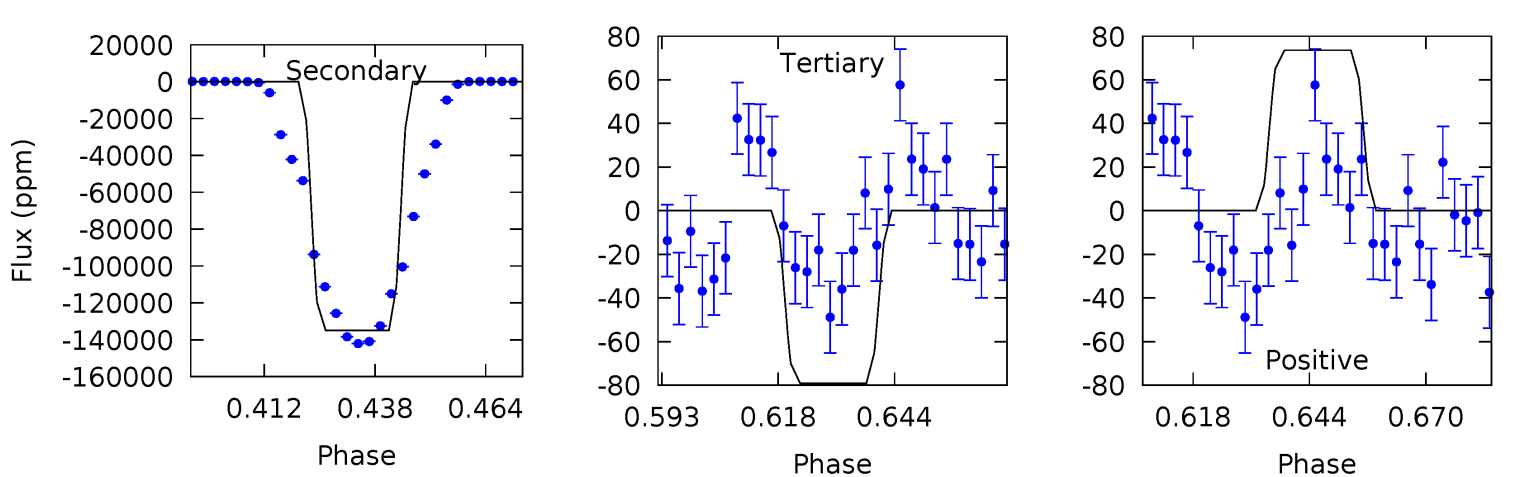
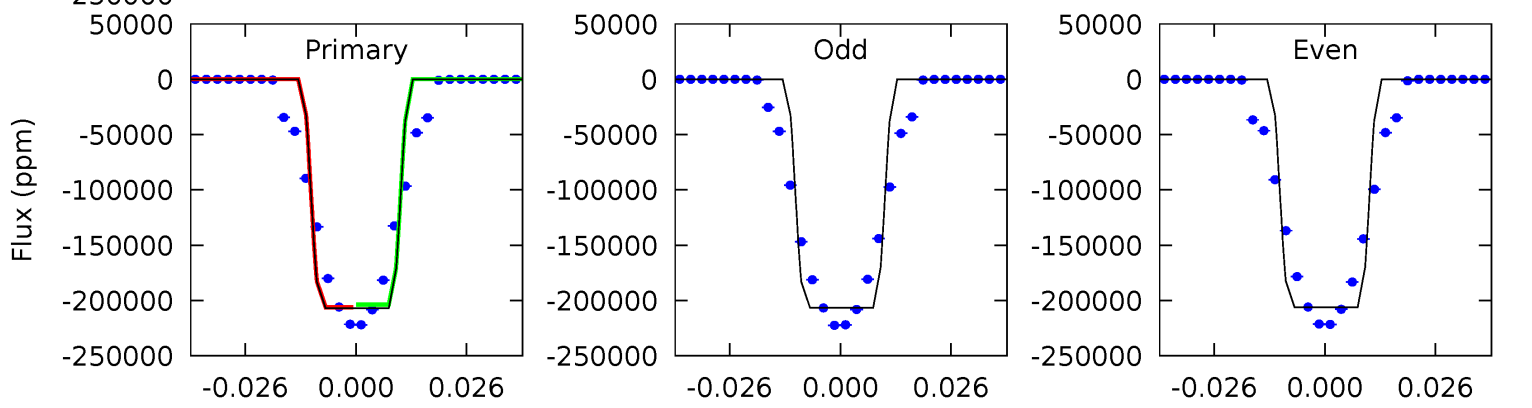
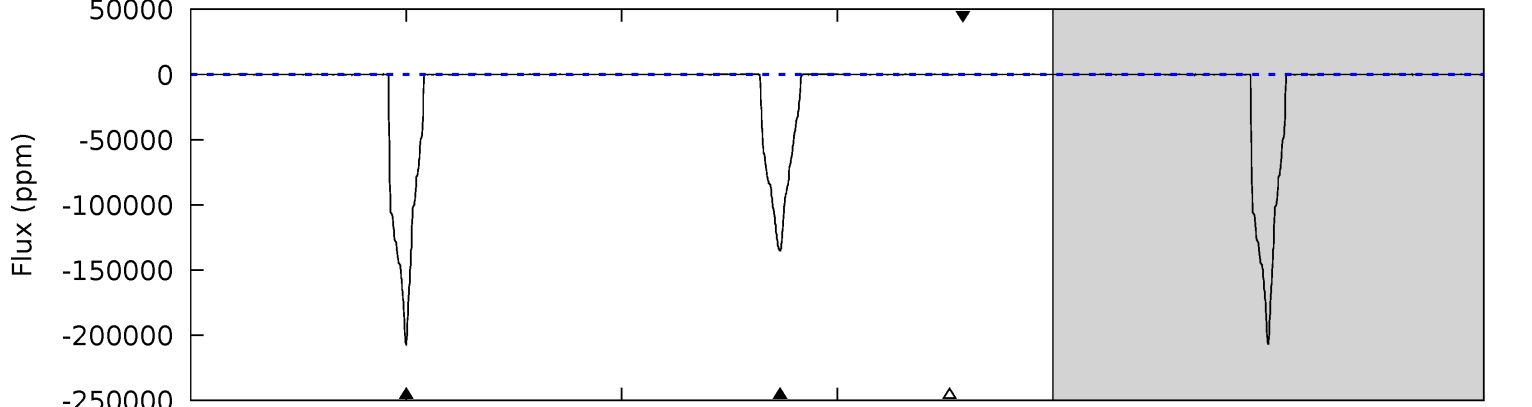
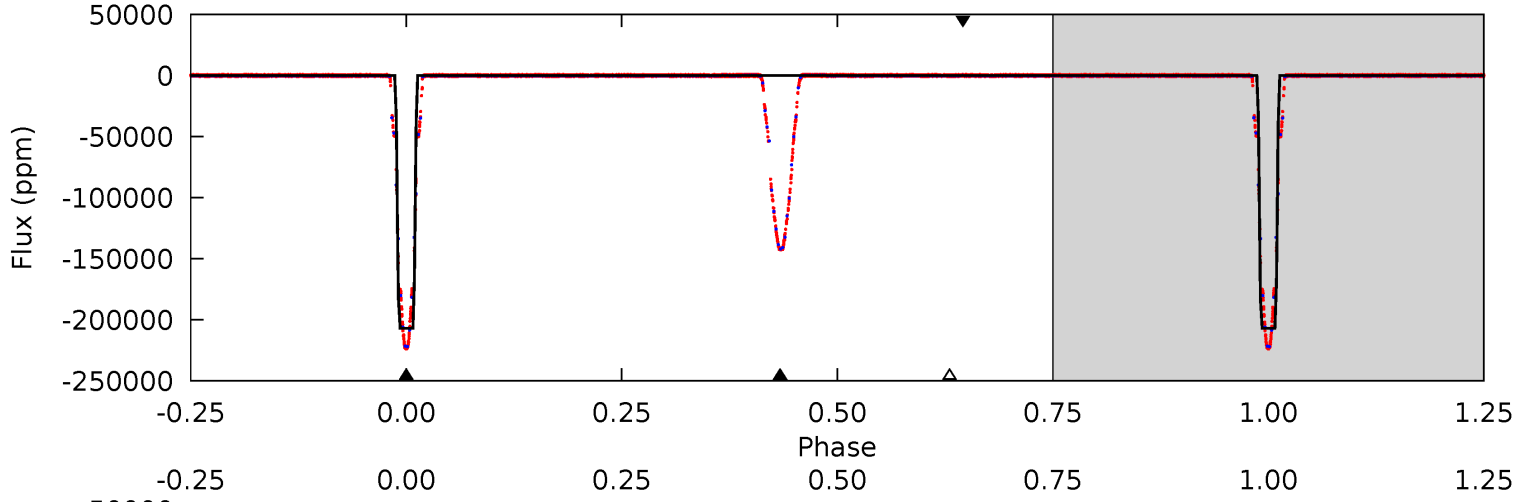
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27867	20754	18.2	35.9	4.75	2.04	15.8	27849	27832	20736	20718	26.6	0.99	0.00	0.16



Alt Model-Shift Uniqueness Test

002973509-01, P = 6.627541 Days, E = 125.926549 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9910	6465	3.79	3.53	4.84	2.23	1.45	9906	9906	6461	6461	11.3	1.00	0.00	0



Stellar Parameters For KIC 002973509

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6316^{+158}_{-189}	$4.231^{+0.180}_{-0.180}$	$-0.120^{+0.250}_{-0.300}$	$1.333^{+0.409}_{-0.273}$	$1.102^{+0.182}_{-0.136}$	$0.655^{+0.588}_{-0.330}$
	+3%/-3%	+4%/-4%	+208%/-250%	+31%/-20%	+17%/-12%	+90%/-50%
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 002973509-01 / KOI 6300.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-168812±8	$83.04^{+16.04}_{-9.38}$	1680^{+128}_{-113}	5595^{+133}_{-151}	81^{+22}_{-21}
Alt.	-134969±21	$67.51^{+11.59}_{-7.82}$	1675^{+122}_{-116}	5771^{+151}_{-161}	95^{+26}_{-24}

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

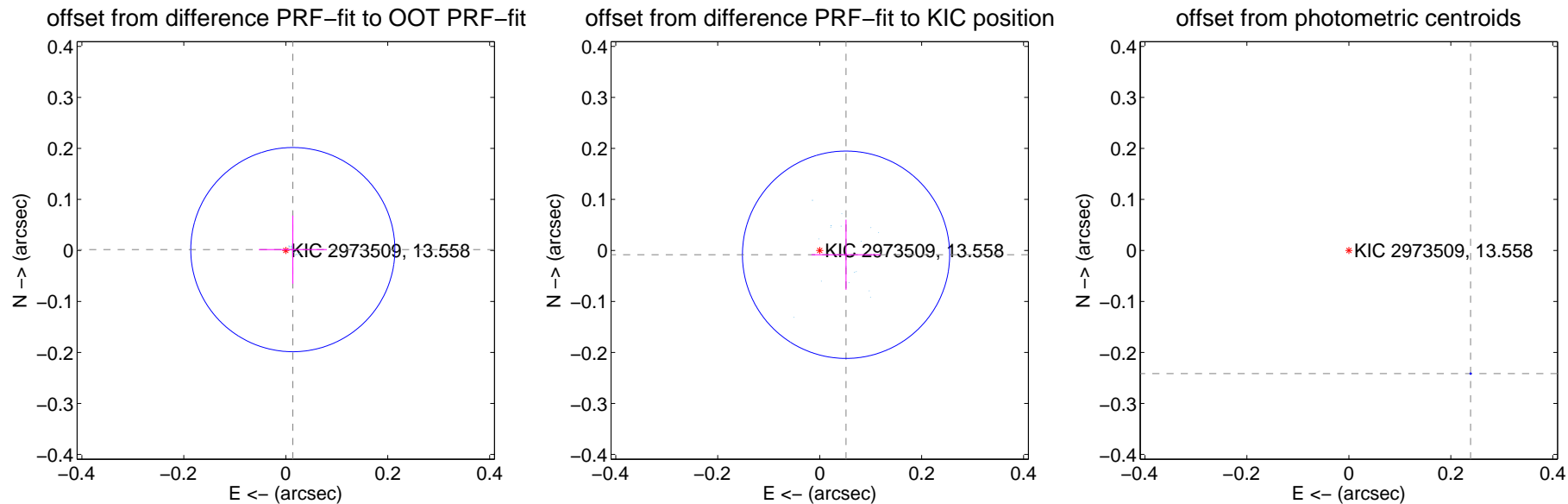
DV Centroid Data

Supplemental centroid analysis for 002973509-01. Kepler magnitude: 13.56. Transit SNR 11771.30

There are 17 quarters with good PRF difference image offsets

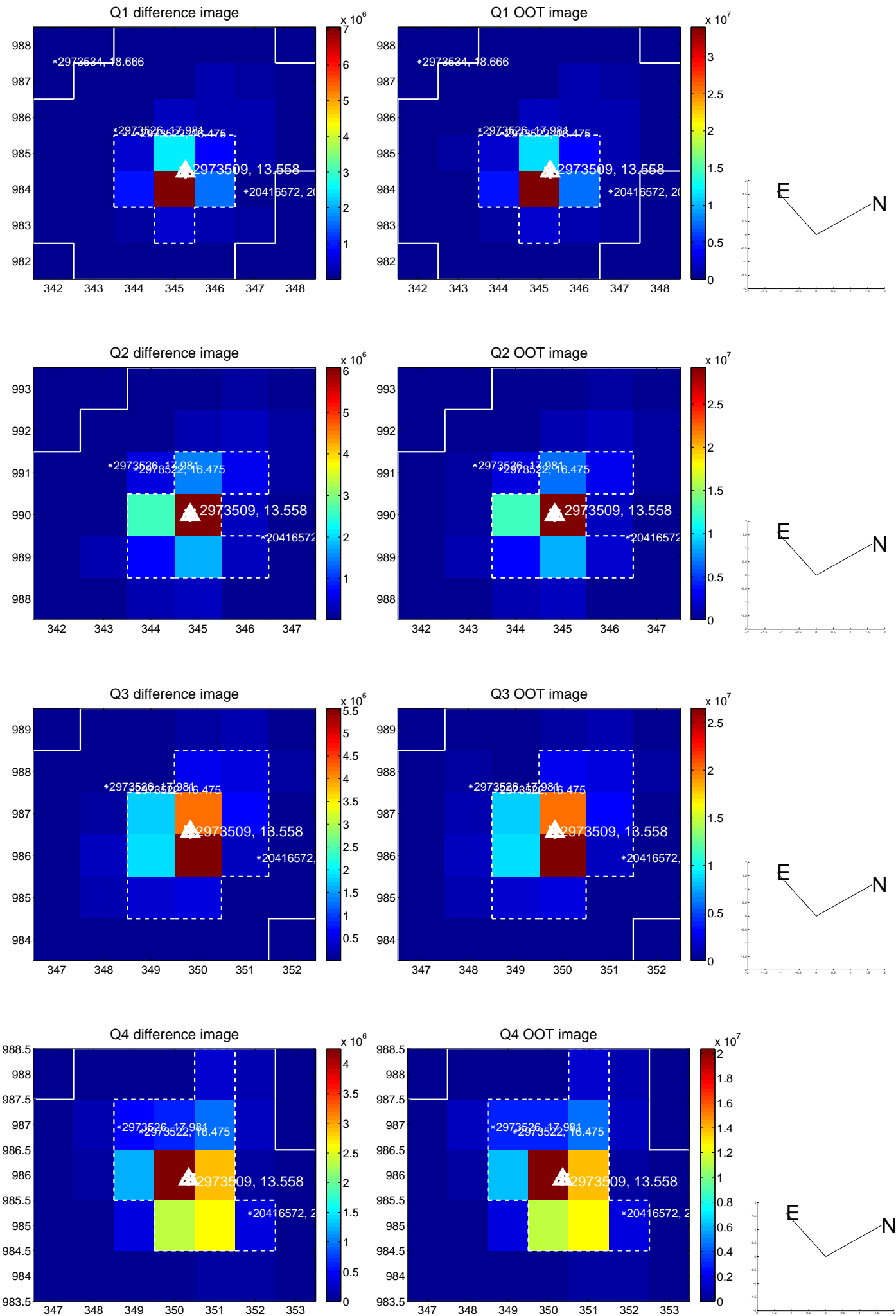
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.014 ± 0.067	0.21	-0.014 ± 0.067	0.002 ± 0.067
PRF-fit source offset from KIC position	0.052 ± 0.068	0.77	-0.052 ± 0.068	-0.008 ± 0.069
photometric centroid source offset	0.34 ± 0.00	695.48	-0.24 ± 0.00	-0.24 ± 0.00

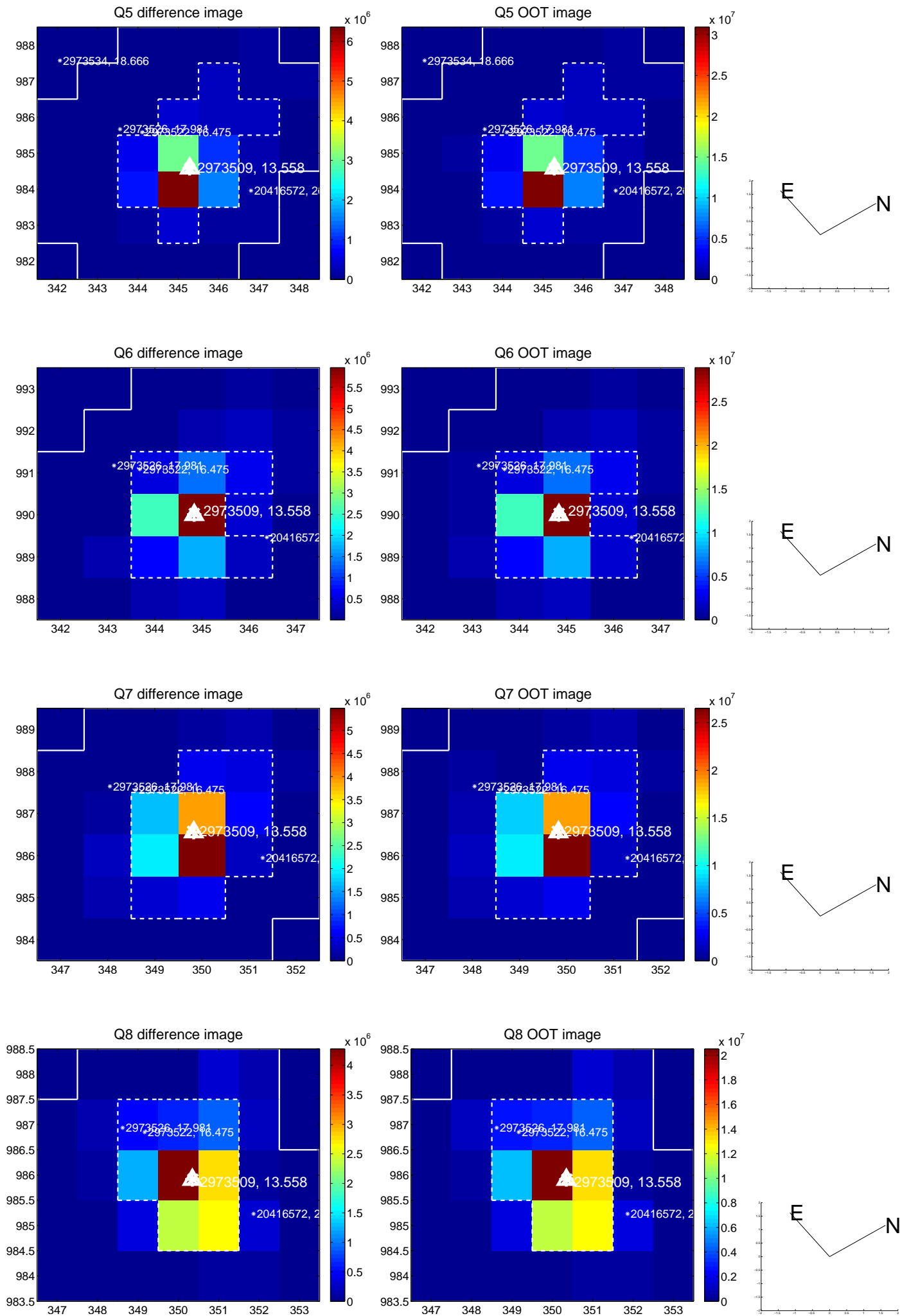


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

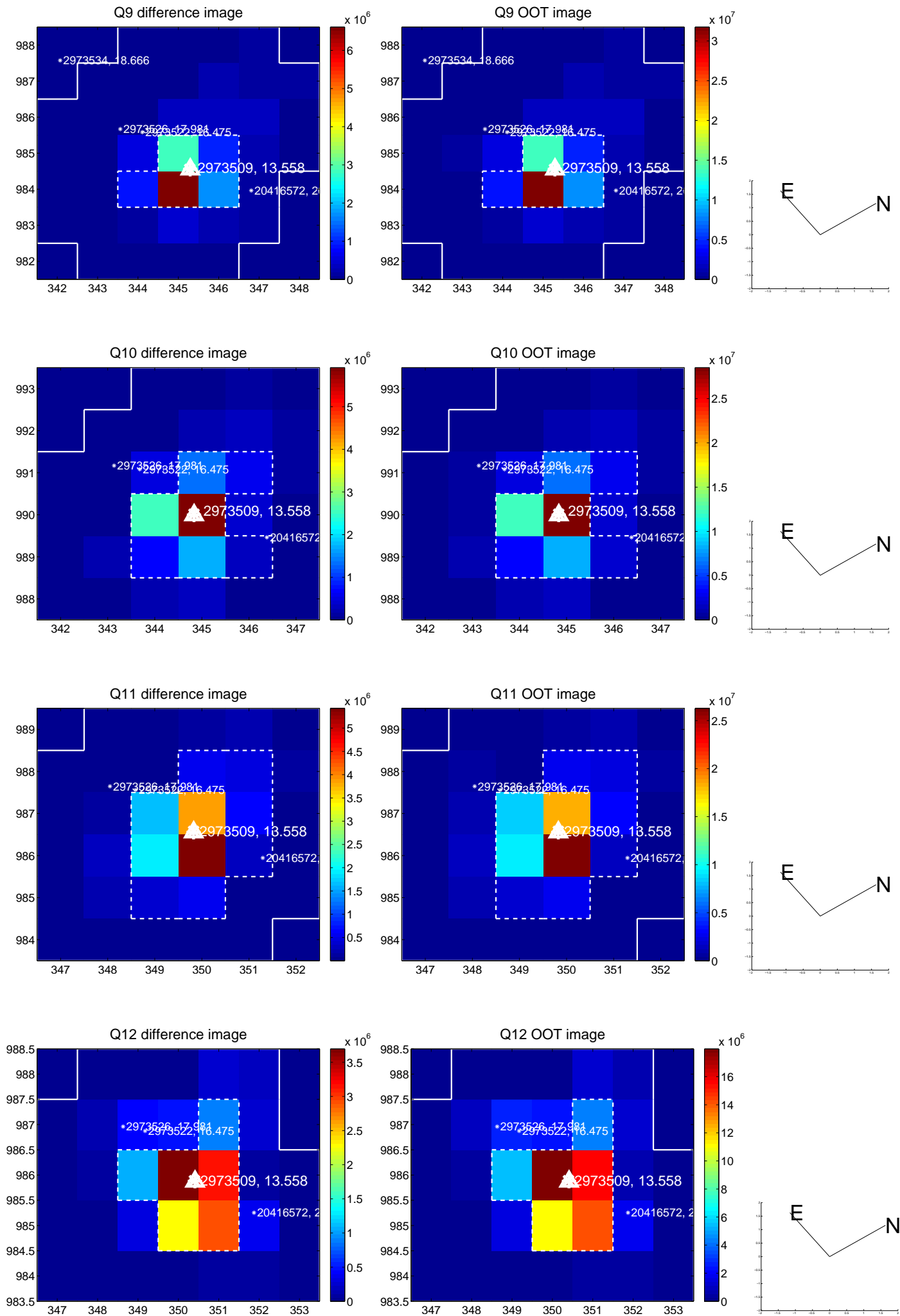
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



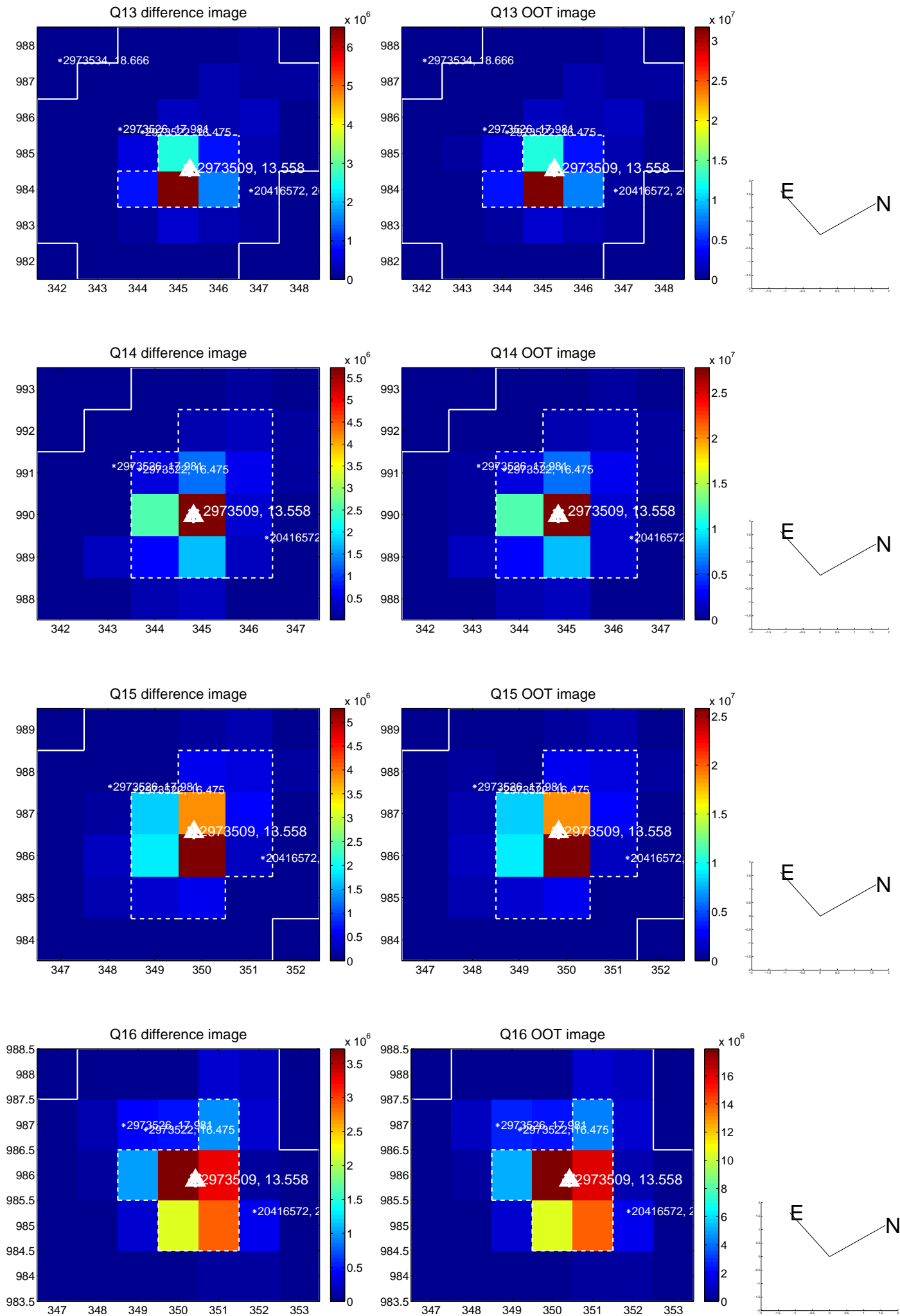
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



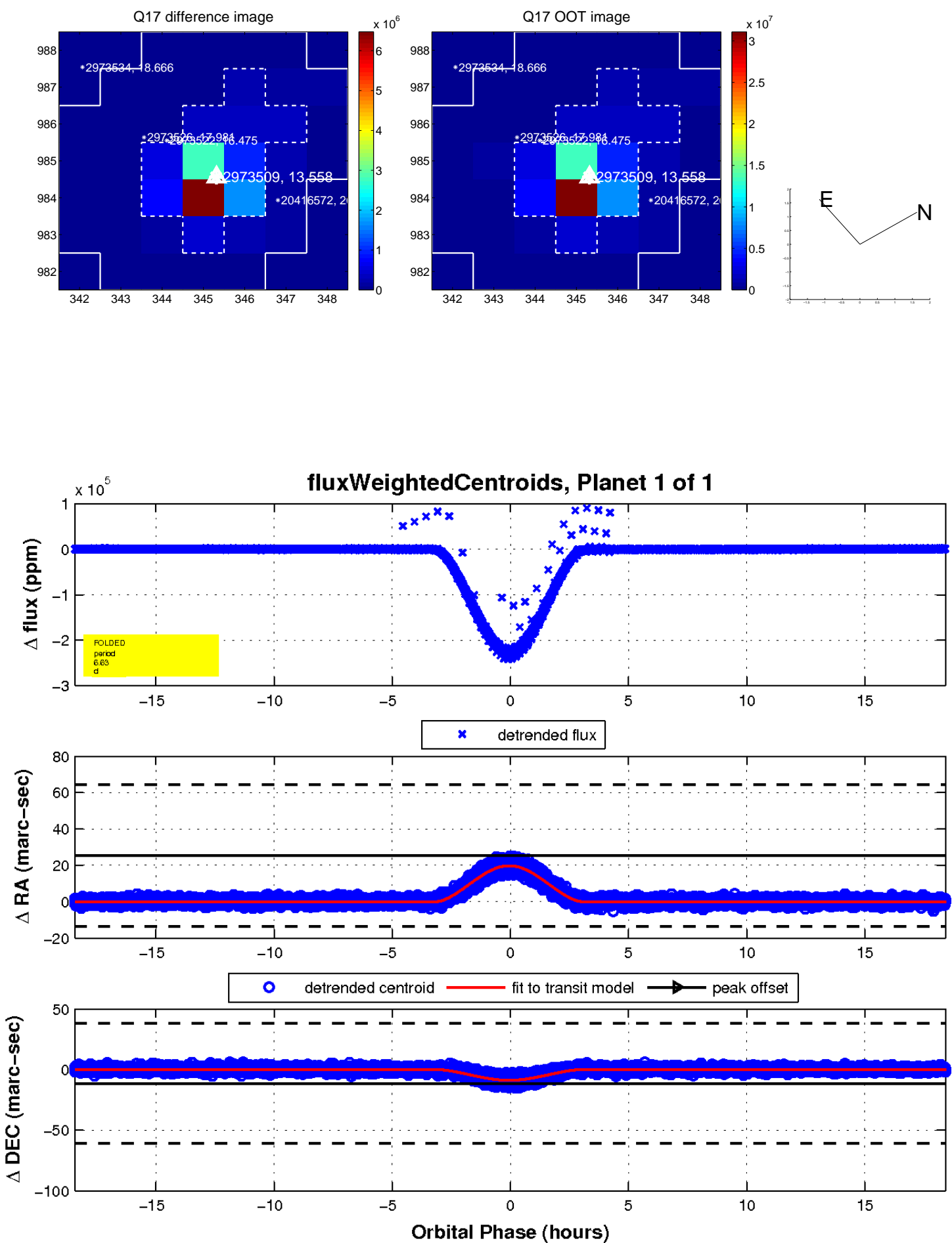
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

