

KIC 002850321

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})
002850321-01	OBS	4956.01	25.220951	143.657385	255.8	43.023	10.7	16.9	1.72	6628	5.37	158.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002850321-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_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.

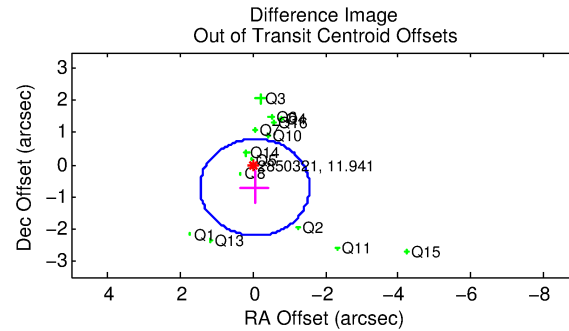
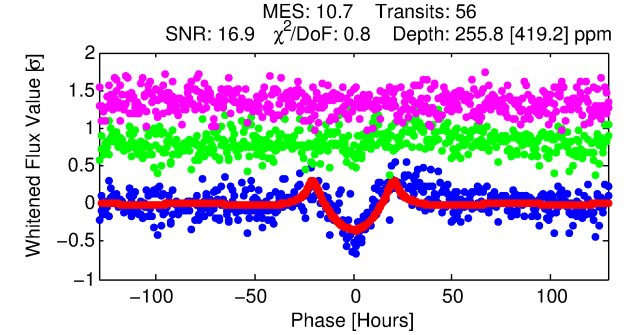
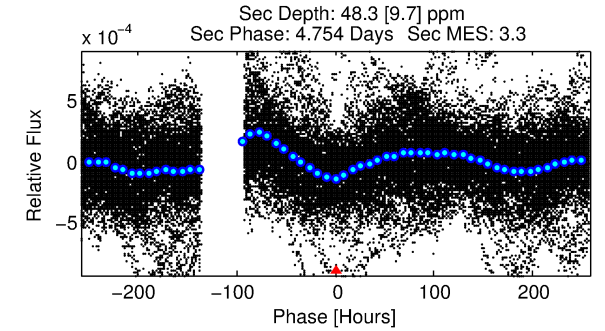
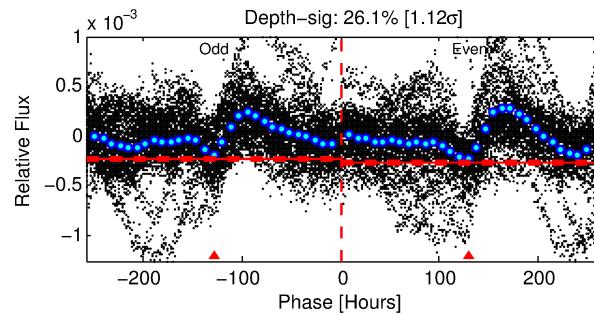
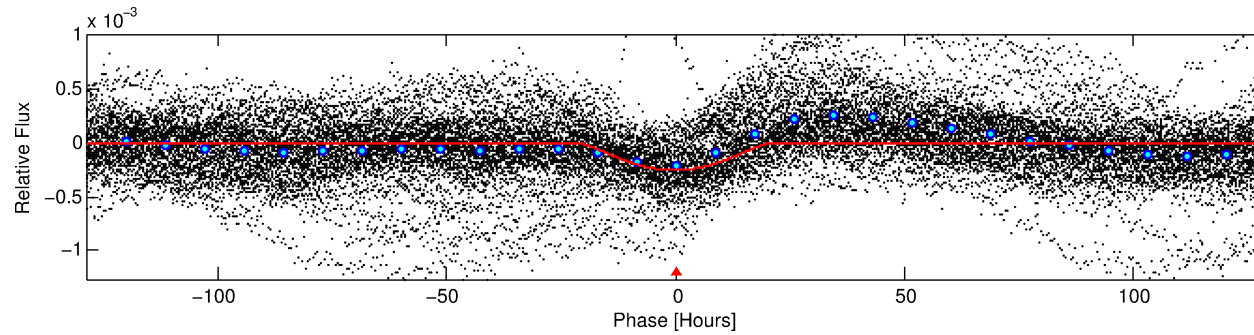
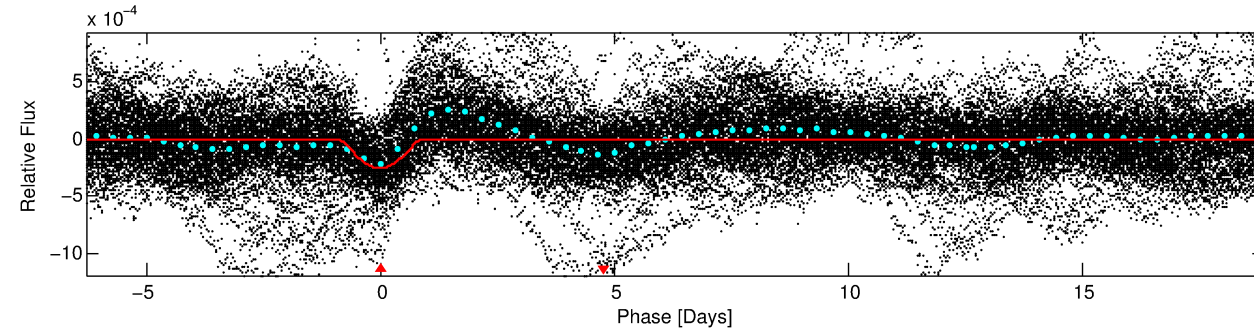
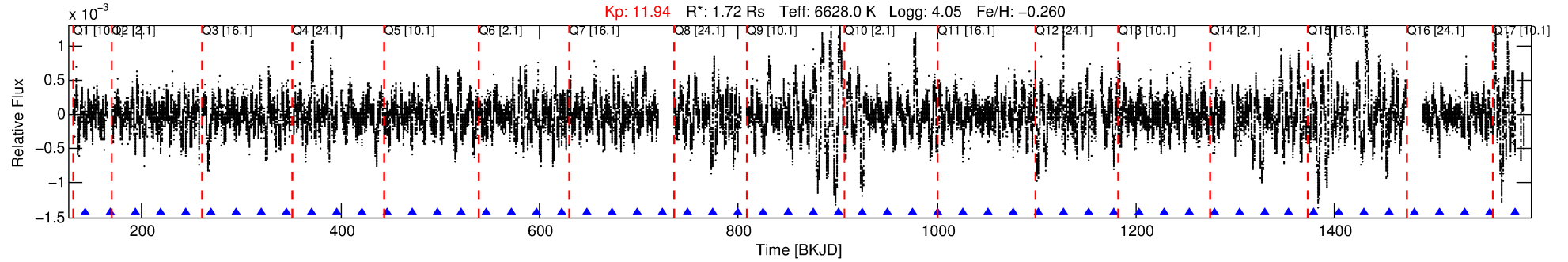
Ephemeris Match Information For 002850321-01

No Significant Match Found

DV One-Page Summary

KIC: 2850321 Candidate: 1 of 1 Period: 25.221 d

KOI: K04956.01 Corr: 0.979



DV Fit Results:

Period = 25.22095 [0.00091] d
Epoch = 143.6574 [0.0290] BKJD
 $R_p/R^* = 0.0286$ [0.0139]
 $a/R^* = 1.48$ [0.09]
 $b = 1.00$ [0.01]
 $S_{\text{eff}} = 158.95$ [60.13]
 $T_{\text{eq}} = 905$ [86] K
 $R_p = 5.37$ [2.93] R_{e}
 $a = 0.1795$ [0.0413] AU
 $A_g = 29.61$ [31.33] [0.91 σ]
 $T_{\text{eff}} = 3266$ [817] K [2.87 σ]

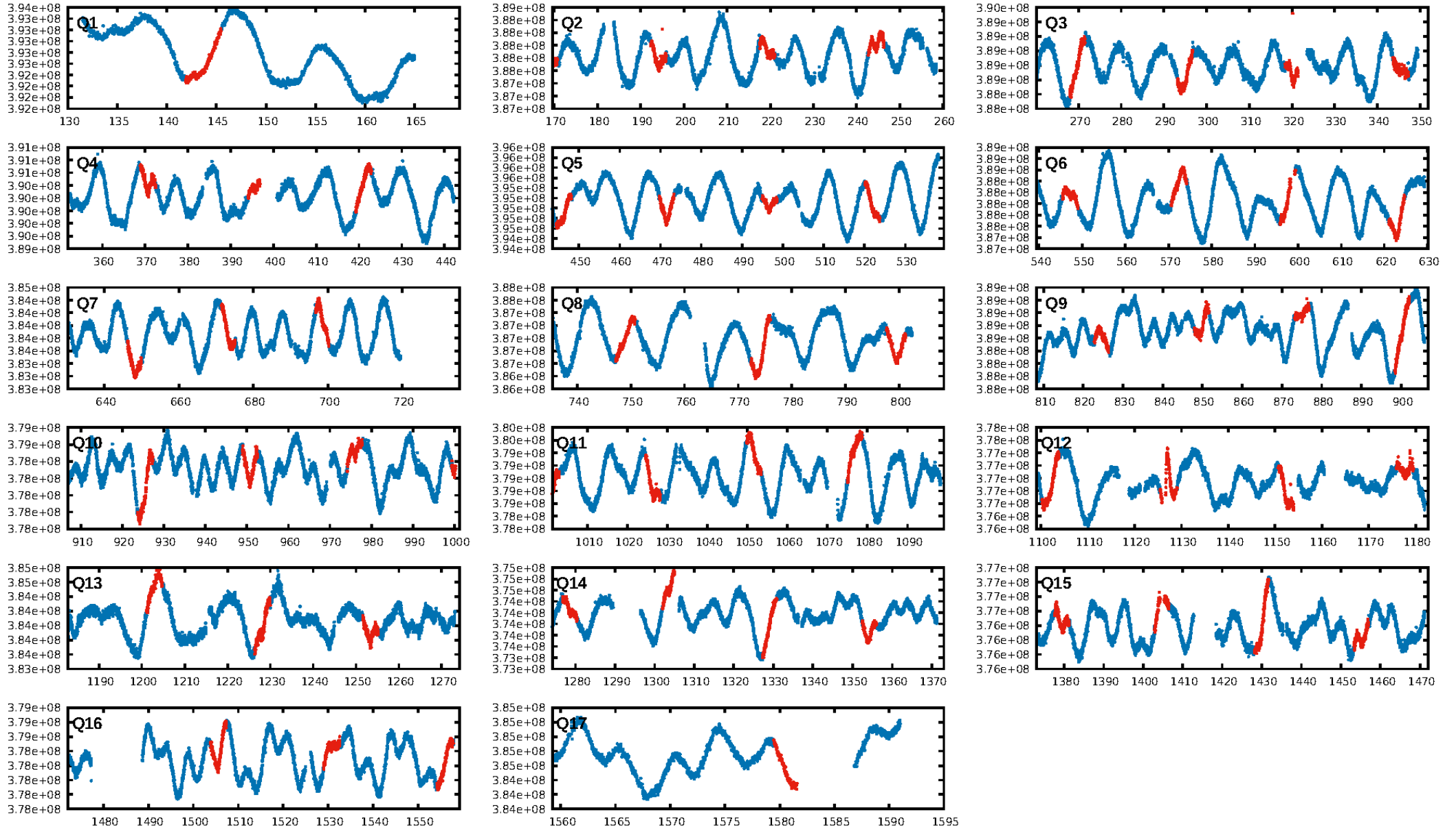
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.52e-27
RollingBand-fgt: 1.00 [54/54]
GhostDiagnostic-chr: 0.7118
Centroid-sig: 35.0%
Centroid-so: 0.180 arcsec [0.93 σ]
OotOffset-rm: 0.710 arcsec [1.42 σ]
KicOffset-rm: 0.756 arcsec [1.63 σ]
OotOffset-st: 4/4/3/3 [14]
KicOffset-st: 4/4/3/3 [14]
DiffImageQuality-fgm: 0.64 [9/14]
DiffImageOverlap-fno: 1.00 [15/15]

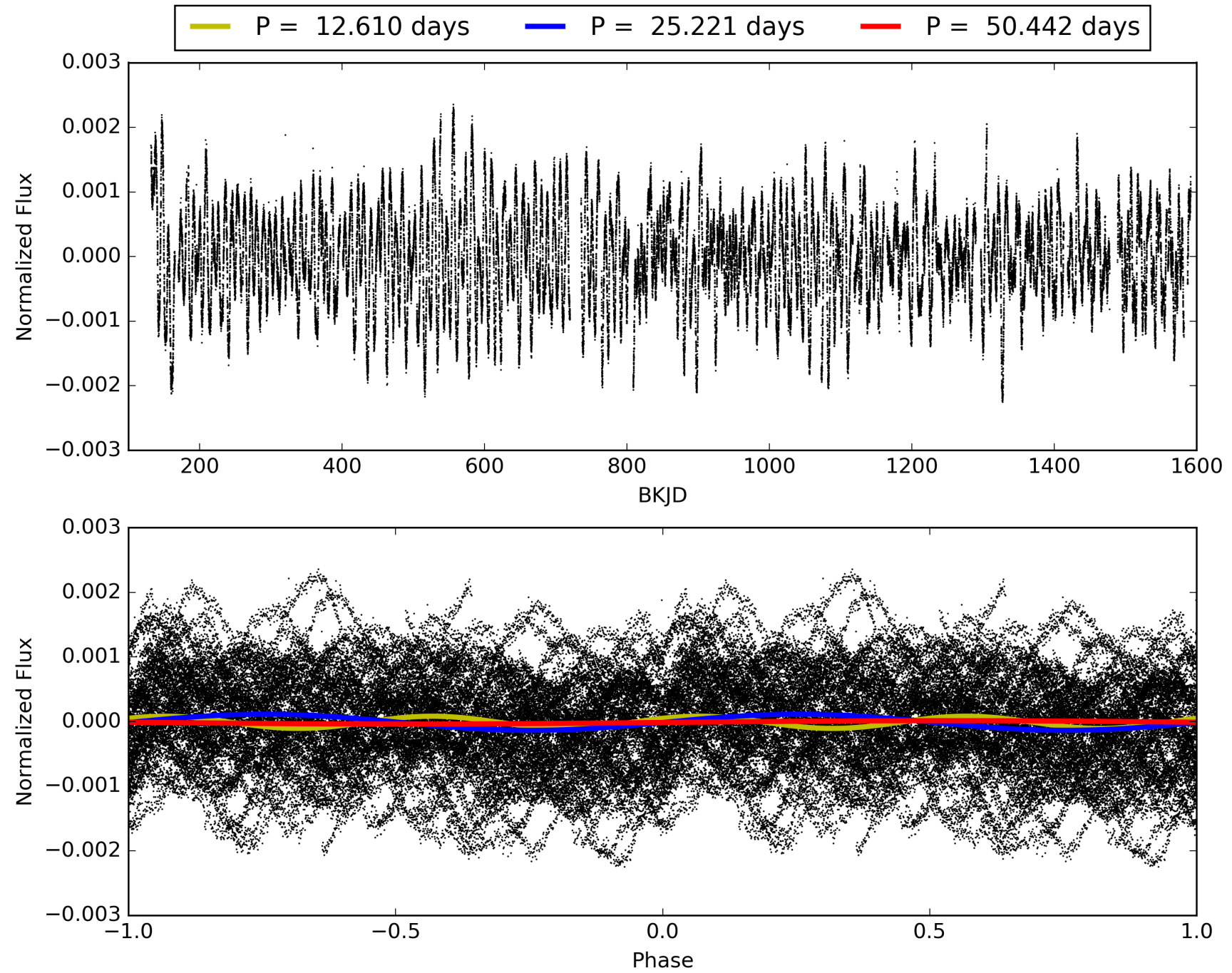
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:23:41 Z

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

TCE 002850321-01, PDC Light Curves

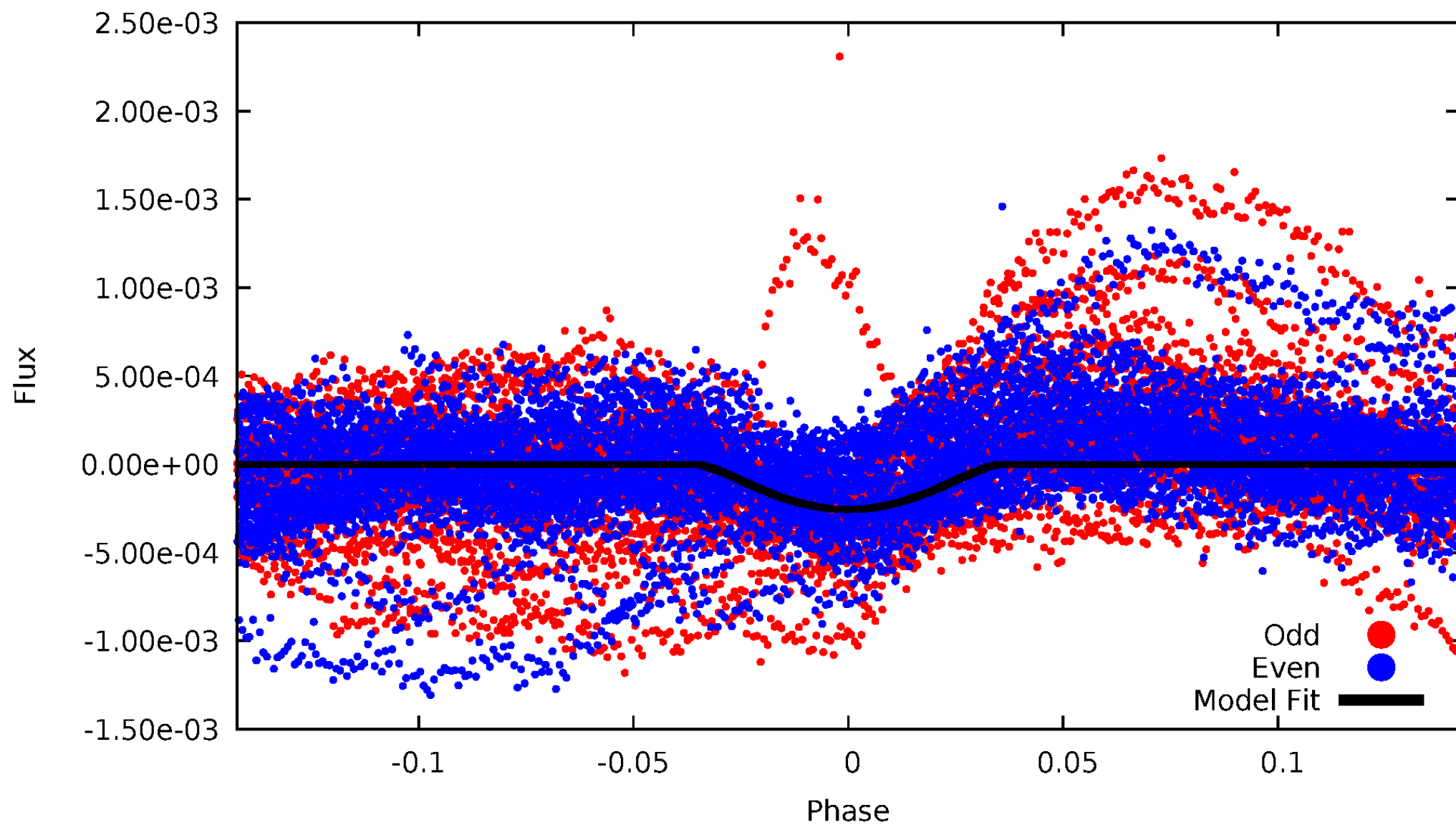


TCE 002850321-01



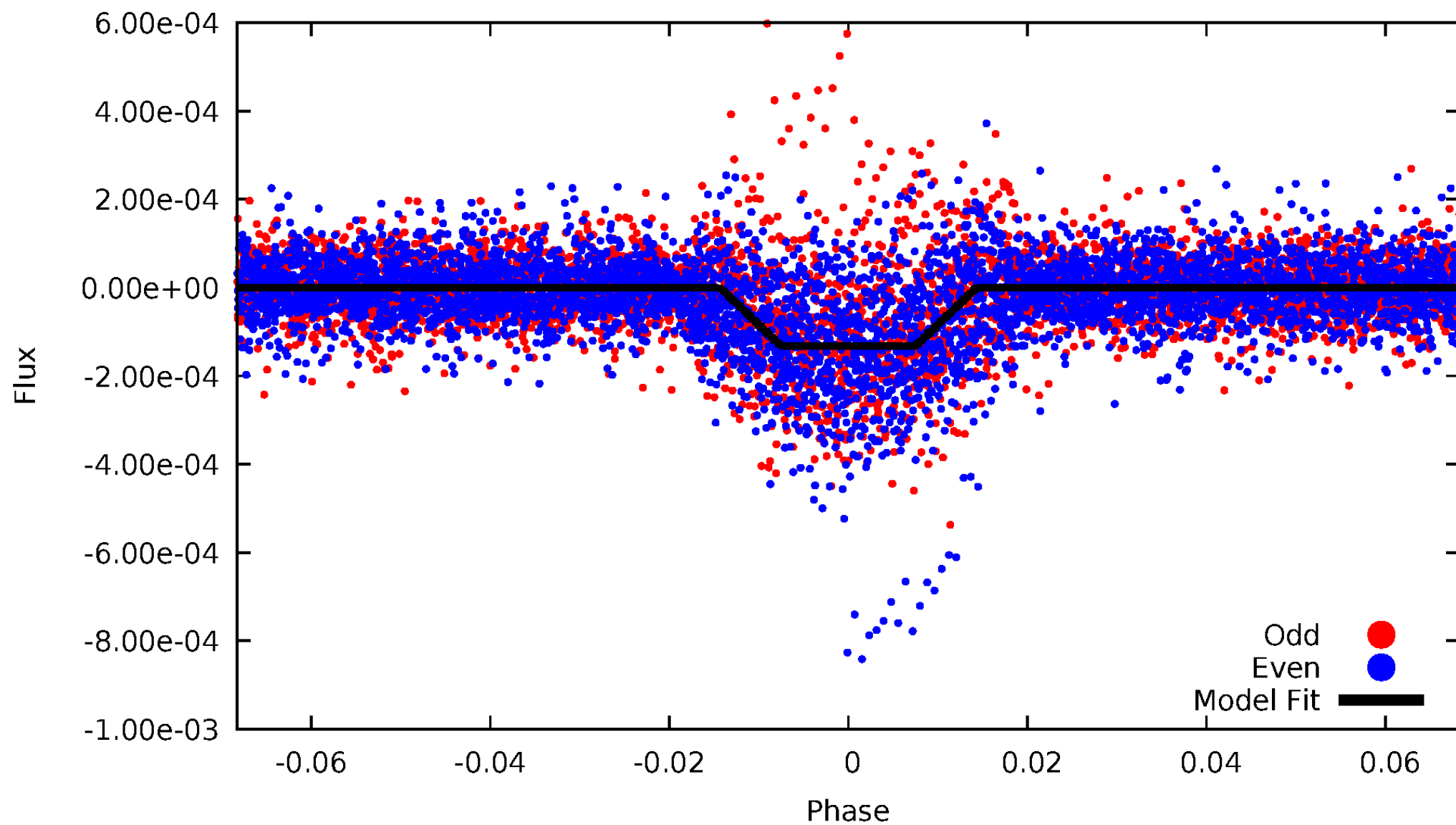
DV Odd/Even

TCE 002850321-01

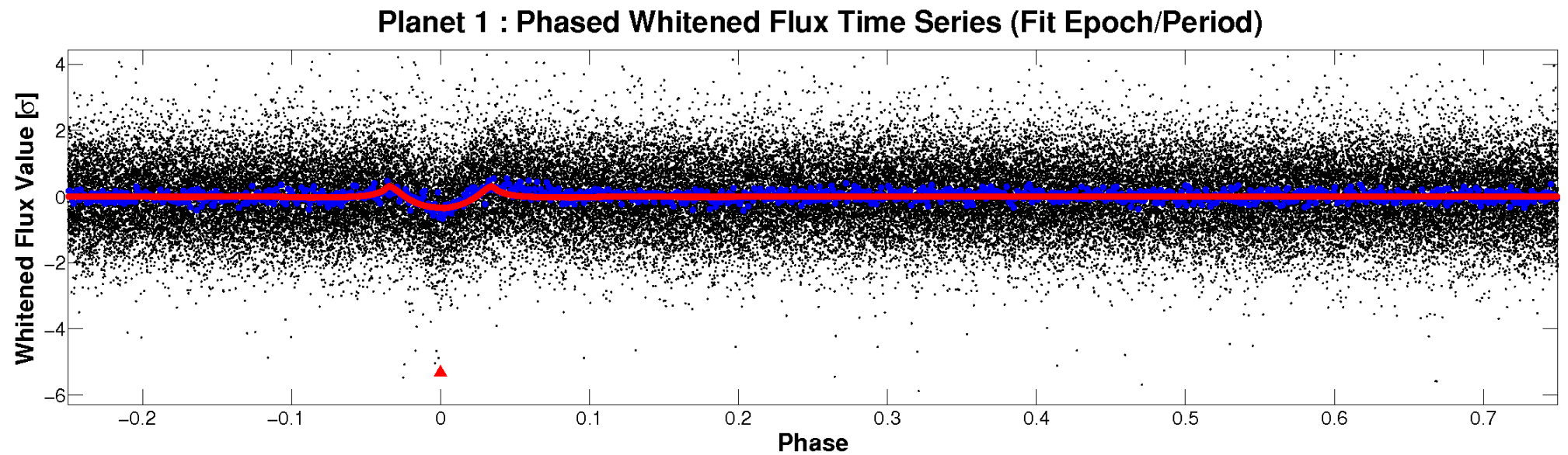
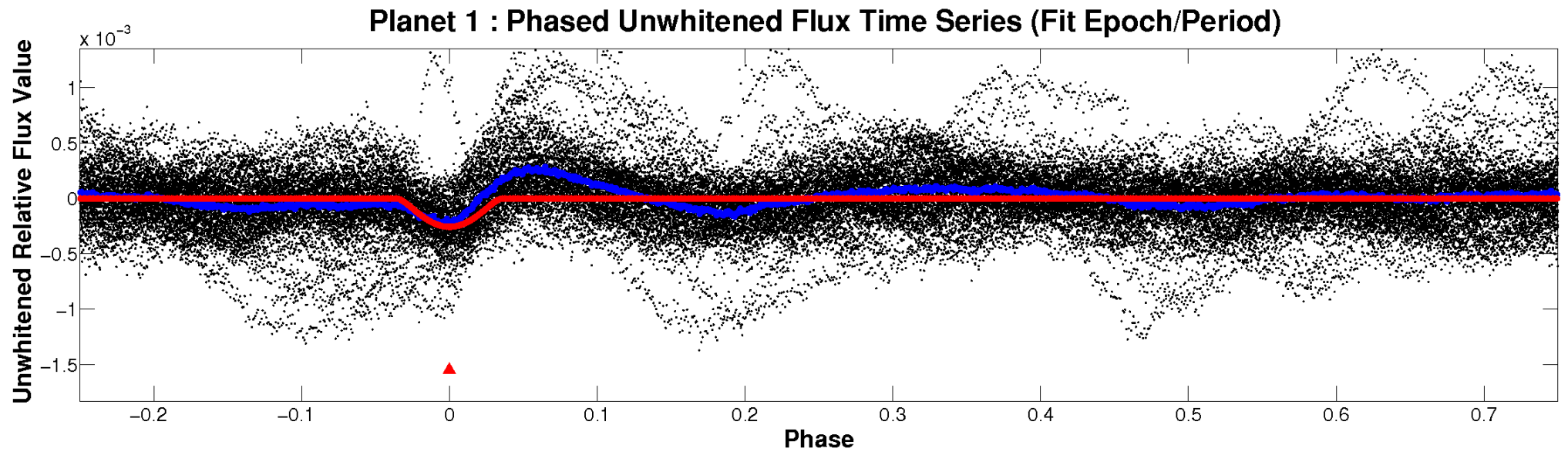


ALT Odd/Even

TCE 002850321-01

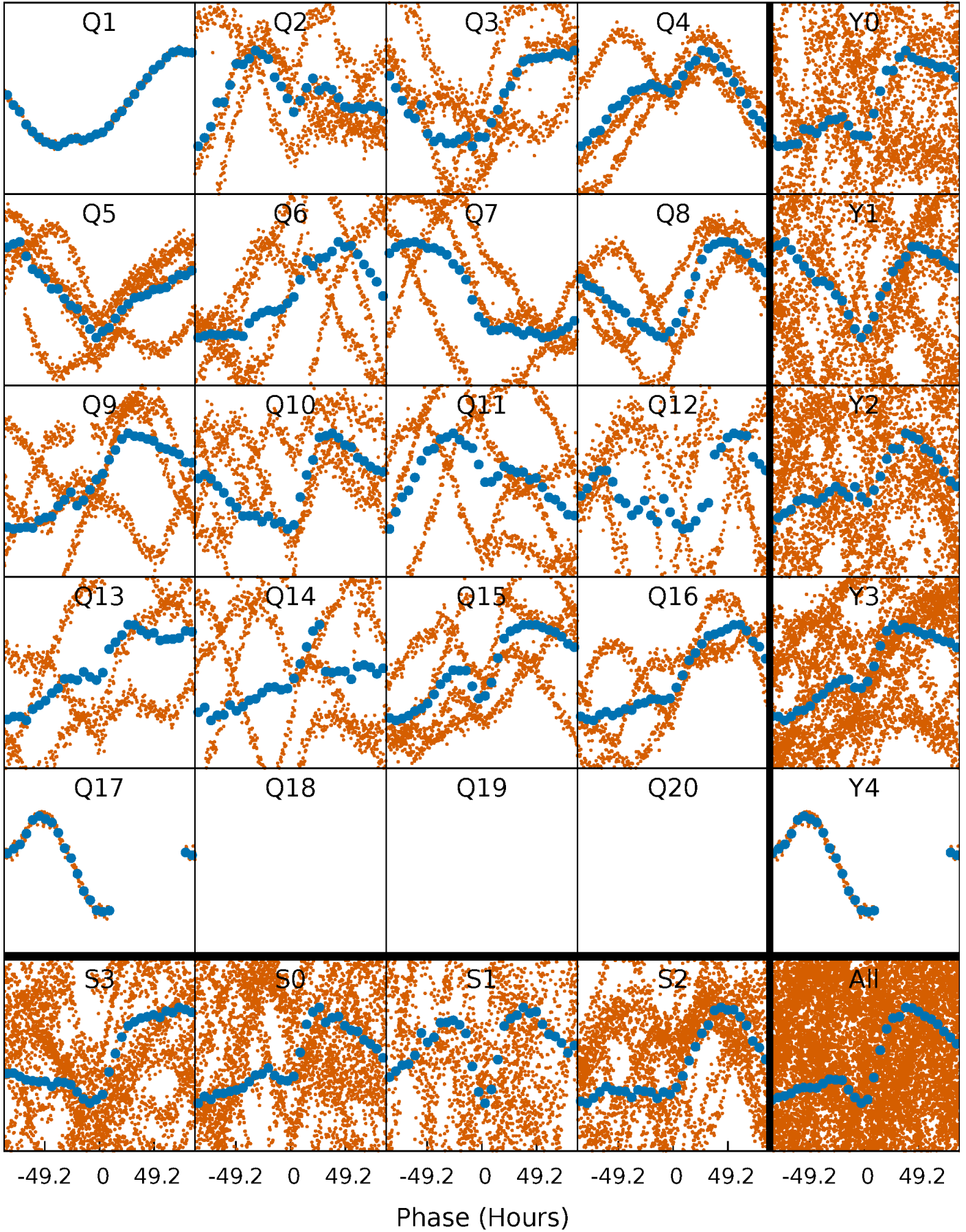


Non-Whitened Vs. Whitened Light Curve



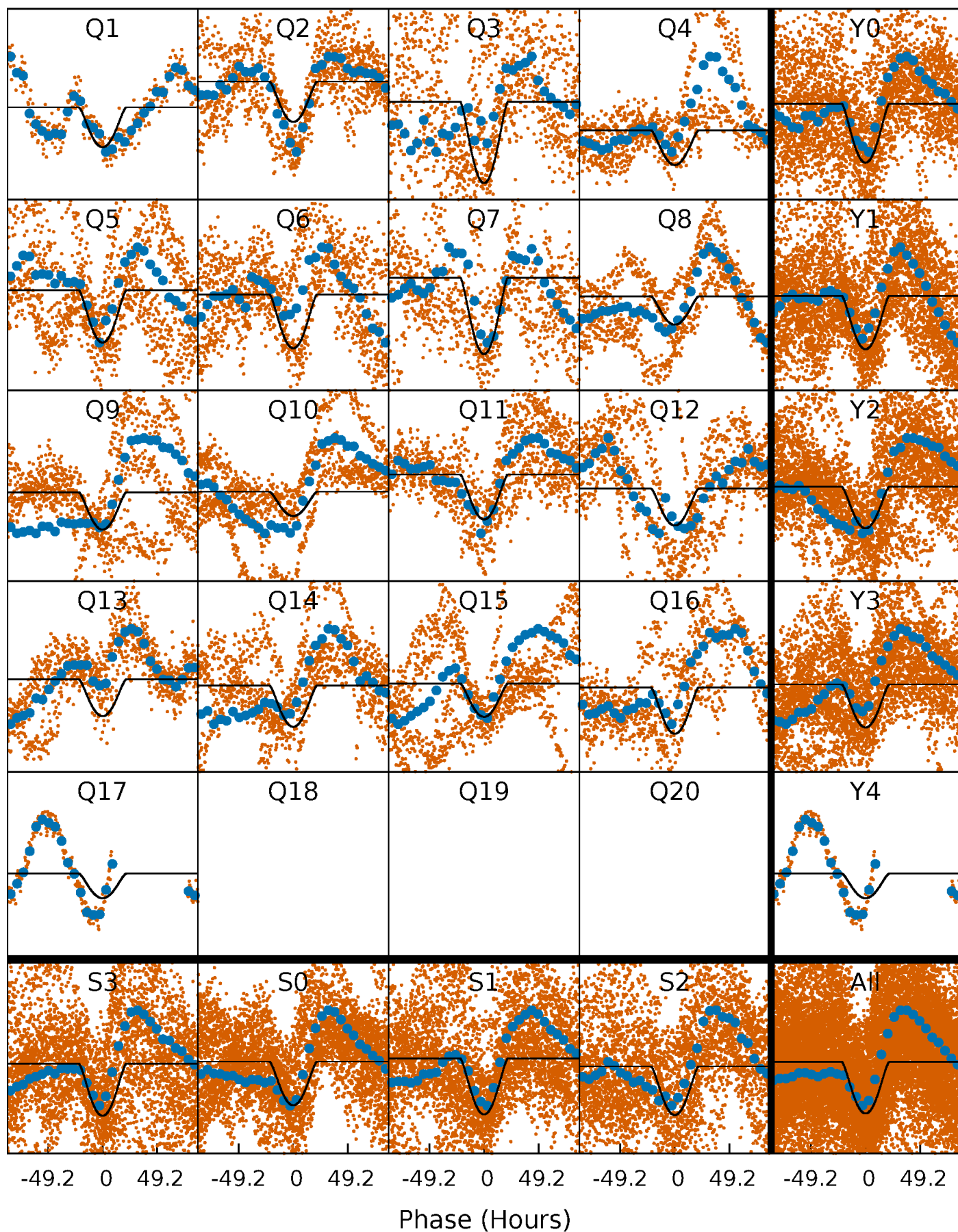
PDC Quarter-Phased Transit Curves

TCE 002850321-01 P= 25.220951 Days $T_0=143.657385$ (BKJD)



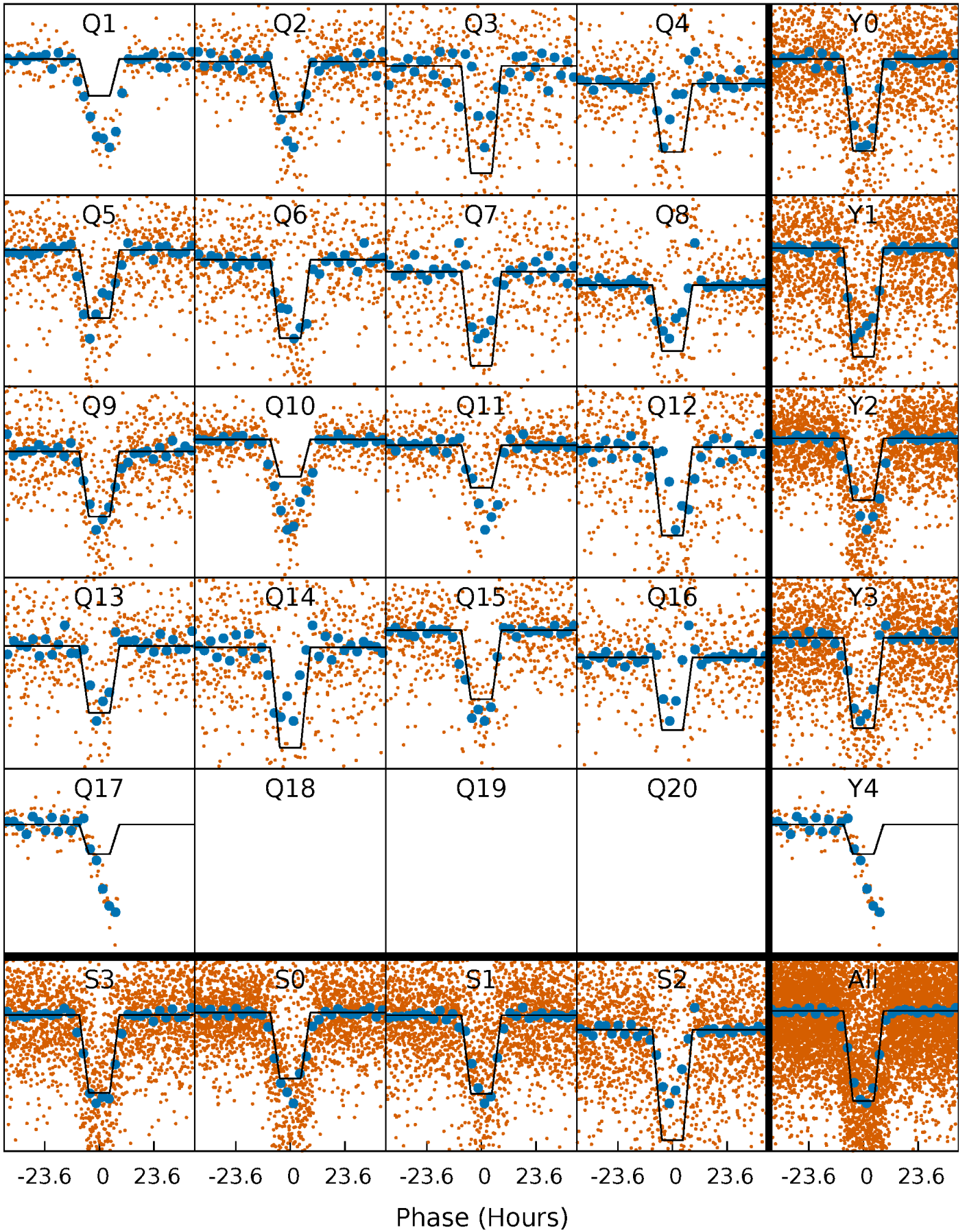
DV Quarter-Phased Transit Curves

TCE 002850321-01 P= 25.220951 Days $T_0=143.657385$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

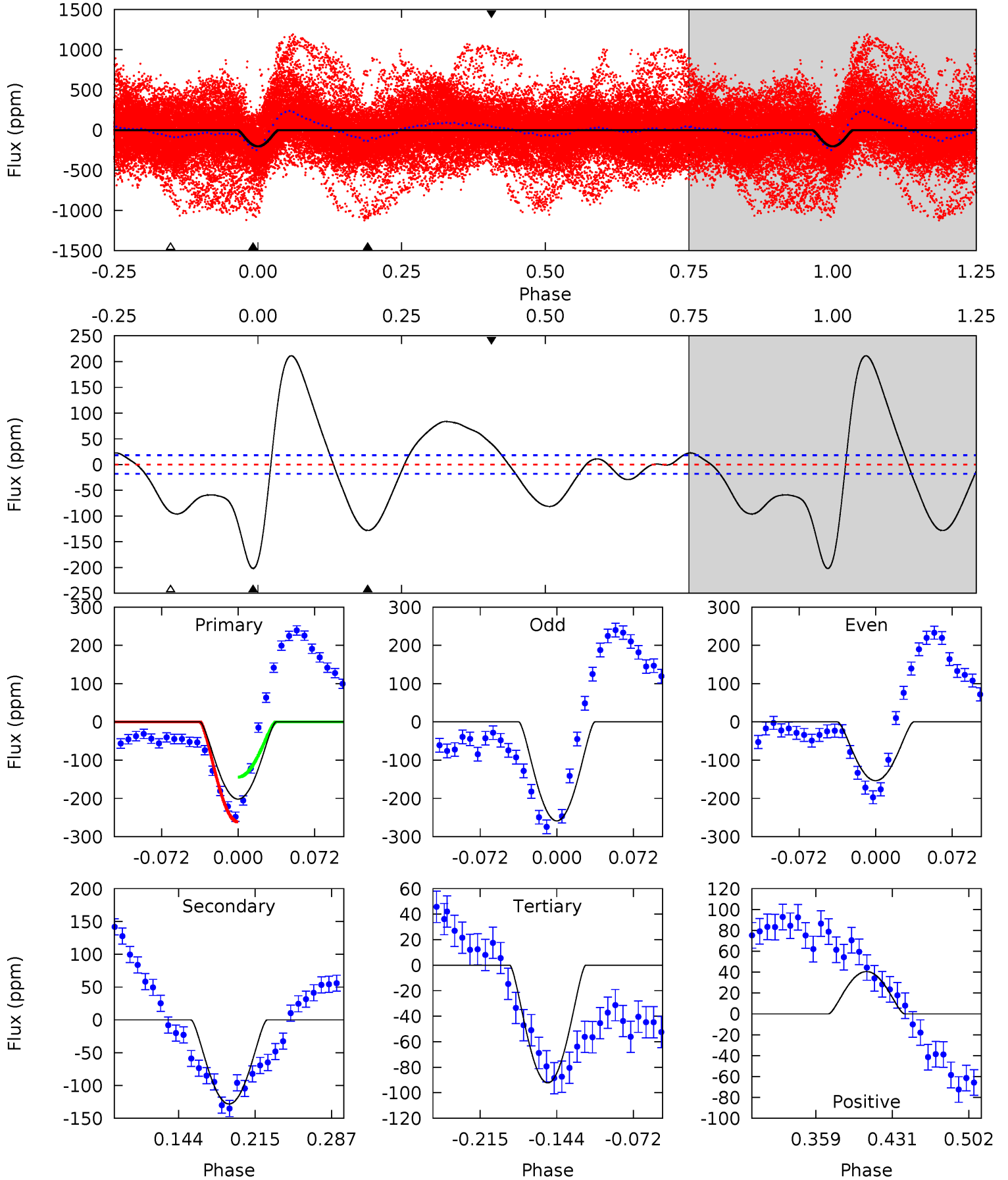
TCE 002850321-01 P= 25.218328 Days $T_0=143.808624$ (BKJD)



DV Model-Shift Uniqueness Test

002850321-01, P = 25.220951 Days, E = 118.436434 Days

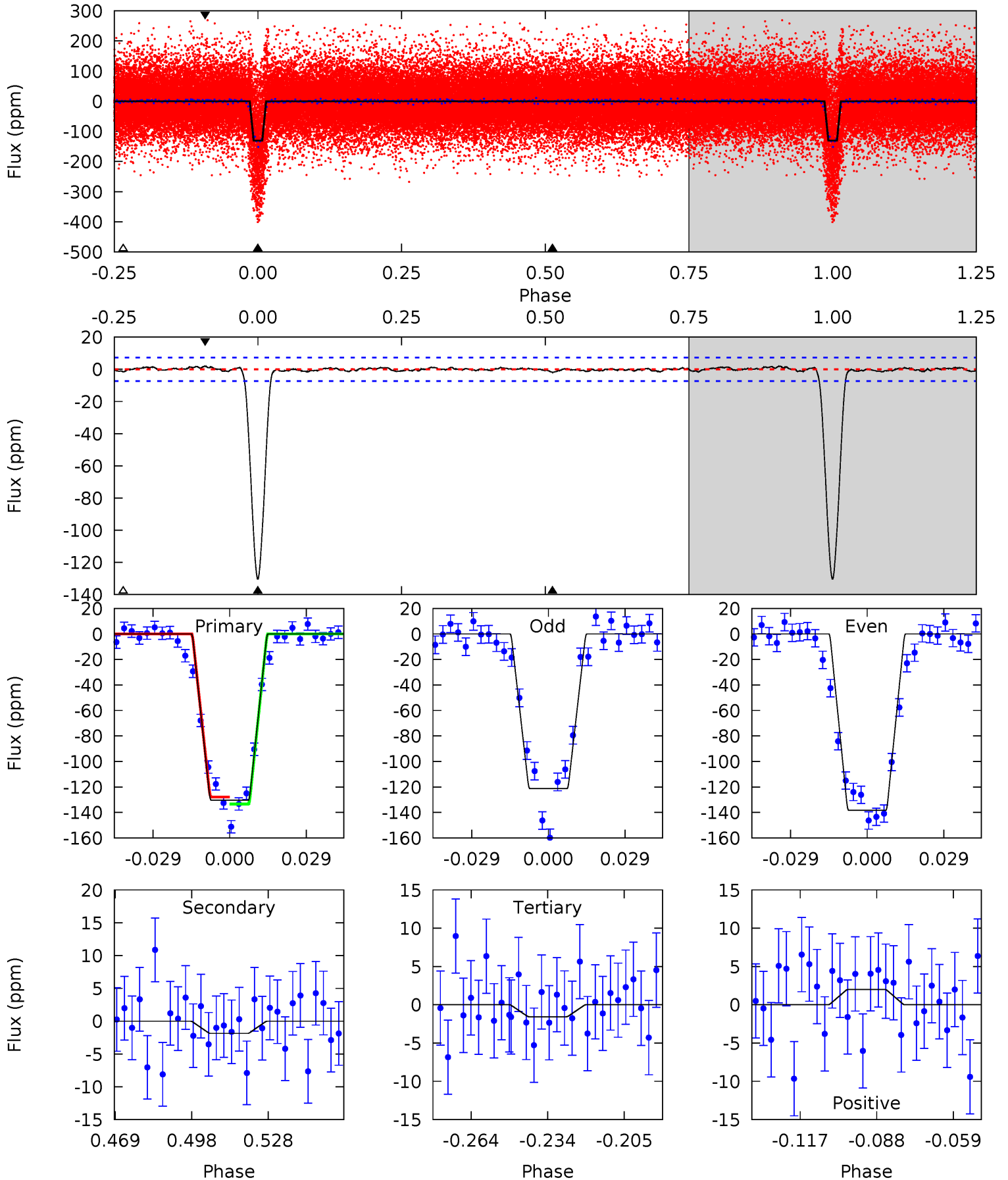
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
52.1	33.1	23.8	10.5	4.63	1.80	15.9	28.3	41.6	9.28	22.6	13.8	0.91	0.51	15.1



Alt Model-Shift Uniqueness Test

002850321-01, P = 25.218328 Days, E = 118.590296 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
86.0	1.23	1.03	1.31	4.82	2.18	0.47	84.9	84.7	0.20	-0.08	5.55	0.86	0.01	1.79



Stellar Parameters For KIC 002850321

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6628^{+151}_{-184}	$4.050^{+0.210}_{-0.123}$	$-0.260^{+0.250}_{-0.250}$	$1.721^{+0.380}_{-0.423}$	$1.214^{+0.196}_{-0.160}$	$0.336^{+0.403}_{-0.137}$
	+2%/-3%	+5%/-3%	+96%/-96%	+22%/-25%	+16%/-13%	+120%/-41%
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 002850321-01 / KOI 4956.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-128 ± 4	$5.25^{+2.65}_{-2.42}$	1255^{+68}_{-84}	4350^{+1249}_{-578}	84^{+200}_{-48}
Alt.	-2 ± 2	$2.54^{+2.52}_{-1.65}$	1253^{+78}_{-86}	2663^{+1042}_{-662}	$3.671^{+31.678}_{-3.124}$

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 $A_{obs} \gg 1.0$

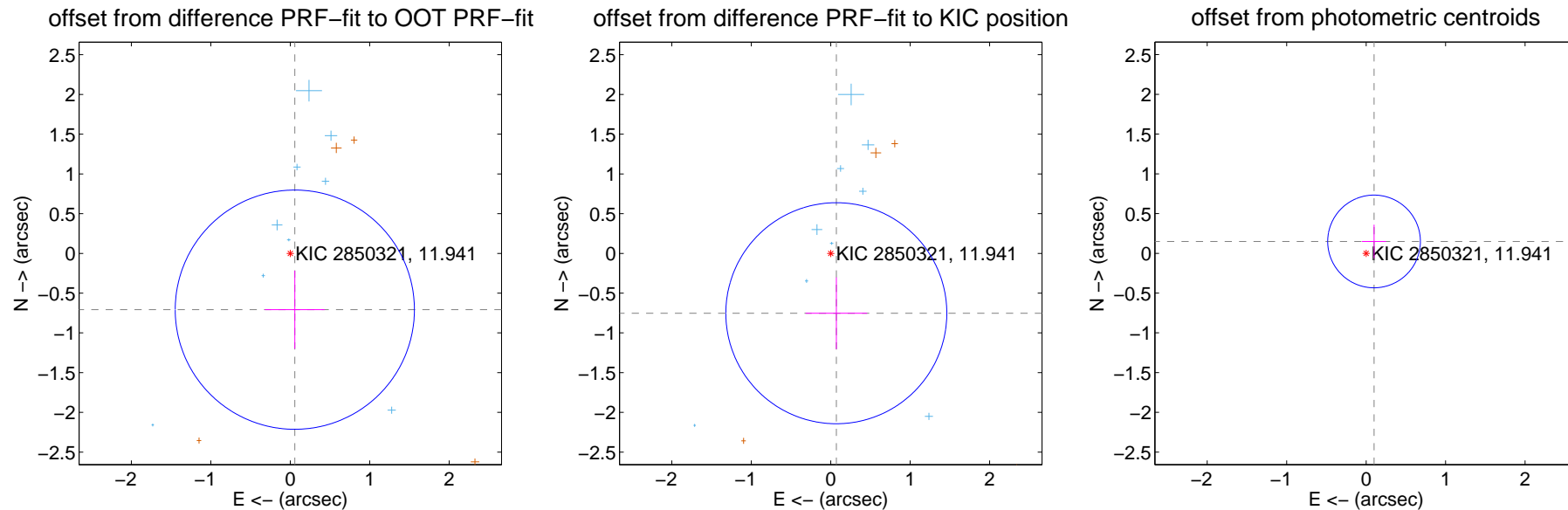
DV Centroid Data

Supplemental centroid analysis for 002850321-01. **Kepler magnitude: 11.94.** Transit SNR 16.94

There are 9 quarters with good PRF difference image offsets

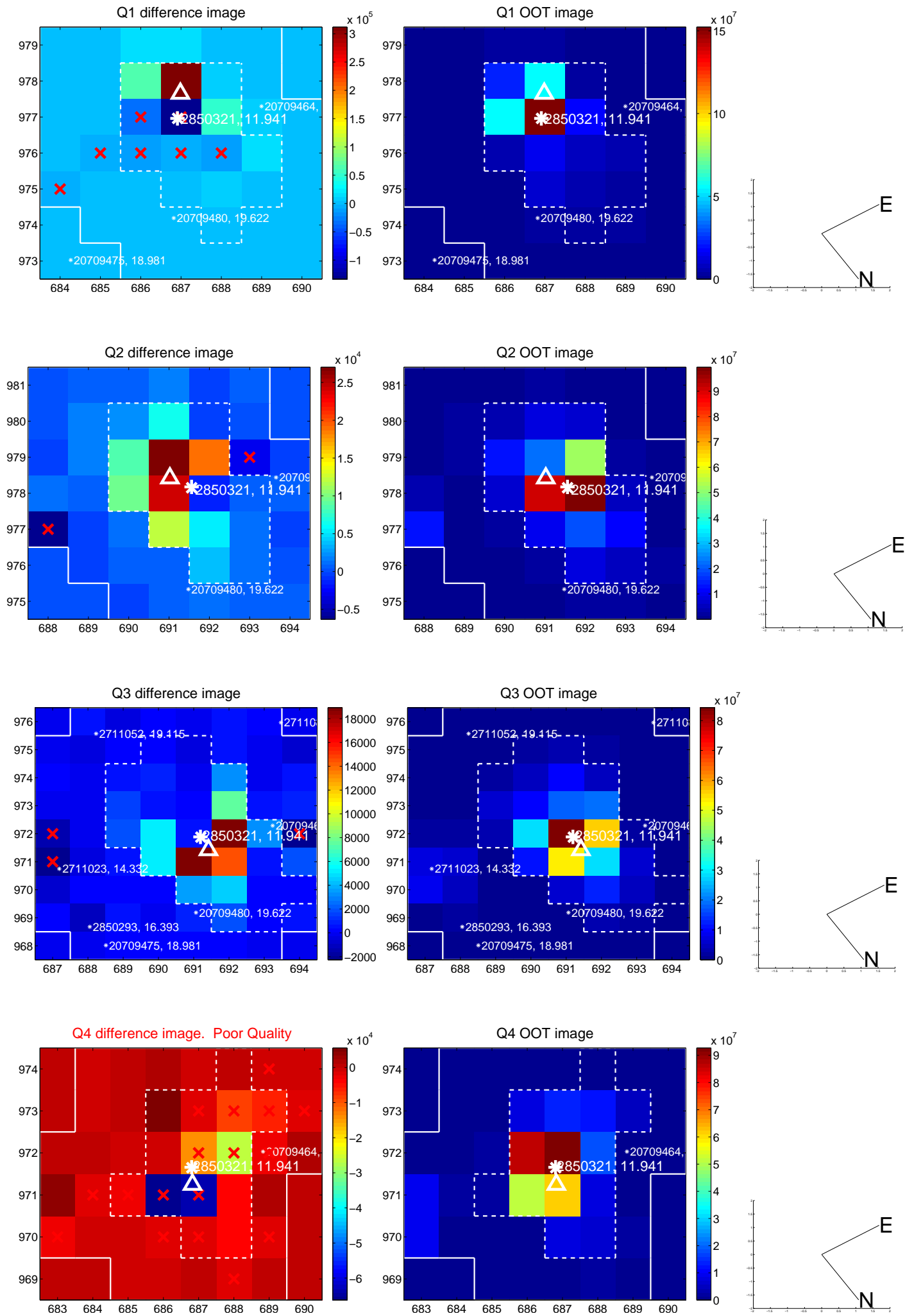
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.710 ± 0.502	1.42	-0.057 ± 0.375	-0.708 ± 0.491
PRF-fit source offset from KIC position	0.756 ± 0.463	1.63	-0.071 ± 0.388	-0.753 ± 0.452
photometric centroid source offset	0.18 ± 0.19	0.93	-0.10 ± 0.15	0.15 ± 0.21

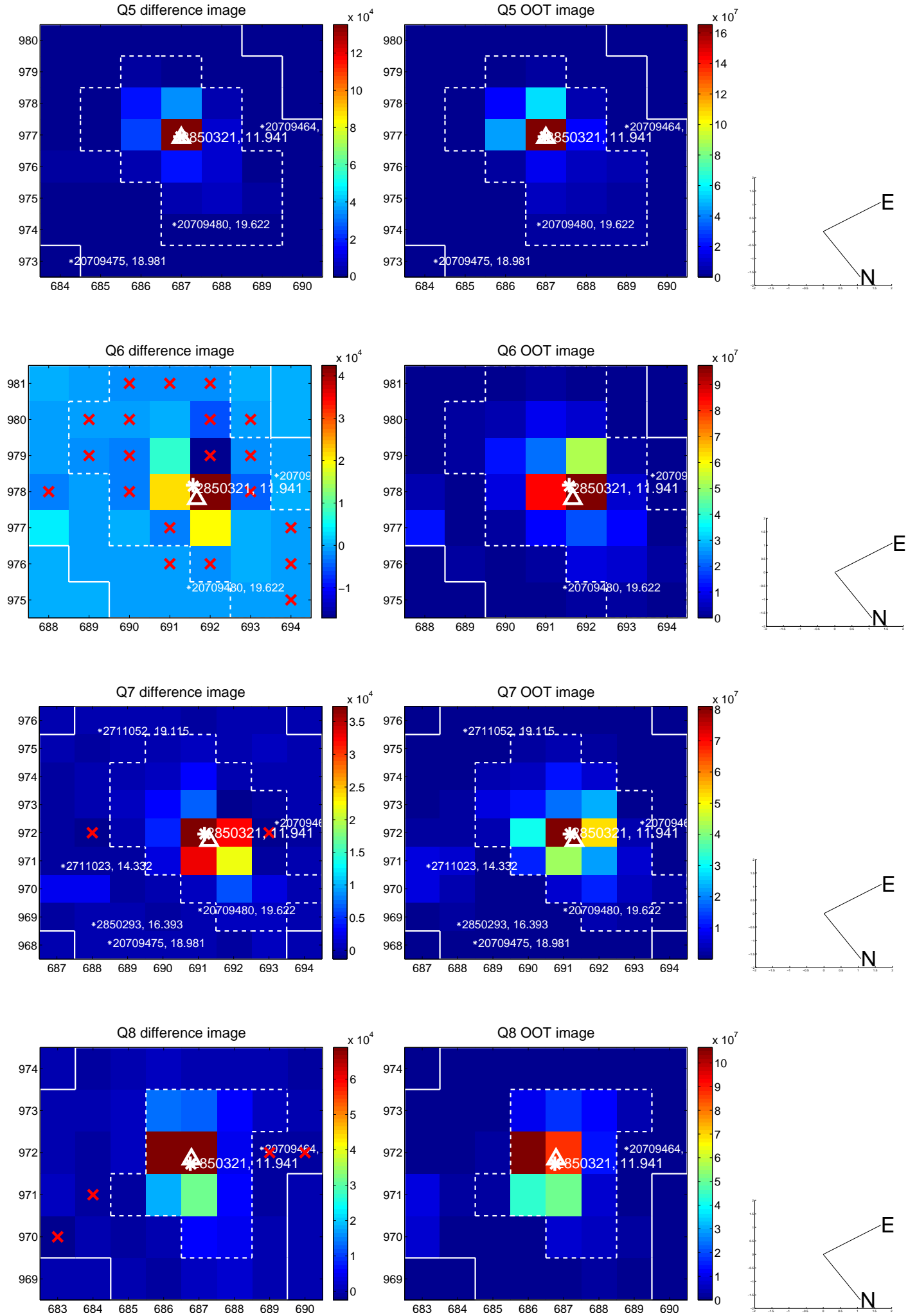


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

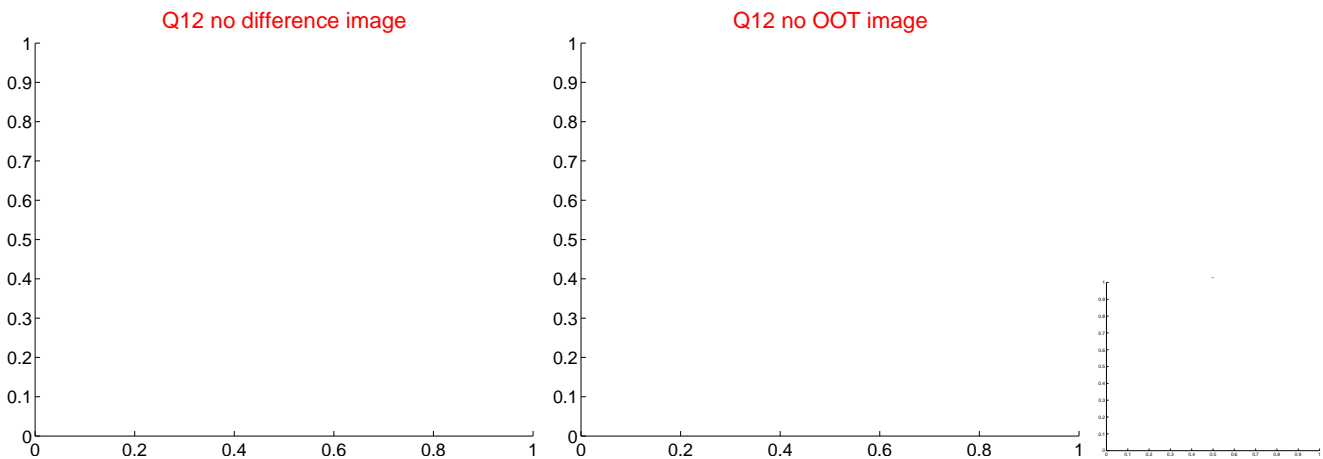
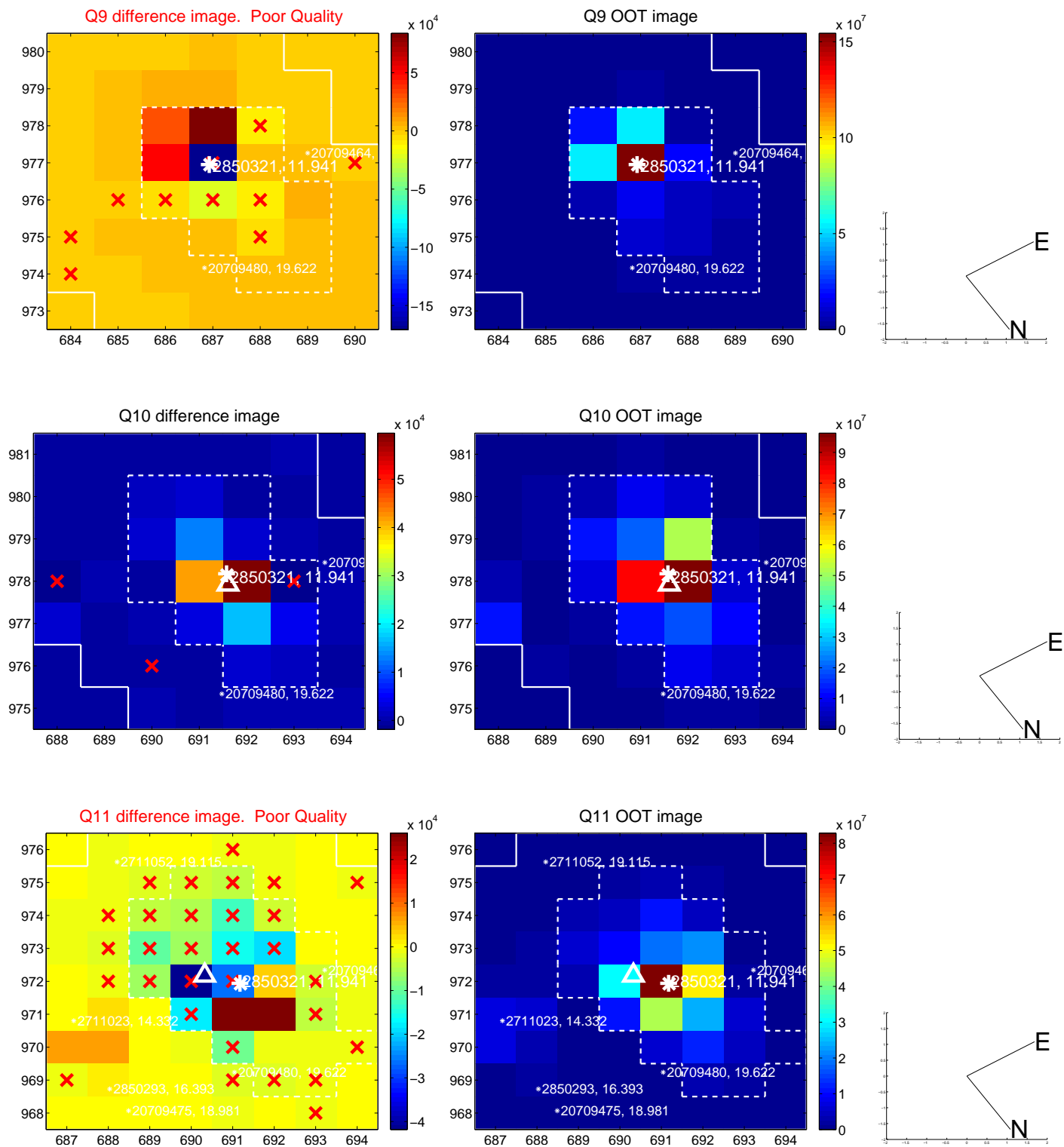
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



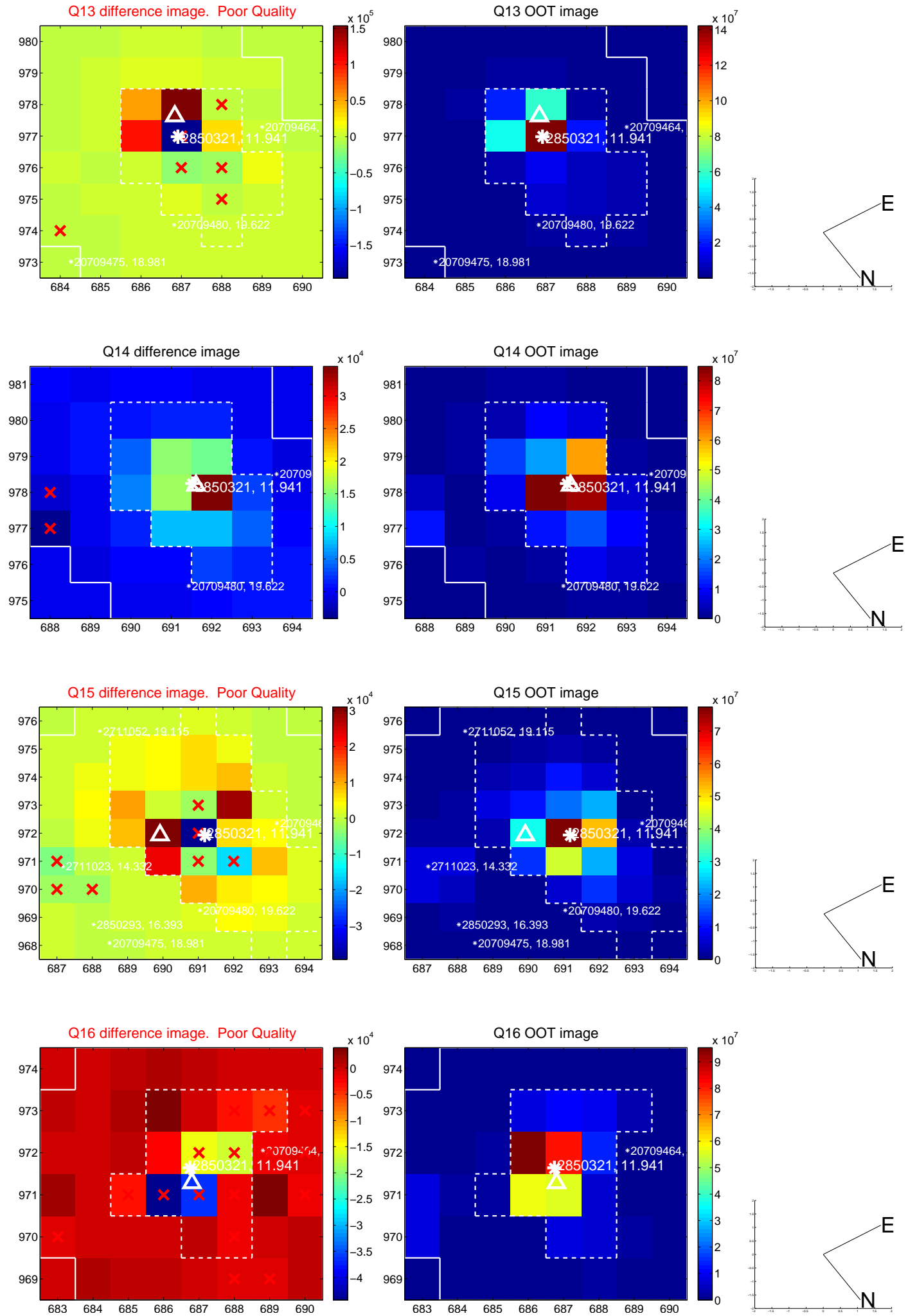
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



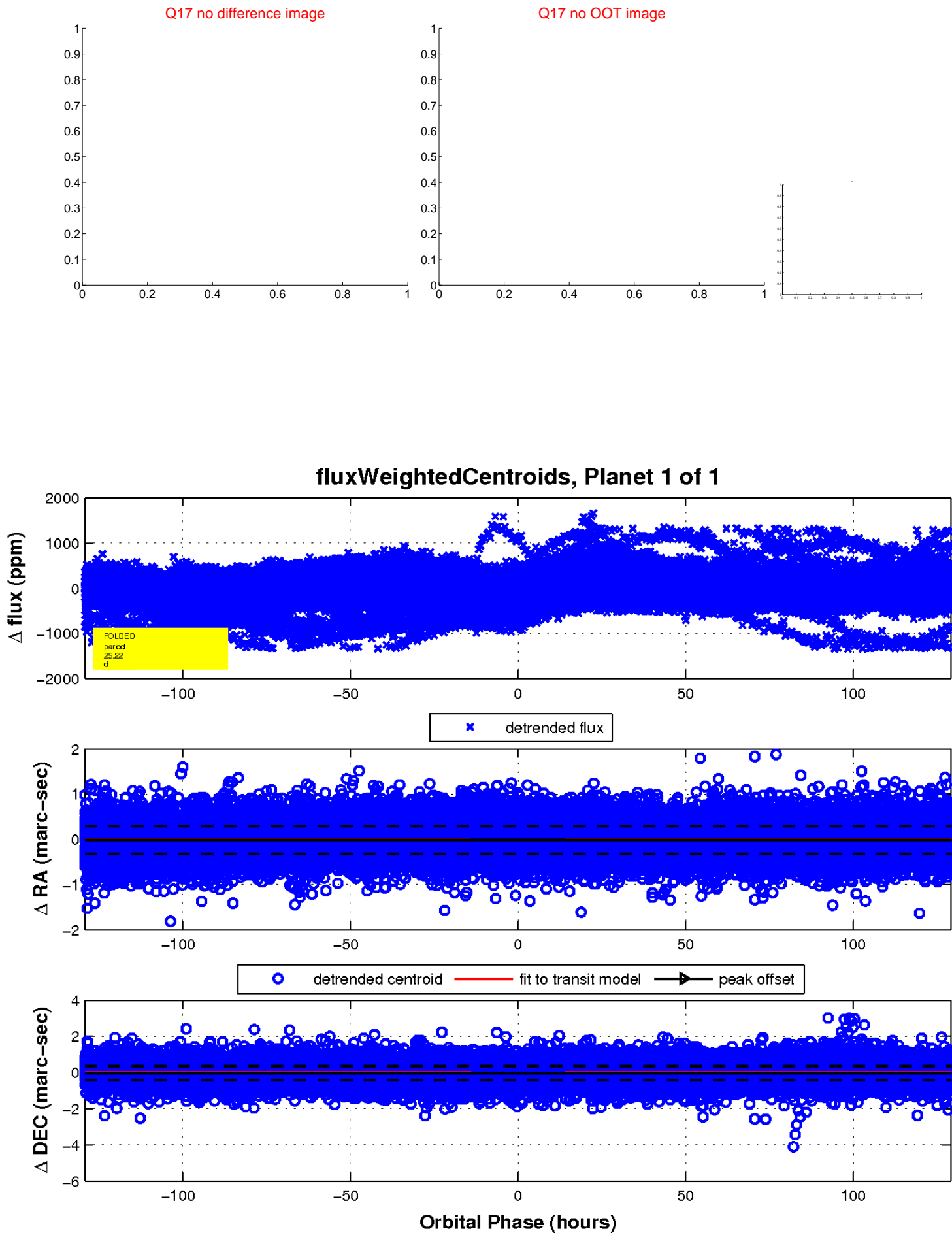
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

