

KIC 009851662

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})
009851662-01	OBS	2483.01	15.053932	135.536183	206.2	4.383	12.7	12.9	0.82	5475	1.35	46.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009851662-01	OBS	PC	0.99	0	0	0	0	NO_COMMENT

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.

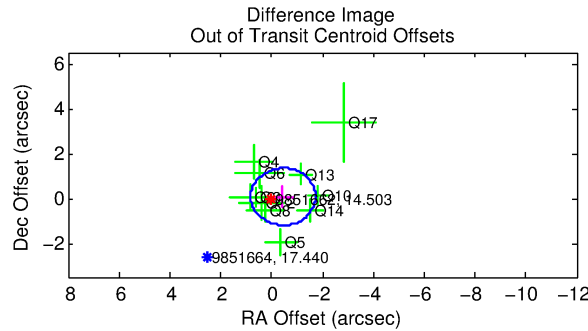
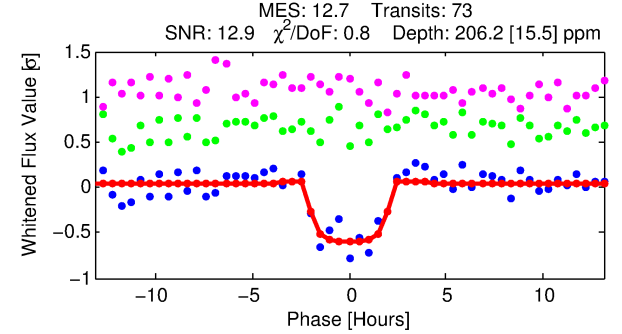
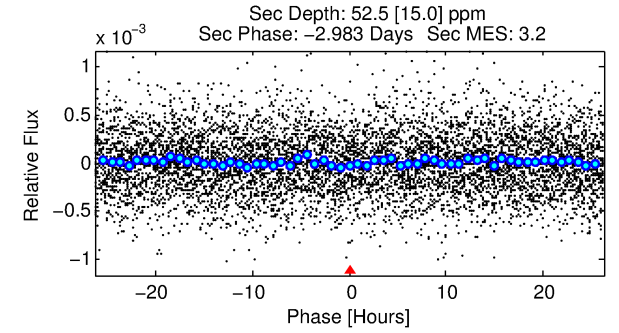
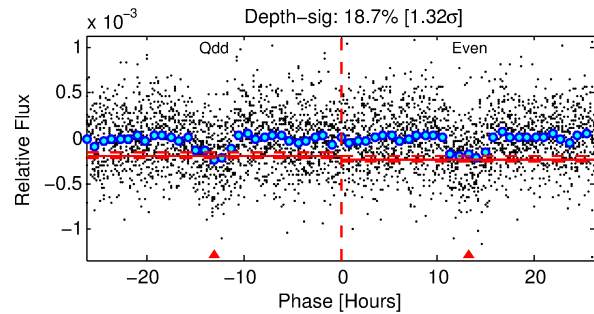
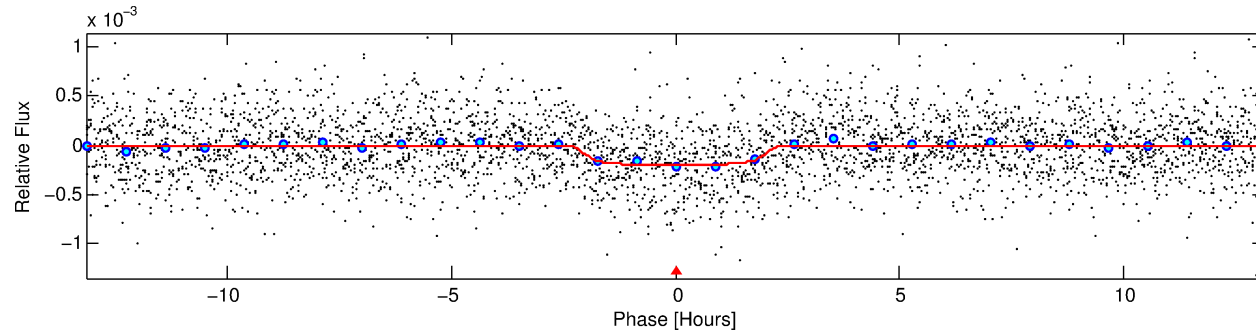
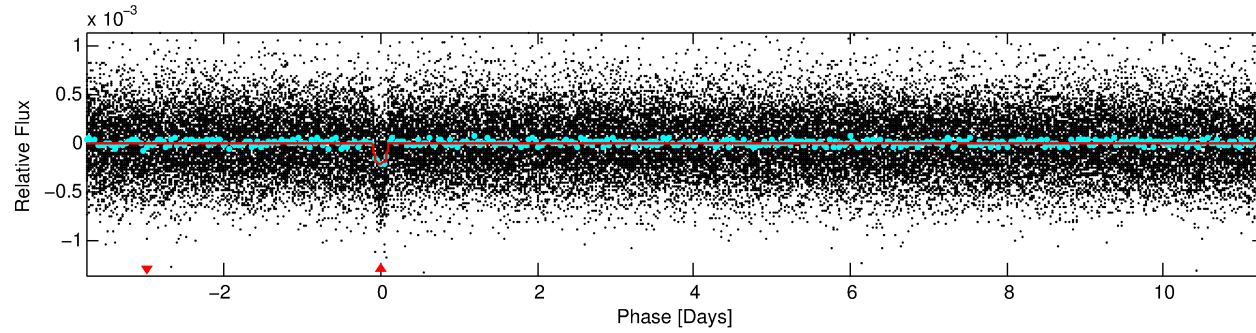
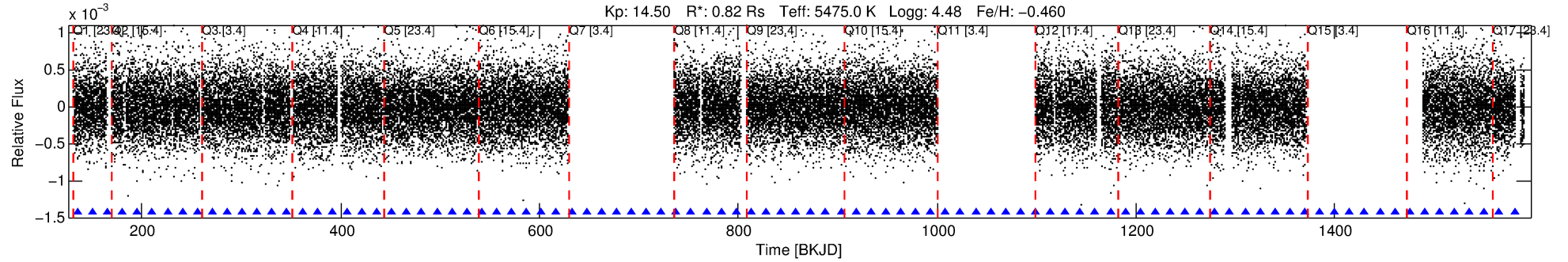
Ephemeris Match Information For 009851662-01

No Significant Match Found

DV One-Page Summary

KIC: 9851662 Candidate: 1 of 1 Period: 15.054 d

KOI: K02483.01 Corr: 0.983



DV Fit Results:

Period = 15.05393 [0.00012] d
Epoch = 135.5362 [0.0062] BKJD
Rp/R* = 0.0152 [0.0071]
a/R* = 14.11 [29.69]
b = 0.86 [0.64]
Seff = 46.42 [12.33]
Teq = 666 [44] K
Rp = 1.35 [0.67] Re
a = 0.1077 [0.0168] AU
Ag = 182.74 [183.18] [0.99σ]
Teffp = 3784 [928] K [3.36σ]

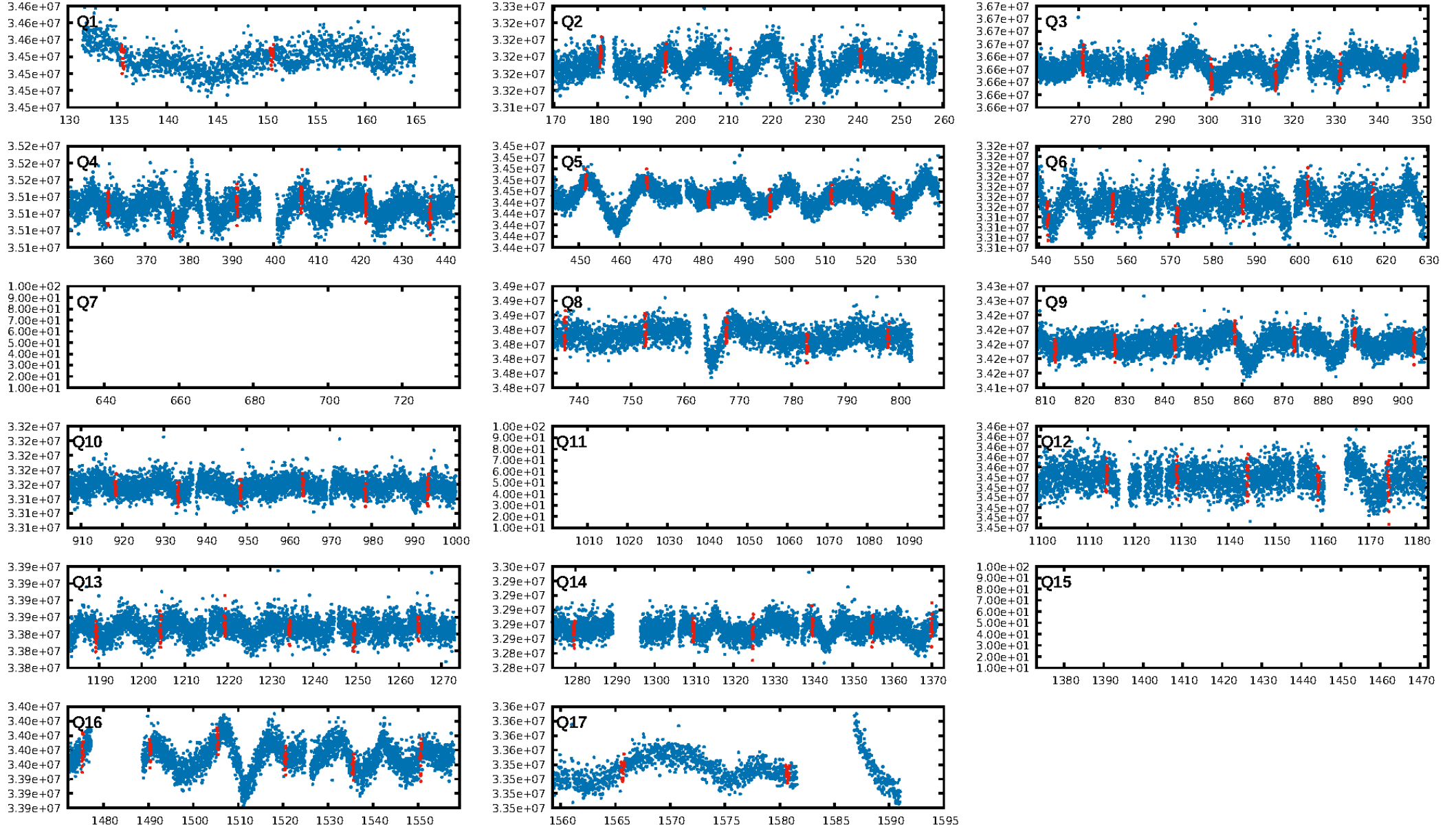
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.56e-37
RollingBand-fgt: 1.00 [69/69]
GhostDiagnostic-chr: -11.24
Centroid-sig: 56.4%
Centroid-so: 1.283 arcsec [1.20σ]
OotOffset-rm: 0.457 arcsec [1.08σ]
KicOffset-rm: 0.373 arcsec [0.83σ]
OotOffset-st: 3/1/3/4 [11]
KicOffset-st: 3/1/3/4 [11]
DiffImageQuality-fgm: 0.82 [9/11]
DiffImageOverlap-fno: 1.00 [14/14]

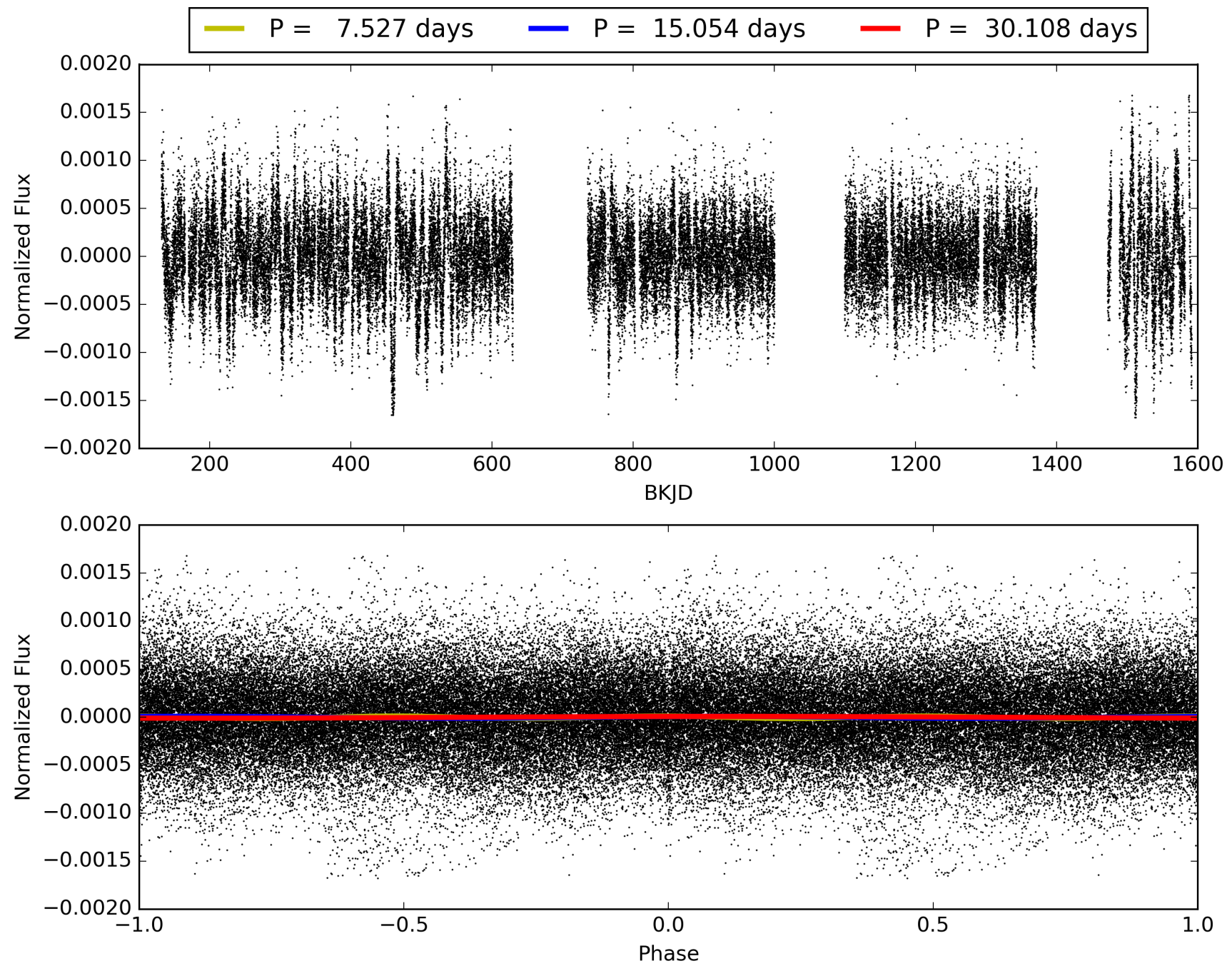
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 07:29:31 Z

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

TCE 009851662-01, PDC Light Curves

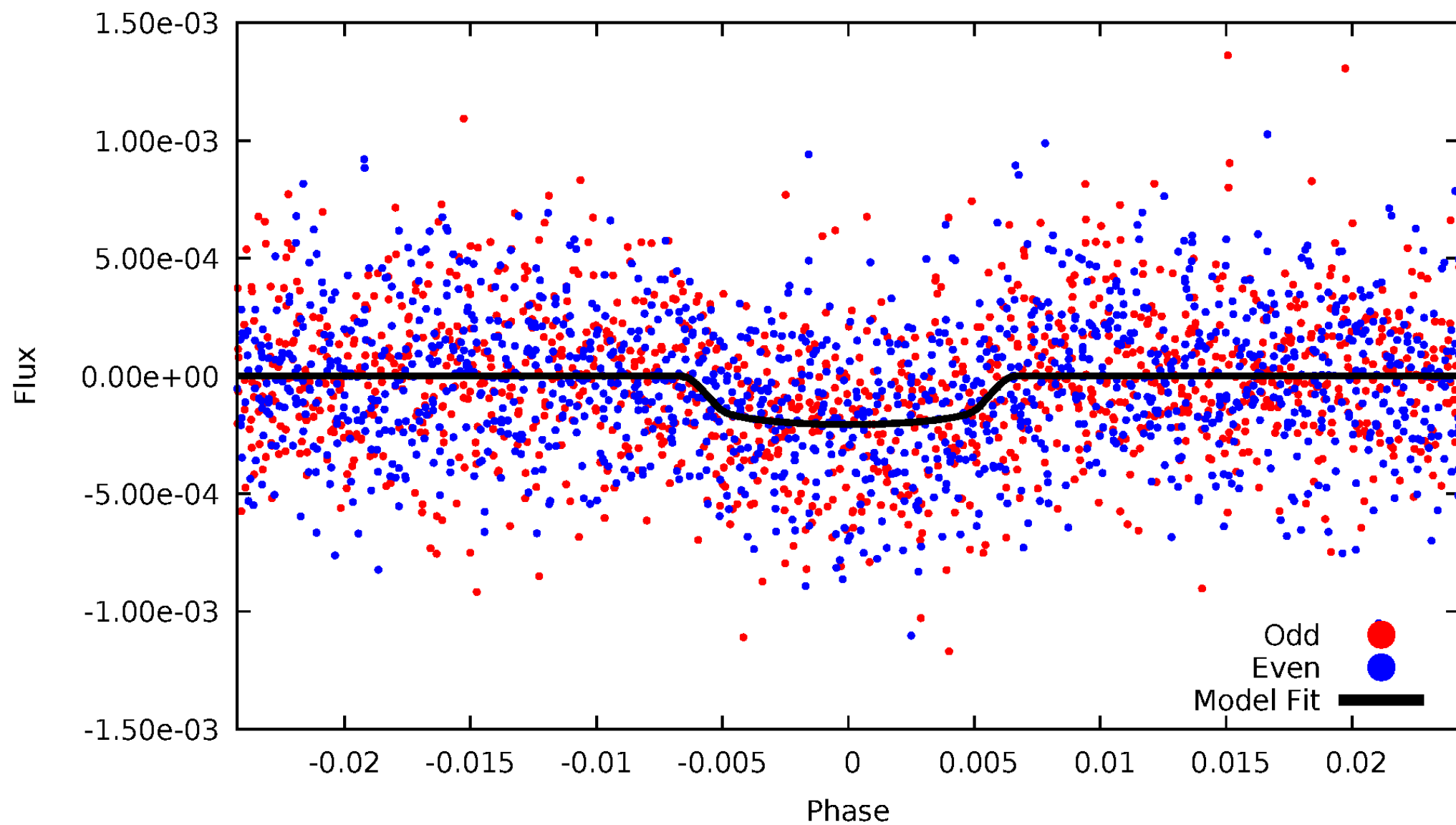


TCE 009851662-01



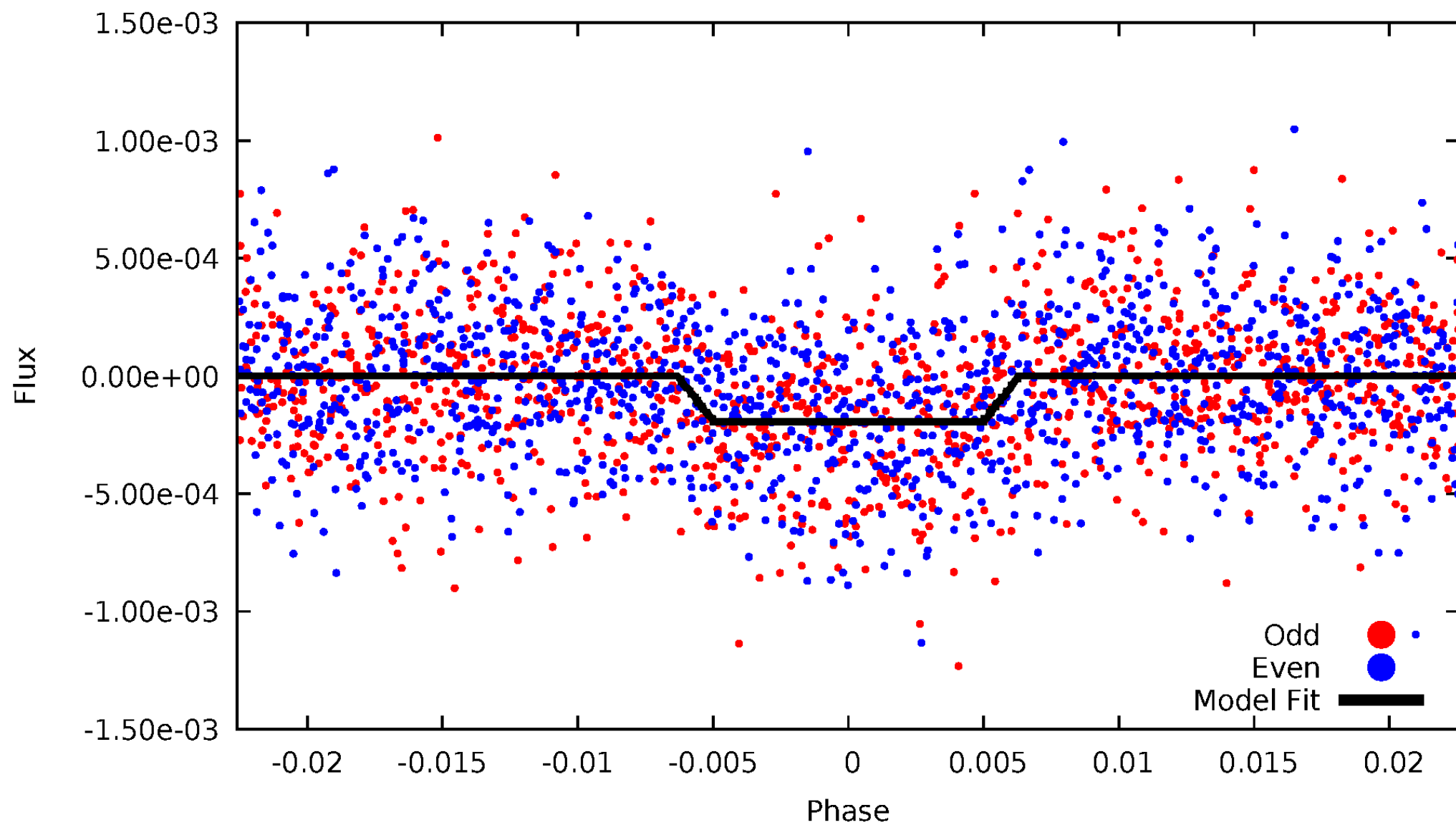
DV Odd/Even

TCE 009851662-01

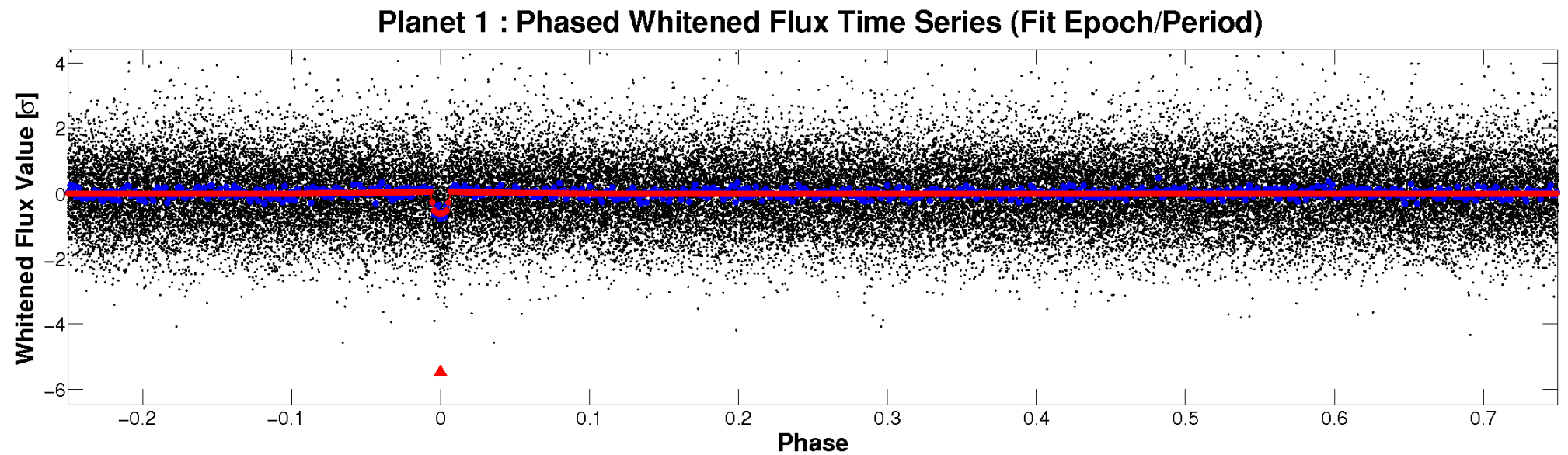
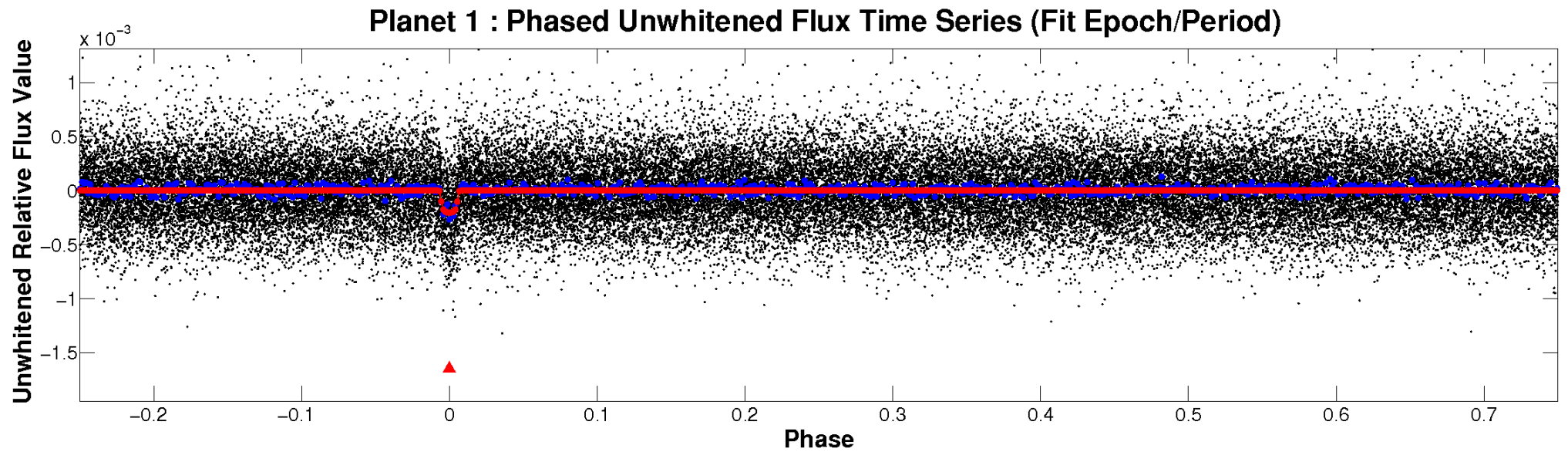


ALT Odd/Even

TCE 009851662-01

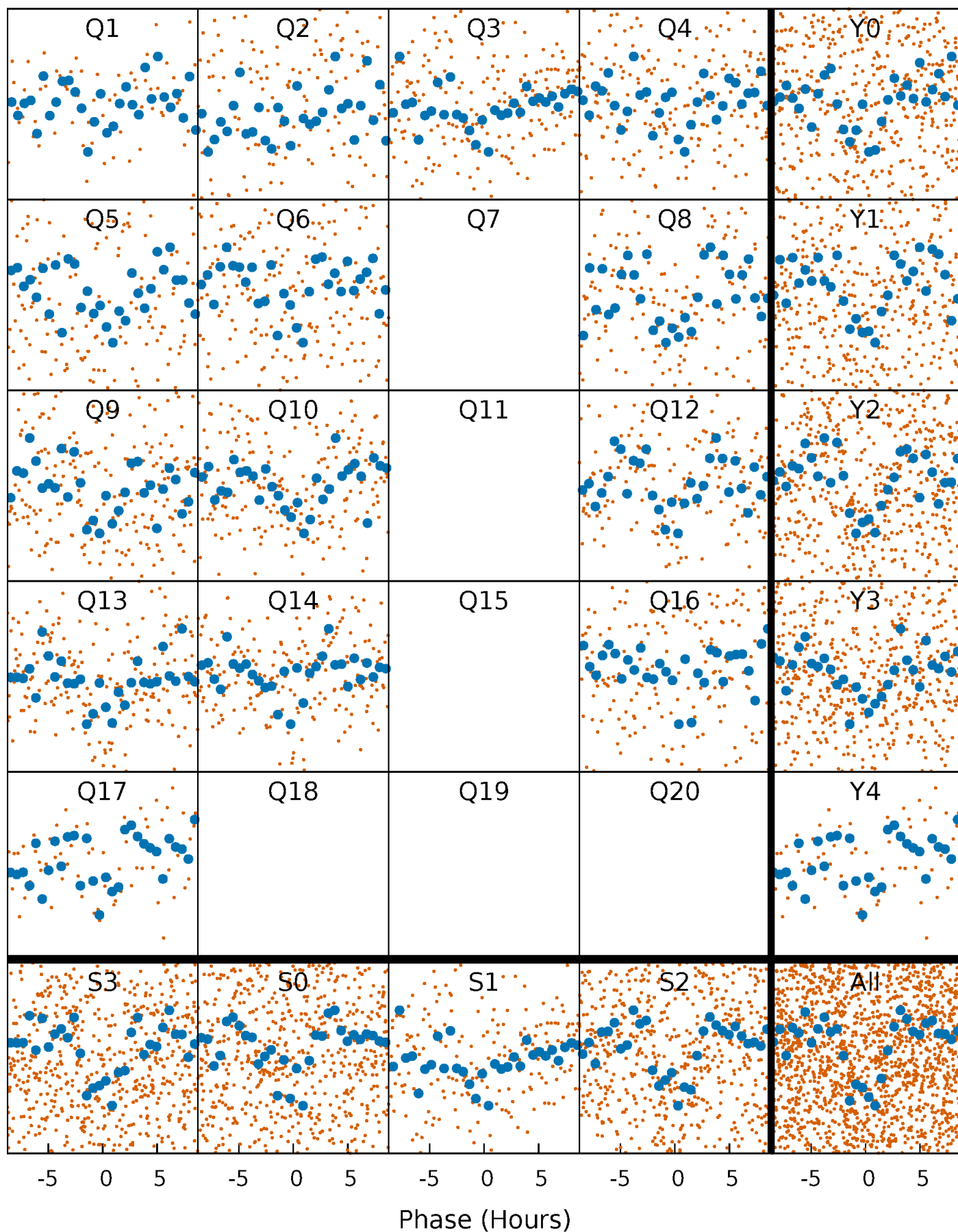


Non-Whitened Vs. Whitened Light Curve



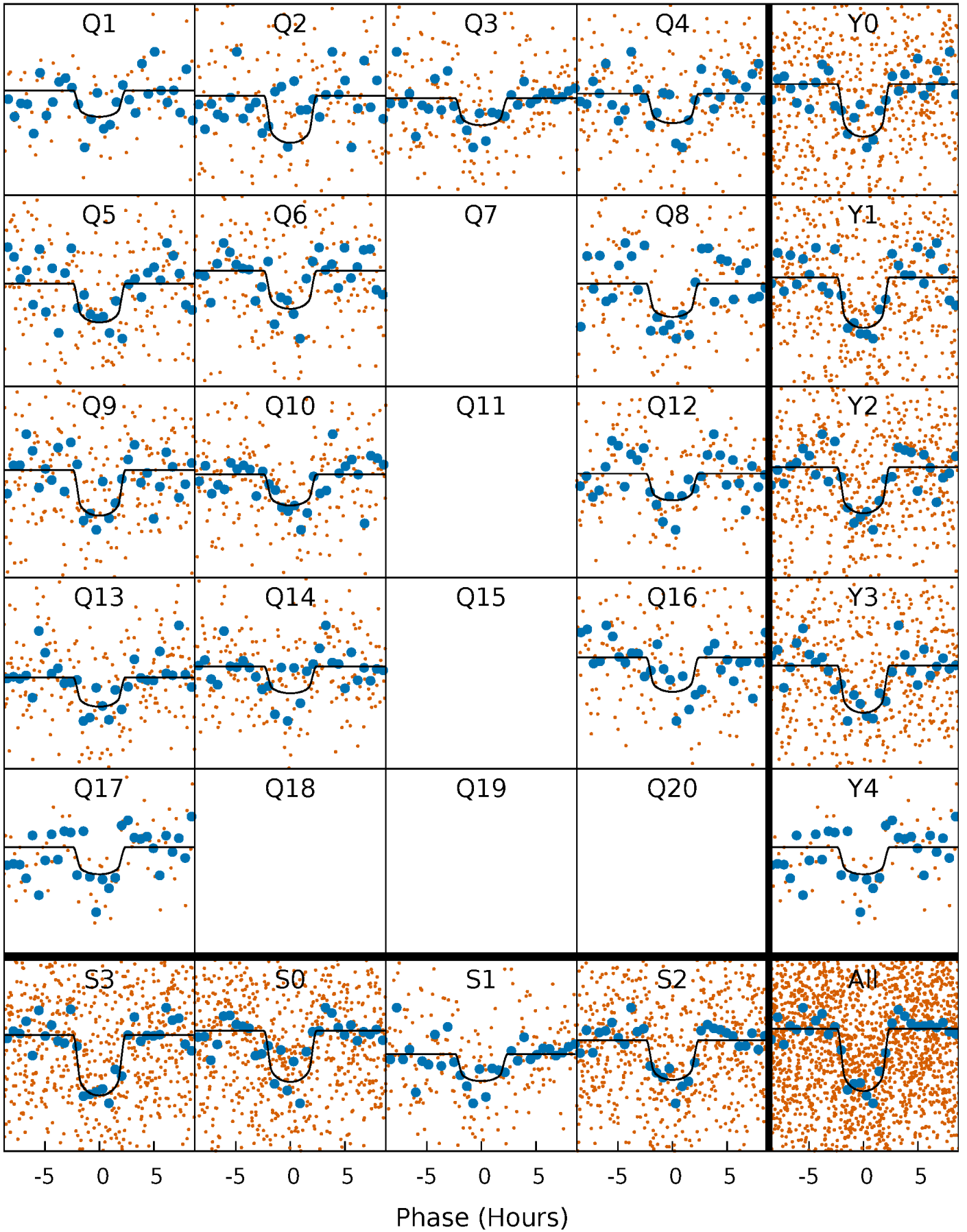
PDC Quarter-Phased Transit Curves

TCE 009851662-01 P= 15.053932 Days $T_0=135.536183$ (BKJD)



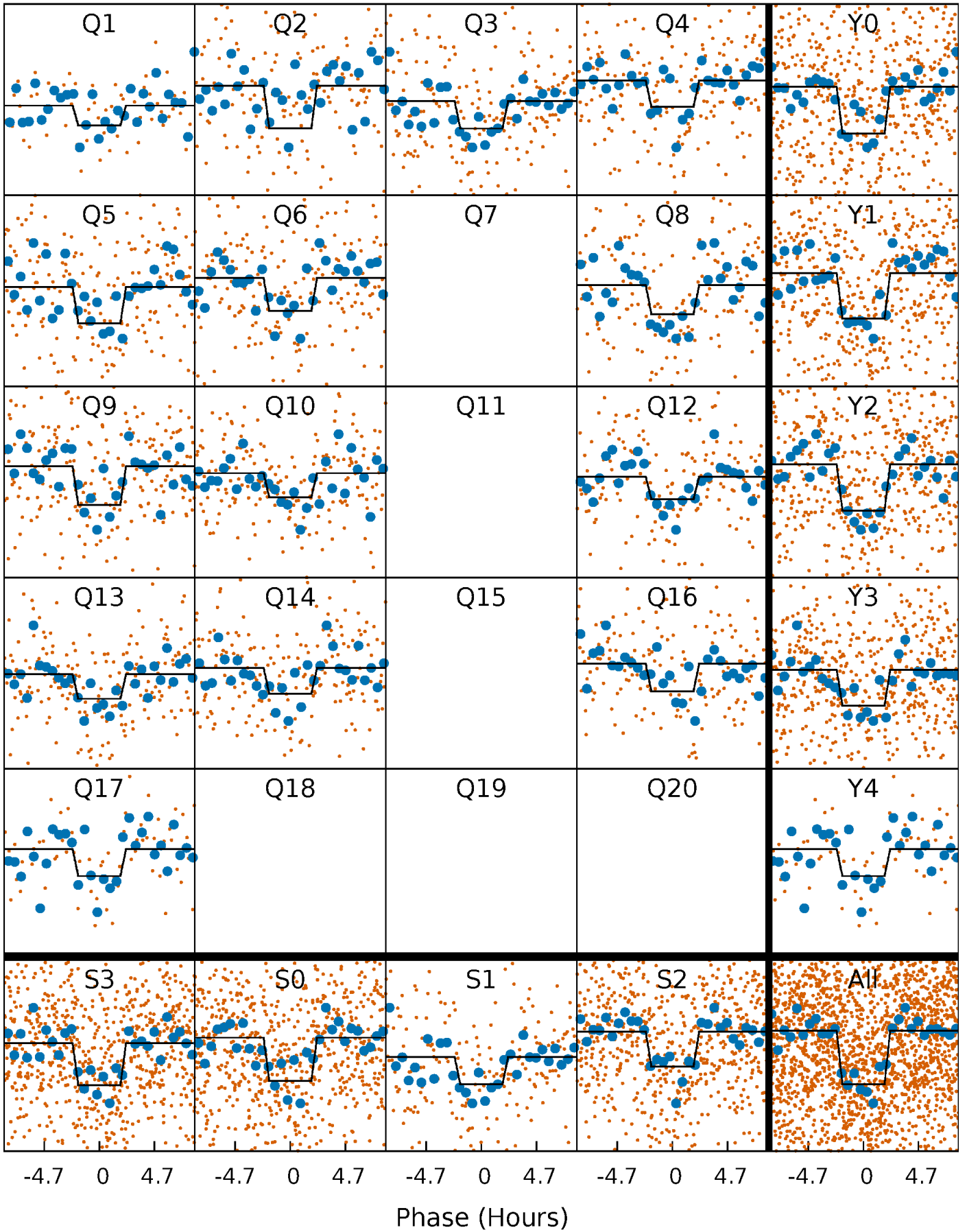
DV Quarter-Phased Transit Curves

TCE 009851662-01 P= 15.053932 Days $T_0=135.536183$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

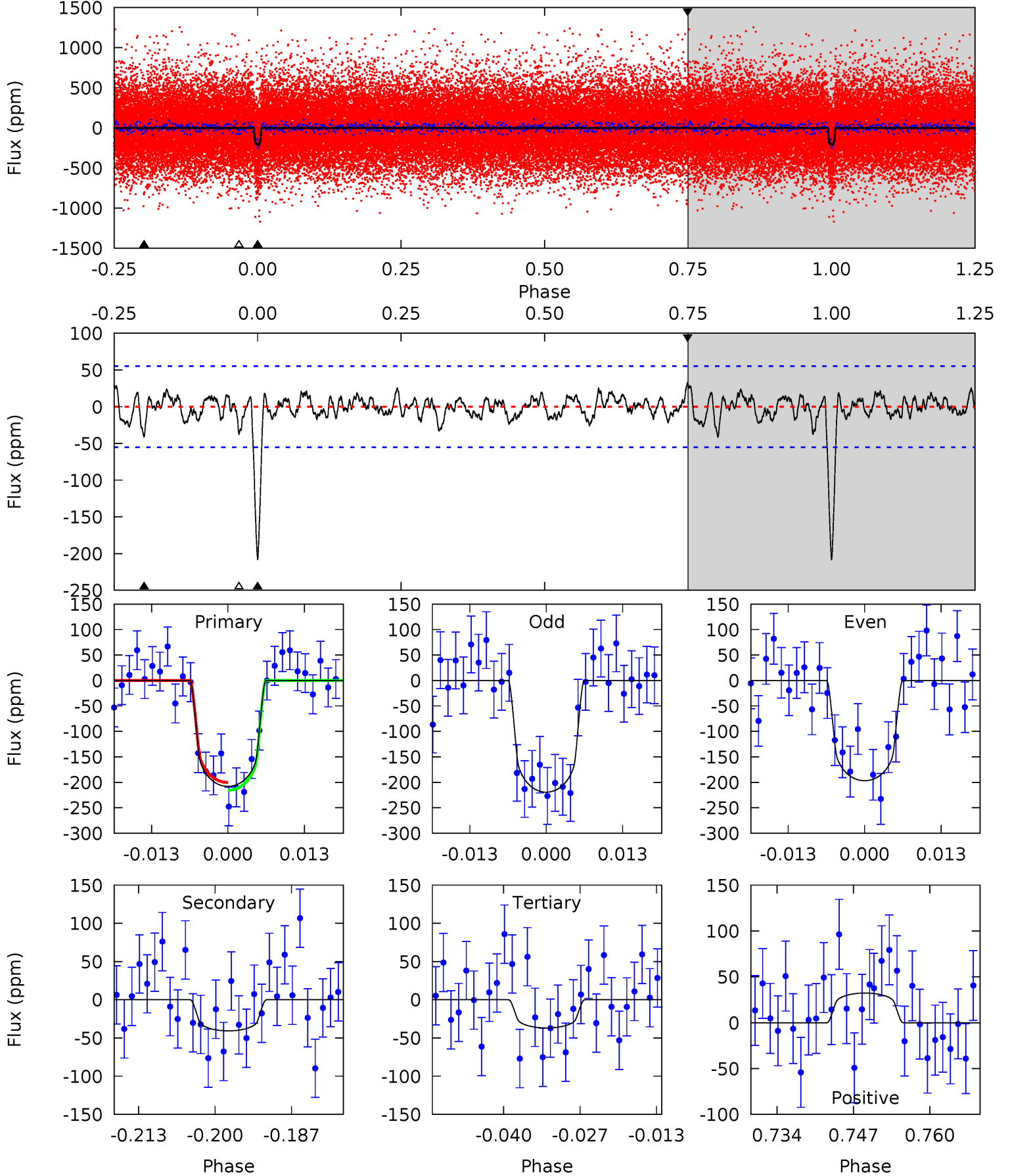
TCE 009851662-01 P= 15.053853 Days $T_0=135.540589$ (BKJD)



DV Model-Shift Uniqueness Test

009851662-01, $P = 15.053932$ Days, $E = 120.482251$ Days

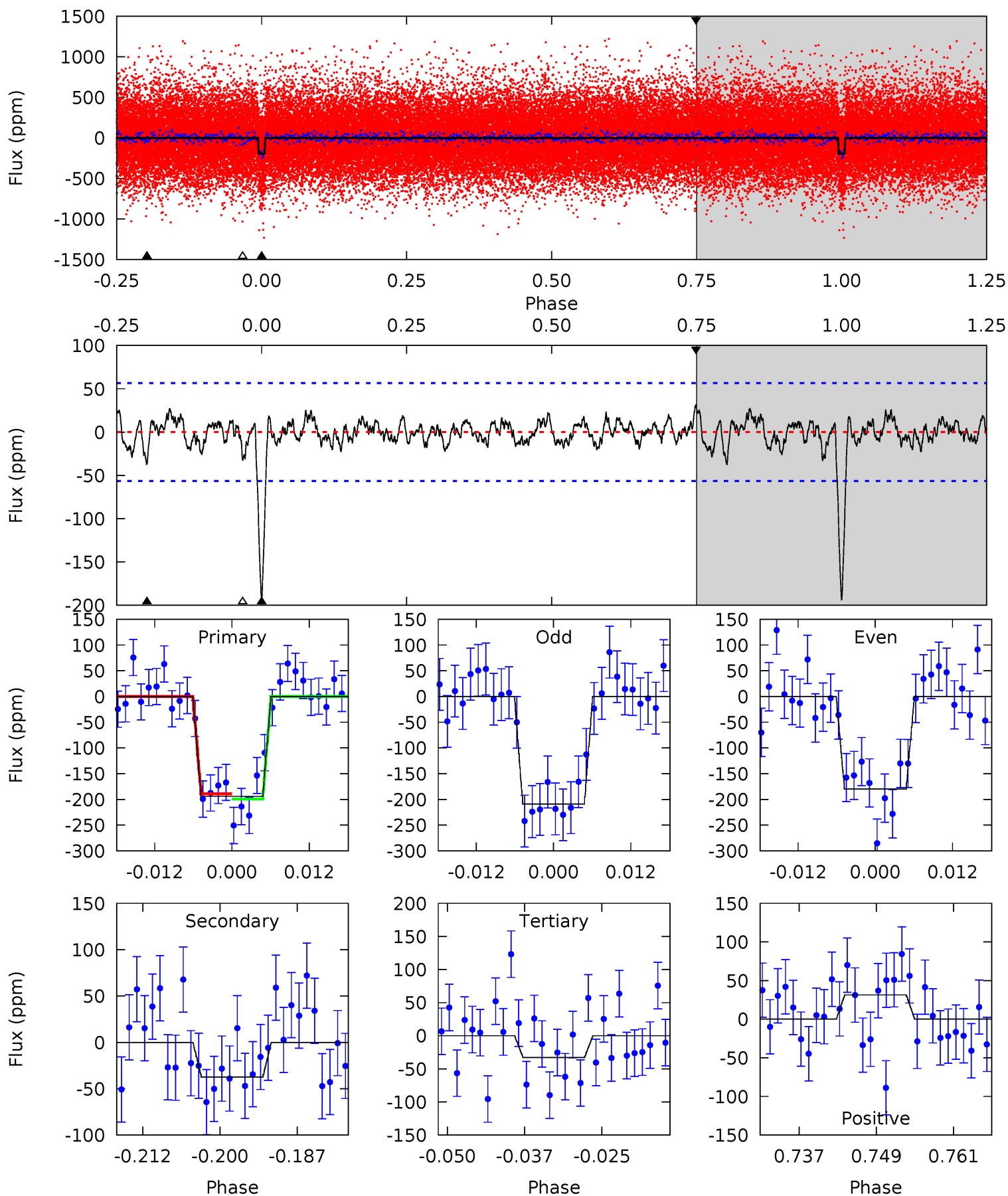
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.7	3.67	3.32	2.91	4.97	2.47	1.05	15.4	15.8	0.35	0.76	1.02	0.99	0.13	0.70



Alt Model-Shift Uniqueness Test

009851662-01, $P = 15.053853$ Days, $E = 120.486736$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.1	3.29	2.88	2.77	4.98	2.50	0.95	14.2	14.3	0.41	0.52	1.29	0.98	0.14	0.46



Stellar Parameters For KIC 009851662

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5475^{+162}_{-162}	$4.479^{+0.121}_{-0.135}$	$-0.460^{+0.350}_{-0.300}$	$0.818^{+0.143}_{-0.117}$	$0.734^{+0.117}_{-0.042}$	$1.892^{+0.958}_{-0.696}$
	+3%/-3%	+3%/-3%	+76%/-65%	+17%/-14%	+16%/-6%	+51%/-37%
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 009851662-01 / KOI 2483.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-41 ± 11	$1.35^{+0.65}_{-0.58}$	932^{+54}_{-47}	3889^{+903}_{-494}	143^{+290}_{-81}
Alt.	-37 ± 11	$1.27^{+0.68}_{-0.62}$	935^{+49}_{-51}	3920^{+1162}_{-551}	147^{+412}_{-91}

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 $A_{obs} \gg 1.0$

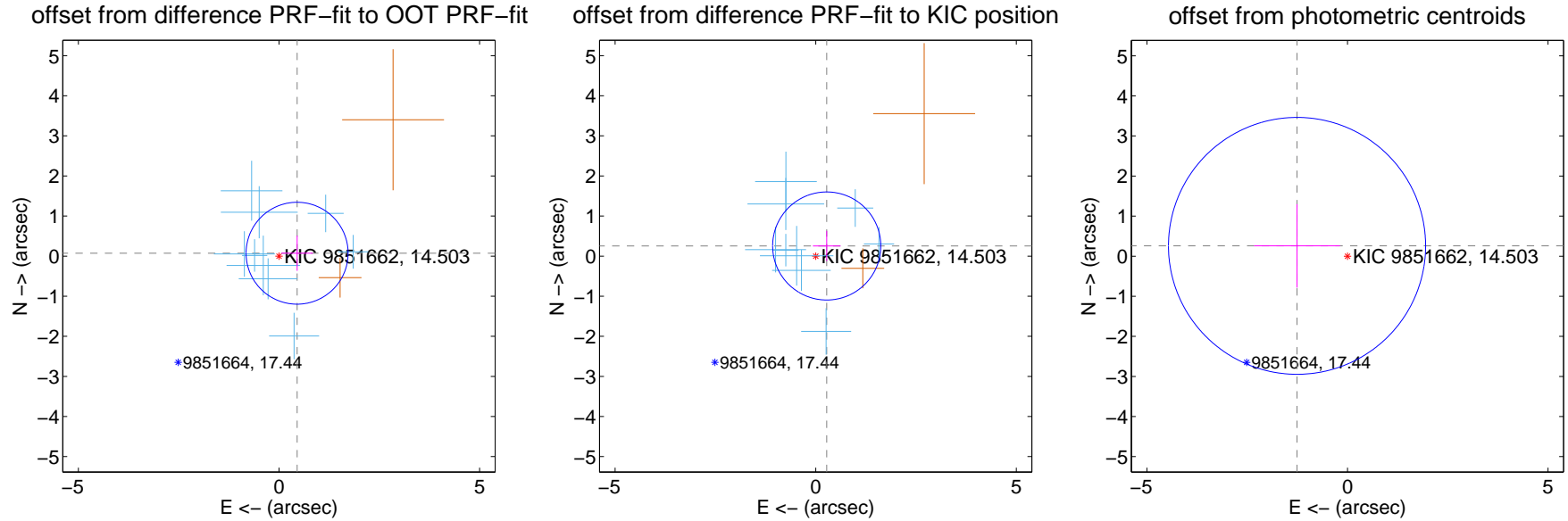
DV Centroid Data

Supplemental centroid analysis for 009851662-01. Kepler magnitude: 14.50. Transit SNR 12.94

There are 9 quarters with good PRF difference image offsets

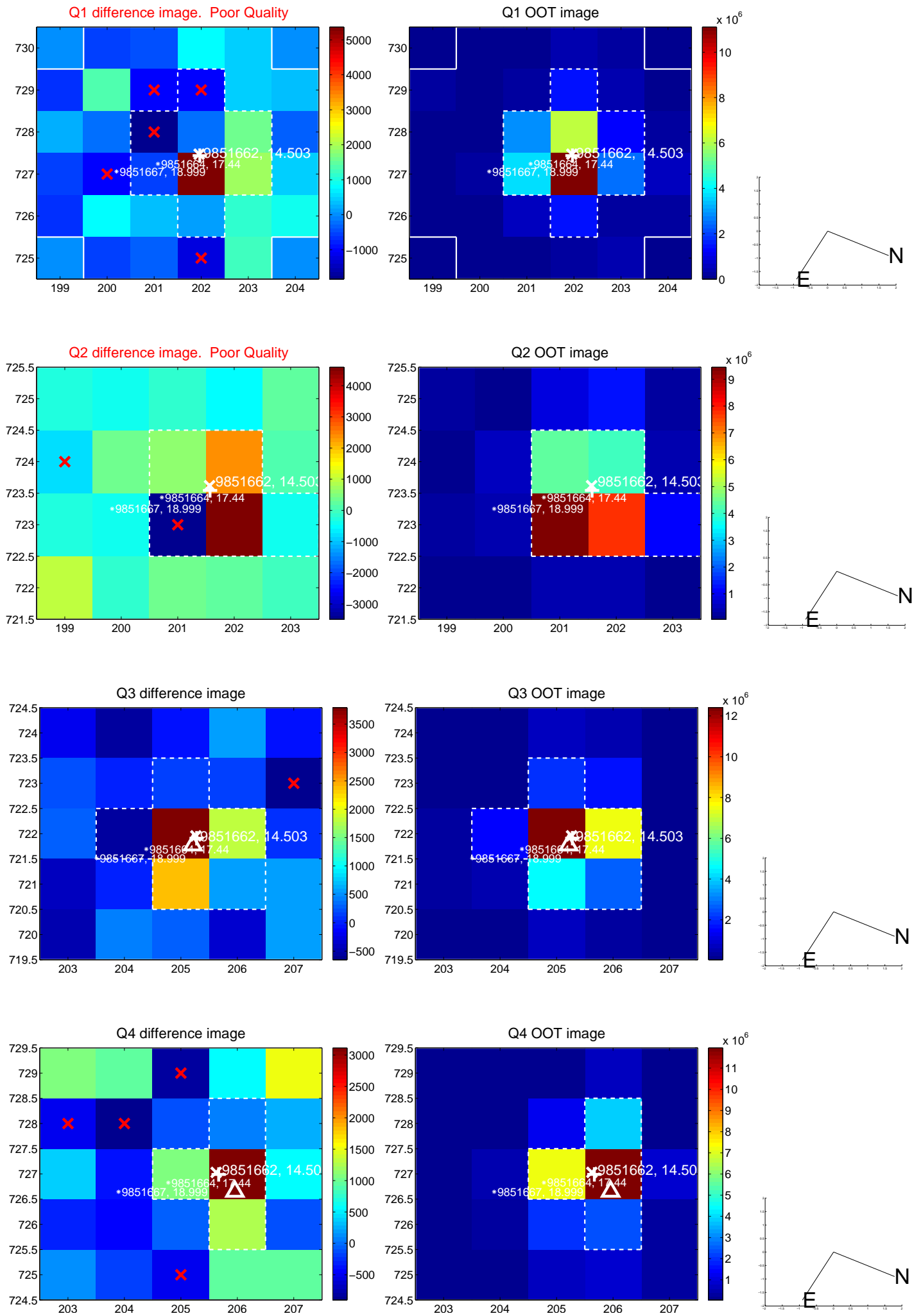
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.457 ± 0.424	1.08	-0.451 ± 0.394	0.072 ± 0.437
PRF-fit source offset from KIC position	0.373 ± 0.449	0.83	-0.274 ± 0.344	0.253 ± 0.377
photometric centroid source offset	1.28 ± 1.07	1.20	1.26 ± 1.07	0.26 ± 1.04

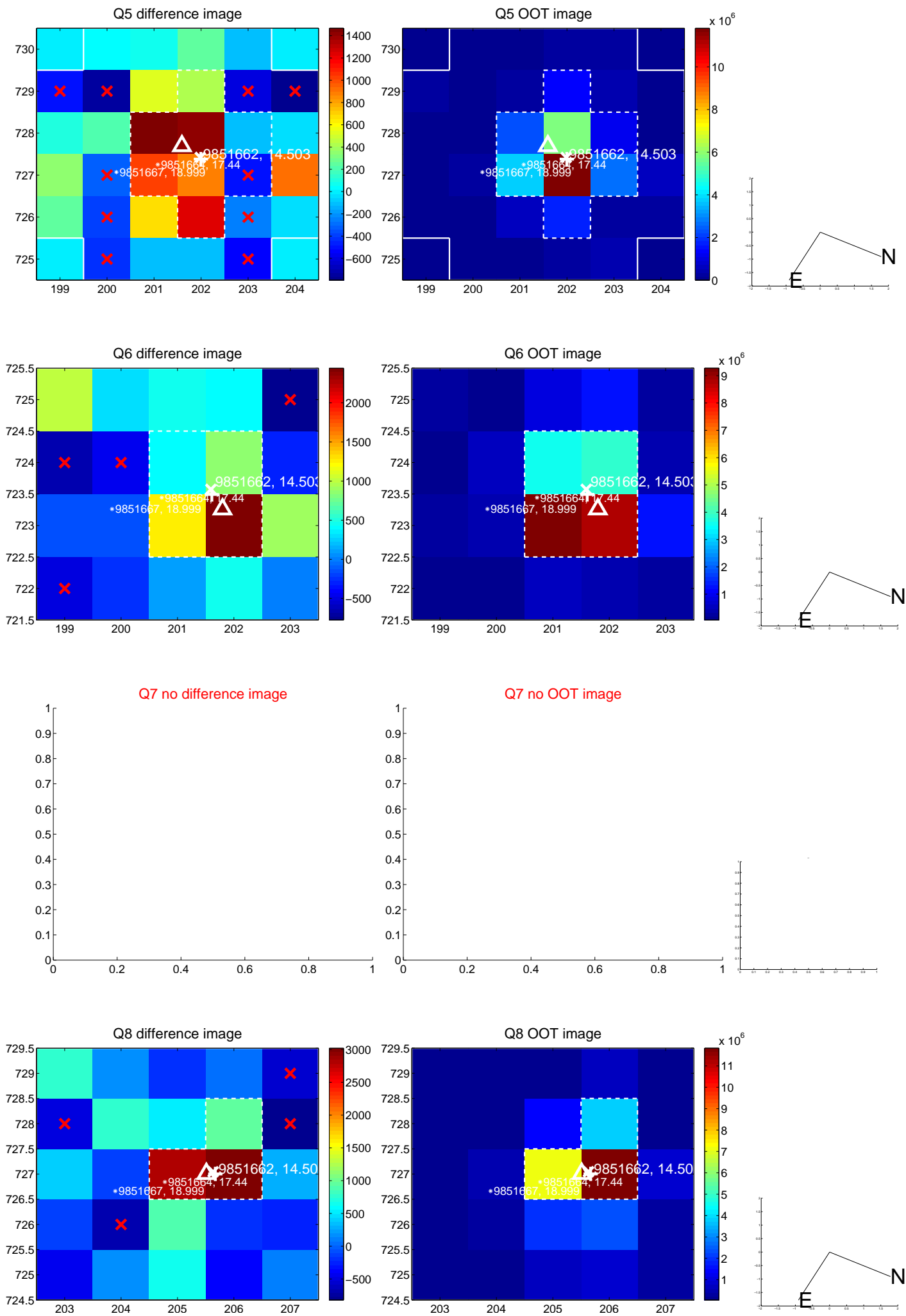


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

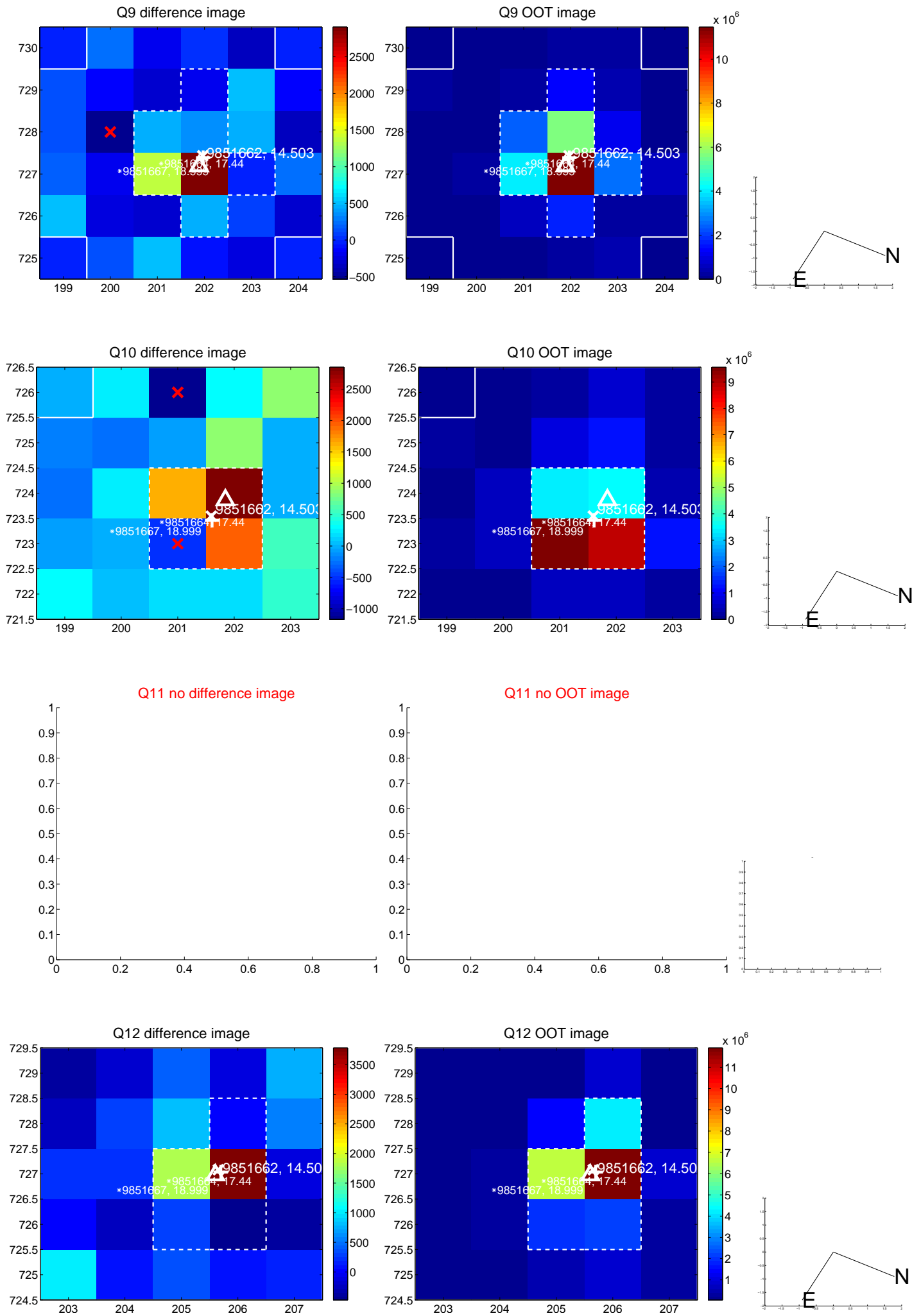
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



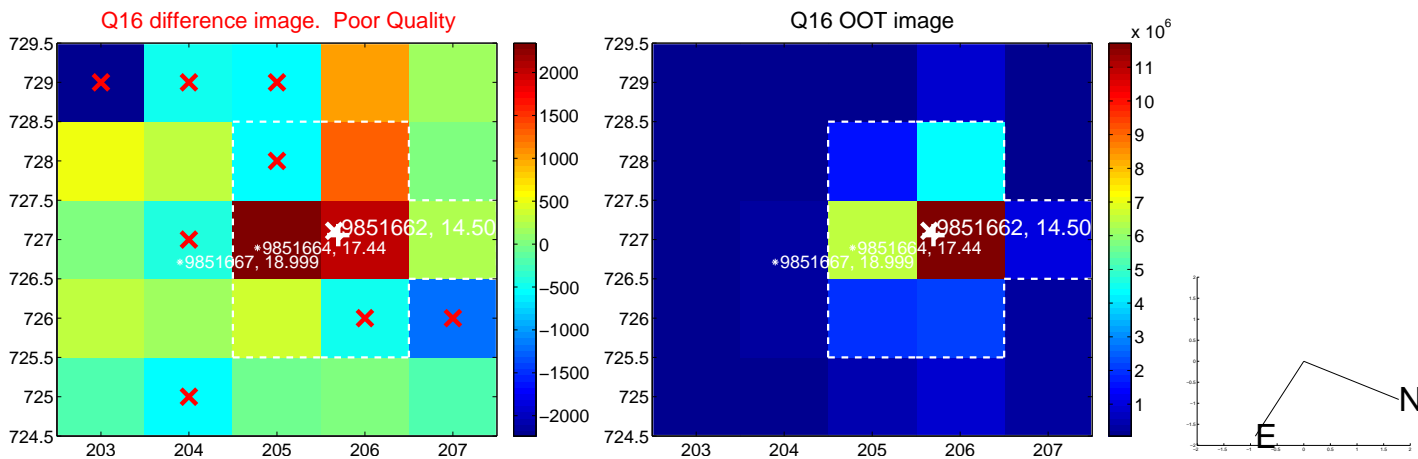
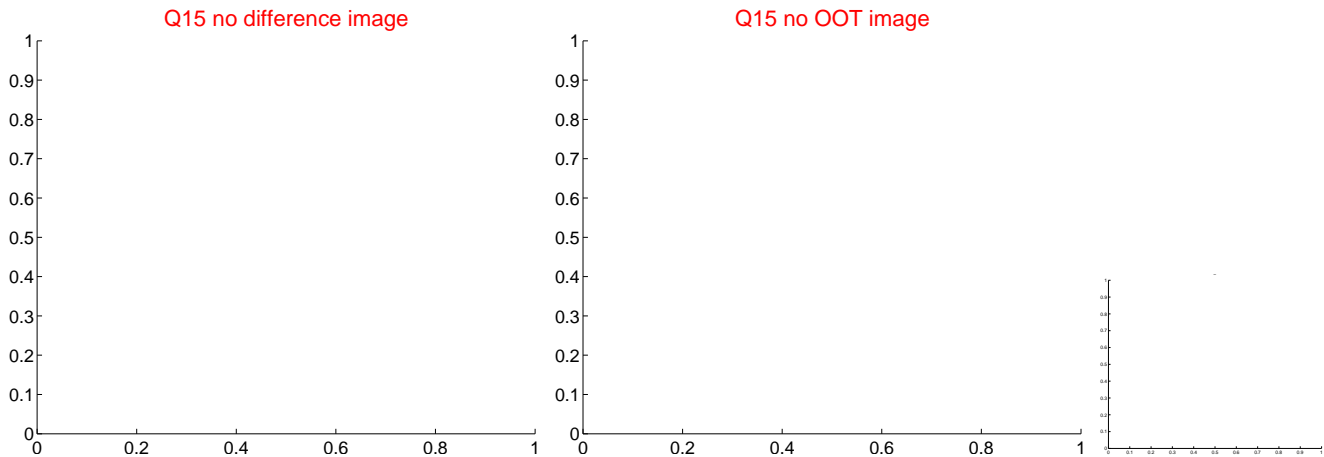
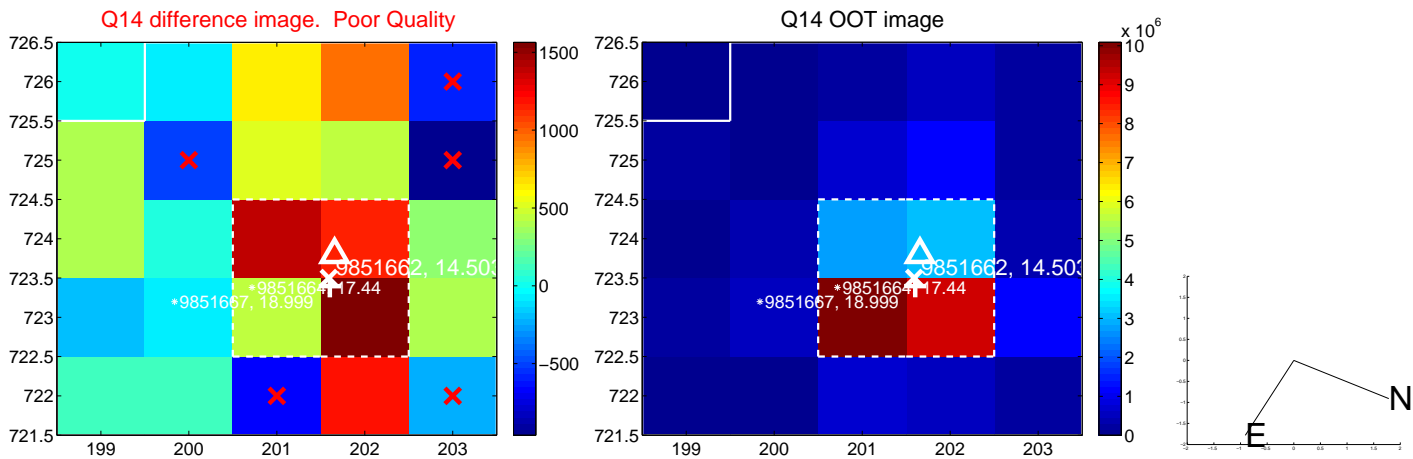
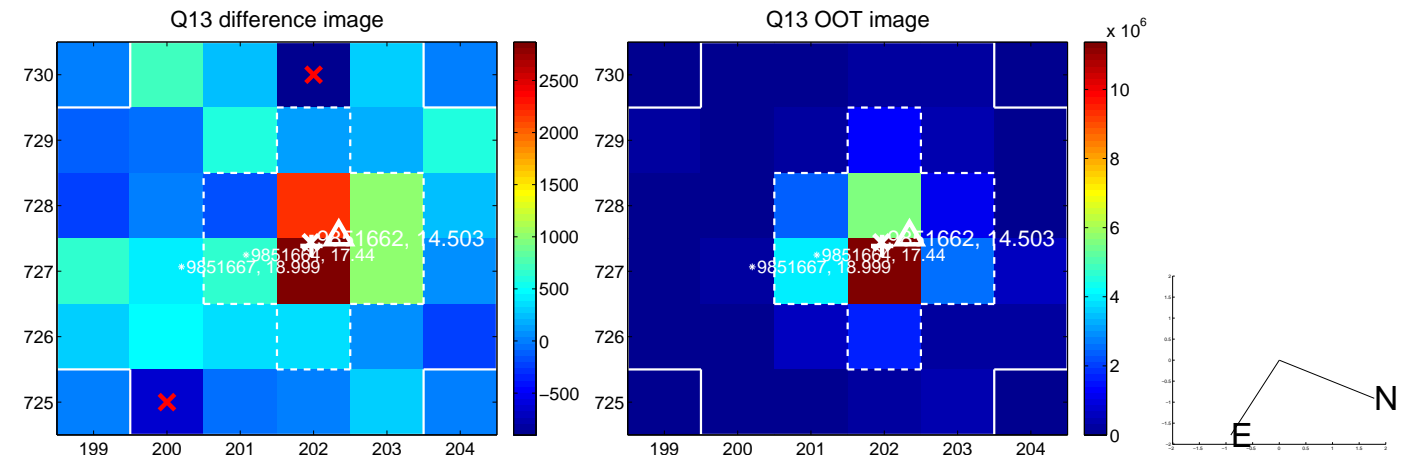
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



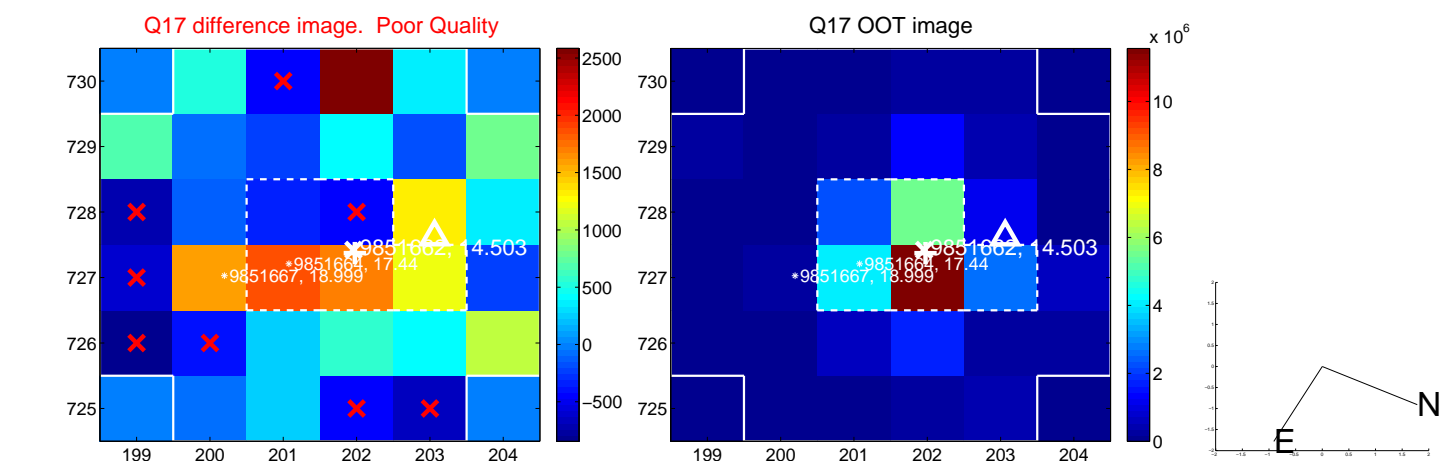
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



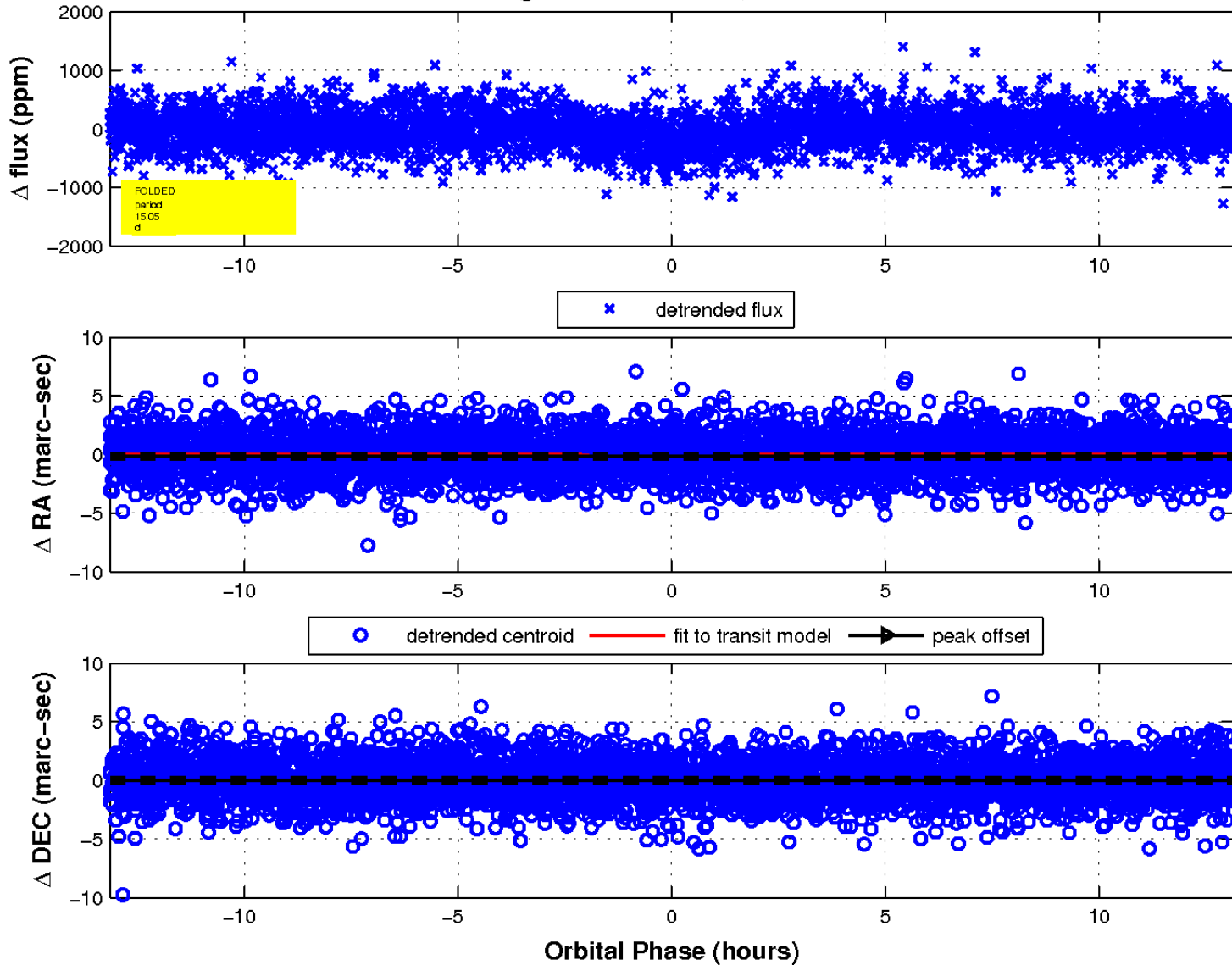
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

