

KIC 009520285

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})
009520285-01	OBS	No	102.508550	185.326654	228.0	1.824	7.3	6.8	3.05	6605	5.04	60.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009520285-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_SKYE—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.

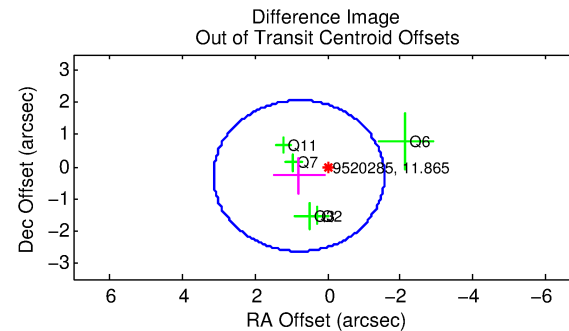
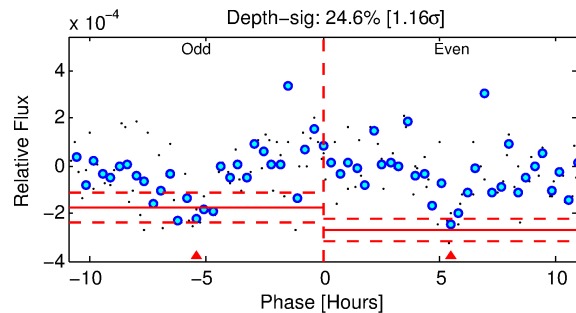
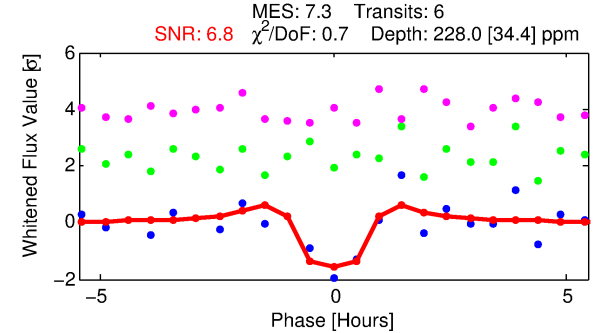
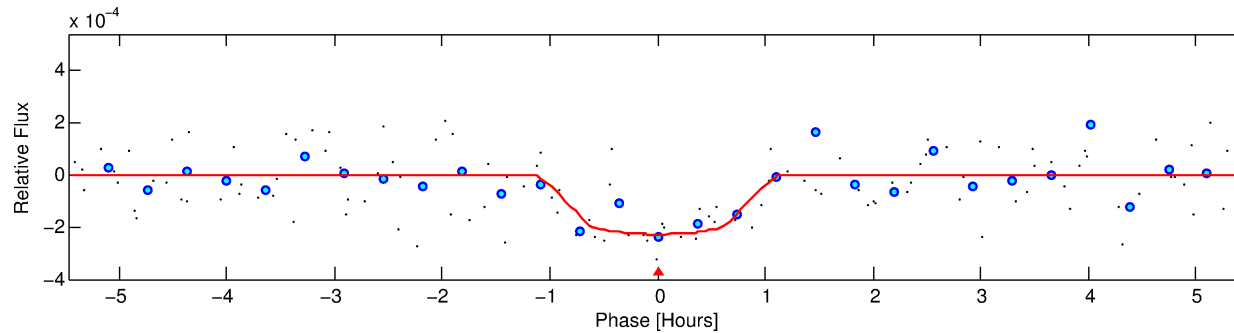
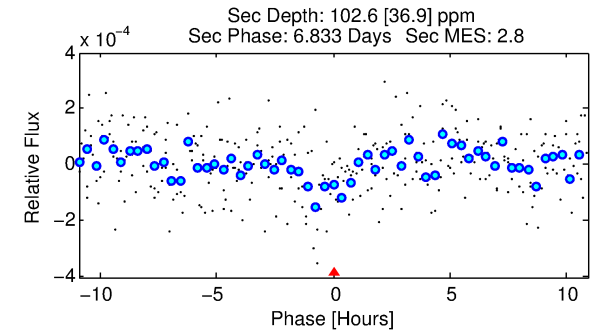
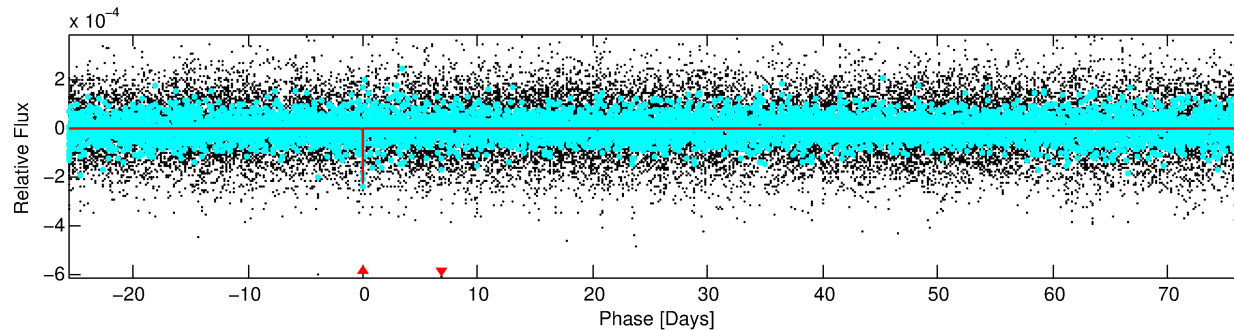
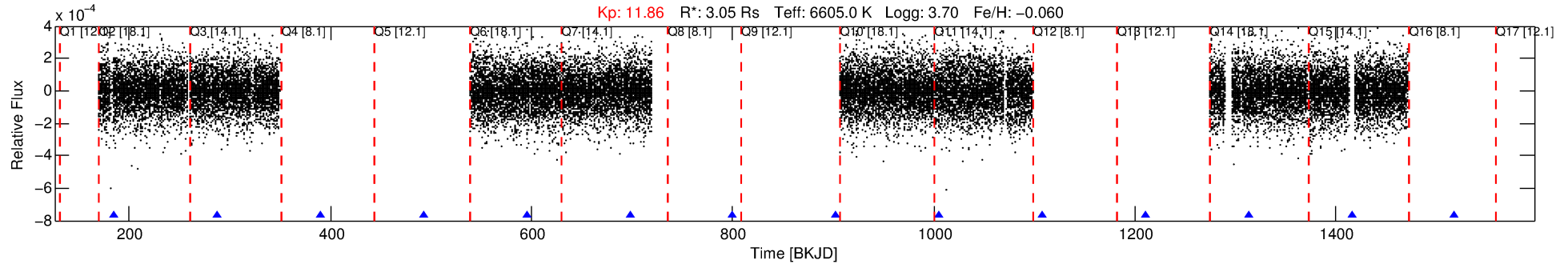
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009520285-01

No Significant Match Found

DV One-Page Summary

KIC: 9520285 Candidate: 1 of 1 Period: 102.509 d



DV Fit Results:

Period = 102.50855 [0.00077] d
Epoch = 185.3267 [0.0043] BKJD
Rp/R* = 0.0151 [0.0117]
a/R* = 284.19 [1207.21]
b = 0.77 [2.26]
Seff = 60.66 [32.66]
Teq = 712 [96] K
Rp = 5.04 [4.28] Re
a = 0.5114 [0.1713] AU
Ag = 580.83 [967.41] [0.60σ]
Teffp = 5401 [2141] K [2.19σ]

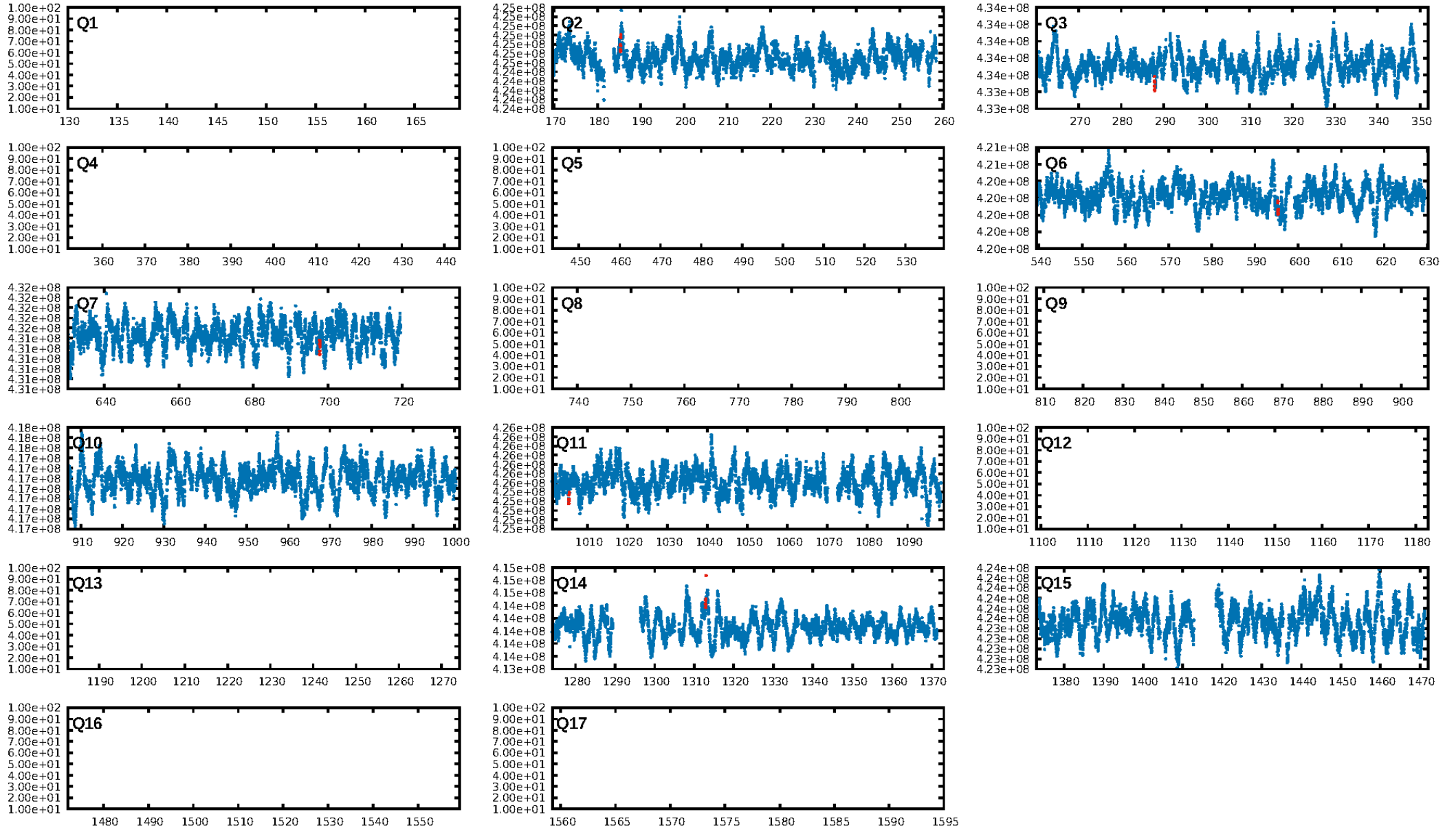
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 87.0%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 8.14e-11
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -10.66
Centroid-sig: 68.3%
Centroid-so: 0.268 arcsec [0.39σ]
OotOffset-rm: 0.838 arcsec [1.07σ]
OotOffset-st: 2/3/0/0 [5]
KicOffset-rm: 0.850 arcsec [1.58σ]
KicOffset-st: 2/3/0/0 [5]
DiffImageQuality-fgm: 1.00 [5/5]
DiffImageOverlap-fno: 1.00 [6/6]

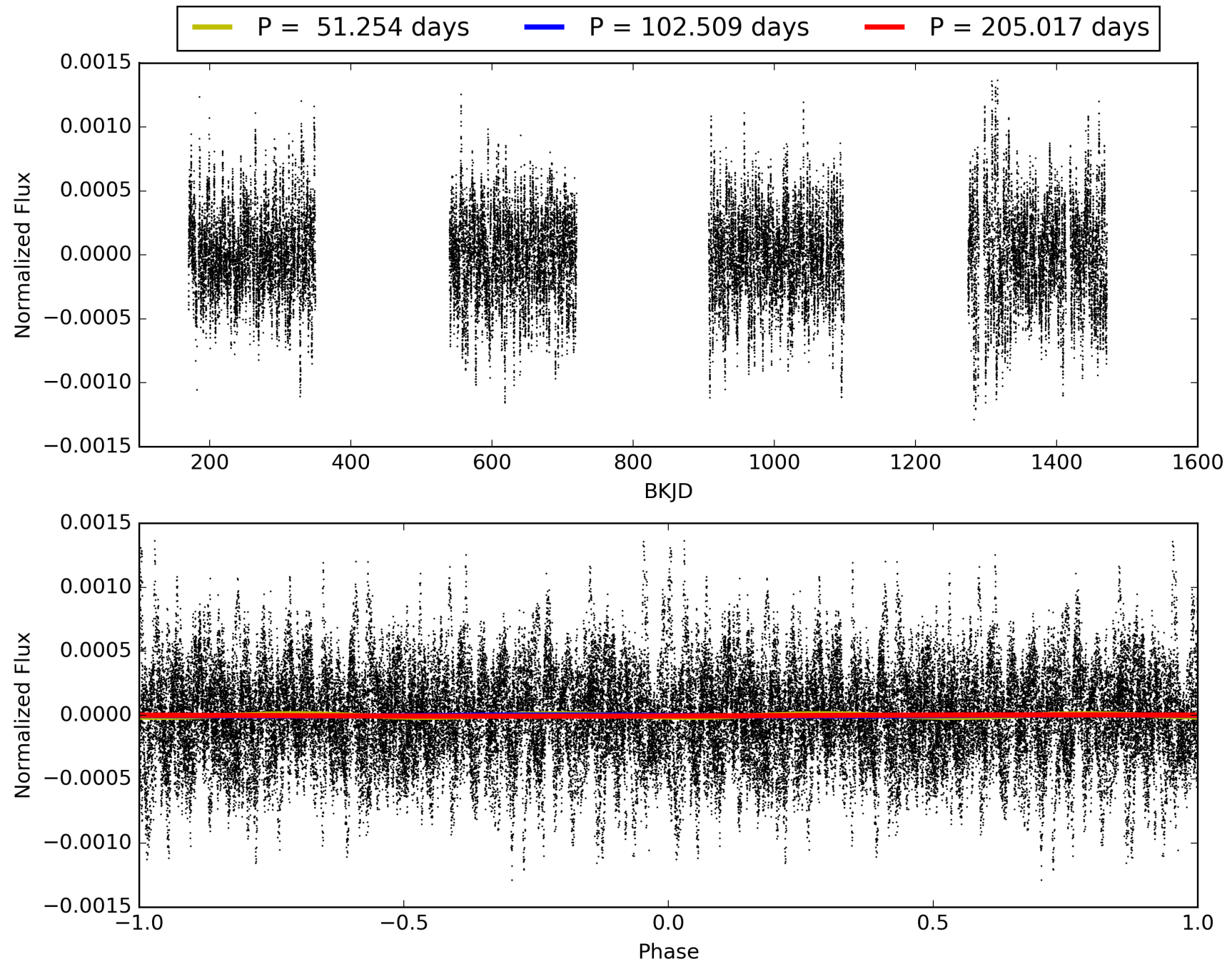
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:03:32 Z

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

TCE 009520285-01, PDC Light Curves

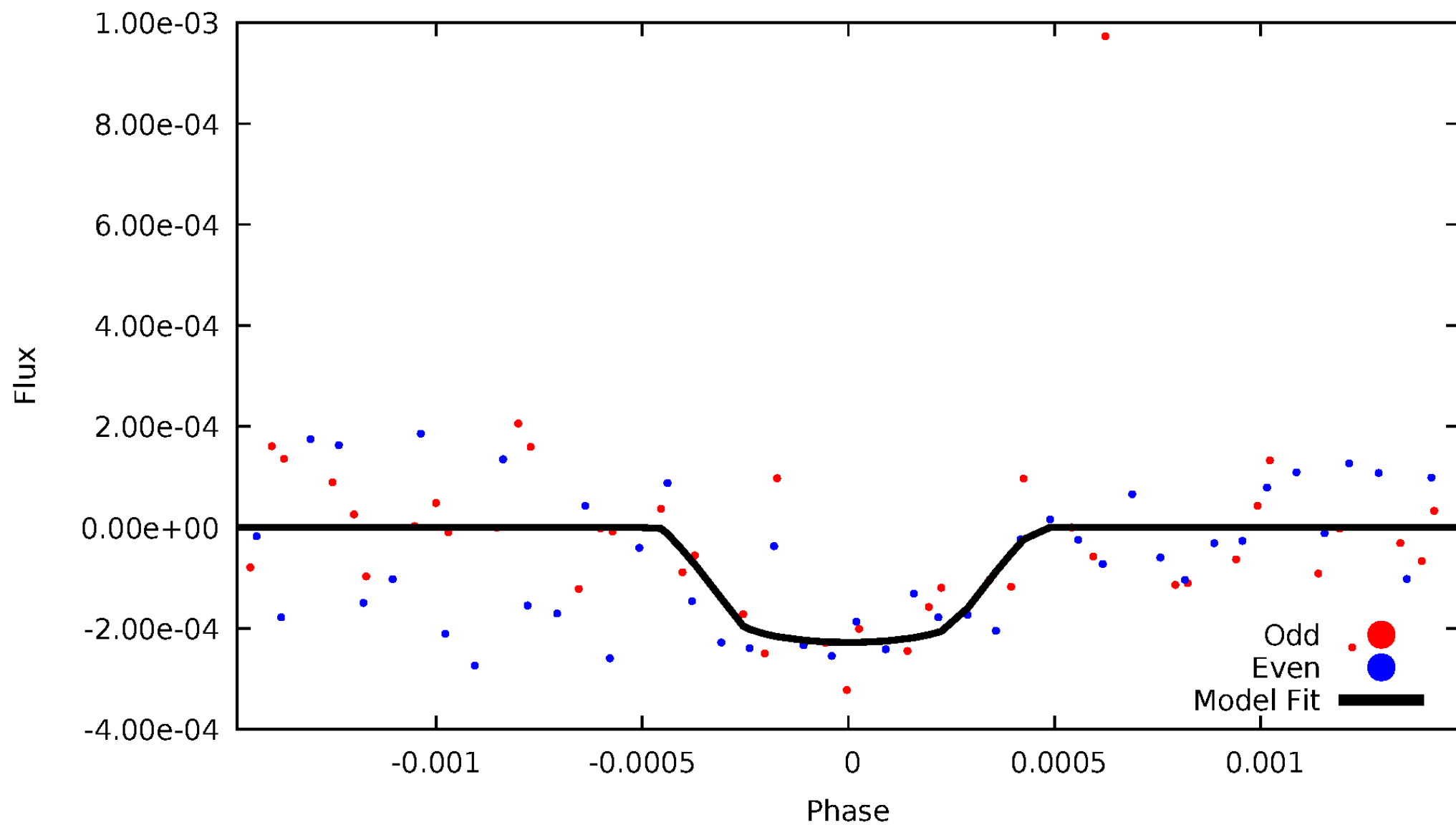


TCE 009520285-01



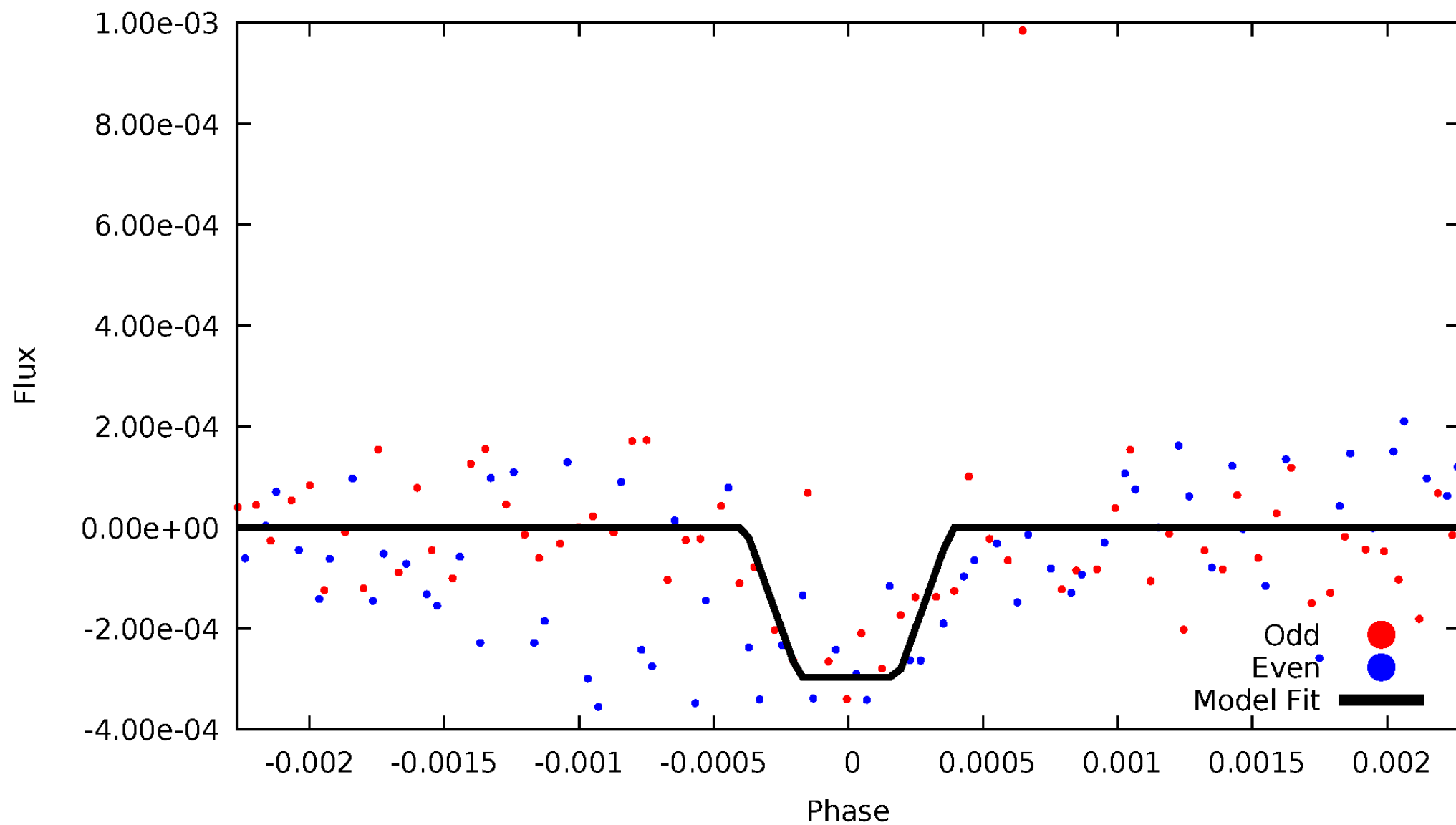
DV Odd/Even

TCE 009520285-01

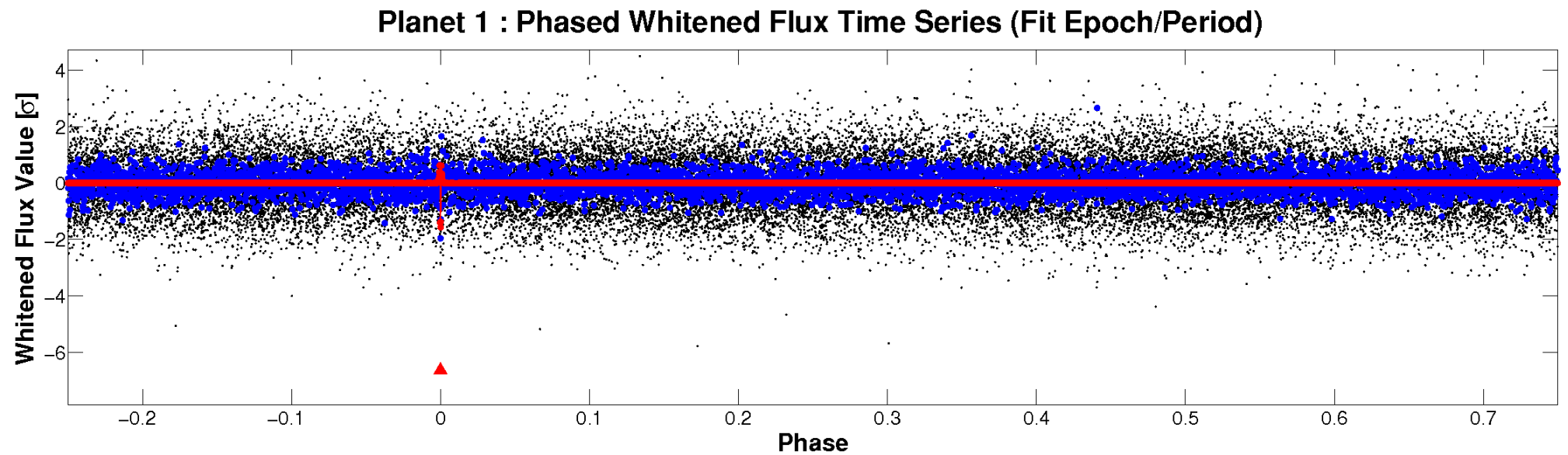
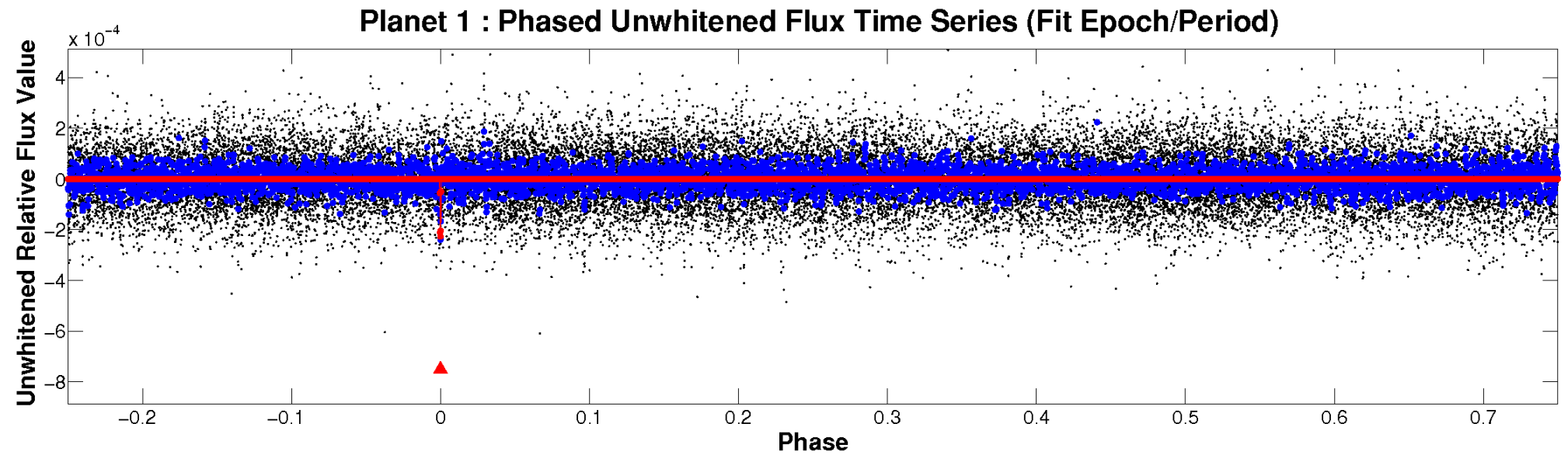


ALT Odd/Even

TCE 009520285-01



Non-Whitened Vs. Whitened Light Curve



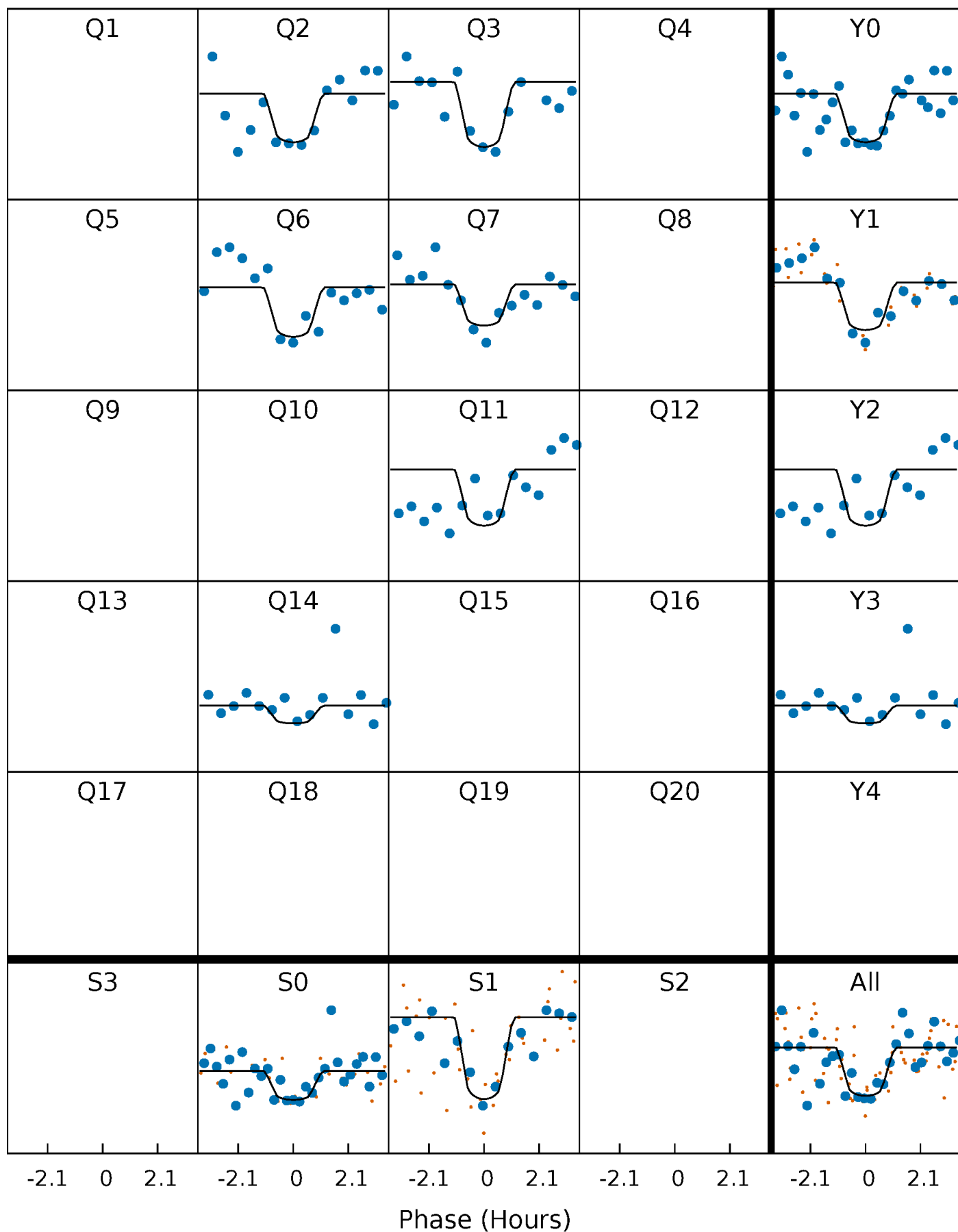
PDC Quarter-Phased Transit Curves

TCE 009520285-01 P=102.508550 Days $T_0=185.326654$ (BKJD)



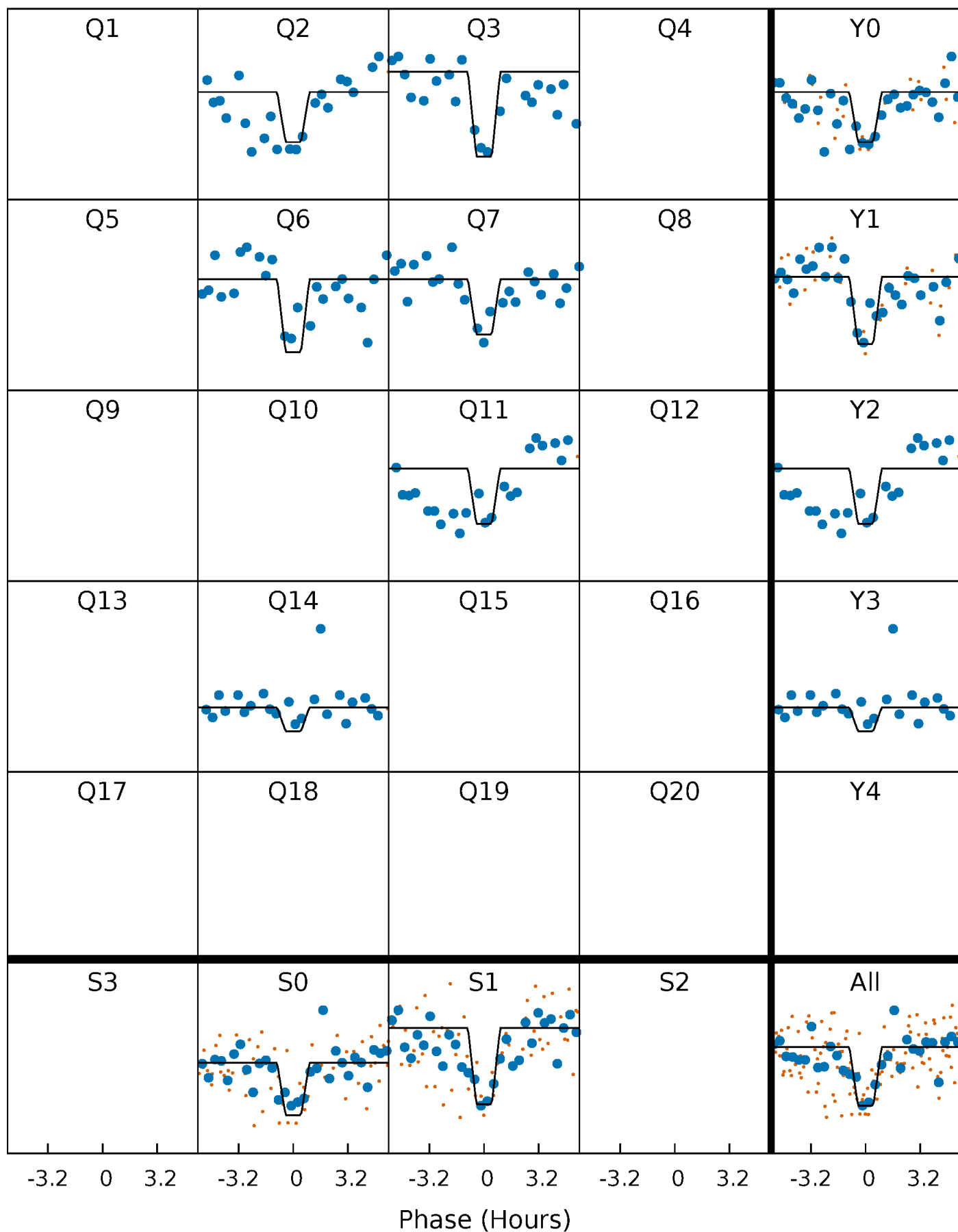
DV Quarter-Phased Transit Curves

TCE 009520285-01 P=102.508550 Days $T_0=185.326654$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

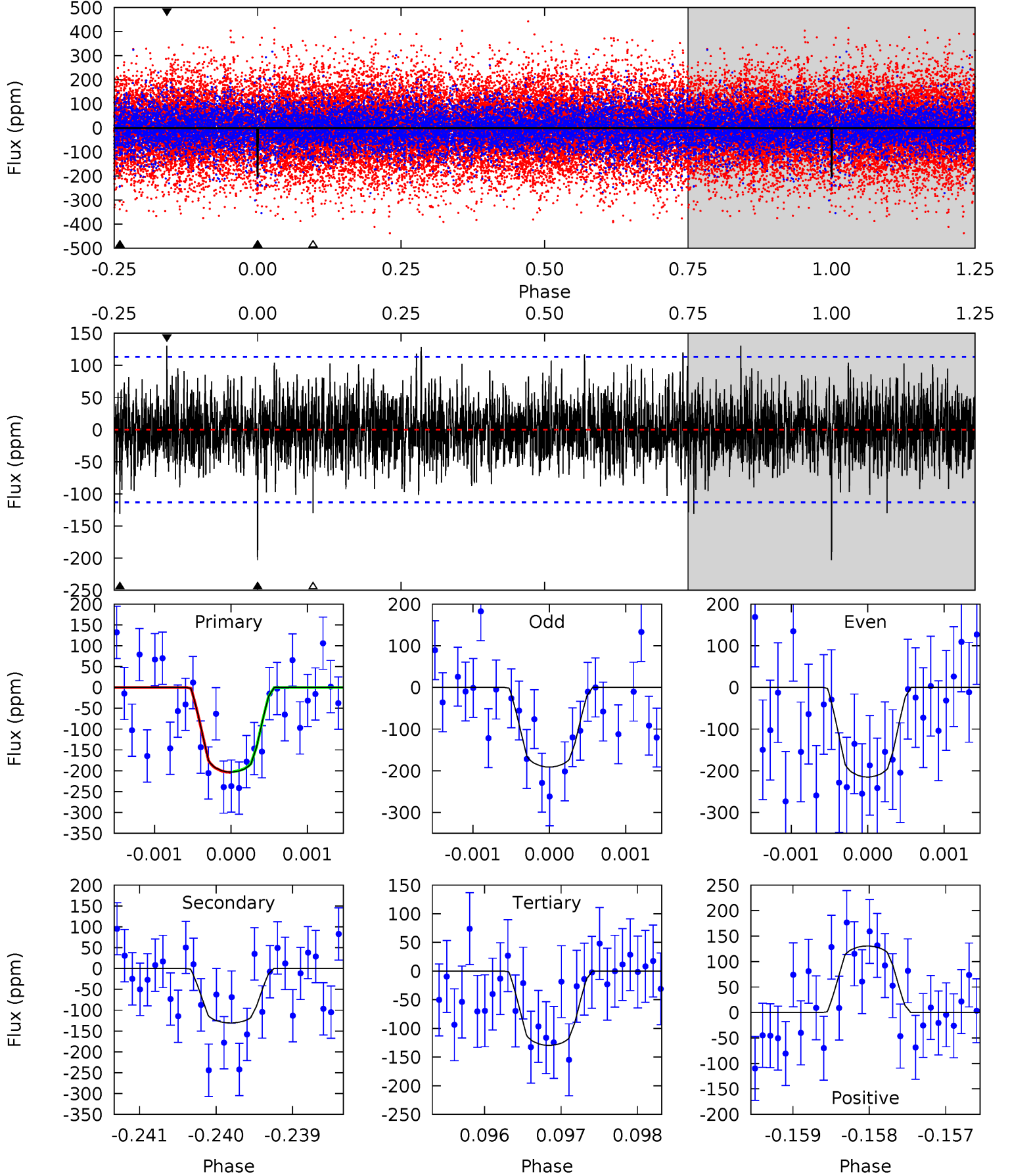
TCE 009520285-01 P=102.508138 Days $T_0=185.328877$ (BKJD)



DV Model-Shift Uniqueness Test

009520285-01, P = 102.508550 Days, E = 82.818104 Days

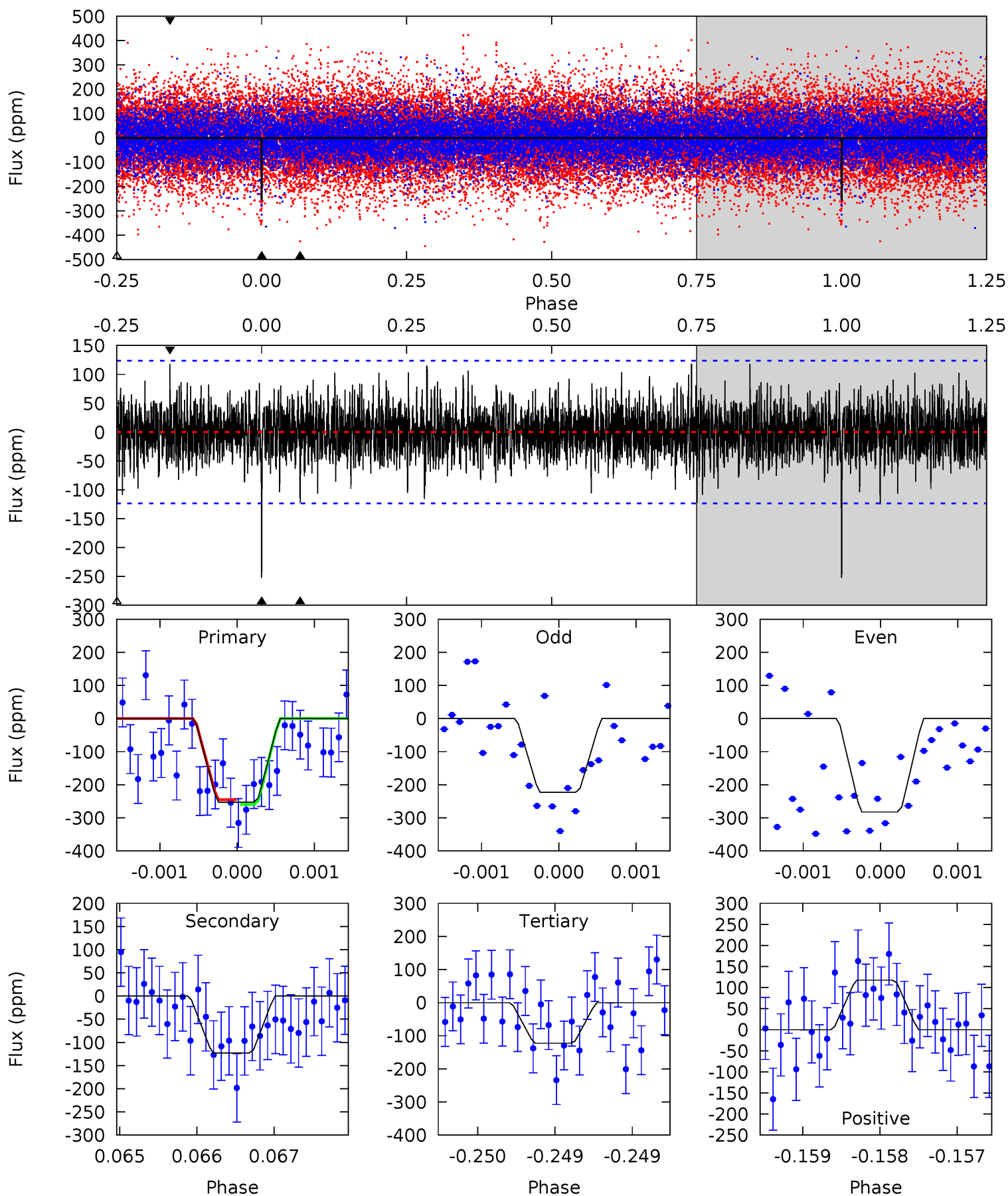
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.84	6.33	6.28	6.32	5.48	3.33	1.66	3.56	3.52	0.05	0.01	0.58	0.88	0.39	0.04



Alt Model-Shift Uniqueness Test

009520285-01, P = 102.508138 Days, E = 82.820739 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	5.49	5.47	5.25	5.51	3.39	1.41	5.80	6.02	0.02	0.24	1.33	0.97	0.32	0.33



Stellar Parameters For KIC 009520285

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6605^{+158}_{-197}	$3.699^{+0.304}_{-0.076}$	$-0.060^{+0.300}_{-0.250}$	$3.050^{+0.472}_{-1.100}$	$1.699^{+0.198}_{-0.368}$	$0.084^{+0.172}_{-0.022}$
	+2%/-3%	+8%/-2%	+500%/-417%	+15%/-36%	+12%/-22%	+204%/-26%
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 009520285-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-131 ± 21	$5.09^{+3.52}_{-3.20}$	971^{+50}_{-82}	5475^{+4051}_{-1046}	724^{+4240}_{-467}
Alt.	-123 ± 22	$5.52^{+3.46}_{-3.10}$	970^{+57}_{-86}	5283^{+2640}_{-1006}	594^{+2490}_{-388}

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

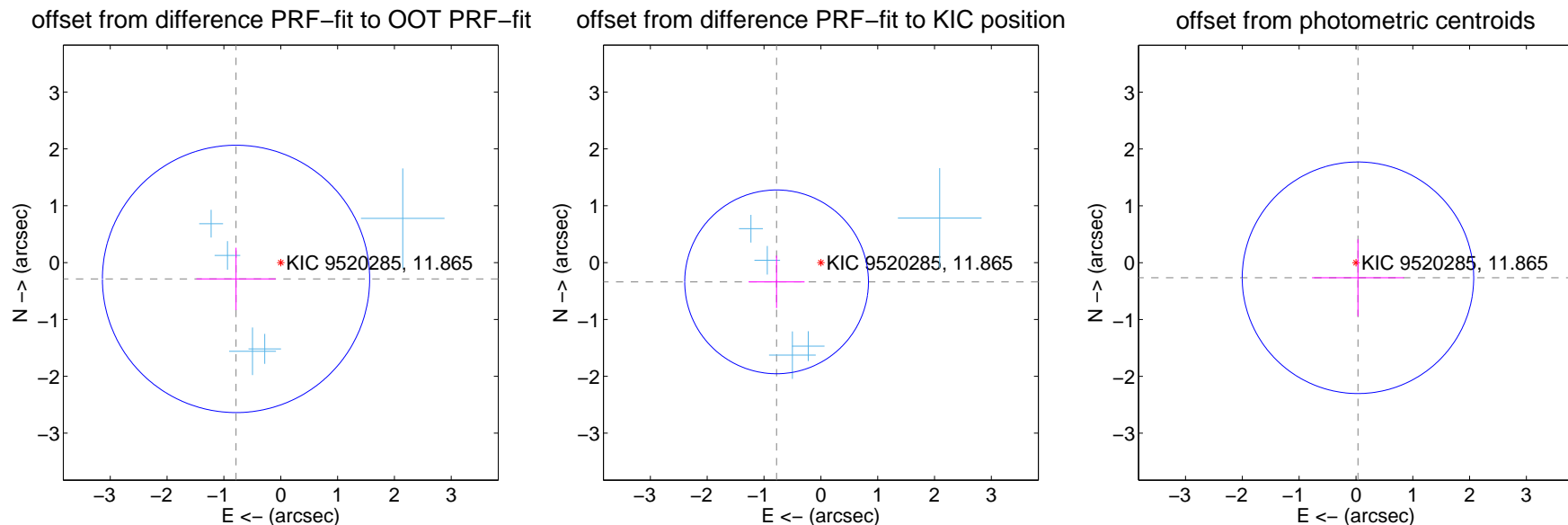
DV Centroid Data

Supplemental centroid analysis for 009520285-01. **Kepler magnitude: 11.87.** Transit SNR 6.83

There are 5 quarters with good PRF difference image offsets

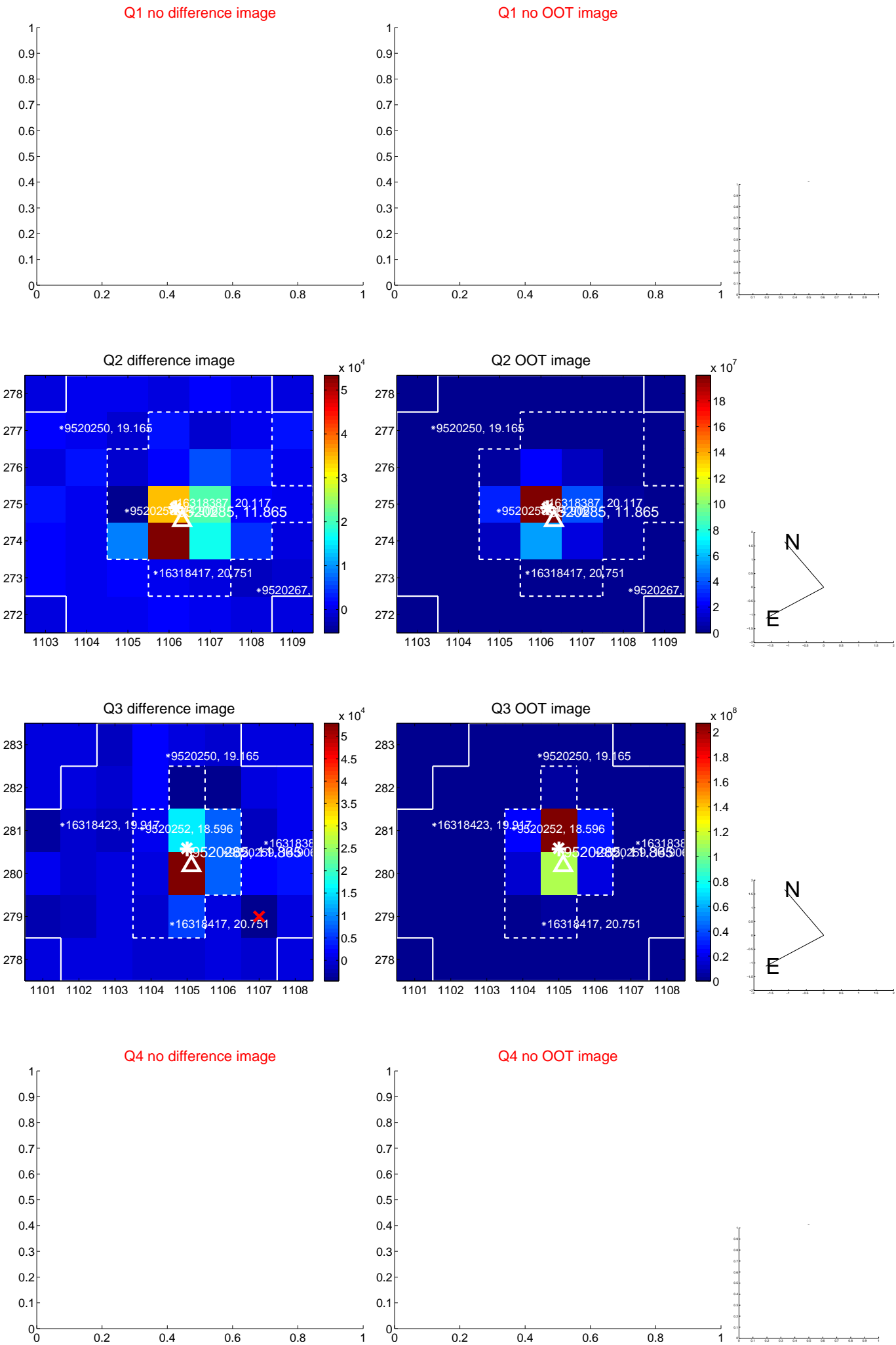
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.838 ± 0.784	1.07	0.787 ± 0.697	-0.287 ± 0.548
PRF-fit source offset from KIC position	0.850 ± 0.539	1.58	0.779 ± 0.492	-0.339 ± 0.462
photometric centroid source offset	0.27 ± 0.68	0.39	-0.04 ± 0.81	-0.27 ± 0.68

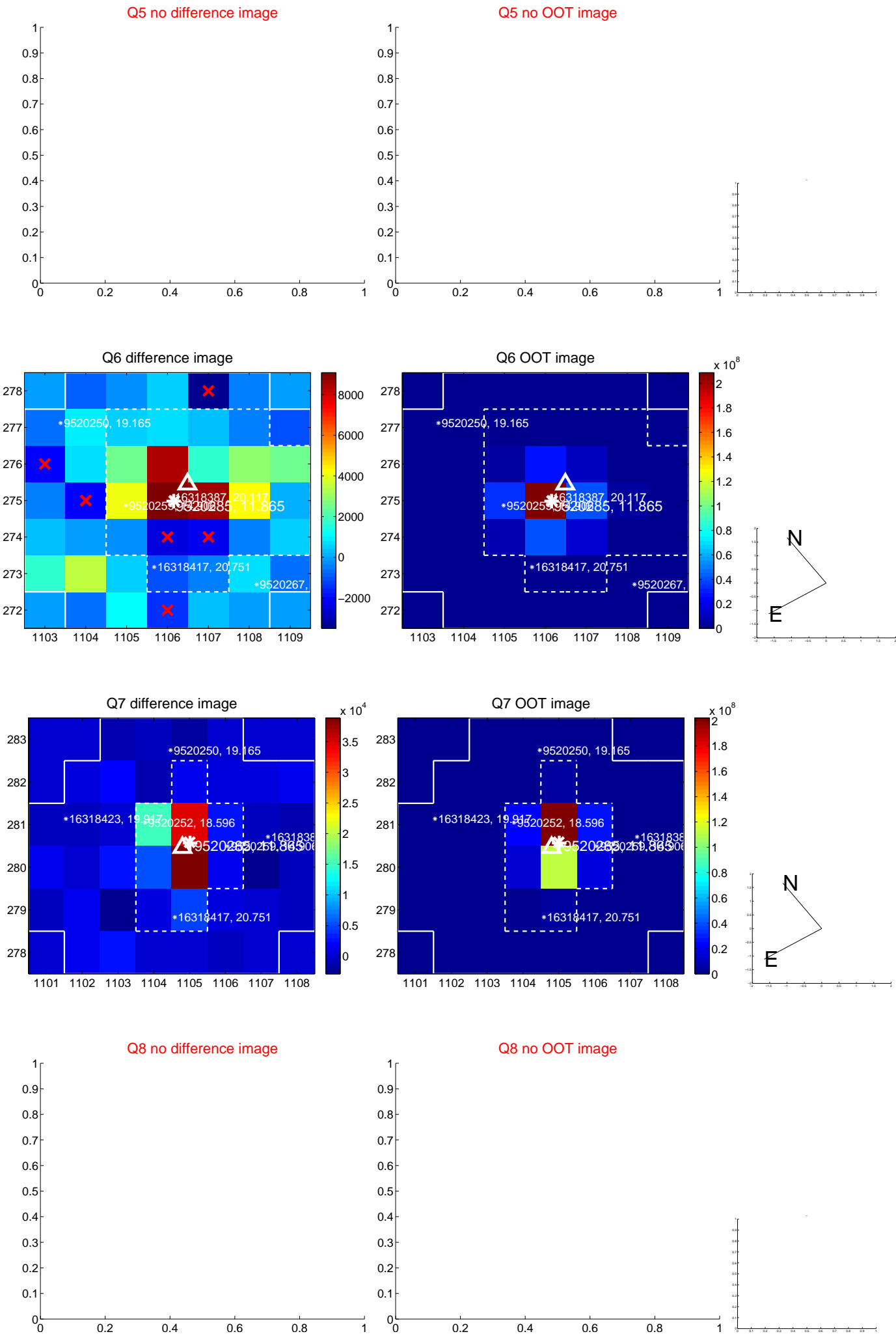


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

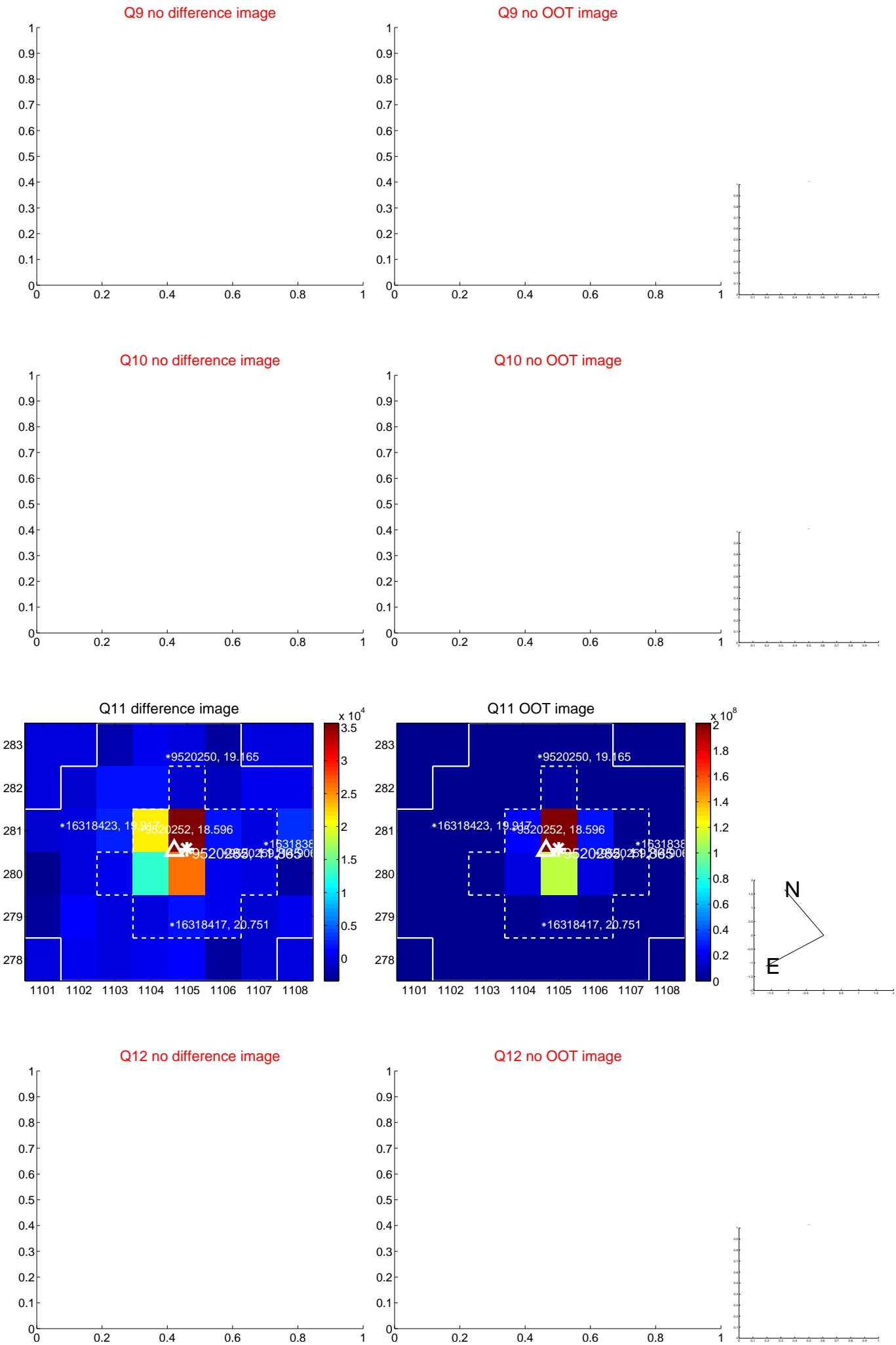
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



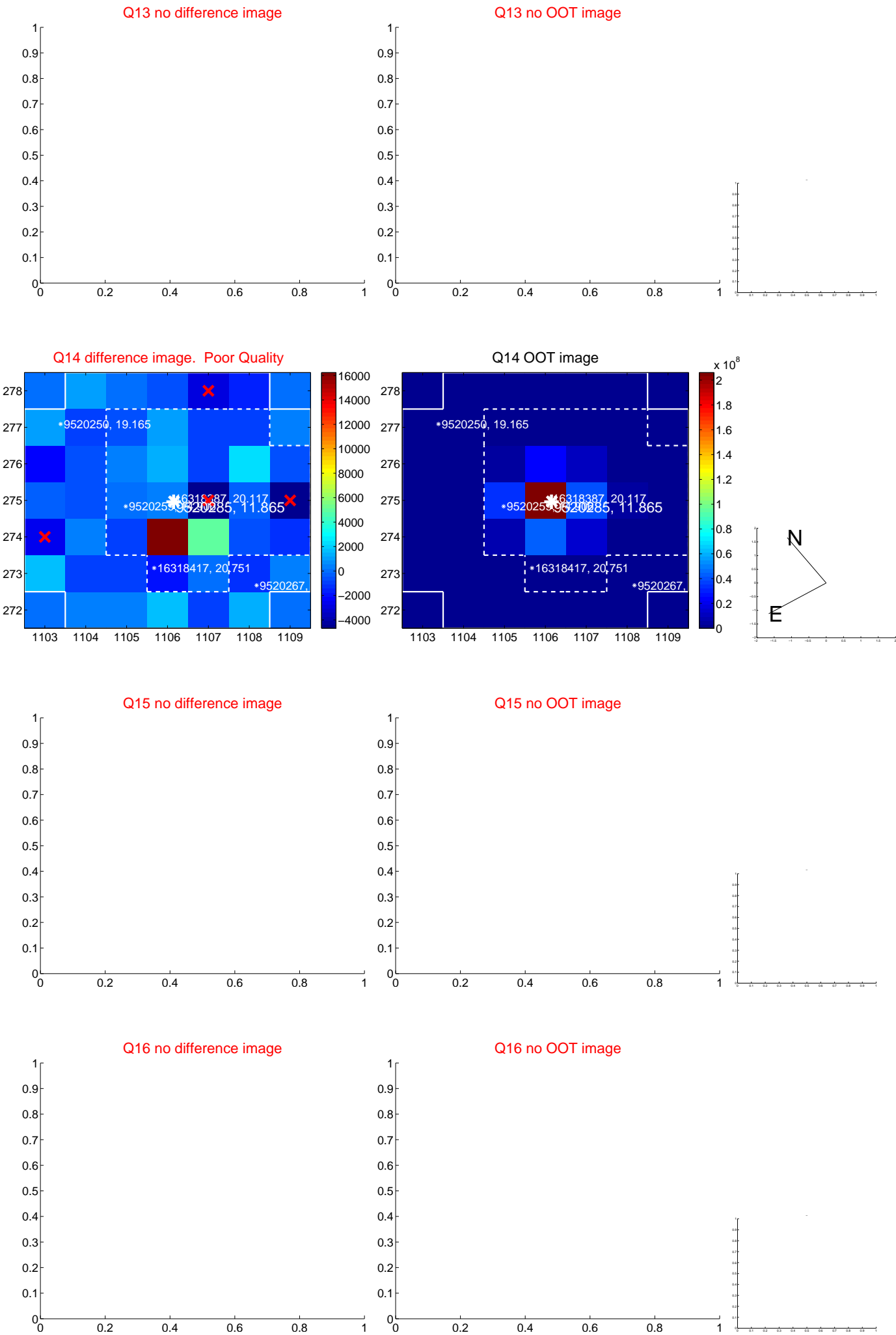
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



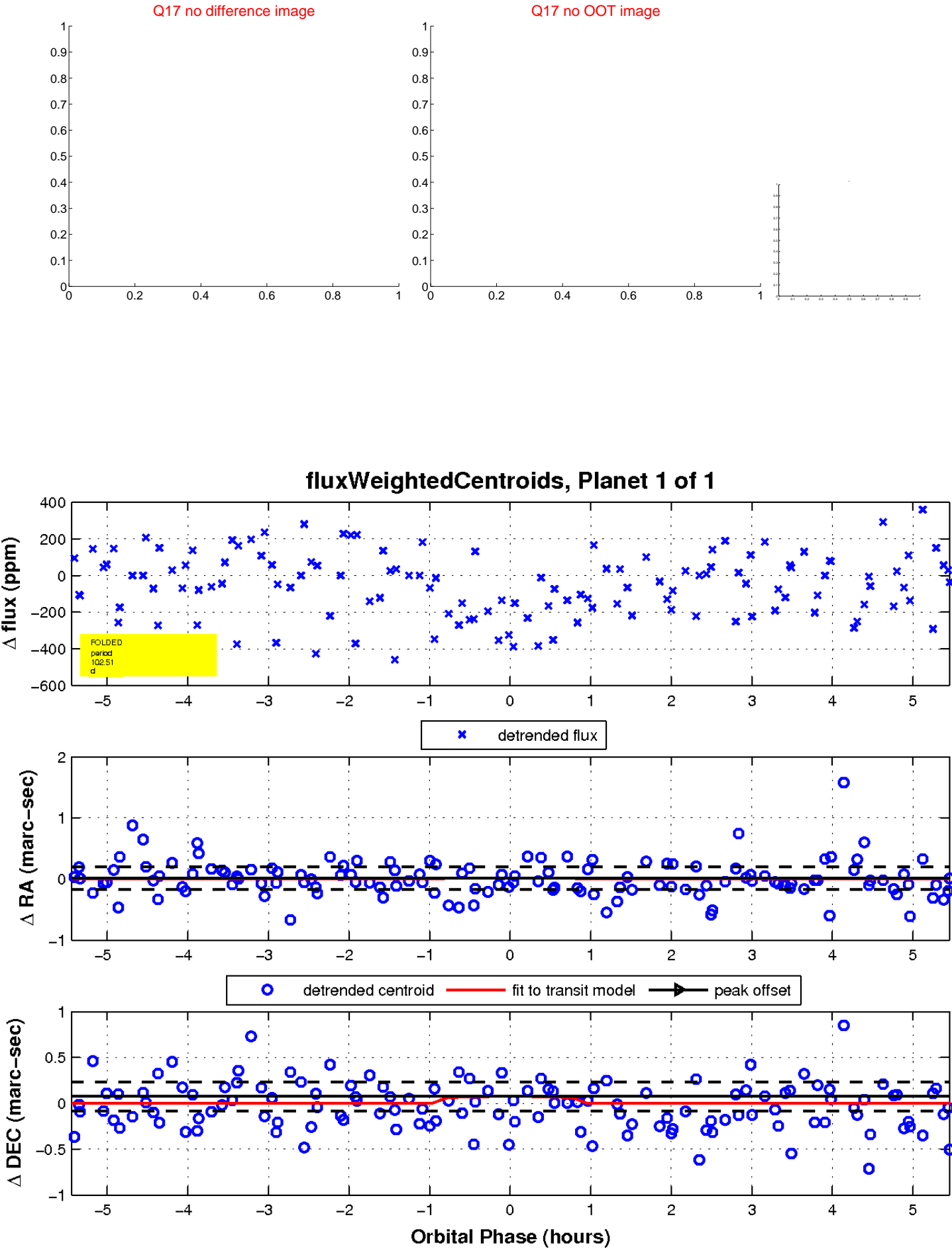
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

