

KIC 010062987

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})
010062987-01	OBS	No	310.863827	308.636602	1377.9	2.775	9.8	5.5	0.72	5169	2.63	0.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010062987-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

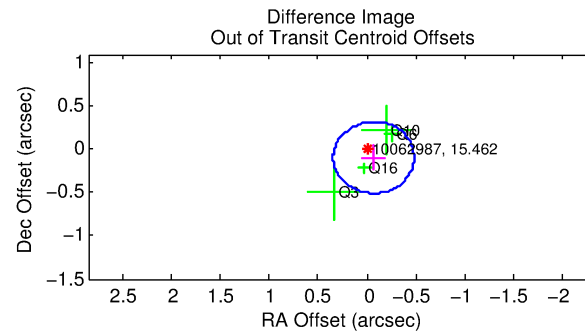
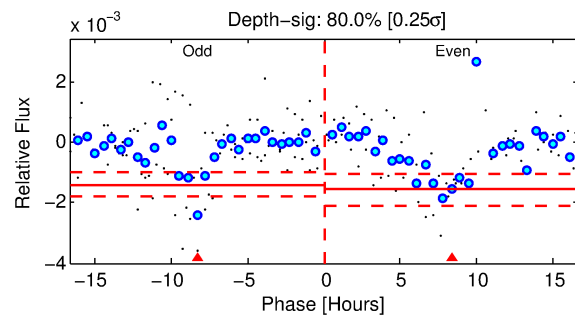
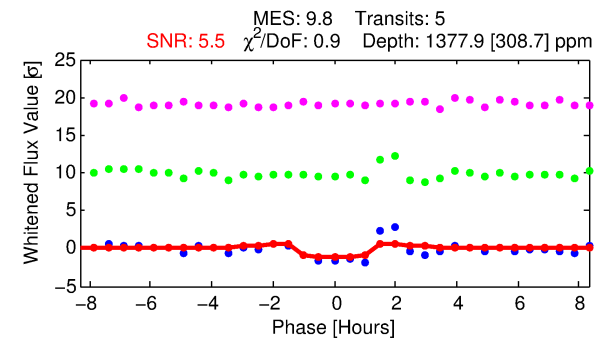
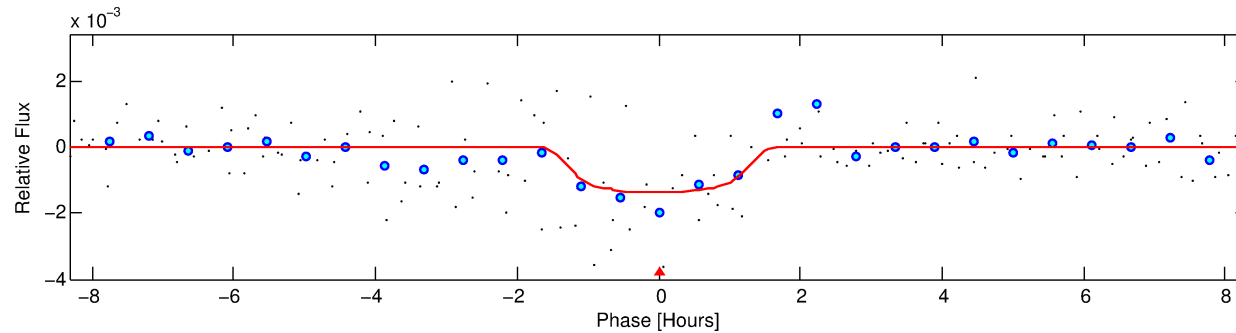
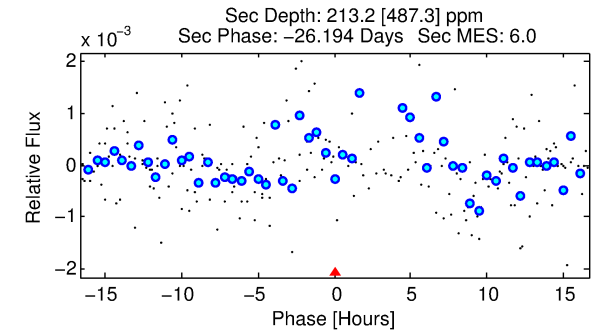
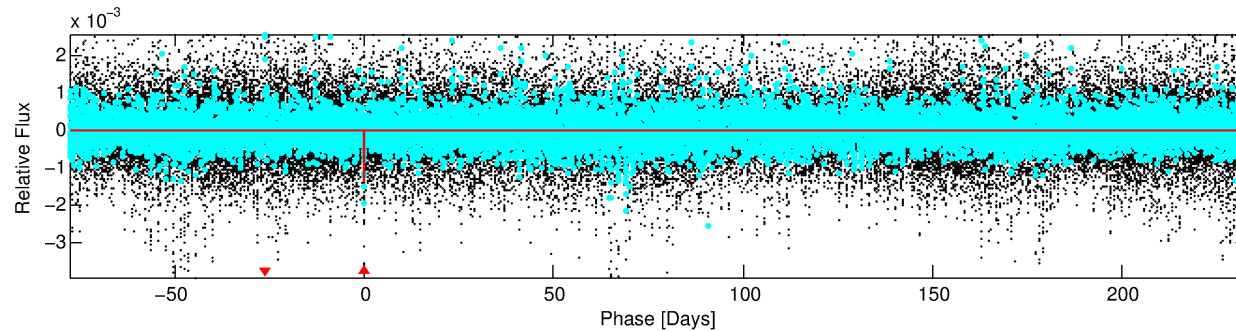
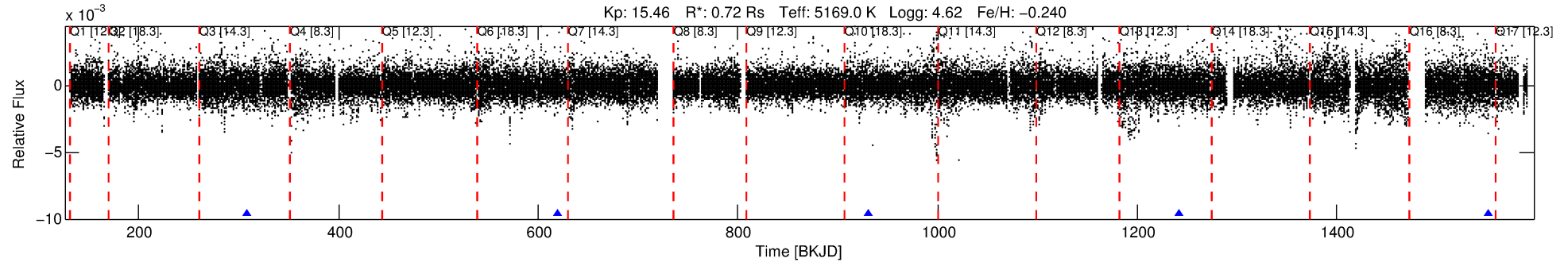
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010062987-01

No Significant Match Found

DV One-Page Summary

KIC: 10062987 Candidate: 1 of 1 Period: 310.864 d



DV Fit Results:

Period = 310.86383 [0.00425] d
Epoch = 308.6366 [0.0081] BKJD
Rp/R* = 0.0333 [0.2316]
a/R* = 874.22 [22544.90]
b = 0.16 [162.75]
Seff = 0.48 [0.09]
Teq = 213 [10] K
Rp = 2.63 [18.27] Re
a = 0.8321 [0.0907] AU
Ag = 11755.92 [165661.95] [0.07σ]
Teffp = 3422 [12056] K [0.27σ]

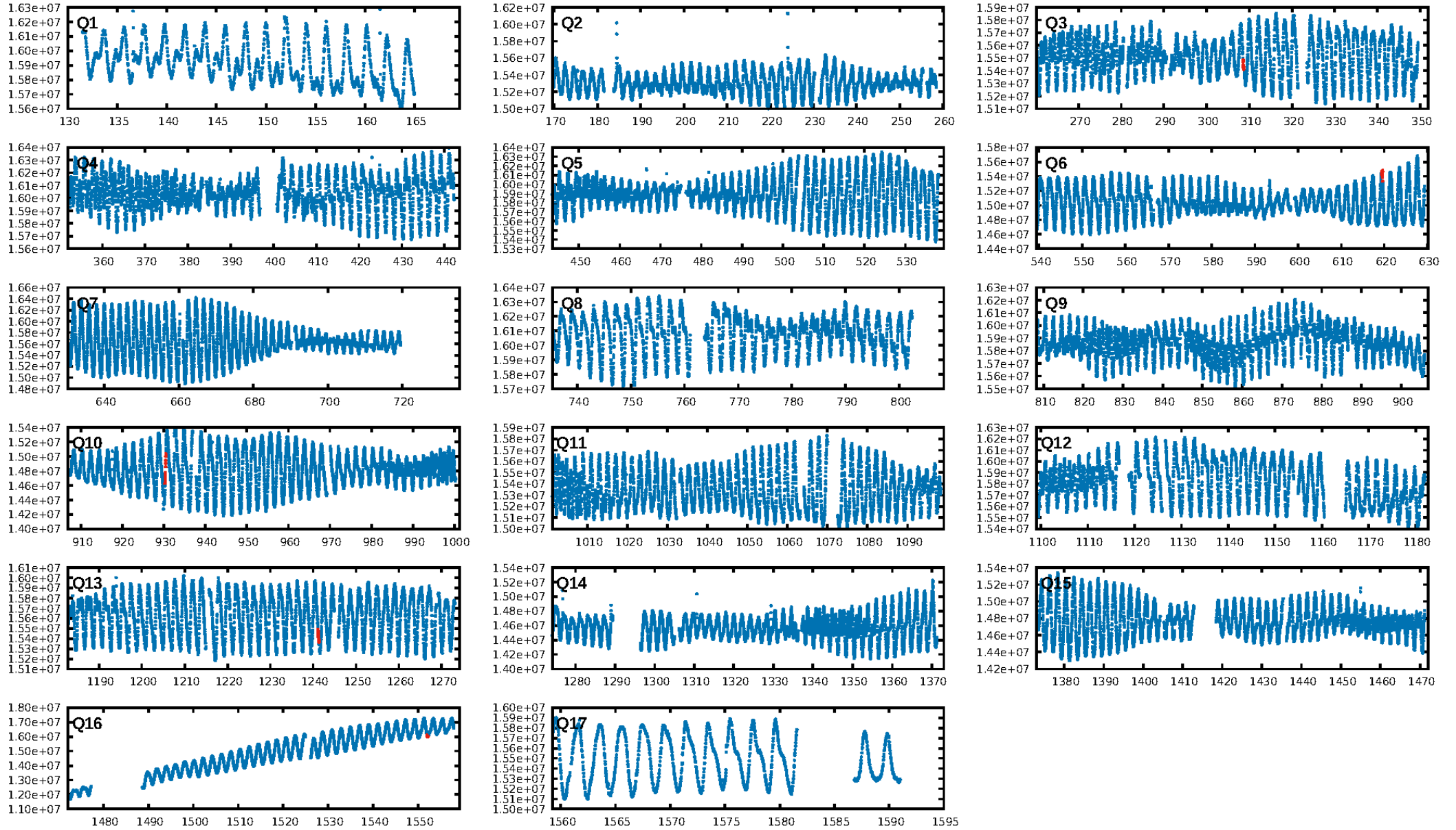
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 11.6%
ModelChiSquareGof-sig: 97.5%
Bootstrap-pfa: 1.79e-10
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.7765
Centroid-sig: 76.5%
Centroid-so: 0.633 arcsec [0.55σ]
OotOffset-rm: 0.115 arcsec [0.84σ]
OotOffset-st: 2/1/1/0 [4]
KicOffset-rm: 0.237 arcsec [1.22σ]
KicOffset-st: 2/1/1/0 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 1.00 [4/4]

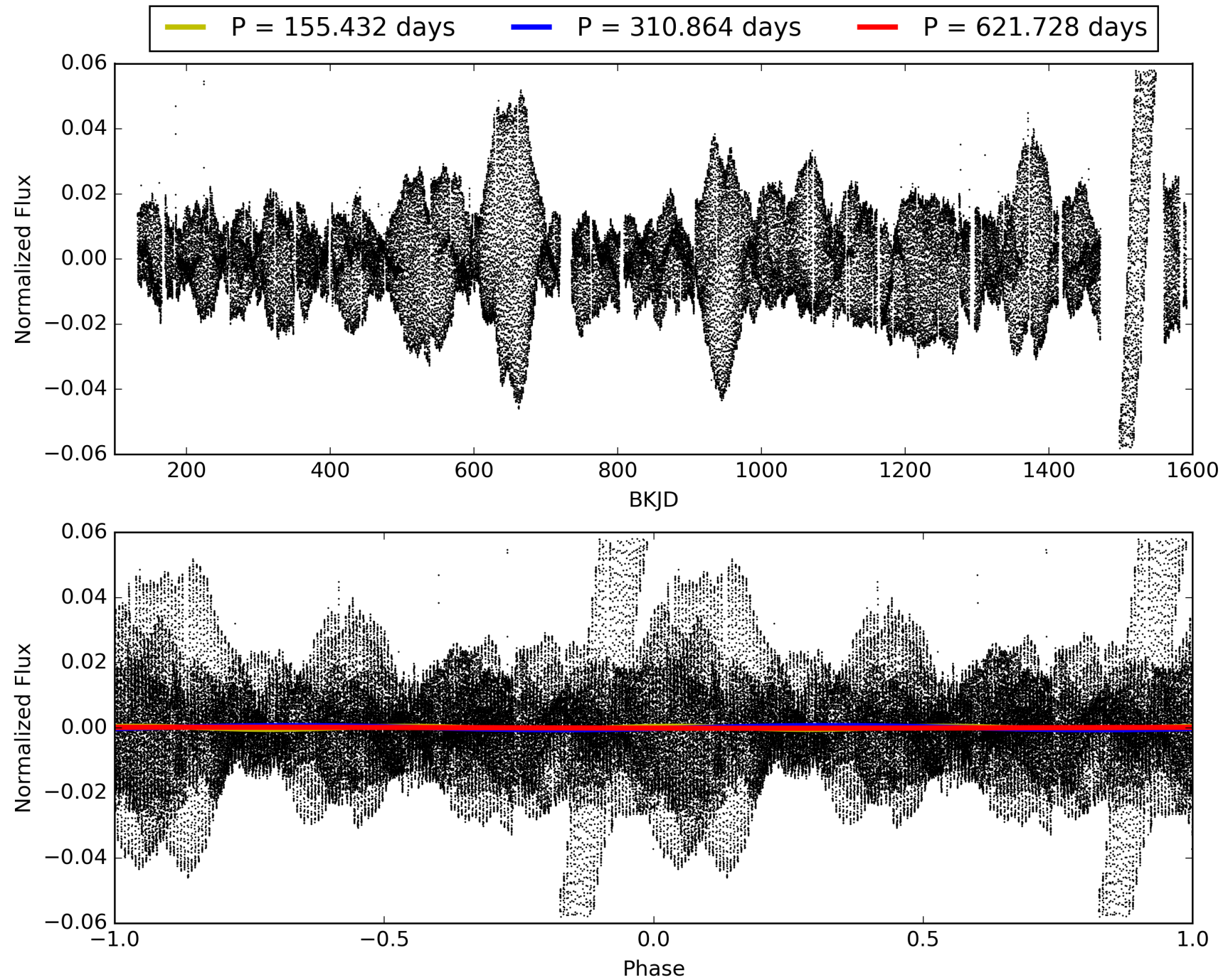
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 02:30:37 Z

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

TCE 010062987-01, PDC Light Curves

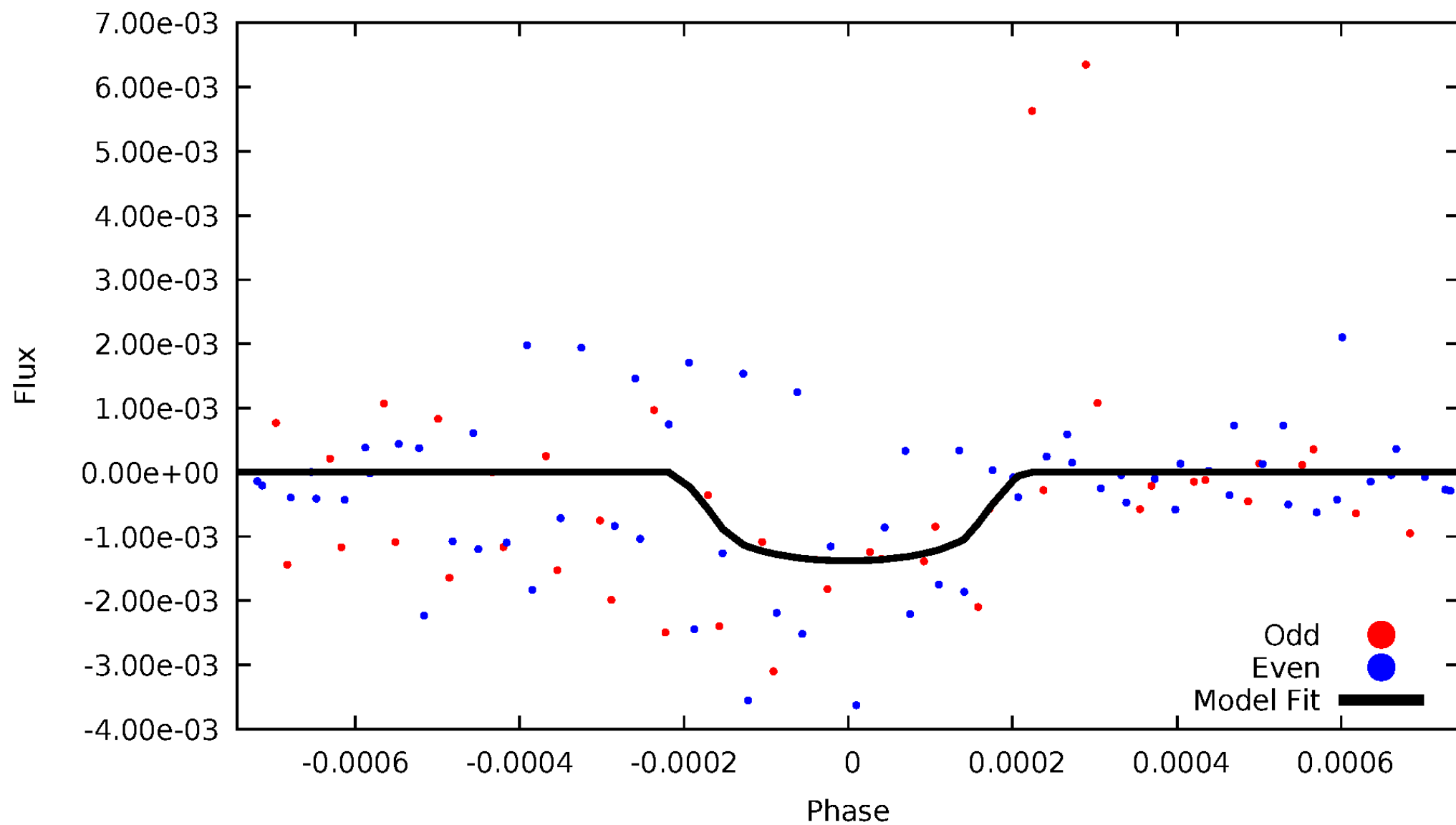


TCE 010062987-01



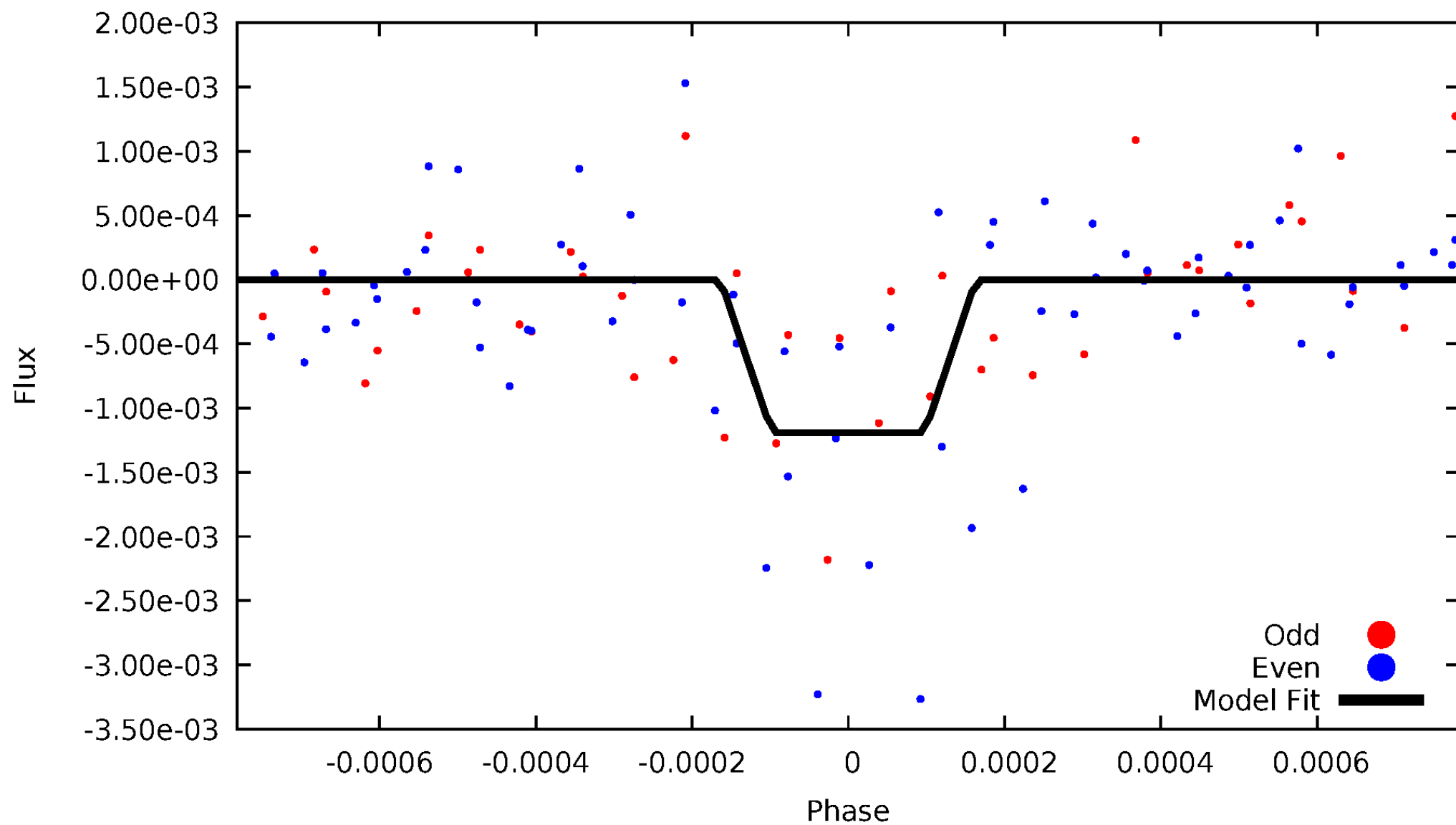
DV Odd/Even

TCE 010062987-01



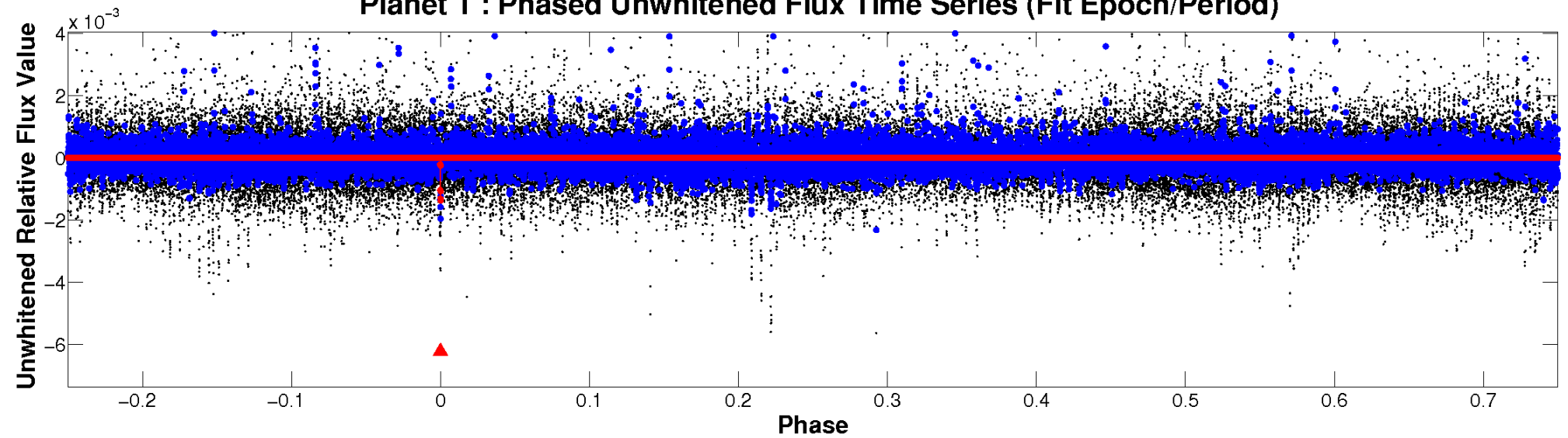
ALT Odd/Even

TCE 010062987-01

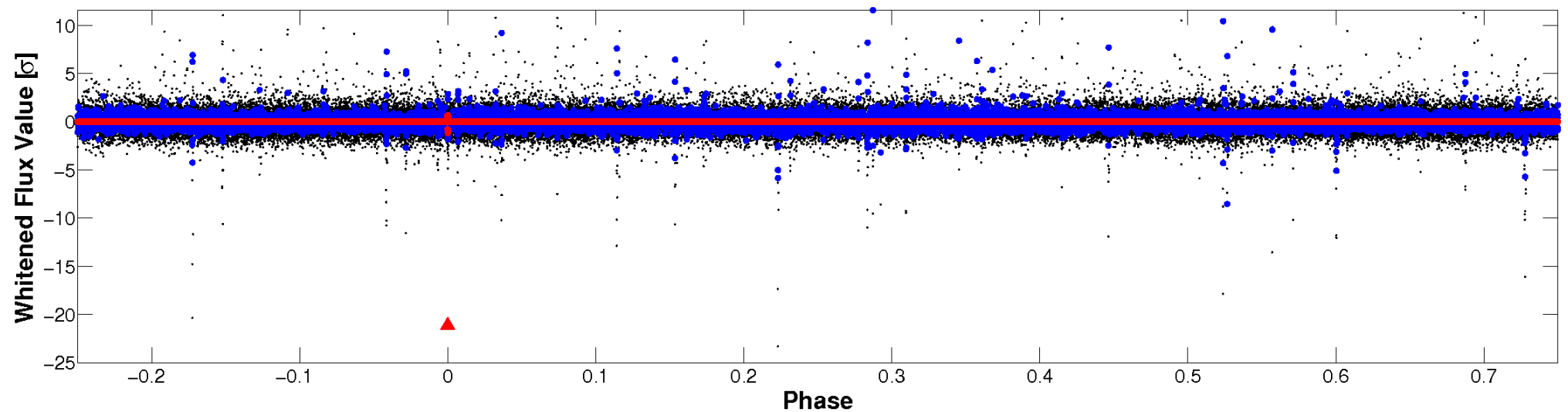


Non-Whitened Vs. Whitened Light Curve

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

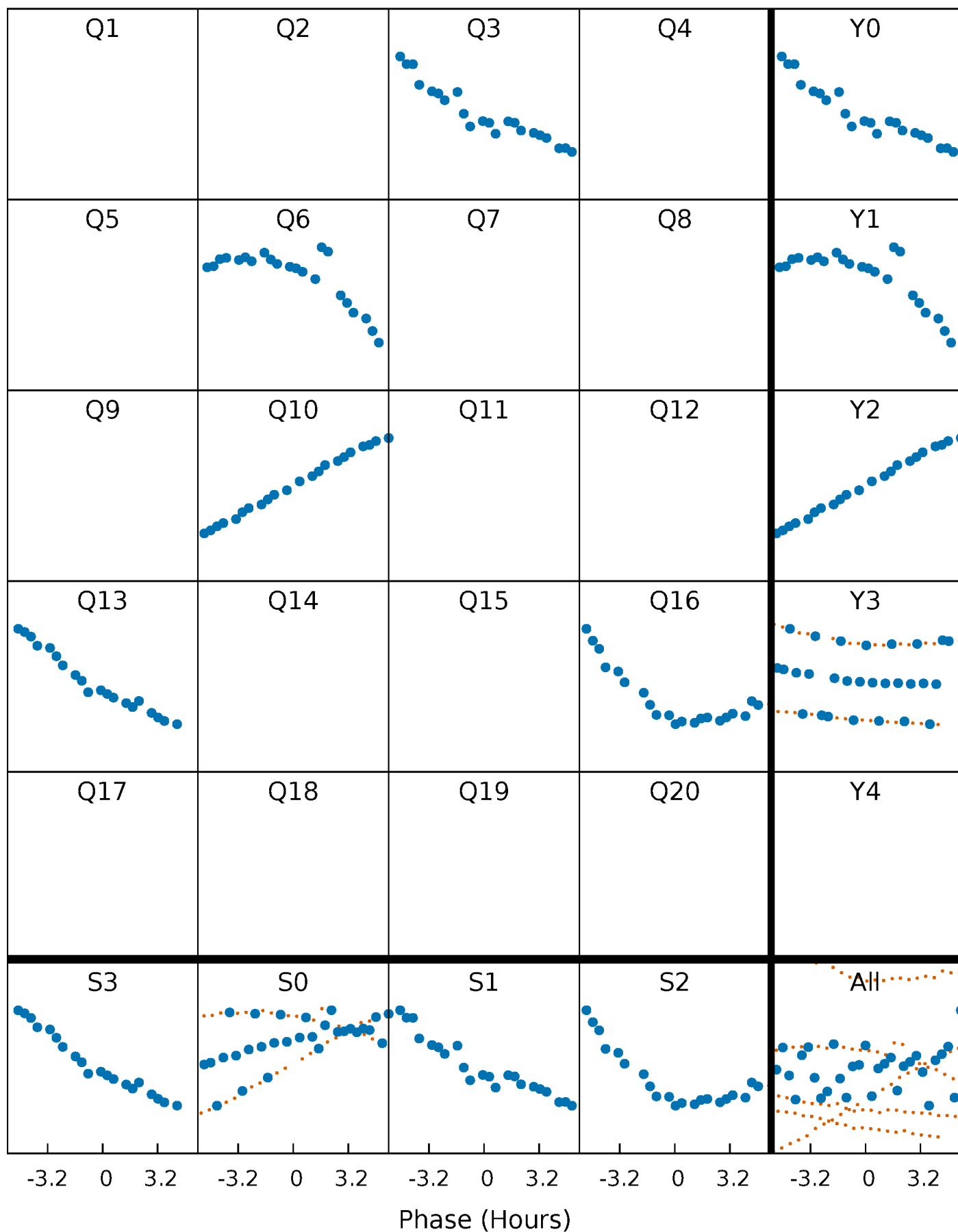


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



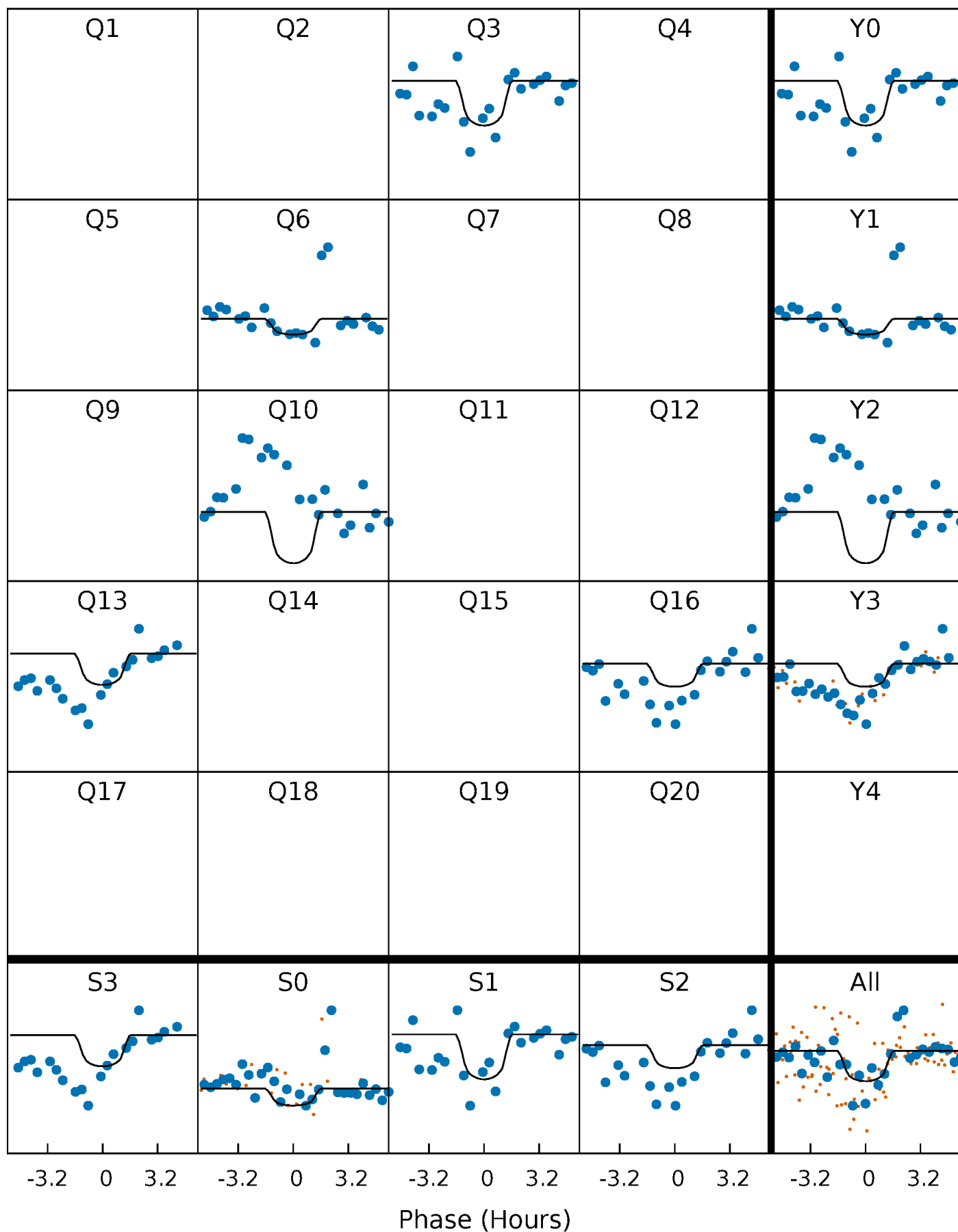
PDC Quarter-Phased Transit Curves

TCE 010062987-01 P=310.863827 Days $T_0=308.636602$ (BKJD)



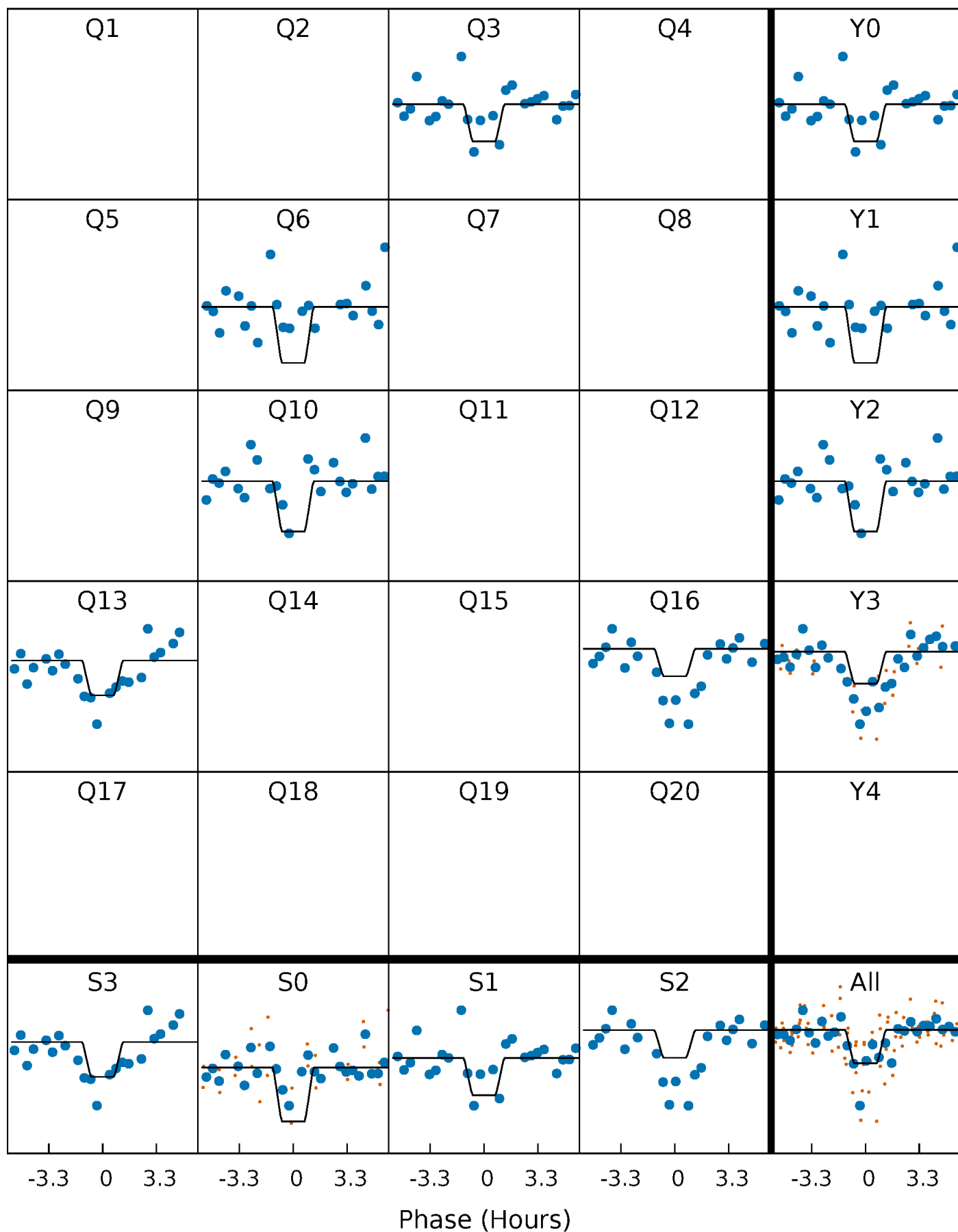
DV Quarter-Phased Transit Curves

TCE 010062987-01 P=310.863827 Days $T_0=308.636602$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

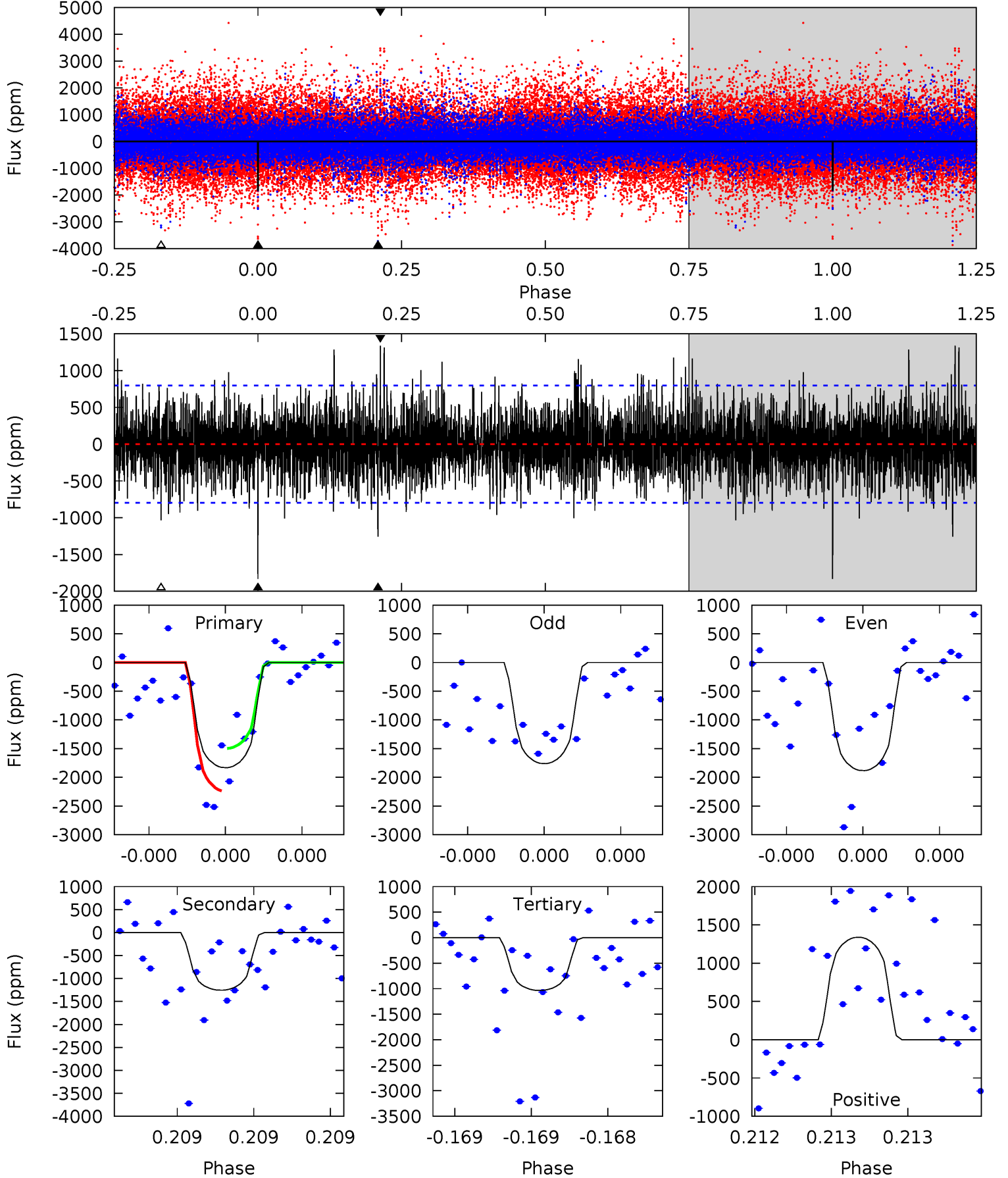
TCE 010062987-01 P=310.858174 Days $T_0=308.633510$ (BKJD)



DV Model-Shift Uniqueness Test

010062987-01, P = 310.863827 Days, E = 308.636602 Days

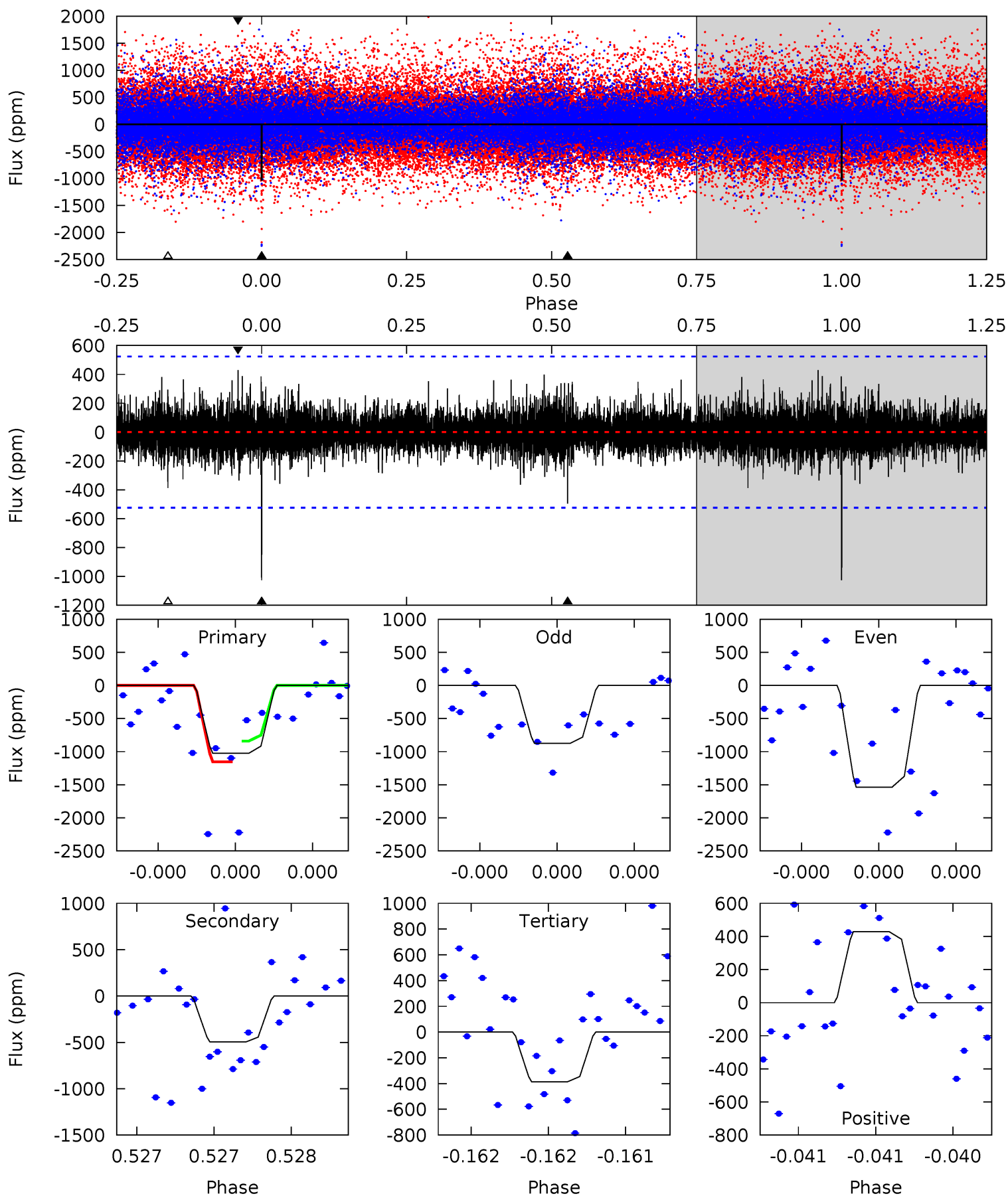
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	8.83	7.27	9.42	5.60	3.53	2.15	5.62	3.47	1.56	-0.59	0.41	0.93	0.42	2.58



Alt Model-Shift Uniqueness Test

010062987-01, P = 310.858174 Days, E = 308.633510 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	5.35	4.17	4.62	5.65	3.60	0.92	6.91	6.46	1.18	0.73	3.56	1.25	0.29	1.66



Stellar Parameters For KIC 010062987

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5169^{+153}_{-138}	$4.620^{+0.033}_{-0.083}$	$-0.240^{+0.300}_{-0.300}$	$0.723^{+0.096}_{-0.059}$	$0.807^{+0.065}_{-0.090}$	$3.013^{+0.446}_{-0.830}$
	+3%/-3%	+1%/-2%	+125%/-125%	+13%/-8%	+8%/-11%	+15%/-28%
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 010062987-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1256 ± 142	$13.69^{+14.47}_{-9.28}$	301^{+12}_{-10}	3014^{+1245}_{-534}	2525^{+20333}_{-1945}
Alt.	-496 ± 93	$12.84^{+14.29}_{-8.98}$	300^{+13}_{-10}	2673^{+1177}_{-439}	1097^{+10847}_{-857}

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

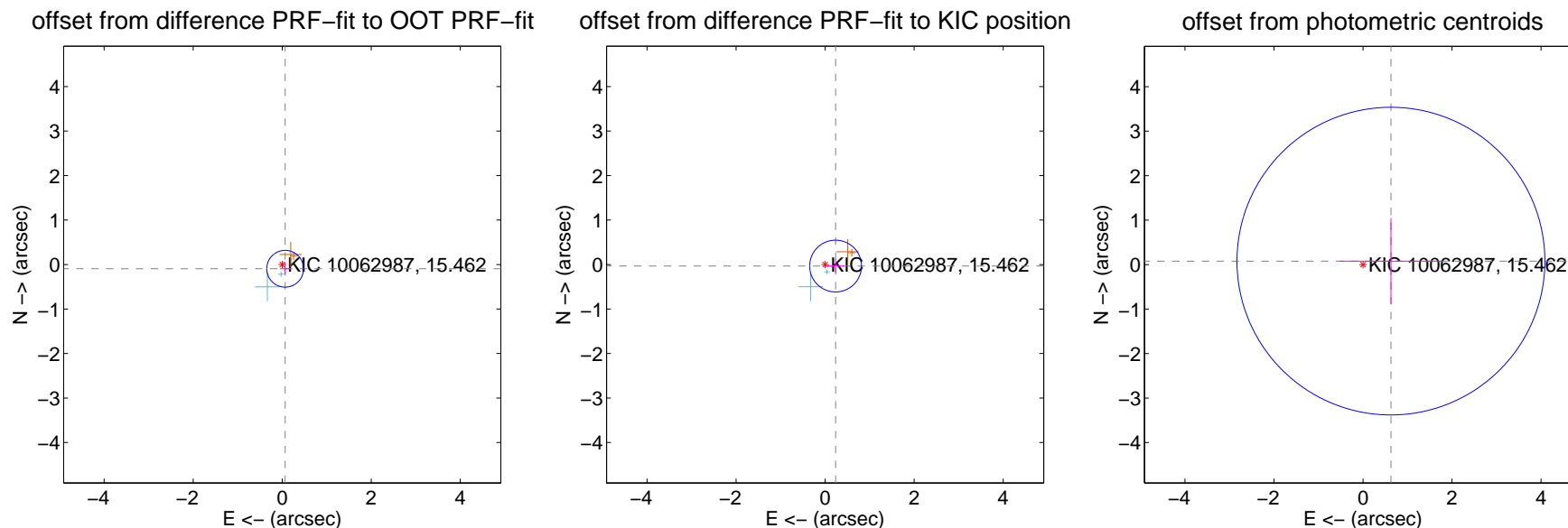
DV Centroid Data

Supplemental centroid analysis for 010062987-01. Kepler magnitude: 15.46. Transit SNR 5.52

There are 2 quarters with good PRF difference image offsets

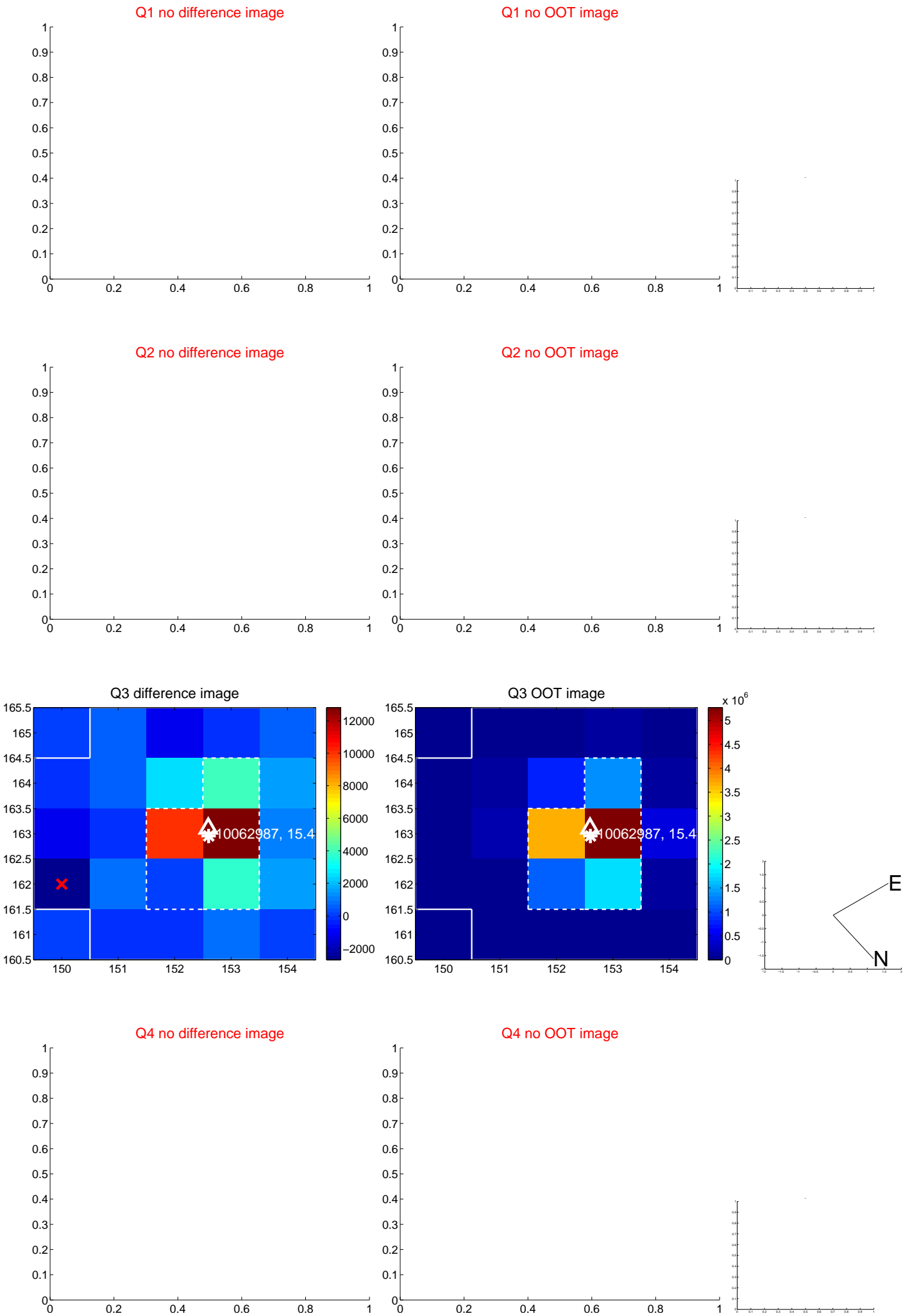
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.115 ± 0.138	0.84	-0.066 ± 0.118	-0.094 ± 0.147
PRF-fit source offset from KIC position	0.237 ± 0.194	1.22	-0.235 ± 0.195	-0.034 ± 0.153
photometric centroid source offset	0.63 ± 1.15	0.55	-0.63 ± 1.16	0.08 ± 0.96

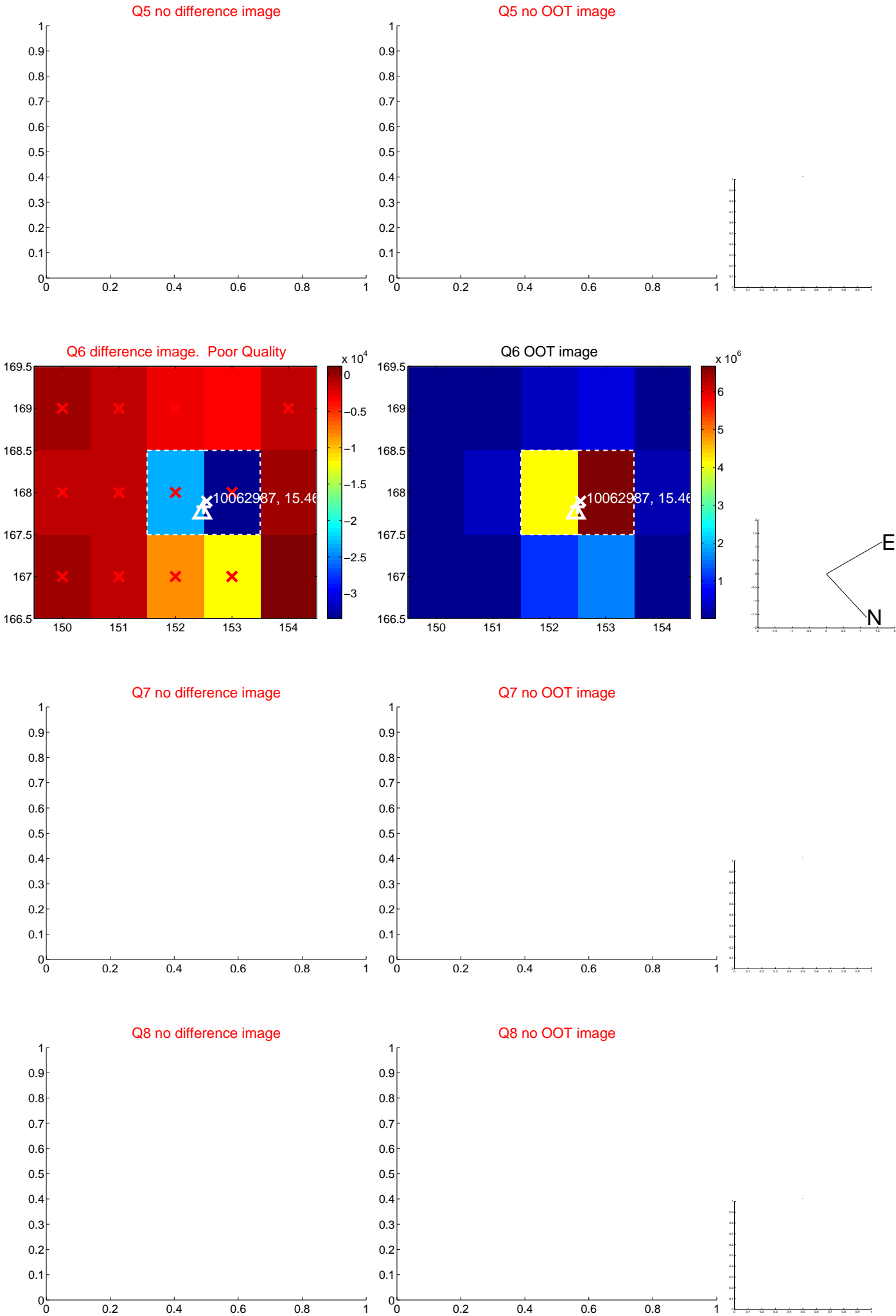


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

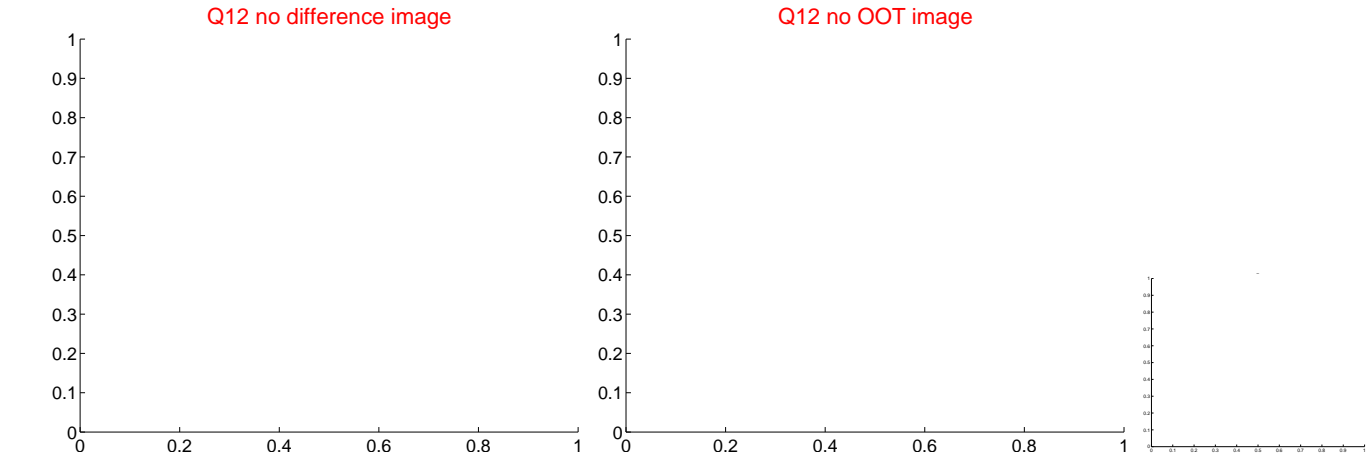
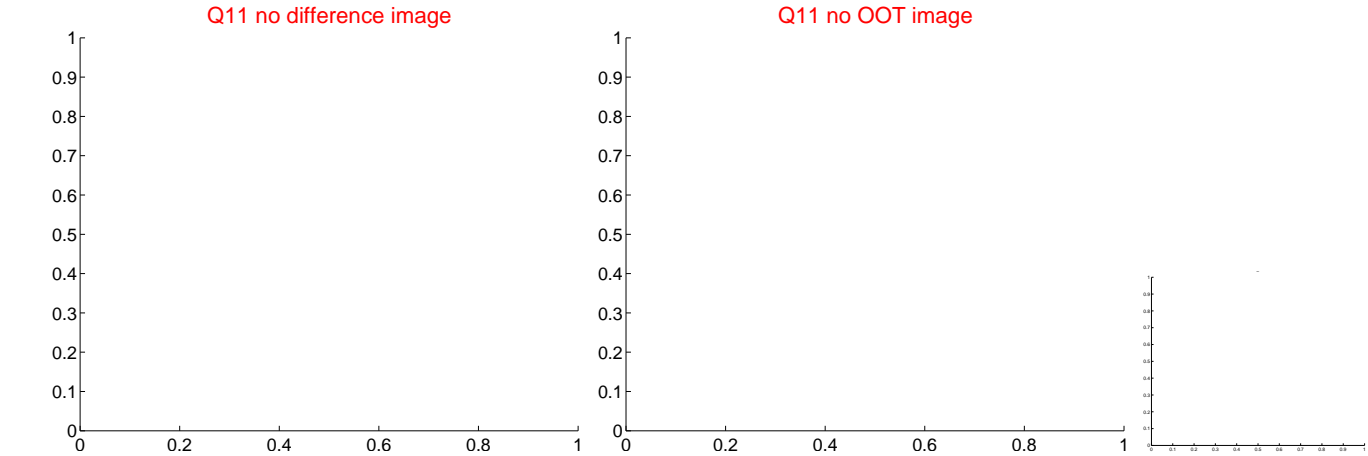
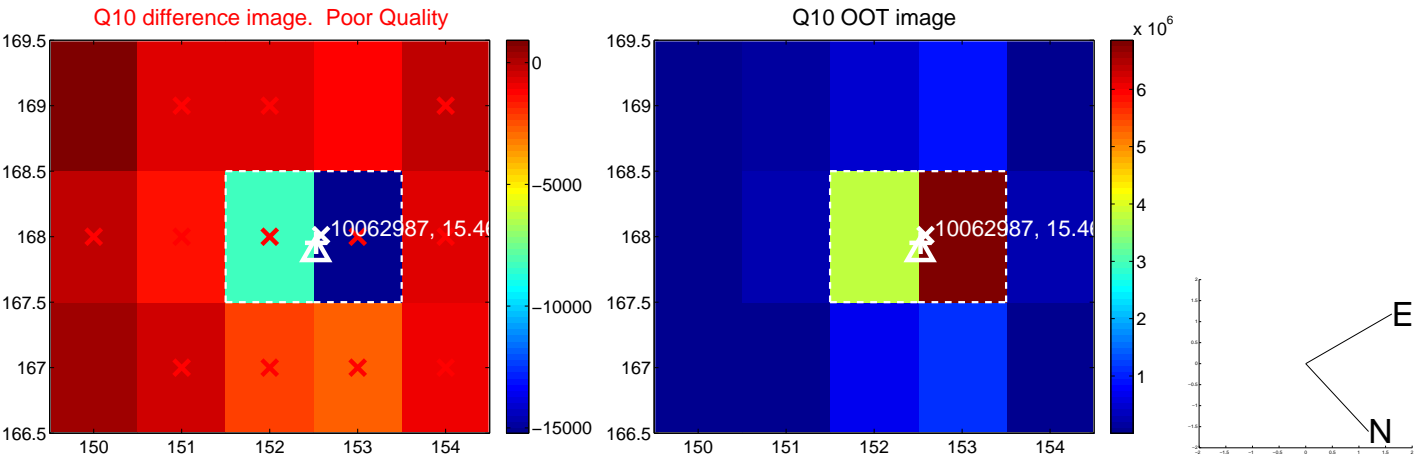
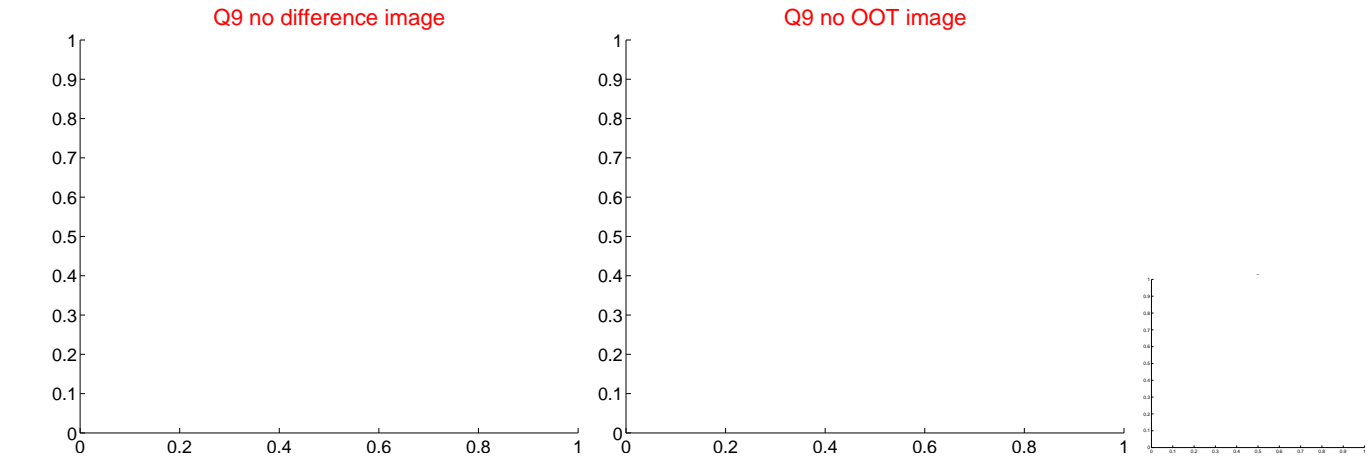
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



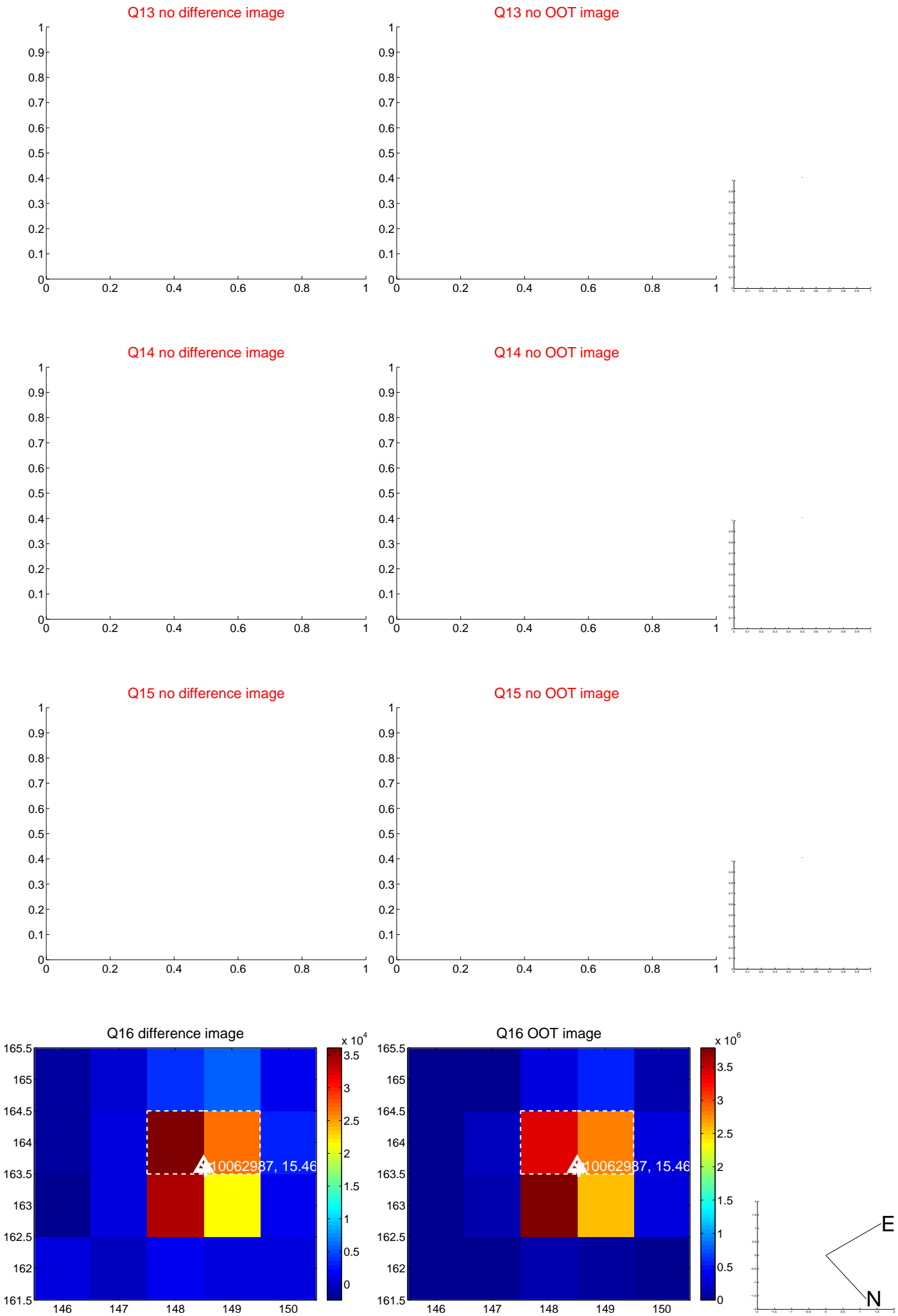
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



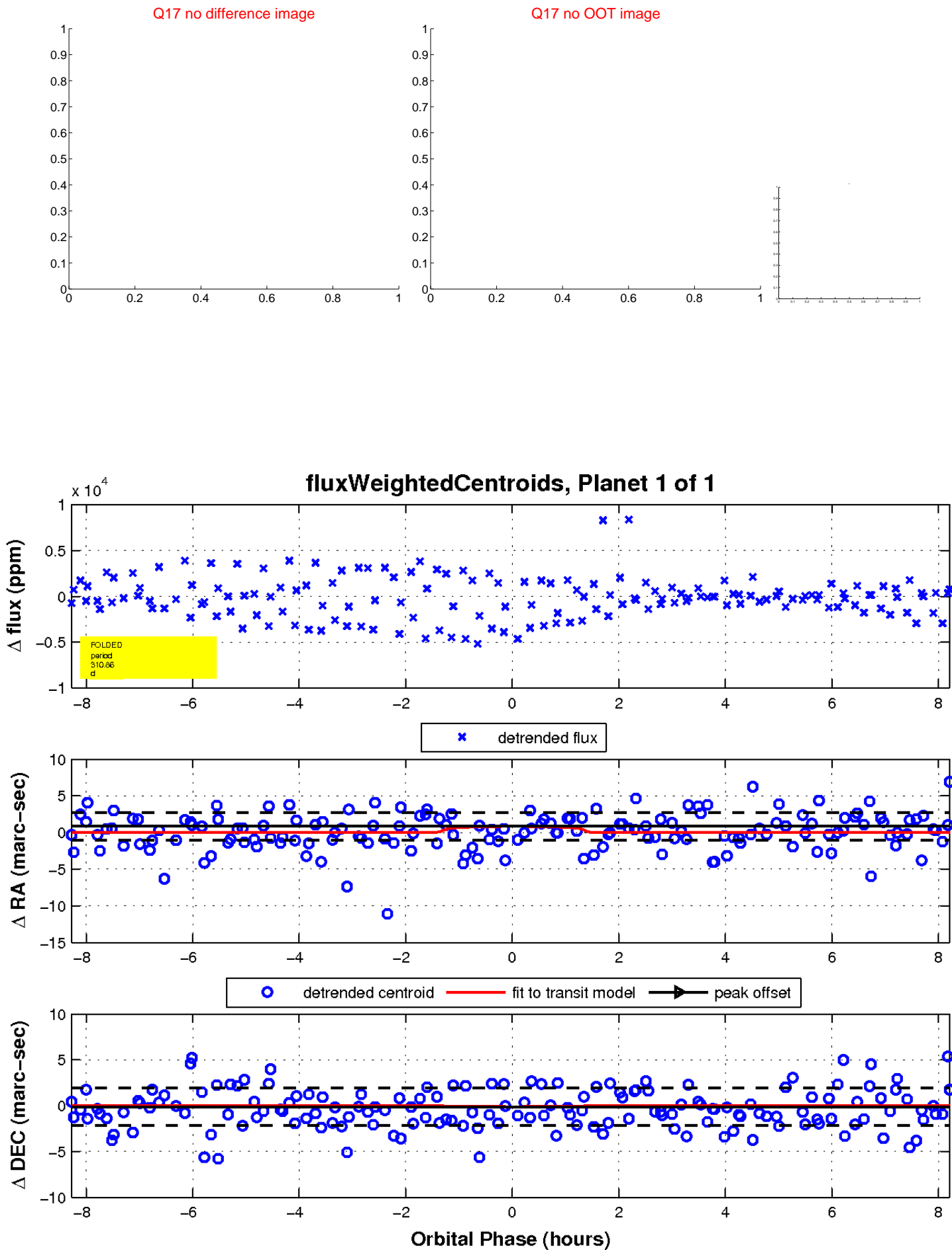
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

