

KIC 010140662

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})
010140662-01	OBS	No	357.986305	186.090647	301.4	14.906	7.6	6.8	0.83	5825	1.55	0.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010140662-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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

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

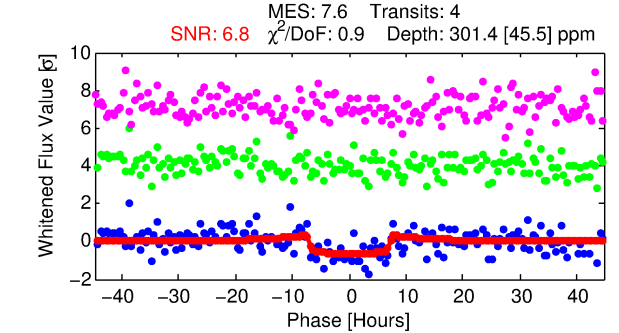
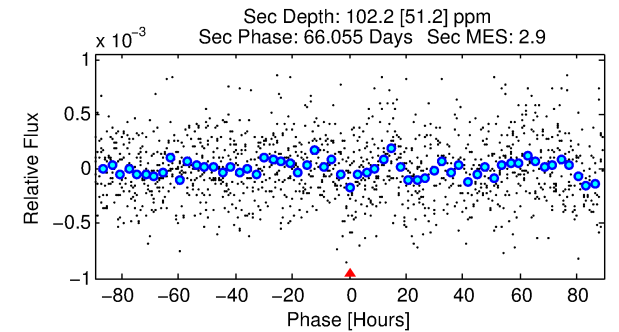
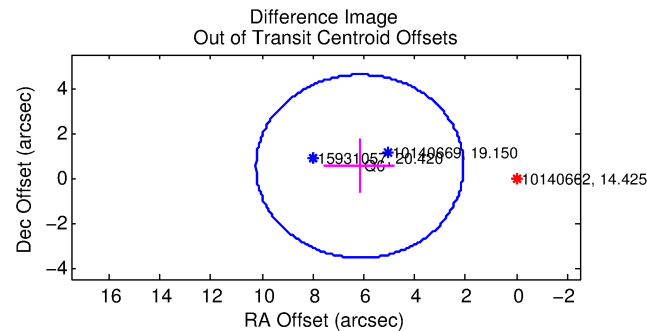
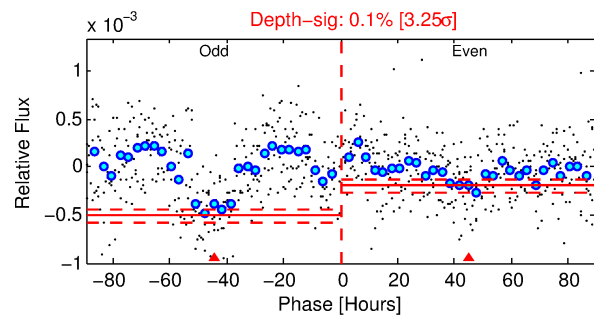
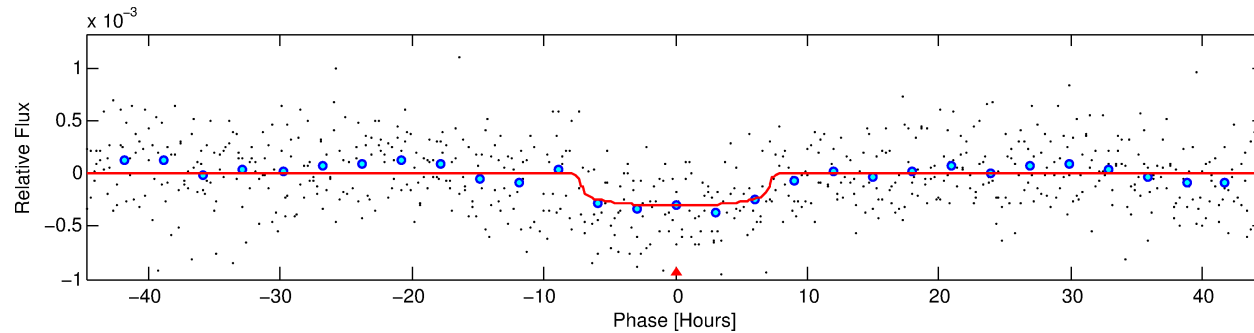
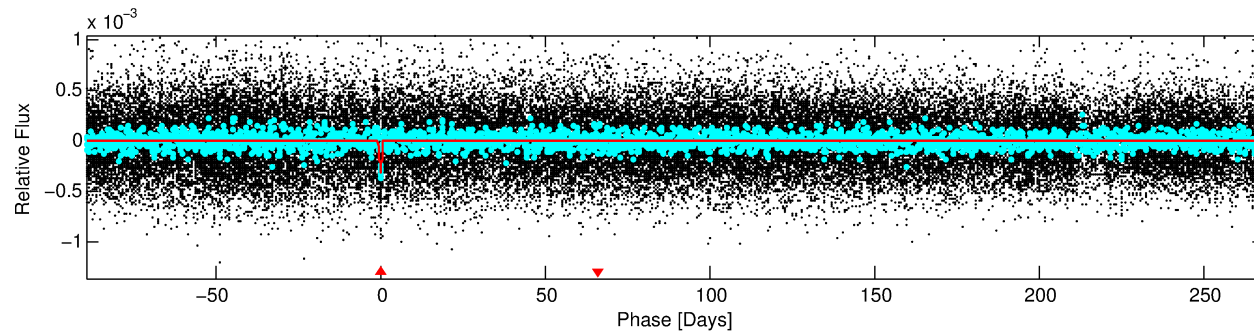
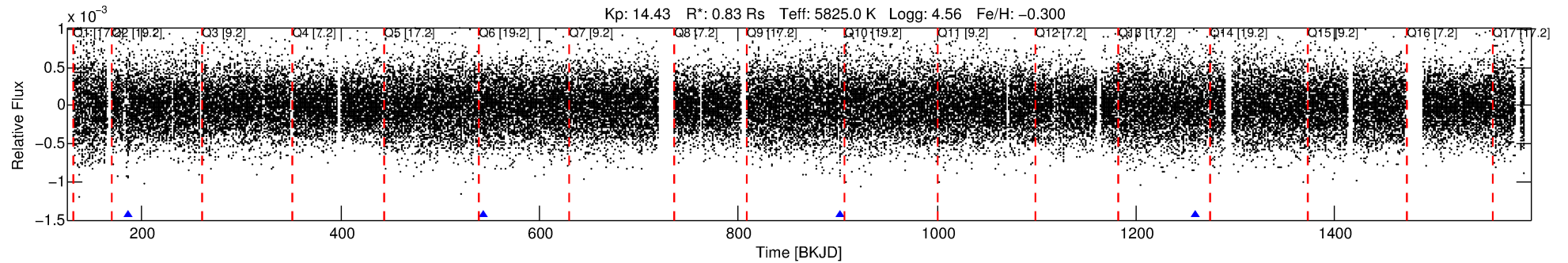
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010140662-01

No Significant Match Found

DV One-Page Summary

KIC: 10140662 Candidate: 1 of 1 Period: 357.986 d



DV Fit Results:

Period = 357.98630 [0.01113] d
Epoch = 186.0906 [0.0219] BKJD
Rp/R* = 0.0171 [0.0067]
a/R* = 131.39 [236.48]
b = 0.72 [1.20]
Seff = 0.77 [0.26]
Teq = 239 [20] K
Rp = 1.55 [0.72] Re
a = 0.9579 [0.2090] AU
Ag = 21543.48 [21172.49] [1.02 σ]
Teffp = 4478 [1047] K [4.05 σ]

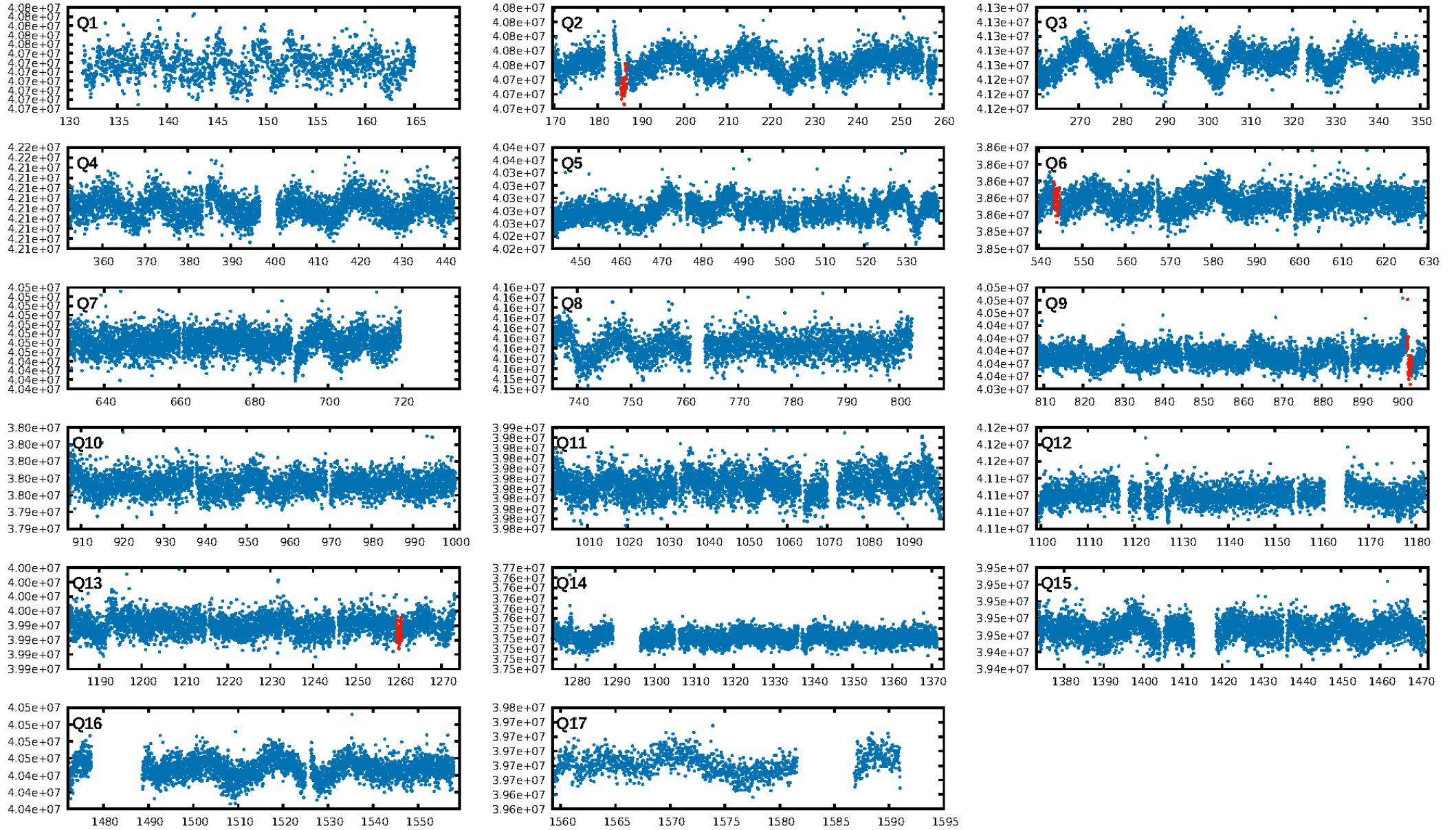
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 4.18e-11
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.005269
Centroid-sig: 69.5%
Centroid-so: 2.229 arcsec [2.02 σ]
OotOffset-rm: 6.167 arcsec [4.53 σ]
KicOffset-rm: 2.479 arcsec [1.41 σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [4/4]

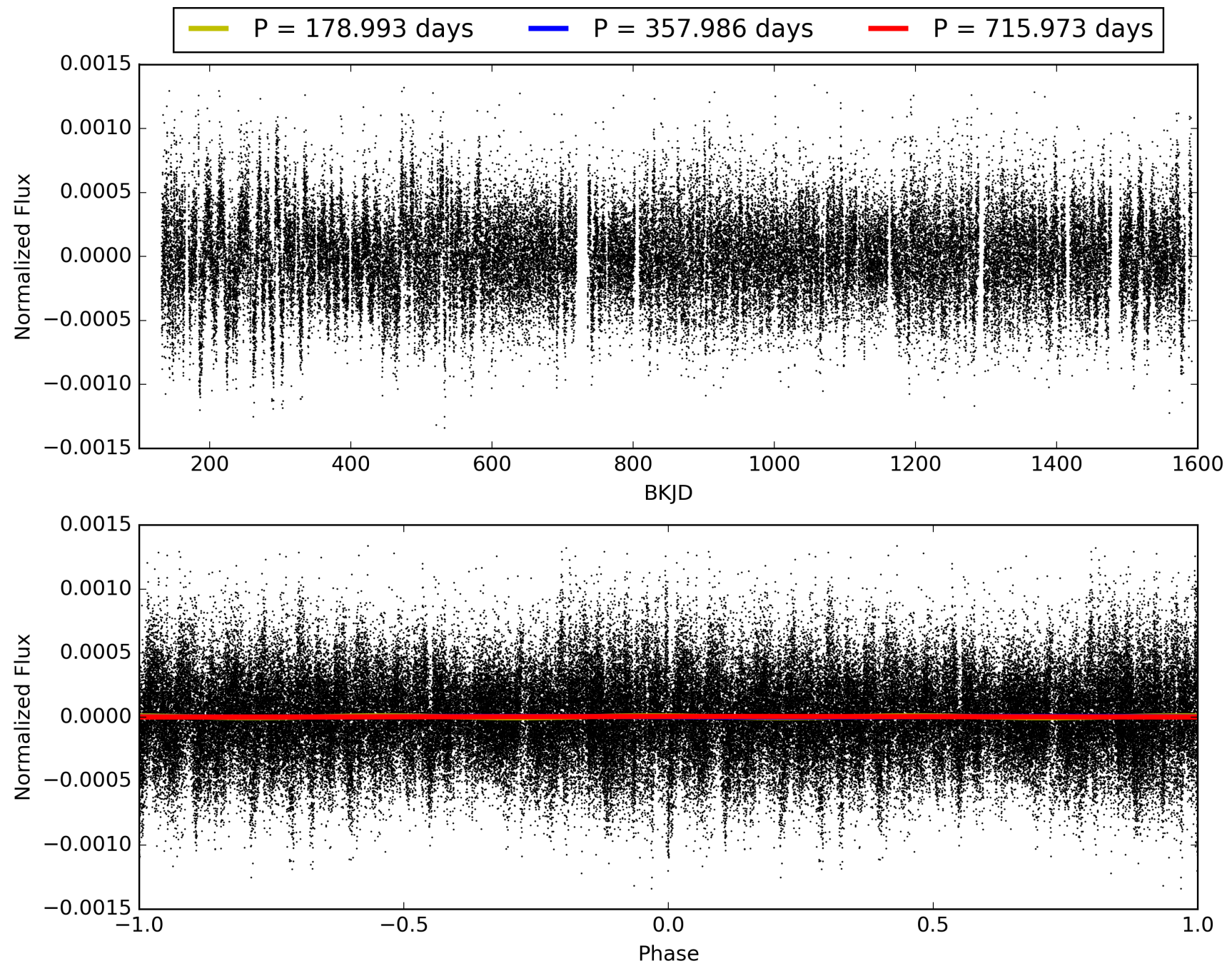
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:12:44 Z

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

TCE 010140662-01, PDC Light Curves

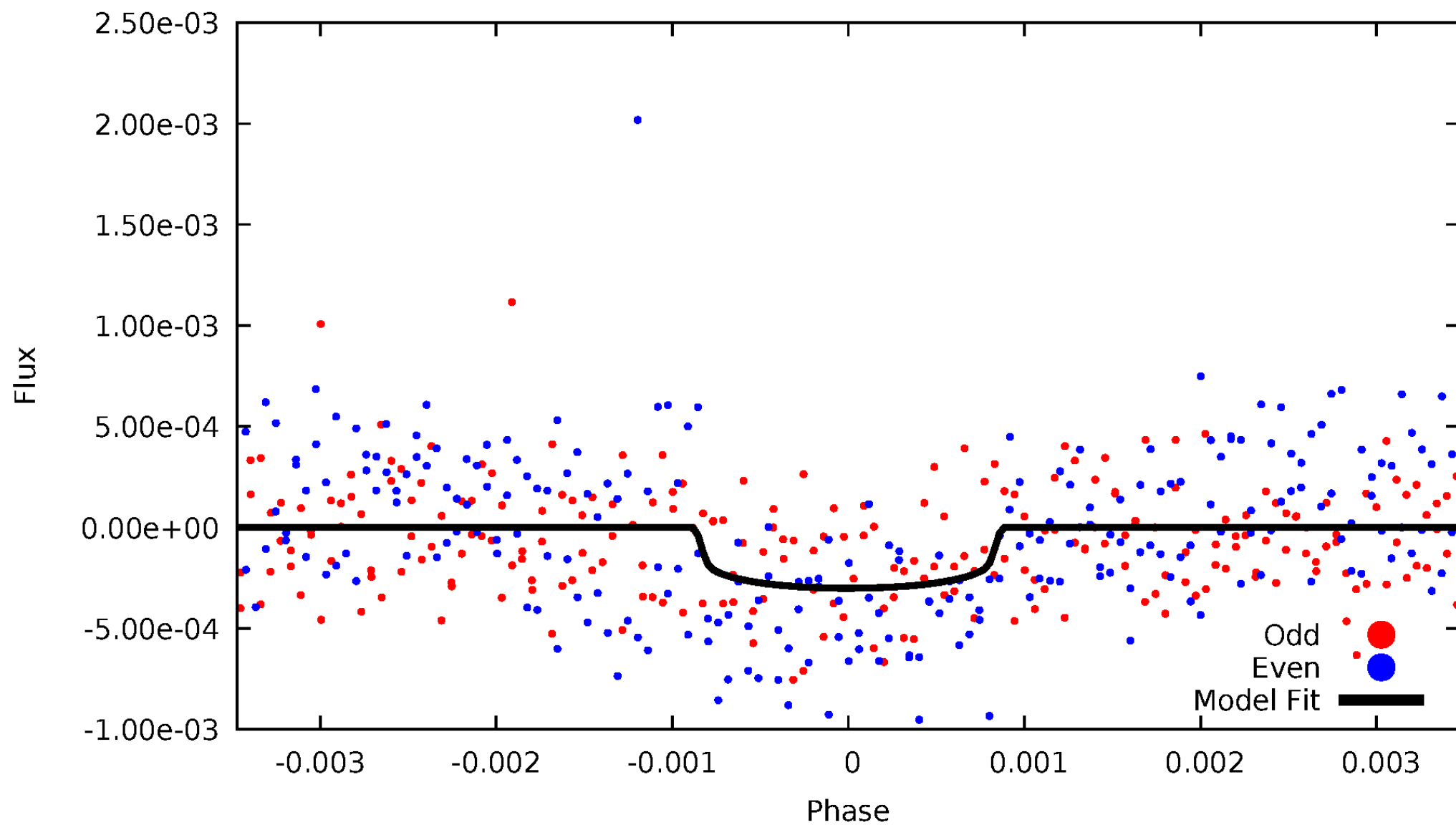


TCE 010140662-01



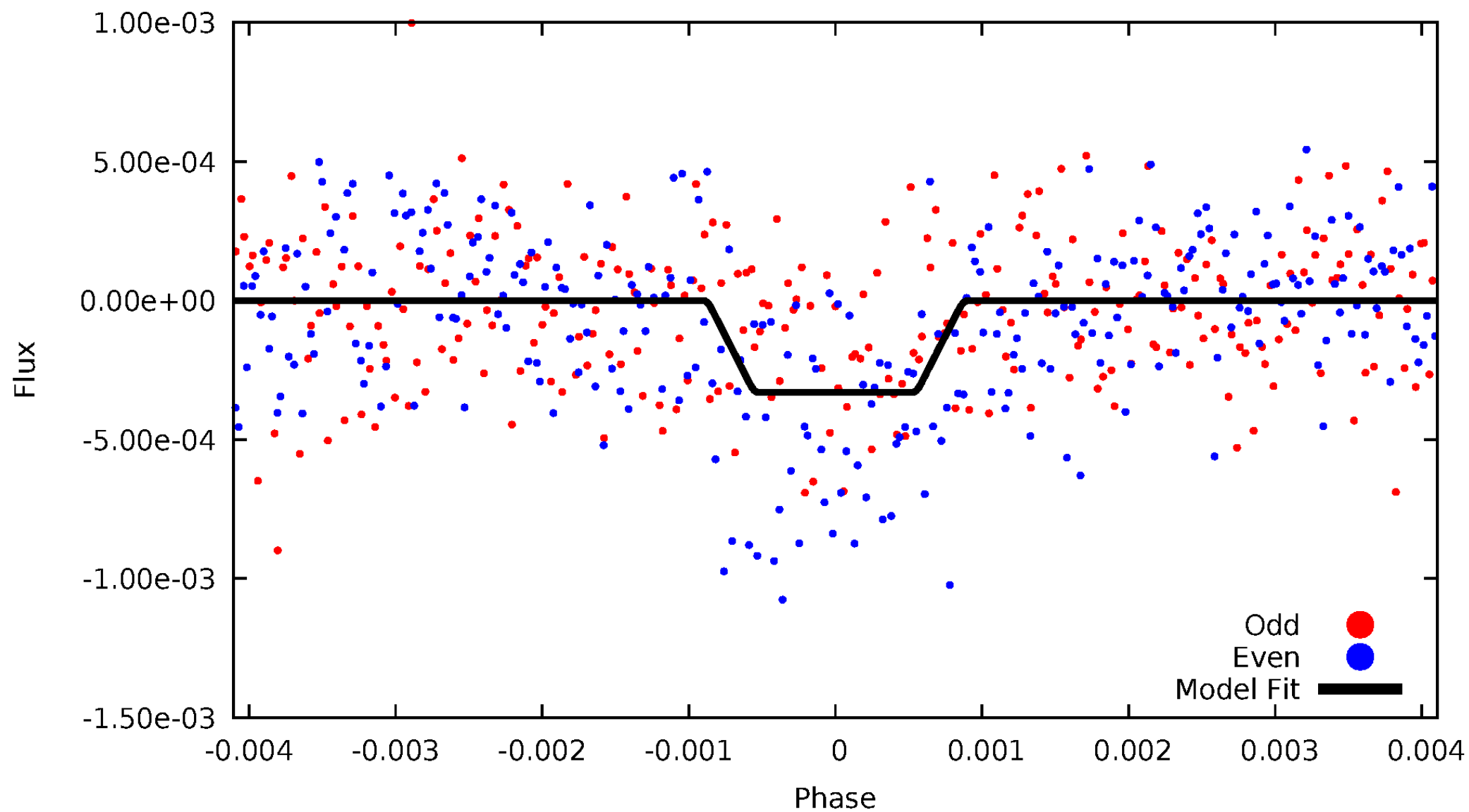
DV Odd/Even

TCE 010140662-01

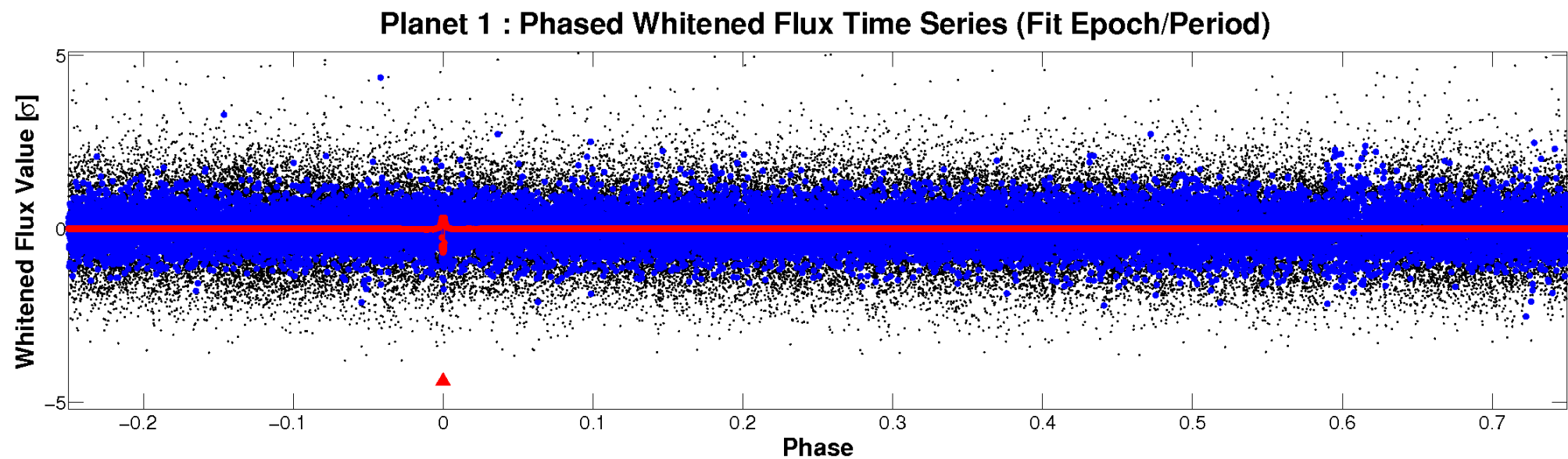
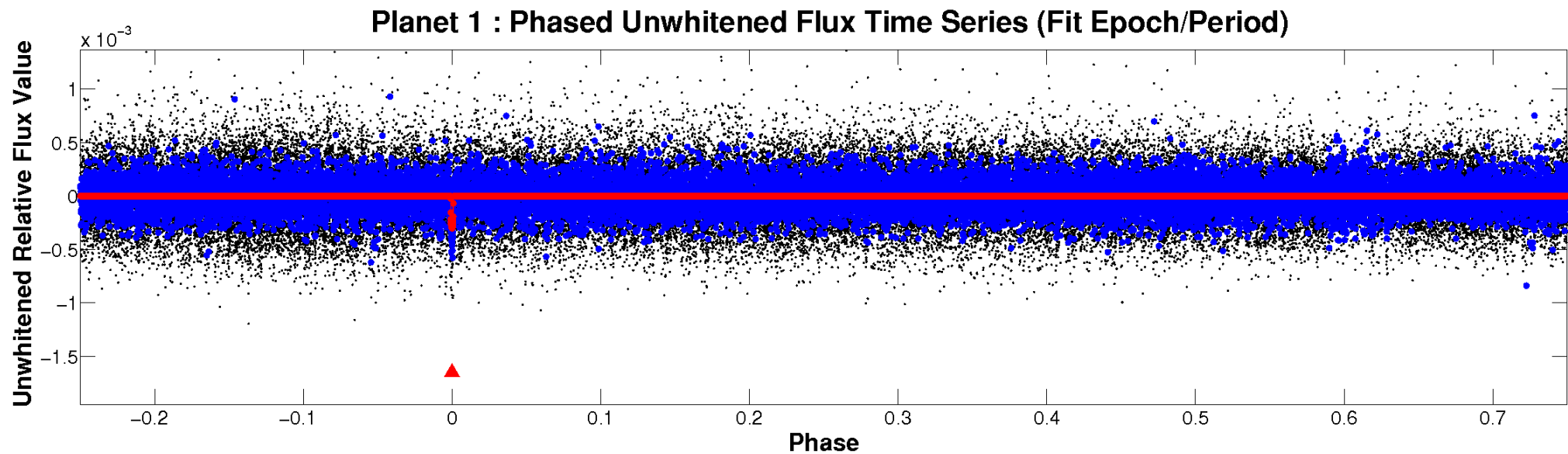


ALT Odd/Even

TCE 010140662-01

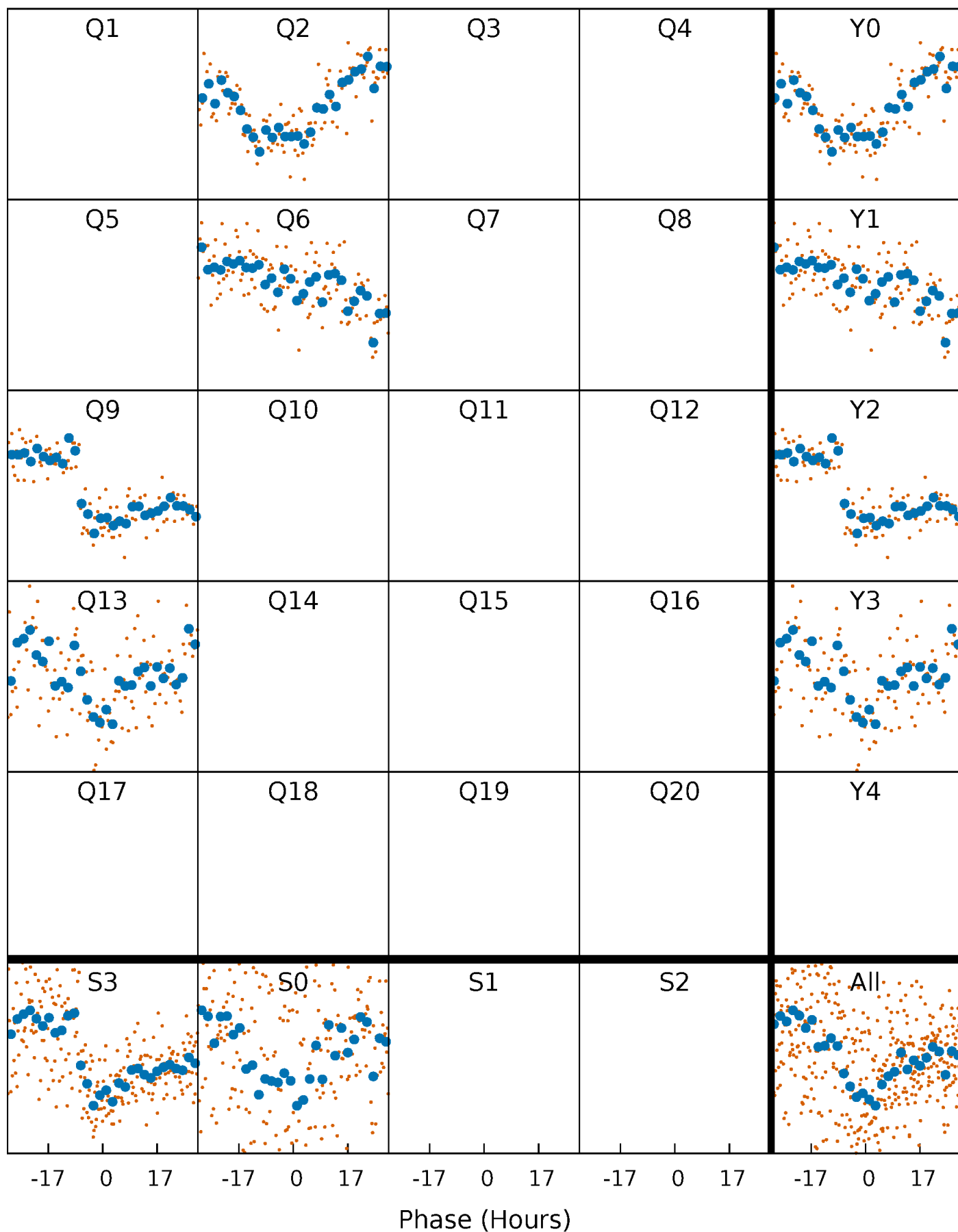


Non-Whitened Vs. Whitened Light Curve



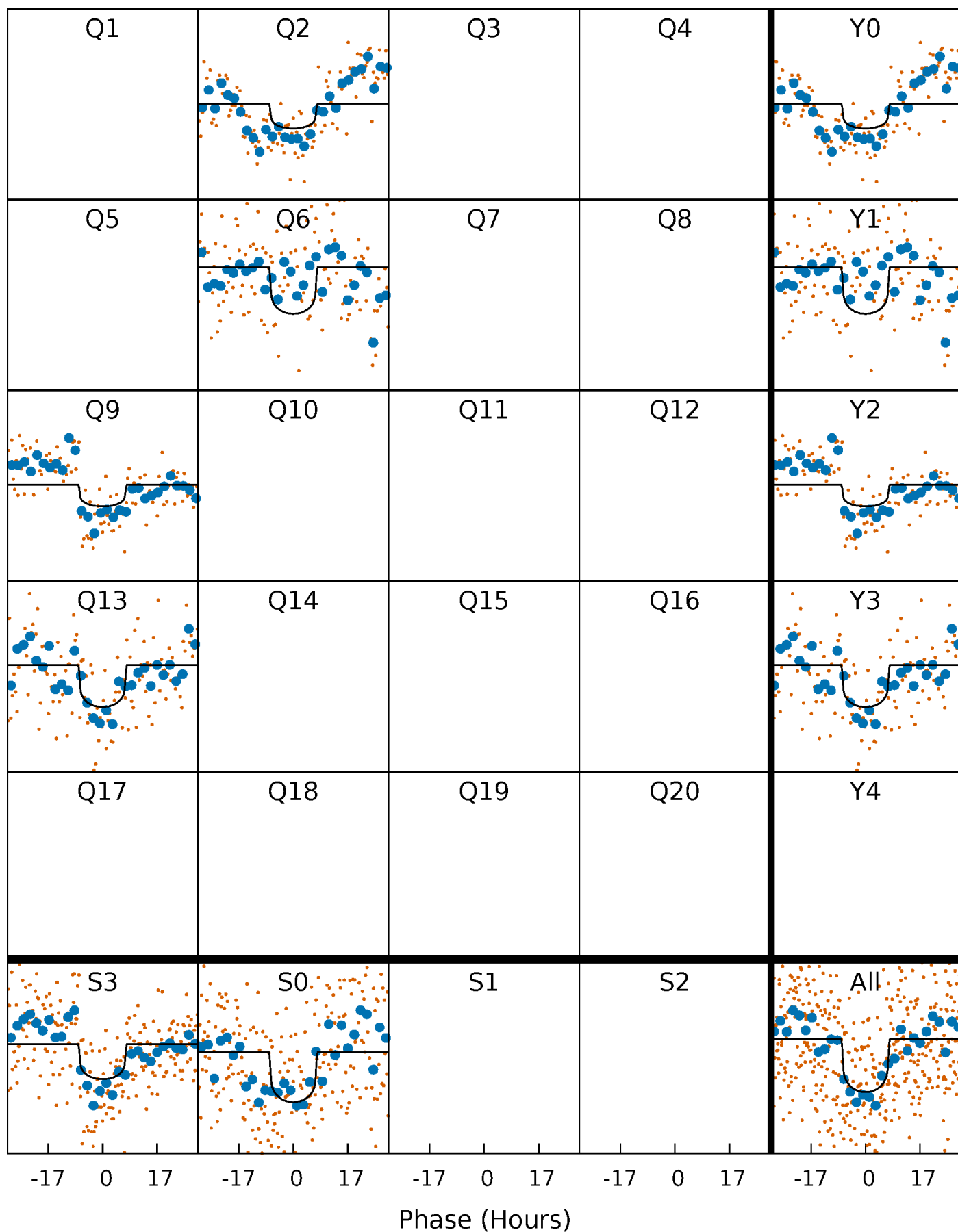
PDC Quarter-Phased Transit Curves

TCE 010140662-01 P=357.986305 Days $T_0=186.090647$ (BKJD)



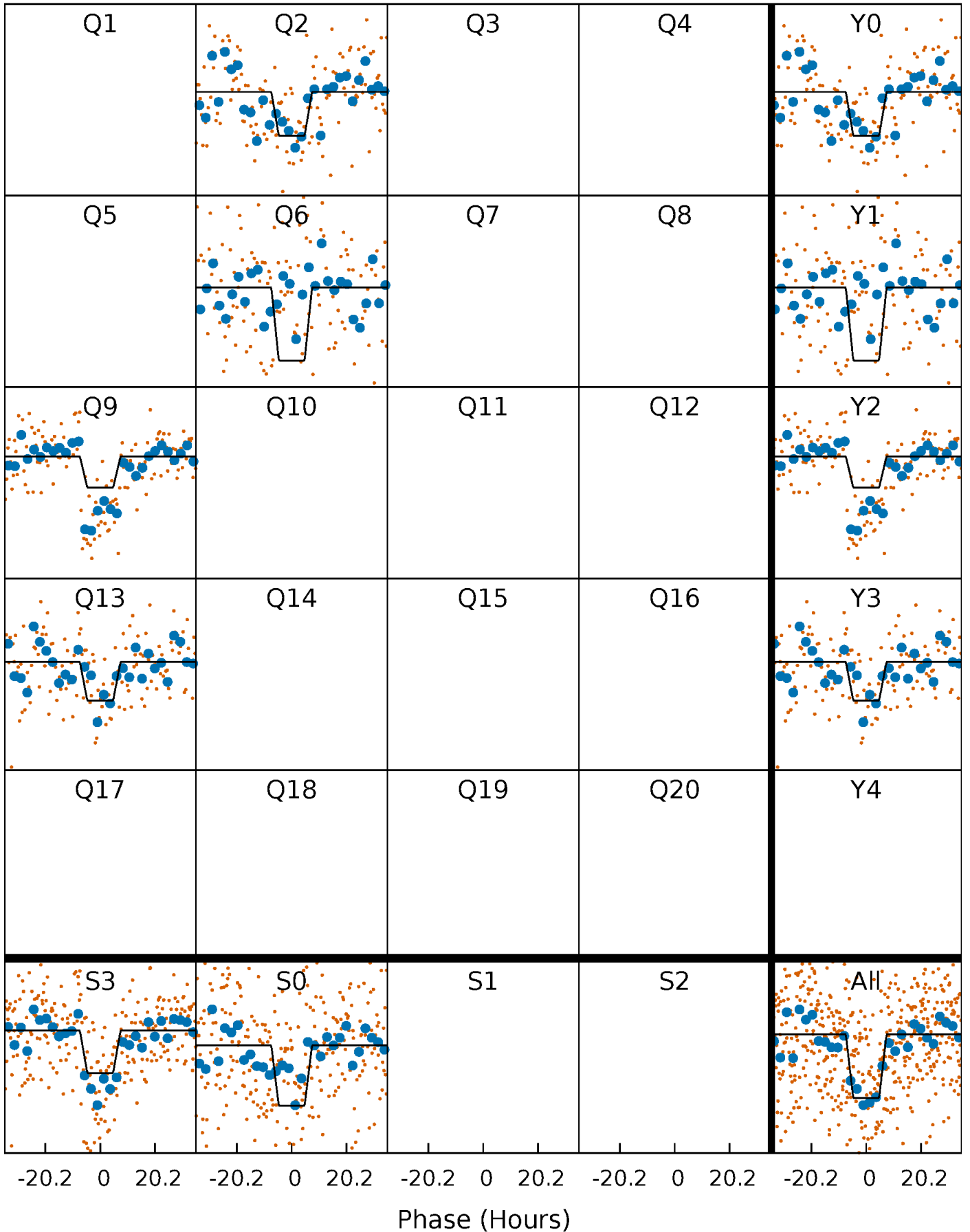
DV Quarter-Phased Transit Curves

TCE 010140662-01 P=357.986305 Days $T_0=186.090647$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

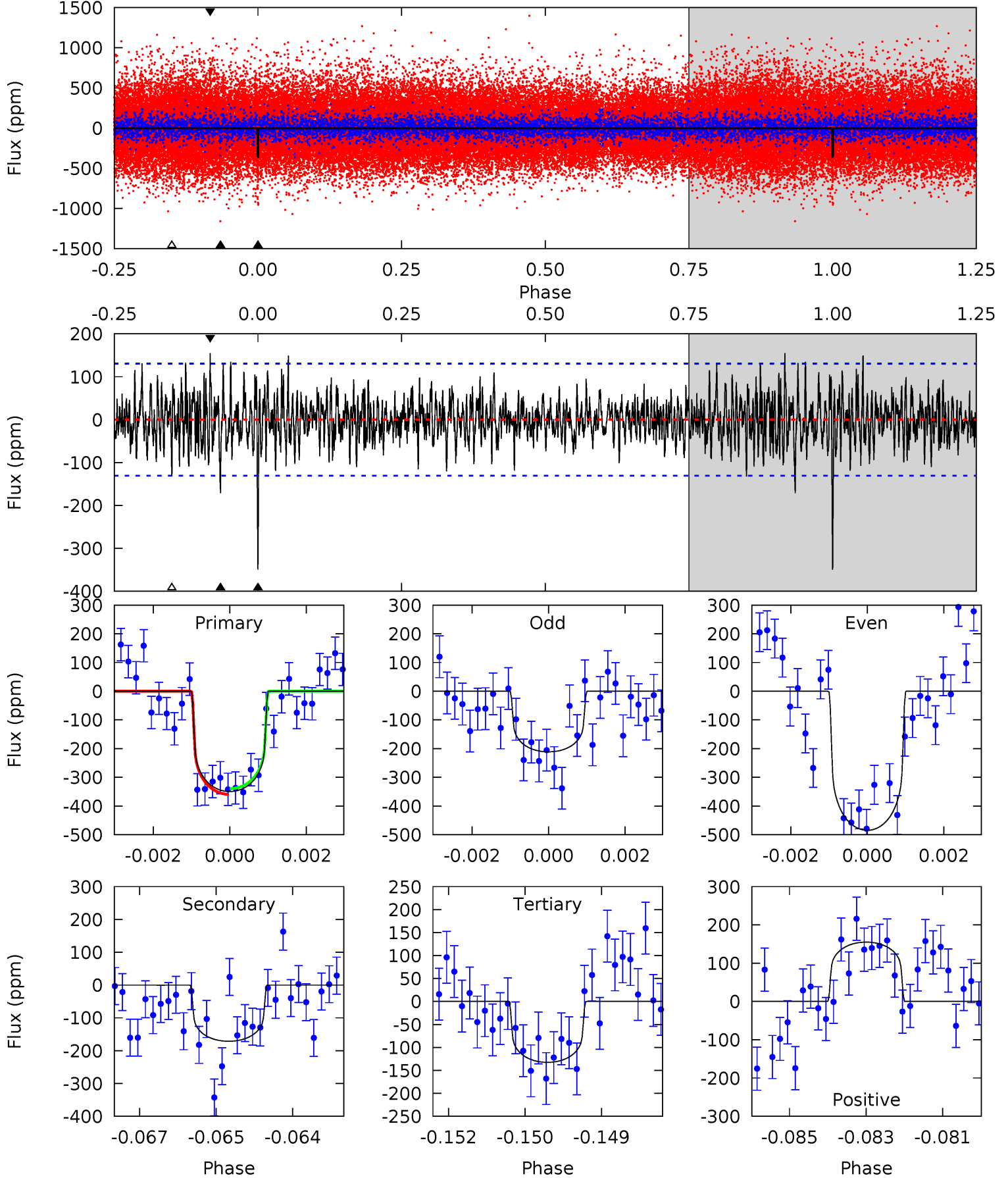
TCE 010140662-01 P=357.941482 Days $T_0=186.187713$ (BKJD)



DV Model-Shift Uniqueness Test

010140662-01, P = 357.986305 Days, E = 186.090647 Days

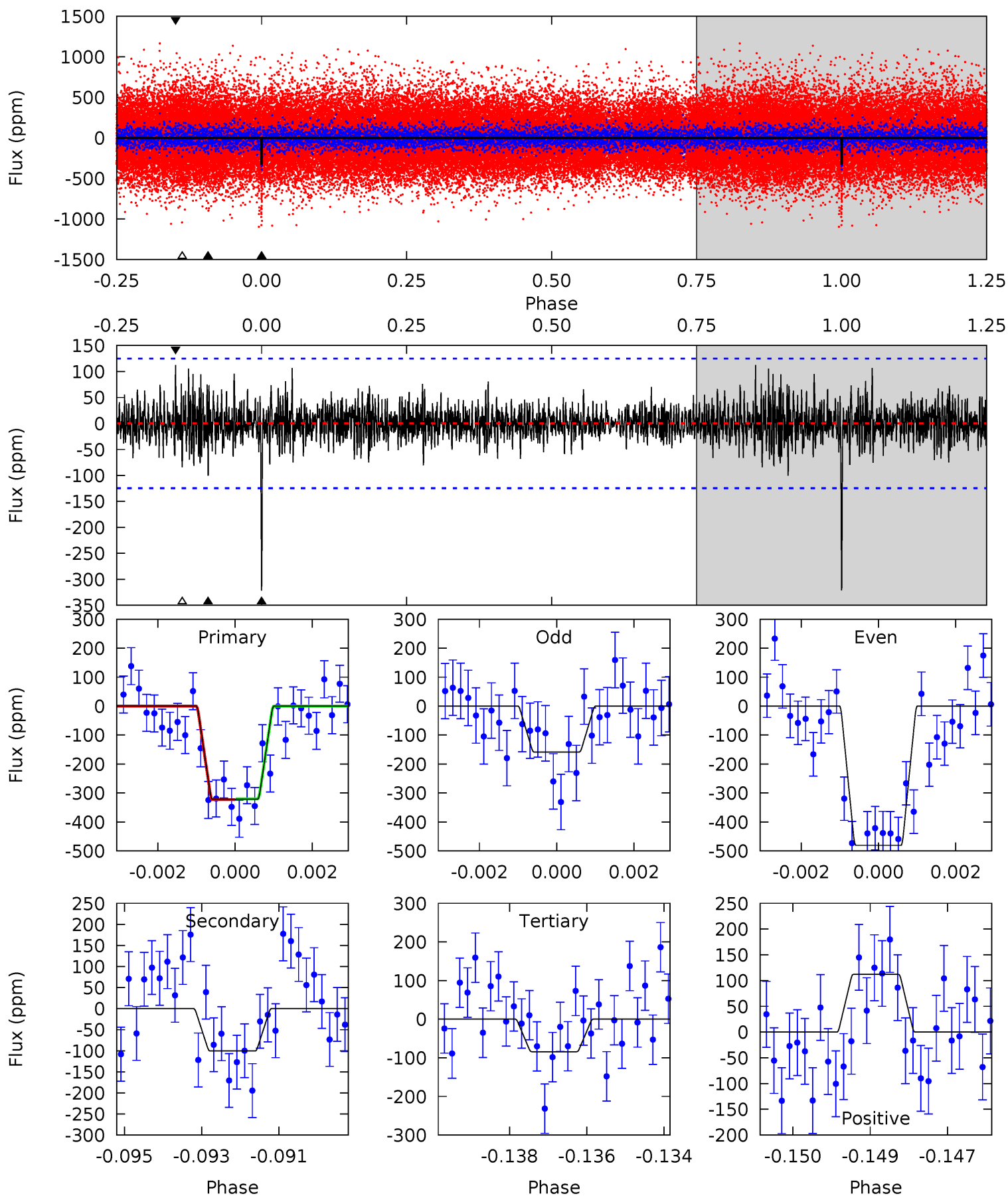
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.3	7.02	5.43	6.35	5.35	3.13	1.68	8.89	7.97	1.59	0.67	5.60	0.88	0.31	0.41



Alt Model-Shift Uniqueness Test

010140662-01, P = 357.941482 Days, E = 186.187713 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.8	4.30	3.61	4.80	5.35	3.12	1.10	10.2	8.97	0.70	-0.49	6.94	1.15	0.26	0.08



Stellar Parameters For KIC 010140662

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5825^{+157}_{-157}	$4.562^{+0.044}_{-0.176}$	$-0.300^{+0.300}_{-0.300}$	$0.829^{+0.213}_{-0.071}$	$0.917^{+0.101}_{-0.111}$	$2.267^{+0.393}_{-1.067}$
	+3%/-3%	+1%/-4%	+100%/-100%	+26%/-9%	+11%/-12%	+17%/-47%
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 010140662-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-171 ± 24	$1.62^{+0.63}_{-0.63}$	340^{+19}_{-14}	5168^{+1363}_{-705}	32302^{+57107}_{-15794}
Alt.	-100 ± 23	$1.71^{+0.73}_{-0.59}$	340^{+21}_{-15}	4483^{+850}_{-584}	16467^{+23703}_{-8771}

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 $A_{obs} \gg 1.0$

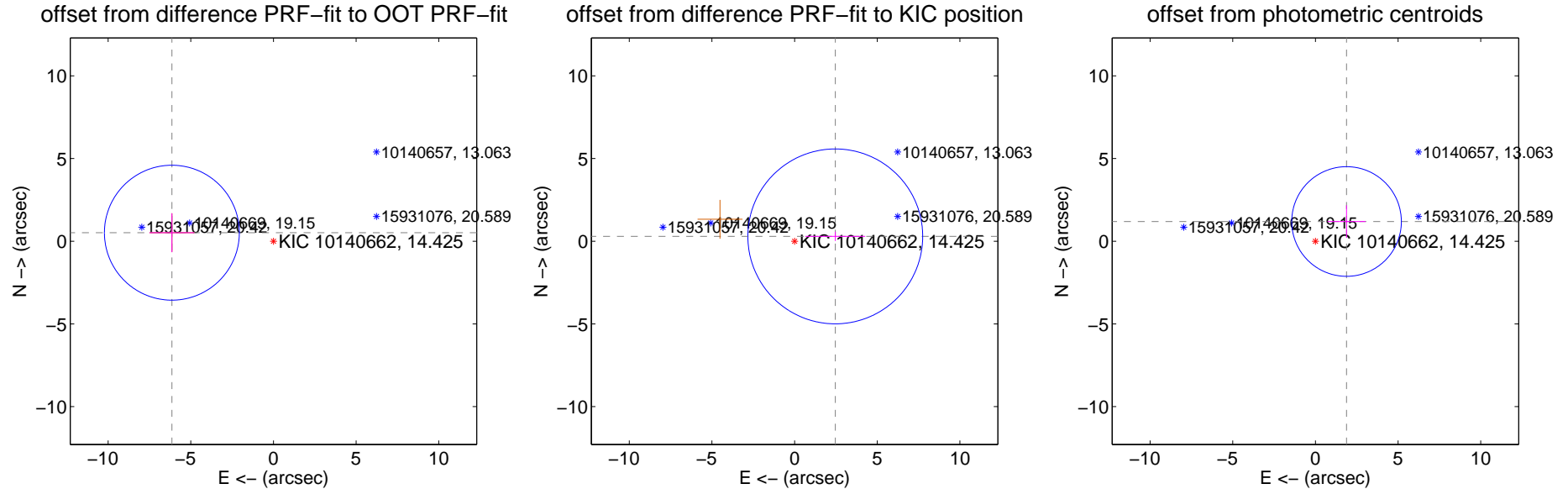
DV Centroid Data

Supplemental centroid analysis for 010140662-01. Kepler magnitude: 14.43. Transit SNR 6.83

There are 1 quarters with good PRF difference image offsets

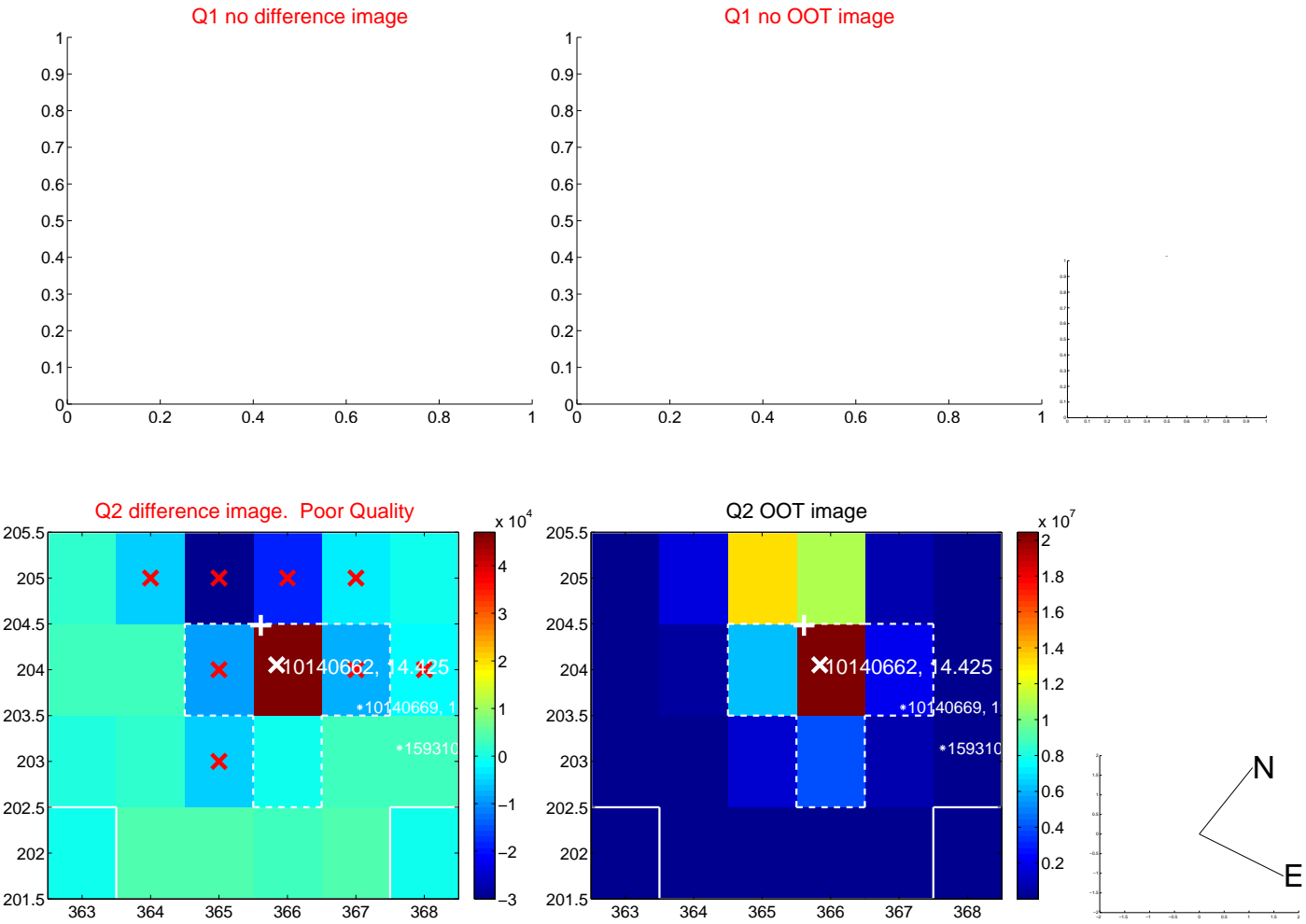
The direct PRF centroid is offset from the target star catalog position by about 1.82 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.167 \pm 1.360	4.53	6.146 \pm 1.361	0.515 \pm 1.176
PRF-fit source offset from KIC position	2.479 \pm 1.763	1.41	-2.462 \pm 1.807	0.292 \pm 0.279
photometric centroid source offset	2.23 \pm 1.11	2.02	-1.88 \pm 1.15	1.19 \pm 0.98

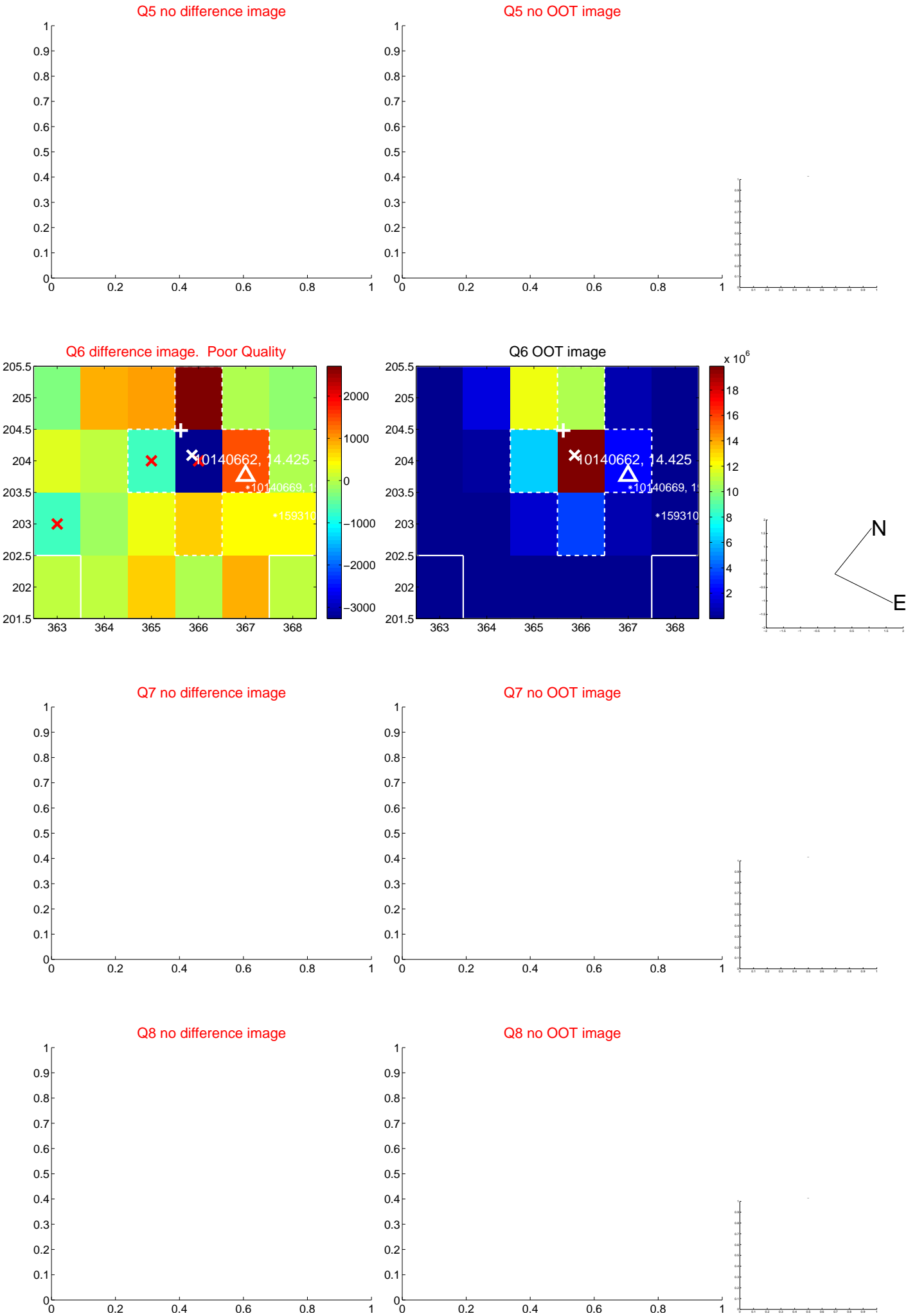


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

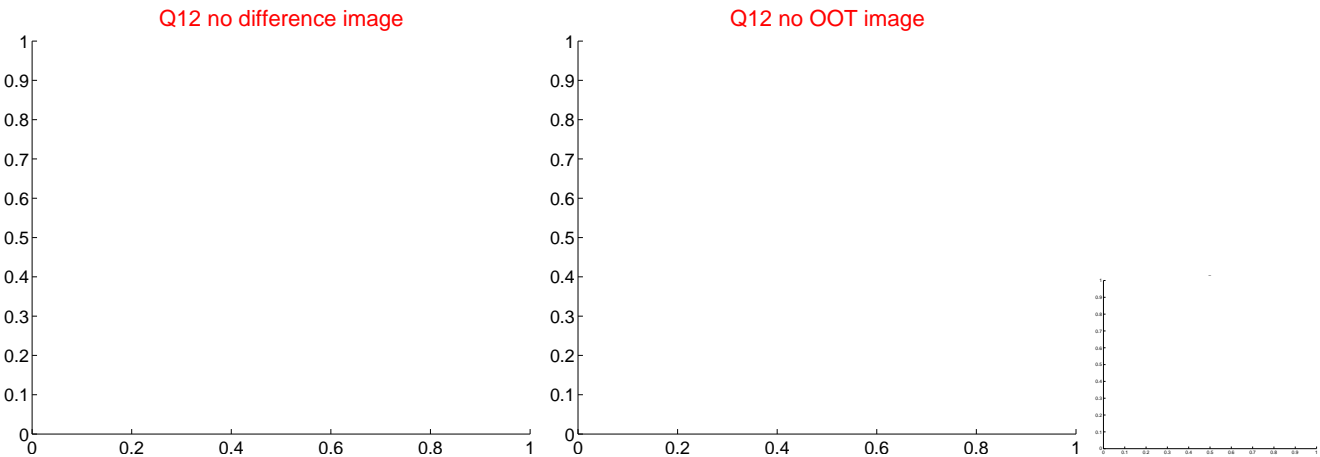
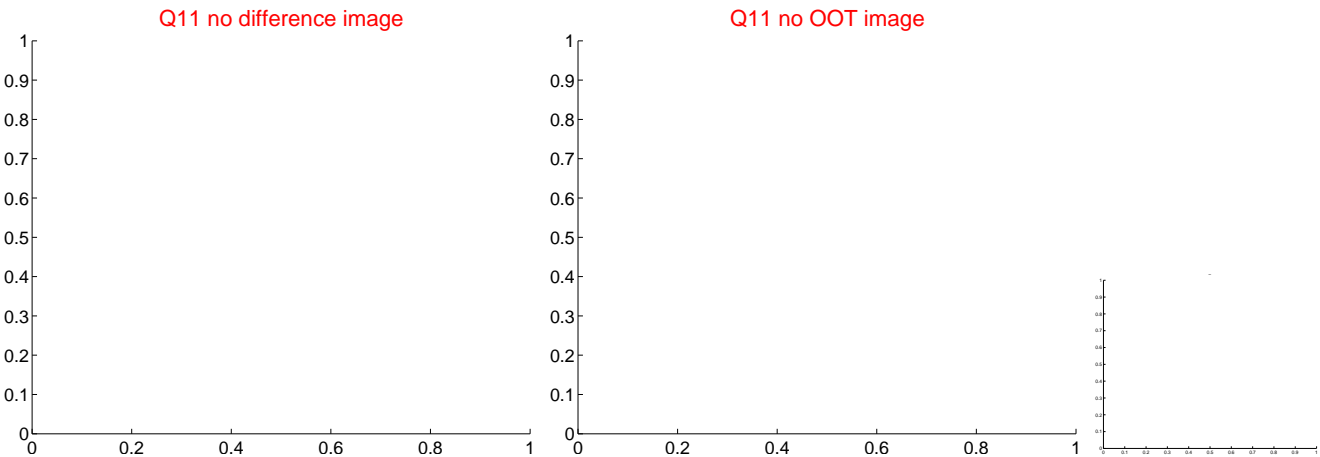
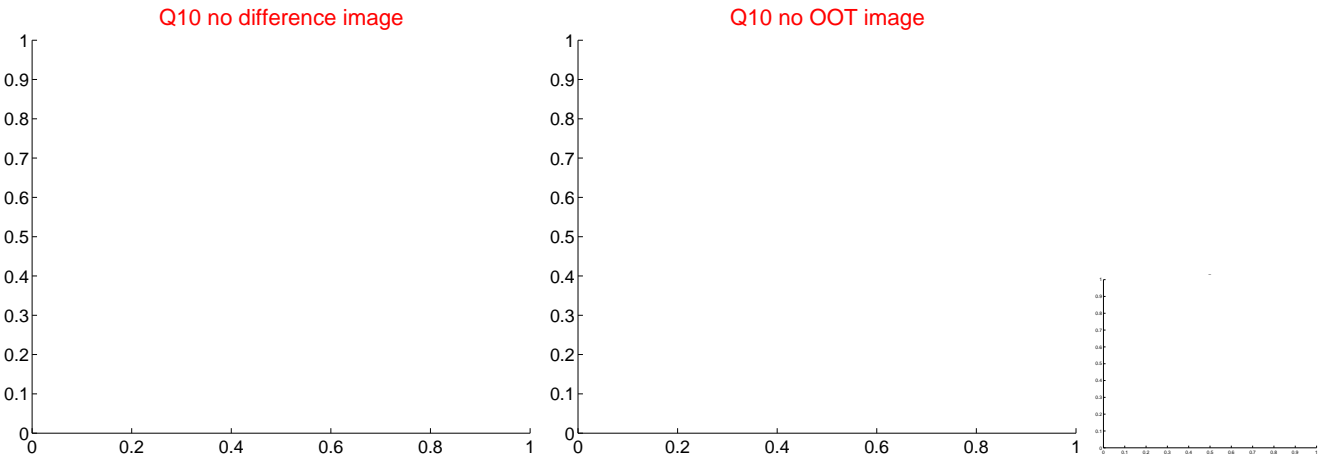
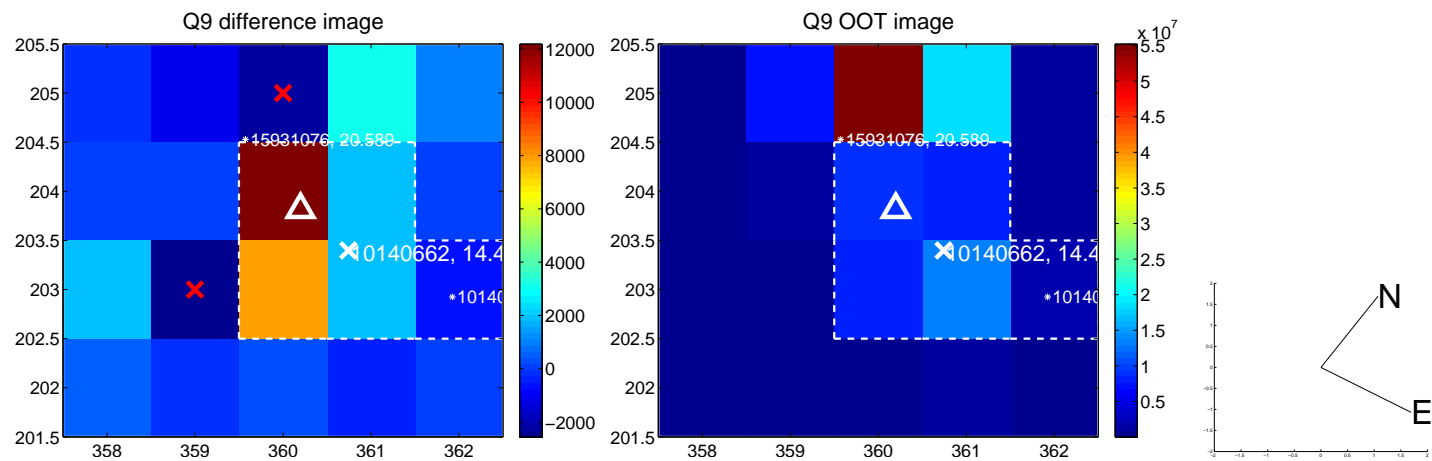
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



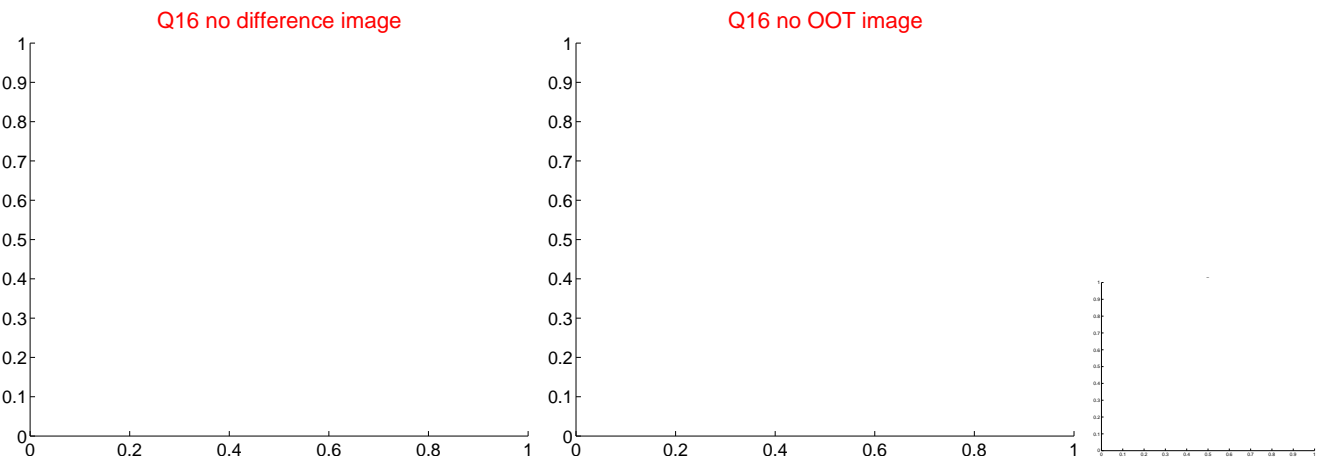
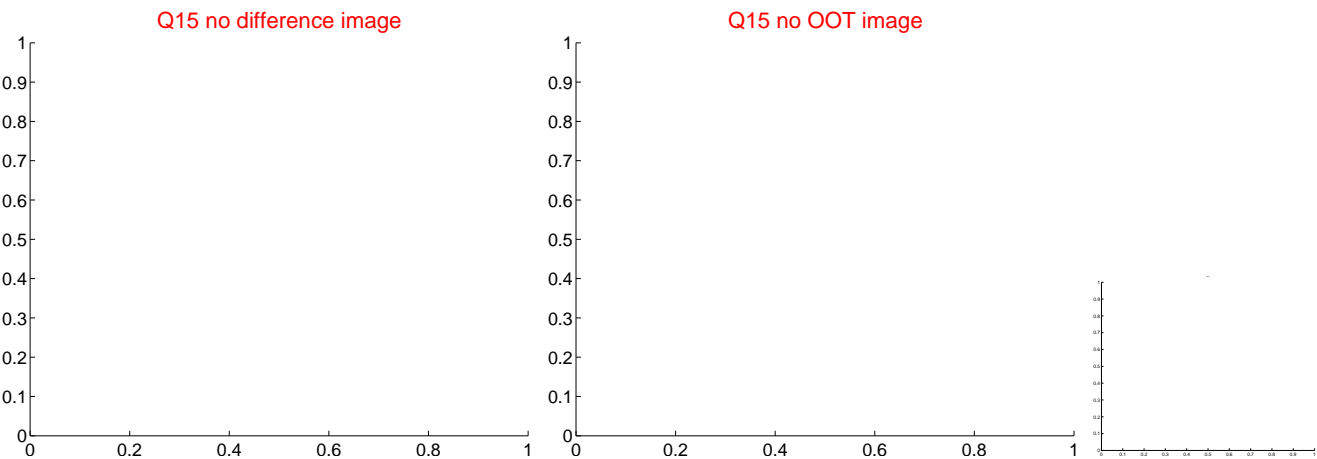
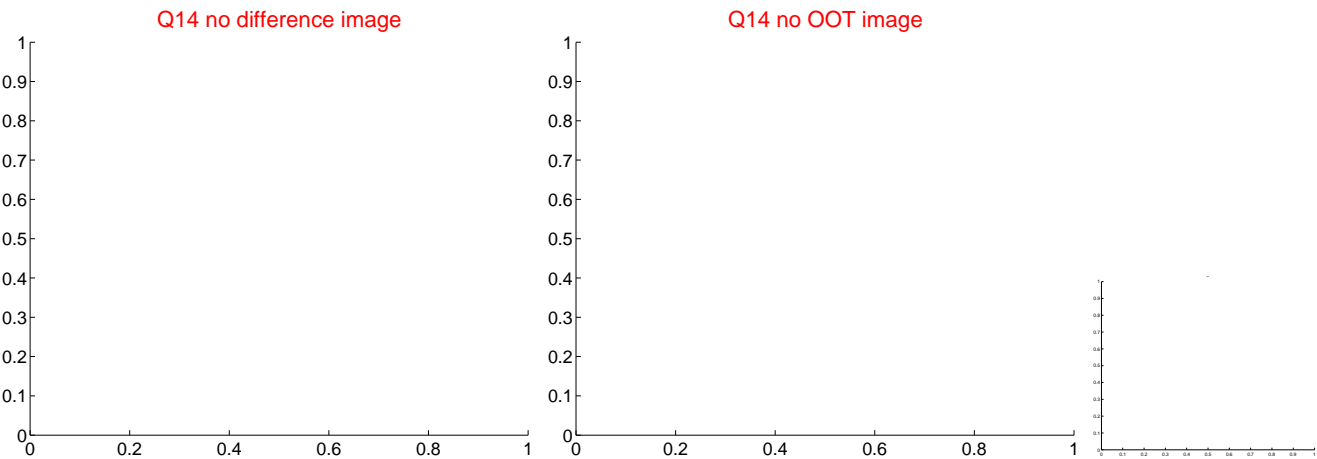
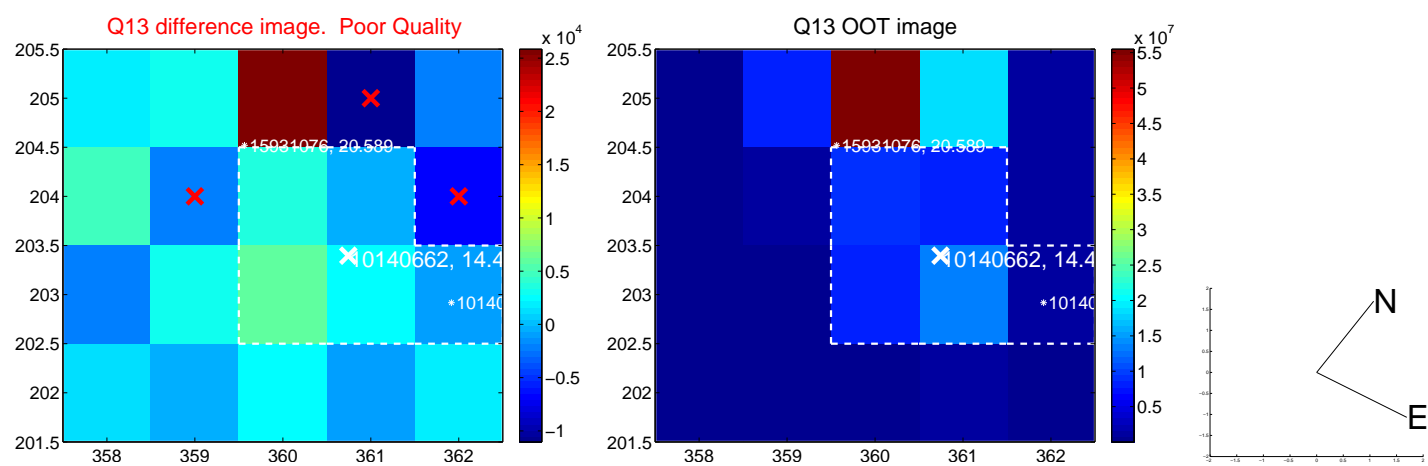
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



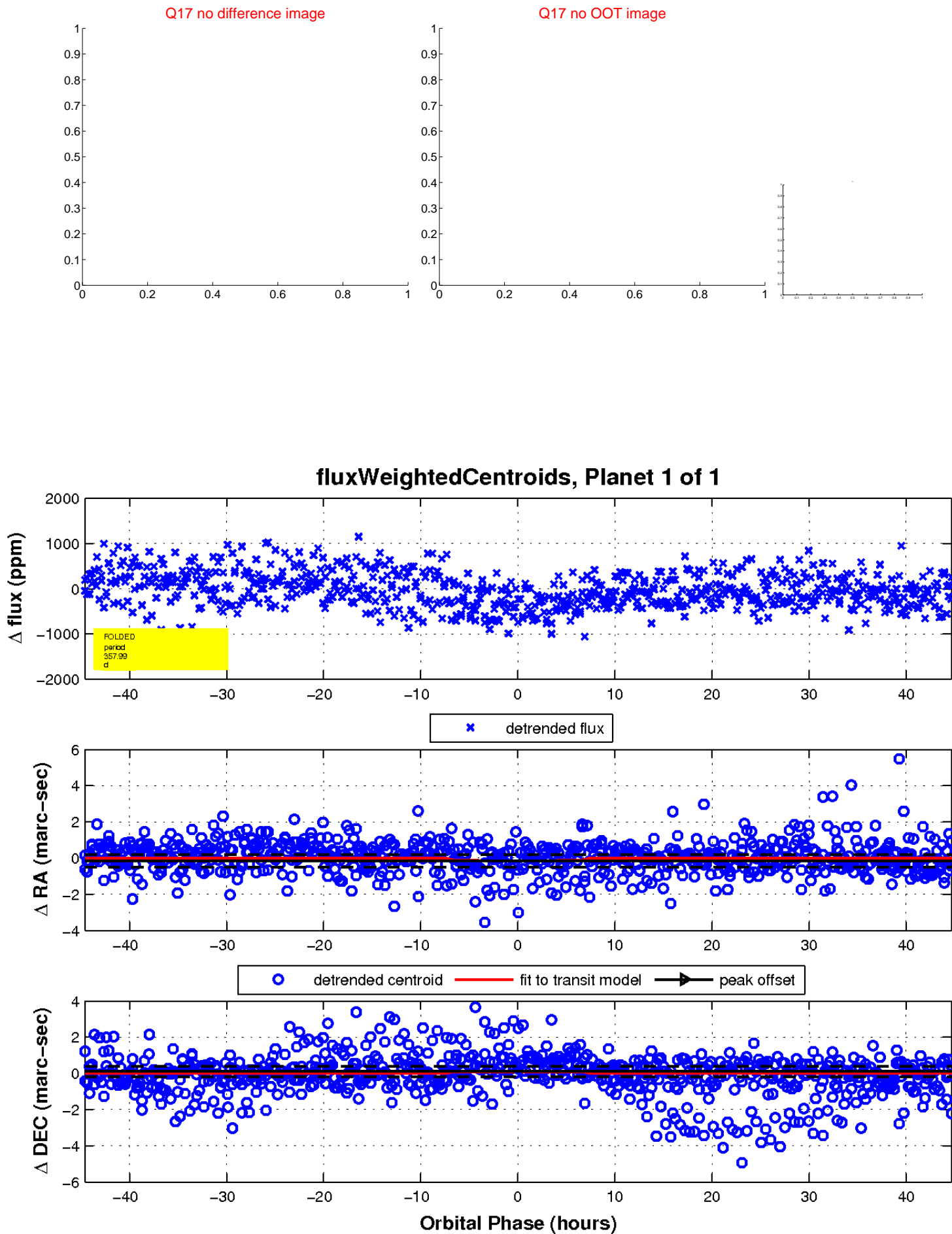
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

