

KIC 010271620

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})
010271620-01	OBS	No	378.701600	287.466418	1021.9	22.049	7.6	6.8	0.71	4911	2.26	0.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010271620-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—ALL_TRANS_CHASES—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.

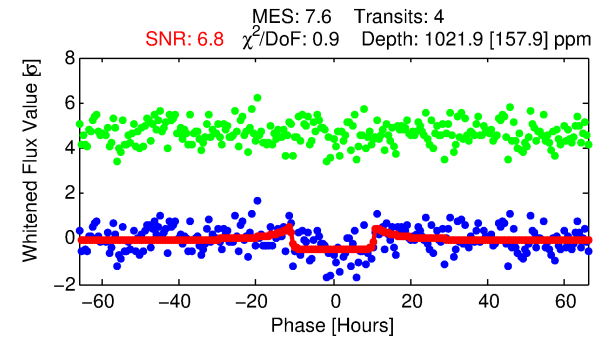
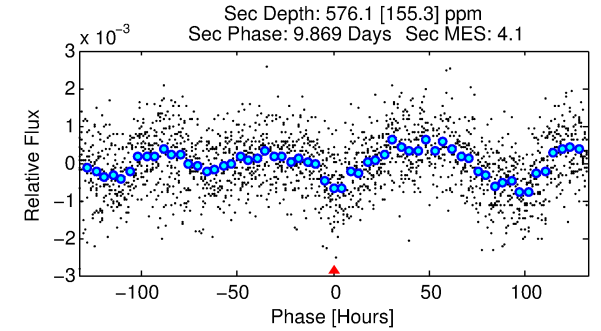
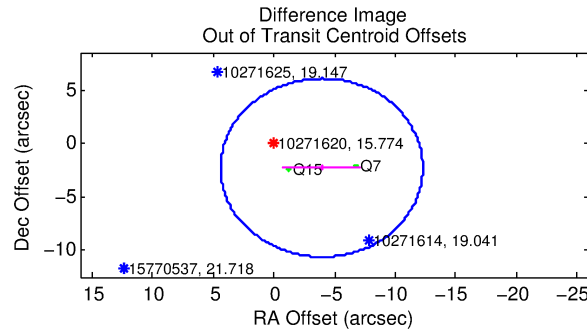
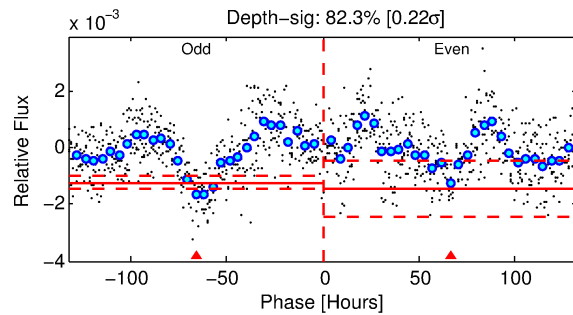
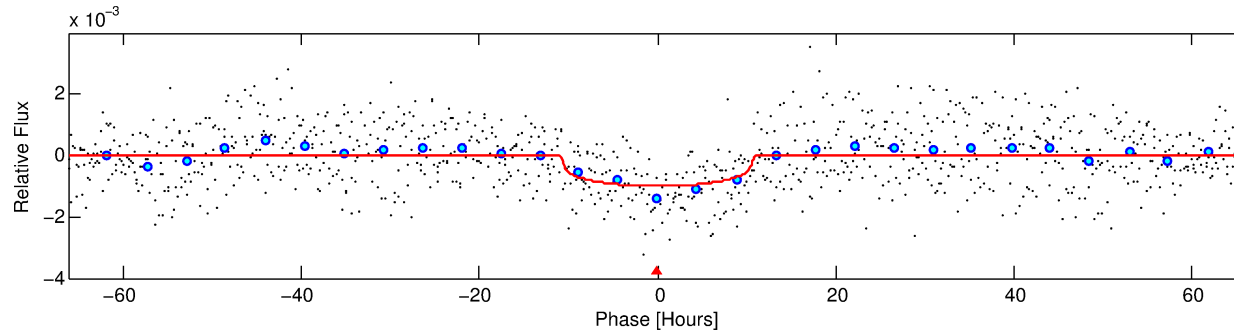
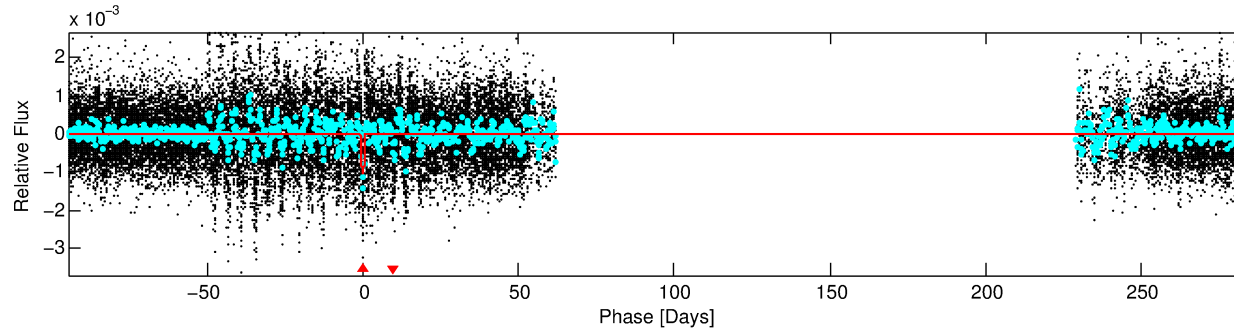
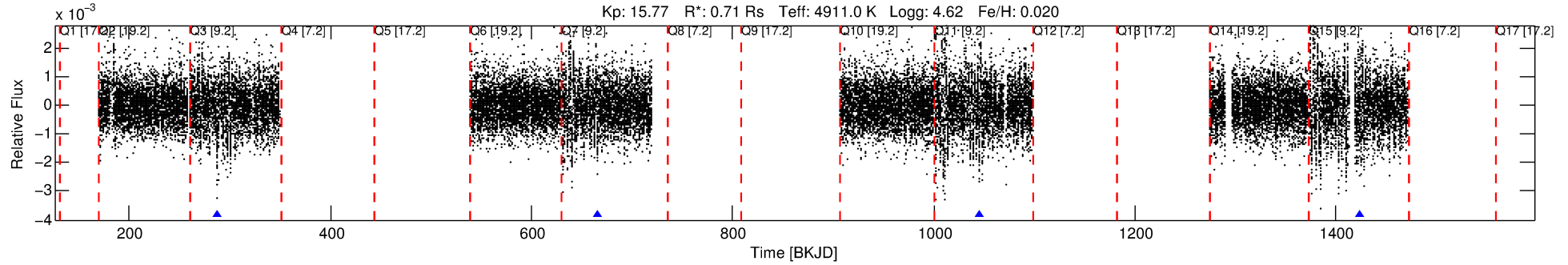
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010271620-01

No Significant Match Found

DV One-Page Summary

KIC: 10271620 Candidate: 1 of 1 Period: 378.702 d



DV Fit Results:

Period = 378.70160 [0.01343] d
Epoch = 287.4664 [0.0252] BKJD
Rp/R* = 0.0291 [0.0111]
a/R* = 122.62 [150.48]
b = 0.43 [2.34]
Seff = 0.30 [0.06]
Teq = 189 [9] K
Rp = 2.26 [0.91] Re
a = 0.9395 [0.0954] AU
Ag = 54646.18 [44810.01] [1.22 σ]
Teffp = 4459 [915] K [4.67 σ]

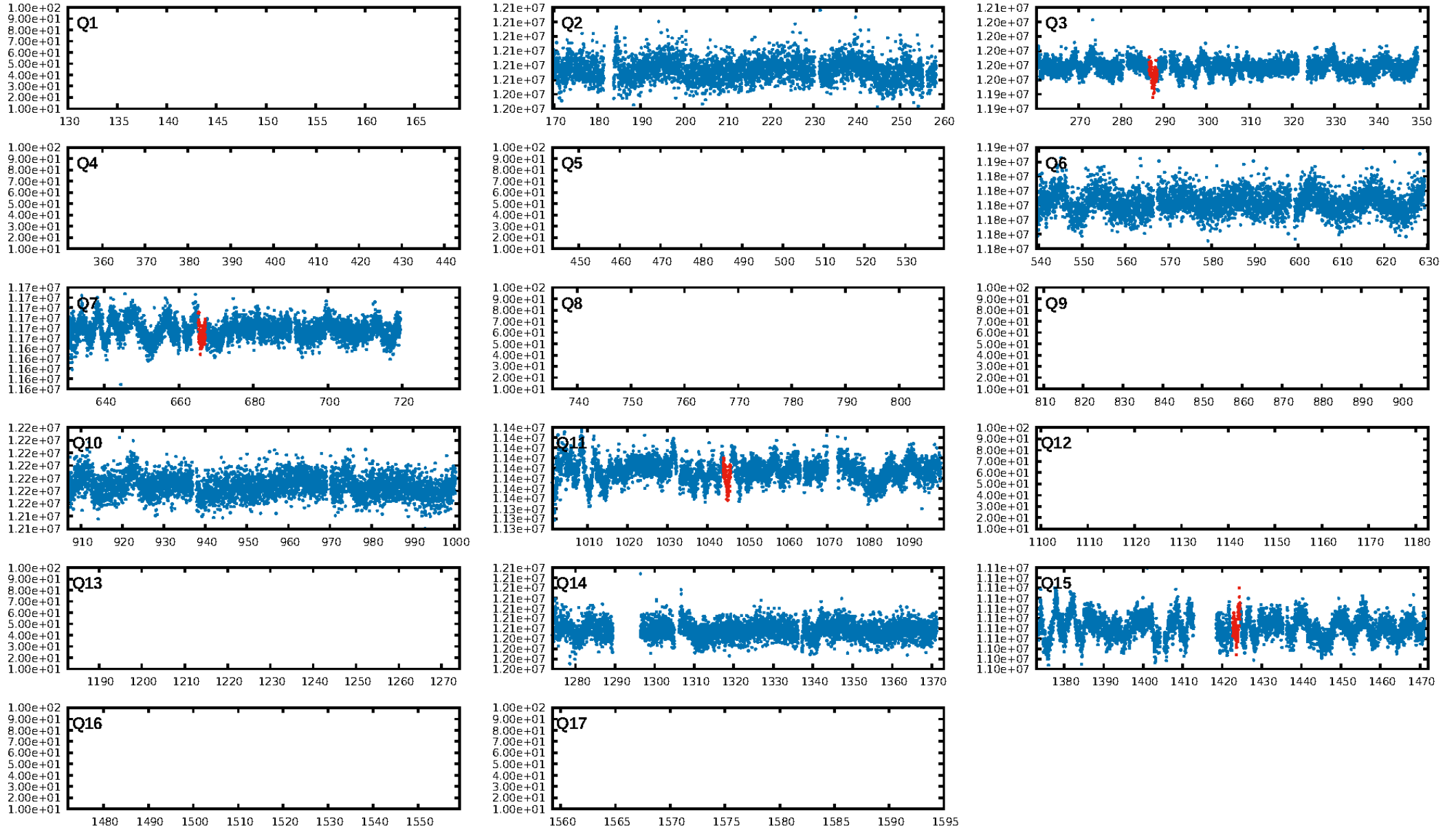
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 28.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.59e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.952
Centroid-sig: 21.1%
Centroid-so: 4.293 arcsec [1.28 σ]
OotOffset-rm: 4.564 arcsec [1.64 σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-rm: 4.439 arcsec [1.59 σ]
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [4/4]

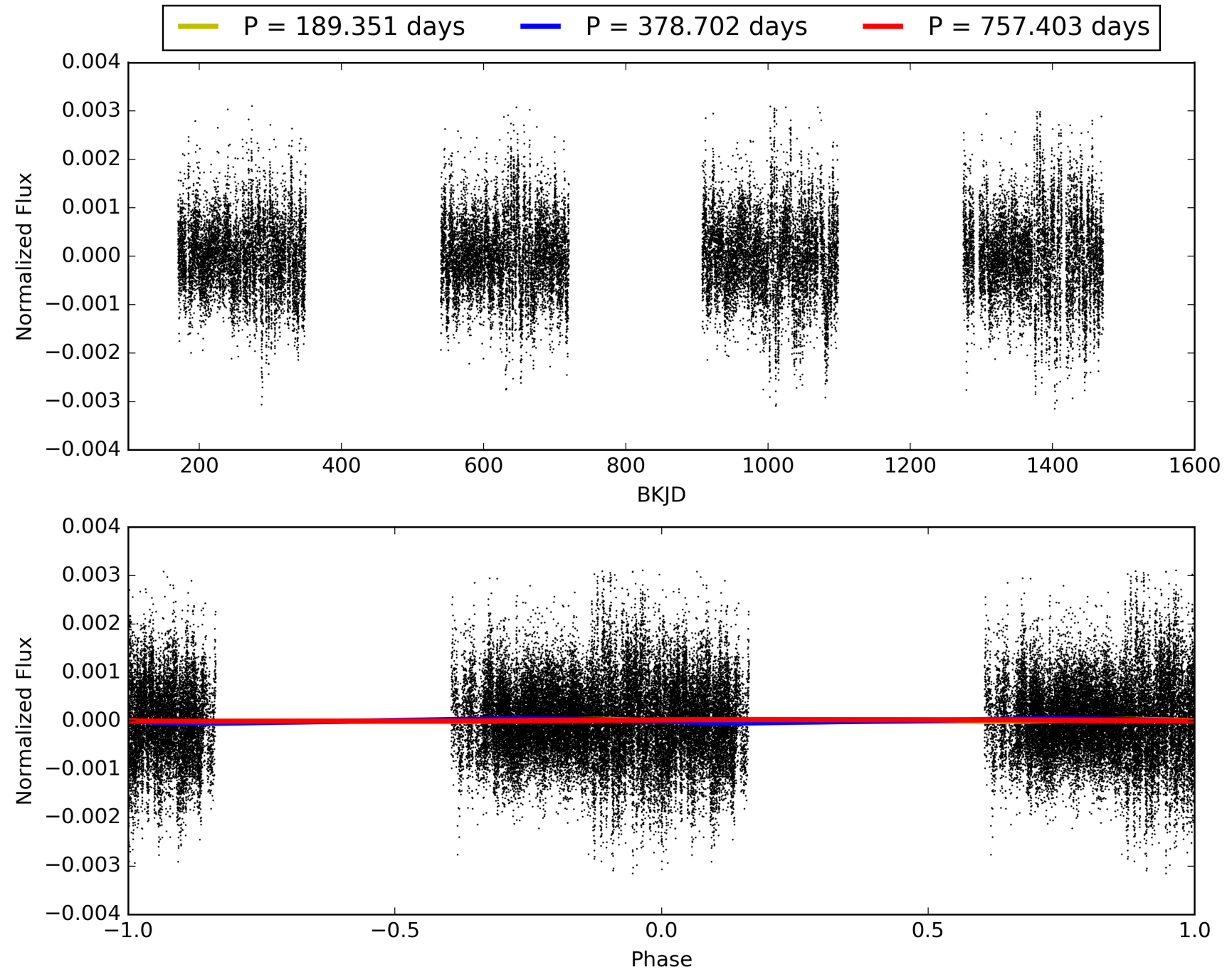
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:40:19 Z

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

TCE 010271620-01, PDC Light Curves

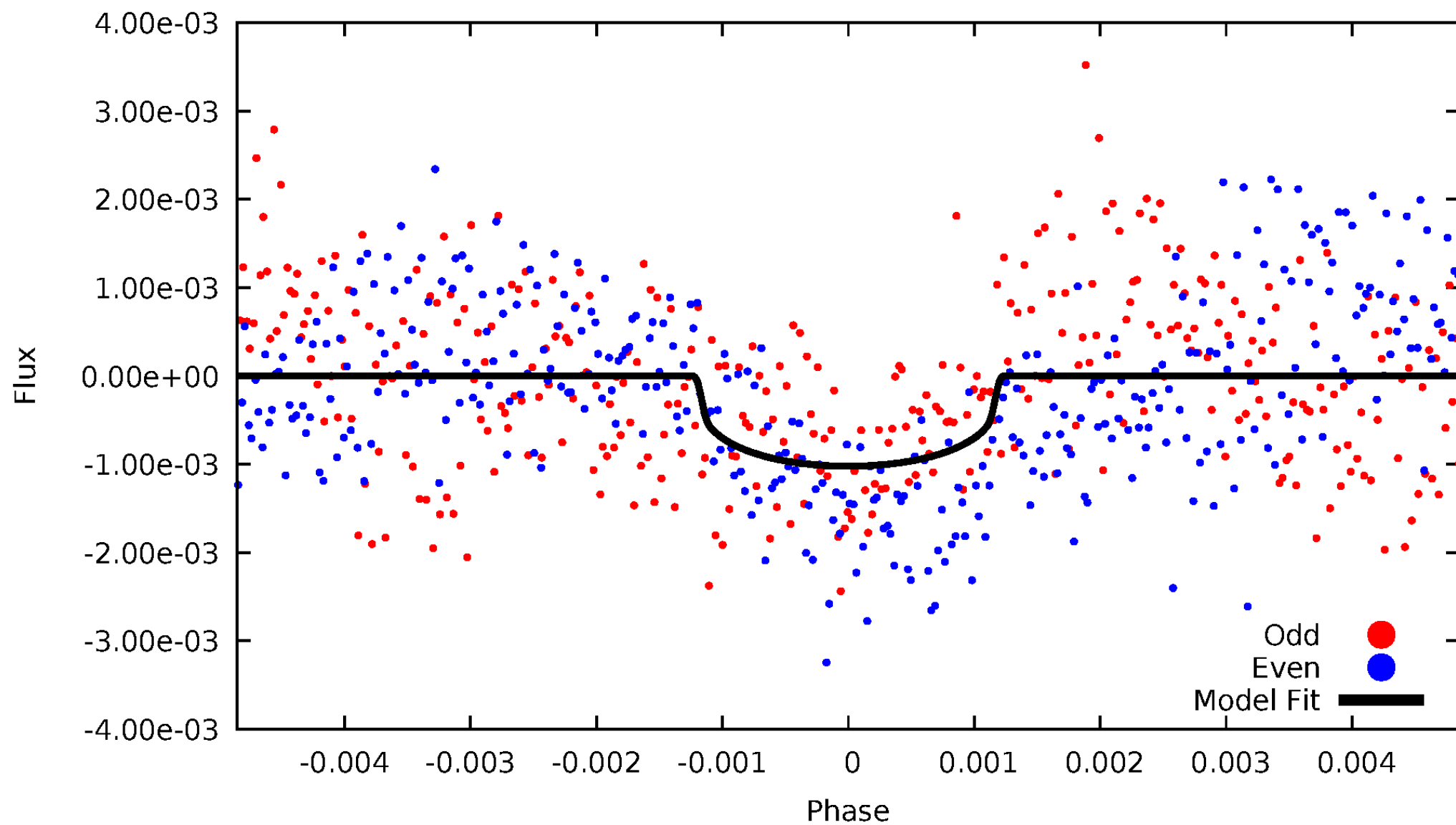


TCE 010271620-01



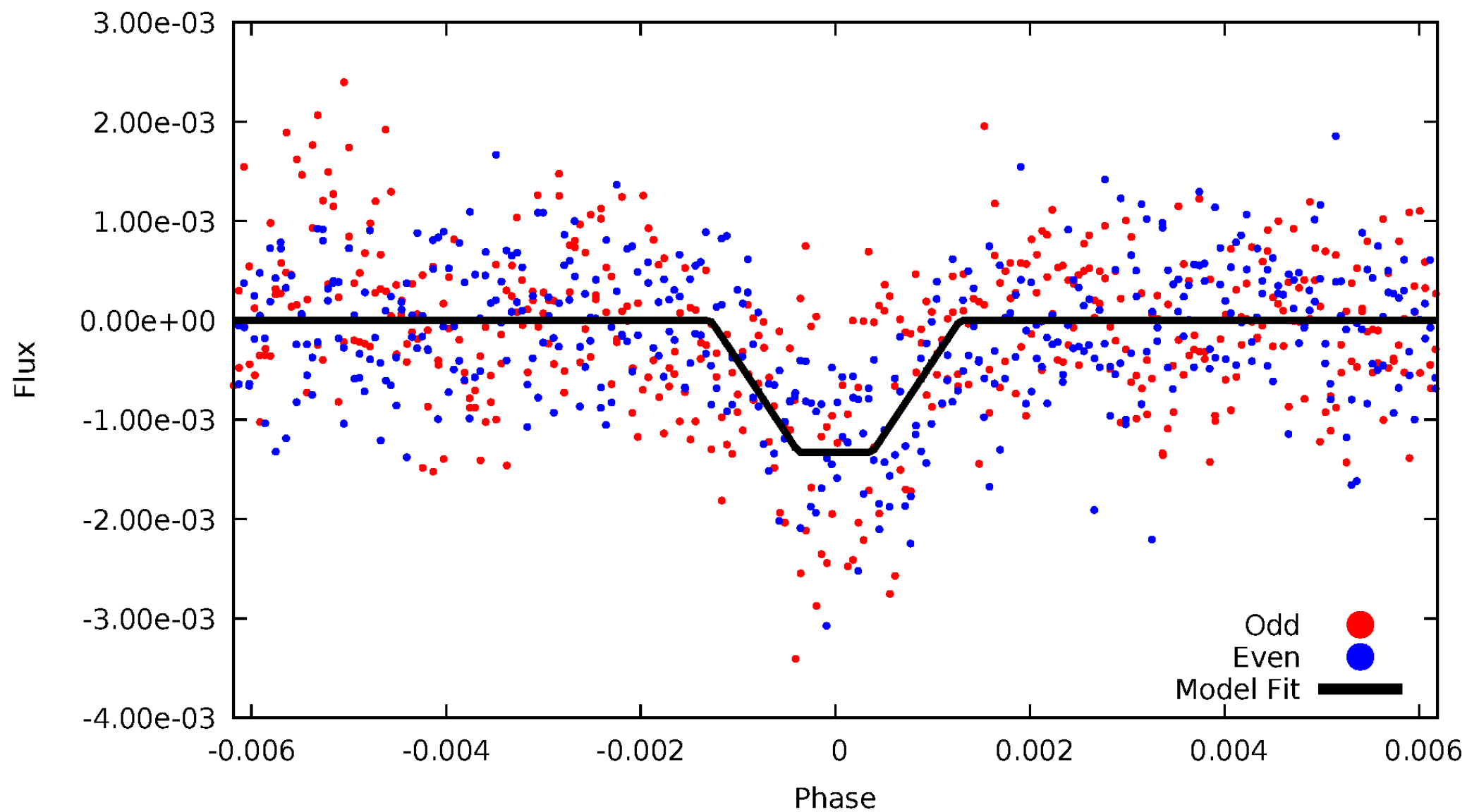
DV Odd/Even

TCE 010271620-01



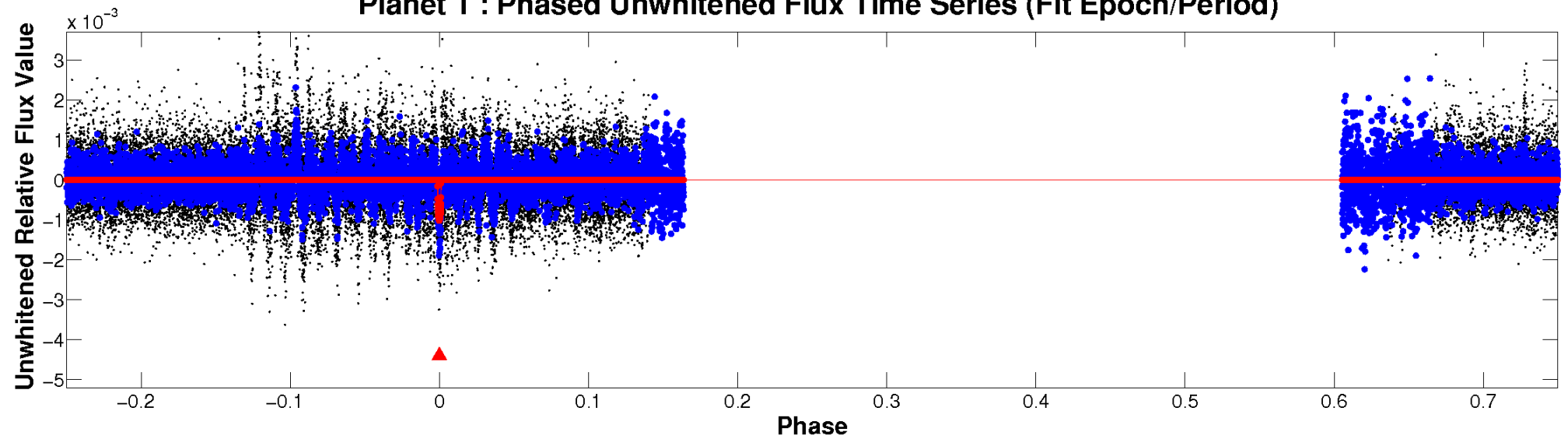
ALT Odd/Even

TCE 010271620-01

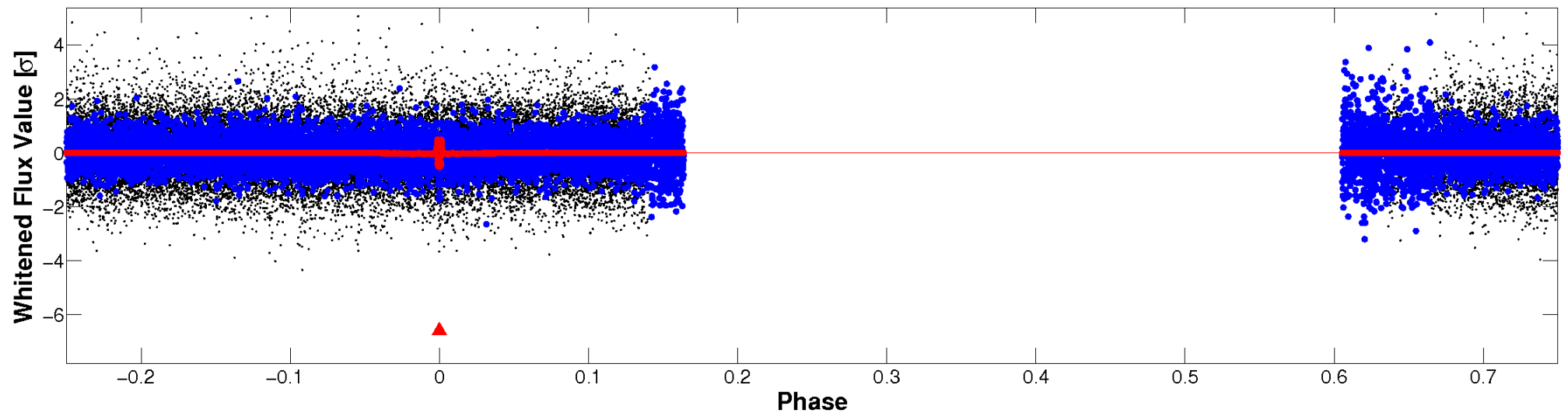


Non-Whitened Vs. Whitened Light Curve

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

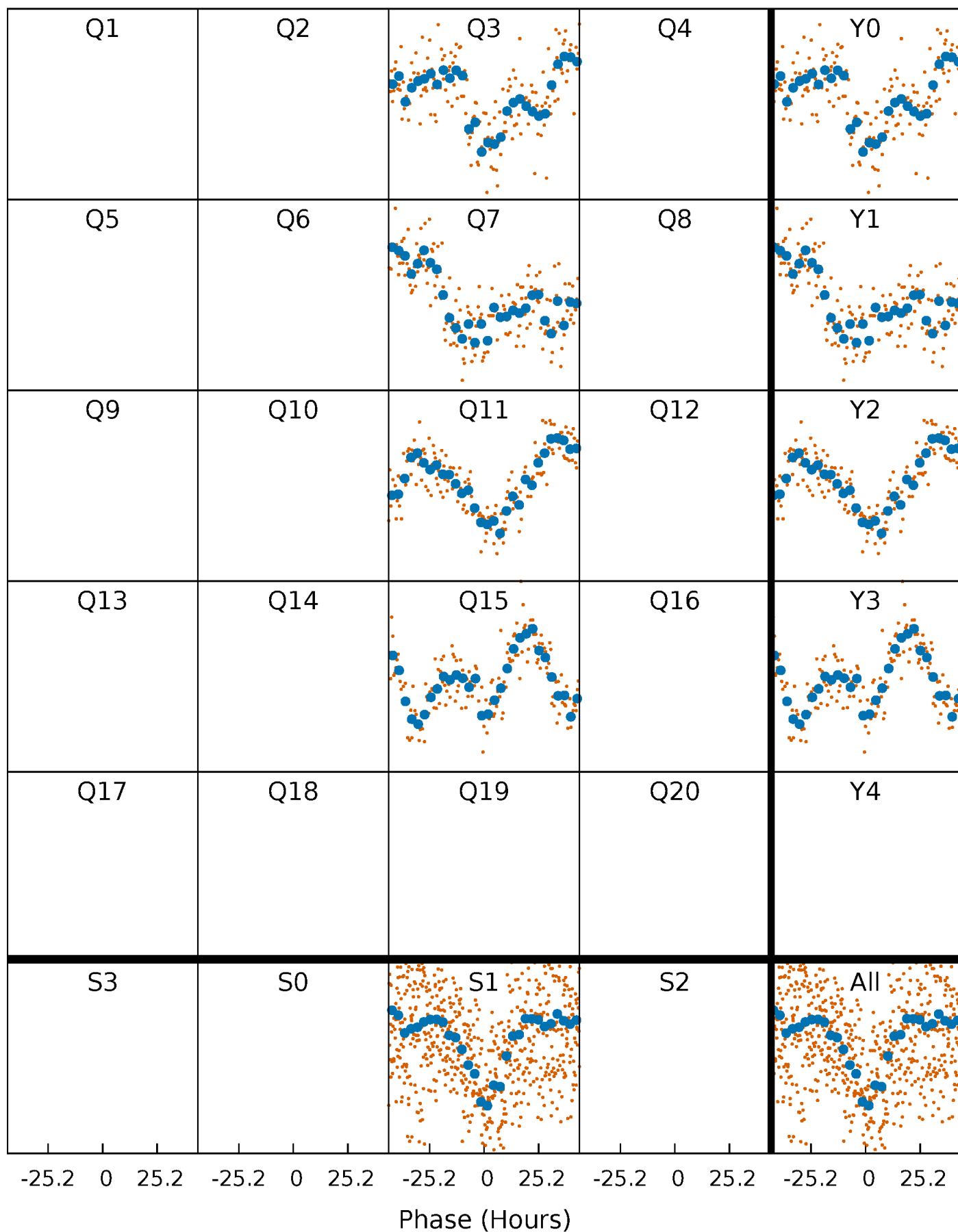


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



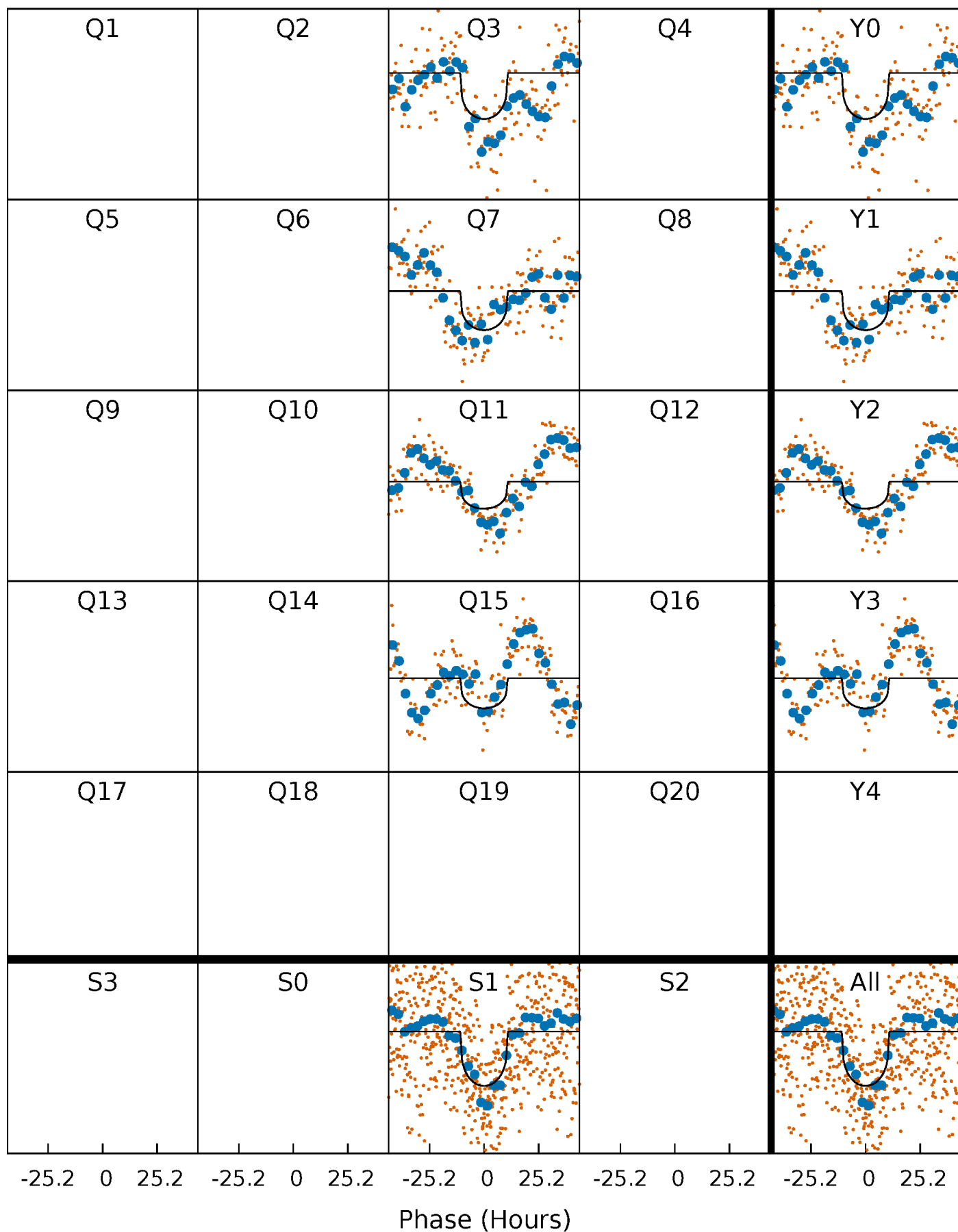
PDC Quarter-Phased Transit Curves

TCE 010271620-01 P=378.701600 Days $T_0=287.466418$ (BKJD)



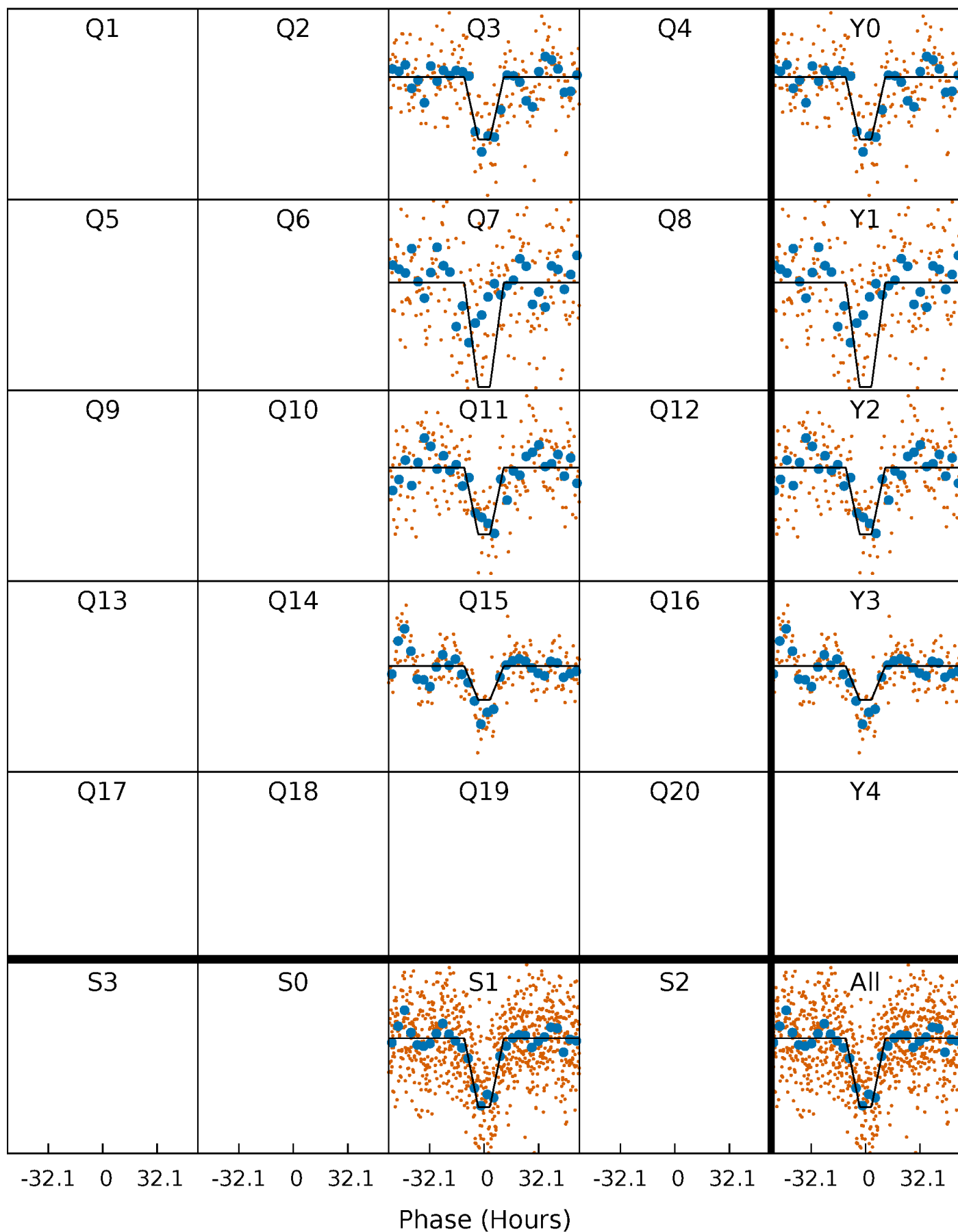
DV Quarter-Phased Transit Curves

TCE 010271620-01 P=378.701600 Days $T_0=287.466418$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

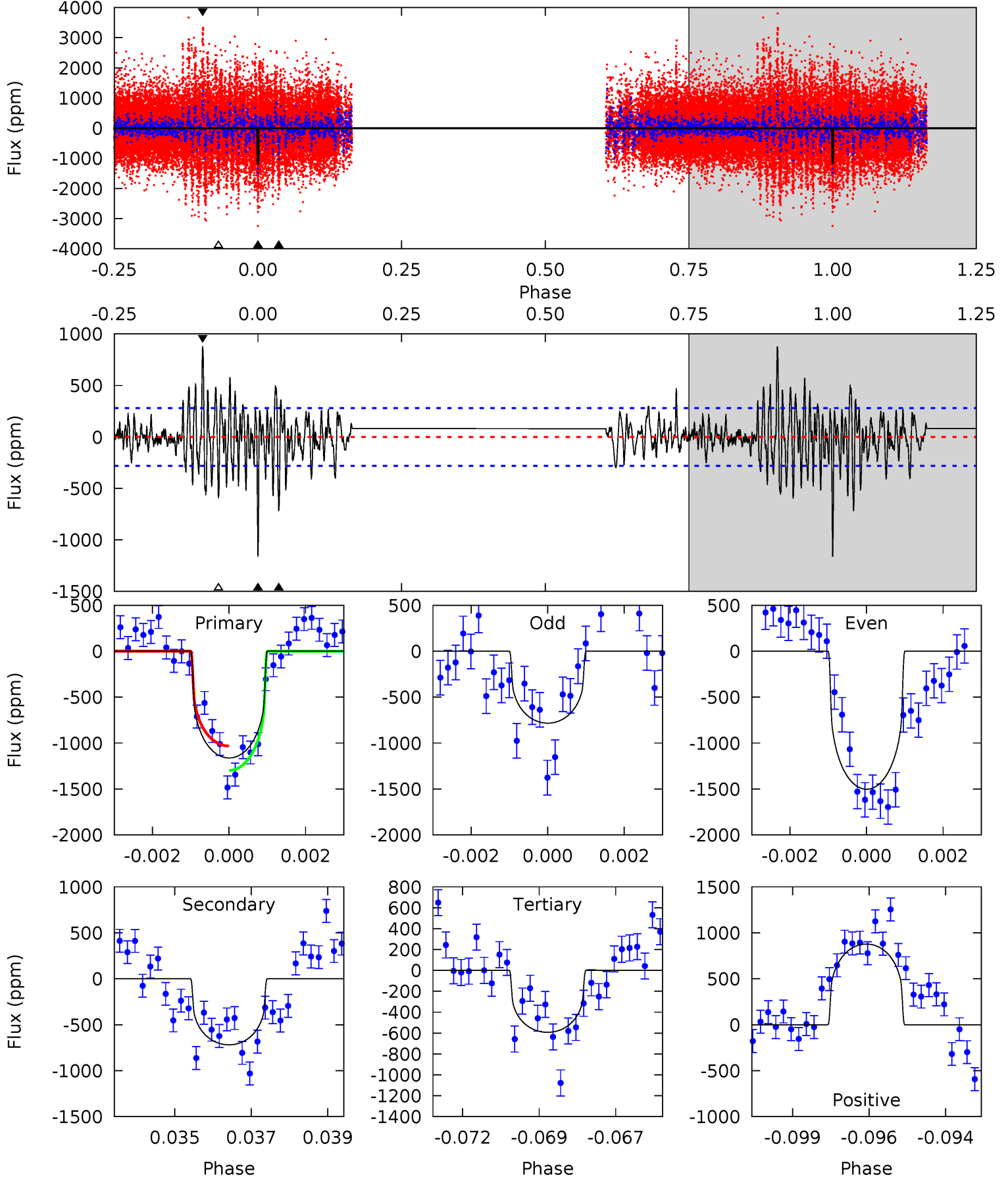
TCE 010271620-01 P=378.756468 Days $T_0=287.435159$ (BKJD)



DV Model-Shift Uniqueness Test

010271620-01, P = 378.701600 Days, E = 287.466418 Days

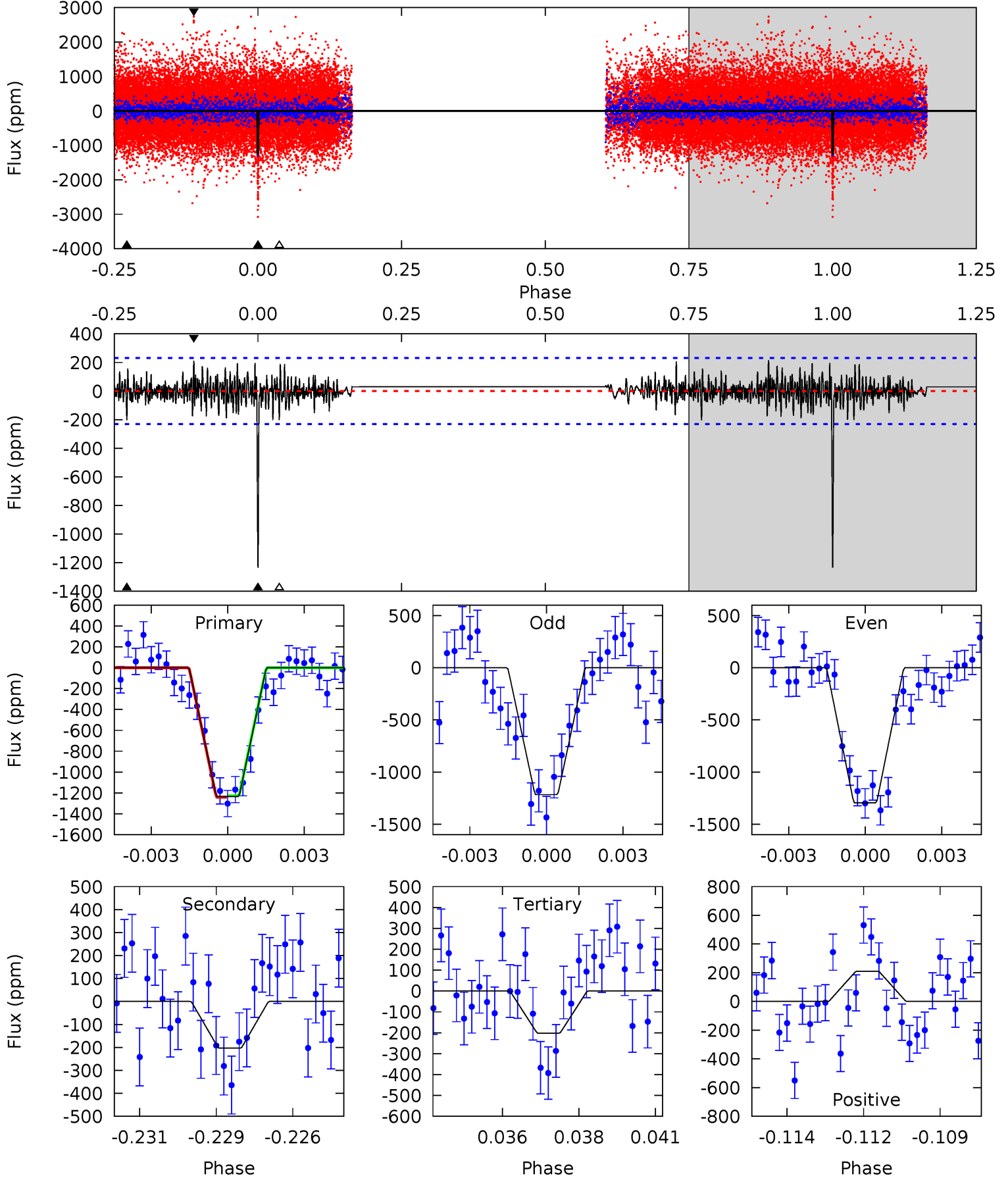
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.9	13.6	11.2	16.6	5.29	3.03	3.59	10.7	5.38	2.37	-3.00	6.82	0.91	0.43	2.51



Alt Model-Shift Uniqueness Test

010271620-01, P = 378.756468 Days, E = 287.435159 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.2	4.65	4.62	4.82	5.28	3.02	1.37	23.6	23.4	0.03	-0.17	0.91	0.96	0.15	0.14



Stellar Parameters For KIC 010271620

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4911^{+173}_{-173}	$4.620^{+0.025}_{-0.070}$	$0.020^{+0.250}_{-0.300}$	$0.712^{+0.092}_{-0.049}$	$0.804^{+0.054}_{-0.081}$	$3.135^{+0.413}_{-0.785}$
	+4%/-4%	+1%/-2%	+1250%/-1500%	+13%/-7%	+7%/-10%	+13%/-25%
Source	KIC0	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 010271620-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-719 ± 53	$2.35^{+0.92}_{-0.84}$	267^{+11}_{-10}	4708^{+1012}_{-526}	63191^{+91238}_{-29951}
Alt.	-203 ± 44	$2.94^{+0.85}_{-0.89}$	266^{+11}_{-11}	3462^{+491}_{-298}	11349^{+13295}_{-4952}

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

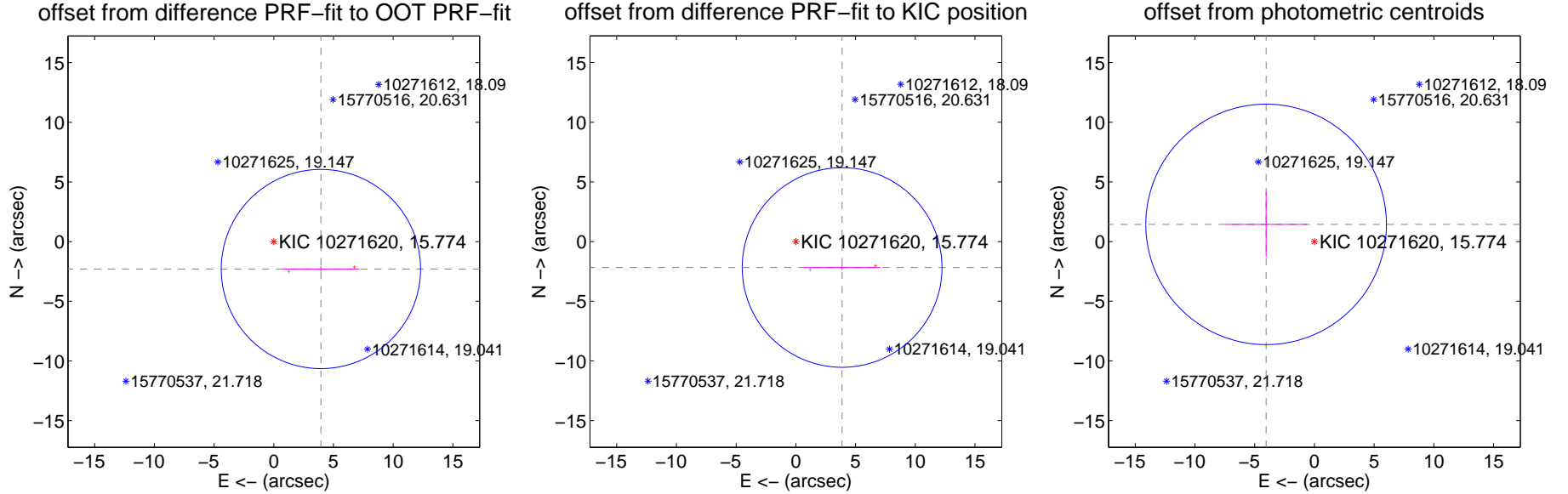
DV Centroid Data

Supplemental centroid analysis for 010271620-01. Kepler magnitude: 15.77. Transit SNR 6.76

There are 1 quarters with good PRF difference image offsets

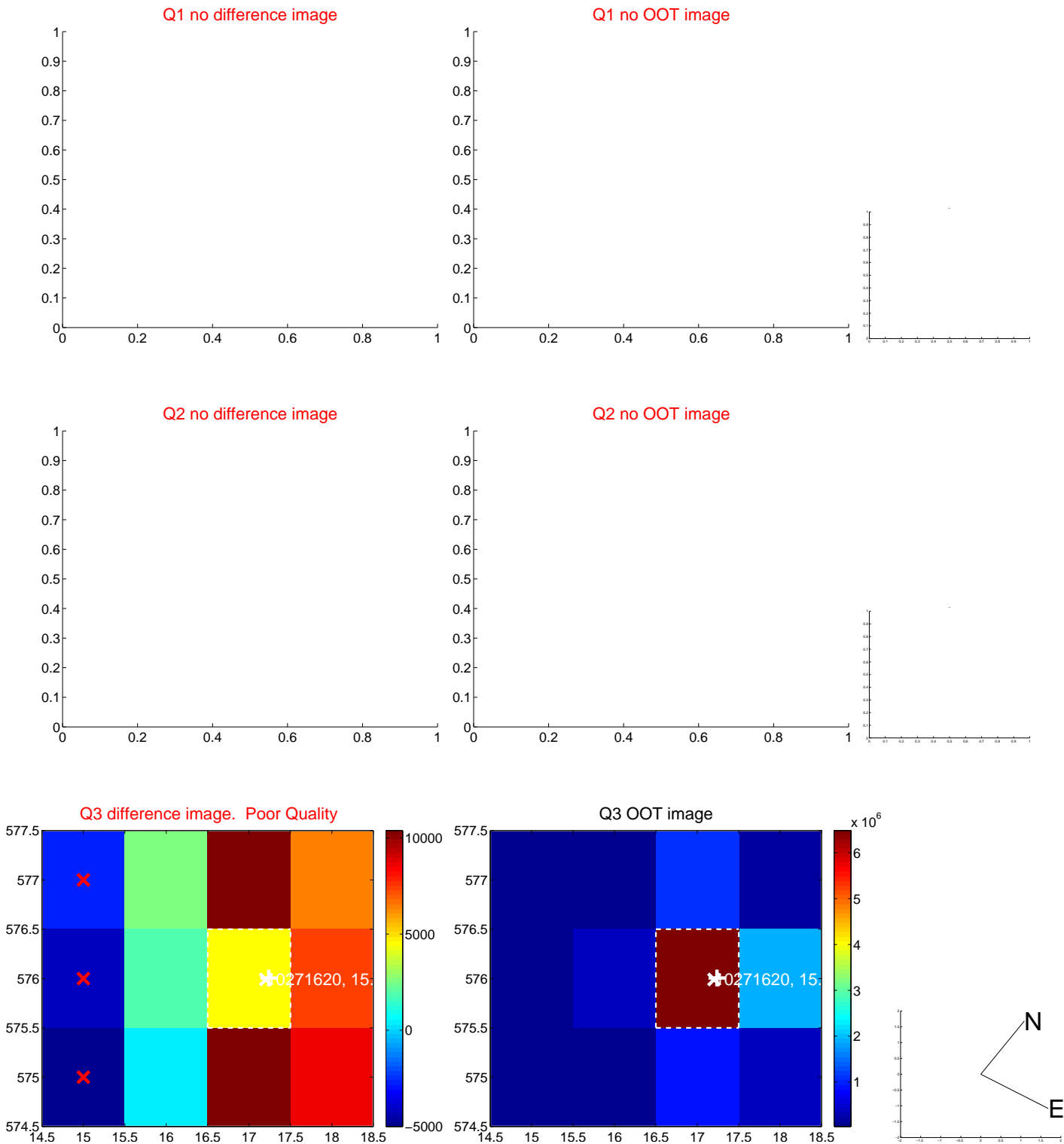
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.564 ± 2.782	1.64	-3.945 ± 3.216	-2.295 ± 0.224
PRF-fit source offset from KIC position	4.439 ± 2.787	1.59	-3.871 ± 3.194	-2.173 ± 0.199
photometric centroid source offset	4.29 ± 3.36	1.28	4.04 ± 3.43	1.44 ± 2.74

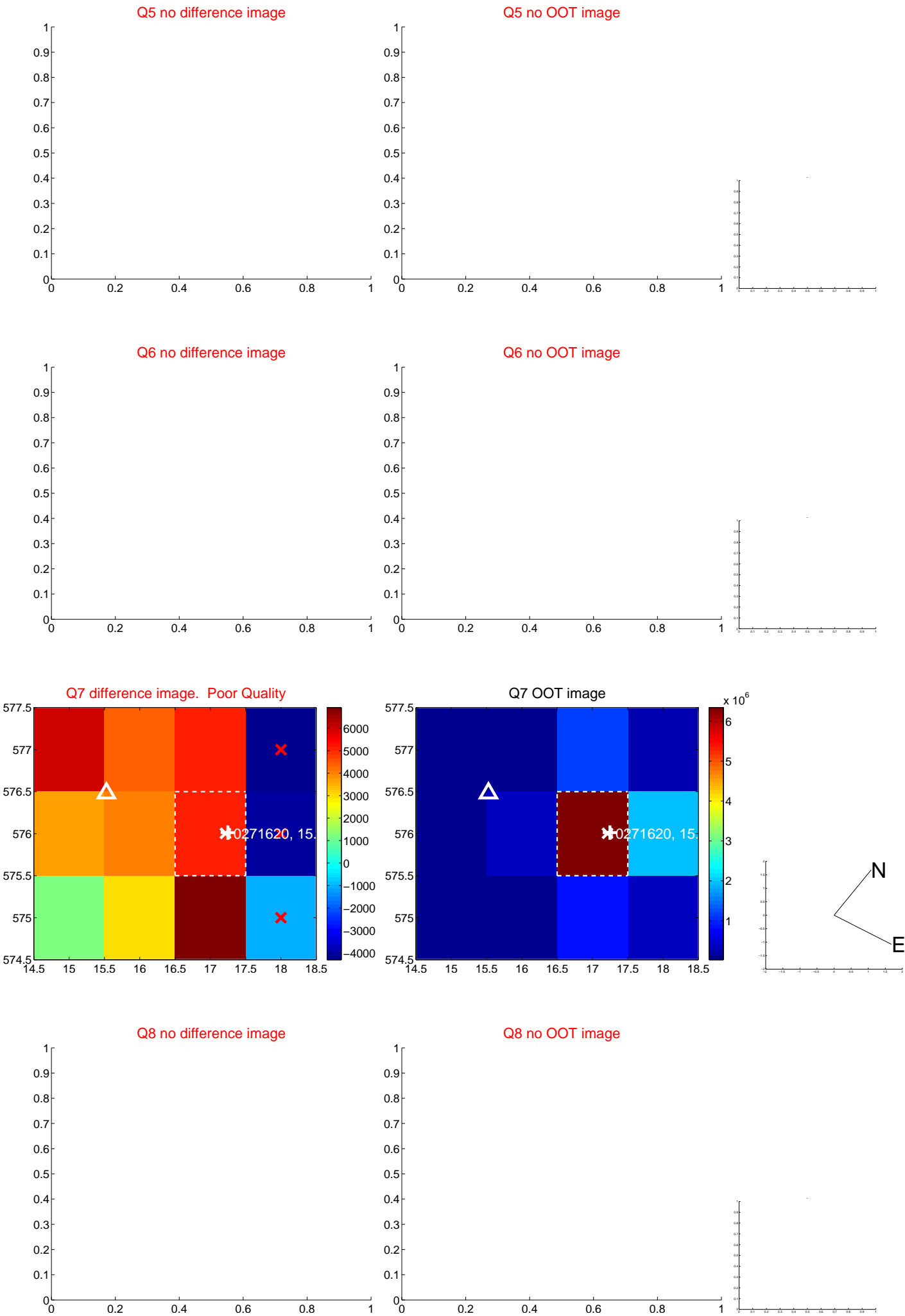


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

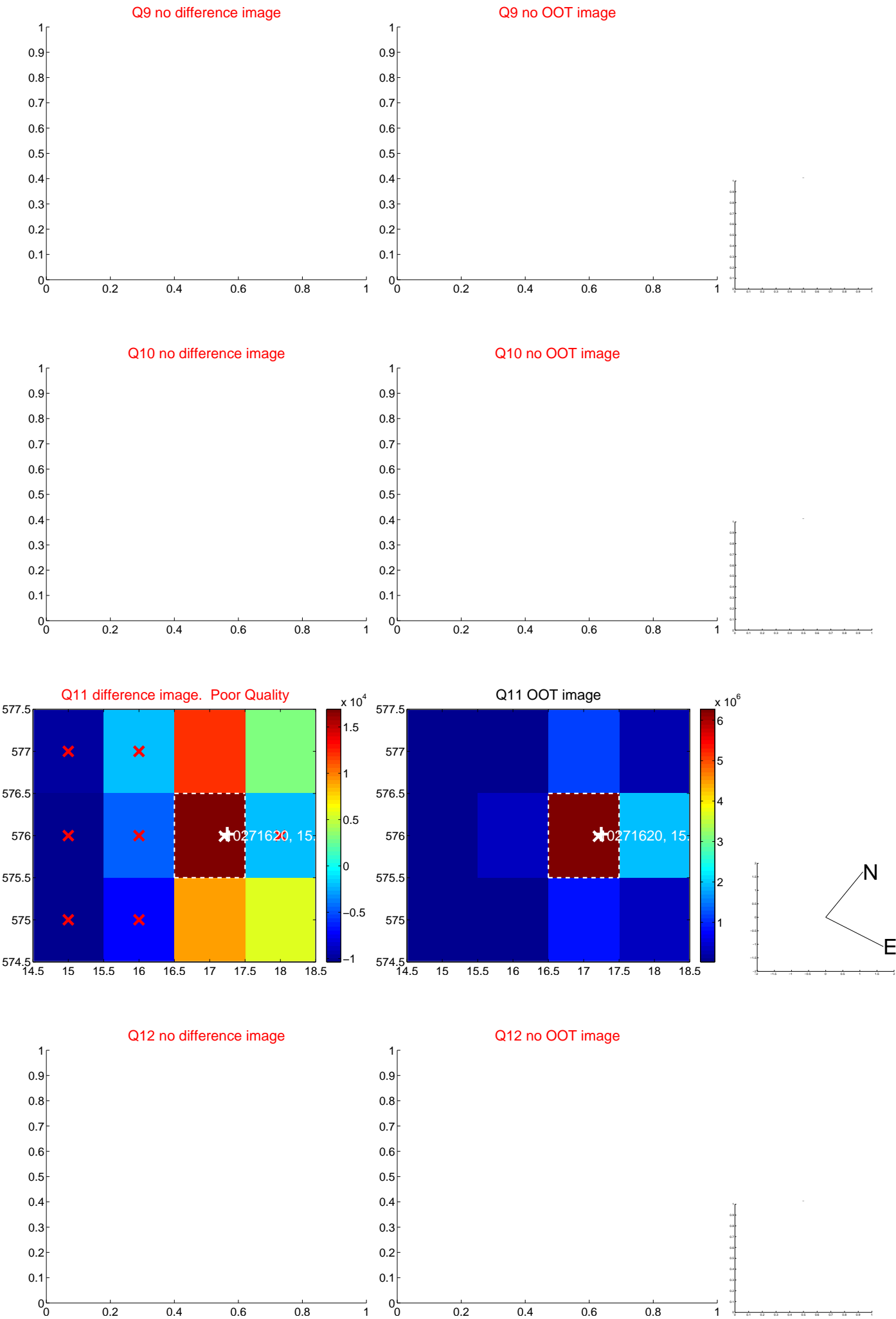
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



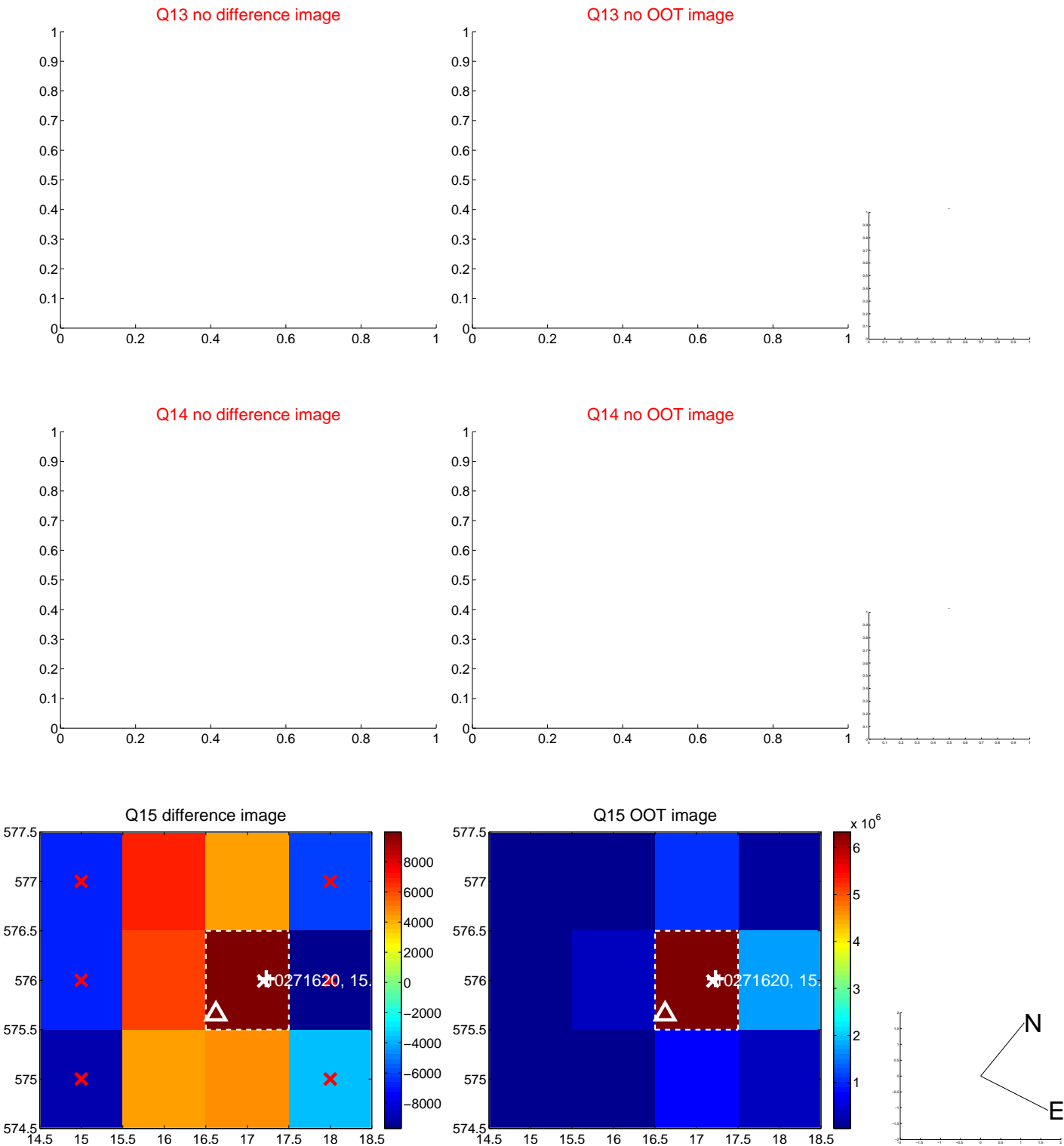
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



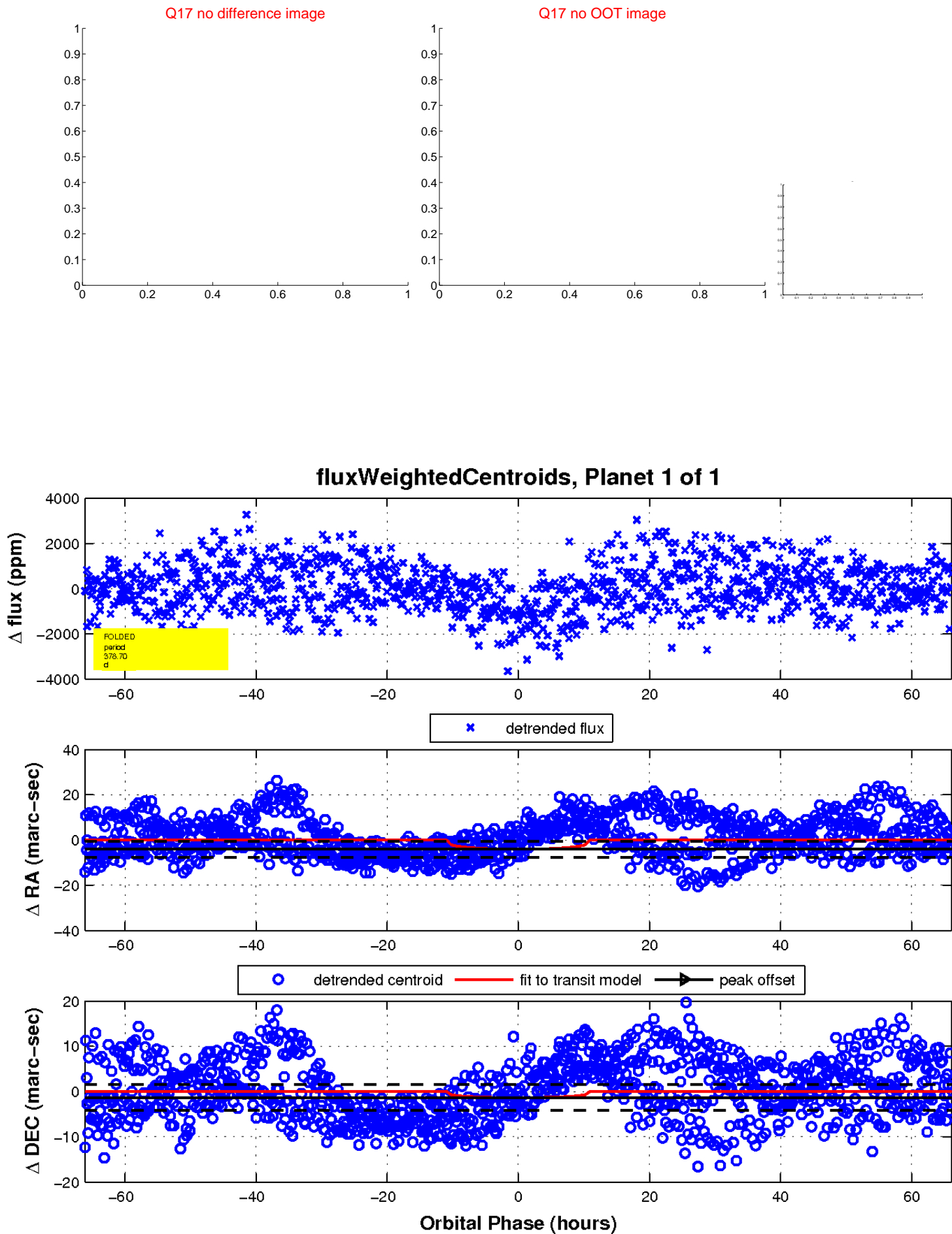
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



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



UKIRT Image

Declination

