

KIC 005027859

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})
005027859-01	OBS	5117.01	33.372216	153.624735	468.2	5.069	8.5	8.2	0.80	5504	2.08	13.73

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005027859-01	OBS	PC	0.98	0	0	0	0	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 005027859-01

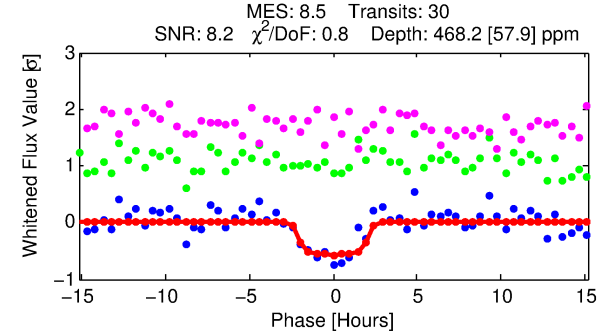
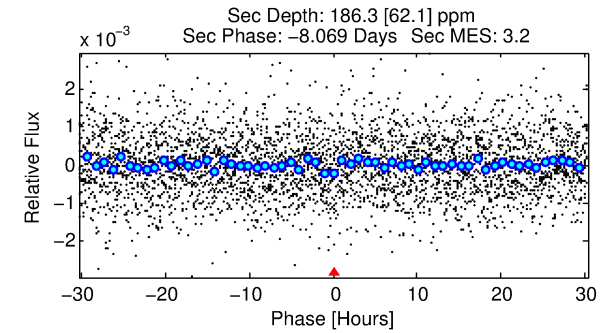
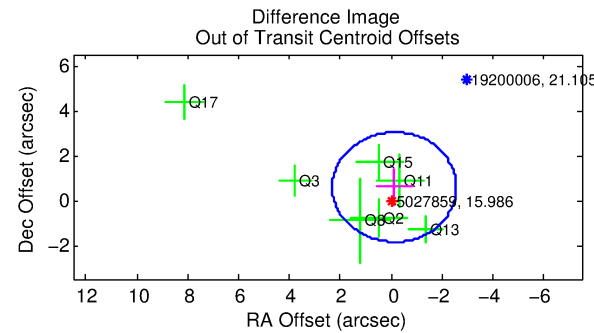
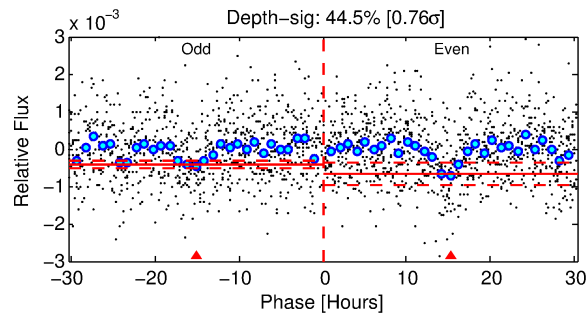
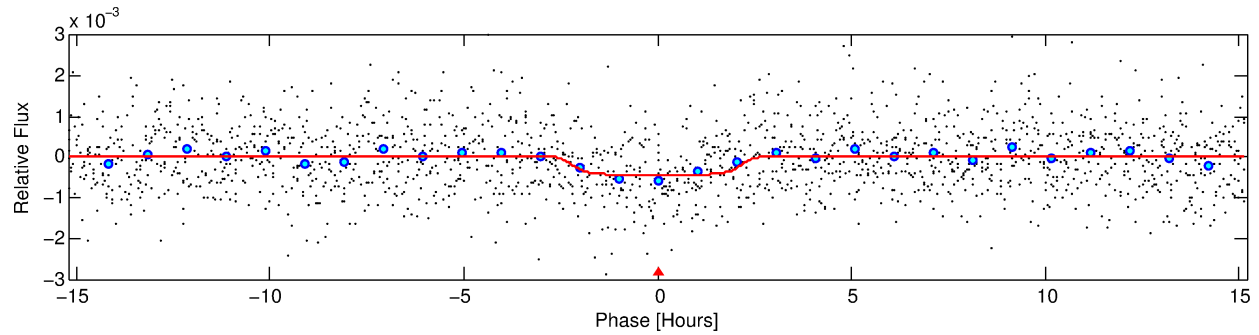
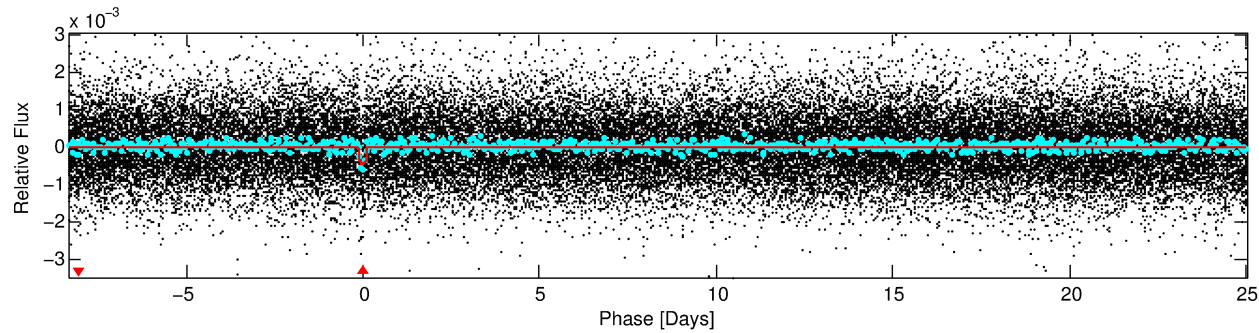
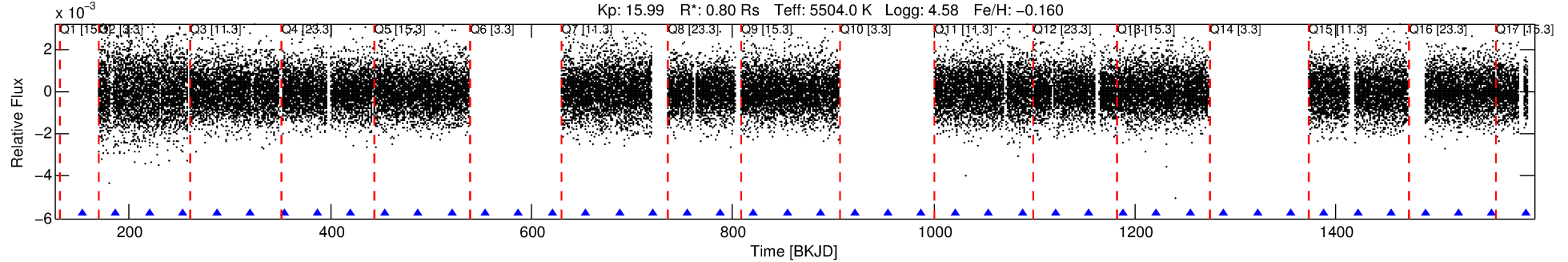
No Significant Match Found

DV One-Page Summary

KIC: 5027859 Candidate: 1 of 1 Period: 33.372 d

KOI: K05117.01 Corr: 0.848

Kp: 15.99 R*: 0.80 Rs Teff: 5504.0 K Logg: 4.58 Fe/H: -0.160



DV Fit Results:

Period = 33.37222 [0.00054] d
Epoch = 153.6247 [0.0133] BKJD
Rp/R* = 0.0240 [0.0055]
a/R* = 23.67 [22.95]
b = 0.91 [0.19]
Seff = 13.73 [4.01]
Teq = 491 [36] K
Rp = 2.08 [0.66] Re
a = 0.1948 [0.0359] AU
Ag = 897.42 [562.48] [1.59σ]
Teffp = 4154 [603] K [6.07σ]

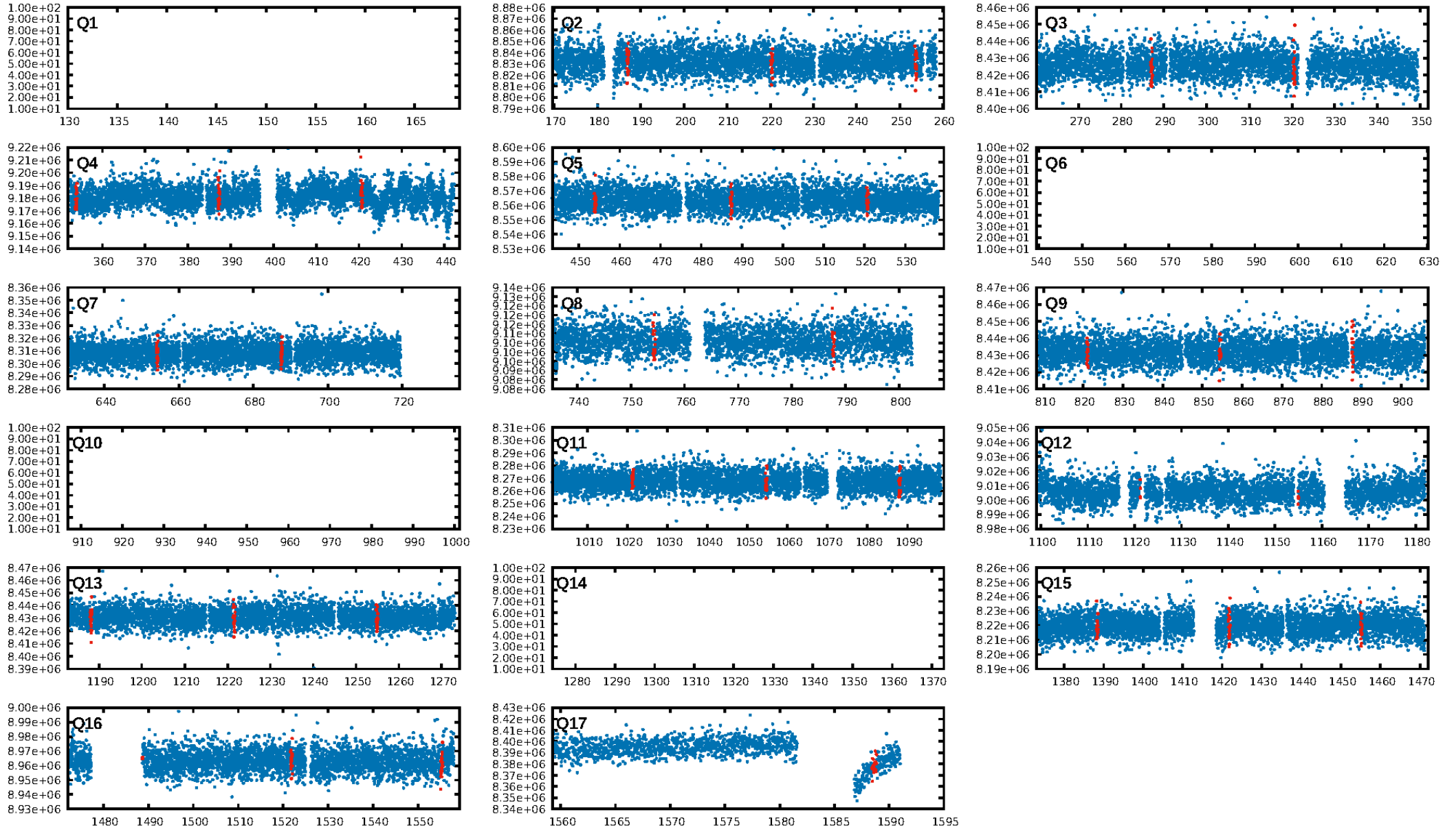
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.33e-18
RollingBand-fgt: 1.00 [29/29]
GhostDiagnostic-chr: 4.5
Centroid-sig: 0.0%
Centroid-so: 3.656 arcsec [2.15σ]
OotOffset-rm: 0.599 arcsec [0.74σ]
KicOffset-rm: 0.588 arcsec [0.70σ]
OotOffset-st: 1/3/1/2 [7]
KicOffset-st: 1/3/1/2 [7]
DiffImageQuality-fgm: 0.43 [3/7]
DiffImageOverlap-fno: 1.00 [12/12]

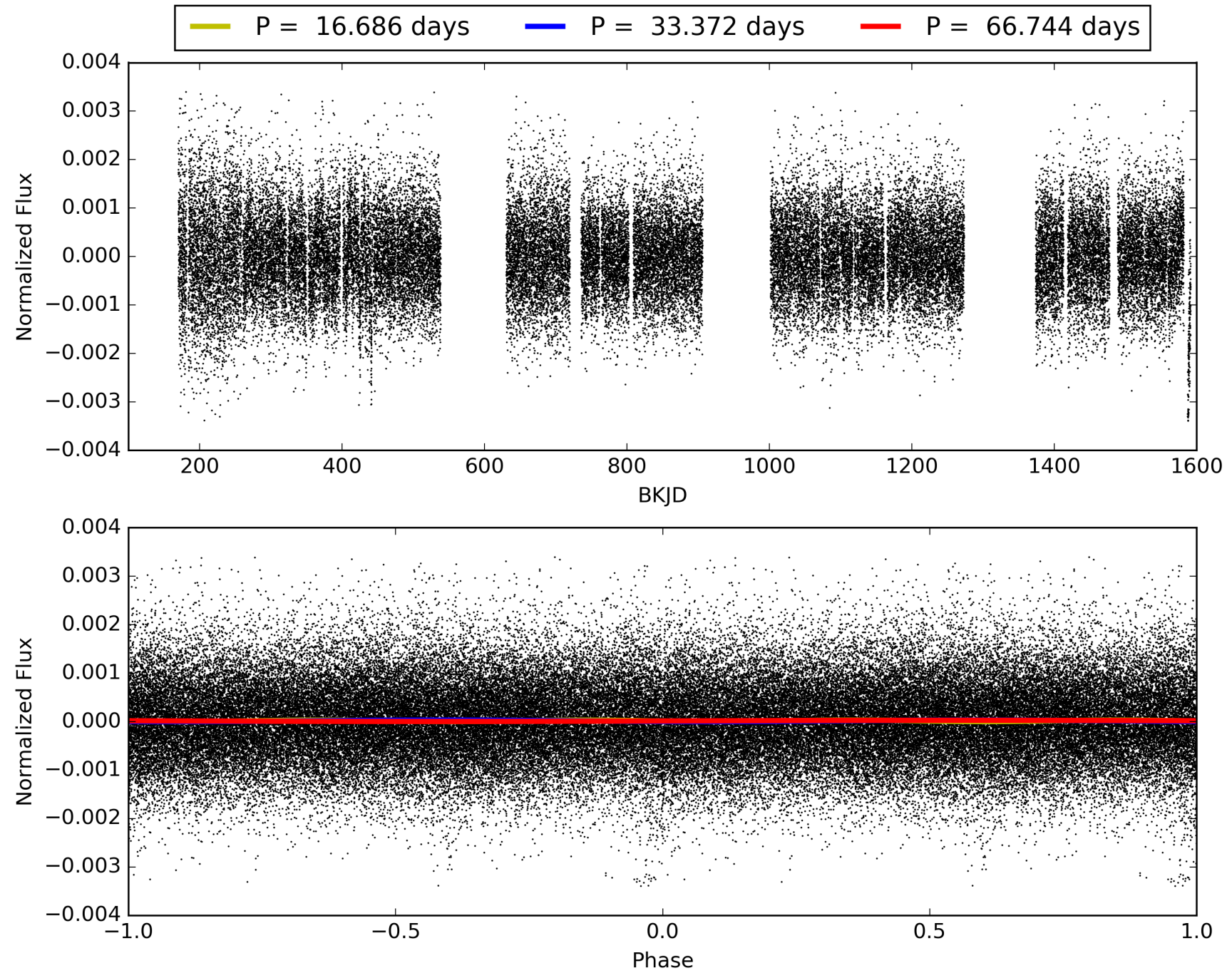
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:00:45 Z

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

TCE 005027859-01, PDC Light Curves

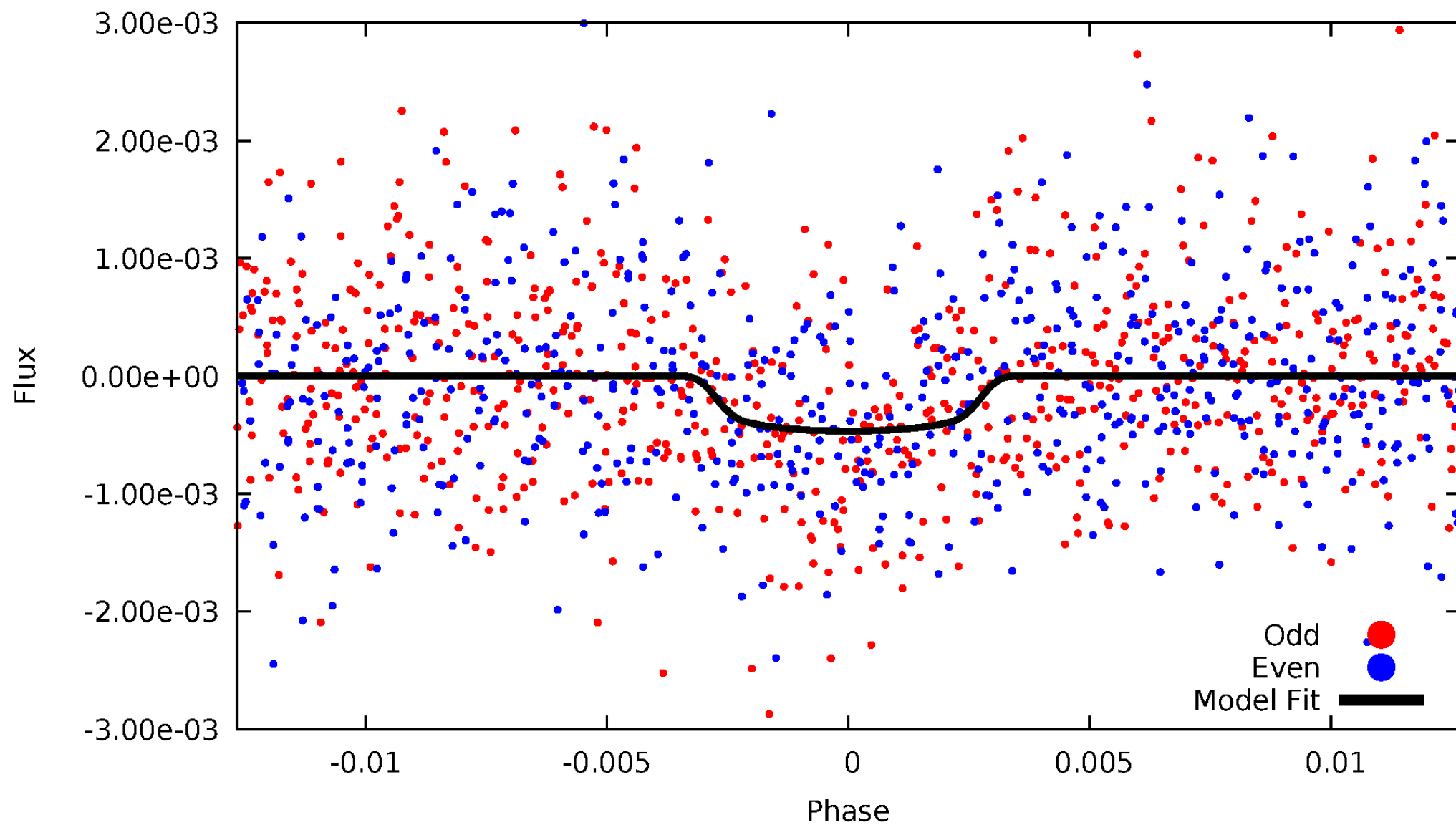


TCE 005027859-01



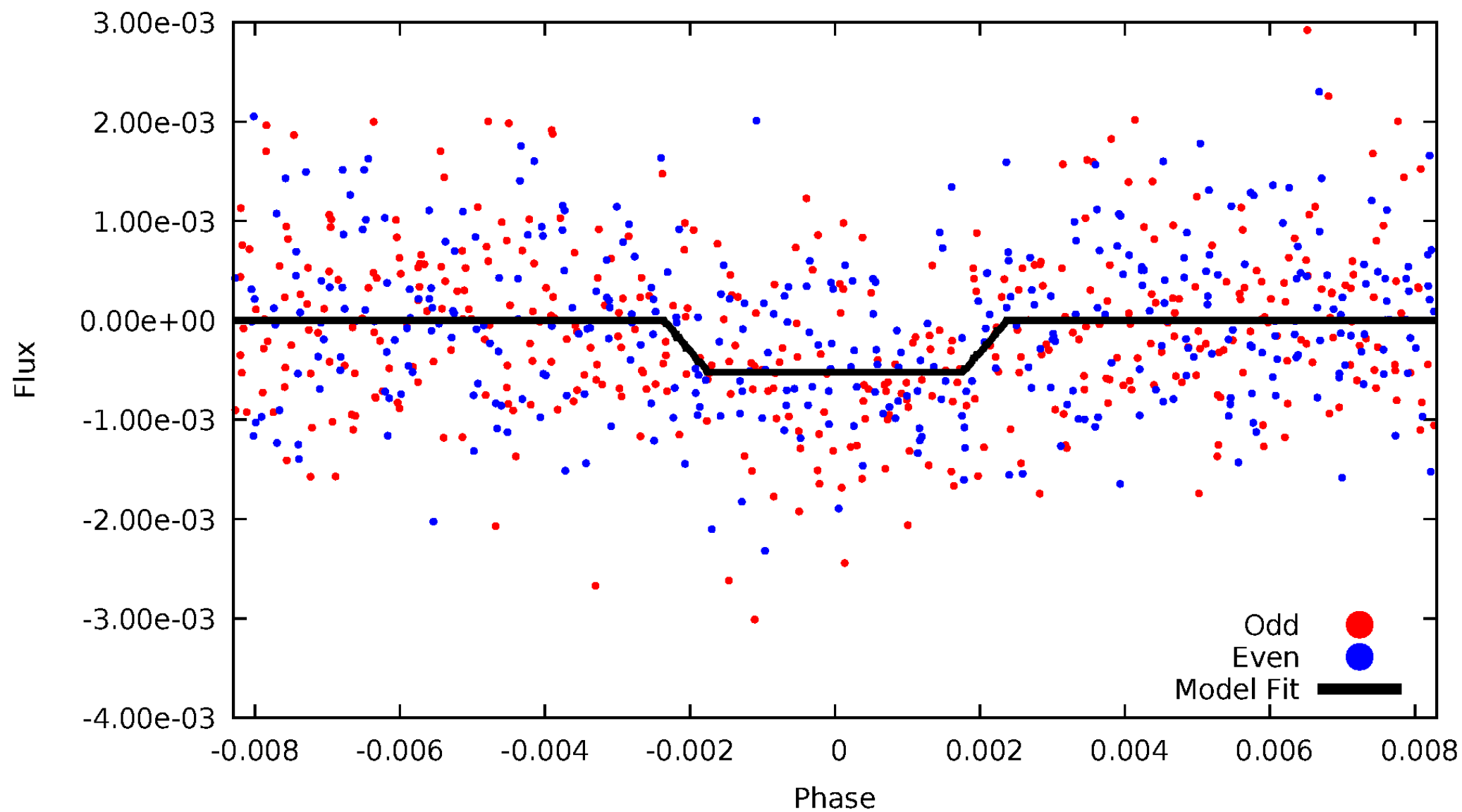
DV Odd/Even

TCE 005027859-01



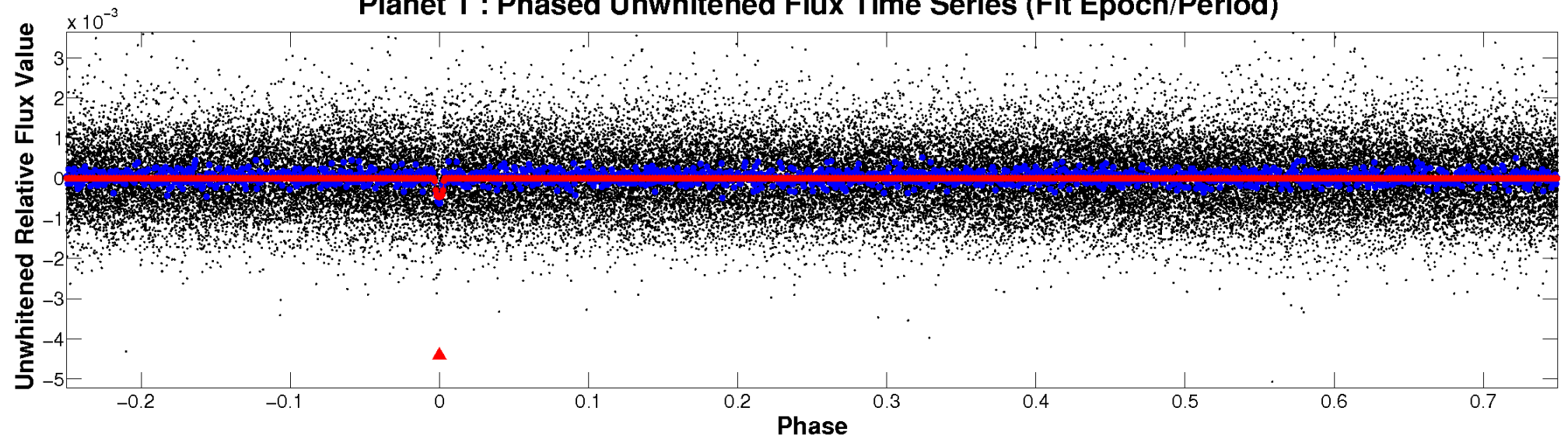
ALT Odd/Even

TCE 005027859-01

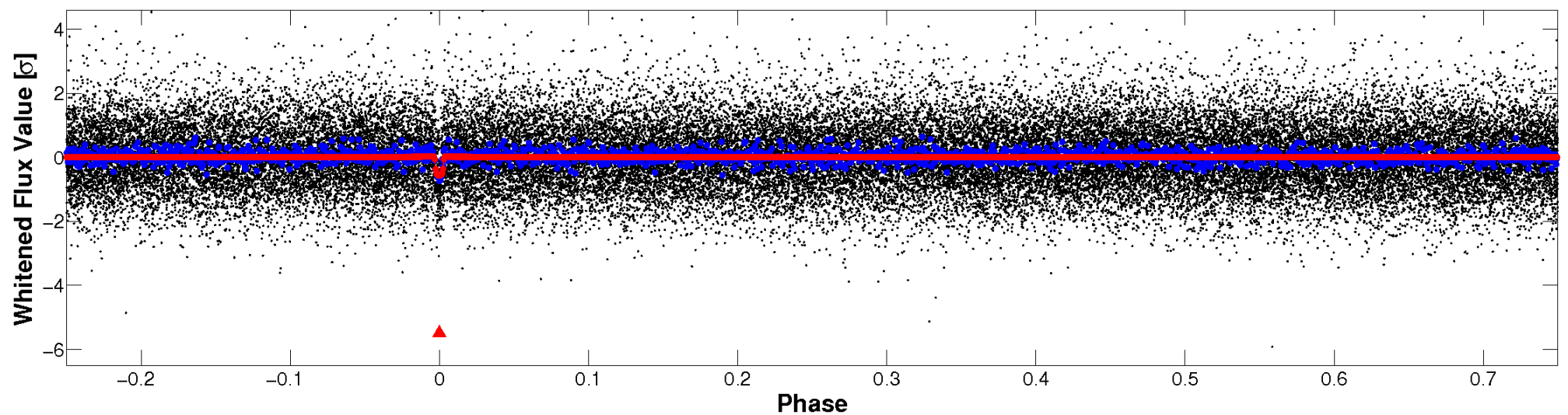


Non-Whitened Vs. Whitened Light Curve

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

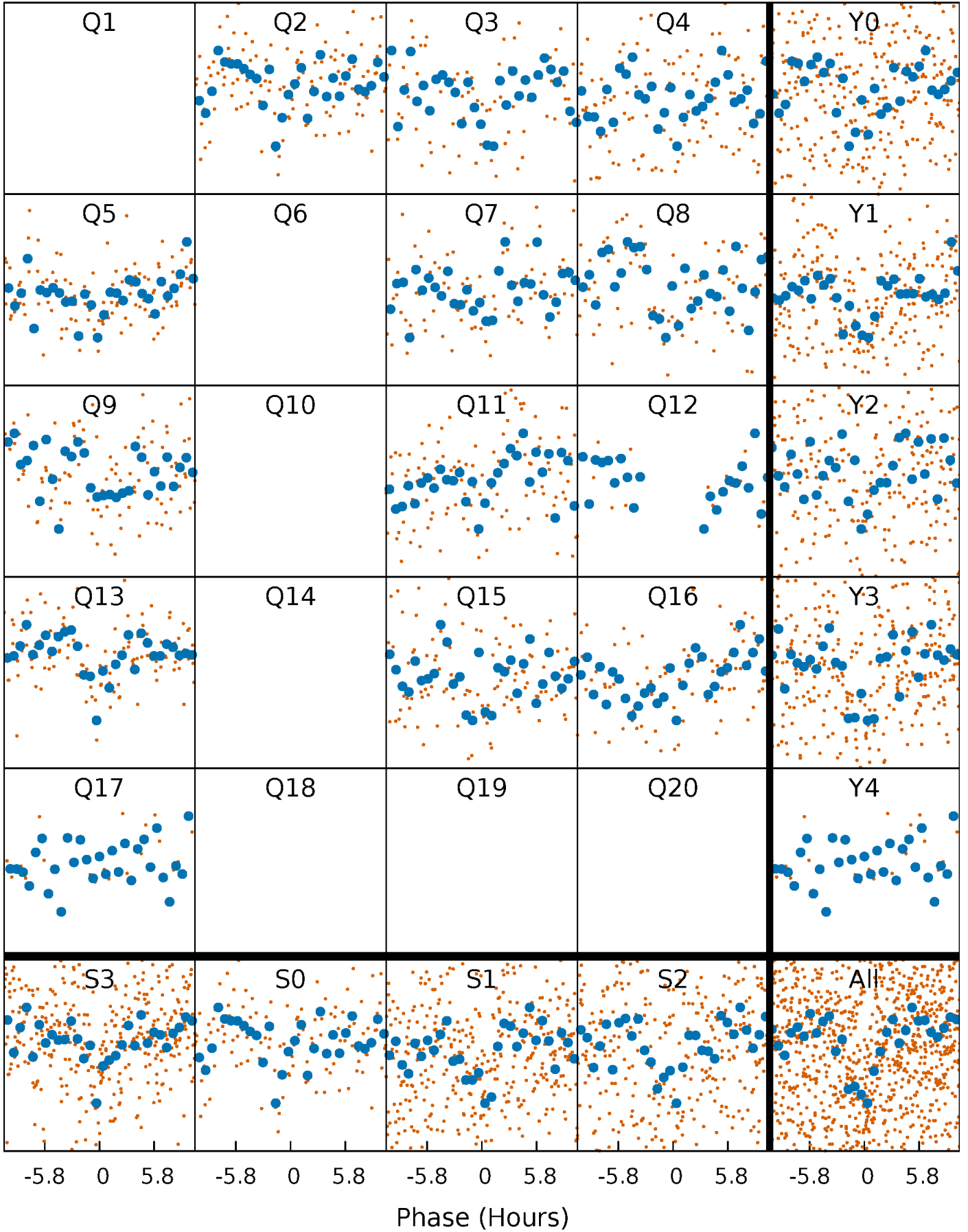


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



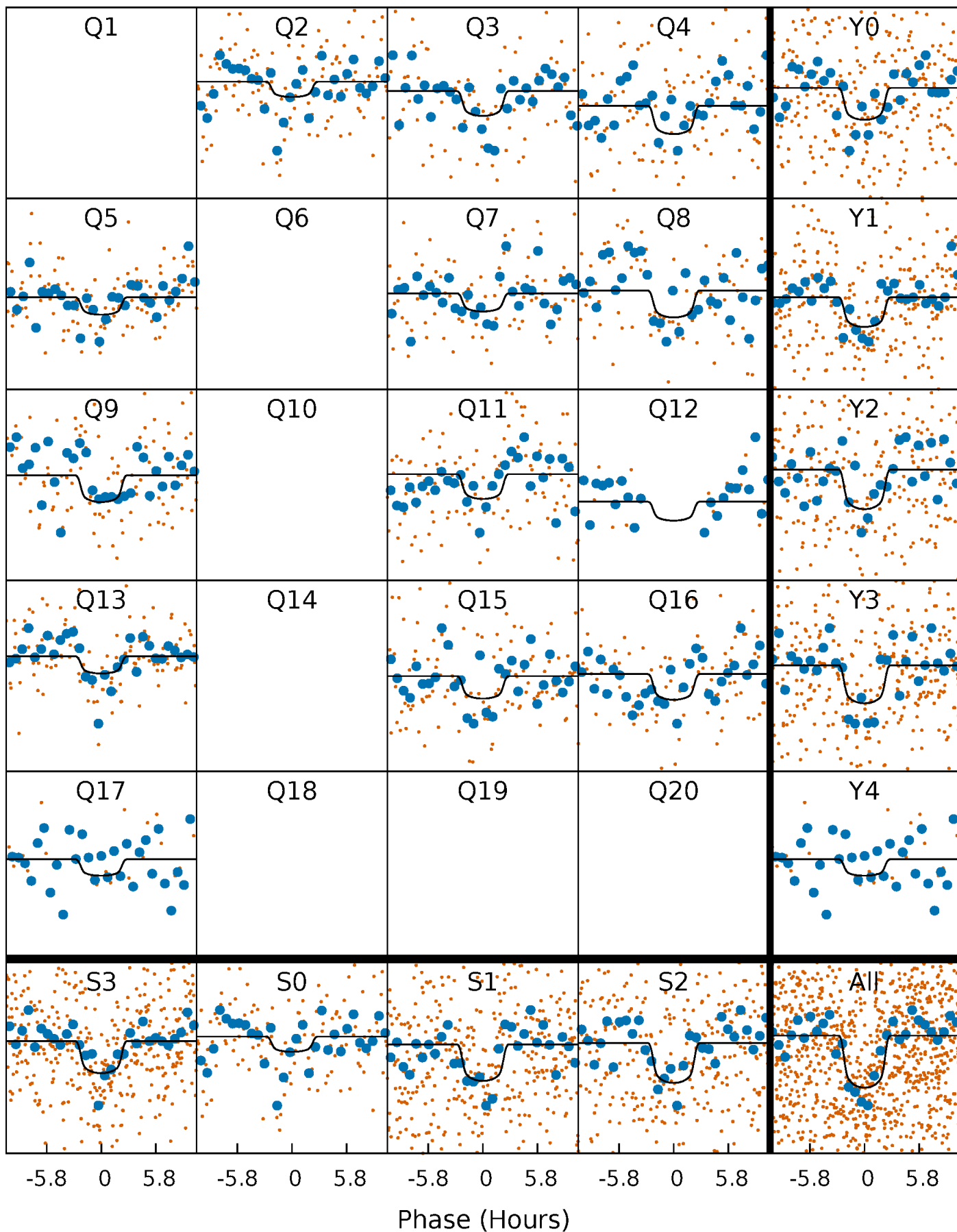
PDC Quarter-Phased Transit Curves

TCE 005027859-01 P= 33.372216 Days $T_0=153.624735$ (BKJD)



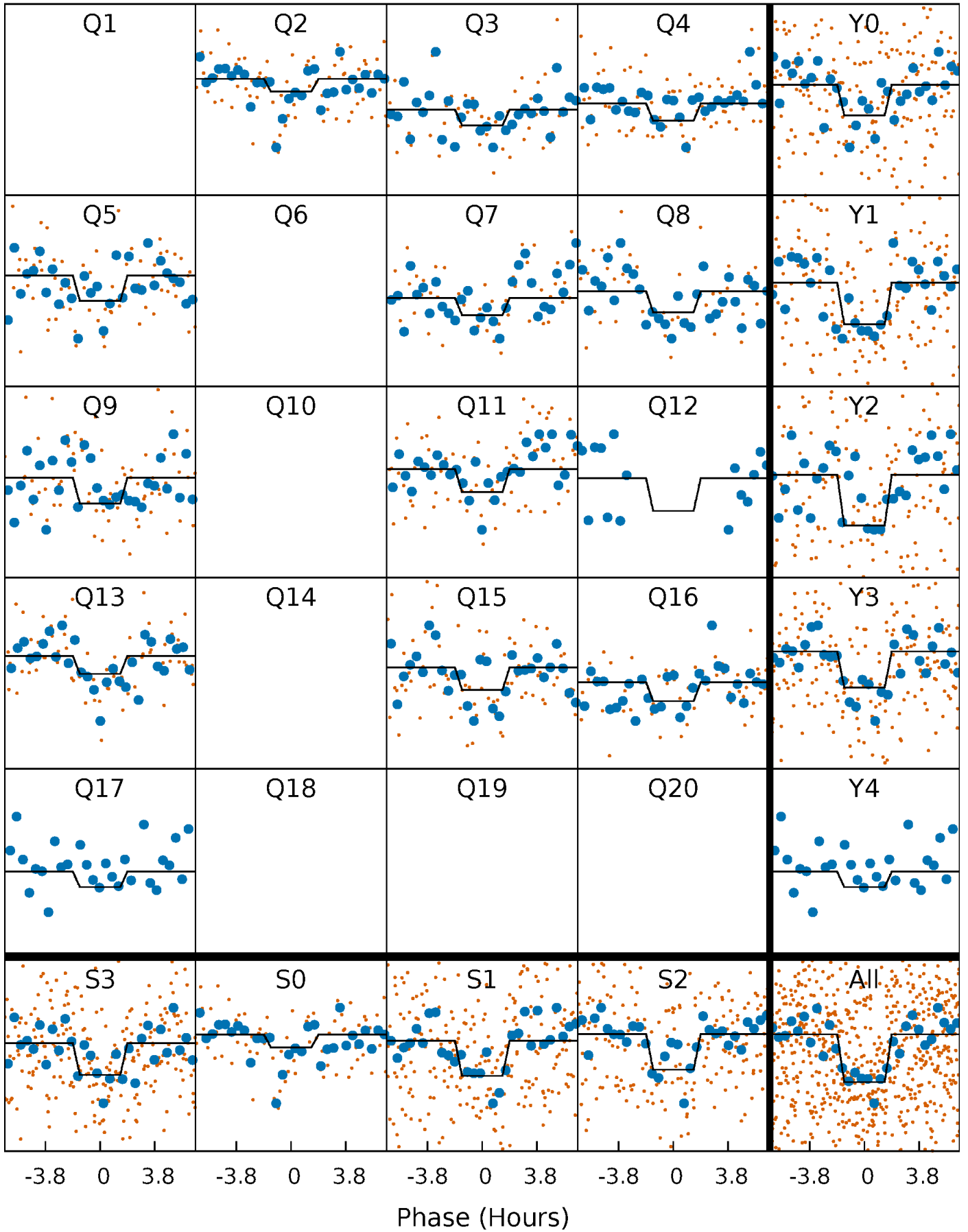
DV Quarter-Phased Transit Curves

TCE 005027859-01 P= 33.372216 Days $T_0=153.624735$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

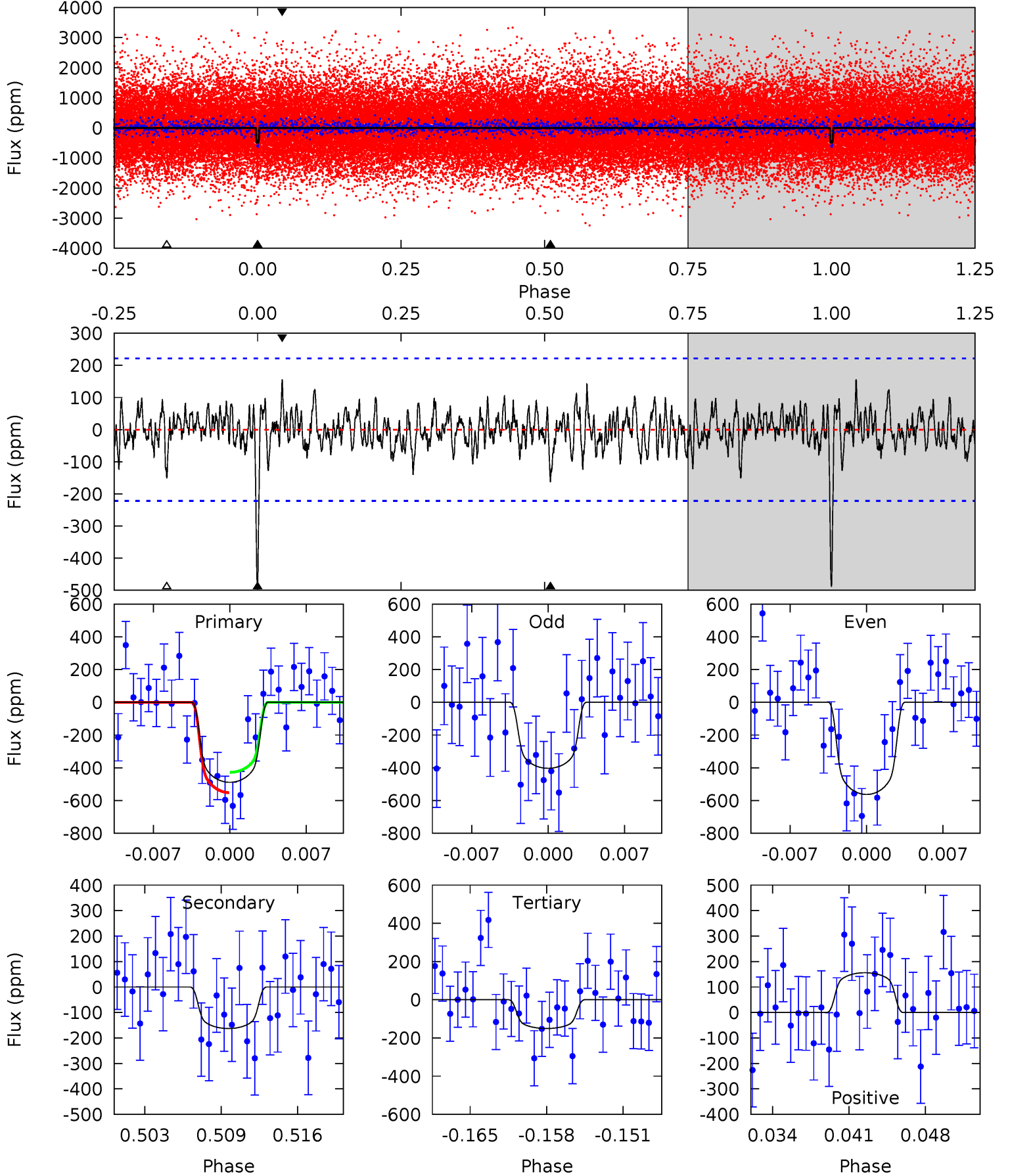
TCE 005027859-01 P= 33.372260 Days $T_0=153.606848$ (BKJD)



DV Model-Shift Uniqueness Test

005027859-01, P = 33.372216 Days, E = 153.624735 Days

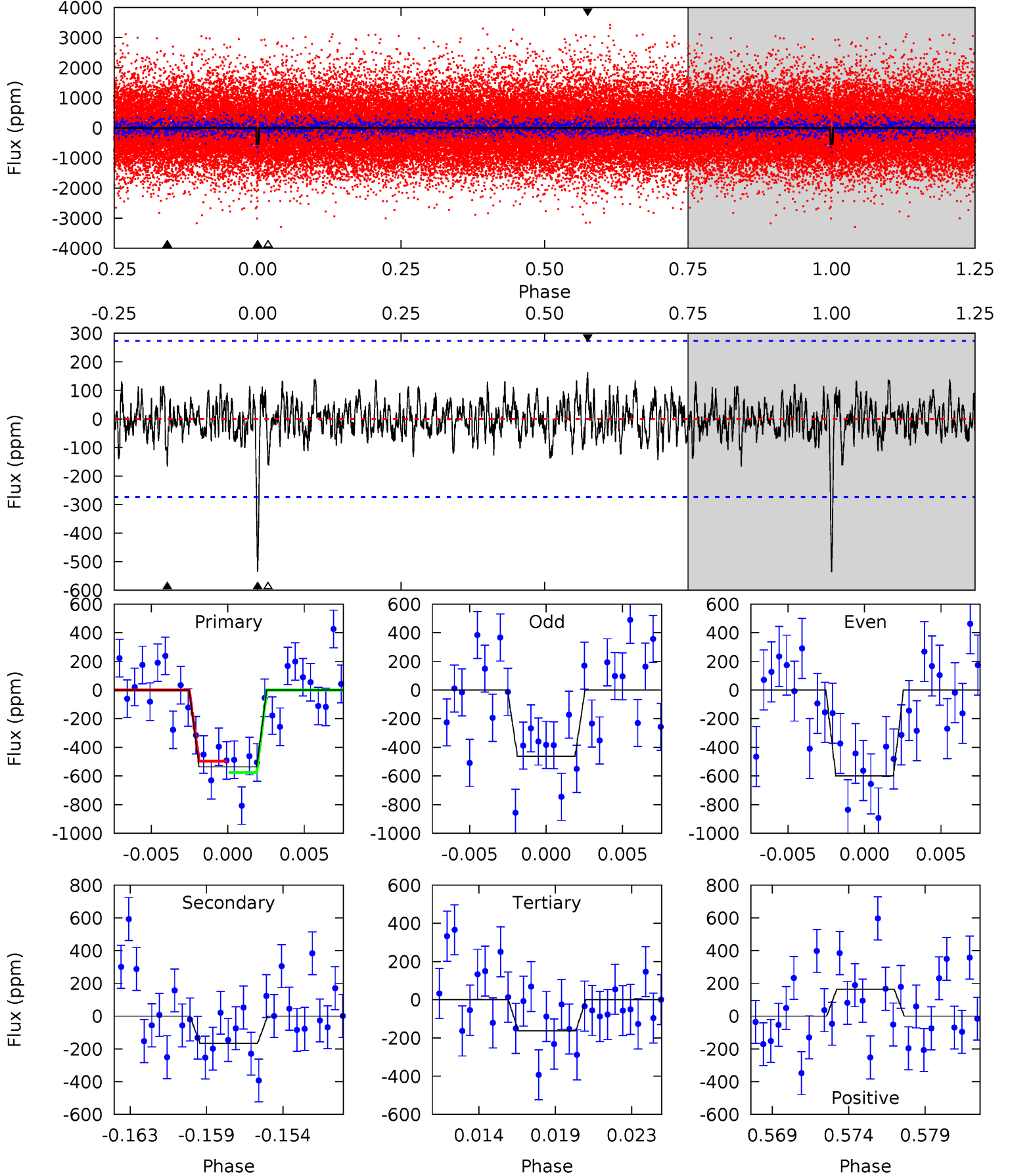
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	3.74	3.46	3.59	5.10	2.70	1.07	7.78	7.64	0.29	0.16	1.84	1.05	0.24	1.43



Alt Model-Shift Uniqueness Test

005027859-01, P = 33.372260 Days, E = 153.606848 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	3.15	3.07	3.10	5.17	2.83	0.98	7.07	7.04	0.08	0.06	1.29	1.03	0.23	0.75



Stellar Parameters For KIC 005027859

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5504^{+166}_{-166}	$4.583^{+0.036}_{-0.144}$	$-0.160^{+0.300}_{-0.300}$	$0.796^{+0.176}_{-0.063}$	$0.892^{+0.083}_{-0.102}$	$2.489^{+0.465}_{-0.997}$
	+3%/-3%	+1%/-3%	+188%/-188%	+22%/-8%	+9%/-11%	+19%/-40%
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 005027859-01 / KOI 5117.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-163 ± 43	$2.15^{+0.50}_{-0.50}$	699^{+38}_{-29}	4234^{+550}_{-356}	718^{+569}_{-295}
Alt.	-167 ± 53	$2.07^{+0.56}_{-0.51}$	698^{+36}_{-30}	4320^{+609}_{-435}	785^{+710}_{-356}

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

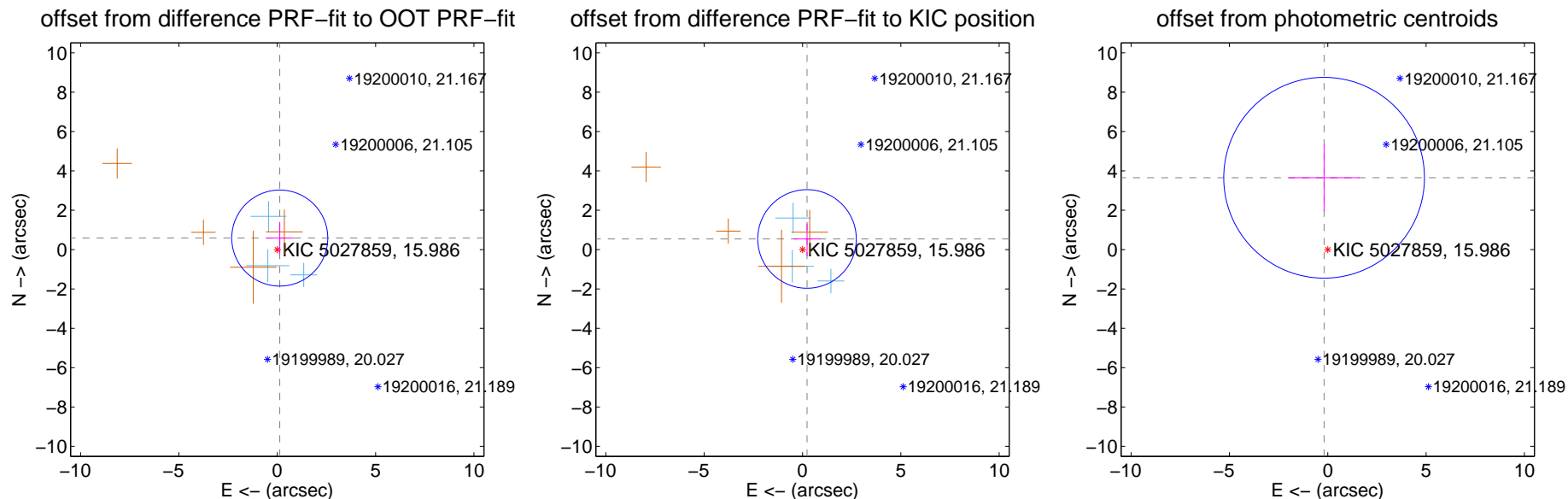
DV Centroid Data

Supplemental centroid analysis for 005027859-01. Kepler magnitude: 15.99. Transit SNR 8.21

There are 3 quarters with good PRF difference image offsets

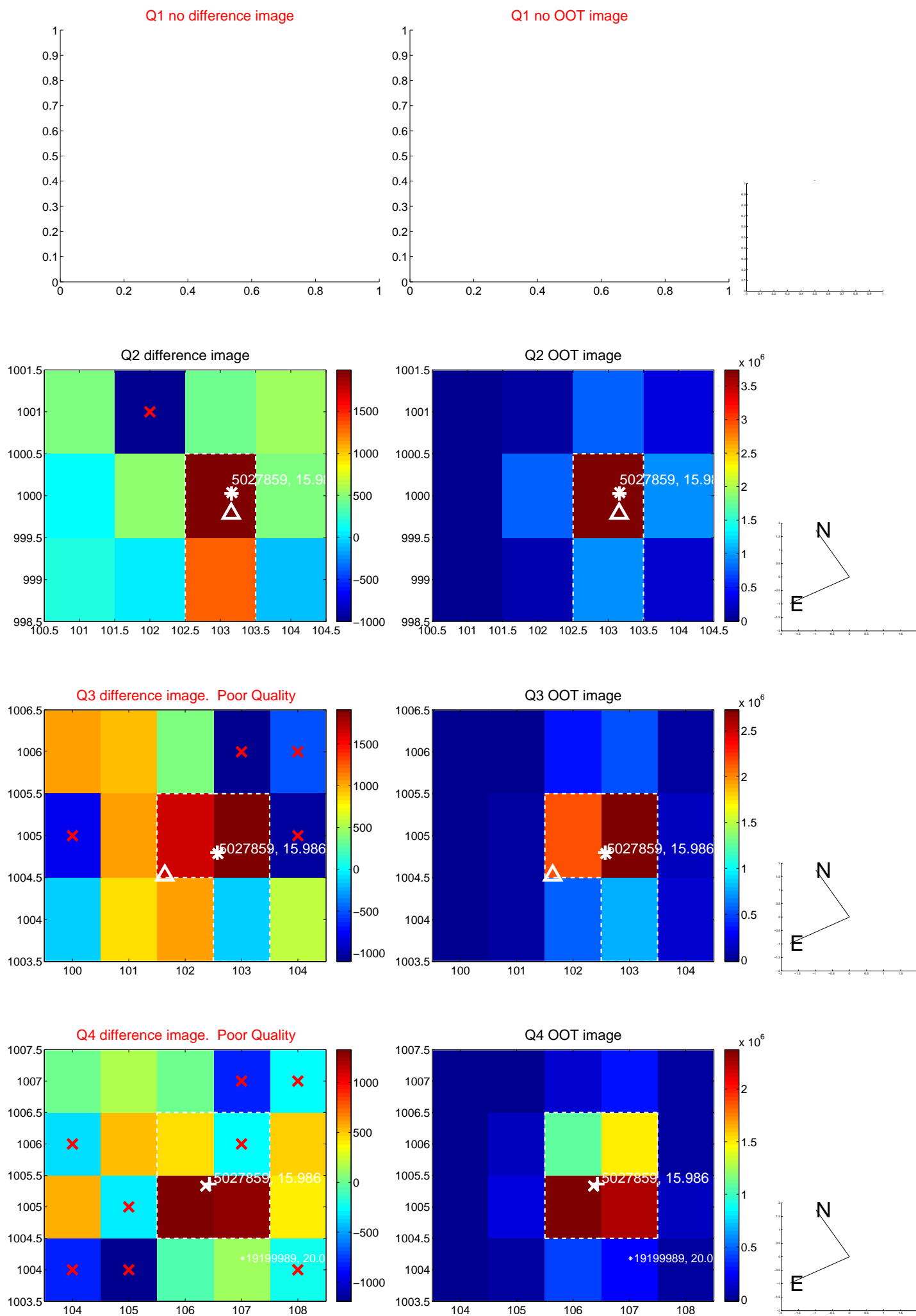
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.599 ± 0.814	0.74	-0.127 ± 0.700	0.586 ± 0.819
PRF-fit source offset from KIC position	0.588 ± 0.835	0.70	-0.230 ± 0.674	0.541 ± 0.861
photometric centroid source offset	3.66 ± 1.70	2.15	0.19 ± 1.81	3.65 ± 1.70

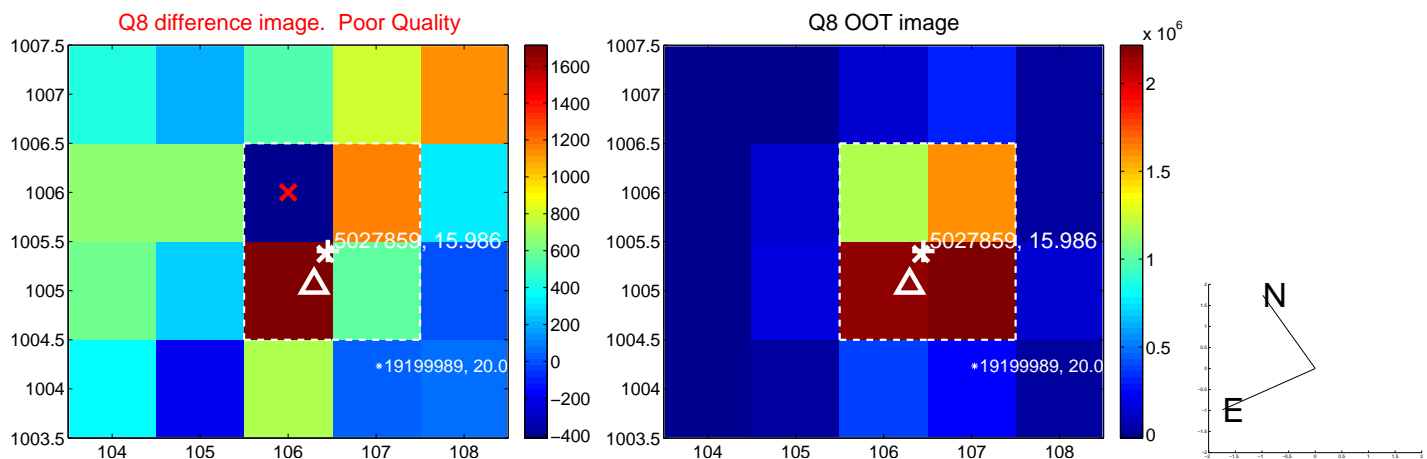
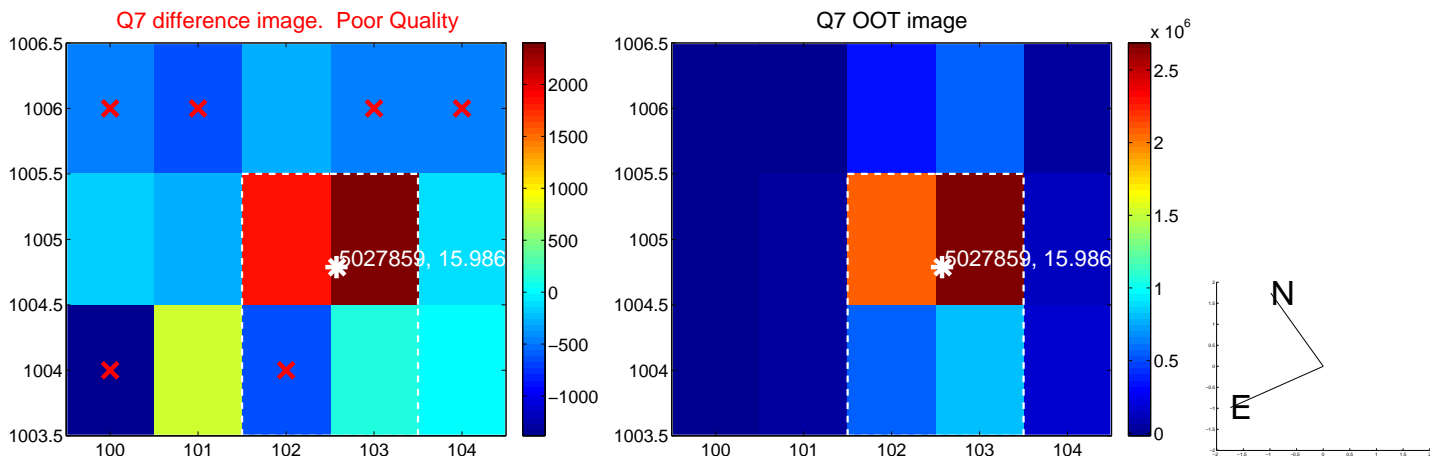
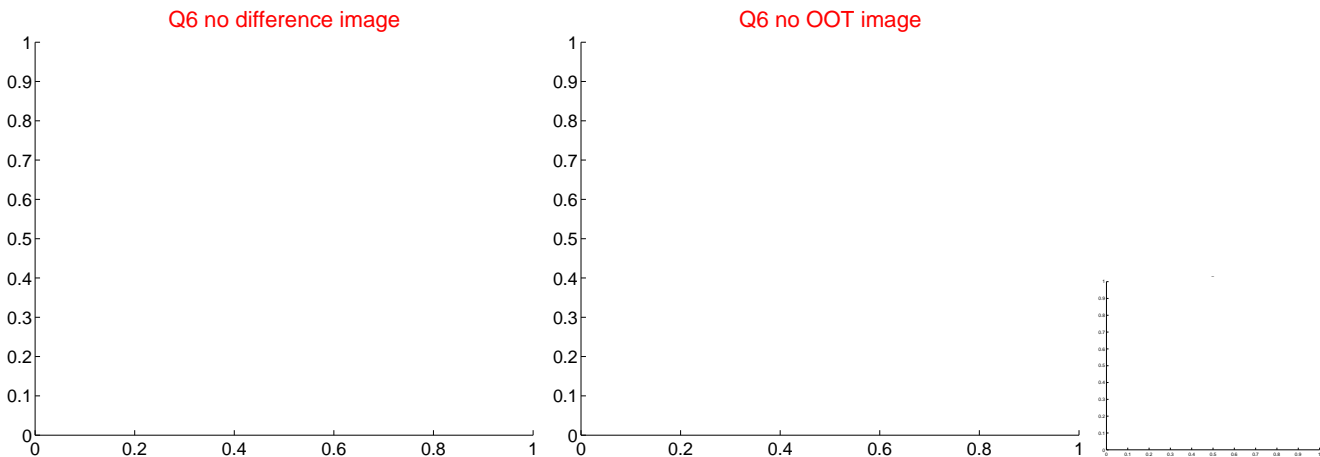
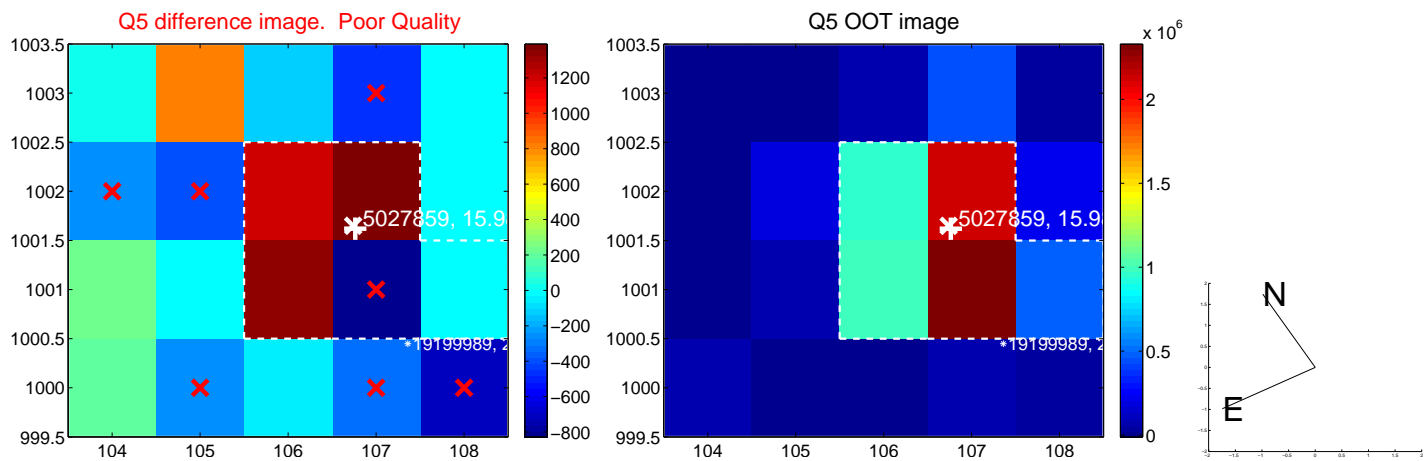


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

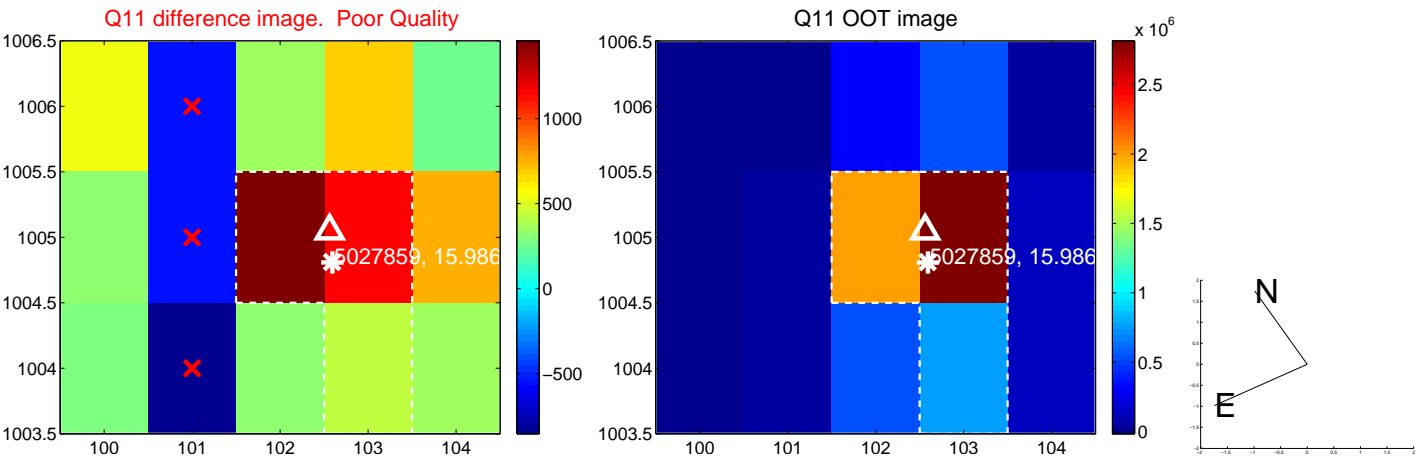
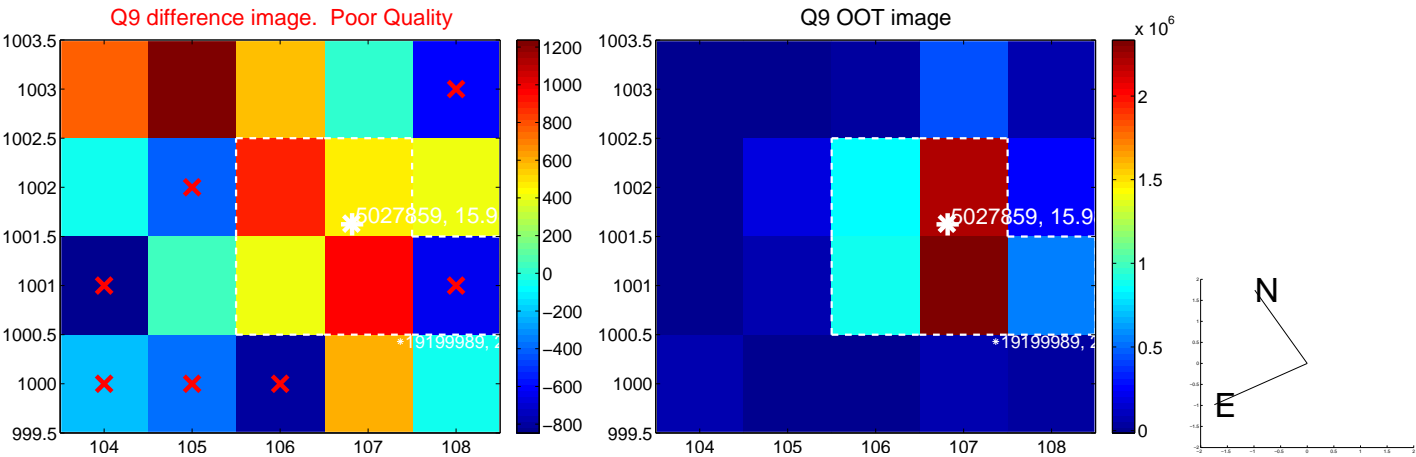
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



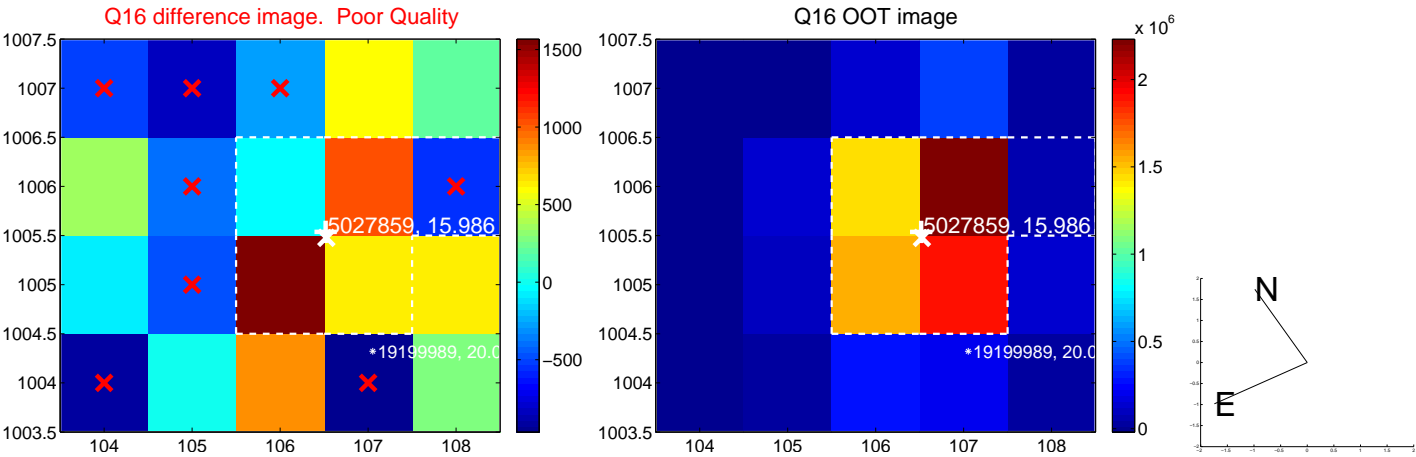
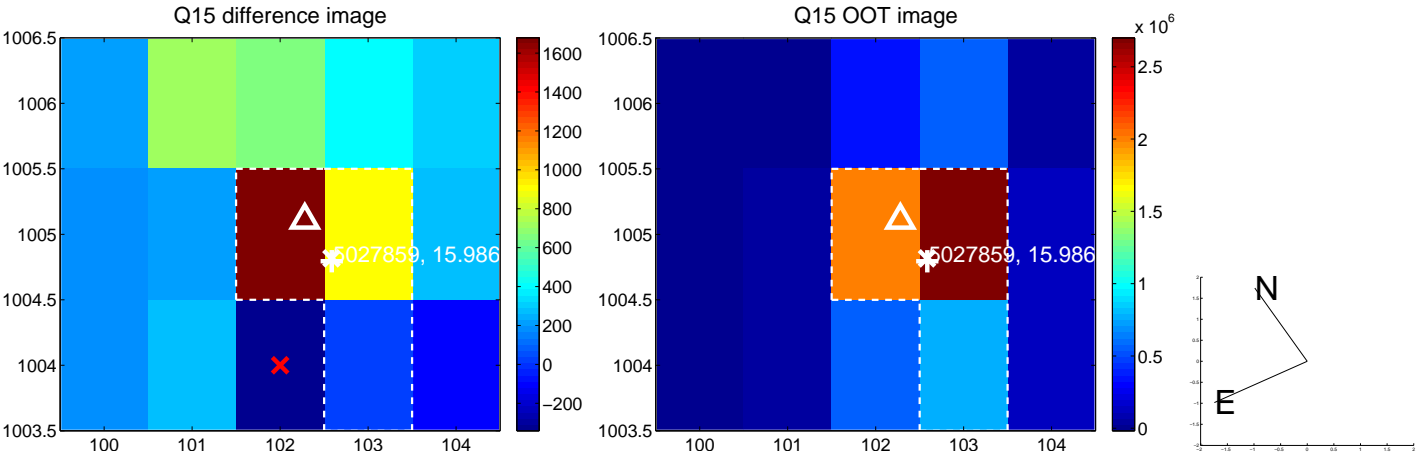
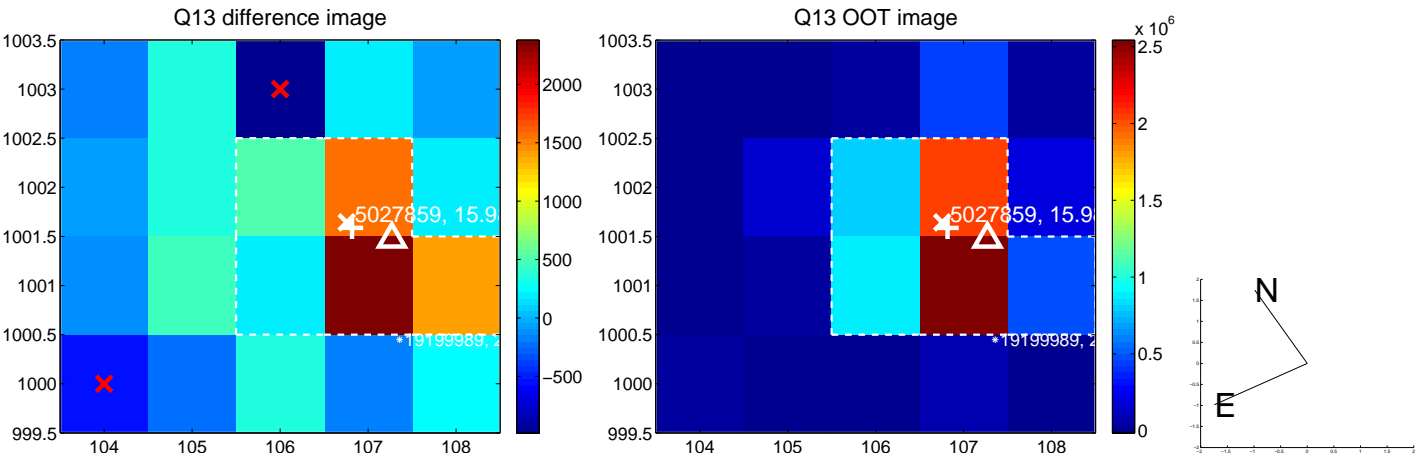
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



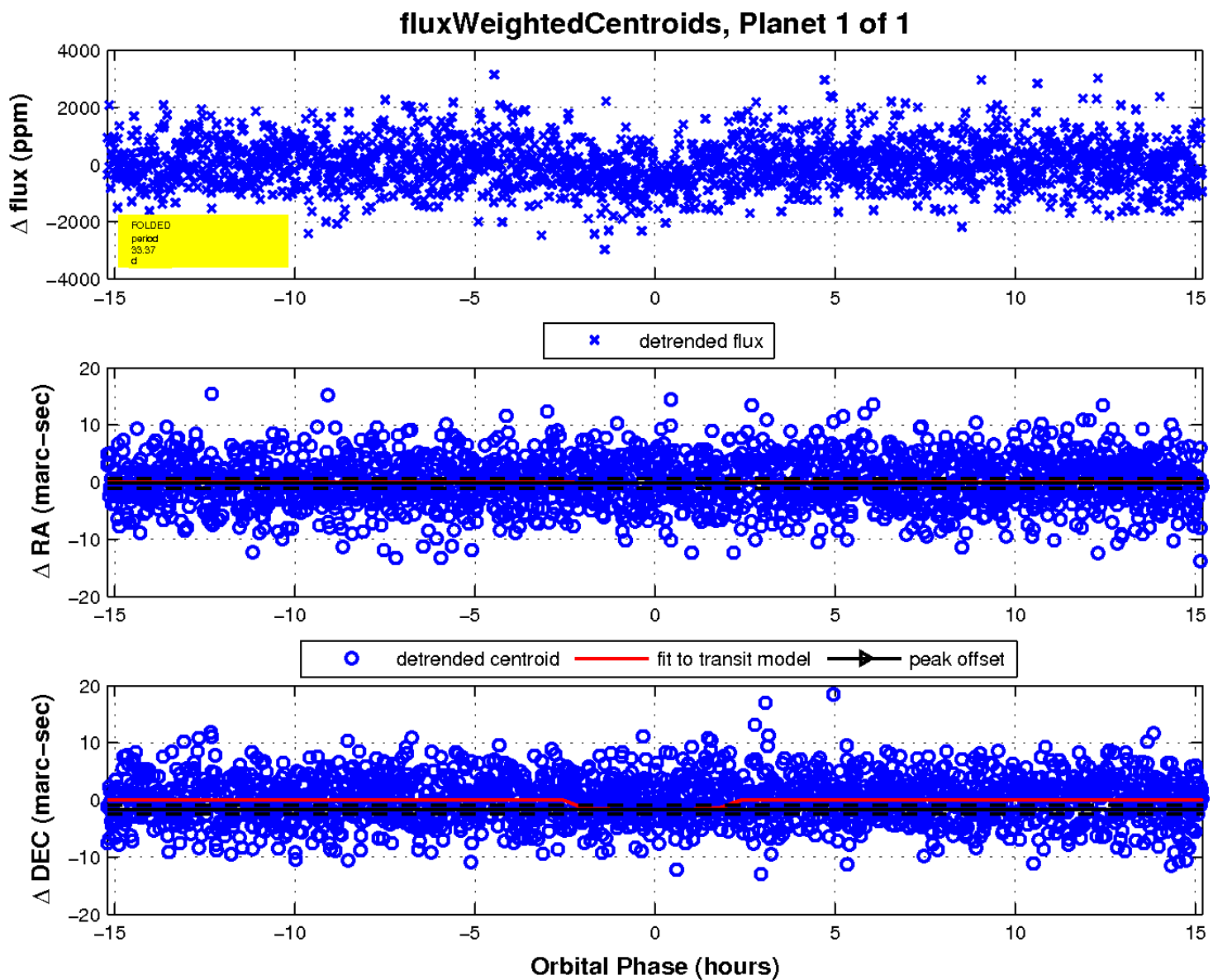
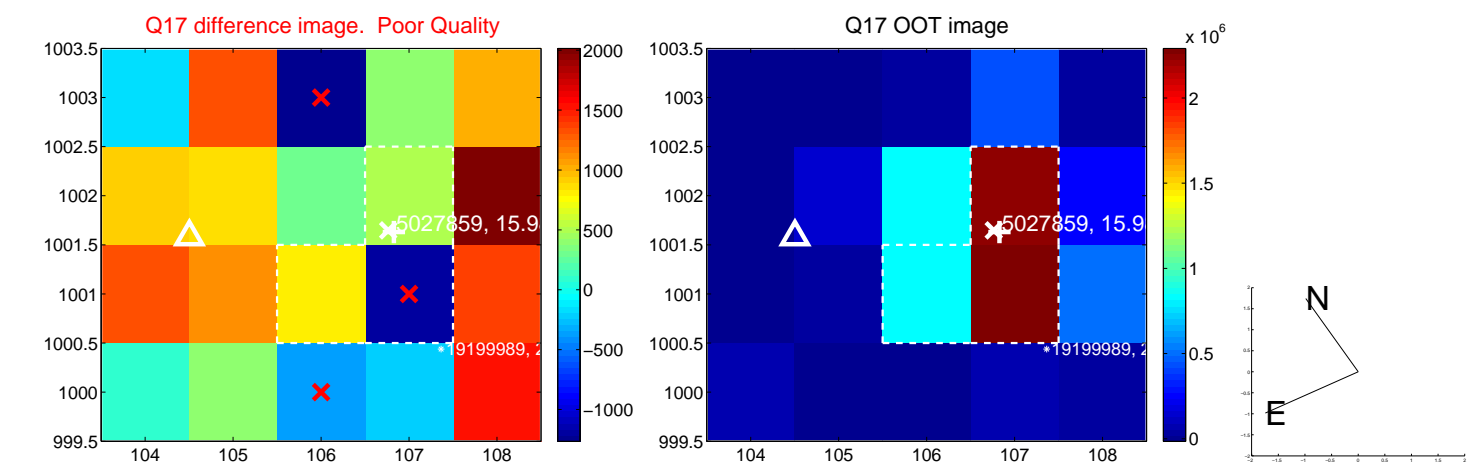
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



UKIRT Image

Declination

