

KIC 002860656

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})
002860656-01	OBS	4857.01	4.114981	135.313574	157.6	3.171	9.1	10.1	0.93	6011	1.33	395.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002860656-01	OBS	PC	0.80	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.

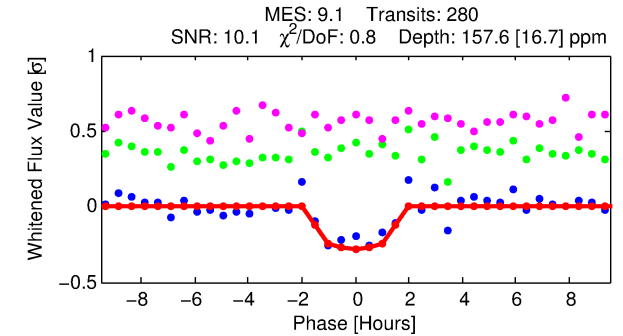
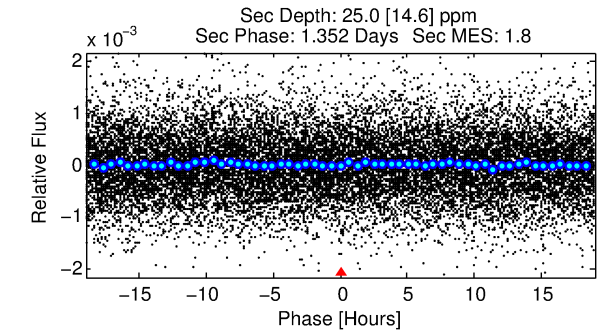
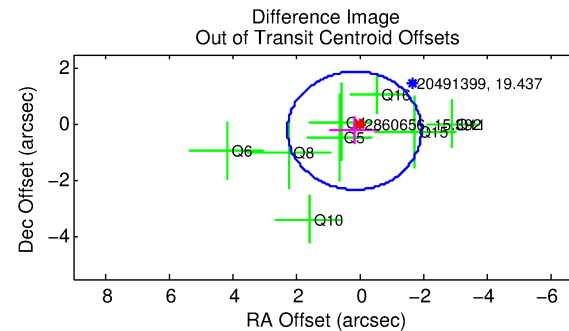
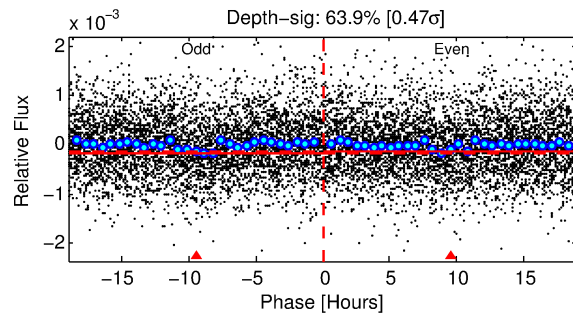
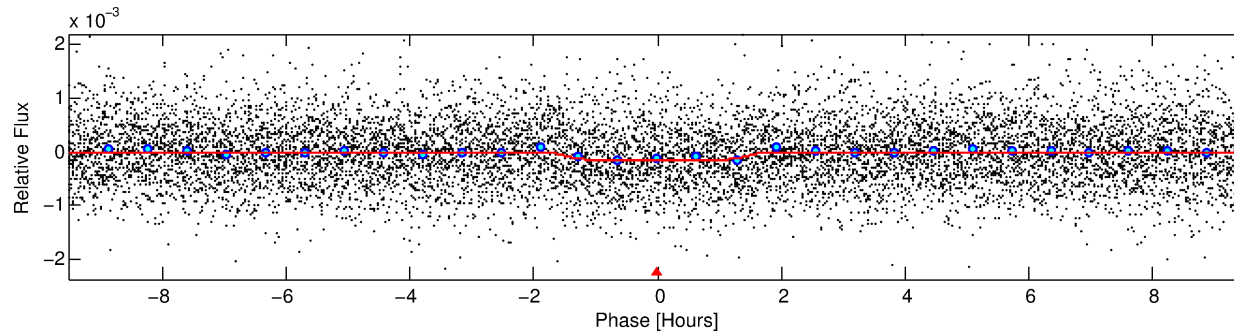
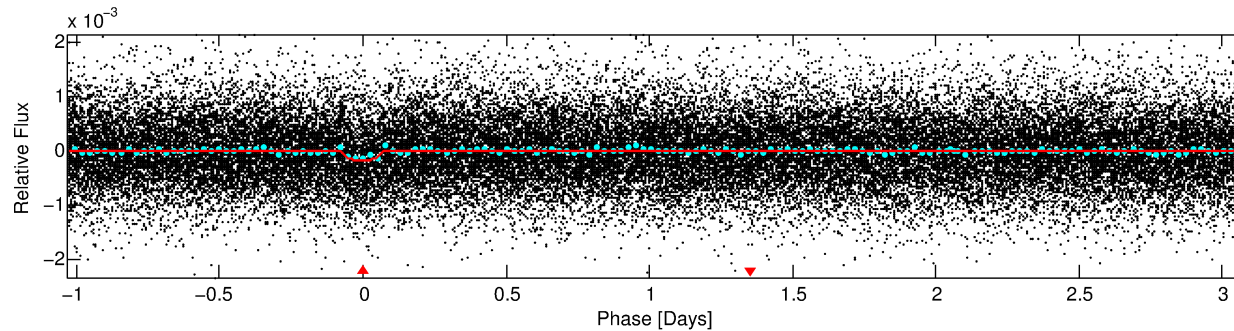
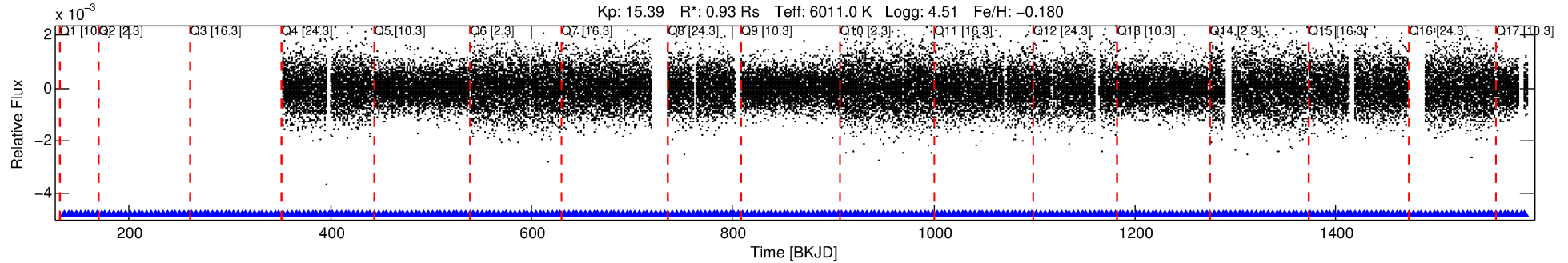
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002860656-01

No Significant Match Found

DV One-Page Summary

KIC: 2860656 Candidate: 1 of 1 Period: 4.115 d
KOI: K04857.01 Corr: 0.964



DV Fit Results:

Period = 4.11498 [0.00003] d
Epoch = 135.3136 [0.0057] BKJD
Rp/R* = 0.0131 [0.0101]
a/R* = 5.46 [20.63]
b = 0.86 [1.24]
Seff = 395.89 [175.82]
Teq = 1137 [126] K
Rp = 1.33 [1.12] Re
a = 0.0504 [0.0143] AU
Ag = 19.78 [33.68] [0.56 σ]
Teffp = 3709 [1537] K [1.67 σ]

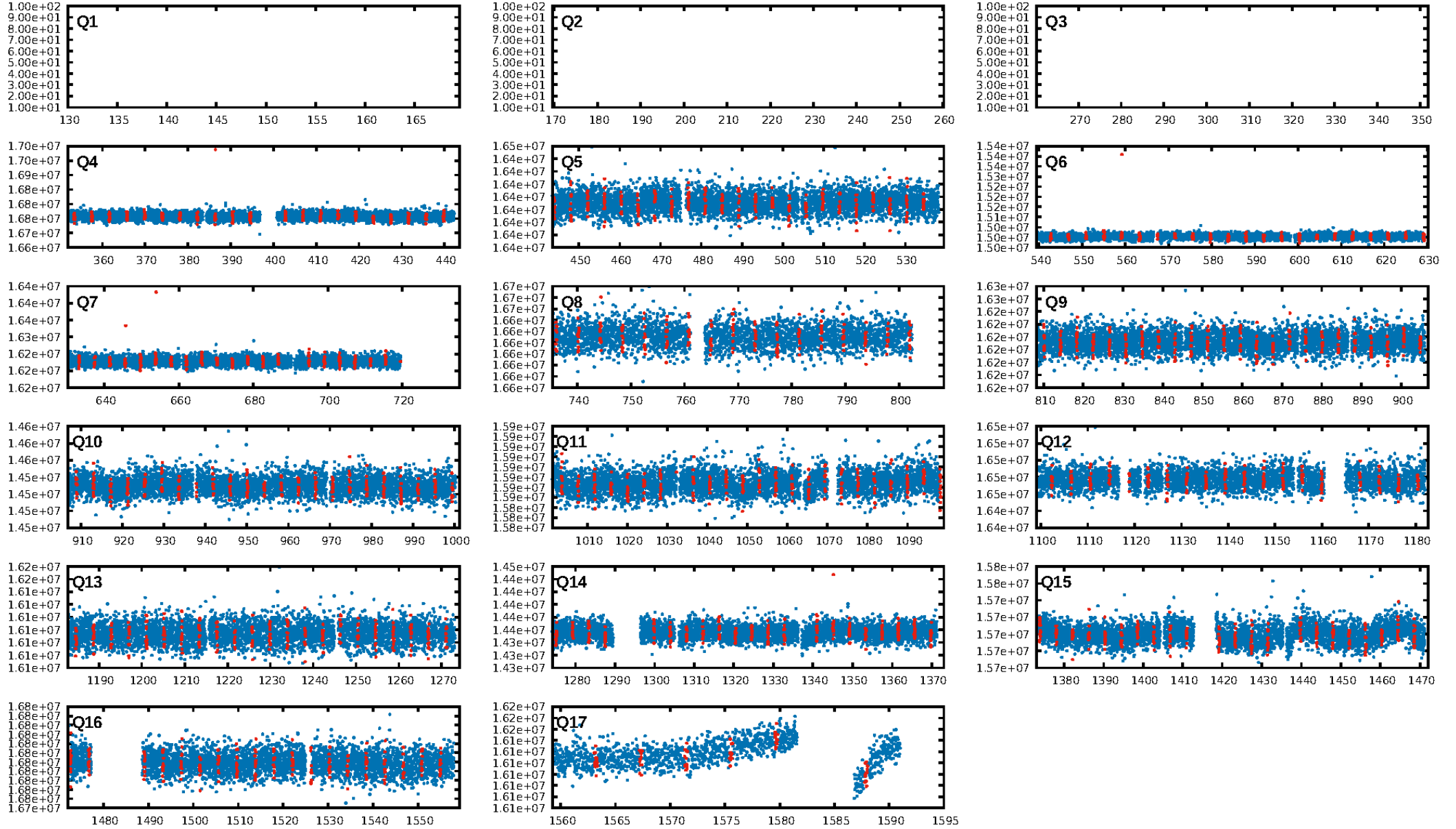
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.10e-20
RollingBand-fgt: 1.00 [274/274]
GhostDiagnostic-chr: 3.162
Centroid-sig: 80.3%
Centroid-so: 0.074 arcsec [0.06 σ]
OotOffset-rm: 0.265 arcsec [0.38 σ]
KicOffset-rm: 0.156 arcsec [0.38 σ]
OotOffset-st: 2/2/3/1 [8]
KicOffset-st: 2/2/3/1 [8]
DiffImageQuality-fgm: 0.25 [2/8]
DiffImageOverlap-fno: 1.00 [14/14]

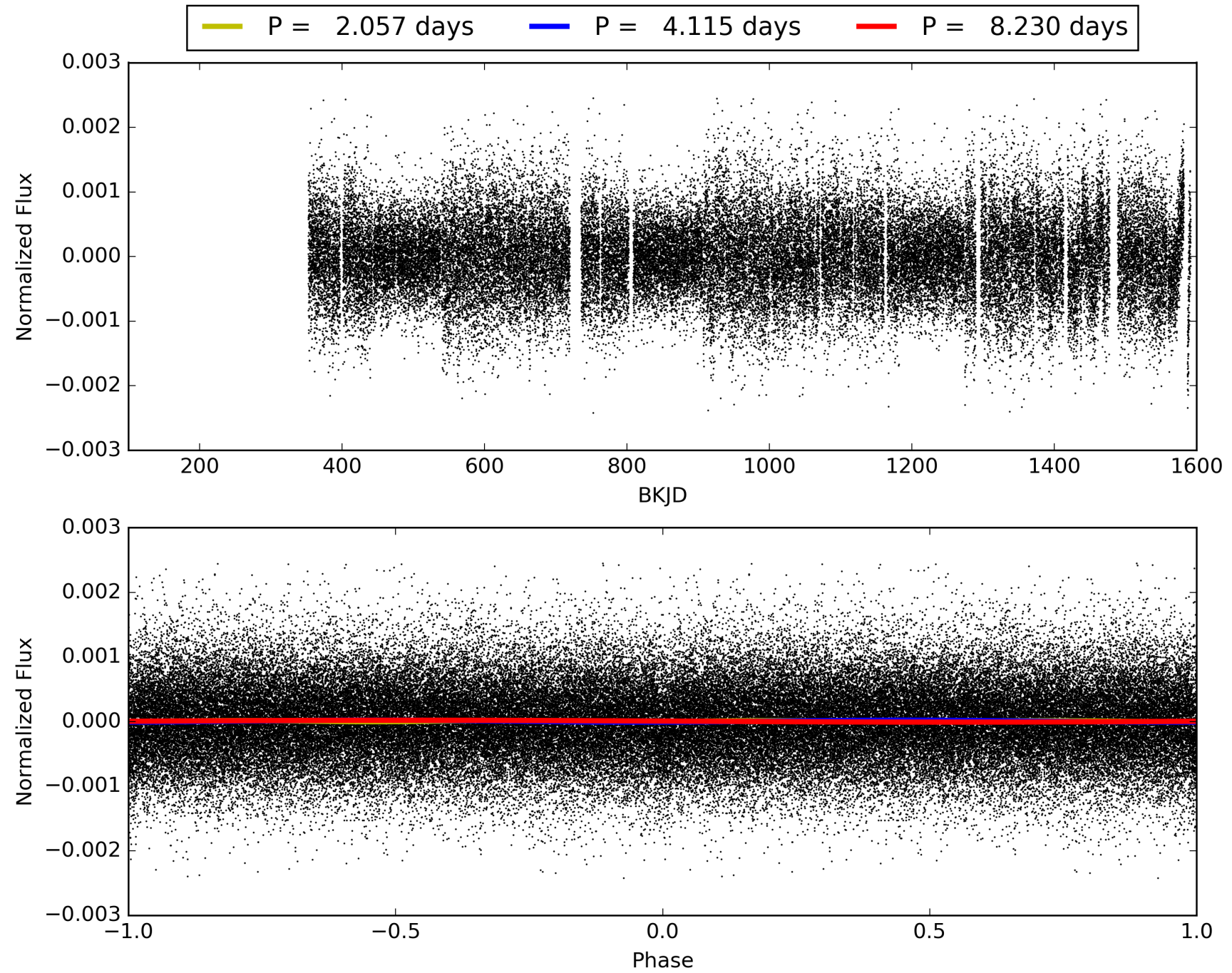
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:20:21 Z

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

TCE 002860656-01, PDC Light Curves

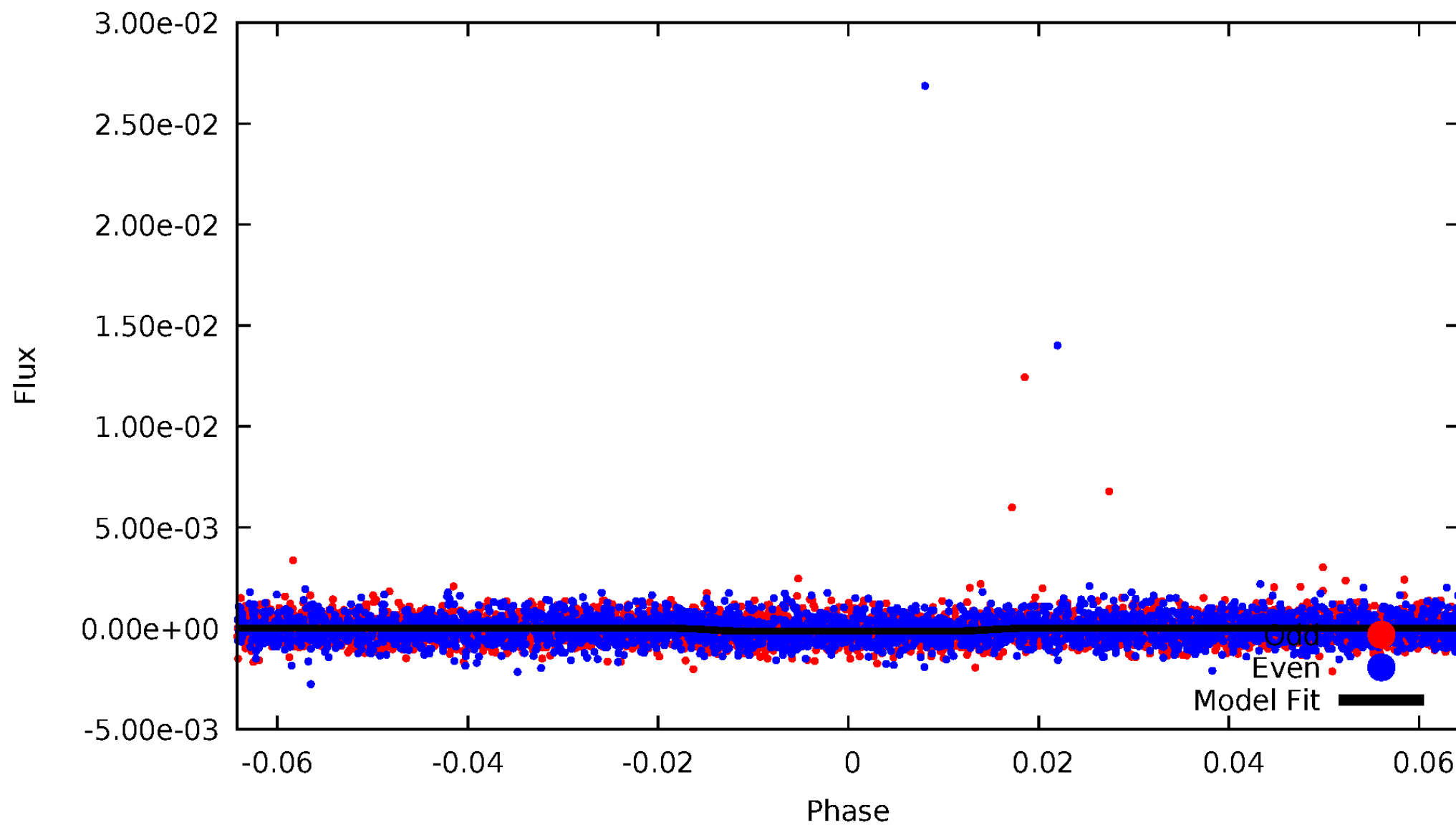


TCE 002860656-01



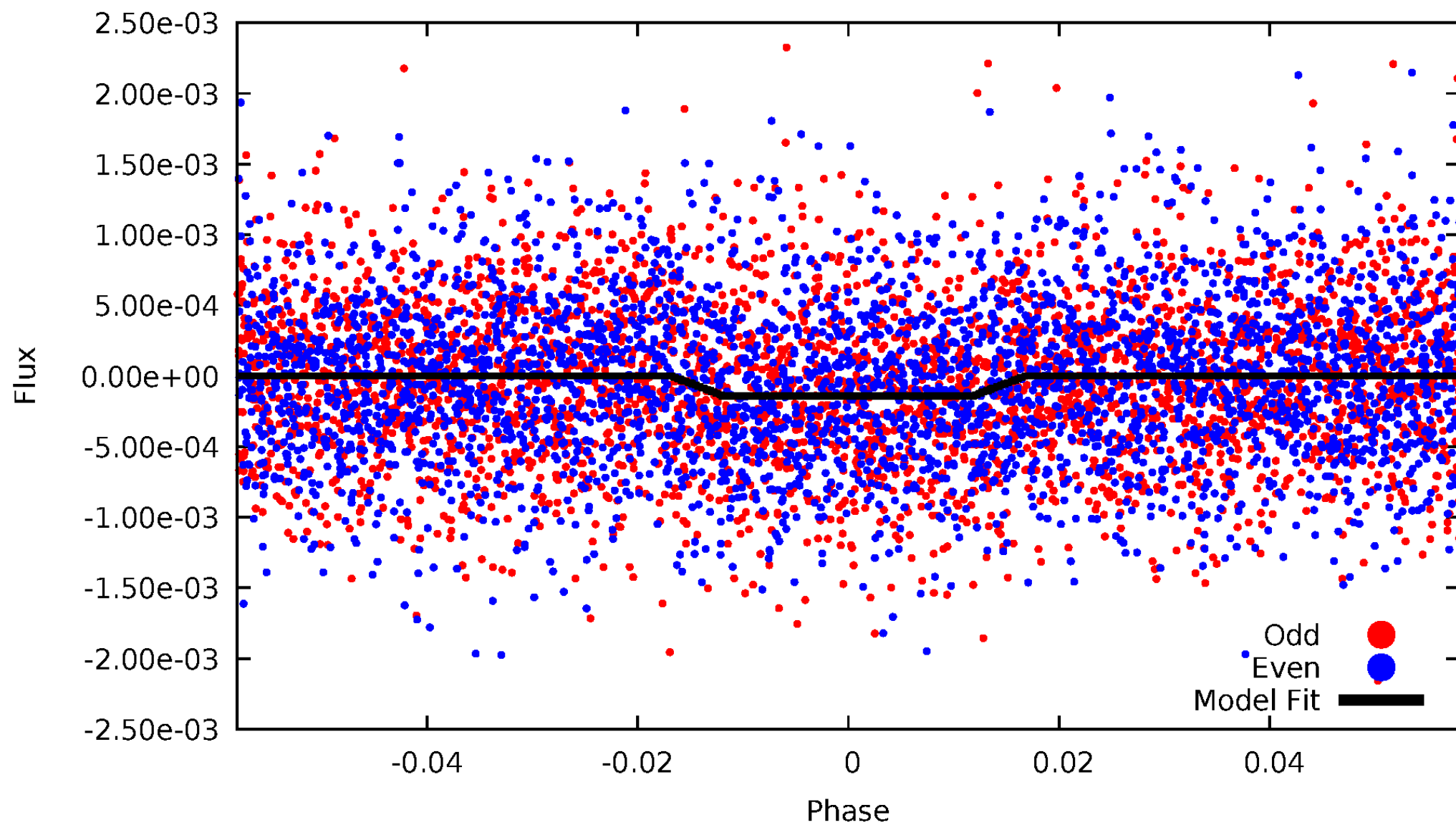
DV Odd/Even

TCE 002860656-01



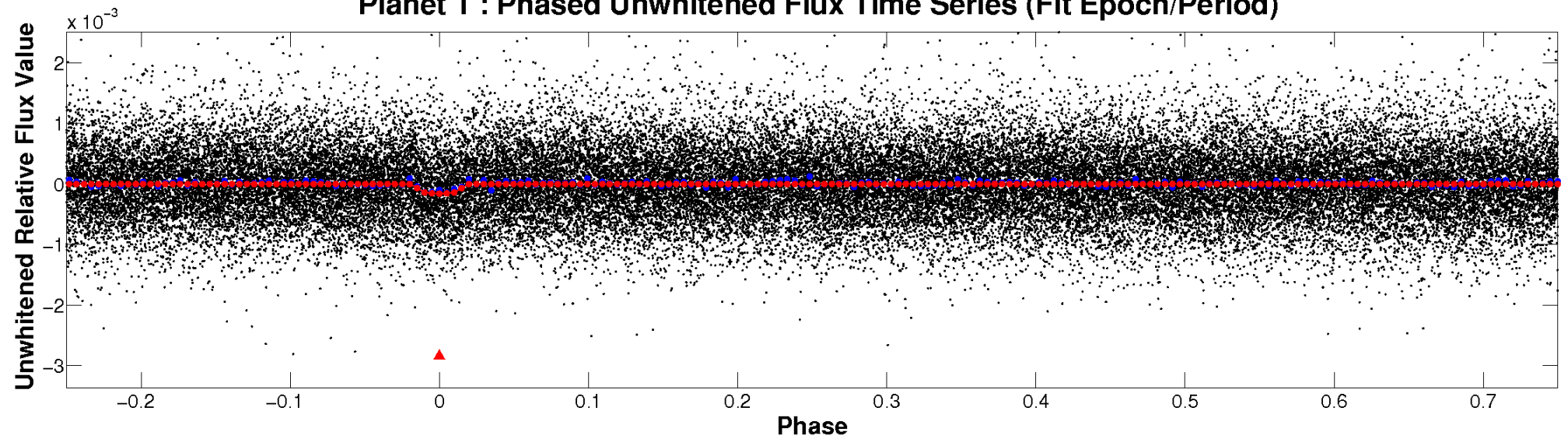
ALT Odd/Even

TCE 002860656-01

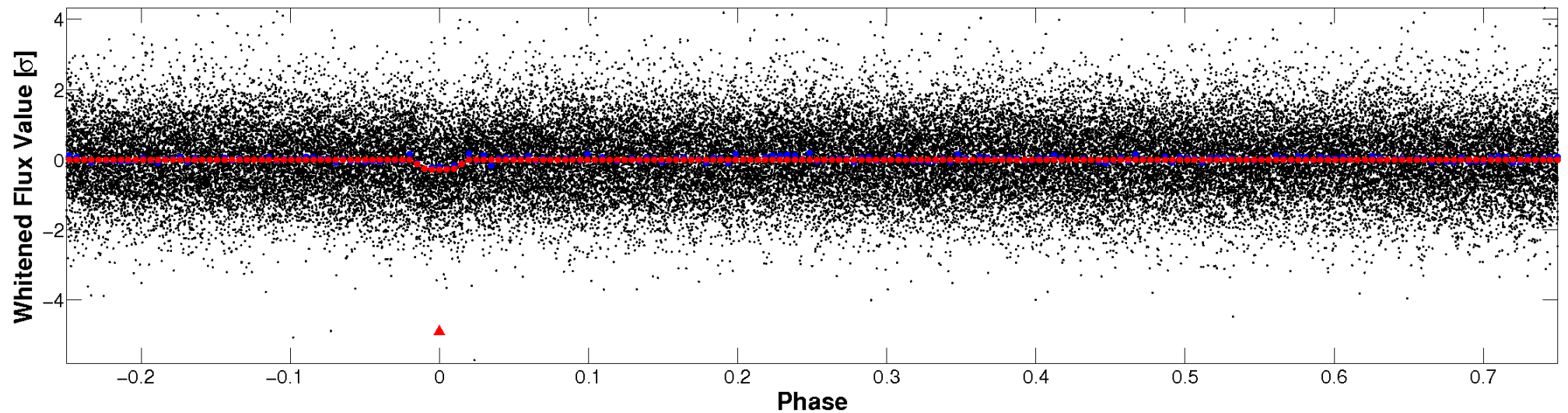


Non-Whitened Vs. Whitened Light Curve

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

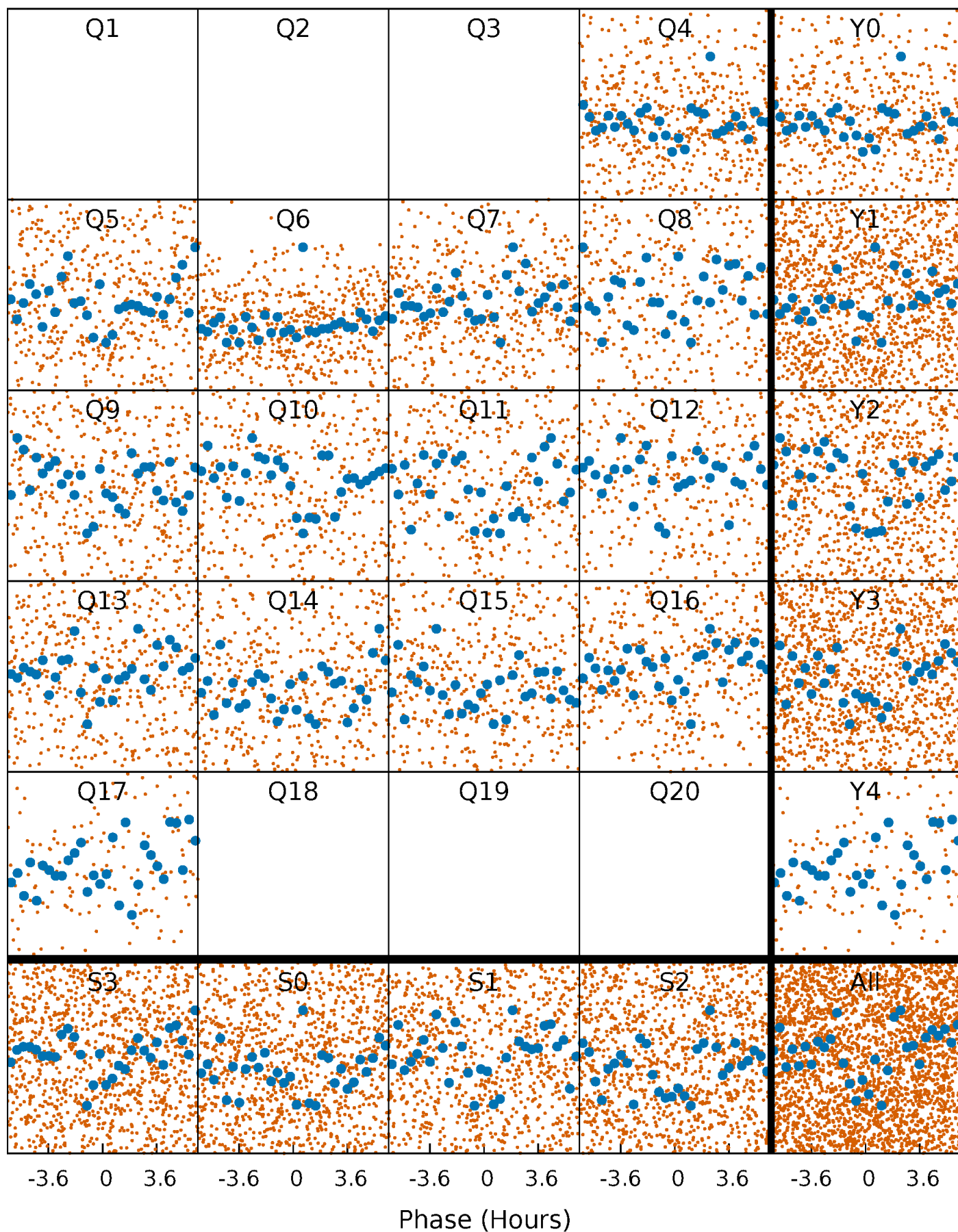


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



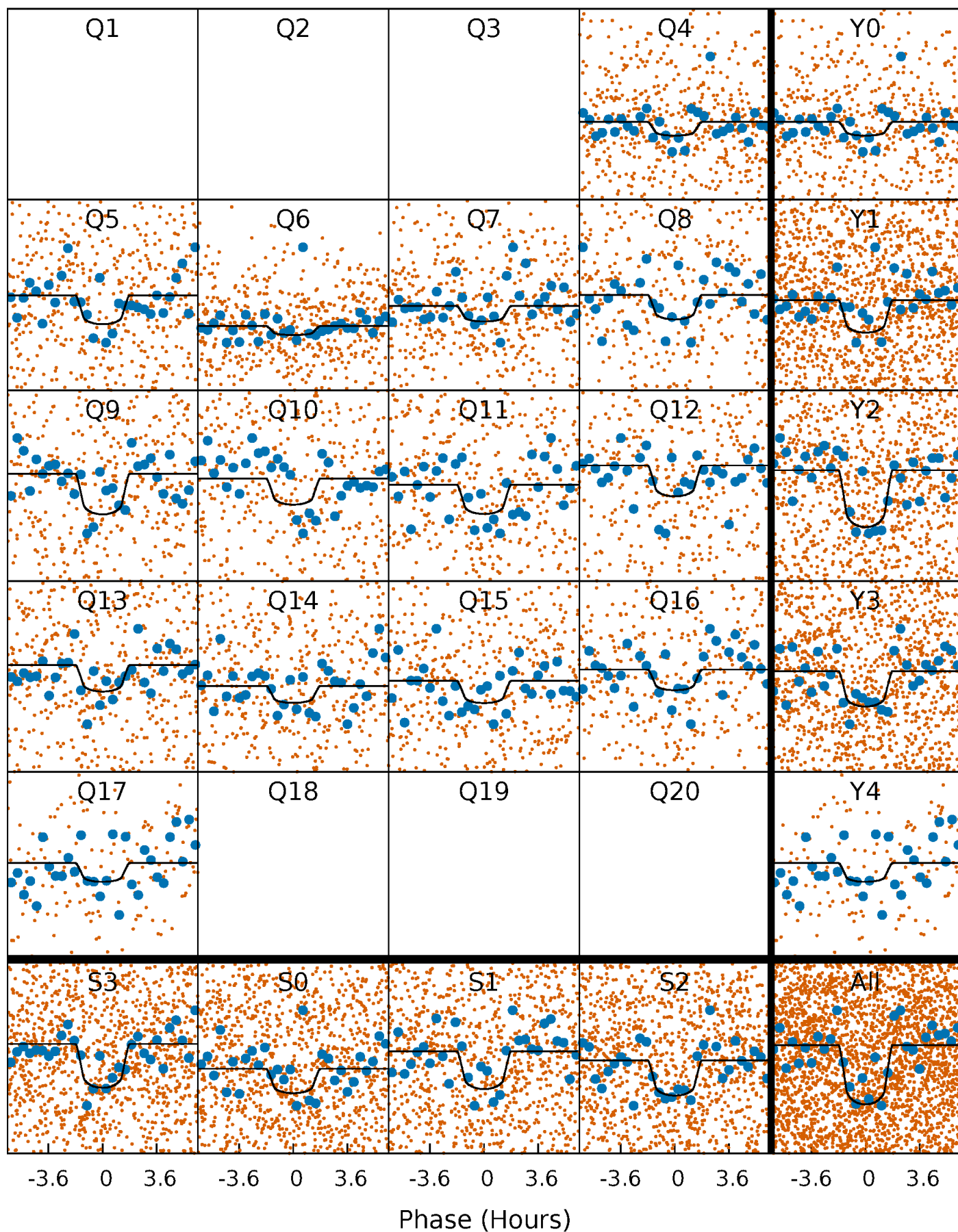
PDC Quarter-Phased Transit Curves

TCE 002860656-01 P= 4.114981 Days $T_0=135.313574$ (BKJD)



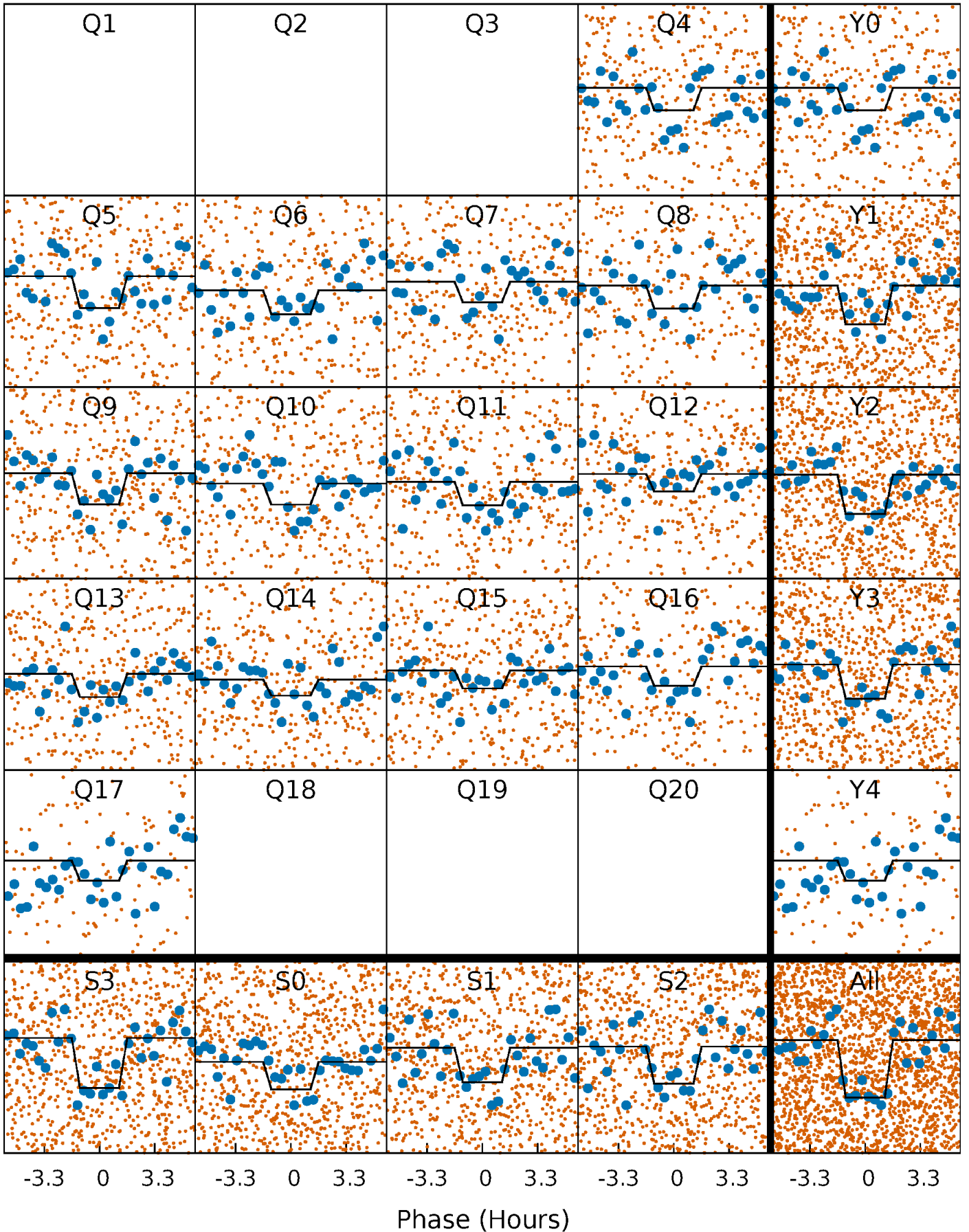
DV Quarter-Phased Transit Curves

TCE 002860656-01 P= 4.114981 Days $T_0=135.313574$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

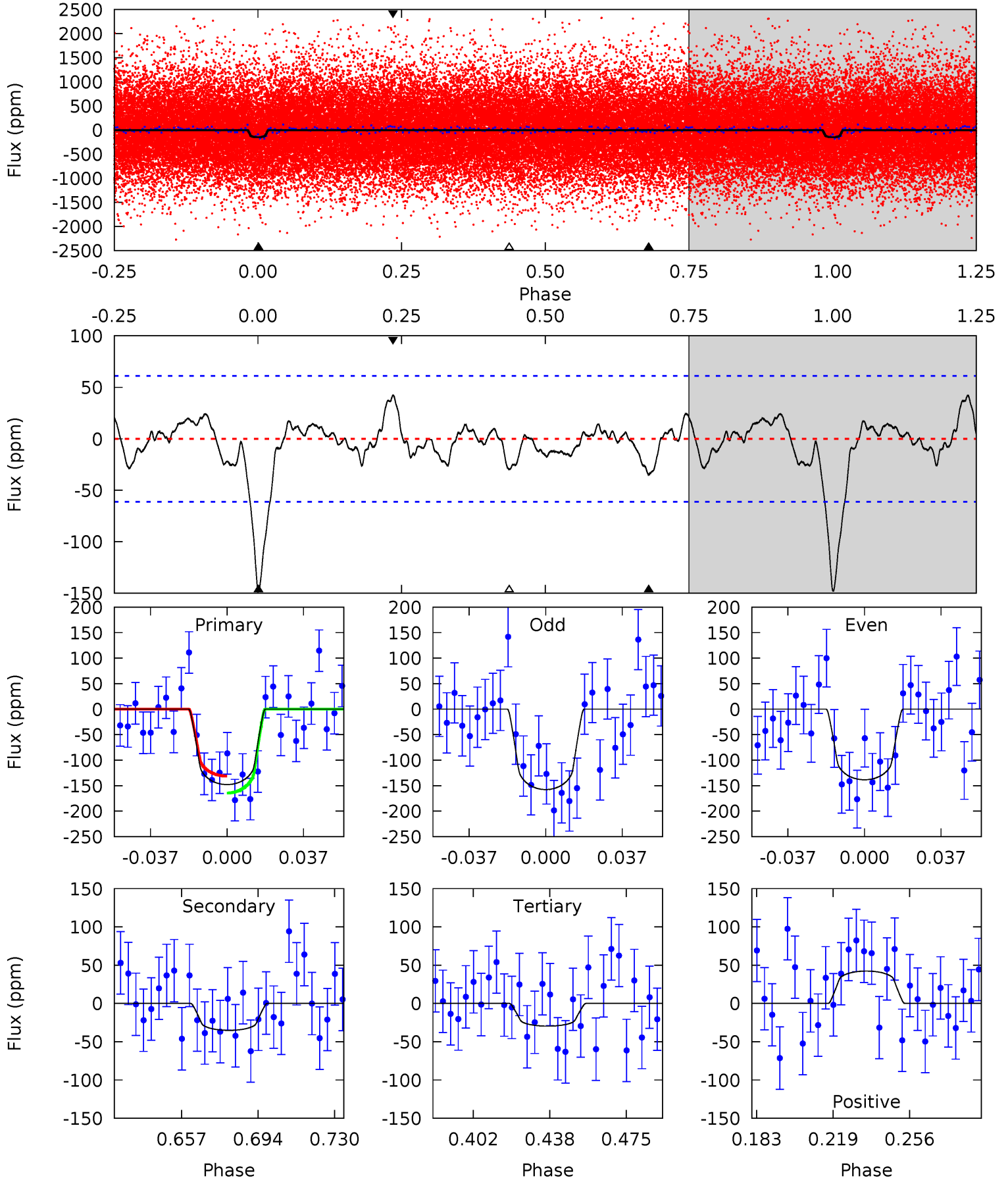
TCE 002860656-01 P= 4.114979 Days $T_0=135.316619$ (BKJD)



DV Model-Shift Uniqueness Test

002860656-01, P = 4.114981 Days, E = 135.313574 Days

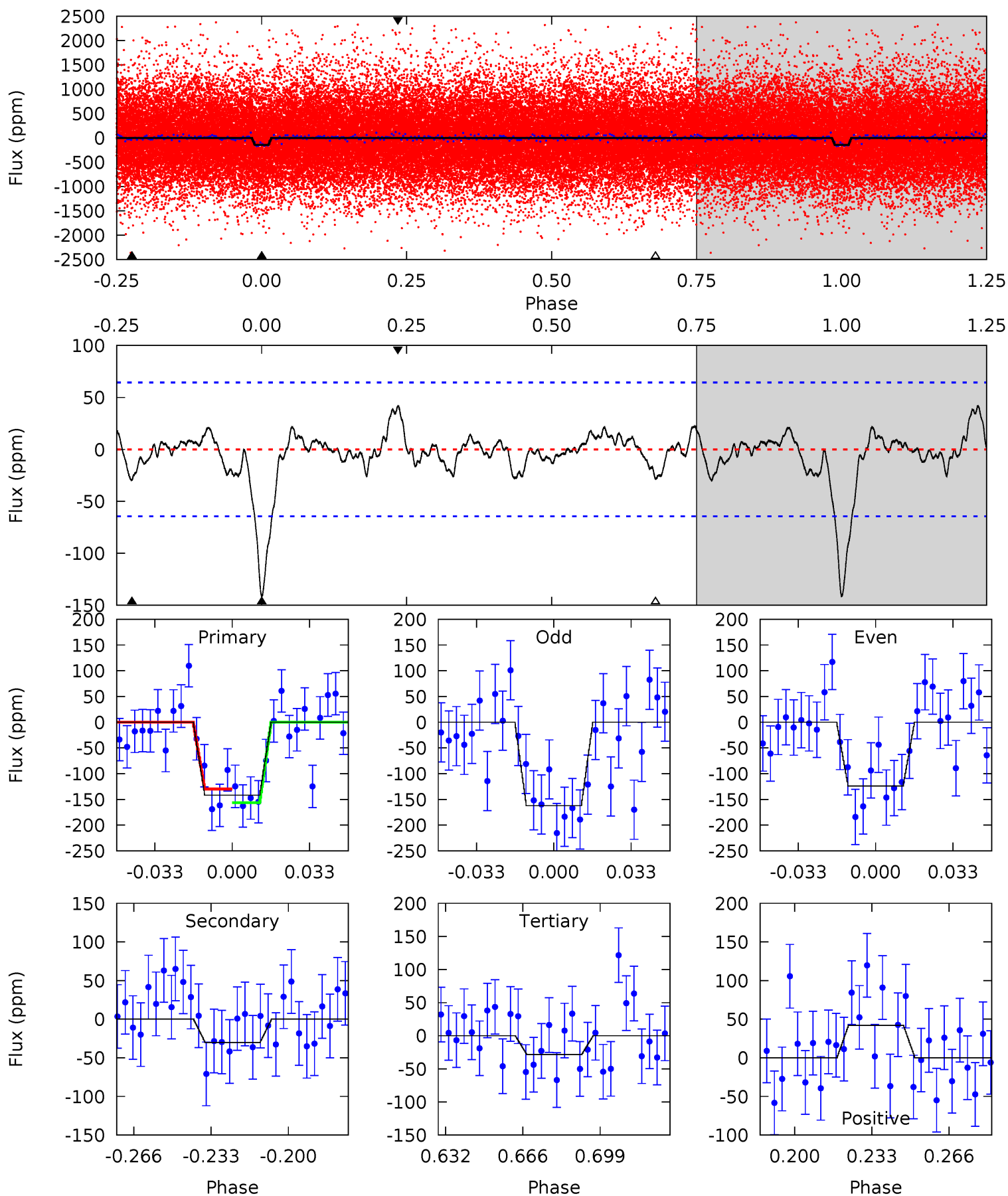
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.6	2.75	2.31	3.30	4.77	2.09	1.08	9.24	8.25	0.43	-0.56	0.75	0.84	0.22	1.30



Alt Model-Shift Uniqueness Test

002860656-01, P = 4.114979 Days, E = 135.316619 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.6	2.24	2.11	3.14	4.79	2.13	0.94	8.45	7.42	0.13	-0.89	1.42	1.03	0.23	0.98



Stellar Parameters For KIC 002860656

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6011^{+189}_{-231}	$4.507^{+0.040}_{-0.229}$	$-0.180^{+0.300}_{-0.300}$	$0.927^{+0.311}_{-0.097}$	$1.006^{+0.131}_{-0.144}$	$1.781^{+0.397}_{-0.941}$
	+3%/-4%	+1%/-5%	+167%/-167%	+34%/-10%	+13%/-14%	+22%/-53%
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 002860656-01 / KOI 4857.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-35 ± 13	$1.55^{+1.05}_{-0.92}$	1635^{+128}_{-92}	4030^{+1968}_{-664}	19^{+107}_{-13}
Alt.	-30 ± 13	$1.38^{+1.06}_{-0.84}$	1638^{+125}_{-93}	4160^{+2075}_{-831}	21^{+116}_{-15}

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 $A_{obs} \gg 1.0$

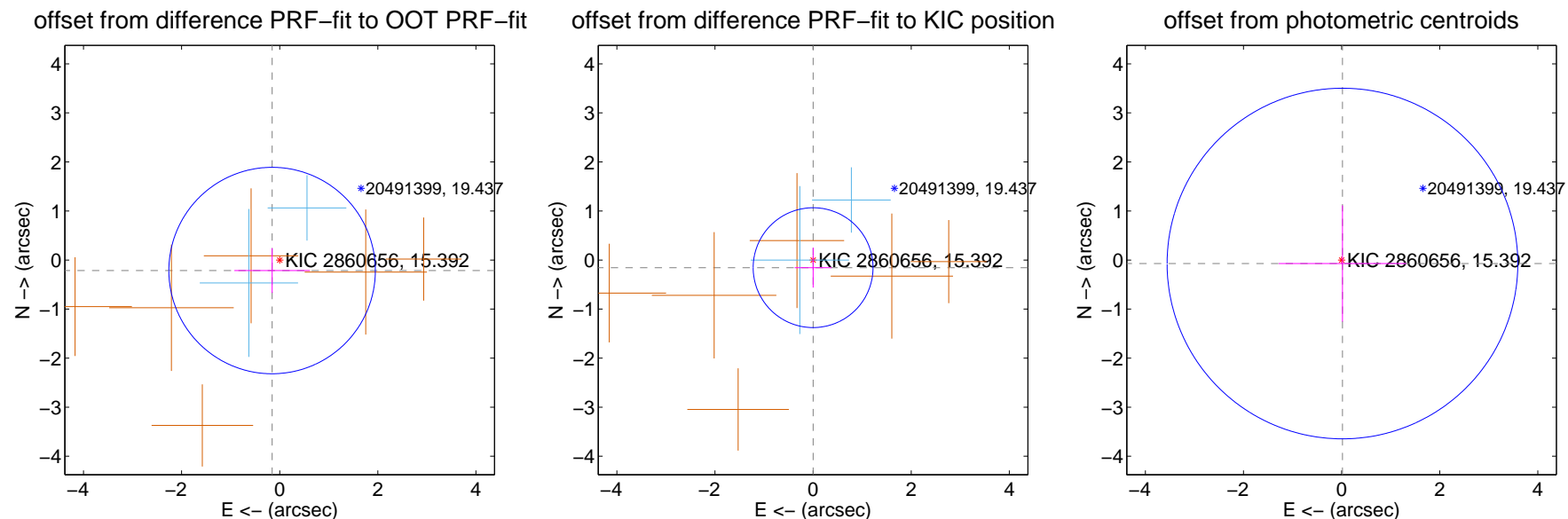
DV Centroid Data

Supplemental centroid analysis for 002860656-01. Kepler magnitude: 15.39. Transit SNR 10.14

There are 2 quarters with good PRF difference image offsets

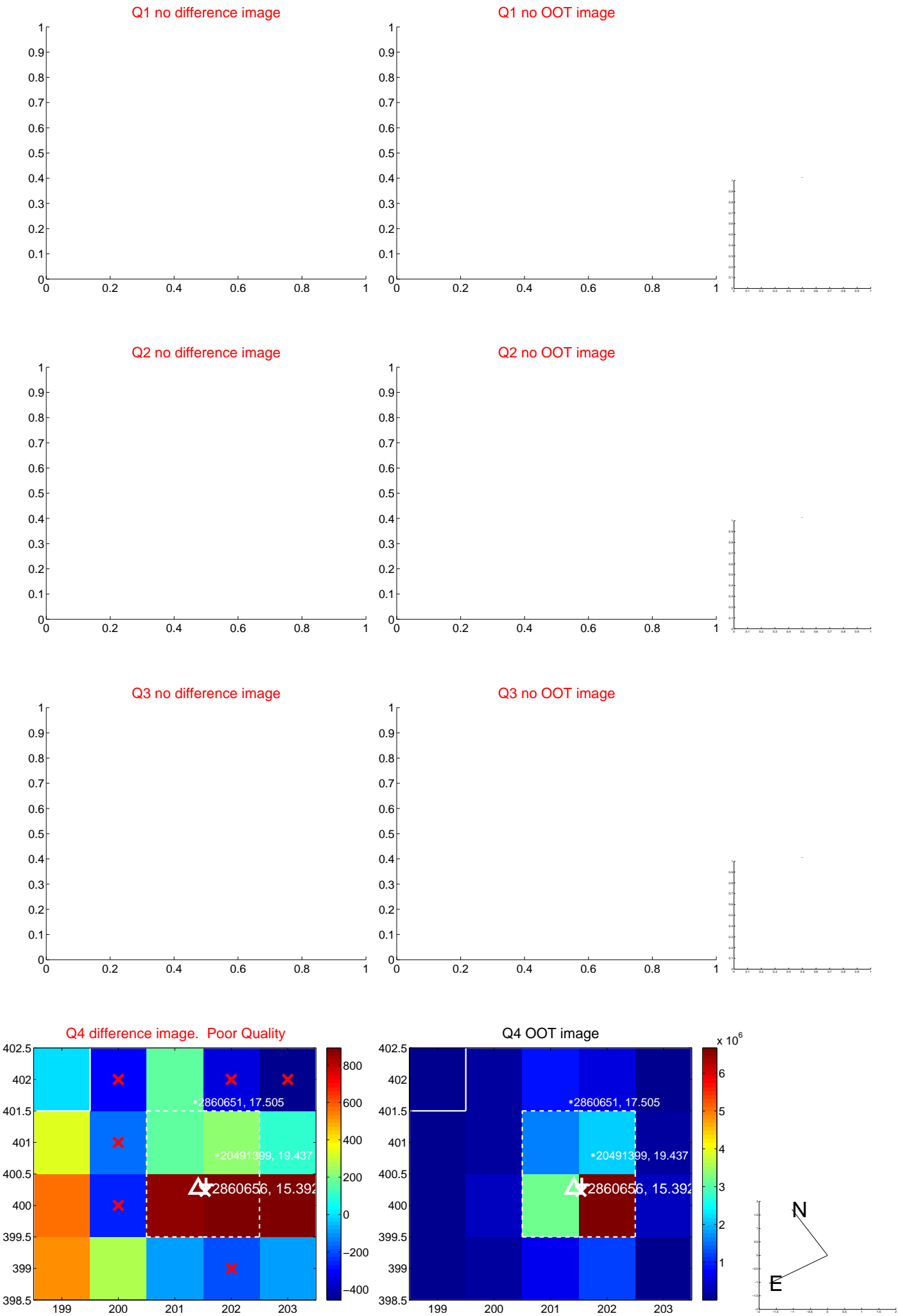
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.265 ± 0.701	0.38	0.155 ± 0.771	-0.214 ± 0.456
PRF-fit source offset from KIC position	0.156 ± 0.407	0.38	-0.000 ± 0.376	-0.156 ± 0.407
photometric centroid source offset	0.07 ± 1.19	0.06	-0.02 ± 1.30	-0.07 ± 1.18

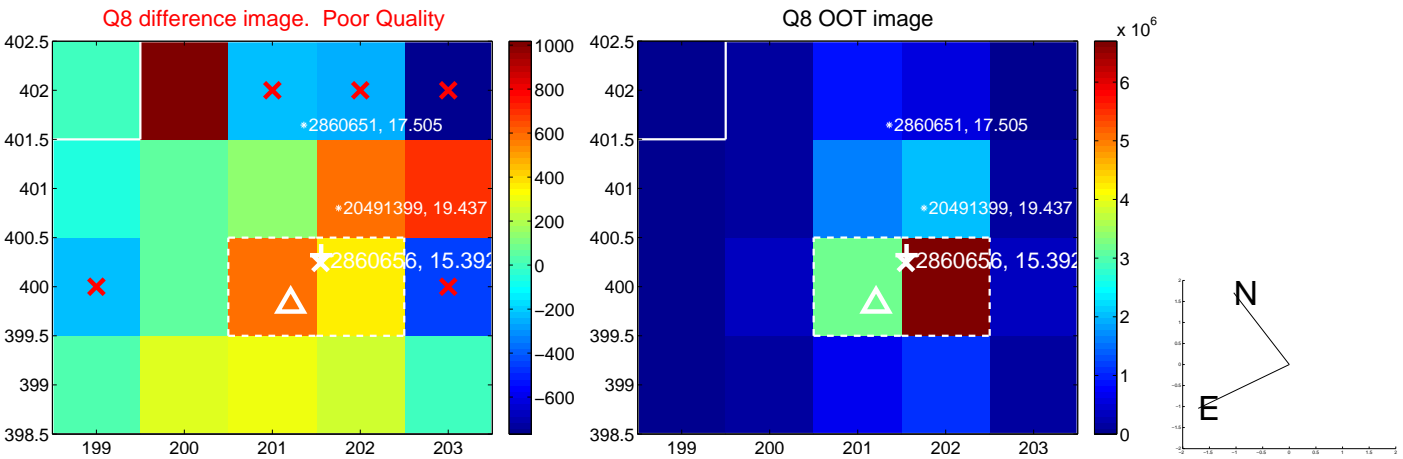
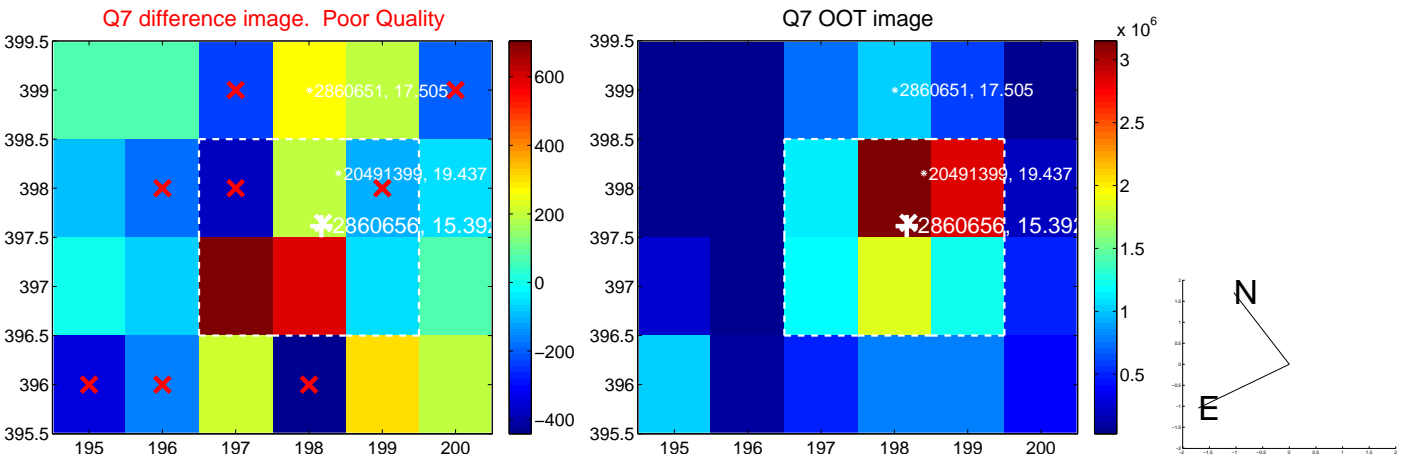
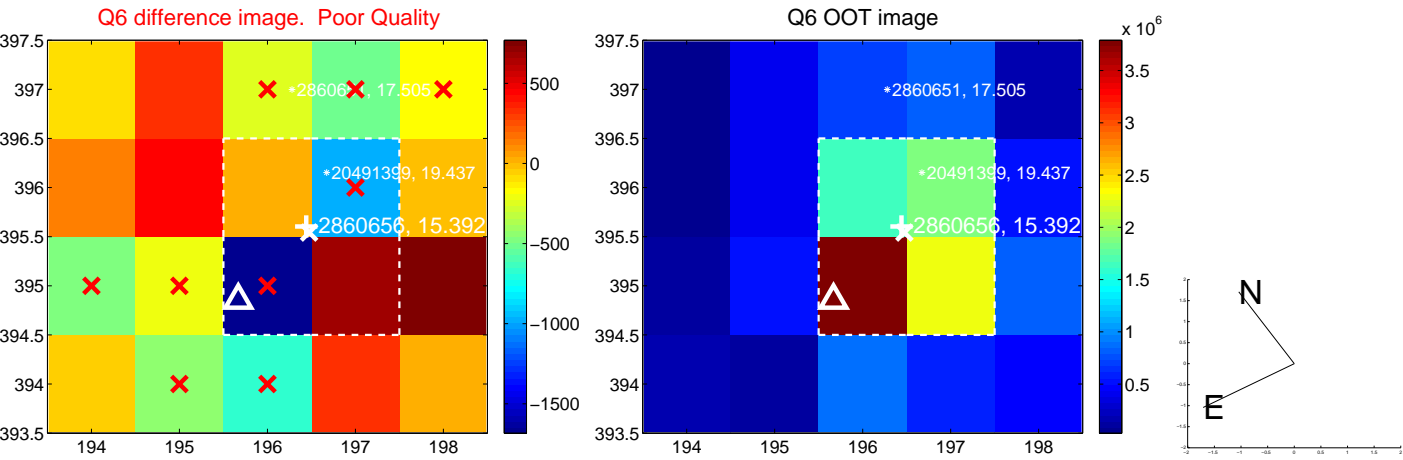
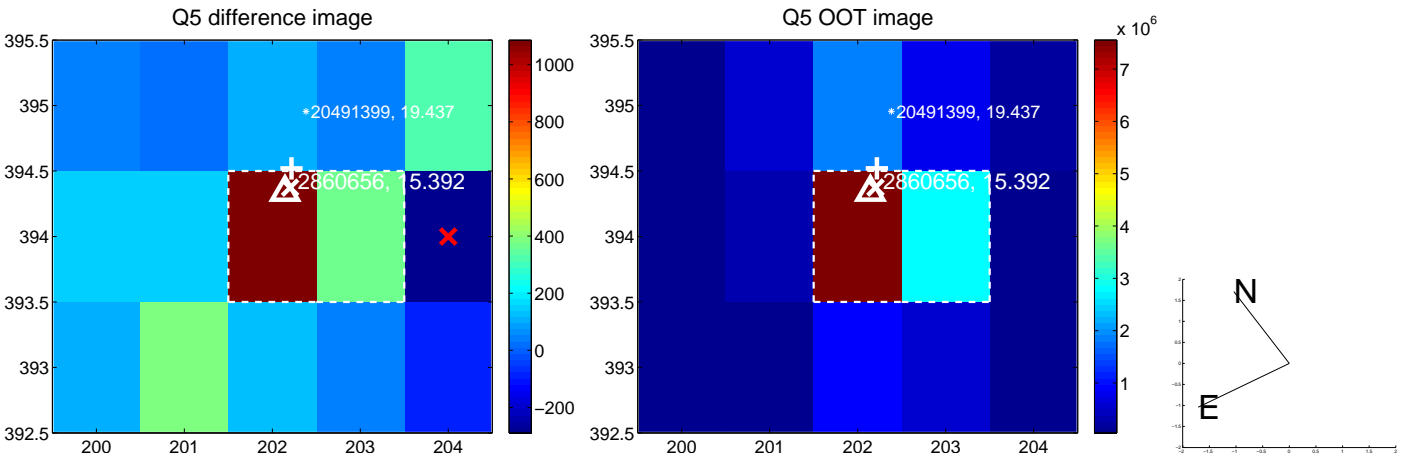


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

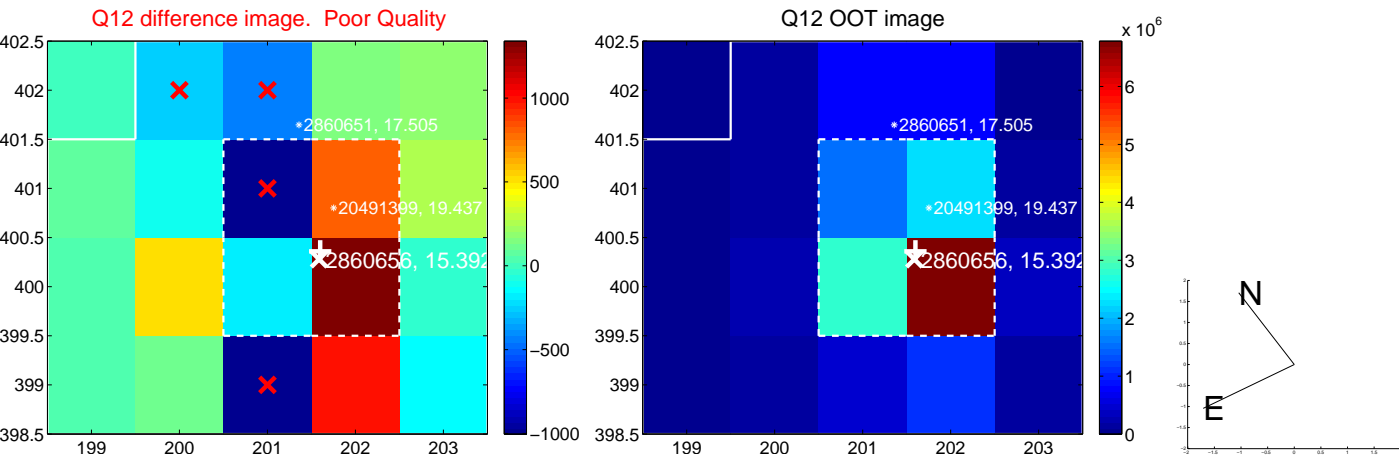
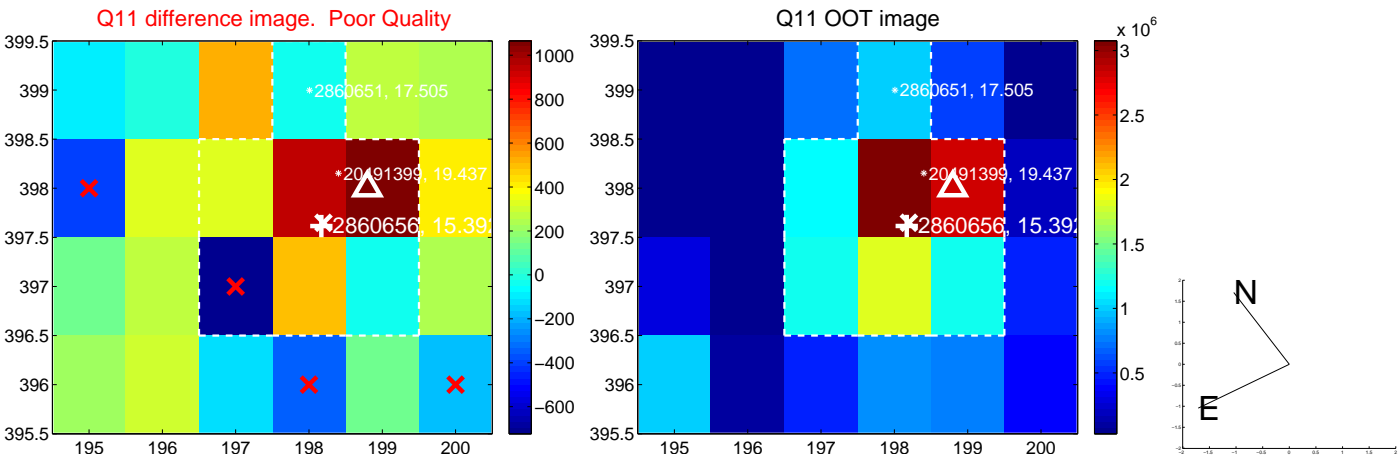
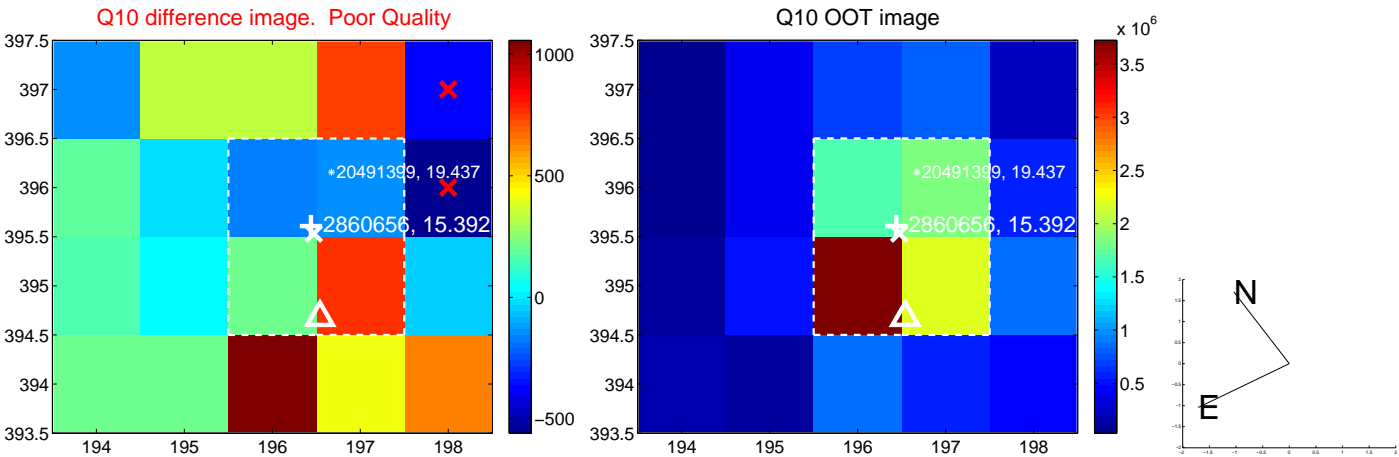
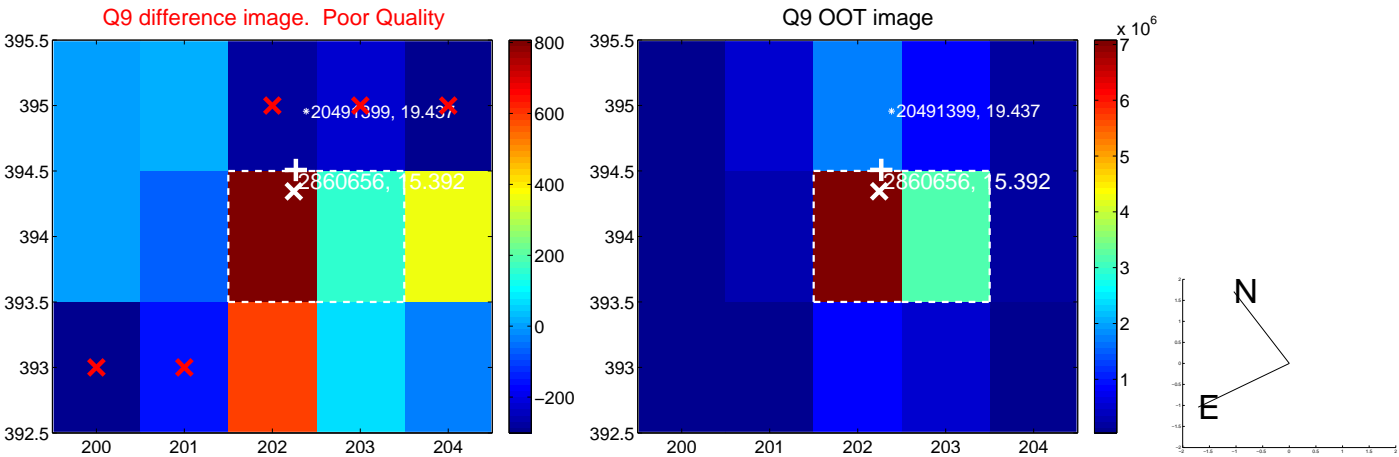
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



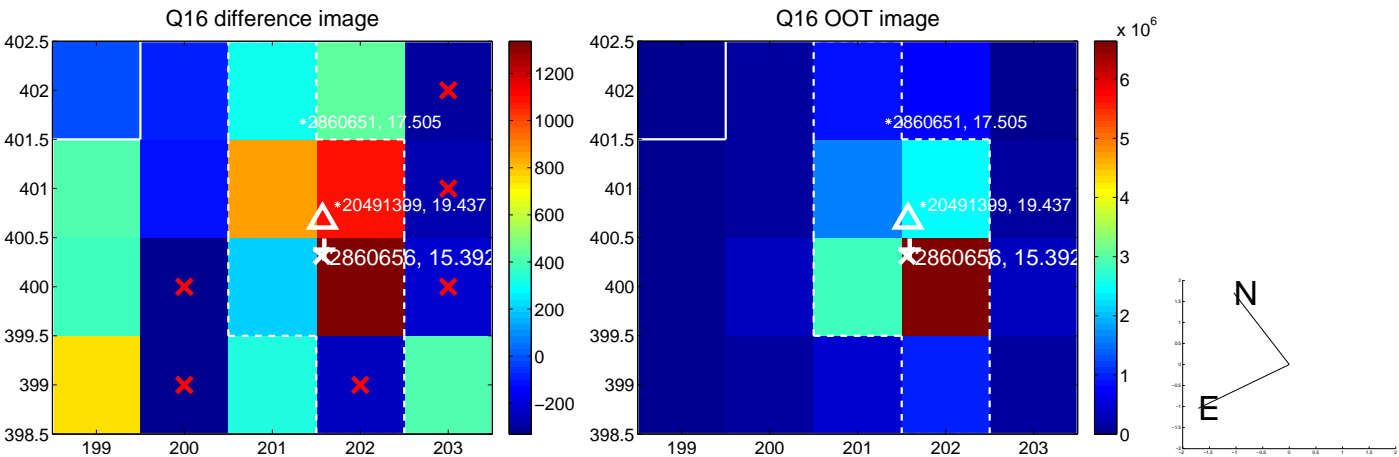
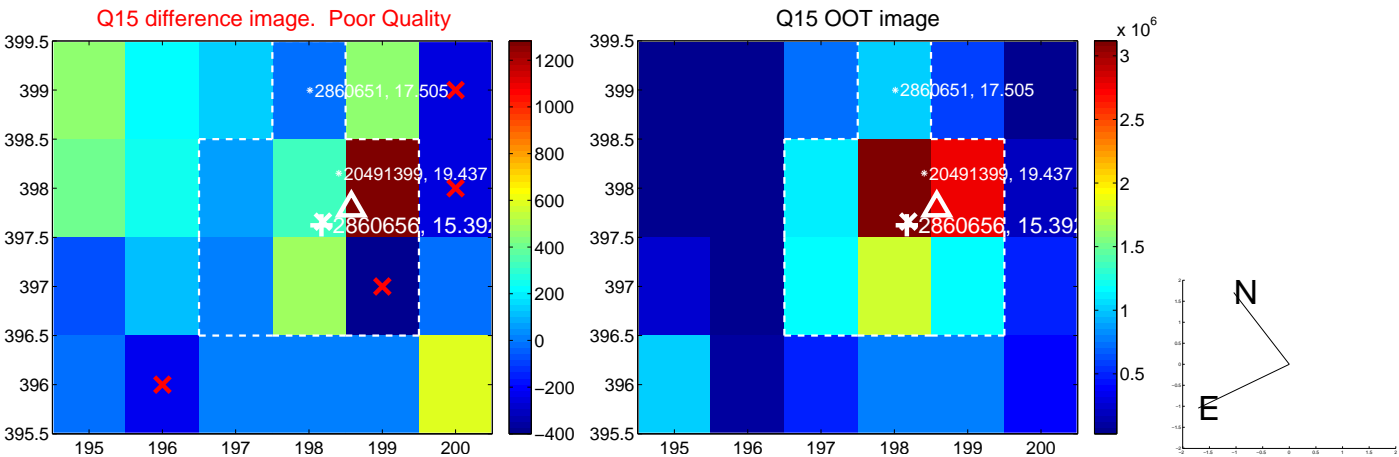
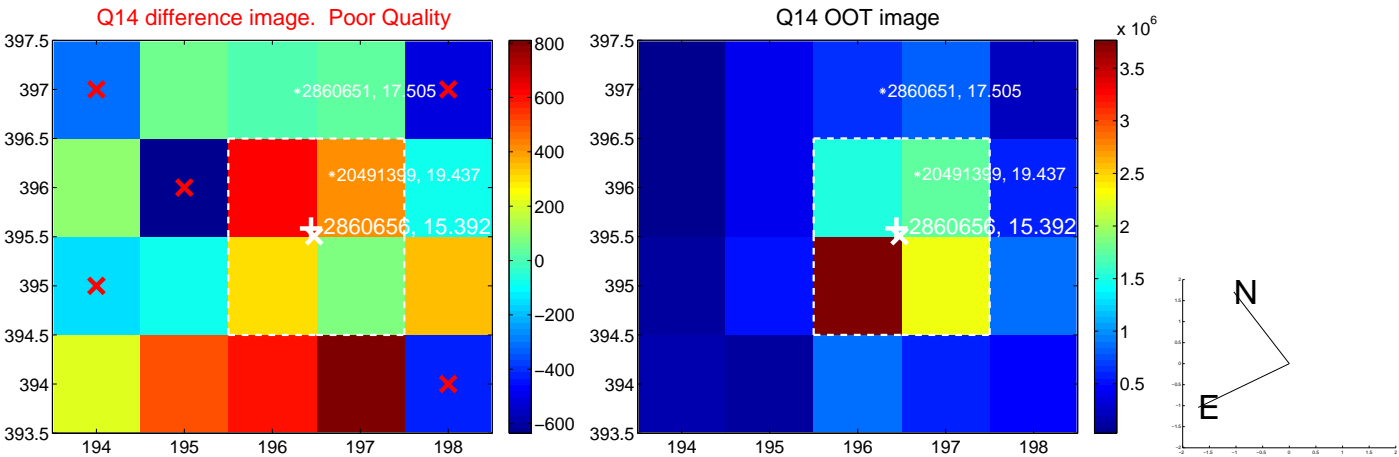
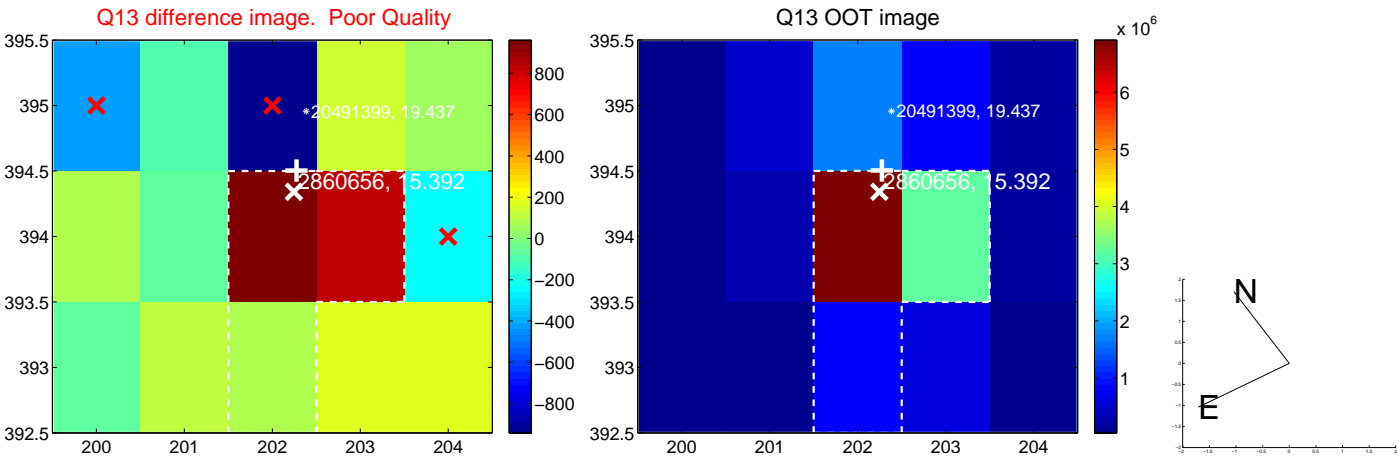
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



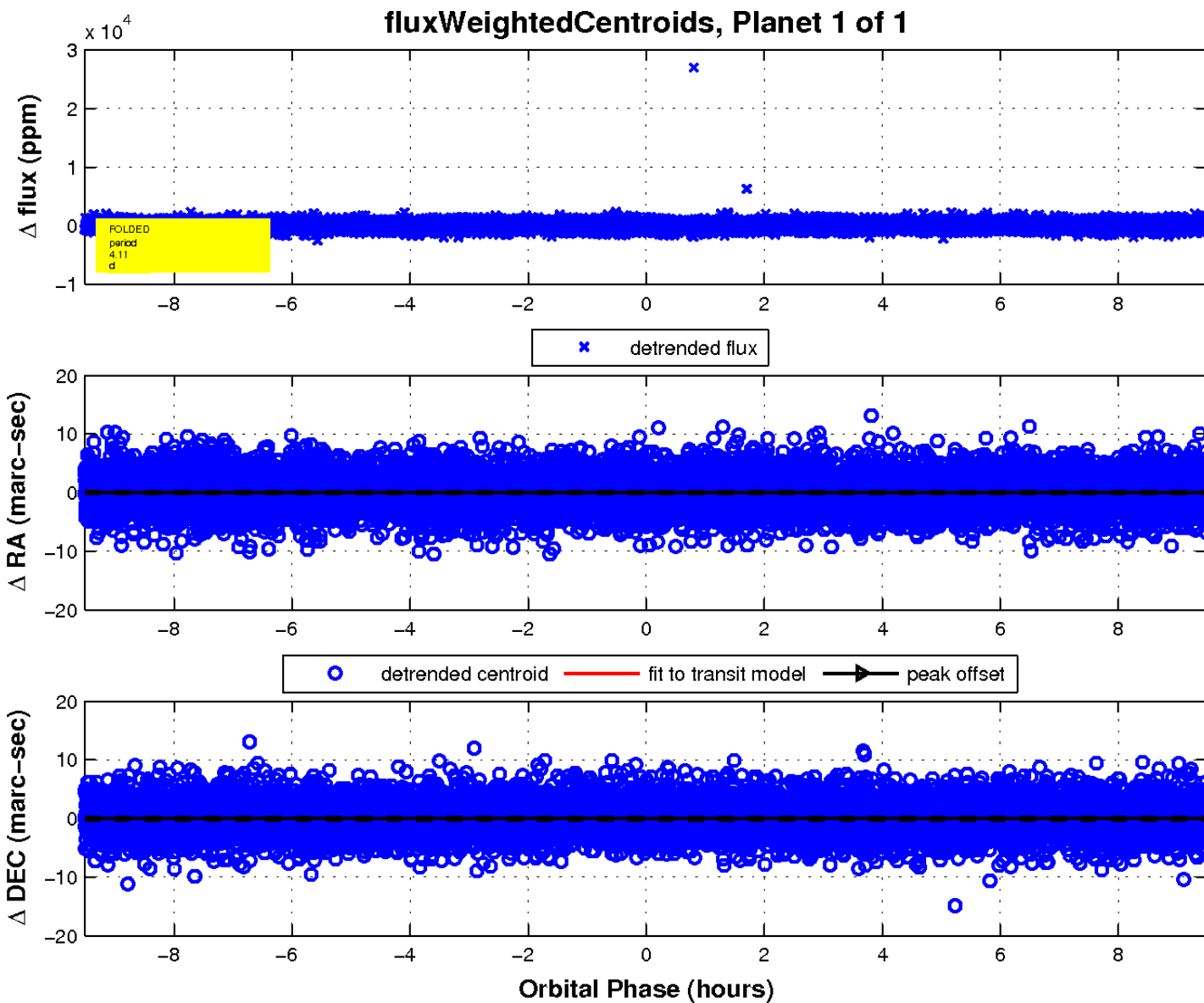
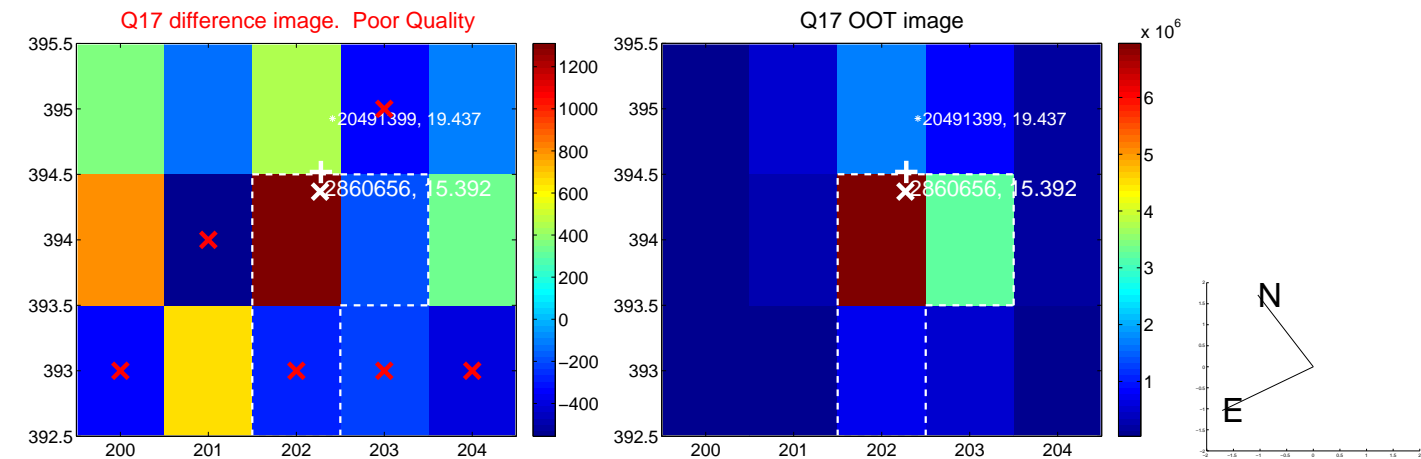
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

