

KIC 006500578

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})
006500578-01	OBS	No	0.808187	131.597605	15.6	6.765	8.8	3.4	3.27	8072	1.31	87850.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006500578-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_SATURATED

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

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

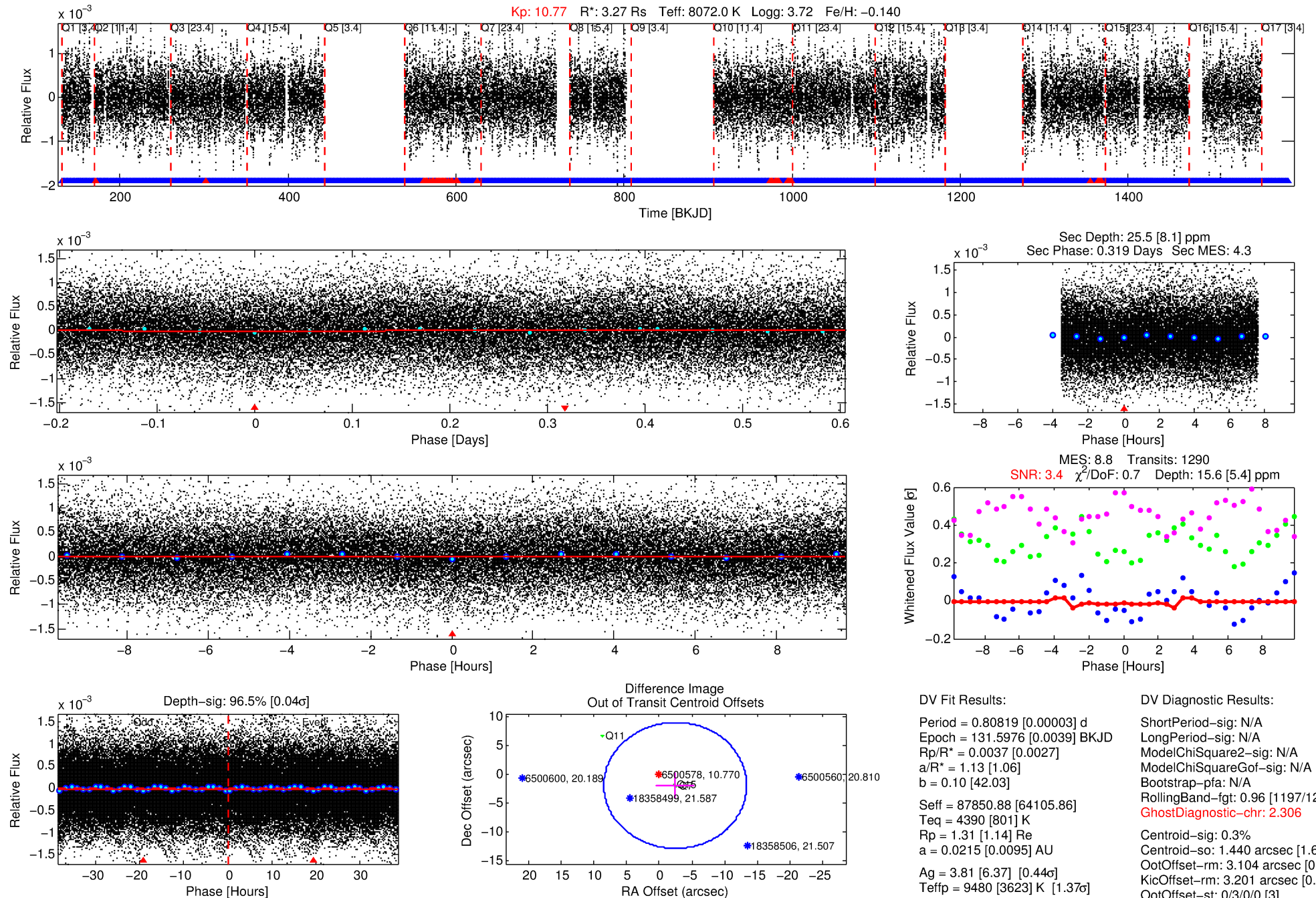
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006500578-01

No Significant Match Found

DV One-Page Summary

KIC: 6500578 Candidate: 1 of 1 Period: 0.808 d



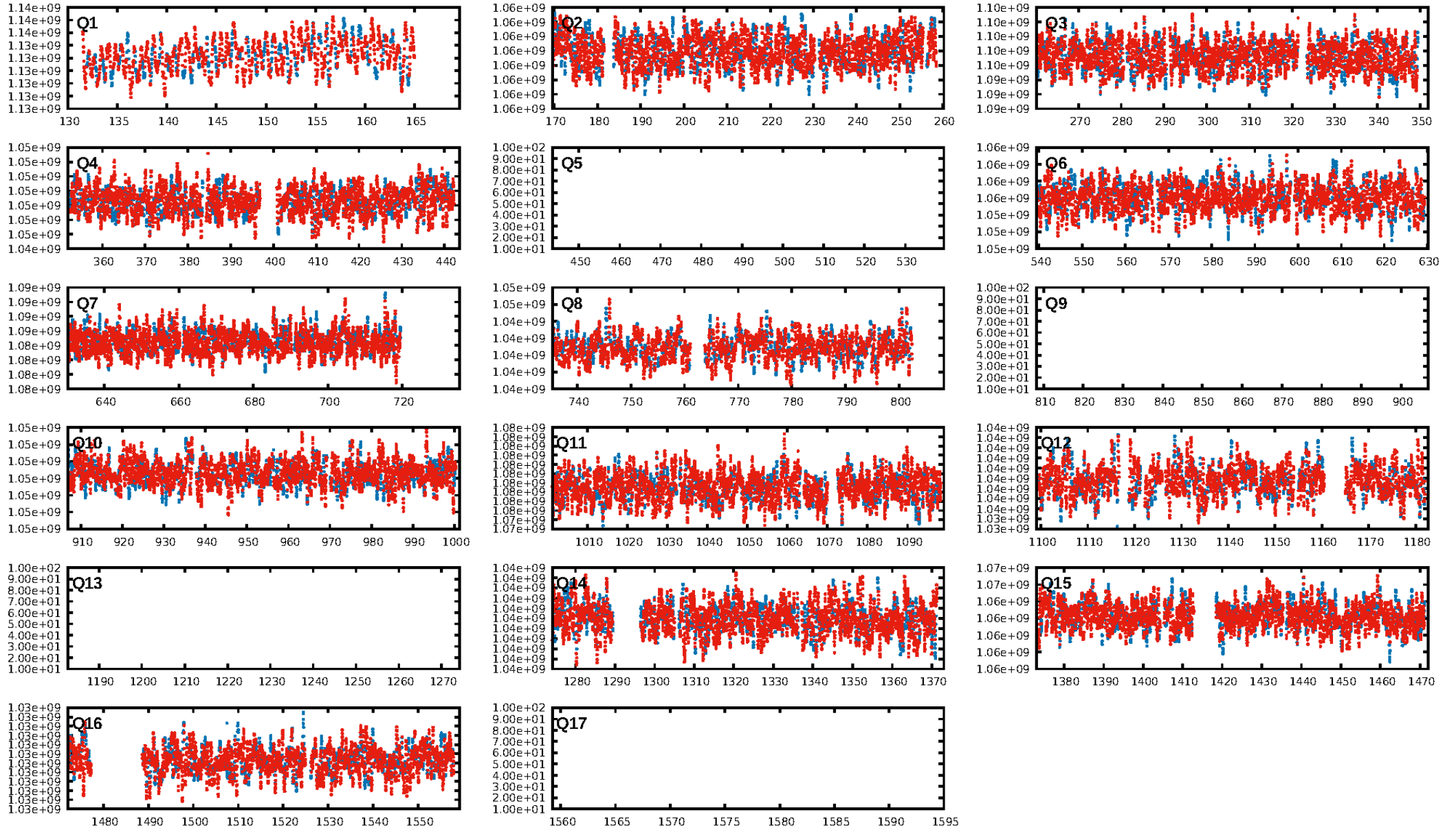
DV Fit Results:

Period = 0.80819 [0.00003] d
Epoch = 131.5976 [0.0039] BKJD
Rp/R* = 0.0037 [0.0027]
a/R* = 1.13 [1.06]
b = 0.10 [42.03]
Seff = 87850.88 [64105.86]
Teff = 4390 [801] K
Rp = 1.31 [1.14] Re
a = 0.0215 [0.0095] AU
Ag = 3.81 [6.37] [0.44σ]
Teffp = 9480 [3623] K [1.37σ]

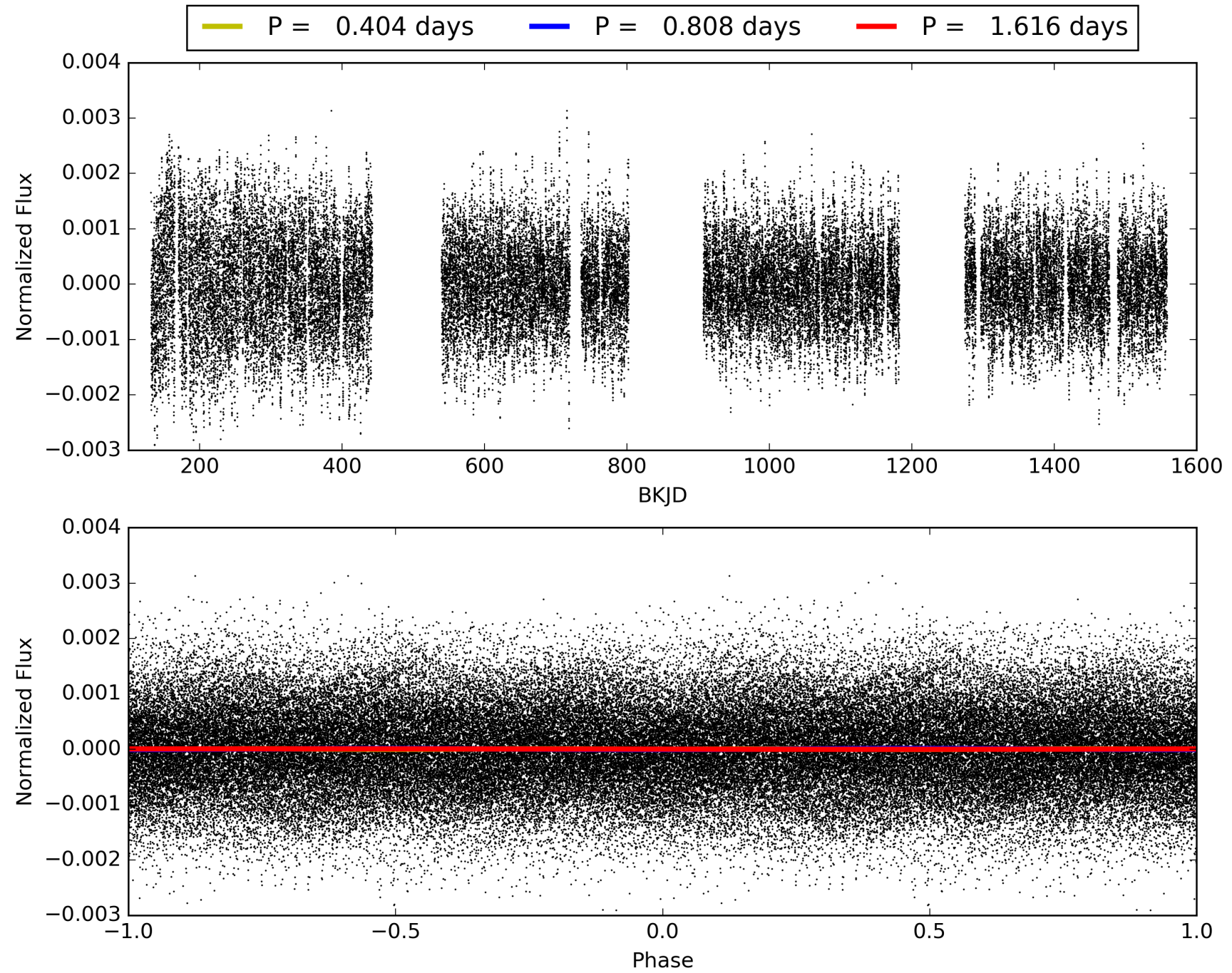
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.96 [1197/1248]
GhostDiagnostic-chr: 2.306
Centroid-sig: 0.3%
Centroid-so: 1.440 arcsec [1.66σ]
OotOffset-rm: 3.104 arcsec [0.85σ]
KicOffset-rm: 3.201 arcsec [0.73σ]
OotOffset-st: 0/3/0/0 [3]
KicOffset-st: 0/3/0/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 006500578-01, PDC Light Curves

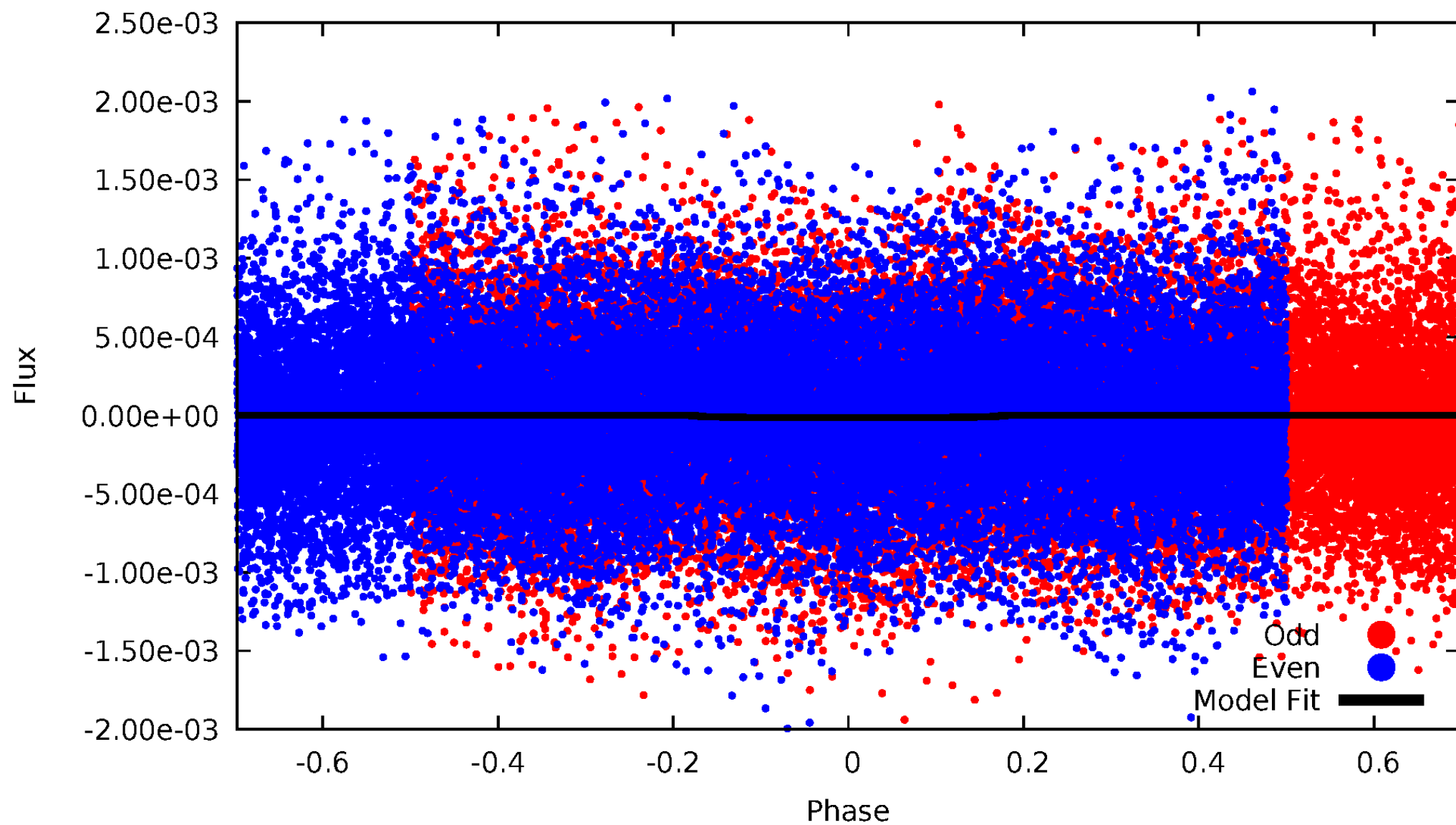


TCE 006500578-01



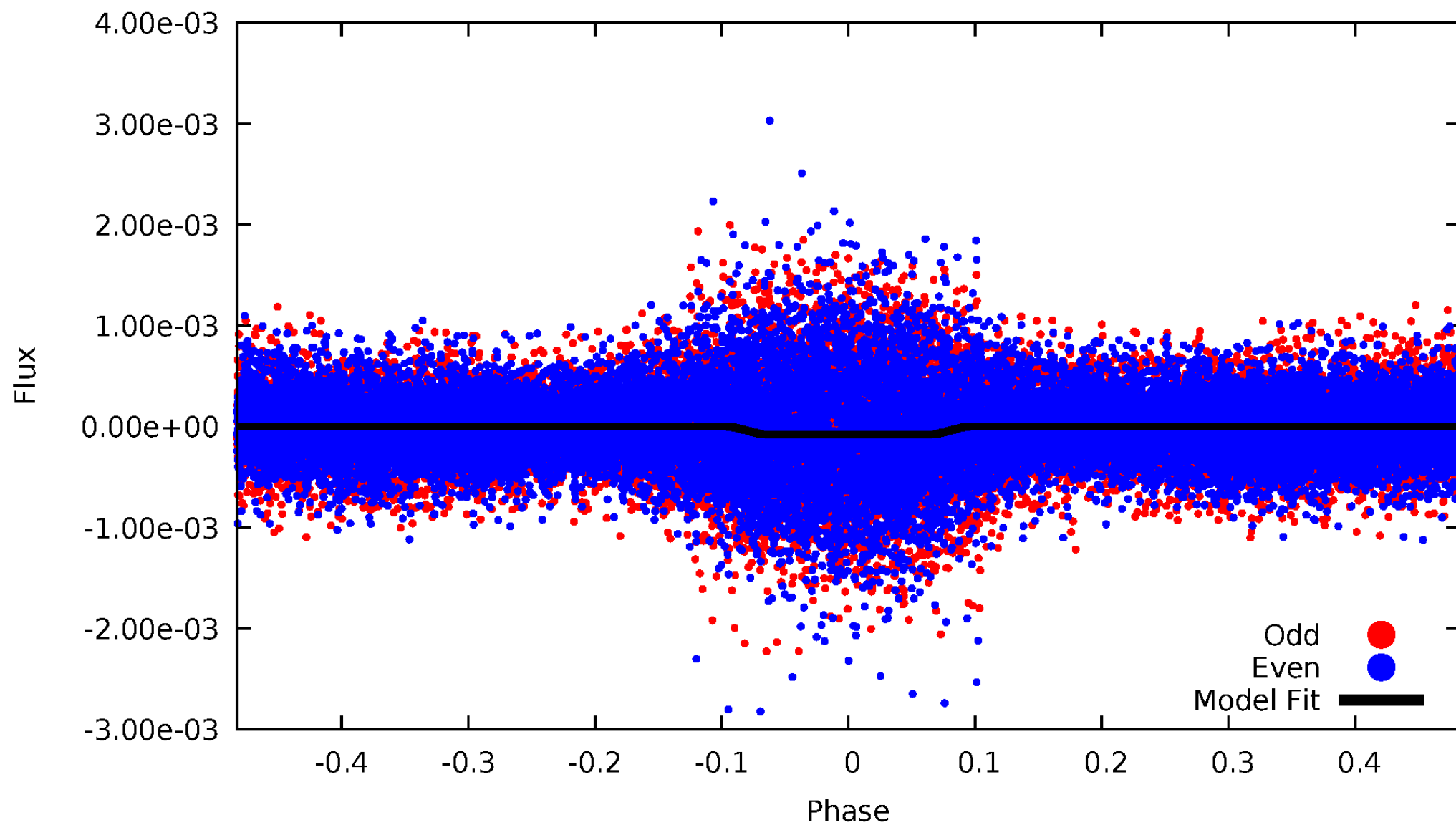
DV Odd/Even

TCE 006500578-01



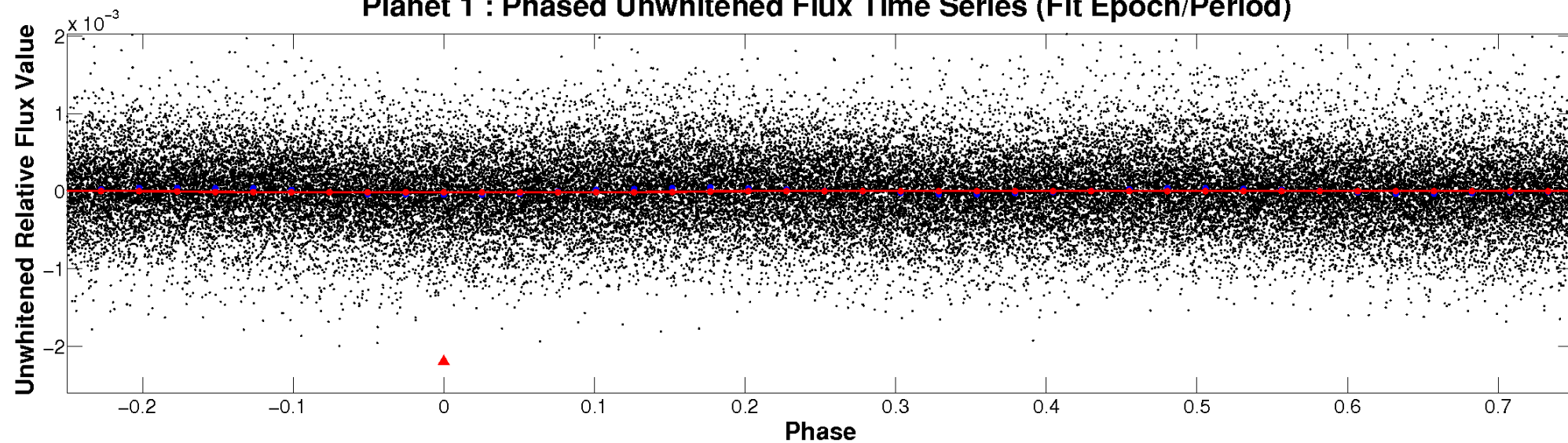
ALT Odd/Even

TCE 006500578-01

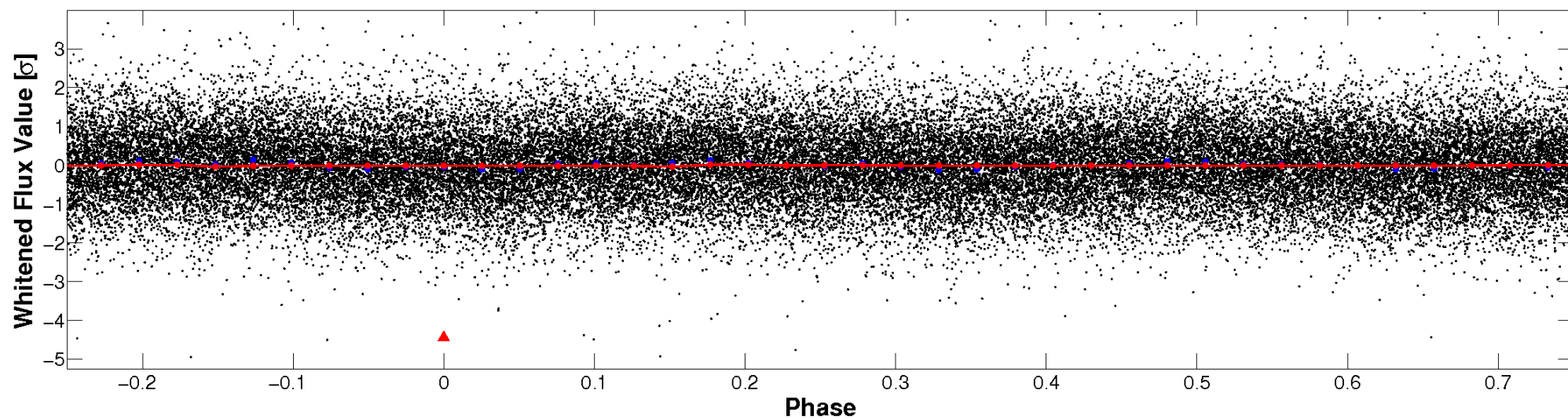


Non-Whitened Vs. Whitened Light Curve

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

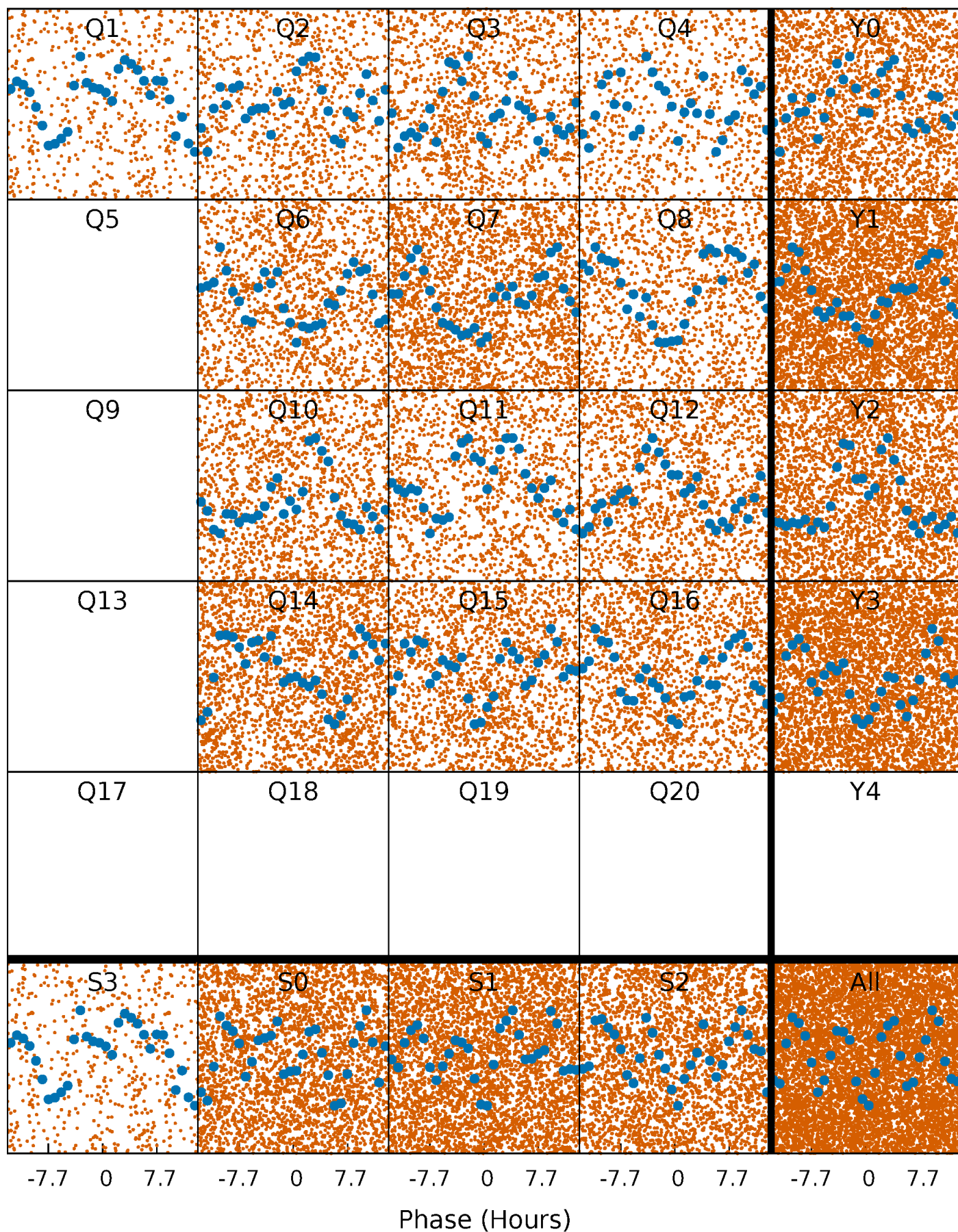


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



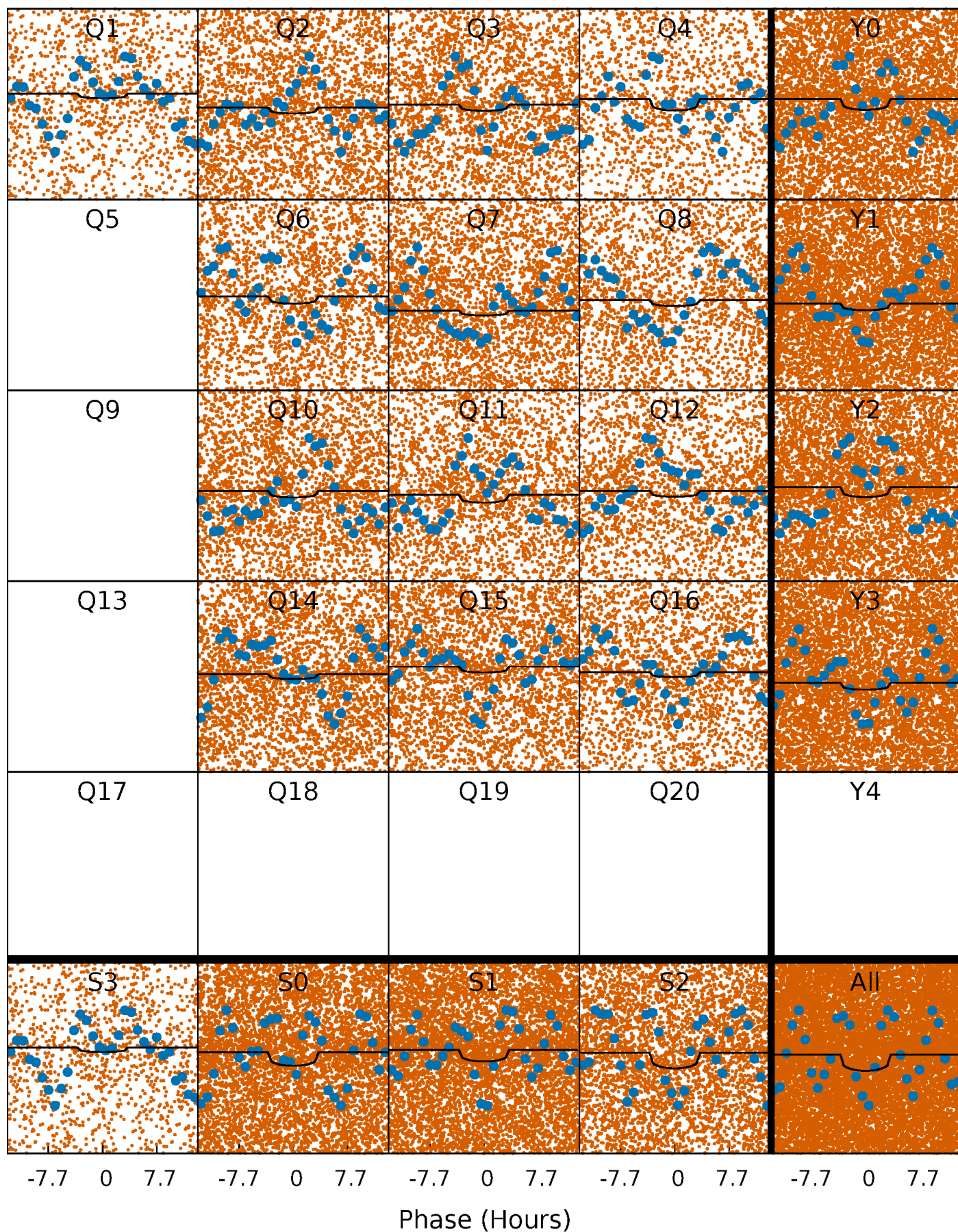
PDC Quarter-Phased Transit Curves

TCE 006500578-01 P= 0.808187 Days $T_0=131.597605$ (BKJD)



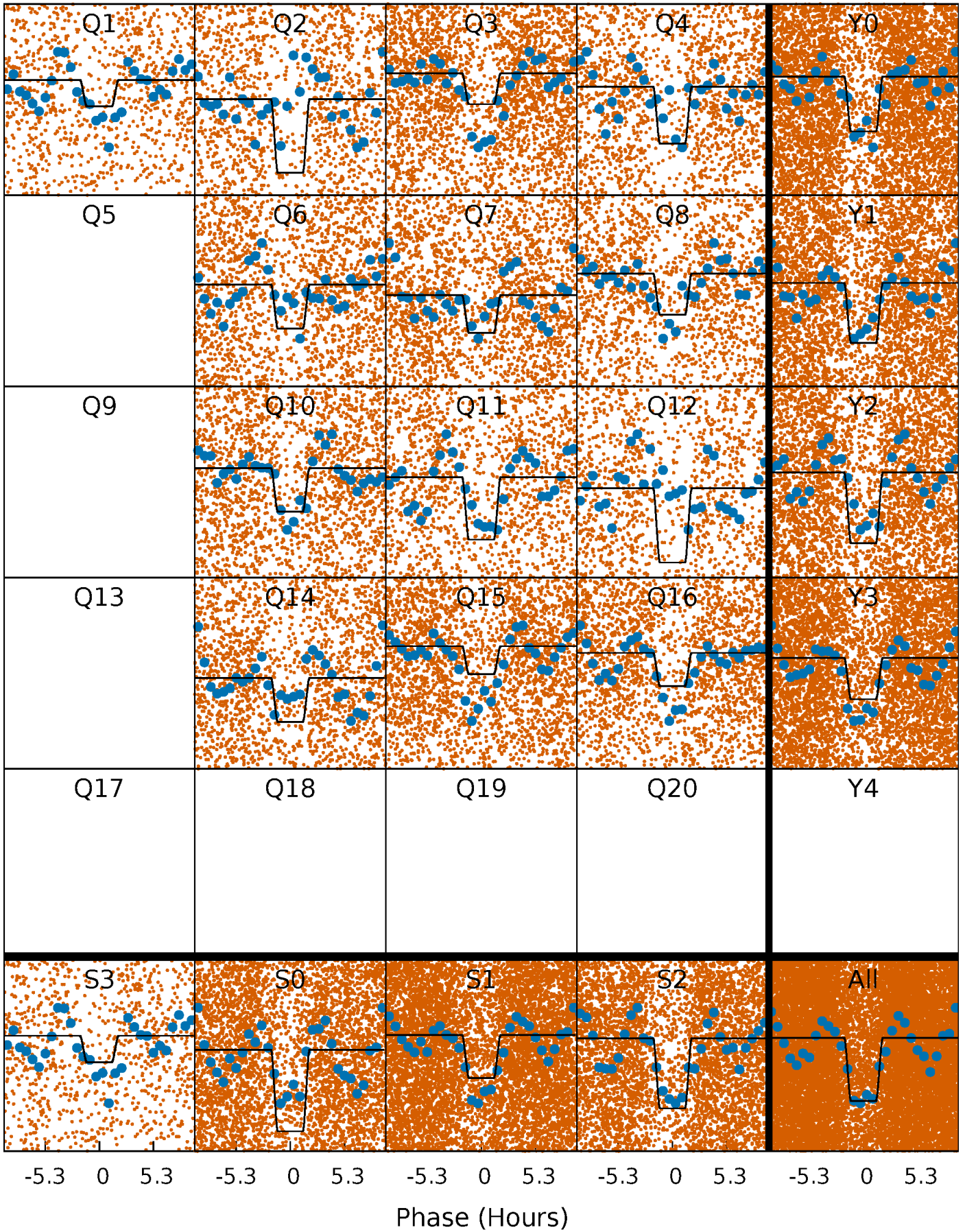
DV Quarter-Phased Transit Curves

TCE 006500578-01 P= 0.808187 Days $T_0=131.597605$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

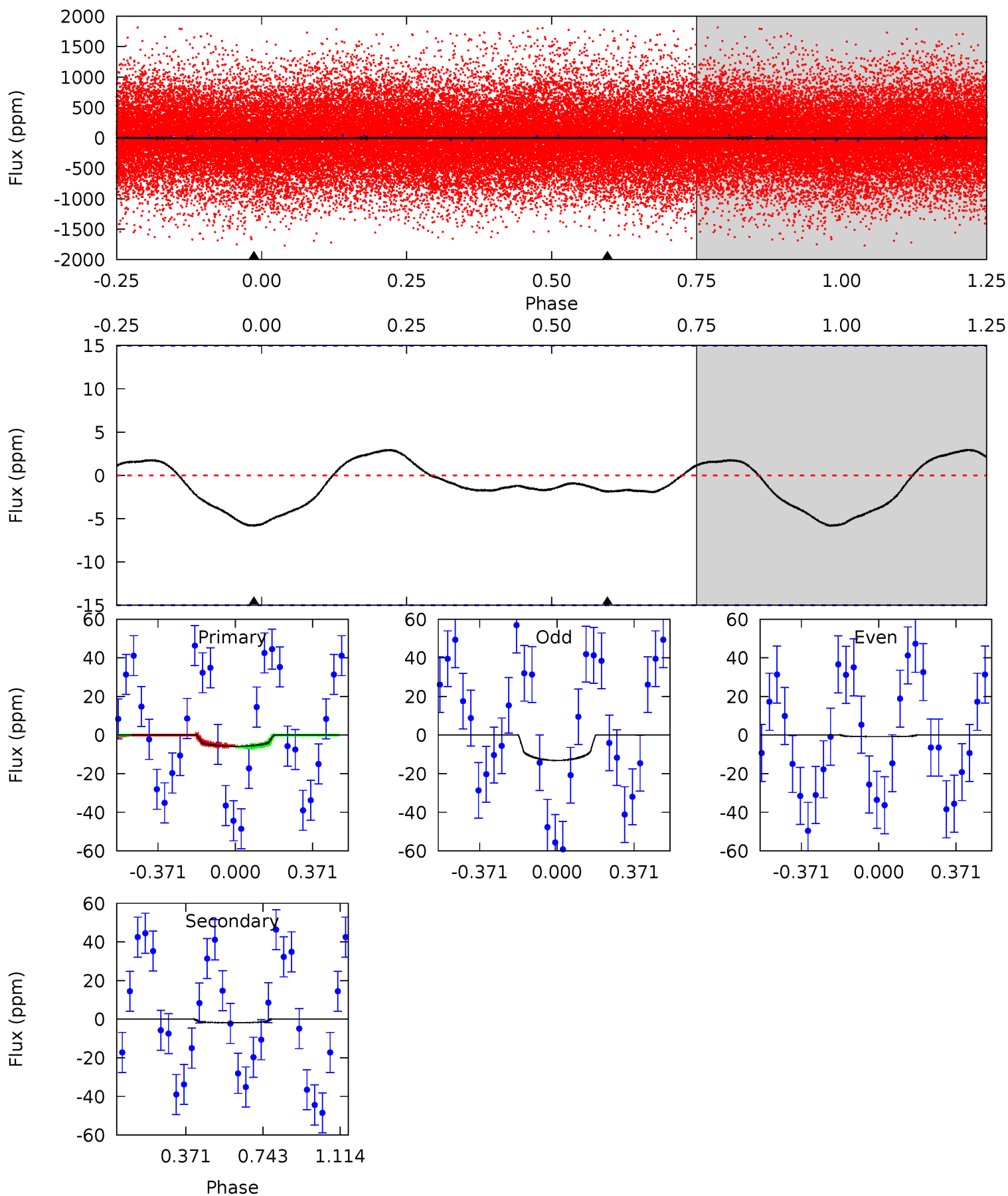
TCE 006500578-01 P= 0.808179 Days $T_0=131.603848$ (BKJD)



DV Model-Shift Uniqueness Test

006500578-01, P = 0.808187 Days, E = 130.789418 Days

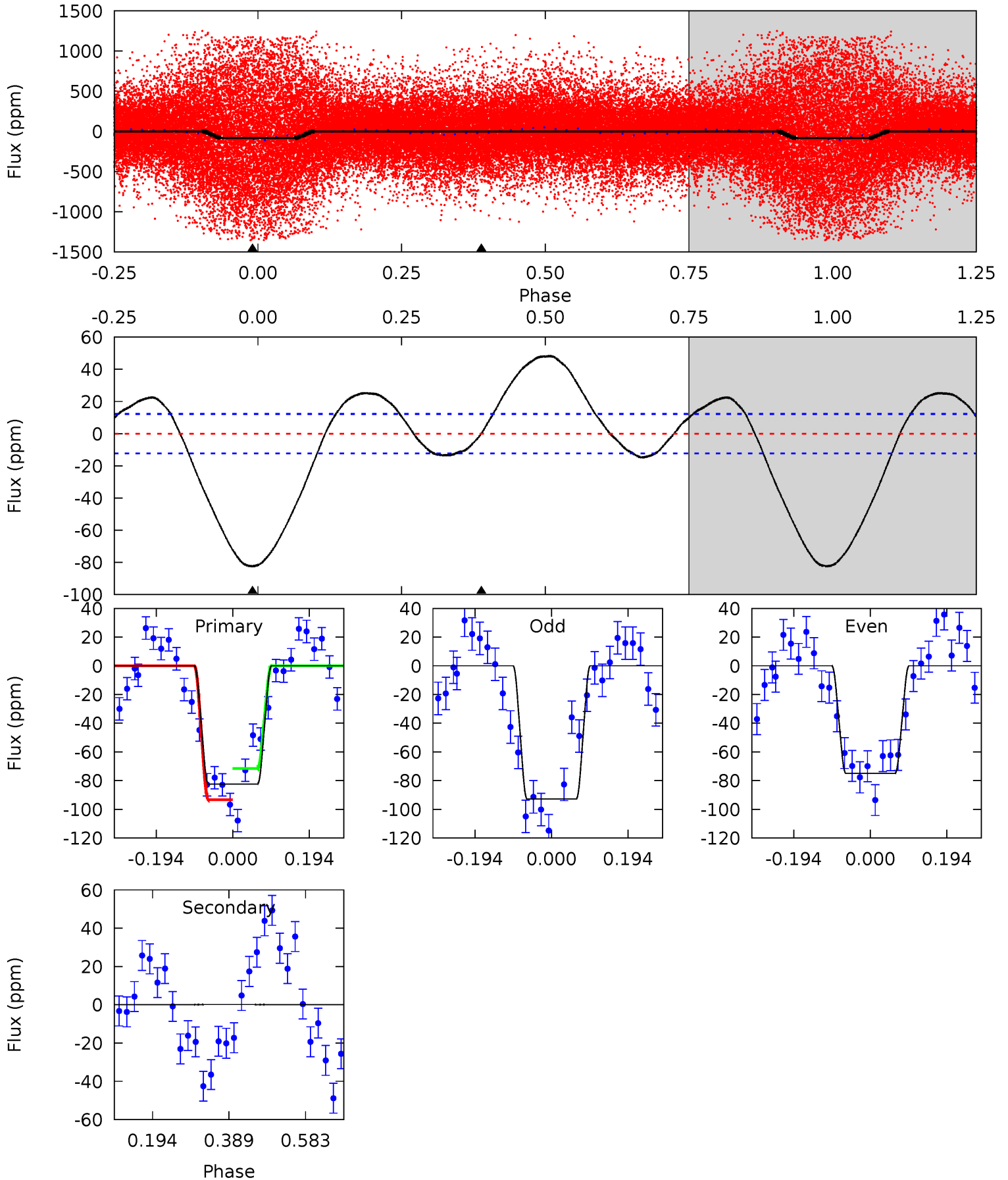
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.66	0.54	0	0	4.28	0.89	0.31	1.66	1.66	0.54	0.54	1.79	-1.63	0.34	0.10



Alt Model-Shift Uniqueness Test

006500578-01, P = 0.808179 Days, E = 130.795669 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.8	-0.04	0	0	4.42	1.30	4.34	29.8	29.8	-0.04	-0.04	3.18	0.97	0.37	4.02



Stellar Parameters For KIC 006500578

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8072^{+223}_{-363}	$3.717^{+0.416}_{-0.104}$	$-0.140^{+0.200}_{-0.350}$	$3.269^{+0.802}_{-1.490}$	$2.031^{+0.379}_{-0.505}$	$0.082^{+0.329}_{-0.027}$
	+3%/-4%	+11%/-3%	+143%/-250%	+25%/-46%	+19%/-25%	+401%/-32%
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 006500578-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2 ± 3	$1.31^{+0.89}_{-0.79}$	5911^{+501}_{-681}	-3777^{+10382}_{-1732}	$0.211^{+1.348}_{-0.425}$
Alt.	0 ± 3	$2.96^{+1.15}_{-1.05}$	5919^{+473}_{-724}	-4824^{+626}_{-442}	$0.001^{+0.091}_{-0.092}$

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 $A_{obs} \gg 1.0$

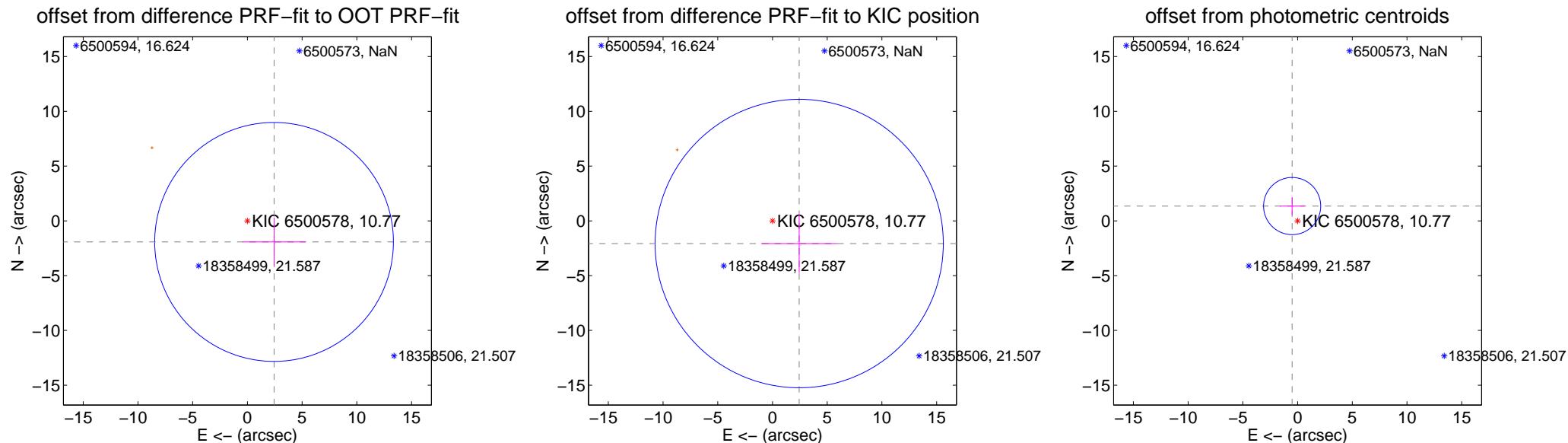
DV Centroid Data

Supplemental centroid analysis for 006500578-01. **Kepler magnitude: 10.77.** Transit SNR 3.36

There are 2 quarters with good PRF difference image offsets

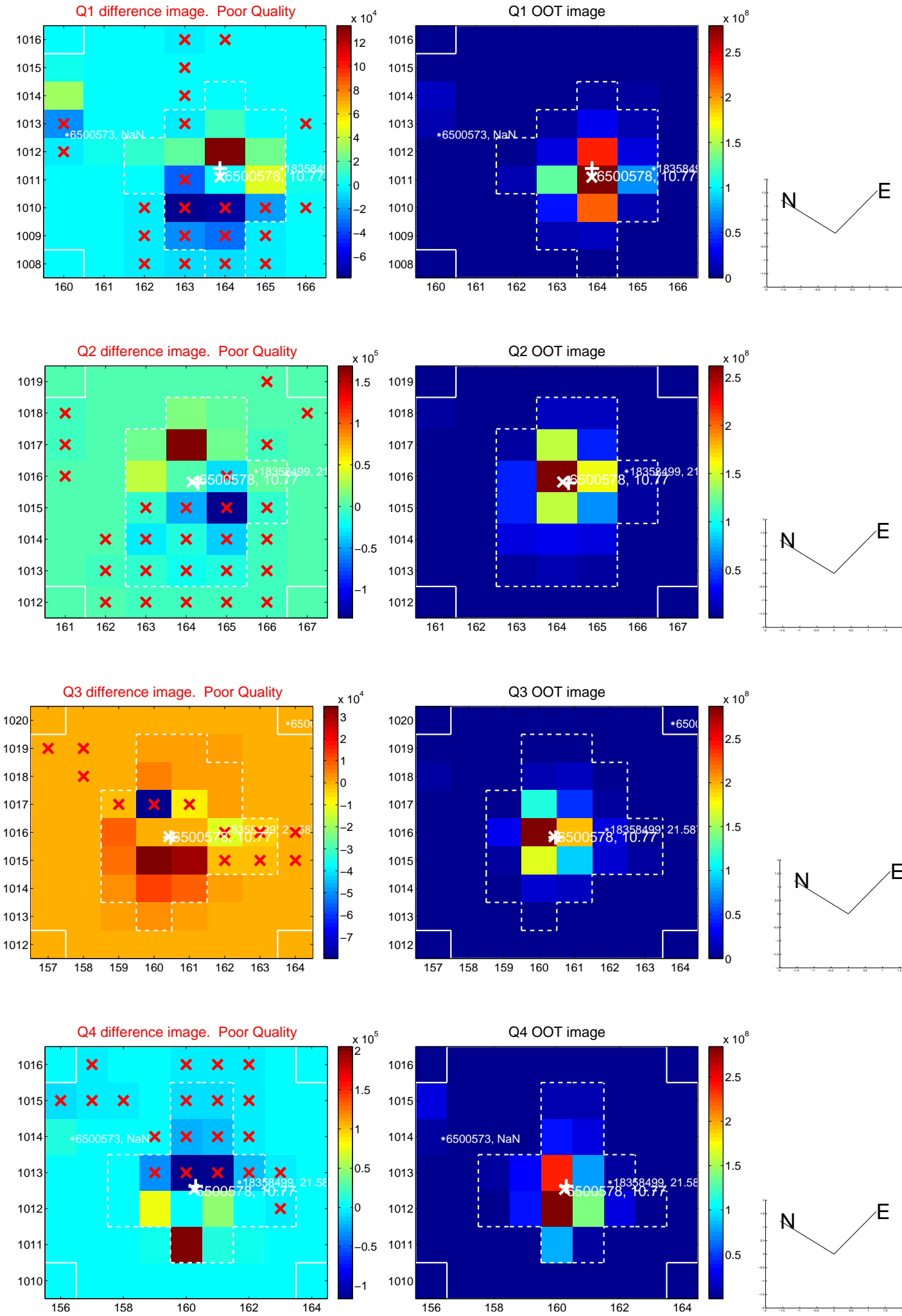
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.104 ± 3.635	0.85	-2.436 ± 2.881	-1.924 ± 2.219
PRF-fit source offset from KIC position	3.201 ± 4.389	0.73	-2.442 ± 3.480	-2.069 ± 2.683
photometric centroid source offset	1.44 ± 0.87	1.66	0.50 ± 1.14	1.35 ± 0.83

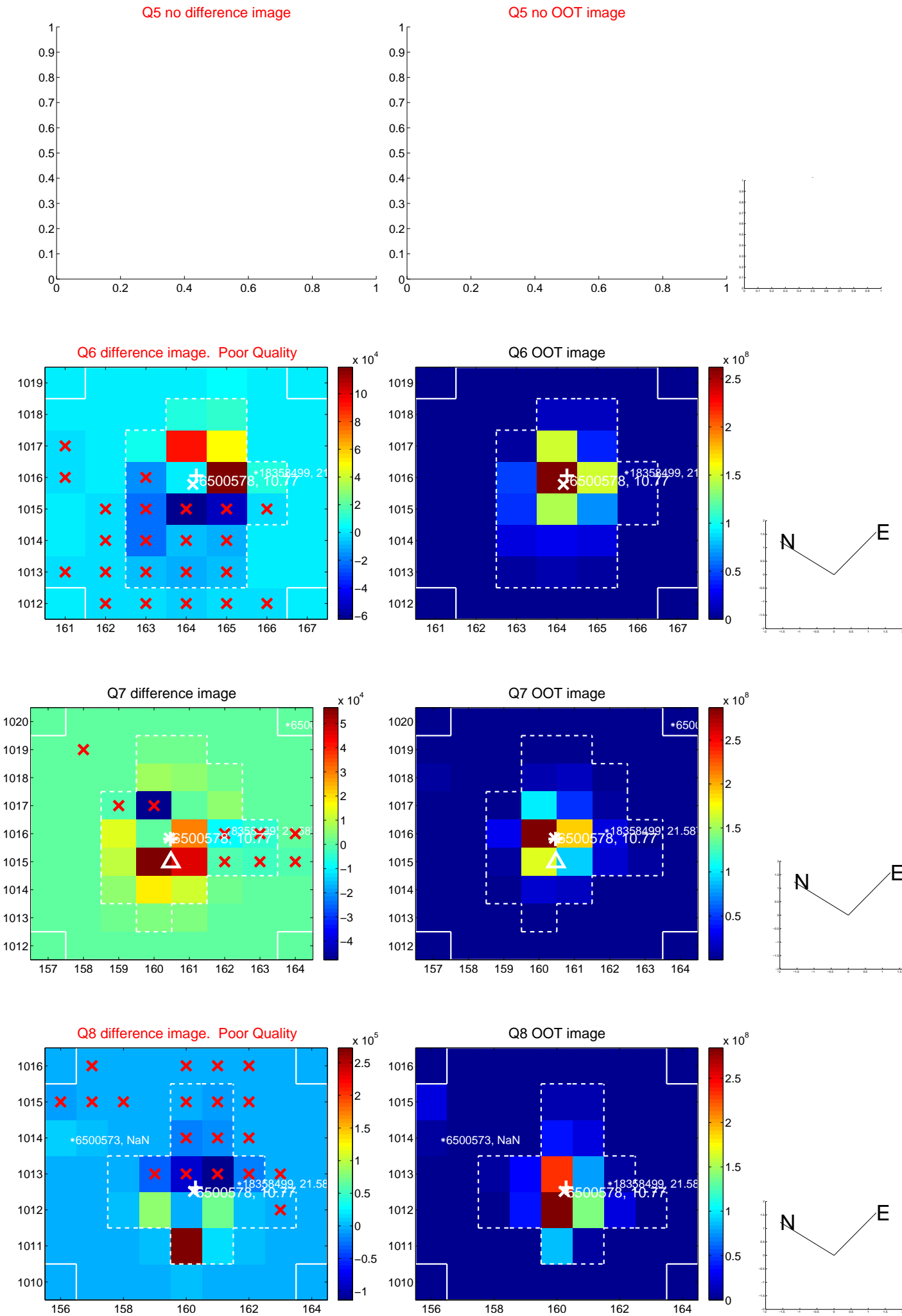


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

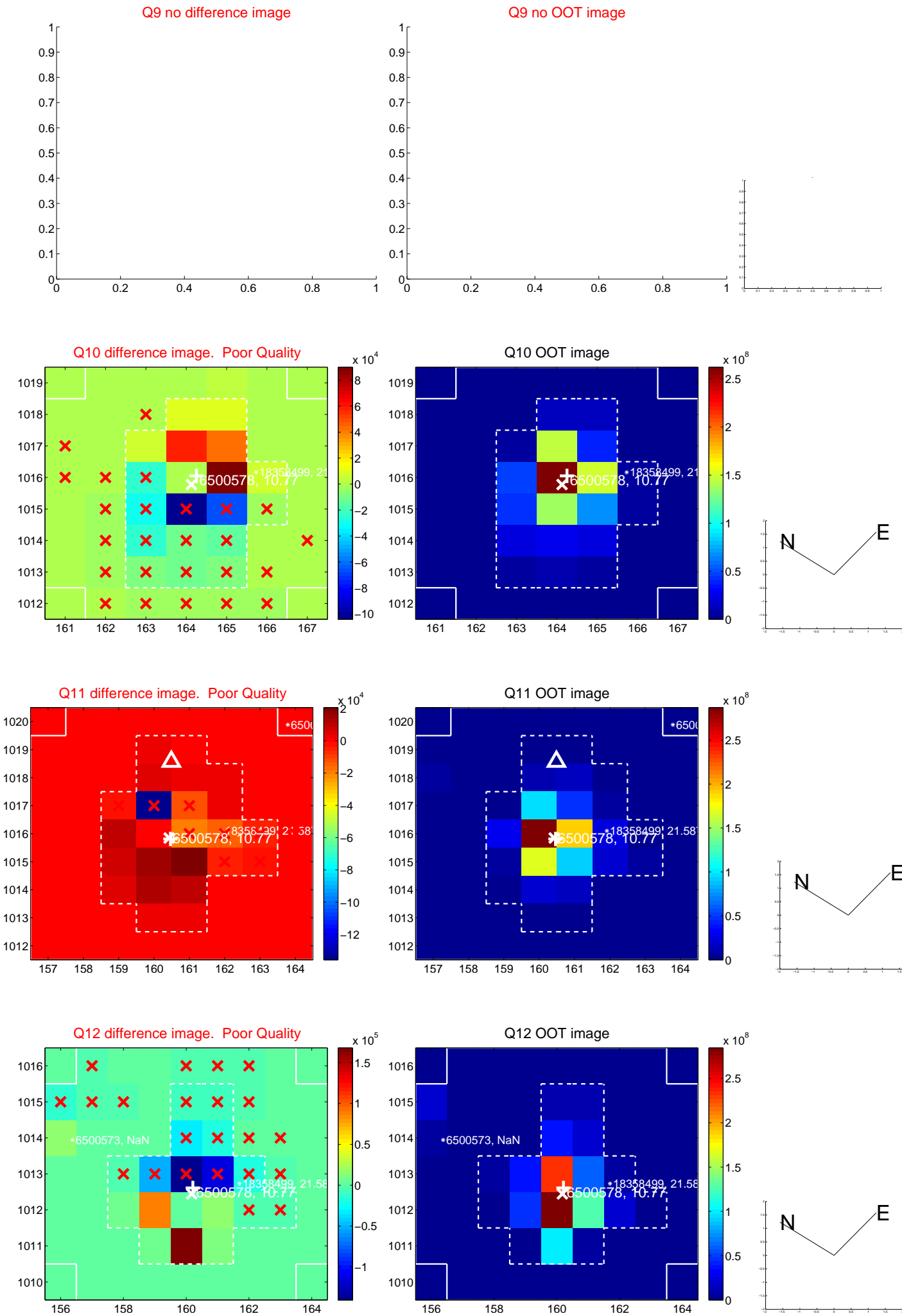
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



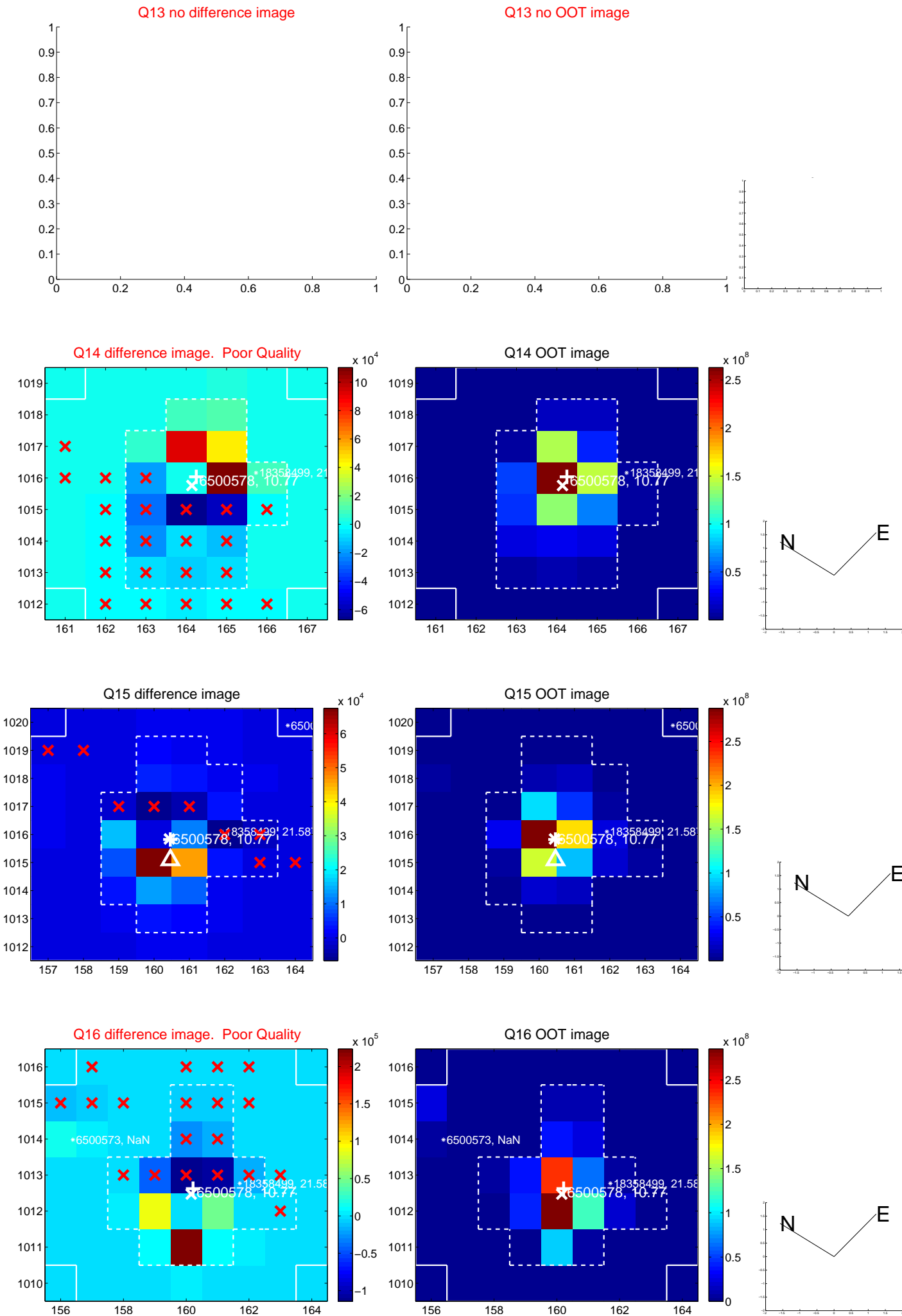
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



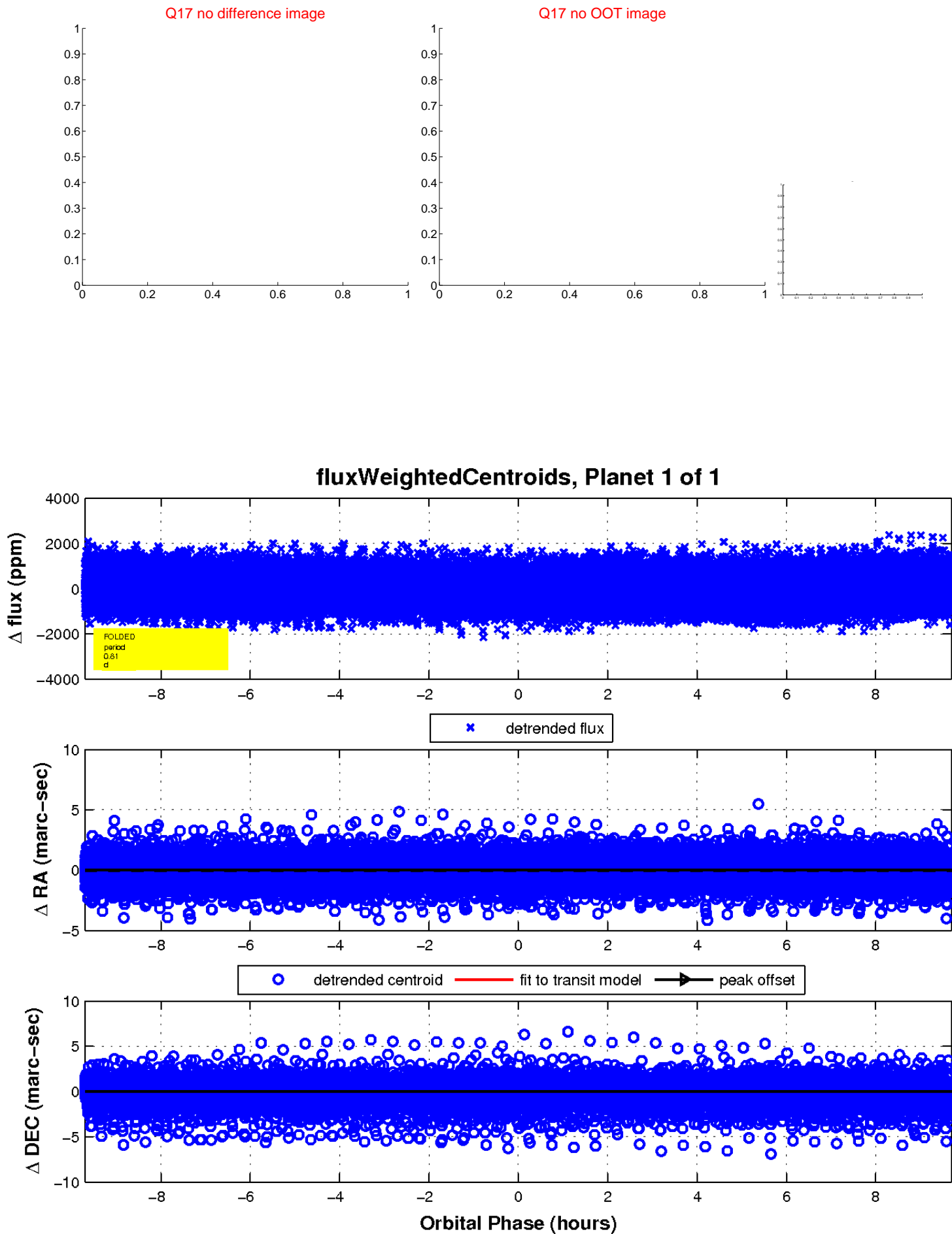
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

