

KIC 005520878

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})
005520878-01	OBS	No	265.619002	357.478287	412.8	0.934	23.3	0.2	2.11	7394	4.36	13.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005520878-01	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_SKYE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

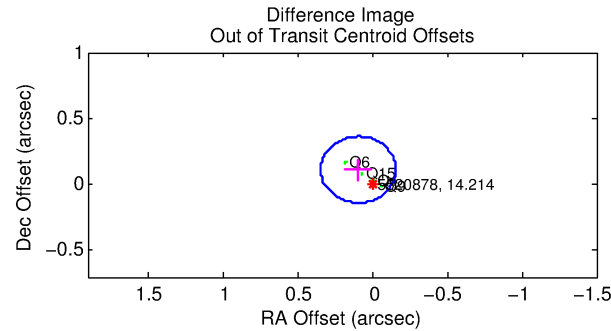
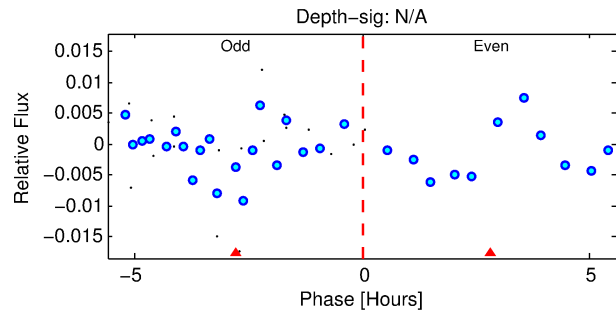
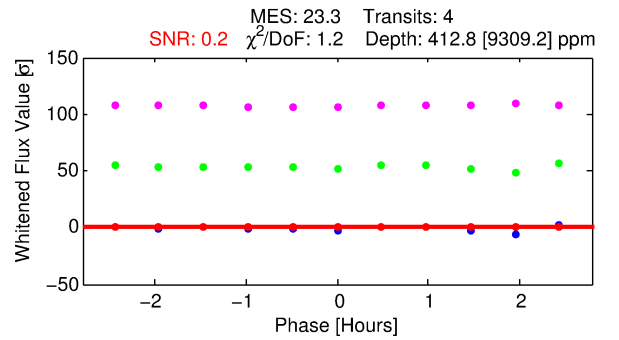
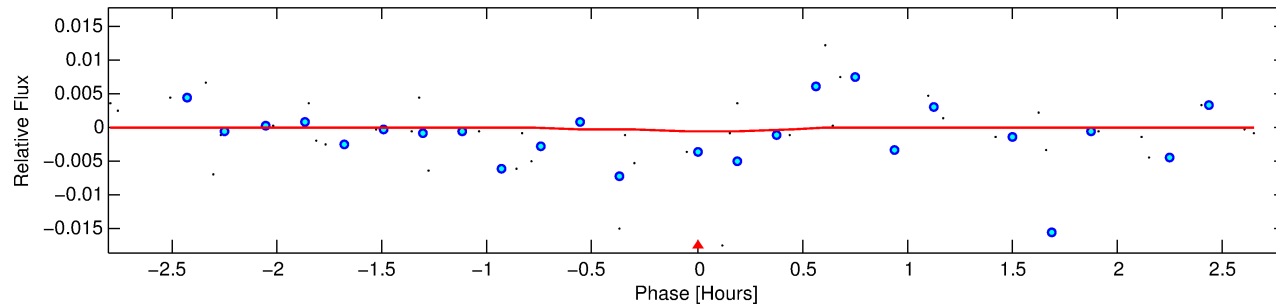
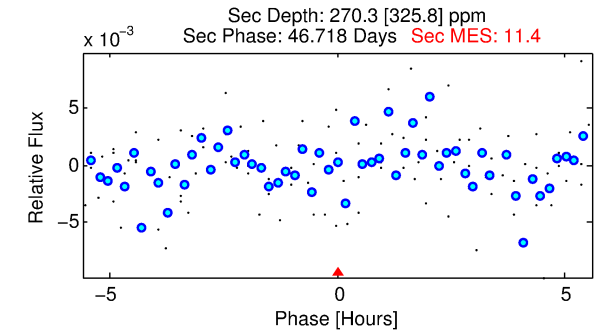
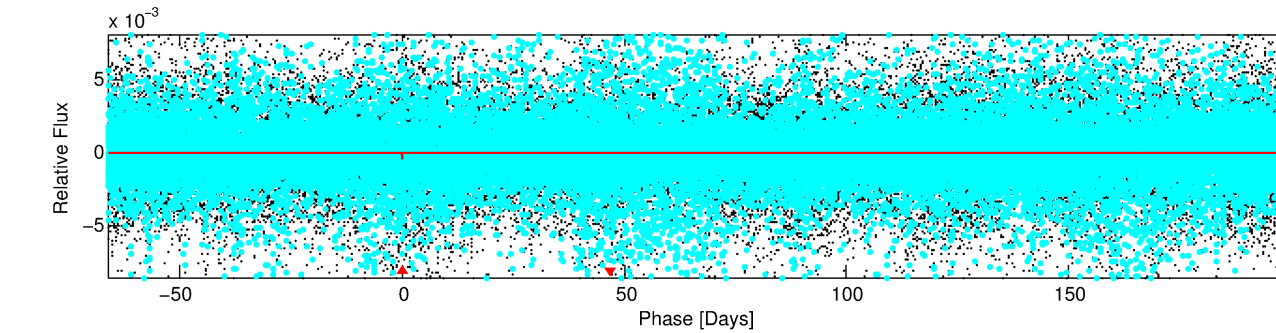
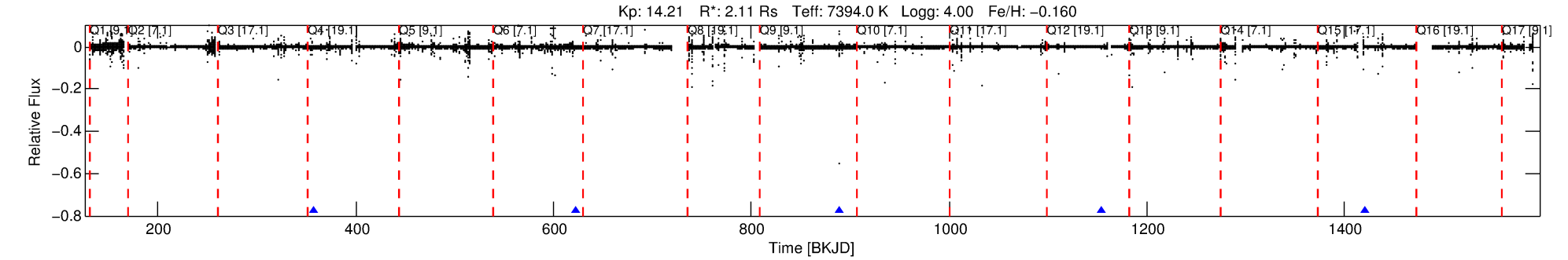
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005520878-01

No Significant Match Found

DV One-Page Summary

KIC: 5520878 Candidate: 1 of 1 Period: 265.619 d



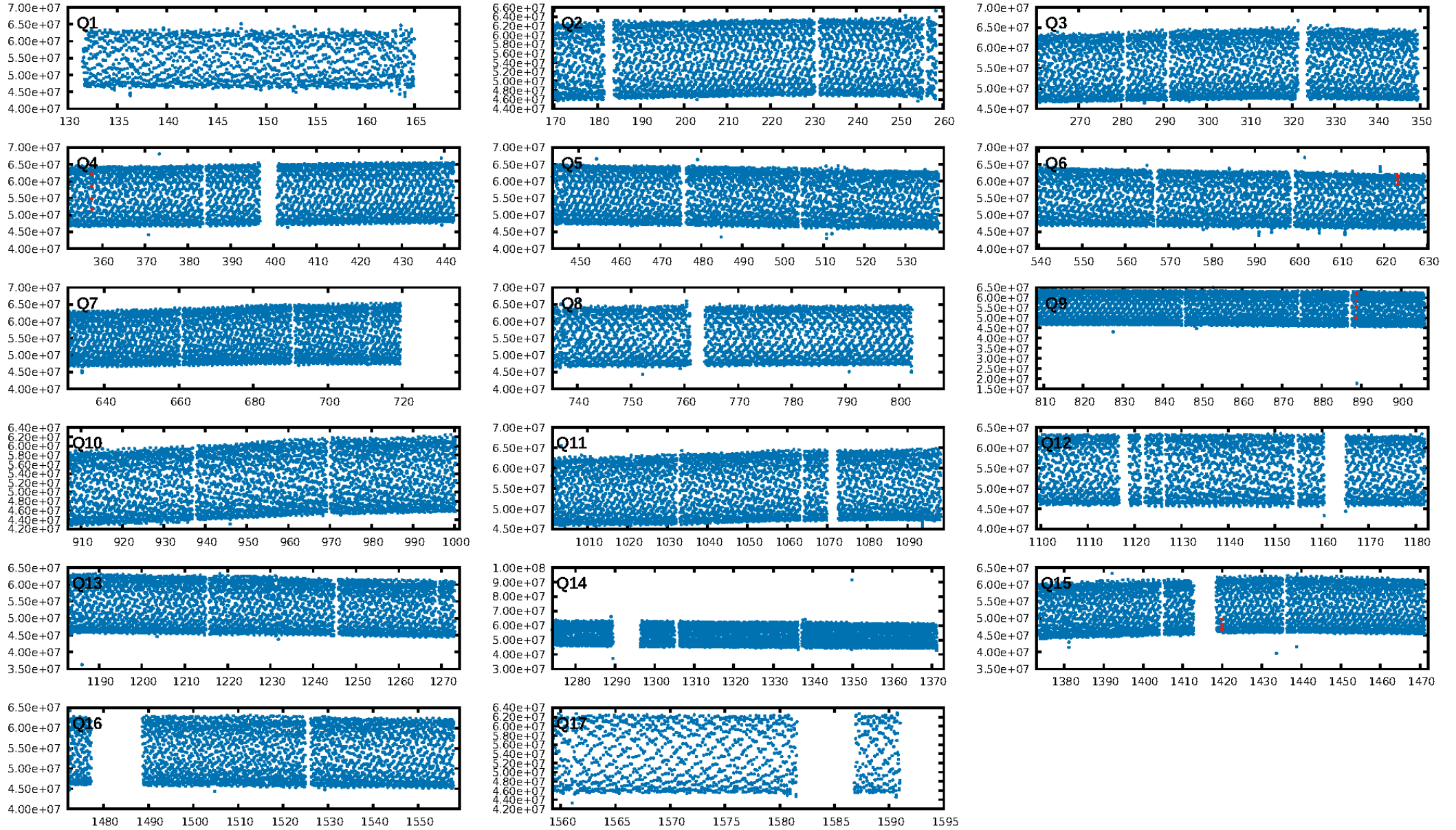
DV Fit Results:

Period = 265.61900 [0.18207] d
Epoch = 357.4783 [0.4431] BKJD
Rp/R* = 0.0189 [4.5241]
a/R* = 2209.80 [2841017.28]
b = 0.05 [24137.56]
Seff = 13.28 [5.93]
Teq = 487 [54] K
Rp = 4.36 [1042.67] Re
a = 0.9484 [0.2595] AU
Ag = 7027.67 [3359096.18] [0.00σ]
Teff = 6891 [823415] K [0.01σ]

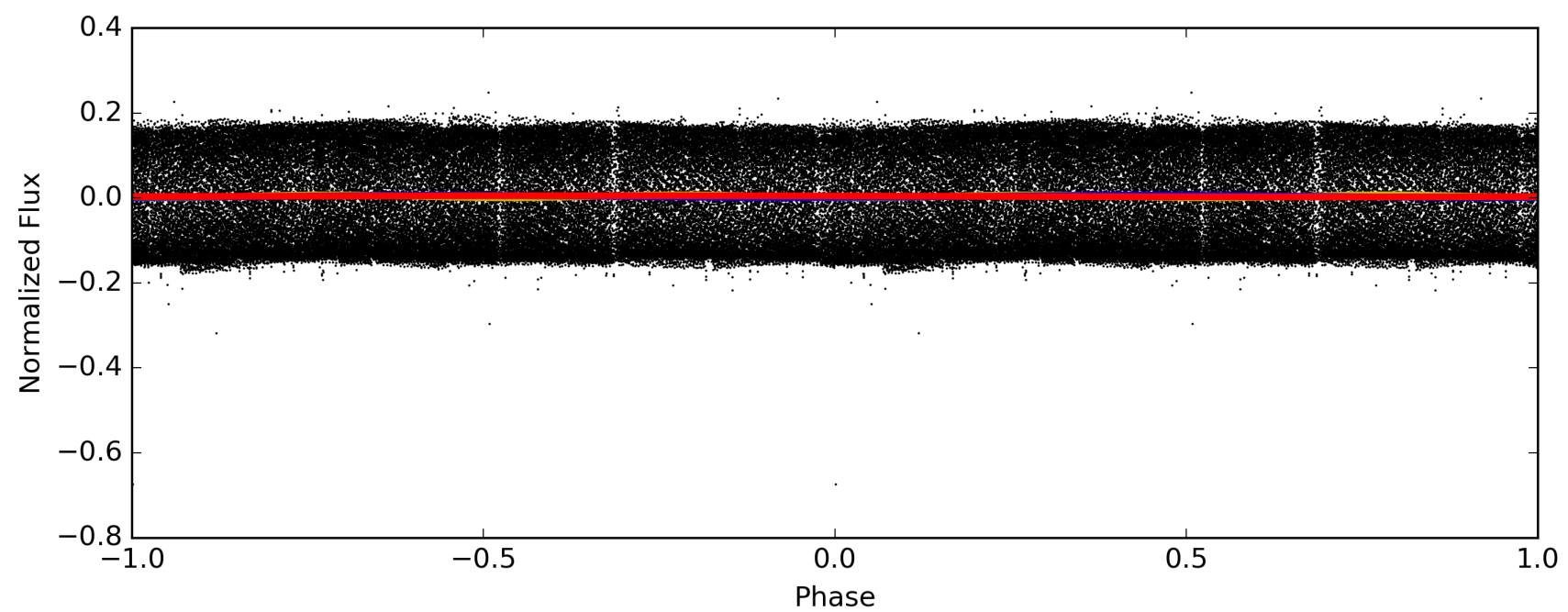
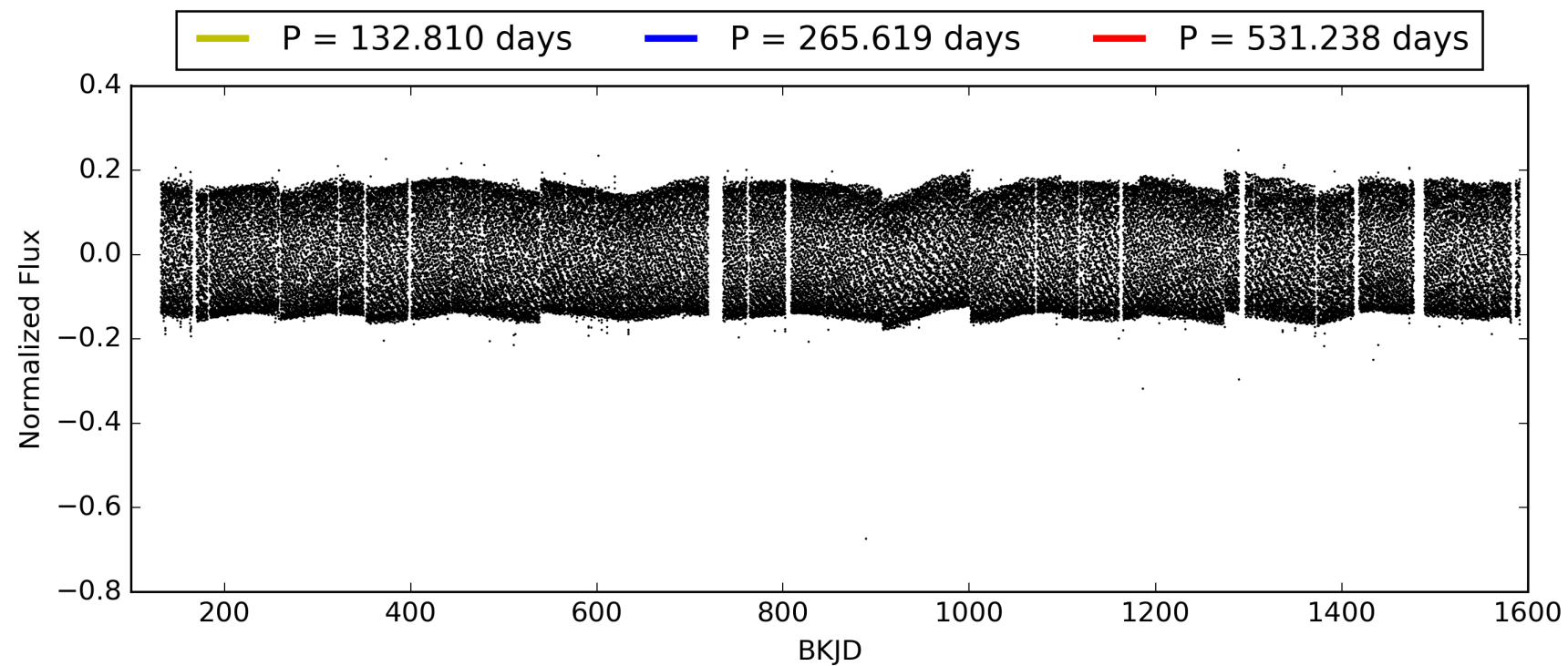
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 10.9%
ModelChiSquareGof-sig: 81.6%
Bootstrap-pfa: 2.75e-06
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.05937
Centroid-sig: 35.0%
Centroid-so: 1.978 arcsec [0.67σ]
OotOffset-rm: 0.146 arcsec [1.76σ]
KicOffset-rm: 0.282 arcsec [2.92σ]
OotOffset-st: 1/1/1/1 [4]
KicOffset-st: 1/1/1/1 [4]
DiffImageQuality-fgm: 0.25 [1/4]
DiffImageOverlap-fno: 1.00 [4/4]

TCE 005520878-01, PDC Light Curves

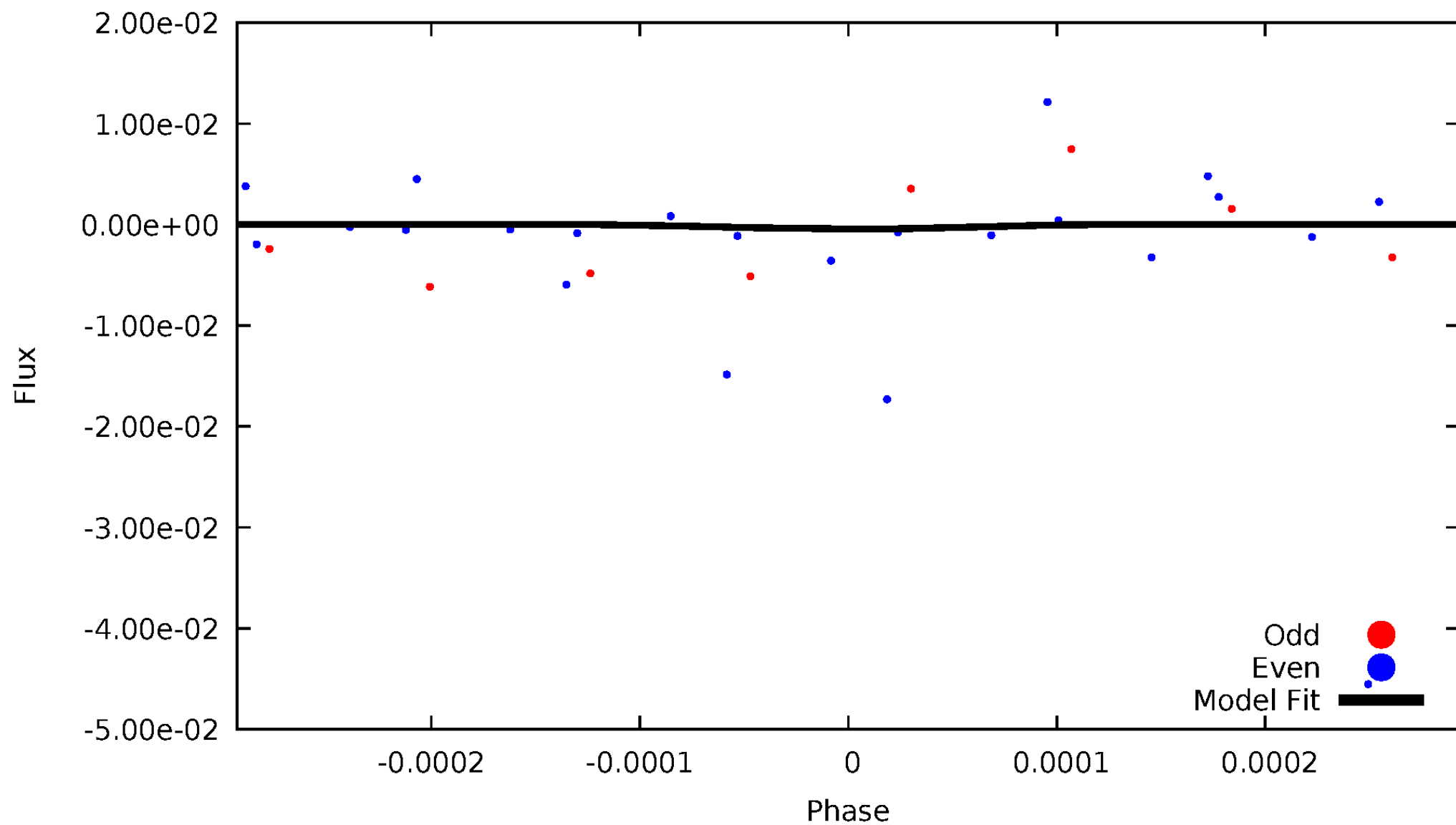


TCE 005520878-01



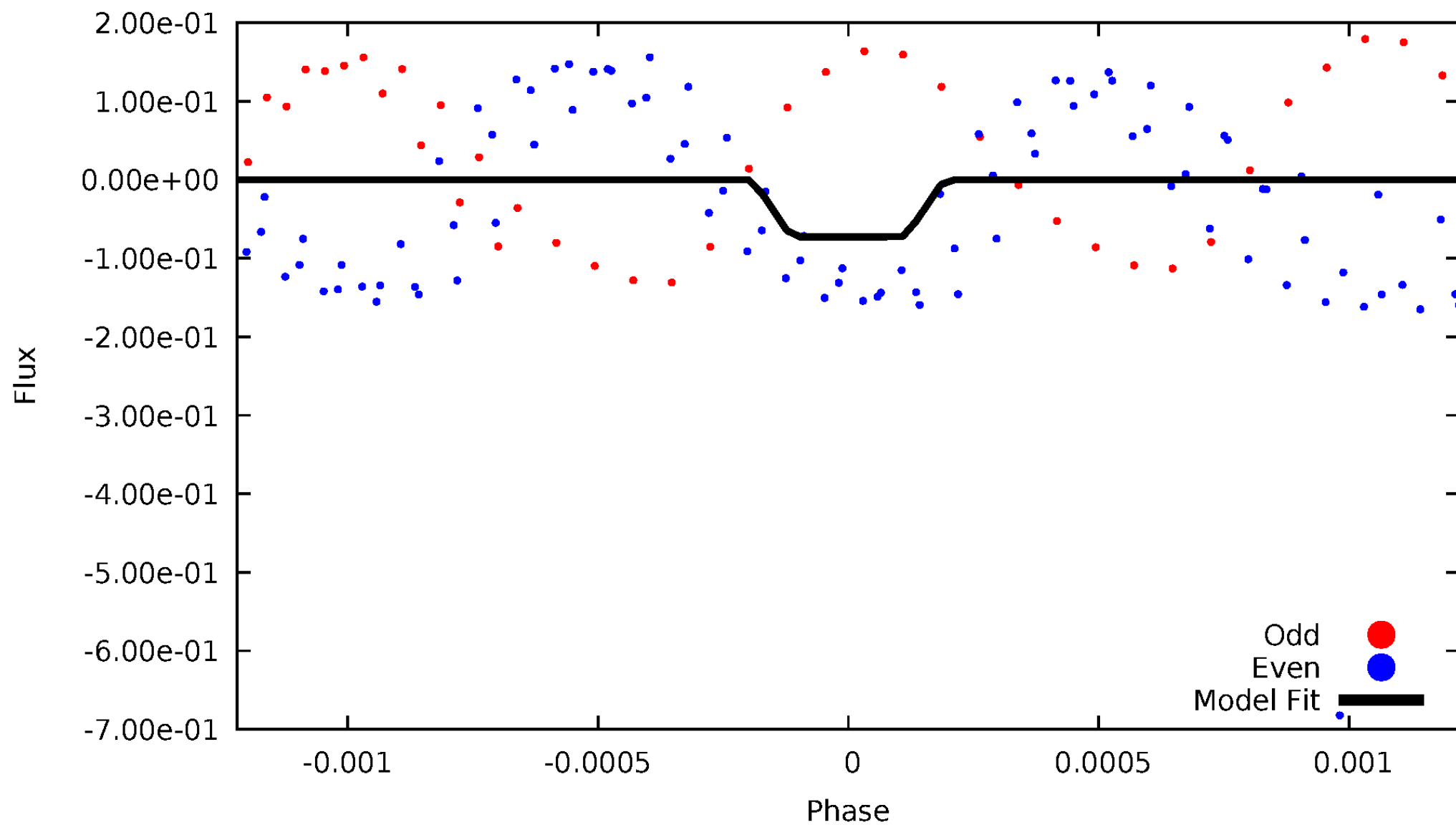
DV Odd/Even

TCE 005520878-01



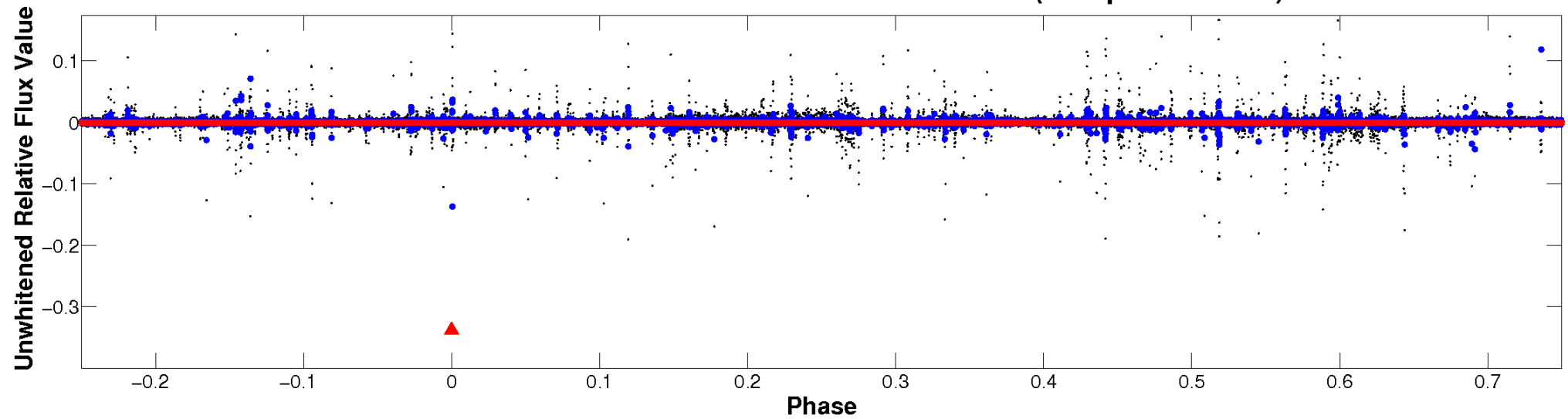
ALT Odd/Even

TCE 005520878-01

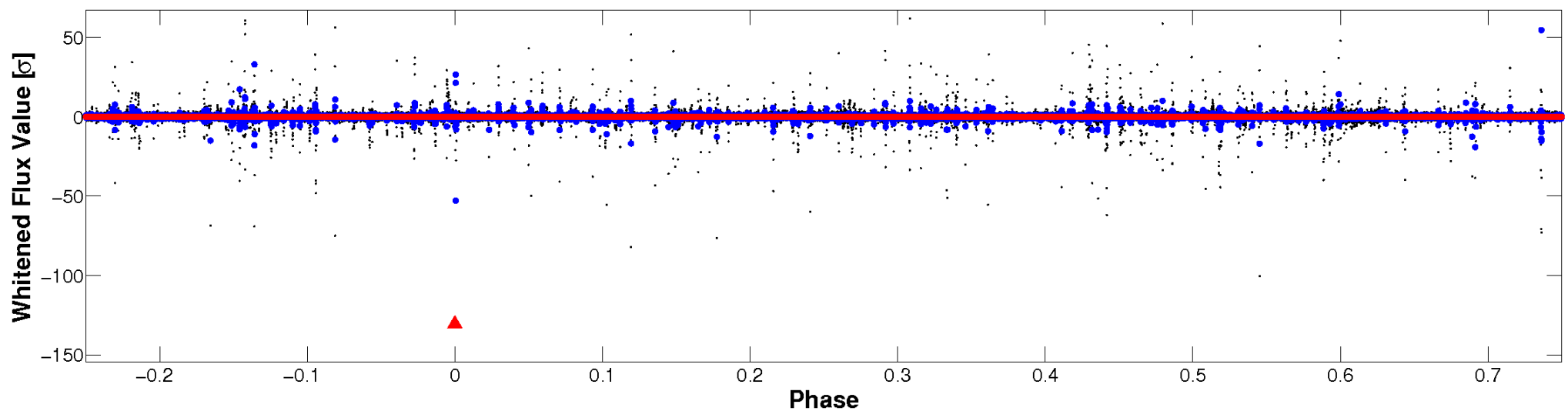


Non-Whitened Vs. Whitened Light Curve

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

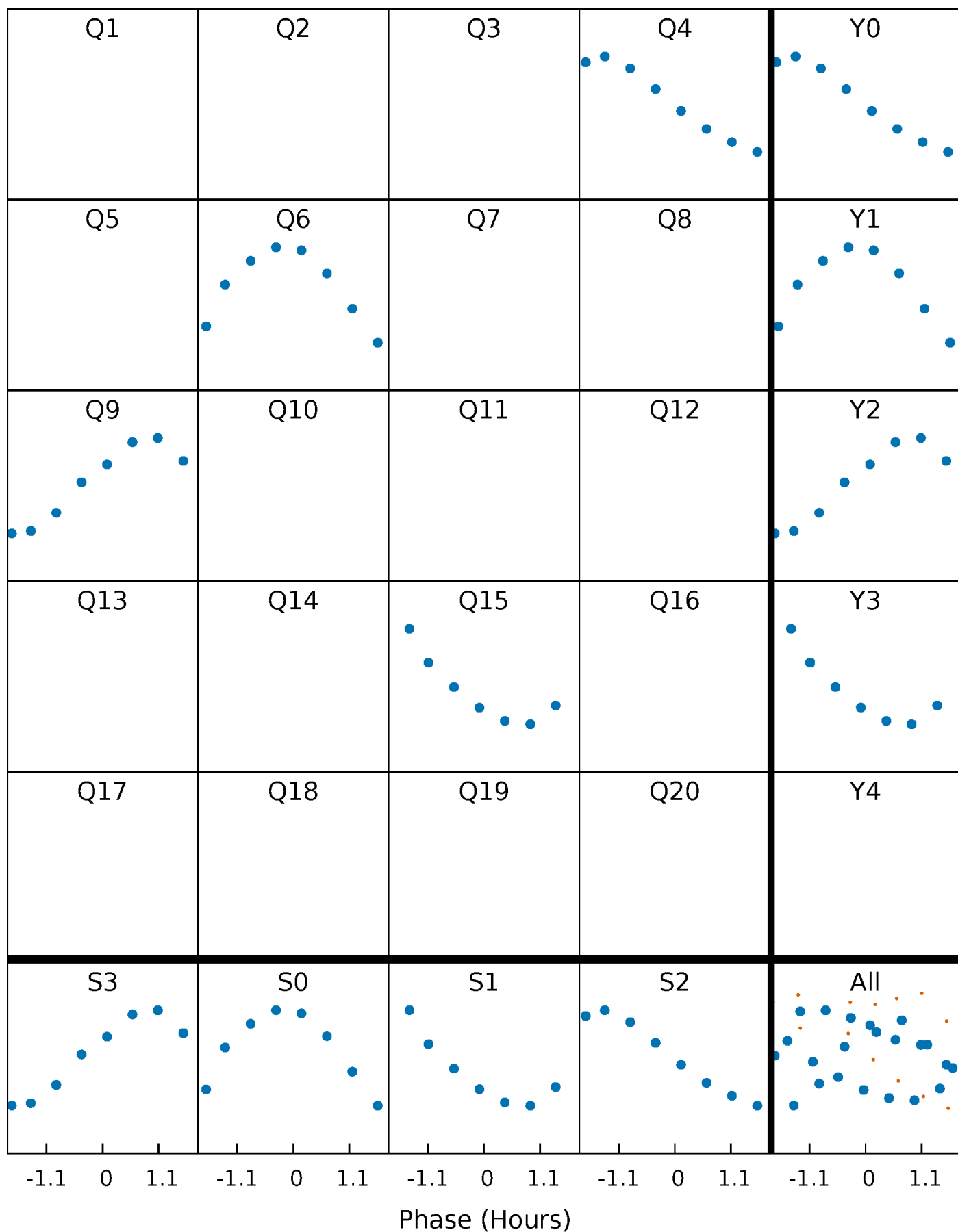


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



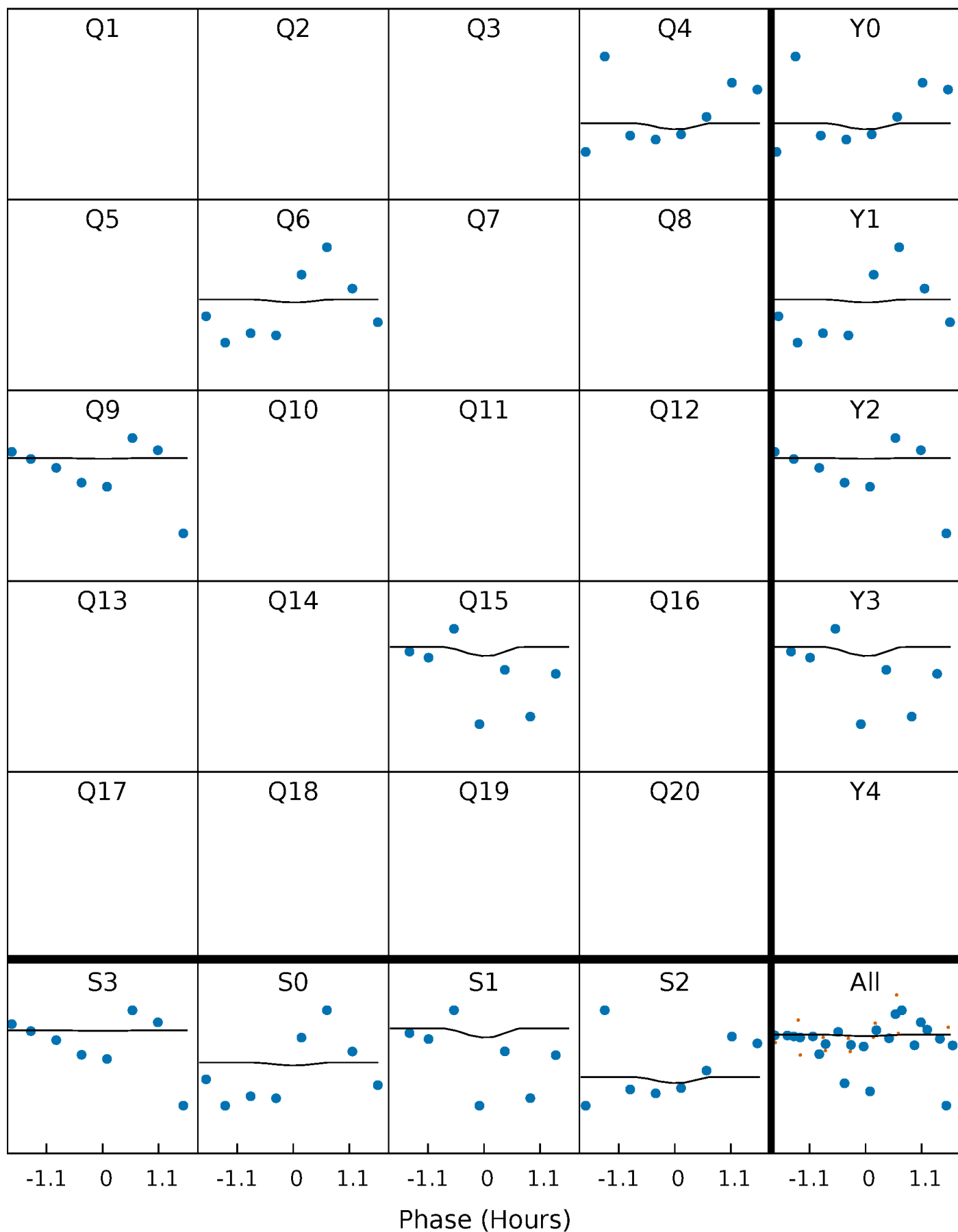
PDC Quarter-Phased Transit Curves

TCE 005520878-01 P=265.619002 Days $T_0=357.478287$ (BKJD)



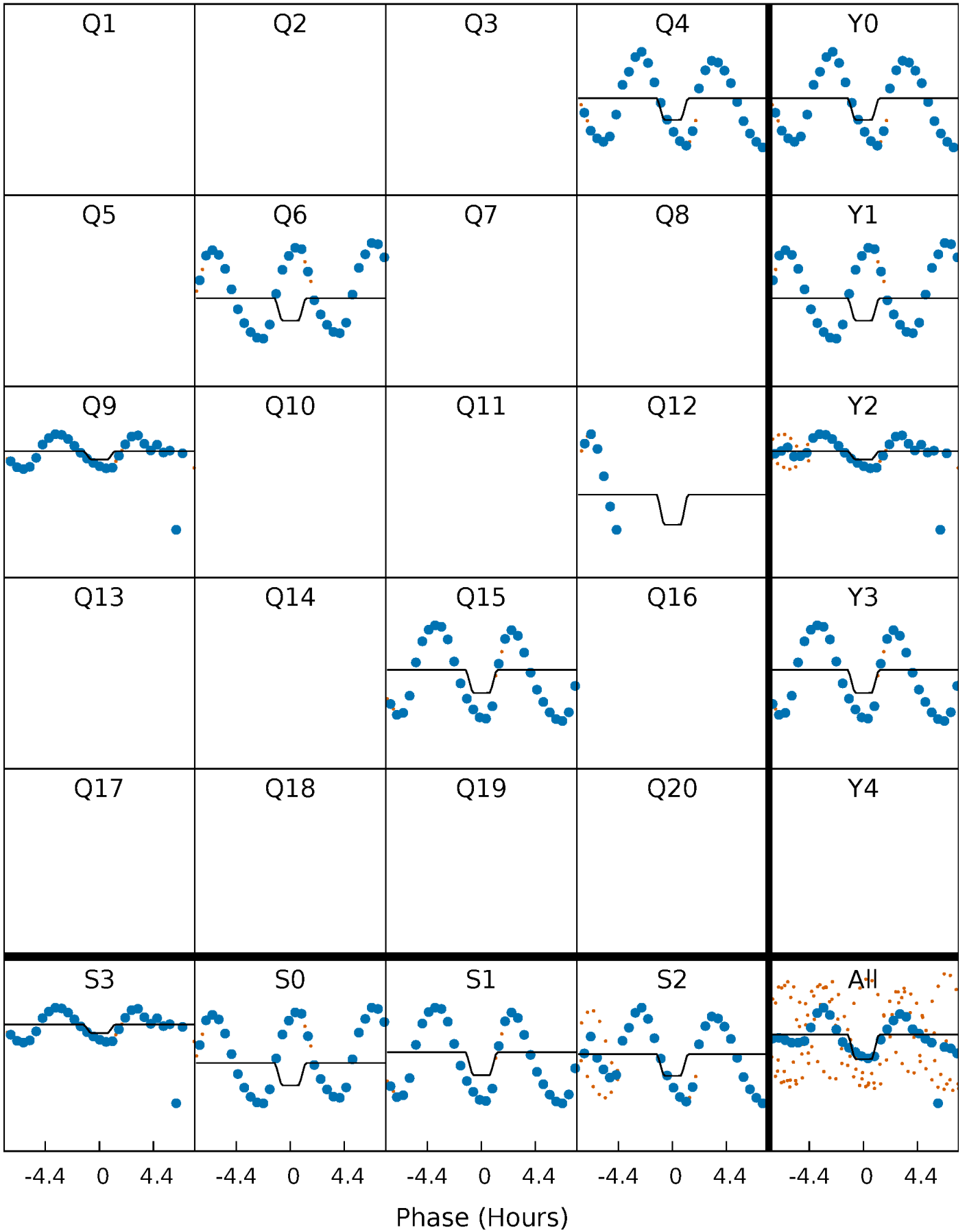
DV Quarter-Phased Transit Curves

TCE 005520878-01 P=265.619002 Days $T_0=357.478287$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

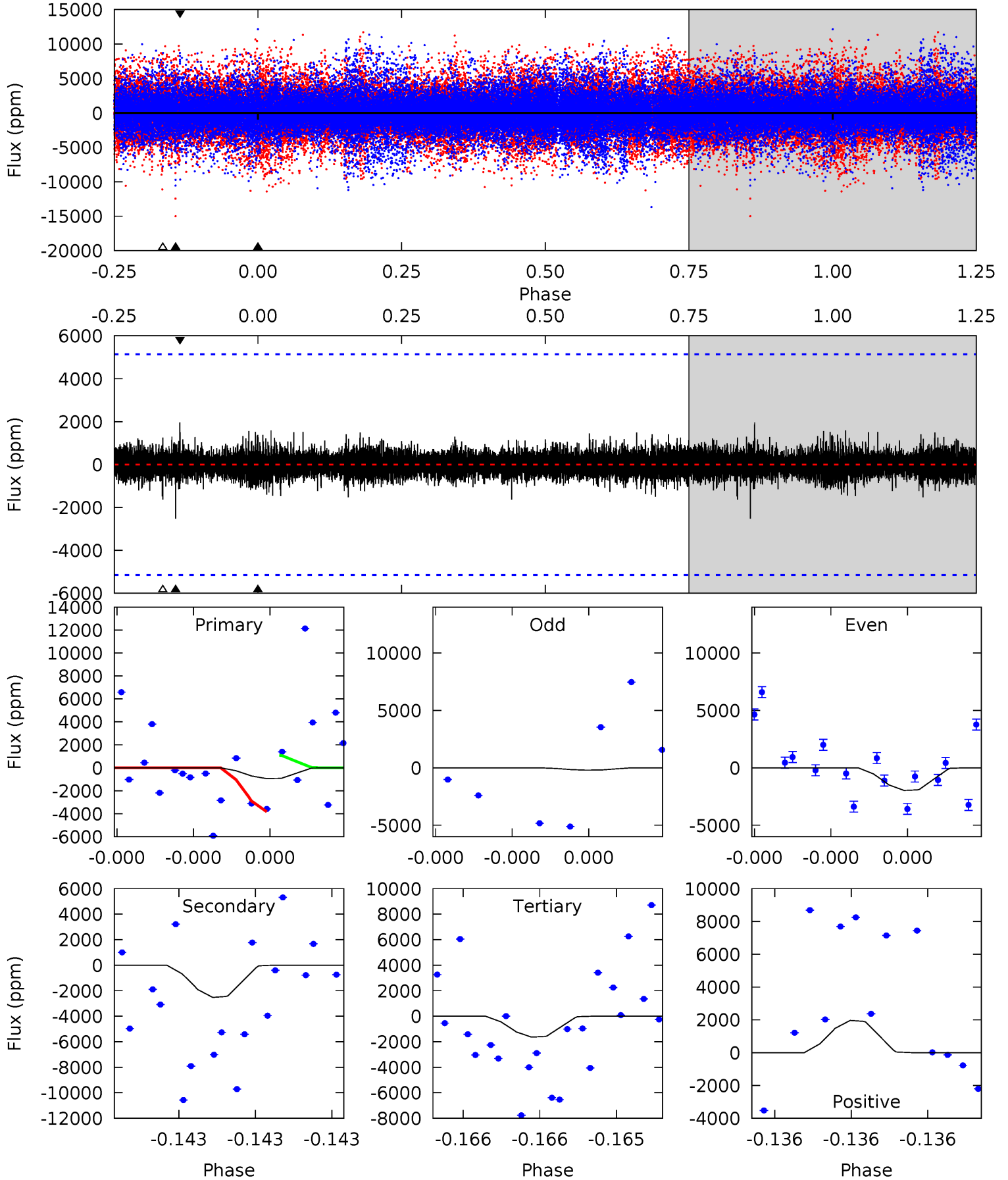
TCE 005520878-01 P=265.547735 Days $T_0=357.528592$ (BKJD)



DV Model-Shift Uniqueness Test

005520878-01, P = 265.619002 Days, E = 91.859285 Days

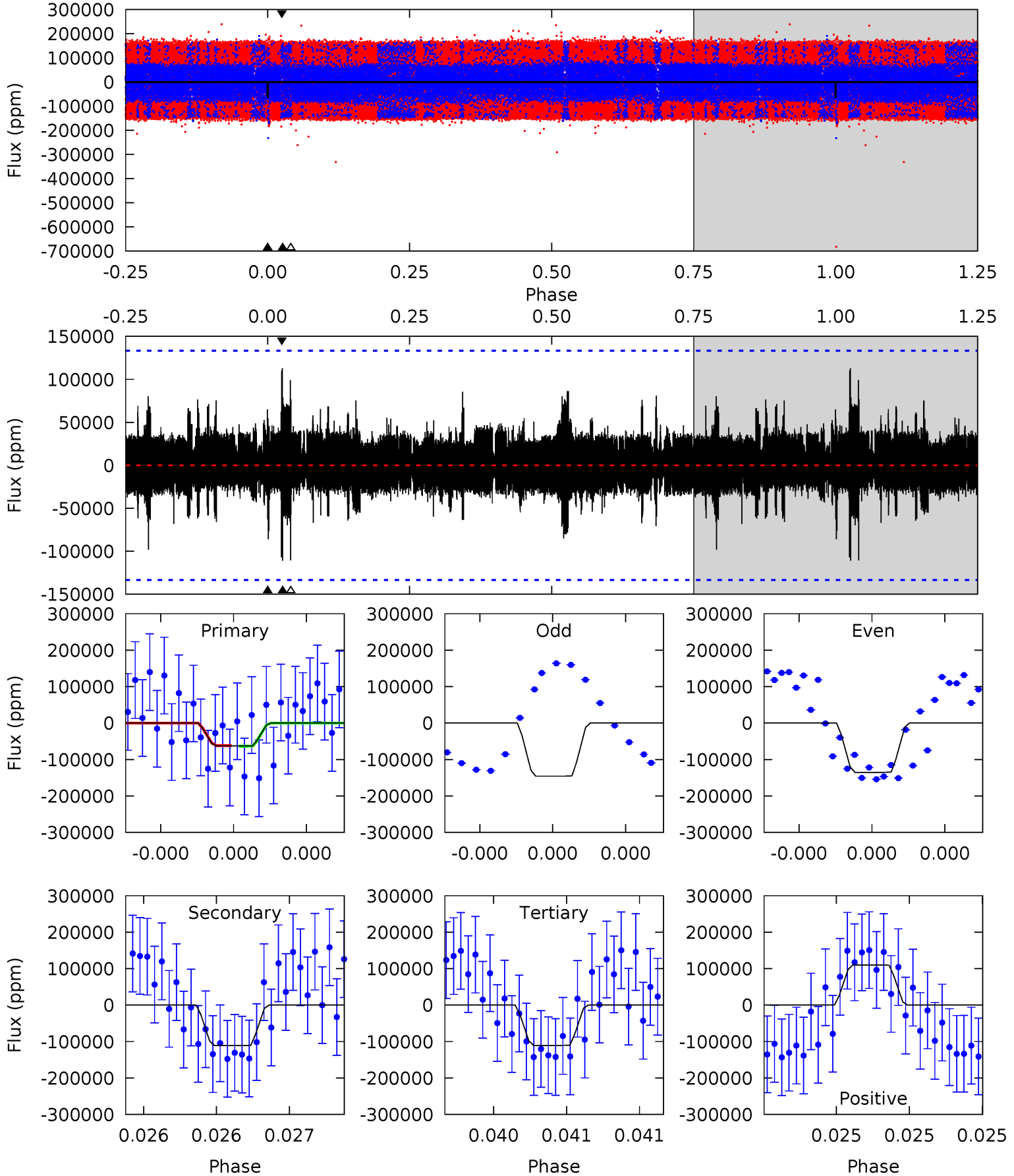
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.05	2.82	1.83	2.19	5.74	3.73	0.39	-0.78	-1.14	0.99	0.63	0.78	2.77	0.44	1.42



Alt Model-Shift Uniqueness Test

005520878-01, P = 265.547735 Days, E = 91.980857 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.63	4.67	4.65	4.63	5.61	3.53	0.89	-2.02	-2.00	0.02	0.04	0.19	0.49	0.50	0.03



Stellar Parameters For KIC 005520878

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7394^{+230}_{-307}	$3.996^{+0.234}_{-0.156}$	$-0.160^{+0.250}_{-0.350}$	$2.112^{+0.535}_{-0.654}$	$1.611^{+0.197}_{-0.296}$	$0.241^{+0.337}_{-0.106}$
	+3%/-4%	+6%/-4%	+156%/-219%	+25%/-31%	+12%/-18%	+140%/-44%
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 005520878-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2526 ± 896	$675.59^{+783.72}_{-481.36}$	672^{+55}_{-54}	1910^{+646}_{-330}	$2.575^{+29.138}_{-2.056}$
Alt.	-110991 ± 23775	$731.25^{+806.06}_{-518.46}$	678^{+48}_{-50}	3053^{+1604}_{-557}	111^{+1222}_{-85}

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

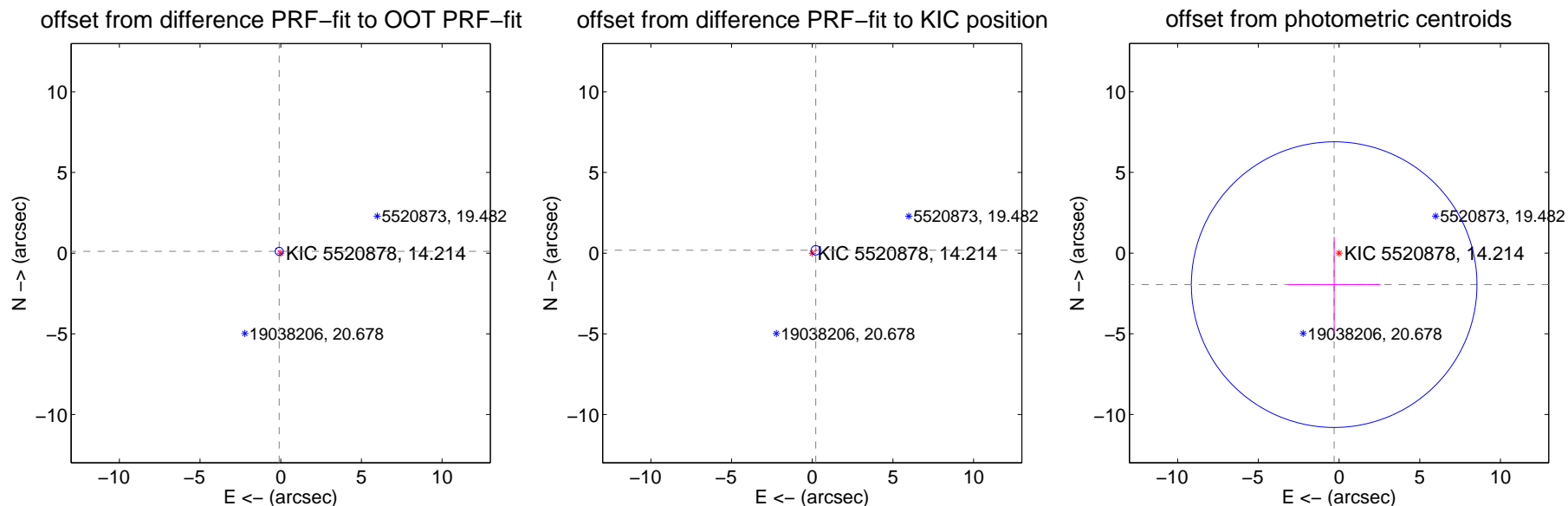
DV Centroid Data

Supplemental centroid analysis for 005520878-01. Kepler magnitude: 14.21. Transit SNR 0.24

There are 1 quarters with good PRF difference image offsets

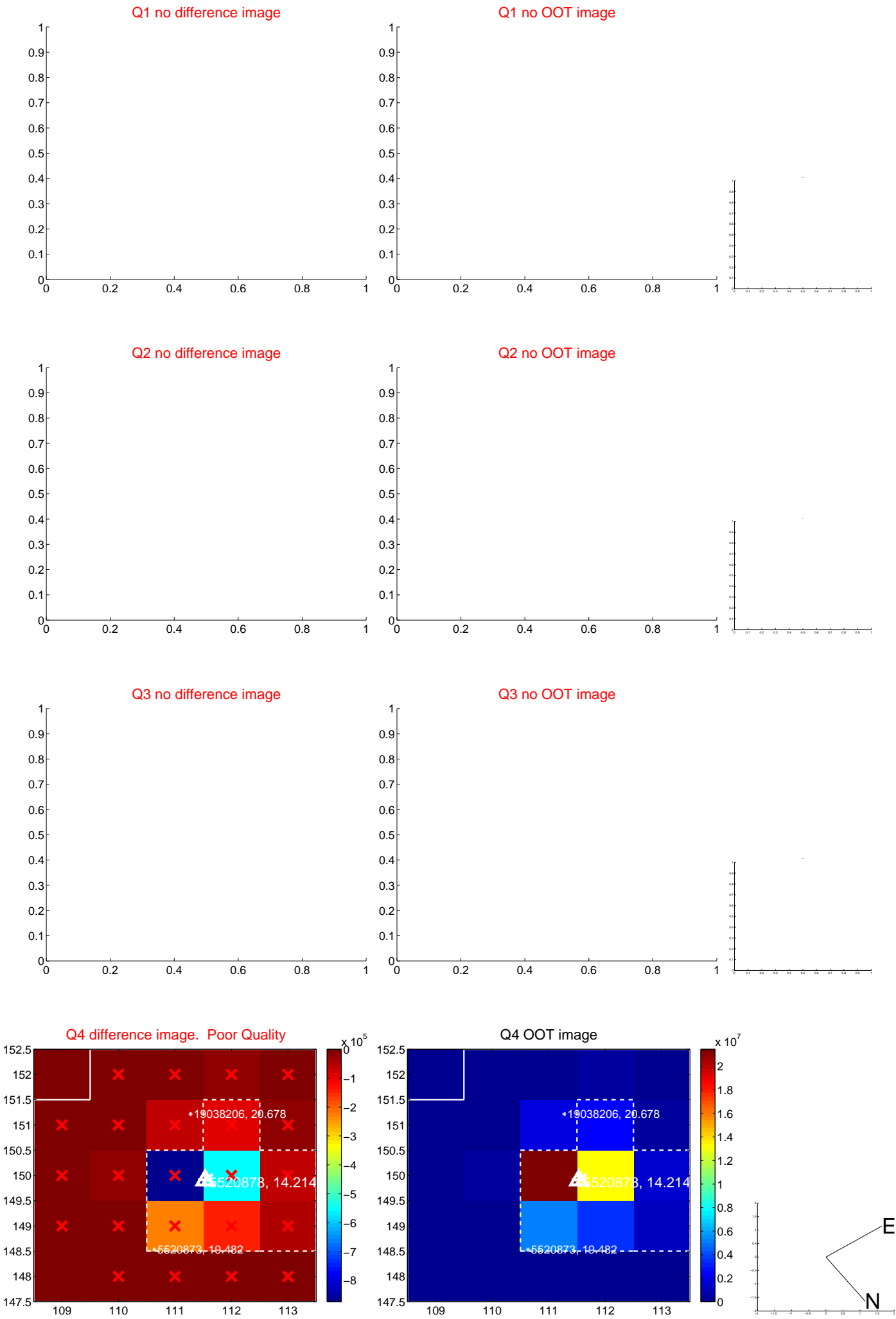
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.146 ± 0.083	1.76	0.094 ± 0.088	0.112 ± 0.080
PRF-fit source offset from KIC position	0.282 ± 0.097	2.92	-0.218 ± 0.069	0.179 ± 0.110
photometric centroid source offset	1.98 ± 2.95	0.67	0.30 ± 2.87	-1.95 ± 2.95

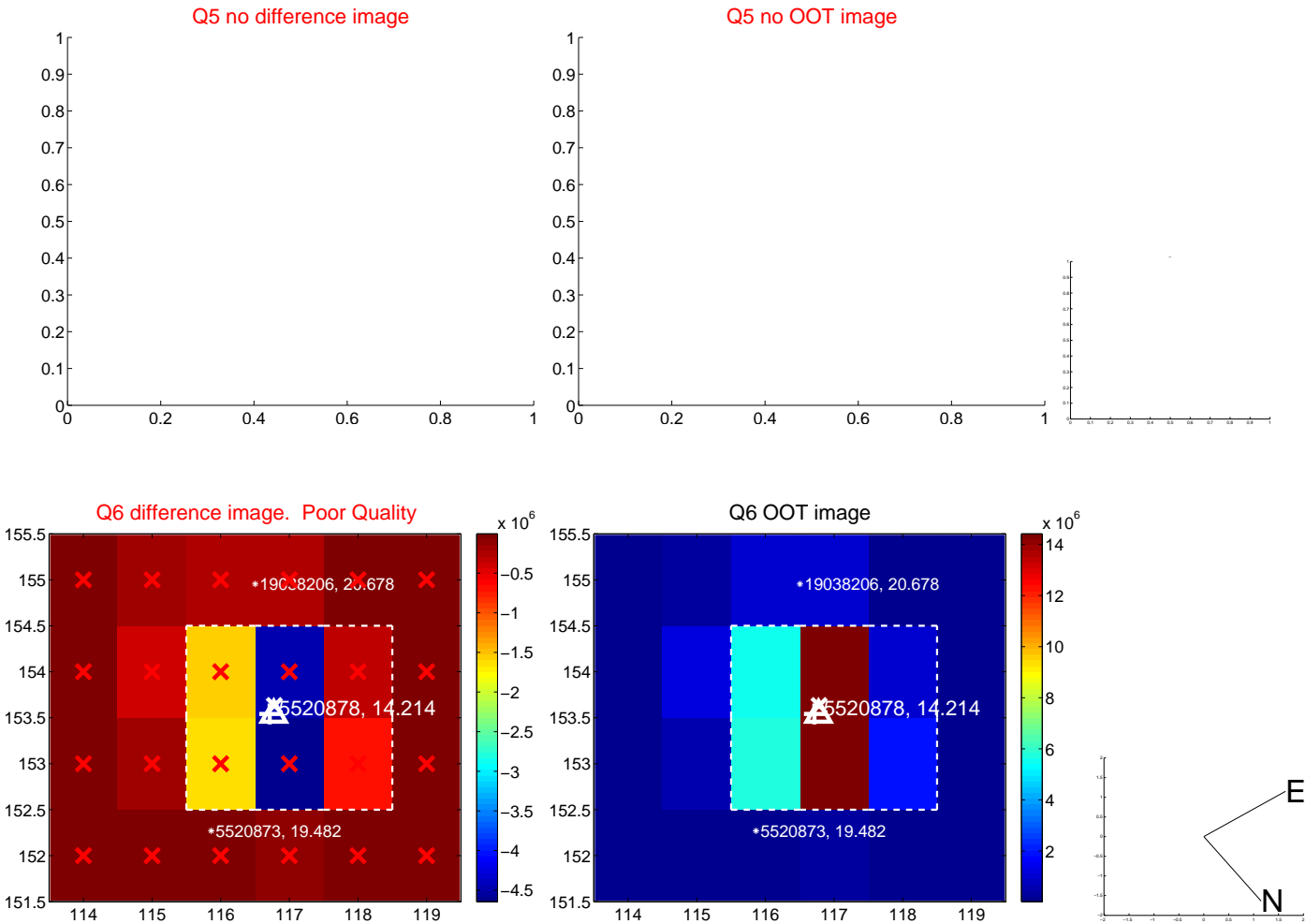


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

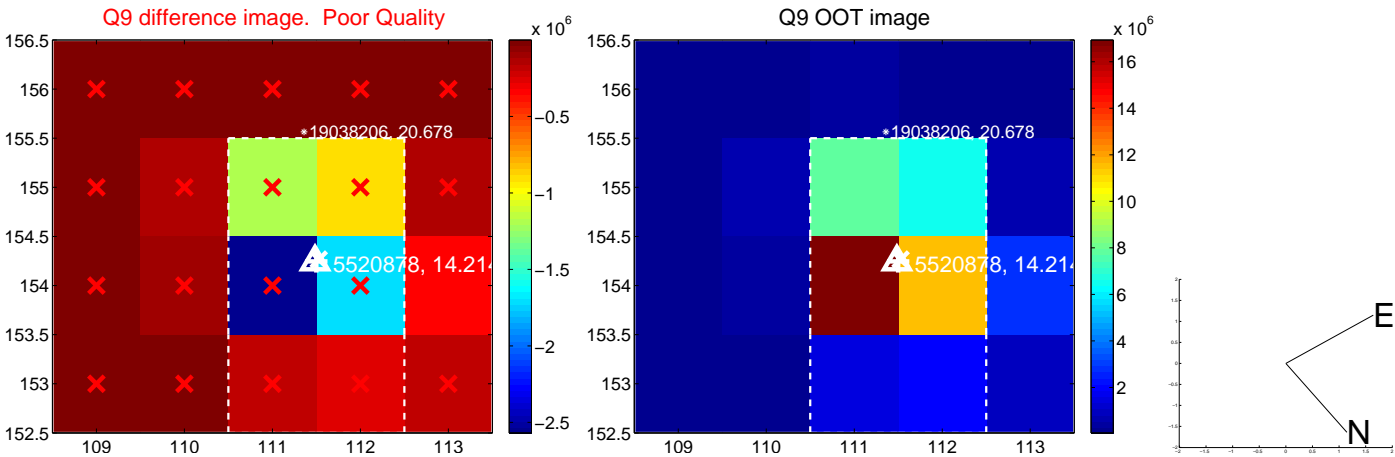
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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.



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

Q13 no difference image



Q13 no OOT image



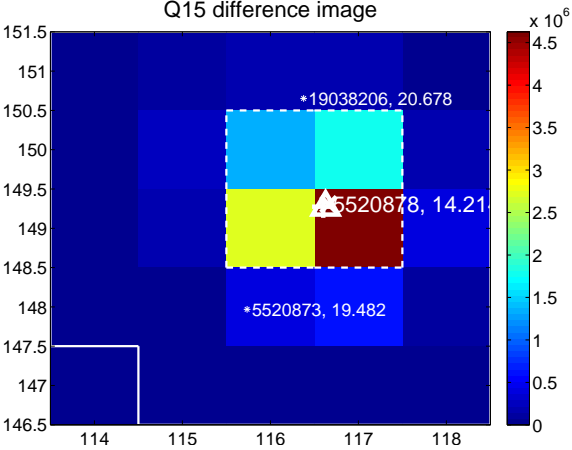
Q14 no difference image



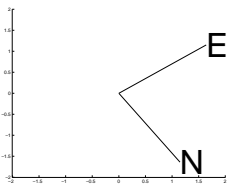
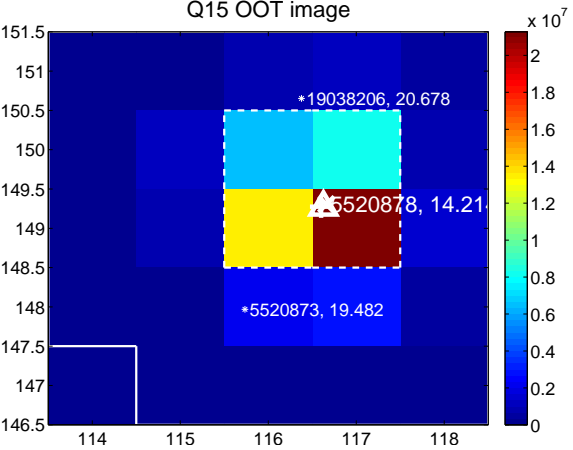
Q14 no OOT image



Q15 difference image



Q15 OOT image



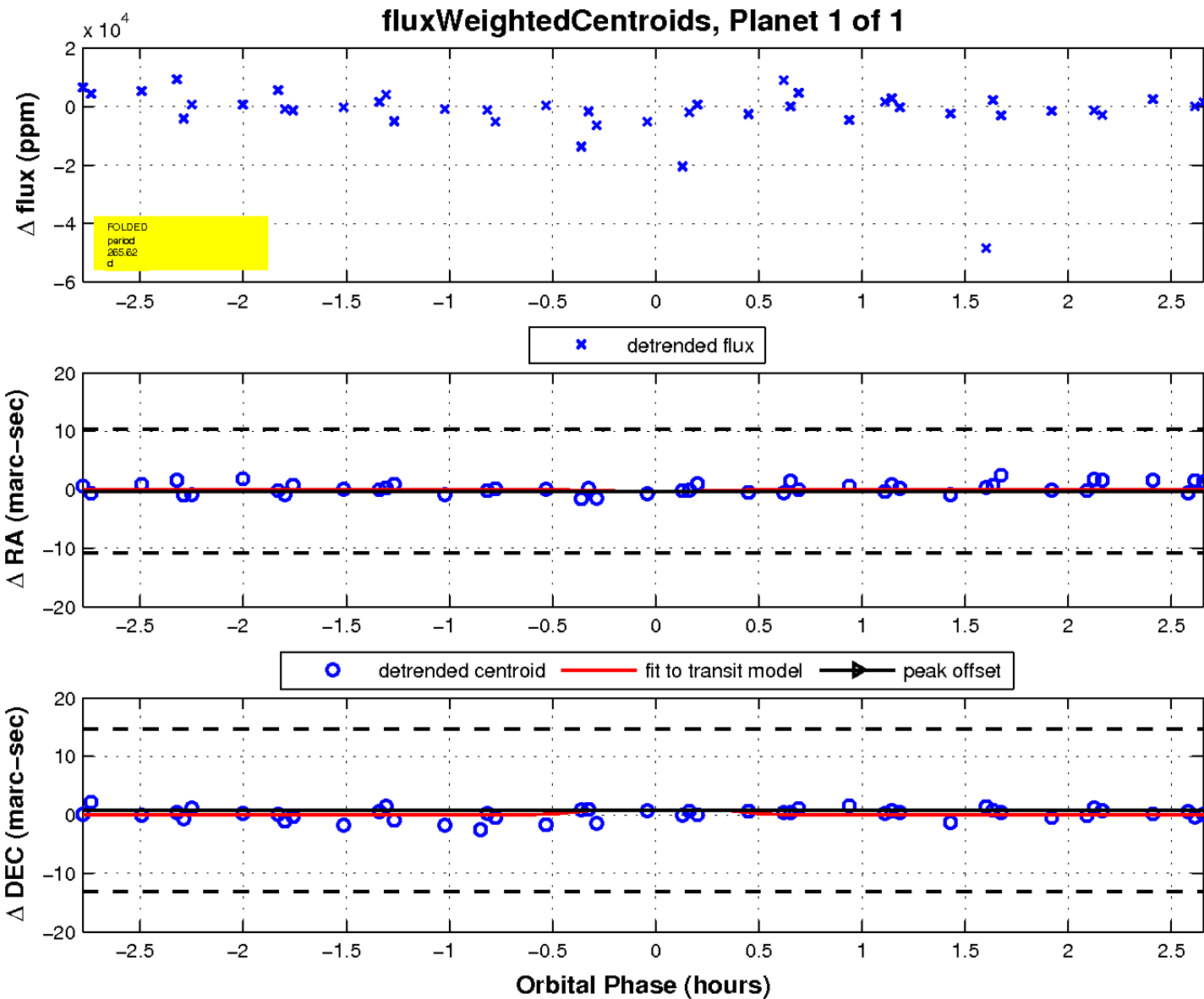
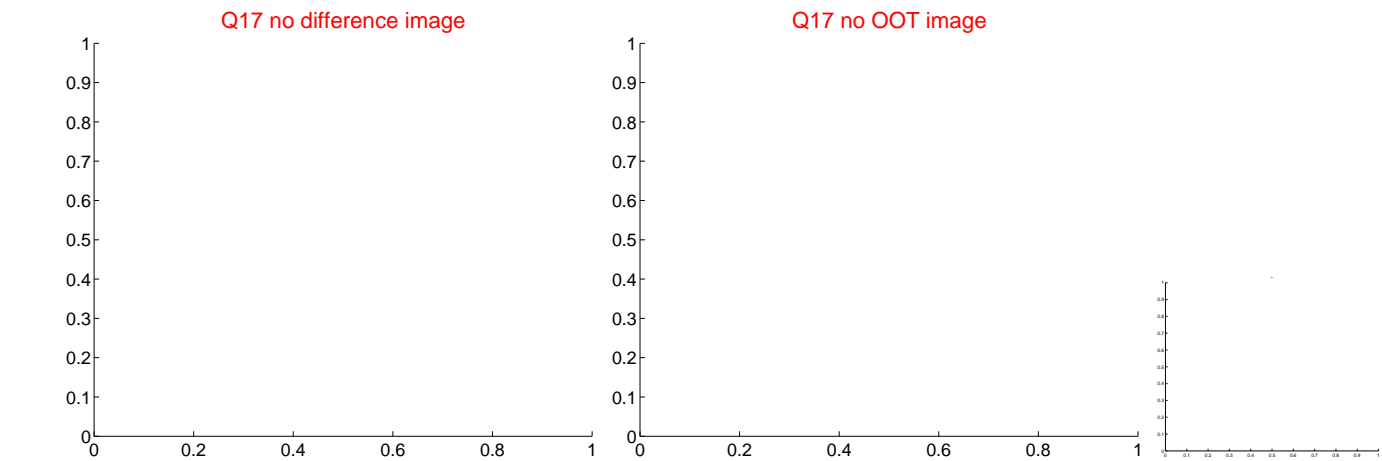
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

