

KIC 009777793

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})
009777793-01	OBS	No	13.270625	136.353054	68.5	35.235	7.6	9.2	1.15	6466	1.00	155.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009777793-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_KIC_POS

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

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

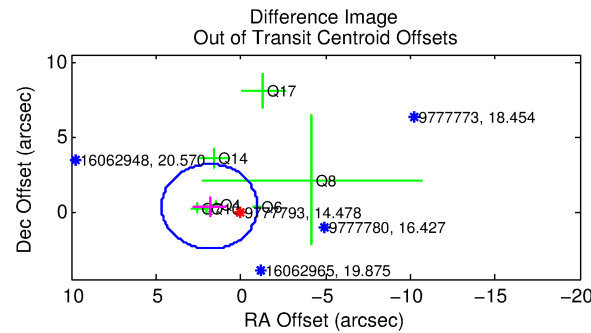
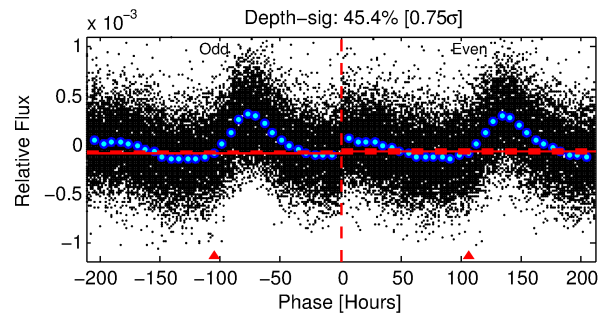
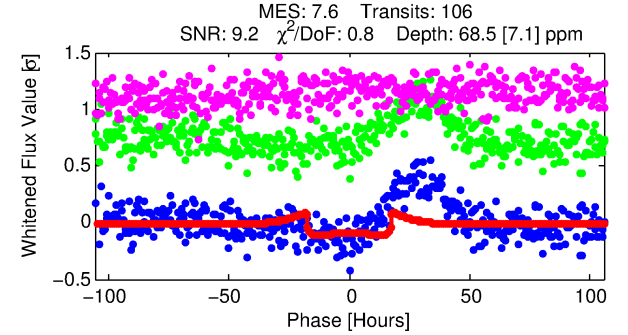
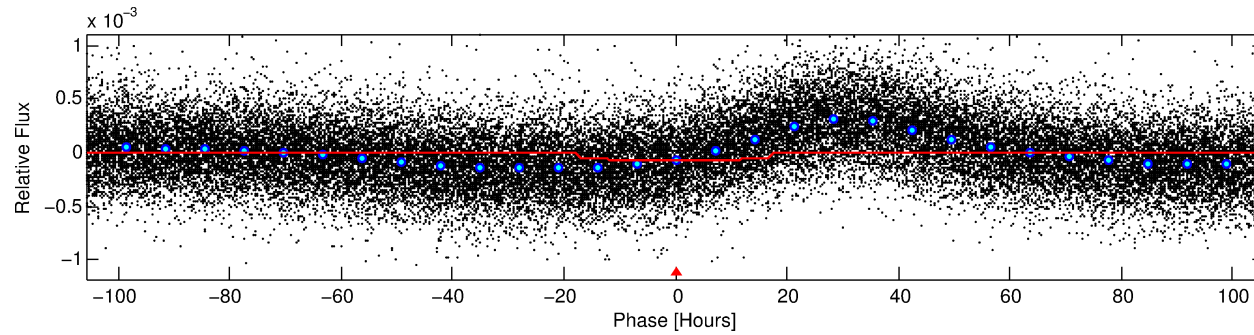
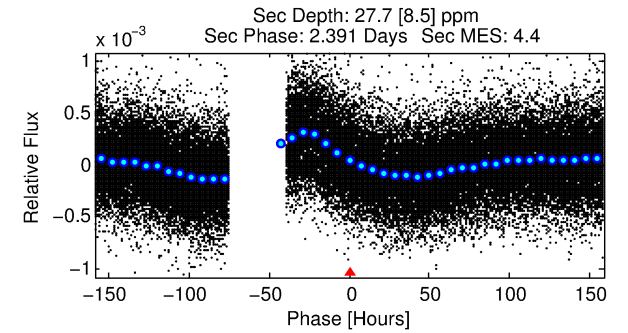
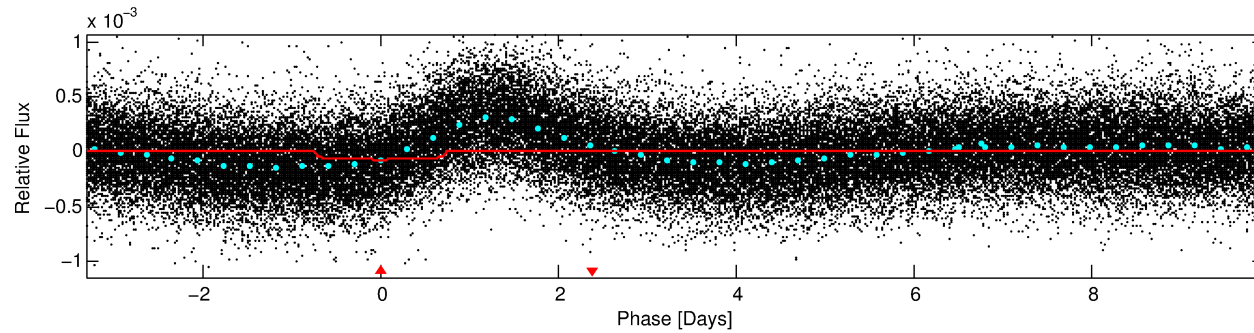
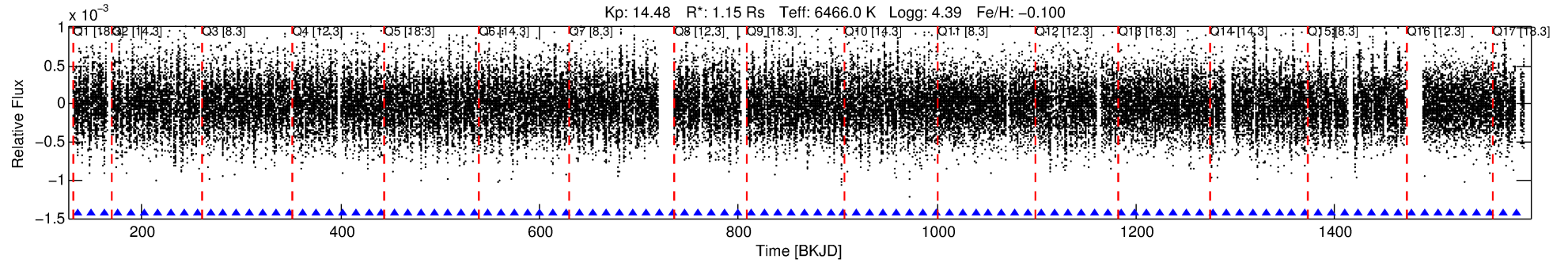
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009777793-01

No Significant Match Found

DV One-Page Summary

KIC: 9777793 Candidate: 1 of 1 Period: 13.271 d



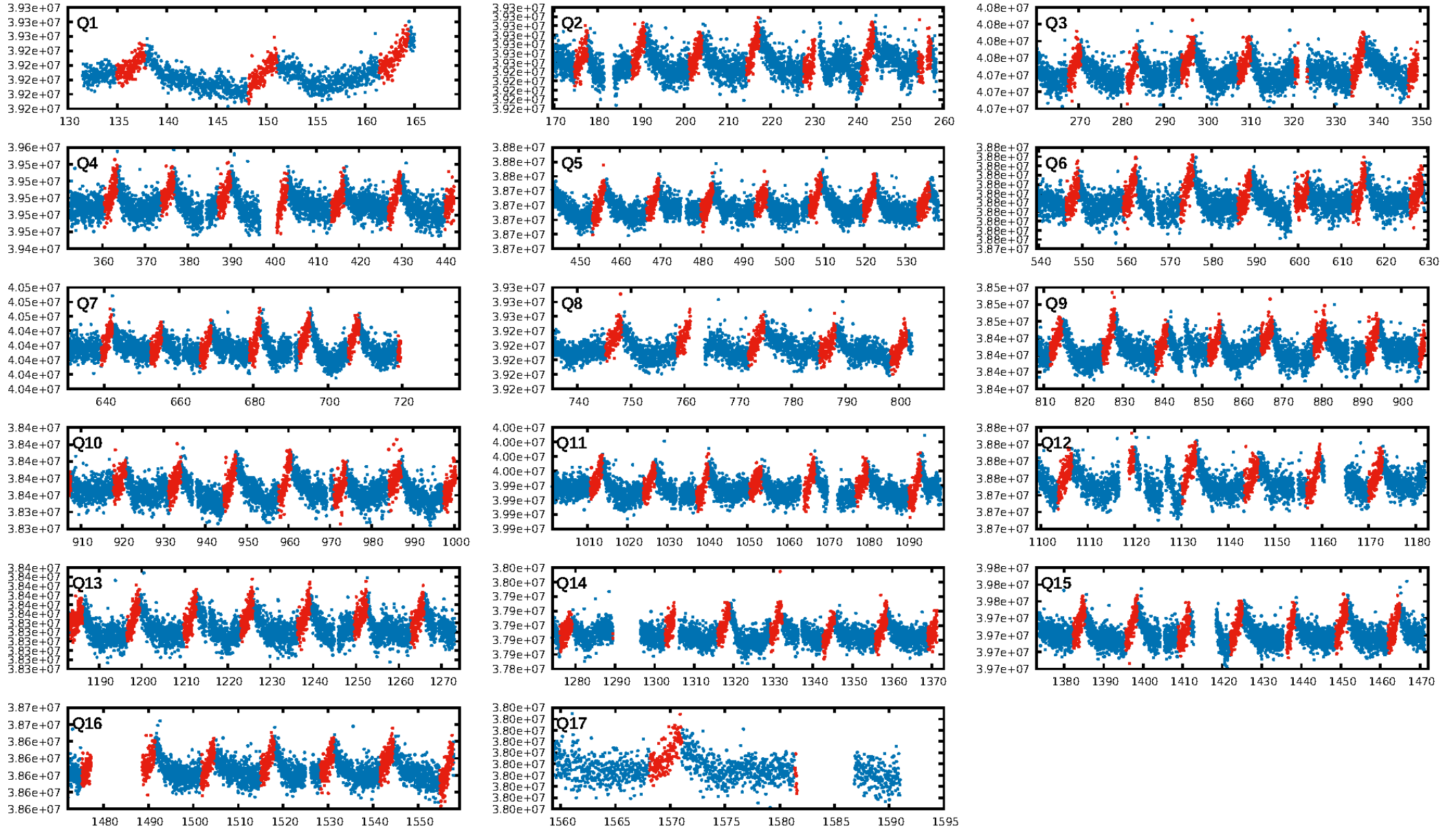
DV Fit Results:

Period = 13.27062 [0.00032] d
Epoch = 136.3531 [0.0194] BKJD
Rp/R* = 0.0079 [0.0014]
a/R* = 2.49 [1.91]
b = 0.58 [1.05]
Seff = 155.02 [58.01]
Teff = 900 [84] K
Rp = 1.00 [0.35] Re
a = 0.1160 [0.0285] AU
Ag = 206.25 [121.19] [1.69 σ]
Teffp = 5272 [645] K [6.72 σ]

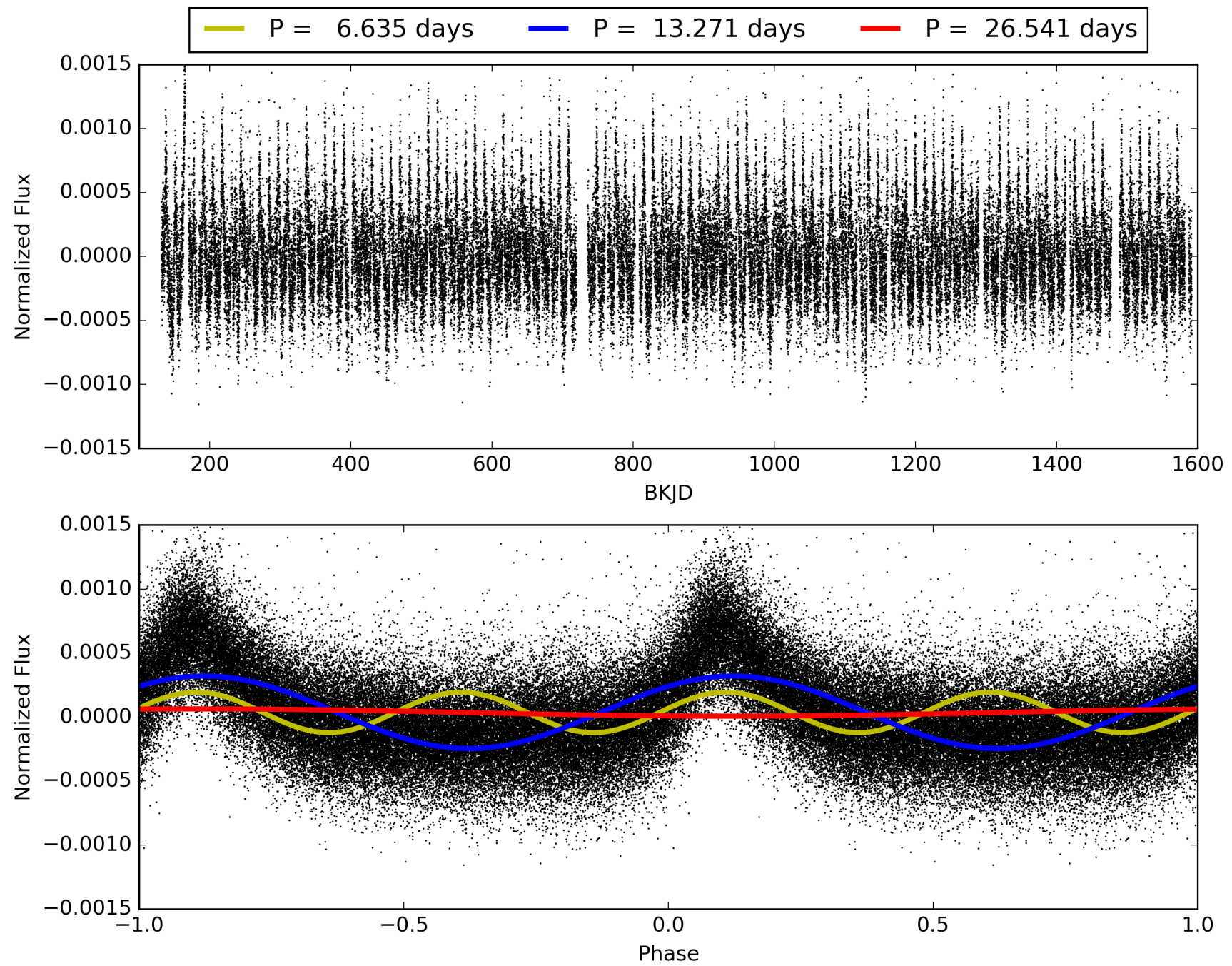
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.96e-15
RollingBand-fgt: 1.00 [102/102]
GhostDiagnostic-chr: -8.105
Centroid-sig: 4.3%
Centroid-so: 1.318 arcsec [2.03 σ]
OotOffset-rm: 1.859 arcsec [1.97 σ]
KicOffset-rm: 1.485 arcsec [1.58 σ]
OotOffset-st: 3/1/2/1 [7]
KicOffset-st: 3/1/2/1 [7]
DiffImageQuality-fgm: 0.57 [4/7]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 009777793-01, PDC Light Curves

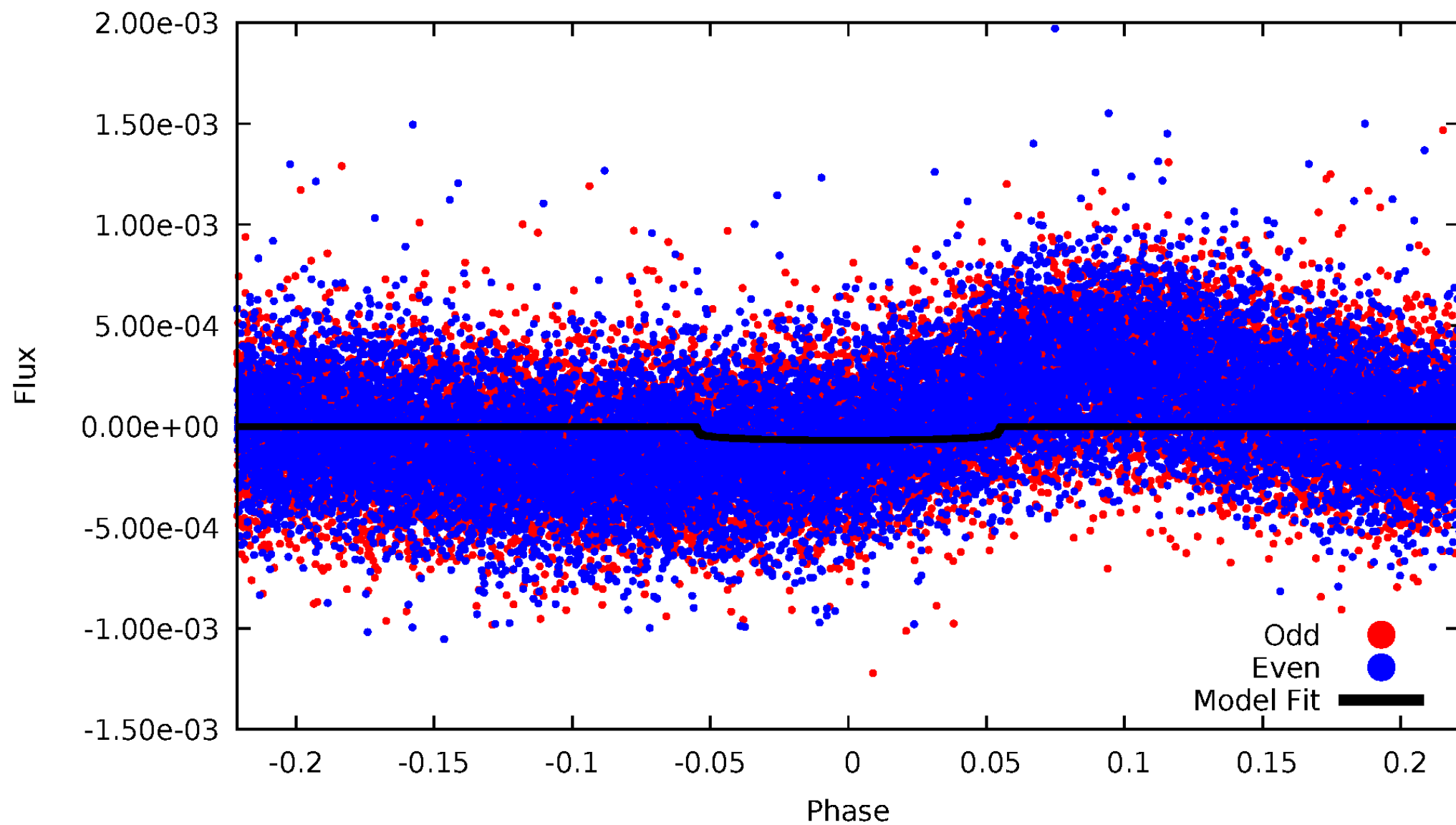


TCE 009777793-01



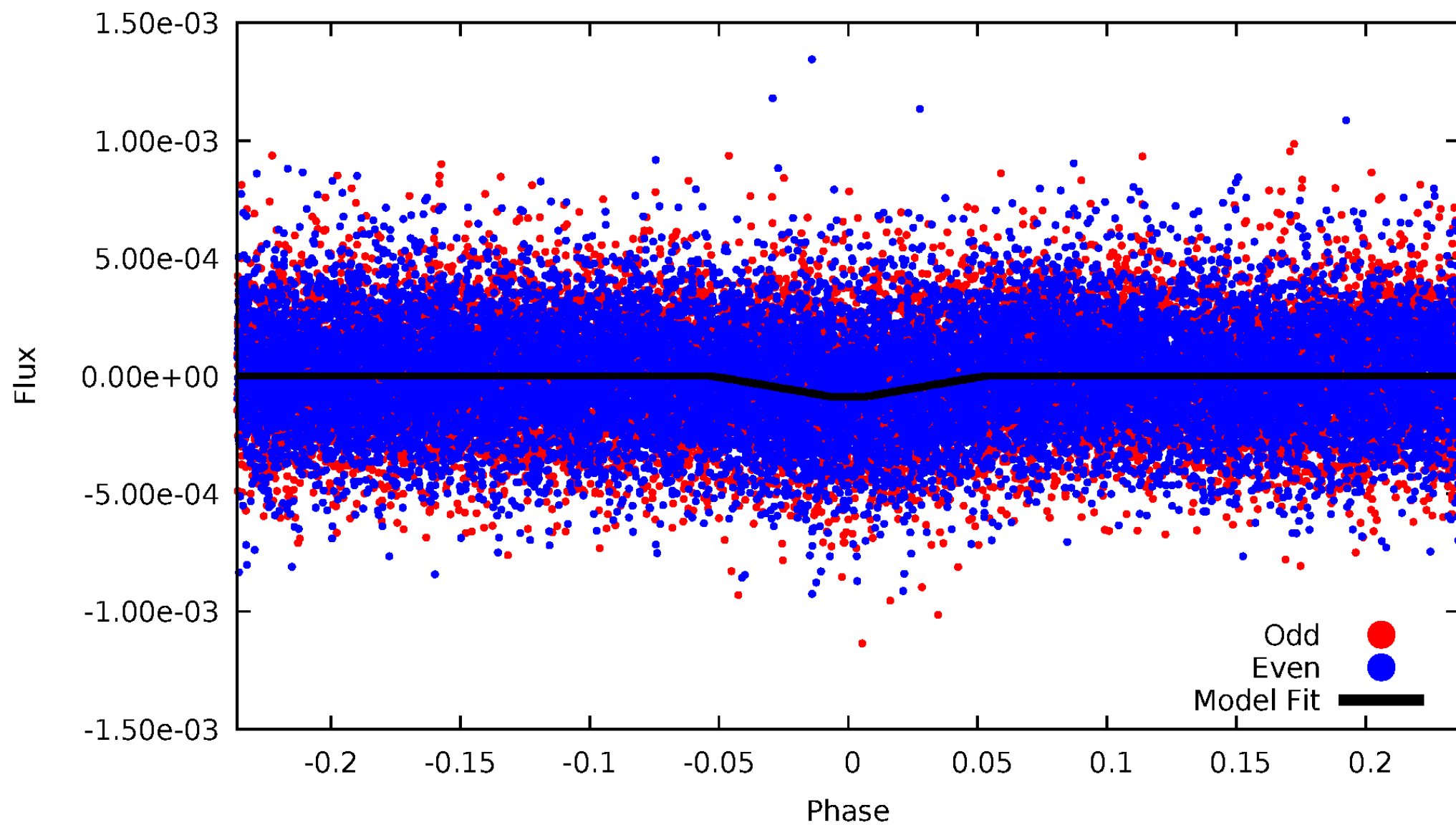
DV Odd/Even

TCE 009777793-01

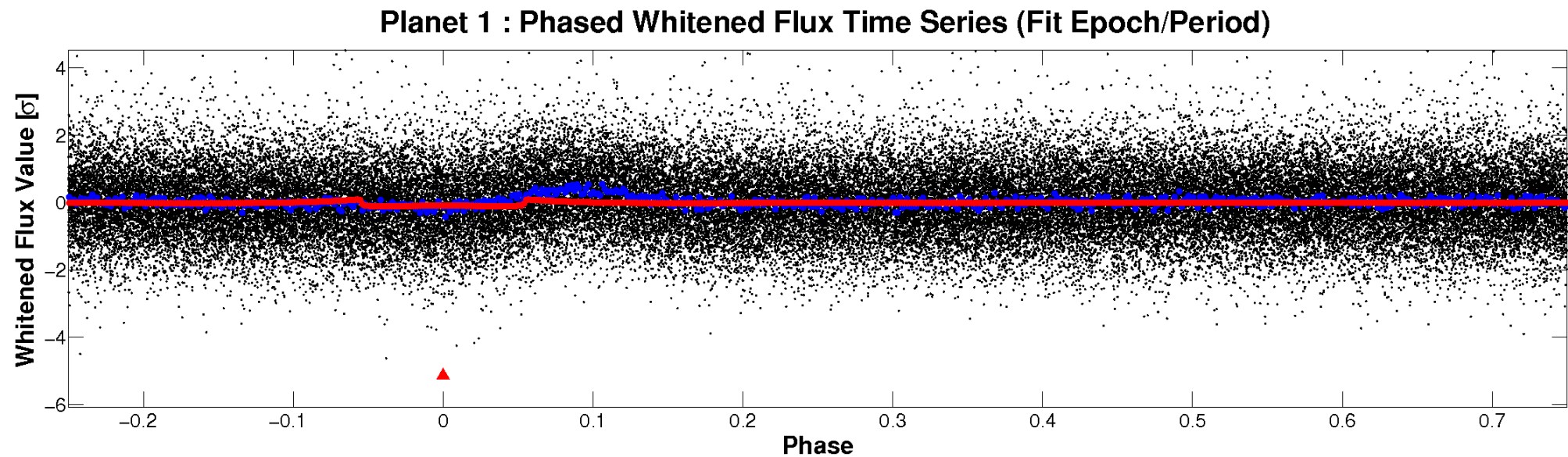
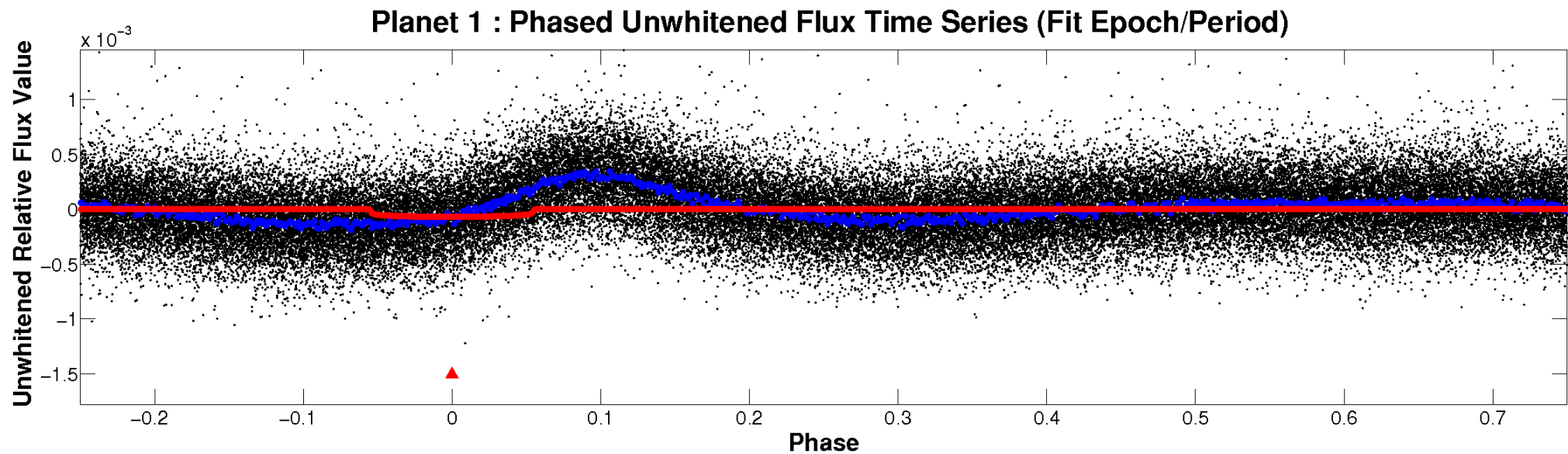


ALT Odd/Even

TCE 009777793-01

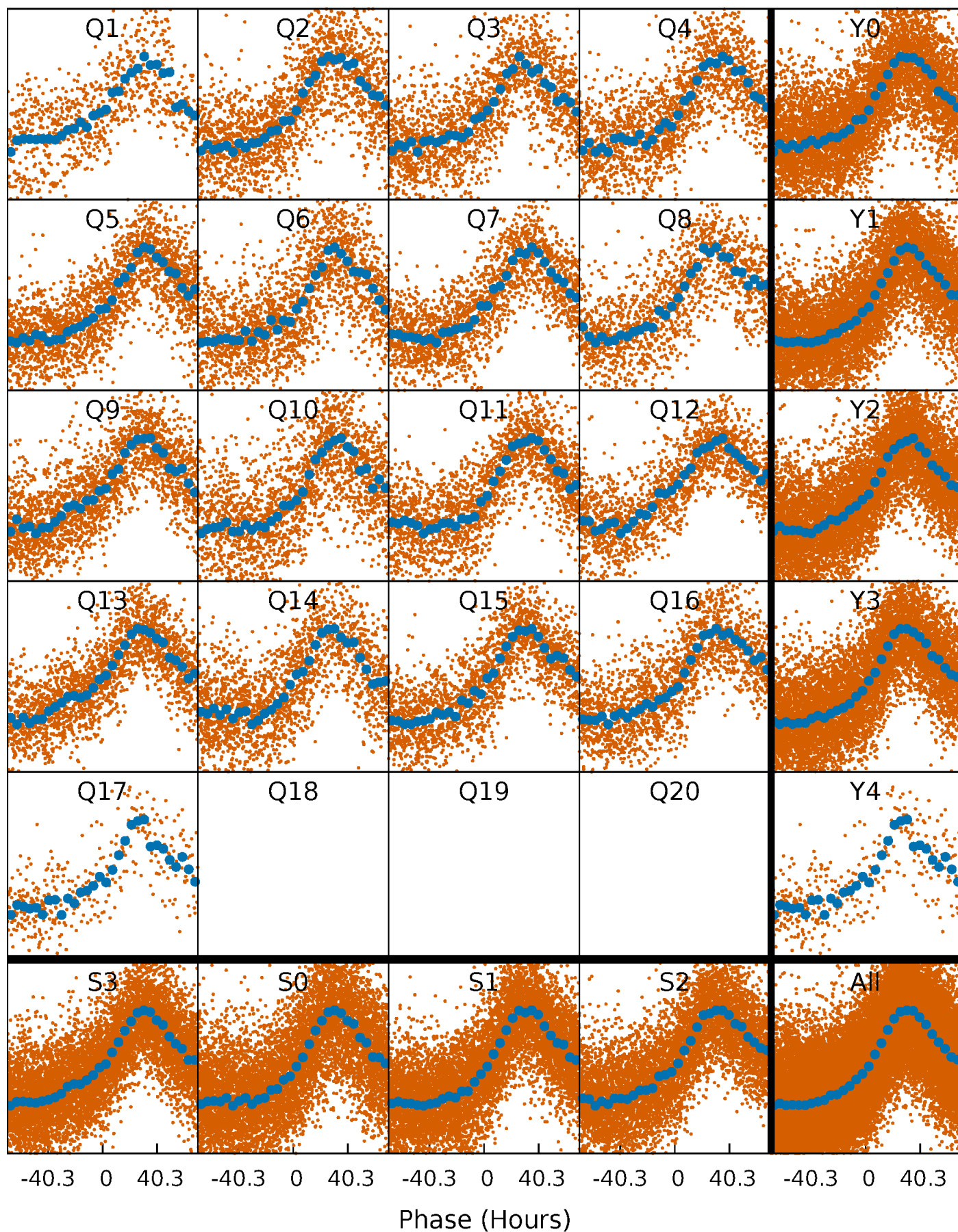


Non-Whitened Vs. Whitened Light Curve



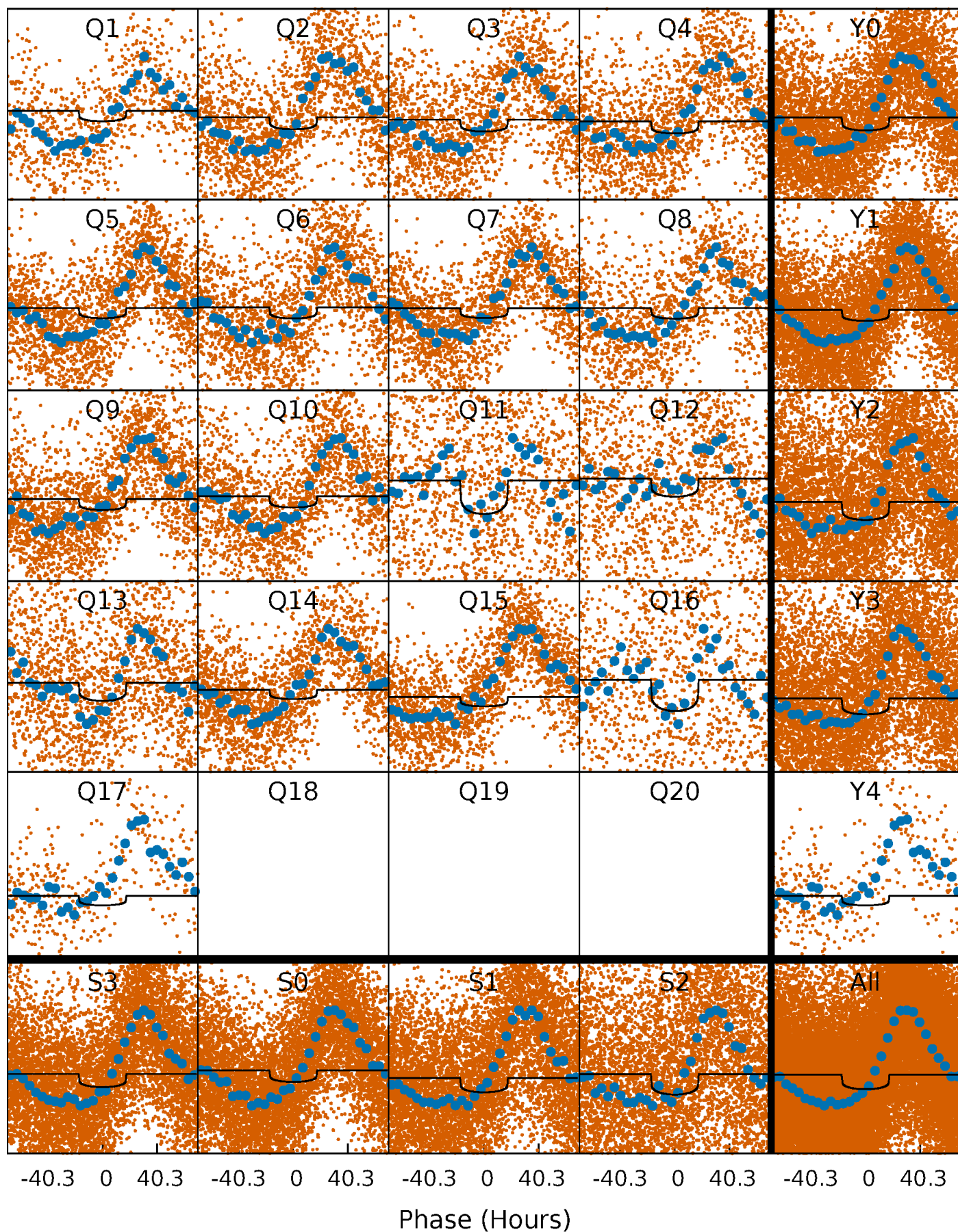
PDC Quarter-Phased Transit Curves

TCE 009777793-01 P= 13.270625 Days $T_0=136.353053$ (BKJD)



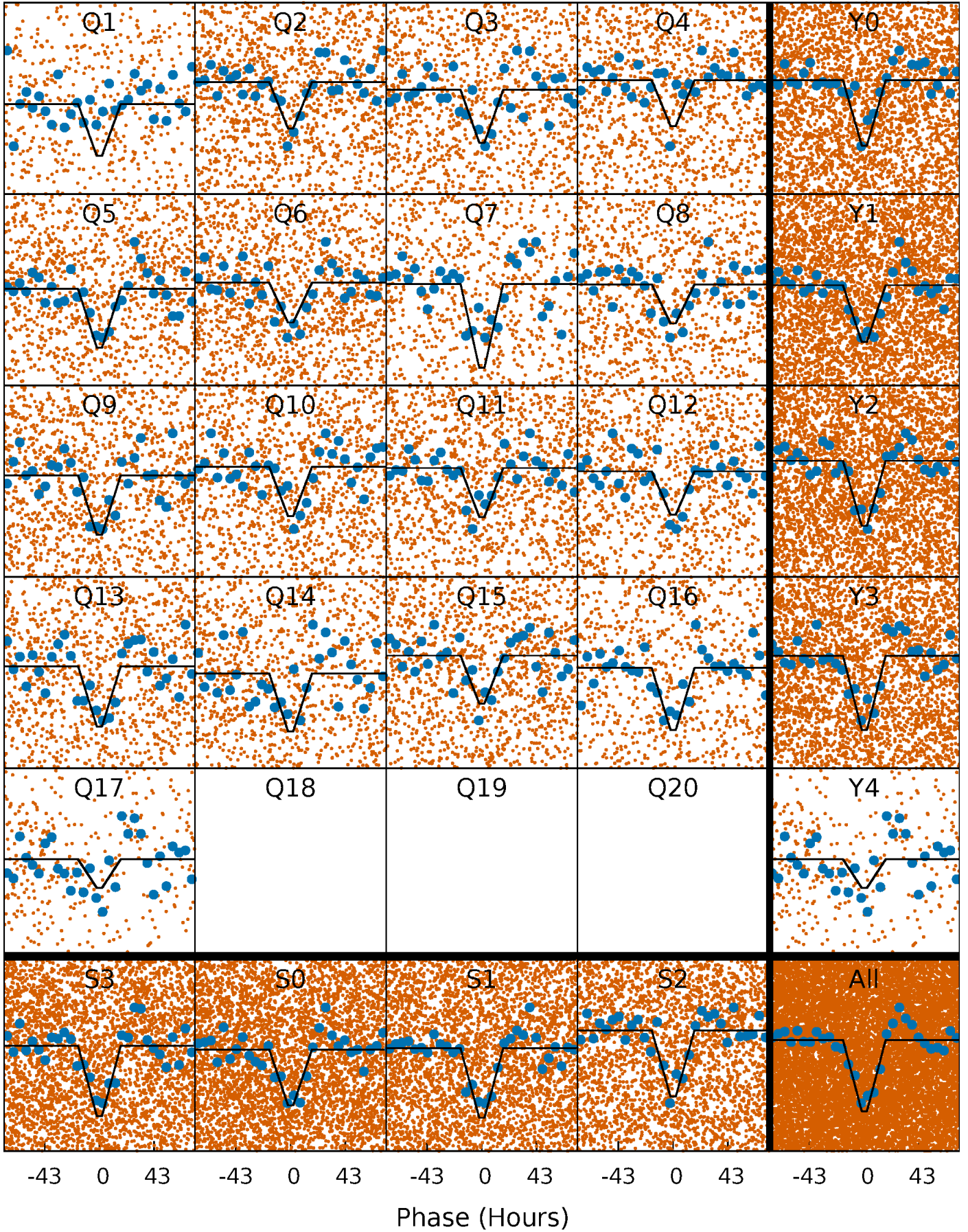
DV Quarter-Phased Transit Curves

TCE 009777793-01 P= 13.270625 Days $T_0=136.353053$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

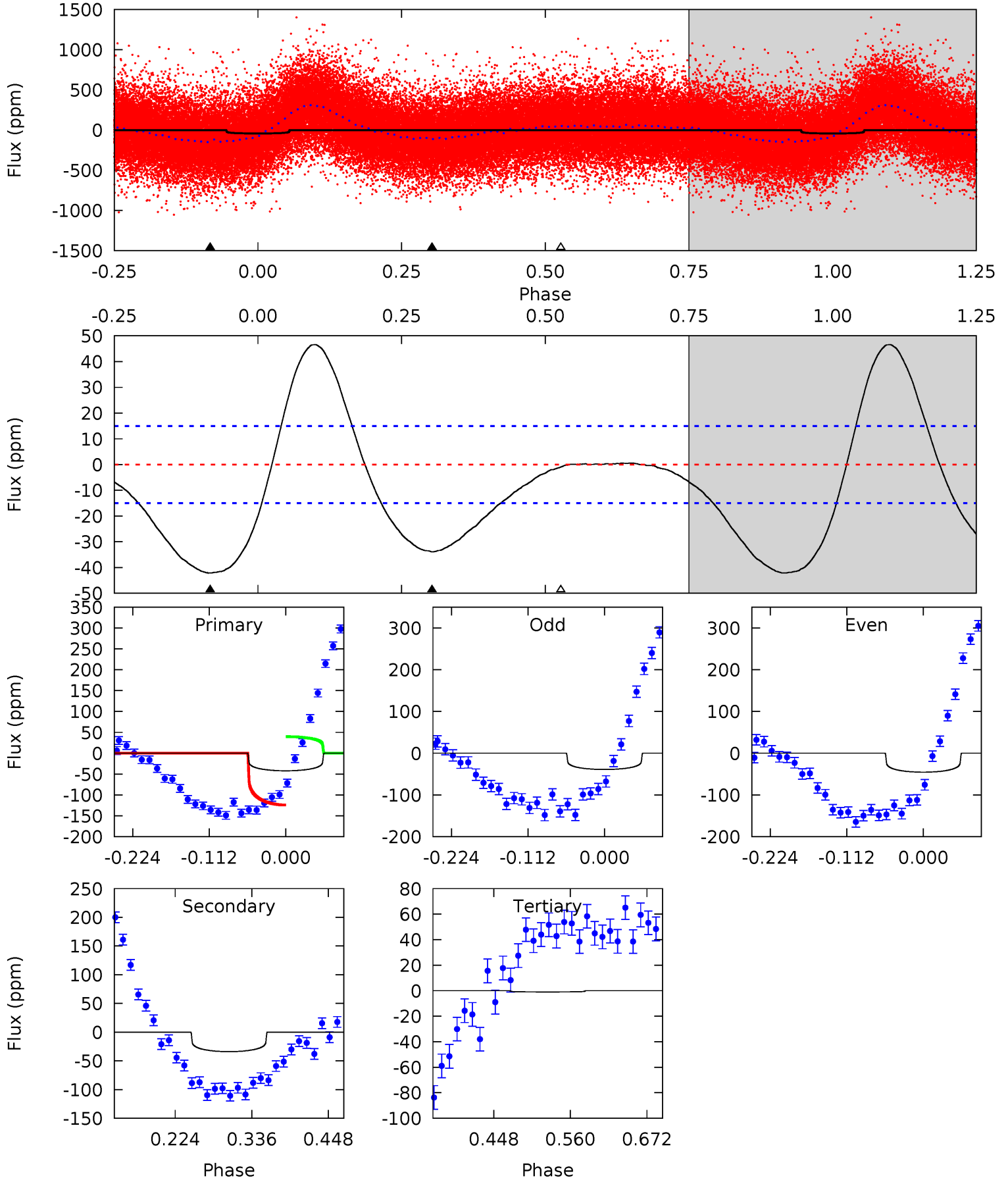
TCE 009777793-01 P= 13.271000 Days $T_0=136.376426$ (BKJD)



DV Model-Shift Uniqueness Test

009777793-01, P = 13.270625 Days, E = 123.082428 Days

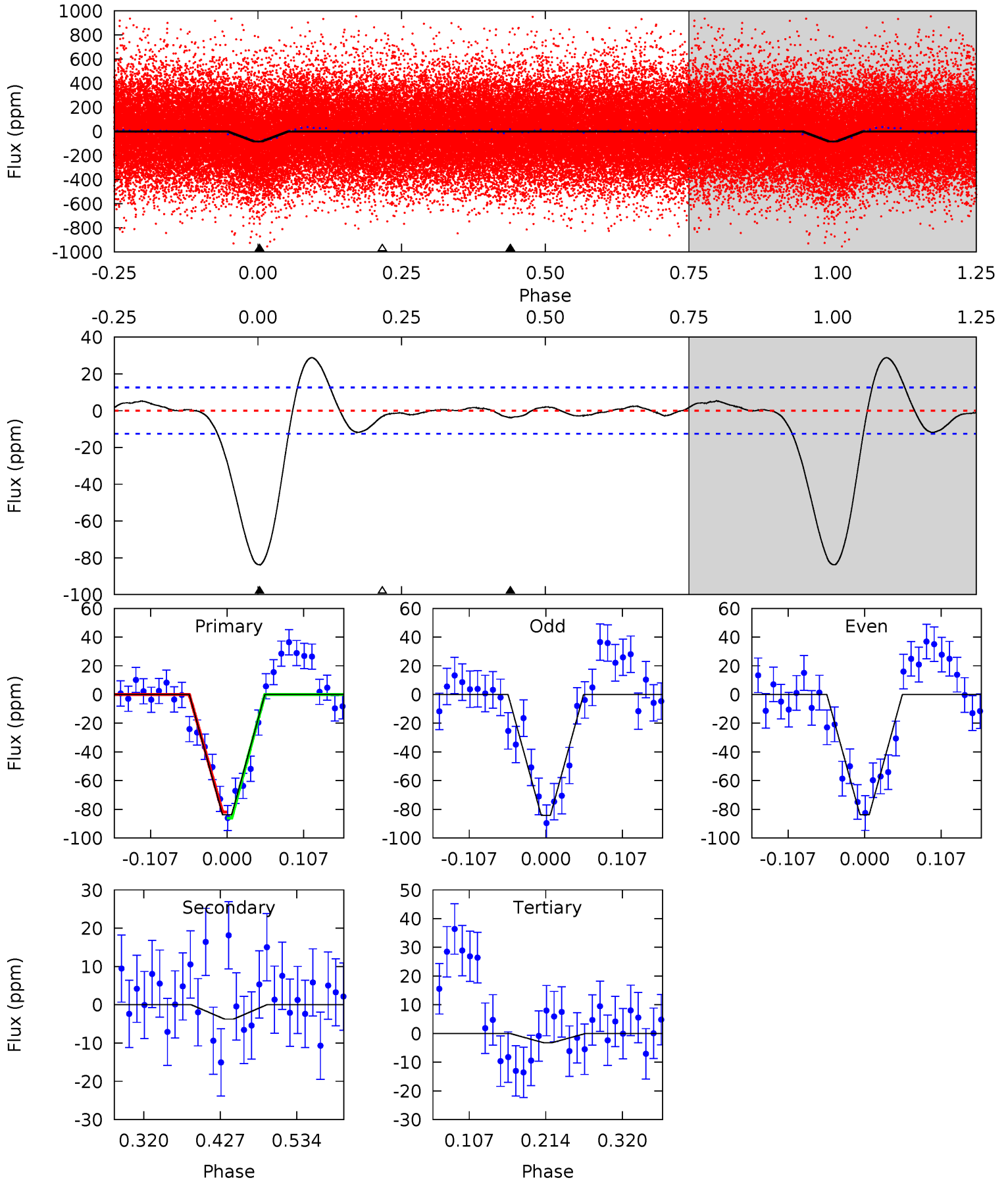
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	10.3	0.30	0	4.54	1.59	5.27	12.5	12.8	10.0	10.3	0.98	0.97	0.53	13.9



Alt Model-Shift Uniqueness Test

009777793-01, P = 13.271000 Days, E = 123.105426 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.4	1.35	1.15	0	4.55	1.61	1.78	29.2	30.4	0.20	1.35	0.07	1.03	0.26	0.77



Stellar Parameters For KIC 009777793

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6466^{+153}_{-211}	$4.386^{+0.062}_{-0.188}$	$-0.100^{+0.250}_{-0.300}$	$1.154^{+0.345}_{-0.123}$	$1.180^{+0.172}_{-0.157}$	$1.083^{+0.362}_{-0.555}$
	+2%/-3%	+1%/-4%	+250%/-300%	+30%/-11%	+15%/-13%	+33%/-51%
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 009777793-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-34 ± 3	$1.04^{+0.24}_{-0.21}$	1278^{+85}_{-62}	5507^{+594}_{-409}	226^{+126}_{-78}
Alt.	-4 ± 3	$1.22^{+0.26}_{-0.22}$	1278^{+82}_{-63}	3393^{+391}_{-605}	17^{+16}_{-13}

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 $A_{obs} \gg 1.0$

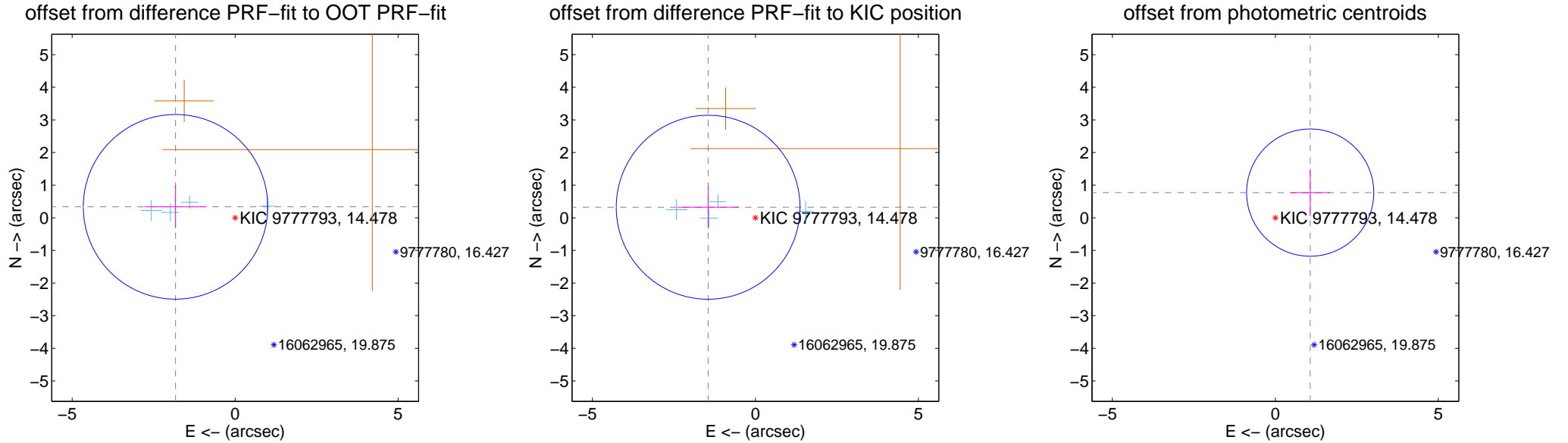
DV Centroid Data

Supplemental centroid analysis for 009777793-01. Kepler magnitude: 14.48. Transit SNR 9.20

There are 4 quarters with good PRF difference image offsets

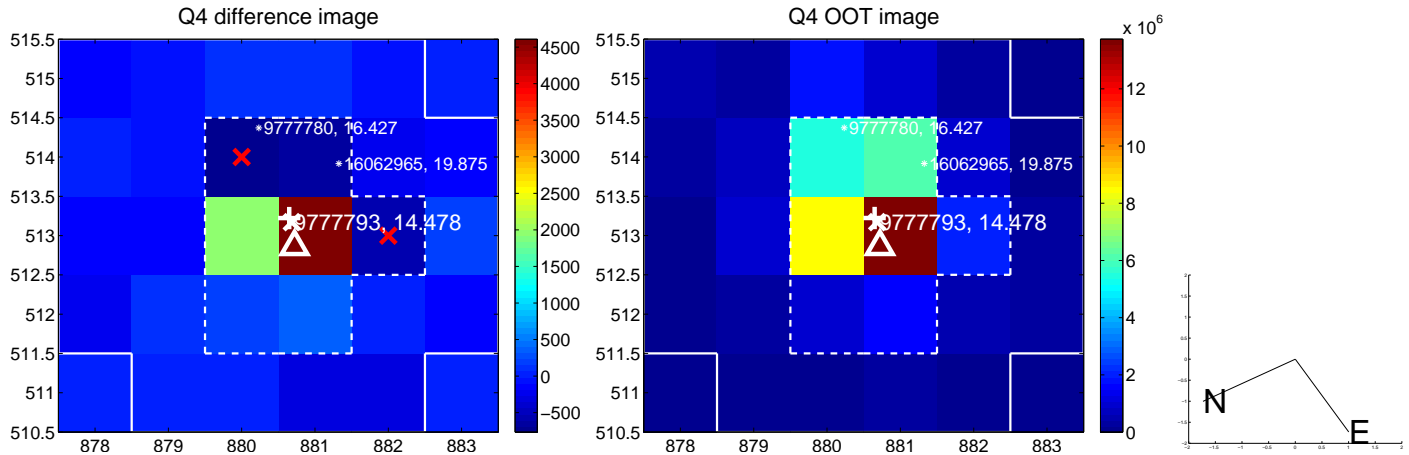
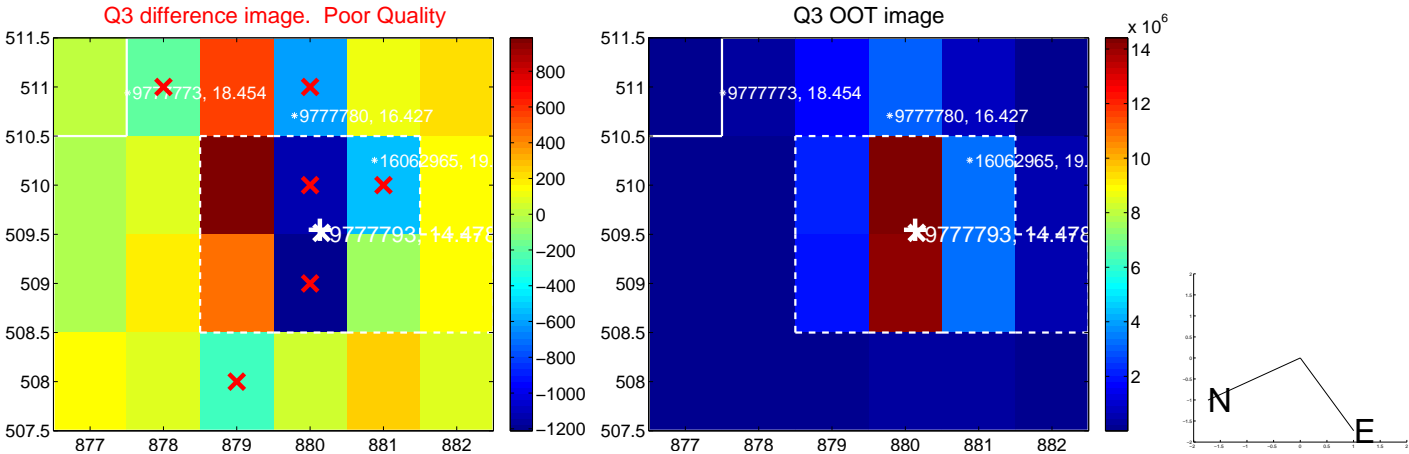
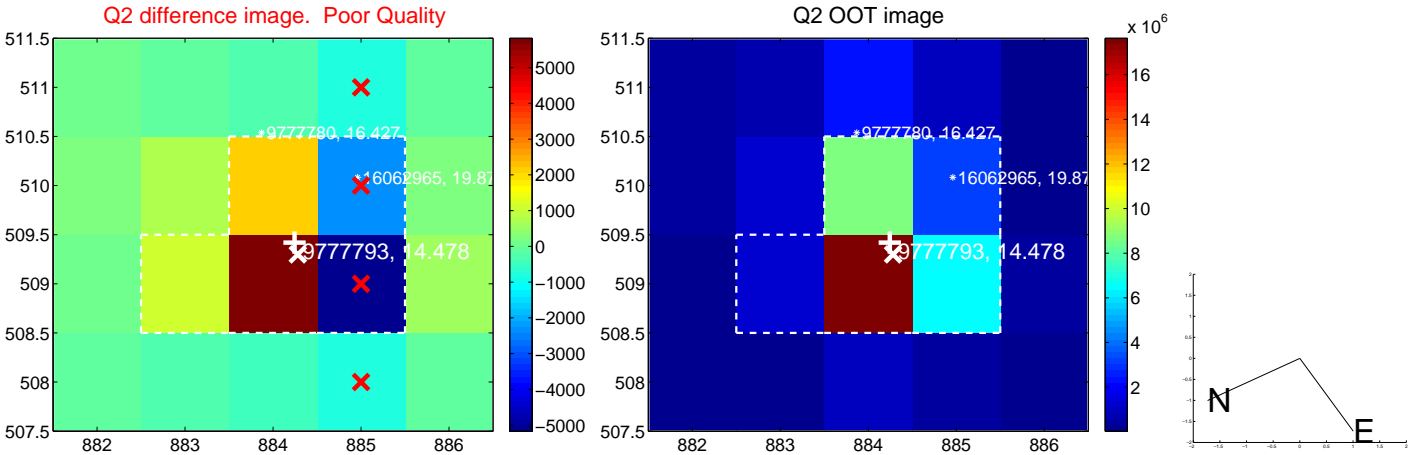
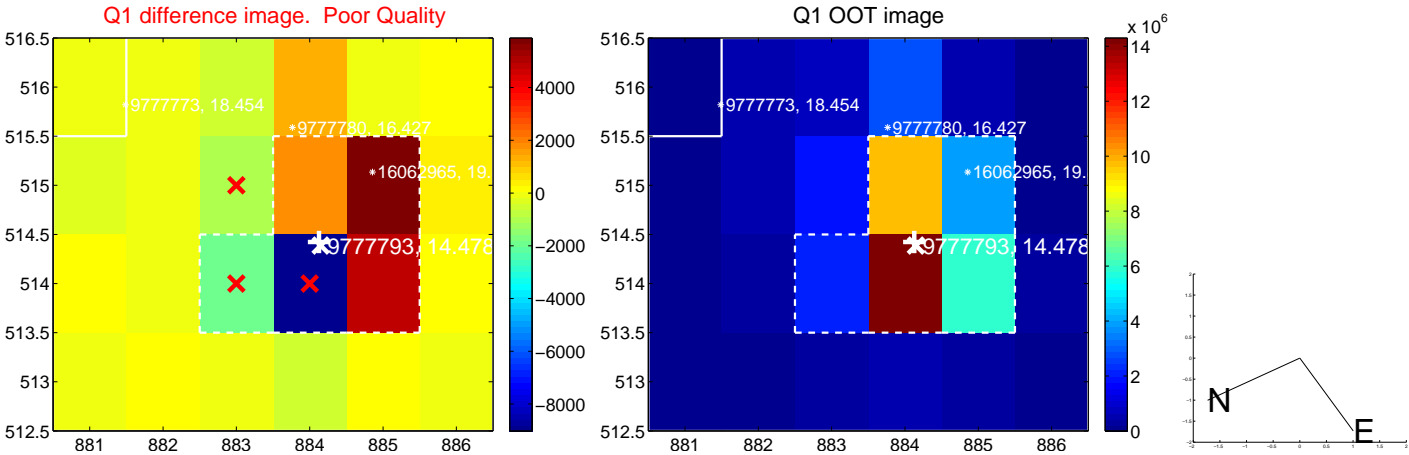
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.859 ± 0.943	1.97	1.828 ± 0.951	0.335 ± 0.655
PRF-fit source offset from KIC position	1.485 ± 0.939	1.58	1.450 ± 0.951	0.323 ± 0.655
photometric centroid source offset	1.32 ± 0.65	2.03	-1.07 ± 0.61	0.77 ± 0.72

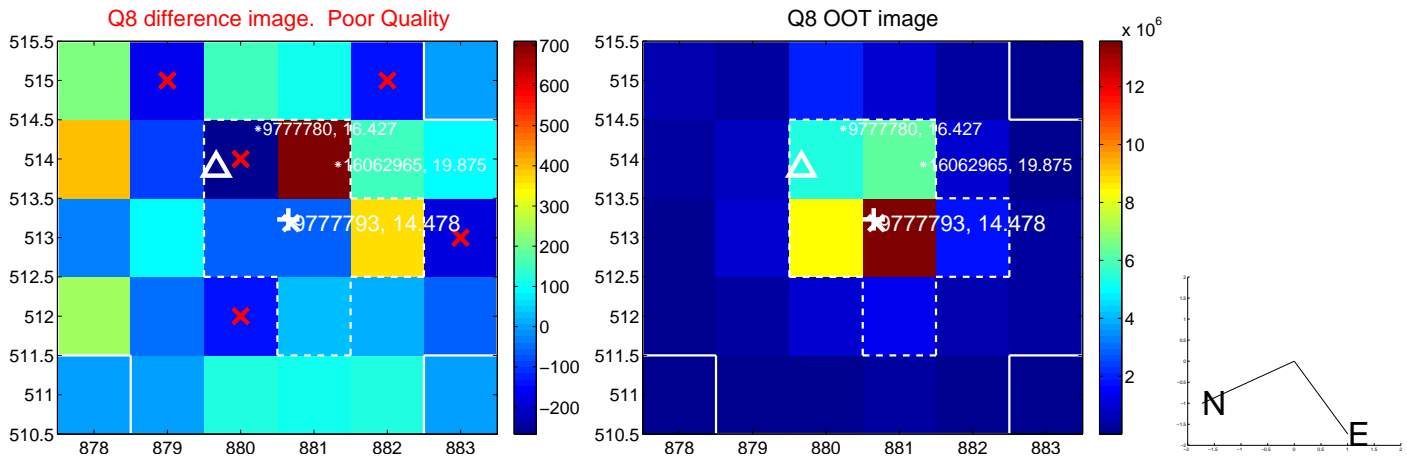
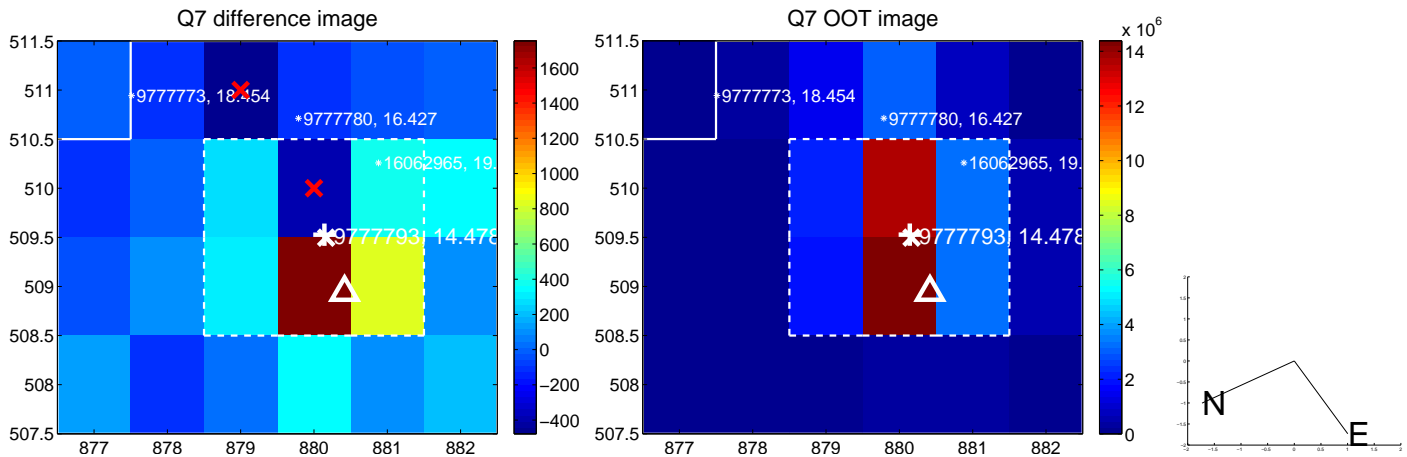
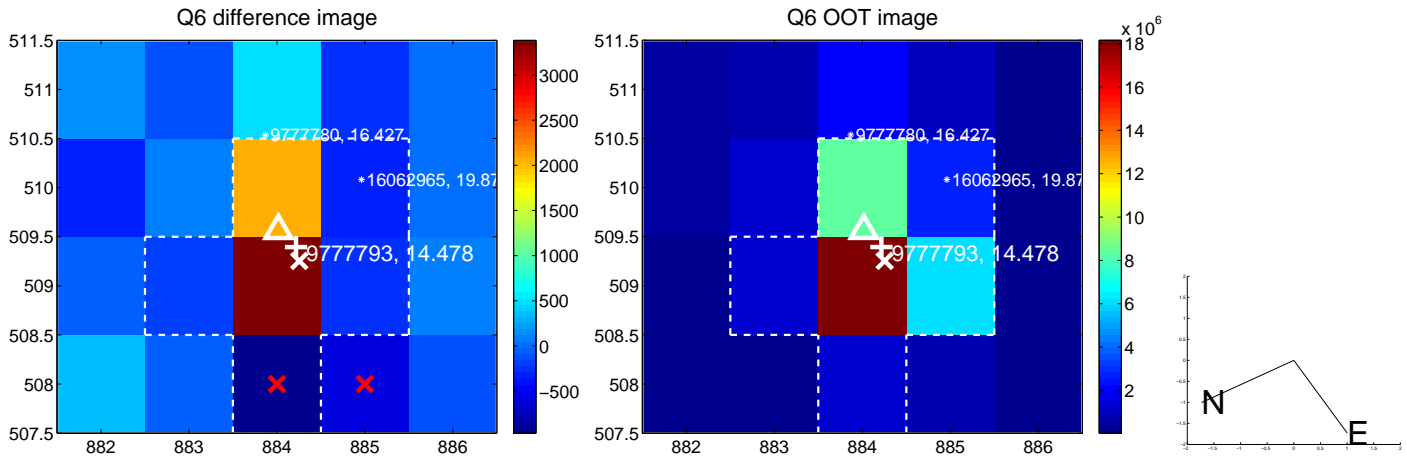
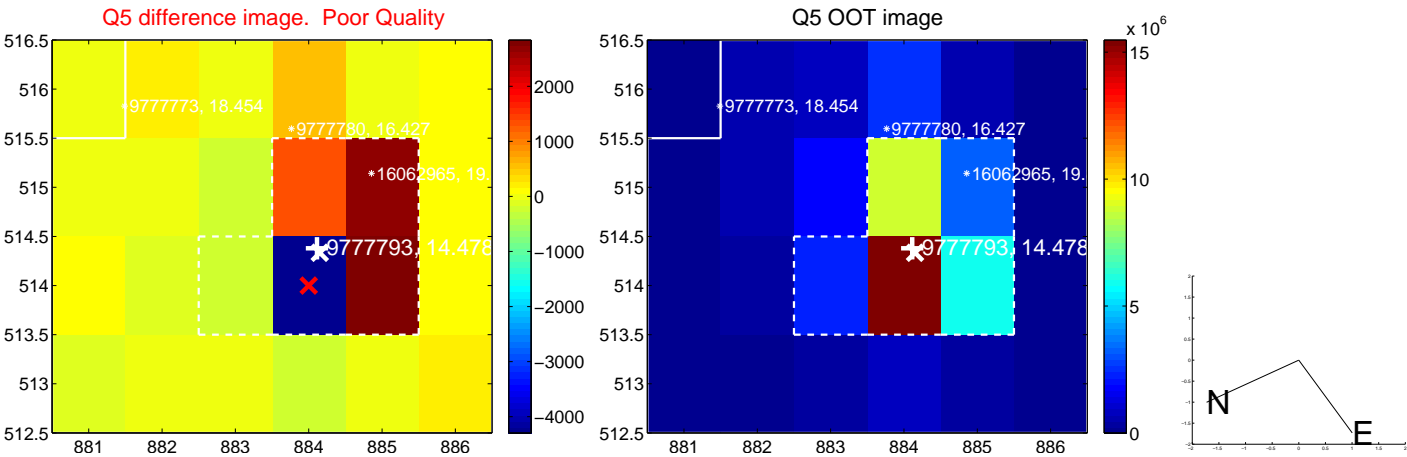


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

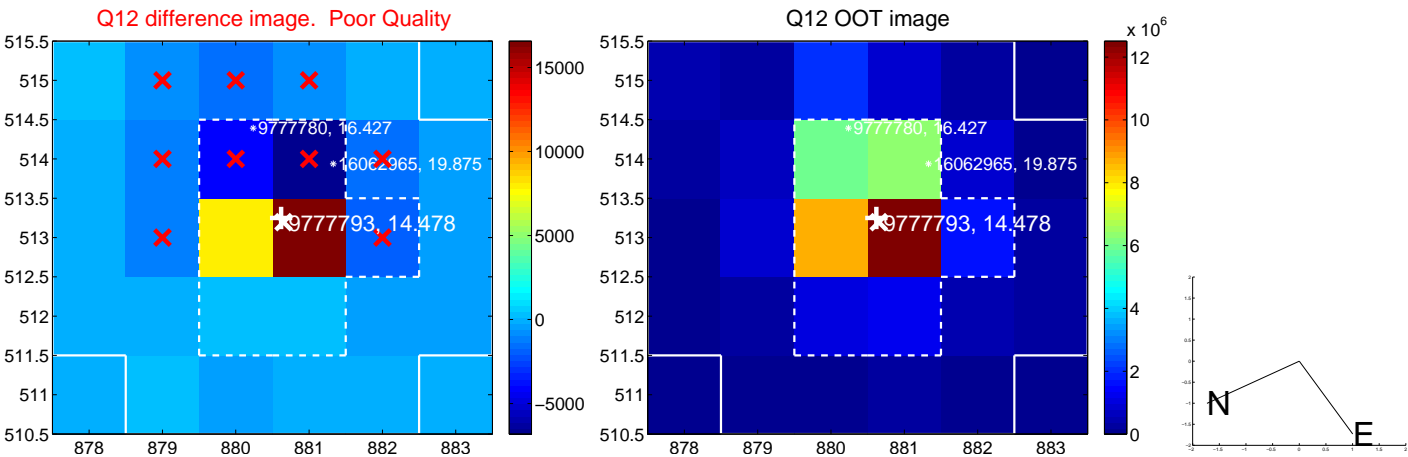
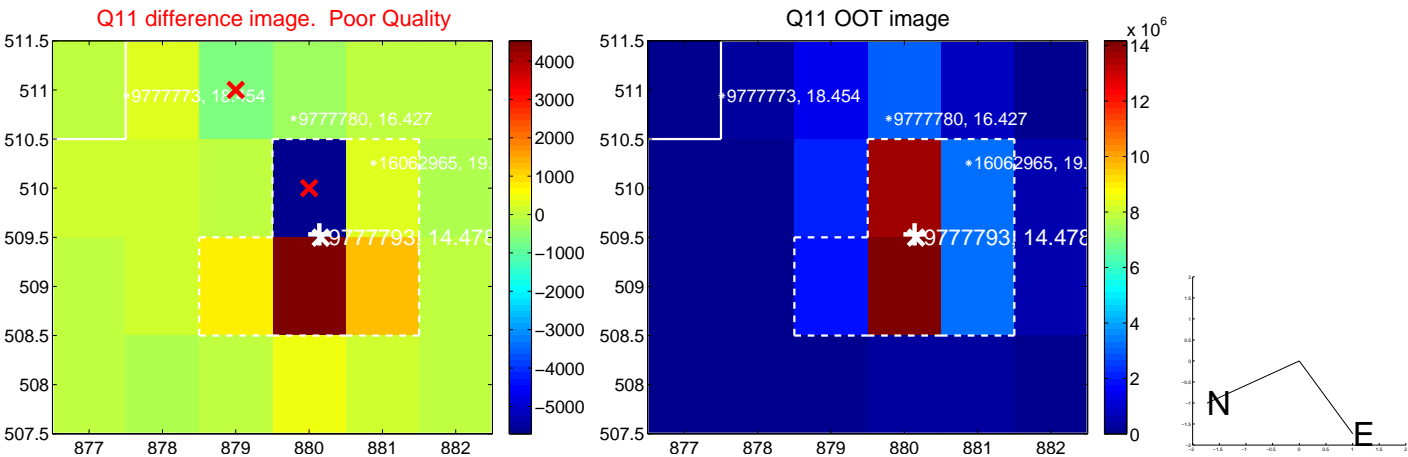
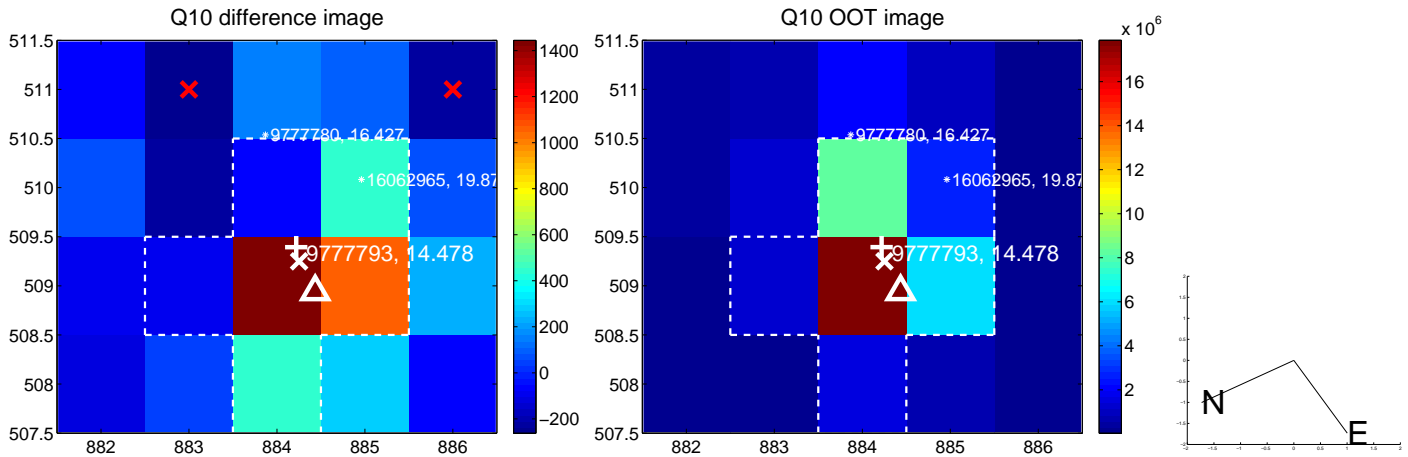
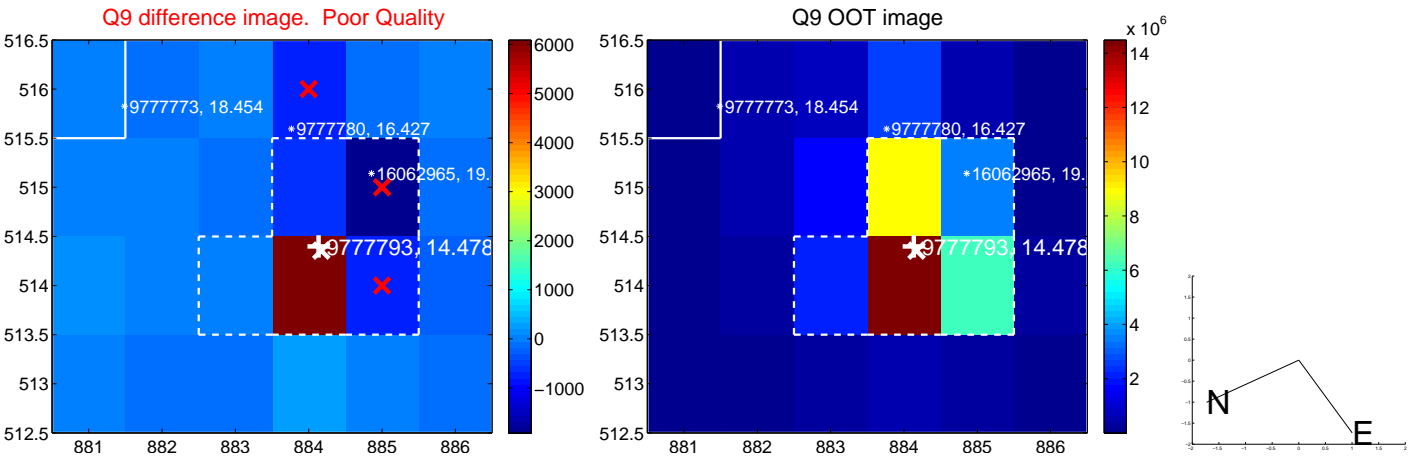
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



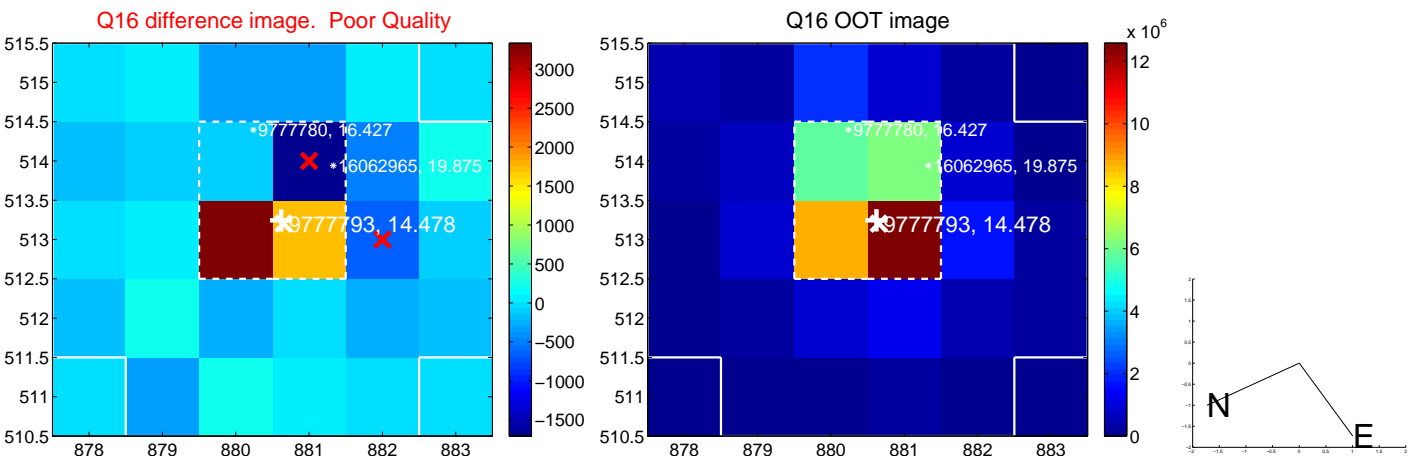
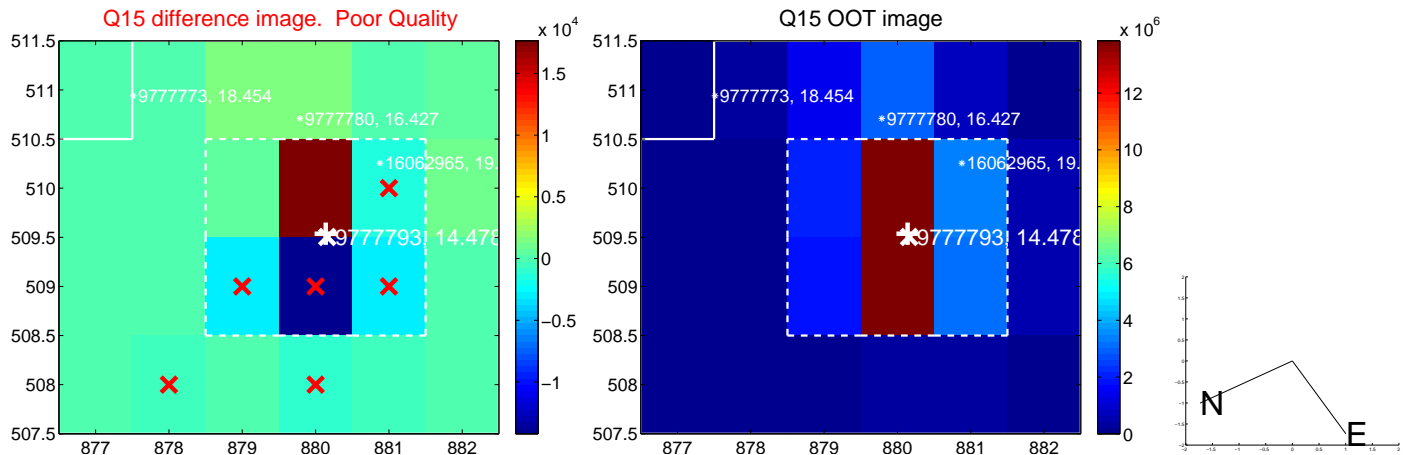
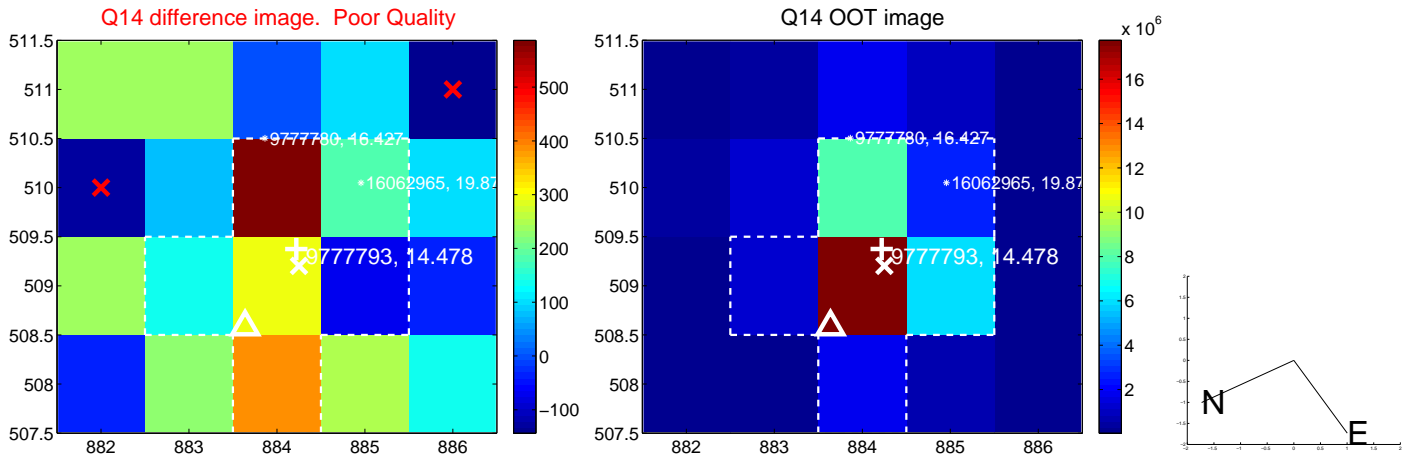
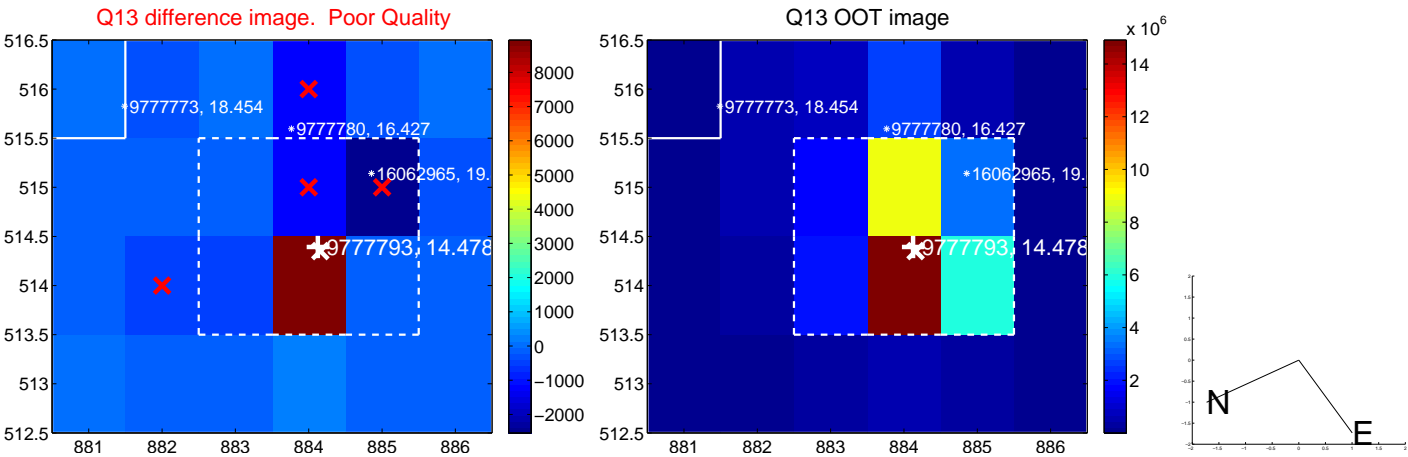
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



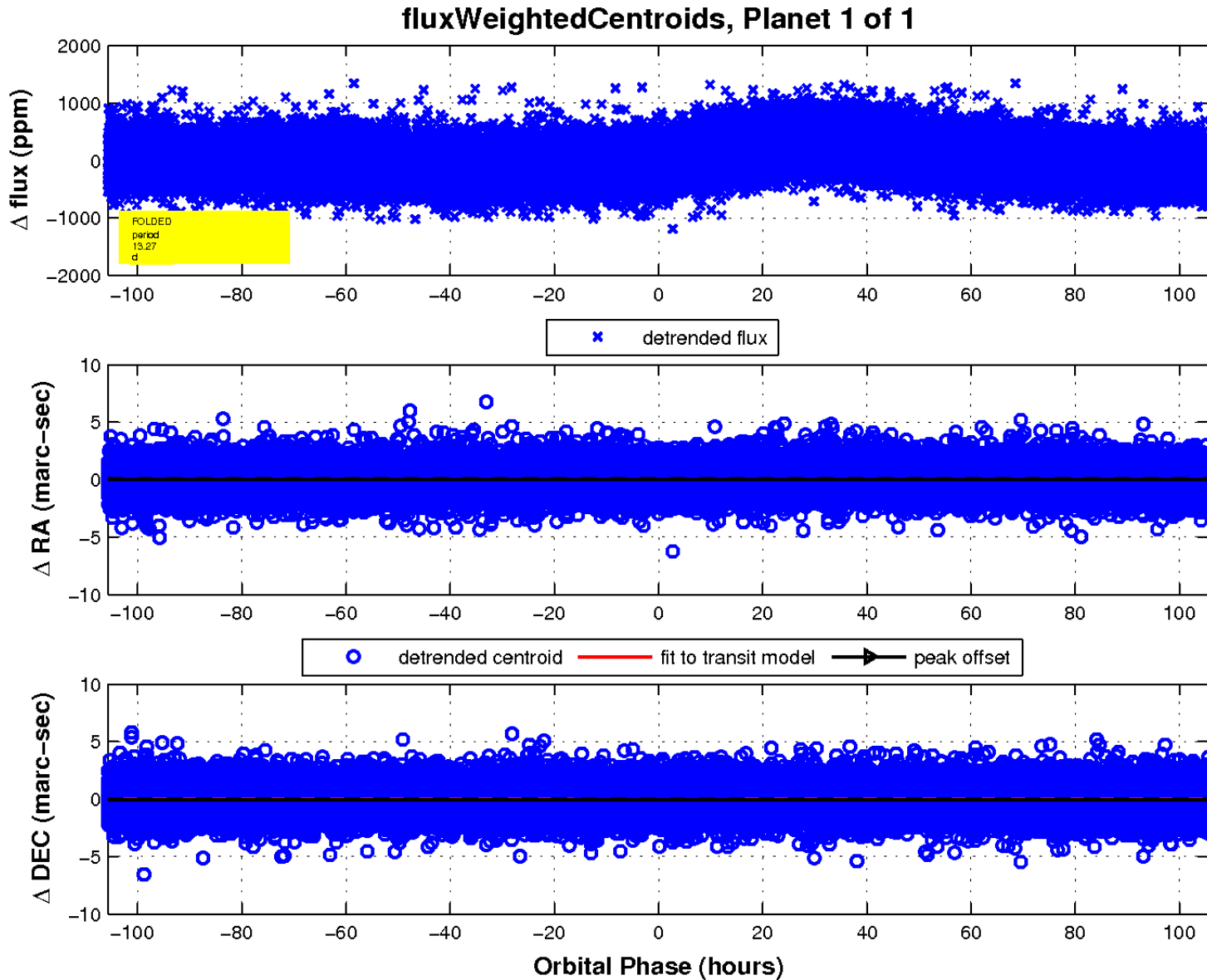
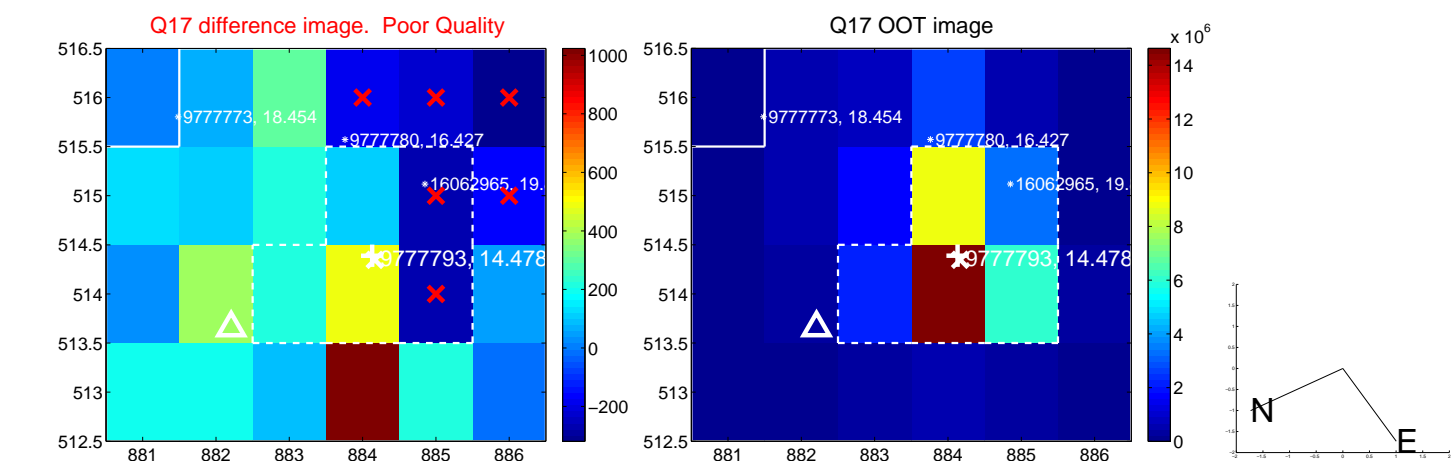
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

