

KIC 005978361

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})
005978361-01	OBS	0558.01	9.178568	136.374999	785.4	2.377	44.1	48.5	0.79	5506	2.61	76.25

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005978361-01	OBS	PC	1.00	0	0	0	0	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.

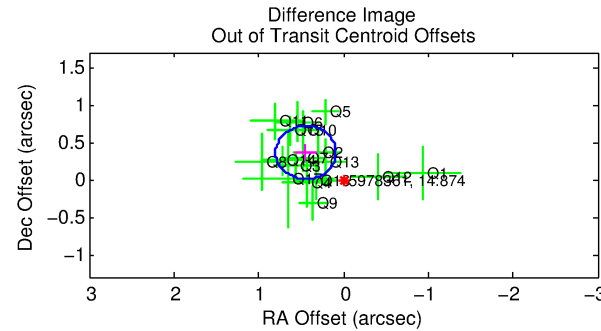
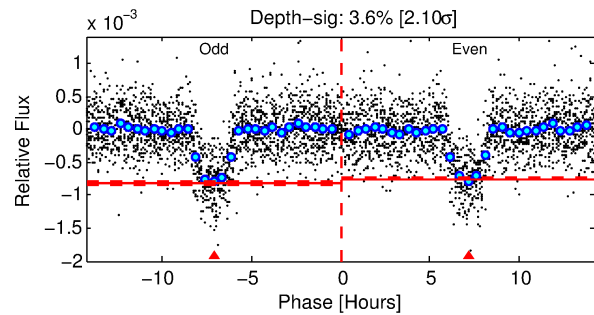
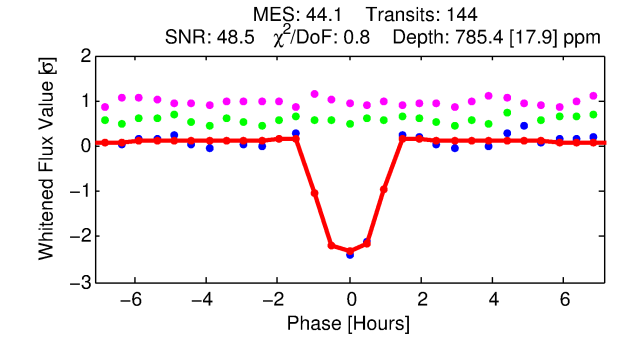
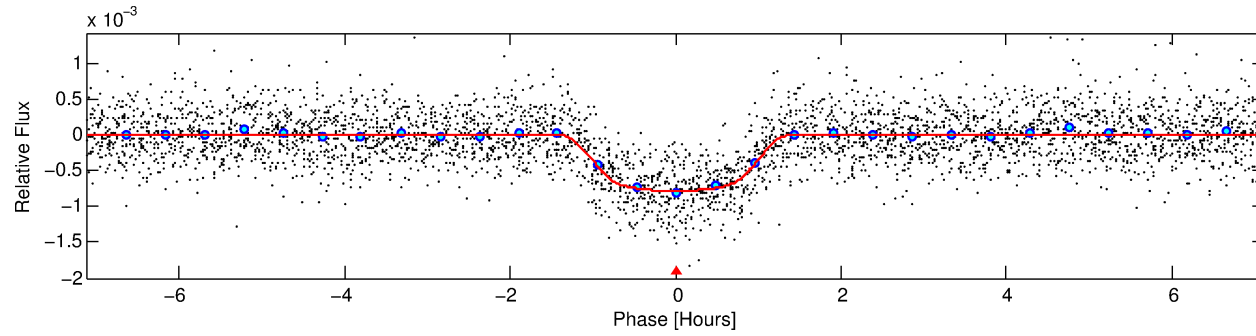
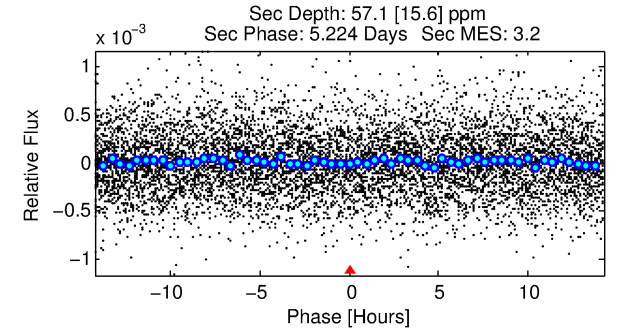
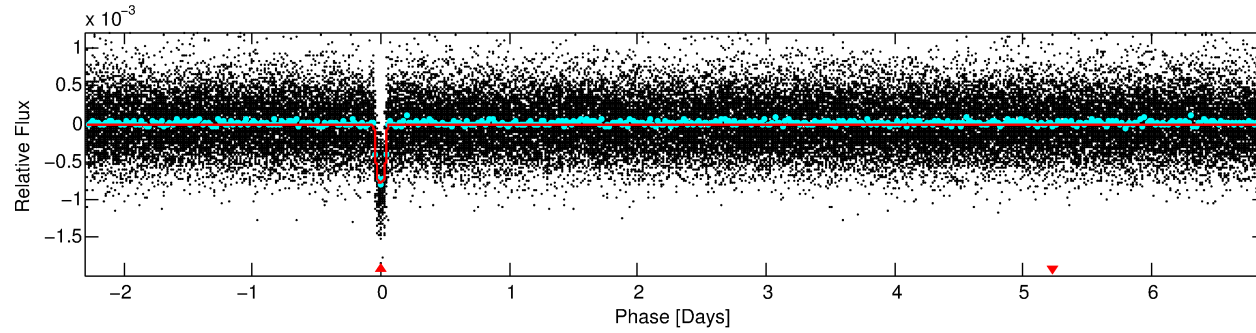
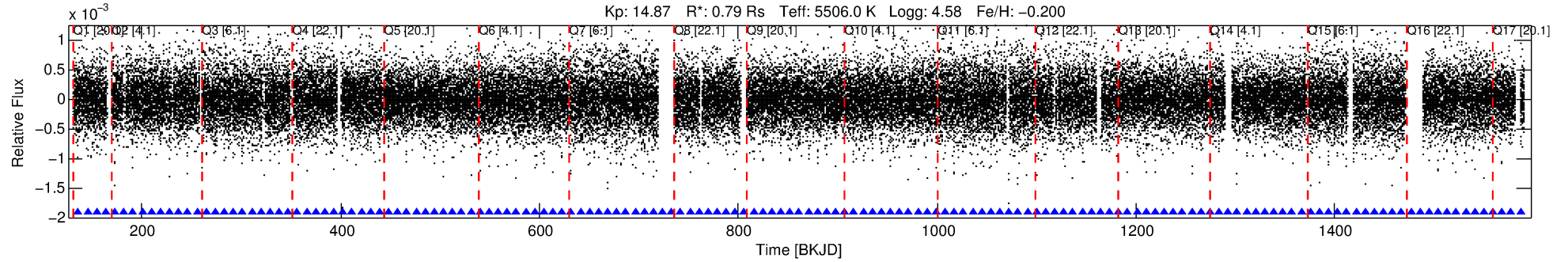
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005978361-01

No Significant Match Found

DV One-Page Summary

KIC: 5978361 Candidate: 1 of 1 Period: 9.179 d
KOI: K00558.01 Corr: 0.949



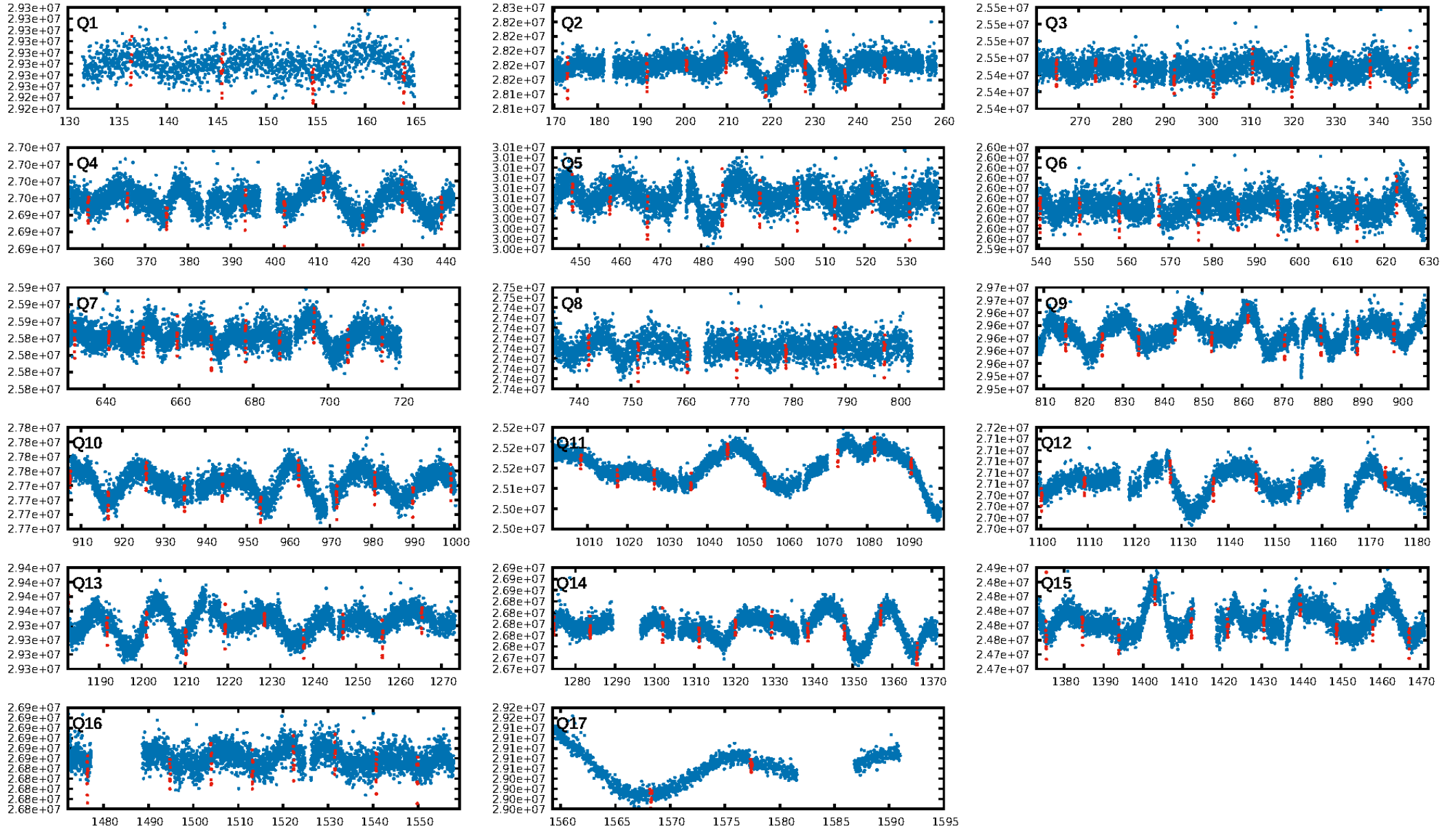
DV Fit Results:

Period = 9.17857 [0.00001] d
Epoch = 136.3750 [0.0011] BKJD
Rp/R* = 0.0304 [0.0024]
a/R* = 15.46 [5.15]
b = 0.89 [0.08]
Seff = 76.25 [22.30]
Teff = 753 [55] K
Rp = 2.61 [0.62] Re
a = 0.0819 [0.0152] AU
Ag = 30.81 [12.72] [2.34 σ]
Teffp = 2745 [232] K [8.36 σ]

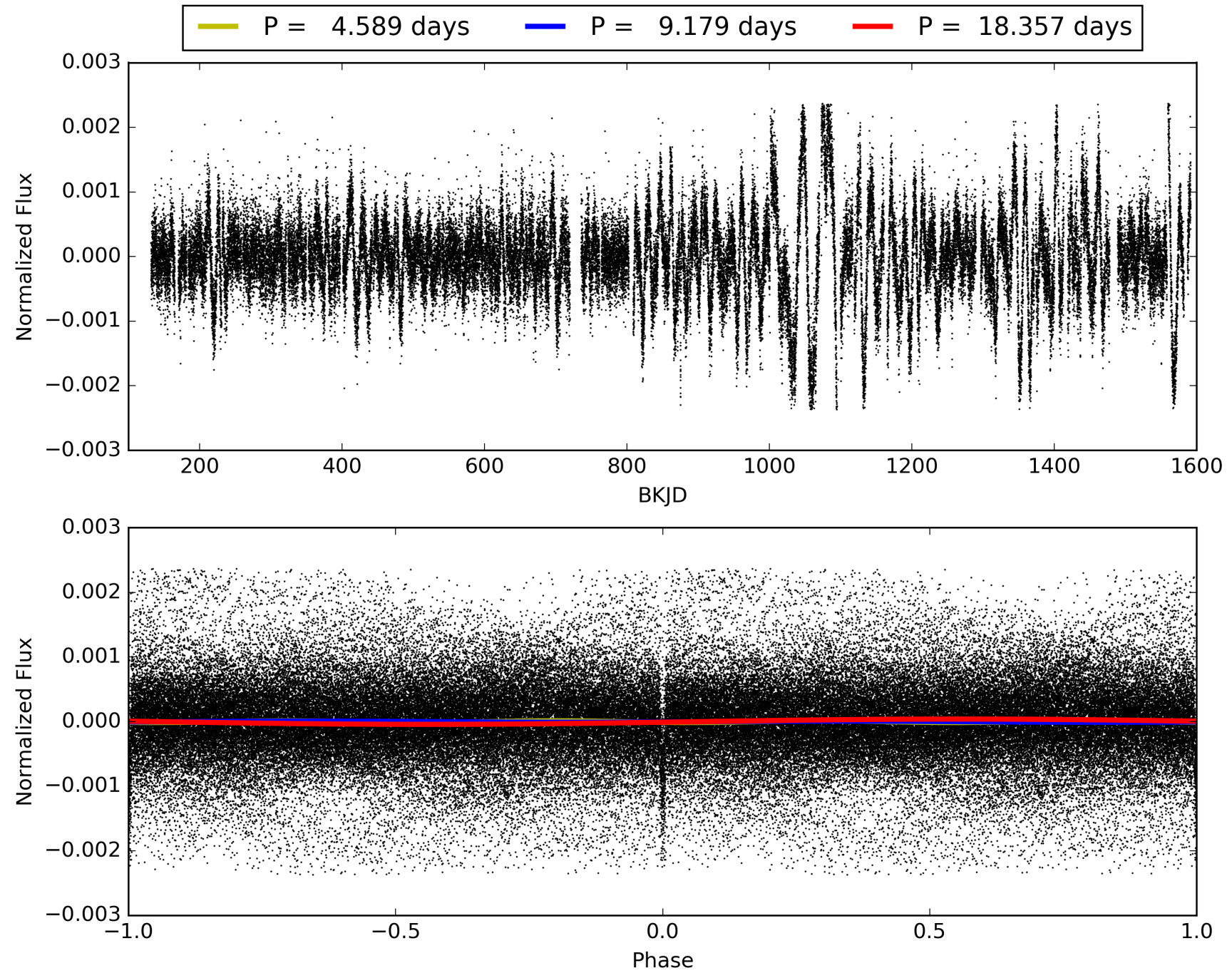
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [138/138]
GhostDiagnostic-chr: 4.504
Centroid-sig: 4.1%
Centroid-so: 0.027 arcsec [0.11 σ]
OotOffset-rm: 0.573 arcsec [4.83 σ]
KicOffset-rm: 0.153 arcsec [1.42 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005978361-01, PDC Light Curves

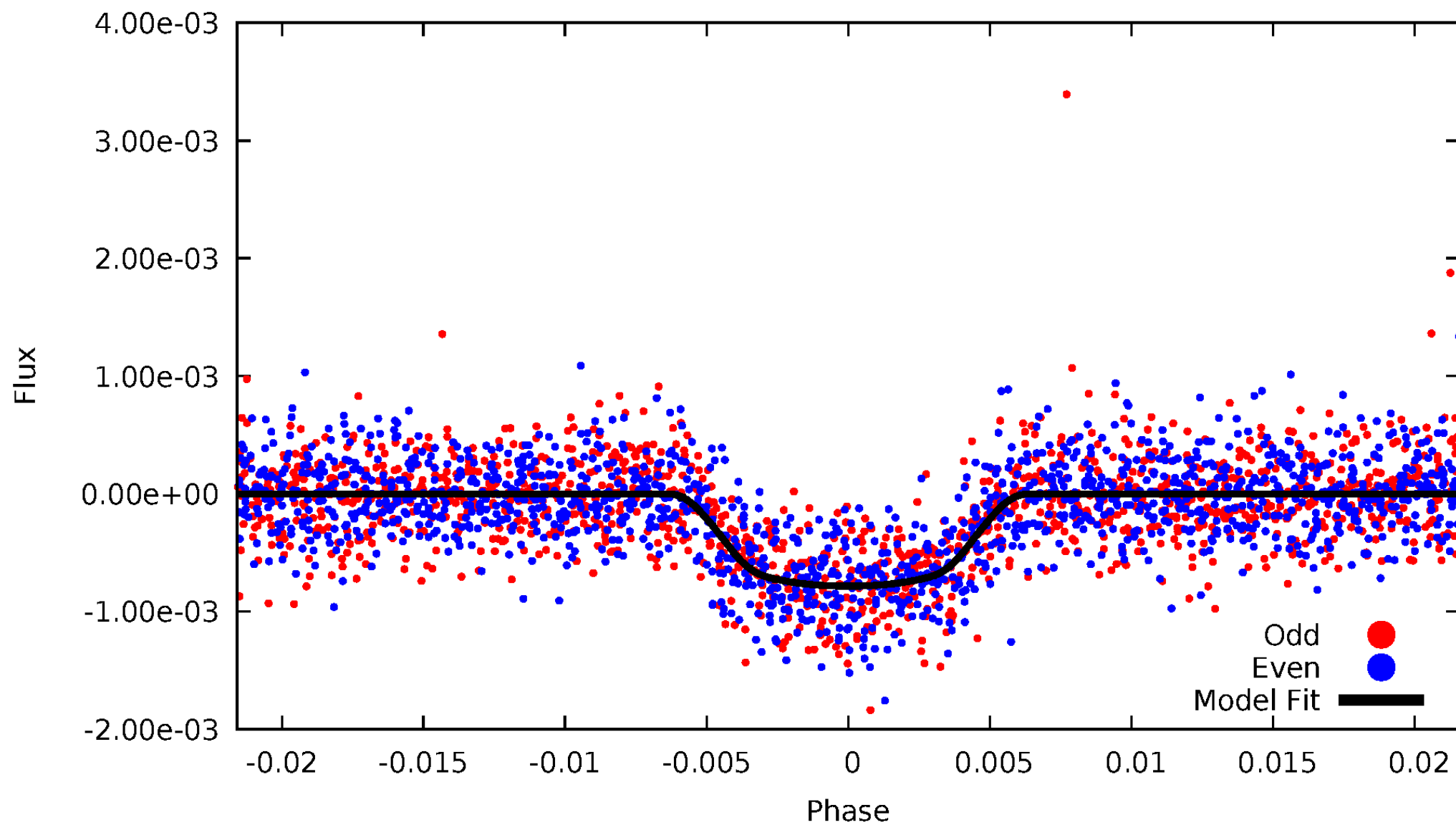


TCE 005978361-01



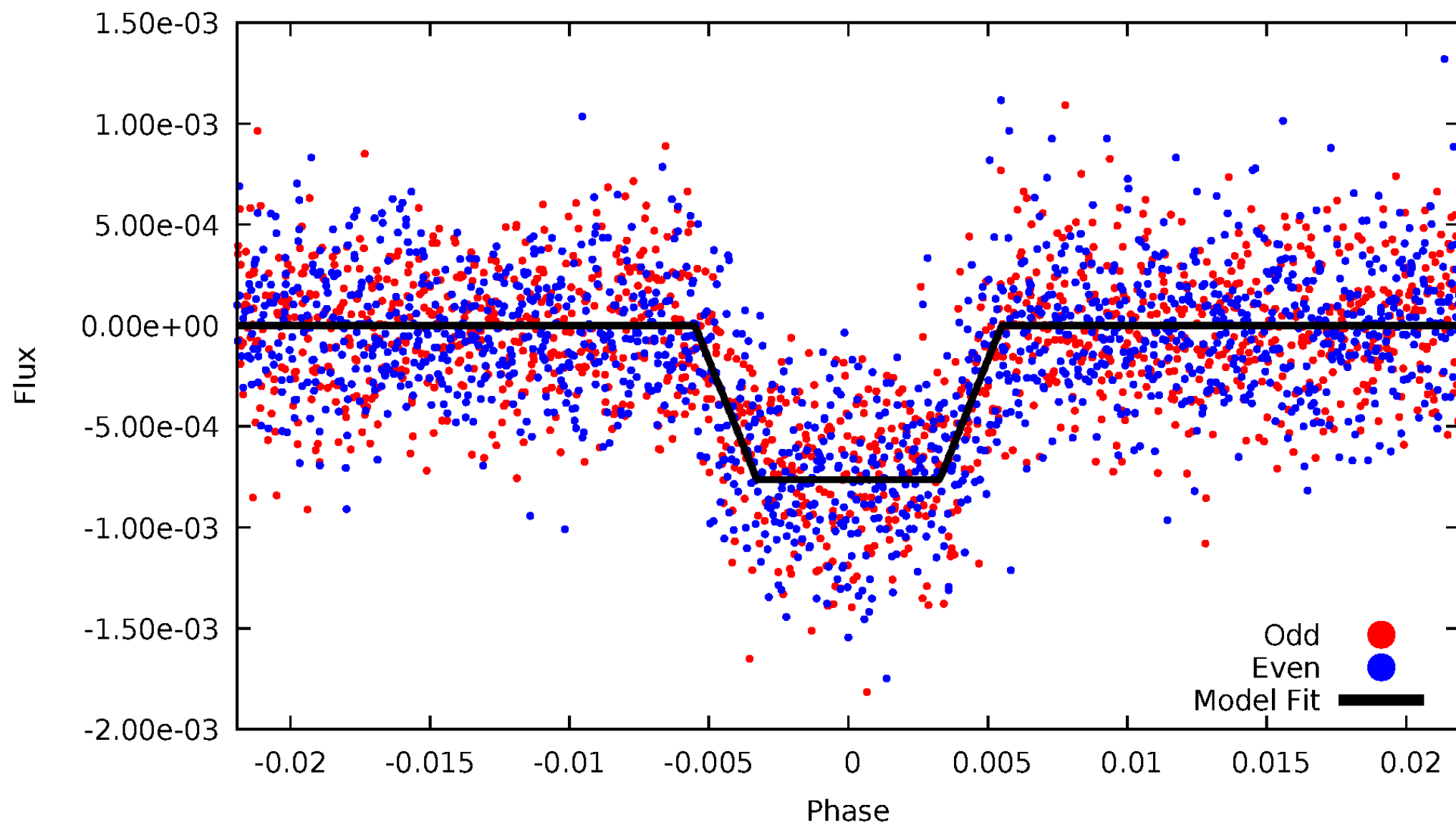
DV Odd/Even

TCE 005978361-01



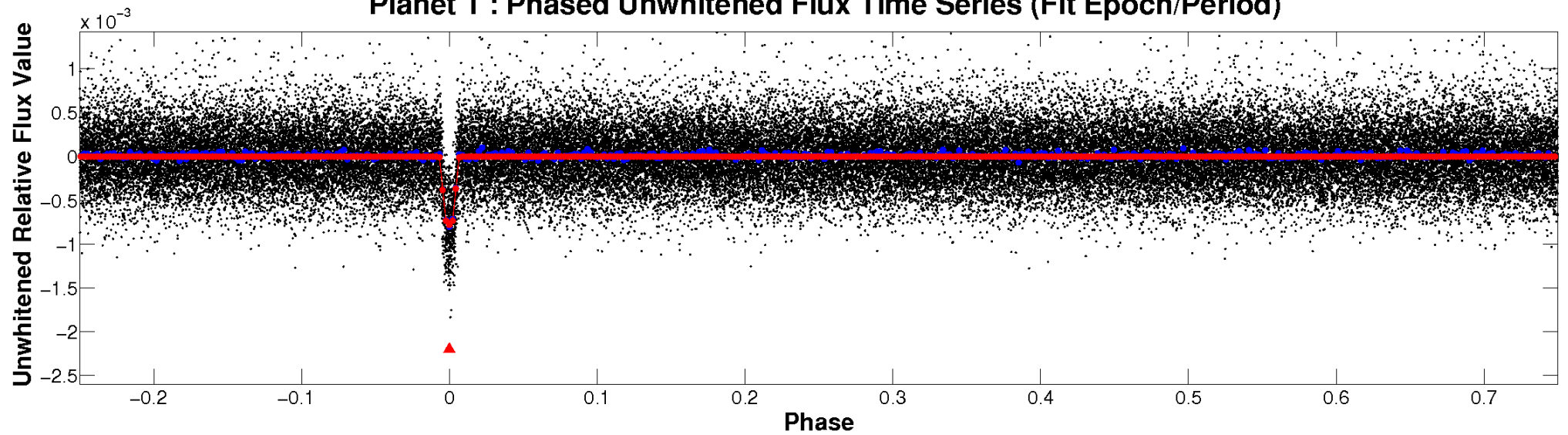
ALT Odd/Even

TCE 005978361-01

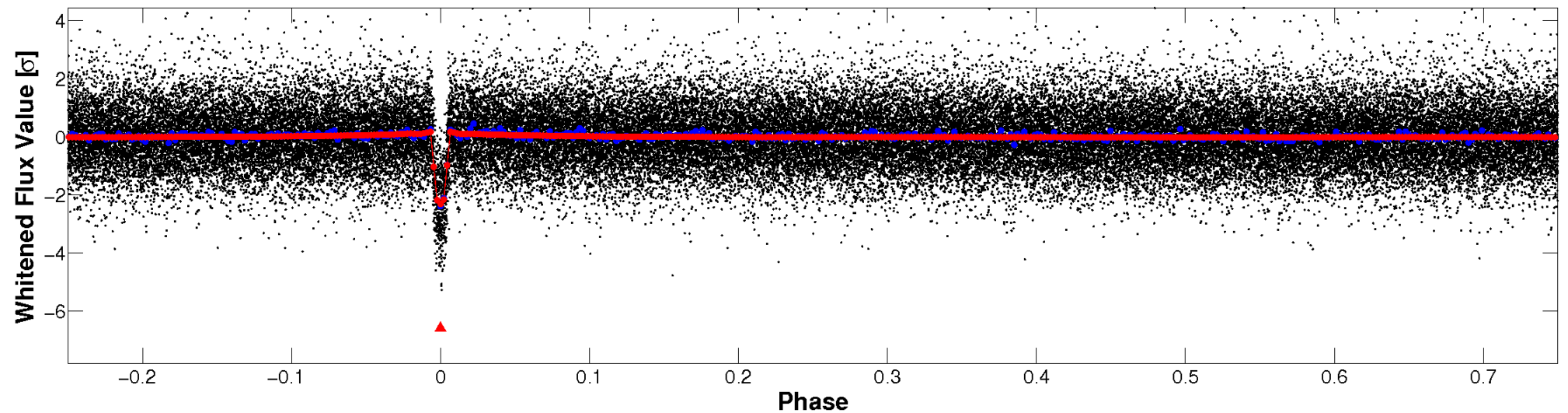


Non-Whitened Vs. Whitened Light Curve

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

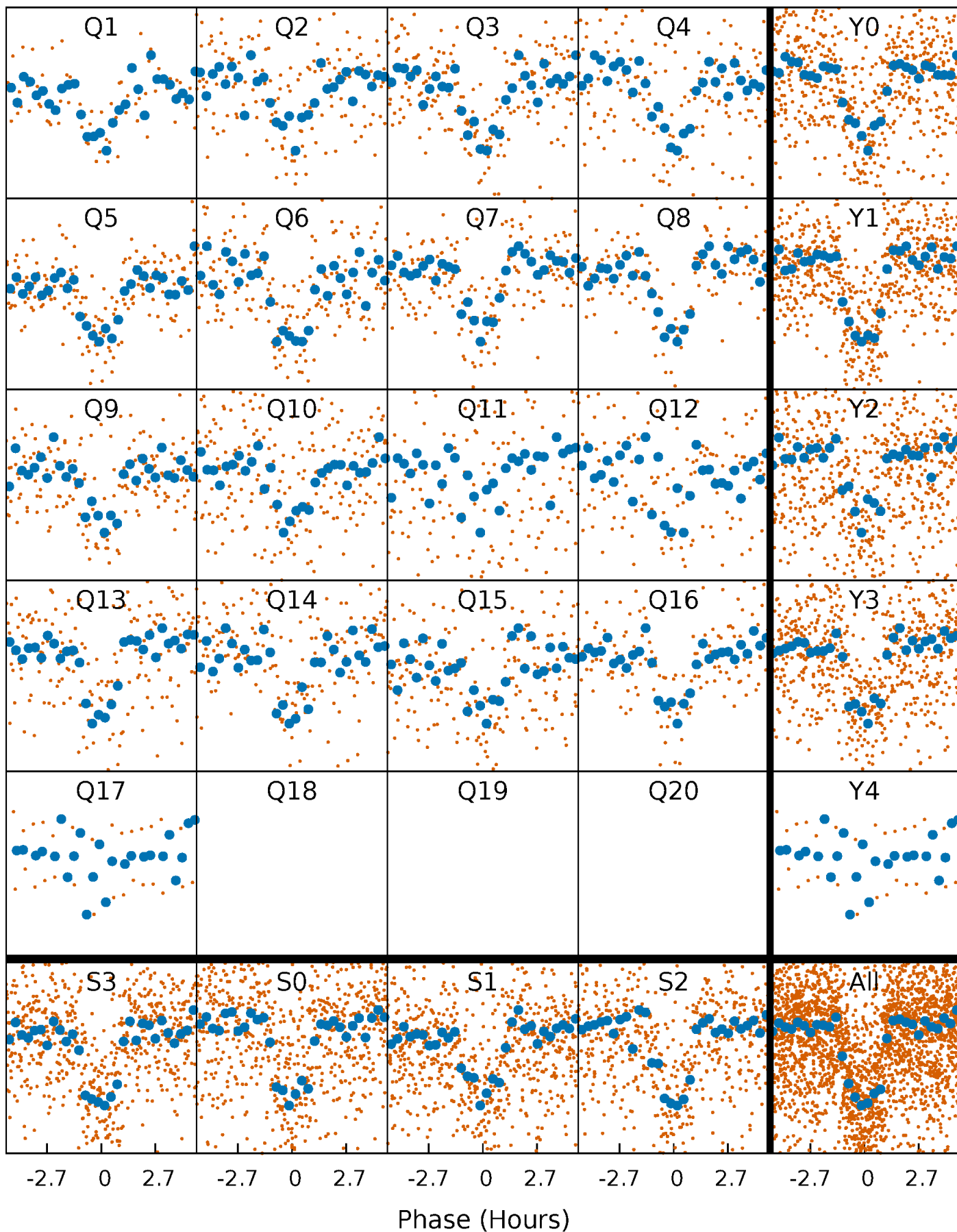


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



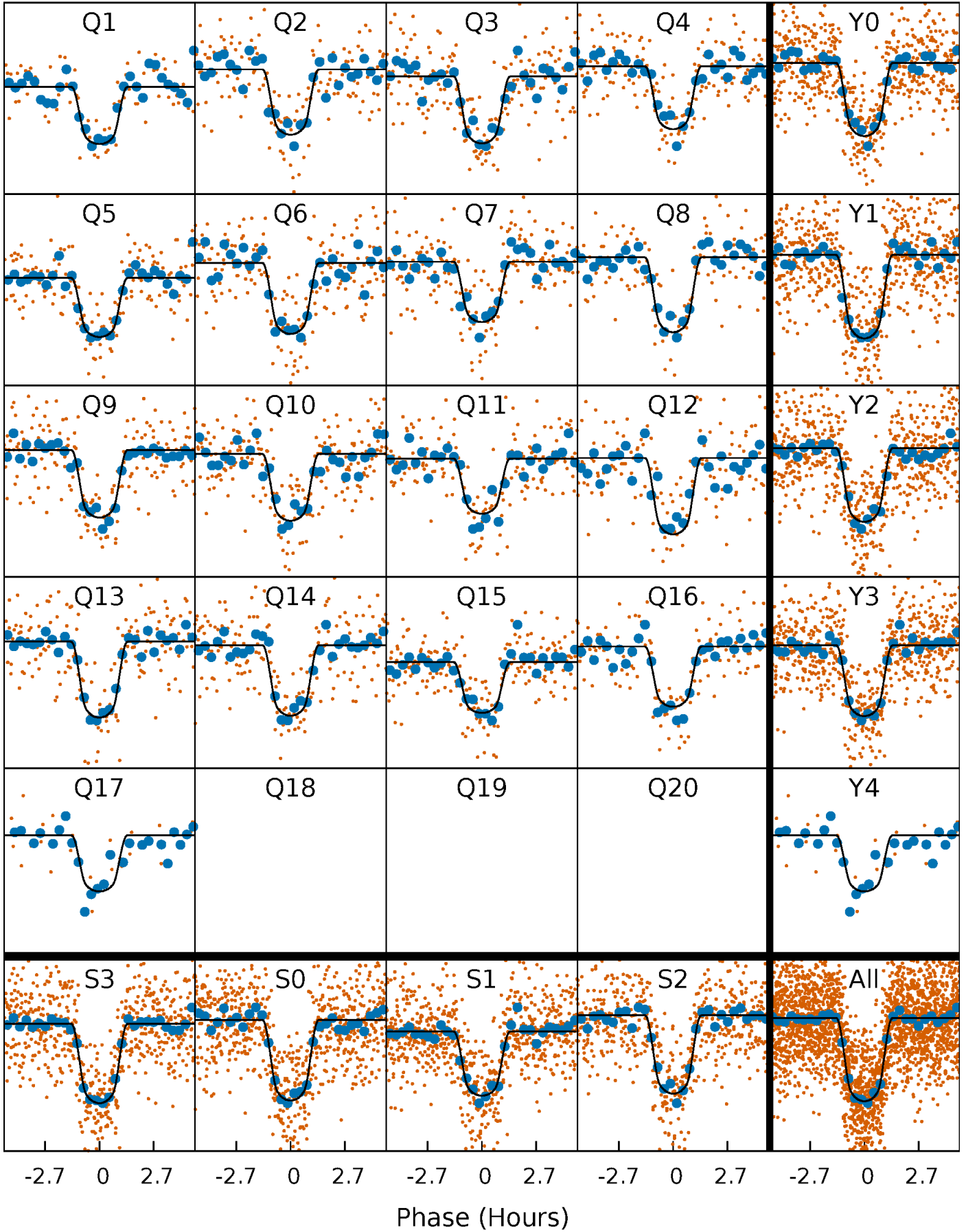
PDC Quarter-Phased Transit Curves

TCE 005978361-01 P= 9.178568 Days $T_0=136.374999$ (BKJD)



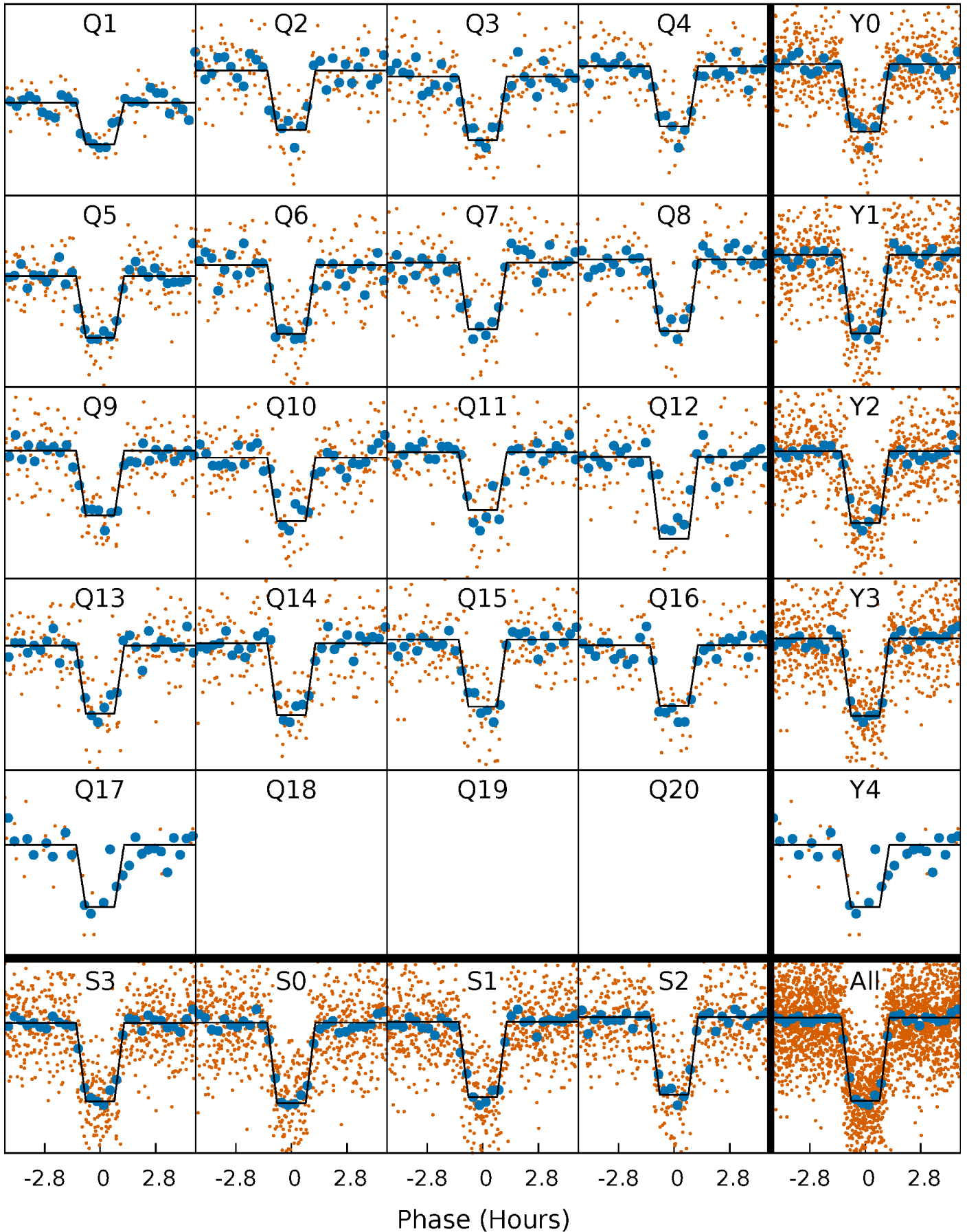
DV Quarter-Phased Transit Curves

TCE 005978361-01 P= 9.178568 Days $T_0=136.374999$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

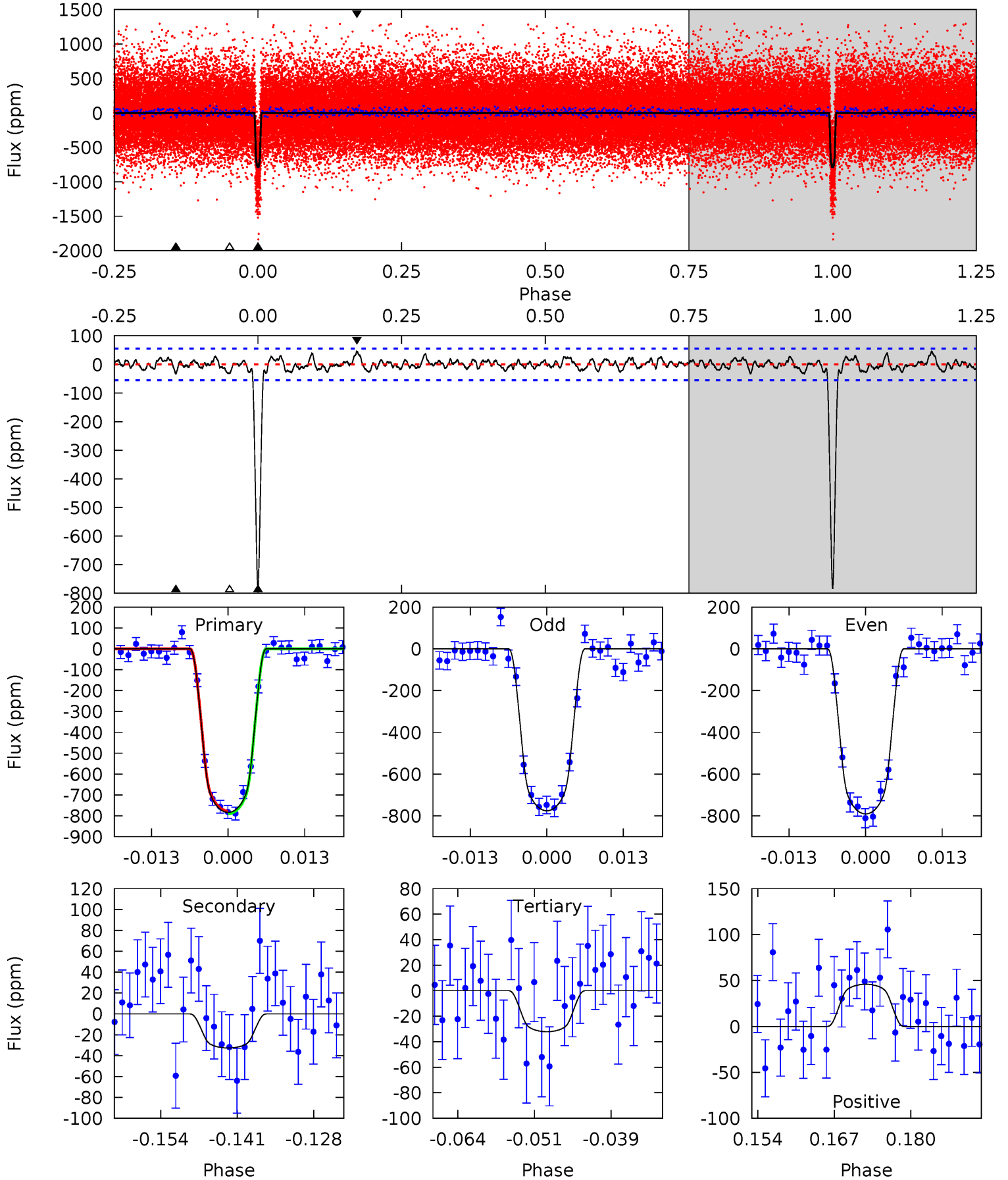
TCE 005978361-01 P= 9.178543 Days $T_0=136.376759$ (BKJD)



DV Model-Shift Uniqueness Test

005978361-01, P = 9.178568 Days, E = 127.196431 Days

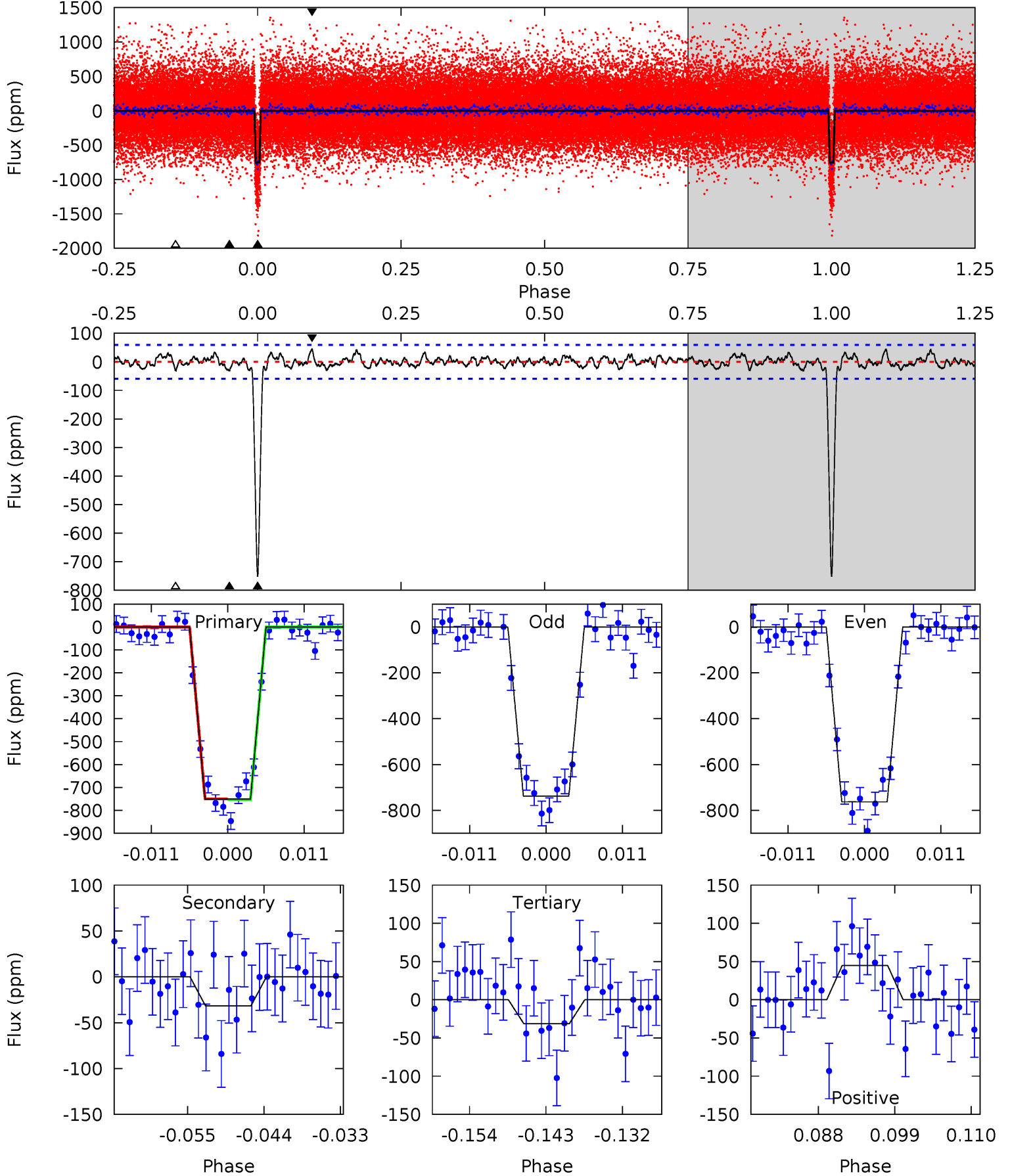
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
70.8	2.95	2.91	4.14	4.98	2.49	1.21	67.9	66.7	0.05	-1.19	0.68	1.02	0.06	0.53



Alt Model-Shift Uniqueness Test

005978361-01, P = 9.178543 Days, E = 127.198216 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
63.6	2.68	2.65	3.80	5.01	2.54	1.12	61.0	59.8	0.03	-1.11	1.06	0.99	0.06	0.11



Stellar Parameters For KIC 005978361

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5506^{+166}_{-166}	$4.584^{+0.036}_{-0.144}$	$-0.200^{+0.300}_{-0.300}$	$0.788^{+0.176}_{-0.070}$	$0.876^{+0.083}_{-0.102}$	$2.518^{+0.475}_{-1.018}$
	+3%/-3%	+1%/-3%	+150%/-150%	+22%/-9%	+9%/-12%	+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 005978361-01 / KOI 0558.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-33 ± 11	$2.70^{+0.37}_{-0.29}$	1074^{+62}_{-44}	3023^{+158}_{-173}	16^{+7}_{-5}
Alt.	-32 ± 12	$2.45^{+0.32}_{-0.28}$	1071^{+57}_{-43}	3097^{+197}_{-222}	19^{+9}_{-8}

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

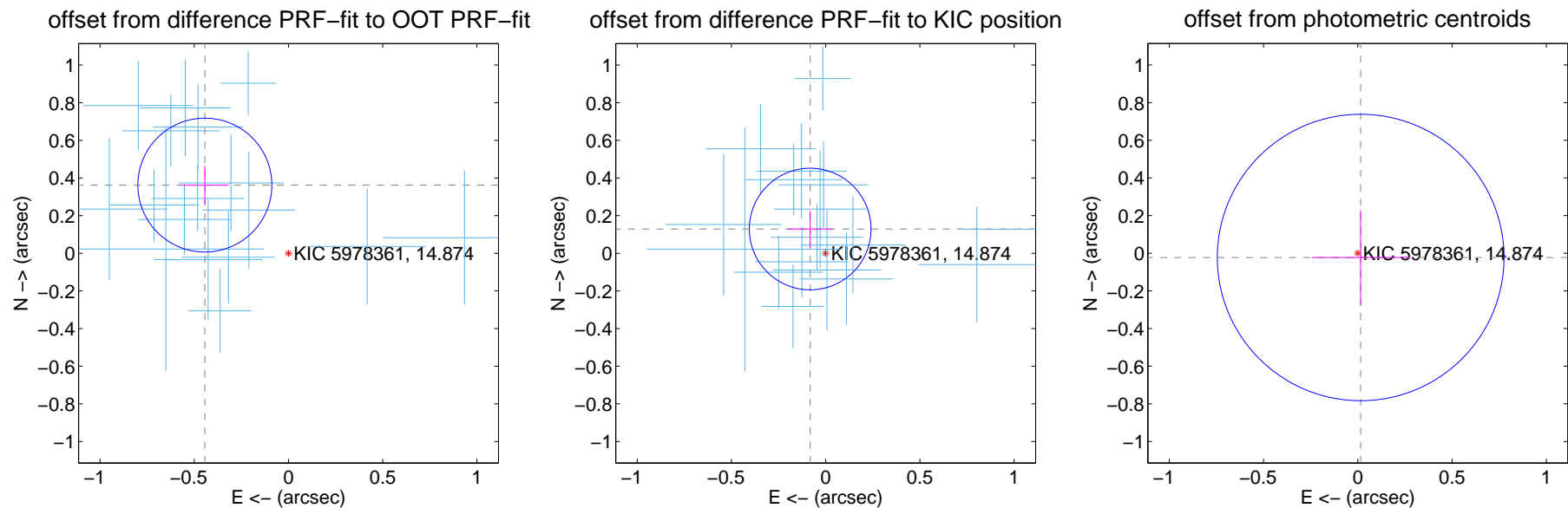
DV Centroid Data

Supplemental centroid analysis for 005978361-01. Kepler magnitude: 14.87. Transit SNR 48.52

There are 17 quarters with good PRF difference image offsets

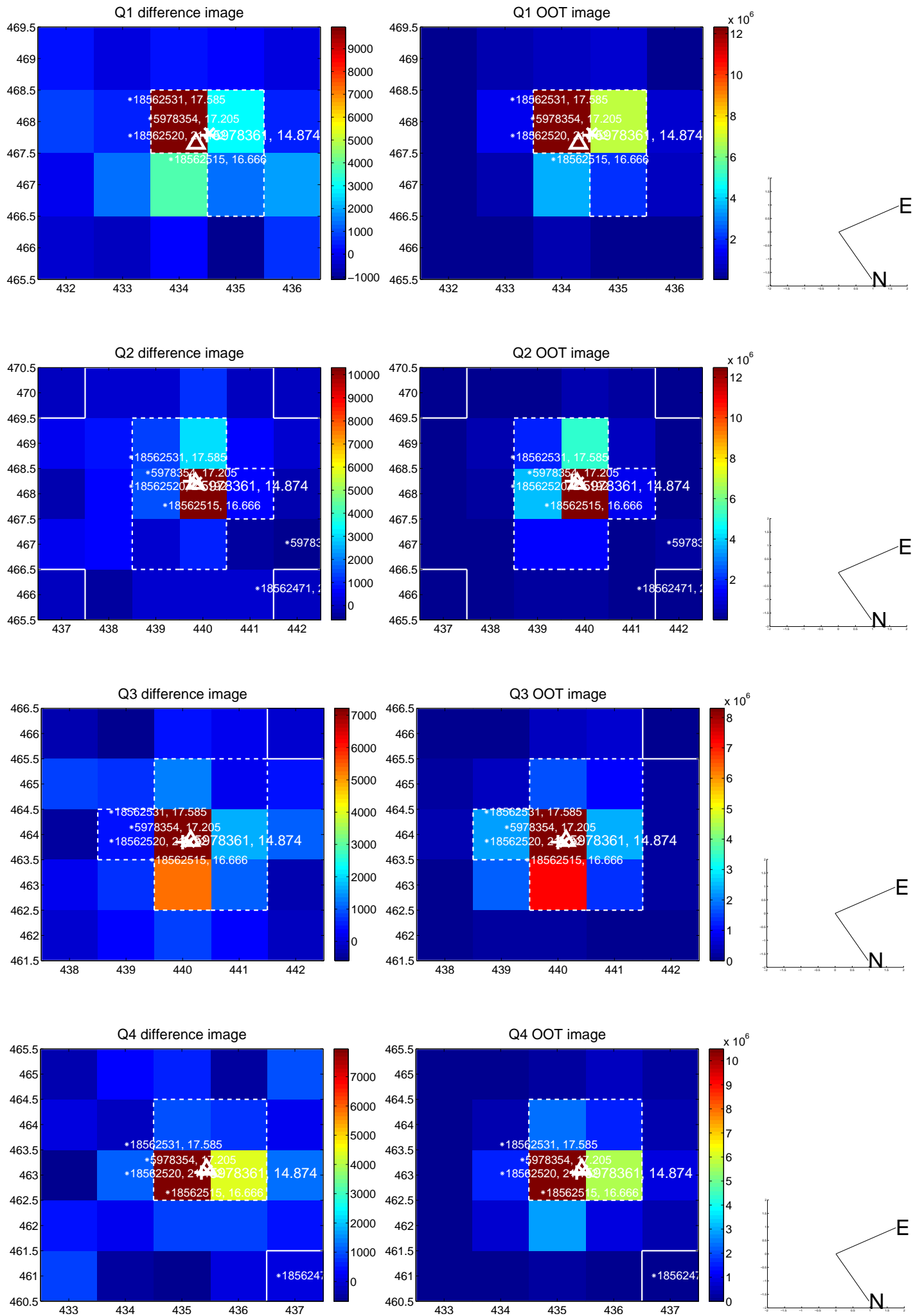
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.573 \pm 0.119	4.83	0.444 \pm 0.122	0.362 \pm 0.102
PRF-fit source offset from KIC position	0.153 \pm 0.108	1.42	0.082 \pm 0.120	0.129 \pm 0.097
photometric centroid source offset	0.03 \pm 0.25	0.11	-0.02 \pm 0.26	-0.02 \pm 0.25

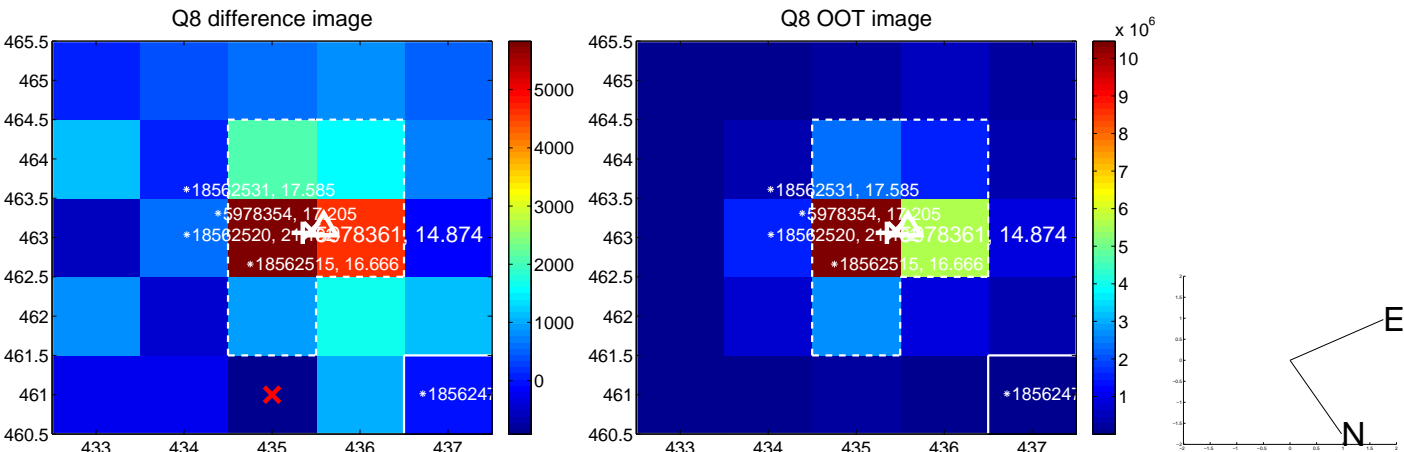
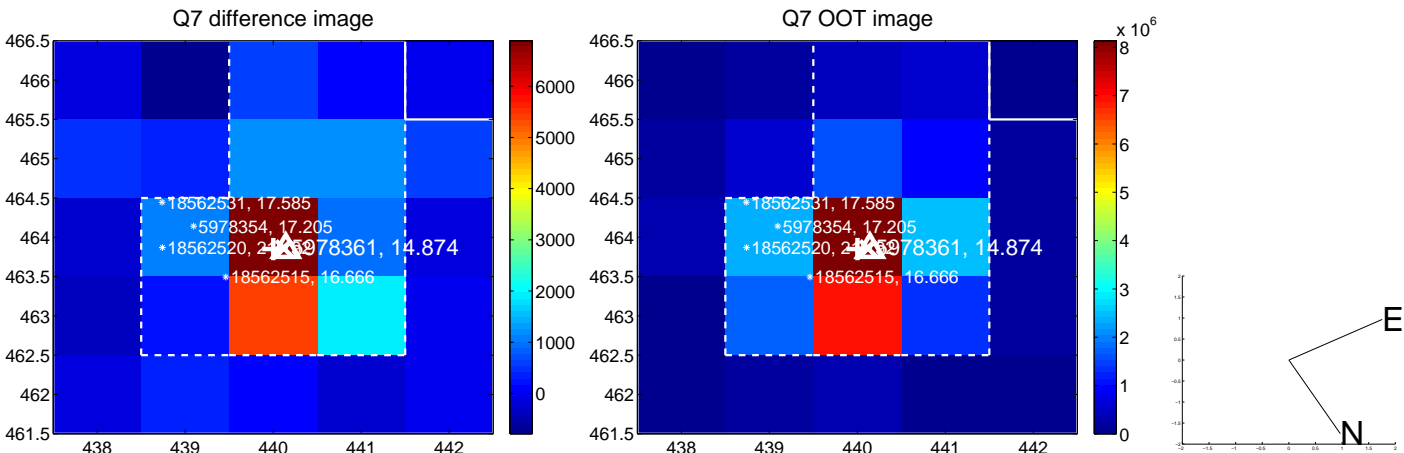
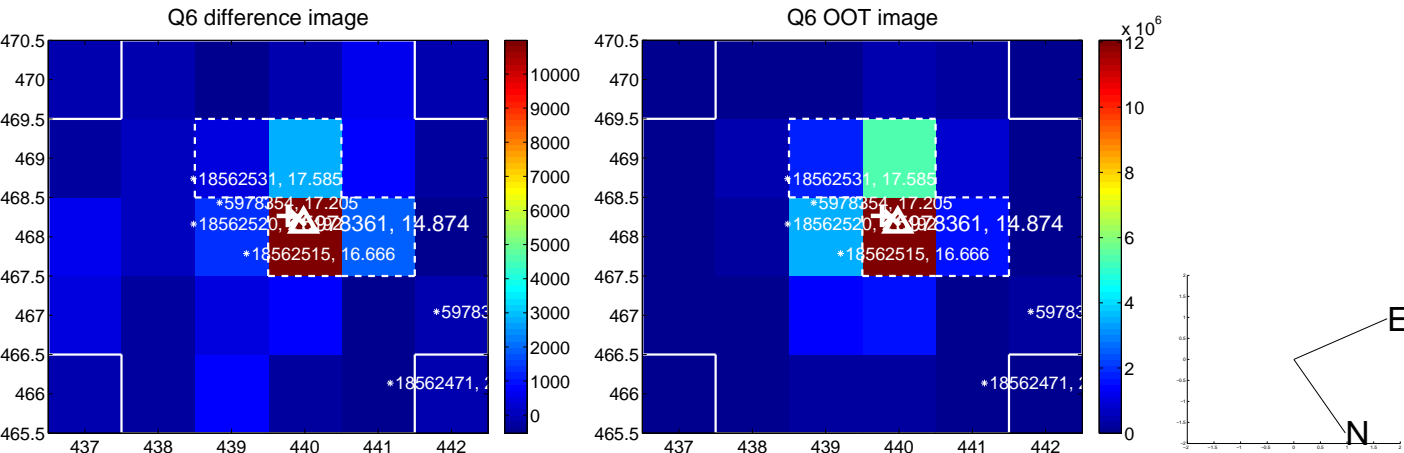
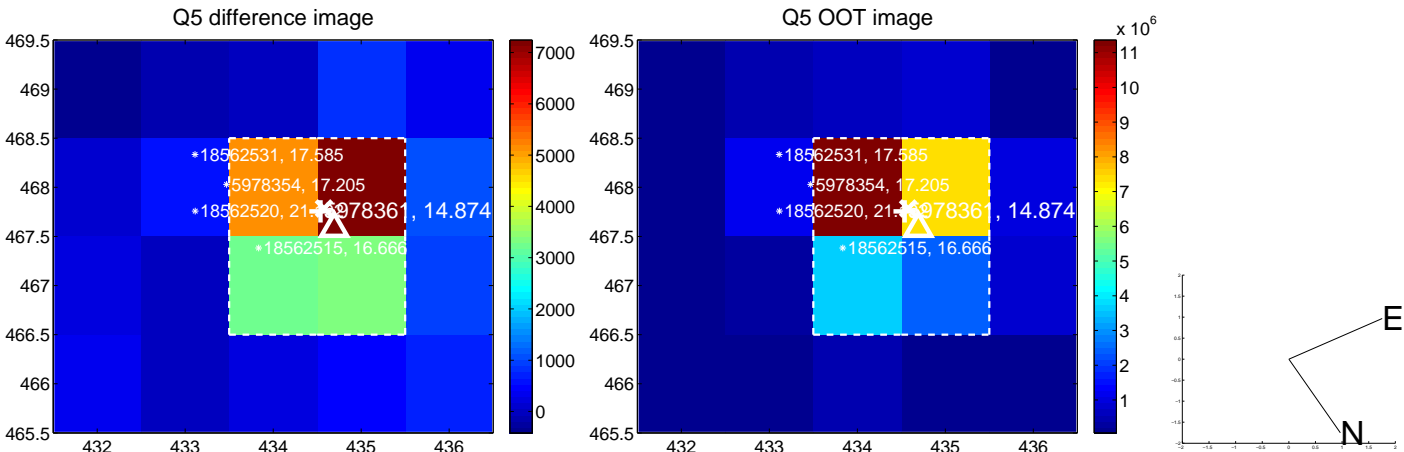


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

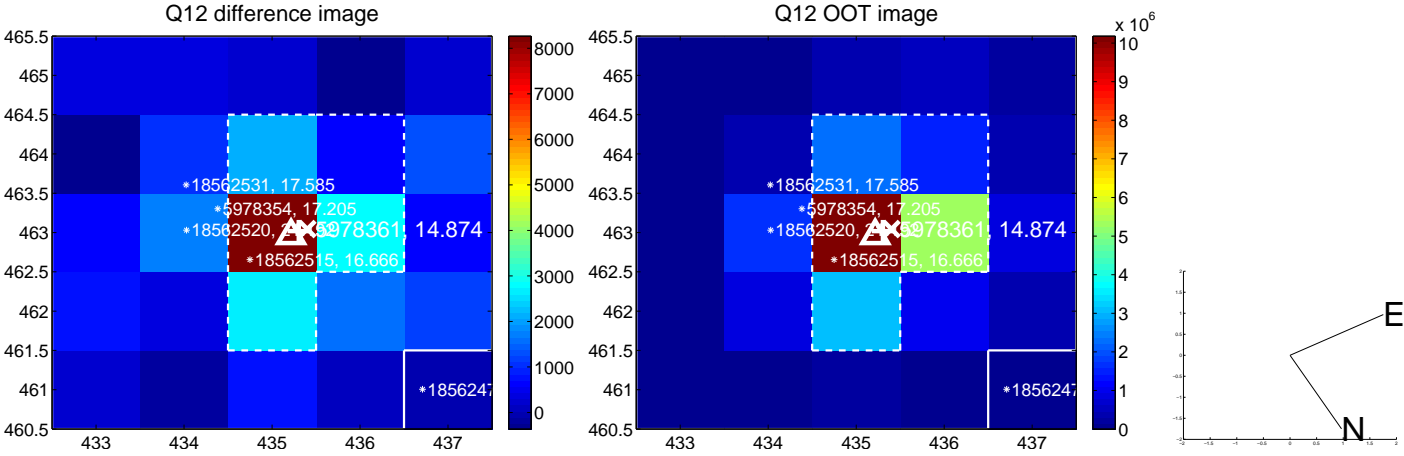
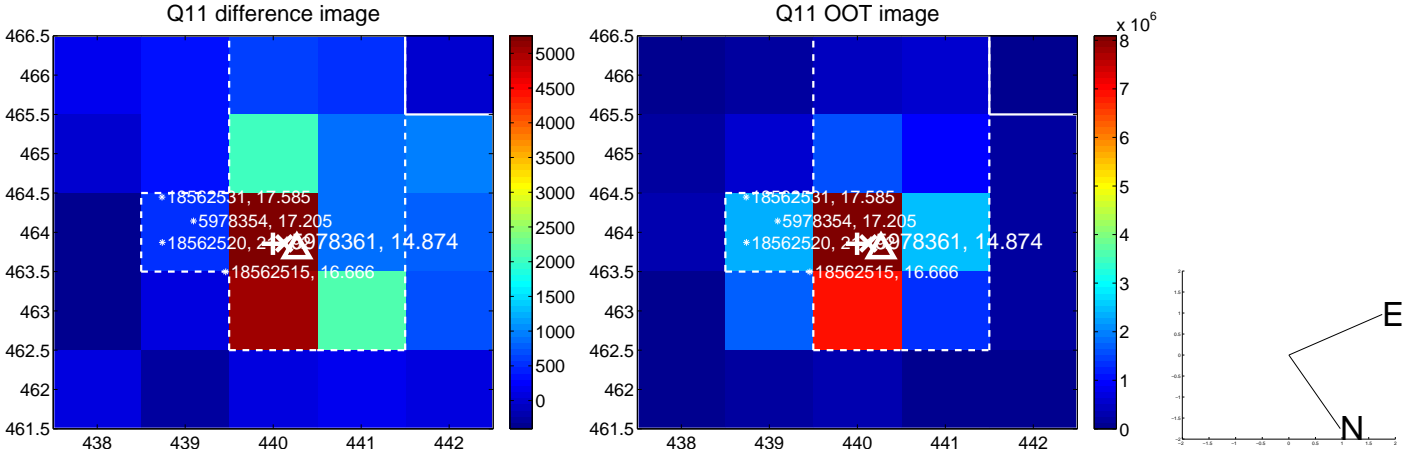
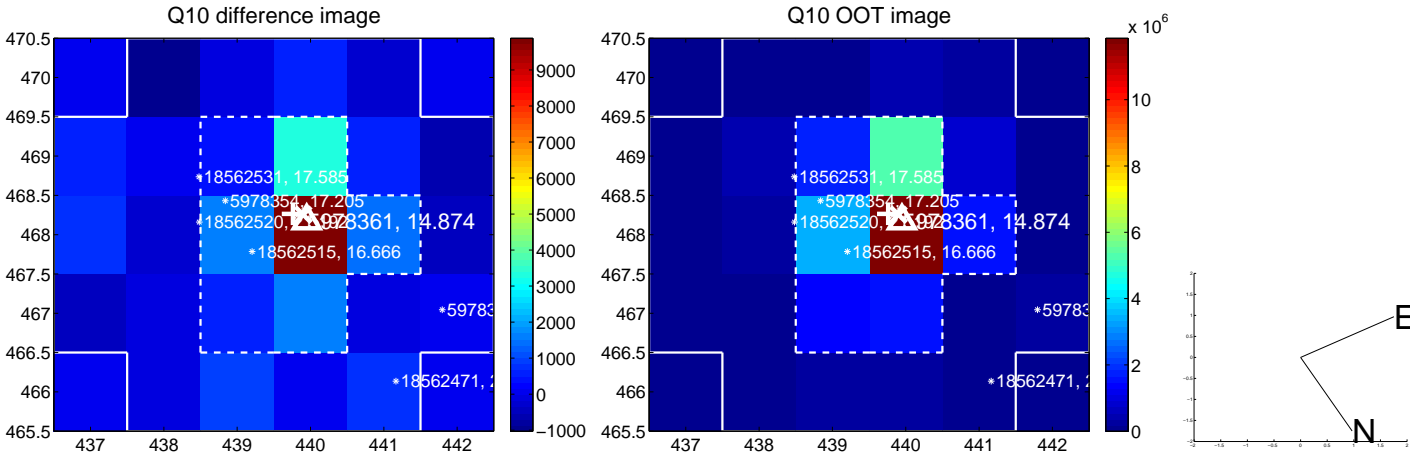
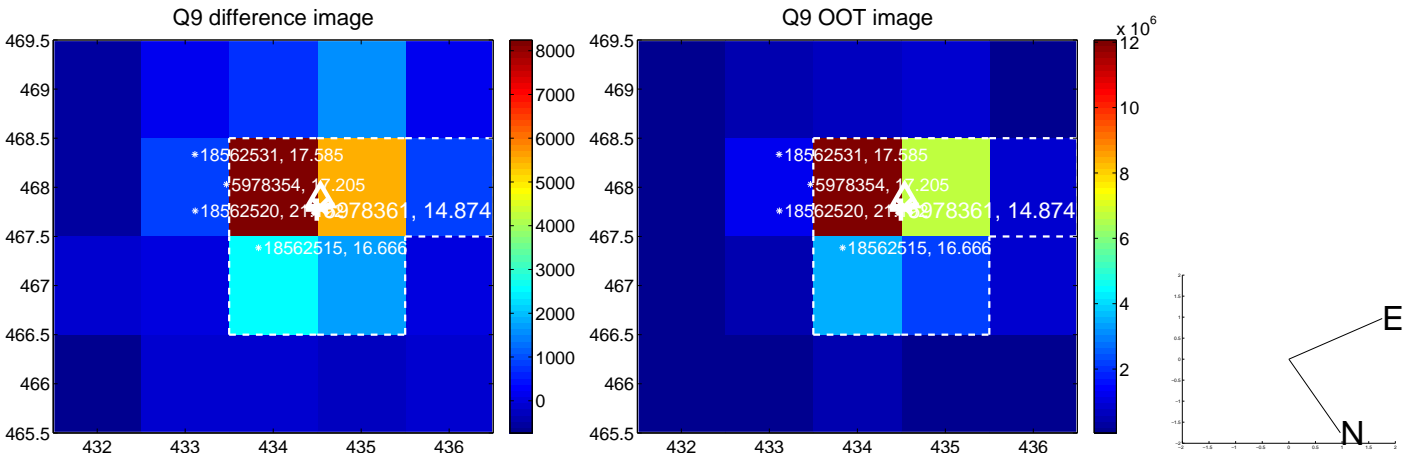
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



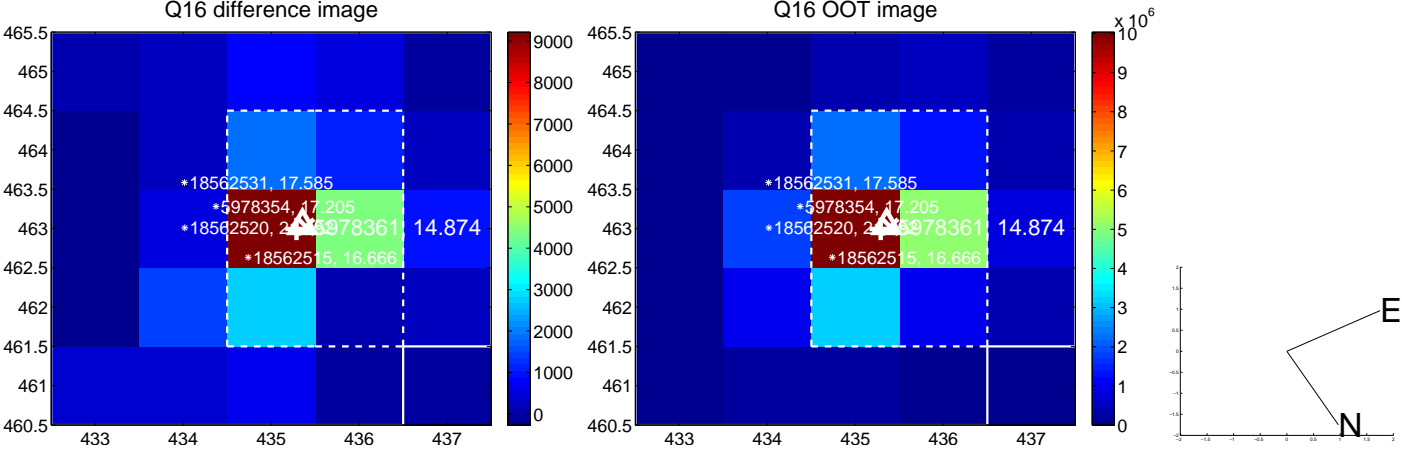
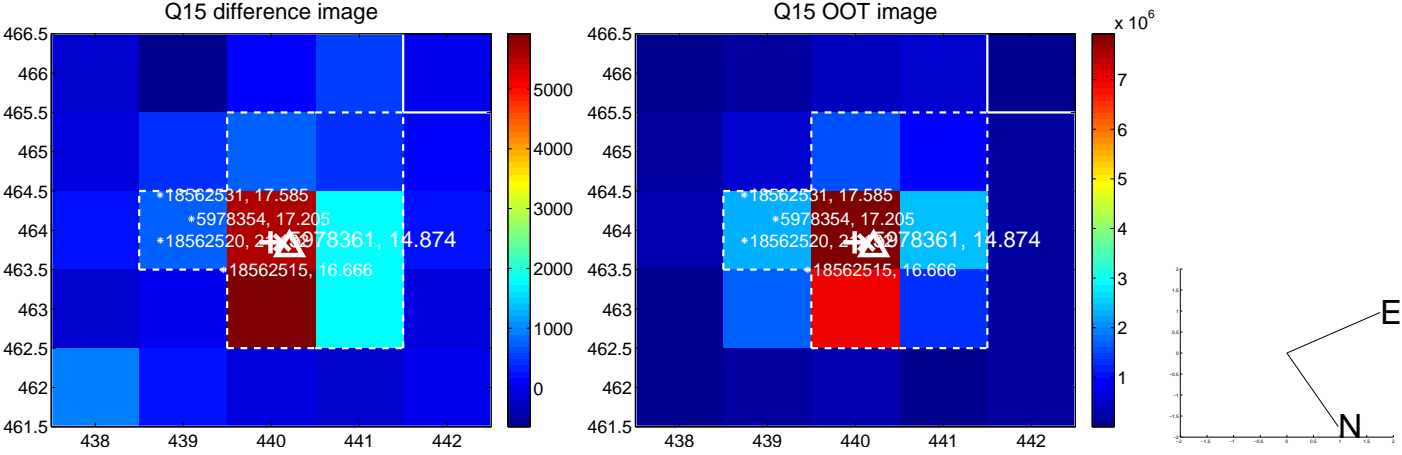
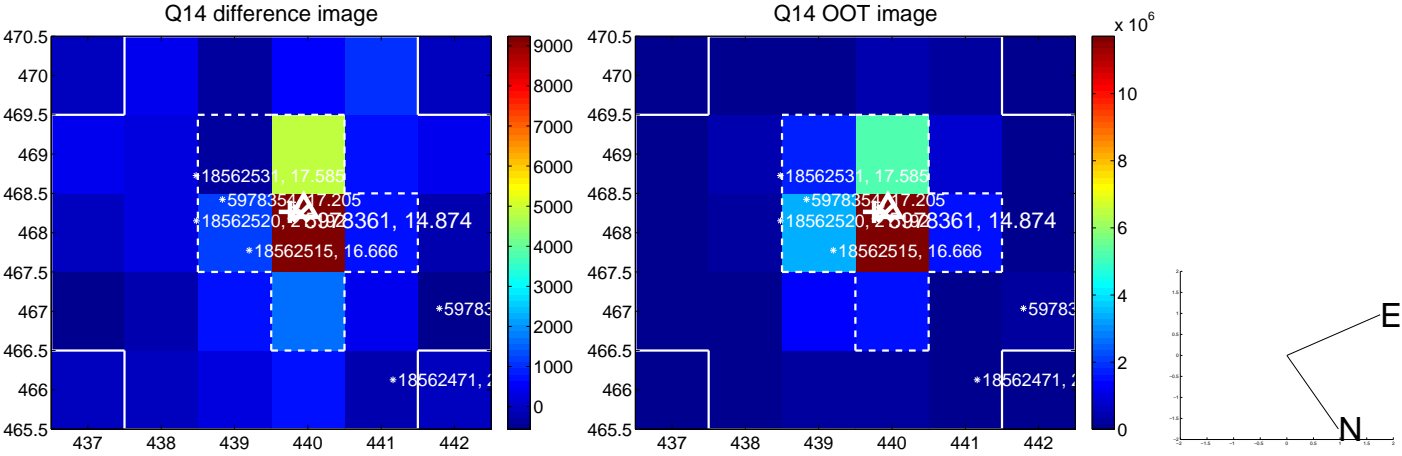
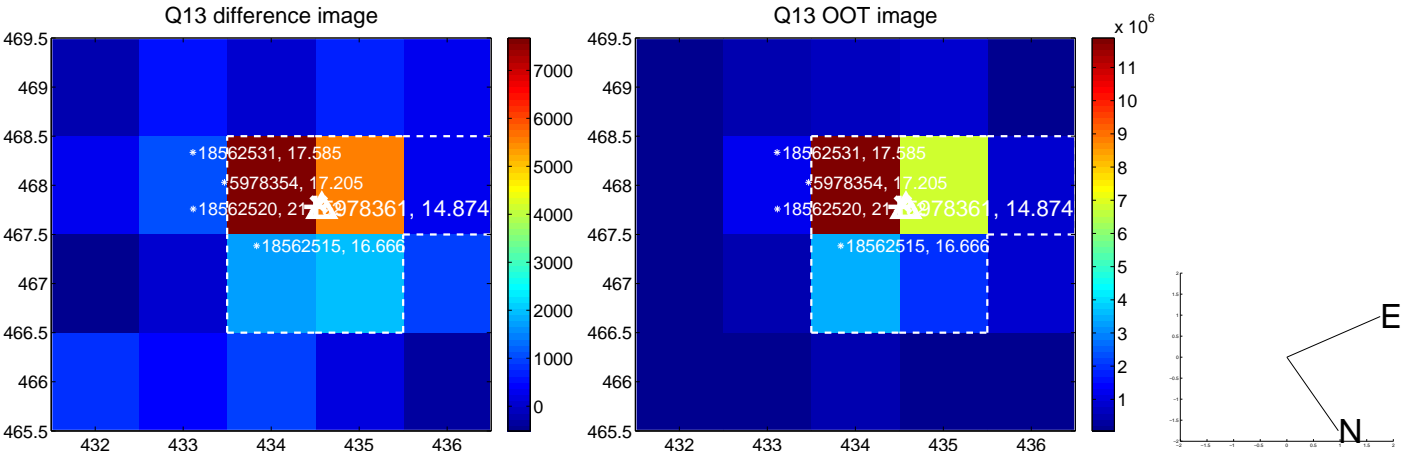
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



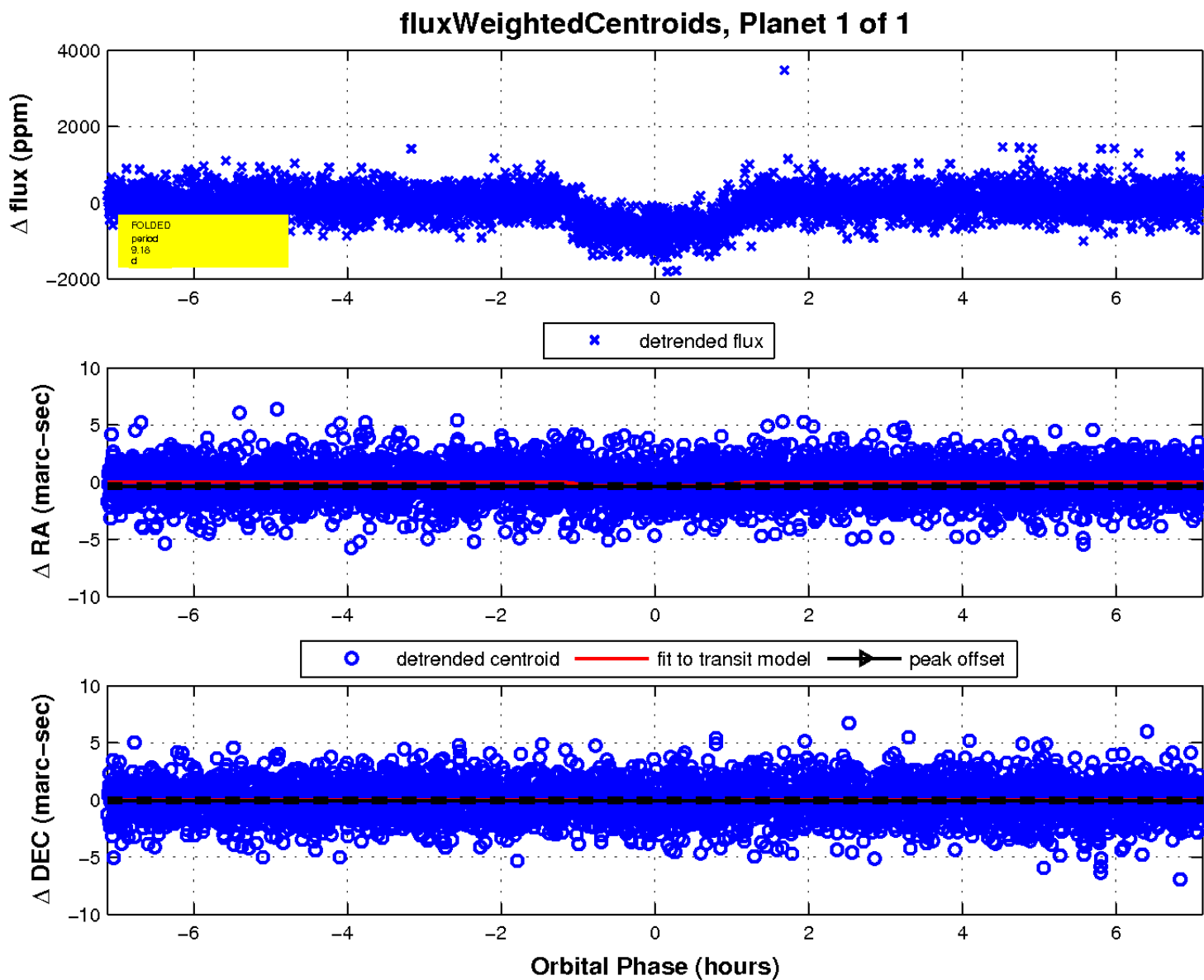
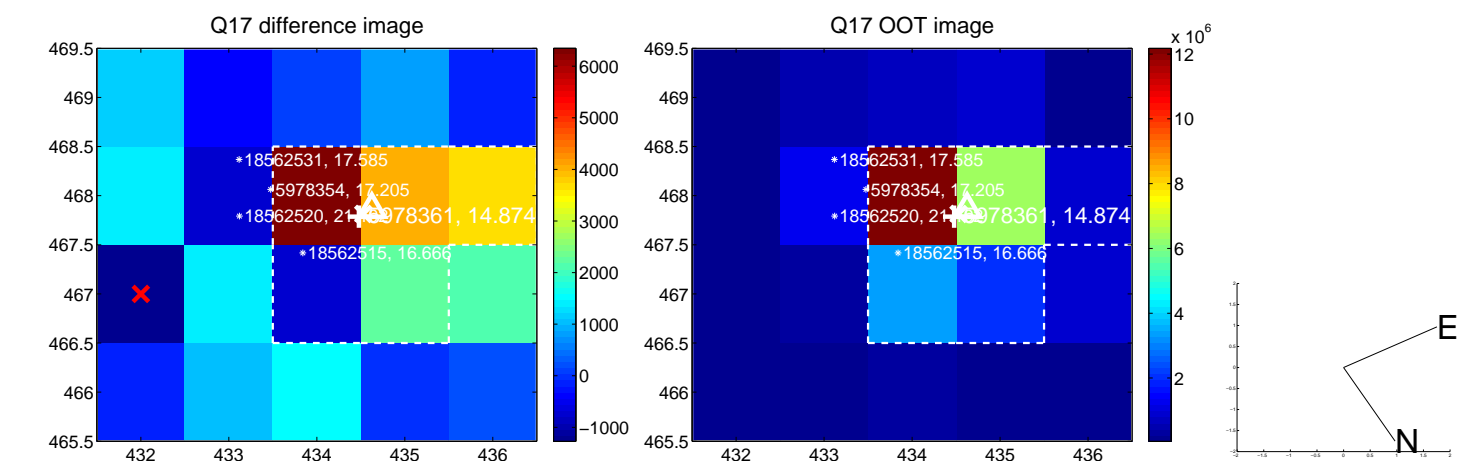
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UKIRT Image

Declination

