

KIC 009353742

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})
009353742-01	OBS	3867.01	0.938744	131.685792	252.1	1.418	38.9	43.5	0.89	5497	1.68	1869.06

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009353742-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

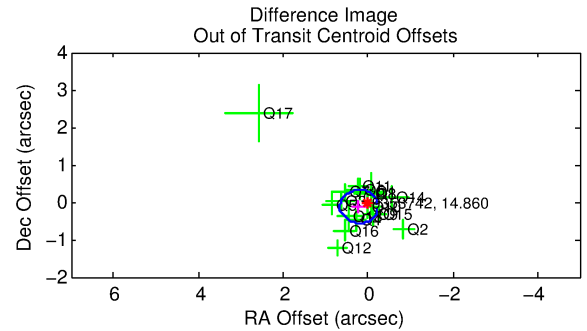
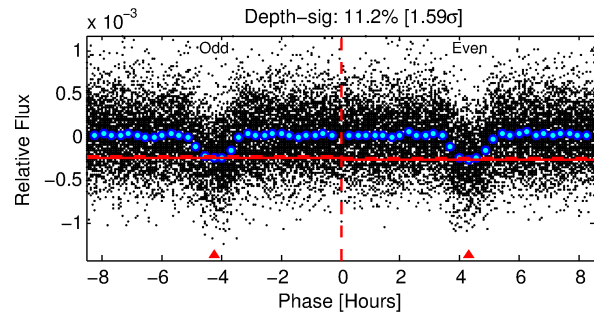
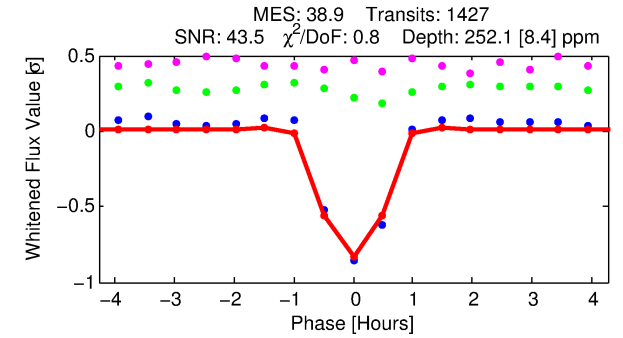
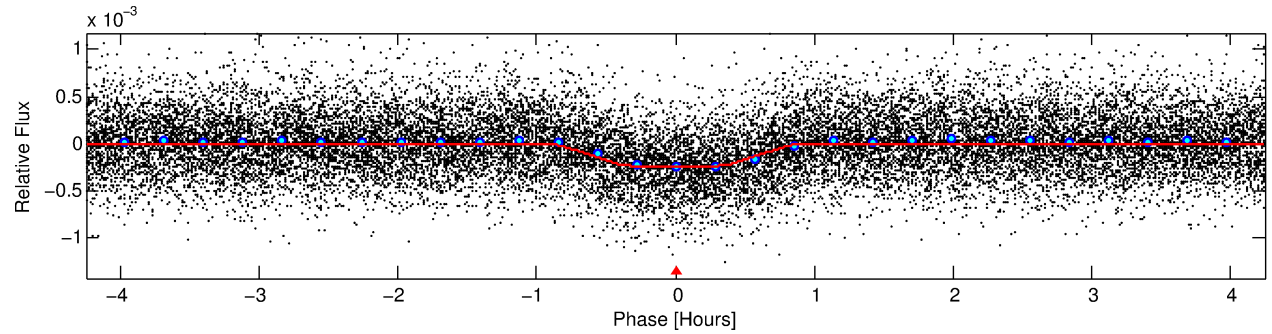
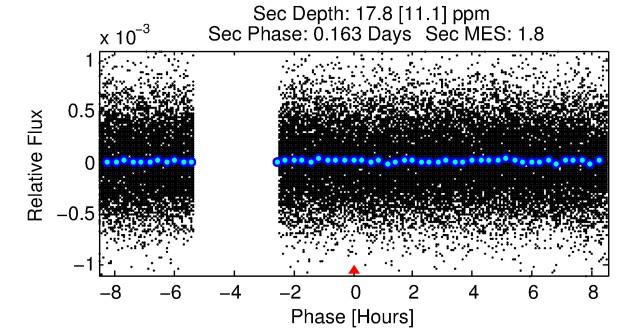
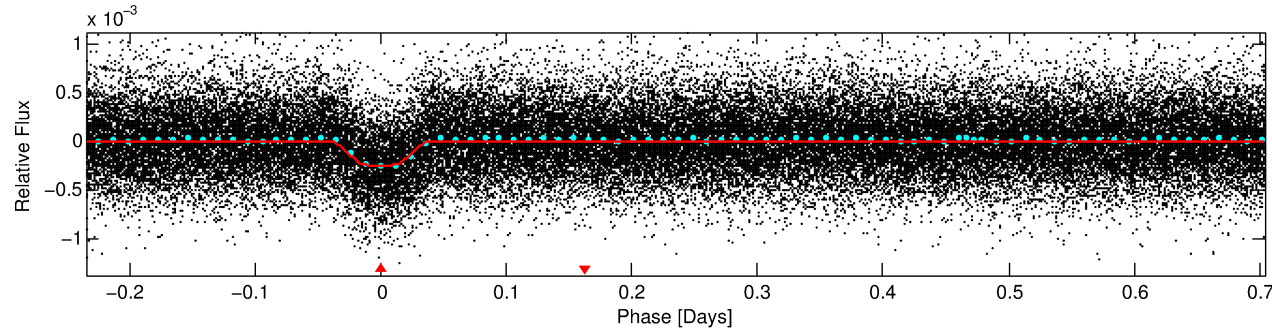
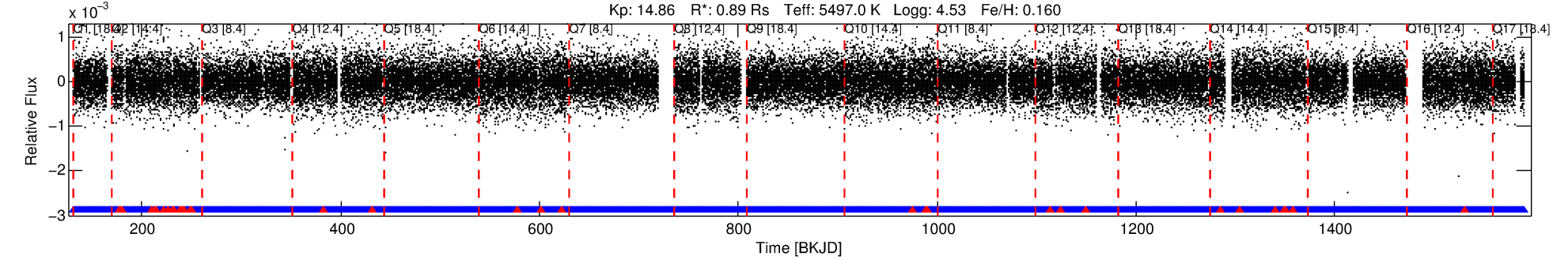
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009353742-01

No Significant Match Found

DV One-Page Summary

KIC: 9353742 Candidate: 1 of 1 Period: 0.939 d
KOI: K03867.01 Corr: 0.949



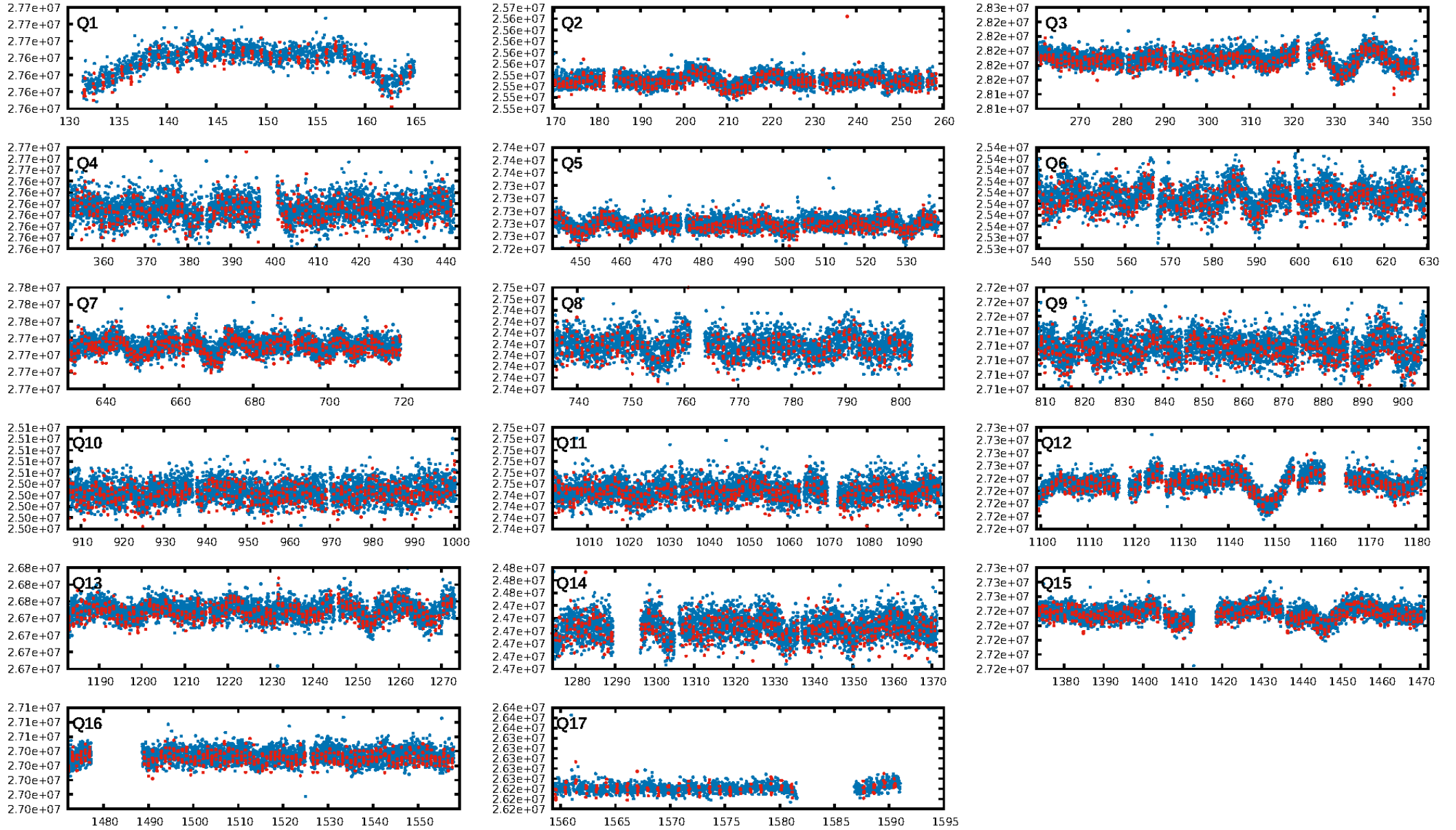
DV Fit Results:

Period = 0.93874 [0.00000] d
Epoch = 131.6858 [0.0005] BKJD
Rp/R* = 0.0174 [0.0045]
a/R* = 2.66 [2.56]
b = 0.89 [0.27]
Seff = 1869.06 [372.39]
Teff = 1677 [84] K
Rp = 1.68 [0.49] Re
a = 0.0185 [0.0022] AU
Ag = 1.19 [0.99] [0.19 σ]
Teffp = 2706 [553] K [1.84 σ]

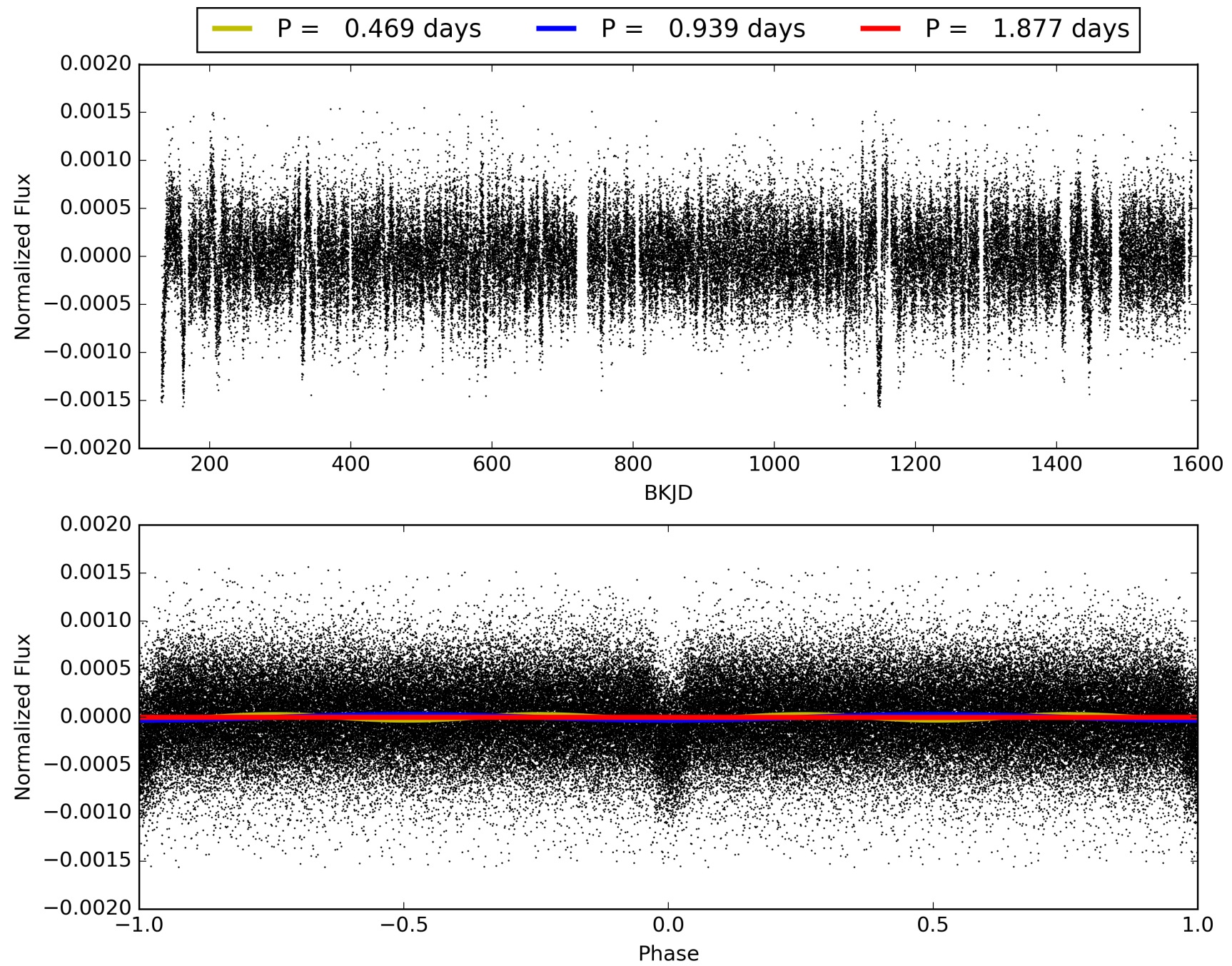
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.98 [1329/1363]
GhostDiagnostic-chr: 10.05
Centroid-sig: 0.4%
Centroid-so: 0.713 arcsec [2.43 σ]
OotOffset-rm: 0.241 arcsec [1.62 σ]
KicOffset-rm: 0.243 arcsec [1.64 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 009353742-01, PDC Light Curves

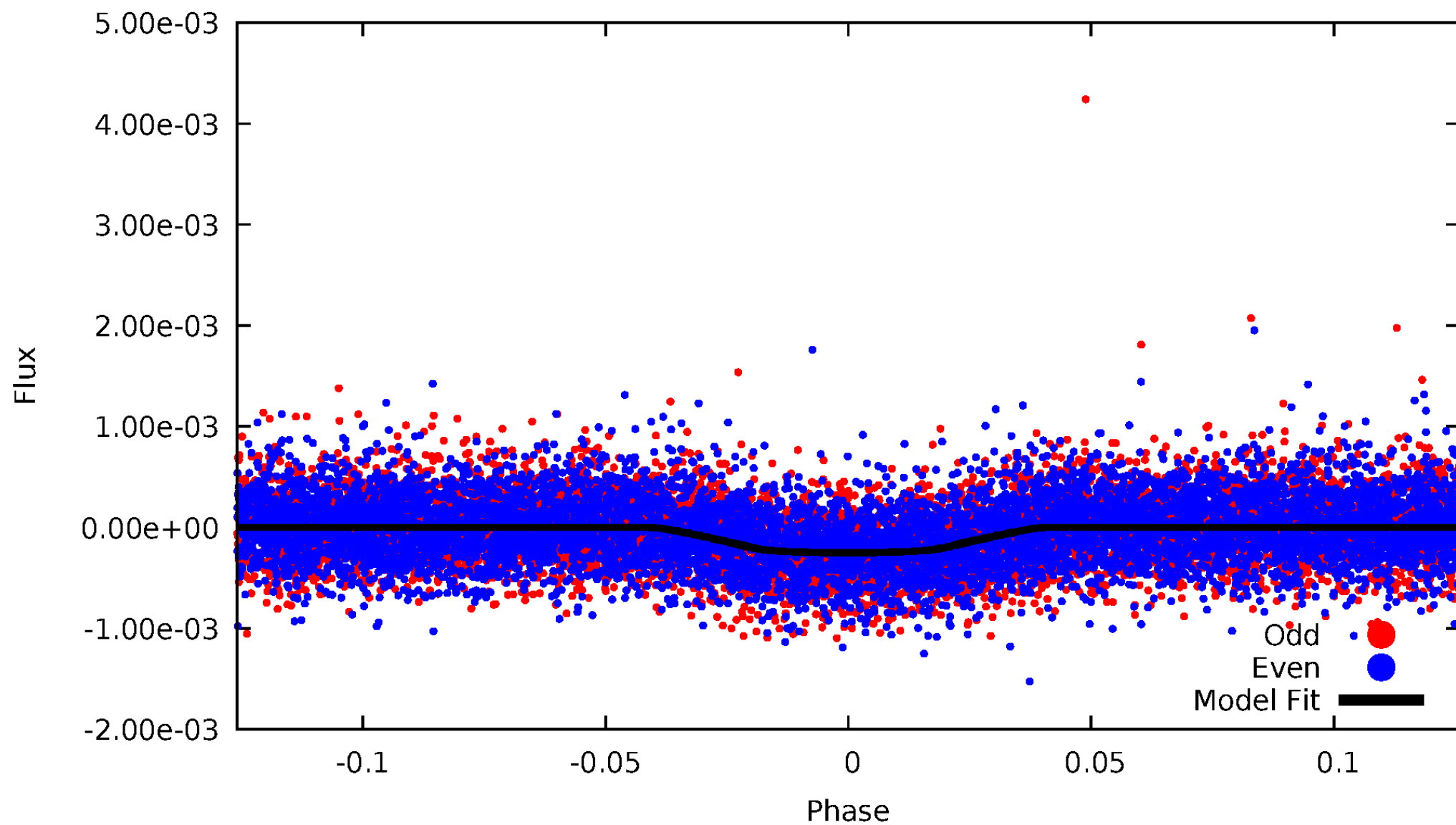


TCE 009353742-01



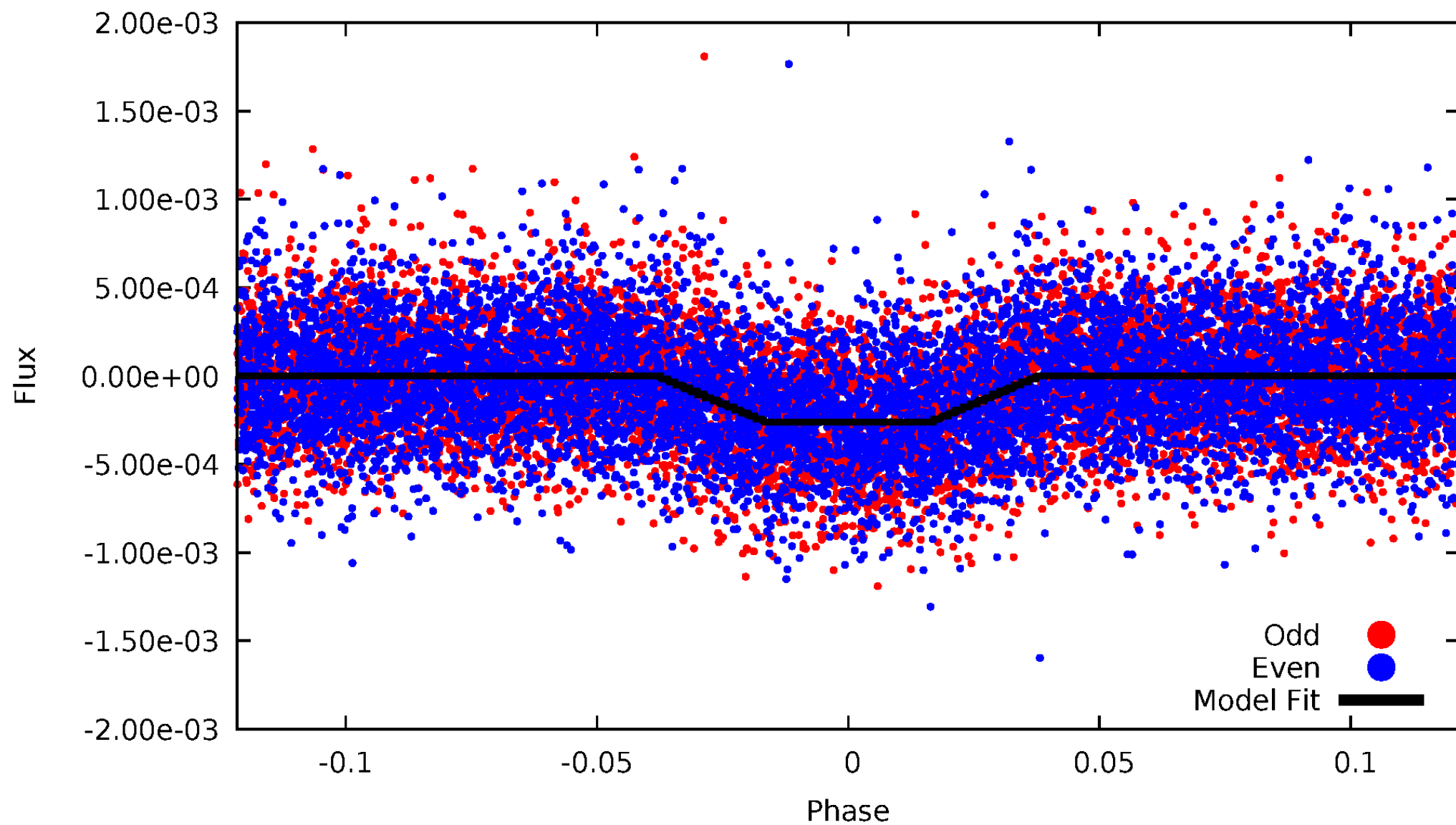
DV Odd/Even

TCE 009353742-01

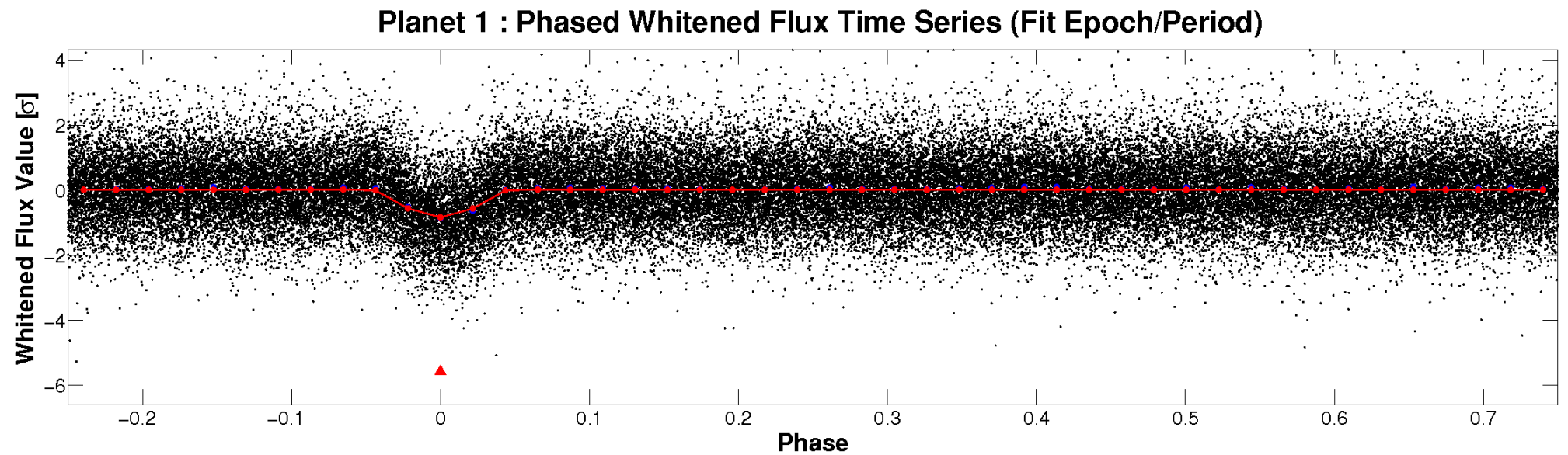
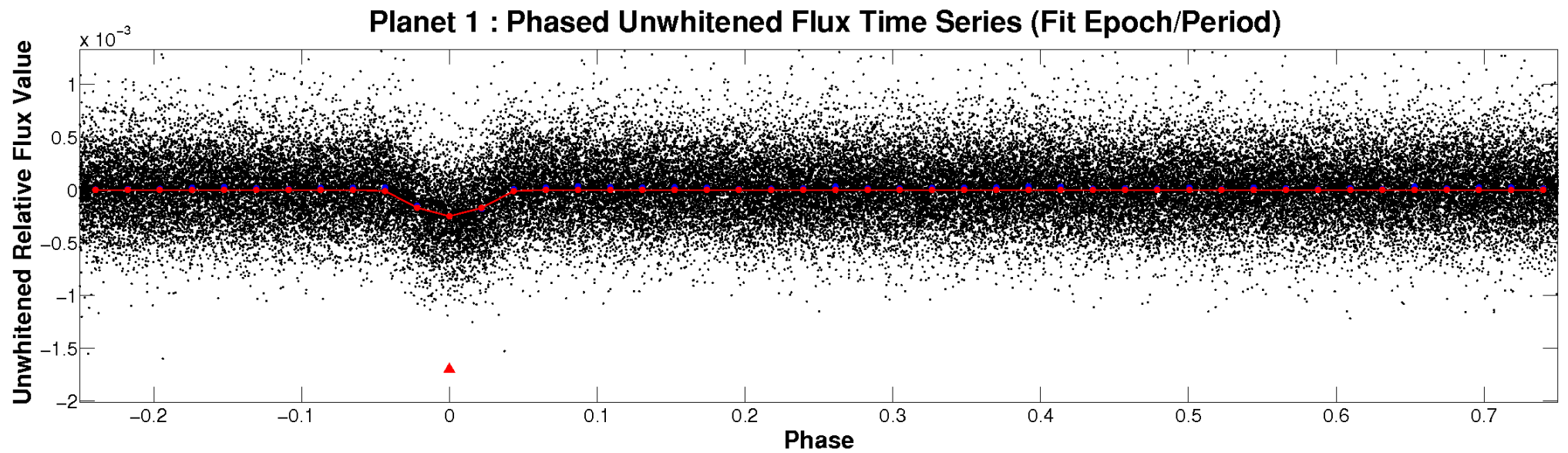


ALT Odd/Even

TCE 009353742-01

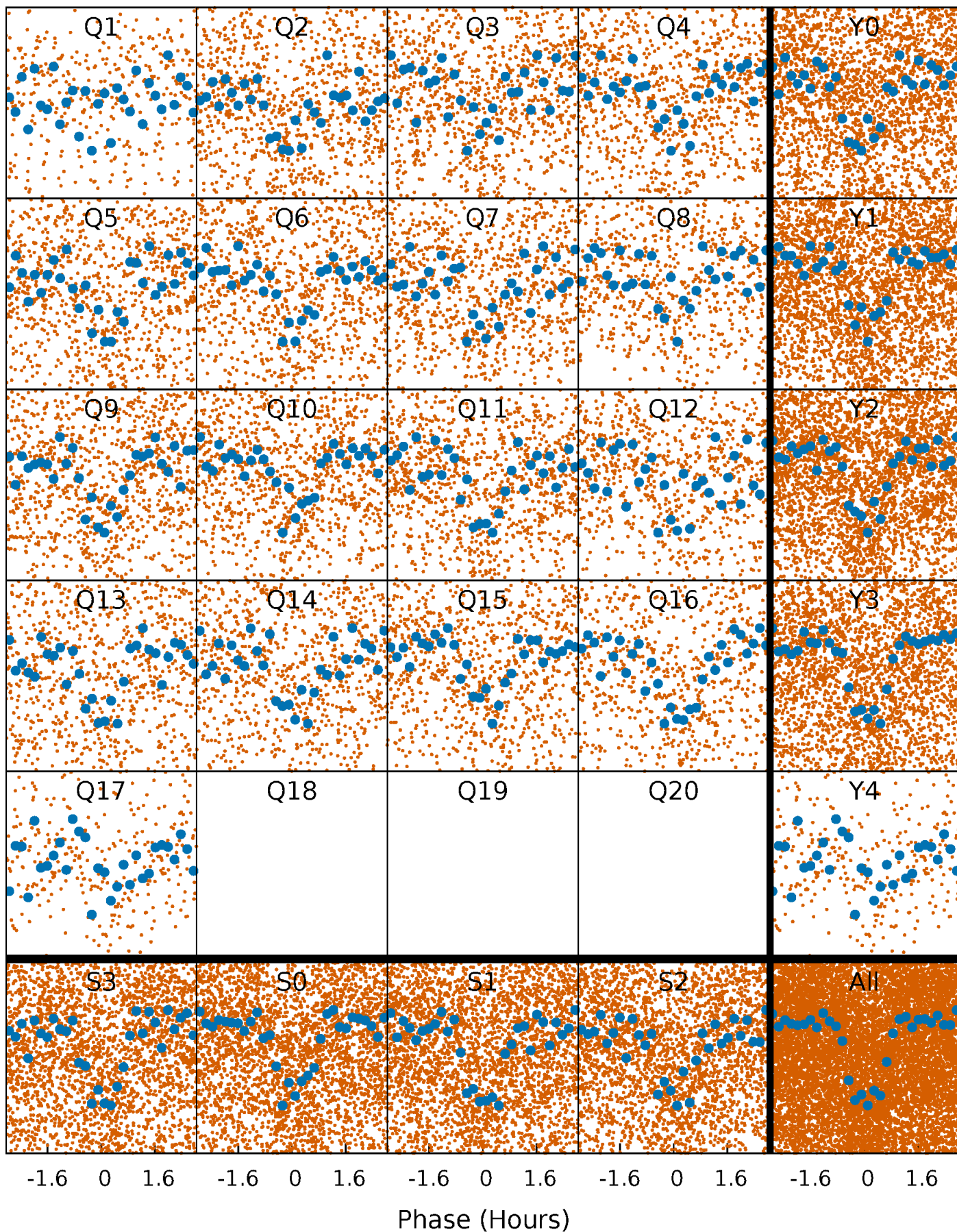


Non-Whitened Vs. Whitened Light Curve



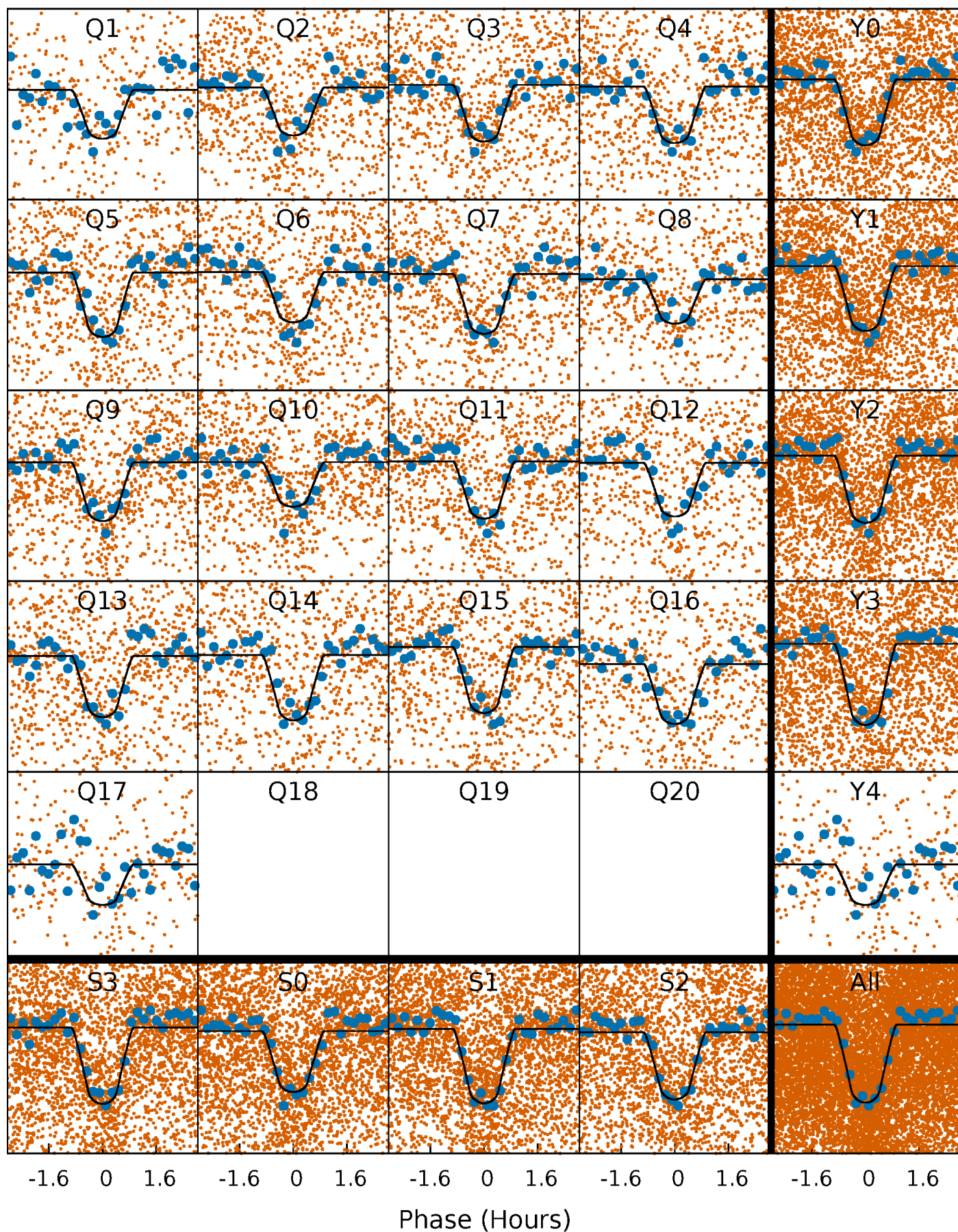
PDC Quarter-Phased Transit Curves

TCE 009353742-01 P= 0.938744 Days $T_0=131.685792$ (BKJD)



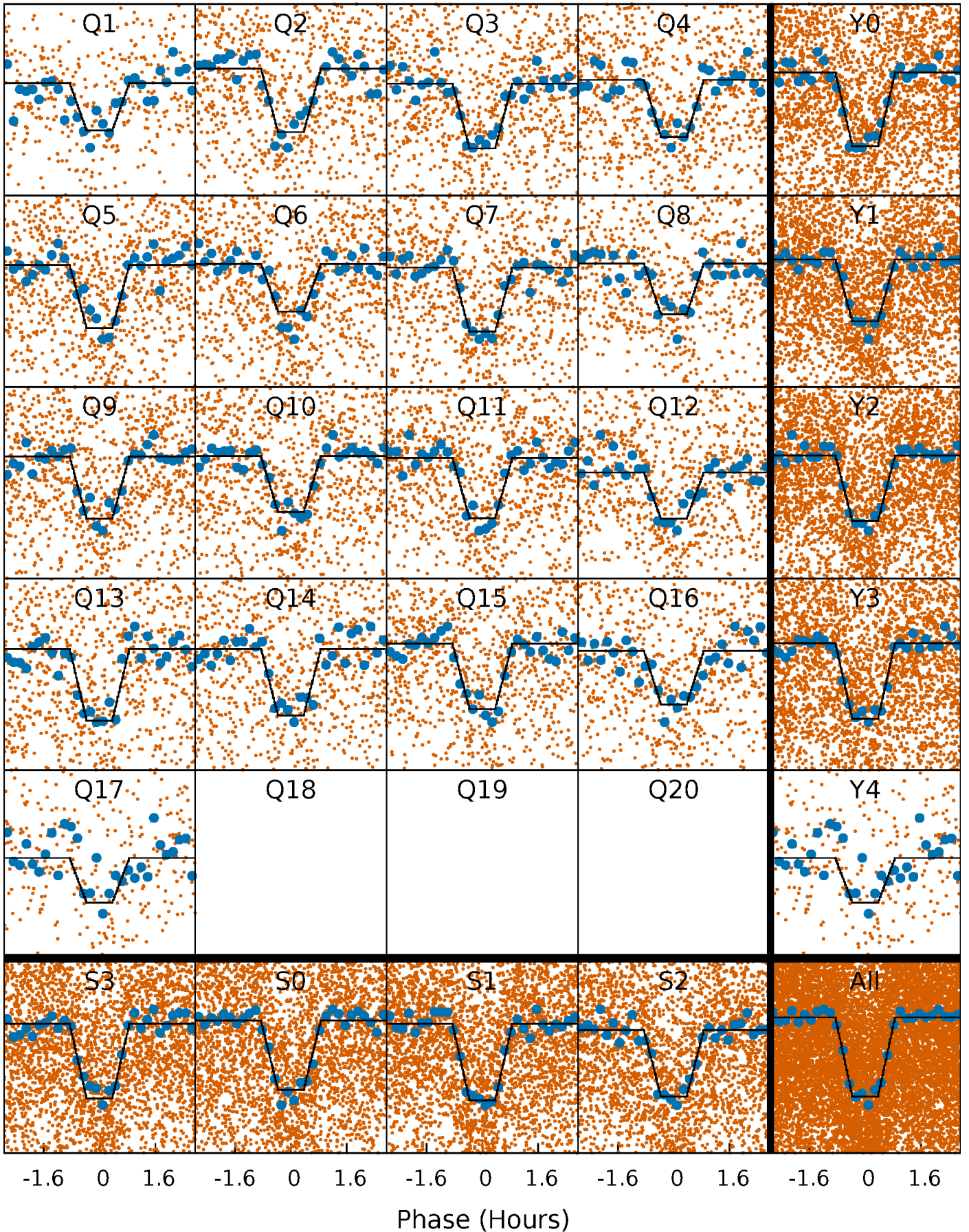
DV Quarter-Phased Transit Curves

TCE 009353742-01 P= 0.938744 Days $T_0=131.685792$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

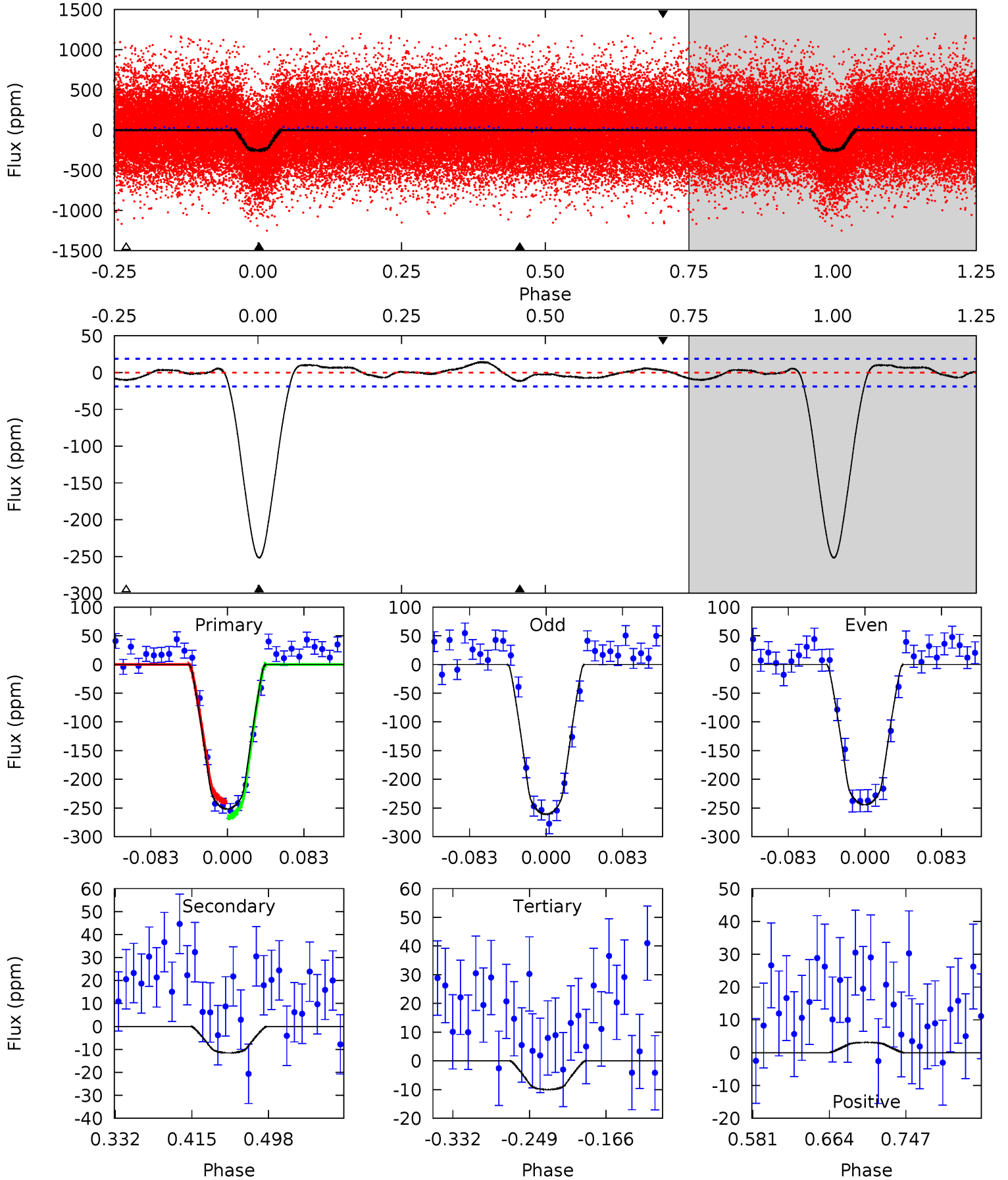
TCE 009353742-01 P= 0.938749 Days $T_0=131.683998$ (BKJD)



DV Model-Shift Uniqueness Test

009353742-01, P = 0.938744 Days, E = 130.747048 Days

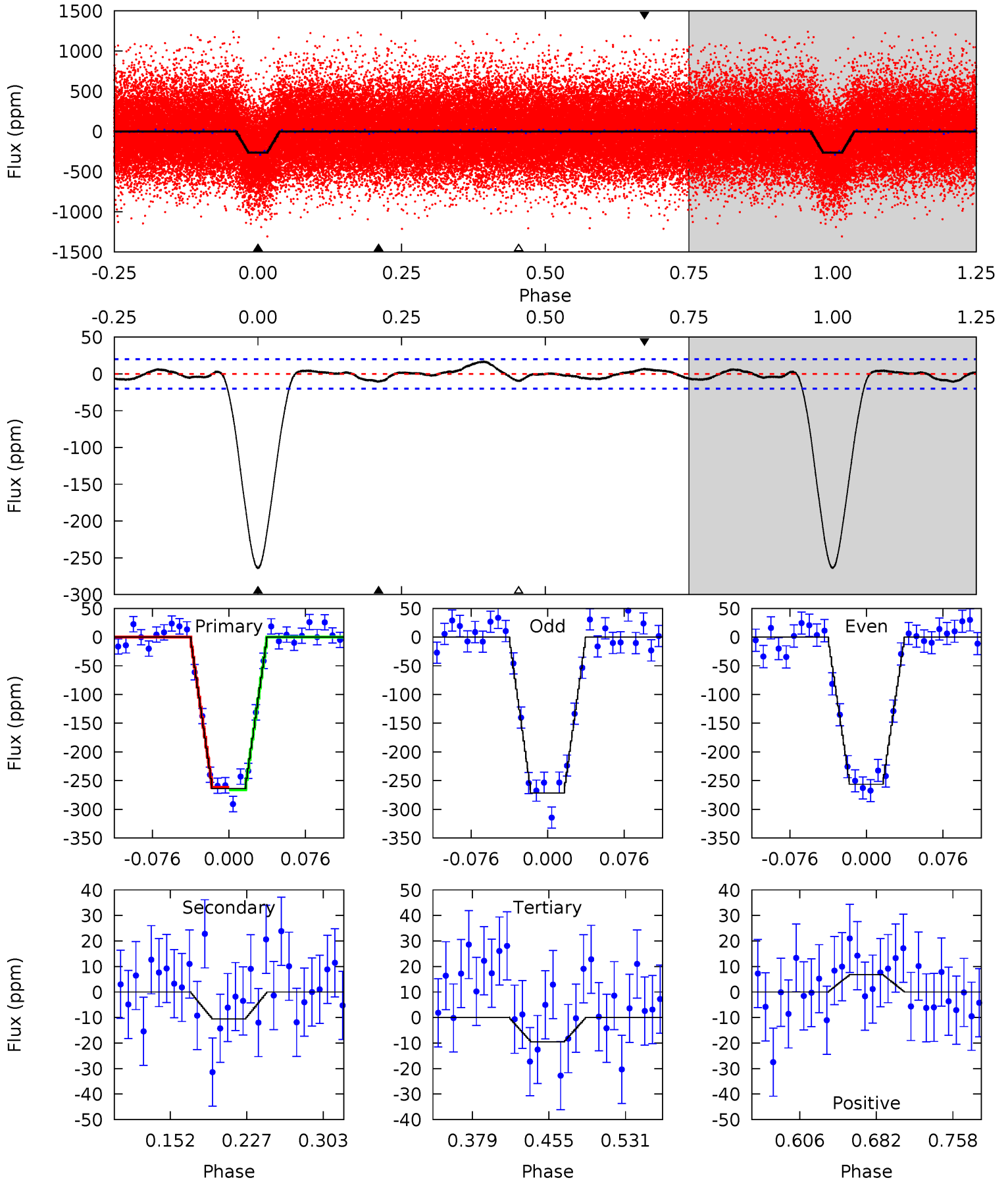
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
61.4	2.82	2.45	0.76	4.60	1.73	1.26	59.0	60.7	0.37	2.05	2.06	0.99	0.05	3.27



Alt Model-Shift Uniqueness Test

009353742-01, P = 0.938749 Days, E = 130.745249 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
60.9	2.44	2.21	1.58	4.62	1.78	1.28	58.7	59.3	0.23	0.87	1.75	0.98	0.06	0.51



Stellar Parameters For KIC 009353742

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5497^{+74}_{-82}	$4.527^{+0.026}_{-0.111}$	$0.160^{+0.150}_{-0.150}$	$0.886^{+0.112}_{-0.042}$	$0.964^{+0.035}_{-0.070}$	$1.951^{+0.249}_{-0.590}$
	+1%/-1%	+1%/-2%	+94%/-94%	+13%/-5%	+4%/-7%	+13%/-30%
Source	SPE90	SPE90	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 009353742-01 / KOI 3867.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-12 ± 4	$1.71^{+0.50}_{-0.42}$	2364^{+85}_{-57}	2833^{+422}_{-513}	$0.715^{+0.704}_{-0.330}$
Alt.	-11 ± 4	$1.59^{+0.48}_{-0.45}$	2362^{+88}_{-50}	2868^{+436}_{-722}	$0.757^{+0.785}_{-0.413}$

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

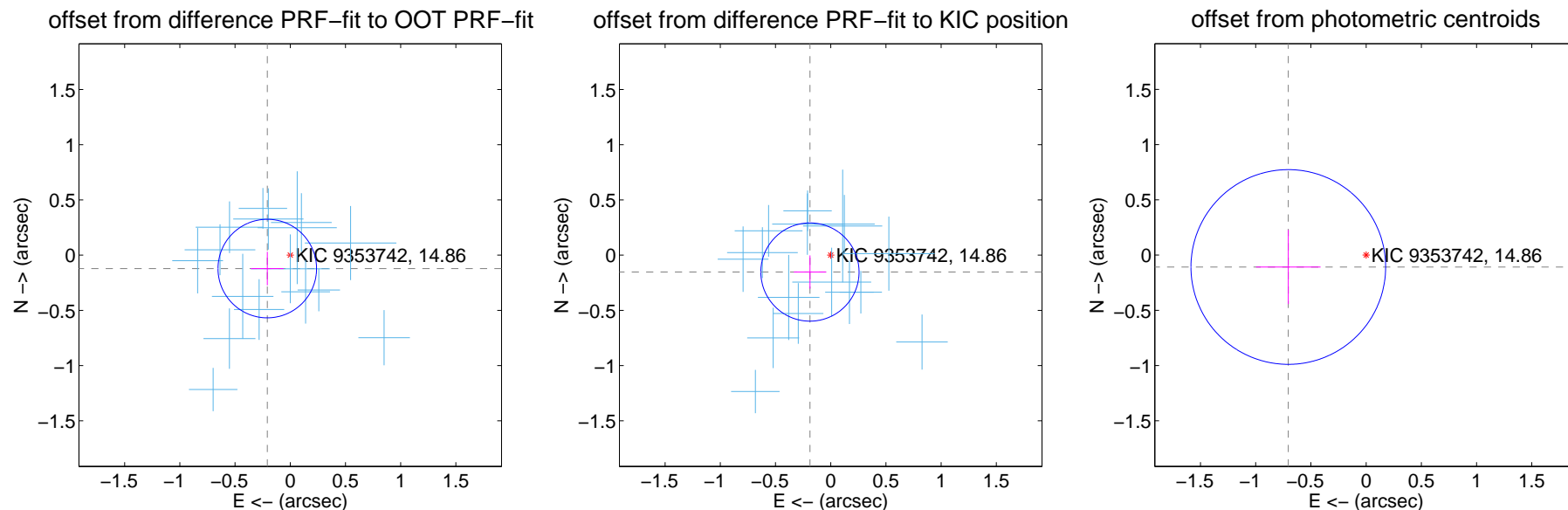
DV Centroid Data

Supplemental centroid analysis for 009353742-01. Kepler magnitude: 14.86. Transit SNR 43.50

There are 16 quarters with good PRF difference image offsets

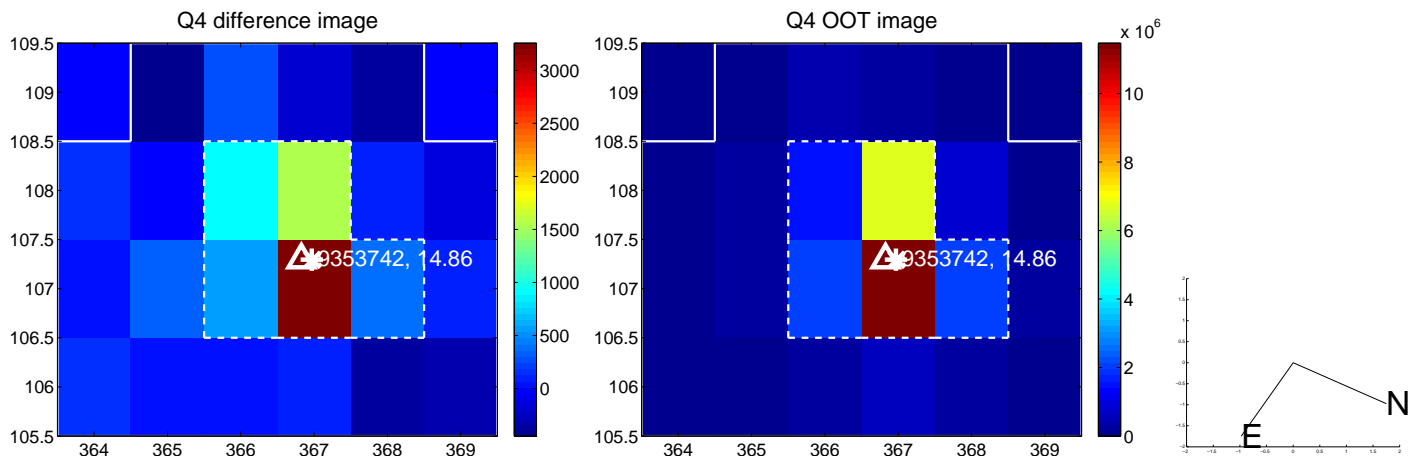
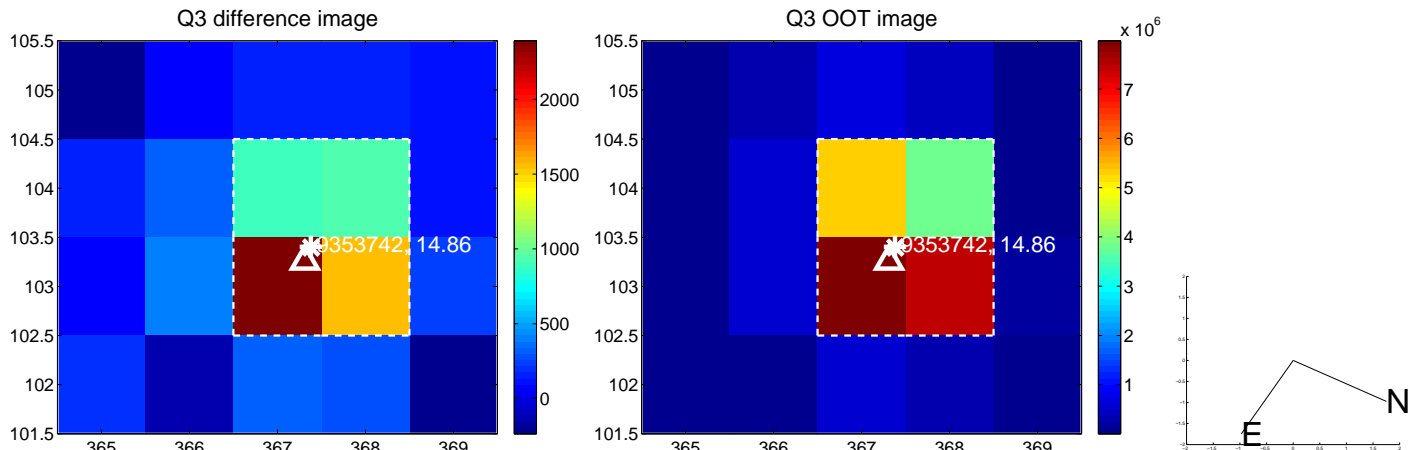
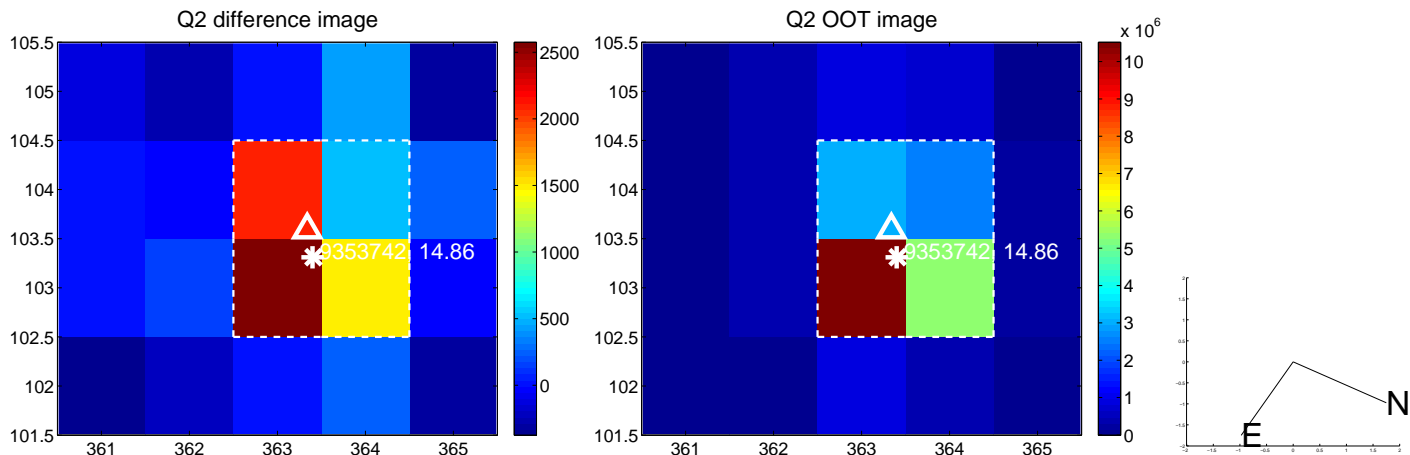
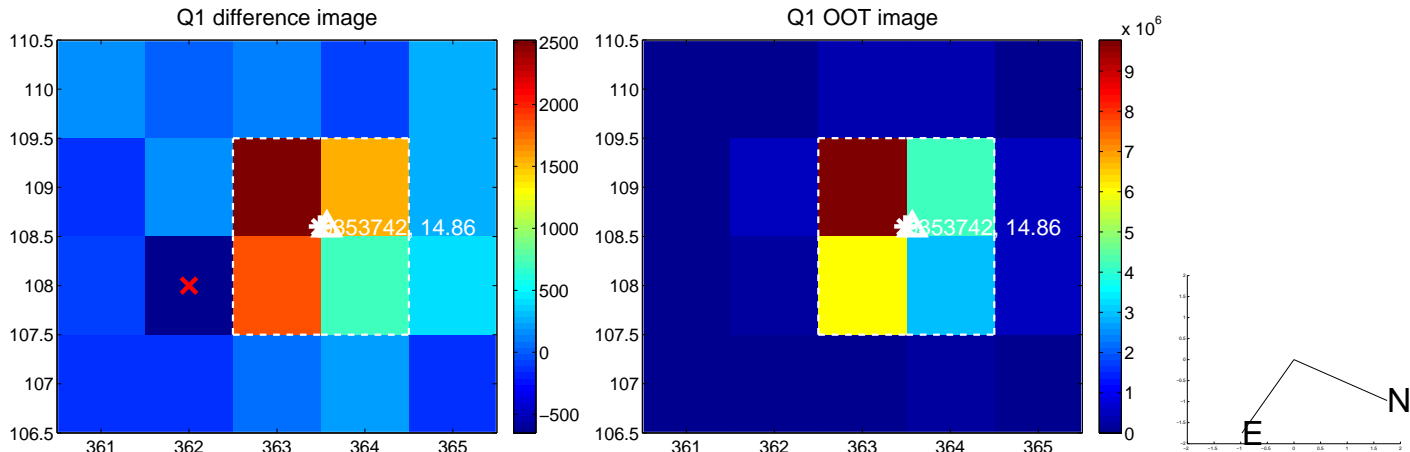
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.241 ± 0.149	1.62	0.208 ± 0.148	-0.121 ± 0.151
PRF-fit source offset from KIC position	0.243 ± 0.148	1.64	0.188 ± 0.147	-0.153 ± 0.151
photometric centroid source offset	0.71 ± 0.29	2.43	0.70 ± 0.29	-0.11 ± 0.34

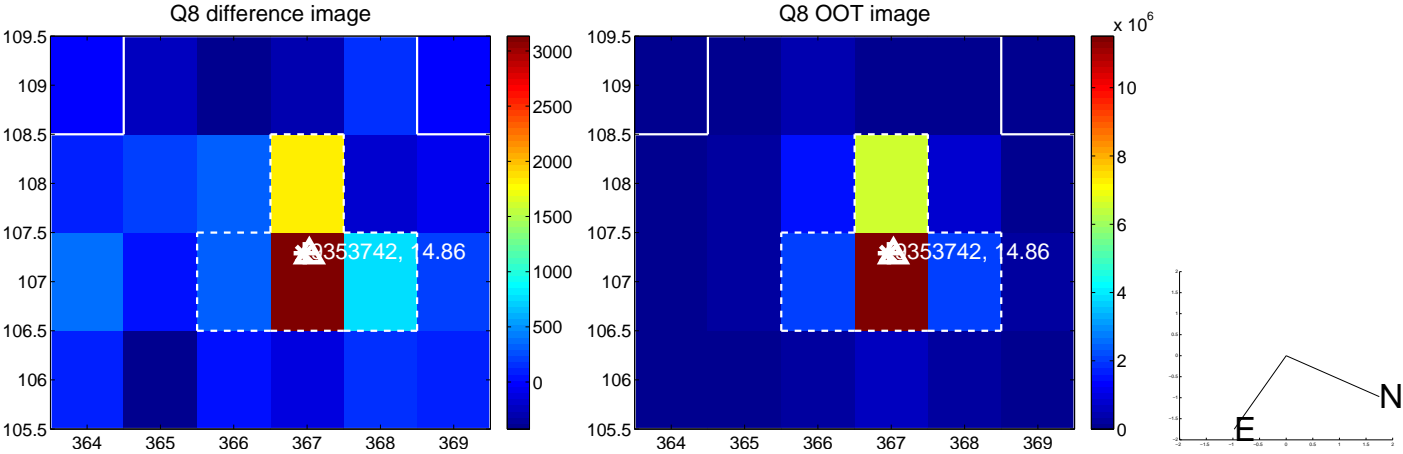
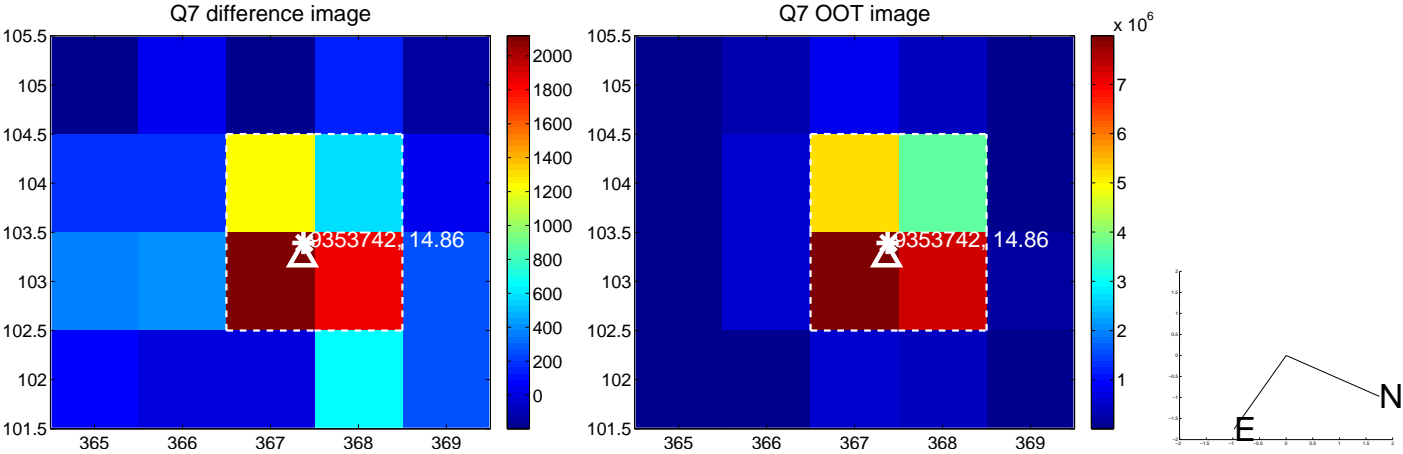
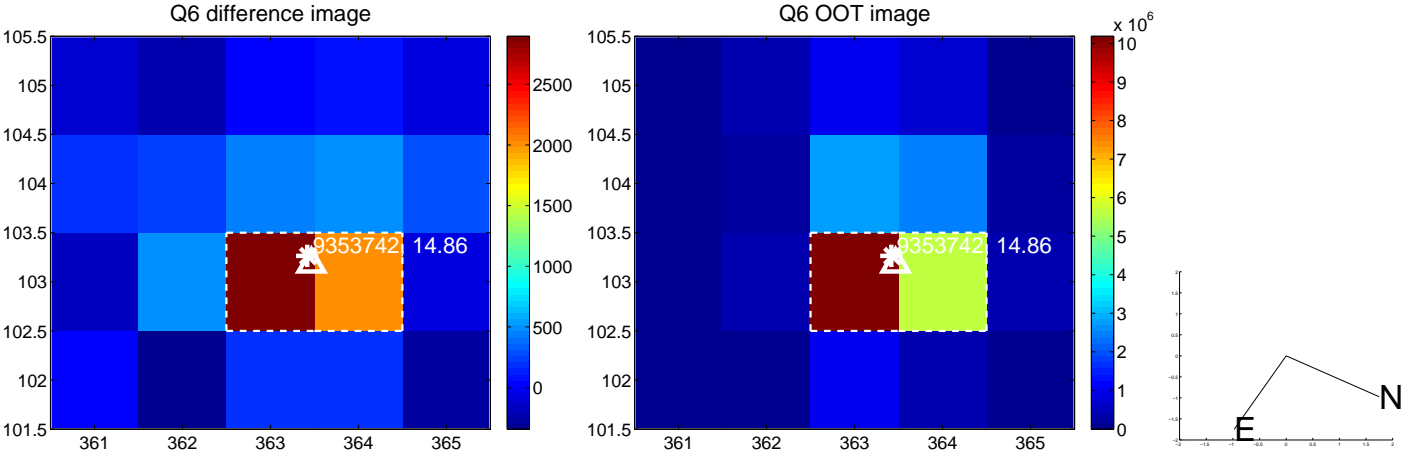
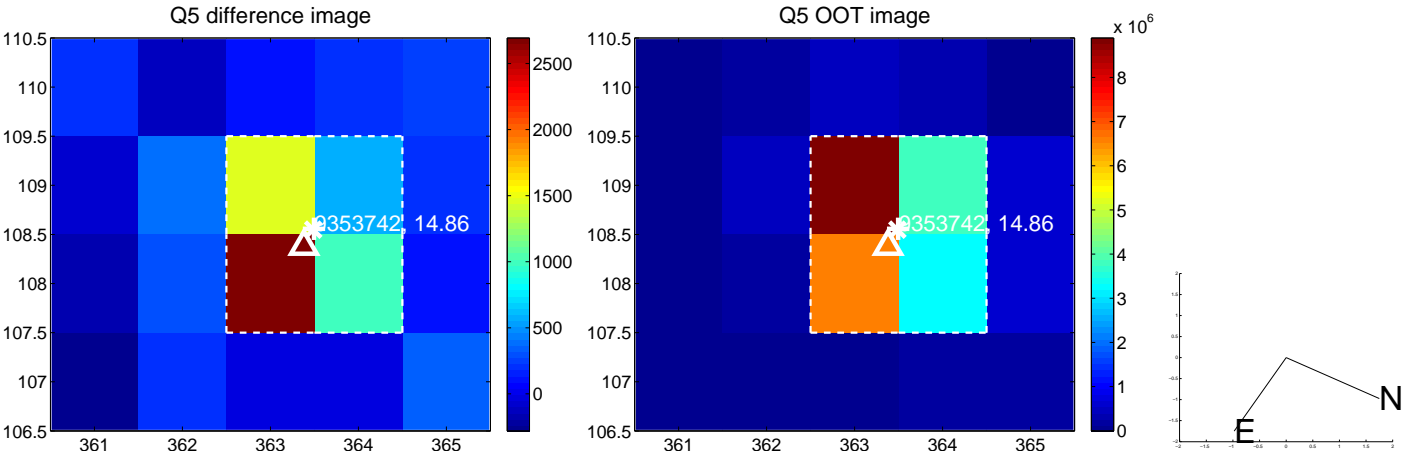


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

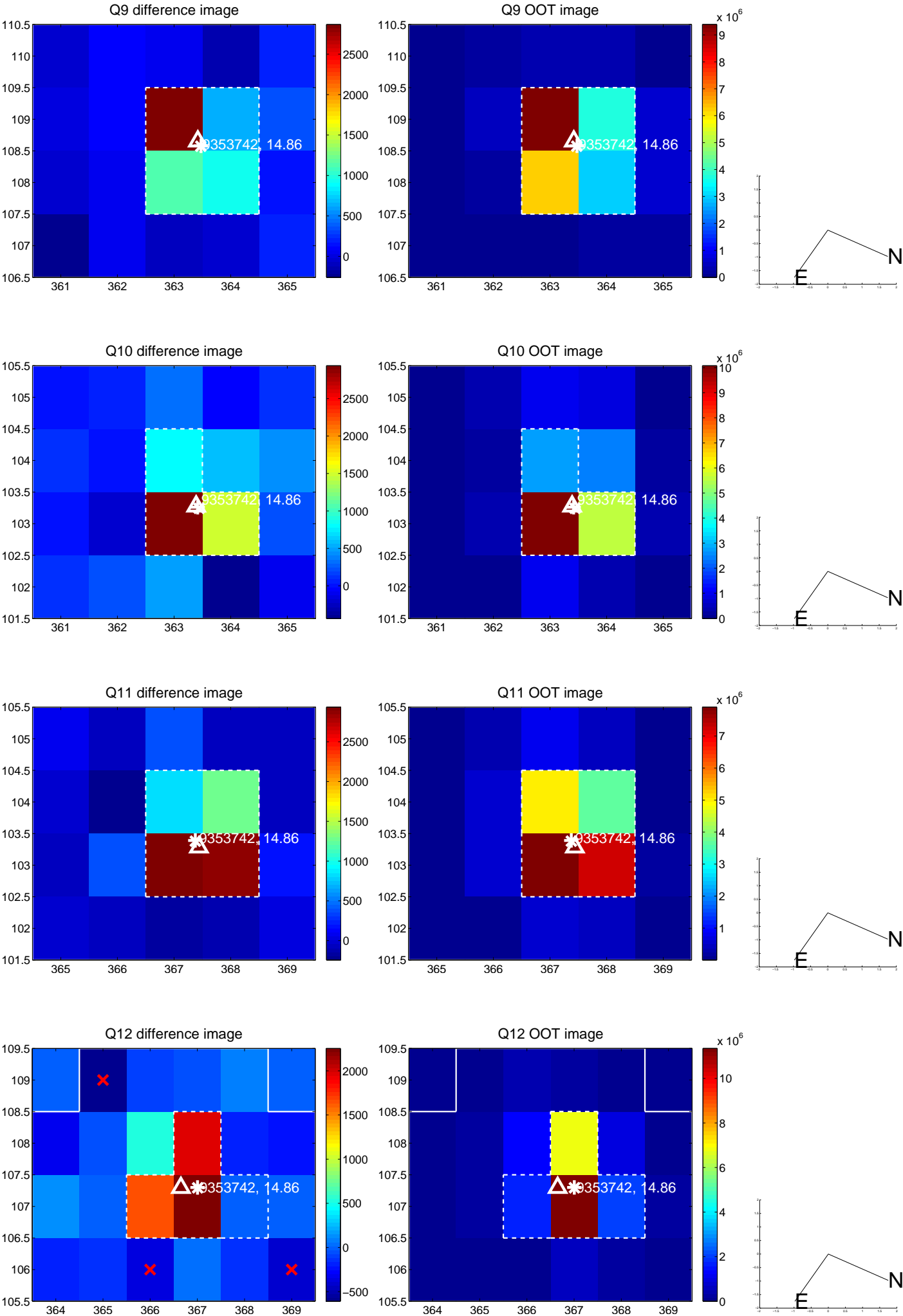
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



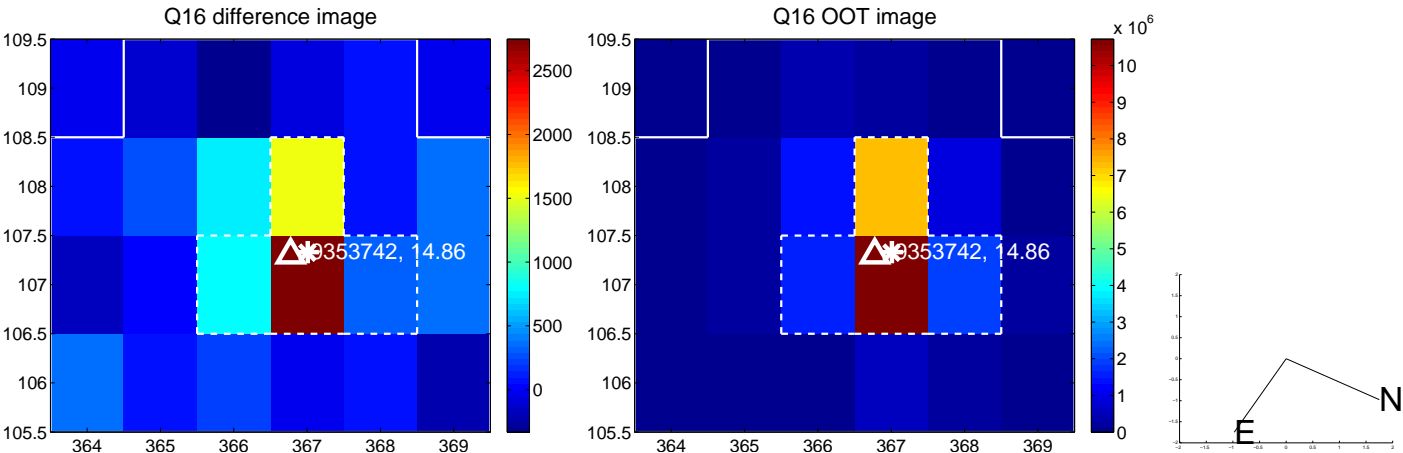
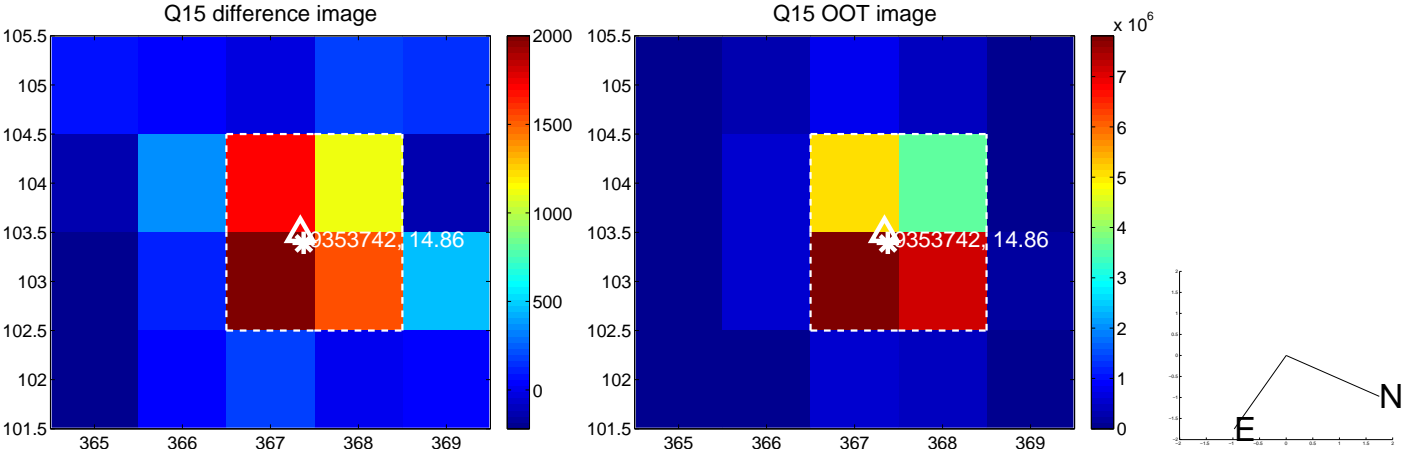
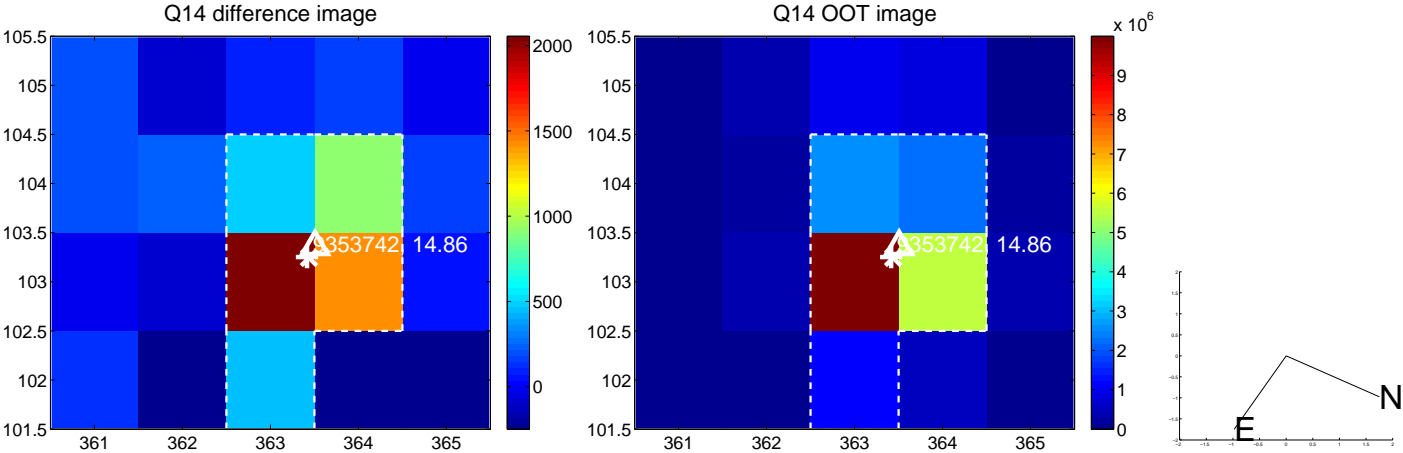
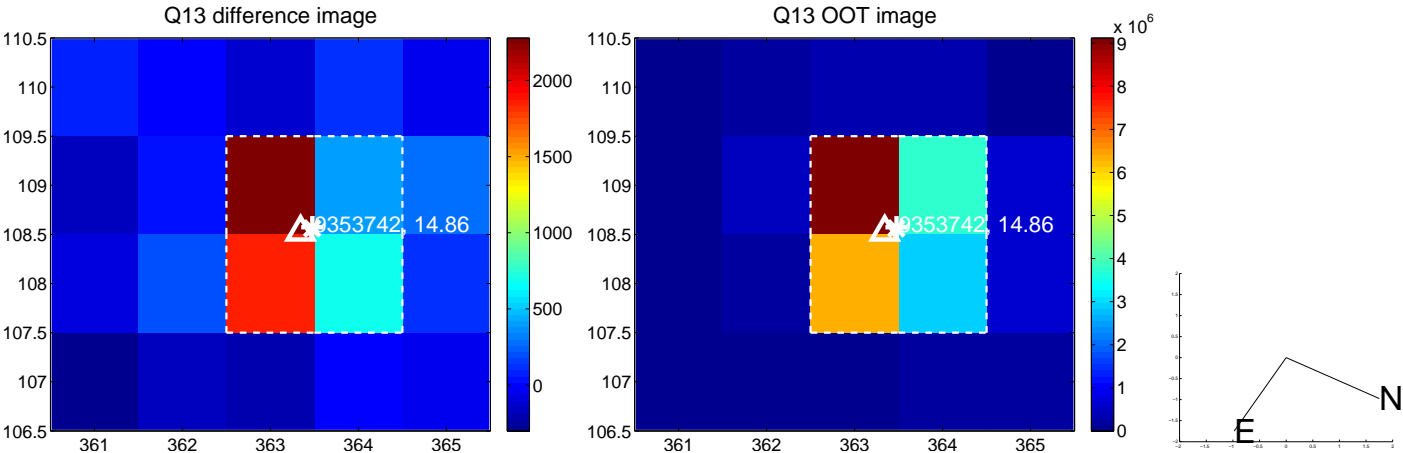
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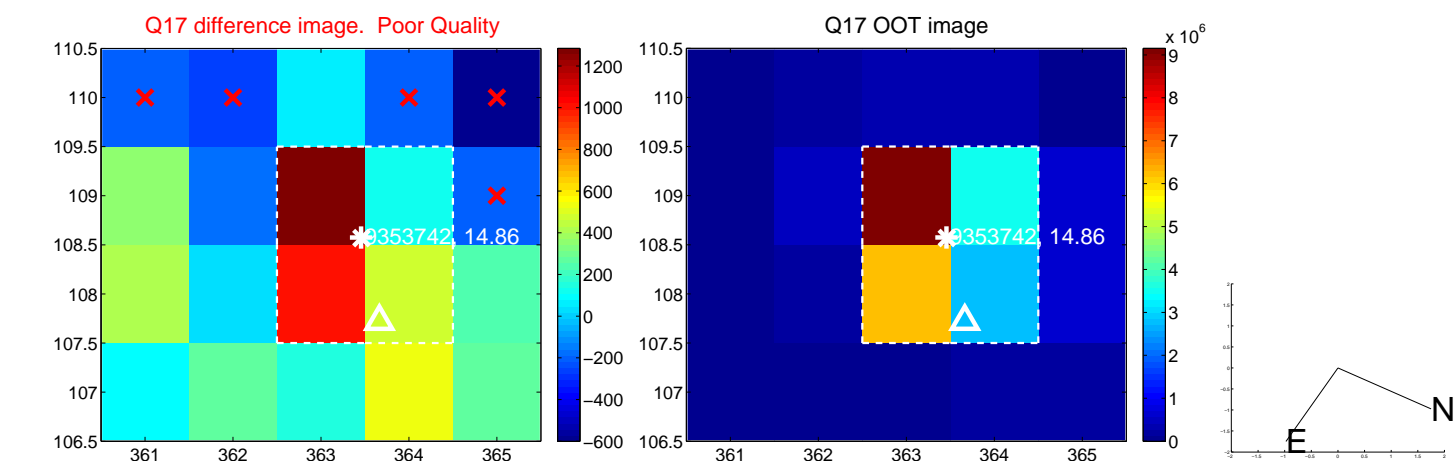
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



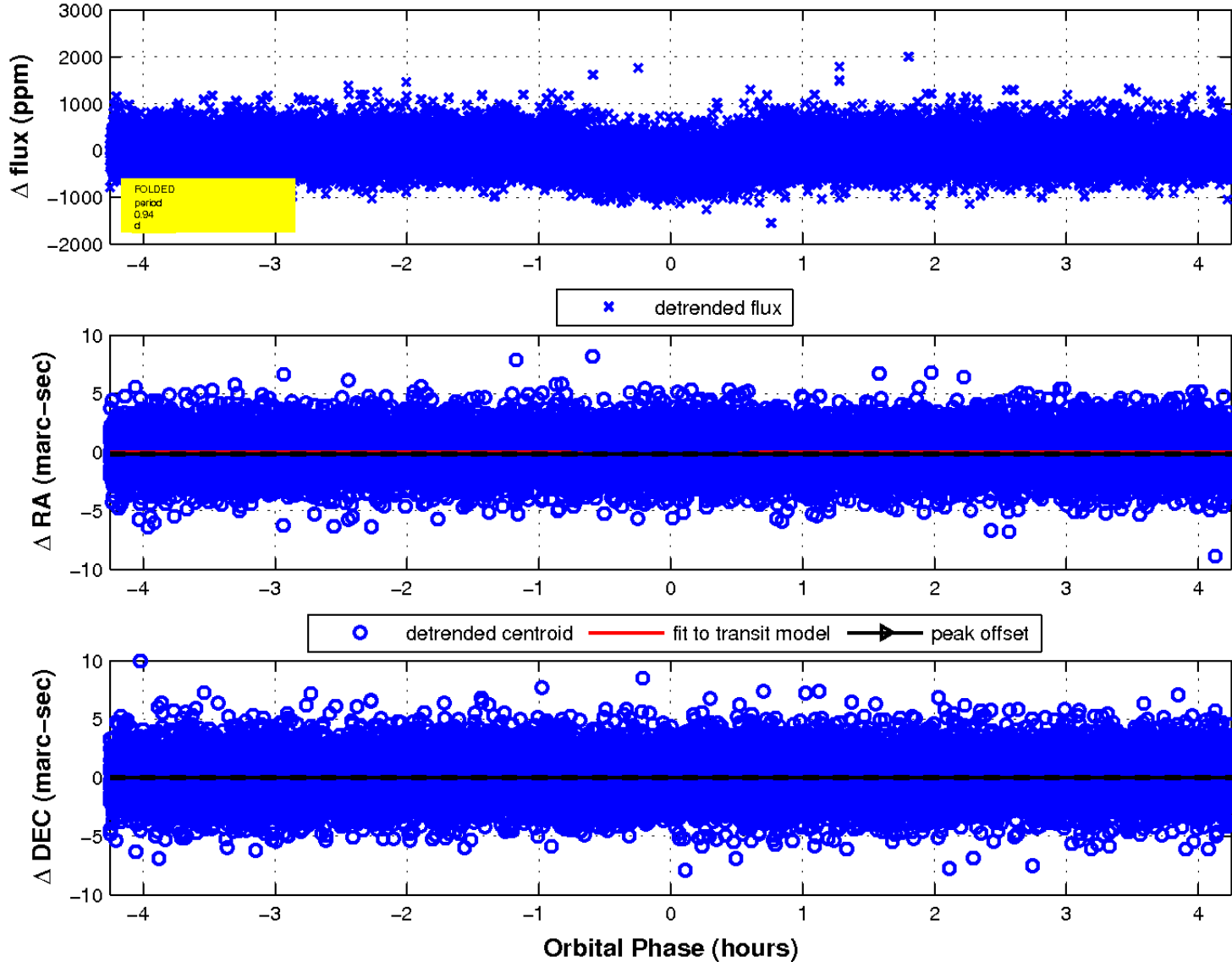
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

