

KIC 009020114

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})
009020114-01	OBS	3088.01	3.484131	134.547116	153.5	1.573	11.5	13.2	0.92	5696	1.30	389.54

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009020114-01	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.

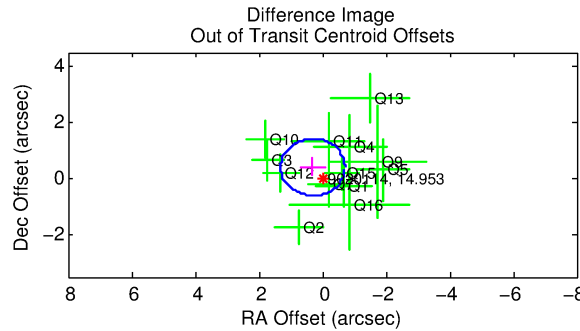
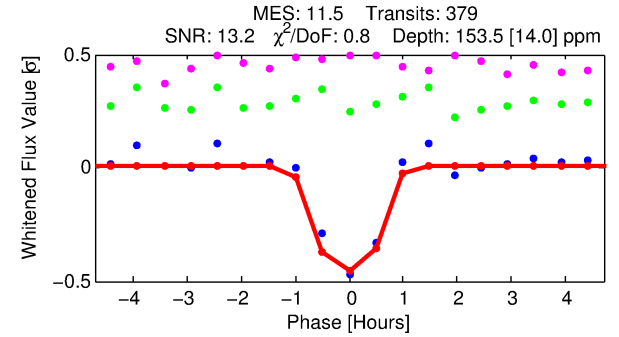
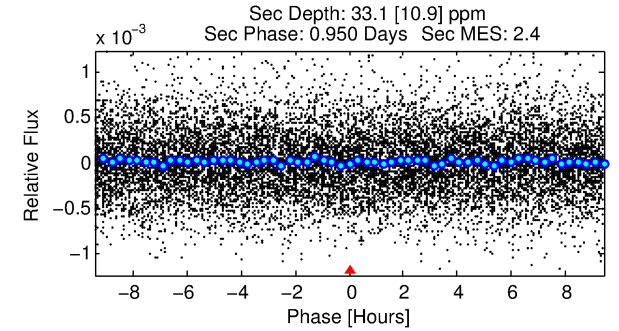
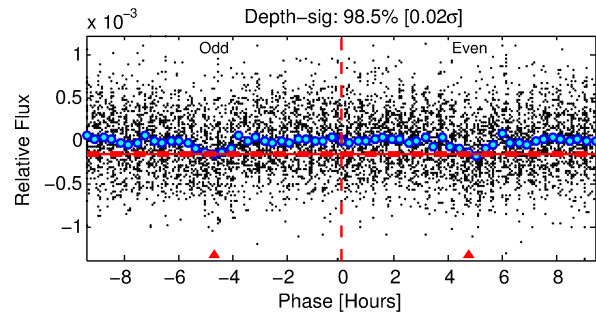
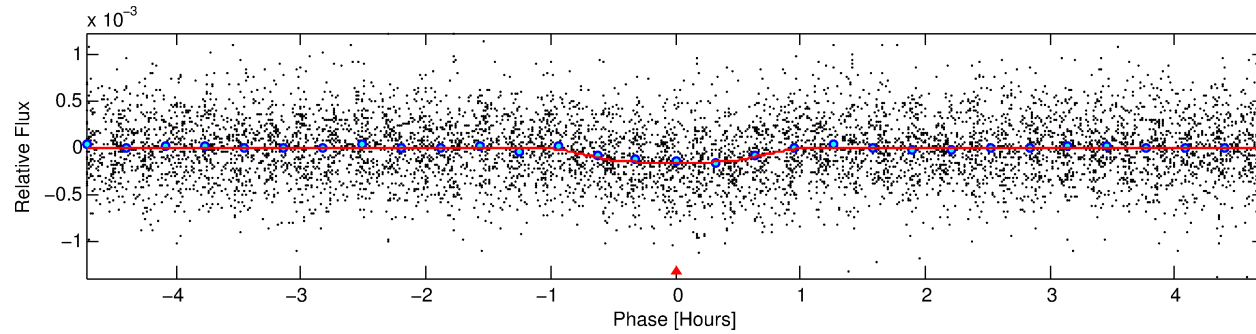
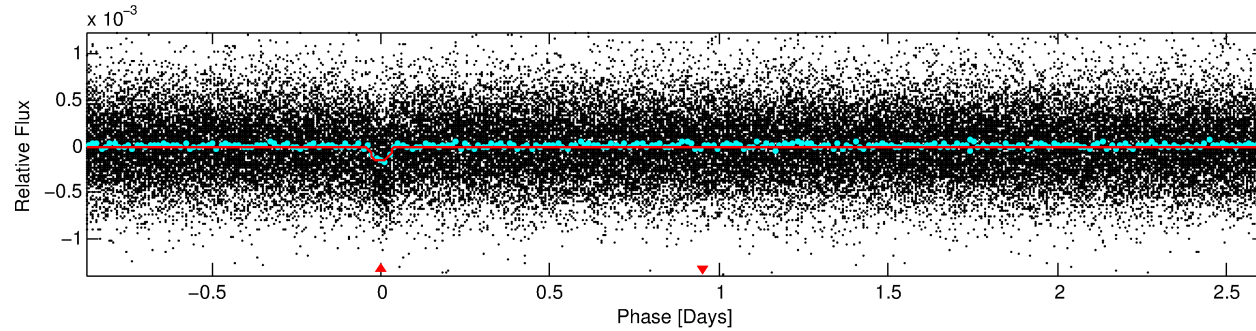
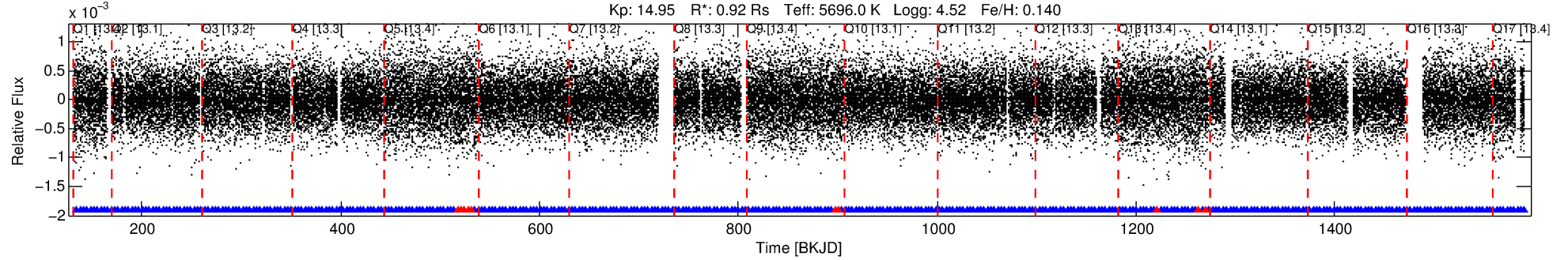
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009020114-01

No Significant Match Found

DV One-Page Summary

KIC: 9020114 Candidate: 1 of 1 Period: 3.484 d
KOI: K03088.01 Corr: 0.920



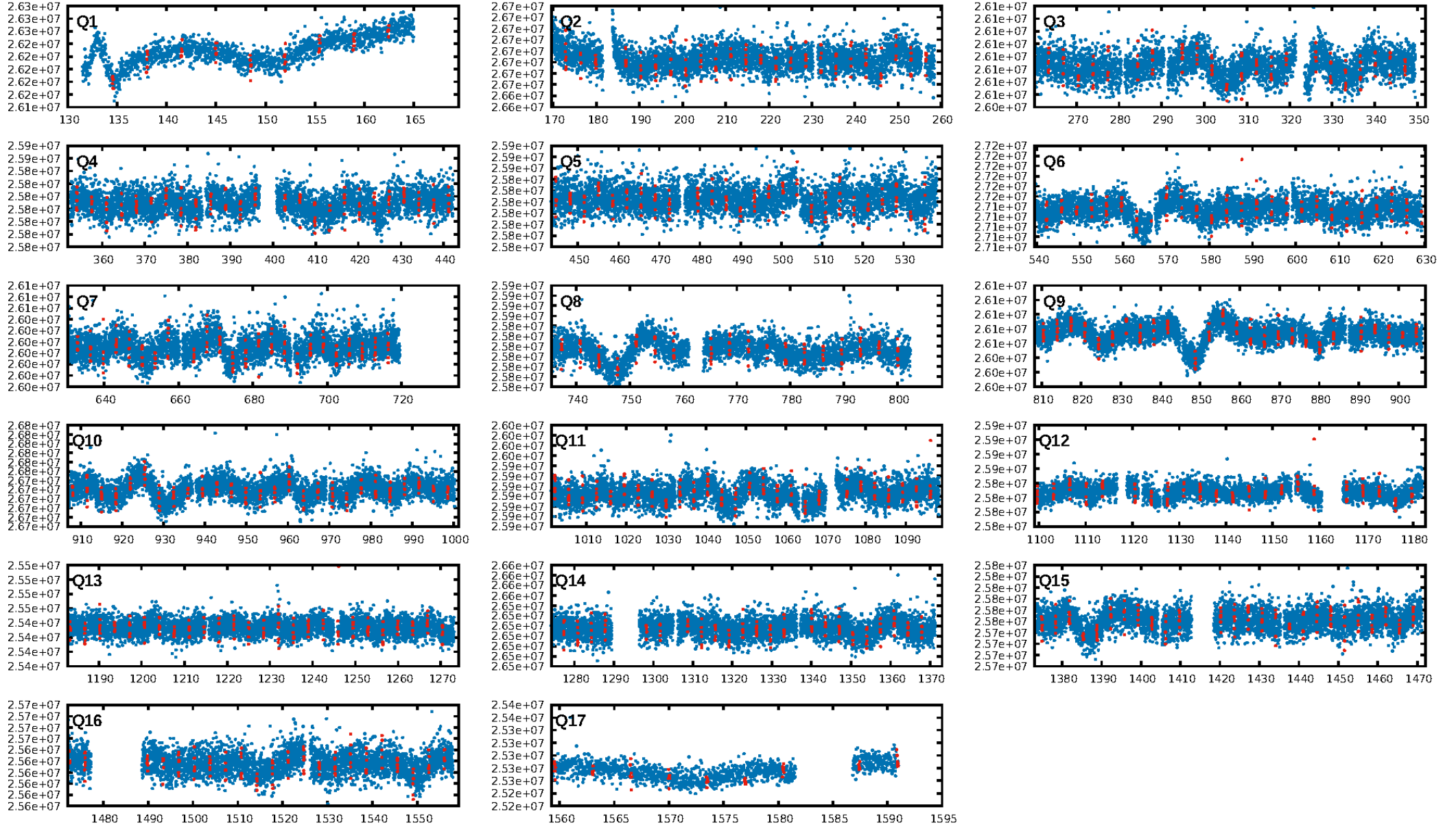
DV Fit Results:

Period = 3.48413 [0.00001] d
Epoch = 134.5471 [0.0023] BKJD
Rp/R* = 0.0130 [0.0099]
a/R* = 9.63 [32.07]
b = 0.84 [1.21]
Seff = 389.54 [83.53]
Teff = 1133 [61] K
Rp = 1.30 [1.01] Re
a = 0.0453 [0.0061] AU
Ag = 22.04 [34.79] [0.60σ]
Teffp = 3795 [1485] K [1.79σ]

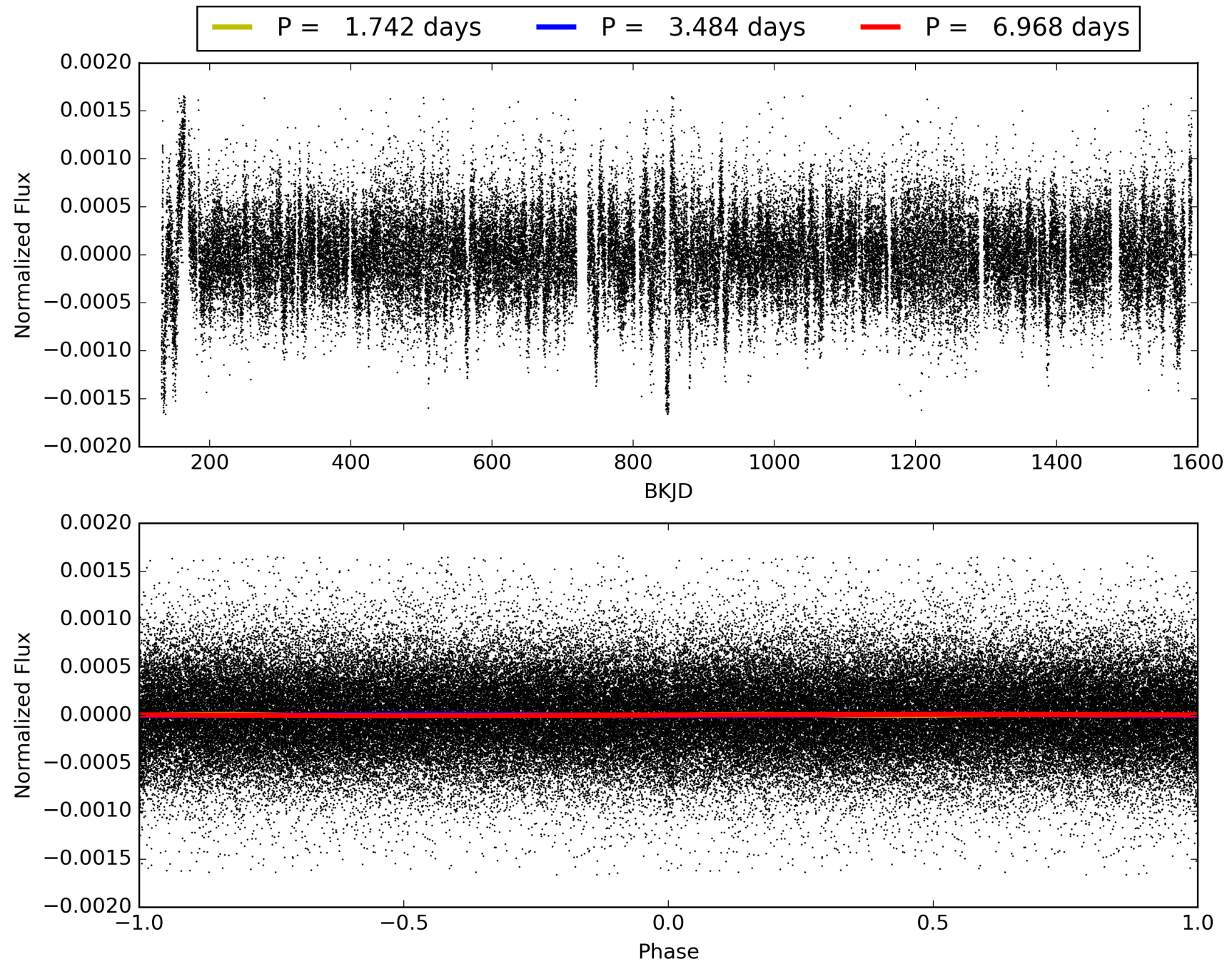
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.08e-31
RollingBand-fgt: 0.97 [351/361]
GhostDiagnostic-chr: 5.136
Centroid-sig: 0.9%
Centroid-so: 1.990 arcsec [1.77σ]
OotOffset-rm: 0.507 arcsec [1.50σ]
KicOffset-rm: 0.556 arcsec [1.70σ]
OotOffset-st: 2/4/3/4 [13]
KicOffset-st: 2/4/3/4 [13]
DiffImageQuality-fgm: 0.69 [9/13]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 009020114-01, PDC Light Curves

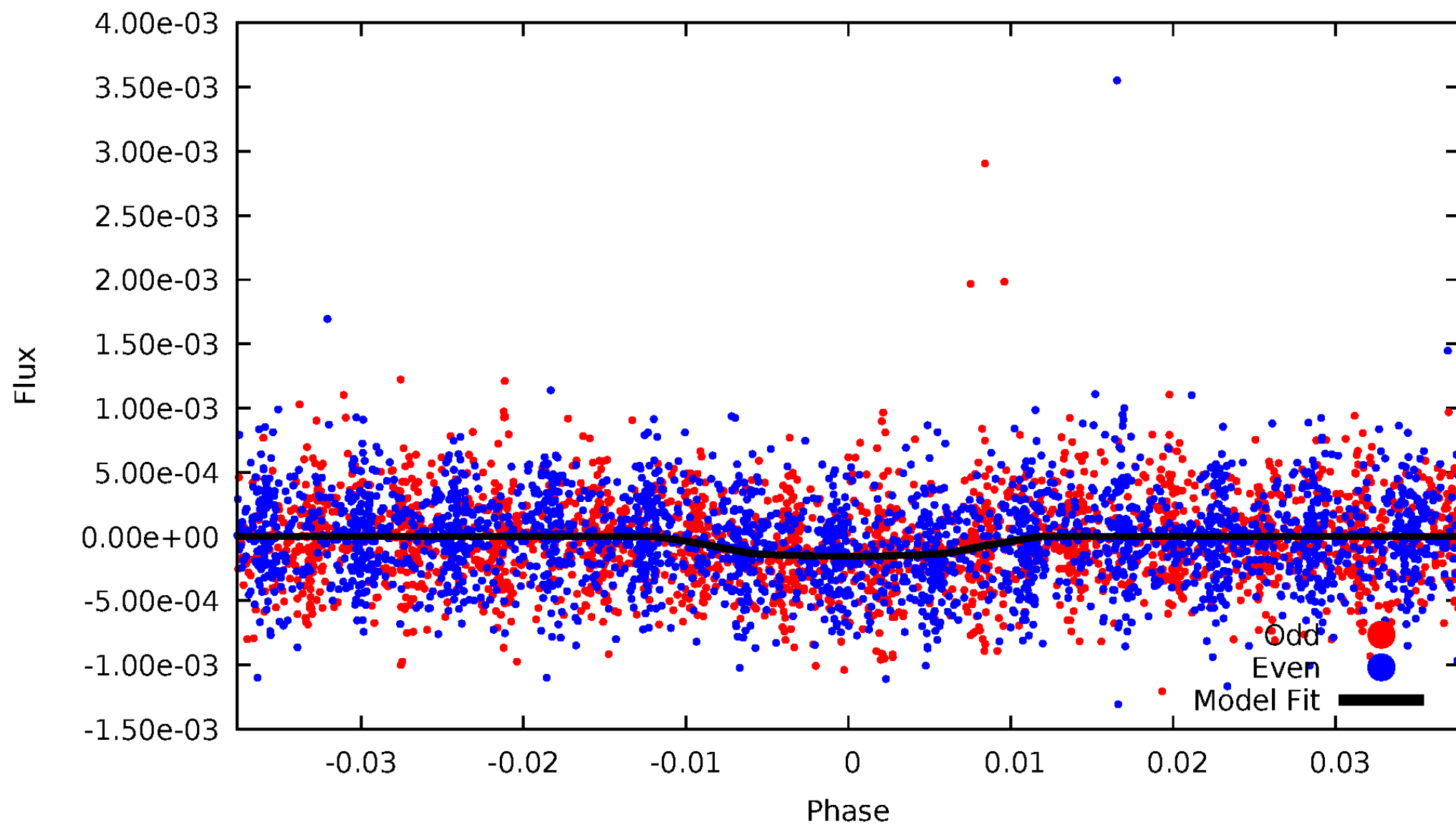


TCE 009020114-01



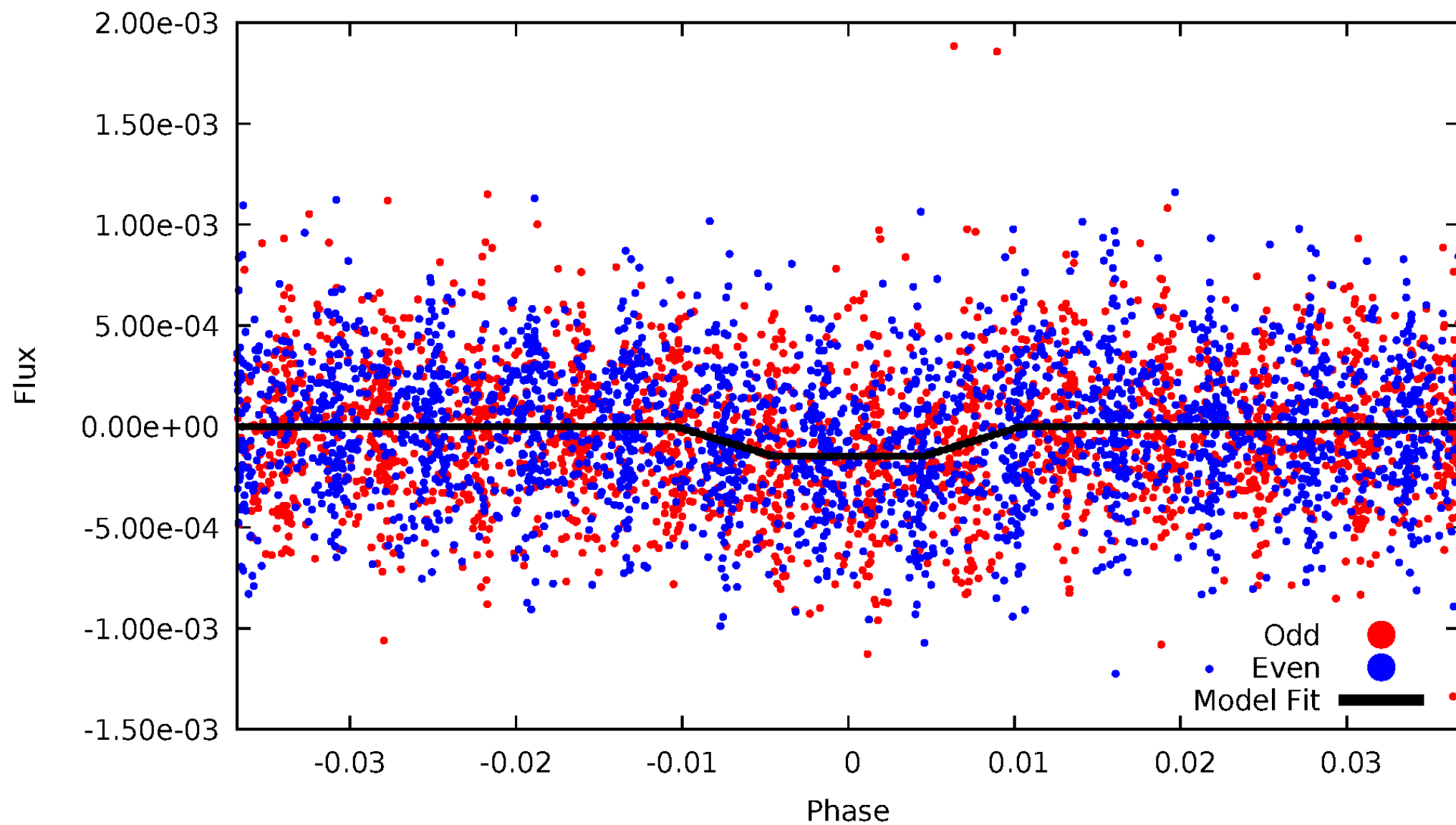
DV Odd/Even

TCE 009020114-01

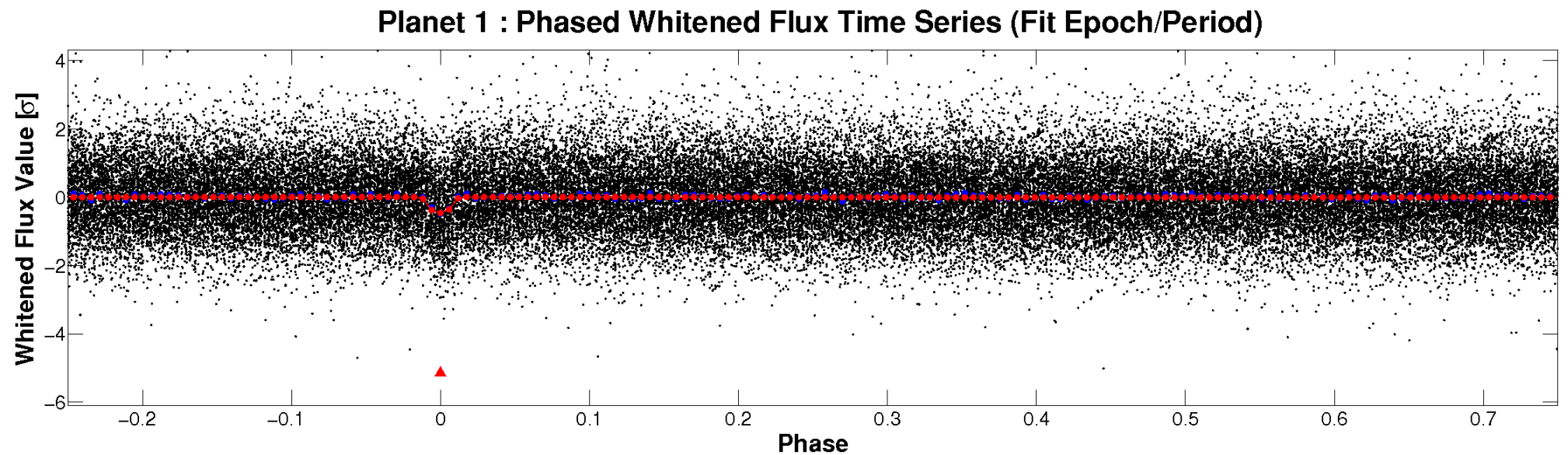
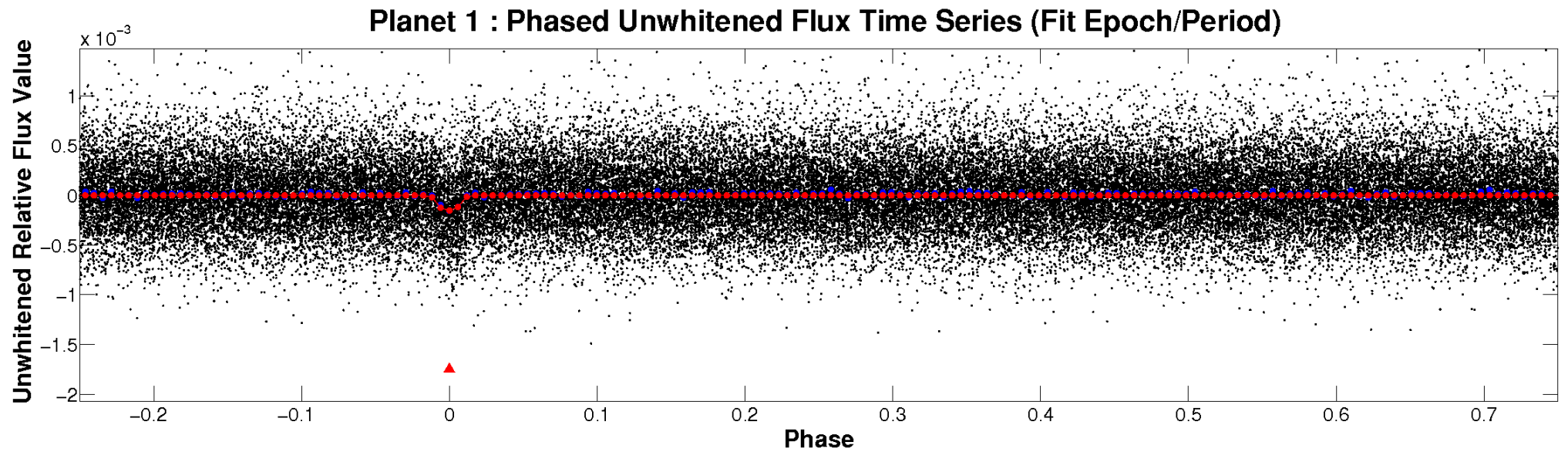


ALT Odd/Even

TCE 009020114-01

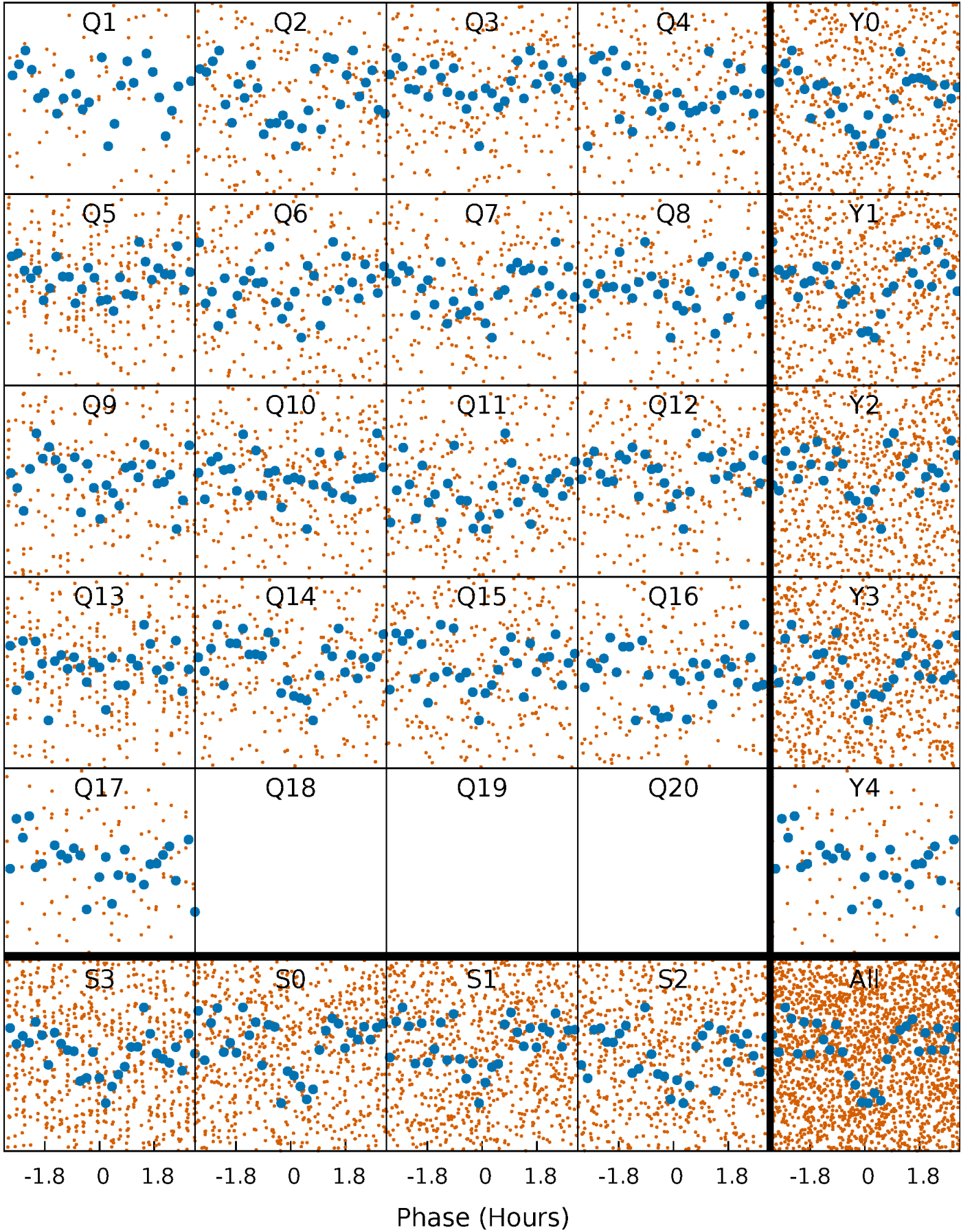


Non-Whitened Vs. Whitened Light Curve



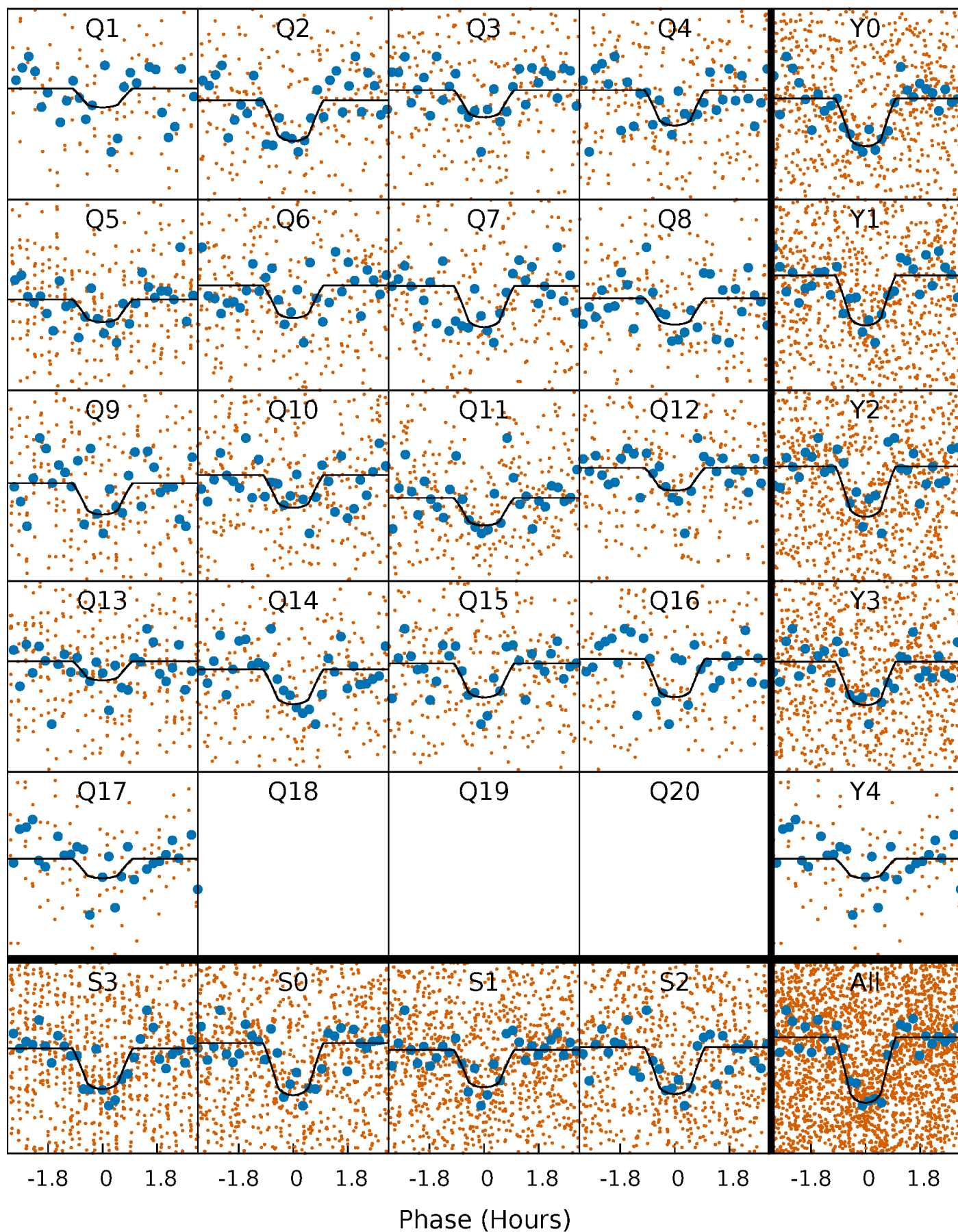
PDC Quarter-Phased Transit Curves

TCE 009020114-01 P= 3.484131 Days $T_0=134.547116$ (BKJD)



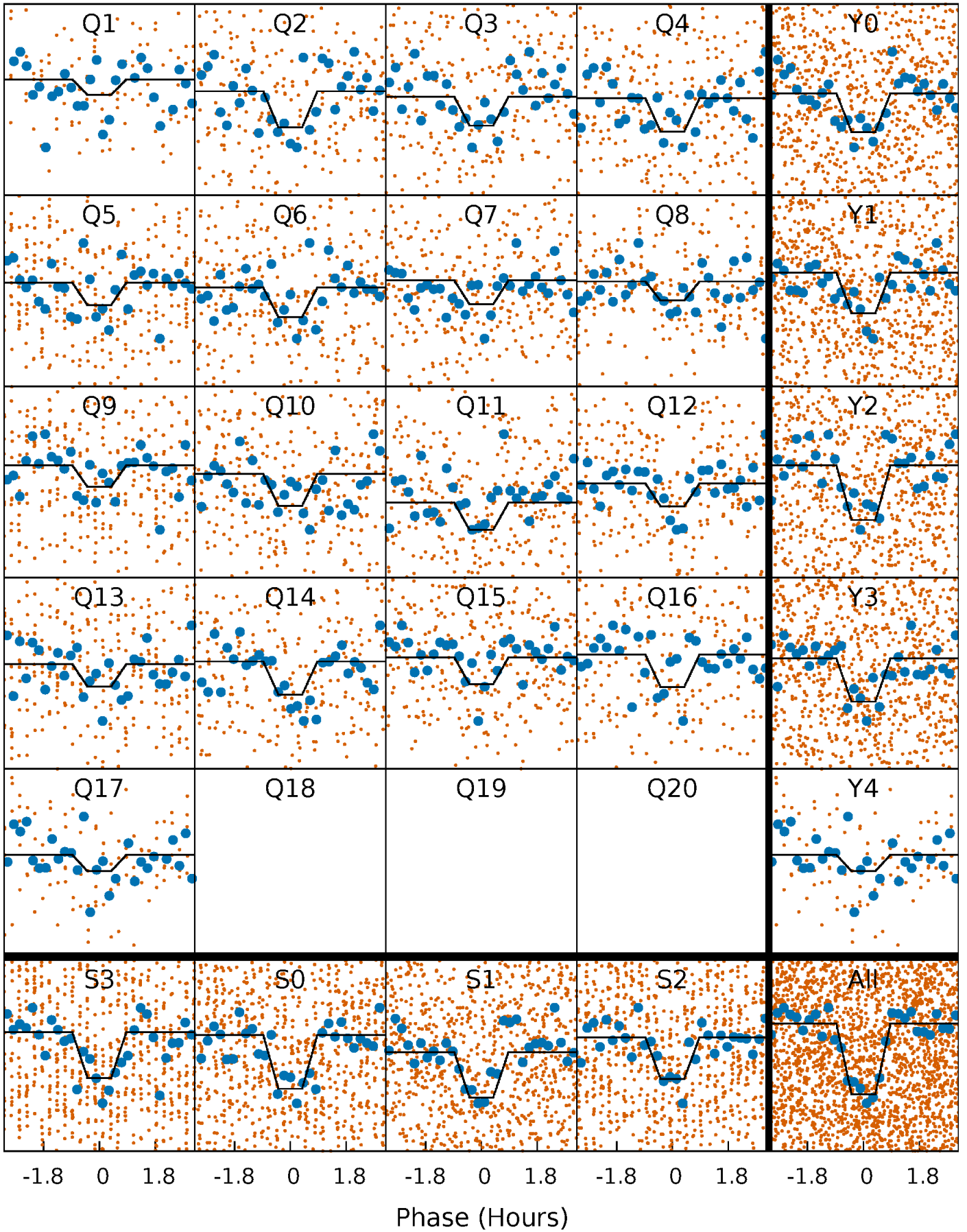
DV Quarter-Phased Transit Curves

TCE 009020114-01 P= 3.484131 Days $T_0=134.547116$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

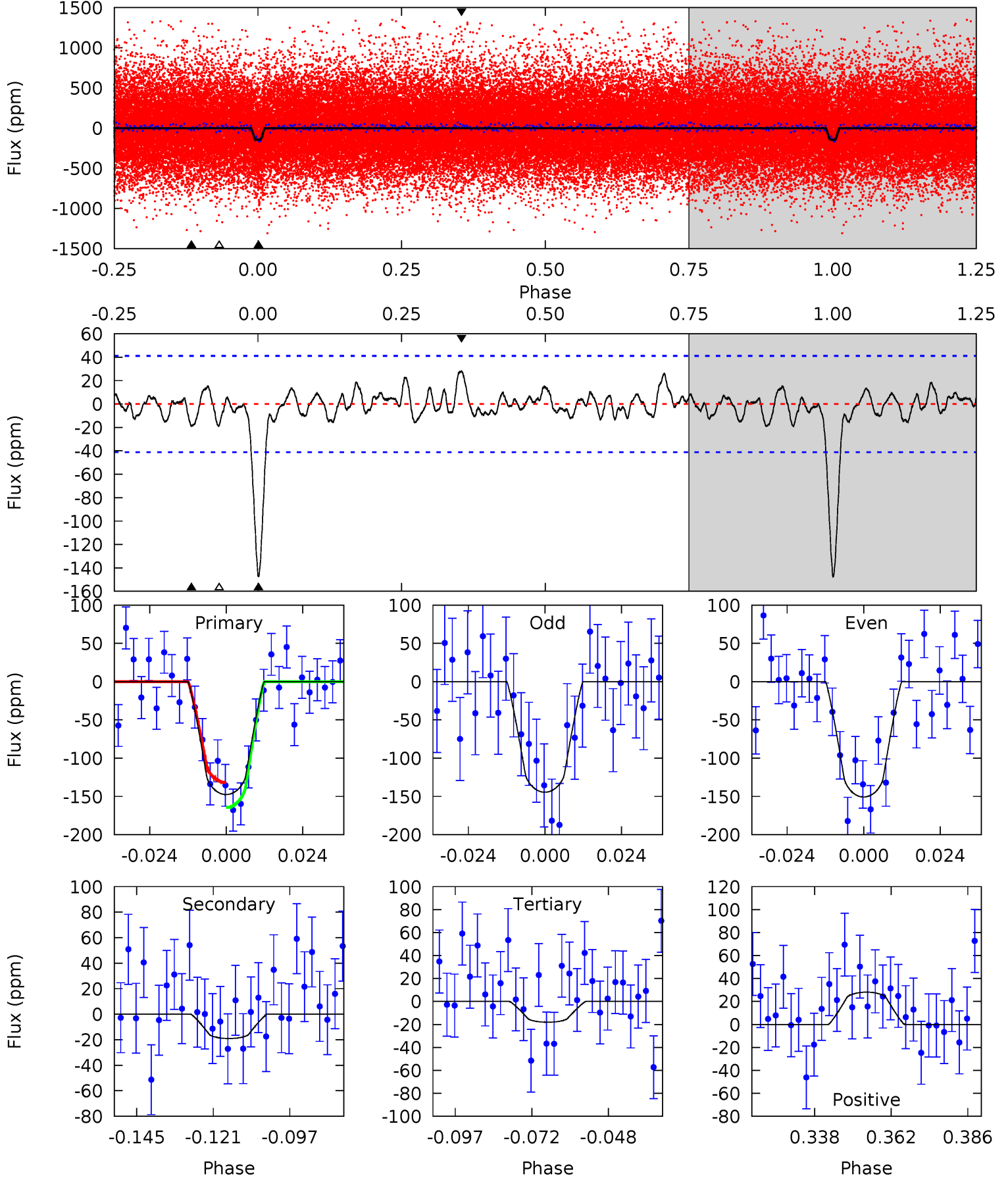
TCE 009020114-01 P= 3.484119 Days $T_0=134.552742$ (BKJD)



DV Model-Shift Uniqueness Test

009020114-01, P = 3.484131 Days, E = 131.062985 Days

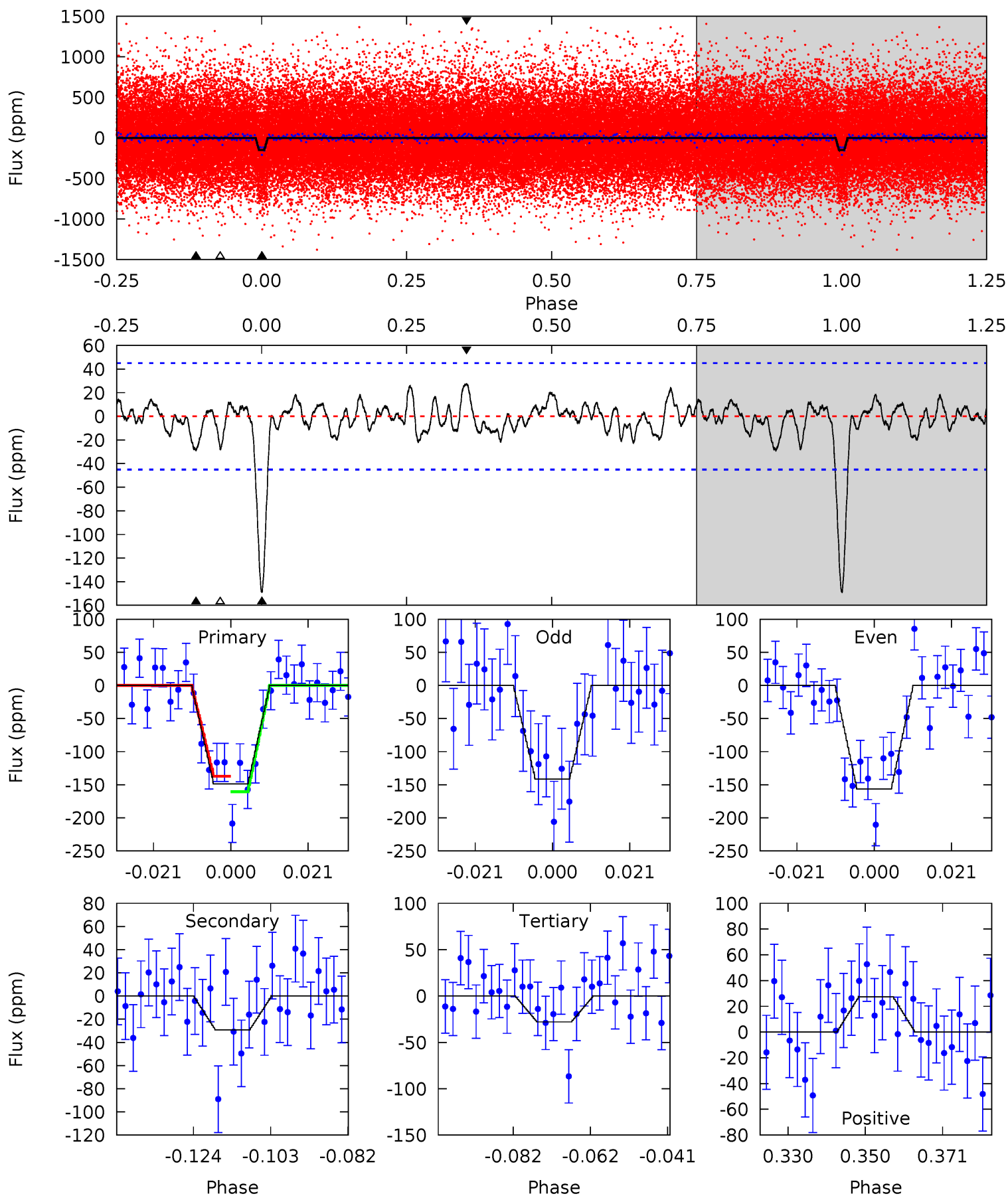
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.4	2.25	2.13	3.32	4.85	2.26	1.02	15.3	14.1	0.12	-1.07	0.37	0.97	0.16	1.93



Alt Model-Shift Uniqueness Test

009020114-01, P = 3.484119 Days, E = 131.068623 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.1	3.17	3.03	2.97	4.89	2.32	1.10	13.1	13.2	0.14	0.20	0.81	1.01	0.16	1.26



Stellar Parameters For KIC 009020114

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5696^{+77}_{-77}	$4.519^{+0.021}_{-0.119}$	$0.140^{+0.150}_{-0.150}$	$0.921^{+0.136}_{-0.043}$	$1.022^{+0.047}_{-0.067}$	$1.840^{+0.195}_{-0.608}$
	+1%/-1%	+0%/-3%	+107%/-107%	+15%/-5%	+5%/-7%	+11%/-33%
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 009020114-01 / KOI 3088.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-19 ± 8	$1.43^{+1.03}_{-0.85}$	1603^{+62}_{-34}	3542^{+1394}_{-601}	$9.187^{+45.662}_{-6.345}$
Alt.	-29 ± 9	$1.36^{+1.02}_{-0.78}$	1605^{+56}_{-36}	3951^{+1595}_{-694}	17^{+77}_{-12}

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 $A_{obs} \gg 1.0$

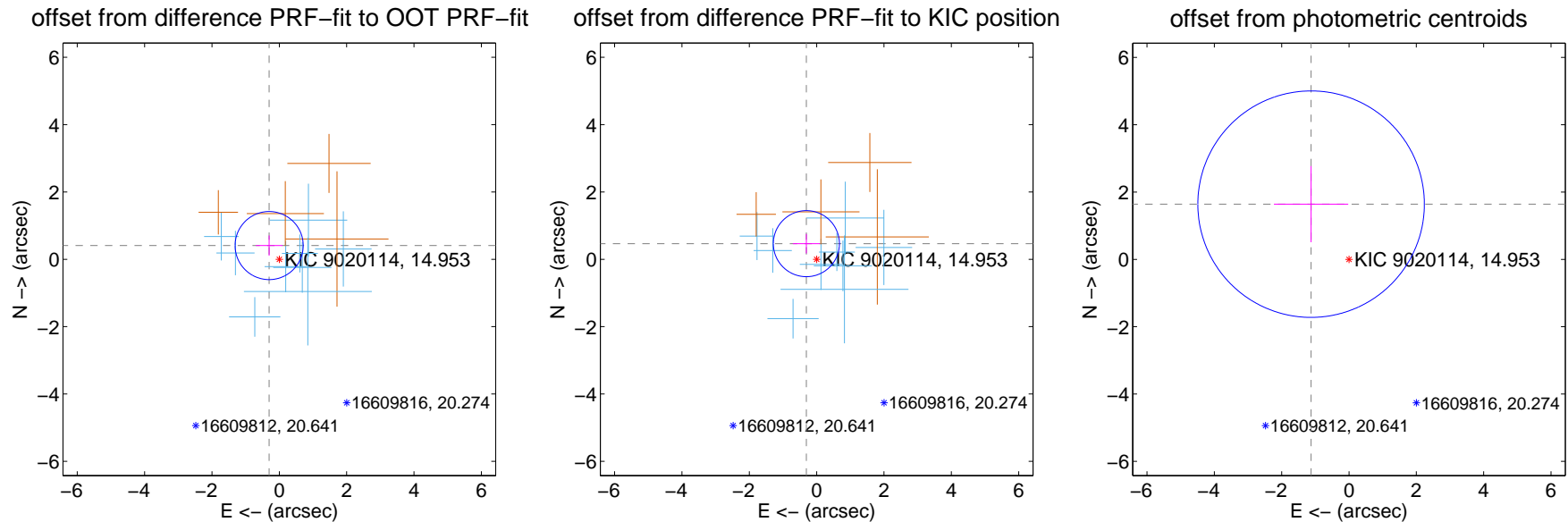
DV Centroid Data

Supplemental centroid analysis for 009020114-01. Kepler magnitude: 14.95. Transit SNR 13.23

There are 9 quarters with good PRF difference image offsets

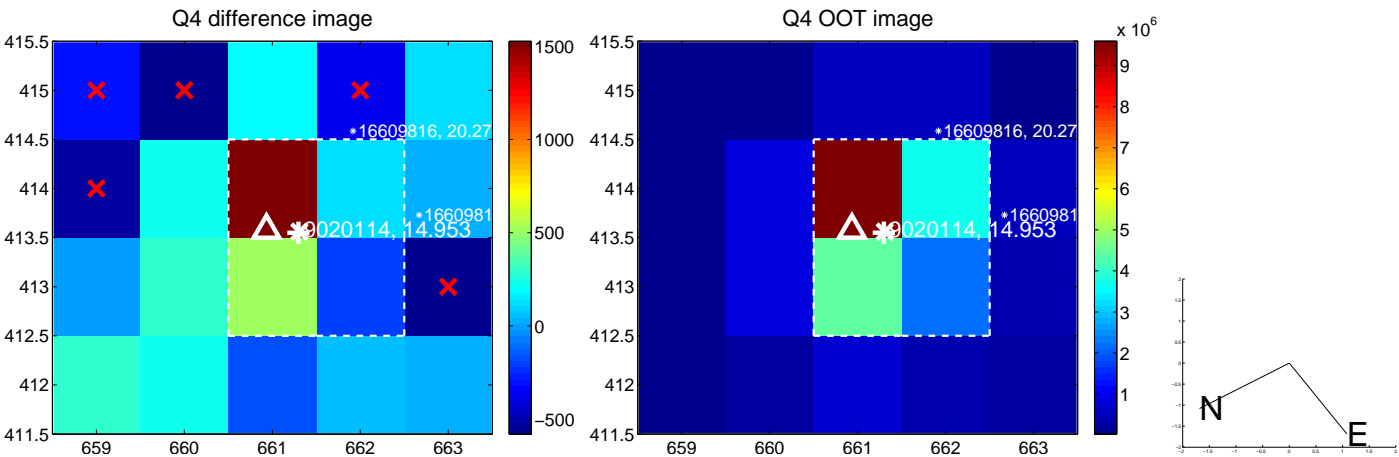
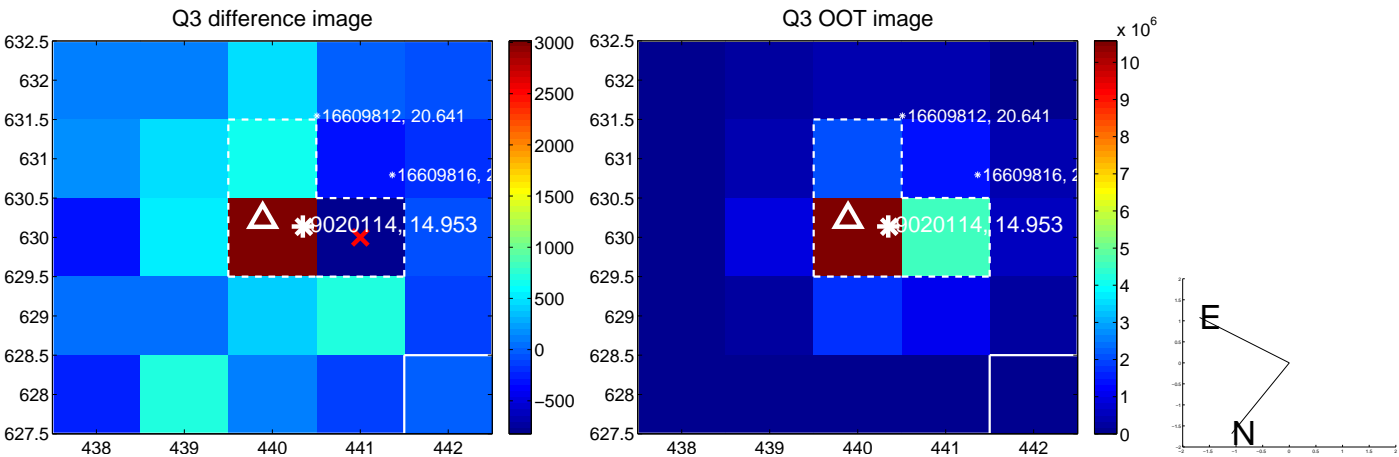
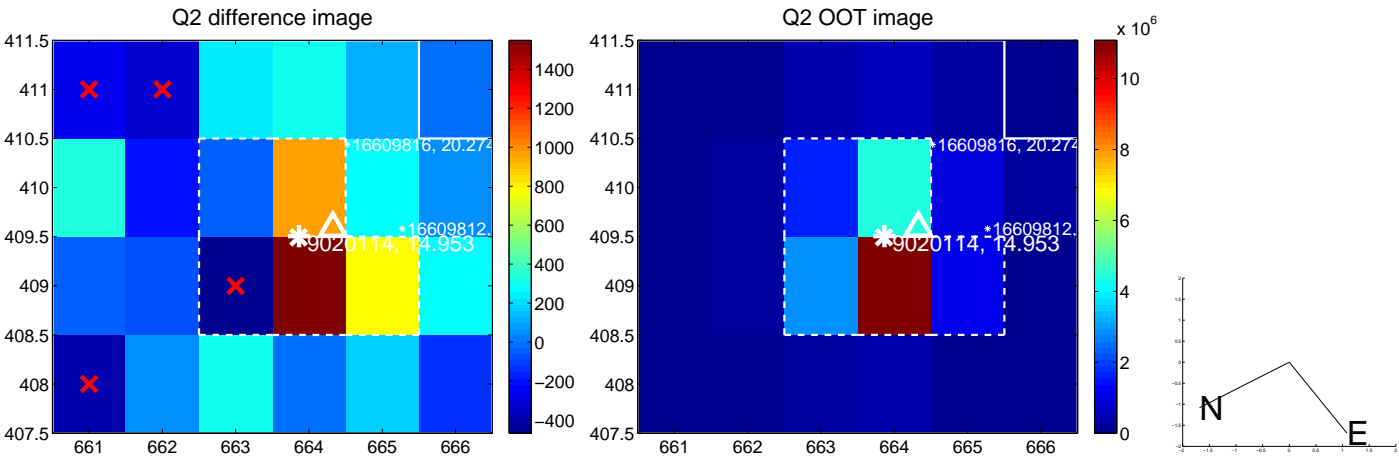
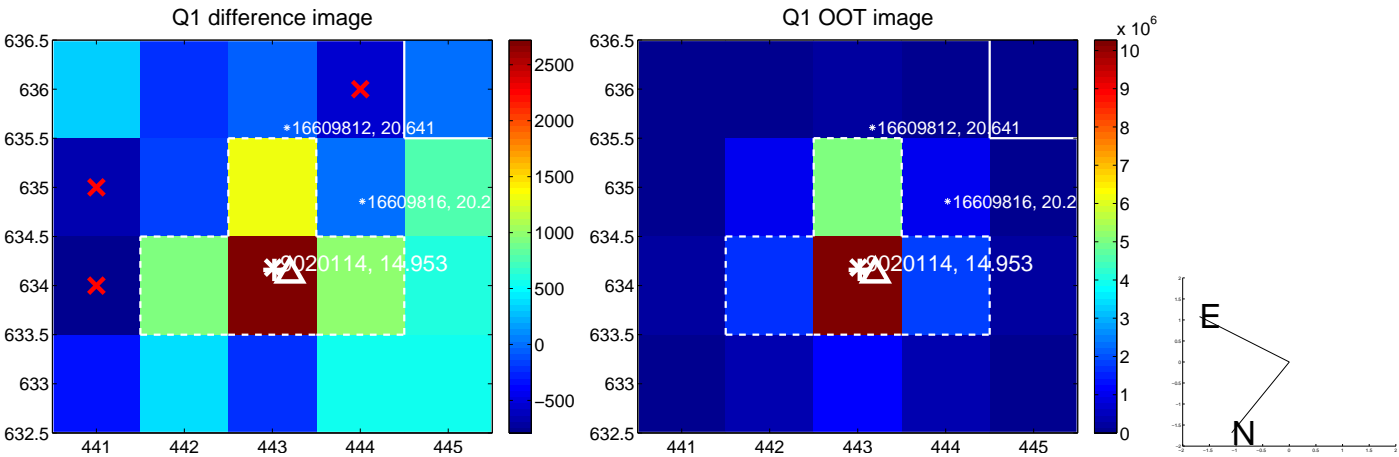
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.507 ± 0.337	1.50	0.302 ± 0.398	0.408 ± 0.299
PRF-fit source offset from KIC position	0.556 ± 0.327	1.70	0.305 ± 0.402	0.465 ± 0.289
photometric centroid source offset	1.99 ± 1.12	1.77	1.13 ± 1.10	1.64 ± 1.13

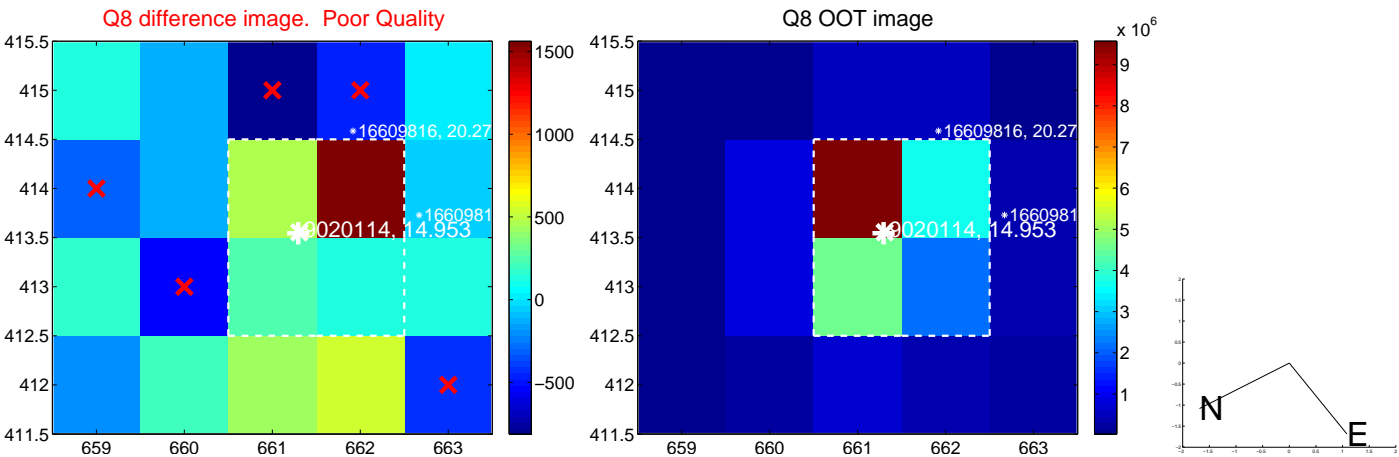
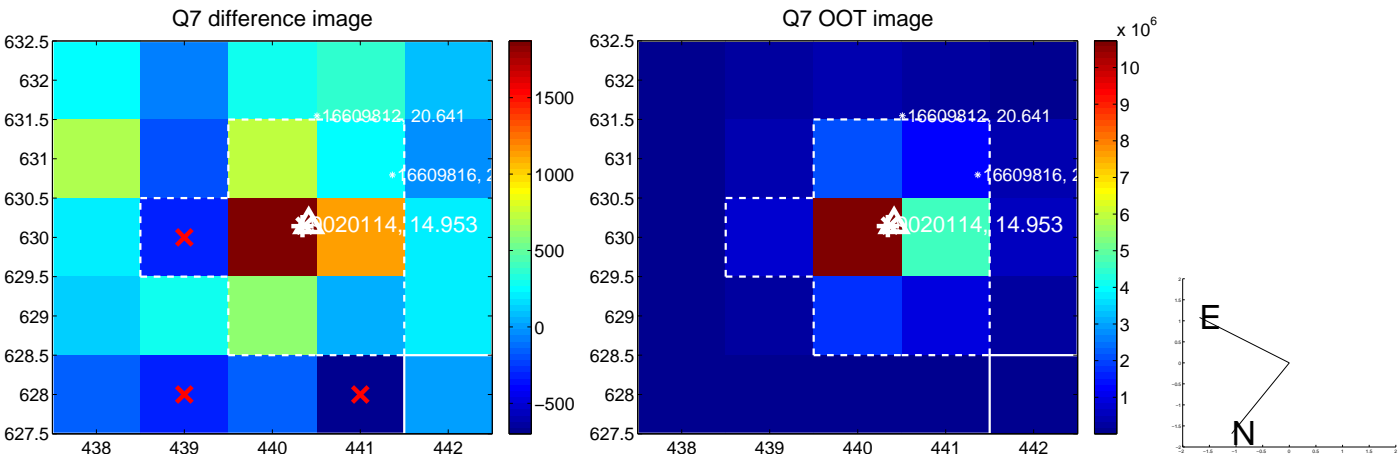
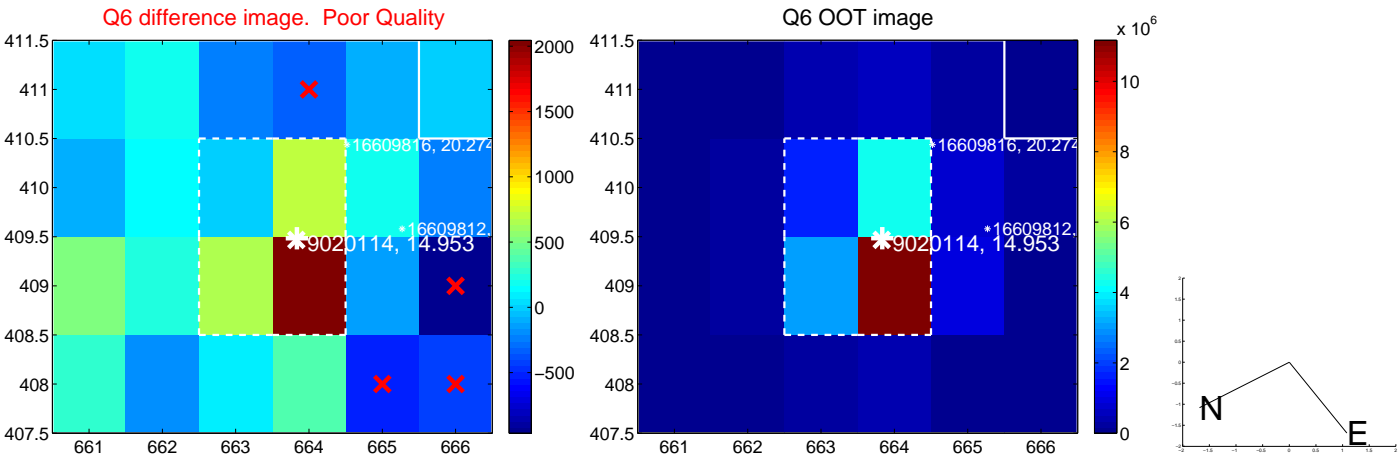
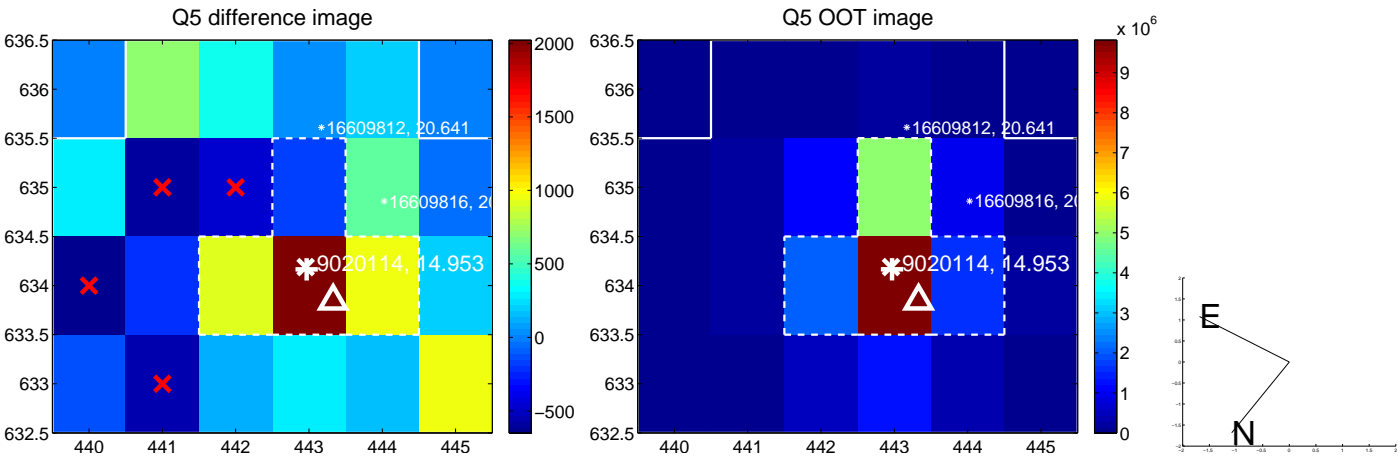


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

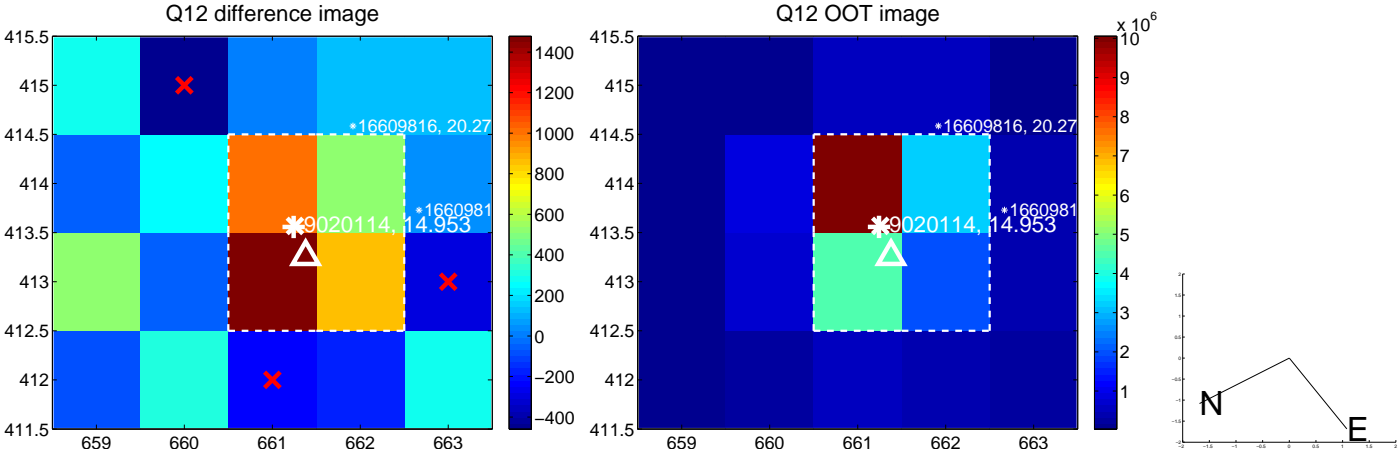
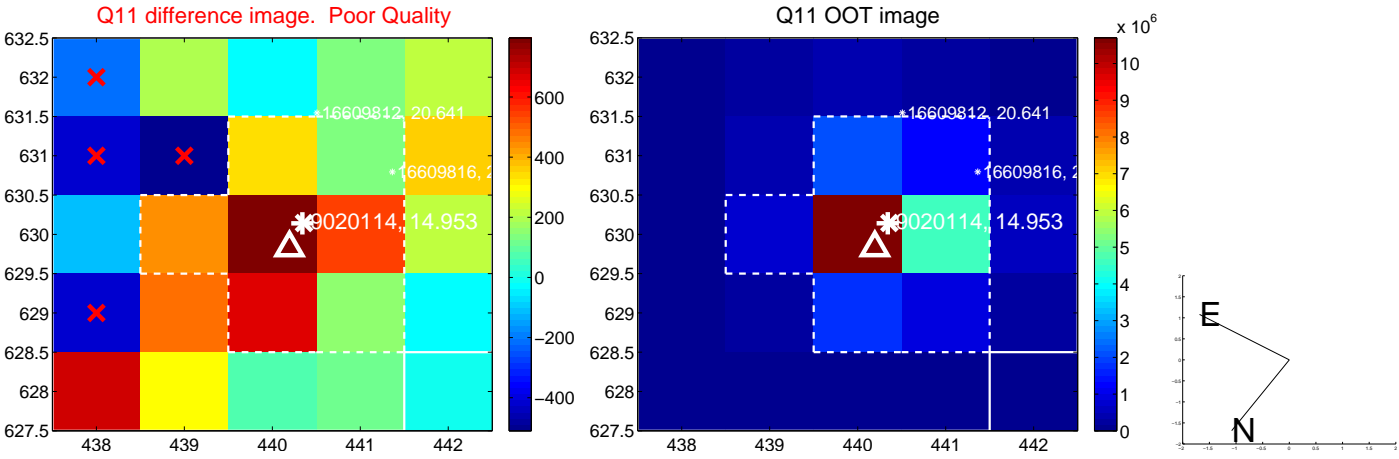
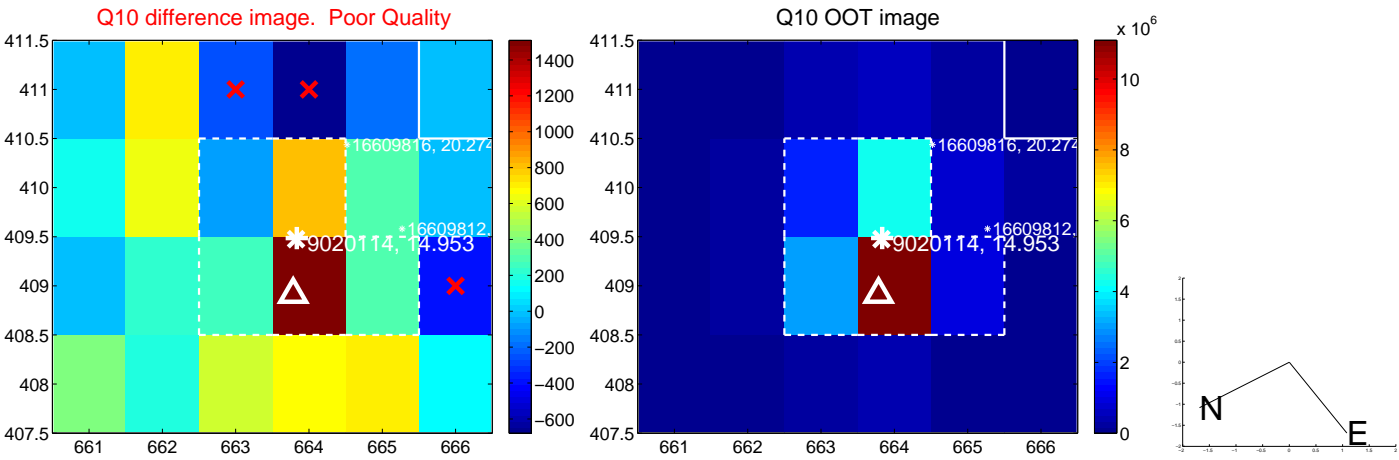
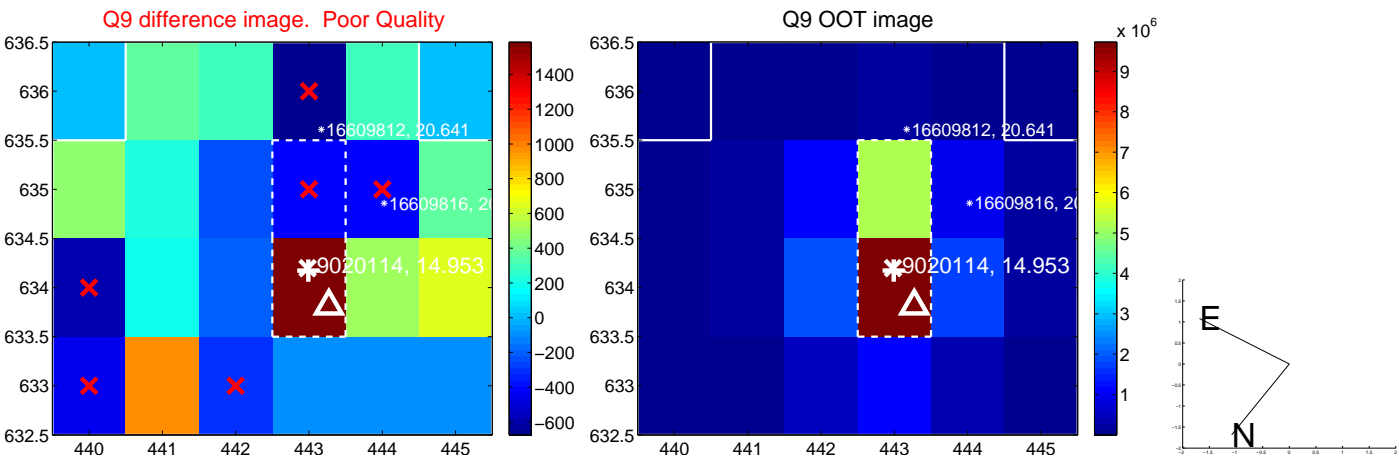
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



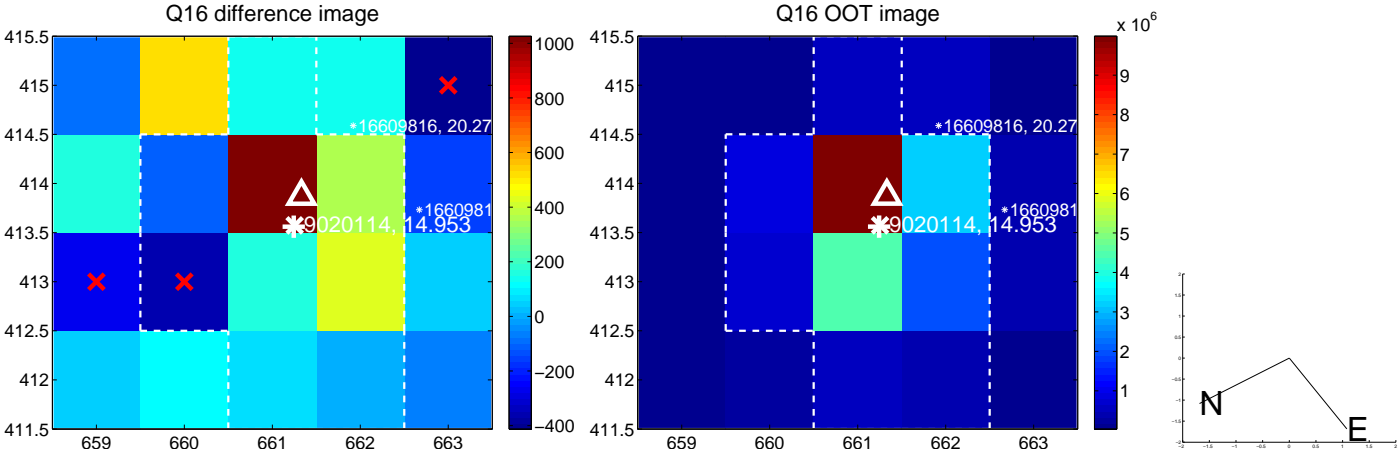
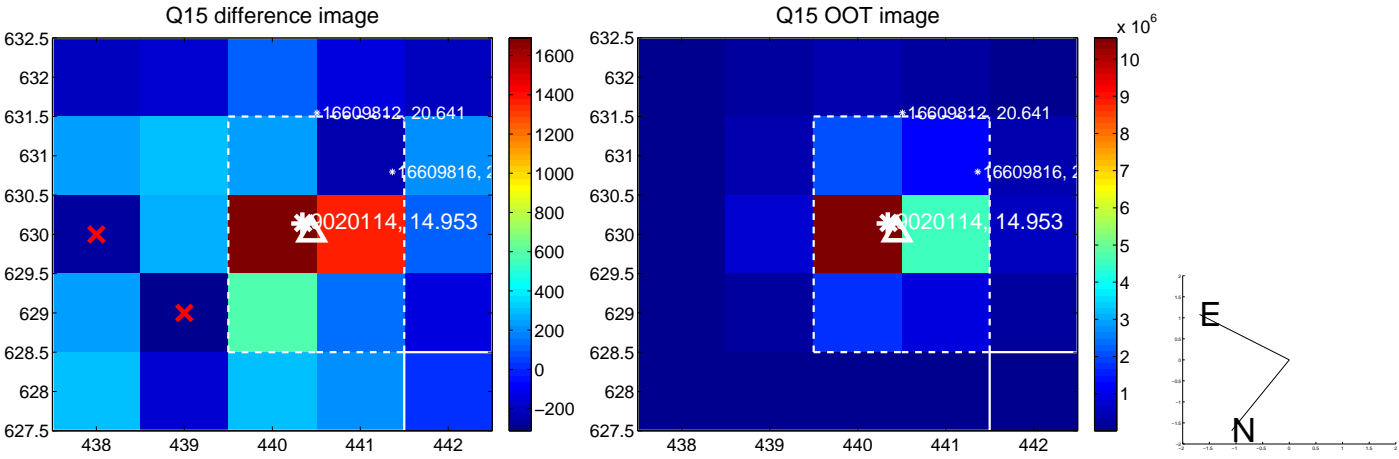
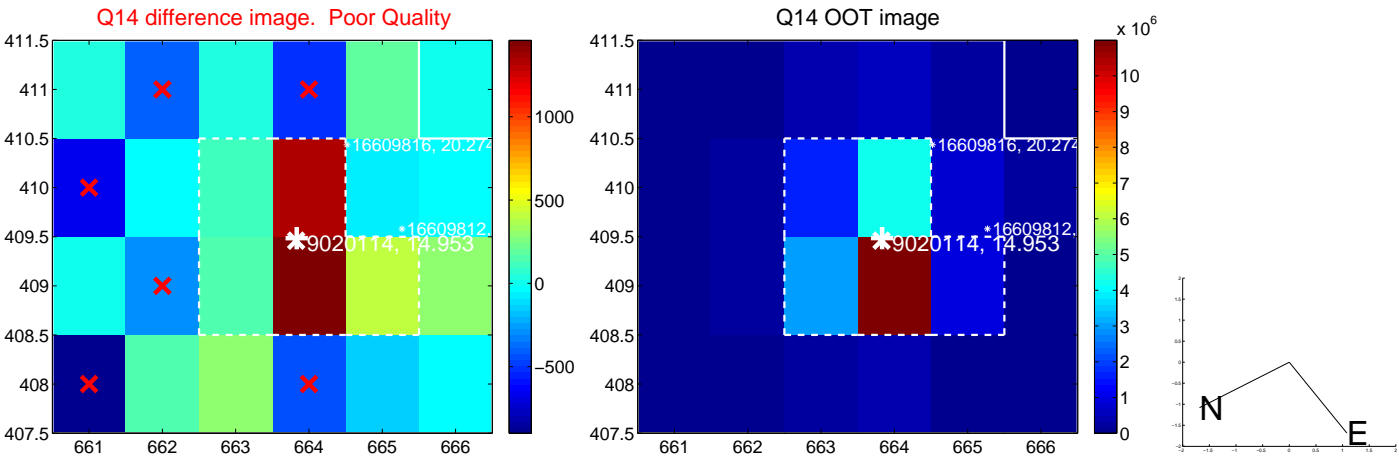
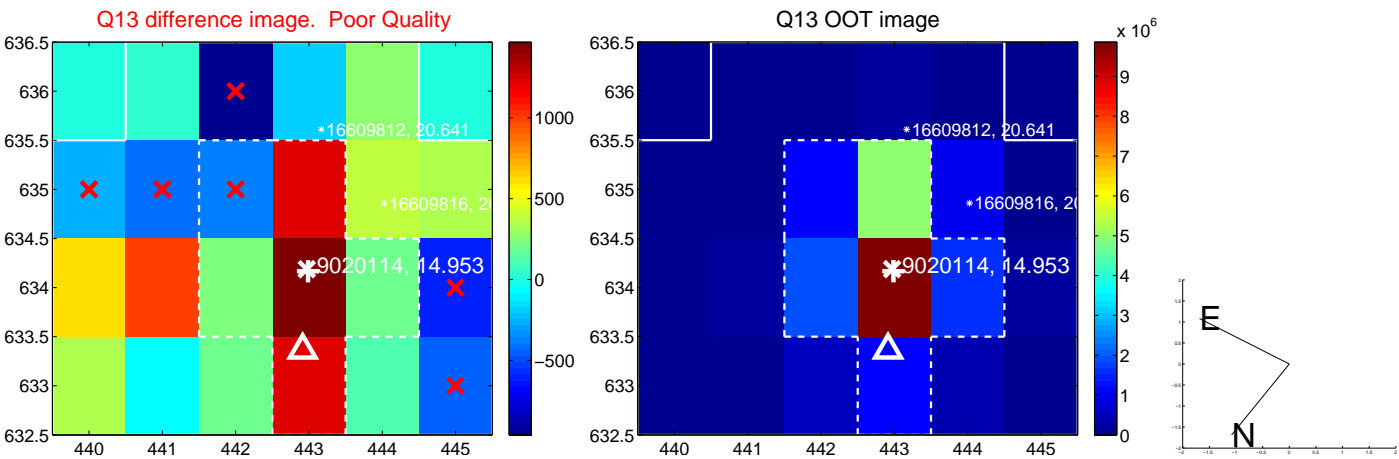
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



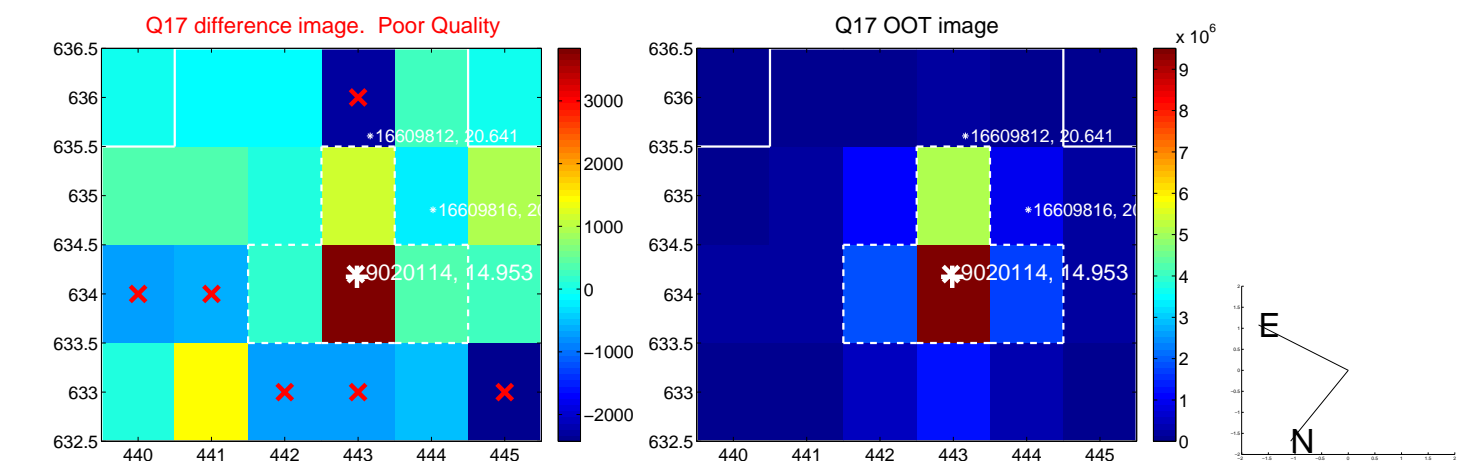
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



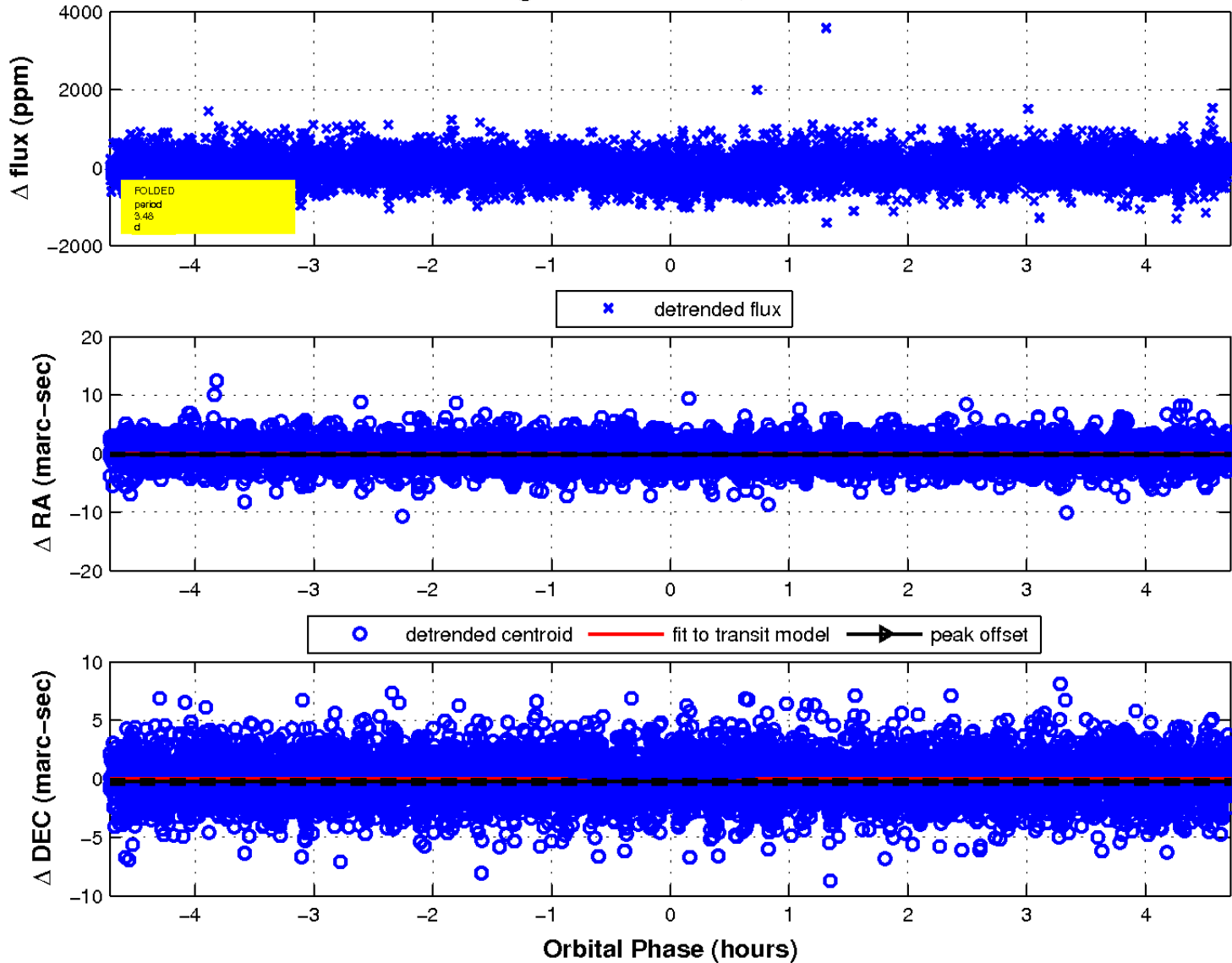
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

