

KIC 009019191

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})
009019191-01	OBS	2604.01	14.433443	143.612885	532.9	2.465	14.0	16.1	0.70	4915	2.87	22.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009019191-01	OBS	PC	0.74	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.

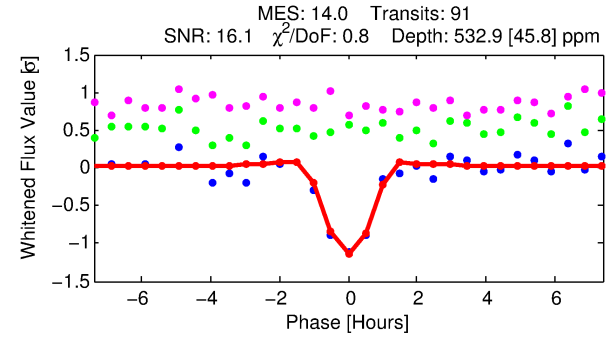
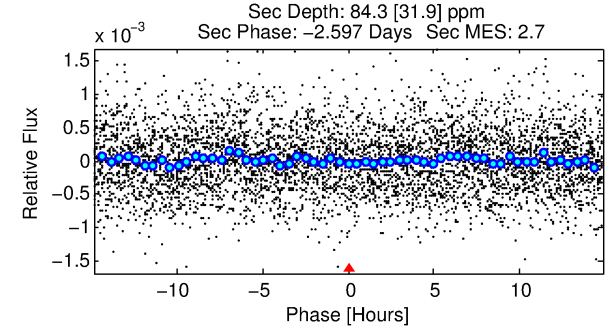
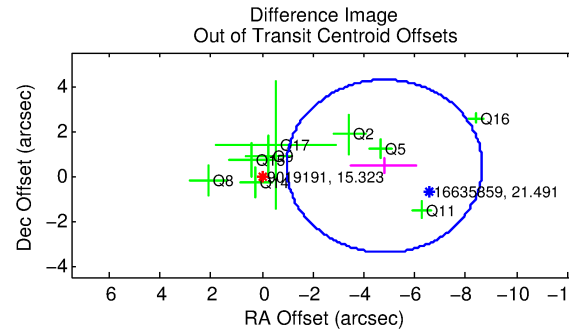
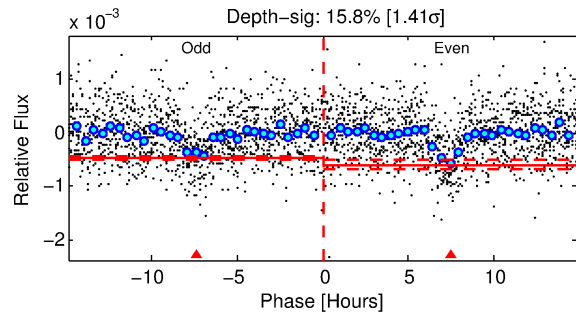
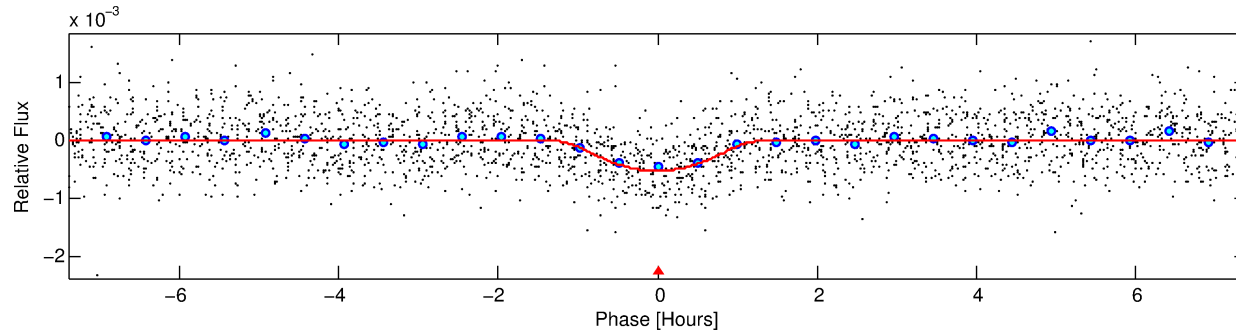
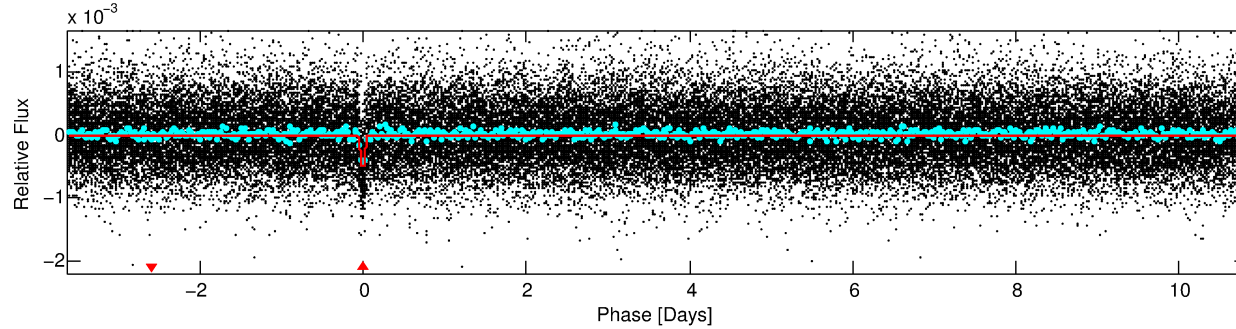
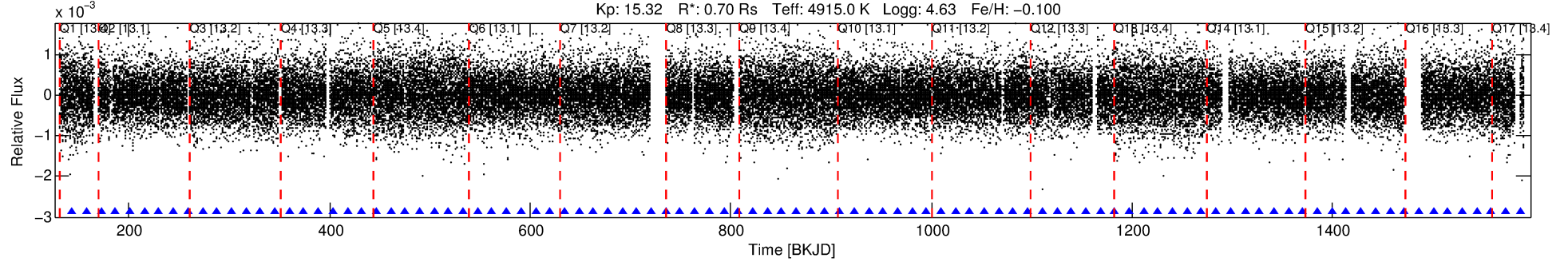
Ephemeris Match Information For 009019191-01

No Significant Match Found

DV One-Page Summary

KIC: 9019191 Candidate: 1 of 1 Period: 14.433 d
KOI: K02604.01 Corr: 0.944

Kp: 15.32 R*: 0.70 Rs Teff: 4915.0 K Logg: 4.63 Fe/H: -0.100



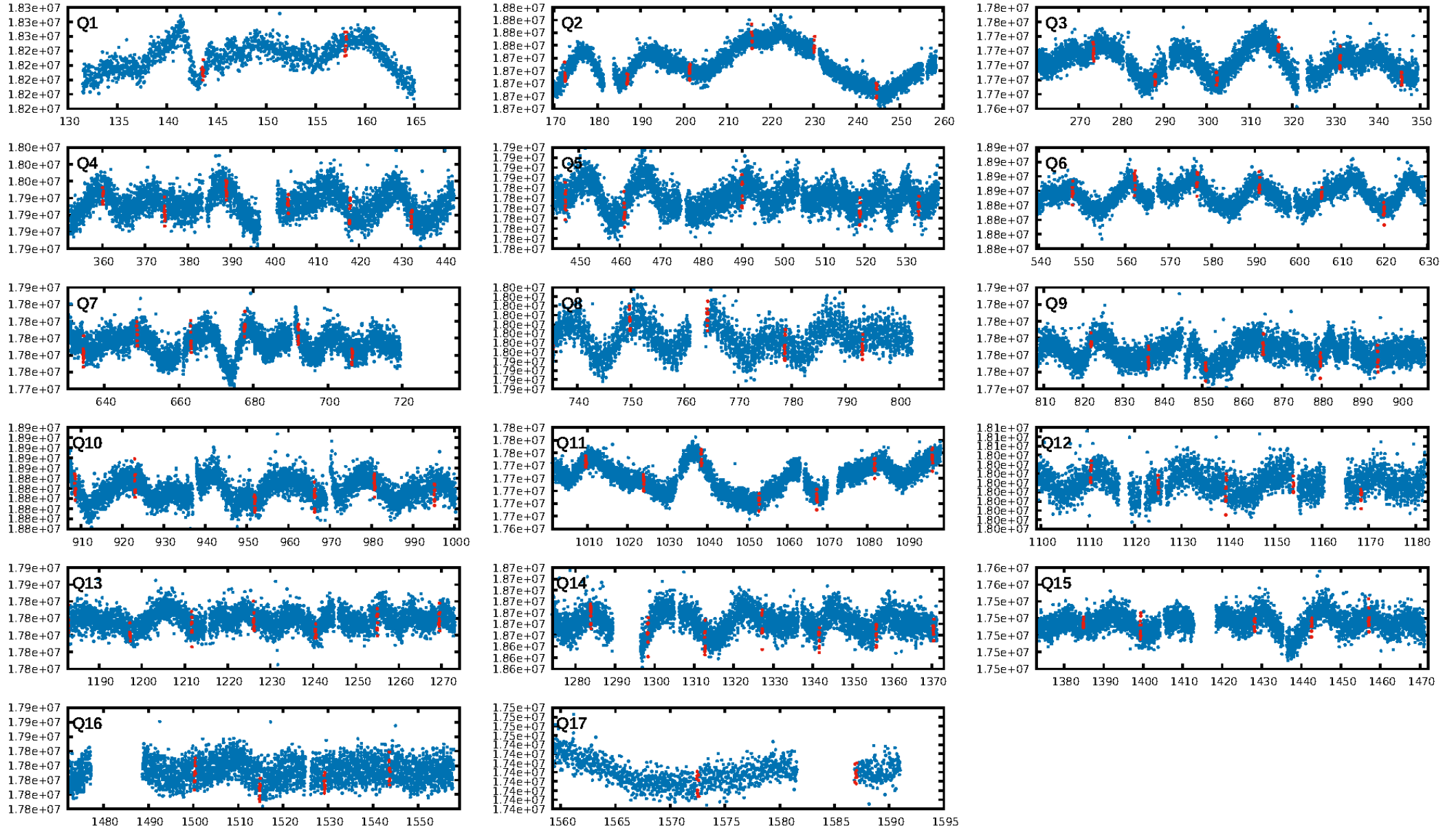
DV Fit Results:

Period = 14.43344 [0.00006] d
Epoch = 143.6129 [0.0035] BKJD
Rp/R* = 0.0375 [0.0570]
a/R* = 14.08 [7.05]
b = 0.99 [0.10]
Seff = 22.95 [3.91]
Teq = 558 [24] K
Rp = 2.87 [4.38] Re
a = 0.1060 [0.0092] AU
Ag = 63.21 [194.05] [0.32σ]
Teffp = 2433 [1867] K [1.00σ]

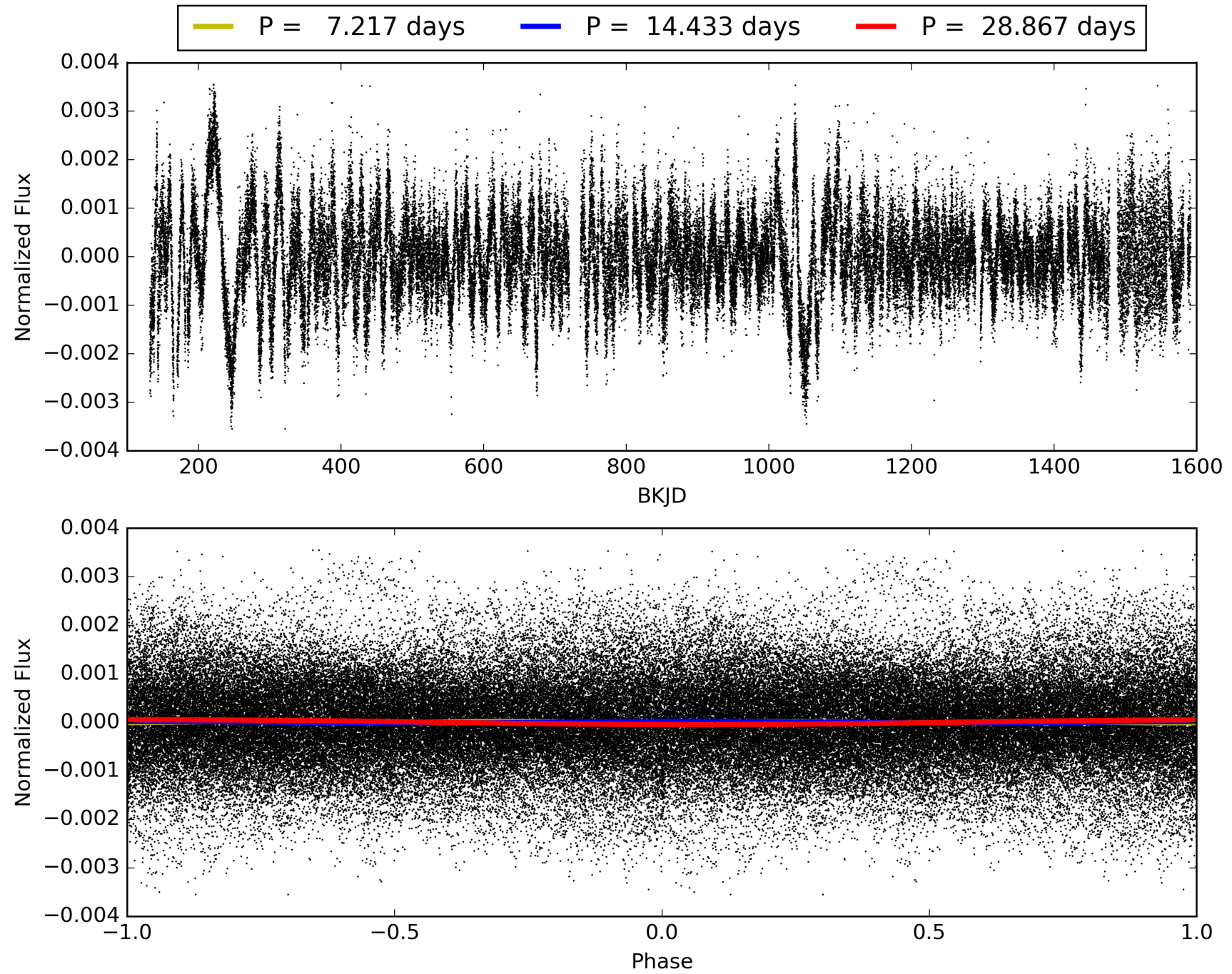
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.29e-43
RollingBand-fgt: 1.00 [87/87]
GhostDiagnostic-chr: 4.77
Centroid-sig: 53.6%
Centroid-so: 0.583 arcsec [0.55σ]
OotOffset-rm: 4.832 arcsec [3.77σ]
KicOffset-rm: 4.936 arcsec [3.80σ]
OotOffset-st: 2/2/2/3 [9]
KicOffset-st: 2/2/2/3 [9]
DiffImageQuality-fgm: 0.78 [7/9]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 009019191-01, PDC Light Curves

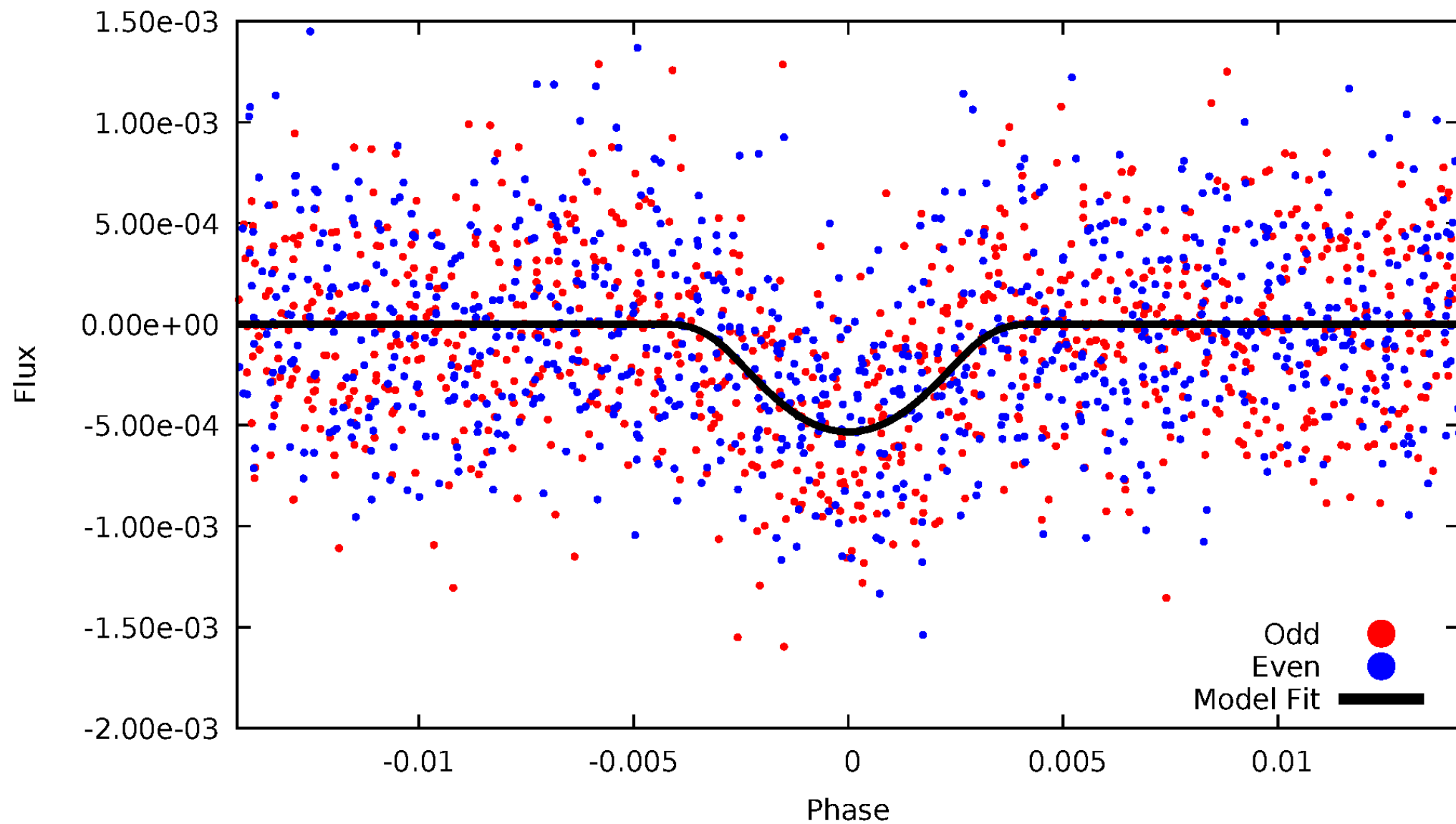


TCE 009019191-01



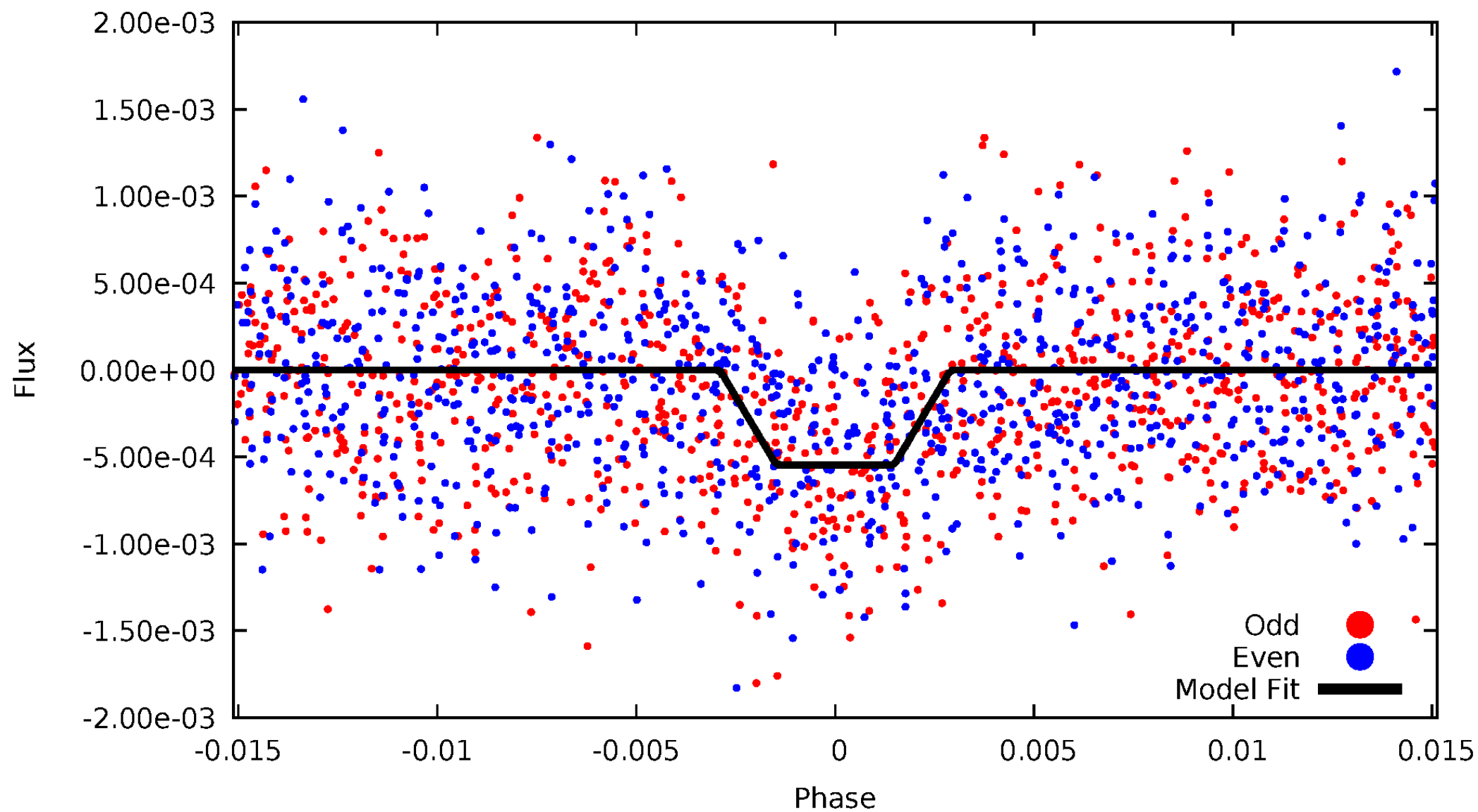
DV Odd/Even

TCE 009019191-01



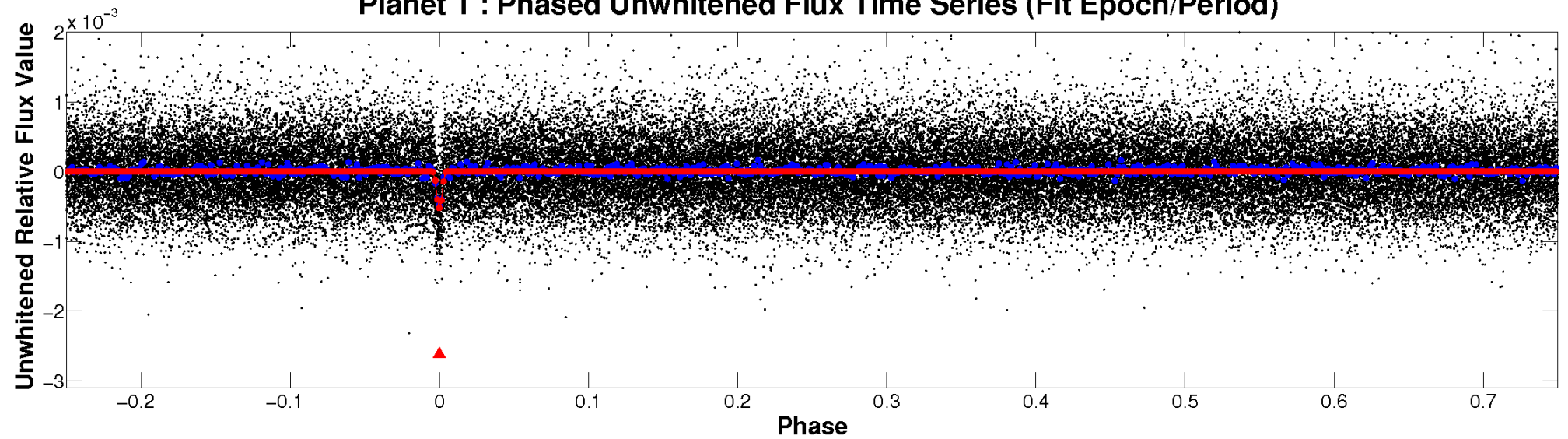
ALT Odd/Even

TCE 009019191-01

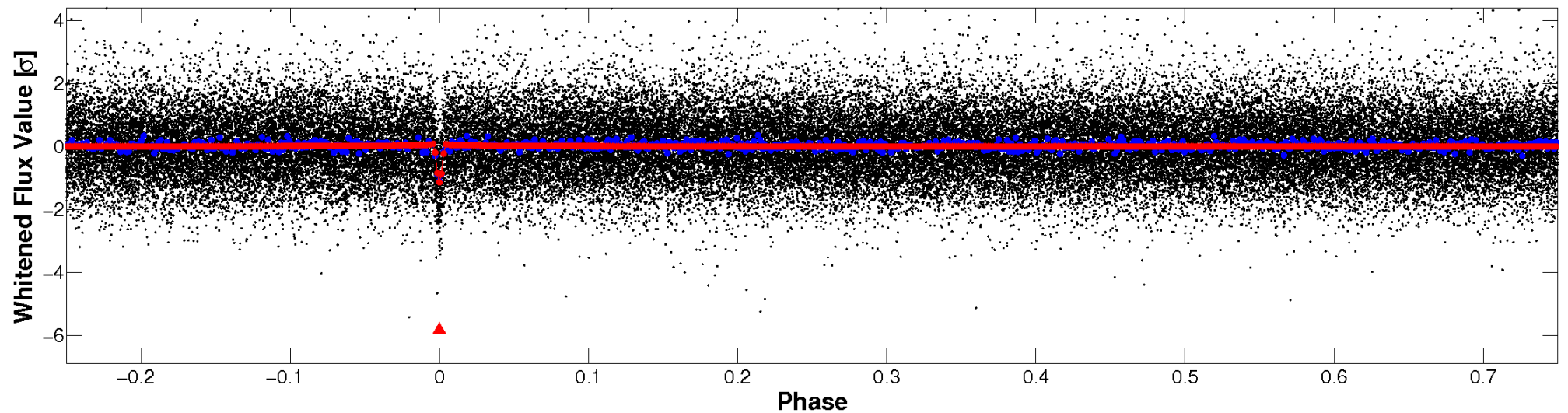


Non-Whitened Vs. Whitened Light Curve

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

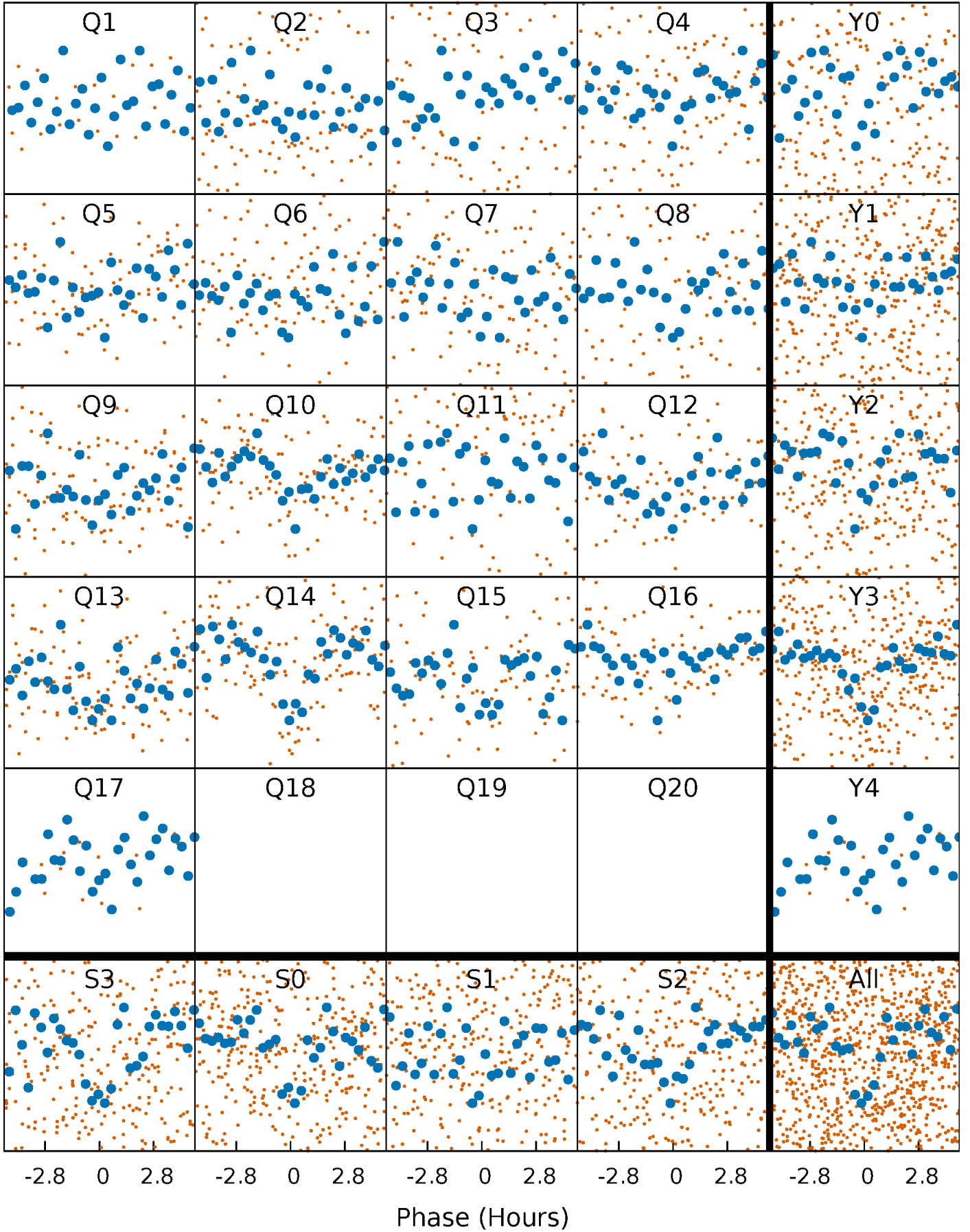


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



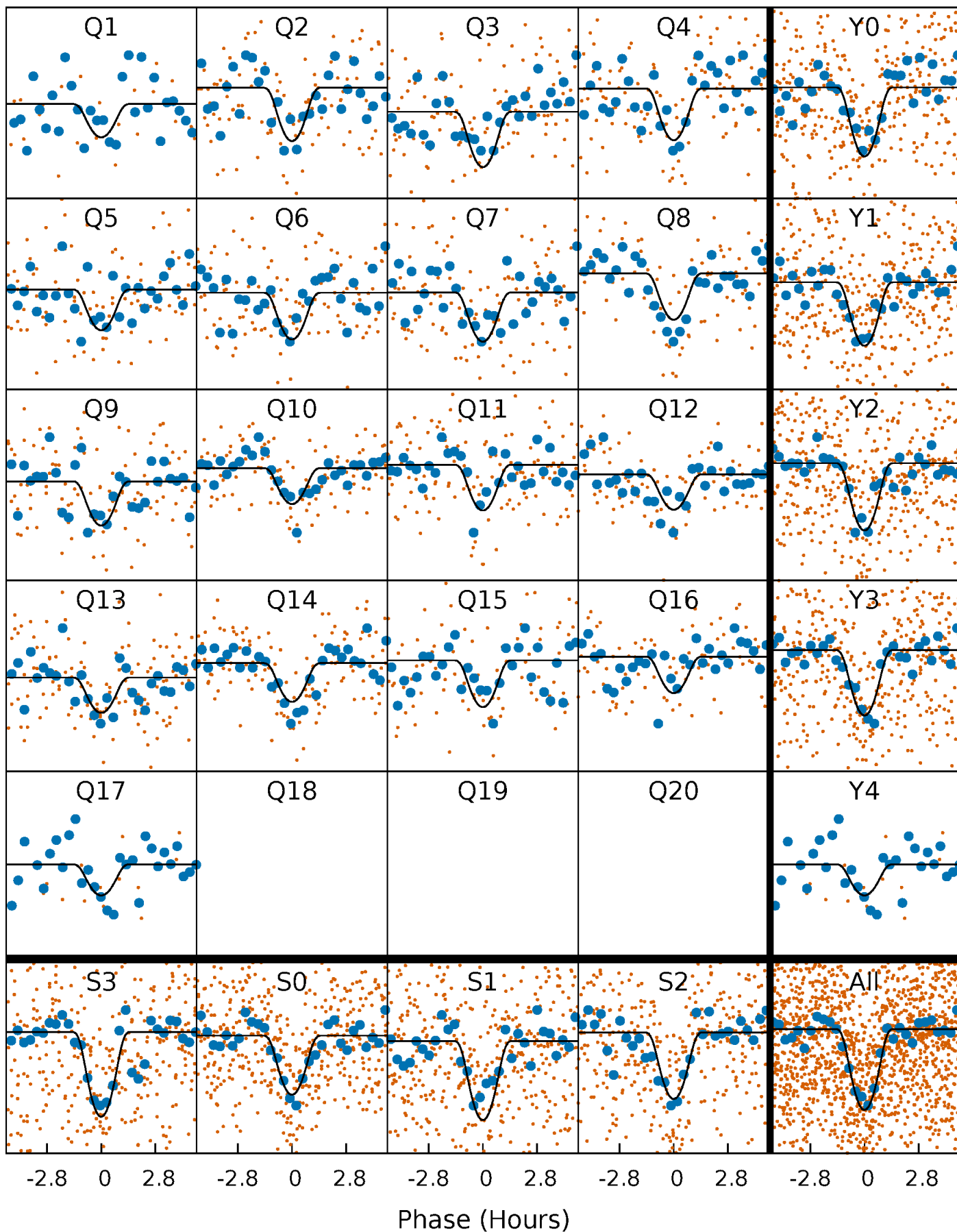
PDC Quarter-Phased Transit Curves

TCE 009019191-01 P= 14.433443 Days $T_0=143.612885$ (BKJD)



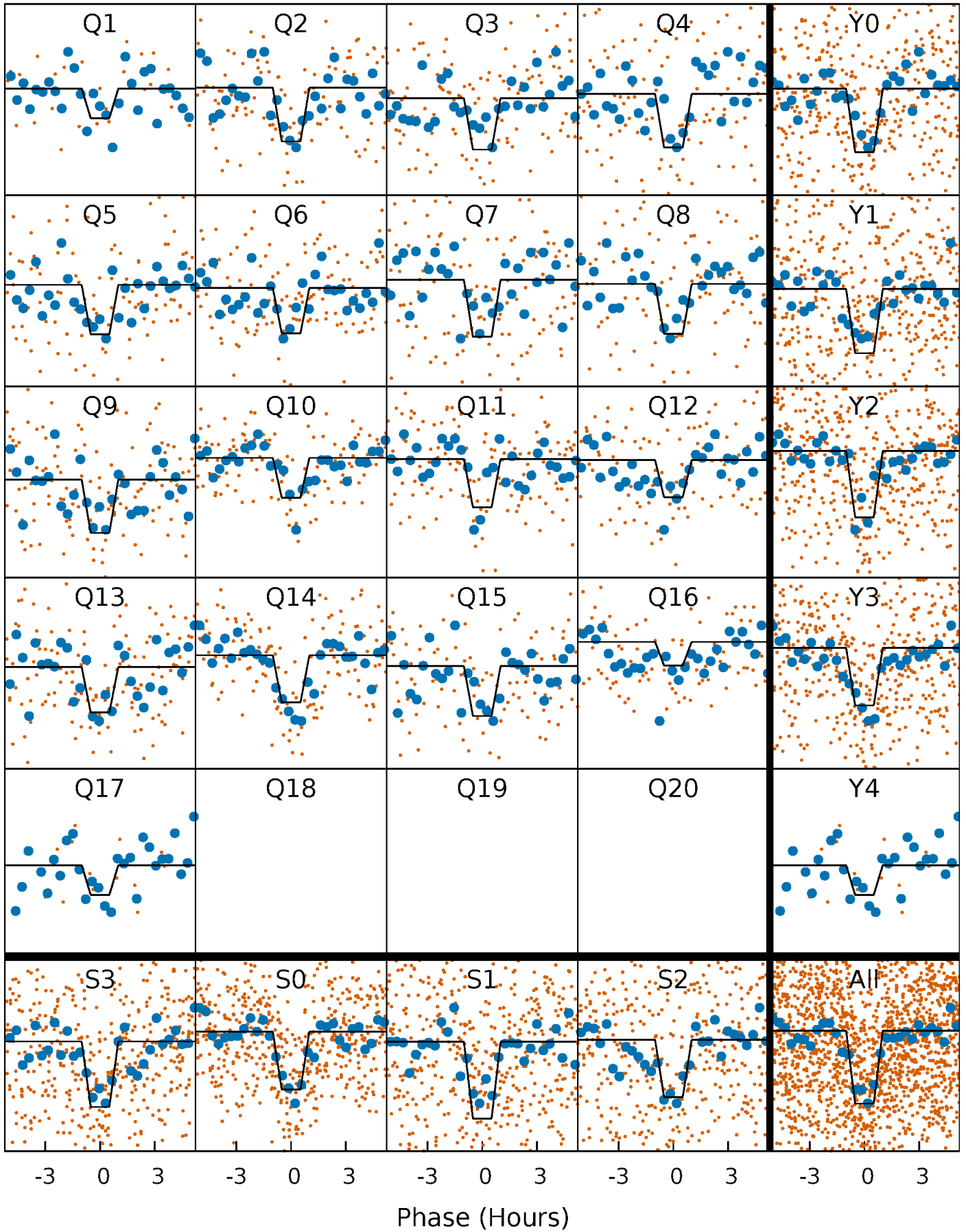
DV Quarter-Phased Transit Curves

TCE 009019191-01 P= 14.433443 Days $T_0=143.612885$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

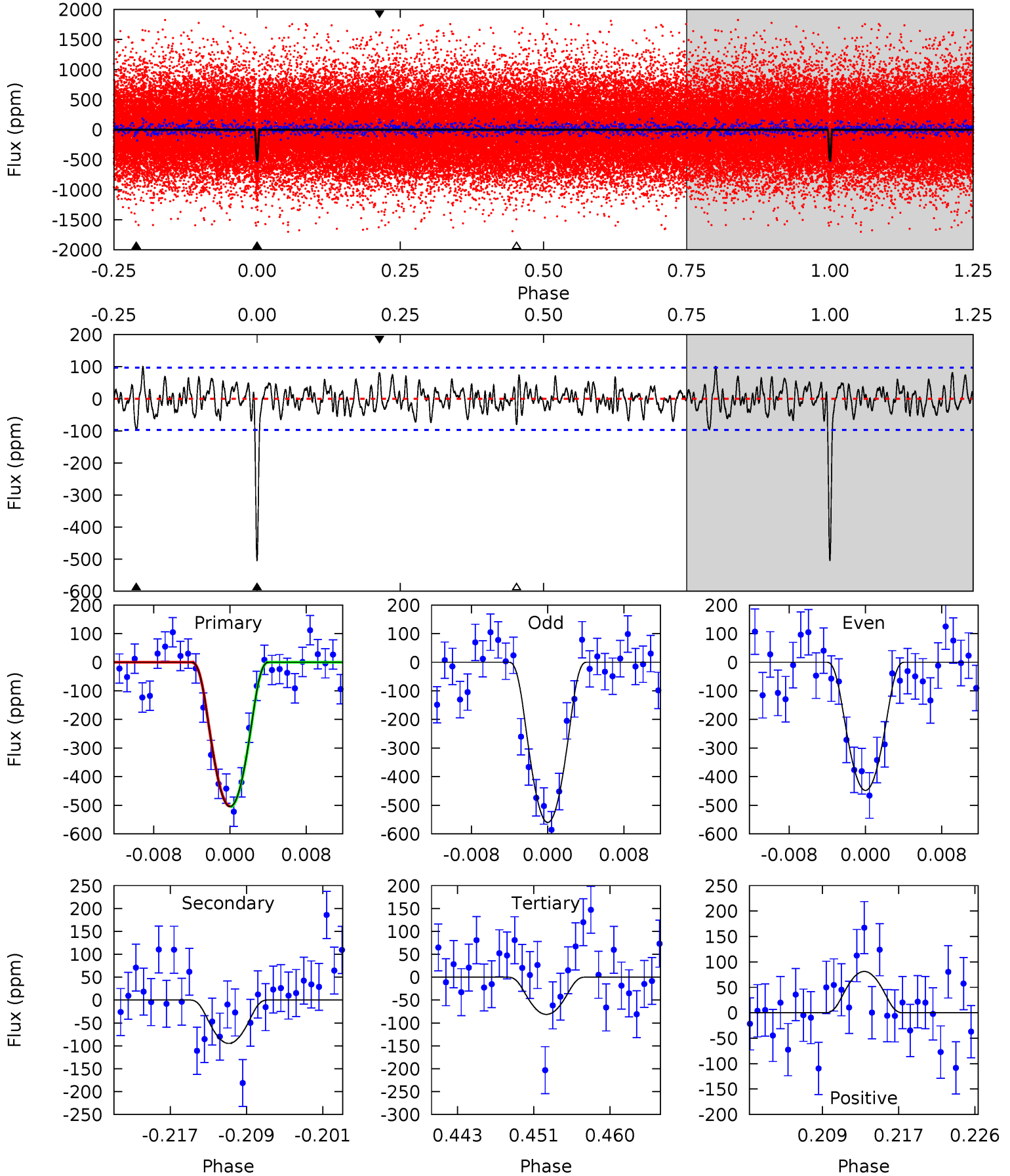
TCE 009019191-01 P= 14.433483 Days $T_0=143.609526$ (BKJD)



DV Model-Shift Uniqueness Test

009019191-01, $P = 14.433443$ Days, $E = 129.179442$ Days

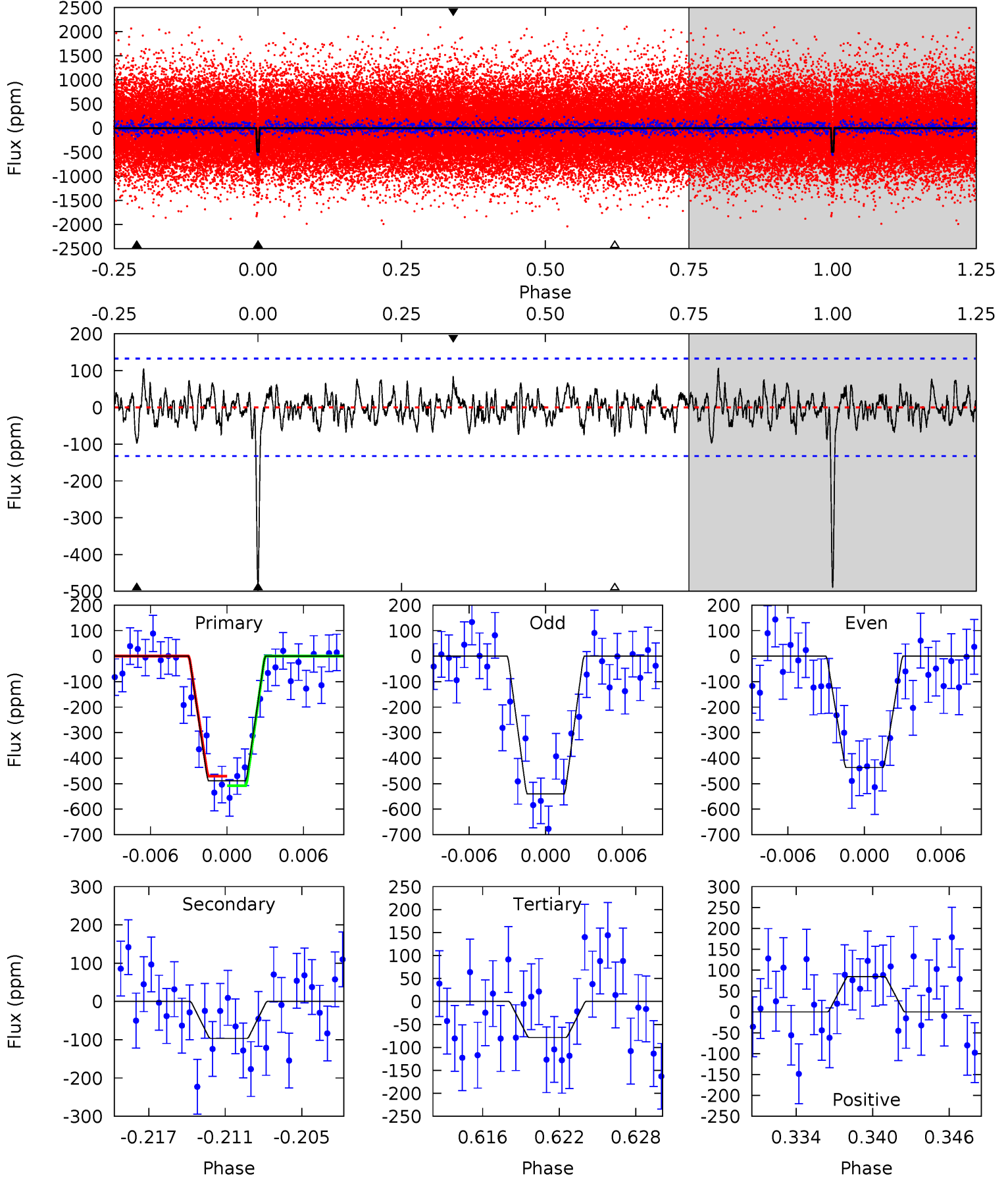
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.4	4.95	4.25	4.24	5.06	2.64	1.56	22.1	22.1	0.69	0.71	2.93	1.01	0.17	0.08



Alt Model-Shift Uniqueness Test

009019191-01, $P = 14.433483$ Days, $E = 129.176043$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.9	3.73	3.04	3.26	5.13	2.76	1.15	15.9	15.6	0.70	0.48	1.99	1.03	0.18	0.72



Stellar Parameters For KIC 009019191

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4915^{+133}_{-148}	$4.627^{+0.027}_{-0.063}$	$-0.100^{+0.300}_{-0.300}$	$0.702^{+0.076}_{-0.051}$	$0.787^{+0.049}_{-0.090}$	$3.198^{+0.468}_{-0.764}$
	+3%/-3%	+1%/-1%	+300%/-300%	+11%/-7%	+6%/-11%	+15%/-24%
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 009019191-01 / KOI 2604.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-95 ± 19	$4.42^{+3.75}_{-2.99}$	787^{+27}_{-28}	2761^{+1103}_{-415}	29^{+252}_{-21}
Alt.	-97 ± 26	$3.85^{+3.64}_{-2.58}$	788^{+28}_{-29}	2848^{+1204}_{-442}	38^{+314}_{-28}

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

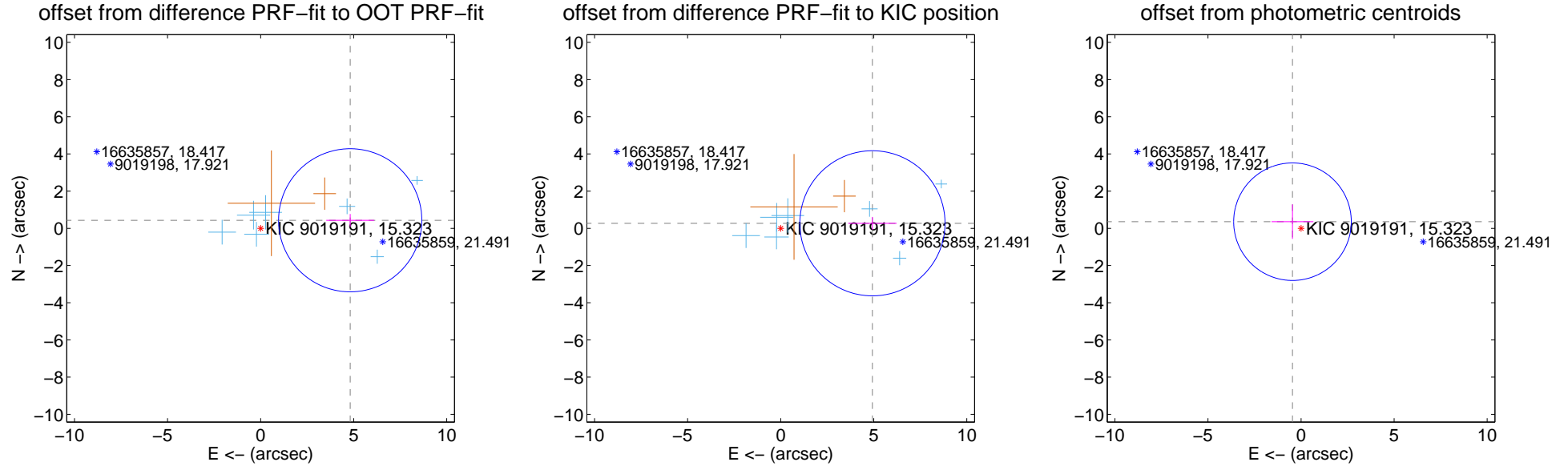
DV Centroid Data

Supplemental centroid analysis for 009019191-01. Kepler magnitude: 15.32. Transit SNR 16.05

There are 7 quarters with good PRF difference image offsets

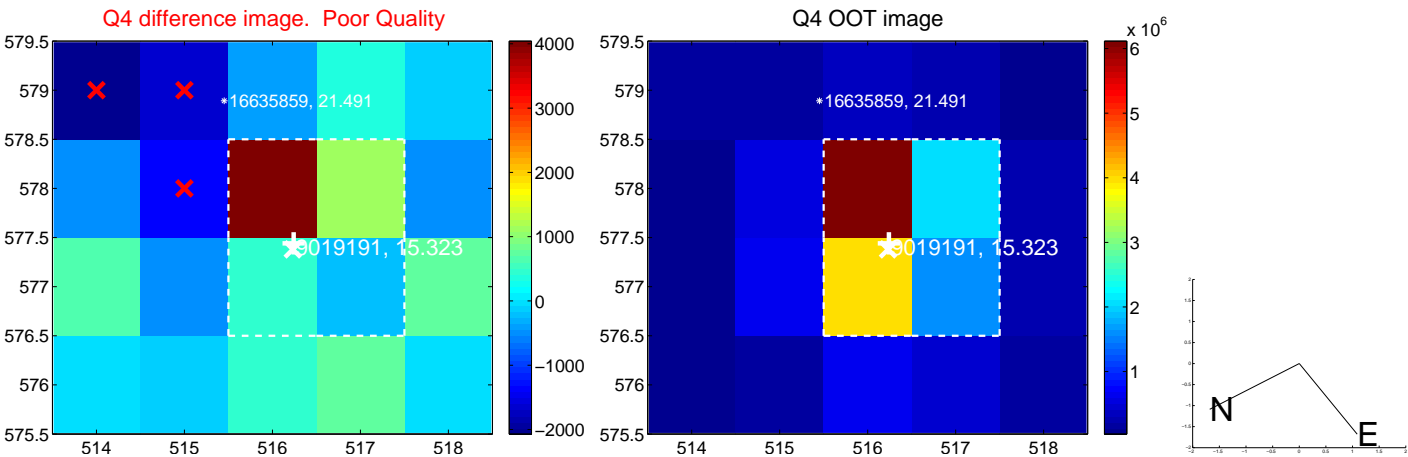
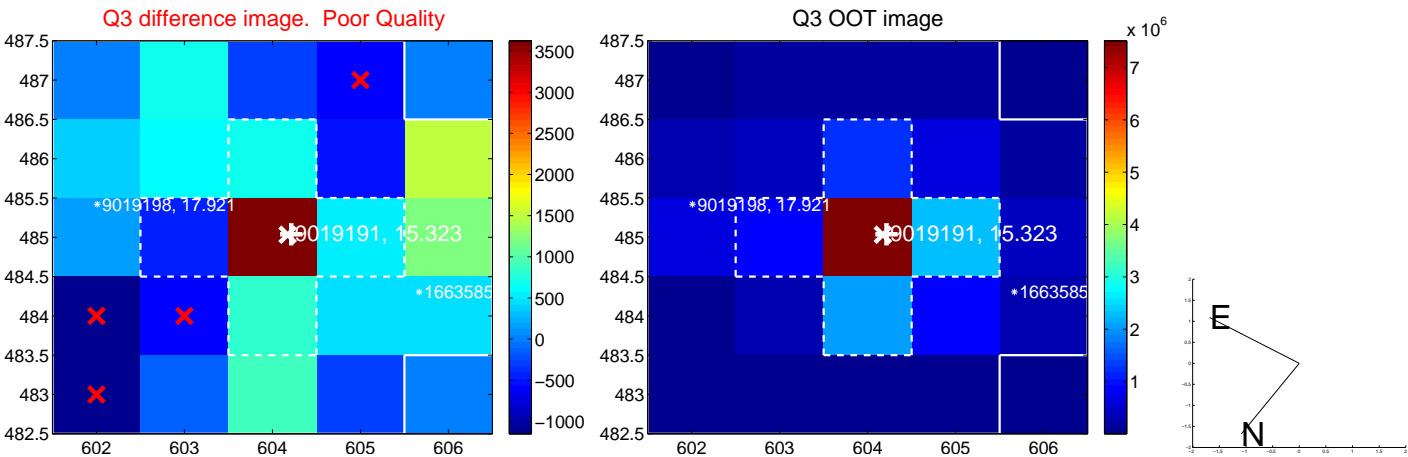
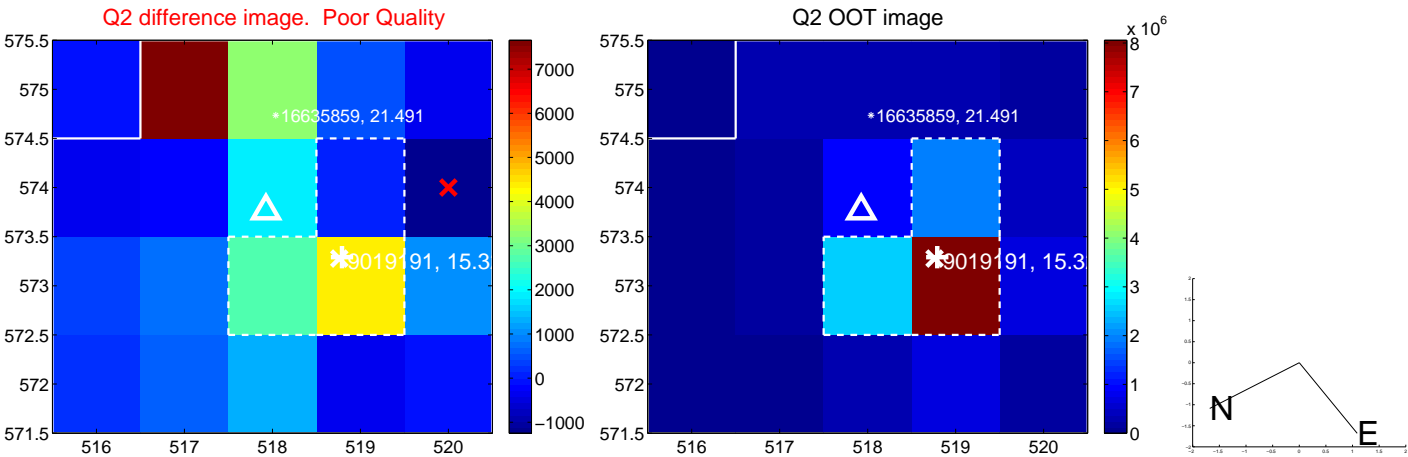
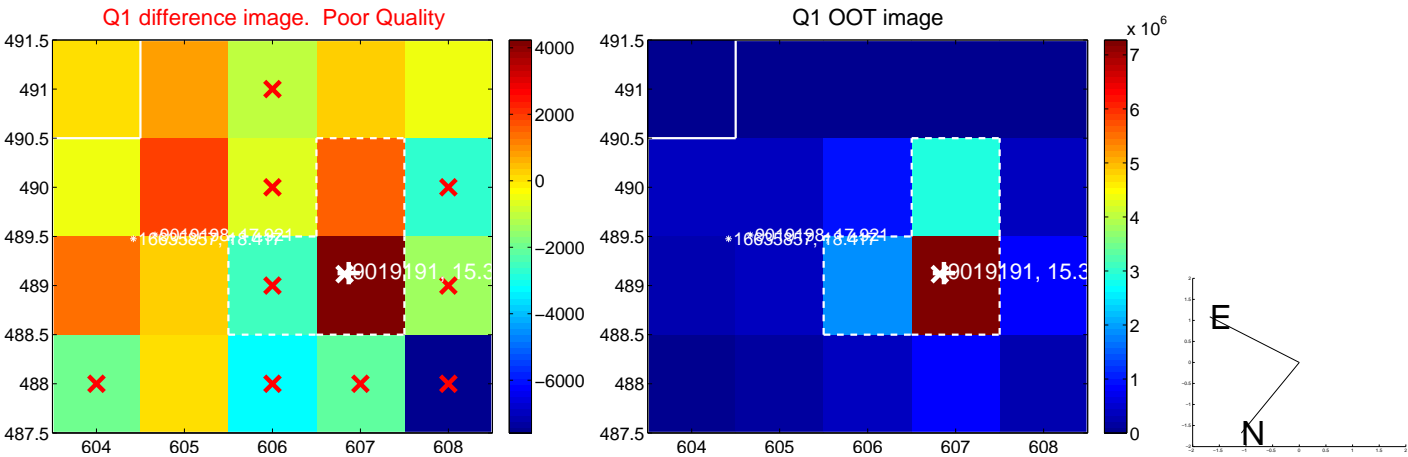
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.832 ± 1.282	3.77	-4.813 ± 1.287	0.433 ± 0.340
PRF-fit source offset from KIC position	4.936 ± 1.300	3.80	-4.928 ± 1.302	0.271 ± 0.345
photometric centroid source offset	0.58 ± 1.05	0.55	0.46 ± 1.12	0.36 ± 0.93

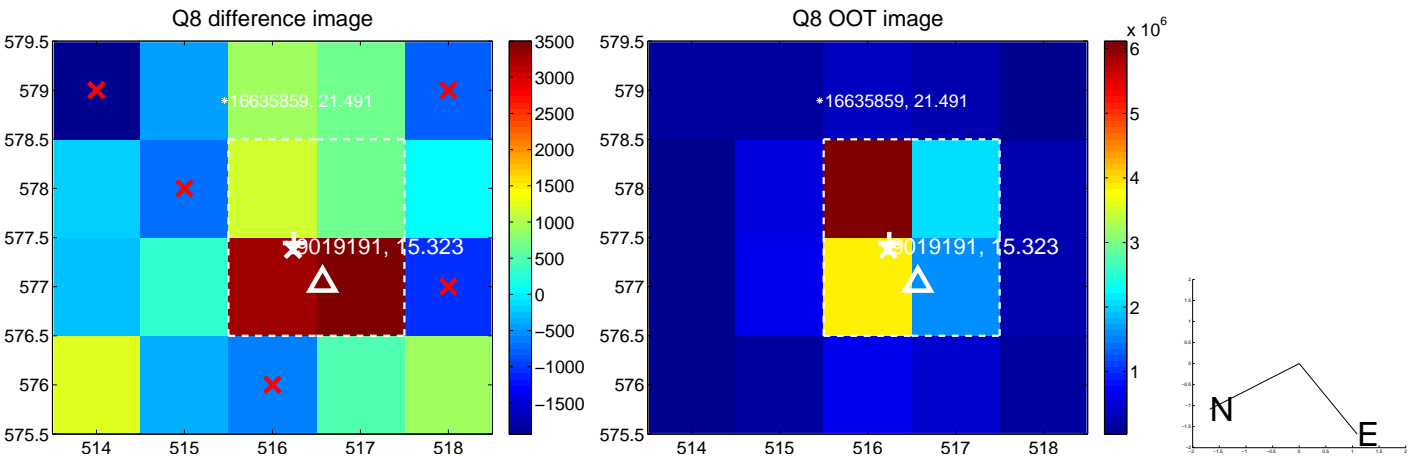
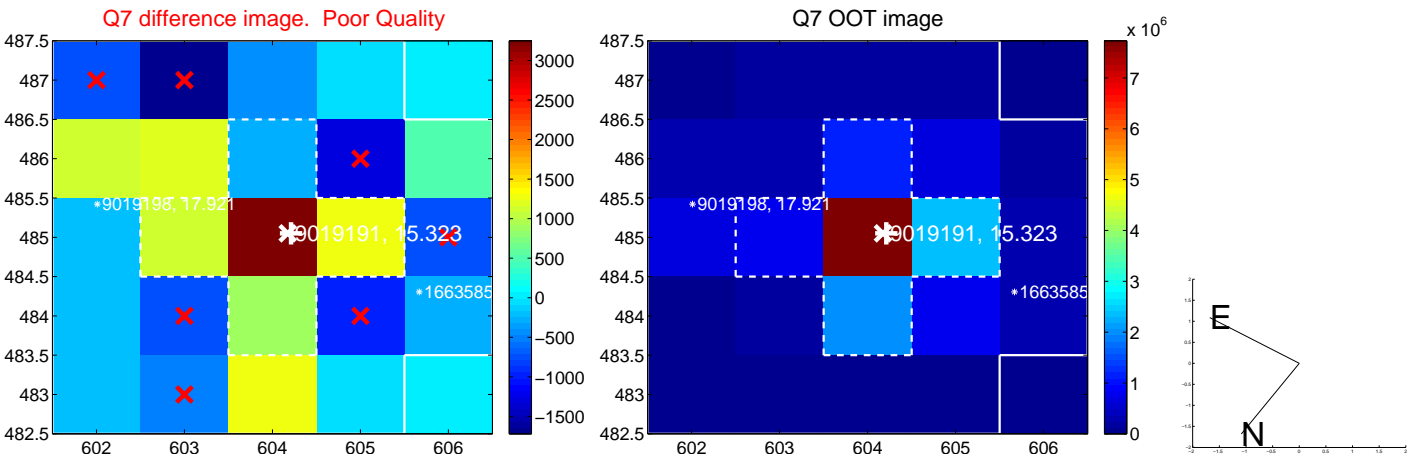
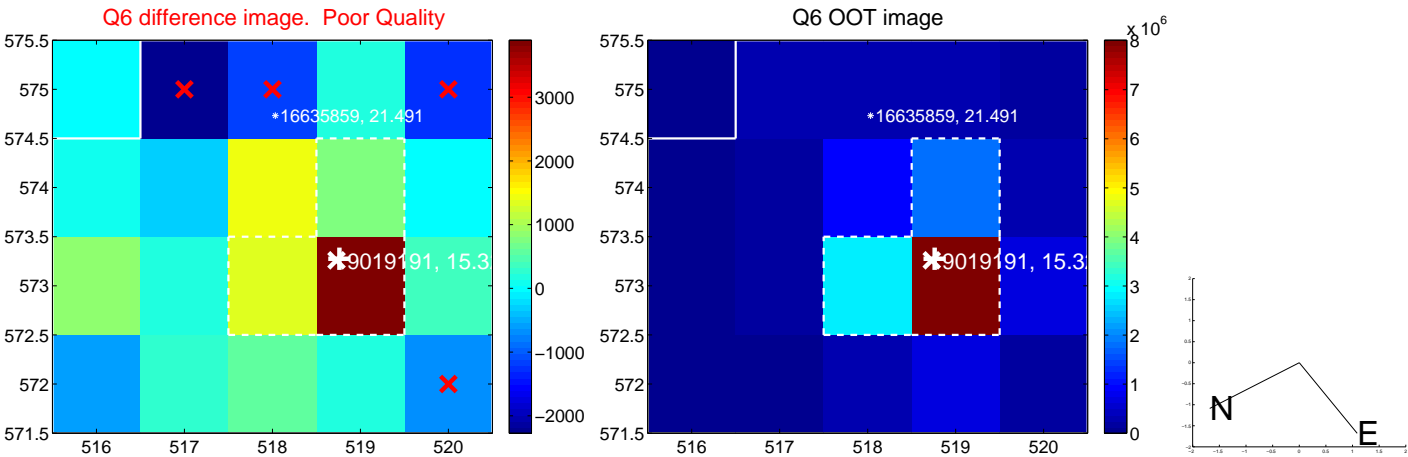
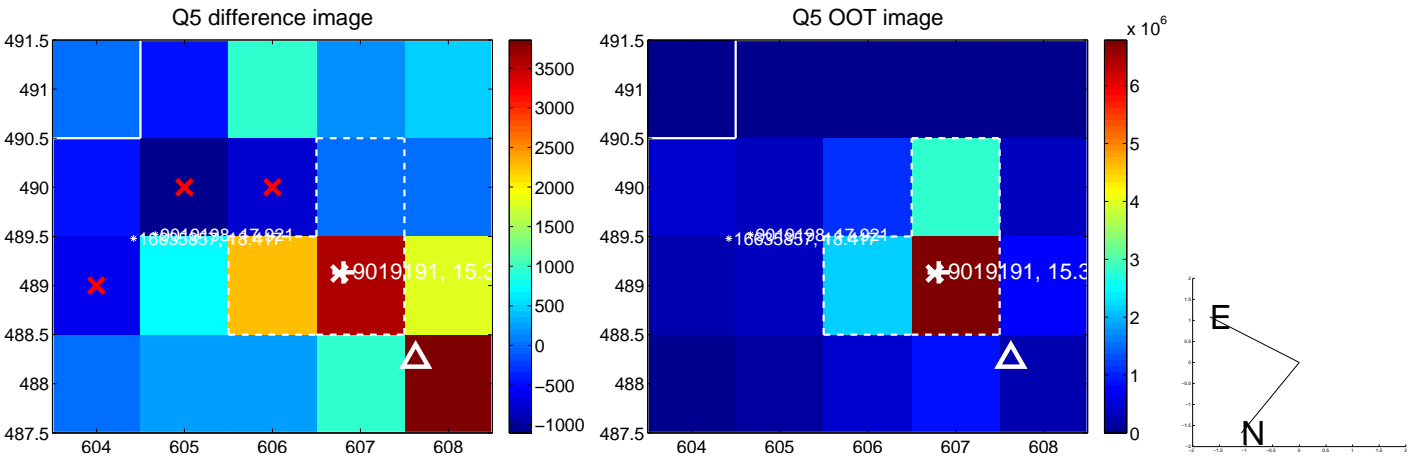


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

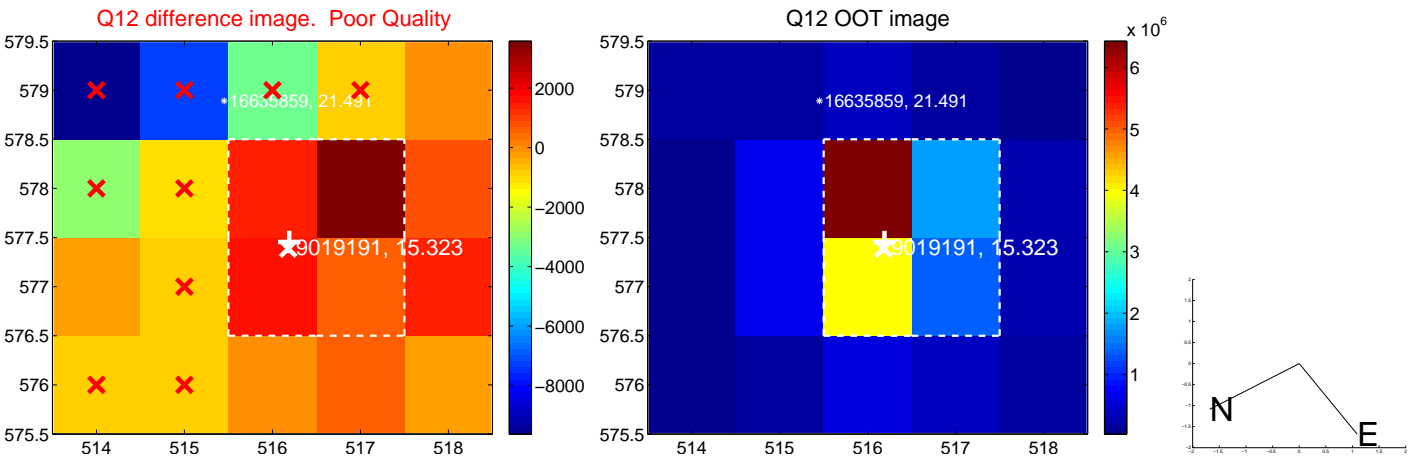
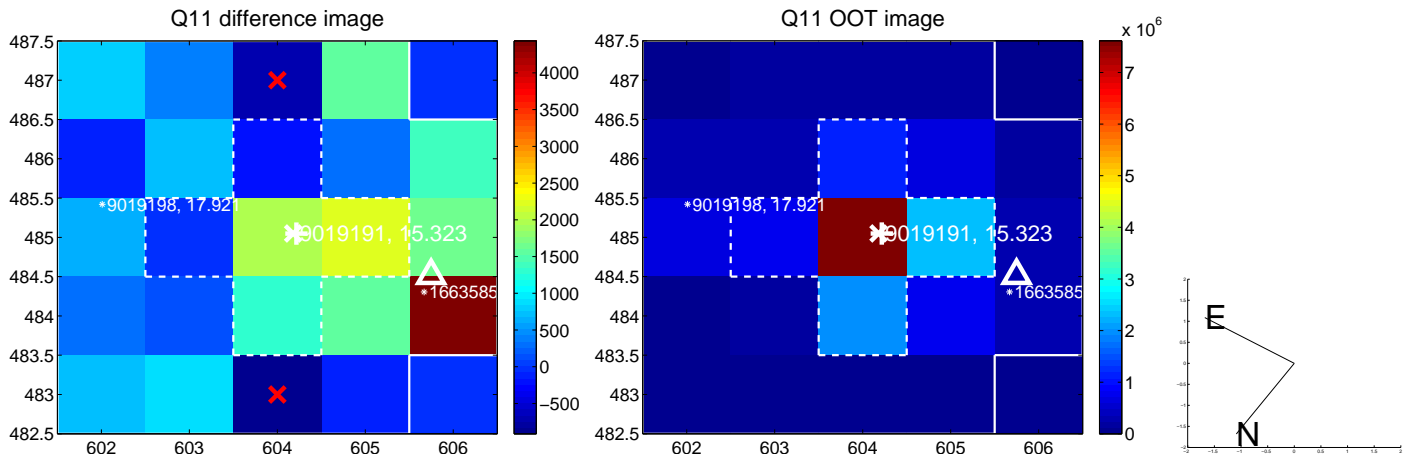
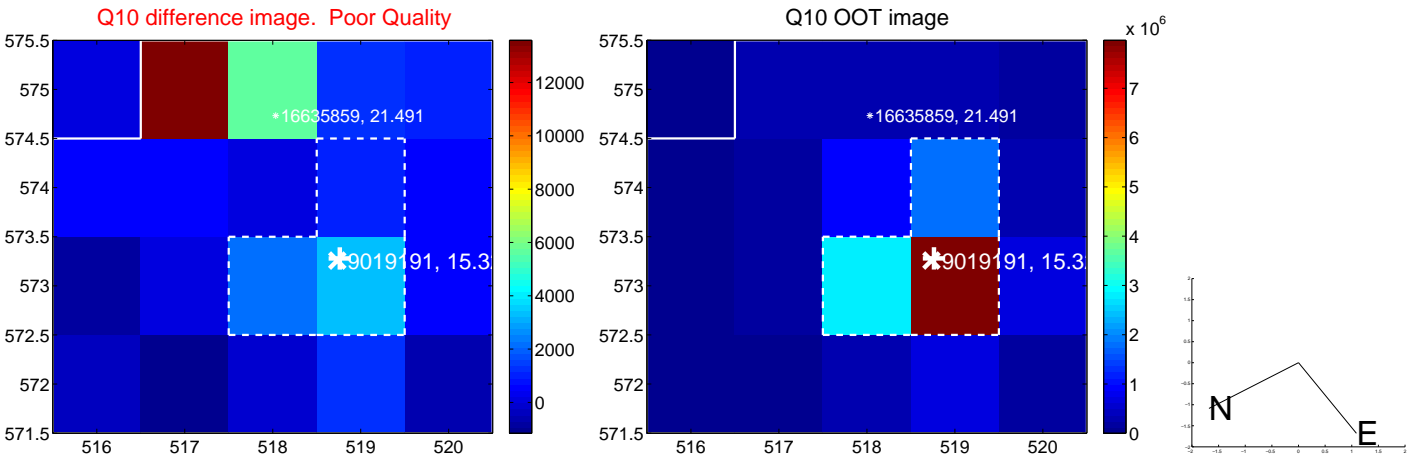
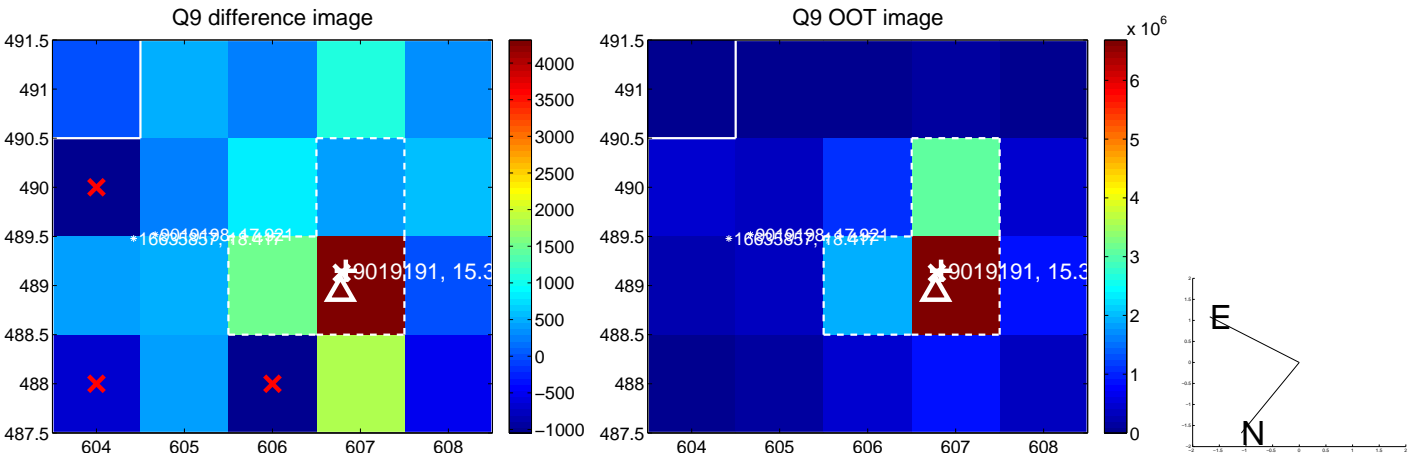
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



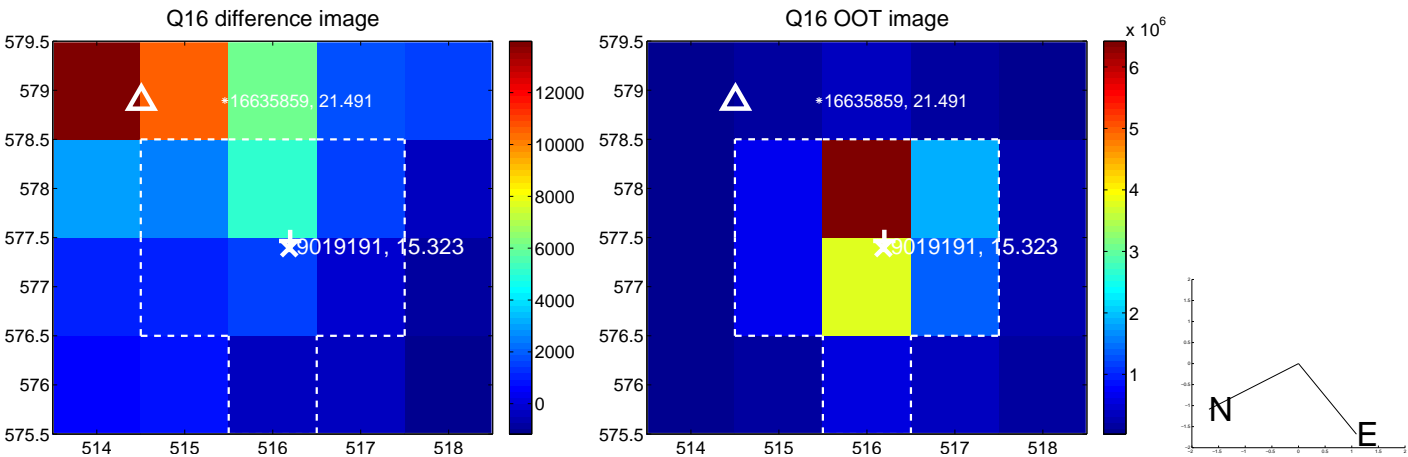
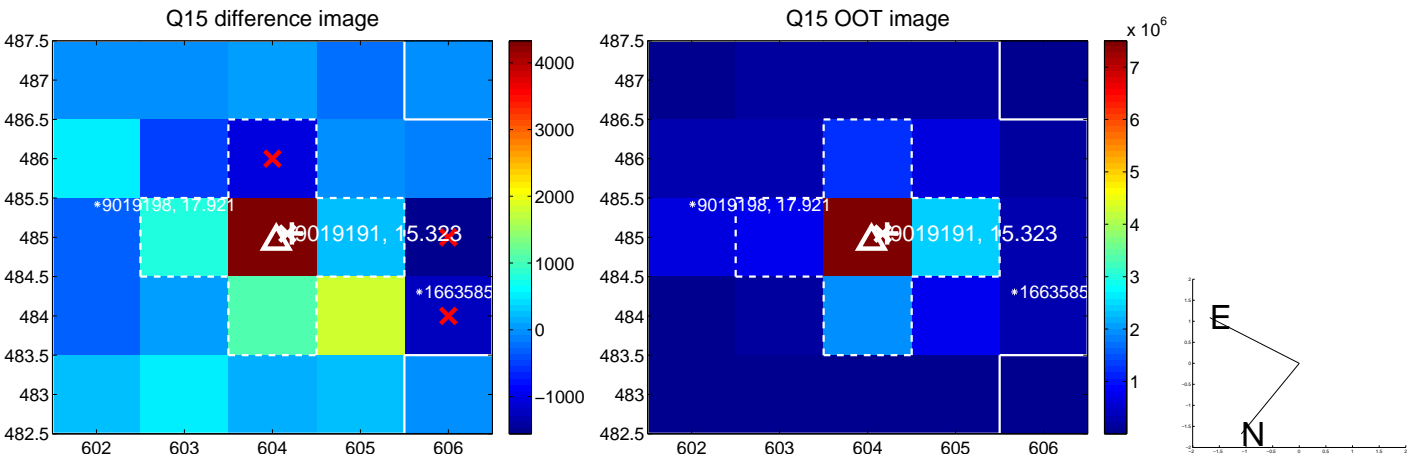
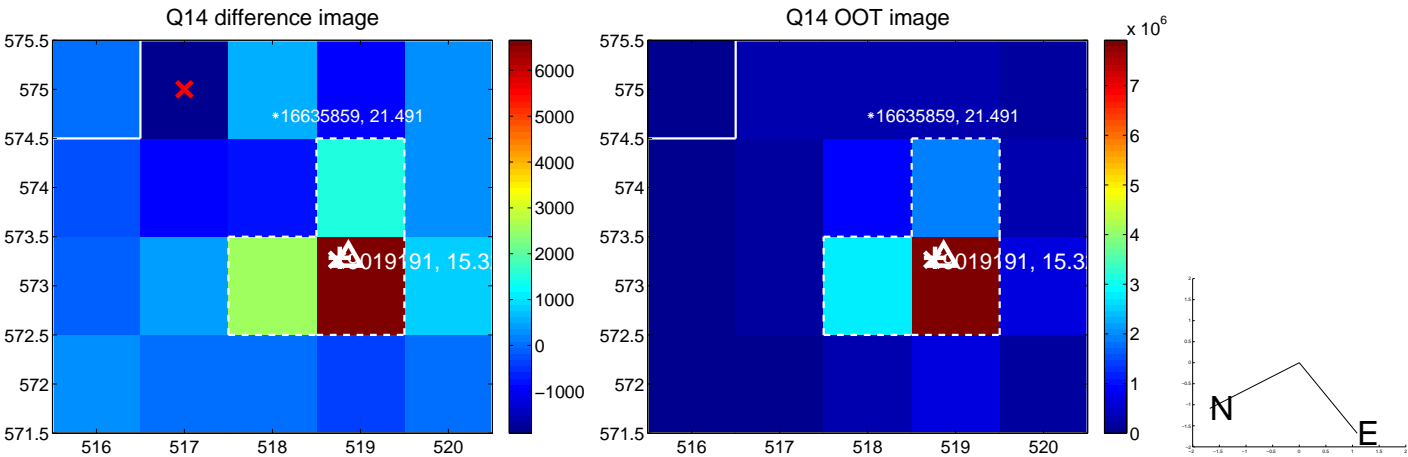
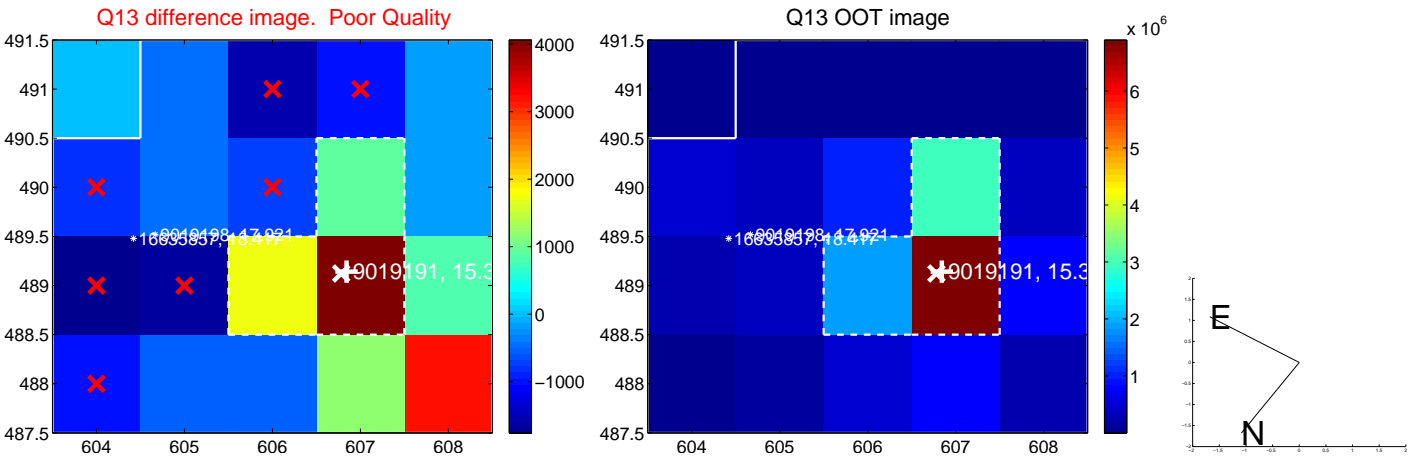
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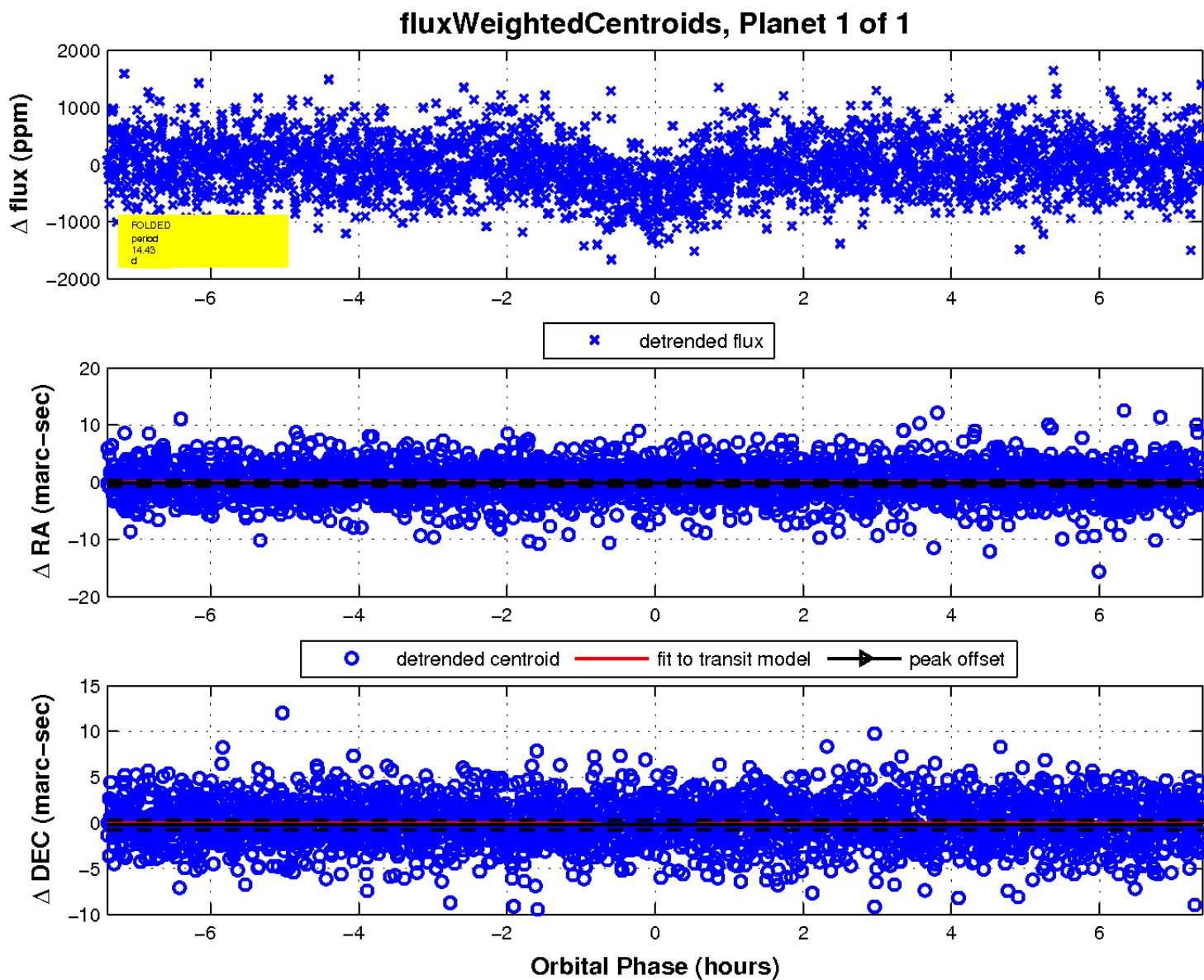
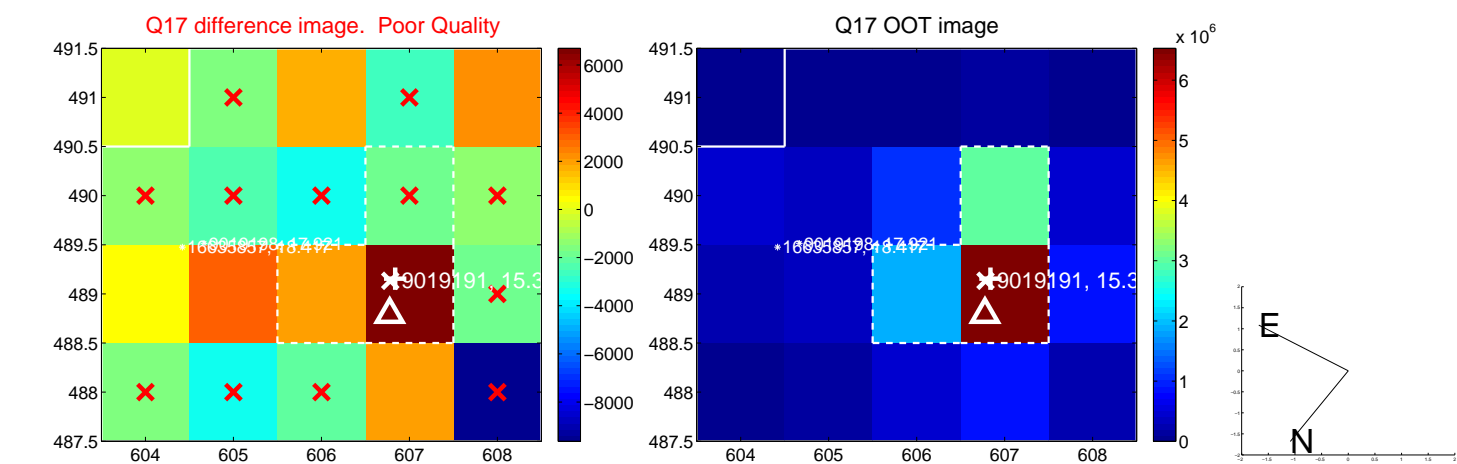
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

