

KIC 009202151

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})
009202151-01	OBS	1393.01	1.694734	131.654502	1121.9	1.778	58.8	68.3	0.53	3764	2.13	95.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009202151-01	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.

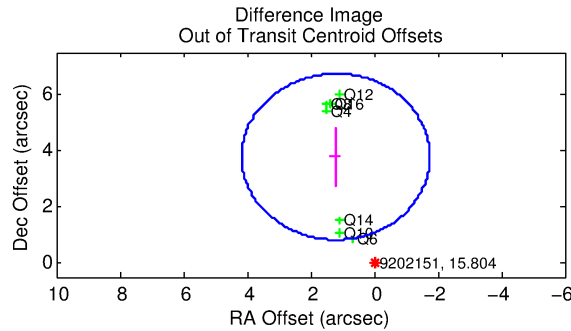
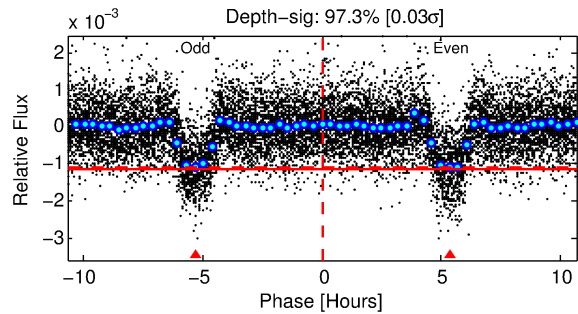
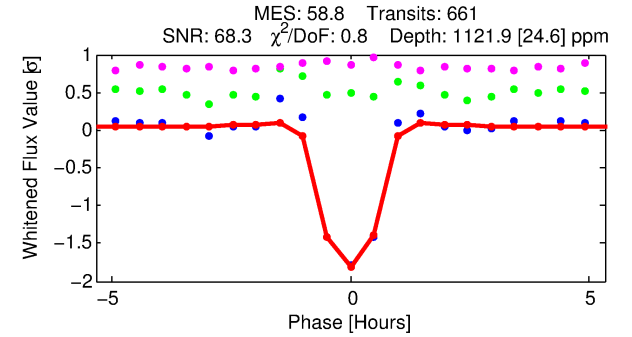
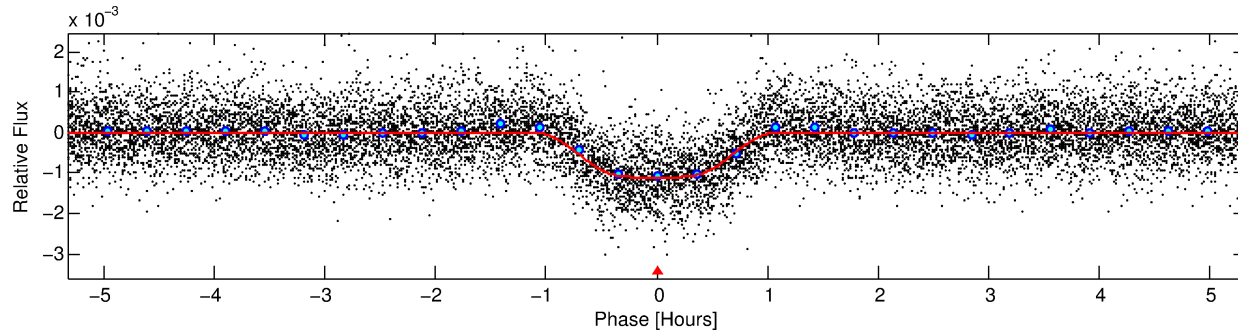
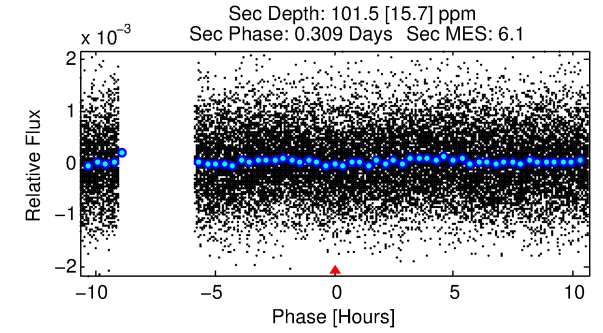
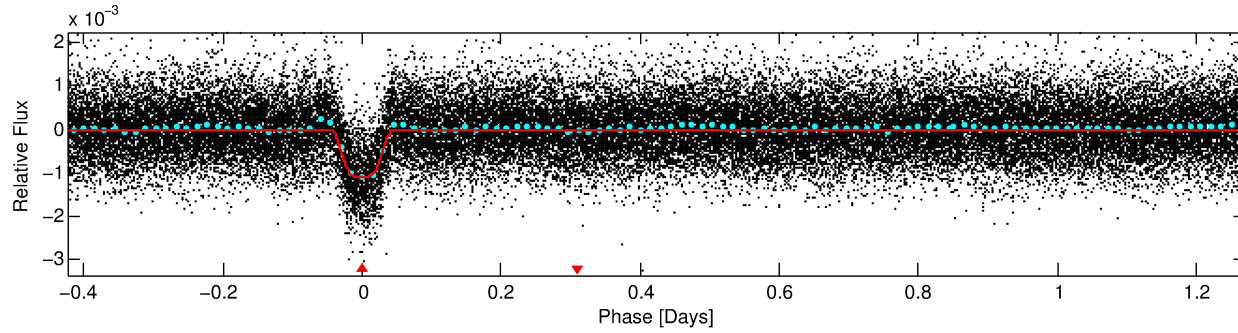
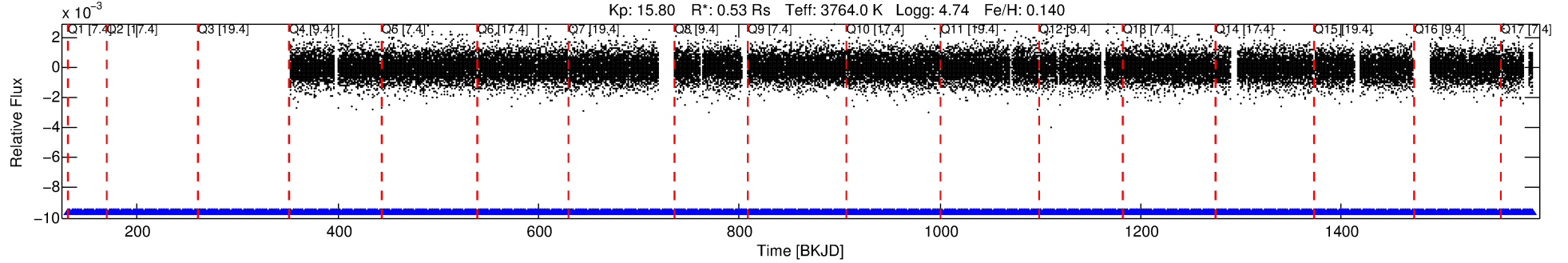
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009202151-01

No Significant Match Found

DV One-Page Summary

KIC: 9202151 Candidate: 1 of 1 Period: 1.695 d
KOI: K01393.01 Corr: 0.977



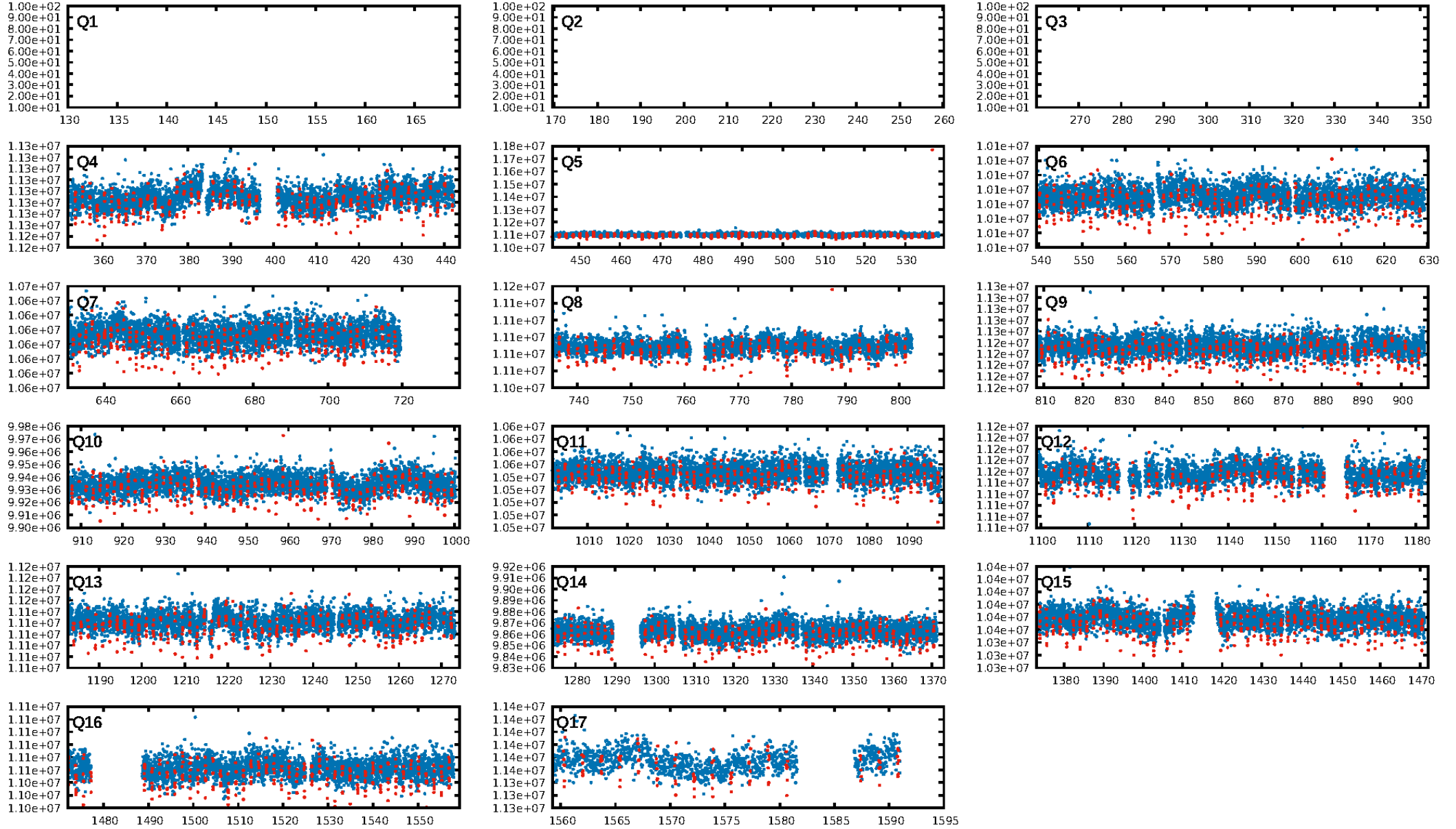
DV Fit Results:

Period = 1.69473 [0.00000] d
Epoch = 131.6545 [0.0004] BKJD
Rp/R* = 0.0371 [0.0018]
a/R* = 3.86 [0.68]
b = 0.90 [0.04]
Seff = 95.48 [10.74]
Teq = 797 [22] K
Rp = 2.13 [0.19] Re
a = 0.0229 [0.0012] AU
Ag = 6.42 [1.26] [4.30σ]
Teffp = 1962 [100] K [11.37σ]

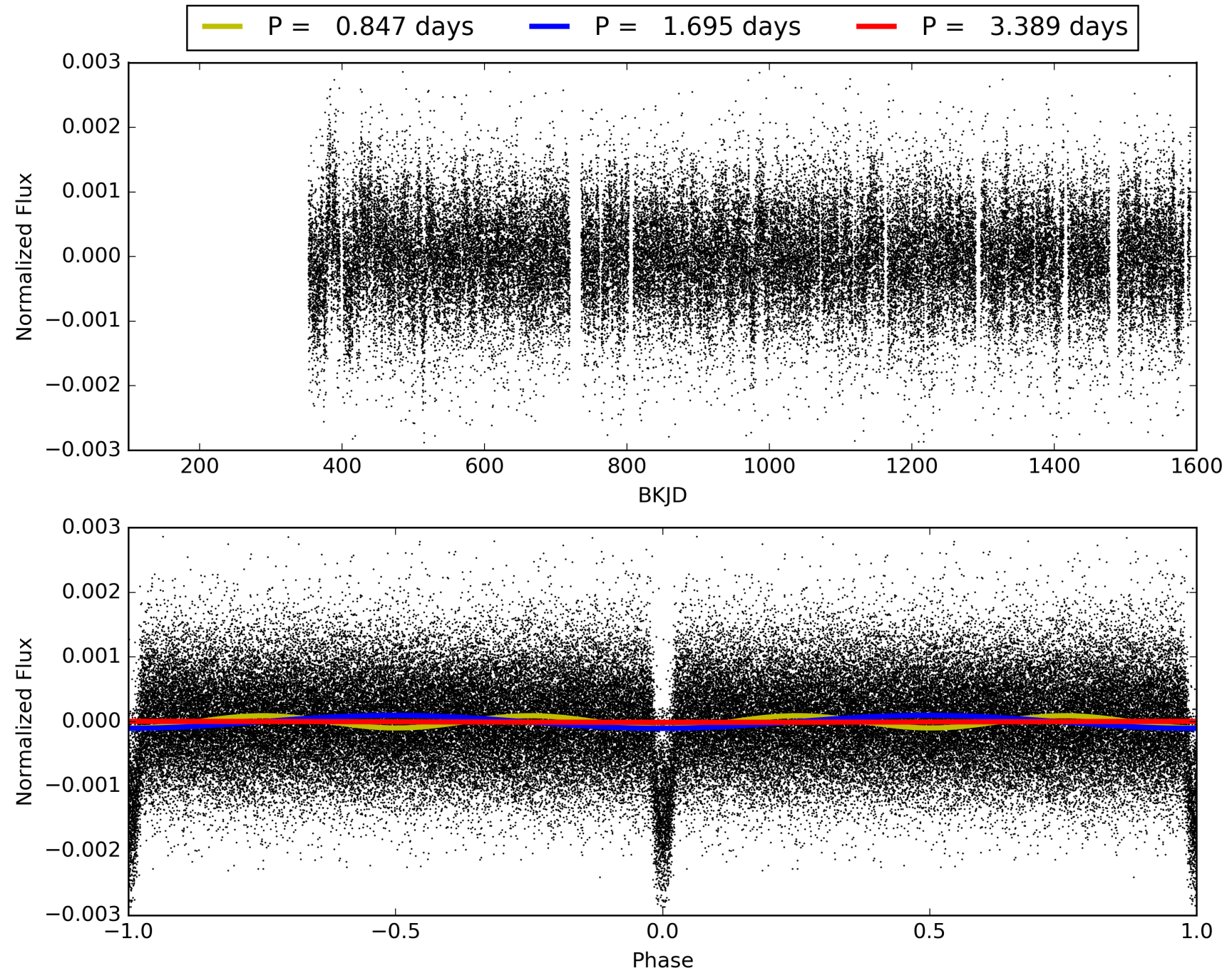
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [645/645]
GhostDiagnostic-chr: 4.042
Centroid-sig: 0.0%
Centroid-so: 2.043 arcsec [17.25σ]
OotOffset-rm: 3.969 arcsec [4.03σ]
KicOffset-rm: 0.338 arcsec [4.04σ]
OotOffset-st: 3/0/4/0 [7]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 0.93 [13/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 009202151-01, PDC Light Curves

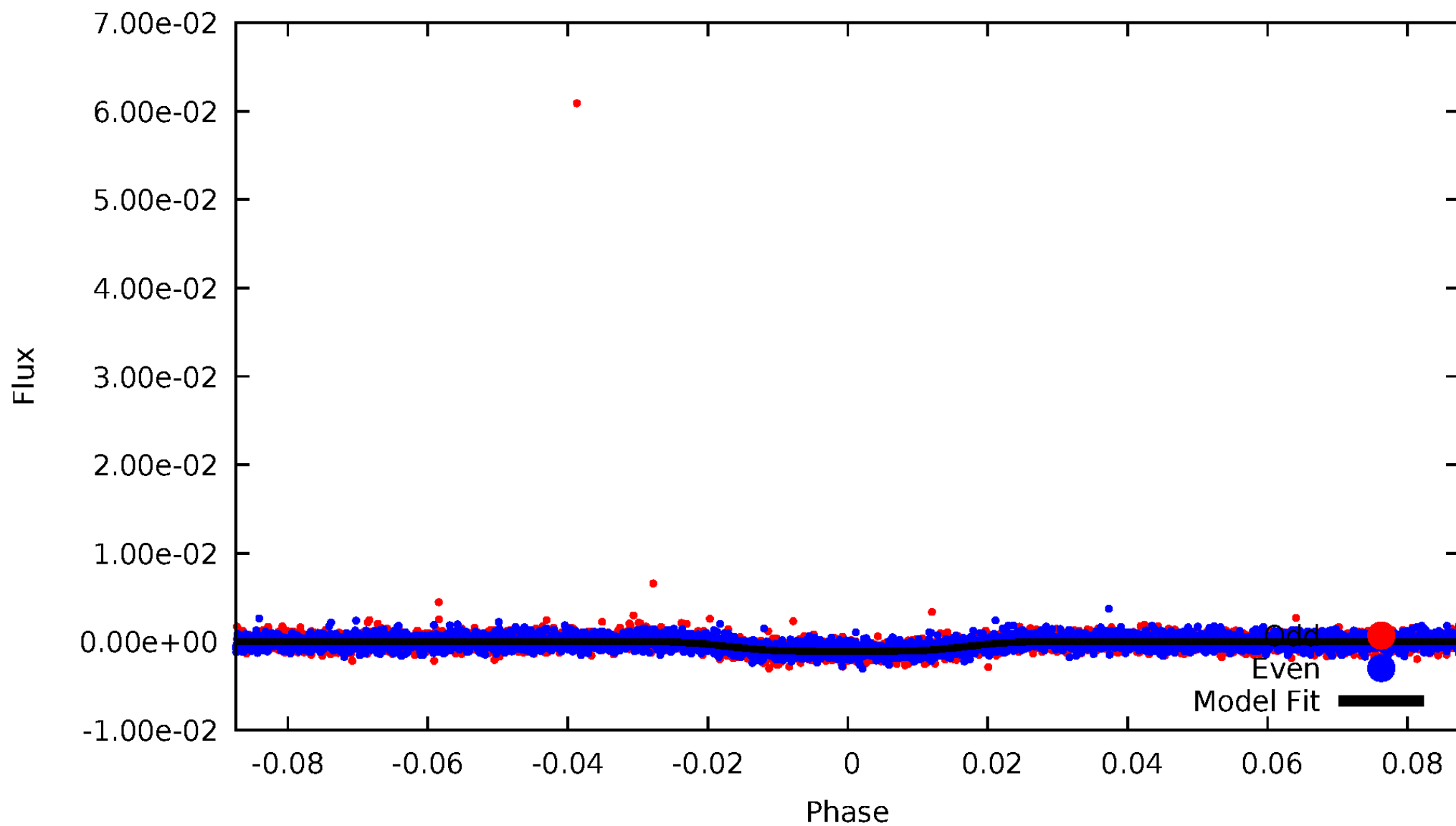


TCE 009202151-01



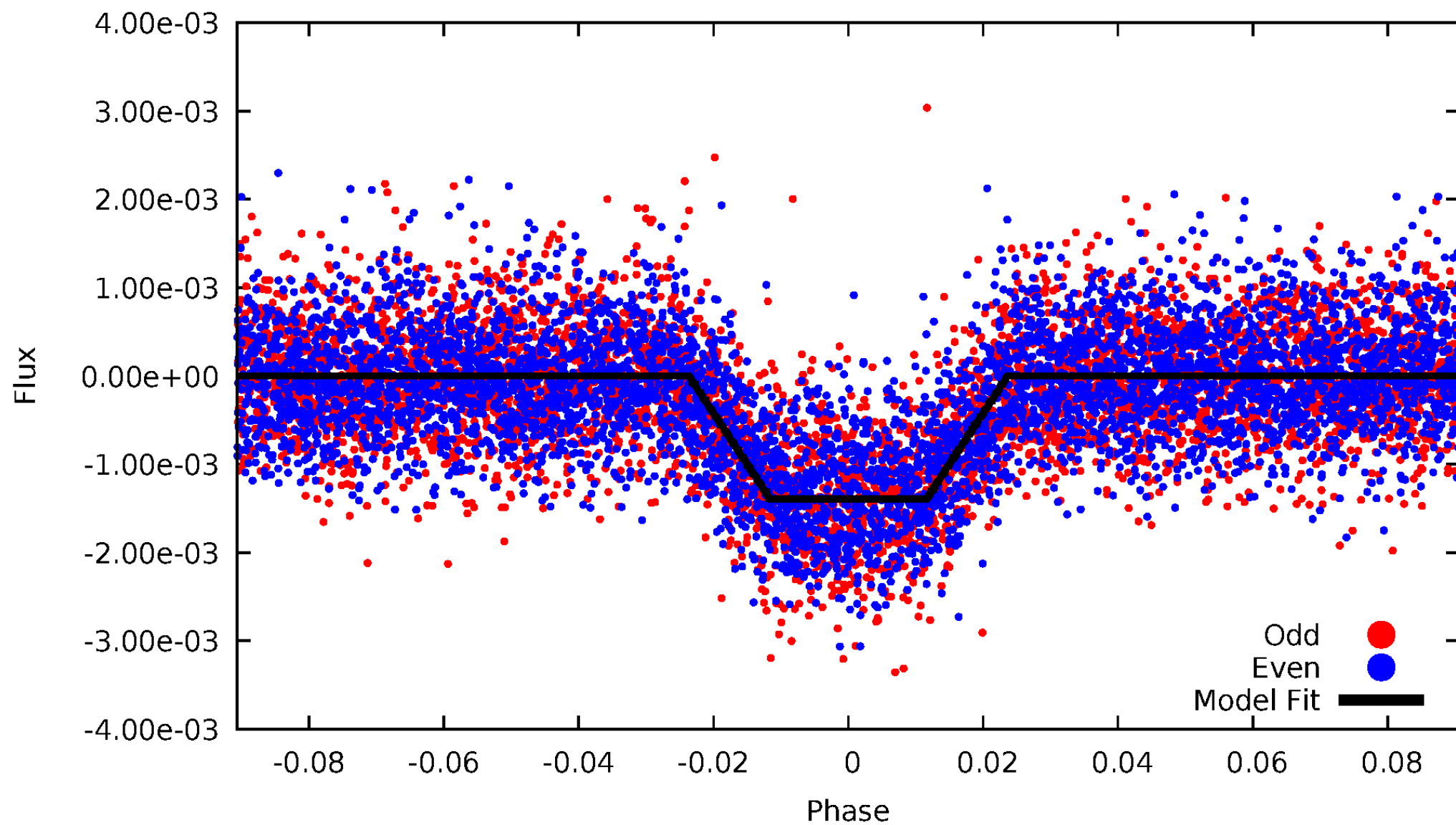
DV Odd/Even

TCE 009202151-01



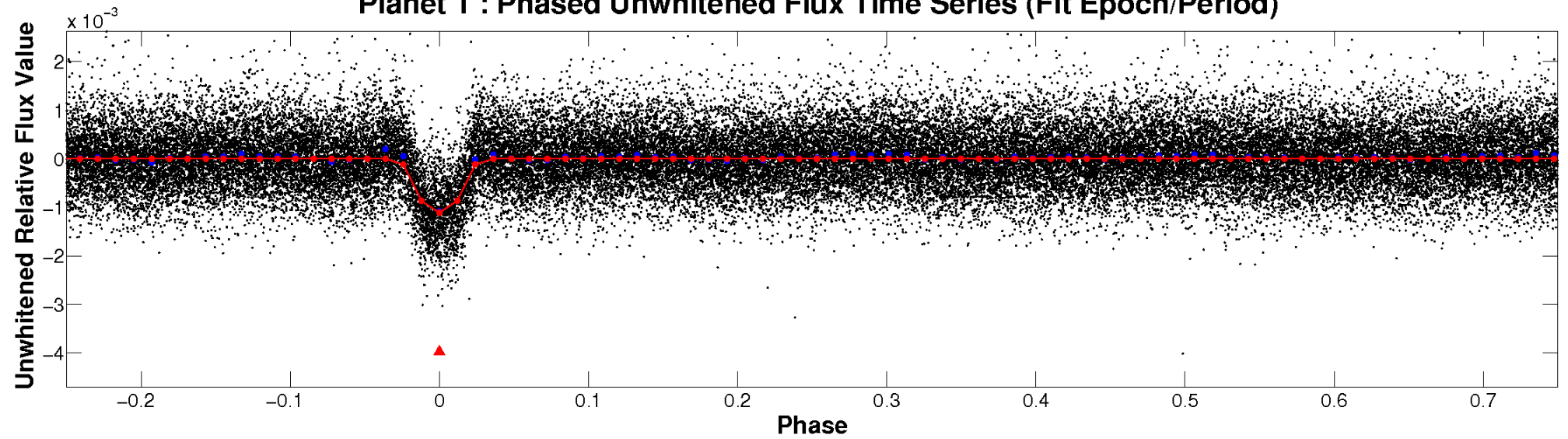
ALT Odd/Even

TCE 009202151-01

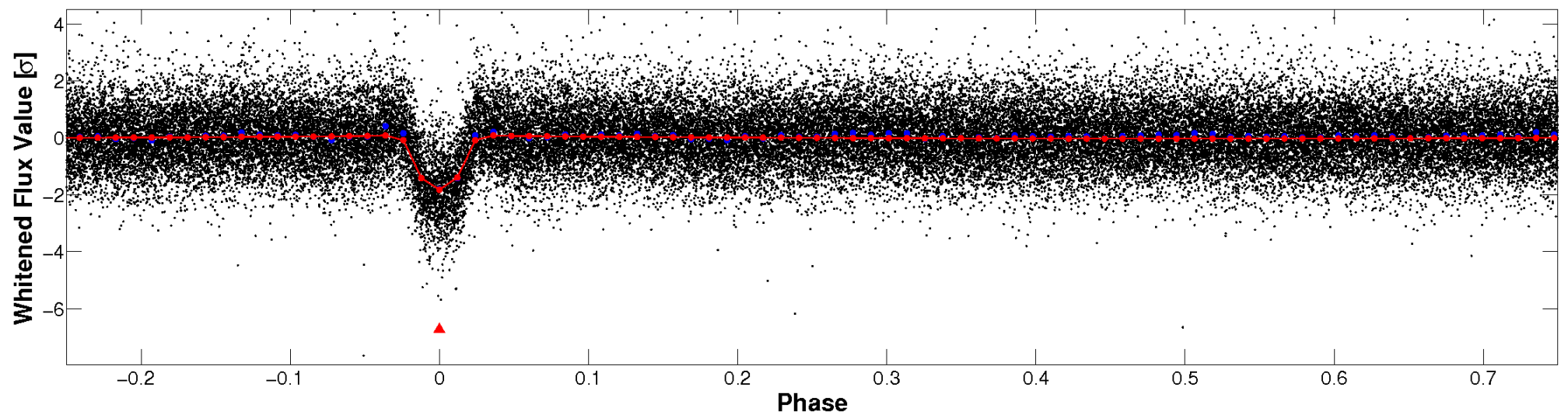


Non-Whitened Vs. Whitened Light Curve

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

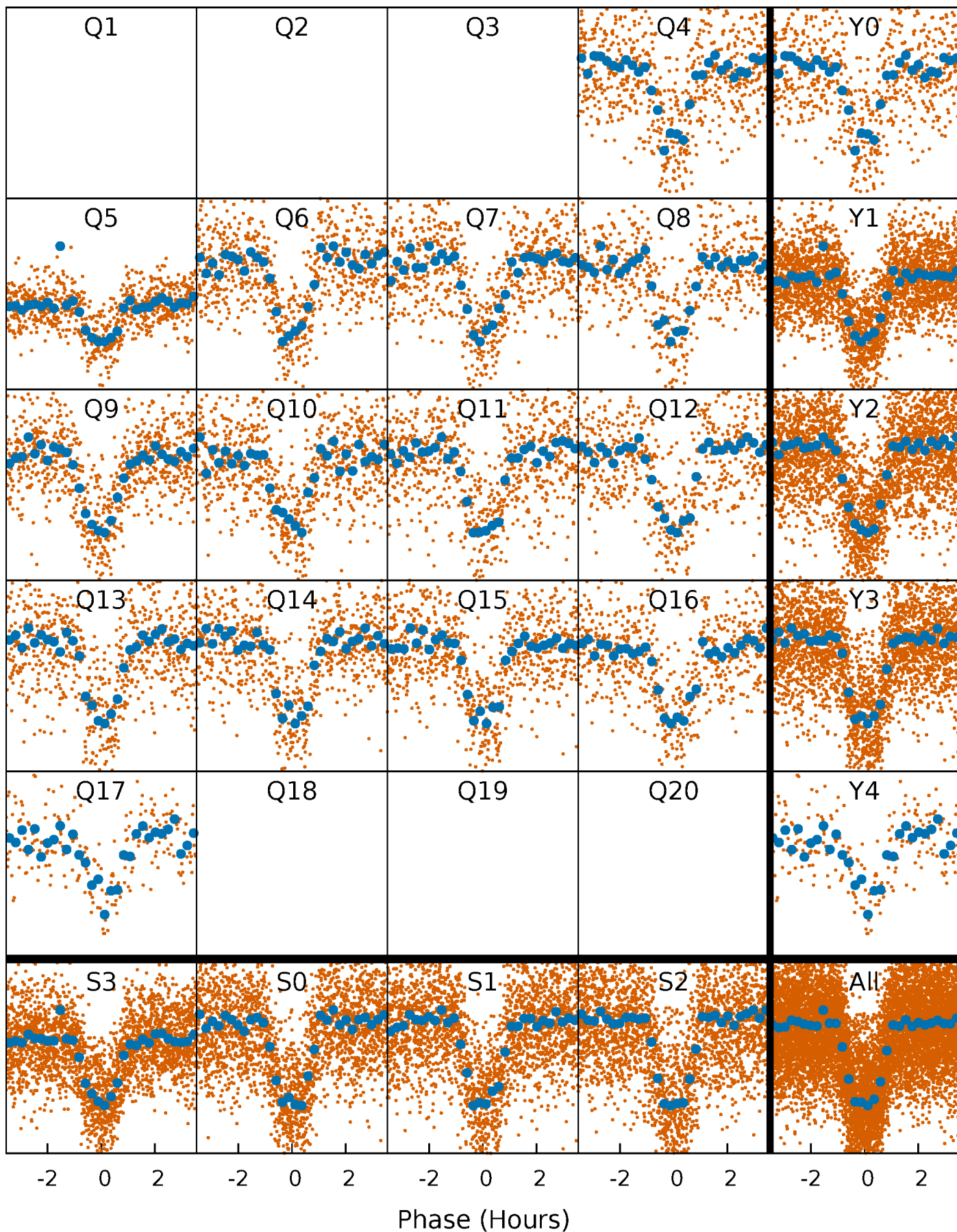


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



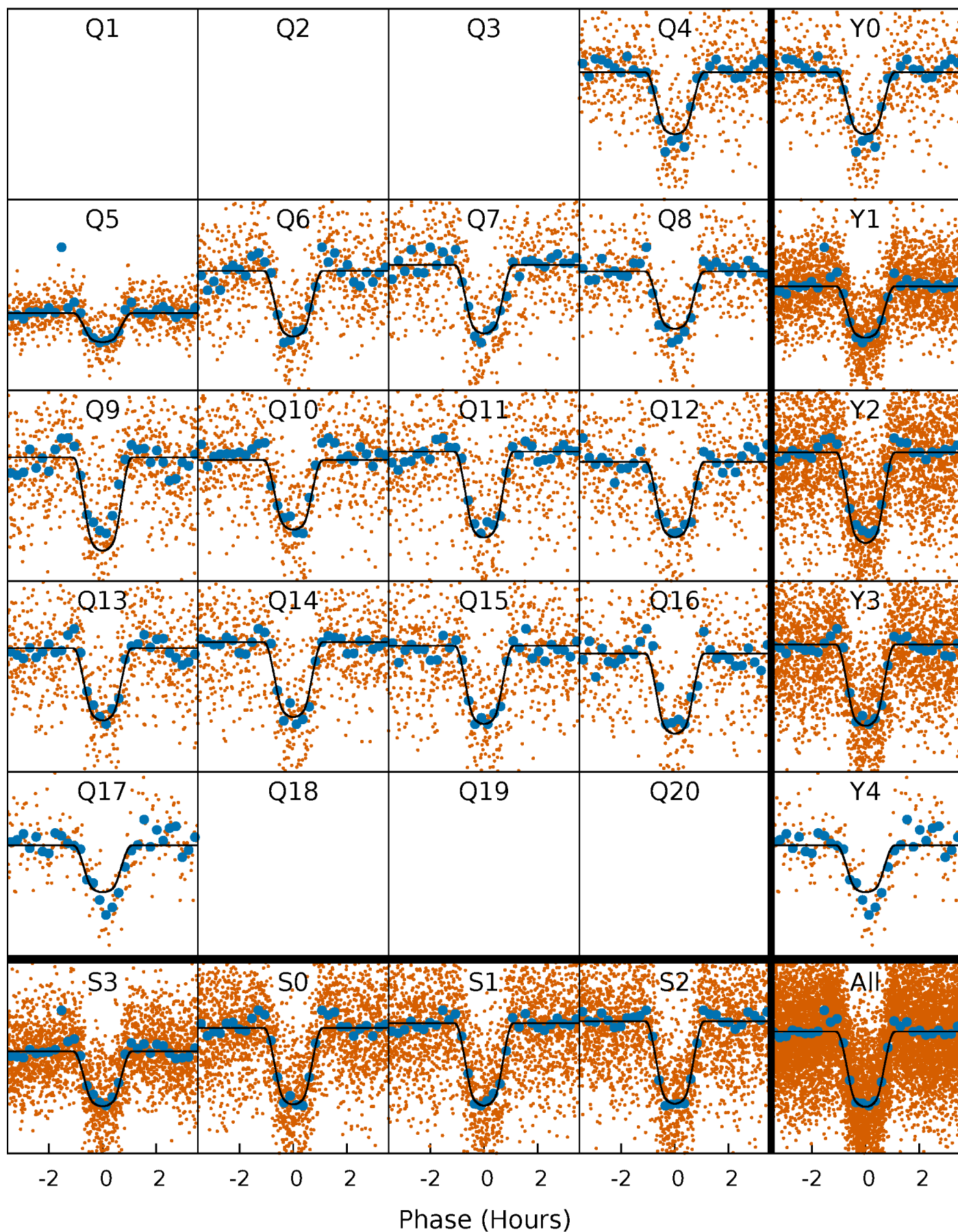
PDC Quarter-Phased Transit Curves

TCE 009202151-01 P= 1.694734 Days $T_0=131.654502$ (BKJD)



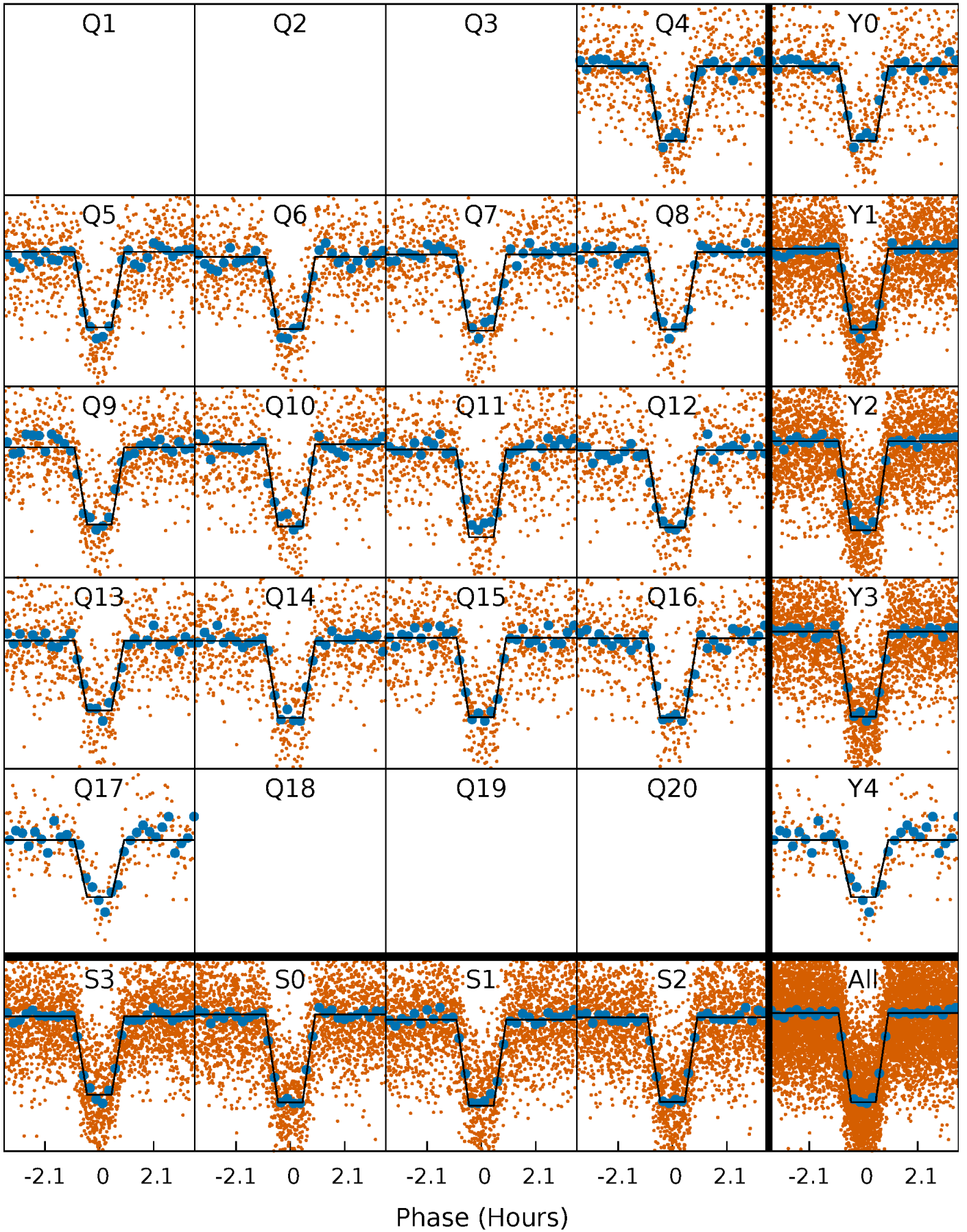
DV Quarter-Phased Transit Curves

TCE 009202151-01 P= 1.694734 Days $T_0=131.654502$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

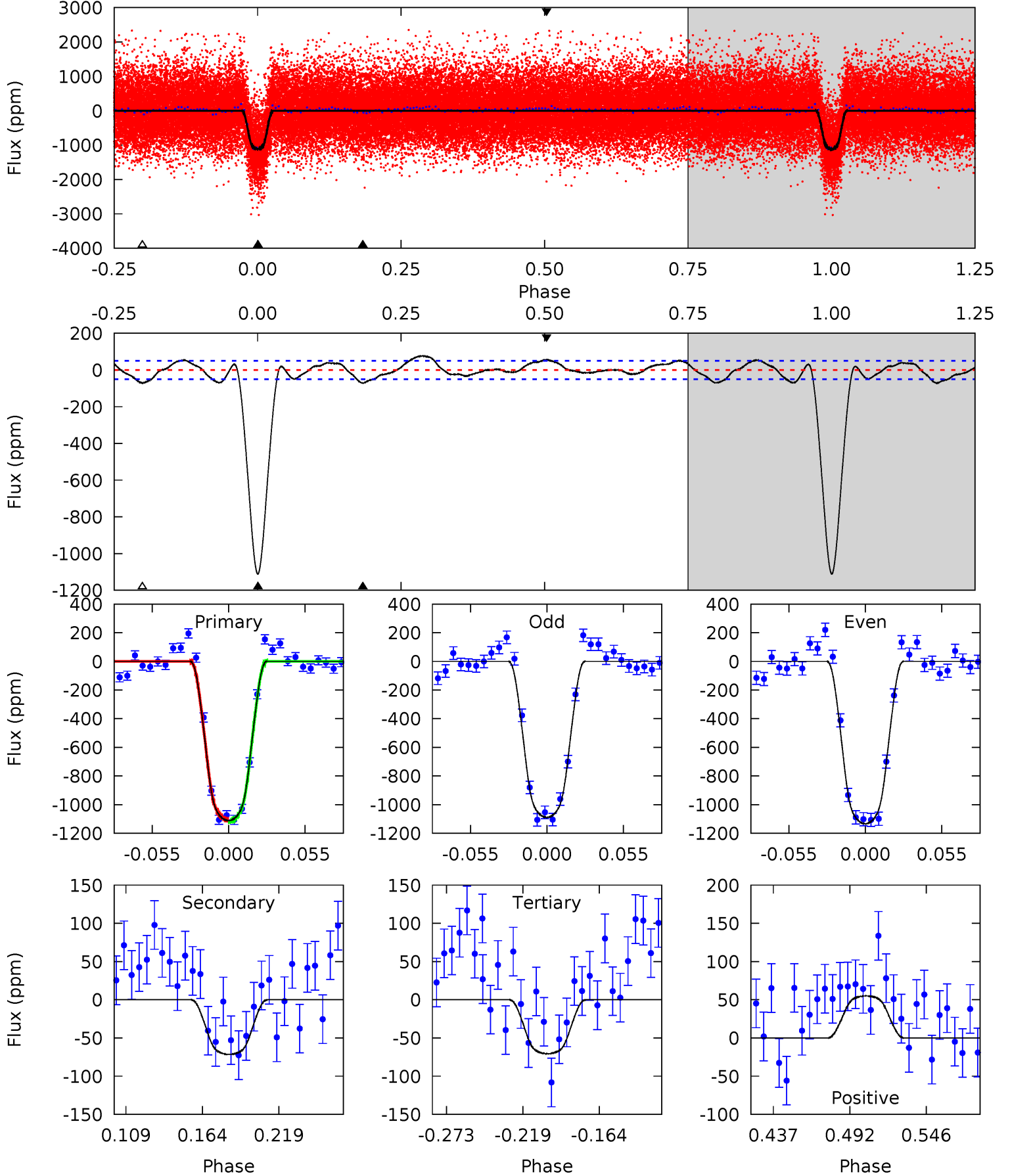
TCE 009202151-01 P= 1.694735 Days $T_0=131.654282$ (BKJD)



DV Model-Shift Uniqueness Test

009202151-01, P = 1.694734 Days, E = 131.654502 Days

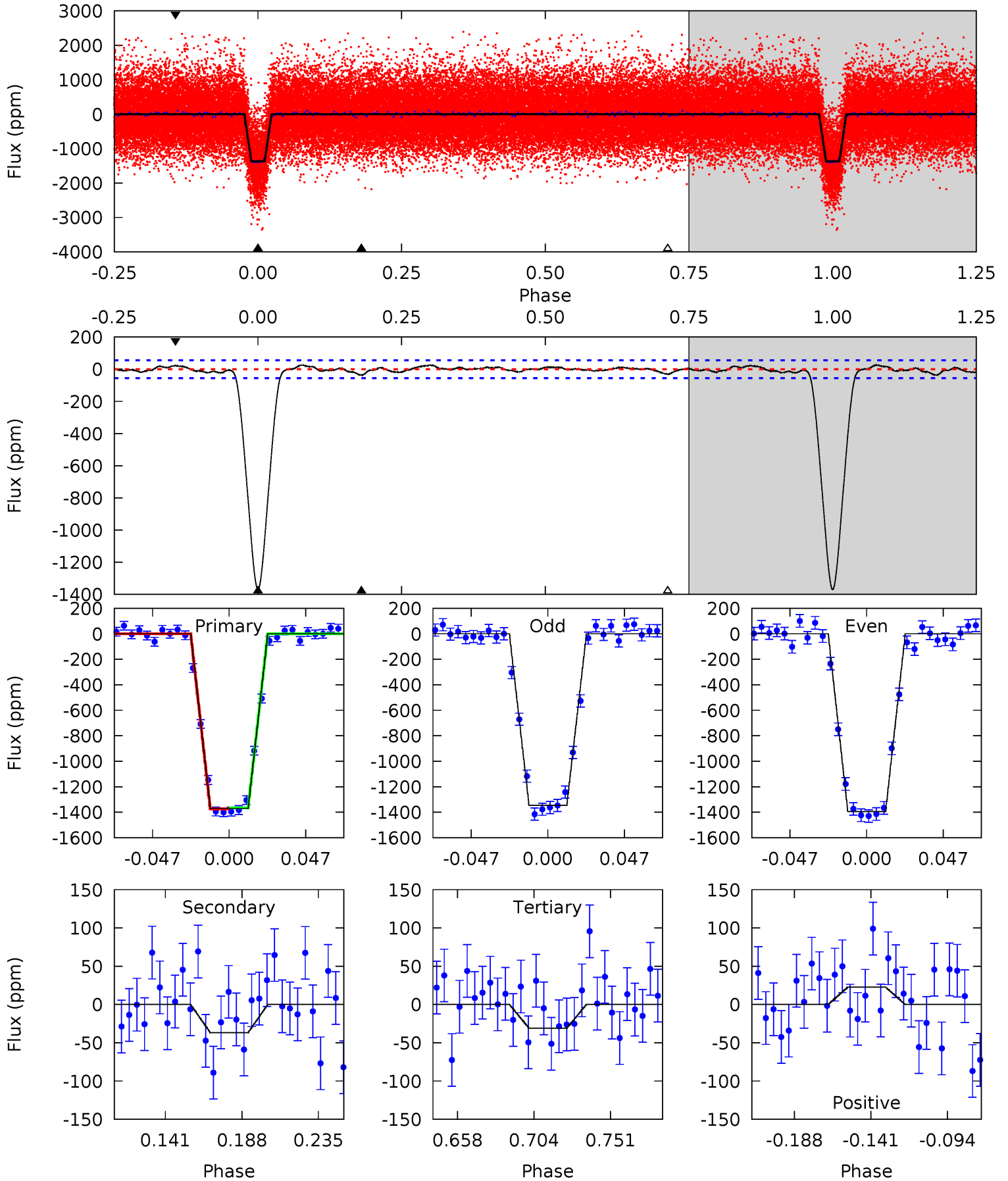
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
103.8	6.67	6.59	5.14	4.69	1.92	3.15	97.2	98.6	0.08	1.53	2.07	0.99	0.06	0.53



Alt Model-Shift Uniqueness Test

009202151-01, P = 1.694735 Days, E = 131.654282 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
117.0	3.14	2.64	1.93	4.72	1.99	1.00	114.3	115.1	0.50	1.21	2.10	1.00	0.02	0.35



Stellar Parameters For KIC 009202151

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3764^{+75}_{-83}	$4.739^{+0.033}_{-0.033}$	$0.140^{+0.150}_{-0.150}$	$0.527^{+0.034}_{-0.038}$	$0.555^{+0.031}_{-0.044}$	$5.331^{+0.855}_{-0.667}$
	+2%/-2%	+1%/-1%	+107%/-107%	+6%/-7%	+6%/-8%	+16%/-13%
Source	SPE60	SPE60	SPE60	DSEP		

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

Secondary Eclipse Parameters for KIC 009202151-01 / KOI 1393.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-71 ± 11	$2.13^{+0.13}_{-0.14}$	1112^{+28}_{-27}	2452^{+63}_{-67}	$4.512^{+0.912}_{-0.809}$
Alt.	-37 ± 12	$2.15^{+0.13}_{-0.14}$	1114^{+27}_{-31}	2244^{+89}_{-111}	$2.292^{+0.758}_{-0.740}$

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

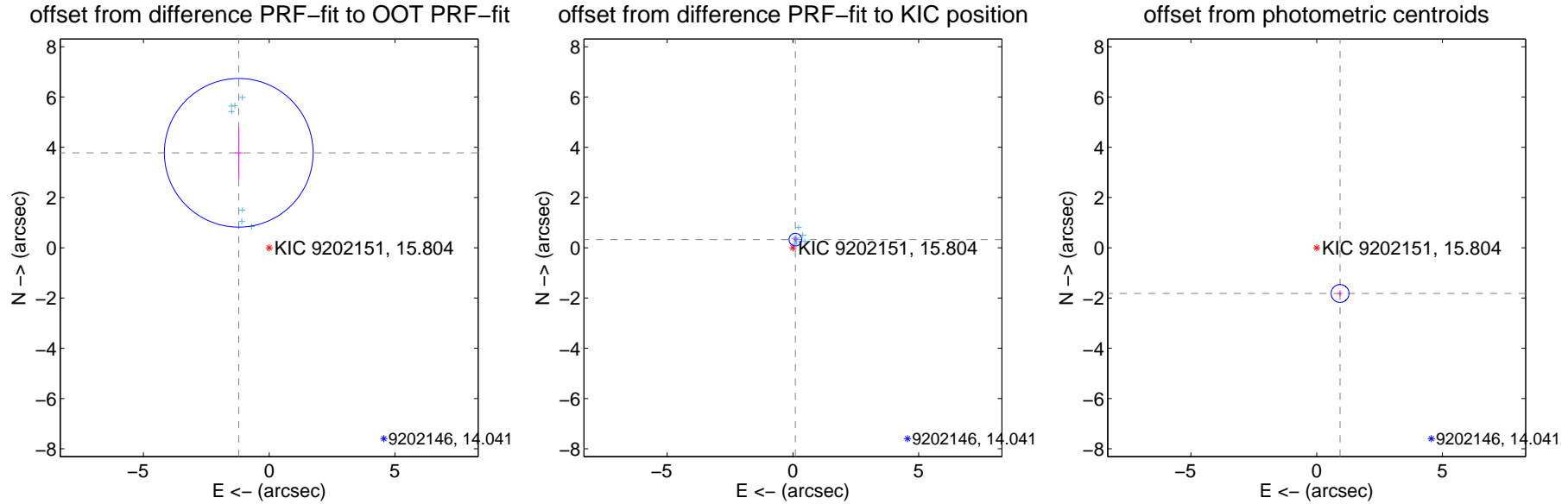
DV Centroid Data

Supplemental centroid analysis for 009202151-01. Kepler magnitude: 15.80. Transit SNR 68.25

There are 13 quarters with good PRF difference image offsets

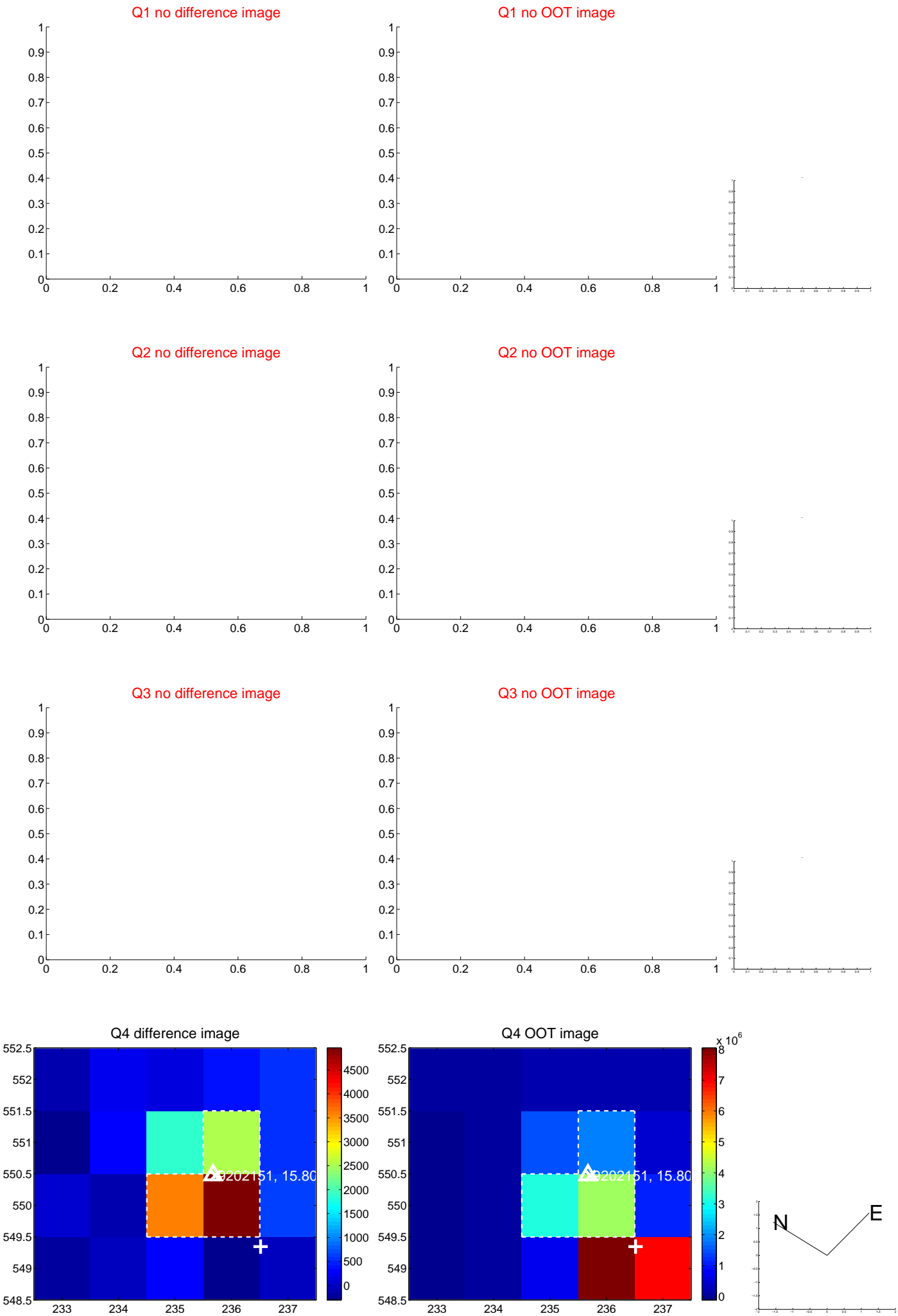
The OOT PRF centroid is offset from the target star catalog position by about 5.62 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.969 ± 0.986	4.03	1.210 ± 0.149	3.780 ± 1.034
PRF-fit source offset from KIC position	0.338 ± 0.084	4.04	-0.098 ± 0.075	0.324 ± 0.083
photometric centroid source offset	2.04 ± 0.12	17.25	-0.93 ± 0.09	-1.82 ± 0.12

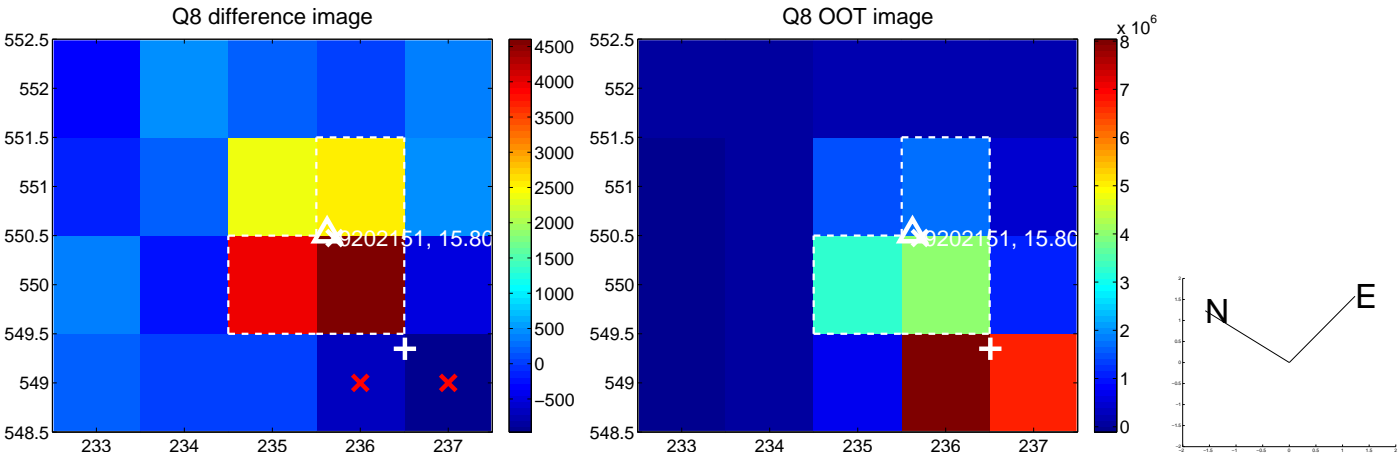
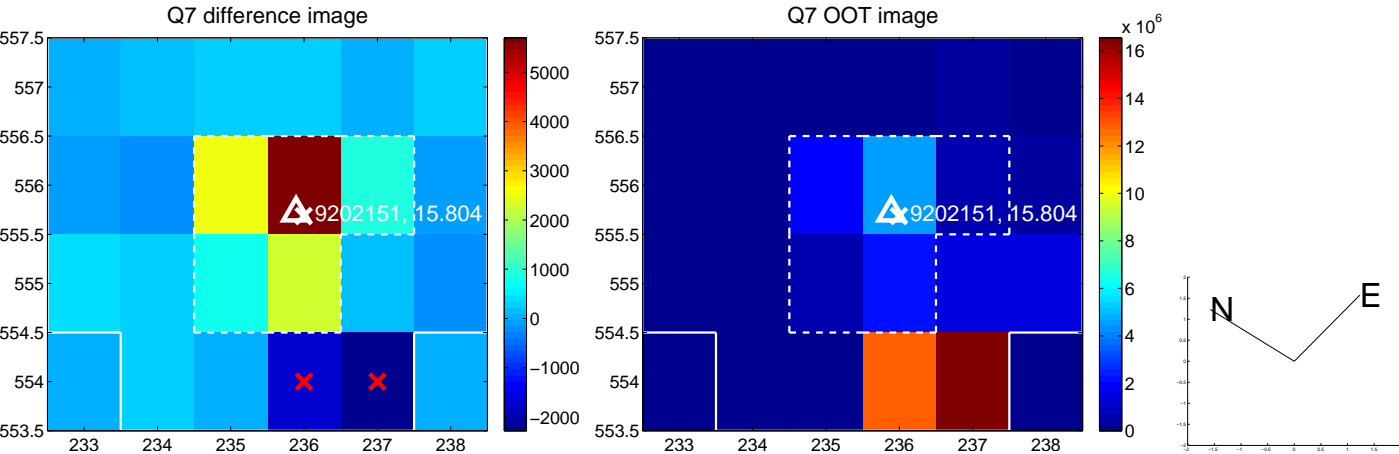
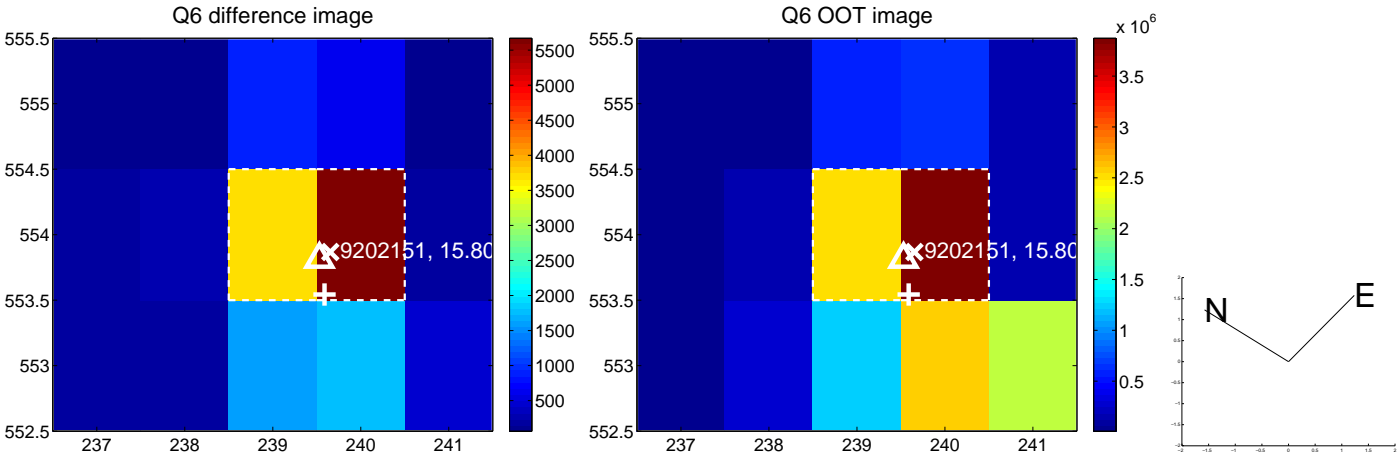
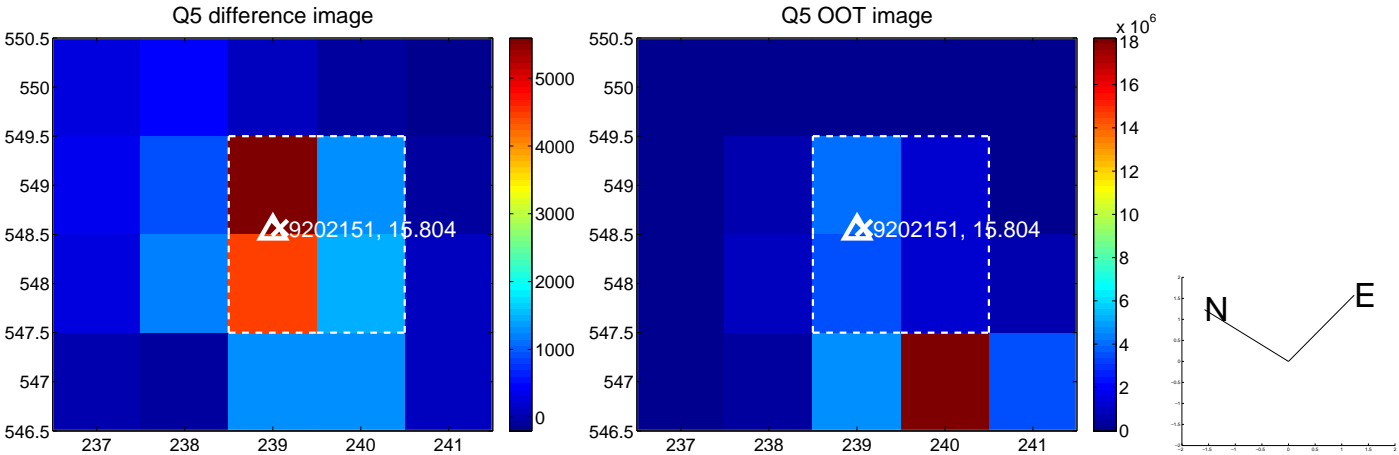


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

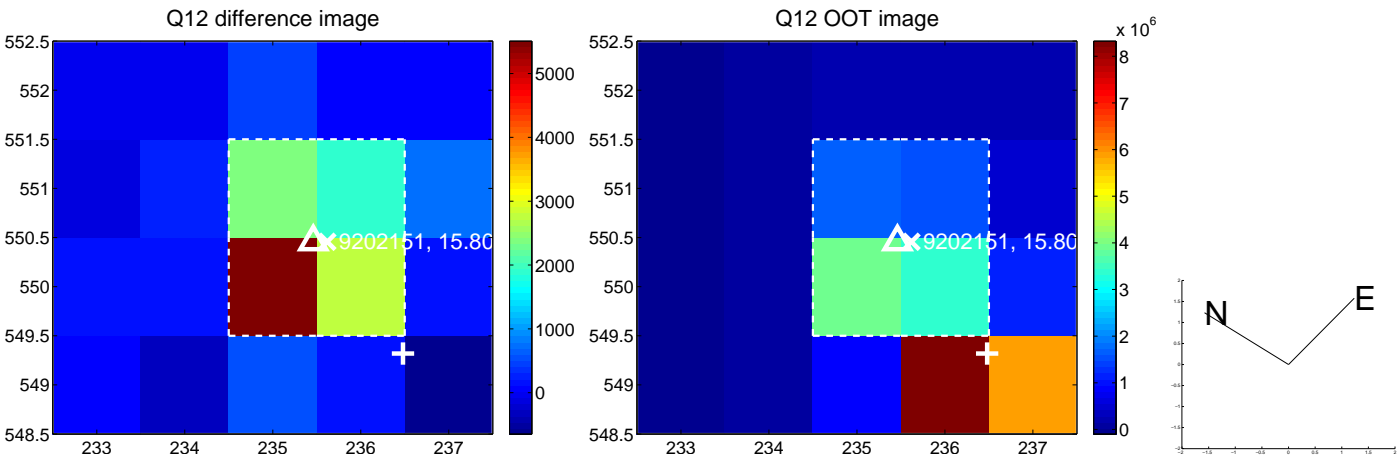
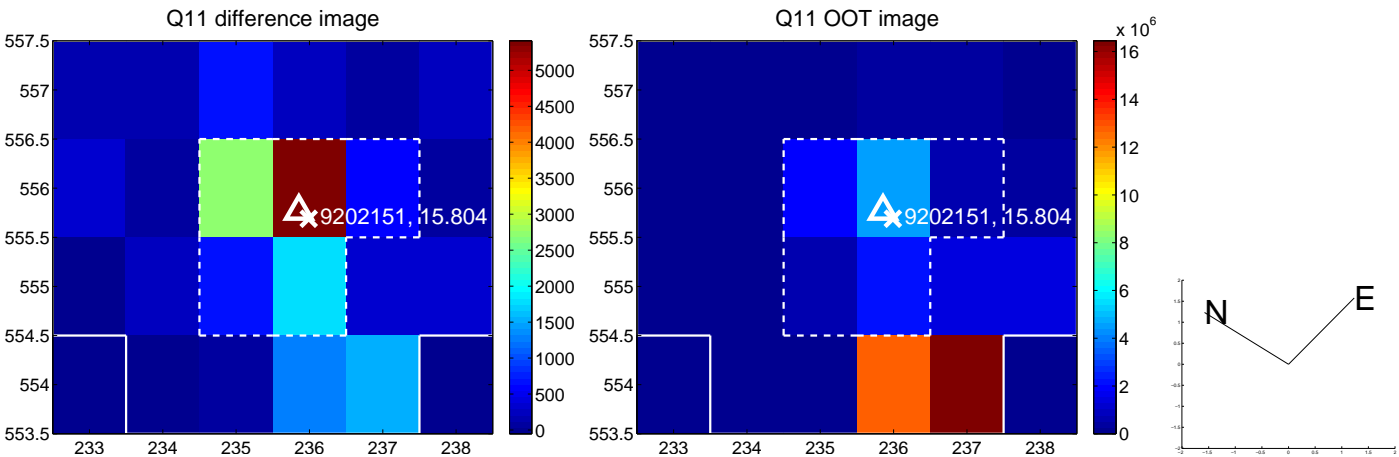
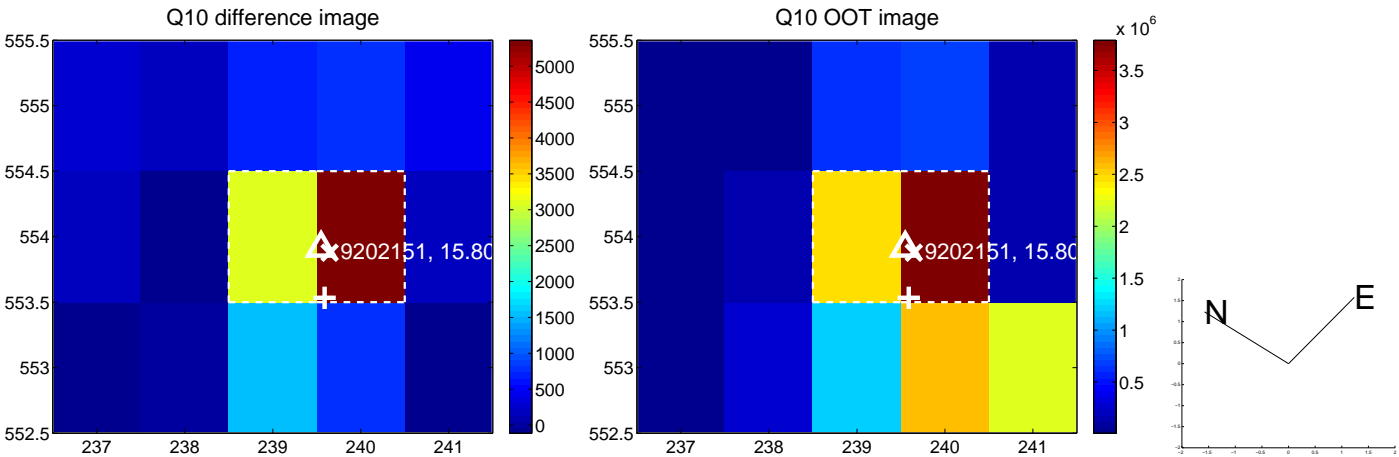
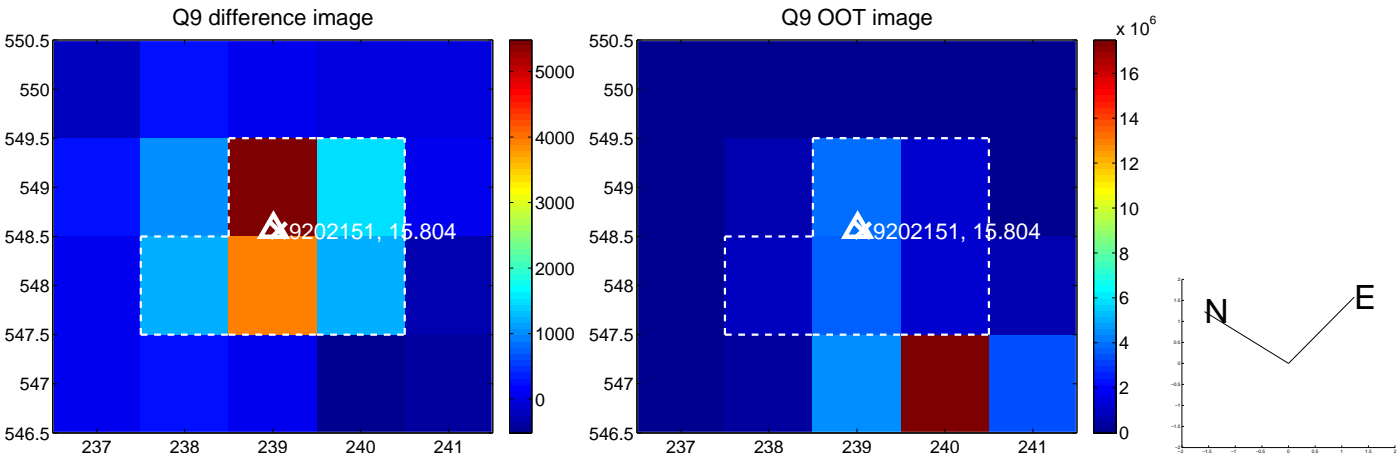
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



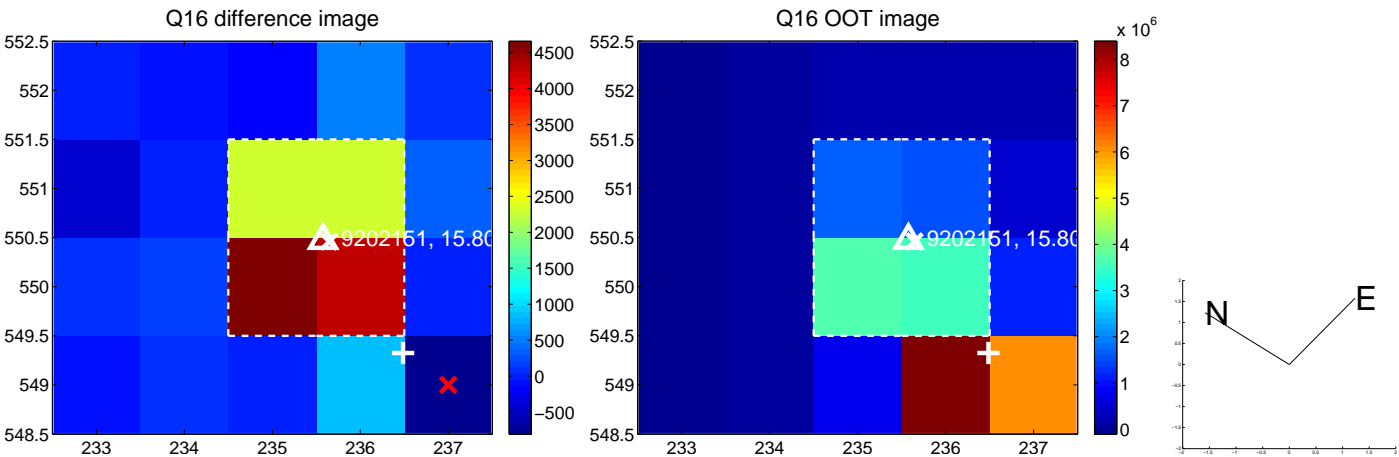
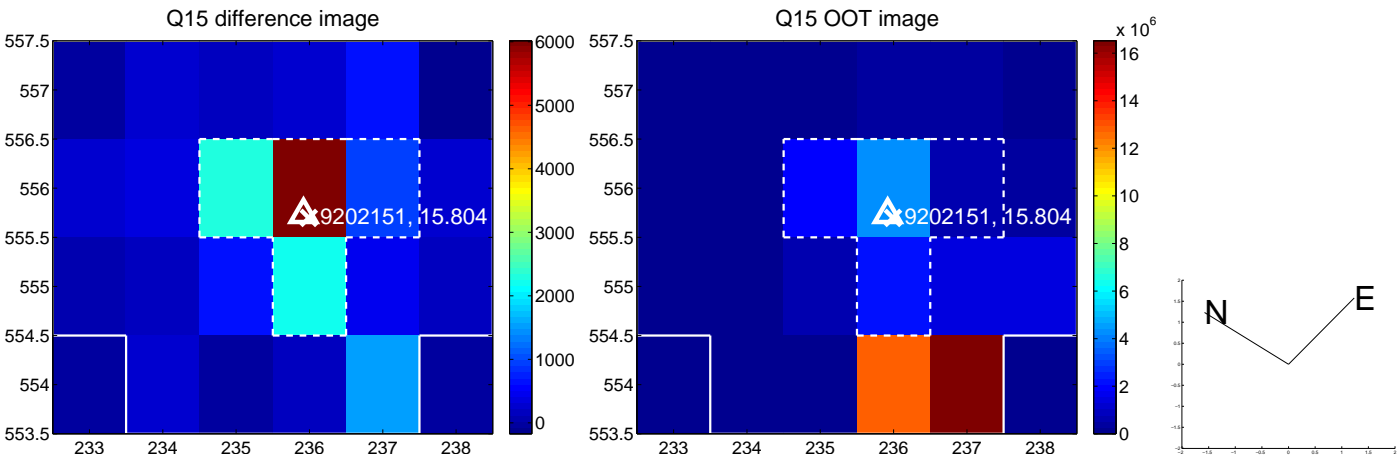
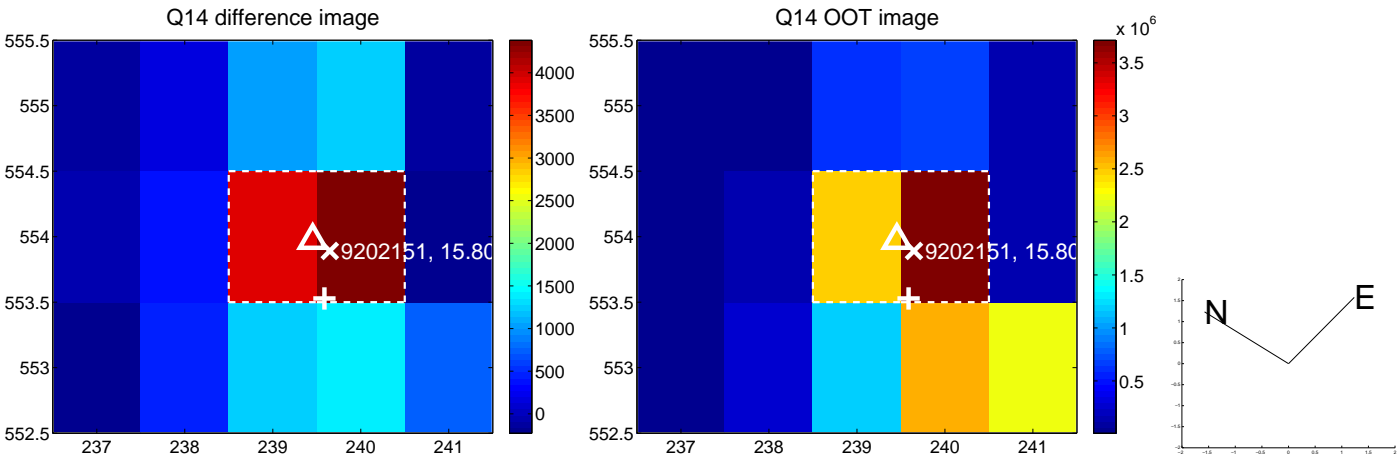
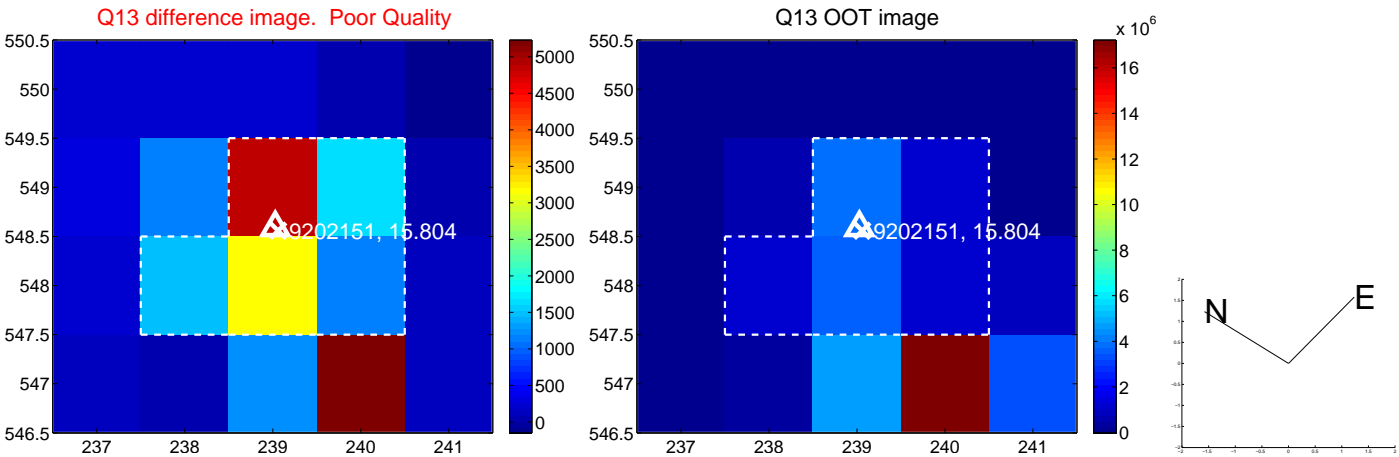
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



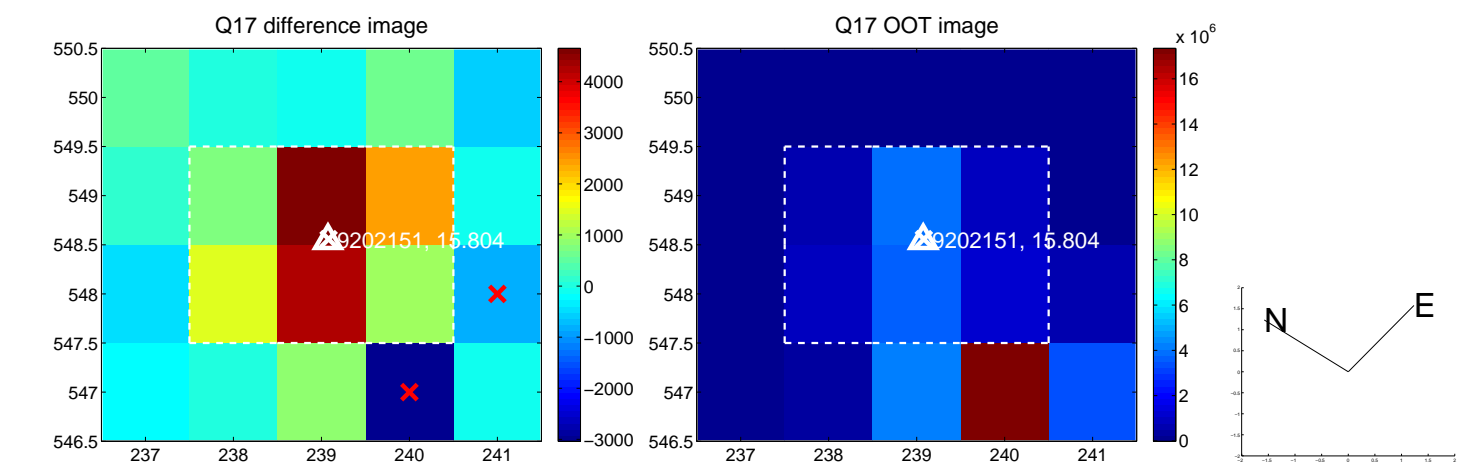
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



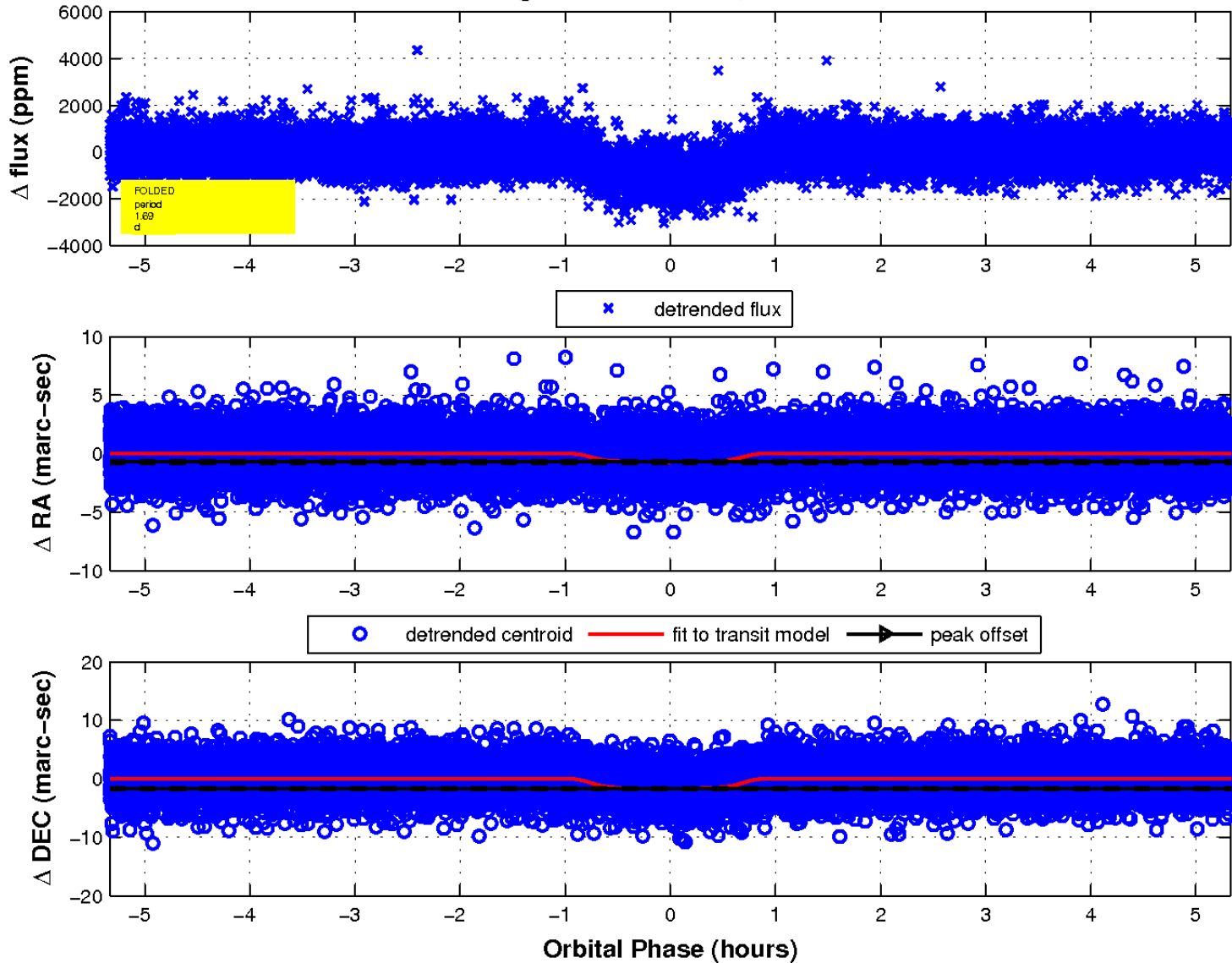
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

