

KIC 003953173

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})
003953173-01	OBS	4493.01	2.417931	132.510300	97.8	2.772	8.9	9.4	0.53	4623	0.65	140.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003953173-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET

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

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

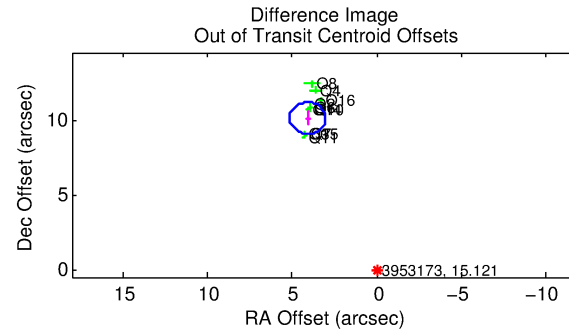
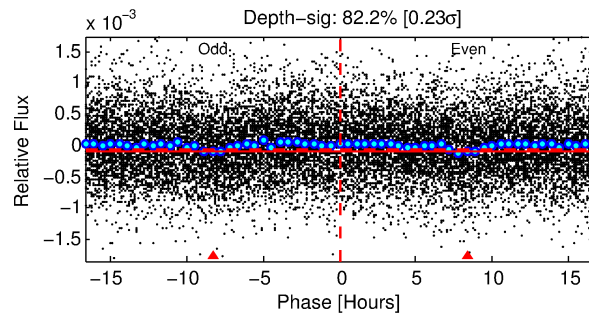
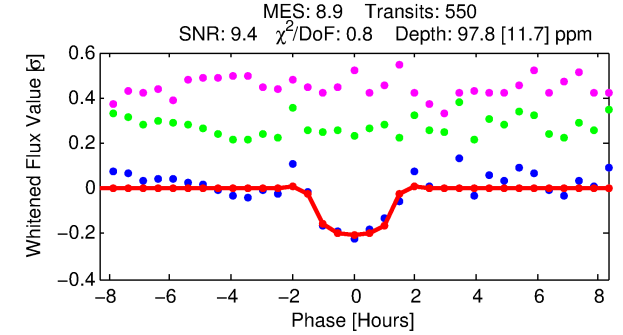
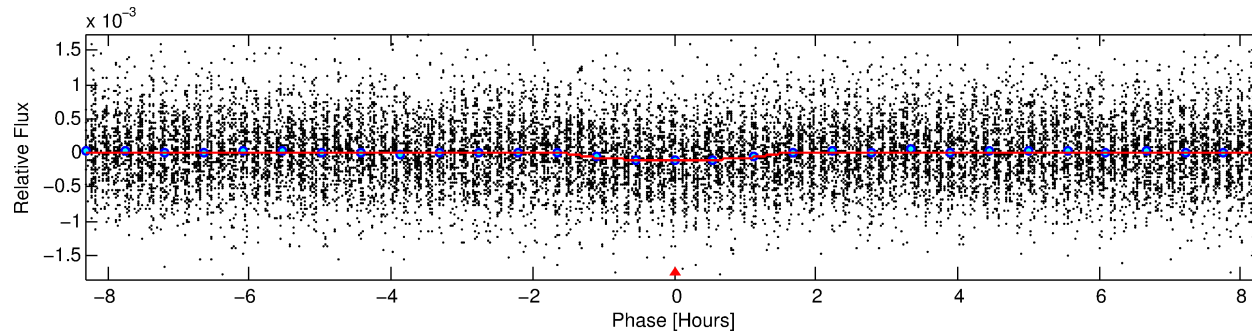
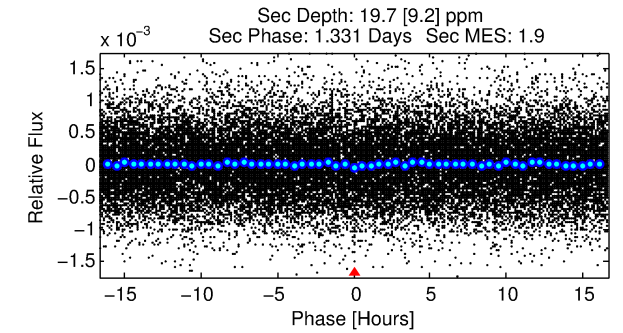
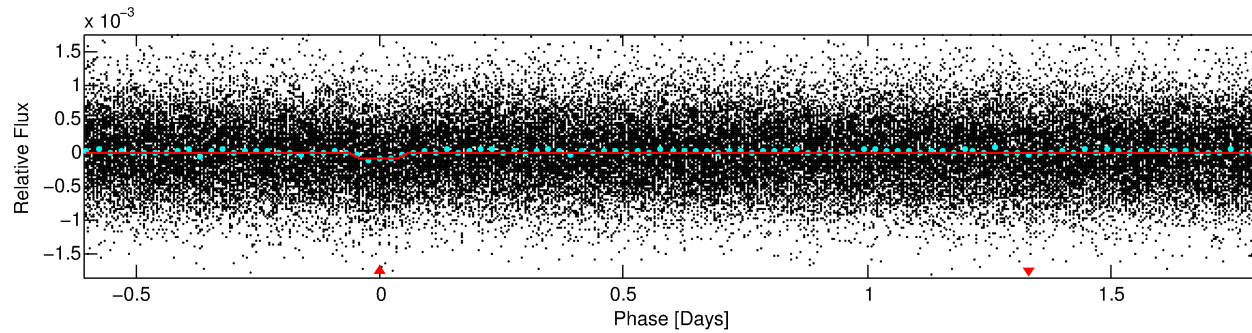
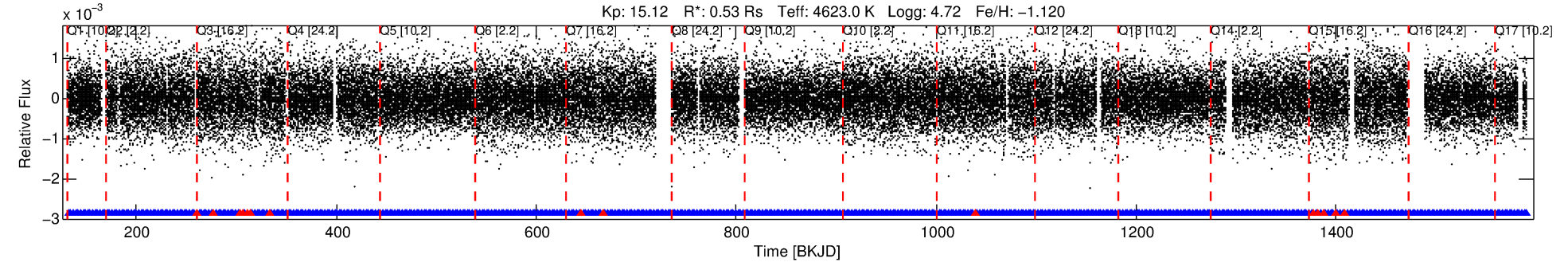
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003953173-01

No Significant Match Found

DV One-Page Summary

KIC: 3953173 Candidate: 1 of 1 Period: 2.418 d
KOI: K04493.01 Corr: 0.777



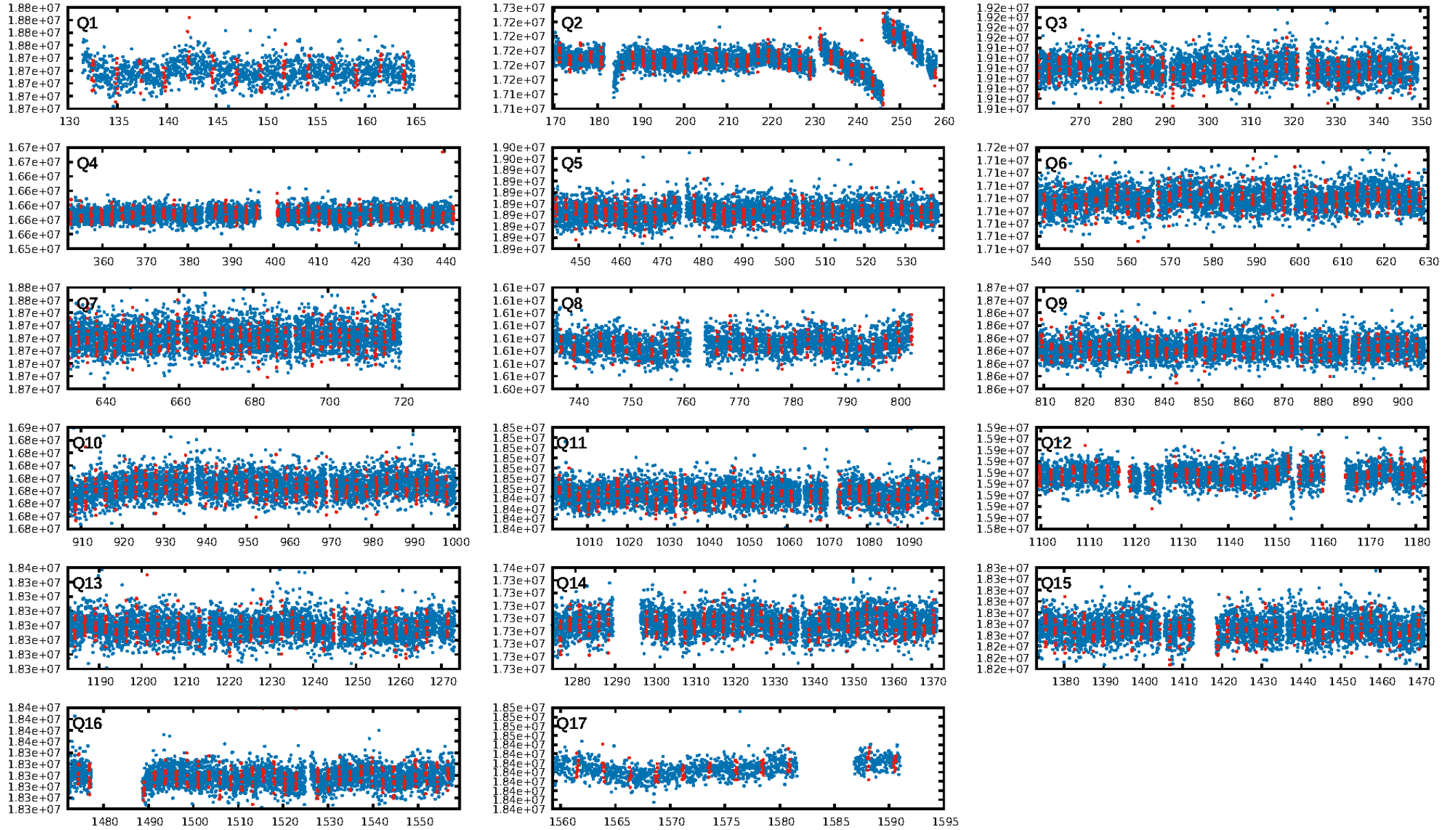
DV Fit Results:

Period = 2.41793 [0.00002] d
Epoch = 132.5103 [0.0046] BKJD
Rp/R* = 0.0111 [0.0103]
a/R* = 3.11 [10.85]
b = 0.91 [0.77]
Seff = 140.72 [20.57]
Teq = 878 [32] K
Rp = 0.64 [0.60] Re
a = 0.0288 [0.0016] AU
Ag = 21.66 [41.66] [0.50σ]
Teffp = 2929 [1410] K [1.45σ]

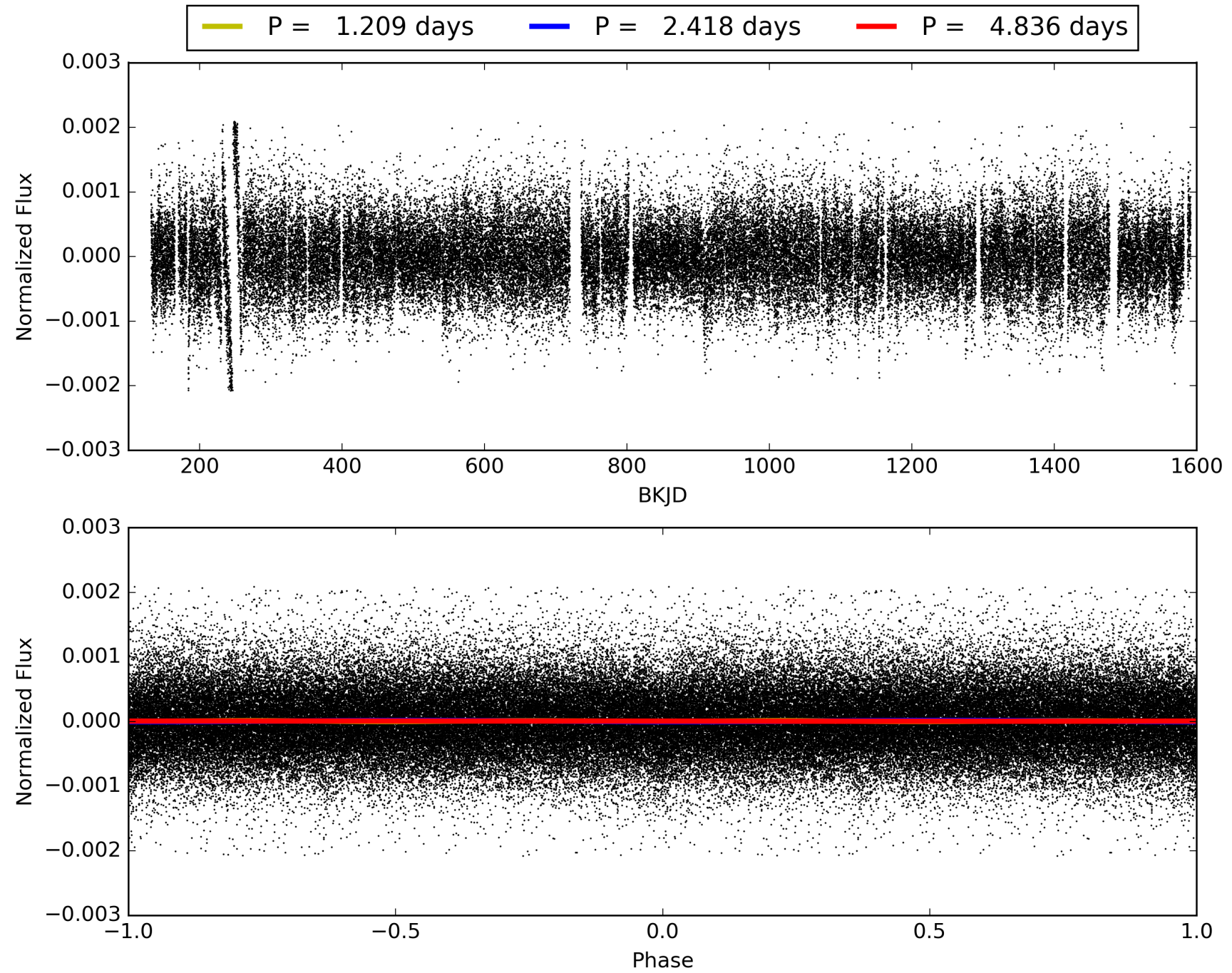
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.53e-20
RollingBand-fgt: 0.97 [510/525]
GhostDiagnostic-chr: -0.4395
Centroid-sig: 0.0%
Centroid-so: 21.852 arcsec [13.00σ]
OotOffset-rm: 10.911 arcsec [31.09σ]
KicOffset-rm: 10.204 arcsec [32.05σ]
OotOffset-st: 4/4/3/0 [11]
KicOffset-st: 4/4/3/0 [11]
DiffImageQuality-fgm: 1.00 [11/11]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 003953173-01, PDC Light Curves

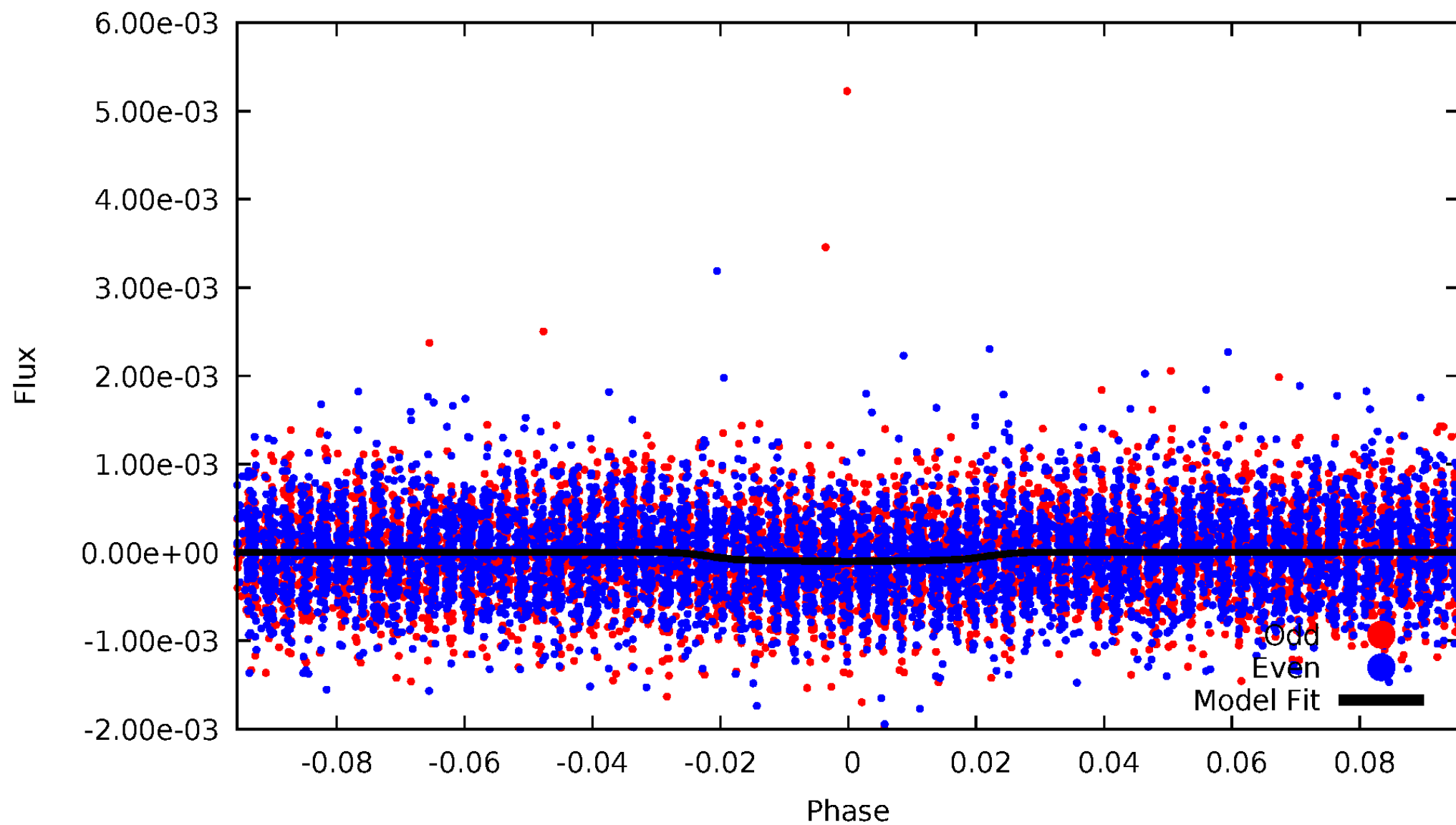


TCE 003953173-01



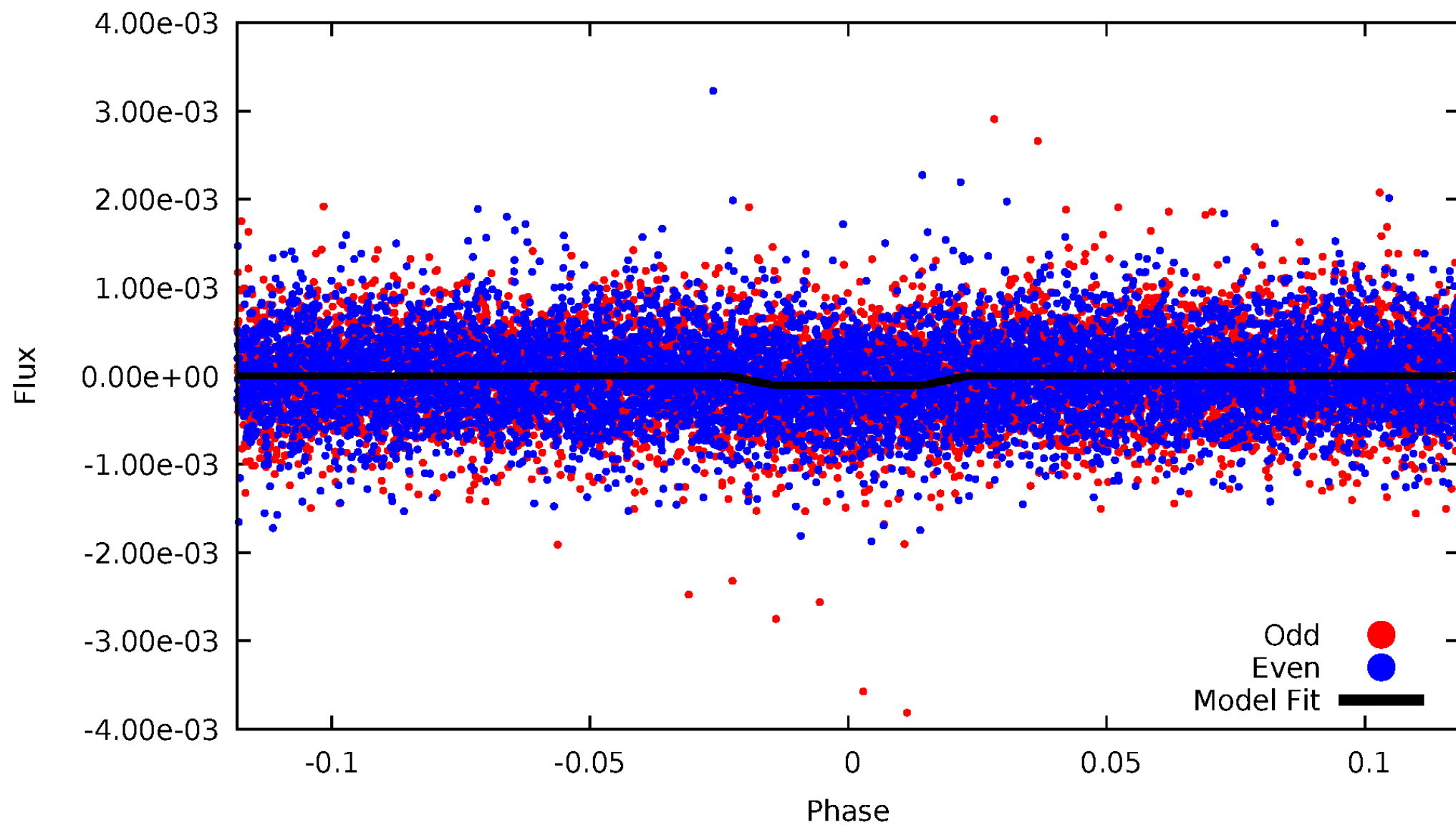
DV Odd/Even

TCE 003953173-01



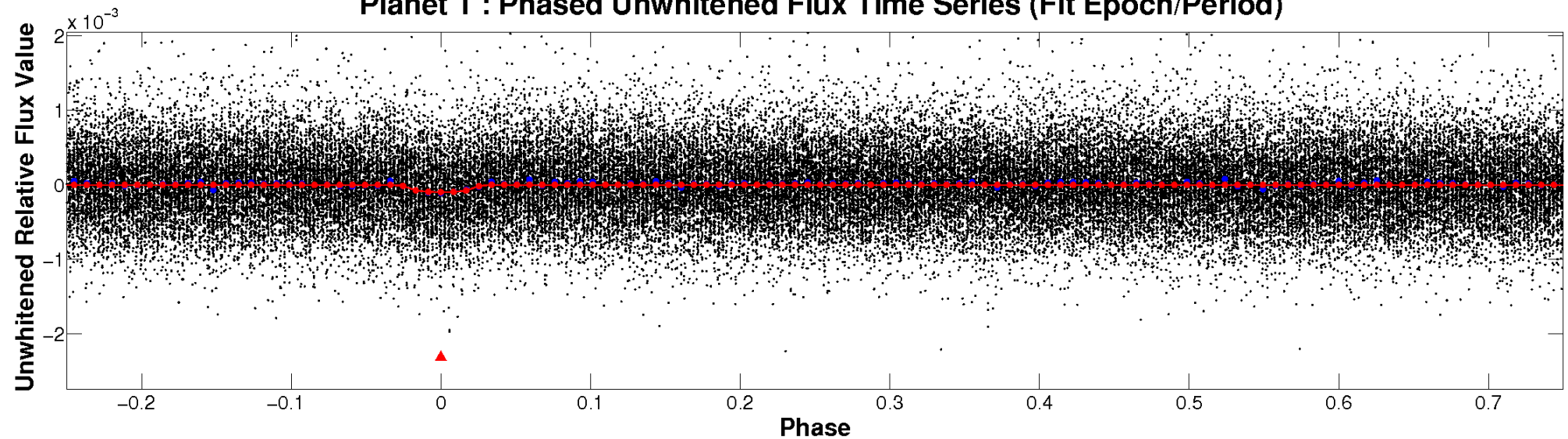
ALT Odd/Even

TCE 003953173-01

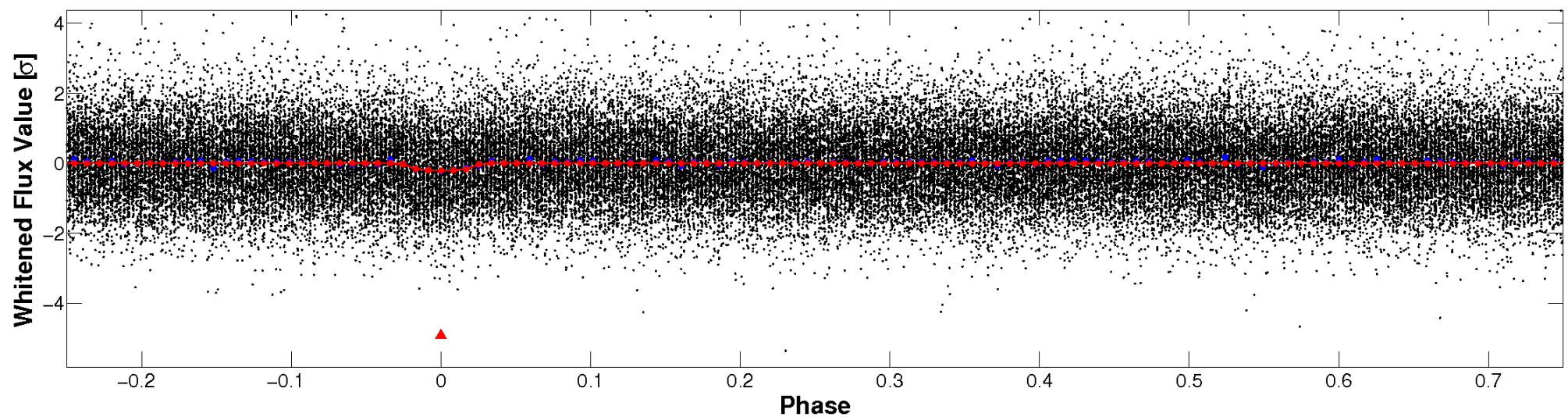


Non-Whitened Vs. Whitened Light Curve

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

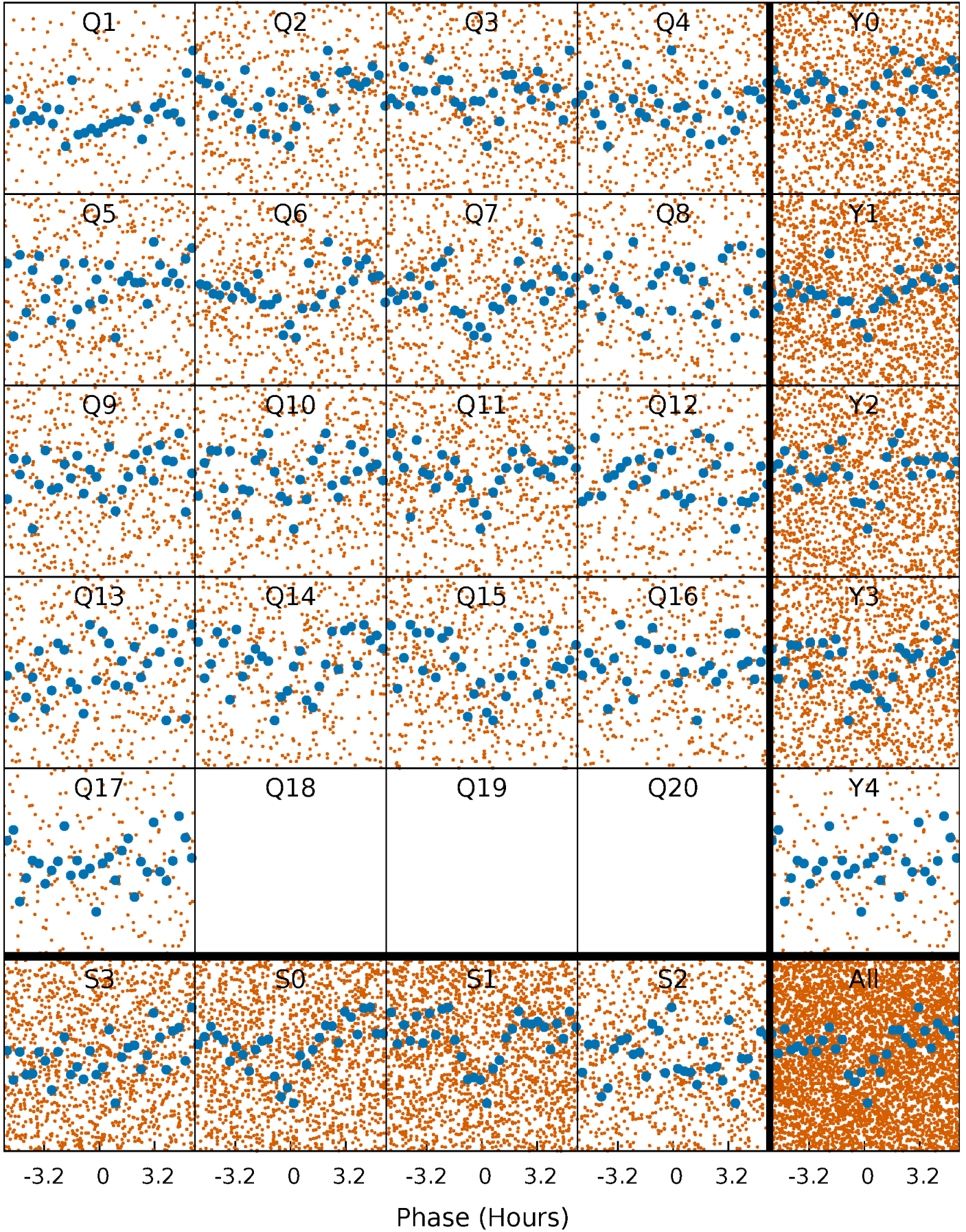


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



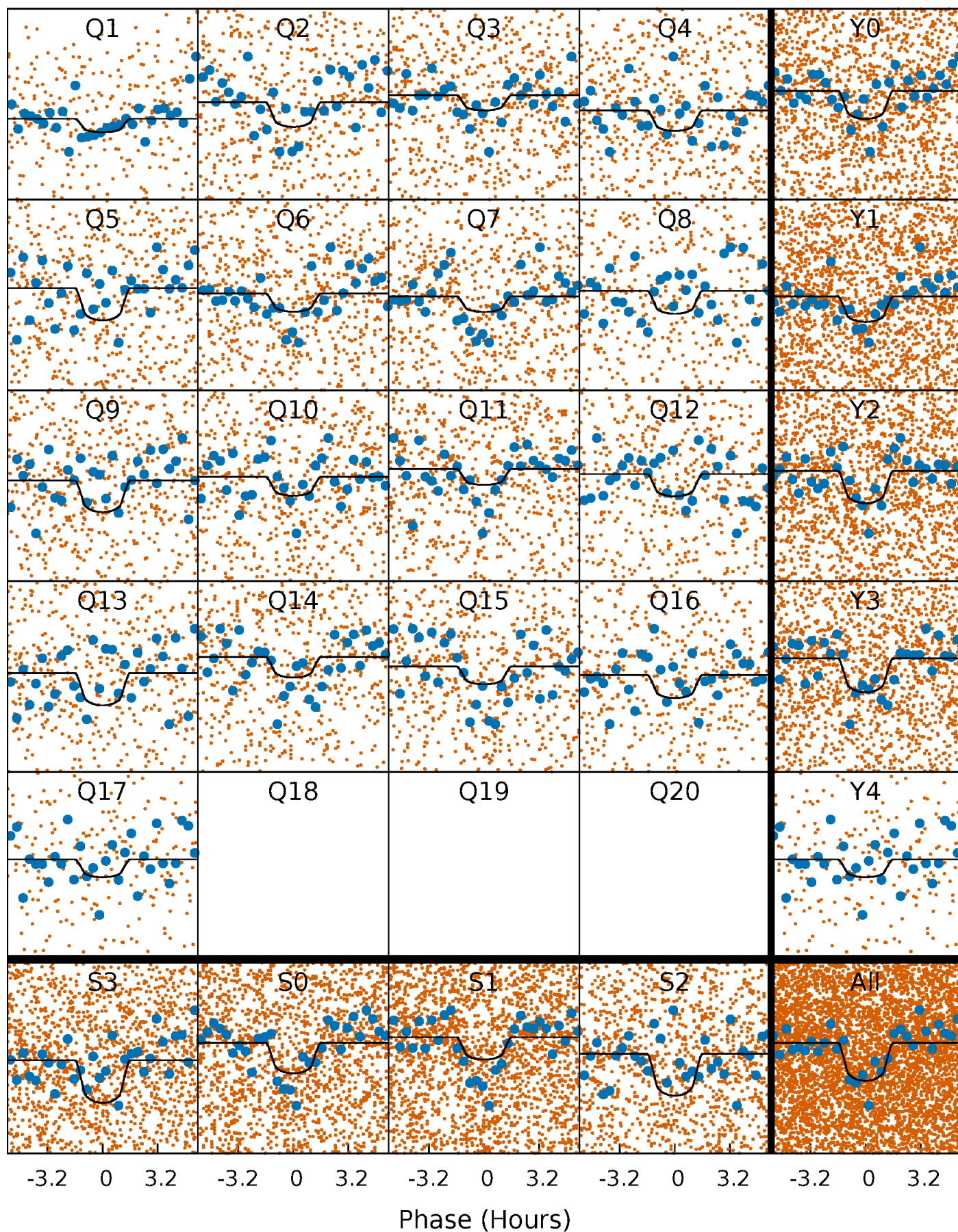
PDC Quarter-Phased Transit Curves

TCE 003953173-01 P= 2.417931 Days $T_0=132.510300$ (BKJD)



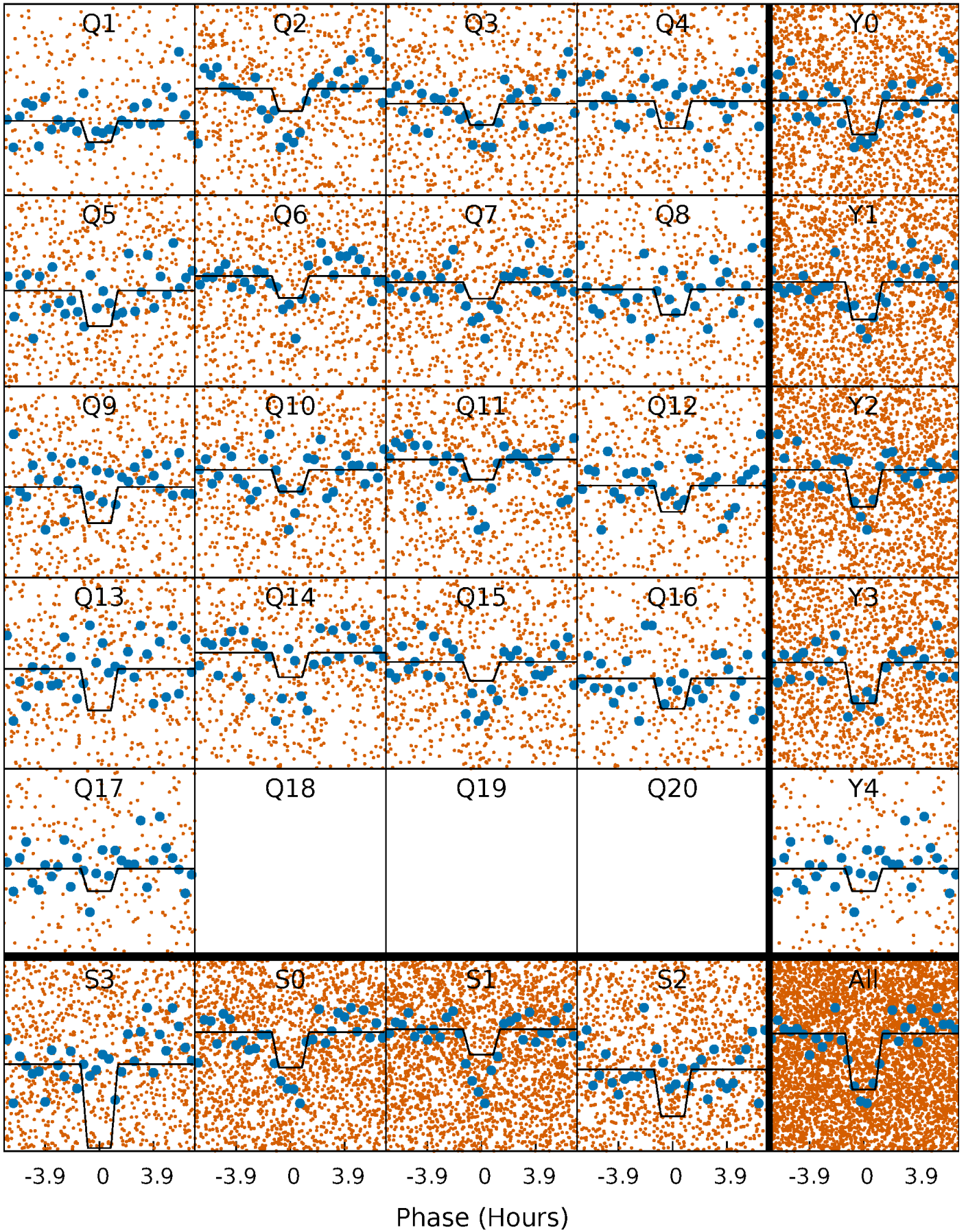
DV Quarter-Phased Transit Curves

TCE 003953173-01 P= 2.417931 Days $T_0=132.510300$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

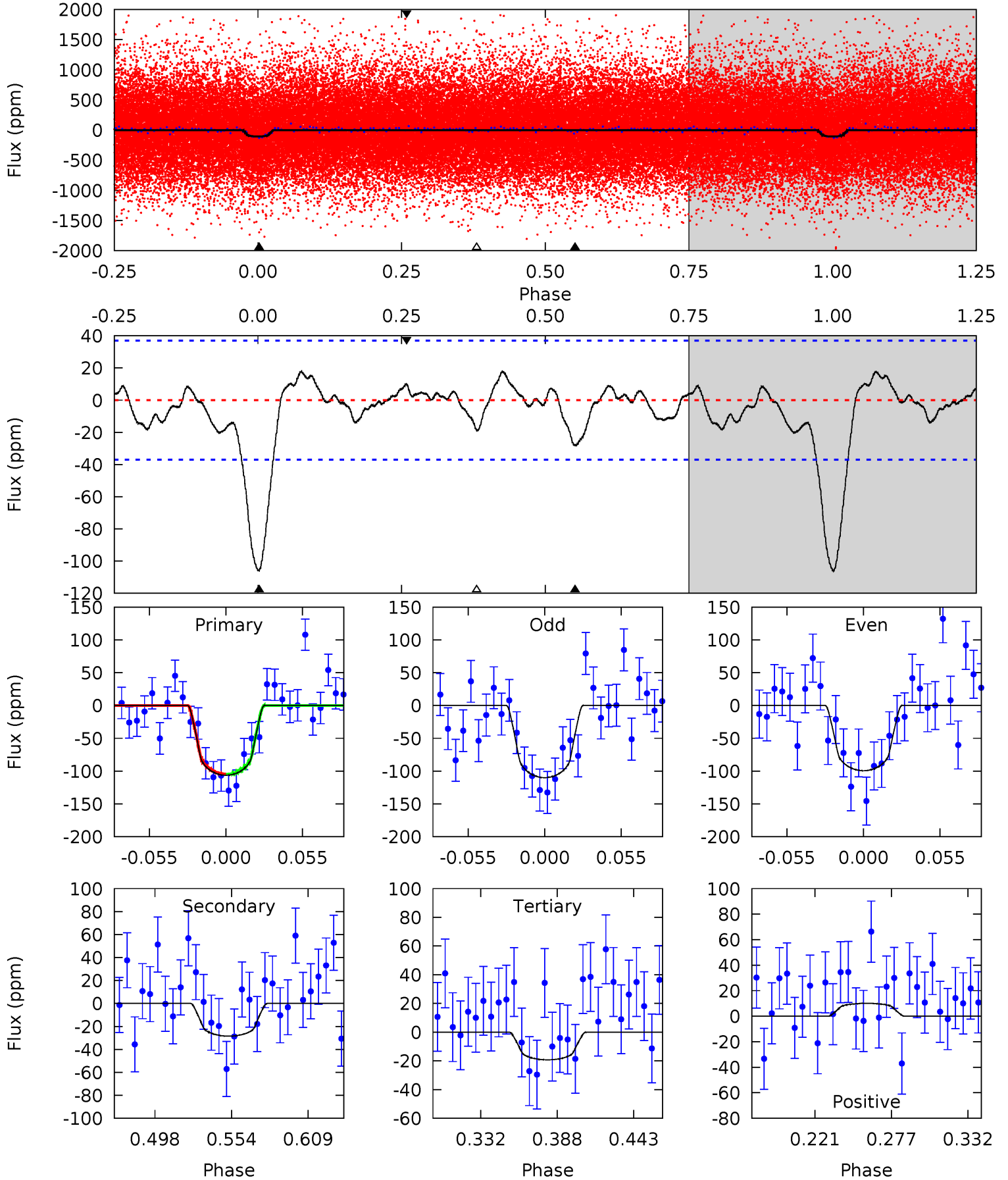
TCE 003953173-01 P= 2.417983 Days $T_0=132.494522$ (BKJD)



DV Model-Shift Uniqueness Test

003953173-01, P = 2.417931 Days, E = 130.092369 Days

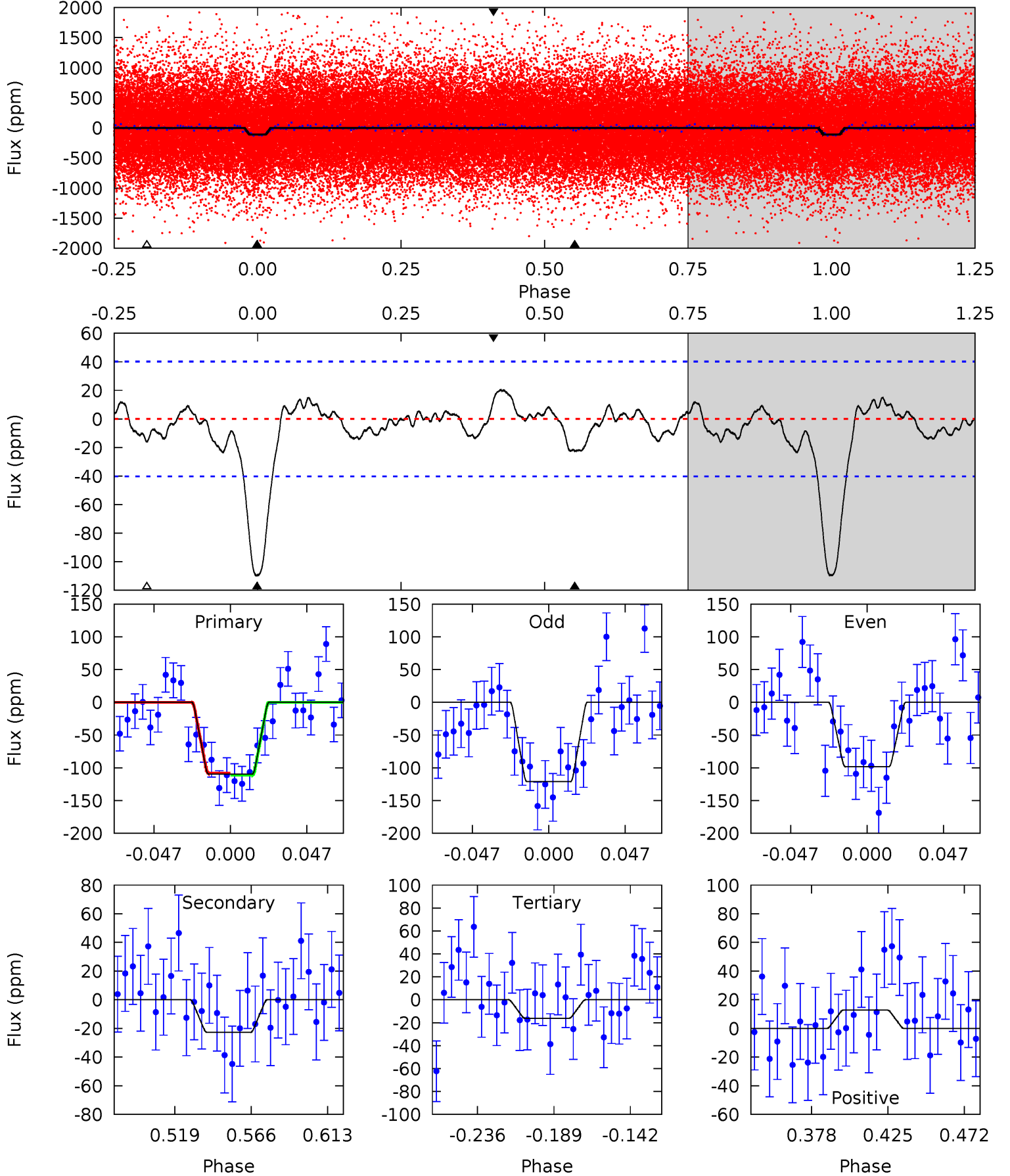
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	3.60	2.44	1.28	4.69	1.92	1.08	11.0	12.2	1.16	2.32	0.67	1.12	0.15	0.03



Alt Model-Shift Uniqueness Test

003953173-01, P = 2.417983 Days, E = 130.076539 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	2.66	1.90	1.50	4.72	1.98	1.01	10.9	11.3	0.76	1.16	1.34	1.03	0.16	0.18



Stellar Parameters For KIC 003953173

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4623^{+139}_{-139}	$4.719^{+0.046}_{-0.032}$	$-1.120^{+0.300}_{-0.300}$	$0.534^{+0.035}_{-0.035}$	$0.545^{+0.037}_{-0.027}$	$5.030^{+0.902}_{-0.635}$
	+3%/-3%	+1%/-1%	+27%/-27%	+7%/-7%	+7%/-5%	+18%/-13%
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 003953173-01 / KOI 4493.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-28 ± 8	$0.73^{+0.54}_{-0.47}$	1226^{+39}_{-45}	3417^{+1474}_{-561}	24^{+166}_{-17}
Alt.	-23 ± 9	$0.72^{+0.54}_{-0.45}$	1225^{+43}_{-45}	3314^{+1136}_{-568}	20^{+101}_{-14}

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

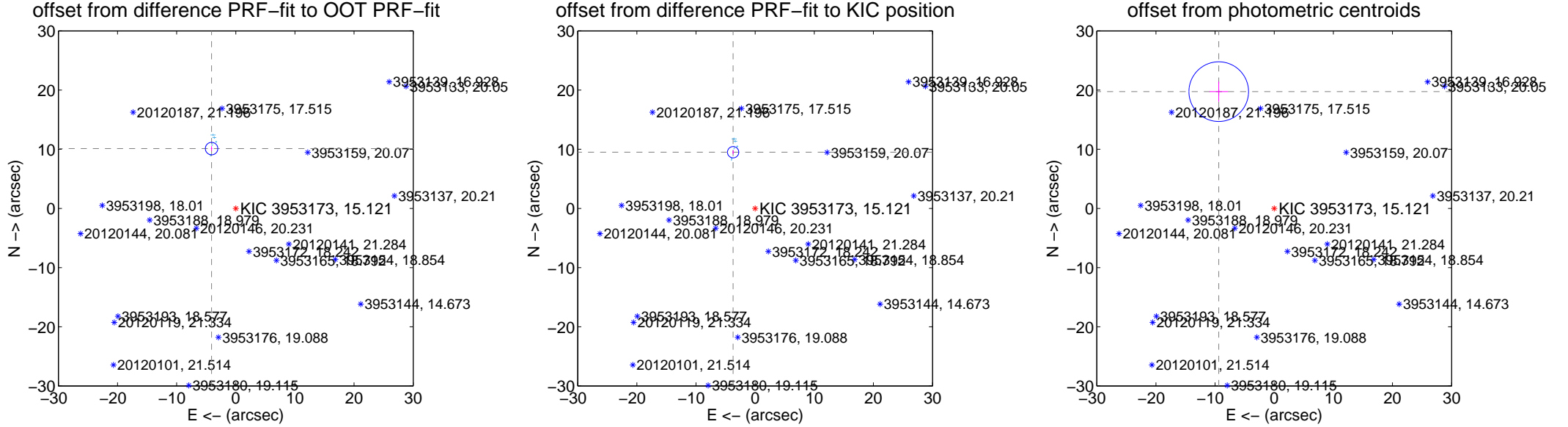
DV Centroid Data

Supplemental centroid analysis for 003953173-01. Kepler magnitude: 15.12. Transit SNR 9.43

There are 11 quarters with good PRF difference image offsets

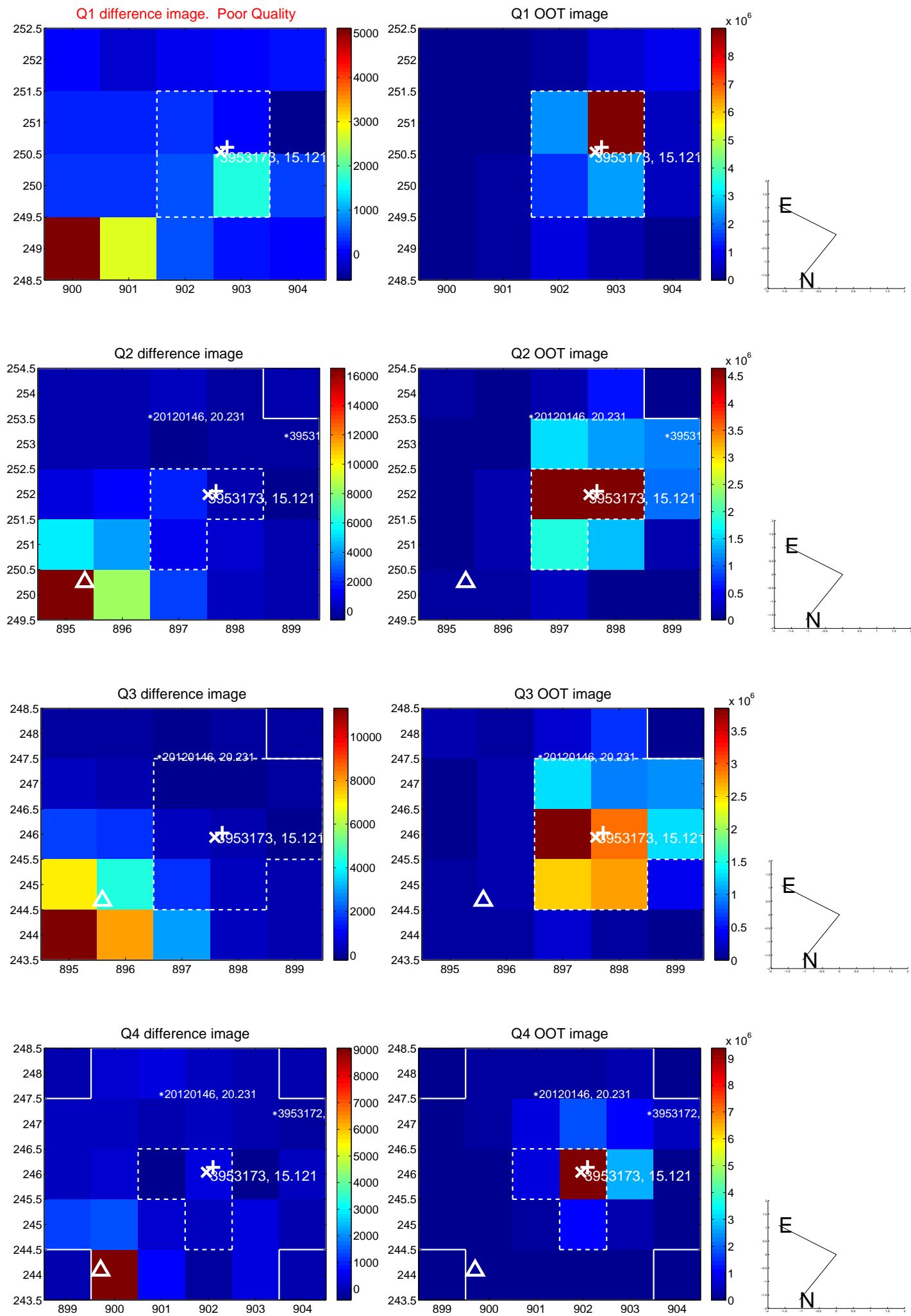
The direct PRF centroid is offset from the target star catalog position by about 0.84 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	10.911 \pm 0.351	31.09	4.093 \pm 0.119	10.114 \pm 0.410
PRF-fit source offset from KIC position	10.204 \pm 0.318	32.05	3.723 \pm 0.101	9.500 \pm 0.340
photometric centroid source offset	21.85 \pm 1.68	13.00	9.38 \pm 1.58	19.74 \pm 1.70

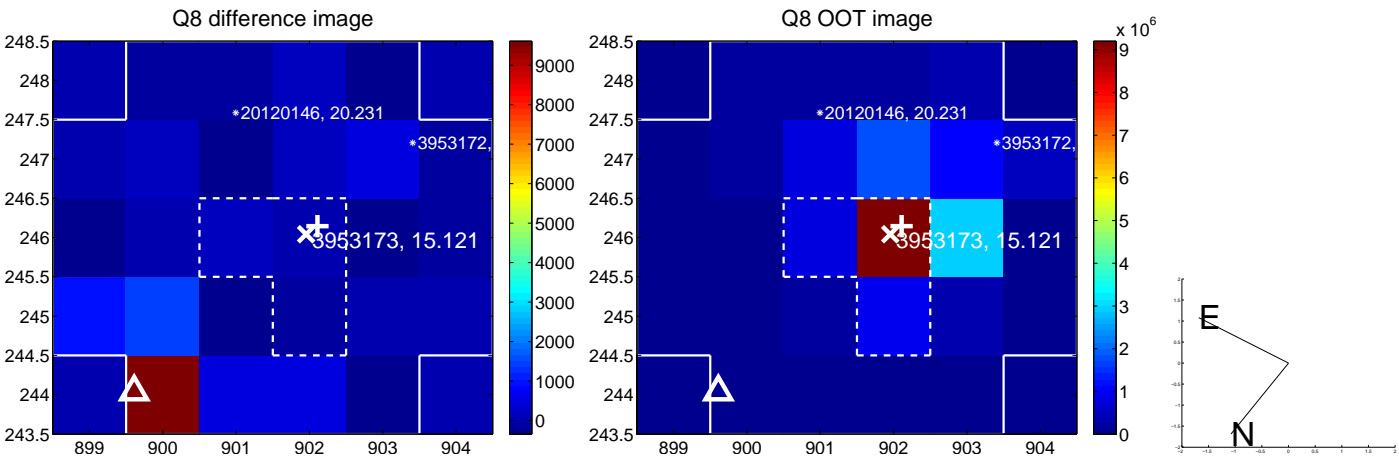
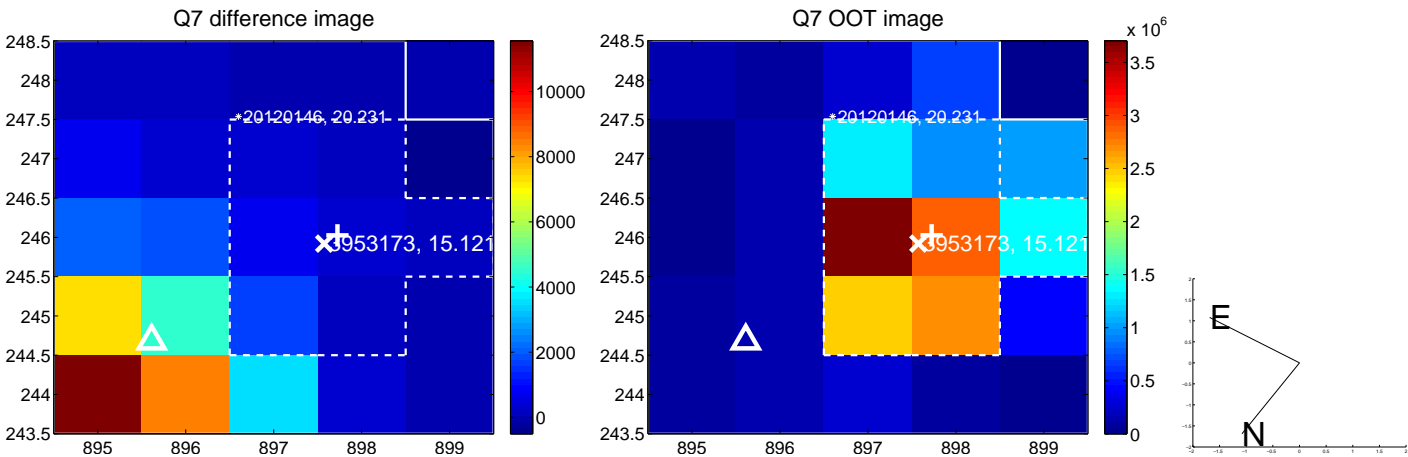
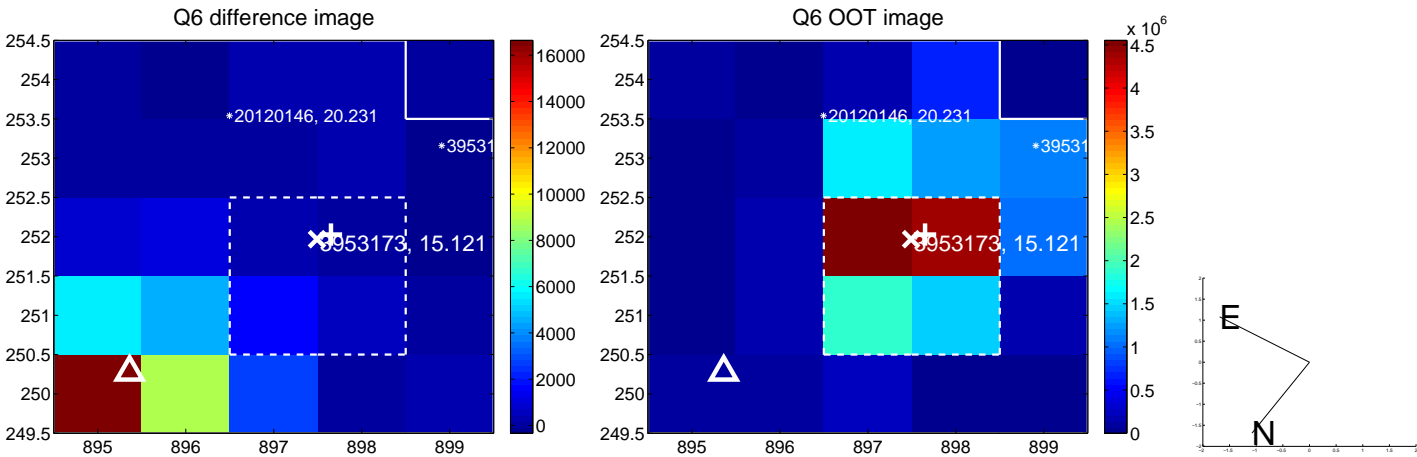
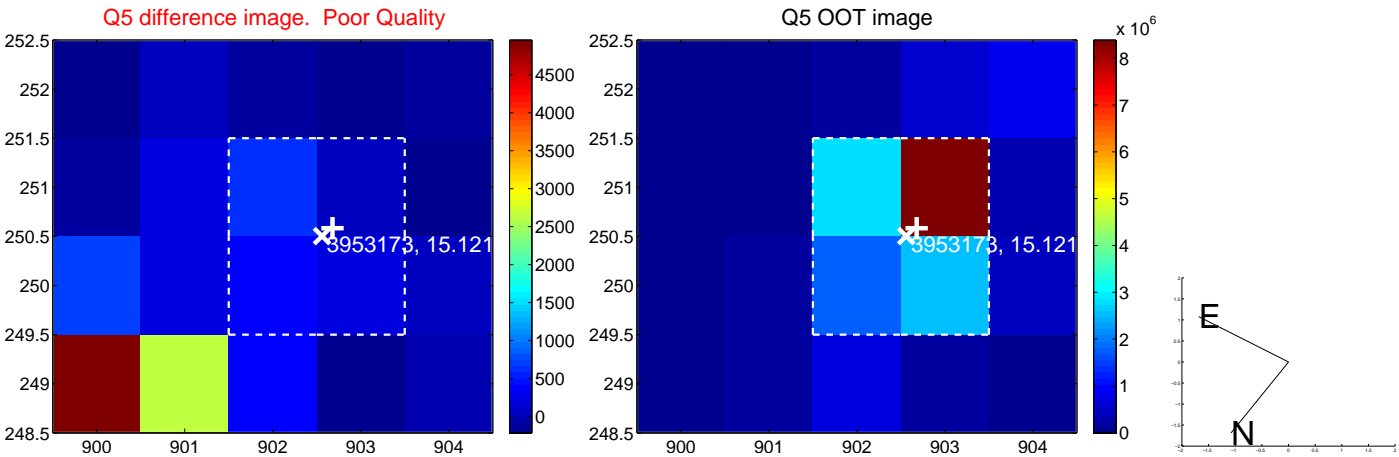


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

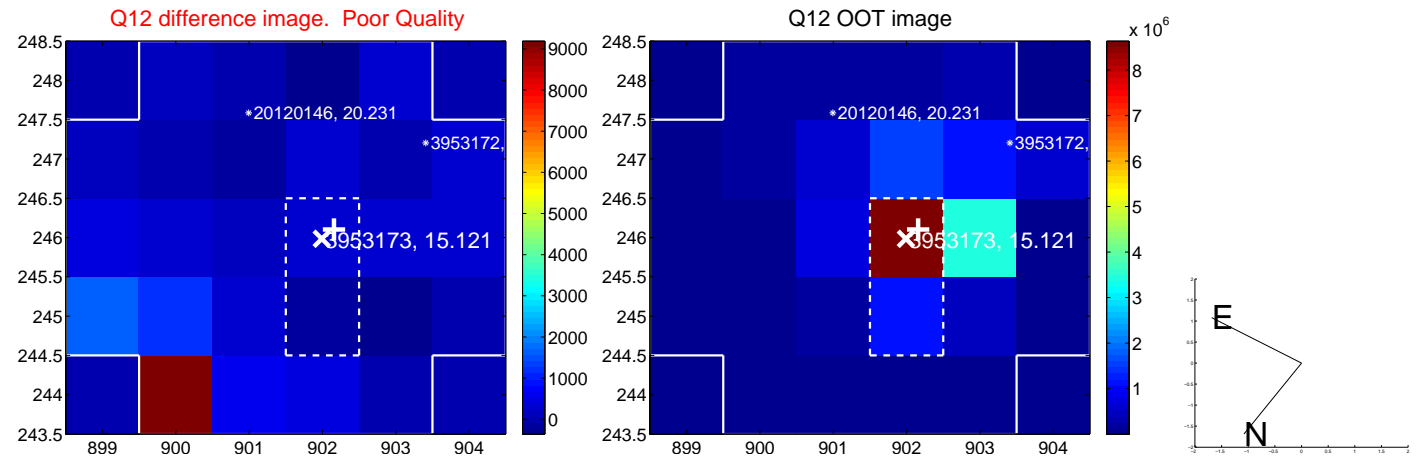
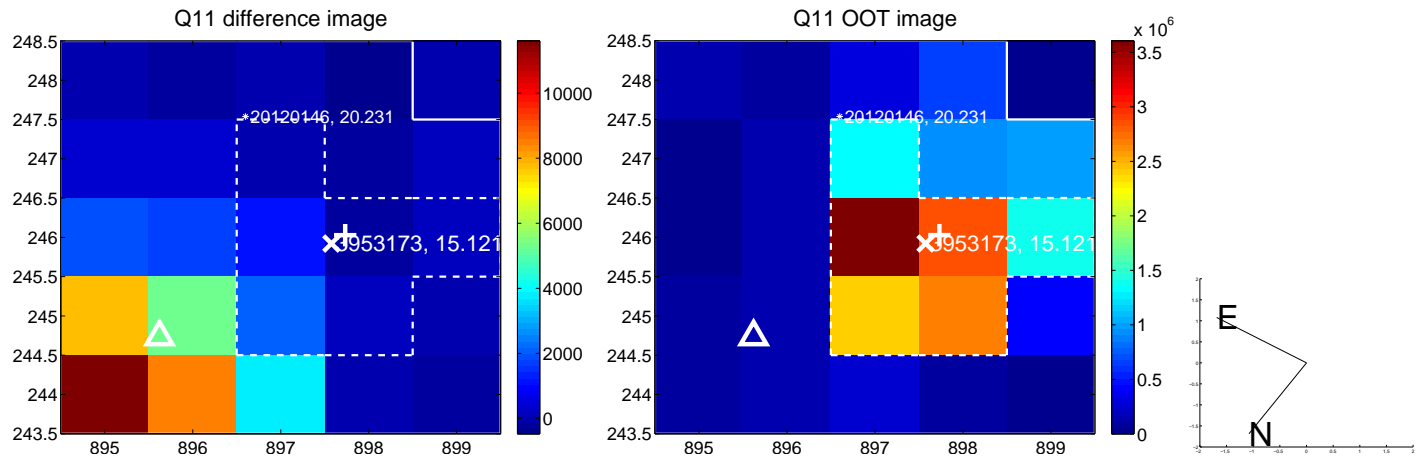
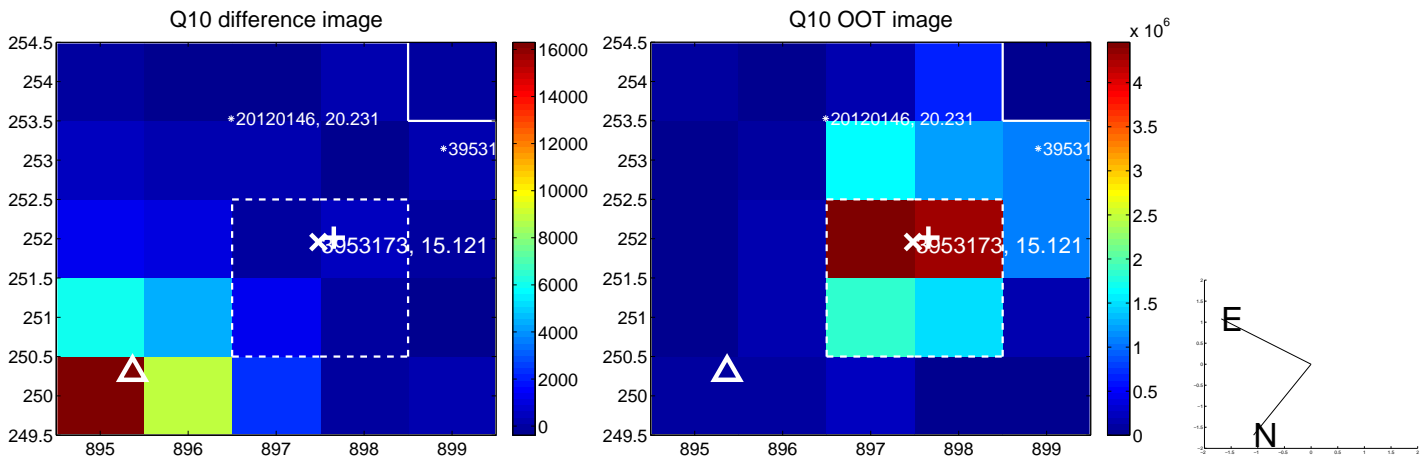
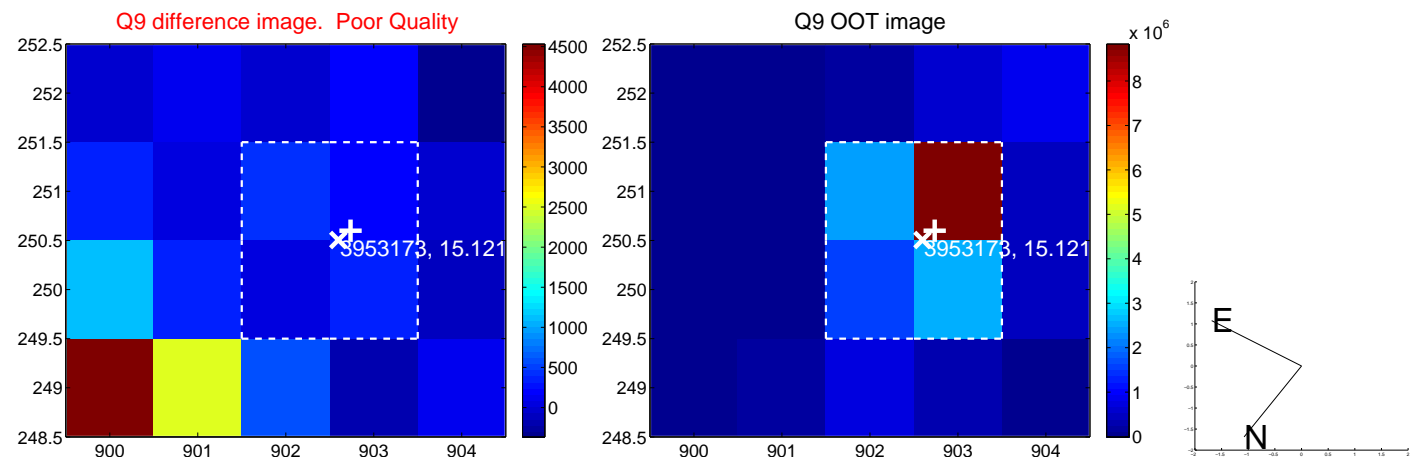
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



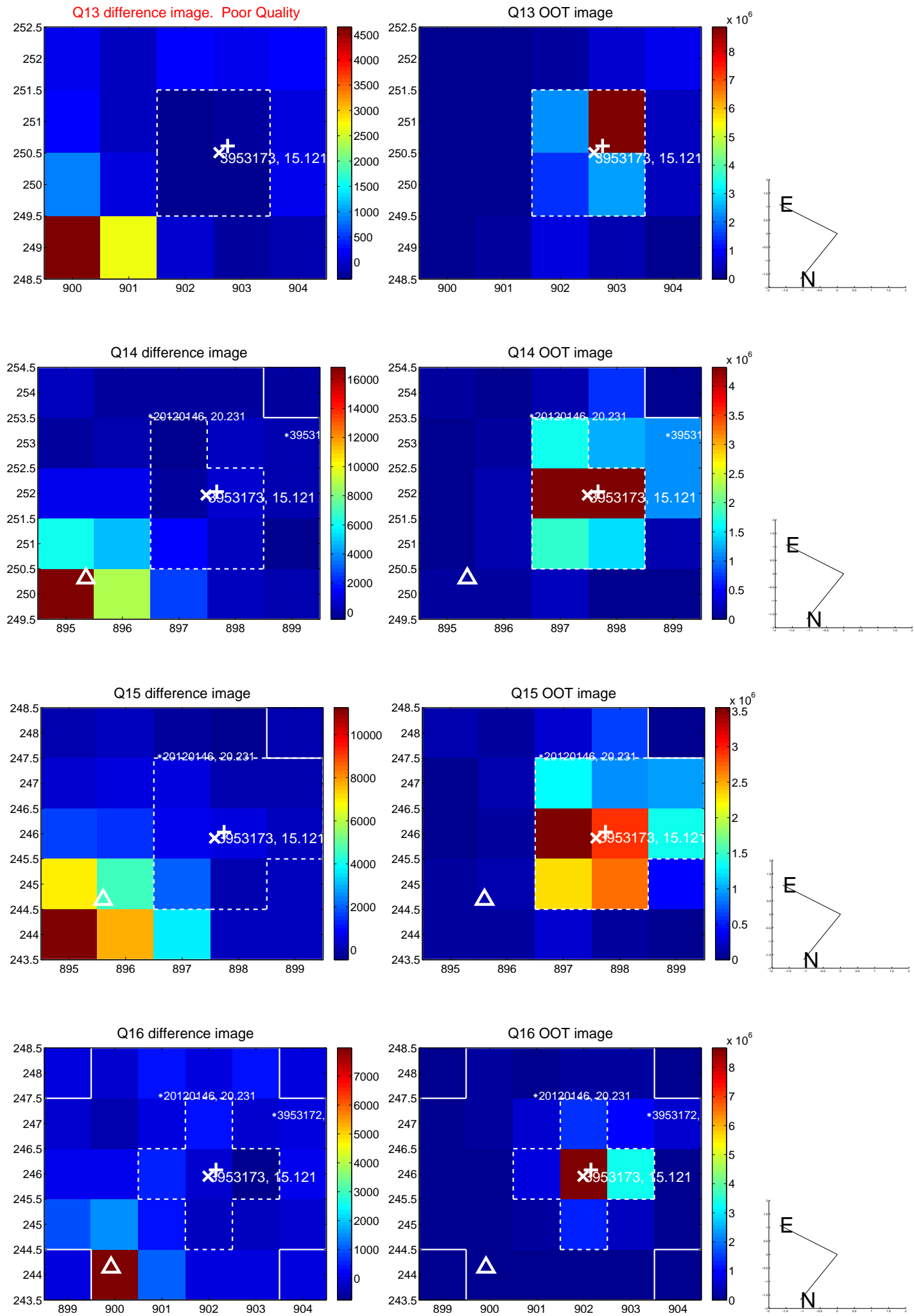
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



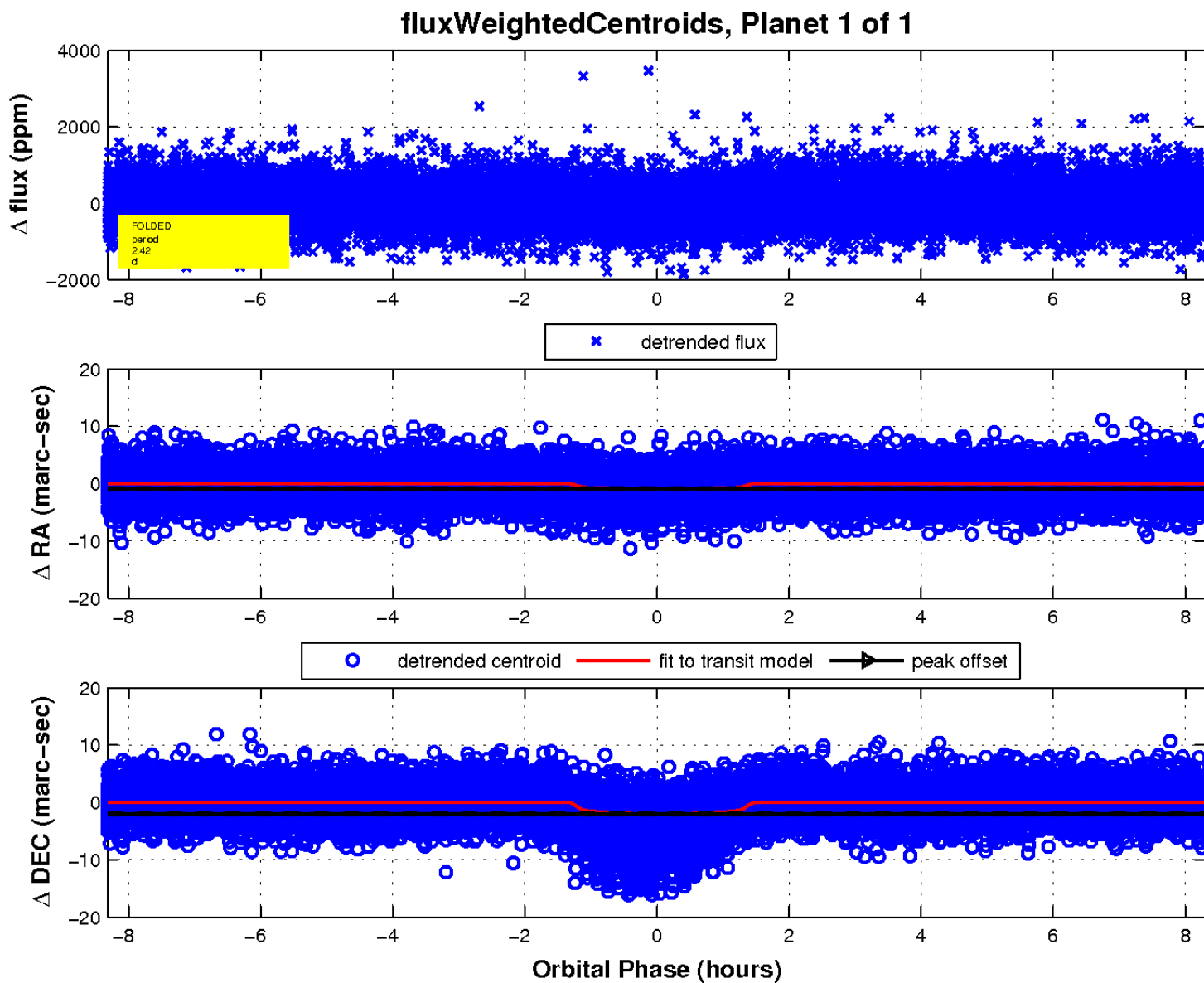
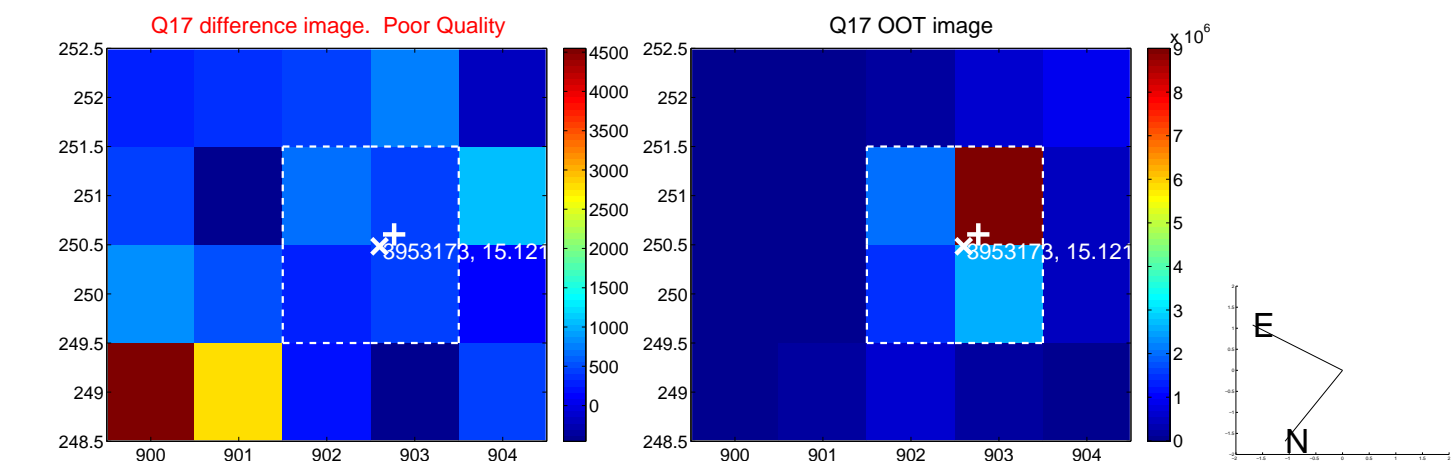
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

