Subject: autocorrelation of RANDOMU (is RANDOMU white?)
Posted by at913 on Sun, 31 Jul 1994 04:32:28 GMT
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Hello!

I just computed the autocorrelation sequence of
x=randomu(seed,1024) ;seed is undefined
I get the autocorrelation to be nonzero for all delays. As the matter
of fact it looks like the autocorrelation of white noise, offset by some
positive value, i.e. it peaks at 0. and then has a constant nonzero value for
other delays. SOmehow, I was expecting pure white noise behavior from
randomu. Were my expectations wrong?

randomn does not suffer from the same problem.

(Note: i calculated the autocorrelation two ways
one:
ft=fft(x,-1)
ps=ft*conj(ft)
co=fft(ps,1)

two:
x3=[x,x,x]
co=convol(x3,x,/center,/edge_wrap) ; this way I get around the requirement
; of dim(x)<dim(x3) needed for convol.
)
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