Subject: Period of RANDOMU generated random numbers??
Posted by pasi.hakala on Thu, 10 Mar 2016 09:07:47 GMT
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Dear All,

I have recently encounter some weird behaviour with RANDOMU (IDL 7.1, OSX 10.6 and 10.10). It seems like the random numbers generated by it have a reoccurence period of 2148*1000000 i.e. 2.148e9! OR, can someone otherwise explain this? Consider a simple piece of code (started freshly immediatedly after entering IDL, so no messing with the seed) that creates random numbers from the exponential distribution in batches of 1000000:

```
nobs=10000l
nper=1000000l
pymax_sim=fltarr(nobs)
;
for i=0l,nobs-1 do begin
  tmp=-alog(randomu(seed,nper))
  pymax=max(tmp)
  pymax_sim(i)=pymax
endfor
end
```

If I then have a look at the values of "pymax_sim" they appear to repeat with the period of 2148*1000000! Any ideas? I have used IDL since 1988 and obviously have never encountered this before (well, luckiy I've never had a need for such long random number sequences before).

Cheers, Pasi Hakala, Research Scientist, Tuorla Observatory, Finland