Subject: How good is Randomu?
Posted by john.copley on Fri, 04 Jan 2008 16:17:33 GMT
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Many thanks to those of you who responded to my posting entitled "
Bizarre (?) behavior of randomu". Your comments have been very useful.

I now have a different question. How good is Randomu? I am developing some code to calculate multiple neutron scattering intensities and typically in any given run I would expect to invoke randomu (or some other IDL procedure that generates uniformly distributed pseudo-random numbers between 0 and 1) several hundred to several thousand times, each time obtaining of order 1 million numbers, in other words generating 10^9 or more random numbers in any given run. Is randomu up to the task, or do I need something better?

If I need something better what should I use? I have come across exotica such as the "MT19937 generator of Makoto Matsumoto and Takuji Nishimura [which] is a variant of the twisted generalized feedback shift-register algorithm" and "has a Mersenne prime period of 2^19937 - 1 (about 10^6000) and is equi-distributed in 623 dimensions" but that sounds like overkill. On the other hand the so-called Wichmann-Hill algorithm looks interesting and it is supposedly very easy to code.

Thoughts, anyone?
Many thanks
John