Subject: RANDOMU not very random
Posted by ian on Wed, 16 Jun 2004 22:28:34 GMT
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Hello,

A colleague and I are working on simulating cosmic glitches in interferograms. The way we are trying to accomplish this is assigning each point in an interferogram a random number using IDL's RANDOMU. Once the random number falls below a specified threshold, we insert a cosmic ray.

We originally used an undefined seed to get the random numbers, but we quickly discovered that if we ran the routine over and over again, the random numbers shifted by 1 position each time. We corrected this by defining our seed using the SYSTIME function. Now, however, we find that if you run the program a number of times, you see the same positions popping up (not in an identifiable pattern, but they show up more often than you would expect).

For example, Cosmic rays in ifgm1 appeared at pts 107 and 534. After running the program ~20 more times, these same points popped up. This seems to happen fairly frequently over long times of many runs.

Is there anything that we can do to introduce more randomness into the procedure? Are there any fixes for the IDL random number generators?

Thanks,
Ian