

Random Numbers from Cosmic Rays

14 September 2004

Cosmic rays from exploding stars have provided a new and innovative way of producing truly random numbers.

University of Queensland mathematician Dr Michael Bulmer and UQ physicist Dr Kevin Pimbblet have produced random numbers from cosmic rays which could help researchers develop more secure computer codes.

Dr Bulmer said most methods of generating computer codes with random numbers were not secure because they were computer generated.

“The problem with random sets created by computers is that they can be broken once the algorithm used to generate them is deciphered,” he said.

“The method we have developed is truly random as it is from a physically random process.”

Dr Bulmer said this was the first time astronomical images had been used in this way.

However, photos could also be used to produce the same results.

“In principle you can use any kind of image, be they photos or scans, because they have random noise in the image,” he said.

Dr Bulmer and Dr Pimbblet are looking to connect their work with the CONintuous CAMera (CONCAM) project.

CONCAM is a group telescopes throughout the world that provide a continuous display of the night time sky.

Dr Bulmer said this could provide a constant stream of data for producing random numbers.

They have also set up a website at www.maths.uq.edu.au/~mrb/cosmic where visitors can use their own photos to produce random numbers.

APA citation: Random Numbers from Cosmic Rays (2004, September 14) retrieved 20 May 2019 from <https://phys.org/news/2004-09-random-cosmic-rays.html>

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