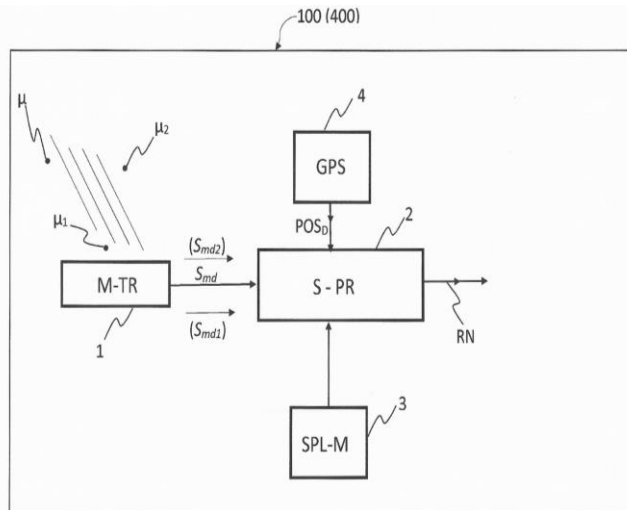


PORTABLE RANDOM NUMBERS GENERATOR



DESCRIPTION :

The present invention relates to the development of an apparatus and the implementation of a method for random variables generation. Normally, the extraction of random number sequences is performed on the basis of observations of physical phenomena. The proposed method bases on recording signals associated with the transition of atmospheric muons, such as the energy deposited in the detector or the time of single muon detection. A processing device receives the signal and, based on this and on a mathematical formula, provides for the generation of random values sequence. The high degree of entropy of the physical phenomenon that underlies it, guarantees a good degree of randomness of the produced variables, extending its use in sectors ranging from finance to video games, from cryptography to lotteries. Moreover, the possibility of miniaturizing the generator allows both its installation in PCs and its use in association with credit cards for bank payments security.



ADVANTAGES:

- High degree of randomness of the number sequences
- Portable system, without internet connection
- Usable in open, closed and underground spaces
- The presence of a geolocalizer device (GPS) and a barometer guarantees the uniqueness of the sequence of random numbers.

APPLICATIONS:

- Cryptography for financial transactions
- Opening key for electronic devices
- Anti-fraud systems for lotteries, video games and online operations
- Reduction of cyber attacks
- Scientific simulations