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Ziggurat Algorithm for Sampling from Bivariate Distributions

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Abstract

It is shown that the Ziggurat algorithm designed for sampling from monotone decreasing univariate distributions can be extended to continuous bivariate distributions with necessary modifications. A bivariate version of the Ziggurat algorithm is presented. Results of experimental sampling from a bivariate Gamma distribution utilizing a *RNG* implementing the algorithm are given.

Key words: Ziggurat algorithm, bivariate gamma distribution, random number generation.