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An application of the canonical moments theory to the estimation of random variables densities distributed over finite intervals. (Russian) [Zbl 1224.62005](#)

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Summary: An identification problem for random variables distributed over finite intervals is considered. A decomposition of the density functions of the random variables into series of orthogonal polynomials is obtained. The decomposition is made on the basis of the canonical moments theory. The family of beta-distributions is used as base densities. An algorithm for the estimation of the density functions of the random variables distributed over finite intervals is proposed. Results of the application of the estimation algorithm for some distributions are presented.

MSC:

[62G07](#) Density estimation

[65C60](#) Computational problems in statistics (MSC2010)

Keywords:

[orthogonal expansions](#); [beta-distributions](#)