Abstract

This paper faces the question of determining the distribution of linear vector-valued functionals of the Dirichlet process. We study the conditions under which such functionals admit mixed-moments and give an expression for them. In a natural way our result extends the expression of the moments of the mean functional given by Regazzini (1998) to the vector-valued functionals. Moreover, we obtain a representation for the moments of the variance of the Dirichlet process. Some numerical experiments conclude the paper.

Key words: Dirichlet process, distribution of a vector of functionals, Faá di Bruno formula, maximum entropy estimator