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A new grade measure of monotone multivariate separability. (English) [Zbl 1135.62336](#)

Cuadras, Carles M. (ed.) et al., Distributions with given marginals and statistical modelling. Papers presented at the meeting, Barcelona, Spain, July 17–20, 2000. Dordrecht: Kluwer Academic Publishers (ISBN 1-4020-0914-3/hbk). 143-151 (2002).

Summary: It was shown by *D.M. Cifarelli* and *E. Regazzini* [*Sankhyā* 49, No. 3, 307–319 (1987; [Zbl 0647.62023](#))] that maximal separation of two probability measures P and Q can be assessed by a maximal concentration curve of one of the probability measures with respect to the other. In case of two univariate distributions, one can measure their monotone separation by means of a monotone concentration curve and a related numerical index ar . We extend this idea to a multivariate case. We discuss the properties of a proposed index of monotone separation of multivariate distributions, especially in relation to dependence and stochastic ordering, and show examples of how the index can be used in data analysis.

For the entire collection see [[Zbl 1054.62002](#)].

MSC:

[62H05](#) Characterization and structure theory for multivariate probability distributions; copulas

[60E15](#) Inequalities; stochastic orderings

Keywords:

[Lorenz curve](#)