Li, X.; **Mikusiński, P.**; **Taylor, M. D.**

Some integration-by-parts formulas involving 2-copulas. (English) Zbl 1322.60008

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). 153-159 (2002).

Summary: We note examples of probabilistic interpretations of integrals involving 2-copulas. We then use the theory of strong convergence of copulas to justify an integration-by-parts formula involving 2-copulas,

$$\int_{I^2} f(A)\,dB = \int_0^1 f(t)\,dt - \int_{I^2} -f'(A)D_1AD_2B = \int_0^a f(t)\,dt - \int_{I_2} f'(A)D_2AD_1B$$

where A and B are arbitrary 2-copulas and f is continuously differentiable.

For the entire collection see [Zbl 1054.62002].

MSC:

60E05 Probability distributions: general theory
62E10 Characterization and structure theory of statistical distributions
62H05 Characterization and structure theory for multivariate probability distributions; copulas

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