Cuculescu, Ioan; Theodorescu, Radu
Are copulas unimodal? (English) Zbl 1028.60009
J. Multivariate Anal. 86, No. 1, 48-71 (2003).

From the introduction: It is Sklar who in 1959 coined the term copula for a distribution whose margins are uniform on the unit interval. ... An important property of a distribution is unimodality. It is then natural to ask whether copulas are unimodal. Multivariate unimodality takes different forms so we choose here the most used ones (central convex, block and star unimodality) and examine copulas with respect to them.

Reviewer: Wolfgang Näther (Freiberg)

MSC:

60E05 Probability distributions: general theory
62E10 Characterization and structure theory of statistical distributions

Keywords:

copula; unimodality; Archimedean case; diagonal sections

Full Text: DOI

References:

[1] Bertin, E.; Cuculescu, I.; Theodorescu, R., Unimodality of probability measures, (1997), Kluwer Dordrecht · Zbl 0876.60001
[2] Capéraà, P.; Fougères, A.-L.; Genest, C., Bivariate distributions with given extreme value attractor, J. multivariate anal., 72, 30-49, (2000) · Zbl 0978.62043
[3] Cuculescu, I.; Theodorescu, R., Extreme value attractors for star unimodal copulas, C.R. acad. sci. Paris Sér. I math., 334, 689-692, (2002) · Zbl 0996.60026
[4] I. Cuculescu, R. Theodorescu, Maximum domain of attraction for unimodal copulas, Investigación Oper. 2002, in print.
[5] Dharmadhikari, S.W.; Joag-dev, K., Unimodality, convexity, and applications, (1988), Academic Press New York
[6] Fréchet, M., Remarques sur la note précédente, C. R. acad. sci. Paris Sér. I math., 246, 2719-2721, (1958) · Zbl 0084.35804
[7] Genest, C.; Quesada Molina, J.J.; Rodríguez Lallena, J.A.; Sempi, C., A characterization of quasi-copulas, J. multivariate anal., 69, 193-205, (1999) · Zbl 0935.62059
[8] Nelsen, R.B., An introduction to copulas, (1999), Springer New York · Zbl 0909.62052
[9] Sklar, A., Fonctions de répartition à \textit{n} dimensions et leur marges, Publ. inst. statist. univ. Paris, 8, 229-231, (1959) · Zbl 0100.14202