

Generalized Diagonal Band Copulas with Two-Sided Generating Densities

Presentation by:

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Abstract:

Copulas are joint continuous distributions with uniform marginals and have been proposed to capture probabilistic dependence between random variables. Maximum entropy copulae introduced by Bedford and Meeuwissen (1997) provide experts the option of making minimally informative assumptions given a degree of dependence constraint between two random variables. Unfortunately, their distributions functions are not available in a closed form, and their application requires the use of numerical methods. In this talk, we shall study a sub-family of generalized diagonal band (GDB) copulas, separately introduced by Ferguson (1995) and Bojarski (2001). Similar to Archimedean copulas, GDB copulas construction require a generator function. Bojarski's GDB copula generator functions are symmetric probability density functions. Specifically, members of a symmetric two-sided framework of distributions introduced by Van Dorp and Kotz (2003) shall be considered. A comparison with Archimedean copulas shall be presented.