

## **A semiparametric estimation of copula models based on the method of moments**

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### **Abstract**

Using the classical estimation method of moments, we propose a new semiparametric estimation procedure for multi-parameter copula models. Consistency and asymptotic normality of the obtained estimators are established. By considering an Archimedean copula model, an extensive simulation study, comparing these estimators with the pseudo maximum likelihood, rho-inversion and tau-inversion ones, is carried out. We show that, with regard to the other methods, the moment based estimation is quick and simple to use with reasonable bias and root mean squared error.

**Keywords :** Archimedean copulas; Asymptotic distribution; Copula models; Measures of association; Method of moments; Semiparametric models; Statistical inference; Z-estimator.

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