Ing, Ching-Kang (Academia Sinica, Taiwan, R.O.C.)

A Maximal Moment Inequality for Long Range Dependent Time Series with Applications to Estimation and Model Selection

Abstract: We establish a maximal moment inequality for the weighted sum of a long-range dependent process. An extension to Hájek-Rény and Chow's type inequality is then obtained. It enables us to deduce a strong law for the weighted sum of a stationary long-range dependent time series. To illustrate its usefulness, applications of the inequality to estimation and model selection in multiple regression models with long-range dependent errors are given.