

ESTIMATING THE EXTREMAL INDEX THROUGH THE TAIL DEPENDENCE CONCEPT

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Abstract

The extremal index θ is an important parameter in extreme value analysis when extending results from independent and identically distributed sequences to stationary ones. A connection between the extremal index and the tail dependence coefficient allows the introduction of new estimators. The proposed ones are easy to compute and we analyze their performance through a simulation study. Comparisons with other existing methods are also presented. Case studies within environment are considered in the end.

Keywords: Extreme value theory, extremal index, tail dependence coefficient.

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