

# Subsampling extremes of time series

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The talk is based on a joint work with Robert and Prohl (Test, 2011), and addresses the subsampling schemes for time series. Under dependence the subsampling techniques have to take into account the dependence structures and thus involve blocks of data contrary to the case of independent data where all the  $m$ -tuples are to be considered. This gives two techniques related to overlapping or nonoverlapping samples. Moreover, the weak dependence concepts, initiated in Doukhan and Louhichi (SPA, 1999) and precised in a monograph (LNS 190, 2007), involve regular functions which is a natural feature; we thus introduce some smoothed subsamplers. Various uniform asymptotics are obtained under reasonable conditions. The case of extremes is quite complex and a self normalized result is obtained. Asymptotics in fact rely on both a Pareto and an Extremal index which have both interpretations of importance. Besides those results we also consider real data applications as well as the premises of a work adapted to work out the extremal index.