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Limit laws for sums of weakly dependent data with infinite variances

Many econometrical models take into account two stylized facts: the dependence structure of the time series (absence of correlations, dependence of the squares) and the high volatility (tails as power laws). If the dependence is not too strong, the asymptotic behavior of the sum is no longer distributed as a normal law but as another type of stable law. Thus, the dependence and the power law marginals drive the limit law in a very intricated way. In a work done with K. Bartkiewicz, A. Jakubowski and T. Mikosch, we suceeded to give a non standard central limit theorem where we clearly determined in the limiting stable law what is due to the dependence and what is due to the marginal law. We apply our result to the sum of the stationary solution of the GARCH (1,1) model.

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