A LIMIT THEOREM FOR SUMS OF BOUNDED FUNCTIONALS OF LINEAR PROCESSES WITHOUT FINITE MEAN

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Abstract: We consider the partial sum process of a bounded functional of a linear process and the linear process has no finite mean. We assume the innovations of the linear process are independent and identically distributed and that the distribution of the innovations belongs to the domain of attraction of an α-stable law and satisfies some additional assumptions. Then we establish the finite-dimensional convergence in distribution of the partial sum process to a stable Lévy motion.

2000 AMS Mathematics Subject Classification: Primary: 60F5; Secondary: 60G51.

Keywords and phrases: Linear process, martingale, stable law, stable L é vy motion.

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