

STATISTICAL INFERENCE FOR LÉVY DRIVEN MOVING AVERAGE PROCESSES

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Let L be a Lévy process with regularly varying tails of index $\alpha \in (0, 2)$, let f be a suitable kernel function and define $X_t := \int f(t-s) dL_s$ for $t \in \mathbb{R}$. We wish to derive the asymptotics of the sample autocovariance function of X_1, \dots, X_n . This problem is in the spirit of the work by Davis and Resnick [2] who derived the asymptotics of the autocovariance function of a time-discrete MA(∞) with regularly varying white noise.

REFERENCES

- [1] S. Cohen, A. Lindner *A central limit theorem for the sample autocorrelations of a Lévy driven continuous time moving average process*, Journal of Statistical Planning and Inference 143, 1295-1306, 2013
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- [3] S. Resnick, G. Samorodnitsky, F. Xue *How Misleading Can Sample ACF's of Stable MA'S Be? (Very!)*, Ann. Appl. Probab. Volume 9, Number 3 , 797-817, 1999