UNIVERSITÀ DEGLI STUDI DI UDINE
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DIPARTIMENTO DI SCIENZE ECONOMICHE E STATISTICHE

New Monte Carlo method for pricing lookback options in Levy models

We suggest a new efficient Monte Carlo method for pricing lookback options under Levy processes. The main ingredient of the method involves a construction of characteristic functions of supremum (infimum) processes under the Laplace transform based on approximate formulas for Wiener-Hopf factors. The Laplace transform inversion has been realized by using the Gaver-Stehfest algorithm. Then we simulate the correspondent supremum (infimum) process directly, which makes an essential impact in the computing speed. This work was supported by *Russian Foundation for Basic Research* (project 18-01-00910).

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