Limits of free Lévy processes at small time

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Abstract

In classical probability, it is known that if the law of a Lévy process with an affine transformation converges as time goes to 0 or infinity, then the limit distribution is stable. A similar theorem holds for free Levy processes with respect to addition. However, for free Levy processes with respect to multiplication, the situation becomes different in large time, as proved by Tucci and Haagerup-Moeller. Then what happens in the small time limit? This is a joint work with Octavio Arizmendi.