

A KINGMAN CONVOLUTION APPROACH
TO BESSEL PROCESSES

Nguyen Van Thu

Abstract: In this paper we study Bessel processes in terms of the Kingman convolution method. In particular, we propose a higher dimensional model of the Kingman convolution algebras. We show that every Bessel process started at 0 is induced by a Kingman convolution. Moreover, a new concept of increments of stochastic processes is introduced. It permits to regard Bessel processes as “stationary and independent increments processes”.

2000 AMS Mathematics Subject Classification: Primary: 60G48, 60G51, 60G57; Secondary: 60J25, 60J60, 60J99.

Keywords and phrases: Kingman convolution, radial characteristic function, independent increment-type processes, Rayleigh distribution, Urbanik convolution algebras.

THE FULL TEXT IS AVAILABLE [HERE](#)