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Minireview

The application of continuous-time random walks in finance and economics

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Abstract

This paper reviews some applications of continuous time random walks (CTRWs) to Finance and Economics. It is divided into two parts. The first part deals with the connection between CTRWs and anomalous diffusion. In particular, a simplified version of the well-scaled transition of CTRWs to the diffusive or hydrodynamic limit is presented. In the second part, applications of CTRWs to the ruin theory of insurance companies, to growth and inequality processes and to the dynamics of prices in financial markets are outlined and briefly discussed.

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Keywords

Continuous time random walks; Fractional calculus; Finance; Economics; Econophysics

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