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**An Itô calculus for a class of limit processes arising from random walks on the complex plane**

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We introduce a class of stochastic random walks on a $N$-branch lattice depending on a scaling parameter that goes to infinity. In analogy with the construction of Itô calculus for Brownian motion, that may be defined in terms of the standard random walk, we study the properties of the limit process. Applications to the study of partial differential equations of order larger than 2 are given. This talk is based on a series of paper joint with Sonia Mazzucchi, Mirko D'Ovidio, Craig Calcaterra and Axel Boldt.