Pseudodifferential Operators and Markov Processes on Polyadic Rings

Víctor A. Aguilar–Arteaga and Samuel Estala–Arias

ABSTRACT

In this talk a Markov process on certain polyadic rings will be presented. A non-Archimedean metric on a polyadic ring $\mathbb{A}$ is chosen in order to describe its Fourier analysis and to introduce a pseudodifferential operator and a parabolic-type equation on $L^2(\mathbb{A})$. The fundamental solutions of this parabolic equation determine a transition function of a time and space homogeneous Markov process on $\mathbb{A}$.