Ergodic Theory of the Kusuoka Measure

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October 28, 2014

Abstract: In this work we prove we prove that the Kusuoka measure is strongly mixing at an exponential rate and that it may be seen as a certain generalization of a Bernoulli measure. Instead of multiplying with numbers, we multiply by matrices to obtain the measure of cylinder sets. Our method of proof involves proving quasi-compactness of the transfer operator on a Besov space (integrated Hölder functions). As a by-product we see that the Kusuoka measure itself, viewed as a transition probability function, lies in such a Besov space. This is joint work with A. Johansson and M. Pollicott.