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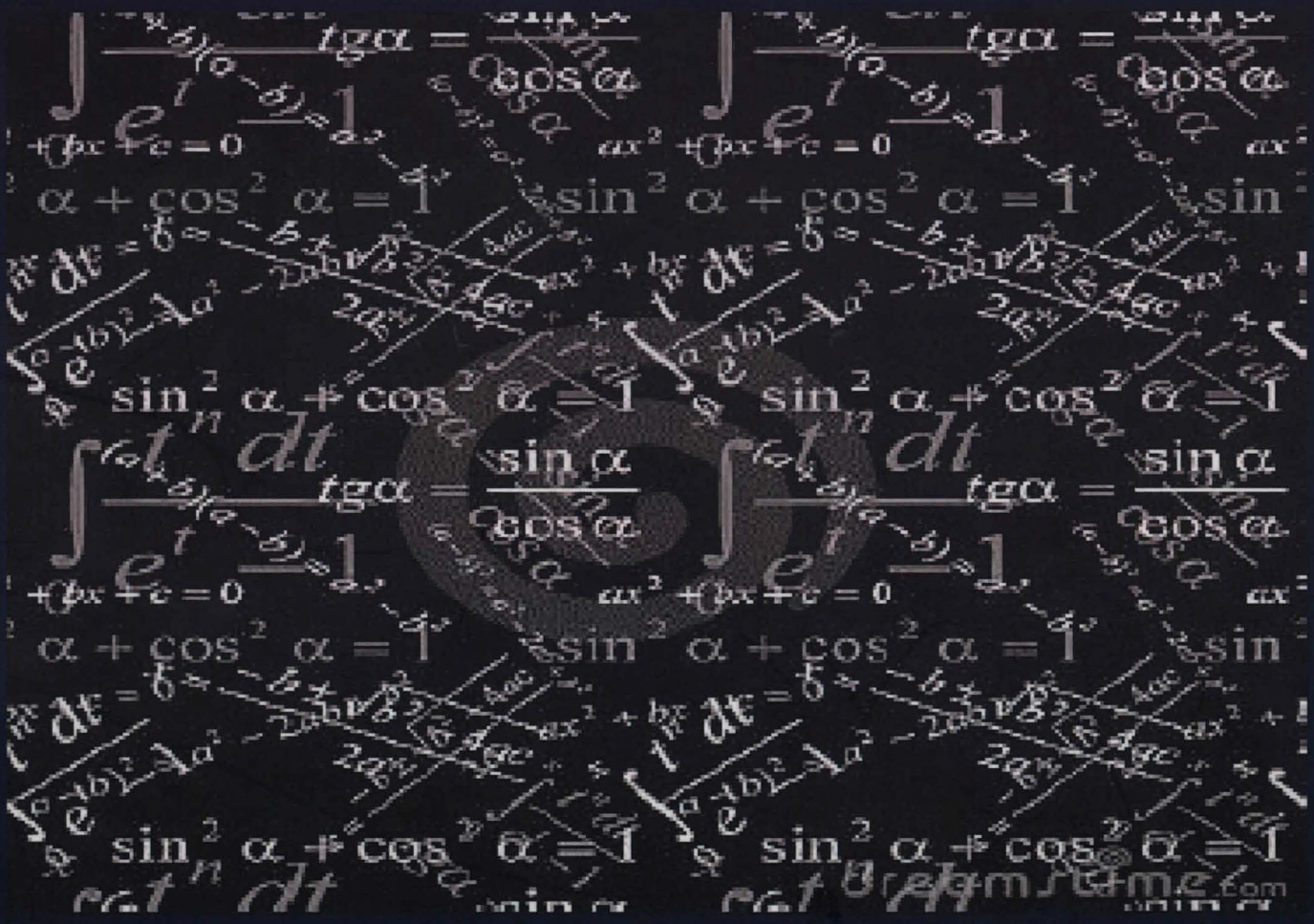

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Contents

Part I. Quadratic Operators and Their Dynamics

Part II. Dynamical Systems Arising From Physical Models

ON MEASURABLE BUNDLES OF C*-DYNAMICAL SYSTEMS

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Abstract

In the present paper we investigate L_0-valued states and Markov operators on C^*-algebras over L_0. In particular, we give representations for L_0-valued state and Markov operators on C^* algebras over L_0, respectively, as measurable bundles of states and Markov operators. Moreover, we apply the obtained representations to study certain ergodic properties of C^*-dynamical systems over L_0.

Keywords: *measurable bundle; L_0-valued norms; C^*-dynamical systems*

Introduction

In the present paper we are going to deal with C^*-algebras over L_0, such algebras are considered over modulus of measurable functions L_0. Such C^*-algebras over L_0 allow to construct meaningful examples of Banach-Kantorovich spaces. Note that the theory of such spaces already well developed (see Gutman, 1993). It is known that a structural theory of C^*-modules started with papers of Kaplanski (Kaplanski, 1953) who used such objects for an algebraic approach to the theory of W^*-algebras. Consideration of C^*-algebras, AW^*-algebras and W^*-algebras as modulus over their centers allowed to use methods of Boolean-valued analysis to describe several properties of the mentioned algebras (see Kusraev, 2000, and Takeuti, G. (1983). In (Ganiev et al, 2003) it was introduced the notion C^* algebra over ring of all measurable functions L_0. In that paper, by means of the methods of a general theory of Banach measurable bundles (see Kusraev, 1996), it has been shown that any C^*-algebras over L_0 can be represented as a measurable bundle of C^*-algebras. In (Chilin et al, 2007) GNS- representation was obtained for such C^*-algebras. In the present paper we investigate L_0-valued states and Markov operators on C^*-algebras over L_0.