

EXPONENTIAL DICHOTOMY CONCEPTS FOR EVOLUTION OPERATORS IN THE HALF-LINE*

Mihai-Gabriel Babuția[†] Mihail Megan[‡]

Abstract

The paper considers three concepts of nonuniform exponential dichotomy and their correspondents for the case of uniform exponential dichotomy on the half-line in the general framework of evolution operators in Banach spaces. Two of these concepts can be considered for evolution operators that are not invertible on the unstable manifold yielding more general behaviors. Using two particular classes of evolution operators defined on the Banach space of bounded real-valued sequences, we give some illustrative examples which clarify the relations between these concepts.

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1 Introduction

The notion of exponential dichotomy introduced by Perron in [24] plays a central role in the qualitative theory of dynamical systems, which has

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[†]mbabutia@math.uvt.ro, Department of Mathematics, West University of Timișoara, 4 V. Pârvan Blvd., 300223 Timișoara, Romania

[‡]megan@math.uvt.ro, Academy of Romanian Scientists, 54 Independenței St., 050094 Bucharest, Romania